VISCA Camera Controller User Guide

Version 2.50

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What is VISCA Camera Controller

VISCA is a control protocol designed by Sony for use in professional PTZ (pan, tilt, zoom) camera systems. The protocol is based on RS232 serial communication at 9600 baud (bit/sec). Up to seven cameras can be connected to a single host computer.

The VISCA camera controller is software which runs on the Microsoft Windows operating system allowing you to independently control up to seven VISCA compliant cameras. With the software, you build Presets and Programs giving you flexibility to control each individual camera at a specific time with the camera settings you specify. You can control the camera via many different software options: buttons via the user interface, keyboard, or a joystick.

The VISCA camera controller is software built for professional videophiles who need to record live events with well-defined consistent camera settings using an easy-to-control macro playback environment.

The VISCA Camera controller software is comprised of two separate applications: the VISCA Camera Controller and the VISCA Player. The VISCA Camera Controller allows VISCA port configuration, camera configuration, building programs, and building presets. The VISCA Player allows playback of presets and programs created with the VISCA Camera Controller as well as controlling the camera (pan, tilt, zoom) manually during live events.

Quick-Start Links

See Appendix B for a typical run-through of the VISCA Camera Controller software for first-time users. This is a great place to start if you are evaluating the trial version of the software.

For the latest up-to-date information on the VISCA Camera Controller software check our online support portal and user forums.

- Support blog
- Online forums

About VISCA Camera Controller Settings Client

The VISCA Camera Controller Settings Client is the primary software application which allows you to configure the software and build custom Presets and Programs. Use this program to initially configure the VISCA bus and cameras for your system. Once your system is configured, use this program to build and edit custom Presets and Programs to easily control the VISCA compatible cameras any time you choose. This software application is typically used before live events to configure the camera shots that will be required during the live event.

Supported Platforms

The VISCA Camera Controller Settings Client supports virtually every Microsoft Desktop operating system currently on the market.

Operating System Requirements

- Windows XP
- Windows Vista
- Windows 7
- Windows 8
- Windows 10

Software Requirements

- Microsoft .NET 4.0 Client Profile

About VISCA Playback Client

The VISCA Playback Client allows you to playback any single Preset or entire Program built with the VISCA Camera Controller Settings Client. Use this program during a live event to programmatically set cameras to the locations and settings you require.

Supported Platforms

The VISCA Playback Client supports virtually every Microsoft Desktop operating system currently on the market.

Operating System Requirements

- Windows XP
- Windows Vista
- Windows 7
- Windows 8
- Windows 10

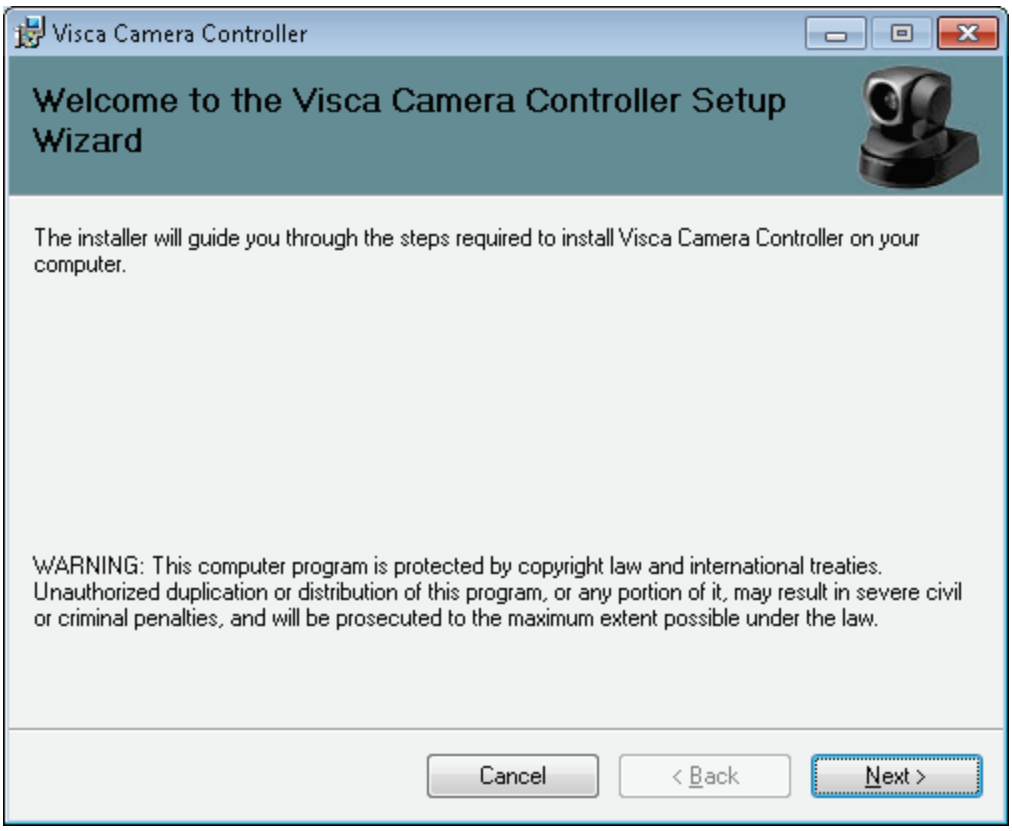
Software Requirements

- Microsoft .NET 4.0 Client Profile

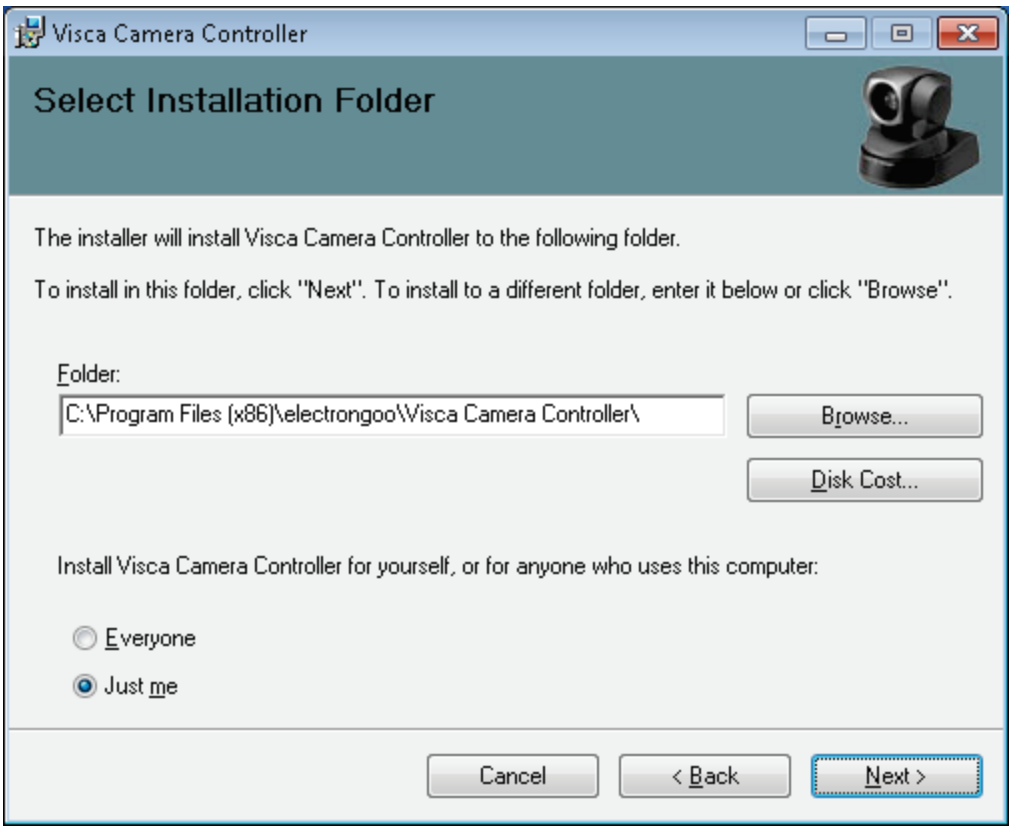
Installation

Installation of the VISCA Camera Controller software is a simple wizard-based process.

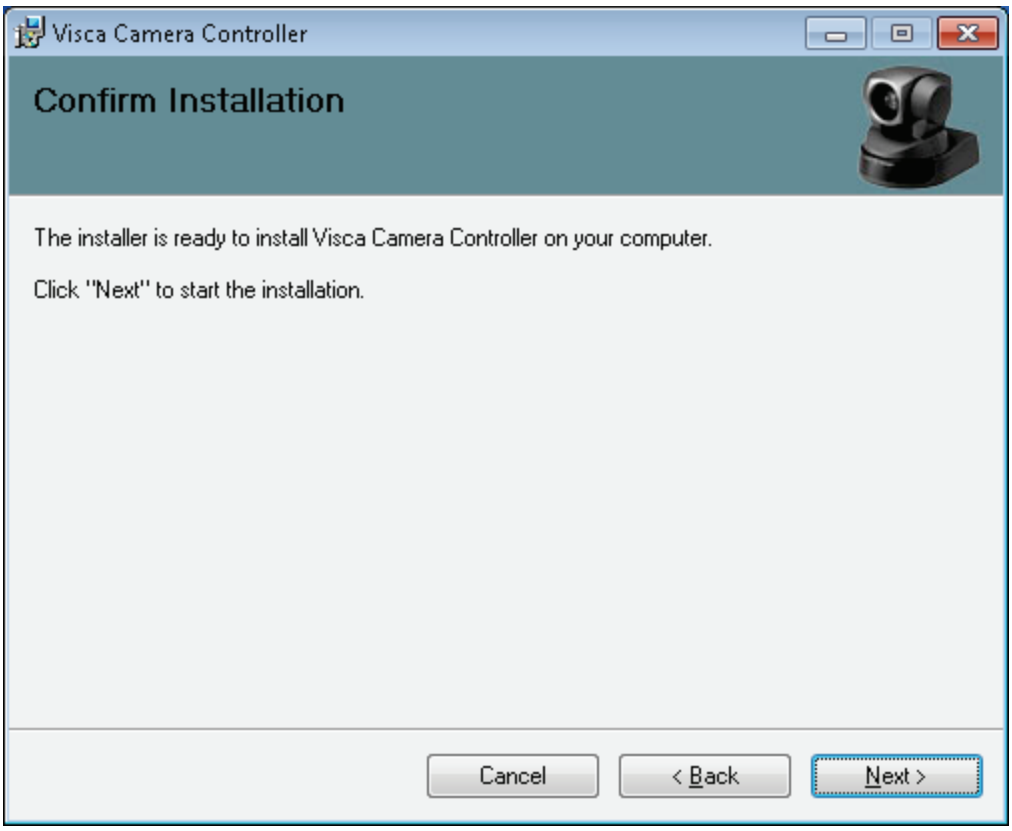
- Download the installation file from the website or e-store
- Locate the file named **VIscaCameraControllerForWindows.exe** and double-click it to begin the installation process on your PC



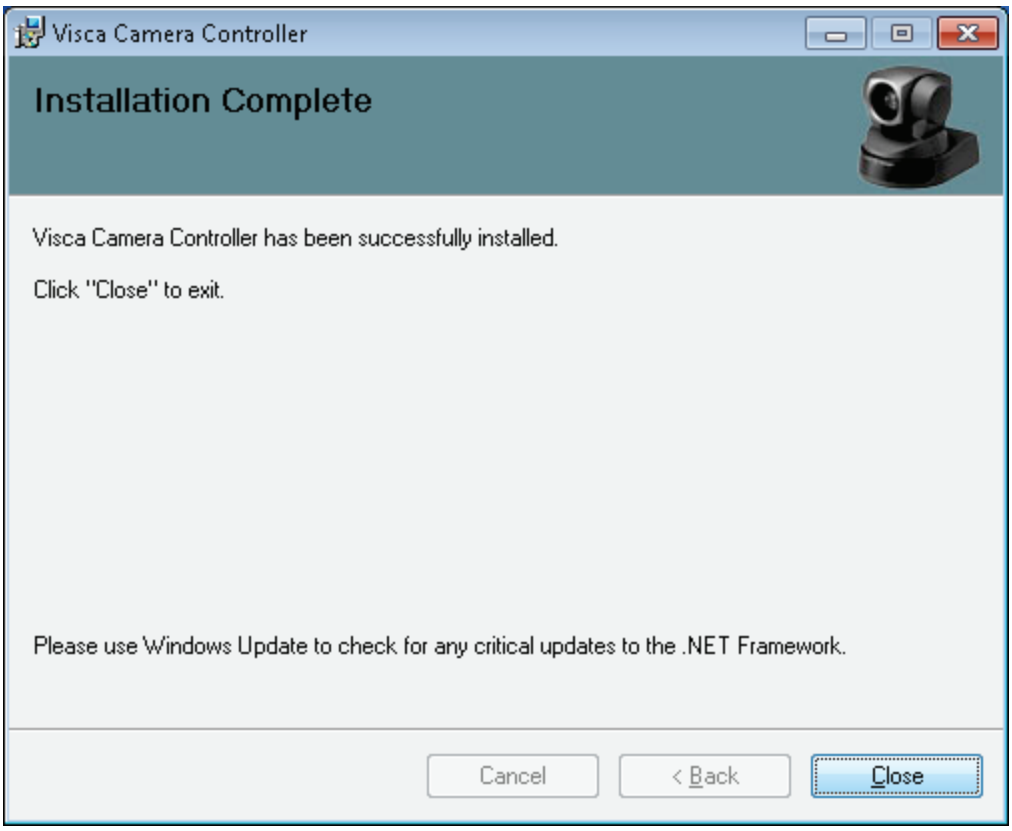
Press the Next button to continue …



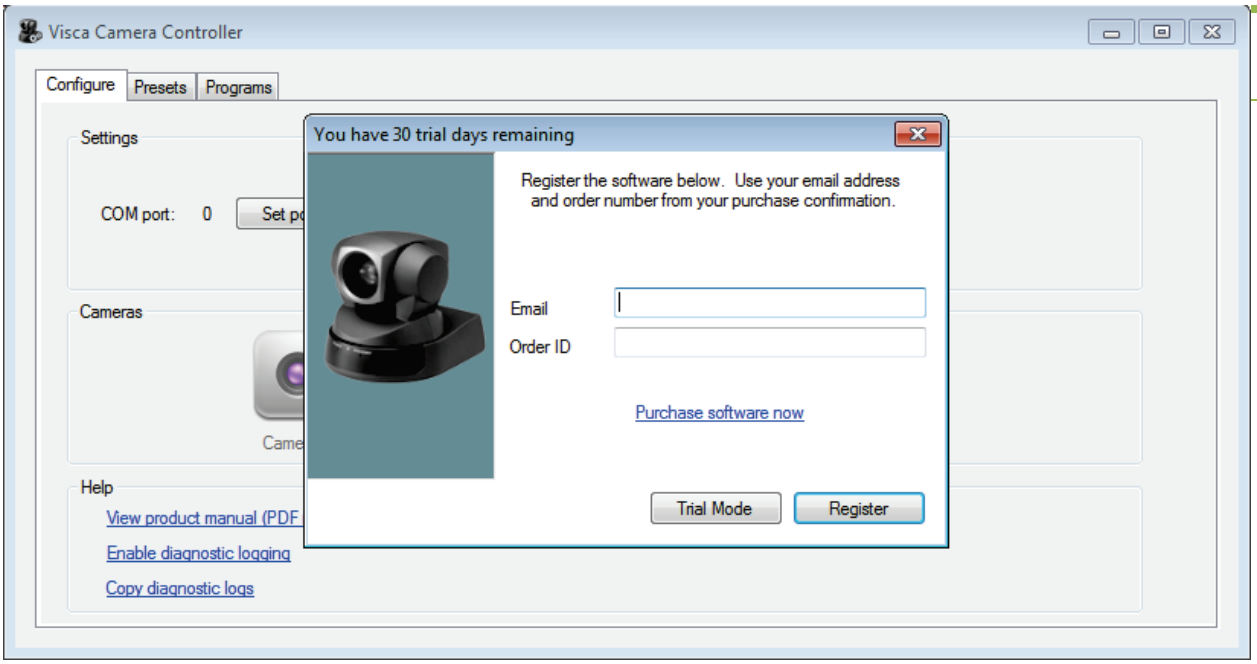
Select a folder to install the VISCA Camera Controller software (it is recommended to use the default folder) and click the Next button to continue …



At this point, the installer has gathered all required information. Press the Next button to install the VISCA Camera Controller software …



Installation of VISCA Camera Controller is now complete. Press the Close button to close the install wizard and automatically launch the VISCA Camera Controller Settings Client …



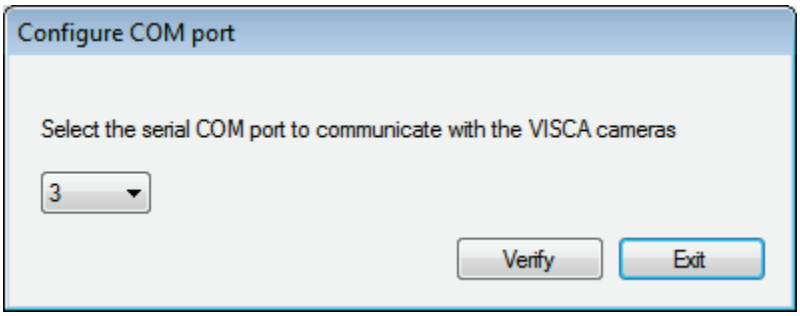
During first launch, you will be prompted for your email address and Order ID.

