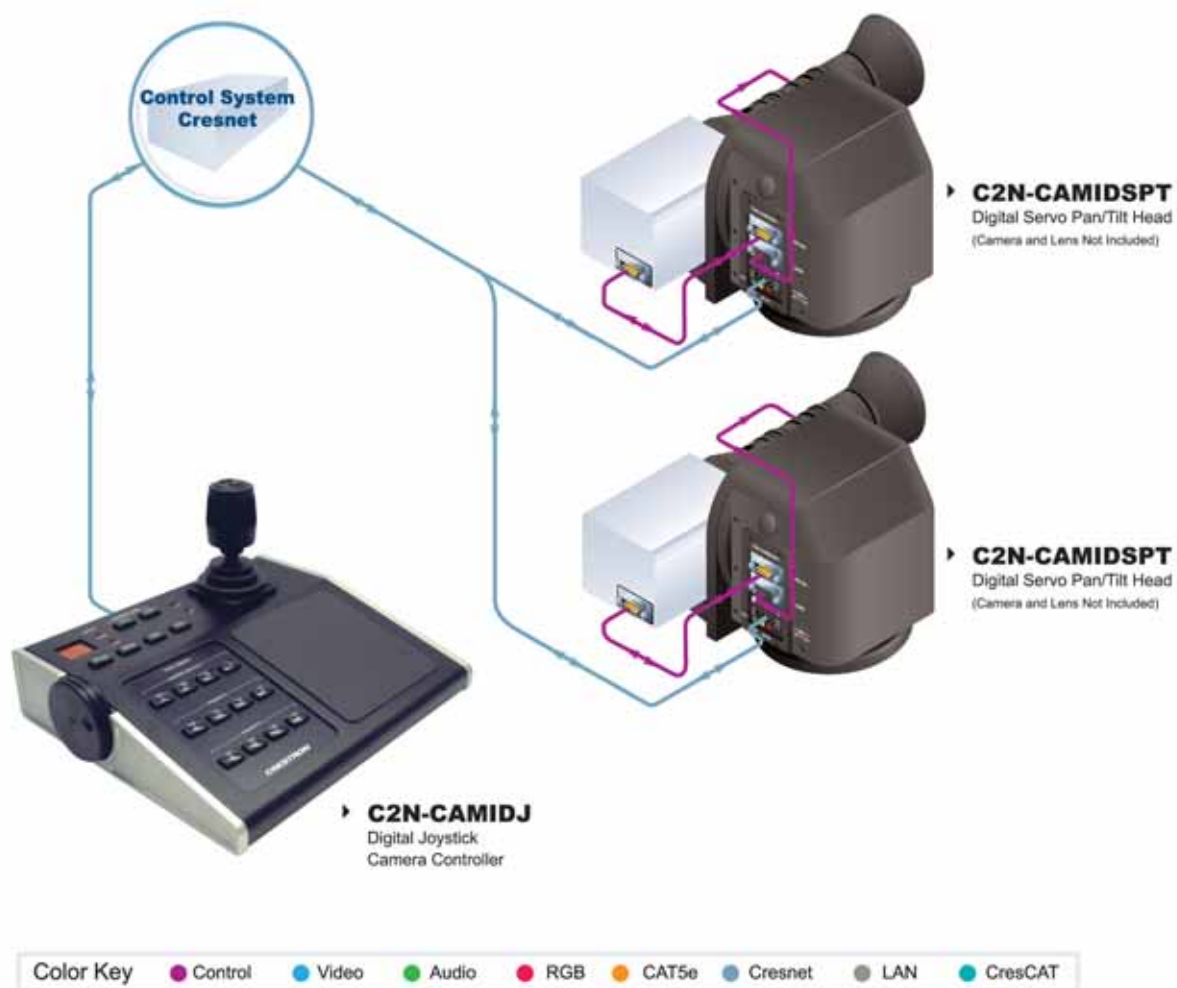


# Camera Control overview

Video cameras are an integral part of today's AV and automation system designs, supporting videoconferencing, broadcast, AV presentation, observation, surveillance, and documentation purposes in boardrooms, courtrooms, council chambers, residences, operating rooms, focus group rooms, and houses of worship. Crestron delivers high-performance products and solutions to streamline the integration of today's generation of professional cameras as part of any complete system.

