BLONDER TONGUE

EQAM-420B
EDGEQAM with EAS 2xGBE ► 16xQAM

EQAM-420B (EdgeQAM with EAS) is designed to allow CATV operators to aggregate multiple SDTV/HDTV programs received in IP format and to deliver them over a standard coaxial distribution network.

The EQAM-420B is capable of accepting unencrypted (clear) 1000Base-T Ethernet (GbE) streams in one of the following two modes:

SPTS Mode: Accepts and processes up to sixty-four (64) MPEG-2/H.264 Single Program Transport Streams (SPTS). In SPTS mode the EQAM-420B can select a maximum of any four (4) SPTS and multiplex them for transmission on QAM outputs up to a maximum of 38.8 Mbps/QAM. Each SPTS can contain one (1) video and up to one (1) audio Elementary streams.

MPTS Mode: Accepts and processes up to sixteen (16) MPEG-2/H.264 Multi Program Transport Streams (MPTS). Each MPTS is limited to a maximum of six (6) programs and not to exceed 38.8 Mbps/QAM. Each MPTS can contain one (1) video and up to three (3) audio Elementary streams.

The streams are aggregated in up to sixteen (16) QAM RF channels in the 54-1002 MHz range. The unit is configured with four (4) QAM output modules, each capable of delivering four (4) adjacent QAM channels. Each QAM channel can contain up to four (4) programs in SPTS mode and a maximum of 6 in MPTS mode.

The EQAM-420B supports network-based EAS program switching (Soft/IP enabled Trigger) based on the SCTE-18 standard. Upon receipt of an appropriate SCTE-18 EAS trigger the system replaces all the video and audio programs with the EAS messages. Therefore, all viewing locations will display both the video and audio EAS messages. An SCTE-18 conforming TV or set-top box is not required.

The unit also allows the operator to maintain the QAM RF output unencrypted, or to encrypt it with Pro:Idiom™ against content piracy. To utilize the Pro:Idiom™ encryption feature, the input streams must be received on a dedicated GbE port and must meet the Pro:Idiom™ requirements. When Pro:Idiom™ encryption is activated, Pro:Idiom™ capable TV, or external Pro:Idiom™ decrypter is required to view Pro:Idiom™ encrypted premium channels.

Comprehensive remote monitoring and control is accomplished using any standard Web browser via a front-panel 10/100BaseT Ethernet connection. Also, the unit provides system health information to a user maintained server via Syslog. This is an extremely valuable tool for troubleshooting system related issues.

Mode 1
64 SPTS

Mode 2
16 MPTS

Clear GbE

EAS (SCTE-18 Compliant)

16xQAM (Clear/Pro:Idiom™)

FEATURES

- SPTS Mode: Accepts up to sixty-four (64) MPEG-2/H.264 Single Program Transport Streams (SPTS); 1 video + 1 audio per program
- MPTS Mode: Accepts up to sixteen (16) MPEG-2/H.264 Multi Program Transport Streams (MPTS), each MPTS with maximum 6 programs and not to exceed 38.8 Mbps; 1 video + 3 audios per program
- Supports IGMPv2 and IGMPv3 protocols
- Configured with 4 modules, each with four (4) adjacent QAM channels, for a total of 16 QAM channels
- Provides network based EAS switching based on SCTE-18 (by program substitution)
- Comprehensive GUI-based menu for remote monitoring and control via standard Web browsers
- Provides a front-panel RF test point (at 20 dB below primary QAM output)
- Accepts variable and constant bitrate streams
- Provides Null packet insertion and deletion
- Provides PCR correction

EQAM-420B

EDGEQAM with EAS 2xGBE ► 16xQAM

Specifications

IP	
Connector:	2x RJ-45
Standard:	1000Base-T Ethernet
UDP/RTP:	Supported (user-selectable)
Protocols Supported:	IGMPv3; IGMPv2

Stream Portfolio	
SPTS & MPTS:	Null Packet Deletion & Addition
	Muxing of input streams
Bitrate:	Variable and Constant

EAS (Emergency Alert System)	
Connector:	1x RJ-45 (trigger via 10/100 Remote Control port or Local Control #1 port)
Standard:	10/100Base-T Ethernet
Trigger Mechanism:	Per SCTE-18 standard

REQUIREMENTS FOR PRO:IDIOM™ OUTPUT

SPTS	
No. of programs:	1 program (not to exceed 38.8 Mbps)
Null Packets:	Required (as per Pro:Idiom™ requirements)
Stream ID:	User- assigned (as per Pro:Idiom™ requirements)
Audio:	Dolby® Digital compliant
MPTS	
No. of programs:	Max. 6 programs per MPTS (not to exceed 38.8 Mbps)
Null Packets:	Required (as per Pro:Idiom™ requirements)
Stream ID:	User- assigned (as per Pro:Idiom™ requirements)
Audio:	Dolby® Digital compliant

QAM

QAM	
No. of Output Modules:	4 Quad-QAM (total of 16 QAM channels)
Connector:	1x "F" Female (rear-panel; for combined output)
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:	24 MHz (4x Adjacent 6 MHz)
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 (@ +40 dBmV output level, 5.5 MHz bandwidth)
Impedance:	75 Ω
Spectral Inversion:	Auto Recognition
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%

GENERAL

Dimensions (W x D x H):	19.0 x 18.125 x 1.75 inches (483 x 460 x 44 mm)
Power:	115-230VAC, 60/50Hz (Fuse:3.0A, 250VDC, Slo Blo)
Power Dissipation:	60 W
Weight:	12 lbs (5.4 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

Local Monitoring:	4x Output Status Module LEDs
	1x "F" Female RF Test Port
	1x Power LED
	1x Status LED
Local Control:	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via Web browser
	(1x RJ45 front-panel connector; 10/100Base-T)

ORDERING INFORMATION

Model	Stock #	Description
EQAM-420B-4-64	6522B-4-64	EdgeQAM-420B equipped with 4 Quad-QAM output modules (accepts 64 unencrypted HD programs)

969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053   Fax: 215-675-7543 • info@tonercable.com