

Passive Intermodulation (PIM) Analyzer with Site Master™ Cable & Antenna Option

700 MHz 800 MHz 850 MHz 900 MHz 1800 MHz
1900/2100 MHz 2100 MHz 2600 MHz

From the leader in Cable and Antenna Analysis Anritsu introduces the next generation PIM Master™

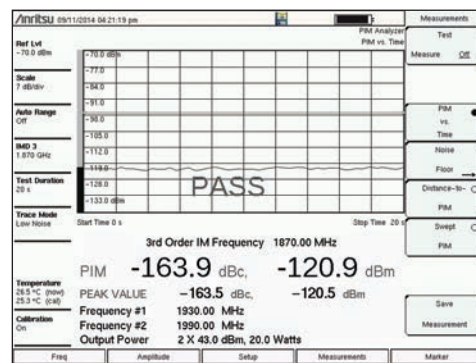
The PIM Master, with Site Master™ option, provides an integrated test solution, capable of certifying both, passive intermodulation (PIM) and line sweep performance with a single test instrument. The new PIM Master offers the same ease of use, ruggedness, and familiar menus as its predecessor, along with new features to enhance productivity and speed site testing.



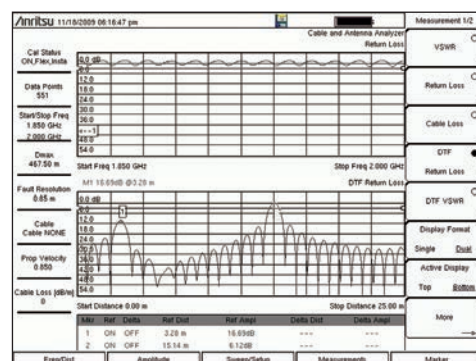
- Integrated
- Trusted
- Designed for Field Use

Contractors and maintenance technicians now only need to carry one tool, instead of two, to fully certify cable and antenna system performance.

- Return Loss, VSWR
- Cable Loss
- Distance-to-Fault
- PIM
- Distance-to-PIM



PIM Analyzer



Cable and Antenna Analyzer (Option 331)

Passive Intermodulation (PIM) analyzer with optional Site Master™ Line Sweep capability

Integrated Test Solution



Passive Intermodulation Analyzer Features

Feature	Description
Measurement Frequencies	700 MHz (APT), 700 MHz (North America) 800 MHz, 850 MHz, 900 MHz, 1800 MHz, 1900 MHz, 1900/2100 MHz, 2100 MHz, 2600 MHz
Measurements	PIM versus Time, Swept PIM, Noise Floor, Distance-to-PIM (DTP)
IM products	3 rd , 5 th and 7 th order IM products
Test power	20 dBm (0.1 Watt) to 46 dBm (40 Watt)
Low Residual PIM	-117 dBm max / -125 dBm typical
Internal DTP	Fully integrated, no external modules required

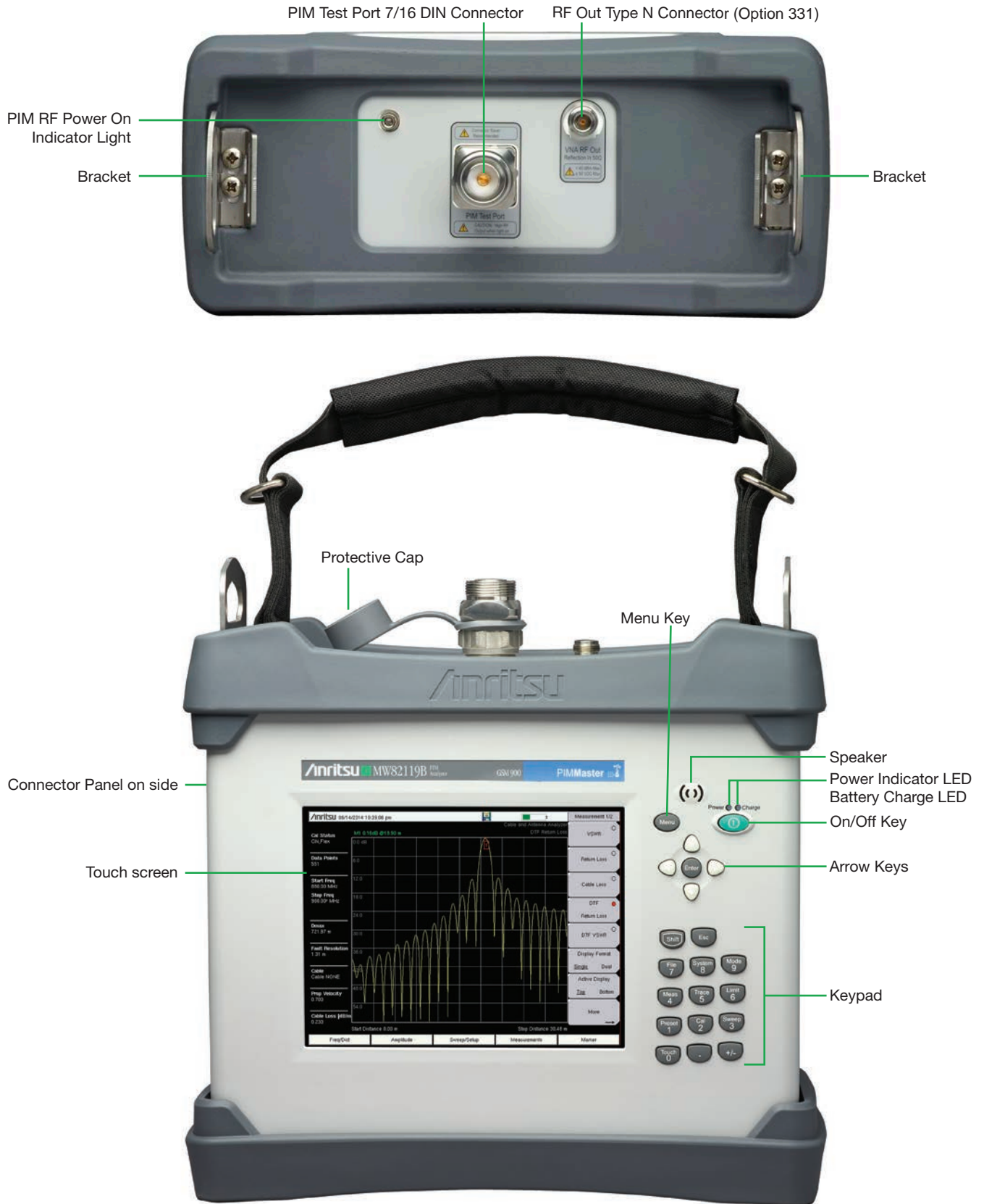
Cable and Antenna Features (Option 331)

