
**User's
Manual**

**AQ6370B/AQ6373/AQ6375
Optical Spectrum Analyzer
Remote Control**

Foreword

Thank you for purchasing the AQ6370B/AQ6373/AQ6375 Optical Spectrum Analyzer. This remote control user's manual covers the AQ6370B, AQ6373 and AQ6375.

It describes the following.

- GP-IB Interface
- RS-232 Interface
- Ethernet Interface and Communication Commands
- Program Functions

To ensure correct use, please read this manual thoroughly before beginning operation. After reading this manual, keep it in a convenient location for quick reference in the event a question arises during operation. In addition to this manual, there is one individual manual each for the AQ6370B, AQ6373 and AQ6375. Read them along with this manual.

AQ6370B

Manual Title	Manual No.	Contents
AQ6370B Optical Spectrum Analyzer User's Manual	IM735302-01E	Explains the AQ6370B's communication functions and operating procedures except the communication and program functions.
AQ6370B/AQ6373/AQ6375 Optical Spectrum Analyzer Remote Control User's Manual	IM735302-17E	This user's manual. Explains functions for controlling the instrument with communication commands and program functions.

AQ6373

Manual Title	Manual No.	Contents
AQ6373 Optical Spectrum Analyzer User's Manual	IM735303-01EN	Explains the AQ6373's communication functions and operating procedures except the communication and program functions.
AQ6370B/AQ6373/AQ6375 Optical Spectrum Analyzer Remote Control User's Manual	IM735302-17E	This user's manual. Explains functions for controlling the instrument with communication commands and program functions.

AQ6375

Manual Title	Manual No.	Contents
AQ6375 Optical Spectrum Analyzer User's Manual	IM735305-01E	Explains the AQ6375's communication functions and operating procedures except the communication and program functions.
AQ6370B/AQ6373/AQ6375 Optical Spectrum Analyzer Remote Control User's Manual	IM735302-17E	This user's manual. Explains functions for controlling the instrument with communication commands and program functions.

Notes

- The contents of this manual are subject to change without prior notice as a result of improvements in the instrument's performance and functions. Display contents illustrated in this manual may differ slightly from what actually appears on your screen.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
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Revisions

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Safety Precautions

This instrument is an IEC standard safety class I device (with protective grounding terminal). To ensure safe and correct operation of the instrument, you must take the safety precautions given below. The instrument's protective functions may not work if used in a manner not described in this manual. Yokogawa bears no responsibility for, nor implies any warranty against damages occurring as a result of failure to take these precautions.

The following safety symbols and wording is used in this manual.



Warning: Handle with care. Refer to the user's manual or service manual. This symbol appears on dangerous locations on the instrument which require special instructions for proper handling or use. The same symbol appears in the corresponding place in the manual to identify those instructions.



Alternating current



ON (power)



OFF (power)

Conventions Used in This Manual

Safety Markings

The following safety markings are used in this manual.



Improper handling or use can lead to injury to the user or damage to the instrument. This symbol appears on the instrument to indicate that the user must refer to the users manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word "WARNING" or "CAUTION."

WARNING

Calls attention to actions or conditions that could cause serious or fatal injury to the user, and precautions that can be taken to prevent such occurrences.

CAUTION

Calls attention to actions or conditions that could cause light injury to the user or damage to the instrument or user's data, and precautions that can be taken to prevent such occurrences.

Note

Calls attention to information that is important for proper operation of the instrument.

Notations Used in the Procedural Explanations

On pages that describe the operating procedures in each chapter, the following notations are used to distinguish the procedure from their explanations.

Procedure

This subsection contains the operating procedure used to carry out the function described in the current section. The procedures are written with inexperienced users in mind; experienced users may not need to carry out all the steps.

Explanation

This subsection describes the setup parameters and the limitations on the procedures.

Terms Used in Explanations of Procedures

Panel Keys and Soft Keys

Bold characters used in the procedural explanations indicate characters that are marked on the panel keys or the characters of the soft keys displayed on the screen menu.

SHIFT+Panel Key

SHIFT+key means you will press the SHIFT key to turn it ON and then press the panel key. The setup menu marked in purple below the panel key that you pressed appears on screen.

Units

k Denotes 1000. Example: 12 kg, 100 kHz

K Denotes 1024. Example: 459 KB (file size)

How To Use This Manual

Structure of This Manual

This user's manual consists of the following eight chapters, an appendix, and an index.

Chapter 1 Remote Control Functions

This section describes the various types of communication interfaces and program functions.

Chapter 2 GP-IB Interface (GP-IB 1 Port)

Describes the functions and lists the specifications of the GP-IB1 port.

Chapter 3 Ethernet Interface

Describes the functions and lists the specifications of the Ethernet interface.

Chapter 4 RS-232 Interface

Describes the functions and lists the specifications of the RS-232 interface.

Chapter 5 GP-IB Interface (GP-IB 2 Port)

Describes the functions and lists the specifications of the GP-IB2 port.

Chapter 6 Status Register

Explains the status byte and describes the various kinds of registers, cues, and other items.

Chapter 7 Remote Commands

Describes each individual command that can be used.

Chapter 8 Program Function

Explains the program function for controlling another instrument using the AQ6370B/AQ6373/AQ6375 as the controller.

Appendix

Lists commands that are compatible with the AQ6317.

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1.1 Remote Interfaces

This instrument is equipped with the following remote interfaces.

GP-IB1 (IEEE 488.2, See Chapter 2)

This port is used to connect a controller such as a PC to remote control this instrument. Connect a controller or another device controlled by the controller to this port.

This instrument is controlled using remote commands.

Two types of remote commands are provided: the instrument's native commands complying with SCPI (Standard Commands for Programmable Instruments), and commands compatible with the conventional model AQ6317 (see the appendix).

GP-IB2 (IEEE 488.1, See Chapter 5)

The instrument acts as a controller for remote control of external instruments. Connect to the external device to be controlled using the instrument's program function.

RS-232 (See Chapter 3)

This port is used to connect a controller such as a PC to control the instrument remotely.

Ethernet (See Chapter 4)

This port is used to connect a controller such as a PC to control the instrument remotely via network.

GP-IB1 and GP-IB2 Ports

The GP-IB1 and GP-IB2 ports must be used differently for different purposes.

The GP-IB1 port is used when controlling the instrument from a PC.

The GP-IB2 port is used when controlling an external instrument from the AQ6370B/AQ6373/AQ6375.

Therefore, please note the following.

- A controller such as a PC that is connected to the GP-IB2 port cannot remotely control the AQ6370B/AQ6373/AQ6375.
- Even if a turnable laser source or an external device to be controlled by the AQ6370B/AQ6373/AQ6375 using program functions is connected to the GP-IB1 port, it cannot remote control the AQ6370B/AQ6373/AQ6375.
- The GP-IB1 and GP-IB2 ports are independent of each other. Thus, a controller connected to the GP-IB1 port cannot directly send a message to an external device connected to the GP-IB2 port.
- When a PC or other controller is connected to the GP-IB1 port, connecting the GP-IB1 port with the GP-IB2 port results in improper operation.

Do not connect these ports together, or turn OFF the system controller function.

The default is ON.

1.2 Switching between Local and Remote

Switching from Local to Remote

When in Local mode, if a listen address is sent from the controller that sets REN (remote enable) and ATN to "True," the instrument enters Remote mode.

- When in Remote mode, the REMOTE indicator lights.
- Keys other than the LOCAL key are disabled.
- Settings entered in Local mode are held even if switching to Remote mode.
- When an LLO (Local Lock Out) message is received from the controller, the instrument enters local lockout status. In LLO status, the LOCAL key is disabled and does not return the instrument to Local mode even when pressed. After cancelling the local lockout status, press the LOCAL key. To cancel the local lockout status, set REN to "False" from the controller.

Switching from Remote to Local

If you press the LOCAL key when in Remote mode the instrument enters Local mode. However, it does not return to Local mode if in the local lockout state.

- The REMOTE indicator turns off.
- All keys are enabled.
- Settings entered in Remote mode are held even if switching to Local mode.
- When a GTL (Go to Local) message is received from the controller, the instrument enters Local mode even if REN is set to False.

1.3 Sending/Receiving Remote Commands

Buffers

Input Buffer

The instrument's input buffer is a single stage 1 MB buffer. When receiving data that exceeds the buffer size, the data after the first megabyte is discarded. The remote command after the last command separator of the 1 MB of data is deleted.

Output Buffer

The instrument's output buffer is a single stage 1 MB buffer. Only the most recent data is held. (When a talker command is received while there is data in the buffer, the old data in the buffer is replaced with the incoming data.) When talker commands are combined and executed resulting in generation of talker data that exceeds the buffer size, the following process is carried out.

- The query error bit (QYE) of the standard event status register is set to 1.
- The talker output buffer is cleared.
- Commands received even after the buffer overflow are processed. Note, however, that talker data by talker commands is not stored at the output buffer.

Error Buffer

This instrument's error buffer is of a single stage and stores only the latest error information.

Message Terminators

This instrument allows the following message terminators to be used.

Program Message Terminators

- Assertion of EOI (End-Of-Identify) signal
- LF (line feed) character
- LF+EOI

Here, LF is a line feed (0Ah) in ASCII. For CR + LF, because CR (0Dh) is recognized as "wsp," CR + LF can consequently also be used as a message terminator. Also, for waveform binary transfer, only EOI is used as a message terminator.

Response Message Terminator

LF+EOI is used as the response message terminator.

Receiving Remote Commands

- When completing receipt of a remote command, the instrument releases the GP-IB bus.
- When receiving the next command while a command action is being executed, the instrument captures that command to store it in the receive buffer, and then releases the GP-IB bus.
- When there is a remote command in the receive buffer, the instrument does not capture a successive command even if there are commands on the GP-IB bus.
- When the action of the preceding command is complete, the instrument executes the command stored in the receive buffer and clears the buffer. Then it captures the next command into the receive buffer if there is one on the bus.
- When an output statement contains multiple remote commands, this instrument captures them all and services them in the order they were written. In this case, unless the last command in the statement has started to be executed, this instrument cannot capture the next command.

Data Inquiry

- Inquiry of data by the external controller is made using a query command or a data output request from the controller.
- Query commands end with a question mark (?).
- For query commands with an argument, the argument is specified in the form of <wsp> + <argument> at the end of the “?”.
- When a query command is received, the instrument prepares a reply to the query command in the output buffer.
- Data in the output buffer will be retained until the instrument receives an input statement or a new query command from the controller.
- If multiple query commands are specified and written in succession using a semicolon “;”, the instrument prepares replies to all of them in the output buffer. In this case, the instrument will collectively output all of the prepared data when receiving the next data output request.

Setting the timeout time

A timeout time setting of 30 seconds or more is recommended.

At approximately 10 minute intervals, the instrument performs an auto offset for approximately 30 seconds. The communication timeout of the external controller should be set to 30 seconds or more so that a timeout does not occur during the execution of the offset. See the user’s manual of your remote interface card for instructions on how to set the communication timeout time.

The instrument’s auto offset function is set to ON by default, and it performs offset of the analog circuits at approximately 10 minute intervals. The offset process takes about 30 seconds. During this offset process, the receiving of remote commands, execution of processes, and various processes for sending of talker commands are suspended. If an external controller sends a remote command or requests output of talker data while the suspension is in effect, the external controller may experience a communication timeout error because the instrument cannot perform the requested action until the offset process is complete.

If you do not want to set the communication timeout to 30 seconds or less

To avoid remote malfunctions due to communication timeouts, offset processing can be performed manually. Turn the auto offset function OFF in advance, and perform the offset manually during a gap in measurement sequences. Wait approximately 30 seconds until the offset process is finished. After the offset is complete, restart the measurement sequence.

The remote commands are as follows.

Turn OFF the auto offset function	:CALibration:ZERO off
Perform a manual offset	:CALibration:ZERO once

Note

- An offset interval of 10 minutes is recommended.
- If the AUTO OFFSET key is OFF, the offset can fluctuate over time, and the level axis performance can degrade. Always have it turned ON.
- When the AUTO OFFSET key is set to ON,  is displayed at the bottom of the screen.

Device Trigger Function

When GET (Group Execute Trigger) is received, the instrument will perform a single sweep.

2.1 Connecting via GP-IB

GP-IB Cable

This instrument is equipped with an IEEE standard 488-1978 24-pin GP-IB connector. Use a GP-IB cable that conforms to the IEEE standard 488-1978.

Connections

The instrument has two ports, GP-IB1 and GP-IB2.

GP-IB1 port: Can be connected to a PC for remote control of the instrument from the PC.

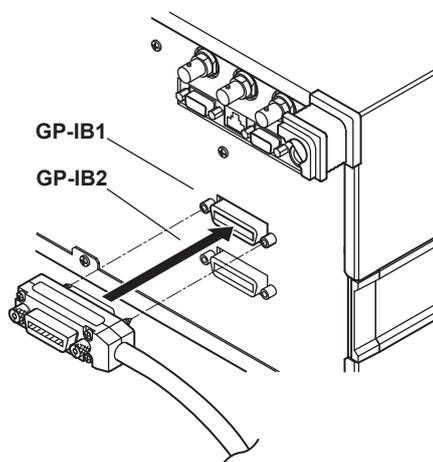
GP-IB2 port: Can be connected to another instrument for remote control of that instrument using the AQ6370B/AQ6373/AQ6375's program function.

For now, you will connect a PC to the GP-IB1 port.

Turn OFF all the power switches of the AQ6370B/AQ6373/AQ6375 and any devices to be connected to it. Connect a cable to the GP-IB1 port on the rear panel of the instrument.

CAUTION

Always turn OFF the power to the instrument and the PC when connecting or disconnecting communication cables. Failure to turn OFF the power can result in malfunction or damage to internal circuitry.

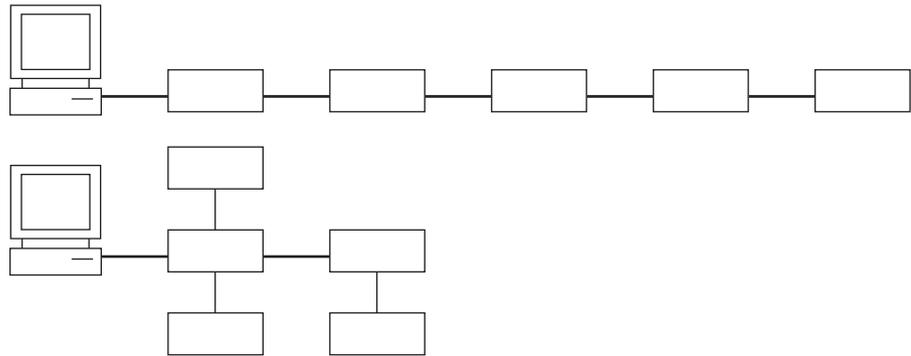


Precautions When Making Connections

- Securely fasten the screw that is attached to the GP-IB cable connector.
- You can connect several cables to connect to several devices. However, fifteen or more devices including the controller cannot be connected to a single bus.
- When connecting several devices, you cannot specify the same address for more than one.
- Use a cable of two meters or longer to connect between devices.
- Ensure that the total length in cables does not exceed twenty meters.
- When carrying out communications, make sure that at least two-thirds of all connected devices are turned ON.

2.1 Connecting via GP-IB

- When connecting multiple devices, use a star or linear configuration as shown in the figure below. A loop or parallel configuration cannot be used.



2.2 GP-IB Interface Function

GP-IB Interface Function

Listener Function

- All of the same settings can be performed using the interface (except for power ON/OFF and communication settings) as when using the instrument's panel keys.
- Settings, waveforms, and other data can be received through output commands from the controller.
- Additionally, you can also receive commands regarding status reports and other data.

Talker Function

- Settings, waveforms, and other data can be output.

Note

Listen only, talk only, and controller functions are not available.

Switching between Remote and Local

Switching from Local to Remote

When in Local mode, if the instrument received a listen address from the controller that sets REN (remote enable) and ATN to "True," the instrument enters Remote mode.

- When in Remote mode, the REMOTE indicator lights.
- Keys other than the LOCAL key are disabled.
- Settings entered in Local mode are held even if switching to Remote mode.
- When an LLO (Local Lock Out) message is received from the controller, the instrument enters local lockout status. In LLO status, the LOCAL key is disabled and does not return this instrument to Local mode even when pressed. After cancelling the local lockout status, press the LOCAL key. To cancel the local lockout status, set REN to "False" from the controller.

Switching from Remote to Local

If you press the LOCAL key when in Remote mode the instrument enters Local mode. However, it does not return to Local mode if in the local lockout state.

- The REMOTE indicator turns off.
- All keys are enabled.
- Settings entered in Remote mode are held even if switching to Local mode.
- When a GTL (Go to Local) message is received from the controller, the instrument enters Local mode even if REN is set to False.

Note

The GP-IB interface cannot be used simultaneously with other communication interfaces (RS-232, USB, or Ethernet).

2.3 GP-IB Interface Specifications

GP-IB Interface Specifications

Electromechanical specifications:	Conforms to IEEE std. 488-1978
Functional specifications:	See table below
Protocols:	Conforms to IEEE std. 488.2-1992
Encoding:	ISO (ASCII)
Mode:	Addressable mode
Address setting:	Addresses 0-30 can be set in the GP-IB setting screen in the SYSTEM menu.
Remote mode cancel:	Press LOCAL to cancel Remote mode. Note that this is disabled when under Local Lockout by the controller.

Functional Specifications

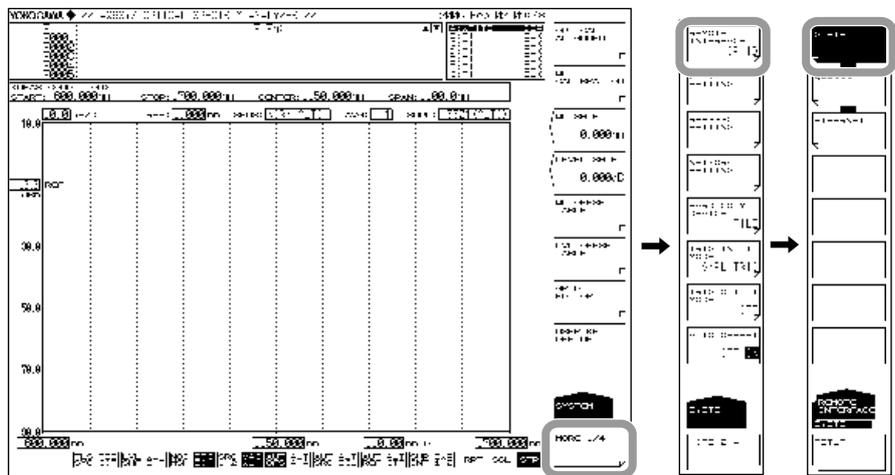
Function	Subset	Description
Source handshake	SH1	All capabilities of send handshake
Acceptor handshake	AH1	All capabilities of receive handshake
Talker	T6	Basic talker function, serial polling, and talker cancel function through MLA (my listen address). Talker only not provided.
Listener	L4	Basic listener function, serial polling, and listener cancel function through MLA (my listen address). Listener only not provided.
Service request	SR1	All service request functions
Remote local	RL1	All Remote/Local functions
Parallel port	PP0	Parallel polling function not provided
Device clear	DC1	All device clear functions Output buffer clear Input buffer clear (clearing of an unexecuted commands) Error buffer clear STB, ESR clear
Device trigger	DT0	Device trigger function
Controller	C0	Controller function not provided
Electrical characteristics	E1	Open collector

2.4 Setting the GP-IB Address

Procedure

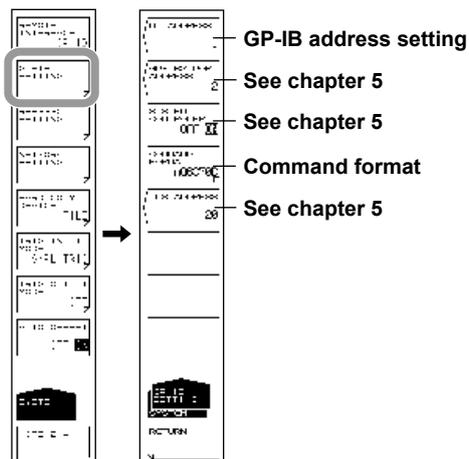
Selecting the Communication Interface

1. Press **SYSTEM**. The system setting menu is displayed.
2. Press the **MORE1/4** soft key. The communication interface setting menu is displayed.
3. Press the **REMOTE INTERFACE** soft key. The setting menu for the interface to be used is displayed.
4. Press the **GP-IB** soft key to specify GP-IB as the communication interface.



Setting the Address

5. Press the **GP-IB SETTING** soft key. The GP-IB setting menu is displayed.
6. Press the **MY ADDRESS** soft key. The GP-IB address setting screen is displayed.
7. Set the GP-IB address using the **rotary knob** or the **arrow keys**, and press **ENTER**.



2.4 Setting the GP-IB Address

Setting the Command Format

1. Perform these steps if you will use AQ6370B/AQ6373/AQ6375 commands. Press the **COMMAND FORMAT** soft key. The command format setting menu is displayed.
2. Normally, you will enter AQ6370B, AQ6373 or AQ6375. If you wish to use AQ6317 commands, enter AQ6317.

Explanation

The settings below are used when entering the settings that can be entered using the instrument's panel keys from a controller, or when outputting settings or waveform data to the controller.

GP-IB Address Settings

When in Addressable mode, set the instrument's address within the following range.
0–30

Each device that can be connected via GP-IB has its own unique GP-IB address. This address allows each device to be distinguished from other devices. Therefore, when connecting the instrument to a PC or other device, make sure not to set the same address on the instrument as any of the other devices.

Note

- Do not change an address while the controller or other devices are using GP-IB.
 - Set addresses other than those used by the GP-IB2 port.
-

Command Format Settings

Normally, you will enter AQ6370B, AQ6373 or AQ6375 mode.

If you wish to use the commands of the AQ6317 (another product in the series), enter AQ6317. See the appendix for AQ6317 commands that are compatible with the AQ6370B/AQ6373/AQ6375.

Note

Controller functions and TLS address settings are entered when controlling an external device using the GP-IB2 port. These settings are invalid for the GP-IB1 port.

2.5 Responses to Interface Messages

Responses to Interface Messages

Responses to Uniline Messages

IFC (Interface Clear)

Clears talker and listener. Output is cancelled if outputting data.

REN (Remote Enable)

Switches between Local and Remote.

IDY (Identify) is not supported.

Responses to Multiline Messages (Address Commands)

GTL (Go To Local)

Switches to Local mode.

SDC (Selected Device Clear)

- Clears program messages (commands) being received, and the output queue.
- The *OPC and *OPC? commands are invalid during execution.
- The *WAI command closes immediately.

PPC (parallel poll configure), GET (group execute trigger), and TCT (take control) are not supported.

Responses to Multiline Messages (Universal Commands)

LLO (Local Lockout)

Disables the front panel SHIFT+CLEAR operation, and prohibits switching to Local mode.

DCL (Device Clear)

Same operation as SDC.

SPE (Serial Poll Enable)

Places the talker function of all devices on the bus in Serial poll mode. The controller polls each device in order.

SPD (Serial Poll Disable)

Cancels Serial poll mode for the talker function of all devices on the bus.

PPU (Parallel Poll Unconfigure) is not supported.

Definition of Interface Messages

Interface messages are also called *interface commands* or *bus commands*, and are commands that are issued from the controller. Interface messages come in the following categories.

Uniline Messages

A message is sent through a single command line. The following are the three types of uniline messages.

IFC (Interface Clear)

REN (Remote Enable)

IDY (Identify)

Multiline Messages

A message is sent through eight data lines. Multiline messages come in the following categories.

Address Commands

These commands are valid when the device is specified as the listener or the talker. The following are the five types of address commands.

Commands valid for devices specified as listeners

- GTL (Go To Local)
- SDC (Selected Device Clear)
- PPC (Parallel Poll Configure)
- GET (Group Execute Trigger)

Commands valid for devices specified as talkers

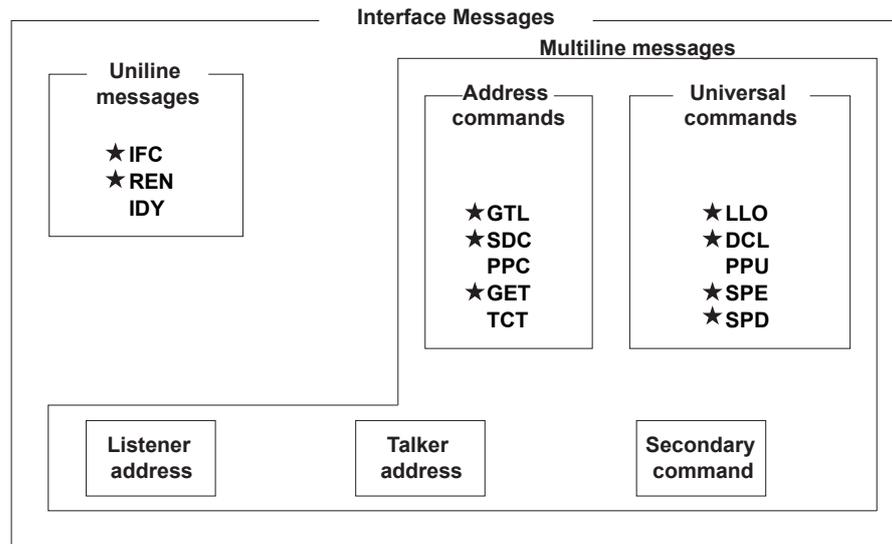
- TCT (Take Control)

Universal Commands

These commands are valid for all devices regardless of whether they are specified as listeners, talkers, or neither. The following are the three types of universal commands.

- LLO (Local Lockout)
- DCL (Device Clear)
- PPU (Parallel)

Additionally, an interface message can consist of a listener address, talker address, or secondary command.



A star indicates an interface message supported by this instrument.

Note

Differences between SDC and DCL

Of the multiline messages, SDC is an address command requires specification of the talker or listener, and DCL is a universal command that does not require specification of the talker or listener. Therefore, SDC is applicable only to certain devices, but DCL is applicable to all devices on the bus.

2.6 Sample Program

The following shows an example of controlling the AQ6370B/AQ6373/AQ6375 remotely using the GP-IB port. The sample program uses Visual Basic 6.0 as the programming language. Also, a GP-IB board by National Instruments (hereinafter, "NI") is used as the GP-IB controller and the NI-supplied driver is used as a library.

The program sets the measurement conditions (center wavelength, span, sensitivity, and the sampling number) and then performs a sweep. After completing this sweep, the program executes a thresh-based spectrum width analysis and then outputs the results to the screen.

```
Const BOARD_ID = 0                                ' GP-IB Interface card
                                                Address
Const osa = 1                                     ' OSA GP-IB Address

Private Sub AQ637XTEST()
    Dim intData As Integer
    Dim dblMeanWL As Double
    Dim dblSpecWd As Double
    Dim strData As String

    ' === GP-IB Interface setting ===
    ' send IFC
    Call SendIFC(BOARD_ID)

    ' assert th REN GPIB line
    intAddrList(0) = NOADDR
    Call EnableRemote(BOARD_ID, intAddrList())

    ' GPIB time out setting
    Call ibtmo(BOARD_ID, T30s)                    ' Time out = 30sec

    ' === Set the measurement parameter ===
    Call SendGPIB(osa, "*RST")                    ' Setting initialize
    Call SendGPIB(osa, "CFORM1")                  ' Command mode
                                                set(AQ637X mode)
    Call SendGPIB(osa, ":sens:wav:cent 1550nm")   ' sweep center wl
    Call SendGPIB(osa, ":sens:wav:span 10nm")     ' sweep span
    Call SendGPIB(osa, ":sens:sens mid")          ' sens mode = MID
    Call SendGPIB(osa, ":sens:sweep:points:auto on") ' Sampling Point = AUTO

    ' === Sweep execute ===
    Call SendGPIB(osa, ":init:smode 1")           ' single sweep mode
    Call SendGPIB(osa, "*CLS")                    ' status clear
    Call SendGPIB(osa, ":init")                   ' sweep start

    ' === Wait for sweep complete ===
    Do
        Call SendGPIB(osa, ":stat:oper:even?")    ' get Operation Event
                                                Register

        strData = RecieveGPIB(osa)
        intData = Val(strData)
    Loop While ((intData And 1) <> 1)              ' Bit0: Sweep status

    ' === Analysis ===
    Call SendGPIB(osa, ":calc:category swth")     ' Spectrum width
                                                analysis(THRESH type)
    Call SendGPIB(osa, ":calc")                   ' Analysis Execute
    Call SendGPIB(osa, ":calc:data?")            ' get data
    strData = RecieveGPIB(osa)
```

2.6 Sample Program

```
' === Capture analytical results ===
dblMeanWL = Val(Left(strData, 16))           ' get mean wavelegnth
dblSpecWd = Val(Mid(strData, 18, 16))       ' get spectrum width

' === Output the result to the screen ===
MsgBox ("MEAN WL: " & dblMeanWL * 1000000000# & " nm" & vbCrLf & _
        "SPEC WD: " & dblSpecWd * 1000000000# & " nm")

' === Disconnect ===
Call EnableLocal(BOARD_ID, intAddrList())
End Sub

'=====  
' Sub routine  
' Send Remote Command  
'=====  
Sub SendGPIB(intAddr As Integer, strData As String)  
    Call Send(BOARD_ID, intAddr, strData, NLen)  
    If (ibsta And EERR) Then  
        MsgBox " GP-IB device can't write"  
    End If  
End Sub

'=====  
' Sub routine  
' Recieve query data  
'=====  
Function RecieveGPIB(intAddr As Integer) As String  
    Const READSIZE = 10000  
    Dim strBuffer As String  
  
    strBuffer = Space(READSIZE)  
    RecieveGPIB = ""  
    Do  
        DoEvents  
  
        Call Receive(BOARD_ID, intAddr, strBuffer, STOPend)  
        If (ibsta And EERR) Then  
            MsgBox " GP-IB device can't read."  
            RecieveGPIB = ""  
            Exit Function  
        Else  
            RecieveGPIB = RecieveGPIB & Left(strBuffer, ibcnt1)  
        End If  
    Loop Until ((ibsta And EEND) = EEND)  
End Function
```

3.1 Connecting via Ethernet

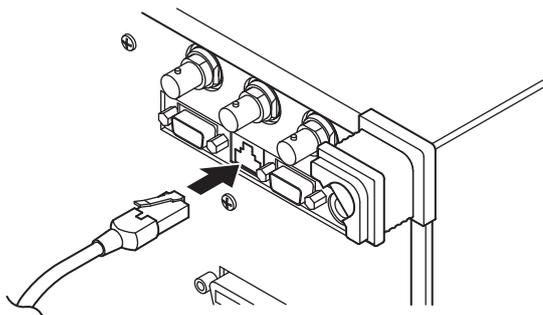
You can connect to a LAN using the Ethernet interface for control of the instrument from a PC.

Ethernet Interface Specifications

Communication ports:	1
Electromechanical specifications:	Conforms to IEEE802.3
Transmission method:	Ethernet (10BASE-T/100BASE-TX)
Transmission speed:	10 Mbps/100 Mbps
Communication protocol:	TCP/IP
Connector type:	RJ45
Port number used:	10001/tcp (default)

Connections

Connect a UTP (unshielded twisted-pair) cable or an STP (shielded twisted-pair) cable that is connected to another device to the 100BASE-TX port on the rear panel of the instrument.



Precautions When Making Connections

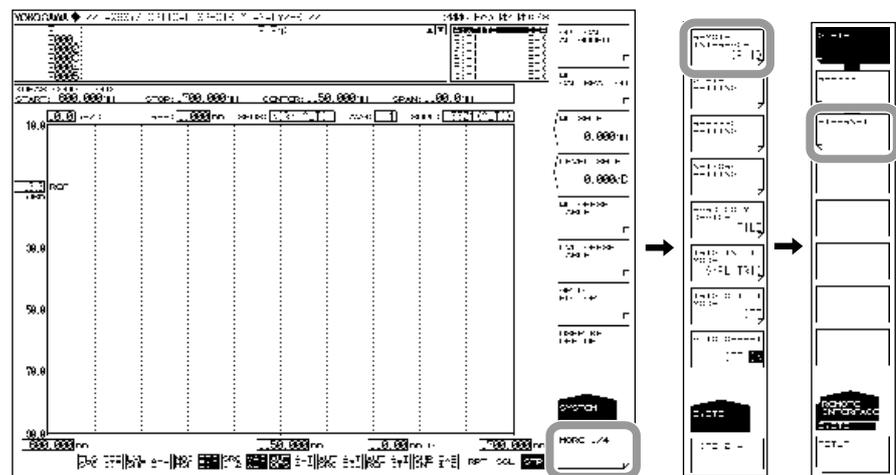
- Be sure to use a straight cable through a hub when connecting a PC to the instrument. Performance cannot be guaranteed if a 1-to-1 connection is made with a cross cable.
- When using a UTP (straight) cable, make sure that it is a category 5 cable.

3.2 Setting Up Ethernet

Procedure

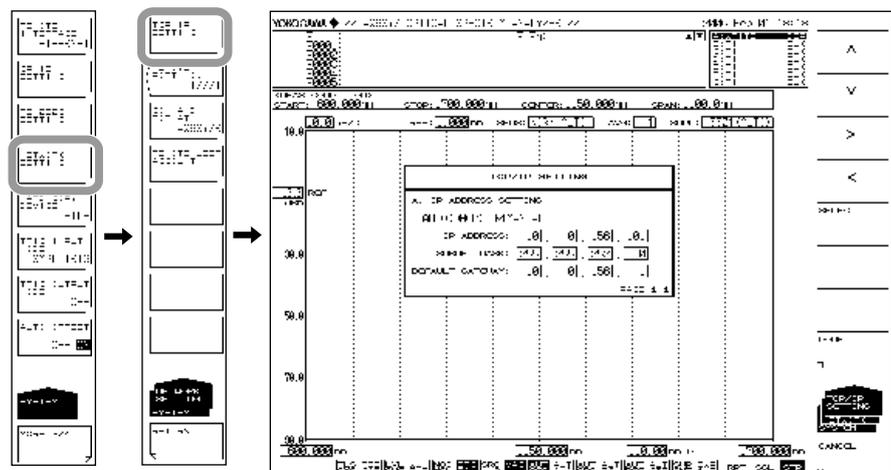
Selecting the Communication Interface

1. Press **SYSTEM**. The system setting menu is displayed.
2. Press the **MORE1/4** soft key. The communication interface setting menu is displayed.
3. Press the **REMOTE INTERFACE** soft key. The setting menu for the interface to be used is displayed.
4. Press the **ETHERNET** soft key to specify Ethernet as the communication interface.



Setting Up TCP/IP

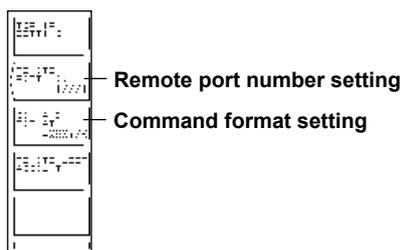
5. Press the **NETWORK SETTING** soft key. The ethernet setting menu is displayed.
6. Press the **TCP/IP SETTING** soft key. The TCP/IP setting menu is displayed.
7. Using the **<**, **>** soft keys, select AUTO (DHCP) or MANUAL.
8. Press the **SELECT** soft key. The item is selected.



9. If you select MANUAL, enter the IP address, subnet mask, and default gateway. Using the arrow soft keys, select an input position, and press ENTER. If you selected AUTO, skip to step 10.
10. Enter a number using the **rotary knob** or the **<, >, ^, v keys**, and press **ENTER**.
11. When all settings are entered, press the **DONE** soft key.

Setting the Remote Port Number

12. Press the **REMOTE PORT NO.** soft key. The port number setting screen is displayed.
13. Enter a port number using the **rotary knob** or the **arrow keys**, and press **ENTER**.

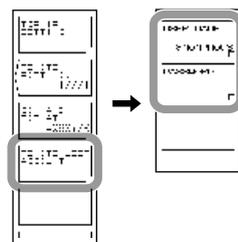


Setting the Command Format

14. Perform these steps if you will use AQ6370B, AQ6373 or AQ6375 commands. Press the **COMMAND FORMAT** soft key. The command format setting menu is displayed.
15. Normally, you will enter AQ6370B, AQ6373 or AQ6375. If you wish to use AQ6317 commands, enter AQ6317.

Setting the User Name and Password

16. Press the **REMOTE USER ACCOUNT** soft key. The user name and password setting menu is displayed.



17. Press the **USER NAME** soft key. The user name setting screen appears. The default is anonymous.
18. Specify a user name using 11 alphanumeric characters or fewer. If the user name is set to anonymous, the password setting is not required.
19. Press the **PASSWORD** soft key. The password setting screen is displayed.
20. Specify a password using 11 alphanumeric characters or fewer.

Explanation

TCP/IP Settings

It is necessary to set up the IP address for correct use of the instrument.

If a DHCP server is provided on the network to which this instrument is connected, the IP address given to the instrument is automatically set. Thus, set the item IP ADDRESS SETTING under SYSTEM <NETWORK SETTING><TCP/IP SETTING> to "AUTO."

Please ask your network administrator for details about network connections.

REMOTE PORT NO.

Sets the port number for remote control via ETHERNET. (Default: 10001.)

User Authentication

User authentication is required to connect to the instrument from a PC over an Ethernet network. If the user name is anonymous, a password is not required. This instrument supports plain text authentication and the MD5 Message Digest Algorithm by RSA Data Security, Inc.

Remote Control Using Commands

The AQ6370B/AQ6373/AQ6375 can be remote controlled using the LAN port.

For remote commands, use the same commands as those for control via the GP-IB interface.

Switching Interfaces

Select GP-IB, RS-232C, or ETHERNET as an interface to use for remote control. When set to ETHERNET, the LAN mode connection status is reset. Otherwise, the connection is kept open unless closed by the controller.

Remote Commands

As with GP-IB-based remote control, you can select the command format from the AQ6370B, AQ6373 or AQ6375 mode or from the AQ6317-compatible mode.

Interrupt by SRQ

An SRQ interrupt does not occur during LAN-based remote control.

Status Register

The status registers operate in the same manner as in remote control via the GP-IB interface. Using the "**SPOOL?" command dedicated for remote control using the LAN port allows you to read the status registers, as in the case with serial polling via the GP-IB interface.

*STB?: When AQ6370B/AQ6373/AQ6375 is the setting of the COMMAND FORMAT key

SPOLL?: When AQ6317 is the setting of the COMMAND FORMAT key

Delimiter

The delimiter for LAN-based remote control is fixed to CR + LF.

Transmission of Talker Data

When the instrument receives talker data from an external PC, it sends the data to the external PC's buffer. It receives the external PC's buffer data and stores the query data.

Connection

The instrument can only be connected to one controller (an external PC or other device). If the instrument receives a connection request from a controller while already connected to another controller, the new connection is not opened and the existing connection is kept open.

Computer Name

The instrument's computer name is as follows.

For the AQ6370B

"6370B@@@@@@@@@" (where "@@@@@@@@@" is the serial number)

For the AQ6373

"6373@@@@@@@@@" (where "@@@@@@@@@" is the serial number)

For the AQ6375,

"AQ6375@@@@@@@@@" (where "@@@@@@@@@" is the serial number)

The machine number is a 9-digit alphanumeric number on the back of the unit. You can not change the computer name.

Commands that are Necessary for Remote Control over the LAN

The authentication by OPEN command is required to remote control over the LAN.

Both the OPEN and CLOSE commands are also valid in AQ6317 mode.

OPEN

Function Sends the user name and starts user authentication.

Syntax OPEN<wsp>"username"
username = the user name

Example OPEN "yokogawa"
-> AUTHENTICATE CRAM-MD5.

Explanation Authentication is carried out with the OPEN command as follows.

For Plain Text Authentication

1. Send OPEN "username" to the AQ6370B/AQ6373/AQ6375. The response message is received from the AQ6370B/AQ6373/AQ6375.
2. Confirm that the received message is "AUTHENTICATE CRAM-MD5."
3. Send the password to the AQ6370B/AQ6373/AQ6375 (anything can be input if the user name is anonymous).
4. If the message, "READY" is received from the AQ6370B/AQ6373/AQ6375, authentication was successful. The AQ6370B/AQ6373/AQ6375's REMOTE indicator lights, and sending of remote commands is enabled. If the user name and password are incorrect, authentication fails and the connections is closed.

For Encrypted Authentication

1. Send OPEN "username" to the AQ6370B/AQ6373/AQ6375. The response message is received from the AQ6370B/AQ6373/AQ6375.
2. Confirm that the received message is "AUTHENTICATE CRAM-MD5."
3. Send "AUTHENTICATE CRAM-MD5 OK" to the AQ6370B/AQ6373/AQ6375. The response message (challenge string) is received from the AQ6370B/AQ6373/AQ6375.
4. The received challenge string and password are processed with an MD5 hash algorithm (anything can be input if the user name is anonymous).
5. Send the returned hash data (as a 32-character hexadecimal string in lower case) to the AQ6370B/AQ6373/AQ6375, and receive the response message.
6. If the message, "READY" is received from the AQ6370B/AQ6373/AQ6375, authentication was successful. The AQ6370B/AQ6373/AQ6375's REMOTE indicator lights, and sending of remote commands is enabled. If the user name and password are incorrect, authentication fails and the connection is closed.

CLOSE

Function Closes the connection (turns it OFF), and switches to local mode.

Syntax CLOSE

Example CLOSE

3.3 Sample Program

Notes on Programming

- A program code corresponding to a function not available in manual operations will be ignored. In this case, a warning message appears on the screen, as with manual operation.
- If a program code that performs a sweep, printing, or plotting function and other program codes are sent in succession, the later program codes are immediately executed without waiting for the original sweep, printing, or plotting function to end. Be aware that for printing and plotting in particular, most of the commands become invalid. Wait until the end of a sweep, printing, or plotting function using the service request function before sending any other program code.
- Sending an invalid talker command to the AQ6370B/AQ6373/AQ6375 and then receiving data with the instrument specified as a talker causes the GP-IB bus to stop because the instrument has no data to send. In this case, a GPIB timeout occurs, followed by recovery of the GP-IB bus.

Sample Program

Sending an invalid talker command to the AQ6370B/AQ6373/AQ6375 and then receiving data with the instrument specified as a talker causes the GP-IB bus to stop because the instrument has no data to send. In this case, a GPIB timeout occurs, followed by recovery of the GP-IB bus.

The following shows an example of controlling the AQ6370B/AQ6373/AQ6375 remotely using the Ethernet port. The sample program uses Visual Basic 6.0 as the programming language. The program sets the measurement conditions (center wavelength, span, sensitivity, and the sampling number) and then performs a sweep. After completing this sweep, the program executes a thresh-based spectrum width analysis and then outputs the results to the screen. The conditions are the same as those of the GP-IB sample program in section 2.6, "Sample Program."

```
Private Sub AQ637XTEST()  
    Dim intData As Integer  
    Dim dblMeanWL As Double  
    Dim dblSpecWd As Double  
    Dim strData As String  
  
    ' === Connect ===  
    Winsock1.RemoteHost = "192.168.1.100"           ' OSA IP address  
    Winsock1.RemotePort = 10001                   ' OSA remote port num  
    Winsock1.Connect  
  
    ' === Wait to connect complete ===  
    While (Winsock1.State <> sckConnected)  
        DoEvents  
    Wend  
  
    ' === Authentication by OPEN Command ===  
    SendLan "open " "anonymous" ""  
    ReceiveLan strData  
    SendLan " "  
    ReceiveLan strData  
    If (Left(strData, 5) <> "ready") Then  
        MsgBox "User authentication error."  
        Exit Sub  
    End If
```

```

' === Set the measurement parameter ===
SendLan "*RST"                ' Setting initialize
SendLan "CFORM1"              ' Command mode set
                               ' (AQ637X mode)

SendLan ":sens:wav:cent 1550nm" ' sweep center wl
SendLan ":sens:wav:span 10nm"  ' sweep span
SendLan ":sens:sens mid"       ' sens mode = MID
SendLan ":sens:sweep:points:auto on" ' Sampling Point = AUTO

' === Sweep execute ===
SendLan ":init:smode 1"       ' single sweep mode
SendLan "*CLS"                ' status clear
SendLan ":init"               ' sweep start

' === Wait for sweep complete ===
Do
    SendLan ":stat:oper:even?" ' get Operation Event
                               ' Register

    ReceiveLan strData
    intData = Val(strData)
Loop While ((intData And 1) <> 1) ' Bit0: Sweep status

' === Analysis ===
SendLan ":calc:category swth" ' Spectrum width
                               ' analysis (THRESH type)

SendLan ":calc"               ' Analysis Execute
SendLan ":calc:data?"         ' get data
ReceiveLan strData

' === Capture analytical results ===
dblMeanWL = Val(Left(strData, 16)) ' get mean wavelegnth
dblSpecWd = Val(Mid(strData, 18, 16)) ' get spectrum width

' === Output the result to the screen ===
MsgBox ("MEAN WL: " & dblMeanWL * 1000000000# & " nm" & vbCrLf & _
        "SPEC WD: " & dblSpecWd * 1000000000# & " nm")

' === Disconnect ===
Winsock1.Close

'Wait to disconnect complete
While (Winsock1.State <> sckClosed)
    DoEvents
Wend

End Sub

```

3.3 Sample Program

```
'=====
' Sub routine
' Send Remote Command
'=====
Sub SendLan(strData As String)
    Winsock1.SendData strData & vbCrLf
    DoEvents
End Sub

'=====
' Sub routine
' Receive query data
'=====
Sub ReceiveLan(strData As String)
    Dim strData2 As String

    strData = ""
    Do
        Winsock1.GetData strData2, vbString
        strData = strData + strData2
        DoEvents
    Loop While (Right(strData, 1) <> vbCrLf)
End Sub
```

4.1 Connecting via the Serial (RS-232) Interface

Serial Interface Functions and Specifications

Receive Function

You can enter the same settings as can be entered with front panel keys.
A settings output request is received.

Send Function

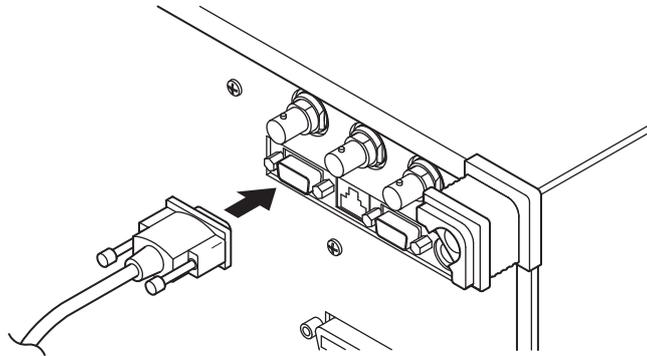
You can output settings and measured results.

Serial (RS-232) Interface Specifications

Electrical characteristics:	Conforms to the EIA-574 standard (EIA-232 (RS-232), 9-pin)
Connection type:	Point-to-point
Communication method:	Full duplex
Synchronization method:	Start-stop synchronization
Baud rate:	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Start bit:	1 bit, fixed
Data length:	8 bit, fixed
Parity:	Odd, Even, or None
Stop bit:	1 bit, fixed
Connector:	DELC-J9PAF-13L6 (JAE or equivalent)
Flow control:	Hardware handshaking using RS/CS or Non (selectable).

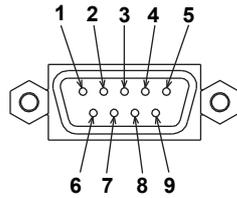
Connection

Make the connection as shown in the figure below.



4.1 Connecting via the Serial (RS-232C) Interface

Connector and Signal Names

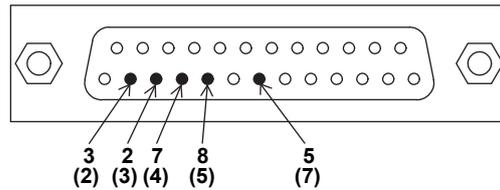


DELIC-J9PAF-13L6 or equivalent

2	RD (received data):	Data received from the PC. Signal direction....input
3	SD (send data):	Data sent to the PC. Signal direction....output
5	SG (signal ground):	Ground for the signal.
7	RS (request to send):	Handshaking method when receiving data from the PC. Signal direction....output
8	CS (clear to send):	Handshaking method when sending data to the PC. Signal direction....input

* Pins 1, 4, 6, and 9 are not used.

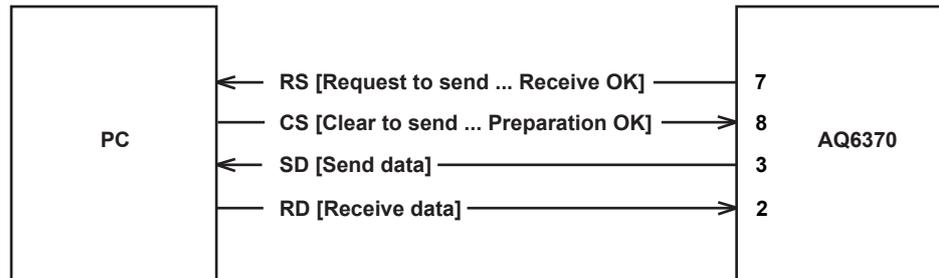
9-Pin to 25-pin Adapter and Signal Names



Numbers in parentheses are the pin numbers of the 25-pin connector.

Signal Direction

The directions of signals used by the instrument's serial interface are shown in the figure below.



List of RS-232 Standard Signals and JIS and CCITT Cable Addresses
Signal Chart

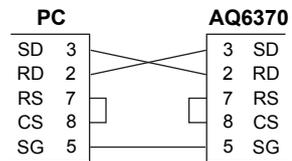
Pin Number (9-Pin Connector)	Code			Name
	RS-232	CCITT	JIS	
5	AB (GND)	102	SG	Signal ground
3	BA (TXD)	103	SD	Send data
2	BB (RXD)	104	RD	Receive data
7	CA (RTS)	105	RS	Request to send
8	CB (CTS)	106	CS	Clear to send

Signal Wire Connection Example

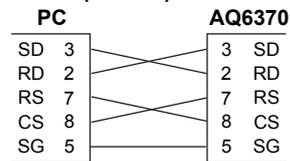
Pin numbers are for 9-pin connectors.

In most cases, use a cross cable.

• **OFF-OFF/XON-XON**



• **Hard(CS-RS)**



4.2 Remote Control Using Commands

The AQ6370B/AQ6373/AQ6375 can be controlled remotely using the RS-232 port. When controlling the instrument remotely, use a cross cable to connect the instrument to the PC. Also, remote commands are the same as for remote control via GP-IB.

Interrupt by SRQ

An SRQ interrupt does not occur during RS-232-based remote control.

Status Registers

The status registers operate in the same manner as in remote control via the GP-IB interface. Using the “*STB?” or “SPOLL?” command dedicated for remote control using the LAN port allows you to read the status registers, as in the case with serial polling via the GP-IB interface.

*STB?: When AQ6370B/AQ6373/AQ6375 is the setting of the COMMAND FORMAT key

SPOLL?: When AQ6317 is the setting of the COMMAND FORMAT key

Delimiter

The delimiter for RS-232-based remote control is fixed to CR + LF.

Transmission of Talker Data

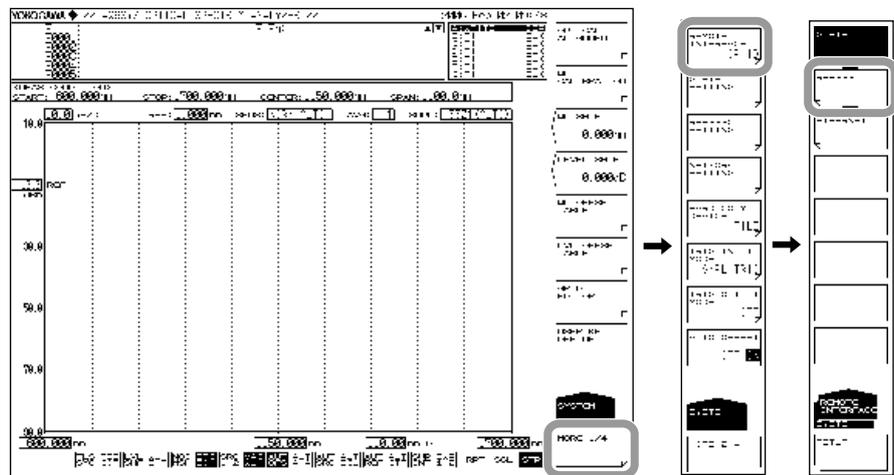
When the instrument receives talker data from an external PC, the data is sent to the external PC's buffer. It receives the external PC's buffer data and stores the query data.

4.3 Setting Up RS-232

Procedure

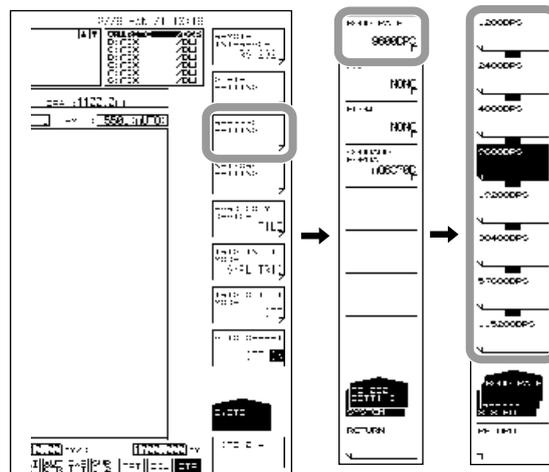
Selecting the Communication Interface

1. Press **SYSTEM**. The system setting menu is displayed.
2. Press the **MORE1/4** soft key. The communication interface setting menu is displayed.
3. Press the **REMOTE INTERFACE** soft key. The setting menu for the interface to be used is displayed.
4. Press the **RS-232** soft key to specify **RS-232** as the communication interface.



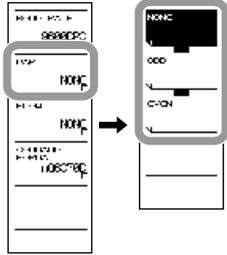
Setting the Baud Rate

5. Press the **RS-232 SETTING** soft key. The RS-232 setting menu is displayed.
6. Press the **BAUD RATE** soft key. The baud rate setting menu is displayed.
7. Press the soft key corresponding to the desired baud rate setting. The baud rate is set.



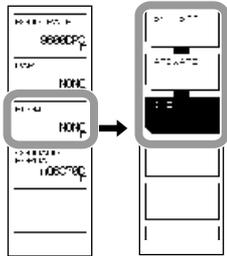
Setting the Parity

8. Press the **PARITY** soft key. The parity setting menu is displayed.
9. Press the soft key corresponding to the desired parity setting. The parity is set.



Setting the Flow Control

10. Press the **FLOW** soft key. The flow control setting menu is displayed.
11. Press the soft key corresponding to the desired flow control setting. The flow control is set.



Setting the Command Format

12. Perform these steps if you will use AQ6317 commands.
Press the **COMMAND FORMAT** soft key. The command format setting menu is displayed.
13. Normally, you will enter AQ6370B, AQ6373 or AQ6375. If you wish to use AQ6317 commands, enter AQ6317.

Explanation

The settings below are used when entering the settings that can be entered using the instrument's panel keys from a controller, or when outputting settings or waveform data to the controller.

Baud Rate Setting

Select a baud rate from the following.

1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600 bps, or 115200 bps

Parity Rate Setting

Select a parity from the following.

NONE, ODD, or EVEN

Flow Control Setting

Select a Transmission data control-Receive data control from the following.

Xon/Xoff, HARDWARE, NONE

Setting the Command Format

Normally, you will enter AQ6370B, AQ6373 or AQ6375 mode.

If you wish to use the commands of the AQ6317 (another product in the series), enter AQ6317. See the appendix for AQ6317 commands that are compatible with the AQ6370B, AQ6373 or AQ6375.

5.1 Connecting via GP-IB2

GP-IB Cable

This instrument is equipped with an IEEE standard 488-1978 24-pin GP-IB connector. Use a GP-IB cable that conforms to the IEEE standard 488-1978.

Connections

The instrument has two ports, GP-IB1 and GP-IB2.

GP-IB1 port: Can be connected to a PC for remote control of the instrument from the PC.

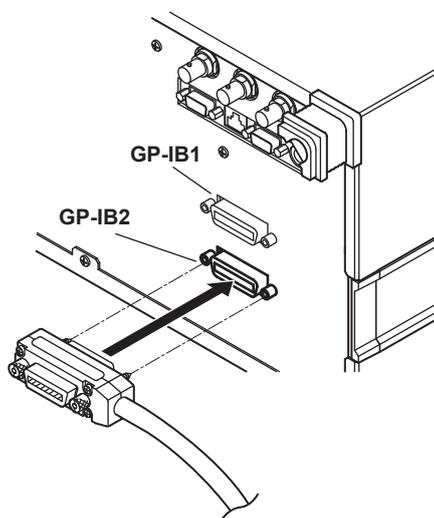
GP-IB2 port: Can be connected to another instrument for remote control of that instrument using the AQ6370B/AQ6373/AQ6375's program function.

For now, you will connect a PC to the GP-IB2 port.

Turn OFF all the power switches of the AQ6370B/AQ6373/AQ6375 and any devices to be connected to it. Connect a cable to the GP-IB2 port on the rear panel of the instrument.

CAUTION

Always turn OFF the power to the instrument and the device to be connected to it when connecting or disconnecting communication cables. Failure to turn OFF the power can result in malfunction or damage to internal circuitry.



For precautions when making connections, see chapter 2, section 2.1, "Connecting via GP-IB."

5.2 GP-IB Interface Specifications

GP-IB Interface Specifications

Electromechanical specifications:	Conforms to IEEE std. 488-1978
Functional specifications:	See table below
Protocols:	Conforms to IEEE std. 488.2-1992
Encoding:	ISO (ASCII)
Mode:	Addressable mode
Address setting:	Addresses 0-30 can be set in the GP-IB setting screen in the SYSTEM menu.
Remote mode cancel:	Press LOCAL to cancel Remote mode. Note that this is disabled when under Local Lockout by the controller.

Functional Specifications

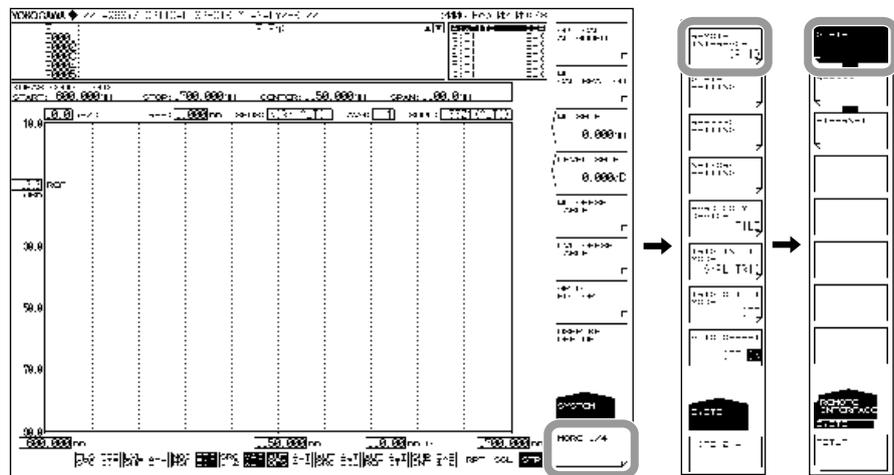
Function	Subset	Description
Source handshake	SH1	All capabilities of send handshake
Acceptor handshake	AH1	All capabilities of receive handshake
Talker	T4	Basic talker function
Listener	L2	Basic listener function
Service request	SR0	Service request function not provided
Remote local	RL0	Local lockout function not provided
Parallel port	PP0	Parallel polling function not provided
Device clear	DC0	Device clear function not provided
Device trigger	DT0	Device trigger function
Controller	C1	System controller IFC transmission
	C2	Controller in charge
	C3	REN transmission
C28	Interface message transmission	
Electrical characteristics	E1	Open collector

5.3 Setting the GP-IB Address

Procedure

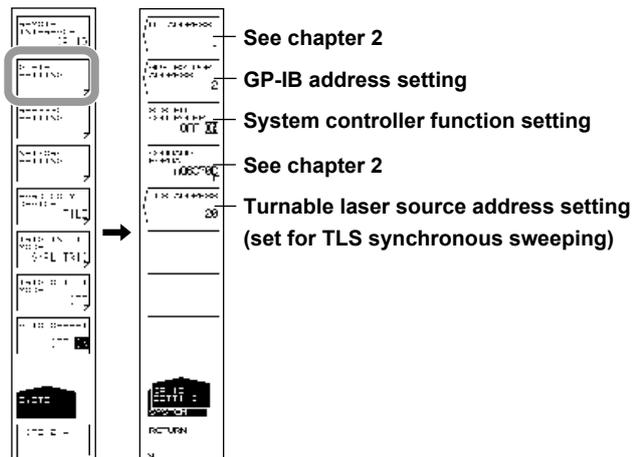
Selecting the Communication Interface

1. Press **SYSTEM**. The system setting menu is displayed.
2. Press the **MORE1/4** soft key. The communication interface setting menu is displayed.
3. Press the **REMOTE INTERFACE** soft key. The setting menu for the interface to be used is displayed.
4. Press the **GP-IB** soft key to specify GP-IB as the communication interface.



Setting the Address

5. Press the **GP-IB SETTING** soft key. The GP-IB setting menu is displayed.
6. Press the **GP-IB2 PORT ADDRESS** soft key. The GP-IB2 port address setting screen is displayed.
7. Set the GP-IB2 port address using the **rotary knob** or the **arrow keys**, and press **ENTER**.



Turning the System Controller Function ON and OFF

8. Press the **SYSTEM CONTROLLER** soft key to turn the function ON or OFF.
Turn it ON to control an external device.

Setting the GP-IB Address of the Turnable Laser Source (for Synchronous Sweeping)

9. Press the **TLS ADDRESS** soft key. The TLS address setting screen is displayed.
10. Set the TLS address using the **rotary knob** or the **arrow keys**, and press **ENTER**.

Explanation

Enter the following settings to control an external device with the instrument's program function.

Setting the GP-IB2 Port Address

When in Addressable mode, set the instrument's address within the following range.

0–30

Each device that can be connected via GP-IB has its own unique GP-IB address. This address allows each device to be distinguished from other devices. Therefore, make sure not to set the same address on the instrument as any of the other devices. Also, set addresses other than the instrument's GP-IB address (MY ADDRESS).

Turning ON the System Controller Function

Turn ON this function to control an external device with the instrument's program function.

Setting the TLS Address

Specify the GP-IB address of the turnable laser source to be controlled by the instrument.

Note

- A controller such as a PC that is connected to the GP-IB2 port cannot remotely control the AQ6370B/AQ6373/AQ6375.
 - Even if a turnable laser source or an external device to be controlled by the AQ6370B/AQ6373/AQ6375 using program functions is connected to the GP-IB1 port, it cannot remotely control the AQ6370B/AQ6373/AQ6375.
 - The GP-IB1 and GP-IB2 ports are independent of each other. Thus, a controller connected to the GP-IB1 port cannot directly send a message to an external device connected to the GP-IB2 port.
 - When a PC or other controller is connected to the GP-IB1 port, connecting the GP-IB1 port with the GP-IB2 port results in improper operation. Do not connect these ports together, or turn OFF the system controller function. The default is ON.
-

6.1 Status Registers

This instrument is equipped with the status registers shown in the table below. See the next page for a diagram of all status registers.

This instrument has the following status registers defined by IEEE 488-2 and SCPI:

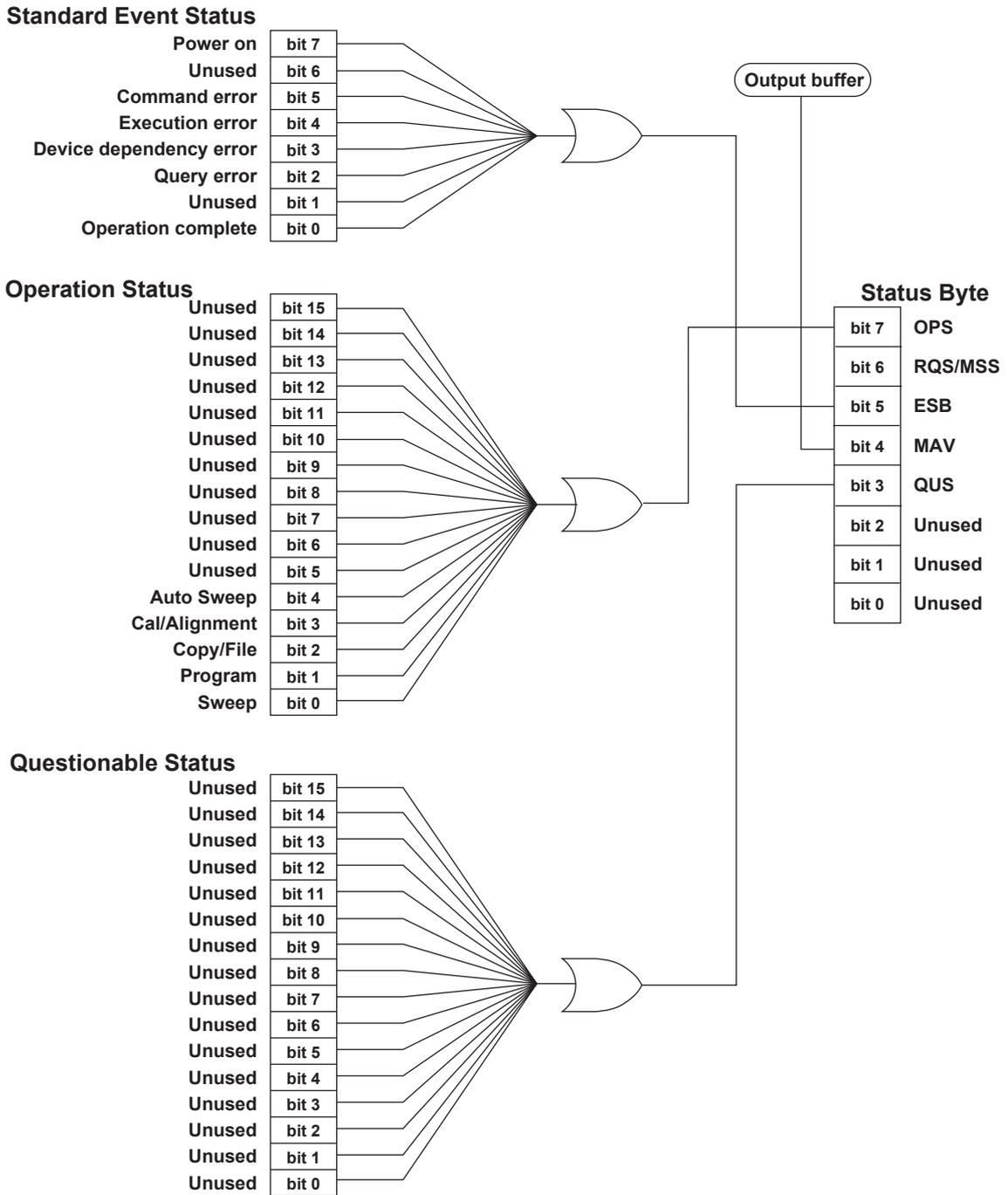
- Status byte registers
- Standard event registers
- Operation status registers
- Questionable status registers

Also, this instrument has an operation status bit (OPS) and a questionable status bit (QUS), each of which contains the summary information of each piece of register information, as the extension bits of the status byte register.

List of Status Registers

Register Name	Description
Status byte registers	Register defined by IEEE 488.2
STB: Status Byte Register	Same as the above
SRE: Service Request Enable Register	Same as the above
Standard event registers	Register defined by IEEE 488.2
ESR: Standard Event Status Register	Same as the above
ESE: Standard Event Status Register	Same as the above
Operation status registers	Provides information on operation execution (such as being swept, copied, or under calibration).
Operation Event Register	A register indicating the presence/absence of an event. Event will be latched.
Operation Event Enable Register	A condition mask register used when the summary bit (OPS) is created.
Questionable status registers	Not assigned yet.
Questionable Event Register	A register indicating the presence/absence of an event. An event will be latched.
Questionable Event Enable Register	A condition mask register used when the summary bit (QUS) is created.

Status Register Overview Diagram

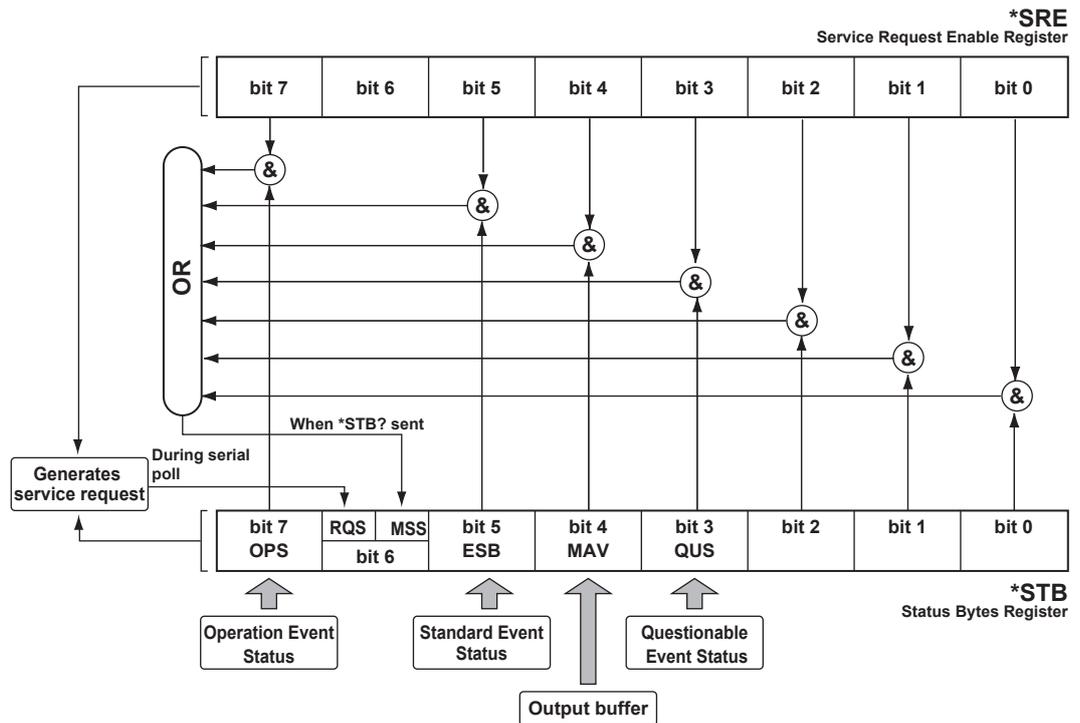


6.2 Status Byte Registers

Structure

The structure of the status byte registers is shown below. The contents and actions of these registers comply with the IEEE 488.2 standards.

