CeilingVIEW 70 PTZ HideAway
Installed PTZ Ceiling Camera with Recessed, Motorized Camera Lift System

INTRODUCTION
Vaddio’s CeilingVIEW 70 PTZ HideAway camera system is designed to provide system integrators with an easy to install, recessed, in ceiling, motorized camera lift system (see Figure 1). The system features a Sony® EVI-D70 PTZ Camera mounted into a recessed, metal ceiling camera enclosure with ceiling tile support and is equipped with Vaddio’s EZCamera™ Cabling System which allows the integrator to use Cat. 5 cabling to run power, video and camera control. The camera lift has a motorized extension arm, that when retracted, conceals the camera. When the camera is activated the extension arm lowers and reveals the camera.

Contact closure or voltage sensing can be used to activate the lift system remotely or the camera IR remote control can be used to activate the lift with the ON/OFF button. The VISCA control interface is included to allow the camera to work with any other VISCA compatible control device. The PowerRite™ power supply regulates the right amount of power needed for the camera over the Cat. 5 cabling.

INTENDED USE
Before operating the Vaddio CeilingVIEW 70 PTZ HideAway, please read the entire manual thoroughly. The camera system was designed, built and tested for use indoors with the provided power supply. The use of a power supply other than the one provided or outdoor operation has not been tested and could damage the camera and/or create a potentially unsafe operating condition.

SAVE THESE INSTRUCTIONS
The information contained in this manual will help you install and operate your Vaddio CeilingVIEW 70 PTZ HideAway. If these instructions are misplaced, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the website. These documents can be downloaded from www.vaddio.com free of charge.
Read and understand all instructions before using. Do not operate the camera if the camera has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in water or other liquids and avoid extremely humid conditions.

Use only the power supply provided with the CeilingVIEW 70 PTZ HideAway camera system. Use of any unauthorized power supply will void any and all warranties.

UNPACKING

Carefully remove the device and all of the parts from the packaging. Unpack and identify the following parts:

- One (1) CeilingVIEW 70 PTZ Camera Module
- One (1) White trim ring with IR sensor attached
- One (1) Vaddio Quick-Connect Box
- One (1) Sony RM-EV100 IR Remote Controller
- One (1) Vaddio PowerRite 18VDC Power Supply
- One (1) AC power cable for Power Supply
- One (1) 12' (4.57m) S-Video cable
- One (1) 12' (4.57m) Composite Video cable
- Two (2) Adjustable ceiling tile support rails
- One (1) RJ-45 to DB9 EZCamera™ serial control converter
- Mounting Hardware
- Installation and User Guide (341-075 Rev. C)

INSTALLATION

*REMOVE* the safety tape and then **REMOVE** the shipping hold-down screw in the back of the camera module as indicated below (see Figure 2. If power (over the Cat. 5 POWER/VIDEO cable) is connected to the camera before the shipping hold-down screw is removed, serious damage to the camera may result.

Figure 2: Top of camera shown with safety tape (left) and location of shipping hold down screw and Power/Video Jack (right).
The CeilingVIEW 70 PTZ HideAway is an integrated document/object camera specifically designed for installation in a suspended ceiling above a table or work surface. Recommended ceiling heights are between 8 and 12 feet.

- Be sure to check above the ceiling tile where you plan to install the camera to make sure the area is clear and that there is enough room for the CeilingVIEW Camera Module and all of its components.

- Keep in mind that other than viewing straight down, the CeilingVIEW PTZ has the capability of panning +/-170 degrees from center.

- The camera may be used with any 2' tile. The camera module enclosure and the tile support rails allow for flexibility and positioning freedom when used with 2'x2' and 2'x4' ceiling tiles.

- For cutting ease, remove the marked ceiling tile and place on a suitable and safe work surface.

