Installation

Manuals

ECU Programming Instructions for Total Vision Products

Pan and Tilt Cameras Rev 12-18-07

First, three notes on programming:

A. To enter programming mode, hold the 'On' button down until all three LED's light up, and release. Note; on systems with chips with a date code (on the chip) of 10-20-04, or earlier, press the 'On button for more than one second and release, the three LED's will light up after the buttons are released.

B. When setting stops, allow about 1/8 inch of additional travel of camera due

to momentum.

C. Remember, if all 3 LEDs are not on, you are not in programming mode.

Repeat step 1.

1. Important - Begin programming sequence by setting the Hitch View. To set Hitch View - center camera manually for desired hitch view. With camera looking at desired view, go into programming mode by holding ON button down until all three LED's come on, and release. Camera now moves slowly for dialing the view in exactly. When you achieve the desired view, hold the ON button and the Hitch View button down at once until all three LED's go out, that takes about half a second, and release. Hitch View is reset. Move camera up and to one side and push Hitch View button to verify. Repeat if necessary.

2. Next, set the Down Stop. To set Down Stop - Leave the camera exactly where it was when you finished the Hitch View above, hold the ON button down until all three LED's go on (program mode), and release. Push ON button and down arrow button at once. All three LED's will go out when the new stop is accepted. Move it up a little and go down again to verify it has reset. Repeat if necessary. Down stopping point is reset. Note; When setting stops on older chip codes, hold both buttons for one second or longer and release, two of the three LED's go out.

3. Next, set the Up Stop. To set Up Stop - Move the camera up with the up arrow button until you have the desired view. As high as it will go without seeing the visor is the recommended setting. Push ON button until all three LED's light up

(program mode), release. Push ON button and up arrow button at once. All three LED's will go out when the new stop is accepted. Move it down a little and go up again to verify it has reset. Repeat if necessary. Up stopping point is

reset. Note; When setting stops on older chip codes, hold both buttons for one second or longer and release, two of the three LED's go out.

4. Next, set the Left Stop. To set Left Stop - Move the camera to the desired left area view, allow about 1/8 inch of additional travel of camera due to momentum. A view that barely shows the left side of the rear cap is the recommended setting.

Push ON button until all three LED's light up (program mode), release. Push ON button and left arrow button at once. All three LED's will go out when the new stop is accepted. Move it to the right a little and go left again to verify it has reset. Repeat if necessary. Left stopping point is reset. Note; When setting stops on older chip codes, hold both buttons for one second or longer and release, two of the three LED's go out, left light will stay on.

5. Next, set the Right Stop. To set Right Stop - Move the camera to the desired right area view, allow about 1/8 inch of additional travel of camera due to momentum. A view that barely shows the right side of the rear cap is the recommended

setting. Push ON button until all three LED's light up (program mode), release. Push ON button and right arrow button at once. All three LED's will go out when the new stop is accepted. Move it to the left a little and go right again to verify it has

reset. Repeat if necessary. Right stopping point is reset. Note; When setting stops on older chip codes, hold both buttons for one second or longer and release, two of the three LED's go out, right light will stay on.

6. To turn Automatic Reverse Look Down feature on or off - Go to programming

mode by holding the ON button down until all three LED's light up, and release. Now push the OFF and ON buttons simultaneously until all three LED's go out. Automatic reverse look-down feature is turned on or off depending on original setting.

7. To set pan and tilt speed. There are 3 speeds, slow, medium and fast. The default

speed is medium and is usually satisfactory. If it is desireable or requested, to change speeds;

For Slow Speed - With system on, move camera left until the red LED is illuminated. Enter programming mode (step 1), observe all three LEDs are illuminated, then push the ON button for longer than one second (all three LED's will go out when new speed is accepted on newer units, LED's don't go out until you release the buttons on older units) and release. Pan & Tilt speed is set at slow.

For Medium Speed- This is the default setting and the most commonly used. With system on, center camera with the centering button, observe yellow LED is illuminated. Enter programming mode (step 1), observe all three LEDs are illuminated, then push the ON button for longer than one second (all three LED's will go out when new speed is accepted on newer units, LED's don't go out until you release the buttons on older units) and release. Pan & Tilt speed is set at medium.

For Fast Speed - With system on, move camera right until the green LED is illuminated. Enter programming mode (steps 1), observe all three LEDs are illuminated, then push the ON button for longer than one second (all three LED's will go out when new speed is accepted on newer units, LED's don't go out until you release the buttons on older units) and release. Pan & Tilt Speed is set at fast.

Automatic-Reverse-Look-Down Code

What is this? When this feature is turned on, anytime the vehicle is shifted to reverse, the pan and tilt camera automatically looks down at the hitch for safety and convenience sake. Once it looks down the operator has the option of using the keypad and looking anywhere he or she wishes. When the vehicle is taken out of reverse, the camera returns to the 'Rear View' preset. After backing up a hundred coaches with our systems on them we realized that's the first thing you do typically, is look down at the rear bumper to see how close you are to things and make sure no one is standing there so we made it an option.

