



Overview

The DVB-compliant QAM256 Digital video Modulator and Cable Up Converter 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 up converter 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.

Features

- 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)

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 ASI |
| Physical | Advanced ASI DVB parallel M2P parallel |

Remote Interface

RS-485, terminal RS-232, Ethernet 10Base-T (optional)

Physical

| | |
|--|---|
| Dimensions (height x width x depth) | 1.75" x 19" x 17.75" (4.45 x 48.26 x 45.09 cm) |
| Power | 100 to 240 VAC, 50/60 Hz or -48 VDC optional |
| Environmental | 0 to 50°C Less than 95% humidity @ 25°C |

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 ASI |
| Physical | Advanced ASI DVB parallel M2P parallel |

Remote Interface

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

Physical

| | |
|--|---|
| Dimensions (height x width x depth) | 1.75" x 19" x 17.75" (4.45 x 48.26 x 45.09 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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