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## Test & Measurement

## **Complimentary Reference Material**

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 repair
 disposal
 This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.
 TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.
 TMG will assist if you are unsure whether this model will suit your requirements.
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# Optical Time Domain Reflectometer AQ7270 OTDR



- Short dead zone (0.8 m)
- Wide range of models available supporting FTTH to metro networks
- High performance & easy to use OTDR
- Bright & high contrast 8.4 inch LCD screen







- Powers-up quickly

Now measurements can be started quickly upon arrival at the site. 10 seconds to power-up from completely OFF to fully ON! With such a fast power-up time, battery life can be extended by turning the power off while not in use at the job site without any concern about the power-up time when the (in 10 seconds or less) next job is ready. It's ready when you're ready!

38/35dB

34/30/32dB 34/32/28dB

40/38/35dB

22.5/24dB

34/32/22.5/24dB

1550/1625nm

850/1300nm

1310/1490/1550nm

1310/1550/1625nm

850/1300/1310/1550nm

SMF

MMF

MMF/SMF

3

2

4

| Model  | Descriptions  |  |
|--------|---|--|
| 735020 | 1550 nm model for access networks and FTTH  |  |
| 735022 | For installation and maintenance of access networks and FTTH  |  |
| 735023 | For installation and maintenance of metro networks and access networks  |  |
| 735024 | Supporting maintenance wavelength 1625nm  |  |
| 735025 | Three-wavelength model for installation and maintenance of PON systems, supporting 1490 nm                                    |  |
| 735026 | Three-wavelength model, supporting a maintenance wavelength of 1625nm   |  |
| 735028 | High dynamic range three-wavelength model, supporting a maintenance wavelength of 1625nm                                      |  |
| 735029 | Multimode fiber model for LAN maintenance   |  |
| 735030 | Four-wavelength model for installation and maintenance of LAN and FTTH with support for both multimode and single mode fiber. |  |

# **Easy of Operation, Supporting Beginners and Experts**

The worldwide spread of broadband services has stimulated the installation of optical fiber in metro and access networks, which in turn has increased the demand for portable and reliable test equipment to aid the installation and maintenance of these networks. Our new OTDR has been developed to address these challenges with particular aims of improving operability to boost work efficiency and cost-effectiveness. The AQ7270 carries forward the basic operation of its predecessors (the AQ7250 and AQ7260 OTDR), while adding a Detail mode for trained technicians with functions for setting of measurement conditions and performing manual measurements.

# Automated Measurement Function Increases Working Efficiency!

#### Automatic Setting of Measurement Conditions -Full Auto Mode

#### Simply choose the measured wavelength, then press a button.

The AQ7270 automatically sets the optimal measurement conditions, performs measurement, performs event analysis, and saves data. Because you can save to a different file name each time you execute, measurement and accumulation of data is easy.



## Measurement with Auto Wavelength Switching - Multi Wavelength Measurement Mode

#### Prepare multiple wavelengths to measure, then press a button.

Multi Wavelength Measurement is a mode in which multiple specified wavelengths from the same optical port are measured automatically in order. You can also specify to perform analysis or file saving as needed for each measurement.

#### Wavelength switches automatically





#### Macro's with Predefined Procedures - One Button Mode

#### Simply choose previously set measurement procedures, then press a button.

You can execute up to five saved measurement procedures in order. A batch of measurement procedures can be run directly from the main menu. Measurement and analysis conditions can be read from a file, making it easy to set up the measurement procedures.



#### **Procedure 3 Measurement Procedures** Execute directly from the main menu Procedure 2 Procedure 1 Procedure 1 Procedure 2 Procedure 3 One Settina Settina Settina Button Test Test Test Analysi Analysi Analysi **File** s

# fiber plorer. AQ7270 OTDR

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#### Measurement Wizard –Assistance setting up measurements Displays detailed explanations of parameters in the measurement conditions setting menu, and gives guidelines for setting methods. This function assists unskilled users.

Trained users can enter settings freely in Detail mode.

## ACTIVE LINE ALARM –Checking for communication light

#### Never disturb communication lines

There may be concern that technicians inputting the OTDR measurement signal into the communication line could cause communication errors. The live line alarm monitors the fiber's optical power level and diplays an alarm message if it detects optical power at or higher than a specified threshold level, in order to warn the technician not to mistakenly feed the signal into the communication line.

