

Specifications: typical @ 25°C ± 5° C			
	9510 (B&W)	9510PAL(AUS)	9520 (Color)
lens viewing angle	78°		
resolution: horizontal	525 lines	625 lines	525 lines
vertical	350 lines	350 lines	350 lines
standard lens cover:	smoked		
minimum light level	2 lux	2 lux	8 lux
video input format	EIA	CCIR	NTSC
input signal	1.0 V peak-to-peak @ 75Ω		
signal-to-noise ratio	>45 dB		
white balance	automatic		
electronic shutter speed	automatic: 1/60 to 1/50,000 second		
tuning range UHF	14 to 64	21 to 62(28 to 67)	14 to 64
CATV	65 to 125 <sup>A</sup>		65 to 125 <sup>A</sup>
power supply	included with product		
mains power	105 to 125	210 to 250	105 to 125
output of power supply	15VDC 600mA		
general	injector module	camera module	
width x height x depth	6.5" x 3.5" x 1.25" (16.3cm x 9cm x 3.2cm)	3.25" x 3.25" x 1.5" (8.2 cm x 8.2cm x 3.8cm)	
shipping weight	2 lbs (0.9 kg)		
operating temperature	-4°F to 131°F (-20°C to 55°C)		
<sup>A</sup> excluding channels 95 through 99			

## WARRANTY

Multiplex Technology, Inc. warrants this product to be free from defects in materials and workmanship for a period of one year from the date of purchase or MTI will repair, or at its option, replace the defective product. To obtain warranty service, call MTI for a return material authorization (RMA) number and return the product pre-paid

Attention: Customer Service. Please put the RMA number on the outside of the carton.

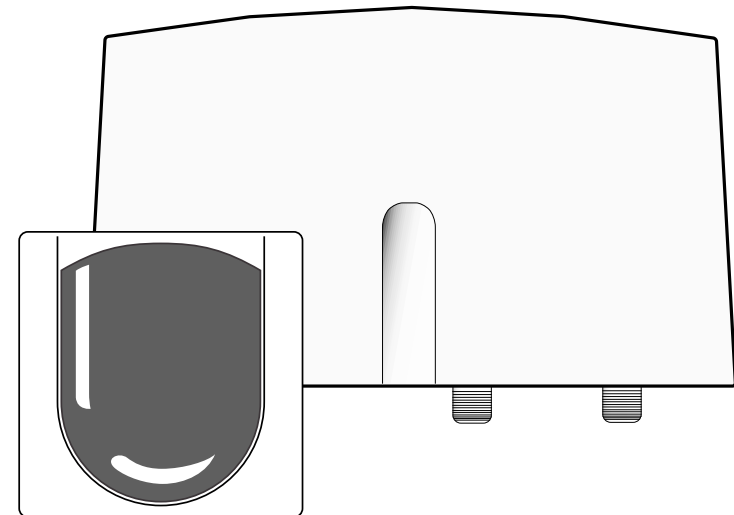
Any implied warranty arising from the sale of the product including implied warranties of merchantability and fitness for purpose are limited to the warranty stated above. MTI shall not be responsible for losses or damages or expenses, whether direct, consequential or incidental arising from the use of or the inability to use this product. Some states do not allow limitations on how long the implied warranty lasts or the exclusions or limitations or incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which may vary from state to state.

# Channel Plus<sup>®</sup>

PERFORMANCE MULTI-ROOM VIDEO

# Cat Cam<sup>™</sup>

## 9500 Series



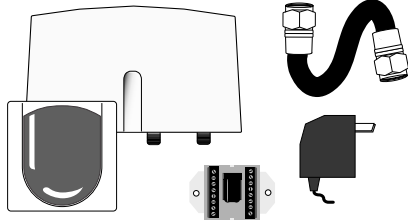
## Models

9510HHR B&W  
 9520HHR Color  
 9510BID B&W  
 9520BID Color  
 9510PAL B&W

 **multiplex<sup>®</sup>**  
**technology, inc.** 

The CatCam is a surveillance system that creates a new channel to add to existing television channels. The new channel carries a picture from the camera that is placed anywhere in the home. The CatCam was designed to install effortlessly into existing coax home wiring or into new construction.

