

PTZ Optics IP Joystick Controller

Model Number: PT-JOY

Joystick Keyboard Installation & Operation Manual



Rev 1.0 10/15

Table of Contents

1.	Product Overview	1
1.1	Description	1
1.2	Product Features	1
1.3	Connection Diagram	1
1.4	Technical Specifications	2
1.5	Physical Layout	3
2.	Keyboard/Joystick Interface and Configuration	4
2.1	Configuring the Keyboard for the LAN (IP Settings).....	4
2.2	Search, Add and Inquire cameras via the Keyboard	5
2.3	Switching between cameras using the Keyboard	5
2.4	Controlling cameras via the Keyboard	6
2.5	Setting and Calling camera ONVIF Presets via the Keyboard	6
3.	Web Browser Interface and Configuration	6
3.1	Camera Page (also accessed via the Eye symbol in the top right corner)	6
3.2	Configuration Page (also accessed via the gear symbol in the top right corner)	8
3.3	User Management	9
3.4	Upgrade.....	10
3.5	Restore Factory	10
3.6	Reboot.....	10

1. Product Overview

1.1 Description

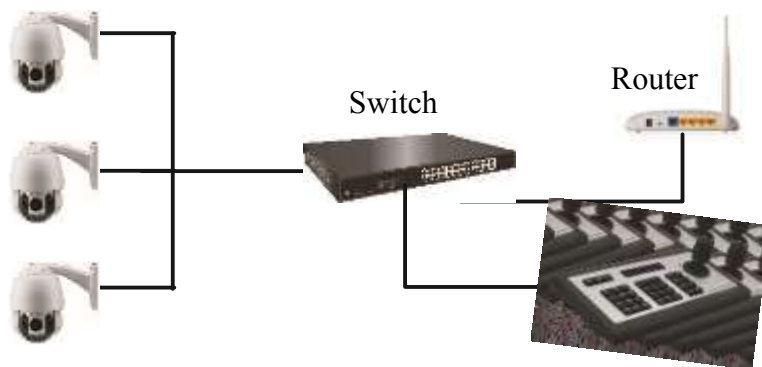
- The keyboard is constructed using high grade brushed aluminum, with unique surface hardening to prevent scratches.
- Includes an industrial grade LCD module.
- Supports ONVIF protocol with good compatibility and high scalability.
- Provides a built-in web server, which makes the configuration interface concise and easy to use.

1.2 Product Features

- Supports ONVIF protocol.
- Supports offline “search and add” for newly connected equipment.
- Supports multi-brand IP PTZ cameras (as long as they are fully ONVIF profile “S” compatible).
- Supports PTZ presets.
- System operating parameters are fully configurable.
- Includes a 4D joystick for Pan, Tilt, Zoom (twist) and Sweep Left (click top button) Controls

1.3 Connection diagram

The keyboard and the camera(s) must be in the same subnet of the LAN. (for example: 192.168.1.123 and 192.168.1.111 belong to the same subnet; 192.168.1.123 and 192.168.0.125 do not). You may need to modify the IP address(es) of the keyboard or the camera(s) or both to successfully connect. The default mode addressing mode for the keyboard is DHCP.



1.4 Technical Specifications

Main chip	GM8126
Power supply	DC12V-1A (+ on center pin)
RS485	2-Pin Screw Terminal (not active on this model)
RS232	DB9 Male port (not active on this model)
Ethernet	RJ45
Support protocol	ONVIF 2.4
Browser	IE, Firefox, Chrome, Safari
Work temperature	32°F to 131°F (0°C to 55°C)
Work humidity	20% to 80%
Storage Temperature	14°F to 140°F (-10°C to 60°C)
Storage humidity	0 to 90%
Dimensions	12.6"W x 7.1"D x 4.3"H (320mmW x 181mmD x 110mmH)
Weight	3.3 lbs (1.5 kg)
Certification	UL, CE, FCC, RoHS
Warranty	One Year Parts & Labor



1.5



PW LED lights when device is powered on.

Link LED Indicates successful connection to current device

RS232 (not active on this model)

LAN port

RS485 (not active on this model)

