

A Guide to Robotic Camera Video Production

What Is A Robotic Production Camera?

A traditional multi-camera video production requires an operator for every camera; however, the use of robotic production camera, or PTZ (Pan, Tilt, Zoom) camera eliminates the need for camera operators. PTZ cameras can be permanently mounted at venues using wall mounts or used for portable applications by mounting on tripods.



How PTZ Cameras Are Being Used

PTZ cameras typically are used for live video streaming or IMAG (image magnification) applications such as houses of worship, corporate conferences, city council, or live stage venues.



Choosing A PTZ Camera For Your Application

Here are three features to consider when selecting a PTZ Camera:

1. Optical zoom distances
2. Camera control
3. Powering camera and video signal transmission



Tracking



PTC-285(W)

SDI / HDMI



PTC-140(W)



PTC-150(W)



PTC-280(W)



PTC-300(W)

Part #	<u>PTC-285(W)</u>	<u>PTC-140(W)</u>	<u>PTC-150(W)</u>	<u>PTC-280(W)</u>	<u>PTC-300(W)</u>
Optical Zoom	12x	20x	30x	12x	20x
Dual Streaming	RTMP, SRT, HLS	RTMP, SRT, HLS	N/A	RTMP, SRT, HLS	RTMP, SRT, HLS
Video Resolution	up to 4K60p60	up to 1080p	up to 1080p 59.94	up to 4K60p	up to 4K60p
HDBaseT Compatible TX/RX	See PTC-285T	See PTC-140T	See PTC-150T	TX: HBT-6, HBT-11 HBT-12, HBT-30, HBT-50 RX: HBT-15	TX: HBT-6, HBT-11 HBT-12, HBT-30, HBT-50 RX: HBT-15
PoE	PoE+	Requires AD-PoE-140	N/A	PoE+	PoE+

1. Optical Zoom Distances

Most PTZ production cameras have three different optical zoom distances which include 12x, 20x and 30x. Optical zoom is preferred over digital because it uses the lens to magnify the subject you're shooting whereas, digital zoom crops the image instead of using a lens to magnify the subject. Here are the Datavideo cameras options:

12x



PTC-280

12x optical zoom
(30-40ft distance)



PTC-285

12x optical zoom
(30-40ft distance)

20x



PTC-140

20x optical zoom
(50-75ft distance)



PTC-300

20x optical zoom
(50-75ft distance)

30x



PTC-150

30x optical zoom
(75-120ft distance)

Z Camera Line

HDBaseT

		
PTC-140T(W)	PTC-150TL(W)	PTC-285T(W)
20x	30x	12x
RTMP, SRT, HLS	N/A	RTMP, SRT, HLS
up to 1080p60	up to 1080p 59.94	up to 4K60p60
RX: HBT-6, HBT-11, HBT-12, HBT-30, HBT-50	RX: HBT-6, HBT-11, HBT-12, HBT-30, HBT-50	RX: HBT-6, HBT-11, HBT-12, HBT-30, HBT-50
HS-1600T MARK II	HS-1600T MARK II	HS-1600T MARK II
PoE+	PoE++	PoE+

NDI

	
PTC-140NDI(W)	PTC-280NDI(W)
20x	12x
RTMP, SRT, HLS	RTMP, SRT, HLS
up to 1080p60	up to 4K60p
_____	_____
PoE+	PoE+

Part #

Optical Zoom

Dual Streaming

Video Resolution

HDBaseT Compatible TX/RX

PoE

2. Control Protocols: IP or Serial

There are two types of protocols to control PTZ cameras, either with serial control (direct cable) or through IP (through a network). Below is a list of options for selecting the type of control for your PTZ camera.

RS-422



RMC-180 MARK II

- Controls up to 4 PTC cameras
- Up to 8 presets for 2 cameras
- Serial control RS-422
- Home run connections from camera

IP



PTZ View Assist

- Free app for Android or IO's
- Control up to 4 cameras
- View camera angles in real time
- 4 presets per camera

RS-422 or IP Control



RMC-300A

- Controls up to 24 cameras thru IP
- Controls up to 8 camera serial (RS-422)
- Touch screen menu
- 14 presets per camera

3. Powering Cameras & Video Transmission

Video transmission and powering the camera sometime uses the same connector however, cameras that use SDI/HDMI require separate power and camera control cables. Here are three types of video transmissions: SDI/HDMI, NDI, and HDBaseT.

