Quick Fact Sheet

LMR Master™ S412E

Land Mobile Radio Modulation Analyzer

S412E

500 kHz to 1.6 GHz (can be extended to 6 GHz w/ options)

RUGGED, PORTABLE, POWERFUL

The LMR Master S412E is a compact handheld multi-function analyzer that has been specifically developed for technicians and engineers who install and maintain public safety, utility and private mobile communications systems. The S412E combines our industry-standard cable & antenna analysis with the unmatched performance of our spectrum analyzers, then adds in powerful signal analysis and generation capabilities – including coverage mapping tools for both outdoor and indoor performance analysis – to create the ultimate battery powered LMR field service instrument for system commissioning, preventative maintenance, troubleshooting and compliance testing of mission critical systems.

Land Mobile Radio Analyzer Highlights

- NBFM Mode analyzes Carrier Frequency, Carrier Power, Deviation, CTCSS/DCS/DTMF, Occupied Bandwith, SINAD and Quieting
- NBFM Auto Scan locates and locks on to transmitter carriers
- TIA-603-D compliant SINAD and 20 dB Quieting analysis modes
- Optional analyzers for P25 FDMA (TIA-102.CAAA-C) and P25 Phase 2 TDMA (TIA-102.CCAA), NXDN™, DMR2 (MOTOTRBO™)*, ITC-R PTC, TETRA, FirstNet LTE, WiMAX 802.16d (fixed) and WiMAX 802.16e (mobile)
- Coverage Mapping (Outdoor and Indoor) for LMR standards
- Analysis of data and BER on P25/P25p2, NXDN, and DMR2 control channels
- Signal Generator: 500 kHz to 1.6 GHz, 0 dBm to –130 dBm
- P25/P25p2, NXDN, and DMR2 modes offer signal generation of standard BER test patterns including 1011 Hz, 1031 Hz, and O.153/V.52

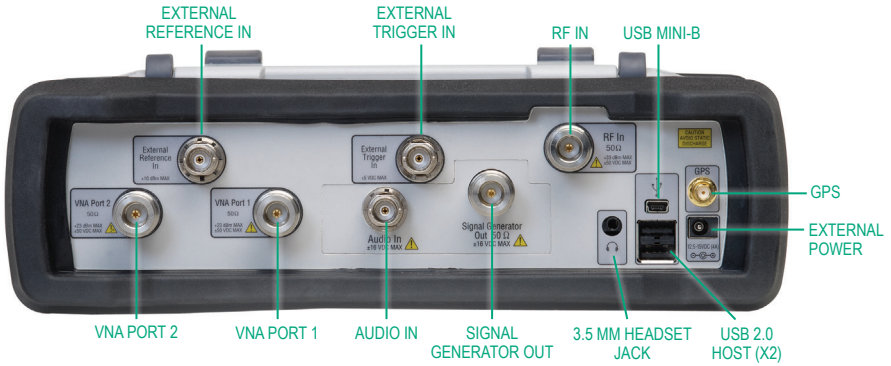
Vector Network Analyzer Highlights

- 1-path, 2-port VNA w/ quad trace display
- Distance-to-Fault analysis
- Adjustable data points up to 4001
- IF Bandwidth selections of 10 Hz to 100 kHz
- 100 dB transmission dynamic range to 4 GHz
- 850 µs/data point sweep speed
- Vector Voltmeter option for matching section and phasing harness construction

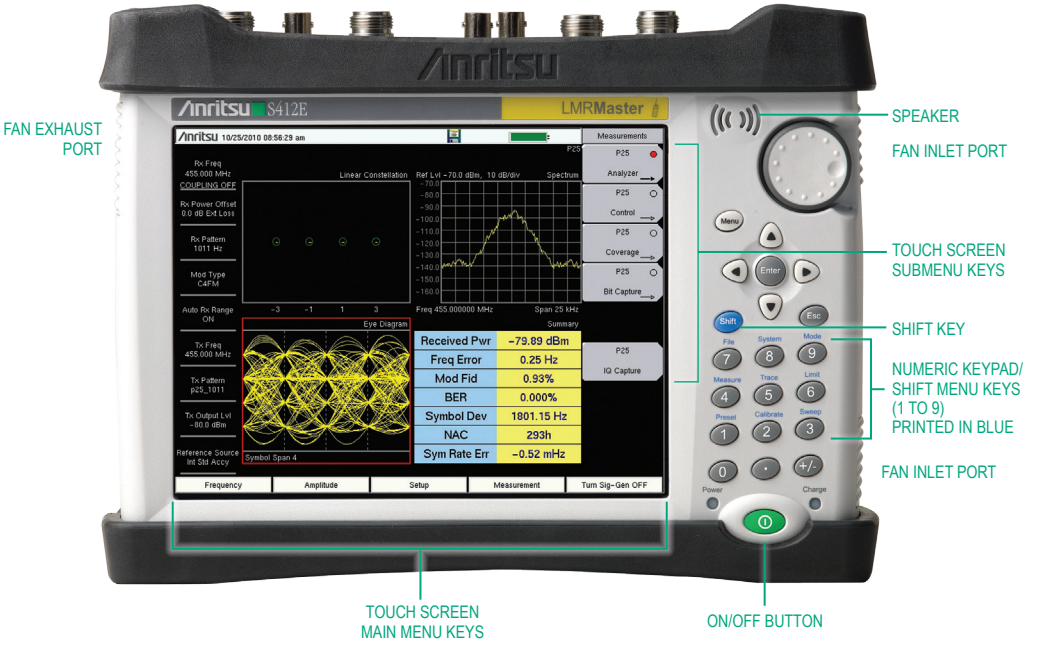
Spectrum Analyzer Highlights

- Dynamic Range: > 95 dB in 10 Hz RBW
- DANL: –152 dBm in 10 Hz RBW
- Phase Noise: –100 dBc/Hz max @ 10 kHz offset at 1 GHz
- Frequency Accuracy: 120 ppb, < 50 ppb w/ GPS locked
- Options: Interference Analyzer, EMF Measurements, Spectrogram, AM/FM/SSB Audio Demod

*Supports those features compliant with the ETSI DMR2 standard.



