



# 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

- (2K) 2048 x 1080P
- (2K) 2048 x 1080PsF
- (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
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- (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)
- Loss of input management: Freeze, Black, or Mute
- 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

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- 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

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

## Aspect Ratio Conversion for

### SD to SD

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- 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

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

## Audio Output Digital

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

## Audio I/O

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- 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)

## Reference Input

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- External, 1x BNC
- Blackburst or tri-level sync
- 75-ohms terminating

## Genlock

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

## HDCP

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- 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

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- 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)

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

## Weight

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- 0.7 lb (0.3 kg)

## Power

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

## Environment

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- 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)