



Model Number:

PT12X-SDI-GY-G2 (gray)

PT12X-SDI-WH-G2 (white)

<http://ptzoptics.com/12x-sdi/>

PTZOPTICS Broadcast & Conference Camera

The PTZOptics 12X-SDI is a 1080p camera with 12X optical zoom for capturing both wide angles and long shots. With support for 3G-SDI, HDMI, and IP streaming (H.264, H.265, & MJPEG), this camera is ideal for broadcasting high definition video signals for broadcast, recording, or video conferencing applications.

KEY FEATURES

- 72.5 degree wide-angle lens.
- High performance in low light scenarios with Wide Dynamic Range.
- Full 1920x1080p HD Resolutions up to 60 frames per second.
- 2D and 3D noise reduction with our latest “low noise CMOS sensor”.
- RS232 & RS485 (Serial), and IP (LAN/WAN) control
- H.264, H.265, & MJPEG Streaming over RJ-45 LAN port
- HDMI, 3G-SDI, & IP streaming (all 3 simultaneously)
- PoE (Power over Ethernet) or 12VDC
- RTMP & RTSP IP streaming

WHAT'S IN THE BOX

- 12X Zoom 3G-SDI Camera
- Power Adapter + Cord
- IR Remote Control
- RS-232C Cable
- User Manual

Camera & Lens	
Video Sensor	1/2.7" CMOS, 2.12 Mega Pixels
Frame Rates	1080p/60, 50, 30 & 25, 1080/60 & 50, 720p/60, 50, 30 & 25
Frame Rates (CVBS)	576i/30, 480i/30
Focal Length	12x, F3.5mm-42.3mm, F1.8-F2.8
Lens Zoom	12x
Field of View	72.5°
Min Lux	0.5 Lux at F1.8, AGC ON
Shutter Speed	1/30s - 1/10000s
SNR	≥55dB
Vertical Flip & Mirror	Supported
Horizontal Angle of View	6.9° (tele) to 72.5° (wide)
Vertical Angle of View	3.9° (tele) to 44.8°(wide)
Working Environment	Indoor
Pan & Tilt Movement	
Pan Movement	±170°
Tilt Rotation	Up: 90°, Down: 30°
Presets	10 via IR (255 via Serial or IP)

Rear Board	
Video Output	HDMI, 3G-SDI, IP Streaming, CVBS
Network Interface	RJ45
Audio Interface	Line In, 3.5mm (HDMI & IP Stream Only)
Communication	RS-232, RS-485, PELCO-D/P,
Baud Rate	2400/4800/9600 bits
Power Supply	JEITA type Power Adapter (DC IN 12V)
3G-SDI Interface	BNC – 75 Ohm, Female
USB 2.0 Interface	Future Use
Electrical Index	
Power Supply	12W (Max)
Input Voltage	12V DC (10.8 - 13.0V DC) or PoE 802.3af
Physical	
Dimension (in.)	5.6W x 6.5H x 6.7D (7.88H max w/ Tilt)
Dimensions (mm)	142W x 164H x 169D (189H max w/ Tilt)
Box Dimensions	9"x9"x10" 229mmx254mmx229mm
Camera Weight	3.05 lbs. (1.38 kg)
Boxed Weight	5.4 lbs. (2.45 kg)



Model Number:
 PT20X-SDI-GY-G2 (gray)
 PT20X-SDI-WH-G2 (white)
<http://ptzoptics.com/20x-sdi/>

PTZOPTICS Broadcast & Conference Camera

The PTZOptics 20X-SDI is a 1080p camera with 20X optical zoom for capturing HD images at long distances. With support for 3G-SDI, HDMI, and IP streaming (H.264, H.265, & MJPEG), this camera is ideal for broadcasting high definition video signals for broadcast, recording, or video conferencing applications.