ALL CONNECTORS ARE CONVENIENTLY LOCATED ON THE TOP PANEL, LEAVING THE SIDES CLEAR FOR HANDHELD USE



HANDHELD SIZE: 273 X 199 X 91 MM, (10.7 X 7.8 X 3.6 IN), LIGHTWEIGHT: 3.6 KG, (7.9 LBS)

Quick Fact Sheet

LMR Master™ S412E

Land Mobile Radio Modulation Analyzer

Anritsu
envision : ensure

Key Specifications

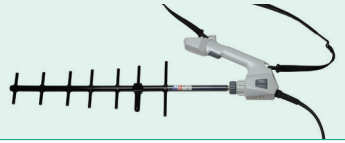
Land Mobile Radio Analyzer	
VNA Frequency	500 kHz to 1.6 GHz
Receiver Frequency	9 kHz to 1.6 GHz (Auto Scan: 10 MHz to 1.6 GHz)
Signal Generator	0 dBm to –130 dBm, 0.1 dB resolution, 2 dB accuracy (typical)
Supported Modes	Analog FM, P25 FDMA (TIA-102.CAAA-C) and P25 Phase 2 TDMA (TIA-102.CCAA), NXDN™, ETSI DMR Tier 2, PTC (ITC-R), ETSI TETRA
Phase Noise	–100 dBc/Hz max @ 10 kHz offset at 1 GHz
General	
Internal Memory	2,000 traces, 2,000 Setups
External Memory	Limited by the size of the external USB Flash drive
Data Connectivity	5-pin mini-B, Connect to PC for data transfer
Display	Resistive touch screen, 8.4" daylight viewable color LCD, Resolution 800 x 600
Temperature	Operating Temperature –10 ºC to 55 ºC
Battery	Li-Ion, 3.0 hours typical
Dimensions	273 mm x 199 mm x 91 mm (10.7 in x 7.8 in x 3.6 in)
Weight	3.6 kg, (7.9 lbs)

Standard Accessories

Part Number	Description
10920-00060	Handheld Instruments Documentation Disc
10580-00318	LMR Master User Guide
2000-1654-R	Soft Carrying Case
2300-498	Master Software Tools (MST) CD Disc
633-44	Rechargeable Li-Ion Battery
40-187-R	AC-DC Adapter
806-141-R	Automotive Cigarette Lighter Adapter
3-2000-1498	USB A/5-pin mini-B Cable, 10 feet (305 cm)
11410-00486	LMR Master S412E Technical Data Sheet
One Year Warranty (Including battery, firmware, and software)	
Certificate of Calibration and Conformance	

Optional Accessories

Interference Hunting Accessories



Precision Adapters

Options

Option	Description
Option 10	12 to 24V Variable Bias Tee
Option 6	6 GHz Coverage on Spectrum Analyzer
Option 16	6 GHz Coverage on Vector Network Analyzer
Option 15	Vector Voltmeter
Option 19	High Accuracy Power Meter (Requires optional sensor, refer to datasheet for selection/ordering)
Option 25	Interference Analysis (GPS Option 31 recommended)
Option 27	Channel Scanner
Option 31	GPS Receiver (Requires suitable GPS antenna, refer to datasheet for selection/ordering)
Option 37	Mobile WiMAX OTA Measurements (GPS Option 31 recommended)
Option 46	Fixed WiMAX RF Measurements (Requires Option 31)
Option 47	Fixed WiMAX Demodulation (Requires Option 31)
Option 66	Mobile WiMAX RF Measurements (Requires Option 31)
Option 67	Mobile WiMAX Demodulation (Requires Option 31)
Option 431	Coverage Mapping (Requires Option 31)
Option 444	EMF Measurements (Requires Istropic Antenna)
Option 509	AM/FM/PM Analyzer with Coverage Mapping (Requires Options 31 and 431)
Option 521	P25/P25p2 Analyzer Measurements
Option 522	P25/P25p2 Coverage (Requires Options 31 and 521)
Option 531	NXDN Analyzer
Option 532	NXDN Coverage (Requires Options 31 and 531)
Option 541	LTE RF Measurements (Requires Option 31)
Option 542	LTE Modulation Measurements (Requires Option 31)
Option 546	LTE OTA Measurements (Requires Option 31)
Option 581	TETRA Analyzer
Option 582	TETRA Coverage (Requires Options 31 and 581)
Option 591	DMR2 Analyzer
Option 592	DMR2 Coverage (Requires Options 31 and 591)
Option 721	PTC Analyzer
Option 722	PTC Coverage (Requires Options 31 and 721)
Option 98	Standard Calibration (Z-540, ANSI Z540-1-1994)
Option 99	Premium Calibration (Z-540 plus test data)

Pricing | Ordering | Support

www.anritsu.com

11410-00634, Rev. E Printed in United States 2015-05