C50/C75
Platform

RVision **Inc**
2365A Paragon Drive
San Jose, CA 95131
www.rvisionusa.com

RVision Inc
Imaging Systems for Sight

Carbide 50-10
Carbide 75-35
Ruggedized Pan-Tilt Platform
SEE Installation Instructions
and User Manual

Specification: 660529-02 Manual, Carbide 50-75
Date: 8SEPT2006
Author: EPJohnson

WARNINGS

READ COMPLETE MANUAL.
PERFORM PRE-OPERATIONAL CHECK.
DO NOT OPERATE WITHOUT TRAINING.

INSTALLATION IS NOT BE 'DO-IT-YOURSELF'
HEAVY LOAD, Two-Man Lift

DO NOT UNDERESTIMATE DISTRACTION IN MOBILE APPLICATION.

STAY ALERT

INPUT VOLTAGE 22-26VDC ONLY
Carbide 50- 2.5A max, 1.0A rest
Carbide 75- 1.5A max, 0.5A rest
UNPLUG WHEN NOT IN USE.

SEE™ Camera and Pole Mount equipment complies with Federal Communications Commission part 15, Class A, for EMI emissions.

RVISION LIMITED WARRANTY AND LIMIT OF LIABILITY

For a period of one (1) year from the date of purchase, RVISION warrants that each of the component parts of SEE™ will not malfunction, destruct, disconnect or fail to operate when operated properly according to furnished instructions. RVISION warrants that the SEE mount will not become disconnected from the rack, bar or other device to which the product is attached when mounted in accordance with furnished instructions; except that this warranty does not apply to disconnection resulting from impact to the product, mount, rack, bar or other mounting device or to the mobile site, motor vehicle, or stationary installation site by collision, traffic accident, vandalism, calamity, or Act of God. RVISION does not warrant the use of any particular rack or mount by any particular manufacturer for use in mounting the product to the motor vehicle or other mobile or stationary site. This warranty does not cover damages resulting from malfunction, defect, destruction, or failure of the rack, bar or other device to which the camera is mounted to a motor vehicle or other mobile or stationary site. Always install a security tether to the edge-bolt of the camera

This warranty does not cover adjustment of customer-operated controls as explained in furnished instructions. RVISION makes no warranty *(a)* that a motor vehicle or any other mobile site may be operated safely and with due care by use of the product, whether or not explained in or authorized by furnished instructions, or *(b)* as to the frequency an operator may make viewing changes by manual selections on the LOOK display/control, or as to the frequency or length of continuous time, if any, an operator may view and concentrate mental attention on the LOOK control/display and contemporaneously operate the motor vehicle ~ or other mobile site to which it is installed ~ and at the same time operate the motor vehicle or other mobile site in a safe manner and with due care and circumspection under any driving, roadway, traffic or other conditions or circumstances.

RVISION does not warrant that it is lawful to operate the product installed on a motor vehicle while contemporaneously operating the motor vehicle on public streets and highways of any state or locality in the United States or in any other country.

This warranty does not apply to uncrating, setup, installation, removal of the product or any of its components for repair or reinstallation of the product after repair.

This warranty does not apply to repairs or replacements necessitated by any cause beyond the control of RVISION including, but not limited to, any malfunction, defect or failure caused by or resulting from unauthorized service or parts, improper maintenance, operation contrary to furnished instructions, shipping or transit accidents, modification or repair by the user, abuse, misuse, neglect, accident, incorrect power line voltage or connection, defective rack or other mount not provided by RVISION, fire, flood or other Acts of God, or normal wear and tear. TFT Display component is warranted for 90 days.

This warranty is limited to either repair or replacement of the product by RVISION, the choice as to which is in the exclusive discretion of RVISION. The foregoing is in lieu of all other expressed warranties and RVISION does not assume or authorize any party to assume for it any other obligation or liability.

