6416 Palm OTDR

Product Overview:

6416 palm OTDR is a test instrument designed for FTTx. It's mainly used to measure the physical characteristics of optical fiber & cables, including length, transmission loss and splice loss etc. It can also accurately locate the event point and fault point along the optical fiber line. It's widely applied to the engineering construction, maintenance test, and urgent repairing of optical fiber communication system, as well as the R&D, manufacturing, and test of optical fiber & cables.

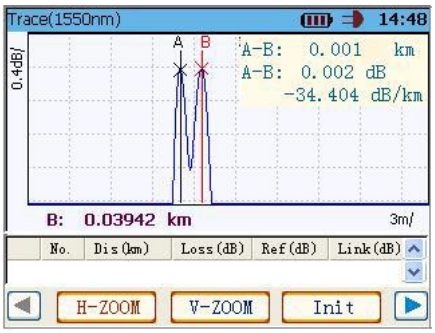
6416 palm OTDR adopts the most advanced technology of double color & material integrative mould, which makes it novel and beautiful in appearance, strong and firm in structure. With antireflection LCD display, the operation interface is quite clear even in field environment. Two power supply modes are available. With the large capacity lithium battery, the instrument can work more than 10 hours. It has two types of USB interfaces, which can connect to the U disk, or can communicate with PC through USB cable. In addition, it provides comfortable straps for convenient carrying.

Main Features:

- Palm, lightweight, convenient to carry;
- The most advanced technology of double color & material integrative mould, strong and firm;
- Advanced antireflection LCD, clear display interface in field;
- 1m ultra-short event dead zone, easy to test optical fiber jumper;
- Automatic & manual test function;
- Automatic detection of the communication light signal;
- Touch screen and keyboard operation;
- Two USB interfaces: can connect to the external U disk, or communicate with PC through SyncActive software;
- Support Bellcore GR196 and SR-4731 file format;
- Intelligent indication of battery capacity, alarm when the battery is running out;
- WinCE window operation system, Chinese/ English operation interface;
- Large capacity lithium battery to support over 10 hours of operation, suitable for long-time filed work;
- Built-in visible fault locator (VFL) function;
- The OTDR optical output connectors are exchangeable, so it is more convenient to clean the end surface;
- Application software on-line upgrading, no need to return back to factory.

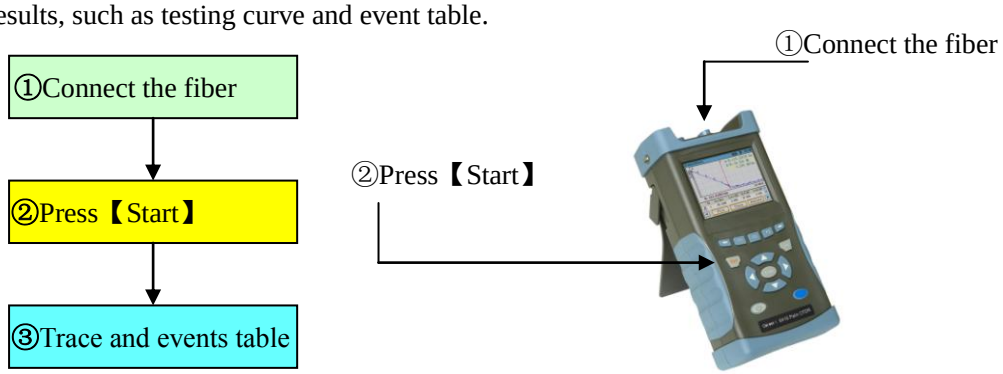
● Ultra-short event dead zone

6416 palm OTDR has ultra-short event dead zone, which is especially suitable to test the short optical fiber line and optical fiber jumper.



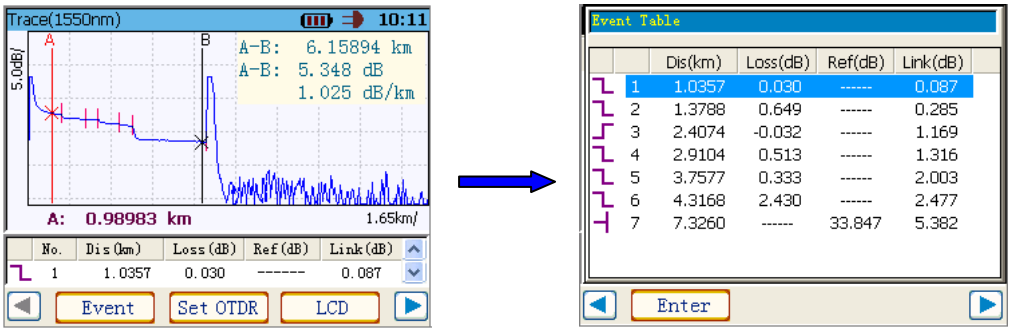
● High-speed automatic test

With the automatic measurement function of 6416 palm OTDR, users can easily conduct the test with no need to know about the operation details. The steps are simple: just connect the fiber, and press 【Start】, then the instrument will set the optimum test conditions and display accurate test results, such as testing curve and event table.