If you already purchased the software then enter your email address and Order ID and press the Register button. Use the email address you used when purchasing the software. The Order ID is supplied to you in your online receipt via email.

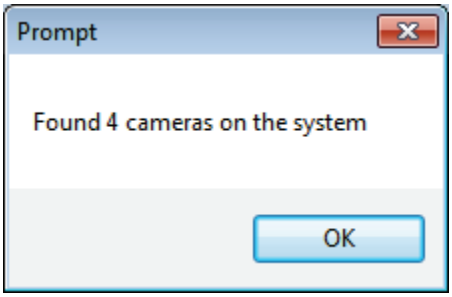
If you are trialing the software then press the Trial Mode button and you will have 30 days to evaluate all of the features of the software. You will be prompted to register each time you launch the software. After 30 days have expired then you must purchase and register the software to continue using it.

Configuring the VISCA Port

Make sure the Configure tab, located in the upper left corner, is selected and press the Set Port button to display the Configure COM Port dialog.



Select the COM port that your VISCA bus is using and press the Verify button. A prompt showing how many VISCA cameras have been detected will be displayed. See appendix-A for details on how to locate the VISCA COM port.

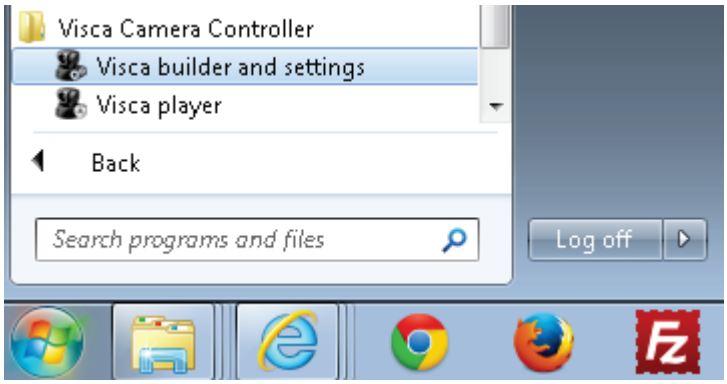


Press the OK button to dismiss the prompt and close the Configure COM Port dialog. The software is now installed and configured and you are ready to start building Presets and Programs.

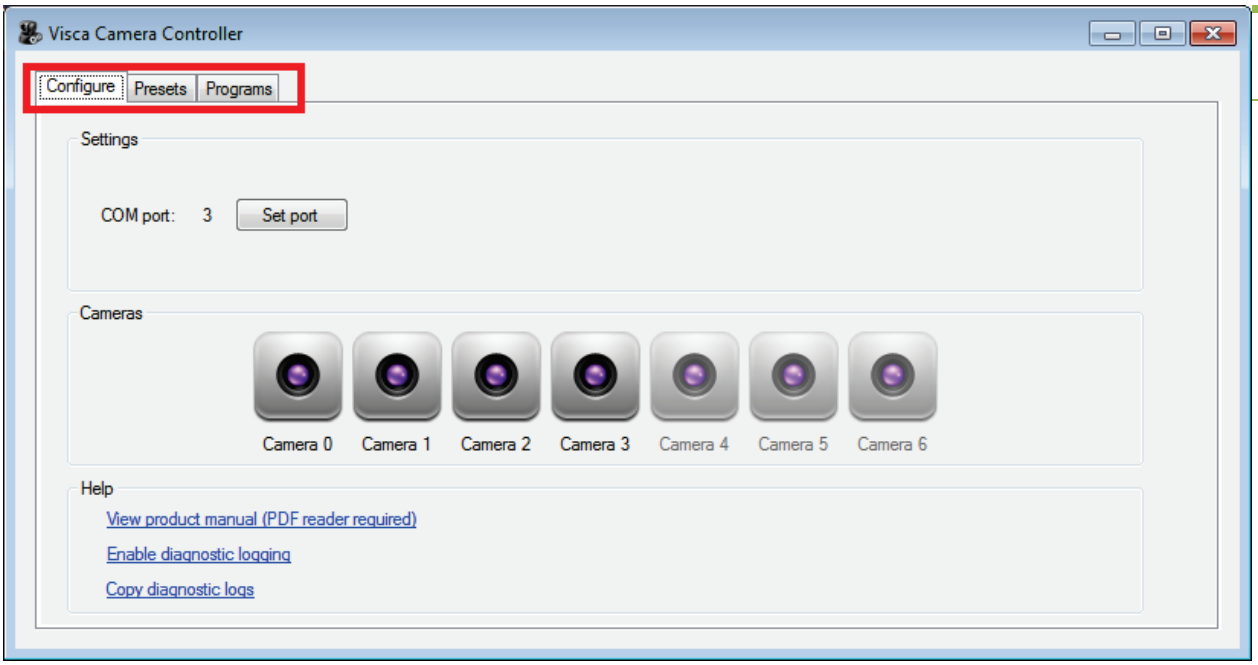
A walk-through of the Camera Controller Settings Client

Now that the VISCA Camera Controller software is installed and configured, let's review the features of the Camera Controller Settings Client. This Client is where new Presets and Programs are created.

If the Camera Controller Settings Client is not currently running then click on the Windows Start button, locate the Visca Camera Controller folder and click Visca Builder and Settings.



You should now see the Camera Controller Settings Client

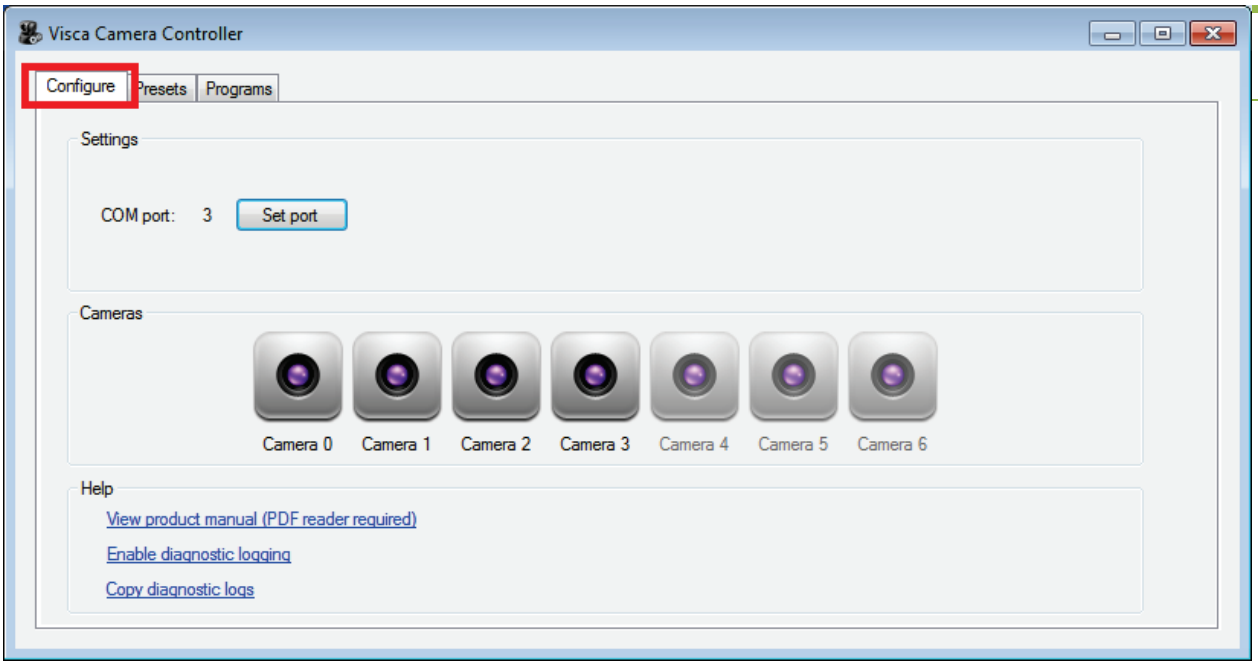


The Client consists of three primary tabs which are located in the upper-left corner:

- **Configure** – used to configure the COM port used by the VISCA bus, configure camera names, and view diagnostic and support information
- **Presets** – used to create individual presets which will specify the location, speed, focus, zoom, and aperture of a camera
- **Programs** – used to create programs which are groups of presets which can be used to easily flow from one preset to the next during a live show

The Configure Tab

The Configure tab is used to configure the COM port used by the VISCA bus, configure camera names, and view diagnostic and support information. It is typically used during first-time initialization but is always available.

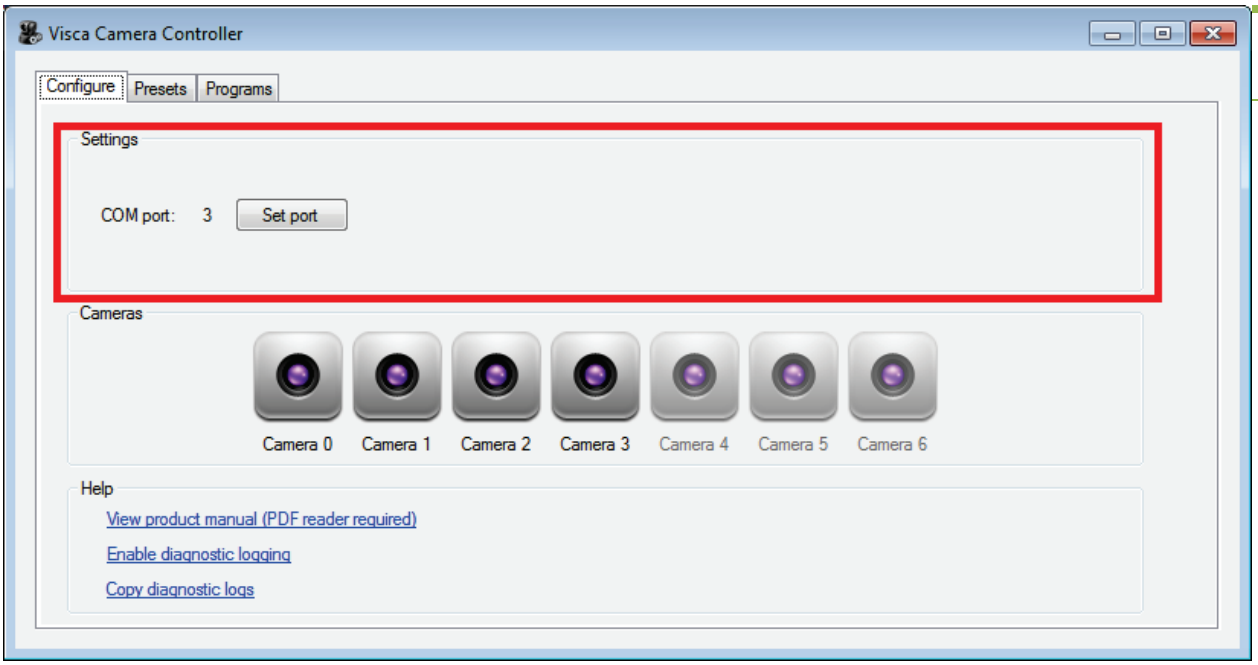


The Configure tab consists of three primary groups:

- **Settings** - used to configure the COM port used by the VISCA bus
- **Cameras** - configure camera names and identify cameras
- **Help** – access to help documentation and diagnostic logs

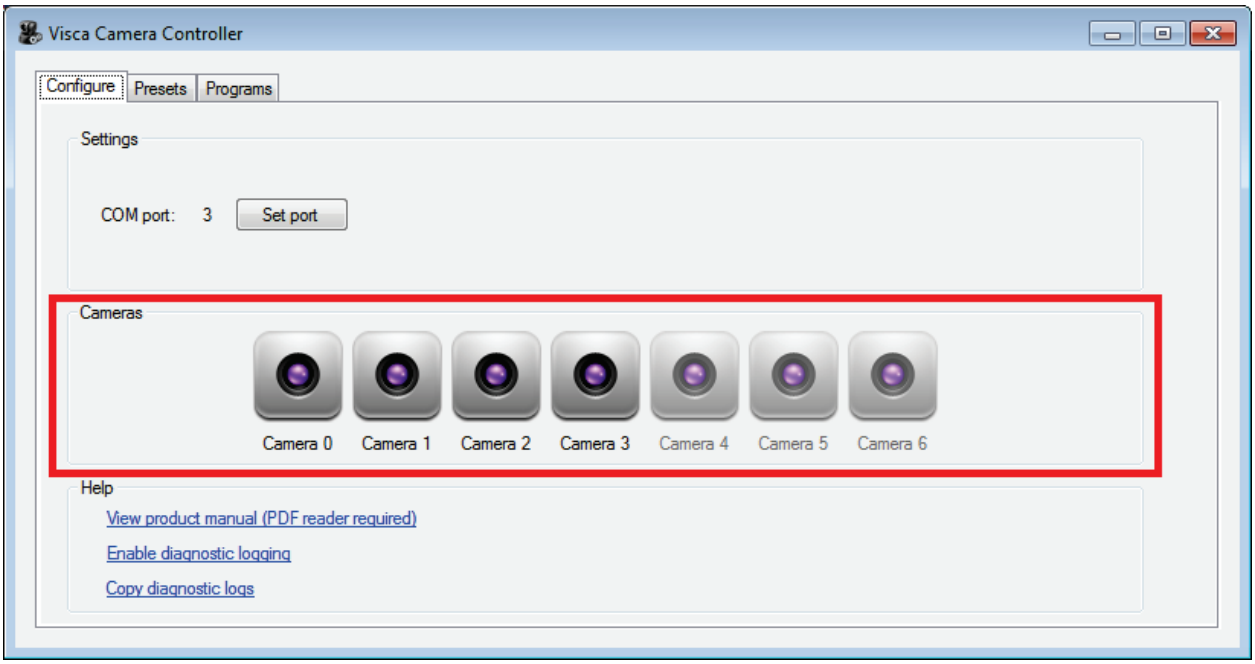
Settings

The Settings group allows you to configure the COM port used by the VISCA bus. This value is typically set once during installation but if the COM port changes on your system then you can update the port using the Set Port button. For details, see the section titled Configuring the VISCA Port.



