User's Manual

AQ6370 Viewer

Thank you for purchasing the AQ6370 Viewer.

This user's manual lists precautions that must be taken during use, and contains useful information about the functions and operating procedures of the software program. To ensure correct use, please read this manual thoroughly during operation.

Keep this manual in a safe place for quick reference in the event a question arises.

In addition to this manual, the AQ6370 Viewer Installation Manual (IM 735371-02E) is provided for installing and running the AQ6370 Viewer.

For information about the handling precautions, functions, and operating procedures of the Optical Spectrum Analyzer (AQ6370 series) and the handling and operating procedures for Windows, see the manuals for those products.

Notes

- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the instrument's performance and functions. The figures given in this manual may differ from those that actually appear on your screen.
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Checking the Contents of the Package

Unpack the box and check that the contents below are available. If some of the contents are not correct or missing or if there is physical damage, contact the dealer from which you purchased them.

- **AQ6370 Viewer Installation Manual (IM 735371-02E)**

- **CD-ROM**
  The CD-ROM contains the following items.
  - AQ6370 Viewer (software for AQ6370)
  - AQ6370B Viewer (software for AQ6370B, included with CD-ROM Edition 5 or later)
  - AQ6370C Viewer (software for AQ6370C, included with CD-ROM Edition 7 or later)
  - AQ6370D Viewer (software for AQ6370D, included with CD-ROM Edition 9 or later)
  - AQ6373 Viewer (software for AQ6373, included with CD-ROM Edition 6 or later)
  - AQ6373B Viewer (software for AQ6373B, included with CD-ROM Edition 10 or later)
  - AQ6374 Viewer (software for AQ6374, included with CD-ROM Edition 13 or later)
  - AQ6375/AQ6375B/AQ6376 Viewer (software for AQ6375, included with CD-ROM Edition 12 or later)
  - AQ6370 Firmware Updater
    The updater is used when the AQ6370 firmware version is older than R02.01.
  - AQ6370 Viewer User's Manual (this manual)

- **License sheet (1)**
  You must enter the license code indicated on the license sheet when you start the software program. For details, see section 2.1, "Starting and Closing the Software Program."

System Requirements and Notes on Using the Software Program

PC System Requirements

PC
A PC running following operating system with at least 256 MB of memory (512 MB or more recommended).

Operating System
- Windows Vista (32 bit/64 bit) (Service Pack 2 or later)
- Windows 7 (32 bit/64 bit) (Service Pack 1 or later)
- Windows 8/8.1 (32 bit/64 bit)
- Windows 10 (32 bit/64 bit)

CD-ROM Drive
A CD-ROM drive is required to install this software program.

Ethernet interface
A LAN port (100BASE-TX) is required to use the Optical Spectrum Analyzer in remote control mode or file transfer mode.

Display, Mouse, and Printer
- Display: 1024 × 768 pixels, 65536 colors or more
- Mouse and printer: Those compatible with the operating systems above (the printer is required when printing a hard copy of the screen)

Notes on Using the Software Program

Storing the CD-ROM
Please store the original CD-ROM (containing the software program) in a safe place. During the actual operation, use the software program that is installed on the hard disk.

Precautions to Be Taken When Using the Software Program
- Do not operate the Optical Spectrum Analyzer from the panel while you are controlling the Optical Spectrum Analyzer using this software program. If you do, operation errors can result.
- Only a single Optical Spectrum Analyzer can be controlled by this software program. In addition, simultaneous connection to the Optical Spectrum Analyzer from multiple PCs is not allowed.
- Limitations exist such as in the result of the analysis function if a waveform file other than that of the AQ6370/AQ6370B/AQ6370C/AQ6370D/AQ6373/AQ6373B/AQ6374/AQ6375/AQ6375B/AQ6376 is loaded into this software program. For details, see page 1-5.

Installing and Uninstalling the Software Program

Procedure

Installing the Software Program
The CD contains seven different Viewer programs.
Run the setup program below corresponding to the viewer program you wish to install.

- To install AQ6370 Viewer: \AQ6370Viewer\setup.exe
- To install AQ6370B Viewer: \AQ6370BViewer\setup.exe
- To install AQ6370C Viewer: \AQ6370CViewer\setup.exe
- To install AQ6370D Viewer: \AQ6370DViewer\setup.exe
- To install AQ6373 Viewer: \AQ6373Viewer\setup.exe
- To install AQ6373B Viewer: \AQ6373BViewer\setup.exe
- To install AQ6374 Viewer: \AQ6374Viewer\setup.exe
- To install AQ6375/AQ6375B/AQ6376 Viewer: \AQ6375&76Viewer\setup.exe

The procedure below is for installing the software program on Windows 7.
AQ6370 Viewer is used for this example. For AQ6370B Viewer/AQ6370C Viewer/
AQ6370D Viewer/AQ6373 Viewer/AQ6373B Viewer/AQ6374 Viewer/AQ6375/AQ6375B/
AQ6376 Viewer, substitute "AQ6370B/AQ6370C/AQ6370D/AQ6373/AQ6373B/AQ6375/
AQ6375B/AQ6376" wherever "AQ6370" appears.

1. Start Windows and log on with administrator privileges. If AQ6370 Viewer is already installed, uninstall it first.

2. Load the disc into the CD-ROM drive.

3. Double-click Setup.exe in the AQ6370 Viewer folder on the CD-ROM to start the installation.

4. Press the **Next** button.
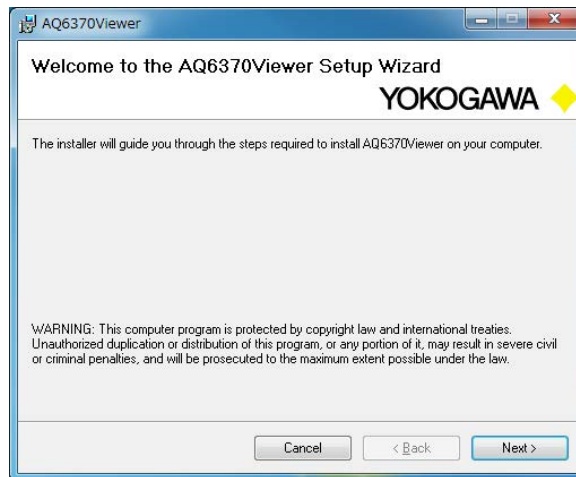
5. Read the license agreement carefully. If you agree to the terms, click the **I Agree** option button and then click **Next**.
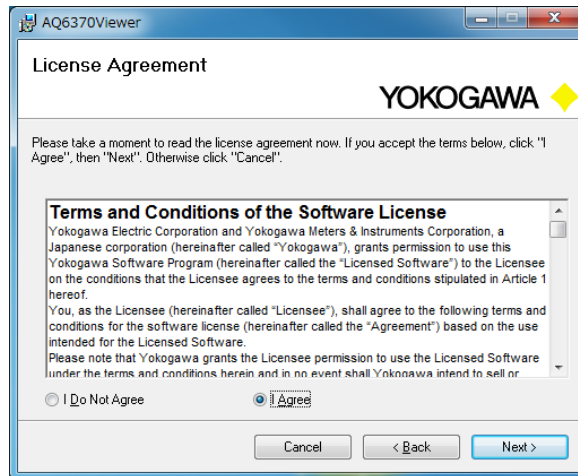
6. Select the installation destination drive and folder, and click **Next**.

The installation destination setup screen shown below opens.

The default installation destination is C:\Program Files\Yokogawa\.

7. In the installation destination confirmation screen, click **Next**.

The software installation starts. A progress bar is shown in the screen while the installation is in progress.

8. Click **Close** to finish the installation.
   Yokogawa > AQ6370 Viewer is added to Programs in the Start menu in the task bar, and a AQ6370 Viewer shortcut icon is created on the desktop.
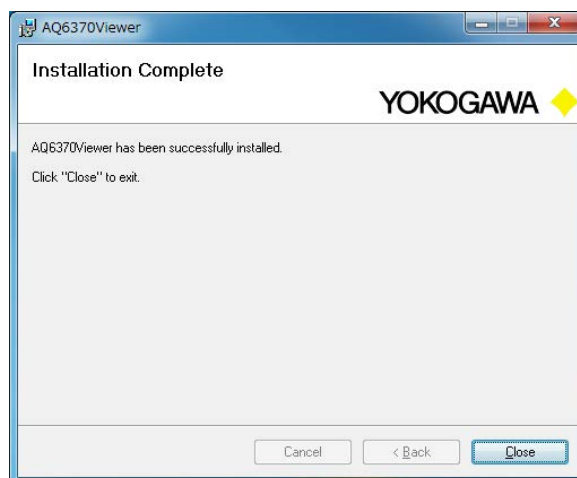
Note

- When you run the AQ6370 Viewer for the first time, a license confirmation screen opens. Click Input License code, and enter the license code indicated in the license seal to open the main screen. For details, see section 2.1, "Starting and Closing the Software Program."
- AQ6370B Viewer is included with CD-ROM Edition 5 or later.
- AQ6370C Viewer is included with CD-ROM Edition 7 or later.
- AQ6370D Viewer is included with CD-ROM Edition 9 or later.
- AQ6373 Viewer is included with CD-ROM Edition 6 or later.
- AQ6373B Viewer is included with CD-ROM Edition 10 or later.
- AQ6374 Viewer is included with CD-ROM Edition 13 or later.
- AQ6375/AQ6375B/AQ6376 Viewer is included with CD-ROM Edition 12 or later.
- Multiple different models of Viewers can be installed on the same PC.

Uninstalling the Software Program

The procedure below is for uninstalling the software program on Windows 7.

1. On the task bar, click the Start button and choose Control Panel.

2. Double-click **Uninstall program** of **Programs** from the Control Panel.

3. In the Programs and Features window, select AQ6370 Viewer, and click **Uninstall**.
   A confirmation dialog box for deleting the program opens.

4. Click **Yes**.
   The software program is uninstalled.

Note

The files that the user saved (waveform files, etc.) remain in the follwing folder even if you uninstall the software program.
   My Document\AQ6370Viewer Data

Contents

1.1　Operation Modes

An AQ6370 Viewer screen is used for this example.

The software application has the three operation modes listed below.

The program starts in Viewer mode.

The mode switches to Remote Control if you connect to the Optical Spectrum Analyzer.

Select FileTransfer in the main menu to switch to File Transfer mode.
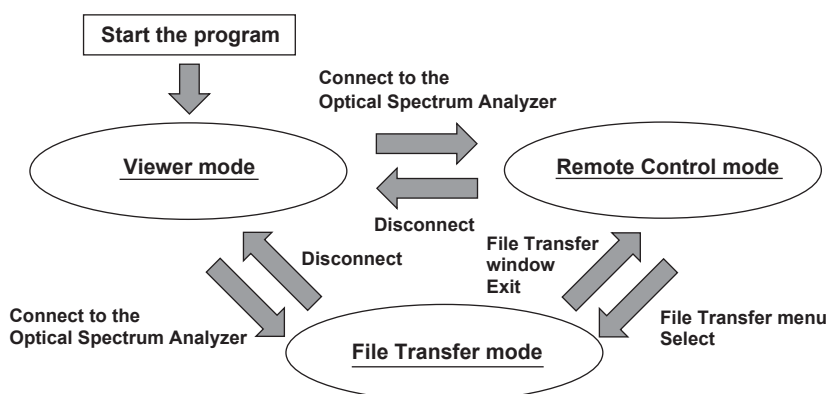
Viewer Mode

The Optical Spectrum Analyzer display is shown on the PC display. You can use the mouse and keyboard to operate the display in the same manner as with the Optical Spectrum Analyzer.

You can carry out the following operations in Viewer mode.

- Load the waveform data that was saved on the AQ6370/AQ6370B/AQ6370C/AQ6370D/ AQ6373/AQ6373B/AQ6374/AQ6375/AQ6375B/AQ6376 to the USB storage device and display the waveform in the screen.

