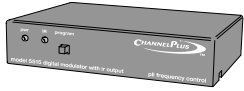


# CPDM-1 **Linear** ACCESS

## Digital Modulator



Converts the access system's camera video signal to a UHF or CATV channel television signal

### Installation Instructions

# Linear

(760) 438-7000 • FAX (760) 438-7043  
USA & Canada (800) 421-1587 & (800) 392-0123  
Toll Free FAX (800) 468-1340  
www.linearcorp.com

### PRODUCT DESCRIPTION

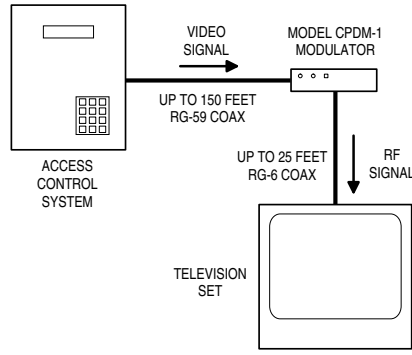
The Model CPDM-1 Digital Modulator converts any baseband NTSC video and audio signal to a selected UHF or Ultraband CATV channel. A quartz crystal reference oscillator and PLL circuitry ensure drift-free performance.

The modulator can be used to convert video signals from Linear's access control systems to UHF or CATV signals that can be viewed on a standard television set at the installation.

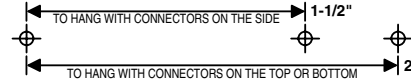
The output channel number is selected using the PROGRAM button. A television connected to the modulator's output will receive the signal when the television is tuned to the modulator's programmed channel.

**NOTE:** Linear's access control systems can provide video signals for the modulator from the system's camera. Audio signals from the system's camera are NOT available.

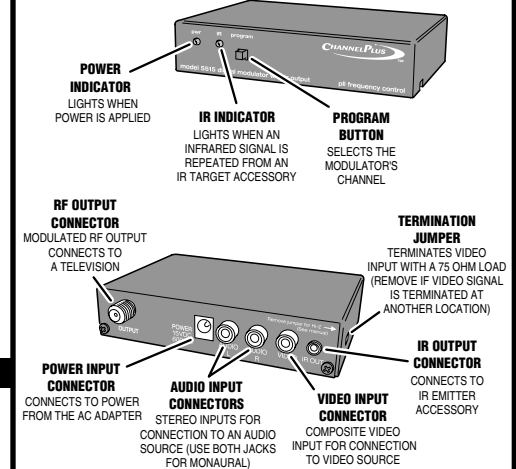
### TYPICAL INSTALLATION



### MOUNTING TEMPLATE

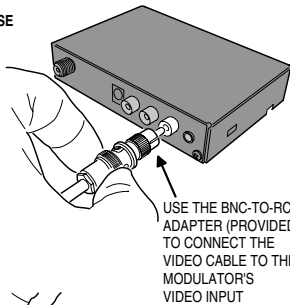


### COMPONENT LOCATIONS



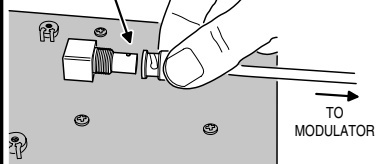
### CONNECT MODULATOR VIDEO INPUT

FOR THE VIDEO SIGNAL, USE RG-59 COAX CABLE WITH BNC CONNECTORS ON EACH END



CONNECT THE CABLE TO THE VIDEO OUTPUT JACK ON THE ACCESS CONTROL SYSTEM

USE THE BNC-TO-RCA ADAPTER (PROVIDED) TO CONNECT THE VIDEO CABLE TO THE MODULATOR'S VIDEO INPUT



### CONNECT MODULATOR OUTPUT & POWER

FOR THE RF SIGNAL, USE RG-6 COAX CABLE WITH "F" CONNECTORS ON EACH END

CONNECT RG-6 COAX TO THE MODULATOR'S OUTPUT CONNECTOR

CONNECT THE OTHER END OF THE RG-6 COAX TO THE TELEVISION SET OR DISTRIBUTION SYSTEM

INSERT THE AC ADAPTER PLUG INTO THE MODULATOR'S POWER CONNECTOR

PLUG THE AC ADAPTER INTO AN UN-SWITCHED AC OUTLET

### PROGRAM MODULATOR CHANNEL

VALID CHANNELS:  
UHF CHANNELS 14-46  
CATV CHANNELS 65-125

INVALID CHANNELS:  
CATV CHANNELS 95-99

**EXAMPLE FOR CHANNEL 67:**

- PRESS PROGRAM BUTTON SIX TIMES
- WAIT FOR POWER INDICATOR TO LIGHT
- PRESS PROGRAM BUTTON SEVEN TIMES
- WAIT FOR POWER INDICATOR TO LIGHT
- DONE

