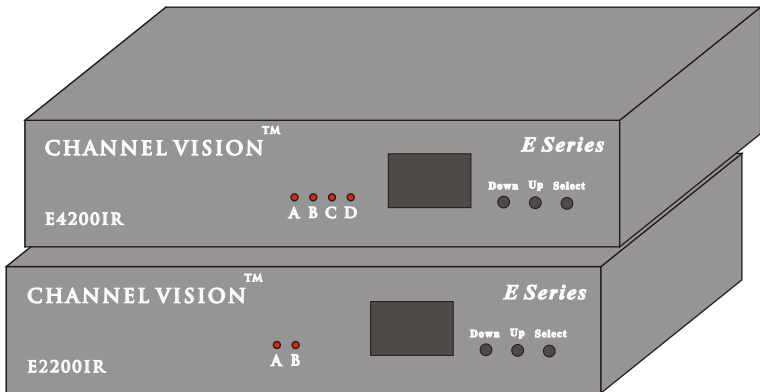


# INSTRUCTIONS



**E2200IR PAL**

**E4200IR PAL**

**E Series Modulators With IR Repeating**



CHANNEL VISION™

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The **E2200IR PAL & E4200IR PAL** are 2 & 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...**

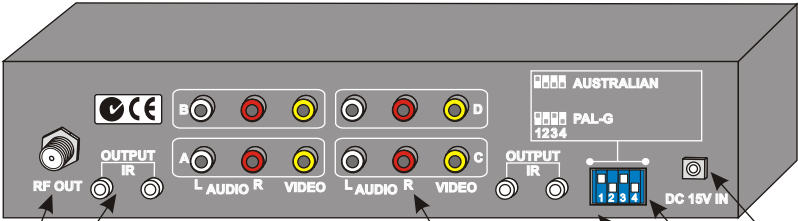
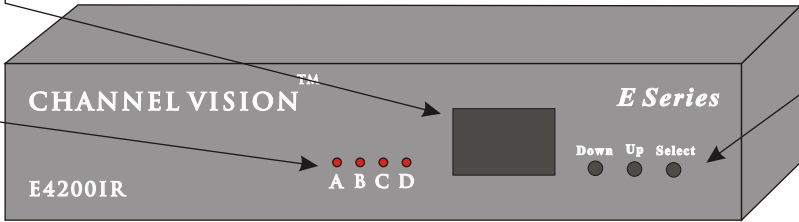
Shows the channel number of the selected input.

**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.

**Video Level Adjustment... (bottom of unit)**

Adjusts the level of composite video input signal.

**IR Outputs...** Connect IR emitters here.

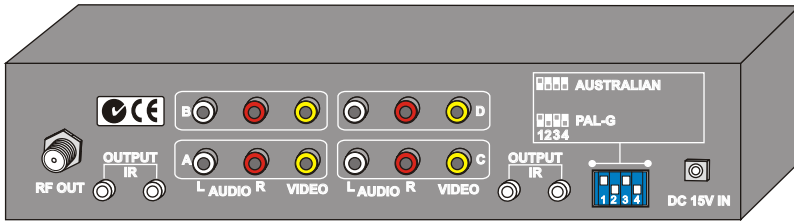
**RF Output...** Connect to video distribution system.

**Programming Switches...**

Used to set the channel mode of the modulator.

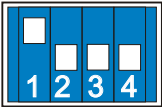
**Power Input...** Connect Power supply here.

# Basic Setup



## Dip Switch Settings

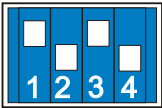
Remove power before changing switch settings.



### Australian settings... Channels 20-75

Switch 1 is down and switches 2,3, & 4 are up.

Use this setting if the modulator will be installed on a system that is located in Australian or New Zealand.

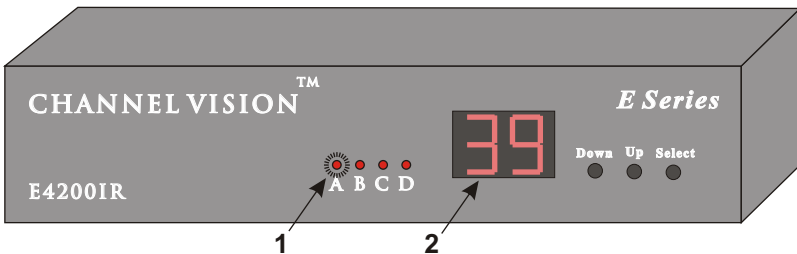


### PAL-G settings... Channels 21-69

Switches 1 and 3 are up, switches 2 and 4 are down.

Use this setting if the modulator will be installed on a system using the PAL G standard.

