# 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
EXCCI	(When the XLS file output function is used.)
	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.)
PC	<ul> <li>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.</li> </ul>
	Display
	Resolution of 1024 × 768 dots at least
	Disk drive
	CD-ROM drive

### Trademarks

Microsoft, Windows, Windows 7, Windows 8, Windows 8.1 and Windows 10 are either registered trademarks or trademarks of Microsoft Corporation in the U.S.A. and other countries.

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

Introduction
Contents
Chapter 1 Waveform Analysis1
1-1Loading the Waveform File11-2Setting Up the Screen Properties31-3Analysis with One Waveform (Normal Mode)41-4Analysis with Two Waveforms (2Way Trace Mode)61-5Auto Search81-6Common Setup101-7Printing11
Chapter 2 Editing and Saving Data 12
<ul> <li>2-1 Changing the Group Index and Inserting Comments on a Section Basis</li></ul>
Chapter 3 Making a Report 17
3-1       Trace Output       19         3-2       Total Table Output       23         3-3       Trace Comparison Output       28
Chapter 4 Troubleshooting
<ul> <li>4-1 Troubles Related to Waveform Analysis</li></ul>
Chapter 5 Related Software 34
5-1 OTDR Project File Editor

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



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].





<Sample Display> Waveform display when two or more number of waveforms have been loaded

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.)

	Trac	e		
I	🗸 Mu	lti Trace	File Name	-
	No.	File Name		
	1	001.TRB		
	2	003.TRB		
	3	013.TRB		
	4	015.TRB		-

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

Trac				Selectable between file name and label
	lti Trace	Label	T	
No.	Label	File Name		
1	Original 001	B		
2	Original 003		in the second	
3	Original 013			
4	Original 015		-	

## 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.
- Click [OK]. The background color will change to white.



Em AQ7932 Emulation Softwa File Screen Analysis Report

Trace Screen Setur

Layout Initialize

Image ✓ Trace
Image ✓ Whole Trace

🖌 Event List

 $\overline{\mathbf{v}}$ 

Н

#### 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
- →Contents

See the help facilities.

- →Screen Menu
- $\rightarrow$ Screen Condition Setup

## 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.



#### • 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.

#### See the help facilities. $\rightarrow$ Screen Operations $\rightarrow$ Marker Operation

#### 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].



Em AQ7932 Emulati	ion Software		
File(F) Screen(S)	Analysis(A)	Report(R)	Help(H)
🖻 🖬 🚳 🗖	Event Edit Section An	Mode(E) alysis Mode(	T)
🔛 Trace		h Execute(A	
Multi Trace		ondition Setu	·
No. File Name	Common S	etup(C)	Ë
1 1550nm eve	ent 50ns.SOR		

#### • Setting Up the Marker

- 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].

See the help facilities.  $\rightarrow$  Terminology List  $\rightarrow$  Slope Fit  $\rightarrow$  LSA  $\rightarrow$  TPA

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

### • Displaying the Waveforms

- 1. Click [File] in the menu.
- 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.
- 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

- 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



Open			? ×
Look in: 🔂	Sub 💌 🗢 🖻 📸	•	
D1_001.TR D1_003.TR			
File name:		Open	
Files of type:	AQ7250 (*.TRB)	Cancel	



non 4.07799 km/Div @ @

5297; 8m

0.00000 km

Cursor Dist. Loss Return Loss Maker[1-2] Loss Distance Slope Maker[2-3] Loss Distance Slope

#### 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.

nalysis Type —			
Subtract Anal	ysis		
• 2way Analysis			
Driginal Direction	File		
Folder Name	C:\sample\Datas\2way\		
File Name	BO_001.trb	File Select	
Label	Original		
leverse Direction	File		
Folder Name	C:\sample\Datas\2way\		
File Name	BR_002.trb	File Select	