THE DURATION OF ANY WARRANTIES WHICH MAY BE IMPLIED BY LAW (INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS) IS LIMITED TO THE TERM OF THIS WARRANTY. IN NO EVENT SHALL RVISION BE LIABLE FOR SPECIAL, INCIDENTIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM *(A)* THE OWNERSHIP OR USE OF THE PRODUCT, OR FOR ANY MALFUNCTION, DELAY, FAILURE OR INADEQUACY OF THE PRODUCT DURING ANY USE AND CONDITIONS, WHETHER OR NOT AUTHORIZED BY FURNISHED INSTRUCTIONS; OR *(B)* ANY DELAY IN THE PERFORMANCE OF ITS OBLIGATIONS UNDER WARRANTY DUE TO CAUSES BEYOND RVISION's CONTROL.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

TECHNICAL SUPPORT AND CUSTOMER SERVICE

Trouble & Problems:

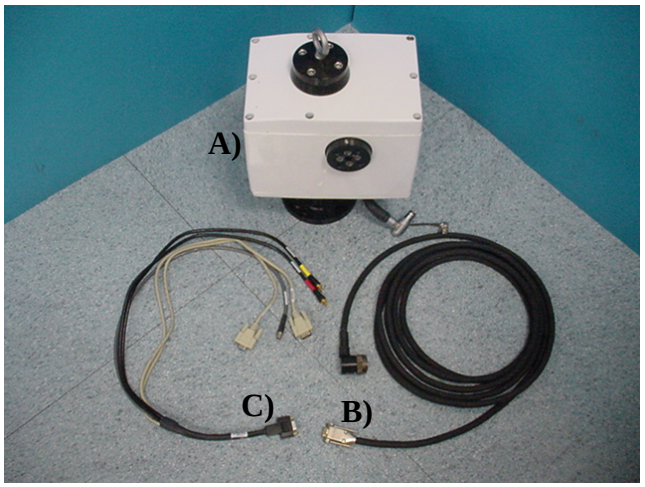
1. Review trouble shooting, verify cables, and power.
2. Contact your local sales representative.
3. Contact Technical Support at:

RVision Inc
408-437-5777 Voice
408-437-9923 FAX
attention@rvisionusa.com

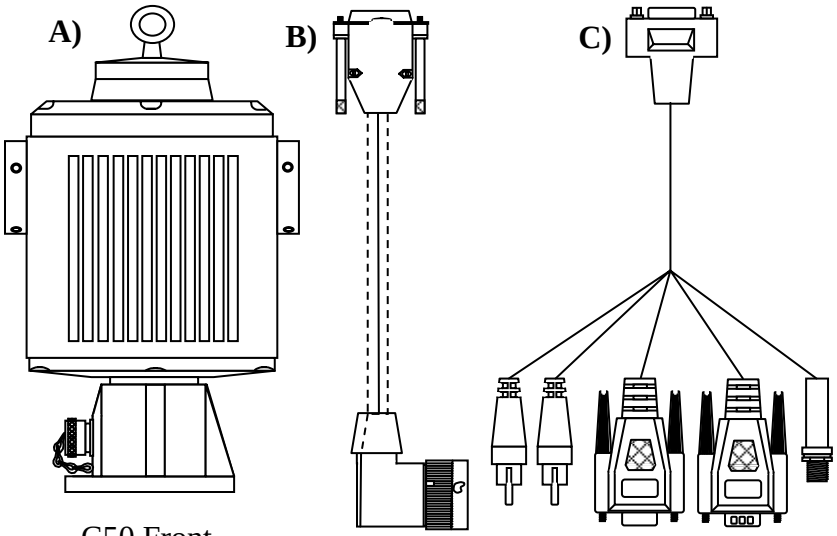
Call for RMA number before shipping system for repair. No systems are accepted in Receiving Department without RMA number.