Feature	Description
Measurement Frequency	2 MHz to 3 GHz
Measurements	Return Loss, VSWR, Cable Loss, Distance-to-Fault (DTF), Phase, Smith Chart
High measurement accuracy	> 42 dB directivity, OSL calibration
High interference immunity	0 dBm within \pm 10 kHz of carrier frequency

Features

Feature	Description
Battery operated	12 VDC Li-ion Battery, >3.0 hr. run time per battery
Small size	350 mm x 314 mm x 152 mm (13.8 in x 12.4 in x 6.0 in)
Lightweight	9.2 kg - 12.4 kg (20 lb - 27 lb), varies by frequency option
Touch screen display	8.4 in (213 mm) daylight viewable
Operating temperature range	-10 °C to +55 °C
Ingress Protection	IP54 rated for dust and water spray, IP67 inside transit case
Shock Resistant	MIL-STD-810G drop tests inside soft carry case, 26 drops, 48 in (122 cm) drop height
Remote control	>300 ft (>100m) with external WiFi router
GPS data tagging	Option 31, requires GPS antenna
High Accuracy Power Meter	Option 19, requires USB power sensor

Designed for the Field

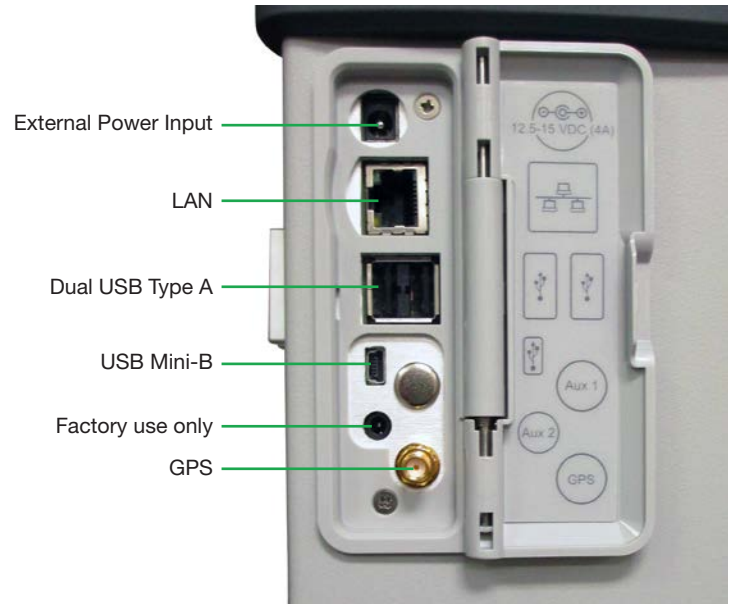


Size: 350 mm x 314 mm x 152 mm (13.8 in x 12.4 in x 6.0 in)
 Lightweight: 9.2 kg to 12.4 kg (20 lb to 27 lb), varies by frequency option

Convenient user access to screen and I/O ports



Softcase opens in front for easy access and use.



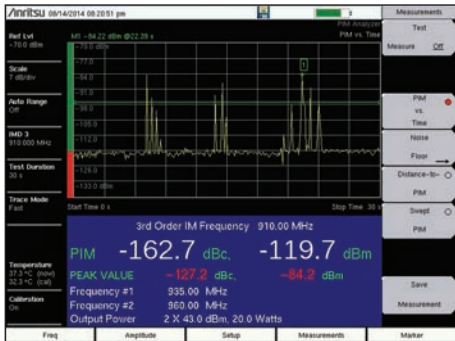
Connector panel on the left side of the MW82119B PIM Master



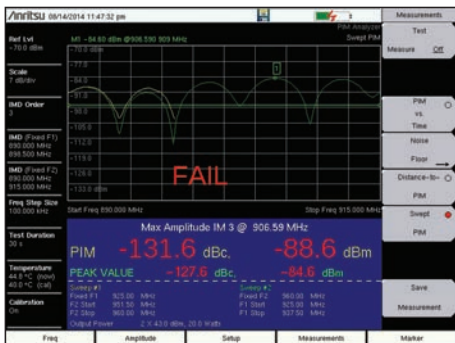
MW82119B with sturdy Tilt Bail

PIM Master Passive Intermodulation (PIM) Analyzer Features

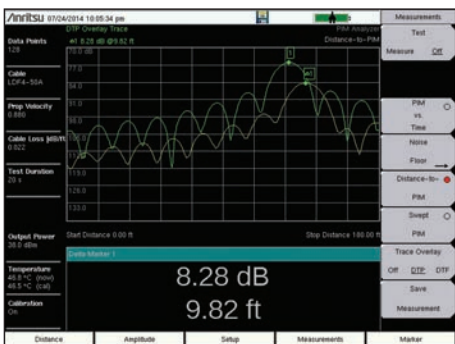
PIM Master is a battery-operated, high power Passive Intermodulation (PIM) testing solution supporting major wireless standards in use around the world. PIM is a form of interference generated by passive components that are normally thought of as linear such as connectors, cable assemblies, filters, and antennas. However, when subjected to the downlink signals at a cell site, these components can generate spurious signals that raise the receiver noise floor and reduce site performance. PIM Master is a specialized test instrument able to measure system linearity and identify fault locations both inside the cable system and beyond the antenna.