#### 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.)

0 8.75 db/Cw \* 1 17602 km 4.07799 km/Div @ @

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
  - 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.
$\rightarrow$ Analysis Menu
→ Analysis Condition Setup

earch Condition Analysis Condition			
Thresholds			
Splice Loss	0.10	🕂 dB	[0.01 - 9.99]
Return Loss	70	dB	[20 - 70]
End of Fiber	65	🗄 dB	[3 - 65]
Splitter Search			
Splitter Loss	3	\Xi dB	[1 - 20]
Backscatter Coefficient Level 1550 nm	-52.00	÷ dB	[-64.9910.00]
Fault Event			
Display			
Splice Loss	1.00	dB	[0.01 - 9.99]
Return Loss	40	÷ dB	[20 - 70]
Splitter Loss	20	÷ dB	[1 - 20]
	1.00	dB dB	[0.01 - 9.99]
dB/Km	1.00	dB dB	[0.01 - 9.99]
Total Loss	10	- OD	[1 - 65]
Judgement			

5. Click the tab of [Analysis Condition].



- 6. Set up the Group Index.
- 7. Select LSA or TPA.

See the help facilities.
$\rightarrow$ Terminology List
$\rightarrow$ Group Index
$\rightarrow$ LSA
$\rightarrow$ TPA



- Executing Auto Search
  - 1. Click [Analysis] in the menu.
  - 2. Click [Auto Search Execute].
  - 3. Click [OK].

<Sample Display>

Results of auto search



0.210 0.207 0.207 0.202 0.202

.4700 .4700 .4700

4.329
4.795
7.071
7.071

### 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.  $\rightarrow$  Analysis Functions  $\rightarrow$  Event Edit Mode

#### Inserting an Event

 Move the cursor to the position on the trace waveform to which you want to insert an event, and click 2.

#### Deleting an Event

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

0.047

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.  $\rightarrow$  Screen Operations  $\rightarrow$  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.

- Select the calculation method of the total loss.
   Select the desired calculation method and click it.
- 4. Click [OK].



See the help facilities.  $\rightarrow$  Analysis Functions  $\rightarrow$  Common Setup

## 1-7 Printing

- 1. Click [File] in the menu.
- 2. Click [Page Layout Setup].



 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.

Left 0.4 Ri	
	ght 0.2
Top 0.3 + Bo	ottom 0.2
Unit inch	

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.)

Trace Print	
race Setup	
O Multi Trace	
Current Trace	
✓ Trace	
🔽 Marker Info	ormation
🔽 Event List	
Color Setup	
Color	Monochrome



# 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

Event No.	Distance(km)	Splice Loss(dB)	Return Loss(dB)	Cumulative Loss(dB)	Slope(dB/km)	Event Type	Group Index	Comment
LREF	0.00000	0.534	,	التبرينية المراجع	,	S+	1.47000	
<b>∐</b> 1	11.65724	-0.030		2.977	0.210	S-	1.47000	
<u>Г</u> 2	18.29754	-0.060		4.323	0.207	S-	1.47000	
3	20.79377	0.083		4.780	0.207	5+	1.47000	
14	31.65156	0.549		7.052	0.202	S+	1.47000	Insert Comment
LEND	32.63863	,	····,····	7.803	0.204	S+	1.47000	Change Group Index
							/	Delete Event

Right-click here.

2. Click [Change Group Index].

Change Group Index		×
Event No.2 - Event No.3		
1.47000	) - 1.99999]	
	OK	Cancel

3. Click [OK] after changing the value.

See the help facilities.	
→ Screen Description	
$\rightarrow$ 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].

		Event Comment Edit				×
		Event No.3				_
		1		ок	Cancel	
3.	Click [OK] after writing a c	comment.	See the $\rightarrow$ Scree $\rightarrow$ Eve	help faci en Descri nt List	lities. iption	

## 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].

Select Files as ind Select Files as Fol	· · · · · · · · · · · · · · · · · · ·	File Select
File Type Folder Name	SOR (*.SOR)	Folder Selec
ile Name	Label	
All Clear	Clear N	umber of selected files 0

### Selecting the Files of Which the Labels You Want To Convert

5. Click files while holding down the [Ctrl] key.

7. Enter a new label name and click [OK].

6. Click [Open].



AQ7932 Emulation Soft

Tabel batch conversion was completed

x

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].