Also, the AQ6370B/AQ6373/AQ6375 also provides the extended OPS and QUS bits to the status byte register.



Status Byte Register Contents

Bit	Event Name	Description	Decimal Value
Bit 7	OPS	Summary bit of operation status	128
Bit 6	RQS, MSS	"1" if there is more than one service request	64
Bit 5	ESB	Summary bit of standard event status register	32
Bit 4	MAV	"1" if the output buffer contains data	16
Bit 3	QUS	Summary bit of questionable status	8
Bit 2	None	Not used (always 0)	0
Bit 1	None	Not used (always 0)	0
Bit 0	None	Not used (always 0)	0

Status Byte Register

Read

This register can be read by a serial poll or the common *STB? query. Note that the information of bit 6 changes with a different reading method.

- When read by serial polling
An RQS message is read as bit 6 information.
After reading, the RQS message will be cleared.
- When read by an *STB? common query
An MSS summary message is read as bit 6 information.
Even after reading, the MSS message will be held.

Bits other than bit 6 do not change.

The read action complies with the IEEE 488.2 standard.

Write

The contents of the register will be rewritten only when the status of an assigned status data structure has been changed. The write action complies with the IEEE 488.2 standard.

Clear

All event registers and queues, not including the output queues and MAV bit, will be cleared by the common *CLS command.

The clear action complies with the IEEE 488.2 standard.

Service Request Enable Register

Read

This register can be read by the common *SRE? query.

The value of bit 6, an unassigned bit, is always "0." The contents of the register are not cleared even when read. The read action complies with the IEEE 488.2 standard.

Write

This register can be written by the common *SRE command.

The set value of bit 6, an unassigned bit, is always ignored. The write action complies with the IEEE 488.2 standard.

Clear

This register will be cleared under any of the following conditions.

- Data "0" is set using the common *SRE command.
- Power ON

The contents of the register are not cleared in the following cases.

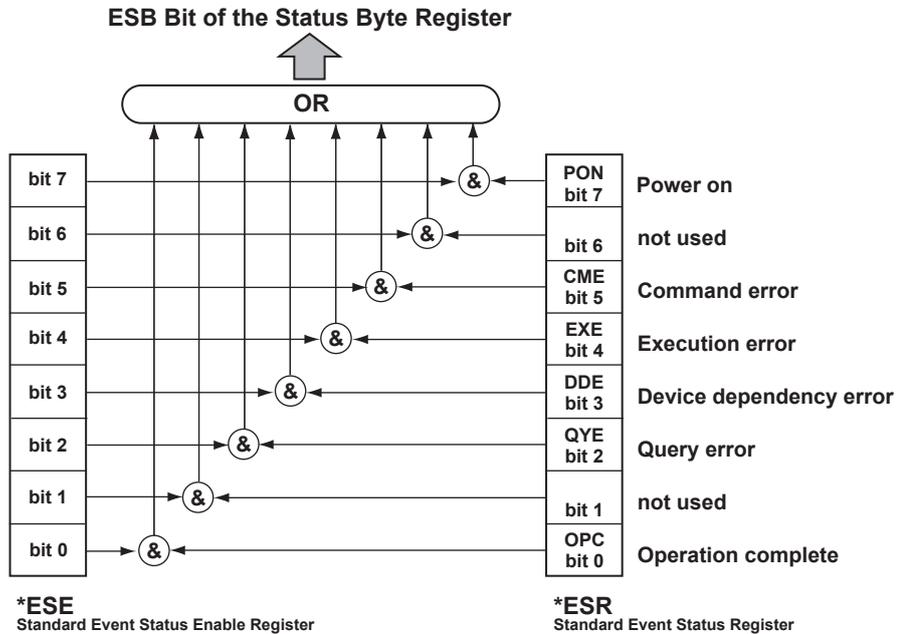
- Receipt of the *RST command
- Receipt of the *CLS command
- Device clear (DCL, SDC)

The clear action complies with the IEEE 488.2 standard.

6.3 Standard Event Status Registers

Structure

The structure of the standard event status registers is shown below. The contents and actions of the registers comply with the IEEE 488.2 standards.



Contents of the Standard Event Status Registers

Bit	Event Name	Description	Decimal Value
Bit 7	PON (Power ON)	Power is turned ON. Set to "1" at startup.	128
Bit 6	None	Not used (always 0)	0
Bit 5	CME (command error)	A syntax error or unrecognizable command is detected. GET is encountered between the 1st byte of a program message and the program message terminator.	32
Bit 4	EXE (Execution error)	Program data following the program header is out of the effective range. Receipt of a program message contradictory to device state.	16
Bit 3	DDE (Device-specific error)	Error caused by an event other than CME, EXE, or QYE.	8
Bit 2	QYE (Query error)	Access to an output queue was made with no output existing. Output queue data was lost.	4
Bit 1	None	Not used (always 0)	0
Bit 0	OPC (operation complete)	Completion of command action: Enabled only when *OPC is received Disabled if *OPC? is received	1

Standard Event Status Register

Read

This register can be read by the common *ESR? query. Its contents will be cleared when read. The read action complies with the IEEE 488.2 standard.

Write

Contents of the register can be cleared. The register can be cleared but not written to.

Clear

This register will be cleared under any of the following conditions.

- Common *CLS command
- Common *ESR? query

The clear action complies with the IEEE 488.2 standard.

Standard Event Status Enable Register

Read

This register can be read by the common *ESE? query. The read action complies with the IEEE 488.2 standard.

Write

This register can be written by the common *ESE command. The write action complies with the IEEE 488.2 standard.

Clear

This register will be cleared under any of the following conditions.

- Data "0" is set using the common *ESE command.
- Power ON

The register cannot be cleared in the following cases.

- Receipt of the *RST command
- Receipt of the *CLS command
- Device clear (DCL, SDC)

The clear action complies with the IEEE 488.2 standard.

6.4 Operation Status Register

Contents of the Operation Status Register

Bit	Event Name	Description	Decimal Value
Bit 15	Not used	Spare (always 0)	0
Bit 14	Not used	Spare (always 0)	0
Bit 13	Not used	Spare (always 0)	0
Bit 12	Not used	Spare (always 0)	0
Bit 11	Not used	Spare (always 0)	0
Bit 10	Not used	Spare (always 0)	0
Bit 9	Not used	Spare (always 0)	0
Bit 8	Not used	Spare (always 0)	0
Bit 7	Not used	Spare (always 0)	0
Bit 6	Not used	Spare (always 0)	0
Bit 5	Not used	Spare (always 0)	0
Bit 4	Auto Sweep	Completion of auto sweep running action	16
Bit 3	Cal/Alignment	Completion of wavelength calibration or alignment	8
Bit 2	Copy/File	Completion of printout or file operation	4
Bit 1	Program	Completion of execution of the program functions	2
Bit 0	Sweep	Completion of a sweep	1

Operation Condition Register

Read

This register can be read by the :STATus:OPERation:CONDition? query command. Its contents will not be cleared even when read.

Write

The register sets or resets a bit corresponding to a change in the status of the instrument only when that change occurs. It cannot be written to.

Clear

The register cannot be cleared.

Operation Event Register

Read

This register can be read by the :STATus:OPERation[:EVENT?] query command. Its contents will be cleared when read.

Write

Contents of the register can be cleared. The register can be cleared but not written to. <Clear>

This register will be cleared under any of the following conditions.

- A read using the :STATus:OPERation[:EVENT?] query command
- An initialization by the :STATus:PRESet command
- The *CLS common command
- Power ON
- Operation event enable register

Read

This register can be read by the :STATus:OPERation:ENABLE? query command.

Write

The register can be written by the :STATus:OPERation:ENABle command.

Clear

This register will be cleared under any of the following conditions.

- Data "0" is set by the :STATus:OPERation:ENABle command.
- Power ON

The register cannot be cleared in the following cases.

- Receipt of the *RST command
- Receipt of the *CLS command
- Device clear (DCL, SDC)

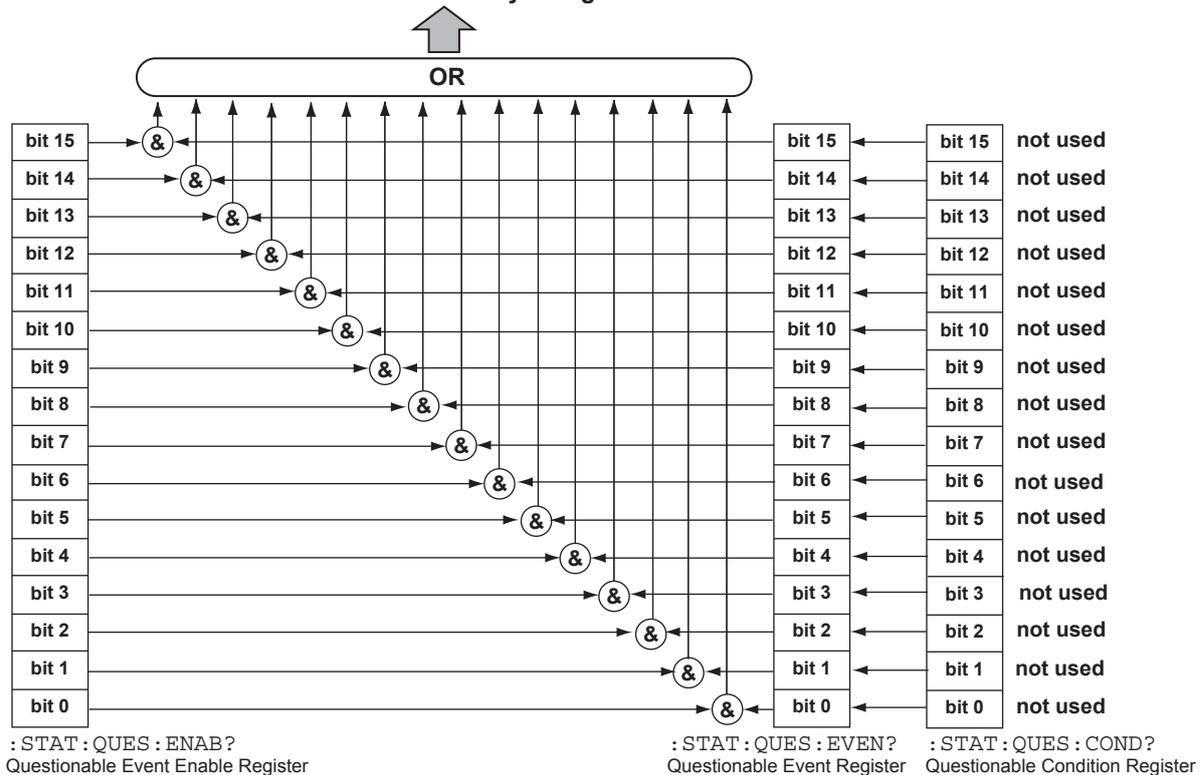
6.5 Questionable Status Registers

The questionable status registers report the questionable status of the instrument. All bits of these registers are unassigned. However, the register read/write operations are performed normally. The summary information of an event register will be set to the QUS bit of the status byte register.

Structure

The structure of the questionable status registers is shown below.

Structure of the Questionable Status Registers OPS Bit of the Status Byte Register



Contents of the Questionable Status Registers

Bit	Event Name	Description	Decimal Value
Bit 0–15	Not used	Spare (always 0)	0

Questionable Condition Register

Read

This register can be read by the :STATus:QUEStionable:CONDition? query command. Its contents will not be cleared even when read.

Write

The register sets or resets a bit corresponding to a change in the status of the instrument only when that change occurs. It cannot be written to.

Clear

The register cannot be cleared.

Questionable Event Register

Read

This register can be read by the :STATus:QUEStionable[:EVENT?] query command. Its contents will be cleared when read.

Write

Contents of the register can be cleared. The register can be cleared but not written to.

Clear

This register will be cleared under any of the following conditions.

- A read using the :STATus:QUEStionable[:EVENT?] query command
- Initialization by the :STATus:PRESet command
- Common *CLS command
- Power ON

Questionable Event Enable Register

Read

This register can be read by the :STATus:QUEStionable:ENABle? query command.

Write

The register can be written to by the :STATus:QUEStionable:ENABle command.

Clear

This register will be cleared under any of the following conditions.

- Data "0" is set using the :STATus:QUEStionable:ENABle command.
- Power ON

The register cannot be cleared in the following cases.

- Receipt of the *RST command
- Receipt of the *CLS command
- Device clear (DCL, SDC)

7.1 Rules of Syntax and Command Types

The following information is intended for the common commands and instrument-specific commands contained in this manual. Measured values and parameters are all sent and received using ASCII characters, not including special commands.

Description of Rules of Syntax

Rule	Description
	Indicates that one of the elements in a list should be selected. E.g.: A B C = A, B, or C is used
[]	An item in square brackets is specified as desired.
{ }	An item in curly brackets can be specified multiple times within a command.
<wsp> ¹	Space
<integer>	Integer
<NRf>	Exponent indicating value
<"file name">	A file name can be a maximum of 56 characters, including extensions, excluding the directory part. Enclose a character string using double quotations (" ").
<trace name>	Trace name (TRA TRB TRC TRD TRE TRF TRG)
<marker>	Marker number (0: moving marker, 1 to 1024: fixed markers)
<"string">	Character string Enclose a character string using double quotations (" ").

1. Regarding white space (<wsp>):

White space is defined as a character corresponding to 00h to 20h (not including 0Ah (LF)) of the ASCII character sets. Aside from inserting it between a command and parameters (when specifying parameters) or using it as space in a character string such as a file name in a parameter, white space can be inserted as desired to make a program legible.

Types of Commands

This unit's commands can be classified into the following three types:

Sequential Commands

- These commands are the most general commands.
- The action of another command is not performed until the running of a sequential command is complete.
- Another action is not started until the running of the other command is complete.

Overlappable Commands

- An overlappable command allows execution of an overlapping command while it is being run.

Ex. of command: :INITialte Makes a sweep.

Overlapping Commands

- An overlapping command can be executed while an overlappable command is being run.
- These commands cannot be executed while a sequential command is being executed or if it has not yet been processed.

Ex. of command: :ABORT Stops measurement or calibration action.

*STB? Reads status byte.

Collective Transmission of Multiple Commands

You can create a command string using the commands described in section 7.5, “Common Commands,” and section 7.6, “Instrument-Specific Commands” and send it to the instrument. If multiple commands are written in a single output statement by using a semicolon “;” to delimit each command, the commands will be executed in the order in which they have been written.

Format of a Remote Command

Short and Long Forms

The instrument’s GP-IB commands support both short and long forms. For the commands contained in this manual, the part written in capital letters is the short form of the command concerned. The short form of the `INITiate` command is `INIT`.

Upper- and Lower-Case Letters

The instrument does not distinguish between upper- and lower-case letters. Return values are all in upper-case letters.

Grouping of SCPI Commands Using a Subsystem

The instrument supports the subsystem-based grouping of the SCPI commands. Commands belonging to the same sub-system and existing at the same tree of the hierarchical structure of the subsystem can be sent in combination. In this case, each command should be delimited by a semicolon.

List of GP-IB commands used in examples

- ```

:SENSe :SETTing
 :ATTenuator
 :WAVelength
 :STOP
 :START

```
- `SENSe:WAVelength:START 1500NM;STOP 1600NM` (Y)
  - `SENSe:WAVelength:START 1500NM;ATTenuator ON` (X)  
(Reason: They are not in the same hierarchy.)
  - `SENSe:WAVelength:START 1500NM;:STOP 1600NM` (X)  
(Reason: A colon “:” is unnecessary after a semicolon “;”.)

### Numerics

- This instrument supports multiple notation methods when receiving a numeric(s).
  - This instrument uses only the basic units when transmitting a numeric(s).
- The number of digits for the real part is fixed to a one digit integer (with a sign) and eight digits for decimal places. The number of digits for the exponential part is fixed to 3.
- Ex.: Receivable numerics (in case of 1550 nm)  
1550 nm, 1.55 um, 1550E-9, 1.55E-6, and others
- Ex.: Transmittable numerics (in case of 1550 nm)  
+1.55000000E-006 only
- If a received numeric has a precision higher than the range of numerics handled inside this unit, lower decimal places will be rounded off rather than being discarded.
  - This instrument can handle the following multiplier suffixes:

| Multiplier | Mnemonic  | Multiplier | Mnemonic  |
|------------|-----------|------------|-----------|
| 1E18       | EX (exa)  | 1E-3       | M (milli) |
| 1E15       | PE (peta) | 1E-6       | U (micro) |
| 1E12       | T (tera)  | 1E-9       | N (nano)  |
| 1E9        | G (giga)  | 1E-12      | P (pico)  |
| 1E6        | MA (mega) | 1E-15      | F (femto) |
| 1E3        | K (kilo)  | 1E-18      | A (atto)  |

### Specification of Parameters in a Command

To use parameters in a command, a space must be placed between the command and parameters. Each parameter is delimited by a comma “,”. A space may also be placed before and after a comma to make the command legible.

### AQ6317-Compatible Commands

The instrument supports AQ6317-compatible GP-IB commands. When using AQ6317-compatible GP-IB commands, call up the **SYSTEM** menu using the SYSTEM key and place the instrument in AQ6317-compatible mode.

### Differences from the AQ6370

This instrument’s remote commands differ from those of the AQ6370 in the following respects.

#### 1. \*IDN query talker data

AQ6370: "YOKOGAWA, AQ6370,----"

AQ6370B: "YOKOGAWA, AQ6370B,----"

AQ6373: "YOKOGAWA, AQ6373,----"

AQ6375: "YOKOGAWA, AQ6375,----"

#### 2. “CHOP” was eliminated from the <CHOP MODE> settings.

If the AQ6370B/AQ6373 receives a command that specifies “CHOP,” it is treated as “SWITCH.”

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

The tables below list the remote commands that correspond to the soft keys used when manipulating the various settings of the instrument.

If a command is valid for either the AQ6370B or AQ6375 only, the relevant model name is indicated in the notes.

For the AQ6370B, AQ6373, and AQ6375, if commands are valid for only some of the instruments, the models are indicated in the remarks column. Models are not noted for commands that are valid for all instruments.

### SWEEP

| Function               | Control Command                               |
|------------------------|-----------------------------------------------|
| AUTO                   | :INITiate:SMODE<wsp>AUTO 3;INITiate           |
| REPEAT                 | :INITiate:SMODE<wsp>REPeat 2;INITiate         |
| SINGLE                 | :INITiate:SMODE<wsp>SINGLE 1;INITiate         |
| STOP                   | :ABORT                                        |
| SEGMENT MEASURE        | :INITiate:SMODE<wsp>SEGment 4;INITiate        |
| SEGMENT POINT****      | :SENSe:SWEEp:SEGment:POINTs<wsp><integer>     |
| SWEEP MKR L1-L2 ON/OFF | :SENSe:WAVelength:SRANge<wsp>OFF ON 0 1       |
| SWEEP INTVL ****sec    | :SENSe:SWEEp:TIME:INTerval<wsp><integer>[SEC] |

### CENTER

| Function                 | Control Command                                       | Remarks |
|--------------------------|-------------------------------------------------------|---------|
| CENTER WL ****.***nm     | :SENSe:WAVelength:CENTer<wsp><Nrf>[M]                 |         |
| CENTER FREQ ***.****THz  | :SENSe:WAVelength:CENTer<wsp><Nrf>[HZ]                |         |
| CENTER WNUM ****.***cm-1 | :SENSe:WAVelength:CENTer<wsp><Nrf>                    | AQ6375  |
| START WL ****.***nm      | :SENSe:WAVelength:STArT<wsp><Nrf>[M]                  |         |
| START FREQ ***.****THz   | :SENSe:WAVelength:STArT<wsp><Nrf>[HZ]                 |         |
| STOP WNUM ****.***cm-1   | :SENSe:WAVelength:STArT<wsp><Nrf>                     | AQ6375  |
| STOP WL ****.***nm       | :SENSe:WAVelength:STOP<wsp><Nrf>[M]                   |         |
| STOP FREQ ***.****THz    | :SENSe:WAVelength:STOP<wsp><Nrf>[HZ]                  |         |
| START WNUM ****.***cm-1  | :SENSe:WAVelength:STOP<wsp><Nrf>                      | AQ6375  |
| PEAK →CENTER             | :CALCulate:MARKer:SCENter                             |         |
| AUTO CENTER ON/OFF       | :CALCulate:MARKer:MAXimum:SCENter:AUTO<wsp>OFF ON 0 1 |         |
| VIEW→MEAS                | :DISPlay[:WINDow]:TRACe:X[:SCALE]:SMScale             |         |

### SPAN

| Function               | Control Command                           | Remarks |
|------------------------|-------------------------------------------|---------|
| SPAN****.***nm         | :SENSe:WAVelength:SPAN<wsp><Nrf>[M]       |         |
| SPAN WNUM****.***cm-1  | :SENSe:WAVelength:SPAN<wsp><Nrf>          | AQ6375  |
| START WL****.***nm     | :SENSe:WAVelength:STArT<wsp><Nrf>[M]      |         |
| START FREQ***.****THz  | :SENSe:WAVelength:STArT<wsp><Nrf>[HZ]     |         |
| START WNUM****.***cm-1 | :SENSe:WAVelength:STArT<wsp><Nrf>         | AQ6375  |
| STOP WL****.***nm      | :SENSe:WAVelength:STOP<wsp><Nrf>[M]       |         |
| STOP FREQ***.****THz   | :SENSe:WAVelength:STOP<wsp><Nrf>[HZ]      |         |
| STOP WNUM****.***cm-1  | :SENSe:WAVelength:STOP<wsp><Nrf>          | AQ6375  |
| 0nm SWEEP TIME**sec    | :SENSe:SWEEp:TIME:0NM<wsp><integer>[SEC]  |         |
| VIEW→MEAS              | :DISPlay[:WINDow]:TRACe:X[:SCALE]:SMScale |         |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### LEVEL

| Function              | Control Command                                            |
|-----------------------|------------------------------------------------------------|
| REF LEVEL             |                                                            |
| LOG                   | :DISPlay[:WINDow]:Y1[:SCALe]:RLEVel<wsp><Nrf>[DBM]         |
| LINEAR                | :DISPlay[:WINDow]:Y1[:SCALe]:RLEVel<wsp><Nrf>[NW UM MW]    |
| LOG SCALE**. *dB/D    | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:PDIVision<wsp><Nrf>[DB] |
| LIN SCALE             | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:SPACing<wsp>LINear 1    |
| LIN BASE LEVEL**. *mW | :DISPlay[:WINDow]:Y1[:SCALe]:BLEVel<wsp><Nrf>[MW]          |
| PEAK→REF LEVEL        | :CALCulate:MARKer:MAXimum:SRLevel                          |

| Function                      | Control Command                                                 |
|-------------------------------|-----------------------------------------------------------------|
| AUTO REF LEVEL ON/OFF         | :CALCulate:MARKer:MAXimum:SRLevel:AUTO                          |
| LEVEL UNIT dBm / dBm/nm       | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:UNIT<wsp>DBM DBM/NM          |
| Y SCALE SETTING               |                                                                 |
| Y SCALE DIVISION 8/10/12      | :DISPlay[:WINDow]:TRACe:Y[:SCALe]:DNUMBER<wsp>8 10 12           |
| REF LEVEL POSITION **DIV      | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:RPOSITION<wsp><integer>[DIV] |
| SUB LOG**. *dB/D              | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:PDIVision<wsp><Nrf>[DB]      |
| SUB LIN*. ***/D               | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:PDIVision<wsp><Nrf>          |
| SUB SCALE**. *dB/km           | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:PDIVision<wsp><Nrf>[DB/KM]   |
| SUB SCALE**. **%/D            | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:PDIVision<wsp><Nrf>[%]       |
| OFST LVL or SCALE MIN **. *dB | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:OLEVel<wsp><Nrf>[DB]         |
| LENGTH**. **km                | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:LENGTh<wsp><Nrf>[KM]         |
| AUTO SUB SCALE ON/OFF         | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:AUTO<wsp>OFF ON 0 1          |
| SUB REF LVL POSITION **DIV    | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:RPOSITION<wsp><integer>[DIV] |

### Note

For the AQ6375, dBm/nm and W/nm cannot be selected for LEVEL UNIT when the horizontal axis is wavenumber. (DBM/NM parameters cannot be set.)

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### SETUP

| Function               | Control Command                                           | Remarks        |
|------------------------|-----------------------------------------------------------|----------------|
| RESOLUTION *.***nm     | :SENSe:BAWdth:BWIDth[:RESolution] <wsp><br><NRF> [M Hz]   |                |
| SENS/MODE @@@@         |                                                           |                |
| NORM/HOLD              | :SENSe:SENSe<wsp>NHLd 0                                   |                |
| NORM/AUTO              | :SENSe:SENSe<wsp>NAUT 1                                   |                |
| NORM                   | :SENSe:SENSe<wsp>NORMal 6                                 |                |
| MID                    | :SENSe:SENSe<wsp>MID 2                                    |                |
| HIGH1                  | :SENSe:SENSe<wsp>HIGH1 3                                  | AQ6370B/AQ6373 |
| HIGH1/CHOP             | :SENSe:SENSe<wsp>HIGH1 3                                  | AQ6375         |
| HIGH2                  | :SENSe:SENSe<wsp>HIGH2 4                                  | AQ6370B/AQ6373 |
| HIGH2/CHOP             | :SENSe:SENSe<wsp>HIGH2 4                                  | AQ6375         |
| HIGH3                  | :SENSe:SENSe<wsp>HIGH3 5                                  | AQ6370B/AQ6373 |
| HIGH3/CHOP             | :SENSe:SENSe<wsp>HIGH3 5                                  | AQ6375         |
| CHOP MODE @@@@         |                                                           |                |
| OFF                    | :SENSe:CHOPPer<wsp>OFF 0                                  | AQ6370B/AQ6373 |
| SWITCH                 | :SENSe:CHOPPer<wsp>SWITCh 2                               | AQ6370B/AQ6373 |
| AVG TIMES ***          | :SENSe:AVERAge:COUnT<wsp><integer>                        |                |
| SAMPLING POINT AUTO    | :SENSe:SWEEp:POInTs:AUTO<wsp>OFF ON 0 1                   |                |
| SAMPLING POINT ****    | :SENSe:SWEEp:POInTs<wsp><integer>                         |                |
| SAMPLING INTVL *.***nm | :SENSe:SWEEp:STEP<wsp><NRF> [M]                           |                |
| MEAS WL AIR/VAC        | :SENSe:CORRection:RVELocity:MEDIUm<wsp><br>AIR VACuum 0 1 |                |
| HORZN SCALE nm/THz     | :UNIT:X<wsp>WAVelength FREQuency 0 1                      | AQ6370B/AQ6373 |
| HORZN SCALE @@@@       |                                                           |                |
| nm                     | :UNIT:X<wsp>WAVelength 0                                  |                |
| THz                    | :UNIT:X<wsp>FREQuency 1                                   |                |
| cm-1                   | :UNIT:X<wsp>WNUMber 2                                     | AQ6375         |
| PLS LIGHT MEASURE      | :TRIGger[:SEQuence]:STATe<wsp>OFF ON <br>PHOLd 0 1 2      |                |
| TRIGGER SETTING        |                                                           |                |
| EDGE RISE/FALL         | :TRIGger[:SEQuence]:SLOPe<wsp>RISE <br>FALL 0 1           |                |
| DELAY ****.µs          | :TRIGger[:SEQuence]:DELay<wsp><NRF> [S]                   |                |
| TLS SYNC SWEEP ON/OFF  | :SENSe:SWEEp:TLSSync<wsp>OFF ON 0 1                       | AQ6370B/AQ6375 |
| RESOLN CORRECT         | :SENSe:SETting:CORRection<wsp><br>OFF ON 0 1              | AQ6370B/AQ6373 |
| SMOOTHING ON/OFF       | :SENSe:SETting:SMOothing<wsp><br>OFF ON 0 1               | AQ6373         |
| FIBER CORE SIZE        | :SENSe:SETting:FIBer<wsp>SMALl <br>LARGe 0 1              | AQ6373         |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### ZOOM

| Function                         | Control Command                                               | Remarks |
|----------------------------------|---------------------------------------------------------------|---------|
| ZOOM CENTER WL ****.***nm        | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>CENTer<wsp><Nrf>[M]     |         |
| ZOOM CENTER FREQ<br>***.***THz   | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>CENTer<wsp><Nrf>[HZ]    |         |
| ZOOM CENTER WNUM<br>****.***cm-1 | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>CENTer<wsp><Nrf>        | AQ6375  |
| ZOOM SPAN ****.***nm             | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>SPAN<wsp><Nrf>[M]       |         |
| ZOOM SPAN ***.***THz             | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>SPAN<wsp><Nrf>[HZ]      |         |
| ZOOM SPAN WNUM ****.***cm-1      | :DISPlay[:WINDow]:TRACe:X[:SCALe]:SPAN<br><wsp><Nrf>          | AQ6375  |
| ZOOM START WL ****.***nm         | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>START<wsp><Nrf>[M]      |         |
| ZOOM START FREQ<br>***.***THz    | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>START<wsp><Nrf>[HZ]     |         |
| ZOOM START WNUM<br>****.***cm-1  | :DISPlay[:WINDow]:TRACe:X[:SCALe]:START<br><wsp><Nrf>         | AQ6375  |
| ZOOM STOP WL ****.***nm          | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>STOP<wsp><Nrf>[M]       |         |
| ZOOM STOP FREQ ***.***THz        | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>STOP<wsp><Nrf>[HZ]      |         |
| ZOOM STOP WNUM<br>****.***cm-1   | :DISPlay[:WINDow]:TRACe:X[:SCALe]:STOP<br><wsp><Nrf>          | AQ6375  |
| PEAK→ZOOM CTR                    | :CALCulate:MARKer:MAXimum:SZCEnter                            |         |
| OVERVIEW DISPLAY OFF/L/R         | :DISPlay[:WINDow]:OVIew:POSItion<wsp><br>OFF LEFT RIGHT 0 1 2 |         |
| OVERVIEW SIZE<br>LARGE/SMALL     | :DISPlay[:WINDow]:OVIew:SIze<wsp><br>LARGe SMALL 0 1          |         |
| INITIAL                          | :DISPlay[:WINDow]:TRACe:X[:SCALe]:<br>INITialize              |         |

### DISPLAY

| Function            | Control Command                                                      |
|---------------------|----------------------------------------------------------------------|
| NORMAL DISPLAY      | :DISPlay[:WINDow]:SPLit<wsp>OFF 0                                    |
| SPLIT DISPLAY       | :DISPlay[:WINDow]:SPLit<wsp>ON 1                                     |
| SPLIT DISPLAY       |                                                                      |
| TRACE A UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRA,UP LOW 0 1                  |
| TRACE B UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRB,UP LOW 0 1                  |
| TRACE C UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRC,UP LOW 0 1                  |
| TRACE D UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRD,UP LOW 0 1                  |
| TRACE E UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRE,UP LOW 0 1                  |
| TRACE F UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRF,UP LOW 0 1                  |
| TRACE G UP/LOW      | :DISPlay[:WINDow]:SPLit:POSItion<wsp>TRG,UP LOW 0 1                  |
| HOLD                |                                                                      |
| UPPER HOLD ON/OFF   | :DISPlay[:WINDow]:SPLit:HOLD:UPPer<wsp>OFF ON 0 1                    |
| LOWER HOLD ON/OFF   | :DISPlay[:WINDow]:SPLit:HOLD:LOWer<wsp>OFF ON 0 1                    |
| LABEL               | :DISPlay[:WINDow]:TEXT:DATA<wsp><string>                             |
| NOISE MASK ***dB    | :DISPlay[:WINDow]:TRACe:Y:NMASK<wsp><Nrf>[DB]                        |
| MASK LINE VERT/HRZN | :DISPlay[:WINDow]:TRACe:Y:NMASK:TYPe<wsp>VERTical <br>HORIZontal 0 1 |
| TRACE CLEAR         |                                                                      |
| ALL TRACE           | :DISPlay[:WINDow]:TEXT:CLear                                         |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### TRACE

| Function               | Control Command                                                       |
|------------------------|-----------------------------------------------------------------------|
| ACTIVE TRACE           |                                                                       |
| A                      | :TRACe:ACTive<wsp>TRA                                                 |
| B                      | :TRACe:ACTive<wsp>TRB                                                 |
| C                      | :TRACe:ACTive<wsp>TRC                                                 |
| D                      | :TRACe:ACTive<wsp>TRD                                                 |
| E                      | :TRACe:ACTive<wsp>TRE                                                 |
| F                      | :TRACe:ACTive<wsp>TRF                                                 |
| G                      | :TRACe:ACTive<wsp>TRG                                                 |
| VIEW @ DISP/BLANK      | :TRACe:STATe:<:TRACe name><wsp>ON OFF 1 0                             |
| WRITE @                | :TRACe:ATTRibute:<:TRACe name><wsp>WRITE 0                            |
| FIX @                  | :TRACe:STATe:<tarce name><wsp>FIX 1                                   |
| HOLD @                 |                                                                       |
| MAX HOLD               | :TRACe:ATTRibute:<:TRACe name><wsp>MAX 2                              |
| MIN HOLD               | :TRACe:ATTRibute:<:TRACe name><wsp>MIN 3                              |
| ROLL AVG @ ***         | :TRACe:ATTRibute:RAVG:<:TRACe name><wsp><integer>                     |
| CALCULATE C@@@         |                                                                       |
| LOG MATH@@@            |                                                                       |
| C = A-B(LOG)           | :CALCulate:MATH:TRC<wsp>A-B (LOG)                                     |
| C = B-A(LOG)           | :CALCulate:MATH:TRC<wsp>B-A (LOG)                                     |
| C = A+B(LOG)           | :CALCulate:MATH:TRC<wsp>A+B (LOG)                                     |
| LIN MATH@@@            |                                                                       |
| C = A+B(LIN)           | :CALCulate:MATH:TRC<wsp>A+B (LIN)                                     |
| C = A-B(LIN)           | :CALCulate:MATH:TRC<wsp>A-B (LIN)                                     |
| C = B-A(LIN)           | :CALCulate:MATH:TRC<wsp>B-A (LIN)                                     |
| C = 1-k(A/B) k: *.**** | :CALCulate:MATH:TRC:K<wsp><Nrf>;<br>:CALCulate:MATH:TRC<wsp>1-K (A/B) |
| C = 1-k(B/A) k: *.**** | :CALCulate:MATH:TRC:K<wsp><Nrf>;<br>:CALCulate:MATH:TRC<wsp>1-K (B/A) |
| CALCULATE F@@@         |                                                                       |
| LOG MATH@@@            |                                                                       |
| F = C-D(LOG)           | :CALCulate:MATH:TRF<wsp>C-D (LOG)                                     |
| F = D-C(LOG)           | :CALCulate:MATH:TRF<wsp>D-C (LOG)                                     |
| F = C+D(LOG)           | :CALCulate:MATH:TRF<wsp>C+D (LOG)                                     |
| F = D-E(LOG)           | :CALCulate:MATH:TRF<wsp>D-E (LOG)                                     |
| F = E-D(LOG)           | :CALCulate:MATH:TRF<wsp>E-D (LOG)                                     |
| F = D+E(LOG)           | :CALCulate:MATH:TRF<wsp>D+E (LOG)                                     |
| CALCulate F@@@         |                                                                       |
| LIN MATH@@@            |                                                                       |
| F = C+D(LIN)           | :CALCulate:MATH:TRF<wsp>C+D (LIN)                                     |
| F = C-D(LIN)           | :CALCulate:MATH:TRF<wsp>C-D (LIN)                                     |
| F = D-C(LIN)           | :CALCulate:MATH:TRF<wsp>D-C (LIN)                                     |
| F = D+E(LIN)           | :CALCulate:MATH:TRF<wsp>D+E (LIN)                                     |
| F = D-E(LIN)           | :CALCulate:MATH:TRF<wsp>D-E (LIN)                                     |
| F = E-D(LIN)           | :CALCulate:MATH:TRF<wsp>E-D (LIN)                                     |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

| Function         | Control Command                                                                            |
|------------------|--------------------------------------------------------------------------------------------|
| CALCulate G@@@@  |                                                                                            |
| LOG MATH@@@@     |                                                                                            |
| G = C-F(LOG)     | :CALCulate:MATH:TRG<wsp>C-F (LOG)                                                          |
| G = F-C(LOG)     | :CALCulate:MATH:TRG<wsp>F-C (LOG)                                                          |
| G = C+F(LOG)     | :CALCulate:MATH:TRG<wsp>C+F (LOG)                                                          |
| G = E-F(LOG)     | :CALCulate:MATH:TRG<wsp>E-F (LOG)                                                          |
| G = F-E(LOG)     | :CALCulate:MATH:TRG<wsp>F-E (LOG)                                                          |
| G = E+F(LOG)     | :CALCulate:MATH:TRG<wsp>E+F (LOG)                                                          |
| LIN MATH@@@@     |                                                                                            |
| G = C+F(LIN)     | :CALCulate:MATH:TRG<wsp>C+F (LIN)                                                          |
| G = C-F(LIN)     | :CALCulate:MATH:TRG<wsp>C-F (LIN)                                                          |
| G = F-C(LIN)     | :CALCulate:MATH:TRG<wsp>F-C (LIN)                                                          |
| G = E+F(LIN)     | :CALCulate:MATH:TRG<wsp>E+F (LIN)                                                          |
| G = E-F(LIN)     | :CALCulate:MATH:TRG<wsp>E-F (LIN)                                                          |
| G = F-E(LIN)     | :CALCulate:MATH:TRG<wsp>F-E (LIN)                                                          |
| NORMALIZE@@@@    |                                                                                            |
| G = NORM A       | :CALCulate:MATH:TRG<wsp>NORMA                                                              |
| G = NORM B       | :CALCulate:MATH:TRG<wsp>NORMB                                                              |
| G = NORM C       | :CALCulate:MATH:TRG<wsp>NORMC                                                              |
| CURVE FIT@@@@    |                                                                                            |
| G = CVFIT A      | :CALCulate:MATH:TRG<wsp>CVFTA                                                              |
| G = CVFIT B      | :CALCulate:MATH:TRG<wsp>CVFTB                                                              |
| G = CVFIT C      | :CALCulate:MATH:TRG<wsp>CVFTC                                                              |
| G = MKR FIT      | :CALCulate:MATH:TRG<wsp>MKRFT                                                              |
| THRESH **dB      | :CALCulate:MATH:TRG:CVFT:THResh<wsp><NRf> [DB]                                             |
| OPERATION AREA   | :CALCulate:MATH:TRG:CVFT:OPARea<wsp>ALL   INL1-L2  <br>OUTL1-L2   0   1   2                |
| FITTING ALGO     | :CALCulate:MATH:TRG:CVFT:FALGo<wsp>GAUSS   LORENz   3RD  <br>4TH   5TH   0   1   2   3   4 |
| CURVE FIT PK@@@@ |                                                                                            |
| G = PKCVFIT A    | :CALCulate:MATH:TRG<wsp>PKCVFTA                                                            |
| G = PKCVFIT B    | :CALCulate:MATH:TRG<wsp>PKCVFTB                                                            |
| G = PKCVFIT C    | :CALCulate:MATH:TRG<wsp>PKCVFTC                                                            |
| THRESH **dB      | :CALCulate:MATH:TRG:PCVFT:THResh<wsp><NRf> [DB]                                            |
| OPERATION AREA   | :CALCulate:MATH:TRG:CVFT:OPARea<wsp>ALL   INL1-L2  <br>OUTL1-L2   0   1   2                |
| FITTING ALGO     | :CALCulate:MATH:TRG:CVFT:FALGo<wsp>GAUSS   LORENz   3RD  <br>4TH   5TH   0   1   2   3   4 |
| TRACE LIST       | -                                                                                          |
| TRACE COPY       | :TRACe:COPIY<wsp><source:TRACe name>, <destination:<br>TRACe name>                         |
| TRACE CLEAR      | :TRACe:DELeTe<wsp><:TRACe name>                                                            |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### MARKER

| Function                         | Control Command                                                                                  | Remarks |
|----------------------------------|--------------------------------------------------------------------------------------------------|---------|
| MKR ACTIVE ON/OFF,<br>SET MARKER | :CALCulate:MARKer[:STATE] <wsp><marker>,  ON 1<br>:CALCulate:MARKer:X<wsp><marker>, <Nrf> [M HZ] |         |
| CLEAR MARKER                     | :CALCulate:MARKer[:STATE] <wsp><marker>, OFF 0                                                   |         |
| MARKER →CENTER                   | :CALCulate:MARKer:SCENter                                                                        |         |
| MARKER →ZOOM CTR                 | :CALCulate:MARKer:SZCenter                                                                       |         |
| MARKER →REF LEVEL                | :CALCulate:MARKer:SRLevel                                                                        |         |
| ALL MARKER CLEAR                 | :CALCulate:MARKer:AOFF                                                                           |         |
| LINE MKR 1 ON/OFF                | :CALCulate:LMARker:X<wsp>1, <Nrf> [M]                                                            |         |
| LINE MKR 2 ON/OFF                | :CALCulate:LMARker:X<wsp>2, <Nrf> [M]                                                            |         |
| LINE MKR 3 ON/OFF                | :CALCulate:LMARker:Y<wsp>3, <Nrf> [DBM]                                                          |         |
| LINE MKR 4 ON/OFF                | :CALCulate:LMARker:Y<wsp>4, <Nrf> [DBM]                                                          |         |
| MKR L1-L2→SPAN                   | :CALCulate:LMARker:SSPan                                                                         |         |
| MKR L1-L2 →ZOOM SPAN             | :CALCulate:LMARker:SZSPan                                                                        |         |
| LINE MARKER ALL CLEAR            | :CALCulate:LMARker:AOFF                                                                          |         |
| MAKER DISPLAY                    |                                                                                                  |         |
| OFFSET                           | :CALCulate:MARKer:FUNCTion:FORMat<wsp><br>OFFSet 0                                               |         |
| SPACING                          | :CALCulate:MARKer:FUNCTion:FORMat<wsp><br>SPACing 1                                              |         |
| MARKER AUTO UPDATE<br>ON/OFF     | :CALCulate:MARKer:FUNCTion:UPDate<wsp><br>OFF ON 0 1                                             |         |
| MARKER UNIT nm THz               | :CALCulate:MARKer:UNIT<wsp>WAVelength <br>FREQuency 0 1                                          | AQ6370B |
| MARKER UNIT @@@@                 |                                                                                                  | AQ6375  |
| nm                               | :CALCulate:MARKer:UNIT<wsp>WAVelength 0                                                          | AQ6375  |
| THz                              | :CALCulate:MARKer:UNIT<wsp>FREQuency 1                                                           | AQ6375  |
| cm-1                             | :CALCulate:MARKer:UNIT<wsp>WNUMber 2                                                             | AQ6375  |
| SEARCH/ANA L1-L2 ON/OFF          | :CALCulate:LMARker:SRANge<wsp>OFF ON 0 1                                                         |         |
| SEARCH/ANA ZOOM AREA<br>ON/OFF   | :DISPlay[:WINDow]:TRACe:X[:SCALe]:SRANge<wsp><br>OFF ON 0 1                                      |         |
| MARKER LIST PRINT                | :HCOPY[:IMMediate]:FUNCTion:MARKer:LIST                                                          |         |

### SEARCH

| Function                       | Control Command                                                       |
|--------------------------------|-----------------------------------------------------------------------|
| PEAK SEARCH                    | :CALCulate:MARKer:MAXimum                                             |
| BOTTOM SEARCH                  | :CALCulate:MARKer:MINimum                                             |
| NEXT LEVEL SEARCH              | :CALCulate:MARKer:MAXimum:NEXT or<br>:CALCulate:MARKer:MINimum:NEXT   |
| NEXT SEARCH RIGHT              | :CALCulate:MARKer:MAXimum:RIGHT or<br>:CALCulate:MARKer:MINimum:RIGHT |
| NEXT SEARCH LEFT               | :CALCulate:MARKer:MAXimum:LEFT or<br>:CALCulate:MARKer:MINimum:LEFT   |
| SET MARKER                     | :CALCulate:MARKer[:STATE] <wsp><marker>,  ON 1                        |
| CLEAR MARKER                   | :CALCulate:MARKer[:STATE] <wsp><marker>, OFF 0                        |
| ALL MARKER CLEAR               | :CALCulate:MARKer:AOFF                                                |
| AUTO SEARCH ON/OFF             | :CALCulate:MARKer:AUTO<wsp>OFF ON 0 1                                 |
| MODE DIFF **. **dB             | :CALCulate:PARAmeter:COMMon:MDIFF<wsp><Nrf> [DB]                      |
| SEARCH/ANA L1-L2 ON/OFF        | :CALCulate:LMARker:SRANge<wsp>OFF ON 0 1                              |
| SEARCH/ANA ZOOM AREA<br>ON/OFF | :DISPlay[:WINDow]:TRACe:X[:SCALe]:SRANge<wsp>OFF ON <br>0 1           |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### ANALYSIS

| Function                       | Control Command                                                 | Remarks        |
|--------------------------------|-----------------------------------------------------------------|----------------|
| SPEC WIDTH@@@@                 |                                                                 |                |
| THRESH                         | :CALCulate:CATegory<wsp>SWThresh 0                              |                |
| ENVELOPE                       | :CALCulate:CATegory<wsp>SWENvelope 1                            |                |
| RMS                            | :CALCulate:CATegory<wsp>SWRMs 2                                 |                |
| PEAK RMS                       | :CALCulate:CATegory<wsp>SWPKrms 3                               |                |
| NOTCH                          | :CALCulate:CATegory<wsp>NOTCh 4                                 |                |
| ANALYSIS1@@@@                  |                                                                 |                |
| DFB-LD                         | :CALCulate:CATegory<wsp>DFBLd 5                                 |                |
| FP-LD                          | :CALCulate:CATegory<wsp>FPLD 6                                  |                |
| LED                            | :CALCulate:CATegory<wsp>LED 7                                   |                |
| SMSR                           | :CALCulate:CATegory<wsp>SMSR 8                                  |                |
| POWER                          | :CALCulate:CATegory<wsp>POWER 9                                 |                |
| PMD                            | :CALCulate:CATegory<wsp>PMD 10                                  |                |
| ANALYSIS2@@@@                  |                                                                 |                |
| OSNR (WDM)                     | :CALCulate:CATegory<wsp>OSNR 11                                 | AQ6373         |
| WDM                            | :CALCulate:CATegory<wsp>WDM 11                                  | AQ6370B/AQ6375 |
| EDFA-NF                        | :CALCulate:CATegory<wsp>NF 12                                   |                |
| FILTER-PK                      | :CALCulate:CATegory<wsp>FILPk 13                                |                |
| FILTER-BTM                     | :CALCulate:CATegory<wsp>FILBtm 14                               |                |
| WDM FIL-PK                     | :CALCulate:CATegory<wsp>WFPeak 15                               | AQ6370B/AQ6375 |
| WDM FIL-BTM                    | :CALCulate:CATegory<wsp>WFBtm 16                                | AQ6370B/AQ6375 |
| COLOR                          | :CALCulate:CATegory<wsp>COLor 17                                | AQ6373         |
| ANALYSIS EXECUTE<br>(@@@@)     | :CALCulate[:IMMEDIATE]                                          |                |
| SPEC WIDTH THRESH **.*dB       | :CALCulate:PARAMeter[:CATegory]:SWThresh:<br>TH<wsp><NRf>[DB]   |                |
| AUTO ANALYSIS ON/OFF           | :CALCulate[:IMMEDIATE]:AUTO<wsp>OFF ON 0 1                      |                |
| RESULT PRINT                   | :HCOpy[:IMMEDIATE]:FUNction:CALCulate:LIST                      |                |
| RESULT SAVE                    | MMEMoRY:STORe:AREsult<wsp><"file name">[,INTernal <br>EXTernal] |                |
| SEARCH/ANA L1-L2               | :CALCulate:LMARker:SRANge<wsp>OFF ON 0 1ON/OFF                  |                |
| SEARCH/ANA ZOOM AREA<br>ON/OFF | :DISPlay[:WINDow]:TRACe:X[:SCALE]:SRANge<wsp>OFF ON <br>0 1     |                |

### Note

For the AQ6375, all soft keys included in ANALYSIS2 are disabled when the horizontal axis is wavenumber.

Analysis functions included in ANALYSIS2 cannot be executed. Also, these parameters cannot be set.

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### MEMORY

| Function        | Control Command                  |
|-----------------|----------------------------------|
| SAVE            |                                  |
| A TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRA |
| B TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRB |
| C TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRC |
| D TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRD |
| E TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRE |
| F TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRF |
| G TRACE →MEMORY | :MEMory:STORe<wsp><integer>, TRG |
| REC ALL         |                                  |
| MEMORY →A TRACE | :MEMory:LOAD<wsp><integer>, TRA  |
| MEMORY →B TRACE | :MEMory:LOAD<wsp><integer>, TRB  |
| MEMORY →C TRACE | :MEMory:LOAD<wsp><integer>, TRC  |
| MEMORY →D TRACE | :MEMory:LOAD<wsp><integer>, TRD  |
| MEMORY →E TRACE | :MEMory:LOAD<wsp><integer>, TRE  |
| MEMORY →F TRACE | :MEMory:LOAD<wsp><integer>, TRF  |
| MEMORY →G TRACE | :MEMory:LOAD<wsp><integer>, TRG  |
| MEMORY CLEAR    | :MEMory:CLear<wsp><integer>      |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### FILE

| Function                   | Control Command                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>WRITE</b>               |                                                                                                                                 |
| DRIVE INT/EXT              | :MMEMory:CDrive<wsp>INTernal EXTernal                                                                                           |
| FILE NAME<br>(TRACE)       | :MMEMory:CDIRectory<wsp><directory name><br>:MMEMory:STORE:TRACe<wsp><trace name>,BIN CSV,<br><"file name">[,INTernal EXTernal] |
| (MEMORY)                   | :MMEMory:STORE:MEMory<wsp><integer>,BIN CSV,<br><"file name">[,INTernal EXTernal]                                               |
| (GRAPHICS)                 | :MMEMory:STORE:GRAPhics<wsp>B&W COLor,BMP TIFF,<br><"file name">[,INTernal EXTernal]                                            |
| (SETTING)                  | :MMEMory:STORE:SETTing<wsp><"file name">[,INTernal EXTernal]                                                                    |
| (DATA)                     | :MMEMory:STORE:DATA<wsp><"file name">[,INTernal EXTernal]                                                                       |
| <b>OUTPUT ITEM SETTING</b> |                                                                                                                                 |
| DATE&TIME ON/OFF           | :MMEMory:STORE:DATA:TEM<wsp>DATE,OFF ON 0 1                                                                                     |
| LABEL ON/OFF               | :MMEMory:STORE:DATA:ITEM<wsp>LABel,OFF ON 0 1                                                                                   |
| DATA AREA ON/OFF           | :MMEMory:STORE:DATA:TEM<wsp>DATA,OFF ON 0 1                                                                                     |
| CONDITION ON/OFF           | :MMEMory:STORE:DATA:ITEM<wsp>CONDition,OFF ON 0 1                                                                               |
| TRACE DATA ON/OFF          | :MMEMory:STORE:DATA:ITEM<wsp>TRACe,OFF ON 0 1                                                                                   |
| FILE TYPE CSV/DT6          | :MMEMory:STORE:DATA:TYPE<wsp>CSV DT 0                                                                                           |
| WRITE MODE<br>ADD/OVER     | :MMEMory:STORE:DATA:MODE<wsp>ADD OVER 0 1                                                                                       |
| (PROGRAM)                  | :MMEMory:STORE:PROGram<wsp><integer>,<"file name"><br>[,INTernal EXTernal]                                                      |
| <b>READ</b>                |                                                                                                                                 |
| DRIVE INT/EXT              | :MMEMory:CDrive<wsp>INTernal EXTernal                                                                                           |
| (TRACE)                    | :MMEMory:LOAD:TRACe<wsp><trace name>,<"file name"><br>[,INTernal EXTernal]                                                      |
| (MEMORY)                   | :MMEMory:LOAD:MEMory<wsp><integer>,<"file name"><br>[,INTernal EXTernal]                                                        |
| (SETTING)                  | :MMEMory:LOAD:SETTing<wsp><"file name">[,INTernal EXTernal]                                                                     |
| (DATA)                     | :MMEMory:LOAD:DATA<wsp><"file name">[,INTernal EXTernal]                                                                        |
| (PROGRAM)                  | :MMEMory:LOAD:PROGram<wsp><integer>,<"file name"><br>[,INTernal EXTernal]                                                       |
| (TEMPLATE)                 | :MMEMory:LOAD:PROGram<wsp><"file name">[,INTernal EXTernal]                                                                     |
| REMOVE USB STORAGE         | :MMEMORY:REMOve                                                                                                                 |
| <b>FILE OPERATION</b>      |                                                                                                                                 |
| DRIVE INT/EXT              | :MMEMory:CDrive<wsp>INTernal EXTernal                                                                                           |
| DELETE                     | :MMEMory:DELeTe<wsp><"file name">[,INTernal EXTernal]                                                                           |
| COPY                       | :MMEMory:COpy<wsp><"source file name">,[INTernal EXTernal],<"destination file name">[,INTernal EXTernal]                        |
| RENAME                     | :MMEMory:REName<wsp><"new file name">,<"old file name">[,INTernal EXTernal]                                                     |
| MAKE DIRECTORY             | :MMEMory:MDIRectory<wsp><"directory name"><br>[,INTernal EXTernal]                                                              |

### PROGRAM

| Function        | Control Command                |
|-----------------|--------------------------------|
| PROGRAM EXECUTE | :PROGram:EXECute<wsp><integer> |

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

### SYSTEM

| Function                              | Control Command                                                                                                             | Remarks        |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------|
| OPTICAL ALIGNMENT                     | :CALibration:ALIGn[:IMMEDIATE]                                                                                              |                |
| WL CALIBRATION                        |                                                                                                                             |                |
| BUILT-IN SOURCE                       | :CALibration:WAVeLength:INTernal<br>[:IMMEDIATE]                                                                            | AQ6370B/AQ6375 |
| EXTERNAL LASER<br>****.***nm          | :CALibration:WAVeLength:EXTernal:<br>SOURce<wsp>LASer 0;<br>:CALibration:WAVeLength:EXTernal:<br>WAVeLength<wsp><NRf> [M]   |                |
| EXTERNAL GAS CELL<br>****.***nm       | :CALibration:WAVeLength:EXTernal:<br>SOURce<wsp>GASCell 1;<br>:CALibration:WAVeLength:EXTernal:<br>WAVeLength<wsp><NRf> [M] | AQ6370B/AQ6375 |
| WL SHIFT **.***nm                     | :SENSe:CORRection:WAVeLength:SHIFt<br><wsp><NRf> [M]                                                                        |                |
| LVL SHIFT ***.***dB                   | :SENSe:CORRection:LEVel:SHIFt<wsp><br><NRf> [DB]                                                                            |                |
| WL OFFSET TABLE                       | :CALibration:WAVeLength:OFFSet:<br>TABLe<wsp><integer>, <NRf> [DB]                                                          |                |
| LVL OFFSET TABLE                      | :CALibration:POWer:OFFSet:TABLe<wsp><br><integer>, <NRf> [DB]                                                               |                |
| GRID EDITOR                           |                                                                                                                             |                |
| 200GHz SPACING                        | :SYSTem:GRID<wsp>200GHZ 4                                                                                                   | AQ6370B/AQ6375 |
| 100GHz SPACING                        | :SYSTem:GRID<wsp>100GHZ 3                                                                                                   | AQ6370B/AQ6375 |
| 50GHz SPACING                         | :SYSTem:GRID<wsp>50GHZ 2                                                                                                    | AQ6370B/AQ6375 |
| 25GHz SPACING                         | :SYSTem:GRID<wsp>25GHZ 1                                                                                                    | AQ6370B/AQ6375 |
| 12.5GHz SPACING                       | :SYSTem:GRID<wsp>12.5GHZ 0                                                                                                  | AQ6370B/AQ6375 |
| CUSTOM                                | :SYSTem:GRID<wsp>CUSTom 5                                                                                                   | AQ6370B/AQ6375 |
| START WL ****.***nm                   | :SYSTem:GRID:CUSTom:STARt<wsp><br><NRf> [M] HZ]                                                                             | AQ6370B/AQ6375 |
| STOP WL ****.***nm                    | :SYSTem:GRID:CUSTom:STOP<wsp><br><NRf> [M] HZ]                                                                              | AQ6370B/AQ6375 |
| SPACING ***.GHz                       | :SYSTem:GRID:CUSTom:SPACing<wsp><br><NRf> [GHZ]                                                                             | AQ6370B/AQ6375 |
| VALUE EDIT                            | -                                                                                                                           |                |
| INSERT                                | :SYSTem:GRID:CUSTom:INSert<wsp><br><NRf> [M] HZ]                                                                            | AQ6370B/AQ6375 |
| DELETE                                | :SYSTem:GRID:CUSTom:DELeTe<wsp><br><integer>                                                                                | AQ6370B/AQ6375 |
| REFERENCE<br>WAVELENGTH<br>****.***nm | :SYSTem:GRID:REFerence<wsp><NRf> [HZ]                                                                                       | AQ6370B/AQ6375 |
| USER KEY DEFINE                       | -                                                                                                                           |                |

### Note

On the AQ6375, the GRID EDITOR soft key is not available when in Frequency mode.

## 7.2 Table of Correspondence between Soft Keys and Remote Commands

| Function                     | Control Command                                                                                                                                                          | Remarks                     |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| GP-IB2 PORT ADDRESS **       | :SYSTem:COMMunicate:GP-IB2:ADDRes<br><wsp><integer>                                                                                                                      |                             |
| COMMAND FORMAT               | :SYSTem:COMMunicate:CFORmat<wsp><br>AQ6317 AQ6370B 0 1<br>:SYSTem:COMMunicate:CFORmat<wsp><br>AQ6317 AQ6373 0 1<br>:SYSTem:COMMunicate:CFORmat<wsp><br>AQ6317 AQ6375 0 1 | AQ6370B<br>AQ6373<br>AQ6375 |
| TLS ADDRESS **               | :SYSTem:COMMunicate:GP-IB2:TLs:<br>ADDRes<wsp><integer>                                                                                                                  | AQ6370B/AQ6375              |
| HARD COPY DEVICE             |                                                                                                                                                                          |                             |
| INTERNAL                     | :HCOPY:DESTination<wsp>INTernAl 0                                                                                                                                        |                             |
| EXTERNAL                     | :HCOPY:DESTination<wsp>EXTErnAl 1                                                                                                                                        |                             |
| FILE                         | :HCOPY:DESTination<wsp>FILE 2                                                                                                                                            |                             |
| TRIG INPUT MODE              | :TRIGger[:SEQuence]:INPut<wsp><br>ETRigger STRigger 0 1                                                                                                                  |                             |
| TRIG OUTPUT MODE             | :TRIGger[:SEQuence]:OUTPut<wsp><br>OFF SSTATUS 0 1                                                                                                                       |                             |
| AUTO OFFSET ON/OFF           | :CALibration:ZERO[:AUTO]<wsp><br>OFF ON 0 1 ONCE                                                                                                                         | AQ6370B/AQ6375              |
| AUTO OFFSET SETTING          |                                                                                                                                                                          |                             |
| AUTO OFFSET ON/OFF           | :CALibration:ZERO[:AUTO]<wsp>OFF <br>ON 0 1                                                                                                                              | AQ6373                      |
| INTERVAL ***min              | :CALibration:ZERO[:AUTO]:INTerval<br><wsp><integer>                                                                                                                      | AQ6373                      |
| UNCAL WARN DISPLAY<br>ON/OFF | :SYSTem:DISPlay:UNCal<wsp>OFF ON 0 1                                                                                                                                     |                             |
| BUZZER SETTING               |                                                                                                                                                                          |                             |
| CLICK ON/OFF                 | :SYSTem:BUZZer:CLICk<wsp>OFF ON 0 1                                                                                                                                      |                             |
| WARNING ON/OFF               | :SYSTem:BUZZer:WARning<wsp>OFF ON 0 1                                                                                                                                    |                             |
| LEVEL DISP                   |                                                                                                                                                                          |                             |
| 1DIG                         | :UNIT:POWer:DIGit<wsp>1                                                                                                                                                  |                             |
| 2DIG                         | :UNIT:POWer:DIGit<wsp>2                                                                                                                                                  |                             |
| 3DIG                         | :UNIT:POWer:DIGit<wsp>3                                                                                                                                                  |                             |
| WINDOW TRANSPARENT<br>ON/OFF | :SYSTem:DISPlay:TRANSPARENT<wsp><br>OFF ON 0 1                                                                                                                           |                             |
| SET CLOCK                    | :SYSTem:DATE<wsp><year>, <month>, <day><br>:SYSTem:TIME<wsp><hour>, <minutes>,<br><seconds>                                                                              |                             |
| SELECT COLOR                 |                                                                                                                                                                          |                             |
| COLOR 1                      | :DISPlay:COLor<wsp>1                                                                                                                                                     |                             |
| COLOR 2                      | :DISPlay:COLor<wsp>2                                                                                                                                                     |                             |
| COLOR 3                      | :DISPlay:COLor<wsp>3                                                                                                                                                     |                             |
| COLOR 4                      | :DISPlay:COLor<wsp>4                                                                                                                                                     |                             |
| COLOR 5                      | :DISPlay:COLor<wsp>5                                                                                                                                                     |                             |
| B&W                          | :DISPlay:COLor<wsp>0                                                                                                                                                     |                             |
| REMOVE USB STRAGE            | :MMEMory:REMove                                                                                                                                                          |                             |
| PARAMETER INITIALIZE         |                                                                                                                                                                          |                             |
| ALL CLEAR                    | :SYSTem:PRESet                                                                                                                                                           |                             |
| VERSION                      | -                                                                                                                                                                        |                             |

## ADVANCE

| Function                   | Control Command                                                                     |
|----------------------------|-------------------------------------------------------------------------------------|
| <b>TEMPLATE</b>            |                                                                                     |
| GO/NO GO ON/OFF            | :TRACe:TEMPLate:GONogo<wsp>OFF ON 0 1                                               |
| <b>TEMPLATE DISPLAY</b>    |                                                                                     |
| UPPER LINE DISPLAY ON/OFF  | :TRACe:TEMPLate:DISPlay<wsp>UPPer,OFF ON 0 1                                        |
| LOWER LINE DISPLAY ON/OFF  | :TRACe:TEMPLate:DISPlay<wsp>LOWer,OFF ON 0 1                                        |
| TARGET LINE DISPLAY ON/OFF | :TRACe:TEMPLate:DISPlay<wsp>TARGet,OFF ON 0 1                                       |
| <b>TYPE</b>                |                                                                                     |
| UPPER                      | :TRACe:TEMPLate:TTYPe<wsp>UPPer                                                     |
| LOWER                      | :TRACe:TEMPLate:TTYPe<wsp>LOWer                                                     |
| UPPER & LOWER              | :TRACe:TEMPLate:TTYPe<wsp>U&L                                                       |
| <b>TEMPLATE EDIT</b>       |                                                                                     |
| ALL DELETE                 | :TRACe:TEMPLate:DATA:ADELete<wsp>UPPer LOWer TARGet                                 |
| MODE ABS/REL               | :TRACe:TEMPLate:DATA:MODE<wsp>UPPer LOWer TARGet, ABSolute RELative                 |
| <b>EXTRA POL TYPE</b>      |                                                                                     |
| TYPE A                     | :TRACe:TEMPLate:DATA:ETYPe<wsp>UPPer LOWer TARGet,A 1                               |
| TYPE B                     | :TRACe:TEMPLate:DATA:ETYPe<wsp>UPPer LOWer TARGet,B 2                               |
| NONE                       | :TRACe:TEMPLate:DATA:ETYPe<wsp>UPPer LOWer TARGet,NONE 0                            |
| TEMPLATE SHIFT             | :TRACe:TEMPLate:LEVel:SHIFt<wsp><Nrf><br>:TRACe:TEMPLate:WAVelength:SHIFt<wsp><Nrf> |

## COPY

| Function | Control Command    |
|----------|--------------------|
| COPY     | :HCOPY[:IMMediate] |

## FEED

| Function | Control Command         |
|----------|-------------------------|
| FEED     | :HCOPY[:IMMediate]:FEED |

## 7.3 ANALYSIS Setting Parameters

In setting ANALYSIS key setting parameters, the analysis parameters differ with the analysis type. Thus, the PARAMETER SETTING key commands are set independently of the regular key commands. An analysis parameter setting command is shown below.

