E2200IR
E3200IR
E4200IR
E Series Modulators With IR Repeating

CHANNEL VISION™

The **E2200IR**, **E3200IR**, & **E4200IR** are 2, 3, & 4-input RF modulators that create user selectable TV channels from standard composite video signals. In addition to creating a whole-house audio video system, these units also provide an integrated IR repeating system that runs over the same coax that delivers video to your TV set.

Features:
- LED display for easy setup
- 25dBmV output
- Integrated IR engine creates a coax-based IR system
- IR emitter outputs
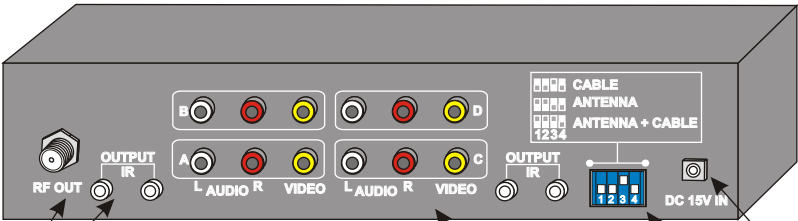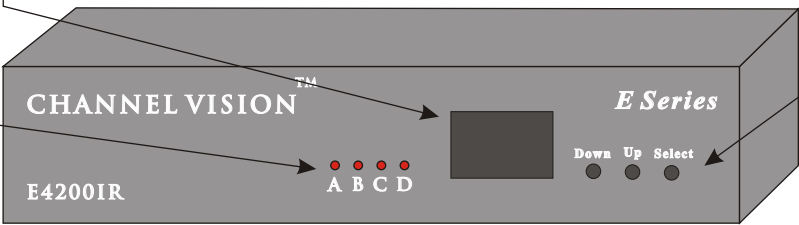- Simple installation and setup

LED Display...
Shows the channel number of the selected input.

LED Display...
Shows the channel number of the selected input.

Programming Buttons...
Used to set the desired input to a specific channel..

Audio/Video Inputs...
Connect sources here.
IR Outputs...
Connect IR emitters here.
RF Output...
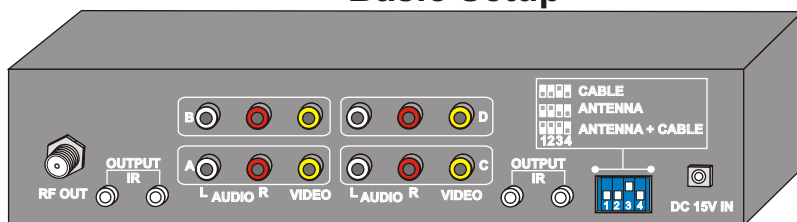Connect to video distribution system.
Programming Switches...
Used to set the channel mode of the modulator.
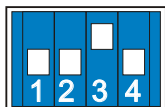**Power Input...**
Connect Power supply here.

Note: E4200 shown for reference only, E2200 & E3200 are similar.
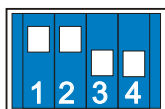
Basic Setup

Dip Switch Settings

Remove power before changing switch settings.

Cable settings... channels 65-135
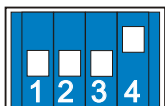Switches 1, 2, & 4 are down, switch 3 is up.
Use this setting if the modulator will be installed on a system that is distributing cable TV.

Antenna settings... channels 14-78
Switches 1 and 2 are up, switches 3 and 4 are down.
Use this setting if the modulator will be installed on a system that is distributing signals from an antenna.
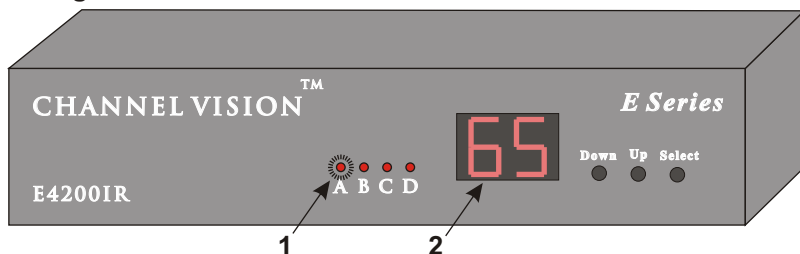

Antenna + Cable settings...
Switches 1,2, and 3 are down, switch 4 is up.
This is rarely used, but it allows the modulator to be programmed to antenna channels 14-39 and cable channels 91-135 simultaneously.

