

Optical Network Tester

User Manual

PREFACE

Thank you very much for buying and using S2108 series optical network tester. This manual mainly contains the commonly used operating safety instructions, basic interface and operation introduction, as well as common troubleshooting guidelines and other information. In order to facilitate your use, before operating this instrument, please read the contents of this manual carefully and follow the instructions in the book correctly.

This manual is limited to use in conjunction with this instrument. No unit or individual may alter, copy or disseminate the contents of this manual for commercial purposes without the authorization of the Company.

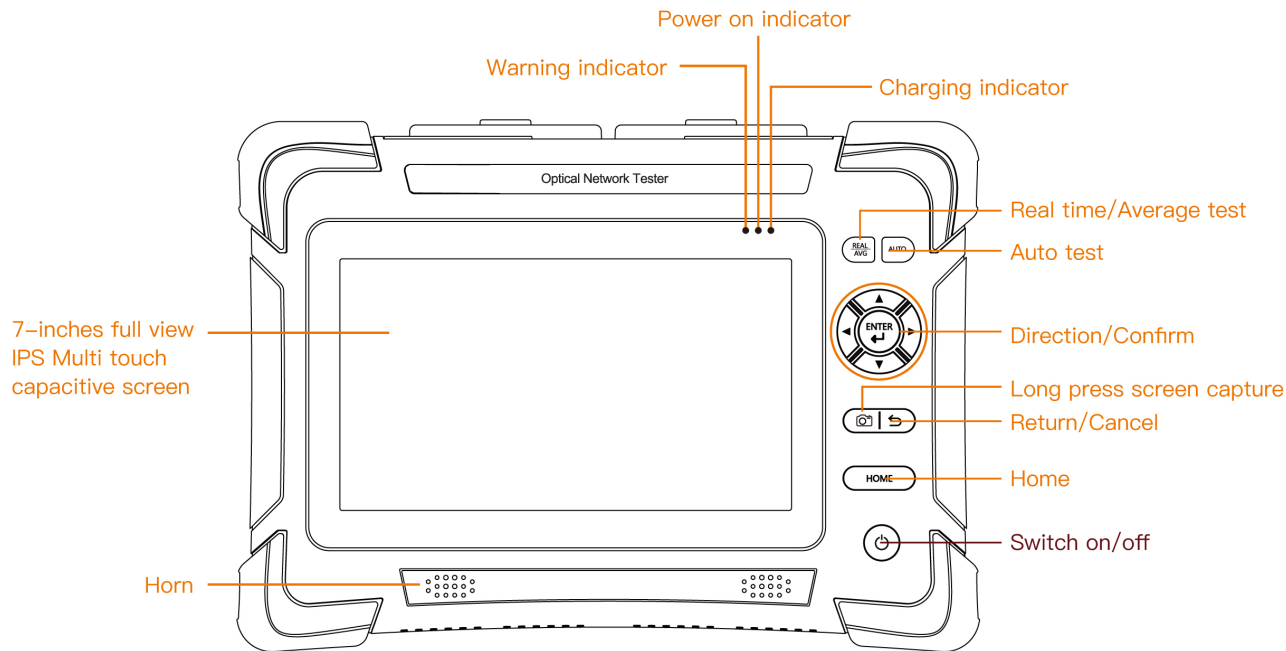
The contents of this manual are subject to change without prior notice. If you have any questions, please call the supplier. We will do our best to provide you with the best service.



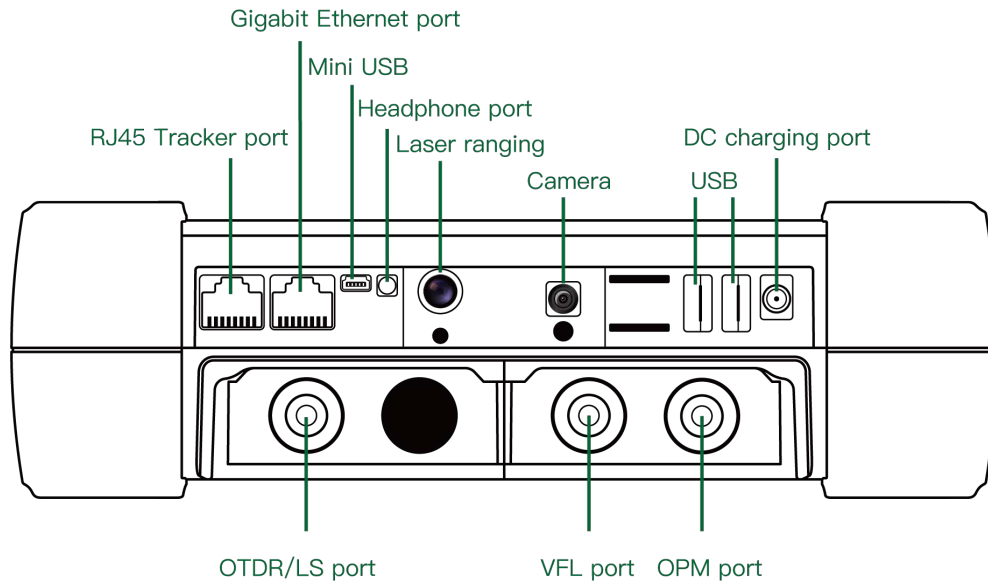
S2108 series optical network tester is the first smart and high precision optical test instrument with cloud wireless transmission, intellignet cloud platform and other functions. S2108 series integrates 18 standard functional modules internally, including OTDR, Intellignet optical network map iONM, LS, VFL, OPM, Optical end face detection, Multi-core measurement, Optical loss test, File management, Data wireless transmission, RJ45 cable tracker, Laser ranging, Remote assistance, One-key repair, Camera, Bluetooth, WiFi, GPS&BDS (on developing).

