

## ALEXA Mini SUP 5.2 /5.1 /5.0

Software Update Package SUP 5.2.17, 5.1.7, 5.0.26

RELEASE NOTES

Date: December 11<sup>th</sup>, 2017



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## A. Introduction

We are proud to announce the release of ALEXA Mini Software Update Package 5.2. This version expands functions for the ALEXA Mini as indicated below.

**SUP 5.2 includes important bug fixes and improvements and we strongly recommend installing this update at your earliest convenience.**

We highly recommend that you take your time to go through these release notes and the known issues section of this document before you start using the camera.

If you have not done so already, please make sure to register your ALEXA Mini using our online customer registration. Your registration ensures that you receive information about future software updates as soon as they are available. You can find the registration [here](#).

For more information, please visit [www.arri.com/alexamini](http://www.arri.com/alexamini).

For a listing of answers to frequently asked questions please visit the [ALEXA Mini FAQs](#).

If you have questions or feedback regarding ALEXA Mini please feel free to [contact us](#).

### Overview of Features Introduced with SUP 5.2

- **Support of SanDisk Extreme PRO CFast 2.0 128GB** (SDCFSP-128G-xxxD)
- **Support of SanDisk Extreme PRO CFast 2.0 256GB** (SDCFSP-256G-xxxD)
- **Support of SanDisk Extreme PRO CFast 2.0 512GB** (K2.0016648)
- **False Color Mode**  
Configure false color to show exposure levels based on monitoring processing or based on Log C
- **EVF Gamma Option**  
Choose between gamma options *Standard* (SUP4) and *Lifted* (SUP5)
- **User Buttons for Audio Gain Control**  
User buttons (increase/decrease) to control audio gain of audio channel 1 or audio channels 1+2 simultaneously
- **Green Tally for Multicam Mode**  
Support of green tally command via telnet or Camera Access Protocol (CAP)

### Overview of Features Introduced with SUP 5.1

SUP 5.1 is a maintenance release of SUP 5.0 and does not contain new features.

### Overview of Features Introduced with SUP 5.0

- **ARRI Look Library:**  
An extensive collection of 87 high quality looks
- **Look Files for HDR Workflows**  
2 pre-installed look files for PQ and HLG monitoring
- **EXT Sync**  
Sensor and settings synchronization of up to 16 ALEXA Mini cameras for VFX plates, VR rigs and other multi-camera applications
- **ARRI Master Grips Support**  
3-axis control of ENG lenses (with AMIRA PL mount), focus and iris control of EF mount lenses, Master Grips specific user buttons
- **1.3x Anamorphic Desqueeze in Preview:**  
Support for 1.3x anamorphic lenses
- **Multicam Features**  
Various improvements based on user feedback
- **Camera Access Protocol (CAP)**  
Control of look parameters through an IP based API

- **WCU-4 Enhancements**  
Wireless transfer of lens files to camera, playback control and loading of in-camera user setups
- **ECS Improvements**  
LBUS device update via camera, auto detection of motor gear teeth count, option to deactivate the lens mount
- **Improved Timecode Handling**  
Addition of jam sync mode and free run timecode recovery after shooting off-speed
- **Extended Support for EF Lenses**  
Support for a wider set of EF lenses, focus and iris control, support of built-in image stabilizers
- **Advanced User Setup Handling**  
Store multiple user setups in camera with parameter blocks
- **WiFi Infrastructure Mode**  
Connect the camera to a production network
- **Monitoring and Display Improvements**  
ARRI Look Files V2 to support Rec 2020 color space, Dual 422 3G UHD, Dual 422 6G UHD, Level A/B support for 3G, Playback and user setup control for Starlite HD5-ARRI, Playback shuttle speed up to 512x
- **Miscellaneous Improvements**  
Simplified Chinese UI, electronic horizon overlay for EVF and SDI, UDM-1 overlay for EVF and SDI, frame grabs while recording or playback, option to switch off OLED of MVF-1, user buttons for list based settings

#### Changes to SUP 4.1 and Previous Versions

- In the look configuration *LOOK > CONFIG*, the setting “Gamma” has been renamed to “Processing”.
- The iris control for EF lenses has been changed from 1/8 to 1/4 steps.

#### Update Information

Cameras should always run the latest SUP so you can benefit from the latest improvements, features and bug fixes. However, we do not recommend installing a new SUP in the middle of a production.

Detailed instructions for the update process can be found at the end of this document.

SUP 5.2/5.1/5.0 contains updates for all components, including the viewfinder. The update may take significantly longer than previous updates. The viewfinder will switch off in the process and doesn't give a visual feedback of the update all the time. Make sure not to power off the camera during firmware update.

#### Downgrading

Downgrading to SUP 4.x is only possible once in a row. SUP 5 includes hardware related updates that do not allow installing SUP 4 a second time. If you have downgraded to SUP 4 and for some reason the installation could not be completed, you need to install SUP 5 again before you can downgrade and install SUP 4 again.

For a downgrade to a previous SUP version, the license file of the installed and of the previous version (*amira\_fw\_update\_aes\_x.x.x.lic*) need to be available on the USB memory stick under */ARRI/A-MINI/LICENSES/*.

#### Additional Software

ARRI recommends updating ARRIRAW Converter (ARC) version 3.4.5 or lower to version 3.5 or higher when used with SUP 5.2/5.1/5.0 files, especially when using user pixel maps and when HDR looks are used for the project color management. The new HDR color spaces, Rec-2100 PQ and Rec-2100 HLG, are incorrectly interpreted as REC 709 in previous ARC versions. This can lead to incorrect image color processing and color space metadata in the exported rendered files.