Cameras

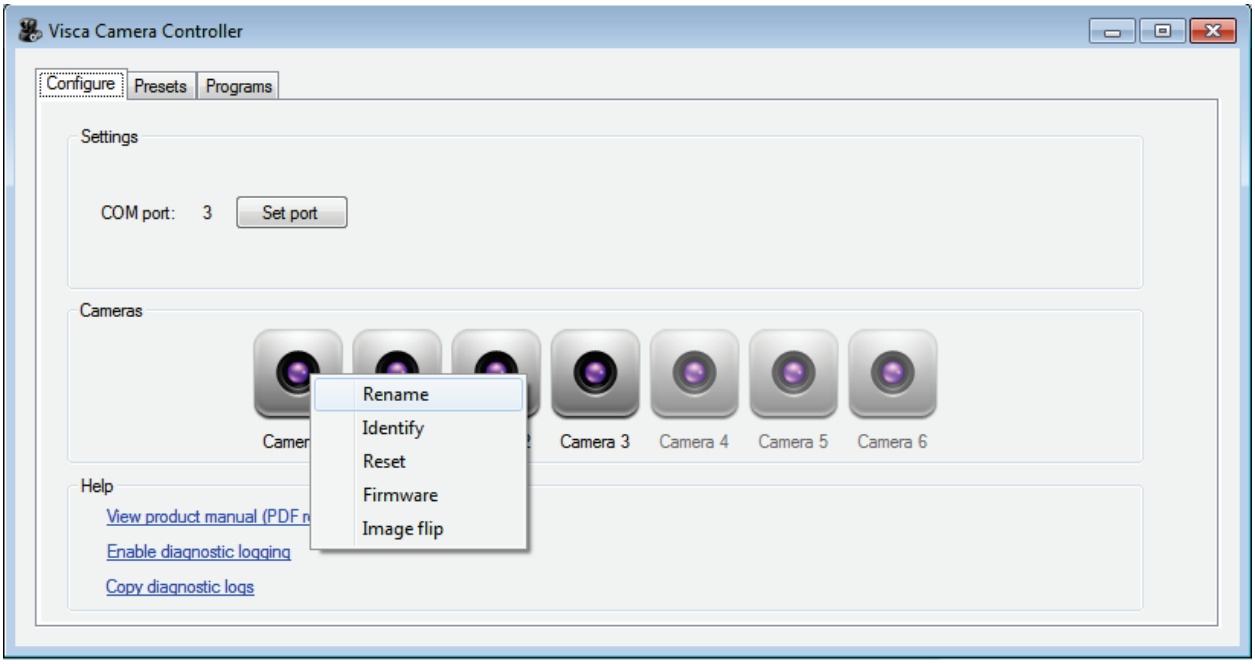
The Cameras group allows you to view and configure cameras currently on the VISCA bus.



Icons for each of the seven possible cameras are displayed. The name of each camera is displayed below its icon. If an icon is highlighted then the camera is present on the system; if an icon is greyed-out then the camera is not currently on the system. The screen-shot above shows four cameras on the

VISCA bus. The first camera found will always be represented by the icon located on the left-side. The last camera found will always be represented by the right-most highlighted icon.

Right-clicking on the icon for a camera will display that camera's configuration menu



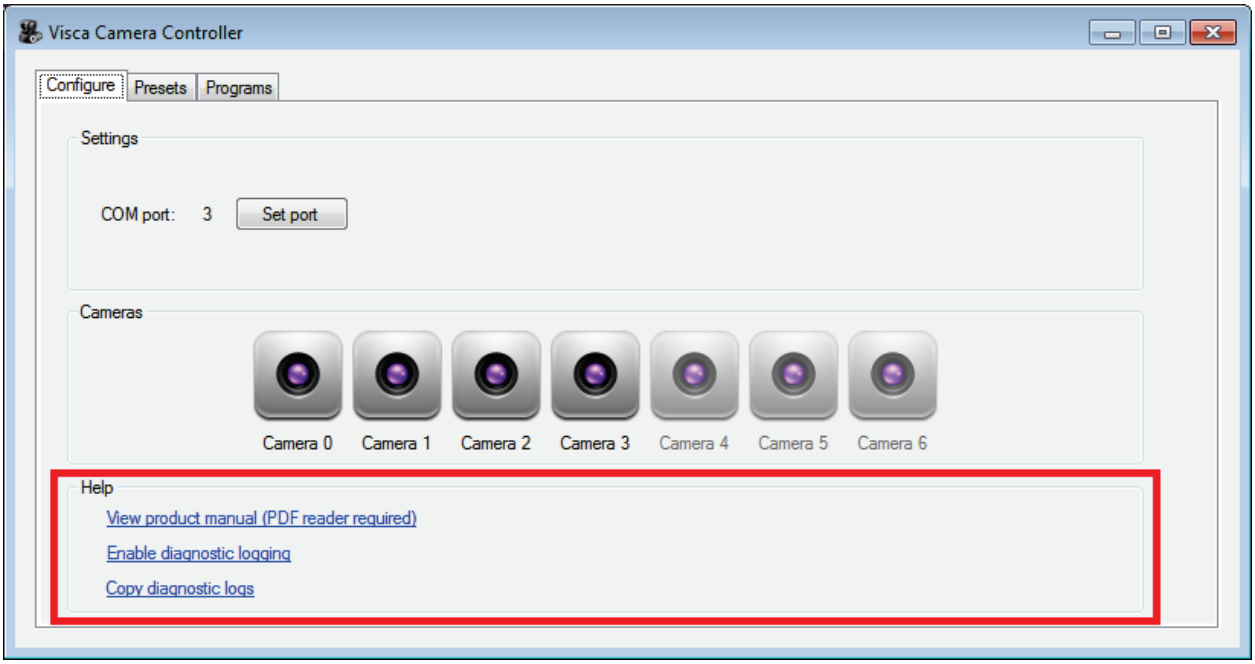
The camera's configuration menu will allow you to do the following:

- **Rename** – rename the camera to any friendly name you want to more easily identify the camera for your particular setup
- **Identify** – move the camera to identify it
- **Reset** – reset the camera back to its home position
- **Firmware** – view the firmware attributes of the camera
- **Image flip** – display the image from the camera as its mirror image

Tip! Name the cameras before creating Presets. A Preset references the name of the camera. If you rename a camera then you will need to update your existing presets to link to the new camera name.

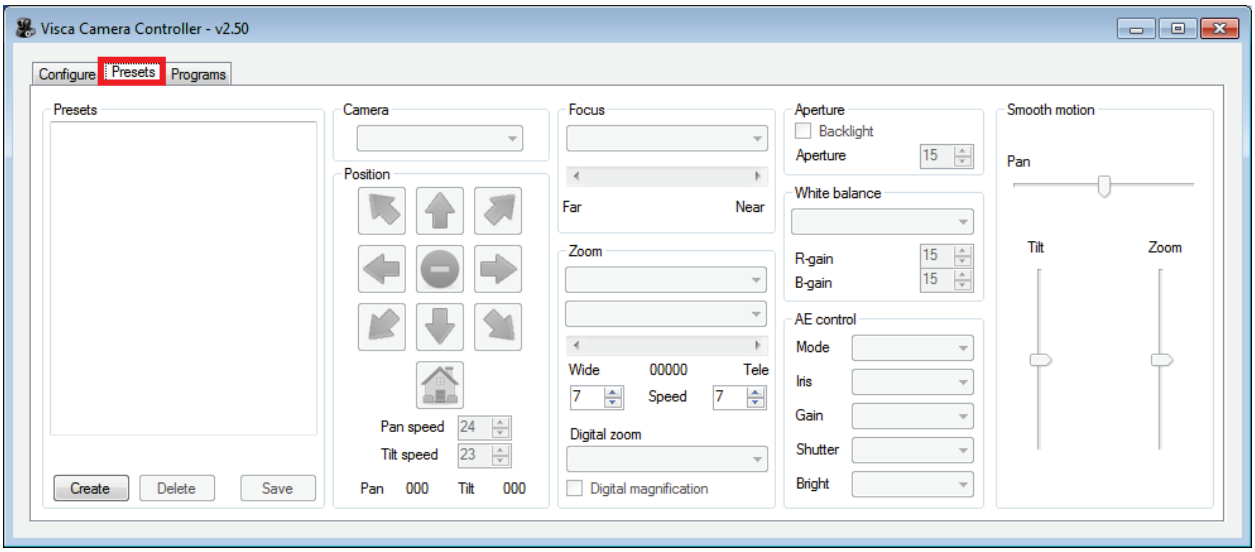
Help

The Help section provides access to this document as well as enabling/disabling diagnostic information when directed by a support technician.



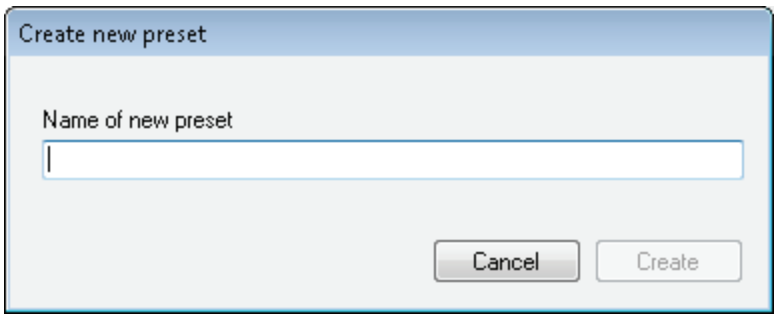
The Presets Tab

The Presets tab gives you access to create individual presets which specify the location, speed, focus, zoom, and aperture of a camera at a point in time.



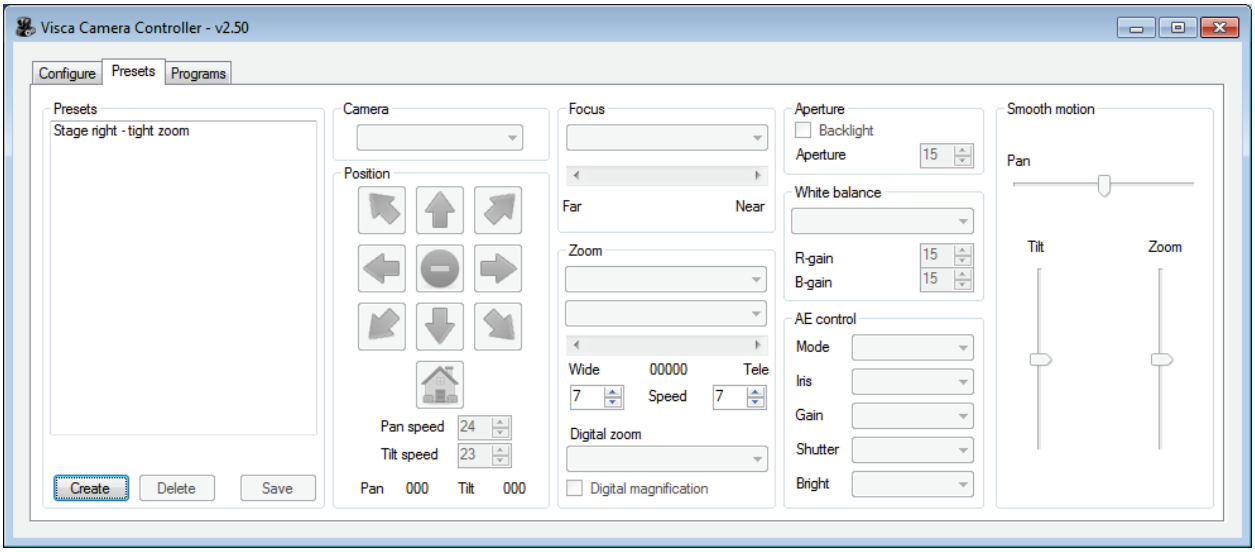
Create a New Preset

To create a new Preset click the Create button

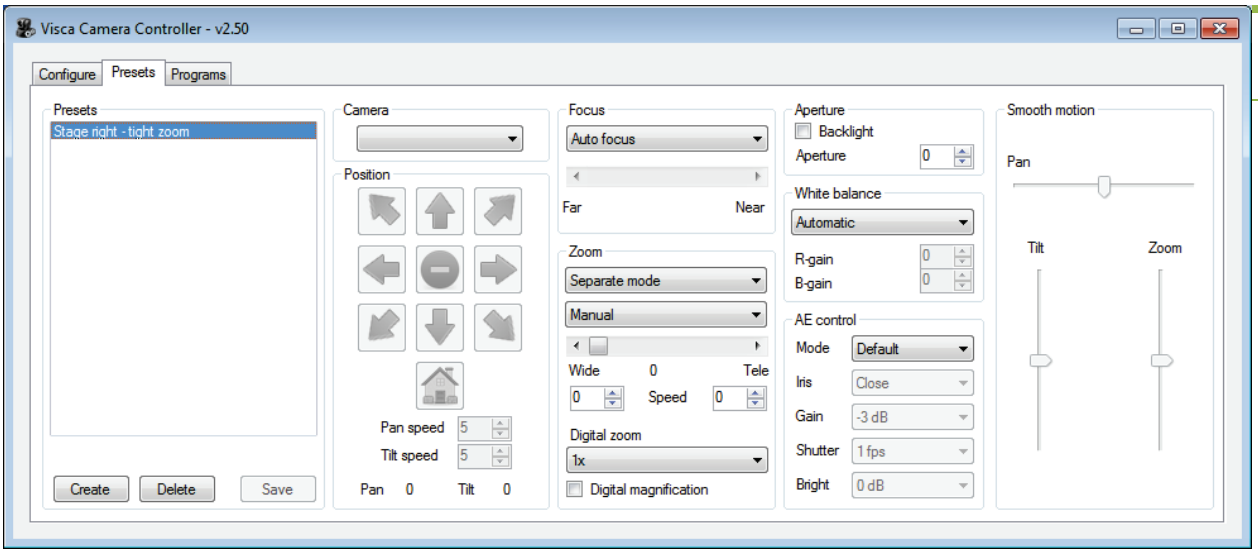


Enter the name of the Preset and click the Create button. You can use any name you wish. You should make the name something you can easily identify (e.g. “Stage right – tight zoom”).