S2108 series has 0.8m event blind zone, maximum 45dB dynamic range, 1650nm online test (50dB isolation), 8G storage which can store 200,000 curves. It adopts 7 inch capacitive touch screen, supports multi-point touch. Compared to previous versions, it supports smart cloud platform, iONM, Multi-core measurement, Bluetooth. WIFI, 4G LTE SIM and GPS (on developing), and test data can be uploaded to the cloud wirelessly. PDF reports can be generated on the device and transmit them to the mobile terminal via WiFi & Bluetooth. S2108 series supports multi-tasks simultaneous operation, and VFL, OPM, LS functions can run in the background.

OTDR Interface,function introduction



OTDR Interface,function introduction



- Mini USB connection: Connect the computer for data export, or connect the power bank to charge the device
- USB connection: Accessing USB flash disk to export data, used as a power bank function to charge other devices
- DC charging port: Charging voltage range 12V~19V

OTDR Interface,function introduction



Note: the main page is a sliding page, and the second page appears on the left

OTDR Interface,function introduction

Multi task simultaneous operation Curve thumbnail

Multi task area

Curve full screen

Event map

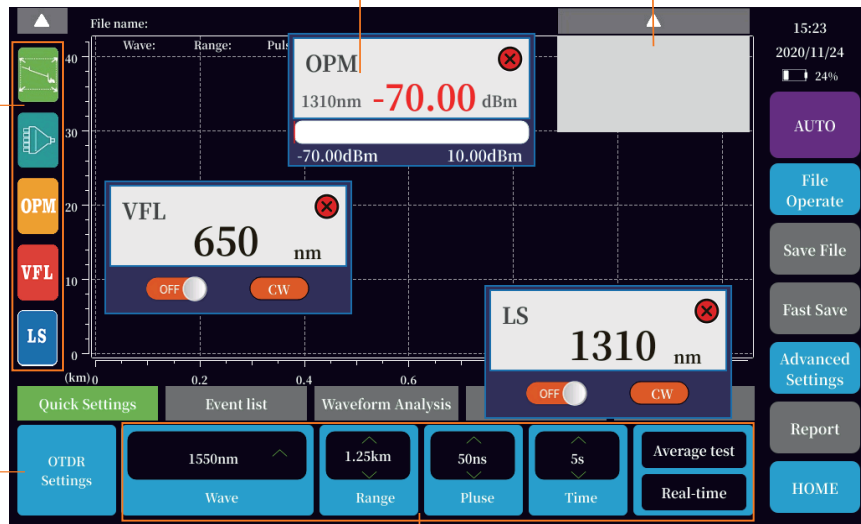
OPM VFL LS

Optical fiber
characteristic setting

Pass/Fail Settings

Measure Settings

Analysis/Save Settings



Quick setting, no need to stop to modify conditions, convenient and fast

One button auto test

File operation

Preview / wireless upload to cloud

File save