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



h conversion (SS	0	
urce		File Select
Itput		
		Folder Select
The folder is created w	ith name of SSI file.	
Output File		
Name Type	1 Wavelength	Label Setup
	2 ID No. 🔻	
	3 Blank	
Separator	123	
Comment		
File Name (eg.)	1310nm0000.SOR	
		OK Cancel
		Calicer

## 2-4 MPZ/SMP Batch Conversion

- 1. Click [File] in the menu.
- 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].
  - 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].

lutput Folder		
C:\sample\DEMO		Folder Select
ile Type		
Telcordia (*.SOR)	•	

Em AQ7932 Emulation S

▶ File 1

File Select

Number of files0

Next > Cancel

- 🗢 🗈 💣 🎫

•

File Select

Folder Sele

Number of files5

< Back Next> Cancel

Open

Cancel

×

Ψ

x

? ×

File Screen Analysis Open Close Close All

Save Save As... Trace Information Batch Conversion

Print Print Preview Page Layout Setup Exit

esignate Source Files (1/3)

Select Files as individually

C Select Files as Folder and File Type File Type A07250 (\* TBB)

Clear

Labe

013.TRE

15 TRE

"011.TRB" "005.TRB" "001.TRB" "015.TRB" "

Label Original 011 Original 005 Original 001 Original 015 Original Maste

Source Files

File Name

•

Clear All

Look in: 🔄 Original

001.TRB

005.TRB 007.TRB 009.TRB 009.TRB

File name:

Files of type: AQ7250 (\*.TRB)

Designate Source Files (1/3)

C Select Files as Folder and File Type File Type A07250 (\* TBB)

Clear

Source Files Select Files as individually

File Name 011.TRB 005.TRB 001.TRB 015.TRB master original.trb

Clear All

13 TRE

- 12. Click [Finish].
- 13. A confirmation message will appear. Click [OK].



File Turne	AQ7250 (*.TRB)
File Type	
Number of selected files	5
Designate Folder	
C:\sample\Datas\C	Iriginal\
Jutput	
File Type	Telcordia (*.SOR)
Output Folder	
C:\sample\DEMO	
	If you want to execute , Please click Finish

- Converting All Files in the Folder by One Operation
  - 3. Click [Select Files as Folder and File Type].
  - 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].

Select Files as	Individually File Select
File Type Folder Name	A07250 (*.TRB)  Folder Select SOR (*.SOR) A07250 (*.TRD)
Statistical States	A07250[[188]
	AQ7290 (* TR8)
le Name	AQ7290 (* TR8)

<ul> <li>Select Files as</li> <li>Select Files as</li> </ul>				Te Select
File Type	AQ72	50 (*.TRB)	▼ Fo	lder Select
Folder Name	C:\sar	nple\Datas\Original		
File Name		Label		•
001.TRB		Original 001		
003.TRB		Original 003		
005.TRB		Original 005		
007.TRB		Original 007		
009.TRB		Original 009	-	
Clear All	Clear	1	Number	of files10



File Type Number of selected files	AQ7250 (*.TRB)
Designate Folder	
C:\sample\Datas\0	riginal\
Output	
File Type	Telcordia (*.SOR)
Output Folder	
C:\sample\DEM0	
	If you want to execute , Please click Finish

# 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>



1.112 1.211

1.00 2.30 1.10

Splice 1

-1.224 -

<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.



## 3-1 Trace Output



- 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 1 way or 2 way 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].

