



AP-60-860A

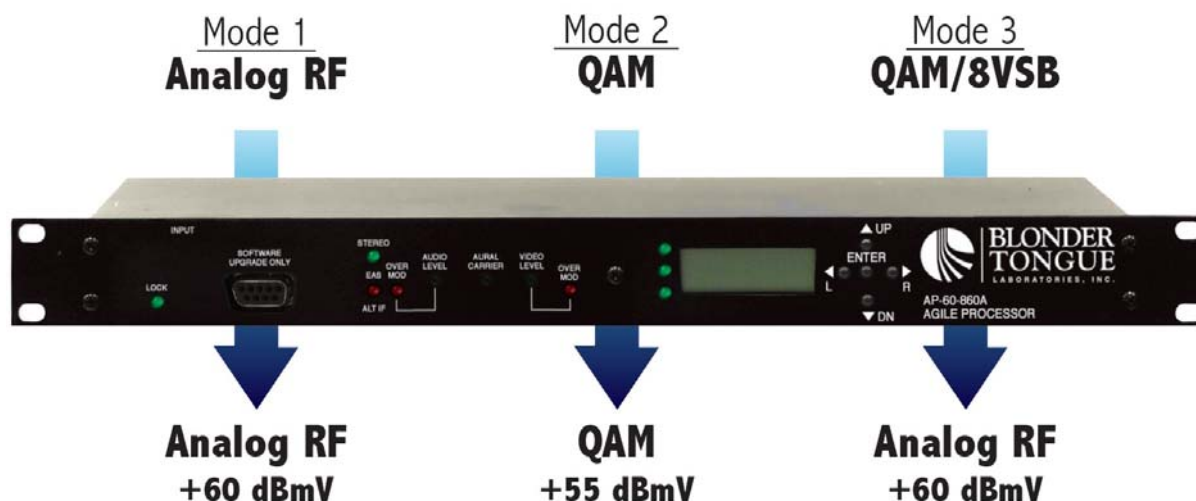
Agile Digital & Analog Processor

The AP-60-860A (Agile Digital/Analog Processor) operates in one of the three following modes:

Mode 1: Analog Heterodyne Processor (Analog RF IN > Analog RF OUT)

Mode 2: Digital Heterodyne Processor (QAM IN > QAM OUT)

Mode 3: Digital-to-Analog Processor (8VSB or QAM IN > Analog RF OUT)



Features

- As an agile analog heterodyne processor: accepts one Analog RF input (CATV sub-band channels T7-T13, CATV standard channels 2-135, VHF channels 2-13, and UHF channels 14-69) and delivers one Analog RF output (CATV standard channels 2-135)
- As an agile digital heterodyne processor: accepts one Digital Cable QAM input (CATV sub-band channels T7-T13, and CATV standard channels 2-135) and delivers one Digital Cable QAM output (CATV standard channels 2-135)
- As an agile digital-to-analog processor: accepts one Digital Off-air 8VSB or Digital Cable QAM input (CATV standard channels 2-135, VHF channels 2-13, and UHF channels 14-69) and delivers one Analog RF output (CATV standard channels 2-135)
- Equipped with EAS interface which can also be used as an IF (Intermediate Frequency) input
- Supports Closed Captioning (EIA-608)

Ordering Information

Model	Stock #	Description
AP-60-860A	59819	Agile Processor, +60 dBmV, 54-860 MHz output

AP-60-860A

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Specifications

INPUT

Connector:	"F" Female
Analog Mode (1)	
Standard:	NTSC
Tuning:	CATV 2-135, Broadcast 2-69, Sub T7-T13
Bandwidth:	6 MHz
Power Level:	-20 to +30 dBmV
QAM Mode (2)	
Standard:	ITU-T J.83 - Annex B (64 and 256 QAM)
Tuning Range:	CATV Ch. 2-135 T7-T13
Data Rate:	38.8 Mbps (QAM 256); 26.97 Mbps (QAM 64)
Bandwidth:	6 MHz Power Level: -20 to +30 dBmV
QAM/8VSB Mode (3)	
Standard:	8VSB ATSC Digital Television A/53E
Tuning Range:	QAM ITU-T J.83 - Annex B (64 and 256 QAM)
	8VSB VHF (NTSC Ch. 2-13),
	UHF (NTSC Ch. 14-69)
Data Rate:	QAM CATV Ch. 2-135 T7-T13
	8VSB 19.392 Mbps QAM 38.8 Mbps
	(QAM 256); 26.97 Mbps (QAM 64)
Bandwidth:	6 MHz
Power Level:	-20 to +30 dBmV

