



Blonder Tongue

QTM-HD-4 QAM TRANSCODER MODULE 4xQPSK/8PSK to 4xQAM

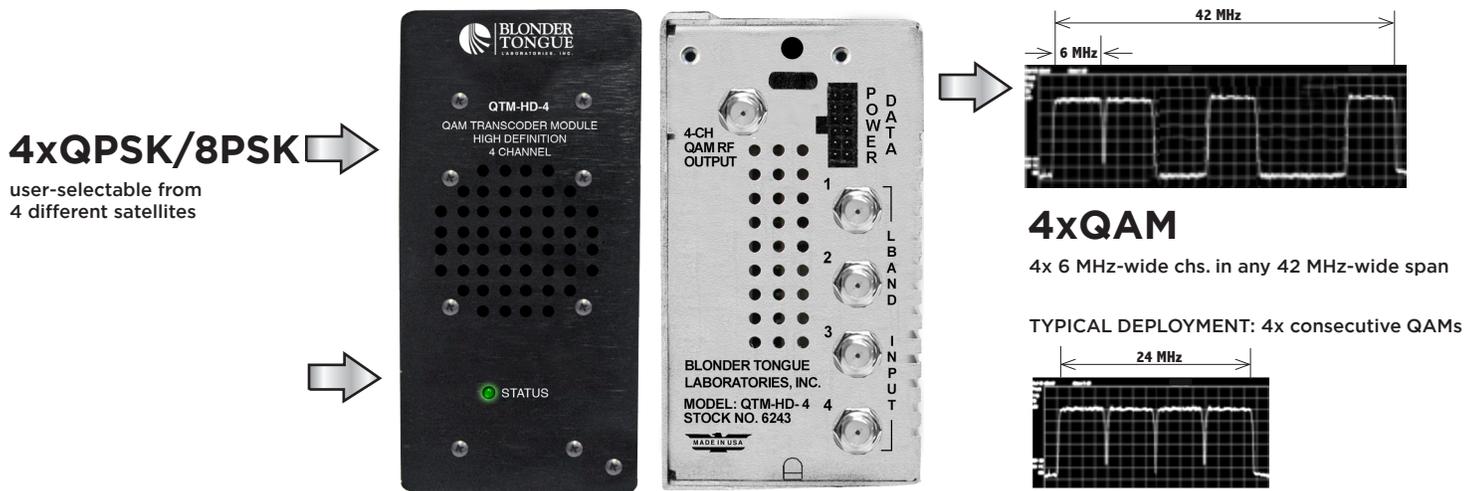
SOLUTIONS FOR ALL YOUR APPLICATIONS

QTM-HD-4 (QAM Transcoder Module) contains four (4) independent transcoders in a single module. Each of these transcoders accepts one (1) input in QPSK or 8PSK format, and the module delivers four outputs in QAM format in the 54-864 MHz range.

An integrated satellite selector switch allows operator to select any of the QPSK/8PSK inputs from up to 4 different satellites without the need for a separate external multiswitch. The 4 RF QAM output channels can be grouped in any 42 MHz-wide span, for example grouped consecutively in a 24 MHz-wide span, or grouped as two pairs of adjoining RF channels each 12 MHz wide, or any other possible combination of 4x 6 MHz-wide channels placed in a 42 MHz-wide span.

The QTM-HD-4-NPU functions the same as the QTM-HD-4, but with a "Null Packet" feature that allows adding/removing null packets to/from the input stream.

The QTM-HD-4/NPU may be monitored and controlled via GUI-based web pages from any computer either locally or via the internet.



