User's Manual

Model 735070
AQ7932
OTDR Emulation Software
Operation Manual

Introduction

Thank you for your purchasing of this AQ7932 OTDR Emulation Software.
This user's manual describes the basic operating procedures of AQ7932.
Use this manual together with the AQ7932's help facilities.

Notes

The contents of this manual describe AQ7932 OTDR Emulation Software Ver.5.03.
IF you are using another version of the software, the operating procedures or the figures given in this manual may differ from the actual software.
The contents of this manual are subject to change without prior notice as a result of continuing improvements to the program's performance and functions.

Operating Environment (Software / Hardware)

■ Recommended Operating Environment of the PC

Item	Description
OS	Windows 7, Windows 8, Windows 8.1, Windows 10
Excel	Microsoft Excel 2000 or later (When the XLS file output function is used.)
PC	Clock speed An environment where the OS comfortably operates Capacity of the HDD At least a free hard disk space of 20 MB is required for installation Capacity of the RAM 128 MB at least (256 MB or more is recommended.) * The printer spooler may take up a large amount of memory during continuous printing or report output. If the free disk space become insufficient, the program may not run properly. Display Resolution of 1024 × 768 dots at least Disk drive CD-ROM drive

Trademarks

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Other company and product names mentioned herein may be the trademarks of their respective owners.
For purposes of this manual, the TM and ® symbols do not accompany their respective trademark names or registered trademark names.

Revisions

First Edition October, 2005
2nd Edition December, 2008
3rd Edition July, 2016

Contents

Chapter 1　Waveform Analysis

1-1　Loading the Waveform File
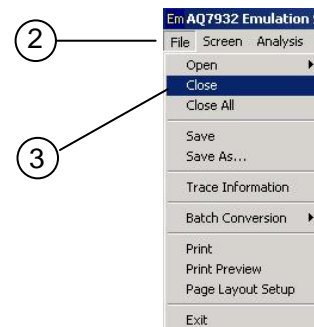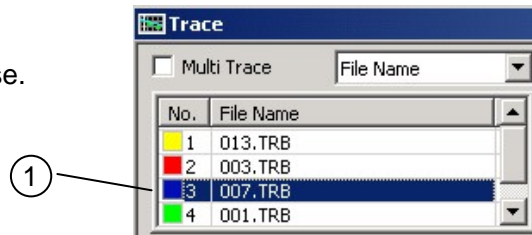
◆ Displaying the Waveform

1. Click [File] in the menu.
2. Click [Open] - [Normal Mode].

3. Select the folder storing the waveform file you want to display.

4. Select the file type.
   (Select the file format of the waveform file you want to display.)

5. Select the file you want to display.
   The label, measurement conditions, and the overall view of the selected file will be displayed.

6. Click [Open].
   The waveform will be displayed on the trace screen.

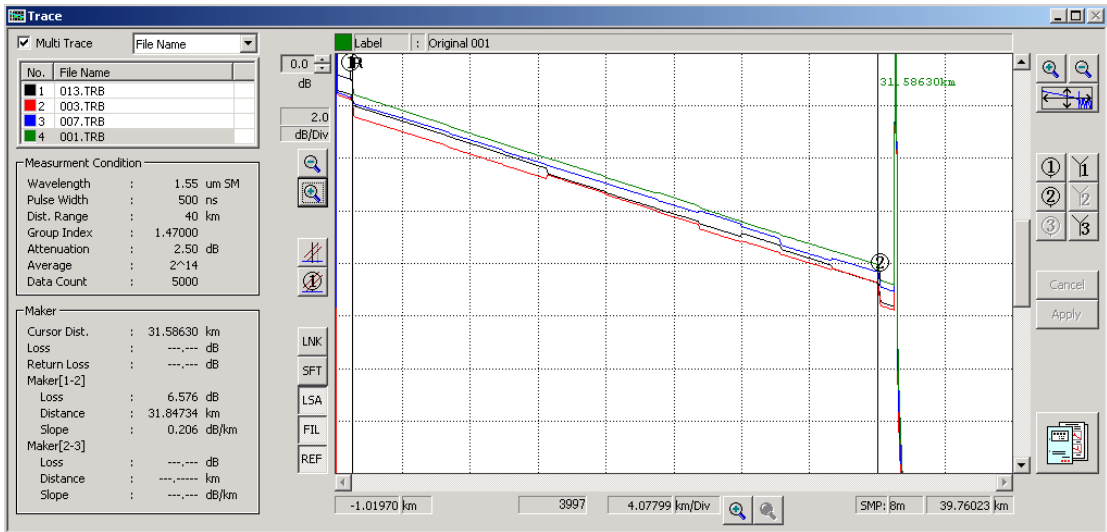   If you want to display another waveform, repeat the steps 1 through 6.
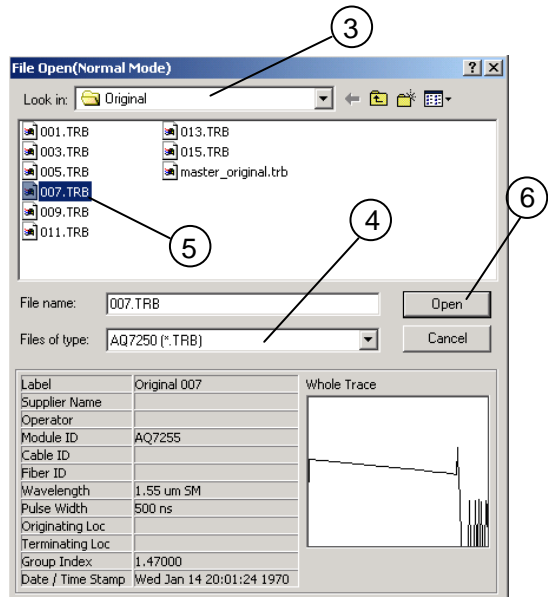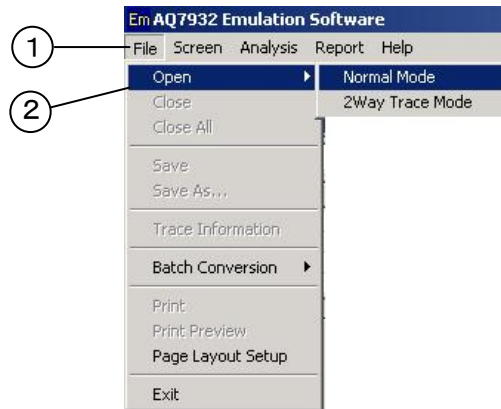
◆ Closing the Displayed Waveform

1. Select the waveform file you want to close.

2. Click [File] in the menu.

3. Click [Close].
   The selected waveform file will close.
   If you want to close all the waveforms currently being displayed, click [Close All].
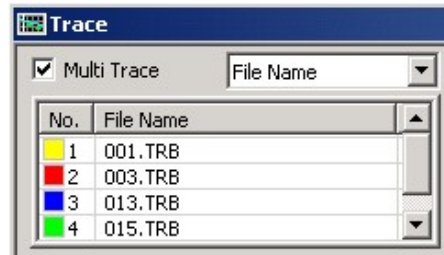
When two or more number of waveforms have been loaded, you can determine to display only the current waveform or all the waveforms on the trace screen.

Mark the [Mult Trace] checkbox.

If a checkmark is placed, you can display two or more number of waveforms on the trace screen.

(Up to eight waveforms can be displayed.)

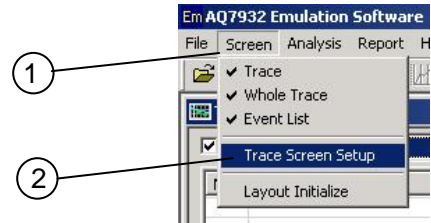In the file list area, you can display not only the file name but also the label.

Selectable between file name and label

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1-2   Setting Up the Screen Properties

You can change the default setting to the desired one.

If you change the setting, the software starts up with the new setting from the next time on.

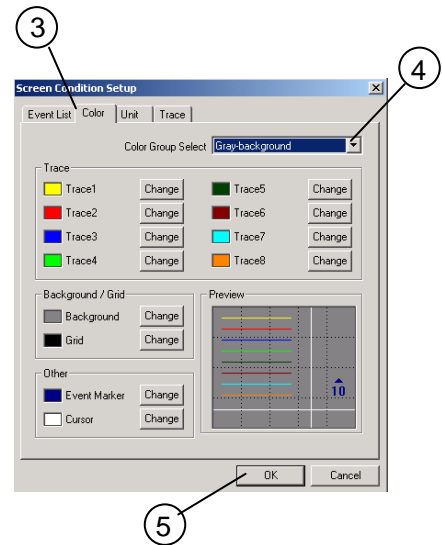1. Click [Screen] in the menu.
2. Click [Trace Screen Setup].

◆ **Changing the Color**

Example: Changing the background color to white (from the default of gray)

3. Click the [Color] tab.
4. Select [White-background] from the [Color Group Select] pull-down menu.
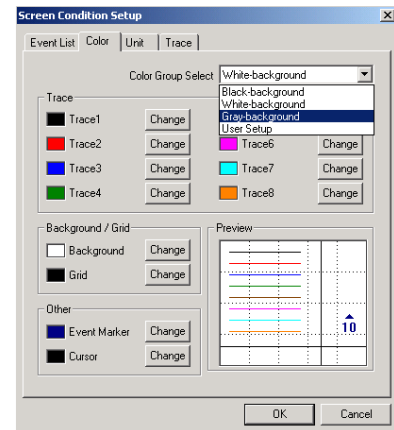5. Click [OK].
   The background color will change to white.