Support Chinese and English input

One click save

Convenient and quick

Advanced setting

High end setting function

Generating reports

Generate PDF report on device side

Home

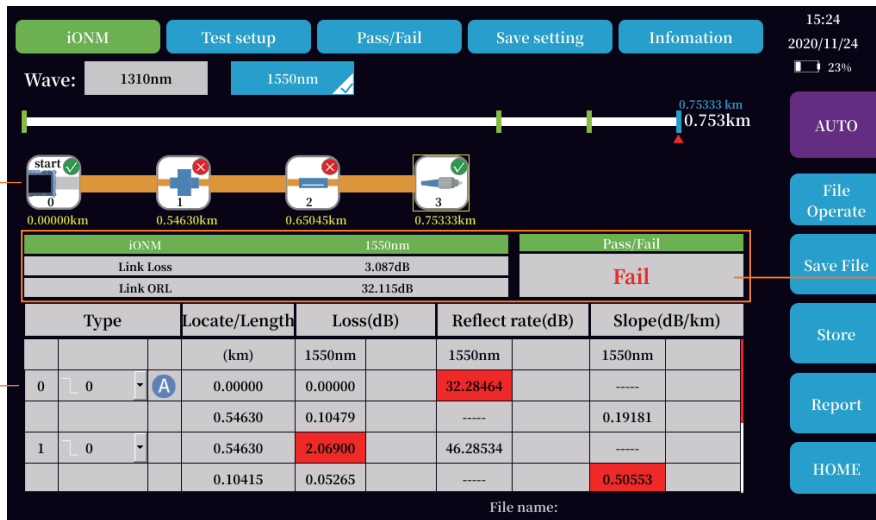
Return to the main interface

iONM Interface,function introduction

- Through multi wavelength and multi pulse width combination test technology, the accurate analysis of various events is realized.

Graphic display type
More intuitive and accurate
Observe event information

List display
Type
Position length
loss
Reflect
Attenuation



Pass/Fail
Link-loss
Link ORL

Multi core measurement

The purpose of multi-core measurement to help customers manage and maintain multi-core optical cable data, Through the establishment of the project, to help customers more intuitive Manage and maintain fiber optic data. From the core matrix, the state of all the cores can be seen intuitively, Including whether it has been tested, does the test pass. Each fiber core contains OTDR data, optical fiber end face data, optical power data and test field pictures

Core matrix

Project name:yu

	1	2	3	4	5	6	7	8	
	9	10	11	12	13	14	15	16	
pre page	17	18	19	20	21	22	23	24	next page
	25	26	27	28	29	30	31	32	
	33	34	35	36	37	38	39	40	

Current core:19

Wave1: 1310nm
Wave2: 1550nm
Range: 1.25 km
Pulse: 50ns

Waveform Preview

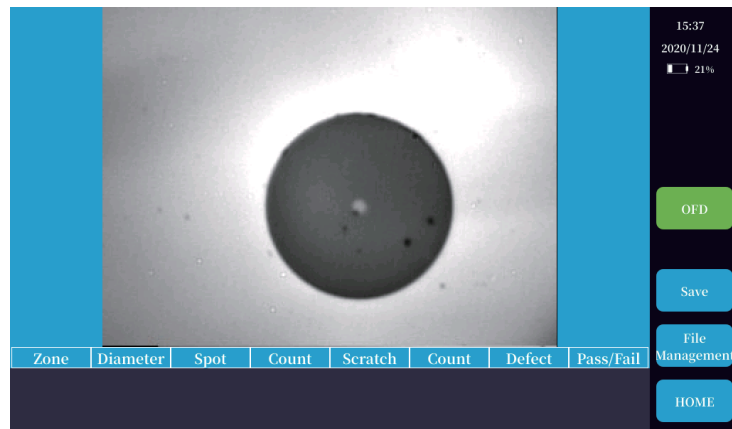
850nm -67.68dB

End face detection

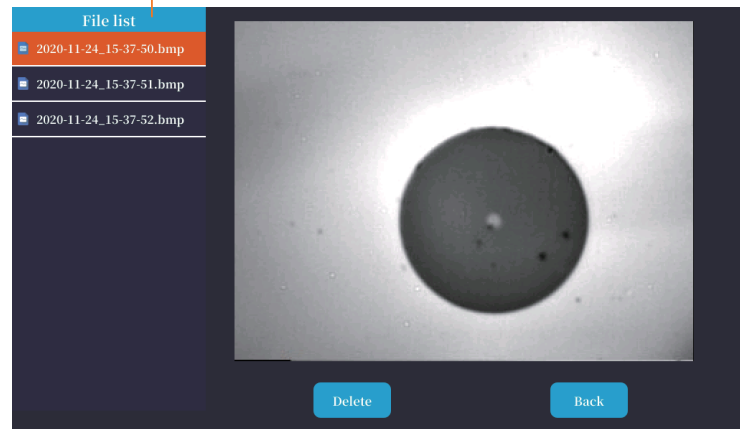
17:48
2020/11/24
55%

New project
Open project
Project property
Pictures of the scene
Core operation
Open file
Home