**Contents:** Channel Injector  
Camera  
Power Injector  
Power Supply  
Coax Jumper



The CatCam is comprised of a camera and a channel injector. The camera is designed to flush mount indoors or outdoors (under an eaves and not directly exposed to the elements) using a deep double gang J box. The channel injector is weather resistant and designed to mount indoors or outdoors close to the incoming CATV or antenna feed. The system uses the existing coax cable distribution in the house.

The CatCam was designed to work with Cat 5 wiring. Although the system will function with quad wire, Cat 5 delivers the highest quality picture. The Cat 5 allows the use of an automatic line length sensor and picture compensator. Quad wire does not take advantage of this enhancement.

**Model Differences:**

The model **9500HHR series** is a high headroom design for CATV and off air antenna feeds only.

The model **9500BID series** is a bi-directional design for use with CATV cable boxes that are interactive or require bi-directional communications with the cable company.

The model **9510PAL** is designed to modulate PAL frequencies and use CATV or off air antenna feeds.

**Installation:**

First, locate the incoming CATV or antenna feed and install the channel injector at that location.

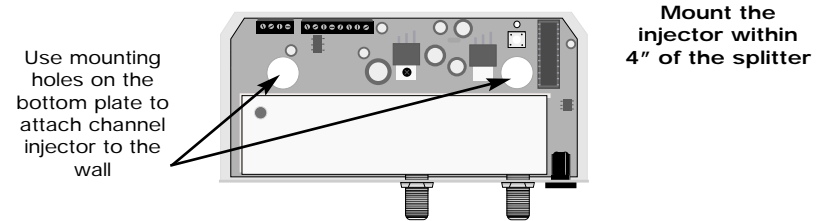
Second, install the camera at the desired location and run Cat 5 wire from the camera to the channel location.

Third, apply power and select an unused channel for the CatCam picture to appear on all the televisions.

**Installation: Step One**

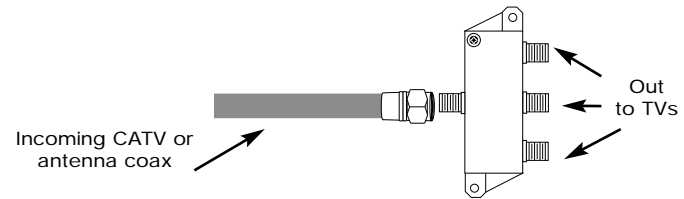
Locate the incoming CATV or antenna feed and existing splitter. (Usually found on the side of the house, in the attic or near the electrical and phone service box)

Remove the lock screw located on the bottom of the channel injector and slide the cover off. Use the mounting holes as shown to affix the channel injector to the wall next to the splitter.



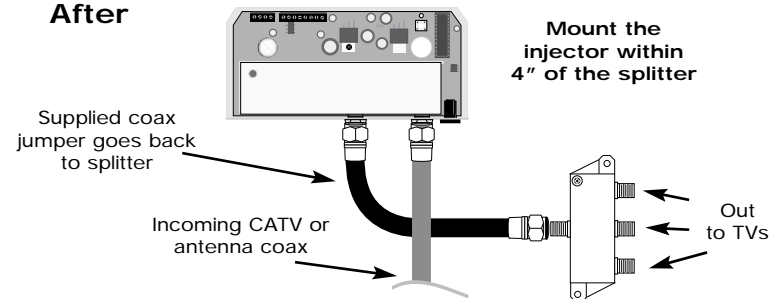
Disconnect the incoming CATV or antenna feed from the existing splitter and attach it to the channel injector as shown.

**Before**



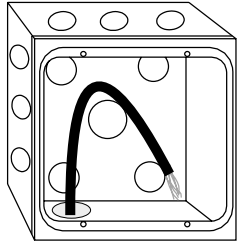
Now attach the supplied coax jumper back to the existing splitter and tighten all connections with a 7/16" wrench.

**After**



## Installation Step Two

The camera mounts using a deep double "J" box. Run a line of Cat 5 wire from the camera to the channel injector and connect wires as shown.