Note

In the color group, there are three default values provided for black, white, and gray backgrounds respectively.
The default trace colors are preset which are suitable for each background.

Furthermore, selecting [User Setup] allows you to change the colors of background and trace individually.

In the same manner, you can change the following items.
For details, see the help facilities of the AQ7932.
(Click [Help] - [Contents] in the menu. [Contents] - [Screen menu] - [Screen setup])
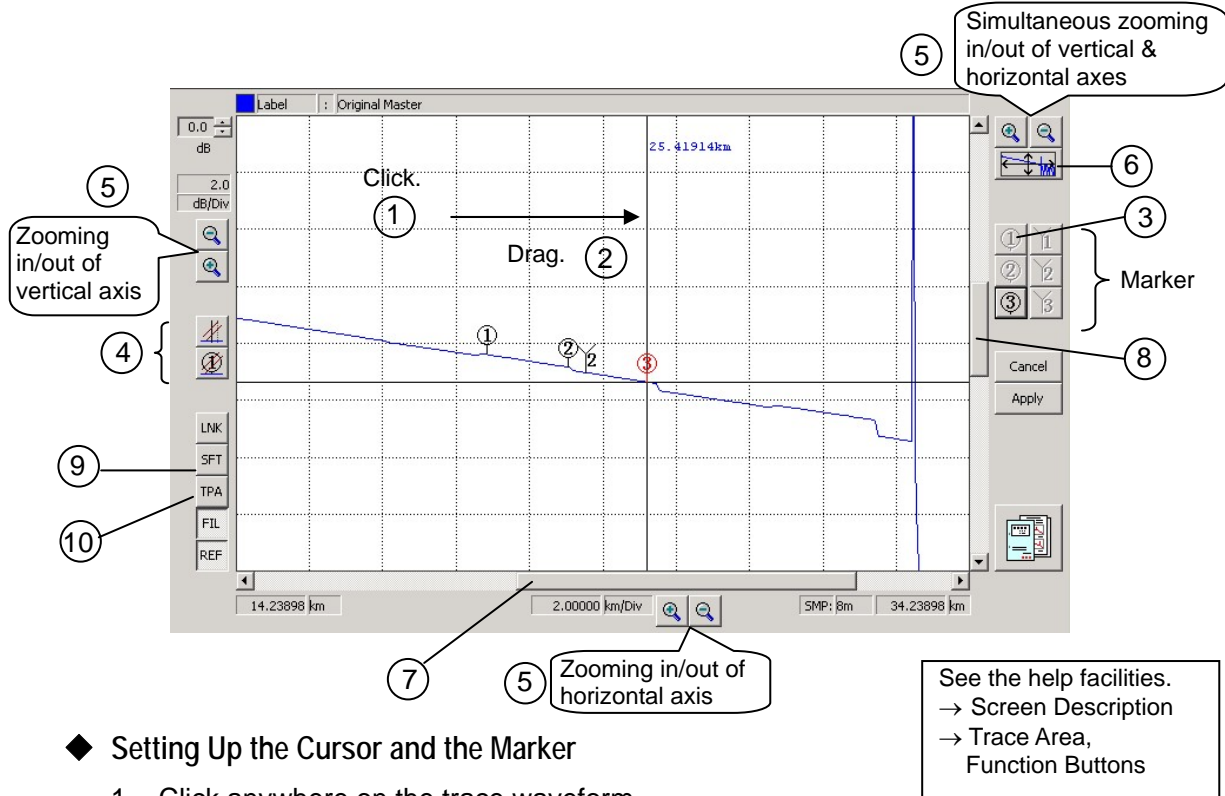
◆ **Changing the Number of Displayed Digits and the Unit**

◆ **The Shape of the Cursor (Cross or Line), Show/hide the Grid**

◆ **Changing the Item To Be Displayed in the Event List**

See the help facilities.
→Contents
→Screen Menu
  →Screen Condition Setup

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1-3 Analysis with One Waveform (Normal Mode)

This section describes the operations to zoom into the waveform and set up the marker which are necessary to measure the distances and losses.

For the measuring method of them, see [Basic Measurement] of the help facilities.

Simultaneous zooming in/out of vertical & horizontal axes

Zooming in/out of vertical axis

Zooming in/out of horizontal axis

See the help facilities.
→ Screen Description
→ Trace Area,
  Function Buttons

◆ **Setting Up the Cursor and the Marker**

1. Click anywhere on the trace waveform.
   The cursor appears at the position of the pointer.

2. Click and drag the cursor at the position where you want to display the marker. (Moving the cursor)

3. Click the button ①. (Setting up the marker 1)

   In the same manner, set up the markers 2, Y2, and 3.
   The results of analysis are displayed in the [marker information area].

4. If you want to delete a cursor or a marker, click ✕ (Cursor Clear) or ① (Marker Clear).

◆ **Zooming in/out the Waveform**

5. Click the button 🔍 or 🔍. (Zooming in/out with the cursor as the center)

   Zooming in/out are performed vertically, horizontally, or in the both directions depending on the button clicked.

6. To initialize the scale, click the button ⬚.

◆ **Moving the Waveform Display Area**

7. Moving along the horizontal axis
   Drag the scroll bar at the bottom of the trace screen, or click the button ◀ ▶.

8. Moving along the vertical axis
   Drag the scroll bar on the right side of the trace screen, or click the button ▲ ▼.

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◆ Displaying the Approximate Line

9. Click the slope fit button SFT .

10. Click the LSA button LSA or TPA button TPA as necessary.

◆ Changing the Position of the Marker

The marker 1 is used as an example in the following explanation.
The procedures are the same for other markers.

● **Operation with a Mouse**

1. Move the mouse pointer into the circle of the marker 1.

2. Drag the pointer to the position to which you want to move the marker.
   (Left-click the mouse, and the cursor moves to the center of the marker.)

3. Release the left button at the position to which you want to move the marker.
   (The marker 1 is set.)

4. Press the Confirm button Apply .

● **Operation with a Marker Button**

1. Move the cursor to the position to which you want to move the marker.

2. Press the button of the marker you want to move.

Note

Markers can move in the range of 1 < Y1 < Y3 < 2 < Y2 < 3.
 (You can call up the cursor by left-clicking the mouse anywhere on the trace screen.)

The color of the marker turns "red" just after it was moved indicating that the position of the marker is uncertain. Pressing the Confirm button confirms the position of the marker, and the marker color turns "white".

◆ Section Analysis

Section analysis mode is analyzing the distance, return loss, total loss and loss per distance (dB/km) in a section of your discretion.

1. Click [Analysis] in the menu.

2. Click [Section Analysis Mode].
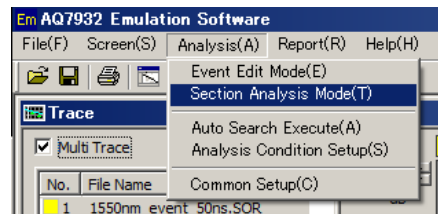
● **Setting Up the Marker**

1. Click and drag the cursor at the position where you want to display the marker.
   (Moving the cursor)

2. Click the button (S) . (Setting up the marker S)

   In the same manner, set up the markers B, and E. The results of analysis are displayed in the [Section Analysis].

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1-4 Analysis with Two Waveforms (2Way Trace Mode)

◆ Displaying the Waveforms

1. Click [File] in the menu.

2. Click [Open] and [2Way Trace Mode].
   The File Open(2Way Trace Mode) dialog box will appear.

◆ Differential Waveform

For the two fibers, their waveforms and the difference between them are displayed.
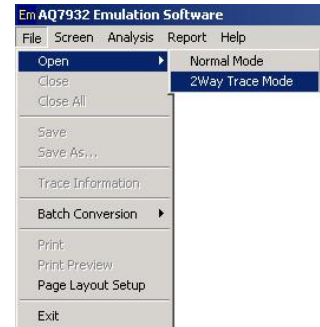
This function is useful for measuring the secular changes of a fiber and similar purposes.

