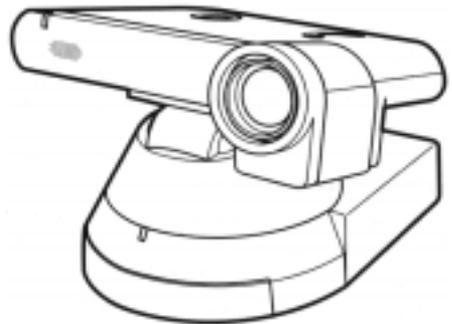


# VC-C3

Control Software v1.0  
Users Guide

For Windows 95



## Important Usage Instructions



Please read this software instruction manual and the VC-C3 Camera Instruction Manual carefully before use and keep it at hand for reference to ensure optimum performance.

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## **BEFORE YOU BEGIN**

### **Introduction**

Welcome to the VC-C3 Control Software – proprietary control software for the Canon VC-C3 Communication Camera that enables you to control all of the features and functions of the camera via Microsoft Windows 95.

You will find that the VC-C3 Control Software allows you to incorporate the VC-C3 camera into many different applications. For example, the VC-C3 camera is ideal for Videoconferencing, VideoMail, Desktop Video, Surveillance, Remote Monitoring and many other applications that require the control of a full motion video camera.

In addition to the VC-C3 Control Software, Canon offers a VC-C3 Software Developer's Kit package that allows programmers to incorporate the VC-C3 control features into their own applications.

### **System Requirements**

To use the VC-C3 Control Software you need:

- A Windows 95 Compatible PC running Microsoft Windows 95
- A Microsoft compatible mouse
- A Canon VC-C3 Communication Camera

### **The VC-C3 Control Software Package**

Your VC-C3 Control Software Package contains:

- VC-C3 Control Software (3 ½" diskette)
  - VCC3.EXE ..... VC-C3 Control program
  - VCC3.PDF ..... Users guide in Adobe Acrobat format
  - README.TXT ..... Readme file
- VC-C3 Control Software User Guide

### **Registration**

We are confident that you will find the VC-C3 Control Software extremely helpful in utilizing the Canon VC-C3 Communication Camera with your personal computer. So that we can continue to provide you with the highest quality software, technical support, and keep you informed about new VC-C3 software developments, please send us the enclosed registration page or e-mail us your full address and what product you are registering for. Please feel free to include any comments or suggestions.

## GETTING STARTED

### Connecting the VC-C3 Camera to Your Computer

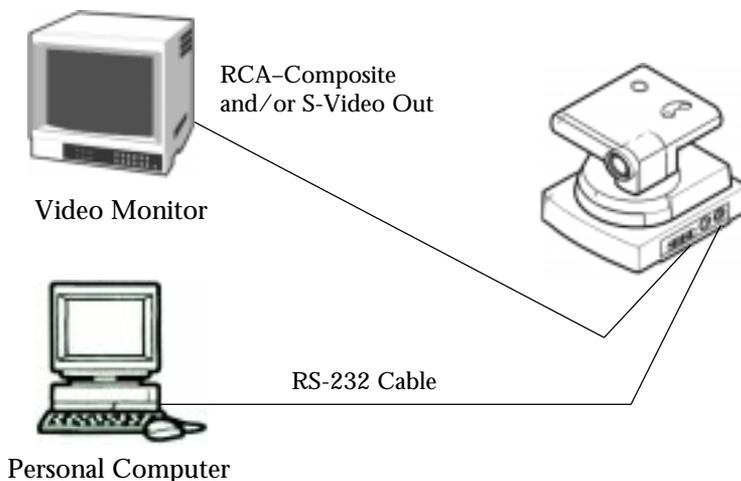
To connect the VC-C3 camera to your PC, will require a specially pinned RS-232 control cable. Do not attempt to use any other RS-232 cable besides the one that Canon sells for the VC-C3 camera. The VC-C3 camera has a special pin configuration and will NOT work with an ordinary RS-232 cable. If you do not own the Canon RS-232 control cable, contact the nearest Canon VC-C3 camera reseller for purchasing information or see Appendix A for the pin outs of the cable.

