AV6418 OTDR is a high performance measuring instrument with multifunction designed for testing FTTx network. It's mainly used to measure the physical characteristics of optical fiber under test, such as the length、the transmission loss and the splice loss etc.. It can also locate the faults or breaks of optical fiber. It's widely applied in the manufacture, construction and maintenance in optical fiber communication system

Main Features:

- ✧ Handheld、lightweight and convenience for carrying
- ✧ 45dB high dynamic range
- ✧ ≤1m extra-short event dead zone for test short fiber
- ✧ 0.05m high distance resolution,128k sampling points
- ✧ Fast auto measurement, analyzation, one-button operating
- ✧ Test up to four wavelengths with a single unit
- ✧ Communication light check automatically
- ✧ Remote function via Ethernet
- ✧ Double USB interfaces, supporting USB stick and printer and direct cable download to PC via ActiveSync
- ✧ Supporting Bellcore GR196 file format in writing or reading
- ✧ Built-in lithium battery with high capacity for over 8 hours of operating life
- ✧ Visible fault locating (VFL) operation distance excess 5km and optical power meter function configured
- ✧ Universal FC/PC,FC/SC,FC/ST connector type, it's convenient for surface cleaning
- ✧ Unique function of updating application software on-line, returning to factory is unnecessary
- ✧ Multiple wavelength such as 850, 1300, 1310, 1383, 1490, 1550, 1625 and 1650nm
- ✧ abundant external interface, such as USB, Min-USB, Ethernet, earphone and SD
- ✧ offers three measuring modes: manual mode (including real time mode and average mode), auto mode and dead zone mode

Extra-short event dead zone

Due to its high resolution, AV6418 OTDR has 1m extra-short event dead zone, which is suitable for testing short optical fiber and pigtail optical fiber.
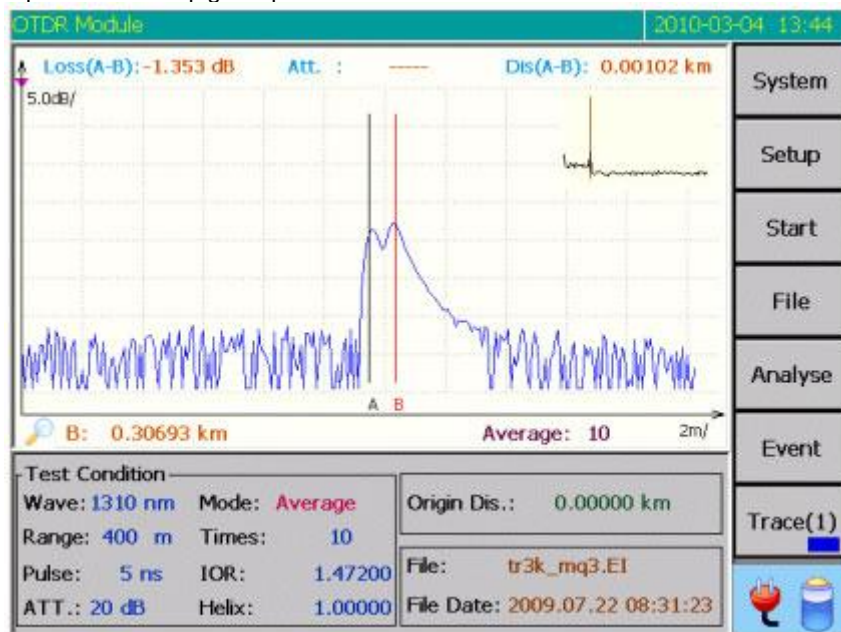
High-speed auto analyzation

AV6418 can quickly determine and locate the events and faults in trace precisely, then lists all events in even table, so it's very useful to maintainers to improving efficiency and it's unnecessary to know about the relative background knowledge.