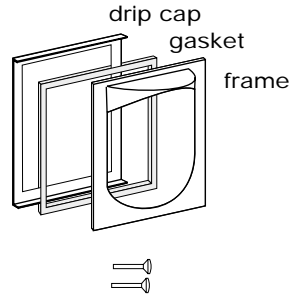
prepare the Cat 5 wires by stripping 1" of outer sheath and 1/8" of insulation



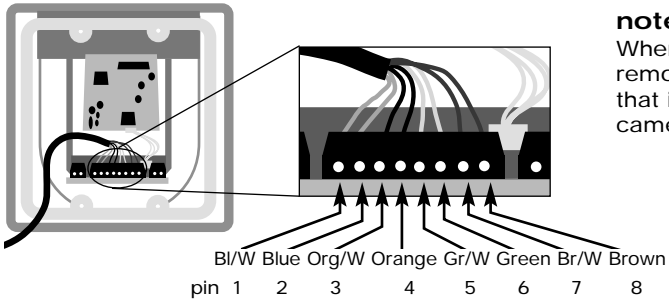
attach drip cap, gasket and frame

insert the 6-32 screws into frame and bottom holes of gang box

Note: bottom of lip on drip cap goes inside frame. You may have to rotate drip cap 180°

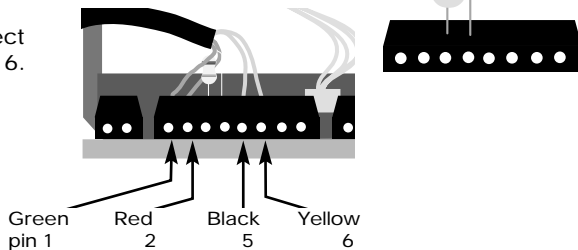


Attach Cat 5 wire to camera following color coding.

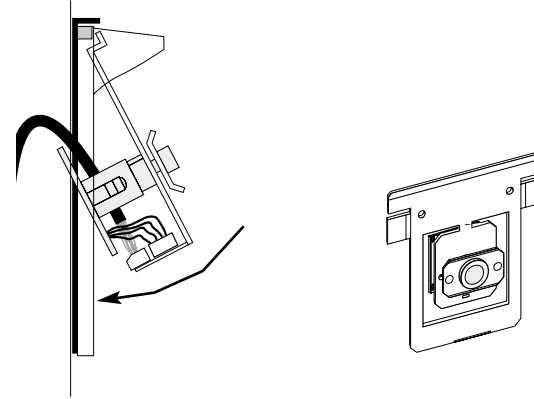


**note:**  
When using Cat 5 wire remove the default resistor that is in pins 3 and 4 of the camera

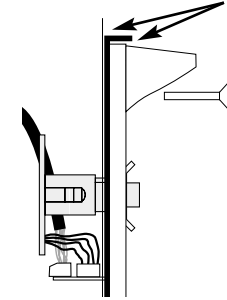
**note:**  
When using quad wire connect wires only to pins 1, 2, 5 and 6. Leave the resistor in place at pins 3 and 4.



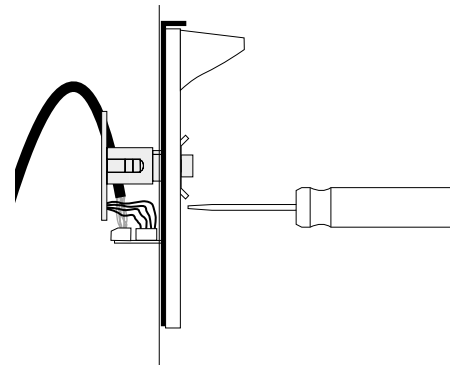
"Hook" camera mount over the gasket and rotate into place.



Apply RTV to seal from weather. Add top screws.