● High-speed curve analysis

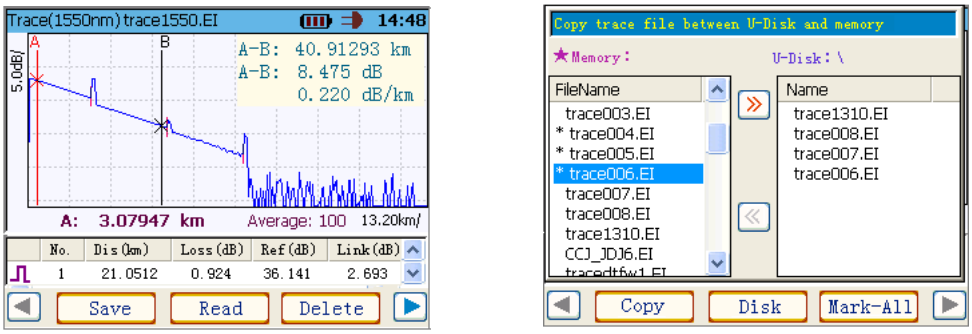
6416 can rapidly and accurately search and locate the events or fault points in the testing curve, and further list all event information in the form of event table, which is very useful for maintenance personnel, because on the one hand, it enhances the test efficiency, and on the other hand, there is no need for them to know about the complicated background knowledge.



● Powerful file management

6416 offers powerful file management function. It can not only save, browse or delete files inside the instrument or from the USB disk, but also connect to the laser printer or inkjet printer (based on PCL language) to print out the test report.

In addition, with SyncActive software, 6416 can communicate with PC via USB cable in high-speed.



File management and data transmission

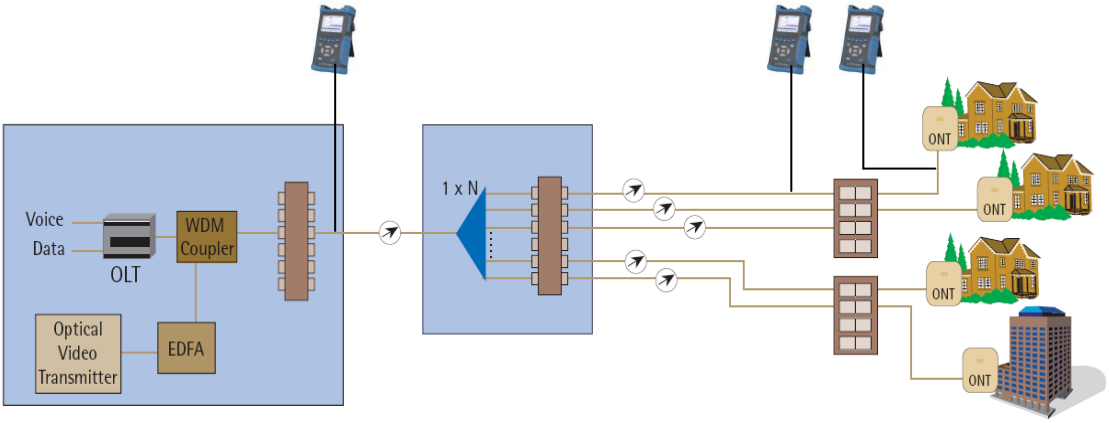
● Convenient VFL

The VFL function can rapidly and conveniently locate the breaking point or remarkable loss point along the short-distance optical fiber line, so that the maintenance personnel can take steps in short time.

● Automatic detection & alarm on the communication light signal

When measuring a fiber line in service, if there is communication light signal in the fiber, the result will be inaccurate, and it may even cause permanent damage to the optical detector in the instrument. 6416 is capable of automatically detecting the communication light signal in the fiber under test once the fiber is connected to the optical interface. If there is light signal, it will alarm, so to provide protection for the instrument in time.

Typical Applications:



6416 Palm OTDR is mainly used to test FTTx network. It provides a low cost test solution for users. 6416 offers three test modes: manual (real-time, averaging), automatic, and dead zone.

Manual test mode: manual mode is suitable for skilled operators who are familiar with the instrument, so that to get more accurate test result. In manual test mode, real-time mode or averaging mode can be selected based on user demand.

Real-time test can rapidly detect the dynamic changes of the optical fiber line. It is applicable to real-time monitor or observe the optical fiber connection process and effect.

Averaging test mode can maximumly suppress the noise in the testing curve, so to get a more accurate result. Under averaging test mode, the more averaging times, the better suppression of the noise, but the longer time it takes. So, in practice, the averaging times should be set properly according to necessity.

