# VC Controller over LAN

Remote camera control software

## Users Manual



Canon
**VISUAL COMMUNICATION SYSTEMS**

# Important Usage Instructions

⚠ Please read this software instruction manual and your Communication Camera Instruction Manual carefully before use and keep it handy for reference to ensure optimum performance.

# CONTENTS

## BEFORE YOU BEGIN

### Introduction
Thank you for purchasing the VC Controller over LAN software.

The VC Controller over LAN software is used to control Canon's VC-C3 or VC-C1 camera over a TCP/IP-based network. Combining this software with NetMeeting™ or other TCP/IP video communication software greatly enhances its advantages.

With the VC Controller over LAN software, you can easily access a variety of VC-C3 and VC-C1 functions, including basic functions such as Up/Down (Tilt), Left/Right (Pan) and Wide/Tele Zoom, as well as shutter speed and back-light compensation.

You can also preset camera positions and image framing to maneuver your camera into a desired position quickly. Furthermore, you can store references to these camera settings.

All these features allow you to tailor your communication camera to suit your particular operating needs.

### System Requirements
*Hardware and Software*
- A Windows compatible computer running Microsoft Windows 95/
  98 with a 90MHz or higher (166MHz recommended)
  processor and 16 MB (32 MB recommended) of RAM.
- 10 Mbps or 100Mbps Ethernet card (not needed for local
  camera control).
- 8 MB of hard disk space, minimum.
- TCP/IP Network protocol installed.

*Communication Camera*
- Canon VC-C1, VC-C1MKII or VC-C3 camera

### Registration
We are confidant that you will find the VC Controller over LAN software extremely helpful in utlizing your Canon communication camera with your computer. So that we can continue to provide you with the highest quality software, technical support and keep you up to date on new software versions and products, please send us the included registration page or e-mail us your full address and product information. Please include any comments or suggestions.

Canon USA, Inc.
Visual Communication Systems Division
1 Canon Plaza, Bldg. B
Lake Success, NY 11042
Tel (516) 328-5960
Fax (516) 328-5959
Internet: vcsd@cusa.canon.com

## GETTING STARTED

### Connecting Your Camera to Your Computer

Before installing and using your new software, your communication camera(s) must be set up properly to be able to "talk" to your computer. Please follow the steps below to ensure proper installation.

1) Always be sure to turn off your computer before attaching any external devices to it.

2) Connect your VC-C3 or VC-C1 Communication Camera to the serial port (COM) of your computer, using an RS-232 connection cable. (These cables are proprietary and are available through your local Canon Visual Communication dealer. . Otherwise, refer to Appendix B to make your own cable).

3) Make sure that the camera is plugged in, all power switches are on and that all components are connected to each other correctly. (Please see your camera manual for details).

4) For all remote cameras that you will be accessing, you will need to follow the above set up directions to hook up each camera to its own computer. Each of these computers must then be running the VC Controller over LAN software, in order to control the cameras across a network.

5) If your computer is also equipped with a video capture card, you can connect the camera's Video Out to the computer via an RCA composite cable or an S-Video cable to view images directly on your computer. Please consult your capture card manual. If you do not have a capture card, you can connect the camera to a TV monitor instead.

### Communication Camera connection



*Video Cable

*Video Monitor

*Video Cable

*Optional

RS-232 Cable

TCP/IP LAN
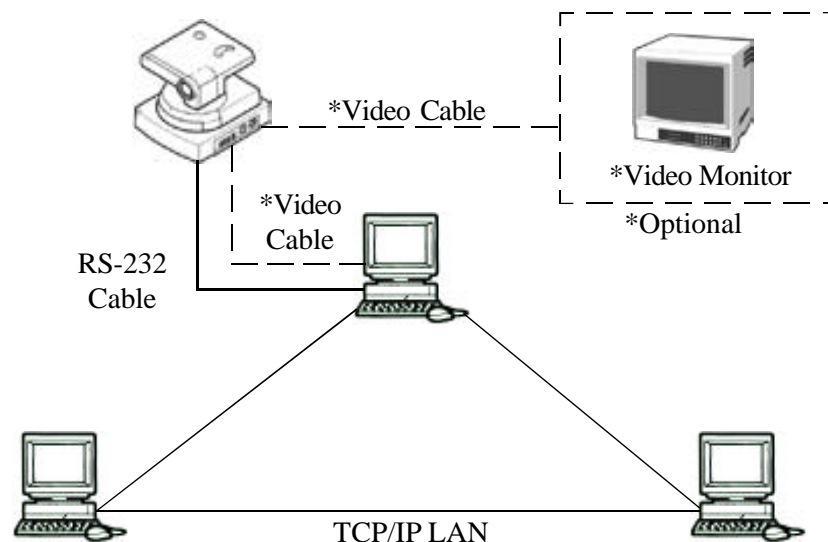
When you are connecting your VC camera to a computer, you may want a video capture card and software to be able to import the video signal and see the picture. Please consult your local computer dealer for capture card information.