Note: Cable channels 95-99 are excluded from all programming modes

Setting The Channel Number

1. Press the *Select* button until the LED indicator is illuminated for the input you wish to set. The LED display will show the current channel setting.

2. Press and hold the *Select* button until the LED indicator begins to blink. While it is blinking press the *Up* or *Down* button until the desired channel is shown in the LED display. Press the *Select* button again to set then next input to a new channel. If no button is pressed for 2 seconds, the modulator will exit the programming mode.

Note: Do not program the modulator to consecutive channels, this will cause poor picture quality. Skip at least one channel between your selections. For example: 65, 67, 69, 71 would be OK.

Basic Application

Sat Receiver

VCR

From Cable TV or Antenna feed

Camera

Camera

HS-2 Combiner
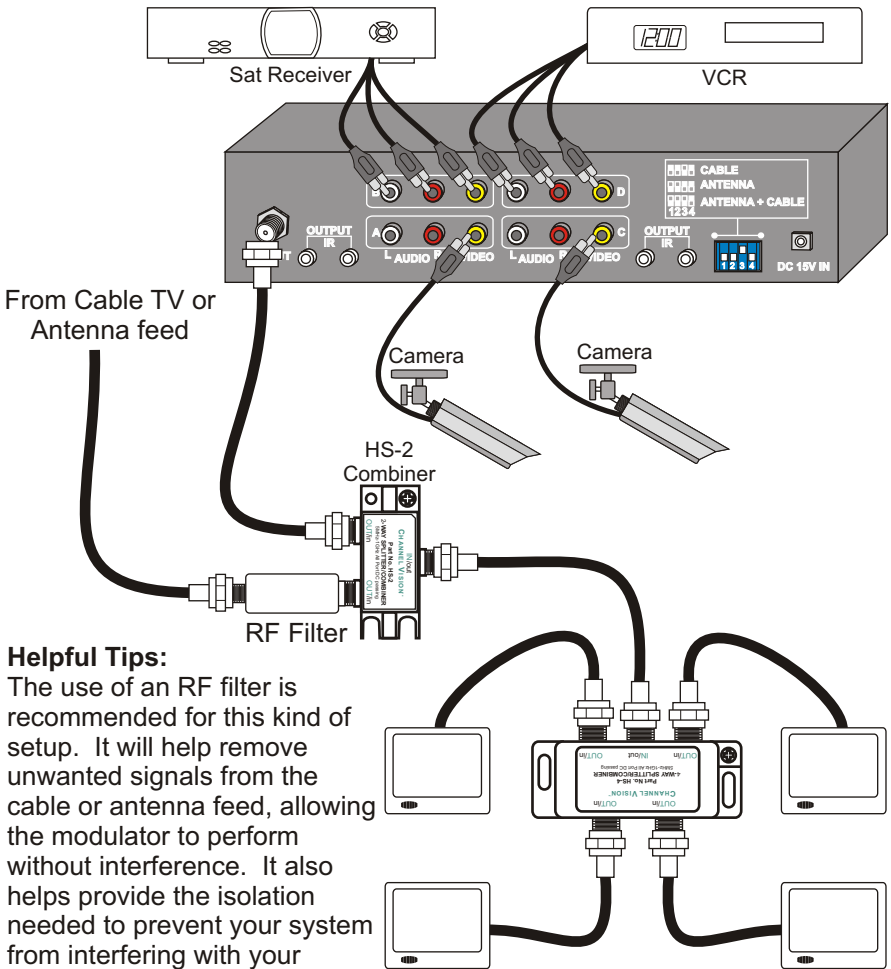
RF Filter

Helpful Tips:
The use of an RF filter is recommended for this kind of setup. It will help remove unwanted signals from the cable or antenna feed, allowing the modulator to perform without interference. It also helps provide the isolation needed to prevent your system from interfering with your neighbors TV reception.

