

Device: AJA FS2



Introduction

A number of parameters on the AJA FS2 frame synchronizer can be controlled from a SKAARHOJ control panel. The complete feature set is not implemented but a large variety of actions can be found. This document gives you an overview of possible control parameters.

The implementation have been done on a FS2 with Software Version 2.1.1.5.

Connection

Due to the amount of information on the FS2 a connection time is approximately 10 seconds. Connection status is shown in the serial monitor.

When a SKAARHOJ device have successfully connected to the FS2 the serial monitor will report:

 The screenshot shows a 'Serial Monitor' window with a text area displaying the boot sequence of the AJA FS2. The text includes system boot messages, hardware information (MAC, IP, subnet, gateways, DNS), and the completion of the initialization phase. A red box highlights the line '.AJAFS2: Init completed!'. To the right of the text area is a 'Commands' panel with buttons for 'reset', 'config', 'configd', 'clearpresets', 'debug', 'newmac', and 'ok'. At the bottom left of the text area is an 'Auto scroll' checkbox.

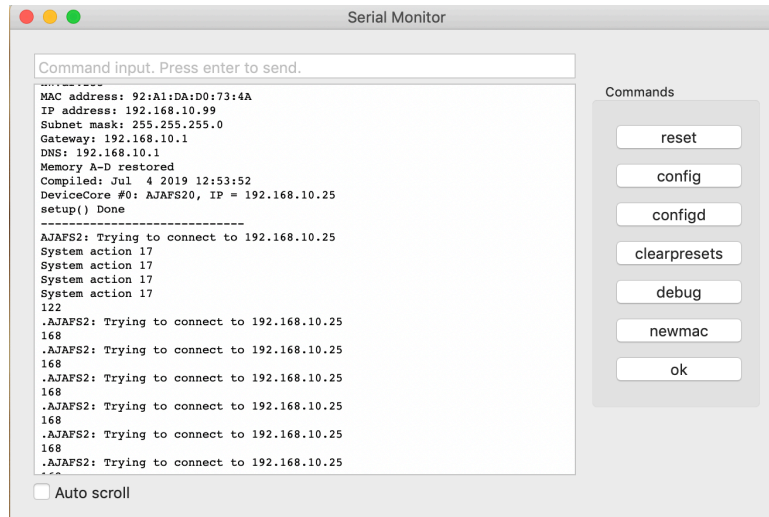

```

Command input. Press enter to send.

*****
SKAARHOJ Controller Booting
*****
SK_VERSION: branch_http_ajafs2
_defConfigCsc=203
SK_MODEL: SK_RACKFLYUNO
SK_SERIAL: 432777
EEPROM size: 8 kB
I2C 400 kHz mode activated
Init LEDs and buttons
HWvar:255
MAC address: 92:A1:DA:D0:73:4A
IP address: 192.168.10.99
Subnet mask: 255.255.255.0
Gateways: 192.168.10.1
DNS: 192.168.10.1
Memory A-D restored
Compiled: Jul  4 2019 12:53:52
DeviceCore #0: AJAFS20, IP = 192.168.10.25
setup() Done

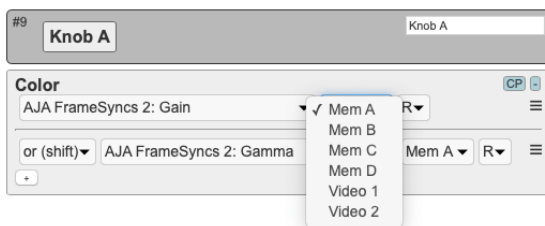
-----
AJAFS2: Trying to connect to 192.168.10.25
System action 17
System action 17
System action 17
AJAFS: Init Phase 1 completed, requesting parameter values..
101
.112
.112
.111
.112
.111
.AJAFS2: Init completed!
90
.147
.149
.148
  
```

If the SKAARHOJ device are unable to locate the FS2 on the network the serial monitor will report:



Device Core Details

From the same panel it is possible to control the 2 different Video channels and switch between these on the fly. When relevant the channel for Actions on the FS2 Device Core can be set to Mem A-D, or Video 1-2. In the default configurations you will often find this set to Mem A so the different channels can be controlled on the fly by changing the Memory Parameter A to values between 1 to 2 elsewhere on the panel. The mapping between the Memory A and channels are shown below.

