



**BLONDER  
TONGUE**  
LABORATORIES, INC.

# MICM SERIES

## MICRO CHANNEL MODULATOR

MICM series of products are fixed-channel analog audio/video modulators available in the following models:

**MICM-45D:** Is available in NTSC channels 2-125 (54-806 MHz). This 5th generation of the MICM series, equipped with the [CALMTones](#) feature, utilizes an Audio AGC (Automatic Gain Control) solution that eliminates variations in loudness level that may be present among various program sources.

**MICM-45DS:** Is the same as MICM-45D but with stereo audio output.



## FEATURES

- Prohibits commercials that accompany broadcast programs from:
  - (i) having modulation levels substantially higher than the broadcast program; and
  - (ii) having an average maximum loudness substantially higher than that of the broadcast program.
- Provides consistent audio level among all broadcast programs on different channels and among different programs within the same channel
- Compact design allows for deployment of 12 channels in 2RU
- Utilizes SAW filters for improved performance
- Die-cast chassis for RFI immunity
- Integrated Stereo encoder

## ORDERING INFORMATION

Model	Stock #	Description
MICM-45D	7797D 600	<a href="#">CALMTones</a> Fixed-channel Audio/Video Modulator, Audio AGC, +45 dBmV, 54-600 MHz
MICM-45D	7797D 806	<a href="#">CALMTones</a> Fixed-channel Audio/Video Modulator, Audio AGC, +45 dBmV, 600-806 MHz
MICM-45DS	7797DS 600	<a href="#">CALMTones</a> Fixed-channel Audio/Video Modulator, Audio AGC, Stereo, +45 dBmV, 54-600 MHz
MICM-45DS	7797DS 806	<a href="#">CALMTones</a> Fixed-channel Audio/Video Modulator, Audio AGC, Stereo, +45 dBmV, 600-806 MHz
MIRC-12V	7715	Rack Chassis (holds up to 12 modulators)
MIPS-12C	7722C	100-240 VAC; 50/60 Hz power supply (one per chassis)



SPECIFICATIONS

INPUT

<b>Video</b> <b>Connector:</b> <b>Impedance:</b> <b>Return Loss:</b> <b>Input Level:</b> <b>Frequency Response:</b> <b>Peak to Peak Video-to-RMS Hum Ratio:</b> <b>Signal-to-Noise Ratio:</b> <b>Differential Gain:</b> <b>Differential Phase:</b> <b>Chrominance/Luminance Delay:</b>	"F" Female 75 Ω 20 dB 1.0 volt Peak-to-Peak (87.5% depth of modulation) 1.0 dB Peak-to-Valley (fv to fv+4.2 MHz) 64 dB 65 dB (Weighted; 4 MHz bandwidth) 2.0% (87.5% depth of modulation) 2.0 degree (87.5% depth of modulation) Per FCC Requirements
<b>Mono Audio (standard)</b> <b>Connector:</b> <b>Input Impedance:</b> <b>Input Level: (for 25 kHz deviation)</b> <b>Frequency Range:</b> <b>Frequency Response:</b> <b>Total Harmonic Distortion:</b> <b>Signal-to-Noise Ratio:</b>	RCA Greater than 10 kΩ, unbalanced 0.5 to 4.0 volt peak-to-peak (constant AGC range) 50 Hz to 12 kHz ± 0.5 dB 1% @ 25 kHz deviation 70 dB
<b>Stereo Audio (optional)</b> <b>Connector:</b> <b>Input Impedance:</b> <b>Input Sensitivity: (for 55 kHz peak deviation)</b> <b>Frequency Response:</b> <b>Separation:</b>	RCA Greater than 10 kΩ, unbalanced 0.5 to 4.0 volt peak-to-peak (AGC Range with pilot tone) +/- 0.75 dB (50 Hz to 12 kHz) 20 dB @ 50 Hz to 10 kHz

OUTPUT

<b>Connector:</b> <b>Impedance:</b> <b>Return Loss:</b> <b>Frequency Range:</b> <b>Power Level:</b> <b>Power Level Range:</b> <b>Carrier-to-Noise: (In Channel)</b> <b>Broadband Noise:</b> <b>Spurious Outputs:</b> <b>Aural/Visual Carrier Ratio:</b> <b>4.5 MHz Aural Inter-carrier Freq. Tolerance:</b> <b>Visual Carrier Frequency Tolerance</b> <b>Standard Channels:</b> <b>FCC Aeronautical Channels:</b>	"F" Female 75 Ω 15 dB 54 to 806 MHz (NTSC CATV Ch. 2 -125) +45 dBmV 10 dB continuously adjustable 63 dB -90 dBc (@ +45 dBmV output level, 4 MHz band.) -66 dBc -11 to -19 dB continuously adjustable ±250 Hz; 32 to 122 °F (0 to 50 °C) ±10 kHz; 32 to 122 °F (0 to 50 °C) ±5 kHz; 32 to 122 °F (0 to 50 °C)
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GENERAL

<b>Dimensions (W x D x H)</b> <b>MICM Modules:</b> <b>MIPS-12C Power Supply:</b> <b>MIRC-12V Chassis:</b>	1.0 x 7.78 x 3.5 inches (25 x 198 x 89 mm) 4.6 x 7.5 x 3.5 inches (106 x 191 x 89 mm) 19 x 12.0 x 5.25 inches (483 x 305 x 133 mm)
<b>Power</b> <b>MIPS-12C Power Supply:</b>	100-240 VAC; 50/60 Hz
<b>Power Dissipation:</b>	~ 3 W (per MICM Module)
<b>Weight</b> <b>MICM Module:</b> <b>Fully Loaded Chassis:</b>	0.65 lbs (0.3 kg) 18.2 lbs (8.3 kg)
<b>Operating Temperature:</b>	32 to 122 °F (0 to 50 °C)
<b>Storage Temperature:</b>	-13 to 158 °F (-25 to 70 °C)
<b>Operating Humidity:</b>	0 to 95% RH @ 35 °C max, non-condensing
<b>Storage Humidity:</b>	0 to 95% RH @ 35 °C max, non-condensing

ALARMS/MONITORING/CONTROL

<b>Front-Panel Indicators</b> <b>Power:</b> <b>Stereo:</b>	Green LED Red LED (when equipped)
<b>Front-Panel Control</b> <b>Output Level :</b> <b>Video Level:</b> <b>Audio Level:</b> <b>Aural Carrier Level:</b>	Potentiometer Potentiometer Potentiometer Potentiometer

RELATED PRODUCTS

Model	Description
AM-60-860	Frequency-agile Audio/Video modulator, +60 dBmV, 54-860 MHz, 1RU
MAVM	Fixed-channel Audio/Video modulator, +60 dBmV, 54-860 MHz, 1RU
AMCM	Frequency-agile Audio/Video modulator, +45 dBmV, 54-860 MHz, Twelve modulators in 2RU
ACM	Frequency-agile Audio/Video modulator, +45 dBmV, 54-806 MHz, Twelve modulators in 2RU
AMM	Frequency-agile Audio/Video modulator, +45 dBmV, 54-806 MHz, Twelve modulators in 2RU