### SPEC WIDTH

| ANALYSIS Parameters    | Control Command                                                   |
|------------------------|-------------------------------------------------------------------|
| <b>THRESH</b>          |                                                                   |
| THRESH LEVEL **.***dB  | :CALCulate:PARAMeter[:CATegory]:SWThresh:<br>TH<wsp><NRf> [DB]    |
| K **.***               | :CALCulate:PARAMeter[:CATegory]:SWThresh:<br>K<wsp><NRf>          |
| MODE FIT ON/OFF        | :CALCulate:PARAMeter[:CATegory]:SWThresh:<br>MFIT<wsp>OFF ON 0 1  |
| <b>ENVELOPE</b>        |                                                                   |
| THRESH LEVEL1 **.***dB | :CALCulate:PARAMeter[:CATegory]:SWENvelope:<br>TH1<wsp><NRf> [DB] |
| THRESH LEVEL2 **.***dB | :CALCulate:PARAMeter[:CATegory]:SWENvelope:<br>TH2<wsp><NRf> [DB] |
| K **.***               | :CALCulate:PARAMeter[:CATegory]:SWENvelope:K                      |
| <b>PEAK RMS</b>        |                                                                   |
| THRESH LEVEL **.***dB  | :CALCulate:PARAMeter[:CATegory]:SWPKrms:<br>TH<wsp><NRf> [DB]     |
| K **.***               | :CALCulate:PARAMeter[:CATegory]:SWPKrms:<br>K<wsp><NRf> [DB]      |
| <b>NOTCH</b>           |                                                                   |
| THRESH LEVEL **.***dB  | :CALCulate:PARAMeter[:CATegory]:NOTCh:<br>TH<wsp><NRf> [DB]       |
| K **.***               | :CALCulate:PARAMeter[:CATegory]:NOTCh:<br>K<wsp><NRf> [DB]        |
| <b>Type</b>            |                                                                   |
| PEAK                   | :CALCulate:PARAMeter[:CATegory]:NOTCh:<br>TYPE<wsp>PEAK 0         |
| BOTTOM                 | :CALCulate:PARAMeter[:CATegory]:NOTCh:<br>TYPE<wsp>BOTTom 1       |

### ANALYSIS 1

| ANALYSIS Parameters | Control Command                                                       |
|---------------------|-----------------------------------------------------------------------|
| <b>DFB-LD</b>       |                                                                       |
| <b>-XdB WIDTH</b>   |                                                                       |
| ALGO                | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp>SWIDt<br>h,ALGO,<data>      |
| THRESH **.***dB     | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp><br>SWIDth,TH,<NRf> [DB]    |
| THRESH2 **.***dB    | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp>SWIDt<br>h,TH2,<NRf> [DB]   |
| K                   | :CALCulate:PARAMeter[:CATegory]:<br>DFBLd<wsp>SWIDth,K,<NRf>          |
| MODE FIT ON/OFF     | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp><br>SWIDth,MFIT,OFF ON 0 1  |
| MODE DIFF **.***dB  | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp><br>SWIDth,MDIFf,<NRf> [DB] |

### 7.3 ANALYSIS Setting Parameters

| ANALYSIS Parameters  | Control Command                                                      |
|----------------------|----------------------------------------------------------------------|
| DFB-LD               |                                                                      |
| SMSR                 |                                                                      |
| SMSR MODE            | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp>SMSR,SMODE,SMSR1 SMSR2     |
| SMSR MASK<br>±*.**nm | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp>SMSR,SMASK,<Nrf>[M]        |
| MODE DIFF *.*dB      | :CALCulate:PARAMeter[:CATegory]:DFBLd<wsp>SMSR,MDIFF,<Nrf>[DB]       |
| FP-LD                |                                                                      |
| SPECTRUM WIDTH       |                                                                      |
| ALGO                 | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,ALGO,<data>          |
| THRESH *.*dB         | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,TH,<Nrf>[DB]         |
| THRESH2 *.*dB        | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,TH2,<Nrf>[DB]        |
| K                    | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,K,<Nrf>              |
| MODE FIT ON/OFF      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,MFIT,OFF ON 0 1      |
| MODE DIFF *.*dB      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>SWIDth,MDIFF,<Nrf>[DB]      |
| MEAN WAVELENGTH      |                                                                      |
| ALGO                 | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,ALGO,<data>     |
| THRESH *.*dB         | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,TH,<Nrf>[DB]    |
| THRESH2 *.*dB        | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,TH2,<Nrf>[DB]   |
| K                    | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,K,<Nrf>         |
| MODE FIT ON/OFF      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,MFIT,OFF ON 0 1 |
| MODE DIFF *.*dB      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MWAVelength,MDIFF,<Nrf>[DB] |
| TOTAL POWER          |                                                                      |
| OFFSET LEVEL<br>**dB | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>TPOWER,OFFSET,<Nrf>[DB]     |
| MODE NO.             |                                                                      |
| ALGO                 | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,ALGO,<data>         |
| THRESH *.*dB         | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,TH,<Nrf>[DB]        |
| THRESH2 *.*dB        | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,TH2,<Nrf>[DB]       |
| K                    | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,K,<Nrf>             |
| MODE FIT ON/OFF      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,MFIT,OFF ON 0 1     |
| MODE DIFF *.*dB      | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp>MNUMBER,MDIFF,<Nrf>[DB]     |

| ANALYSIS Parameters    | Control Command                                                        |
|------------------------|------------------------------------------------------------------------|
| <b>LED</b>             |                                                                        |
| <b>SPECTRUM WIDTH</b>  |                                                                        |
| ALGO                   | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,ALGO,<data>             |
| THRESH **.***dB        | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,TH,<Nrf>[DB]            |
| THRESH2 **.***dB       | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,TH2,<Nrf>[DB]           |
| K                      | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,K,<Nrf>                 |
| MODE FIT ON/OFF        | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,MFIT,OFF ON 0 1         |
| MODE DIFF **.***dB     | :CALCulate:PARAmeter[:CATegory]:LED<wsp>SWIDth,MDIFf,<Nrf>[DB]         |
| <b>MEAN WAVELENGTH</b> |                                                                        |
| ALGO                   | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,ALGO,<data>        |
| THRESH **.***dB        | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,TH,<Nrf>[DB]       |
| THRESH2 **.***dB       | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,TH2,<Nrf>[DB]      |
| K                      | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,K,<Nrf>            |
| MODE FIT ON/OFF        | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,MFIT,OFF ON 0 1    |
| MODE DIFF **.***dB     | :CALCulate:PARAmeter[:CATegory]:LED<wsp>MWAVelength,MDIFf,<Nrf>[DB]    |
| <b>TOTAL POWER</b>     |                                                                        |
| OFFSET LEVEL           | :CALCulate:PARAmeter[:CATegory]:LED<wsp>TPOWer,OFFSet,*.***dB<Nrf>[DB] |
| <b>SMSR</b>            |                                                                        |
| SMSR MODE              | :CALCulate:PARAmeter[:CATegory]:SMSR:MODE<wsp>SMSR1 SMSR2              |
| SMSR MASK ±**.***dB    | :CALCulate:PARAmeter[:CATegory]:SMSR:MASK<wsp><Nrf>[M]POWER            |
| <b>POWER</b>           |                                                                        |
| OFFSET LEVEL *.***dB   | :CALCulate:PARAmeter[:CATegory]:POWER:OFFSet<wsp><Nrf>[DB]             |
| <b>PMD</b>             |                                                                        |
| THRESH LEVEL *.***dB   | :CALCulate:PARAmeter[:CATegory]:PMD:TH<wsp><Nrf>[DB]                   |

### 7.3 ANALYSIS Setting Parameters

#### ANALYSIS 2 (disabled when in Wavenumber mode)

For the AQ6375, these parameters cannot be set when in Wavenumber mode.

| ANALYSIS Parameters                                     | Control Command                                                                             |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------|
| WDM (On the AQ6373, the soft key appears as OSNR(WDM)). |                                                                                             |
| CHANNEL DETECTION SETTING                               |                                                                                             |
| THRESH LEVEL                                            | :CALCulate:PARAmeter[:CATegory]:WDM:TH<wsp><Nrf>[DB]                                        |
| MODE DIFF **.*dB                                        | :CALCulate:PARAmeter[:CATegory]:WDM:MDIFF<wsp><Nrf>[DB]                                     |
| DISPLAY MASK<br>OFF/ON *.*dB                            | :CALCulate:PARAmeter[:CATegory]:WDM:MASk<wsp><Nrf>[DB]                                      |
| INTERPOLATATION SETTING                                 |                                                                                             |
| NOISE ALGO                                              |                                                                                             |
| AUTO-FIX                                                | :CALCulate:PARAmeter[:CATegory]:WDM:NALGo<wsp>AFIX 0                                        |
| MANUAL-FIX                                              | :CALCulate:PARAmeter[:CATegory]:WDM:NALGo<wsp>MFIx 1                                        |
| AUTO-CTR                                                | :CALCulate:PARAmeter[:CATegory]:WDM:NALGo<wsp>ACENter 2                                     |
| MANUAL-CTR                                              | :CALCulate:PARAmeter[:CATegory]:WDM:NALGo<wsp>MCENter 3                                     |
| PIT                                                     | :CALCulate:PARAmeter[:CATegory]:WDM:NALGo<wsp>PIT 4                                         |
| FITTING AREA                                            | :CALCulate:PARAmeter[:CATegory]:WDM:NARea<wsp><Nrf>[M]                                      |
| MASK AREA                                               | :CALCulate:PARAmeter[:CATegory]:WDM:MARea<wsp><Nrf>[M]                                      |
| FITTING ALGO                                            |                                                                                             |
| LINEAR                                                  | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>LINear 0                                      |
| GAUSS                                                   | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>GAUSs 1                                       |
| LORENZ                                                  | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>LORENz 2                                      |
| 3RD POLY                                                | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>3RD 3                                         |
| 4TH POLY                                                | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>4TH 4                                         |
| 5TH POLY                                                | :CALCulate:PARAmeter[:CATegory]:WDM:FALGo<wsp>5TH 5                                         |
| NOISE BW *.*nm                                          | :CALCulate:PARAmeter[:CATegory]:WDM:NBW<wsp><Nrf>[M]                                        |
| DUAL TRACE<br>ON/OFF                                    | :CALCulate:PARAmeter[:CATegory]:WDM:DUAL<wsp>OFF ON 0 1                                     |
| DISPLAY SETTING                                         |                                                                                             |
| DISPLAY TYPE                                            |                                                                                             |
| ABSOLUTE                                                | :CALCulate:PARAmeter[:CATegory]:WDM:DTYPE<wsp>ABSolute 0                                    |
| RELATIVE                                                | :CALCulate:PARAmeter[:CATegory]:WDM:DTYPE<wsp>RELAtibe 1 (On the AQ6373, it cannot be set.) |
| DRIFT(MEAS)                                             | :CALCulate:PARAmeter[:CATegory]:WDM:DTYPE<wsp>MDRift 2                                      |
| DRIFT(GRID)                                             | :CALCulate:PARAmeter[:CATegory]:WDM:DTYPE<wsp>GDRift 3 (On the AQ6373, it cannot be set.)   |
| CH RELATION                                             |                                                                                             |
| OFFSET                                                  | :CALCulate:PARAmeter[:CATegory]:WDM:RELAtion<wsp>OFFSet 0                                   |
| SPACING                                                 | :CALCulate:PARAmeter[:CATegory]:WDM:RELAtion<wsp>SPAcing 1                                  |
| REF CH                                                  | :CALCulate:PARAmeter[:CATegory]:WDM:RCH<wsp><integer>                                       |
| MAX/MIN RESET                                           | :CALCulate:PARAmeter[:CATegory]:WDM:MMReset                                                 |
| OUTPUT SLOPE<br>ON/OFF                                  | :CALCulate:PARAmeter[:CATegory]:WDM:OSLoPe<wsp>OFF ON 0 1                                   |
| POINT DISPLAY<br>ON/OFF                                 | :CALCulate:PARAmeter[:CATegory]:WDM:PDISPlay<wsp>OFF ON 0 1                                 |

| ANALYSIS Parameters                          | Control Command                                                         |
|----------------------------------------------|-------------------------------------------------------------------------|
| EDFA NF (It is not available on the AQ6373.) |                                                                         |
| CHANNNEL DETECTION                           |                                                                         |
| THRESH LEVEL<br>**. **dB                     | :CALCulate:PARAmeter[:CATegory]:NF:TH<wsp><Nrf>[DB]                     |
| MODE DIFF **. **dB                           | :CALCulate:PARAmeter[:CATegory]:NF:MDIFF<wsp><Nrf>[DB]                  |
| INTERPOLATION SETTING                        |                                                                         |
| OFFSET(IN) **. **dB                          | :CALCulate:PARAmeter[:CATegory]:NF:IOFFset<wsp><Nrf>[DB]                |
| OFFSET(OUT) **. **dB                         | :CALCulate:PARAmeter[:CATegory]:NF:OOFFset<wsp><Nrf>[DB]                |
| ASE ALGO                                     |                                                                         |
| AUTO-FIX                                     | :CALCulate:PARAmeter[:CATegory]:NF:AALGo<wsp>AFIX 0                     |
| MANUAL-FIX                                   | :CALCulate:PARAmeter[:CATegory]:NF:AALGo<wsp>MFIx 1                     |
| AUTO-CTR                                     | :CALCulate:PARAmeter[:CATegory]:NF:AALGo<wsp>ACENter 2                  |
| MANUAL-CTR                                   | :CALCulate:PARAmeter[:CATegory]:NF:AALGo<wsp>MCENter 3                  |
| FITTING AREA                                 | :CALCulate:PARAmeter[:CATegory]:NF:FARea<wsp><Nrf>[M]                   |
| MASK AREA                                    | :CALCulate:PARAmeter[:CATegory]:NF:MARea<wsp><Nrf>[M]                   |
| FITTING ALGO                                 |                                                                         |
| LINEAR                                       | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>LINear 0                   |
| GAUSS                                        | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>GAUSS 1                    |
| LORENZ                                       | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>LOrenz 2                   |
| 3RD POLY                                     | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>3RD 3                      |
| 4TH POLY                                     | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>4TH 4                      |
| 5TH POLY                                     | :CALCulate:PARAmeter[:CATegory]:NF:FALGo<wsp>5TH 5                      |
| POINT DISPLAY<br>ON/OFF                      | :CALCulate:PARAmeter[:CATegory]:NF:PDISplay<wsp>OFF ON 0 1              |
| NF CALCULATION SETTING                       |                                                                         |
| RES BW                                       | :CALCulate:PARAmeter[:CATegory]:NF:RBWidth<wsp>MEASur ed CAL 0 1        |
| SHOT NOISE                                   | :CALCulate:PARAmeter[:CATegory]:NF:SNOise<wsp>OFF ON 0 1                |
| FILTER-PK                                    |                                                                         |
| PEAK LEVEL                                   |                                                                         |
| SW ON/OFF                                    | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>PLEVeL, SW, OFF ON 0 1        |
| PEAK WAVELENGTH                              |                                                                         |
| SW ON/OFF                                    | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>PWAVelength, SW, OFF ON 0 1   |
| CENTER WAVELENGTH                            |                                                                         |
| ALGO                                         | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>MWAVelength, ALGO, <data>     |
| THRESH LEVEL<br>**. **dB                     | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>MWAVelength, TH, <Nrf>[DB]    |
| K                                            | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>MWAVelength, K, <Nrf>         |
| MODE FIT ON/OFF                              | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>MWAVelength, MFIT, OFF ON 0 1 |
| MODE DIFF **. **dB                           | :CALCulate:PARAmeter[:CATegory]:FILPk<wsp>MWAVelength, MDIFF, <Nrf>[DB] |

### 7.3 ANALYSIS Setting Parameters

| ANALYSIS Parameters     | Control Command                                                     |
|-------------------------|---------------------------------------------------------------------|
| FILTER-PK               |                                                                     |
| SPECTRUM WIDTH          |                                                                     |
| SW ON/OFF               | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, SW, OFF ON 0 1    |
| ALGO                    | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, ALGO, <data>      |
| THRESH LEVEL<br>**.**dB | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, TH, <NRf> [DB]    |
| K                       | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, K, <NRf>          |
| MODE FIT ON/OFF         | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, MFIT, OFF ON 0 1  |
| MODE DIFF *.*dB         | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>SWIDth, MDIFF, <NRf> [DB] |
| CROSS TALK              |                                                                     |
| SW ON/OFF               | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, SW, OFF ON 0 1     |
| ALGO                    | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, ALGO, <data>       |
| THRESH LEVEL<br>**.**dB | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, TH, <NRf> [DB]     |
| K                       | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, K, <NRf>           |
| MODE FIT ON/OFF         | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, MFIT, OFF ON 0 1   |
| MODE DIFF *.*dB         | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, MDIFF, <NRf> [DB]  |
| CH SPACE ±**nm          | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, CSFace, <NRf> [M]  |
| SEARCH AREA<br>±**nm    | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>XTALk, SAREa, <NRf> [M]   |
| RIPPLE WIDTH            |                                                                     |
| SW ON/OFF               | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>RWIDth, SW, OFF ON 0 1    |
| THRESH LEVEL<br>**.**dB | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>RWIDth, TH, <NRf> [DB]    |
| MODE DIFF *.*dB         | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp>RWIDth, MDIFF, <NRf> [DB] |

| ANALYSIS Parameters                                    | Control Command                                                           |
|--------------------------------------------------------|---------------------------------------------------------------------------|
| <b>FILTER BOTTOM</b>                                   |                                                                           |
| <b>BOTTOM LEVEL</b>                                    |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>BLEVel, SW, OFF ON 0 1         |
| <b>BOTTOM WAVELENGTH</b>                               |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>BWAVelength, SW, OFF ON 0 1    |
| <b>CENTER WAVELENGTH</b>                               |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>CWAVelength, SW, OFF ON 0 1    |
| ALGO                                                   | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>CWAVelength, ALGO, <data>      |
| THRESH LEVEL<br>**. **dB                               | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>CWAVelength, TH, <NRF> [DB]    |
| <b>CENTER WAVELENGTH</b>                               |                                                                           |
| MODE DIFF **. **dB                                     | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>CWAVelength, MDIFf, <NRF> [DB] |
| <b>NOTCH WIDTH</b>                                     |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>NWIDTH, SW, OFF ON 0 1         |
| ALGO                                                   | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>NWIDTH, ALGO, <data>           |
| THRESH LEVEL<br>**. **dB                               | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>NWIDTH, TH, <NRF> [DB]         |
| MODE DIFF **. **dB                                     | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>NWIDTH, MDIFf, <NRF> [DB]      |
| <b>CROSS TALK</b>                                      |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, SW, OFF ON 0 1          |
| ALGO                                                   | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, ALGO, <data>            |
| THRESH LEVEL<br>**. **dB                               | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, TH, <NRF> [DB]          |
| MODE DIFF **. **dB                                     | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, MDIFf, <NRF> [DB]       |
| CH SPACE $\pm$ **. **nm                                | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, CSPace, <NRF> [M]       |
| SEARCH AREA<br>$\pm$ **. **nm                          | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp>XTALk, SAREa, <NRF> [M]        |
| <b>WDM FIL-PK (It is not available on the AQ6373.)</b> |                                                                           |
| <b>CHANNEL DETECTION/ NOMINAL WAVELENGTH</b>           |                                                                           |
| ALGO                                                   | :CALCulate:PARAMeter[:CATegory]:WFPeak<wsp>NWAVelength, ALGO, <data>      |
| THRESH LEVEL<br>**. **dB                               | :CALCulate:PARAMeter[:CATegory]:WFPeak<wsp>NWAVelength, TH, <NRF> [DB]    |
| MODE DIFF **. **dB                                     | :CALCulate:PARAMeter[:CATegory]:WFPeak<wsp>NWAVelength, MDIFf, <NRF> [DB] |
| TEST BAND *. **nm                                      | :CALCulate:PARAMeter[:CATegory]:WFPeak<wsp>NWAVelength, TBANd<NRF> [DB]   |
| <b>PEAK WAVELENGTH/LEVEL</b>                           |                                                                           |
| SW ON/OFF                                              | :CALCulate:PARAMeter[:CATegory]:WFPeak<wsp>PWAVelength, SW, OFF ON 0 1    |

### 7.3 ANALYSIS Setting Parameters

| ANALYSIS Parameters                                     | Control Command                                                          |
|---------------------------------------------------------|--------------------------------------------------------------------------|
| <b>WDM FIL-PK</b>                                       |                                                                          |
| <b>XdB WIDTH/CENTER WAVELENGTH</b>                      |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>CWAVelength,SW,OFF ON 0 1     |
| <b>XdB STOP BAND</b>                                    |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>SBAND,SW,OFF ON 0 1           |
| THRESH LEVEL<br>**.**dB                                 | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>SBAND,TH,<NRF>[DB]            |
| <b>XdB PASS BAND</b>                                    |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>PBAND,SW,OFF ON 0 1           |
| THRESH LEVEL                                            | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>PBAND,TH,<NRF>[DB]            |
| TEST BAND *.*nm                                         | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>PBAND,TBAND,<NRF>[DB]         |
| <b>RIPPLE</b>                                           |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>RIPPLE,SW,OFF ON 0 1          |
| TEST BAND *.*nm                                         | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>RIPPLE,TBAND,<NRF>[DB]        |
| <b>CROSS TALK</b>                                       |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>XTALK,SW,OFF ON 0 1           |
| SPACING *.*nm                                           | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>XTALK,SPACING,<NRF>[M]        |
| TEST BAND *.*nm                                         | :CALCulate:PARAmeter[:CATegory]:WFPeak<wsp>XTALK,TBAND,<NRF>[DB]         |
| <b>WDM FIL-BTM (It is not available on the AQ6373.)</b> |                                                                          |
| <b>CHANNEL DETECTION/ NOMINAL WAVELENGTH</b>            |                                                                          |
| ALGO                                                    | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>NWAVelength,ALGO,<data>     |
| THRESH LEVEL<br>**.**dB                                 | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>WFBOTTOM,TH,<NRF>[DB]       |
| MODE DIFF *.*dB                                         | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>NWAVelength,MDIFF,<NRF>[DB] |
| TEST BAND *.*nm                                         | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>NWAVelength,TBAND<NRF>[DB]  |
| <b>BOTTOM WAVELENGTH/LEVEL</b>                          |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>BWAVelength,SW,OFF ON 0 1   |
| <b>XdB NOTCH WIDTH/CENTER</b>                           |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>CWAVelength,SW,OFF ON 0 1   |
| <b>XdB STOP BAND</b>                                    |                                                                          |
| ALGO                                                    | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>SBAND,ALGO,<data>           |
| THRESH LEVEL<br>**.**dB                                 | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>SBAND,TH,<NRF>[DB]          |
| <b>XdB ELIMINATION BAND</b>                             |                                                                          |
| SW ON/OFF                                               | :CALCulate:PARAmeter[:CATegory]:WFBOTTOM<wsp>EBAND,SW,OFF ON 0 1         |

| ANALYSIS Parameters      | Control Command                                                         |
|--------------------------|-------------------------------------------------------------------------|
| WDM FIL-BTM              |                                                                         |
| XdB ELIMINATION BAND     |                                                                         |
| THRESH LEVEL<br>**.***dB | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>EBANd,<br>TH,<Nrf>[DB]     |
| TEST BAND *.***nm        | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>EBANd,<br>TBANd,<Nrf>[DB]  |
| RIPPLE                   |                                                                         |
| SW ON/OFF                | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>RIPPlE,<br>SW,OFF ON 0 1   |
| TEST BAND *.***nm        | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>RIPPlE,<br>TBANd,<Nrf>[DB] |
| CROSS TALK               |                                                                         |
| SW ON/OFF                | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>XTALk,<br>SW,OFF ON 0 1    |
| SPACING *.***nm          | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>XTALk,<br>SPACing,<Nrf>[M] |
| TEST BAND *.***nm        | :CALCulate:PARAmeter[:CATegory]:WFBottom<wsp>XTALk,<br>TBANd,<Nrf>[DB]  |

## 7.4 Remote Command Tree

| Command               | Parameter                                                                                                                      | Page |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|------|
| <b>COMMON command</b> |                                                                                                                                |      |
| *CLS                  | none                                                                                                                           | 7-34 |
| *ESE                  | <integer>                                                                                                                      | 7-34 |
| *ESE?                 | none                                                                                                                           | 7-34 |
| *ESR?                 | none                                                                                                                           | 7-34 |
| *IDN?                 | none                                                                                                                           | 7-34 |
| *OPC                  | none                                                                                                                           | 7-34 |
| *OPC?                 | none                                                                                                                           | 7-34 |
| *RST                  | none                                                                                                                           | 7-35 |
| *SRE                  | <integer>                                                                                                                      | 7-35 |
| *SRE?                 | none                                                                                                                           | 7-35 |
| *STB?                 | none                                                                                                                           | 7-35 |
| *TRG                  | none                                                                                                                           | 7-35 |
| *TST?                 | none                                                                                                                           | 7-35 |
| *WAI                  | none                                                                                                                           | 7-35 |
| <b>ABORT</b>          | none                                                                                                                           | 7-36 |
| <b>CALCulate</b>      |                                                                                                                                |      |
| :CATegory             | SWThresh SWENvelope SWRMs SWPKrms <br>NOTCh DFBLd  FPLD LED SMSR POWER <br>PMD WDM NF FILPk FILBtm WFPeak <br>WFBtm OSNR COLor | 7-36 |
| :DATA?                | none                                                                                                                           | 7-37 |
| :CGain?               | none                                                                                                                           | 7-37 |
| :CNF?                 | none                                                                                                                           | 7-37 |
| :CPOwers?             | none                                                                                                                           | 7-37 |
| :CSNR?                | none                                                                                                                           | 7-37 |
| :CWAvelengths         | none                                                                                                                           | 7-38 |
| :NChannels            | none                                                                                                                           | 7-38 |
| [:IMMediate]          | none                                                                                                                           | 7-38 |
| :AUTO                 | OFF ON 0 1                                                                                                                     | 7-38 |
| :LMARker              |                                                                                                                                |      |
| :AOFF                 | none                                                                                                                           | 7-38 |
| :SRANge               | OFF ON 0 1                                                                                                                     | 7-38 |
| :SSPan                | none                                                                                                                           | 7-39 |
| :SZSPan               | none                                                                                                                           | 7-39 |
| :X                    | 1 2,<Nrf>[M HZ]                                                                                                                | 7-39 |
| :Y                    | 3 4,<Nrf>[DBM/DB/%]                                                                                                            | 7-39 |
| :MARKer               |                                                                                                                                |      |
| :AOFF                 | none                                                                                                                           | 7-39 |
| :AUTO                 | OFF ON 0 1                                                                                                                     | 7-39 |
| :FUNctioN             |                                                                                                                                |      |
| :FORMat               | OFFSet SPACing 0 1                                                                                                             | 7-39 |
| :UPDate               | OFF ON 0 1                                                                                                                     | 7-39 |
| :MAXimum              | none                                                                                                                           | 7-39 |
| :LEFT                 | none                                                                                                                           | 7-40 |
| :NEXT                 | none                                                                                                                           | 7-40 |
| :RIGHT                | none                                                                                                                           | 7-40 |
| :SCENter              | none                                                                                                                           | 7-40 |
| :AUTO                 | OFF ON 0 1                                                                                                                     | 7-40 |
| :SRLevel              | none                                                                                                                           | 7-40 |
| :AUTO                 | OFF ON 0 1                                                                                                                     | 7-40 |
| :SZCenter             | none                                                                                                                           | 7-40 |

| Command        | Parameter                                                                                                                                                                                                                                       | Page |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| :MINimum       | none                                                                                                                                                                                                                                            | 7-40 |
| :LEFT          | none                                                                                                                                                                                                                                            | 7-40 |
| :NEXT          | none                                                                                                                                                                                                                                            | 7-41 |
| :RIGHT         | none                                                                                                                                                                                                                                            | 7-41 |
| :SCENter       | none                                                                                                                                                                                                                                            | 7-41 |
| :SRLevel       | none                                                                                                                                                                                                                                            | 7-41 |
| [:STATe]       | <marker>, OFF   ON   0   1                                                                                                                                                                                                                      | 7-41 |
| :SZCenter      | none                                                                                                                                                                                                                                            | 7-41 |
| :UNIT          | WAVelength   FREQuency   WNUMber                                                                                                                                                                                                                | 7-41 |
| :X             | <marker>, <Nrf> [M   HZ]                                                                                                                                                                                                                        | 7-41 |
| :Y?            | <marker>                                                                                                                                                                                                                                        | 7-42 |
| :MATH          |                                                                                                                                                                                                                                                 |      |
| :TRC           | A-B (LOG)   B-A (LOG)   A+B (LOG)   A+B (LIN)  <br>A-B (LIN)   B-A (LIN)   1-K (A/B)   1-K (B/A)                                                                                                                                                | 7-42 |
| :K             | <Nrf>                                                                                                                                                                                                                                           | 7-42 |
| :TRF           | C-D (LOG)   D-C (LOG)   C+D (LOG)   D-E (LOG)  <br>E-D (LOG)   D+E (LOG)   C+D (LIN)   C-D (LIN)  <br>D-C (LIN)   D+E (LIN)   D-E (LIN)   E-D (LIN)                                                                                             | 7-42 |
| :TRG           | C-F (LOG)   F-C (LOG)   C+F (LOG)   E-F (LOG)  <br>F-E (LOG)   E+F (LOG)   C+F (LIN)   C-F (LIN)  <br>F-C (LIN)   E+F (LIN)   E-F (LIN)   F-E (LIN)  <br>NORMA   NORMB   NORMC   CVFTA   CVFTB   CVFTC  <br>MKRFT   PKCVFTA   PKCVFTB   PKCVFTC | 7-42 |
| :CVFT          |                                                                                                                                                                                                                                                 |      |
| :FALGo         | GAUSS   LORENz   3RD   4TH   5TH   0   1   2   3   4                                                                                                                                                                                            | 7-42 |
| :OPARea        | ALL   INL1-L2   OUTL1-L2   0   1   2                                                                                                                                                                                                            | 7-43 |
| :THResh        | <integer> [DB]                                                                                                                                                                                                                                  | 7-43 |
| :PCVft :THResh | <integer> [DB]                                                                                                                                                                                                                                  | 7-43 |
| :PARAMeter     |                                                                                                                                                                                                                                                 |      |
| [:CATegory]    |                                                                                                                                                                                                                                                 |      |
| :DFBLd         | <item>, <paramater name>, <data>                                                                                                                                                                                                                | 7-43 |
| :FILBtm        | <item>, <paramater name>, <data>                                                                                                                                                                                                                | 7-44 |
| :FILPk         | <item>, <paramater name>, <data>                                                                                                                                                                                                                | 7-44 |
| :FPLD          | <item>, <paramater name>, <data>                                                                                                                                                                                                                | 7-45 |
| :LED           | <item>, <paramater name>, <data>                                                                                                                                                                                                                | 7-45 |
| :NF            |                                                                                                                                                                                                                                                 |      |
| :AALGo         | AFIX   MFIX   ACENter   MCENter   0   1   2   3                                                                                                                                                                                                 | 7-46 |
| :FALGo         | LINear   GAUSS   LORENz   3RD   4TH   5TH  <br>0   1   2   3   4   5                                                                                                                                                                            | 7-46 |
| :FARea         | <Nrf> [M]                                                                                                                                                                                                                                       | 7-46 |
| :IOFFset       | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-46 |
| :MARea         | <Nrf> [M]                                                                                                                                                                                                                                       | 7-47 |
| :MDIFF         | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-47 |
| :OoFFset       | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-47 |
| :PDISplay      | OFF   ON   0   1                                                                                                                                                                                                                                | 7-47 |
| :TH            | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-47 |
| :RBWidth       | MEASURED   CAL   0   1                                                                                                                                                                                                                          | 7-47 |
| :SNOise        | OFF   ON   0   1                                                                                                                                                                                                                                | 7-48 |
| :NOTCh         |                                                                                                                                                                                                                                                 |      |
| :K             | <Nrf>                                                                                                                                                                                                                                           | 7-48 |
| :TH            | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-48 |
| :TYPE          | PEAK   BOTTom   0   1                                                                                                                                                                                                                           | 7-48 |
| :PMD:TH        | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-48 |
| :POWer:OFFSe   | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-48 |
| :SMSR          |                                                                                                                                                                                                                                                 |      |
| :MASK          | <Nrf> [M]                                                                                                                                                                                                                                       | 7-49 |
| :MODE          | SMSR1   SMSR2                                                                                                                                                                                                                                   | 7-49 |
| :SWENvelope    |                                                                                                                                                                                                                                                 |      |
| :K             | <Nrf>                                                                                                                                                                                                                                           | 7-49 |
| :TH1           | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-49 |
| :TH2           | <Nrf> [DB]                                                                                                                                                                                                                                      | 7-49 |

## 7.4 Remote Command Tree

| Command               | Parameter                                   | Page |
|-----------------------|---------------------------------------------|------|
| :SWPKrms              |                                             |      |
| :K                    | <Nrf>                                       | 7-49 |
| :TH                   | <Nrf> [DB]                                  | 7-50 |
| :SWRMs                |                                             |      |
| :K                    | <Nrf>                                       | 7-50 |
| :TH                   | <Nrf> [DB]                                  | 7-50 |
| :SWThresh             |                                             |      |
| :K                    | <Nrf>                                       | 7-50 |
| :MFIT                 | OFF ON 0 1                                  | 7-50 |
| :TH                   | <Nrf> [DB]                                  | 7-50 |
| :WDM                  |                                             |      |
| :DMASK                | <Nrf> [DB]                                  | 7-51 |
| :DTYPE                | ABSolute RELative MDRift GDRift 0 1 2 3     | 7-51 |
| :DUAL                 | OFF ON 0 1                                  | 7-51 |
| :FALGo                | LINear GAUSS LOrenz 3RD 4TH 5TH 0 1 2 3 4 5 | 7-51 |
| :MARea                | <Nrf> [M]                                   | 7-52 |
| :MDIFF                | <Nrf> [DB]                                  | 7-52 |
| :MMReset              | None                                        | 7-52 |
| :NALGo                | AFIX MFIX ACENter MCENter PIT 0 1 2 3 4     | 7-52 |
| :NARea                | <Nrf> [M]                                   | 7-52 |
| :NBW                  | <Nrf> [M]                                   | 7-52 |
| :OSLope               | OFF ON 0 1                                  | 7-53 |
| :PDISplay             | OFF ON 0 1                                  | 7-53 |
| :RCH                  | <integer>                                   | 7-53 |
| :RELation             | OFFSet SPACing 0 1                          | 7-53 |
| :TH                   | <Nrf> [DB]                                  | 7-53 |
| :WFBottom             | <item>, <paramater name>, <data>            | 7-54 |
| :WFPeak               | <item>, <paramater name>, <data>            | 7-54 |
| :COMMON               |                                             |      |
| :MDIFF                | <Nrf> [DB]                                  | 7-54 |
| <b>CALibration</b>    |                                             |      |
| :ALIGn[:IMMediate]    | none                                        | 7-55 |
| :POWER                |                                             |      |
| :OFFSet:TABLE         | <integer>, <Nrf> [DB]                       | 7-55 |
| :WAVelength           |                                             |      |
| :EXTernal             |                                             |      |
| [:IMMediate]          | none                                        | 7-55 |
| :SOURce               | LASER GASCell                               | 7-55 |
| :WAVelength           | <Nrf>M                                      | 7-55 |
| :INTernal[:IMMediate] | none                                        | 7-55 |
| :OFFSet:TABLE         | <integer>, <Nrf>                            | 7-56 |
| :ZERO[:AUTO]          | OFF ON 0 1 ONCE                             | 7-56 |
| :INTerval             | <integer>                                   | 7-56 |
| <b>DISPlay</b>        |                                             |      |
| :COLor                | 0 1 2 3 4 5                                 | 7-56 |
| [:WINDow]             |                                             |      |
| :OVIew                |                                             |      |
| :POSITION             | OFF LEFT RIGHT 0 1 2                        | 7-56 |
| :SIZE                 | LARGE SMALL 0 1                             | 7-56 |
| :SPLIt                | OFF ON 0 1                                  | 7-56 |
| :HOLD                 |                                             |      |
| :LOWer                | OFF ON 0 1                                  | 7-57 |
| :UPPer                | OFF ON 0 1                                  | 7-57 |
| :POSITION             | <trace name>,UP LOW 0 1                     | 7-57 |
| :TEXT                 |                                             |      |
| :CLEar                | none                                        | 7-57 |
| :DATA                 | <"string">                                  | 7-57 |

| Command         | Parameter                          | Page |
|-----------------|------------------------------------|------|
| :TRACe          |                                    |      |
| :X[:SCALE]      |                                    |      |
| :CENTer         | <Nrf> [M HZ]                       | 7-57 |
| :INITialize     | none                               | 7-57 |
| :SMSCale        | none                               | 7-58 |
| :SPAN           | <Nrf> [M HZ]                       | 7-58 |
| :SRANge         | OFF ON 0 1                         | 7-58 |
| :START          | <Nrf> [M HZ]                       | 7-58 |
| :STOP           | <Nrf> [M HZ]                       | 7-58 |
| :Y              |                                    |      |
| :NMASK          | <Nrf>DB                            | 7-59 |
| :TYPE           | VERTical HORizontal 0 1            | 7-59 |
| [:SCALE]        |                                    |      |
| :DNUMBER        | 8 10 12                            | 7-59 |
| :Y1             |                                    |      |
| [:SCALE]        |                                    |      |
| :BLEVel         | <Nrf> [W MW UW NW]                 | 7-59 |
| :PDIVision      | <Nrf> [DB]                         | 7-59 |
| :RLEVel         | <Nrf> [DBM W]                      | 7-59 |
| :RPOSITION      | <integer> [DIV]                    | 7-60 |
| :SPACing        | LOGarithmic LINear 0 1             | 7-60 |
| :UNIT           | DBM W DBM/NM W/NM 0 1 2 3          | 7-60 |
| :Y2             |                                    |      |
| [:SCALE]        |                                    |      |
| :AUTO           | OFF ON 0 1                         | 7-60 |
| :LENGth         | <Nrf> [KM]                         | 7-60 |
| :OLEVel         | <Nrf> [DB DB/KM]                   | 7-60 |
| :PDIVision      | <Nrf> [DB DB KM %]                 | 7-61 |
| :RPOSITION      | <integer> [DIV]                    | 7-61 |
| :SMINimum       | <Nrf> [%]                          | 7-61 |
| :UNIT           | DB LINear DB/KM % 0 1 2 3          | 7-61 |
| <b>FORMat</b>   |                                    |      |
| [:DATA]         | REAL[,64 ,32] ASCIi                | 7-62 |
| <b>HCOPY</b>    |                                    |      |
| :DESTination    | INTernal FILE 0 2                  | 7-62 |
| [:IMMediate]    | none                               | 7-62 |
| :FEED           | [<integer>]                        | 7-62 |
| :FUNCTion       |                                    |      |
| :CALCulate:LIST | none                               | 7-62 |
| :MARKer:LIST    | none                               | 7-62 |
| <b>INITiate</b> |                                    |      |
| [:IMMediate]    | none                               | 7-63 |
| :SMODE          | SINGLE REPeat AUTO SEGment 1 2 3 4 | 7-63 |
| <b>MEMory</b>   |                                    |      |
| :CLEar          | <integer>                          | 7-63 |
| :EMPTy?         | <integer>                          | 7-63 |
| :LOAD           | <integer>,<trace name>             | 7-63 |
| :STORe          | <integer>,<trace name>             | 7-63 |

## 7.4 Remote Command Tree

| Command                             | Parameter                                                                                          | Page |
|-------------------------------------|----------------------------------------------------------------------------------------------------|------|
| <b>MMEMemory</b>                    |                                                                                                    |      |
| :CATalog?                           | [INTernal EXTernal]                                                                                | 7-64 |
| :CDIRectory                         | <"directory name">                                                                                 | 7-64 |
| :CDRive                             | INTernal EXTernal                                                                                  | 7-64 |
| :COPY                               | <"source file name">,<br>[INTernal EXTernal],<br><"destination file name">[,INTernal <br>EXTernal] | 7-64 |
| :DATA?                              | <"file name">[,INTernal EXTernal]                                                                  | 7-64 |
| :DELeTe                             | <"file name">[,INTernal EXTernal]                                                                  | 7-64 |
| :LOAD                               |                                                                                                    |      |
| :MEMory                             | <integer>,<"filename">[,INTernal <br>EXTernal]                                                     | 7-65 |
| :PROGram                            | <integer>,<"filename">[,INTernal <br>EXTernal]                                                     | 7-65 |
| :SETTing                            | <"filename">[,INTernal EXTernal]                                                                   | 7-65 |
| :TEMPlate                           | <template>,<"filename">[,INTernal <br>EXTernal]                                                    | 7-65 |
| :TRACe                              | <trace name>,<"filename">[,INTernal <br>EXTernal]                                                  | 7-65 |
| :MDIRectory                         | <"directory name">[,INTernal <br>EXTernal]                                                         | 7-65 |
| :REMOve                             | None                                                                                               | 7-65 |
| :REName                             | <"new file name">,<"old file name"><br>[,INTernal EXTernal]                                        | 7-65 |
| :STORe                              |                                                                                                    |      |
| :AREsult                            | <"filename">[,INTernal EXTernal]                                                                   | 7-65 |
| :DATA                               | <"filename">[,INTernal EXTernal]                                                                   | 7-66 |
| :ITEM                               | DATE LABel DATA CONDition TRACe,OFF ON <br>0 1                                                     | 7-66 |
| :MODE                               | ADD OVER 0 1                                                                                       | 7-66 |
| :TYPE                               | CSV DT 0 1                                                                                         | 7-66 |
| :GRAPhics                           | B&W COLor, BMP   TIFF,<"filename"><br>[,INTernal EXTernal]                                         | 7-66 |
| :MEMory                             | <integer>,BI CSV,<"filename"><br>[,INTernal EXTernal]                                              | 7-66 |
| :PROGram                            | <integer>,<"filename">[,INTernal <br>EXTernal]                                                     | 7-67 |
| :SETTing                            | <"filename">[,INTernal EXTernal]                                                                   | 7-67 |
| :TEMPlate                           | <template>,<"filename">[,INTernal <br>EXTernal]                                                    | 7-67 |
| :TRACe                              | <trace name>,BIN   CSV,<"filename"><br>[,INTernal EXTernal]                                        | 7-67 |
| <b>PROGram</b>                      |                                                                                                    |      |
| :EXECute                            | <integer>                                                                                          | 7-67 |
| <b>SENSe</b>                        |                                                                                                    |      |
| :AVERage:COUNT                      | <integer>                                                                                          | 7-68 |
| :BANDwidth :BWIDth<br>[:RESolution] | <NRF> [M Hz]                                                                                       | 7-68 |
| :CHOPper                            | OFF SWITCh 0 2                                                                                     | 7-68 |
| :CORRection                         |                                                                                                    |      |
| :LEVel:SHIFt                        | <NRF> [DB]                                                                                         | 7-68 |
| :RVELocity:MEDIum                   | AIR VACuum 0 1                                                                                     | 7-68 |
| :WAVelength:SHIFt                   | <NRF> [M]                                                                                          | 7-68 |
| :SENSe                              | NHLD NAUT NORMal MID HIGH1 HIGH2 <br>HIGH3 0 1 6 2 3 4 5                                           | 7-69 |
| :SETTing                            |                                                                                                    |      |
| :CORRection                         | OFF ON 0 1                                                                                         | 7-69 |
| :FIBer                              | SMALL LARGE 0 1                                                                                    | 7-69 |
| :SMOothing                          | OFF ON 0 1                                                                                         | 7-69 |
| :SWEep                              |                                                                                                    |      |
| :POINts                             | <integer>                                                                                          | 7-69 |
| :AUTO                               | OFF ON 0 1                                                                                         | 7-69 |
| :SEGMENT:POINts                     | <integer>                                                                                          | 7-69 |

| Command                   | Parameter                                            | Page |
|---------------------------|------------------------------------------------------|------|
| :STEP                     | <Nrf> [M]                                            | 7-70 |
| :TIME                     |                                                      |      |
| :ONM                      | <integer> [SEC]                                      | 7-70 |
| :INTerval                 | <integer> [SEC]                                      | 7-70 |
| :TLSSync                  | OFF ON 0 1                                           | 7-70 |
| :WAVelength               |                                                      |      |
| :CENTer                   | <Nrf> [M HZ]                                         | 7-70 |
| :SPAN                     | <Nrf> [M HZ]                                         | 7-70 |
| :SRANge                   | OFF ON 0 1                                           | 7-71 |
| :START                    | <Nrf> [M HZ]                                         | 7-71 |
| :STOP                     | <Nrf> [M HZ]                                         | 7-71 |
| <b>STATUS</b>             |                                                      |      |
| :OPERation                |                                                      |      |
| :CONDition?               | none                                                 | 7-71 |
| :ENABl                    | <integer>                                            | 7-71 |
| [:EVENT]?                 | none                                                 | 7-71 |
| :PRESet                   | none                                                 | 7-71 |
| :QUESTionable             |                                                      |      |
| :CONDition?               | none                                                 | 7-72 |
| :ENABle                   | <integer>                                            | 7-72 |
| [:EVENT]?                 | none                                                 | 7-72 |
| <b>SYSTEM</b>             |                                                      |      |
| :BUZZer                   |                                                      |      |
| :CLIC                     | OFF ON 0 1                                           | 7-72 |
| :WARning                  | OFF ON 0 1                                           | 7-72 |
| :COMMunicate              |                                                      |      |
| :CFORmat                  | AQ6317 AQ6370 AQ6375 AQ6370B AQ6373 0 1              | 7-72 |
| :GP-IB2:ADDRESS           | <integer>                                            | 7-73 |
| :GP-IB2:TLS:ADDRESS       | <integer>                                            | 7-73 |
| :DATE                     | yyyy,mm,dd                                           | 7-73 |
| :DISPlay                  |                                                      |      |
| :TRANSPARENT              | OFF ON 0 1                                           | 7-74 |
| :UNCal                    | OFF ON 0 1                                           | 7-74 |
| :ERRor                    |                                                      |      |
| [:NEXT]?                  | none                                                 | 7-74 |
| :GRID                     | 12.5GHZ 25GHZ 50GHZ 100GHZ 200GHZ CUSTom 0 1 2 3 4 5 | 7-74 |
| :CUSTom                   |                                                      |      |
| :CLEar:ALL                | none                                                 | 7-74 |
| :DELeTe                   | <grid number>                                        | 7-74 |
| :INSert                   | <Nrf> [M HZ]                                         | 7-74 |
| :SPACing                  | <Nrf> [GHZ]                                          | 7-74 |
| :START                    | <Nrf> [M HZ]                                         | 7-75 |
| :STOP                     | <Nrf> [M HZ]                                         | 7-75 |
| :REFERENCE                | <Nrf> [M HZ]                                         | 7-75 |
| :PRESet                   | none                                                 | 7-75 |
| :TIME                     | hh,mm,ss                                             | 7-75 |
| :VERSion?                 |                                                      | 7-75 |
| <b>TRACe</b>              |                                                      |      |
| :ACTive                   | <trace name>                                         | 7-76 |
| :ATTRibute[:<trace name>] | WRITE FIX MAX MIN RAVG CALC                          | 7-76 |
| :RAVG[:<trace name>]      | <integer>                                            | 7-76 |
| :COPY                     | <source trace>,<destination trace>                   | 7-76 |
| [:DATA]                   |                                                      |      |
| :SNUMber?                 | <trace name>                                         | 7-76 |
| :X?                       | <trace name>[,<start point>,<stop point>]            | 7-77 |
| :Y?                       | <trace name>[,<start point>,<stop point>]            | 7-77 |

## 7.4 Remote Command Tree

| Command               | Parameter                          | Page |
|-----------------------|------------------------------------|------|
| :DELEte               | <trace name>                       | 7-77 |
| :ALL                  |                                    | 7-77 |
| :STATe[:<trace name>] | OFF ON 0 1                         | 7-78 |
| :TEMPlate             |                                    |      |
| :DATA                 | <template>,<wavelength>,<level>    | 7-78 |
| :ADELete              | <template>                         | 7-78 |
| :ETYPe                | <template>,NONE A B 0 1 2          | 7-78 |
| :MODE                 | <template>,ABSolute RELative 0 1   | 7-78 |
| :DISPlay              | <template>,OFF ON 0 1              | 7-79 |
| :GONogo               | OFF ON 0 1                         | 7-79 |
| :LEVel:SHIFt          | <Nrf> [DB]                         | 7-79 |
| :RESult?              |                                    | 7-79 |
| :TTYPe                | UPPer LOWer U&L 0 1 2              | 7-79 |
| :WAVelength:SHIFt     | <Nrf> [M]                          | 7-79 |
| <b>TRIGger</b>        |                                    |      |
| [:SEQuence]           |                                    |      |
| :DELay                | <Nrf> [S MS US]                    | 7-80 |
| :SLOPe                | RISE FALL 0 1                      | 7-80 |
| :STATe                | OFF ON PHOLd 0 1 2                 | 7-80 |
| :INPut                | ETRigger STRigger 0 1              | 7-80 |
| :OUTPut               | OFF SStatus 0 1                    | 7-80 |
| :PHOLd:HTIME          | <Nrf> [s]                          | 7-80 |
| <b>UNIT</b>           |                                    |      |
| :POWer:DIGit          | 1 2 3                              | 7-81 |
| :X                    | WAVelength FREQuency WNUMBer 0 1 2 | 7-81 |

## 7.5 Common Commands

The instrument supports the “Required” common commands listed in the table below.

| Cmd   | Name                                  | IEEE 488.2 Std. AQ6370B/AQ6373/AQ6375 |   |
|-------|---------------------------------------|---------------------------------------|---|
| *AAD  | Accept Address Command                | Option                                |   |
| *CAL? | Calibration Query                     | Option                                |   |
| *CLS  | Clear Status Command                  | Required                              | Y |
| *DDT  | Define Device Trigger Command         | *DT1 option                           |   |
| *DDT? | Define Device Trigger Query           | DT1 option                            |   |
| *DLF  | Disable Listener Function Command     | Option                                |   |
| *DMC  | Define Macro Command                  | Option                                |   |
| *EMC  | Enable Macro Command                  | Option                                |   |
| *EMC? | Enable Macro Query                    | Option                                |   |
| *ESE  | Standard Event Status Enable Command  | Required                              | Y |
| *ESE? | Standard Event Status Enable Query    | Required                              | Y |
| *ESR? | Standard Event Status Register Query  | Required                              | Y |
| *GMC? | Get Macro Contents Query              | Option                                |   |
| *IDN? | Identification Query                  | Required                              | Y |
| *IST? | Individual Status Query               | Required for PP1                      |   |
| *LMC? | Learn Macro Query                     | Option                                |   |
| *LRN? | Learn Device Setup Query              | Option                                |   |
| *OPC  | Operation Complete Command            | Required                              | Y |
| *OPC? | Operation Complete Query              | Required                              | Y |
| *OPT  | Option Identification Query           | Option                                |   |
| *PCB  | Pass Control Back Command             | Required if not C0                    |   |
| *PMC  | Purge Macro Command                   | Option                                |   |
| *PRE  | Parallel Poll Register Enable Command | Required for PP1                      |   |
| *PRE? | Parallel Poll Register Enable Query   | Required for PP1                      |   |
| *PSC  | Power On Status Clear Command         | Option                                |   |
| *PSC? | Power On Status Clear Query           | Option                                |   |
| *PUD  | Protected User Data Command           | Option                                |   |
| *PUD? | Protected User Data Query             | Option                                |   |
| *RCL  | Recall Command                        | Option                                |   |
| *RDT  | Resource Description Transfer Command | Option                                |   |
| *RDT? | Resource Description Transfer Query   | Option                                |   |
| *RST  | Reset Command                         | Required                              | Y |
| *SAV  | Save Command                          | Option                                |   |
| *SRE  | Service Request Enable Command        | Required                              | Y |
| *SRE? | Service Request Enable Query          | Required                              | Y |
| *STB? | Read Status Byte Query                | Required                              | Y |
| *TRG  | Trigger Command                       | Required if DT1                       | Y |
| *TST? | Self-Test Query                       | Required                              | Y |
| *WAI  | Wait-to-Continue Command              | Required                              | Y |

Y: Commands supported by the AQ6370B, AQ6373 and AQ6375

## 7.5 Common Commands

### \*CLS (Clear Status)

- Function** Clears all event status registers, the summary of which is reflected in the status byte register.
- Syntax** \*CLS
- Example** \*CLS
- Explanation**
- Clears all queues, with the exception of the output queue, and all event registers, with the exception of the MAV summary message.
  - After executing this command, OCIS (Operation Complete Command Idle State) and OQIS (Operation Complete Query Idle State) are brought about.
  - This is a sequential command.

### \*ESE (Standard Event Status Enable)

- Function** Sets/queries the standard event enable register.
- Syntax** \*ESE<wsp><integer>  
\*ESE?  
<integer> = 0–255
- Example** \*ESE 251  
\*ESE? -> 251
- Explanation**
- An item having had its bit set becomes enabled.
  - Resets to the default value in the following cases:
    - When power is ON
    - When "0" is set
  - The set value remains the same in the following cases:
    - \*RST
    - \*CLS
    - Device clear (DCL, SDC)
  - The default is 0.
  - This is a sequential command.

### \*ESR? (Standard Event Status Register)

- Function** Queries the standard event status register and simultaneously clears it.
- Syntax** \*ESR?
- Example** \*ESR? -> 251
- Explanation**
- The return value of this query is not affected by ESE (Event Status Enable Register).
  - This is an overlapping command.

### \*IDN? (Identification)

- Function** Queries the instrument type and firmware version.
- Syntax** \*IDN?
- Example** \*IDN? -> YOKOGAWA,AQ6370B,aaaaaaaa  
,bb.bb  
aaaaaaaa: Serial number (9 digit string)  
bb.bb: Firmware version
- Explanation**
- Outputs 4 field data delimited by a comma.
    - Field 1: Manufacturer "YOKOGAWA"
    - Field 2: Model "AQ6370B", "AQ6373" or "AQ6375"
    - Field 3: Instrument serial number
    - Field 4: Firmware version
  - For the AQ6370B, field 2 is "AQ6370B."
  - For the AQ6373, field 2 is "AQ6373."
  - For the AQ6375, field 2 is "AQ6375."
  - This is a sequential command.

### \*OPC (Operation Complete)

- Function** Sets/queries bit 0 (OPC) of the standard event status register (ESR) if operations waiting to be processed have all been completed.
- Syntax** \*OPC
- Example** \*OPC  
\*OPC? -> 1
- Explanation**
- At the time this command is recognized, the command changes from OCIS (Operation Complete Command Idle State) to OCAS (Operation Complete Command Active State). When the no-operation pending flag is set to "True," it sets bit 0 (OCR) of ESR and returns to OCIS.
  - If any of the following conditions are established, this command is disabled and is forced to return to OCIS.
    - Power ON
    - Device clear
    - \*CLS, \*RST command
  - This is an overlapping command.

**\*RST (Reset)**

Function Executes a device reset to return the instrument to the known (default) status.

Syntax \*RST

Example \*RST

Explanation

- Stops operation being processed and returns the instrument to the known set value (default value) immediately.
- This unit's parameters are cleared.
- The following items will remain the same.
  - GP-IB interface status
  - GP-IB address
  - Output queue
  - SRE
  - ESE
  - Calibration data affecting the instrument's specifications
- This is an overlapping command.

**\*SRE (Service Request Enable)**

Function Sets/queries the service request enable register.

Syntax \*SRE <wsp><integer>

\*SRE?

<integer> = 0–255

Example \*SRE 250

\*SRE? -> 250

Explanation

- An item having had its bit set becomes enabled.
- Resets to the default value in the following cases:
  - When power is ON
  - When "0" is set
- The set value remains the same in the following cases:
  - \*RST
  - \*CLS
  - Device clear (DCL, SDC)
- The default is 0.
- This is a sequential command.

**\*STB? (Read Status Byte)**

Function Queries the current value of the status byte register.

Syntax \*STB?

Example \*STB? -> 251

Explanation

- STB will not be cleared even when the contents of the register are read.
- This is an overlapable command.

**\*TRG (Trigger)**

Function Performs a <SINGLE> sweep under the sweep conditions established immediately before receiving the command.

Syntax \*TRG

Example \*TRG

Explanation Performs a <SINGLE> sweep regardless of the setting condition of the :INITiate: CONTinuous command.  
This is an overlapable command.

**\*TST? (Self Test)**

Function Performs the instrument's self-test and queries the status.

Syntax \*TST?

Example \*TST? -> 0

Explanation

- Of the initialization sequence to be run at startup, this command executes the following operations to output their results. During initialization, the screen maintains the waveform display.
  - Motor's return to origin operation
  - AMP auto-offset
- Normally returns 0, or 1 for motor initialize error, or 2 for AMP offset error.
- This is a sequential command.

**\*WAI (Wait to Continue)**

Function Prevents the instrument from executing another command until the execution of the current command is complete.

Syntax \*WAI

Example \*WAI

Explanation

- Becomes invalid by device clear.
- Meaningful if subsequent commands are overlapping. Meaningless with other commands.
- This is a sequential command.

## 7.6 Instrument-Specific Commands

### ABORt Sub System Command

#### :ABORt

- Function** Stops operations such as measurements and calibration.
- Syntax** ABORt
- Example** ABORt
- Explanation**
- Operations to be stopped are as follows:
    - :CALibration:ALIGn[:IMMEDIATE]
    - :CALibration:WAVelength
    - :INITiate
    - :PROGram:EXECute
    - :HCOpy[:INITiate]
    - :HCOpy[:INITiate]:FUNctioN:
    - CALCulate:LIST
    - :HCOpy[:INITiate]:FUNctioN:MARKer:
    - LIST
  - This is an overlapping command.

### CALCulate Sub System Command

#### Outline

- Commands about the following functions are summarized in this sub system.
  - Analysis function (Spectrum Width, ANALYSIS1 , ANALYSIS2)
  - Peak/Bottom search function
  - Marker function ( $\Delta$  marker, line marker)
  - Calculation function of trace
- The following procedure is performed in order to carry out remote control of the Analysis function.
  1. Select the analysis algorithm (CALCulate:CATegory command)
  2. Set the Analysis Parameter (CALCulate:PARAmeter command)
  3. Execute the analysis function (CALCulate[:IMMEDIATE] command)
  4. Get the analysis results (CALCulate:DATA? command)
- The following command is used in order to carry out remote control of the Peak/Bottom search function.
 

CALCulate:MARKer:MAXimum|MINimum command
- The following command is used to in order to carry out remote control of the Marker function.
 

$\Delta$  marker: CALCulate:MARKer command

Line marker: CALCulate:LMARKer command
- The following command is used to in order to carry out remote control of the trace Calculation function.
 

CALCulate:MATH command

#### :CALCulate:CATegory

- Function** Sets/queries the type of analysis.
- Syntax** :CALCulate:CATegory<wsp>{SWThresh|SWENvelope|SWRMs|SWPKrms|NOTCh|DFBLd|FPLD|LED|SMSR|POWER|PMD|OSNR|WDM|NF|FILPk|FILBtm|WFPeak|WFBtm|COLor|0|1|2|3|4|5|6|7|8|9|10|11|12|13|14|15|16|17}
- :CALCulate:CATegory?
- |              |                                    |
|--------------|------------------------------------|
| SWThresh 0   | Spectrum width analysis (THRESH)   |
| SWENvelope 1 | Spectrum width analysis (ENVELOPE) |
| SWRMs 2      | Spectrum width analysis (RMS)      |
| SWPKrms 3    | Spectrum width analysis (PEAK-RMS) |
| NOTCh 4      | Notch width analysis               |
| DFBLd 5      | DFB-LD parameter analysis          |
| FPLD 6       | FP-LD parameter analysis           |
| LED 7        | LED parameter analysis             |
| SMSR 8       | SMSR analysis                      |
| POWER 9      | Power analysis                     |
| PMD 10       | PMD analysis                       |
| OSNR WDM 11  | OSNR(WDM), WDM analysis            |
| NF 12        | NF analysis                        |
| FILPk 13     | Filter peak analysis               |
| FILBtm 14    | Filter bottom analysis             |
| WFPeak 15    | WDM FIL-PK analysis                |
| WFBtm 16     | WDM FIL-BTM analysis               |
| COLor 17     | Color analysis                     |
- Example** :CALCULATE:CATegory SWThresh  
:CALCULATE:CATegory? -> 0
- Explanation**
- Even when this command is executed, no analysis is performed unless the CALCulate[:IMMEDIATE] command is executed.
  - This is a sequential command.
  - For the AQ6370B, the following parameters cannot be set.
    - OSNR, COLor
  - For the AQ6373, the following parameters cannot be set.
    - NF, WFPeak, WFBtm
  - For the AQ6375, the following parameters cannot be set.
    - OSNR, COLor
  - For the AQ6375, when in Wavenumber mode, analysis functions included in ANALYSIS2 cannot be executed. The following parameters cannot be set.
    - WDM, NF, FILPk, FILBtm, WFPeak, WFBtm

**:CALCulate:DATA?**

|             |                                                                                                                                                                                                                                                                                                                                               |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the analysis results.                                                                                                                                                                                                                                                                                                                 |
| Syntax      | :CALCulate:DATA?                                                                                                                                                                                                                                                                                                                              |
| Example     | :CALCULATE:DATA?                                                                                                                                                                                                                                                                                                                              |
| Explanation | <ul style="list-style-type: none"> <li>• Queries the analysis results from the last time analysis was executed.</li> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• For a response example, see section 7.7, "Output Format of Analysis Results."</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:DATA:CGain?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the gain value of the EDFA-NF analysis results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Syntax      | :CALCulate:DATA:CGain?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Example     | :CALCULATE:DATA:CGain?<br>-> +1.00000000E+001,+1.00000000E+001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Explanation | <ul style="list-style-type: none"> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value (such as if the analysis executed was not EDFA-NF analysis)</li> <li>• The number of channels to be output can be acquired by the :CALCulate:DATA:NChannels? command.</li> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:DATA:CNF?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the NF value of the EDFA-NF analysis results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Syntax      | :CALCulate:DATA:CNF?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Example     | :CALCULATE:DATA:CNF? -><br>+1.00000000E+001,+1.00000000E+001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Explanation | <ul style="list-style-type: none"> <li>• If :CALCulate[:IMMediate] has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value (such as if the analysis executed was not EDFA-NF analysis)</li> <li>• The number of channels to be output can be acquired by the :CALCulate:DATA:NChannels? command.</li> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:DATA:CPOWers?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the level value of the OSNR(WDM), WDM, EDFA-NF, WDM FIL-PK, or WDM FIL-BTM analysis results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Syntax      | :CALCulate:DATA:CPOWers?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Example     | :CALCULATE:DATA:CPOWERS? -><br>+1.00000000E+001,+1.00000000E+001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Explanation | <ul style="list-style-type: none"> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value.</li> <li>• The number of channels to be output can be acquired by the :CALCulate:DATA:NChannels? command.</li> <li>• The value to be output depends on the analysis performed.<br/>OSNR(WDM) : LEVEL or MEAS LEVEL<br/>WDM : LEVEL or MEAS LEVEL<br/>EDFA-NF : INPUT LEVEL<br/>WDM FIL-PK : PEAK LEVEL<br/>(output even if SW is OFF)<br/>WDM FIL-BTM: PEAK LEVEL<br/>(output even if SW is OFF)</li> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:DATA:CSNR?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the SNR value from the last time WDM analysis was executed.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Syntax      | :CALCulate:DATA:CSNR?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Example     | :CALCULATE:DATA:CSNR? -><br>+4.00000000E+001,+4.00000000E+001                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Explanation | <ul style="list-style-type: none"> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value (for example, if analysis made is other than WDM analysis).</li> <li>• The number of channels to be output can be acquired by the :CALCulate:DATA:NChannels? command.</li> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

## 7.6 Instrument-Specific Commands

### **:CALCulate:DATA:CWAVelengths?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the wavelength value of the OSNR(WDM), WDM, EDFA-NF, WDM FIL-PK, or WDM FIL-BTM analysis results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Syntax      | :CALCulate:DATA:CWAVelengths?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Example     | :CALCULATE:DATA:CWAVELENGTHS? -><br>+1.55000000E-006,+1.56000000E-006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Explanation | <ul style="list-style-type: none"> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value.</li> <li>• The number of channels to be output can be acquired by the :CALCulate:DATA:NCHannels? command.</li> <li>• The value to be output depends on the analysis performed.<br/>OSNR(WDM): WAVELENGTH or MEAS WL<br/>WDM: WAVELENGTH or MEAS WL<br/>EDFA-NF: WAVELENGTH<br/>WDM FIL-PK: NOMINAL WAVELENGTH<br/>WDM FIL-BTM: NOMINAL WAVELENGTH</li> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

### **:CALCulate:DATA:NCHannels?**

|             |                                                                                                                                                                                                                                                                                                                               |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the number of channels of the OSNR(WDM), WDM, EDFA-NF, WDM FIL-PK, or WDM FIL-BTM analysis results.                                                                                                                                                                                                                   |
| Syntax      | :CALCulate:DATA:NCHannels?                                                                                                                                                                                                                                                                                                    |
| Example     | :CALCULATE:DATA:NCHANNELS? -> 16                                                                                                                                                                                                                                                                                              |
| Explanation | <ul style="list-style-type: none"> <li>• If the analysis function has not been executed, a query error occurs.</li> <li>• "0" is returned if there is no relevant return value.</li> <li>• The value is output as ASCII data, regardless of the setting of FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

### **:CALCulate[:IMMEDIATE]**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Executes analysis. Queries the result of whether analysis has been performed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Syntax      | :CALCulate[:IMMEDIATE]<br>:CALCulate[:IMMEDIATE]?<br>0: Not performed<br>1: Performed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Example     | :CALCULATE<br>:CALCULATE? -> 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Explanation | <ul style="list-style-type: none"> <li>• Analysis is performed according to the latest analysis settings.</li> <li>• Analysis is performed on the following occasions: <ul style="list-style-type: none"> <li>• When CALCulate[:IMMEDIATE] command is executed.</li> <li>• When CALCulatePARAMeter: command is executed, or parameter settings changed</li> <li>• For the AQ6375, analysis functions included in ANALYSIS2 cannot be executed when in Wavenumber mode. The following parameters cannot be set.</li> <li>• This is a sequential command.</li> </ul> </li> </ul> |

### **:CALCulate[:IMMEDIATE]:AUTO**

|             |                                                                                                                                                                                                                               |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the automatic analysis function.                                                                                                                                                                                 |
| Syntax      | :CALCulate[:IMMEDIATE]:AUTO<wsp><br>OFF ON 0 1<br>:CALCulate[:IMMEDIATE]:AUTO?<br>0: OFF<br>1: ON                                                                                                                             |
| Example     | :CALCULATE:AUTO ON<br>:CALCULATE AUTO? -> 1                                                                                                                                                                                   |
| Explanation | <ul style="list-style-type: none"> <li>• When the automatic analysis function is ON, automatically activates an analysis function that is active after a sweep has ended.</li> <li>• This is a sequential command.</li> </ul> |

### **:CALCulate:LMARKer:AOFF**

|             |                                                           |
|-------------|-----------------------------------------------------------|
| Function    | Clears all line markers.                                  |
| Syntax      | :CALCulate:LMARKer:AOFFExample<br>:CALCULATE:LMARKER:AOFF |
| Explanation | This is a sequential command.                             |

### **:CALCulate:LMARKer:SRANGE**

|             |                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------|
| Function    | Sets/queries whether to limit an analytical range to the spacing between line markers L1 and L2. |
| Syntax      | :CALCulate:LMARKer:SRANGE<wsp>OFF ON 0 1<br>:CALCulate:LMARKer:SRANGE?<br>0: OFF<br>1: ON        |
| Example     | :CACULATE:LMARKER:SRANGE ON<br>:CACULATE:LMARKER:SRANGE? -> 1                                    |
| Explanation | This is a sequential command.                                                                    |

**:CALCulate:LMARker:SSPan**

Function Sets spacing between line markers L1 and L2 for span.

Syntax :CALCulate:LMARker:SSPan

Example :CACULATE:LMARker:SSPAN

Explanation This is a sequential command.

**:CALCulate:LMARker:SZSPan**

Function Sets spacing between line markers L1 and L2 for zoom span.

Syntax :CALCulate:LMARker:SZSPan

Example :CACULATE:LMARker:SZSPAN

Explanation This is a sequential command.

**:CALCulate:LMARker:X**

Function Sets/queries the position of line markers L1 and L2.

Syntax :CALCulate:LMARker:X<wsp>1|2,<NRf>  
[M|HZ]

:CALCulate:LMARker:X?<wsp>1|2

1, 2 = Line marker numbers

<NRf> = Position of a line marker

Response

<NRf> [m|Hz] (AQ6370B, AQ6373)

<NRf> [m|Hz|m<sup>-1</sup>] (AQ6375)

Example :CACULATE:LMARker:X 1,1550.000nm

:CACULATE:LMARker:X? 1 ->

+1.55000000E-006

Explanation

- If the specified line marker is not located, a query error occurs.
- For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.
- This is a sequential command.

**:CALCulate:LMARker:Y**

Function Sets/queries the position of line markers L3 and L4.

Syntax :CALCulate:LMARker:Y<wsp>3|4,<NRf>  
[DBM|DB|%]

:CALCulate:LMARker:Y?<wsp>3|4

3, 4 = Line marker numbers

<NRf> = Position of a line marker

Example :CACULATE:LMARker:Y 3,-10dBm

:CACULATE:LMARker:Y? 3 ->

-1.00000000E+001

Explanation

- If the specified line marker is not located, a query error occurs.
- This is a sequential command.

**:CALCulate:MARKer:AOFF**

Function Clears all markers.

Syntax :CALCulate:MARKer:AOFF

Example :CACULATE:MARKer:AOFF

Explanation This is a sequential command.

**:CALCulate:MARKer:AUTO**

Function Sets/queries the auto search function.

Syntax :CALCulate:MARKer:AUTO<wsp>

OFF|ON|0|1

:CALCulate:MARKer:AUTO?

0 = OFF

1 = ON

Example :CACULATE:MARKer:AUTO ON

:CACULATE:MARKer:AUTO? -> 1

Explanation

- When the auto search function is ON, this instrument automatically performs a peak/bottom search through an active trace after a sweep has ended.
- This is a sequential command.

**:CALCulate:MARKer:FUNCTION:FORMAT**

Function Sets the format of a difference value displayed in the area marker and queries the format set.

Syntax :CALCulate:MARKer:FUNCTION:FORMAT<wsp>

OFFSet|SPACing|0|1

:CALCulate:MARKer:FUNCTION:FORMAT?

OFFSet = Displays the difference of each marker relative to the moving marker.

SPACing = Displays the difference of each marker relative to a neighboring marker.

Response 0 = OFFSet, 1 = SPACing

Example :CACULATE:MARKer:FUNCTION:FORMAT

SPACING

:CACULATE:MARKer:FUNCTION:FORMAT? ->

1

Explanation This is a sequential command.

**:CALCulate:MARKer:FUNCTION:UPDATE**

Function Sets/queries ON/OFF of the automatic update function of fixed markers used when updating an active trace.

Syntax :CALCulate:MARKer:FUNCTION:

UPDATE<wsp>OFF|ON|0|1

:CALCulate:MARKer:FUNCTION:UPDATE?

Response 0 = OFF, 1 = ON

Example :CACULATE:MARKer:FUNCTION:UPDATE ON

:CACULATE:MARKer:FUNCTION:UPDATE? ->

1

Explanation

- When the automatic update function is ON and the active trace is updated, the level positions of fixed markers automatically follow the waveform.
- This is a sequential command.

**:CALCulate:MARKer:MAXimum**

Function Detects a peak and places the moving marker on that peak.

Syntax :CALCulate:MARKer:MAXimum

Example :CACULATE:MARKer:MAXIMUM

Explanation This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:CALCulate:MARKer:MAXimum:LEFT**

**Function** Detects the nearest peak existing on the left side of the current position of the moving marker and places the moving marker on that peak.

**Syntax** :CALCulate:MARKer:MAXimum:LEFT

**Example** :CACULATE:MAKER:MAXIMUM:LEFT

**Explanation**

- If the moving marker is OFF, an execution error occurs.
- This is a sequential command.

### **:CALCulate:MARKer:MAXimum:NEXT**

**Function** Detects the highest peak that is below the level of the current position of the moving marker and places the moving marker on that peak.

**Syntax** :CALCulate:MARKer:MAXimum:NEXT

**Example** :CACULATE:MAKER:MAXIMUM:NEXT

**Explanation**

- If the moving marker is OFF, an execution error occurs.
- This is a sequential command.

### **:CALCulate:MARKer:MAXimum:RIGHT**

**Function** Detects the nearest peak existing on the right side of the current position of the moving marker and places the moving marker on that peak.

**Syntax** :CALCulate:MARKer:MAXimum:RIGHT

**Example** :CACULATE:MAKER:MAXIMUM:RIGHT

**Explanation**

- If the moving marker is OFF, an execution error occurs.
- This is a sequential command.

### **:CALCulate:MARKer:MAXimum:SCENTER**

**Function** Detects the peak wavelength and sets it as the measurement center waveform.

**Syntax** :CALCulate:MARKer:MAXimum:SCENTER

**Example** :CACULATE:MAKER:MAXIMUM:SCENTER

**Explanation** This is a sequential command.

### **:CALCulate:MARKer:MAXimum:SCENTER:AUTO**

**Function** Sets/queries ON/OFF of the function to automatically detect the peak wavelength and set it as the measurement center wavelength.

**Syntax** :CALCulate:MARKer:MAXimum:SCENTER:  
AUTO<wsp>OFF|ON|0|1  
:CALCulate:MARKer:MAXimum:SCENTER:  
AUTO?

**Response** 0 = OFF, 1 = ON

**Example** :CACULATE:MAKER:MAXIMUM:SCENTER:  
AUTO ON  
:CACULATE:MAKER:MAXIMUM:SCENTER:  
AUTO? -> 1

**Explanation**

- When this function is ON, this instrument automatically detects the peak wavelength of an active trace wavelength each time a sweep has ended, and sets it as the measurement center wavelength.
- This is a sequential command.