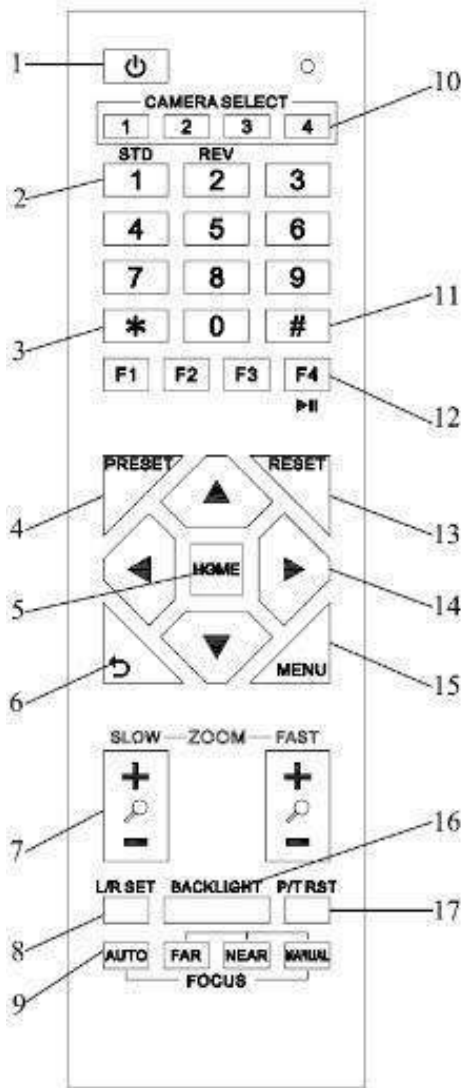
KEY FEATURES

- 60.7 degree wide-angle lens.
- High performance in low light scenarios with Wide Dynamic Range.
- Full 1920x1080p HD Resolutions up to 60 frames per second.
- 2D and 3D noise reduction with our latest “low noise CMOS sensor”.
- RS232 & RS485 (Serial), and IP (LAN/WAN) control
- H.264, H.265, & MJPEG streaming over RJ-45 LAN port
- HDMI, 3G-SDI, & IP streaming (all 3 simultaneously)
- PoE (Power over Ethernet) or 12VDC
- RTMP & RTSP IP streaming

WHAT'S IN THE BOX
 20X Zoom 3G-SDI Camera
 Power Adapter + Cord
 IR Remote Control
 RS-232C Cable
 User Manual

Camera & Lens	
Video Sensor	1/2.7" CMOS, 2.12 Mega Pixels
Frame Rates	1080p/60, 50, 30 & 25, 1080i/60 & 50, 720p/60, 50, 30 & 25
Frame Rates (CVBS)	576i/30, 480i/30
Focal Length	20x, F4.42mm-88.5mm, F1.8-F2.8
Lens Zoom	20x
Field of View	60.7°
Min Lux	0.5 Lux at F1.8, AGC ON
Shutter Speed	1/30s - 1/10000s
SNR	≥55dB
Vertical Flip & Mirror	Supported
Horizontal Angle of View	3.36° (tele) to 60.7° (wide)
Vertical Angle of View	1.89° (tele) to 34.1°(wide)
Working Environment	Indoor
Pan & Tilt Movement	
Pan Movement	±170°
Tilt Rotation	Up: 90°, Down: 30°
Presets	10 via IR (255 via Serial or IP)

Rear Board	
Video Output	HDMI, 3G-SDI, IP Streaming, CVBS
Network Interface	RJ45
Audio Interface	Line In, 3.5mm (HDMI & IP Stream Only)
Communication	RS-232, RS485, PELCO-D/P
Baud Rate	2400/4800/9600 bits
Power Supply	JEITA type Power Adapter (DC IN 12V)
3G-SDI Interface	BNC – 75 Ohm, Female
USB 2.0 Interface	Future Use
Electrical Index	
Power Supply	12W (Max)
Input Voltage	12V DC (10.8 - 13.0V DC) or PoE 802.3af
Physical	
Dimension (in.)	5.6W x 6.5H x 6.7D (7.8H max w/ Tilt)
Dimensions (mm)	142W x 164H x 169D (198H max w/ Tilt)
Box Dimensions	9"x9"x10" 229mmx254mmx229mm
Camera Weight	3.10 lbs. (1.41 kg)
Boxed Weight	5.4 lbs. (2.45 kg)



1. Standby Button

Press this button to enter standby mode. Press it again to enter normal mode.
NOTE: Power consumption in standby mode is approximately half of the normal mode.

2. Position Buttons (0-9)

To set preset or call presets and for Special Shortcut Functions.