Optical fiber end face detection



Save and view the optical fiber end face image



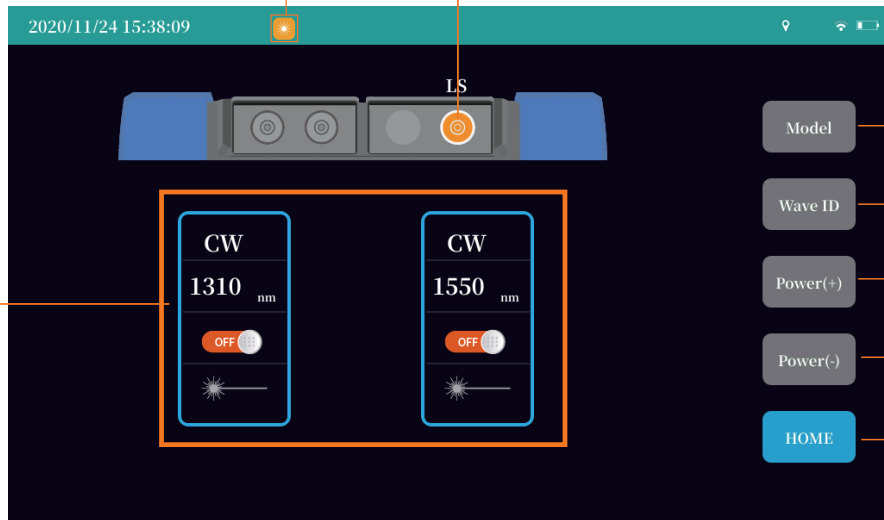
- The core diameter of single-mode fiber is about $9\mu\text{m}$, It's thinner than human hair, If the end face is polluted, it will cause great connection loss, this leads to unstable communication state. It has great influence on the confidence of OTDR test results, therefore, the end face of optical fiber is tested, and cleaning is very necessary

Laser Source

Background prompt of Laser Source on state

LS port location

On/Off



Mode switching
CW/270/330/1k/2kHz

Auto wave recognition

Increase power

Reduce power

Home

- Power adjustable stable laser source
- Output CW/270Hz/330Hz/1kHz/2kHz mode
- Support automatic wavelength recognition function, wavelength ID mode,
Combined with optical power meter module of series equipment for automatic wavelength identification

Optical power meter

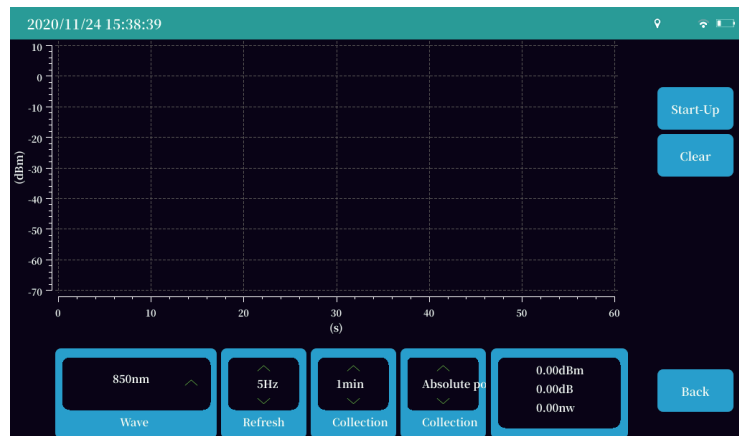
OPM port location



Measurement information

- Support frequency identification function
- Support pass / fail threshold setting
- Support Tone Detect function, namely frequency identification function