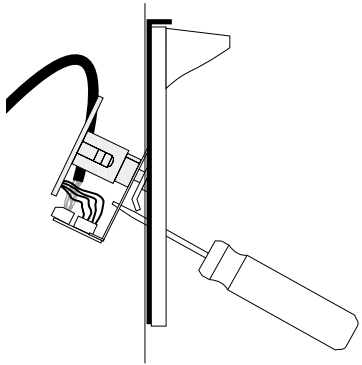


## Aiming the camera



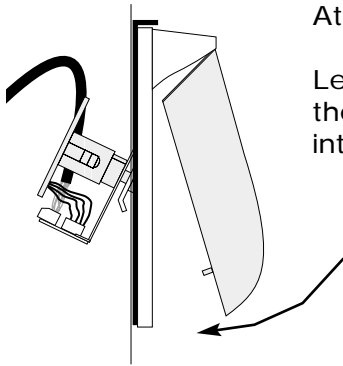
Insert a 1/8" screw driver in the steering slot below the lens. Using the screwdriver, bend the mount to the point camera in the desired direction. **Never use the camera to bend the mount.** continued on page 6

Bend camera angle to give the best coverage for the given height of camera placement.



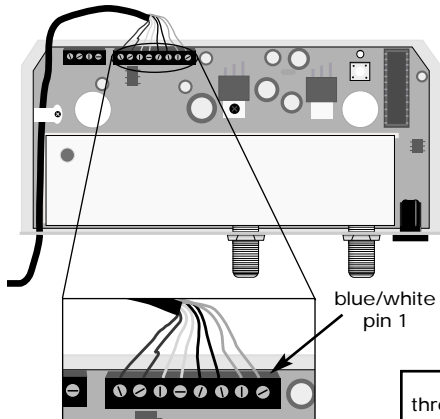
Attach the lens cover.

Lens cover rides on lip of frame then rotates downward and snaps into place.

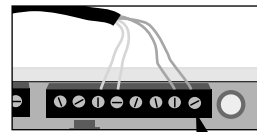


### Channel Injector wire connection:

At the channel injector, connect Cat 5 wire as shown. Follow the color coding on the screw terminal.



When using only quad wire use positions 1, 2, 5 and 6 and follow color coding.



blue/white pin 1

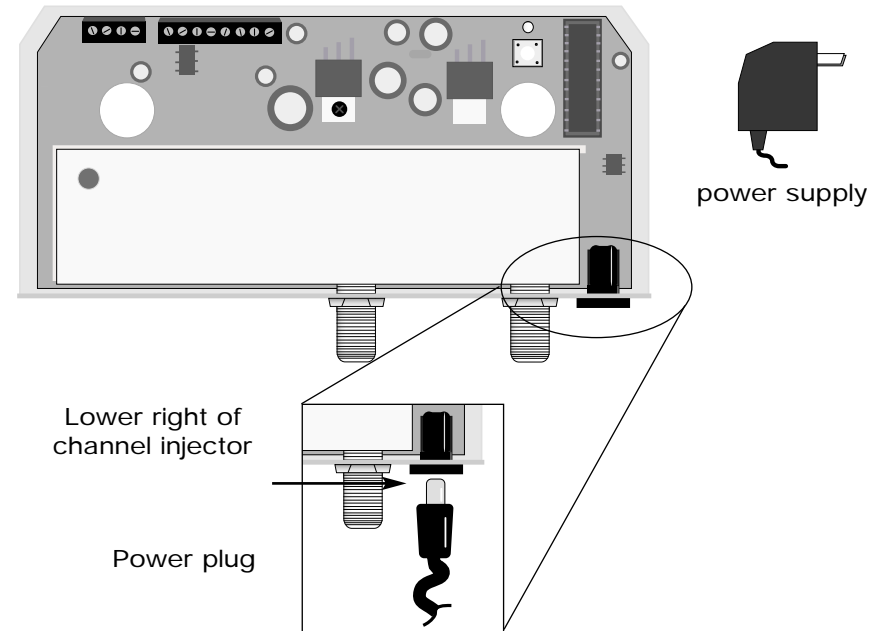
run the Cat 5 wire through the grommet at the bottom of the injector

## Applying Power and Programming Step Three

The 9500 series has three different methods for applying power to the system.

