

# FS2

## Quick Start Guide



### Introduction

---

This Quick Start Guide provides a basic overview of FS2 system connections and configuration. The FS2 can be extremely simple to use, because of its ability to detect incoming signal formats and automatically apply the correct video processing for the selected output format. However, the FS2 is also extremely powerful and can be flexibly configured to perform a wide variety of tasks.

This Quick Start Guide is designed to help you get your FS2 up and running for the first time, and confirm it is operating properly. It also provides step-by-step instructions that demonstrate a FS2 signal processing example.

For additional information, please see the *FS2 Installation and Operation Guide* available on the AJA website.

### Installation Summary

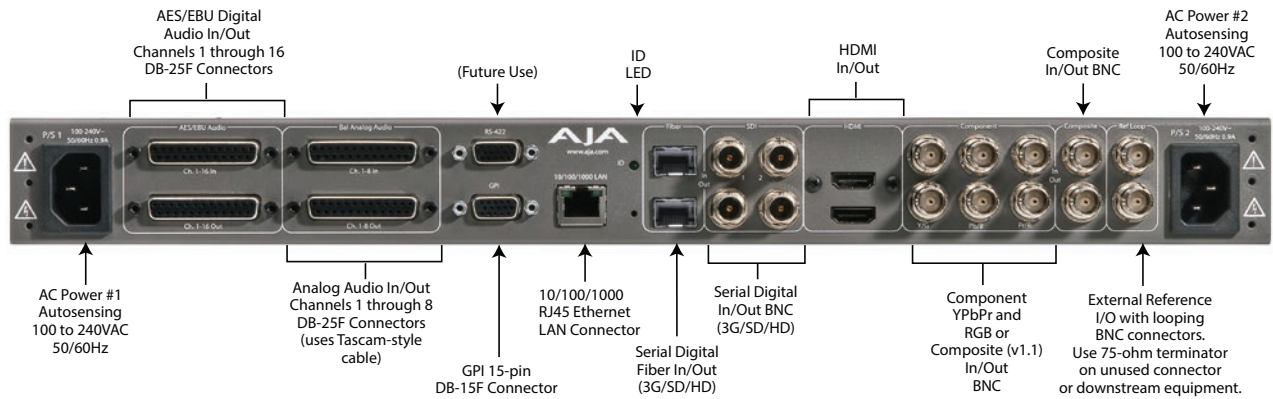
---

1. Unpack the shipping box, inspect and inventory the contents, and read the late-breaking news sheet, if any.
2. Install any optional SFP I/O modules by sliding them into the SFP cages in the back. Use only AJA approved modules.

**NOTE:** *The "Stand Alone Tests" on page 2 can be performed with the FS2 sitting on a bench to test system operation before physically installing the unit.*

3. Mount the physical chassis: front rack, rear rack, or deskmount—1 RU x 17.5 inches (44.45 cm) x 16 inches (40.65 cm). Do not block air flow through the side vents.
4. Make signal I/O connections to the FS2 back panel as shown in *Figure 1*.

