

MAVM Series

Channelized Agile Audio/Video Modulator



MAVM-861

○ Features & Benefits

- EAS/ALT IF Ready Via Manual or Automatic Mode
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Rack Mountable - 1 EIA (1.75") Rack Space
- Exceptional Broadband Noise Performance of -110 dBc
- -60 dBc Spurious Response for the Entire Level Range
- Works in Conjunction with High Performance Channelized Output Filter Modules (OFM)

The MAVM Series are professional quality, channelized agile, heterodyne audio/video modulators. They provide audio and video modulated RF output on any VHF, UHF, or CATV channel (7 to 860 MHz). SUB-BAND channels T7-T11 are available.

Any standard audio/video source can be used, such as satellite receivers, television cameras, video tape recorders, or television demodulators. These modulators feature a low cost, removable single channel output filter module to provide a channelized configuration. Customer requests for individual channels can be easily accomplished by combining the frequency agile mainframe with the desired removable output filter module. Modulators may be ordered as completed assemblies or as configurable modules.

The MAVM-861 is a single output modulator consisting of the MAVM-861-MF mainframe and a channelized OFM-40-860 output filter module. The MAVM-60-861 is a single output modulator consisting of the MAVM-861-MF mainframe and a channelized OFM-60-860 output filter module. The MAVM-863 is a triple output modulator consisting of a MAVM-863-FP faceplate to which are attached a MAVM-863-PS power supply and three MAVM-863-MB modulator bases. The MAVM-60-863 is a triple output modulator consisting of a MAVM-863-FP faceplate to which are attached a MAVM-863-PS power supply and three MAVM-863-MB modulator bases.

The MAVM Series takes baseband audio and video and modulates these signals onto the desired output channel (each modulator has separate audio and video inputs). The heterodyne conversion process used in the MAVM Series employs a crystal referenced, PLL synthesized local oscillator, with a 12.5 kHz tuning increment. This guarantees rock solid, no-drift output for the life of the modulator. A custom SAW filter is employed to provide true vestigial sideband selectivity with built-in FCC group delay pre-distortion. An external IF loop is standard which allows interfacing with video all-call and signal scrambling systems as well as the ability to lock to either baseband or a 4.5 MHz aural carrier. The MAVM Series meets FCC Docket 21006 aeronautical frequency offset requirements (± 5 kHz video carrier accuracy) and accepts standard polarity (sync negative) video in the range of 0.7 to 2.8 V p-p. Field-defeatable audio pre-emphasis enables transmission of BTSC standard composite stereo signals.

Output Filter Modules (OFM)

Output Filter Modules are factory tuned channelized units that are used with the CAM, CAP, MAVM & SAIP product lines. They are available with +40 dBmV or +60 dBmV output levels and can be order for any channel in the CATV (2-135), UHF (14-69) or Sub-Band (T7-T11) channel ranges.

Available through

Multicom, Inc.

1076 Florida Central Parkway, Longwood, FL 32750

Ph: 407-331-7779 Toll Free: 800-423-2594 Fax: 407-339-0204

www.multicominc.com

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MAVM Series

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○ Specifications

RF

Frequency Range: 7-37 and 54-860 MHz
Channels: SUB, CATV, VHF, UHF
Output Level - Min
7-37 MHz: +42/+60 dBmV
54-648 MHz: +42/+60 dBmV
648-860 MHz: +40/+58 dBmV
Output Level Adjust: 15 dB
Aural/Visual Carrier Ratio: -9 to -20 dB
Visual Carrier Frequency Tolerance
Standard Channels: ± 5 kHz
FCC Aeronautical Channels: ± 5 kHz
Aural Carrier Frequency
Offset from Visual Carrier: 4.5 MHz
Accuracy, Settable To (STD.): ± 1.5 kHz
Channel Selectivity:
Adjacent Aural and Below: -40 dB
Adjacent Picture and Above: -40 dB
Spurious Outputs OFM-40: -66 dBc
Spurious Outputs OFM-60: -60 dBc
C/N Ratio In Channel: 65 dB
Broadband Noise (40/60): -95/-110 dBc
Output Impedance: 75 ohm
Output Return Loss: 15 dB

IF

Aural Frequency: 41.25 MHz
Visual Frequency: 45.75 MHz
Composite IF Loop Output
Aural Carrier Level: +15 dBmV
Visual Carrier Level: +30 dBmV
Output/Input Impedance: 75 ohm
Output Return Loss: 12 dB
Input Return Loss: 10 dB

