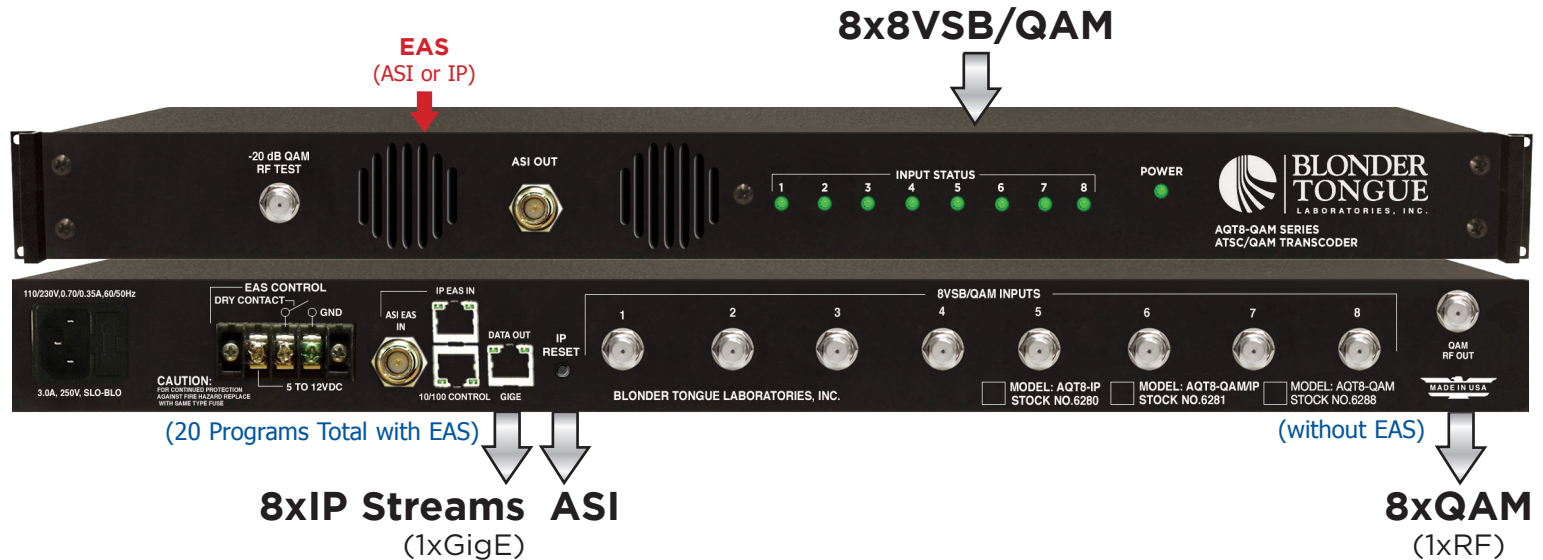# SOLUTIONS FOR ALL YOUR APPLICATIONS

AQT8-QAM/IP transcoder allows the user to create a line up from off-air and/or cable feeds for coax or IP distribution. The unit simultaneously transcodes up to eight (8) QAM/8VSB input channels to QAM (up to 8) and IP (up to 8) transport streams. When the QAM output selection is "Default RF" (Section 6.8, #5), the pass thru QAM outputs contain all programs (major and minor channels) residing in their respective input channel sources. The following MPEG-2 tables are maintained: PAT; PMT; PSIP; VCT; EIT and ETT. Alternately if "IP Default" or "IP#" output is selected, the QAM output will contain all programs (major and minor channels) and tables residing in the source IP stream.

The customizable IP output contains up to 20 programs with a combination of SPTS and/or MPTS across eight (8) IP addresses. MPEG-2 tables associated with each of the selected input programs (PAT, PMT, PSIP, VCT and MGT) are transferred to the IP outputs. This means the virtual channel numbers and program names on the IP outputs can be the same as their RF program input sources and the QAM output. Additionally, the AQT8 gives the user the ability to change the PID, Program #, Short Name, Major Ch., and Minor Ch. information to provide a customized IP or coax cable delivery solution.

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 messaging is available on the IP and QAM outputs when the QAM Output Mode is set to "Default IP" or "IP#". There will be no EAS messaging on the QAM output channels when in the "RF Default" mode.

Comprehensive remote monitoring and control is accomplished using any standard Web browser via a rear-panel 10/100Base-T Ethernet connection.

Features

- Accepts 8 RF inputs in 8VSB/QAM format.
- Supports up to 20 programs on each input and 20 programs (total) on the 8 IP outputs.
- 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 for SPTS
- Performs IP network de-jitter, PCR (Program Clock Reference) replacement, null packet insertion and deletion.
- Supports RTP/UDP protocols
- Supports ARP, IGMPv2, and ICMP protocols
- Supports EAS switching-based on contact closure trigger or +5 to +12 VDC input
- Provides comprehensive GUI-based monitoring and control via standard Web Browsers.

Ordering Information

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

Made in U.S.A.

Rev: 011516 (651233200D)

Specifications

Input

Output

<table>
<tr><td colspan="2">Connectors</td><td></td></tr>
<tr><td align="right">8VSB/QAM:</td><td></td><td>8x "F" Female</td></tr>
</table>

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

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	
No. of Output Modules:	2 Quad-QAM
Connector:	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)

Related Products

Model	Description
AQT8-IP	8VSB/QAM Transcoder; Customizable IP Outputs
AQT8-QAM	8VSB/QAM Transcoder; Pass-Thru QAM and Pass-Thru IP Outputs
AQT	ATSC/QAM Transcoder, Modular

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
6281	AQT8-QAM/IP	8VSB or clear QAM	• Selectable 8 QAM Outputs (Default IP Mode with EAS*) • Pass-through 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
6288	AQT8-QAM	8VSB or clear/ 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.