*Note: If camera is to be controlled as part of a multi camera system, please refer to the section CHANGING CAMERA DEFAULT SETTINGS located on Page 7 of this manual.*

**To mount the CeilingVIEW 70 PTZ HideAway:**

1) Attach a string or plumb bob to the ceiling tile with a thumbtack.
2) Position the string directly over ample table space or work surface to allow easy document and object positioning.
3) Using a sharp utility knife, score a 6-3/4" diameter circle into the front of the tile centered on the string.
4) Carefully cut out the 6-3/4" hole.
5) Place the tile support rail on the backside of the tile and center over the hole. Carefully place camera in cutout hole from the back of tile (see Figures 3 and 4) and attach to support rails.

*Figure 3:*
Side View of CeilingVIEW Camera Module
For installation reference, the cutout area by the IR detector cable hole is on the side of the camera.
6) Using the supplied thumbscrews and washers, attach the support rails to the CeilingVIEW PTZ camera (see Figure 4). Place rail edge between two washers and tighten thumbscrew securely. **Note: The thumbscrew sits on top of the rail, not through the holes on the rail.**

7) The Cat.5 cable (plenum rated as code dictates) is run from the ceiling location where the camera is to be mounted, to where the Quick-Connect Box is located (see Figure 5). Both the S-Video and Composite Video outputs are active.

8) If needed, Cat.5 plenum rated cable(s) may be purchased from Vaddio to connect your camera for video, power control and control daisy-chaining between multiple cameras (see Figure 6).
9) **Connections** (see Figure 7):
   
   a. Attach the installed Cat.5 cable routed from the POWER/VIDEO jack on the back of the camera to the Quick Connect Box.

   b. If a RS-232 control cable is to be used, it should be attached to the RS-232 IN jack.

   c. If a second or third camera is to be used, attach a cable to the RS-232 OUT jack and route to the next camera.

![](connections.png)

10) The camera and ceiling tile should be carefully replaced in the suspended ceiling at this time.

11) Locate the white trim ring assembly and plug the IR cable into the IR board connector on the trim ring lip (see Figure 8). Take care not to pull any more than about 2 inches of cable from the camera enclosure. The connectors will fit together only one way with a positive click. **(Note: DO NOT hang the trim ring from the camera by the IR cable)** Carefully move trim ring into position on bottom of ceiling tile while feeding IR cable back into camera enclosure and secure with the two supplied white screws.

![](trim_ring.png)
12) With the Cat.5 cable routed from the POWER/VIDEO jack on the back of the camera to the Quick Connect Box, connect the supplied Vaddio PowerRite power supply. The camera will lower into position and the S-Video and Composite Video signals will be live and viewable after the camera is fully lowered and in the “Home” position (Reminder: Use of a power supply other than the provided Vaddio power supply will void warranty and may cause camera and equipment damage).

The Camera can be controlled with the Sony RM-EV100 IR Remote Controller or through RS-232 using VISCA control protocols.

The Sony RM-EV100 IR Remote Controller controls the following functions when used with a CeilingVIEW 70 PTZ HideAway (see Figure 9). A fresh set of AA batteries (not included) should be installed in the provided Sony remote control. To operate, aim remote at camera and depress desired button.

**Figure 9:**
RM-EV100 IR Remote Controller
- Power on/off
  - On = Lowers camera
  - Off = Retracts the camera
- Camera Select: 1, 2, 3
- Focus: Auto
  - Manual (Near & Far)
- Zoom: Slow – Tele, Wide
  - Fast – Tele, Wide
- Back Light: Back Light Compensation
- Pan-Tilt: Left, Right, Up, Down, Reset
- Home: Home/Centered Position
- Position: Preset, Reset
- Presets: 6 (1 through 6)
- Cancel: Not Used
- L/R Direction Set: Std, Rev

If you are using a control system (i.e. Crestron or AMX), plug the Cat.5 cable from the RS-232 IN jack on the camera to your control system using the Cat.5 to DB9 serial adapter supplied by Vaddio. If you are controlling more than one camera, plug the Cat.5 cable from the RS-232 OUT jack on the first camera to the RS-232 IN jack on the second camera. Repeat procedure if third camera is to be used.

