

# 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 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

# SKAARHOJ DEVICE CORES

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 中文

**USR** -IOT Experts- Be Honest, Do Best!

parameter

Current Status  
Local IP Config  
Serial Port  
Expand Function  
Misc Config  
Reboot

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

Copyright © Jinan USR IOT Technology Limited. All Rights Reserved website:www.usriot.com

Firmware Version: V4018 中文

**USR** -IOT Experts- Be Honest, Do Best!

parameter

Current Status  
Local IP Config  
Serial Port  
Expand Function  
Misc Config  
Reboot

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: [192.168.0.201]  
RESET:   
LINK:   
INDEX:   
Similar RFC2217:

Save Cancel

Copyright © Jinan USR IOT Technology Limited. All Rights Reserved website:www.usriot.com

Firmware Version: V4018 中文

**USR** -IOT Experts- Be Honest, Do Best!

parameter

Current Status  
Local IP Config  
Serial Port  
Expand Function  
Misc Config  
Reboot

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

Copyright © Jinan USR IOT Technology Limited. All Rights Reserved website:www.usriot.com

Firmware Version: V4018 中文

**USR** -IOT Experts- Be Honest, Do Best!

parameter

Current Status  
Local IP Config  
Serial Port  
Expand Function  
Misc Config  
Reboot

Module Name: USR-TCP232-306  
Webserver Port: 80  
Username: admin  
Password: admin  
MAC Address: 9C-A5-9E-DF-D4  
Max Clients Connect To TCP Server: 4 (1~16)  
Reset Timeout: 3600 (s)(0,60~65535s)

Help

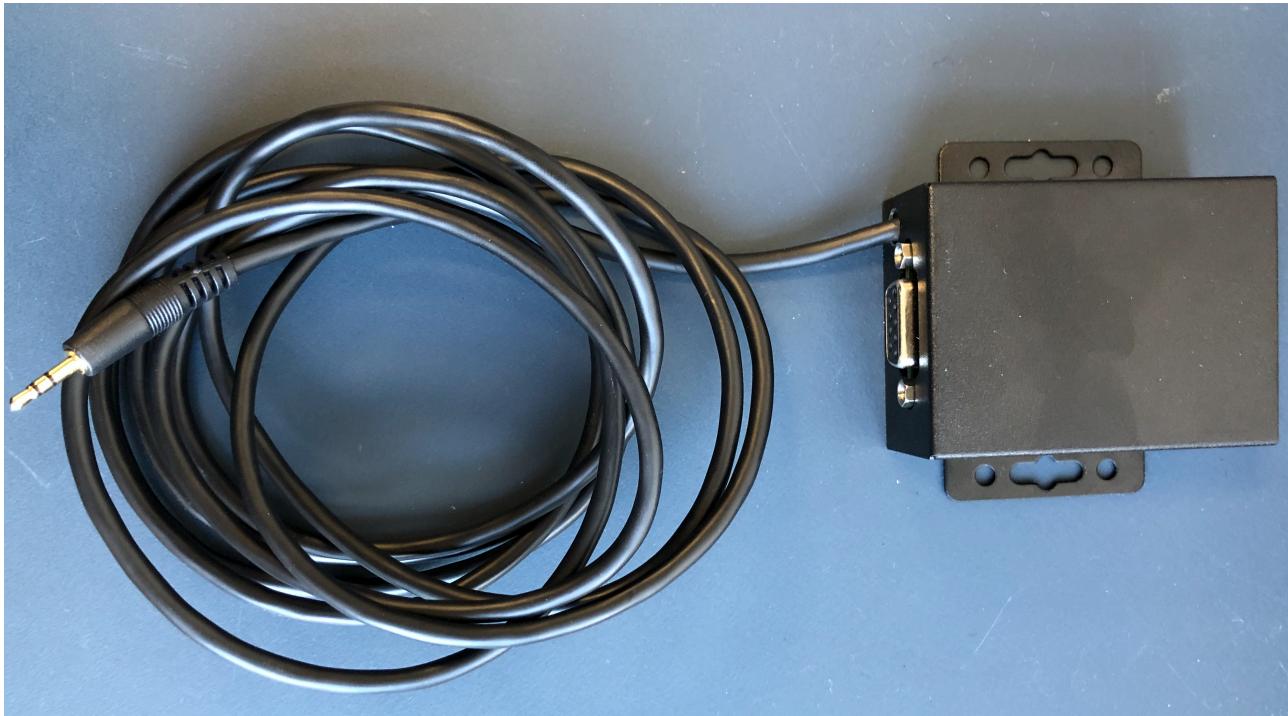
- MAC Address:** The module can modify the MAC address, all "r" is not allowed.
- Clients Connect To TCP Server:** when Module is TCP Server, the max number of TCP client allowed to connect.
- Timeout Restart Time:** When the network port without data, timeout restart, if set to 0s, function to shut down