  Waveform data saved on the AQ6317 or AQ6319 can also be loaded.
- Perform marker operations and analysis on the displayed waveform and display the result.
- Create and edit programs and template data.
- Save the created data to a file.
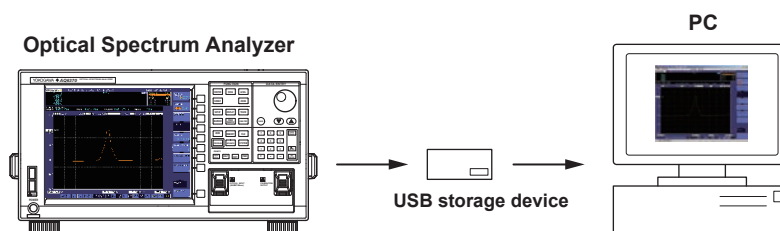
Display Examples

Remote Control Mode

The same display as the display on the Optical Spectrum Analyzer connected via the Ethernet interface is shown on the PC display. You can use the mouse and keyboard to operate the display in the same manner as with the Optical Spectrum Analyzer unit.

You can carry out the following operations in Remote Control mode.

- Set the measurement conditions on the target Optical Spectrum Analyzer and execute measurements.
- Display the waveform data that is measured on the Optical Spectrum Analyzer on the PC display.
- Perform marker operations and analysis on the displayed waveform and display the result.
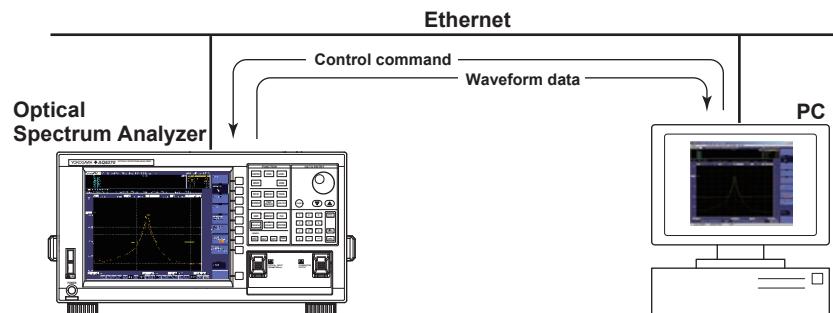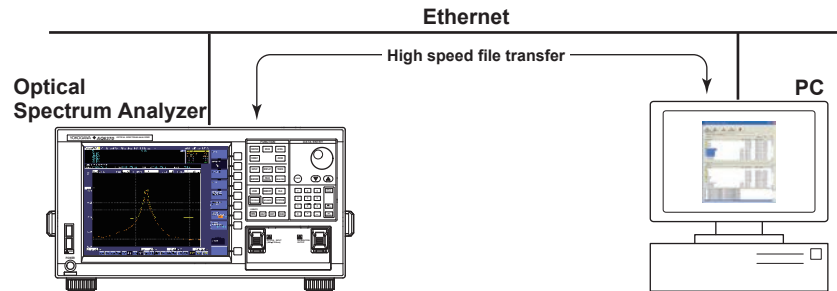

Display Examples
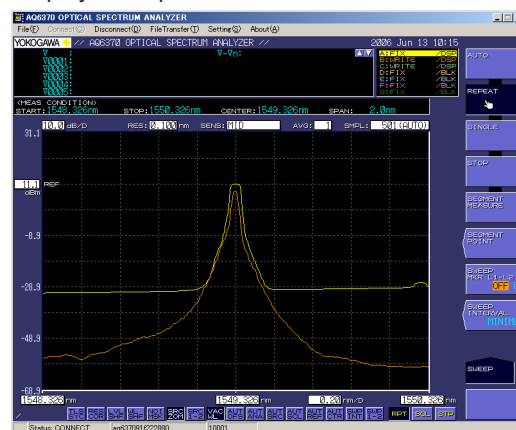
Note

The waveform data that can be loaded in Remote Control mode is the data stored on the PC in which this software program is installed. In addition, waveform data can be saved in Remote Control mode only to the PC in which this software program is installed.

File Transfer Mode

Files that are stored in the Optical Spectrum Analyzer can be transferred at high speeds to the PC via the Ethernet interface. Files also be transferred from the PC to the Optical Spectrum Analyzer.

Display Examples
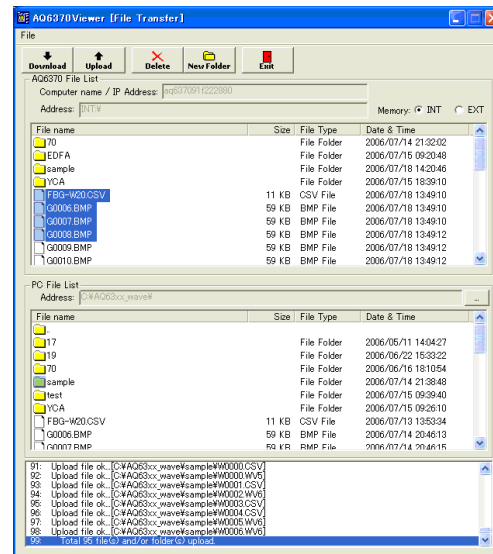
1.2 Functional Difference in Operation Modes and Loadable Files

Functional Differences in Operation Modes

The functions that you can execute vary depending on the operation mode as follows:

- **Viewer Mode**
  Almost all the functions except the sweep function can be executed. Some commands do not operate in the execution of the program function.
- **Remote Control Mode**
  Almost all the functions except the program function can be executed. However, the waveform displayed on the Optical Spectrum Analyzer and the waveform displayed on the PC display may not match during remote control.
- **File Transfer Mode**
  Only file transfer between the Optical Spectrum Analyzer and the PC is possible.

Main Operation Differences in Viewer and Remote Control Modes

For details, see section 4.3, "Soft Key Menu in Viewer Mode" and section 5.3, "Soft Key Menu in Remote Control Mode."

Front Panel Key Menu	Viewer Mode	Remote Control Mode	Note
CENTER	Yes	Yes	
SPAN	Yes	Yes	
LEVEL	Yes	Yes	
SWEEP	No	Yes	AUTO, REPEAT, SINGLE, STOP, and SEGMENT MEASURE cannot be used in Viewer mode.
ZOOM	Yes	Limit	Waveform magnification and reduction can be carried out only on the PC in Remote Control mode.
SETUP	Yes	Yes	
TRACE	Yes	Limit	Waveform does not match between the Optical Spectrum Analyzer and PC when using ROLL AVG, MAX HOLD, or MIN HOLD in Remote Control mode.
DISPLAY	Limit	Limit	DISPLAY OFF cannot be used in Viewer mode. Waveform does not match between the Optical Spectrum Analyzer and PC when using NOISE MASK operation in Remote Control mode.
MARKER	Yes	Limit	Marker function can only be used on the PC in Remote Control mode (line markers 1 and 2 can be used on the Optical Spectrum Analyzer).
PEAK SEARCH	Yes	Limit	The search mode setting and multi search function can only be executed on the PC in Remote Control mode.
ANALYSIS	Yes	Limit	The analysis function can only be executed on the PC in Remote Control mode.
USER	Yes	Yes	
MEMORY	Yes	Yes	
FILE	Yes	Yes	
PROGRAM	Limit	Limit	Editing is allowed only on the PC. Some commands cannot be executed in Viewer mode. Programs cannot be executed in Remote Control mode.
ADVANCE	Limit	Limit	DATA LOGGING > START cannot be used in Viewer mode. DATA LOGGING cannot be used in Remote Control mode. Template editing and execution are allowed on the PC in Remote Control mode.
SYSTEM	Limit	Limit	OPTICAL ALIGNMENT, WL CALIBRATION, SYSTEM INFORMATION, and RES BW CALIBRATION cannot be performed in Viewer mode. The progress of OPTICAL ALIGNMENT, WL CALIBRATION, and RES BW CALIBRATION is not displayed in Remote Control mode.
UNDO/LOCAL	No	Yes	
COPY	Yes	Yes	
FEED	No	No	AQ6370, AQ6370B, AQ6370C, AQ6375, AQ6373
PRESET	Yes	Yes	Excludes above
HELP	Yes	Yes	

Yes: Available, No: Not available, Limit: With limitation.

Loadable Files

In Viewer or Remote Control mode, the files listed below that have been stored on the AQ6370, AQ6370B, AQ6370C, AQ6370D, AQ6373, AQ6373B, AQ6375, AQ6375B, AQ6376, AQ6317, or AQ6319 can be loaded. The extensions of the loadable data are given in parentheses.

AQ6370 Viewer
- Waveform data (.csv, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st6, .st5, and .st4)
- Program data (.pg6, .pg5, and .pg4)
- Analysis result data (.dt6, .dt5, .dt4, and .csv)
- Template data (.csv)

AQ6370B Viewer
- Waveform data (.csv, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st8, .st7, .st6, .st5, and .st4)
- Program data (.pg8, .pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt8, .dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)

AQ6370C Viewer and AQ6370D Viewer
- Waveform data (.csv, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st8, .st7, .st6, .st5, and .st4)
- Program data (.pg8, .pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt8, .dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)
- Logging data (.lg8)

AQ6373 Viewer
- Waveform data (.csv, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st9, .st8, .st7, .st6, .st5, and .st4)
- Program data (.pg9, .pg8, .pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt9, .dt8, .dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)

AQ6373B Viewer
- Waveform data (.csv, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st9, .st8, .st7, .st6, .st5, and .st4)
- Program data (.pg9, .pg8, .pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt9, .dt8, .dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)
- Logging data (.lg9, .lg8)

AQ6374 Viewer
- Waveform data (.csv, .wx9, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wx9, .wv9, .wv8, wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.sx9, .st9, .st8, .st7, .st6, .st5, and .st4)
- Program data (.pg9, .pg8, .pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt9, .dt8, .dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)
- Logging data (.lx9, .lg9, .lg8)

AQ6375/AQ6375B/AQ6376 Viewer

- Waveform data (.csv, .wv7, .wv6, .wv5, .wv4, and .txt)
- Memory data (.csv, .wv7, .wv6, .wv5, .wv4, and .txt)
- Setup data (.st7, .st6, .st5, and .st4)
- Program data (.pg7, .pg6, .pg5, and .pg4)
- Analysis result data (.dt7, .dt6, .dt5, .dt4, and .csv)
- Template data (.csv)

Note

- If AQ6317 or AQ6319 data are loaded, some functions can not be executed.
- To analyze waveform data from the AQ6370, AQ6370B, AQ6370C, AQ6370D, AQ6373, AQ6373B, AQ6374, AQ6375, AQ6375B or AQ6376 use the model's corresponding Viewer. Otherwise, the following analysis results and the displayed contents cannot be guaranteed. (including AQ6317 or AQ6319 waveform data)
  Power analysis, LED analysis, WDM analysis, OSNR (WDM) analysis, EDFA-NF analysis, and switching of the vertical axis unit to dBm/nm

Connectable AQ6370s and Firmware Update

Main unit firmware updates are sometimes required with the AQ6370.
With the AQ6370B/AQ6370C/AQ6370D/AQ6373/AQ6373B/AQ6374/AQ6375/AQ6375B/ AQ6376, updates are not required. Connection can be made regardless of the version.

AQ6370s required updates

If the firmware version is older than R02.01, update the firmware using the AQ6370 Firmware Updater in the UPDATE folder (\UPDATEFILE\AQ6370) on the accompanying CD-ROM.
The AQ6370s that can be connected in Remote Control mode and File Transfer mode are those with firmware version R02.01 or later.

Checking the Firmware Version

1. Press **SYSTEM** on the AQ6370.
2. Press the **MORE** soft key to display MORE 4/4.
3. Press the **VERSION** soft key.