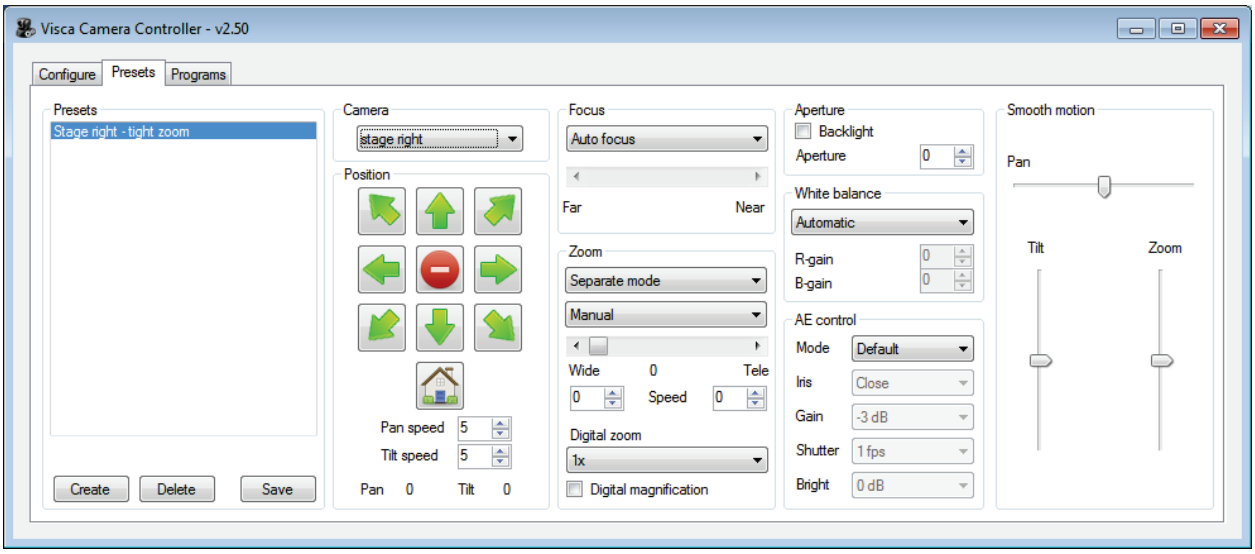
The new Preset will be added to the Presets list located in the left-side of the Presets tab



To define the attributes of the Preset, click on the Preset in the Presets list which will allow you to select any of the Preset features. You can see the Preset options are now enabled



First, select the Camera drop-down box and select the name of the camera for this new Preset. For this example, we select the camera named “stage right – tight zoom” which we named on the Configure tab



Notice, after selecting a camera, all of the buttons to set the position and speed of the camera become enabled. You can now set all of the features of this Preset including position, speed, focus, zoom, aperture, white balance, and AE control.

Tip! You can control the camera with the mouse, keyboard, or the joystick.

Mouse …

Click the green arrow buttons within the application with the mouse

Keyboard …

Use the arrow keys on the numeric keypad (e.g. 8 – Up, 2 – Down, 4 – Left, 1 – Down and Left, 9 – Up and Right, etc).

Joystick …

Motion:

- Push forward – move camera down
- Pull backward – move camera up
- Push right – move camera right
- Push left – move camera left

Zoom:

- Twist left/right (the joystick "z" axis) – zoom in or out
- Press button #0 or button #2 while pushing forward to zoom in
- Press button #0 or button #2 while pulling backward to zoom out

Focus:

- Press button #1 or button #5 to set a one-shot automatic focus

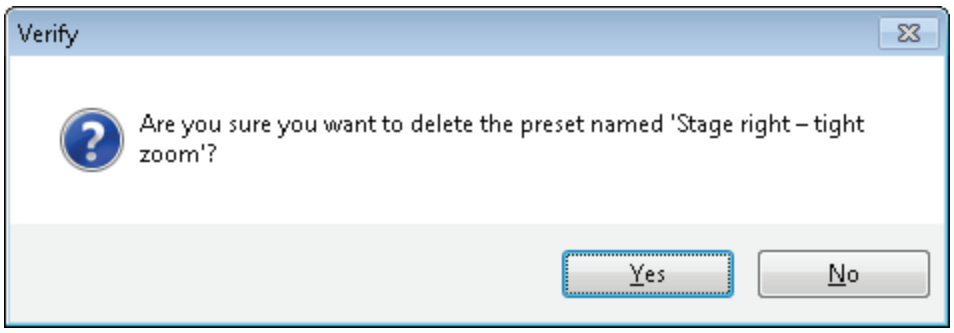
Select camera:

- Press button #3 or button #4 to toggle between cameras in the Visca Player application

The camera assigned to this Preset will update in real-time as you change settings. Use this feature to view how the final Preset will affect the camera. Once you have the Preset defined to your requirements then press the Save button.

You can create as many Presets as you wish.

To delete a Preset, select the Preset name from the preset list and press the Delete key

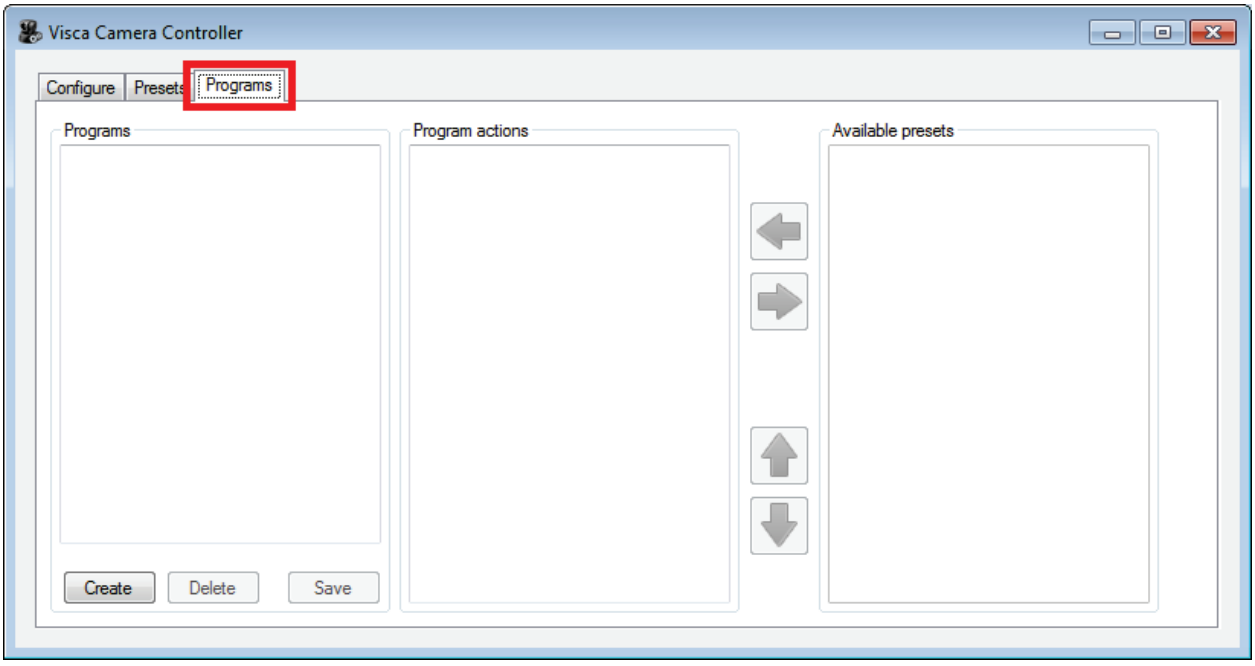


Select the Yes button to permanently delete the Preset or select the No button to return to the Presets tab. Note you cannot delete a Preset if it is currently part of a Program. You must first remove the Preset from all Programs before deleting it.

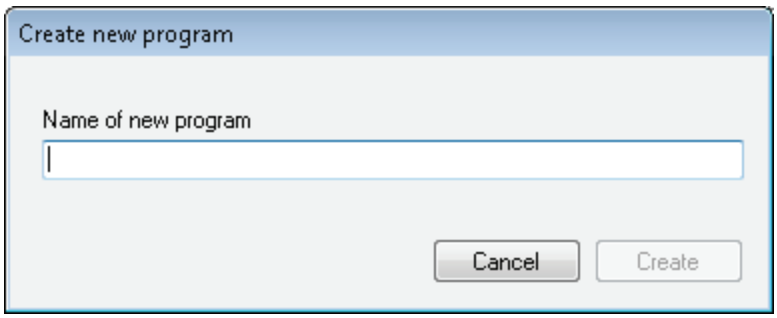
Tip! To create a new Preset which is similar to an existing Preset, simply select the existing Preset in the Presets list and then press the Create button. Once you provide a name for the new Preset then the new Preset will be created with all of the same attributes as the selected Preset.

The Programs Tab

The Programs tab gives you the ability to assemble a series of Presets which can then be played back during a live performance.

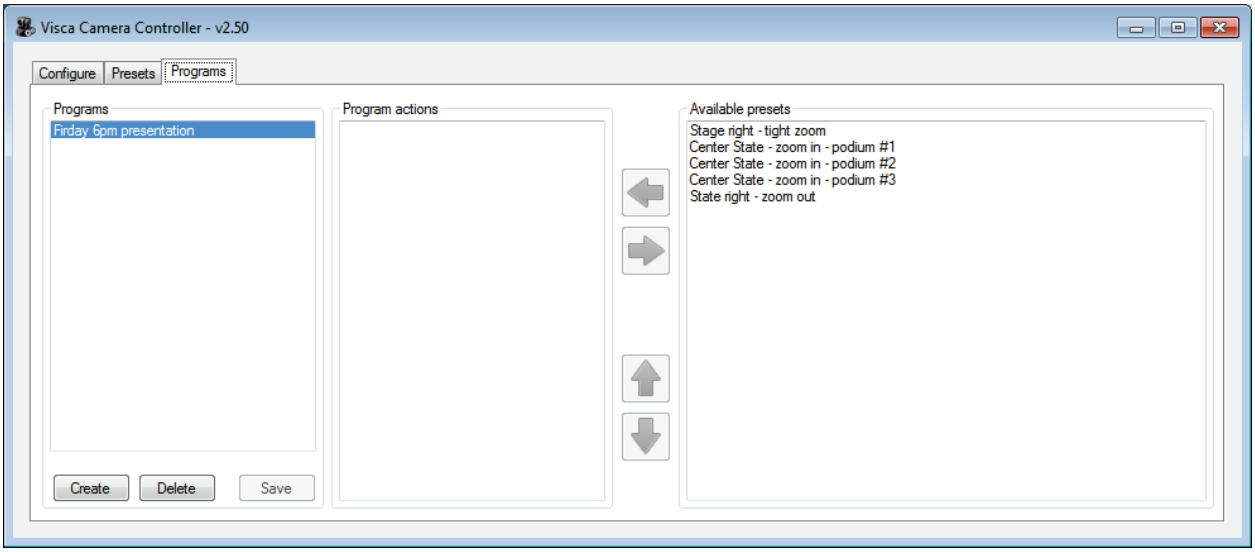


To create a new Program click the Create button

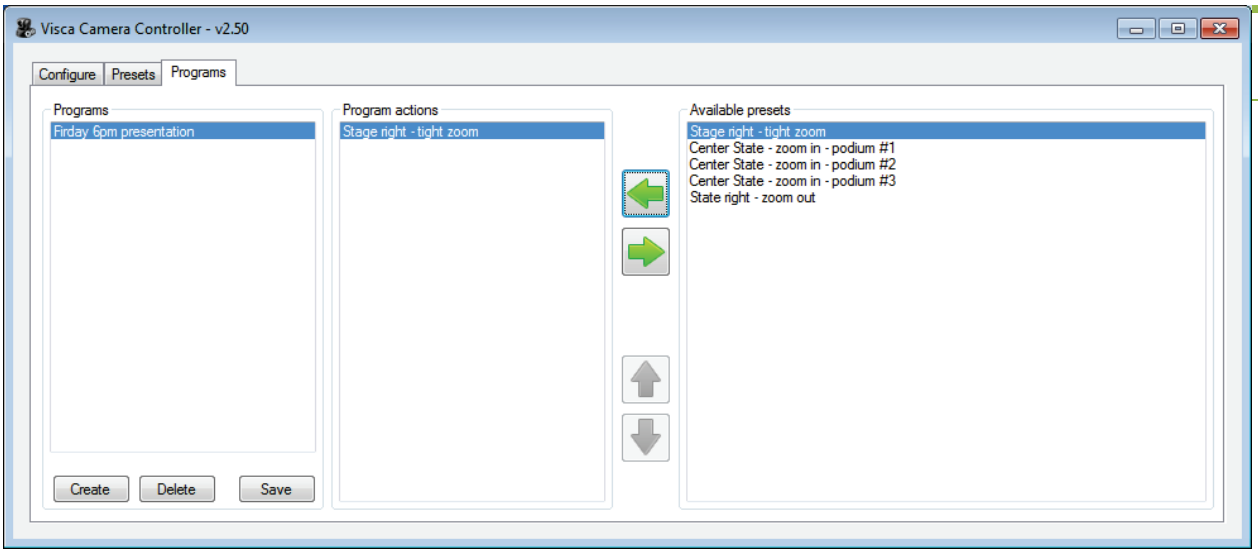


Enter the name of the Program and click the Create button. You can use any name you wish. You should make the name something you can easily identify (e.g. “Friday 6pm presentation”).

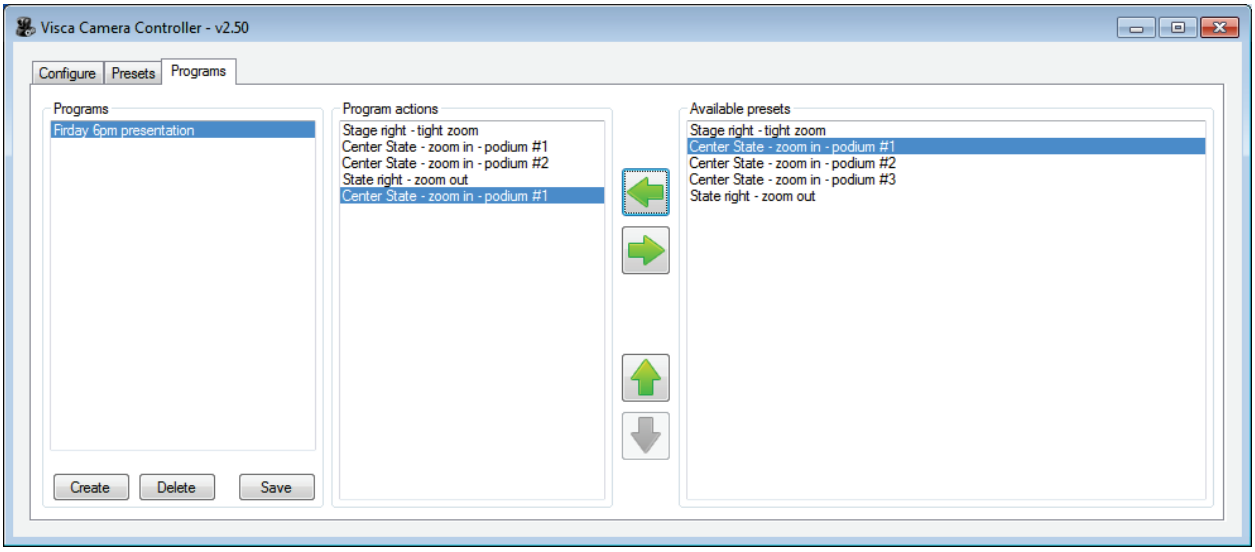
The new Program will be added to the Programs list located in the left-side of the Programs tab



To build a new Program, select the name of the Program in the Programs list on the left-side. The Available Presets list box located on the right-side will become enabled and allow you to select Presets and add them to the selected Program. For example, to select our “Stage right – zoom out” preset as the first action in our Program, select “State right – zoom out” from the Available Presets list box on the right-side and press the green left-facing arrow. This will add the Preset as the first action of the selected Program.