3. Click [Subtract Analysis].

Loading the Waveform File To Be Used as the Reference

4. Click [File Select] in the [Reference File] area.

5. Select the folder storing the waveform file you want to display.

6. Select the file type.
   (Select the file format of the waveform file you want to display.)

7. Select the file you want to use as the reference.

8. Click [Open].
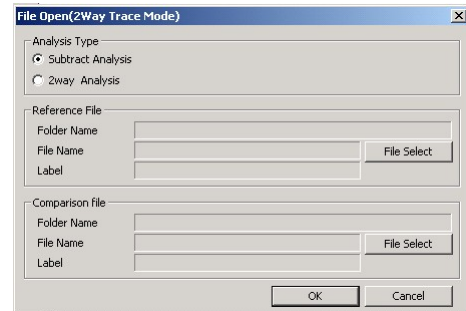
Loading the File To Be Compared with

9. In the same manner, click [File Select] in the [Comparison file] area.
   Load the file to be compared with.

10. Click [OK].

<Sample Display>
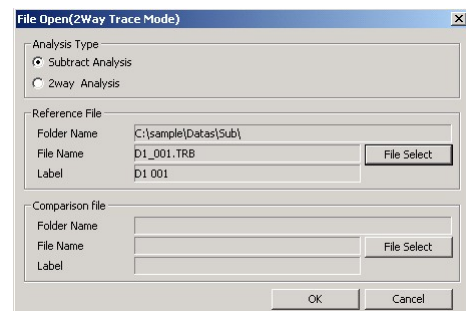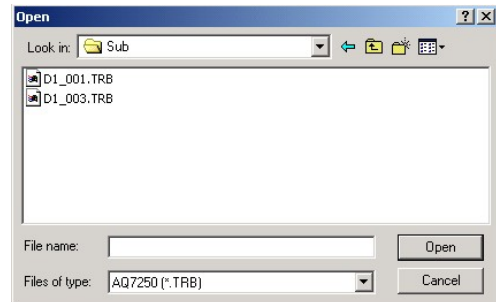
Reference file: D1_001.TRB

Comparison file: D1_003.TRB

Diff (Difference):
    Comparison file - Reference file

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Saving the Difference Data in CSV Format

11. Click [File] in the menu.

12. Click [Save As...].

13. Specify the location to store the file and the file name, and click [Save].

◆ Both-end-composite Waveform

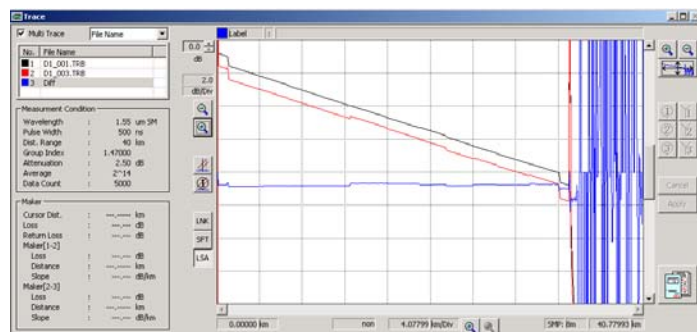A fiber is measured bidirectionally (in both the original and reverse directions). The reverse-direction waveform is horizontally flipped and displayed on the screen together with the original-direction waveform.
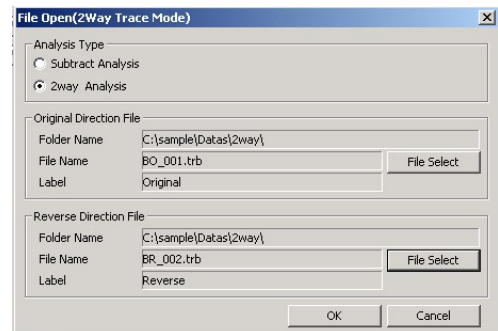
The more correct value of splice loss can be obtained by averaging the splice losses in each event list.

3. Click [2way Analysis].

Loading the Original-direction Waveform Data

4. Click [File Select] in the [Original Direction File] area.

    The succeeding steps are the same as those for the differential waveform described on the previous page.   See them.

Loading the Reverse-direction Waveform Data

5. Click [File Select] in the [Reverse Direction File] area.
    The succeeding steps are the same as above.

6. Click [OK].

<Sample Display>

Original-direction file:
                BO_001.TRB

Reverse-direction file:
                BR_002.TRB

Both: Both waveforms displayed
        (Original-direction and
        reverse-direction)
        (The reverse-direction file is
        horizontally flipped and displayed.)
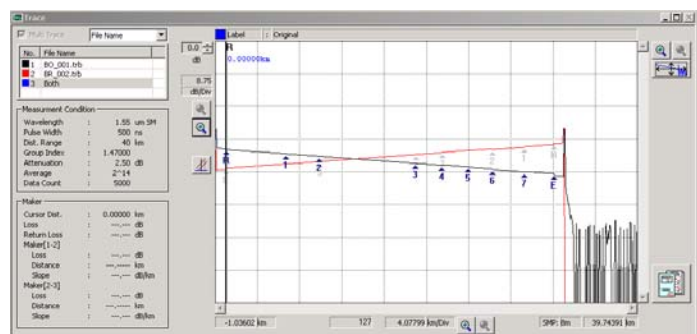
◆ Saving the Event List of Both-end-composite Results in CSV Format

7. Click [File] in the menu.

8. Click [Save As...].

9. Specify the location to store the file and the file name, and click [Save].

Note

   You cannot edit any event during an analysis with two waveforms.

1-5 Auto Search

◆ Setting Up the Analysis Conditions

1. Display the waveform you want to analyze.
   (You cannot set up the conditions without any waveform displayed on the screen.)
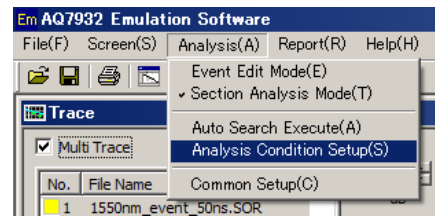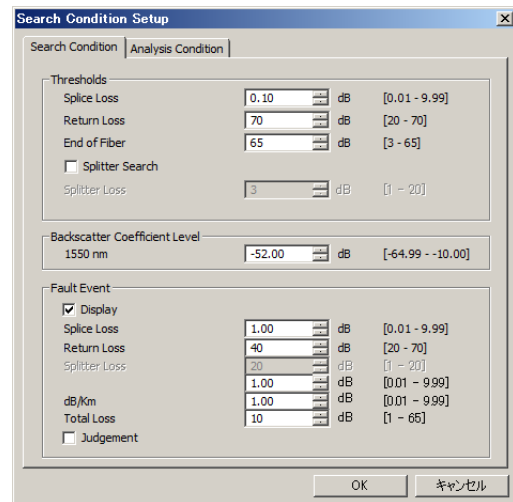
2. Click [Analysis] in the menu.

3. Click [Analysis Condition Setup].

4. Set up the threshold values (Splice Loss, Return Loss, and End of Fiber), backscatter coefficient level and fault event.

> See the help facilities.
> → Analysis Menu
>   → Analysis Condition Setup

5. Click the tab of [Analysis Condition].

> See the help facilities.
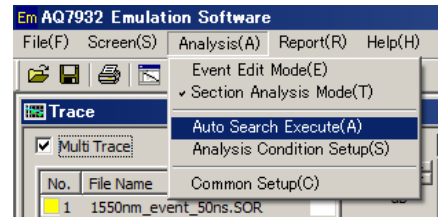> → Analysis Menu
>   → Analysis Condition Setup
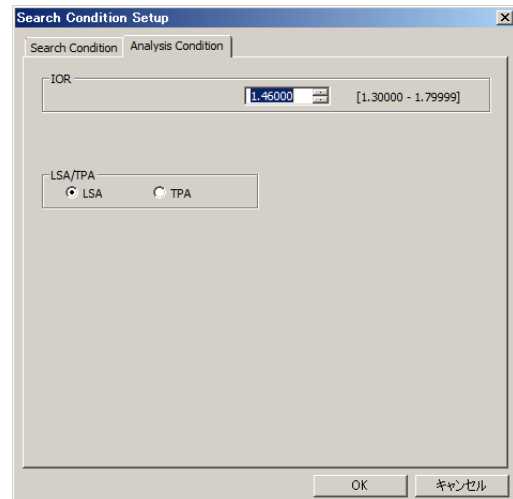
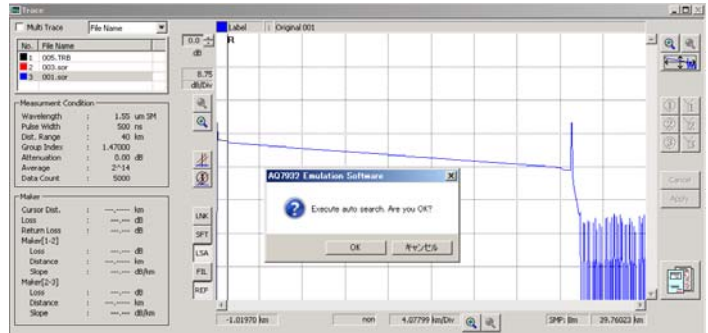6. Set up the Group Index.

7. Select LSA or TPA.

> See the help facilities.
> → Terminology List
>   → Group Index
>   → LSA
>   → TPA

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◆ Executing Auto Search

1. Click [Analysis] in the menu.

2. Click [Auto Search Execute].
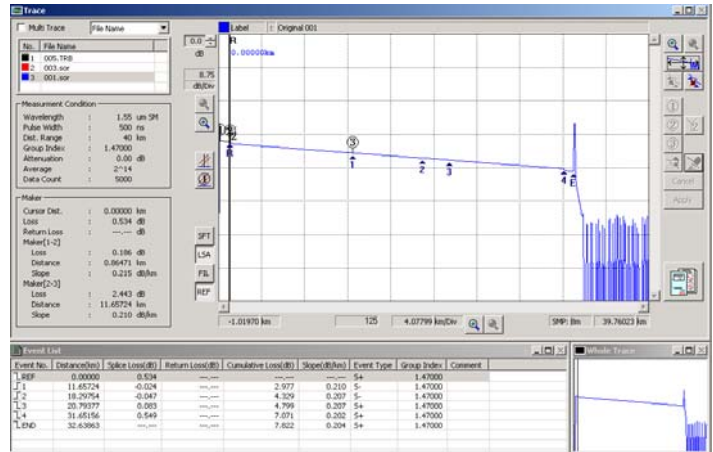
3. Click [OK].

<Sample Display>

Results of auto search

◆ Editing an Event

The following describes the operations to insert an event, delete it, and move it to an appropriate position.