For computer camera control, use one of Canon's proprietary RS-232 cables available through Visual Communication dealers.

6' Cable - Part number: C86-0102-232
25' Cable- Part number: C86-0102-003

Please note: it may not be possible to control cameras that are on opposite sides of a firewall. Contact your LAN administrator if you have any problems.

## INSTALLING THE SOFTWARE

### Installation
To install the VC Controller over LAN software on a computer running Windows 95 or Windows 98, follow these steps:

1) Start your computer. (If TCP/IP is not installed see "Installing TCP/IP")
2) Insert Disk 1 of the VC Controller over LAN software into the floppy drive.
3) Select the [Run] command from the Start Menu. The [Run] dialog box will pop up.
4) Type "a:\setup.exe" in the command line and click [OK].
5) The VC Controller over LAN setup wizard will be launched. Follow the directions on the screen to complete installation.

### Launching the Software
Once you have successfully completed the above installation steps, you will find a folder in your Start Menu named VC Controller over LAN. Release your mouse button over "VC Controller" to launch it. The VC Controller will start and the VC Server camera icon should appear on the bottom right hand side of your task bar. The Server launches by default when you launch the VC Controller.

### Troubleshooting Launching Errors



Should you get an error window like the above, close all error windows and close the VC Controller application. Make sure your camera is properly connected to the computer and that it is turned on. Restart the program as described above.

### Configuring the Software for Local Control
After your software has been installed, you will need to configure it to be able to control all of your cameras. The first time you launch the program after installation, the VC Server Setup dialog box will appear. Adjust the settings according to your configuration.Click [OK] after you have finished.
If you need to return to this dialog box in the future, double click on the VC Server icon on the right in the task bar.
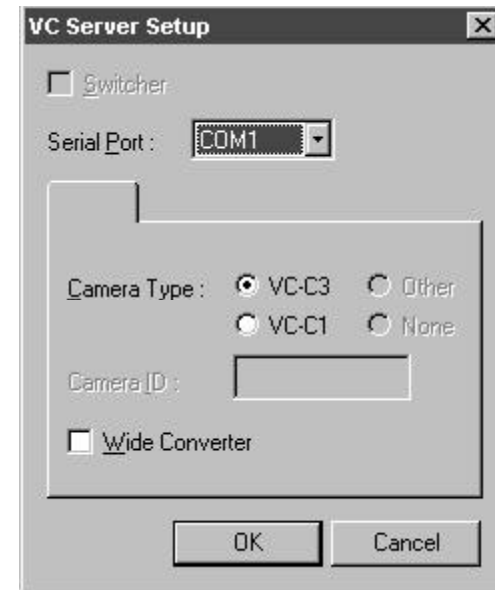


*Switcher, Other, None and Camera ID*- these configuration options are not available in this version of the VC Controller over LAN software.

*Serial Port*- Select the serial port your local camera is connected to at the back of your computer (COM 1 is the default).

*Camera Type*- Select the appropriate camera model connected to your computer, either VC-C1 or VC-C3.

*Wide Converter*- Check this box only if you are using the optional Canon wide-angle lens (WD-37).

**Installing TCP/IP (LAN)**
1) From the Start menu, open the Control Panel under Settings and then double-click on Network.
2) Under the Configuration tab, click [Add].
3) Select [Protocol] and click [Add].
4) Under Manufacturers select Microsoft and under Network Protocols choose TCP/IP. Click [OK] in the Network window. You may be prompted to insert your Windows 95/98 CD-ROM to complete the installation process.
5) The message "Do you want to restart your computer now?" appears. Click [Yes] to readjust your network settings.


**Installing TCP/IP (Modem)**
If you do not have a networking card and plan on using your software to control other cameras through a modem only, you must install Microsoft RAS (Remote Access Services). This is available in the Microsoft PLUS pack for Windows 95 (available at a local computer reseller) and must be manually added in Windows 98.

