



# AIRCASTER® AQT8-QAM/IP

ATSC/QAM TRANSMODULATOR

## KEY FEATURES

- » Encrypted QAM sources can be mapped to IP MPTS or SPTS formats in Pass-through mode for Remote PHY and Switch Digital applications
- » Accepts up to eight RF inputs in 8VSB/QAM format
- » 2:1 Multiplex Mode to configure eight ATSC 1.0 off-air channels to four MPTS for QAM
- » **NEW** - Supports **SRT Error Correction** for Remote IP Applications
- » PSIP manipulation (PID, program number, short name, and major/minor channel)
- » Accepts EAS input in ASI or IP formats and
- » Supports EAS switching-based on contact closure trigger, or +5 to +12 VDC input



## PRODUCT OVERVIEW

The **Aircaster AQT8-QAM/IP** is a transmodulator that allows the user to create a custom IP and QAM output from off-air and/or QAM input sources. The unit accepts eight 8VSB off-air or QAM sources and simultaneously outputs these SPTS and/or MPTS programs in IP and/or QAM. At the same time, the AQT8-QAM/IP can be configured in Pass-through mode, which directly maps the demodulated RF port content in MPTS format to IP output.

For off-air applications, the AQT8-QAM/IP has a 2:1 Mux Mode feature, which allows you to multiplex two off-air sources to one MPTS for QAM distribution.

The AQT8-QAM/IP can accept encrypted QAM sources, and output the encrypted IP transport streams programs in MPTS or SPTS formats, while preserving the MPEG tables (PAT, PMT, PSIP, VCT, and MGT) from the source.

The transmodulator supports up to eight QAM-256 outputs that are agile from 54 to 1002 MHz as long as all eight outputs are kept within a 768 MHz span. In addition, the unit features Emergency Alert System (EAS) program switching through either an ASI or IP format EAS input, and terminal block contacts for triggering EAS messages.

## ORDERING INFORMATION



MODEL	STOCK#	DESCRIPTION
Aircaster AQT8-QAM/IP	<b>6281B</b>	ATSC/QAM Transmodulator; 8VSB/QAM input; QAM + IP output with EAS

INPUT	
CONNECTORS	
<b>8VSB/QAM</b>	8x "F" Female 1x Common "F" Female (with Internal Active Splitter)
8VSB MODE	
<b>Standard</b>	ATSC Digital Television A/53E
<b>Tuning Range</b>	UHF (Ch. 14-83), 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
QAM MODE	
<b>Standard</b>	ITU-T J.83 - Annex B (64 & 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

EMERGENCY ALERT SYSTEM (EAS)	
ASI	
<b>Connector</b>	1x BNC Female
<b>Standard</b>	DVB-ASI; EN 50083-9 (SPTS)
IP	
<b>Connector</b>	1x RJ45
<b>Standard</b>	1000Base-T (GigE)
<b>UDP/RTP</b>	Supported (user-selectable)
<b>Video Bit Rate</b>	The EAS program bit rate must not exceed the lowest program video bit rate it will replace. <b>Example:</b> EAS at 2.5 Mbps will not work for a program at 2.0 Mbps.
TRIGGER	
<b>Connectors</b>	Terminal Block
<b>Mechanism</b>	5-12 VDC and Dry Contact Closure