See the help facilities.
→ Analysis Functions
→ Event Edit Mode

Inserting an Event

1. Move the cursor to the position on the trace waveform to which you want to insert an event, and click 🔧.

Deleting an Event

1. Move the pointer to the number of the event on the trace waveform you want to delete, and click it.

   Otherwise, click the desired event number in the event list.

2. Click the 🔧 button.

Moving an Event

1. In the event list, click the number of the event you want to move.

2. Click the circle of the marker 2 on the trace waveform. The color of the marker 2 will change to red.

3. Click and drag the marker to the position to which you want to move the event.

See the help facilities.
→ Screen Operations
→ Marker Operation

4. Click [Marker Confirm].

Note

You cannot edit any event during an analysis with two waveforms.

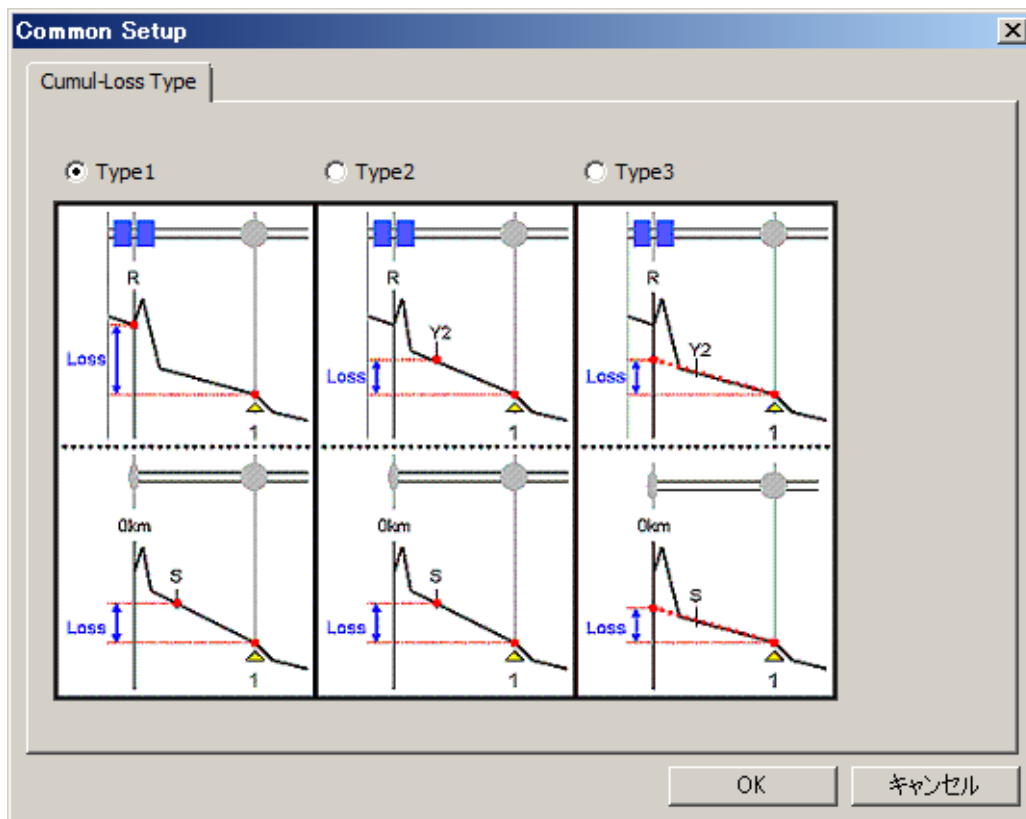# 1-6 Common Setup

◆ Cumul-Loss Type
The method selection is available, regarding connection
loss of near end adding to cumulated loss.

1. Click [Analysis] in the menu.

2. Click [Common Setup].

   The [Cumul-Loss Type] window will appear.

3. Select the calculation method of the total loss.

   Select the desired calculation method and click it.

4. Click [OK].

1-7 Printing

1. Click [File] in the menu.

2. Click [Page Layout Setup].
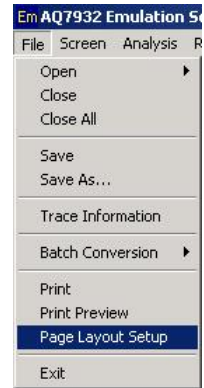
3. Click [Current Trace] in the [Trace Setup] area.

   Mark the checkbox of the item you want to print out.

4. Click [OK].

   If you want to print out a screen with two or more number of waveforms, select [Multi Trace].

   [Margin Setup] is also available.
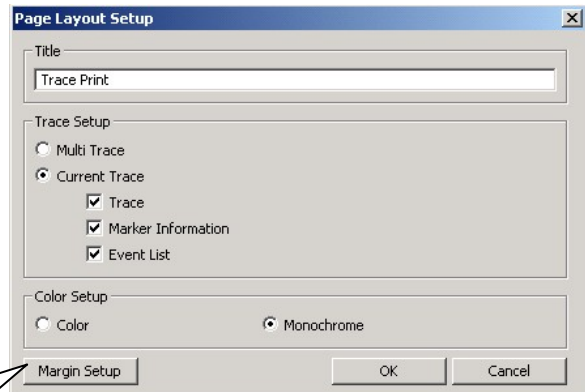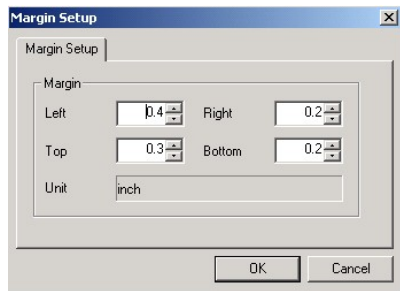
5. Click [Print Preview] from [File] in the menu.
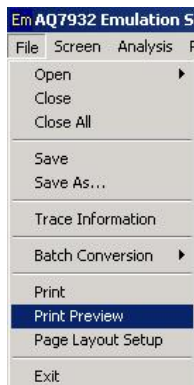
   The changes you have set on the trace screen will be reflected. (Zooming in/out, marker position, etc.)
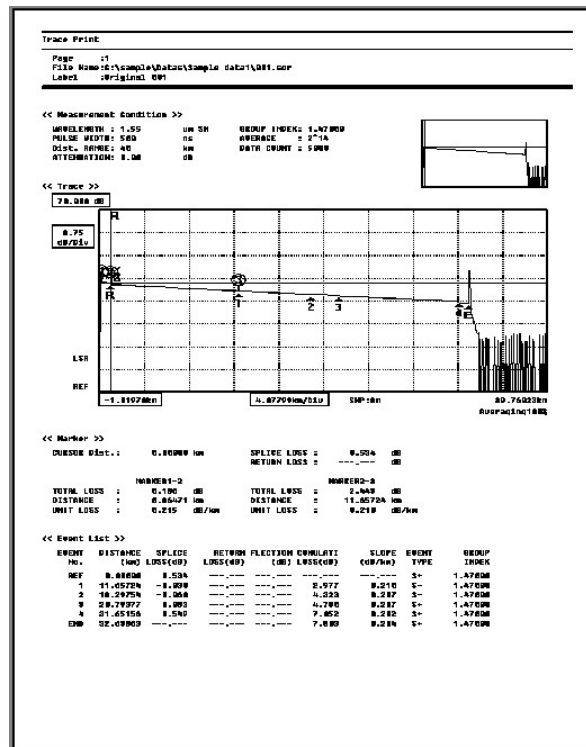
Chapter 2   Editing and Saving Data

This chapter describes the functions for organization and management of measurement data.

2-1   Changing the Group Index and Inserting Comments on a Section Basis

◆ Changing the Group Index on a Section Basis

1. **Right-click** the group index of the event number you want to change in the event list.

<Sample Display>   Changing the group index of the fiber between the event numbers 2 and 3


Right-click here.

2. Click [Change Group Index].

3. Click [OK] after changing the value.

> See the help facilities.
> → Screen Description
> → Event List

◆ Inserting Comments on a Section Basis

1. In the event list, right-click the number of the event to which you want to insert a comment.

2. Click [Insert Comment].

3. Click [OK] after writing a comment.

> See the help facilities.
> → Screen Description
> → Event List

2-2 Label Batch Conversion

Since Label batch conversion directly converts the labels of the loaded files, considerable care should be exercised when using this function.

1. Click [File] in the menu.
2. Click [Label] in [Batch Conversion].
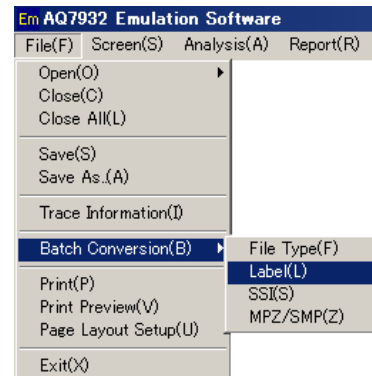
◆ **Selecting Files and Converting Their Labels Individually**

3. Click [Select Files as individually].
4. Click [File Select].
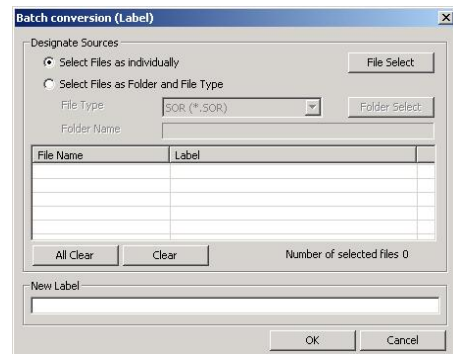
Selecting the Files of Which the Labels You Want To Convert

5. Click files while holding down the [Ctrl] key.
6. Click [Open].
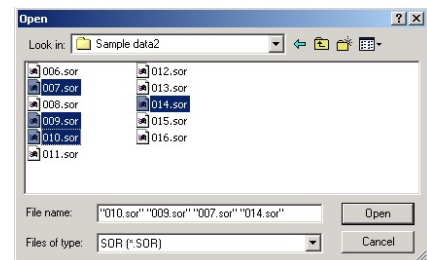
7. Enter a new label name and click [OK].
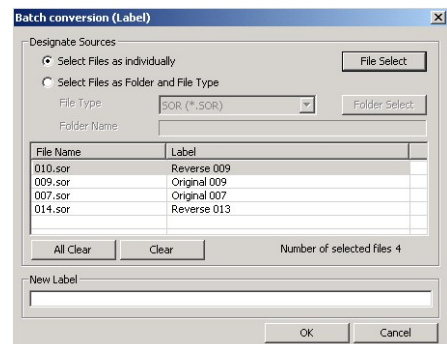
8. A confirmation message will appear. Click [OK].