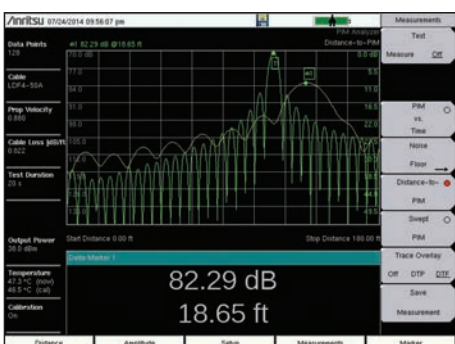
PIM vs. Time



Swept PIM



Trace Overlay - DTP/DTP



Trace Overlay - DTP/DTF

PIM vs. Time

PIM vs. Time is a fixed frequency test that displays PIM magnitude over time. This measurement is particularly useful for dynamic PIM tests since it captures the peak PIM value for pass / fail analysis, as well as provides a visual indication of the stability of the system under test.

Swept PIM

Swept PIM tests measure IM product magnitude versus frequency. The test is conducted by holding one test frequency fixed while varying the second test frequency, causing the IM product to “sweep” across the receive band of the system.

When multiple PIM sources are present on a line, it is possible for the signals to combine out of phase, creating low PIM readings at some frequencies and high PIM readings at others. A Swept PIM test evaluates a range of IM product frequencies, giving users a clearer picture of the true PIM performance of a system.

Distance-to-PIM (DTP)

Distance-to-PIM (DTP) is similar to Distance-to-Fault (DTF), which Anritsu introduced in the Site Master™ in 1997. DTP quickly and accurately identifies the location of PIM faults both inside the feed system as well as beyond the antenna. This capability eliminates the guesswork involved in isolating PIM sources and speeds site repairs.

Trace Overlay

Trace overlay is a feature that allows real time comparison between the active DTP measurement and a previously recorded DTP or DTF trace. Knowing where a PIM source is located relative to a known “PIM marker” or known RF connection simplifies troubleshooting for faster fault identification.

DTP/DTP overlays can show whether a PIM fault is inside the feed system or beyond the antenna. Placing a known PIM source, such as steel wool, on the antenna radome and running DTP creates a marker at the antenna radiating surface that can be stored and compared to the system DTP trace. If the system DTP peak is farther away, the PIM is beyond the antenna.

Two DTF measurements are typically required for site certification. One, with a short circuit at the end of the cable, used to measure the cable length, and a second, with a precision load at the end of the cable, used to evaluate connection quality. DTP/DTF overlays, provide a “map” on the instrument screen to accurately show connector locations when evaluating PIM issues.

Noise Floor

Noise Floor measurements monitor the IM product frequency with the PIM Master transmitters turned off. This allows the user to quickly check to make sure the spectrum is clear of interference before performing a PIM test.

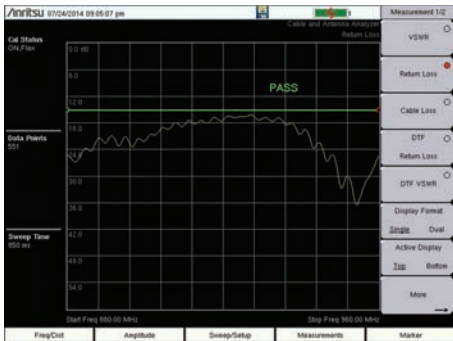
2 x 40 W Test Capability

PIM Master allows operators to adjust the test power from 20 dBm (0.1 Watts) for indoor DAS testing to 46 dBm (40 Watts) for macro site testing. In both indoor and outdoor systems, PIM interference is highly dependent on the power level in use. By matching the PIM test power level more closely to the actual power level used at the site, operators will gain a clearer understanding of the true interference generated by both the RF infrastructure and the environment where the antenna is placed.

Site Master Cable and Antenna Analyzer Features (Option 331)

The Anritsu Site Master™ is a trusted site commissioning tool that for nearly two decades has set the standard for Cable and Antenna Analysis. Using Return Loss (VSWR) as a quality metric, the Site Master is able to accurately detect sources of high reflections, caused by pinched cables, loose or corroded connectors, lightning strikes, and bullet holes. Left un-repaired, these defects can damage transmitters, reduce cell coverage, and lower data transmission rates.

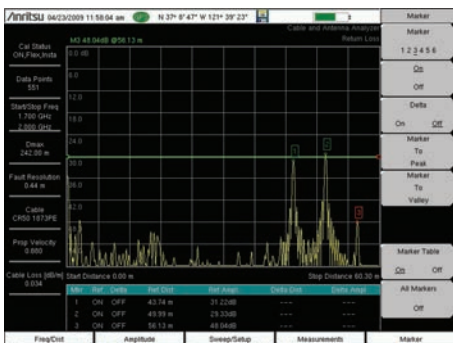
With the Site Master option installed, the PIM Master gains the single port measurement capabilities of an Anritsu S331E Site Master. This powerful combination provides the ability to measure Return Loss, VSWR, Cable Loss, Distance-to-Fault, PIM, and Distance-to-PIM with a single test instrument.



Return Loss / VSWR

Return Loss / VSWR

Use the Site Master option to make accurate return loss and VSWR measurements to certify that the cable and antenna system conforms to performance specifications.



Distance-to-Fault

Cable Loss

With a short installed at the end of the cable, the Site Master option measures and displays the average cable loss of the system. Excessive cable loss not only reduces radiated power, but also masks return loss issues in the system.

