

D9477 MQAM Modulator

Description

The D9477 MQAM (multi-QAM) Modulator provides an ideal solution for mass deployment of video-on-demand (VOD) services. It contains all of the core functionality of our single unit QAM modulator, plus several additional capabilities for deploying VOD quickly and reliably.



By multiplexing MPEG-2 video content from two ASI inputs to any of four independent RF outputs, the MQAM provides savings both in rack space and cost per video stream over our single-unit QAM. These ASI inputs also allow direct connection to a video server for VOD applications. Under control of the Digital Network Control System (DNCS), the MQAM can be located in either the headend or hub.

Features

- Four QAM ITU-A, ITU-B or ITU-C outputs in two rack units (2RU) where one unit equals 1RU plus spacer
 - All core functionality of a single Conditional Access (CA) QAM unit
 - Less rack space; 2RU MQAMs replace 8RU CA QAMs including spacers
 - 91 MHz to 867 MHz output center frequency range
- Dual, full ASI inputs (216 Mbps each); able to multiplex content to any of four RF outputs
- Includes DVB common scrambling, PowerKEY[®] DES, and Harmony capability
- DNCS system management



Benefits

- Higher rack density saves space – 2RU MQAMs vs. 8RU CA QAMs
- Lower cost per video stream than with a single unit QAM
- Multiple core encryption options can be enabled after deployment
- Provisioning and monitoring by the DNCS – MQAMs deploy in the headend or hubs
- Uses second ASI input for multiplexing a second data source or as a redundant input

Modulation Specifications

Modulation Type	Default Interleaver	Default Symbol Rate (MHz)	Data Rate (Mbps)	
			Including MPEG Header	Not Including MPEG Header
ITU-A 256-QAM	I=204 J=1	6.887	50.775	49.695
ITU-A 64-QAM	I=12 J=17	6.887	38.081	37.271
ITU-B 256-QAM	I=128 J=1	5.360537	38.811	37.985
ITU-B 64-QAM	I=128 J=1	5.056944	26.971	26.397
ITU-C 64-QAM	I=12 J=17	5.274	29.162	28.541

Specifications

Digital I/O Performance Specification

Maximum Input Rate:

432 Mbps (2 x 216 Mbps)

Maximum Aggregate Output Rate:

203.1 Mbps (4 x 50.8 Mbps)

RF Specification

Frequency Range (center frequency):

91 MHz to 867 MHz

Minimum Tuning Step Size:

250 kHz

RF Output Power Level:

+45 dBmV to +55 dBmV (0.1 dB steps) minimum range¹

RF Output Power Tolerance²:

± 2 dB

RF Output Impedance:

75 ohm

RF Output Return Loss (unswelched):

> 12 dB (within output channel)

Spurious Outputs (DC @ 1.1 GHz):

< -60 dBc (single frequency)

Noise Floor (out of band):

< -136 dBc/Hz, > 25 MHz from center frequency

Mechanical Specifications

Rack Mount Type:

EIA RS-310

Dimensions:

1.75 in. x 19 in. x 21 in., HWD

(44.45mm x 482.6mm x 533.4mm, HWD)

Weight:

12 lb (5.4 kg)

Environmental Specifications

Operating Temperature Range:

0°C to 50°C

Storage Temperature Range:

-10°C to 70°C

Operating Humidity:

5% to 95%, non-condensing

AC Power Supply Requirements, Model D9477-1 MQAM

AC Input Voltage:

90 VAC to 130 VAC @ 47 Hz to 63 Hz, or

180 VAC to 264 VAC @ 47 Hz to 63 Hz

Power:

Power required:

75 VA, typical, @ 116 VAC

Power dissipated:

55 Watts, typical

In rush current:

30 A, max.

DC Power Supply Requirements, Model D9477-2 MQAM

DC Input Voltage:

-42 VDC to -57 VDC

Power:

Power dissipated:

55 Watts, typical

In rush current:

40 A, max.

Connector Specifications

RF Outputs:

4 total, type F, 75 ohm

ASI Inputs:

2 total, BNC, 75 ohm

Ethernet 10Base10:

RJ-45

Craft Port:

DB-9 male

AC Power:

IEC 320 connector

DC Power:

Two terminal screw-type binding connector

Notes:

1. Noise and spurious performance limits apply with the output power in the range of 45 dBmV to 55 dBmV.
2. Actual output power is within ±2 dB of the value displayed for setpoint, temperature, and frequency variations. Power output adjustment range is from 43 dBmV to 57 dBmV.

Specifications and product availability are subject to change without notice.



PowerKEY, Scientific-Atlanta and the Scientific-Atlanta logo are registered trademarks of Scientific-Atlanta, Inc.
© 2002 Scientific-Atlanta, Inc. All rights reserved.

Scientific-Atlanta, Inc.
1-800-722-2009 or 770-903-6900
www.scientificatlanta.com

Part Number 714341 Rev B
June 2002