12V DC power input



Command Keypad

Alpha-numeric Keypad

Status/Menu LCD

4D Joystick

2. Keyboard/Joystick Interface and Configuration

2.1 Configuring the Keyboard for the LAN (IP Settings)

- Connect the power supply and the network cable to the keyboard using the appropriate ports. Once the keyboard has completed its start-up procedure (please note: warm up takes approximately 50 seconds), the screen will eventually display the unit's IP current address (e.g. "Host: 192.168.xxx.xxx"). The default setting for IP addressing is DHCP (automatic addressing).
- If the keyboard comes up in the wrong language, follow this procedure:
 - Press the "SETUP" key to enter configuration.
 - The first menu displayed on the keyboard LCD is the language setting.
 - Use the joystick's Pan control to scroll left and right until you see your desired language (English is displayed as "EN"). Press the "↵" (or enter) key to select. Press "ESC" key to return to the top menu.
- If this IP address displayed is in your LAN with the cameras to be controlled, you are ready to continue to 2.2, below. If you need to change the IP address to a static address, continue with these steps in 2.1.
- Press the "SET UP" key to enter configuration.
- Using the joystick's Tilt controls to navigate the LCD menu, scroll down to menu item 02/03, "IP" and then use the joystick's Pan controls to select "Static" rather than "DHCP".
- Use the joystick's Tilt controls to navigate the LCD menu, scroll down to menu item 03/03, "IP" and then use the joystick's numeric keypad to enter the desired static IP address, using the "." key between octets as appropriate. When new address had been entered completely, use the "↵" (or enter) key to complete the entry. Use the same method to enter the desired Subnet mask and Default gateway. If required while entering IP address info, use the joystick's Pan Left control to backspace.
- The keyboard will request permission to restart to complete the IP address change. Press the key to confirm and wait for keyboard to restart.
- Use the "SETUP" key and joystick to cycle back to the 03/03 menu, as described above, to confirm that the new IP address was entered correctly. You are now ready to control cameras on the network with the keyboard.

2.2 Search, Add and Inquire cameras via the Keyboard

- After the Controller connects to LAN successfully and displays its IP address, press the "SEARCH" button on the keyboard.
- After completing the search, the LCD will automatically display all the devices which support ONVIF protocol on the connected LAN. You can use the Joystick Tilt feature (up and down) to see all of the "found" units.
- Scroll, using the joystick to select each device you wish to control and press the "ADD" button to add that device to the joysticks memory. User name and password may be required.
- Enter the camera's assigned user name and password using the numeric keypad (e.g. you must press the "2" key 3 times in sequence to select a "c", or 2 times for a "b"). Note this camera login info is set by the individual camera's configuration utility and is not a function of this keyboard.
- Use joysticks Tilt control to scroll to next found camera and repeat ADD process for each camera.
- When all cameras have been added, press "ESC" button to return to top menu
- Now you can operate the cameras, see section 2.3 to 2.5 below.

2.3 Switching between cameras using the Keyboard

- When multiple devices have successfully been added, the user can use the "PREV" and "NEXT" keys on the keyboard to cycle quickly between cameras. The LCD will update, showing the currently selected camera by its IP address.
- Once selected, you can control pan, tilt and zoom for the selected camera using the joystick and set and all presets, etc... using the keyboard.
- The "IP" key will allow discrete camera selection (rather than sequential cycling) but must first be setup using the keyboard's web browser interface.
- **Hints:**
 - If the LCD ever displays "Equipment offline" for a particular camera, please check if the LAN connection of camera is powered on and connected to the LAN.
 - If the LCD ever displays "Username or Password Error", please check if the added device's user name and password have been changed in that camera's configuration.

- Press the “ESC” key to return to the top LCD menu at any time.
- Press the “INQUIRE” key, while in the top LCD menu, to see the saved cameras at any time. Use the joystick Tilt controls to scroll through the cameras.
- “LINK” LED on rear of keyboard will illuminate green any time a camera is successfully connected to.

2.4 Controlling cameras via the Keyboard

- Use the joystick’s Pan, Tilt and Zoom (twist the handle) to control the current camera. You may also use the “Focus+, Focus-, Zoom+, Zoom- and Iris+, Iris-“ buttons.
- Pressing the “SPEED” button will cycle through 3 variations in Pan/Tilt maximum speed for the camera. Watch the LCD to see which speed you have selected. The current speed will be displayed by the quantity of arrows (1-3). **Tip:** The joystick is progressive, i.e. you can also pan and tilt at varied rates without changing max speed by moving joystick nearer or further from its center position.

2.5 Setting and Calling camera ONVIF Presets via the Keyboard

- Drive a camera to a desired Pan, Tilt and Zoom position using the camera’s IR remote or the joystick. To save this position as a preset, Press the “PRESET” button on the keyboard, followed by a number, using the numeric keypad and the “↵” button to save the preset and assign it to that number.
- Press the “SHOT” button, followed by a number, using the numeric keypad and the “↵” button to call that preset and automatically return the camera to that position.

3. Web Browser Interface and Configuration

3.1 Camera Page (also accessed via the Eye symbol in the top right corner)

- Your PC must be on the same LAN as the keyboard.
- Enter the IP address (displayed on the LCD of the keyboard **when you start it up** e.g. HOST: 193.168.xxx.xxx) into a web browser.
- If the interface appears in Chinese, Use the 3rd drop down list to select “English”.
- Login to the keyboard. The default User is “admin”. The default Password is empty.