Video

Input Level: 1.0 V p-p
Frequency Response
fv-0.5 MHz to fv+4.2 MHz: ± 1.0 dB
P-P Video to RMS Hum Ratio: 60 dB
Video Signal-to-Noise Ratio, Weighted: 62 dB
Differential Gain: ± 2.0 %
Differential Phase: ± 1.0 °
Over Modulation Indicator: 87.5, ± 2.5 %
Input Impedance: 75 ohm
Input Return Loss: 18 dB

Audio

Input Level: mV RMS
Frequency Range: 20 Hz to 20 kHz
Frequency Response: ± 1.0 dB
Pre-Emphasis-Mono: 75 μ s
Audio Signal-to-Noise: 60 dB
Total Harmonic Distortion: 0.5 %
Over Modulation Indicator: 25, ± 2 kHz
Input Impedance: 10 k, unbalanced ohm

Sub-Carrier Audio

Frequency: 4.5 MHz
Stability
Standard: ± 5 kHz
Aural Lock Option: ± 500 Hz

General

Power Requirements
Voltage: 117, $\pm 10\%$ VAC
Frequency: 60 Hz
Power
MAVM-40-861: 6.5 W
MAVM-60-861: 9.0 W
MAVM-40-863: 16.5 W
MAVM-60-863: 22.5 W
Fuse: 1/8 or 1/4 A
Temperature Range: 0 to +50 °C

Mechanical

Dimensions (WxHxD)
MAVM-861: 19.0 x 1.75 x 5.5 in.
(483 x 44 x 140) mm
MAVM-863-3: 19.0 x 1.75 x 16.25 in.
(483 x 44 x 413)
Weight
MAVM-861: 6.0 lbs. (2.73 kg)
MAVM-863-3: 10.8 lbs. (4.91 kg)

Connectors (Rear Panel)

Video Input: "F" Type, Female
Audio Input: RCA Phono, Female
IF Output: "F" Type, Female
IF Input: "F" Type, Female
RF Output: "F" Type, Female

Controls (Front Panel)

Channel Selection: DIP Switches
Video Level: Control
Aural Carrier Level: Control
Audio Level: Control
RF Output Level: Control

Indicators (Front Panel)

Power ON: LED, Green
Video Over Modulation: LED, Red
Audio Over Modulation: LED, Red

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

Ordering Information is located on the following page.