OPM data acquisition interface

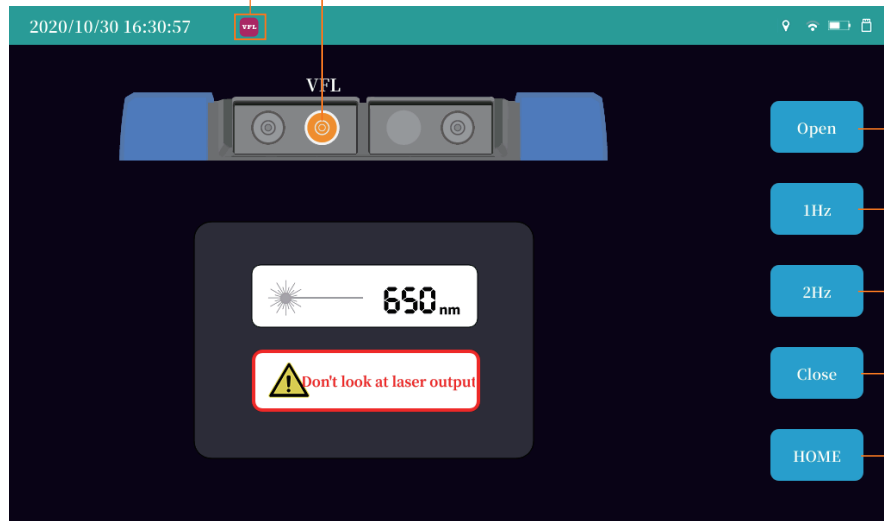


- User calibration
- Data acquisition
- Automatic wavelength recognition

Visual fault location

Background prompt of VFL state

VFL port location



VFL always bright

VFL 1Hz twinkle

VFL 2Hz twinkle

Close VFL

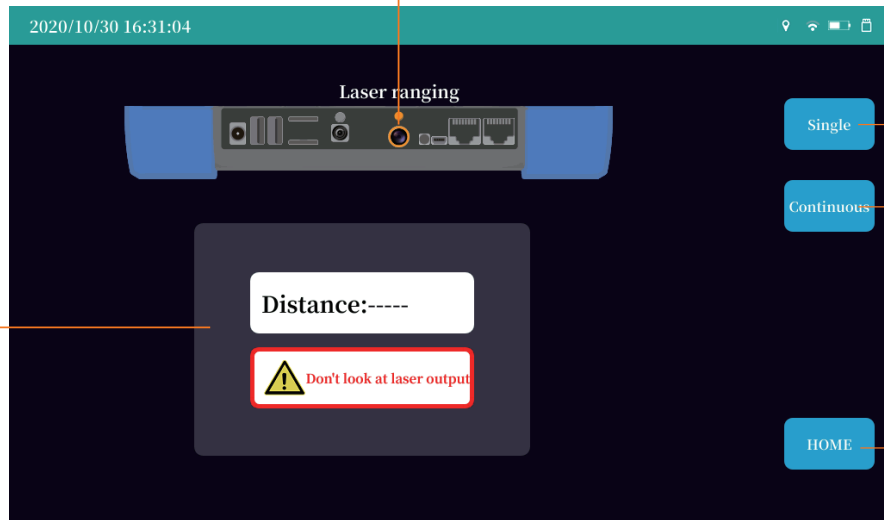
Home

● Fault location and identification for short distance optical fiber

Laster ranging

Laser ranging interface:

Please do not look directly at the laser emission port to avoid damage



Single

Single measurement

Continuous

Continuous measurement

HOME

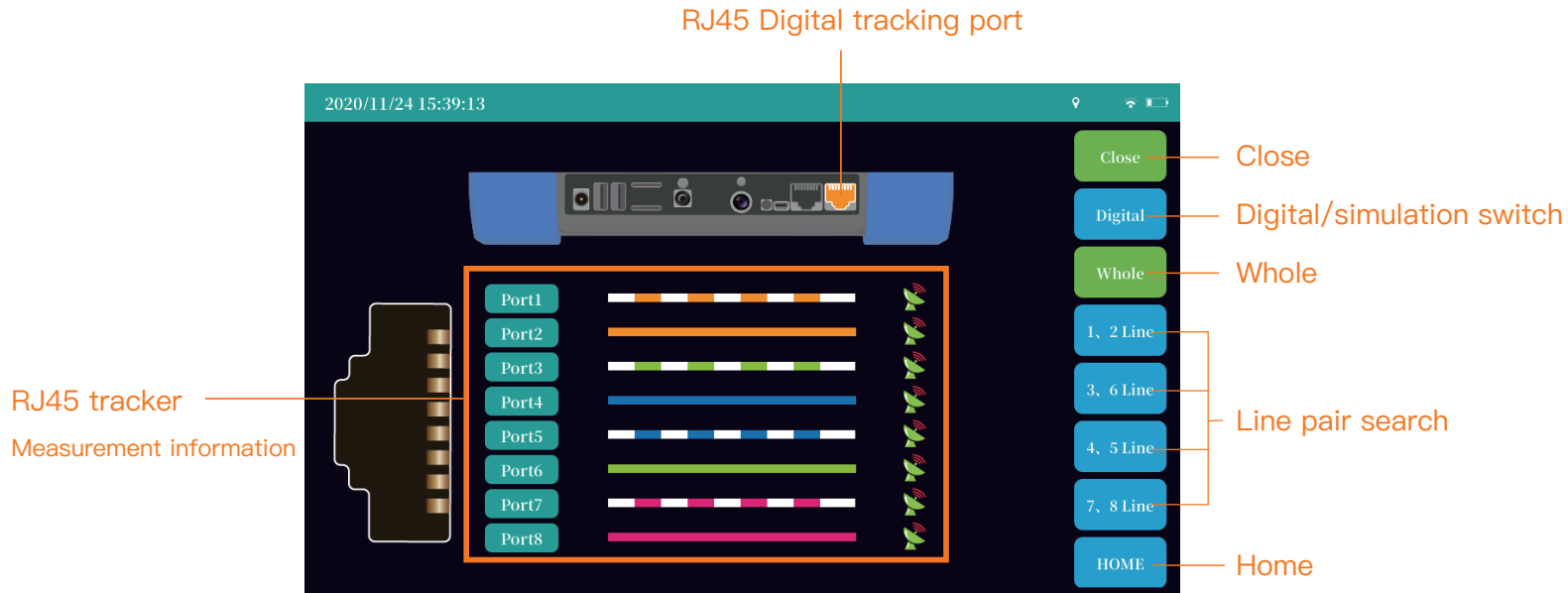
Home

Distance:-----



Don't look at laser output

- Length measurement for optical cable laying and broadband installation



- RJ45 digital radar tracking function can be used for digital line finding of network line, telephone line and other cables