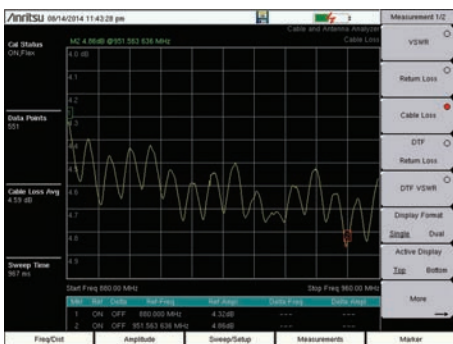
Distance-to-Fault (DTF)

While measuring return loss is an accurate way to verify system health, Distance-to-Fault (DTF) is a useful troubleshooting tool for locating system problems. The Site Master option's DTF measurement uses the fast Fourier transform to convert frequency data to the time domain and displays signal anomalies with respect to distance.

DTF is also useful for measuring the cable length. By placing a short circuit at the end of the cable, and knowing the cable properties, the length of the cable can be accurately measured. The Site Master option includes an extensive cable library, allowing users to quickly find and apply the correct cable parameters for distance measurements.

Standard OSL Calibration

Open-Short-Load (OSL) calibration comes standard with the Site Master option. All errors from source match, directivity, and frequency response are mathematically removed, allowing you to make accurate vector-corrected measurements. Directivity is usually the main contributor to measurement uncertainty, and corrected directivity of 42 dB or better is common using Anritsu's precision components.



Cable Loss

FlexCal™

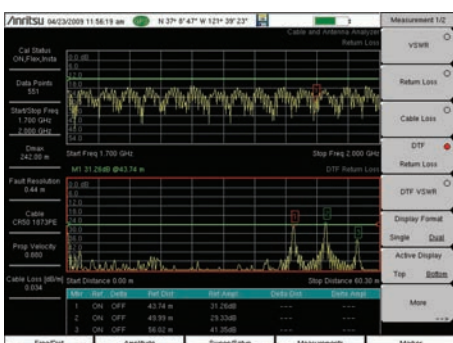
The Site Master option's FlexCal™ broadband calibration feature allows users to change the start and stop frequencies after calibration without having to recalibrate the instrument.

RF Immunity

The Site Master option includes Anritsu's unique RF immunity algorithms enabling users to make accurate cable and antenna measurements even in the presence of strong RF activity from co-located cell sites.

Dual Display

The dual display enables users to view two cable and antenna measurements on the same display. Since the top and bottom displays can be controlled independently, users can set different markers and limit lines on each display. This results in significant time savings for measurements such as Cable Loss and Cable length that both require the same physical set-up.

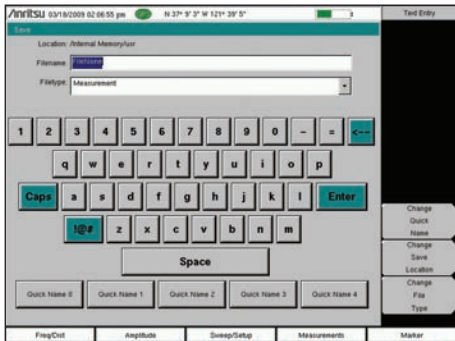


Dual Display

easyTest Tools

Anritsu's easyTest Tools allows experienced users to Create, Deliver, and Display work instructions that appear on the instrument screen for the Site Master option. These work instructions make life easier for less experienced cable and antenna sweepers. Direct benefits include accurate testing, repeatable results, and less rework.

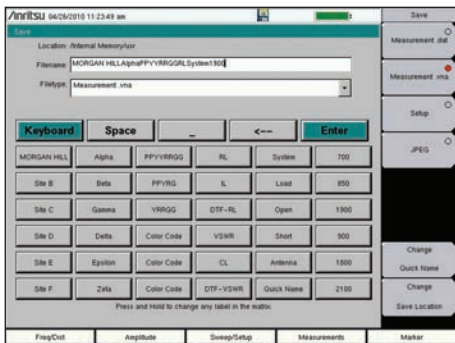
Valuable Options and Features



Built-in Keyboard

Built-in keyboard

The built-in touch screen keyboard gives access to a fully functional keyboard for entering detailed test descriptions.



Quick Name Matrix

Quick Name Matrix

The quick name matrix enables users to store commonly used words or phrases for fast file naming. Long file names containing cell site ID, sector information, color coding, measurement type, frequency, and termination can be generated in seconds with only a few button pushes.

Local Language Support

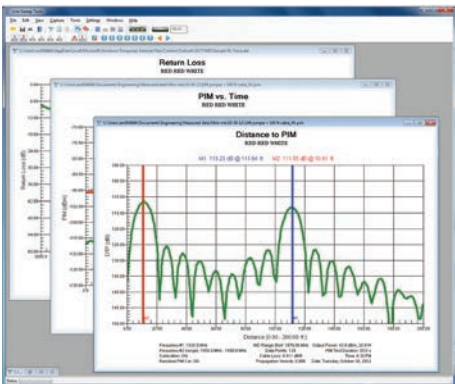
English and eight additional languages are included standard: Japanese, Chinese, Italian, French, German, Spanish, Russian and Korean. One custom user-defined language can be uploaded into the instrument using Anritsu Master Software Tools.

Display appearance options

Five different screen settings are available to enhance visibility in the environment where the test will be performed. This includes a Black & White setting to improve readability in direct sunlight as well as a Night Vision setting to reduce screen brightness for nighttime operation.

File transfer

Measurement files can be easily transferred between the PIM Master and a PC for trace validation, report generation, and archiving. Transfer can happen by copying or saving the trace directly to a USB memory stick. Data can also be transferred over a USB or Ethernet cable.