3. * (asterisk) Button

For use with multiple function buttons (see 12)

4&13. Set/Clear Preset Buttons

Set preset: Store a preset position [PRESET] + Numeric button (0-9): Setting a corresponding numeric key preset position.
Clear preset: Erase a preset position [RESET] + Numeric button (0-9)
Note: [*] + [#] + [RESET]: Erase all presets.

5&14. Pan/Tilt & Home Control Buttons

Press the arrow buttons to perform panning and tilting. Press the [HOME] button to face the camera back to its Home position.

6. Return Button

Press button to return to previous menu.

7. Zoom Buttons (Slow & Fast)

Zoom+: Zoom In (Slow and fast speeds)
Zoom-: Zoom Out (Slow and fast speeds)

8. L/R Set Button

Set the left & right direction of panning control. Hold [L/R Set] + Press [1]: Normal panning direction. Hold [L/R Set] + Press [2]: Left and right panning direction will be reversed.

9. Focus Buttons

Used for focus adjustment. Press [AUTO] to adjust the focus on the center of the object automatically. To adjust the focus manually, press the [MANUAL] button, and then adjust focus with [Far] (focus on far object) and [Near] focus on near object).

10. Camera Address Select Buttons

Press the button corresponding to the camera which you want to operate with the IR remote controller.

11. # Button

For use with multiple function buttons (see 12)

12. Multiple Function Buttons

Function 1. Set camera IR address function: Press 3 keys consecutively to set the camera's IR address as follow:

[*] + [#] + [F1]: IR Address 1

[*] + [#] + [F2]: IR Address 2

[*] + [#] + [F3]: IR Address 3

[*] + [#] + [F4]: IR Address 4

Function 2. Image freezing function: Press [F4] to start the freeze function. The word "Freeze" displays on the upper left corner. After five seconds, the display disappears automatically (though the freeze feature continues). To cancel the freeze, press the [F4] key the word "Unfreeze" displays on the upper left corner. After five seconds, the display disappears automatically.

15. Menu Button

OSD Menu Settings: Press this button to enter or exit the OSD (on screen display) menu.

16. Backlight Button

Backlight (aka BLC) button: Press this button to enable backlight compensation. Press it again to disable backlight compensation. NOTE: Effective only in auto exposure mode. NOTE: If there is a light behind the subject, the subject will appear dark (i.e. silhouetted). In this case, press the backlight button to turn BLC On . To cancel this function, press the backlight button to turn BLC Off.

17. P/T RST Button

Press the button to self-calibrate the pan and tilt positions and limits.

Special Shortcut Functions

[*] + [#] + [1]: Display OSD menu in English

[*] + [#] + [3]: Display OSD menu in Chinese

[*] + [#] + [4]: Show IP address

[*] + [#] + [6]: Quickly restore default settings

[*] + [#] + [8]: Show the camera FW version

[*] + [#] + [9]: Quickly set mounting mode (vertical flip / normal)

Model Number:
NUC-i7-G2



Powerful Intel Micro PC

The Intel NUC i7 Skull Canyon is a powerful micro PC. This compact PC is the perfect accessory for use with a video mixing studio paired with PTZOptics cameras. Whether paired with the Producer or Producer+ kit, the Intel Skull Canyon will keep your show running reliably.

KEY FEATURES

- Windows 10 Enterprise
- 6th Generation Intel Core 2.6 GHz i7-6770HQ Quad-Core Processor
- 1) HDMI 2.0, 1) Mini DisplayPort, 1) DisplayPort 1.2 via USB-C
- 32GB DDR4 RAM
- 256GB SSD
- 2) rear USB 3.0 ports, 2) front USB 3.0 ports (one charging)
- Integrated Intel Iris Pro Graphics 580
- 10/100/1000 Mbps Ethernet
- Thunderbolt 3/USB 3.1 via USB-C

WHAT'S IN THE BOX
 Intel NUC i7 "Skull Canyon"
 Power Adapter + Cord
 (International Power
 Adapters)
 VESA mount
 Non-Skull lid

Processor

- Intel Core i7-6770HQ processor (2.6 to 3.5 GHz turbo, Quad core, 6MB Cache, 45W TDP)

