

Hi-5 Hand Unit Hi-5 SX Hand Unit

USER MANUAL

December 2024 • 2.0 • English



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Before using the product, be sure to read and understand all respective instructions.

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Original version.

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1 About this document

This user manual contains detailed information about the features and functionalities of the device. Please visit the website <http://www.arri.com> to download the operating manual, where applicable, and much more information about this and other ARRI products.

Keep all manuals and all other operating and assembly instructions belonging to the device in a safe place for future reference and possible subsequent owners

Document Revision History

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1.0	F07681	July 2021	First Release
2.0	W02034	December 2024	

1.1 Product Information Resources

The ARRI documentation portal provides important documents on the product for free download.

Please enter the following searchkeys in the search bar to retrieve the documents for the product:

Hi-5 hand unit, Hi-5 SX hand unit, K2.0037280

[ARRI documentation portal](#)



For more details about the product, please refer to the ARRI website at:

[Hi-5 product page](#)



1.2 How to use this Manual

All directions are given from an operators point of view. For example, device right side refers to the right side of the device when standing behind the device and operating it in a normal fashion.

Connectors are written in all capital letters, for example "USB connector".

Buttons are written in italic typeface capital letters, for example "*PLAY button*".

Menu paths are written in italic typeface, with menu and home in capital letters, for example "*MENU > Display Orientation > Normal*".

2 Safety Instructions

This safety information is in addition to the specific operating instructions in general and must be strictly observed for safety reasons. Read and understand all safety and operating instructions before you operate or install the device. Retain all safety and operating instructions for future reference. Always follow the instructions in this and all documents supplied with the device to avoid injury to yourself or others and damage to the device or other objects.

Assembly and operation should only be carried out by trained staff familiar with the device. Only use the tools, materials and procedures recommended in this document. For the correct use of other equipment, see the manufacturer's instructions.

These instructions use safety instructions, warning symbols and signal words to draw your attention to different levels of risk:



DANGER

DANGER indicates an imminent danger. If not avoided, death or serious injury will result.

Always follow the recommended measures to avoid this hazardous situation.



WARNING

WARNING indicates a possibly imminent danger. If not avoided death or serious injury may result.

Always follow the recommended measures to avoid this potentially hazardous situation.



CAUTION

CAUTION indicates a potentially imminent danger. If not avoided, slight or minor injuries may result.

Always follow the recommended measures to avoid this potentially hazardous situation.



NOTICE

NOTICE indicates a potentially harmful situation. If not avoided, the equipment or something in its surrounding may be damaged.

Always follow the recommended measures to avoid this situation.

HINT

Not relevant to safety, **HINT** provides additional information to clarify or simplify a procedure.

Warning Symbols and Product Labels



General warning sign



Warning of electrical voltage



Warning of hot surfaces



Warning of sharp element



Warning of the risk of crushing



Please read all instructions carefully before using the product for the first time.



Warning of obstacles on the ground



Direct Current symbol found on electronics requiring or producing DC power.

General Safety Instructions

DANGER

Risk of Electric Shock and Fire!

Risk of short-circuits and back currents to power supplies / batteries.

- ▶ Before use, read and follow all relevant instructions.
- ▶ Use solely and exclusively as described in the instructions.
- ▶ Always use original ARRI / cmotion LBUS cables to external power sources (D-Tap, XLR). ARRI/cmotion LBUS cables to external power sources provide a protection circuit to prevent back currents to power supplies/batteries.
- ▶ Do not open the device.
- ▶ Do not insert objects into the device.



WARNING

Operation of the Hi-5 & Hi-5 SX Hand Unit in Case of Obvious Damage

Risk of electric shock and fire hazard caused by short circuit.

- ▶ Never use the device if electrical lines or housing are visibly damaged.
- ▶ Only use the type of power source indicated in the manual.
- ▶ Always grip the power plug to unplug the power cable.
- ▶ Do not lay cables over sharp edges (e.g. sheet metal, profile or other cut edges). Damaged cables can cause electric shock, short circuit or fire.
- ▶ Do not remove or deactivate any safety measures from the device (incl. warning stickers or paint marked screws).
- ▶ Do not try to repair the device. Repairs may only be carried out by an authorized ARRI service center.

WARNING

Falling System Parts

Do not built up or assemble the Hi-5 & Hi-5 SX Hand Unit the wrong way. It can fall down and cause serious injuries and damage to the device or property.

- ▶ Installation and operation must only be carried out by approved persons who know the device. Obey the accident prevention regulations.
- ▶ Never put the device on a not stable trolley or hand truck, stand, tripod, bracket, table or any other not stable support device.
- ▶ Always place the device on dedicated support devices.
- ▶ Always use a suitable safety rope when you use the device above floor level (i.e. on cranes).
- ▶ Secure the device and its accessories against falling and tipping over. Obey the general and local safety regulations.



CAUTION

Use of the Hi-5 & Hi-5 SX Hand Unit or Hi-5 & Hi-5 SX Hand Unit Accessories in a Humid Environment and with Condensation

When you move the device and the accessories from a cool to a warm location or when the device is used in a damp environment, condensation may form inside the device, and on internal or external electrical connections. Do not operate the device while condensation is present. It bears risk of electric shock and/or fire caused by a short circuit.

- ▶ Do not operate the device and accessories when condensation occurs.
- ▶ When you move the device and accessories from a cool to a warm environment, wait for some time for the components to warm up.
- ▶ Find a warmer storage location to decrease the risk of condensation.

3 Introduction

3.1 Hi-5



The ARRI Hi-5 hand unit provides reliable wireless camera and multi-axis lens control in demanding situations on set. Weatherproof and solidly built, it features an exceptional radio link range and unique, swappable radio modules for different territories and shooting challenges.

Main Features

- Hi-performance: strong radio signal over long distances
- Hi-versatility: swappable radio modules for different locations
- Hi-speed: fast and efficient on-set ecosystem
- Hi-reliability: robust, weatherproof, long battery life
- Hi-tech: future-proof hardware and software architecture

3.2 Hi-5 SX



The Hi-5 SX hand unit joins the three-axis Hi-5 at the forefront of wireless camera and lens control technology. Ready to perform a variety of single-axis tasks on set, the Hi-5 SX can also be easily upgraded to higher functionality via optional software licenses. Weather-proof and exceptionally hard-wearing, it brings ARRI dependability to the control of almost any lens on any camera.

3.3 Comparison Overview Hi-5 and Hi-5 SX

	Hi-5	Hi-5 ^{SX}	+	SX Plus License	SX All-Axis License
ARRI camera control	●	●		●	●
LDS and /i data support	●	●		●	●
Use of lens files	●	●		●	●
Use of Smart Rings	●	●		●	●
User buttons 1 - 3	●	●		●	●
All-day battery life	●	●		●	●
Long-range radio module support	●	●		●	●
Dust-proof and weather-proof	●	●		●	●
Lens file creation	●			●	
Custom Smart Ring creation	●			●	
User buttons 4 - 9	●			●	
Tail slate mode	●			●	
Diopter compensation <small>Available in a future SOP</small>	●			●	
Three-axis control	●				●
AUX axis control	●				●
Virtual T-stop and focal length	●				●

4 Hand Unit Overview

4.1 Hand Unit Layout

Front Side



- 1 REC Button
- 2 REC Status LED
- 3 Ambient Light Sensor
- 4 Page Button
- 5 Upper Screen Buttons
- 6 Smart Ring Interface (Pogo Pins)
- 7 Registration Pin
- 8 Front Knob Index
- 9 Backlight Ring Area
- 10 Control Knob
- 11 Power Button
- 12 FUNC Button
- 13 Lower Screen Buttons
- 14 Slider
- 15 Touch Screen
- 16 Black Force-Pad Hi-5
Blue Force-Pad Hi-5 SX
*screws for Hi-5 SX Force-Pad replacement on top.
Details see *Chapter Hi-5 SX Force-Pad Replacement* in the *Appendix*.