	Report Help	
ରା 🎽 → 🖪	-	L.
Output Form	$\overline{}$	
Wavelength Number	1 Wavelength	
Direction	1way	-
Order of Trace Output		
Order of Output	In Core number Order	
Order of Event	In Core number Order	•
2way Order	1Way and 2Way alternat	ion 💌
Trace Image	A07260	
Image Addition of a Even		
Trace of each eve	nt is output.	
Whole Trace		
Core No.	Whole Wave	Total Loss 💌
Event Trace		
Site	Event No.	Measure Dir 📃
		Item Edit
	Loss between Marker 1 and	2
Total Loss	Loss between marker 1 and	2
Calculation method	Total Loss	Setup



	Nep 201 9	
a 🔶 🗌	·	12
10		
OTDR Measurement Result		
Den		1
Lication	2 Dete	-
Cable Type Cable Length	-	
Number of n-ref.event. Number of ref.event.	Operator	•
Date Coerator	-	
Wavelength Test Equipment	-	100
for and a		-
1		
Number of overfit	Ted Equipment	•
1.00		
Faster it inf.event	· Test Stel	•
Pastow of ref.event	Ind Stel	-
(fiche)	<ul> <li>Test Site2</li> </ul>	

Nest Otse

Ī		
ā		

- ("Loss between Markers 1 and 2" is most commonly used.)6. Click [OK].7. Click [Next].

G

Step 4 -- Trace File Selection



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

5. Select the calculation method of the total loss.

Select the desired calculation method and click it.

- 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.

- Click [Auto Generation].
   The [Event Auto Generation Setup] window will appear.
- Select [Generation from Auto Search].
   Set up Search Condition and/or Analysis Condition as necessary.
- 3. Click [OK].



- 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.
- 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)].)
- Place the marker 1 at the start point of the fiber, and the marker 2 at the endpoint.
- 7. Click [Output Trace Scale Edit].
- 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].



(5)

7







# Step 6 -- Output Setup



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



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

Em AQ7932 Emulation Software - [Connection Type Setup]	
Print	xe
	renent Result

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.

18

- Select the combination of the data type (1way or 2way) and the item(s) to be displayed.
- 3. Click [Next].



 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].

				1 1		
C A 20For 1x	way data: Loss) way data: Loss and Reflection) way data: Loss and Reflection) way data: Loss	R				
98. <u> </u>	Next Close	t Nep				
	Total					]
	Cable Type Cable Length	Coperator				
	Number of tweef, event	Test Equipment	-			_

Em AQ7932 Emulation Software File Screen Analysis Report Help

🗳 🖬 💩 🖾

G

Report Wizard

\_\_\_\_\_X

- 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].

Total Loss	- Ba	
Add a Total Los	2	
Calculation	Loss between Maker 1 and 2	
Item name	Total Loss	Setup
Pass / Fal		
T Add Pass / Fail	Info.	
Summery		
Add Summary		
-Calculation M		
C Absolut		
( PROUND		
REFJEND		
Add a REF Point	t's Loss	

Badi Tent Oute

#### 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.

	No.	File Nome		Label								
	-											
	1					File Select						
1.1												
1		ct (Reverse)										
	Folder	Name Friendship		syrde.								
	No.	File Name		Label								
	Back.	l Next	Close	]		The Select						
	Back	Next	Close	]	<u></u>	Tie Select						
		Next	Close	]								
isancie/Data(Sancie		Next		J	_	The Select						
Isemple/Det a(Sample R (*.SCR)		Mext			_							
isancie/Data(Sancie			File (	elect (Original)	_							
sangile/(Data/(Sangle R (*.SGR) al 603		Betch Set	File (									
sancie/Data(Sancie R (*.SCR) al 003 al 005		Batch Set	File (									
sangle/Data(Sangle R (*.50R) al 003 al 005 se 005			File (									
cample(Data(Sample R (* 50R) al 005 al 005 al 005 al 007 se 007		Batch Set	File (									
sample/Dat //Sample R (*.30R) al 003 al 005 se 005 se 005 se 007 al 009		Batch Set	File (									
Sample/Cat A/Sample (Cat A/Sample 4 003 4 005 4 007 4 007 4 007 4 005 4 007 4 005		Batch Set	File (									
senglin(Cost a)(Sample (Cost a)(Sample (Cost a)(Sample (Cost a)(Sample (Cost a)(Sample (Cost a)(Cost a) (Cost a)(Cost a) (Cost a)(Cost a) (Cost a)(Cost a)(Cost a) (Cost a)(Cost a)(Cost a)(Cost a)(Cost a) (Cost a)(Cost a)(Cost a)(Cost a)(Cost a)(Cost a)(Cost a)(Cost a) (Cost a)(Cost		Batch Set Set	File (									
Langle/Data/Sangle 2 (*.5CR) 4 005 16 005 16 007 16 007 16 007 16 007		Batch Set	File (									

