BLONDER TONGUE LABORATORIES, INC.

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Addendum 651215100B to Instruction Manual 651204500E

MICM-45 Modulators

MICM-45C, Stock No. 7797C, MICM-45S, Stock No. 7797S

The MICM-45 is a professional quality, channelized, heterodyne audio/video modulator. The unit provides audio and video modulated RF carrier output on any single VHF channel, including: broadcast TV (2 - 13), CATV (14-135). The MICM-45 is ideal for placing audio and video onto any unused VHF channel. Any standard audio/video source can be used, such as satellite receivers, television cameras, video tape recorders, or television demodulators.

The MICM-45 utilizes SAW filtering with FCC group delay pre-distortion to provide true vestigial sideband selectivity. This makes the MICM-45 perfect for use in adjacent channel systems.

The MICM-45C takes baseband audio and video and modulates these signals onto the desired output channel. The MICM-45S takes baseband L/R audio and video and modulates these signals into the desired output channel. The heterodyne conversion process used in the MICM-45 employs a crystal referenced, PLL synthesized local oscillator. This guarantees rock solid, no-drift output for the life of the modulator. The MICM-45 meets FCC Docket 21006 aeronautical frequency offset requirements (±5 kHz video carrier accuracy). The modulator accepts standard polarity (sync negative) video in the range of 0.7 to 2.5 V p-p.

The MICM-45C has field defeatable audio pre-emphasis to provide stereo compatibility with any external BTSC stereo generator providing a composite stereo baseband output.

The MICM-45S is a stereo A/V modulator providing a stereo audio and video modulated RF carrier on any single VHF channel. All other features and specificaitons are identical to the MICM-45C except as noted below.

Specifications MICM-45 (Typical)

RF

Frequency Range:
54-860 MHz (broadcast 2-13, cable 14-135)
Output Level: +45 dBmV
Output Level Range: 10 dB continuously adjustable
Aural/Visual Carrier Ratio:
-11 to -19 dB continuously adjustable
Visual Carrier Frequency Tolerance:
±10 kHz (standard channels) ± 5 kHz
(aeronautical channels)
Aural Carrier: 4.5 MHz above visual
Frequency Setting: ±1.5 kHz
Spurious Outputs: -60 dBc, minimum
C/N Ratio In Channel: 60 dB
Broadband Noise: -90 dB
Output Return Loss: 12 dB
IF (Internal) Frequency: 45.750 MHz

Video

Input Level: 1.0 V p-p for 87.5 % modulation
Frequency Response fv -0.5 MHz to fv +4.2 MHz: ±1.0 dB
Video C/N: 60 dB (4 MHz BW)
P-P Video to RMS Hum Ratio: 60 dB
Differential Gain: ±4.0 % @ 87.5% Modulation
Differential Phase: ± 2° @ 87.5% Modulation
Input Return Loss: 18 dB

Audio

Input Level: 140 mV RMS for 25 kHz peak deviation
Input Impedance: 10kΩ, unbalanced
Frequency Range: 20 Hz to 20 kHz (MICM-45C)
Frequency Response:
±1.0 dB, Reference to Std. (50 Hz to 12 kHz)
75 µs Pre-emphasis (MICM-45C)
±3.0 dB, Reference to Std. (50 Hz to 50 kHz) (MICM-45S)
Total Harmonic Distortion (%): 1.0 at 25 kHz Deviation
Stereo Separation (MICM-45S):
50 Hz - 100 Hz: 15 dB
100 Hz - 1 khz: 25 dB
12 kHz: 18 dB
Aural Intercarrier: ±5 kHz (0° to +50° C), std.

General

Power Requirements
External: 12 VDc @ 160 mA
+5 VDc @ 130 mA (MICM-C)
+5 VDc@180 mA (MICM-S)
Temperature Range: 0° to +50° C

Mechanical

Dimensions (WxHxD): 1.20" x 3.5" x 7.50"
Weight: 0.65 lbs (0.30 kg)

Connectors/Impedance

Audio Input: RCA Phono, female (MICM-45C)
L/R Audio Inputs: RCA Phono, female
Video Input: 75 ohm "F" type, female
RF Output: 75 ohm "F" type, female

Controls

Video Level: Pot
Audio Level: Pot
Aural Carrier Level: Pot
RF Output Level: Pot

Indicators

Power ON: LED, green
Video Over Modulation: LED, red (MICM-45S)
Audio Over Modulation: LED, red (MICM-45S)
Stereo Indicator: LED, red (MICM-45S)

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Operating Controls and Indicators - MICM-45

Front Panel

All operating controls are located on, or are accessible from the front panel.