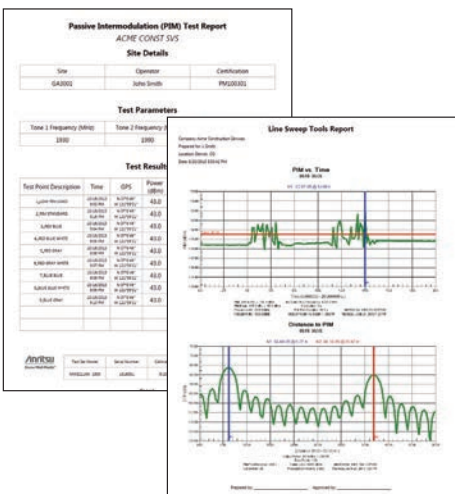


Line Sweep Tools (LST) utilized for report generation on a PIM trace

Line Sweep Tools (LST)

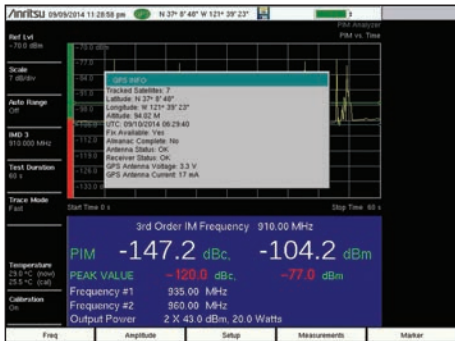
Line Sweep Tools increases productivity for people who deal with dozens of Cable and Antenna traces and Passive Inter-Modulation (PIM) traces, every day.

- User Interface will be familiar to users of Anritsu's Hand Held Software Tools, leading to a short learning curve.
- Marker and Limit Line Presets make a quick task of applying markers and a limit line to similar traces, as well as validating traces, a quick task.
- Renaming Grid makes changing file names, trace titles, and trace subtitles from field values to those required for a report much quicker than manual typing and is less prone to error.
- Report Generator will generate a professional looking PDF of all open traces with additional information such as contractor logos and contact information.
- PIM Report Generator will generate a tabular summary report of all open PIM vs. Time, Noise Floor, and/or Swept PIM measurements complete with pass/fail analysis and summary of instrument settings.



Test Reports generated using Line Sweep Tools (LST)

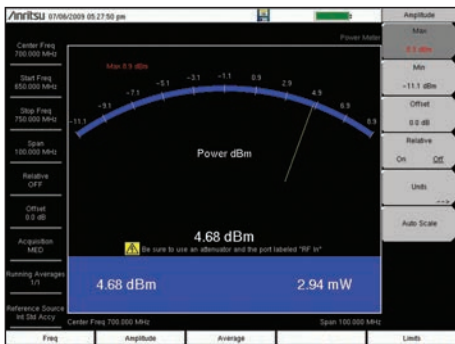
Valuable Options and Features



GPS dialog

GPS Option (Option 31)

PIM Master's GPS option can be used to confirm the exact measurement location (longitude, latitude, altitude) and Universal Time (UT) information. Each trace can be stamped with location information to ensure you are taking measurements at the right location.



High Accuracy Power Meter

High Accuracy Power Meter (Option 19)

Anritsu's high accuracy power meter option enables you to make high accuracy RMS measurements. This capability is perfect for measuring both CW and digitally modulated signals such as CDMA/EV-DO, GSM/EDGE, WCDMA/HSPA+, and P25. You can select from a wide range of USB sensors delivering better than ± 0.16 dB accuracy. An additional benefit of using the USB connection is that a separate DC supply (or battery) is not needed since the necessary power is supplied by the USB port.

USB Power Sensor (requires instrument with Option 19)

PSN50 High Accuracy Power Sensor, 50 MHz to 6 GHz, -30 dBm to +20 dBm

USB Power Sensors (require instrument with Option 19 or may be used separately with a PC)

MA24105A Inline Peak Power Sensor, 350 MHz to 4 GHz, +3 dBm to +51.76 dBm

MA24106A True-RMS USB Power Sensor, 50 MHz to 6 GHz, -40 dBm to +23 dBm

MA24108A True-RMS USB Power Sensor, 10 MHz to 8 GHz, -40 dBm to +20 dBm

MA24118A True-RMS USB Power Sensor, 10 MHz to 18 GHz, -40 dBm to +20 dBm

MA24126A True-RMS USB Power Sensor, 10 MHz to 26 GHz, -40 dBm to +20 dBm



High Accuracy Power Sensors

Certified Training

Instructor led training courses are available for both PIM and Line Sweep measurements. Classes cover measurement theory, safety, best practices, assessing results, and hands-on, practical measurement exercises. Students passing the written and practical exams receive a Certificate of Completion and Wallet-sized certification card.

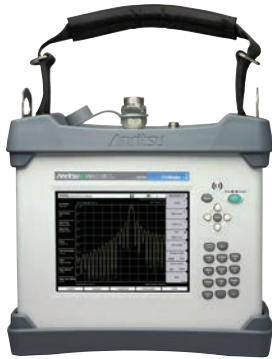
Remote control

The PIM Master can be configured for remote control via WiFi to support a variety of testing scenarios. Line of site distances of > 100 m (> 328 ft) have been achieved allowing a person on the ground to control the test equipment while a person at the top of the mast makes connections. For PIM tests, this capability is also useful for rooftop testing, allowing one person to control the test remotely while following the cable run and performing dynamic PIM tests.