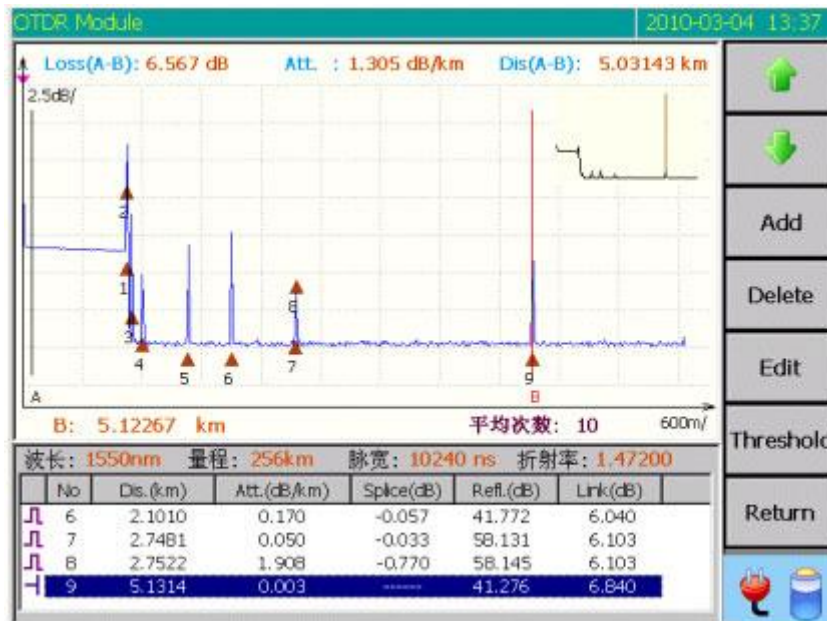Trace analyzing and event table

High-speed auto measurement

The function of auto measurement of AV6418 OTDR makes it unnecessary to operator to know about the further details of operating. The operation becomes very simple: after connect the fiber, only press 【Start】,then the trace measured is displayed and the events are listed on screen in a few seconds, now, you can view the trace and event table.

Unique PON testing capability

AV6418 is ideal for access and FTTH network testing, it enable you to test through 1x32 even 1x64 splitters for PON(passive optical network) testing.

AV6418 offers an exceptional 1m event dead zone and 0.05m high distance resolution, with which you can characterize all events between the transmitter and the central office's fiber distribution panel.

OTDR Module   2010-03-04 13:37

Loss(A-B): 6.567 dB   Att. : 1.305 dB/km   Dis(A-B): 5.03143 km

2.5dB/

B: 5.12267   km   平均次数: 10   600m/

波长: 1550nm   量程: 256km   脉宽: 10240 ns   折射率: 1.47200

No	Dis.(km)	Att.(dB/km)	Splice(dB)	Refl.(dB)	Link(dB)
6	2.1010	0.170	-0.057	41.772	6.040
7	2.7481	0.050	-0.033	58.131	6.103
8	2.7522	1.908	-0.770	58.145	6.103
9	5.1314	0.003	------	41.276	6.840

Convenient VFL function

The built-in 650nm visual fault locator (VFL) is ideal for identifying bad splice, bad connector, break or macro bend easily. The standard VFL with more than 2 milliwatt output power is factory installed in AV6418, which the operation distance is in excess of 5 kilometers.

Communication Light Check

When measuring a fiber in service, the measuring result by an OTDR is not precise, and there is a potential risk of permanent damage to the internal photoelectric of OTDR receiver. To prevent these problems, the AV6418 OTDR can detect automatically and silently if communication light is present after the fiber under test is connected, once the light is verified present, simultaneously, a warning message will be displayed and internal OTDR protection will be active instantly.

Multiple Wavelengths and Models

AV6418 OTDR can provide any of single mode or multimode or both, designed to test FUT at up to four wavelengths in single unit, such as 850, 1300, 1310, 1383, 1490, 1550, 1625 and 1650nm wavelengths, with which AV6418 can be used widely from long range to FTTx, CATV, LAN, Access and Metro networks.

Abundant external interface

AV6418 has abundant external interface, such as USB, Min-USB, Ethernet, earphone and SD, due to these, it can provide the following functions:

