

# CMA5000a OTDR Module Series

## Optical Time Domain Reflectometer

The CMA5000a Optical Time Domain Reflectometer (OTDR) application is based on over 30 years of development and experience in characterizing optical fibers. Our world – class OTDR modules continue this tradition with the latest in high performance hardware and dedicated, easy to use software.

The compact size of the OTDR application module allows another module (OTDR or test fiber box) to be inserted into a small bay adapter and up to three more into a medium or large bay adapter.

### Benefits

- Sophisticated analysis software provides consistent and accurate fiber characterization
- Dedicated testing modes simplify commonly performed tasks
- Easy to use for any skill level – from fault location to advanced fiber analysis
- Touch screen and hard key user interfaces ensure smooth and efficient operation
- Solutions for all network types: Metro, CWDM, ultra-long haul and FTTP deployments
- Complete fiber characterization from 10 available wavelengths
- Automated, on-the-box reporting

### High Performance Hardware

To satisfy even the most demanding testing requirements, the CMA5000a series OTDR modules, feature a multitude of available wavelengths including 1310 nm, 1550 nm, and 1625 nm. Up to three of these wavelengths can be combined into a single optical port providing full spectrum fiber characterization at the press of a button and are ideal for testing backbone or metro networks that deploy CWDM. For ultra-long haul systems, the CMA5000a OTDR modules feature up to 50 dB of dynamic range (enough to see approximately 250 km of fiber) – with an impressive 1 meter resolution.



**Dedicated, Ease to Use Software**

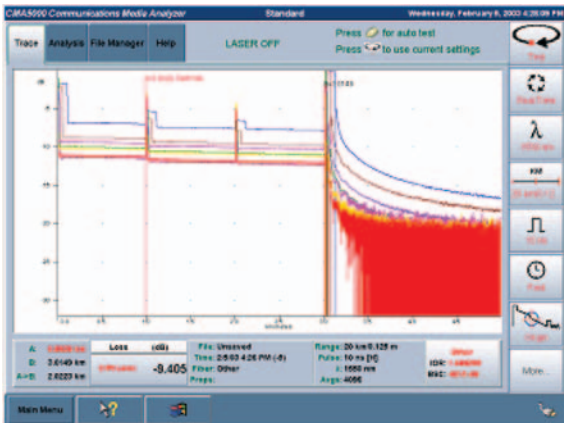
To simplify testing, the CMA5000a features dedicated testing modes to automate and simplify the task at hand.

Fault Locate mode is designed for someone just starting out or the novice who only uses an OTDR occasionally. Simply connect the fiber and press test. The unit will verify the fiber is connected correctly, select testing parameters, execute the test and provide a text response indicating fault/break location and end to end loss.



**Fault Locate Mode – ease to read results**

For those who have more experience or would like to perform more advanced testing, Classic OTDR mode allows the user to select all parameters, compare up to eight traces and even generate splice loss reports.



**Classic OTDR – advanced testing**

Cable commissioning is also automated through the use of Construction OTDR mode where a wizard allows the user to select the required testing wavelengths, number of fibers and file naming scheme. The wizard then becomes the project manager guiding the user through the testing and ensuring consistency with testing parameters and file naming – virtually eliminating user induced errors.



**Construction OTDR – automated multi-fiber testing**

**• Added Value**

To further increase the value of your CMA5000a OTDR, it can be equipped with an integrated power meter, a high output stabilized light source and integrated Visual Fault Locator (VFL). These options are integrated into the single slot OTDR module and do not require an additional module slot like some other solutions. In addition, all OTDR wavelengths are available as stabilized light sources reducing the equipment cost and providing a complete end-to-end loss testing solution.

Whatever your testing needs, our world-class OTDR products are designed to reduce the time to install, commission and maintain fiber spans.

