

# HITACHI

## EAGLE<sup>®</sup> SYSTEM



**PLUG & PLAY PAN/TILT SYSTEMS**



# The Simple Choice.

## HITACHI EAGLE® SYSTEM

### Plug & Play Pan/Tilt Package

When it comes to Remote Camera Installations, Hitachi makes the choice simple with the Eagle "Plug-n-Play" systems. These remote solutions are equipped with advanced digital signal processing cameras combined with a high quality imaging block to achieve the highest video quality available today.

There are many new and exciting system enhancements and accessories to choose from. Take control with our **PT-TS** controller, a bi-directional touch screen interface that can easily accommodate 31 Eagle Pan/Tilt heads with up to 32 presets per head.

Hitachi offers many varieties of the Eagle Pan Tilt System. From quiet indoor models to powerful weather proof outdoor units, Hitachi makes the pan/tilt, camera and lens interface simple. With the addition of the **PT-TS**, you can control all set up functions on the camera head as well as the pan/tilt zoom and focus functions.

At Hitachi, we're listening to your needs, developing solutions, and making technological advancements that are turning heads.

When it comes to Pan Tilt systems ... Hitachi Eagle is the simple choice.



Model #PTE120



Model #PTE300



Model #PT100



Model #PT220



Model #PT-TS

Model #PT-CC



Model #PT-C

## EAGLE® SYSTEM



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# EAGLE® PTE-300

This heavy-duty, easy to use unit is versatile as well as durable. Popular applications include remote traffic monitoring, remote news gathering for television broadcast as well as entertainment venues. The PTE-300 combined with the accessory PT-EE-L housing, provides the ultimate camera protection from outdoor elements. Available options include heater, blower and washer/wiper which can be controlled remotely. The head offers excellent range of motion with 270° in pan and 180° in tilt. The variable pan and tilt speed ranges from zero to full utilizing the proportional digital joystick input from the optional PT-C or PT-TS controllers. The unit has three overall speed ranges variable from 0° to 20° per second in both pan and tilt. The 64 position and lens setting preset combinations are easily recalled and are safely stored in non-volatile memory inside each head. With a 50 pound camera/lens load capacity the Eagle® PTE300 is the perfect heavy-duty pan-tilt solution.

## FEATURES:

- Highly water and wind resistant construction for maximum equipment protection
- Eagle® system compatible with on board computer control
- Remote control via optional modem or fiber optic link using RS-485 protocol
- Worm gear driven for smooth, accurate, repeatable performance
- Uses DC motors controlled by pulse width modulation for excellent low speed torque
- Vector solving operation in manual or preset modes
- 64 presets per head, stored internally in non-volatile memory
- Will handle camera and lens combinations weighing up to 50 lbs
- Built in 12VDC camera power supply
- Remote controller wiper/washer option available
- Optional camera control module for integrated remote camera control of selected Hitachi cameras using Eagle® system controllers, PC software or AMX and Crestron control systems
- Control software available for Windows 95™/98™, and Windows NT™ or 2000™ compatible PC's
- Use of EPROM's for control allows easy future software upgrades
- Multipin connector harness in base allows for easy connection of power and control lines
- Video and Genlock connections made at base are passed through head to camera housing—no cables to get caught when panning or tilting



## SPECIFICATIONS:

Weight: 23 pounds (10.2 kg)

Maximum load: 50 pounds (23 kg), including housing and accessories

Pan range  $\pm$  135

Tilt range  $\pm$  90

Pan and tilt speed: 0 to 20° per second, infinitely variable, regardless of wind load

Accuracy of preset position recall better than  $\pm$  5 arc minutes

Max. number of preset positions: 6

Requires 24VDC power, minimum 1A: max draw with camera: 3.5A; provides camera power of up to 12 VDC @ 3A

Worm gear drive with high-torque DC PWM (pulse width modulated) motors per axis

Uses RS-485 communications protocol, optional RS-232 or fiber optic link adapters available