1) From the Start menu, open the Control Panel under Settings and then double-click on Network.
2) Under the Configuration tab, click [Add].
3) Select [Adapter] then click on [Add].
4) Under Manufacturers select Microsoft, then under Network Adapters select Dialup Adapter. Click on [OK].
5) Close out of the [Select Network Component Type] window.
6) Under the Configuration tab, click [Add].
7) Select [Protocol] and click [Add].
8) Under Manufacturers select Microsoft and under Network Protocols choose TCP/IP. Click [OK] in the Network window. You may be prompted to insert your Windows 95/98 CD-ROM to complete the installation process.
9) The message "Do you want to restart your computer now?" appears. Click [Yes] to use your new network settings.

**Configuring the Software for Remote Control**
If you are setting up a local camera that will be controlled by a remote site, (e.g. you have a security camera set up in one room in your building which will be controlled from a remote computer), you only need to run the VC Server and do NOT need the VC Controller open at the local end.
Simply select [VC Server] in your [VC Controller over LAN] program folder on the local computer. This will allow the camera to be controlled by the remote computer.



Conversely, at the remote site, you will not have a camera to control and therefore will not need to launch the VC Server. To turn it off, open the [Option] dialog box under the [Connect] menu of the main control panel on the far end machine. Click on the check box beside [Do not start local VC Server]. The next time you open the application, only the VC Controller will run.
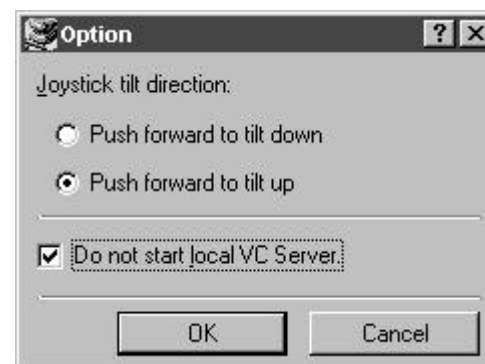


**Note:** Please be aware that if you are using this software over a POTS (Plain Old Telephone System) dial-up line, you must be running Microsoft Remote Acces Services and there may be a delay in control due to the slower speed of modems versus LAN.

## CONNECTING TO A CAMERA

To connect to a remote or a local camera, you can either select [Connect] under the [Connect] Menu

or click on the [Connect] tool bar button.

The computer which is connected to the camera you would like to control has an IP address. Enter it into the Address window.

*To find your computer's IP address:*
1. Right-click on your Network Neighborhood desktop icon and select Properties.
2. Select TCP/IP, then click Properties.
3. The number displayed is your IP address.
4. You will need to know the IP addresses of all the computers connected to the cameras you want to access.

If you decide to cancel the connect operation, you can use the Stop Connecting tool bar button.

To close a connection, click on the Disconnect tool bar button.

You can connect to a local camera, either by entering your computer's IP address or by clicking on "local host" in the address window.

Additionally, the History function in the address window stores previously contacted camera addresses to help make your selection easier and faster. By dropping down the window you can immediately connect to a frequently called camera.

*Please be aware*: Only one user can control a camera at a time. The last connection made will always override any previous user's connection and disconnect that user.

**Setting the panning direction**
Once you have connected to the camera you wish to control, you will need to set the panning direction to reflect how the camera is facing.
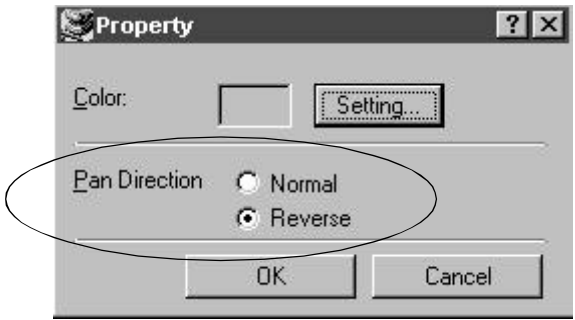


*Normal:* Camera is shooting the subject as if from your point of view.
For example: If you had the camera in *normal* mode, when you press the key,  the camera pans left as in the image below.

*Reverse:* Camera is shooting you and you are the subject.
For example: If you had the camera in *reverse* mode, when you press the same key,  the camera pans right.



Normal                    Reverse

# MOVEMENT CONTROL FUNCTIONS
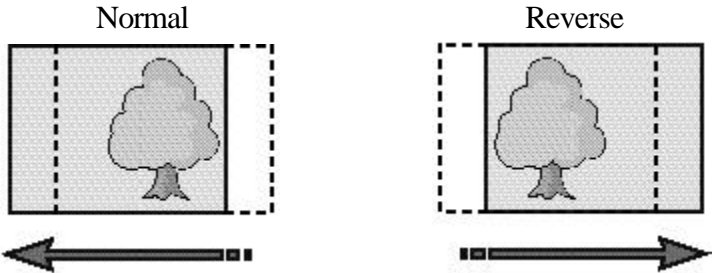
**Pan, Tilt, Zoom and Home Position**
The VC Controller over LAN software offers you three different ways to control your communication camera's basic movements. Pan, Tilt, Zoom and Return to the Home Position are operable either through your mouse by clicking on the graphic buttons of the VC Controller, through the Controller's Finder Window or through your computer keyboard.