G

14

•

R

8 -

Iway SOR (\*.SOR

Em AQ7932

The l

File Type

007.sor 000.sor 009.sor 011.sor 012.sor 014.sor 015.sor 016.sor

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



7. Click [OK].

ChATP32 Envidence Schware (Respondence)

Prio Schutzer (Respondence)

Pri

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].



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.



(5)

ion Condition Search Condition Analysis Condition

÷ % [1 - 10]

4 % 4 %

OK Cancel

< >

+ 🔀

Original

Back Next Cancel

4`

[1 - 100]

[1 - 10]

Master Event Auto generation method Generation from Event List

Generation from Auto Search

Tolerance Section Dist.(2way)

+

Master Event Setup

File Open File Name Auto Result

Auto Generation

Direction Original Direction Trace 
 No.
 File Name

 1
 003.sor

 2
 005.sor

 3
 006.sor

 4
 007.sor

Edit Mode Event Edit Total Loss Marker Edit Master File save

Generation Condition Tolerance Section Dist

Uniformity

7. Click [Next].



# Step 6 -- Output Setup



EmAQ

932 Emulation Soft

- Raport Wizard

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



			OTDR Mea		to near	
ation			100-00100-004-0	Date	•	20.22
le Type					rator	
le Leng					elength	
	n-ref.event				S BOAR SHOT	5
ther of	ret.evert				t Sitel	
				Test	t Site2	
No.		1	7.			END
connec	tior	n	n			ç
Dist	tion 19.94538	11.0	64908	1.0	4418	ŝ
Dist	tion 19.94538 TypeSpliceLos	n 11.e	n 64908 SpliceLoss	1.0 eturnLos	4418 SpliceLos	c seturnlos
Connec Dist Loss	tion 19.94538 TypeSpliceLos 0.221	n 11.4 eturnlos *	54908 #pliceLoss 0.862	1.0 eturnLos	4418 SpliceLos	<pre>c securnLos &lt; 28.113</pre>
Loss 1 2	tion 19.94538 TypeSpliceLos 0.221 0.104	n 11.4 eturnios •	n 64908 \$pliceLoss 0.862 0.625	1.0 eturnLos •	4418 SpliceLor •	c secturnLos < 28.113 < 20.049
Connec Dist Loss	tion 19.94538 Type pliceLos 0.221 0.104 0.010	n leturnlos	n 64908 611ceLoss 0.862 0.625 0.269	1.0 eturnLos • •	4418 SpliceLos	c < teleturnLos < 28.113 < 20.849 < 32.495
Connec Dist Loss 1 2 3 4	tion 19.94538 Type pliceLos 0.221 0.104 0.010 -0.150	n leturnlos -	54908 5911ceLoss 0.862 0.625 0.269 0.550	1.0 eturnLos • • •	4418 SpliceLos	c < 20.113 < 20.049 < 32.495 < 29.545
Connec Dist Loss 1 2 3	tion 19.94538 TypespliceLos 0.221 0.104 0.010 -0.150	n leturnlos -	n 64908 611ceLoss 0.862 0.625 0.269	1.0 eturnLos • •	4418 SpliceLos	<pre>c c deturnLos &lt; 28,113 &lt; 20,049 &lt; 32,495 &lt; 29,545 &lt; 32,071</pre>
Connec Dist Loss 1 2 3 4	tion 19.94538 TypespliceLos 0.010 0.010 -0.150 -0.019	n ll.: eturnlos	54908 5911ceLoss 0.862 0.625 0.269 0.550	1.0 eturnLos • • •	4418 SpliceLos	c < 20.113 < 20.049 < 32.495 < 29.545
Loss Loss 1 2 3 4 5	tion 19.94538 Type plicelos 0.221 0.104 0.010 -0.150 -0.019 0.100	n 11.4 eturnlos * * *	64908 6911ceLoss 0.862 0.625 0.269 0.550 0.391	1.0 eturnLos • • •	4418 SpliceLos	<pre>c c deturnLos &lt; 28,113 &lt; 20,049 &lt; 32,495 &lt; 29,545 &lt; 32,071</pre>