If control of motor only is desired, there is an external connector provided on the top of the camera. This contact is normally open and the motor will be in the retracted state. By providing a contact closure across this connection when power is available and connected via the Cat. 5 POWER/VIDEO cable, the motor will lower,
but will not power up the camera. Release of the closure will retract the camera. The IR Remote Controller or RS-232 commands can power up and lower/retract the camera only. The mating connector can be found at Radio Shack (in the US) under part number 274-226 (see Figure 10).

**Figure 10:**
Motor Control connection shown

Mating Connector –
Radio Shack # 274-226

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**CHANGING CAMERA DEFAULT SETTINGS**

Please refer to Figure 11 for this procedure.

- Camera must first be lowered into place and power unplugged.
- Place camera on suitable work surface.
- Remove the 4 cover plate retainer screws.
- Carefully lift off cover plate while threading the IR cable back through hole.
- Looking between the rear of the EVI-D70 camera body and the interconnect circuit board, locate the 2 switches (it may be necessary to slightly tilt the camera assembly to get the best view of the switches).
- The default setting for the image flip function is ON. Move this switch to the left to disable.
- The default setting for IR select is 1. If this to be camera number 2 in a 2 camera system, set this switch to position 2. If this camera is number 3 in a 3 camera system, set switch to positions 3.
- Carefully thread the IR cable back through the cover plate and secure plate to camera enclosure using the 4 retaining screws.

**Figure 11: Cover Plate Removal and default settings access**
Vaddio supplies this control specification for the CeilingVIEW 70 PTZ HideAway camera. This VISCA control set (as used in Sony EVI cameras) is used in conjunction with additional Vaddio control commands (see comment section on Table 1) for added functionality of the camera lift.

**Communication Specification**

- **Communication Speed:** 9600 bps (default)
- **Start bit:** 1
- **Stop bit:** 1
- **Data bits:** 8
- **Parity:** None

*Communication Example:* For the VISCA Packet "8x 01 04 07 03 FF" (CAM_Zoom_Wide), "x" corresponds with the number and order of the camera in the control chain (daisy chain) where x = 1 for the first camera, x = 2 for the second camera, etc...

The control codes for the CeilingVIEW 70 PTZ HideAway are the same codes used with the EVI-D70 pan/tilt/zoom camera. Vaddio is not translating these codes and does not add any translation or memory capability to enable use of the EVI-D70 camera as a main or auxiliary camera with videoconferencing system codecs or the associated IR remote controllers.

For best control results, use the provided RM-EV100 IR Remote Controller or the VISCA Commands (detailed in Table 1 below) with an external control system.