Check the signal from your video sources to make sure you have a good picture before connecting to the modulator. Connect the RF output from the modulator as shown in the diagram above.

It is important to balance the RF signal levels before joining them together in the combiner. It may be necessary to amplify the cable/antenna signal to match it with the high output of the modulator. If the cable/antenna signal is too low in relation to the modulator, you will notice that the cable/antenna signal is degraded when the modulator is connected. Simply amplify the cable/antenna signal to resolve the problem.

Using IR repeating
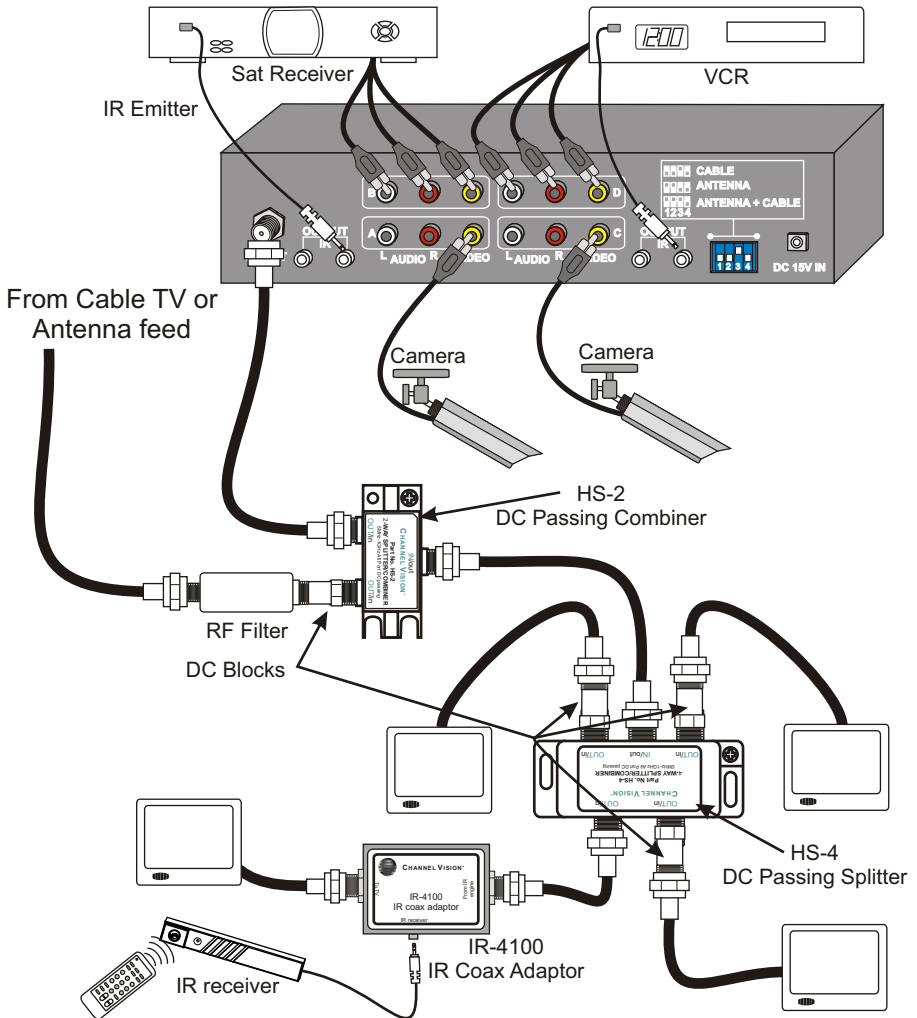
The modulator supports Channel Vision's IR over coax technology allowing up to 8 IR-4100 IR coax adaptors to be installed in the system. Standard IR receivers can be connected so that IR signals are transmitted back to the modulator where the IR emitters will flash the signals into the source devices. This enables you to control your source devices even though they are in a different room.