3. Click [CSV].

<Sample CSV Output Display>

	A1		Comm						01		501	
	A	В	C	D	E	F	G	н	1	J	K	L
1	Comment	SAMPLE		Title	OTDR Mea	asurement	Result					
2	Direction	1Way		Location		Date						
3	RL Meas	on		Cable Type	е	Operator						
4	Cores	8		Cable Len	qth	Wavelengt	h					
5	Unit	km		Number of	n-ref.event	Test Equip	ment					
6				Number of		Test Site1						
7						Test Site2						
8												
9												
10												
11		Event No.		F1	F1	F2	F2	END	END		Total Loss	Total Loss
12		Event type		n	n	n	n	С	С			
13		Factor		SpliceLoss	ReturnLos	SpliceLos	ReturnLos	SpliceLos	ReturnLoss		Distance	Loss
14		Site		1	1	1	1	1	1			
15		Distance		19.94538	19.94538	11.64908	11.64908	1.04418	1.04418			
16	Core No.											
17		1		0.221	*	0.862	*	*	< 28.113		32.63863	8.042
18		2		0.184	*	0.625	*	*	< 28.849		32.63863	7.754
19		3		0.01	*	0.269	*	×	< 32.495		32.63863	7.33
20		4		-0.15	*	0.558	*	*	< 29.545		32.63863	7.409
21		4		-0.019	*	0.391	*	•	< 32.871		32.63863	7.125
22		6		0.1	*	0.667	*	*	< 29.368		32.63863	7.422
23		7		-0.134	*	0.791	*	×	< 28.608		32.63863	7.955
24		8		-0.05	*	0.18	*	÷	< 32.215		32.63863	7.444
25												

4. Click [Excel].

<Sample Excel Output Display>

	A1		-		fx													
	A	В	С	D	E	F	G	Н	1	J	K	L	Μ	N	0	P	Q	R
1							0	TDR	Me	asu	iren	nent	Re	sul	t			
2	Locatio	on										Date						
3	Cable	Гуре		1 1				[ ]				Operat	or	1				
4	Cable I	ength		1				[ ]				Wavele	ngth	1				
5	Numbe	r of n-re	ef.event	1				[ ]				Test E	quipme	nt				
6	Numbe	r of ref.	event	1 1				[ ]				Test Si	te1	1				
7			1	1 1				[ ]				Test Si	te2	. 1				
8																		
9	Co	ore						S	plice Lo	oss and	Return	Loss [d	в]					
10	N	o.		F	1		č.	F	2		Č.,	Ef	ND .	- 1				
11	Conn	ection		<u>i</u>	1			ा	1				>	j)				
12	Dist		19.9453	8		11.64	1908	0		1.0	4418							
13	Loss	Туре	Splic	eLoss	Return	.oss	Splicel	Loss	Retur	nLoss	Splic	eLoss	Retur	nLoss				
14		1		0.221	89.	1		0.862	1	. )		94 		< 28.113				
15		2		0.184	88.	-		0.625	1			94 	<	28.849				
16		3		0.010	88.	-		0.269	i.	. )		54 	<	32.495				
17		4		-0.150	88.	1		0.558	1	. )		54 	<	29.545				
18		5		-0.019	85	-		0.391	8			8	) §3	32.871				
19		6		0.100	85	-		0.667	8			8	<	29.368				
20		7		-0.134	85	-		0.791	8			8	<	28.608				
21		8		-0.050	85			0.180	Ő.			(·)	) (j. 194	32.215		_		