Before connecting or disconnecting any hardware from your computer, always turn your computer off first.

Connect the 8-pin DIN connector end of the cable to the RS-232 port on the back of the VC-C3 camera and connect the 9 pin DSUB connector end of the cable to any available serial port on the back of your computer (COM1 – COM4).

If your computer is additionally equipped with a real time video capture card you can connect either the Video Out or S-Video Out from the VC-C3 to your computer. This will enable you to display the VC-C3 video directly on your computer screen. If your computer is not equipped for such a configuration, you can use any standard NTSC video monitor to view the video output.

### VC-C3 Connection Diagram



## Using Multiple Cameras

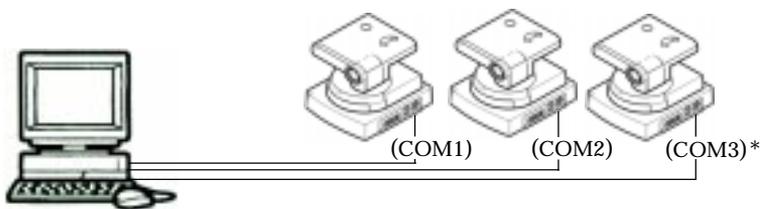
To connect more than one VC-C3 camera to your PC, will require one available COM port for each camera, up to a maximum of four. You still must use the special RS-232 control cable for each camera. Do not attempt to use any other RS-232 cable besides the one that Canon sells for the VC-C3 camera. The VC-C3 camera has a special pin configuration and will NOT work with an ordinary RS-232 cable. If you do not own the Canon RS-232 control cable, contact the nearest Canon VC-C3 camera reseller for purchasing information or see Appendix A for the pin outs of the cable.

Before connecting or disconnecting any hardware from your computer, always turn your computer off first.

Connect the 8-pin DIN connector end of the cable to the RS-232 port on the back of the VC-C3 camera and connect the 9 pin DSUB connector end of the cable to any available serial port on the back of your computer (COM1 – COM4). Repeat this for as many cameras, up to 4, that you have available COM ports for.

If your computer is additionally equipped with a real time video capture card you can connect either the Video Out or S-Video Out from the VC-C3 to your computer. This will enable you to display the VC-C3 video directly on your computer screen. If your computer is not equipped for such a configuration, you can use any standard NTSC video monitor to view the video output.

### VC-C3 Connection Diagram (Multiple Cameras)



Personal Computer  
RS-232 Cables

\* The majority of computers sold come equipped with 2 COM ports (COM1 and COM2). To connect more than 2 VC-C3 Cameras to your computer may require the installation of additional COM ports via an upgrade card. Please see your computer dealer for information on this.

## INSTALLING SOFTWARE

### Installation

To install the Canon VC-C3 Control software on a computer running Windows 95, follow these steps:

- 1) Open your local hard drive (usually c:) to view the contents of the root directory.
- 2) From the file menu select New > folder and name it VC-C3 Control.
- 3) Drag copy all of the files from the VC-C3 Control Software distribution diskette into that folder.
- 4) Open the newly created VC-C3 Control folder
- 5) The VC-C3 icon should appear in this folder if successful.
- 6) Open the Readme.txt for last minute updates to the manual and operation of the VC-C3 Camera.
- 7) Double click the VC-C3.exe file to start the VC-C3 Control Software.