This IR system places 12Volts DC on the coax. DC passing splitters and DC blocks must be used as shown in the diagram. DC voltage should only be allowed to flow to locations that have an IR-4100 installed. If the system detects a short (or improper connection) it will shut off the IR voltage until the problem is corrected.

Using the P-0328

The P-0328 is a 2x8 remote controlled RF matrix switcher. It allows modulated signals and digital cable services to be distributed over the same coax without the use of filters.
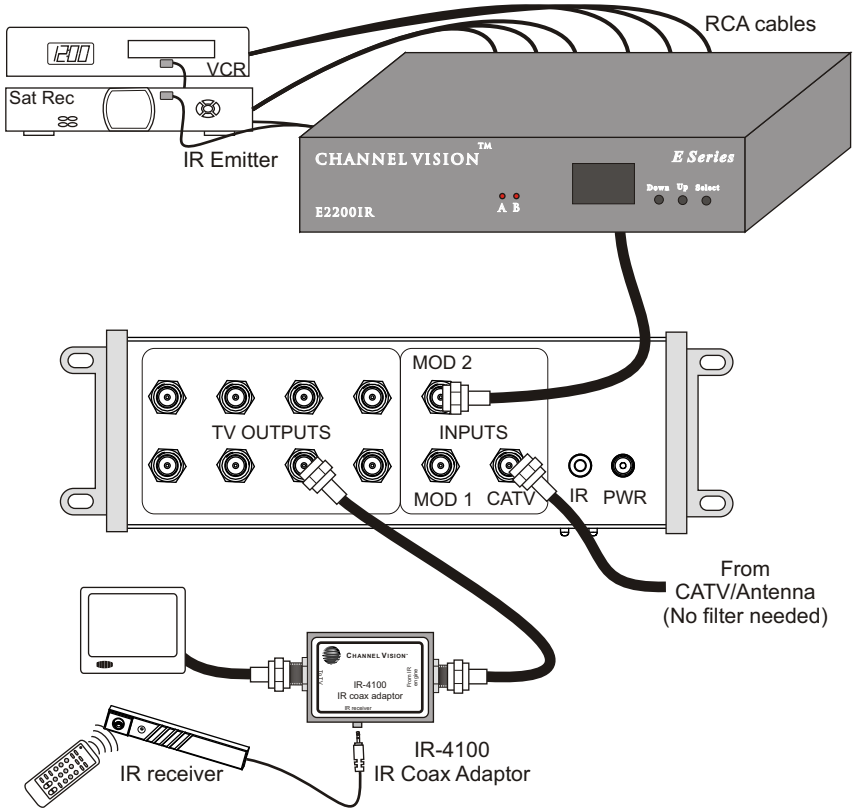
When the modulator is used with the P-0328 and IR-4100 it becomes a complete solution that allows IR control of the modulated sources and viewing of digital cable without making compromises.

From any TV location, simply use the P-0328 remote control to select the desired RF input. The switching intelligence in the P-0328 allows each TV location to choose between cable TV or modulated signals without affecting the other seven TV locations.

