

# Device: Ross PIVOTCam



## Introduction

A large number of parameters can be controlled on the Ross PIVOTCam. Control is via VISCA over IP. The Device Core have been developed on a PIVOTCamSE camera. The Firmware on the camera have the following details

The left side shows a product label for an HD Color Video Camera, Model: PIVOTCam-SE, DC Input: DC12V~ 2A, with CE, ROHS, and FCC logos. The right side shows a "Firmware Upgrade" interface with the following data:

Control Version	1.0.0.1
Device Name	PIVOTCam-SE
Serial Number	ce888afb90b9
Bootloader Version	V1.0.0
System Version	V1.0.0
App Version	Ver263
Upgrade	<input type="button" value="Select File"/>

Please see the "PTZ Manual" at <https://www.skaarhoj.com/support/manuals/> to learn more about PTZ control in general from SKAARHOJ controllers and in particular network recommendations.

In this manual it is worth noticing that one should not add *additional* Device Cores to control multiple cameras. This is possible from the same Device Core but proper steps should be ensured (consecutive IP addresses on the cameras) for a good user experience.

## Support for Block inquiry commands

Please notice currently the Ross PIVOTCam camera do not have full support for block inquiry commands over IP, so not all current settings on the camera will be transmitted back to our controllers. Examples

- When our controller connects to the camera some settings will not be in sync with the actual state of the camera. The shutter speed on our controller could reflect one setting, while the actual shutter speed on the camera could be different until the shutter speed has in fact been set from our controller
- If multiple SKAARHOJ controllers are connected to the same camera they will not be in sync
- If changes are made in the OSD these will not be reported back to the SKAARHOJ controller

The following actions will render properly in the Displays of a controller:

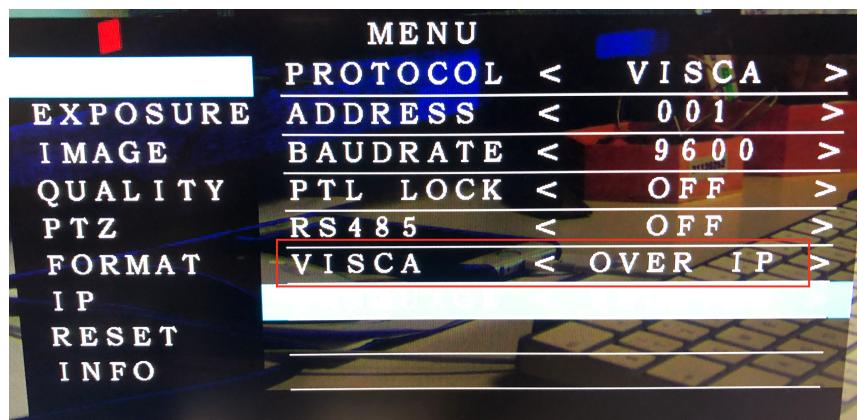
- Exposure Mode
- Iris
- Shutter
- WB Mode
- WB R/G Gain
- Saturation
- Sharpness
- NR 2D
- AWB Sens
- AF Sens

## Number of Cameras possible to control

Please notice from the Ross PIVOTCam Device Core it is possible to control up 7 cameras. In general this is the limit for our VISCA over IP Device Cores and our integration have not been tested above 7 cameras. If you want to control more than 7 cameras you will need to add an additional Device Core and configure the controller accordingly. None of our default configuration utilities 2 x PIVOTCam Device Cores. As we have never tested with more than 7 cameras, we do not know how well performance and stability will be in such a configuration setup. We recommend only having 1 x PIVOTCam Device Core installed per controller

## Setting up Camera

For communication to work, the camera must set to VISCA over IP and not VISCA over serial



## Device Configurations

Device configuration options exist:

- Index 0: **VISCA over IP/Serial**

- If "0" = VISCA over TCP (default)
- If "1" = VISCA over Serial
- If "2" = VISCA over IP

- Index 1: **Video Mode**

- If "0" = PAL (default)
- If "1" = NTSC

- Index 2: **Number of connected Cameras in Device Core**

- If "0" = 7 (default)
- If "1-7" = Setting limit of 1-7 number of cameras the Device Core will connect to

Example:

Enabling VISCA over serial could look like this device configuration code: "D0:0=1" where the general form would be "Dx:y=z" where "x" is the number of the device core as installed on the controller (starting with zero for the first device core), "y" the index number and "z" the value for that index.