### Table 1: VISCA Command List

<table>
<thead>
<tr>
<th>RS-232 Command Set</th>
<th>Command</th>
<th>Command Packet*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>AddressSet</td>
<td>Broadcast</td>
<td>88 30 01 FF</td>
<td>Address setting</td>
</tr>
<tr>
<td>IF_Clear</td>
<td>Broadcast</td>
<td>88 01 00 01 FF</td>
<td>I/F Clear</td>
</tr>
<tr>
<td>CommandCancel</td>
<td></td>
<td>8x 2p FF</td>
<td>p: Socket No. (=1or2)</td>
</tr>
<tr>
<td>CAM_Power</td>
<td>On</td>
<td>8x 01 04 00 02 FF</td>
<td>Power ON – Lowers Camera Lift Mechanism and Turns camera ON</td>
</tr>
<tr>
<td></td>
<td>Off(Standby)</td>
<td>8x 01 04 00 03 FF</td>
<td>Power OFF – Retracts Camera Lift Mechanism and Turns camera OFF</td>
</tr>
<tr>
<td>CAM_Zoom</td>
<td>Stop</td>
<td>8x 01 04 07 00 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tele(Standard)</td>
<td>8x 01 04 07 02 FF</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Wide(Standard)</td>
<td>8x 01 04 07 03 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tele(Variable)</td>
<td>8x 01 04 07 2p FF</td>
<td>p=0 (Low) ~ 7 (Fast)</td>
</tr>
<tr>
<td></td>
<td>Wide(Variable)</td>
<td>8x 01 04 07 3p FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct</td>
<td>8x 01 04 47 0p 0q 0r 0s FF</td>
<td>pqrs: Zoom Position</td>
</tr>
<tr>
<td>CAM_Dzoom</td>
<td>D-Zoom On</td>
<td>8x 01 04 06 02 FF</td>
<td>Digital Zoom ON/OFF</td>
</tr>
<tr>
<td></td>
<td>D-Zoom Off</td>
<td>8x 01 04 06 03 FF</td>
<td></td>
</tr>
<tr>
<td>CAM_Focus</td>
<td>Stop</td>
<td>8x 01 04 08 00 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Far(Standard)</td>
<td>8x 01 04 08 02 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Near(Standard)</td>
<td>8x 01 04 08 03 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Far(Variable)</td>
<td>8x 01 04 08 2p FF</td>
<td>p=0 (Low) ~ 7 (High)</td>
</tr>
<tr>
<td></td>
<td>Near(Variable)</td>
<td>8x 01 04 08 3p FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct</td>
<td>8x 01 04 48 0p 0q 0r 0s FF</td>
<td>pqrs: Focus Position</td>
</tr>
<tr>
<td></td>
<td>Auto Focus</td>
<td>8x 01 04 38 02 FF</td>
<td>AF ON/OFF</td>
</tr>
<tr>
<td></td>
<td>Manual Focus</td>
<td>8x 01 04 38 03 FF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auto/Manual</td>
<td>8x 01 04 38 10 FF</td>
<td></td>
</tr>
</tbody>
</table>
## Command List (Continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Push Trigger</td>
<td>8x 01 04 18 01 FF</td>
<td>One Push AF Trigger</td>
</tr>
<tr>
<td>Infinity</td>
<td>8x 01 04 18 02 FF</td>
<td>Forced Infinity</td>
</tr>
<tr>
<td>Near Limit</td>
<td>8x 01 04 28 0p 0q 0r 0s 0v 0w FF</td>
<td>pqrs: Focus Near Limit Position</td>
</tr>
<tr>
<td><strong>AF Sensitivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>8x 01 04 58 02 FF</td>
<td>AF Sensitivity Norm/Low</td>
</tr>
<tr>
<td>Low</td>
<td>8x 01 04 58 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_ZoomFocus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 47 0p 0q 0r 0s 0t 0u 0v 0w FF</td>
<td>pqrs: Zoom Position tuvw: Focus Position</td>
</tr>
<tr>
<td><strong>CAM_WB</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto</td>
<td>8x 01 04 35 00 FF</td>
<td>Normal Auto</td>
</tr>
<tr>
<td>Indoor</td>
<td>8x 01 04 35 01 FF</td>
<td>Indoor Mode</td>
</tr>
<tr>
<td>Outdoor</td>
<td>8x 01 04 35 02 FF</td>
<td>Outdoor Mode</td>
</tr>
<tr>
<td>One Push WB</td>
<td>8x 01 04 35 03 FF</td>
<td>One Push WB Mode</td>
</tr>
<tr>
<td>ATW</td>
<td>8x 01 04 35 04 FF</td>
<td>Auto Tracing White Mode</td>
</tr>
<tr>
<td>Manual</td>
<td>8x 01 04 35 05 FF</td>
<td>Manual Control Mode</td>
</tr>
<tr>
<td>One Push Trigger</td>
<td>8x 01 04 10 05 FF</td>
<td>One Push WB trigger</td>
</tr>
<tr>
<td><strong>CAM_RGain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 03 00 FF</td>
<td>R Gain Manual setting</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 03 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 03 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 43 0p 0q 0r 0s 0v FF</td>
<td>pqrs: R Gain</td>
</tr>
<tr>
<td><strong>CAM_BGain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 04 00 FF</td>
<td>B Gain Manual setting</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 04 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 04 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 44 0p 0q 0r 0s 0v FF</td>
<td>pqrs: B Gain</td>
</tr>
<tr>
<td><strong>CAM_AE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Auto</td>
<td>8x 01 04 39 00 FF</td>
<td>Automatic exposure mode</td>
</tr>
<tr>
<td>Manual</td>
<td>8x 01 04 39 03 FF</td>
<td>Manual control mode</td>
</tr>
<tr>
<td>Shutter Priority</td>
<td>8x 01 04 39 0A FF</td>
<td>Shutter priority auto exposure mode</td>
</tr>
<tr>
<td>Iris Priority</td>
<td>8x 01 04 39 0B FF</td>
<td>Iris priority auto exposure mode</td>
</tr>
<tr>
<td>Bright</td>
<td>8x 01 04 39 0D FF</td>
