



# INSTALLATION MANUAL

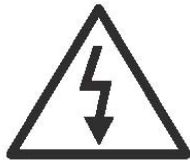
## CTDM-860

### Fully Agile Audio/Video Micro Demodulator

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#### ***IMPORTANT INFORMATION***

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The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING :** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET, REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

## **PACKAGE CONTENTS**

This package contains:

- One CTDM-860 Agile Audio/Video Micro Demodulator
- One CTDM-860 installation manual

## **PRODUCT DESCRIPTION**

The CTDM-860 is a professional quality fully agile micro demodulator providing an audio and video output from any CATV channel from 2 to 135, or any Off-Air channel from 2 to 60 in the 54 to 860MHz frequency range. The CTDM-860 employs highly stable synthesized frequency control. Setup and tuning are easy and straightforward taking advantage of the unit's front panel access to all level controls and indicators. Non-volatile memory is used to maintain channel selection in event of power loss.

Designed for commercial grade headend systems, the CTDM-860 provides cable operators the engineering ease and flexibility associated with new headend deployments, existing headend upgrades, and system maintenance. These fully agile demodulators allow the rapid creation of channel lineups and faster channel reassignments by selecting a specific channel and demodulating the carrier with baseband audio and video delivered as outputs for later remodulator.

# SPECIFICATIONS

## CTDM-860

Agile Audio/Video Micro Demodulator Specifications (Typical)

<b>RF</b>	
1. Input Frequency	54 – 860 MHz. CATV Channels 2 – 135, Off-Air Channels 2 - 69
2. Input Level Range	-15 to +15 dBmV
3. Input Impedance	75 Ohms
4. Noise Figure	8 to 11 dB
5. Image Rejection VHF	65 dB
6. Image Rejection UHF	50 dB
7. Connector	"F" type female
<b>VIDEO</b>	
1. Output Level	0.8 to 1 V p-p
2. Frequency Response	+1.2 dB @25Hz to 4MHz
3. Differential Gain	<5%
4. Differential Phase	<5°
5. Output Impedance	75 Ohms
6. Connector	"F" type female
<b>AUDIO</b>	
1. Output Level	0.5 V RMS
2. Frequency Response	1.5 dB (50Hz to 15KHz)
3. S/N Ratio	>55 dB
4. Output Impedance	75 Ohms
5. Connector	RCA type female
<b>GENERAL</b>	
1. DC Input Power	5V (400mA), 12V (150mA)
2. Operating Temperature	32 °F ~ 122 °F
<b>MECHANICAL</b>	
1. Dimensions	1"(W) x 3.5 (H) x 9" (D)
2. Weight	15.2 oz.

# INSTALLATION AND OPERATION

## NOTE TO SYSTEM INSTALLER

System installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to *the grounding system of the building*, as close to the point of cable entry as practical.

### 1. UNPACKING and HANDLING

Each unit is shipped assembled and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

### 2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact your distributor or Cabletronix at 1-610-429-1511 for assistance.

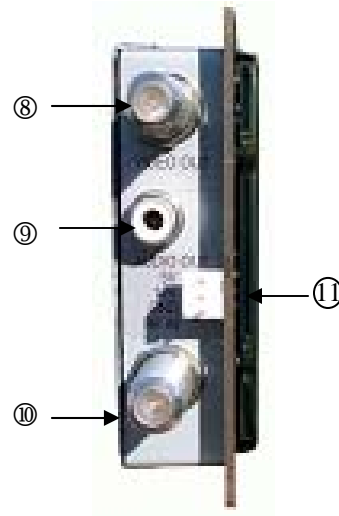
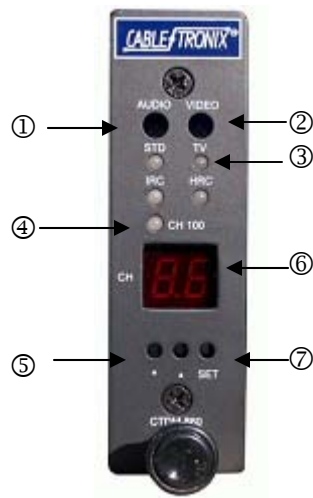
### 3. THE USE OF RACK MOUNTABLE CHASSES AND POWER SUPPLIES

The CTDM-860 is designed to be mounted in a rack chassis designed for micro modulators, and powered by power supplies intended for micro modulators and designed to fit in the micro modulator rack chassis. The Cabletronix CTRC-12 12-unit rack chassis, and the Cabletronix CTPS-12 single 12-unit power supply or Cabletronix CTPS-12DUAL redundant 12-unit power supply should be used with the CTDM-860. Up to 12 CTDM-860s can be configured into a single CTRC-12.

Some chassis and power supplies from other vendors and distributors may also be used, but actual configurations will vary by vendor. It is critical to note that (a) the power supply harness being used MUST come from the vendor providing the power supply, (b) the power supply must be designed for powering micro modulators and installation in a micro modulator rack chassis, and (c) power supply harnesses and power supplies are NOT always interchangeable among vendors. Using the wrong power supply harness and/or power supply can damage the CTDM-860. Contact your distributor for more information.

