ALEXA Mini SUP 6.1

Software Update Package SUP 6.1.1:72

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A. Introduction

This document describes changes for ALEXA Mini cameras with the new Software Update Package (SUP) 6.1.1. SUP 6.1.1 has the same features as SUP 6.1, and additionally includes an important bug fix.

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

For more information on the camera, please visit the arri.com/alexa-mini.

For a listing of answers to frequently asked questions please visit arri.com/en/learn-help/learn-help-camera-system/frequently-asked-questions/alexa-mini-faq

ALEXA Mini SUP 6.1.1 Features and Changes Overview

- **Improved noise reduction algorithms**
- **Support for noise reduction in HD**
- **Image sharpness range extended**
- **Defect pixel correction - static correction**
- **SDI output follows project frame rate**
- **Frame line shading**
- **Faster boot up time**

- **Green tally in viewfinder**
- **Intercom talkback with VTR button (or user button)**

- **CAP enhancements**
- **ECS improvements**
- **General improvements and bug fixes**

Updating

For all ALEXA Mini owners we very strongly recommend updating to SUP 6.1.1.
- We do not recommend installing a new SUP in the middle of a production. The only exception is if any of the errors described in "New Features and Changes in ALEXA Mini SUP 6.1.1" below prevent you from continuing to use a camera. In that case, installing SUP 6.1.1 is recommended.
- ALEXA Mini SUP 6.1.1 can be installed on all previously shipped ALEXA Mini cameras
- Please note that the viewfinder might switch off during the update process and doesn't give a visual feedback of the update all the time. Make sure not to power off the camera during a SUP update. Detailed instructions for the update process can be found at the end of this document.

Downgrading

While it is possible to downgrade ALEXA Mini cameras to previous SUP versions from this version, we recommend against this, since this SUP includes important bug fixes.
For a downgrade to a previous SUP version, the license file of the installed and of the previous version (mini_fw_update_aes_x.x.x.lic) need to be available on the USB memory stick under /ARRI/A-MINI/LICENSES/.

Software Compatibility Notes

Please update the ARRIRAW Converter (ARC) to at least version 4.1.1.0 and ARRI Meta Extract (AME) to version 4.1.0.0.
Please note that macOS X version 10.15 with the Apple MXF plug-in installed (part of "Pro Video Formats 2.1") is required to play back downloaded MXF/Apple ProRes footage in Apple QuickTime Player.

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Registration

If you have not done so already, please make sure you register your camera using our online customer registration. Your registration ensures that you receive information about future software updates as soon as they are available. If you register your new camera within 1 month of purchase, you will get a 6-month extended warranty for free. You can find the registration here: https://alshop.arri.de/register.

B. Legal

Important Notes on Audience and Intended Use

The product is solely and exclusively available for commercial customers and shall be used by skilled personnel only. Every user should be trained according to ARRI guidelines. Use the product only for the purpose described in this document. Always follow the valid instructions and system requirements for all equipment involved.

Important Notes on Vital Precautions

High voltage! Risk of electric shock and fire!
Short-circuits may entail lethal damage!
Before use, read and follow all valid instructions.
Use solely and exclusively as described in the instructions.
Never open. Never insert objects.
For operation, always use a power source as indicated in the instructions.
Always unplug the power cable by gripping the power plug, not the cable.
Never try to repair. All repair work should be done by a qualified ARRI Service Center.
Never remove or deactivate any safety equipment (incl. warning stickers or paint-marked screws).
Always protect from moisture, cold, heat, dirt, vibration, shock, or aggressive substances.
Never cover any fan openings.
Heavy weight! Risk of injury and damage!
If placed on an unstable surface, the camera can fall and cause serious harm!
Always place the camera on proper support devices. Safely attach it as described in the instructions.
For further important safety information, please refer to the user manual.

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C. New Features in SUP 6.1.1

Improved noise reduction algorithms
The noise reduction function (MENU>SYSTEM>SENSOR) has been improved with enhanced motion detection algorithms for even better noise reduction.

Support for noise reduction in HD
Noise reduction is also available in HD and 2K modes (HD, HD Ana., 2K, 2.39:1 2K Ana.) up to 60 fps. The algorithms and parameters are the same as in UHD mode.

Image sharpness range extended
The image sharpness range (MENU>SYSTEM>SENSOR) is extended and images can be sharpened more strongly.

Defect pixel correction - static correction
The defect pixel correction is further improved.

SDI output follows project frame rate
When changing the project framerate, the SDI output framerate will be set to the same frame rate (as the sensor frame rate does).

Frame line shading
The area outside the frame line can be shaded with a certain opacity (MENU>MONITORING>EVF MONITOR>EVF OVERLAYS>FRAME LINES SHADING), (MENU>MONITORING>SDI>SDI PROCESSING>SDI OVERLAYS>FRAME LINES SHADING).