Update Procedure

1. Insert the accompanying CD-ROM and a USB memory into the PC.
2. Copy the UPDATE folder on the CD-ROM to the USB memory.
3. Insert the USB memory into the AQ6370.
4. Update the firmware according to the procedure given in section 10.1, "Upgrading the Firmware" in the AQ6370 Optical Spectrum Analyzer User's Manual (IM 735301-01E).
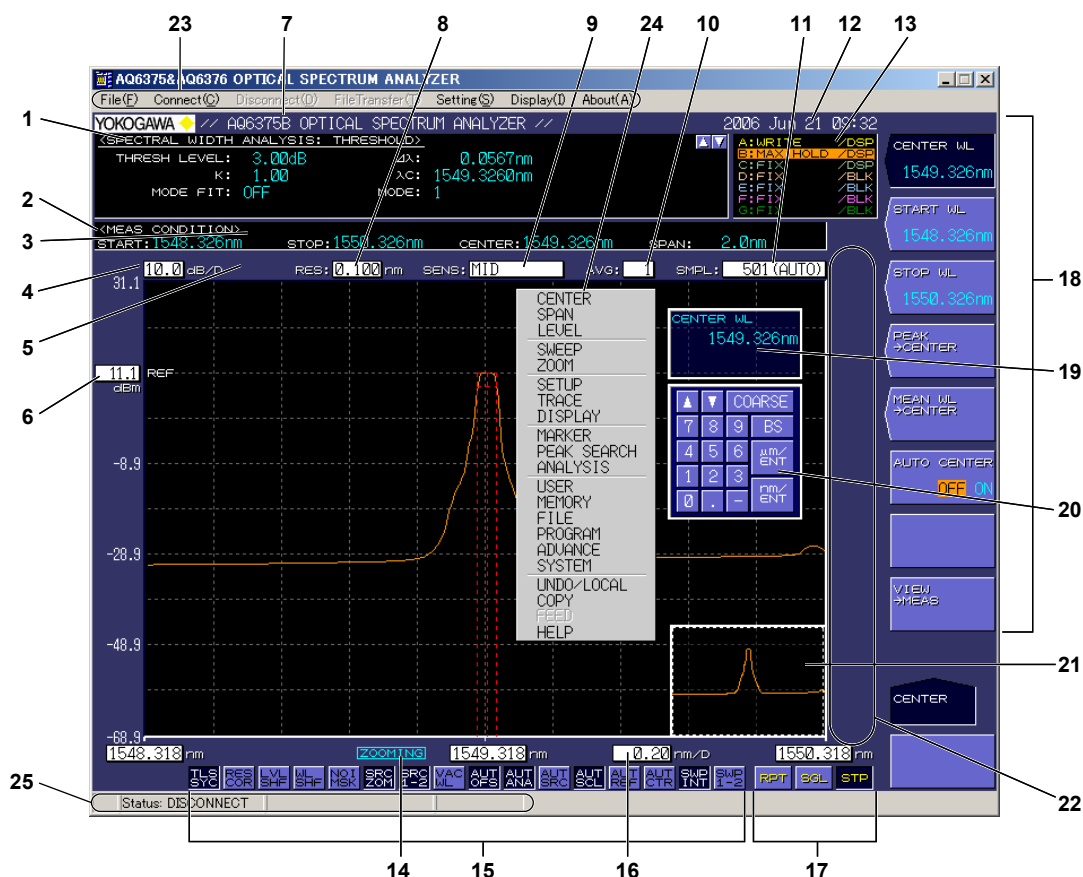
Note

If the firmware version of the AQ6370 is already R02.01 or later, do not update the firmware.

1.3 Functions of the Parts of the Screen

The figure below shows the screen in Viewer mode.
The same screen as that of the actual instrument is displayed.
An AQ6370 Viewer screen is used for this example.

No.	Function
1	Data area
2	Measurement condition area
3	Displays NEW when the measurement conditions are changed.
4	Displays the level axis scale per division
5	Displays UN CAL when the settings for span, the number of sampling points, and the resolution are inappropriate.
6	Displays the reference level
7	Label area (up to 56 characters)
8	Displays the resolution
9	Displays the measurement sensitivity
10	Displays the average count
11	Displays the number of samples
12	Displays the year, month, date, and hour
13	Displays the status of each trace.
14	Displays ZOOMING when using the ZOOM function

15 Displays the typical setup status

If a setting is turned ON, the button is shown depressed. If the screen is black and white, it is shown in black.

TLS SYC........ON/OFF setting of TLS SNC SWEEP (Not displayed when using AQ6373 Viewer)

COR SIZ ....SMALL/LARGE setting of FIBER CORE SIZE (Only displayed when using AQ6373 Viewer)

RES COR ......ON/OFF setting of RESOLN CORRECT

LVL SHF.........ON/OFF setting of LEVEL SHIFT

WF SHF.........ON/OFF setting of WF SHIFT

NOI MSK ....NOISE MASK setting

SRC ZOM ......ON/OFF setting of SEARCH/ANA ZOOM AREA

SRC 1-2.........ON/OFF setting of SEARCH/ANA L1-L2

VAC WL ....MEAS WL setting

AUT OFS ....ON/OFF setting of AUTO OFFSET

AUT ANA ....ON/OFF setting of AUTO ANALYSIS

AUT SRC ....ON/OFF setting of AUTO SEARCH

AUT SCL ....ON/OFF setting of AUTO SUB SCALE

AUT REF ....ON/OFF setting of AUTO REF LEVEL

AUT CTR ....ON/OFF setting of AUTO CENTER

SWP INT........ON/OFF setting of SWEEP INTERVAL (Not displayed when using AQ6373 Viewer)

SWP 1-2 ....ON/OFF setting of SWEEP MKR L1-L2

SMO OTH......ON/OFF setting of SMOOTHING (Only displayed when using AQ6373 Viewer)

RPT...............REPEAT (repeat sweep)

SGL ....SINGLE (single sweep)

SPT...............STOP (sweep stop)

16 Displays the wave length axis scale per division

17 Displays the sweep status

RPT = Repeat, SGL = Single, and STP = Stop

18 Displays the soft key menu

19 Parameter value display area

20 Parameter value input area

21 OVERVIEW display screen

Displayed only when using the ZOOM function.

22 Displays the sub scale

23 Main menu

For a detailed description of the main menu, see section 3.1, "Main Menu."

File ....Select to output a hard copy of the screen or when closing the software program.

Connect ....Select to connect to the AQ6370.

Disconnect .....Select to disconnect the AQ6370.

File Transfer...Select to transfer files with the AQ6370.

Setting............Select to set the folder for saving the loaded data.

Display ....Select to display the model that measured the waveform data and the actual waveform resolution (AQ6375/AQ6375B/AQ6376 Viewer only)

About ....Select to check the software version.

24 Front panel key menu

A menu that is shown when you right-click the mouse. The menu is equivalent to the front panel keys of the AQ6370.

25   Status Bar

| Status: CONNECT | aq637091f222880 | 10001 |

Port number of the destination AQ6370

Computer name or IP address of the destination AQ6370

Connection destination status (CONNECT or DISCONNECT)

Data transmission/reception indicator
(Turns green when a command or data is transmitted or received)

# 2.1   Starting and Closing the Software Program

Procedure

An AQ6370 Viewer screen is used for this example.

Starting the Software Program

On the task bar, click the Start button, point to **Programs** > **Yokogawa** > **AQ6370 Viewer (AQ6370B Viewer/AQ6370C Viewer/AQ6370D Viewer/AQ6373 Viewer/AQ6373B Viewer/AQ6374 Viewer/AQ6375&76 Viewer)** or double-click the AQ6370 Viewer/AQ6370B Viewer/AQ6370C Viewer/AQ6370D Viewer/AQ6373 Viewer/AQ6373B Viewer/AQ6374 Viewer/AQ6375&76 Viewer shortcut icon.

When the program starts, the main windows shown below opens. The window shows the contents of the window that was shown when the program was closed the last time.
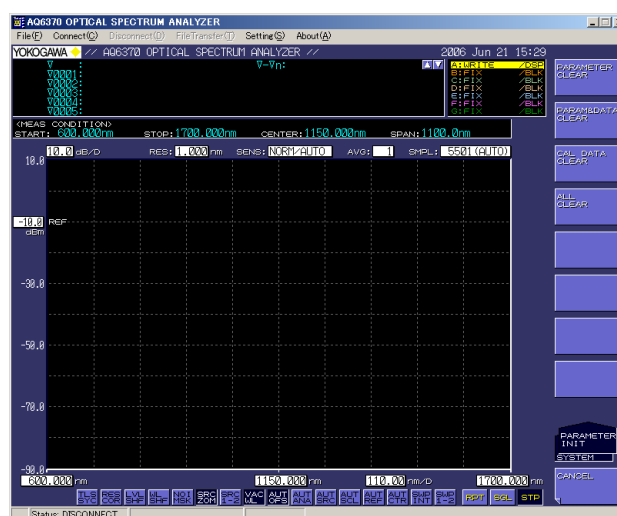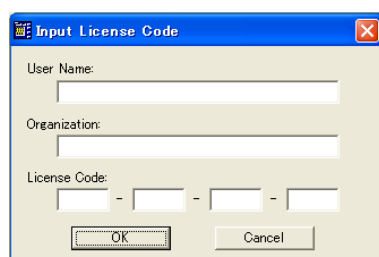

*   **License Authentication**
    When the program is started for the first time, a license authentication dialog box opens as shown below.
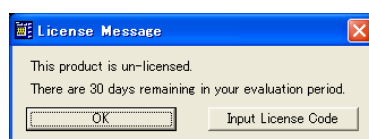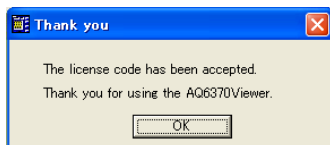

In the License Message dialog box, click **Input License Code**. In the Input License Code dialog box that opens, type the user name, organization (optional), and license code. The license code is indicated on the accompanying CD case or the license sheet.

When the license is authenticated, the message below appears. Click **OK** to show the main window.

Note

If the license code is not correct, an error message appears. If this happens, click **OK** and retype the license code again in the Input License Code dialog box.

Closing the Software Program

On the **File** menu, choose **Exit**.

2.2 Basic Operation Using the Mouse and Keys

Mouse Operation

Displaying the Front Panel Key Menu

Right-click in the window. The front panel key names in the FUNCTION section of the Optical Spectrum Analyzer appear.

CENTER
SPAN
LEVEL
SWEEP
ZOOM
SETUP
TRACE
DISPLAY
MARKER
PEAK SEARCH
ANALYSIS
USER
MEMORY
FILE
PROGRAM
ADVANCE
SYSTEM
UNDO/LOCAL
COPY
FEED*
HELP

* PRESET on the AQ6370D Viewer, the AQ6373B Viewer, AQ6374 Viewer, and the AQ6375&76 Viewer

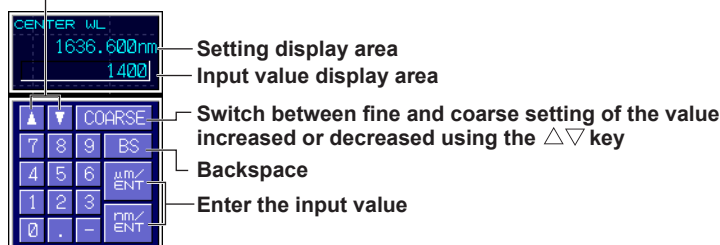### Choosing a Menu Command and Closing the Front Panel Key Menu

Left-click the desired menu command to switch to the corresponding soft key menu. If you choose a menu command, the front panel key menu clears. Clicking outside the front panel key menu also closes the menu.

Choosing a Soft Key and Operating the Parameter Value Display/Input Area

Left-click the desired soft key menu command.

If you choose a soft key that requires you to enter a value, a parameter display/input area appears. You can change the parameter value by clicking the keys in the input area as described below.

