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[A]		65 to 125[A]
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″	3.25″ x 3.25″ x 1.5″	
	(16.3cm x 9cm x 3.2cm)	(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)	

[A] excluding channels 95 through 99

WARRANTY

600-126 Rev.B   ©1999 Multiplex Technology, Inc., Brea, Ca.

ChannelPlus ®

PERFORMANCE MULTI-ROOM VIDEO

CatCam ™

9500 Series
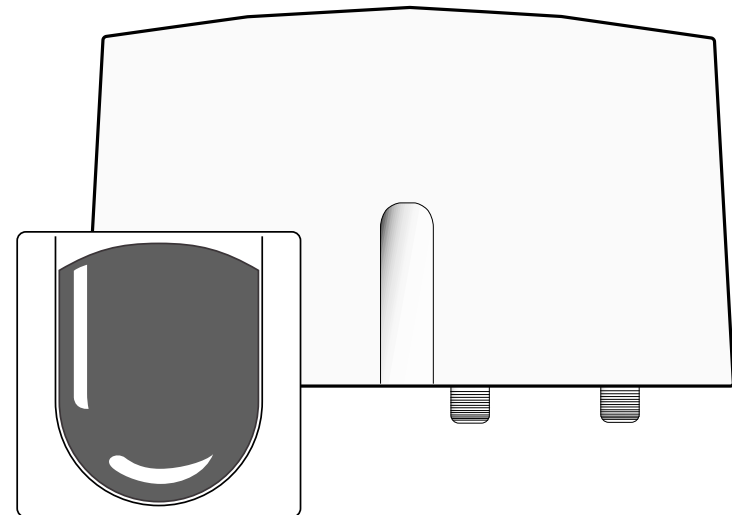
Models
9510HHR B&W
9520HHR Color
9510BID B&W
9520BID Color
9510PAL B&W

multiplex ®
technology, inc.

www.channelplus.com

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
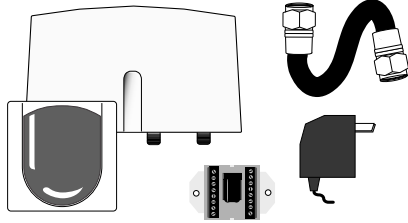
The CatCam is comprised of a camera and a channel injector. The camera is designed to flush mount indoors or outdoors (under an eaves and not directly exposed to the elements) using a deep double gang J box. The channel injector is weather resistant and designed to mount indoors or outdoors close to 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.
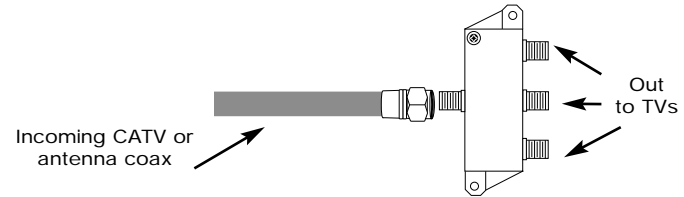
Installation: Step One
Locate the incoming CATV or antenna feed and existing splitter.
(Usually found on the side of the house, in the attic or near the electrical and phone service box)

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.

Mount the injector within 4″ of the splitter

Use mounting holes on the bottom plate to attach channel injector to the wall
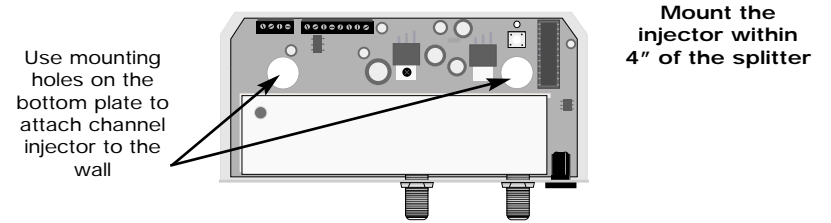
Disconnect the incoming CATV or antenna feed from the existing splitter and attach it to the channel injector as shown.