VC-C3 icon

## Start Up Operation

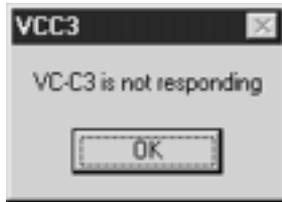
- 1) Make sure the VC-C3 is connected to a serial port (COM1 is the default setting in the software) and the power is ON.
- 2) Double click on the camera icon, VCC3.exe, to start the program. The program first checks to see if the default COM port is present, then checks to see if the VC-C3 is connected to it. The camera will automatically initialize upon start up and the selected camera button will show a green dot. If an error occurs, (see below) the dot will blink red. Select another of the four camera buttons as required at the bottom of the control window. The camera buttons 1 – 4 correspond to serial ports COM1 – COM4 on the computer.

### If an error occurred:

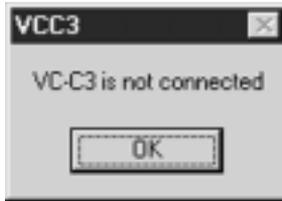
- 1) Check that the serial port the VC-C3 is connected to is the same as the camera button you are using in the software. If you are sure that the proper serial port is selected, cycle the power switch on the back of the VC-C3 and select 'Initialize Camera' from the drop down 'System Menu' in the upper left corner of the application window.
- 2) If a COM port is not configured properly by your computer or you do not have a specific COM port this message will be displayed:



3) If you have the COM port configured but it is being used by another device such as a modem, this error will be displayed:



4) If the VC-C3 is not connected to the selected configured COM port, this error will be displayed:



Note: There may be a several second delay before an error message shows, depending on how far the initialization gets before an error is encountered.

# PROGRAM OPTIONS CONFIGURATION

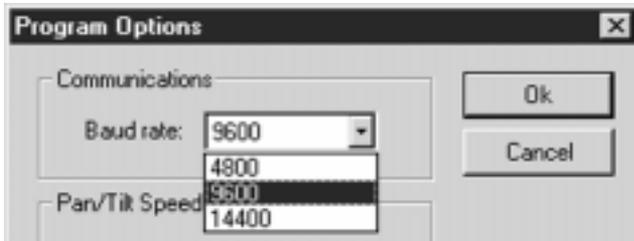
## Program Options

To access the Program Options window, choose 'Program Options' under the 'System Menu' in the upper left corner of the VC-C3 Control Software application window.

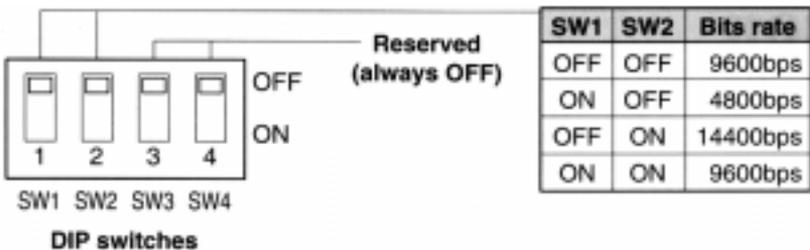


## Communications

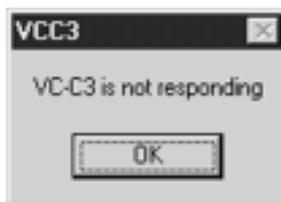
The RS-232 communication speed can be set to 4800, 9600 or 14400 bps (bits per second). To adjust the speed, select the arrow next to the default value (9600) and choose a different speed from the drop menu and choose 'OK'. The bps dip switch setting\* of the VC-C3 should be the same as what is set in the software. Consult your computers' manual for the speeds your computer supports.



\*Dip switch setting – Below is the table for setting the communication speed on the VC-C3 Camera. Make sure the VC-C3 is powered OFF and then move the switches to the desired position. The Diagram shows the default position of all switches.



If the DIP switch setting on the CCU and the setting you chose in the Communications Baud rate window are different you will get the following error:



## **Pan/Tilt Speed**

Accelerated Speed Mode – This will cause the camera to ‘step up’ its pan/tilt speed based on the length of time the respective pan/tilt button is pressed.

The speed setting of the pan and tilt motor can be adjusted from 1 – 70 degrees per second. To adjust the motor speed, slide the Pan/Tilt Speed control bar to the desired setting or manually enter a value in the window and choose ‘OK’.