INDEX:

SUPPLIED EQUIPMENT



A) C50
B) Test Cable
C) Octopus (optional) 700011



C50 Front view

P5 to Hidef Cable Connector

Octopus Cable

Video

Ideal: 75 ohm coaxial low-loss video coaxial cables properly terminated to coaxial connectors.

Symptoms:

1. Rolling interference/ Herringbone in video: Power supply interference, power wiring may need to be relocated or shielded
2. Short Horizontal Black & White lines crossing Video: Communication lines may need to be relocated or shielded.

Communication

Communication is based on a two-way system, each command to the camera is received, then an acknowledgment is sent back to the controlling computer system.

Ideal: Shielded twisted pair (RS232), twisted pairs (RS422) for long runs (200ft+)

Symptoms:

1. Sluggish pan/tilt, camera drifts after pan/tilt control is stopped: Bad Communication line transmitting from the camera to the computer. Test line and repair.
2. No Pan/Tilt/Zoom: Bad communication line transmitting from the computer to the camera
3. Erratic movement without user input: Noisy line, line disconnected at the computer side, or intermittent communication line transmitting from the computer to the camera. Test line and repair.
4. Intermittent control: Intermittent communication lines, wire run too long for wires used or communication protocol. Use wiring with better noise immunity and transmission quality. Wire runs over 200 feet may require RS422 communication camera.

Warning:
Before attaching the live wires to the camera use a Multi-Meter to test the voltage coming out of the positive pins and the ground pins (check wire lists). All power pins should be tied to power, all ground pins should be tied to ground. It would also be advisable to put an AMMETER in line with the power supply to indicate if the unit is drawing too much current. This may help prevent units from being damaged by incorrect application of power.

For Camera type 820015 (no illuminator):

Peak = 3 AMPS
Resting = 500 MILIAMPS.

Digital Ammeter/DC Multi-Meter

INSTALLATION CONSIDERATIONS

The Camera has 3 main subsystems that may have independent issues.

Power Requirements

- 22-26VDC at camera, under load
- Correct input voltage, sufficient current depends on payload
- Cable length, AWG voltage drop calculation based on peak current

Ideal: Largest power conductors, shortest length possible to minimize voltage drop. Use high-quality regulated power supplies, with minimum peak-to-peak ripple possible.

Symptoms:

Insufficient power can cause three main types of failures due to voltage drop/ insufficient current when the camera is drawing peak load.

<22 Volts: C50- Weak Torque
C75- No P/T movement
<10 Volts at Camera: Sony camera blue screen
<6 Volts at Camera: no operation

UNPACK C50

- Open up box and Remove cables, and then grasp the C50 firmly with both hands and lift out

- Lift the C50 free from the box
- Place on pedestal for testing and verification

INSTALLATION:

C50 Mount

- Place the C50/C75 on the Platform
- Make sure that the Platform is level and stable before mounting the C50/C 75
- Align mounting holes on the C50/C75 and insert Socket head screws.
- Use the included hex wrench for the 4 socket head screws. After tightening, wiggle C50/C75 to ensure stability and tight attachment

Removal of the C50/C75 is accomplished by releasing the same four screws.