Optional PT-AAM modem allows remote control of heads via dial-up phone line

**EAGLE®  
SYSTEM  
PTE-300**





# EAGLE® PTE-120

The Eagle PTE-120 pan-tilt head is a versatile, easy to use solution with the load capacity to handle most applications including remote traffic monitoring, remote news gathering for television broadcast and entertainment venues. The PTE-120 is compact and may be combined with the accessory PT-EE-S housing, for the utmost in camera protection from outdoor elements. This head offers excellent motion characteristics with a range of motion of 355° in pan and 180+° in tilt. The variable pan and tilt speed ranges from zero to full utilizing the proportional digital joystick input from the optional PT-C controller or PT-PTC software. Speeds of up to 25° per second in both pan and tilt can be achieved. The 64 position and lens setting preset combinations are easily recalled and are safely stored in non-volatile memory inside each head. The Eagle® PTE120 has a 30 pound camera/lens load capacity making it a lightweight yet durable pan-tilt solution.

## SPECIFICATIONS:

- Weight: 18 pounds (8.5 kg)
- Maximum load: 40 pounds (18 kg), including housing and accessories
- Pan range ± 5 arc minutes
- Max. number of preset positions: 64
- Requires 24VDC power, minimum 1A max draw with camera; provides camera power of up to 12 VDC @ 5A
- Worm gear drive with high-torque DC motors
- Uses RS-485 communications protocol; optional RS-232 or fiber optic link adapters available
- Optional PT-AAM modem allows remote control of heads via dial-up phone line

## FEATURES:

- **Highly water and wind resistant construction for maximum equipment protection**
- **EAGLE® system compatible with on board computer control**
- **Remote control via optional modem or fiber optic link using RS-485 protocol**
- **Worm gear driven for smooth, accurate, repeatable performance**
- **Three variable speed ranges, from 0° to 25° per second**
- **Uses high strength DC motors with excellent low speed torque**
- **Vector solving operation in manual or preset modes**
- **64 presets per head, stored internally in non-volatile memory**
- **Will handle camera and lens combinations weighing up to 30 lbs.**
- **Built in 12VDC camera power supply**
- **Optional auto heater, blower, defroster available built in to housing**
- **Optional camera control module for integrated remote camera control of selected Hitachi cameras using Eagle® system controllers, PC software, or AMX and Crestron control systems**
- **Control software available for Windows 95™/98™, and Windows NT™ compatible PC's**
- **Use of EPROM's for control allows easy future software upgrades**
- **Multipin connector harness in base allows for easy connection of power and control lines**
- **Video and Genlock connections made at base are passed through head to camera housing—no cables to get caught when panning or tilting**

**EAGLE®  
SYSTEM**  
PTE-120



# EAGLE® PT-220

The Eagle® PT-220 is a heavy-duty, yet easy to use pan tilt solution. Some of the most popular applications include studio broadcast operation, entertainment venues teleconferencing and distance learning. The PT-220's large size allows it to be a perfect complement for the larger sized ENG type cameras in studio configuration, with or without teleprompters attached. The side mount design allows for cameras to be placed on either side of the head to accommodate user conditions and camera styles. The head has excellent motion characteristics at high or low speeds, with a range of motion of 355° in pan and 180° in tilt. The unit has three overall speed ranges, variable from 0° to 20° per second in both pan and tilt. The 64 position and lens setting preset combinations are easily recalled and are safely stored in non-volatile memory inside each head.

## FEATURES:

- Eagle® system compatible
- On board RISC computer controlled
- Remote control via optional modem or fiber optic link using RS-485 protocol
- Worm gear driven for smooth, accurate, repeatable performance
- Three variable speed ranges, from 0° to 20° per second
- Vector solving operation in manual or preset modes
- 64 presets per head, stored internally in non-volatile memory
- Motors are isolated from body by elastomeric polymer compounds for noise reduction
- Will handle camera, lens and LCD prompter combinations weighing up to 40 lbs.
- Built in 12VDC camera power supply; supplies up to 5A (60W)
- Optional camera control module for integrated remote camera control of selected Hitachi cameras using Eagle® system controllers, PC software or AMX and Crestron control systems
- Control software available for Windows 95™/98™, and Windows NT™ or 2000™ compatible PC's
- Use of EPROM's for control allows easy future software upgrades
- Multipin connector on base allows for easy connection of power and control lines
- Video and Genlock connections made at base are passed through head to camera—no cables to get caught when panning or tilting
- Pre-built camera control/power harness, and camera mount provided with each head
- All needed connectors for power and control are included