◆ Converting the Labels of All Files in a Folder by One Operation

3. Click [Select Files as Folder and File Type].

4. Click [Folder Select].

5. Specify the folder storing the waveform files of which the labels you want to convert.

6. Select the file type.
   (Select the file format of the waveform file.)

7. Enter the new label name and click [OK].
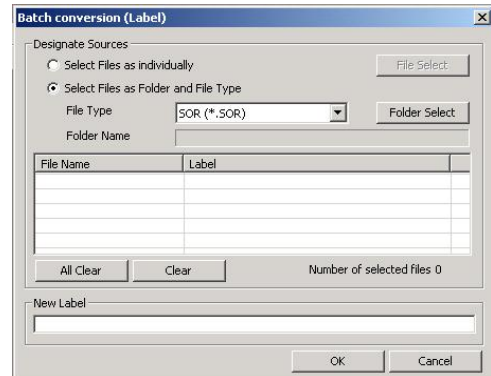
8. A confirmation message will appear. Click [OK].
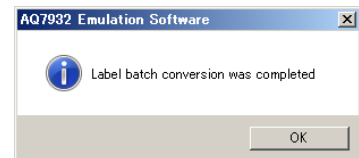
2-3 SSI Batch Conversion (Multi Core Trace Comparison)

Extract the trace file (*.SOR) from file of multi core trace comparison (*.SSI)

1. Click [File] in the menu.

2. Click [SSI] in [Batch Conversion].

3. Click [File Select]. Selects the original file for transformation.

4. Click [Folder Select]. Specify the folder storing the waveform files you want to convert.

5. Set up [Output File].

   > See the help facilities.
   > → File Menu
   > → Batch Conversion (SSI)
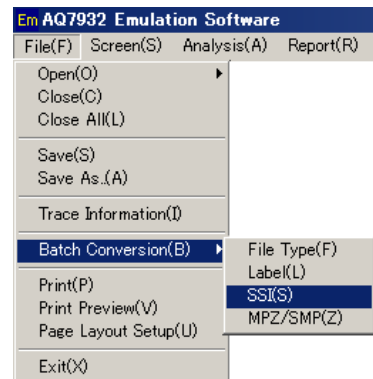
6. A confirmation message will appear. Click [OK].
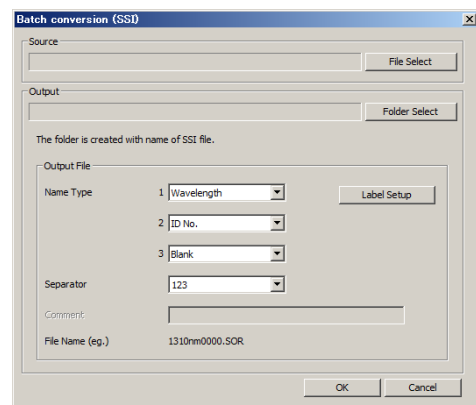
2-4 MPZ/SMP Batch Conversion

1. Click [File] in the menu.

2. Click [MPZ/SMP] in [Batch Conversion].

   Select the source file (MPZ/SMP file) and the conversion destination. An MPJ/SMP file and SOR files will be extracted.

2-5 Saving Files after Converting the File Format by One Operation

This section describes the operation to save files after converting their file format by one operation.

The file formats after conversion are limited to Telcordia (.SOR), Bellcore (.SOR), and BMP (.BMP).

1. Click [File] in the menu.

2. Click [File Type] in [Batch Conversion].
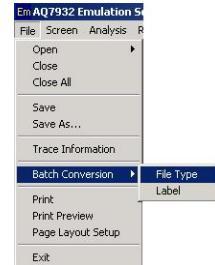
◆ Selecting Files and Converting Their Formats Individually

3. Click [Select Files as individually].

4. Click [File Select].
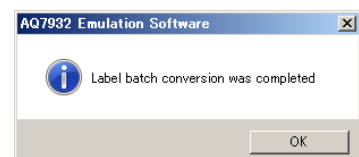
5. Select the files of which the file format you want to change.
   Click files while holding down the [Ctrl] key.
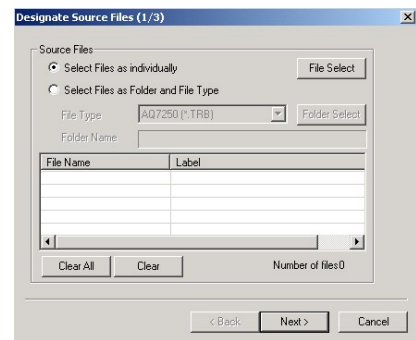
6. Click [Open].
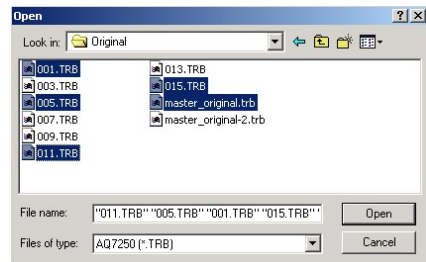
7. Click [Next].
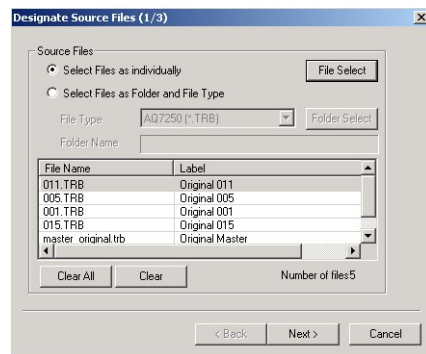
8. Click [Folder Select].

9. Select the folder in which you want to save the files after conversion.

10. Select the file format after conversion from the [File Type] pull-down menu.

11. Click [Next].

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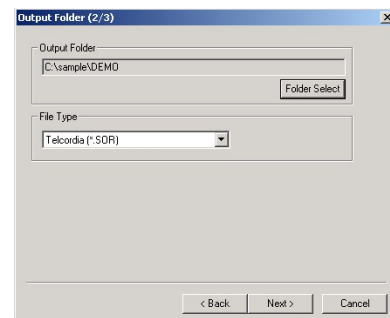
12. Click [Finish].

13. A confirmation message will appear. Click [OK].
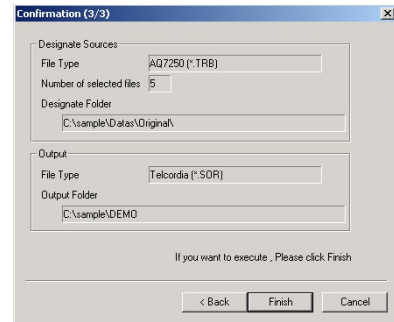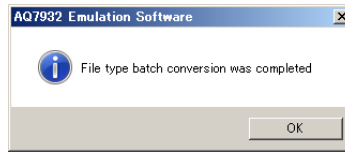
◆ Converting All Files in the Folder by One Operation

3. Click [Select Files as Folder and File Type].

4. Select the file type from the pull-down menu.
   (Select the file format of the files you want to convert.)

5. Click [Folder Select].

6. Specify the folder storing the waveform files you want to convert.

7. Click [Next].
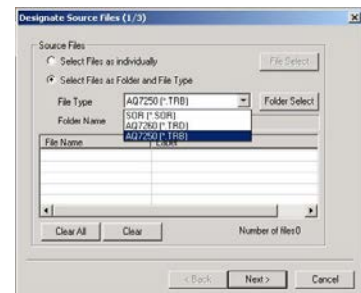
Now the files you want to convert have been loaded.

8. Click [Next].
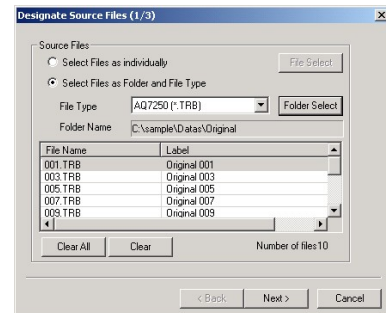
9. Click [Folder Select].

10. Select the folder in which you want to save the files after conversion.

11. Select the file format after conversion from the [File Type] pull-down menu.

12. Click [Next].
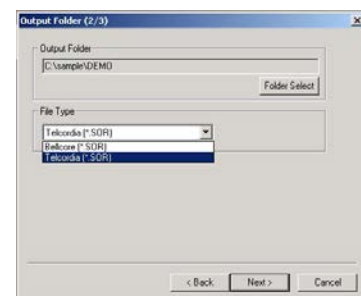
13. Click [Finish].

14. A confirmation message will appear. Click [OK].

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Chapter 3 Making a Report

This chapter describes the operations to make a report of the trace output of waveform files or a total table of the measured values.