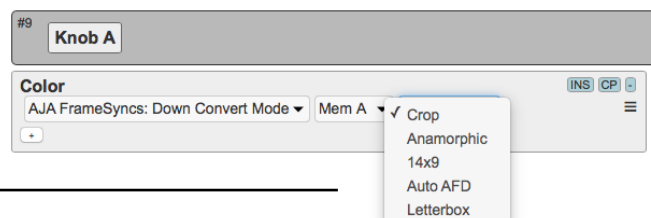
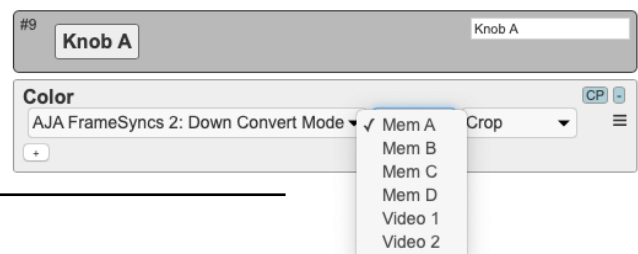
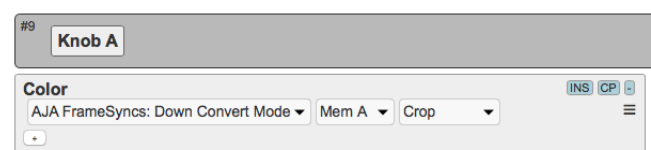


Mem A = 1 = Video 1 + Audio 1

Mem A = 2 = Video 2 + Audio 2

A action is typically build up of two parameters:

- Selection of the Video Channel on the FS2
- Selection of a specific value if it exists



This is a overview of the actions implemented in the Device Core

- ✓ AJA FrameSyncs 2: Input
 - AJA FrameSyncs 2: Loss of input
 - AJA FrameSyncs 2: Output Format
 - AJA FrameSyncs 2: SD Aspect Ratio
 - AJA FrameSyncs 2: Up Convert Mode
 - AJA FrameSyncs 2: Down Convert Mode
 - AJA FrameSyncs 2: Custom Size/Pos
 - AJA FrameSyncs 2: Custom Size
 - AJA FrameSyncs 2: Custom Aspect
 - AJA FrameSyncs 2: Custom Position
 - AJA FrameSyncs 2: Region of Interest
 - AJA FrameSyncs 2: ROI
 - AJA FrameSyncs 2: Test Pattern Gen
 - AJA FrameSyncs 2: Test Pattern Type
 - AJA FrameSyncs 2: ProcAmp Enable
 - AJA FrameSyncs 2: Color Corrector
 - AJA FrameSyncs 2: ProcAmp Settings
 - AJA FrameSyncs 2: Gain
 - AJA FrameSyncs 2: Black
 - AJA FrameSyncs 2: Gamma
 - AJA FrameSyncs 2: Video Legalizer
 - AJA FrameSyncs 2: Video Legalizer Settings
 - AJA FrameSyncs 2: Freeze Output
 - AJA FrameSyncs 2: Fan Speed
 - AJA FrameSyncs 2: Output Frame Rate
 - AJA FrameSyncs 2: Genlock Source
 - AJA FrameSyncs 2: HDMI RGB Range
 - AJA FrameSyncs 2: Preset
 - AJA FrameSyncs 2: Audio Input Map
 - AJA FrameSyncs 2: Embedded Audio Out
 - AJA FrameSyncs 2: Audio Follow Video
 - AJA FrameSyncs 2: Audio Signal Gen
 - AJA FrameSyncs 2: Audio Delay

The Actions are divided by using the control categories from the Frame Sync.

✓ AJA FrameSyncs 2: Input
AJA FrameSyncs 2: Loss of input
AJA FrameSyncs 2: Output Format
AJA FrameSyncs 2: SD Aspect Ratio
AJA FrameSyncs 2: Up Convert Mode
AJA FrameSyncs 2: Down Convert Mode
AJA FrameSyncs 2: Custom Size/Pos
AJA FrameSyncs 2: Custom Size
AJA FrameSyncs 2: Custom Aspect
AJA FrameSyncs 2: Custom Position
AJA FrameSyncs 2: Region of Interest
AJA FrameSyncs 2: ROI
AJA FrameSyncs 2: Test Pattern Gen
AJA FrameSyncs 2: Test Pattern Type
AJA FrameSyncs 2: ProcAmp Enable
AJA FrameSyncs 2: Color Corrector
AJA FrameSyncs 2: ProcAmp Settings
AJA FrameSyncs 2: Gain
AJA FrameSyncs 2: Black
AJA FrameSyncs 2: Gamma
AJA FrameSyncs 2: Video Legalizer
AJA FrameSyncs 2: Video Legalizer Settings
AJA FrameSyncs 2: Freeze Output
AJA FrameSyncs 2: Fan Speed
AJA FrameSyncs 2: Output Frame Rate
AJA FrameSyncs 2: Genlock Source
AJA FrameSyncs 2: HDMI RGB Range
AJA FrameSyncs 2: Preset
AJA FrameSyncs 2: Audio Input Map
AJA FrameSyncs 2: Embedded Audio Out
AJA FrameSyncs 2: Audio Follow Video
AJA FrameSyncs 2: Audio Signal Gen
AJA FrameSyncs 2: Audio Delay