INTERMEDIATE FREQUENCY

Connector:	"F" Female Input / "F" Female Output
Impedance:	75 Ω Input / 75 Ω Output
Return Loss:	16 dB Input / 15 dB Output
EAS/ALT IF	
Input Level:	+38 dBmV @ 45.75 MHz
Switch Isolation:	Greater than 60 dB
Standby Carrier:	+35 dBmV (RF Input < -25 dBmV)

MODES 1 & 3

Aural Frequency:	41.25
Visual Frequency:	41.25
Composite Loop Output	
Aural Carrier Level:	+20 dBmV
Visual Carrier Level:	+35 dBmV

MODES 2

Center Frequency:	44 MHz
Output Level:	+30 dBmV

GENERAL

Dimensions (WxDxH):	19.0 x 18.625 x 1.75 inches (483 x 473 x 44 mm)
Power:	110 VAC/60 Hz/Fuse: 1 amp, 250 VDC, SloBlo
Power Dissipation:	36W
Weight:	7 lbs (3.2 kg)
Operating Temperature:	32 to 122°F (0 to 50°C)
Storage Temperature:	-13 to 158°F (-25 to 70°C)
Operating / Storage Humidity:	0 to 95% RF @ 35° max, non-condensation

OUTPUT Modes 1 & 2

Connector RF Output:	"F" Female
RF Output	Analog RF or QAM
Frequency Range:	54 to 864 MHz
Channels:	UHF, VHF, CATV (Standard, HRC, & IRC)
Power Level:	Mode 1 (Analog) +60 dBmV
	Mode 2 (QAM) +55 dBmV
Power Level Range:	Mode 1 (Analog) +50 to +62 dBmV (in 0.2 dB increments)
	Mode 2 (QAM) +45 to +57 dBmV (in 0.2 dB increments)
Broadband Noise:	Mode 1 (Analog) -77 dBc (@ +60 dBmV output level, 4 MHz bandwidth)
	Mode 2 (QAM) -75 dBc (@ +55 dBmV output level, 6 MHz bandwidth)
Spurious:	-63 dBc
Impedance:	75 Ω
Return Loss:	15 dB
Aural/Visual Carrier Ratio (Mode 1):	-15 dB $\pm$ 2
Frequency Tolerance:	$\pm$ 20 kHz; 32 to 122 °F (0 to 50 °C)
Adjacent Channel Rejection:	65 dB

INPUT

Connector RF Output:	"F" Female
RF Output:	Analog RF
Frequency Range:	54 to 864 MHz
Channels:	UHF, VHF, CATV (Standard, HRC, & IRC)
Power Level:	+60 dBmV
Power Level Range:	+50 to +62 dBmV (in 0.2 dB increments)
Broadband Noise:	-77 dBc (@ +60 dBmV output level, 4 MHz bandwidth)
Spurious:	-63 dBc
Impedance:	75 Ω
Return Loss:	15 dB
Aural/Visual Carrier Ratio:	-15 dB $\pm$ 5
Visual Frequency Tolerance	$\pm$ 20 kHz; 32 to 122 °F (0 to 50 °C)
Standard Channels:	$\pm$ 5 kHz; 32 to 122 °F (0 to 50 °C)
FCC Aeronautical Channels:	1.5 dB Peak-to-Valley (fv-0.5 to fv+4.2 MHz)
Video Frequency Response:	65 dB
Video-to-RMS Hum Ratio:	58 dB (Weighted)
Signal-to-Noise Ratio:	2.0% @ 87.5%
Differential Gain:	1.0 degree
Differential Phase:	87.5% $\pm$ 2.5
Over-mod. Indicator:	Per FCC Requirements
Chrom./Luminance Delay:	
Audio	
Frequency Response:	$\pm$ 1.0 dB
Frequency Range:	50 Hz to 15 kHz
Signal-to-Noise Ratio:	59 dB
Total Harmonic Distortion:	1.0% @ 55 kHz Deviation
Over-mod. Indicator:	55 kHz $\pm$ 2
4.5 MHz Audio	
Carrier Tolerance:	$\pm$ 150 Hz 32 to 122 °F (0 to 50 °C)

ALARMS / MONITORING / CONTROL

Indicators:	Lock (Green LED) Stereo Audio (Green LED) EAS or Alternate IF activated (Red LED) Audio Over-modulation (Red LED) Video Over-modulation (Red LED)
Local Monitoring:	Front-panel, 16-character, 2-line LCD Screen
Local Control:	Front-panel Navigational Key-pad Audio & Video Modulation Adjustment Aural Carrier Adjustment