Crestron's family of camera control products takes full advantage of the steadfast Cresnet® control network to support up to 252 pan/tilt heads, camera controllers, and other devices, all under the command of a 2-Series control system. Ethernet connectivity solutions are offered as well to enable control over existing infrastructure from any remote distance. User interface options are virtually unlimited, including intuitive and reliable joystick control and extending to color video touchpanels and Crestron's advanced IP-based e-Control® 2 XPanel control solutions.

## Typical Multi Camera Application



## C2N-CAMIDJ Digital Joystick Camera Controller



The C2N-CAMIDJ is a professional joystick controller designed to provide a powerful yet simple user interface for the remote operation of networked cameras and lenses. Whether operating a single motorized camera in a council chamber or house of worship, or controlling a campus-wide network of multi-camera classrooms, the C2N-CAMIDJ can be used alone or in combination with a touchpanel to provide the perfect head end for camera control networks of virtually any size.

Ideally designed to support Crestron's C2N-CAMIDSPT Digital Servo Pan/Tilt Head, it is equally well equipped to work with third-party pan/tilt heads and integrated PTZ cameras as part of a complete Crestron control system.

**Three-Axis Joystick**—Precise camera positioning and zoom lens adjustment are facilitated through an ergonomic 3-axis joystick with large grip and cushioned wrist rest. Intuitive left/right and up/down movement of the joystick delivers effortless pan and tilt control, with zoom in/out capability instantly at hand through a simple twist of the joystick handle. Integrated thumb trigger buttons on top of the joystick afford immediate selection between high and low speeds to ensure smooth and accurate positioning on the fly.

**Multipurpose Encoder Wheel**—The C2N-CAMIDJ's encoder wheel provides for quick adjustment of lens focus and aperture settings as well as pan, tilt, and zoom speeds. The status for each parameter is displayed on a two-digit LED display.

**User-definable Buttons**—Twelve (12) pushbuttons and feedback LED's are included to facilitate camera selection, preset recall, and other custom functions. Customizable label strips are provided to easily designate the function of each button using Crestron Engraver software.

**Cresnet® Network Control**—Designed for use with the 2-Series control system, the C2N-CAMIDJ takes full advantage of the steadfast Cresnet control network to support up to 252 Crestron pan/tilt heads, camera controllers, touchpanels, and other devices. When controlling the C2N-CAMIDSPT pan/tilt head, network traffic is minimized by storing user presets directly onboard the pan/tilt head, minimizing the need for reporting position data to the control system. Virtually any number of third-party pan/tilt heads and cameras may also be controlled through the control system using the C2N-CAMIDJ.

Ethernet connectivity can easily be attained through the control system, enabling control over existing infrastructure from any remote distance.

- ▶ Tactile pan-tilt-zoom camera and lens control
- ▶ Ergonomic 3-axis joystick – Twist the knob to zoom in and out
- ▶ Integral thumb triggers for high/low speed selection
- ▶ Encoder wheel and LED display for lens and speed adjustment
- ▶ Programmable buttons w/LED feedback for camera/preset select
- ▶ Cresnet network communication
- ▶ Ideal for controlling C2N-CAMIDSPT Digital Servo Pan/Tilt Heads

### SPECIFICATIONS

#### Joystick

3-axis Hall Effect joystick  
Pan left/right, tilt up/down, and twist to zoom  
Includes (2) thumb triggers for high/low speed mode selection

#### Encoder Wheel

Side mounted continuous turn optical encoder  
Adjusts lens focus (default) and aperture (manual iris mode)  
Adjusts speed scale factor for pan, tilt, and zoom