### **:CALCulate:MARKer:MAXimum:SRLevel**

**Function** Detects the peak level and sets it for the reference level.

**Syntax** :CALCulate:MARKer:MAXimum:SRLevel

**Example** :CACULATE:MAKER:MAXIMUM:SRLEVEL

**Explanation** This is a sequential command.

### **:CALCulate:MARKer:MAXimum:SRLevel: AUTO**

**Function** Sets/queries ON/OFF of the function to automatically detect the peak level and sets it as the reference level.

**Syntax** :CALCulate:MARKer:MAXimum:SRLevel:  
AUTO<wsp>OFF|ON|0|1

**Response** 0 = OFF, 1 = ON

**Example** :CACULATE:MAKER:MAXIMUM:SRLEVEL:  
AUTO ON  
CACULATE:MAKER:MAXIMUM:SRLEVEL:  
AUTO? -> 1

**Explanation**

- When this function is ON, the instrument automatically detects the peak level of an active trace wavelength each time a sweep has ended, and sets it as the reference level.
- This is a sequential command.

### **:CALCulate:MARKer:MAXimum:SZCenter**

**Function** Detects the peak wavelength and sets it as the display center wavelength.

**Syntax** :CALCulate:MARKer:MAXimum:SZCenter

**Example** :CACULATE:MAKER:MAXIMUM:SZCENTER

**Explanation** This is a sequential command.

### **:CALCulate:MARKer:MINimum**

**Function** Detects the bottom and places the moving marker on that bottom.

**Syntax** :CALCulate:MARKer:MINimum

**Example** :CACULATE:MAKER:MINIMUM

**Explanation** This is a sequential command.

### **:CALCulate:MARKer:MINimum:LEFT**

**Function** Detects the nearest bottom existing on the left side of the current position of the moving marker and places the moving marker on that bottom.

**Syntax** :CALCulate:MARKer:MINimum:LEFT

**Example** :CACULATE:MAKER:MINIMUM:LEFT

**Explanation**

- If the moving marker is OFF, an execution error occurs.
- This is a sequential command.

**:CALCulate:MARKer:MINimum:NEXT**

Function Detects the lowest bottom that is above the level of the current position of the moving marker and places the moving marker on that bottom.

Syntax :CALCulate:MARKer:MINimum:NEXT

Example :CACULATE:MAKER:MINIMUM:NEXT

Explanation • If the moving marker is OFF, an execution error occurs.  
• This is a sequential command.

**:CALCulate:MARKer:MINimum:RIGHT**

Function Detects the nearest bottom existing on the right side of the current position of the moving marker and places the moving marker on that side.

Syntax :CALCulate:MARKer:MINimum:RIGHT

Example :CACULATE:MAKER:MINIMUM:RIGHT

Explanation • If the moving marker is OFF, an execution error occurs.  
• This is a sequential command.

**:CALCulate:MARKer:SCENTER**

Function Sets the wavelength of the current moving marker as the measurement center waveform.

Syntax :CALCulate:MARKer:SCENTER

Example :CACULATE:MAKER:MINIMUM:SCENTER

Explanation • If the moving marker is OFF, an execution error occurs.  
• This is a sequential command.

**:CALCulate:MARKer:SRLevel**

Function Sets the current level of the moving marker for the reference level.

Syntax :CALCulate:MARKer:SRLevel

Example :CACULATE:MAKER:MINIMUM:SRLEVEL

Explanation • If the moving marker is OFF, an execution error occurs.  
• This is a sequential command.

**:CALCulate:MARKer[:STATe]**

Function Specified marker is positioned or deleted in the position of the moving marker. Also, queries the status of the specified marker.

Syntax :CALCulate:MARKer[:STATe]<wsp>

<marker>, OFF|ON|0|1 :CALCulate:MARKer[:STATe]?<wsp><marker>  
<marker>: Marker number (0: moving marker)  
Response 0 = OFF, 1 = ON

Example :CACULATE:MAKER:STATE 1, ON

:CACULATE:MAKER:STATE 1 -> 1

Explanation • When the moving marker is not active and an attempt is made to set a fixed marker, an execution error occurs.  
• If moving marker is specified, it is placed in the center of measurement display.  
• This is a sequential command.

**:CALCulate:MARKer:SZCenter**

Function Sets the current wavelength of the moving marker for the display center wavelength.

Syntax :CALCulate:MARKer:SZCenter

Example :CACULATE:MAKER:SZCENTER

Explanation • If the moving marker is OFF, an execution error occurs.  
• This is a sequential command.

**:CALCulate:MARKer:UNIT**

Function Sets/queries the units of display for the marker values.

Syntax :CALCulate:MARKer:UNIT<wsp>WAVeleng  
th|FREQUency|0|1

:CALCulate:MARKer:UNIT?

Parameter AQ6370B, AQ6373

WAVelength|0

FREQUency|1

AQ6375

WAVelength|0

FREQUency|1

WNUMBER|2

Response 0=WAVelength, 1= FREQUency  
2=WNUMBER

Example :CACULATE:MAKER:UNIT FREQUENCY

:CACULATE:MAKER:UNIT? -> 1

Explanation • WNUMBER is only valid for the AQ6375.  
• This is a sequential command.

**:CALCulate:MARKer:X**

Function Places a specified marker in a specified position. Queries the X value of the specified marker.

Syntax :CALCulate:MARKer:X<wsp><marker>, <N  
Rf> [M|HZ]

:CALCulate:MARKer:X?<wsp><marker>

<NRf>= Marker position

Response

<NRf> [m|Hz] (AQ6370B, AQ6373)

<NRf> [m|Hz|m<sup>-1</sup>] (AQ6375)

Example :CACULATE:MAKER:X 0, 1550.000nm

:CACULATE:MAKER:X? 0 ->

+1.55000000E-006

Explanation • If an already located marker is specified, that marker will be moved to a specified position.  
• If the specified marker is not located, a query error occurs.  
• For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.  
• This is a sequential command.

## 7.6 Instrument-Specific Commands

### :CALCulate:MARKer:Y?

**Function** Queries the Y value of the specified marker.  
**Syntax** :CALCulate:MARKer:Y?<wsp><marker>  
 <NRf> = marker level  
**Example** :CACULATE:MAKER:Y? 0 ->  
 -1.00000000E+001  
**Explanation**

- This unit of the marker level to be queried is dependent on the Y-axis unit of the active trace.
- If the specified marker is not located, a query error occurs.
- This is a sequential command.

### :CALCulate:MATH:TRC

**Function** Sets/queries the TRACE C calculation function.  
**Syntax** :CALCulate:MATH:TRC<wsp>A-B (LOG) |  
 B-A (LOG) | A+B (LOG) | A+B (LIN) |  
 A-B (LIN) | B-A (LIN) | 1-K (A/B) |  
 1-K (B/A) |  
 :CALCulate:MATH:TRC?  
**Example** :CACULATE:MATH:TRC A-B (LOG)  
 :CACULATE:MATH:TRC? -> A-B (LOG)  
**Explanation**

- When the calculation function of trace C is set using this command, the attribute of trace C automatically becomes attribute "CALC".
- If trace C is not a calculation trace, "NONE" is returned.
- This is a sequential command.

### :CALCulate:MATH:TRC:K

**Function** Sets/queries parameter K of the TRACE C calculation function.  
**Syntax** :CALCulate:MATH:TRC:K<wsp><NRf>  
 :CALCulate:MATH:TRC:K?  
 <NRf> = Parameter K  
**Example** :CACULATE:MATH:TRC:K 0.1  
 :CACULATE:MATH:TRC:K? ->  
 +1.00000000E-001  
**Explanation** This is a sequential command.

### :CALCulate:MATH:TRF

**Function** Sets/queries the TRACE F calculation function.  
**Syntax** :CALCulate:MATH:TRF<wsp>C-D (LOG) |  
 D-C (LOG) | C+D (LOG) | D-E (LOG) |  
 E-D (LOG) | D+E (LOG) | C+D (LIN) |  
 C-D (LIN) | D-C (LIN) | D+E (LIN) |  
 D-E (LIN) | E-D (LIN) |  
 :CALCulate:MATH:TRF?  
**Example** :CACULATE:MATH:TRF C-D (LOG)  
 :CACULATE:MATH:TRF? -> C-D (LOG)  
**Explanation**

- When the calculation function of trace F is set using this command, the attribute of trace F automatically becomes attribute "CALC".
- If trace F is not a calculation trace, "NONE" is returned.

**Example** calc:math:trf c-d(log)  
 calc:math:trf? -> C-D(LOG)

- This is a sequential command.

### :CALCulate:MATH:TRG

**Function** Sets/queries the TRACE G calculation function.  
**Syntax** :CALCulate:MATH:TRG<wsp>C-F (LOG) |  
 F-C (LOG) | C+F (LOG) | E-F (LOG) |  
 F-E (LOG) | E+F (LOG) | C+F (LIN) |  
 C-F (LIN) | F-C (LIN) | E+F (LIN) |  
 E-F (LIN) | FLIN | NORMA | NORMB | NORMC |  
 CVFTA | CVFTB | CVFTC | MKRFT | PKCVFTA |  
 PKCVFTB | PKCVFTC  
 :CALCulate:MATH:TRG?  
**Example** :CACULATE:MATH:TRG C-F (LOG)  
 :CACULATE:MATH:TRG? -> C-F (LOG)  
**Explanation**

- When the calculation function of trace G is set using this command, the attribute of trace G automatically becomes attribute "CALC".
- If trace G is not a calculation trace, "NONE" is returned.
- This is a sequential command.

### :CALCulate:MATH:TRG:CVFT:FALGo

**Function** Sets/queries the fitting curve function of the TRACE G fitting curve function.  
**Syntax** :CALCulate:MATH:TRG:CVFT:FALGo  
 <wsp><algorhythm>  
 :CALCulate:MATH:TRG:CVFT:FALGo?  
 <algorhythm>  
 GAUSSs = GAUSS  
 LORENZ = LORENZ  
 3RD = 3RD POLY  
 4TH = 4TH POLY  
 5TH = 5TH POLY  
**Response**  
 0 = GAUSS                    1 = LORENZ,  
 2 = 3RD POLY                3 = 4TH POLY  
 4 = 5TH POLY  
**Example** :CACULATE:MATH:TRG:CVFT:FALGO GAUSS  
 :CACULATE:MATH:TRG:CVFT:FALG? -> 1  
**Explanation**

- Setting of calculation area is common to curve fit and peak curve fit.
- This is a sequential command.

**:CALCulate:MATH:TRG:CVFT:OPARea**

**Function** Sets/queries a calculation area during curve fit and peak curve fit.

**Syntax** :CALCulate:MATH:TRG:CVFT:OPARea  
 <wsp>ALL|INL1-L2|OUTL1-L2|0|1|2  
 :CALCulate:MATH:TRG:CVFT:OPARea?  
 ALL = all of the set wavelength range  
 INL1-L2 = range surrounding line marker 1 and 2  
 OUTL1-L2 = range outside line markers 1 and 2  
 Response 0 = ALL, 1 = INL1-L2, 2 = OUTL1-L2

**Example** :CACULATE:MATH:TRG:CVFT:  
 OPAREA inl1-l2  
 :CACULATE:MATH:TRG:CVFT:OPAREA? -> 1

**Explanation** • Setting of calculation area is common to curve fit and peak curve fit.  
 • This is a sequential command.

**:CALCulate:MATH:TRG:CVFT:THResh**

**Function** Sets/queries the threshold value for curve fitting.

**Syntax** :CALCulate:MATH:TRG:CVFT:THResh  
 <wsp><integer> [DB]  
 :CALCulate:MATH:TRG:CVFT:THResh?  
 <NRf> = Threshold level [dB]

**Example** :CACULATE:MATH:TRG:CVFT:THRESH 10db  
 :CACULATE:MATH:TRG:CVFT:THRESH? ->  
 10

**Explanation** This is a sequential command.

**:CALCulate:MATH:TRG:PCVft:THResh**

**Function** Sets/queries the threshold value for peak curve fitting.

**Syntax** :CALCulate:MATH:TRG:PCVft:THResh  
 <wsp><integer> [DB]  
 :CALCulate:MATH:TRG:PCVft:THResh?  
 <NRf> = Threshold level [dB]

**Example** :CACULATE:MATH:TRG:PCVFT:  
 THRESH 10db  
 :CACULATE:MATH:TRG:PCVFT:THRESH? ->  
 10

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:****DFBLd**

**Function** Sets/queries parameters for the DFB-LD analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
 DFBLd<wsp><item>, <parameter>, <data>  
 :CALCulate:PARAMeter[:CATegory]:  
 DFBLd?<wsp><item>, <parameter>  
 <item> = Analytical item that sets parameter(s)  
 <parameter> = Parameter to be set  
 <data> = Setting data

| <item> | <parameter> | <data>                    |
|--------|-------------|---------------------------|
| SWIDth | ALGO        | ENVelope THResh RMS PKRMs |
|        | TH          | <NRf>[DB]                 |
|        | TH2         | <NRf>[DB]                 |
|        | K           | <NRf>                     |
|        | MFIT        | OFF ON 0 1                |
|        | MDIFf       | <NRf>[DB]                 |
| SMSR   | SMODE       | SMSR1 SMSR2               |
|        | SMASK       | <NRf>[M]                  |
|        | MDIFf       | <NRf>[DB]                 |

**Example** :CALCULATE:PARAMETER:  
 DFBLD SWIDTH,ALGO,THRESH  
 :CALCULATE:PARAMETER:DFBLD?  
 SWIDTH,ALGO -> THR :CALCULATE:  
 PARAMETER:DFBLD SMSR,SMASK,0.5NM  
 :CALCULATE:PARAMETER:DFBLD?  
 SMSR,SMASK -> +5.00000000E-010

**Explanation** • If a non-existing parameter is used for a combination, an execution error occurs.  
 (such as combinations of SWIDth and SMODE)  
 • This is a sequential command.

## 7.6 Instrument-Specific Commands

### :CALCulate:PARAMeter[:CATegory]:

#### FILBtm

Function Sets/queries parameters for the FILTER-BTM analysis function.

Syntax :CALCulate:PARAMeter[:CATegory]:  
 FILBtm<wsp><item>, <parameter>, <data>  
 :CALCulate:PARAMeter[:CATegory]:  
 FILBtm?<wsp><item>, <parameter>  
 <item> = Analytical item that sets parameter(s)  
 <parameter> = Parameter to be set  
 <data> = Data to be set

| <item>      | <parameter> | <data>                      |
|-------------|-------------|-----------------------------|
| BLEVel      | SW          | OFF ON 0 1                  |
| BWAVelength | SW          | OFF ON 0 1                  |
| CWAVelength | SW          | OFF ON 0 1                  |
|             | ALGO        | PEAK BOTTom                 |
|             | TH          | <NRf>[DB]                   |
|             | MDIFF       | <NRf>[DB]                   |
| NWIDth      | SW          | OFF ON 0 1                  |
|             | ALGO        | PEAK BOTTom                 |
|             | TH          | <NRf>[DB]                   |
|             | MDIFF       | <NRf>[DB]                   |
| XTALK       | SW          | OFF ON 0 1                  |
|             | ALGO        | PEAK BOTTom <br>BLEVel GRID |
|             | TH          | <NRf>[DB]                   |
|             | MDIFF       | <NRf>[DB]                   |
|             | CSPace      | <NRf>[M]                    |
|             | SARea       | <NRf>[M]                    |

Example :CALCULATE:PARAMETER:FILBTM  
 CWAVELENGTH,ALGO,BOTTOM  
 :CALCULATE:PARAMETER:FILBTM  
 CWAVELENGTH,ALGO -> BOTT  
 :CALCULATE:PARAMETER:FILBTM  
 XTALK,CSPACE,0.2NM  
 :CALCULATE:PARAMETER:FILBTM?  
 XTALK,CSPACEe -> +2.00000000E-010

Explanation

- If a non-existing parameter is used for a combination, an execution error occurs (a combination of CWAVelength and SARea, etc.).
- On the AQ6373, the following data parameter cannot be set.  
 GRID
- This is a sequential command.

### :CALCulate:PARAMeter[:CATegory]:

#### FILPk

Function Sets/queries parameters for the FILTER PEAK analysis function.

Syntax :CALCulate:PARAMeter[:CATegory]:  
 FILPk<wsp><item>, <parameter>, <data>  
 :CALCulate:PARAMeter[:CATegory]:  
 FILPk?<wsp><item>, <parameter>  
 <item> = Analytical item that sets parameter(s)  
 <parameter> = Parameter to be set  
 <data> = Data to be set

| <item>      | <parameter> | <data>                 |
|-------------|-------------|------------------------|
| PLEVel      | SW          | OFF ON 0 1             |
| PWAVelength | SW          | OFF ON 0 1             |
| MWAVelength | SW          | OFF ON 0 1             |
|             | ALGO        | THResh RMS             |
|             | TH          | <NRf>[DB]              |
|             | K           | <NRf>                  |
|             | MFIT        | OFF ON 0 1             |
| SWIDth      | MDIFF       | <NRf>[DB]              |
|             | SW          | OFF ON 0 1             |
|             | ALGO        | THResh RMS             |
|             | TH          | <NRf>[DB]              |
| XTALK       | K           | <NRf>                  |
|             | MFIT        | OFF ON 0 1             |
|             | MDIFF       | <NRf>[DB]              |
|             | SW          | OFF ON 0 1             |
|             | ALGO        | THResh PLEVel <br>GRID |
|             | TH          | <NRf>[DB]              |
| RWIDth      | K           | <NRf>                  |
|             | MFIT        | OFF ON 0 1             |
|             | MDIFF       | <NRf>[DB]              |
|             | CSPace      | <NRf>[M]               |
| SARea       | <NRf>[M]    |                        |

Example :CALCULATE:PARAMETER:FILPK  
 SWIDTH,ALGO,THRESH  
 :CALCULATE:PARAMETER:FILPK?  
 SWIDTH,ALGO -> THR  
 :CALCULATE:PARAMETER:FILPK XTALK,  
 CSPACE,0.5NM :CALCULATE:PARAMETER:  
 FILPK? XTALK,CSPACE ->  
 +5.00000000E-010

Explanation

- If a non-existing parameter is used for a combination, an execution error occurs (a combination of SWIDth and CSPace, etc.).
- On the AQ6373, the following data parameter cannot be set.  
 GRID
- This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:FPLD**

**Function** Sets/queries parameters for the FP-LD analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
FPLD<wsp><item>,<parameter>,<data>  
:CALCulate:PARAMeter[:CATegory]:  
FPLD?<wsp><item>,<parameter>  
<item> = Analytical item that sets parameter(s)  
<parameter> = Parameter to be set  
<data> = Setting data

| <item>      | <parameter> | <data>                        |
|-------------|-------------|-------------------------------|
| SWIDth      | ALGO        | ENVELOPE THRESH <br>RMS PKRMs |
|             | TH          | <NRf>[DB]                     |
|             | TH2         | <NRf>[DB]                     |
|             | K           | <NRf>                         |
|             | MFIT        | OFF ON 0 1                    |
|             | MDIFF       | <NRf>[DB]                     |
| MWAVelength | ALGO        | ENVELOPE THRESH <br>RMS PKRMs |
|             | TH          | <NRf>[DB]                     |
|             | TH2         | <NRf>[DB]                     |
|             | K           | <NRf>                         |
|             | MFIT        | OFF ON 0 1                    |
|             | MDIFF       | <NRf>[DB]                     |
| TPOWer      | OFFSet      | <NRf>[DB]                     |
| MNUMber     | ALGO        | ENVELOPE THRESH <br>RMS PKRMs |
|             | TH          | <NRf>[DB]                     |
|             | TH2         | <NRf>[DB]                     |
|             | K           | <NRf>                         |
|             | MFIT        | OFF ON 0 1                    |
|             | MDIFF       | <NRf>[DB]                     |

**Example** :CALCULATE:PARAMETER:FPLD  
SWIDTH,ALGO,THRESH  
:CALCULATE:PARAMETER:FPLD?  
SWIDTH,ALGO -> THR  
:CALCULATE:PARAMETER:FPLD TPOWER,  
OFFSET,1.0DB :CALCULATE:PARAMETER:  
FPLD? TPOWER,OFFSET ->  
+1.00000000E+000

**Explanation** • If a non-existing parameter is used for a combination, an execution error occurs. (a combination of SWIDTH and OFFSET, etc.)  
• This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:LED**

**Function** Sets/queries parameters for the LED analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
LED<wsp><item>,<parameter>,<data>  
:CALCulate:PARAMeter[:CATegory]:  
LED?<wsp><item>,<parameter>  
<item> = Analytical item that sets parameter(s)  
<parameter> = Parameter to be set  
<data> = Setting data

| <item>      | <parameter> | <data>                        |
|-------------|-------------|-------------------------------|
| SWIDth      | ALGO        | ENVELOPE THRESH <br>RMS PKRMs |
|             | TH          | <NRf>[DB]                     |
|             | TH2         | <NRf>[DB]                     |
|             | K           | <NRf>                         |
|             | MFIT        | OFF ON 0 1                    |
|             | MDIFF       | <NRf>[DB]                     |
| MWAVelength | ALGO        | ENVELOPE THRESH <br>RMS PKRMs |
|             | TH          | <NRf>[DB]                     |
|             | TH2         | <NRf>[DB]                     |
|             | K           | <NRf>                         |
|             | MFIT        | OFF ON 0 1                    |
|             | MDIFF       | <NRf>[DB]                     |
| TPOWer      | OFFSet      | <NRf>[DB]                     |

**Example** :CALCULATE:PARAMETER:LED  
SWIDTH,ALGO,THRESH  
:CALCULATE:PARAMETER:LED?  
SWIDTH,ALGO -> THR  
:CALCULATE:PARAMETER:LED TPOWER,  
OFFSET,1.0DB :CALCULATE:PARAMETER:  
LED? TPOWER,OFFSET ->  
+1.00000000E+000

**Explanation** • If a non-existing parameter is used for a combination, an execution error occurs (a combination of SWIDTH and OFFSET, etc.).  
• This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:CALCulate:PARAMeter[:CATEGORY]:NF:**

#### **AALGo**

**Function** Sets/queries the measurement algorithm applied to ASE level measurements made by the NF analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:NF:AALGo<wsp><algorhythm>  
:CALCulate:PARAMeter[:CATEGORY]:NF:AALGo?  
<algorhythm> = Measurement algorithm  
AFIX: AUTO FIX  
MFIx: MANUAL FIX  
ACENter: AUTO CENTER  
MCENter: MANUAL CENTER

**Response** 0 = AUTO FIX  
1 = MANUAL FIX  
2 = AUTO CENTER  
3 = MANUAL CENTER

**Example** :CALCULATE:PARAMETER:NF:AALGO MFIx  
:CALCULATE:PARAMETER:NF:AALGO? -> 1

**Explanation** • With the AQ6373, the command is invalid.  
• This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:NF:**

#### **FALGo**

**Function** Sets/queries the fitting function during level measurement applied to ASE level measurements made by the NF analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:NF:FALGo<wsp><algorhythm>  
:CALCulate:PARAMeter[:CATEGORY]:NF:FALGo?  
<algorhythm> = Fitting function  
LINear: LINEAR  
GAUSs: GAUSS  
LORENz: LORENZ  
3RD: 3RD POLY  
4TH: 4YH POLY  
5TH: 5TH POLY

**Response** 0 = LINEAR  
1 = GAUSS  
2 = LORENZ  
3 = 3RD POLY  
4 = 4YH POLY  
5 = 5TH POLY

**Example** :CALCULATE:PARAMETER:NF:FALGO GAUSS  
:CALCULATE:PARAMETER:NF:FALGO? -> 1

**Explanation** • With the AQ6373, the command is invalid.  
• This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:NF:**

#### **FARea**

**Function** Sets/queries the fitting range for level measurement applied to ASE level measurements made by the NF analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:NF:FARea<wsp><NRf> [M]  
:CALCulate:PARAMeter[:CATEGORY]:NF:FARea?  
<NRf> = fitting range [m]

**Example** :CALCULATE:PARAMETER:NF:FARea 0.80NM  
:CALCULATE:PARAMETER:NF:FARea? -> +8.00000000E-10

**Explanation** • When the fitting range is set to “Between CH” (and ASE measurement algorithm is set to “AUTO-CTR” or “MANUAL-CTR”), then the command returns 0.  
• With the AQ6373, the command is invalid.  
• This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:NF:**

#### **IOFFset**

**Function** Sets/queries level offset values (signal light) for the NF analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:NF:IOFFset<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATEGORY]:NF:IOFFset?  
<NRf> = Level offset value of signal light [dB]

**Example** :CALCULATE:PARAMETER:NF:IOFFSET 10.00  
:CALCULATE:PARAMETER:NF:IOFFSET? -> +1.00000000E+001

**Explanation** • With the AQ6373, the command is invalid.  
• This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:NF:****MARea**

|             |                                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the mask range for level measurement applied to ASE level measurements made by the NF analysis function.                                                                                                                                                |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:MARea<wsp><Nrf> [M]<br>:CALCulate:PARAMeter[:CATegory]:NF:MARea?<br><Nrf> = mask range [m]                                                                                                                                        |
| Example     | :CALCULATE:PARAMETER:NF:MAREA 0.40NM<br>:CALCULATE:PARAMETER:NF:MAREA? -><br>+4.00000000E-10                                                                                                                                                                         |
| Explanation | <ul style="list-style-type: none"> <li>• When the mask range is set to “---” (and ASE level measurement function is set to “LINEAR”), the command returns 0.</li> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:PARAMeter[:CATegory]:NF:****MDIFF**

|             |                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the peak bottom difference of channel detection for the NF analysis function.                                                  |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:MDIFF<wsp><Nrf> [DB]<br>:CALCulate:PARAMeter[:CATegory]:NF:MDIFF?<br><Nrf> = Peak bottom difference [dB] |
| Example     | :CALCULATE:PARAMETER:NF:MDIFF 3.00DB<br>:CALCULATE:PARAMETER:NF:MDIFF? -><br>+3.00000000E+000                                               |
| Explanation | <ul style="list-style-type: none"> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul>       |

**:CALCulate:PARAMeter[:CATegory]:NF:****OOFFSET**

|             |                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries level offset values (output light) for the NF analysis function.                                                                               |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:OOFFset<wsp><Nrf> [DB]<br>:CALCulate:PARAMeter[:CATegory]:NF:OOFFset?<br><Nrf> = Level offset value of output light [dB] |
| Example     | :CALCULATE:PARAMETER:NF:OOFFSET 10.00<br>:CALCULATE:PARAMETER:NF:OOFFSET? -><br>+1.00000000E+001                                                            |
| Explanation | <ul style="list-style-type: none"> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul>                       |

**:CALCulate:PARAMeter[:CATegory]:NF:****PDISplay**

|             |                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries whether to display data used for fitting of the NF analysis function on the waveform screen.                                                                                                                                  |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:PDISplay<wsp>OFF ON 0 1<br>:CALCulate:PARAMeter[:CATegory]:NF:PDISplay?<br>Response 0 = OFF, 1 = ON                                                                                                     |
| Example     | :CALCULATE:PARAMETER:NF:PDISPLAY ON<br>:CALCULATE:PARAMETER:NF:PDISPLAY?-><br>1                                                                                                                                                            |
| Explanation | <ul style="list-style-type: none"> <li>• When this set value is 1 (ON), data used for fitting is displayed on the waveform screen.</li> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:PARAMeter[:CATegory]:NF:****TH**

|             |                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the threshold level of channel detection for the NF analysis function.                                                   |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:TH<wsp><Nrf> [DB]<br>:CALCulate:PARAMeter[:CATegory]:NF:TH?<br><Nrf> = Threshold level [dB]        |
| Example     | :CALCULATE:PARAMETER:NF:TH 20.00DB<br>:CALCULATE:PARAMETER:NF:TH-><br>+2.00000000E+001                                                |
| Explanation | <ul style="list-style-type: none"> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul> |

**:CALCulate:PARAMeter[:CATegory]:NF:****RBWidth**

|             |                                                                                                                                                                                                                                                                        |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the method for calculating the resolution value of the NF computation.                                                                                                                                                                                    |
| Syntax      | :CALCulate:PARAMeter[:CATegory]:NF:RBWidth<wsp>MEASured CAL 0 1<br>:CALCulate:PARAMeter[:CATegory]:NF:RBWidth?<br>MEASured 0 Use the value determined from the waveform using THRESH 3dB analysis.<br>CAL 1 Use the actual resolution value stored in the instrument . |
| Response    | 0=MEASURED, 1=CAL                                                                                                                                                                                                                                                      |
| Example     | :CALCULATE:PARAMETER:NF:RBWIDTH MEASURED<br>:CALCULATE:PARAMETER:NF:RBWIDTH? -><br>0                                                                                                                                                                                   |
| Explanation | <ul style="list-style-type: none"> <li>• With the AQ6373, the command is invalid.</li> <li>• This is a sequential command.</li> </ul>                                                                                                                                  |

## 7.6 Instrument-Specific Commands

### **:CALCulate:PARAMeter[:CATegory]:NF:**

#### **SNOise**

**Function** Sets/queries whether Shot Noise is included in the NF computation

**Syntax** :CALCulate:PARAMeter[:CATegory]:NF:  
SNOise<wsp>OFF|ON|0|1  
:CALCulate:PARAMeter[:CATegory]:NF:  
SNOise?  
OFF|0 Shot Noise not included in the  
NF computation  
ON|1 Shot Noise included in the NF  
computation  
**Response** 0=OFF, 1=ON

**Example** :CALCULATE:PARAMETER:NF:SNOISE OFF  
:CALCULATE:PARAMETER:NF:SNOISE?  
-> 0

**Explanation** • With the AQ6373, the command is invalid.  
• This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **NOTCh:K**

**Function** Sets/queries the magnification of the notch width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
NOTCh:K<wsp><NRf>[DB]  
:CALCulate:PARAMeter[:CATegory]:  
NOTCh:K?  
<NRf> = Magnification

**Example** :CALCULATE:PARAMETER:NOTCH:K 2.00  
:CALCULATE:PARAMETER:NOTCH:K?->  
+2.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **NOTCh:TH**

**Function** Sets/queries the threshold value for the notch width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
NOTCh:TH<wsp><NRf>[DB]  
:CALCulate:PARAMeter[:CATegory]:  
NOTCh:TH?  
<NRf> = Threshold level [dB]

**Example** :CALCULATE:PARAMETER:NOTCH:  
TH 3.00DB  
:CALCULATE:PARAMETER:NOTCH:TH?->  
+3.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **NOTCh:TYPE**

**Function** Sets/queries the analysis direction of the notch width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
NOTCh:TYPE<wsp>PEAK|BOTTom|0|1  
:CALCulate:PARAMeter[:CATegory]:  
NOTCh:TYPE?

**PEAK:** Performs analysis using the peak level of a waveform as a reference.

**BOTTom:** Performs analysis using the bottom level of a waveform as a reference.

**Response** 0 = PEAK, 1 = BOTTom

**Example** :CALCULATE:PARAMETER:NOTCH:  
TYPE BOTTOM  
:CALCULATE:PARAMETER:NOTCH:TYPE? ->  
1

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:PMD:**

#### **TH**

**Function** Sets/queries the threshold value for the PMD analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
PMD:TH<wsp><NRf>[DB]  
:CALCulate:PARAMeter[:CATegory]:  
PMD:TH?  
<NRf> = Threshold level [dB]

**Explanation** :CALCULATE:PARAMETER:PMD:TH  
10.00DB:CALCULATE:PARAMETER:PMD:  
TH?-> +1.00000000E+001

### **:CALCulate:PARAMeter[:CATegory]:**

#### **POWER:OFFSet**

**Function** Sets/queries the offset value for the POWER analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
POWER:OFFSet<wsp><NRf>[DB]  
:CALCulate:PARAMeter[:CATegory]:  
POWER:OFFSet?  
<NRf> = Offset value [dB]

**Example** :CALCULATE:PARAMETER:POWER:  
OFFSET 1.00DB  
:CALCULATE:PARAMETER:POWER:  
OFFSET?-> +1.00000000E+000

**:CALCulate:PARAMeter[:CATegory]:****SMSR:MASK**

**Function** Sets/queries the mask value for the SMSR analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SMSR:MASK<wsp><NRf> [M]  
:CALCulate:PARAMeter[:CATegory]:  
SMSR:MASK?  
<NRf> = Mask value [m]

**Example** :CALCULATE:PARAMETER:SMSR:  
MASK 2.0nm  
:CALCULATE:PARAMETER:SMSR:MASK ?->  
+2.00000000E-009

**:CALCulate:PARAMeter[:CATegory]:****SMSR:MODE**

**Function** Sets/queries the analysis mode for the SMSR analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SMSR:MODE<wsp>SMSR1|SMSR2  
:CALCulate:PARAMeter[:CATegory]:  
SMSR:MODE?

**Example** :CALCULATE:PARAMETER:SMSR:  
MODE SMSR1  
:CALCULATE:PARAMETER:SMSR:MODE?->  
SMSR1

**:CALCulate:PARAMeter[:CATegory]:****SWENvelope:K**

**Function** Sets/queries the magnification of the ENVELOPE method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWENvelope:K  
:CALCulate:PARAMeter[:CATegory]:  
SWENvelope:K  
<NRf> = Magnification

**Example** :CALCULATE:PARAMETER:SWENVELOPE:  
K 2.00  
:CALCULATE:PARAMETER:SWENVELOPE:K?  
-> +2.00000000E+000

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:****SWENvelope:TH1**

**Function** Sets/queries the search threshold level of the ENVELOPE method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWENvelope:TH1<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWENvelope:TH1?  
<NRf> = Search threshold level [dB]

**Example** :CALCULATE:PARAMETER:SWENVELOPE:  
TH1 3.00  
:CALCULATE:PARAMETER:SWENVELOPE:  
TH1?-> +3.00000000E+000

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:****SWENvelope:TH2**

**Function** Sets/queries the threshold level of the ENVELOPE method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWENvelope:TH2<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWENvelope:TH2?  
<NRf> = Threshold level [dB]

**Example** :CALCULATE:PARAMETER:SWENVELOPE:  
TH2 10.00db  
:CALCULATE:PARAMETER:SWENVELOPE:  
TH2?-> +1.00000000E+001

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:****SWPKrms:K**

**Function** Sets/queries the magnification of the PEAK-RMS method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWPKrms:K<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWPKrms:K?  
<NRf> = Magnification

**Example** :CALCULATE:PARAMETER:SWPKRMS:K 2.00  
:CALCULATE:PARAMETER:SWPKRMS:K?->  
+2.00000000E+000

**Explanation** This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWPKrms:TH**

**Function** Sets/queries the threshold level of the PEAK-RMS method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWPKrms:TH<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWPKrms:TH?  
<NRf> = Threshold level [dB]

**Example** :CALCULATE:PARAMETER:SWPKRMS:  
TH 3.00db  
:CALCULATE:PARAMETER:SWPKRMS:TH? ->  
+3.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWRMs:K**

**Function** Sets/queries the magnification of the RMS method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWRMs:K<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWRMs:K?  
<NRf> = Magnification

**Explanation** :CALCULATE:PARAMETER:SWRMS:K2.00  
:CALCULATE:PARAMETER:SWRMS;K? ->  
+2.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWRMs:TH**

**Function** Sets/queries the threshold level of the RMS method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWRMs:TH<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWRMs:TH?  
<NRf> = Threshold level [dB]

**Example** :CALCULATE:PARAMETER:SWRMS:  
TH 3.00db  
:CALCULATE:PARAMETER:SWRMS:TH? ->  
+3.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWTHResh:K**

**Function** Sets/queries the magnification of the THRESH method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWTHResh:K<wsp><NRf>  
:CALCulate:PARAMeter[:CATegory]:  
SWTHResh:K?  
<NRf> = Magnification

**Example** :CALCULATE:PARAMETER:SWTHRESH:  
K 2.00  
:CALCULATE:PARAMETER:SWTHRESH:K? ->  
+2.00000000E+000

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWTHresh:MFIT**

**Function** Sets/queries whether to enable the mode fit of the THRESH method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWTHresh:MFIT<wsp>OFF|ON|0|1  
:CALCulate:PARAMeter[:CATegory]:  
SWTHresh:MFIT?  
Response 0 = OFF, 1 = ON

**Example** :CALCULATE:PARAMETER:SWTHRESH:  
MFIT ON  
:CALCULATE:PARAMETER:SWTHRESH:  
MFIT? -> 1

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATegory]:**

#### **SWTHresh:TH**

**Function** Sets/queries the threshold level of the THRESH method-based spectrum width analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
SWTHresh:TH<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATegory]:  
SWTHresh:TH?  
<NRf> = Threshold level [dB]  
Response ex. Same as above

**Explanation** :CALCULATE:PARAMETER:SWTHRESH:  
TH 3.00DB  
:CALCULATE:PARAMETER:SWTHRESH:TH? ->  
+3.00000000E+000

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****DMASK**

**Function** Sets/queries the channel mask threshold level for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:WDM:DMASK<wsp><NRf>[DB]  
:CALCulate:PARAMeter[:CATegory]:WDM:DMASK?  
<NRf> = Threshold level [dB] (-999: Mask OFF)

**Example** :CALCULATE:PARAMETER:WDM:DMASK -999  
:CALCULATE:PARAMETER:WDM:DMASK? ->  
-9.99000000E+002

**Explanation** • Channels the level of which are below this parameter will not be detected as a channel.  
• To turn off the channel mask function, set the threshold level to -999.  
• This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****DTYPE**

**Function** Sets/queries the displayed waveforms of the analysis results for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:WDM:DTYPE<wsp><display type>  
:CALCulate:PARAMeter[:CATegory]:WDM:DTYPE?  
<display type>=Type of display  
ABSolute = Absolute value display  
RELative = Relative value display  
MDRift = Drift value display based on the past measurement wavelength  
GDRift = Drift value display based on the grid wavelength  
Response 0 = Absolute value display  
1 = Relative value display  
2 = Display drift value using previously measured waveforms as a reference  
3 = Display drift value using grid wavelength as a reference

**Example** :CALCULATE:PARAMETER:WDM:DTYPE:ABSOLUTE  
:CALCULATE:PARAMETER:WDM:DTYPE:ABSOLUTE? -> 0

**Explanation** • On the AQ6373, the following display types cannot be set.  
GDRift, RELative  
• This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****DUAL**

**Function** Sets/queries the SNR calculation mode for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:WDM:DUAL<wsp>OFF|ON|0|1  
:CALCulate:PARAMeter[:CATegory]:WDM:DUAL?  
Response 0 = OFF, 1 = ON

**Example** :CALCULATE:PARAMETER:WDM:DUAL ON  
:CALCULATE:PARAMETER:WDM:DUAL ON?  
-> 1

**Explanation** • When this set value is 1 (ON), SNR calculation uses both traces A and B data.  
• When this set value is 0 (OFF), SNR calculation uses active trace data.  
• This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****FALGo**

**Function** Sets/queries the fitting function during level measurement applied to noise level measurements made by the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:WDM:FALGo<wsp><algorithm>  
:CALCulate:PARAMeter[:CATegory]:WDM:FALGo?  
LINear = LINEAR  
GAUSS = GAUSS  
LOREnz = LORENZ  
3RD = 3RD POLY  
4TH = 4YH POLY  
5TH = 5TH POLY  
Response 0 = LINEAR  
1 = GAUSS  
2 = LORENZ  
3 = 3RD POLY  
4 = 4YH POLY  
5 = 5TH POLY

**Example:** CALCULATE:PARAMETER:WDM:FALGO GAUSS  
:CALCULATE:PARAMETER:WDM:FALGO? ->  
1

**Explanation** This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **MARea**

**Function** Sets/queries the mask range during level measurement applied to noise level measurements made by the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:MARea<wsp><NRf> [M]  
:CALCulate:PARAMeter[:CATEGORY]:  
WDM:MARea?

**Example** :CALCULATE:PARAMETER:WDM:  
MAREA 0.40NM  
:CALCULATE:PARAMETER:WDM:MAREA? ->  
+4.00000000E-10

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **MDIFF**

**Function** Sets/queries the peak bottom difference of channel detection for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:MDIFF<wsp><NRf> [DB]  
:CALCulate:PARAMeter[:CATEGORY]:  
WDM:MDIFF?  
<NRf> = Peak bottom difference [dB]

**Example** :CALCULATE:PARAMETER:WDM:  
MDIFF 3.00DB  
:CALCULATE:PARAMETER:WDM:MDIFF

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **MMReset**

**Function** Resets the maximum and minimum of the drift values of the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:MMReset

**Example** :CALCULATE:PARAMETER:WDM:MMRESET

**Explanation** •When "DISPLAY TYPE" (set by the :  
CALCulate:PARAMeter[:CATEGORY]:  
WDM:DTYPE command is set to other than  
"DRIFT", an execution error occurs.  
•This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **NALGo**

**Function** Sets/queries the measurement algorithm applied to noise level measurements made by the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:NALGo<wsp><algorhythm>  
:CALCulate:PARAMeter[:CATEGORY]:  
WDM:NALGo?

AFIX|0 = AUTO FIX  
MFIx|1 = MANUAL FIX  
ACENter|2 = AUTO CENTER  
MCENter|3 = MANUAL CENTER  
PIT|4 = PIT

**Response** 0 = AUTO FIX  
1 = MANUAL FIX  
2 = AUTO CENTER  
3 = MANUAL CENTER  
4 = PIT

**Example** :CALCULATE:PARAMETER:WDM:  
NALGO ACENTER  
:CALCULATE:PARAMETER:WDM:NALGO? -> 2

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **NAREa**

**Function** Sets/queries the measuring range applied to noise level measurements made by the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:NAREa<wsp><NRf> [M]  
:CALCulate:PARAMeter[:CATEGORY]:  
WDM:NAREa?  
<NRf> = NOISE AREA [m]

**Example** :CALCULATE:PARAMETER:WDM:  
NAREA 0.80NM  
:CALCULATE:PARAMETER:WDM:NAREA? ->  
+8.00000000E-10

**Explanation** This is a sequential command.

### **:CALCulate:PARAMeter[:CATEGORY]:WDM:**

#### **NBW**

**Function** Sets/queries the noise bandwidth for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATEGORY]:  
WDM:NBW<wsp><NRf> [M]  
:CALCulate:PARAMeter[:CATEGORY]:  
WDM:NBW?  
<NRf> = Noise bandwidth [m]

**Example** :CALCULATE:PARAMETER:WDM:NBW 0.10NM  
:CALCULATE:PARAMETER:WDM:NBW? ->  
+1.00000000E-010

**Explanation** This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****OSLOpe**

**Function** Sets/queries whether to enable the function of obtaining the least square approximation line in the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
WDM:OSLOpe<wsp>OFF|ON|0|1  
:CALCulate:PARAMeter[:CATegory]:  
WDM:OSLOpe?

**Response** 0 = OFF, 1 = ON

**Example** :CALCULATE:PARAMETER:WDM:OSLOP ON  
:CALCULATE:PARAMETER:WDM:OSLOP? ->  
1

**Explanation** •When this set value is 1 (ON), this instrument calculates the least square approximation line of the peak of each channel and draws it on the waveform screen.  
•This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****PDISPlay**

**Function** Sets/queries whether to display data used for fitting of the WDM analysis function on the waveform screen.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
WDM:PDISPlay<wsp>OFF|ON|0|1  
:CALCulate:PARAMeter[:CATegory]:  
WDM:PDISPlay?

**Response** 0 = OFF, 1 = ON

**Example** :CALCULATE:PARAMETER:WDM:  
PDISPLAY ON  
:CALCULATE:PARAMETER:WDM:  
PDISPLAY?-> 1

**Explanation** •When this set value is 1 (ON), data used for fitting is displayed on the waveform screen.  
•This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****RCH**

**Function** Sets/queries the reference channel used in calculating the offset wavelength/level of the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
WDM:RCH<wsp><integer>  
:CALCulate:PARAMeter[:CATegory]:  
WDM:RCH?

<integer> = Reference channel number  
(0: channel with the highest level)

**Example** :CALCULATE:PARAMETER:RCH 10  
:CALCULATE:PARAMETER:RCH? -> 10

**Explanation** •When this set value is "0," the channel with the highest level is regarded as the reference channel.  
•This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****RELation**

**Function** Sets/queries the display format of the wavelength/level relative values for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
WDM:RELation<wsp>OFFSet|SPACing|0|1  
:CALCulate:PARAMeter[:CATegory]:  
WDM:RELation?

OFFSet|0 = Displays an offset value based on any channel.

SPACing|1 = Displays an offset value relative to a neighboring channel.

**Response** 0 = OFFSET, 1 = SPACING

**Example** :CALCULATE:PARAMETER:WDM:  
RELATION SPACING  
:CALCULATE:PARAMETER:WDM:  
RELATION?-> 1

**Explanation** •When "DISPLAY TYPE" (set by the :CALCulate:PARAMeter[:CATegory]:WDM:DTYPE command is set to other than "ABSOLUTE", an execution error occurs.  
•This is a sequential command.

**:CALCulate:PARAMeter[:CATegory]:WDM:****TH**

**Function** Sets/queries the threshold level of channel detection for the WDM analysis function.

**Syntax** :CALCulate:PARAMeter[:CATegory]:  
WDM:TH<wsp><Nrf>[DB]  
:CALCulate:PARAMeter[:CATegory]:  
WDM:TH?

<Nrf> = Threshold level [dB]

**Example** :CALCULATE:PARAMETER:WDM:TH 20.00db  
:CALCULATE:PARAMETER:WDM:TH-  
+2.00000000E+001

**Explanation** This is a sequential command.

## 7.6 Instrument-Specific Commands

### :CALCulate:PARAmeter[:CATegory]:

#### WFBOTTOM

**Function** Sets/queries parameters for the WDM FILTER-BTM analysis function.

**Syntax** :CALCulate:PARAmeter[:CATegory]:  
WFBOTTOM<wsp><item>, <paramater>, <data>  
:  
:CALCulate:PARAmeter[:CATegory]:  
WFBOTTOM?<wsp><item>, <paramater>  
<item> = Analytical item that sets parameter(s)  
<parameter> = Parameter to be set  
<data> = Data to be set

| <item>      | <parameter> | <data>                                |
|-------------|-------------|---------------------------------------|
| NWAVelength | ALGO        | BOTtom NPEak <br>NBOTtom <br>GFI GRID |
|             | MDIFf       | <NRf>[DB]                             |
|             | TH          | <NRf>[DB]                             |
|             | TBANd       | <NRf>[M]                              |
| BWAVelength | SW          | OFF ON 0 1                            |
| CWAVelength | SW          | OFF ON 0 1                            |
|             | ALGO        | NPEak NBOTtom                         |
|             | TH          | <NRf>[DB]                             |
| SBANd       | SW          | OFF ON 0 1                            |
|             | TH          | <NRf>[DB]                             |
| EBANd       | SW          | OFF ON 0 1                            |
|             | TH          | <NRf>[DB]                             |
|             | TBANd       | <NRf>[M]                              |
| RIPPlE      | SW          | OFF ON 0 1                            |
|             | TBANd       | <NRf>[M]                              |
| XTALk       | SW          | OFF ON 0 1                            |
|             | SPACing     | <NRf>[M]                              |
|             | TBANd       | <NRf>[M]                              |

**Example** :CALCULATE:PARAMETER:WFBOTTOM  
NWAY,ALGO,NPEAK  
:  
:CALCULATE:PARAMETER:WFBOTTOM?  
NWAY,ALGO -> NPE:  
CALCULATE:  
PARAMETER:WFBOTTOM BWAVELENGTH,SW,  
OFF  
:  
:CALCULATE:PARAMETER:WFBOTTOM?  
BWAVELENGTH,SW -> 0

**Explanation** • If a non-existing parameter is used for a combination, an execution error occurs (a combination of NWAVelength and SPACing, etc.).  
• With the AQ6373, the command is invalid.  
• This is a sequential command.

### :CALCulate:PARAmeter[:CATegory]:

#### WFPEAK

**Function** Sets/queries parameters for the WDM FILTER-PEAK analysis function.

**Syntax** :CALCulate:PARAmeter[:CATegory]:  
WFPEAK<wsp><item>, <paramater>, <data>  
<wsp>  
:  
:CALCulate:PARAmeter[:CATegory]:  
WFPEAK?<wsp><item>, <paramater>  
<item> = Analytical item that sets parameter(s)  
<parameter> = Parameter to be set  
<data> = Data to be set

| <item>      | <parameter> | <data>                 |
|-------------|-------------|------------------------|
| NWAVelength | ALGO        | PEAK MEAN GFI <br>GRID |
|             | MDIFf       | <NRf>[DB]              |
|             | TH          | <NRf>[DB]              |
|             | TBANd       | <NRf>[M]               |
| PWAVelength | SW          | OFF ON 0 1             |
| CWAVelength | SW          | OFF ON 0 1             |
|             | TH          | <NRf>[DB]              |
| SBANd       | SW          | OFF ON 0 1             |
|             | TH          | <NRf>[DB]              |
| PBANd       | SW          | OFF ON 0 1             |
|             | TH          | <NRf>[DB]              |
|             | TBANd       | <NRf>[M]               |
| RIPPlE      | SW          | OFF ON 0 1             |
|             | TBANd       | <NRf>[M]               |
| XTALk       | SW          | OFF ON 0 1             |
|             | SPACing     | <NRf>[M]               |
|             | TBANd       | <NRf>[M]               |

**Example** :CALCULATE:PARAMETER:WFPEAK  
NWAY,ALGO,PEAK  
:  
:CALCULATE:PARAMETER:WFPEAK?  
NWAY,ALGO -> PEAK  
:  
:CALCULATE:PARAMETER:WFPEAK  
BWAVELENGTH,SW,OFF  
:  
:CALCULATE:PARAMETER:WFPEAK?  
BWAVELENGTH,S -> 0

**Explanation** • If a non-existing parameter is used for a combination, an execution error occurs (a combination of NWAVelength and SPACing, etc.).  
• With the AQ6373, the command is invalid.  
• This is a sequential command.

### :CALCulate:PARAmeter:COMMON:MDIFf

**Function** Sets/queries the peak-bottom difference parameter of channel detection used in the analysis function.

**Syntax** :CALCulate:PARAmeter:COMMON:  
MDIFf<wsp><NRf> [DB]  
:  
:CALCulate:PARAmeter:COMMON:MDIFf?

**Example** :CALCULATE:PARAMETER:COMMON:  
MDIFF 3.00DB  
:  
:CALCULATE:PARAMETER:COMMON:MDIFF->  
+3.00000000E+000

**Explanation** This is a sequential command.

**CALibration Sub System Command****:CALibration:ALIGn[:IMMediate]**

Function Adjusts the optical axis of the internal monochrometer.

Syntax :CALibration:ALIGn[:IMMediate]

Example :CALIBRATION:ALIGN

Explanation This is an overlappable command.

**:CALibration:POWer:OFFSet:TABLE**

Function Sets/queries the level offset table.

Syntax :CALibration:POWer:OFFSet:TABLE<wsp>  
><integer>,<NRf> [DB]  
:CALibration:POWer:OFFSet:  
TABLE?<wsp><integer>  
<integer> = wavelength [nm]  
<NRf> = Level offset value [dB]

Example :CALIBRATION:POWER:OFFSET:

TABLE 1550,-0.1DB

:CALIBRATION:POWER:OFFSET:TABLE?

1550 -> -1.00000000E-001

Explanation • Of the level offset table, the command sets or queries the offset value of a wavelength specified by <integer>.  
• This is a sequential command.

**:CALibration:WAVelength:EXTernal[:IMMediate]**

Function Performs wavelength calibration using an external reference light source.

Syntax :CALibration:WAVelength:EXTernal[:IMMediate]

Example :CALIBRATION:WAVELENGTH:EXTERNAL1

Explanation • The type of the external reference light source to be used for calibration is set using the CALibration:WAVelength:EXTernal:SOURce command.  
• The wavelength of the external reference light source to be used for calibration is set using the CALibration:WAVelength:EXTernal:WAVelength command.  
• This is an overlappable command.

**:CALibration:WAVelength:EXTernal:****SOURce**

Function Sets/queries the type of the light source used for external reference light source-based wavelength calibration.

Syntax :CALibration:WAVelength:EXTernal:  
SOURce<wsp>LASer|GASCell|0|1  
:CALibration:WAVelength:EXTernal:  
SOURce?

LASer = An external reference light source is used for the laser

GASCell = A gas cell is used as the external reference light source.

Response 0 = Laser, 1 = Gas cell

Example :CALIBRATION:WAVELENGTH:EXTERNAL1:

SOURCE LASER

:CALIBRATION:WAVELENGTH:EXTERNAL1:

SOURCE? -> 0

Explanation • Of the level offset table, the command sets or queries the offset value of a wavelength specified by <integer>.  
• On the AQ6373, the following parameter cannot be set.  
GASCell, 1  
• This is a sequential command.

**:CALibration:WAVelength:EXTernal:WAVelength**

Function Sets/queries the wavelength of the light source used for external reference light source-based wavelength calibration.

Syntax :CALibration:WAVelength:EXTernal:  
WAVelength<wsp><NRf> [M]  
:CALibration:WAVelength:EXTernal:  
WAVelength?  
<NRf> = Wavelength of the external reference light source [nm]

Example :CALIBRATION:WAVELENGTH:EXTERNAL1:

WAVELENGTH 1550.000NM

:CALIBRATION:WAVELENGTH:EXTERNAL1:

WAVELENGTH? -> +1.55000000E-006

Explanation This is a sequential command.

**:CALibration:WAVelength:INTernal[:IMMediate]**

Function Performs wavelength calibration using an internal reference light source.

Syntax :CALibration:WAVelength:INTernal[:IMMediate]

Example :CALIBRATION:WAVELENGTH:INTERNAL1

Explanation • With the AQ6373, the command is invalid.  
• This is an overlappable command.

## 7.6 Instrument-Specific Commands

### **:CALibration:WAVelength:OFFSet:TABLE**

Function Sets/queries the wavelength offset table.

Syntax :CALibration:POWer:OFFSet:TABLE<wsp><integer>, <NRF>  
:CALibration:POWer:OFFSet:TABLE?<wsp><integer>  
<integer> = wavelength (specified in nm)  
<NRF> = Wavelength offset value (specified in nm)

Example :CALIBRATION:WAVELENGTH:OFFSET:TABLE 1550, -0.1  
:CALIBRATION:WAVELENGTH:OFFSET:TABLE? 1550 -> -1.00000000E-001

Explanation • Of the wavelength offset table, the command sets or queries the offset value of a wavelength specified by <integer>.  
• This is a sequential command.

### **:CALibration:ZERO[:AUTO]**

Function Sets/queries whether to enable the auto offset function of the level.

Syntax :CALibration:ZERO[:AUTO] <wsp>OFF|ON|0|1|ONCE  
:CALibration:ZERO[:AUTO]?  
Response 0 = OFF, 1 = ON

Example :CALIBRATION:ZERO ONCE  
:CALIBRATION:ZERO? -> 1

Explanation • If "ONCE" is selected in the parameter, offset adjustment is carried out once. In this case, ON/OFF of this setting does not change.  
• This is a sequential command.

### **:CALibration:ZERO[:AUTO]:INTERval**

Function Sets/queries the time interval for executing the Auto Offset function for the level.

Syntax :CALibration:ZERO[:AUTO]:INTERval<wsp><integer>  
:CALibration:ZERO[:AUTO]:INTERval?<integer>= Interval of execution (specified in units of minutes)

Example :CALIBRATION:ZERO:INTERVAL 20  
:CALIBRATION:ZERO:INTERVAL? -> 20

Explanation • When a time is set for this parameter, the auto offset adjustment is performed at the specified time interval starting from the moment of execution.  
• This command only valid for the AQ6373.  
• This is a sequential command.

## DISPlay Sub System Command

### **:DISPlay:COLor**

Function Sets/queries the screen color mode.

Syntax :DISPlay:COLor<wsp><mode>  
:DISPlay:COLor?  
0 = Black and white mode  
1–5 = Modes 1–5

Example :DISPLAY:COLOR 1  
:DISPLAY:COLOR? -> 1

Explanation This is a sequential command.

### **:DISPlay[:WINDow]:OVIew:POSition**

Function Sets/queries the ON/OFF and position of the OVERVIEW display shown during zoom operation.

Syntax :DISPlay[:WINDow]:OVIew:POSition<wsp>OFF|LEFT|RIGHT|0|1|2  
:DISPlay[:WINDow]:OVIew:POSition?  
OFF = Display OFF  
LEFT = The overview display is on the left of the screen.  
RIGHT = The overview display is on the right of the screen.  
Response 0 = OFF, 1 = LEFT, 2 = RIGHT

Example :DISPLAY:OVIEW:POSITION RIGHT  
:DISPLAY:OVIEW:POSITION? -> 2

Explanation This is a sequential command.

### **:DISPlay[:WINDow]:OVIew:SIZE**

Function Sets/queries the size of the OVERVIEW display shown during zoom operation.

Syntax :DISPlay[:WINDow]:OVIew:SIZE<wsp>LARGE|SMALL|0|1  
:DISPlay[:WINDow]:OVIew:SIZE?  
LARGE = Larger OVERVIEW size  
SMALL = Smaller OVERVIEW size  
Response 0 = LARGE, 1 = SMALL

Example :DISPLAY:OVIEW:SIZE LARGE  
:DISPLAY:OVIEW:SIZE? -> 0

Explanation This is a sequential command.

### **:DISPlay[:WINDow]:SPLit**

Function Sets/queries whether to split the screen display into two parts.

Syntax :DISPlay[:WINDow]:SPLit<wsp>OFF|ON|0|1  
:DISPlay[:WINDow]:SPLit?  
Response 0 = OFF, 1 = ON

Example :DISPLAY:SPLIT ON  
:DISPLAY:SPLIT? -> 1

Explanation This is a sequential command.

**:DISPlay[:WINDow]:SPLit:HOLD:LOWer**

Function Sets/queries whether to fix a trace assigned to the lower area when the screen is in the upper/lower 2-split display mode.

Syntax :DISPlay[:WINDow]:SPLit:HOLD:LOWer<wsp>OFF|ON|0|1  
:DISPlay[:WINDow]:SPLit:HOLD:LOWer? Response 0 = OFF, 1 = ON

Example :DISPLAY:SPLIT:HOLD:LOWER ON  
:DISPLAY:SPLIT:HOLD:LOWER? -> 1

Explanation If not in 2-split screen display mode, an execution error occurs.

**:DISPlay[:WINDow]:SPLit:HOLD:UPPer**

Function Sets/queries whether to fix a trace assigned to the upper area when the screen is in the upper/lower 2-split display mode.

Syntax :DISPlay[:WINDow]:SPLit:HOLD:UPPer<wsp>OFF|ON|0|1  
:DISPlay[:WINDow]:SPLit:HOLD:UPPer? Response 0 = OFF, 1 = ON

Example :DISPLAY:SPLIT:HOLD:UPPER ON  
:DISPLAY:SPLIT:HOLD:UPPER? -> 1

Explanation • If not in 2-split screen display mode, an execution error occurs.  
• This is a sequential command.

**:DISPlay[:WINDow]:SPLit:POSition**

Function Sets/queries whichever display area, upper or lower, is used to display a trace when the screen is in the upper/lower 2-split display mode.

Syntax :DISPlay[:WINDow]:SPLit:POSition<wsp><trace name>,UP|LOW|0|1  
:DISPlay[:WINDow]:SPLit:POSition?<wsp><trace name>  
<trace name> = trace name (TRA,TRB,TRC,TRD,TRE,TRF,TRG)  
UP = Trace is displayed in the upper area.  
LOW = Trace is displayed on the lower area.  
Response 0 = UP, 1 = LOW

Example :DISPLAY:SPLIT:POSITION TRA,UP  
:DISPLAY:SPLIT:POSITION? TRA -> 0

Explanation This is a sequential command.

**:DISPlay[:WINDow]:TEXT:CLear**

Function Clears labels.

Syntax :DISPlay[:WINDow]:TEXT:CLear

Example :DISPLAY:TEXT:CLEAR

Explanation This is a sequential command.

**:DISPlay[:WINDow]:TEXT:DATA**

Function Sets/queries the labels.

Syntax :DISPlay[:WINDow]:TEXT:DATA<wsp><string>  
:DISPlay[:WINDow]:TEXT:DATA?<string> = Label character string (56 characters max.)

Example :DISPLAY:TEXT:  
DATA "Optical Spectrum Analyzer"  
:DISPLAY:TEXT:DATA? ->  
Optical Spectrum Analyzer

Explanation • A label character string has a maximum length of 56 characters. If a label of more than 56 characters is specified, characters from and exceeding the 57th will be ignored.  
• If there is no label, one space character is returned.  
• This is a sequential command.

**:DISPlay[:WINDow]:TRACe:X[:SCALe]:CENTER**

Function Sets/queries the center wavelength of the X-axis of the display scale.

Syntax :DISPlay[:WINDow]:TRACe:X[:SCALe]:CENTER<wsp><Nrf>[M|HZ]  
:DISPlay[:WINDow]:TRACe:X[:SCALe]:CENTER?<Nrf> = Center wavelength [m|Hz]  
Response

<Nrf> [m|Hz] (AQ6370B)  
<Nrf> [m|Hz|m<sup>-1</sup>] (AQ6375)

Example :DISPLAY:TRACE:X:CENTER 1550.000NM  
:DISPLAY:TRACE:X:CENTER? ->  
+1.550000000E-006

Explanation • For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.  
• This is a sequential command.

**:DISPlay[:WINDow]:TRACe:X[:SCALe]:INITialize**

Function Initializes the X-axis parameters of the display scale.

Syntax :DISPlay[:WINDow]:TRACe:X[:SCALe]:INITialize

Example :DISPLAY:TRACE:X:INITIALIZE

Explanation • The following parameters are initialized based on the measurement scale after this command has been executed.  
ZOOM CENTER, ZOOM SPAN, ZOOM START, ZOOM STOP  
• This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:DISPlay[:WINDow]:TRACe:X[:SCALe]:**

#### **SMSCale**

**Function** Sets parameters of the current display scale to the measurement scale.

**Syntax** :DISPlay[:WINDow]:TRACe:X[:SCALe]:SMSCale

**Example** :DISPLAY:TRACE:X:SMSCALE

**Explanation**

- The following parameters are initialized based on the display scale after this command has been executed.  
CENTER, SPAN, START, STOP
- This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:X[:SCALe]:**

#### **SPAN**

**Function** Sets/queries the span of the X-axis of the display scale.

**Syntax** :DISPlay[:WINDow]:TRACe:X[:SCALe]:SPAN<wsp><Nrf>[M|HZ]

:DISPlay[:WINDow]:TRACe:X[:SCALe]:SPAN?

<Nrf> = Span [m|Hz]

**Response**

<Nrf> [m|Hz] (AQ6370B)

<Nrf> [m|Hz|m<sup>-1</sup>] (AQ6375)

**Example** :DISPLAY:TRACE:X:SPAN 20.0NM

:DISPLAY:TRACE:X:SPAN? ->

+2.0000000E-008

**Explanation**

- For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.
- This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:X[:SCALe]:**

#### **SRANge**

**Function** Sets/queries whether to limit an analytical range to the display scale range.

**Syntax** :DISPlay[:WINDow]:TRACe:X[:SCALe]:SRANge<wsp>OFF|ON|0|1

:DISPlay[:WINDow]:TRACe:X[:SCALe]:SRANge?

**Response** 0 = OFF, 1 = ON

**Example** :DISPLAY:TRACE:X:SRANGE on

:DISPLAY:TRACE:X:SRANGE? -> 1

**Explanation** This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:X[:SCALe]:**

#### **START**

**Function** Sets/queries the start wavelength of the X-axis of the display scale.

**Syntax** :DISPlay[:WINDow]:TRACe:X[:SCALe]:START<wsp><Nrf>[M|HZ]

:DISPlay[:WINDow]:TRACe:X[:SCALe]:START?

<Nrf> = Start wavelength [m|Hz]

**Response**

<Nrf> [m|Hz] (AQ6370B)

<Nrf> [m|Hz|m<sup>-1</sup>] (AQ6375)

**Example** :DISPLAY:TRACE:X:START 1540.000NM

:DISPLAY:TRACE:X:START?->

+1.54000000E-006

**Explanation**

- For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.
- This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:X[:SCALe]:**

#### **STOP**

**Function** Sets/queries the stop wavelength of the X-axis of the display scale.

**Syntax** :DISPlay[:WINDow]:TRACe:X[:SCALe]:STOP<wsp><Nrf>[M|HZ]

:DISPlay[:WINDow]:TRACe:X[:SCALe]:STOP?

<Nrf> = Stop wavelength [m|Hz]

**Response**

<Nrf> [m|Hz] (AQ6370B)

<Nrf> [m|Hz|m<sup>-1</sup>] (AQ6375)

**Example** :DISPLAY:TRACE:X:STOP 1560.000NM

:DISPLAY:TRACE:X:STOP?->

+1.56000000E-006

**Explanation**

- For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.
- This is a sequential command.

**:DISPlay[:WINDow]:TRACe:Y:NMASK**

|             |                                                                                                                                                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets whether to mask the display of waveforms the level of which is at or below a set threshold level or queries the condition of whether the relevant waveform display is masked.                                                                 |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y:NMASK<wsp><NRf> [DB]<br>:DISPlay[:WINDow]:TRACe:Y:NMASK? <NRf> = Threshold level [dB] (-999: Masking function OFF)                                                                                                       |
| Example     | :DISPLAY:TRACE:Y:MASK -999<br>:DISPLAY:TRACE:Y:MASK? -><br>-9.99000000E+002                                                                                                                                                                        |
| Explanation | <ul style="list-style-type: none"> <li>The display of waveforms the level of which is at or below this parameter will be masked. To turn off the mask function, set the threshold level to -999.</li> <li>This is a sequential command.</li> </ul> |

**:DISPlay[:WINDow]:TRACe:Y:NMASK:TYPE**

|             |                                                                                                                                                                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the display method when a waveform display at or below a threshold level is masked.                                                                                                                                                                                                       |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y:NMASK:TYPE<wsp>VERTical HORizontal 0 1<br>:DISPlay[:WINDow]:TRACe:Y:NMASK:TYPE?<br>VERTical = Waveform display with zero as the mask value or lower<br>HORizontal = Waveform display with the mask value as the mask value or lower<br>Response 0 = VERTical, 1 = HORizontal |
| Example     | :DISPLAY:TRACE:Y:MASK:TYPE VERTICAL<br>:DISPLAY:TRACE:Y:MASK:TYPE? -> 0                                                                                                                                                                                                                                |
| Explanation | This is a sequential command.                                                                                                                                                                                                                                                                          |

**:DISPlay[:WINDow]:TRACe:Y[:SCALE]:DNUMBER**

|             |                                                                                                                                                |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the number of display divisions of the level axis.                                                                                |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y[:SCALE]:DNUMBER<wsp>8 10 12<br>:DISPlay[:WINDow]:TRACe:Y[:SCALE]:DNUMBER?<br>8, 10, 12 = Number of display divisions |
| Example     | :DISPLAY:TRACE:Y:DNUMBER 10<br>:DISPLAY:TRACE:Y:DNUMBER? -> 10                                                                                 |
| Explanation | This is a sequential command.                                                                                                                  |

**:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:BLEVEL**

|             |                                                                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the base level applied when the main scale of the level axis is linear.                                                                           |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y1[:SCALE]:BLEVEL<wsp><NRf> [W]<br>:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:BLEVEL?<br><NRf> = Base level value [W]                          |
| Example     | :DISPLAY:TRACE:Y1:BLEVEL 1.0MW<br>:DISPLAY:TRACE:Y1:BLEVEL?-><br>+1.00000000E-003                                                                              |
| Explanation | <ul style="list-style-type: none"> <li>If a instrument other than W is specified, an execution error occurs.</li> <li>This is a sequential command.</li> </ul> |

**:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:PDDIVISION**

|             |                                                                                                                                                                 |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the main scale of the level axis.                                                                                                                  |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y1[:SCALE]:PDDIVISION<wsp><NRf> [DB]<br>:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:PDDIVISION?<br><NRf> = Level scale [dB]                      |
| Example     | :DISPLAY:TRACE:Y1:PDIV 5.0DB<br>:DISPLAY:TRACE:Y1:PDIV?-><br>+5.00000000E+000                                                                                   |
| Explanation | <ul style="list-style-type: none"> <li>If a instrument other than dB is specified, an execution error occurs.</li> <li>This is a sequential command.</li> </ul> |

**:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:RLEVEL**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the reference level of the main scale of the level axis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Syntax      | :DISPlay[:WINDow]:TRACe:Y1[:SCALE]:RLEVEL<wsp><NRf> [DBM W]<br>:DISPlay[:WINDow]:TRACe:Y1[:SCALE]:RLEVEL?<br><NRf> = Reference level [dB W]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Example     | :DISPLAY:TRACE:Y1:RLEVEL -30dbm<br>:DISPLAY:TRACE:Y1:RLEVEL?-><br>-3.00000000E+001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Explanation | <ul style="list-style-type: none"> <li>When the unit is omitted in the parameter, the reference level is set in dBm if the main scale of the level axis is in the LOG mode or is set in W if it is in the linear mode.</li> <li>If the setting condition of the LOG/linear mode of the level axis' main scale does not match the unit specified in the parameter of the command, the parameter of this command is translated matching the LOG/linear mode of the main scale. For example, when the main scale is LOG and you set the reference level to 1m with this command, the reference level is set to 0 dB.</li> </ul> |

## 7.6 Instrument-Specific Commands

• This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:**

#### **RPOSITION**

**Function** Sets/queries the position of the reference level of the main scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
RPOSITION<wsp><integer>[DIV]  
:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
RPOSITION?