## B. New Features in SUP 5.2

### Enhanced CFast 2.0 Card Support

SUP 5.2 adds support of SanDisk Extreme Pro CFast 2.0 cards 128GB (Rev. D), 256GB (Rev. D) and 512GB. With SUP 5.2, following cards are supported in the ALEXA Mini:

<input type="checkbox"/>	SanDisk Extreme Pro CFast 2.0	120GB (SDCFSP-120G)
<input type="checkbox"/>	SanDisk Extreme Pro CFast 2.0	128GB (SDCFSP-128G-xxxA/B)
<input type="checkbox"/>	SanDisk Extreme Pro CFast 2.0	128GB (SDCFSP-128G-xxxD)
<input type="checkbox"/>	SanDisk Extreme Pro CFast 2.0	256GB (SDCFSP-256G-xxxD)
<input type="checkbox"/>	SanDisk Extreme Pro CFast 2.0	512GB (K2.0016648)*
<input type="checkbox"/>	Lexar Professional 3600x CFast 2.0	128GB (LC128Cxxxx3600)
<input type="checkbox"/>	Lexar Professional 3600x CFast 2.0	256GB (LC256Cxxxx3600)
<input type="checkbox"/>	Lexar Professional 3600x CFast 2.0	256GB (LC256Cxxxx3600 G2)

\* SanDisk Extreme Pro CFast 2.0 512GB card with custom ARRI firmware will be available in 2018.

### False Color Mode

The result of activating false color can now be varied with a choice in the EXPOSURE TOOLS menu to either *Log C-based* or *Monitoring-based*. This choice is global and will be valid for all monitoring outputs. The default setting is *Monitoring-based*, and the setting is saved in user setup parameter block *User*.

When choosing *Monitoring-based* false color and false color is activated, false color is calculated based on the video signal of the respective monitoring output. In other words, whatever is seen on the image path is the basis for calculating false color. This is the same behaviour as in ALEXA Mini SUPs up to version 5.1.

If you have the SDI output or the viewfinder configured to show Log C, false color levels are calculated based on the Log C signal.

If you have the SDI output or the viewfinder configured to LOOK or ALEXA Classic 709, false color levels will be calculated based on the image with the look applied or the ALEXA Classic 709 image respectively.

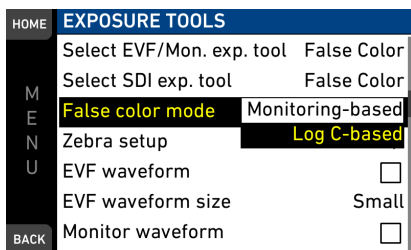
*Monitoring-based* false color makes most sense when baking a look file into the recorded image. It allows you to monitor the exposure levels of the signal you are recording. Using *Log C-based* false color makes no sense in this case, as you are not recording the Log C signal and will therefore not have the Log C image available in post.

When choosing *Log C-based* false color, false color is always calculated based on the Log C image.

When false color is activated, the respective monitoring output is switched to Log C, false color levels are calculated based on the Log C signal and false color is activated. When de-activating false color, the image path is switched back to its previous processing and false color is deactivated.

This setting makes most sense for projects recording Log C images, which is the majority of projects shot with ALEXA Mini cameras. While your monitoring image paths can be set to show Rec 709 or a look to provide a preview for all, you will want to know the exposure levels of the signal you are actually recording (Log C) when using false color.

*Log C-based* false color mode is mandatory when using an HDR ALF-2 file.

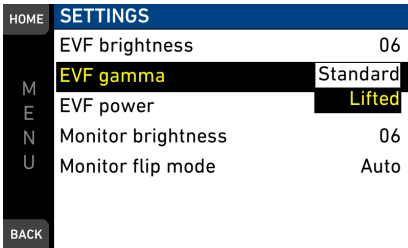


MENU > Monitoring > Exposure Tools > False color mode

Note: When a HDR ALF-2 look file is loaded and activated in the camera, false color mode automatically switches to *Log C-based*. This is because HDR look files do not generate video signals over 75%, which means that overexposure might not be indicated correctly in *Monitoring-based* false color mode.

### EVF Gamma Option

Choose between EVF gamma settings *Standard* and *Lifted*. *Standard* equals the EVF gamma of up to SUP 4.1 while the setting *Lifted* uses a 1.3x increased gamma as introduced with SUP 5.0 for e.g. better control of lighting in dark areas. The default setting is *Lifted*, and the setting is saved in user setup parameter block *User*.

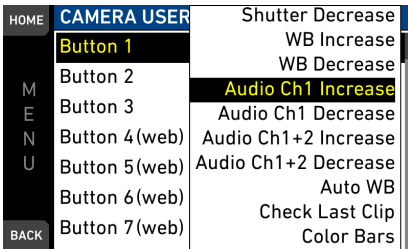


MENU > Monitoring > EVF/Mon. > Settings > EVF gamma

### User Buttons for Audio Gain Control

Increase and decrease of audio gain of audio channel 1 or of audio channels 1+2 simultaneously in 1dB steps. Corresponding channel control needs to be set to either *Manual* or *Manual (+L)*. With channel control set to *Auto* the user buttons are non-functional.

Note: when increasing or decreasing audio gain of channels 1+2 simultaneously and one channel reaches the upper or lower gain limit, the user buttons will remain active and continue to change the gain of the other channel respectively.



MENU > User Buttons >

### Green Tally for Multicam Mode

Support of green tally command via telnet or Camera Access Protocol (CAP) for Multicam mode. With green tally enabled, a green tally overlay is displayed in the viewfinder, on the viewfinder monitor and on SDI processed outputs. Please refer to the user manual and the [Multicam White Paper](#) for further information.

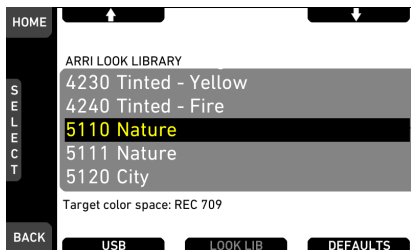
## C. New Features in SUP 5.1

SUP 5.1 is a maintenance release of SUP 5.0 and does not contain new features.

## D. New Features in SUP 5.0

### ARRI Look Library

ARRI is introducing an exciting new way to implement high-quality looks. The ARRI Look Library puts on-set look management within the reach of all productions, not just those with the time and budget to develop bespoke looks prior to shooting. Offering 87 looks in three intensities each, the ARRI Look Library caters to a huge variety of different shooting scenarios. The looks are numbered within nine themed groups: application, black-and-white, contrast, environment, film, period, season, special, and tinted. All ALEXA Mini and AMIRA Premium cameras shipped from May 1 2017, will have the look library included, for cameras shipped prior to May 2017 a license key can be purchased in the [ARRI licence shop](#) to unlock the library. Visit the [Look Library website](#) for further information.