## **Zoom Speed**

The speed setting of the zoom motor can be adjusted from slow to fast. To adjust the motor speed, slide the Zoom Speed control bar to the desired speed setting and choose ‘OK’.

## **Options**

The VC-C3 software control window size can be set to small or large for your convenience. To adjust the control window size, check or uncheck the ‘Large window display’ box. All changes will take place after the ‘OK’ button is selected. Also, the Max/Minimize button on the software window can be used to change the window size.

Window always on top – This will make the VC-C3 Control Software window always appear on top of your desktop view.

Enable IR remote control – Check this to allow the VC-C3 to be controlled from the IR remote while the Control software is running.

## CAMERA CONTROL FUNCTIONS

### Camera

The camera buttons (1-4) at the bottom of the window correspond to COM ports 1-4. Choosing one of these numbers will switch camera control to the camera connected to the corresponding COM port.

### Operate

The power button will mute the audio and video output the VC-C3 camera. When the camera is in operate OFF mode, no video or audio will be active. Until the Operate button is pressed again, the camera will sit idle and the LED on the Pan/Tilt base will blink. Additionally, all functions of the Control Software GUI and IR Remote will be disabled except for the Operate button.



### Zoom

The VC-C3 camera has a built in 10x power zoom lens. The Tele and Wide buttons respectively zoom the camera to a telephoto or wide angle view. Also, the + or - keys on most computer keyboards will allow you to zoom the camera to a tele or wide position.

### Focus

The VC-C3 camera has the capabilities to be set in a Auto Focus or Manual focus mode. When the software is initially activated the camera will default to Auto Focus mode. To change to Manual focus use the mouse pointer and press the Manual button. To adjust focus: hold the Near button, the camera will focus on objects that are close to the camera lens and by holding the Far button the camera will focus on objects that are Far away from the camera lens. To return the camera to Auto Focus mode, click on the Auto Focus button.

### Bright

The Bright button will change the exposure target value of the VC-C3. This is a three position button: default brightness - brighter - brightest. Basically, it will brighten a dark video image.

Note: In extreme dark environments when the Bright button is pressed, no visible change in brightness may be seen because the VC-C3 may already be at its maximum brightness value

## PEDESTAL CONTROL FUNCTIONS

### Pan/Tilt Control

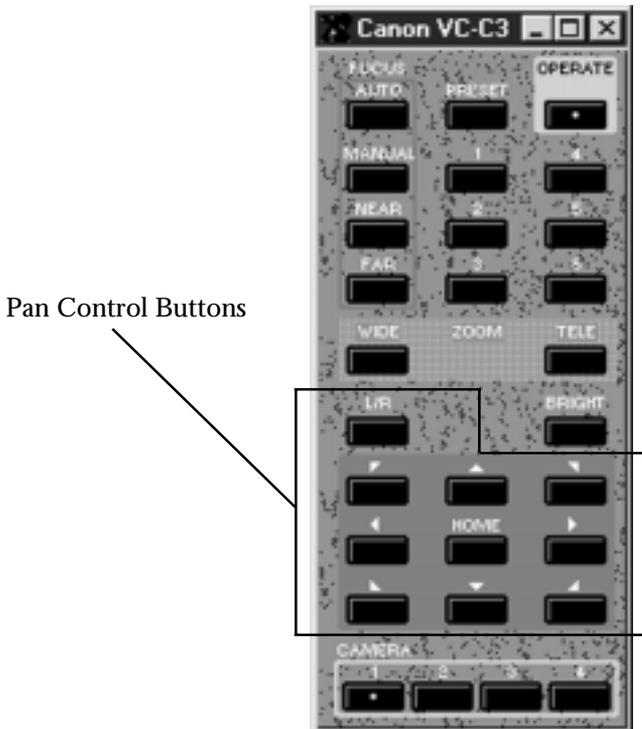
The Pan/Tilt buttons, marked with up, down, left, right and diagonal arrows can be used to control the movement of the camera head. Pressing one of these buttons will make the VC-C3 move in the respective direction. For additional control of the Pan/Tilt, the arrow keys on most computer keyboards will allow you to Pan/Tilt the camera.