<integer> = Position of the reference level

**Example** :DISPLAY:TRACE:Y1:RPOSITION 10DIV  
:DISPLAY:TRACE:Y1:RPOSITION? -> 10

**Explanation** • If a value greater than the number of display divisions of the level axis is specified for the position of the reference level, the position of this level is treated as the top of the scale.  
• This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:**

#### **SPACING**

**Function** Sets/queries the scale mode of the main scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
SPACING<wsp>LOGarithmic|LINear|0|1  
:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
SPACING?

LOGarithmic = LOG scale

LINear = Linear scale

Response 0 = LOGarithmic, 1 = LINear

**Example** :DISPLAY:TRACE:Y1:SPACING LINIER  
:DISPLAY:TRACE:Y1:SPACING? -> 1

**Explanation** This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:**

#### **UNIT**

**Function** Sets/queries the units of the main scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
UNIT<wsp><unit>  
:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:  
UNIT?

DBM = dBm

W = W

DBM/NM = dBm/nm or dBm/THz

W/NM = W/nm or W/THz

Response 0 = dBm

1 = W

2 = DBM/NM

3 = W/NM

**Example** :DISPLAY:TRACE:Y1:UNIT DBM/NM  
:DISPLAY:TRACE:Y1:UNIT? -> 2

**Explanation** • For the AQ6375, the parameters cannot be set when in Wavenumber mode. Query commands function even when in Wavenumber mode.  
• This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:**

#### **AUTO**

**Function** Sets/queries the automatic setting function of the sub scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
AUTO<wsp>OFF|ON|0|1  
:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
AUTO?

Response 0 = OFF, 1 = ON

**Example** :DISPLAY:TRACE:Y2:AUTO ON  
:DISPLAY:TRACE:Y2:AUTO? -> 1

**Explanation** This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:**

#### **LENGTH**

**Function** Sets/queries the parameter of the optical fiber length used when the unit of the subscale of the level axis is dB/km.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
LENGTH<wsp><NRf>[KM]  
:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
LENGTH?

<NRf> = Length of optical fiber [km]

**Example** :DISPLAY:TRACE:Y2:LENGTH 99.999KM  
:DISPLAY:TRACE:Y2:LENGTH? ->  
+9.999900000E+001

**Explanation** • When the unit of the subscale is set to other than “dB/km”, an execution error occurs.  
• This is a sequential command.

### **:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:**

#### **OLEVEL**

**Function** Sets/queries the offset level of the sub scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
OLEVEL<wsp><NRf>[DB|DB/KM]  
:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:  
OLEVEL?

<NRf> = Offset level [dB|dB/km]

**Example** :DISPLAY:TRACE:Y2:OLEVEL 10DB/KM  
:DISPLAY:TRACE:Y2:OLEVEL? ->  
+1.000000000E+001

**Explanation** • When the unit of the subscale is set to other than “dB” or “dB/km”, an execution error occurs.  
• If the unit is not specified in the parameter, dB is set if the subscale of the level axis is in the dB mode or dB/km is set if it is in the dB/km mode.  
• If a unit different from the current set unit (:DISPlay[:WINDow]:TRACe:Y2[:SCALe]:UNIT) of the subscale is specified, an execution error occurs.  
• This is a sequential command.

**:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:****PDIVision**

**Function** Sets/queries the sub scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
PDIVision<wsp><NRf> [DB|DB/KM | %]  
:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
PDIVision?  
<NRf> = Level scale [dB | dB/km | %]

**Example** :DISPLAY:TRACE:Y2:PDIVISION 5.0%  
:DISPLAY:TRACE:Y2:PDIVISION? ->  
+5.00000000E+000

**Explanation**

- If the unit is not specified in the parameter, the set unit of the subscale of the level axis is used as the set unit of this parameter.
- If a unit different from the current set unit (:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:UNIT) of the subscale is specified, an execution error occurs.
- This is a sequential command.

**:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:****RPOSition**

**Function** Sets/queries the position of the reference level of the sub scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
RPOSition<wsp><integer> [DIV]  
:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
RPOSition?  
<integer> = Position of the reference level

**Example** :DISPLAY:TRACE:Y2:RPOSITION 10DIV  
:DISPLAY:TRACE:Y2:RPOSITION? -> 10

**Explanation**

- If a value greater than the number of display divisions of the level axis is specified for the position of the reference level, the position of this level is treated as the top of the scale.
- This is a sequential command.

**:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:****SMINimum**

**Function** Sets/queries the value of the bottom of the scale applied when the subscale of the level axis is set to the linear or % mode.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
SMINimum<wsp><NRf> [%]  
:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
SMINimum?  
<NRf> = Value of the bottom of the scale [%]

**Example** :DISPLAY:TRACE:Y2:SMINIMUM 0%  
:DISPLAY:TRACE:Y2:SMINIMUM? -> 0

**Explanation**

- If the unit is not specified in the parameter, the set unit of the subscale of the level axis is used as the set unit of this parameter.
- If a unit different from the current set unit (:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:UNIT) of the subscale is specified, an execution error occurs.
- This is a sequential command.

**:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:****UNIT**

**Function** Sets/queries the units of the sub scale of the level axis.

**Syntax** :DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
UNIT<wsp><unit>  
:DISPlay[:WINDow]:TRACe:Y2[:SCALE]:  
UNIT?  
<unit> = Units  
DB = dB display  
LINear = Linear display  
DB/KM = dB/km display  
% = % display

**Response** 0 = DB  
1 = LINear  
2 = DB/KM  
3 = %

**Example** :DISPLAY:TRACE:Y2:UNIT DB/KM  
:DISPLAY:TRACE:Y2:UNIT? -> 2

**Explanation** This is a sequential command.

## 7.6 Instrument-Specific Commands

### FORMat Sub System Command

#### :FORMat[:DATA]

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the format used for data transfer via GP-IB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Syntax      | :FORMat[:DATA]<wsp>REAL[,64 ,32] ASCIi<br>:FORMat[:DATA]?<br>ASCIi = ASCII format (default)<br>REAL[,64] = REAL format (64bits)<br>REAL,32 = REAL format (32bits)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Example     | FORMat:DATA REAL,64<br>FORMat:DATA? -> REAL,64<br>FORMat:DATA REAL,32 FORMat:DATA? -> REAL,32<br>FORMat:DATA ASCII<br>FORMat:DATA? -> ASCII                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Explanation | <ul style="list-style-type: none"><li>• When the format is set to REAL (binary) using this command, the output data of the following commands are produced in the REAL format.<br/>:CALCulate:DATA:CGain?<br/>:CALCulate:DATA:CNF?<br/>:CALCulate:DATA:CPOWers?<br/>:CALCulate:DATA:CSNR?<br/>:CALCulate:DATA:CWAVelengths?<br/>:TRACe[:DATA]:X?<br/>:TRACe[:DATA]:Y?</li><li>• The default is ASCII mode.</li><li>• When the *RST command is executed, the format is reset to the ASCII mode.</li><li>• The ASCII format outputs a list of numerics each of which is delimited by a comma (.).<br/>Example: 12345,12345,....</li><li>• By default, the REAL format outputs data in fixed length blocks of 64 bits, floating-point binary numerics.</li><li>• If "REAL,32" is specified in the parameter, data is output in the 32-bit, floating-point binary form.</li><li>• The fixed length block is defined by IEEE 488.2 and consists of "#" (ASCII), one numeric (ASCII) indicating the number of bytes that specifies the length after #, length designation (ASCII), and binary data of a specified length in this order. Binary data consists of a floating-point data string of 8 bytes (64 bits) or 4 bytes (32 bits). Floating-point data consists of lower-order bytes to higher-order bytes.<br/>E.g.: #18[eight &lt;byte data&gt;]<br/>#280[80 &lt;byte data&gt;]<br/>#48008[8008 &lt;byte data&gt;]</li><li>• For data output in the 32-bit floating-point binary form, cancellation of significant digits is more likely to occur in comparison with transfer of data in the 64-bit, floating-point binary form.</li><li>• This is a sequential command.</li></ul> |

### HCOPY Sub System Command

#### :HCOPY:DESTination

|             |                                                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the print output destination.                                                                                                         |
| Syntax      | :HCOPY:DESTination<wsp>INTernal FILE 0 2<br>:HCOPY:DESTination?<br>INTernal = Internal Printer<br>FILE = File<br>Response 0 = INTERNAL<br>2 = FILE |
| Example     | :HCOPY:DESTINATION FILE<br>:HCOPY:DESTINATION? -> 2                                                                                                |
| Explanation | This is a sequential command.                                                                                                                      |

#### :HCOPY[:IMMEDIATE]

|             |                                          |
|-------------|------------------------------------------|
| Function    | Makes a hard copy of the screen display. |
| Syntax      | :HCOPY[:IMMEDIATE]                       |
| Example     | :HCOPY                                   |
| Explanation | This is an overlapable command.          |

#### :HCOPY[:IMMEDIATE]:FEED

|             |                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Feeds printer paper to the internal printer.                                                                                                                               |
| Syntax      | :HCOPY[:IMMEDIATE]:FEED<wsp>[<integer>]<br><integer> = Specify the amount of feed in 1–10 (unit: × 5 mm)                                                                   |
| Example     | :HCOPY:FEED                                                                                                                                                                |
| Explanation | <ul style="list-style-type: none"><li>• If &lt;integer&gt; is not specified, printer paper is fed by approximately 5 mm.</li><li>• This is a sequential command.</li></ul> |

#### :HCOPY[:IMMEDIATE]:FUNCTION:

|                       |                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CALCulate:LIST</b> |                                                                                                                                                                  |
| Function              | Prints the results of the execution of an analysis function.                                                                                                     |
| Syntax                | :HCOPY[:IMMEDIATE]:FUNCTION:<br>CALCulate:LIST                                                                                                                   |
| Example               | :HCOPY:FUNCTION:CALCULATE:LIST                                                                                                                                   |
| Explanation           | <ul style="list-style-type: none"><li>• If the analysis function is not executed, an execution error occurs.</li><li>• This is an overlapable command.</li></ul> |

#### :HCOPY[:IMMEDIATE]:FUNCTION:MARKer: LIST

|             |                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Prints a marker list.                                                                                                                                  |
| Syntax      | :HCOPY[:IMMEDIATE]:FUNCTION:MARKer:<br>LIST                                                                                                            |
| Example     | :HCOPY:FUNCTION:MARKER:LIST                                                                                                                            |
| Explanation | <ul style="list-style-type: none"><li>• No execution error occurs even if a marker does not exist.</li><li>• This is an overlapable command.</li></ul> |

## INITiate Sub System Command

### :INITiate[:IMMEDIATE]

- Function Makes a sweep.
- Syntax :INITiate[:IMMEDIATE]
- Example :INITIATE
- Explanation
- You can stop sweep with the :ABORT command.
  - The sweep mode (AUTO, SINGLE, REPEAT, or SEGMENT MEASURE) is set using the :INITiate:SMODE command.
  - If this command is executed while the sweep mode is in REPEAT (:INITiate:SMODE REPEAT), the operation of the command is complete at the instant a sweep starts. In this case, this command is regarded as a sequential command.
  - If this command is executed while the sweep mode is one of AUTO, SINGLE, and SEGMENT MEASURE, the operation of the command is complete at the instant a sweep ends. In this case, this command is regarded as a command subject to overlapping.

### :INITiate:SMODE

- Function Sets/queries the sweep mode.
- Syntax :INITiate:SMODE<wsp><sweep mode>  
:INITiate:SMODE?  
<sweep mode> = Sweep mode  
SINGLE = SINGLE sweep mode  
REPEAT = REPEAT sweep mode  
AUTO = AUTO sweep mode  
SEGMENT = SEGMENT
- Response 1 = SINGLE  
2 = REPEAT  
3 = AUTO  
4 = SEGMENT
- Example :INITIATE:SMODE REPEAT  
:INITIATE:SMODE? -> 2
- Explanation This is a sequential command.

## MEMory Sub System Command

### :MEMory:CLEAr

- Function Clears the contents of a specified waveform memory.
- Syntax :MEMory:CLEAr<wsp><integer>  
<integer> = Memory number
- Example :MEMORY:CLEAR 10
- Explanation
- No execution error occurs even if a specified waveform memory has already been cleared.
  - This is a sequential command.

### :MEMory:EMPTy?

- Function Queries the condition of whether a waveform has been specified in a specified waveform memory.
- Syntax :MEMory:EMPTy?<wsp><integer>  
<integer> = Memory number
- Example :MEMORY:EMPTY? 10 -> 1
- Explanation This is a sequential command.

### :MEMory:LOAD

- Function Loads a waveform from a specified waveform memory into a specified trace.
- Syntax :MEMory:LOAD<wsp><integer>,<trace name>  
<integer> = Memory number  
<trace name> = trace (TRA,TRB,TRC,TRD,TR E,TRF,TRG)
- Example :MEMORY:LOAD 10,TRA
- Explanation
- When a waveform is not registered in the specified waveform memory, a warning message appears.
  - This is a sequential command.

### :MEMory:STORE

- Function Stores the waveform of a specified trace into a specified waveform memory.
- Syntax :MEMory:STORE<wsp><integer>,<trace name>  
<integer> = Memory number  
<trace name>= trace (TRA,TRB,TRC,TRD,TRE ,TRF,TRG)
- Example :MEMORY:STORE 10,TRA
- Explanation
- When waveform data do not exist in the specified trace, a warning message appears.
  - This is a sequential command.



**:MMEMory:LOAD:MEMory**

|             |                                                                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Loads a specified waveform file into a specified memory.                                                                                                                                                                                  |
| Syntax      | :MMEMory:LOAD:MEMory<wsp><integer>,<br><"file name">[,INTernal EXTernal]<br><integer> = Number of the memory into which a file is loaded<br><"file name"> = Name of file to be loaded<br>INTernal EXTernal = Drive of source file to load |
| Example     | :MMEMORY:LOAD:MEMORY 1,"test001.wv6" INTERNAL                                                                                                                                                                                             |
| Explanation | This is a sequential command.                                                                                                                                                                                                             |

**:MMEMory:LOAD:PROGram**

|             |                                                                                                                                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Loads a specified program file into a specified program number.                                                                                                                                                                                       |
| Syntax      | :MMEMory:LOAD:PROGram<wsp><integer>,<br><"file name">[,INTernal EXTernal]<br><trace name> = Number of the program into which a file is loaded<br><"file name"> = Name of a file to be loaded<br>INTernal EXTernal = Drive of source file to be loaded |
| Example     | MMEMORY:LOAD:PROGRAM 1,"test001.pg6", INTERNAL                                                                                                                                                                                                        |
| Explanation | This is a sequential command.                                                                                                                                                                                                                         |

**:MMEMory:LOAD:SETTing**

|             |                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Loads a specified setting file.                                                                                                                                  |
| Syntax      | :MMEMory:LOAD:SETTing<wsp><"file name">[,INTernal EXTernal]<br><"file name"> = Name of a file to be loaded<br>INTernal LOPpy = Drive of source file to be loaded |
| Example     | MMEMORY:LOAD:SETTING "test001.st6", INTERNAL                                                                                                                     |
| Explanation | This is a sequential command.                                                                                                                                    |

**:MMEMory:LOAD:TEMPlate**

|             |                                                                                                                                                                                                                                                     |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Loads a specified template file.                                                                                                                                                                                                                    |
| Syntax      | :MMEMory:LOAD:TEMPlate<wsp><tem plate>,<"file name">[,INTernal EXTernal]<br><template> = Template at the loading destination (UPPER LOWER TARGET)<br><"file name"> = Name of a file to be loaded<br>INTernal EXTernal = Drive at the loading source |
| Example     | :MMEMORY:LOAD:SETTING UPPER,"test001.csv", INTERNAL                                                                                                                                                                                                 |
| Explanation | This is a sequential command.                                                                                                                                                                                                                       |

**:MMEMory:LOAD:TRACe**

|             |                                                                                                                                                                                                              |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Loads a specified waveform file into a specified trace.                                                                                                                                                      |
| Syntax      | :MMEMory:LOAD:TRACe<wsp><trace name>,<"file name">[,INTernal EXTernal]<br><trace name> = Trace to be loaded<br><"file name"> = Name of file to be loaded<br>INTernal EXTernal = Drive of source file to load |
| Example     | :MMEMORY:LOAD:TRACE TRA,"test001.wv6", INTERNAL                                                                                                                                                              |
| Explanation | This is a sequential command.                                                                                                                                                                                |

**:MMEMory:MDIRECTory**

|             |                                                                                                                                                                                  |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Creates a new directory.                                                                                                                                                         |
| Syntax      | :MMEMory:MDIRECTory<wsp><"directory name">[,INTernal EXTernal]<br><directory name> = Directory name to be created<br>INTernal EXTernal = Destination drive for created directory |
| Example     | MMEMORY:MDIRECTORY "sample2", INTERNAL                                                                                                                                           |
| Explanation | This is a sequential command.                                                                                                                                                    |

**:MMEMory:REMOve**

|          |                                                                                        |
|----------|----------------------------------------------------------------------------------------|
| Function | Readies the USB storage media for removal or queries the readiness status.             |
| Syntax   | :MMEMory:REMOve<br>:MMEMory:REMOve?<br>Response 0 = Ready for removal<br>1 = Not ready |
| Example  | :MMEMORY:REMOVE<br>:MMEMORY:REMOVE -> 1                                                |

**:MMEMory:REName**

|             |                                                                                                                                                                                               |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Renames a specified file.                                                                                                                                                                     |
| Syntax      | :MMEMory:REName<wsp><"new file name">,<"old file name">[,INTernal EXTernal]<br><"new file name">= Name of new file<br><"old file name">= Name of old file<br>INTernal EXTernal = Target drive |
| Example     | :MMEMORY:RENAME "test001.wv6","test002.wv6", INTERNAL                                                                                                                                         |
| Explanation | This is a sequential command.                                                                                                                                                                 |

**:MMEMory:STORE:ARESt**

|             |                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Stores a variety of analysis results to a specified file.                                                                                              |
| Syntax      | :MMEMory:STORE:ARESt<wsp><"file name">[,INTernal EXTernal]<br><"file name"> = Name of a file to be saved<br>INTernal EXTernal = Save destination drive |
| Example     | :MMEMORY:STORE:ARESt "test001", INTERNAL                                                                                                               |
| Explanation | This is a sequential command.                                                                                                                          |

## 7.6 Instrument-Specific Commands

### **:MMEMory:STORe:DATA**

**Function** Stores a variety of data to a specified file.

**Syntax** :MMEMory:STORe:DATA<wsp><"file name">[, INTernal|EXTernal] <"file name"> = Name of a file to be saved INTernal|EXTernal = Save destination drive

**Example** :MMEMORY:STORe:DATA "test001", INTERNAL

**Explanation**

- The type of data to be stored is specified using the :MMEMory:STORe:DATA:ITEM command.
- Whether to insert data into or overwrite the file with it when storing it is specified using the :MMEMory:STORe:DATA:MODE command.
- This is a sequential command.

### **:MMEMory:STORe:DATA:ITEM**

**Function** Sets/queries an item to be used when storing data.

**Syntax** :MMEMory:STORe:DATA:ITEM<wsp><item>, OFF|ON|0|1 :MMEMory:STORe:DATA:ITEM?<wsp><item> <item> DATE = Date/time at the time of storage LABEL = Label DATA = DATA area data CONDition = Setting conditions OWINDOW= OUTPUT WINDOW TRACe = Waveform data OFF = Do not save ON = Save Response 0 = OFF, 1 = ON

**Example** :MMEMORY:STORe:DATA:ITEM TRACE, OFF :MMEMORY:STORe:DATA:ITEM? TRACE -> 0

**Explanation** This is a sequential command.

### **:MMEMory:STORe:DATA:MODE**

**Function** Sets whether to insert data into or overwrite an existing file with the data when storing it or queries the condition of whether data is inserted or overwritten.

**Syntax** :MMEMory:STORe:DATA:MODE<wsp>ADD|OVER|0|1 :MMEMory:STORe:DATA:MODE? ADD = Insert mode OVER = Overwrite mode Response 0 = ADD, 1 = OVER

**Example** :MMEMORY:STORe:DATA:MODE OVER :MMEMORY:STORe:DATA:MODE? -> 1

**Explanation** This is a sequential command.

### **:MMEMory:STORe:DATA:TYPE**

**Function** Sets/queries a file format to be used when storing data.

**Syntax** :MMEMory:STORe:DATA:TYPE<wsp>CSV|DT|0|1 :MMEMory:STORe:DATA:TYPE? CSV = CSV storage format DT = DT6 storage format DT= Instrument-specific data type The AQ6370B uses DT8 format The AQ6373 uses DT9 format The AQ6375 uses DT7 format Response 0 = CSV, 1 = DT7 to DT9

**Example** :MMEMORY:STORe:DATA:TYPE DT8 :MMEMORY:STORe:DATA:TYPE? -> 1

**Explanation** This is a sequential command.

### **:MMEMory:STORe:GRAPHics**

**Function** Stores a waveform screen to a specified graphic file.

**Syntax** :MMEMory:STORe:GRAPHics<wsp>B&W|COLor, BMP|TIFF, <"file name">[, INTernal|EXTernal] B&W|COLor = Color mode when saving B&W = Black and white mode COLor = Color mode BMP|TIFF = Saved format BMP = BMP format TIFF = TIFF format <"file name"> = Name of a file to be saved INTernal|EXTernal = Save destination drive

**Example** :MMEMORY:STORe:GRAPHICS COLOR, BMP, "test001", INTERNAL

**Explanation** This is a sequential command.

### **:MMEMory:STORe:MEMory**

**Function** Stores a specified memory to a specified waveform file.

**Syntax** :MMEMory:STORe:MEMory<wsp><integer>, BIN|CSV, <"file name">[, INTernal|EXTernal] <integer> = Number of a memory whose contents are stored BIN|CSV = Sav format BIN = Binary format CSV = Text format <"file name"> = Name of file to be saved INTernal|EXTernal = Save destination drive

**Example** :MMEMORY:STORe:MEMORY 1, CSV, "test001", INTERNAL

**Explanation** This is a sequential command.

**:MMEMory:STORe:PROGram**

Function Stores a specified program to a specified file.

Syntax :MMEMory:STORe:PROGram<wsp><integer>,<"file name">[,INTernal|EXTernal]  
<integer> = Number of a program whose contents are stored  
<"file name"> = Name of a file to be saved  
INTernal|EXTernal = Save destination drive

Example :MMEMORY:STORE:PRORAM 1,"test001",INTERNAL

Explanation This is a sequential command.

**:MMEMory:STORe:SETTing**

Function Stores setting information to a specified file.

Syntax :MMEMory:STORe:SETTing<wsp><"file name">[,INTernal|EXTernal]  
<"file name"> = Name of a file to be saved  
INTernal|EXTernal = Save destination drive

Example :MMEMORY:STORE:SETTING "test001",INTERNAL

Explanation This is a sequential command.

**:MMEMory:STORe:TEMPlate**

Function Stores specified template data to a specified file

Syntax :MMEMory:STORe:TEMPlate<wsp><templa te>,<"file name">[,INTernal|EXTerna l]  
<template> = Template to be saved.  
(UPPER|LOWER|TARGET)  
<"file name"> = Name of a file to be saved  
INTernal|EXTernal = Save destination drive

Example :MMEMORY:STORE:TEMPLATE UPPER,"test001",INTERNAL

Explanation This is a sequential command.

**:MMEMory:STORe:TRACe**

Function Stores a specified trace to a specified waveform file.

Syntax :MMEMory:STORe:TRACe<wsp><trace name>[,BIN|CSV,<"file name">[,INTernal|EXTernal]  
<trace name> = Trace to be saved  
BIN|CSV = Save format  
BIN = Binary format  
CSV = Text format  
<"file name"> = Name of file to be saved  
INTernal|EXTernal = Save destination drive

Example :MMEMORY:STORE:TRACE TRA,CSV,"test001",INTERNAL

Explanation This is a sequential command.

**PROGram Sub System Command****:PROGram:EXECute**

Function This key is used to execute a program that has been specified.

Syntax :PROGram:EXECute<wsp><integer>  
<integer> = Number of a program to execute

Example :PROGRAM:EXECUTE 1

Explanation This is an overlappable command.

## 7.6 Instrument-Specific Commands

### SENSE Sub System Command

#### :SENSE:AVERAGE:COUNT

**Function** Sets/queries the number of times averaging for each measured point.

**Syntax** :SENSE:AVERAGE:COUNT<wsp><integer>  
:SENSE:AVERAGE:COUNT?  
<integer> = Number of times averaging

**Example:** :SENSE:AVERAGE:COUNT 100  
:SENSE:AVERAGE:COUNT? -> 100

**Explanation** This is a sequential command.

#### :SENSE:BANDwidth|:BWIDth[:RESolution]

**Function** Sets/queries the measurement resolution.

**Syntax** :SENSE:BANDwidth|:BWIDth[:RESolution]  
<wsp><NRf>[M|Hz]  
:SENSE:BANDwidth|:BWIDth[:RESolution]?  
<NRf> = Measurement resolution [m|Hz]

**Response**  
<NRf> [m|Hz] (AQ6370B)  
<NRf> [m|Hz|m<sup>-1</sup>] (AQ6375)

**Example** :SENSE:BANDWIDTH:RESOLUTION 20PM  
:SENSE:BANDWIDTH? ->  
+2.00000000E-012

**Explanation** • For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.  
• This is a sequential command.

#### :SENSE:CHOPper

**Function** Sets/queries chopper mode.

**Syntax** :SENSE:CHOPper<wsp>OFF|SWITCh|0|2  
:SENSE:CHOPper?  
**Response** 0 = OFF,  
2 = SWITCH

**Example** :SENSE:CHOPPER SWITCH  
:SENSE:CHOPPER? -> 2

**Explanation** • When the measurement sensitivity setting (:SENSE:SENSE command) is NORMAL HOLD or NORMAL AUTO, Chopper does not function even if chopper mode is turned on with this command.  
• With the AQ6375, the command is invalid.  
• This is a sequential command.

#### :SENSE:CORRection:LEVel:SHIFt

**Function** Sets/queries the offset value for the level.

**Syntax** :SENSE:CORRection:LEVel:  
SHIFt<wsp><NRf> [DB]  
:SENSE:CORRection:LEVel:SHIFt?  
<NRf> = Level offset value [dB]

**Example** :SENSE:CORRECTION:LEVEL:SHIFT 0.2DB  
:SENSE:CORRECTION:LEVEL:SHIFT? ->  
+2.00000000E-001

**Explanation** This is a sequential command.

#### :SENSE:CORRection:RVELOCITY:MEDIum

**Function** Sets/queries whether air or vacuum is used as the wavelength reference.

**Syntax** :SENSE:CORRection:RVELOCITY:MEDIum  
<wsp>AIR|VACuum|0|1  
:SENSE:CORRection:RVELOCITY:MEDIum?  
AIR = Air is assumed to be the reference.  
VACuum = Vacuum is assumed to be the reference.

**Response** 0 = AIR  
1 = VACuum

**Example** :SENSE:CORRECTION:VELOCITY:  
MEDIUM VACUUM  
:SENSE:CORRECTION:VELOCITY:  
MEDIUM?-> 1

**Explanation** This is a sequential command.

#### :SENSE:CORRection:WAVelength:SHIFt

**Function** Sets/queries the offset value for the levelwavelength.

**Syntax** :SENSE:CORRection:WAVelength:  
SHIFt<wsp><NRf> [M]  
:SENSE:CORRection:WAVelength:SHIFt?  
<NRf>= Wavelength offset value [m]

**Example** :SENSE:CORRECTION:WANELENGTH:  
SHIFT 0.05NM  
:SENSE:CORRECTION:WANELENGTH:  
SHIFT?-> +5.00000000E-011

**Explanation** This is a sequential command.

**:SENSe:SENSe**

Function Sets/queries the measurement sensitivity.

Syntax :SENSe:SENSe<wsp><sense>  
:SENSe:SENSe?  
<sense>= Sensitivity setting parameters  
NHLD = NORMAL HOLD  
NAUT = NORMAL AUTO  
NORMAl = NORMAL  
MID = MID  
HIGH1 = HIGH1 or HIGH1/CHOP  
HIGH2 = HIGH2 or HIGH2/CHOP  
HIGH3 = HIGH3 or HIGH3/CHOP

Response 0 = NHLD  
1 = NAUT  
2 = MID  
3 = HIGH1  
4 = HIGH2  
5 = HIGH3  
6 = NORMAL

Example :SENSe:SENSe MID  
:SENSe:SENSe? -> 2

Explanation This is a sequential command.

**:SENSe:SETting:CORRection**

Function Sets/queries the resolution correction function.

Syntax :SENSe:SETting:CORRection<wsp>OFF |  
ON | 0 | 1  
:SENSe:SETting:CORRection?  
Response 0 = OFF, 1 = ON

Example :SENSe:SETting:CORRection ON  
:SENSe:SETting:CORRection? -> 1

Explanation • With the AQ6375, the command is invalid.  
• This is a sequential command.

**:SENSe:SETting:FIBer**

Function Sets/queries the fiber core size mode.

Syntax :SENSe:SETting:FIBer<wsp>SMALl |  
LARGe | 0 | 1  
:SENSe:SETting:FIBer?  
SMALl= Standard mode  
LARGe= Large core size fiber mode  
Response 0 = SMALl, 1 = LARGe

Example :SENSe:SETting:FIBer LARGe  
:SENSe:SETting:FIBer? -> 1

Explanation • This is a sequential command.  
• This command only valid for the AQ6373.

**:SENSe:SETting:SMOothing**

Function Sets/queries the Smoothing function.

Syntax :SENSe:SETting:SMOothing<wsp>OFF |  
ON | 0 | 1  
:SENSe:SETting:SMOothing?  
Response 0 = OFF, 1 = ON

Example :SENSe:SETting:SMOothing ON  
:SENSe:SETting:SMOothing? -> 1

Explanation • This is a sequential command.  
• This command only valid for the AQ6373.

**:SENSe:SWEep:POINTs**

Function Sets/queries the number of samples measured.

Syntax :SENSe:SWEep:POINTs<wsp><integer>  
:SENSe:SWEep:POINTs?  
<integer> = The number of samples to be measured

Example :SENSe:SWEep:POINTs 20001  
:SENSe:SWEep:POINTs? -> 20001

Explanation • When the function of automatically setting the sampling number to be measured (SENSe:SWEep:POINTs:AUTO command) is ON, the sampling number to be measured that has been set can be queried.  
• When the function of automatically setting the sampling number to be measured (SENSe:SWEep:POINTs:AUTO command) is ON, this command will be automatically set to OFF.  
• When the sampling number to be measured is set using this command, the sampling intervals for measurements (SENSe:SWEep:STEP) will be automatically set.  
• With the AQ6375, if you set HIGH1–HIGH3, it becomes HIGH1/CHOP–HIGH3/CHOP.  
• This is a sequential command.

**:SENSe:SWEep:POINTs:AUTO**

Function Sets/queries the function of automatically setting the sampling number to be measured.

Syntax :SENSe:SWEep:POINTs:AUTO<wsp>OFF |  
ON | 0 | 1  
:SENSe:SWEep:POINTs:AUTO?  
Response 0 = OFF, 1 = ON

Example :SENSe:SWEep:POINTs:AUTO ON  
:SENSe:SWEep:POINTs:AUTO? -> 1

Explanation • When the capability to automatically set the sampling number to be measured is set to ON using this command, the sampling number to be measured and the sampling intervals for measurements (SENSe:SWEep:STEP) will be automatically set.  
• This is a sequential command.

**:SENSe:SWEep:SEGment:POINTs**

Function Sets/queries the number of sampling points to be measured at one time when performing SEGMENT MEASURE.

Syntax :SENSe:SWEep:SEGment:POINTs<wsp>  
<integer>  
:SENSe:SWEep:SEGment:POINTs?  
<integer> = The number of samples measured

Example :SENSe:SWEep:SEGment:POINTs 100  
:SENSe:SWEep:SEGment:POINTs? -> 100

Explanation This is a sequential command.

## 7.6 Instrument-Specific Commands

### :SENSE:SWEep:STEP

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the sampling interval for measurements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Syntax      | :SENSE:SWEep:STEP<wsp><Nrf> [M]<br>:SENSE:SWEep:STEP?<br><Nrf> = The sampling interval for measurement [m]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Example     | :SENSE:SWEEP:STEP 1PM<br>:SENSE:SWEEP:STEP? -><br>+1.00000000E-012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Explanation | <ul style="list-style-type: none"> <li>• When the function of automatically setting the sampling interval for measurement (SENSE:SWEep:POINTS:AUTO command) is ON, the sampling number to be measured that has been set can be queried.</li> <li>• When the function of automatically setting the sampling number to be measured (SENSE:SWEep:POINTS:AUTO command) is ON, this command will be automatically set to OFF.</li> <li>• When the sampling interval for measurement is set using this command, the sampling intervals for measurements (SENSE:SWEep:POINTS) will be automatically set.</li> <li>• This is a sequential command.</li> </ul> |

### :SENSE:SWEep:TIME:ONM

|             |                                                                                                                         |
|-------------|-------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the time taken from the start to the end of measurements when measurement is made in the 0-nm sweep mode.  |
| Syntax      | :SENSE:SWEep:TIME:ONM<wsp><integer> [SEC]<br>:SENSE:SWEep:TIME:ONM?<br><integer> = Measurement time [sec] (0 = MINIMUM) |
| Example     | :SENSE:SWEEP:TIME:ONM 10SEC<br>:SENSE:SWEEP:TIME:ONM? -> 10                                                             |
| Explanation | This is a sequential command.                                                                                           |

### :SENSE:SWEep:TIME:INTERval

|             |                                                                                                                                   |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the time taken from the start of a sweep to that of the next sweep when repeat sweeps are made.                      |
| Syntax      | :SENSE:SWEep:TIME:INTERval<wsp><integer> [SEC]<br>:SENSE:SWEep:TIME:INTERval?<br><integer> = Measurement time [sec] (0 = MINIMUM) |
| Example     | :SENSE:SWEEP:TIME:INTERVAL 100sec<br>:SENSE:SWEEP:TIME:INTERVAL? -> 100                                                           |
| Explanation | This is a sequential command.                                                                                                     |

### :SENSE:SWEep:TLSSync

|             |                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the synchronous sweep function.                                                                               |
| Syntax      | :SENSE:SWEep:TLSSync<wsp>OFF ON 0 1<br>:SENSE:SWEep:TLSSync?<br>Response 0 = OFF, 1 = ON                                   |
| Example     | :SENSE:SWEEP:TLSSYNC ON<br>:SENSE:SWEEP:TLSSYNC? -> 1                                                                      |
| Explanation | This is a sequential command. <ul style="list-style-type: none"> <li>• With the AQ6373, the command is invalid.</li> </ul> |

### :SENSE:WAVelength:CENTer

|             |                                                                                                                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the measurement condition center wavelength.                                                                                                                                                                   |
| Syntax      | :SENSE:WAVelength:CENTer<wsp><Nrf> [M HZ]<br>:SENSE:WAVelength:CENTer?<br><Nrf> = Measurement center wavelength [m]<br>Response<br><Nrf> [m Hz] (AQ6370B)<br><Nrf> [m Hz m <sup>-1</sup> ] (AQ6375)                         |
| Example     | :SENSE:WEVELENGTH:CENTER 1550.000NM<br>:SENSE:WEVELENGTH:CENTER? -><br>+1.55000000E-006                                                                                                                                     |
| Explanation | <ul style="list-style-type: none"> <li>• For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.</li> <li>• This is a sequential command.</li> </ul> |

### :SENSE:WAVelength:SPAN

|             |                                                                                                                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the measurement condition measurement span.                                                                                                                                                                    |
| Syntax      | :SENSE:WAVelength:SPAN<wsp><Nrf> [M HZ]<br>:SENSE:WAVelength:SPAN?<br><Nrf> = Measurement span [m]<br>Response<br><Nrf> [m Hz] (AQ6370B)<br><Nrf> [m Hz m <sup>-1</sup> ] (AQ6375)                                          |
| Example     | :SENSE:WEVELENGTH:SPAN 20.0NM<br>:SENSE:WEVELENGTH:SPA? -><br>+2.00000000E-008                                                                                                                                              |
| Explanation | <ul style="list-style-type: none"> <li>• For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.</li> <li>• This is a sequential command.</li> </ul> |

**:SENSe:WAVelength:SRANge**

Function Sets/queries whether to limit a sweep range to the spacing between line markers L1 and L2.

Syntax :SENSe:WAVelength:SRANge<wsp>OFF|ON|0|1  
:SENSe:WAVelength:SRANge?  
Response 0 = OFF, 1 = ON

Example :SENSe:WEVELENGTH:SRANGE ON  
:SENSe:WEVELENGTH:SRANGE? -> 1

Explanation This is a sequential command.

**:SENSe:WAVelength:START**

Function Sets/queries the measurement condition measurement start wavelength.

Syntax :SENSe:WAVelength:START<wsp><NRf>  
[M|HZ]  
:SENSe:WAVelength:START?  
<NRf>=Measurement center wavelength [m]  
Response

<NRf> [m|Hz] (AQ6370B)

<NRf> [m|Hz|m<sup>-1</sup>] (AQ6375)

Example :SENSe:WEVELENGTH:START 1540.000NM  
:SENSe:WEVELENGTH:START? ->  
+1.54000000E-006

Explanation • For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.  
• This is a sequential command.

**:SENSe:WAVelength:STOP**

Function Sets/queries the measurement condition measurement stop wavelength.

Syntax :SENSe:WAVelengthSTOP<wsp><NRf>  
[M|HZ]  
:SENSe:WAVelength:STOP?  
<NRf> = Measurement stop wavelength [m]  
Response

<NRf> [m|Hz] (AQ6370B)

<NRf> [m|Hz|m<sup>-1</sup>] (AQ6375)

Example :SENSe:WEVELENGTH:STOP 1560.000NM  
:SENSe:WEVELENGTH:STOP? ->  
+1.56000000E-006

Explanation • For the AQ6375, to set using the wavenumber, do not add any units when in Wavenumber mode, and just enter the numerical value.  
• This is a sequential command.

**STATus Sub System Command****:STATus:OPERation:CONDition?**

Function Queries the contents of the operation status condition register.

Syntax :STATus:OPERation:CONDition?

Example :STATUS:OPERATION:CONDITION? -> 1

Explanation This is a sequential command.

**:STATus:OPERation:ENABLE**

Function Queries the contents of the operation status Enable register.

Syntax :STATus:OPERation:ENABle<wsp>  
<integer>  
:STATus:OPERation:ENABle?  
<integer> = Contents of the operation status enable register

Example :STATUS:OPERATION:ENABLE 8

:STATUS:OPERATION:ENABLE? -> 8

Explanation This is a sequential command.

**:STATus:OPERation[:EVENT]?**

Function Queries the contents of the operation status Event register.

Syntax :STATus:OPERation[:EVENT]?

Example :STATUS:OPERATION? -> 1

Explanation This is a sequential command.

**:STATus:PRESet**

Function Clears the event register and sets all bits of the enable register.

Syntax :STATus:PRESet

Example :STATUS:PRESET

Explanation • When this command is executed, the registers will be affected as follows.  
• The operation status event register is cleared to "0."  
• All bits of the operation status enable register are set to "0."  
• The questionable status event register is cleared to "0."  
• All bits of the questionable status enable register are set to "0."  
• Even when this command is executed, the standard event status register and standard event status enable register do not change.  
• This is a sequential command.

## 7.6 Instrument-Specific Commands

### **:STATus:QUESTIONable:CONDition?**

Function Queries the contents of the questionable status condition register.

Syntax :STATus:QUESTIONable:CONDition?

Example :STATus:QUESTIONable:CONDition? -> 1

Explanation This is a sequential command.

### **:STATus:QUESTIONable:ENABLE**

Function Reads the contents of the questionable status enable register or writes data to this register.

Syntax :STATus:QUESTIONable:ENABLE<wsp>  
<integer>  
:STATus:QUESTIONable:ENABLE?  
<integer> = Contents of the questionable status enable register

Example :STATus:QUESTIONable:ENABLE 8  
:STATus:QUESTIONable:ENABLE? -> 8

Explanation This is a sequential command.

### **:STATus:QUESTIONable[:EVENT]?**

Function Reads the contents of the questionable status event register.

Syntax :STATus:QUESTIONable[:EVENT]?

Example :STATus:QUESTIONable:? -> 1

Explanation This is a sequential command.

## SYStem Sub System Command

### **:SYSTem:BUZZer:CLICk**

Function Sets/queries whether to sound the buzzer when clicked the key.

Syntax :SYSTem:BUZZer:CLICk<wsp>OFF|ON|0|1  
:SYSTem:BUZZer:CLICk?

Response 0 = OFF, 1 = ON

Example :SYSTem:BUZZer:CLICk ONn  
:SYSTem:BUZZer:CLICk? -> 1

Explanation This is a sequential command.

### **:SYSTem:BUZZer:WARNing**

Function Sets/queries whether to sound the buzzer during an alarm.

Syntax :SYSTem:BUZZer:WARNing<wsp>OFF|ON|  
0|1

Response 0 = OFF, 1 = ON

Example :SYSTem:BUZZer:WARNing ON  
:SYSTem:BUZZer:WARNing? -> 1

Explanation This is a sequential command.

### **:SYSTem:COMMunicate:CFORmat**

Function Sets/queries the GP-IB command format of this unit.

Syntax :SYSTem:COMMunicate:CFORmat<wsp>  
<mode>  
:SYSTem: COMMunicate:CFORmat?  
<mode> = GP-IB command format

For AQ6370B

AQ6317 = AQ6317 compatible mode

AQ6370 = AQ6370B mode

AQ6370B = AQ6370B mode

For AQ6373

AQ6317 = AQ6317 compatible mode

AQ6370 = AQ6373 mode

AQ6370B = AQ6373 mode

AQ6373 = AQ6373 mode

AQ6375 = AQ6373 mode

For AQ6375

AQ6317 = AQ6317 compatible mode

AQ6370 = AQ6375 mode

AQ6375 = AQ6375 mode

Response 0 = AQ6317, 1 = AQ6370B

(For AQ6370B)

0 = AQ6317, 1 = AQ6373

(For AQ6373)

0 = AQ6317, 1 = AQ6375

(For AQ6375)

Example :SYSTem:COMMunicate:CFORmat AQ6370B  
syst:comm:cformat? -> 1

- Explanation
- This command is valid when in AQ6370B/AQ6373/AQ6375 mode. This command results in an error when in AQ6317 compatible mode.
  - To set the GP-IB command format while this unit is in the AQ6317-compatible mode, use the following commands.  
Control command  
CFORM\* (\*: 0 = AQ6317 compatible mode, 1 = AQ6370B/AQ6373/AQ6375 mode)  
Query command  
CFORM? (return value: 0 = AQ6317-compatible mode, 1 = AQ6370B/AQ6373/AQ6375 mode)
  - To use a GP-IB command to place this unit into the AQ6317-compatible mode, regardless of the status during execution of the command, execute the following command. Note that if this unit has already been in the AQ6317-compatible mode at the time of executing this command, a command error occurs, but you can ignore it.  
:SYSTem:COMMunicate:  
CFORmat<wsp>AQ6317
  - To use a GP-IB command to place this unit into the AQ6370B, AQ6373 or AQ6375 mode, regardless of the status during execution of the command, execute the following command. Note that if this unit has already been in the AQ6370B, AQ6373 or AQ6375 mode at the time of executing this command, a command error occurs, but you can ignore it.  
CFORM1
  - This is a sequential command.

**:SYSTem:COMMunicate:GP-IB2:ADDRESS**

- Function Sets/queries the GP-IB address of the instrument's GP-IB2 port.
- Syntax :SYSTem:COMMunicate:GP-IB2:ADDRESS  
<wsp><integer>  
:SYSTem:COMMunicate:GP-IB2:ADDRESS?
- Example :SYSTem:COMMunicate:GP-IB2:ADDRESS 2  
:SYSTem:COMMunicate:GP-IB2:ADDRESS? -> 2
- Explanation This is a sequential command.

**:SYSTem:COMMunicate:GP-IB2:TLS:ADDRESS**

- Function Sets/queries the GP-IB address of the turnable laser source connected to the instrument's GP-IB2 port.
- Syntax :SYSTem:COMMunicate:GP-IB2:TLS:ADDRESS<wsp><integer>  
:SYSTem:COMMunicate:GP-IB2:TLS:ADDRESS?  
<integer> = GP-IB address of the turnable laser source
- Example: :SYSTem:COMMunicate:GP-IB2:TLS:ADDRESS 20  
:SYSTem:COMMunicate:GP-IB2:TLS:ADDRESS? -> 20
- Explanation
- Sets the address of the Tunable Laser Source.
  - This is a sequential command.
  - With the AQ6373, the command is invalid.

**:SYSTem:DATE**

- Function Sets/queries the system data.
- Syntax :SYSTem:DATE<wsp><year>, <month>, <day>  
:SYSTem:DATE?  
<year> = Year  
<month> = Month  
<day> = Day
- Example :SYSTem:DATE 2006,03,01  
:SYSTem:DATE? -> 2006,03,01
- Explanation This is a sequential command.

## 7.6 Instrument-Specific Commands

### :SYSTEM:DISPLAY:TRANSPARENT

**Function** Sets/queries whether to make the Interrupt Window and OVERVIEW Window of the measurement screen semi-transparent.

**Syntax** :SYSTEM:DISPLAY:TRANSPARENT<wsp>OFF|ON|0|1  
:SYSTEM:DISPLAY:TRANSPARENT?  
Response 0 = OFF, 1 = ON

**Example** :SYSTEM:DISPLAY:TRANSPARENT OFF  
:SYSTEM:DISPLAY:TRANSPARENT? -> 0

**Explanation** This is a sequential command.

### :SYSTEM:DISPLAY:UNCAL

**Function** Sets/queries whether to display an alarm message in the event of UNCAL.

**Syntax** :SYSTEM:DISPLAY:UNCAL<wsp>OFF|ON|0|1  
:SYSTEM:DISPLAY:UNCAL?  
Response 0 = OFF, 1 = ON

**Example** :SYSTEM:DISPLAY:UNCAL OFF  
:SYSTEM:DISPLAY:UNCAL? -> 0

**Explanation** This is a sequential command.

### :SYSTEM:ERROR[:NEXT]?

**Function** Queries data in an error queue and deletes it from the queue.

**Syntax** :SYSTEM:ERROR[:NEXT]?  
<integer> = Error number

**Example** :SYSTEM:ERROR? -> 100

**Explanation** This is a sequential command.

### :SYSTEM:GRID

**Function** Sets/queries the instrument's grid setting.

**Syntax** :SYSTEM:GRID<wsp><grid>  
:SYSTEM:GRID?  
<grid> = Grid setting  
12.5 GHZ = 12.5 GHz Spacing  
25 GHZ = 25 GHz Spacing  
50 GHZ = 50 GHz Spacing  
100 GHZ = 100 GHz Spacing  
200 GHZ = 200 GHz Spacing  
CUSTom = User setting

**Response** 0 = 12.5GHz  
1 = 25GHz  
2 = 50GHz  
3 = 100GHz  
4 = 200GHz  
5 = CUSTom

**Example** :SYSTEM:GRID 50GHZ  
:SYSTEM:GRID? -> 2

**Explanation** • This is a sequential command.  
• With the AQ6373, the command is invalid.  
• For the AQ6375, cannot be executed when in Wavenumber mode.

### :SYSTEM:GRID:CUSTOM:CLEAR:ALL

**Function** Clears the user-specified custom grid and returns it to the default value.

**Syntax** :SYSTEM:GRID:CUSTOM:CLEAR:ALL

**Example** :SYSTEM:GRID:CUSTOM:CLEAR:ALL

**Explanation** • With the AQ6373, the command is invalid.  
• For the AQ6375, cannot be executed when in Wavenumber mode.  
• This is a sequential command.

### :SYSTEM:GRID:CUSTOM:DELETE

**Function** Deletes the specified grid of the custom grid.

**Syntax** :SYSTEM:GRID:CUSTOM:DELETE<wsp><integer>  
<integer> = Number of a grid to be deleted

**Example** :SYSTEM:GRID:CUSTOM:DELETE 10

**Explanation** • With the AQ6373, the command is invalid.  
• For the AQ6375, cannot be executed when in Wavenumber mode.  
• This is a sequential command.

### :SYSTEM:GRID:CUSTOM:INSERT

**Function** Inserts a new grid when the grid setting is in the custom grid.

**Syntax** :SYSTEM:GRID:CUSTOM:INSERT<wsp><NRf> [M|HZ]  
<NRf> = Grid wavelength/frequency to be inserted [m] Hz]

**Example** :SYSTEM:GRID:CUSTOM:INSERT  
1550.123NM

**Explanation** • When :SYSTEM:GRID is CUSTom, an execution error occurs.  
• With the AQ6373, the command is invalid.  
• For the AQ6375, cannot be executed when in Wavenumber mode.  
• This is a sequential command.

### :SYSTEM:GRID:CUSTOM:SPACING

**Function** Sets/queries the grid spacing of the custom grid.

**Syntax** :SYSTEM:GRID:CUSTOM:SPACING<wsp><NRf> [GHZ]  
:SYSTEM:GRID:CUSTOM:SPACING?  
<NRf> = Grid spacing [GHZ]

**Example** :SYSTEM:GRID:CUSTOM:SPACING 12.5  
:SYSTEM:GRID:CUSTOM:SPACING?->  
+1.25000000E+001

**Explanation** • When :SYSTEM:GRID is CUSTom, an execution error occurs.  
• With the AQ6373, the command is invalid.  
• For the AQ6375, cannot be executed when in Wavenumber mode.  
• This is a sequential command.

**: SYSTem: GRID: CUSTom: START**

Function Sets/queries the custom grid start wavelength.

Syntax :SYSTem:GRID:CUSTom:  
START<wsp><NRf> [M|HZ]  
:SYSTem:GRID:CUSTom:START?  
<NRf> = Grid start wavelength [m|Hz]

Example :SYSTem:GRID:CUSTOM:START  
1550.000NM  
:SYSTem:GRID:CUSTOM:START? ->  
+1.55000000E-006

Explanation

- When :SYSTem:GRID is CUSTom, an execution error occurs.
- With the AQ6373, the command is invalid.
- For the AQ6375, cannot be executed when in Wavenumber mode.
- This is a sequential command.

**: SYSTem: GRID: CUSTom: STOP**

Function Sets/queries the custom grid stop wavelength.

Syntax :SYSTem:GRID:CUSTom:STOP<wsp><NRf>  
[M|HZ]  
:SYSTem:GRID:CUSTom:STOP?  
<NRf> = Grid stop wavelength [m|Hz]

Example :SYSTEM:GRID:CUSTOM:STOP 1560.000NM  
:SYSTEM:GRID:CUSTOM:STOP? ->  
+1.56000000E-006

Explanation

- When :SYSTem:GRID is something other than CUSTom, an execution error occurs.
- With the AQ6373, the command is invalid.
- For the AQ6375, cannot be executed when in Wavenumber mode.
- This is a sequential command.

**: SYSTem: GRID: REFerence**

Function Sets/queries the reference frequency of the instrument's grid setting.

Syntax :SYSTem:GRID:REFerence<wsp><NRf>  
[HZ]  
:SYSTem:GRID:REFerence?  
<NRf> = Grid's reference frequency [Hz]

Example :SYSTEM:GRID:REFERENCE 193.1000HZ  
:SYSTEM:GRID:REFERENCE ? ->  
+1.93000000E+014

Explanation

- With the AQ6373, the command is invalid.
- For the AQ6375, cannot be executed when in Wavenumber mode.
- This is a sequential command.

**: SYSTem: PRESet**

Function Initializes the unit status.

Syntax :SYSTem:PRESet

Example :SYSTEM:PRESET

Explanation This is a sequential command.

**: SYSTem: TIME**

Function Sets/queries the system time.

Syntax :SYSTem:TIME<wsp><hour>, <minute>,  
<second>  
:SYSTem:TIME?  
<hour> = Hour  
<minute> = Minute  
<second> = Second

Example :SYSTEM:TIME 22,10,01  
:SYSTEM:TIME? -> 22,10,1

Explanation This is a sequential command.

**: SYSTem: VERSion?**

Function Queries the SCPI compatibility version of this unit.

Syntax :SYSTem:VERSion?

Example :SYSTEM:VERSION? -> 1999.0

Explanation This is a sequential command.

## 7.6 Instrument-Specific Commands

### TRACe Sub System Command

#### **:TRACe:ACTive**

Function Sets/queries the active trace.  
Syntax :TRACe:ACTive<wsp><trace name>  
:TRACe:ACTive?  
<trace name> = Active trace  
(TRA|TRB|TRC|TRD|TRE|TRF|TRG)  
Example :TRACe:ACTive TRA  
:TRACe:ACTive? -> TRA  
Explanation This is a sequential command.

#### **:TRACe:ATTRibute[:<trace name>]**

Function Sets/queries the attributes of the specified trace.  
Syntax :TRACe:ATTRibute[:<trace name>  
<wsp><attribute>  
:TRACe:ATTRibute[:<trace name>]?  
<trace name> = trace  
(TRA|TRB|TRC|TRD|TRE|TRF|TRG)  
<attribute> = Attribute  
WRITE = WRITE  
FIX = FIX  
MAX = MAX HOLD  
MIN = MIN HOLD  
RAVG = ROLL AVG  
CALC = CALC  
Response 0 = WRITE  
1 = FIX  
2 = MAX  
3 = MIN  
4 = RAVG  
5 = CALC  
Example :TRACe:ATTRibute:TRA WRITE  
:TRACe:ATTRibute:TRA? -> 0  
Explanation

- If <trace name> is omitted, the command is executed with respect to the active trace.
- If <trace name> is specified, the specified trace is set as the active trace after the command is executed.
- When the attribute is set to a CALC trace, the expression is set using the :CALCulate:MATH command.
- This is a sequential command.

#### **:TRACe:ATTRibute:RAVG[:<trace name>]**

Function Sets/queries the number of times for averaging of the specified trace.  
Syntax :TRACe:ATTRibute:RAVG[:<trace name>] <wsp><integer>  
:TRACe:ATTRibute:RAVG[:<trace name>]?  
<trace name> = trace  
(TRA|TRB|TRC|TRD|TRE|TRF|TRG)  
<integer> = Number of times averaging of ROLL AVG  
Example :TRACe:ATTRibute:RAVG:TRA 10  
:TRACe:ATTRibute:RAVG:TRA? -> 10  
Explanation

- When this command is executed, the attribute of the set trace goes to ROLL AVG.
- If <trace name> is omitted, the command is executed with respect to the active trace.
- If <trace name> is specified, the specified trace is set as the active trace after the command is executed.
- This is a sequential command.

#### **:TRACe:COPI**

Function Copies the data of a specified trace to another trace.  
Syntax :TRACe:COPI<wsp><source trace name>,<destination trace name>  
<source trace name> = Copy source trace  
<destination trace name> = Copy trace destination  
Example :TRACe:COPI TRA,TRB  
Explanation This is a sequential command.

#### **:TRACe[:DATA]:SNUMber?**

Function Sets/queries the number of number of data sampled of the specified trace.  
Syntax :TRACe[:DATA]:SNUMber?<wsp><trace name>  
<trace name> = Trace from which to acquire data  
Example :TRACe:DATA:SNUMber? -> 50001  
Explanation

- If a specified trace has no data, "0" is returned.
- This is a sequential command.

**:TRACe[:DATA]:X?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the wavelength axis data of the specified trace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Syntax      | :TRACe[:DATA]:X?<wsp><trace name> [, <start point>, <stop point>] <trace name>= Trace to be transferred (TRA TRB TRC TRD TRE TRF TRG) <start point>= A range of samples to be transferred (starting point) (1 to 50001) <stop point>= A range of samples to be transferred (stopping point) (1 to 50001)                                                                                                                                                                                                                                                                                                           |
| Example     | :TRACE:X? TRA -><br>+1.55000000E-006,+1.55001000E-006,+1.55002000E-006,.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Explanation | <ul style="list-style-type: none"> <li>• Data is output in the unit of wavelength value (m), regardless of whether this unit is in the wavelength mode or in the frequency mode.</li> <li>• If the parameter &lt;start point&gt; or &lt;stop point&gt; is omitted, all sampling data of a specified trace will be output.</li> </ul> <p>The number of output data can be acquired by executing :TRACe[:DATA]:SNUMber?.</p> <ul style="list-style-type: none"> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

**:TRACe[:DATA]:Y?**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Queries the level axis data of specified trace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Syntax      | :TRACe[:DATA]:Y?<wsp><trace name> [, <start point>, <stop point>] <trace name> = Trace to be transferred (TRA TRB TRC TRD TRE TRF TRG) <start point> = A range of samples to be transferred (starting point) (1 to 50001) <stop point> = A range of samples to be transferred (stopping point) (1 to 50001)<br>Response For ASCII data:<br><NRf>,<NRf>,...<NRf><br>For BINARY data: #'<integer><byte num><data byte>                                                                                                                                                                                                                                                                                                                                              |
| Example     | :TRACE:Y? TRA -> -1.00000000E+001,<br>-1.00000000E+001,<br>-1.00000000E+001,....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Explanation | <ul style="list-style-type: none"> <li>• The data is output in order of its wavelength from the shortest level to the longest, irrespective of the wavelength/frequency mode.</li> <li>• When the level scale is LOG, data is output in LOG values.</li> <li>• When the level scale is Linear, data is output in linear values.</li> <li>• If the parameter &lt;start point&gt; or &lt;stop point&gt; is omitted, all sampling data of a specified trace will be output.</li> </ul> <p>The number of output data can be acquired by executing :TRACe[:DATA]:SNUMber?.</p> <ul style="list-style-type: none"> <li>• Data is output in either ASCII or binary form, depending on the setting of :FORMat[:DATA].</li> <li>• This is a sequential command.</li> </ul> |

**:TRACe:DELeTe**

|             |                                                                                                     |
|-------------|-----------------------------------------------------------------------------------------------------|
| Function    | Deletes the data of a specified trace.                                                              |
| Syntax      | :TRACe:DELeTe<wsp><trace name> <trace name> = Trace to be transferred (TRA TRB TRC TRD TRE TRF TRG) |
| Example     | :TRACE:DELETE TRA                                                                                   |
| Explanation | This is a sequential command.                                                                       |

**:TRACe:DELeTe:ALL**

|             |                                 |
|-------------|---------------------------------|
| Function    | Clears the data for all traces. |
| Syntax      | :TRACe:DELeTe:ALL               |
| Example     | :TRACE:DELETE:ALL               |
| Explanation | This is a sequential command.   |

## 7.6 Instrument-Specific Commands

### **:TRACe:STATe[:<trace name>]**

|             |                                                                                                                                                                                                                                                                                                                       |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the display status of the specified trace.                                                                                                                                                                                                                                                               |
| Syntax      | :TRACe:STATe[:<trace name>]<wsp><br>OFF ON 0 1<br>:TRACe:ACTive?<br><trace name> = Trace to be transferred<br>(TRA TRB TRC TRD TRE TRF TRG)<br>OFF = Hide trace (BLANK)<br>ON = Makes trace visible (DISP).<br>Response 0 = OFF, 1 = ON                                                                               |
| Example     | :TRACe:STATe OFF<br>:TRACe:STATe OFF? -> 0                                                                                                                                                                                                                                                                            |
| Explanation | <ul style="list-style-type: none"> <li>• If &lt;trace name&gt; is omitted, the command is executed with respect to the active trace.</li> <li>• If &lt;trace name&gt; is specified, the specified trace is set as the active trace after the command is executed.</li> <li>• This is a sequential command.</li> </ul> |

### **TRACe:TEMPlate:DATA**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Adds data to the specified template or queries the data.                                                                                                                                                                                                                                                                                                                                                                                                           |
| Syntax      | :TRACe:TEMPlate:DATA<wsp><template><br>,<wavelength> [M],<level> [DB]<br>:TRACe:TEMPlate:DATA?<wsp><br><template><br><template> = Template (UPPer LOWer TARGet)<br><wavelength> = Wavelength of template data to be added [nm]<br><level> = Lvl. of template data added [dB]<br>Response <integer>,<wavelength>,<level>,<wavelength>,<level>,...,<level><br><integer> = Number of data points<br><wavelength> = wavelength value [m]<br><level> = Level value [dB] |
| Example     | :TRACe:TEMPlate:DATA TARGET,1550NM,<br>-10dbm<br>:TRACe:TEMPlate:DATA? TARGET -> 3,<br>+1.54000000E-006,-1.00000000E+001,<br>+1.54500000E-006,-5.00000000E+000,<br>+1.55000000E-006,-1.00000000E+001                                                                                                                                                                                                                                                               |
| Explanation | <ul style="list-style-type: none"> <li>• Adds data to a specified template.</li> <li>• After data has been added, it will be sorted by wavelength.</li> <li>• If data exceeding the maximum number of template data is added, an execution error occurs.</li> <li>• This is a sequential command.</li> </ul>                                                                                                                                                       |

### **:TRACe:TEMPlate:DATA:ADELete**

|             |                                                                                                                                        |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Deletes all data of a specified template.                                                                                              |
| Syntax      | :TRACe:TEMPlate:DATA:<br>ADELete<wsp><template><br><template> = Template<br>(UPPer LOWer TARGet)                                       |
| Example     | :TRACe:TEMPlate:DATA:ADELETE TARGET                                                                                                    |
| Explanation | <ul style="list-style-type: none"> <li>• Deletes all data of a specified template.</li> <li>• This is a sequential command.</li> </ul> |

### **:TRACe:TEMPlate:DATA:ETYPe**

|             |                                                                                                                                                                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the extrapolation mode of the specified template.                                                                                                                                                                                                 |
| Syntax      | :TRACe:TEMPlate:DATA:<br>ETYPe<wsp><template>,<type><br><template> = Template (UPPer   LOWer  <br>TARGet)<br><type> = Extrapolation type<br>A = Extrapolation type A<br>B = Extrapolation type B<br>NONE = No extrapolation<br>Response 0 = NONE, 1 = A, 2 = B |
| Example     | :TRACe:TEMPlate:DATA:ETYPe<br>TARGET,NONE<br>:TRACe:TEMPlate:DATA:ETYPe? target<br>-> NONE                                                                                                                                                                     |
| Explanation | <ul style="list-style-type: none"> <li>This is a sequential command.</li> <li>Parameter: Response ex. Same as the above</li> </ul>                                                                                                                             |

### **:TRACe:TEMPlate:DATA:MODE**

|             |                                                                                                                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function    | Sets/queries the absolute value mode/relative value mode of the specified template.                                                                                                                                                                    |
| Syntax      | :TRACe:TEMPlate:DATA:MODE<wsp><temp<br>late>,<mode><br><template> = Template<br>(UPPer LOWer TARGet)<br><mode> = Mode (ABSolute   RELative)<br>ABSolute = Absolute value mode<br>RELative = Relative value mode<br>Response 0 = ABSolute, 1 = RELative |
| Example     | :TRACe:TEMPlate:DATA:MODE<br>TARGET,RELATIVE<br>:TRACe:TEMPlate:DATA:MODE? TARGET<br>-> REL                                                                                                                                                            |
| Explanation | This is a sequential command.                                                                                                                                                                                                                          |

**:TRACe:TEMPlate:DISPlay**

**Function** Sets/queries display ON/OFF for the specified template.

**Syntax** :TRACe:TEMPlate:DISPlay<wsp><templa  
te>,OFF|ON|0|1  
:TRACe:TEMPlate:  
DISPlay?<wsp><template>  
<template>= Template  
(UPPer|LOWer|TARGet)  
OFF = Display OFF  
ON = Display ON  
Response 0 = OFF, 1 = ON

**Example** :TRACe:TEMPlate:DISPlay TARGET,OFF  
:TRACe:TEMPlate:DISPlay? TARGET-> 0

**Explanation** This is a sequential command.

**:TRACe:TEMPlate:GONogo**

**Function** Sets or acquires ON/OFF of the go/no-go decision function of the template function.

**Syntax** :TRACe:TEMPlate:  
GONogo<wsp>OFF|ON|0|1  
:TRACe:TEMPlate:GONogo?  
OFF = Judgement function OFF  
ON = Judgment function ON  
Response 0 = OFF, 1 = ON

**Example** :TRACe:TEMPlate:GONOGO OFF  
:TRACe:TEMPlate:GONOGO? -> 0

**Explanation** This is a sequential command.

**:TRACe:TEMPlate:LEVel:SHIFt**

**Function** Sets/queries the amount of level shift for the template.

**Syntax** :TRACe:TEMPlate:LEVel:  
SHIFt<wsp><NRf> [DB]  
:TRACe:TEMPlate:LEVel:SHIFt?  
<NRf> = Level shift amount [dB]

**Example** :TRACe:TEMPlate:LEVel:SHIFt -1db  
:TRACe:TEMPlate:LEVel:SHIFt?->  
-1.00000000E+000

**Explanation** This is a sequential command.

**:TRACe:TEMPlate:RESult?**

**Function** Queries the results of go/no-go decision of the template function.

**Syntax** :TRACe:TEMPlate:RESult?  
Response 0= No go, 1= Go

**Example** :TRACe:TEMPlate:RESult? -> 1

**Explanation** This is a sequential command.

**:TRACe:TEMPlate:TTYPe**

**Function** Sets/queries judgement type of the go/no-go decision function of the template function.

**Syntax** :TRACe:TEMPlate:TTYPe<wsp><type>  
:TRACe:TEMPlate:TTYPe?  
<type>= Judgement type  
UPPer = Judge Upper line only  
LOWer= Judge Lower line only  
U&L = Judge both Upper and LOWer  
line  
Response 0 = UPPer, 1 = LOWer, 2 = U&L

**Example** :TRACe:TEMPlate:TTYPe U&L  
:TRACe:TEMPlate:TTYPe? -> 2

**Explanation** This is a sequential command.

**:TRACe:TEMPlate:WAVelength:SHIFt**

**Function** Sets/queries the amount of wavelength shift for the template.

**Syntax** :TRACe:TEMPlate:WAVelength:SHIFt  
<wsp><NRf> [M]  
:TRACe:TEMPlate:WAVelength:SHIFt?  
<NRf> = Amount of a wavelength shift [m]

**Example** :TRACe:TEMPlate:WAVELENGTH:  
SHIFt -5NM  
:TRACe:TEMPlate:WAVELENGTH:SHIFt?  
-> -5.00000000E-009

**Explanation** This is a sequential command.

## 7.6 Instrument-Specific Commands

### TRIGGER Sub System Command

#### :TRIGGER[:SEQUENCE]:DELAY

Function Sets/queries the trigger delay.  
Syntax :TRIGGER[:SEQUENCE]:DELAY<wsp><NRF>  
[S]  
:TRIGGER[:SEQUENCE]:DELAY?  
<NRF> = delay [sec]  
Example :TRIGGER:DELAY 100.00US  
:TRIGGER:DELAY? -> +1.00000000E-004  
Explanation • When this command is executed, the external trigger mode becomes enabled.  
(TRIGGER[:SEQUENCE]:STATE ON)  
• This is a sequential command.

#### :TRIGGER[:SEQUENCE]:SLOPE

Function Sets/queries the trigger edge.  
Syntax :TRIGGER[:SEQUENCE]:SLOPE<wsp>RISE|  
FALL|0|1  
:TRIGGER[:SEQUENCE]:SLOPE?  
RISE = RISE  
FALL = FALL  
Response 0 = RISE, 1 = FALL  
Example :TRIGGER:SLOPE RISE  
:TRIGGER:SLOPE? -> 0  
Explanation • When this command is executed, the external trigger mode becomes enabled.  
• This is a sequential command.

#### :TRIGGER[:SEQUENCE]:STATE

Function Sets/queries the external trigger mode.  
Syntax :TRIGGER[:SEQUENCE]:STATE<wsp>OFF|O  
N|PHOLD|0|1|2  
:TRIGGER[:SEQUENCE]:STATE?  
OFF: External Trigger OFF  
ON: External trigger mode  
PHOLD: Peak hold mode  
Response 0 = OFF, 1 = ON, 2 = PHOLD  
Example :TRIGGER:STATE ON  
:TRIGGER:STATE? -> 1  
Explanation This is a sequential command.

#### :TRIGGER[:SEQUENCE]:INPUT

Function Sets/queries the signal of the input trigger.  
Syntax :TRIGGER[:SEQUENCE]:INPUT<wsp>  
ETRIGGER|STRIGGER|0|1  
:TRIGGER[:SEQUENCE]:INPUT?  
ETRIGGER: Sampling trigger  
STRIGGER: Sweep trigger  
Response 0 = ETRIGGER, 1 = STRIGGER  
Example :TRIGGER:INPUT STRIGGER  
:TRIGGER:INPUT? -> 1  
Explanation This is a sequential command.

#### :TRIGGER[:SEQUENCE]:OUTPUT

Function Sets/queries the signal of the output trigger.  
Syntax :TRIGGER[:SEQUENCE]:OUTPUT<wsp>OFF|  
SSTATUS|0|1  
:TRIGGER[:SEQUENCE]:OUTPUT?  
OFF: OFF  
SSTATUS: Sweep status  
Response 0 = OFF, 1 = SSTATUS  
Example :TRIGGER:OUTPUT SSTATUS  
:TRIGGER:OUTPUT? -> 1  
Explanation This is a sequential command.

#### :TRIGGER[:SEQUENCE]:PHOLD:HTIME

Function Sets/queries the hold time of peak hold mode.  
Syntax :TRIGGER[:SEQUENCE]:PHOLD:HTIME  
<wsp><NRF>[s]  
:TRIGGER[:SEQUENCE]:PHOLD:HTIME?  
<NRF> = Hold time [s]  
Example :TRIGGER:PHOLD:HTIME 100MS  
:TRIGGER:PHOLD:HTIME? ->  
+1.00000000E-1  
Explanation This is a sequential command.

