

# Device: eMotimo ST4



## Introduction

The motion control camera robot system eMotimo ST4 can be controlled from SKAARHOJ panels using a Ethernet-Serial converter. The Device Core is still in Alpha

## Ethernet to Serial connection

To communicate via serial (RS-232) to the camera you need an Ethernet-Serial converter. We suggest you get a TCP232-306 from USR- <https://www.usriot.com/products/serial-to-ethernet-server.html>

Below you will find screenshots of how to configure the USR-TCP232-306 converter (found on the web interface of the TCP232-306). Notice the IP address of the TCP232-306 (Static IP Address) must match the IP settings of the eMotimo Device Core.

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Current Status		
Local IP Config	<b>parameter</b> IP type: Static IP <input checked="" type="radio"/> Static IP: 192 . 168 . 10 . 45 Submask: 255 . 255 . 255 . 0 Gateway: 192 . 168 . 10 . 1 DNS Server: 8 . 8 . 8 . 8	
Serial Port	<b>Help</b> <ul style="list-style-type: none"> <li>• <b>IP type:</b> StaticIP or DHCP</li> <li>• <b>StaticIP:</b> Module's static ip</li> <li>• <b>Submask:</b> usually 255.255.255.0</li> <li>• <b>Gateway:</b> usually router's ip address</li> <li>• <b>DNS IP:</b> DNS gateway or Router's IP</li> </ul>	
Expand Function	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	
Misc Config		
Reboot		

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Current Status		
Local IP Config	<b>Parameter</b> Baud Rate: 115200 bps Data Size: 8 bit Parity: None Stop Bits: 1 bit Local Port Number: 5000 (0~65535) Remote Port Number: 1259 (1~65535) Work Mode: TCP Server <input checked="" type="radio"/> Remote Server Addr: 192.168.0.201 [192.168.10.109] RESET: <input type="checkbox"/> LINK: <input checked="" type="checkbox"/> INDEX: <input type="checkbox"/> Similar RFC2217: <input checked="" type="checkbox"/>	
Serial Port	<b>Help</b> <ul style="list-style-type: none"> <li>• <b>HTTPD URL:</b> Module add HOST and GET/POST and HTTP/1.1 in URL automatically according to user's setting.</li> <li>• <b>HTTPD Packet:</b> Module add HOST automatically according to user's setting. Add "Content Length" automatically in POST mode.</li> </ul>	
Expand Function	<input type="button" value="Save"/> <input type="button" value="Cancel"/>	
Misc Config		
Reboot		

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# SKAARHOJ DEVICE CORES

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parameter

Heartbeat Packet Type:  None  ASCII  Hex

Register Packet Type:  None  ASCII  Hex

Short Connection:

TCP Server-kick off old connection:

Buffer Data Before Connected:

UART Set Parameter:

Current Status

Local IP Config

Serial Port

**Expand Function**

Misc Config

Reboot

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parameter

Module Name: USR-TCP232-306

Webserver Port: 80

Username: admin

Password: admin

MAC Address: 9C-A5-25-9E-DF-D4

Max Clients Connect To TCP Server: 4 (1~16)

Reset Timeout: 3600 (s)(0,60~65535s)