Remote Access Tool for Tower Top Testing

Ordering Information



Model Number	Description
MW82119B	PIM Master™ Passive Intermodulation Analyzer (must be ordered with ONE frequency option)
Frequency Options (must order one, and one only)	
MW82119B-0700	LTE 700
MW82119B-0702	APT 700
MW82119B-0800	LTE 800
MW82119B-0850	Cellular 850
MW82119B-0900	E-GSM 900
MW82119B-0180	DCS 1800
MW82119B-0194	PCS/AWS 1900/2100
MW82119B-0210	UMTS 2100
MW82119B-0260	LTE 2600
Other Options	
MW82119B-0019	High Accuracy Power Meter (requires USB power sensor)
MW82119B-0031	GPS Receiver (requires GPS antenna)
MW82119B-0331	Site Master™ Cable and Antenna Analyzer
MW82119B-0098	Standard Calibration to ISO 17025 and/or Z540.1
MW82119B-0099	Premium Calibration to ISO 17025 and/or Z540.1 plus test data

Standard Accessories (included with PIM Master)



Part Number	Description
2000-1786-R	Soft Carrying Case, Screen Access
2000-1714-R	Shoulder Strap
2000-1691-R	Stylus with Coiled Tether
2000-1797-R	Screen Protector Film, 8.4 in.
1091-422-R	Adapter, 7/16 DIN(f) to 7/16 DIN(m), 50 Ω (Connector Saver)
2300-577	Anritsu Software Tool Box for Handheld RF Instruments Disc
633-75	High-capacity Li-Ion Battery Pack
40-187-R	AC/DC Power Supply
(Country dependent)	AC Power Cable
806-141-R	Automotive Power Adapter, 12 VDC, 60 W
2000-1371-R	Ethernet Cable, 7 ft/213 cm
3-2000-1498	USB A-mini B Cable, 10 ft/305 cm
10920-00060	Handheld Instruments Documentation Disc
	Three-year warranty (battery one-year warranty)
	Certificate of Calibration

Miscellaneous Accessories



Part Number	Description
2000-1374	Dual Battery Charger
2000-1528-R	GPS Antenna, SMA(m) with 15 ft cable
2000-1652-R	GPS Antenna, SMA(m) with 1 ft cable
2000-1760-R	GPS Antenna, SMA(m), 25 dB gain
67135	Backpack for Accessories
760-259-R	Transit Case (holds MW82119A/B PIM Analyzer only)
760-265-R	Transit Case (holds MW82119A/B PIM Analyzer plus accessories)

Ordering Information continued

Optional PIM Analyzer Accessories



Part Number	Description
16DD50-2.75-R	Armored PIM Test Cable, 2.75 m, 7/16 DIN(m) to 7/16 DIN(m), 50 Ω
16DD50-4.0-R	Armored PIM Test Cable, 4.0 m, 7/16 DIN(m) to 7/16 DIN(m), 50 Ω
2000-1626-R	PIM Test Cable, 3.0 m, 7/16 DIN(m) to 7/16 DIN(m), 50 Ω
2000-1783-R	PIM Test Cable, 3.0 m, 7/16 DIN(m) to 7/16 DIN(f), 50 Ω
2000-1724-R	Low PIM Termination, 700 MHz to 2600 MHz, 40 W, 7/16 DIN(m), 7/16 DIN(f), 50 Ω
2000-1749-R	Low PIM Termination, 700 MHz to 2600 MHz, 10 W 7/16 DIN(m), 7/16 DIN(f), 50 Ω
1091-390-R	PIM Standard, -80 dBm ±3 dB @ 1775 MHz, with 2x 20 W, 7/16 DIN(m) to 7/16 DIN(f), 50 Ω
1091-421-R	Low PIM Adapter, 7/16 DIN(m) to 7/16 DIN(m), DC to 3.0 GHz, 50 Ω
1091-422-R	Low PIM Adapter, 7/16 DIN(m) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
1091-423-R	Low PIM Adapter, 7/16 DIN(m) to N(m), DC to 3.0 GHz, 50 Ω
1091-424-R	Low PIM Adapter, 7/16 DIN(m) to N(f), DC to 3.0 GHz, 50 Ω
1091-425-R	Low PIM Adapter, 7/16 DIN(f) to N(f), DC to 3.0 GHz, 50 Ω
1091-426-R	Low PIM Adapter, 7/16 DIN(f) to N(m), DC to 3.0 GHz, 50 Ω
1091-427-R	Low PIM Adapter, 7/16 DIN(f) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
1091-431-R	Low PIM Adapter, 45°, 7/16 DIN(m) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
1091-433-R	Low PIM Adapter, 4.1/9.5(f) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
1091-434-R	Low PIM Adapter, 4.1/9.5(m) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
01-510	Adjustable Wrench
01-513-R	1 ¼" Torque Wrench
971-9-R	Cleaning Wipes
971-10-R	Cleaning Swabs

PIM Analyzer Accessories Kits



Part Number	Description	
2000-1745-R	PIM Master Backpack Accessory Kit (Includes common items below plus 67135 backpack)	
2000-1746-R	PIM Master Hard Case Accessory Kit (Includes common items below plus 760-260-R transit case)	
Qty	Part Number	Description
1	2000-1626-R	PIM Test Cable, 3.0 m, 7/16 DIN(m) to 7/16 DIN(m), 50 Ω
1	2000-1749-R	Low PIM Termination, 700 MHz to 2600 MHz, 10 W, 7/16 DIN(m), 7/16 DIN(f), 50 Ω
1	1091-390-R	PIM Standard, -80 dBm ±3 dB @ 1775 MHz, with 2x 20 W, 7/16 DIN(m) to 7/16 DIN(f), 50 Ω
2	1091-425-R	Low PIM Adapter, 7/16 DIN(f) to N(f), DC to 3.0 GHz, 50 Ω
2	1091-426-R	Low PIM Adapter, 7/16 DIN(f) to N(m), DC to 3.0 GHz, 50 Ω
1	1091-427-R	Low PIM Adapter, 7/16 DIN(f) to 7/16 DIN(f), DC to 3.0 GHz, 50 Ω
1	01-510	Adjustable Wrench
1	01-513-R	1-1/4 in Torque Wrench
1	971-9-R	Cleaning Wipes
1	971-10-R	Cleaning Swabs
1	11410-00726	Equipment Verification Guide