### • 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].

					Sp	lice Loss a	nd Return Loss [dB]			Title Edit
	S	F1		F2			END	Total	Loss	
Connectior		n		n		i.	c	Distance	Loss	NG Number(Total)
Dist	19.94	19.94538		4908	1.04	4418				SpliceLoss
1		0.221	<u>#</u>	0.862	<u>#</u>	ŵ	< 28.113	2.63863	8.042	
2		0.184	ŵ	0.625	ŵ	ŵ	< 28.849	2.63863	7.754	ReturnLoss
3		0.010	ŵ	0.269	ŵ	Ŵ	< 32.495	2.63863	7.330	
4		-0.150	ŵ	0.558	ŵ	ŵ	< 29.545	2.63863	7.409	
5		-0.019	ŵ	0.391	ŵ	Ŵ	< 32.871	2.63863	7.125	Search
6		0.100	<u>#</u>	0.667	ŵ.	Ŵ	< 29.368	2.63863	7.422	
7		-0.134	ŵ	0.791	ŵ	Ŵ	< 28.608	2.63863	7.955	Connection Type Setu
8		-0.050	Ŵ	0.180	Ŵ	w	< 32.215	2.63863	7,444	Exit

See the help facilities.  $\rightarrow$  Total Table Output  $\rightarrow$  Step 6  $\rightarrow$  Total Table Edit

2. Click [Connection Type Setup].

Standard									Limits Setup			
Connection Type Name	Splice Loss			R	eflection	Return Loss			Standard1			
n c	- -	0.70	dB dB	Г	20.00 -	dB	6.50	dB	C Standard2			
-	_	0.00 -	dB	Γ	0.00	dB	0.00	dB	C Standard3			
		0.00 ×	dB	Γ	0.00	dB	0.00	dB				
		0.00	dB	Γ	0.00	dB	0.00	dB				
				0.00	dB	Γ	0.00	dB	0.00 *	dB		
		0.00 *	dB	Γ	0.00	dB	0.00	dB				
		0.00 *	dB	Γ	0.00	dB	0.00	dB				
		0.00 -	dB	Γ	0.00 🚽	dB	0.00	dB				
		0.00 =	dB	Γ	0.00	dB	0.00	dB	ОК	Cancel		

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.
ightarrow Total Table Output
$\rightarrow$ Step 6
ightarrow Total Table Edit
$\rightarrow$ Connection type setup

## 3-3 Trace Comparison Output

- ◆ Launching the Report Wizard
  - 1. Click [Report] in the menu.
  - 2. Click [Report Wizard].

### Step 1 -- Layout Selection

- Click [Trace Comparison].
   A checkmark will be placed.
- 2. Click [Next].



 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)
- **I**

□圖 -

C. Trace

2 Traces per pag
 C + Traces per pag
 C + Traces per pag

Cable Typ

-

• Dab

· Operat

· Wavele

Test Equ

Test Site 1

Test Si

- 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.

		L.
Output Form		
Wavelength Number	1 Wavelength	
Direction	1way	<b>V</b>
Order of Trace Output		
Order of Output	In Core number Order	
Order of Event	In Core number Order	V
2way Order	1Way and 2Way alternat	tion 💌
Trace Image		
Image Addition of a Event Trace of each event		<b>•</b>
Addition of a Event Trace of each even Trace Header Whole Trace	Marker	

Ľ-

K<sup>4</sup>

•

٠

٠

\*

•

•

비미지 비원지

- 3. Click [Setup].
- 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].



Calculation Method C Loss between Marker 1 C Slope \* Cursor Distance

m1

Ne Informa Core Numb		E Start Core	and a second	1
		Step of Pib		
File Conditio	n Number 1		Ivey	
		Owection	(Seeay	
Wavelengt				
File Sele				
Folder No.		Public#Documents#	COLUMN .	ARR P.
	File Nome	Label		
1		SOR YOKOGAW	A)	
		SOR YOKOGAW	(A	
		SOR YOKOGAW	6A	
1		e SOR YOKOGAW	(A	
		SOR YOKOGAN		j.
1	1950nin,event_50r	SOR YOKOGAW		r Select
1	1950nin_event_50r	e SOR VOKOGAN		
1 •	1950nin_event_50r			
1 + File Sele Folder	1550nin_event_50r ct(Kight) C.W.Joersk	PublickDocuments#1		
The Sele Folder	1550ne_event_50r ct(Right) CrK/bersk	PublickDocuments#1		
The Sele Polder	1550ne_event_50r ct(Right) CrK/bersk	PublickDocuments#1		e Select
The Sele Folder	1550ne_event_50r ct(Right) CrK/bersk	PublickDocuments#1		

#### 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.

Search Condition Analysis Condition

NK

\* \* \*

OK

+ 🔀

- I I X

8 3

Cancel

4

[1 - 100]

ation from Event List ation from Auto Search

tion Dist.

