WTM652A/B/G

Wireless Home and Small Office Gateway

Configuration

- DOCSIS® 2.0 and EuroDOCSIS 2.0 compliant designs
- High performance Wi-Fi Alliance certified 802.11b/g wireless access point
- High Speed Internet via 4 ports 10/100 Base-T Ethernet (RJ-45)
- 2 lines of Carrier Grade Voice
- Firmware Compatibility with Legacy and Future Touchstone products
- Integrated Power Supply for Higher Reliability
- Multiple Protocol Support: PacketCable (NCS) or Session Initiation Protocol (SIP)
- Dual Mode Support for European Models (B/DM version)

Battery Technology

- Battery Option – Model options for 8 hour holdup time
- Firmware configurable battery management and reporting allows customization of operation parameters

Product Integrity

- Superior Reliability
- Stable and Secure Software

Applications

ARRIS is pleased to introduce the newest generation of DOCSIS 2.0 advanced gateway products. The WTM652 combines two analog voice lines, 4-port router, and an 802.11b/g wireless access point into a single device capable of supporting both home and small office applications. Using multi processor technology, the WTM652 can achieve high bandwidth performance without affecting legendary ARRIS standard for voice quality. This feature enhanced unit will lead the future for advanced home and small office services.

- High speed home and office networking
- Multiple SSID's allow the device to be used both as a personal or business networking device while simultaneously supporting an open or public access point
- Rate Limiting for each SSID for superior Quality of Service

Performance

- Stateful Packet Inspection (SPI) Firewall with denial of service prevention, port forwarding, URL blocking, and DMZ support
- Network Address Translation (NAT) for multiple devices in the house
- VPN pass-through support (IPSec, L2TP, and PPTP)
- User friendly web interface with settings to allow remote web page access
- WAN settings to operate as a DHCP client or to support static IP assignment
- WPA™ and WPA2™ Personal, 64/128 bit WEP, and MAC authentication Wireless Security Options
- Includes support for WMM® QOS, WMM Power Save, and Wi-Fi Protected Setup.
- Independent reset for wireless module – does not effect telephony
- Custom configurable firmware for battery management and reporting

Specifications

Physical

Operating Temperature °F (°C)	41 to 122 (5 to 50)
Operating Relative Humidity (Min-Max)	5-85% (Non condensing)
Storage Temperature °F (°C)	-40 to 158 (-40 to 70)
Color	Black
Dimensions (H x W x D) in. (cm)	8.6 x 2.1 x 7.1 (21.8 x 5.3 x 18.0) - excluding F-connector
Weight lbs (kg)	No battery included: 1.2 (0.54)

Battery: 8 Hour Back-up Option (Dark Grey Case) – *Note: G version only*

Backup Capacity	Lithium-ion 2.4 Ah
Battery Dimensions in. (cm)	1.2 x 1.85 x 3.1 (3.0 x 4.7 x 7.9)
Weight lbs (kg)	1.5 (0.66)
Battery Storage Temperature °F (°C)	-4 to 140 (-20 to 60) Note: Storage above 77°F (25°C) will significantly reduce life of the battery and is not recommended.
Telemetry	AC Fail, Battery Low, Battery Missing, Replace Battery
Diagnostic LEDs	Power, DS, US, Online, Link, Telephone 1, Telephone 2, Battery, Eth 1, Eth 2, Eth 3, Eth 4, Secure, Wi-Fi Activity

Interfaces

RF Interface	External 'F' type connector
Data Interfaces (bridged)	4 x 10/100 Base-T Ethernet (RJ-45 connector)
Telephony Interface	2 lines; RJ-14 ("Line 1/2"), RJ-11 ("Line 2")
Input Voltage (nominal)	100-240 VAC 50/60 Hz

Telephony

Supervisory Voltage	48 V dc nominal
Maximum Loop Length to CPE	1000 ft (457M) of 26 AWG (0.4 mm) wire
Ringing Load Capacity	10 REN total; 5 per line
Provisionable High Loop Current Mode	Yes (40mA constant current source, NA templates ONLY)
Telcordia™ GR 1089 (Lightning and Power Surge) Tested	Yes
Programmable Interface for Worldwide Applications	Yes (supports multiple country templates)

