

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 (unswelled):

> 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.



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