Rocosoft PTZJoy™ PTZ Camera Controller Software

USER MANUAL

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Thank You!

Thank you for selecting our PTZ Camera Controller Software to be a part of your production and set up. As you read through this manual, it will help identify the options you have for connecting your equipment, customizing the software, and how to use all the features, as well as recommended configurations. We recommend reading over this guide prior to beginning any setup to have the best possible experience. Please refer to the Table of Contents when attempting to locate specific product information or setup instructions.

-The Rocosoft Team

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Rocosoft PTZJoy™ Controller Software. Narrow Mode

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Overview

This manual covers PTZJoy PTZ Camera Controller for IP and Serial VISCA connected PTZ cameras. Our VISCA-over-IP PTZJoy Controllers support all IP PTZ Cameras listed under the supported camera section in each product. Our Serial VISCA PTZJoy Controllers support all Serial VISCA Cameras listed under the supported camera section in each product. The specific cameras and protocols being controlled can be selected and/or changed in the **Settings Panel** if needed.

The **Main Panel** opens by default when the program is loaded. Other control panels for Settings, Tools, and other features that may be included in your edition of the program such as PTZPad, Multi-Cam, Macro Player, etc. can be opened and closed by clicking the respective buttons.

PTZJoy Controller panels can be used in either **Narrow** or **Wide** mode. Wide mode is great for integrations with live production systems such as NewTek TriCaster, vMix, OBS, and Livestream. Switch to the mode you prefer in the **Settings Panel**.

When the program is loaded, the interface layout can be changed by clicking on the **"Rocosoft PTZJoy Controller"** label that is always visible.
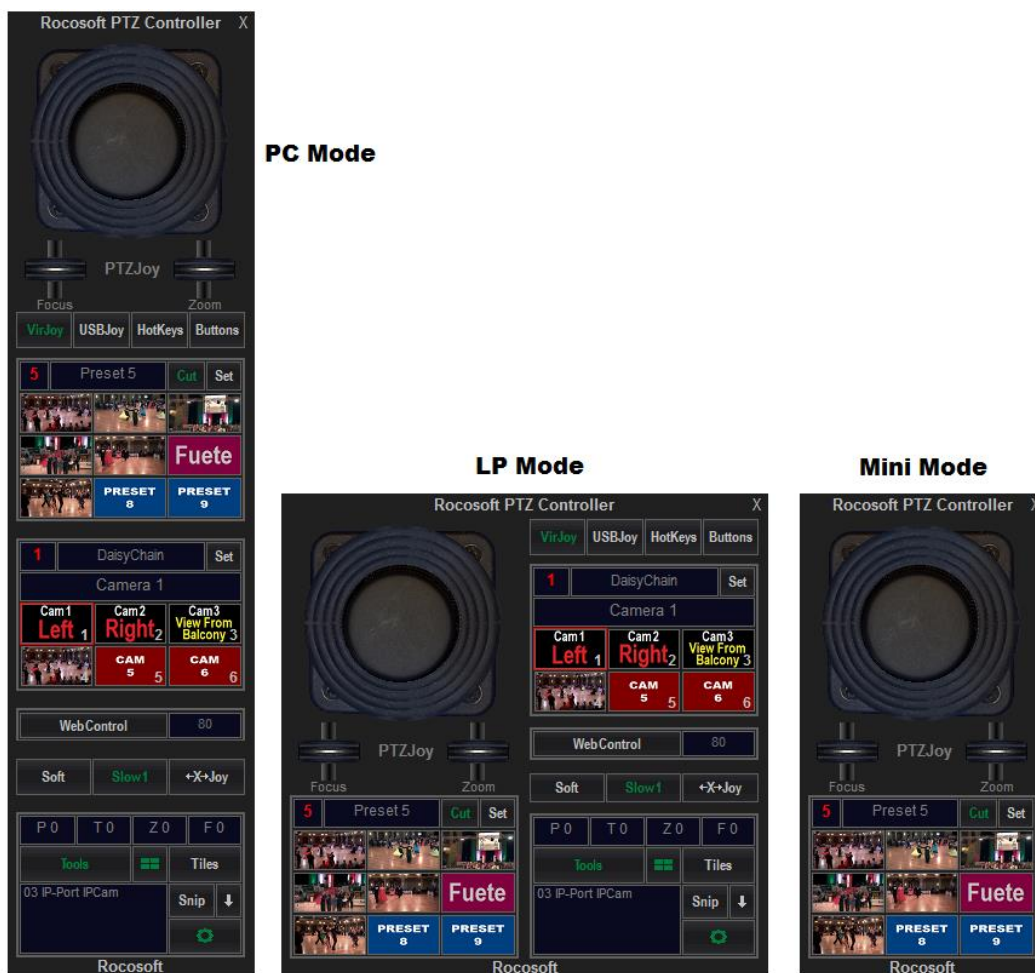
Getting started

Connecting Serial Visca Port Cameras

Before starting PTZJoy, connect your PTZ camera to your computer using a VISCA Control cable. Please make sure your PTZ camera is turned ON.

