AJA FS4 Release Notes - v3.0.2

Firmware for FS4

Introduction

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FS4 v3.0.2 firmware is a maintenance release that supports an updated version of FS4 hardware. This firmware is backwards compatible with previous hardware. There is no performance difference between hardware versions.

Be sure to consult the Installation and Operation Guide (user manual) for detailed information about features and configuration guidelines. The most current documentation can always be found on FS4's Support Page.

Fixes, Changes and Improvements in v3.0.2

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● Adds support for an updated version of FS4 hardware.

Fixes, Changes and Improvements in Prior Releases

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v3.0
● Increased configurable Frame Delay (frame buffer) depth to support delays of up to 20 frames.
● New Enhanced Single Channel Mode (ESC) offers simultaneous 4K/UltraHD and 2K/HD outputs where the 2K/HD monitor output can have its own unique down-conversion applied.
● New HDR workflow support:
    a. Override VPID for configurable SDI output HDR VPID settings
    b. Override VPID for configurable SDI Monitor output HDR VPID settings
    c. Improved usability of Web UI Status page:
        i. Displays source colorimetry and transfer characteristic in Video Input Status.
        ii. In Enhanced Single Channel Mode, added display of configurable Monitor Output format.
    d. New HDR Test Patterns
● New/Enhanced Ancillary data management:
    a. New ability to automatically pass-through SCTE-104 packets for a wide range of formats and conversions.

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b. New Timecode Xlator to pass-through or translate Ancillary Timecode (ATC) packets for a wide range of formats and conversions.
   i. Supports LTC, VITC1, or VITC2
● Expanded set of conversions that support pass-through of Closed Captioning ancillary data.
● Added ability to remotely reboot FS4 from the Web UI
● Improved ancillary data management to pass-thru embedded ARRI camera metadata
● Improved Maintain A/V Sync by fixing an issue with embedding MADI audio.
● Fixed numerous Test Signal Generator bugs
● Note: FS4 presets are forward compatible with v3.0 firmware, but v3.0 presets are not backward compatible with previous firmware versions.

v2.0.2
● Fixes an issue that may occur when operating in Single Channel Mode and processing a 4K/UHD input and output that disrupts the main video outputs.

v2.0.1
● Expands set of conversions that support pass-through of Closed Captioning ancillary data.
● Fixes issue with Maintain A/V Sync when embedding MADI audio.

v2.0.0

● 1080i Output Filter control improves down-converted image quality to 1080i output.
● Maintain A/V Sync couples video and audio delay controls to maintain audio-sync when adjusting Video
● Timing
● Audio Delay now displayed in milliseconds and audio samples
● Processor channel names can now be edited for easier identification
● Improved channel-to-channel timing relationship for high frame rate (HFR) video formats
● Improved ancillary data support by passing HANC and VANC packets when input and output video formats and frame rates match, i.e. no format or frame rate conversion.
● Fixed a v1.3 bug for Freeze or Black on loss of input signal. This bug can cause video artifacts when operating in Single Channel mode and using a 4K/UltraHDp25/50 signal.
● Fixed v1.3 bug for low frame rate PsF video format (input and output).
● Fixed incorrect SDI Monitor output VPIDs in Single Channel mode with 4K/UHD output.
● Fixed a bug where output could be offset by ± 3 lines with respect to reference

v1.3
● Added PsF support for 4K/UltraHD formats
● Video output is improved when down-converting to 625i or 525i.
● Video output is improved for motion when converting from progressive to interlaced formats
● Video output is improved to remove possible artifacts when downscaling 1080p progressive to lower resolutions.
● Enabled Frame Delay operation when in single channel mode for 4K/UltraHD formats.
● Fixed Frame Delay operation for 2K/HD/SD operation formats when set to greater than 4 frames of delay.

- Fixed 12G-SDI and 6G-SDI output formatting to include Sync Bit Insertion and placing VPID in both virtual data streams.
- Enabled HDMI Monitor output 2K to HD Crop function.
- Fixed UltraHD to 4K pillar bar Fill function to use black rather than superblack for fill.
- Fixed audio channel status bits on unused SDI input embedded audio channels.
- The Hidden Menu control has been removed. This function is used for menu development and debugging purposes and can be confusing for normal operation.

Updating FS4 Firmware

Although the FS4 comes from the factory pre-installed with the latest firmware as of the time of manufacture, it may be necessary to re-flash the factory firmware or update to new firmware that has been posted on our AJA website. The following topics in these notes describe the steps required to upgrade the firmware in your AJA FS4.

Download the Latest Firmware:
- Current and past releases of FS4 firmware are available on AJA's website.
  - To get the firmware, point your browser to: https://www.aja.com/en/products/fs4#support.
- Once you see the update page, FS4 firmware files can be selected for downloading to your Mac or PC for upgrading your local machine.

Unpacking the Firmware

The firmware update files are "ZIP" files, which you can open with a number of standard and third party uncompressor applications. The firmware image that you'll install on the FS4 is a file with a name like FS4_ver_1.0.0.0.bin or similar. Depending on your Mac or Windows operating system settings, the ".bin" extension may not be visible to you in a file directory.

Uploading and Installing the Firmware to the FS4:

Uploading and installing the firmware update only requires a Mac or Windows computer that can "see" the FS4 via its Ethernet connection. Follow this procedure to install the firmware:

1. Point your browser at the FS4's upgrade page by clicking on the "Firmware" menu link at the bottom of the navigation box on the left-hand side of any FS4 web page. The FS4 web pages are discussed in the FS4 User Manual.
2. Click the "Browse..." button to select the file you previously downloaded.

3. After you have selected a valid FS4 image file, click the "OK" button in the "Upload Firmware" prompt. The file you select will upload to the FS4 and be tested for validity. Incomplete, corrupted, or non-FS4 firmware files are rejected.
4. Click "Commit Uploaded Firmware" on the FS4 Update Firmware web page after the upload is finished.
5. Wait for the procedure to complete. When done, the FS4 Update Firmware web page will prompt you to restart your FS4. Click the "Restart FS4 with New Firmware" button to begin the restart. Restart progress is shown on the front panel of the FS4 only. After the restart completes, the FS4 front panel "Status" menu is displayed, and the FS4 will be running the new firmware.
6. Once these steps are complete, the FS4 will be running the firmware you just uploaded until the next time you upgrade it. The configuration of the FS4 prior to the upgrade will be preserved. Ensure the new firmware is running by bringing up the FS4 web page again; the firmware version is displayed at the top of all FS4 web screens. If for some rare reason it didn't update, you can then run through the update steps again.

Important Note: If there is a power outage or glitch during the firmware download, the FS4 will boot the older version and the upgrade process can then be re-started by the user. This happens because the FS4 has been designed with a safety feature where an internal "safe" copy of the previous firmware is retained in the event of any error in the updating.

Technical Support

AJA Technical Support is free and available to help you answer questions or resolve issues with any of your AJA products.

To contact AJA Technical Support:

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