Automatic test mode: under this mode, the instrument can automatically set the optimized test conditions, and give out the test result. There is no need for the operators to know about the complicated background knowledge and the operation details. To enhance the automatic test efficiency, the averaging times can be increased properly, though it will prolong the test time.

Dead zone mode: this mode is suitable to test the optical fiber with short distance, for example, to test the jumper length of the optical fiber. Under this mode, to get the best result, the reflection loss (or called return loss) of the fiber terminal is required to be larger than 40dB.

Technical Specifications:

Dynamic range[1]	See details in " Technical specifications of all 6416 OTDR modules " chart
Distance accuracy	±（1m＋sampling spacing＋0.003％×distance） (not including refractive error)
Event dead zone[2]	1m
Distance resolution	0.25, 0.5, 1, 2, 4, 8, 16m
Distance range	0.5, 1, 2, 4, 8, 16, 32, 64, 128, 256km;
Pulse width	10, 30, 80, 160, 320, 640, 1280, 5120, 10240ns
Loss threshold	0.01dB
Sampling points	65534
Linearity	0.05dB/dB
Waveform storage capacity	≥800
Refractive index setting range	1.00000～2.00000
Display	320×240, 3.5 inch color LCD, touch screen operation
Interface language	Chinese/ English
VFL function	650nm±10nm, 2mW (typical); CW/1Hz
Optical output connector	FC/UPC (standard; options: LC/UPC, SC/UPC, ST/UPC)
Interfaces	USB, Min-USB
Power supply	AC/DC adapter: AC100V～240V, 50/60Hz, 1.5A DC: 15V～20V (2A) Internal lithium battery: 7.4V, 4400mAh, serving time: 10 hours (room temperature)[3]
Dimension	W×H×D = 100mm×210mm×60mm
Weight	About 1kg
Environmental suitability	Operating temperature: 0℃～40℃ (battery charging: 5℃～40℃) Storage temperature: -40℃～70℃ (battery not included) Relative humidity: 5％～95％, non-condensing

Notes:

1. Environment temperature: 23℃±2℃, max. pulse width, average times＞300, SNR=1.
2. Dead zone test mode (distance 4KM, pulse width 10ns, attenuation 10dB), fiber end reflection loss≥40dB, typical value.
3. Low brightness, no test

Ordering information:

- Main unit: 6416 Palm OTDR
- Standard accessories

No.	Name	Remark
1	Power supply	Power cord, power adapter: Input voltage 100～240V，50～60Hz，2.0A Output voltage 19V, output current 3.42A
2	Certificate of conformity	
3	User manual	
4	CD (simulation & analysis software)	
5	Engineering plastic box (straps included)	
6	Straps especially for instruments	

Note: the standard OTDR interface type is FC/UPC, FC/APC is optional.

- Standard modules

The available modules of 6416 palm OTDR are as follows:

Technical specifications of 6416 modules			
Ordering number	Operating wavelength	Fiber type	Dynamic range
Modules with single wavelength			
6416-1101	1310nm	SMF	28
6416-1102	1550nm	SMF	26
6416-1103	1625nm	SMF	26
6416-1104	1625nm (build-in filter)	SMF	26
6416-1105	1650nm	SMF	26
6416-1106	1650nm (build-in filter)	SMF	26
6416-1107	1490nm	SMF	24
6416-1108	1383nm	SMF	26
Modules with two wavelength			
6416-2101	1310 / 1550nm	SMF	28/26
6416-2102	1550 / 1625nm	SMF	26/26
6416-2103	1550 / 1625nm (build-in filter)	SMF	26/26
6416-2104	1550 / 1650nm	SMF	26/26
6416-2105	1550 / 1650nm(build-in filter)	SMF	26/26
6416-2106	1310 / 1550nm	SMF	32/30

6416-2107	1310 / 1550nm	SMF	37/35
6416-2201	850 / 1300nm	MMF	24/26
Modules with three wavelength			
6416-3101	1310 / 1550/ 1625nm	SMF	28 / 26 / 26
6416-3102	1310 / 1550 / 1625nm (build-in filter)	SMF	28 / 26 / 25
6416-3103	1310 / 1550 / 1650 nm	SMF	28 / 26 / 26
6416-3104	1310 / 1550 / 1650 nm (build-in filter)	SMF	28 / 26 / 25
6416-3105	1310 / 1490 / 1550nm	SMF	28 / 24/ 26

Note：One and only one module of OTDR must be selected.

● Options

NO.	Name	Model	Remark
6416-001	USB disk		To save waveform file
6416-002	Printer	Hp laser Jet P2015d or Hp laser Jet 1022	To print testing curves
6416-003	USB cable		Communicating with PC
6416-004	Standby battery pack	Specially for 6416	Standby battery
6416-005	SC、LC、ST adapters		
6416-006	engineering plastic box	For 6416 OTDR	

Note：For the necessity of design improvement, the above content is subject to change without notice.