Note: thread lock may be used to counteract vibration

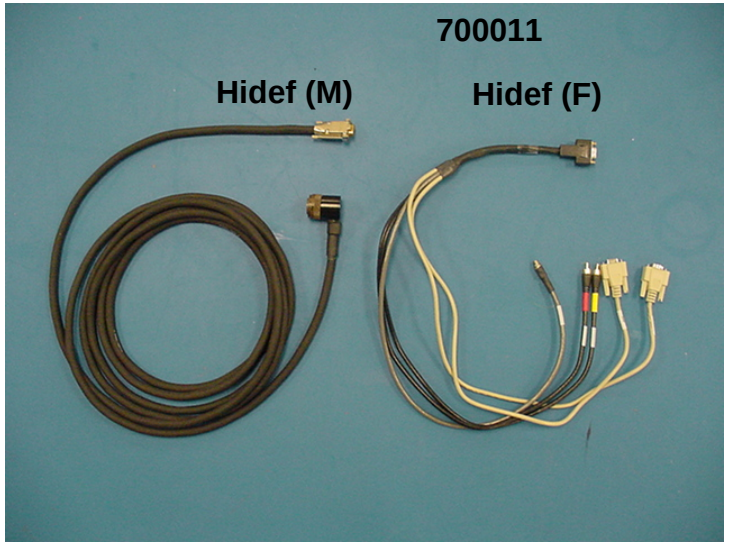
700282-01 P5 Mil Spec to HiDef

J1 14-18P P5 MS				J1 HiDef Female
Pin	Awg	Color	Signal	Pin
J1-A	28	Black 75 Ohm coax-Shield	Video GND	J2-1
J1-B	28	Black 75 Ohm coax-Center	Video	J2-2
J1-C	20	Black	Common GND	J2-3
J1-D	20	Brown	Power	J2-4
J1-E	28	Wht/Org	Tx (232)	J2-5
J1-F	28	Org/Wht	Rx (232)	J2-6
J1-G	28	Wht 75 Ohm coax - Center	Audio/Video 2	J2-7
J1-H	28	Wht/Blu	RS485 - In a	J2-8
J1-J	28	Blu/Wht	RS485 - In b	J2-9
J1-K	28	Wht/Grn	RS485 - Out a	J2-10
J1-L	28	Grn/Wht	RS485 - Out b	J2-11
J1-M	20	Grn	NIR GND	J2-12
J1-N	20	Org	NIR Power	J2-13
J1-P	20	Yel	NIR GND	J2-14
J1-R	20	Red	NIR Power	J2-15
J1-S	28	Wht 75 Ohm Coax - Shield	Audio/Video 2 GND	J2-3
J1		Back Shell	Cable overall shield	J2-outside of shell

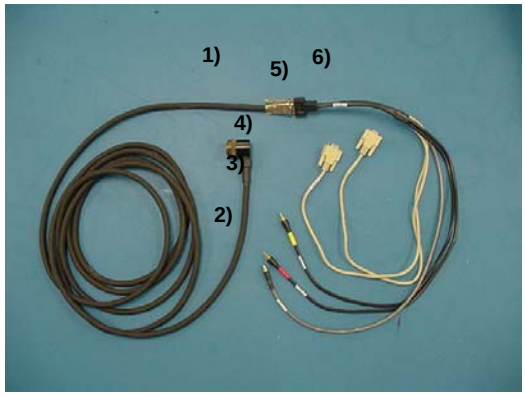
J1 J2

WIRE LIST, P5 Mil Spec to HiDef

Connector and Octopus wire setup:

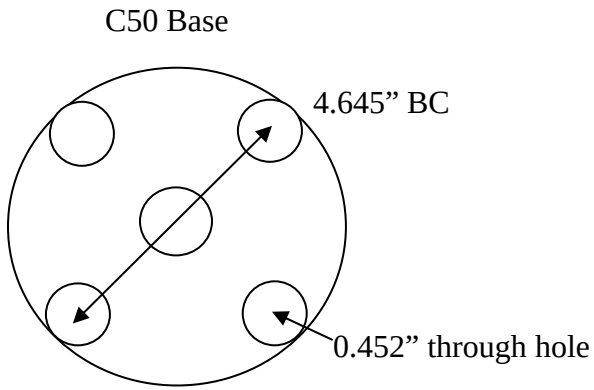


1) Mil-spec Connector
2) Power
3) Video2/Audio
4) Video1
5) RS232
6) RS422/485



MOUNTING C50

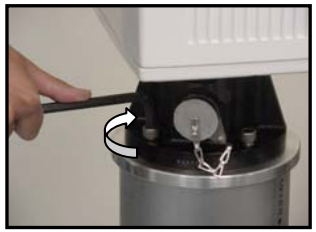
- Position C50 over pedestal at desired mount position
- line up screw holes