Faster boot up time
Camera boot up time has been accelerated and is now about 4 seconds faster than with SUP 5.4.

Green tally in viewfinder
The green tally insert is now displayed in the viewfinder image, giving the camera person a green tally alert in all configurations, including the new VMM-1 (Video Monitor Multicam).

Intercom talkback with VTR button (or user button)
The intercom talkback of the DTS fiber system can now be triggered with a user button on the camera or the VTR button on an ENG lens (MENU/USER BUTTONS). This allows for an easy access to talkback when the camera is on the shoulder. Requires the latest firmware for the DTS system.

CAP enhancements
For more enhanced remote functions and tools, the CAP (Camera Access Protocol) has been extended for RCP iris control, video parameters, audio, camera setup, frame lines and more.

ECS improvements
The ECS (Electronic Control system) has been improved by the immediate OCU override cancelation from WCU-4.

General improvements and bug fixes
- Several bug fixes have been included.
- For a simplified trouble shooting, a compressed ZIP file including log files, HWinfo file and setup file can be exported.
- A warning message is displayed if the internal battery for the camera system clock is too low.
- Factory default setting for WiFi power is set to "On", other defaults remain unchanged.
- False Color Mode can be changed while False Color is active.

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D. Known Issues

New Behavior in SUP 6.1.1

• A warning message is displayed if the internal battery for the camera system clock is too low:

`"The battery for the internal clock is too low, please contact ARRI service"`
The internal battery is feeding the system clock used in the recorded clips and for the log files. In order to always have the correct time and date included, please contact ARRI service for a replacement of the battery at your earliest convenience.

• In very rare occasions, the update to SUP 6.1 can cause an error message:

`"Severe system failure occurred. Please reboot camera."`
Please re-install SUP 5.4 in this case and contact ARRI service.

Known Issues Fixed in SUP 6.1.1

Following known issues have been resolved in the SUP 6.1.1 bugfix release when using these formats:
ARRIRAW 4:3 2.8K (OG 3.4K), ARRIRAW 16:9 HD ANA. (OG 3.4K), ARRIRAW 2.39:1 2K ANA. (OG 3.4K).

• With Blackmagic Resolve 16, these formats cannot be imported when using the Resolve Decode Settings:

Project Settings -> Camera Raw -> Decode Quality set to Full Res – Resolve.

• 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.

• 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 displayed in interval recording

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

• 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.

Known Issues in SUP 6.1.1

This is a list of known issues for the SUP 6.1.1 software package.

With Adobe Premiere 2020 (V14.7.0 Build 23), these formats cannot be imported at all.

ARRIRAW 4:3 2.8K (OG 3.4K), ARRIRAW 16:9 HD ANA. (OG 3.4K), ARRIRAW 2.39:1 2K ANA. (OG 3.4K).

Please downgrade ALEXA Mini to SUP 5.4 (to be found in the SUP Download Archive).
Adobe has confirmed this bug in Premiere and will provide a fix with an upcoming software update.
Please check with Adobe for the latest Premiere bugfixes.

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

• Warning message for camera count is not updated while active

While the warning message for the camera count is displayed, changes in the camera count will not be updated. Just close the warning message for an update.

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• 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.

Frame Grab

• Frame grabs are not supported at paused playback of interlaced S16 or HD clips

In order to perform a frame grab, grab the frame during playback at the desired position.

• Frame grab with CAP over WiFi fails

When activating a frame grab with CAP over a WiFi connection, the frame grab may fail. A CAP frame grab over a Ethernet connection works fine.

• Frame grabs from ARRIRAW playback

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

Inputs/Outputs

• First activation of Return Input may show distorted image

After booting or setup of the camera, at the first switch from the live camera image to the return input, the SDI output may show a distorted frame. With any following return activation, the switch will be clean.

• Wrong False Color mode at SDI 2

When setting the SDI 1 output to "Clean" and SDI 2 to "Processed", the False Color function will always show the "Monitor Based" mode on the SDI output, also when it is set to "Log C-Based" mode. When SDI 1 is set to "Processed" and SDI set to "Clean", the False Color function works as expected.

• SDI interlaced field order reversed with V/H flip

When activating a V or V+H flip, the field order of the interlaced format at the SDI outputs will be reversed.

• Potentially distorted lines when SDI frame rate is larger than sensor frame rate

When setting the SDI output frame rate to 59,94 or 60 fps, while the recording frame rate is 50 fps (or smaller), there might be line artefacts in the SDI image.

• Entering/exiting playback mode cause momentary signal loss

When entering or exiting the playback mode, the SDI outputs will show a momentary loss of the SDI signal if the recording frame rate is double of the project frame rate, or if the recording format is interlaced.

