BLONDER TONGUE
LABORATORIES, INC.

QTM

QAM TRANSCODER MODULE
1x QPSK/8PSK ▶ 1x QAM

QTM (QAM Transcoder Module) accepts one input in QPSK or 8PSK format, and delivers one output in QAM format in the 54-864 MHz range.

The four available models are:

1. QTM-II - accepts one input in QPSK format, and delivers one output in QAM 64 mode.
2. QTM-HD - accepts one input in QPSK or 8PSK format, and delivers on output in QAM 256 mode.
3. QTM-HD PLUS - the same as QTM-HD, but capable of QAM 512/1024 modes.
4. QTM-HD NPU - the same as QTM-HD, but with a "Null Packet" feature that allows adding/removing null packets to/from the input stream.

Features

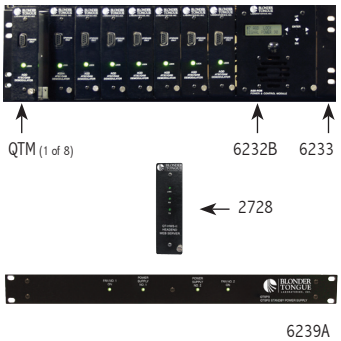
- Supports the 8PSK modulation typically used for High-Definition TV programming
- Supports ITU-T J.83 Annex A and Annex B standards (QAM 16, 32, 64, 128, 256, 512, and 1024)
- Compact design allows for deployment of 8 transcoders, and power & control module, in 3RU rack space
- Optional Headend Web Server allows for remote monitoring and control of each transcoder
- Optional Standby Power Supply allows for uninterrupted service in the unlikely event of a primary power supply failure

Ordering Information

Model	Stock #	Description
QTM-II	6231A	QAM Transcoder Module; QPSK input, QAM 64 output
QTM-HD	6241	QAM Transcoder Module; QPSK/8PSK input, QAM 256 output
QTM-HD PLUS	6242	QAM Transcoder Module; QPSK/8PSK input, QAM 512/1024 output
QTM-HD NPU	6278	QAM Transcoder Module; QPSK/8PSK input, QAM 256 output; Null Packet add/remove capability
QTRC	6233	Rack Chassis; 3RU (holds up to 8 QTM modules)
QTPCM PLUS	6232B	QT Power and Control Module (one per chassis)

Optional Equipment

QT-HWS-II	2728	QTM Headend Web Server for remote monitoring and control
QTSPS	6239A	QT Stand-by Power Supply with integrated fan tray (supports 2 fully-loaded rack chassis)
QTHF	6235	QT 1RU rack-mounted fan tray
QTRFC	6234 1	8-port QAM combiner (mounts on the top of the Rack Chassis 6233)
QTRFS	6234 2	8-port L-band Splitter (mounts underneath the Rack Chassis 6233)
QTRFS-2	6225 2	2 x 4-port L-band Splitter (mounts underneath the Rack Chassis 6233)



Rev. No. 100128 (651215600C)

Specifications

Input

Connector:	"F" Female
Standards **QTM-II:** **QTM-HD:** **QTM-HD PLUS:** **QTM-HDP NPU:**	 QPSK QPSK and 8PSK QPSK and 8PSK QPSK and 8PSK
Symbol rate:	Variable; 2 to 45 MSymbols/sec (Mbaud)
Frequency Range:	950 to 2150 MHz
Frequency Granularity:	1 MHz
Bandwidth:	Variable, up to 36 MHz
Capture Range:	± 5 MHz
Code Rate:	Viterbi – Auto Detect
Forward Error Correction (FEC):	DVB / DigiCiper® II
Input Level:	-65 to -20 dBm
Impedance:	75 Ω
Return Loss:	8 dB

Output

Connector:	"F" Female
QAM Modulation Modes **QTM-II:** **QTM-HD:** **QTM-HD PLUS:** **QTM-HDP NPU:**	 16, 32, 64 16, 32, 64, 128, 256 16, 32, 64, 128, 256, 512, 1024 16, 32, 64, 128, 256
DVB Symbol Rate:	Variable; up to 12.5 Msym/sec (MBaud)
Frequency Range:	54 to 864 MHz
QAM Tuning **NTSC:** **PAL:**	 Per channel's number from 2 to 135 Per channel's center-frequency (12.5 kHz increments)
RF Level:	+40 dBmV (120 dBµV)
RF Level LCD Screen Error:	± 2 sB
RF Level Adj. Range:	30 to 40 dB
Frequency Tolerance:	± 0.5 kHz @ 77 °F (25 °C)
Frequency Stability:	± 5 kHz over 32 to 122 °F (0 to 50 °C)
Amplitude Flatness:	± 0.25 dB (over 6 MHz channel)
Phase Noise:	-98 dBc (@ 10 kHz)
Spurious:	-60 dBc
Broadband Noise:	-75 dBc (@ +40 dBmV output level, 4 MHz bandwidth)
Impedance:	75 Ω
Return Loss:	12 dB
Spectral Inversion:	Auto Recognition
Carrier Suppression:	55 dB
SNR:	Greater than 40 dB
MER:	Greater than 40 dB
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbalance:	Less than 1%

General

Dimensions (W x D x H) **QT Module:** **QTPCM Module:** **QTRC Rack Chassis:**	 1.5 x 10.6 x 5.25 inches (38 x 270 x 134 mm) 4.5 x 10.6 x 5.25 inches (114 x 270 x 134 mm) 19 x 12.0 x 5.25 inches (483 x 305 x 134 mm)
Power:	105 to 240 VAC; 50/60 Hz
Power Dissipation: **QT Module:** **Fully-loaded Rack Chassis:**	 10 W 87 W (8 QT Modules + 1 QTPCM)
Weight **AQM Module:** **Fully-loaded Rack Chassis:**	 1.7 lbs (0.77 kg) 28 lbs (12.7 kg)
Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-13 to 158 °F (-25 to 70 °C)
Operating Humidity:	0 to 95% RH @ 35 °C max, non-condensation
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensation

Alarms/Monitoring/Control

Indicators **QT Module:** **QTPCM Module:**	 Status (Green LED) LCD Screen
Local Monitoring: **Local Control:**	Front-panel 6-character, 2-line LCD screen Front-panel Navigational Key-pad
Remote Monitoring/Control:	GUI-based menu via Web browser (Available if the optional QT-HWS-II module is installed)

Related Products

Model	Description
AQM	ASI-to-QAM Modulator. Six modulators in 2RU
DQMx	4x1 ASI/8VSB/QAM-to-QAM Multiplexer, 1RU
HDA-8-860-20	Rack-mount Distribution Amplifier (20 dB gain) and 8x1 Combiner
HDA-16-860-16	Rack-mount Distribution Amplifier (16 dB gain) and 16x1 Combiner

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