Figure 1. FS2 Rear Panel

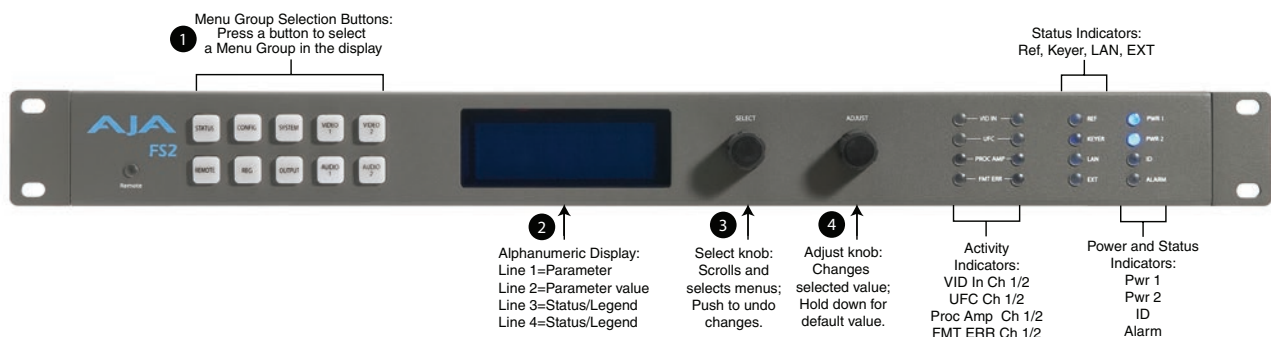


5. Connect one or two power cords to the FS2 and mains AC (100-240 VAC, 50/60 Hz, 55 Watts). For redundancy, use both cords and connect them to separate branch circuits. The FS2 power supply is autosensing and adjusts to the available power.
6. Connect your computer to the FS2 using a CAT5 Ethernet cable to the FS2 RJ45 10/100/1000 Ethernet LAN connector. You can connect directly or via a network device such as a switch, hub, bridge, etc. The FS2 automatically senses and adjusts to either a straight-through or crossover cable.

## Stand Alone Tests

The stand alone tests can be performed without a computer, using the FS2 front panel controls and rear connections. The following procedures assume the FS2 is at factory defaults (taken from a newly opened box). If not set to defaults, the FS2 may behave differently.

Figure 2. AJA FS2 Front Panel Controls and Indicators



## First Power Up

The following workflow powers up a default FS2 and demonstrates some example alarms.

### Setup

- Ensure the FS2 is completely disconnected (all video, audio, network, and power connector ports are empty).

1. Connect both FS2 power cords to mains AC and allow time for the unit to boot up. Observe the front panel LEDs.
  - The REF LED will light red, indicating an alarm condition. By default the FS2 is configured to operate genlocked to an external reference signal.
2. Press the front panel *STATUS* button, then turn the *SELECT* knob to view various Status menus.
  - The Status menu for Video Processor 1 will report No Input for IN1, the port is disconnected), and the *GEN* (Genlock) parameter will report *Ref* (configured for external reference) but will also report *No Input*.

Video Format Status screen			Video Format Alarm Status screen		
IN1	SDI 1	No Input	IN1	SDI 1	OK
BKGD	Black	525i59	BKGD	Black	OK
GEN	Ref	No Input	GEN	Ref	No Ref
OUT1		1080i59	Rate		525i59

3. Connect a sync reference signal to one of the FS2 Ref Loop BNCs, and connect a 75 ohm terminator to the other Ref BNC.
  - The REF LED will light blue, indicating the FS2 is genlocked to an external reference signal.
  - The Status menu *GEN* parameters will report *Ref* and indicate the format of the incoming reference signal or *OK*.
  - However, because the FS2 is still not receiving a compatible video input, No Input, will be reported for IN1.

Video Format Status screen			Video Format Alarm Status screen		
IN1	SDI 1	No Input	IN1	SDI 1	OK
BKGD	Black		BKGD	Black	OK
GEN	Ref	1080i59	GEN	Ref	OK
OUT1		525i59	Rate		525i59

4. Connect a 1080i59.94 SDI video source to the SDI 1 input BNC.
  - The front panel will report 1080i59 and an OK status for SDI 1. This indicates no alarm condition exists.

Video Format Status screen			Video Format Alarm Status screen		
IN1	SDI 1	1080i59	IN1	SDI 1	OK
BKGD	Black	1080i59	BKGD	Black	OK
GEN	Ref	1080i59	GEN	Ref	OK
OUT1		1080i59	OUT1		1080i59

5. Disconnect one of the power cords, leaving the other attached.
  - The front panel PWR LED will light red for the power supply with the removed cord.
  - The PS status will report PS1 (or 2) OFF
6. Reconnect the power cable. The PWR LED for that power supply will light blue and the power supply status will report OK.

This workflow confirms the FS2 powers up successfully and reports reference and power supply alarms.

*NOTE: FS2 Reference, Power Supply, and Video Format alarms can be disabled, if desired. This will prevent the LEDs from going red, but will not affect front panel status displays.*

## Internal Test Signals

---

This workflow generates bars and tone and routes them to an FS2 video and audio output. This example uses the SDI 1 and AES output connectors, an SDI video monitor, and an AES audio monitor.

*NOTE: In the following procedures, where the terms select and adjust are used, turn the front panel SELECT and ADJUST knobs.*

### Setup

---

- Connect the FS2 SDI 1 output BNC connector to an SDI video display with a BNC cable.
- Connect the FS2 AES/EBU output DB25 connector to an AES audio monitor using a standard TASCAM pinout cable (customer supplied). Separate DB25 connectors carry all 8 AES digital audio pairs (16 audio signals), one connector for input and one for output. Turn the output gain of the audio monitor to a low level.

