



FS-Mini

The FS-Mini is a broadcast quality utility frame sync that packs the production-proven reliability of AJA's leading FS frame sync technology into a portable Mini-Converter supporting frame synchronization of untimed 3G-SDI, HD, and SD video signals at an affordable price.

FS-Mini allows users to synchronize and convert a wide range of video formats to their house standard with a 3G-SDI input and output, HDMI output, and a 2-channel RCA style audio output. The FS-Mini also provides high quality up, down, cross-conversion.

The device also features a reference input that can be used to lock to a local reference. It can be simply controlled via local DIP switches or USB with AJA's Mini-Config application.

<https://www.aja.com/products/fs-mini>

Video Formats

- (HD) 1920 x 1080p
- (HD) 1920 x 1080PsF
- (HD) 1920 x 1080i
- (HD) 1280 x 720p
- (SD) 625i
- (SD) 525i
- YCbCr, 4:2:2, 10-bit

Video Input Digital

- 1x 3G-SDI input, 1x BNC
- 3G/HD/SD, SMPTE-259/292/424
 - Single Link 3G-SDI Level A, SMPTE-425-1
- (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080i 50, 59.94, 60
- (HD) 1280 x 720p 50, 59.94, 60
- (SD) 625i 50
- (SD) 525i 59.94

Video Output Digital

- 1x 3G-SDI outputs, 1x BNC
- 3G/HD/SD, SMPTE-259/292/424
 - Single Link 3G-SDI Level A, SMPTE-425-1
- (HD) 1080p 23.98 (for 23.98 video inputs)
- (HD) 1080p 24 (for 24 video inputs)
- (HD) 1080p 25 (for 50 video inputs)
- (HD) 1080p 29.97 (for 59.94 video inputs)
- (HD) 1080p 30 (for 60 video inputs)
- (HD) 1080p 50 (for 50 video inputs)
- (HD) 1080p 59.94 (for 23.98, 59.94 video inputs)
- (HD) 1080p 60 (for 24, 30 or 60 video inputs)

- (HD) 1080PsF 23.98 (for 23.98 video inputs)
- (HD) 1080PsF 24 (for 24 video inputs)
- (HD) 1080PsF 25 (for 50 video inputs)
- (HD) 1080PsF 29.97 (for 59.94 video inputs)
- (HD) 1080PsF 30 (for 30 or 60 video inputs)
- (HD) 1080i 59.94 (for 23.98, or 59.94 video inputs)
- (HD) 1080i 60 (for 24, 30, or 60 video inputs)
- (HD) 1080i 50 (for 25 or 50 video inputs)
- (HD) 720p 50 (for 50 video inputs)
- (HD) 720p 59.94 (for 23.98, 59.94 video inputs)
- (HD) 720p 60 (for 24, 30, or 60 video inputs)
- (SD) 625i 50 (for 25 or 50 fps video inputs)
- (SD) 525i 59.94 (for 23.98 or 59.94 video inputs)

Monitor Output Digital

- 1x HDMI standard type A connector
 - HD/SD
 - Color space, YCbCr or RGB
 - Bit depth, 8 or 10
 - RGB Range, SMPTE or Full Range

Video Processing

- Frame rate conversion/film cadence removal/insertion (3:2)
- Freeze (on input signal loss) to black or last good frame
- AFD input detection, down-convert control
- Nominal video delay HD/SD, 1 frame

Up-Conversion

- Hardware 10-bit
- 4x3 Pillar: results in a 4x3 image at center screen with black sidebars
- 14x9 Pillar: results in a 4x3 image zoomed slightly to fill a 14x9 image with black side bars
- Full Screen: results in a 4x3 image stretched horizontally to fill in a 16x9

screen

- Letterbox to Full: results in image zoomed to fill fullscreen
- Wide Zoom: results in a combination of zoom and horizontal stretch to fill a 16x9 screen; this setting will introduce a small aspect ratio change

Down-Conversion

- Hardware 10-bit
- Crop: image is cropped to fit new screen size
- Anamorphic: HD image is converted to full-screen SD with a 16x9 aspect ratio
- 14x9: image is reduced slightly with aspect ratio preserved, black is added top and bottom, and the left and right sides are cropped
- Auto AFD: automatically selects the best down-convert mode based on the input video's Active Format Description (AFD) code
- Letterbox: image is reduced with black top and bottom added to image area with the aspect ratio preserved

Cross-Conversion

- Hardware 10-bit
- 1080i to 720p
- 720p to 1080i
- 720p to 1080PsF

Aspect Ratio Conversion for SD to SD

- Letterbox: transforms SD anamorphic material to a letterboxed image
- H Crop: produces a horizontally stretched effect on the image; transforms anamorphic SD to full frame
- SD Pillarbox: produces an image in the center of the screen with black borders on the left and right sides and an anamorphized image in the center
- V Crop: transforms SD letterbox material to an anamorphic image
- 14x9: anamorphic to 14x9 conversion

Audio Input Digital

- 48 kHz sample rate
- 1x SDI embedded input
 - 16-channels, 24-bit (20-bit SD), SMPTE-272/29

Audio Output Digital

- 48 kHz sample rate
- 1x SDI embedded output
 - 16-channels, 24-bit (20-bit SD), SMPTE-272/299

Audio I/O

- 16-channel embedded SDI audio input
- 16-channel embedded SDI audio output
- 2 or 8-channel HDMI audio output
- 2x RCA style analog outputs at -10 dBu (nominal)

Ancillary Data

- Supports pass-through of PCM embedded audio
- Supports pass-through of non-PCM audio when source is in time with the selected ref (SDI In or Ext Ref). Non-PCM audio is not supported during frame sync operation.
- All other ANC data is not passed

Reference Input

- External, 1x BNC
- Blackburst or tri-level sync

- 75-ohms terminating

Genlock

- Lock to External Reference
- Lock to SDI input
- Free run

HDCP

- The FS-Mini does not encode the HDMI output with HDCP encryption. By definition, HD-SDI inputs to the FS-Mini are unencrypted. The HDMI specification requires HDMI monitors to support unencrypted inputs.

User Interface

- USB port used with supplied cable and Mini-Config software application to configure device via PC or Mac
- External DIP switches

Size (w x d x h)

- 5.8" x 3.1" x 1.0" (147.32 x 78.74 x 25.4 mm)

Weight

- 0.7 lb (0.3 kg)

Power

- +5VDC Regulated, 9 Watts, Power Supply Required (included with purchase)

Environment

- Safe Operating Temperature Range: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)