Increase or decrease the input value

Setting display area
Input value display area
Switch between fine and coarse setting of the value increased or decreased using the △▽ key
Backspace
Enter the input value

Note

- If the value entered using the numeric keys do not match with allowable values, it is set to the closest allowable value.
- If you click the BS key repeatedly and the input value display area becomes empty, the input value area clears, and the screen returns to the condition before you started entering the values.
- If you want to set OFF on a parameter that can be set to OFF, hold down the ▽ key.

Keyboard Operation

You can also use the PC keyboard to carry out operations as with the mouse.

For the mapping of the panel keys to the keyboard, see the Panel Key Mapping Table below.

In addition, you can directly enter labels, file names, values, and the like from the keyboard.

Panel Key Mapping Table

Group		Function Name	Keyboard	Description
Setting or execution of each function	Sweep	SWEEP	[SHIFT]+[F1]	Execute/Start the sweep.
	Measurement condition settings	CENTER	[SHIFT]+[F2]	Set the measurement center wavelength.
		SPAN	[SHIFT]+[F3]	Set the measurement span.
		LEVEL	[SHIFT]+[F4]	Set the level axis.
		SETUP	[SHIFT]+[F5]	Set the resolution, sensitivity, etc.
	Display condition settings	TRACE	[SHIFT]+[F6]	Set the trace.
		ZOOM	[SHIFT]+[F7]	Set the display scale.
		DISPLAY	[SHIFT]+[F8]	Set the screen display.
	Analysis	MARKER	[SHIFT]+[F9]	Set the marker.
		SEARCH	[SHIFT]+[F10]	Peak/bottom search function
		ANALYSIS	[SHIFT]+[F11]	Set the analysis function.
	Miscellaneous	USER	[ALT]+[F1]	User-defined menu
		MEMORY	[ALT]+[F2]	Memory
		FILE	[ALT]+[F3]	Save to file, load from file, and other file operations.
		PROGRAM	[ALT]+[F4]	Program function.
		ADVANCE	[ALT]+[F5]	Expansion function
		SYSTEM	[ALT]+[F6]	Set the system.
Soft keys		F1 to F9	F1 to F9	Varies depending on the menu.
Auxiliary keys		UNDO/LOCAL	[ALT]+[F9]	Undo function.
		COPY	[ALT]+[F10]	Screen copy.
		HELP	[ALT]+[F12]	Display help (UNDO/LOCAL key to close help)
Parameter value input		Numeric keys	0123456789.-	Enter values.
		BACK SPACE	Back Space	Backspace.
		μm/ENTER	None	Enter the input.
		nm/ENTER	ENTER	Enter the input.
		Rotary knob	[→] and [←]	Change the value or parameter.
		Arrow keys (▲ ▼)	[↑] and [↓]	Change the value step-wise, change the parameter, and scroll the table.
		COARSE	[ALT]+[N]	Switch between fine and coarse setting of the encoder.

Soft Key Menu Shapes and Functions

The soft key menu comes in different shapes to indicate its functionality.

A normal soft key.
Press to immediately execute the function.

There is a next level.
Indicates that the related information of the displayed item is at the next level. Press to display the soft keys of the next level. Press when this key is at the bottom of the menu to switch the entire menu.
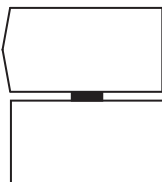
Displays a separate window.
Press the soft key to display a separate window for entering a parameter value.
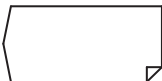
Displays the next hierarchy and a separate window.
Press the soft key to move to the next hierarchy and display a separate window.

Soft key to return to the previous hierarchy.
Press the soft key to return to the soft keys of the previous hierarchy.

Selection soft key.
Select any of the soft keys connected with a black bar. The selected soft key is highlighted. Several soft keys may be connected.

Note

The shapes shown on the last menu command (see below) are not soft keys. They indicate a front panel key name or the soft key menu hierarchy.

LEVEL

Y SCALE SETTING
LEVEL
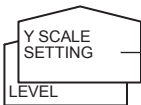
Indicates the soft key menu hierarchy.
This indicates that the soft key menu is under the Y SCALE SETTING hierarchy.

2.3 Connecting and Setting the Ethernet Interface of the Optical Spectrum Analyzer

Connection Procedure

Connect a UTP (Unshielded Twisted-Pair) cable or an STP (Shielded Twisted-Pair) cable that is connected to a hub, for example, to the 100BASE-TX port on the rear panel of the Optical Spectrum Analyzer.

AQ6370C example
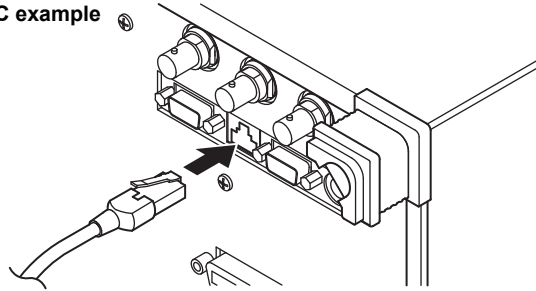
Precautions to Be Taken When Connecting the Cable
- Be sure to use a straight cable via a hub for the connection between the Optical Spectrum Analyzer and the PC.
- If you are using a UTP cable (straight cable), use a cable of category 5.
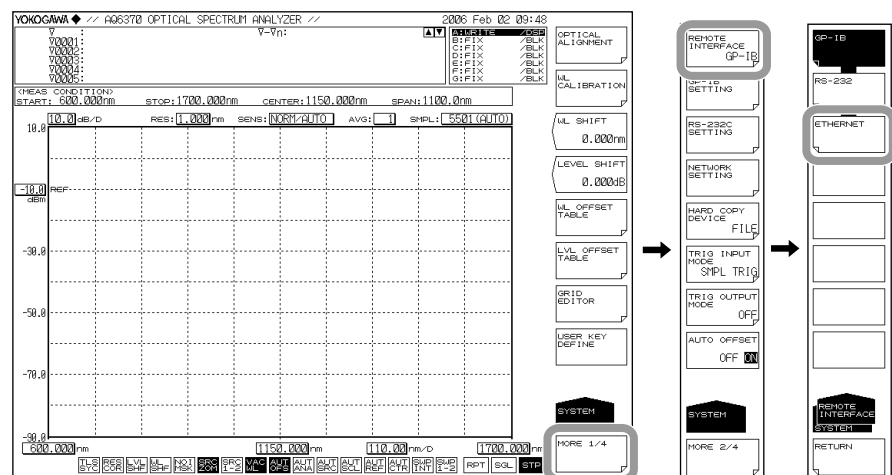
Setting the Ethernet Interface

If you are using Remote Control mode or File Transfer mode, set the Ethernet interface of the Optical Spectrum Analyzer according to the following procedure.
An AQ6370 screen is used for this example.

Procedure

Selecting the Communication Interface

1. Press **SYSTEM.**
   The system setup menu appears.

2. Press the **MORE1/4** soft key.
   The communication interface setup menu appears.

3. Press the **REMOTE INTERFACE** soft key.
   A menu for selecting the interface appears.

4. Press the **ETHERNET** soft key to set the communication interface to Ethernet.
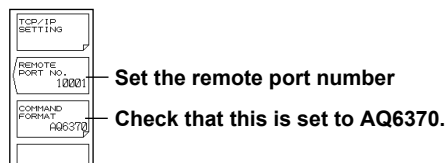
Setting the TCP/IP Parameters

5. Press the **NETWORK SETTING** soft key.

The Ethernet setup menu appears.

6. Press the **TCP/IP SETTING** soft key.

The TCP/IP setup menu appears.
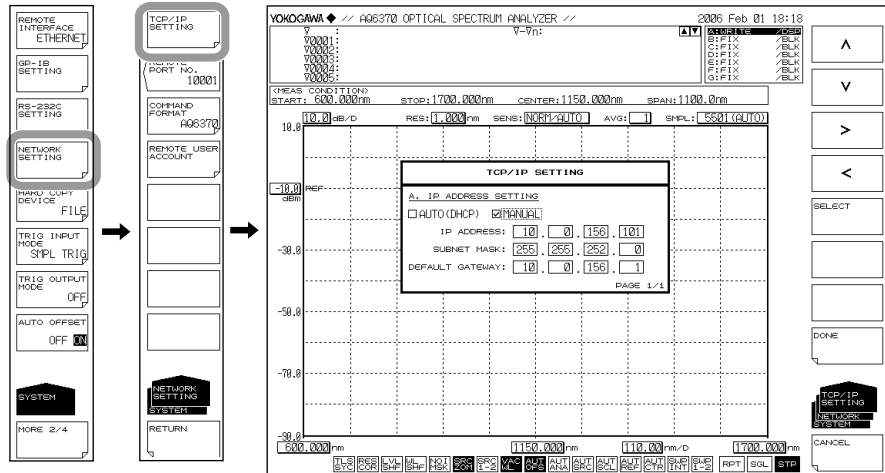
7. Press the **<** and **>** soft keys to select AUTO (DHCP) or MANUAL.

8. Press the **SELECT** soft key.

• A check is placed by the selected item.

• If you select AUTO, proceed to step 10.

9. If you select MANUAL, set the IP address, subnet mask, and default gateway.
Press the **<**, **>**, **∧**, and **∨** soft keys to select the input position, and press **ENTER**.

10. Enter the value using the **rotary knob** or **arrow keys**, and press **ENTER**.

**11.** After entering all the settings, press the **DONE** soft key.

Setting the Remote Port Number

12. Press the **REMOTE PORT NO.** soft key.

The port number setup screen appears.

13. Enter the port number using the **rotary knob** or **arrow keys**, and press **ENTER**.

Setting the User Account Information

14. Press the **USER ACCOUNT** soft key.

The user account information setup screen appears.

15. Set the user name and password used to authenticate the remote connection.
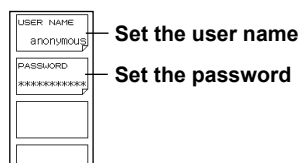
Explanation

Setting the TCP/IP Parameters

The IP address of the Optical Spectrum Analyzer must be set correctly to use this function correctly.

If a DHCP server is available on the network to which the Optical Spectrum Analyzer is connected, the IP address is automatically assigned. In this case, set [SYSTEM] <NETWORK SETTING><TCP/IP SETTING> IP ADDRESS SETTING to AUTO.

For details on the network to which the Optical Spectrum Analyzer is connected, consult your network administrator.

Setting the REMOTE PORT NO.

Set the port number used to perform remote control from the software program. The default value is 10001.

Connection

The Optical Spectrum Analyzer can connect to a single controller (external PC, etc.). If a connection request is received from a controller when the Optical Spectrum Analyzer is already connected, the current connection is maintained.

Computer Name

The computer name of the Optical Spectrum Analyzer is as follows:

    AQ6370:   "AQ6370 @@@@@@@@@"
    AQ6370B: "6370B @@@@@@@@@"
    AQ6370C: "6370C @@@@@@@@@"
    AQ6370D: "6370D @@@@@@@@@"
    AQ6373:   "6373 @@@@@@@@@"
    AQ6373B: "6373B @@@@@@@@@"
    AQ6374:   "6374 @@@@@@@@@"
    AQ6375:   "AQ6375 @@@@@@@@@"
    AQ6375B: "6375B @@@@@@@@@"
    AQ6376:   "6376 @@@@@@@@@"

Where @@@@@@@@@ is the serial number. The serial number is indicated by nine alphanumeric characters on the rear panel of the Optical Spectrum Analyzer. The computer name cannot be changed.

Setting the User Account

The software program performs authentication using the user name and password when making a remote connection to the Optical Spectrum Analyzer.

The software program and the Optical Spectrum Analyzer use the MD5 algorithm (RSA Data Security, Inc. MD5 Message Digest Algorithm) for the password authentication.