<Sample Trace Output>

<Sample Total Table Output>

<Sample Trace Comparison Output>
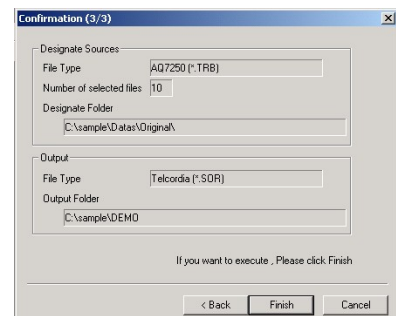
Proceed with the operation along the steps of the report wizard.

You can return to the previous step any time when you want to change or add the settings.

Even if you quit halfway through the report wizard, the latest settings are kept retained.

Back   Next
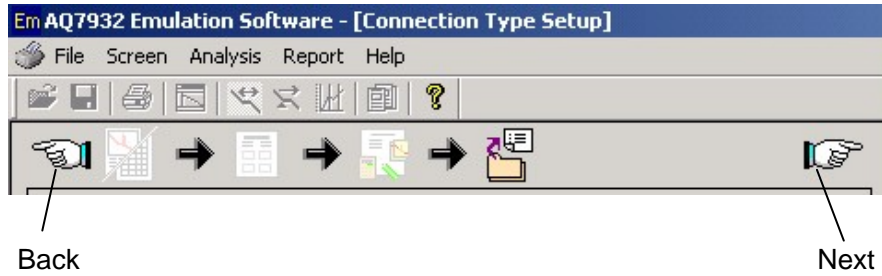
3-1 Trace Output

◆ Launching the Report Wizard

1. Click [Report] in the menu.

2. Click [Report Wizard].
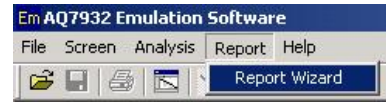
◆ Step 1 -- Layout Selection

1. Click [Trace].
   A checkmark will be placed.

2. Select the number of waveforms printed on a page.

3. Select the printing direction.
   (Specify this option when 4, 6, or 8 Traces per page has been selected.   The right figure shows a sample of the horizontal direction.)

4. Click [Next].
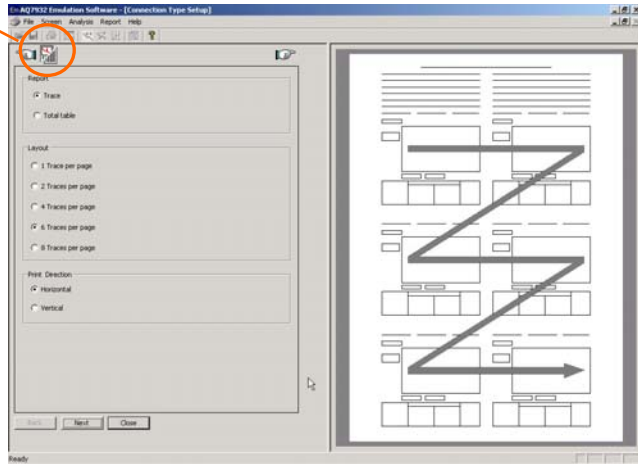
◆ Step 2 -- Layout Options (Page Layout)

1. Fill the desired item fields as necessary. (Up to 50 characters)
   You can change the title and the item names.
   (Direct entry for the title; selection from the pull-down menu for the item names)

2. Click [Next].
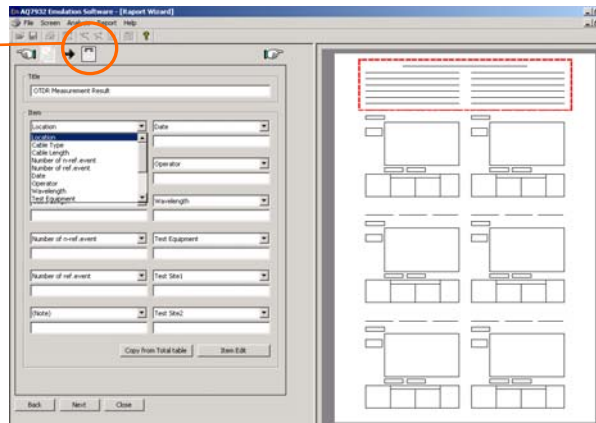
◆ Step 3 -- Layout Options (Trace Output Structure)

1. Select either 1way or 2way from the pull-down menu.

2. Select either screen or standard image of AQ7270/60 from the pull-down menu.

3. Fill the desired item fields in the [Trace Header] area as necessary.
   You can change the item names by selecting from the pull-down menu.

4. Click [Setup].
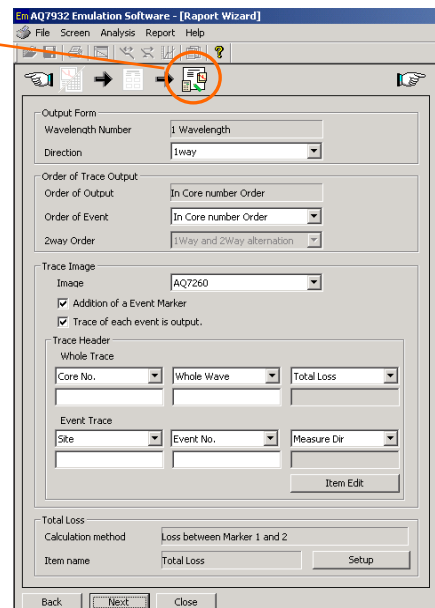
5. Select the calculation method of the total loss.
   Select the desired calculation method and click it.
   ("Loss between Markers 1 and 2" is most commonly used.)

6. Click [OK].

7. Click [Next].

◆ Step 4 -- Trace File Selection

1. Set up the number of cores and the start core No.

2. Select the file format same as that of the waveform files.

3. Click [File Select].

4. Click [Folder Select].

5. Select the folder storing the waveform data you
   want to load.
   Among the files in the folder, the files of the
   format specified in Step 2 above are displayed.

6. Click [Batch Set].
   From among the selected waveform files, as
   many number of files as set in Step 1 are set.

7. Click [OK].

8. Click [Next].

◆ Step 5 -- Master Event Position

This section describes the operation to set the event position (master) to be used as the reference for making a report.

The master event is set up by either of [File Open] and [Auto Generation].

If a measurement is made bidirectionally, the master events must be set up for both directions respectively.

The master setup by [Auto Generation] is used as an example in the following explanation.

1. Click [Auto Generation].
   The [Event Auto Generation Setup] window will appear.

2. Select [Generation from Auto Search].
   Set up Search Condition and/or Analysis Condition as necessary.

3. Click [OK].

   ┌─────────────────────────────┐
   │ See the help facilities.   │
   │ → Trace Output   │
   │   → Step 5   │
   │   → Auto Generation   │
   └─────────────────────────────┘

4. If a measurement is made bidirectionally, the master events must be set up for both directions respectively.
   Click [Reverse] in the [File] area, and then perform Steps 1 through 3.

5. Click [Total Loss Marker Edit].
   (Not available if this setup is not necessary due to the total loss setup in the [◆Step 3 -- Layout Options (Trace Output Structure)].)

6. Place the marker 1 at the start point of the fiber, and the marker 2 at the endpoint.

7. Click [Output Trace Scale Edit].

8. On the right side of the trace window, click [All] or click [Event] according to the desired vertical/horizontal scale and waveform display position. (If not set, the overall waveform will take the scale at the moment the file is saved, and the event waveform will take an automatically adjusted scale.)

9. Click [Next].

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◆ Step 6 -- Output Setup

1. Click [Preview].
   A printing screen will appear.

2. Click [Print]. Printing will be performed.
   (You can perform enlargement of the screen display or other operations using other icons.)

3. Click [Excel].
   The waveform will be output as an Excel file in the form of a report.

3-2 Total Table Output

◆ Launching the Report Wizard

1. Click [Report] in the menu.
2. Click [Report Wizard].

◆ **Step 1 -- Layout Selection**

1. Click [Total Table].
   A checkmark will be placed.
2. Select the combination of the data type (1way or 2way) and the item(s) to be displayed.
3. Click [Next].
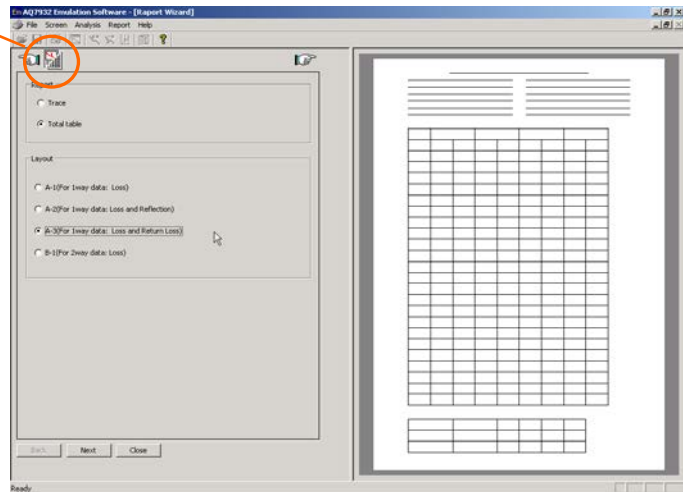
◆ Step 2 -- Layout Options (Page Layout)

1. Fill the desired item fields as necessary. (Up to 50 characters)
   You can change the title and the item names.
   (Direct entry for the title; selection from the pull-down menu for the item names)
2. Click [Next].
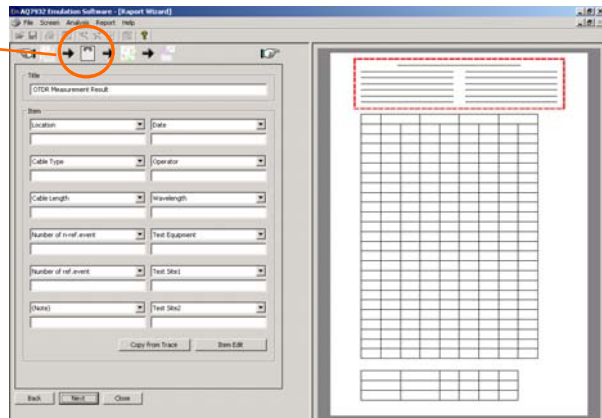
◆ Step 3 -- Total Table Method

1. Click [add a Total Loss].
   (Mark the checkbox.)
2. Click the item(s) to be added to the total table as required. (Mark the checkbox.)
3. Click [Next].