Click on a VC Controller button to make the camera move in the direction you desire, as noted below.
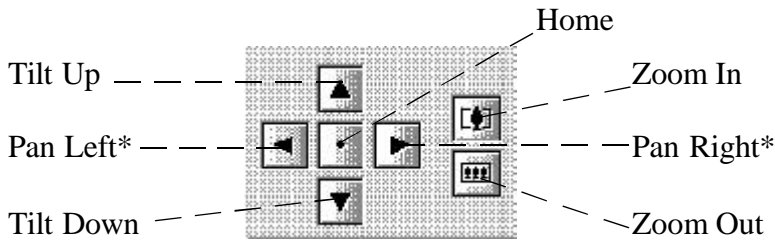


*Pan Direction depends on the way the camera is facing.
Please refer to page 12, "Setting the panning direction".

You can also control the above features through the Finder Window. The Finder Window displays a rectangle that changes position and size when you drag it with the mouse. This rectangle reflects the framing of your video image and the pan and tilt angles of your camera, as well as the zoom position.



Maximum Viewable Area
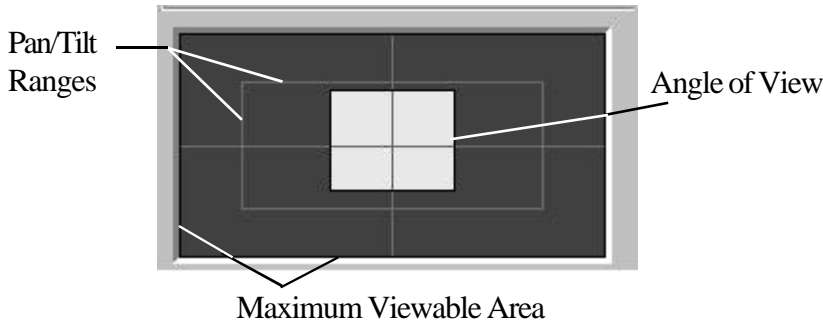
To change your camera's angle of view, simply click on the rectangle within the Finder Window and, while holding down the mouse, drag it to a new position. The camera will move to view that area.
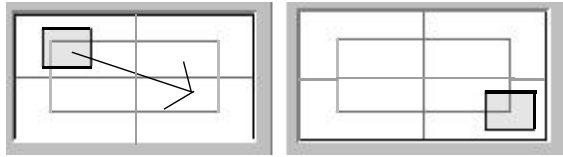


To adjust the zoom position, place your mouse at the edge of the rectangle. A double-sided arrow will appear. Click and drag it to readjust the zoom. As the rectangle gets smaller, the camera zooms in and, conversely, as it gets bigger, the camera zooms out.
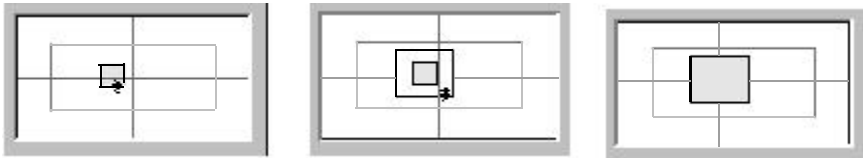


To control your communication camera with the keys of your keyboard, use the up/down/right/left arrow keys or the numbers 1,2,3,4,5 and 6 of the number keypad to go to any presets. The number 7 key is for the Home Position and the + and - keys are for Zoom In and Zoom Out. Remember to turn off the number lock so that the keys can be activated for controlling the camera.

The Operate button (below the Controller buttons), can be used to temporarily disable camera control and mute video images.