1. Connect the VISCA control cable to the **Serial/USB COM port** of your computer and to the **VISCA In** jack of your camera.
2. Check which COM port number is being used by your serial device in the **Ports** section of the **Device Manager*** on your computer (example: COM2)**.
3. Once the PTZ camera is connected to your computer, open PTZJoy. All COM ports available to control PTZ cameras will be listed in COM port window. Select the COM port your camera is connected to from the list of available COM ports and choose the desired method of camera control from the Control Type Selection buttons: **VirJoy, USBJoy, KeyPad, or HotKeys.**

To access the **Device Manager, open the **Computer** folder from your **Control Panel**, and click on **Device Manager**. Expand the **Ports** section to view your active COM ports and double check that there are no yellow exclamation marks. If you see a yellow exclamation mark next to any of your COM ports, you will need to fix this issue. If there are no yellow exclamation marks, these ports are active and available to control cameras.*

** If you are connecting only one camera, or multiple cameras in a daisy chain mode, you will need to know only one COM port number. If you have multiple cameras connected to multiple ports, you will need to know the COM port numbers being used in order to switch between cameras in the PTZJoy.

Connecting Multiple Cameras in a Home Run Connection

1. In a home run connection, multiple cameras are connected to different USB/Serial ports on one computer and each camera is controlled through a separate COM port.

2. Connect your cameras to the USB/Serial ports of your computer using Serial/USB VISCA cables (described in detail in the **Getting Started** section).

3. The **Port Display Window** will display which COM ports are being used by your cameras.

4. Use the Port Manager to name the ports being used and to switch between cameras connected in home run mode. To name the port, select the number of the port, type in the desired name, and click **Save**. Switch between ports/cameras by clicking on the number or plus and minus buttons.

   Note: *You can connect and control up to 4 cameras in home run mode.*

Connecting Multiple Cameras in a Daisy-Chain Connection

In a daisy chain connection, the first camera is connected to a USB port/Serial port of your computer and additional cameras are "daisy-chained" to the first camera using daisy chain cables. In this configuration, multiple cameras can be controlled through one COM port.

1. Connect your first camera to the USB/Serial port of your computer using a USB/Serial VISCA cable.
2. The **Port Display Window** will display which COM port is being used by your camera.
3. Connect additional cameras to the first camera with daisy chain cables.
4. Use the Daisy-Chain Camera manager to switch between cameras by clicking on the number or plus or minus buttons.
5. You can easily distinguish between multiple cameras by naming your connected cameras. Simply open the Daisy Chain Camera Manager section, select the umber of

the camera you wish to name, type in the desired name for the camera and click **Save**. Repeat for all cameras connected in the daisy chain. Once all the cameras are named, you can switch between cameras by selecting the camera from the list of camera number buttons and see with camera is currently chosen by name.

Note: You can Daisy Chain up to 7 Sony per COM port. Additional Daisy Chain connections can be added to additional available USB/Serial ports.

Connecting IP PTZ Cameras

Before using PTZJoy, you must connect your PTZ cameras to your computer's network and make sure they are discoverable.

1. Connect your cameras to your computer with a network cable.
2. Find your camera's IP Address by opening the Camera Configuration app provided your camera's manufacturer.

Pro-Tip: Make sure your computer and cameras are on the same IP network have a fixed IP Address.

    a) You can view and configure your computer IP Settings by right clicking on **Network →Properties →Ethernet Settings**
    b) Select the Internet Protocol Version Item in the list and click **Properties**.
    c) Select "Use the following IP address" and enter the IP Address, default gateway, and DNS server settings and click **OK**

3. Open PTZJoy. Select Camera 1, Type the IP address of the camera in the IP address field, click **Set**. You should now have control of your PTZ camera using the virtual joystick on the Main Panel.
4. Repeat for all your IP Cameras.

CONTROLLING YOUR PTZ CAMERAS

Virtual Joystick Control

1) Using your computer mouse, click on the virtual joystick and drag your computer mouse in the direction you want to move your selected camera*.

2) To activate the Zoom In and Zoom Out feature, click and drag the ***Zoom Lever*** with your computer mouse up to zoom in and down to zoom out*.