Ordering Information continued

Optional Power Measurement Accessories

USB Power Sensor (requires instrument with Option 19)

Part Number	Description
PSN50	High Accuracy RF Power Sensor, 50 MHz to 6 GHz, -30 dBm to +20 dBm

USB Power Sensors (require instrument with Option 19 or may be used separately with a PC)

Part Number	Description
MA24105A	Inline Bi-Directional Peak Power Sensor, 350 MHz to 4 GHz, +3 dBm to +51.76 dBm
MA24106A	True-RMS RF Power Sensor, 50 MHz to 6 GHz, -40 dBm to +23 dBm
MA24108A	True-RMS USB Power Sensor, 10 MHz to 8 GHz, -40 dBm to +20 dBm
MA24118A	True-RMS USB Power Sensor, 10 MHz to 18 GHz, -40 dBm to +20 dBm
MA24126A	True-RMS USB Power Sensor, 10 MHz to 26 GHz, -40 dBm to +20 dBm



Attenuators (Recommended for power measurement applications only. Not low PIM.)

Part Number	Description
3-1010-122	Attenuator (Bi-directional), 20 dB, 5 Watt, DC to 12.4 GHz, N(m) to N(f)
3-1010-123	Attenuator (Bi-directional), 30 dB, 50 Watt, DC to 8.5 GHz, N(m) to N(f)
3-1010-124	Attenuator (Bi-directional), 40 dB, 100 Watt, DC to 8.5 GHz, N(m) to N(f)

Optional Cable & Antenna Analyzer Accessories

Calibration Components, 50 Ω (These components are not designed to withstand PIM test power levels. Suitable for Cable and Antenna Analyzer measurements only.)

Part Number	Description
OSLN50-1	Precision Open/Short/Load, N(m), 42 dB, 6.0 GHz, 50 Ω
OSLNF50-1	Precision Open/Short/Load, N(f), 42 dB, 6.0 GHz, 50 Ω
2000-1618-R	Precision Open/Short/Load, 7/16 DIN(m), DC to 6.0 GHz 50 Ω
2000-1619-R	Precision Open/Short/Load, 7/16 DIN(f), DC to 6.0 GHz 50 Ω
22N50	Open/Short, N(m), DC to 18GHz, 50 Ω
22NF50	Open/Short, N(f), DC to 18 GHz, 50 Ω
SM/PL-1	Precision Load, N(m), 42 dB, 6.0 GHz
SM/PLNF-1	Precision Load, N(f), 42 dB, 6.0 GHz



Phase-Stable Test Port Cables, Armored w/Reinforced Grip (Recommended for cable and antenna line sweep applications only. Not low PIM.)

Part Number	Description
15RNFN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to N(f), 50 Ω
15RDFN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50 Ω
15RDN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50 Ω
15RNFN50-3.0-R	3.0 m, DC to 6 GHz, N(m) to N(f), 50 Ω
15RDFN50-3.0-R	3.0 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50 Ω
15RDN50-3.0-R	3.0 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50 Ω



Ordering Information continued

Optional Cable & Antenna Analyzer Accessories

Interchangeable Adaptor Phase Stable Test Port Cables, Armored w/Reinforced Grip (Recommended for cable and antenna line sweep applications. Not low PIM. It uses the same ruggedized grip as the Reinforced Grip series cables. Now you can also change the adaptor interface on the grip to four different connector types)



Part Number	Description
15RCN50-1.5-R	1.5 m, DC to 6 GHz, N(m), N(f), 7/16 DIN(m), 7/16 DIN(f), 50 Ω
15RCN50-3.0-R	3.0 m, DC to 6 GHz, N(m), N(f), 7/16 DIN(m), 7/16 DIN(f), 50 Ω

Phase-Stable Test Port Cables, Armored (Recommended for cable and antenna line sweep applications only. Not Low PIM. Use with tightly spaced connectors and other general purpose applications)



Part Number	Description
15NNF50-1.5C	1.5 m, DC to 6 GHz, N(m) to N(f), 50 Ω
15NN50-1.5C	1.5 m, DC to 6 GHz, N(m) to N(m), 50 Ω
15NDF50-1.5C	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50 Ω
15ND50-1.5C	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50 Ω
15NNF50-3.0C	3.0 m, DC to 6 GHz, N(m) to N(f), 50 Ω
15NN50-3.0C	3.0 m, DC to 6 GHz, N(m) to N(m), 50 Ω
15NNF50-5.0C	5.0 m, DC to 6 GHz, N(m) to N(f), 50 Ω
15NN50-5.0C	5.0 m, DC to 6 GHz, N(m) to N(m), 50 Ω

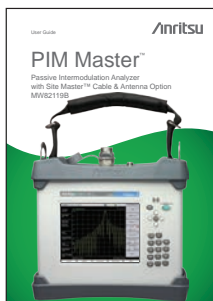
Precision Adapters (Recommended for cable and antenna line sweep applications only. Not low PIM.)



Part Number	Description
34NN50A	N(m) to N(m), DC to 18 GHz, 50 Ω
34NFN50	N(f) to N(f), DC to 18 GHz, 50 Ω
1091-26-R	SMA(m) to N(m), DC to 18 GHz, 50 Ω
1091-27-R	SMA(f) to N(m), DC to 18 GHz, 50 Ω
1091-80-R	SMA(m) to N(f), DC to 18 GHz, 50 Ω
1091-81-R	SMA(f) to N(f), DC to 18 GHz, 50 Ω
1091-172-R	BNC(f) to N(m), DC to 1.3 GHz, 50 Ω
510-90-R	7/16 DIN(f) to N(m), DC to 7.5 GHz, 50 Ω
510-91-R	7/16 DIN(f) to N(f), DC to 7.5 GHz, 50 Ω
510-92-R	7/16 DIN(m) to N(m), DC to 7.5 GHz, 50 Ω
510-93-R	7/16 DIN(m) to N(f), DC to 7.5 GHz, 50 Ω
510-96-R	7/16 DIN(m) to 7/16 DIN (m), DC to 7.5 GHz, 50 Ω
510-97-R	7/16 DIN(f) to 7/16 DIN (f), DC to 7.5 GHz, 50 Ω
510-102-R	N(m) to N(m), DC to 11 GHz, 50Ω, 90 degrees right angle