System Memory

- 2) 16GB DDR4 SO-DIMM RAM (32GB total)

Storage

- 1) 256GB SSD

Audio

- Up to 7.1 surround audio via HDMI and Mini DisplayPort
- Headphone/Microphone jack on the front panel
- Combo speaker/TOSLINK audio output on the back panel

Peripheral Connectivity

- Intel Gigabit LAN
- 1) Thunderbolt 3 port with USB 3.1
- 4) Super Hi-Speed USB 3.0 ports (2) front and 2) rear panel)
- Intel Dual Band Wireless-AC 8260 (802.11ac), 2x2, up to 867 Mbps
- Dual Mode Bluetooth 4.2

Baseboard Power Requirements

- 19V, 120W AC-DC power adapter

Graphics

- Intel Iris Pro Graphics 580
- 1) HDMI 2.0 port
- 1) Mini DisplayPort 1.2
- 1) Thunderbolt with support for Mini DisplayPort 1.2

System Bios

- 64 Mb Flash EEPROM with Intel Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V3.0b, SMBIOS2.5
- Intel Visual BIOS
- Intel Express BIOS update support

Expansion Capabilities

- 1) NFC header
- 2) internal USB 2.0 ports
- 2) additional Hi-Speed USB 3.0 ports via internal headers

Storage/Operation Temperature

- -20°C to +60°C | -4°F to 140°F (Storage Temperature)
- 0°C to +40°C | 32°F to 104°F (Operation Temperature)

Mechanical Chassis Size (L x W x H)

- 211mm x 116mm x 28mm | 8.3" x 4.56" x 1.1"

Model Number:
PT-PRODUCER-
UPGRADE

PTZOptics External PCIe

The External PCIe housing paired with the quad SDI input card allows for 4) SDI connections to a PC. This allows the housing to be paired with a high powerful micro PC included with the Producer+ kit. The external housing can be paired with any SDI input, whether from a 12X, 20X, or 30X-SDI camera.

KEY FEATURES

- Allows for SDI inputs into Thunderbolt3 input of NUC
- 4) Full resolution 1080p/60 inputs
- Dedicated DisplayPort for additional monitor
- Durable aluminum housing
- Up to 4:4:4 10 bit High-fidelity video processing pipeline
- Up/Down scaling as needed

WHAT'S IN THE BOX
Akitio External PCIe housing
Thunderbolt 3 USB-C cable
DC12V Power Supply
Magewell Quad-SDI



Magewell Quad SDI PCIe Specifications

Video Capture Formats	SD/HD/3Ga/3Gb/3Ga-DL/3Gb-DS
Color Sampling	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
Input Interfaces	4) BNC via SD/HD/3G-SDI
Supported Software	VLC, VirtualDub, OBS, xSplit, vMix, VidBlaster, Wirecast, Microsoft Media Encoder, Adobe Flash Media Encoder, Any other DirectShot/V4L2 encoding/streaming software
Supported Resolutions	Video resolutions up to 2048x1080 Windows - 7/8.1/10 Linux - Ubuntu 12.04/14.04/16.04/17.04/17.10
Supported Operating Systems	Mac - OS X 10.9.5/10.10/10.11.2 ~ 10.11.4 MacOS - 10.12, 10.13.2, 10.13.3
Host Interface	PCIe Gen2 x4

Akitio External PCIe Housing

Data Transfer	Thunderbolt3 up to 40 Gbps DisplayPort 1.2 (4K at 60Hz)
System Environment	Operating Temperature: 5°C ~ 35°C Storage Temperature: -20°C ~ 60°C Relative Humidity: 5% ~ 95% (non condensing)
Dimensions (L x W x H)	9.17 x 5.87 x 2.99 inches 233 x 149 x 76 mm
Power Supply	Input: AC 100-240V, 50Hz-60Hz Output: DC +12V/6A
Case Material	High quality aluminum metal chassis

Compatibility

- VISCA Protocol
- PELCO-D Protocol
- PELCO-P Protocol

What's in the Box?

