Pro'sKit®

Multi-function Optical
Time Domain Reflectometer
MT-7612F

User's Manual

WARNING

Any undefined change or modification of this manual will deprive you of the right to operate the equipment.To reduce the risk of fire or electric shock, do not expose the equipment to rain or humidity.To prevent electric shock, please do not open the shell,and it must be repaired by qualified personnel.

This device supports on-line test with signal, should satisfy following norms:

1270nm / 1310nm / 1490nm Power ＜+10dBm

1577nm Power＜ 0dBm ； 1550nm Power ＜ -20dBm

If out of range, it may lead to device broken, which is out of warranty range

NOTE

As the laser is harmful to the eyes, don't look directly at the laser outlet and don't attempt to disassemble the cabinet.

PRECAUTIONS FOR USE

CAUTION
LASER RADIATION
DO NOT STARE INTO THE BEAM OR VIEW
DIRECTLY WITH OPTICAL INSTRUMENTS
635-650nm LASER
CLASS 1 LASER PRODUCT

DANGER
INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE
TO DIRECT OR SCATTERED RADIATION
EXCIMER LASER
1mW MAX PULSE at 800-1700nm

Using the battery:

The device can be recharged with a special battery, and can not be mixed with different types or capacity batteries.

Avoiding condensation:

Sudden changes in temperature should be avoided. Do not use the device immediately after moving the device from the cold area to the hot area, or when the room suddenly heats up, because the device may have condensation phenomenon. If the temperature changes abruptly , stop using it and take out the battery, and the power can be switched on after at least an hour.

Storage:

When the device is not used for a long time, please take out the battery to avoid the damage caused by battery leakage .
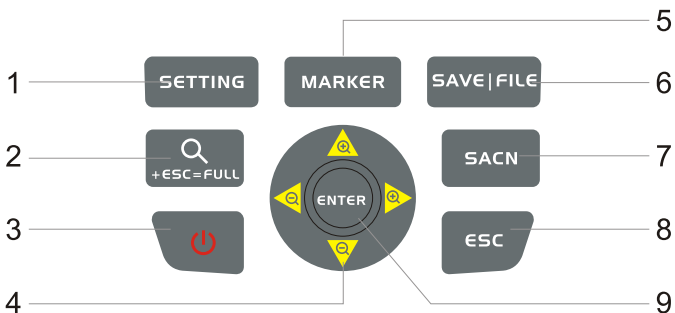
※ The content of this manual is for reference only, and everything is based on the actual product.

Host

OPM

VFL

OTDR

TF（Micro SD）card slot

3.2 inch LCD

Charge indicator

Reset key

USB interface

Function buttons

Buttons

1---Setting:In OTDR interface, press to set up.

2---Zoom control:Operate with direction and ESC key for waveform.

3---Power:Long press to turn on, or choose to turn off.

4---Direction:Select up, down, left, and right.

5---Marker:Switch cursor in OTDR interface.

6---Save/File:In OTDR interface, press to save or enter the file.

7---Scan:In OTDR interface, press to measure.

8---Esc:Return to the previous menu.

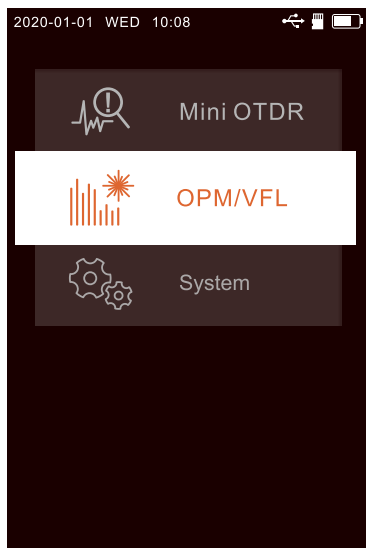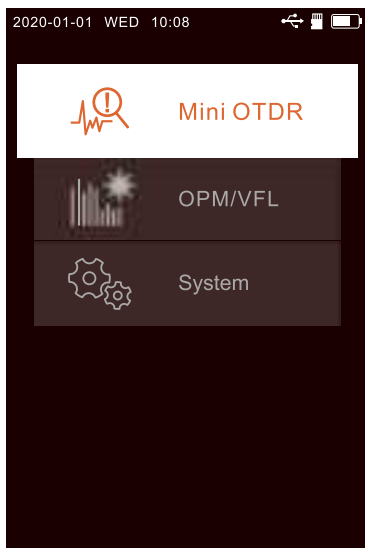9---Enter:Enter the next level page or confirm the operation.