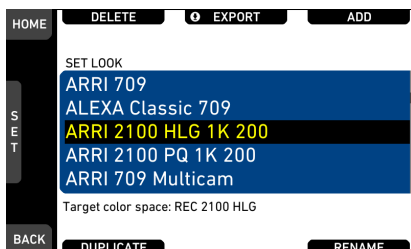


HOME > LOOK > EDIT > ADD > LOOK LIB

### New HDR Look Files

ARRI 2100 PQ 1K 200: Renders an image for a PQ (SMPTE 2084, ITU-R BT.2100) monitor. The maximum luminance is 1000 cd/m<sup>2</sup>, which is a PQ level of 75%. The diffuse scene white (2.5 stops above the grey card) will appear with a luminance of 200 cd/m<sup>2</sup>. ARRI 2100 HLG 1K 200: Renders an image for a HLG (Hybrid Log Gamma, ITU-R BT.2100) monitor. It is assumed that the monitor has maximum luminance of 1000 cd/m<sup>2</sup>. In this case, the image will look the same as when the PQ look is used with a PQ monitor. Please check the ARRI website for more HDR looks.

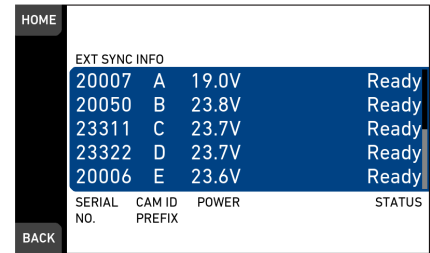
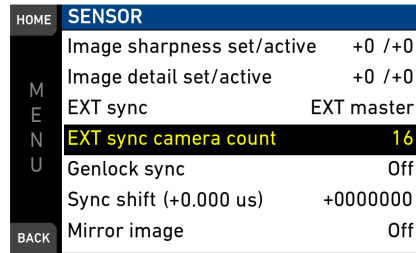
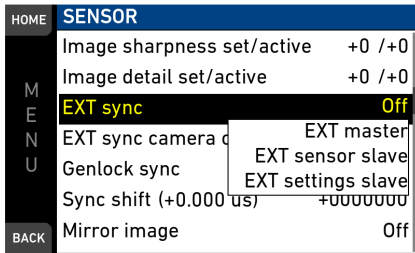
Please note: when using HDR look files, we recommend to record in Log C and not to burn in the HDR look into the image, in order to maintain all technical and artistic options for post production.



HOME > LOOK > EDIT

### EXT Sync

The EXT Sync function allows the sensors and operational parameters of up to 15 ALEXA Mini cameras to be synchronized to a master ALEXA Mini. Slaves can assume parameters like the frame rate, shutter angle, or ND setup of the master camera, which also provides a status summary of all cameras. Facilitated by new MINI-EXT-sync cables (K2.0009051) and EDB-2 distribution boxes (K2.00013145), EXT Sync simplifies the configuration and control of multi-camera 3D, VR and VFX applications in a way that permits the entire multi-camera setup to be operated as if it was one single camera.



MENU > Sensor > EXT sync

MENU > Sensor > EXT sync camera count

HOME > i > EXT sync info

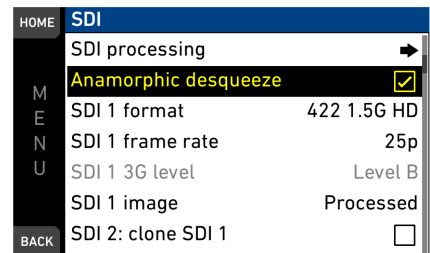
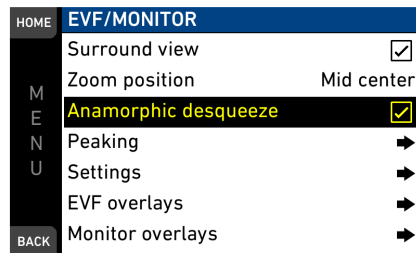
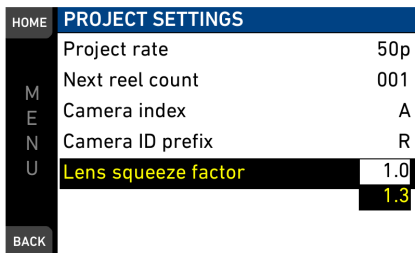
### ARRI Master Grips Support



Support for the ARRI Master Grips has been extended, with 3-axis control of ENG lenses and the option to configure Master Grip user buttons. The ability to adjust focus and iris of EF mount lenses using Master Grips opens up a very interesting package solution for documentary and handheld operators, who prefer smaller EF lenses due to their weight and cost.

### 1.3x Anamorphic Desqueeze in Preview

Support for 1.3x anamorphic lenses includes 1.3x de-squeeze for MVF-1, CCP-1 and SDI outs in 1.5G and 3G. This option is available in 3.2K and 4K UHD recording formats. It offers perfect solutions for either 16x9 anamorphic projects recording in 16:9 3.2K (3200 x 1800) transferred to 2.39:1 4K (4096 x 1716) in post, or for 4:3 (2880 x 2160) recording transferred to 16:9 UHD (3840 x 2160) in post.



MENU > Recording > Project settings > Lens squeeze factor

MENU > Monitoring > EVF/Monitor > Anamorphic desqueeze

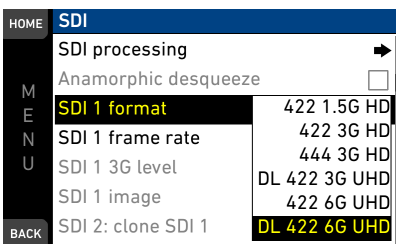
MENU > Monitoring > SDI > Anamorphic desqueeze

### Multicam Features

New Multicam features being introduced with SUP 5.0:

Dual 6G UHD-SDI support, which improves the camera's SDI output data rate sufficiently to allow external 4K UHD recording at frame rates up to 60 fps.

Creative looks based on 3D LUTs can be loaded into ALEXA Mini and used in Multicam mode. An individual look for a production can be created in advance and loaded to the cameras, while the image parameters can still be fine-tuned with the RCP, just as in a standard workflow. EF lens support for RCP iris control.