<td>Bright mode (Manual)</td>
</tr>
<tr>
<td><strong>CAM_SlowShutter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto</td>
<td>8x 01 04 5A 02 FF</td>
<td>AutoSlowShutter ON/OFF</td>
</tr>
<tr>
<td>Manual</td>
<td>8x 01 04 5A 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_Shutter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 0A 00 FF</td>
<td>Shutter setting (1/4sec ~ 1/10000sec)</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 0A 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 0A 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 4A 00 00 0p 0q FF</td>
<td>pq: Shutter Position</td>
</tr>
<tr>
<td><strong>CAM_Iris</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 0B 00 FF</td>
<td>Iris setting</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 0B 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 0B 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 4B 00 00 0p 0q FF</td>
<td>pq: Iris Position</td>
</tr>
<tr>
<td><strong>CAM_Gain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 0C 00 FF</td>
<td>Gain setting</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 0C 02 FF</td>
<td></td>
</tr>
</tbody>
</table>
## Command List (Continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAM_Bright</strong></td>
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<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 0C 03 FF</td>
<td>pqrst: Gain Position</td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 4C 00 00 00 p 0q FF</td>
<td>pqrst: Bright Position</td>
</tr>
<tr>
<td><strong>CAM_ExpComp</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 3E 02 FF</td>
<td>Exposure Compensation ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 3E 03 FF</td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 0E 00 FF</td>
<td>Exposure Compensation amount setting</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 0E 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 0E 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 4E 00 00 00 p 0q FF</td>
<td>pqrst: ExpComp Position</td>
</tr>
<tr>
<td><strong>CAM_BackLight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 33 02 FF</td>
<td>Back Light Compensation</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 33 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_SpotAE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 59 02 FF</td>
<td>Setting for AE</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 59 03 FF</td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>8x 01 04 29 0p 0q 0r 0s FF</td>
<td>pqrst: X(0 to F) , rs: Y(0 to F)</td>
</tr>
<tr>
<td><strong>CAM_Aperture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 02 00 FF</td>
<td>Aperture Control</td>
</tr>
<tr>
<td>Up</td>
<td>8x 01 04 02 02 FF</td>
<td></td>
</tr>
<tr>
<td>Down</td>
<td>8x 01 04 02 03 FF</td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>8x 01 04 42 0p 0q 0r 0s FF</td>
<td>pqrst: Aperture Gain</td>
</tr>
<tr>
<td><strong>CAM_LR_Reverse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 61 02 FF</td>
<td>Mirror Image ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 61 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_Freeze</strong></td>
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<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 62 02 FF</td>
<td>Freeze Picture ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 62 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_PictureEffect</strong></td>
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<td>Off</td>
<td>8x 01 04 63 00 FF</td>
<td>Picture Effect setting</td>
</tr>
<tr>
<td>Neg.Art</td>
<td>8x 01 04 63 02 FF</td>
<td></td>
</tr>
<tr>
<td>B&amp;W</td>
<td>8x 01 04 63 04 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_ICR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 01 02 FF</td>
<td>ICR Mode ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 01 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_AutoICR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 51 02 FF</td>
<td>Auto ICR ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 51 03 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_Memory</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reset</td>
<td>8x 01 04 3F 00 pp FF</td>
<td>p: Memory number ( =0 to 5)</td>
</tr>
<tr>
<td>Set</td>
<td>8x 01 04 3F 01 pp FF</td>
<td></td>
</tr>
<tr>
<td>Recall</td>
<td>8x 01 04 3F 02 pp FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_Mute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 75 02 FF</td>
<td>Mute ON/OFF</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 75 03 FF</td>
<td></td>
</tr>
<tr>
<td>On/Off</td>
<td>8x 01 04 75 10 FF</td>
<td></td>
</tr>
<tr>
<td><strong>CAM_Display</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 15 02 FF</td>
<td>Display On/Off</td>
</tr>
</tbody>
</table>
### Command List