Right Side



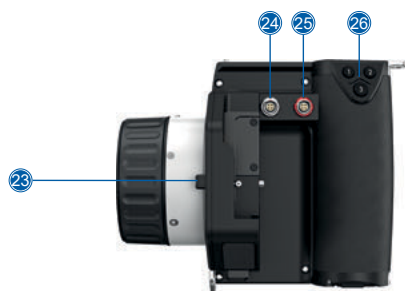
- 17 Friction Adjustment
- 18 Snaphook Eyelet

Left Side



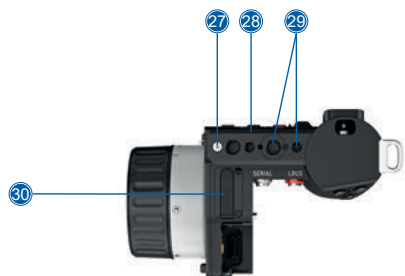
- 19 Snaphook/Hand Strap Eyelet
- 20 Radio Release Button
- 21 Radio Module Interface
- 22 Hand Strap Eyelet

Back Side



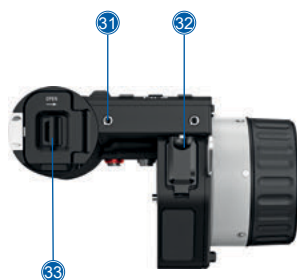
- 23 Back Knob Index
- 24 SERIAL Connector
- 25 LBUS Connector
- 26 User Buttons 1-3

Top Side



- 27 Nato-Rail Security Pin
- 28 Nato-Rail
- 29 3/8" – 16 UNC and 1/4" – 20 UNC Mounting Interfaces
- 30 USB-C Interface

Bottom Side



- 31 M4 Mounting Interfaces
- 32 USB-A Interface
- 33 Battery Compartment

4.2 Control Elements

4.2.1 Knob

The knob can control focus, iris, zoom and aux motors as well as Cinefade VariND and RotaPola filters. It is set to control the focus motor by default. It features a friction adjustment mechanism and two pogo pins to detect ARRI smart rings. The integrated backlight allows the focus ring to either show the tally light status or glow in various colors like white, pink, red, orange, yellow, green, cyan, blue, and magenta.

Turn the knob counterclockwise to focus towards infinity and turn it clockwise to focus towards close focus in the default setting. Press *PAGE* to enter the *MENU*, select *Control Setup > Knob* and tick the *Reverse* checkbox to change the direction or simply attach any smart focus or iris ring and the knob will automatically be set to the intended direction.

4.2.2 Slider

The slider can control focus, iris, zoom and aux motors as well as Cinefade VariND and RotaPola filters. It is set to control the iris motor by default.

Move the slider upwards to open the iris and move it clockwise to close the iris. Press *PAGE* to enter the *MENU*, select *Control Setup > Slider* and tick the *Reverse* checkbox to change the direction.

4.2.3 Force-Pad

The Force-Pad can control focus, iris, zoom and aux motors as well as Cinefade VariND and RotaPola filters. It is set to control the iris motor by default.

Push the Force-Pad upwards to zoom in and push it down to zoom out in the default setting. Press *PAGE* to enter the *MENU*, select *Control Setup > Force-Pad* and tick the *Reverse* checkbox to change the direction.

In menu mode, the Force-Pad can be used to navigate through the menu. Press the Force-Pad up and down to scroll through menus and press it left and right to go in and out of the selected menu item or directory. Navigation menus via the Force-Pad is fast and precise and it is a recommended alternative to the touch screen. While navigation through menus, use *User Button 3* to select a menu item and use *User Button 2* to go one level back.

4.3 Buttons

4.3.1 Power Button

Press the Power button shortly to switch the hand unit on. Keep it pressed for two seconds to switch it off.

Pressing the Power button twice locks all control elements, buttons and the touch screen. Press it twice again to unlock the hand unit.

Screen Saver

To activate the screen saver press & hold the FUNC button while pressing the Power button will turn on the screen saver. To deactivate the screen saver press any button.

It's also possible to create a screen saver slide show:

1. Go to *MENU > System > Buttons & Display > Light & Color > Screen Saver > Mode > Slideshow*
2. Connect a USB stick to the Hi-5 or Hi-5 SX with your PNG files on it. To activate the slideshow, use the shortcut mentioned before.

Note: the PNG files must have a size of 240x400 pixels. No other size will work.

4.3.2 REC Button

Press the *REC* button shortly to start recording. The *REC* status LED will change to red color (with cameras supporting tally feedback).

Press the *REC* button again to stop recording.

Tail-Slate Mode

Hi-5 & Hi-5 SX provide a tail-slate recording mode that prevents you from stopping recording before the tail-slate is taken.

Use the tail-slate mode as follows:

1. Press the REC button for 1 second to start recording. A red end slate icon will appear on the Lens Data Display, indicating that the tail-slate mode is active.
2. Capture the tail-slate at the end of the shot.
3. Press the REC button again for 1 second to stop recording.



HINT

It is now possible to enable/disable tail-slate mode even when a recording has already been started. A long touch on the REC indicator on the display will now enable/disable tail-slate mode and display the according icon.

4.3.3 PAGE Button

Use the *PAGE* button to switch between screens. The default or main screen is the *Lens Data Display (LDD)* showing lens data and camera info.

Pressing *PAGE* button once switches the display to the *Camera* screen (if Hi-5 or Hi-5 SX are connected to a camera supporting camera control. A license is required to control non-ARRI cameras.).

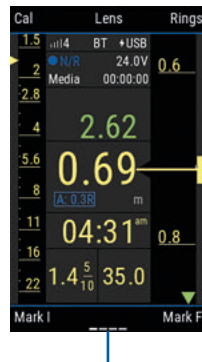
Pressing the *PAGE* button again switches to the *MENU* screen.

4.3.4 FUNC Button

Pressing the *FUNC* button shifts the screen button functionalities to additional levels. Additional function levels are indicated by tiny bars on the lower edge of the screen above the lower center screen button.

The *FUNC* button also allows to directly assign any user button by holding the *FUNC* button and then pressing the corresponding user button.

In some menus, pressing *FUNC* changes the function of a display button. If this is the case, it is stated on the Hi-5 display in the menu accordingly.



FUNC level indicator

4.3.5 Screen Buttons

Six screen buttons are located above and below the display. They change their behavior depending on the screen content, indicating the function related to each button. Buttons without a label have no function on that screen.

4.3.6 User Buttons

The three user buttons on the back of the handgrip and user buttons 4-9 on the user button home screen (4th *FUNC* page) can be individually assigned. Use the *PAGE* button and go to *MENU > User Buttons* to assign a function for each user button. There is also a shortcut to directly assign any user button by holding the *FUNC* button and then pressing the corresponding user button.

You can rename the Home Screen User Buttons to your liking by pressing the rename button in the *User Button* selection screen. The renaming of the user buttons is limited to 6 letters.

In *MENU* and *Lens Programming* mode, use User Button 3 to select an item and use User Button 2 to go one level back.

HINT

User Buttons 4-9 are included by default in the Hi-5 hand unit, but requires a license (Hi-5 SX Plus License) for the Hi-5 SX.

4.4 Touch Screen

The touch screen supports tap, swipe, pinch and stretch gestures:

Gesture	How to do it
Tap	Tap the screen to perform an action
Swipe	A movement of a fingertip across the screen in a vertical or horizontal direction
Stretch	Pressing two fingers together on the screen, move them away from each other as if stretching them apart
Pinch	Pressing two fingers apart on the screen, move them towards each other as if pinching them together

On the *Lens Data Display* swipe left to enter the *MENU* screen and swipe right to return. Swipe right to enter the *Camera* screen (if available) and left to return.

Tap on a screen button label to enter.

Pinch and stretch in vertical direction to compress or expand the on-screen focus scale.

In the *Menu* swipe up or down to scroll. Tap on a menu item to enter or select.

4.5 Electrical Interfaces

4.5.1 LBUS Interface

The LBUS interface at the back of the hand unit communicates LBUS and LCS protocols. It can be used to hardwire the Hi-5 & Hi-5 SX to ARRI camera hosts, to control panels of ARRI's Camera Stabilizing Systems and to other LBUS devices.

4.5.2 SERIAL Interface

The SERIAL connector is for future use.

4.5.3 USB-C Interface

The USB-C interface is placed under a rubber lid on the units top side. It can be used for following:

- Software updates via flash drive (supports USB-C card readers as well)
- Exchange of lens files and user setup files via flash drive (supports USB-C card readers as well)
- External power supply
- IP connection to a laptop for entering the service mode through a web browser

4.5.4 USB-A Interface

The USB-A interface is placed under a plastic cover on the bottom side of the units. It contains a Bluetooth stick for connecting to the ECS Sync app.

Besides establishing a connection to the ECS Sync app via Bluetooth stick, the USB-A interface can be used for the following:

- Software updates via flash drive (supports USB-A card readers as well)
- Exchange of lens files and user setup files via flash drive (supports USB-A card readers as well)

4.5.5 Radio Module Interface

The Hi-5 contains a radio module interface for ARRI's exchangeable radio modules:

- RF-EMIP Radio Module 2400M Hz DSSS
- Rf-2400 Radio Module 2400M Hz FHSS
- RF-900 Radio Module 900 MHz FHSS (for use in USA and Canada only!)

HINT

Always keep the Radio Interface clean and dry!

Do not leave the Radio Interface open during transportation and storage. Attach the RF cover or a radio module instead

4.5.6 Smart Ring Interface

The Hi-5 knob contains two spring-loaded pins as an interface for ARRI's Custom Smart Rings, Smart Focus Rings and Smart Iris Rings. They establish an electrical connection between the chip on the Smart Ring and the Hi-5 & Hi-5 SX hand unit.