## PLUG CHECK FUNCTION – Checking the connection with the OTDR

#### Never spoil measurements with poor connections or dirty plugs

The plug check function monitors the condition of the OTDR's optical input/output connectors and displays an alarm if the connection is not properly made. This function is useful for checking for damage, dirt, or other problems with optical plugs at the OTDR or on the fiber under test, and for helping technicians to remember to connect the fiber under test.

#### **Detecting Abnormal Events** – Fault Event Display Function

The fault event display function detects abnormal connection or reflection points and displays them. Of the events detected by the event detection function, abnormal events that cross a specified threshold value are highlighted in the event table and waveform display.

|         | Event | Distance | Splice   | Return   | Cumu1ate | dB∕km | Event | Section |
|---------|-------|----------|----------|----------|----------|-------|-------|---------|
|         | No    | (km)     | Loss(dB) | Loss(dB) | Loss(dB) |       | Туре  | IOR     |
|         | 1     | 0.44564  | -0.072   |          | 0.783    | 2.067 |       | 1.480   |
|         | 2     | 0.84975  | 0.049    | 56.511   | 0.892    | 0.449 |       | 1.480   |
| event → | · *3  | 1.11207  | 0.206    |          | 1.037    | 0.366 |       | 1.480   |
|         | E     | 1.41085  |          | <46.858  | 1.340    | 0.324 | N     | 1.480   |

Analysis results with Fault Event Display

Fault

Measurement with Comparison to Reference Waveform – Trace Fix Function You can freeze the display of one trace and overlap it with real time or averaged

waveforms for comparison. This is useful to create a template when installing multicore fiber, or for checking aged deterioration during maintenance on existing fiber networks. In addition to the last-measured waveform, a waveform can be loaded from a file to be used as the reference waveform.

#### SETUP KEY –Jump to measurement condition setting menu With the new SETUP button on the front panel, it is easy to move to the measurement condition setting menu.



Measurement Wizard Menu





Plug Check Alarm Message



Fault Event Indication on the waveform



Trace Fix Function

00 00

00



# Bright 8.4-Inch LCD Screen Easy to Operate with Rotary knob & Arrow Keys









# **Key Functions**

## Built-in Dummy Fiber (Factory Option)

#### Excellent for detecting faults in fiber patch panels!

Fibers in offices frequently involve short distances between connectors. By using the dummy fiber, you can check whether there is any abnormal near-end connection loss. Also, by measuring the connection loss at the near-end connector, you can determine the total fiber loss including that of the connector.



## Trace Analysis Functions

For Evaluation of Aged Deterioration

#### For Evaluation of Multicore Fiber

—Multi Trace Analysis

Up to four traces can be overlaid on the display for analysis and comparison.

This is useful for evaluating connection point locations and loss after installing multicore fiber.

-Differential Trace Analysis

Displays the difference between

deterioration of fibers or connection

points, or fluctuation in loss between

two specified traces.

Makes it simple to check aged

fibers, and other phenomena



#### For Accurate Splice Loss Measurement by Bi-directional Testing —2 Way Trace Analysis

Merges the two traces measured from both directions and finds the correct splice loss.

Connection loss in lines where optical fibers of differing backscatter coefficients are connected can differ depending on the direction. In such cases, you can accurately determine the loss by measuring in both directions and taking an average.

#### For Evaluation of Total Return Loss —Section Analysis

Finds the total return loss in specific portions of the fiber.

This type of evaluation is often requested because the multiple reflections from optical fiber networks can affect signal light from transmitters (cable TV etc.).





## Smart File Function

Because the AQ7270 makes it easy to differentiate between measured optical fibers—even complex ones—you can add arbitrary information to file names such as measured wavelength, ID number, tape number, or comments. You can also have the ID number or tape number automatically updated and saved after each measurement.

Trace data can be saved in SOR and CSV format. Also, you can save screenshots as BMP, JPG, or PNG files. TRB or TRD files saved on Yokogawa's previous AQ7250 and AQ7260 models can also be loaded.

#### File name setting screen

| Nane Type | WL + Comment + No.     |  |
|-----------|------------------------|--|
| ID No.    | 5                      |  |
| Tape No.  | a-d                    |  |
| Connent   | Yokogawa               |  |
|           |                        |  |
| File Name |                        |  |
|           | 1310nnYokogawa5a . SOR |  |

#### Concept of the file name structure



#### Automatic updating of file names





## Language Selection

In addition to English (standard), you can select a display language of French, German, Chinese, Korean, Russian, and others.