1. Training via multimedia for operators, which can enable you become a measuring expert within short time.

2. Implementing remote controlling through Ethernet, troubleshooting from long distance for fiber under test.

3. Printing trace and event table

4. Updating application software on-line

Typical application:
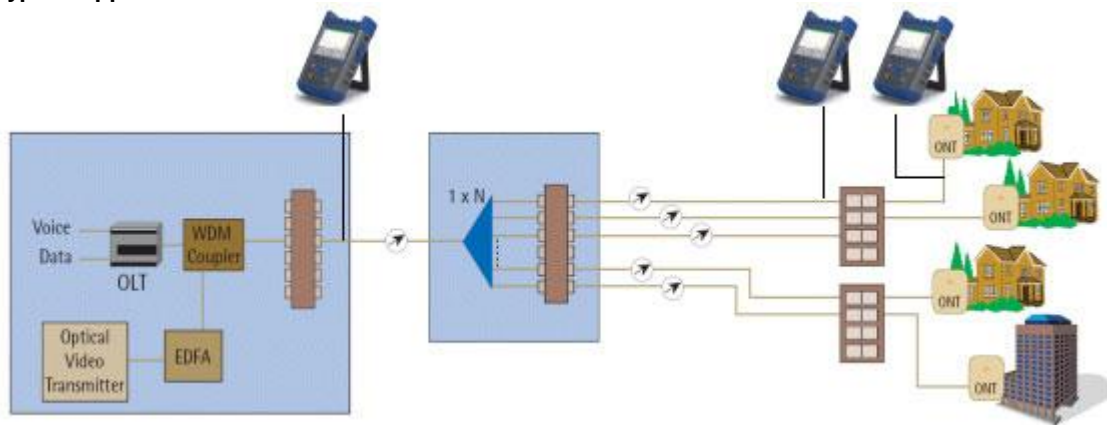
AV6418 OTDR is mainly used to measure FTTx network, it provides multifunctions in one unit. AV6418 offers three measuring modes: manual mode (including real time mode and average mode), auto mode and dead zone mode.

Manual measurement mode: manual mode is suitable for skilled operator who is familiar with the instrument. In this measurement mode, to get more accurate results, real-time mode or average mode can be selected if necessary.

In real-time mode, the dynamic changes of fiber chain can be detected timely, it is very useful when you need to observe the effect and process of fiber being spliced or connected.

In average measurement mode, the noise in trace can be suppressed, and the SNR(signal noise ratio) is improved, therefore，the result is more accurate. In fact, the more average times is executed, the more noise in trace is suppressed, and the longer time is spent for signal processing. In practice, the average times should be set properly according to necessity.

Auto measurement mode: the optimized measurement conditions are set automatically, it's unnecessary to operator to know about the complicated background knowledge and the further details of operating. In this mode, the more accurate results can be gained when proper average times are set, but it will increase the time of signal processing.

Dead zone mode: this mode is suitable for testing optical fiber with short distance and the optimized settings of distance range, pulse width and attenuator can be executed automatically. To get the best result, the terminal return loss should be guaranteed less than -40dB.

General Specifications:

Dynamic range	Please refer to "OTDR modules specifications"
Distance uncertainty	±(0.75m + sample space + measurement distance×0.0025%)[1]
Sampling resolution	0.05,0.1,0.2,0.5,1,2,4,8,16m
Distance range	0.4,0.8,1.6,3.2,6.4,16,32,64,128,256,512km(SMF); 0.4,0.8,1.6,3.2,6.4,16,32 (MMF of 850nm)
Pulse width	5,10,30,80,160,320,640,1280,5120,10240,20480ns 5,10,30,80,160,320,640,1280 (MMF of 850nm)
Loss threshold	0.01dB
Sampling points	Up to 128k
Linearity	0.05dB/dB
Loss resolution	0.001dB
Memory capacity	≥800traces(build-in), ≥65500traces(2GB SD storage)
Group refractive index setting	1.00000 to 2.00000 (0.00001steps)
Distance unit	km,m,kft,ft
Display	640×480, 6.5 inch TFT-LCD (touch screen)
Interface	USB, Min-USB, Ethernet, earphone, SD
Optical connector	FC/SC/ST (universal connector)
VFL	650nm±10nm,2mW(typical);CW/1Hz
Optical Power Meter	Wavelength range: 1200nm to 1650nm Measurement range: -60 to 0dBm Measurement accuracy: 5%(-10dBm, CW)
Power supply	AC adapter 100 to 240V, 50/60Hz, 1.5A DC:19V±2V(2A) Built-in Lithium battery: 4400mAh, operating time ≥8 hours [2]
Language	User selectable: simplified Chinese, English, Russian, Korean etc..
Environment	Operating temperature: -10 to 50℃(charging:5 to 40℃) Storage temperature: -40 to 70℃(Battery: -20 to 60℃) Relative humidity: 5% to 95%, non-condensing
Dimensions	295×186×75(mm)
Weight	2.5kg Approx.

Note1: Does not include uncertainty due to fiber index

Note2: Low brightness, exclude measuring.