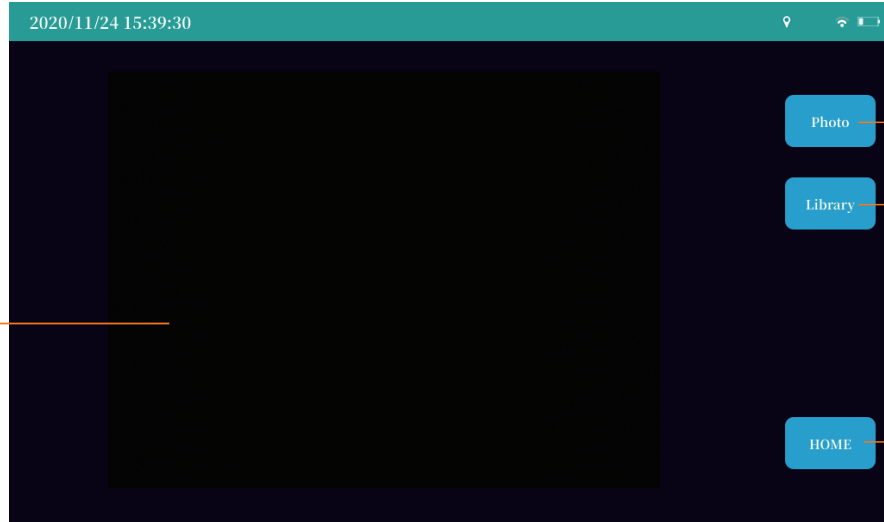


Photo display area

Photo

Photograph

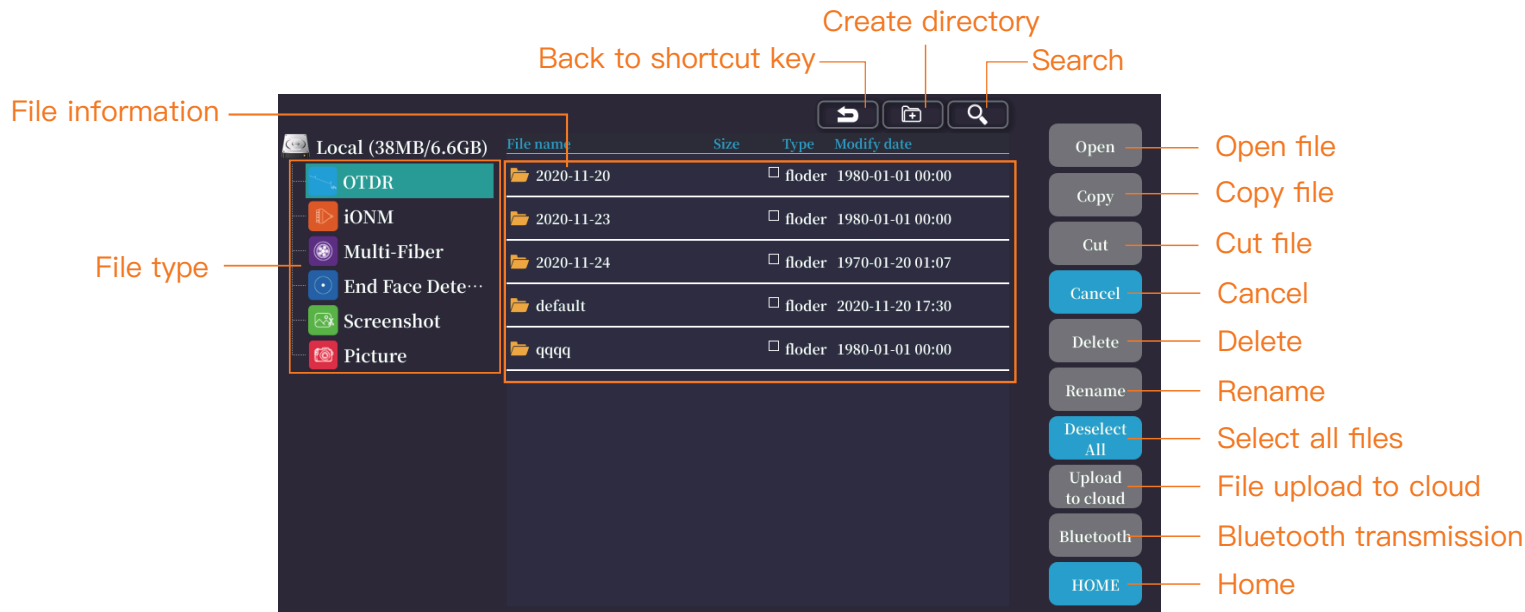
Library

Picture library

HOME

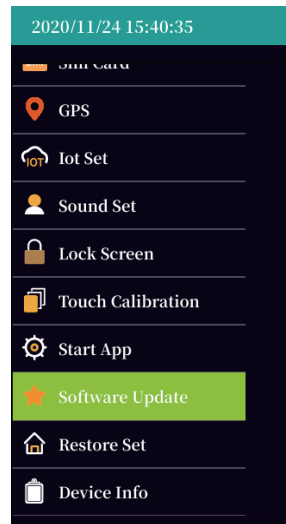
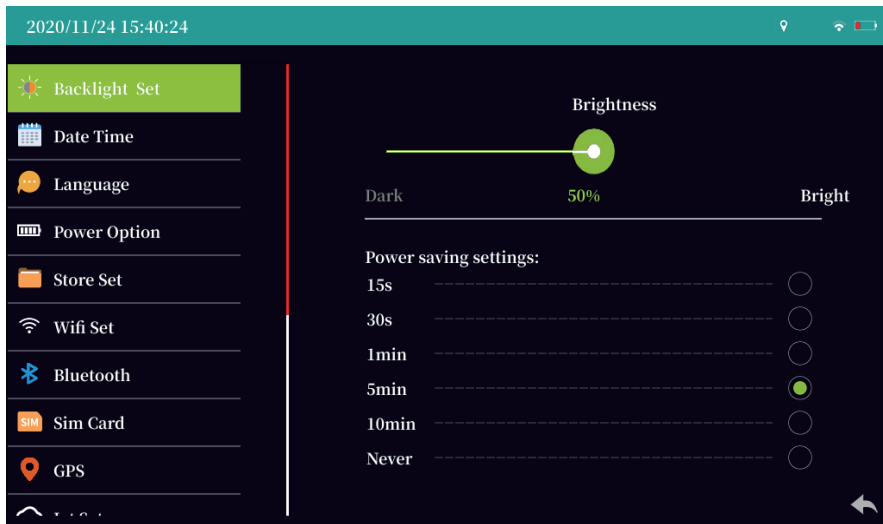