Ordering Information continued

Manuals



Part Number	Description
10920-00060	Handheld Instruments Documentation Disc
10580-00400	PIM Master User Guide
10580-00402	PIM Master Measurement Guide
10580-00403	PIM Master Programming Manual
10580-00240	Power Meter Measurement Guide - High Accuracy Power Meter
10580-00241	Cable and Antenna Analyzer Measurement Guide
11410-00821	PIM Master Technical Data Sheet
11410-00473	Troubleshooting Guide - Cable, Antenna, and Components

Anritsu Training (www.anritsu.com/training)

Part Number	Description
10580-00045	Site Master™ Certified Line Sweep
10580-00370	PIM Master™ Certified PIM Measurements

• **United States**

Anritsu Company

1155 East Collins Boulevard, Suite 100,
Richardson, TX, 75081 U.S.A.
Toll Free: 1-800-267-4878
Phone: +1-972-644-1777
Fax: +1-972-671-1877

• **Canada**

Anritsu Electronics Ltd.

700 Silver Seven Road, Suite 120,
Kanata, Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

• **Brazil**

Anritsu Eletrônica Ltda.

Praça Amadeu Amaral, 27 - 1 Andar
01327-010 - Bela Vista - São Paulo - SP - Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

• **Mexico**

Anritsu Company, S.A. de C.V.

Av. Ejército Nacional No. 579 Piso 9, Col. Granada
11520 México, D.F., México
Phone: +52-55-1101-2370
Fax: +52-55-5254-3147

• **United Kingdom**

Anritsu EMEA Ltd.

200 Capability Green, Luton, Bedfordshire LU1 3LU, U.K.
Phone: +44-1582-433280
Fax: +44-1582-731303

• **France**

Anritsu S.A.

12 avenue du Québec, Batiment Iris 1-Silic 612,
91140 Villebon-sur-Yvette, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

• **Germany**

Anritsu GmbH

Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49-89-442308-0
Fax: +49-89-442308-55

• **Italy**

Anritsu S.r.l.

Via Elio Vittorini 129, 00144 Roma Italy
Phone: +39-06-509-9711
Fax: +39-06-502-2425

• **Sweden**

Anritsu AB

Kistagången 20B, 164 40 KISTA, Sweden
Phone: +46-8-534-707-00
Fax: +46-8-534-707-30

• **Finland**

Anritsu AB

Teknobulevardi 3-5, FI-01530 Vantaa, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

• **Denmark**

Anritsu A/S

Kay Fiskers Plads 9, 2300 Copenhagen S, Denmark
Phone: +45-7211-2200
Fax: +45-7211-2210

• **Russia**

Anritsu EMEA Ltd.

Representation Office in Russia

Tverskaya str. 16/2, bld. 1, 7th floor.
Russia, 125009, Moscow
Phone: +7-495-363-1694
Fax: +7-495-935-8962

• **United Arab Emirates**

Anritsu EMEA Ltd.

Dubai Liaison Office

P O Box 500413 - Dubai Internet City
Al Thuraya Building, Tower 1, Suite 701, 7th Floor
Dubai, United Arab Emirates
Phone: +971-4-3670352
Fax: +971-4-3688460

• **Singapore**

Anritsu Pte. Ltd.

11 Chang Charn Road, #04-01, Shiro House
Singapore 159640
Phone: +65-6282-2400
Fax: +65-6282-2533

• **India**

Anritsu India Pvt Ltd.

2nd & 3rd Floor, #837/1, Binnamangla 1st Stage,
Indiranagar, 100ft Road, Bangalore - 560038, India
Phone: +91-80-4058-1300
Fax: +91-80-4058-1301

• **P. R. China (Shanghai)**

Anritsu (China) Co., Ltd.

27th Floor, Tower A,
New Caohejing International Business Center
No. 391 Gui Ping Road Shanghai, Xu Hui Di District,
Shanghai 200233, P.R. China
Phone: +86-21-6237-0898
Fax: +86-21-6237-0899

• **P. R. China (Hong Kong)**

Anritsu Company Ltd.

Unit 1006-7, 10/F., Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui East,
Kowloon, Hong Kong, P. R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

• **Japan**

Anritsu Corporation

8-5, Tamura-cho, Atsugi-shi,
Kanagawa, 243-0016 Japan
Phone: +81-46-296-1221
Fax: +81-46-296-1238

• **Korea**

Anritsu Corporation, Ltd.

5FL, 235 Pangyoeyeok-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Korea
Phone: +82-31-696-7750
Fax: +82-31-696-7751

• **Australia**

Anritsu Pty Ltd.

Unit 21/270 Ferntree Gully Road,
Notting Hill, Victoria 3168, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

• **Taiwan**

Anritsu Company Inc.

7F, No. 316, Sec. 1, Neihu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817



The Master Users Group is an organization dedicated to providing training, technical support, networking opportunities and links to Master product development teams. As a member you will receive the Insite Quarterly Newsletter with user stories, measurement tips, new product news and more.

Visit us to register today: www.anritsu.com/MUG

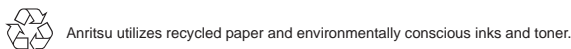


Customers in the United States can receive a quote to purchase a product or order accessories by visiting our online ordering site: www.ShopAnritsu.com

Training at Anritsu

Anritsu has designed courses to help you stay up to date with technologies important to your job.

For available training courses visit: www.anritsu.com/training



Please Contact:

