

Tape Here

# intec<sup>®</sup> CarVision Systems



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Fold Here

PLACE  
STAMP  
HERE

**intec<sup>®</sup>**  
Video Systems, Inc.  
23301 Vista Grande  
Laguna Hills, CA 92653-1497

## Operation Guide Model CVC320HXL Camera

Please read this guide carefully before use. Remember to complete and mail the owner registration form.

## OWNER REGISTRATION

# OPERATION PRECAUTIONS

**We are gratified that you have selected an INTEC Car Vision System. Before using your system, please be sure to read these instructions carefully.**

- Before you begin driving, be sure the monitor controls are adjusted properly. This will avoid unnecessary distractions while driving.
- Always confirm the view provided by the camera is adequate for your needs prior to vehicle use. Adjustments to the camera viewing angle should be made, if necessary.
- Before you begin driving, determine that the orientation of the image on the monitor is proper. Rear facing cameras should yield a mirror image, where items on the left of the vehicle appear on the left side of the monitor.
- Do not let the Car Vision System distract you from driving safely.

Model CVC320HXL Camera

Monitor Model: \_\_\_\_\_  
(purchased with this camera)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Serial Number(s): \_\_\_\_\_  
(located on the back of the camera)

Purchased from: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_ Date of Installation: \_\_\_\_\_

Installed on what type of vehicle: Manufacturer: \_\_\_\_\_

Model: \_\_\_\_\_ Size (length): \_\_\_\_\_

Installed by: Manufacturer \_\_\_\_\_ Dealer \_\_\_\_\_  
Self \_\_\_\_\_ Other service shop \_\_\_\_\_

How did you hear about the INTEC Car Vision System?

INTEC \_\_\_\_\_ Distributor/Dealer \_\_\_\_\_ Trade Show \_\_\_\_\_ Magazine Ad \_\_\_\_\_ Article \_\_\_\_\_

Other equipment user \_\_\_\_\_ Friend \_\_\_\_\_ Previous experience \_\_\_\_\_ Other \_\_\_\_\_

What industry magazines do you read? \_\_\_\_\_

What trade shows do you attend? \_\_\_\_\_

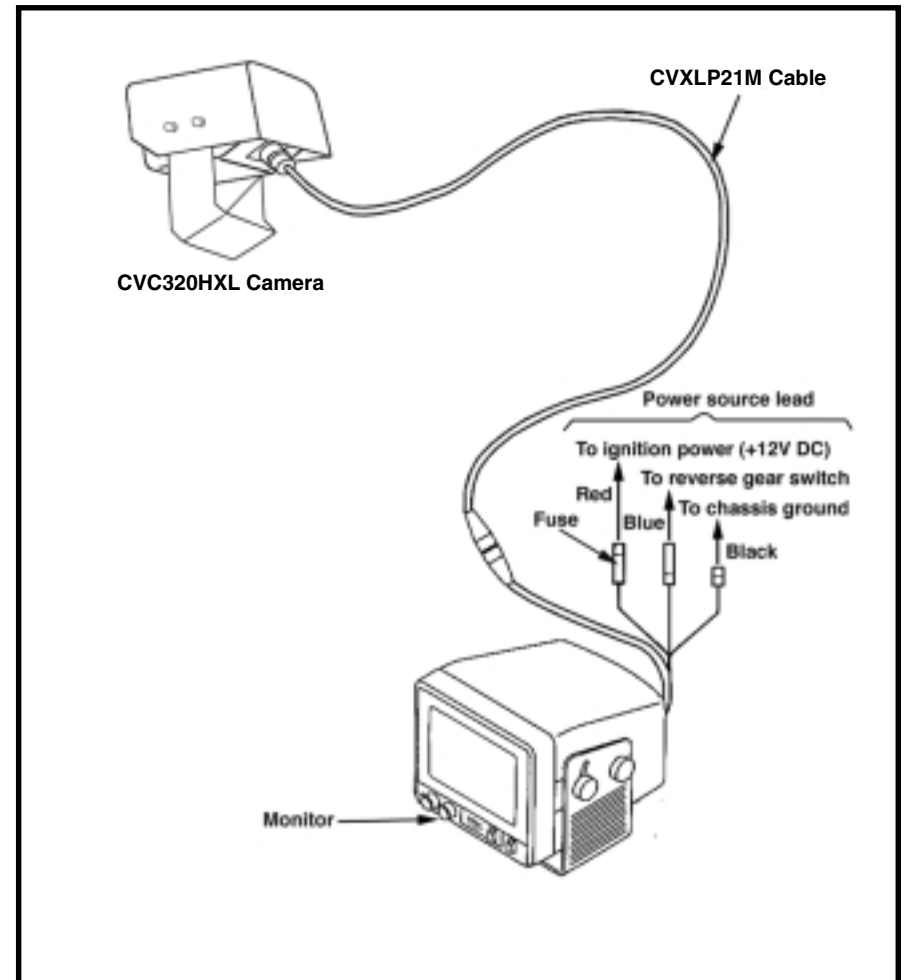
Why did you decide to purchase the Car Vision System? \_\_\_\_\_

How can we improve our product or service? \_\_\_\_\_

Mail this Registration to: INTEC Video Systems, Inc., 23301 Vista Grande, Laguna Hills, CA 92653. You may also fax it to us at (949) 859-3178.

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## CAR VISION SYSTEMS CVC320HXL Camera Wiring Diagram



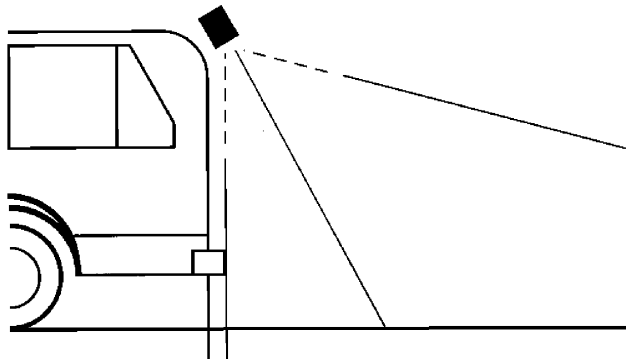
Please read these instructions carefully before use.

## CAR VISION INSTALLATION INSTRUCTIONS

### STEP (1) CAMERA MOUNTING

**For an optimum field of view to the rear of the vehicle and to utilize the distance grid which may come with your Car Vision monitor, we recommend the following installation:**

1. Securely mount the camera to the top center, rear of the vehicle. If mounting is on the roof or other horizontal surface, the camera's mounting bracket may need to be reversed to achieve the proper angle towards the ground.
2. With a mounting height of 10 feet from the ground, you want to see the back of the vehicle on the bottom of your monitor screen.
3. Depending upon the vehicle, a flat, sturdy mounting surface may need to be fabricated for the camera's mounting bracket.



4. Some vehicle designs prevent a camera from seeing the area immediately behind when the camera is mounted at the top rear. Be aware of this, and if that area is of concern, prior to vehicle operation, install the camera so this area is fully visible on the monitor.
5. The camera can be mounted elsewhere to provide different fields of view to the operator. System installations have had cameras mounted to view the area down the right side of a vehicle, observe vehicle operations, watch passengers inside a bus or other transport vehicles, or watch underneath a vehicle. **You should always confirm the view is adequate for your needs prior to each vehicle use.**
6. Once the entire system is operational, do a final check of the picture provided by the camera. Adjustments to the camera angle should be made, if necessary.
  - A. Loosen the bolts on the side of the camera assembly.
  - B. Angle the camera so that the view desired is displayed on the screen. Remember that some Car Vision monitors offer electronic tilt which adds a vertical adjustment. For rear vision applications, the rear most part of the vehicle should appear at the bottom of the monitor screen.
  - C. Tighten the bolts on the side of the camera assembly.

## LIMITED WARRANTY

INTEC warrants the Car Vision Camera, Model CVC320HXL, when purchased new to be free from defects in material and craftsmanship. INTEC will repair or replace, at INTEC's sole option and without charge, any part which under normal and proper use is found to be defective within the effective period of this warranty. The effective period of this warranty is eight (8) years from the original date of purchase from INTEC. This warranty is void and does not cover product that has been lost or damaged in shipment, subjected to misuse, abuse, tampering, improper installation, use on improper voltage or current, use contrary to operating instructions, or disassembly, repair, or alteration by anyone other than INTEC or an INTEC authorized service agent.

IN NO EVENT SHALL INTEC BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR EXPENSES. THE SOLE LIABILITY OF INTEC SHALL BE DISCHARGED BY REPAIRING OR REPLACING ANY PART OR PARTS WHICH MAY PROVE DEFECTIVE UNDER NORMAL AND PROPER USE WITHIN THE CONDITIONS AND EFFECTIVE PERIOD OF THIS WARRANTY, PROVIDED THE PRODUCT IS RETURNED TO INTEC, DELIVERY PREPAID AND INSURED, IN ACCORDANCE WITH THE INSTRUCTIONS SET FORTH IN THE SERVICE INFORMATION SECTION OF THIS GUIDE.

THERE SHALL BE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER OBLIGATION ON THE PART OF INTEC.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. You should contact the appropriate state agency to find out what these rights might be.

Return of the Owner Registration Card is not required for warranty coverage. However, it will insure that you are notified with product update information. It will also help INTEC to better serve you by answering some important marketing questions on the Card. Any information you provide on the Card is for INTEC's internal use only. Our customer list is not sold or given to any other organizations unless required under State or Federal laws.

Thank you for your cooperation.

## SERVICE INFORMATION

INTEC offers you quality products for performance that lasts. Should service become necessary, we strive for quick response and maintain a helpful and knowledgeable staff to assist you.

### HOW AND WHERE TO GET SERVICE

If none of the trouble-shooting suggestions in this manual solve your problem, you may need to return the product to INTEC for service.

First, call INTEC's Customer Service Department at either our Western Office **(800) 468-3254**, or at our Eastern Office **(800) 522-5989**.

Explain the problem to the customer service representative. The representative will check to see if you tried the in-field adjustments and may offer alternative solutions for you to try. If these solutions don't work, then you will be asked to send the camera, monitor, or both to INTEC.

A Return Product Authorization (RPA) number will be issued. Refer to this number in any future contacts with INTEC concerning this service.

Have available the following information to give to the customer service representative.

1. The product model number and serial number.
2. A description of the problem.
3. The type of vehicle on which the product is installed.
4. Your name, address, and phone number.
5. The address, phone number, and contact person of where we should return the product after it is repaired if this is different than above.
6. Any special requests (ie. repair estimates, expedite return shipment)
7. Proof of purchase.

Send the product, prepaid and insured to the closest INTEC office:

**Western U.S. and Canada:**  
INTEC Video Systems, Inc.  
Customer Service Department  
23301 Vista Grande  
Laguna Hills, CA 92653  
Attn: RPA \_\_\_\_\_

**Eastern U.S. and Canada:**  
INTEC Video Systems, Inc.  
Customer Service Department  
4256 State Route 51 North  
Belle Vernon, PA 15012  
Attn: RPA \_\_\_\_\_

Make sure to package your Car Vision unit carefully to avoid any damage during shipping. If possible, use the original carton and packaging materials. Our warranty does not cover loss or damage in transit.

NOTE: Product shipped to us without an RPA number may not be accepted or may result in a delay in service. Make sure your name, address, and phone number appear somewhere on the shipping container or paperwork enclosed within.

## STEP (2) ROUTING THE CABLE

On recreational vehicles, busses, and some pickup and delivery trucks, there are several possible routes for the cable from the back to the front of the vehicle. If routed down the back (inside the back cap or vehicle wall) and along the chassis, be sure it is a safe distance from any exhaust systems or moving parts. Follow existing vehicle wiring to insure a secure route. If routing the cable through the interior of the vehicle, make sure that the installation of other vehicle items or objects located in the vehicle do not cause the cable to be punctured, stapled, or cut.

Avoid any moving parts or other areas of the vehicle which generate extreme heat. We recommend the cable be secured along with the vehicle's wiring harness (usually found along the frame or chassis). **BE SURE** when routing the cable not to puncture or cut the cable in any way.

**IT IS VERY IMPORTANT TO PROPERLY SECURE AND WEATHER-PROOF THE CABLE CONNECTORS IF THEY ARE EXPOSED TO THE ENVIRONMENT.** When used with the XL series of cables, no additional weather sealing of the camera connection is needed. If the connectors are inside the vehicle, secure them with electrical tape to prevent their coming loose during vehicle operation. In situations where the cable may come in contact with tree branches or other objects that could damage the cable, we suggest that the cable be routed through a protective conduit.