**Use only one method for applying power.**

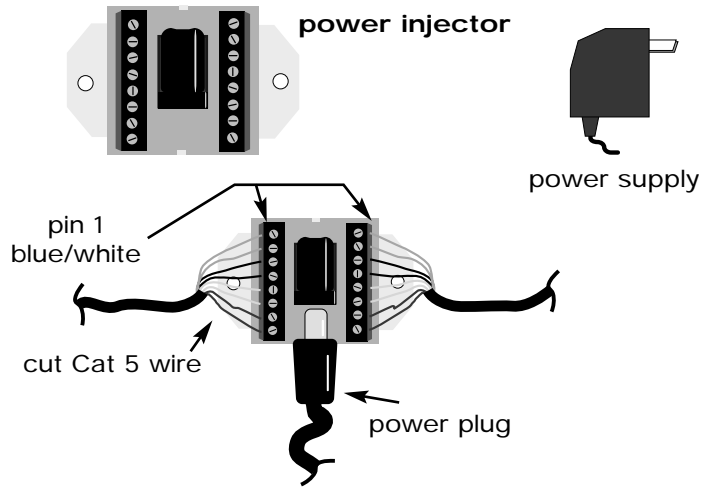
**Method One:** Apply power directly to the channel injector with the power supply.



The green LED in the upper right corner of the injector will be lit showing power is active.

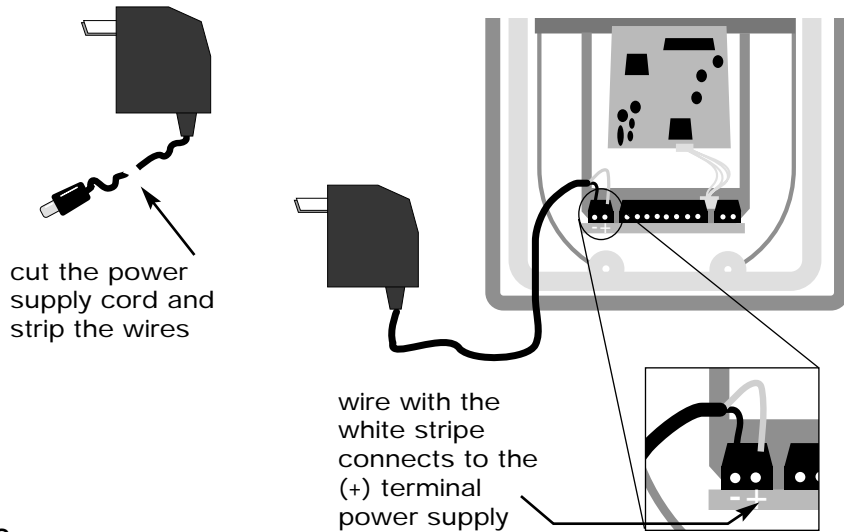
**(See power length requirements page 9)**

**Method Two:** Use the *power injector* to apply power along the Cat 5 or quad wire run. Cut the connecting wire along the run and insert the power injector. Connect the wires using the color coding. Then plug the power supply into the power injector.



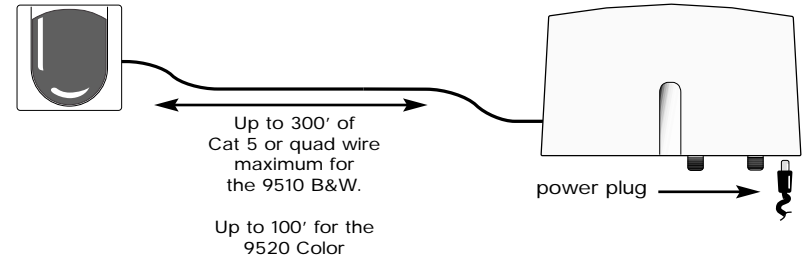
The green LED in the upper right corner of the channel injector will be lit showing power is active.