SECURING C50

- After the C50 has been placed on mount, secure it with 3/8 x 16 – 7/8" screws in the holes provided

- Use provided 5/16" hexagonal tamper-proof wrench to tighten screws in pedestal



CABLE ATTACH/REMOVE C50

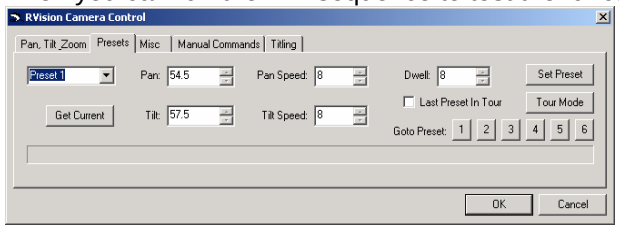
- Insert and twist the connector coupling sleeve CW to lock cable in place

Note: Keyway must align before inserting

- To remove cable: twist the coupling sleeve CCW and pull out

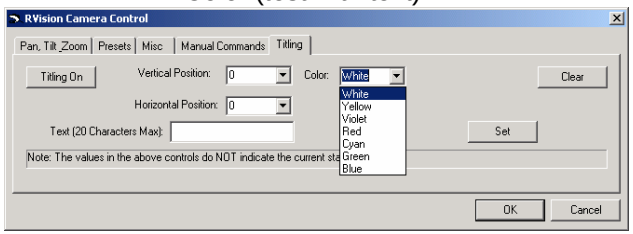
Preset Tour: Tour Procedure
Presets 1-6

Preset mode gives you the option of manually setting 6 individual presets. Then you can run them in sequence to test the functions of your camera.



Begin by moving your camera to a desired position. Once position is achieved select Preset 1, click "Get current" then, click "Set Preset." This will set that position as your first preset. Continue to change the position of the camera and repeat the process. Each time you move to a new position select a different preset. Whatever preset you want to be the last in the series, click on the "Last Preset in Tour" box. The "Dwell" box can be used to change the number of seconds the camera stays at a certain preset. Once you have assigned positions to all six presets you can the click on "Tour Mode" or you can go to each preset individually by clicking on the 1-6 buttons. Tour mode will go through each of the six presets in order. Once the cycle is completed it will repeat itself.

Titling: Vertical Position (use 1-3 to test)
Horizontal Position (use 1-3 to test)
Text (Use "alpha test" to test)
Color (test with text)



Titling allows you to put text up on your viewing screen. You are also able to decide where on the screen your "title" appears. This is based on a grid system where (0,0) is in the top left of the screen. To pick your vertical position start with zero and for each numerical increase your "title" will move to the right. To pick your horizontal position start with zero and for each numerical increase your "title" will move down. After you have positioned your text you can then choose to change its color depending on the application. When everything is how you want it press the "set" button to confirm, and text will appear on-screen. To start over, press clear.

CAMERA FUNCTIONS: Windows program, pSEE.exe.

Note: Applies to Sony 780/980 Camera Only. See payload section of the manual for specific instructions.

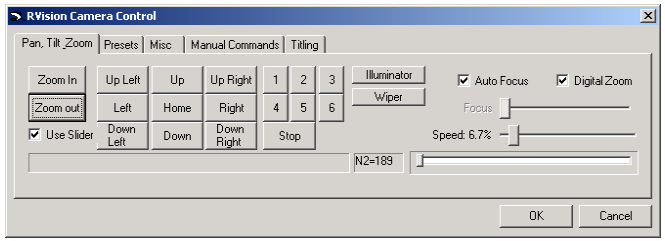
Zoom Command: Zoom In
Zoom Out

Directional Command: Home Up Down
Left Up Left Down Left
Right Up Right Down Right