## USB Function

USB connectivity makes it more convenient to output to external memory or printers, and to set up communication. The AQ7270 comes standard with two USB1.1 compliant connector ports (Type A and Type B).

#### • Saving Files to USB Memory—Type A



Using USB memory or a USB hard disk, you can save large amounts of data. Also, you can easily transfer saved data to a PC or other device.



• Remotely Controlling the AQ7270 from a PC-Type B



The AQ7270 can be remotely controlled from an external PC by connecting a USB cable from one to the other.\*



You can print screen images or measured data on USB printers.



• Accessing the AQ7270 Internal Memory from a PC-Type B



\*: USB type A - type B cable required for remote control

You can easily access to internal memory with USB cable from a PC.\*

## **Measured Data Analysis and Report Creation Tool**

#### AQ7932 OTDR Emulation Software (Sold Separately)

AQ7932 is application software that performs analysis of trace data measured by the AQ7270 OTDR on a PC, and creates reports. The report creation wizard makes this task simple. AQ7270 OTDR data can be easily loaded onto a PC using USB memory or the communication interface.

#### Trace Analysis

You can edit event search conditions, approximate curve line settings, and other conditions, and then repeat the analysis. And now it is even easier to operate; simply click the function icon with the mouse.

#### Analysis Functions

Display up to eight traces on screen and perform a variety of different analyses including: multi trace analysis, differential trace analysis for comparing recent waveforms with old ones, and 2 way trace analysis function for analyzing average values of data measured from both directions in the optical fiber.

#### Creating Reports

Compiles trace and measured values from trace files and creates a report. Reports can also be created in Excel or CSV format. Reports are easy to create by following the step-by-step instructions in the report wizard.

Note Operating System: Microsoft Windows 2000, XP Excel: Microsoft Excel 2000, XP, 2003



International states

# **Specifications**

#### **Common Specifications**

#### Horizontal Axis Parameters

#### Sampling resolution

Readout resolution Number of sampled data Group refractive index Unit of distance Distance measurement accuracy

5 cm, 10 cm, 20 cm, 50 cm, 1 m, 2 m, 4 m, 8 m, 16 m, 32 m 1 cm (Min.) Up to 50,000 points 1.30000 to 1.79999 (in 0.00001 steps) km, kf, or miles

Offset error: ±1 m Scale error: Measured distance×2×10<sup>-5</sup> Sampling error: ±1 sampling resolution

#### Vertical Axis Parameters

Vertical axis scale 0.2 dB/div, 0.5 dB/div, 1 dB/div, 2 dB/div, 5 dB/div, 7.5 dB/div Readout resolution 0.001 dB (Min.) Loss measurement accuracy

When the measuring loss is 1dB or less, the accuracy is within  $\pm 0.05$ dB

#### **OTDR Measurement Function**

| Distance measurement    | Displays up to eight digits of the relative one-way distance between two arbitrary points on the trace.   |
|-------------------------|---|
| Loss measurement        | Displays one-way loss in steps of<br>0.001 dB to a maximum of 5 digits.<br>Displays the one-way loss, loss per<br>unit length, and splice loss between<br>any two given points on the waveform. |
| Return loss measurement | Measures return loss and total return<br>loss of a fiber cable or between two<br>arbitrary points on the trace.   |

section analysis

#### **OTDR Analysis Functions**

Analysis functions

### **Internal Memory**

Memory capacity

Can store measured waveforms, and measurement conditions

Multi trace analysis, 2 way trace

analysis, differential trace analysis,

#### Display

Display Total number of pixels\* 8.4-inch color TFT LCD 640 (horizontal)×480 (vertical)

1000 waveforms or more

The LCD may contain some pixels that are always ON or always OFF (0.002% or fewer of all displayed pixels including RGB), and is not indicative of a general malfunction.

#### **External Interface**

USB

- USB1.1 Type A and Type B, one each Type A: For external memory or external printer Type B: For connecting to an external
  - PC for remote control or access to the OTDR's internal memory.