OUTPUT	
IP	
<b>Connector</b>	1x RJ45 (Rear Panel)
<b>Standard</b>	1000Base-T Ethernet (GbE)
<b>UDP</b>	Supported
<b>Address Assignment</b>	64x IPv4 SPTS address & port numbers 8x IPv4 MPTS address & port numbers
SRT STREAM PROTOCOLS	
<b>Specifications</b>	<a href="http://www.SRTalliance.org">www.SRTalliance.org</a>
QAM	
<b>Output Modules</b>	8x Fully Agile QAM
<b>Connectors</b>	1x "F" Female (rear-panel, combined output)
<b>Modulation</b>	QAM 64 and 256
<b>Standards</b>	ITU-T J.83; Annex B
<b>DVB Symbol Rate</b>	5.360537 Msym/s (QAM 256); 5.056941 Msym/s (QAM 64)
<b>Frequency Range</b>	54 to 1002 MHz
<b>Tuning</b>	CATV Channel Selectable (CH. 2 to 158)
<b>No. of Programs</b>	Variable (≤ 38.8 Mbps input source Pass-thru)
<b>RF Level</b>	+40 dBmV, ± 1 dB increment
<b>RF Level Range</b>	+30 to +45 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 (@ +40 dBmV output lev., 5.5 MHz BW)
<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>	42 dB typical
<b>MER</b>	42 dB typical
<b>I/Q Phase Error</b>	Less than 1 degree
<b>I/Q Amplitude Imbalance</b>	Less than 1%

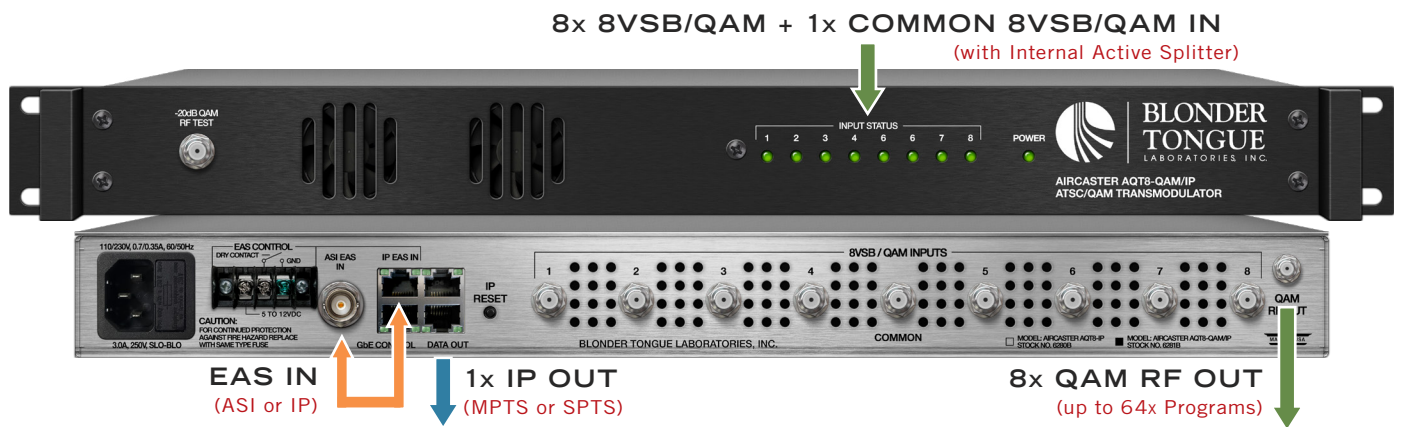
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## ATSC/QAM TRANSMODULATOR

### SPECIFICATIONS

GENERAL		ALARMS & MONITORING	
<b>Dimensions</b> (W x H x D)	19.0 x 1.75 x 16.0 in (483 x 45 x 363 mm)	<b>Local Monitoring</b>	8x Channel Status LED (Bicolor) 1x Power LED (Bicolor)
<b>Weight</b>	7.4 lbs (3.35 kg)	<b>Local Control</b>	1x IP Reset Button
<b>Power</b>	110/230 VAC, 0.7/0.35 A, 60/50 Hz	<b>Remote Device Control</b>	1x RJ45 (1000Base-T GbE) GUI-based menu via standard web browser
<b>Power Consumption</b>	48 W		
<b>Operating Temp.</b>	32 to 122 °F (0 to 50 °C)		
<b>Storage Temp.</b>	-13 to 158 °F (-25 to 70 °C)		
<b>Operating/Storage Humidity</b>	0 to 95% RH @ 35 °C max, non-condensing		

### I/O OVERVIEW



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