#### (Continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>8x 01 04 15 03 FF</td>
<td>(8x 01 06 06 03 FF)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On/Off</td>
</tr>
<tr>
<td></td>
<td>8x 01 04 15 10 FF</td>
<td>(8x 01 06 06 10 FF)</td>
</tr>
</tbody>
</table>

#### CAM_Title

<table>
<thead>
<tr>
<th>Title Set1</th>
<th>8x 01 04 73 00 mm nn pp qq 00 00 00 00 00 00 FF</th>
<th>mm: V-Position, nn: H-Position pp: Color, qq:Blink</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Set2</td>
<td>8x 01 04 73 01 mm nn pp qq rr ss tt uu vv ww FF</td>
<td>mnpqrstuvw: Set of characters (1 to 10)</td>
</tr>
<tr>
<td>Title Set3</td>
<td>8x 01 04 73 02 mm nn pp qq rr ss tt uu vv ww FF</td>
<td>mnpqrstuvw: Set of characters (11 to 20)</td>
</tr>
<tr>
<td>Title Clear</td>
<td>8x 01 04 74 00 FF</td>
<td>Title Set clear</td>
</tr>
<tr>
<td>On</td>
<td>8x 01 04 74 02 FF</td>
<td>Title display On/Off</td>
</tr>
<tr>
<td>Off</td>
<td>8x 01 04 74 03 FF</td>
<td></td>
</tr>
</tbody>
</table>

#### CAM_IDWrite

| On            | 8x 01 04 6B 02 FF | Alarm On/Off                                   |
| Off           | 8x 01 04 6B 03 FF |                                                  |

#### CAM_Alarm

<table>
<thead>
<tr>
<th>SetMode</th>
<th>8x 01 04 6C pp FF</th>
<th>pp: Set the mode (00 -- 0C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>00 Detect the Focus position (Not update the original data)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>01 Detect the Focus position (Update the original data)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>02 Detect the AE level (Not update the original data)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>03 Detect the AE level (Update the original data)</td>
</tr>
<tr>
<td>SetDayNightLevel</td>
<td>8x 01 04 6D 0p 0p 0p 0q 0q 0q FF</td>
<td>Set the AE level of judgment of Day (ppp) and Night (qqq)</td>
</tr>
<tr>
<td>Alarm (Reply)</td>
<td>y0 07 04 6B 01 FF</td>
<td>Detect level &quot;Low&quot; to &quot;High&quot;</td>
</tr>
<tr>
<td></td>
<td>y0 07 04 6B 00 FF</td>
<td>Detect level &quot;High&quot; to &quot;Low&quot;</td>
</tr>
</tbody>
</table>