### L/R

The L/R button will swap the left and right Pan buttons. This can be used to adjust the button operation depending if you are facing the camera or if you are behind the camera.

### Home

The Home button sends a command to the camera to go to the home position. The home position is the center of the horizontal and vertical movement of the camera. In addition to the home button within the software, the camera can also be moved to the home position by pressing the home key on the keyboard.



## SETTING PRESETS

Six preset locations can be set using the VC-C3 Control Software. A preset location consists of pan, tilt, zoom and brightness position information.

To set a preset location:

1. Adjust pan and tilt position of camera.
2. Zoom in or out as needed.
3. Select the desired brightness setting.
4. Press the Preset button once.
5. Press one of the preset buttons (1 - 6) which will be used for the camera's current position.
6. The desired preset will now be programmed.

Repeat steps 1 - 6 to set the remaining preset positions.

A preset position can be changed by repositioning the camera and assigning the new position to a preset number. Please note that this process will overwrite the previous existing preset position information and a new preset will be recorded in its place.

NOTE: All preset positions are SAVED even though the camera may have been powered off.



Preset Buttons

## PRESET CYCLE MODE

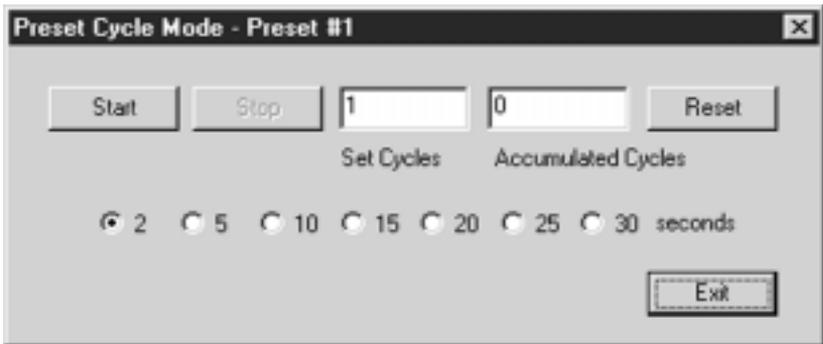
To access the Preset Cycle Mode window, choose 'Preset Cycle Mode' under the 'System Menu' in the upper left corner of the application window.

The Preset Cycle Mode can be used to cycle the VC-C3 camera through 6 presets, one preset at a time.

Using the Preset Cycle Mode:

1. Using the IR Remote or the Control Software, set the preset positions you want the camera to cycle through. The VC-C3 camera will always cycle through ALL six preset positions, whether they have been defined by the user or not.
2. Using the Set Cycles box, enter a value that will represent the number of times the VC-C3 camera should cycle through all six presets.
3. Use the numbered radio buttons to specify the number of seconds the VC-C3 camera will remain on each preset.
4. Press Start or Stop to begin or end the preset cycling.

The Accumulated Cycles box will provide feed back as to the number of completed cycles. (A cycle is when all six presets have been accessed.)



NOTE: The Preset Cycle window's title will change to reflect the current preset position the VC-C3 camera is at while the Preset Cycle Mode is running.

## IMAGE CONTROL – Auto

To access the Image Control window, choose 'Image Control' under the 'System Menu' in the upper left corner of the application window.