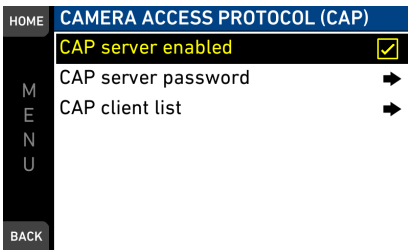


MENU > Monitoring > SDI > SDI 1/2 format



## Camera Access Protocol (CAP)

The Camera Access Protocol allows for modification of look parameters through an IP based API (Ethernet and WiFi). For more information please contact the [ARRI partner program](#).



MENU > SYSTEM > Camera access protocol

## WCU-4 Enhancements

Previously, lens files of lenses mapped for use with the ARRI Lens Data System had to be manually transferred to the ALEXA Mini via a USB stick. Now, users can select a lens file stored on the SD card in their WCU-4 and – using just the hand unit – wirelessly transmit the file to the ALEXA Mini, saving time and effort. Wireless lens file transfer is also useful in situations when setup times are short and the camera becomes inaccessible straight after a lens change, for example when rigged on a crane or car mount. The AC can mount the lens and then do the rest of the setup, from lens calibration to lens files transfer, remotely. Full remote playback control is now possible from the WCU-4. This allows users to wirelessly select, play back, and shuttle through any clip from the CFast 2.0 card in the ALEXA Mini without needing direct access to the camera, which again is useful when it is rigged in a hard-to-reach location. Both this feature and the wireless transfer of lens files will be made available to other ARRI cameras with future software upgrades. User setups stored on camera can be wirelessly accessed and activated from the WCU-4, permitting ACs and drone operators to rapidly switch camera settings remotely, for example shifting from ProRes to ARRIRAW recording or activating various looks from ALEXA Mini’s internal ARRI Look Library.



## ECS Improvements

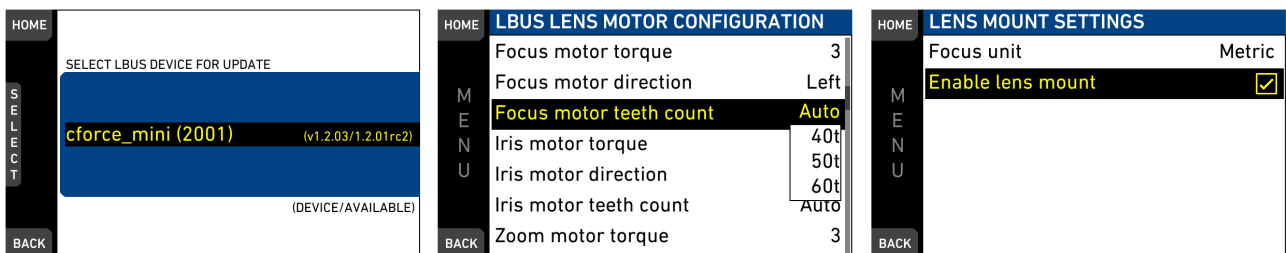
Improvements include:

Running updates of LBUS devices like cforce motors, LCUBE and Master Grips by the camera.

Auto detection of motor gear teeth count.

Lens data unit conversion in meta-data between metric and imperial.

Deactivation of LDS contacts to deal with faulty lenses or compatibility issues.



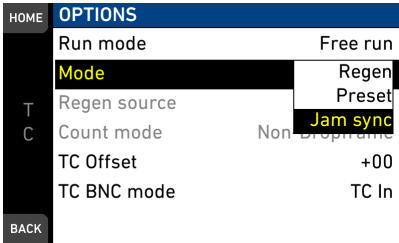
MENU > System > Update > LBUS

MENU > Electronic Control System (ECS) > LBUS Lens motor configuration

MENU > System > Lens mount settings

### Improved Timecode Handling

The new jam sync mode not just samples the timecode from an external source, additionally the camera analyses the signal and tunes it's internal oscillator to the source. This minimizes potential drift significantly. Please be aware that, different to the other (non Mini) ALEXAs, due to the analyses and tune mechanism the jam sync procedure might take up to 30 seconds. Drift of jam-synced timecode is below one frame over eight hours.



HOME > TC > OPTIONS > Mode

### Extended Support for EF Lenses

Support for EF lenses has been increased in general with SUP 5.0. A much wider range of EF lenses is now supported, including control of focus and iris, and support of built-in image stabilizers. This will be of particular interest to gimbal and drone operators, who often use EF lenses due to their lower weight and who can now make mid-flight adjustments to focus and aperture with the WCU-4.

### Advanced User Setup Handling

SUP 5.0 extends the user setup feature of the ALEXA Mini, which allows all user-defined settings to be stored in a single file. Partial settings are now possible using five parameter groups (General, Format, Scene, Lens and User), enabling more flexible and more specific control. Multiple different setups can now be stored in-camera, so an USB memory stick is only needed to transfer setups. Please refer to chapter G of this document or the ALEXA Mini manual for more details on the included parameters in the particular groups.



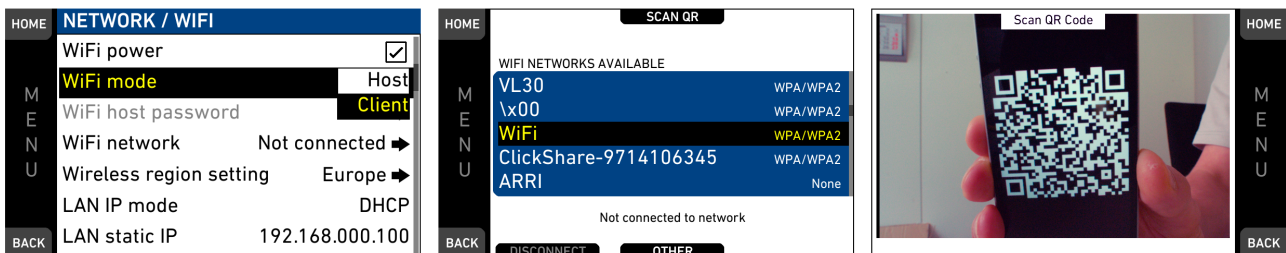
MENU > Setup > User setups installed

MENU > Setup > User setups installed > SAVE

MENU > Setup > User setups on USB > SAVE

### WiFi Infrastructure Mode

This WiFi mode allows to join a WIFI network created by an external hub for like set based network infrastructures. It allows access to multiple cameras from a single device and resolves range issues by placing repeaters close to the camera. The network can be configured with a QR code (pointing the camera to the QR code).