Home

- Take pictures of the test site and link them to the OTDR test data

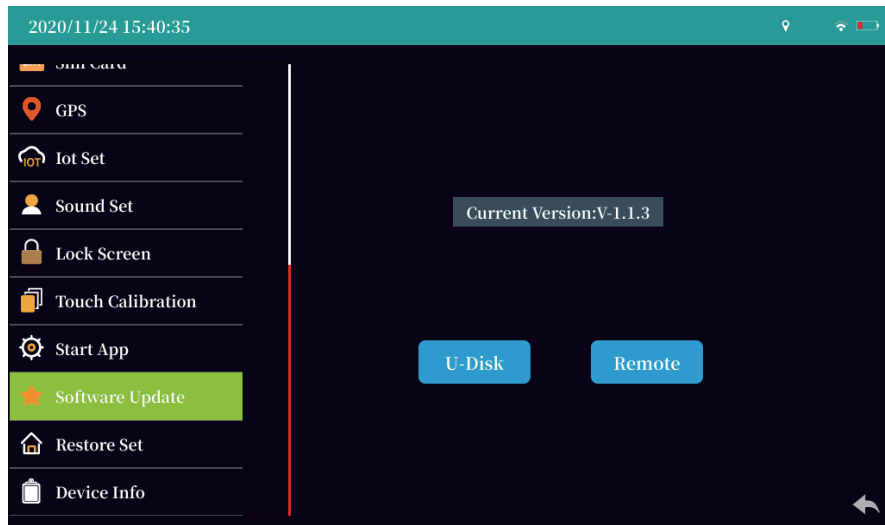


- Browse device files
- File add delete move rename
- Export files through USB flash disk
- File upload to cloud platform