RF Downstream

Frequency Range (MHz)	108-1002
Carrier Bandwidth (MHz)	6 (DOCSIS models), 8 (EuroDOCSIS models)
Modulation (QAM)	64 or 256
Data Rate (Mbps Max.)	up to 51
RF Input Sensitivity Level (dBmV)	-15 to +15
Total Input Power (40-1000MHz, dBmV Max.)	33

RF Upstream

Frequency Range (MHz)	5 to 42 (DOCSIS), 5 to 65 (EuroDOCSIS)
Modulation	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM & 128 QAM (S-CDMA only)
Data Rate (Mbps Max.)	up to 122
RF Output Level (dBmV – one channel)	ATDMA: +8 to 54 dBmV (32 QAM, 64 QAM) +8 to 55 dBmV (8 QAM, 16 QAM) +8 to 58 dBmV (QPSK) S-CDMA: +8 to +53 dBmV (all modulations)
Automatic Level Adjust	Yes
Frequency Stability (kHz)	±5
Output Impedance (Ohms)	75

Wireless

Transmit Power Output (EIRP)	19dBm +1/-1.5 dB 802.11b; 16dBm +1/-1.5 802.11g
Receive Levels	>-90dBm 802.11b 11mbps; >-74dBm 80211g 54mbps

Standards

Codec: G.711, 64 kbps, and A-law encoded speech	UL® 60950, FCC Part 15 Class B, CE
Enhanced codec firmware support (G.726, G.828, G.729E)	RoHS , WEEE
T.38 Fax Relay	IEEE Std. 802.11b, 1999 Edition
DOCSIS 2.0	IEEE Std. 802.11g, 2002 Edition
PacketCable 1.0 & 1.5 based	Wi-Fi- Alliance, WPA™ and WPA2™ Personal, 64/ 128 bit WEP,
IEEE 802.3, IEEE 802.3ab, IEEE 802.3x ,IEEE 802.1p, IEEE 802.1Q	WMM® QOS, WMM Power Save
RFC3261 SIP: Session Initiation Protocol	

Battery back-up times are typical and can be influenced by the age of the battery, the charging state, storage conditions and operating temperature as well as factors such as data activity and length of active telephone calls. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice . Actual operating range may vary according to environmental conditions at the time of use.

Ordering Information

Part Number	Description
DOCSIS 2.0 Models	PacketCable 1.0/1.5 Compliant E-MTA Integrated 100-240 VAC, 50/60 HZ Power supply with 6 foot power cord . Includes Quick Install Guide, Ethernet Cable, and CD-ROM with users guide
728994	Touchstone WTM652A/NA - NEMA 1 power plug - no battery backup capability
780120	Touchstone WTM652A/CE - CEE 7/16 Euro power plug - no battery backup capability
780122	Touchstone WTM652G/CE-0 - CEE 7/16 Euro power plug - battery capable but no battery included
780123	Touchstone WTM652G/CE-8 - CEE 7/16 Euro power plug - 2 cell, Li-Ion Battery Pack for up to 8 hours of battery back-up
728995	Touchstone WTM652G/NA-0 - NEMA 1 power plug - battery capable but no battery included
728996	Touchstone WTM652G/NA-8 - 2 cell, Li-Ion Battery Pack for up to 8 hours of battery back-up
Euro-DOCSIS 2.0 Models	Euro-PacketCable 1.0/1.5 Compliant E- MTA, Dual Mode Scanning, Integrated 220/240 VAC, 50 HZ Power supply, with 6 foot power cord. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with users guide
780121	Touchstone WTM652B/DM - CEE 7/16 Euro power plug – No battery capability
Accessories	
721944	2-Cell, 2.4 Ah, Li-Ion Battery Pack for WTM652G (battery models)
718005	4-Cell, 4.4 Ah, Li-Ion Battery Pack for WTM652G (Battery models)
721198	North American NEMA 1-15 plug Power Cord, 6 foot
721197	European CEE 7/16 plug Power Cord, 6 foot