

RIA-1 SUP 2.1.0

Software Update Package (SUP) 2.1.0

RELEASE NOTES

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A. Introduction

This document describes the changes introduced with Software Package SUP 2.1.0 for the ARRI Radio Interface Adapter RIA-1. This is an important update for the RIA-1 and for the Hi-5 ecosystem and it provides a big improvement in the overall system stability. We are happy to introduce numerous new features and updates to enhance your on-set experience.

In addition, our latest Tech Talks about this new firmware and the Cinefade license are a great way to explore these new features:

<https://www.youtube.com/ARRIchannel>

This SUP is released as a combined update for the Hi-5, ZMU-4 and RIA-1 and it is important to also update the Hi-5 to SUP 2.1.0 and ZMU-4 to SUP 1.1.0 when working with this firmware. The latest firmware can be downloaded from the ARRI webpage:

<https://www.arri.com/en/technical-service/firmware/software-updates-ecs>

We highly recommend updating the Hi-5, ZMU-4 and the RIA-1 to our new firmware versions.

Several devices require an update to be compatible with the RIA-1. We recommend updating the following products to the latest firmware versions and at least to the firmware stated below:

| Product | Minimum Firmware Version |
|------------------|--------------------------|
| Hi-5 | 2.1.0 |
| ZMU-4 | 1.1.0 |
| SXU-1 | 2.1.2 |
| WCU-4 | 3.3.20 |
| Master Grip | 2.0.2 |
| OCU-1 | 2.0.2 |
| cforce mini RF | 2.0.3 |
| Focusbug Cine RT | V21.5 |

Please take your time to go through this document before using the RIA-1. For more information, please visit:

<https://www.arri.com/ria-1>

B. New Features with SUP 2.1.0

RF-900 radio module support

With this SUP, support for using the RF-900 module is introduced. This module can be used by American and Canadian customers in conjunction with Hi-5, RIA-1 and ZMU-4. The RF-900 allows point-to-multipoint communication for connecting up to three hand units with one camera or motor controller. It builds the perfect radio system for challenging situations on set, for long distance shots or at locations with strong radio interferences. It uses a different frequency band as the RF-EMIP or RF-2400 radio modules and therefore features perfect coexistence with these radio modules. For best radio performance, it is highly recommended using different radio modules in a multi-camera setup.

For further information please visit the [ARRI ECS Radio module website](#).

In order for the RF-900 to work across the entire ecosystem, the Hi-5 must be updated to SUP 2.1.0, the RIA-1 to SUP 2.1.0 and the ZMU-4 to SUP 1.1.0. We always recommend updating to the newest firmware versions available.

Cinefade license

The Cinefade License Key for Hi-5 is available via the ARRI license shop: <https://alshop.arri.de/>
More information about the Cinefade license can be found in the license support section below.

C. Hi-5 License Support

This software supports the following Hi-5 licenses:

RED camera control license

The RED Camera Control License Key for Hi-5 is available via the ARRI license shop: <https://alshop.arri.de/>

- Works with RIA-1 and cforce mini RF
- Requires K2.0015758 Cable CAM (7p) – RED CTRL/D-Tap (0.6m/2ft)
- Supports DSMC2 and DSMC3 (breakout box required) cameras
- On DSMC2 cameras, set RED Command Protocol in Menu > Settings > Setup > Communication > Serial
- Depending on the type of RED camera (DSMC2, DSMC3), a specific baud rate must be selected in the camera settings. Please see the following table for baud rate setting for specific RED cameras:

| | baud rate |
|---|-----------|
| DSMC2: Dragon / Gemini / Helium / Monstro | 115200 |
| DSMC3: Komodo, V-Raptor | 460800 |

More details can be found in the license section on the Hi-5 web page:

<https://www.arri.com/en/camera-systems/electronic-control-system/hi-5>

Sony camera control license

The Sony Camera Control License Key for Hi-5 is available via the ARRI license shop: <https://alshop.arri.de/>

- Works with RIA-1 and cforce mini RF
- Supports Venice 1 and Venice 2
- Requires K2.0047268 Cable CAM (7p) - Sony Remote (8p)/D-Tap (0.8m/2.6ft)

Please be aware that the controllable features depend on if the camera is set to RCP mode or not.