#### Pan/Tilt Drive

| Up            | 8x 01 06 01 VV WW 03 01 FF | VV: Pan Speed 01 to 18 |
| Down          | 8x 01 06 01 VV WW 03 02 FF | WW: Tilt Speed 01 to 17 |
| Left          | 8x 01 06 01 VV WW 01 03 FF | YYY: Pan Position F725 to 08DB (center 0000) |
| Right         | 8x 01 06 01 VV WW 02 03 FF | ZZZ: Tilt Position FE70 to 04B0 (Image Flip: off) (center 0000) |
| Up-Left       | 8x 01 06 01 VV WW 01 01 FF | Tilt Position FB50 to 0190 (Image Flip: ON) (center 0000) |
| Up-Right      | 8x 01 06 01 VV WW 02 01 FF |                                                  |
| Down-Left     | 8x 01 06 01 VV WW 01 02 FF |                                                  |
| Down-Right    | 8x 01 06 01 VV WW 02 02 FF |                                                  |
| Stop          | 8x 01 06 01 VV WW 03 03 FF |                                                  |
| Absolute Position | 8x 01 06 02 vv WW 0Y 0Y 0Y 02 02 02 FF |                                                  |
| Relative Position | 8x 01 06 03 vv WW 0Y 0Y 0Y 02 02 02 FF |                                                  |
| Home          | 8x 01 06 04 FF |                                                  |
| Reset         | 8x 01 06 05 ff |                                                  |
TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problem</th>
<th>Questions for Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>No image</td>
<td>Is the Vaddio supplied power supply connected to a working AC wall outlet?</td>
</tr>
<tr>
<td></td>
<td>Is Vaddio power supply securely connected to wall plate or Quick Connect box?</td>
</tr>
<tr>
<td></td>
<td>Is the Category 5 signal cable securely connected to the wall plate or Quick Connect box?</td>
</tr>
<tr>
<td></td>
<td>Is the Category 5 signal cable connected to correct port on the camera?</td>
</tr>
<tr>
<td>Camera will not respond to IR Remote</td>
<td>Have fresh AA batteries been installed in the IR Remote control?</td>
</tr>
<tr>
<td></td>
<td>Is remote being aimed directly at camera during use?</td>
</tr>
<tr>
<td></td>
<td>Is the camera power on?</td>
</tr>
<tr>
<td>Camera will not respond to control system RS-232 control commands</td>
<td>Verify correct serial connection to control device.</td>
</tr>
<tr>
<td></td>
<td>Is Category 5 RS-232 cable connected to the RS-232 IN jack on the camera?</td>
</tr>
<tr>
<td></td>
<td>Verify correct VISCA commands as per the serial command list.</td>
</tr>
<tr>
<td></td>
<td>If camera is used in a multi camera system, is the correct camera being addressed?</td>
</tr>
<tr>
<td></td>
<td>Is the camera power on?</td>
</tr>
</tbody>
</table>