Main Menu

After booting, device will enter main menu and selects Mini OTDR function automatically. Select function module with direction buttons, press" ENTER " button to enter the corresponding function.
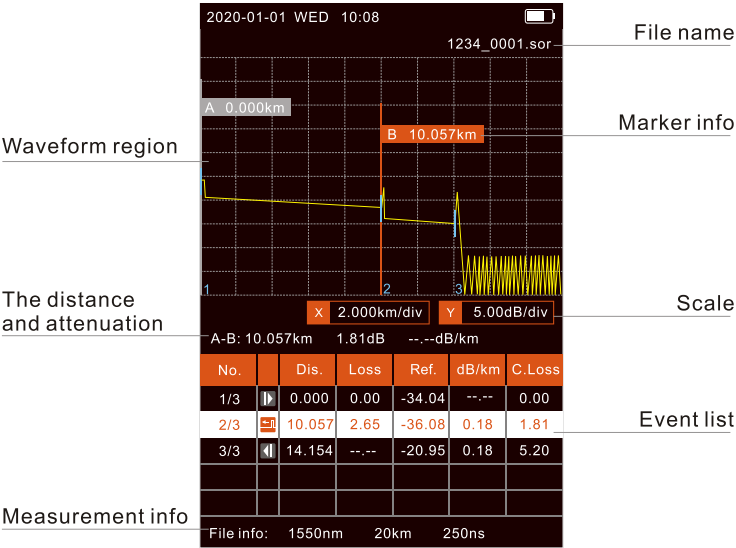
Title Bar

Date and time   USB TF Card

2020-01-01 WED 10:08

Battary(charging)

Highlight when the function module is selected

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OTDR

Select Mini OTDR module in the main menu, and press " ENTER " to enter the OTDR interface.

Mini OTDR

2020-01-01 WED 10:08						

File name — 1234_0001.sor

Waveform region

A 0.000km

B 10.057km — Marker info

The distance and attenuation

X	2.000km/div	Y	5.00dB/div		Scale

A-B: 10.057km   1.81dB   --.--dB/km

No.		Dis.	Loss	Ref.	dB/km	C.Loss
1/3		0.000	0.00	-34.04	--.--	0.00
2/3		10.057	2.65	-36.08	0.18	1.81
3/3		14.154	--.--	-20.95	0.18	5.20

Event list

Measurement info

File info: 1550nm   20km   250ns

OTDR-Measure settings

The judgement of events list is based on measure setting.Wrong setting might leads to wrong or missing events.

In OTDR interface, press " SETTING " button to enter measure setting.

Wavelength---Wavelength of laser.

Scan mode---Manual and auto mode.Under auto mode, device will match the distance range and pulse width.

Scan type---Real time:Real-time measurement can quickly judge basic faults of optical fiber;Average:judge the line condition more accurate,get a better SNR measure curve.

Range---Match with the length of measured optical fiber,usually over one level.

Pulse width---Set the pulse width of output laser.

2020-01-01 WED 10:08	
Measure Settings	
Wavelength	1550nm
Scan mode	Manual >
Scan type	Real time >
Range	2.5km >
Pulse width	250ns >
Average time	15s >
Splice loss	0.05dB >
Reflection threshold	65.0dB >
End threshold	3.0dB >
Refractive rate	1.46832 >
Scatter coefficient	52.1 >
Optical detector	
Real time analyse	
Press key ENTER to edit settings.	