More details can be found in the license section on the Hi-5 web page:

<https://www.arri.com/en/camera-systems/electronic-control-system/hi-5>

Focusbug license

The Focusbug License Key for Hi-5 is available via the ARRI license shop: <https://alshop.arri.de/>

- Works with RIA-1
- Enables dedicated full Focusbug menu/control through ARRI high speed protocol
- Requires Cine RT (RA) to ARRI RIA-1/ALEXA 35 (ST) cable from Focusbug (See also <https://www.focusbug.com/arrifocusbugsupport>)

More details can be found in the license section on the Hi-5 web page:

<https://www.arri.com/en/camera-systems/electronic-control-system/hi-5>

Cinefade license

The Cinefade License Key for Hi-5 is available via the ARRI license shop: <https://alshop.arri.de/>

- Remote control of a Cinefade device via a Hi-5 hand unit when the Cinefade is connected to the RIA-1 LBUS daisy chain.
- Requires a RIA-1 to be used as the radio host.
- LDA File must be used to ensure a smooth Cinefade effect.
- VariND and Rotapola functions are also supported when connected hardwired via LBUS to a Hi-5. No Cinefade Effect possible without a RIA-1 in the LBUS chain.

Important information: Integration in the cforce mini RF and ALEXA 35 is planned and this Hi-5 license key will work using the ALEXA 35 or cforce mini RF as a radio host with a future Software Update Package.

This License supports the following features:

- VariND control via Hi-5 force pad or user buttons.
- Rotapola control via Hi-5 force pad or user buttons.
- Cinefade Effect trigger on/off and control.
- Optical safe range on/off. Limits the range of usable ND filter from 0.4 to 1.9 (5 T-Stops).

D. Bugfixes and stability improvements

- Improved Lens data handling and LDA file transfer
- Fixed problems with network mode when 3 RF-EMIP clients are connected
- Radio traffic has been reduced which has a positive impact on the radio performance
- Sync between RIA-1 and ALEXA cameras improved if both devices control motors
- Improved playback and camera control with ALEXA cameras when connected to a RIA-1
- Lens metadata transfer optimized in the whole Hi-5 ecosystem
- Sony Camera Control ND Filter issues fixed

F. Known Issues

This is a list of known issues for this software update package.

General Issues

Override issues with OCU-1 or Master Grips

Override is not always possible if an OCU-1 or Master Grip are used in combination with a RIA-1:

- Override is not supported for wireless control units. It is therefore not possible to use the override function of an OCU-1 or Master Grip if they are connected to a RIA-1 in client mode.
- It is currently not possible to use the override function when the RIA-1 is connected to an ALEXA Mini with the optional LBUS – LBUS connection.

Workaround: Connect the RIA-1 to the camera only via CAM to EXT or set up the system that the corresponding axis is only controlled via the OCU-1 (disable that lens axis in the Hi-5 Menu > Control Setup).

Manual calibration issues

Manual calibration is only possible in combination with an ECS motor controller and not, when connected to an ALEXA camera directly.

When using the manual calibration feature on the Hi-5, it might happen that after the manual calibration the scales are greyed out or in override catch mode while having full control of the motor.

Workaround: Perform another manual calibration or reboot the ESC system.

RIA-1 client mode: cmotion steady zoom motors show RIA-1 ID

If a cmotion steady zoom is being used to control motors remotely with a client RIA-1, the LBUS motors all show the RIA-1 ID and can't be distinguished from each other.

Workaround: Distinguish motors by assigned axis.

Blocked lens axis when using OCU-1 or Master Grips

Please ensure that the OCU-1 or Master Grips are updated at least to SUP 2.0.2.