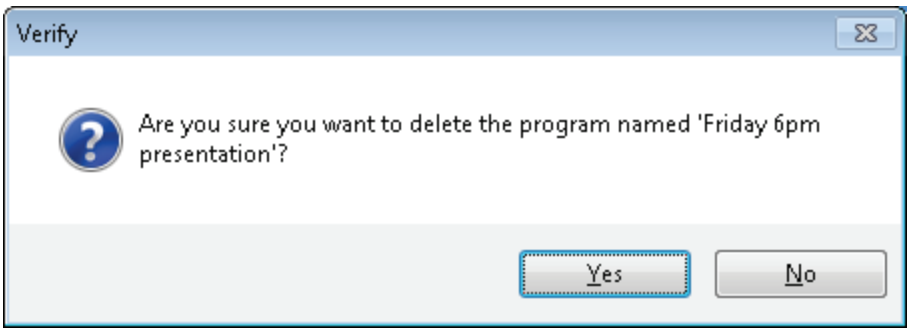
Repeat this action for each Preset you want added to the Program. You can add as many Presets to a Program as you need. You can even add the same Preset multiple times to a Program as necessary to make the Program play sequentially. For example, here is a completed "Friday 6pm presentation" Program consisting of seven program actions (i.e. Presets)



A program action can be removed from the Program Actions list by selecting a program action and pressing the green right-facing button.

A program action can be moved up or down the Program Actions list by selecting the program action and pressing either the green up-facing button or the green down-facing button respectively.

A Program can be deleted by selecting the Program from the Programs list and pressing the Delete button

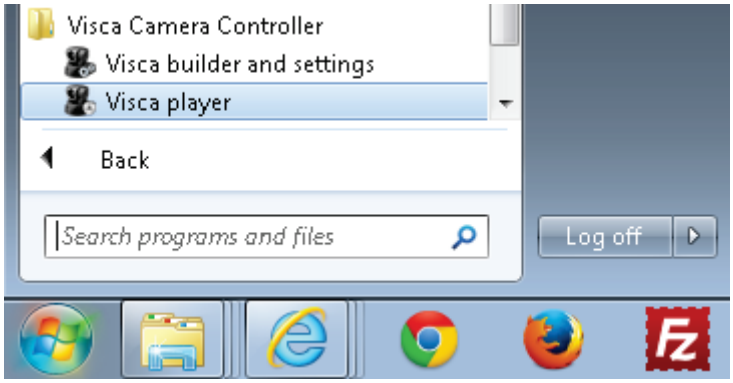


Select the Yes button to permanently delete the Program or select the No button to return to the Programs tab.

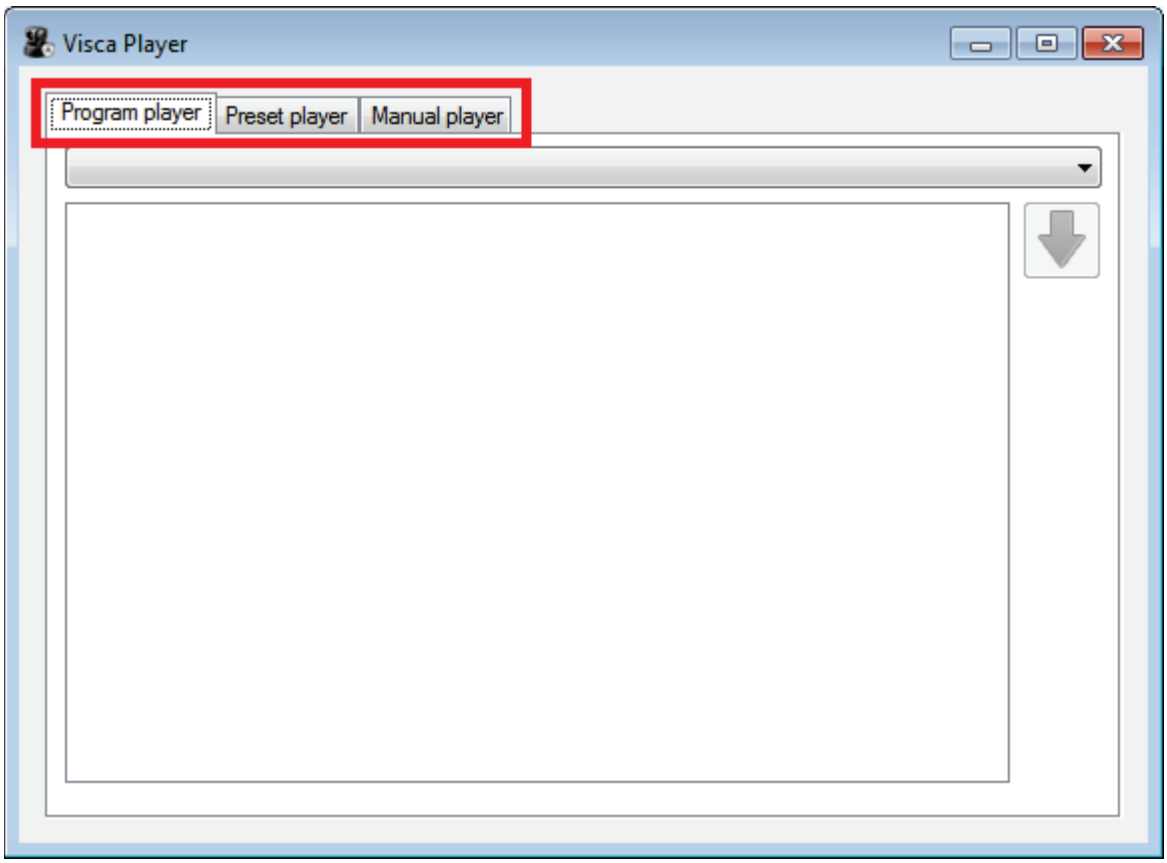
A walk-through of the VISCA Playback Client

Now that the VISCA Camera Controller software is installed and configured and you have created some Presets and Programs using the Camera Controller Settings Client, let's review the features of the VISCA Playback Client. This Client is used for playing existing Presets and Programs during a live event.

If the VISCA Playback Client is not currently running then click on Windows Start button, locate the Visca Camera Controller folder and click Visca Player.



You should now see the VISCA Playback Client



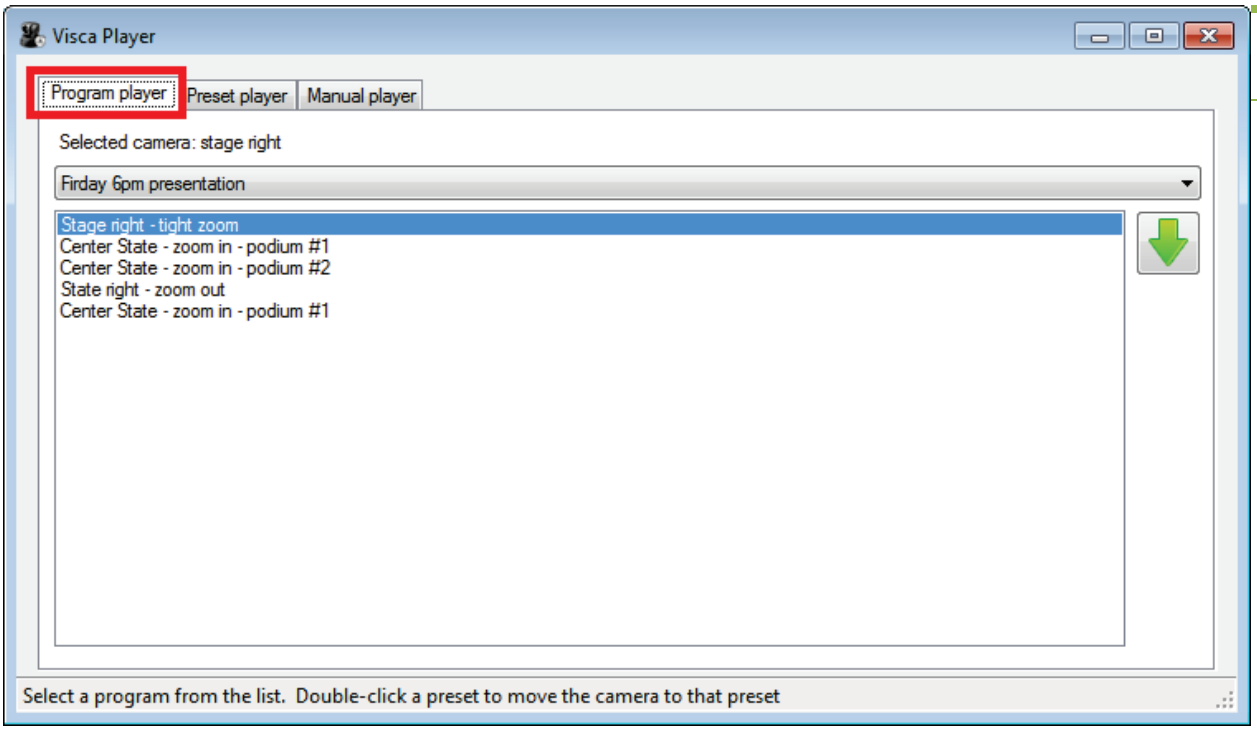
The VISCA Player Client consists of three primary tabs which are located in the upper-left corner:

- **Program player** – used to play a Program from start to finish
- **Preset player** – used to play individually selected Presets
- **Manual player** – used to control a camera manually at any time

The Program Player Tab

The Program player allows you to play an entire Program from start to finish. Each program action (e.g. Preset) will be played after you press the green down-facing button.

For example, select the “Friday 6pm presentation” from the Program list



All of the program actions for the selected Program will be displayed in the lower list box. The first program action will be selected and played automatically.

Click on the green down-facing button to move to the next program action in the list.

Single-click on a program action to move the cursor to a new program action; doing so will **NOT** play that program action. The setting will not be applied to the camera but the 'selected camera' box in the upper-left will change so you can use the joystick or the numeric keypad to manually pan/tilt/zoom the camera during a live event.

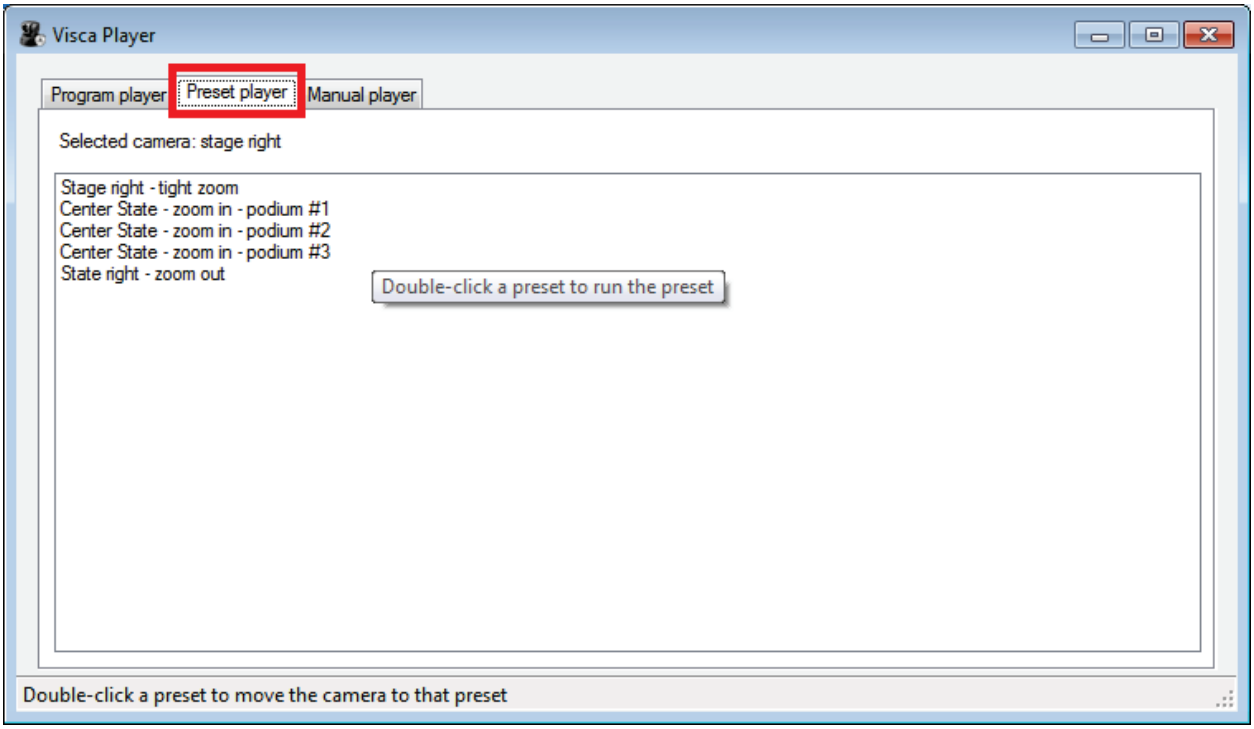
Tip! You can use the joystick buttons #3 and #4 to toggle the selected camera up and down. This will allow you to manually pan, tilt, and zoom a camera using the joystick or the numeric keypad during a live event.

Double-click on a program action to move the cursor to a new program action and simultaneously play that new program action.

Tip! You can move the preset action pointer at any time during a live event. If you repeat a series of camera moves then this can simplify the Program by avoiding adding a series of repeating program actions.

The Preset Player Tab

The Preset player allows you to play any individual Preset at any point in time. This feature is useful if you do not want to create a new Program but you already have all the Presets required for a live event.



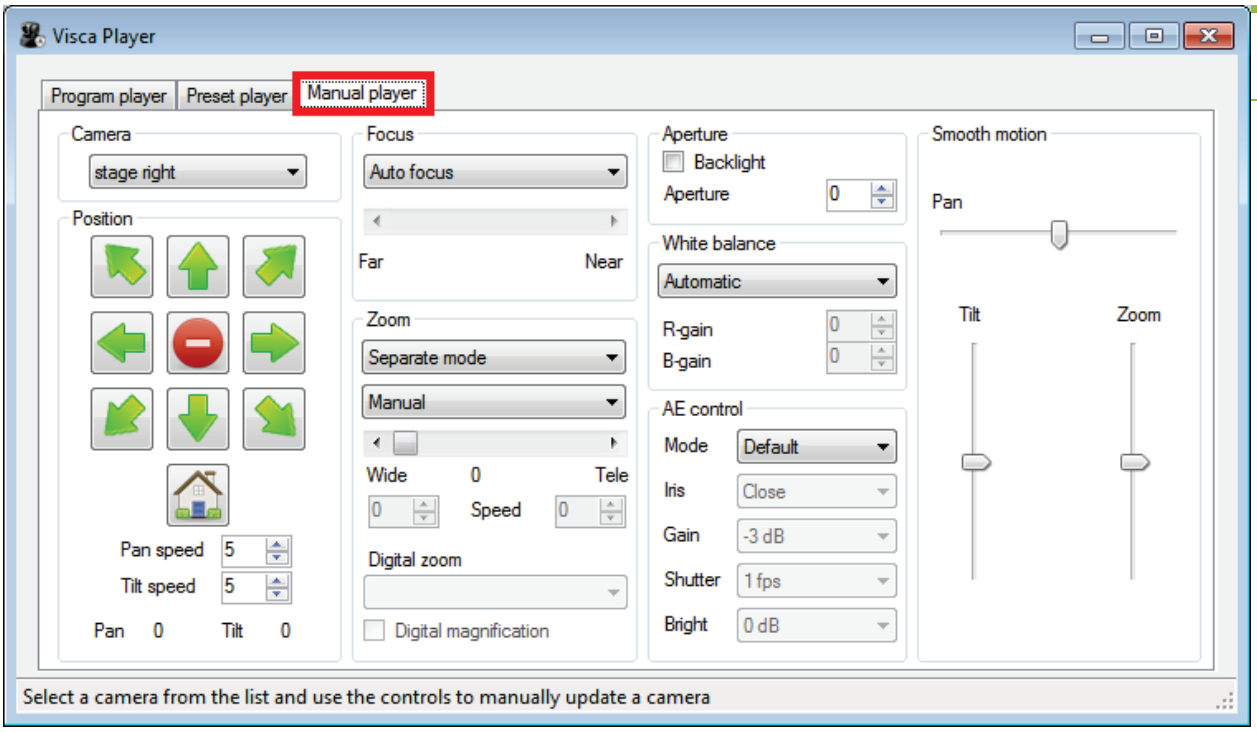
Double-click any Preset in the Preset Player list box to play the Preset. You can move among any Preset at any time.