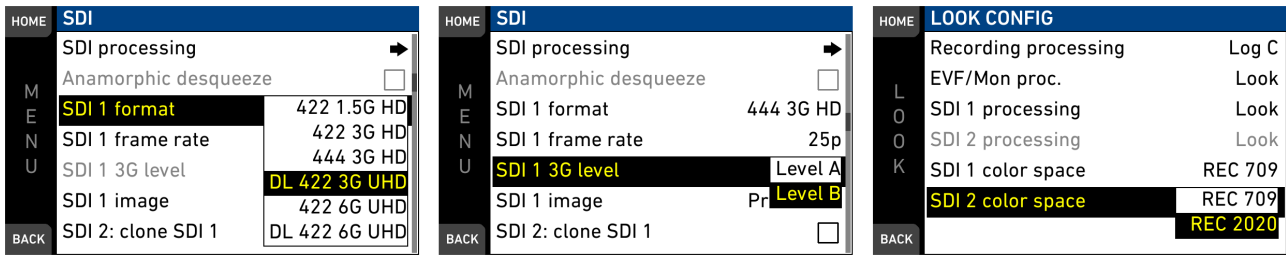


MENU > System > Network/WiFi > WiFi mode

MENU > System > Network/WiFi > WiFi network

## Monitoring and Display Improvements

SDI output support for Dual 422 3G UHD, Dual 422 6G UHD, Level A/B for 3G, ARRI Look Files V2 in Rec 2020 color space, playback and user setup control for Starlite HD5-ARRI and playback shuttle speed up to 512x



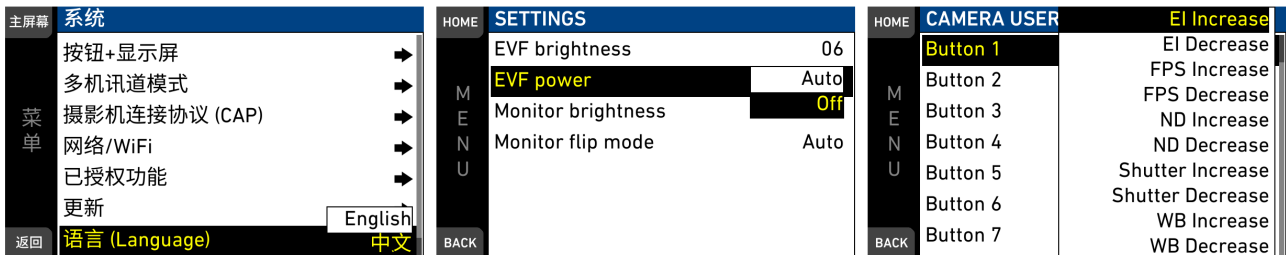
MENU > Monitoring > SDI > SDI 1/2 format

MENU > Monitoring > SDI > SDI 1/2 3G Level

HOME > LOOK > CONFIG > SDI 1/2 color space

## Miscellaneous Improvements

User interface in Simplified Chinese, frame grabs work now also from recording or playback, an option to switch off the OLED of the MVF-1 and increase/decrease user buttons for list based settings such as exposure index, sensor fps, ND filter, shutter and white balance.



MENU > System > Language

MENU > Monitoring > EVF/Monitor > Settings > EVF power

MENU > User buttons

## E. Known Issues

### Known Issues Fixed in SUP 5.2

Following known issues have been resolved in the SUP 5.2 release:

- Faulty pixel in recordings and on monitoring outputs:  
In rare occasions some cameras may introduce faulty pixel visible in the recorded footage and the monitoring outputs.
- Peaking strength in SUP5 is weaker than in SUP4
- Cooke /i imperial focus lens data reads infinity for focus distances beyond 40 feet
- Look is reset to previous active look after reboot or recording mode switch
- Multicam: when iris/focus master grips are connected to the camera, RCP loses iris control
- *Check Log C* user buttons functional in playback on clips with look burned in
- ND Filter changes while recording can produce wrong metadata in MXF/ARRIRAW clips
- When switching from timecode mode *Jam-sync* to *Regen*, the camera may not accept the incoming timecode

### Known Issues Fixed in SUP 5.1

Following known issues have been resolved in the SUP 5.1 release:

- Image artifacts in top lines of the active picture when color parameters are being changed remotely:  
Very fast modification of image parameters remotely (via RCP-1500 or Camera Access Protocol) may result in image artifacts (like dropouts) in the very upper image area.
- Image artifacts in 4K UHD recordings and monitoring outputs:  
In rare occasions some cameras may show grid or waffle image artifacts in 4K UHD recording formats.
- Multicam camera tally may not switch off when called by RCP-1500:  
When the CALL button of the RCP-1500 is pressed repeatedly in quick succession, the camera tally may lock up and remain illuminated.

### Known Issues Fixed in SUP 5.0

Following known issues have been resolved in the SUP 5.0 release:

- No SDI embedded timecode with 3G HD-SDI output on some devices
- In 4K UHD, 3.2K and S16 mode, no NTSC frame rates are supported on SDI 1 output
- 6G UHD-SDI output does not include embedded audio
- No Color Bars output with 6G SDI
- With ARRIRAW recording, no embedded audio in SDI
- In ARRIRAW 16:9 HD Ana. mode, 422 3G SDI signals are not fully functional and may be distorted
- Anamorphic desqueeze is enabled by default in Open Gate
- Viewfinder may show scaling artifacts in 3.2K recording mode
- Compatibility issues with some Sigma lenses
- Built-in EF lens image stabilizers are not supported
- Sync may get lost when switching frame rates with activated HD-SDI genlock
- Genlock sync accuracy may jitter
- Using Zebra and Aperture Peaking in combination may result in false exposure indication
- Zebra/False Color is disabled during clip playback
- Potential timecode shift after playback
- Playing back interlaced clips with project rate 59.94 or 60 may show a signal loss when pausing/playing the clip on SDI outputs
- Browsing fast through the clip list in playback may result in the wrong clip displayed in the viewfinder and SDI outputs
- Frame grab is only available in standby mode

## Known Issues in SUP 5.2

This is a list of known issues for the SUP 5.2 software package.