#### **Optical I/O port**

Connector type

Number of port

SC (fixed), FC (fixed), SC universal adapter, FC universal adapter, No universal adapter (base) 1 or 2\*

\* Port 2 is only for model 735027 (1650nm), and Model 735030 (850nm/1300nm).

#### **File Formats**

File formats

Read: SOR, TRD, TRB, SET Write: SOR (Telcordia), SET, CSV, BMP, JPG, PNG

#### **General Specifications**

| Laser safety standards | class 1 M (IEC60825-1:2001)                            |
|------------------------|--|
| Safety standard        | EN61010-1  |
| Emission               | EN61326 Class A  |
| Immunity               | EN61326 Annex A  |
| Operating environment  | 0 to 45°C  |
| Temperature            | (0 to 35°C when charging the battery)                  |
| Humidity               | 85% RH or less (no condensation)                       |
| Storage temperature    | -20 to 60°C  |
| Battery                | Operation time 6 hours <sup>*1</sup>                   |
|                        | Recharge time 5 hours <sup>2</sup>                     |
| AC adapter             |  |
| Rated supply voltage   | 100 to 240 VAC   |
| Rated supply frequency | 50 to 60 Hz  |
| Power consumption      | Max 70 W   |
|                        | (when battery charging, and optional printer printing) |
| Dimensions             | (W) $287 \times$ (H) $197 \times$ (D) $85 \text{ mm}$  |
| Weight                 | Approx. 2.8 kg   |
|                        | (not including options)                                |

\*1 Measurement for 30 seconds in every 10 minutes, without any options, in power save mode (Full Auto 1minute).

\*2 Ambient temperature of 23°C, power OFF



#### **External Dimensions**



## fiber plorer. AQ7270 OTDR

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#### **Specifications by Model**

| Single-mode Fiber 1 Wavelength Type |   |                       |  |  |
|-------------------------------------|---|-----------------------|--|--|
| Model                               | 735020  | 735021 <sup>*12</sup> |  |  |
| Wavelength                          | 1550±25nm 1650 ± 5nm <sup>*1</sup><br>±10nm <sup>*2</sup> |                       |  |  |
| Applicable fiber                    | SM (ITU-T G.652)  |                       |  |  |
| Distance range                      | 500m, 1km, 2km, 5km, 10km, 20km,                          |                       |  |  |
| Distance range                      | 50km, 100km, 200km, 300km, 400km                          |                       |  |  |
| Pulso width*3                       | 3ns, 10ns, 20ns, 50ns, 100ns, 200ns,                      |                       |  |  |
|                                     | 500ns, 1us, 2us, 5us, 10us, 20us                          |                       |  |  |
| Dynamic range <sup>*4</sup>         | 32dB 30dB   |                       |  |  |
| Event dead zone*5, 11               | 0.8m  | 0.8m                  |  |  |
| Attenuation dead zone*6, 11         | 8m (typ)  | 12m (typ)             |  |  |

#### Single-mode Fiber 2 Wavelength Type

| Model                       | 735022                                      | 735023         | 735024         |  |
|-----------------------------|---|----------------|----------------|--|
| Wavelength                  | 1310/1550±25nm                              | 1310/1550±25nm | 1550/1625±25nm |  |
| Applicable fiber            | SM (ITU-T G.652)                            |                |                |  |
| Distance range              | 500m, 1km, 2km, 5km, 10km, 20km, 50km,      |                |                |  |
| Bistarioe range             | 100km, 200km, 300km, 400km                  |                |                |  |
| Pulse width*3               | 3ns, 10ns, 20ns, 50ns, 100ns, 200ns, 500ns, |                |                |  |
|                             | 1us, 2us, 5us, 10us, 20us                   |                |                |  |
| Dynamic range <sup>*4</sup> | 34/32dB                                     | 40/38dB        | 38/35dB        |  |
| Event dead zone*5, 11       | 0.8m  | 0.8m           | 0.8m           |  |
| Attenuation dead zone*6, 11 | 7/8m (typ)                                  | 7/8m (typ)     | 8/12m (typ)    |  |
|                             |   |                |                |  |