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○ Ordering Information

Model	Stock No.	Description
MAVM-60-861	7977A 300	Channelized Agile Audio/Video Modulator +60 dBmV, 54-300 MHz
MAVM-60-861	7977A 756	Channelized Agile Audio/Video Modulator +60 dBmV, 300-756 MHz
MAVM-60-861	7977A 860	Channelized Agile Audio/Video Modulator +60 dBmV, 756-860 MHz
MAVM-60-861	S7977A 450	Channelized Agile Audio/Video Modulator +60 dBmV, 7-450 MHz (SUB & VHF)
MAVM-60-861	U7977A 758	Channelized Agile Audio/Video Modulator +60 dBmV, 470-758 MHz (UHF)
MAVM-60-861	U7977A 806	Channelized Agile Audio/Video Modulator +60 dBmV, 758-806 MHz (UHF)
MAVM-60-863-1	7978A 300	Channelized Agile Audio/Video Modulator +60 dBmV, 54-300 MHz
MAVM-60-863-1	7978A 756	Channelized Agile Audio/Video Modulator +60 dBmV, 300-756 MHz
MAVM-60-863-1	7978A 860	Channelized Agile Audio/Video Modulator +60 dBmV, 756-860 MHz
MAVM-60-863-1	S7978A 450	Channelized Agile Audio/Video Modulator +60 dBmV, 7-450 MHz (SUB & VHF)
MAVM-60-863-1	U7978A 806	Channelized Agile Audio/Video Modulator +60 dBmV, 758-806 MHz (UHF)
MAVM-60-863-3	7979A 300	Channelized Agile Audio/Video Modulator +60 dBmV, 54-300 MHz, Three Channel Modulator
MAVM-60-863-3	7979A 756	Channelized Agile Audio/Video Modulator +60 dBmV, 300-756 MHz, Three Channel Modulator
MAVM-60-863-3	7979A 860	Channelized Agile Audio/Video Modulator +60 dBmV, 756-860 MHz, Three Channel Modulator
MAVM-60-863-3	S7979A 450	Channelized Agile Audio/Video Modulator +60 dBmV, 7-450 MHz (SUB & VHF), Three Channel Modulator
MAVM-60-863-3	U7979A 758	Channelized Agile Audio/Video Modulator +60 dBmV, 470-758 MHz (UHF), Three Channel Modulator
MAVM-60-863-3	U7979A 806	Channelized Agile Audio/Video Modulator +60 dBmV, 758-806 MHz (UHF), Three Channel Modulator
MAVM-861	7992A 400	Channelized Agile Audio/Video Modulator +40 dBmV, 54-400 MHz
MAVM-861	7992A 756	Channelized Agile Audio/Video Modulator +40 dBmV, 400-756 MHz
MAVM-861	7992A 860	Channelized Agile Audio/Video Modulator +40 dBmV, 756-860 MHz
MAVM-861	S7992A 450	Channelized Agile Audio/Video Modulator +40 dBmV, 7-450 MHz (SUB & VHF)
MAVM-861	U7992A 758	Channelized Agile Audio/Video Modulator +40 dBmV, 470-758 MHz (UHF)
MAVM-861	U7992A 806	Channelized Agile Audio/Video Modulator +40 dBmV, 758-806 MHz (UHF)
MAVM-861-MF	7982B	Channelized Agile Audio/Video Modulator 54-860 MHz, Mainframe
MAVM-863-1	7993A 300	Channelized Agile Audio/Video Modulator +40 dBmV, 54-300 MHz
MAVM-863-1	7993A 756	Channelized Agile Audio/Video Modulator +40 dBmV, 300-756 MHz
MAVM-863-1	7993A 860	Channelized Agile Audio/Video Modulator +40 dBmV, 756-860 MHz
MAVM-863-1	S7993A 450	Channelized Agile Audio/Video Modulator +40 dBmV, 7-450 MHz (SUB & VHF)
MAVM-863-1	U7993A 758	Channelized Agile Audio/Video Modulator +40 dBmV, 470-758 MHz (UHF)
MAVM-863-1	U7993A 806	Channelized Agile Audio/Video Modulator +40 dBmV, 758-806 MHz (UHF)
MAVM-863-3	7999A 300	Channelized Agile Audio/Video Modulator +40 dBmV, 54-300 MHz, Three Channel Modulator
MAVM-863-3	7999A 756	Channelized Agile Audio/Video Modulator +40 dBmV, 300-756 MHz, Three Channel Modulator
MAVM-863-3	7999A 860	Channelized Agile Audio/Video Modulator +40 dBmV, 756-860 MHz, Three Channel Modulator
MAVM-863-3	S7999A 450	Channelized Agile Audio/Video Modulator +40 dBmV, 7-450 MHz (SUB & VHF), Three Channel Modulator
MAVM-863-3	U7999A 758	Channelized Agile Audio/Video Modulator +40 dBmV, 470-758 MHz (UHF), Three Channel Modulator
MAVM-863-3	U7999A 806	Channelized Agile Audio/Video Modulator +40 dBmV, 758-806 MHz (UHF), Three Channel Modulator
MAVM-863-FP	7963A	Channelized Agile Audio/Video Modulator 860 MHz, Front Panel
MAVM-863-MB	7983A	Channelized Agile Audio/Video Modulator, 860 MHz, Modulator Base
MAVM-863-PS	7972A	Channelized Agile Audio/Video Modulator, 860 MHz, Power Supply

Output Filter Modules (OFM)

Model	Stock No.	Description
OFM-40-860	U7984A 806	Output Filter Module +40 dBmV, 758-806 MHz (UHF)
OFM-40-860	U7984A 758	Output Filter Module +40 dBmV, 470-758 MHz (UHF)
OFM-40-860	S7984A 37	Output Filter Module +40 dBmV, 7-37 MHz (SUB)
OFM-40-860	7984A 860	Output Filter Module +40 dBmV, 756-860 MHz
OFM-40-860	7984A 300	Output Filter Module +40 dBmV, 54-300 MHz
OFM-40-860	7984A 756	Output Filter Module +40 dBmV, 300-756 MHz
OFM-60-860	U7985A 758	Output Filter Module +60 dBmV, 470-758 MHz (UHF)
OFM-60-860	U7985A 806	Output Filter Module +60 dBmV, 758-806 MHz (UHF)
OFM-60-860	S7985A 37	Output Filter Module +60 dBmV, 7-37 MHz (SUB)
OFM-60-860	7985A 860	Output Filter Module +60 dBmV, 756-860 MHz
OFM-60-860	7985A 756	Output Filter Module +60 dBmV, 300-756 MHz
OFM-60-860	7985A 300	Output Filter Module +60 dBmV, 54-300 MHz

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