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Network Master™ Series

MT9090A
Mainframe

MU909020A
Optical Channel Analyzer Module

Network Master
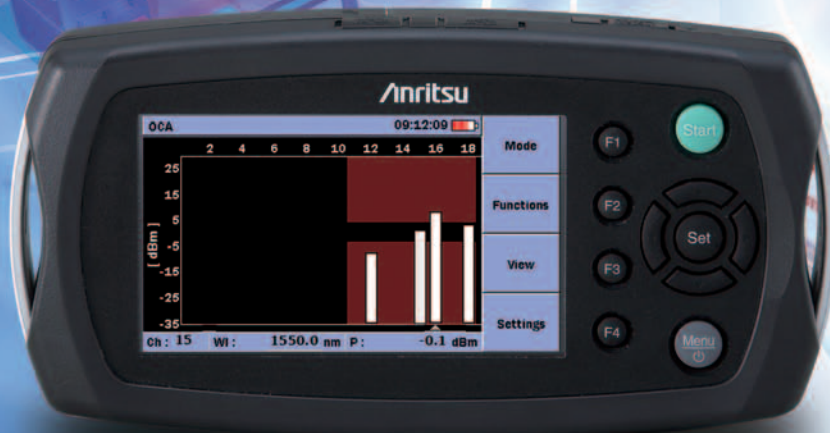
CWDM Access Network Testing Redefined!

MT9090A/MU909020A OVERVIEW

Many operators choose Coarse Wavelength Division Multiplexing (CWDM) technology to increase bandwidth capacity in metro access and enterprise networks, where deploying DWDM systems would be cost prohibitive. Although OSAs are well adapted for testing long-haul WDM links, their complexity, big size, heavy weight, slow measuring time, and high price make them inappropriate for use as field testers in CWDM access networks.

The new MT9090A Optical Channel Analyzer from Anritsu finally addresses this need by providing all the features and performance required for installation and maintenance of CWDM networks in a compact modular test set. It provides unmatched value and ease of use, while not compromising performance. The MT9090A provides an overview of the power levels and wavelengths of all 18 CWDM channels at a glance, with easy comparison to pass and fail indicators. It also enables long-term characterizations with several drift functions.

The MT9090A with the MU909020A module is an essential tool for CWDM networks. Its ease of use, low price, measuring speed, robustness, and size make it the perfect product for field CWDM testing.

Key Features

- Dedicated tool for installation, commissioning, and troubleshooting of CWDM networks
- Fast and accurate overview of all CWDM channels and channel drifts over time
- Fully compliant to the ITU-T G.695 and G.694.2 standards
- Pre-stored or user-defined threshold values for easy Go/No Go testing
- Power meter operation with measurement of the total incident power
- Short boot-up and warm-up times plus long battery life, for rapid field characterization of CWDM networks
- High resolution, widescreen color display that is easy to read indoors or out
- Rugged, sealed design provides years of service in the most challenging environments
- Modular platform ensures maximum return on investment
- Compact and lightweight design for maximum portability in the field
- High performance without a high price

Designed for field operations

The MT9090A is purpose built for testing CWDM channels in the field. Its hardware and user interface are optimized for simplicity, making it easy to use for any skill level, and it is rugged enough to function in any harsh environment.

Quick Startup

The MT9090A is ready for measurement in about 15 seconds, so productive work can start immediately.

Long Battery Life

Since AC power is not always available where you need it, especially at fiber pedestals, the MT9090A typically provides 4 hours of testing on a single charge. This, coupled with an optional car cigarette lighter cord, guarantees the MT9090A is ready when you are.

Portable

With its lightweight design and user friendly dimensions, the MT9090A is perfect for the outside plant environment and can easily be managed with one hand. Its standard softcase with shoulder strap further facilitates portability when traveling from the truck to the testing site.

Rugged

With no moving parts for channel detection, and no fans or vents to allow dust or moisture to enter the unit, the MT9090A was designed for the challenging outside plant environment.