## STEP (3) MOUNTING THE MONITOR

**Be sure that the driver's forward or side view is not obstructed in any way by the position of the monitor.**

The monitor can be mounted overhead, flush with the dash, or on top of the dashboard, whichever allows the best view to the operator without blocking the driver's view of the road ahead. After positioning the monitor, secure properly with the hardware provided. Locate the three (3) power source lead wires on the rear of the monitor. Connect the BLACK lead to a secure chassis ground (negative); connect the BLUE lead to the vehicle's reverse gear switch; connect the RED lead to the ignition (power) side of the fuse panel. The monitor power requirements are found in the operation guide that comes with your INTEC monitor. The monitor regulates the necessary power for the CVC320XL camera via the XL cable. Red, black, and blue wires are provided with the opposite end of the wire connector attached. Fuses (5 amp) for the red and blue wires are provided.

## STEP (4) FINAL ADJUSTMENTS

Adjusting the camera is important to ensure the proper view. Adjust the camera by slightly loosening the screws on the side of the camera assembly. Angle the camera so that the rear most part of the vehicle appears at the bottom of the monitor screen. The distance grid on the screen is calibrated in meters.

# CAR VISION INSTALLATION INSTRUCTIONS

CONTINUED

## OPERATION INSTRUCTIONS

Your Car Vision System should be installed so the ignition switch or power switch that controls your vehicle's power also provides power to the Car Vision System.

The rear mounted camera will be activated and its picture shown on the monitor screen when the vehicle is placed in reverse. (Follow the monitor instructions in step 3). Always confirm proper operation before travel.

**NOTE:** If you experience some electrical interference on the monitor while the engine is running, it may be necessary to install a noise suppressor. The suppressor should be located as close to the source of the noise as possible. The vehicle's alternator is the most likely source.

### STEP (5) ANY QUESTIONS?

If during the installation process, you should have any questions or difficulties, do not hesitate to contact INTEC at our toll free numbers.

**Western U.S. and Canada: (800) 468-3254**

**Eastern U.S. and Canada: (800) 522-5989**

With proper installation of your system, potential problems are avoided. If the installation instructions are not followed, INTEC assumes no responsibility for problems that do arise. PLEASE READ AND FOLLOW THESE INSTRUCTIONS so you can join the thousands who are enjoying the safety and convenience aspects of INTEC's Car Vision Systems.

# TROUBLE-SHOOTING GUIDE AND IN-FIELD SERVICE TIPS

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### Monitor lights up but no picture appears:

1. Adjust monitor controls (ie. brightness, contrast) to see if picture appears.
2. Check the cable for obvious damage (ie. cuts, crimping) and the connectors for corrosion or pin damage. Make sure connectors are securely connected and free of debris.
3. Disconnect the cable from the camera and monitor. Connect the camera directly to the monitor or use a spare universal cable, to test for a cable related failure.

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### Monitor doesn't light up - dark screen:

1. Check the red, black, and blue wires off the monitor to make sure they are properly connected to the vehicle power and ground. See if proper voltage is reaching the monitor (11-15VDC in most cases. Refer to the monitor's Operating Guide to determine voltage.)
2. See if the 5 amp fuses on the red and blue wires are okay. If not, replace with new fuses.
3. Check the cable for obvious damage. There should be no continuity between any of the wires inside the XL cable. If shorting has occurred, the monitor should always be returned for service and the cable replaced.

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### Picture is blurry, out of focus, or distorted:

1. Check the camera and clean any dirt, dust or moisture found on the outside glass lens cover. If any moisture is visible on the inside of the camera, return camera for service.
2. Adjust monitor controls (ie. brightness and contrast) to see if picture clears up.
3. Check voltage on red and blue wires to see if sufficient power is reaching the monitor. Low voltage may cause the picture to blur or darken.

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### Picture on monitor is reversed:

1. It is very important to check the image on the screen prior to using the vehicle. With the camera facing towards the back of the vehicle, objects seen on the right side of the monitor should be on your right as you face forward. This is a reverse image similar to what you see when looking into your rear view mirrors.

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Periodic checks of the cables, connectors, wiring, camera and monitor will help you spot potential trouble areas before they result in a system failure. An excellent time to make spot checks is when the vehicle is in for routine maintenance.

**IF THE SUGGESTED SOLUTIONS DO NOT SOLVE YOUR PROBLEM, CONTACT INTEC AT (800) 468-3254 (Western office) or (800) 522-5989 (Eastern office).**