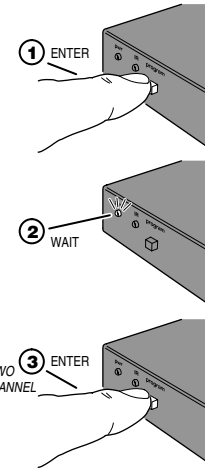
**EXAMPLE FOR CHANNEL 120:**

- PRESS PROGRAM BUTTON ONE TIME
- WAIT FOR POWER INDICATOR TO LIGHT
- PRESS PROGRAM BUTTON TWO TIMES
- WAIT FOR POWER INDICATOR TO LIGHT
- PRESS PROGRAM BUTTON TEN TIMES (PRESSING TEN TIMES EQUALS "ZERO")
- WAIT FOR POWER INDICATOR TO LIGHT
- DONE

**NOTES:**

SELECT A CHANNEL THAT IS AT LEAST TWO CHANNELS AWAY FROM AN EXISTING CHANNEL

IF AN INVALID CHANNEL IS ENTERED, THE POWER LED WILL FLASH FOR ONE SECOND, THEN THE MODULATOR WILL RETURN TO THE PREVIOUS SETTING

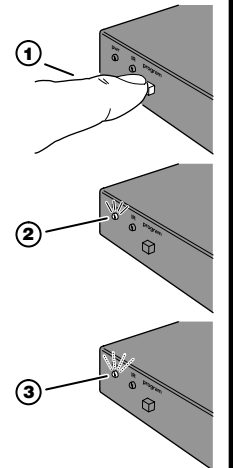


### DISPLAY THE MODULATOR CHANNEL

PRESS AND HOLD PROGRAM BUTTON WHILE APPLYING POWER

RELEASE THE PROGRAM BUTTON WHEN THE POWER INDICATOR LIGHTS

THE POWER INDICATOR WILL BLINK TO COUNT THE PROGRAMMED CHANNEL NUMBER (10 BLINKS EQUALS NUMBER "0")



### TROUBLESHOOTING

#### NO PICTURE

Verify that the video source is on and is producing a video signal. Check that the TV and the modulator are tuned to the same channel. For example, if the modulator is broadcasting on UHF channel 16, make sure the TV is on UHF 16 rather than CATV 16. UHF 16 and CATV 16 are at different frequencies.

#### WEAK MODULATOR UHF CHANNEL

If the TV has a separate UHF input, be sure that it is connected.

#### HERRINGBONE INTERFERENCE ON MODULATOR CHANNEL (DIAGONAL LINES)

You may have chosen a channel number that is not completely vacant. Distant UHF stations may be un-watchable, but will cause interference if you try to create a new channel at the same frequency. Also, cable companies often have extra signals where there should be none. Try moving the modulator channel to another number. You may have to add a low pass filter to remove cable company noise.

#### HERRINGBONE INTERFERENCE ON MANY CHANNELS (DISAPPEARS WHEN YOU REMOVE THE MODULATOR)

The high output of the modulator can overdrive many RF amplifiers. Reduce the RF output using an attenuator.

#### NO COLOR ON MODULATOR CHANNEL

You may have chosen the incorrect cable standard. Not all televisions can accommodate the 1.25 MHz frequency difference between H and I cable standards. See the next step.

### SELECTING HRC OR IRC FREQUENCIES

#### CHANGING MODULATION STANDARDS

Most cable services use IRC frequency assignments. This is the default setting for the modulator. However, if the cable service uses HRC or the TV appears to search for the "house channels", the modulator can be reprogrammed to use HRC assignments.

#### TO SELECT HRC FREQUENCIES

ENTER: **98**

BEFORE PROGRAMMING THE MODULATOR CHANNEL

#### TO SELECT IRC FREQUENCIES

ENTER: **99**

BEFORE PROGRAMMING THE MODULATOR CHANNEL

### SPECIFICATIONS

INPUTS	VIDEO	1 V p-p @ 75 Ω	
	AUDIO	1 V rms @ 47 KΩ	
VIDEO PERFORMANCE	DIFFERENTIAL GAIN	4%	
	DIFFERENTIAL PHASE	<4°	
	SIGNAL/NOISE	55 dB	
	STANDARD	UHF	CATV
RF OUTPUT	CHANNEL RANGES	14-64	65-125 (EXCLUDING 95-99)
	OUTPUT LEVEL	+25 dBmV (90dBuV)	
	IM DISTORTION	-60 dBC	
POWER SUPPLY	ALTERNATE CHANNEL	-45dBC @ 12 MHz	
	OUTPUT CURRENT	600 mA	
	OUTPUT VOLTAGE	15 VDC	
	INPUT VOLTAGE	105-125 VAC	
PHYSICAL	POWER CONSUMPTION	5 WATTS	
	HEIGHT	1.0 in (2.5 cm)	
	WIDTH	4.6 in (11.7 cm)	
	DEPTH	3.2 in (8.1 cm)	
	WEIGHT	9.6 oz (0.273 kg)	

### LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. This warranty extends only to wholesale customers who buy direct from Linear or through Linear's normal distribution channels. Linear does not warrant this product to consumers. Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. There are no obligations or liabilities on the part of Linear Corporation for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstatement. All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. This Linear Corporation Warranty is in lieu of all other warranties express or implied. All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Service at 1-800-421-1587 for an RPA# and other important details.

#### FCC NOTICE !!!

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 undesired 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 15.56 dBmV 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 -51 dBmV at the antenna input port. Federal Regulation 47CFR15.115(c)(4).