Average time---Set average time:The longer average time,the better measure curve.

Splice loss---Treat as an event when the loss is higher than setting value.

Reflection threshold---Treat as an event when reflection is higher than setting value.

End threshold---Treat as the end of optic fiber when loss is higher than setting value.

Optical detector---

Before measurement,set to check whether light input is in the fiber or not.

Real time analyse---

Set to turn on or turn off the event analysis after realtime measurement.

OTDR-Measure

Press the" SCAN " button in OTDR interface to run measurement.

Real-time:

During measuring, you can change range, zoom in or zoom out with direction buttons and zoom control button. Press" SCAN " again to stop. If real-time analyse function is on, the device will analyse events after measurement.

Average：

Average measurement can judge the line condition more accurate.It can get a better SNR and fits high requirement circuit.User can set measurement time from 5 to 180 seconds. The device analyses events and generates event list automatically. Press" SCAN " again to stop measurement.
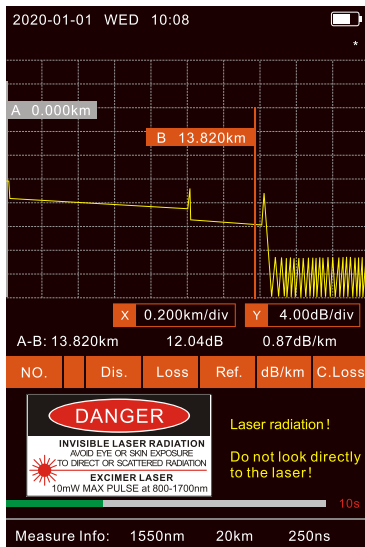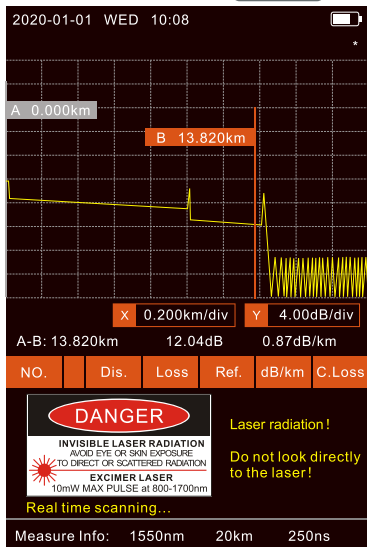
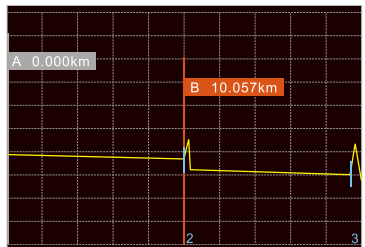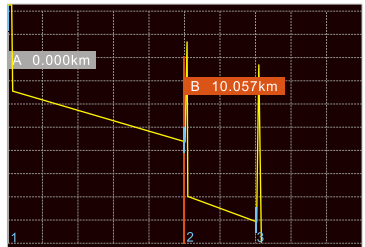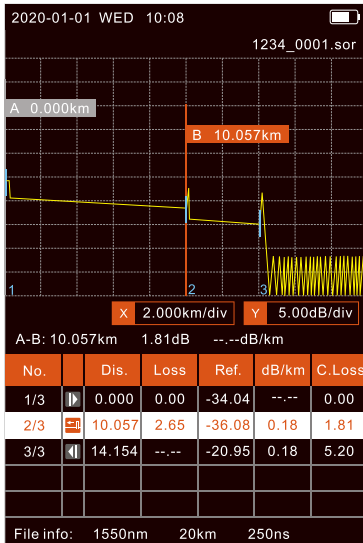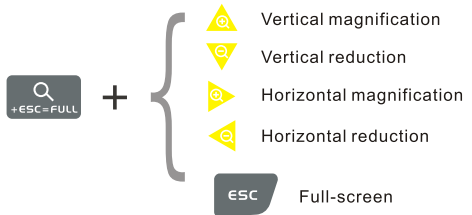# OTDR-Event & Wave Control

Event list shows 5 events at one time, press Up or Down button to check the whole event list.Press" MARKER " to select marker.

