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THE “MAX” MAXTESTER: EVERYBODY SAVES

APPLICATION NOTE

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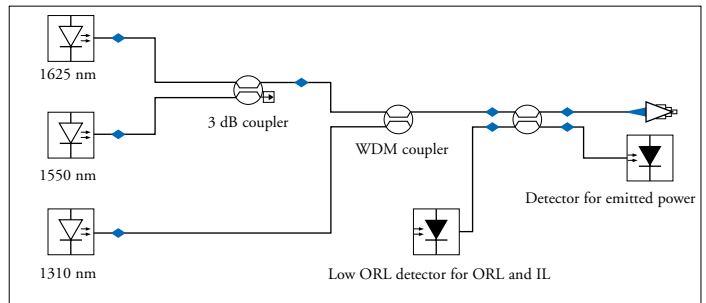
With industry cut-backs becoming increasingly severe in the past couple of years, the new buzz words in the telecom industry are CAPEX and OPEX reduction. From a testing point of view, this means fewer instruments, accomplishing more jobs, in a lot less time. That is how the FOT-930 MaxTester Multifunction Loss Tester came to be.



FOT-930 MaxTester

The first thing to know about the FOT-930 is that it is both a power meter and a light source. Its primary job is to take loss measurements. However, in addition to the external power meter, the source port is coupled with a detector of its own. This detector enables the source port to both emit and receive. The huge advantage here is that with an FOT-930 at each end of the link, you can take bidirectional measurements without having to disconnect the fiber.

As can be seen on the optical layout, up to three wavelengths (1310, 1550 and 1490 or 1625 nm) can be sent through the same port, at the same time, allowing insertion loss (IL) and ORL at all wavelengths to be measured simultaneously—IL by the receiving FOT-930, and ORL by the emitting FOT-930. In this case, ORL testing does not require a mandrel as it uses the termination created by the other MaxTester, and this termination's ORL has been referenced out during the referencing procedure.



This means that with a simple click of a button, you can test IL and ORL, at three wavelengths, in two directions, at the same time. This is a total of 12 tests in less than 10 seconds. Want more?

Besides all this, during the same test, you will also get a fiber length measurement. We are now up to 13 test results in 10 seconds. This is optimization!

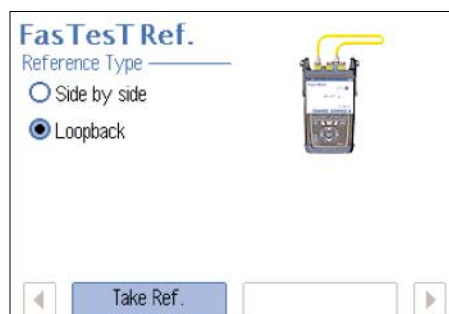
LOSS Results			
Cable001		Fiber001	
	Loss (dB)		
ID	A->B	B->A	AVG
1310	28.00	28.30	28.15
1490	25.30	24.90	25.10
	24.90	24.00	24.45

Fiber Length: 102 km

Clear Pass/Fail information




The external power meter port mainly serves to measure absolute power (up to +26 dBm, and calibrated at 40 wavelengths), but it also enables loopback referencing. The test jumper is connected directly from the source port to the external power meter port, and referencing is done automatically, without having to bring the pair of instruments together. This is also a huge time-saver as instruments are often used tens of kilometers apart.



Online instructions for loopback referencing

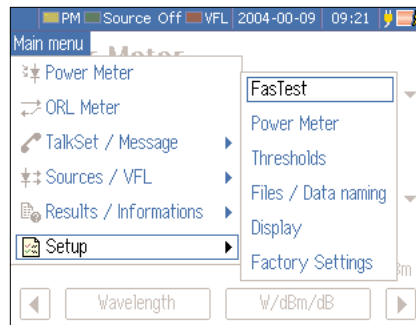
So far, this instrument is a power meter, but such a special one that it includes a light source, and backreflection meter. And, it can measure length all in a single test. But some people also work on testing, qualifying or repairing multimode networks. Fear not, the FOT-930 can be equipped with a second port source/internal power meter, with two multimode wavelengths (850 and 1300 nm). This second port will test IL in both directions and will also measure length, down to a few meters of accuracy.

Now what about if the technician goes from the CO to the OSP world, won't this create dark currents within the unit, forcing either a zero nulling operation or bad values to be acquired? No problem here either; the FOT-930's unique technology is immune to dark current generation, making the offset nulling task completely optional, without affecting the confidence level of results. All the technician needs to do is press the  button and test!

What other tools do technicians require on a regular basis? A red-light visual fault locator to inspect patchcords or to identify fibers in a CO, a talk set to communicate and synchronize actions with other technicians, and maybe a microscope to inspect fiber ends to ensure optimum efficiency—it's all here.

- The FOT-930 can be equipped with a 650 nm red-light VFL with a universal connector that fits any fiber.
- The FOT-930 can be equipped with a talk set offering high sound quality, a wide dynamic range, and auto-redial if the connection is cut.
- The FOT-930 can be equipped with an external video fiber inspection probe that enlarges the image of the fiber end by 400 times and displays it on a giant color screen. The image can also be captured for an in-depth inspection.

All these functions at your fingertips, displayed on a large Quarter-VGA (320 x 240) color screen (up to 262 144 different colors). Menus are Windows-like, easy to use, and on-screen Help can be accessed via a dedicated button.



Scroll-down Windows-like menus for quick mastering of the instrument

Up to 1000 test results can be stored per unit, so a pair of technicians can work and save several days' worth of data before having to download the info, through the RS-232, to a PC. The off-line application, installable on any PC, can then be used to analyze the information and create custom reports.

Conclusion

Ease and productivity were top priorities in the FOT-930 design. We wanted to pay close attention to the details that maximized convenience, so that testing time is optimized and no time is wasted on little things.

Two field-changeable, rechargeable batteries, with on-screen indicators, are included so technicians know when it is time to either plug the FOT-930 into the AC adapter, or change one of the batteries (hot-swappable). The FOT-930 also has a rugged support stand and a handy shoulder strap to be able to carry it anywhere and use it hands-free. When the situation does not permit hands-free operation, the ergonomic design makes it a perfect handheld. Even if it's dropped or shaken, it will remain a high-performance tool, and with its three-year recommended calibration cycle and three-year warranty, the convenience is long-term.

The FOT-930 MaxTester truly wears its name well—it's the most complete multifunction loss test set in the world. It greatly increases the efficiency of any company, reducing the need for several test instruments, reducing the chance of error, reducing training time, while saving lots of money. In today's OPEX- and CAPEX-reduced world, it's a dream come true.



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