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◆ Step 4 -- Trace File Selection

1. Set up the number of cores and the start core No.

2. Select the file format same as that of the data files to be summarized.

3. Click [File Select].

4. Click [Folder Select].

5. Select the folder storing the waveform data you want to load.

   Among the files in the folder, the files of the format specified in Step 2 above are displayed.

6. Click [Batch Set].

   From among the selected waveform files, as many number of files as set in Step 1 are set.

7. Click [OK].

8. Click [Next].

◆ Step 5 -- Master Event Position

This section describes the operation to set the event position (master) to be used as the reference for making a report.

The master event is set up by either of [File Open] and [Auto Generation].

If a measurement is made bidirectionally, the master events must be set up for both directions respectively.

The master setup by [Auto Generation] is used as an example in the following explanation.

1. Click [Auto Generation].
   The [Event Auto Generation Setup] window will appear.

2. Select [Generation from Auto Search].
   Set up Search Condition and/or Analysis Condition as necessary.

3. Click [OK].
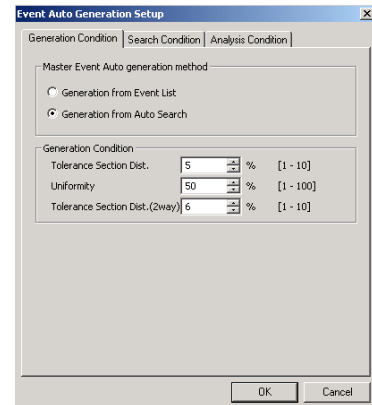
   See the help facilities.
   → Total Table Output
     → Step 5
       → Auto Generation

4. If a measurement is made bidirectionally, the master events must be set up for both directions respectively.
   Click [Reverse] in the [File] area, and then perform Steps 1 through 3.

5. Click [Total Loss Marker Edit].
   (Not available when the checkbox of [add a Total Loss] has not been marked in [◆Step 3 -- Total Table Method] because this setup is not necessary.)

6. Place the marker 1 at the start point of the fiber, and the marker 2 at the endpoint.

7. Click [Next].
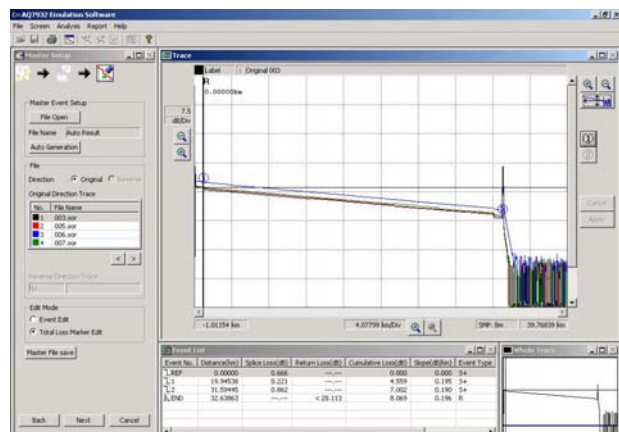
◆ Step 6 -- Output Setup

1. Click [Preview].

2. Click [Print]. Printing will be performed.
   (You can zoom into the screen display using [Zoom In].)

3. Click [CSV].

<Sample CSV Output Display>

4. Click [Excel].

<Sample Excel Output Display>

◆ Setting Up the Standard Values

Set up the standard values for Splice Loss, Reflection, and Return Loss.

A value deviating from the standard value is displayed in red. (NG judgment)

The number of totals of NG is displayed.

1. Click [Total Table Edit].

> See the help facilities.
> → Total Table Output
>   → Step 6
>   → Total Table Edit

2. Click [Connection Type Setup].

Set up the connection type name (splice, connector, n, c) of the event and these standard values.

The NG judgment is performed based on the standard values set up here.

You can store up to three combinations of standard values.

> See the help facilities.
> → Total Table Output
>   → Step 6
>   → Total Table Edit
>   → Connection type setup

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3-3 Trace Comparison Output

◆ Launching the Report Wizard

1. Click [Report] in the menu.

2. Click [Report Wizard].

◆ **Step 1 -- Layout Selection**

1. Click [Trace Comparison].
   A checkmark will be placed.

2. Click [Next].
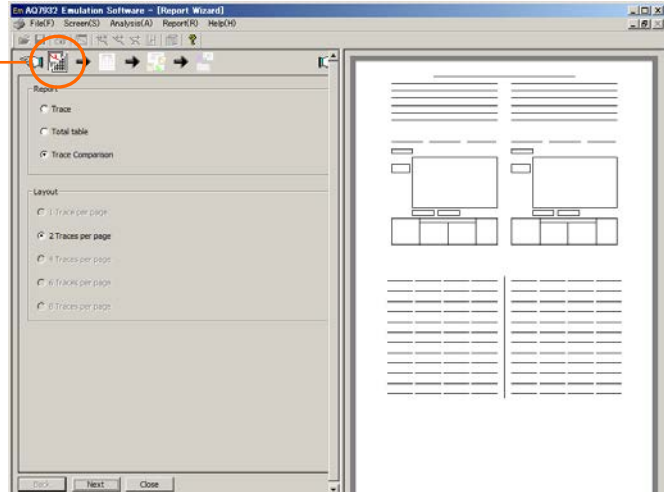
◆ Step 2 -- Layout Options
  (Page Layout)

1. Fill the desired item fields as necessary. (Up to 50 characters)

   You can change the title and the item names.

   (Direct entry for the title; selection from the pull-down menu for the item names)

2. Click [Next].
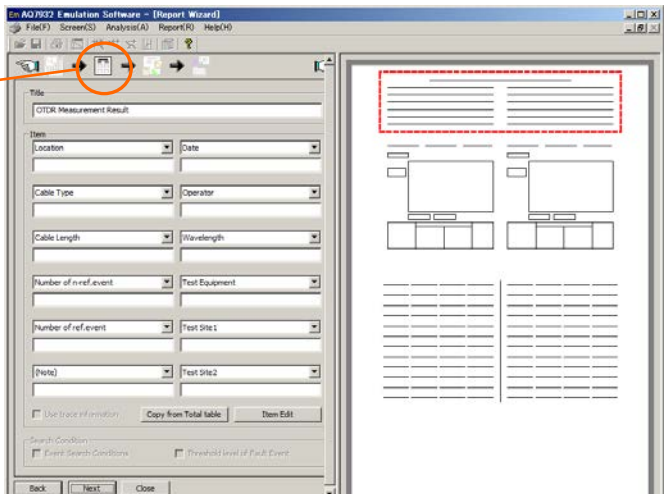
◆ Step 3 -- Layout Options
  (Trace Output Structure)

1. Select either screen or standard image of AQ7270/60 from the pull-down menu.

2. Fill the desired item fields in the [Trace Header] area as necessary.

   You can change the item names by selecting from the pull-down menu.
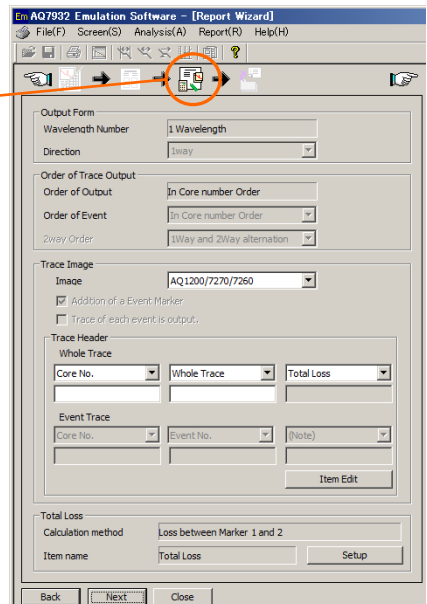
3. Click [Setup].

4. Select the calculation method of the total loss.
   Select the desired calculation method and click it.
   ("Loss between Markers 1 and 2" is most commonly used.)