#### Single-mode Fiber 3 Wavelength Type

| 735025  | 735026   | <b>735027</b> <sup>*12</sup>   | 735028  |
|---|--|--|---|
| 1310/1490/1550±25nm   | 1310/1550/1625±25nm  | 1310/1550±25nm<br>1650±5nm <sup>*1</sup> , ±10nm <sup>*2</sup>   | 1310/1550/1625±25nm   |
|   | SM (ITU  | -T G.652)  |   |
| 500m, 1   | 1km, 2km, 5km, 10km, 20km,   | 50km, 100km, 200km, 300km  | n, 400km  |
| 3ns, 10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1us, 2us, 5us, 10us, 20us |  |  |   |
| 34/30/32dB  | 34/32/28dB   | 34/32/30dB   | 40/38/35dB  |
| 0.8m  | 0.8m   | 0.8m   | 0.8m  |
| 7/8/8m (typ)  | 7/8/12m (typ)  | 7/8/12m (typ)  | 7/8/12m (typ)   |
|   | 735025<br>1310/1490/1550±25nm<br>500m,<br>3ns,<br>34/30/32dB<br>0.8m<br>7/8/8m (typ) | 735025         735026           1310/1490/1550±25nm         1310/1550/1625±25nm           SM (ITU         500m, 1km, 2km, 5km, 10km, 20km, 3ns, 10ns, 20ns, 50ns, 100ns, 20nd, 34/30/32dB           34/30/32dB         34/32/28dB           0.8m         0.8m           7/8/8m (typ)         7/8/12m (typ) | 735025         735026         735027 <sup>-12</sup> 1310/1490/1550±25nm         1310/1550/1625±25nm         1310/1550±25nm           1310/1550±25nm         1310/1550±25nm         1650±5nm <sup>-1</sup> , ±10nm <sup>-2</sup> SM (ITU-T G.652)           500m, 1km, 2km, 5km, 10km, 20km, 50km, 100km, 200km, 300km           310/32dB         34/32/28dB         34/32/30dB           34/30/32dB         34/32/28dB         34/32/30dB           0.8m         0.8m         0.8m           7/8/8m (typ)         7/8/12m (typ)         7/8/12m (typ) |

#### Multimode Fiber 2 Wavelength Type

| Model                           | 735029  |  |
|---------------------------------|---|--|
| Wavelength                      | 850/1300±30nm   |  |
| Applicable fiber                | GI (50/125, 62.5/125µm)                                 |  |
| Distance range                  | 500m, 1km, 2km, 5km, 10km, 20km, 50km, 100km            |  |
| Pulse width <sup>*3, 7</sup>    | 10ns, 20ns, 50ns, 100ns,<br>200ns, 500ns, 1us, 2us, 5us |  |
| Dynamic range <sup>*8, 10</sup> | 22.5/24dB   |  |
| Event dead zone*9, 10, 11       | 2m (typ)  |  |
| Attenuation dead zone*6, 10, 11 | 7/10m (typ)   |  |

\*1 At a point -20 dB from the pulse light output peak value (measured 30 min. or more after power ON,

At a point -20 to norm the pulse num output peak value (measured comments of the point of 23°C)
 At a point -60 dB from the pulse light output peak value (measured 30 min. or more after power ON, ambient temperature of 23°C)
 Pulse width setting range depends on the distance range.
 SNR=1, at pulse with 20 µs, distance range 200 km, sampling resolution 32 m, measurement time 3 minutes.
 Pulse width 3 ns, return loss 45 dB or more, at a point 1.5 dB below the peak value (not saturated).

#### **Factory Installed Option Specifications**

#### Built-in Printer/LAN Functions (/PL option)

| Printing method       | Thermal line-dot   |
|-----------------------|--|
| Dot density           | 576 dots/line  |
| Paper width           | 80 mm  |
| Operating environment | Temperature 5 to 35°C<br>Humidity 10 to 80% RH (no condensation) |
| Storage temperature   | -20 to 60°C  |
| LAN function          | 10BASE-T/100BASE-TX (RJ-45) x1                                   |

#### Light Source Function (Option /LS)

Optical port Center wavelength Output level Output level stability Modulation frequency

OTDR optical I/O port OTDR's center wavelengths -5 dBm or more (at 23±2°C) ±1 dB (5 minutes) CW, 270 Hz