Before

Incoming CATV or antenna coax

Out to TVs

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

After

Mount the injector within 4″ of the splitter

Supplied coax jumper goes back to splitter

Incoming CATV or antenna coax

Out to TVs
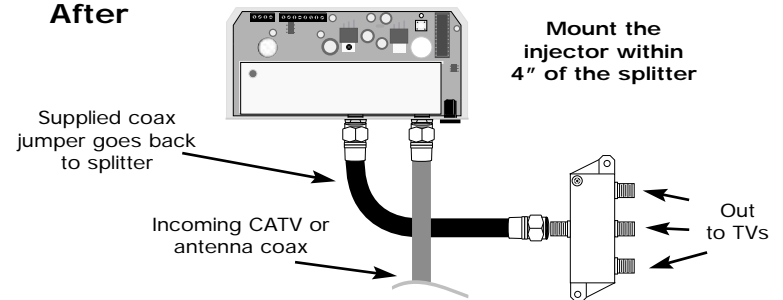
Installation Step Two

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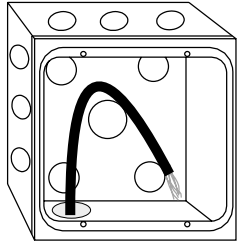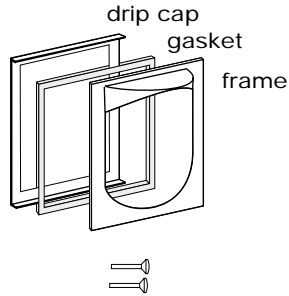
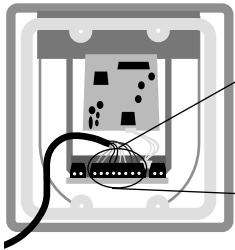prepare the Cat 5 wires by stripping 1" of outer sheath and 1/8" of insulation

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°

drip cap
gasket
frame

drip cap
gasket
frame

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

Bl/W Blue Org/W Orange Gr/W Green Br/W Brown

pin 1   2   3   4   5   6   7   8

Default resistor

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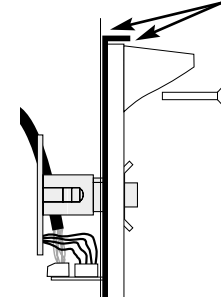When using quad wire connect wires only to pins 1, 2, 5 and 6. Leave the resistor in place at pins 3 and 4.

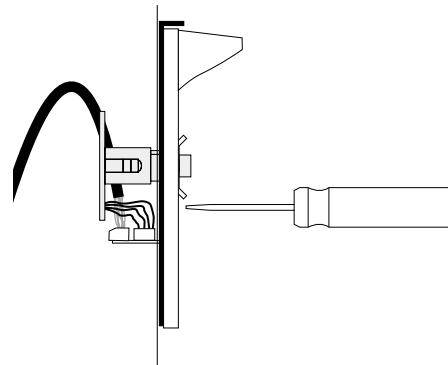Green   Red   Black   Yellow
pin 1   2   5   6
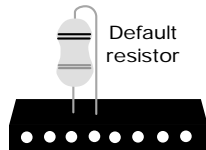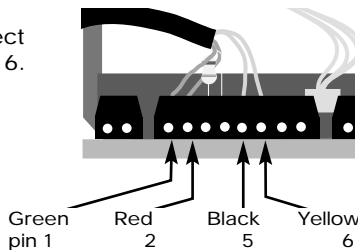
"Hook" camera mount over the gasket and rotate into place.
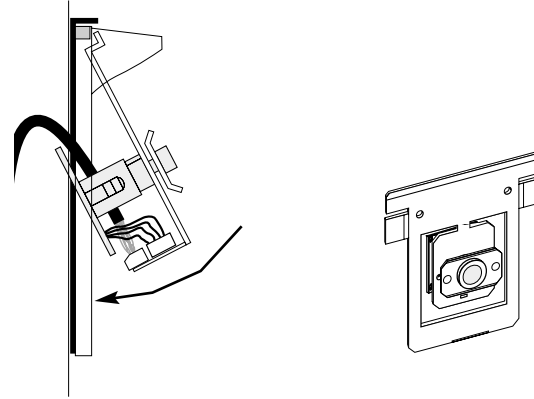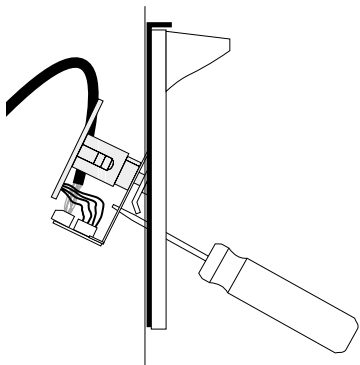
Apply RTV to seal from weather.
Add top screws.

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.**

4

5

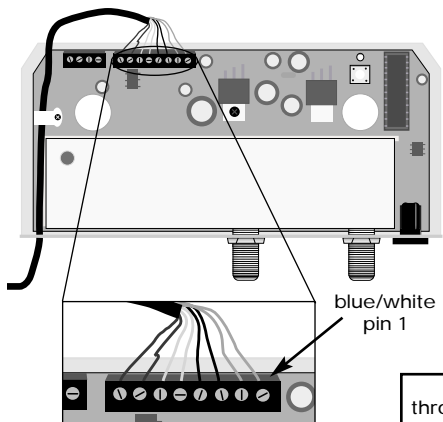Bend camera angle to give the best coverage for the given height of camera placement.

Attach the lens cover.