Current Status

Local IP Config

Serial Port

**Expand Function**

**Misc Config**

Reboot

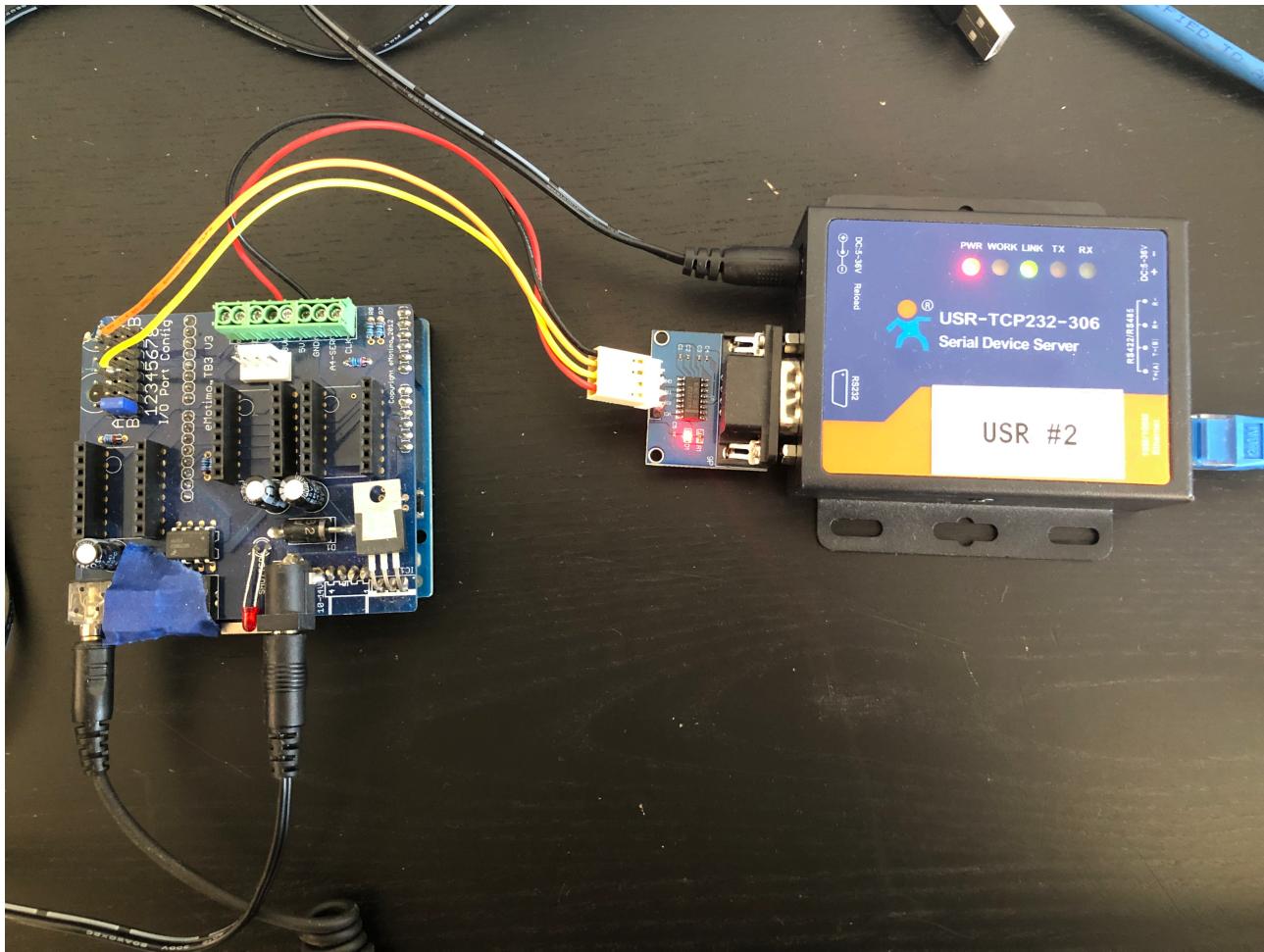
Help

- **MAC Address:** The module can modify the MAC address, all "F" is not allowed
- **Max Clients Connect To TCP Server:** When the module is TCP Server, the max number of TCP client allowed to connect
- **Timeout Restart Time:** When the network port timeout, it will reboot, if set to 0s, function to shut down

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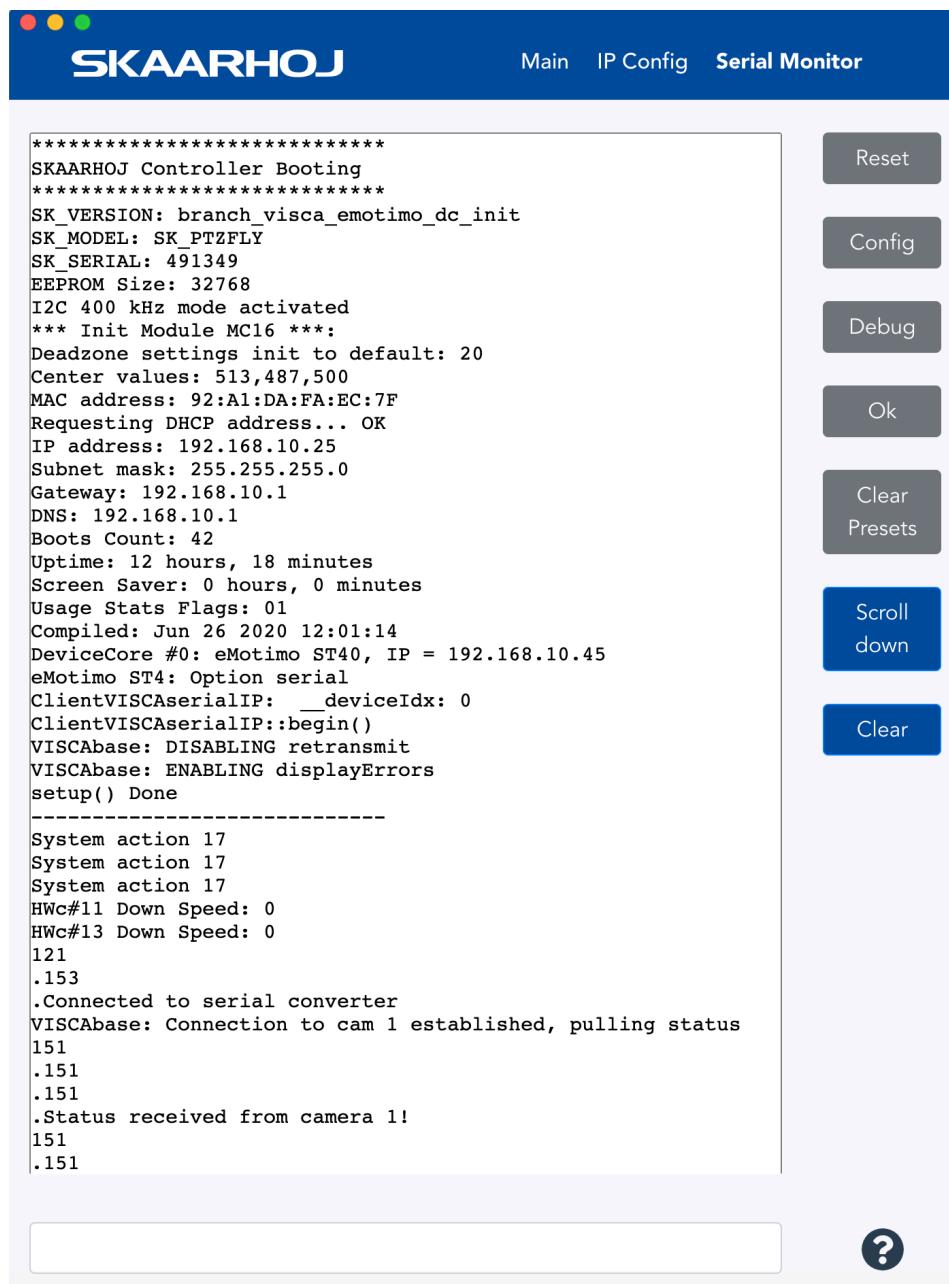
## Wiring to the Control Box