## SPECIFICATIONS:

Weight: 23 pounds (10.2 kg)

Maximum load: 50 pounds (23 kg)

Pan range: ± 178 degrees

Tilt range: ± 90 degrees

Pan and tilt speed: 0 to 20° per second, infinitely variable

Accuracy of preset position recall: ± 5 arc minutes (.083 degrees)

Max. number of preset positions: 64

Requires 24VDC power, minimum 1A: max draw with camera: 3.5A provides camera power up to 12VDC @3A

Worm gear drive with high-torque DC PWM motor control

Uses RS-485 communications protocol; optional RS-232 or fiber optic link adapters available

Optional PT-AAM modem to allow remote control of heads via dial-up phone line

**EAGLE®  
SYSTEM  
PT-220**





# EAGLE® PT-100

The Eagle® PT-100 pan-tilt head is easy to use and affordable. Some of the most popular applications include teleconferencing, city council meeting broadcasting, distance learning, surgical documentation, local access cable broadcasting and entertainment venues. The PT-100's compact size allows for low profile out of sight placement. It's small footprint combined ultra-quiet operation is engineered not to disturb participants in meetings and classes. Available with wall or ceiling mount adapter, this versatile system is useful for many applications. The head offers 360° range of motion in both pan and tilt and three overall speed ranges at up to 20° per second in both pan and tilt as well. The 64 position and lens setting preset combinations are easily recalled and are safely stored in non-volatile memory inside each head.

## SPECIFICATIONS:

- Weight: 10 pounds (4.5 kg)
- Maximum load: 14 pounds (6.4 kg)
- Pan and tilt range:  $\pm 179$  degrees
- Pan and tilt speed: 0 to 20° per second, infinitely variable
- Accuracy of preset position recall:  $\pm 5$  arc minutes
- Max. number of preset positions: 64
- Requires 24VDC power, minimum 1A: max draw with camera 2.5A
- Worm gear drive with high-torque motors
- Uses RS-485 communications protocol; optional RS-232 or fiber optic link adapters available
- Optional PT-AAM modem to allow remote control of heads via dial-up phone line
- Provides 12VDC camera power at up to 5 amps (cameras drawing more than 2 amps require usage of PT-PS-3 power supply)

## FEATURES:

- Eagle® system compatible
- On board computer controlled
- Can link up to 32 total devices on one RS-485 control chain
- Worm gear driven for smooth, accurate, repeatable performance
- Three variable speed ranges, from 0° to 20° per second
- Vector solving operation in manual or preset modes
- 64 presets per head, stored internally in non-volatile memory
- Quiet operation in upright or inverted positions
- Will handle camera and lens combinations weighing up to 14 lbs.
- Built-in 12 VDC camera power supply
- Optional camera control module for integrated remote camera control of selected Hitachi cameras using Eagle® system controllers, PC software, or AMX and Crestron control systems
- Control software available for Windows 95™/98™. and Windows NT™ compatible PC's
- Use of EPROM's for control allows easy future software upgrades
- Multipin connector on base allows for easy connection of power and control lines
- Video and Genlock connections made at base are passed through heads to camera—no cables to get caught when panning or tilting

**EAGLE®  
SYSTEM**  
PT-100



# EAGLE® PT-C CONTROLLER



The Eagle® PT-C is a compact pan-tilt controller fitted with a desktop case allowing easy integration into new or existing control room applications. The PT-C controls up to 16 different Eagle® pan-tilt heads with no additional equipment or accessories. Featuring individual control buttons with excellent tactile feedback the PT-C's control of zoom, focus and pan tilt direction is completely variable in speed from zero to full based on proportional digital joystick input. When linking the optional PT-CC camera controller to the PT-C, individual camera control can be achieved. The optional PT-AAM modem provides an interface for dialing and controlling the remote camera site locations.