### Accessories

- Record Start/Stop on Canon HJ18 B4 lens

In case the start/stop function on the Canon HJ18 B4 lens is not working with the ARRI B4 Mount and connected Hirose cable, please execute a "Reset all" on the lens.

### EXT Sync

- Start recording from playback

Recording cannot be started when one or more cameras are in playback state. Please exit playback on all cameras before recording start.

- Changing SDI settings while running off sync speed

The SDI outs might not be in sync to each other anymore when SDI settings (SDI frame rate, SDI format and/or SDI image) are changed while the cameras are running off speed (sensor fps != project fps) in EXT sync mode. In this case change the sensor fps setting back and forth on the master camera to re-establish SDI out sync.

- False alerts with slave cameras connected but not yet configured

False alert states are issued when slave cameras are connected to a master camera but are not yet configured as slave camera. When setting up an EXT sync cluster, first enable all slave cameras and master last.

### Framegrab

- Framegrabs do not work during playback of interlaced S16 or HD clips when playback is paused

In order to perform a frame grab rewind, hit play and do the framegrab at the appropriate position.

- Framegrabs from ARRIRAW playback

Framegrabs taken from ARRIRAW playback may exhibit differences in pixel brightness on the edges of the frame.

### Inputs/Outputs

- SDI outputs when using timecode sync

When using a timecode signal as sync source, the SDI outputs may not be precisely in sync to the sync source. For precise SDI out sync-to-sync source please use a tri-level genlock signal.

- Monitoring in 3.2K with 1.3x anamorphic desqueeze

EVF/Monitor and SDI outputs may show scaling artifacts in 3.2K recording mode with 1.3x anamorphic desqueeze enabled. The artifacts are limited to the monitoring outputs, they do not affect the recordings.

- 1.3x anamorphic desqueeze is not available for UHD SDI output

1.3x anamorphic desqueeze is not applied to UHD SDI output 422 6G, DL 422 6G and 422 3G DL.

- Momentary image loss on SDI outputs when connecting a sync source

The SDI outputs re-synchronize when connecting a genlock or timecode source. While re-synchronizing a short image loss may occur.

- 1.3x anamorphic desqueeze is not available for EVF zoom

1.3x anamorphic desqueeze is not applied to the EVF zoom image.

- Temporary image loss on SDI outputs when configuring 6G

When changing the SDI output to 6G, or when changing the SDI output from 6G to another format, both SDI outputs may exhibit a short image loss.

- Syncing a camera to the timecode output is not possible

Syncing two cameras is not possible by connecting TC out of one camera to the TC in of the other camera. Please use an external timecode source instead.

### Media

- CFast 2.0 cards need to be erased with SUP 5.0 or higher before they can be used

Only cards that have been erased with SUP 5.0 or higher will work with SUP 5.0 or higher. Cards erased on cameras running previous SUPs have to be erased again with SUP 5.0 or higher.

- Protection against cross platform CFast 2.0 formatting issues

Only CFast 2.0 cards that have been erased on ALEXA Mini or AMIRA running SUP 4.0 (or higher) can be used for AMIRA recording. This is for protection against issues caused by different CFast 2.0 formatting schemes used by other cameras manufacturers. Please see the Known Issues section for additional information on media handling.

### Metadata

- Tilt and roll metadata not accurate

Tilt and roll values in metadata may not be accurate enough to be used for VFX applications.

### Playback

- Clips with HDR looks burned-in will not be correctly displayed on MVF and EVF

When playing back a clip that has a HDR look burned-in, it will not be correctly displayed on MVF and EVF, since both are not HDR capable and no tone mapping is applied. This is a monitoring problem only and does not affect the recorded footage. However, we generally do not recommend burning in looks when shooting HDR content.

- Nonlinear audio on SDI outputs and headphone out with project rate 59.94

Audio playback on SDI outputs and headphone out may be nonlinear when playing back ProRes clips with project rate 59.94p.

- Internal camera playback of ProRes 4444 XQ clips

In camera playback of ProRes 4444 XQ clips may show jitter or a horizontally divided frame. The recorded clip is fine.

- In Pause mode, interlaced clips only show half vertical resolution

This behavior can only be observed when playback is monitored on the SDI outputs.

- Browsing clip list with camera buttons may not update clip selection in monitor

Using the buttons on the camera body for browsing the playback clip list, may not update the selection of the clip in the clip list displayed in the viewfinder monitor.

- Interlaced clips jitter vertically when played back with SDI output not set to interlaced.

This only affects the playback in SDI, the recording is correct. Make sure to always match SDI the output configuration to the project configuration (e.g.: 60i clips to be played back with 60i SDI output).

- Activating Playback does not disable peaking

Please disable peaking manually in case you do not want peaking during playback.

### Recording

- Start recording from playback in MPEG or ARRIRAW mode

Starting a MPEG or ARRIRAW recording directly from playback can fail with error message: "Recording stopped due to FPGA failure. Please reboot camera." Please exit playback before starting to record.

- Start recording from playback

Starting a recording directly from playback may not work. In this case a second press of the record button is necessary.

- Incorrect remaining time display in interval recording

Using higher capacity CFast 2.0 cards for interval recording may cause wrong remaining time display.

- Image denoising in "STRONG" mode

The "STRONG" mode in Image denoising (available in S16 HD, 3.2K 4:3 2.8K and 4K UHD) may result in image artifacts with fast moving objects. We recommend to test this accordingly before using the "STRONG" mode.

- Power loss during record with CFast 2.0 cards

A CFast 2.0 card may need to be reformatted when it is removed during recording or in the event of a sudden power loss occurs while the camera is writing to the card. The camera will indicate the error with a warning message. Please follow the instructions in the warning to avoid damage to the card or further recordings. No action is required if no warning is displayed. Please contact ARRI service for more information or if you encounter any further issues.