3) Adjust the focus of the camera but clicking and dragging the ***Focus Lever*** with your computer mouse up to focus near, and down to focus far*. Double click on the ***Focus Lever*** to auto focus the camera.

Regulate the speed of the pan, tilt, and zoom movements by the movement of the computer mouse relative to the center point of the virtual controls - called the zero point, at which the speed is zero. The speed of pan and tilt movements is determined by the location of the mouse pointer relative to the center point of the virtual joystick; the speed of the zoom in and out movement is determined by the location of the mouse pointer relative to the center point of the zoom lever. The further away from the zero point of the virtual joystick or zoom lever that you move the mouse, the quicker the camera will move. The closer the mouse is to the zero point of the virtual joystick or zoom lever, the slower the camera will move.

USB Joystick Control

We recommend checking if your cameras work with our Virtual Joystick first before trying to connect a USB Joystick.

1) Connect your joystick controller to an available USB port on your computer and wait until your computer initializes it.

2) Calibrate your Joystick (see below).

3) Click on the **USBJoy** Button. Move your USB joystick in the desired direction to control your camera. Regulate the speed of the pan and tilt movements by the movement of the joystick relative to its center point, or zero point. The further you move the joystick away from the zero point, the quicker the camera will rotate.

Calibrating USB Joystick

Calibrating your joystick controller will help the joystick to work more accurately with the PTZJoy application by finding the exact zero points and peripheral borders of the controller.

It can be easily done in   *Control Panel* → *Devices and Printers*

Configuring Joystick Buttons

All USB joysticks are different, but you can easily create your own button mapping scenario in the Settings panel. You can map your joystick buttons for a variety of actions such as switch between cameras, recall presets, run macros, zoom in and out, and more.

1. Open the **Settings Panel.**
2. Simply press a button on the joystick and you will see what number it is assigned to.
3. Select desired command from the drop-down menu for that button.
4. Repeat for all buttons.
5. **Important:** Click the **Set** button to save your changes. Your new settings are now active.

Controlling Zoom Function on a Gaming Joystick

Using the Zoom Lever

If using a gaming joystick with a zoom lever, you can use this lever for controlling the zoom function with variable speeds. Since gaming joystick levers do not have a center, or zero, position like professional joysticks do, they will not return to the zero position when you release the lever – it must be done manually.

Always start the program with the zoom lever in the middle position. By doing this, you will have full zoom control with variable speed of your camera.

1) Start PTZJoy with the joystick's lever in roughly the middle position.

2) Move the zoom lever up and down to zoom in and out to find the point where you can completely stop the zoom. This is your zero point.

3) Restart PTZJoy with the lever in middle position. Your joystick will be calibrated to use the zoom lever with a zero point.

4) You can now regulate the speed of the zoom by the movement of the zoom lever relative to its zero point. The further you move the lever away from its zero point, the quicker the camera will zoom in and out. To stop the zoom, move the zoom lever back to the zero point.

Using the Joystick Handle or 4th Axis Rudder on Xbox Controller

You can now use the gaming joystick handle or the 4th axis Rudder for on and Xbox Controller to Zoom in and out.

1. Click on the **Pro/Game** button in the **Settings Panel** to select Pro or Game mode for the joystick.
2. If you have a gaming joystick with the handle that spins, select Game mode to use the joystick handle for Zoom control.
3. If it is an X-Box type of controller, select Game mode to use one joystick on the controller for Pan and Tilt and the other one for Zoom.

Joystick Performance Modes

Slow Joystick Mode

This mode allows for slower, more precise movements of the camera by limiting top speed while using the Virtual joystick, USB joystick, or BallJoy control. Click on the *Slow Mode* button to switch to **Slow Joystick Mode**. There are three Slow modes available that you can cycle through.

The exact speed range depends on the joystick used and its calibration. **Slow1** Mode will have the speed range from 0 to about 12. **Slow2** Mode - from 0 to about 7. **Slow3** Mode – from 0 to about 2.

Soft Joystick Mode

This mode allows for gradual speed acceleration/deceleration of the camera while using the Virtual or USB joystick. Click on the *Soft Mode* button to switch to **Soft Joystick Mode**.

X Joystick Mode

This mode limits camera movements to only the X-axis while using the Virtual Joystick, USB joystick, or PTZBall Control. Click on the *X-Joy* button to switch to **X-Joystick Mode**.

Keyboard Hotkeys

Control pan/tilt/zoom/focus/iris functions, change speed settings, call on presets, and switch cameras using pre-assigned shortcuts or "hotkeys" on any standard keyboard. This is a diagram of the PTZJoy pre-assigned keyboard hotkeys:

Keyboard shortcuts are shown for PTZ Control and Exposure settings.

