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M200 Handheld OTDR

The Noyes M200 from AFL Telecommunications offers unmatched OTDR capabilities in a handheld package weighing less than 1 kg (2 lb). Multimode, Single-mode, and 'Quad' wavelength models are offered. With short dead zone and intermediate range specifications, the M200 is ideal for Tier 2 testing of premises (building and campus) networks or certification and troubleshooting of FTTX PON networks. And its bright, transflective display makes it suitable for both indoor and outdoor operation.

The M200 is based on a new hardware/software platform that supports automatic and manual setup, precision event analysis, dual-wavelength testing, rich file naming and folder setup, 6-hour battery life, internal and removable media data storage, and USB connectivity. Test ports are equipped with tool-free adapters, which can be changed in seconds. A custom-designed polycarbonate case and shock-absorbing boot make it our most rugged OTDR ever.

Results are saved as industry standard .SOR files, which can be viewed, printed, and analyzed on a PC using free-ware available to you and your customers (go to www.afltele.com to download). Unit firmware, user settings, and test results are saved in non-volatile memory. Thus the M200 may be stored with battery removed for an extended period of time and still be up and running in seconds when needed.

New Feature

USB Host Port offers a new convenient way to transfer data from the M200 to a PC. By using a standard USB Flash Drive to transfer traces, the user no longer needs a USB Cable, ActiveSync or a Compact Flash reader. Using the Tools in the M200 File Manager, one or more folders or files can be copied to a USB Flash Drive for transfer to a PC. Thousands of files will fit on a 64 MB or larger USB Flash Drive.

Features

- Handheld, 0.9 kg (2 lb)
- 22 dB (MM), 26 dB (SM) dynamic range
- Integrated VFL (650 nm)
- Tool-free, switchable adapters
- Transflective (indoor/outdoor) touch-screen display
- USB Host and Function Ports

Applications

- Tier 2 testing of premises networks
- FTTX PON certification and troubleshooting
- Fast fault location
- Splice verification
- Network documentation

Ordering Information

MODEL	DESCRIPTION	TEST PORT ADAPTERS
M200-00-0900PR	850/1300nm multimode and 1310/1550nm single-mode OTDR	(1) ST, (2) SC, and (1) FC *
M200-11-0900PR	1310/1550nm single-mode OTDR	SC and FC *
M200-12-0900PR	850/1300nm multimode OTDR	ST and SC *

* LC test port adapters are available (order separately).

NOTES:

1. All models include a rugged, soft-sided carry case with shoulder strap, 110/220 VAC power adapter with country-specific power cord, and user guide.
2. M200 Standard OTDR supported languages: English, French, German, Italian, Portuguese and Spanish. For Chinese/Taiwanese, Japanese, or Korean models part numbers, please contact Noyes.

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M200 OTDR with standard accessories

M200 OTDR with standard and optional accessories

M200 Handheld OTDR in a Hard Case

The Noyes M200 OTDR is also available in a tough injection molded ABS carrying case. The rugged transit case has a full length hinge, padlock loops, secure snap latches and an O-ring seal to protect the contents from dust and water. In addition to the OTDR, the custom case has room for cleaning products, launch and receive rings, documentation and more. Order the Hard Case alone or with one of the M200 configurations. Add test accessories such as fiber rings and cleaning kits to be ready to clean and test fiber optic networks.

M200 Hard Case Ordering Information

The M200 Hard Case option should be specified when ordering the M200 OTDR. For the M200 OTDR in a Hard Case ordering information, refer to the table below.

MODEL NUMBER	DESCRIPTION
1400-01-0075PZ	Hard Case for M200
M200-00-0903PR	850/1300nm multimode and 1310/1550nm single-mode M200 OTDR in Hard Case
M200-11-0904PR	1310/1550nm single-mode M200 OTDR in Hard Case
M200-12-0902PR	850/1300nm multimode M200 OTDR in Hard Case

NOTE: *Fiber rings and cleaning supplies are not included with the M200 in the Hard Case option, they must be purchased separately. To order fiber rings or cleaning supplies with your M200, refer to the 'Accessories Ordering Information' table below.*