## Setting The Channel Number

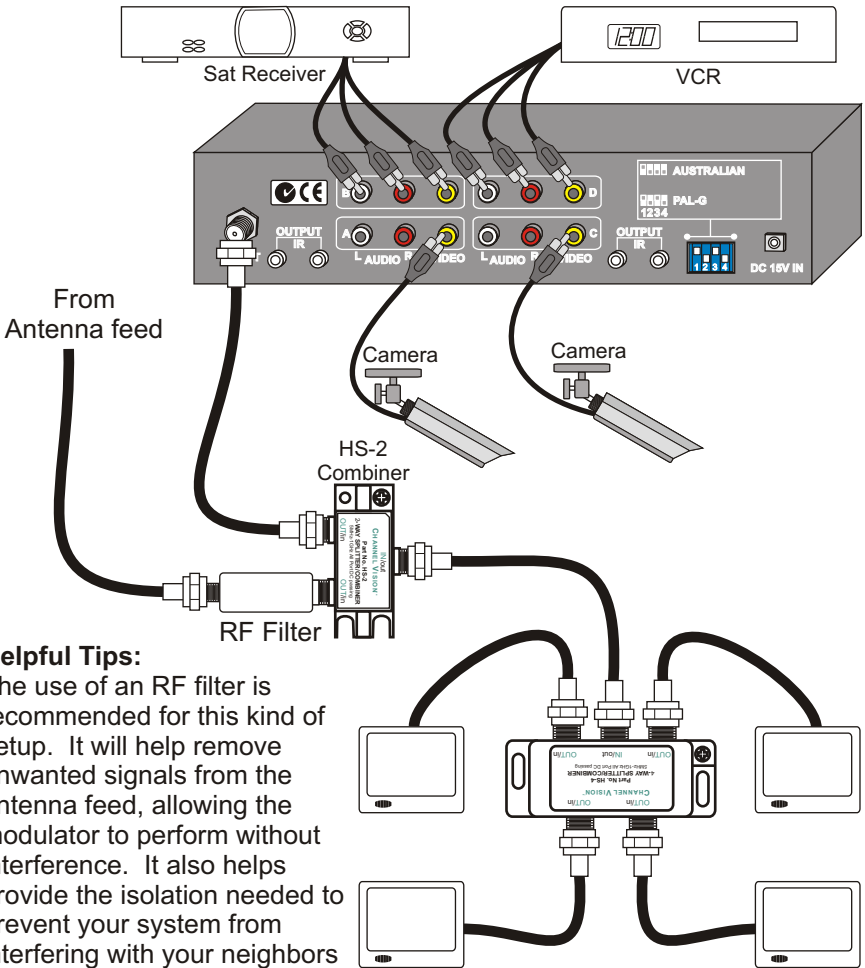


1. Press the **Select** button until the LED indicator is illuminated for the input you wish to set. The LED display will show the current channel setting.

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: 39, 41, 43, 45 would be OK.

# Basic Application



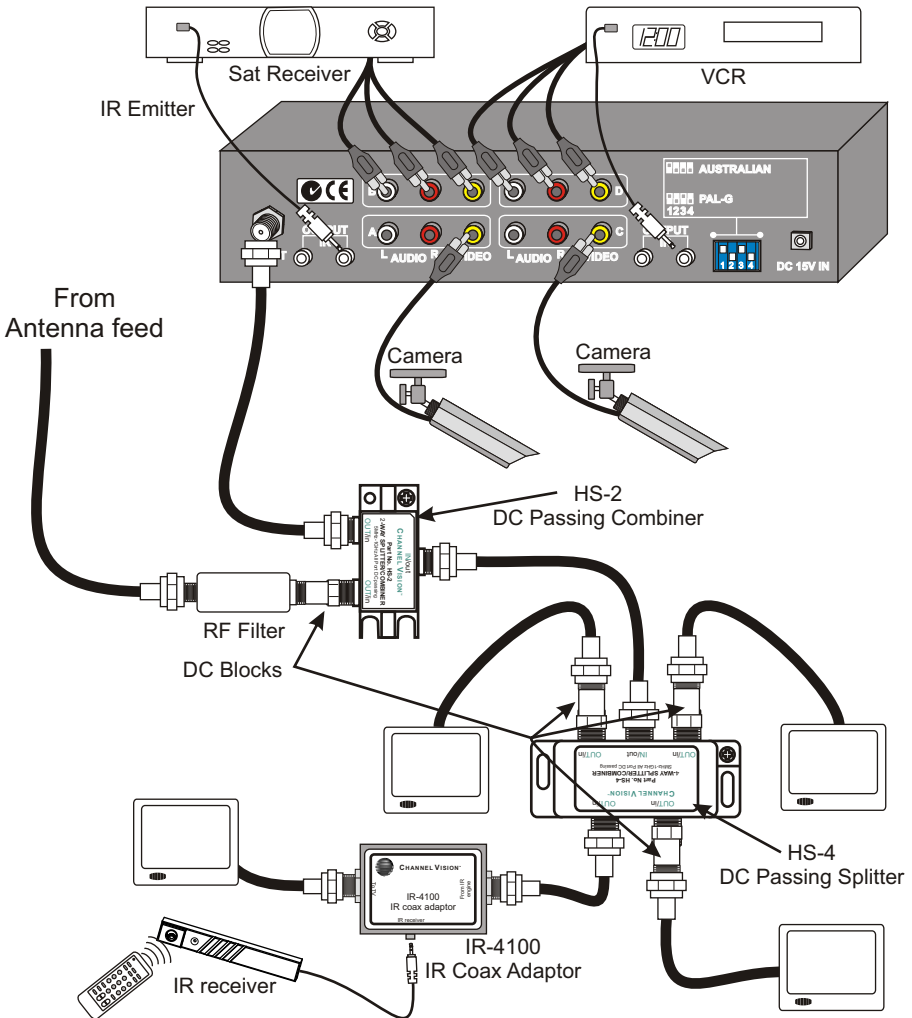
## Helpful Tips:

The use of an RF filter is recommended for this kind of setup. It will help remove unwanted signals from the 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 antenna signal to match it with the high output of the modulator. If the antenna signal is too low in relation to the modulator, you will notice that the antenna signal is degraded when the modulator is connected. Simply amplify the 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.

