

## Device: eMotimo ST4

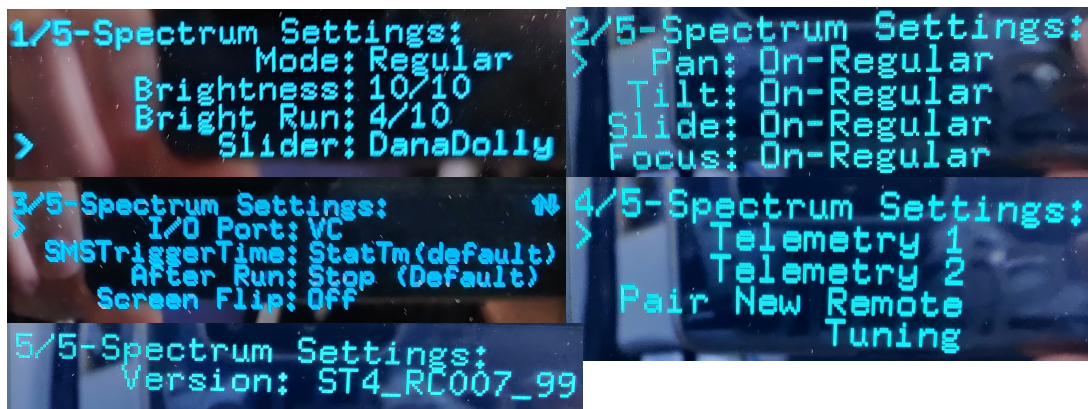


### Introduction

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

### Important Settings

The eMotimo has different levels of firmware for more basic or advanced control. Our integration was done with version: ST4\_RC007\_99. Some settings might not be accessible with every version of the eMotimo firmware. If you are unable to access I/O Port: VC, check that you have the advanced version of the firmware.



## Ethernet to Serial connection

To communicate via serial (RS-232) to the eMotimo ST4 you need an Ethernet-Serial converter. Please reach out to eMotimo directly regarding purchasing this converter.

### Settings

Serial Port → Baud Rate 115200

Data Size - 8 bit

Parity - None

Stop Bits 1 bit

Local Port - 5000

### TCP Server

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.

Firmware Version: V4018

Be Honest, Do Best!

Current Status

Local IP Config

Serial Port

Expand Function

Misc Config

Reboot

parameter

IP type: Static IP

Static IP: 192 · 168 · 10 · 45

Submask: 255 · 255 · 255 · 0

Gateway: 192 · 168 · 10 · 1

DNS Server: 8 · 8 · 8 · 8

Save Cancel

Help

- **IP type:** StaticIP or DHCP
- **StaticIP:** Module's static ip
- **Submask:** usually 255.255.255.0
- **Gateway:** Usually router's ip address
- **DNS IP:** DNS gateway or Router's IP

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website: www.usriot.com

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Current Status

Local IP Config

Serial Port

Expand Function

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Reboot

parameter

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

Remote Server Addr: 192.168.0.101

RESET: ☐

LINK: ☒

INDEX: ☐

Similar RFC2217: ☒

Save Cancel

Help

- **HTTPD URL:** Module add GET/POST and HTTP/1.1 in URL automatically according to user's setting.
- **HTTPD Packet Header:** Module add HOST automatically according to user's setting. Add Content Length automatically in POST mode.

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Heartbeat Packet Type: None ASCII

Register Packet Type: None

Short Connection: ☐

TCP Server-kick off old connection: ☐

Buffer Data Before Connected: ☒

UART Set Parameter: ☐

Save Cancel

Help

- **Custom Heartbeat Packet:** this function is not open, not do support the Chinese, and 40 bytes in length
- **Custom Register Packet:** this function is not open, not do support the Chinese, and 40 bytes in length
- **TCP Server-kick off old connection:** TCP Server mode, a new connection, whether to kick off the old connection.
- **Buffer Data Before Connected:** Before the TCP connection is established, whether the data