#### LED Display

(2) 7-Segment digits, green; displays speed and lens settings

#### Buttons

**FOCUS, ZOOM, PAN, TILT:** (4) Pushbuttons w/LED feedback  
Used to select parameters for adjustment

**IRIS AUTO/MANUAL:** (2) Pushbuttons w/LED feedback  
Select manual or auto-iris mode

**CAMERA/PRESET:** (12) Pushbuttons w/LED feedback  
Programmable for any function

**SETUP (rear):** Used for touch-settable ID (TSID)

#### LED Indicators

**SPEED HIGH/LOW:** (2 red) Indicates current joystick speed mode

**PWR:** (green) Indicates 24 Volts DC power supplied from Cresnet control network

**NET:** (yellow) Indicates communication with Cresnet system

**SETUP (rear):** (red) Indicates TSID and download activity

## Digital Joystick Camera Controller **C2N-CAMIDJ**

### Connectors

**NET:** 4-pin 5mm detachable terminal block  
Cresnet slave port, connects to Cresnet control network

### Power Requirements

**Cresnet Power Usage:** 4 Watts (0.17 Amps @ 24 Volts DC)

### Environmental

**Temperature:** 41° to 113°F (5° to 45°C)  
**Humidity:** 10% to 90% RH (non-condensing)

### Enclosure

Black/silver metal, tabletop console with integral wrist-rest

### Dimensions

**Height:** 5.33 in (13.54 cm)  
**Width:** 9.44 in (23.98 cm)  
**Depth:** 7.71 in (19.58 cm)

### Weight

3.2 lbs (4.5 kg)

## C2N-CAMIDSPT Digital Servo Pan/Tilt Head



The C2N-CAMIDSPT is a state-of-the-art camera pan/tilt head offering ultra fast, quiet and precise camera and lens control for videoconferencing, recording, distance learning, in-house television, and live video applications. The compact device supports a vast range of popular cameras and lenses weighing up to 15 lbs (6.8 kg). Full control of the pan/tilt movement, plus camera and lens functions, can be provided using the C2N-CAMIDJ Digital Joystick Controller or any Crestron touchpanel or remote.

**Digital Servo Technology**—With pan and tilt speeds of 60 degrees per second, the C2N-CAMIDSPT offers the fastest performance in its league. Pulse-width modulation and digital servo technology deliver quick, smooth response with remarkably quiet operation. Nearly 360 degrees of pan and 180 degrees of tilt travel provide essentially limitless movement with extremely precise positioning achieved using digital optical encoders instead of analog potentiometers. Adjustable hard stops on both pan and tilt axes can be set to limit movement and prevent potential damage to the camera and lens. Setup is made easy using the built-in 5-way mini joystick to provide local position and lens control.

**Lens Personality Modules**—External plug-in personality modules define the C2N-CAMIDSPT's lens configuration, with modules provided for 6, 8, and 12 Volt motorized lenses as well as 2.5 to 7.5 Volt servomotor lenses. Both "position" and "speed" modes are available for controlling servomotor lenses, allowing immediate movement to a specified position as well as smooth variable speed control. Lenses equipped with potentiometer feedback are also supported, and a fully programmable RS-232 port is built in to provide bidirectional communication for control of serial-controllable cameras and double hot shoe type lenses.

**Cresnet® Network Control**—Designed for use with the 2-Series control system, the C2N-CAMIDSPT takes full advantage of the steadfast Cresnet control network to support up to 252 pan/tilt heads, camera controllers, touchpanels, and other devices. Up to 100 user presets are stored directly onboard the pan/tilt head, significantly reducing network traffic by minimizing the need for reporting position data to the control system. Ethernet connectivity is easily attained through the control system, enabling full control over existing infrastructure from any remote distance.