5. Click [OK].

6. Click [Next].
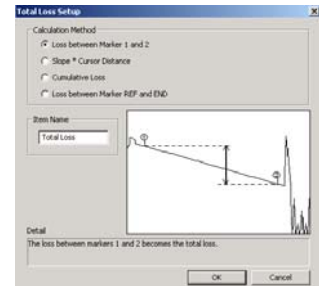
◆ Step 4 -- Trace File Selection

1. Set up the number of cores and the start core No.

2. Select the file format same as that of the waveform files.

3. Click [File Select] in the [File Select(Left)] area .

4. Click [Folder Select].

5. Select the folder storing the waveform data you want to load.
   Among the files in the folder, the files of the format specified in Step 2 above are displayed.

6. Click [Batch Set].
   From among the selected waveform files, as many number of files as set in Step 1 are set.

7. Click [OK].

8. Click [Next].

◆ Step 5 -- Master Event Position

This section describes the operation to set the event position (master) to be used as the reference for making a report.

The master event is set up by either of [File Open] and [Auto Generation].

If a measurement is made bidirectionally, the master events must be set up for both directions respectively.

The master setup by [Auto Generation] is used as an example in the following explanation.

1. Click [Auto Generation].
   The [Event Auto Generation Setup] window will appear.

2. Select [Generation from Auto Search].
   Set up Search Condition and/or Analysis Condition as necessary.

3. Click [OK].

   ┌─────────────────────────────┐
   │ See the help facilities.   │
   │ → Trace Comparison Output   │
   │   → Step 5   │
   │   → Auto Generation   │
   └─────────────────────────────┘

4. The master events must be set up for waveform files.
   Click [Right] in the [File] area, and then perform Steps 1 through 3.
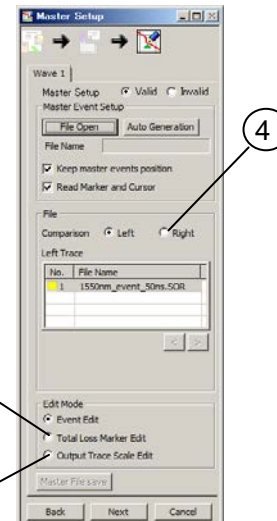
5. Click [Total Loss Marker Edit].
   (Not available if this setup is not necessary due to the total loss setup in the [◆Step 3 -- Layout Options (Trace Output Structure)].)

6. Place the marker 1 at the start point of the fiber, and the marker 2 at the endpoint.

7. Click [Output Trace Scale Edit].

8. On the right side of the trace window, click [All] or click [Event] according to the desired vertical/horizontal scale and waveform display position. (If not set, the overall waveform will take the scale at the moment the file is saved, and the event waveform will take an automatically adjusted scale.)

9. Click [Next].

◆ Step 6 -- Output Setup

1. Click [Preview].
   A printing screen will appear.

2. Click [Print]. Printing will be performed.
   (You can perform enlargement of the screen display or other operations using other icons.)

3. Click [Excel].

The waveform will be output as an Excel file in the form of a report.

Trace Comparison Output.xls

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
3											OTDR Measurement Result										
4	Location											Date									
5	Cable Type											Operator									
6	Cable Length											Wavelength									
7	Number of n-ref.event											Test Equipment									
8	Number of ref.event											Test Site1									
9												Test Site2									

Core No. 1 Whole Trace Total Loss ---.--- Core No. 1 Whole Trace Total Loss ---.---dB

44.688 dB FILE NAME: 1550nm_event_50ns.SOR 41.782 dB FILE NAME: 1550nm_Realtime_50ns.SOR
LABEL: YOKOGAWA LABEL:

5.0 dB/Div 5.0 dB/Div

TPA TPA

0.05339km 0.20000km/Div SMP:50cm 2.05339km 0.00000km 0.20000km/Div SMP:50cm 2.00000km

CURSOR Dist.: 1.43377km CURSOR Dist.: ---.-----km
WAVELENGTH : 1550 nm SM SPLICE LOS ---.--- dB WAVELENGTH : 1550 nm SM SPLICE LOS: ---.--- dB
Dist. RANGE : 2 km RETURN LOS ---.--- dB Dist. RANGE : 2 km RETURN LOS: ---.--- dB
PULSE WIDTH : 50 ns MARKER1-2 MARKER2-3 PULSE WIDTH : 50 ns MARKER1-2 MARKER2-3
ATTENUATION : --.-- dB ---.--- dB ---.--- dB ATTENUATION : 0.00 dB ---.--- dB ---.--- dB
AVERAGE : 10 sec ---.----- km ---.----- km AVERAGE : 0 sec ---.----- km ---.----- km
IOR : 1.46000 ---.---dB/km ---.---dB/km IOR : 1.46000 ---.---dB/km ---.---dB/km

<< Event List >>

EVENT No.	DISTANCE (km)	SPLICE LOSS(dB)	RETURN LOSS(dB)	CUM LOSS (dB)		EVENT No.	DISTANCE (km)	SPLICE LOSS(dB)	RETURN LOSS(dB)	CUM LOSS (dB)
1	0.46406	0.168	---.---	0.097		1	0.46406	0.169	---.---	0.101
2	0.87217	0.060	57.982	0.350		2	0.87217	0.059	58.066	0.351
3	1.12884	0.193	---.---	0.455		3	1.12782	0.190	---.---	0.461
END	1.43377	---.---	50.651	0.706		END	1.43377	---.---	< 51.390	0.707

Chapter 4   Troubleshooting

4-1   Troubles Related to Waveform Analysis

(1). It is difficult to place the cursor correctly on an event point on the trace screen.

→   Click the event number in the event list.   The cursor correctly falls on the corresponding event point on the screen.

(2). Tried to click and drag a displayed event mark, but it would not move.

→   Click the event mark, and click and drag the circle of the marker 2. The marker 2 will turn red.   After moving, click the confirm button   Apply   .

(3). Tried to click and drag a marker, but it would not move to the destination.

→   The movable range of the markers is limited. Markers can move in the range of 1 < Y1 < Y3 < 2 < Y2 < 3.

(4). When two or more number of waveforms are displayed, it is difficult to distinguish each waveform because they are overlapping one another.

→   Change the waveform offset display value at the upper left of the trace screen by clicking the ▲ and ▼ buttons.   With the current waveform as the center, other waveforms will vertically scroll.

4-2   Troubles Related to Making a Report

(1). Cannot capture the bidirectional data during output of waveform or total table.

→   Separate the folder to store the original-direction file and the reverse-direction file.

(2). The master file cannot be loaded.

→   The master file must have the file format and the measurement conditions (wavelength) identical to those of the waveform file to be output. Check them.

(3). Wish to hide the cursors or markers when outputting waveforms.

→   Cursors and markers cannot be deleted during output of reports. Delete cursors and markers in normal analysis, resave (overwrite) the data, and create the report again.

(4). Wish to change (set) the cursor position when outputting waveforms.

→   Perform one of the following procedures.

1. Move (or set the position of) the cursor in normal analysis, resave (overwrite) the data, and create the report again.

2. Set the waveform header to [Total Loss] and the total loss calculation method to [Slope * Cursor Distance], then change the cursor position under [Total Loss Marker Edit] in the master setup screen.

(Note that this method cannot be used if total loss is not used.)

Chapter 5   Related Software

5-1   OTDR Project File Editor

OTDR Project File Editor is software that supports the Yokogawa OTDR (AQ7270 series version 2.03 or later), and enables you to easily create files in Windows for the multicore fiber measurement function.

To start the software, double-click the icon created upon installation, or from the Windows [Start] menu click All programs > AQ7932 Emulation Software > OTDR Project File Editor.
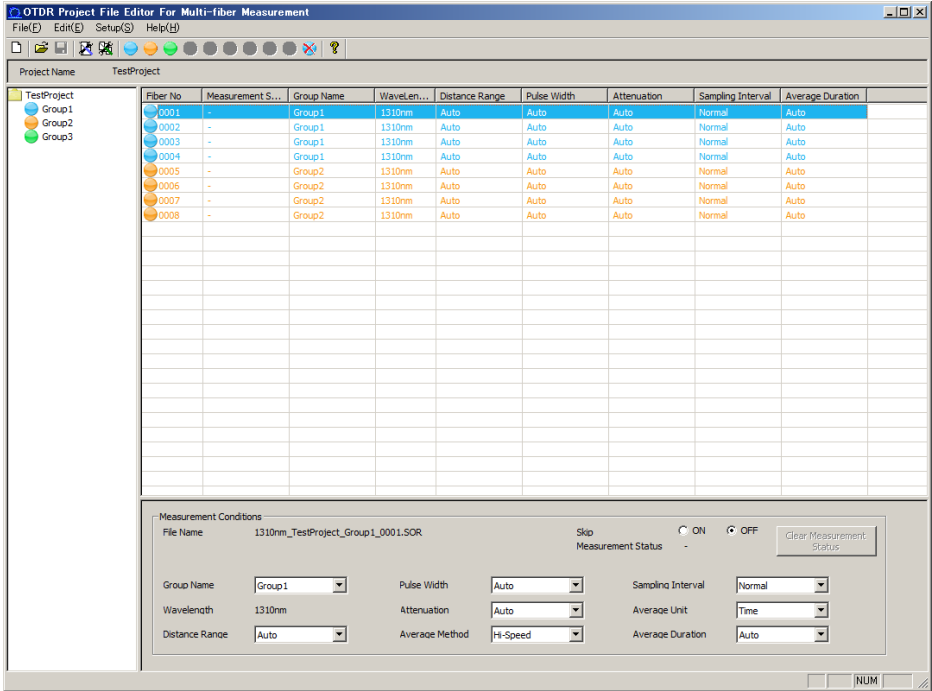
For detailed operating instructions, refer to the Help file that comes with the software.