Speed Slider: Slide bar to adjust the motor speed

Quick Preset Command: Go to preset 1-6

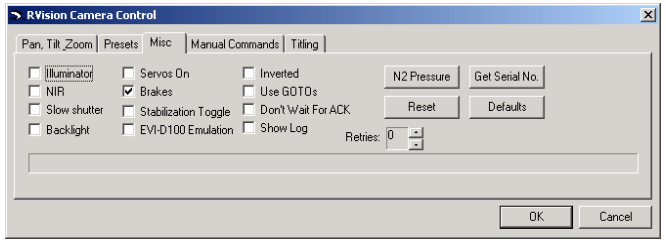
Focus Command: Manual Focus: Use focus slider to adjust
Auto Focus



Misc:

NIR: Near Infared Mode
Stabilization: Camera Stabilization
Show Log: Shows command log
Backlight: turns back light mode on

N2 Pressure: Nitrogen pressure
Get Serial No.: Camera serial No.
Reset: Restarts the Camera
Defaults: Sets Camera to Defaults



REMOVING C50

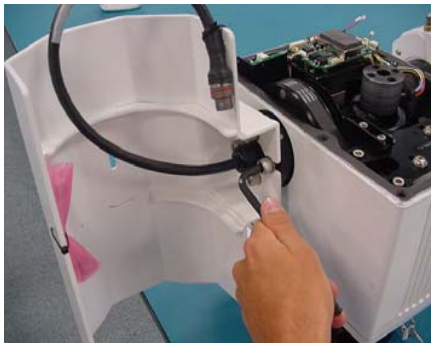
1. Remove screw in base

2. Grasp C50 firmly with both hands
3. Use your arms and legs to lift the C50, do not use your back to lift.

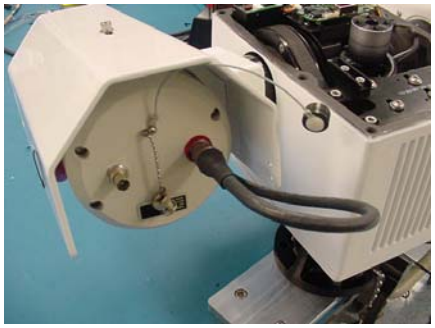
CAUTION – KEEP FIRM GRIP ON CAMERA, DO NOT DROP

POD100 Setup

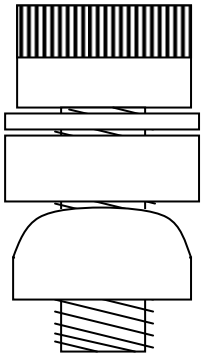
- Attach the POD100 mount by bolting it to the side of the C50

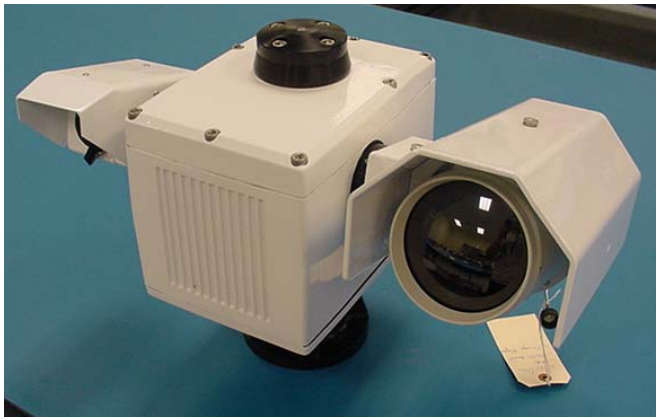


- Mount POD100 with conical washers and connect the cable



Conical Washer





Sight Adjusting:

1. Point the Sony day camera at a predetermined point of heat such as a light bulb.
2. Make sure that the day camera has the light bulb in the center of it's field of view.
3. Adjust the thermal imaging camera using the adjustment screws on top, side, and inside of the POD 100 mount.
4. Once adjusted, tighten all screws down. Suggest using Loctite to counteract vibration.