

Subscriber Networks

Model D9476™—16/64/128/256 QAM Modulator

Description

The Model D9476™ Quadrature Amplitude Modulation (QAM) Modulator is an integral component of Scientific Atlanta's Digital Headend product line. The modulator allows digital MPEG-2 packet data to be securely transported through conventional CATV RF Networks.



Features

- Allows carriage of digital data on conventional CATV RF Networks
- Supports both ITU J.83 (Annex A and Annex B) and DAVIC QAM coding
- Provides up to 38.8 Mbps output data rate within 6 MHz of spectrum at 256 QAM
- Provides agile output on frequencies between 150 MHz and 750 MHz
- Employs interleaving and Reed-Solomon FEC for improved performance
- Contains 10Base-T Ethernet interface for remote provisioning, control, status monitoring, and alarms
- Provides automated creation and insertion of ATSC SI data
- Contains integrated PowerKEY® Conditional Access

Specifications

RF Specifications	
Frequency Range (center frequency)	150 MHz - 750 MHz
Frequency Offset	0 kHz $\pm$ 250 kHz
Minimum Tuning Step Size	1 MHz
RF Output Power Level	+40 dBmV to +50 dBmV (in 0.1 dB steps) min. range
RF Output Impedance	75 ohm
Output Power level with Carrier Squelched	<-10 dBmV
RF Output Return Loss (carrier on or squelched)	>10 dB (output channel)
Inband Spurious Outputs (50 MHz - 1.1 GHz)	<60 dBc (CW), <57 dB (modulated)
Noise Floor (out-of-band)	<-136 dBc/Hz, >25 MHz from center frequency
Output Frequency Error (over temperature)	$\pm$ 15 kHz
RF Test Point Level	RF output power -20 dB ($\pm$ 2 dB)

Specifications, continued

Modulation Specifications	
Modulation Type	16/64/128/256 - Quadrature Amplitude Modulation
Data Rate After FEC (Mbps)	• 16 QAM: 19.448 Mbps • 64 QAM: 29.172 Mbps • 128 QAM: 34.034 Mbps • 256 QAM: 38.896 Mbps
Error Vector Magnitude	• 16 QAM: $\leq 2.6\%$ • 64 QAM: $\leq 2.4\%$ • 256 QAM: $\leq 2.3\%$
Error Correction	Reed-Solomon t = 8

Electrical Specifications	
Voltage	AC unit: 115 VAC @ 60 Hz DC unit: -48 VAC
Power Required (AC unit)	<50 Watts to 50 W (typical)
Power Dissipated	50 Watts (typical)
In Rush Current	Peak non-repetitive AC unit < 15 amps

Connector Specifications	
AC Input	3-prong male socket
RF Output	Type F
ASI Input	BNC
RF Test Point	BNC
CA Sync	DB-9 Male
Ethernet 10BaseT	RJ-45
Data Input	• DHEI: HD-22 26 pin Female • SWIF: HP Versa-link Optical • DVB ASI: BNC Coax Connectors
Alarm Relay	Quick Insert Wire Connector
Alarm Contact Closures	• Contact Type: 1 form C (NO, NC) contacts • Contact Rating: 220 V dc, 2A switching

Mechanical Specifications	
Rack Mount Type	EIA RS-310
Dimensions	18 in. x 17.5 in. x 1.5 in. (45.72 cm x 44.45 cm x 3.81 cm)
Weight	12 lbs (5.4 kg)

Specifications, continued

Environmental Specifications	
Operating Temperature	32°F to 122°F (0°C to +50°C)
Operating Humidity	0% to 95% non-condensing

Regulatory Compliance	
UL and CUL	Certified

Ordering Information

Contact your Sales Representative for product availability in your area.

Description	Part Number
D9476—2 QAM Modulator (DAVIC with ASI)	567710



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