**Extended Camera Options**
You can use the Extend button on the Main Control Panel to gain access to several useful camera control options.
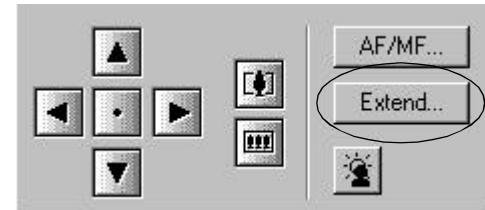


The pop-up menu displays four types of optional settings. You can change the zoom, shutter, pan and tilt speeds, as well as white balance, to suit your needs.
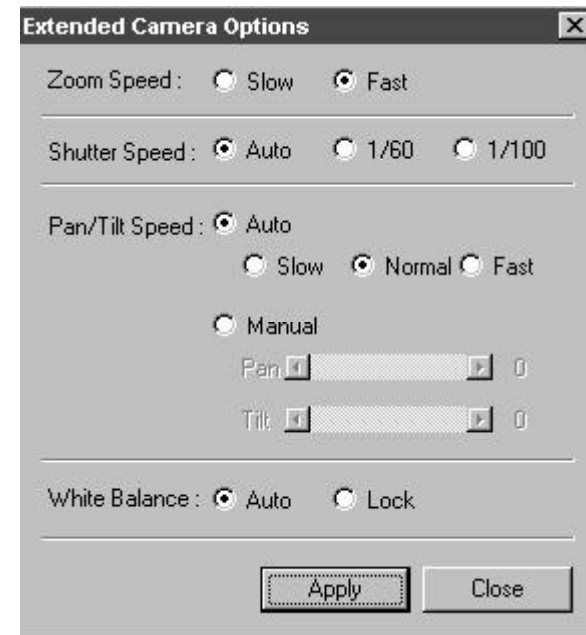
*Zoom Speed*: You can select either [Slow] or [Fast] for the zoom speed. Please refer to the chart below. The default setting depends on the camera.

*Shutter Speed*: Select a shutter speed out of [Auto], [1/60] or [1/100]. The default speed depends on the camera.

*Pan/Tilt Speed*: Select either [Auto] or [Manual] speed. The default setting is [Auto].
In the [Auto] mode, you have the choice of either [Slow], [Normal] or [Fast]. The default is [Normal].
In [Manual] mode, you use a sliding bar to set both the Pan and Tilt speeds and adjust their speeds along a gradated scale of 1-100. The default speed on both Pan and Tilt bars is 50. Please refer to the chart below.

*White Balance*: There is no manual white balance setting, however, there is a choice between [Auto] and [Lock]. The default is [Auto]. Sometimes, though, if the lighting conditions suddenly change, or if a monochrome subject is being shot, the color can look unnatural. This is when you should implement the [Lock] setting, to prevent the current white balance setting from changing.

After you have made all the desired changes to the camera settings, click the [Apply] button for them to be put into effect. Finally click the [Close] button to exit the Extended camera Options window.

Relationship between Zoom Speed Range and Pan/Tilt Speed

| Pan/Tilt Speed Auto | Zoom Speed Tele ⟷ Wide |
|---|---|
| Slow (S) | S ⟷ N |
| Normal (N) | S ⟷ F |
| Fast (F) | N ⟷ F |

# IMAGE CONTROL FUNCTIONS

**Back-light Compensation**
When the strongest source of light is coming from behind the subject you wish to view, making it seem too dark, you can turn on the backlight compensation to see the subject better.

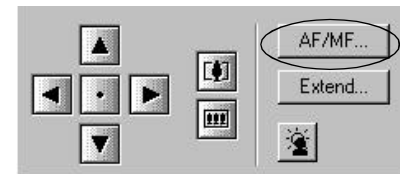Click on the back-light button once to activate back-light compensation.
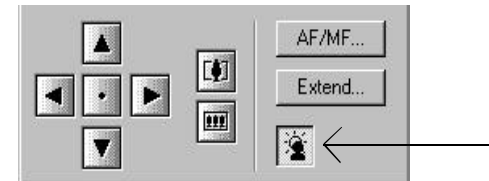

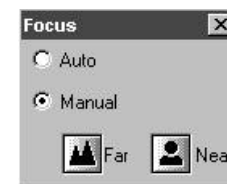
Click on it again to deactivate back-light compensation.
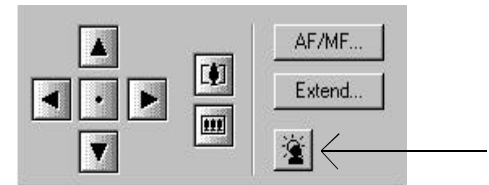


**Automatic and Manual Focus**
Click on the AF/MF... button to access the Focus Window.



Select [Auto] for auto focus and [Manual] to have more control over the focus. In [Manual] mode, the Far button adjusts the camera's focus on a distant subject and the Near button sharpens the focus on closer subjects.