Save Cancel

Copyright © Jinan USR IOT Technology Limited. All Rights Reserved website:www.usriot.com

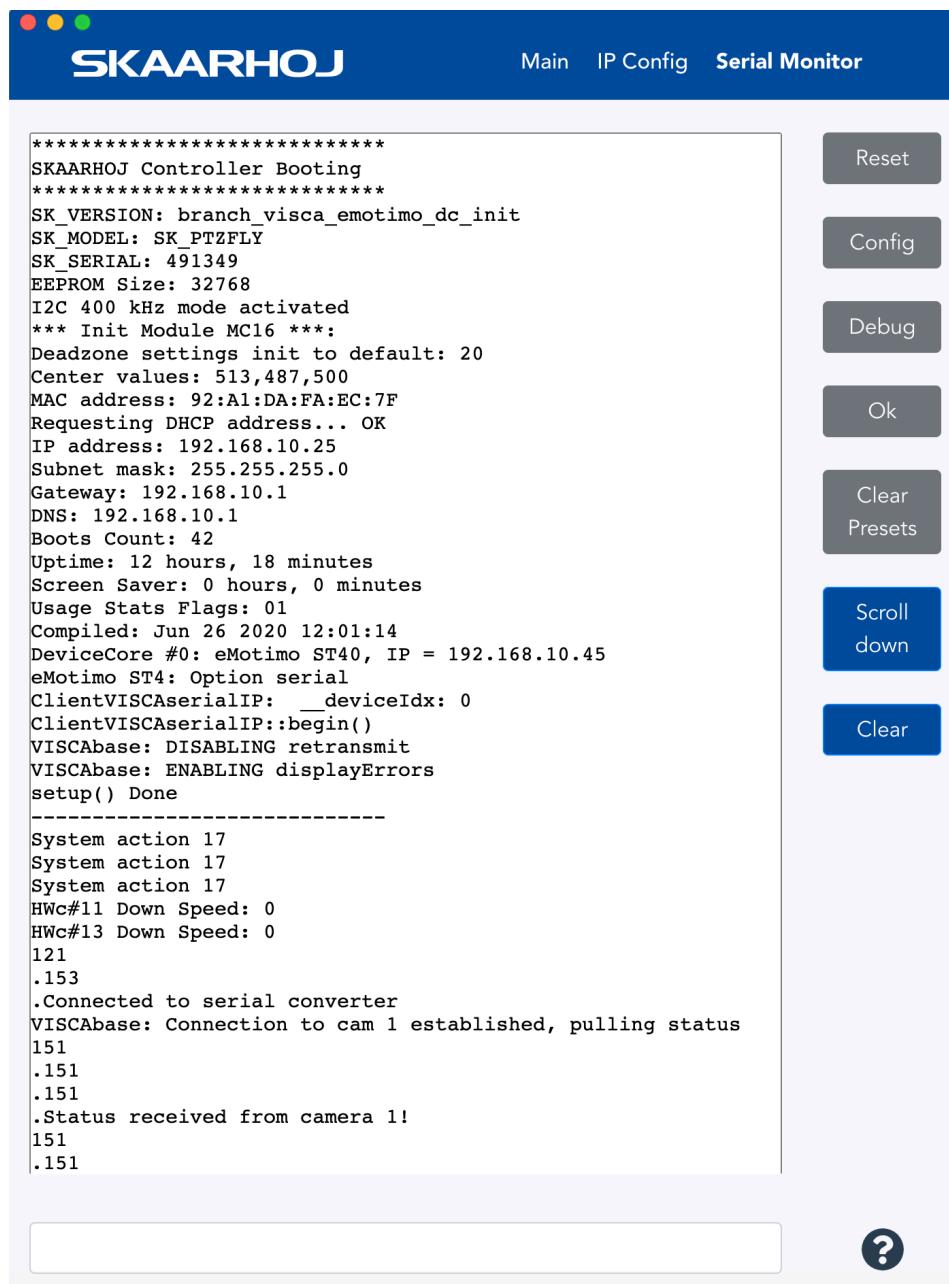
## Wiring to the Control Box

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 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