4.6 Radio Modules

4.6.1 RF-EMIP Radio Module

The RF-EMIP radio module is backwards-compatible to devices including the ARRI's white-coded radio (EMIP) modules (e.g. ALEXA Mini, cforce mini RF). It can establish a point-to-multipoint communication for connecting up to three hand units with one camera device.

Frequency:	2400 MHz
Modulation:	Direct-sequence spread spectrum (DSSS)
Number of channels:	14

4.6.2 RF-2400 Radio Module

The RF-2400 can establish a point-to-point communication for connecting one Hi-5 hand unit with one Radio Interface Adapter RIA-1 with the corresponding RF-2400 radio module.

Its frequency hopping transmission method ensures a strong radio link with exceptionally good interference immunity.

Frequency:	2400 MHz
Modulation:	Frequency-hopping spread spectrum (FHSS)
Number of channels:	100

4.6.3 RF-900 Radio Module

The RF-900 radio module can establish a point-to-multipoint communication for connecting up to three hand units with one camera device.

Its frequency hopping transmission method ensures a strong radio link with exceptionally good interference immunity.

Frequency:	900 MHz
Modulation:	Frequency-hopping spread spectrum (FHSS)
Number of channels:	100

⚠ WARNING

The RF-900 radio module is for usage in USA and Canada only!

**NOTICE**

When removing the radio modules from the hosting units, please check the temperature of the radio modules first. If they are hot, please wait until they have cooled down.

4.7 Batteries

We recommend using ARRRI's LBP-3500 Li-Ion batteries for the Hi-5 & Hi-5 SX hand unit.

The LBP-3500 batteries have a capacity of 3,500 mAh. They also contain a chip that communicates the battery capacity to the hand unit in real time. The hand unit accurately displays the remaining capacity in %.

HINT

The Hi-5 & Hi-5 SX hand unit is compatible to the L-Series battery interface and works with respective 3rd-party batteries such as NP-F550 type batteries. However, there is no accurate capacity display with these batteries and the hand unit can shut off abruptly without warning.

5 Menu Operation Hi-5 & Hi-5 SX

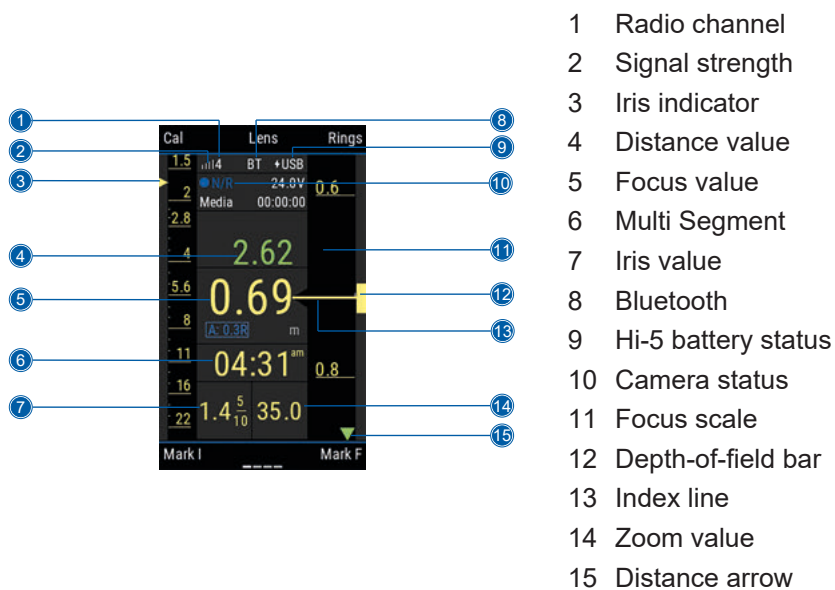
5.1 Lens Data Display

The *Lens Data Display (LDD)* is the default screen. It displays the most important parameters of the hand unit and the host of the camera side and shows the current position of the motors attached to the focus, iris, zoom or AUX axis.

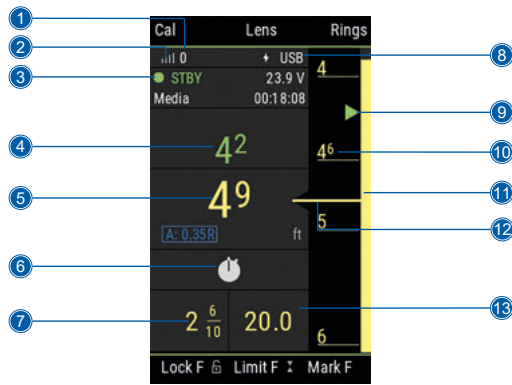
Please note: to use AUX axis with the Hi-5 SX the All-Axis license is required.

The distance readout of compatible measuring devices such as the Ultrasonic Distance Measure UDM-1, Focusbug Cine RT, Cine Tape, Ward Sniper or cfinder III will automatically appear on the screen if connected to the respective camera host. The distance readout is displayed as a number above the focus value in the center of the screen and as an arrow on the focus scale.

Hi-5



Hi-5 SX



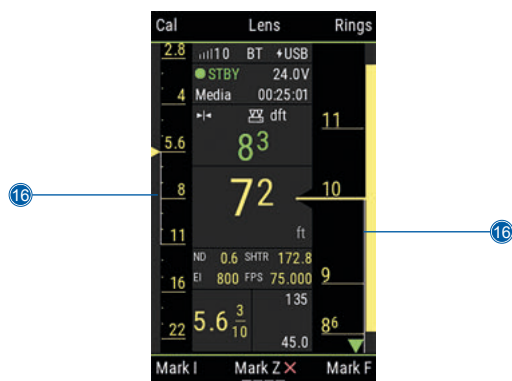
- 1 Radio channel
- 2 Signal strength
- 3 Camera Status
- 4 Distance value
- 5 Focus value
- 6 Multi Segment
- 7 Iris value
- 8 Hi-5 battery status
- 9 Distance arrow
- 10 Focus scale
- 11 Depth-of-field bar
- 12 Index line
- 13 Zoom value



- 14 Iris scale
- 15 Focus value

Motor Trails

The scales on the Hi-5 *Lens Data Display* represent the current position of the knob and slider controls. Fast focus and iris racks can result in an offset between those target values and the actual position of the lens rings, as the lens motor can take more time to travel the desired position than the focus knob and iris slider do. Such an offset is indicated by the focus and iris trails that are represented as a white line next to the focus and iris scale.



- 16 Motor Trails

Depth-of-Field Bar

The yellow depth-of-field bar right to the focus scale indicates the distance range between the nearest and the farthest objects that are in acceptably sharp focus.

It is calculated based on focal length (zoom setting), focus distance (focus setting), aperture (iris setting), and the circle of confusion size.

While focal length, focus distance and aperture depend on the physical settings of the lens, the circle of confusion can be set as a numerical value in the hand unit.

5.1.1 Multi Segment

The rearranged home screen creates room for an entirely new customizable screen segment. This new Multi Segment can be used for a variety of tools and display options.

The function of the Multi Segment can be configured in the new Multi Segment Menu: *MENU > System > Buttons + Display > Multi Segment* or via the touch screen by touching the multi segment area. (Only exception is the Timer feature which has a shortcut to the multi segment menu via a display button).

For visually distinguishing the segment or different Hand units, the background color of the Multi Segment can be modified in *MENU > System > Buttons + Display > Light and Color > Multi Seg. Color*



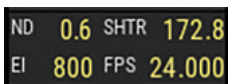
Please note that the visual elements in the Multi Segment are not dependent on the background color and certain feature / color combinations may be hard to read in certain situations.



The multi segment is a new way of customizing the Hi-5 and Hi-5 SX home screen. Following options are available:

Camera Info

This option enables a small display of important camera settings to be always visible. Please note that as of ALEXA 35 SUP 2.0 Enhanced Sensitivity cannot be displayed on the Hi-5 or Hi-5 SX yet.



Distance

The readout of a second distance source (as configured in the Focusbug menu) can be displayed with numerical values in addition to the arrow on the focus scale.



AUX

The AUX axis is an optional lens axis. The percentage scale can now be selected as a multi segment option.

Note: AUX axis control on the Hi-5 SX requires a license (All-Axis license)



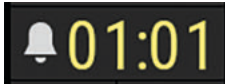
Clock

In instances where timecode does not convey that information, we have added a display of the Hi-5 system time. The preference between 12hr and 24hr can be set in *MENU > System > Time + Date > Clock Display*.