Single-click any Preset in the Preset Player list box to select the camera associated with that Preset. The setting will not be applied to the camera but the 'selected camera' box in the upper-left will change so you can use the joystick or the numeric keypad to manually pan/tilt/zoom the camera during a live event.

Tip! You can use the joystick buttons #3 and #4 to toggle the selected camera up and down. This will allow you to manually pan, tilt, and zoom a camera using the joystick or the numeric keypad during a live event.

The Manual Player Tab

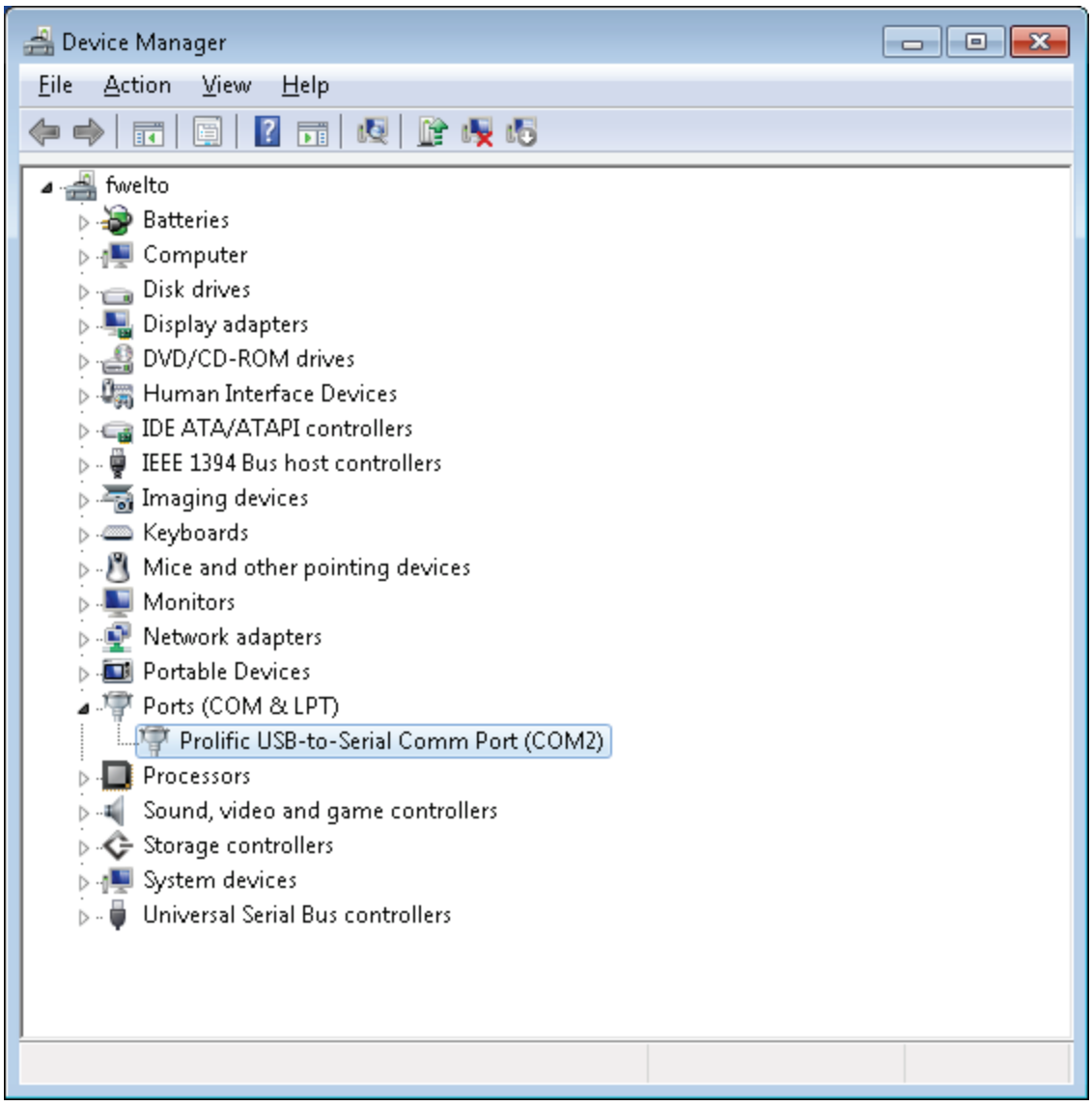
The manual player allows you to send a VISCA command to any camera at any point in time. This feature is useful if you don't have a Preset for a special event or simply need to update the lighting or aperture due to an unexpected event.



Appendix A – Locating the VISCA COM Port

The VISCA protocol runs on a serial bus and many VISCA cameras include an RS-232 DB9 nine pin connector. Unfortunately, most new computer systems do not include native RS-232 DB9 connectors. The best option is to purchase a USB-to-RS232 converter. Here are the steps to setup this converter on your system and detect the COM port used by the converter:

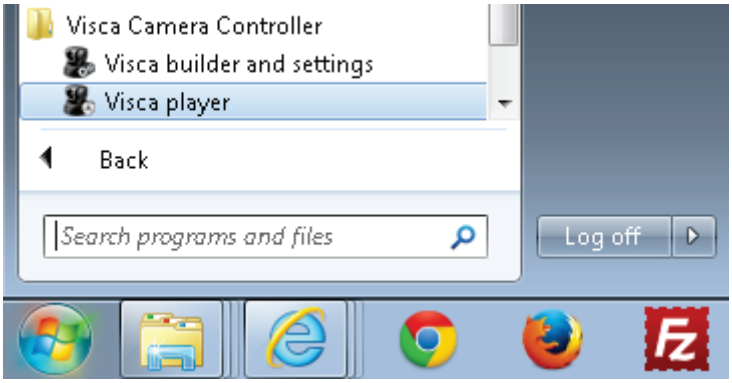
- Purchase a good quality USB-to-RS232 converter
- Plug the USB end of the converter into your computer
- Install the USB-to-RS232 converter's device driver from the manufacturers installation disc
- Plug the RS232 cable from the camera into the DB9 connector of the converter
- The converter should now be configured to a COM port
- To verify which COM port is being used for the VISCA bus, follow these steps:
    - Open the Windows Device Manager (select Start | type "Device Manager" and select "Device Manager")
    - Locate "Ports (COM & LPT)" and click on the triangle located to the left
    - You will find the COM port name listed. For example, "Prolific USB-to-Serial Comm Port (COM2). For this example (see screen-shot below), you would configure the VISCA Camera controller software to use COM port 2


Device Manager
File Action View Help
fwelto
Batteries
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Human Interface Devices
IDE ATA/ATAPI controllers
IEEE 1394 Bus host controllers
Imaging devices
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Portable Devices
Ports (COM & LPT)
Prolific USB-to-Serial Comm Port (COM2)
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers

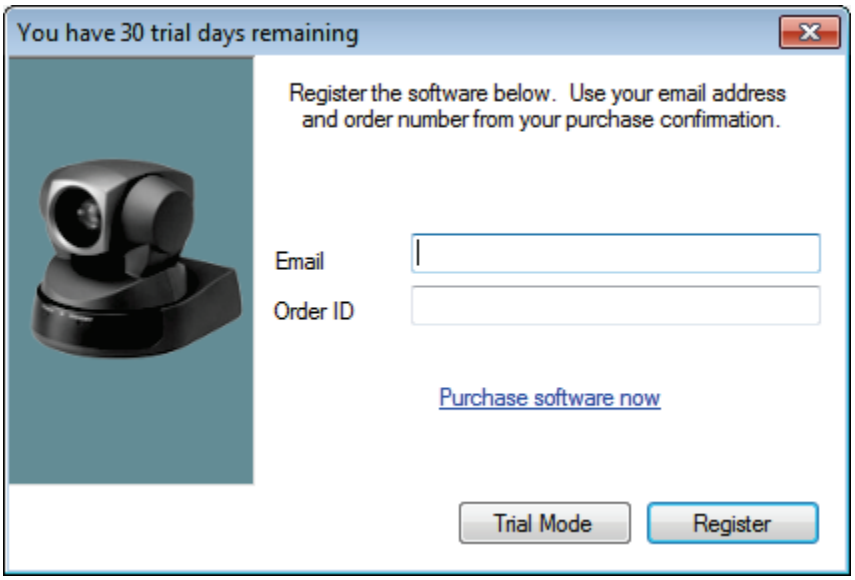
Appendix B – First-time run-through

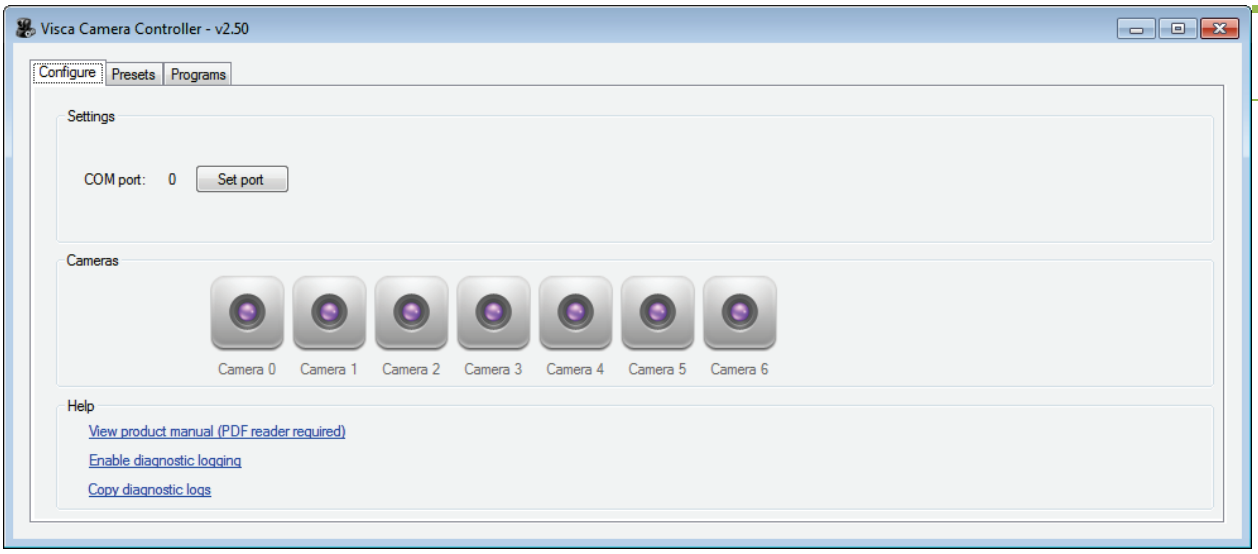
This appendix shows a typical first-time user how to configure and run the software. It is intended as a quick-start to show you how to utilize the software and gain the best benefit.

After running the installer, the VISCA Controller application will automatically launch. If the application does not run automatically then select Windows Start | All Programs | VISCA Camera Controller folder | click VISCA Builder and Settings.

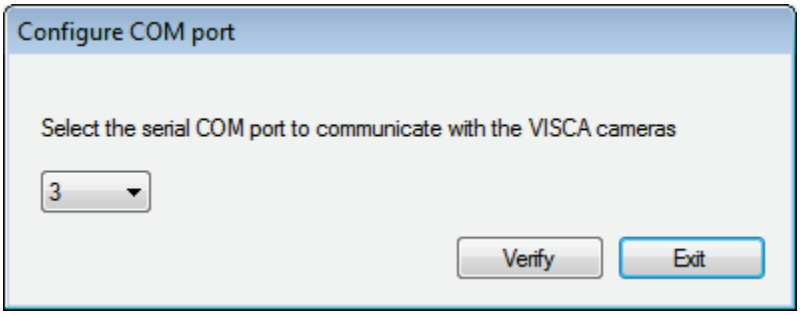


On first launch, you will be prompted for your email address and order ID. If you purchaced the software then enter the information and press the Register button. If you are trialing the software then press the Trial Mode button.

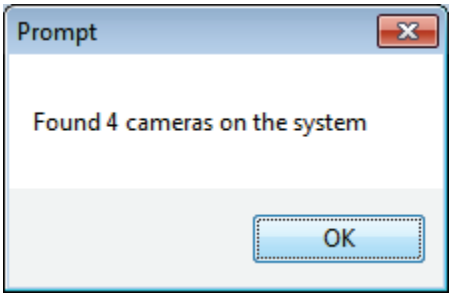




Press the Set Port button to configure the serial port where your VISCA cameras are connected to your PC.

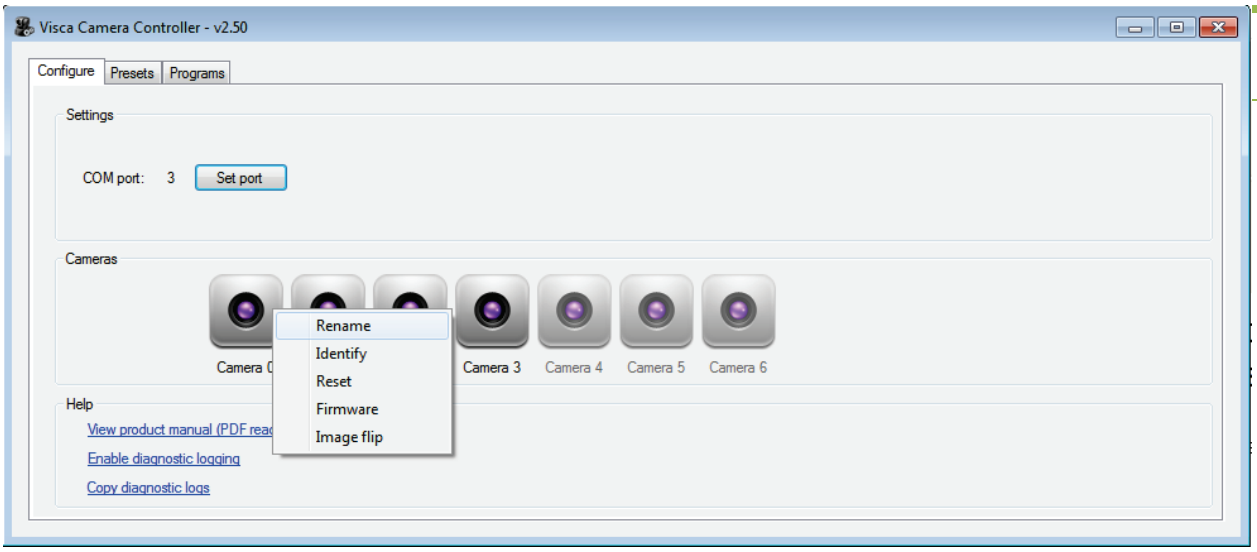


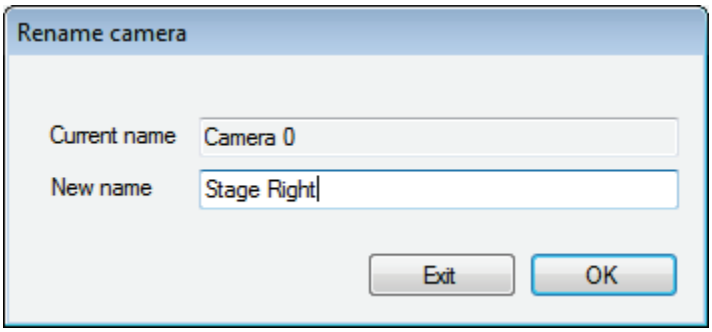
Select the serial COM port from the drop-down list and press the Verify button.