### Procedure

---

1. Press the VIDEO 1 button.
  - Select 2 Output Format and adjust to a signal compatible with your SDI monitor (for example, 1080i59.95).
  - Select 3 Video Output Mode and adjust to Test Pattern.
  - Select 2 Test Pattern and adjust to 75% Bars.
  - Select 21 Test Pattern Video and adjust to 75% Bars.
2. Press the AUDIO 1 button.
  - Select 4 Audio Signal Gen and adjust to Sig Gen 400KHz.

You should now be able to see the test signal on the SDI Monitor display, and hear the audio on the AES monitor.

This workflow confirms the FS2 generates and outputs video and audio.

## FS2 Network Setup

---

The following instructions summarize ways to configure the FS2 to communicate with a computer directly or over a network.

### FS2 Default Network Settings

---

The FS2 ships from the factory set for DHCP networking, and can be manually reset to the following default network settings:

IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Gateway	192.168.0.1

### Networking Using DHCP or Default Static IP

---

The FS2 factory default configuration automatically looks for a DHCP server to issue an IP address. If your network includes a DHCP server, plug the FS2 into the network and connect with the unit as follows:

1. Press the CONFIG button.

2. Turn the SELECT knob to navigate to the Status menu that has the name of the FS2 at the top (default is "aja-FS2"). Note the DHCP-supplied IP address shown.
3. With your laptop or desktop computer connected to the same LAN as the FS2 and DHCP enabled, type the IP address you noted on the FS2's display into the browser address field and press Enter. You should now see the FS2's browser Status screen.

If the FS2 cannot get an address from the network DHCP server, the FS2 will automatically use a preset factory static IP address of 192.168.0.2. You can access the FS2 using the default static address as follows:

1. Set your computer's IP address to whatever address you prefer in the 192.168.0 (class C) network.
2. Set the computer's Subnet mask to 255.255.255.0 (most PCs default to the proper netmask when the address is set).
3. Set the gateway address, if used, to match the FS2 default: 192.168.0.1. Alternatively, change the FS2 gateway address to match your gateway:
  - A. Press CONFIG, turn SELECT to 2.4 Default Gateway, push and then turn ADJUST to change the first group of digits.
  - B. Turn SELECT to advance to the next set of numbers, and turn ADJUST to set these numbers.
  - C. Continue using SELECT and ADJUST to set the full address.
  - D. When finished, push ADJUST momentarily to save the address.
5. Run a browser on the computer and type "192.168.0.2" (the factory static IP address). You should now see the FS2's browser status screen.

## Networking the FS2 Using Your Own Static IP

---

If you don't want to use DHCP or the default static IP address, you can set your own static IP address:

1. Select the CONFIG button and use the SELECT knob to navigate to parameter 2.1 IP CONFIG. Use the ADJUST knob to select Static.
2. Turn SELECT to navigate to parameter 2.2 IP ADDRESS. The display shows the default static IP address: 192.168.0.2.
3. Change the IP address as follows.
  - A. Push the ADJUST knob momentarily so that the first octet (set of numbers) blinks, and then turn ADJUST to change the numbers.
  - B. Turn SELECT to advance to the next set of numbers, and turn ADJUST to set these numbers.
  - C. Continue using SELECT and ADJUST to set the full address.
  - D. When finished, push ADJUST momentarily to save the address.
5. Turn SELECT to advance to 2.3 Subnet Mask. Use the SELECT and ADJUST knobs as in the previous step to set the desired subnet mask.
6. Turn SELECT to advance to 2.4 Default Gateway. Use the SELECT and ADJUST knobs as in the previous step to set the desired gateway address.
7. Run a browser on the computer and type in the IP address you set for the FS2. You should now see the FS2's Status screen.