4.3 Inch Wide Screen Display for Easy Viewing

The high resolution, full color, 4.3 inch wide screen display is the perfect format for viewing results. It also provides excellent readability both indoors and outdoors.
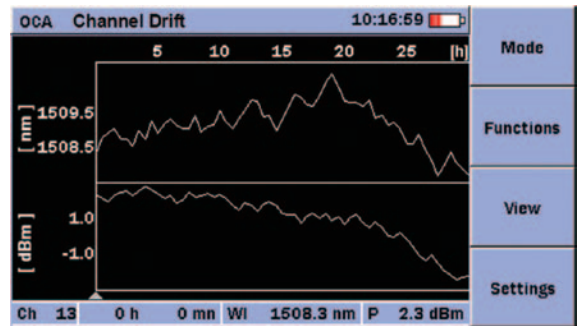
No Experience Required

With the MT9090A, the expertise is built in. Using intuitive graph and table displays of wavelength and power levels and drifts, with pass and fail indicators defined by the ITU-T G.695 standard, anyone can certify and troubleshoot CWDM networks.

Small on price, not on features!

1) 4.3 inch high resolution, indoor/outdoor color display

2) Dedicated function keys for performing tasks

3) START key for fast testing

4) Arrow keys for zooming, cursor movement, and menu navigation

5) SET to select/accept

6) Menu key for easy access to set-ups and mass storage

7) Optical port with universal connector adapter

8) Dual USB ports for quick and easy data transfer

Dedicated tool for CWDM applications

Anritsu designed the MT9090A/MU909020A to measure and monitor power and wavelength over the 18 CWDM channels. With its fast and reliable measurements, and a software interface focused exclusively on the features needed for quick and easy characterization of CWDM links, it is a cost-effective alternative to more complex OSAs for the CWDM market.

Fast Measurement

With no moving parts, the MU909020A is faster than any OSA, providing quick troubleshooting of a CWDM network.

Intuitive Operation

Using simple navigation in the function keys menu, results are displayed in comprehensive graphs and tables. These provide an instantaneous overview of channels, central wavelengths, power levels, and drifts over time.

Table mode

Graph mode

Channel drift graph mode

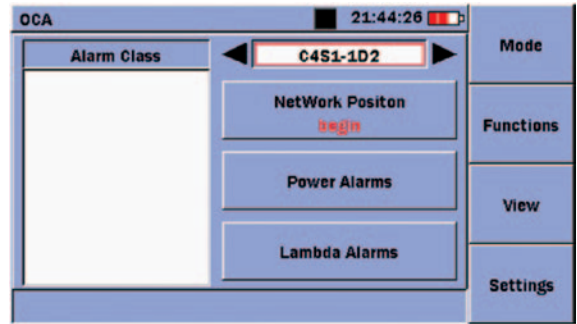Press the F1 key to select the displayed mode,
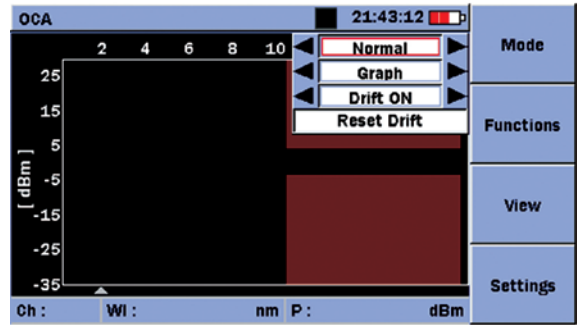
Mode selection

And simply press the START key to begin the characterization.
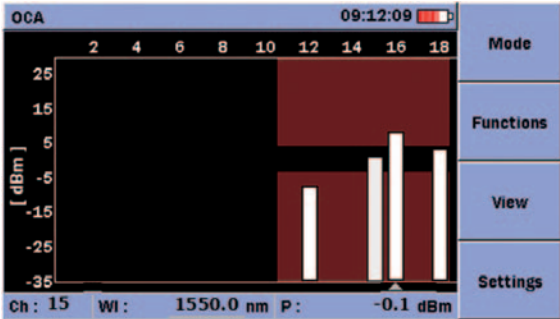
PASS/FAIL Thresholds