Timer / Stopwatch

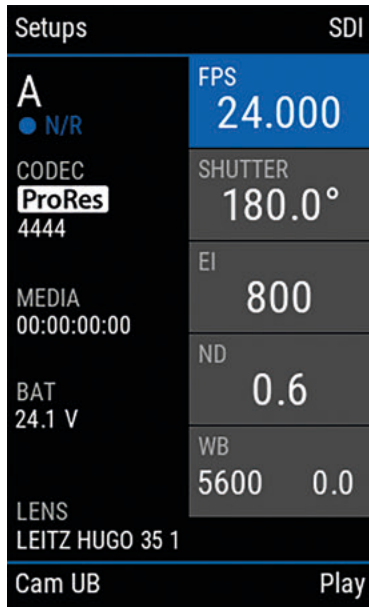
Timer will count down a predetermined interval whereas stopwatch will count up indefinitely. If desired, both options can be synced to a recording start and the stopwatch can reset when a new recording is started.



5.2 Camera Screen

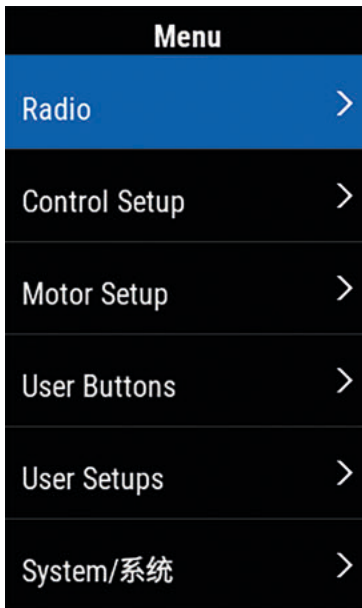
The *Camera* screen shows the camera status and the name of the active lens file. It also allows changing basic camera parameters.

The *Camera* screen will display whenever a digital ARRI camera is connected. For RED and Sony cameras, an additional license is required.



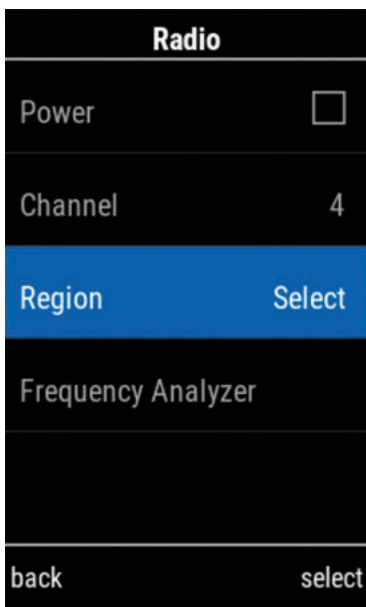
5.3 Menu Screen

The MENU contains all parameters for setting up the Hi-5 & Hi-5 SX hand unit as well as connected accessories such as motors and distance measurers.



5.3.1 Radio

The Radio screen contains all parameters for setting up a radio connection in the Hi-5 hand unit. The Region and Channel settings are saved independently for all radio module types. The Frequency Analyzer enables the Hi-5 to scan for activity in all EMIP channels at the Hi-5s location to select an open frequency band.



5.3.2 Control Setup

Hi-5

The Control Setup screen contains all parameters for assigning lens axes to the Hi-5 hand unit control elements.

The Single Axis Display option focuses the display on only the most important axis.

The Distance Arrow Damp. option allows to set responsiveness of the distance arrow. The higher the value, the smoother the movement of the distance arrow on the focus scale. This setting has no negative impact on the distance value itself nor will it slow down focus tracking. It only smoothens the movement of the distance arrow.

Control Setup	
Knob	Focus
Slider	Iris
Force-Pad	Zoom
Single Axis Display	<input type="checkbox"/>
Distance Arrow Damp.	0
back	select

Hi-5 SX

The single axis display is the standard mode for the Hi-5 SX.

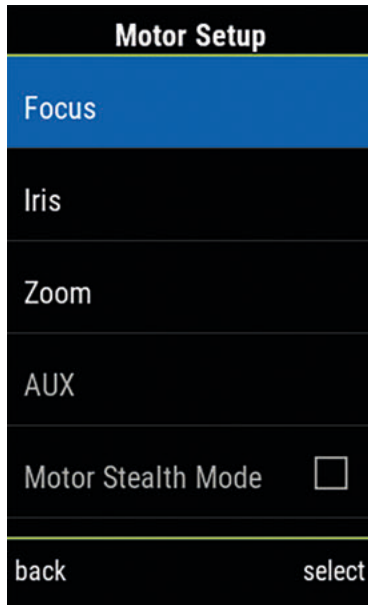
This feature can be turned on/off on the Hi-5 SX with All-Axis license.

Control Setup	
Knob	Focus
Slider	Off
Force-Pad	Off
Distance Arrow Damp.	0
back	select

5.3.3 Motor Setup

The Motor Setup screen allows the changing of motor settings for motors controlled by the Hi-5 or Hi-5 SX hand unit.

Torque, Side, and Teeth can be set for each controlled motor.



5.3.4 User Buttons

The User Buttons screen allows the configuration of custom user buttons for a wide variety of features such as menu shortcuts, triggering/toggling settings and camera control.

User buttons 4-9 can be renamed by the user for ease of use.

HINT

User Buttons 4-9 are included by default in the Hi-5 hand unit, but requires a license (Hi-5 SX Plus License) for the Hi-5 SX.

Menu Hi-5

User Buttons	
Button 1	None
Button 2	None
Button 3	None
Display User Buttons	
Button 4	None
back	rename select

User Buttons	
Button 5	None
Button 6	None
Button 7	None
Button 8	None
Button 9	None
back	select

Menu Hi-5 SX

User Buttons	
Button 1	None
Button 2	None
Button 3	None
Display User Buttons	
SX Plus License required	
back	select

Categories Hi-5 & Hi-5 SX

User Button Category	
Off	
Hi-5 Interaction	
Hi-5 Menu Shortcuts	
Hi-5 Marks	
Camera User Buttons	
back	select

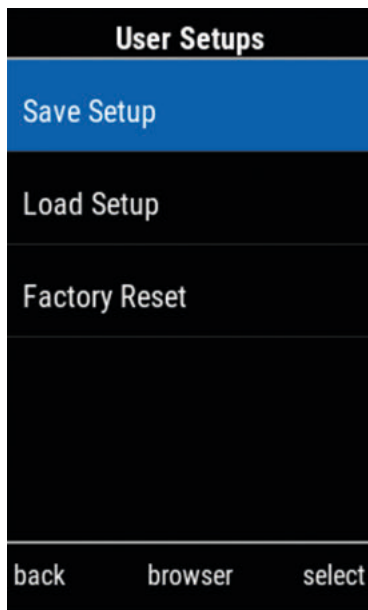
User Button Category	
Camera User Buttons	
Camera SDI Settings	
Camera Control	
Focusbug	
Cinefade	
back	select

HINT

Holding FUNC button while pressing a user button provides a shortcut to change the setting of that button

5.3.5 User Setups

The User Setups screen allows the saving, loading and exporting of configuration files for the Hi-5 & Hi-5 SX hand unit.



HINT

Please note that user setups will be deleted after a firmware installation or a factory reset. We recommend a backup on a USB flash drive or the Sync App.

5.3.6 System

The system screen contains all parameters for customizing the look and feel of the Hi-5 & Hi-5 -SX hand unit as well as options regarding software versions, logfiles and licensed features.

System/系统	System/系统	System/系统
Buttons + Display >	Bluetooth >	Time + Date >
Vibration >	Time + Date >	System Info >
Nudge >	System Info >	Update >
Rec Beeper >	Update >	Logfiles >
Licensed Features >	Logfiles >	Language/语言 English
back select	back select	back select

Buttons + Display

Select *Buttons + Display* to configurate buttons, display and multi segment settings

Buttons + Display		Buttons + Display	
Light + Color	>	Disable Touchscreen	<input type="checkbox"/>
Multi Segment Camera Info		Disable Force-Pad	<input type="checkbox"/>
Disable Touchscreen	<input type="checkbox"/>	Left-Handed Mode	<input type="checkbox"/>
Disable Force-Pad	<input type="checkbox"/>	Menu Scroll Speed	10
Left-Handed Mode	<input type="checkbox"/>	Disable REC Button	<input type="checkbox"/>
back	select	back	select

Vibration

Select *Vibration* to configurate the signal length of the vibration alert.

