

# Blonder Tongue

# AQT8-QAM/IP

## ATSC/QAM Transcoder

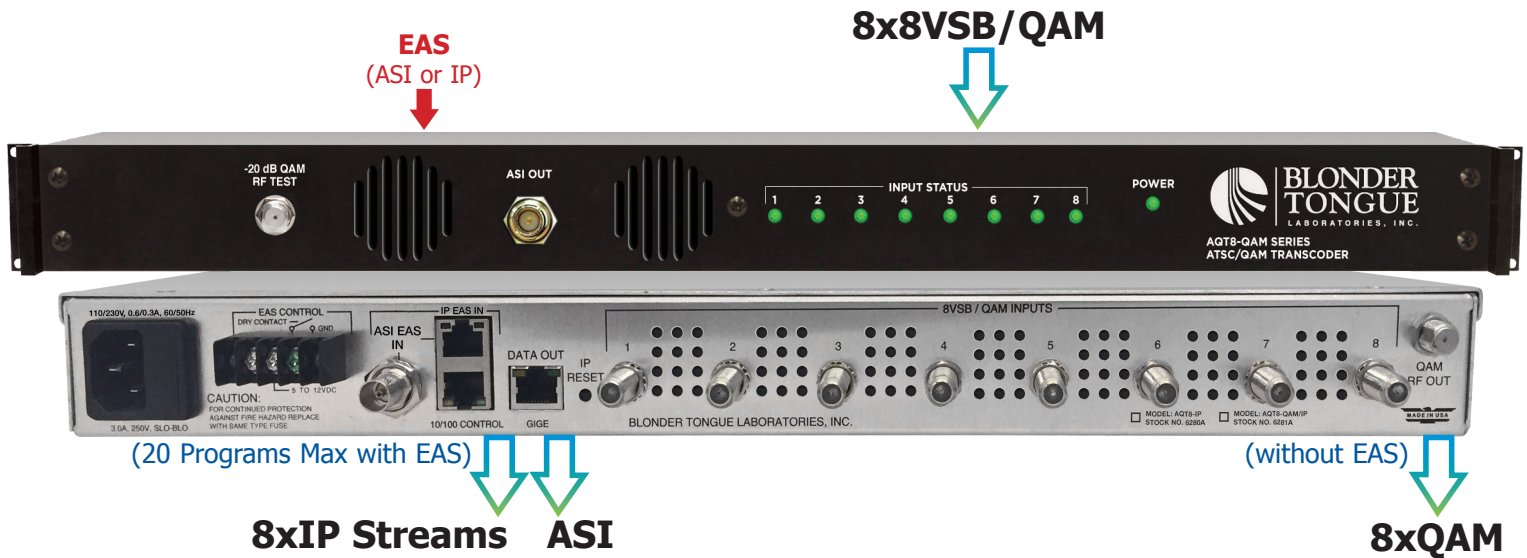
### SOLUTIONS FOR ALL YOUR APPLICATIONS

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 eight (8) customizable QAM/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) customizable IP outputs
- Supports in-service monitoring of a selected output
  - One output TS 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	6281A	ATSC/QAM Transcoder; 8xATSC/QAM inputs; QAM + IP outputs with EAS

**Made in U.S.A.**

Rev: 022119  
Blonder Tongue is ISO 9001:2015 Certified

# Specifications

## Input

<b>Connectors</b>	<b>8VSB/QAM:</b> 8x "F" Female
<b>8VSB Mode</b>	<b>Standard:</b> ATSC Digital Television A/53E <b>Tuning Range:</b> UHF (Ch. 14-69), VHF (Ch. 2-13) <b>Data Rate:</b> 19.392 Mbps <b>Bandwidth:</b> 6 MHz <b>Power Level:</b> -20 to +20 dBmV <b>Impedance:</b> 75 Ω
<b>QAM Mode</b>	<b>Standard:</b> ITU-T J.83 - Annex A & B (64 and 256 QAM) <b>Tuning Range:</b> CATV Ch. 2-158 (STD, HRC, IRC) <b>Data Rate:</b> 38.8 Mbps (QAM 256); 26.97 Mbps (QAM 64) – Auto Detect <b>Bandwidth:</b> 6 MHz <b>Power Level:</b> -15 to 20 dBmV (@ QAM 256) -20 to 20 dBmV (@ QAM 64) <b>Impedance:</b> 75 Ω
<b>Emergency Alert System ASI</b>	<b>Connector:</b> 1x BNC Female <b>Standard:</b> DVB-ASI; EN 50083-9 (SPTS)
<b>IP</b>	<b>Connector:</b> 1x RJ45 <b>Standard:</b> 10/100Base-T <b>UDP/RTP:</b> Supported (user-selectable) <b>Video Bit Rate:</b> 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.
<b>Trigger Connectors:</b>	Terminal Block
<b>Trigger Mechanism:</b>	5-12 VDC & Dry Contact Closure