# ADVANCED CONTROL OPTIONS

## Programming Presets

You can program up to 6 presets which will store your preferred camera positions, zoom positions and whether or not the back-light compensation is on or off. Doing so will allow you to reposition the camera quickly and accurately when you click on any given preset button.

1) Adjust the camera position, zoom and back-light the way you want them.

2) Click the Preset Registration button. ⬦  The button's color will change to green, ready to accept a preset. (To cancel before selecting a preset, simply click the button again to turn the preset mode off).

3) Click on the numbered button (1-6) that you would like to program.  1 2 3 4 5 6
   The color of that button will turn green and that button is now programmed. Follow these steps to program each position.
*You can not overwrite presets. They must be removed first.

## Deleting Presets

1) Click on the Preset Deletion button.  🗑  The button's color will change to green.  (To cancel the operation and keep the programmed setting, click on the Deletion button again - the button will return to black and the setting will remain).

2) Click the programmed button that contains the information you would like to delete.  1 2 3 4 5 6

3) When the presets have been deleted, both the preset numbered button and the Preset Deletion button will become black again.

## Preset Marks

As soon as you program any of the numbered preset buttons, its corresponding number is displayed in the Finder Window. You can easily verify a preset location and return the camera to any preset position by clicking on the numbered button. Whether or not you program preset positions, you can click anywhere within the Finder and the camera will reposition itself accordingly.
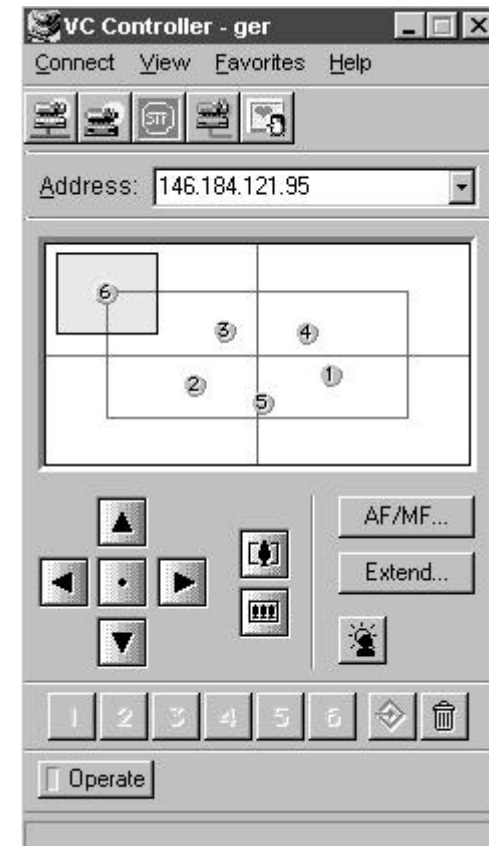
## OTHER FUNCTIONS

### Favorites
Instead of trying to remember the IP address for each camera you use, you can assign it a more user-friendly name. To do this, open the [Favorites] menu and select the option [Add to Favorites]. Enter a name for your preferred camera and then the IP address (see page 10 for details) for the computer to which that camera is attached. Click the [OK] button to save this information.



If you decide to change the name or IP address of one of your favorites, go to the [Favorites] menu and click on [Organize Favorites].

The [Organize Favorites] box will pop up and you can change a name by highlighting it. The options to add a *new* name, *delete* a current name, *edit* a name in the list, or *connect* to one of the named cameras, are all possible through this window.
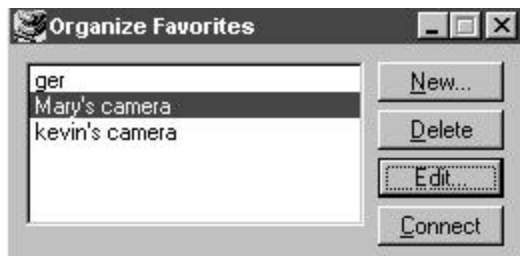


