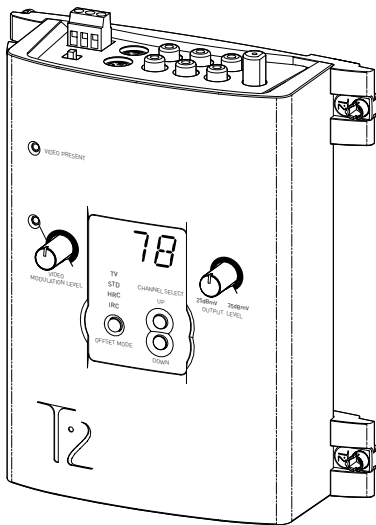




ENCLOSURE MOUNT MODULATOR OWNER'S MANUAL



MD-EM1

Introduction::

Thank you for purchasing this T2 modulator. T2 is the brainchild of some of the most experienced professionals in the custom installation and home entertainment industries. Please read through this owner's manual so that you will know how to operate your MD-EM1 properly. Always keep this manual in a safe place for future reference.

The MD-EM1 is a digitally tuned, dual sideband, single channel modulator. It is designed to be mounted in most UL listed structured cable enclosures. It converts one independent base band video and audio signal to a user-selected UHF or CATV channel. Any TV connected to the RF output can receive the signal, provided that the TV is tuned to the proper channel.

1

System Set-up::

The diagram below shows how the MD-EM1 would fit into a typical RF system. See fig 1.

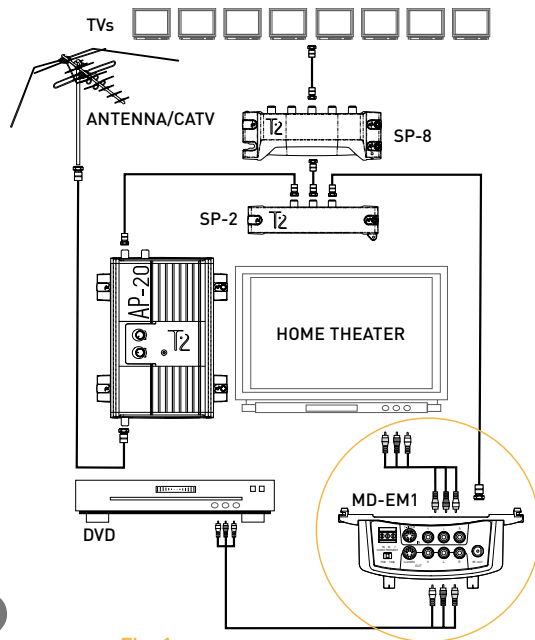


Fig. 1

2

Features::

The MD-EM1 is a dual sideband modulator. When modulating, be sure to leave one channel open after the channel that you are modulating to. For example, if you wanted to modulate onto channel 22, channels 22 and 23 need to be open, even though nothing will be seen on channel 23.

Video Input Modulation::

The MD-EM1 has adjustable video input modulation. The LED is set to light when the modulation input level reaches 87.5%. To effectively set the video input modulation level, rotate the knob slowly clockwise until the LED becomes lit. Then, rotate it slightly counter-clockwise, until the LED goes off, for optimal results. See fig. 2a.

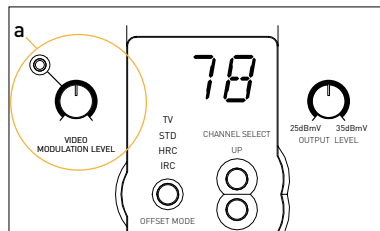


Fig. 2

Video Present Relay::

Your MD-EM1 comes equipped with a video present relay. This can be connected directly to an a/v control system. This contact is normally closed, and opens upon detection of a video signal. See fig. 3a.

Loop Through Outputs::

Video can be fed to your MD-EM1 through standard composite cables or through S-video cables. There are also loop through outputs which enable you to connect the source input to another device. When using the loop through outputs, be sure to change the resistance switch to "1K Ω ." See fig. 3b.

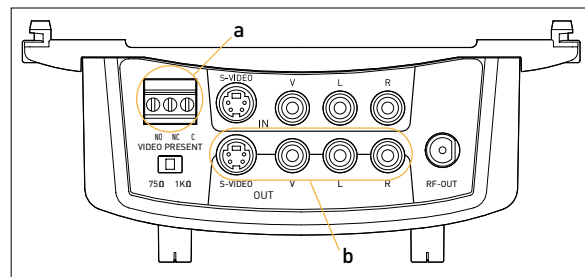


Fig. 3

Video Present LED::

Your MD-EM1 is equipped with a video present LED that will illuminate upon detection of a source signal.

See fig. 4a.

Adjustable Output Gain::

Your MD-EM1 also has an adjustable output gain, which allows you to adjust the overall output of the unit and balance the modulated channel with the rest of the system. See fig. 4b.

Adjustable Offset Mode::

Your MD-EM1 has an adjustable offset mode. [Use the button labeled "OFFSET MODE" to switch between TV, STD, HRC and IRC modes.] See fig. 4c.

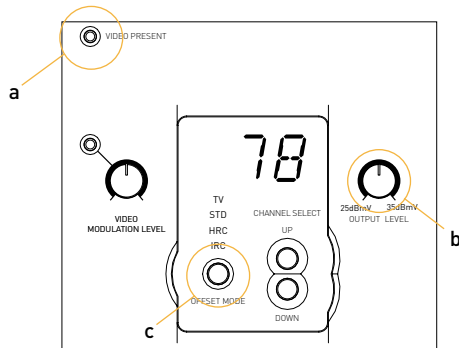


Fig. 4

Programming::

To program a channel into your MD-EM1::

- Ensure that the channel you wish to modulate onto, along with the channel directly after that, is open. See fig. 5a.
- Press the button labeled "OFFSET MODE" until the desired offset mode is acquired (HRC, IRC, TV, STD). See fig. 5b.
- Use the channel select keys marked "UP" and "DOWN" to select the proper channel on which you wish to modulate. See fig. 5c.