The left NumPad shows active commands when the **NumLock** function is **OFF** and the right NumPad shows active commands when the **NumLock** function is **ON**.

Working with Presets

Setting and recalling presets with Preset Tiles

To activate the Tiles, click on the **Tiles** button so the Tiles become visible.

1) Click on a specific Preset Tile. Move your camera in desired position and click *Set.*

2) Double click on a Preset Tile to replace the image. PTZJoy works with .jpg, .bmp, .gif file formats (.png files work only if created without an alpha transparency channel).
   It can be created using our USB Video monitor (if available) or can be copied from any external device.
   Windows Snipping tool will allow you to crop an image off the screen and save it as a file for the tile backgrounds.
   You can use vMix, NewTek Studio Monitor, VLC Media player, RTSP stream, etc. to crop images for the tile backgrounds.

3) Repeat for all available Preset Tiles.

4) To recall a preset, click on a Preset Tile.

5) The Preset Tile images are saved per port and per camera, so when using multiple cameras, the Preset Tiles will update with saved images every time the active camera is changed.

6) To clear all Preset Tile images for a specific camera, click the *Clear* button in the Settings panel.

Setting and recalling presets with the Preset Dialer

To activate the Preset Dialer Panel, click on the **Tiles** button so the Preset Dialer Panel becomes visible.

1) Use the numeric buttons to select the preset number you wish to set up for the selected camera.

2) Move your camera in the desired position, type the desired name for the preset in the preset name window, and click *Set.*

3) Repeat for up to 256 presets*

4) To recall a preset, use the numeric buttons to select preset number and click **Call.** The current preset number and name will appear on the screen.

5) If using USB Joystick to select presets, the current preset number and name will also appear on the screen.

*depends on your camera and on how many internal presets it can store.

Working with External Presets

Our Fade tool will allow you to change speed of pan, tilt, and zoom between presets.

You will need to reset all presets to save them as both - Cut and Fade. Make sure the Cut mode is on, switch to Preset1 and click Set.

You will see the Pan, Tilt, Zoom, and Focus coordinates in the corresponding fields on the bottom of the main panel. Repeat for all presets.

After all presets are reset, you can call any preset either slow or fast.

Fade mode - the camera will move to its position slowly and the speed will depend on the main speed slider under the Directional Buttons.

Cut mode – the camera will move to its position fast. Important for Serial Port Cameras:

The External Presets Feature will only work if your VISCA Control Cable is wired correctly for the two-way communication.

Check your cable with our VISCA PTZ Tester Software. Your system works if you see a clear response (example: 90 41 FF 90 51 FF) from the camera after each command.

Only one program can be connected to a specific COM Port at a given time as well as only one computer or one hardware joystick controller can be connected to a single VISCA camera or to the Daisy Chain of the cameras on a specific COM Port at a given time. Please Exit PTZJoy before starting VISCA Tester Software. Exit Tester Software before starting PTZJoy.

Auto Pan

The **AutoPan** feature allows you to move the any camera left and right with a specified speed on a cycle.

1) Click the "**Auto Pan"** button to start the pan cycle. Click it again to stop it.

2) Adjust the **AutoPan Cycle** Time with the Cycle Slider and the **AutoPan Speed** with the main Speed Slider.

Preset Scan

The *Preset Scan* feature allows you to command a selected camera to scan between presets at a specified time interval. Presets must already be configured.

Click the **Preset Scan** button to start the scan cycle. Click it again to stop the scan cycle.

Adjust the time interval between the presets with the Cycle Slider.