Features

- Supports QPSK/8PSK inputs (DVB-S, DVB-S2, Turbo FEC)
- Equipped with an integrated satellite switch that allows operator to select inputs from 4 different satellites
- Supports ITU-T J.83 Annex A and Annex B QAM output (QAM 16, 32, 64, 128, 256)
- Can be deployed with QTM-HD-Plus (stock 6242) for applications requiring QAM 512/1024 modulation
- Compact design allows for deployment of 4 units (16 transcoders), including the power & control module, in 3RU
- GUI-based menu, including SNMP-based management, provides remote monitoring/control capabilities
- 4x 8 MHz-wide QAM channel optional software is available

Ordering Information

Model	Stock #	Description
QTM-HD-4	6243	QAM Transcoder Module; QPSK/8PSK input, QAM 256 output
QTM-HD-4-NPU	6223	QAM Transcoder Module; QTM with "Null Packet" feature
QTPCM-4	6238	QT Power and Control Module (one per chassis)
QTRC	6233A	Rack Chassis; 3RU (holds up to 4 QTM-HD-4 modules and 1 QTPCM-4)



Made in U.S.A.

Rev: 052915

Specifications

Input

Connector:	4x "F" Female
Standards:	QPSK & 8PSK (DVB-S, DVB-S2, DCII, LDPC/BCH, & Turbo FEC)
Symbol rate	DVB-S: Variable; 1 to 45 MSymbols/sec (Mbaud) DVB-S2: Variable; 5 to 33 MSymbols/sec (Mbaud) 8PSK Turbo: Variable; 2 to 30 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	DVB-S: Auto Detect; 1/2, 2/3, 3/4, 5/6, 7/8, DC II DVB-S2 (QPSK): Auto Detect; 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2 (8PSK): Auto Detect; 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 Turbo FEC (QPSK): Auto Detect; 1/2, 2/3, 3/4, 5/6, 7/8 Turbo FEC (8PSK): Auto Detect; 2/3, 3/4, 5/6, 8/9
Forward Error Correction (FEC):	DVB / DigiCiper® II
Input Level:	-65 to -20 dBm
Impedance:	75 Ω
Return Loss:	Greater than 9 dB

Output

Connector:	1x "F" Female (4x RF QAM channels combined)
Modulation:	QAM 16, 32, 64, 128, and 256
Standard:	ITU-T J.83; Annex A and B
DVB Symbol Rate:	Variable; up to 7 MSymbol/sec (Mbaud)
Frequency Range:	54 to 864 MHz
Tuning:	CATV Channel Selectable (Ch. 2 to 135)
Channels' Bandwidth:	4x 6 MHz in any 42 MHz-wide spectrum
RF Level:	+40 dBmV ±1 dB (100 dBμV ±1 dB)
RF Level Adjustment Range:	+32 to +42 dBmV, 1 dB increment
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:	-95 dBc (@ 10 kHz)
Spurious:	-60 dBc
Broadband Noise:	-70 dBc (@ +40 dBmV output level, 5.5 MHz bandwidth)
Impedance:	75 Ω
Carrier Suppression:	45 dB
Return Loss:	14 dB typical
Signal-to-Noise Ratio (SNR):	Greater than 40 dB typical
MER:	Greater than 39 dB typical
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbalance:	Less than 1%

General

Dimensions (W x D x H)	QTM-HD-4 Module: 3.0 x 10.6 x 5.25 inches (38 x 270 x 134 mm) QTPCM Module: 4.5 x 10.6 x 5.25 inches (114 x 270 x 134 mm) QTRC Rack Chassis: 19 x 12.0 x 5.25 inches (483 x 305 x 134 mm)
Power:	105 to 240 VAC; 50/60 Hz
Power Dissipation	QTM-HD-4 Module: 21 W
Weight	QTM-HD-4 Module: 1.7 lbs (0.77 kg) Fully-loaded Rack Chassis: 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-condensing
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensing

Alarms/Monitoring/Control

Indicators	QTM-HD-4 Module: Status (Green LED) QTPCM Module: Power and Status (Green LED)
Remote Monitoring/Control:	GUI-based Menu via web browser

Related Product

Model	Description
QTM-HD-PLUS	QPSK/8PSK-to-QAM 512/1024 Transcoder, 8 transcoders in 3RU