## FEATURES:

- Eagle® system compatible
- On board RISC microprocessor controlled
- Convenient desktop form factor
- Proportional digital joysticks for control of pan-tilt direction, lens zoom and focus functions
- Two line backlit liquid crystal display for user feedback of system status
- Vector solving operation when recalling preset positions
- When used in conjunction with optional PT-CC camera controller, the combination provides complete camera and pan-tilt system control
- Recall of 64 presets per head from control panel
- Use of EPROM's allow easy future software upgrades
- Can control up to 16 pan-tilt heads on one RS-485 control chain
- DB-9 type connectors on rear allow for simple connection of control line
- All needed connectors are included
- Includes 12VDC transformer power supply

## SPECIFICATIONS:

Weight: 1.5 pounds (.75 kg)

Two line, 16 character per line backlit LCD for user feedback

Two proportional digital joysticks for control of zoom focus, and direction of pan-tilt systems

Uses RS-485 communications protocol for interference free operation

Requires 12 VDC power from included wall transformer

## DIMENSIONS

10.00"W X 8.00"D X 4.25"H

## OPTIONAL ACCESSORIES

PT-CC desktop camera controller

PT-AAM Auto answer modem, includes one PT-RSA

PT-MP-1 control multiplexer, allows multiple controllers on single RS-485 backbone

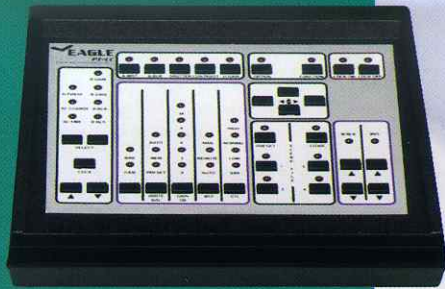
PT-MFA multi function adapter; provides 8 relay closures, serial device control.

PT-SB shot box; provides recording and replay of preset moves and paths

PT-CSI; contact closure input interface box

**EAGLE®  
SYSTEM  
PT-C**





# EAGLE® PT-CC CONTROLLER

## SPECIFICATIONS:

Weight: 1.0 pounds (.45 kg)

Attaches to PT-C controller via included DB-9 cable

Requires no external power—draws all power from the PT-C controller

## DIMENSIONS

10.00"W X 8.00"D X 4.25"H

## OPTIONAL ACCESSORIES

PT-C desktop pan-tilt controller (required)

The Eagle® PT-CC is a compact camera controller fitted with a desktop case allowing easy integration into new or existing control room applications. The PT-CC controls up to 32 different cameras attached to Eagle® pan-tilt heads. Featuring individual control buttons with excellent tactile feedback, the PT-CC controls all the main setup features for all of Hitachi's HV & Z Series cameras as well as most of Hitachi's KP Series cameras. Detailed adjustment of camera timing, red and blue gain, overall gain and many other features are controllable from the panel. For complete pan-tilt control the Eagle® PT-C joystick controller is required.

## FEATURES:

- Eagle™ System compatible
- On board microprocessor controlled
- Convenient desktop form factor
- Bright red LED's for user feedback of system status
- When used in conjunction with optional PT-C pan-tilt controller, the combination provides complete camera and pan-tilt system control
- Use of EPROM's allow easy future software upgrades
- Can control up to 32 cameras on one RS-485 control chain
- DB-9 type connector on rear allows for simple connection to PT-C controller
- All needed connectors are included
- The EAGLE™ PT-CC camera controller is a multi-functional control unit. It allows the user to control up to 32 different cameras attached to EAGLE™ pan-tilt heads, from one controller. The PT-CC camera controller must be used only in conjunction with the EAGLE™ PT-C joystick controller.
- The PT-CC's compact desktop case allows it to easily be integrated into new or existing control room applications.
- The PT-CC uses individual control buttons, with excellent tactile feedback. All of the main setup features for Hitachi's HV-C10, HV-D15, HV-D3, Z-2010 and Z-3000 cameras are available to the user. Detailed adjustment of camera timing, red and blue gain, overall gain and many other features are controllable from the panel. See the reverse side of this document for a detailed listing of the functions available.

