PTZOptics PT12X-SDI

PTZOptics 12X-SDI PTZ Camera User Manual
Model: PT12X-SDI

INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, and maintenance of your PTZOptics 12X-SDI PTZ Camera. The PTZOptics 12X-SDI is a high-definition camera designed for video conferencing and broadcasting applications, offering 1080p resolution with a 12X optical zoom. It supports multiple video output interfaces including HDMI, 3G-SDI, and IP Streaming (H.264 or H.265).

WHAT'S IN THE BOX

Verify that all items are present before proceeding with installation.

- PTZOptics 12X-SDI Camera
- 12V DC Power Supply
- RS-232 Cable
- IR Remote Control
- (2) AAA Batteries

PRODUCT OVERVIEW

Front View

Figure 1: Front view of the PTZOptics 12X-SDI camera. This image displays the camera's main lens assembly, mounted on a pan-tilt mechanism, with the base featuring "POWER" and "STANDBY" indicators.

Side View

Figure 2: Side view of the PTZOptics 12X-SDI camera. This perspective highlights the camera's profile, including the PTZOptics branding on the side of the base unit.

Rear Panel Connections

Figure 3: Rear panel connections of the PTZOptics 12X-SDI camera. This image details the array of ports available for connectivity, including LAN, HDMI, HD-SDI, USB 2.0, DC 12V power input, RS-232 In/Out, RS-485, CVBS, and Line In audio.

The rear panel provides all necessary connections for power, video output, audio input, and control. Refer to Figure 3 for a visual guide to the ports.

- **LAN (RJ-45):** For IP streaming and network control.
- **HDMI:** High-Definition Multimedia Interface for video output.

- **HD-SDI:** High-Definition Serial Digital Interface for professional video output over long distances.
- **USB 2.0:** For potential future firmware updates or specific accessories.
- **DC 12V:** Power input for the camera.
- **RS-232 IN/OUT:** Serial communication ports for camera control using VISCA commands.
- **RS-485:** Another serial communication port for camera control.
- **CVBS:** Composite Video Baseband Signal for standard definition video output.
- **LINE IN:** Audio input for embedding audio with video streams.

SETUP

1. **Power Connection:** Connect the provided 12V DC power supply to the "DC 12V" port on the rear panel of the camera. Plug the power supply into a suitable electrical outlet.

2. **Video Output:**
   - **HDMI:** Connect an HDMI cable from the camera's HDMI port to an HDMI input on your display or capture device.
   - **3G-SDI:** Connect an SDI cable from the camera's HD-SDI port to an SDI input on your professional video equipment. This is recommended for long cable runs.
   - **IP Streaming:** Connect an Ethernet cable from the camera's LAN port to your network switch or router. Configure IP settings via the camera's web interface (refer to the IP Streaming section for details).
   - **CVBS:** For standard definition output, connect a composite video cable to the CVBS port.

3. **Audio Input:** If embedding audio, connect an audio source to the "LINE IN" port.

4. **Control Connections:**
   - **RS-232/RS-485:** For external control systems (e.g., Crestron, Extron), connect the appropriate serial cable to the RS-232 IN/OUT or RS-485 ports.
   - **IP Control:** The camera can also be controlled over the network via its LAN port.

OPERATING INSTRUCTIONS

Basic Camera Control (IR Remote)

The included IR remote control allows for basic pan, tilt, zoom, and preset recall functions.

- **Power On/Off:** Use the power button on the remote to turn the camera on or off.
- **Pan/Tilt:** Use the directional arrows to move the camera horizontally (pan) and vertically (tilt).
- **Zoom:** Use the 'Tele' (zoom in) and 'Wide' (zoom out) buttons to adjust the optical zoom.
- **Presets:** Position the camera to a desired view, then press 'SET' followed by a number (0-9) to save the preset. To recall a preset, press the corresponding number.

IP Streaming Configuration

The camera supports H.264 and H.265 IP streaming. To configure, connect the camera to your network via the LAN port. Obtain the camera's IP address (usually via a network scanner or the camera's OSD menu) and access its web interface through a web browser. From the web interface, you can:

- Set network parameters (Static IP, DHCP).
- Configure streaming protocols and resolutions.

- Adjust image settings.
- Control PTZ functions remotely.

External Control Systems (VISCA)

The camera integrates with larger control systems like Crestron and Extron using VISCA commands via the RS-232 and RS-485 ports. Refer to the PTZOptics developer documentation for detailed VISCA command protocols.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens, use a lens cleaning cloth and solution specifically designed for optical surfaces. Avoid abrasive cleaners or solvents.
- **Environment:** Operate the camera within its specified temperature and humidity ranges. Avoid exposing the camera to excessive dust, moisture, or direct sunlight.
- **Firmware Updates:** Periodically check the PTZOptics website for firmware updates to ensure optimal performance and access to new features. Follow the provided instructions carefully for any update procedures.

TROUBLESHOOTING

If you encounter issues with your PTZOptics 12X-SDI camera, refer to the following common problems and solutions:

- **No Power:**
  - Ensure the 12V DC power supply is securely connected to both the camera and a working electrical outlet.
  - Verify the power adapter is functioning correctly.

- **No Video Output:**
  - Check all video cables (HDMI, SDI, CVBS) for secure connections.
  - Confirm the display or capture device is set to the correct input source.
  - For IP streaming, verify network connectivity and correct IP settings. Ensure the streaming software or viewer is configured correctly.
  - Test with a different video output port or cable if possible.

- **Camera Not Responding to Control:**
  - **IR Remote:** Ensure batteries are installed correctly and are not depleted. Point the remote directly at the camera's IR receiver.
  - **RS-232/RS-485:** Verify cable connections and ensure the control system is sending correct VISCA commands. Check baud rate settings.
  - **IP Control:** Confirm the camera is on the network and its IP address is reachable. Check for IP address conflicts.

- **Image Quality Issues:**
  - Ensure the lens is clean and free from smudges or dust.
  - Check lighting conditions in the environment.
  - Adjust image settings (exposure, white balance) via the OSD menu or web interface.

Specifications

Brand	PTZOptics
Model Number	PT12X-SDI
Video Capture Resolution	1080p
Optical Zoom	12X
Field of View	72.5 Degrees (Wide) to 6.9 Degrees (Tele)
Video Output Interfaces	HDMI, 3G-SDI, IP Streaming (H.264/H.265), CVBS
Control Interfaces	RS-232, RS-485, IP (VISCA)
Photo Sensor Technology	CMOS
Item Weight	3.05 pounds
Product Dimensions	5.88 x 5.56 x 6.88 inches
Special Features	Low Light Performance

Support and Warranty

For technical support, warranty information, or further assistance, please visit the official PTZOptics website or contact their customer service department. Details regarding product warranty are typically provided with your purchase documentation.

Online Resources: www.ptzoptics.com