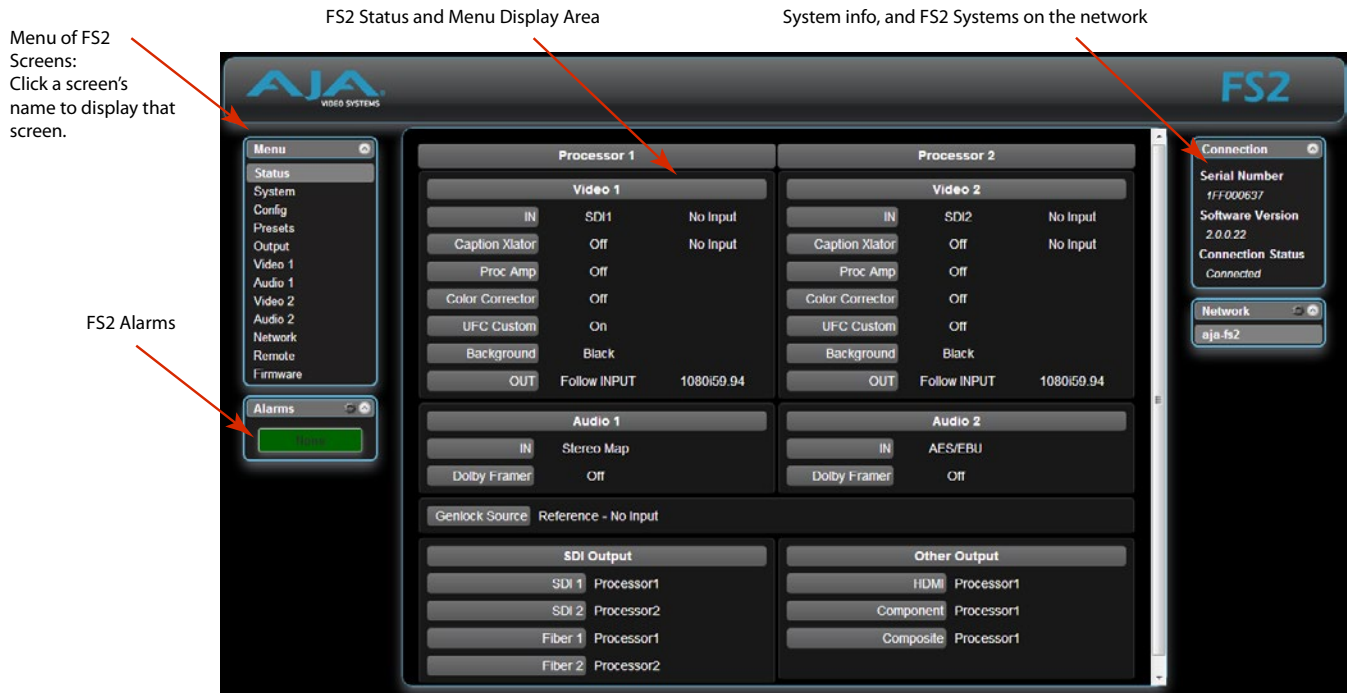
## Web Browser Menu Summary

---

*Figure 4 on page 7* summarizes web browser menu operation. The settings generally correspond to the front panel display parameters, providing you

two methods of controlling the FS2. To see the equivalent front panel display parameter number, hover the cursor over a setting.

Figure 3. FS2 Web Interface, Main Status Screen



## FS2 Signal Processing Example

### Sidebar Video

The following workflow shows how to create sidebar edges filled with video.

#### Setup

- SDI 1 Input feeds Processor 1 foreground.

Use an SD 525 input on SDI 1; it will be upconverted to 1080i59.

- SDI 2 Input feeds Processor 2, which will provide Processor 1 background.

Use an HD input signal in SDI2.

- Processor 1 feeds SDI1 Output (center video with sidebar video).
- Processor 2 feeds SDI2 Output (showing the sidebar video signal alone).

The parameter settings are:

- Video 1 Input set to SDI 1.
- Output Format set to 1080i59.94.
- Video Output Mode set to Normal.
- Upconvert Mode set to 4x3 Pillar.
- Custom Size/Pos set to Off.
- Background Fill set to Video 2.

## Procedure

---

1. Press the Video 1 button.
  - Select 1 Video 1 Input, and adjust to SDI 1.
  - Select 2 Output Format, and adjust to 1080i59.94.
  - Select 3 Video Output Mode, and adjust to Normal.
  - Select 6 Upconvert Mode, and adjust to 4x3 Pillar.
  - Select 4 Background Fill, and adjust sidebar video to Video 2.
  - Select 9 Sidebar Edge, and adjust sidebar position as you prefer.
  - Select 13.0 Custom Size/Pos, and adjust to Off.
2. Press the Video 2 button.
  - Select 1 Video 2 Input and adjust to SDI2.
  - Select 2 Output Format and adjust to 1080i59.94.

*Figure 4. Sidebar Video Result*