When using an OCU-1 or Master Grip in a wireless configuration on a ZMU-4 or RIA-1 (client), please ensure that no User Button is assigned to F/I or FIZ toggle.

RF-2400 Radio Module not working after using them in an ARRI TRINITY 2 RCP-3

If the RF-2400 radio modules had been used in an ARRI TRINITY 2 Remote Control Panel RCP-3, they must be reconfigured to be ARRI ECS compatible. This is easily done by attaching them to a Hi-5 and waiting for about 10 seconds. As soon as they start working with the Hi-5 again, they are reconfigured and can be used in the Hi-5 ecosystem. This process must be done via the Hi-5 as the RIA-1 and ZMU-4 can't reconfigure the radio modules.

RIA-1 Updating

Update via LBUS is not possible with a connected USB-C stick

Currently RIA-1 can only be updated via LBUS if no USB stick is connected to the RIA-1.

Workaround: Remove the USB-C stick before updating via LBUS or update RIA-1 per USB.

RIA-1 Update duration via LBUS

If using a camera or a hand unit to update the RIA-1 over LBUS, the update duration is slower compared to the USB-C update and takes 2-3 minutes.

Workaround: Update the RIA-1 via USB-C.

Update via LBUS triggers failure warning

When updating the RIA-1 via LBUS with an ALEXA camera, it might happen that the update fails, and the camera shows an update failed warning.

Workaround: Update the RIA-1 via USB-C.

ECS Sync App – RIA-1 symbol shown as WCU-4

In the current ECS Sync App version 1.0.1(883) the RIA-1 symbol is displayed as a WCU-4. The device itself is recognized correctly as a RIA-1. This issue will be fixed with the next ECS Sync App version.

Update file not found on USB-C drive

The RIA-1 can only see up to 9 update files on the USB drive. Please make sure to clear old SUP versions or use an empty USB-C drive.

Focusbug Cine RT

Clear All Focusbug CineRT marks

There is an issue that the Clear All > All marks command doesn't clear Focusbug Cine RT marks.

Workaround: Focusbug marks can be cleared on the Hi-5 via Clear All > Focusbug or individually by rotating the focus knob to the mark position and pressing the *Mark F* Display button. It is also possible to use the Cine RT handset to clear Focusbug Cine RT marks.

Deactivated Focus Ring when using Focusbug Cine RT and Cinefade in one setup

Currently, an active Focus Ring becomes deactivated when engaging focus tracking in a setup with Focusbug Cine RT and a Cinefade device being connected to the RIA-1 LBUS port.

Workaround: Set focus ring to blank ring to avoid a mismatch of the focus ring and focus scale.

Connecting a Focusbug Cine RT to a running setup triggers a cal request

Please be aware that a calibration request is triggered if a Focusbug Cine RT is connected to the RIA-1 serial port.

No distance value shown on the Hi-5 or Focusbug license not working

If a distance measure device is connected to the RIA-1, but no distance value is shown, check if the correct serial mode is set in the RIA-1.

Serial Mode > UDM: Use this setting when connected to a ARRI's Ultrasonic Distance Measure (UDM-1) or a CineTape Measure Control.

Serial Mode > Focusbug: Use this setting when connected to a Focusbug Cine RT via ARRI Hi-Speed protocol. Make sure that the ARRI Hi-Speed protocol is also activated in the Cine RT handset.

Cinefade

Filter slightly jittering with LDS lenses

In some setups with LDS lenses, the cinefade device might jitter slightly on its own, while not being controlled.

Always use a LDA file when using the Cinefade effect!

Cinefade Vari ND mode does not respect optical safe range

Cinefade Vari ND mode does not respect optical safe range yet. This will be enabled in the next Cinefade firmware.

ALEXA Cameras

General advice when using an ECS motor controller with ALEXA cameras

Always wait until ALEXA cameras are fully booted before using ARRI ECS. The ECS motor controllers boot much faster than an ALEXA camera and it might come to inconsistencies, if lens files are transferred or motors are calibrated during the camera boot up phase.