The default user name is anonymous. When using this user name, the authentication password is not necessary.
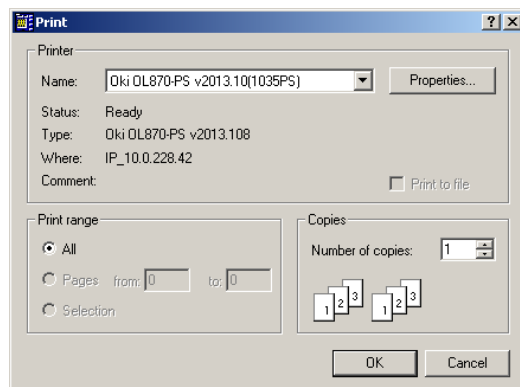
3.1   Main Menu

An AQ6370 Viewer screen is used for this example.

File Menu

Print
Choose this command to output a hard copy of the screen to a printer connected to the PC.
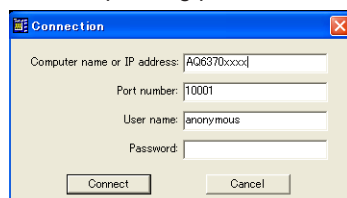For the operating procedure, see section 3.2, "Making a Hard Copy of the Screen."

Exit
Choose this command to close the program.

Connect Menu

Choose this menu to connect to the Optical Spectrum Analyzer via the Ethernet interface.
When connected, the operation mode switches to Remote Control mode.
For the operating procedure, see section 5.1, "Connect and Disconnect Operations."

Disconnect Menu

Choose this menu to stop the connection to the Optical Spectrum Analyzer.
When you select the menu, the dialog box shown below appears. Click OK to stop the connection and switch back to Viewer mode.
For the operating procedure, see section 5.1, "Connect and Disconnect Operations."

File Transfer Menu

Choose this menu to transfer the data stored on the Optical Spectrum Analyzer to the PC. For the operating procedure, see section 6.1, "File Transfer Operation."
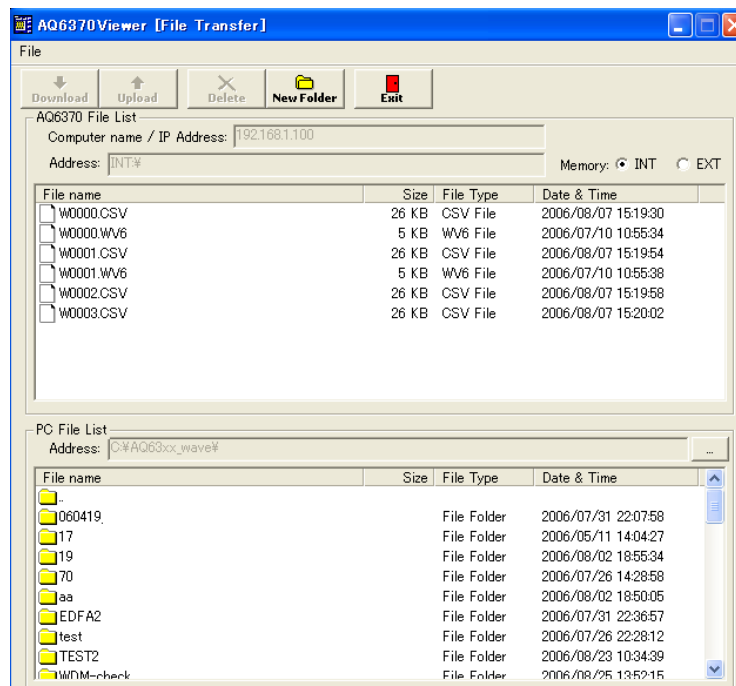

Setting Menu

Folder Setting

Choose this command to change the folder (user folder) on the PC for saving the file loaded in Viewer or Remote Control mode or the drive to which the USB storage device is connected. By default, the folder in which this program is stored is the user folder. For the operating procedure, see section 3.3, "Setting the User Folder."
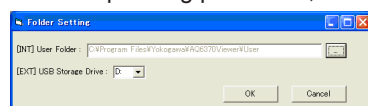
Display Menu

### Trace List (for AQ6374, AQ6375, AQ6375B and AQ6376)

Lists the optical spectrum analyzer models that measured the waveform data of each trace.

 — **Displays optical spectrum analyzer models**
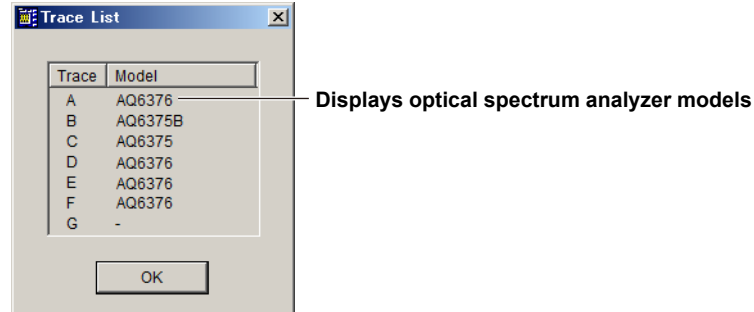
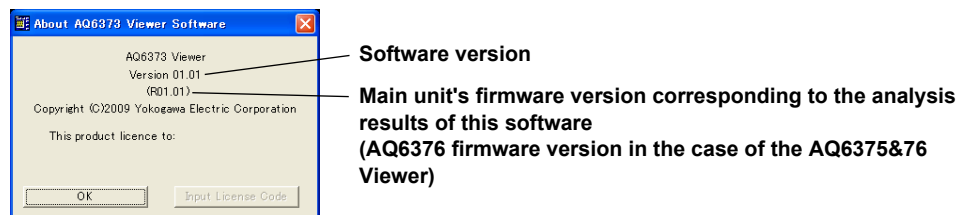### Actual resolution table (for AQ6375, AQ6375B and AQ6376)

Lists the actual resolutions (typical values) determined from the center wavelengths of optical spectrum analyzer models (AQ6375/AQ6375B/AQ6376) for each resolution setting.

— **Select the unit.**

— **Set the center value (wavelength, frequency, wavenumber)**

— **Actual resolutions (typical values)**
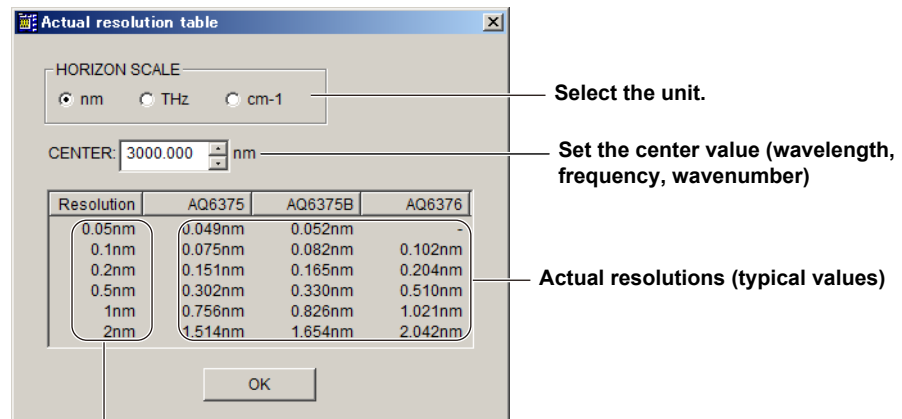
Resolution settings

About Menu

Choose this menu to check the software version.

— **Software version**

— **Main unit's firmware version corresponding to the analysis results of this software (AQ6376 firmware version in the case of the AQ6375&76 Viewer)**

Note

- The version Rxx.xx (where xx are numbers) shown when you choose the About menu corresponds to the firmware version. If the Optical Spectrum Analyzer firmware version does not match the version shown here, the analysis results of this program may not match the those of the Optical Spectrum Analyzer.
- The software version shown when you choose SYSTEM > VERSION in Remote Control mode is the Optical Spectrum Analyzer firmware version.
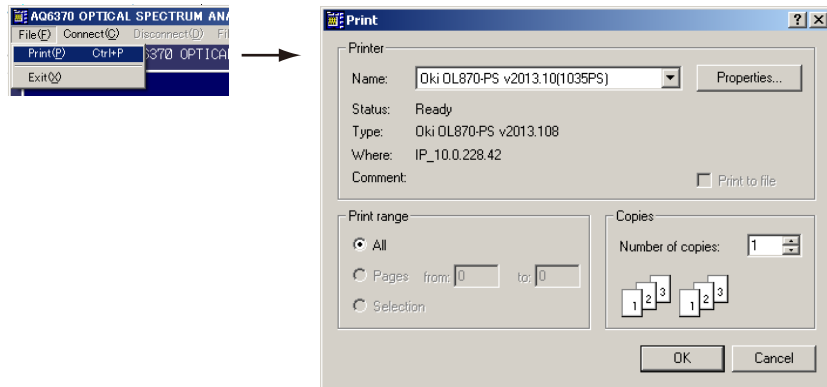
3

Common Operations in Viewer Mode and Remote Control Mode

3.2 Making a Hard Copy of the Screen

You can print the displayed screen by carrying out the procedure below.

Procedure

1. On the **File** menu, choose **Print**.
   The print setup window opens.

2. Set the printer, the number of copies, and the like, and click **Print**.

3.3 Setting the User Folder

You can change the user folder for saving the file loaded in Viewer or Remote Control mode (or the drive to which the USB storage device is connected) by carrying out the procedure below.
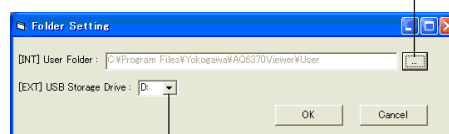
Procedure

1. On the **Setting** menu, choose **User Folder Setting**.
   The folder setup window opens.

   Select the load source folder when the user data file load source is set to INT

   Select the USB storage drive when the user data file load source is set to EXT

2. Select the folder or drive, and click **OK**.

4.1   Loading Waveform Data and Displaying Waveforms

You can load the waveform data and display the data on the screen by carrying out the procedure below. An AQ6370 Viewer screen is used for this example.
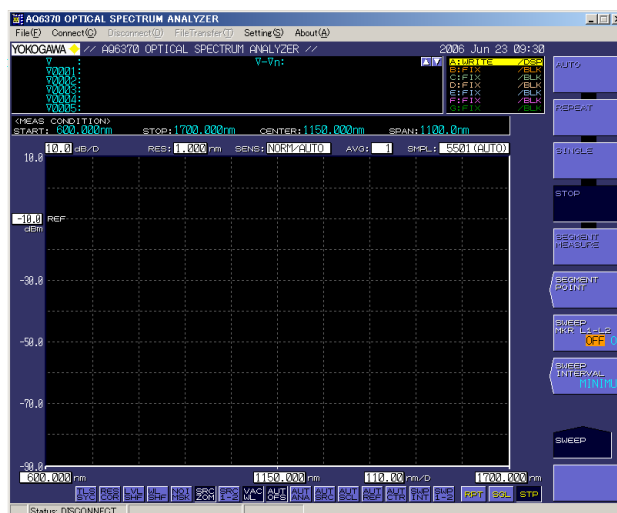
Procedure

Preparing the Waveform Data

1. Copy the waveform data file you want to load from the USB storage medium to the user folder.

    • For the procedure to set the user folder, see section 3.3, "Setting the User folder."
    • For the procedure to save the waveform data to the USB storage medium, see section 8.3, "Saving/Loading Displayed Data" in the *Optical Spectrum Analyzer User's Manual*.
    • To load the waveform data file stored on the USB storage medium, insert the USB storage medium into the PC.

Loading the Waveform Data

2. On the task bar, click the Start button, point to **Programs** > **Yokogawa** > **AQ6370 Viewer (AQ6370B Viewer/AQ6370C Viewer/AQ6370D Viewer/AQ6373 Viewer/ AQ6373B Viewer/AQ6374 Viewer/AQ6375&76 Viewer)** to start the program.