You can also identify your favorites by color*. Under the [View] menu click on [Properties] and then on [Setting...]. The [Color] dialog box will appear. Click on the color of your choice. When you click [OK], the color will be saved with the favorite and will update the background color in the Finder.
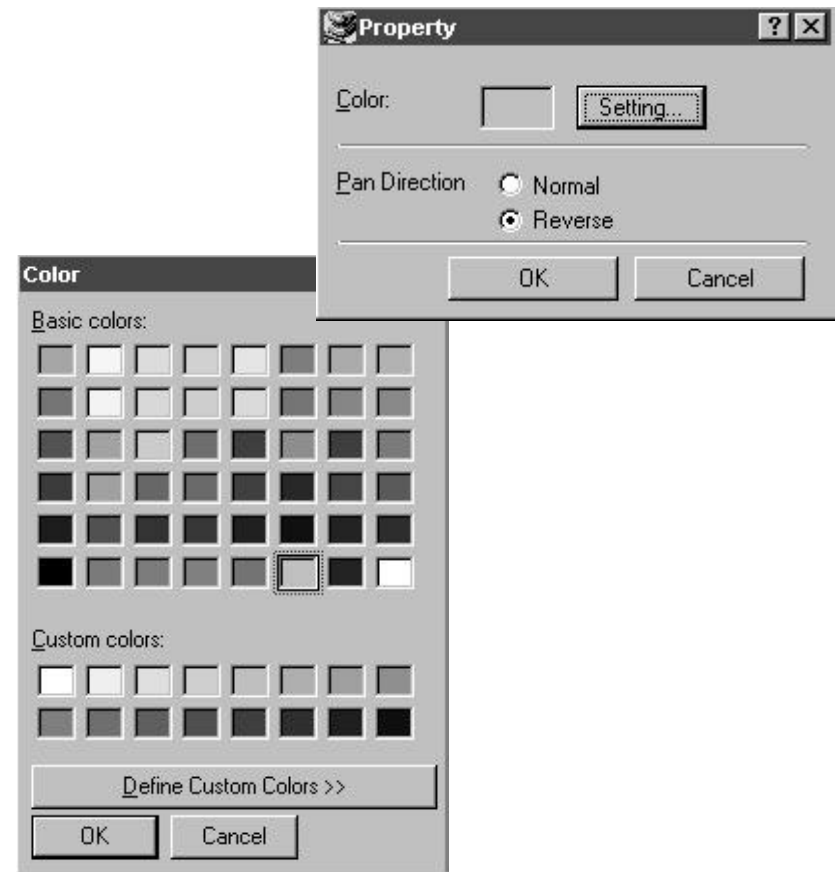


You can click on the [Define Custom Colors] button to select a new color from the pop up color palette. Move the cursor over your desired color and click on that spot. The color will be added to your [Custom Colors] menu.
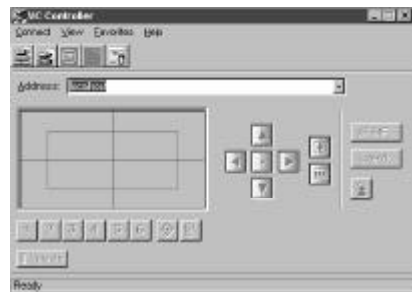
*If you are using a version of Windows 95 earlier than version [4.00.950 B], see page 25.

**Changing the Display of the Main Panel**
There are four display options for the Main Panel:


Vertical


Horizontal


Small


Medium

Both the vertical and horizontal modes display all control options on the face of the panel while the small and medium modes display only the more popularly used controls.

Additionally, under the view menu, there are three other options you can hide from view or not. The *tool bar* will be visible at the top of the Controller window when checked. The *status bar* will be visible at the bottom when checked. The *presets* will show up as numbers in the Finder area when checked. These options can be helpful in managing your desktop space.

**Using a Joystick for camera control**
In the [Option] dialog box under the Connect menu, selecting the joystick tilt direction sets the relationship between the camera and joystick movements. The default setting is [Push forward to tilt up].
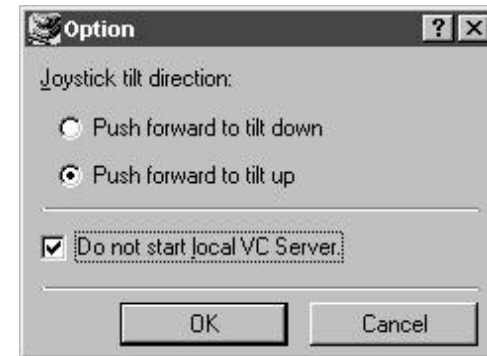


Please note: The direction in which the camera pans is also determined by how the Pan Direction button in the Property box is set. See page 12, "Setting the panning direction". Pushing buttons 1 and 2 simultaneously returns the camera to the home position.


Zoom Out
Zoom In
Microsoft Sidewinder Joystick™

Note: Please refer to the joystick manual for connecting and configuring a joystick with your computer.

# MESSAGES

## Messages displayed in status bar

The status bar at the bottom of the VC Controller displays the camera connection status. Below are four typical messages.

