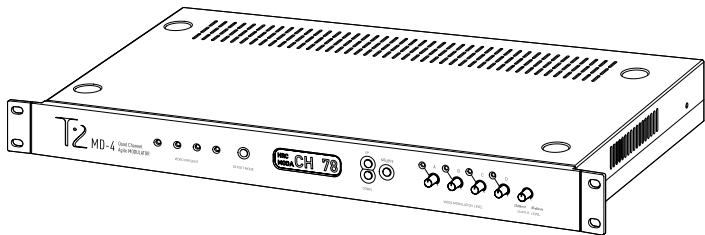


# T2

## QUAD CHANNEL RACK MOUNT MODULATOR OWNER'S MANUAL



**MD-4**

## Introduction::

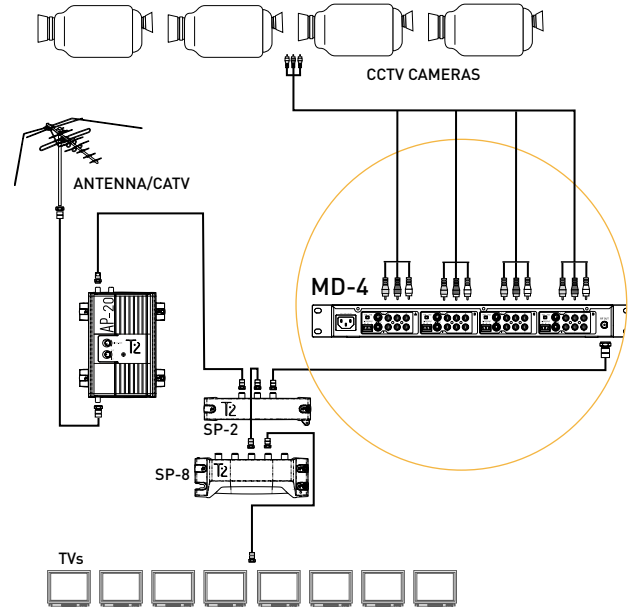
Thank you for purchasing this T2 modulator. T2 is the brainchild of some of the most experienced professionals in the custom installation and home entertainment industries. Please read through this owner's manual so that you will know how to operate your MD-4 properly. Always keep this manual in a safe place for future reference.

The MD-4 is a digitally tuned, dual sideband, quad channel modulator. It is designed to convert four independent baseband video and audio signals to user selected UHF or CATV channels. 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-4 might fit into a typical RF system. See fig 1.



2

Fig. 1

## Mounting::

Your MD-4 was designed to be housed in a standard 19" rack. Mounting screws have been included with your MD-4, which should be used to affix the front panel to the corresponding holes in the 19" rack. See fig. 2.

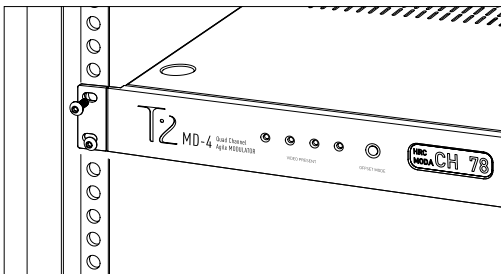


Fig. 2

## Features::

Your MD-4 is a dual sideband modulator. When selecting a channel for modulation, ensure that that channel, along with the following channel, is empty.

Your MD-4 has an adjustable output gain, allowing you to quickly and easily balance the modulated channel with the rest of the system. See fig. 3a.

Your MD-4 comes with adjustable video input modulation, which will ensure compatibility with all video source equipment and provide optimal video quality. Video modulation knobs have corresponding LEDs, which are set to illuminate when the modulation level reaches 87.5%. To effectively set the input modulation level, rotate the knob slowly clockwise until the LED illuminates. Then rotate it a very small amount counter-clockwise until the LED extinguishes for optimal result. See fig. 3b.

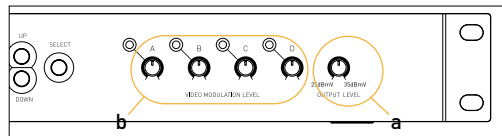


Fig. 3

Your MD-4 comes equipped with a video present relay. This can be connected directly to an a/v control system. The contact is normally closed and opens upon detection of a video signal. See fig. 4a.

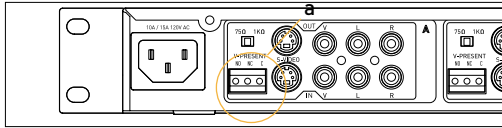


Fig. 4

Your MD-4 is equipped with video present LEDs that will illuminate upon detection of a source signal. See fig. 5a.

Video can be fed to your MD-4 through standard composite cables or through S-Video cables. Loop-through outputs allow the source signal to be sent to other system components. When using the loop through outputs, be sure to change the resistance switch to "1KΩ."

Your MD-4 has an adjustable offset mode. Use the button labeled "OFFSET MODE" to switch between TV, STD, HRC and IRC. See fig. 5b.

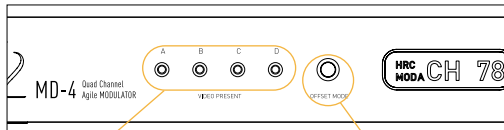


Fig. 5

## Programming::

To program a channel into your MD-4:

- Ensure that the channel that you wish to modulate onto is empty.
- Use the "Select" button to switch between MODA, MODB, MODC, and MODD. These are the four modulation inputs.
- Select the proper offset mode.
- Select the desired channel using the buttons marked "UP" and "DOWN". See fig. 6a.

All channel information will be shown in the display window. See fig. 6b.

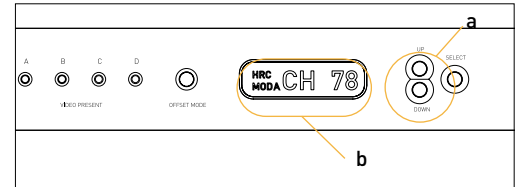


Fig. 6

## Specifications::

### Input::

|          |   |
|----------|---|
| S-Video: | 0.4V to 2.7V Peak to Peak<br>Adjustable @ 75Ω |
| Audio:   | 1Vrms Adjustable @ 47KΩ                       |

### Video Performance::

|                     |                      |
|---------------------|----------------------|
| Differential Gain:  | Less than 5% (0.5dB) |
| Differential Phase: | Less than 5°         |

### RF Output::

|                     |                         |        |        |        |
|---------------------|-------------------------|--------|--------|--------|
| Offset Modes:       | TV                      | STD    | HRC    | IRC    |
| Channel Range:      | 14-78                   | 65-135 | 65-135 | 65-135 |
| Output Level Range: | 25 to 35dBmV Adjustable |        |        |        |
| IM Distortion:      | -60dBC                  |        |        |        |

### Note::

All channel ranges exclude channels 95-99.

## 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 Channel::

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.

## 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 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](http://www.t2signal.com).  
For technical support, call 1.800.827.5540.**

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