Vibration	
Lens Marker	Short
Override	Short
Recording	Short
Tail-slate	Tick
User Buttons	Tick
back	select

Nudge

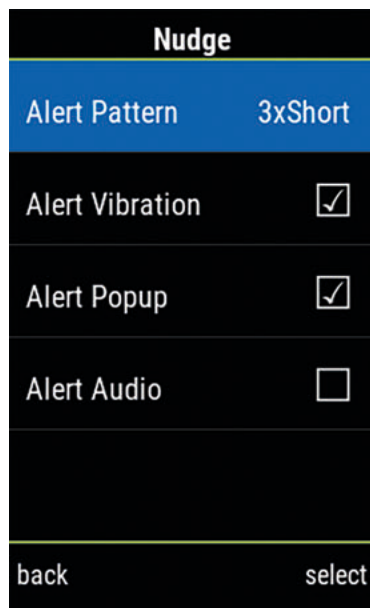
Nudge is a new and unique feature to enable silent communication between members of the camera department. A Nudge can be triggered from several ARRI devices, while the receiving device can be set to vibrate or to show a display notification. At the date of this release, nudge can only be sent from and to wireless devices connected to the same radio receiver (e.g. a RIA-1 or ALEXA 35 camera). It is currently not possible to use nudge when connected via LBUS.

At the moment, nudge can be triggered from a Hi-5, Hi-5 SX or ZMU-4 via user buttons and it will be extended to further hand units and cameras with future SUPs.

Nudge can be received at a Hi-5, Hi-5 SX and WCU-4.

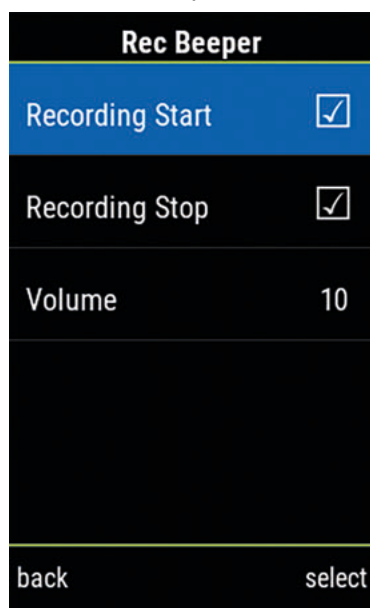
For Hi-5 and Hi-5 SX, nudge can be configured in the system menu: *MENU > System > Nudge*. The factory default notification for Hi-5 and Hi-5 SX is none. Nudge notification cannot be configured for the WCU-4, and all WCU-4 devices will vibrate at a nudge event.

Nudge is a new and novel idea that we are still developing. It still has limitations and will improve and grow in future. Please test if nudge is working in your setup before using it on set.



Rec Beeper

Select *Rec Beeper* to activate/deactivate the beeper and the volume of it.



Licensed Features

Select *Licensed Features* for installing/handling all available licenses.

For License deactivation proceed as follows:

- Store the license file onto a USB drive under ARRI/Hi-5/LICENSES and connect it to your hand unit.
- Go to *MENU > Licensed Features*.
- Press & hold the *FUNC* button to show the deactivate option.
- Press deactivate.

Reactivating a deactivated license is similar to installing a license and requires the same license file on a USB drive.

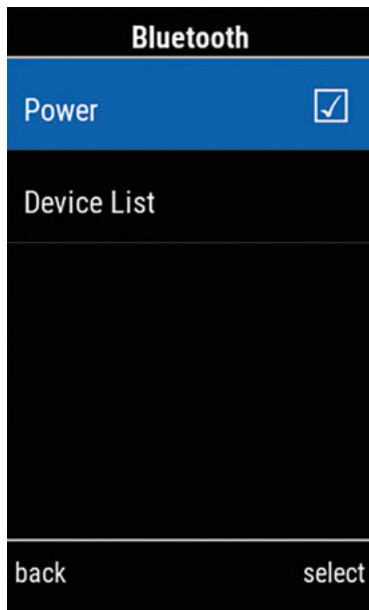
Licensed Features		
Focusbug	∞	
Red	∞	
Sony	-	
Cinefade	∞	
back	hw info	install

HINT

Only licenses which are actively installed on a hand unit can be deactivated. It is therefore not possible to deactivate an All-Axis or Plus license on a original Hi-5.

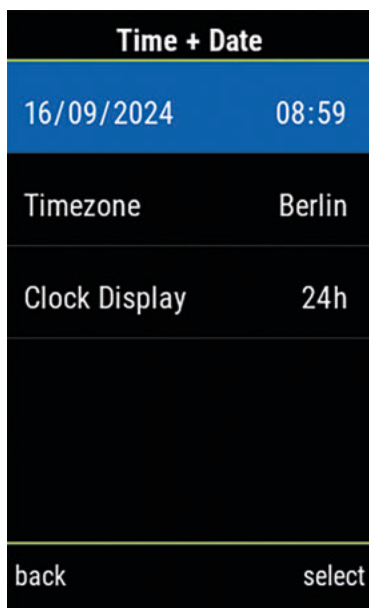
Bluetooth

Select *Bluetooth* to activate or deactivate Bluetooth.



Time + Date

Select *Time + Date* to set the system time and date.



System Info

Select *System Info* to see all important system information.

System Info	
Software Version	3.0.1
Software Date	2024-09-11
Serial Number	62865
Radio Type	RF-EMIP
Radio MAC	37:22:01
back	regulatory

Update

Select *Update* to update your hand unit.

Update	
Firmware Update	
HW Info	
LBUS Devices	
Prepare USB Medium	
back	select

Update procedure via USB:

1. Turn on the Hi-5 or Hi-5 SX.
2. Insert the USB drive into the corresponding USB slot.
3. Prepare the USB drive by entering the settings menu and selecting *System/Update/Prepare USB medium*.
4. Unplug the USB drive from the Hi-5 and connect it to your computer.
5. Copy the Software Update Package file into the folder *ARRI/Hi-5/SUP*, created on the USB drive.
6. Eject the USB drive from your computer and insert it into the corresponding USB slot of the Hi-5/Hi-5 SX.
7. Enter the settings menu and go to *System/Update/Firmware Update* and select the update file.

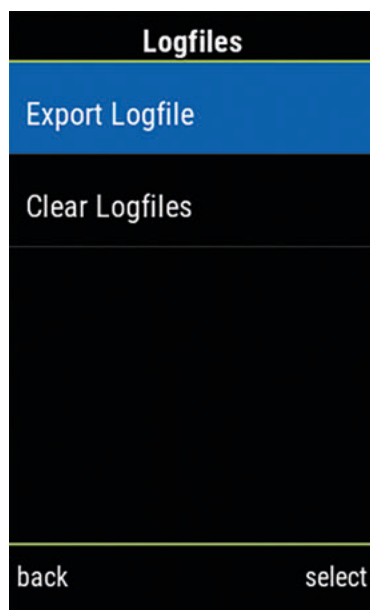
8. Confirm your selection by pressing *select*.
9. Wait for the update file to be validated, then confirm by pressing *update* and follow the update procedure.
10. The update process takes about 90 seconds. The Hi-5/Hi-5 SX will re-boot two times during the update process. Then the update is completed.
11. Please double check the software version under *System/System Info*.

HINT

Do not remove the USB drive while updating the Hi-5/Hi-5 SX!

Logfiles

Select *Logfiles* to export or clear logfiles.



Language

Select *Language* to set the system language between English, Chinese, Spanish and German.



6 Preparations & Basic Settings

6.1 Inserting the Battery Pack

1. Open the battery compartment.
2. Insert the ARRI LBP-3500 battery pack.
3. Close the battery compartment.

HINT

Use the LBP Battery Charger to charge the battery before use.

6.2 Attaching Smart Rings

1. Go to *Rings* menu and select *Auto*.
2. Slide the ring onto the knob so that the notch on the ring meets the registration pin on the knob.
3. The ring will be automatically detected by the Hi-5 & Hi-5 SX hand unit.

6.3 Attaching a Radio Module

1. Push back and hold the radio module release latch.
2. Remove the RF cover or an attached radio module by sliding it upwards.
3. Insert a radio module by fitting it into the radio module slot.
4. Slide the radio module downwards until the release latch pops back in place.
5. The radio module is attached and ready for use.

HINT

You always need the same type of radio module on the camera side!

If you use an RF-2400 or RF-900 radio module with Hi-5 or Hi-5 SX, you need the same on the camera side, attached to the Radio Interface Adapter RIA-1.

If you use the RF-EMIP module, you are compatible with the white-coded radio module built in ARRI cameras and motor controllers.

6.4 Setting Language

The graphical user interface of the Hi-5 & Hi-5 SX is available in English, Chinese, Spanish and German language.

1. Go to MENU > System > Language.
2. Select your desired language.

6.5 Setting Time and Date

The Hi-5 & Hi-5 SX provides log file generation for service purposes. Time and date are essential information for those log files. Therefore, it is recommended to set time and date before use.

1. Go to MENU > System > Time + Date > Timezone.
2. Select the timezone you are in.
3. Go to the menu item displayed *Date/Time* and set the current date and time.

7 Camera & Lens Control

7.1 Connecting to Host Device

1. Go to *MENU > Radio*.
2. Select the same radio channel as set on the corresponding camera host.
3. Switch the radio transmission on by ticking the *Power* checkbox.