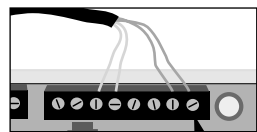Lens cover rides on lip of frame then rotates downward and snaps into place.
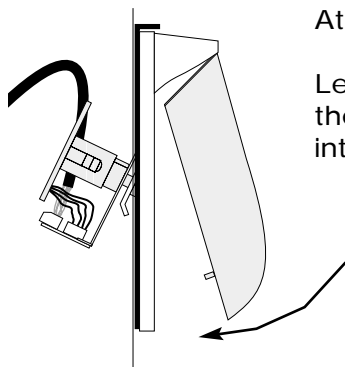
Channel Injector wire connection:
At the channel injector, connect Cat 5 wire as shown. Follow the color coding on the screw terminal.

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

blue/white
pin 1

blue/white
pin 1

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

6

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.
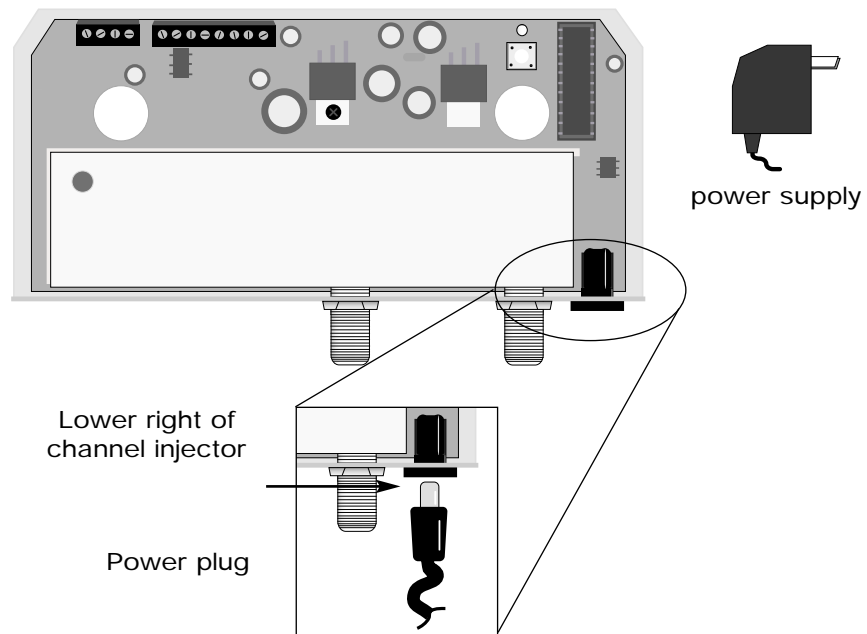
power supply

Lower right of channel injector

Power plug

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

(See power length requirements page 9)

7

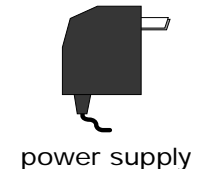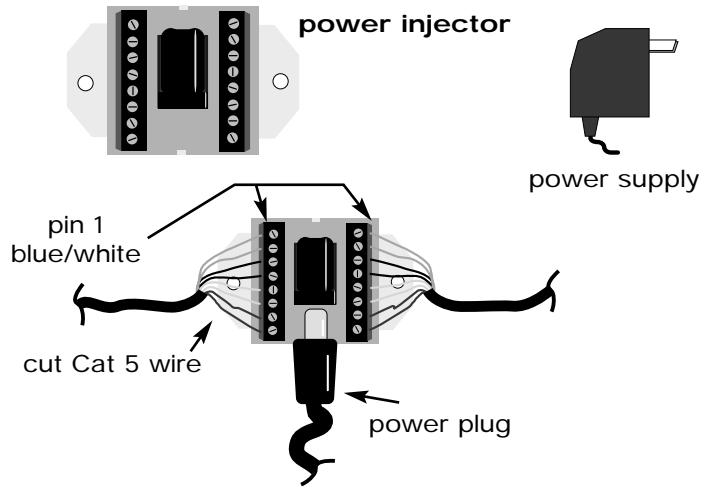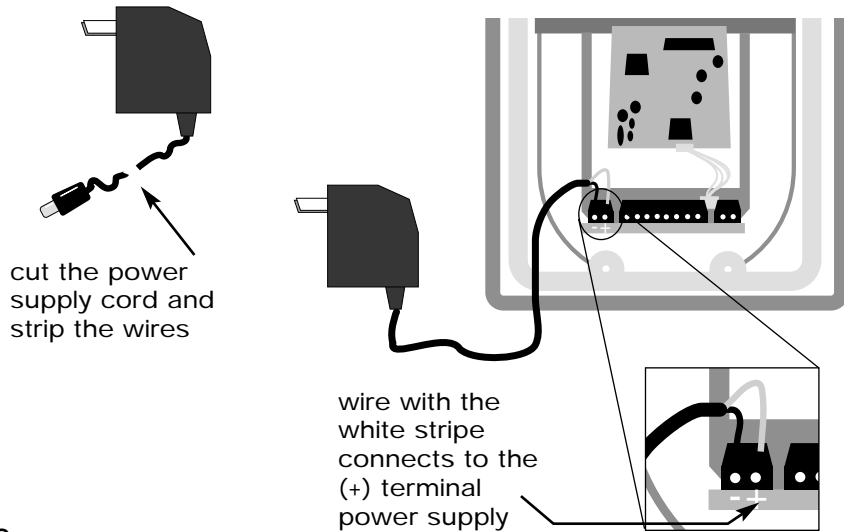**Method Two:** Use the *power injector* to apply power along the Cat 5 or quad wire run. Cut the connecting wire along the run and insert the power injector. Connect the wires using the color coding. Then plug the power supply into the power injector.