- Limited scaling quality in HD-SDI outputs when recording in 2K

The resulting image quality is considered as sufficient for monitoring but may be limited for recording the signal as the master record. This is due to the downscaling of the 2K resolution to HD. Please set the recording format to HD when recording HD on the HD-SDI output as master record.

- Error message for maximum clip size

On very rare occasions, the camera may stop recording and report "Recording stopped - maximum clip size reached". This can only occur with image content that has very little detail and using a codec with low data rate like ProRes LT.

- Changing Exposure Index or White Balance during record

When changing Exposure Index or White Balance during record it is possible that a single frame contains two different image characteristics.

### SUP Update

- Time zone and daylight saving time are set to default with the SUP update

Please make sure to set Time zone and daylight saving time after the SUP update.

### Timecode

- Syncing multiple cameras using timecode

When syncing multiple cameras using timecode sync and timecode mode *Regen*, some of the recorded clips may exhibit a timecode offset of one frame with project rates above 30fps.

- Syncing the sensor via LTC timecode requires a precision timecode generator

A precision generator with low jitter is required when using an LTC timecode signal to genlock the camera. Devices that work without a problem as standard LTC timecode source may not work as LTC genlock source.

### Usability

- Motor calibration request when lens file is edited on WCU-4

When editing an active LDA lens file on WCU-4 and a LDS lens is attached, the camera issues a lens motor calibration request. In this case you have to calibrate the motors once again before editing the lens file.

- The Waveform exposure tool is silently disabled when output processing is set to ALEXA Classic 709

ALEXA Classic 709 output processing while shooting HDR content does not work with the waveform exposure tool and is silently disabled. User buttons and the EXP button on the MVF-1 viewfinder will have no effect.

- CAP server frame grab while camera is in playback

A frame grab triggered through CAP server during internal camera playback grabs a live image from the sensor instead of a playback image.

- Tilt and roll readings in status overlays

Electronic horizon overlay and tilt and roll overlay may show false readings if the camera orientation does not allow for adequate calculation of either roll or tilt value.

- Updated EF mounts not compatible with SUP 4 release

Reverting the camera software to SUP 4 does not downgrade the EF mount software. An EF mount that has been updated with SUP 5.x will not work in that case.

- Simultaneous use of timecode mode jam sync and genlock sync is not supported

When using timecode mode jam sync or when using genlock sync, the camera adjusts its internal oscillator to match the source clock. Hence using a combination of timecode mode jam sync and genlock is not supported.

- Mirror image vertical flip is not applied to frame grab

When using the mirror image setting, only the horizontal flip is applied to the frame grab.

- Anamorphic desqueeze cannot be deactivated for monitoring with some formats

Anamorphic desqueeze cannot be deactivated for monitoring with the ProRes HD Ana. and 2:39:1 2K Ana. recording formats.

- User setups created with earlier SUPs are not compatible with SUP 5.0

User setups created with SUP 4 or earlier SUPs cannot be loaded with SUP 5.2, 5.1 and 5.0.

- Starlite-HD5ARRI can change settings or trigger a recording even if UI is not displayed on screen.

If the Starlite-HD5ARRI is connected to a SDI output showing "CLEAN" output, settings may be changed without notice when touching the respective areas on the screen. Please make sure the Starlite-HD5ARRI is connected to an SDI output that is set to "PROCESSED" to see the touch interface.

- Filename length 28 characters max.

Filenames longer than 28 characters (excluding extension) cannot be loaded by the camera; they are neither seen in the corresponding lists nor can be used.

#### Viewfinder

- Daisy chaining MVF-1 and CCP-1

Before using MVF-1 daisy-chained with CCP-1, please make sure to update MVF-1 with SUP 5.x: either have (only) MVF-1 connected when updating the camera to SUP 5.x, or update MVF-1 using the component update functionality in SUP 5.

- Viewfinder may show scaling artifacts in 4:3 2.8K mode with anamorphic desqueeze

The artifacts are limited to the viewfinder monitoring; they do not affect the recordings.

- For MVF-1 up to serial number 2150 which are not upgraded to the new eyepiece

The viewfinder sometimes may not switch on as it uses a proximity sensor to activate the OLED display only while the eyepiece is in use. Approaching the MVF at an unfavorable angle may cause it not to trigger properly.

- ZOOM or SURROUND VIEW at very low frame rates

The MVF-1/MONITOR's image momentarily fades when either zoom or surround view get activated or de-activated at very low frame rates (below 5 fps).



## F. Update Procedure

### Download and Registration Process

You can find the Software Update Package (SUP) in the ALEXA Mini [download section](#). You need to register your ALEXA Mini camera with your camera serial number to access the Software Update Package (SUP) download. Existing ALEXA customers with an active account for the download section can use this account, unless otherwise requested. A SUP can be installed on the camera by using a USB stick as described in detail below.

### How to download a Software Update Package

- If you have not registered yet, please go to the ALEXA Mini [download section](#) and scroll to the 'ALEXA Mini Software Update Package x.x' section (where 'x.x' is the version number of the desired Software Update Package). Click 'Please -> register to get an account.' The ALEXA Mini customer registration page will be opened.
- Fill in the requested data and make sure to put in the serial number(s) of your camera(s) in the format of K1.0003873-xxxxx. Don't forget to agree to the registration terms at the end of the page.
- When you hit the 'Create Account' button, the system will send you a confirmation email with a link to activate your account. After following the link, a welcome email is sent containing the login credentials. Please [login](#) and navigate to the download section again.
- When accessing the software package download, you will be asked to agree to the terms and conditions of this download. As soon as you agree to these terms the download link is released.

### Camera Update Procedure

The ALEXA Mini software is updated with a USB memory stick. The SUP will update the ALEXA Mini camera as well as the Viewfinder (MVF-1), CCP-1 and the lens mount, as long as they are connected to the camera.