The selected radio channel will be indicated in the top left area of the *LDD* screen. A signal strength indicator will be displayed as soon as a connection between Hi-5 or Hi-5 SX and camera host is established.

HINT

Any region setting set in the Hi-5 *Radio Menu* prior to connecting to a host device will be overruled by the region setting of the host device.

Make sure that the selected region setting fits your location. It may not be legal to operate the Hi-5 hand unit with the attached radio module in a country/region other than the country/region set in the Hi-5 system. Switch the radio off and use the device in hardwired mode if you are unsure of the correct region setting.

7.2 Camera Control

The Hi-5 and Hi-5 SX hand unit provides remote camera setup capabilities for ARRI and third-party cameras. ARRI camera control is included by default, third-party camera control requires additional licenses.

7.2.1 ARRI Camera Control

The Hi-5 & Hi-5 SX hand unit provides remote camera setup capabilities for ALEXA cameras, as well as for AMIRA if combined with the Universal Motor Controller UMC-4 or the cforce mini RF lens motor. This does not require an additional license. The following functions are supported:

- Rec start/stop
- Full Playback Control (ALEXA 35/35 Live/Mini/Mini LF/AMIRA)
- Sensor Frame Rate
- Shutter Angle
- Exposure Index
- White Balance
- ND Filter (ALEXA Studio and ALEXA 35/35 Live/Mini/Mini LF/AMIRA)
- Peaking on Monitor Output (on/off)
- Surround View on Monitor Output (on/off)
- False Color on Monitor Output (on/off)
- Status Info on Monitor Output (on/off)
- Frame Lines on Monitor Output (on/off)
- Hand Unit User Buttons
- Camera User Setups (ALEXA 35/35 Live/Mini/Mini LF)

7.2.2 RED Camera Control

RED camera control is available with the Hi-5 and Hi-5 SX with the Radio Interface Adapter RIA-1 as well as the cforce mini RF lens motor (SUP 2 onwards). It requires the RED Camera Control License Key installed on Hi-5/Hi-5 SX.

The RED Camera Control License Key unlocks remote control of frame rate, shutter angle, ISO, white balance, playback and camera user buttons. Supported features depend on camera model and camera settings.

7.2.3 Sony Camera Control

Camera control for Sony Venice and Venice 2 is available with the Hi-5/Hi-5 SX and the Radio Interface Adapter RIA-1 as well as the cforce mini RF lens motor (SUP 2 onwards). It requires the Sony Camera Control License Key installed on the Hi-5/Hi-5 SX.

The Sony Camera Control License Key unlocks remote control of frame rate, shutter angle, ISO, white balance, ND filter, playback and camera user buttons. Supported features depend on camera model and camera settings.

7.3 Controlling Lens Motors

1. Connect the lens motors to the camera host device and power up. In case you use cforce motors, assign each motor to the respective lens axis (see cforce motor user manual for details).
2. Power up the hand unit by pressing the *Power* button.
3. Connect to the host device. A calibration request will appear on the screen.
4. Calibrate all lens motors by pressing the Cal screen button twice.

You can now use knob, slider and force-pad to control the motors they are assigned to. You can change the control for a lens motor at *MENU > Control Setup*.

7.4 Getting Lens Data

The Lens Data Display (LDD) shows the current settings of the lens. It provides numerical values for the focus and zoom settings, as well as iris and focus scales. The yellow depth-of-field bar right to the focus scale indicates the distance range between the nearest and the farthest objects that are in acceptably sharp focus.

Lens data is generated with encoder values representing the physical settings of the lens rings and a lens file translating those values into human-readable numbers. In case you use an LDS lens on an ARRI camera you will get lens data instantly. In case you use a non-LDS lens the encoder values are generated by the lens motors and you have to manually load the corresponding lens file.

Wireless Lens File Transfer

The Hi-5 hand unit can transfer lens files wirelessly to the following devices:

- ALEXA cameras with integrated RF-EMIP module
- Radio Interface Adapter RIA-1
- ZMU-4 (Radio Host mode)
- cforce mini RF (Radio Host mode)

To transfer a lens file wirelessly from Hi-5, do as follows:

1. Go to *Lens > Lens Files*.
2. Select lens file.
3. Press *use* to send the lens file to the camera device and activate it there.

Lens Transfer with External Flash Drive

Lens file transfer with an external flash drive is required for the following devices:

- All ALEXA Classic cameras including the Plus Module (ALEXA Plus, ALEXA SXT, ALEXA LF, ALEXA 65)

To transfer lens file with an external flash drive from Hi-5, do as follows:

1. Prepare an SD card with the following folder structure: ARRI/ALEXA/LDA.
2. Attach a card reader with the SD card into the USB-C port of the Hi-5 or Hi-5 SX.
3. Go to *Lens > Lens Files*.
4. Press *browser > Internal* and select the lens file you want to transfer to the camera.
5. Press *cut/copy* to select whether to copy or move the lens files to the SD card.
6. Remove SD card from Hi-5 or Hi-5 SX and insert it to the camera.
7. Load the lens files into the camera.

Setting the Circle of Confusion

The yellow depth-of-field bar right to the focus scale indicates the distance range between the nearest and the farthest objects that are in acceptably sharp focus. It is calculated based on focal length (zoom setting), focus distance (focus setting), aperture (iris setting) and the circle of confusion size.

While focal length, focus distance and aperture depend on the physical settings of the lens, the circle of confusion can be set as a numerical value in the hand unit.

To set the circle of confusion, do as follows:

1. Go to *Lens > Circle of Confusion*
2. Select a circle of confusion diameter.

The perceived sharpness of an image depends on the lens characteristics, the camera sensor and image processing, the scene content, the setting of the lens and eventually the display the image is viewed on.

The dept-of-field bar on a hand unit is just an indication for the distance range in which objects appear in acceptably sharp focus.

Always test the actual depth-of-field of your setup before shooting and adjust the circle of confusion if needed.

As a guideline, we recommend the following circle of confusion settings:

0.013mm	For maximum detail contrast on Super 35 cameras.
0.025mm	Standard setting for Super 35 cameras.
0.035mm	Standard setting for Large Format cameras.
0.050mm	Standard setting for 65mm cameras.

7.5 Lens Mapping

Lens files are needed to generate lens data for the Lens Data Display, focus mapping to pre-marked focus or iris rings, focus tracking and as metadata in mixed reality or postproduction.

Follow these steps to program a lens file:

1. Go to *Lens > Lens Mapping*.
2. Calibrate the lens motors or skip calibration if they are calibrated already.
3. Follow the on-screen guidance and enter the lens brand, type and focal length, serial number and focus unit.
4. Set the correct teeth count
5. Select the *Focus*, *Iris* or *Zoom* axis to enter the data points.

Use the FUNC button to toggle through the available options:

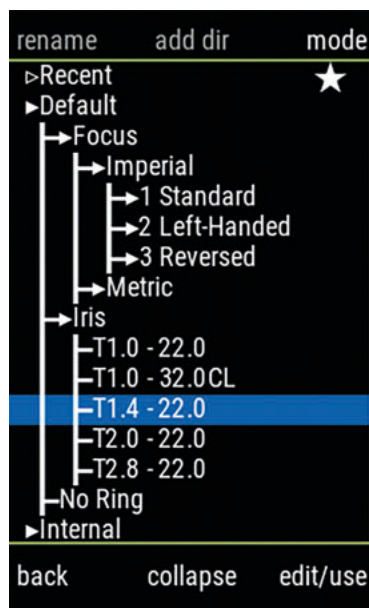
add	Add a value
value	Show the value on the Lens Data Display
line	Show the line on the Lens Data Display
snap	Snap to the nearest value to the current position of the control element
move	Move a single mark
offset	Move the whole scale
delete	Delete a selected mark
back	Quit programming a scale without saving
Finish	Finish programming the axis

7.6 Lens File Management

Hi-5 and Hi-5 SX contain an internal memory space for storing lens files. There are two ways to exchange lens files with external devices:

1. ECS Sync app (iOS)
2. USB A or USB C interface

The file browser allows for folder creation and organization, as well as lens file copying, moving, importing, and exporting.



Favorite Page

User have now the possibility to select any lens folder in the Hi-5 lens file browser as favorite by pressing the favorite button. The selection is indicated by the * symbol in the lens file browser. Lens file favorites can quickly be changed between different folders, streamlining the process of moving between multiple lens packages. This feature allows users to have faster access to their most frequently used lens files on the set. It is also possible to select the Recent Lens Files as favorite.

HINT

Please note that user lens files will be deleted after a firmware installation or a factory reset. We recommend a backup on a USB flash drive or the ECS Sync App.