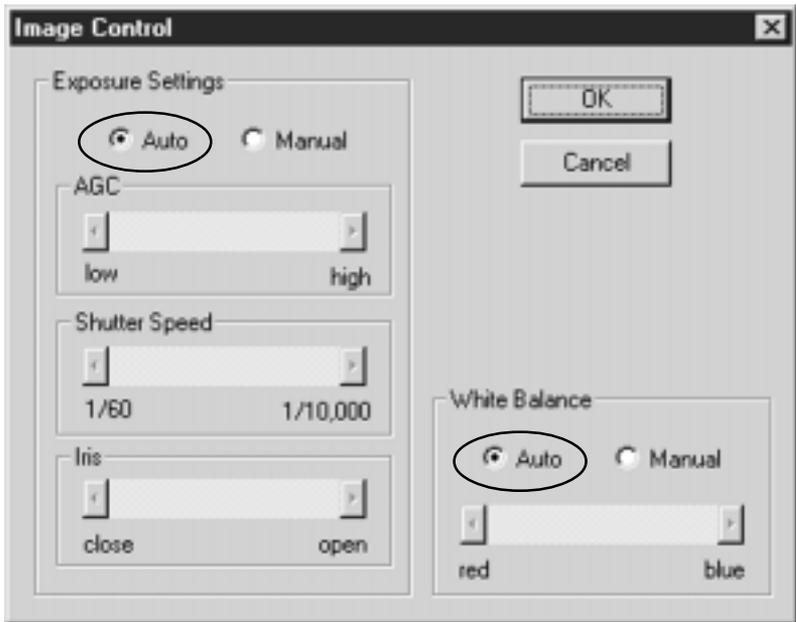
The VC-C3 can automatically adjust its settings (AGC, Shutter Speed, Iris, and White Balance) to provide an image it calculates to be the best based on its programming or the user can choose a Manual Mode and adjust those image controls manually.

### Exposure Settings – Auto

The VC-C3 camera will automatically adjust the AGC (Auto Gain Control), Shutter Speed, and Iris to provide the best possible video image.

### White Balance – Auto

The VC-C3 camera will automatically adjust the White Balance to provide the best possible video image.

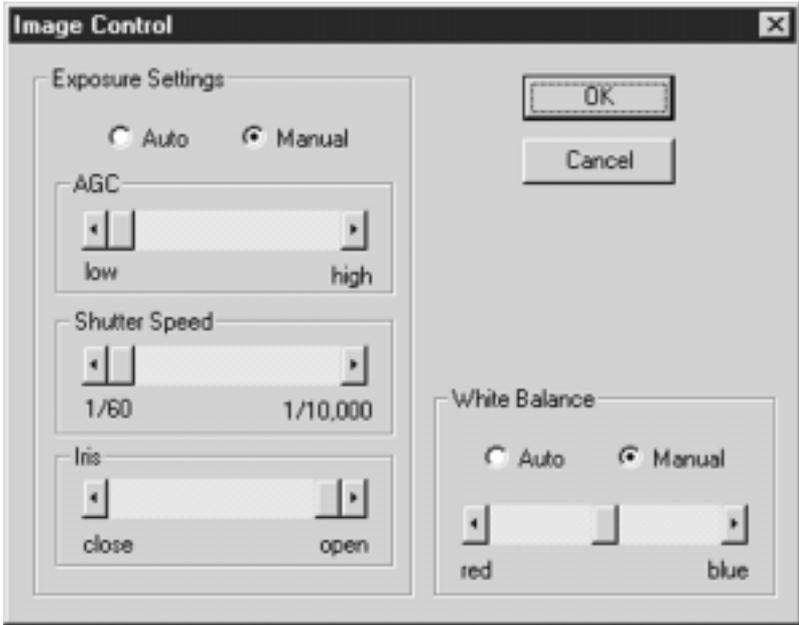


Note: While in Auto Mode the slider controls for AGC, Shutter Speed, Iris and White Balance will be grayed out and are disabled.

## IMAGE CONTROL – Manual

### Exposure Settings – Manual

To access the Image Control window, choose 'Image Control' under the 'System Menu' in the upper left corner of the application window.



