

Device: AJA FS4



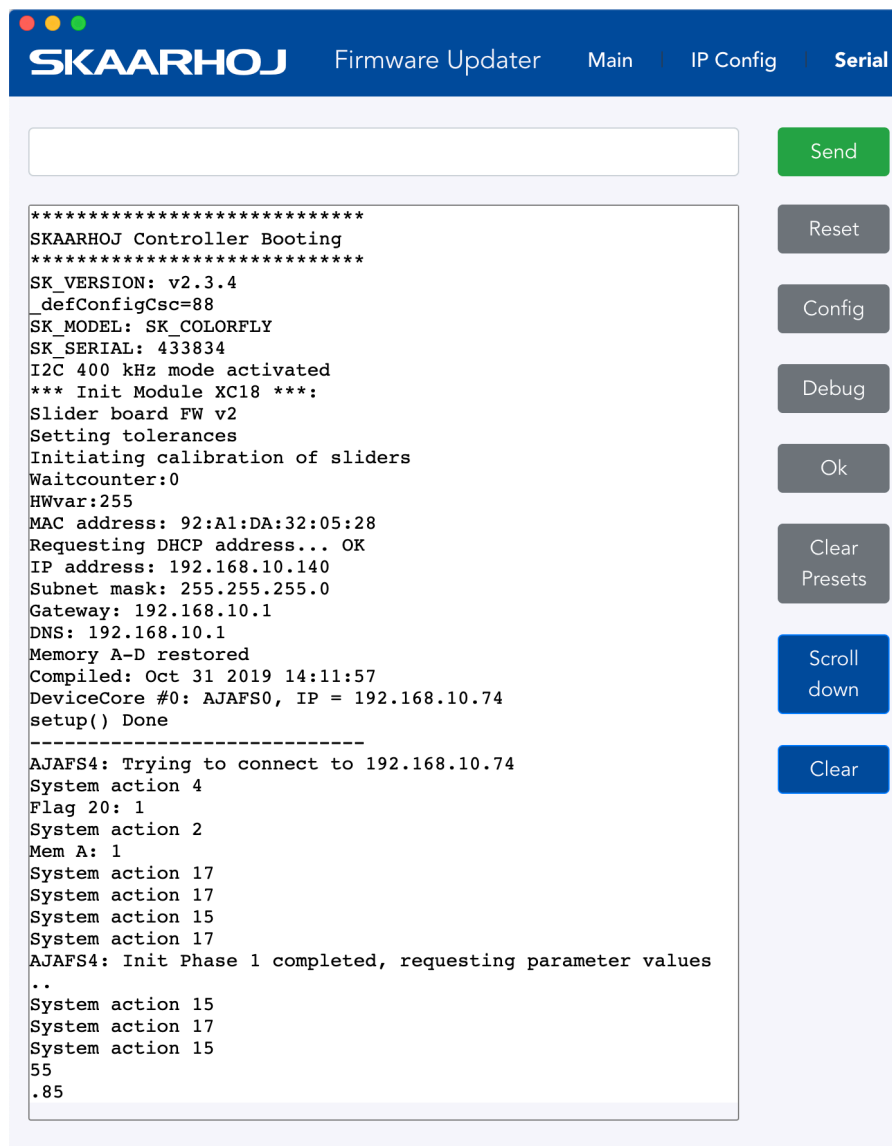
Introduction

A number of parameters on the AJA FS4 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 FS4 with Software Version 1.3.0.15.

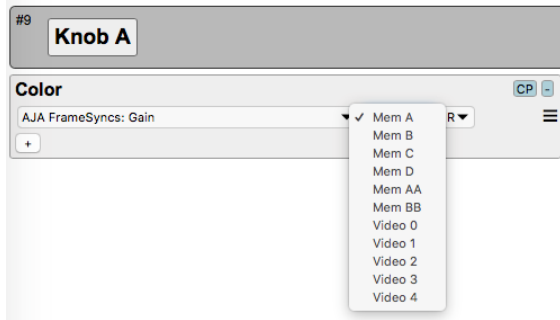
Connection

Connection status to the FS4 is shown in the serial monitor.