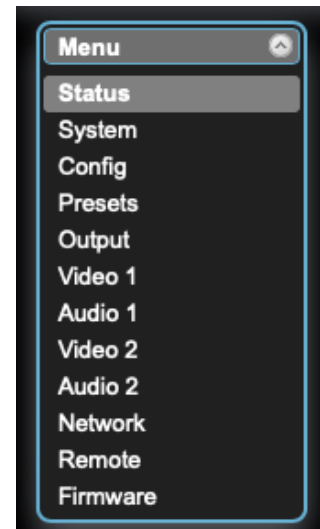
Status - Video 1-2

Status - Config

Status - System

Status - Presets

Status - Audio 1-2



This is a table of actions for AJA FS2 Device Core

<p>Input</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Input Mem A SDI1</p>	<p>Routes input to the selected Channel</p> <p><i>Binary triggers:</i> Sets the selected input to the selected channel.</p> <p><i>Pulse inputs:</i> Will cycle through the Inputs for the selected channel.</p> <p><i>Displays:</i> "Input/Input x"</p>
<p>Loss of input</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Loss of Input Mem A Black Freeze</p>	<p>Selects option for Loss of input</p> <p><i>Binary triggers:</i> Sets the selected mode for loss of input.</p> <p><i>Pulse inputs:</i> Will cycle through options for loss of input</p> <p><i>Displays:</i> "In Loss/mode"</p>
<p>Output Format</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Output Format Mem A</p>	<p>Selects Output Format</p> <p><i>Binary triggers:</i> Not implemented</p> <p><i>Pulse inputs:</i> Will cycle through options for Output Format</p> <p><i>Displays:</i> "Output/Format"</p>
<p>SD Aspect Ratio</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: SD Aspect Ratio Mem A Off Letterbox H Crop Pillarbox V Crop 14x9</p>	<p>Selects SD Aspect Ratio</p> <p><i>Binary triggers:</i> Sets the selected SD Aspect Ratio</p> <p><i>Pulse inputs:</i> Will cycle through options for Aspect Ratio</p> <p><i>Displays:</i> "SD Aspect/mode"</p>
<p>Up Convert Mode</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Up Convert Mode Mem A 4x3 Pillar</p>	<p>Selects Up Convert Mode</p> <p><i>Binary triggers:</i> Sets the selected Up Convert Mode</p> <p><i>Pulse inputs:</i> Will cycle through options for Convert Mode</p> <p><i>Displays:</i> "Up Conv/mode"</p>
<p>Down Convert Mode</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Down Convert Mode Mem A Crop</p>	<p>Selects Down Convert Mode</p> <p><i>Binary triggers:</i> Sets the selected Down Convert Mode</p> <p><i>Pulse inputs:</i> Will cycle through options for Convert Mode</p> <p><i>Displays:</i> "Dn Conv/mode"</p>
<p>Custom Size/Pos</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Custom Size/Pos Mem A Off</p>	<p>Turn off/on Custom Size/Position</p> <p><i>Binary triggers:</i> Sets Custom Size/Postion to on/off</p> <p><i>Pulse inputs:</i> Will cycle through on/off for Custom Size/Pos</p> <p><i>Displays:</i> "Cust S/P/mode"</p>
<p>Custom Size</p> <p>#9 Knob A</p> <p>Color AJA FrameSyncs: Custom Size Mem A</p>	<p>Sets the Custom Size</p> <p><i>Binary triggers:</i> Not implemented</p> <p><i>Pulse inputs:</i> Will set the custom size</p> <p><i>Displays:</i> "Cust Size/%"</p>

Custom Aspect

#9 Knob A

Color
AJA FrameSyncs: Custom Aspect Mem A INS CP

Sets the Custom Aspect

Binary triggers: Not implemented

Pulse inputs: Will set the custom aspect

Displays: "Cust Asp/%"

Custom Postion

#9 Knob A

Color
AJA FrameSyncs: Custom Position Mem A H V INS CP

Sets the Custom Position for either H or V

Binary triggers: Not implemented

Pulse inputs: Will set the custom position for H or V

Displays: "CustPos H/%" or "CustPos V/%"

Region of Interest

#9 Knob A

Color
AJA FrameSyncs: Region of Interest Mem A Off Setup On Square On Full INS CP

Sets the Region of Interest

Binary triggers: Sets Region of Interest. If Toggle is selected it will toggle between "Off" and the selected option.