- The main page is displayed as shown here:



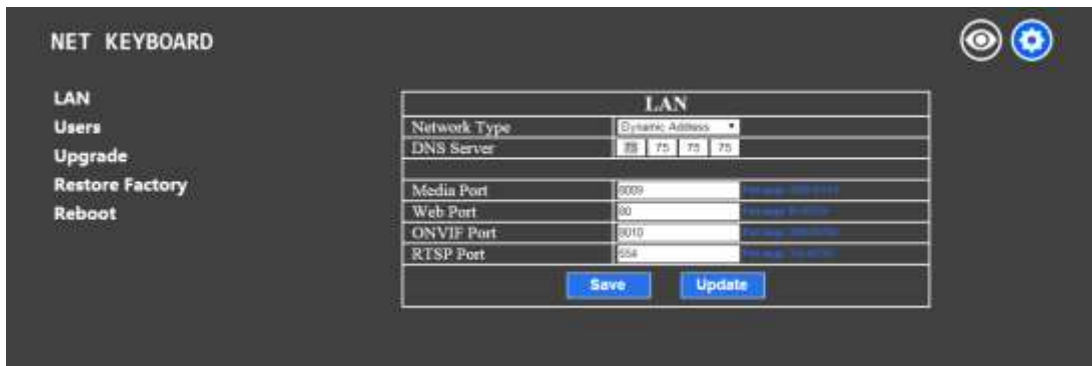
- On the main page of device, there are three lists:
 - Search List (green frame)
 - Added List (blue frame)
 - Equipment details (orange frame and pertains to the active selection in the blue frame)
- Click the "Search" button to search the LAN for compatible ONVIF devices (equivalent to Search done directly from the keyboard). Found devices will be displayed automatically in the green frame after the search has completed.
- Select the device you want to add in the green Search list, then click the "Add" button.
 - Hold "Ctrl" while clicking to select multiple devices simultaneously.
- Select the device you want to delete in the blue Add List, then click "Delete" to remove the device.
 - Hold "Ctrl" while clicking to select multiple devices simultaneously.
- After adding a device, click the IP of the device in the blue Add List and you can edit information such as IP address, ONVIF port and login information for the camera.
 - To edit any camera info that is displayed in a gray box, you must first click "Handle" to access these fields.
- Setting the "Address" field for a value between 0 and 253 allows you to quickly and discretely select cameras using the keyboard's "IP" button.



- o TIP: After saving the camera address here, Press the “IP” button on the keyboard, followed by the camera’s address, to immediately select that camera for control without having to cycle using the “PREV” and “NEXT” buttons.
- Click on "Save" after adding or deleting cameras or modifying any camera settings.
 - o Important: To change any configuration or parameters, you must click “Save”, otherwise the changes will not be saved.

3.2 Configuration Page (also accessed via the gear symbol in the top right corner)

- LAN Menu – Click on “LAN”
 - o You can modify the IP address type and port parameters in LAN settings, as follows:



- o Dynamic addressing (or DHCP, is the default): The keyboard will automatically request an IP address from the DHCP server on the connected LAN. The auto-assigned address will be displayed on the LCD after the request is successful, the format is "HOST: 192.168.xxx.xxx". You can always check the assigned IP address by viewing screen 03/03 of the keyboard’s SETUP menu as described previously. Note: Changing IP settings will require a reboot of the keyboard.
- o Static Address: When the user needs to set up a network without a DHCP server or wants to manually assign an IP address, even if there is a DHCP server, the network type should be set to “Static Address”. A new field containing 4 boxes for the 4 octets of an IP address will become available for entering this info.

Similarly, you will manually enter the Subnet Mask and Default gateway for the network. If you are unsure of what to enter, please see your IT staff for this information. Note: Changing IP settings will require a re-boot of the keyboard.

- o Ports: You may assign specific network ports to handle various features of the camera. The port type (e.g. TCP or UDP) is not shown but is implied by the nature of the feature (e.g. Web is TCP; Media is UDP). The allowable port ranges are shown to the right of the field. It is recommended to use the default port values (8009, 80, 8010, 554). Note: Changing Port settings will require a reboot of the keyboard.

3.3 User Management



- The default user is “Admin” with “Super Admin” rights. Super Admins may add a new “Admin” account.
 - o Super Admin: The default account. Allows full permission to add, revise or delete any type of account.
 - o Administrator: Allows full permission to add, revise or delete any type of account, except Super Admin. Administrator may configure and revise the keyboard, including all camera parameters.
 - o Operator: No permissions to manage accounts or configuration. May add, delete and set camera parameters.
 - o Visitor: No permissions to manage accounts, configuration or camera parameters. May only browse pages and parameters.

3.4 Upgrade



- The “Upgrade” function is used to update the keyboard’s firmware.
 - Click “Choose File” and browse your computer to select the appropriate firmware file.
 - CAUTION: Only select a file provided directly from PTZOptics for this keyboard.
 - Click “Start” to initiate the file transfer. The keyboard will auto reboot after successfully updating.
- CAUTION: During update, please do not attempt to operate or shut off the keyboard’s power or the LAN connection to the keyboard. An incomplete transfer could result in a damaged and unusable keyboard!

3.5 Restore Factory

- To return to all factory settings for the firmware loaded.
 - Click “Restore” to return the keyboard to all of its default settings for the current firmware.
 - Note: This will erase any saved cameras and their configurations.
 - Note: This will erase any saved keyboard configurations, including returning the IP address to DHCP.

3.6 Reboot

- Click “Reboot” to restart the keyboard (e.g. after changing IP settings of keyboard).
- Click “Reboot” to confirm.
- Note: Keyboard takes about 50 seconds to completely reboot.