- After the download, please double click the downloaded file (\*.zip) to unpack it or unpack it manually. This will place two update files (\*.SUP and \*.lic) and the SUP release notes onto your computer.
- If not done beforehand, prepare the USB memory stick for use with ALEXA Mini by connecting it to the camera: please navigate to *MENU > Media > Prepare USB medium* and press CONFIRM. This will create the required folder structure on the USB stick.
- Connect the USB stick to your computer and place the downloaded \*.SUP file in the folder ARRI/A-MINI/SUP on the USB stick.  
Then place the downloaded \*.lic file in the folder ARRI/A-MINI/LICENSES on the USB stick.
- Make sure the camera is connected to a cable power source, or is powered with a full battery to avoid power loss during the update process.
- Perform a factory reset.
- Remove CFast card from camera.
- Connect the USB stick to the camera and navigate to *MENU > System > Update*.
- Select the SUP file from the list.
- In the following message, press CONFIRM to start the installation.
- After the update process has finished, a success message is displayed.
- If you have been installing the update using the web remote make sure you clean your browser's cache, the browser may not show the web remote of the new software correctly otherwise.
- Make sure you set the correct time zone in the System Time configuration.
- The MVF-1 and the lens mount(s) need to be attached to the camera. SUPs not only contain updates for the camera body but also for EVF and lens mount. To ensure flawless performance, please make sure your MVF-1, CCP-1 and lens mount(s) are updated as well.

For a downgrade to a previous SUP version, the license file of the installed and of the previous version (amira\_fw\_update\_aes\_x.x.x.lic) need to be available on the USB memory stick under /ARRI/A-MINI/LICENSES/.

## G. Overview of User Setup Parameter Blocks Settings

<b>GENERAL</b>	MENU > RECORDING > PROJECT SETTINGS >	Project Rate
	HOME > TC > OPTIONS >	Timecode Options (All Settings)
	MENU > RECORDING > AUDIO RECORDING >	Audio (All Settings)
	HOME > LOOK > CONFIG >	Recording Processing
	HOME > LOOK > EDIT >	Installed Look Files
	HOME > LOOK > CONFIG >	SDI 1&2 color space
	MENU > MONITORING > FRAME LINES > FRAME LINE >	Installed Frame Line Files
	HOME > FPS >	Sensor FPS table
	HOME > SHUTTER >	Shutter table
	HOME > WB >	WB table
	MENU > METADATA >	Metadata (All Settings)
	MENU > MONITORING > SDI >	SDI 1&2 Format
	MENU > MONITORING > SDI >	SDI 1&2 Frame Rate
	MENU > MONITORING > SDI >	SDI 1 Image
	MENU > MONITORING > SDI >	SDI 2 Image
	MENU > MONITORING > SDI >	SDI 1&2 3G Level
	MENU > MONITORING > SDI >	SDI2: Clone SDI1
	MENU > MONITORING > SDI >	Anamorphic Desqueeze
	MENU > SYSTEM > SENSOR >	Image sharpness/detail
	MENU > SYSTEM > SENSOR >	Image denoising
	MENU > SYSTEM > SENSOR >	Mirror Image
	MENU > SYSTEM > SENSOR >	EXT Sync
	MENU > SYSTEM > SENSOR >	EXT sync camera count
	MENU > SYSTEM > SENSOR >	Genlock Sync
	MENU > SYSTEM > SENSOR >	Sync Shift
	MENU > SYSTEM > SENSOR >	Mirror Image
	MENU > SYSTEM > SENSOR >	Sensor Temperature
	MENU > SYSTEM >	Fan Mode
	MENU > SYSTEM >	Multicam Settings
	MENU > SYSTEM >	CAP Settings
	MENU > SYSTEM >	Network Settings
	MENU > ECS > RADIO >	ECS Power
	MENU > ECS > RADIO >	ECS Radio Channel
	MENU > RECORDING >	Prerecording max. duration

<b>USER</b>	HOME > LOOK > CONFIG >	EVF/Mon. Processing
	HOME > LOOK > CONFIG >	SDI processing
	MENU > MONITORING > EVF / Monitor >	Surround View
	MENU > MONITORING > EVF / Monitor >	Zoom Position
	MENU > MONITORING > EVF / Monitor >	Peaking Settings
	MENU > MONITORING > EVF / Monitor >	Settings (all, except EVF power)
	MENU > MONITORING > EVF / Monitor >	EVF Overlays (all settings)
	MENU > MONITORING > EVF / Monitor >	Monitor Overlays (all settings)
	MENU > MONITORING > SDI > SDI PROCESSING >	Surround View
	MENU > MONITORING > SDI > SDI PROCESSING >	Exposure Tool
	MENU > MONITORING > SDI > SDI PROCESSING >	Peaking (all settings)
	MENU > MONITORING > SDI > SDI PROCESSING >	Overlays (all settings)
	MENU > MONITORING >	Exposure Tools (all settings)
	MENU > USER BUTTONS >	User Buttons (all settings)
	MENU > SYSTEM > POWER >	Power (all settings)
	MENU > SYSTEM > BUTTONS + DISPLAY >	Buttons, Display Style
	PLAY > OPTIONS >	Play End mode
	HOME > WB >	WB options
	HOME > EI > IRIS >	Iris options

<b>FORMAT</b>	MENU > RECORDING >	Recording Codec
	MENU > RECORDING >	Resolution
	MENU > RECORDING >	Record Mode (All Settings)
	MENU > MONITORING > FRAME LINES >	Active frame line

<b>SCENE</b>	HOME > FPS	Sensor FPS
	HOME > SHUTTER	Shutter
	HOME > EI	Exposure Index
	HOME > WB	White Balance
	HOME > EI > ND (MINI)	ND Filter
	HOME > LOOK	Active Look
	HOME > EI > IRIS	EF Iris Value

<b>LENS</b>	MENU > RECORDING > PROJECT SETTINGS >	Lens squeeze factor
	MENU > ECS > LENS DATA >	Active LDA table
	MENU > ECS > LENS DATA > LDA >	Installed LDA tables
	MENU > ECS > LENS DATA > FAVORITES >	Favorite LDA tables
	MENU > ECS > LBUS LENS MOTOR CONFIG >	Focus Lens motor direction, torque + teeth count
	MENU > ECS > LBUS LENS MOTOR CONFIG >	Iris Lens motor direction, torque + teeth count
	MENU > ECS > LBUS LENS MOTOR CONFIG >	Zoom Lens motor direction, torque + teeth count
	MENU > SYSTEM > LENS MOUNT SETTINGS >	Focus unit