Pulse inputs: Will cycle through options for Region of Interest

Displays: "ROI Mode/mode"

ROI

#9 Knob A

Color
AJA FrameSyncs: ROI Mem A Left Right Top Bottom INS CP

Sets the ROI parameters

Binary triggers: Not implemented

Pulse inputs: Will cycle through the selected ROI parameter

Displays: "ROI Left/%", "ROI Right/%", "ROI Top/%", "ROI Bottom/%"

Test Pattern Gen

#9 Knob A

Color
AJA FrameSyncs: Test Pattern Gen Mem A Off INS CP

Controls the Test Pattern Generator

Binary triggers: Sets the generator to on or off

Pulse inputs: Will cycle through on/off

Displays: "Test Gen/mode"

Test Pattern Type

#9 Knob A Knob A

Color
AJA FrameSyncs 2: Test Pattern Type Mem A 100% Bars 75% Bars Ramp Multiburst Flat Field Black INS CP

Controls the Test Pattern Type

Binary triggers: Sets the type to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Test Ptrn/mode"

ProcAmp Enable

#9 Knob A

Color
AJA FrameSyncs: ProcAmp Enable Mem A Off INS CP

Sets ProcAmp to on or off

Binary triggers: Sets ProcAmp to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "ProcAmp/mode"

Color Corrector

#9 Knob A

Color
AJA FrameSyncs: Color Corrector Mem A Off INS CP

Sets Color Corrector to on or off

Binary triggers: Sets Color Corrector to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "ColorCorr/mode"

ProcAmp Settings

Controls the 4 ProcAmp values

Binary triggers: Not implemented

Pulse inputs: Will cycle the selected ProcAmp parameter

Displays: "Gain/value", "Black/value", "Hue/value", "Sat/value"

For "Gain" + "Black"

Analog inputs - Gain: Set the value between 0-1.5

Analog inputs - Black: Set the value between -20 - +20

Gain

Controls the Color Corrector Gain RGB Values

Binary triggers: Not implemented

Pulse inputs: Will cycle the selected RGB Gain value

Displays: "Gain R/value", "Gain G/value", "Gain B/value"

Black

Controls the Color Corrector Black RGB Values

Binary triggers: Not implemented

Pulse inputs: Will cycle the selected RGB Black value

Displays: "Black R/value", "Black G/value", "Black B/value"

Black

Controls the Color Corrector Gamma RGB Values

Binary triggers: Not implemented

Pulse inputs: Will cycle the selected RGB Gamma value

Displays: "Gamma R/value", "Gamma G/value", "Gamma B/value"

Video Legalizer

Sets the Video Legalizer to on or off

Binary triggers: Sets the Video Legalizer to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Legalizer/mode"

Video Legalizer Settings

Controls the Video Legalizer Settings

Binary triggers: Not implemented

Pulse inputs: Will cycle through the selected values

Displays: "LegWhite/value", "LegBlack/value", "LegChroma/value"

Freeze Output

Controls the mode for Freeze Output

Binary triggers: Sets the Freeze Output to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Freeze/mode"

Fan Speed

Controls the Fan Speed

Binary triggers: Not implemented

Pulse inputs: Will cycle Fan Speeds

Displays: "Fan Speed/value"

Output Frame Rate

Controls the global Output Frame Rate

Binary triggers: Sets the Output Frame Rate to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "FrameRate/mode"

Genlock Source

Controls the global Genlock Source

Binary triggers: Sets the Genlock Source to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "GenLokSrc/mode"

HDMI RGB Range

Controls the HDMI RGB Range

Binary triggers: Sets the HDMI RGB Range to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "HDMIRGBRA/mode"

Presets

Controls the Presets on the FS. Select between 40 Presets and the Factory Default

Binary triggers: If "Recall/Set" - press and hold will perform a Preset Set
A single press will recall the preset
If "Set" a single press will save the preset
If "Recall" a single press will recall the preset

Pulse inputs: Not implemented

Displays:
If "Recall/Set" "Preset/no"
If "Set" "Set/no"
If "Recall" "Recall/no"

Audio Input Map

Controls the Audio Input Mapping

Binary triggers: Sets the Audio Embedding Mapping to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Aud.Input/mode"

Embedded Audio Out

Controls the Embedded Audio Out

Binary triggers: Sets the Audio Embedding Out to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Emb.Audio/mode"

Audio Follow Video

Controls the Audio Follow Video mode

Binary triggers: Sets the Audio Follow Video to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Aud.Follow/mode"

Audio Signal Gen

#9 **Knob A** Knob A

Color
 Aja FrameSyncs 2: Audio Signal Gen ▼ Mem A ▼ Off 400Hz 1khz
 +

Controls the Audio Signal Generator

Binary triggers: Sets the Audio Signal Generator to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Aud.Sig.Ge/mode"

Audio Delay

#9 **Knob A** Knob A

Color
 Aja FrameSyncs 2: Audio Delay ▼ Mem A ▼
 +

Controls the Audio Delay

Binary triggers: Sets the Audio Delay for the chosen Audio Channel

Pulse inputs: Will cycle the Audio Delay

Displays: "Aud.Delay/mode"