

# XC-8513

## Cross Checking Reflectometer



- **Designed specifically for multimode premise datacom fibers**
- **Quick and easy to set up and use with a range of conveniently packaged patchcords**
- **Pinpoints faults to within 0.5 m**
- **>16dB dynamic range at 850 nm**
- **>13dB dynamic range at 1300 nm**
- **Brilliant high resolution colour display**
- **Splash proof, dust proof and rugged**

### FEATURES

The XC-8513 is a new concept in the evolution of Optical Time-Domain Reflectometers (OTDRs). It has been designed specifically with the requirements of the premise datacom installer in mind. In this application many of the features associated with complex telecommunication OTDRs are not appropriate and new features are desirable.

Datacom fiber links are short lengths of duplex (twin fiber) cable installed as part of a Local Area Network (LAN) within a building. Many topologies are used but all require the individual fiber segments to be tested to measure the loss of the fiber and the connectors.

The XC-8513 automatically measures the fiber loss and connector loss of the datacom link and will measure both fibers of the duplex cable without manual reconnection. Most importantly it will diagnose the cause and establish the precise location of any faults. This cannot be achieved using other techniques such as a light source and power meter.

All results may be stored for further analysis, or use in a report, on a large capacity storage card.

There are normally many individual fibers in a LAN installation especially where fiber to the desktop is deployed. The XC-8513 has many features to aid the documentation of these installations. A full keyboard to annotate cable and fiber identities, a barcode reader option and automatic duplex cable labeling.

### DISPLAY AND DATA HANDLING

The XC-8513 is controlled through six “soft” control keys at the side of the screen. Data entry is through a built-in keyboard or barcode reader and the measurement cursors are positioned by a built-in 2-axis controller.

The measurement traces and loss analysis results are stored on a standard Smart Card (storage card) in Telcordia (Bellcore) GR 196 format and CSV format. They are therefore readable using many proprietary OTDR software packages or Microsoft Office applications.

The XC-8513 configuration parameters are stored on the same storage card as the results. These parameters may be specified using the easy-to-use PC software provided. This enables the XC-8513 to be configured off-line: It enables the instrument configuration to be stored with the resultant traces: It enables multiple instruments to be quickly and reliably set to the same configuration.

### Power System

The XC-8513 is powered by a rechargeable battery that provides for a 10 hour working shift even with the display backlight on. Recharging is through an external charger/power supply that enables the XC-8513 to keep working while charging.

**SPECIFICATION SUMMARY**

**Output Ports**

Two ports, A and B, for automatic duplex measurement. (Both capable of both wavelengths.)

|                              |   |
|------------------------------|---|
| <b>Wavelengths</b>           | 850 nm +/-20 nm<br>1300 nm +/-20 nm   |
| <b>Pulse width</b>           | 4 ns (0.8 meter) at 850 nm<br>40 ns (8 meter) at 1300 nm  |
| <b>Fiber types</b>           | 62.5 µm or 50 µm multimode graded index   |
| <b>Maximum Fiber Length</b>  | 2 km  |
| <b>Distance Precision</b>    | +/-0.5 meter location accuracy  |
| <b>Dynamic Range</b>         | > 16dB at 850 nm into 62.5 µm<br>> 13dB at 1300 nm into 62.5 µm<br>(256 k averages where S/N = 1) |
| <b>Group Index</b>           | User-adjustable between 1.2 – 2.5   |
| <b>Event Dead-zone</b>       | <2 m at 850 nm<br><8 m at 1300 nm   |
| <b>Attenuation Dead-zone</b> | <4 m at 850 nm<br><16 m at 1300 nm.   |

(As with all OTDRs, deadzone parameters are very dependent on the event reflectance. The Telcordia definition is used.)

|                  |   |
|------------------|---|
| <b>Averaging</b> | User selectable from 8, 32 or 128 seconds |
|------------------|---|

Connection is made to the XC-8513 using an IEC or TIA compliant mode-conditioning patchcord box fitted with an SC connector. Connection from the patchcord box to the fiber being tested is through a (user specified) SC, FC, ST or LC connector.

The XC-8513DST is fitted with a backlit, 100 mm, Color, 1/4 VGA transmissive display perfect for most indoor environments. The XC-8513DSR is fitted with a transreflective display for viewing in bright light conditions.

**Dimensions and Weight**

|                    |                            |
|--------------------|----------------------------|
| <b>Front panel</b> | 135 x 240 mm (5.5" x 8.5") |
| <b>Depth</b>       | 245 mm (9.75")             |
| <b>Weight</b>      | 4 kg (10.8lbs)             |

**Mode Conditioning Patchcord Box (not included)**



These contain approximately 100 meters of fiber with an SC connector to the XC-8513. Inside the box there is the appropriate mandrel configuration to aid equilibrium mode distribution. The XC-8513 is a duplex instrument and will automatically switch between the A and B measurement ports. To take advantage of this feature the two ports need to be combined into a normal duplex cable using the Duplex versions of the Mode Conditioning Patchcord box.

These are specified by the following code: MXG-NYY-ZZZ

Where:

M is for multimode fiber

X is S for Simplex or D for Duplex

G is for graded index fiber

N is 5 for 50 micron core or 6 for 62.5 micron core

YY is the connector type SC, ST, FC or LC

ZZZ is the international standard TIA or IEC to which a 50 micron fiber version mandrel wrap will comply.

Simplex versions may be used with the XC-8513 if there is no requirement to automatically measure duplex fibers.

**ORDERING INFORMATION**

| Item (Qty)                                       | Order No. | Item (Qty)  | Order No. |
|--|-----------|---|-----------|
| XC-8513DST                                       | 6411-085  | PC Configuration Manager software   |           |
| Transmissive display                             |           | User Manual   |           |
| XC-8513DSR                                       | 6411-084  | Megger Guide to LAN Fiber Measurement   |           |
| Reflective display                               |           | Travel bag (Holds XC-8513, multiple patchcord boxes, charger, documentation folders and plenty of other tools.) |           |
| <b>Accessories included with the units above</b> |           | <b>Accessories not included</b>   |           |
| 32MB Smart storage card                          |           | Mode Conditioning Patchcord Boxes (see above)   |           |
| Mains battery charger/power supply               |           | Barcode reader (RS232)  | 6231-623  |
|  |           | Cigar lighter socket PSU/charger  | 6280-353  |

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