



Touchstone®

Telephony Modem TM604G with Integrated Battery Back-up



Configuration

- DOCSIS® 2.0 and PacketCable™ 1.1/1.5 compliant design
- High Speed Internet via 10/100 Base-T Ethernet
- Up to four lines of carrier-grade VoIP
- Firmware compatibility with legacy Touchstone TM50x and TM602 products
- Simplified interoperability through PacketACE™ configuration file editor
- Multiple Protocol Support: PacketCable (NCS) and Session Initiation Protocol (SIP)
- RIPv2 support

Applications

Building upon the success of the market leading TM504 and TM602 designs, ARRIS is pleased to introduce the TM604G. The TM604 delivers four lines of carrier-grade Voice over IP (VoIP) along with High-Speed Data access. An optional consumer replaceable Li-Ion battery pack ensures telephony and IP service during power outages. The TM604 maintains the same battery form factor as used in the TM602.

Performance

- Improved Line Card Performance over the TM504 - Greater than 20% increase in high loop current mode and 10% greater ringing voltage
- Loop Diagnostics for remote testing and troubleshooting of in-house wiring
- 1GHz Tuner – for future proof plant upgrades
- Toll grade, compression, and High Fidelity CODEC capable (High Fidelity supported in future firmware upgrade)

Leadership in Battery Technology

- More Battery Options – including an 8-cell battery pack to support up to 24 hours of hours of battery back-up time!
- Firmware configurable battery management and reporting allows customization of operation parameters
- Boot from Battery – Operators or subscribers can now boot the modem from a charged battery without needing AC Power.

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Specifications

Physical:	Operating Temperature °F (°C)	32 to 122 (0 to 50)	
	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)	10.3 x 2.0 x 7.4 (26.2 x 5.1 x 18.8) - excluding F-connector	
	Weight lbs (g)	No battery included: 1.2 (554)	
	Battery: 4 cell Battery Back-up Option for up to 12 hours of battery back-up		
	Backup Capacity	Lithium-ion 4.4 Ah	
	Battery Dimensions in. (cm)	1.2 x 1.85 x 5.7 (3.0 x 4.7 x 14.5)	
	Weight lbs (g)	0.50 (228)	
Battery: 8 cell Battery Back-up Option for up to 24 hours of battery back-up			
Backup Capacity	Lithium-ion 8.8 Ah		
Battery Dimensions in. (cm)	2.0 x 2.0 x 6.9 (5.1 x 5.1 x 17.6)		
Weight lbs (g)	1.0 (439)		
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, Telephone 3, Telephone 4, Battery	
Interfaces:	RF Interface	External 'F' type connector	
	Data Interfaces	10/100 Base-T Ethernet (RJ-45 connector)	
	Telephony Interface	4 lines; RJ-14 ("Line 1/2"), RJ-11 ("Line 2"), RJ-14 ("Line 3/4"), RJ-11 ("Line 4")	
	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)	88-1002	
	Modulation (QAM)	64 or 256	
	Data Rate (Mbps) (Max.)	30 or 42	
	RF Input Sensitivity Level (dBmV)	-15 to 15	
	Bandwidth6 MHz	
RF Upstream:	Frequency Range (MHz)	5-42	
	Modulation		
	A-TDMA	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM	
	S-CDMA	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM & 128 QAM	
	Data Rate (Mbps) (Max.)	up to 30.72	
	RF Output Level (dBmV)		
	A-TDMA	+8 to 54 dBmV (32 QAM, 64 QAM), +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		
	Enhanced codec firmware support (G.726, G.728, G.729E)		
	T.38 Fax Relay		
	DOCSIS 2.0 based		
	PacketCable 1.0 & 1.5 based		
	RFC3261 SIP: Session Initiation Protocol		
	UL® 60950, FCC Part 15 Class B, CE		

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.

Ordering Information

Part #	Description
721068	Touchstone TM604G/NA-0 DOCSIS 2.0 / PacketCable 1.0/1.5 Compliant E-MTA. Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with NEMA 1-15. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide. NO battery included
721070	Touchstone TM604G/NA-8 DOCSIS 2.0 / PacketCable 1.0/1.5 Compliant E-MTA with 4-cell 4.4Ah Li-Ion Battery Pack. Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with NEMA 1-15. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide.
728903	Touchstone TM604G/NA-16 DOCSIS 2.0 / PacketCable 1.0/1.5 Compliant E-MTA with 8-cell 8.8 AHr Li-Ion Battery Pack. Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with NEMA 1-15. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide.
721071	Touchstone TM604G/CE-0 DOCSIS 2.0 / PacketCable 1.0/1.5 Complaint E-MTA. Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with CEE 7/16 "Euro" Power Plug. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide. NO battery included
721073	Touchstone TM604G/CE-8 DOCSIS 2.0 / PacketCable 1.0/1.5 Compliant E-MTA with 4-cell 4.4 AHr Li-Ion Battery Pack. Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with CEE 7/16 "Euro" Power Plug. Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide.
728904	Touchstone TM604G/CE-16 DOCSIS 2.0 / PacketCable 1.0/1.5 Compliant E-MTA with 8-cell 8.8 AH Li-Ion Battery Pack Integrated 100-240 VAC, 50/60 HZ Power supply w/ 6 foot power cord with CEE 7/16 "Euro" Power Plug Includes Quick Install Guide, Ethernet Cable, and CD-ROM with Users Guide.
718005	One 4-Cell, 4.4 Ah, Li-Ion Battery Pack TM604G, also fits TM502G/H, TM602G/H, TM504G/H, and TM608G
718006	Kit of 30, 4-Cell, 4.4 Ah, Li-Ion Battery Packs for TM604G, also fits TM502G/H, TM602G/H, TM504G/H, and TM608G
721192	8-Cell, 8.8 Ah, Li-Ion Battery Pack for TM604G, also fits TM602G/H and TM504G/H (Cannot be used in TM502G/H or TM608G).

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