Transferring Lens Files from Hi-5/Hi-5 SX to App

Connect Hi-5 or Hi-5 SX with the ECS Sync App. Then do the following:

1. Open the ECS Sync App.
2. Go to the *ARRI Device* tab.
3. Tap on the icon of the connected Hi-5.
4. Go to *Lens Files* and mark the checkboxes of the lens files to be transferred
5. Tap on *Move files* on on the lower left of the app screen.
6. Select the location you want to move the files to in your app. This can be the app's root folder, an existing folder or you can create a new folder.
7. Tap on *Move here* to perform the download.

Transferring Lens Files from App to Hi-5/Hi-5 SX

Connect Hi-5 or Hi-5 SX with the ECS Sync App. Then do the following:

1. Open the ECS Sync App.
2. Go to the *Phone* tab.
3. Mark the checkboxes of the lens files you want to transfer
4. Go to *Lens Files* and mark the checkboxes of the lens files to be transferred
5. Tap on *Move files* on the lower left of the app screen.
6. Select the *Lens Files* folder.
7. Tap on *Move here* to perform the upload.

Transferring Lens Files from External Flash Drive to Hi-5/Hi-5 SX

Connect an external flash drive to the USB connector. Then do the following:

1. Enter *Lens* menu.
2. Select *Lens Files*.
3. Select *External Lens Files*. in the browser menu.
4. Press mode and select folder or the lens files you want to import.
5. Press cut/copy to move or copy the selected lens files to the internal memory of Hi-5 or Hi-5 SX.

Transferring Lens Files from Hi-5/Hi-5 SX to External Flash Drive

Connect an external flash drive to the USB connector. Then do the following:

1. Enter *Lens* menu.
2. Select *Lens Files*.
3. Select *Internal Lens Files* in the browser .
4. Press mode and select folder or the lens files you want to export.
5. Press cut/copy to select whether to move or copy the selected lens files and decide whether to cut/copy the lens files to the ARRI/Hi-5/LDA folder or a new sub folder which can be created by pressing *add dir*.

7.7 Virtual T-Stop

If no T-Stop lens data are present, a virtual T-Stop can be manually set or assigned to the slider in the Hi-5 Lens menu. The values can now be entered in full stops and fractions of a stop for easier adjustments. When not in use it can be quickly deactivated.

7.8 Virtual F-Length

If no focal length lens data are present, a virtual focal length can now be set in the Hi-5 & Hi-5 SX Lens menu. The virtual focal length can be manually set or assigned to the Force-Pad to allow quick adjustments in the case of zoom lenses. It can also be quickly deactivated when usage is not desired.

HINT

The hi-5 SX requires an All-Axis license to enable the Virtual T-Stop and Virtual F-length feature. Without the license, only manual value T-Stop and focal length values can be entered.

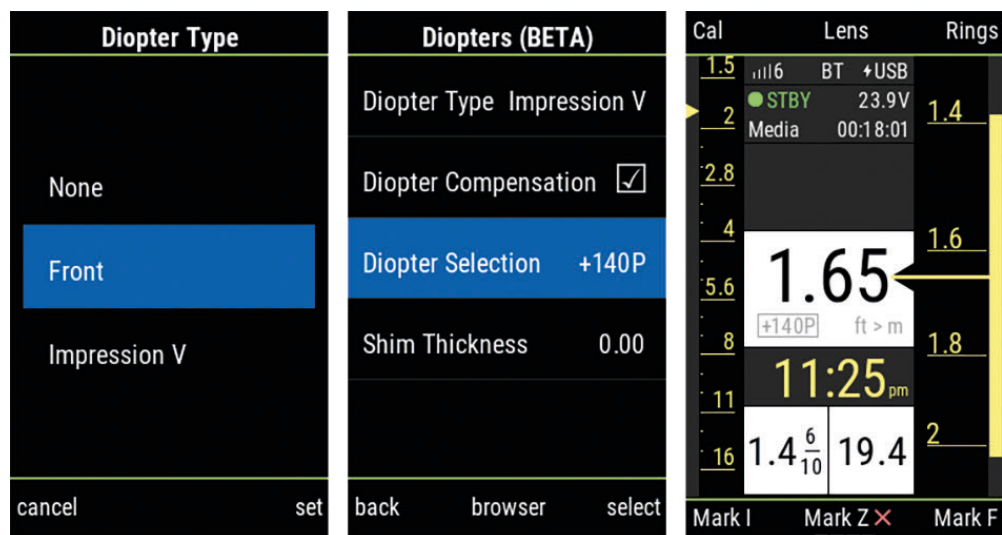
7.9 Diopter Compensation (BETA)

Diopter Compensation is a new feature for the Hi-5 and Hi-5 SX with Plus license that is currently in beta stage. With diopter compensation active, the lens data is corrected for the focus shift happening due to a front diopter or a Signature Impression V Filter.

A diopter type (Front or Impression V) can be set via LENS > DIOPTERS (BETA). Depending on the diopter type, different parameters must be set:

- For front diopters, the distance between the image sensor and the diopter glass (Sensor to Diopter), as well as the Diopter Power are the determining parameters. For the given parameter pair, the achievable focus range (near and far limit) is shown on the screen. This allows the user to determine if the chosen diopter power is suitable for the specific use case immediately.
- For Signature Impression V Filters, it is mandatory to select the diopter type (e.g. +230P) and the used shimming thickness of the lens. The algorithm is designed to compensate for small deviations of the flange focal distance (FFD) due to varying iris or zoom values. We therefore recommend using a standard 2mm shim for negative filters while no shim is required for positive filters.

DIOPTER COMPENSATION can be turned on/off by checking the corresponding field in the menu, or via a User Button. When active, all compensated FIZ values will be highlighted with a white background. The compensation is only applied to the current FIZ values (numerical values), but not the lens scales. These are not altered and represent the values of the lens barrel. Therefore, focus tracking is deactivated when diopter compensation is active.



8 Smart Rings

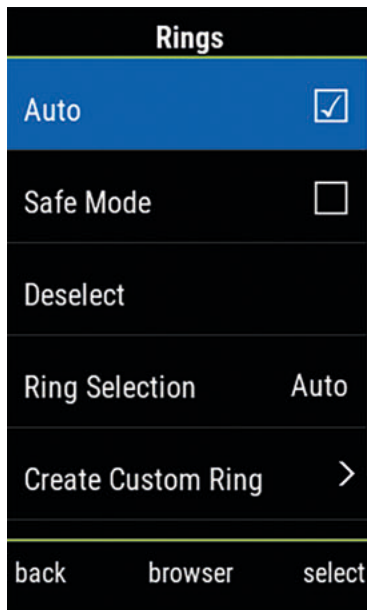
ARRI's Smart Rings provide a versatile solution for precise focus and iris control. These rings, pre-marked with scales or blank, are equipped with an integrated chip that stores the corresponding scale information, enabling seamless integration with ARRI's systems.

One of the key features of Smart Rings is their adaptability. Users can create custom ring files that can be flashed onto Smart Blank Rings, allowing for personalized configurations. These custom rings are automatically recognized by any connected Hi-5 or Hi-5 SX hand unit.

8.1 Rings Menu

Smart Focus, Iris & Custom Rings can be automatically detected by the Hi-5 or Hi-5 SX hand unit. Therefore, select *Auto* in the rings menu.

It's also possible to deselect the chosen ring by pressing *Deselect*.



Safe Mode

Safe Mode will keep the current smart ring active until a new smart ring is attached. Therefore, removing a smart ring with safe mode enabled will have no effect and there is no risk of unwanted smart ring detachment.

Safe Mode is enabled by default and it is recommended to leave it active.

8.2 Smart Focus & Iris Rings

To use a Smart Ring, do as follows:

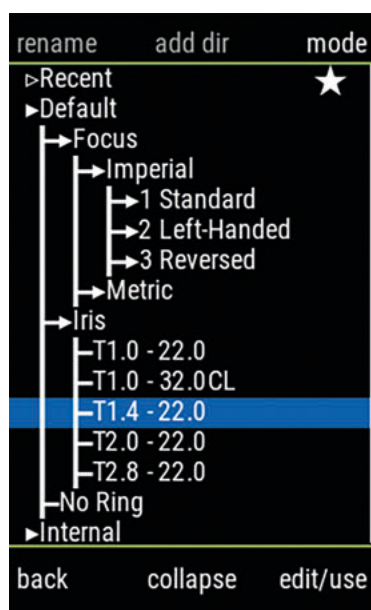
1. Go to *Rings Menu* and press *Auto*.
2. Slide the ring onto the knob so that the notch on the ring meets the registration pin on the knob.

The ring will be automatically detected by the Hi-5 or Hi-5 SX hand unit.

Ring Selection

The *Rings Menu* has been enhanced with a powerful file browser that allows all the file operations and contains all the default ring files. The lower middle display button offers quick access to the browser. If no favorite folder is selected, the favorite screen is bypassed.

