

Agile Audio/Video Modulators

AM-60-860 Series



○ Features & Benefits

- Supports All Broadcast and CATV Channels, Including All HRC and IRC Assignments
- EAS/ALT IF Ready Via Manual or Automatic Mode
- Superior Broadband Noise Performance (-76 dB)
- Fully Compatible With BTSC Encoded Stereo Audio
- All Level Controls are Conveniently Located on Front Panel For Easy Set Up and Adjustment
- Easy to Use Push Button LED Display with Microprocessor Control for Channel & RF Level Control
- Balanced Audio Input Standard

The AM-60-860 is a professional quality agile audio/video modulator. It is equipped with the Emergency Alert System (EAS) feature, which can also be used as an alternate IF input. The unit provides an audio and video modulated RF carrier on any channel from 54 to 860 MHz. Any standard audio/video source can be used, such as satellite receivers, television cameras, video tape recorders, or television demodulators.

Channel tuning is easily accomplished with the use of front panel push button switches. Frequency plans including CATV Standard EIA, IRC, HRC & Broadcast are available in the 54-860 MHz frequency range. All channel frequency information with appropriate FCC offsets is pre-programmed and tuned electronically via microprocessor.

The LED display and the push button controls allow the user to scroll through Channel, Channel Configuration (Standard, HRC, IRC, Broadcast), and RF Output Level. The up/down buttons are used to select a function and the enter button is used to enter the change mode. If no changes are been made, the modulator will automatically default to the channel number display after 30 seconds. The output level display is a new feature that was previously only available on our digital headend products. The unit's output level range is

from 47.2 to 64 dBmV in 0.2 dB increments. The accuracy of this measurement is +/- 1 dB, better than most hand held signal level meters on the market today.

The unit has a wide range of standard and optional features that make it ideal for advanced CATV systems. 4.5 MHz aural input, and 600 Ohm balanced audio have been incorporated as standard equipment on the AM-60-860. A stereo audio option, Option 05, allows the integration of a BTSC stereo encoder module. This optional stereo encoder converts stereo left and right audio into a composite BTSC stereo audio signal. The factory installed option provides 20 dB of stereo separation, less than 1.0% total harmonic distortion and 60 dB signal to noise ratio.

The AM-60-860 meets FCC Docket 21006 aeronautical frequency offset requirements (± 5 kHz video carrier accuracy). Outstanding in-channel carrier to noise performance of 67 dB typical is achieved by the unit. A custom SAW IF filter is employed to provide true vestigial sideband selectivity with built-in FCC group delay equalization. A state of the art converter design with preprogrammed microprocessor controlled channel tuning @ 60 dBmV output ensures the Blonder Tongue AM-60-860 is the ideal agile modulator for any demanding CATV headend need.



Specifications and Ordering Information are located on the following page.

Agile Audio/Video Modulators

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○ Specifications

RF

Frequency Range: 54-860 MHz
Channels: CATV, VHF, UHF (STD,HRC,IRC)
FCC Offset (pre-programmed):
0, +12.5, or 25 kHz
Output Level - Min: +60 dBmV
Output Level Range +50 to +60 dBmV (a)
Aural/Visual Carrier Ratio: -15, ± 5 dB
Visual Carrier Frequency Tolerance
Standard Channels:
 ± 20 kHz (max, 0° to 50° C)
FCC Aeronautical Channels:
 ± 5 kHz (max, 0° to 50° C)
4.5 MHz Aural Inter-carrier Frequency Tolerance:
 ± 150 Hz (0° to 50° C)
Channel Selectivity
Adjacent Aural and Below: -40 dB
Adjacent Picture and Above: -40 dB ± 5 dB
Spurious Outputs: -63 dBc
C/N Ratio In-Channel: 63 dB (b)
Broadband Noise: -77 dBc (b)
Output Impedance: 75 Ω
Output Return Loss: 12 dB

IF

Aural Frequency Standard: 41.25 MHz
Visual Frequency Standard: 45.75 MHz
Composite IF Loop Output
Aural Carrier Level: +20 dBmV
Visual Carrier Level: +35 dBmV
Output/Input Impedance: 75 Ω
Output Return Loss: 15 dB
Input Return Loss: 16 dB
EAS/ALT IF Input Level: 38 dBmV, @ 45.75 MHz
EAS/ALT IF Switch Isolation: >60 dB

Video

Input Level: 1.0 V p-p (d)
Frequency Response fv-0.5 MHz to fv+4.2 MHz:
1.5 dB P/V
P-P Video to RMS Hum Ratio: 65 dB
Video Signal-to-Noise Ratio, Weighted: 58 dB (b)
Differential Gain: 2.0% (d)
Differential Phase: 1.0° (d)

C/L Delay Inequality: see note ns (c)
Overmodulation Indicator: 87.5, ± 2.5 %
Input Impedance: 75 Ω
Return Loss: 18 dB

Audio

Input Level: 180 mV RMS (e)
Ext. 4.5 MHz Input Level: +35 to +45 dBmV (f)
Frequency Range: 20 Hz to 20 kHz
Frequency Response: ± 1.0 dB (g)
Pre-Emphasis-Mono: 75 μ s
Audio Signal-to-Noise: 60 dB (e)
Total Harmonic Distortion: 0.6% (h)
Overmodulation Indicator: 25, ± 2 kHz
Input Impedance: 600 Ω , balanced

General

Power Requirements
Voltage: 117, ± 10 % VAC
Frequency: 60 Hz
Power: 27 W (i)
Fuse: 0.40 A
Temperature Range: 0 to +50 °C

Mechanical

Dimensions (W x H x D):
19.0 x 1.75 x 14.25 in., 483 x 44 x 362 mm
Weight: 7 lbs., 3.18 kg

Connectors

Video Input
Standard: "F" Female
Option 02: BNC Video Input: BNC type, Female
Option 10: Composite Video/4.5 MHz
Audio: "F" Female
Audio Input: Barrier Strip
IF Output: "F" Female
IF Input: "F" Female
RF Output: "F" Female
EAS/ALT IF: "F" Female

Controls

Channel Selection: Push Button Switches
Video Level: Control
Aural Carrier Level: Control
Audio Level: Control
RF Output Level: Push Button Switches
Mode: Push Button Switches

Indicators

Channel Display: 3 Digit LED, Red
Video Overmodulation: LED, Red
Audio Overmodulation: LED, Red
EAS/ALT IF: LED, Red
Stereo: LED, Green (Option)

NOTES

- (a) 0.2 dB steps
- (b) 4 MHz bandwidth
- (c) meets FCC CATV group delay pre-distortion requirements for color transmission
- (d) 87.5% depth of modulation
- (e) for 25 kHz peak deviation
- (f) available with Option 10
- (g) referenced to standard 75 μ s pre-emphasis
- (h) 20 Hz to 20 kHz, 25 kHz deviation
- (i) standard unit with no options installed

Refer to product instruction manual for additional specification measurements and notes.

○ Ordering Information

Model	Stock No.	Description
AM-60-860	59415A	Agile Audio/Video Modulator +60 dBmV, 54-860 MHz with EAS Feature

Options

AM-OPT 02	5902	AM Series Option: Video Input, BNC Connector
AM-OPT 05	5905	AM Series Option: Integrated BTSC Stereo Audio
AM-OPT 07	5907	AM Series Option: Video AGC
AM-OPT 10	5910	AM Series Option: Composite Video & 4.5 MHz Audio Input

(Not all options/combinations are available)