



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 one 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

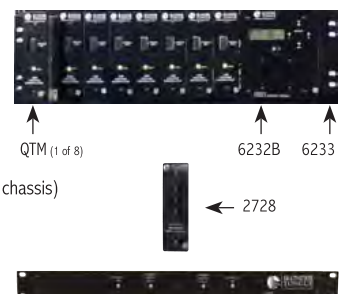
- Supports the 8PSK modulation typically used for High-Definition TV programming
- Supports ITU-T J.83 Annex A and Annex B standards (QAM 16, 32, 64, 128, 256, 512, and 1024)
- Compact design allows for deployment of 8 transcoders, and power & control module, in 3RU rack space
- Optional Headend Web 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)



6239A

# SPECIFICATIONS

## INPUT

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

## OUTPUT

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

## GENERAL

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

## ALARMS/MONITORING/CONTROL

<b>Indicators</b>	<b>QT Module:</b> Status (Green LED) <b>QTPCM Module:</b> LCD Screen
<b>Local Monitoring:</b>	Front-panel 6-character, 2-line LCD screen
<b>Local Control:</b>	Front-panel Navigational Key-pad
<b>Remote Monitoring/Control:</b>	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

Order From: 

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