#### Multimode/Single-mode Fiber 4 Wavelength Type

| Model                     | 735030   |   |  |
|---------------------------|--|---|--|
| Wavelength                | 1310/1550±25nm   | 850/1300nm±30nm   |  |
| Applicable fiber          | SM (ITU-T G.652)   | GI (50/125,62.5/125µm)  |  |
| Distance range            | 500m, 1km, 2km, 5km, 10km, 20km,<br>50km, 100km, 200km, 300km,400km      | 500m, 1km, 2km, 5km,<br>10km, 20km, 50km, 100km                       |  |
| Pulse width <sup>*3</sup> | 3ns, 10ns, 20ns, 50ns, 100ns, 200ns,<br>500ns, 1us, 2us, 5us, 10us, 20us | 10ns, 20ns, 50ns, 100ns, 200ns,<br>500ns, 1us, 2us, 5us <sup>*7</sup> |  |
| Dynamic range             | 34/32dB <sup>*4</sup>  | 22.5/24dB <sup>*8, 10</sup>   |  |
| Event dead zone           | 0.8m <sup>*5, 11</sup>   | 2m (typ) <sup>*9, 10, 11</sup>  |  |
| Attenuation dead zone     | 7/8m (typ) <sup>*11</sup>  | 7/10m(typ) <sup>*6, 10, 11</sup>                                      |  |
|                           |  |   |  |

# \*6 Pulse width 10 ns, return loss 45 dB or more, at a point where the backscatter level is within ±0.5 dB of the <sup>16</sup> Pulse width 10 ns, return loss 45 dB or more, at a point where the backscatter level is within ±0.5 dB normal value. <sup>17</sup> Pulse width of 2 or 5 μs when measured wavelength is 1300 nm <sup>18</sup> SNR=1, at pulse width 200 ns(850nm), 1 μs(1300nm), measurement time 3 minutes. <sup>19</sup> Pulse width 10 ns, return loss 45 dB or more, at a point 1.5 dB below the peak value (not satunated). <sup>11</sup> OG (I62.7125 µm) is measured. <sup>11</sup> At group refractive index 1.5 <sup>12</sup> Pulse light output power at 1650 nm less than 15 dBm Note: Specifications without any special remarks, assured at 23±2°C

| Power Monitoring Function (/PM Option |
|---------------------------------------|

| Optical port                      | OTDR optical I/O port |
|-----------------------------------|-----------------------|
| Measuring range <sup>™</sup>      | -50 to -5 dBm         |
| Measurement accuracv <sup>2</sup> | ±0.5 dB               |

\*1 CW light, wavelength 1310 nm, absolute max input level = 0 dBm (1 mW) \*2 When inputting CW light, wavelength 1310 nm, -10 dBm, at  $23\pm2^\circ$ C

#### Dummy Fiber (/DF Option) 0 fiber (ITU-T G.652)

| Optical fiber | Single-mode fi |
|---------------|----------------|
| Length        | approx. 100 m  |

\* Dummy fiber option may cause the reduction of dynamic range (0.5dB or less).

#### **Model and Suffix Codes**

#### AQ7270 OTDR

|        | Option availability |     |     |     |     |   |
|--------|---------------------|-----|-----|-----|-----|---|
| Model  | /PM                 | /LS | /PL | /DF | /SB | Description                                 |
|        |                     |     |     |     |     |   |
| 735020 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1550nm, 32dB                    |
| 735021 | —                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1650nm, 30dB                    |
| 735022 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1550nm, 34/32dB            |
| 735023 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1550nm, 40/38dB            |
| 735024 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1550/1625nm, 38/35dB            |
| 735025 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1490/1550nm,<br>34/30/32dB |
| 735026 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1550/1625nm,<br>34/32/28dB |
| 735027 | O*1                 | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1550/1650nm,<br>34/32/30dB |
| 735028 | 0                   | 0   | 0   | 0   | 0   | AQ7270 OTDR 1310/1550/1625nm,<br>40/38/35dB |
| 735029 | _                   | _   | 0   | _   | 0   | AQ7270 OTDR 850/1300nm,<br>22.5/24dB        |
| 735030 | *2                  | *2  | 0   | _   | 0   | AQ7270 OTDR 850/1300/1310/1550nm,           |