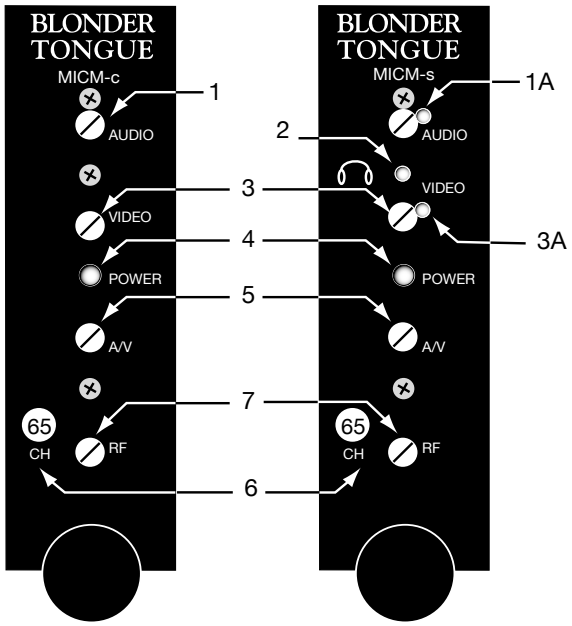
1. **Audio** - Adjusts the aural carrier modulation.

   1A. Audio - Aural carrier modulation control/overmodulation indicator.

2. **Stereo Indicator**
3. **Video** - Adjusts the modulation percentage.

   3A. Video - Modulation control/overmodulation indicator.

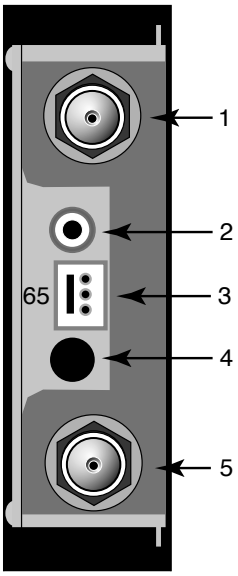
4. **Power** - The green LED indicates power is present and the fuse is good.
5. **A/V** - Controls the amplitude of aural RF carrier to change aural/visual ratio.
6. **Channel** - The modulator is factory aligned to the channel number indicated.
7. **RF** - The RF pot simultaneously adjusts the amplitude of aural and visual carriers to the final drive amplifier.

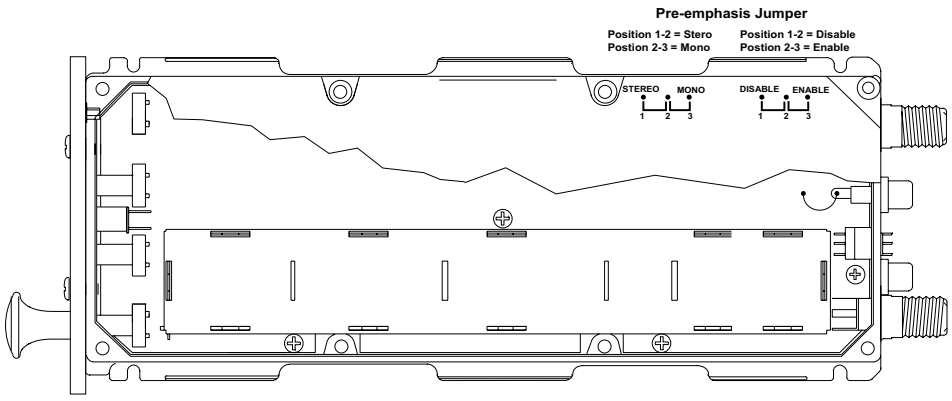


Rear Panel

All the connectors on the Modulator are located on the rear panel.

1. **Video Input** - The modulator accepts standard negative sync video at a 0.7 to 2.5 Vp-p level.
2. **Audio Input** - The modulator accepts 140 mV RMS for 25 kHz peak deviation (MICM-C). Left audio input for MICM-S only.
3. **Power** - The polarized power connector accepts +12 Vdc +5 Vdc and ground.
4. **Right Audio Input** for MICM-S only. Connector not used in MICM-C (capped)
5. **RF Out** - The filtered RF signal is available for connection to a headend combiner.





Internal Jumper Settings

Unit comes factory set for audio pre-emphasis enabled.

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