    You can also double-click the shortcut icon on the desktop.

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Operations in Viewer Mode

3. Right-click in the program window to show the front panel key menu.

4. On the front panel key menu, click **FILE**.
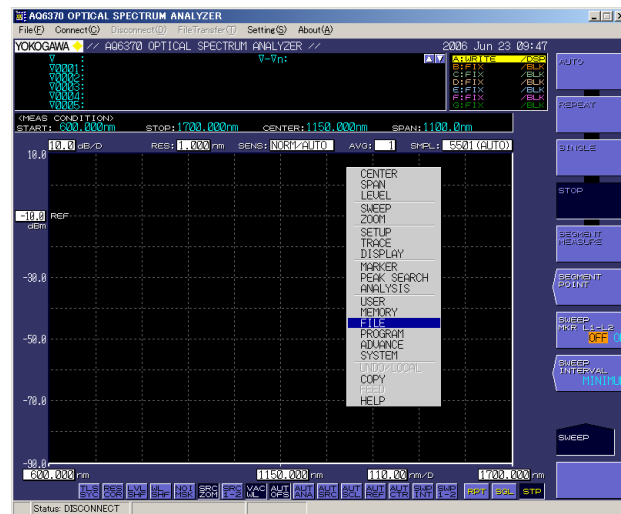
5. Check that ITEM SELECT is set to TRACE on the soft key menu, and click **READ** on the soft key menu.
   If ITEM SELECT is not set to TRACE, click ITEM SELECT to select TRACE.

6. Select the file you want to load and click **EXECUTE** on the soft key menu.

- The files in the user folder are displayed. For the procedure to change the user folder, see section 3.3, "Setting the User Folder."
- To load the file directly from the USB storage medium, click MEMORY on the soft key menu to select EXT, and carry out this step.
  For the procedure to change the drive to which the USB storage medium is connected, see section 3.3, "Setting the User Folder."
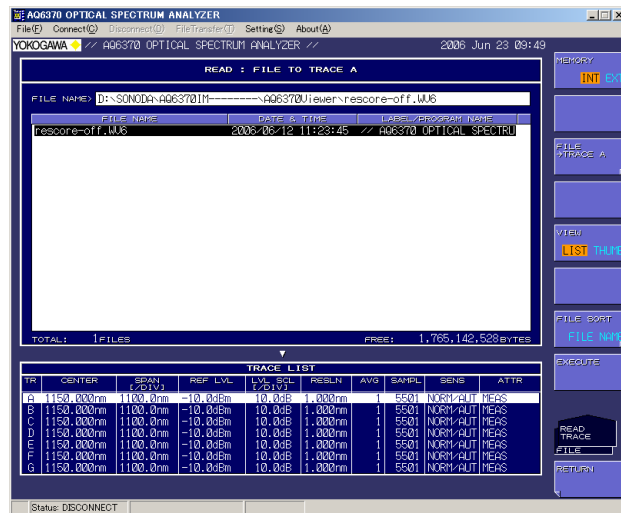
Displaying the Waveform

7. On the soft key menu, click **RETURN**.
The waveform of the loaded data is displayed as shown below.
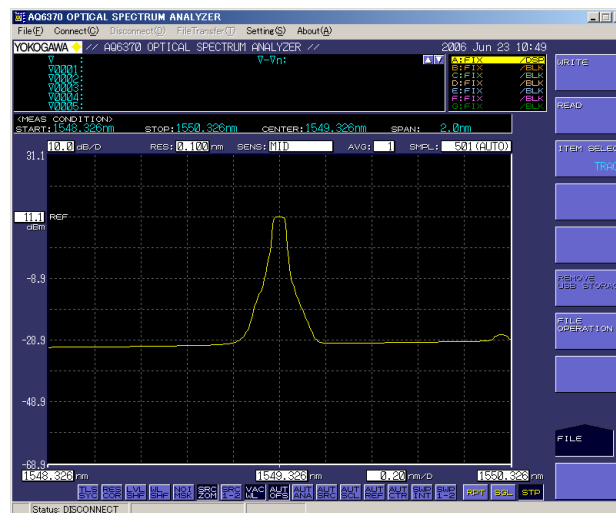
4.2 Saving the Setup Data

You can save the measurement and display conditions you set in Viewer mode by carrying out the procedure below.
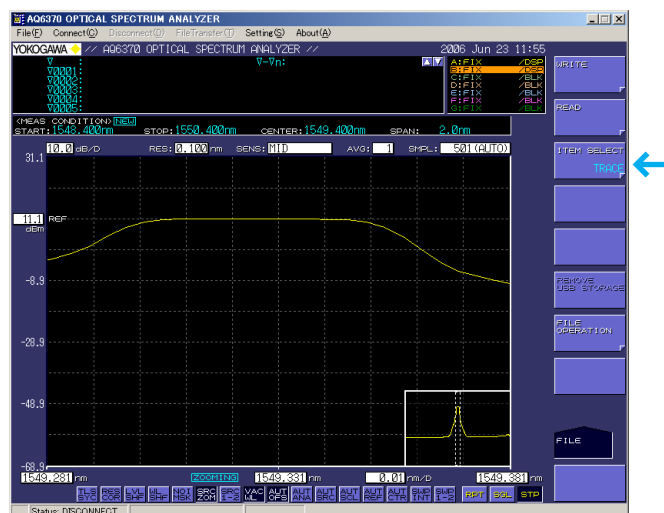An AQ6370 Viewer screen is used for this example.

Procedure

1. Right-click in the program window to show the front panel key menu.

2. On the front panel key menu, click **FILE**.

3. On the soft key menu, click **ITEM SELECT**.

4. On the soft key menu, click **SETTING**.

5. On the soft key menu, click **WRITE**.

The file list is displayed.
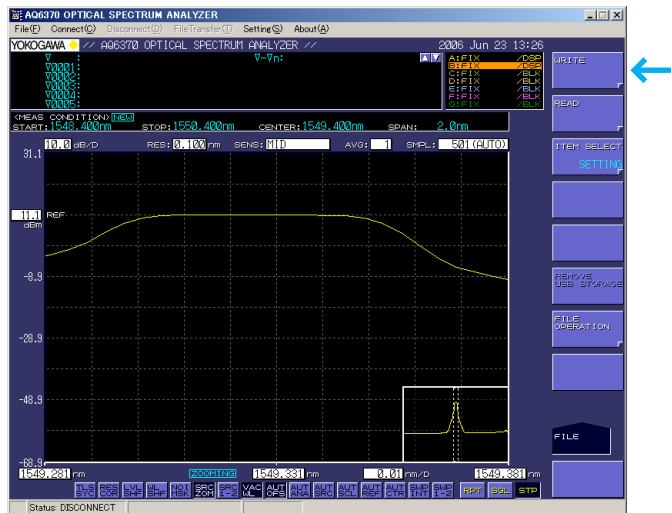
6. On the soft key menu, click **FILE NAME**.
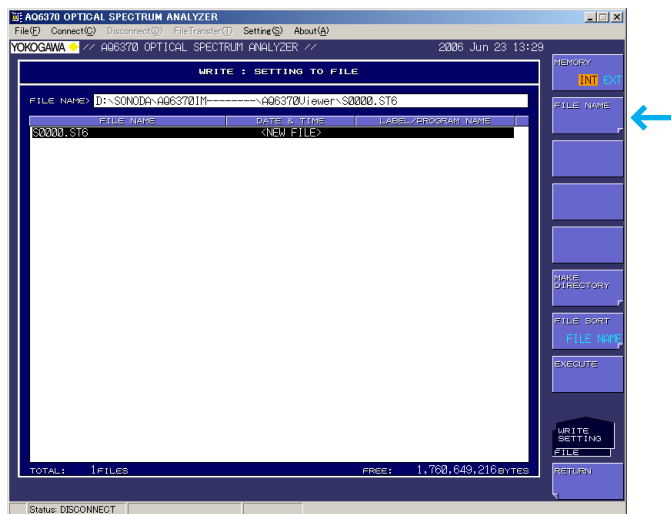
7. Type the file name from the keyboard.

You can also enter the file name by using the characters and soft keys shown in the character input window. For the input procedure, see section 4.3, "Entering Numerical Values and Strings" in the *Optical Spectrum Analyzer User's Manual*.
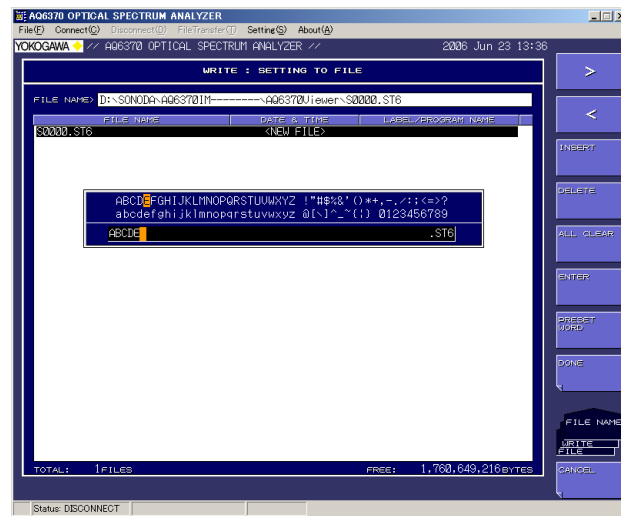
8. On the soft key menu, click **DONE**.

The file name is entered.
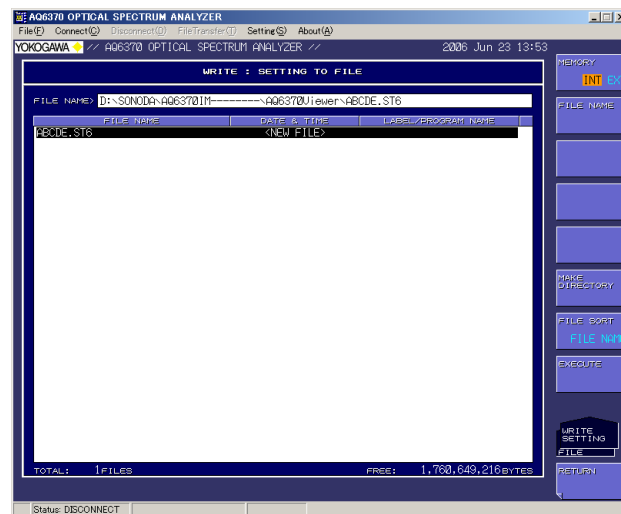
9. On the soft key menu, click **EXECUTE**.

The file is saved, and the file name appears in the file list.
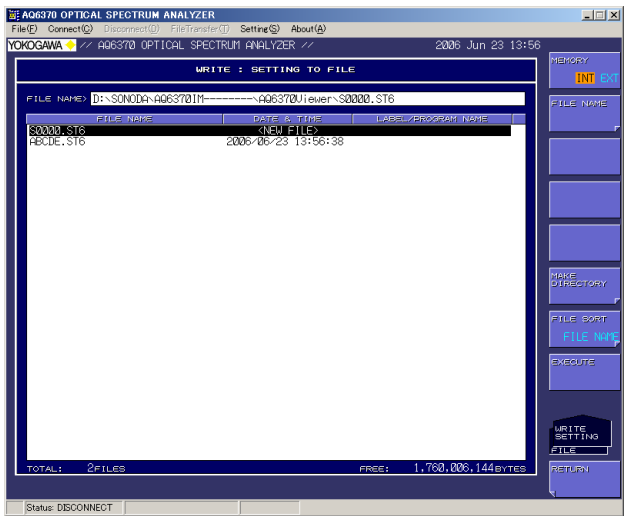
4

Operations in Viewer Mode

4.3 Soft Key Menu in Viewer Mode

Of the soft key menu commands in Viewer mode, those that are not available and those that are available but cannot be executed are summarized in the following tables. Some of the functions may not be listed depending on the model.