Troubleshooting

If your IR system is not working, check to see if the modulator's IR engine is feeding approximately 12 Volts DC onto the coax between the shield and center pin. (Any voltage between 8-12VDC is OK). If there is no voltage between the center pin and shield, check the connectors on each end of the coax.
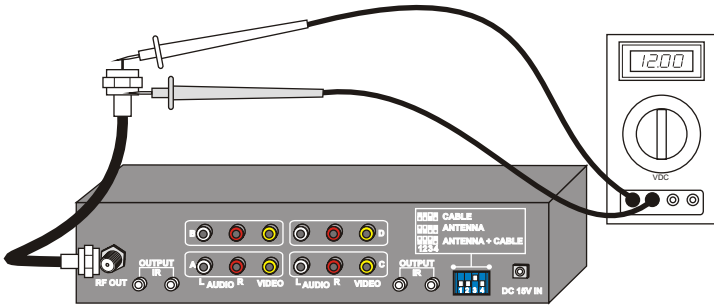
If you are trouble shooting a whole-house IR system and you measure approximately 8-12 Volts DC on the output of the Modulator, but 0 Volts DC on the output of your RF splitter, check the following items:

1. Make sure you are using a DC passing splitter. Traditional splitters will short out DC voltage traveling on the coax and prevent your IR system from working.

2. Make sure that there are DC blocks (model 3109) on any output from the RF splitter that will not be connected to an IR-4100. If outputs from the splitter are connected directly to TV sets without going through a IR-4100 or DC block, the system voltage will be shorted out by the input of the TV set.

3. Double check the fittings at the end of your coax cables. If a little bit of shielding is touching the center pin, the voltage will be shorted out and the system will not work.

Don't worry. The IR-4000 engine has a current limiting circuit. If the engine is shorted (due to a bad connection or a non-DC passing splitter) nothing will be harmed.

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Specifications

RF Modulator	PLL Synthesized Oscillator	**Spurious Output Rejection**	
Video	NTSC	Outside Carrier	+12MHz >70dBC
Audio	L&R summed Monaural	Inside Carrier	+12MHz >55dBC
RF Carriers		Isolation	Greater than 70dB
Freq. Stability	+50kHz	**Inputs**	
Freq. Range	UHF 471.25-855.25MHz	Video	0.4V-2.7Vpp adjustable
	Ultraband 469.25-859.25MHz	Audio	1V RMS
Channels	UHF 14-78, Ultraband 65-135	**Connectors**	
	(Excluding 95-99)	Video Inputs	RCA Female
Channel Width	6.0MHz	Audio Inputs	RCA Female
Audio Offset	4.5MHz + 5kHz(NTSC)	RF Output	F type Female
	5.5MHz + 5kHz(PAL-G)	IR Outputs	3.5mm
Sidebands	Double	**Transformer Input**	
RF Output		Input Voltage	120VAC, 60Hz
Minimum	=>20dBmV	Power	8 Watts
Video Output	1Vpp	Output Voltage	NTSC:
Audio Output	1V RMS	E2200IR/E3200IR	15VAC, 450mA
Video Performance		E4200IR	15VDC, 450mA
Differential Gain	Less than 2% (0.2dB)	**Exterior**	Metal case
Operating Temps	0-50 degrees C	**Display**	2 digit channel display
Signal/Noise Ratio	>52dB	**Dimensions**	
		Width:	7.88"
		Depth:	4.75" (excl. connectors)
		Height:	1.63" (excl. rubber feet)

2 Year Limited Warranty

Channel Vision Technology will repair or replace any defect in material or workmanship which occurs during normal use of this product with new or rebuilt parts, free of charge in the USA, for two years from the date of original purchase. This is a no hassle warranty with no mail in warranty card needed. This warranty does not cover damages in shipment, failures caused by other products not supplied by Channel Vision Technology, or failures due to accident, misuse, abuse, or alteration of the equipment. This warranty is extended only to the original purchaser, and a purchase receipt, invoice, or other proof of original purchase date will be required before warranty repairs are provided.

Mail in service can be obtained during the warranty period by calling (800) 840-0288 toll free. A Return Authorization number must be obtained in advance and can be marked on the outside of the shipping carton.

This warranty gives you specific legal rights and you may have other rights (which vary from state to state). If a problem with this product develops during or after the warranty period, please contact Channel Vision Technology, your dealer or any factory-authorized service center.

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