File Oper

Left Trac

No. Flic N

Event Edit Total Loss N

- Click [Auto Generation]. The [Event Auto Generation Setup] window will appear.
- Select [Generation from Auto Search].
   Set up Search Condition and/or Analysis Condition as necessary.
- 3. Click [OK].



- The master events must be set up for waveform files. Click [Right] in the [File] area, and then perform Steps 1 through 3.
- 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].
- 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.)



5

7

9. Click [Next].



## Step 6 -- Output Setup



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



 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.

	A B	С	C E I	FGH		J	K L M		СР	GR)	S T	U	
					IO	DR Measu	irement Resu	lt					
	Location						Date						
	Cable Type						Operator						
	Cable Length Number of n-ref.event Number of ref.event						Wavelength						
							Test Equip						
	Number of	ref.event					Test Site1						
+							Test Site2						
-													
+													
+													
+	Core No. 1		Whole Trac		Tetel Ise	_	-Core No. 1		Whole Tra		Tetel I.	sdB	
ł	Core No. 1	FILE NAME:			IOCAI LOS		-Core No. 1	FILE NAME:			IOCAI LOS	sas	•
t	44.688 dB	LABEL:	YOKOGAWA				41.782 dB	LABEL:	1990100_000101	_sons.sox			
ł	11.000 db						121.02 00				<u> </u>		
•	5.0						5.0		++				
	dB/Div					1	dB/Div						
ł	007010						0.07.010						
+													
t													
t								5	1 I	2 3	ñ		
t			1 2	3	1				1 1 1				
T			L										
	TPA						TPA	<u> </u>				diata di tata di	
												的复数 化丁苯	
+		0.05339km	0.2000	0km/Div	8V8-80em	2.05339km	0	.00000km	0.2000	0km/Div	SMP: 50 cm	2.0000km	
-			0.2000	Okmy DIV	and i a con		-			Okmy DIV	antradum		
	CURSOR Dist.: WAVELENGTH :	1.43377km	SPLICE LOS	, dB			CURSOR Dist.: WAVELENGTH :		SPLICE LOS:	dB			
-	Dist. RANGE :	2 km	RETURN LOS				Dist. RANGE :	2 km					
	PULSE WIDTH :	2 xm 50 na	MARKER1-2	MARKER2-3			PULSE WIDTH :	2 AM	MARKER1-2	MARKER2-3			
	ATTENUATION :	d3	da	da			ATTENUATION :	0.00 dB	da	da			
	AVERAGE :	10 880	km	km		-	AVERAGE :	0 990	20	20		-1	
	IOR :	1.46000	dB/km	dB/km		1	IOR :	1.46000	dB/km	dB/km		i n. inni	
Ť													
Ť													
	<< Event L	ist >>											
	EVENT	DISTANCE	SPLICE	RETURN	CUM LOSS		EVENT	DISTANCE	SPLICE	RETURN	CUM LOSS		
	No.	(km)	LOSS (dB)	LOSS (dB)	(dB)		No.	(km)	LOSS (dB)	LOSS (dB)	(dB)		
ľ	1	0.46406	0.168		0.097		1	0.46406			0.101		
ľ	2	0.87217	0.060	57.982	0.350		2	0.87217	0.059		0.351		
ľ	3	1.12884	0.193		0.455		3	1.12782			0.461		
1	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.
  - $\rightarrow\,$  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.</p>
- (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.
  - $\rightarrow$  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.
  - $\rightarrow$  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.
  - 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.