System settings

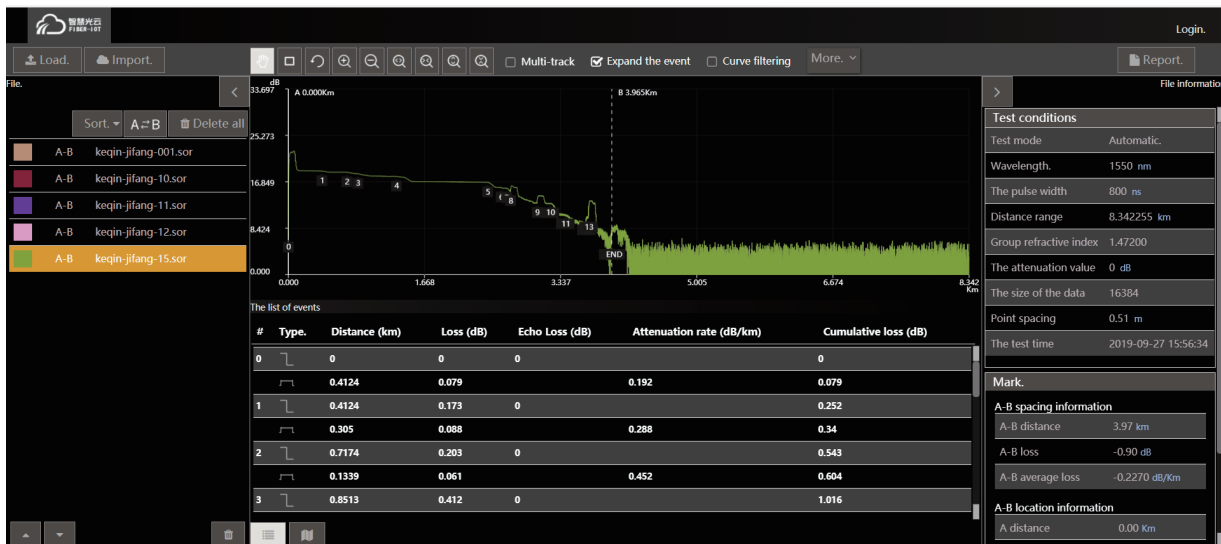


Software upgrade



- Insert the U disk of storage upgrade software to upgrade the system
- Connect WiFi remote upgrade

Fiber-iot OTDR advanced simulation tools



- You can log in directly fiber-iot [web](http://www.fiber-iot.com/tools/index.action) or Scan QR code, Imagine the advanced simulation tool of OTDR, view OTDR data and generate reports
- Fiber-iot web: www.fiber-iot.com/tools/index.action



Scan QR code
Sign in Fiber-iot

Fiber-iot OTDR advanced simulation tools

 智慧光云
FIBER-IOT

[Return.](#) [Print.](#) [Application.](#)

keqin-jifang-001.sor

my logo

my report name

Filename.	Label.	The name of the
keqin-jifang-001.sor	Fiber optic cable ID	PREVIEW
The operator	The type of fiber	The starting
Fiber ID	Direction.	A-B
The termination	The firmware	BC
PREVIEW	version	The type of project
Which project	GPS	V3.12
ID		

Report Date:2020-11-24 15:43:41

Test conditions

Test mode	The analysis threshold	0.1dB
Reflection loss threshold	Echo loss	40dB
End loss threshold	Joint loss	1dB
	Average loss	1dB

Analyze the conditions

Melting loss	1dB
Waveler	1550nm
The pulse width	800ns
Distance range	8.342255km
Group refractive	

Pass/Fail Judgment Conditions

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Report settings

Logo

The name of the report

my logo

my report name

Statistical reports

Job information

Test conditions

Analyze the conditions

Pass/Fail condition

The test results

Event map

The list of events

The chart of the curve

Comments.

Photos of the scene

Face image

Print settings

- OTDR data can be viewed through cloud analysis, and generate reports. Powerful OTDR data report generator using smart cloud, add event map, annotation, on-site test photos, optical fiber end face photos and other detailed information in the report

Common problems and Solutions

Fault description	Cause of failure	Solutions
OTDR cannot start normally.	The battery is dead.	Charge the battery and observe the charging indicator. If the red light is displayed, continue charging. Otherwise, contact the supplier.
OTDR cannot be charged normally.	Charging conditions are not met.	Charge the instrument at 0°C~ 50°C.
	Battery or internal circuit problem.	Contact the supplier to replace the battery.
Normal curve cannot be measured.	OTDR parameters are not set correctly.	Reset the correct test parameters.
	Fiber output end face is polluted.	Clean OTDR output end face.
	Output connector of OTDR is damaged.	Connect OTDR output connector.
	Optical output connector mismatch.	Replace the matched connector.
The noise of test curve is big and the waveform is not smooth.	The connector is not connected properly.	Re connect the appropriate output interface.
	The pulse width setting is too small.	Increase the test pulse width.
Saturation (flat top) appeared in the front of the test curve.	The pulse width is too large.	Decrease test pulse width parameter.
The reflection peak at the beginning of the test curve decreased slowly. There is a tailing phenomenon.	Fiber output end face is polluted.	Clean OTDR output end face.
	Fiber output end face is polluted.	Replace OTDR output connector.
	Optical output connector mismatch.	Replace the matched connector.
The reflection peak at the end of the fiber cannot be measured.	The test range is too small.	Increase test range value.
	The pulse width is too small.	Increase test pulse width parameter.
False positive in curve analysis.	Event threshold setting is too small.	Increase the pulse and the event threshold value.
The tested fiber length is not accurate.	OTDR parameters are not set correctly.	Reset the appropriate parameters.
	The refractive index is not set accurately.	Reset fiber index.
The slope of optical fiber is not accurate.	The front and tail of the test curve is too long.	Clean OTDR output end face.
	Improper setting of cursor position.	Reset cursor point position.