**UNIT Sub System Command****:UNIT:POWER:DIGit**

Function Sets/queries the number of decimal places displayed for the level value.

Syntax :UNIT:POWER:DIGit<wsp>1|2|3  
:UNIT:POWER:DIGit?

1, 2, 3 = Number of displayed digits

Example :UNIT:POWER:DIGIT 3

:UNIT:POWER:DIGIT? -> 3

Explanation This is a sequential command.

**:UNIT:X**

Function Sets/queries the units for the X axis.

Syntax :UNIT:X<wsp>WAVelength|FREQuency|  
WNUMber|0|1|2:UNIT:X?

Response

For AQ6370B or AQ6373

WAVelength = Wavelength

FREQuency = Frequency

For AQ6375

WAVelength = Wavelength

FREQuency = Frequency

WNUMber = Wavenumber

Response 0 = WAVelength, 1 = FREQuency,  
2=WNUMber

Example :UNIT:X FREQUENCY

:UNIT:X? -> 1

Explanation This is a sequential command.

---

## 7.7 Output Format for Analysis Results

### Output of Analysis Results

The analysis results of analysis functions are collectively output using the CALCulate:DATA? command. If analysis has been not performed, a query error occurs.

### Output Data Format for Each Analysis Function

The output data format of each analysis function is as shown below.

For information on abbreviations such as <center wl>, see "List of Abbreviations of Data Output using the CALCulate:DATA? Command."

#### THRESH , ENVELOPE, PK-RMS

<center wl>,<spec wd>,<mode num>

#### RMS

<center wl>,<spec wd>

#### NOTCH

<center wl>,<notch wd>

#### SMSR

<peak wl>,<peak lvl>,<2nd peak wl>,<2nd peak lvl>,<delta wl>,<delta lvl>

#### POWER

<total pow>

#### DFB-LD

<spec wd>,<peak wl>,<peak lvl>,<mode ofst>,<smsr>

#### FP-LD

<spec wd>,<peak wl>,<peak lvl>,<center wl>,<total pow>,<mode num>

#### LED

<spec wd>,<peak wl>,<peak lvl>,<center wl>,<total pow>

#### PMD

<left mode peak>,<right mode peak>,<pmd>

#### WDM

##### ABSOLUTE, CH RELATION = OFFSET

<ch num>,<center wl>,<peak lvl>,<offset wl>,<offset lvl>,<noise>,<snr>,...

##### ABSOLUTE, CH RELATION = SPACING

<ch num>,<center wl>,<peak lvl>,<spacing>,<lvl diff>,<noise>,<snr>,...

##### RELATIVE

<ch num>,<grid wl>,<center wl>,<rel wl>,<peak lvl>,<noise>,<snr>,...

##### DRIFT (MEAS)

<ch num>,<grid wl>,<center wl>,<wl diff max>,<wl diff min>,<ref lvl>,<peak lvl>,<lvl diff max>,<lvl diff min>,...

##### DRIFT (GRID)

<ch num>,<ref wl>,<center wl>,<wl diff max>,<wl diff min>,<ref lvl>,<peak lvl>,<lvl diff max>,<lvl diff min>,...

**EDFA-NF**

<ch num>, <center wl>, <input lvl>, <output lvl>, <ase lvl>, <resoln>, <gain>, <nf>, ...

**FILTER-PK**

<peak wl>, <peak lvl>, <center wl>, <spec wd>, <l-xtalk>, <r-xtalk>, <ripple>

**FILTER-BTM**

<btm wl>, <btm lvl>, <center wl>, <notch wd>, <l-xtalk>, <r-xtalk>

**WDM FIL-PK**

<ch num>, <nominal wl>, <peak wl>, <peak lvl>, <xdb wd>, <center wl>, <xdb sb>, <xdb pb>, <ripple>, <l-xtalk>, <r-xtalk>, ...

\* Items with SW set to OFF are also output.

**WDM FIL-BTM**

<ch num>, <nominal wl>, <btm wl>, <btm lvl>, <xdb ntwd>, <center wl>, <xdb sb>, <xdb eb>, <ripple>, <l-xtalk>, <r-xtalk>, ...

\* Items with SW set to OFF are also output.

**COLOR**

<dominant wl>, <x col>, <y col>, <z col>

## List of Abbreviations of Data Output Using the CALCulate:DATA? Command

| Abbreviation      | Description                  | Format    | Output Unit |
|-------------------|------------------------------|-----------|-------------|
| <center wl>       | Center wavelength            | <NRf>     | m / Hz      |
| <spec wd>         | Spectrum width               | <NRf>     | m / Hz      |
| <mode num>        | Mode number                  | <integer> |             |
| <notch wd>        | Notch width                  | <NRf>     | m / Hz      |
| <peak wl>         | Peak wavelength              | <NRf>     | m / Hz      |
| <peak lvl>        | Peak level                   | <NRf>     | dBm         |
| <2nd peak wl>     | 2nd peak wavelength          | <NRf>     | m / Hz      |
| <2nd peak lvl>    | 2nd peak level               | <NRf>     | dB          |
| <delta wl>        | Wavelength difference        | <NRf>     | m / Hz      |
| <delta lvl>       | Level difference             | <NRf>     | dB          |
| <mode ofst>       | Mode offset                  | <NRf>     | m / Hz      |
| <smsr>            | SMSR value                   | <NRf>     | dB          |
| <total pow>       | Total power value            | <NRf>     | dB / W      |
| <mode num>        | Mode number                  | <integer> |             |
| <left mode peak>  | Mode peak frequency (left)   | <NRf>     | Hz          |
| <right mode peak> | Mode peak frequency (right)  | <NRf>     | Hz          |
| <pmd>             | PMD value                    | <NRf>     | ps          |
| <ch num>          | Channel number               | <integer> |             |
| <offset wl>       | Offset wavelength            | <NRf>     | m / Hz      |
| <offset lvl>      | Offset level                 | <NRf>     | dB          |
| <noise>           | Noise level                  | <NRf>     | dBm / NBW   |
| <snr>             | SNR value                    | <NRf>     | dB          |
| <grid wl>         | Grid wavelength              | <NRf>     | m / Hz      |
| <rel wl>          | Relative wavelength          | <NRf>     | m / Hz      |
| <wl diff max>     | Wavelength difference (max.) | <NRf>     | m / Hz      |
| <wl diff min>     | Wavelength difference (min.) | <NRf>     | m / Hz      |
| <ref lvl>         | Relative level               | <NRf>     | dB          |
| <lvl diff max>    | Level difference (max.)      | <NRf>     | dB          |
| <lvl diff min>    | Level difference (min.)      | <NRf>     | dB          |
| <input lvl>       | Input level                  | <NRf>     | dBm         |
| <output lvl>      | Output level                 | <NRf>     | dBm         |
| <ase lvl>         | ASE level                    | <NRf>     | dBm / RES   |
| <resoln>          | Measurement resolution       | <NRf>     | m           |
| <gain>            | Gain                         | <NRf>     | dB          |
| <nf>              | NF value                     | <NRf>     | dB          |
| <l-xtalk>         | Crosstalk value (left)       | <NRf>     | dB          |
| <r-xtalk>         | Crosstalk value (right)      | <NRf>     | dB          |
| <ripple>          | Ripple width                 | <NRf>     | m / Hz      |
| <nominal wl>      | Reference wavelength         | <NRf>     | m / Hz      |
| <xdb wd>          | Xdb width                    | <NRf>     | m / Hz      |
| <xdb sb>          | XdB stop-band                | <NRf>     | m / Hz      |
| <xdb pb>          | XdB passband                 | <NRf>     | m / Hz      |
| <xdb eb>          | XdB elimination band         | <NRf>     | m / Hz      |
| <dominant wl>     | Dominant wavelength          | <NRf>     | m / Hz      |
| <x col>           | Chromaticity coordinates (x) | <NRf>     |             |
| <y col>           | Chromaticity coordinates (y) | <NRf>     |             |
| <z col>           | Chromaticity coordinates (z) | <NRf>     |             |

# 8.1 Editing a Program

To use the program functions, a program must be pre-registered in the instrument.

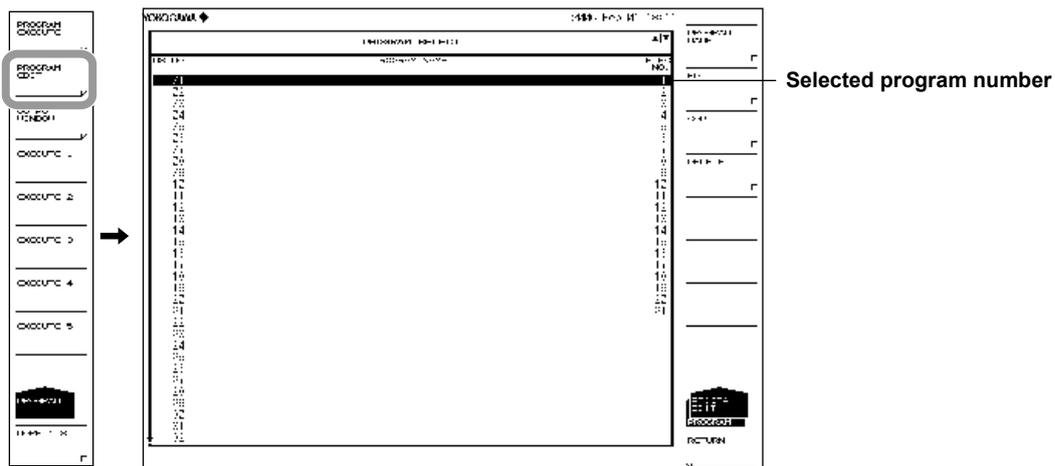
## Procedure

1. Press **PROGRAM**.  
The program menu is displayed.
2. Press the **PROGRAM EDIT** soft key. The program registration screen appears.

### Note

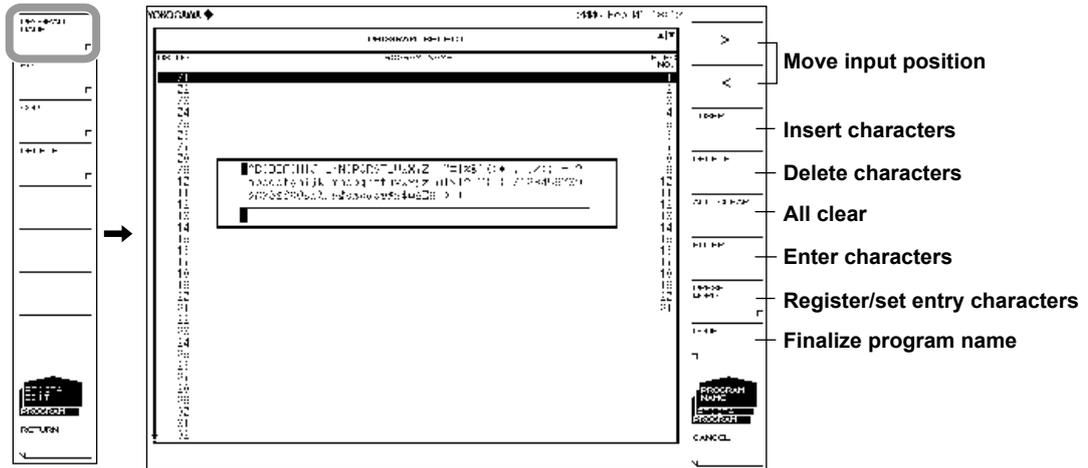
- Thirty-two program names are displayed on a single screen.
- The US column includes an asterisk (\*) if a program has already been registered in the corresponding program number.
- The EXECUTE NO. column shows the registered program numbers for programs that have been registered to the <EXECUTE 1> to <EXECUTE 21> keys.  
See section 8.2, "Executing Programs" for information on registering programs to the EXECUTE1–EXECUTE21 soft keys.

3. Select a registration number using the **rotary knob** or the **arrow keys**.



**Entering a Program Name**

4. Press the **PROGRAM NAME** soft key.  
The program name input screen appears.
5. Enter a program name using the **rotary knob** and soft keys.
6. After entering a name, press the **DONE** soft key. The program name is finalized, the instrument returns to the program registration screen. The entered program name is displayed in the program registration screen.



**Note**

To register and reuse an entered string, or to use a previously entered string, press the PRESET WORD soft key.

**Registering Strings**

After a string has been entered in the program name entry screen, press the PRESET WORD soft key.

Select a registration number and press the SAVE soft key. The entered string is registered in the program name input screen.

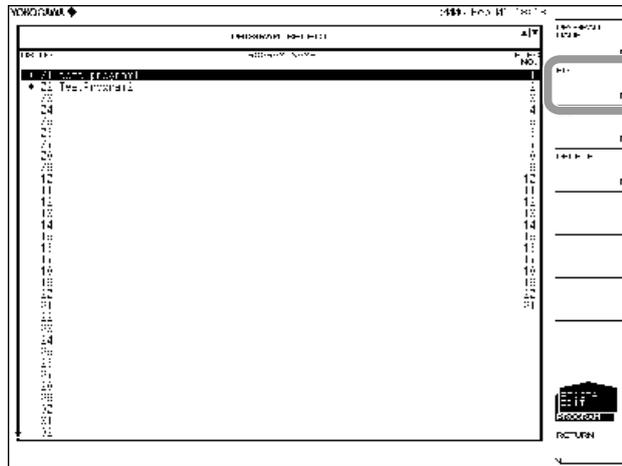
**Using Registered Strings**

Press the PRESET WORD soft key.

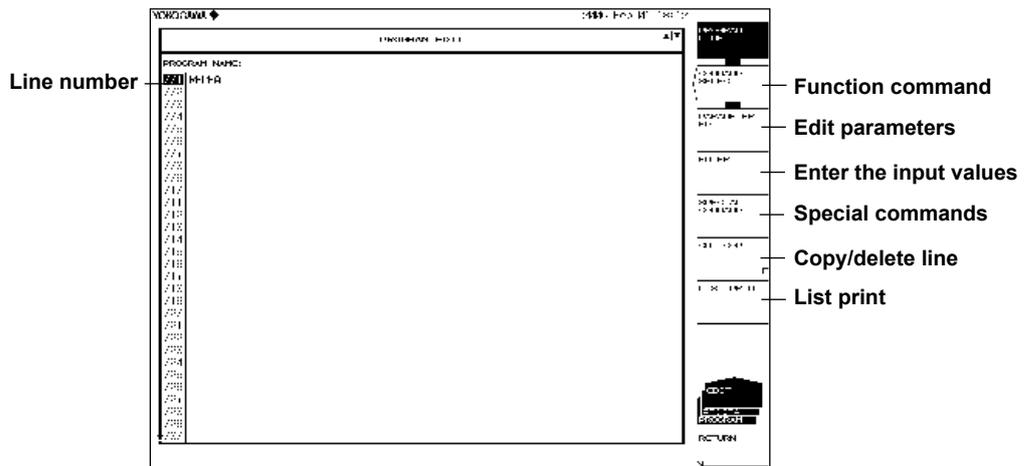
Select the number of the string you wish to use and press the RECALL soft key. The selected string is entered as a program name.

### Editing a Program

7. Select a program to edit in the program registration screen and press the **EDIT** soft key. The program edit screen appears.

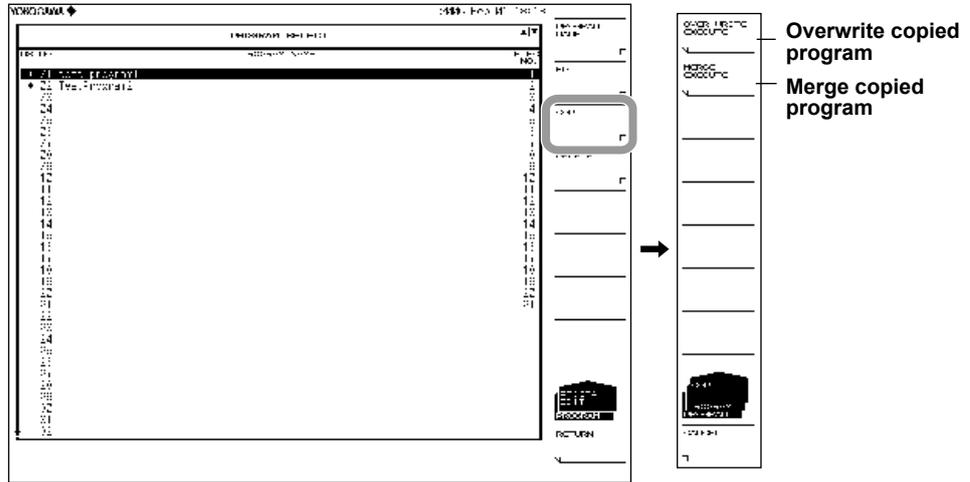


8. Select a line to edit using the **rotary knob** or the **arrow keys**. When a line of a specified command parameter is selected, the **PARAMETER EDIT** soft key is enabled.
9. Edit the program using the soft keys. For the settings associated with each soft key, see pages 8-6 and 8-7.
10. When finished editing the program, press the **RETURN** soft key.



**Copying/Merging (Combining) Programs**

- 11. Select the program to copy in the program registration screen in step 2.
- 12. Press the **COPY** soft key.



**Overwriting a Copied Program**

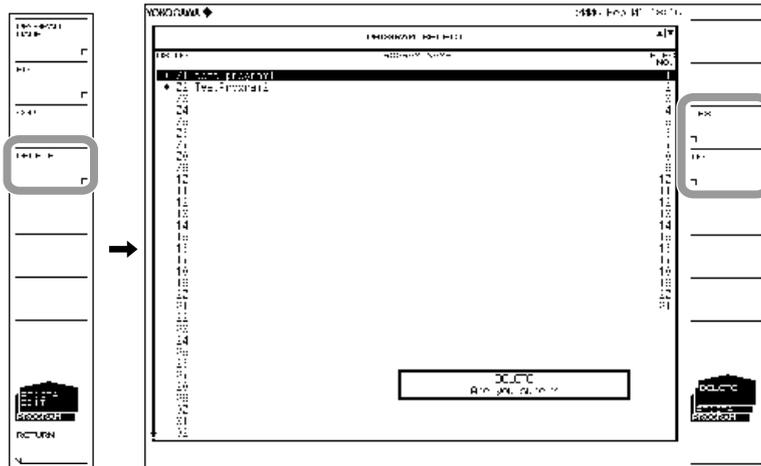
- 13. Select a copy destination program and press the **OVER WRITE EXECUTE** soft key. The copied program overwrites the selected destination program.

**Merging a Copied Program**

- 14. After performing step 12, select a copy destination program and press the **MERGE EXECUTE** soft key. The contents of the copied program are pasted onto the end of the copy destination program (making one large program).

**Deleting a Program**

- 15. Select the program to delete in the program registration screen in step 2.
- 16. Press the **DELETE** soft key. A confirmation message is displayed.



- 17. Press the **YES** or **NO** soft key to delete the program or cancel.

## Program Editing Operations

The following describes the operation of the various soft keys when editing programs. Each description assumes that the program editing screen is open (by pressing **PROGRAM**, followed by the **PROGRAM EDIT > EDIT** soft keys).

### Selecting Commands

The following two types of commands are available.

#### Function Commands

These commands execute the same function as a function switch (including the contents of a soft key).

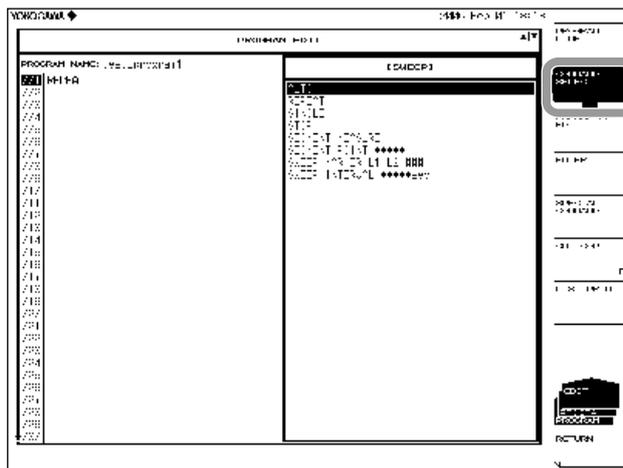
(Commands corresponding to the soft keys such as **SINGLE** and **SPAN**)

#### Special Commands

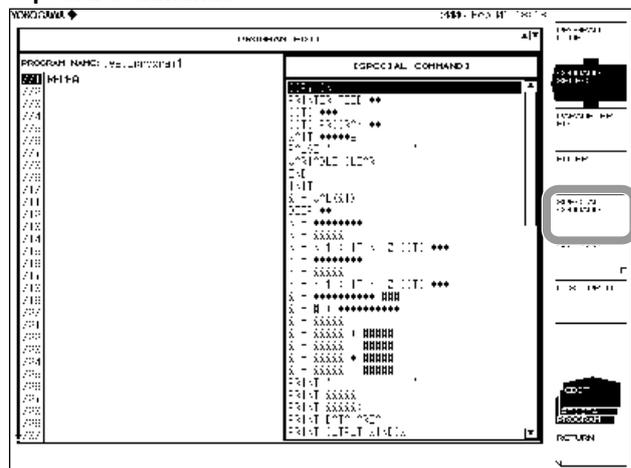
These commands include jump commands, program control commands for conditional decision, etc., control commands to an external device, and data output commands.

- To select function commands or special commands, press the **COMMAND SELECT** or **SPECIAL COMMAND** soft keys, respectively. The function command or special command selection screen is displayed.

Function commands



Special commands



- Select a command using the **rotary knob** or the **arrow keys**, and press the **ENTER** soft key. The selected command is entered. When entering commands that require parameter settings, the parameter setting screen is displayed.
- Enter the parameter and press the **ENTER** soft key. The parameter is set.

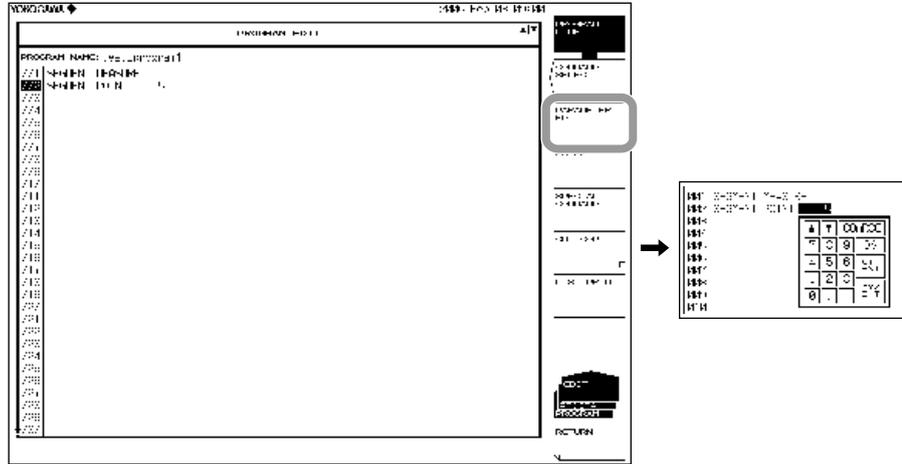
### Note

- The \*\*\*\*\* portion of commands are numbers, the ### portion is the selected parameter, and ----- is text input.
- Function commands can also be set using the mouse. Right-click the mouse to display a shortcut list of panel keys. Left-clicking enters the function command corresponding to the selected panel key.

**Editing Parameters**

Modifying Parameters of an Entered Command

1. Select the line of the command whose parameter you wish to modify using the **rotary knob** or the **arrow keys**. The **PARAMETER EDIT** soft key becomes enabled.
2. Press the **PARAMETER EDIT** soft key. The parameter setting screen is displayed.



3. Enter the parameter and press the **ENTER** soft key. The parameter is set.

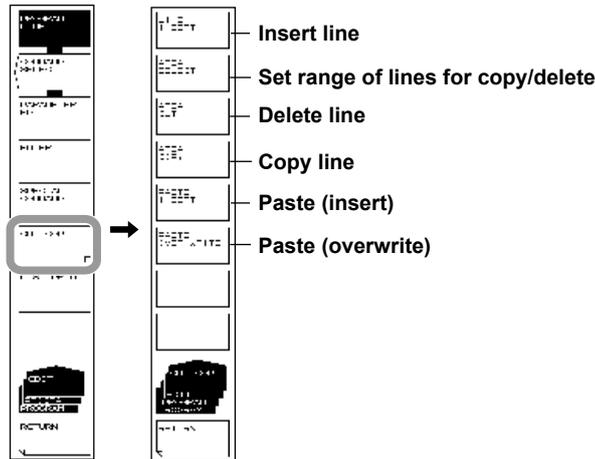
**Note**

The parameter setting screen displayed differs depending on the type of parameter.

**Inserting, Copying, or Deleting a Line**

You can copy or delete the contents of a line.

1. Press the **CUT/COPY** soft key. The CUT/COPY screen is displayed.



**Inserting a Line**

2. Select a line number on which to insert a line using the **rotary knob** or the **arrow keys**.
3. Press the **LINE INSERT** soft key. One line is inserted above the selected line number.

**Note**

If commands have been entered in all 200 lines, a new line cannot be inserted.

**Deleting a Line**

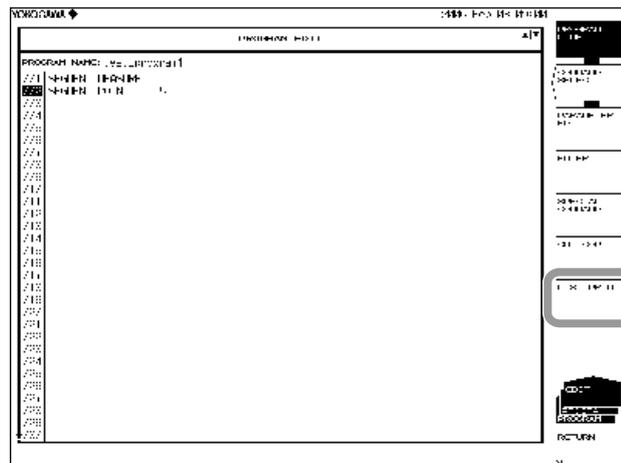
2. To delete one line, select the line to delete using the **rotary knob**.  
To delete multiple lines, select the first or last line to delete and press the **AREA SELECT** soft key.  
Select the range of lines to delete using the **rotary knob** or the **arrow keys**.
3. Press the **AREA CUT** soft key. The specified range of lines is deleted.  
To restore the deleted line, press **UNDO/LOCAL**.

**Copying a Line**

2. To copy one line, select the line to copy using the **rotary knob** or the **arrow keys**.  
To copy multiple lines, select the first or last line to copy and press the **AREA SELECT** soft key.  
Select the range of lines to copy using the **rotary knob** or the **arrow keys**.
3. Press the **AREA COPY** soft key. The specified range of lines is copied.
4. Select a copy destination line using the **rotary knob** or the **arrow keys**.
5. To insert the copied lines, press the **PASTE INSERT** soft key.  
To overwrite with the copied lines, press the **PASTE OVER WRITE** soft key.  
The copied lines are pasted, starting from the line selected as the copy destination. To restore the pasted contents, press **UNDO/LOCAL**.

**Printing Out a Program List**

1. Press the **LIST PRINT** soft key. The program list is printed by the built-in printer.

**Note**

The **LIST PRINT** soft key is disabled if the built-in printer is not installed.

### Explanation

#### Programs

Up to 64 programs can be registered.

A program key can be assigned to each program allowing you to execute the program simply by pressing its soft key.

#### Commands

There are two types of executable commands.

Function Commands

(Commands corresponding to the soft keys such as SINGLE and SPAN)

Special Commands

These commands include jump commands, program control commands for conditional decision, etc., control commands to an external device, and data output commands.

For detailed information on commands, see section 8.3, "Program Function Commands."

#### Merging a Program

You can combine two different programs into one program.

The copied program is pasted onto the end of another specified program.

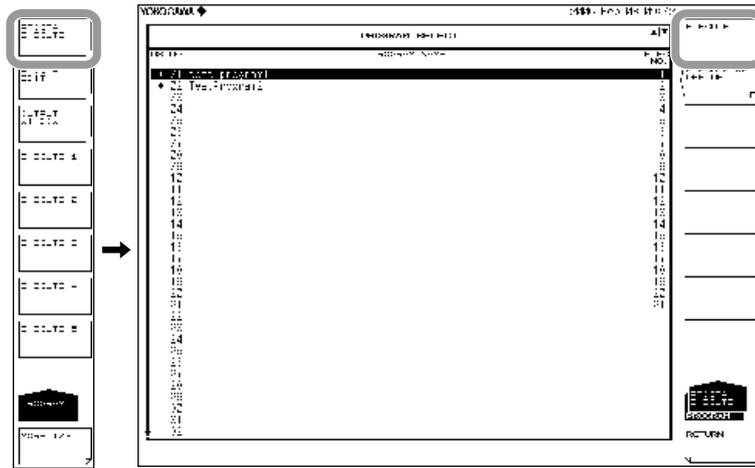
## 8.2 Executing a Program

There are two methods for executing a program: specifying then executing the program, and assigning the program to a soft key and executing it directly with that key.

### Procedure

#### Specifying and Executing a Program

1. Press **PROGRAM**.  
The program menu is displayed.
2. Press the **PROGRAM EXECUTE** soft key. The program selection screen appears.



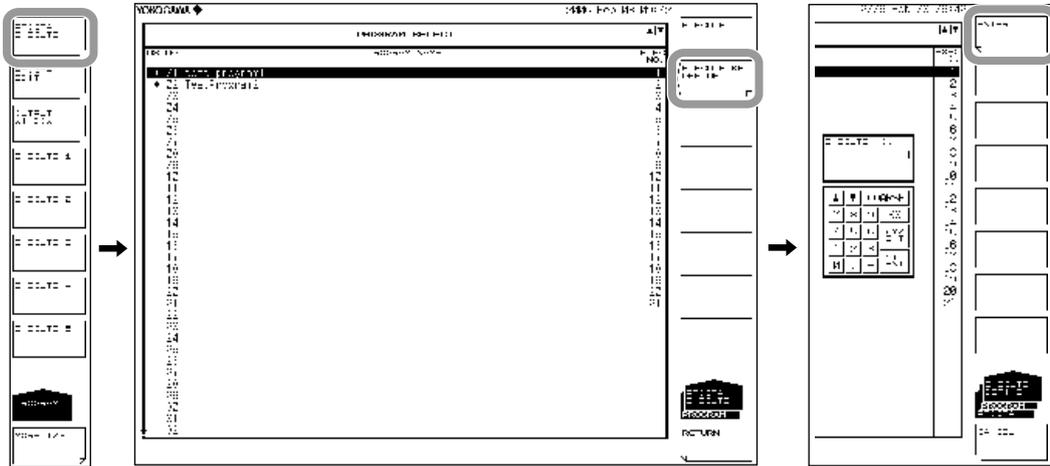
3. Select a program to execute using the **rotary knob** or the **arrow keys**.
4. Press the **EXECUTE** soft key. The program executes.

#### **Note**

To stop the program during execution, press the PROGRAM EXIT soft key.

### Assigning a Program to a Soft Key and Executing Assigning to a Soft Key

1. Press **PROGRAM**.  
The program menu is displayed.
2. Press the **PROGRAM EXECUTE** soft key. The program selection screen appears.



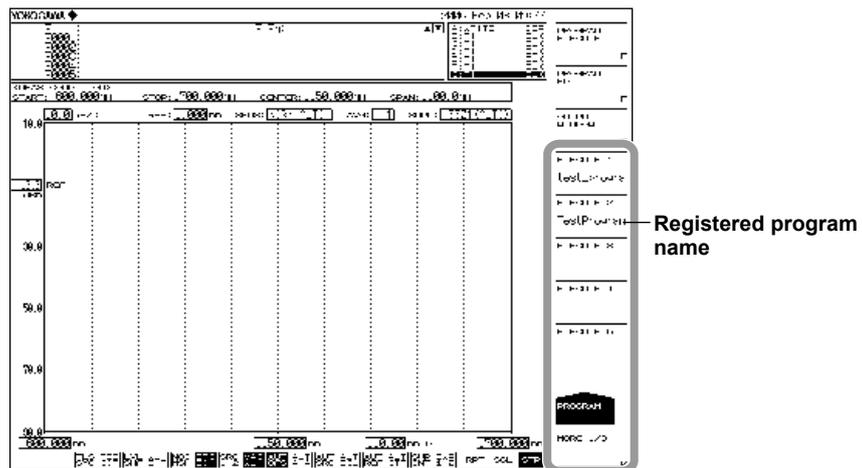
3. Select a program to assign using the **rotary knob** or the **arrow keys**.
4. Press the **EXECUTE KEY DEFINE** soft key. A screen for assigning soft keys is displayed.
5. Enter a soft key number between 1 and 21 and press the **ENTER** soft key. If a program is already assigned to that number, the existing program is overwritten.

**Note**

A single program cannot be assigned to multiple soft keys.

### Executing the Program

1. Press **PROGRAM**.  
The program menu is displayed.



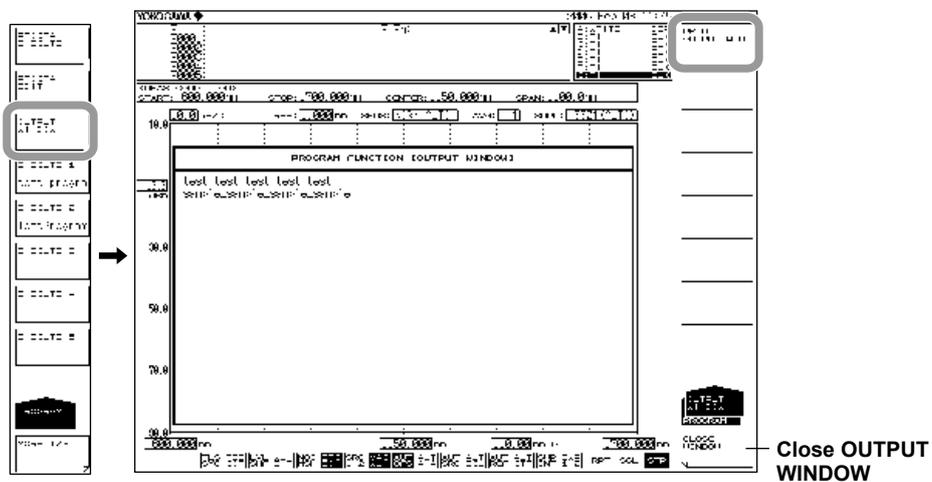
2. Press a soft key from **EXECUTE 1** to **EXECUTE 21**. The program assigned to the soft key executes.

**Note**

If no program name appears next to the soft key, no program is registered to it.

## Displaying the OUTPUT WINDOW

1. Press **PROGRAM**.  
The program menu is displayed.
2. Press the **OUTPUT WINDOW** soft key. The OUTPUT WINDOW is displayed.



### Note

If there is no data to display in the OUTPUT WINDOW, the OUTPUT WINDOW soft key is disabled. Data and characters output by the DATA OUTPUT command are displayed.

3. To output the contents of the OUTPUT WINDOW to the built-in printer, press the **PRINT OUTPUT WIN** soft key.
4. To close the OUTPUT WINDOW, press the **CLOSE WINDOW** soft key.

### Note

- The contents of the OUTPUT WINDOW are held until execution of the OUTPUT WINDOW CLEAR special command.
- The contents of the OUTPUT WINDOW can be stored in a file. See the main unit user's manual (IM735302-01E(AQ6370B), IM735303-01EN(AQ6373) or IM735305-01E(AQ6375)) for details.
- If the contents of the OUTPUT WINDOW exceeds 200 lines, data will be erased beginning from the first line, in turn.
- Turning off the power switch on the instrument erases data in the OUTPUT WINDOW.

### Explanation

#### Using Special Commands

During program execution, you can perform unique operations with commands.

##### When Executing a Program Including “PAUSE ‘-----’”

The program pauses.

The message included in the “PAUSE ‘-----’” line is displayed, and the program pauses. To resume execution of the program, press the CONTINUE soft key.

If a program is executed via remote control, the “PAUSE ‘-----’” command is ignored.

##### When Executing a Program Including the “DATA INPUT -----‘;@’” Command

After the program executes, a data entry window is displayed.

In this case, one of two types of windows will appear depending on the @ variable.

String variables: Enter a file name using the same procedure as that of label input and press the DONE soft key.

Numerical variables: A data entry window is displayed. Enter an arbitrary number using the rotary knob, arrow keys, or ten key. If a program is executed via remote control, the “DATA INPUT ‘-----’;@” command is ignored.

##### Outputting Data Using “DATA OUTPUT @@@@”

When executing a program, the OUTPUT WINDOW for displaying output data is displayed.

The contents of the variables specified by “@@@@” appear in the OUTPUT WINDOW. Up to 200 lines can be displayed in the OUTPUT WINDOW. Only 20 lines can be displayed at once. To display lines other than the first 20, use the rotary knob or arrow keys to scroll.

The OUTPUT WINDOW can be displayed during execution of a program. To do so, use the “OUTPUT WINDOW ###” special command. Note that the OUTPUT WINDOW disappears if the program ends.

## Error Encountered upon Execution of a Program

If an error occurs during the running of a program, an error number indicating the details of the error is displayed in a window, and execution of the program is stopped.

### Classification of Error Numbers

- 300–307 Errors caused by attempting a setting in manual operation which is disabled
- 320–326 Special command-related errors
- 340–347 Input/output-related errors
- 360–369 External memory-related errors
- 380, 381 Other errors

The above numbers can be read out using the `SYSTEM:ERRor[:NEXT]?` command (see section 7.6, “Instrument-Specific Commands”).

| No. | Message                      | Cause                                                                                                                                                       |
|-----|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 300 | Parameter out of range       | A variable value is out of range or is not defined for a command that sets a parameter using variables.                                                     |
| 302 | Scale unit mismatch          | There is a difference between the Y-axis scale of the active trace and the unit of a parameter in the “LINE MKR 3 or 4” command.                            |
| 303 | No data in active trace      | Setting of the moving marker, a peak (or bottom) search, or activation of the analysis function was made with no data in the active trace.                  |
| 304 | Marker value out of range    | Specified wavelength was out of the sweep range in the moving marker or line wavelength marker setting command.                                             |
| 305 | No data in traces A or B     | No waveform data in traces A or B when executing the “EDFA NF” command                                                                                      |
| 306 | Invalid data                 | Trace had no data when attempting to save it to memory or to write it to FD/INT.                                                                            |
| 307 | Unsuitable Write item        | All data items were OFF at execution of “WRITE DATA”.                                                                                                       |
| 320 | Undefined variable           | A command containing an undefined variable was executed.                                                                                                    |
| 321 | Variable unit mismatch       | The unit of each variable does not agree within a command containing two or more variables.                                                                 |
| 322 | Overflow                     | An overflow occurred in an arithmetic operation.                                                                                                            |
| 323 | Undefined marker variable    | A command containing a marker-value variable was executed when no marker had been displayed.                                                                |
| 324 | Invalid marker variable      | A command containing the corresponding variable was executed at a time other than immediately after execution of a spectrum width search, peak search, etc. |
| 325 | Undefined line number        | GOTO command's jumping destination is a number other than 1 to 200.                                                                                         |
| 326 | F1 greater than F2           | F1>F2 when the “IF F1 @@@@ F2” command was executed.                                                                                                        |
| 340 | Printer paper empty          | No printer paper.                                                                                                                                           |
| 341 | Printer head up              | No print is made because the printer's head-up lever is raised.                                                                                             |
| 345 | Option does not respond      | No response from an external device.                                                                                                                        |
| 346 | Option is not connected      | No external device is connected.                                                                                                                            |
| 347 | GP-IB2 not system controller | System controller connected to the GP-IB2 port has been set to an external computer.                                                                        |
| 360 | Disk full                    | No file can be created due to insufficient free space in the external memory.                                                                               |
| 361 | Disk not inserted            | No external memory is connected.                                                                                                                            |
| 362 | Disk is write protected      | The external memory is write protected.                                                                                                                     |
| 363 | Disk not initialized         | External memory is not initialized. Or, it has been formatted in a format not supported by this instrument.                                                 |
| 364 | Directory full               | Directory is full, therefore no file can be created.                                                                                                        |
| 365 | File not found               | The specified file cannot be read because it has not been found. Or, the file does not exist on the disk.                                                   |

## 8.2 Executing a Program

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| No. | Message                  | Cause                                                                             |
|-----|--------------------------|-----------------------------------------------------------------------------------|
| 366 | File is write protected  | The file is specified to be read only, so that it cannot be rewritten or deleted. |
| 367 | No data                  | No data to store.                                                                 |
| 368 | File is not a trace file | A file cannot be read because it is not a trace file.                             |
| 369 | Illegal file name        | A file cannot be saved due to an incorrect file name.                             |
| 380 | Undefined program        | An attempt was made to run a program that is not defined.                         |
| 381 | Syntax error             | Command incorrect. (a program has been rewritten for some reason)                 |

## 8.3 Program Function Commands

There are two types of commands used in a program: function commands which are input using a panel switch, and other special commands.

### Variables

Variables that can be used in a program are shown in the table below.

| Type                  | Variable Name                                               | Description                                                                                                             |
|-----------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Generalized variables | G–K,<br>P, Q, R<br>X, Y, Z                                  | Contains a generalized numeric variable.                                                                                |
|                       | A\$, B\$, C\$, D\$                                          | Contains a generalized string variable.                                                                                 |
| GP-IB variables       | S                                                           | Performs serial polling and stores received status bytes. This variable is also used as a generalized numeric variable. |
|                       | A\$, B\$, C\$, D\$                                          | Contains data received via the GP-IB2 port. This variable is also used as a generalized string variable.                |
|                       | FILE\$                                                      | Date & time/file name variables<br>Contains the name of the last file accessed.                                         |
|                       | TIME\$                                                      | Contains the date and time. (Ex. 2005 Sep 08 20:45:37)                                                                  |
| Marker variables      | WM                                                          | Contains the wavelength value of the moving marker.                                                                     |
|                       | W1                                                          | Contains the wavelength value of fixed marker 1.                                                                        |
|                       | W2                                                          | Contains the wavelength value of fixed marker 2.                                                                        |
|                       | W2-W1                                                       | Contains the wavelength difference between fixed markers 1 and 2.                                                       |
|                       | W(CH)                                                       | Contains the level values of fixed markers (CH: 1 to 1024).                                                             |
|                       | LM                                                          | Contains the level value of the moving marker.                                                                          |
|                       | L1                                                          | Contains the level value of fixed marker 1.                                                                             |
|                       | L2                                                          | Contains the level value of fixed marker 2.                                                                             |
|                       | L2-L1                                                       | Contains the level difference between fixed markers 1 and 2.                                                            |
| L(CH)                 | Contains the level values of fixed markers (CH: 1 to 1024). |                                                                                                                         |
| Analysis variables    | SPWD                                                        | Contains spectrum width applied in making a spectrum width search.                                                      |
|                       | PKWL                                                        | Contains a peak (or bottom) wavelength value applied in making a peak (or bottom) search or spectrum width search.      |
|                       | MEANWL                                                      | Contains center wavelength applied in making spectrum width search.                                                     |
|                       | PKLVL                                                       | Contains a peak (or bottom) level value applied in making a peak (or bottom) search or spectrum width search.           |
|                       | MODN                                                        | Contains the number of modes applied in making a spectrum width search.                                                 |
|                       | SMSR                                                        | Contains the side mode suppression ratio (level difference) applied in making SMSR measurements.                        |
|                       | WDMCHN                                                      | Contains the number of channels detected in performing WDM analysis.                                                    |
|                       | WDMWL(CH)                                                   | Contains the center wavelength of channel CH used in performing WDM analysis.                                           |
|                       | WDMVLV(CH)                                                  | Contains the level of channel CH used in performing WDM analysis.                                                       |
|                       | WDMSNR(CH)                                                  | Contains SNR of channel CH used in performing WDM analysis.                                                             |
|                       | MKPWR                                                       | Contains power obtained in making between line-markers power measurements.                                              |
| PMD                   | Contains the PMD value obtained in PMD analysis.            |                                                                                                                         |

### 8.3 Program Function Commands

| Type                             | Variable Name | Description                                                                         |
|----------------------------------|---------------|-------------------------------------------------------------------------------------|
| Analysis variables               |               |                                                                                     |
| On the AQ6373, invalid variables |               |                                                                                     |
|                                  | NFCHN         | Contains the number of channels detected in performing EDFA-NF analysis.            |
|                                  | NFWL(CH)      | Contains the center wavelength of channel CH used in performing EDFA-NF analysis.   |
|                                  | NFLVLI(CH)    | Contains the input signal level of channel CH used in performing EDFA-NF analysis.  |
|                                  | NFLVLO(CH)    | Contains the output signal level of channel CH used in performing EDFA-NF analysis. |
|                                  | NFASELV(CH)   | Contains the ASE level of channel CH used in performing EDFA-NF analysis.           |
|                                  | NFGAIN(CH)    | Contains the gain of channel CH used in performing EDFA-NF analysis.                |
|                                  | NFNF(CH)      | Contains NF of channel CH used in performing EDFA-NF analysis.                      |
| Only the AQ6373, valid variables |               |                                                                                     |
|                                  | DOMWL         | Dominant wavelength value is entered when measuring the dominant wavelength.        |
|                                  | XCOL          | The chromaticity coordinate value X is entered when performing COLOR analysis.      |
|                                  | YCOL          | The chromaticity coordinate value Y is entered when performing COLOR analysis.      |
|                                  | ZCOL          | The chromaticity coordinate value Z is entered when performing COLOR analysis.      |
| Program control variables        |               |                                                                                     |
|                                  | M             | Contains loop counter data.                                                         |
|                                  | N             | Contains loop counter data.                                                         |
|                                  | F1            | Contains a conditional judgment variable.                                           |
|                                  | F2            | Contains a conditional judgment variable.                                           |
|                                  | CH            | Contains an element number variable used in accessing an array variable (1–1024).   |

## Principles of Variable-based Arithmetic Operations

For assignment of units after arithmetic operations when a variable with a unit is used in the operation, see below.

| Expression                      | Results      |
|---------------------------------|--------------|
| (With a unit) × (Without unit)  | With a unit  |
| (With a unit)/(Without unit)    | With a unit  |
| (Without unit) + (Without unit) | Without unit |
| (Without unit) – (Without unit) | Without unit |
| (Without unit) × (Without unit) | Without unit |
| (Without unit) / (Without unit) | Without unit |
| (nm) + (nm)                     | (nm)         |
| (nm) – (nm)                     | (nm)         |
| (nm) / (nm)                     | Without unit |
| (dB) + (dB)                     | (dB)         |
| (dB) – (dB)                     | (dB)         |
| (dB) + (dBm)                    | (dBm)        |
| (dBm) – (dB)                    | (dBm)        |
| (dBm) – (dBm)                   | (dB)         |
| (#W) + (#W)                     | (#W)         |
| (#W) – (#W)                     | (#W)         |
| (#W) / (#W)                     | Without unit |

### Note

- For the units of dBm/nm, W/nm, dB/km, and %, dBm, W, dB, and without unit apply respectively in terms of variables.
- Arithmetic operations are made as noted above according to the unit of a variable, and the unit is appended to the result obtained after operation.
- If an arithmetic operation is made in any combination other than the above (addition, subtraction, multiplication, or division of variables with different units), the result of the operation has no units.
- The units of #W are treated as follows:
  - 1 mW=1
  - 1 mW=0.001
  - 1 nW=0.000001
  - 1 pW=0.000000001

## Specifications of “@=VAL(@\$)” Command

A character string other than the numerics located before a value (starting with a sign or number) in @\$ character string will be ignored, and are converted as follows.

- “ , ”
- Numbers up to the next string or delimiter

If no numeric exists in @\$ character string, “0” is substituted for variable @.

### 8.3 Program Function Commands

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#### List of Function Commands

A description is given of the program commands of each function command. The optical spectrum analyzers on which the program command is valid is indicated along with the parameter range and variables supported. For the AQ6370B, AQ6373, and AQ6375, if commands are valid for only some of the instruments, the models are so indicated. Models are not noted for commands that are valid for all instruments.

#### SWEEP

| Program Command     | Description                                                                                                       | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|---------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| AUTO                | Auto sweep                                                                                                        |                                                                                             |
| REPEAT              | Repeat sweep                                                                                                      |                                                                                             |
| SINGLE              | Single sweep                                                                                                      |                                                                                             |
| STOP                | Sweep stop                                                                                                        |                                                                                             |
| SEGMENT MEASURE     | Makes measurements only by a specified number of points starting at the position of the wavelength being stopped. |                                                                                             |
| SEGMENT POINT ***** | Specifies the number of points to be measured with the SEGMENT MEASURE key                                        | 1–50001 (1 step)                                                                            |
| SWEEP MKR L1-L2 ### | Selects ON/OFF of sweep function between markers                                                                  | ###: ON or OFF                                                                              |
| SWP INTVL *****sec  | Sets the interval time for repeat sweep                                                                           | MINIMUM, 1 to 99999sec (1 step) (MINIMUM when set to 0.)                                    |

#### Note

Program commands not having a model listed in the chart are valid on all models (AQ6370B, AQ6373, and AQ6375).

---

## CENTER

| Program Command                         | Description                                                       | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                     |
|-----------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CENTER WL ****.***nm                    | Sets measurement center wavelength.                               | AQ6370B<br>600.000 to 1700.000nm<br>(0.001 step)<br>AQ6373<br>350.000 to 1200.000nm<br>(0.001 step)<br>AQ6375<br>1200.000 to 2400.000nm<br>(0.001 step)         |
| CENTER WL<br>@@@@@                      | Sets the value of variable @@@@@ to measurement center wavelength | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL, WDMWL(CH), NFWL(CH)                                                                 |
| CENTER FREQ ***.*** THz                 | Sets measurement center frequency.                                | AQ6370B<br>176.5000 to 500.0000THz<br>(0.0001 step)<br>AQ6373<br>250.0000 to 856.5000THz<br>(0.0001 step)<br>AQ6375<br>125.0000 to 250.0000THz<br>(0.0001 step) |
| CENTER FREQ<br>@@@@@                    | Sets the value of variable @@@@@ to measurement center frequency  | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL, WDMWL(CH), NFWL(CH)                                                                 |
| CENTER WNUM<br>****.***cm <sup>-1</sup> | Sets measurement center wavenumber.                               | AQ6375<br>4167.000 to 8333.000cm <sup>-1</sup><br>(0.001 step)                                                                                                  |
| CENTER WNUM<br>@@@@@                    | Sets the value of variable @@@@@ to measurement center wavenumber | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL                                                                                      |
| START WL ***.*** nm                     | Sets measurement-starting wavelength.                             | AQ6370B<br>50.000 to 1700.000 nm<br>(0.001 step)<br>AQ6373<br>1.000 to 1200.000 nm<br>(0.001 step)<br>AQ6375<br>600.000 to 2400.000 nm<br>(0.001 step)          |
| START FREQ ***.*** THz                  | Sets measurement-starting frequency.                              | AQ6370B<br>11.5000 to 500.0000 THz<br>(0.0001 step)<br>AQ6373<br>10.0000 to 856.5000 THz<br>(0.0001 step)<br>AQ6375<br>60.0000 to 250.0000 THz<br>(0.0001 step) |
| START WNUM<br>****.***cm <sup>-1</sup>  | Sets measurement-starting wavenumber.                             | AQ6375<br>2067.000 to 8333.000cm <sup>-1</sup><br>(0.001 step)                                                                                                  |

### 8.3 Program Function Commands

| Program Command                       | Description                                                                                                                           | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STOP WL ****.***nm                    | Sets measurement-ending wavelength.                                                                                                   | AQ6370B<br>600.000 to 2250.000 nm<br>(0.001 step)<br>AQ6373<br>350.000 to 1625.000 nm<br>(0.001 step)<br>AQ6375<br>1200.000 to 3000.000 nm<br>(0.001 step)          |
| STOP FREQ ***.***THz                  | Sets measurement-ending frequency.                                                                                                    | AQ6370B<br>176.5000 to 6650.0000 THz<br>(0.0001 step)<br>AQ6373<br>250.0000 to 999.9000 THz<br>(0.0001 step)<br>AQ6375<br>125.0000 to 315.0000 THz<br>(0.0001 step) |
| STOP WNUM<br>****.***cm <sup>-1</sup> | Sets measurement-ending wavenumber.                                                                                                   | AQ6375<br>4167.000 to 10433.000cm <sup>-1</sup><br>(0.001 step)                                                                                                     |
| PEAK->CENTER                          | Sets the center frequency of the waveform on the active trace                                                                         |                                                                                                                                                                     |
| MEAN WL->CENTER                       | Performs a spectrum width search on the active trace, and sets the results of center wavelength to the measurement center wavelength. |                                                                                                                                                                     |
| AUTO CENTER ###                       | Executes every time a sweep finishes. <PEAK →CENTER> Function ON/Selects OFF                                                          | ###: ON or OFF                                                                                                                                                      |
| VIEW SCALE->MEAS SCALE                | Sets the current display conditions to measuring conditions.                                                                          |                                                                                                                                                                     |

### SPAN

| Program Command      | Description                                           | Instrument models on which the command is valid, parameter ranges, and supported variables.                                             |
|----------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| SPAN WL ****.*nm     | Sets the measuring span.                              | AQ6370B<br>0, 0.5 to 1100.0 nm (0.1 step)<br>AQ6373<br>0, 0.5 to 850.0 nm (0.1 step)<br>AQ6375<br>0, 0.5 to 1200.0 nm (0.1 step)        |
| SPAN WL @@@@         | Sets the value of variable @@@@ to the measuring span | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                   |
| SPAN FREQ ***.***THz | Sets the measuring span.                              | AQ6370B<br>0, 0.01 to 330.00 THz (0.01 step)<br>AQ6373<br>0, 0.05 to 610.00 THz (0.01 step)<br>AQ6375<br>0.01 to 130.00 THz (0.01 step) |
| SPAN FREQ @@@@       | Sets the value of variable @@@@ to the measuring span | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                   |

### 8.3 Program Function Commands

| Program Command                        | Description                                                                                       | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                        |
|----------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPAN WNUM<br>****.***cm <sup>-1</sup>  | Sets the measuring span.                                                                          | AQ6375<br>0.5 to 4200.0 cm <sup>-1</sup> (0.1 step)                                                                                                                |
| SPAN WNUM<br>@@@@@                     | Sets the value of variable @@@@@ to the measuring span                                            | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                                             |
| START WL ****.***nm                    | Sets measurement-starting wavelength.                                                             | AQ6370B<br>50.000 to 1700.000 nm<br>(0.001 step)<br>AQ6373<br>1.000 to 1200.000 nm<br>(0.001 step)<br>AQ6375<br>600.000 to 2400.000 nm<br>(0.001 step)             |
| START FREQ ***.****<br>THz             | Sets measurement-starting frequency.                                                              | AQ6370B<br>11.5000 to 500.0000 THz<br>(0.0001 step)<br>AQ6373<br>10.0000 to 856.5000 THz<br>(0.0001 step)<br>AQ6375<br>60.0000 to 250.0000 THz<br>(0.0001 step)    |
| START WNUM<br>****.***cm <sup>-1</sup> | Sets measurement-starting wavenumber.                                                             | AQ6375<br>2067.000 to 8333.000cm <sup>-1</sup><br>(0.001 step)                                                                                                     |
| STOP WL ****.***nm                     | Sets measurement-ending wavelength.                                                               | AQ6370B<br>600.000 to 2250.000 nm<br>(0.001 step)<br>AQ6373<br>350.000 to 1625.000 nm<br>(0.001 step)<br>AQ6375<br>1200.000 to 3000.000 nm<br>(0.001 step)         |
| STOP FREQ ***.****<br>THz              | Sets measurement-ending frequency.                                                                | AQ6370B<br>176.5000 to 665.0000 THz<br>(0.0001 step)<br>AQ6373<br>250.0000 to 999.9000 THz<br>(0.0001 step)<br>AQ6375<br>125.0000 to 315.0000 THz<br>(0.0001 step) |
| STOP WNUM<br>****.***cm <sup>-1</sup>  | Sets measurement-ending wavenumber.                                                               | AQ6375<br>4167.000 to 10433.000cm <sup>-1</sup><br>(0.001 step)                                                                                                    |
| Δλ->SPAN                               | Performs a spectrum width search on the active trace, and sets the results to the measuring span. |                                                                                                                                                                    |
| 0nm SWEEP TIME **<br>sec               | Sets sweep time used when a sweep is made in a 0 nm measuring span.                               | 0(MINIMUM), 1 to 50 (1step)                                                                                                                                        |
| VIEW SCALE-><br>MEAS SCALE             | Sets the current display conditions to measuring conditions.                                      |                                                                                                                                                                    |

### 8.3 Program Function Commands

#### LEVEL

The following command is not available on the AQ6375 if the horizontal axis is set to Wavenumber mode.

LEVEL UNIT ##### #####: dBm, dBm/nm

| Program Command             | Description                                                                                                                          | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                                                                 |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REFERENCE LEVEL<br>***.*dBm | Sets the reference level value used for LOG scaling.                                                                                 | -90.0 to 30.0dBm (0.1 step)                                                                                                                                                                                 |
| REFERENCE LEVEL<br>***.##   | Sets the reference level value used for LIN scaling                                                                                  | 1.00pW to 1000mW<br>(1.00 to 9.99 [pW, nW, μW, mW] :0.01 step<br>10.0 to 99.9(100)[pW, nW, μW, (mW)] :0.1 step<br>100 to 999 [pW, nW, μW, mW] : 1 step)<br>## is , pW, nW, μW, mW (select one of the above) |
| REFERENCE LEVEL<br>@@@@@    | Sets the value of variable @@@@@ to the reference level value                                                                        | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, LM, L1, L2, L(CH), PKLVL, WDMLVL(CH), FLVI(CH), NFLVO(CH), NFASLV(CH), MKPWR                                                                                     |
| LEVEL SCALE **.*dB/D        | Sets a level scale value.                                                                                                            | 0 (LINEAR), 0.1 to 10.0dB/DIV (0.1 step)                                                                                                                                                                    |
| LEVEL SCALE<br>@@@@@        | Sets the value of variable @@@@@ to the level scale                                                                                  | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, L2-L1, SMSR, WDMSNR(CH), NFNF(CH)                                                                                                                                |
| BASE LEVEL ****             | Lower value for linear scale setting. Use units set under REF LEVEL. If exceeds 90% of upper units of scale, execution error results | 0 to 900 (0.1 step)                                                                                                                                                                                         |
| PEAK->REF LEVEL             | Sets peak level of the waveform on the active trace to the reference level value                                                     |                                                                                                                                                                                                             |
| AUTO REF LEVEL ###          | Executes after each sweep finishes. Selects ON/OFF for the <PEAK → REF LEVEL> function.                                              | ###: ON/OFF                                                                                                                                                                                                 |
| LEVEL UNIT #####            | Sets the unit of a level scale.                                                                                                      | ###: dBm, dBm/nm                                                                                                                                                                                            |

#### Note

For the AQ6375, dBm/nm and W/nm cannot be selected for LEVEL UNIT when the horizontal axis is wavenumber. (DBM/NM parameters cannot be set. )

### 8.3 Program Function Commands

| Program Command                 | Description                                                         | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|---------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Y SCALE DIVISION<br>##DIV       | Sets the level scale division.                                      | ##: 8, 10, 12                                                                               |
| REF LEVEL POSITION<br>**DIV     | Sets the position of the reference level on the level scale         | 0 to 12 (1 step)                                                                            |
| SUB SCALE<br>LOG **.dB/D        | Sets the sub scale value used for LOG scaling.                      | 0.1 to 10.0dB/DIV (0.1 step)                                                                |
| SUB SCALE<br>LIN *.**/D         | Sets the sub scale value used for LIN scaling.                      | 0.005 to 1.250 (0.005 step)                                                                 |
| SUB SCALE **.dB/km              | Sets the sub scale value used for dB/km scaling.                    | 0.1 to 10.0 (0.1 step)                                                                      |
| SUB SCALE **.%/D                | Sets the sub scale value used for %D scaling.                       | 0.5 to 125.0 (0.1 step)                                                                     |
| OFFSET LEVEL **.dB              | Sets the sub scale offset value used for LOG scaling                | -99.9 to 99.9 (0.1 step)                                                                    |
| OFFSET LEVEL<br>***.dB/km       | Sets the sub scale offset value used for dB/km scaling              | -99.9 to 99.9 (0.1 step)                                                                    |
| SCALE MINIMUM **.**             | Sets the lower sub scale value used for linear scaling.             | 000 to 12.50 (0.01 step)                                                                    |
| SCALE MINIMUM<br>***. **%       | Sets the lower sub scale value used for &D scaling.                 | 0.0 to 1250.0 (0.1 step)                                                                    |
| LENGTH **.***km                 | Sets fiber length.                                                  | 0.001 to 99.999 (0.001 step)                                                                |
| AUTO SUB SCALE ###              | Automatically sets the sub scale from the calculated trace waveform | ###: ON/OFF                                                                                 |
| SUB REF LEVEL<br>POSITION **DIV | Sets the position of the reference level on the sub level scale     | 0 to 12 (1 step)                                                                            |

### 8.3 Program Function Commands

#### SETUP

| Program Command                          | Description                                                                    | Instrument models on which the command is valid, parameter ranges, and supported variables.                               |
|------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| RESOLUTION WL<br>*.***nm                 | Sets the wavelength resolution.                                                | AQ6370B<br>0.020 to 2.000 (1-2-5 step)<br>AQ6373<br>0.010 to 10.000 (1-2-5 step)<br>AQ6375<br>0.050 to 2.000 (1-2-5 step) |
| RESOLUTION WL<br>@@@@@                   | Sets the value of variable @@@@@ to the wavelength resolution                  | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                    |
| RESOLUTION FREQ<br>***GHz                | Sets the frequency resolution.                                                 | AQ6370B<br>4 to 400 (1-2-4 step)<br>AQ6373<br>2 to 2000 (1-2-4 step)<br>AQ6375<br>10 to 400 (1-2-4 step)                  |
| RESOLUTION FREQ<br>@@@@@                 | Sets the value of variable @@@@@ to the frequency resolution                   | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                    |
| RESOLUTION WNUM<br>*.***cm <sup>-1</sup> | Sets the wavenumber resolution. (only for AQ6375)                              | AQ6375<br>0.10 to 5.00 (1-2-5 step)                                                                                       |
| RESOLUTION WNUM<br>@@@@@                 | Sets the value of variable @@@@@ to the wavenumber resolution(only for AQ6375) | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                    |
| SENS NORMAL/HOLD                         | Sets the measuring sensitivity to NORMAL/HOLD                                  |                                                                                                                           |
| SENS NORMAL/AUTO                         | Sets the measuring sensitivity to NORMAL/AUTO                                  |                                                                                                                           |
| SENS NORMAL                              | Sets measuring sensitivity to NORMAL                                           |                                                                                                                           |
| SENS MID                                 | Sets measuring sensitivity to MID.                                             |                                                                                                                           |
| SENS HIGH1                               | Sets measuring sensitivity to HIGH1. AQ6370B                                   |                                                                                                                           |
| SENS HIGH1/CHOP                          | Sets measuring sensitivity to HIGH1/CHOP                                       | AQ6375                                                                                                                    |
| SENS HIGH2                               | Sets measuring sensitivity to HIGH2. AQ6370B                                   |                                                                                                                           |
| SENS HIGH2/CHOP                          | Sets measuring sensitivity to HIGH2/CHOP                                       | AQ6375                                                                                                                    |
| SENS HIGH3                               | Sets measuring sensitivity to HIGH3                                            | AQ6370B                                                                                                                   |
| SENS HIGH3/CHOP                          | Sets measuring sensitivity to HIGH3/CHOP                                       | AQ6375                                                                                                                    |
| CHOPPER #####                            | Switches chopper mode.                                                         | AQ6370B<br>#####: OFF/SWITCH                                                                                              |

### 8.3 Program Function Commands

| Program Command                 | Description                                                                                   | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|---------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| AVERAGE TIMES ***               | Sets the number of averaging times.                                                           | 1 to 999 (1 step)                                                                           |
| AVERAGE TIMES @                 | Sets the number of averaging times to the value of variable                                   | @: G, H, I, J, K, P, Q, R, S, X, @.Y, Z, M, N                                               |
| SAMPLING POINT AUTO ###         | Sets sampling points per sweep automatically.                                                 | ###: ON/OFF                                                                                 |
| SAMPLING POINT *****            | Sets sampling points per sweep.                                                               | 101 to 50001 (1 step)                                                                       |
| SAMPLING POINT @                | Sets the sampling points to the variable @.                                                   | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, M, N                                                 |
| SAMPLING INTERVAL *.****nm      | Sets the measurement sampling interval per sweep                                              | AQ6370B<br>0.001 to SPAN/101 (0.001 step)<br>AQ6375<br>0.002 to SPAN/101 (0.001 step)       |
| SAMPLING INTERVAL @             | Sets the sampline interval per sweep to the value of variable @.                              | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                          |
| MEASURE WAVELENGTH AIR          | Sets the measurement wavelength to an air wavelength                                          |                                                                                             |
| MEASURE WAVELENGTH VACUUM       | Sets measurement wavelength to a vacuum wavelength.                                           |                                                                                             |
| X SCALE UNIT WAVELENGTH         | Sets axis X to wavelength display mode.                                                       |                                                                                             |
| X SCALE UNIT FREQUENCY          | Sets axis X to frequency display mode.                                                        |                                                                                             |
| X SCALE UNIT WAVENUMBER         | Sets axis X to wavenumber display mode.                                                       | AQ6375                                                                                      |
| PLS LIGHT MEASURE OFF           | Turns OFF pulse light measurement mode                                                        |                                                                                             |
| PEAK HOLD****msec               | Sets the HOLD time for PEAK HOLD pulse light measurement                                      | ****: 1 to 9999                                                                             |
| EXTERNAL TRIGGER MODE           | Sets external trigger mode                                                                    |                                                                                             |
| EXTERNAL TRIGGER EDGE RISE      | Detects the falling edge of an external trigger signal                                        |                                                                                             |
| EXTERNAL TRIGGER EDGE FALL      | Detects the rising edge of an external trigger signal                                         |                                                                                             |
| EXTERNAL TRIGGER DELAY ****.*μs | After detection of an external trigger signal, and sets the delay time until data acquisition | 0.0 to 1000.0 (0.1 step)                                                                    |
| TLS SYNC SWEEP ###              | Select the synchronous sweep function ON/OFF                                                  | AQ6370B/AQ6375<br>###: ON/OFF                                                               |
| RESOLUTION CORRECTION ###       | Turns the wavelength resolution correction function ON/OFF                                    | AQ6370B<br>###: ON/OFF                                                                      |
| SMOOTHING ###                   | Turns the smoothing function ON/OFF                                                           | AQAQ6373<br>###: ON/OFF                                                                     |
| FIBER CORE SIZE #####           | Switches the fiber core size mode.                                                            | AQAQ6373<br>#####: SMALL/LARGE                                                              |

### 8.3 Program Function Commands

#### TRACE

| Program Command     | Description                                         | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|---------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------|
| ACTIVE TRACE #      | Sets trace # to active trace.                       | #: A to G                                                                                   |
| DISPLAY #           | Sets trace # to display mode.                       | #: A to G                                                                                   |
| BLANK #             | Sets trace # to invisible mode.                     | #: A to G                                                                                   |
| WRITE #             | Sets trace # to write mode.                         | #: A to G                                                                                   |
| FIX #               | Sets trace # to data-fixing mode.                   | #: A to G                                                                                   |
| MAX HOLD #          | Sets trace # to max. value detection mode.          | #: A to G                                                                                   |
| MIN HOLD #          | Sets trace # to min. value detection mode.          | #: A to G                                                                                   |
| ROLL AVG # ***      | Sets trace # to sequential addition averaging mode. | #: A to G, 2 to 100 (1 step)                                                                |
| C=A-B(LOG)          | Sets trace C to TRACE A-B computation mode (LOG)    |                                                                                             |
| C=B-A(LOG)          | Sets trace C to TRACE B-A computation mode (LOG)    |                                                                                             |
| C=A+B(LOG)          | Sets trace C to TRACE A+B computation mode (LOG)    |                                                                                             |
| C=A+B(LIN)          | Sets trace C to TRACE A+B computation mode (LIN)    |                                                                                             |
| C=A-B (LIN)         | Sets trace C to TRACE A-B computation mode (LIN)    |                                                                                             |
| C=B-A(LIN)          | Sets trace C to TRACE B-A computation mode (LIN)    |                                                                                             |
| C=1-k(A/B) k=*.**** | Sets trace C to 1-k (TRACE A/B) computation mode    | 1.0000 to 20000.0000 (0.0001 step)                                                          |
| C=1-k(B/A) k=*.**** | Sets trace C to 1-k (TRACE B/A) computation mode    | 1.0000 to 20000.0000 (0.0001 step))                                                         |
| F=C-D(LOG)          | Sets trace F to TRACE C-D computation mode (LOG)    |                                                                                             |
| F=D-C(LOG)          | Sets trace F to TRACE D-C computation mode (LOG)    |                                                                                             |
| F=C+D(LOG)          | Sets trace F to TRACE C+D computation mode (LOG)    |                                                                                             |
| F=D-E(LOG)          | Sets trace F to TRACE D-E computation mode (LOG)    |                                                                                             |
| F=E-D(LOG)          | Sets trace F to TRACE E-D computation mode (LOG)    |                                                                                             |
| F=D+E(LOG)          | Sets trace F to TRACE D+E computation mode (LOG)    |                                                                                             |
| F=C+D(LIN)          | Sets trace F to TRACE C+D computation mode (LIN)    |                                                                                             |
| F=C-D(LIN)          | Sets trace F to TRACE C-D computation mode (LIN)    |                                                                                             |
| F=D-C(LIN)          | Sets trace F to TRACE D-C computation mode (LIN)    |                                                                                             |
| F=D+E(LIN)          | Sets trace F to TRACE D+E computation mode (LIN)    |                                                                                             |
| F=D-E(LIN)          | Sets trace F to TRACE D-E computation mode (LIN)    |                                                                                             |
| F=E-D(LIN)          | Sets trace F to TRACE E-D computation mode (LIN)    |                                                                                             |
| G=C-F(LOG)          | Sets trace G to TRACE C-F computation mode (LOG)    |                                                                                             |