When the VC Controller and Server are ready to attempt connecting to a camera, this message appears in the status bar:
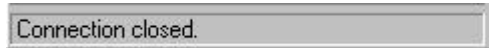


As the Controller attempts to connect to a camera, this message appears:



Once the VC Controller has connected to a camera successfully, it shows the name of the camera (or IP address) in the bar:
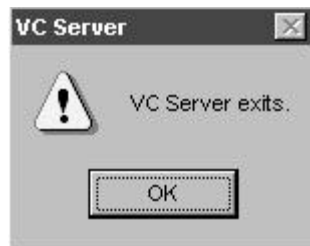


Once the connection to a camera is interrupted, this message appears in the status bar:



## Other Messages

If the VC Server was running, when you quit working with the LAN software, this message will appear when you go to close the VC Controller over LAN. Click [OK] to close the program.



## Error Messages

If either the remote or local camera Servers are not turned on (indicated by a small camera icon on the task bar in the right hand of your screen), the message below will appear. You will need to close the VC Controller over LAN software and restart the program and the Server. Make sure that the box [Do not start Camera Server] is left unchecked. This box is under the Connect menu of the main control panel, under [Options].



## Windows version [4.00.950] or [4.00.950 A] Users Only

If you are using a version of Windows 95 earlier than OSR2 [4.00.950 B] you will experience the following:
-After changing the color preference of a Favorite and you click OK, the change is NOT made. If you click Cancel, a "Runtime error '48':Error in loading DLL" message will appear. Furthermore the application may unexpectedly quit.

*How to check the version of Windows 95 you are using:*
Right mouse click on My Computer on your desktop. Select Properties from the dropmenu. Your version of Windows 95 is displayed on the right under System. If it is version [4.00.950] or [4.00.950A] the above error will happen.

To fix this problem, you must install Internet Explorer v3.0 or later. Available free from Microsoft. (www.microsoft.com)

## APPENDIX A

### Technical Support

If you experience a problem with the installation or operation of the
VC Controller over LAN Software, you may write,
e-mail or call Canon USA, Inc. Technical support is available
between the hours of 9:00 A.M. and 5:00 P.M. EST.
Please have the following information available before
contacting us for technical support.

1. The manufacturer and model of your computer.
2. The version of your VC Controller over LAN Software.
   (Please see below for how to find this information.)
3. The amount of memory (RAM) in you computer.
4. The version of Windows you are using.

   Canon USA, Inc.
   Visual Communication Systems Division
   1 Canon Plaza, Bldg. B
   Lake Success, NY 11042
   Tel (516) 328-5960
   Fax (516) 328-5959
   E-mail: vcsd@cusa.canon.com

By selecting [About VC Controller] under the Help menu of the
main control panel, the information window will open.
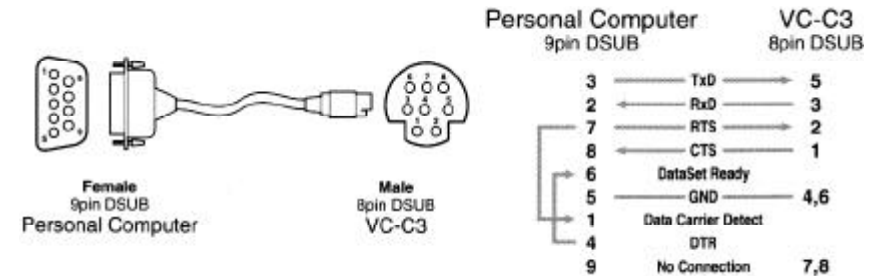The version of your software will be listed here.



## APPENDIX B
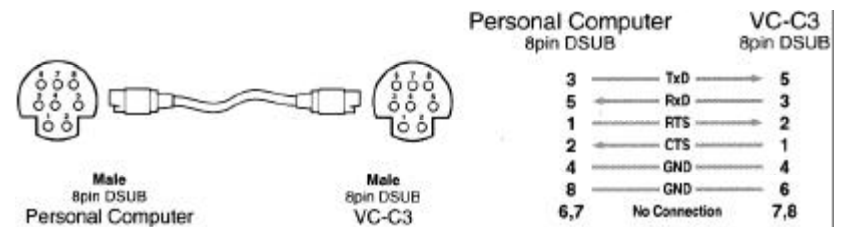
### RS-232 Pin Out Diagrams

9-pin DSUB to 8-pin (VC-C3) Connection

Below is a cable pin out diagram of the cable required to control
the Canon VC-C1 or VC-C3 camera from a computer with a
9-pin serial port.



8-pin to 8-pin (VC-C3) Connection

Below is a cable pin out diagram of the cable required to control
the Canon VC-C3 cameras from a computer with an 8-pin serial
port.

**NOTES**