# AQT8-QAM/IP
ATSC/QAM Transcoding

SOLUTIONS FOR ALL YOUR APPLICATIONS

Through a high density, low-cost, flexible 1RU chassis, the **AQT8-QAM/IP** provides operators with a transcoding solution for multi-channel processing, reducing the equipment, space and power needed for QAM or IPTV distribution.

The **AQT8-QAM/IP** is especially designed to allow operators to create a custom channel line up from off-air and/or cable feeds for coax or IP distribution. Additionally, the unit gives the user the ability to change the PID, Program #, Short Name, Major and Minor Channel (PSIP) information.

The unit accepts up to eight (8) 8VSB or QAM channel inputs, supporting up to 20 programs on each input, and 20 programs total on the eight (8) IP outputs.

The **AQT8-QAM/IP** features Emergency Alert System (EAS) program switching through either an ASI or IP format EAS input, and terminal block contacts for triggering EAS messages.
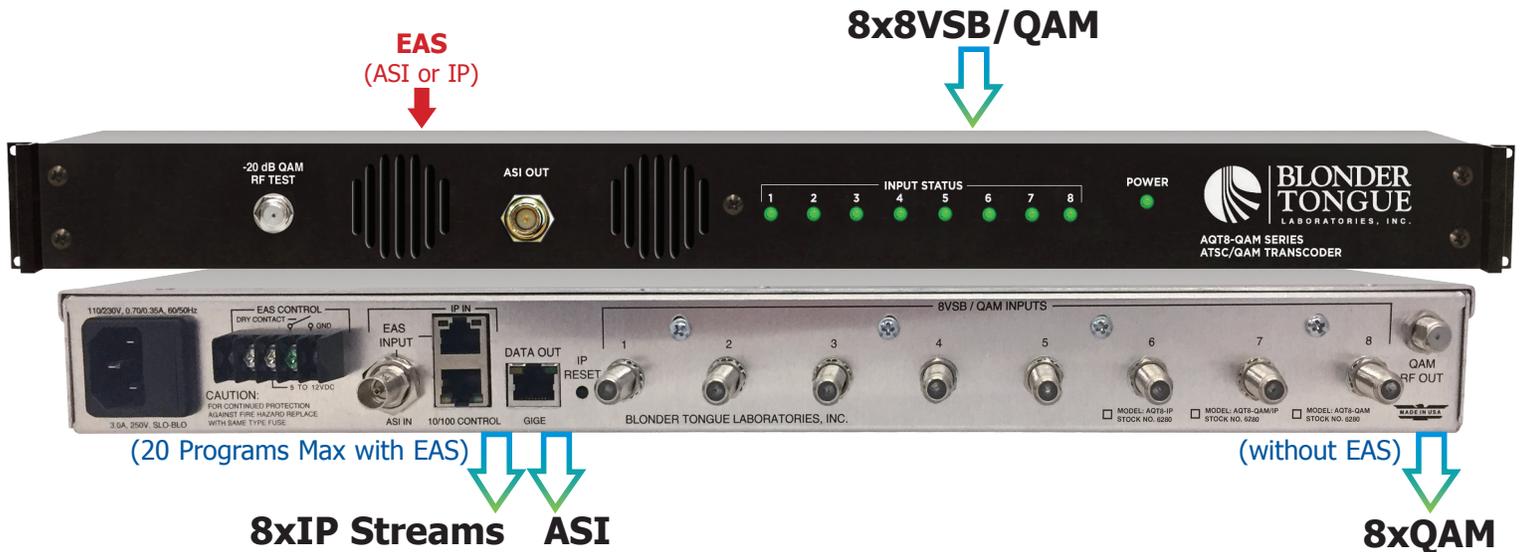
Features

- Accepts up to eight (8) RF inputs in 8VSB/QAM format
- Supports up to 20 programs on each input and 20 programs (total) on the eight (8) IP outputs
- Supports in-service monitoring of a selected input and output
  - An IP output can be sent to the front panel ASI for in-service monitoring of a selected output
  - A -20 dB QAM RF test connector is provided on the front panel to monitor the units output
- PSIP manipulation
- Performs IP network de-jitter, PCR (Program Clock Reference) replacement, null packet insertion and deletion
- Supports RTP/UDP - and - ARP, IGMPv2, ICMP protocols
- Supports EAS switching-based on contact closure trigger, or +5 to +12 VDC input
- Provides comprehensive GUI-based remote monitoring and control via any standard Web browser

Ordering Information

Model	Stock #	Description
AQT8-QAM/IP	6281	ATSC/QAM Transcoder; 8xATSC/QAM inputs; QAM + IP outputs with EAS

Made in U.S.A.