Mapping of Channels

From the same panel it is possible to control the 4 different 2K/HD/SD channels and switch between these on the fly. Alternatively if the FS4 is in 4K/UltraHD mode just 1 channel is possible to control. When relevant the channel for Actions on the FS4 Device Core can be set to Mem A-D, Mem AA-BB or Video 0-4. 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 0 to 4 elsewhere on the panel. The mapping between the Memory A and channels are shown below.



Mem A = 0 = Video 0 (this is used in 4K/UltraHD mode)

Mem A = 1 = Video 1 = Channel Video 1

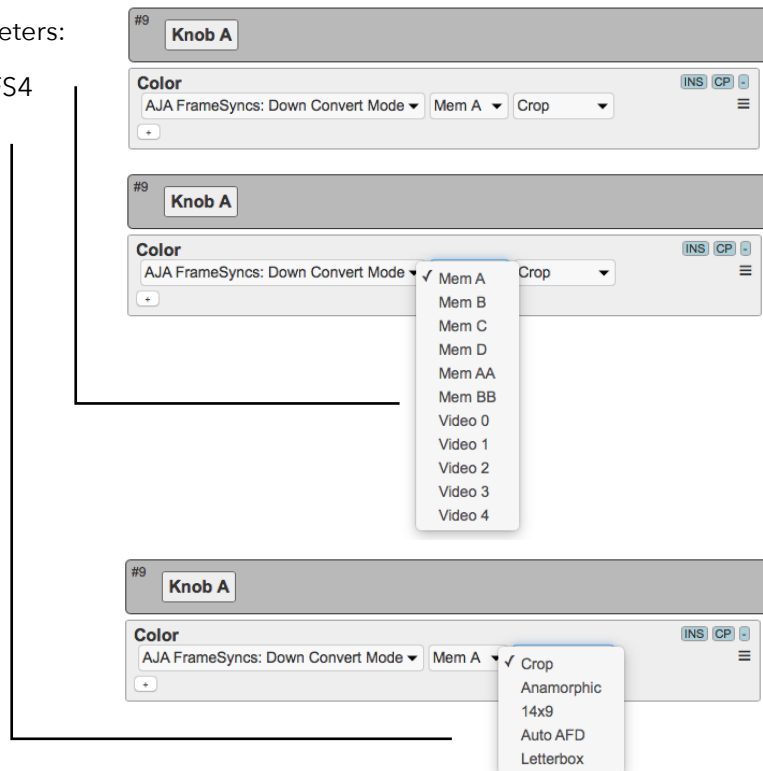
Mem A = 2 = Video 2 = Channel Video 2

Mem A = 3 = Video 3 = Channel Video 3

Mem A = 4 = Video 4 = Channel Video 4

A action is typically build up of two parameters:

- Selection of the Video Channel on the FS4
- Selection of a specific value if it exists



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

- AJA FS4: Input
- AJA FS4: Loss of input
- AJA FS4: Output Format
- AJA FS4: SD Aspect Ratio
- AJA FS4: Up Convert Mode
- AJA FS4: Down Convert Mode
- AJA FS4: Custom Size/Pos
- AJA FS4: Custom Size
- AJA FS4: Custom Aspect
- AJA FS4: Custom Position
- AJA FS4: Region of Interest
- AJA FS4: ROI
- AJA FS4: Test Pattern Gen
- AJA FS4: Test Pattern Type
- AJA FS4: ProcAmp Enable
- AJA FS4: Color Corrector
- AJA FS4: ProcAmp Settings
- ✓ AJA FS4: Gain
- AJA FS4: Black
- AJA FS4: Gamma
- AJA FS4: Video Legalizer
- AJA FS4: Video Legalizer Settings
- AJA FS4: Freeze Output
- AJA FS4: Fan Speed
- AJA FS4: Output Frame Rate
- AJA FS4: Genlock Source
- AJA FS4: Mon 2K Crop
- AJA FS4: HDMI RGB Range
- AJA FS4: Monitor Map
- AJA FS4: Preset
- AJA FS4: Audio Embed Map
- AJA FS4: Audio Out