Threshold values are stored for all parameters and configurations defined in ITU-T G.695 standard. Select the appropriate alarm class and position in the network in the settings menu. User defined thresholds and configurations can also be set and stored.
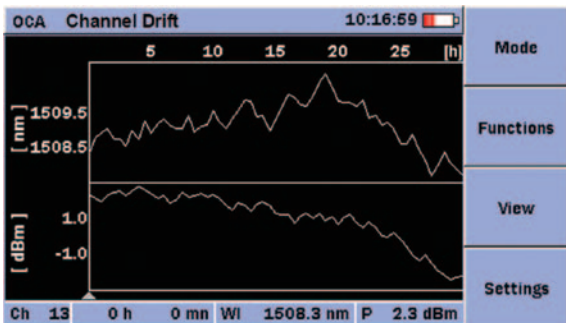
Alarms settings
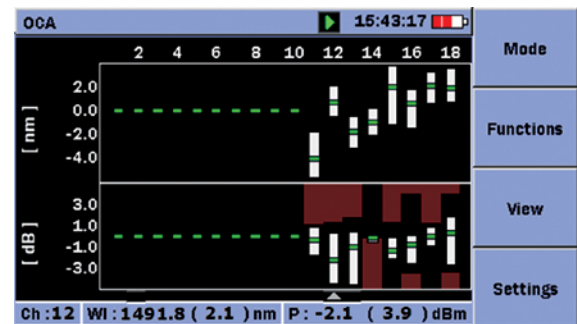
Failures are easily identified with pass and fail indicators in any displayed mode, for immediate diagnosis of the CWDM link.

Alarms in drift graph mode

Despite its size…it is not a toy!

People prefer to choose products that are innovative and supplied by established companies. When you need to install and maintain optical networks, this same criteria should apply. With many years of experience in optical testing, Anritsu delivers the features that matter.

Having a long history in the test and measurement business, we understand the importance of performance, portability, reliability, easy operation, and of course price.

Screen Capture Function

Test results are sometimes useful for adding to reports, so the MT9090A features the ability to save screen shots as Bitmap images.

Free and Simple Software Upgrades

Firmware upgrades are easily performed via USB. They are available from the Anritsu website for registered users or through Anritsu customer support.

Simple Data Storage

With internal data storage plus support for external USB memory devices, the MT9090A is more than capable. Press the Menu key and store up to 256 MB of images, results, and settings in the internal memory.

Easy "drag and drop" File Transfers

When the MT9090A is connected to a PC via a USB cable, the internal memory can be directly accessed. Data can be selected, dragged, and dropped into the PC memory, greatly simplifying file transfers. The MT9090A also supports the use of USB memory sticks.
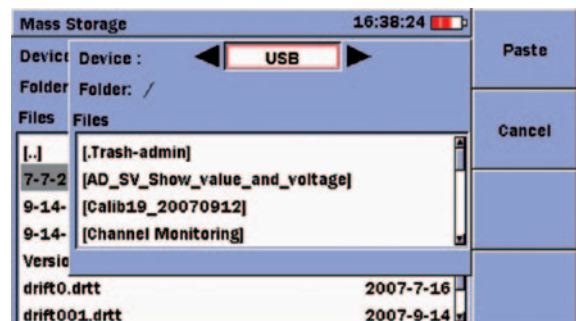
File transfer to USB memory stick

Modular Design

The MT9090A features a modular design allowing modules to be changed easily in the field. Users can interchange different Optical Channel Analyzer modules or perform other optical network testing such as verification of drop cable installation with the available MU909011A Fault Locator module. Operation of all the modules is quite similar, so the user will immediately be familiar with their operation.

Specifications

MT9090A Mainframe

Dimensions and Mass	190 (W) × 96 (H) × 48 (D) mm (7.5" × 3.8" × 1.9") Mass (including mainframe, module and battery): <800 g (<2 lbs.)
Display	4.3 inch TFT-LCD (480 × 272, with backlight, transparent type)
Interface	USB 1.1, Type A × 1 (memory), Type B × 1 (USB mass storage)

MU909020A Optical Channel Analyzer

Model	MU909020A
Number of channels	All 18 CWDM channels, compliant to ITU-T G.694.2
Channel pass band	±6.5 nm, compliant to ITU-T G.695
Channel wavelength accuracy	±1 nm[2]
Power range per channel	+10 to –40 dBm
Channel power accuracy	±0.5 dB[1]
Channel power linearity	±0.3 dB[2]
Total power accuracy	±0.5 dB[1]
Total power linearity	±0.3 dB[2]
Maximum total safe power	+17 dBm
Maximum channel safe power	+13 dBm
Instrument repeatability	±0.2 dB[1]
Channel imbalance (adjacent channels)	≥12 dB[2, 3]
Polarization Dependant Loss	±0.3 dB
Power supply	9 VDC, 100 VAC to 240 VAC
Battery	NiMH, Operating Time: 4 hours (typical)[4], Recharge Time:<3 hours[5], Operation Possible with 4 × AA alkaline: operating time depends on batteries type
Environmental Conditions	Operation: 0° to +50°C[6], <80% (non-condensing)[7], Storage: –20° to +60°C
	Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP 51
EMC	EN61326