Use the following combination buttons to zoom in and out.

Five types of events:

- ▶ — Optical fiber start
- ⬏ — Reflection event
- ⬐ — Attenuation event
- ⬐ — Gain event
- ◀ — Optical fiber ending

Vertical magnification
Vertical reduction
Horizontal magnification
Horizontal reduction

ESC Full-screen

No.		Dis.	Loss	Ref.	dB/km	C.Loss
1/3	▶	0.000	0.00	-34.04	--.--	0.00
2/3	⬏	10.057	2.65	-36.08	0.18	1.81
3/3	◀	14.154	--.--	-20.95	0.18	5.20

X 2.000km/div   Y 5.00dB/div
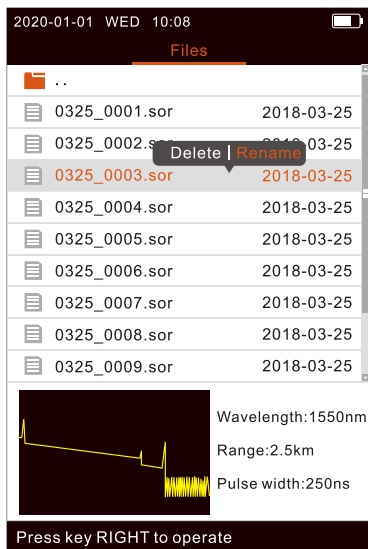A-B: 10.057km   1.81dB   --.--dB/km
File info: 1550nm   20km   250ns

OTDR-File Save

After finishing measurement, press the " " button to save the file and the keyboard will pop up. If the Auto Name function is turned on, the file name is automatically generated when saving.
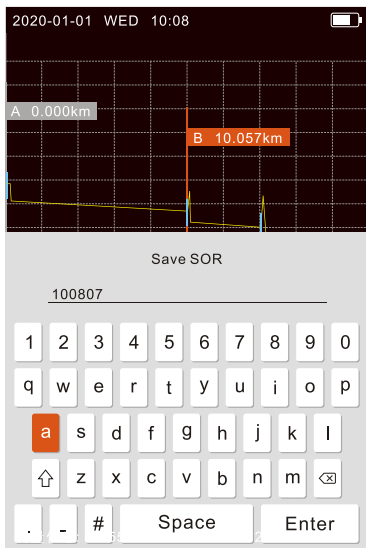
When there is no measurement, press the " SAVE|FILE " button to enter the file list. Press the " ENTER " button to open the folder or file, and press the " ▶ " button to pop up the operation item. The waveform thumbnail is displayed at the bottom.

2020-01-01 WED 10:08	
Files	
Delete | Rename	
📁 20200101	
Press key RIGHT to operate	

➡

2020-01-01 WED 10:08	
Files	
📁 ..	
📄 0325_0001.sor	2018-03-25
📄 0325_0002.sor	2018-03-25
📄 0325_0003.sor	2018-03-25
📄 0325_0004.sor	2018-03-25
📄 0325_0005.sor	2018-03-25
📄 0325_0006.sor	2018-03-25
📄 0325_0007.sor	2018-03-25
📄 0325_0008.sor	2018-03-25
📄 0325_0009.sor	2018-03-25

Delete | Rename

Wavelength:1550nm
Range:2.5km
Pulse width:250ns

Press key RIGHT to operate

OPM/VFL

Select OPM/VFL module in the main menu,and press" ENTER "to enter the OPM/VFL interface.

