

ARRIS Wireless Solutions

Wireless Voice and Data Modem WM502



Application

The wireless enabled WM502 delivers two lines of primary line Voice over IP (VoIP) along with High-Speed Data Access.

Setting the Standard for VoIP Subscriber Premise Equipment

ARRIS is the market leader in subscriber premises equipment for cable telephony with deployments of millions of lines of proprietary constant-bit rate (CBR) Cornerstone® Voice Port® units and DOCSIS®/PacketCable® compliant Touchstone Embedded Media Terminal Adaptors worldwide. This functionality has been expanded to support the additional features used in DOCSIS® based fixed wireless networks.

The WM502 continues ARRIS cable telephony leadership by incorporating 5th generation DOCSIS silicon with updated telephone line interfaces while maintaining the feature set of the widely deployed ARRIS Cornerstone and Touchstone TM402 line interfaces. Each line interface continues to support a 5 REN per line ringing capacity and 48 VDC nominal battery feed. Each line interface also supports advanced features such as selectable ringing waveforms, "boost" loop current, loop voltage management for alarm systems, and template or SNMP provisioned telephony channel settings.

The WM502 supports enhanced telephony features include Automatic Gain compensation for Tones and Signals (FSK/CAS), provisioned fixed or dynamic jitter buffers, and G.168 compliant echo cancellation. Advanced signal processing methods provide RFC 2833 compliant DTMF relay, T.38 Fax transmission, three-way calling, call waiting, and caller ID.

ARRIS Telephony Modem Offers World Class Features to Deliver the Highest Quality Voice Service

Do not put your trust in reference designs that cannot deliver the performance and requirements for your telephony service. ARRIS R&D experience ensures that the quality and performance of all wireless telephony modems are consistently maintained at the highest level. When it comes to high-speed data service, subscribers will accept occasional lock-ups or momentary loss of connectivity that may require them to reboot their cable modem. Telephony customers demand 99.999% availability!

All ARRIS modems support a wide variety of class features including three-way calling, call waiting, caller ID, Emergency 911 and regulatory requirements for wiretap under CALEA legislation.

Environmentally Friendly ARRIS "Green"

With European Restriction of Hazardous Substances (RoHS) directive quickly approaching, ARRIS is pleased to provide the industries first E-MTA that exceeds the RoHS directive. Beyond the present European directive to remove lead and other heavy metals, ARRIS has increased our focus by removing other environmentally impacting materials from the packaging, cables, etc... Please contact your sales representative for more information.



- **DOCSIS 2.0 based and PacketCable 1.0 complaint design provides a solution for the long-term**
- **Toll quality voice supplies a superior subscriber experience**
- **Increased CPE compatibility with Boost Current and Automatic Gain compensation for Tones and Signals (FSK/CAS)**
- **Multiple Protocol Support: PacketCable (NCS) and Session Initiated Protocol (SIP)**
- **Supports all of the DOCSIS® based wireless features**



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Specifications

Physical:	Operating Temperature °F (°C).....	41 to 104 (5 to 40)
	Operating Relative Humidity(Min.-Max.).....	5-85%(Non condensing)
	Storage Temperature °F (°C).....	-40 to 158 (-40 to 70)
	Dimensions (H x W x D) in. (cm).....	7.3 x 1.9 x 7.1 (18.5 x 4.8 x 18.0): - excluding F-connector
	Weight lbs (kg).....	1.06 (0.48)
	Diagnostic LEDs.....	Power, DS, US, Online, Link, Telephone 1, and Telephone 2

Interfaces:	RF Interface.....	External 'F' type connector
	Data Interfaces (bridged).....	10/100 Base-T Ethernet RJ-45
	Telephony Interface.....	2 RJ-11
	Input Power (nominal).....	100-240 VAC 50/60 Hz

Telephony:	Supervisory Voltage.....	48 V dc nominal
	Maximum Loop Length to CPE.....	1500 ft (457M) of 26 AWG (0.4 mm) wire
	Ringing Load Capacity.....	10 REN total
	Provisionable High Loop Current Mode.....	YES
	Telcordia™ GR 1089 (Lightning and Power Surge) Tested.....	YES
	Programmable Interface for Worldwide Applications.....	Yes (supports multiple country templates)

RF Downstream:	Frequency Range (MHz).....	88-900
	Modulation.....	QAM256, QAM64, QAM16, and QPSK
	Data Rate (Mbps).....	up to 42.88
	RF Input Sensitivity Level (dBmV).....	-15 to +15
	Bandwidth.....	6 MHz

RF Upstream:	Frequency Range (MHz).....	5-42
	Modulation.....	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM & 128 QAM (S-CDMA only)
	Data Rate (Mbps) (Max.).....	up to 30.72
	RF Output Level (dBmV).....	A-TDMA: +8 to 55dBmV (8 QAM, 16 QAM) +8 to 58 dBmV (QPSK) S-CDMA: +8 to +53 dBmV (all modulations)
	Automatic Level Adjust.....	Yes
	Gain Control Range (dB).....	50
	Frequency Stability (kHz).....	±5
	Output Impedance (Ohms).....	75

Standards:	Codec: G.711, 64 kbps, μ and A-law encoded speech	RFC3261 SIP: Session Initiated Protocol
	Enhanced codec support (G.726, G.728, G.729)	UL® 60950
	T.38 Fax Relay	FCC Part 15 Class B
	PacketCable Compliant	CE
	DOCSIS 2.0 Based	

Ordering Information

Part Number	Description
620370	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, NCS (110V North America)
620371 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP (110V North America)
620372 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP (220V Europe)
620373 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP (240V UK)
620374	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, NCS, QAM64 and QAM256 Only (110V North America)
620388	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, NCS, QAM64 and QAM256 Only (220V Europe)
620375 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP, QAM64 and QAM256 Only (110V North America)
620376 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP, QAM64 and QAM256 Only (220V Europe)
620377 ⁽¹⁾	Wireless DOCSIS 2.0 Based 6MHz E-MTA, 2-Line, SIP, QAM64 and QAM256 Only (240V UK)

⁽¹⁾ The ARRIS SIP capability has been interoperability tested and ready for commercial deployment with the following SIP Proxy servers: Nortel, Cisco, CedarPoint, Seimens, Asterisk. Due to large number of brands on the market today with varying implementations of the SIP protocol, ARRIS cannot guarantee full interoperability with all vendors. Please contact your sales representative for the latest list of compatible SIP Proxy servers. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

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