To turn this feature on or off:

To turn the **ARLD** code on; go to program mode (hold ON button

down until all three LED's come on, release). With all three LED's on,

push OFF and ON buttons simultaneously until all three LED's go out

and release. Repeat to turn the ARLD code off.

ATTN: When replacing ECU's; New ECU's must be programmed to work with whatever camera they are to be paired with. New replacement chips must also be programmed to operate the individual camera they are paired with. If you have any problems with programming, please don't hesitate to call us at 520-623-0790. We are here to help. Thank you.

Using the Deutsch Connectors - For Dual Pan and Tilt and Multiple Camera Applications. rev 3-30-08

Here is a quick overview of these connectors that may help avoid some problems. Begin by finding the 1 ½ inch pieces of heat shrink and the two pieces of 3/8 fuel line (located in the same bag with the Deutsch connectors) and sliding them up both cables so the are in place when you start inserting wires into the connectors. Next, prep the wires by stripping the cable 2 1/4 inches back from the end. Strip the individual wires back about 3/8 inch so that the insulation comes to the end of the terminal when it is crimped but does not go inside the terminal. That aside, the most important thing is getting the wire orientation right. The first thing to do before using inserting the terminals into the housings is to set the two main housings side by side. On one side of each of the two main housings, the holes in the orange rubber seal are numbered with white numerals. Both of these seals are on the outside of the connectors when they are joined together.

Put those two outer orange ends side by side and look carefully at the white numbers and how they are oriented. At the bottom of the orange seal of the one piece housing is the word 'PIN'. This housing takes the male pins, and is attached to the coach harness. Note the threaded area for mounting on the rear bumper or bracket. At the bottom of the orange seal of the two-piece housing is the abbreviation "SOC", short for socket. This housing takes the female sockets, and is attached to the trailer harness. The terminals are inserted head first into the white numbered side of the rubber seals. Please don't start that process before you read the rest of this. The housings are deep enough that the entire terminal will disappear into the seal, and then some, before it stops. Take the wire and push firmly and you will feel it click into the housing. Since the shield on the coax is not stiff, you can use an extractor to install it or any other wire that doesn't want to go 'home'. If you insert a wire and terminal in the wrong hole, use the red extractors for the smaller terminals and the blue extractors for the big terminals. Insert them into the back of the connector and push until you feel it stop, then push again and you will feel it go into the critical area of the terminal, releasing the arms that hold it in. Be forewarned, these extractors don't always work that great so please go slow and make sure you have the right wire in the right hole, see suggestions below. Also be sure you only insert the male pins in the one-piece 'PIN' connector and the female sockets into the two-piece 'SOC' connector. If you put a male in the female side or vice-versa you'll play hell trying to get it out.

We suggest you load the coach side housing first (the one piece 'pin' housing), then load the trailer side, having the two of them side by side for easy comparison as you plug the terminals into the housings.

Generally, the number for any given hole is located above that hole. When you hold the housings side by side with the orange numbered seals out, the numbers on the holes are a mirror image of

each other on opposite sides of the housings. The most frequent mistake is to wire the second housing exactly the same as the first housing, instead of in a mirror image pattern as the numbers indicate. Bottom line is go slow and be sure you are plugging the right wire into the right hole. Don't forget, the three striped wires (they are taped together and labeled) are not used in either the coach harness or trailer harness. Just match color to color on the rest.

Last but not least, when the connections are finished, slide the 1 ½ inch pieces of heat shrink and the two pieces of 3/8 fuel line into place, apply some super glue to the shoulder on each connector housing and shrink the shrink wrap onto the housings, using a zip tie to hold them in place. At the other end, shrink the shrink wrap down onto the 3/8 fuel line, seal that end with silicone and zip tie it also. Now your cable is water tight and somewhat strain relieved at both ends. I've been trying to get Deutsch to make a graduated boot to do the same job more efficiently but so far to no avail. Below is the sequence we suggest that the pins and sockets be inserted. This is an attempt to standardize the sequence to make troubleshooting a little easier, you can, of course, use any sequence you like.

Hole

#1.Orange

#2. Violet

#3. Not used.

#4. Pink

#5. Green

#6. Not used.

#7. Red

#8. Black

#9. Brown

#10. Gray

#11. Brown/white

#12. Yellow

#13. Blue

#14. White

#15. Blank

#16. Blank

#17. Blank

#18. Blank

#19. + Coax

#20. Shield

If you have any suggestions to make this connection process easier or better when you get done please let us now. We've been looking high and low for more connectors but so far, overall these are the best we have found, even though they're not perfect. Please call us if you have any questions. Thanks.

Rod Thomas

Total Vision® Products

520-623-0790