For details on the soft key menus, see the user's manual of the relevant optical spectrum analyzer.

Unavailable Menu Commands

Front Panel Key Menu	Soft Key Menu	Functions
SWEEP	AUTO REPEAT SINGLE STOP SEGMENT MEASURE	Sweep
DISPLAY	DISPLAY OFF	Display off
MARKER	MARKER LIST PRINT	Print out the marker value
ANALYSIS	RESULT PRINT	Print out the analysis result
FILE	REMOVE USB STORAGE	Remove the USB storage medium
PROGRAM	PROGRAM EDIT > EDIT > LIST PRINT	Print out the program list
	OUTPUT WINDOW > PRINT OUTPUT WIN	Print out the OUTPUT WINDOW
ADVANCE	DATA LOGGING > START	Executes data logging
SYSTEM (MORE 1/4)	OPTICAL ALIGNMENT	Execute the alignment adjustment of the monochrome meter
	WL CALIBRATION	Wavelength calibration
SYSTEM (MORE 2/4)	REMOTE INTERFACE	Set the communication interface
	GP-IB SETTING	Set the GP-IB interface
	RS-232 SETTING	Set the RS-232 interface
	NETWORK SETTING	Set the Ethernet interface
SYSTEM (MORE 3/4)	SET CLOCK	Set the date/time
SYSTEM (MORE 4/4)	REMOVE USB STORAGE	Remove the USB storage medium
	VERSION	Display the version and update the software
	SYSTEM INFORMATION	Display the system information
	RES BW CALIBRATION	Execute rms resolution calibration
	SHUT DOWN	Shutdown the Optical Spectrum Analyzer system
FEED	–	Feed the paper

Menu Commands That Are Available But Cannot Be Executed

Front Panel Key Menu	Soft Key Menu	Functions
PROGRAM	PROGRAM EXECUTE > EXECUTE	Execute the program (a portion of the commands not executable)

4.4 Commands That Do Not Operate in the Program Function

The program function operates as follows in Viewer mode.

- PROGRAM EDIT

  All commands can be entered and edited.

- PROGRAM EXECUTE

  Commands that include hardware operation such as sweep and printer operations cannot be executed. The table below shows the commands that cannot be executed.

Command		Operation
SWEEP	AUTO	Skip (not processed)
	REPEAT	Update only the measurement conditions and the screen
	SINGLE	
	STOP	
	SEGMENT MEASURE	Update only the measurement conditions and the screen
SYSTEM	OPTICAL ALIGNMENT	Skip (not processed)
	SELF WL CALIBRATION	
	EXT WL CALIBRATION ****.***nm	
	EMIS LINE WL CALIBRATION ****.***nm	
	EXT-GAS WL CALIBRATION ****.***nm	
	AUTO OFFSET ###	Change only the ON/OFF of the soft key
	REMOVE USB STORAGE	Skip (not processed)
	RES BW CALIBRATION	
SPECIAL COMMAND	COPY ON	Skip (not processed)
	PRINTER FEED **	
	PRINT '------'	
	PRINT @@@@@	
	PRINT @@@@@;	
	PRINT DATA AREA	
	PRINT OUTPUT WINDOW	
	SEND ** '-----'	
	SEND ** '-----';@	
	SEND ** '-----';@;'-----'	
	RESET OPTION	
	SPOLL **;S	
	SEND RS-232 '-----'	
	SEND RS-232 '-----';@	
	SEND RS-232 '-----';@;'-----'	
	SEND LAN @$,***** '-----'	
	SEND LAN @$,***** '-----';@	
	SEND LAN @$,***** '-----';@;'-----'	
	RECEIVE **;@$	
	SENDR RS-232'-----';@$	
	SENDR LAN @$,*****'-----';@$	
	SET DELIMITER ###	

5.1   Connect and Disconnect Operations

You can connect to the Optical Spectrum Analyzer that you wan to remotely control by carrying out the procedure below.

An AQ6370 Viewer screen is used for this example.

Procedure

Preparations on the Optical Spectrum Analyzer

1. Connect the Optical Spectrum Analyzer to an Ethernet network according to the procedure given in section 2.3, "Connecting and Setting the Ethernet Interface of the Optical Spectrum Analyzer."

Connection

2. On the task bar, click the Start button, point to **Programs** > **Yokogawa** > **AQ6370 Viewer** (**AQ6370B Viewer/AQ6370C Viewer/AQ6370D Viewer/AQ6373 Viewer/ AQ6373B Viewer/AQ6374 Viewer/AQ6375 Viewer**) to start the program.

You can also double-click the shortcut icon on the desktop.
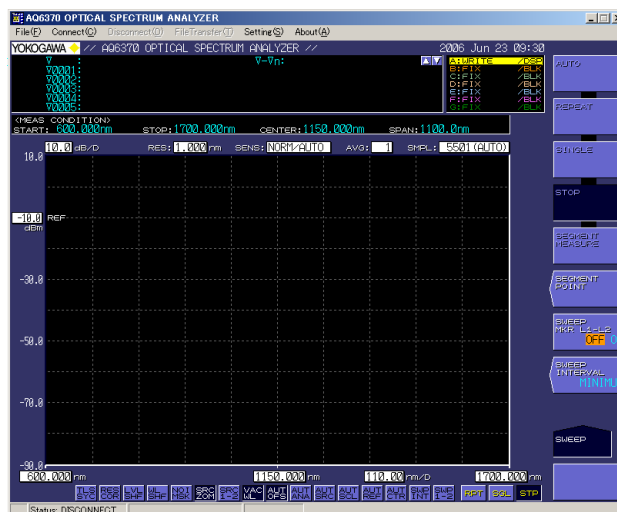
3. Click the **Connect** menu.
The following Connection window opens.

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Operations in Remote Control Mode

4. Type the computer name (or IP address), port number, authentication user name, and authentication password, and click **Connect**.
    *   The computer name of the Optical Spectrum Analyzer is as follows:
        AQ6370:   "AQ6370 @@@@@@@@@"
        AQ6370B: "6370B @@@@@@@@@"
        AQ6370C: "6370C @@@@@@@@@"
        AQ6370D: "6370D @@@@@@@@@"
        AQ6373:   "6373 @@@@@@@@@"
        AQ6373B: "6373B @@@@@@@@@"
        AQ6374:   "6374 @@@@@@@@@"
        AQ6375:   "AQ6375 @@@@@@@@@"
        AQ6375B: "6375B @@@@@@@@@"
        AQ6376:   "6376 @@@@@@@@@"
    Where @@@@@@@@@ is the serial number. The serial number is indicated by nine alphanumeric characters on the rear panel of the Optical Spectrum Analyzer. The computer name cannot be changed.
    *   For the port number of the Optical Spectrum Analyzer, enter the value you specified when you carried out the procedure given in section 2.3, "Connecting and Setting the Ethernet Interface of the Optical Spectrum Analyzer." The default value is 10001.
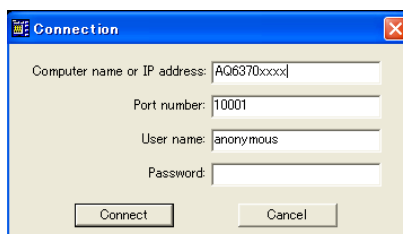   *   The default authentication user name is anonymous.
    *   If a connection cannot be established, an error message (see section 7.2, "Message and Corrective Actions") is displayed.
    *   The software program and the Optical Spectrum Analyzer use the MD5 algorithm (RSA Data Security, Inc. MD5 Message Digest Algorithm) for the password authentication.

Disconnection

5. Click the **Disconnect** menu.
    The following Disconnection window opens.

6. Click **YES**.
    Viewer mode is activated.

5.2 Precautions to Be Taken When Operating in Remote Control Mode

Front Panel Key Menu Operation in Remote Control Mode

If you operate the front panel key menu in Remote Control mode, the following process is carried out.

Front Panel Key Menu	Process
CENTER	Sends a command that corresponds to the soft key.
SPAN	Sends a command that corresponds to the soft key.
LEVEL	Processed by the program (a command is not sent).
SWEEP	Sends a command that corresponds to the soft key (repeat sweep is a repetition of the single sweep).
ZOOM	Processed by the program (a command is not sent).
SETUP	Sends a command that corresponds to the soft key.
TRACE	Sends a command that corresponds to the soft key. The function is implemented in the program.
DISPLAY	Processed by the program.
MARKER	Processed by the program (a command is not sent).
PEAK SEARCH	Processed by the program (a command is not sent).
ANALYSIS	Processed by the program (a command is not sent).
USER	Processed by the program.
MEMORY	Processed by the program.
FILE	Processed by the program.
PROGRAM	Processed by the program (a command is not sent).
ADVANCE	Processed by the program (a command is not sent).
SYSTEM	Sends a command that corresponds to the soft key. The function is implemented in the program.
UNDO/LOCAL	Processed by the program (a command is not sent).
COPY	Processed by the program (a command is not sent).
PRESET	Sends a command that corresponds to the soft key.
HELP	Processed by the program (a command is not sent).

Auto Offset Processing

If auto offset is executed on the Optical Spectrum Analyzer while the software program is running, the communication sequence may be disturbed, and proper operation may be hindered.

Therefore, the program turns the auto offset function OFF when a connection to the Optical Spectrum Analyzer is established and instructs the execution of the auto offset every 10 minutes. However, if measurement is in progress at the time the auto offset function is to be executed, the auto offset is executed after the sweep is completed (same as the operation on the Optical Spectrum Analyzer).

Remote Connection and Disconnection

When a remote connection is established, the waveform information, measurement conditions, and analysis parameter settings of the Optical Spectrum Analyzer are loaded into the PC.

When the remote connection is cut, the measurement conditions and analysis parameter settings on the PC are transferred to the Optical Spectrum Analyzer, and the measured waveform on the Optical Spectrum Analyzer is cleared.

Waveform Loading During the Sweep Operation

During the sweep operation, the program retrieves the waveform being measured once a second from the Optical Spectrum Analyzer and displays the waveform.

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Operations in Remote Control Mode

5.3 Soft Key Menu in Remote Control Mode

Of the soft key menu commands in remote control mode, those that have the following limitations are summarized in tables. Some of the functions may not be listed depending on the model.

For details on the soft key menus, see the user's manual of the relevant optical spectrum analyzer.

- Unavailable menu commands
- Menu commands that are available but would cause discrepancies with the waveforms on the optical spectrum analyzer.
- Menu commands whose execution progress is not displayed
- Menu commands that are not executed on the optical spectrum analyzer.