### 8.3 Program Function Commands

| Program Command                     | Description                                                                            | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| G=F-C(LOG)                          | Sets trace G to TRACE F-C computation mode (LOG)                                       |                                                                                             |
| G=C+F(LOG)                          | Sets trace G to TRACE C+F computation mode (LOG)                                       |                                                                                             |
| G=E-F(LOG)                          | Sets trace G to TRACE E-F computation mode (LOG)                                       |                                                                                             |
| G=F-E(LOG)                          | Sets trace G to TRACE F-E computation mode (LOG)                                       |                                                                                             |
| G=E+F(LOG)                          | Sets trace G to TRACE E+F computation mode (LOG)                                       |                                                                                             |
| G=C+F(LIN)                          | Sets trace G to TRACE C+F computation mode (LIN)                                       |                                                                                             |
| G=C-F(LIN)                          | Sets trace G to TRACE C-F computation mode (LIN)                                       |                                                                                             |
| G=F-C(LIN)                          | Sets trace G to TRACE F-C computation mode (LIN)                                       |                                                                                             |
| G=E+F(LIN)                          | Sets trace G to TRACE E+F computation mode (LIN)                                       |                                                                                             |
| G=E-F(LIN)                          | Sets trace G to TRACE E-F computation mode (LIN)                                       |                                                                                             |
| G=F-E(LIN)                          | Sets trace G to TRACE F-E computation mode (LIN)                                       |                                                                                             |
| G=NORM A                            | Sets the normalized data of trace A to be displayed on trace G.                        |                                                                                             |
| G=NORM B                            | Sets the normalized data of trace B to be displayed on trace G.                        |                                                                                             |
| G=NORM C                            | Sets the normalized data of trace C to be displayed on trace G.                        |                                                                                             |
| G=CURVE FIT A **dB                  | Sets curve fit processed data from TRACE A to be displayed on trace G.                 | 0 to 99 (1 step)                                                                            |
| G=CURVE FIT B **dB                  | Sets curve fit processed data from TRACE B to be displayed on trace G.                 | 0 to 99 (1 step)                                                                            |
| G=CURVE FIT C **dB                  | Sets curve fit processed data from TRACE C to be displayed on trace G.                 | 0 to 99 (1 step)                                                                            |
| G=CURVE FIT PEAK A **dB             | Sets peak fit processed data from TRACE A to be displayed on trace G.                  | 0 to 99 (1 step)                                                                            |
| G=CURVE FIT PEAK B **dB             | Sets peak curve fit processed data from trace B to be displayed on trace G.            | 0 to 99 (1 step)                                                                            |
| G=CURVE FIT PEAK C **dB             | Sets peak curve fit processed data from trace C to be displayed on trace G.            | 0 to 99 (1 step)                                                                            |
| G=MARKER FIT **dB                   | Sets curve fit processed data from the placed delta marker to be displayed on trace G. | 0 to 99 (1 step)                                                                            |
| CVFIT OPERATION AREA####            | Sets the target range for calculation when creating curve fit processed data.          | ####: ALL/IN L1-L2/OUT L1-L2                                                                |
| CURVE FIT/CURVE FIT PEAK ALGO ##### | Sets the fitting function when creating a fitting function.                            | ####: GAUSS/LORENZ/<br>3RD POLY/4TH POLY/5TH POLY                                           |
| TRACE #->#                          | Copies data from TRACE of the variable @ to TRACE of the variable @                    | #: A to G                                                                                   |
| TRACE # CLEAR                       | Clears trace # data.                                                                   | #: A to G                                                                                   |
| ALL TRACE CLEAR                     | Clears all trace data.                                                                 |                                                                                             |

### 8.3 Program Function Commands

#### ZOOM

| Program Command                             | Description                                                                   | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                |
|---------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZOOM CENTER WL<br>****.***nm                | Sets the display scale's center wavelength.                                   | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6373<br>350.000 to 1200.000 (0.001 step)<br>AQ6375<br>1200.000 to 2400.000 (0.001 step)                   |
| ZOOM CENTER<br>@@@@@                        | Sets the value of variable @@@@@ to the display scale center wavelength       | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL, WDMWL(CH), NFWL(CH)                                                            |
| ZOOM CENTER<br>FREQ ***.***THz              | Sets the display scale's center frequency.                                    | AQ6370B<br>176.5000 to 500.0000 THz (0.0001 step)<br>AQ6373<br>250.0000 to 856.5000 THz (0.0001 step)<br>AQ6375<br>125.5000 to 2500.0000 THz (0.0001 step) |
| ZOOM CENTER<br>FREQ @@@@@                   | Sets the value of variable @@@@@ to the display scale center frequency        | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL, WDMWL(CH), NFWL(CH)                                                            |
| ZOOM CENTER<br>WNUM****.***cm <sup>-1</sup> | Sets the display scale's center wavenumber.(only for AQ6375)                  | 4167.000 to 8333.000 cm <sup>-1</sup> (0.001 step)                                                                                                         |
| ZOOM CENTER<br>WNUM@@@@                     | Sets the value of variable @@@@@ to the display scale center wavenumber       | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), PKWL, MEANWL, WDMWL(CH), NFWL(CH)                                                            |
| ZOOM SPAN WL<br>****.*nm                    | Sets the display scale's span.                                                | AQ6370B<br>0.1 to 1100.0 nm (0.1 step)<br>AQ6373<br>0.1 to 850.0 nm (0.1 step)<br>AQ6375<br>0.1 to 1200.0 nm (0.1 step)                                    |
| ZOOM SPAN WL<br>@@@@@                       | Sets the value of variable @@@@@ to the display scale span                    | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                                     |
| ZOOM SPAN FREQ<br>***.***THz                | Sets the display scale's span.                                                | AQ6370B<br>0.01 to 330.00 THz (0.01 step)<br>AQ6373<br>0.01 to 610.00 THz (0.01 step)<br>AQ6375<br>0.01 to 130.00 THz (0.01 step)                          |
| ZOOM SPAN FREQ<br>@@@@@                     | Sets the value of variable @@@@@ to the display scale span                    | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                                     |
| ZOOM SPAN WNUM<br>***.***cm <sup>-1</sup>   | Sets the display scale's span.                                                | AQ6375<br>0.5 to 4200.0 cm <sup>-1</sup> (0.1 step)                                                                                                        |
| ZOOM SPAN WNUM<br>@@@@@                     | Sets the value of variable @@@@@ to the display scale span. (only for AQ6375) | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, W2-W1, SPWD                                                                                                     |

### 8.3 Program Function Commands

| Program Command                             | Description                                                                                                                    | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                     |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZOOM START WL<br>****.***nm                 | Sets the starting wavelength of the display scale.                                                                             | AQ6370B<br>50.000 to 1699.950 nm<br>(0.001 step)<br>AQ6373<br>1.000 to 1199.950 nm (0.001 step)<br>AQ6375<br>600.000 to 2400.000 nm<br>(0.001 step)             |
| ZOOM START FREQ<br>***.****THz              | Sets the starting frequency of the display scale.                                                                              | AQ6370B<br>11.5000 to 499.9950 THz<br>(0.0001 step)<br>AQ6373<br>10.0000 to 856.4950 THz<br>(0.0001 step)<br>AQ6375<br>60.0000 to 250.0000 THz<br>(0.0001 step) |
| ZOOM START WNUM<br>***.****cm <sup>-1</sup> | Sets the starting wavenumber of the display scale.                                                                             | AQ6375<br>2067.000 to 8333.000 cm <sup>-1</sup><br>(0.001 step)                                                                                                 |
| ZOOM STOP WL<br>****.***nm                  | Sets the ending wavelength of the display scale.                                                                               | AQ6370B<br>600.050 to 2250.000 nm<br>(0.001 step)<br>AQ6373<br>350.050 to 1625.000 nm<br>(0.001 step)<br>AQ6375<br>1200.000 to 3000.000 nm<br>(0.001 step)      |
| ZOOM STOP FREQ<br>***.****THz               | Sets the ending frequency of the display scale.                                                                                | AQ6370B<br>176.5050 to 665.0000<br>(0.0001 step)<br>AQ6373<br>250.0050 to 999.9000<br>(0.0001 step)<br>AQ6375<br>125.0000 to 315.0000<br>(0.0001 step)          |
| ZOOM STOP WNUM<br>***.****cm <sup>-1</sup>  | Sets the ending wavenumber of the display scale.                                                                               | AQ6375<br>4167.000 to 10433.000 cm <sup>-1</sup><br>(0.001 step)                                                                                                |
| PEAK->ZOOM<br>CENTER                        | Sets the peak wavelength of the waveform on the active trace.<br>Sets the wavelength to the display scale's center wavelength. |                                                                                                                                                                 |
| OVERVIEW DISPLAY<br>OFF                     | Sets OVERVIEW display during ZOOM to OFF                                                                                       |                                                                                                                                                                 |
| OVERVIEW DISPLAY<br>LEFT                    | Sets OVERVIEW display during ZOOM to the left side of the waveform screen                                                      |                                                                                                                                                                 |
| OVERVIEW DISPLAY<br>RIGHT                   | Sets OVERVIEW display during ZOOM to the right side of the waveform screen                                                     |                                                                                                                                                                 |
| OVERVIEW SIZE<br>LARGE                      | Sets OVERVIEW display during ZOOM to a large display                                                                           |                                                                                                                                                                 |
| OVERVIEW SIZE<br>SMALL                      | Sets OVERVIEW display during ZOOM to a small display                                                                           |                                                                                                                                                                 |
| ZOOM INITIALIZE                             | Resets the display scale to the initial state.                                                                                 |                                                                                                                                                                 |

### 8.3 Program Function Commands

#### DISPLAY

| Program Command        | Description                                                                                                                                                          | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                                                                                                                                                                               |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NORMAL DISPLAY         | Sets the screen into normal display mode.                                                                                                                            |                                                                                                                                                                                                                                                                                                                           |
| SPLIT DISPLAY          | Sets the screen into split display mode.                                                                                                                             |                                                                                                                                                                                                                                                                                                                           |
| TRACE # UPPER          | Sets trace # to the top screen of the split display.                                                                                                                 | #: A to G                                                                                                                                                                                                                                                                                                                 |
| TRACE # LOWER          | Sets trace # to the bottom screen of the split display.                                                                                                              | #: A to G                                                                                                                                                                                                                                                                                                                 |
| UPPER HOLD ###         | Holds the top screen of the of split display.                                                                                                                        | ###: ON/OFF                                                                                                                                                                                                                                                                                                               |
| LOWER HOLD ###         | Holds the bottom screen of the split display                                                                                                                         | ###: ON/OFF                                                                                                                                                                                                                                                                                                               |
| LABEL '---56 chars---' | Displays a label comment in the label area. If a semicolon ( ; ) is added to the end, the comment (variable value) specified by the next LABEL command is displayed. |                                                                                                                                                                                                                                                                                                                           |
| LABEL @@@@             | Sets the contents of variable @@@@ to the label area                                                                                                                 | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), W2-W1, LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$, TIME\$ |
| LABEL @@@@;            | Sets the contents of variable @@@@ to the label display. The comment (variable value) specified by the next LABEL command is displayed.                              | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), W2-W1, LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$, TIME\$ |
| LABEL CLEAR            | Clears the LABEL command in the label area.                                                                                                                          |                                                                                                                                                                                                                                                                                                                           |
| NOISE MASK ***dB       | Displays waveform data with the data at or below the set level masked                                                                                                | OFF (-999), -100 to 0 (1 step)                                                                                                                                                                                                                                                                                            |
| MASK LINE VERTICAL     | Sets the mask value in the noise mask function or lower to zero.                                                                                                     |                                                                                                                                                                                                                                                                                                                           |
| MASK LINE HORIZONTAL   | Sets the mask value in the noise mask function or lower to the mask value.                                                                                           |                                                                                                                                                                                                                                                                                                                           |
| TRACE # CLEAR          | Clears trace # data.                                                                                                                                                 | #: A to G                                                                                                                                                                                                                                                                                                                 |
| ALL TRACE CLEAR        | Clears all trace data.                                                                                                                                               |                                                                                                                                                                                                                                                                                                                           |

## MARKER

| Program Command                 | Description                                                                                                  | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| MARKER ****.***nm               | Sets the marker to the specified wavelength position on the active trace (according to the wavelength value) | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6373<br>350.000 to 1200.000 (0.001 step)<br>AQ6375<br>600.000 to 2400.000 (0.001 step)      |
| MARKER ***.****THz              | Sets the marker to the specified wavelength position on the active trace (according to the frequency value)  | AQ6370B<br>176.5000 to 500.0000 (0.0001 step)<br>AQ6373<br>250.0000 to 856.5000 (0.0001 step)<br>AQ6375<br>60.0000 to 250.0000 (0.0001 step) |
| MARKER ***.****cm <sup>-1</sup> | Sets the marker to the specified wavenumber position on the active trace (according to the wavenumber value) | AQ6375<br>2067.000 to 8333.000 (0.0001 step)                                                                                                 |
| MARKER @@@@                     | Sets a marker to the wavelength position of variable @@@@                                                    | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), MEANWL, PKWL, WDMWL(CH), NFWL(CH)                                               |
| SET MARKER ****                 | Sets fixed marker **** to the moving marker position                                                         | 1 to 1024 (1 step)                                                                                                                           |
| SET MARKER @                    | Sets the fixed marker of variable @ to the moving marker position                                            | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, N, M                                                                                                  |
| CLEAR MARKER ****               | Clears fixed marker ****.                                                                                    | 1 to 1024 (1 step)                                                                                                                           |
| CLEAR MERKER @                  | Clears the fixed marker of variable @.                                                                       | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, N, M                                                                                                  |
| MARKER->CENTER                  | Sets the wavelength value of a marker to the measurement center wavelength.                                  |                                                                                                                                              |
| MARKER->ZOOM CENTER             | Sets the wavelength value of a marker to the display scale's center wavelength                               |                                                                                                                                              |
| MARKER->REF LEVEL               | Sets the marker level value to thereference level.                                                           |                                                                                                                                              |
| ALL MARKER CLEAR                | Clears all markers from the screen.                                                                          |                                                                                                                                              |
| LINE MARKER1<br>****.***nm      | Sets line marker 1 to a specified wavelength position (according to a wavelength value).                     | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6373<br>350.000 to 1200.000 (0.001 step)<br>AQ6375<br>600.000 to 2400.000 (0.001 step)      |
| LINE MARKER1<br>***.****THz     | Sets line marker 1 to a specified frequency position (according to a frequency value).                       | AQ6370B<br>176.5000 to 500.0000 (0.0001 step)<br>AQ6373<br>250.0000 to 856.5000 (0.0001 step)<br>AQ6375<br>60.5000 to 250.0000 (0.0001 step) |

### 8.3 Program Function Commands

| Program Command                         | Description                                                                              | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                                                             |
|-----------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINE MARKER1<br>***.***cm <sup>-1</sup> | Sets line marker 1 to a specified wavenumber position (according to a wavenumber value). | AQ6375<br>2067.000 to 8333.000 (0.001 step)                                                                                                                                                             |
| LINE MARKER1<br>@@@@@                   | Sets line marker 1 to the wavelength position of variable @@@@@                          | @@@@@:G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), MEANWL, PKWL, WDMWL(CH), NFWL(CH)                                                                                                          |
| LINE MARKER2<br>***.***nm               | Sets line marker 2 to a specified wavelength position (according to a wavelength value). | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6373<br>350.000 to 1200.000 (0.001 step)<br>AQ6375<br>600.000 to 2400.000 (0.001 step)                                                                 |
| LINE MARKER2<br>***.***THz              | Sets line marker 2 to a specified frequency position (according to a frequency value).   | AQ6370B<br>176.5000 to 500.0000 (0.0001 step)<br>AQ6373<br>250.0000 to 856.5000 (0.0001 step)<br>AQ6375<br>60.0000 to 250.0000 (0.0001 step)                                                            |
| LINE MARKER2<br>***.***cm <sup>-1</sup> | Sets line marker 2 to a specified wavenumber position (according to a wavenumber value). | AQ6375<br>2067.000 to 8333.000 (0.001 step)                                                                                                                                                             |
| LINE MARKER2<br>@@@@@                   | Sets line marker 2 to the wavelength position of variable @@@@@                          | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), MEANWL, PKWL, WDMWL(CH), NFWL(CH)                                                                                                         |
| LINE MARKER3<br>****.***dB              | Sets line marker 3 to a specified level.                                                 | -139.90 to 159.90 (0.01 step)                                                                                                                                                                           |
| LINE MARKER3<br>****.***dBm             | Sets line marker 3 to a specified level.                                                 | -210.00 to 50.00 (0.01 step)                                                                                                                                                                            |
| LINE MARKER3<br>*.***##                 | Sets line marker 3 to a specified level.                                                 | 1.00pW to 1000mW<br>(1.00 to 9.99[pW, nW, μW, mW]: 0.01 step<br>10.0 to 99.9(100) [pW, nW, μW, (mW)]: 0.1 step<br>100 to 999 [pW, nW, μW, mW]: 1 step) ## is , pW, nW, μW, mW (Select one of the above) |
| LINE MARKER3<br>**.***                  | Sets line marker 3 to a specified level.                                                 | 0.00 to 2500.00 (0.01 step)                                                                                                                                                                             |
| LINE MARKER3<br>@@@@@                   | Sets line marker 3 to the level position of variable @@@@@                               | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, LM, L1, L2, L(CH), PKLVL, WDMLVL(CH), NFLVI(CH), NFLVO(CH), NFASLV(CH), MKPWR                                                                                |

### 8.3 Program Function Commands

| Program Command              | Description                                                                              | Instrument models on which the command is valid, parameter ranges, and supported variables.                                                                                                                                               |
|------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINE MARKER4<br>****.***dB   | Sets line marker 4 to a specified level.                                                 | -139.90 to 159.90 (0.01 step)                                                                                                                                                                                                             |
| LINE MARKER4<br>****.***dBm  | Sets line marker 4 to a specified level.                                                 | -210.00 to 50.00 (0.01 step)                                                                                                                                                                                                              |
| LINE MARKER4<br>*.***##      | Sets line marker 4 to a specified level.                                                 | 1.00pW to 1000mW<br>(1.00 to 9.99[pW, nW, $\mu$ W, mW]:<br>0.01 step<br>10.0 to 99.9(100) [pW, nW, $\mu$ W,<br>(mW)]: 0.1 step<br>100 to 999 [pW, nW, $\mu$ W, mW]: 1<br>step)<br>## is , pW, nW, $\mu$ W, mW(Select<br>one of the above) |
| LINE MARKER4 ** .***         | Sets line marker 4 to a specified level.                                                 | 0.00 to 2500.00 (0.01 step)                                                                                                                                                                                                               |
| LINE MARKER4<br>@@@@@        | Sets line marker 4 to the level position of variable @@@@@                               | @@@@@: G, H, I, J, K, P, Q, R,<br>S, X, Y, Z, LM, L1, L2, L(CH),<br>PKLVL, WDMLVL(CH),<br>NFLVLI(CH), NFLVLO(CH),<br>NFASELV(CH), MKPWR                                                                                                   |
| MARKER L1-L2->SPAN           | Sets the range surrounded by line markers 1 and 2 to the measuring span.                 |                                                                                                                                                                                                                                           |
| MARKER L1-L2-><br>ZOOM SPAN  | Sets the range surrounded by line markers 1 and 2 to the display scale span.             |                                                                                                                                                                                                                                           |
| LINE MARKER CLEAR            | Clears line markers on the screen.                                                       |                                                                                                                                                                                                                                           |
| MARKER OFFSET LIST           | Displays the difference from the moving marker.                                          |                                                                                                                                                                                                                                           |
| MARKER SPACING<br>LIST       | Displays a difference to a neighboring marker.                                           |                                                                                                                                                                                                                                           |
| MARKER AUTO<br>UPDATE ###    | Makes the level position of a fixed marker follow the active trace waveform.             | ###: ON/OFF                                                                                                                                                                                                                               |
| MARKER UNIT nm               | Sets a wavelength marker value to the wavelength display.                                |                                                                                                                                                                                                                                           |
| MARKER UNIT THz              | Sets a wavelength marker value to the frequency display.                                 |                                                                                                                                                                                                                                           |
| MARKER UNIT cm <sup>-1</sup> | Sets a wavelength marker value to the wavenumber display.                                | AQ6375                                                                                                                                                                                                                                    |
| SEARCH/ANA<br>L1-L2 ###      | Selects ON/OFF for the analysis function in the range surrounded by line markers 1 and 2 | ###: ON/OFF                                                                                                                                                                                                                               |
| SEARCH/ANA<br>ZOOM AREA ###  | Selects ON/OFF for the analysis function of the display scale range                      | ###: ON/OFF                                                                                                                                                                                                                               |
| MARKER LIST PRINT            | Prints out multiple marker values.                                                       |                                                                                                                                                                                                                                           |

### 8.3 Program Function Commands

#### PEAK SEARCH

| Program Command          | Description                                                                                        | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|--------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| PEAK SEARCH              | Performs a peak search on the active trace waveform                                                |                                                                                             |
| BOTTOM SEARCH            | Performs a bottom search on the active trace waveform                                              |                                                                                             |
| NEXT SRCH                | Searches for the next peak/bottom after the peak/bottom level of the active trace waveform         |                                                                                             |
| NEXT SRCH RIGHT          | Searches for the peak/bottom to the right of the peak/bottom marker of the active trace waveform   |                                                                                             |
| NEXT SRCH LEFT           | Searches for the peak/bottom to the left of the peak/bottom marker of the active trace waveform    |                                                                                             |
| SET MARKER ****          | Sets fixed marker to the moving marker **** position                                               | 1–1024 (1 step)                                                                             |
| SET MARKER @             | Sets the fixed marker of variable @ to the moving marker position                                  | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, S, N, M                                              |
| CLEAR MARKER ****        | Clears fixed marker ****.                                                                          | 1–1024 (1 step)                                                                             |
| CLEAR MERKER @           | Clears the fixed marker of variable @.                                                             | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, S, N, M                                              |
| ALL MARKER CLEAR         | Clears all markers from the screen.                                                                |                                                                                             |
| AUTO SEARCH ###          | Selects ON/OFF of the peak/bottom search function conducted each sweep                             | ###: ON/OFF                                                                                 |
| MODE DIFF **. **dB       | Sets the level difference of the mode judgment criteria used for peak search or waveform analysis. | 0.01–50.00 (0.01 step)                                                                      |
| SEARCH/ANA L1-L2 ###     | Selects ON/OFF for the analysis function in the range surrounded by line markers 1 and 2           | ###: ON/OFF                                                                                 |
| SEARCH/ANA ZOOM AREA ### | Selects ON/OFF for the analysis Function of the display scale range                                | ###: ON/OFF                                                                                 |

**ANALYSIS**

For the AQ6373, replace “WDM” with “OSNR(WDM)” for all commands that start with “WDM.”

Example) WDM ANALYSIS→OSNR(WDM) ANALYSIS

The following commands are not available.

All commands that start with “EDFA-NF”

The following commands are not available on the AQ6375 if the wavenumber markers are set.

- All commands that start with “WDM”
- All commands that start with “EDFA-NF”
- All commands that start with “FILTER”

| Program Command               | Description                                                                                                                  | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| SPEC WD THRESH<br>**.**.dB    | Performs a THRESH-based spectrum width search according to the specified threshold value                                     | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM THRESH<br>K **.**. **   | Sets the magnification for the THRESH based spectrum width search                                                            | 1.00 to 10.00 (0.01 step)                                                                   |
| PARAM THRESH<br>MODE FIT ###  | Turns ON/OFF the function that sets the marker to the peak of the mode when performing a THRESH-based spectrum width search. | ###: ON/OFF                                                                                 |
| SPEC WD ENV **.**.dB          | Performs an envelope-based spectrum width search using the specified threshold value                                         | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM ENV TH2<br>**.**.dB     | Sets the cutoff value for the envelope-based spectrum width search.                                                          | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM ENV K **.**.dB          | Sets the cutoff value for the envelope-based using the THRESH method.                                                        | 1.00 to 10.00 (0.01 step)                                                                   |
| SPEC WD RMS **.**.dB          | Performs an RMS-based spectrum width search according to a specified threshold.                                              | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM RMS K<br>**.**. **      | Sets the magnification for an RMS-based spectrum width search                                                                | 1.00 to 10.00 (0.01 step)                                                                   |
| SPEC WD PEAK<br>RMS **.**.dB  | Performs an RMS-based spectrum width search according to a specified threshold value                                         | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM PEAK RMS<br>K **.**. ** | Sets the magnification for a PEAK-RMS-based spectrum width search                                                            | 1.00 to 10.00 (0.01 step)                                                                   |
| SPEC WD NOTCH<br>**.**.dB     | Measures the NOTCH width using a specified threshold value                                                                   | 0.01 to 50.00 (0.01 step)                                                                   |
| PARAM NOTCH K<br>**.**. **    | Sets a magnification based on notch width measurement                                                                        | 1.00 to 10.00 (0.01 step)                                                                   |
| NOTCH FROM<br>#####           | Sets the reference for making notch width measurements.                                                                      | #####: PEAK/BOTTOM                                                                          |

### 8.3 Program Function Commands

| Program Command             | Description                                                                                                 | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-----------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| SMSR *                      | Sets the execution mode applied in SMR measurement                                                          | 1, 2                                                                                        |
| SMSR MASK ±**. **nm         | Sets a mask range close to the peak during SMSR1 measurements                                               | 0.00 to 99.99 (0.01 step)                                                                   |
| POWER                       | Performs power analysis                                                                                     |                                                                                             |
| POWER OFFSET ***. **dB      | Sets a correction value in power measurements                                                               | -10.00 to 10.00 (0.01 step)                                                                 |
| DFB-LD ANALYSIS             | Performs analysis necessary for DFB-LD.                                                                     |                                                                                             |
| FP-LD ANALYSIS              | Performs analysis necessary for FP-LD.                                                                      |                                                                                             |
| LED ANALYSIS                | Performs analysis necessary for LED.                                                                        |                                                                                             |
| PMD ANALYSIS                | Performs analysis necessary for PMD.                                                                        |                                                                                             |
| PMD THRESH **. **dB         | Sets a threshold value for PMD analysis                                                                     | 0.01 to 50.00 (0.01 step)                                                                   |
| WDM ANALYSIS                | Performs analysis necessary for WDM.                                                                        |                                                                                             |
| WDM THRESH **. **dB         | Sets a threshold value for WDM analysis                                                                     | 0.1 to 99.9 (0.1 step)                                                                      |
| WDM MODE DIFF **. **dB      | Sets the minimum peak/bottom difference for channel detection during WDM analysis.                          | 0.01 to 50.00 (0.01 step)                                                                   |
| WDM DISPLAY MASK OFF        | Cancels level threshold value setting when masking display channels                                         |                                                                                             |
| WDM DISPLAY MASK ****. **dB | Sets the level threshold value when masking display channels                                                | -100.00 to 0.00 (0.01 step)                                                                 |
| WDM NOISE ALGO AUTO-FIXFIX  | Sets noise level measuring algorithm to AUTO                                                                |                                                                                             |
| WDM NOISE ALGO MANUAL FIX   | Sets noise level measuring algorithm to MANUAL FIX                                                          |                                                                                             |
| WDM NOISE ALGO AUTO CTR     | Sets noise level measuring algorithm to AUTO CTR                                                            |                                                                                             |
| WDM NOISE ALGO MANUAL CTR   | Sets noise level measuring algorithm to MANUAL CTR                                                          |                                                                                             |
| WDM NOISE ALGO PIT          | Sets noise level measuring algorithm to PIT                                                                 |                                                                                             |
| WDM NOISE AREA **. **nm     | Sets an area used for noise level analysis in a range centered on channel wavelength.                       | 0.01 to 10.00 (0.01 step)                                                                   |
| WDM NOISE AREA @            | Sets an area used for noise level analysis in a range of variable @ centered on channel channel wavelength. | @: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                       |
| WDM MASK AREA **. **nm      | Sets the signal light spectrum range to mask as centered on channel wavelength                              | 0.01 to 10.00 (0.01 step)                                                                   |
| WDM MASK AREA @             | Sets the signal light spectrum range to mask as centered on channel wavelength, to the range of variable @  | @: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                       |

### 8.3 Program Function Commands

| Program Command            | Description                                                                                                                      | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| WDM FITTING ALGO LINEAR    | Sets the fitting algorithm for finding noise level to linear interpolation mode                                                  |                                                                                             |
| WDM FITTING ALGO GAUSS     | Sets the fitting algorithm for finding noise level to normal distribution curve mode                                             |                                                                                             |
| WDM FITTING ALGO LORENZ    | Sets the fitting algorithm for finding noise level to Lorenz curve mode                                                          |                                                                                             |
| WDM FITTING ALGO 3RD POLY  | Sets the fitting algorithm for finding noise level in 3rd polynomial mode.                                                       |                                                                                             |
| WDM FITTING ALGO 4TH POLY  | Sets the fitting algorithm for finding noise level in 4th polynomial mode                                                        |                                                                                             |
| WDM FITTING ALGO 5TH POLY  | Sets the fitting algorithm for finding noise level in 5th polynomial mode                                                        |                                                                                             |
| WDM NOISE BANDWIDTH *.**nm | Sets bandwidth applied in measuring 0.01 to 1.00 (0.01 step) noise                                                               |                                                                                             |
| WDM DUAL TRACE ###         | Makes setting so that both TRACES A and B are used in analyzing WDM.                                                             | ###: ON/OFF                                                                                 |
| WDM DISPLAY ABSOLUTE       | Sets the display of WDM analysis results to absolute value display.                                                              |                                                                                             |
| WDM DISPLAY RELATIVE       | Sets the display of WDM analysis results to relative value display.                                                              | AQ6370B/AQ6375                                                                              |
| WDM DISPLAY DRIFT MEAS     | Sets the display of WDM analysis results to drift value display (drift display using past measurement wavelength as a reference) |                                                                                             |
| WDM DISPLAY DRIFT GRID     | Sets the display of WDM analysis results to drift value display (using grid wavelength as a reference)                           | AQ6370B/AQ6375                                                                              |
| WDM CH RELATION #####:     | Sets the display format of an inter-channel level absolute value when WDM analysis display is in absolute value display          | ##### OFFSET/SPACING                                                                        |
| WDM REF CHANNEL HIGHEST    | Sets the reference channel when the CH RELATION is OFFSET to the channel with the highest level                                  |                                                                                             |
| WDM CHANNEL NO.****        | Sets the reference channel when the 1 to 1024 (1 step) CH RELATION is OFFSET                                                     |                                                                                             |
| WDM MAX/MIN RESET          | Resets MAX/MIN data during DRIFT (MEAS, GRID) measurement                                                                        |                                                                                             |
| WDM OUTPUT SLOPE ###       | Displays the least square approximation line of a channel peak.                                                                  | ###: ON/OFF                                                                                 |
| WDM POINT DISPLAY ###      | Displays the range of data used in fitting on the waveform screen.                                                               | ###: ON/OFF                                                                                 |
| COLOR ANALYSIS             | Performs a color analysis                                                                                                        | AQ6373                                                                                      |
| EDFA NF ANALYSIS           | Performs analysis necessary for EDFA-NF measurements.                                                                            |                                                                                             |
| EDFA NF THRESH **.**dB     | Sets an EDFA-NF analysis threshold.                                                                                              | 0.1 to 99.9 (0.1 step)                                                                      |
| EDFA NF MODE DIFF **.**dB  | Sets the minimum peak/bottom difference for channel detection during EDFA-NF analysis.                                           | 0.01 to 50.00 (0.01 step)                                                                   |

### 8.3 Program Function Commands

| Program Command               | Description                                                                               | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| EDFA NF OFFSET(IN) ***.**dB   | Sets a signal light offset value used for NF and Gain calculation                         | -99.99 to 99.99 (0.01 step)                                                                 |
| EDFA NF OFFSET(IN) @@@@       | Sets the offset value of the signal used for NF and Gain calculation to the variable @@@@ | @@@@:G, H, I, J, K, P, Q, R, S, X, Y, Z                                                     |
| EDFA NF OFFSET(OUT) ***.**dB  | Sets an output light offset value used for NF and Gain calculation                        | -99.99 to 99.99 (0.01 step)                                                                 |
| EDFA NF OFFSET(OUT) @@@@      | Sets an output light offset value used for NF and Gain calculation to the variable @@@@   | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                    |
| EDFA NF ASE ALGO AUTO FIX     | Sets the ASE level measuring algorithm to ATUO FIX                                        |                                                                                             |
| EDFA NF ASE ALGO MANUAL FIX   | Sets the ASE level measuring algorithm to MANUAL FIX                                      |                                                                                             |
| EDFA NF ASE ALGO AUTO CTR     | Sets the ASE level measuring algorithm to AUTO CTR                                        |                                                                                             |
| EDFA NF ASE ALGO MANUAL CTR   | Sets the ASE level measuring algorithm to MANUAL CTR                                      |                                                                                             |
| EDFA NF ASE AREA **.**nm      | Sets an area used for ASE level analysis in a range centered on channel wavelength        | 0.01 to 10.00 (0.01 step)                                                                   |
| EDFA NF ASE AREA @            | Sets an area used for ASE level analysis in a range centered on variable @@@@             | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                    |
| EDFA NF MASK AREA **.**nm     | Sets the signal light spectrum range to mask as centered on channel wavelength            | 0.01 to 10.00 (0.01 step)                                                                   |
| EDFA NF MASK AREA @           | Sets the signal light spectrum range to mask as centered on variable @@@@                 | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                    |
| EDFA NF FITTING ALGO LINEAR   | Sets the fitting algorithm for finding ASE level to linear interpolation mode             |                                                                                             |
| EDFA NF FITTING ALGO GAUSS    | Sets the fitting algorithm for finding ASE level to normal distribution curve mode        |                                                                                             |
| EDFA NF FITTING ALGO LORENZ   | Sets the fitting algorithm for finding ASE level to Lorenz curve mode                     |                                                                                             |
| EDFA NF FITTING ALGO 3RD POLY | Sets the fitting algorithm for finding ASE level in 3rd polynomial mode                   |                                                                                             |
| EDFA NF FITTING ALGO 4TH POLY | Sets the fitting algorithm for finding ASE level in 4th polynomial mode                   |                                                                                             |
| EDFA NF FITTING ALGO 5TH POLY | Sets the fitting algorithm for finding ASE level in 5th polynomial mode                   |                                                                                             |
| EDFA NF POINT DISPLAY ###     | Displays the range of data used in fitting on the waveform screen.                        | ###: ON/OFF                                                                                 |
| EDFA NF RES BW MEASURED       | For the resolution, use the value determined from the waveform using THRESH 3dB analysis. |                                                                                             |
| EDFA NF RES BW CAL DATA       | For the resolution, use the actual resolution value stored in the instrument.             |                                                                                             |
| EDFA NF SHOT NOISE ###        | Set whether to include/not include Shot Noise in the NF computation                       | ###: ON/OFF                                                                                 |

### 8.3 Program Function Commands

| Program Command               | Description                                                                                                           | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| FILTER(PEAK) ANALYSIS         | Performs optical filter (PEAK) analysis.                                                                              |                                                                                             |
| FILTER(BOTTOM) ANALYSIS       | Performs optical filter (BOTTOM) analysis.                                                                            |                                                                                             |
| WDM FILTER(PEAK) ANALYSIS     | Performs multi-channel type optical filter (PEAK) analysis                                                            | AQ6370B/AQ6375                                                                              |
| WDM FILTER (BOTTOM) ANALYSIS  | Performs multi-channel type optical filter (BOTTOM) analysis.                                                         | AQ6370B/AQ6375                                                                              |
| SWITCH DISPLAY TO TRACE&TABLE | Displays both waveforms and tables in the display of analysis results.                                                |                                                                                             |
| SWITCH DISPLAY TO TABLE       | Displays only tables in the display of analysis results.                                                              |                                                                                             |
| SWITCH DISPLAY TO TRACE       | Displays only traces in the display of analysis results.                                                              |                                                                                             |
| AUTO ANALYSIS ###             | Selects ON/OFF of the waveform analysis function activated each time a sweep is made                                  | ###: ON/OFF                                                                                 |
| ANALYSIS RESULT PRINT         | Prints out analysis results.                                                                                          |                                                                                             |
| RESULT WRITE INT: '#####.***' | Specifies a filter name and saves analysis results to internal memory.                                                | '#####.***': File name                                                                      |
| RESULT WRITE EXT: '#####.***' | Specifies a file name and saves analysis results to internal memory.                                                  | '#####.***': File name                                                                      |
| RESULT WRITE INT              | Saves analysis results in internal memory. File names are assigned automatically.                                     |                                                                                             |
| RESULT WRITE EXT              | Saves analysis results in external memory. File names are assigned automatically.                                     |                                                                                             |
| RESULT WRITE INT @@           | Specifies a file name and saves analysis results to internal memory under the file name specified in the variable @@. | @@: A\$, B\$, C\$, D\$                                                                      |
| RESULT WRITE EXT @@           | Specifies a file name and saves analysis results to floppy disk under the file name specified in the variable @@.     | @@: A\$, B\$, C\$, D\$                                                                      |
| SEARCH/ANA L1-L2 ###          | Sets ON/OFF for the analysis function in the range surrounded by line markers 1 and 2.                                | ###: ON/OFF                                                                                 |
| SEARCH/ANA ZOOM AREA ###      | Selects ON/OFF for the analysis function of the display scale range                                                   | ###: ON/OFF                                                                                 |

### 8.3 Program Function Commands

---

#### MEMORY

| Program Command        | Description                                                                     | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| SAVE #->MEMORY<br>**   | Writes the contents of the selected TRACE from the specified memory number.     | 0 to 63 (1 step)<br>#: A, B, C, D, E, F, G                                                  |
| SAVE #->MEMORY<br>@    | Writes the contents of the selected TRACE from the memory number in variable @. | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>#: A, B, C, D, E, F, G                             |
| RECALL MEMORY<br>**-># | Reads the contents of the selected TRACE from the specified memory number.      | 0 to 63 (1 step)<br>#: A, B, C, D, E, F, G                                                  |
| RECALL MEMORY<br>@->#  | Reads the contents of the selected TRACE from the memory number in variable @.  | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>#: A, B, C, D, E, F, G                             |
| CLEAR MEMORY **        | Clears trace data in the memory                                                 | 0 to 63 (1 step)                                                                            |
| CLEAR MEMORY @         | Clears the trace data in the memory specified by the variable @/                | @: G, H, I, J, K, P, Q, R, S, X, Y, Z                                                       |

## FILE

| Program Command                    | Description                                                                                                            | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| WRITE TRACE # INT:<br>'#####.***'  | Assign a file name to specified TRACE data and save it to internal memory                                              | #: A, B, C, D, E, F, G<br>'#####.***': file name                                            |
| WRITE TRACE #<br>EXT: '#####.***'  | Assign a file name to specified TRACE data and save it in external memory                                              | #: A, B, C, D, E, F, G<br>'#####.***': file name                                            |
| WRITE TRACE # INT                  | Saves specified TRACE data in internal memory. File names are assigned automatically                                   | #: A, B, C, D, E, F, G                                                                      |
| WRITE TRACE #<br>EXT               | Saves specified TRACE data in external memory. File names are assigned automatically                                   | #: A, B, C, D, E, F, G                                                                      |
| WRITE TRACE # INT<br>@@            | Saves specified TRACE data in internal memory under the file name @@: A\$, B\$, C\$, D\$ specified in the variable @@. | #: A, B, C, D, E, F, G<br>@@: A\$, B\$, C\$, D\$                                            |
| WRITE TRACE #<br>EXT @@            | Saves specified TRACE data in external memory under the file name @@: A\$, B\$, C\$, D\$ specified in the variable @@. | #: A, B, C, D, E, F, G<br>@@: A\$, B\$, C\$, D\$                                            |
| TRACE WRITE:<br>BINARY             | Sets the data storage format to BINARY                                                                                 |                                                                                             |
| TRACE WRITE:CSV                    | Sets the data storage format to CSV                                                                                    |                                                                                             |
| WRITE MEMORY **<br>INT:'#####.***' | Specifies a file name and saves the memory data in internal memory                                                     | **: 0 to 63 (1 step)<br>'#####.***': file name                                              |
| WRITE MEMORY **<br>EXT:'#####.***' | Specifies a file name and saves the memory data in external memory                                                     | **: 0 to 63 (1 step)<br>'#####.***': file name                                              |
| WRITE MEMORY<br>**INT              | Saves memory data in internal memory<br>File names are assigned automatically                                          | **: 0 to 63 (1 step)                                                                        |
| WRITE MEMORY<br>** EXT             | Saves memory data in external memory<br>File names are assigned automatically                                          | **: 0 to 63 (1 step)                                                                        |
| WRITE MEMORY **<br>INT @@          | Saves memory data under the file name specified in the variable @@<br>in internal memory                               | **: 0 to 63 (1 step)<br>@@: A\$, B\$, C\$, D\$                                              |
| WRITE MEMORY **<br>EXT @@          | Saves memory data under the file name specified in the variable @@<br>in external memory                               | **: 0 to 63 (1 step)<br>@@: A\$, B\$, C\$, D\$                                              |
| WRITE GRAPH INT:<br>'#####.***'    | Specifies a file name and saves graphic data in internal memory.                                                       | '#####.***': File name                                                                      |
| WRITE GRAPH EXT:<br>'#####.***'    | Specifies a file name and saves graphic data in external memory.                                                       | '#####.***': file name                                                                      |
| WRITE GRAPH INT                    | Saves graphic data in internal memory<br>File names are assigned automatically                                         |                                                                                             |
| WRITE GRAPH EXT                    | Saves graphic data in external memory<br>File names are assigned automatically                                         |                                                                                             |
| WRITE GRAPH INT<br>@@              | Saves graphic data under the file name specified by the variable @@<br>in internal memory.                             | @@: A\$, B\$, C\$, D\$                                                                      |
| WRITE GRAPH EXT<br>@@              | Saves graphic data under the file name specified by the variable @@<br>in external memory.                             | @@: A\$, B\$, C\$, D\$                                                                      |
| GRAPH COLOR<br>MODE:               | Sets the graphic color mode to black & white.                                                                          |                                                                                             |
| GRAPH COLOR<br>MODE:COLOR          | Sets the graphic color mode to screen color mode                                                                       |                                                                                             |

### 8.3 Program Function Commands

| Program Command                   | Description                                                                                               | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| GRAPH TYPE:BMP                    | Sets the graphic file type to BMP                                                                         |                                                                                             |
| GRAPH TYPE:TIFF                   | Sets the graphic file type to TIFF                                                                        |                                                                                             |
| WRITE SETTING INT:<br>'#####.ST7' | Specifies a file name and saves setting data to internal memory.                                          | AQ6375<br>'#####.ST7': file name                                                            |
| WRITE SETTING INT:<br>'#####.ST8' | Specifies a file name and saves setting data to internal memory.                                          | AQ6370B<br>'#####.ST8': file name                                                           |
| WRITE SETTING INT:<br>'#####.ST9' | Specifies a file name and saves setting data to internal memory.                                          | AQ6373<br>'#####.ST9': file name                                                            |
| WRITE SETTING<br>EXT: '#####.ST7' | Specifies a file name and saves setting data to external memory.                                          | AQ6375<br>'#####.ST7': file name                                                            |
| WRITE SETTING<br>EXT: '#####.ST8' | Specifies a file name and saves setting data to external memory.                                          | AQ6370B<br>'#####.ST8': file name                                                           |
| WRITE SETTING<br>EXT: '#####.ST9' | Specifies a file name and saves setting data to external memory.                                          | AQ6373<br>'#####.ST9': file name                                                            |
| WRITE SETTING INT                 | Saves setting data to internal memory<br>File names are assigned automatically                            |                                                                                             |
| WRITE SETTING<br>EXT              | Saves setting data to external memory<br>File names are assigned automatically                            |                                                                                             |
| WRITE SETTING<br>INT @@           | Saves setting data under the file name specified in the variable @@ to internal memory.                   | @@: A\$, B\$, C\$, D\$                                                                      |
| WRITE SETTING<br>EXT @@           | Saves setting data under the file name specified in the variable @@ to external memory                    | @@: A\$, B\$, C\$, D\$                                                                      |
| DATA:ADD WRITE                    | Writes an added data file                                                                                 |                                                                                             |
| DATA:OVER WRITE                   | Overwrites a data file                                                                                    |                                                                                             |
| DATA WRITE:CSV                    | Sets the data storage format to CSV                                                                       |                                                                                             |
| DATA WRITE:DT7                    | Sets the data storage format to DT7                                                                       | AQ6375                                                                                      |
| DATA WRITE:DT8                    | Sets the data storage format to DT8                                                                       | AQ6370B                                                                                     |
| DATA WRITE:DT9                    | Sets the data storage format to DT9                                                                       | AQ6373                                                                                      |
| WRITE DATA INT:<br>'#####.***'    | Specifies a file name and saves data to internal memory                                                   | '#####.***': file name                                                                      |
| WRITE DATA EXT:<br>'#####.***'    | Specifies a file name and saves data to external memory                                                   | '#####.***': file name                                                                      |
| WRITE DATA INT                    | Specifies a file name and saves data to internal memory. File names are assigned automatically.           |                                                                                             |
| WRITE DATA EXT                    | Specifies a file name and saves data to external memory. File names are assigned automatically.           |                                                                                             |
| WRITE DATA INT<br>@@              | Specifies a file name and saves data under the file name specified by the variable @@ in internal memory. | @@: A\$, B\$, C\$, D\$                                                                      |
| WRITE DATA EXT<br>@@              | Specifies a file name and saves data under the file name specified by the variable @@ in external memory. | @@: A\$, B\$, C\$, D\$                                                                      |
| DATA DATE&TIME<br>###             | Selects ON/OFF of date and time output.                                                                   | ###: ON/OFF                                                                                 |
| DATA LABEL ###                    | Selects ON/OFF of label output.                                                                           | ###: ON/OFF                                                                                 |
| DATA DATA AREA<br>###             | Selects ON/OFF of data area output.                                                                       | ###: ON/OFF                                                                                 |

| Program Command                          | Description                                                                           | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| DATA CONDITION<br>###                    | Selects ON/OFF of measuring conditions output.                                        | ###: ON/OFF                                                                                 |
| DATA TRACE DATA<br>###                   | Selects ON/OFF of waveform data output.                                               | ###: ON/OFF                                                                                 |
| DATA OUTPUT WINDOW<br>###                | Selects ON/OFF of contents output of the OUTPUT WINDOW PROGRAM function .             | ###: ON/OFF                                                                                 |
| READ TRACE # INT:<br>'#####. \$\$\$'     | Assigns a file name to specified TRACE data and reads it from internal memory         | '#####. \$\$\$': file name<br>#: A, B, C, D, E, F, G                                        |
| READ TRACE # EXT:<br>'#####. \$\$\$'     | Assigns a file name to specified TRACE data and reads it from external memory         | '#####. \$\$\$': file name<br>#: A, B, C, D, E, F, G                                        |
| READ TRACE # INT<br>@@                   | Reads TRACE data in the file name specified by the variable @@ from internal memory   | #: A, B, C, D, E, F, G<br>@@: A\$, B\$, C\$, D\$                                            |
| READ TRACE # EXT<br>@@                   | Reads TRACE data in the file name specified by the variable @@ from external memory   | #: A, B, C, D, E, F, G<br>@@: A\$, B\$, C\$, D\$                                            |
| READ MEMORY **<br>INT: '#####. \$\$\$'   | Specifies a file name and reads memory data from internal memory                      | '#####. \$\$\$': file name<br>0 to 63 (1 step)                                              |
| READ MEMORY **<br>EXT: '#####. \$\$\$'   | Specifies a file name and reads memory data from external memory                      | '#####. \$\$\$': file name<br>0 to 63 (1 step)                                              |
| READ MEMORY **<br>INT @@                 | Reads memory data in the file name specified by the variable @@ from internal memory  | **: 0 to 63 (1 step)<br>@@: A\$, B\$, C\$, D\$                                              |
| READ MEMORY **                           | Reads memory data in the file name specified by the variable @@ from external memory  | **: 0 to 63 (1 step)<br>@@: A\$, B\$, C\$, D\$                                              |
| READ SETTING INT:<br>'#####. \$\$\$'     | Specifies a file name and reads setting data from internal memory                     | '#####. \$\$\$': file name                                                                  |
| READ SETTING EXT:<br>'#####. \$\$\$'     | Specifies a file name and saves setting data from external memory                     | '#####. \$\$\$': file name                                                                  |
| READ SETTING INT<br>@@                   | Reads setting data of the file name specified by the variable @@ from internal memory | @@: A\$, B\$, C\$, D\$                                                                      |
| READ SETTING EXT<br>@@                   | Reads setting data of the file name specified by the variable @@ from external memory | @@: A\$, B\$, C\$, D\$                                                                      |
| READ DATA INT:<br>'#####. \$\$\$'        | Specifies a file name and reads data from internal memory                             | '#####. \$\$\$': file name                                                                  |
| READ DATA EXT:<br>'#####. \$\$\$'        | Specifies a file name and reads data from external memory                             | '#####. \$\$\$': file name                                                                  |
| READ DATA INT @@                         | Reads data in the file name specified by the variable @@ from internal memory         | @@: A\$, B\$, C\$, D\$                                                                      |
| READ DATA EXT<br>@@                      | Reads data in the file name specified by the variable @@ from external memory         | @@: A\$, B\$, C\$, D\$                                                                      |
| READ TEMPLATE<br>EXT: '#####. \$\$\$'    | Specifies a file name and reads a template from external memory                       | '#####. \$\$\$': file name                                                                  |
| READ TARGET LINE<br>EXT: '#####. \$\$\$' | Specifies a file name and reads target line data from external memory                 | '#####. \$\$\$': file name                                                                  |

### 8.3 Program Function Commands

| Program Command                | Description                                                                                                               | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| DELETE INT:<br>'#####. \$\$\$' | Deletes files in internal memory                                                                                          | '#####. \$\$\$': file name                                                                  |
| DELETE EXT:<br>'#####. \$\$\$' | Deletes files in external memory                                                                                          | '#####. \$\$\$': file name                                                                  |
| DELETE INT @@                  | Deletes files specified by the variable @@ from internal memory                                                           | @@: A\$, B\$, C\$, D\$                                                                      |
| DELETE EXT @@                  | Deletes files specified by the variable @@ from external memory                                                           | @@: A\$, B\$, C\$, D\$                                                                      |
| RENAME INT:## @@               | Changes the names of files in internal memory specified by the variable ## to the file name specified by the variable @@  | ##, @@: A\$, B\$, C\$, D\$                                                                  |
| RENAME EXT:## @@               | Changes the names of files in external memory specified by the variable ## to the file names specified by the variable @@ | ##, @@: A\$, B\$, C\$, D\$                                                                  |
| REMOVE USB STORAGE             | Brings USB storage media online                                                                                           |                                                                                             |

### ADVANCE

| Program Command                  | Description                                                                                     | Instrument models on which the command is valid, parameter ranges, and supported variables. |
|----------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| TEMPLATE GO/<br>NO GO ##         | Sets whether GO/NO-GO judgment is made                                                          | ###: ON/OFF                                                                                 |
| TEMPLATE DISPLAY<br>###          | Turns the template data display ON/OFF.<br>ON: UPPER LINE=ON<br>LOWER LINE=ON<br>TARGET LINE=ON | ###: ON/OFF                                                                                 |
| TEMPLATE DISPLAY<br>UPPER ###    | Sets ON/OFF of upper line display.                                                              | ###: ON/OFF                                                                                 |
| TEMPLATE DISPLAY<br>LOWER ###    | Sets ON/OFF of lower line display.                                                              | ###: ON/OFF                                                                                 |
| TEMPLATE DISPLAY<br>TARGET ###   | Sets ON/OFF of target line display.                                                             | ###: ON/OFF                                                                                 |
| TMPLETE TEST<br>TYPE UPPER       | Sets if GO/NO-GO judgment at the upper line is made.                                            |                                                                                             |
| TMPLETE TEST<br>TYPE LOWER       | Sets if GO/NO-GO judgment at the lower line is made.                                            |                                                                                             |
| TMPLETE TEST<br>TYPE UP & LOW    | Sets if GO/NO-GO judgment at the upper and lower lines is made.                                 |                                                                                             |
| TMPLETE WL SHIFT<br>****.***nm   | Sets the amount of wavelength shift of the template.                                            | -999.999 to 999.999 (0.001 step)                                                            |
| TEMPLATE LEVEL<br>SHIFT ***.**dB | Sets the amount of level shift of the template.                                                 | -99.99 to 99.99 (0.01 step)                                                                 |

**SYSTEM**

The following commands are not available on the AQ6373

All commands that start with “SYSTEM GRID”

The following commands are not available on the AQ6375 if the wavenumber markers are set.

- All commands that start with “SYSTEM GRID”
- All commands that start with “CUSTOM GRID”
- All commands that start with “GRID REFERENCE”

| Program Command                      | Description                                                                                     | Instrument models on which the command is valid, parameter ranges, and supported variables.                                              |
|--------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| OPTICAL ALIGNMENT                    | Aligns the optical axis of a monochromator optical system.                                      |                                                                                                                                          |
| SELF WL CALIBRATION                  | Sets the light source to be wavelength calibrated for the internal light source.                | AQ6370B/AQ6375                                                                                                                           |
| EXT WL CALIBRATION<br>****.***nm     | Sets the light source to be wavelength calibrated for the external light source (laser type)    | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6373<br>350.000 to 1200.000 (0.001 step)<br>AQ6375<br>1200.000 to 2400.000 (0.001 step) |
| EXT-GAS WL CALIBRATION<br>****.***nm | Sets the light source to be wavelength calibrated for the external light source (gas cell type) | AQ6370B<br>600.000 to 1700.000 (0.001 step)<br>AQ6375<br>1200.000 to 2400.000 (0.001 step)                                               |
| WL SHIFT **.***nm                    | Sets the amount of wavelength shift.                                                            | -5.000 to 5,000 (0.001 step)                                                                                                             |
| LEVEL SHIFT ***.***dB                | Sets the amount of level shift.                                                                 | -60.000 to 60,000 (0.001 step)                                                                                                           |
| SYSTEM GRID 200GHz                   | Sets system grid to a 200 GHz spacing grid table.                                               |                                                                                                                                          |
| SYSTEM GRID 100GHz                   | Sets system grid to a 100 GHz spacing grid table.                                               |                                                                                                                                          |
| SYSTEM GRID 50GHz                    | Sets system grid to a 50 GHz spacing grid table.                                                |                                                                                                                                          |
| SYSTEM GRID 25GHz                    | Sets system grid to a 25 GHz spacing grid table.                                                |                                                                                                                                          |
| SYSTEM GRID 12.5GHz                  | Sets system grid to a 12.5 GHz spacing grid table.                                              |                                                                                                                                          |
| CUSTOM GRID START WL ****.***nm      | Inputs the user grid table start wavelength.                                                    | 1000.0000 to 1700.0000 (0.0001 step)                                                                                                     |
| CUSTOM GRID START FREQ ***.***THz    | Inputs the user grid table start frequency.                                                     | 176.3486 to 299.7924 (0.0001 step)                                                                                                       |
| CUSTOM GRID STOP WL ****.***nm       | Inputs the user grid table stop wavelength.                                                     | 1000.0000 to 1700.0000 (0.0001 step)                                                                                                     |
| CUSTOM GRID STOP FREQ ***.***THz     | Inputs the user grid table stop frequency.                                                      | 176.3486 to 299.7924 (0.0001 step)                                                                                                       |
| CUSTOM GRID SPACING ***.***GHz       | Inputs the user grid table grid spacing.                                                        | 0.1 to 999.9 (0.1 step)                                                                                                                  |

### 8.3 Program Function Commands

| Program Command                      | Description                                                                                                                 | Instrument models on which the command is valid, parameter ranges, and supported variables.             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| GRID REFERENCE WL<br>****.****nm     | Inputs the reference wavelength of the grid table.                                                                          | AQ6370B<br>1000.0000 to 1700.0000<br>(0.0001 step)<br>AQ6375<br>1200.0000 to 2400.0000<br>(0.0001 step) |
| GRID REFERENCE<br>FREQ ***.*****THz  | Inputs the reference frequency of the grid table.                                                                           | AQ6370B<br>176.3486 to 299.7924<br>(0.0001 step)<br>AQ6375<br>125.0000 to 250.0000<br>(0.0001 step)     |
| REMOTE INTERFACE:<br>GP-IB           | Sets the remote interface to GP-IB                                                                                          |                                                                                                         |
| REMOTE INTERFACE:<br>RS-232          | Sets the remote interface to RS-232                                                                                         |                                                                                                         |
| REMOTE INTERFACE:<br>ETHERNET        | Sets the remote interface to Ethernet                                                                                       |                                                                                                         |
| TLS ADDRESS **                       | Sets the GP-IB address of the turnable laser source used by the synchronous sweep function                                  | AQ6370B/AQ6375<br>0 to 30 (1 step)                                                                      |
| SELECT COLOR *                       | Selects the display color of the screen.                                                                                    | 1 to 5 (1 step)                                                                                         |
| UNCAL WARNING<br>DISPLAY ###         | Displays UNCAL and warning.                                                                                                 | ###: ON/OFF                                                                                             |
| BUZZER CLICK ###                     | Turns the key press click sound ON/OFF                                                                                      | ###: ON/OFF                                                                                             |
| BUZZER WARNING<br>###                | Turns the warning/error buzzer ON/OFF                                                                                       | ###: ON/OFF                                                                                             |
| LEVEL DISPLAY<br>DIGIT *             | Sets the number of displayed digits (decimal place) of the level data displayed under the marker area and ANALYSIS results. | 1 to 3 (1 step)                                                                                         |
| WINDOW<br>TRANSPARENT ###            | Selects ON/OFF of the transparent display function for the split display and OVERVIEW window                                | ###: ON/OFF                                                                                             |
| AUTO OFFSET ###                      | Turns auto offset ON/OFF.                                                                                                   | ###: ON/OFF                                                                                             |
| AUTO OFFSET<br>INTERVAL *** min      | Sets the time interval for executing the auto offset function                                                               | AQ6373<br>***: integer                                                                                  |
| TRIGGER INPUT<br>SAMPLING<br>TRIGGER | Sets the trigger input mode to sampling trigger                                                                             |                                                                                                         |
| TRIGGER INPUT<br>SWEEP TRIGGER       | Sets the trigger input mode to sweep trigger                                                                                |                                                                                                         |
| TRIGGER OUTPUT<br>SWEEP STATUS       | Sets the trigger output mode to sweep status                                                                                |                                                                                                         |
| TRIGGER OUTPUT<br>OFF                | Turns OFF the trigger output mode                                                                                           |                                                                                                         |
| REMOVE USB<br>STORAGE                | Brings USB storage media online                                                                                             |                                                                                                         |

## Lists of Special Commands

## General Commands

| Program Command        | Description                                                                                                                                                                                                                                                                                                                                  | Parameter Rng, Avail Variables                                   |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| COPY ON                | Produces a hard copy of the screen on a printer.                                                                                                                                                                                                                                                                                             |                                                                  |
| PRINTER FEED **        | Feeds printer paper.                                                                                                                                                                                                                                                                                                                         | 1 to 10 (1 step)                                                 |
| GOTO ***               | Makes a jump to line ***.                                                                                                                                                                                                                                                                                                                    | 1 to 200 (1 step)                                                |
| GOTO PROGRAM **        | Makes a jump to program ** to run it from the first line. After completing running of program **, control returns to the original program. However, if there is an END command in program **, return to the jump source is not performed and the program ends. When a program is executed using this command, variables are not initialized. |                                                                  |
| WAIT *****S            | Makes a wait of **** seconds.                                                                                                                                                                                                                                                                                                                | 1 to 99999 (1 step)                                              |
| PAUSE '---56 chars---' | Pauses execution of a program and causes a message window to appear. This window displays a message and an explanation of the CONTINUE key. Pressing the CONTINUE soft key closes the window and executes the program. If a program is started via GP-IB, no pause is made.                                                                  |                                                                  |
| VARIABLE CLEAR         | Initializes all variables used in a program.                                                                                                                                                                                                                                                                                                 |                                                                  |
| END                    | Ends a program.                                                                                                                                                                                                                                                                                                                              |                                                                  |
| INIT                   | Initializes all parameters, but does not clear variables.                                                                                                                                                                                                                                                                                    |                                                                  |
| @=VAL(@\$)             | Converts the string in variable @ to a numerical value and substitutes the value into variable @.                                                                                                                                                                                                                                            | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>@\$: A\$, B\$, C\$, D\$ |
| BEEP **                | Buzzer sounds for ** x 100 msec.                                                                                                                                                                                                                                                                                                             | 1 to 10 (1 step)                                                 |

### 8.3 Program Function Commands

#### Loop Control

| Program Command           | Description                                                                            | Parameter Rng, Avail Variables      |
|---------------------------|----------------------------------------------------------------------------------------|-------------------------------------|
| N=*****                   | Substitutes a value into variable N.                                                   | 1 to 99999999 (1 step)              |
| N=@@@@@@                  | Copies the contents of variable @@@@@@ to variable N.                                  | @@@@@: MODN, WDMCHN, NFCHN, GONO, M |
| N-N-1;IF N<>0<br>GOTO *** | Subtracts "1" from variable N and, if the result is not "0," makes a jump to line ***. | 1 to 200 (1 step)                   |
| M=*****                   | Substitutes a value into variable M.                                                   | 1 to 99999999 (1 step)              |
| M=@@@@@@                  | Copies the contents of variable @@@@@@ to variable M.                                  | @@@@@: MODN, WDMCHN, NFCHN, GONO, N |
| M-M-1;IF M<>0<br>GOTO *** | Subtracts "1" from variable N and, if the result is not "0," makes a jump to line ***. | 1 to 200 (1 step)                   |

#### Variable Calculations

| Program Command       | Description                                                                                                                                                                                                                                                              | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| @ = ***** ###         | Substitutes a value into variable @. For ***** , a real number of 10 or fewer digits can be specified, including a sign and the decimal point.                                                                                                                           | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, CH<br>*****: -999999999 to 999999999 (1 step)<br>###: nm, dB, dBm, pW, nW, mW, mW, W, THz, cm <sup>-1</sup> (AQ6375) , '(without units)                                                                                                                                                      |
| @ = # + *****         | Adds value ***** to variable # and substitutes the value into variable @. ***** can be specified with a real number of 10 or fewer digits, including a sign and the decimal point. By specifying a negative value, you can cause subtraction to be made from variable #. | @, #: G, H, I, J, K, P, Q, R, S, X, Y, Z, CH<br>*****: -999999999 to 999999999 (1 step)                                                                                                                                                                                                                                             |
| @ = @@@@@@            | Copies the contents of variable @@@@@@ to variable @.                                                                                                                                                                                                                    | @: G, H, I, J, K, P, Q, R, S, X, Y, Z, CH<br>@@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH |
| @ = @@@@@@ +<br>##### | Performs addition, subtraction, multiplication, and/or division between variables.                                                                                                                                                                                       | #####: G, H, I, J, K, P, Q, R, S, X, Y, Z, CH                                                                                                                                                                                                                                                                                       |
| @ = @@@@@@ -<br>##### |                                                                                                                                                                                                                                                                          | @@@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH                                             |
| @ = @@@@@@ *<br>##### |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                     |
| @ = @@@@@@ /<br>##### |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                     |

| Program Command          | Description                                                                                                                                                                                     | Parameter Rng, Avail Variables                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| @\$ = @\$                | Copies string variable @\$ to string variable @.                                                                                                                                                | @\$: A\$, B\$, C\$, D\$                                          |
| @\$ = MID<br>(@\$, @, @) | Substitutes @'s worth of characters in the string that is distant from the start of character variable @\$ by the number of characters in the numerical variable @ into character variable @\$. | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>@\$: A\$, B\$, C\$, D\$ |
| @\$ = '---56 chars---'   | Substitutes string to character variable @\$ (56 chars max)                                                                                                                                     | @\$: A\$, B\$, C\$, D\$                                          |

### Print Output

| Program Command         | Description                                                                                                                                                                                                                                       | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                      |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRINT '---56 chars ---' | Prints out a character string in '. If a semicolon ( ; ) is added to the end of the string, after printing, no line feed is made, but a character string or the variable values specified by the next PRINT command are printed out successively. |                                                                                                                                                                                                                                                                                                                     |
| PRINT @@@@@             | Adds units to the value of variable @@@@@ and prints the result.                                                                                                                                                                                  | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASELV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$ |
| PRINT @@@@@;            | Adds units to the value of variable @@@@@ and prints the result. After printing, no line feed is made but a character string or the variable values specified by the command are continuously printed                                             | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASELV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$ |
| PRINT DATA AREA         | Prints out the contents of the data area.                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                     |
| PRINT OUTPUT WINDOW     | Prints out the contents of OUTPUT WINDOW                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                     |

### 8.3 Program Function Commands

#### Condition Judgement

| Program Command                  | Description                                                                                                                                         | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                                                       |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IF F1 <= @@@@<br/><= F2 GOTO *** | Value of variable @@@@ is F1 or greater<br>If less than F2, jumps to line ***                                                                       | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), FNCHN, NFWL(CH), NFLVL(CH), NFLVI(CH), NFLVO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$<br>***: 1 to 200 (1 step) |
| F1 = ***** ###                   | Substitutes a value into variable F1. For ***** , a real number of 10 or fewer digits can be specified including a sign and the decimal point.      | ###: nm, dB, dBm, pW, nW, mW, mW, W, THz, cm <sup>-1</sup> (AQ6375), '(without units)<br>*****: -999999999 to 999999999 (1 step)                                                                                                                                                                                                                     |
| F2 = *****                       | Substitutes a value into ### variable F2. For ***** , a real number of 10 or fewer digits can be specified, including a sign and the decimal point. | ###: nm, dB, dBm, pW, nW, mW, mW, W, THz, cm <sup>-1</sup> (AQ6375), '(without units)<br>*****: -999999999 to 999999999 (1 step)                                                                                                                                                                                                                     |
| F1 = @@@@<br/>@@@@               | Copies the contents of variable @@@@ to the variable F1.                                                                                            | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH                                                                |
| F2 = @@@@<br/>@@@@               | Copies the contents of variable @@@@ to the variable F2.                                                                                            | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH                                                                |
| @ = LEVEL<br>(***.***nm)         | Substitutes the level of the point of wavelength ***.*** nm on an active trace into variable @.                                                     | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>***.***: 600.000 to 1700.000 (0.001 step)                                                                                                                                                                                                                                                                   |
| @ = LEVEL<br>(@@@@)              | Substitutes the level of the point of the wavelength @@@@ (variable) on the active trace into variable @.                                           | @: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W(CH), MEANWL, PKWL, WDMLVL(CH), WDMWL(CH), NFWL(CH)                                                                                                                                                                                                  |

| Program Command            | Description                                                                                                         | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IF @@@@<<br>@@@@ GOTO ***  | Compares the large and small relationship of two variables and if the conditions are met, makes a jump to line ***. | @@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), FNCHN, NFWL(CH), -NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH<br>***: 1 to 200 (1 step) |
| IF @@@@=<<br>@@@@ GOTO *** |                                                                                                                     |                                                                                                                                                                                                                                                                                                                  |
| IF @@@@=<br>@@@@ GOTO ***  |                                                                                                                     |                                                                                                                                                                                                                                                                                                                  |
| IF @@@@<><br>@@@@ GOTO *** |                                                                                                                     |                                                                                                                                                                                                                                                                                                                  |

### External Control

| Program Command                                        | Description                                                                                                                                                                                                                                                          | Parameter Rng, Avail Variables                            |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| SEND **<br>---56 chars---                              | Sets the external instrument at address ** that is connected to the GP-IB2 connector as the listener, and sends the command in the single quotes ( ' '). The delimiter is CR/LF.                                                                                     | 0 to 30 (1 step)                                          |
| SEND **<br>'---56 chars---';@                          | Sets the external instrument at address ** that is connected to the GP-IB2 connector as the listener, and following the command in the single quotes ( ' '), sends the value of variable @. The delimiter is CR/LF.                                                  | 0 to 30 (1 step)<br>@: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| SEND **<br>'---20 chars---';<br>@;'---20 chars ---'    | Sets the external instrument at address ** that is connected to the GP-IB2 connector as the listener, and following the command in the single quotes ( ' '), sends the value of variable @, and the command in the single quotes ( ' '). The delimiter is CR/LF.     | 0 to 30 (1 step)<br>@: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| SEND RS232<br>'---56 chars---                          | Sets the external instrument that is connected to the RS-232 connector as the listener, and sends the command in single quotes ( ' '). The delimiter is the set value of SET DELIMITER.                                                                              |                                                           |
| SEND RS232<br>'---56 chars---';@                       | Sets the external instrument that is connected to the RS-232 connector as the listener, and following the command in single quotes ( ' '), sends the value of variable @. The delimiter is the setting value of SET DELIMITER.                                       | @: G, H, I, J, K, P, Q, R, S, X, Y, Z                     |
| SEND RS232<br>'---20 chars---';<br>@;'---20 chars ---' | Sets the external instrument that is connected to the RS-232 connector as the listener, and following the cmd. in single quotes ( ' '), sends the value of variable @, and also sends the cmd in single quotes. The delimiter is the setting value of SET DELIMITER. | @: G, H, I, J, K, P, Q, R, S, X, Y, Z                     |

### 8.3 Program Function Commands

| Program Command                                                                                                               | Description                                                                                                                                                                                                                                                                                                                                                                      | Parameter Rng, Avail Variables                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| SEND LAN @\$,<br>'*****' ; '---56 chars---'<br>*@\$:<br>computer name<br>or IP address<br>****: Port number                   | Specifies the external instrument that is connected to the LAN connector and that is specified by the computer name, IP address, and port number as the listener, and sends the command and sends the command in single quotes (' '). Delimiter is value of SET DELIMITER                                                                                                        | Port Numeber: 1024 to 65535<br>@ \$: A\$, B\$, C\$, D\$                                         |
| SEND LAN @\$,<br>'*****' ;<br>'---56 chars---' ;@<br>*@\$:<br>computer name<br>or IP address<br>****: Port number             | Specifies the external instrument that is connected to the LAN connector and that is specified by the computer name, IP address, and port number as the listener, and sends the command and following the commnd in single quotes (' '), sends the value of the variable @. Delimiter is value of SET DELIMITER.                                                                 | Port Number: 1024 to 65535<br>@: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>@ \$: A\$, B\$, C\$, D\$ |
| SEND LAN @\$ ,<br>'*****' ,<br>'-20 chars?':@<br>"?20 chars?"<br>*@\$:<br>computer name<br>or IP address<br>****: Port Number | Specifies the external instrument that is connected to the LAN connector and that is specified by the computer name, IP address, and port number as the listener, and following the commnd in single quotes (' '), sends the value of variable @, as well as the command in single quotes. The delimiter is the setting value of SET DELIMITER.                                  | Port Number: 1024 to 65535<br>@: G, H, I, J, K, P, Q, R, S, X, Y, Z<br>@ \$: A\$, B\$, C\$, D\$ |
| RECEIVE **,@\$                                                                                                                | Sets the external instrument at address ** that is connected to the GP-IB2 connector as the talker, receives the specified message, and substitutes it into the character variable @\$ . Up to 512 characters can be received. The delimiter is CR/LF.                                                                                                                           | 0 to 30 (1 step)<br>@ \$: A\$, B\$, C\$, D\$                                                    |
| SENDR RS-232<br>'---56 chars---' ; @\$                                                                                        | Sends a query command to the external instrument connected to the RS-232 connector, and substitutes the message received from the external instrument into character variable @\$ . Up to 512 characters can be received. Delimiter is value of SET DELIMITER                                                                                                                    | @ \$: A\$, B\$, C\$, D\$                                                                        |
| SENDR LAN<br>@\$, '*****' ,<br>'---56 chars---' ; @\$<br>*@\$:<br>computer name<br>or IP address<br>****: Port number         | Sends a query command to the external instrument that is connected to the LAN connector and which is specified by the computer name, IP address, and port number stored in variable @\$ . Substitutes the message received from the external instrument into character variable @\$ . Up to 512 characters can be received. The delimiter is the setting value of SET DELIMITER. | Port Number: 1024 to 65535<br>@ \$: A\$, B\$, C\$, D\$                                          |
| RESET OPTION                                                                                                                  | On the external instrument connected to the GP-IB2 connector performs a remote clear, device clear, and interface clear.                                                                                                                                                                                                                                                         |                                                                                                 |

| Program Command   | Description                                                                                                                                           | Parameter Rng, Avail Variables |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| SPOLL **:S        | Sets the external instrument at address **. Performs a serial poll on the external instrument at address **, and substitutes standby into variable S. | 0 to 30 (1 step)               |
| SET DELIMITER ### | On the external instrument being remotely controlled with the RS-232 or LAN port, sets the delimiter that is sent/received by the instrument.         | ###:CR, LF, CR+LF              |

### Substitution of Measuring Conditions

| Program Command    | Description                                                            | Parameter Rng, Avail Variables        |
|--------------------|------------------------------------------------------------------------|---------------------------------------|
| @ = CENTER         | Substitutes the current measurement center wavelength into variable @. | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = SPAN           | Substitutes the current sweep width into variable @.                   | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = REF LEVEL      | Substitutes the current reference level into variable @.               | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = RESOLUTION     | Substitutes the current measurement resolution into variable @.        | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = SAMPLING POINT | Substitutes the current number of samples into variable @.             | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = ZOOM CENTER    | Substitutes the current display center wavelength into variable @.     | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |
| @ = ZOOM SPAN      | Substitutes the current display width into variable @.                 | @: G, H, I, J, K, P, Q, R, S, X, Y, Z |

### User I/O

| Program Command                  | Description                                                                                                                                                                                                                                                                            | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA INPUT<br>'---56 chars---':@ | Pauses program execution, and gets the value/string input into variable @ by the user. The Input Window appears on screen displaying a character string in '. When variable @ is numerical it accepts numerical input and when it is a string variable it accepts string input.        | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, A\$, B\$, C\$, D\$                                                                                                                                                                                                                                                               |
| DATA OUTPUT                      | The string in single quotes ( ' ') is output to the OUTPUT WINDOW. If a semicolon is added to the end of the string, no line feed is made after output of the string, but a character string or the variable values specified by the next DATA OUTPUT command are output successively. |                                                                                                                                                                                                                                                                                                                             |
| DATA OUTPUT<br>@@@@              | The value of variable @@@@ is output to the OUTPUT WINDOW with units added.                                                                                                                                                                                                            | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASELV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$, TIME\$ |

### 8.3 Program Function Commands

| Program Command          | Description                                                                                                                                                                                                   | Parameter Rng, Avail Variables                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATA OUTPUT<br>@@@@@;    | Outputs the value of variable @@@@@ to the OUTPUT WINDOW with units added. After a string is output, no line feed is sent, but the value of the string or variable of the next DATA OUTPUT command is output. | @@@@@: G, H, I, J, K, P, Q, R, S, X, Y, Z, WM, W1, W2, W2-W1, W(CH), LM, L1, L2, L2-L1, L(CH), SPWD, MEANWL, PKWL, PKLVL, MODN, GONO, SMSR, WDMCHN, WDMWL(CH), WDMLVL(CH), WDMSNR(CH), NFCHN, NFWL(CH), NFLVLI(CH), NFLVLO(CH), NFASLV(CH), NFGAIN(CH), NFNF(CH), MKPWR, PMD, M, N, CH, A\$, B\$, C\$, D\$, FILE\$, TIME\$ |
| DATA OUTPUT<br>DATA AREA | Outputs the contents of the data area to the OUTPUT WINDOW.                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                            |
| OUTPUT WINDOW<br>CLEAR   | Clears the contents of the OUTPUT WINDOW.                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                            |
| OUTPUT WINDOW<br>###     | Sets whether to display or hide the OUTPUT WINDOW on the screen.                                                                                                                                              | ###: ON or OFF                                                                                                                                                                                                                                                                                                             |

## 8.4 Controlling an External Instrument with the Program Function

Using the program function, the instrument can remote control the external devices which are connected by various interfaces. In addition, it is possible to remote control the multiple external devices by one program source.