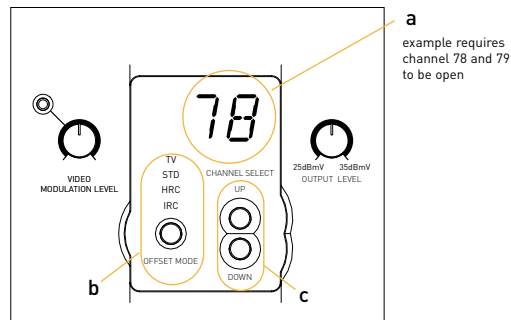


Fig. 5

Locking System::

Mounting & Using the T2 Locking System::

Your modulator comes with the proprietary T2 locking system attached, and is designed to be mounted in most UL listed structured cable enclosures.

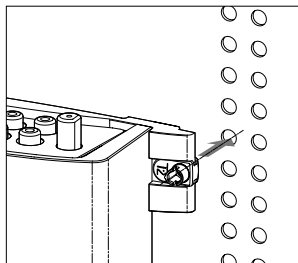


Fig. 6

Locate the product in the enclosure as shown in [fig. 6](#).

Rotate the lock 180 degrees to secure the unit as shown in [fig. 7](#) & [fig. 8](#). (Use a 3/16" hex key or a flat head screwdriver.)

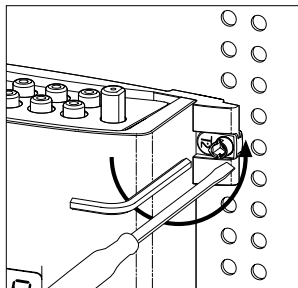


Fig. 7

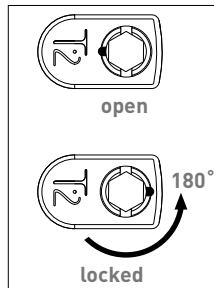


Fig. 8

Troubleshooting::

No Picture::

Ensure that the video source is on and generating a signal. Ensure that the TV and the modulator are tuned to the same channel.

Herringbone Interference on Modulated Channels::

Ensure that the channel that you are modulating to is completely vacant. Distant UHF stations may sometimes appear open but will cause interference if you try creating a new channel at the same frequency.

Specifications::

Inputs::

Video:	0.8V to 2.7V Peak to Peak Adjustable @ 75ohm
Audio:	1V Peak to Peak for ±25KHz Deviation

Video Performance::

Differential Gain:	Less than 5%, 2.2% typical
Differential Phase:	Less than 5°, 1.4° typical
Signal to Noise Ratio:	Greater than 52dB

RF Output::

Offset Modes	TV	STD	HRC	IRC
Channel Ranges:	14-78	65-135	65-135	65-135
Output Level:	Adjustable :: 20dBmV to 35dBmV typical			
IM Distortion:	-60dBC			
Alternate Channel:	-55dBC @ 12MHz			
Frequency Stability:	±5KHz max, ± 2KHz nominal			

Note::

All channel ranges exclude channels 95-99.

FCC Conformity::

DECLARATION OF CONFORMITY

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

Installation Requirements:

FCC classifies this product under part 15 of its rules as a "television interface device." Systems designed using television interface devices have the following legal requirements:

1. The modulated channel signal strength may not exceed 15.56dBmV at any television. Federal Regulation 47CFR15.115(b)(1)(i).
2. If an antenna is used in the system, the modulated channel signal strength may not exceed -51dBmV at the antenna input port. Federal Regulation 47CFR15.115(c)(4).

For The Installer:

The system you design must comply with these regulations. As the installer, you are responsible. Amplifiers must be used in all antenna based systems to provide necessary isolation and comply with FCC part 15.

Warranty::

T2 Signal Management (T2) warrants this product to be free from defects in materials and workmanship for a period of three (3) years from the date of purchase or T2 will repair, or at its option, replace the defective product (with a new or factory reconditioned product, as T2 may determine). To obtain warranty service under this warranty, call T2 for a return material authorization (RMA) number and return the defective product together with a copy of the sales receipt or other satisfactory proof of purchase to T2 Signal Management, 63 Mall Drive, Commack, NY 11725, Attention: Customer Service. Please put the RMA number on the outside of the carton. Ship all cartons freight prepaid.

This warranty does not cover damage resulting from (1) use or installation other than in strict accordance with the manufacturer's written instructions, (2) disassembly or repair by someone other than the manufacturer, (3) misuse, misapplication or abuse, (4) alteration, (5) lack of reasonable care, (6) wind, ice, snow, rain, lightning, or any other extreme weather conditions, acts of nature, fire or any other cause not within the reasonable control of T2.

ANY IMPLIED WARRANTY ARISING FROM THE SALE OF THE PRODUCT INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, FOR PURPOSE, ARE LIMITED TO THE WARRANTY STATED ABOVE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF WARRANTY SET FORTH ABOVE. THIS PRODUCT IS SOLD AS IS.

T2 shall in no event, and under no circumstances, be liable or responsible for any consequential, indirect, incidental, punitive, direct or special damages based upon breach or warranty, breach of contract, negligence, strict tort liability or otherwise or any other legal theory, arising directly or indirectly from the sale, use, installation or failure of any product acquired from T2. Buyer's remedy is strictly limited to return of the goods and repayment of the price or repair or replacement of the non-conforming goods or parts, whichever T2 chooses.

**For more information, visit www.t2signal.com.
For technical support, call 1.800.827.5540.**

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