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>CeilingVIEW 70 PTZ HideAway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>999-2404-000 999-2404-001</td>
</tr>
<tr>
<td>Signal system</td>
<td>NTSC PAL</td>
</tr>
<tr>
<td>Image sensor</td>
<td>1/4-type EXview HAD CCD</td>
</tr>
<tr>
<td>Effective Pixels</td>
<td>768 x 494 (H x V) 752 x 582 (H x V)</td>
</tr>
<tr>
<td>Horizontal Resolution</td>
<td>470 TV lines 460 TV lines</td>
</tr>
<tr>
<td>Lens</td>
<td>18X Optical Zoom, f=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0</td>
</tr>
<tr>
<td>Total Zoom</td>
<td>18X Optical x 12X Digital = 216X Total Zoom</td>
</tr>
<tr>
<td>Horizontal angle of view</td>
<td>2.7º (tele end) to 48º (wide end)</td>
</tr>
<tr>
<td>Minimum Illumination</td>
<td>1 Lux (F1.4)</td>
</tr>
<tr>
<td>Auto exposure</td>
<td>Auto/Manual/Priority AE, Exposure compensation, Back-light compensation</td>
</tr>
<tr>
<td>Shutter speed</td>
<td>1 to 1/10,000 s</td>
</tr>
<tr>
<td>Gain</td>
<td>Auto/Manual (-3 to +28 dB, 2 dB steps)</td>
</tr>
<tr>
<td>White balance</td>
<td>Auto/ATW/Indoor/Outdoor/One push/Manual</td>
</tr>
<tr>
<td>S/N ratio</td>
<td>More than 50 dB</td>
</tr>
<tr>
<td>Pan/tilt</td>
<td>Pan: ±170º (Max. speed: 100º/s), Tilt: -30º to +90º (Max. speed: 90º/s)</td>
</tr>
<tr>
<td>Position preset</td>
<td>6 positions</td>
</tr>
<tr>
<td>Picture effect</td>
<td>Neg. Art, Black &amp; White</td>
</tr>
<tr>
<td>Video outputs</td>
<td>Composite Video and S-Video (concurrent)</td>
</tr>
<tr>
<td>Power requirement</td>
<td>10.8 VDC to 13.2 VDC</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Idle: 12W Engaged: 23W</td>
</tr>
<tr>
<td>Power Supply</td>
<td>18 VDC, 2.78A (PowerRite Power Supply Spec), 100V– 240V Switcher</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>32 to 104º F (0 to 40º C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-4 to +140º F (-20 to +60º C)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>8.84” (22.45cm) H x 8.75” (22.23cm) W x 8.65” (21.97cm) D</td>
</tr>
<tr>
<td>Weight</td>
<td>8.4 lbs / 3.81 kg</td>
</tr>
</tbody>
</table>

COMPLIANCE

FCC Part 15 Compliance and EC Declaration of Conformity
Sony Corporation holds the FCC and CE certifications for the EVI-D70 and EVI-D70P cameras used internal to the CeilingVIEW 70 PTZ HideAway mechanical enclosure. Please contact Sony Corporation for this documentation.
Hardware Warranty - One year limited warranty on all parts. Vaddio warrants this product against defects in materials and workmanship for a period of one year from the day of purchase if Vaddio receives notice of such defects during the warranty. They will, at its option, repair or replace products that prove to be defective.

Exclusions - The above warranty shall not apply to defects resulting from: improper or inadequate maintenance by the customer, customers applied software or interfacing, unauthorized modifications or misuse, operation outside the normal environmental specifications for the product, use of the incorrect power supply, or improper site operation and maintenance.

Vaddio Customer service – Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

Vaddio Technical support - Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at vaddio_support@photo-control.com or online at www.vaddio.com.

Return Material Authorization (RMA) number - Before returning a product for repair or replacement request an RMA from Vaddio’s technical support. Provide a technician with a return phone number, e-mail address, shipping address, and product serial numbers. Describe the reason for repairs or returns as well as the date of purchase. Include your assigned RMA number in all correspondence with Vaddio. Write your assigned RMA number on the outside of the box when returning the product.

Voided warranty – The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, or unauthorized repair.

Shipping and handling - Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier.
  - If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier.
  - Contact your carrier immediately.

Products not under warranty - Payment arrangements are required before outbound shipment for all out of warranty products.

*Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.

CARE AND CLEANING

Do not attempt to take the camera module apart (other than for the reasons stated in the manual). There are no user-serviceable components inside.
  - Do not spill liquids onto the camera
  - Keep this device away from food and liquid
  - Avoid touching the lens
  - For smears or smudges, clear any dust with a blower and wipe stains with a glass cleaner and clean, soft cloth.
  - To clean exterior of camera, wipe with a clean soft cloth. Do not use any abrasive chemicals.

OPERATING CONDITIONS

Do not operate the CeilingVIEW 70 PTZ HideAway under the following conditions for any circumstance:
  - Temperatures above 40°C (104°F)
  - Temperatures below 0°C (32°F)
  - High humidity, condensing or wet environments
  - Dusty environments
  - In inclement weather
  - Under severe vibration