Rev: 051917
Blonder Tongue is ISO 9001:2015 Certified

Specifications

Input

Output

Connectors	**8VSB/QAM:**	8x "F" Female
8VSB Mode	**Standard:**	ATSC Digital Television A/53E
	Tuning Range:	UHF (Ch. 14-69), VHF (Ch. 2-13)
	Data Rate:	19.392 Mbps
	Bandwidth:	6 MHz
	Power Level:	-20 to +20 dBmV
	Impedance:	75 Ω
QAM Mode	**Standard:**	ITU-T J.83 - Annex A & B (64 and 256 QAM)
	Tuning Range:	CATV Ch. 2-135 (STD, HRC, IRC)
	Data Rate:	38.8 Mbps (QAM 256); 26.97 Mbps (QAM 64) — Auto Detect
	Bandwidth:	6 MHz
	Power Level:	-15 to 20 dBmV (@ QAM 256); -20 to 20 dBmV (@ QAM 64)
	Impedance:	75 Ω

Emergency Alert System		
ASI	**Connector:**	1x BNC Female
	Standard:	DVB-ASI; EN 50083-9 (SPTS)
IP	**Connector:**	1x RJ45
	Standard:	10/100Base-T
	UDP/RTP:	Supported (user-selectable)
Video Bit Rate:		Single program video bit rate of 2.5 Mbps (typical). The EAS program bit rate must not exceed the lowest program video bit rate it will replace. For example, EAS at 2.5 Mbps will not work for a program at 2.0 Mbps.
Trigger	**Connectors:**	Terminal Block
	Trigger Mechanism:	5-12 VDC & Dry Contact Closure

Output

IP	**Connectors:**	1x RJ45 (Rear-panel)
	Standard:	1000Base-T Ethernet (GigE)
	UDP/RTP:	Supported (user-selectable)
	Address Assignment:	8x IPv4 addresses & port numbers (user-selectable)
QAM	**Output Modules:**	Two (2) Quad-QAM
	Connectors:	1x "F" Female (rear-panel; for combined outputs)
	Modulation:	QAM 16, 32, 64, 128, and 256
	Standards:	ITU-T J.83; Annex A and B
	DVB Symbol Rate:	Variable; up to 7 MSymbol/sec (MBaud)
	Frequency Range:	54 to 1002 MHz
	Tuning:	CATV Channel Selectable (CH. 2 to 158)
	Channels' Bandwidth:	2x 24 MHz (4x Adjacent 6 MHz)
	No. of Programs:	Variable (not to exceed 38.8 Mbps, Pass-thru of input source)
	RF Level:	+40 dBmV, ± 1 dB increment
	RF Level Adjustment Range:	+35 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:	-98 dBc (@ 10 kHz)
	Spurious:	-60 dBc
	Broadband Noise:	-70 dBc (@ +35 dBmV output level, 5.5 MHz bandwidth)
	Impedance:	75 Ω
	QAM Spectrum:	Inverted
	Carrier Suppression:	45 dB
	Return Loss:	14 dB typical
	Signal-to-Noise Ratio (SNR):	40 dB typical
	MER:	39 dB typical
	I/Q Phase Error:	Less than 1 degree
	I/Q Amplitude Imbalance:	Less than 1%
ASI	**Connector:**	1x BNC Female
	Standard:	DVB-ASI; EN 50083-9

General

Dimensions (W x D x H):	19.0 x 16.0 x 1.75 inches (483 x 363 x 44 mm)
Power:	110 /230 VAC 60/50 Hz
Power Dissipation:	70 W
Weight:	12 lbs (5.5 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

Local Monitoring:	8 Channel LEDs 1x Power LED
Local Control:	1x IP Reset Button
Remote Monitoring/Control:	GUI-based menu via standard Web browser (1x RJ45 rear panel connector; 10/100Base-T)

AQT8 Series Model Comparison

Stock #	Model	Input	QAM Output	IP Output
6280	**AQT8-IP**	**8VSB or Clear QAM**	**Not Applicable**	**Customizable IP Output** • 8 IP Outputs with EAS* • Program selectable from input • 20 programs max • PSIP Manipulation
6281	**AQT8-QAM/IP**	**8VSB or Clear QAM**	• Selectable 8 QAM Outputs ("Default IP" Mode with EAS*) • PSIP Manipulation • Pass-Thru Mode Output ("Default RF" Mode w/o EAS and no program selection)	**Customizable IP Output** • 8 IP Outputs with EAS* • Program selectable from input • 20 Programs Max • PSIP Manipulation
6288	**AQT8-QAM**	**8VSB or Clear or Encrypted QAM**	**Pass-Thru Mode Output** • 8 QAM outputs with EAS* • No program selection • One input maps to one output	**Pass-Thru IP Output** • 8 IP outputs with EAS* • No program selection • One input maps to one TS

* EAS stream will replace the input stream (clear or scrambled) and will remain unchanged. For example, if a clear EAS stream replaces a scrambled input stream, the output will be a clear EAS stream.

Related Product

Model	Stock #	Description
BT-HE-DASHBOARD	2772	Headend Controller supports up to 20 AQT8-IP, AQT8-QAM/IP, HDE-8C-QAM w/Opt 2, and/or HDE-8C-QAM DIN (Opt 2), providing operators the ease and convenience of controlling, monitoring and updating multiple supported devices through a single IP address.