Unavailable Menu Commands

Front Panel Key Menu	Soft Key Menu	Functions
MARKER	MARKER LIST PRINT	Print out the marker value
ANALYSIS	RESULT PRINT	Print out the analysis result
FILE	REMOVE USB STORAGE	Remove the USB storage medium
PROGRAM	PROGRAM EXECUTE > EXECUTE	Execute the program
	PROGRAM EDIT > EDIT > LIST PRINT	Print out the program list
	OUTPUT WINDOW	Display out the OUTPUT WINDOW
	EXECUTE 1 to EXECUTE 21	Execute the program that has been registered to the soft key
ADVANCE	DATA LOGGING	Logging function
SYSTEM (MORE 2/4)	REMOTE INTERFACE	Set the communication interface
	GP-IB SETTING	Set the GP-IB interface
	RS-232 SETTING	Set the RS-232 interface
	NETWORK SETTING	Set the Ethernet interface
SYSTEM (MORE 3/4)	SET CLOCK	Set the date/time
SYSTEM (MORE 4/4)	REMOVE USB STORAGE	Remove the USB storage medium
	SHUT DOWN	Shutdown the Optical Spectrum Analyzer system
FEED	–	Feed the paper

Menu Commands That Would Cause Discrepancies with the Waveforms on the Optical Spectrum Analyzer

Front Panel Key Menu	Soft Key Menu	Functions
TRACE (MORE 1/2)	HOLD	Set the active trace to MAX/MIN hold mode
	ROLL AVG	Set the active trace sweep to average mode
DISPLAY	NOISE MASK	Set the noise mask

Menu Commands Whose Execution Progress Is Not Displayed

Front Panel Key Menu	Soft Key Menu	Functions
SWEEP	AUTO	Auto sweep (waveform during auto sweep is not displayed)
SYSTEM (MORE 1/4)	OPTICAL ALIGNMENT	Execute the alignment adjustment of the monochrome meter
	WL CALIBRATION	Wavelength calibration
SYSTEM (MORE 4/4)	RES BW CALIBRATION	Execute rms resolution calibration

Menu Commands That Are Not Executed on the Optical Spectrum Analyzer (Executed only on the PC)

Front Panel Key Menu	Soft Key Menu	Functions
ZOOM	–	Zoom function
MARKER	–	Marker function
PEAK SEARCH	PEAK SEARCH	Execute the peak search
	BOTTOM SEARCH	Execute the bottom search
	SEARCH MODE	Set the search mode
	MULTI SRCH SETTING	Set the multi search
ANALYSIS	–	Analysis function
PROGRAM	PROGRAM EDIT	Edit the program
ADVANCE	TEMPLATE	Go/No Go judgement
SYSTEM (MORE 1/4)	GRID EDITOR	Edit the grid table
	USER KEY DEFINE	Register the user key

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Operations in Remote Control Mode

6.1 File Transfer Operation

You can transfer the file stored on the Optical Spectrum Analyzer to the PC by carrying out the steps below.
An AQ6370 Viewer screen is used for this example.

Preparations on the Optical Spectrum Analyzer

1. Connect the Optical Spectrum Analyzer to an Ethernet network according to the procedure given in section 2.3, "Connecting and Setting the Ethernet Interface of the Optical Spectrum Analyzer."
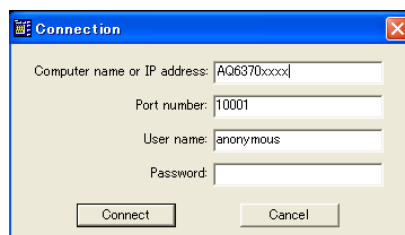
Connection

2. On the task bar, click the Start button, point to **Programs** > **Yokogawa** > **AQ6370 Viewer** (**AQ6370B Viewer/AQ6370C Viewer/AQ6370D Viewer/AQ6373 Viewer/ AQ6373B Viewer/AQ6374 Viewer/AQ6375&76 Viewer)** to start the program.
You can also double-click the shortcut icon on the desktop.

3. Click the **FileTransfer** menu.
The following Connection window opens.
If this step is carried out in Remote Control mode, the Connection window does not open, and the File Transfer window opens. In this case, proceed to step 5.

4. Type the computer name (or IP address), port number, authentication user name, and authentication password, and click **Connect**.
• The computer name of the Optical Spectrum Analyzer is as follows:

    AQ6370:   "AQ6370 @@@@@@@@@"
    AQ6370B: "6370B @@@@@@@@@"
    AQ6370C: "6370C @@@@@@@@@"
    AQ6370D: "6370D @@@@@@@@@"
    AQ6373:   "6373 @@@@@@@@@"
    AQ6373B: "6373B @@@@@@@@@"
    AQ6374:   "6374 @@@@@@@@@"
    AQ6375:   "AQ6375 @@@@@@@@@"
    AQ6375B: "6375B @@@@@@@@@"
    AQ6376:   "6376 @@@@@@@@@"

Where @@@@@@@@@ is the serial number. The serial number is indicated by nine alphanumeric characters on the Optical Spectrum Analyzer rear panel. The computer name cannot be changed.
• For the port number of the Optical Spectrum Analyzer, enter the value you specified when you carried out the procedure given in section 2.3, "Connecting and Setting the Ethernet Interface of the Optical Spectrum Analyzer." The default value is 10001.
• The default authentication user name is anonymous.
• If a connection cannot be established, an error message (see section 7.2, "Message and Corrective Actions") is displayed.

• When a connection is established, the File Transfer window opens.

Transfer the file from the Optical Spectrum Analyzer to the PC (Download button)
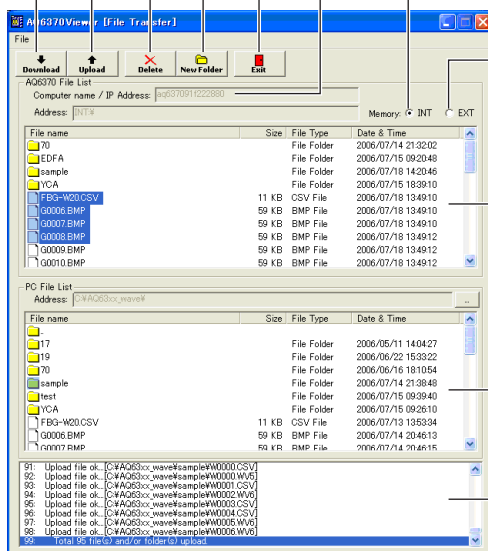
Transfer the file from the PC to the Optical Spectrum Analyzer (Upload button)

Delete the file or folder (Delete button)

Create a folder (New Folder button)

Finish the file transfer (Exit button)

Computer name of the Optical Spectrum Analyzer

Operate the internal memory of the Optical Spectrum Analyzer

Operate the USB storage device connected to the Optical Spectrum Analyzer (not selectable when the USB storage device is not inserted)

Optical Spectrum Analyzer file list

PC file list

Status list

Download (File Transfer from the Optical Spectrum Analyzer to the PC)

5. Display the transfer destination folder in the PC file list.

6. Select the file you want to transfer in the Optical Spectrum Analyzer file list.

7. Click **Download.** You can also choose Download from the File menu.

Note

• A file whose size exceeds 1 MB cannot be transferred to the PC.
• The maximum number of files and folders that is shown in the list is 4096.

Upload (File Transfer from the PC to the Optical Spectrum Analyzer)

5. Display the transfer destination folder in the Optical Spectrum Analyzer file list.

6. Select the file you want to transfer in the PC file list.

7. Click **Upload.** You can also choose Upload from the File menu.

Note

• A file whose size exceeds 1 MB cannot be transferred to the Optical Spectrum Analyzer.
• The maximum number of files and folders that is shown in the list is 4096.

Deleting Files and Folders

5. Select the file or folder you want delete in the Optical Spectrum Analyzer file list or the PC file list.

6. Click **Delete**. You can also choose Delete from the File menu.

Note

Files and folders that are set to read-only cannot be deleted.

Creating a Folder

5. Select the destination in which the folder is to be created in the Optical Spectrum Analyzer file list or the PC file list.

6. Click **New Folder**.
You can also choose New Folder from the File menu.

7. In the folder name input dialog box, type the name of the folder you want to create, and click **OK**.

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File Transfer

7.1 Troubleshooting

If servicing is necessary, or if the program is not operating correctly after performing the corrective actions described below, contact your nearest YOKOGAWA dealer.

Description	Probable Cause/Corrective Action	Reference Section
Cannot connect to the Optical Spectrum Analyzer (Error message: Connection Error)	• Check that the computer name or IP address that you entered in the Connection window matches with that specified on the Optical Spectrum Analyzer. • Check that the Optical Spectrum Analyzer and the PC are connected to the network correctly using LAN cables. • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the Optical Spectrum Analyzer (Error message: User account data mismatch.)	• Check that the computer name or IP address that you entered in the Connection window matches with that specified on the Optical Spectrum Analyzer. • A connection cannot be established while the Optical Spectrum Analyzer is performing auto offset.If auto offset is in progress, connect after the operation is completed.	2.3 5.2
Cannot connect to the AQ6370 (Error message: AQ6370 Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6370 is set to "ETHERNET." • Check that the AQ6370 firmware version is R02.01 or later.You can check the version by pressing the SYSTEM key followed by the VERSION soft key. • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6370B (Error message: AQ6370B Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6370B is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6370C (Error message: AQ6370C Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6370C is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6370D (Error message: AQ6370D Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6370D is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6373 (Error message: AQ6373 Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6373 is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6373B (Error message: AQ6373B Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6373 is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
Cannot connect to the AQ6374, AQ6375, AQ6375B, or AQ6376 (Error message: OSA Remote interface setting or Firmware Version Error.)	• Check that the remote interface of the AQ6374, AQ6375, AQ6375B, or AQ6376 is set to "ETHERNET." • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	2.3
The license authentication window appears when starting the program	Execute license authentication.The license code needed for the license authentication is indicated on the accompanying CD case.	2.1
The analysis result of the program does not match the analysis result on the Optical Spectrum Analyzer.	• The version Rxx.xx (where xx are numbers) shown when you choose the About menu corresponds to the Optical Spectrum Analyzer firmware version. Check that this firmware version and the Optical Spectrum Analyzer firmware version match. • Confirm that the waveform analysis was conducted on the Viewer that corresponds to the optical spectrum analyzer that measured the waveform data. Otherwise the following analysis results cannot be guaranteed (including waveform data from the AQ6317 or AQ6319). Power analysis, LED analysis, WDM analysis, OSNR (WDM) analysis, EDFA-NF analysis, dBm/nm mode, and dBm/THz mode	3.1 –

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Troubleshooting

7.1 Troubleshooting

Description	Probable Cause/Corrective Action	Reference Section
The waveform measured in Remote Control mode and displayed on the PC does not match the waveform displayed on the Optical Spectrum Analyzer.	• Waveforms do not match when the noise mask function is used or when using the following trace settings. ROLL AVG/MAX HOLD/MIN HOLD/CALC • Change the Optical Spectrum Analyze's remote interface setting to GP-IB, then set it back again to ETHERNET.	–
Large files cannot be transferred in File Transfer mode.	The maximum file size per file that can be transferred in File Transfer mode is 1 MB.	–

7.2   Messages and Corrective Actions

Error Messages

The following error messages may appear while running the software program.

Error Message	Description
Connection Error	Communication with the Optical Spectrum Analyzer failed due to any of the following reasons. • An error occurred in the connection to the Optical Spectrum Analyzer (this error occurs also if the Optical Spectrum Analyzer is already connecting from a different software program). • An error occurred while sending data to the Optical Spectrum Analyzer. • A timeout occurred while receiving data from the Optical Spectrum Analyzer.
Connection Error. AQ6370 Remote interface setting or Firmware Version Error.	• The remote interface of the target AQ6370 is not set to ETHERNET. • The firmware version of the target AQ6370 does not support this software program. The AQ6370 firmware version must be R02.01 or later.
Connection Error. AQ6370B Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6370B is not set to ETHERNET.
Connection Error. AQ6370C Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6370C is not set to ETHERNET.
Connection Error. AQ6370D Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6370D is not set to ETHERNET.
Connection Error. AQ6373 Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6373 is not set to ETHERNET.
Connection Error. AQ6373B Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6373B is not set to ETHERNET.
Connection Error. OSA Remote interface setting or Firmware Version Error.	The remote interface of the target AQ6374/AQ6375/AQ6375B/AQ6376 is not set to ETHERNET.
Connection Failed. User account data mismatch.	• The account information used to connect to the Optical Spectrum Analyzer does not match with the information set on the Optical Spectrum Analyzer. • The Optical Spectrum Analyzer could not respond because auto offset was in progress when the software program tried to connect to the Optical Spectrum Analyzer.

Warning Messages during Remote Control

Because the software program retrieves error information from the Optical Spectrum Analyzer during remote control, if an error is detected on the Optical Spectrum Analyzer, the warning message for the error is also displayed on the software program. For the cause and corrective action for the warning messages that are displayed while running the program, see section 10.10, "Warning Display Function" in the *Optical Spectrum Analyzer User's Manual*.

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