The wiring between the Serial Converter and the prototype control box from eMotimo looks like below:



## Confirm Connection

The Serial Monitor from the Firmware Application can be used to monitor connection status. The message "Status received from camera 1!" Confirms connections.



The screenshot shows the SKAARHOJ Serial Monitor interface. The main window displays a log of system booting and configuration. Key logs include:

```

*****
SKAARHOJ Controller Booting
*****
SK_VERSION: branch_visca_emotimo_dc_init
SK_MODEL: SK_PTZFLY
SK_SERIAL: 491349
EEPROM Size: 32768
I2C 400 kHz mode activated
*** Init Module MC16 ***
Deadzone settings init to default: 20
Center values: 513,487,500
MAC address: 92:A1:DA:FA:EC:7F
Requesting DHCP address... OK
IP address: 192.168.10.25
Subnet mask: 255.255.255.0
Gateway: 192.168.10.1
DNS: 192.168.10.1
Boots Count: 42
Uptime: 12 hours, 18 minutes
Screen Saver: 0 hours, 0 minutes
Usage Stats Flags: 01
Compiled: Jun 26 2020 12:01:14
DeviceCore #0: eMotimo ST40, IP = 192.168.10.45
eMotimo ST4: Option serial
ClientVISCAserialIP: __deviceIdx: 0
ClientVISCAserialIP::begin()
VISCAbase: DISABLING retransmit
VISCAbase: ENABLING displayErrors
setup() Done
-----
System action 17
System action 17
System action 17
HWc#11 Down Speed: 0
HWc#13 Down Speed: 0
121
.153
.Connected to serial converter
VISCAbase: Connection to cam 1 established, pulling status
151
.151
.151
.Status received from camera 1!
151
.151

```

On the right side of the interface, there are several buttons:

- Reset
- Config
- Debug
- Ok
- Clear Presets
- Scroll down
- Clear

A question mark icon is located in the bottom right corner of the main window area.

## Actions

An excerpt of the actions in the Device Core

Please notice all native Trace actions are not implemented yet. Live mode is not implemented either.

- eMotimo ST4: Pan
- eMotimo ST4: Tilt
- eMotimo ST4: Pan/Tilt
- eMotimo ST4: M3 Drive
- eMotimo ST4: M4 Drive
- eMotimo ST4: M3/M4
- eMotimo ST4: Memory Ramp
- ✓ eMotimo ST4: Memory Time-to-Target
- eMotimo ST4: Memory Binary Ramp
- eMotimo ST4: Memory Binary Time-to-Target
- eMotimo ST4: Trace Position Record
- eMotimo ST4: Trace Position Prepare
- eMotimo ST4: Trace Position Play
- eMotimo ST4: Trace Position Delete
- eMotimo ST4: Live Mode
- eMotimo ST4: Axis Limit
- eMotimo ST4: Preset
- eMotimo ST4: PTZ Cruise Control
- eMotimo ST4: PTZ Trace
- eMotimo ST4: Speed Limit
- eMotimo ST4: Camera Select