### Remote Control of External Instruments Using the GP-IB2 Port

You can perform sending of remote commands, receiving of talker data, and serial polling on the instrument connected to the GP-IB2 port. The GP-IB address of the connected instrument is specified with program commands, and communication is carried out. Do not set the same GP-IB address as that of the setting value of the **GP-IB2 PORT ADDRESS** key. If the same address is used, the instrument cannot communicate normally with the external device.

#### Send Commands

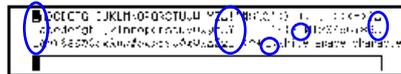
```
SEND ** 'control commnand/query command (56 chars)'
SEND ** 'control commnand/query command (56 chars)' ;@
SEND ** 'control commnand/query command (20 chars)' :@:' control command/query
command (20 chars)'
**: GP-IB command
```

#### Receive Commands

```
RECEIVE **;@$
**: GP-IB command
```

#### Note

- A controller such as a PC that is connected to the GP-IB2 port cannot remotely control the AQ6370B.
- Even if an external device to be controlled by the AQ6370B using program functions or a wavelength tunable light source is connected to the GP-IB1 port, it cannot remote control the AQ6370B.
- The GP-IB1 and GP-IB2 ports are independent of each other. Thus, a controller connected to the GP-IB1 port cannot directly send a message to an external device connected to the GP-IB2 port.
- With a controller connected to the GP-IB1 port, connecting the GP-IB1 port and the GP-IB2 port results in improper operations. Do not connect a cable between these ports, or turn the SYSTEM CONTROLLER OFF. The default is ON.
- Using a command such as SEND\*\*'control commnand/query command (56 chars)';@, if you insert <wsp> between the command string and the variable @, add "┘" to the end of the command.



### Remote Control Using the RS-232 Port

Using the program function, the unit can send remote commands, receive talker data, and perform serial polling on the external device which is connected to the RS-232 port. Connect a cross cable to the RS-232 interface at the back side of the instrument. See chapter 4 for the various serial communication settings. If you want to receive query data from the external device, use the send/receive command. Query data is stored in the specified string variable @\$.

#### Send Commands

```
SEND RS-232 'control command (56 chars)'
SEND RS-232 'control command (56 chars)' ;@
SEND RS-232 'control command (20 chars)' :@:' control command (20 chars)'
```

#### Send/Receive Command

```
SENDRCV RS-232 'query command (56 chars)';@$
```

#### Note

---

- Depending on the external device connected, there are times when it is necessary to change the delimiter setting of the send command. If the setting for the delimiter must be changed, use the SET SEND DELIMITER special command and make the setting match that of the instrument on the receiving end. (Default: CR+LF)
  - Using a command such as SEND RS232 'control command (56 characters)';@, if you insert <wsp> between the command string and the variable @, add "␣" to the end of the command.
- 

### Remote Control of an External Instrument Using the LAN Port

Using the program function, specify the "Computer Name" or "IP address" and "Port Number" of the external device connected to the LAN connector to perform remote control. "Computer Name" or "IP address" must be entered in the character variable @\$ of the program command. If you want to receive query data from the external device, use the send/receive command. Query data is stored in the specified string variable @\$.

#### Send Commands

```
SEND LAN @$ **** 'control command (56 chars)'
SEND LAN @$ **** 'control command (56 chars)' ;@
SEND LAN @$ **** 'control command (20 chars)' :@:'control command (20 chars)'
@$: Computer name or IP address
****: Port Number'
```

#### Send/Receive Command

```
SENDRCV LAN @$ **** 'query command (56 characters)'
@$: computer name or IP address
****: Port number
```

#### Note

---

- Be sure to set the instrument's IP address correctly.
  - When using DHCP, the instrument's IP address is automatically set. Set ADDRESS SETTING under TCP/IP SETTING to AUTO (DHCP).
  - Please ask your network administrator for details about network connections.
  - Using a command such as SEND LAN 'control command (56 characters)';@, if you insert <wsp> between the command string and the variable @, add "␣" to the end of the command.
-

## 8.5 Sample Program

Here, an example is given of performing the operation below.

### Conditions

After the measuring conditions have been set, the program performs a single sweep. Then it searches for a spectrum width and peak wavelength, and outputs the results to the label area and OUTPUT WINDOW. It repeats these operations ten times with a wait of three seconds between repetitions.

```
001 CENTER WL 1555.00nm :Set measurement conditions
002 SPAN 10.0nm
003 REFERENCE LEVEL -10.0dBm
004 RESOLUTION 0.1nm
005 AVERAGE TIMES 1
006 SENS NORMAL/HOLD
007 OUTPUT WINDOW CLEAR :Clear the OUTPUT WINDOW
 data.
008 OUTPUT WINDOW ON :Display the OUTPUT
 WINDOW.

009 N=10 :Set loop counter N to 10
010 SINGLE :Set loop, counter N to 10
 Perform a single sweep.
011 SPEC WD THRESH 20.0dB :Perform a spectrum width
 search
012 DATA OUTPUT ` Wd = ; :Output spectrum width
 to OUTPUT WINDOW and the
 label area.

013 LABEL ` Wd = ;
014 DATA OUTPUT SPWD;
015 LABEL SPWD ;
016 PEAK SEARCH
017 DATA OUTPUT ` Pk = ; :Perform a peak search
 :Output the peak wavelength
 value to OUTPUT WINDOW and
 the label area.

018 LABEL ` Pk = ;
019 DATA OUTPUT PKWL
020 LABEL PKWL
021 WAIT 3S :Wait three second.
022 N=N-1 ; IF N <> 0 GOTO 10 :Subtract 1 from loop
 counter N and if the
 result is not 0, make a
 jump to line 010.

023 END :Exit the Program.
```

## 8.5 Sample Program

---

The following program specifies an external device connected to the [GP-IB2] connector as a listener to send a device message and then specifies the device as a talker to receive data from it.

Received data is displayed on the OUTPUT WINDOW. The program repeats these operations 10 times.

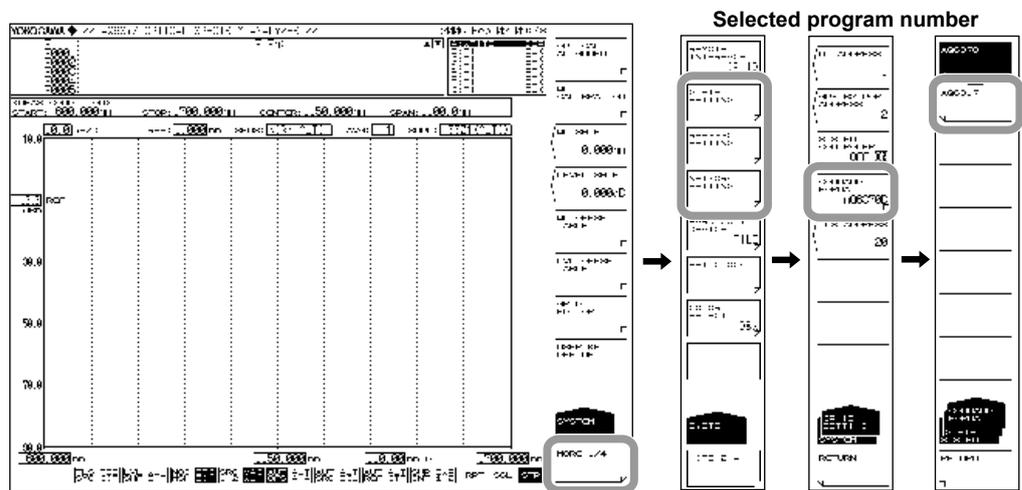
```
001 OUTPUT WINDOW CLEAR :Clear the OUTPUT WINDOW
 data.
002 OUTPUT WINDOW ON :Display the OUTPUT
 WINDOW.
003 N=10 :Set loop counter N to 10 :Set "10" to loop counter
 "N."
004 SEND 1'B,C1,E1,H1,S ' :Specify the external
 device of address 1 as
 a listener to send the
 contents of ' ' to it.
005 WAIT 1S:1 :Cause a wait of 1 sec.
006 RECEIVE 1;A$:Specify the device of
 address 1 as a talker to
 receive data from it and
 substitute received data
 into character variable
 A$.
007 DATA OUTPUT @@@@ :Output the contents of A$
 to OUTPUT WINDOW.
008 N=N-1;IF N<>0 GOTO 4 :Substart 1 from loop
 counter N and if the
 result is not 0, make a
 jump to line 004.
009 END :End the program.
```

# Switching Command Modes

To use AQ6317-compatible commands, you must place the instrument in AQ6317 command mode.

## Procedure

1. Press **SYSTEM**. The system setting menu is displayed.
2. Press the **MORE1/4** soft key. The communication interface setting menu is displayed.
3. Press the **REMOTE INTERFACE** soft key. The setting menu for the interface to be used is displayed.
4. Press the **GP-IB** soft key to specify GP-IB as the communication interface.
5. Press the **COMMAND FORMAT** soft key. The command format setting menu is displayed.
6. Press the **AQ6317** soft key.



### Explanation

Because remote control via the GP-IB interface of the /AQ6375 complies with the IEEE 488.2 standard, it is not compatible with the conventional model AQ6317 (complying with the IEEE 488.1 standard) as to the remote commands and internal actions. However, by placing the instrument in AQ6317-compatible command mode, you can use some of the AQ6317 commands. Status register operation also has compatibility with the AQ6317. When you switch the command mode, it causes all the contents of the status registers and queues and receive buffer and talker output buffer to be initialized.

### Operation in AQ6317-Compatible Mode

The instrument operates as follows when it is remote controlled in the AQ6317-compatible mode.

- The majority of AQ6317 control commands and talker commands are available.
- Talker data is output in the AQ6317-compatible format.
- To send multiple commands at one time, use a comma “,” as a separator.
- If receiving multiple query commands in a single line, the instrument outputs only data relative to the last query command.

### Switching Command Modes with Commands

The command mode can also be switched using the following GP-IB commands. Commands to use when in AQ6370B, AQ6373 or AQ6375 mode (invalid in the AQ6317-compatible mode)

```
:SYSTem:COMMunicate:CFORmat<wsp><mode>
```

```
<mode> = AQ6317|AQ6370|AQ6370B|AQ6375|AQ6373|0|1
```

```
AQ6317 = Switch to AQ6317-compatible mode
```

```
AQ6370 = Switch to AQ6370B/AQ6375/AQ6373 mode
```

```
AQ6370B = Switch to AQ6370B mode (for AQ6370B)
```

```
AQ6375 = Switch to AQ6375 mode (for AQ6375)
```

```
AQ6373 = Switch to AQ6373 mode (for AQ6373)
```

```
:SYSTem:COMMunicate:CFORmat?
```

```
0 = AQ6317
```

```
1 = AQ6370B, AQ6373 or AQ6375
```

Commands to use when in AQ6317-compatible mode (result in errors when in AQ6370B mode)

```
Control commands
```

```
CFORM*
```

```
*: 0 = AQ6317-compatible mode, 1 = AQ6370B, AQ6373 or AQ6375 mode
```

```
CFORM?
```

```
0 = AQ6317-compatible mode, 1 = AQ6370B, AQ6373 or AQ6375 mode
```

## AQ6317 Status Byte

The status byte of AQ6317-compatible mode operates like the status byte in the AQ6317. Refer to the manuals for the AQ6317 series for the details of GP-IB.

| Bit   | Function and Setting Condition                                                                                                            | Clear Timing                                                                                                                                                                                                    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit 7 | 0                                                                                                                                         |                                                                                                                                                                                                                 |
| Bit 6 | Send an SRQ signal.                                                                                                                       | <ul style="list-style-type: none"><li>• Upon execution of serial polling</li><li>• Upon receipt of DCL or SDC</li></ul>                                                                                         |
| Bit 5 | When receiving data exceeding the receive buffer capacity of 512 byte "1" is set.                                                         | <ul style="list-style-type: none"><li>• Upon execution of serial polling</li><li>• Upon receipt of DCL or SDC</li><li>• At a start of measurement</li></ul>                                                     |
| Bit 4 | 0                                                                                                                                         |                                                                                                                                                                                                                 |
| Bit 3 | When a command data error occurs, set "1".                                                                                                | <ul style="list-style-type: none"><li>• Upon receipt of DCL or SDC</li><li>• Upon execution of serial polling</li><li>• At a start of measurement</li></ul>                                                     |
| Bit 2 | Warning error (including errors upon execution of a Program) occurs, set "1".<br>For the contents of the warning its number can be output | <ul style="list-style-type: none"><li>• When the warning error display disappears</li><li>• Upon execution of serial polling</li><li>• Upon receipt of DCL or SDC</li><li>• At a start of measurement</li></ul> |
| Bit 1 | When the execution of a copy or program terminates, set "1".                                                                              | <ul style="list-style-type: none"><li>• Upon execution of serial polling</li><li>• Upon receipt of DCL or SDC</li><li>• At a start of measurement</li></ul>                                                     |
| Bit 0 | After sweep finishes, "1" is set.                                                                                                         | <ul style="list-style-type: none"><li>• Upon execution of serial polling</li><li>• Upon receipt of DCL or SDC</li><li>• At a start of measurement</li></ul>                                                     |

# List of the AQ6317-Compatible Commands

For compatibility with the AQ6370B/AQ6373/AQ6375, see the following table, AQ6317-Compatible Commands.

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                                               | Remarks               |
|-------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 3D                            | x                            | -                                                                                                                            |                       |
| 3DRCL                         | x                            | -                                                                                                                            |                       |
| A+BCL                         | o                            | :CALCulate:MATH:TRC<wsp>A+B (LIN)                                                                                            |                       |
| A=B                           | o                            | :TRACe:COPIY<wsp>TRB, TRA                                                                                                    |                       |
| A=C                           | o                            | :TRACe:COPIY<wsp>TRC, TRA                                                                                                    |                       |
| A-BC                          | o                            | :CALCulate:MATH:TRC<wsp>A-B (LOG)                                                                                            |                       |
| A-BCL                         | o                            | :CALCulate:MATH:TRC<wsp>A-B (LIN)                                                                                            |                       |
| ACTV*                         | o                            | :TRACe:ACTive<wsp><trace name><br><trace name>=TRA TRB TRC                                                                   |                       |
| ANA?                          | o                            | :CALCulate:DATA?                                                                                                             | Diff. talker format   |
| ANGL***                       | x                            | -                                                                                                                            |                       |
| AREA*                         | x                            | -                                                                                                                            |                       |
| ARES?                         | x                            | -                                                                                                                            |                       |
| ARESDSP*                      | x                            | -                                                                                                                            |                       |
| ATANA*                        | o                            | :CALCulate[:IMMediate]:AUTO<wsp><br>OFF ON 0 1                                                                               |                       |
| ATCTR*                        | o                            | :CALCulate:MARKer:MAXimum:<br>SCENter:AUTO<wsp> OFF ON 0 1                                                                   |                       |
| ATOFS*                        | o                            | :CALibration:ZERO[:AUTO] <wsp><br>OFF ON 0 1                                                                                 |                       |
| ATREF*                        | o                            | :CALCulate:MARKer:MAXimum:<br>SRLevel:AUTO                                                                                   |                       |
| ATSCL*                        | o                            | :DISPlay[:WINDow]:TRACe:<br>Y2[:SCALe]:AUTO<wsp>OFF ON 0 1                                                                   |                       |
| ATSR*                         | o                            | :CALCulate:MARKer:AUTO<wsp><br>OFF ON 0 1                                                                                    |                       |
| AUTO                          | o                            | :INITIate:SMODE<wsp>AUTO 3;<br>INITiate                                                                                      |                       |
| AVG****                       | ▲                            | :SENSe:AVERage:COUNT<wsp> <integer>                                                                                          | Diff. parameter range |
| B=A                           | o                            | :TRACe:COPIY<wsp>TRA, TRB                                                                                                    |                       |
| B=C                           | o                            | :TRACe:COPIY<wsp>TRC, TRB                                                                                                    |                       |
| B-AC                          | o                            | :CALCulate:MATH:TRC<wsp><br>B-A (LOG)                                                                                        |                       |
| B-ACL                         | o                            | :CALCulate:MATH:TRC<wsp>B-A (LIN)                                                                                            |                       |
| BASL***.*                     | o                            | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:<br>SPACing<wsp>LINear 1;<br>:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:<br>BLEVel<wsp><NRf> [MW] |                       |
| BD*                           | o                            | -                                                                                                                            |                       |
| BLKA                          | o                            | :TRACe:STATe:TRA<wsp>OFF 0                                                                                                   |                       |
| BLKB                          | o                            | :TRACe:STATe:TRB<wsp>OFF 0                                                                                                   |                       |
| BLKC                          | o                            | :TRACe:STATe:TRC<wsp>OFF 0                                                                                                   |                       |
| BTSR                          | o                            | :CALCulate:MARKer:MINimum                                                                                                    |                       |

List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command            | Remarks                                   |
|-------------------------------|------------------------------|---------------------------------------------------------------------------|-------------------------------------------|
| BZCLK*                        | ○                            | :SYSTem:BUZZer:CLICk<wsp>OFF<br> ON 0 1                                   |                                           |
| BZWRN*                        | ○                            | :SYSTem:BUZZer:WARning<wsp><br>OFF ON 0 1                                 |                                           |
| C=A                           | ○                            | :TRACe:COPIY<wsp>TRA,TRC                                                  |                                           |
| C=B                           | ○                            | :TRACe:COPIY<wsp>TRC,TRB                                                  |                                           |
| CLMES                         | ○                            | -                                                                         |                                           |
| CLR                           | ○                            | :TRACe:DELeTe<wsp>TRA;<br>:TRACe:DELeTe<wsp>TRB;<br>:TRACe:DELeTe<wsp>TRC |                                           |
| CNDDT*                        | ○                            | :MMEMory:STORe:DATA:ITEM<wsp><br>CONDition,OFF ON 0 1                     |                                           |
| COPY*                         | ○                            | :HCOPY[:IMMediate]                                                        |                                           |
| CRS*                          | ○                            | -                                                                         |                                           |
| CTR=M                         | ○                            | :CALCulate:MARKer:SCENter                                                 |                                           |
| CTR=P                         | ○                            | :CALCulate:MARKer:MAXimum:SCENter                                         |                                           |
| CTRF***.***                   | ▲                            | :SENSe:WAVelength:CENTer<wsp><br><Nrf> [HZ]                               | Diff.parameter range                      |
| CTRWL****. **                 | ▲                            | :SENSe:WAVelength:CENTer<wsp><br><Nrf> [M]                                | Diff. parameter range                     |
| CVFTC**                       | x                            | -                                                                         | Same cmd for TRACE G                      |
| CVPKC**                       | x                            | -                                                                         | Same cmd for TRACE G                      |
| CWPLS?                        | ▲                            | -                                                                         | Diff. query data<br>0: Except CW<br>1: CW |
| D&TDT*                        | ○                            | :MMEMory:STORe:DATA:ITEM<wsp><br>DATE,OFF ON 0 1                          |                                           |
| DATE?                         | ○                            | :SYSTem:DATE?                                                             | Diff. talker format                       |
| DATE YR.MO.DY                 | ○                            | :SYSTem:DATE<wsp><year>,<month>,<day>                                     |                                           |
| TIME HH:MM                    | ○                            | :SYSTem:TIME<wsp><hour>,<minute>,<second>                                 |                                           |
| DEFCL*                        | ▲                            | :DISPlay:COLor<wsp><mode><br><mode>=0: B&W,<br>1-5: mode 1 - mode 5       | Diff. display color                       |
| DEL'@@@.***'                  | ○                            | :MMEMory:DELeTe<wsp><"file name">,<br>EXTernal                            |                                           |
| DFBAN                         | ○                            | :CALCulate:CATEgory<wsp>DFBLd 4                                           |                                           |
| DFBLD□;□;▲;****               | ▲                            | -                                                                         |                                           |
| DIR?                          | x                            | -                                                                         |                                           |
| DISP?                         | ○                            | -                                                                         |                                           |
| DSPA                          | ○                            | :TRACe:STATe:TRA<wsp>ON 1                                                 |                                           |
| DSPB                          | ○                            | :TRACe:STATe:TRB<wsp>ON 1                                                 |                                           |
| DSPA?                         | ○                            | :TRACe:STATe:TRA?                                                         |                                           |
| DSPB?                         | ○                            | :TRACe:STATe:TRB?                                                         |                                           |
| DSPC                          | ○                            | :TRACe:STATe:TRC<wsp>ON 1                                                 |                                           |
| DSPC?                         | ○                            | :TRACe:STATe:TRC?                                                         |                                           |
| DTAD*                         | ○                            | :MMEMory:STORe:DATA:MODE<wsp><br>ADD OVER 0 1                             |                                           |
| DTARA*                        | ○                            | :MMEMory:STORe:DATA:ITEM<wsp><br>DATA,OFF ON 0 1                          |                                           |
| DUTCH***;<br>####.##          | x                            | -                                                                         |                                           |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command       | Remarks                                 |
|-------------------------------|------------------------------|----------------------------------------------------------------------|-----------------------------------------|
| DUTCHF***;<br>###.###         | x                            | -                                                                    |                                         |
| DUTLEV**.*                    | x                            | -                                                                    |                                         |
| DUTSNR**.*                    | x                            | -                                                                    |                                         |
| EDFCVF*                       | x                            | -                                                                    |                                         |
| EDFTH**.*                     | x                            | -                                                                    |                                         |
| EDNF                          | x                            | -                                                                    |                                         |
| ENVK**.*                      | o                            | :CALCulate:PARAMeter[:CATegory]:SWENvelope:K<wsp><Nrf>               |                                         |
| ENVT1**.*                     | o                            | :CALCulate:PARAMeter[:CATegory]:SWENvelope:TH1<wsp><Nrf>[DB]         |                                         |
| ENVT2**.*                     | o                            | :CALCulate:PARAMeter[:CATegory]:SWENvelope:TH2<wsp><Nrf>[DB]         |                                         |
| EXEC**                        | o                            | :PROGram:EXECute<wsp><integer>                                       |                                         |
| EXTRG                         | o                            | :TRIGger[:SEQuence]:STATe<wsp>OFF ON 0 1                             |                                         |
| FIG*                          | o                            | :UNIT:POWer:DIGit<wsp>1 2 3                                          |                                         |
| FILBTM□;□;▲;***               | ▲                            | :CALCulate:PARAMeter[:CATegory]:FILBtm<wsp><item>,<paramater>,<data> |                                         |
| FILBTMAN                      | o                            | :CALCulate:CATegory<wsp>FILBtm 14                                    |                                         |
| FILPK□;□;▲;***                | ▲                            | :CALCulate:PARAMeter[:CATegory]:FILPk<wsp><item>,<paramater>,<data>  |                                         |
| FILPKAN                       | o                            | :CALCulate:CATegory<wsp>FILPk 13                                     |                                         |
| FIXA                          | o                            | :TRACe:ATTRibute:TRA<wsp>FIX 1                                       |                                         |
| FIXB                          | o                            | :TRACe:ATTRibute:TRB<wsp>FIX 1                                       |                                         |
| FIXC                          | o                            | :TRACe:ATTRibute:TRC<wsp>FIX 1                                       |                                         |
| FMKR***.****                  | ▲                            | :CALCulate:MARKer:X<wsp>0,<Nrf>[HZ]                                  | Diff. parameter range                   |
| FPAN                          | o                            | :CALCulate:CATegory<wsp>FPLD 5                                       |                                         |
| FPLD;□;□;▲;****               | ▲                            | :CALCulate:PARAMeter[:CATegory]:FPLD<wsp><item>,<paramenter>,<data>  |                                         |
| GP2ADR**                      | o                            | :SYSTem:COMMunication:GP-IB2:ADDRess<wsp><integer>                   |                                         |
| GRCOL*                        | ▲                            | -                                                                    | Valid only when the parameter is 0 or 1 |
| GRFMT*                        | o                            | -                                                                    |                                         |
| HD*                           | o                            | -                                                                    |                                         |
| HELP*                         | x                            | -                                                                    |                                         |
| *IDN?                         | o                            | *IDN?                                                                |                                         |
| INIT                          | o                            | :SYSTem:PRESet                                                       |                                         |
| KABC                          | o                            | :CALCulate:MATH:TRC<wsp>1-K(A/B)                                     |                                         |
| KABCK*****.****               | o                            | :CALCulate:MATH:TRC:K<wsp><Nrf>                                      |                                         |
| KBAC                          | o                            | :CALCulate:MATH:TRC<wsp>1-K(B/A)                                     |                                         |
| KYDNE                         | x                            | -                                                                    |                                         |
| L1FMK***.****                 | ▲                            | :CALCulate:LMARker:X<wsp>1,<Nrf>[HZ]                                 | Diff. parameter range                   |
| L1MK****.*                    | ▲                            | :CALCulate:LMARker:X<wsp>1,<Nrf>[M]                                  | Diff. parameter range                   |

List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command  | Remarks               |
|-------------------------------|------------------------------|-----------------------------------------------------------------|-----------------------|
| L1MK?                         | ▲                            | :CALCulate:LMARker:X?<wsp>1                                     | Diff. parameter range |
| L2FMK****.****                | ▲                            | :CALCulate:LMARker:X<wsp>2,<NRF> [HZ]                           | Diff. parameter range |
| L2MK****.***                  | ▲                            | :CALCulate:LMARker:X<wsp>2,<NRF> [M]                            | Diff. parameter range |
| L2MK?                         | ▲                            | :CALCulate:LMARker:X?<wsp>2                                     | Diff. parameter range |
| L3DB****.**                   | ▲                            | :CALCulate:LMARker:Y<wsp>3,<NRF> [DB]                           | Diff. parameter range |
| L3DBM****.**                  | ▲                            | :CALCulate:LMARker:Y<wsp>3,<NRF> [DBM]                          | Diff. parameter range |
| L3LN*.***E±**                 | ▲                            | :CALCulate:LMARker:Y<wsp>3,<NRF>                                | Diff. parameter range |
| L3MK?                         | ▲                            | :CALCulate:LMARker:Y?<wsp>3                                     | Diff. parameter range |
| L4DB****.**                   | ▲                            | :CALCulate:LMARker:Y<wsp>4,<NRF> [DB]                           | Diff. parameter range |
| L4DBM****.**                  | ▲                            | :CALCulate:LMARker:Y<wsp>4,<NRF> [DBM]                          | Diff. parameter range |
| L4LN*.***E±**                 | ▲                            | :CALCulate:LMARker:Y<wsp>4,<NRF>                                | Diff. parameter range |
| L4MK?                         | ▲                            | :CALCulate:LMARker:Y?<wsp>4                                     | Diff. parameter range |
| LBL '*****'                   | ▲                            | :DISPlay[:WINDow]:TEXT:DATA<wsp><string>                        | Diff. no. of chars    |
| LBLCL                         | ○                            | :DISPlay[:WINDow]:TEXT:CLEar                                    |                       |
| LBLDT*                        | ○                            | :MMEMory:STORE:DATA:ITEM<wsp>LABel,OFF ON 0 1                   |                       |
| LCALT****;#.###               | ▲                            | :CALibration:POWer:OFFSet:TABLE<wsp><integer>,<NRF> [DB]        | Diff. parameter range |
| LDATAR****-R****              | ○                            | :TRACe[:DATA]:X?<wsp><trace name> [,<start point>,<stop point>] |                       |
| LDATBR****-R****              |                              | :TRACe[:DATA]:Y?<wsp><trace name> [,<start point>,<stop point>] |                       |
| LDATCR****-R****              |                              | :TRACe[:DATA]:SNUMber?<wsp><trace name>                         |                       |
| WDATAR****-R****              |                              |                                                                 |                       |
| WDATBR****-R****              |                              |                                                                 |                       |
| WDATCR****-R****              |                              |                                                                 |                       |
| DTNUM A                       |                              |                                                                 |                       |
| DTNUM B                       |                              |                                                                 |                       |
| DTNUM C                       |                              |                                                                 |                       |
| LMEM\$\$R****-R****           | ○                            |                                                                 |                       |
| WMEM\$\$R****-R****           |                              |                                                                 |                       |
| DTNUM **                      |                              |                                                                 |                       |

**List of the AQ6317-Compatible Commands**

| <b>AQ6317 Series Control Command</b> | <b>Operates in AQ6317-Comp Mode</b> | <b>AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command</b>                                                                    | <b>Remarks</b> |
|--------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| LDTDIG*                              | ○                                   | -                                                                                                                                        |                |
| LEDO;□;▲;****                        | ▲                                   | :CALCulate:PARAmeter[:CATegory]:LED<wsp><item>,<paramater>,<data>                                                                        |                |
| LEDAN                                | ○                                   | :CALCulate:CATegory<wsp>LED 6                                                                                                            |                |
| LHLD*                                | ○                                   | :DISPlay[:WINDow]:SPLit<wsp>ON 1;<br>:DISPlay[:WINDow]:SPLit:HOLD:<br>LOWer<wsp>OFF ON 0 1                                               |                |
| LMKCL                                | ○                                   | :CALCulate:LMARker:AOFF                                                                                                                  |                |
| LNGT**.***                           | ○                                   | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:<br>LENGth<wsp><Nrf>[KM]                                                                              |                |
| LOFSKM***.*                          | ○                                   | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:<br>OLEVel<wsp><Nrf>[DB/KM]                                                                           |                |
| LOFST***.*                           | ○                                   | :DISPlay[:WINDow]:TRACe:Y2[:SCALe]:<br>OLEVel<wsp><Nrf>[DB]                                                                              |                |
| LOGLMT***                            | x                                   | -                                                                                                                                        |                |
| LPF                                  | x                                   | -                                                                                                                                        |                |
| LSCL**.*                             | ○                                   | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:<br>SPACing<wsp>LOGarighmic 0;<br>:DISPlay[:WINDow]:TRACe:Y1[:SCALe]:<br>PDIVision<wsp><integer>[DIV] |                |
| LSUNT*                               | ○                                   | :DISPlay[:WINDow]:TRACe:Y1[:SCALe]:<br>UNIT<wsp>DBM DBM/NM                                                                               |                |
| LTABS                                | x                                   | -                                                                                                                                        |                |
| LTALM?                               | x                                   | -                                                                                                                                        |                |
| LTALMDT?                             | x                                   | -                                                                                                                                        |                |
| LTATSCL*                             | x                                   | -                                                                                                                                        |                |
| LTATSET                              | x                                   | -                                                                                                                                        |                |
| LTCH***                              | x                                   | -                                                                                                                                        |                |
| LTCHCUR***                           | x                                   | -                                                                                                                                        |                |
| LTINTVL****.*                        | x                                   | -                                                                                                                                        |                |
| LTL                                  | x                                   | -                                                                                                                                        |                |
| LTLHI***.**                          | x                                   | -                                                                                                                                        |                |
| LTLLOW***.**                         | x                                   | -                                                                                                                                        |                |
| LTLVLCTR***.**                       | x                                   | -                                                                                                                                        |                |
| LTLVLSCL**.*                         | x                                   | -                                                                                                                                        |                |
| LTREFINI                             | x                                   | -                                                                                                                                        |                |
| LTREFSET                             | x                                   | -                                                                                                                                        |                |
| LTREL                                | x                                   | -                                                                                                                                        |                |
| LTSNR                                | x                                   | -                                                                                                                                        |                |
| LTSNRCTR***.**                       | x                                   | -                                                                                                                                        |                |
| LTSNRLIM**.**                        | x                                   | -                                                                                                                                        |                |
| LTSNRSCL**.*                         | x                                   | -                                                                                                                                        |                |
| LTSWP                                | x                                   | -                                                                                                                                        |                |
| LTTIME****                           | x                                   | -                                                                                                                                        |                |
| LTTCUR****                           | x                                   | -                                                                                                                                        |                |
| LTWL                                 | x                                   | -                                                                                                                                        |                |
| LTWLCTR****.**                       | x                                   | -                                                                                                                                        |                |
| LTWLLIM**.**                         | x                                   | -                                                                                                                                        |                |
| LTWSPN****.*                         | x                                   | -                                                                                                                                        |                |
| LVSFT***.**                          | ○                                   | :SENSe:CORRection:LEVel:SHIFt<wsp><Nrf>[DB]                                                                                              |                |

List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command        | Remarks               |
|-------------------------------|------------------------------|-----------------------------------------------------------------------|-----------------------|
| MAXA                          | ○                            | :TRACe:ATTRibute:TRA<wsp>MAX 2                                        |                       |
| MCLR***                       | ▲                            | :CALCulate:MARKer[:STATe]<wsp><marker>,OFF 0                          | Diff. parameter range |
| MEM*                          | x                            | -                                                                     |                       |
| MESWL*                        | ○                            | :SENSe:CORRection:RVELocity:MEDIum<wsp>AIR VACuum 0 1                 |                       |
| MIMSK**.*                     | x                            | -                                                                     |                       |
| MINB                          | ○                            | :TRACe:ATTRibute:TRB<wsp>MIN 3                                        |                       |
| MKCL                          | ○                            | :CALCulate:MARKer:AOFF                                                |                       |
| MKR***                        | ▲                            | :CALCulate:MARKer[:STATe]<wsp><marker>, ON 1                          | Diff. parameter range |
| MKR?                          | ○                            | :CALCulate:MARKer:X?<wsp>0                                            |                       |
| MKR?****                      | ○                            | :CALCulate:MARKer:X?<wsp><marker>                                     | Diff. parameter range |
| MKR1                          | ○                            | :CALCulate:MARKer[:STATe]<wsp>1, ON 1                                 |                       |
| MKR1?                         | ○                            | :CALCulate:MARKer:X?<wsp>1                                            |                       |
| MKR2                          | ○                            | :CALCulate:MARKer[:STATe]<wsp>2, ON 1                                 |                       |
| MKR2?                         | ○                            | :CALCulate:MARKer:X?<wsp>2                                            |                       |
| MKROS*                        | ○                            | :CALCulate:MARKer:FUNCTion:FORMat<wsp>OFFSet SPACing 0 1              |                       |
| MKRPRT                        | ○                            | :HCOpy[:IMMediate]:FUNCTion:MARKer:LIST                               |                       |
| MKRUP*                        | ○                            | :CALCulate:MARKer:FUNCTion:UPDate<wsp>OFF ON 0 1                      |                       |
| MKUNT*                        | ○                            | :CALCulate:MARKer:UNIT<wsp>WAVElength FREQuency 0 1                   |                       |
| MLTMKR*                       | x                            | -                                                                     |                       |
| MODFT*                        | ○                            | :CALCulate:PARAmeter[:CATegory]:SWThresh:MFIT<wsp>OFF ON 0 1          |                       |
| MODIF**.*                     | ○                            | :CALCulate:PARAmeter:COMMon:MDIFf<wsp><Nrf>[DB]                       |                       |
| MSKL*                         | ○                            | :DISPlay[:WINDow]:TRACe:Y:NMASK:TYPE<wsp>VERTical HORIzontal 0 1      |                       |
| NCHMOD*                       | ○                            | :CALCulate:PARAmeter[:CATegory]:NOTCh:TYPE<wsp>PEAK BOTTom 0 1        |                       |
| NCHTH**.*                     | ○                            | :CALCulate:PARAmeter[:CATegory]:NOTCh:TH<wsp><Nrf>[DB]                |                       |
| NMSK****                      | ▲                            | :DISPlay[:WINDow]:TRACe:Y:NMASK<wsp><Nrf>[DB]                         | Diff. parameter range |
| NORMC                         | x                            | -                                                                     | Same cmd for TRACE G  |
| GNORMD                        | ○                            | :DISPlay[:WINDow]:SPLit<wsp>OFF 0                                     |                       |
| NSR                           | ○                            | :CALCulate:MARKer:MAXimum:NEXT or<br>:CALCulate:MARKer:MINimum:       |                       |
| NEXTNSRL                      | ○                            | :CALCulate:MARKer:MAXimum:LEFT or<br>:CALCulate:MARKer:MINimum:LEFT   |                       |
| NSRR                          | ○                            | :CALCulate:MARKer:MAXimum:RIGHT or<br>:CALCulate:MARKer:MINimum:RIGHT |                       |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                              | Remarks                                                                                                                  |
|-------------------------------|------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| OFIN***. **                   | x                            | -                                                                                           |                                                                                                                          |
| OFOUT***. **                  | x                            | -                                                                                           |                                                                                                                          |
| OPALIGN                       | o                            | :CALibration:ALIGn[:IMMediate]                                                              |                                                                                                                          |
| PKHLD****                     | o                            | -                                                                                           |                                                                                                                          |
| PKSR                          | o                            | :CALCulate:MARKer:MAXimum                                                                   |                                                                                                                          |
| PKSR?                         | o                            | -                                                                                           |                                                                                                                          |
| PLMES                         | x                            | -                                                                                           | <ul style="list-style-type: none"> <li>• PKHLD**** when PEAK HOLD MODE</li> <li>• EXTRG when EXT TRIGGER MODE</li> </ul> |
| PLMOD?                        | o                            | -                                                                                           |                                                                                                                          |
| PLMSK** . **                  | x                            | -                                                                                           |                                                                                                                          |
| PMD                           | o                            | :CALCulate:CATegory<wsp>PMD 9                                                               |                                                                                                                          |
| PMDTH** . **                  | o                            | :CALCulate:PARAmeter[:CATegory]:<br>PMD:TH<wsp><NRF>[DB]                                    |                                                                                                                          |
| PMRPT                         | x                            | -                                                                                           |                                                                                                                          |
| PMRST                         | x                            | -                                                                                           |                                                                                                                          |
| PMSGGL                        | x                            | -                                                                                           |                                                                                                                          |
| PMSTP                         | x                            | -                                                                                           |                                                                                                                          |
| PMST?                         | x                            | -                                                                                           |                                                                                                                          |
| PMUNT*                        | x                            | -                                                                                           |                                                                                                                          |
| POFS** . **                   | o                            | :CALCulate:PARAmeter[:CATegory]:<br>POWer:OFFSet<wsp><NRF>[DB]                              |                                                                                                                          |
| PRDEL**                       | o                            | -                                                                                           |                                                                                                                          |
| PREXT                         | o                            | -                                                                                           |                                                                                                                          |
| PRFED**                       | ▲                            | :HCOPY[:IMMediate]:FEED                                                                     | Amount of feed                                                                                                           |
| PRMK** . **                   | o                            | :CALCulate:PARAmeter[:CATegory]:<br>SWPKrms:K<wsp><NRF>                                     |                                                                                                                          |
| PRMTH** . *                   | o                            | :CALCulate:PARAmeter[:CATegory]:<br>SWPKrms:TH<wsp><NRF>[DB]                                |                                                                                                                          |
| PWR                           | o                            | :CALCulate:CATegory<wsp>POWer 8                                                             |                                                                                                                          |
| RAVA***                       | o                            | :TRACe:ATTRibute:RAVG[:TRA]<wsp><br><integer>                                               |                                                                                                                          |
| RAVB***                       | o                            | :TRACe:ATTRibute:RAVG:TRB<wsp><integer>                                                     |                                                                                                                          |
| RCLA**                        | ▲                            | :MEMory:LOAD<wsp><integer>,TRA                                                              | Diff. parameter range                                                                                                    |
| RCLB**                        | ▲                            | :MEMory:LOAD<wsp><integer>,TRB                                                              | Diff. parameter range                                                                                                    |
| RCLC**                        | ▲                            | :MEMory:LOAD<wsp><integer>,TRC                                                              | Diff. parameter range                                                                                                    |
| RD* ' @@@@ '                  | o                            | :MMEMory:LOAD:TRACe<wsp><br><trace name>,<"file name">,EXTernal<br><trace name>=TRA TRB TRC | Loads external memory                                                                                                    |
| RD3D* ' @@@@ '                | x                            | -                                                                                           |                                                                                                                          |
| RDDT ' @@@@ '                 | o                            | :MMEMory:LOAD:DATA<wsp><br><"file name">,EXTernal                                           | Loads external memory                                                                                                    |
| RDLT ' @@@@ '                 | x                            | -                                                                                           |                                                                                                                          |
| RDMEM**<br>' @@@@ '           | o                            | :MMEMory:LOAD:MEMory<wsp><br><integer>,<"file name">,EXTernal                               | Loads external memory                                                                                                    |
| RDPRG**<br>' @@@@ '           | o                            | :MMEMory:LOAD:PROGram<wsp><br><program number>,<"file name">,<br>EXTernal                   | Loads external memory                                                                                                    |
| RDSET ' @@@@ '                | o                            | :MMEMory:LOAD:SETTing<wsp><br><"file ame">,EXTernal                                         | Loads external memory                                                                                                    |

List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                                           | Remarks                    |
|-------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|
| RDTMP'@@@'                    | ▲                            | :MMEMory:LOAD:TEMplate<wsp><template>,<"file name">,EXTernal<template> = UPPER LOWER TARGet                              | Loads external memory      |
| REF = M                       | ○                            | :CALCulate:MARKer:SRLevel                                                                                                |                            |
| REF = P                       | ○                            | :CALCulate:MARKer:MAXimum:SRLevel                                                                                        |                            |
| REFL***.*                     | ▲                            | :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :SPACing<wsp>LOGarighmic 0; :DISPlay[:WINDow]:TRACeY1[:SCALE] :RLEVel<wsp><NRf> [DBM] | Diff. parameter range      |
| REFLM*.*                      | ○                            | :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :SPACing<wsp>LINear 1; :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :RLEVel<wsp><NRf> [MW]      |                            |
| REFLN*.*                      | ○                            | :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :SPACing<wsp>LINear 1; :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :RLEVel<wsp><NRf> [NW]      |                            |
| REFLP*.*                      | x                            | -                                                                                                                        |                            |
| REFLU*.*                      | ○                            | :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :SPACing<wsp>LINear 1; :DISPlay[:WINDow]:TRACe:Y1[:SCALE] :RLEVel<wsp><NRf> [UW]      |                            |
| REFL?                         | ▲                            | :DISPlay[:WINDow]:Y1[:SCALE] :RLEVel?                                                                                    | Diff. parameter range      |
| REL*                          | x                            | -                                                                                                                        |                            |
| RESCOR*                       | ○                            | -                                                                                                                        |                            |
| RESLN*.*                      | ▲                            | :SENSe:BANDwidth :BWIDth[:RESolution]<wsp><NRf> [M]                                                                      | Diff. parameter range      |
| RESLNF***                     | x                            | -                                                                                                                        |                            |
| RMSK*.*                       | ○                            | :CALCulate:PARAMeter[:CATEgory]:RMS:K<wsp><NRf>                                                                          |                            |
| RMSTH*.*                      | ○                            | :CALCulate:PARAMeter[:CATEgory]:RMS:TH<wsp><NRf> [DB]                                                                    |                            |
| RPT                           | ○                            | :INITIate:SMODE<wsp>REPeat 2; INITiate                                                                                   |                            |
| *RST                          | ▲                            | *RST                                                                                                                     | Diff. operation            |
| SAVEA**                       | ▲                            | :MEMory:STORe<wsp><integer>, TRA                                                                                         | Diff. parameter range      |
| SAVEB**                       | ▲                            | :MEMory:STORe<wsp><integer>, TRB                                                                                         | Diff. parameter range      |
| SAVEC**                       | ▲                            | :MEMory:STORe<wsp><integer>, TRC                                                                                         | Diff. parameter range      |
| SENS?                         | ○                            | :SENSe:SENSe?                                                                                                            | 0 if SENS is set to NORMAL |
| SD*                           | ○                            | -                                                                                                                        |                            |
| SEGP****                      | ▲                            | :SENSe:SWEep:SEGment:POINts<wsp><integer>                                                                                | Diff. parameter range      |
| SGL                           | ○                            | :INITIate:SMODE<wsp>SINGle 1                                                                                             |                            |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                                                 | Remarks               |
|-------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| SHI1                          | ▲                            | :SENSe:SENSe<wsp>HIGH1 3;<br>:SENSe:CHOPer<wsp>OFF 0                                                                           | Chopper<br>Unused     |
| SHI2                          | ▲                            | :SENSe:SENSe<wsp>HIGH2 4;<br>:SENSe:CHOPer<wsp>OFF 0                                                                           | Chopper<br>Unused     |
| SHI3                          | ▲                            | :SENSe:SENSe<wsp>HIGH3 5;<br>:SENSe:CHOPer<wsp>OFF 0                                                                           | Chopper<br>Unused     |
| SKM**.*                       | ○                            | DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:UNIT<wsp>DB/KM 2<br>DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:PDIVision<wsp><Nrf><br>[DB/KM] |                       |
| SLIN*.***                     | ○                            | DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:UNIT<wsp>LINear 1<br>DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:PDIVision<wsp><Nrf>           |                       |
| SLOG**.*                      | ○                            | DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:UNIT<wsp>DB 0<br>DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:PDIVision<wsp><Nrf><br>[DB]       |                       |
| SMEAS                         | ○                            | :INITIate:SMODE<wsp>SEGment 4                                                                                                  |                       |
| SMID                          | ○                            | :SENSe:SENSe<wsp>MID 2                                                                                                         |                       |
| SMIN***.*                     | ○                            | :DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:SMINimum<wsp><Nrf>                                                                      |                       |
| SMINP***.*                    | ○                            | :DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:SMINimum<wsp><Nrf>[%]                                                                   |                       |
| SMPL****                      | ▲                            | :SENSe:SWEep:POINts<wsp><integer>                                                                                              | Diff.parameter range  |
| SMSR*                         | ○                            | :CALCulate:PARAMeter[:CATegory]<br>:SMSR:MODE<wsp>SMSR1 SMSR2                                                                  |                       |
| SNAT                          | ○                            | :SENSe:SENSe<wsp>NAUT 1                                                                                                        |                       |
| SNHD                          | ○                            | :SENSe:SENSe<wsp>NHLd 0                                                                                                        |                       |
| SP = LM                       | ○                            | :CALCulate:LMARker:SSPan                                                                                                       |                       |
| SPAN***.*                     | ▲                            | :SENSe:WAVelength:SPAN<wsp><Nrf>[M]                                                                                            | Diff. parameter range |
| SPANF***.***                  | ▲                            | -                                                                                                                              | Diff. parameter range |
| SPLIT                         | ○                            | :DISPlay[:WINDow]:SPLit<wsp>ON 1                                                                                               |                       |
| SPN = W                       | ○                            | -                                                                                                                              |                       |
| SPS***.*                      | ○                            | DISPlay[:WINDow]:TRACe:Y2[:SCALe]:<br>UNIT<wsp>% 3<br>DISPlay[:WINDow]:TRACe:Y2[:SCALe]:<br>PDIVision<wsp><Nrf>[%]             |                       |
| SRLMK*                        | ○                            | :CALCulate:LMARker:SRANge<wsp><br>OFF ON 0 1                                                                                   |                       |
| SRMSK***                      | ○                            | -                                                                                                                              |                       |
| SRQ*                          | ○                            | *SRE<wsp><integer>                                                                                                             |                       |
| SSE*                          | x                            | -                                                                                                                              |                       |
| SSMSK***.**                   | ○                            | :CALCulate:PARAMeter[:CATegory]:<br>SMSR:MASK<wsp><Nrf>[M]                                                                     |                       |
| SSUNT?                        | ○                            | :DISPlay[:WINDow]:TRACe:Y2<br>[:SCALe]:UNIT?                                                                                   |                       |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command           | Remarks                                      |
|-------------------------------|------------------------------|--------------------------------------------------------------------------|----------------------------------------------|
| STAF***.***                   | ▲                            | :SENSe:WAVelength:StARt<wsp><Nrf> [HZ]                                   | Diff. parameter range                        |
| STAWL****.***                 | ▲                            | :SENSe:WAVelength:StARt<wsp><Nrf> [M]                                    | Diff. parameter range                        |
| STP                           | ○                            | :ABORt                                                                   |                                              |
| STPF***.***                   | ▲                            | :SENSe:WAVelength:StOP<wsp><Nrf> [HZ]                                    | Diff. parameter range                        |
| STPWL****.***                 | ▲                            | :SENSe:WAVelength:StOP<wsp><Nrf> [M]                                     | Diff. parameter range                        |
| SW*                           | ○                            | :CALCulate:CATegory<wsp>SWThresh 0                                       |                                              |
| SWDSP*                        | x                            | -                                                                        |                                              |
| SWENV**.**                    | ○                            | :CALCulate:PARAmeter[:CATegory]:SWENvelope:TH1<wsp><Nrf> [DB]            |                                              |
| SWEEP?                        | ○                            | -                                                                        |                                              |
| SWPI*****                     | ○                            | :SENSe:SWEep:TIME:INTerval<wsp><integer> [SEC]                           |                                              |
| SWPM*                         | ○                            | :SENSe:WAVelength:SRANge<wsp>OFF ON 0 1                                  |                                              |
| SWPRM**.**                    | ○                            | :CALCulate:PARAmeter[:CATegory]:SWPKrms:TH<wsp><Nrf> [DB]                |                                              |
| SWRMS**.**                    | ○                            | :CALCulate:PARAmeter[:CATegory]:RMS:TH<wsp><Nrf> [DB]                    |                                              |
| SWTHR**.**                    | ○                            | :CALCulate:PARAmeter[:CATegory]:SWThresh:TH<wsp><Nrf> [DB]               |                                              |
| THRK**.**                     | ○                            | :CALCulate:PARAmeter[:CATegory]:SWThresh:K<wsp><Nrf>                     |                                              |
| THRTH**.**                    | ○                            | :CALCulate:PARAmeter[:CATegory]:SWThresh:TH<wsp><Nrf> [DB]               |                                              |
| TIME?                         | ○                            | -                                                                        |                                              |
| TLDAT*****.***;***.**;***.**  | x                            | :TRACe:TEMPLate:DATA<wsp><template>,<wavelength> [M],<level> [DB]        |                                              |
| TLDATCLR                      | ▲                            | :TRACe:TEMPLate:DATA:ADElete<wsp><template><template>=UPPER LOWer TARGet | An active template (UPPER/LOWER/TARGET)      |
| TLDISP*                       | ○                            | :TRACe:TEMPLate:DISPlay                                                  |                                              |
| TLEXTRA*                      | ▲                            | :TRACe:TEMPLate:EDIT:ETYPe                                               | An active template (UPPER/LOWER/TARGET)      |
| TLGONO*                       | ○                            | :TRACe:TEMPLate:GONogo                                                   |                                              |
| TLSADR**                      | ○                            | -                                                                        |                                              |
| TLSSYNC*                      | ○                            | -                                                                        |                                              |
| TLVSFT***.**                  | ○                            | :TRACe:TEMPLate:WAVelength:SHIFt                                         |                                              |
| TLRESLT?                      | ○                            | :TRACe:TEMPLate:RESult?                                                  |                                              |
| TLTYPE*                       | ○                            | :TRACe:TEMPLate:TTYPe                                                    |                                              |
| TLWLSFT****.**                | ○                            | :TRACe:TEMPLate:WAVelength:SHIFt                                         |                                              |
| TRA?                          | ▲                            | :TRACe:ATTRibute:TRA?                                                    | Diff.talker format<br>2: MAX HOLD / MIN HOLD |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                                                 | Remarks                                                                           |
|-------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| TRB?                          | ▲                            | :TRACe:ATTRibute:TRB?                                                                                                          | Diff. talker format<br>2: MAX HOLD / MIN HOLD                                     |
| TRC?                          | ×                            | :TRACe:ATTRibute:TRC?                                                                                                          |                                                                                   |
| TRFMT*                        | ○                            | -                                                                                                                              |                                                                                   |
| UCWRN*                        | ○                            | :SYSTem:DISPlay:UNCal<wsp><br>OFF ON 0 1                                                                                       |                                                                                   |
| UHLD*                         | ○                            | :DISPlay[:WINDow]:SPLit<wsp>ON 1;<br>:DISPlay[:WINDow]:SPLit:HOLD:<br>UPPer<wsp>OFF ON 0 1                                     |                                                                                   |
| ULTRA*                        | ○                            | :DISPlay[:WINDow]:SPLit<wsp>ON 1;<br>:DISPlay[:WINDow]:SPLit:POSition<wsp><br>TRA,UP LOW 0 1                                   |                                                                                   |
| ULTRB*                        | ○                            | :DISPlay[:WINDow]:SPLit<wsp>ON 1;<br>:DISPlay[:WINDow]:SPLit:POSition<br><wsp>TRB,UP LOW 0 1                                   |                                                                                   |
| ULTRC*                        | ○                            | :DISPlay[:WINDow]:SPLit<wsp>ON 1;<br>:DISPlay[:WINDow]:SPLit:POSition<br><wsp>TRC,UP LOW 0 1                                   |                                                                                   |
| WARN?                         | ▲                            | :SYSTem:ERRor[:NEXT]?                                                                                                          |                                                                                   |
| WCAL****.***                  | ▲                            | :CALibration:WAVelength:EXTernal:<br>SOURce<wsp>LASer 0;<br>CALibration:WAVelength:EXTernal:<br>WAVelength<wsp><NRf>[M]        | Diff. parameter range                                                             |
| WCALG****.***                 | ▲                            | :CALibration:WAVelength:EXTernal:<br>SOURce<wsp>GASCell 1;<br>CALibration:WAVelength:EXTernal:<br>WAVelength<wsp><NRf>[M]      | Diff. parameter range                                                             |
| WCALS                         | ○                            | :CALibration:WAVelength:INTernal<br>[:IMMediate]                                                                               |                                                                                   |
| WCALT****;#.###               | ▲                            | :CALibration:WAVelength:OFFSet:<br>TABLe<wsp><integer>,<NRf>[DB]                                                               | Diff. parameter range                                                             |
| WDMAN                         | ○                            | :CALCulate:CATegory<wsp>WDM 10                                                                                                 |                                                                                   |
| WDMCHAUT*                     | ×                            | -                                                                                                                              | No parameter                                                                      |
| WDMCHSW***;#                  | ×                            | -                                                                                                                              |                                                                                   |
| WDMDIF**.**                   | ▲                            | :CALCulate:PARAMeter[:CATegory]<br>:WDM:MDIFf<wsp><NRf>[DB]                                                                    | Set only in WDM Analysis, not in NF Analysis                                      |
| WMDISP*                       | ▲                            | :CALCulate:PARAMeter[:CATegory]<br>:WDM:DTYPe<wsp><display type><br><display type>=ABSolute 0,<br>RELatibe 1,MDRift 2,GDRift 3 | Diff. parameter<br>0: ABSOLUTE<br>1: RELATIVE<br>3: DRIFT(MEAS)<br>4: DRIFT(GRID) |
| WMDSPMSK***                   | ▲                            | :CALCulate:PARAMeter[:CATegory]<br>:WDM:DMASk<wsp><NRf>[DB]                                                                    | Diff. parameter range                                                             |
| WMDUAL*                       | ○                            | :CALCulate:PARAMeter[:CATegory]<br>:WDM:DUAL<wsp>OFF ON 0 1                                                                    |                                                                                   |
| WDMMAX***                     | ×                            | -                                                                                                                              | No parameter                                                                      |
| WDMMR                         | ○                            | :CALCulate:PARAMeter[:CATegory]<br>:WDM:MMReset                                                                                |                                                                                   |

List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                                                                                                                                                                                                             | Remarks                                                                                                                                               |
|-------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| WDMNOI*                       | ▲                            | [NOISE_ALGO is Auto Center]<br>(NOISE POI=CTR)<br>:CALCulate:PARAmeter[:CATegory]<br>:WDM:NALGo<wsp>ACENter 2<br>[NOISE_ALGO is MANUAL Fix]<br>(NOISE POI=CTR)<br>:CALCulate:PARAmeter[:CATegory]<br>:WDM:NALGo<wsp>MFIx 1;<br>:CALCulate:PARAmeter[:CATegory]<br>:WDM:FALGo<wsp>LINear 0; | Diff. set value<br>0: AUTO-FIX<br>1: AUTO-CTR<br>Set only in WDM Analysis, not in NF Analysis                                                         |
| WDMNOIBW****                  | ○                            | :CALCulate:PARAmeter[:CATegory]:<br>WDM:NBW<wsp><NRf>[M HZ]                                                                                                                                                                                                                                |                                                                                                                                                       |
| WDMNOIP**.**                  | ▲                            | :CALCulate:PARAmeter[:CATegory]:<br>WDM:FALGo<wsp>LINear 0;<br>:CALCulate:PARAmeter[:CATegory]:<br>WDM:NBW<wsp><NRf>[M]                                                                                                                                                                    | Valid only when NOISE ALGO is set to MANUAL FIX                                                                                                       |
| WDMOS*                        | ○                            | :CALCulate:PARAmeter[:CATegory]:<br>WDM:RELation<wsp>OFFSet SPACing 0 1                                                                                                                                                                                                                    |                                                                                                                                                       |
| WDMREF*                       | x                            | -                                                                                                                                                                                                                                                                                          |                                                                                                                                                       |
| WDMREFDAT*                    | x                            | -                                                                                                                                                                                                                                                                                          |                                                                                                                                                       |
| WDMRH                         | ○                            | :CALCulate:PARAmeter[:CATegory]<br>:WDM:RCH<wsp>0                                                                                                                                                                                                                                          |                                                                                                                                                       |
| WDMRN***                      | ○                            | :CALCulate:PARAmeter[:CATegory]<br>:WDM:RCH<wsp><integer>                                                                                                                                                                                                                                  |                                                                                                                                                       |
| WDMslope*                     | ○                            | :CALCulate:PARAmeter[:CATegory]<br>:WDM:OSLope<wsp>OFF ON 0 1                                                                                                                                                                                                                              |                                                                                                                                                       |
| WDMTCOPY                      | ○                            | :HCOpy[:IMMediate]:FUNction<br>:CALCulate:LIST                                                                                                                                                                                                                                             |                                                                                                                                                       |
| WDMTH**.*                     | ▲                            | :CALCulate:PARAmeter[:CATegory]<br>:WDM:TH<wsp><NRf>[DB]                                                                                                                                                                                                                                   | Set only in WDM Analysis, not in NF Analysis                                                                                                          |
| WDMUNT*                       | x                            | :CALCulate:MARKer:UNIT<wsp><br>WAVelength FREQuency 0 1                                                                                                                                                                                                                                    |                                                                                                                                                       |
| WLSFT**.**                    | ○                            | :SENSe:CORRection:WAVelength:<br>SHIFt<wsp><NRf>[M]                                                                                                                                                                                                                                        |                                                                                                                                                       |
| WMKR****.**                   | ▲                            | :CALCulate:MARKer:X<wsp>0,<NRf>[M]                                                                                                                                                                                                                                                         | Diff. parameter range                                                                                                                                 |
| WNFAN                         | ○                            | :CALCulate:CATegory<wsp>NF 11                                                                                                                                                                                                                                                              |                                                                                                                                                       |
| WNFCVF*                       | ▲                            | :CALCulate:PARAmeter[:CATegory]:<br>NF:FALGo<wsp><algorhythm><br><algorhythm>=AFIX 0,MFIx 1,<br>ACENter 2,MCENter 3                                                                                                                                                                        | Valid only when ASE ALGO is set to MANUAL FIX or MANUAL CTR                                                                                           |
| WNFFA**.**                    | ▲                            | :CALCulate:PARAmeter[:CATegory]:<br>NF:FARea<wsp><NRf>[M HZ]                                                                                                                                                                                                                               | Valid only when ASE ALGO is set to MANUAL FIX                                                                                                         |
| WNFNP**.**                    | ▲                            | :CALCulate:PARAmeter[:CATegory]:<br>NF:MARea<wsp><NRf>[M HZ]                                                                                                                                                                                                                               | Valid only when all the following conditions are satisfied<br>1. ASE ALGO is set to MANUAL FIX or MANUAL CTR<br>2. FITTING ALGO is set besides LINEAR |
| WNFOFI***.**                  | ○                            | :CALCulate:PARAmeter[:CATegory]:<br>NF:IOFFset<wsp><NRf>[DB]                                                                                                                                                                                                                               |                                                                                                                                                       |
| WNFOFO***.**                  | ○                            | :CALCulate:PARAmeter[:CATegory]:<br>NF:OOFFset<wsp><NRf>[DB]                                                                                                                                                                                                                               |                                                                                                                                                       |
| WNFSSE*                       | x                            | -                                                                                                                                                                                                                                                                                          | No parameter                                                                                                                                          |

## List of the AQ6317-Compatible Commands

| AQ6317 Series Control Command | Operates in AQ6317-Comp Mode | AQ6370B/AQ6375 Control Command Corresponding to AQ6317 Command                                           | Remarks                       |
|-------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------|
| WR* '####'                    | 0                            | :MMEMory:STORe:TRACe<wsp><br><trace name>,BIN CSV,<br><"file name">,EXTernal<br><trace name>=TRA TRB TRC | Saving to the external memory |
| WR3D* '####'                  | x                            | -                                                                                                        |                               |
| WRDT '####'                   | 0                            | :MMEMory:STORe:DATA<wsp><br><"file name">,EXTernal                                                       | Saving to the external memory |
| WRGR '####'                   | 0                            | :MMEMory:STORe:GRAPhics<wsp><br>B&W COLor,BMP TIFF,<"file name">,<br>EXTernal                            | Saving to the external memory |
| WRMEM**<br>'####'             | 0                            | :MMEMory:STORe:MEMORy<wsp><br><integer>,BIN CSV,<"file name">,<br>EXTernal                               | Saving to the external memory |
| WRPRG**<br>'####'             | 0                            | :MMEMory:STORe:PROGRam<wsp><br><integer>,<"file name">,EXTernal                                          | Saving to the external memory |
| WRSET '####'                  | 0                            | :MMEMory:STORe:SETTing<wsp><br><"file name">,EXTernal                                                    | Saving to the external memory |
| WRTA                          | 0                            | :TRACe:ATTRibute:TRA<wsp>WRITe 0                                                                         |                               |
| WRTB                          | 0                            | :TRACe:ATTRibute:TRB<wsp>WRITe 0                                                                         |                               |
| WRTC                          | 0                            | :TRACe:ATTRibute:TRC<wsp>WRITe 0                                                                         |                               |
| WRTLt '####'                  | x                            | -                                                                                                        |                               |
| XUNT*                         | 0                            | :UNIT:X<wsp>WAVelength FREQuency<br> 0 1                                                                 |                               |
| ZSCL**                        | x                            | -                                                                                                        |                               |
| ZSWPT**                       | 0                            | :SENSe:SWEp:TIME:0NM<wsp><br><integer>[SEC]                                                              |                               |

---

# HIGH1, HIGH2, HIGH3 of Measurement Sensitivity

## For the AQ6370B or AQ6373

Even when the measurement sensitivity of the instrument is set to HIGH1 or HIGH2 or HIGH3, the chopper cannot operate unless the CHOP MODE setting of the SENS/MODE key is set to SWITCH. However, with AQ6317 series instruments, if the measurement sensitivity is set to HIGH1, HIGH2, or HIGH3, a chopper that removes monochromator stray light is activated. The instrument includes the following AQ6317-compatible mode commands that allow you to edit the settings of the chopper operation.

AQ6317 command to use to set the chopper operation

Control command

CHOP\*

\*: 0 = Chopper OFF, 2 = SWITCH mode

Query command

CHOP?

A return value: Same as the above

## For the AQ6375

When the measurement sensitivity is set to HIGH1, HIGH2, or HIGH3, a chopper that removes monochromator stray light is activated.

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