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

✓	AJA FrameSyncs: Input AJA FrameSyncs: Loss of input	Channels - Input	System
	AJA FrameSyncs: Output Format AJA FrameSyncs: SD Aspect Ratio AJA FrameSyncs: Up Convert Mode AJA FrameSyncs: Down Convert Mode	Channels - Format	
	AJA FrameSyncs: Custom Size/Pos AJA FrameSyncs: Custom Size AJA FrameSyncs: Custom Aspect AJA FrameSyncs: Custom Position AJA FrameSyncs: Region of Interest AJA FrameSyncs: ROI	Channels - Scale	Channels
	AJA FrameSyncs: Test Pattern Gen AJA FrameSyncs: Test Pattern Type	Channels - Test Gen	
	AJA FrameSyncs: ProcAmp Enable AJA FrameSyncs: Color Corrector AJA FrameSyncs: ProcAmp Settings AJA FrameSyncs: Gain AJA FrameSyncs: Black AJA FrameSyncs: Gamma AJA FrameSyncs: Video Legalizer AJA FrameSyncs: Video Legalizer Settings	Channels - Color	Video 1
	AJA FrameSyncs: Freeze Output AJA FrameSyncs: Fan Speed	Channels - Freeze Status - Config	
	AJA FrameSyncs: Output Frame Rate AJA FrameSyncs: Genlock Source AJA FrameSyncs: Mon 2K Crop AJA FrameSyncs: HDMI RGB Range AJA FrameSyncs: Monitor Map	Status - Video	Video 2
	AJA FrameSyncs: Preset	Status - Presets	
	AJA FrameSyncs: Audio Embed Map AJA FrameSyncs: Audio Out	Channels - EMBED + AES	Video 3
			Video 4
			EMBED
			AES

This is a table of actions for AJA FS4 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

INS CP

H V

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

INS CP

Off Setup On Square On Full

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

INS CP

Left Right Top Bottom

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

INS CP

Off

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

Color

AJA FrameSyncs: Test Pattern Type Mem A

INS CP

75% Bars Black 100% Bars Flat Field

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

INS CP

Off

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

INS CP

Off

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"

Gamma

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"

Mon 2K Crop

Controls the Mon 2K Crop

Binary triggers: Sets the Mon 2K Crop to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Mon2KCrop/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: "HDMI RGB Range/mode"

Monitor Map

Controls the mapping of the Monitor Output

Binary triggers: Sets the Monitor Map Routing to the chosen mode

Pulse inputs: Will cycle through the modes

Displays: "Mon Map/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 Embed Map

#9 **Knob A**

Color

AJA FrameSyncs: Audio Embed Map Mem A

SDI1

SDI2

SDI3

SDI4

SDI5

SDI6

SDI7

SDI8

AES/EBU In

MADI BNC In

#10 **Knob B**

Color

AJA FrameSyncs: Gain Mem A

or (shift) AJA FrameSyncs: Gamma

Controls the Audio Embedding Mapping

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

Pulse inputs: Will cycle through the modes

Displays: "Aud.Embed/mode"

Audio Out

#9 **Knob A**

Color

AJA FrameSyncs: Audio Out

AES

MADI BNC

MADI Fiber

SDI1

Controls the Audio Out for AES, MADI BND or MADI Fiber

Binary triggers: Sets the Audio Rout to the chosen channel

Pulse inputs: Will cycle through the channels for the chosen mode

Displays: "Audio Out/channel"