SDI / HDMI

Benefits

- SDI cables are reliable with locking connectors
- HDMI or SDI input is a common connector on most switchers, recorders or streaming devices
- SDI cable runs can go up to 328ft (100m) without repeater

HDBaseT

Benefits

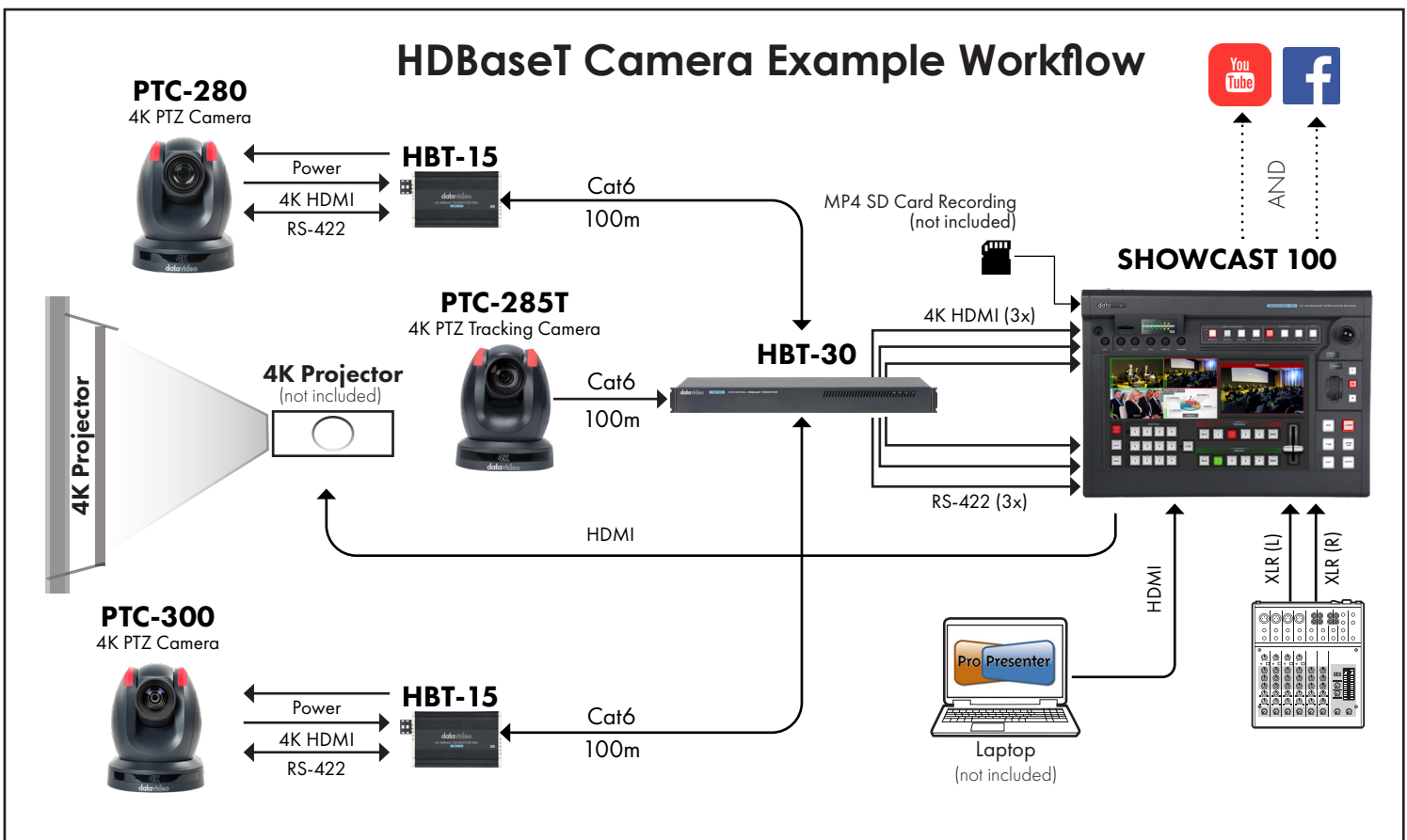
- High quality lossless and near zero latency
- PoE++ and video transmission on the same CAT6 cable
- No network or switch needed
- Can interface with SDI or HDMI switchers/devices with a Datavideo receiver
- 328ft (100m) up to 4K60p transmission

NDI

Benefits

- PoE+ and video transmission with a single CAT6 cable
- Video can be distributed over any NDI decoder on the same network (vMix, OBS or hardware decoder)
- Multiple camera signals can be viewed from different access points on the same network

HDBaseT Camera Example Workflow



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