• SDI status overlay may show wrong processing icon

Even when the processing mode is set to A709, on the particular SDI output a Log C icon may be shown.

• 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.

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• **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.

• **1.3x anamorphic desqueeze is not available for EVF zoom**

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

• **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.

• **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.

Media

• **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 recording. This is for protection against issues caused by different CFast 2.0 formatting schemes used by other cameras manufacturers.

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.

• **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.

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Recording

• Camera sometimes does not prompt to format a non ARRI_UDF CFast card

While the MVF Display is set to live view mode, the camera will not prompt to format a CFast card, even the file system on the card is not the ARRI_UDF file system, but FAT32, ExFAT or other.

• 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.

• Noise Reduction in "Strong" mode

The "Strong" mode in Noise Reduction (available in S16 HD, 3.2K, 4:3 2.8K and 4K UHD) may result in image artifacts with fast moving objects. We recommend testing this accordingly before using "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.

• Limited amount of reels on CFast 2.0 cards

Recording on CFast 2.0 cards is limited to 15 reels per card in ProRes and ARRIRAW MXF. If the maximum number of reels is reached, recording is still possible if no further reel needs to be created.

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

• Factory Reset and Setup files ignore Lens Mount Setting

After a factory reset or after loading a setup file, the setting MENU/SYSTEM/LENS MOUNT SETTINGS/ENABLE LDS MOUNT will not be changed and stays as set before. Please always check the ENABLE LENS MOUNT setting accordingly.

• Web remote function not working properly after SUP update

After updating the camera, the web remote function may not work properly unless the browser cache of your web browser has been cleared.

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• QR code scan may fail with activated SDI frame lines or peaking

When a QR code is used for the WiFi setup of the camera, the scan may fail if frame lines or peaking in the SDI outputs are activated. Just de-activate temporarily to scan a QR code.

• FN+1 and FN+2 buttons may be blocked by error message

A popped up error message may block the function of the FN buttons. Please attach a viewfinder, CCP-1 or use the Web Remote tool to confirm the error message.

• Mode switch not smooth when MVF-1 and CCP-1 is connected

With a daisy chained MVF-1 and CCP-1 and the MVF-1 being in active mode: when switching from ProRes to ARRIRAW or vice versa, the display will show a black bar and fade to black. The mode switch itself will be executed correctly.

• Waveform display is not refreshed after mode change

When the waveform display is activated on the viewfinder and the recording resolution is changed, the waveform display will not be updated. To refresh the waveform display, just toggle WFM OFF/ON.

• Frame lines with names longer than 32 characters are not supported

Frame lines with names longer than 32 characters are not supported.

• Zebra function is limited to 99%

The Zebra function has it's highest limit setting at 99%.

• 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 it's 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 6.1

User setups created with SUP 5 or earlier SUPs cannot be loaded with SUP 6.1

• 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.

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Viewfinder

• Calibration applied ten seconds after initial connection

When connecting a MVF-1 with the new OLED viewfinder panel built in for the first time, it might take up to ten seconds before the new viewfinder calibration is loaded and applied.

• 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).

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E. Update Procedure

Where to download the new Software Update Package (SUP)

You can find the Software Update Package in the [Software Update Packages download section](#). A SUP can be installed on the camera by using a USB stick as described in detail below.

Camera Update Procedure

The ALEXA Mini software is updated from a USB memory stick. The SUP will update the ALEXA Mini camera along with the Viewfinder (MVF-1), CCP1, the lens mount and LBUS accessories - provided 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. Then choose Menu > Media > Prepare USB Medium... in the camera's menu on the MVF-1 flip-out monitor 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.
- SUPs contain not only updates for the camera body. Therefore, the MVF-1 viewfinder, CCP-1, the lens mount and LBUS accessories should be attached to the camera when performing an update.
- Make sure the camera is connected to a power supply (best) or is powered with a full battery to avoid power loss during the update process.
- Perform a factory reset on the camera with the menu item Menu > Setup > Factory Reset...
- Remove the recording media from camera.
- Connect the USB stick to the camera and navigate to the menu item Menu > System > Update Camera...
- Select the SUP file from the list and click the item.
- In the following message, press INSTALL to start the installation.
- Press CONFIRM to start the installation.
- The camera will present a screen presenting the update progress. Please do not shutdown the camera or unplug power until the camera reboots.
- After the update process has finished, a success message is displayed. Please repeat the last steps and update the camera for a second time.
- Make sure you set the correct time zone in Menu > System > System Time & Date.
- If the MVF-1 viewfinder, CCP-1, lens mount or LBUS accessories were not connected to the camera during the update process, the camera will still store the new software for those devices. The next time those devices are connected and have an older software than the one stored in the camera, the camera will offer to update those devices.

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