Accessories Ordering Information

MODEL NUMBER	DESCRIPTION
FIBER RINGS	
FR1-M5-150-x1-x2	Standard, 1 fiber, 50/125 μm multimode, 150m
FR1-L5-150-x1-x2	Standard, 1 fiber, Laser Optimized, 50 μm multimode, 150m
FR1-M6-150-x1-x2	Standard, 1 fiber, 62.5/125 μm multimode, 150m
FR1-SM-150-y1-y2	Standard, 1 fiber, single-mode, 150m
CLEANING ACCESSORIES	
8500-20-0900	Wet Cleaning Kit (shown) for SC/FC/ST/LC connectors. Includes: • 8500-10-0016MZ, Cletop-SB. • CCTS-25-0900MZ, Connector Cleaning Tips for 2.5mm ferrule in adapters or sockets (SC, FC, ST in adapters). Blue (40 sticks per tube). Qty = 1 tube • CCTS-12-0900MZ, Connector Cleaning Tips for 1.25mm ferrule in adapters or sockets (LC, MU in adapters). Green (40 sticks per tube). Qty = 1 tube • FCC2-00-0900, optical quality Cleaning Fluid for fiber connector end faces.
8500-20-0901	Dry Cleaning Kit Includes: • 8500-10-0016MZ, Cletop -SB. • 8500-10-0024MZ, ACT-01 2.5mm adapter cleaning tips (Qty = 200).
8500-05-0001MZ	One-Click Cleaner SC
8500-05-0002MZ	One-Click Cleaner LC/MU

NOTE: *When ordering Fiber Rings, specify connector types (x1, x2, y1,y2)*

![NOYES logo] **NOYES** *Test & Inspection*

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Specifications

OTDR SPECIFICATIONS		
	MULTIMODE	**SINGLE-MODE**
Emitter Type	Laser	
Safety Class	Class I FDA 21 CFR 1040.10 and 1040.11, IEC EN60825-1:2007-03	
Center Wavelengths	850 / 1300 nm	1310 / 1550 nm
Wavelength Tolerance	± 20 / ± 30 nm	± 20 / ± 30 nm
Dynamic Range (SNR = 1)	22 dB	26 dB
Event Dead Zone [1]	1.5 m	1.5 m
Attenuation Dead Zone [2]	9 m	9 m
Pulse Widths [3]	10, 30, 100, 300 ns, 1, 3 μs	10, 30, 100, 300 ns, 1, 3, 10 μs
Range Settings	250 m to 32 km	250 m to 208 km
Data Points	Up to 16,000	Up to 16,000
Data Point Spacing	0.25 m (range ≤ 4 km) Range/16000 (range ≥ 8 km)	
Group Index of Refraction (GIR)	1.4000 to 1.6000	
Distance Uncertainty (m)	± (1 + 0.005% x distance + data point spacing)	
Trace File Format	Bellcore GR-196 Version 1.1	
Trace File Storage Medium	Internal non-volatile memory, removable Compact Flash Card (not included), and USB Flash Drive	
Trace File Storage Capacity	> 100 internal; thousands on Compact Flash or USB Flash Drive	
Trace File Transfer to PC	USB Flash Drive Type 1.1, Compact Flash or Mini USB Cable with ActiveSync	
VISUAL FAULT LOCATOR SPECIFICATIONS		
Emitter Type	Laser	
Safety Class	Class II FDA 21 CFR 1040.10 & 1040.11; IEC 825-1:1993, EN60825-1:2007-03	
Wavelength	650 nm	
Output Power (nominal)	0.8 mw	
GENERAL SPECIFICATIONS		
Size (in boot)	23 x 11 x 7 cm (8.8 x 4.3 x 2.8 inches)	
Weight	0.9 kg (2 lb)	
Operating Temperature	-10 to +50 °C	
Storage Temperature	-20 to +60 °C	
Relative Humidity	0 to 95% RH (non-condensing)	
Power	Removable LiIon or 110/220 VAC power adapter	
Battery Life[4]	6 hours	
Recharge Time [4 & 5]	3 hours	

NOTES:

1. Typical distance between the two points 1.5 dB down each side of a reflective spike caused by a -40 dB (Multimode) or -45 dB (single-mode) event using 10 ns pulse width.

2. Typical distance from event location to point where trace is within 0.5 dB of backscatter.

3. 3 μs pulse width not available at 850 nm.

4. New battery.

5. Typical, from fully discharged to fully charged state, unit may be operating.

All specifications are subject to change.

All specifications valid at 23°C ± 2°C (73.4°F ± 3.6°F) unless otherwise specified.

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