- Three-axis control keyboard
- RS232 cable
- DC12V Power Supply
- Manual

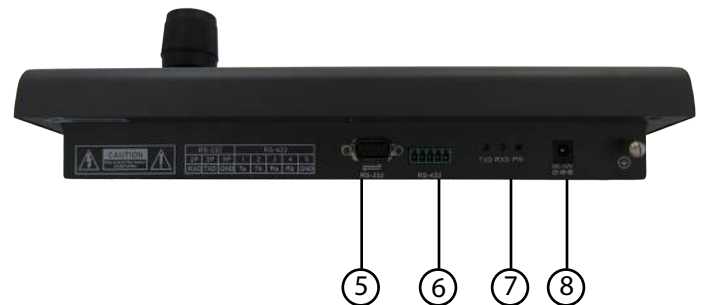
Features

- Durable Metal Housing
- VISCA, PELCO- P & D
- RS232, RS422, RS485
- On Screen Display
- Variable Speed Pan, Tilt & Zoom Control
- Iris, Focus, Home, Backlight & Preset controls
- 4 Camera Quick Select keys

HuddleCamHD

Model No: HC-JOY-G2

Easy pan, tilt & zoom controls for any RS-232, RS-422, RS-485 VISCA or Pelco protocol camera!
Controls pan & tilt with variable speed.
Use 3 dimensional joystick with "twist" for variable control of zoom.



- LCD Display**
Menu options displayed here
- Camera Control keys**
Quick camera select, camera select, Focus, Iris, BLC, Home, Preset set, call & clear
- Numeric Keys**
Setting, Gamma and calling and clearing presets and changing parameters

- Joystick**
Three-Axis Joystick Controller
- DB9 Connection**
For RS-232 Camera Control
- RS422/485 Connection**
For RS422/485 camera control
- Activity LEDs**
- Power Connection**
12V Power Connection

Specifications

Key Technical Specifications

Connections:	RS-232, RS-485, RS-422
Baud Rate:	1200-19200 bps
Interfaces:	DB9: RS232; 5SCT: RS485/RS422.
Maximum Cameras:	Control up to 255 Cameras
Maximum Presets:	Up to 255 Presets
Maximum Distance:	3,937' (1200m) using 24 gauge twisted pair

Operational Specifications

Power:	6W (12VDC)
Working Temp:	14°F to 122°F (-10° to +50° C).
Working Humidity:	10 ~ 90% (non-condensation)
Weight:	3.4 lbs 1.6 kg
Dimensions:	12.6"(W) x 7.1"(D) x 4.3(H) 320mm(W) x 181mm(D) x 110mm(H)



Model Number:
MVI-LTG

Shure Motiv MVI-LTG

The Shure Motiv MVI-LTG converts any standard XLR or 1/4" plug into a USB source to be used with a computer. This allows for audio from a mixing board to be embedded into the Intel Skull Canyon for use with a mixing software.

KEY FEATURES

- Converts XLR or 1/4" plug to USB 2.0
- Toggle mute from microphone/mixing board
- Supplies 12-48v phantom power (12v-iOS/48v-USB)
- 5) DSP Preset Modes (Speech, Singing, Flat, Acoustic Instrument, Loud)
- Durable all metal housing

WHAT'S IN THE BOX

Shure Motiv MVI-LTG
Micro USB 2.0 cable
Lightning to micro USB 2.0

Product Specification	
MFi Certified	Yes
DSP Modes (Presets)	Speech/Singing/Acoustic/Loud/Flat
Input	Combination XLR and 1/4" (6.35mm) TRS
Input Impedance	3-pin XLR: > 2 kΩ 1/4" TRS: > 1 MΩ
Bit Depth	16-bit/24-bit
Sampling Rate	44.1/48 kHz
Frequency Response	20 Hz to 20,000 Hz
Adjustable Gain Range	3-pin XLR: 0 dBV 1/4" TRS: +9 dBV
Maximum Input Level	3-pin XLR: 0 dBV 1/4" TRS: +9 dBV
Headphone Output	3.5mm (1/8")
Power Requirements	Powered through USB or Lightning connector
Phantom Power	USB: +48 VDC iOS: +12 VDC
Input Mute	Yes
Housing	All-metal construction
Net Weight	310.0g (10.93 oz.)
Dimensions	42 x 84 x 72mm (H x W x D)
Cable	Includes 1) micro-b to USB cable and 1) micro-b to lightning cable