

**PRELIMINARY**

**ARRIS**  
**Wireless Modem WM501**



### Application

Based on the success of the Touchstone product family, ARRIS introduces the WM501 for 6MHz channelized wireless operation. The WM501 delivers one line of 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 over 5 million lines of constant-bit rate (CBR) Cornerstone® Voice Port® worldwide. This sets the groundwork for the IP telephony Touchstone product line.

The same field proven Voice Port line card technology has been implemented in the Touchstone family of Embedded Terminal Adapters (E-MTAs). The WM501-2 supports 5 Ringer Equivalence Number (REN) per line ringing capacity on a 500 foot, 26 AWG subscriber line. This assures multiple CPE devices can interface and properly operate on the same line (e.g. phone, fax, answering machine, phone, etc.).

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

As with all Touchstone Telephony Modems, the same base Telephony Firmware runs on all Touchstone Telephony Modem models. This assures uniform product line quality and performance.

Do not put your trust in reference designs that cannot deliver the performance and requirements for your telephony service. 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. This behavior is not acceptable for telephony. **Telephony customers demand 99.999% availability!**

ARRIS is continues to enhance its firmware base. Because of this, operators can expect the highest level of efficiency and stability over variable operating parameters. That translates to greater consistency in performance when compared to other modems and E-MTAs in the marketplace. In addition, ARRIS continues to implement improvements toward operational efficiency allowing operators to roll out service faster and at a lower cost.

All ARRIS Touchstone Telephony 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.

### PacketCable & Session Initiated Protocol Support

All Touchstone Telephony Modems support PacketCable (NCS) and Session Initiated Protocol (SIP) protocols. Both firmware protocols are based on the same architecture allowing ARRIS to maintain similar capabilities between firmware loads (i.e., provisioning, management, web interface). In addition, the available SIP firmware provides Quality of Service (QoS) consistent with PacketCable Multimedia QoS methods.

### 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



- **DOCSIS® 2.0 and PacketCable 1.0 / 1.1 based complaint design provides a solution for the long-term**
- **Toll quality voice supplies a superior subscriber experience**
- **Supports all of the DOCSIS® wireless features**
- **6MHz Channels**
- **Multiple Protocol Support: PacketCable (NCS) and Session Initiated Protocol (SIP)**



## Specifications

<b>Physical:</b>	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) Color ..... Dark gray Dimensions (H x W x D) in. (cm) ..... 6.8 x 1.2 x 6.0 (17.0 x 3.0 x 15.0): - excluding F-connector Weight lbs (kg) ..... 1.06 (0.48) Diagnostic LEDs ..... Power, DS, US, Online, Link, Telephone 1
<b>Interfaces:</b>	RF Interface ..... External 'F' type connector Data Interfaces (bridged) ..... 10/100 Base-T Ethernet RJ-45 Telephony Interface ..... 1 RJ-11 Input Power (nominal) ..... 100-240 VAC, 50/60 Hz
<b>Telephony:</b>	Supervisory Voltage ..... 48 V dc nominal Maximum Loop Length to CPE ..... 500 ft of 26 AWG (0.4 mm) wire Ringing Load Capacity ..... 5 REN total Telcordia™ GR 1089 (Lightning and Power Surge) Tested ..... YES Programmable Interface for Worldwide Applications ..... Yes (supports multiple country templates)
<b>RF Downstream:</b>	Frequency Range (MHz) ..... 88-860 Modulation (QAM) ..... QAM64, QAM16, QPSK Data Rate (Mbps) (Max.) ..... 27, 18, 9 RF Input Sensitivity Level (dBmV) ..... -15 to +15 Bandwidth ..... 6 MHz
<b>RF Upstream:</b>	Frequency Range (MHz) ..... 5-42 Modulation ..... QPSK, 8 QAM, 16 QAM Data Rate (Mbps) (Max.) ..... up to 5.12 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
<b>Standards:</b>	Codec: G.711, 64 kbps, $\mu$ and A-law encoded speech Enhanced codec firmware support planned (G.726, G.728, G.729) T.38 Fax Relay PacketCable Compliant DOCSIS 2.0 Based RFC3261 SIP: Session Initiation Protocol UL® 60950 FCC Part 15 Class B CE

## Ordering Information

620384	WM501 (DOCSIS 2.0, NCS based, North American power cord with NEMA 1-15 NA Plug)
620385*	WM501-SIP (DOCSIS 2.0, SIP based, North American power cord with NEMA 1-15 NA Plug)
620386*	WN501-SIP (DOCSIS 2.0, SIP based, European power cord with & CEE7 European Style Plug)
620387*	WM501-SIP (DOCSIS 2.0, SIP based, UK power cord & CEE7 European Style Plug)

(\*) 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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