## 4. PRODUCT DIAGRAM

### FRONT and REAR PANELS



- 1 **Audio Output Level**
- 2 **Video Output Level**
- 3 **CATV/Off-Air Indicator Light**
- 4 **+100 LED**
- 5 **Channel Up / Down Switch**
- 6 **Channel LED**
- 7 **Set Mode Switch**

- 8 **Video Output**
- 9 **Audio Output**
- 10 **RF Input**
- 11 **Power**

Adjust audio  
 Adjust for 0.8 to 1 V p-p  
 Select CATV, HRC, IRC or Off-Air (TV) channel  
 When lit indicates channels 100 and higher  
 Adjust CATV or Off-Air channel  
 Displays ANT or CATV channel number  
 Push button to enter the mode selection menu.  
 Use channel up/down keys to select the type of channel system required.

F-connector  
 RCA Jack  
 F-connector  
 3 Pin Locking Header

## 5. HARDWARE CONNECTIONS

- a. The CTDM-860 is designed for installation in a chassis designed for micro modulators. Micro modulator chassis such as the Cabletronix CTRC-12 can be mounted in standard 19" EIA racks.
- b. The Cabletronix CTRC-12 12-unit rack chassis and Cabletronix CTPS-12 single 12-unit power supply or CTPS-12DUAL redundant power supply should be used with the CTDM-860. Up to 12 CTDM-860s can be configured into a single CTRC-12/CTPS-12. Some chassis and power supplies from other vendors and distributors may also be used, but actual configurations will vary by vendor. Contact your distributor for more information.
- c. The CTRC-12 rack chassis can hold up to 12 CTDM-860s and other micro modulators and demodulators of the same size. However, note that some other products such as the Cabletronix CT-AHP require two slots in a CTRC-12 resulting in the chassis supporting 6 units instead of 12.
- d. When configuring the CTDM-860 in the chassis and power supply it is critical that the power harness being used is from the same vendor as the power supply, and is designed for that specific supply. Power supply harnesses among vendors are not interchangeable and can severely damage the CTDM-860.
- e. The use of a surge protector is highly recommended. Product warranty does not cover surge damages.
- f. Connect a 75 ohm coaxial cable with proper connectors from the **video source's (e.g., modulator) Video Input port to the CTDM-860's Video Output port** (F-female connector).
- g. Connect a 75 ohm coaxial cable with proper connectors from the **source's (e.g., modulator) Audio Input port to the CTDM-860's Audio Output port** (RCA female connector).
- h. Connect a 75ohm coaxial cable with F-connectors from the **CTDM-860's RF Input port to the antenna, CATV drop, or other source.**

## 6. CHANNEL SELECTION

- a. The CTDM-860 can demodulate audio and video signals from any CATV channel from 2 to 135 or any Off-Air channel from 2 to 69 in the 54MHz to 860MHz frequency range. For example, assume Off-Air channel 8 needs to be demodulated and reassigned to CATV channel 35. In this example the CTDM-860 would be set to channel 8.
- b. Using the **Set Mode button** set the mode to **Standard CATV** unless the source is HRC, IRC, or TV.
- c. Push the **Channel Up/Down button** to select appropriate channel to be demodulated.
- d. Go to the **modulator or other source.**
- e. Set the modulator to **CATV mode.**
- f. Set the channel on the modulator to the appropriate channel. Using the above example, the modulator channel is set to channel 35.

## 7. ADJUSTMENT

- a. RF input level should be 8 dB for optimum performance.
- b. Audio level setting from the CTDM-860 should be 0 dB. Adjust as necessary.
- c. Video level setting from the CTDM-860 should be 140 IRE or 1 V peak-to-peak. Adjust as necessary.
- d. If the CTDM-860 audio and video levels are in spec, but audio volume and video brightness need adjustment then those adjustments should be made at the modulator, not the CTDM-860.

## 8. TROUBLESHOOTING

- a. Ensure you are using quality multiple shielded cables with quality radial or compression F-connectors. It is recommended Belden 9167 cable be used to prevent signal ingress or egress.
- b. Ensure the F-connector's center conductor is making solid contact with the CTDM-860's **Video Output, Audio Output, and RF Input ports**.
- c. Make sure the appropriate mode is selected using the **Set Mode button**.
- d. If the CTDM-860 is not receiving power make sure the power cable is firmly connected. Be sure the power source is properly rated to handle the CTDM-860's load especially if other equipment is being powered by that same source.
- e. Further troubleshooting assistance can be found on-line at [www.cabletronix.com](http://www.cabletronix.com) in addition to support from Cabletronix sales engineers at 1-610-429-1511.

This is a notice to inform you that content passing through this device may contain strong language or depictions of violence, sex, or substance abuse. This unit contains not parental control features. Parental discretion is advised.