If the Angekis Device Core is the first like below (here represented with NewTek Device Core)

The screenshot shows the SKAARHOJ Device Cores configuration page. On the left, there's a sidebar with navigation links: Controller Configuration, Device Cores (which is selected and highlighted in blue), Manage Configurations, Manage Media, Button Labels, and Firmware Overview. The main content area has a header 'Device Cores'. Below it, there's a note about supported device cores and how to test NewTek Serial. Two device cores are listed in a table:

Device Core	Description
<b>Device core number 0</b>	NewTek NDIHX-PTZ1 Full VISCA control of NewTek NDI Robotic Camera NDIHX-PTZ1. Complete VISCA command list is implemented and with specific value ranges (such as Iris, Shutter speeds etc). Control via IP or Serial (via converter).
<b>Device core number 1</b>	Generic VISCA Generic VISCA implementation for Serial and IP based robotic cameras. Control via IP or Serial (via converter).

At the bottom of the page are 'Save Settings' and 'Add another device' buttons.

## SKAARHOJ DEVICE CORES

Setting VISCA over serial would be set by this configuration under "Manage Media" on the configuration page for your controller. Access this by pressing "Online Configuration" in the Firmware Application. Remember to save on the configuration page and press "Check for updates" in the Firmware Application.

The screenshot shows the SKAARHOJ UniSketch OS online configuration interface. The left sidebar has a tree view with nodes: Controller Configuration, Device Cores (selected), Manage Configurations, Manage Options, Manage Media (selected), Button Labels, and Sharing. The main content area is titled "Manage Media". It contains a sub-section "Device Core Options" with a note: "Some device cores support additional options that can be defined through this text field. Please refer to the manual for the particular device core for details." Below this is a text input field containing "D0:0=2". The next section is "Strings" with four input fields labeled String 1 to String 4, each containing a value: "Presets|1-10", "Presets|11-20", "Spd PTZ", and "Spd Focus". There is also a section "Images" with "Save Settings" and "Add Image" buttons.

To confirm that a device configuration is in fact detected by the controller, please check it out on the serial monitor where it will be mentioned:

```
Memory A-D restored
Compiled: Nov 28 2019 16:00:59
D0[0] = 1
ROSSPivotSE, CAM IP = 192.168.10.82
ClientVISCAserialIP: __deviceIdx: 0
Ross Pivot Cam using PAL mode
ClientVISCAserialIP::begin()
VISCAbase: DISABLING retransmit
setup() Done
-----
```

Example on how it looks when setting NTSC mode

```
----- D0[1] = 1
ROSSPivotSE, CAM IP = 192.168.10.82
ClientVISCAoverTCP: __deviceIdx: 0
Ross Pivot Cam using NTSC mode
-----
```

## Actions

An excerpt of the actions in the Device Core

```
Ross PivotCam PTZ: Pan
Ross PivotCam PTZ: Tilt
Ross PivotCam PTZ: Pan/Tilt
Ross PivotCam PTZ: Zoom
Ross PivotCam PTZ: Zoom (Binary)
Ross PivotCam PTZ: Focus
Ross PivotCam PTZ: Focus (Binary)
Ross PivotCam PTZ: Focus One Push
Ross PivotCam PTZ: Focus Settings
Ross PivotCam PTZ: Exposure Mode
Ross PivotCam PTZ: Iris
Ross PivotCam PTZ: Shutter
Ross PivotCam PTZ: Gain
Ross PivotCam PTZ: AE Comp
Ross PivotCam PTZ: White Balance
Ross PivotCam PTZ: WB One Push
Ross PivotCam PTZ: WB R/B Gain
Ross PivotCam PTZ: Saturation
Ross PivotCam PTZ: Sharpness
Ross PivotCam PTZ: Preset
Ross PivotCam PTZ: System
Ross PivotCam PTZ: PTZ Cruise Control
Ross PivotCam PTZ: PTZ Trace
Ross PivotCam PTZ: Speed Limit
Ross PivotCam PTZ: Camera Select
```