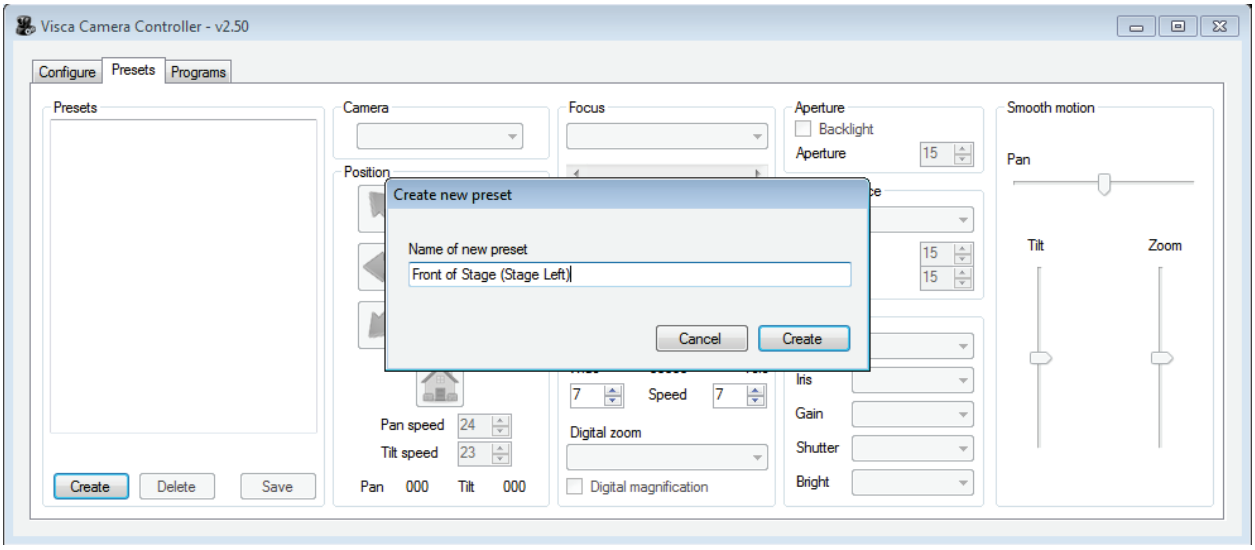
You will be prompted with the number of VISCA cameras found on your PC. Click the OK button to continue.

Give a name to each of your cameras by right-clicking on the camera icon and selecting Rename from the pop-up menu. By default, each camera will be given the name “camera X” where X is a value from 0 to 6. If you want to name the cameras differently then do so now before you begin creating any Presets. Note, a Preset references a camera by name. So if you rename a camera then you must update each Preset that references the old camera name.



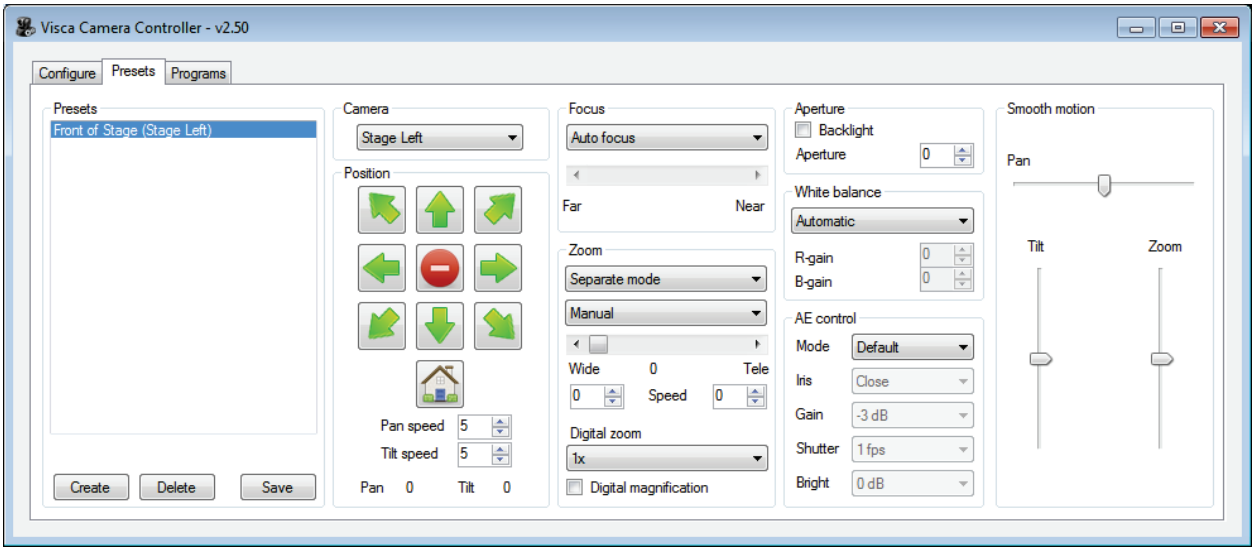


To create your first Preset, select the Presets tab located in the upper-left corner and press the Create button. Enter any descriptive name you choose. Any press the Create button.

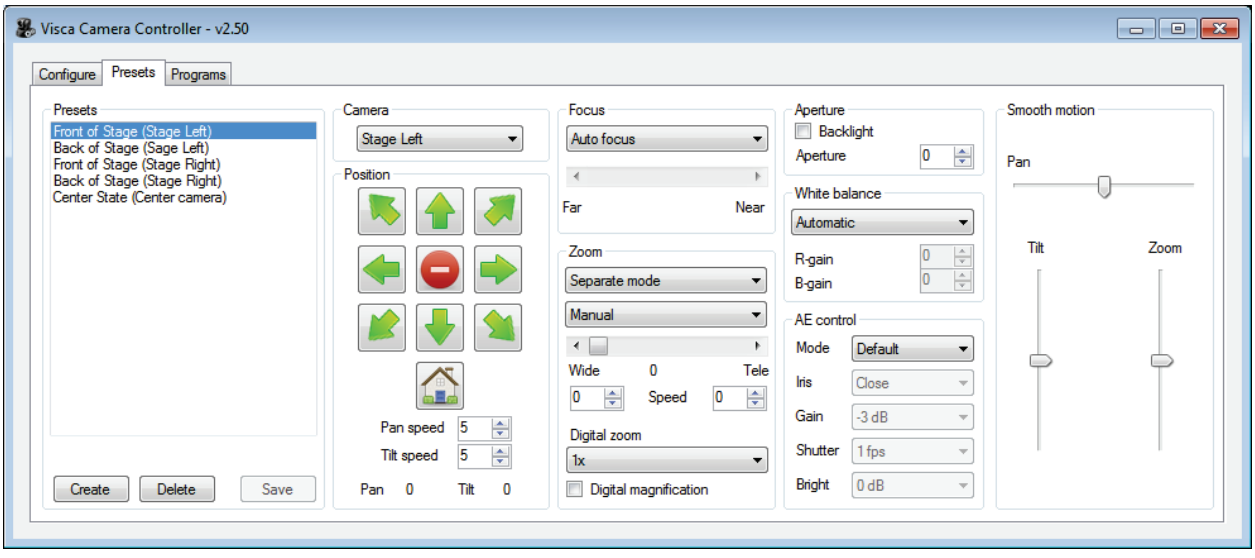


Select the Preset in the Presets list box located on the left side and select the camera you want to associate with that Preset. Once the camera is assigned then you can adjust any camera settings (e.g.

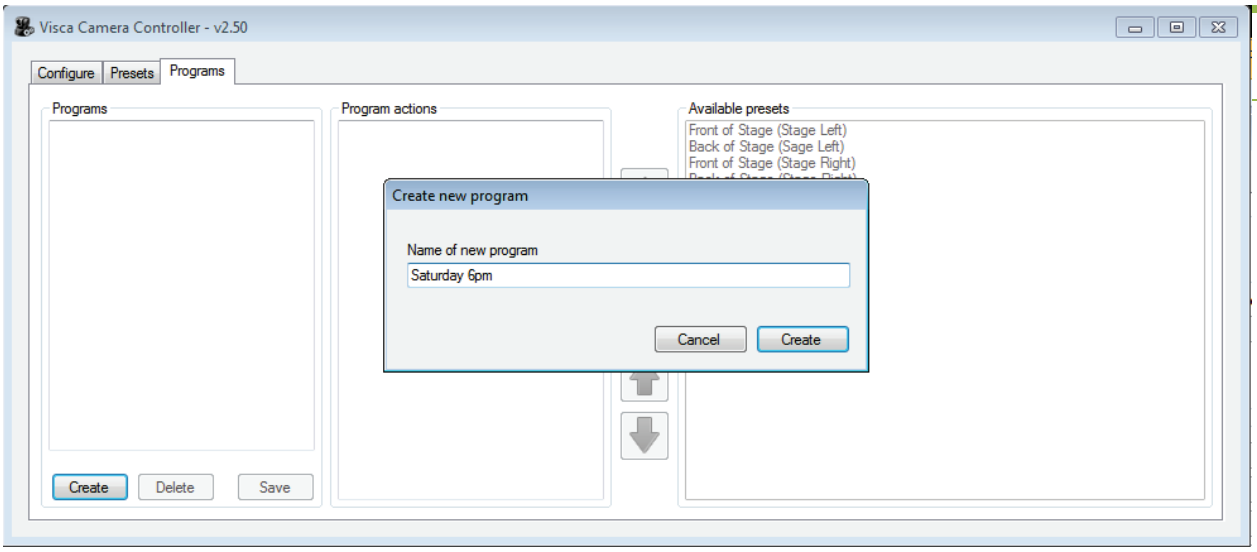
position, zoom, focus, etc) for that camera. You can adjust the pan/tilt/zoom of the camera using many different options: the green arrow buttons in the application, the arrow buttons on the numeric keypad, the “smooth motion” controls located in the right side, or a joy stick. When the camera view is exactly as you like then simply press the Save button to save the preset.



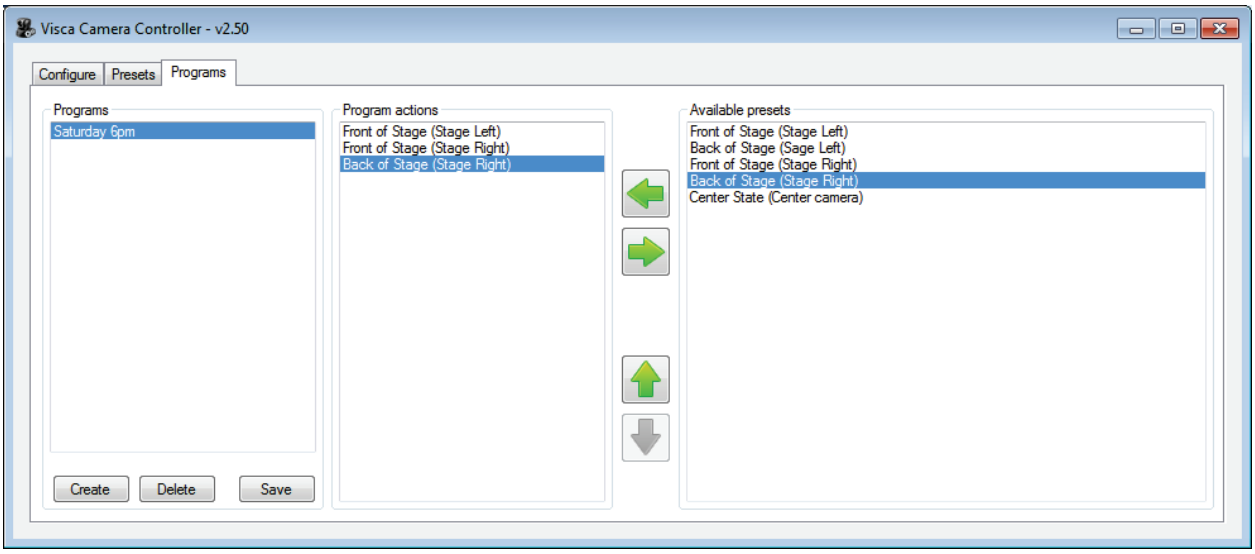
Create as many Presets as you wish.



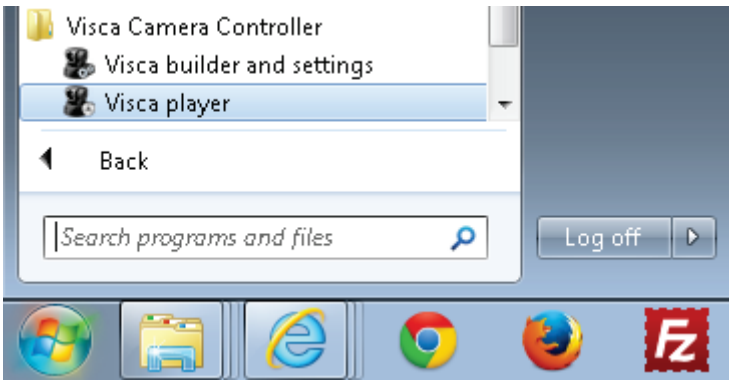
To create your first Program, select the Programs tab located in the upper left corner and press the Create button. Enter any descriptive name you choose and press the Create button. A Program is used to contain the specific Presets you use during a specific real-time event.