In addition, clip list handling requires lots of wireless data and the clip list transfer and clip list handling can be slow, if many clips (> 50) are stored on the CODEX drive. Please avoid long clip lists if possible.

Possible reboot after lens change on ALEXA 35

In the currently release ALEXA 35 LPL mount firmware 1.48 it rarely happens that the LPL mount power cycles shortly after changing an LDS or Cooke /i lens. If the LPL mount power cycles, it causes a reboot of connected LBUS devices like the RIA-1, ZMU-4 (when powered via LBUS) or cforce motors. The reboot might lead to a motor calibration request and afterwards, the system will work flawlessly.

This issue will be fixed in the upcoming ALEXA 35 SUP 1.2.1

Workaround: Deactivate the Lens Mount and use LDA files or add separate power to the ECS System.

No camera control via LBUS-to-LBUS connection to cameras

The RIA-1 currently doesn't support camera control and playback features over LBUS. Always use the CAM connector when connecting to a camera.

ALEXA 35: Connect via CAM to LBUS.

ALEXA Mini LF: Connect via CAM to LBUS.

ALEXA Mini / AMIRA: Connect via CAM to EXT.

ALEXA Plus cameras: Connect via CAM to LCS.

For more information, please visit: www.ARR!.com/RIA-1-config-guide

Update via LBUS triggers failure warning

When updating the RIA-1 via LBUS with an ALEXA camera, it might happen that the update fails, and the camera shows an update failed warning.

Workaround: Update the RIA-1 via USB-C.

Lens motor direction change

The standard lens motor direction of ALEXA cameras is left and it can happen that the lens motor direction is automatically changed to left when connecting an ALEXA camera to the RIA-1 LBUS or CAM port. Please check the motor direction after connecting an ALEXA camera.

Sony Cameras

Deactivate Smart Focus Ring Auto Detection when connecting via RS to Sony Venice cameras

As the Sony Venice cameras don't send the REC / tally status via RS, it could happen that a smart focus ring becomes deactivated during REC.

Therefore, it is recommended to deactivate the automatic smart ring detection in the Hi-5 when connecting to a Sony Venice camera with a CAM – RS cable.

There is no issue when using the CAM – Sony Ctrl cable.

Sony Venice 1&2 no clip list, no progress bar

The camera does not transfer the whole clip list table via the remote interface, only one clip is shown at a time. The progress bar has no function as the current time of the clip is not transferred either.

Sony Venice 1&2 Hi-5 jumps to cam screen in between clips

When browsing or changing clips in playback mode, the camera sends a standby signal in between clips, for this reason the hand unit jumps back to the cam screen in between clips.

Sony Venice 1&2 user buttons not supported

The camera user buttons are not accessible via Hi-5, as the camera doesn't support this feature via the remote interface.

Sony Venice 1&2: FPS setting accessible with active "fixed FPS"

The FPS setting is always accessible via Hi-5, as the camera does not transport information about a fixed FPS over the remote interface. Changing the frame rate on the Hi-5 in fixed FPS has no effect on the FPS setting in the camera!

Workaround: Set FPS to variable in the camera.

Sony Venice 1&2 camera info not supported

The camera info is not accessible via Hi-5, as the camera doesn't send this information over the remote interface.

Sony Venice 1&2: Settings greyed out even when RCP mode is toggled

In some cases, it can occur that camera settings on a Hi-5 are greyed out and cannot be changed by the hand unit, even with active RCP mode.

Workaround: Power cycling the ECS system should solve the problem.

RED Cameras

General advice:

For the RED camera control license, depending on the type of RED camera (DSMC2, DSMC3), a specific baud rate must be selected in the camera settings. Please see the following table for baud rate setting for specific RED cameras:

| | baud rate |
|---|-----------|
| DSMC2: Dragon / Gemini / Helium / Monstro | 115200 |
| DSMC3: Komodo, V-Raptor | 460800 |

RED cameras: pre-record doesn't work from Hi-5

When using a RIA-1 or ZMU-4 as a radio host with a Hi-5, the pre-record function of RED cameras is not supported by the Hi-5.

