



Touchstone® TM722G

DOCSIS® 3.0 Telephony Modem



Configuration

- DOCSIS 3.0 compliant
- PacketCable® 1.0 and 1.5 compliant
- Flexible 4x4 upstream / downstream channel-bonding with superior throughput
- 10/100/1000 Base-T Ethernet interface
- IPv4 or IPv6 addressing modes for DOCSIS CM layer
- USB 2.0 interface
- Up to two lines of carrier-grade VoIP
- Simplified interoperability through PacketACE™ configuration file editor
- Multiple Protocol Support:
PacketCable (NCS) or Session Initiation Protocol (SIP)
- 4 and 8 Hour Battery Back-Up Options

Applications

With millions of Touchstone Telephony Modems shipped, ARRIS is pleased to release our DOCSIS 3.0 next generation residential product family. The Touchstone TM722G DOCSIS 3.0 Embedded Multimedia Terminal Adaptor (EMTA) that delivers two lines of primary line Voice over IP (VoIP), ultra-high speed data access, and two battery pack options to support telephony service during power outages. With DOCSIS 3.0 channel bonding, cable operators can offer data services at speeds greater than 160 Mbps to their subscribers to compete against VDSL and Fiber to the home threats. The TM722G is backwards compatible with legacy DOCSIS 1.0, 1.1, and 2.0 cable equipment and can be deployed without service interruption.

Performance

- Voice performance equal to the industry leading TM602 family of products
- 1 GHz downstream RF tuner with up to 100 MHz capture bandwidth
- Configurable loop current, loop voltage management, and ringing waveform options
- Loop Diagnostics for remote testing and troubleshooting of in-house wiring
- Advance Diagnostics for easy troubleshooting - Call Quality Metrics for last 50 calls
- Multi-colored LEDs for rapid troubleshooting at installation or by phone with customer service
- Toll grade voice quality
- High Fidelity CODECs supported with future firmware upgrade(s)
- Auto-adapting FSK/CAS tone levels, dynamic jitter buffers, and G.168 echo cancellation

Leadership in Battery Technology

- Single, easy access battery slot
- Simple to install, consumer replaceable, lithium-ion batteries
- Firmware configurable battery management and reporting for customized operation
- Boot from battery feature allows modem to boot without AC Power

ARRIS Touchstone DOCSIS 3.0 Telephony Modem TM722G

Specifications

Physical

Operating Temperature °F (°C)	32 to 122 (0 to 50)
Operating Relative Humidity (Min-Max)	5-95%(Non condensing)
Storage Temperature °F (°C)	-40 to 158 (-40 to 70)
Dimensions (HxWxD) in. (cm)	9.1 x 2.1 x 7.1 (23.1 x 5.3 x 18.0) - excluding F-connector
Weight lbs (kg)	1.5 (0.68) – excluding battery
Battery Back-up 4-Hour Option (TM722G/NA-4)	Lithium-ion 2.2 AH Capacity, 1.75 lbs (0.79 kg) Battery
Battery Back-up 8-Hour Option (TM722G/NA-8)	Lithium-ion 4.4AH Capacity, 2.0 lbs (0.91 kg) Battery
Battery Storage Temperature °F (°C)	-4 to 140 (-20 to 60), Note: Storage above 77°F (25°C) significantly reduces battery life
Telemetry	AC Fail, Battery Low, Battery Missing, Replace Battery
Diagnostic LEDs	Power, DS, US, Online, Link, Tel 1, Tel 2

Interfaces

RF Interface	External 'F' type connector
Data Interfaces (bridged)	10/100/1000 Base-T Ethernet RJ-45, High Speed (480Mbps) USB 2.0
Telephony Interface	2 lines; RJ-14 ("Line 1/2"), RJ-11 ("Line 2")
Input Voltage (nominal)	115-240 VAC 50/60 Hz
Power Consumption (W)	7 (idle) 10 (max.)

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; 5 per line
Provisionable High Loop Current Mode	Yes
Telcordia™ GR 1089 (Lightning and Power Surge) Tested	Yes
Programmable Interface for Worldwide Applications	Yes

RF Downstream

Frequency Range (MHz)	108-1002
Bonded Channels	up to 4
Capture Bandwidth (MHz)	96 (typical)
Modulation (QAM)	64 or 256
Data Rate (Mbps)	up to 160
RF Input Sensitivity Level (dBmV)	-15 to +15
Carrier Bandwidth	6 MHz

RF Upstream

Frequency Range (MHz)	5-42
Bonded Channels	up to 4
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)	A-TDMA +17 to 57 dBmV (32 QAM, 64 QAM); +17 to 58 dBmV (8 QAM, 16 QAM); +17 to 61 dBmV (QPSK) Note: A-TDMA max output power reduced 3dB when transmitting 2 channels and 6dB with 3 or 4 channels.
	S-CDMA +17 to +56 dBmV (all modulations) Note: S-CDMA max output reduced 3dB when transmitting 2 or more channels.
Automatic Level Adjust	Yes
Frequency Stability (kHz)	±5
Output Impedance (Ohms)	75

Standards

DOCSIS 3.0	IEEE 802.3, IEEE 802.3ab
PacketCable 1.0 and 1.5	WHQL, USB-IF
UL® 60950	RFC3261 SIP: Session Initiation Protocol
FCC Part 15 Class B	Codec: G.711, 64 kbps, µ-law and A-law encoded speech
CE, CB	Enhanced codec support (G.726, G.728, G.729E)
RoHS, WEEE	T.38 Fax Relay

Ordering Information

Part Number	Description
780136	Touchstone TM722G/NA-0 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot NEMA 1-15 power cord. Battery NOT included
780134	Touchstone TM722G/NA-4 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot NEMA 1-15 power cord. Includes one, 2-cell, 2.2 AH, Li-Ion Battery Pack for up to 4 hours of battery back-up
780135	Touchstone TM722G/NA-8 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot NEMA 1-15 power cord. Includes one, 4-cell, 4.4 AH, Li-Ion Battery Pack for up to 8 hours of battery back-up
780157	Touchstone TM722G/CE-0 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot CEE 7/16 Euro power cord. Battery NOT included
780158	Touchstone TM722G/CE-4 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot NEMA 1-15 CEE 7/16 Euro power cord. Includes one, 2-cell, 2.2 AH, Li-Ion Battery Pack for up to 4 hours of battery back-up
780155	Touchstone TM722G/CE-8 DOCSIS 3.0 / PacketCable 1.5 complaint E-MTA with integrated 115-240 VAC, 50/60 HZ power supply with 6 foot CEE 7/16 Euro power cord. Includes one, 4-cell, 4.4 AH, Li-Ion Battery Pack for up to 8 hours of battery back-up
718003	One 2-Cell, 2.2 AH, Li-Ion Battery Pack for TM502/TM602/TM702/TM722
722841	One 4-Cell, 4.4 AH, Li-Ion Battery Pack for TM702/TM722

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