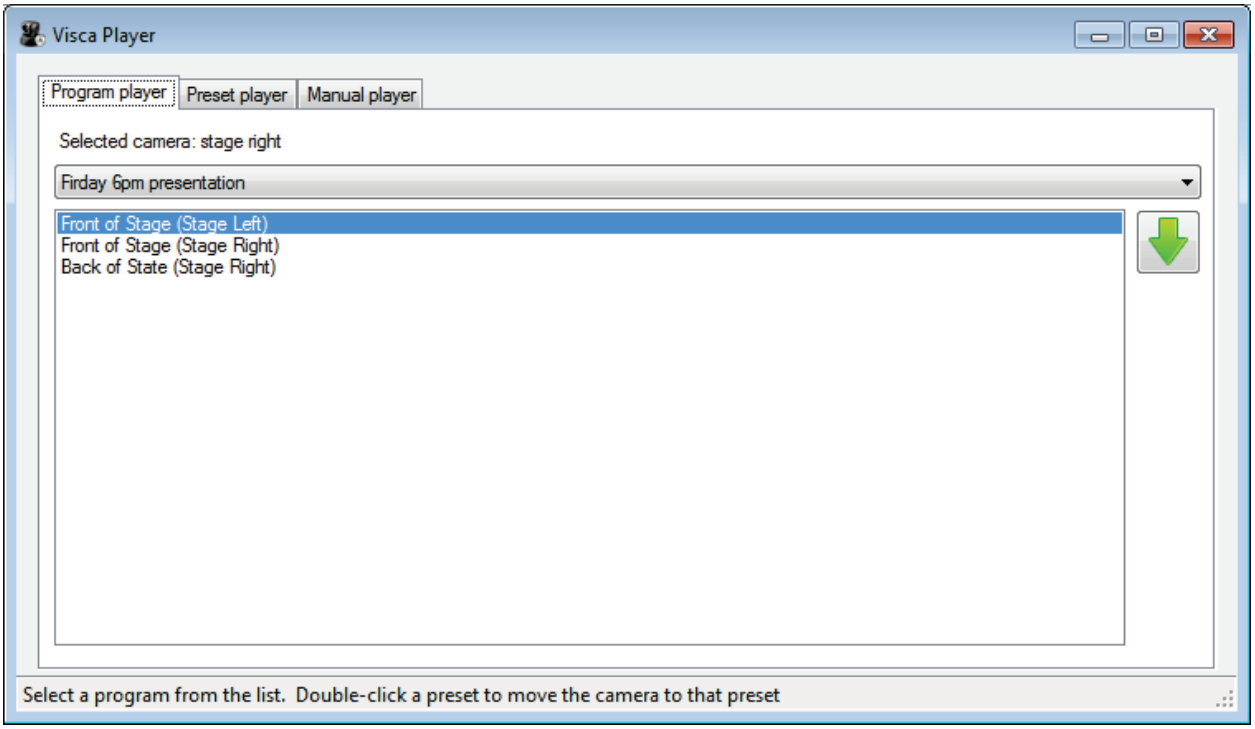
Select the Program you want to update from the Programs list box located on the left side and you will see the Program Actions and Available Presets list boxes light up. Select each Preset you want to use in this Program from the Available Presets list box and press the green left arrow button. You can use the right arrow button to remove a Preset from the Program. You can use the up and down green arrow buttons to order the Presets as required by your Program. Press the Save button after you have added the required Presets to your Program.



Now that the software has been configured and your Programs and Presets and been created you can close the VISCA Camera Controller application and launch the VISCA Player application. The application can be found by selecting Windows Start | All Programs | VISCA Camera Controller folder | click VISCA Player.

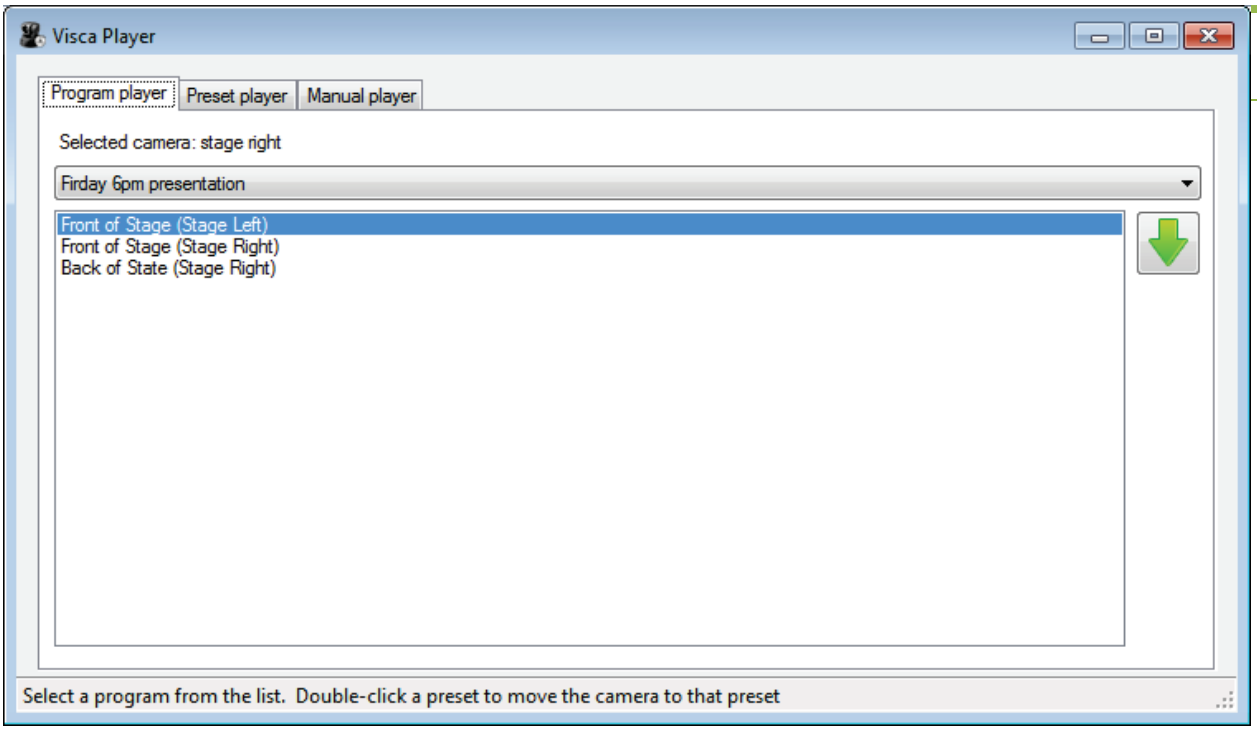


By default the VISCA Player will select your first Program and select the first Preset within that Program. The camera associated with that Preset will automatically adjust to your configured Preset.



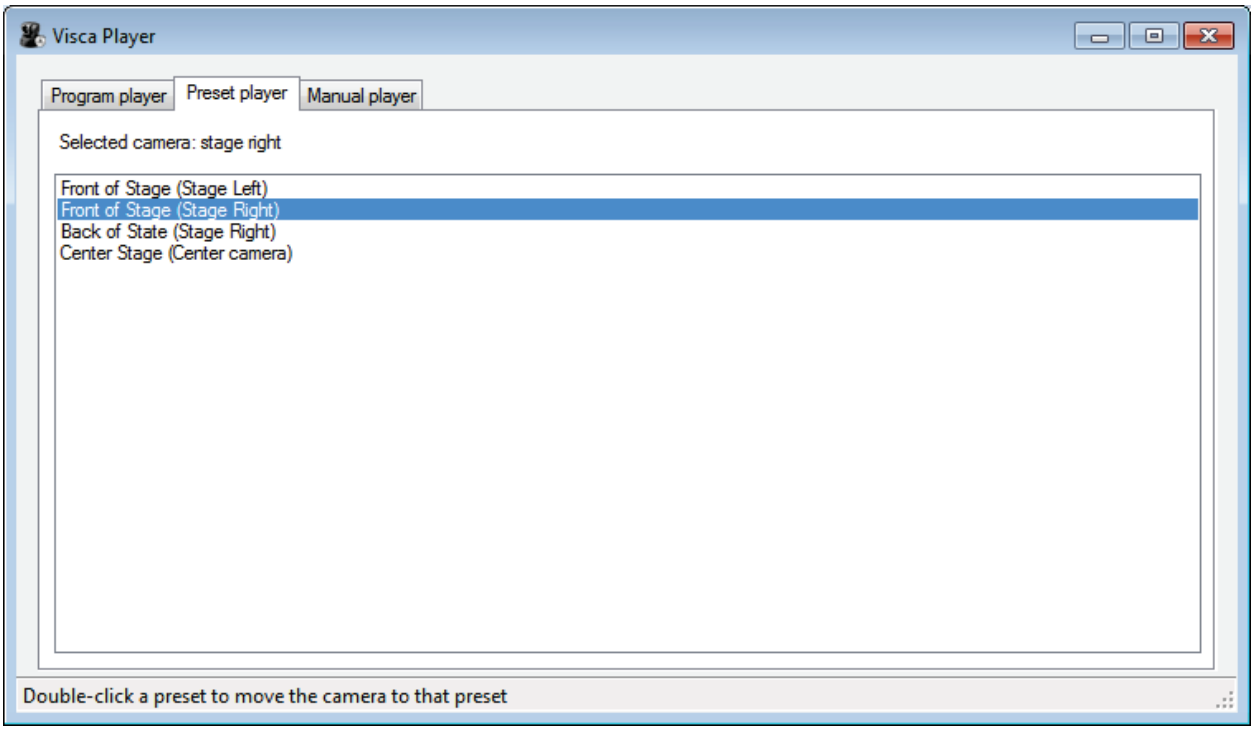
During a live event you can use three different methods to control your VISCA cameras: Program Player, Preset Player, or Manual Player. You can use one or more of these methods as you choose.

With the Program Player tab selected you will see all of the Presets that you added to that specific Program. The Presets will be in the order you defined in the VISCA Controller application. Double-click on any Preset to move the camera associated with that Preset. You can also press the green down-arrow button to select the next Preset in the list.

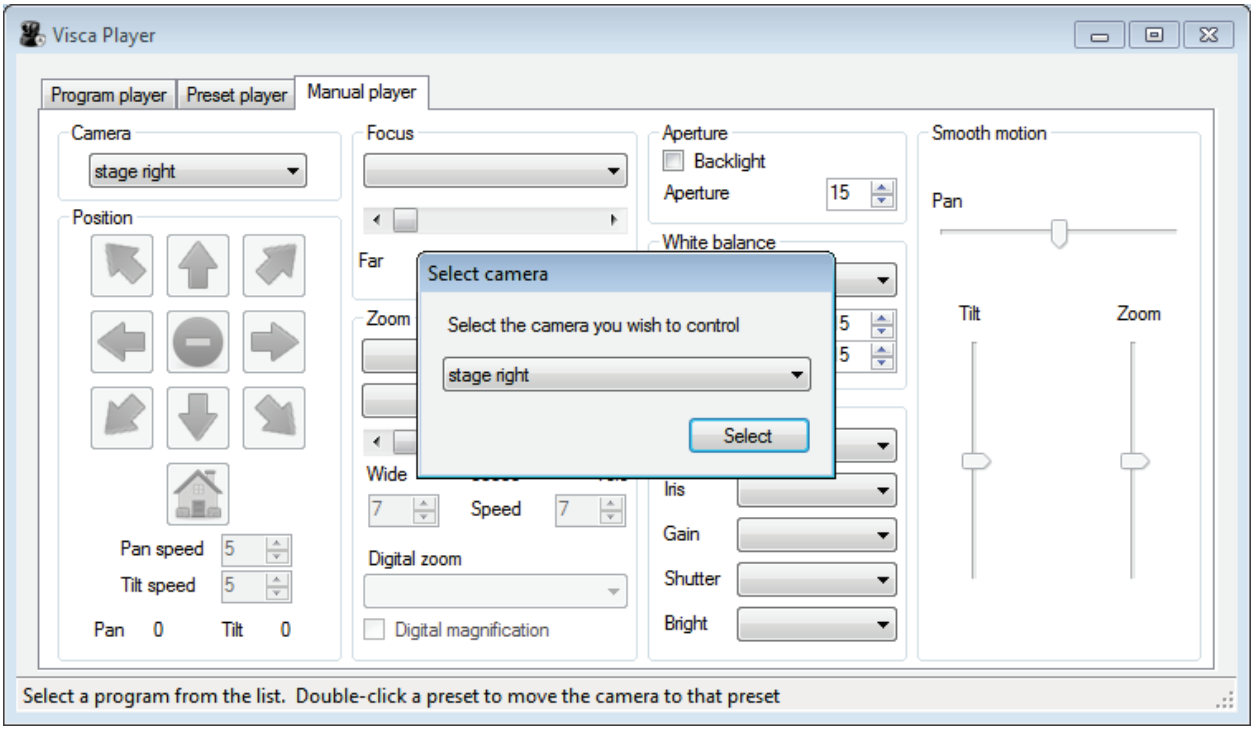


With the Preset Player tab selected you will see all of the Presets that you created. Double-click on any Preset to move the camera associated with that Preset.

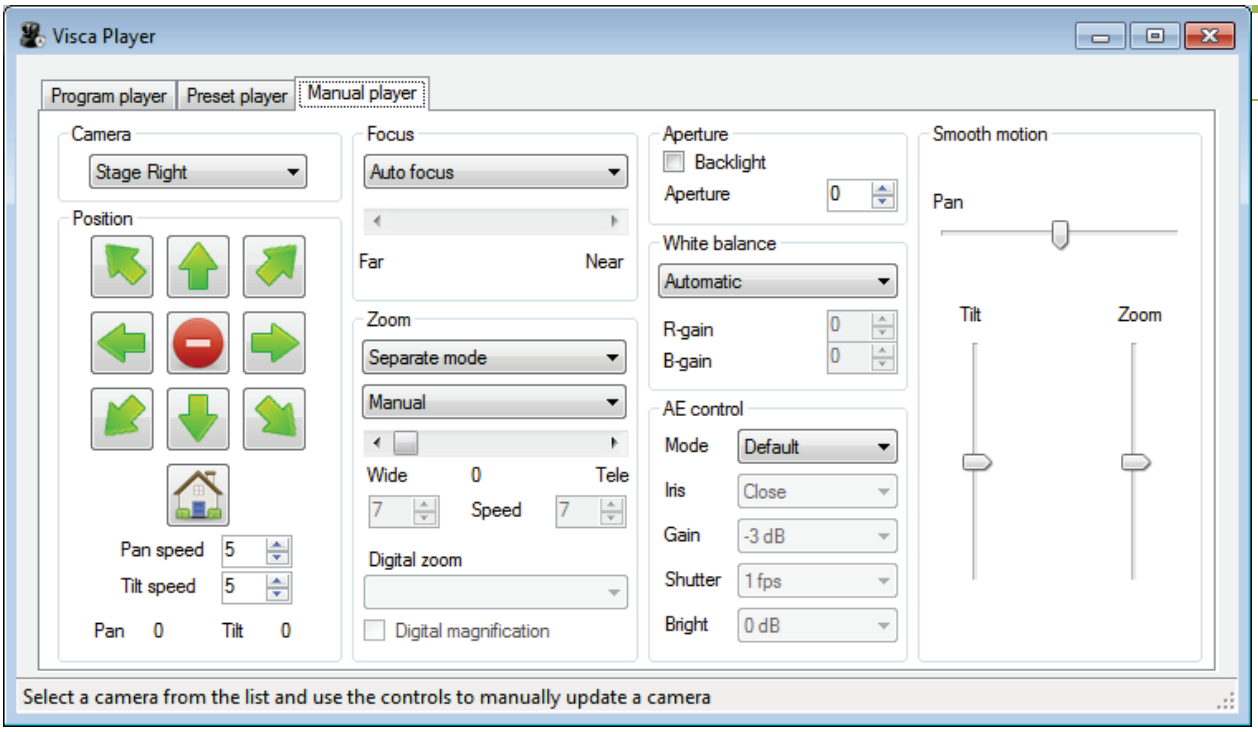
Notice the 'Selected camera' in the upper-left changes to match the camera associated with the selected Preset. You can use the joystick or the numeric keypad to manually pan, tilt, zoom the selected camera at any time.



During a live event, you can use the Manual Player tab to change camera settings to something different than specified in a Preset. Click the Manual Player tab and select the camera you want to change.



After you select a camera, the Manual Player tab will display the settings for that live camera. You can alter any setting you choose without altering any of your existing Presets. You can use the keyboard, mouse, or joy stick to control the camera. After the camera settings are updated then you can return to the Program Player or Preset Player tab.



If you ever need to alter an existing Preset or create a new Preset then close the VISCA Player application and run the VISCA Controller application.