Workaround: Activate pre-recording via camera or assign a user button on the RED camera to Start/Stop.

RED Komodo playback manipulation not possible

FFW and FBW in playback mode is not supported by RED Komodo.

G. Update Instructions

How to get a Software Update Package

You can find the Software Update Package (SUP) in the RIA-1 download section on:

<https://www.arri.com/en/technical-service/firmware/software-updates-ecs/ria-1-software-update>

Download the latest Software Update Package to your computer.

You can also perform the software update via the ARRI ECS Sync App for iOS:

<https://apps.apple.com/au/app/arri-ecs/id1555674483?l=d>

RIA-1 Update Procedure via USB-C (recommended)

- (1) Download the desired firmware and copy it onto a USB-C drive. Be aware that RIA-1 can only list up to 9 update files in the update menu.
- (2) Power the RIA-1 via a LBUS, CAM or D-TAP connection. Please ensure a stable power supply. Powering the RIA-1 via USB only is not recommended.
- (3) Insert the USB-C flash drive into the USB-C slot of the RIA-1.
- (4) Enter the settings menu and go to SYSTEM > UPDATE and select the update file.
- (5) An info page about the selected firmware will be shown. Proceed by pressing the ROTARY ENCODER.
- (6) Confirm the firmware update by selecting START UPDATE. The update process takes about 90 seconds. The RIA-1 will re-boot two times during the update process.
- (7) Double check the correct software version under SYSTEM > DEVICE INFO > FIRMWARE INFO.

Please note: Do not remove the USB drive while updating the RIA-1!

Update via Hi-5 with USB Stick

Preparing the USB Stick

Copy the RIA-1 Software Update Package onto an USB -A or USB-C memory stick in folder ARRI/ECS/

The USB-A slot is located below the display on the bottom of the Hi-5, covered by a plastic cap. Press the release pin to open the cover.

The USB-C slot is located above the display on the top side of the Hi-5, covered by a rubber cap. Lift and turn the rubber cap gently to access the USB-C slot.

Precautions

Make sure the power supply of the Hi-5 is stable, e.g. by using a fully charged battery. Please note that power over USB is not recommended.

Performing the Update

- (1) Connect the RIA-1 to the Hi-5 via LBUS.
- (2) Power the RIA-1 via a LBUS, CAM or D-TAP connection. Please ensure a stable power supply. Powering the RIA-1 via USB only is not recommended.
- (3) Insert the USB stick in the corresponding USB slot of the Hi-5
- (4) Turn the Hi-5 on.
- (5) Go to MENU > System > Update > LBUS Device Update.
- (6) Select the RIA-1 as LBUS device.
- (7) Choose the desired Software Update Package and then press select to start the update.

Caution: The update process takes several seconds. Don't remove the USB Stick and do not turn off the Hi-5 during the update!

Update via Hi-5 with ECS Sync App

The ECS Sync App connects to the Hi-5 via Bluetooth.

Performing the Update

- (1) Connect the RIA-1 to the Hi-5 via LBUS.
- (2) Power the RIA-1 via a LBUS, CAM or D-TAP connection. Please ensure a stable power supply. Powering the RIA-1 via USB only is not recommended.
- (3) Ensure that Bluetooth is enabled on the Hi-5 via MENU > System > Bluetooth.
- (4) Activate Bluetooth on your iOS device and add the Hi-5 to your device list (Hi-5 is shown as hi-5-xxxxx, with xxxxx being the serial number).
- (5) Open the ECS Sync App. The app is now connected to your Hi-5 hand unit.
- (6) Go to ARRI DEVICE > RIA-1 xxxxx > Update to the latest SUP.
- (7) Select Download and proceed the software update.

Caution: Do not leave the app during the update!