- ▶ Digital Servo Technology
- ▶ Ultra fast, quiet, and precise pan/tilt operation
- ▶ Bidirectional RS-232 and analog lens control ports
- ▶ Supports camera/lens combinations up to 15 lbs.
- ▶ 100 onboard user presets
- ▶ Cresnet network communication

### SPECIFICATIONS

#### Performance

**Pan Travel:** ±177° using soft stops; ±170° using hard stops

**Tilt Travel:** ±90° using soft or hard stops

**Pan Speed:** 60 degrees per second maximum

**Tilt Speed:** 60 degrees per second maximum

**Repeatability:** ±3 arc minutes

**Weight Capacity:** 15 lbs (6.8 kg) maximum (properly balanced load)

**Presets:** 100 stored locally; unlimited via Cresnet

#### Connectors

**LENS:** (1) DB15HD female

Output Voltages: ±12V, ±8V, or ±6V motor; 2.5/7.5V servo

Provides zoom, focus, and iris control plus additional lens functions

**RS-232:** (1) DB9 male

Bidirectional RS-232 port for device control and firmware upload

Up to 38.4K baud, hardware handshaking support

**NET:** (1) 4-pin 5mm detachable terminal block

Cresnet slave port, connects to Cresnet control network

#### Controls

**MINI JOYSTICK:** (1) 5-way miniature button/joystick for local position and lens control

**SETUP:** Used for touch-settable ID (TSID)

#### LED Indicators

**PWR:** (green) Indicates 24 Volts DC power supplied from Cresnet control network

**NET:** (yellow) Indicates communication with Cresnet system

**SETUP:** (red) Indicates TSID or download in progress

## Digital Servo Pan/Tilt Head **C2N-CAMIDSPT**

### Power Requirements

**Cresnet Power Usage:** 60 Watts (2.5 Amps @ 24 Volts DC)  
Requires dedicated CNPWS-75 or dedicated channel of C2N-SPWS300, both sold separately

### Environmental

**Temperature:** 41° to 104°F (5° to 40°C)  
**Humidity:** 10% to 90% RH (non-condensing)

### Enclosure

Wall or ceiling mount installation (camera bracket included; wall and ceiling mounts sold separately)

### Dimensions

**Height:** 6.52 in (16.56 cm)  
**Width:** 5.52 in (14.02 cm)  
**Depth:** 5.49 in (13.94 cm)  
(Dimensions do not include camera or camera bracket)

### Weight

12.0 lbs (5.44 kg)

## AVAILABLE ACCESSORIES

- ▶ **C2N-CAMI-WMT**  
Wall Mount
- ▶ **CNSP-XX**  
Custom Serial Interface Cable
- ▶ **CNPWS-75**  
75 Watt Cresnet Power Supply
- ▶ **C2N-SPWS300**  
300 Watt Cresnet Power Supply
- ▶ **C2N-CAMI-WMT**  
Ceiling Mount

## PAN/TILT HEAD ACCESSORIES

### C2N-CAMI-WMT Wall Mount for C2N-CAMIDSPT

The C2N-CAMI-WMT is a wall mount accessory for the C2N-CAMIDSPT Digital Servo Pan/Tilt Head. Designed for installation to any secure vertical surface, the C2N-CAMI-WMT is constructed of steel and finished in black with an overall length of 19.75 inches (50.17 cm) to provide adequate support and clearance for most camera/lens combinations. The maximum load rating is 40 pounds (88 kg).



### C2N-CAMI-CMT Ceiling Mount for C2N-CAMIDSPT

The C2N-CAMI-CMT is a ceiling mount accessory for the C2N-CAMIDSPT Digital Servo Pan/Tilt Head. Designed for installation to any secure horizontal surface, the C2N-CAMI-CMT is constructed of steel and finished in black with a height of 8.0 inches (20.32 cm) to provide adequate clearance and easy positioning to accommodate most camera/lens combinations. The maximum load rating is 40 pounds (88 kg).



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