Using the WebRemote

Control PTZ cameras connected to the Main Controller from the web browser of any computer or mobile device over any LAN, Wi-Fi, and WAN IP network. Use it as a far-end controller to switch between cameras, control pan, tilt, zoom, and focus, and call on presets. There is no limit on the quantity of simultaneous connections to our PTZ Web Server. It means that cameras can be controller simultaneously from as many devices as needed.
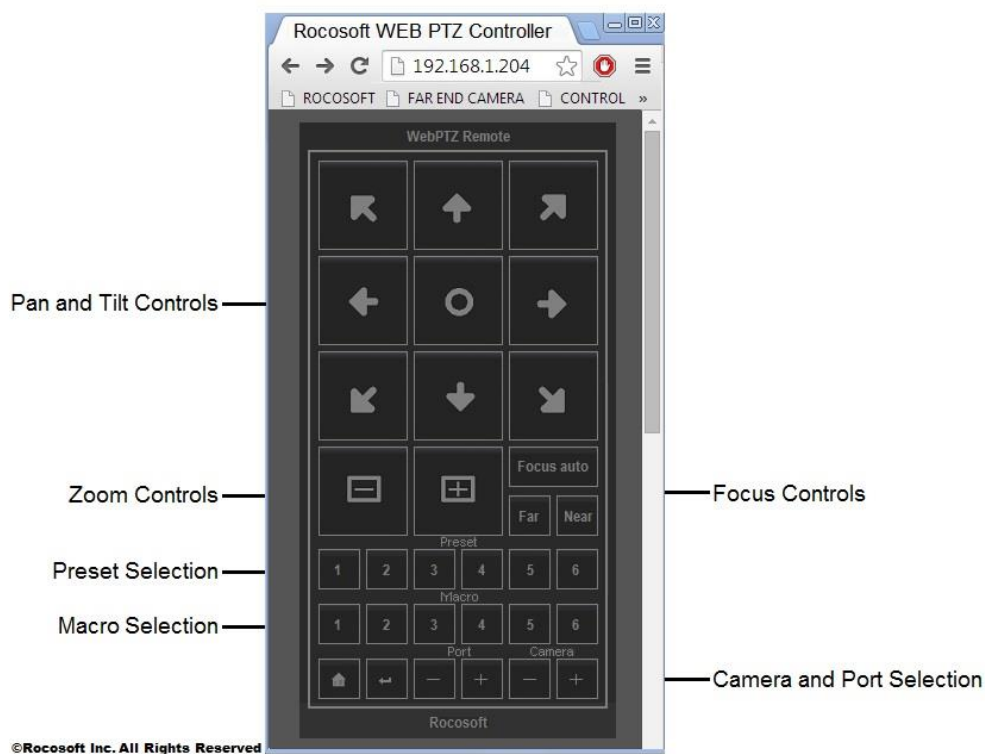
1) Turn ON Web Control access on the Main Controller by clicking on the **On** button.

2) Web Control works on port 80. The current IP Address and access information of the Main Controller can be found in the **Settings** panel by clicking on the **Settings** button. The Port 80 is reserved by default in Skype, but Skype does not use this port. It is recommended to uncheck "Use Port 80 and 443 for additional incoming connections" field by opening Tools- Options- Advanced- Connection in Skype. Freeing the port 80 for PTZ control will allow distant PTZ camera control using the IP address only.

3) Open the web browser on your mobile device and type in the IP Address of the computer with PTZJoy Controller.

4) The WebRemote will appear in the web browser of your mobile device, and you can now control the PTZ cameras connected to the Main Controller.

5) The WebRemote will appear full size in your web-browser – if you are using a computer, you can resize the WebRemote to a more convenient to use size by simply changing the zoom settings in the browser.

6) The Camera Status Display will show relevant information such as which camera is being controlled, which port is selected, and the pan, tilt, and zoom speed.

*Control cameras using the WebRemote from a device outside of your local area network by configuring your router and opening ports to accept outside signals. Once your router is configured, you can open a web browser on any device and type in the IP Address of the computer with PTZJoy Controller and control your camera.

Additional Control Settings

Minimize to Taskbar: Minimizes program to taskbar for quick access

Start with Windows: Configure program to automatically start with Windows Startup.

1) Click on the Start with Windows button in the Settings Panel to activate this feature

2) Restart the computer.

3) The program should start with Windows automatically.

   If it does not start automatically, right click on the **RocosoftPTZJoyController.exe** program loader file in the program directory and select "Run as Administrator". Click on the **"Start with Windows"** button in the **Settings Panel** again, close the program, and restart your computer.

Pan, Tilt, Zoom Flip: The *P-Flip*, *T-Flip* and *Z-Flip* buttons inverse the Pan, Tilt, and Zoom directions of a selected camera.

Camera ON/OFF: Turns selected camera ON or OFF

Camera Initiation: Allows you to add or remove cameras in a Daisy Chain connection without restarting all cameras.

Block Daisy Cams: Blocks daisy chain camera switching when in home run mode.

OSD Menu: Opens the camera's onscreen display menu for additional controls   * On Cameras that support this feature

Wiper: ON/OFF

Additional Video Settings

Tally Light: ON/OFF

Image Flip: ON/OFF

Video Mute: ON/OFF

Negative Image: ON/OFF

Black/White Image: ON/OFF

Mirror Image: ON/OFF

Image Freeze: ON/OFF

Backlight: Backlight Compensation

White Balance Settings: Auto Mode, Indoor Mode, Outdoor Mode.

Exposure Control Settings: Auto, Iris, Shutter, and Gain. Manually adjust settings with slider bars. You can see your actual camera exposure levels (Iris, Shutter, Gain, R-Gain, B-Gain) when switching between cameras.