### AGC

This slider will adjust the Automatic Gain Control. AGC is the automatic adjustment of the amplitude of a video signal. This adjustment will either brighten (raise) or darken (lower) the image's amplitude to conform it to a pre-specified target value for proper image quality. Note: By boosting the AGC, any video noise will also increase since you are boosting the whole video signal, including the noise.

### Shutter Speed

This slider will adjust the Shutter Speed from 1/60 – 1/10,000 of a second. The shutter speed is the length of time the VC-C3 activates the CCD in the camera head. The slower the shutter speed, the longer the CCD is active (virtual shutter) is left open, the more image data and light is allowed into the camera.

## **Iris**

This slider will adjust the Iris. The Iris consists of overlapping adjustable blades that regulate the amount of light passing through the VC-C3's lens aperture, or opening. The more open the Iris is, the more light is let in to the camera.

## **White Balance – Manual**

This slider will adjust the White Balance. White Balance is the adjustment of an image to calibrate it so that a white object appears white on the video monitor. This adjustment is done by varying the Red, Green and Blue levels of a video image. Commonly Green is a fixed value, and Red and Blue are adjusted.

## WIRELESS CONTROLLER

An infra red wireless controller was included in the VC-C3 camera box when you bought the camera. The wireless controller allows you to control the camera without using a computer. At times you might want to disable the wireless controller signal and only control the camera via the RS-232 connection on the VC-C3.

When the VC-C3 software program is initially started the wireless remote is always active. To disable the use of the wireless controller select the 'System Menu' button in the upper left corner of the application window and select 'Program Options'. Uncheck the 'Enable IR remote control' and choose 'OK'. This will disable the VC-C3 camera from executing commands that are sent from the wireless controller. See *illustration on page 7*.



VC-C3 Wireless Controller (WL-V2)

## VC-C3 INFORMATION

By selecting the 'System Menu' button in the upper left corner of the application window and selecting 'About', the VC-C3 information window will appear. This window is helpful in determining the version of application software and ROM hardware you are using.



## USAGE WITH VIDEOCONFERENCING APPLICATIONS

### **Far End Control**

The VC-C3 Control Software can be used with any videoconferencing application that supports Application Sharing. These applications include but are not limited to PictureTel's desktop PCS products and Intel ProShare desktop videoconferencing products. Once the VC-C3 Control Software is shared, a remote user can control the functions of the camera that are normally available through local control. More information on Application Sharing should be available in the manual that came with your videoconferencing system or from your authorized video conferencing dealer.

NOTE: As of this printing, it is not possible to share applications between different vendors. Although most vendors support T.120 sharing protocols, they are generally not interchangeable. Check with your videoconferencing manufacturer to determine cross-vendor compatibility with Application Sharing.

### **PictureTel PCS200 v1.0 & v1.1 Users\***

To connect a camera other than the camera supplied with your system you will need to purchase, from PictureTel, an adapter cable. This cable will convert the 8-pin DIN PictureTel connector to a standard RCA-Composite video connector.

The part number is as follows:

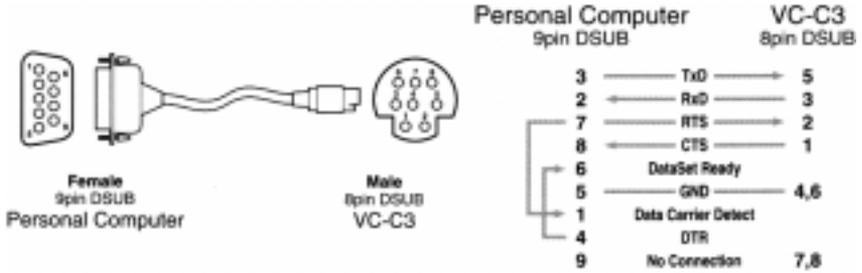
510-0192-01

\*In order for this software to function correctly, Canon recommends that PCS200 users upgrade to v1.1 or newer of the PCS200 software. Contact PictureTel for the latest upgrade information.

## APPENDIX A – 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-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 a 8-pin serial port.