**Method Three:** Apply power directly at the camera.



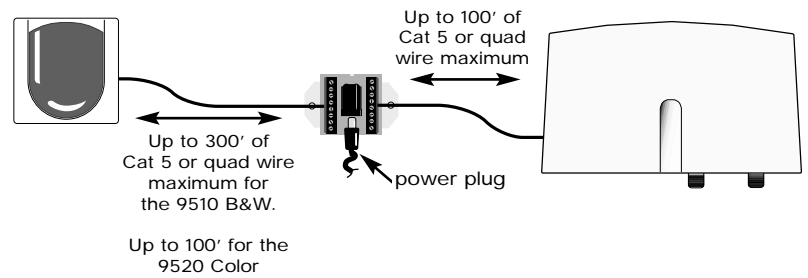
**Power Length Requirements**

Method One



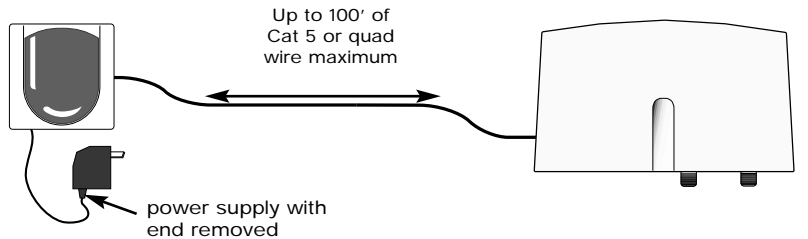
**Power Length Requirements**

Method Two



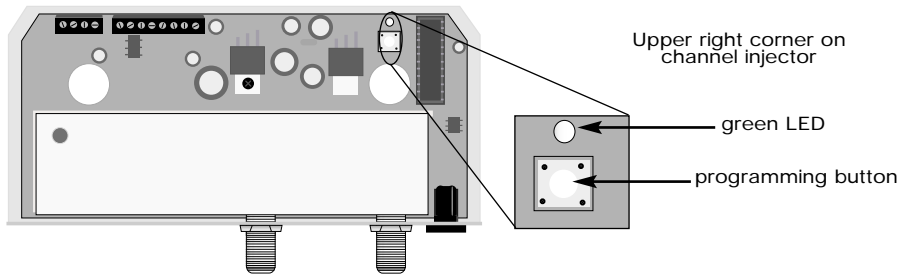
**Power Length Requirements**

Method Three



## How to Program

Determine which unused channel you want to view your video source on and program the injector for that channel. There must be one unused channel both before and after the selected channel to avoid interference. The new channel will be combined with the existing channels and appear on all televisions.



### To program: For example channel 60

- 1: Press the button 6 times.
- 2: Wait for the LED to relight.
- 3: Press the button 10 more times (pressing 10 times enters "0").

The injector will now combine the camera feed on channel 60 with all other existing channels from the incoming CATV or antenna.

### To program a three digit channel: For example channel 120

- 1: Press the button 1 time.
- 2: Wait for the LED to relight.
- 3: Press the button 2 more times.
- 4: Wait for the LED to relight.
- 5: Press the button 10 more times.

## Finding Unused Channels

**CATV:** Determine the highest channel number delivering a picture, excluding 95-99. Tune the TV up one channel at a time from the last channel with a picture until finding one channel with no trace of a picture or interference, just snow.

**Antenna:** Tune the TV one channel at a time from channel 14-64. Locate one channel that has no trace of a picture or interference, just snow.

## Programming a New Channel

**Valid channels are 14 thru 64 for UHF and 65 thru 125 for CATV. Channels 95-99 are not available. Channels 21 thru 62 are for Pal.**

### Channel Spacing:

Skip at least one number between the new channel and the closest existing UHF/CATV channel.

(example 14 and 16: OK 14 and 15: Unacceptable)

### Error Indication:

If an error occurs or an incorrect channel is entered, the LED will flash quickly for one second and return to previous settings.

### Cable HRC and IRC considerations:

Most cable services use IRC frequency assignments. This is the default for the 9500. However, if the cable services uses HRC or the TV appears to search for the "created channel", program the channel injector for HRC.

**For HRC enter 98. Reset to IRC by entering 99.**

**Entries 98 and 99 are for setting HRC or IRC only. They will not change the channel number.**

With programming complete, test each TV in the system to see that it is receiving the new channel.