QAM256

Digital Video Modulator and Cable Upconverter

HIGHLIGHTS

- 1 to 52 Mbps
- Optional Ethernet Interface
- MPEG-2 Compliant
- QAM to 256-QAM Modulation
- Cost-Effective Headend Solution
- Internal Cable Upconverter or Fixed IF Output
- -48 VDC Power Supply (Optional)

OVERVIEW

The DVB-compliant QAM256 modulator meets all DVB requirements for transmission of digital video on broadband coaxial cable and microwave radio. The QAM256 features 4-QAM to 256-QAM modulation, 1 to 52 Mbps data rate, 1 to 8 MHz channel spacing and Reed-Solomon forward error correction. The modulator also supports field-changeable RS-422 Parallel, ASI and other standard DVB interfaces. Remote Monitor and Control (M&C) Interface is provided through either a RS-485 or Ethernet Remote Port using SNMP protocol.

The QAM256 provides efficient bandwidth utilization for digital video distribution systems.

MMDS, LMDS, AML, Cable Television and Multiple Dwelling Unit systems all benefit from this innovative modulator. QAM modulation solves the problem of providing multiple video and data channels within bandwidth limitations. The QAM256 has the versatility to adapt to the terrestrial broadband medium and give system operators full management and control of the available bandwidth.

The space and money-saving internal cable upconverter option conveniently removes the need for an external converter unit.

The modulator meets the specifications of the ITU-T Recommendation; J.83 Annex A & B (Telecommunication Standardization of the ITU for Television and Sound Transmission).

The Interface Module is a field-changeable module that contains either RS-422 Parallel, ASI or other standard interface. The interface accepts data in an MPEG-2 transport format. The data is then passed to the channel encoder for processing.

The Channel Encoder synchronizes to the MPEG-2 transport frame and performs scrambling (energy dispersal), and Reed-Solomon encoding (240, 188) and interleaving.

COMTECH EF DATA

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QAM256 Digital Video Modulator and Cable Upconverter

SPECIFICATIONS

WITHOUT CABLE UPCONVERTER

Data Rate:	1 to 52 Mbps
Modulation:	4, 16, 32, 64, 128, 256-QAM (7 Msps Maximum)
Roll Off:	12, 15, and 18% Selectable
FEC:	204/188 Reed-Solomon With I = 1 - 204 Programmable Forney Convolutional Interleaver Meets J.83 Annex A, Annex B

IF Interface

Output Frequency:	43 to 44 MHz (Optional 35 to 37 MHz), 1 Hz Steps
Power Output:	0 to -25 dBm
Spurious:	-50 dBc
Connector:	BNC
Impedance:	75 Ohms

Baseband Interface

Format:	MPEG-2 Transport
Physical:	ASI Advanced ASI DVB Parallel M2P Parallel

Remote Interface

RS-485, Terminal RS-232,
Ethernet 10 Base-T (Optional)

Physical

Chassis Size:	19” W x 17 3/4” D x 1 3/4” (1 RU) H (48.26 cm x 45.09 cm x 4.45 cm)
Power:	100 to 240 VAC, 50/60 Hz or -48 VDC Optional
Environmental:	0 to 50°C Less than 95% Humidity @ 25°C

SPECIFICATIONS

WITH CABLE UPCONVERTER

Data Rate:	4 to 52 Mbps
Modulation:	4, 16, 32, 64, 128, 256-QAM (7 Msps Maximum)
Roll Off:	12, 15, and 18% Selectable
FEC:	204/188 Reed-Solomon With I = 1 - 204 Programmable Forney Convolutional Interleaver Meets J.83 Annex A, Annex BIF Interface

RF Interface

Output Frequency:	50 to 862 MHz Total, 1 MHz Steps
Power Output:	45 to 60 dBmV, 1 dB Steps
Output Accuracy:	±1.0 dB
Output Stability:	±0.5 dB
Power Adjustment:	15 dB
Spurious:	-50 dBc In-Band, 45 dB Out-of-Band
Phase Noise:	-88 dBc/Hz 10 kHz Offset (ssb)
Carrier Mute:	55 dB, Automatic on Frequency Change
Connector:	F Type
Return Loss:	16 dB
Impedance:	75 Ohms
Output Monitor:	-20 dB, ±3 dB from RF Output, F Type

Baseband Interface

Format:	MPEG-2 Transport
Physical:	ASI Advanced ASI DVB Parallel M2P Parallel

Remote Interface

RS-485, Terminal RS-232,
Ethernet 10 Base-T (Optional)

Physical

Chassis Size:	19” W x 17 3/4” D x 1 3/4” (1 RU) H (48.26 cm x 45.09 cm x 4.45 cm)
Power:	100 to 240 VAC, 50/60 Hz or -48 VDC Optional
Environmental:	0 to 50°C Less than 95% Humidity @ 25°C

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