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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)

Save Cancel

Help

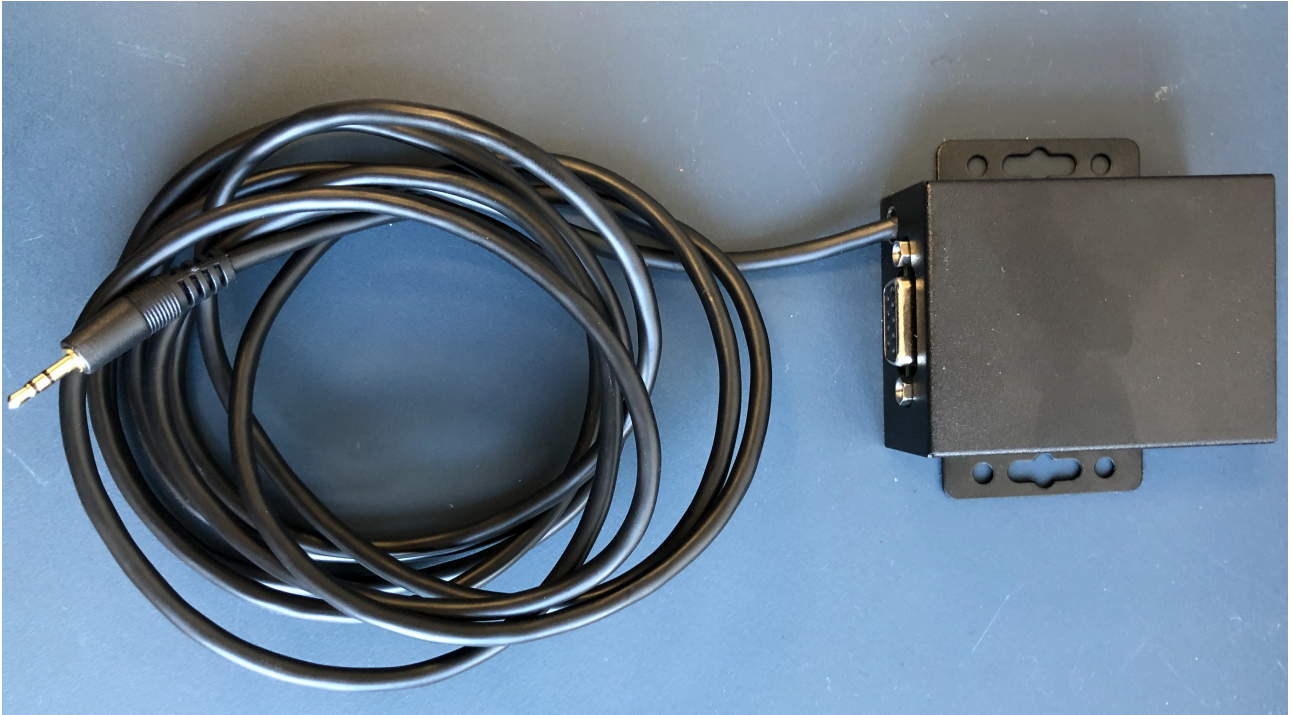
- **MAC Address:** The module can modify the MAC address, all P's not allowed
- **Max Clients Connect To TCP Server:** when Module is TCP Server, the max number of TCP client allowed to connect
- **Timeout Restart Time:** When the network port without data, timeout restart, if set to 0, function to shut 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. Please reach out to eMotimo directly for acquiring a communication box.



## 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 displays the SKAARHOJ Serial Monitor application. The interface has a blue header with the SKAARHOJ logo and navigation tabs: Main, IP Config, and Serial Monitor. The Serial Monitor tab is active, showing a text area with boot logs and a sidebar with control buttons.

**Serial Monitor Log:**

```

*****
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
  
```

**Control Buttons (Right Sidebar):**

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

At the bottom right, there is a question mark icon in a circle.

## 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