**EAGLE®**  
**SYSTEM**  
PT-CC



# EAGLE® PT-TS CONTROLLER

The EAGLE™ PT-TS integrated pan-tilt and camera controller is a multi-faceted control unit which allows the user to control up to 32 different EAGLE™ pan-tilt heads, from one controller, with no added equipment or accessories. A backlit 1/4 VGA LCD touch screen in conjunction with individual digital joysticks provide complete control of all pan-tilt, lens, and camera functions. The PT-TS's stylish desktop case allows it to easily be integrated into new or existing control room applications. Screen angle, contrast, and audio feedback are all user adjustable from a menu on the control panel. The control uses a "Windows" style GUI layout with extensive user prompts and feedback. The integrated camera control is configured to provide a "universal" style of control for all of Hitachi's HV & Z Series cameras as well as most of Hitachi's KP Series cameras. Full bi-directional communication with most Hitachi cameras provide functionality such that when a pan-tilt head is selected the current camera setting info will be updated on the PT-TS control screen. When used with the optional PT-AAM modem, it provides an interface for dialing and controlling the remote camera site locations.

## FEATURES:

- Eagle™ system compatible
- Convenient desktop form factor
- Proportional digital joysticks for control of pan-tilt direction, lens zoom and focus functions
- 320 x 240 pixel backlit LCD touch screen, with user adjustable angle and contrast
- Vector solving operation when recalling preset positions
- Integrates both pan-tilt direction, zoom / focus, and camera control into a single controller
- Recall of 64 presets per head from control panel
- Universal camera control screens allow bi-directional control of various Hitachi cameras
- Use of EPROM's allow easy future software upgrades
- Can control up to 32 pan-tilt heads on one RS-485 control chain
- DB-9 type connector on rear allows for simple connection of control line
- All needed connectors are included
- Includes 12VDC transformer power supply



## SPECIFICATIONS:

Weight: about 9 pounds

320 x 240 pixel count (1/4 VGA)  
backlit touch screen for control  
input

Two proportional digital joysticks  
for control of zoom, focus, and  
direction of pan-tilt systems

Uses RS-485 communications proto-  
col for interference free operation

Requires 12VDC power from  
included wall transformer

## DIMENSIONS

13.75"W X 8.00"D X 8.00"H

## OPTIONAL ACCESSORIES

PT-AAM Auto answer modem,  
includes one PT-RSA

PT-MP-1 control multiplexer;  
allows multiple controllers on  
single RS-485 backbone

PT-MFA multi function adapter;  
provides 8 relay closures, serial  
device control

PT-SB shot box; provides  
recording and replay of preset  
moves and paths

PT-CSI; contact closure input  
interface box

**EAGLE®**  
**SYSTEM**  
**PT-TS**



PT-C basic joystick controller; handles up to 16 cameras, 2 line LCD display for user feedback of input functions

PT-CC basic camera controller; works with PT-CC and PT-CCB's to provide optional remote control of HITACHI cameras

PT-SB shot box; digital motion control recorder stores up to 16 shots motion for motion, in real time, for later controlled playback of desired motion paths

PT-MP-1 system multiplexer; allows up to five controllers and one computer to share a single RS-485 control line

PT-RSI contact closure interface; allows simple microphone gating or switch closure input to the Eagle system to recall preset shots

PT-MFA multifunction adapter; provides eight remote controlled contact closures, serial video switch control, and miscellaneous system interfaces; user programmable relays for NO, NC, latching types, also salvo control

PT-T2 signal /power splitter; one input, six output signal /power splitter combiner for easy system wiring

PT-RSA RS232 to RS485 protocol adapter; for system control direct from a Windows™ based PC

PT-PS-1, 2, 3, or 4 power supplies; 24 VDC main power supplies; available in 3, 6.5, 12, and 20 amp outputs

PT-EE-S and PT-EE-L environmentally resistant camera housings; for PTE-120 and PTE-200 systems; optional heater, defroster/defogger available

PT-WW-1 washer/wiper system for PT-EE-L housing (for PT-EE-L /PTE-200 only)

PT-WM-S and WM-L wall mounts



# HITACHI EAGLE® SYSTEM

***Plug & Play Pan/Tilt  
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**The  
Simple  
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**EAGLE® SYSTEM**