\*1 : Does not support the 1650nm port \*2 : Does not support the 850/1300nm port  $\bigcirc$  : Available - : Not available

| L     |       |      | Suff | ix Codes | Description                    |
|-------|-------|------|------|----------|--------------------------------|
| Optic | al    | -SCO | 2    |          | SC type Connector              |
| Conn  | ector | -FCC | )    |          | FC type Connector              |
|       |       | -NOI | N    |          | No universal adapter           |
|       |       | -USC | 2    |          | Universal adapter (SC)         |
|       |       | -UFC | )    |          | Universal adapter (FC)         |
| Lang  | uage  |      | ΗE   |          | English                        |
|       |       | -+   | HC   |          | Chinese/English                |
|       |       | -۲   | ΗK   |          | Korean/English                 |
|       |       | -+   | IR   |          | Russian/English                |
| Powe  | er    |      | -D   |          | UL/CSA standard                |
| Cord  |       |      | -F   |          | VDE standard                   |
|       |       |      | -R   |          | AS standard                    |
|       |       |      | -Q   |          | BS standard                    |
|       |       |      | -H   |          | GB standard, Complied with CCC |
| Optio | ns    |      | /PM  |          | Optical power monitor          |
|       |       |      | /LS  | 6        | Light source                   |
|       |       |      | ,    | /PL      | Built-in printer, LAN          |
|       |       |      | _    | /DF      | Dummy fiber (SMF)              |
|       |       |      |      | /SB      | Sholder belt                   |

#### Example: 735023-USC-HE-D /PM /LS

AQ7270 OTDR 1310/1550nm, 40/38dB, with Universal adapter(SC), English version, with a UL/CSA standard power cord, with power monitor function and with Light source function

#### Standard Accessories

An AC adapter, a power cord, a battery pack, a hand belt, and a set of user's manual (CD-ROM)



#### YOKOGAWA CORPORATION OF AMERICA

2 Dart Road, Newnan, Georgia 30265-1094, U.S.A. Phone: (1)-770-253-7000, Fax: (1)-770-251-6427

YOKOGAWA EUROPE B.V. Databankweg 20, 3821 AL, Amersfoort, THE NETHERLANDS Phone: (31)-33-4641858, Fax: (31)-33-4641859

#### YOKOGAWA ENGINEERING ASIA PTE. LTD.

5 Bedok South Road, Singapore 469270 Phone: (65)-62419933, Fax: (65)-62412606

#### YOKOGAWA MEASURING INSTRUMENTS KOREA CORP.

Phone: (82)-2-551-0660, Fax: (82)-2-551-0665 YOKOGAWA SHANGHAI TRADING CO., LTD. Phone: (86)-21-5405-0303, Fax: (86)-21-6880-9254

#### YOKOGAWA ELECTRIC CORPORATION

Communication & Measurement Business Headquarters 2-9-32 Nakacho, Musashino-shi, Tokyo, 180-8750 Japan Phone: (81)-422-52-6768, Fax: (81)-422-52-6624 E-mail: tm@cs.jp.yokogawa.com

#### Accessories (Optional)

| Name                  | Model       | Specifications                 |
|-----------------------|-------------|--------------------------------|
| Soft carrying case    | 739860      |                                |
| Battery pack          | 739880      |                                |
| Universal adapter(SC) | SU2005A-SCC | SC type                        |
| Universal adapter(FC) | SU2005A-FCC | FC type                        |
| Printer roll paper    | A9010ZP     | 80mmx25m                       |
| Shoulder belt         | B8070CY     |                                |
| AC adapter            | 739870-D    | UL/CSA standard                |
|                       | 739870-F    | VDE standard                   |
|                       | 739870-R    | AS standard                    |
|                       | 739870-Q    | BS standard                    |
|                       | 739870-H    | GB standard, Complied with CCC |

#### **Application software**

| Model  | Suffix Codes | Specifications                                   |
|--------|--------------|--|
| 735070 |              | AQ7932 OTDR Emulation Software (Ver3.0 or later) |
|        | -EN          | English  |

#### **Related Products**

#### OTDR



High performance OTDR that also supports long-distance optical fibe cables, with high dynamic range of up to 45 dB.

#### **Optical Powermeter**



Compact, lightweight powermeter designed especially for absolute value measurements for FTTH/LAN work.

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## **LD Light Source**



Compact, lightweight 1310/1550 nm 2-wavelength light source with 4 switches for easy, safe operation.

#### **Optical Powermeter**



Compact, light weight body. Using with a light source, it can measure optical loss. Measured values can be saved to internal memory, making on-site work more efficient

Corporation in the US and other countries

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