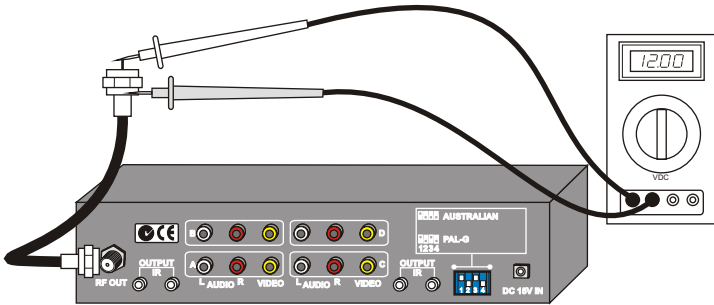
# Troubleshooting Video

If your modulated signal looks 'snowy' or if you don't see it at all, follow these steps to correct the problem.

1. If you are combining the modulator with the an antenna signal (as shown on pages 4 & 5) disconnect the antenna signal so that the modulator is the only signal in the system.
  - a. If this solves the problem, you will either have to change the channel you are modulating on to a truly empty channel or you will have to filter out the signals that are interfering with the modulator.
  - b. If disconnecting the antenna feed does not solve the problem, continue to step 2.
2. Connect the RF output of the modulator directly to the RF input of a TV (make sure the signal is not feeding through any unnecessary devices such as a VCR).
  - a. If this solves the problem, there is something wrong with your distribution system. Reconnect your distribution system one component at a time until you identify which piece is causing the problem.
  - b. If connecting directly to a single TV did not solve the problem, continue to step 3.
3. With the modulator still connected directly to the TV, make sure the TV tuner is set to the same mode as the modulator. TVs can be setup to work in various TV systems. For example, the frequency assignments for TV channels in Australia is different than in PAL systems. If the modulator is in Australia mode and the TV is in PAL mode, the signals will not be viewable. If the TV and modulator are in the same mode, but you still can't see the signal, you may need to perform an auto-program search with the TV. This is typically an option in the TV's setup menu. Before the channel search begins, the TV may prompt you to choose the type of input signal, choose the option that matched your modulator's setting (such as PAL).
  - a. If auto-programming finds the modulated channel, then reconnect the system. If you have further problems repeat steps 1 & 2.
  - b. If auto-programming does not find the channel or if it finds the channel and there is only a empty black screen, continue to step 4.
4. An empty black screen is usually an indication that there is no signal getting into the modulator. Verify that an active composite video signal is connected to the yellow RCA input jack on the modulator. An easy way to verify the composite video signal is to connect it directly to the yellow RCA input of a TV set.
  - a. If you do not have an active video signal, try another source. When you have verified that the composite video signal is active, reconnect it to the modulator and repeat step 3.
  - b. If there was no problem with composite video signal when you connected it directly to the TV, then call tech support for further assistance: 1-800-840-0288 or (714) 424-6500.

## Troubleshooting IR

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.



# CHANNEL VISION™

## Specifications

<b>RF Modulator</b>	PLL Synthesized Oscillator	<b>Spurious Output Rejection</b>	
Video	PAL	Outside Carrier	+12MHz >70dB
Audio	L&R summed Monaural	Inside Carrier	+12MHz >55dB
<b>RF Carriers</b>		Isolation	Greater than 70dB
Freq. Stability	+50kHz	<b>Inputs</b>	
Freq. Range	PAL-G 471.25-855.25MHz Australian 471.25-856.25MHz	Video	0.4V-2.7Vpp adjustable
Channels	PAL-G 21-69 Australian 20-75	Audio	1V RMS
Channel Width	PAL-G 8MHz, Australian 7MHz	<b>Connectors</b>	
Audio Offset	5.5MHz ± 5kHz	Video Inputs	RCA Female
Sidebands	Double	Audio Inputs	RCA Female
<b>RF Output</b>		RF Output	F type Female
RF Carrier	25dBmV	IR Outputs	3.5mm
Video Output	1Vpp	<b>Transformer Input</b>	
Audio Output	1V RMS	Input Voltage	240VAC, 50Hz
Video Performance		Power	8 Watts
Differential Gain	Less than 2% (0.2dB)	Output Voltage	15VDC, 450mA
Operating Temps	0-50 degrees C	<b>Exterior</b>	Metal case
Signal/Noise Ratio	>52dB	<b>Display</b>	2 digit channel display
		<b>Dimensions</b>	
		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.



**CHANNEL VISION™**  
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