## General

<b>Dimensions (W x D x H):</b>	19.0 x 16.0 x 1.75 inches (483 x 363 x 44 mm)
<b>Power:</b>	110/230 VAC, 0.6/0.3 A, 60/50 Hz
<b>Power Consumption:</b>	35 W
<b>Weight:</b>	12 lbs (5.5 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

## AQT8 Series Model Comparison

Stk. #	Model	Input	QAM Output	IP Output
6280A	AQT8-IP	8VSB or Clear QAM	Not Applicable	<b>Customizable IP Output</b> <ul style="list-style-type: none"> <li>• 8 IP Outputs with EAS*</li> <li>• Program selectable from input</li> <li>• 20 Programs Max</li> <li>• PSIP Manipulation</li> </ul>
		IP Pass-Thru Mode	8VSB or Clear / Encrypted QAM	Not Applicable <ul style="list-style-type: none"> <li>• 8 IP Outputs (No EAS or ASI)</li> <li>• No Program Selection</li> <li>• One input maps to one TS</li> </ul>
6281A	AQT8-QAM/IP	8VSB or Clear QAM	<ul style="list-style-type: none"> <li>• Selectable 8 QAM Outputs / IP Modes (with EAS)</li> <li>• Pass-thru Output - Default RF (No EAS or Program Selection)</li> <li>• PSIP Manipulation</li> </ul>	<b>Customizable IP Output</b> <ul style="list-style-type: none"> <li>• 8 IP Outputs with EAS*</li> <li>• Program selectable from input</li> <li>• 20 Programs Max</li> <li>• PSIP Manipulation</li> </ul>
		IP Pass-Thru Mode	8VSB or Clear / Encrypted QAM	<ul style="list-style-type: none"> <li>• 8 QAM Outputs (No EAS)</li> <li>• No Program Selection</li> <li>• One Input Map to One TS</li> </ul>

\* 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.

## Output

<b>IP</b>	<b>Connectors:</b> 1x RJ45 (Rear-panel) <b>Standard:</b> 1000Base-T Ethernet (GigE) <b>UDP/RTP:</b> Supported (user-selectable) <b>Address Assignment:</b> 8x IPv4 addresses & port numbers (user-selectable)
<b>QAM</b>	<b>Output Modules:</b> 2x Quad-QAM <b>Connectors:</b> 1x "F" Female (rear-panel; for combined outputs) <b>Modulation:</b> QAM 16, 32, 64, 128, and 256 <b>Standards:</b> ITU-T J.83; Annex A and B <b>DVB Symbol Rate:</b> Variable; up to 7 MSymbol/sec (MBaud) <b>Frequency Range:</b> 54 to 1002 MHz <b>Tuning:</b> CATV Channel Selectable (CH. 2 to 158) <b>Channels' Bandwidth:</b> 2x 24 MHz (4x Adjacent 6 MHz) <b>No. of Programs:</b> Variable (not to exceed 38.8 Mbps, Pass-thru of input source) <b>RF Level:</b> +40 dBmV, ± 1 dB increment <b>RF Level Adjustment Range:</b> +35 to +42 dBmV, 1 dB increment <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> -70 dBc (@ +35 dBmV output level, 5.5 MHz bandwidth) <b>Impedance:</b> 75 Ω <b>QAM Spectrum:</b> Inverted <b>Carrier Suppression:</b> 45 dB <b>Return Loss:</b> 14 dB typical <b>Signal-to-Noise Ratio (SNR):</b> 40 dB typical <b>MER:</b> 39 dB typical <b>I/Q Phase Error:</b> Less than 1 degree <b>I/Q Amplitude Imbalance:</b> Less than 1%
<b>ASI</b>	<b>Connector:</b> 1x BNC Female <b>Standard:</b> DVB-ASI; EN 50083-9

## Alarms/Monitoring/Control

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