power injector

power supply

pin 1
blue/white

cut Cat 5 wire

power plug

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.
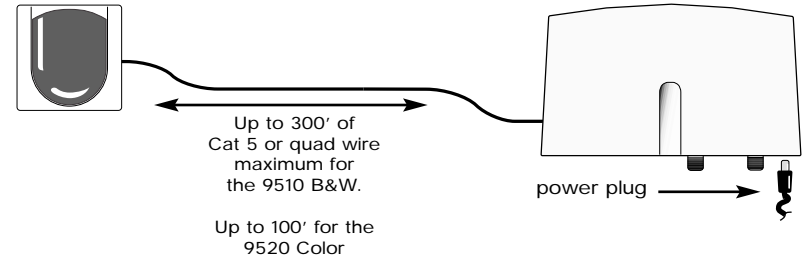
cut the power supply cord and strip the wires

wire with the white stripe connects to the (+) terminal power supply

Power Length Requirements
Method One

Up to 300' of Cat 5 or quad wire maximum for the 9510 B&W.

Up to 100' for the 9520 Color

power plug

Power Length Requirements
Method Two

Up to 100' of Cat 5 or quad wire maximum

Up to 300' of Cat 5 or quad wire maximum for the 9510 B&W.

power plug

Up to 100' for the 9520 Color

Power Length Requirements
Method Three

Up to 100' of Cat 5 or quad wire maximum

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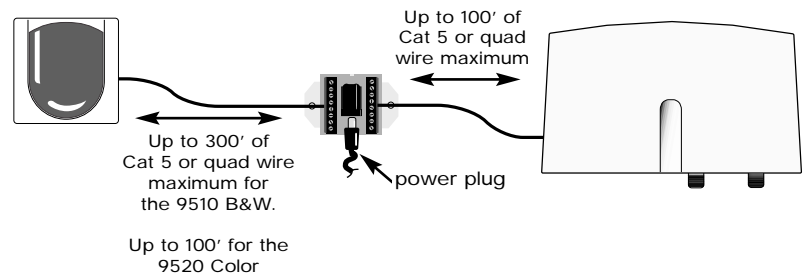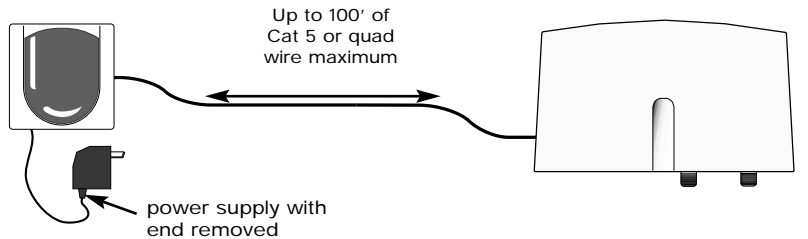
How to Program
Determine which unused channel you want to view your video source on and program the injector for that channel. There must be one unused channel both before and after the selected channel to avoid interference. The new channel will be combined with the existing channels and appear on all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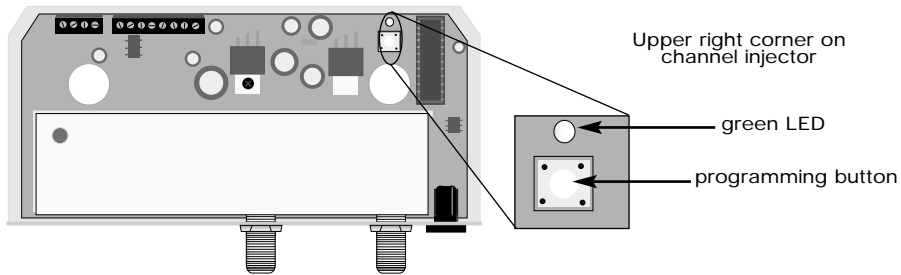

Upper right corner on channel injector

green LED

programming button

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.