## Specifications

Model	Wavelength*1	Optical Fiber Type	Pulse Width*2	Dynamic Range (typical) (SNR = 1)*3	Deadzone (typical) (back-scattered)*4	Deadzone (typical) (Fresnel)*5
5225	1310 nm ±20 nm 1550 nm ±25 nm	Single Mode (8 μm to 10 μm)	5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10000, 20000 ns	37 dB	9 m	4 m
5245	1310 nm ±20 nm 1550 nm ±25 nm			36 dB	9 m	3.5 m
5246	1310 nm ±20 nm 1550 nm ±25 nm 1625 nm ±15 nm		5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10000, 20000, 30000 ns	43 dB	10 m	5 m
				45 dB	10 m	5 m
5254	1550 nm ±25 nm			43 dB	10 m	5 m
				50 dB	10 m	5 m

\*1: At 23°C, 10 μs pulse width

\*2: Range dependent

\*3: SNR = 1 with up to 256k averages (typical)

\*4: Deadzones measured on -45 dB reflections

\*5: Using Bellcore TR-TSY-000196 Issue 2

### • Common Specifications

Distance Range*1	5, 20, 50, 75, 125, 250, 300 km
Sampling Resolution*1	0.125, 0.5, 1, 2, 4, 8, 16 m
Sampling Points	Up to 256,000
IOR Settings	1.300000 to 1.700000
Distance Measurement Accuracy	0.0025% of distance measurement ± distance resolution ± index uncertainty
Loss Measurement Accuracy (Linearity)	±0.04 dB/dB
Loss Resolution	0.001 dB
Laser Safety*2	IEC 60825-1: 2007: CLASS 1 21CFR1040.10 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007
Optical Connector	Universal with UFC, USC, UST, AFC, ASC
Operating Modes	Fault Locate, Classic OTDR, Construction (Automated Multi-wavelength, Multi-fiber testing), Networks (data processing and report generation) Optional: Power Meter, Stabilized Light Source, Visual Fault Locator (VFL), Video Inspection Probe (VIP)
EMC	EN61326-1, EN61000-3-2
LVD	EN61010-1

\*1: Wavelength and range dependent

\*2: Safety measures for laser products

This product complies with optical safety standards in 21CFR1040.10 and IEC 60825-1; the following descriptive labels are affixed to the product.



### • Loss Test Set Option

Stabilized Light Source	Type	Single mode (8 μm to 10 μm) Laser (same wavelength and specs as OTDR)
	Output	-8 dBm (min.)
	Stability (at 23°C)	±0.2 dB (8 hours)
	Modes of Operation	CW, 1 kHz, 2 kHz
	Connector Type	Same as OTDR
Power Meter	Detector Type	InGaAs
	Wavelength Range	780 nm to 1800 nm
	Calibrated Wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm
	Power Range	Standard: -55 to +10 dBm, CATV: -45 to +20 dBm
	Resolution	0.01 dB, 0.01 W
	Accuracy	±4% (-50 to +5 dBm), ±8% (+5 to +10 dBm, -55 to -50 dBm)
	Linearity	±0.10 dB (-50 to +5 dBm)
Connector Type	Universal (uses LP-XX adapters)	
Visual Fault Locator	Wavelength	650 nm ±20 nm
	Output	0 dBm into 9 μm/125 μm fiber (max.)
	Transmission Modes	CW, 2 Hz
	Connector Type	2.5 mm universal
	Laser Safety*	IEC 60825-1: 2007: CLASS 3R 21CFR1040.10: CLASS II

\*: Safety measures for laser products

This product complies with optical safety standards in 21CFR1040.10 and IEC 60825-1; the following descriptive labels are affixed to the product.



## Ordering Information

Please specify the model/order number, name and quantity when ordering.

The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

The CMA5200 OTDR's are Single Bay modules that include one OTDR/Source Universal Adapter (UC-130-XX) at no charge. For units with a Power Meter option, a Meter Connector Adapter (LP-XX) is also included at no charge.

Additional OTDR modules are available in various combinations of wave lengths and dynamic ranges. Please contact Anritsu for a comprehensive list.

### • Module Number:

52    -    -    - OTDR -    -     
    A      B                          C

A = Select an OTDR Module

25 = Singlemode, 37/36 dB dynamic range, dual-wavelength 1310 nm/1550 nm  
45 = Singlemode, 43/45 dB dynamic range, dual-wavelength 1310 nm/1550 nm  
46 = Singlemode, 43/45/43 dB dynamic range, tri-wavelength 1310 nm/1550 nm/1625 nm  
54 = Singlemode, 50 dB dynamic range, single-wavelength 1550 nm

B = Select Meter, Light Source and VFL Options

000 = No Meter, Light Source or VFL  
001 = VFL Only  
210 = +20 dBm Meter and Light Source  
211 = +20 dBm Meter, Light Source and VFL

C = Select Connector

UFC = FC/UPC  
USC = SC/UPC  
UST = ST/UPC  
AFC = FC/APC  
ASC = SC/APC  
AST = ST/APC



Specifications are subject to change without notice.

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