Ordering information:
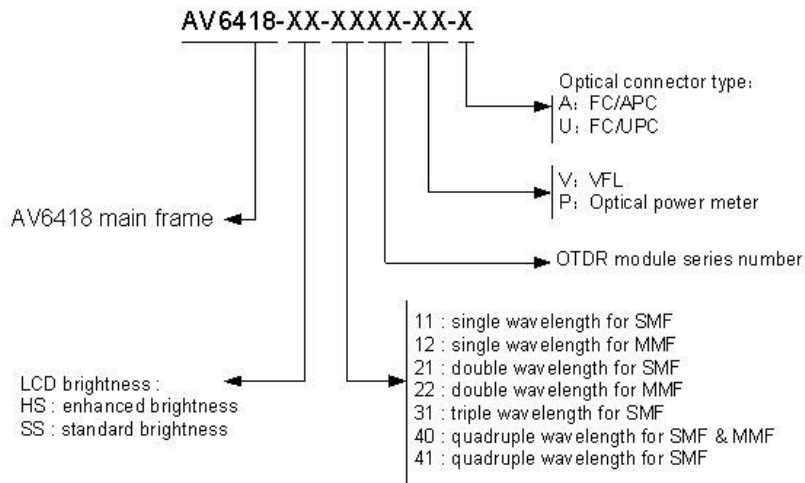
Example: AV6418-HS-2101-VP-U

Specify base unit

Ordering NO.	Description
AV6418-SS	AV6418 base unit with standard display brightness
AV6418-HS	AV6418 base unit with enhanced display brightness

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

Standard accessories

NO.	Name	NO.
1	Power line	1
2	AC/DC adapter	2
3	Quality certification	3
4	User manual	4
5	Trace analyzing software(CD)	5
6	Hard Carrying case(including gallus)	6
7	Special gallus of instrument	7

OTDR modules specifications[1]

Ordering number	Operating wavelength	Fiber type	Dynamic Range[2](dB)	Event Dead zone[3](m)	Attenuation dead zone(m)
AV6418-1101	1310nm	SMF	45	2	10
AV6418-1102	1550nm		43	2	10
AV6418-1103	1625nm		38	1	10
AV6418-1104	1625nm(build-in filter)		36	1	10
AV6418-1105	1650nm		38	1	10
AV6418-1106	1650nm(build-in filter)		36	1	10
AV6418-1107	1490nm		36	1	10
AV6418-1108	1383nm		36	1	10
AV6418-1201	850nm	MMF	26	2.5	15
AV6418-1202	1300nm		36	2	13
AV6418-2101	1310/1550nm	SMF	42/40	2/2	10/10
AV6418-2102	1310/1550nm		40/38	1/1	10/10
AV6418-2103	1310/1550nm		37/35	1/1	10/10
AV6418-2104	1550/1625nm		38/38	1/1	10/10
AV6418-2105	1550/1625nm(build-in filter)		36/36	1/1	10/10
AV6418-2106	1550/1650nm		38/38	1/1	10/10
AV6418-2107	1550/1650nm(build-in filter)		36/36	1/1	10/10
AV6418-2108	1310/1550nm		45/43	1/1	10/10
AV6418-2201	850/1300nm	MMF	26/36	2.5/2	15/13
AV6418-3101	1310/1490/1550nm	SMF	39/34/38	1/1/1	10/10/10
AV6418-3102	1310/1550/1625nm		39/38/36	1/1/1	10/10/10
AV6418-3103	1310/1550/1625nm(build-in filter)		37/36/34	1/1/1	10/10/10
AV6418-3104	1310/1550/1650nm		39/38/36	1/1/1	10/10/10
AV6418-3105	1310/1550/1650nm(build-in filter)		37/36/34	1/1/1	10/10/10
AV6418-4001	850/1300/1310/1550nm	SMF/MMF	24/34/34/34	2/2/1/1	15/13/10/10
AV6418-4101	1310/1490/1550/1625nm	SMF	35/32/34/34	1/1/1/1	10/10/10/10
AV6418-4102	1310/1383/1550/1625nm		35/32/34/34	1/1/1/1	10/10/10/10

Note1: one and only one module of above must be selected.

Note2: pulse width 10240ns, average times≥300,SNR=1,23℃±2℃;

Note3: dead zone mode, distance range: ≤3.2km, Pulse width: 5ns, terminal reflection loss:≥40dB, typical;

Options

NO.	Name	type	note
1	USB stick		Saving measuring data
2	SD		Saving measuring data
3	printer	HP LJ P2015D or HP LJ 1022	Printing traces
4	USB cable		Communicating with PC
5	Standby battery pack	6417LB-1192	Standby battery
6	FC/SC,FC/ST connectors		

Note:For the necessity of improvement, the material contained in this document is subject to change without notice.

Standard accessories

NO.	Name	quantity
1	Power line	1
2	AC/DC adapter	1
3	Quality certification	1
4	User manual	1
5	Trace analyzing software(CD)	1
6	Hard Carrying case(Including gallus)	1
7	Special gallus of instrument	1

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