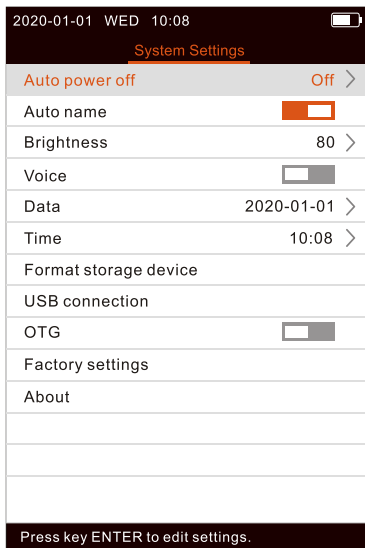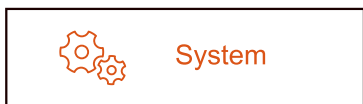Press the " SETTING "button to enter the OPM setting interface.
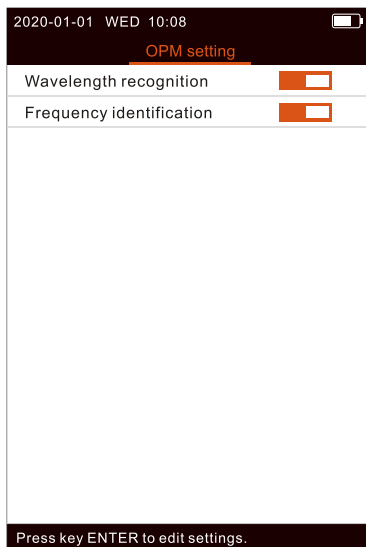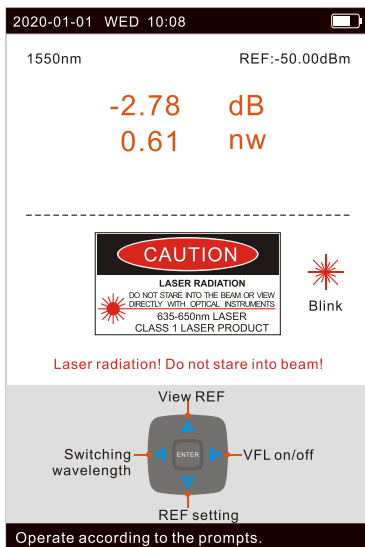
System

Select System module in the main menu,and press" ENTER " to enter the System interface.

The device supports USB communication function:

OTG：Short for On-The-Go, open to view TF card files.

USB connection：Connect to view internal storage file.

Auto Power Off:

Set time of automatic off or cancel.

Auto name:

Name automatically when file saving.

Brightness:

Set brightness from 10 to 100.

Voice:

Turn On /Off of voice feedback.

Data:

Set current date.

Time:

Set current time.

Format storage device:

TF card connected --Format TF card.

No TF card --Format internal storage.

Factory settings:

Restting to default,

Date,time ,storage files are not affected.

Detail parameters

Basic

Display	3.2 Inch color LCD 320*480
Data sotrage	Internal storage 500 records.Maximum 32GTF Card
Beep	Passive electromagnetic buzzer
Backlignt	10 levels of brightness
Power saving	Adjustable auto power off
Power supply	3.7V/2.4Ah Lithium Battary,standby＞7.5H ,measurement＞4H
Temperature	Working 0~50℃,storage:-20~70℃,＜90% RH
Size and weight	168mm*82mm*40mm,≈260g

OTDR

Wavelength	1550nm±20nm
Dynamic range	20dB
Distance range	0.1~80km
Pulse width	5ns~20μs
Measurement time	5~180s Adjustable
Attenuation blind area	8m
Event blind area	3m
Loss threshold	0.01dB
Loss resolution	0.001dB
Distance uncertainty	±(0.8+0.005%*distance+Sampling resolution)m
Input light detection	Yes

VFL

Wavelength	650nm±20nm
Output power	1mW
Blink	2Hz

OPM

Detect range	-50~+26dBm
Detect wavelength	700~1700nm
Measured wavelength	850,980,1270,1300,1310,1490,1550, 1577,1625,1650nm
Accuracy	±0.2dB
Resolution	0.01dB
REF Function	Yes

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ISO 9001
CERTIFIED