[1]: Measured at –10 dBm
[2]: Signal from +10 to –35 dBm
[3]: for wavelengths spacing >15 nm. Channel imbalance >15 dB for wavelengths spacing >20 nm
[4]: Backlight low
[5]: +10° to +30°C, Power OFF
[6]: Specifications are guaranteed from 10° to 40°C. Operation possible from 0° to +50°C.
[7]: +10° to +30°C (During Recharging battery, Power OFF)

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.

1) Select Mainframe

Model/Order No.	Description
MT9090A	Mainframe (with color LCD)

2) Select Base Module

Includes battery pack, AC charger/adapter, standard soft case, and strap, operation manual on CD

Model/Order No.	Description
MU909020A	Optical Channel Analyzer Module

3) Select Connector Interface

Model/Order No.	Description
MU909020A-050	OCA with UPC optical connector
MU909020A-060	OCA with APC optical connector

4) Select Connector Adapter

One adapter included at no charge – must be added as a separate line item.

Model/Order No.	Connector Type
MU909020A-037	FC Connector (UPC: Model -050 only)
MU909020A-040	SC Connector (UPC: Model -050 only)
MU909020A-025	FC-APC Connector key width 2.0 mm (APC: Model -060 only)
MU909020A-026	SC-APC Connector (APC: Model -060 only)

5) Select Accessories

Must be added as separate line items.

Model/Order No.	Description
G0203A	AC adaptor (Replacement)
G0202A	NiMH Battery Pack (Replacement)
Z1580A*1	Protector & Soft Case
B0663A*2	Protector
B0600B	Hard Case
B0601B	Standard Soft Case
Z1023A	Strap
B0602A	Deluxe Soft Case (for MT9090A)
CD005568	Hardcopy MT9090A/MU909020A Operation manual
CD005780	Hardcopy MT9090A/MU909020A Quick Reference Guide
MU909020A-ES210	2 years Extended Warranty Service (total 2 years warranty)
MU909020A-ES310	3 years Extended Warranty Service (total 3 years warranty)

∗1: The protector (B0663A) and standard soft case (B0601B) from a set.
     The protector includes a shoulder strap.
∗2: The shoulder strap can be used to hang the instrument around the neck while
     working.

6) Replacement Adaptors

Must be added as separate line items.

Model/Order No.	Description
J0617B	FC (UPC: Models -050)
J0619B	SC (UPC or APC: all models)
J0739A	FC (APC: Model -060 only)

B0601B Standard Soft Case
This standard accessory accommodates the mainframe with fitted protector.

B0602A Deluxe Soft Case
Full Network Master operation without removal from the case.
Provides excellent protection for use in hash conditions.
This does not accommodate the mainframe if the protector is fitted.

B0600B Hard Case
This accommodates two mainframes (with or without fitted protector), accessories (light source or power meter, backup battery, fiber cleaner, etc.).

Mainframe with Protector

B0663A Protector
The mainframe with fitted protector.

MT9090 Series — Network Master

MU909011A Fault Locator Module
Compact fault locator instrument for an easy and accurate verification of drop cable installation.

MU909060A GigE Module
Dedicated field test solution for installation and troubleshooting Ethernet links in the access network.

MU909014x/15x µOTDR
Compact OTDR for full automatic verification of optical networks, FTTH-PON, Metro and Core.

MU909011A

MU909060A

MU909014x/15x

CMA5000a Multi-Layer Network Test Platform
A wide selection of test modules including Gigabit Ethernet and 10 Gbps Ethernet.

CMA5 Series
For Optical Fiber Installation and Maintenance.

MT9083 Series
ACCESS Master Mini-OTDR
All-in-one test tool for fiber construction and maintenance.

CMA 3000
All-in-one Field Tester
Test of many interfaces including Ethernet

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Specifications are subject to change without notice.

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