Marking one of the folders as favorite is a quick way to ensure that only rings applicable to the current user are shown and can be quickly changed.



HINT

All standard ARRI premarked focus and iris rings are available in the default section.

HINT

Focus or iris rings require correct lens data to work. Simply use a LDS lens or load a lens file.

8.3 Custom Smart Rings

Custom smart rings are a new and powerful tool which allows users to create their own personalized Focus or Iris rings. Users can create their individual ring scale, as well as a unique ring design. The ring scale can be flashed to a blank custom smart ring and used with any Hi-5 or Hi-5 SX. Note: A custom smart ring can be used with any Hi-5 or Hi-5 SX and not only with the unit it is created with.

The custom smart ring creation is available to all Hi-5 hand units and to Hi-5 SX hand units with the Plus license, while the use of custom smart rings is possible without any license.

The process of making a custom smart ring is quick and simple and a custom smart ring could theoretically be marked by hand. Creating and printing a ring design is optional and provides a beautiful and unique possibility to give the smart rings a personal touch. Furthermore, custom smart rings make it possible to create focus or iris rings that only cover very little range, spread out over a large part of the ring or create a setup where every custom smart ring has certain marks at the exact same position.

Especially useful for custom iris rings, it is now possible to reduce the spread of the scale to less than the knob rotation by adding one more stop at the close knob position (e.g. on a lens with T16 add a T22 mark) and then moving the close iris to the desired position.

As it might need some time to get used to the custom smart ring, we recommend setting your rings up in advance of a shot before using them on set.

HINT

Custom Smart Ring creation is included by default in the Hi-5 hand unit but requires a license (SX Plus License) for the Hi-5 SX.

8.4 Creating Custom Smart Rings

Prerequisites:

- Hi-5 or Hi-5 SX with Plus license
- Blank ring
- USB drive
- PC or laptop with a graphics tool (e.g. Inkscape (freeware) or Adobe Illustrator)
- Office laser printer (recommended) or inkjet printer
- A4 (or similar) sized labels - we have seen better results on matte surfaces rather than on glossy ones

Create a custom smart ring scale:

- Enter the *RINGS* menu and select *Create Custom Ring*
- Follow the steps of the user interface until the custom ring scale can be created
- Use the Hi-5 knob to select values of the ring scale
- Go to the closed knob position to modify one end of the scale
- Got to the open / far knob position to modify the other end of the scale
- Any value of the scale can be grabbed and moved or deleted again. Up to five scale values can be individualized including the close and far values.
- The scale between values can be set to logarithmic or linear except the scale towards infinity which must remain logarithmic.
- Flash the scale to any blank custom ring as a final step of the ring creation user interface. Note: Pre-marked smart rings are protected and can't be customized

Create a custom smart ring design:

- Go to the *RINGS > Manage Custom Ring* menu and select *Design Printable Scale*
- Select the density of your scale via the density button
- Create your unique basic design by choosing the length and width of the major scale lines and by moving the numeric values. Note: Major lines are lines with a numeric value.
- Press the minor button and modify the design of the minor lines.
- Save the custom ring design file (*.svg vector graphics) to a USB drive connected to the Hi-5. The file will be stored under: *ARRI\Hi-5\RINGS*.
- Open the file on your PC and go as crazy as you like with the design – it might make sense to remove lines, modify font sizes and add coloring for day-to-day use.
- We recommend making a test print on paper to check the measurements and color reproduction. There is a ruler printed with the ring design and you can simply measure if it has the correct length.
- Print the design on a label via an office printer and make sure the dimensions are correct.
- Cut out the printed ring design and attach it to the blank ring – we recommend starting at the notch and working your way around the ring from there.
- If you used an inkjet or plan to make marks on your ring, it is recommended to cover the ring with a transparent adhesive tape of your choice. There are writeable matte choices that work well.

9 Override Mode

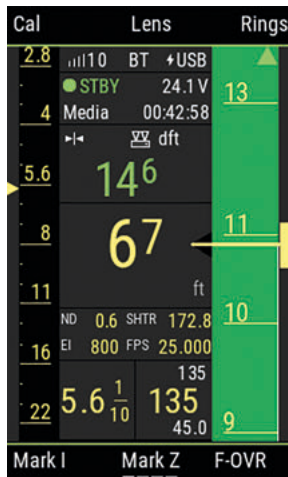
The Override function enables operators to override and return focus, iris or zoom control at the touch of a button on the Operator Control Unit OCU-1 or the Master Grips.

The Hi-5 indicates the Override mode and enables a smooth transition.



OCU-1/Master Grip overrides focus control from Hi-5. Hi-5 focus scale turns red.

Hi-5 has no control over focus axis.



Return focus control to Hi-5 on the OCU-1/Master Grip or by pressing the F-OVR button on the Hi-5. The Hi-5 focus scale turns green. The focus knob is still offset (see motor trail at the currently set motor position).

Pull the motor trail towards the index line by turning the focus knob until the trail disappears. The Hi-5 re-engages with the lens motor.

10 ECS Sync App

The ARRI ECS Sync App runs on iOS devices and can be downloaded from the App Store for free. It provides the following functions:

- Managing, visualizing and sharing lens files.
- Managing and sharing Hi-5 & Hi-5 SX user setup files.
- Managing and sharing ring files.
- Performing software updates on Hi-5 or Hi-5 SX and connected LBUS devices.
- News and FAQs.

The ECS Sync App connects to Hi-5 via Bluetooth. To add your Hi-5 or Hi-5 SX to the list of Bluetooth devices on your iOS device, do the following:

1. Go to *MENU > System > Bluetooth*. (Please note, Hi-5/Hi-5 SX will only pair if in the Bluetooth menu).
2. Activate Bluetooth on your iOS device and add the Hi-5 to your device list (Hi-5 or Hi-5 SX is shown as hi-5-xxxxx, with xxxxx being the serial number).
3. Open the ECS Sync App. The app is now connected to your Hi-5 hand unit.

11 Licenses

11.1 Plus License for Hi-5 SX

The Hi-5 SX Plus License enables all advanced workflow and usability features for the Hi-5 SX:

- Lens mapping
- Custom Smart Ring creation
- Six additional user buttons
- Tail slate mode
- Diopter compensation (BETA)

11.2 All-Axis License for Hi-5 SX

The Hi-5 SX All-Axis License turns the Hi-5 SX into a multi-axis hand unit:

- Three-axis F/I/Z control with simultaneous use of the knob, slider, and force-pad
- Multi-axis lens scale
- AUX axis
- Full virtual T-stop and focal length feature

HINT

With the purchase of both SX licenses, the SX can be upgraded to a full Hi-5.

11.3 RED Camera Control License for Hi-5 and Hi-5 SX

The RED Camera Control License Key for Hi-5 activates remote camera setup capabilities via Hi-5 hand unit for RED cameras.

- Works in combination with RIA-1 or cforce mini RF
- Requires K2.0015758 Cable CAM (7p) – RED CTRL/D-Tap (0.6m/2ft)
- Supports DSMC2 cameras with Serial Ctrl Protocol set to Red Command Protocol (RCP)
- Supports DSMC3 cameras with Baud Rate set to 460800

This License supports the following features:

- Frame Rate
- Shutter Speed
- ISO
- White Balance
- ND Filter
- Playback (clip list handling)
- Playback (next clip/previous clip)
- Playback (Fast Forward)
- Camera User Buttons

11.4 Focusbug License for Hi-5 and Hi-5 SX

The Focusbug License Key activates remote Cine RT control capabilities via the Hi-5 hand unit. It is mandatory to set the ARRI Hi-Speed serial protocol in the Focusbug Cine RT system.

The License works with the following setups:

- RIA-1 as a radio host connected via a Focusbug serial cable to the Cine RT system.
- cforce mini RF as a radio host in combination with a LCUBE CUB-1 connected via a Focusbug serial cable to the Cine RT system.

Important info: Integration in the ALEXA 35 is planned and this Hi-5 license key will work in combination with the ALEXA 35 once available. As the ARRI Hi-Speed serial protocol provides 6 times faster distance readout on a Hand Unit, it is always recommended setting ARRI Hi-Speed protocol in the Focusbug Cine RT system when connecting to a LCUBE CUB-1.

The license includes the following parameters:

- Field of View
- Source Selection
- Film Plane Offset
- Sensitivity
- Limits - Set/Disable/Clear
- Lockouts - Set/Disable/Clear
- Crossover Distance - Value/Toggle
- 2x View
- Sync Mode

11.5 Sony Camera Control License for Hi-5 and Hi-5 SX

The Sony Camera Control License Key for Hi-5 and Hi-5 SX activates remote camera setup capabilities via Hi-5 hand unit for Sony cameras.

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

This License supports the following features:

- ND Filter
- Frame Rate (camera must be set to variable frame rate mode)
- Playback (next clip/previous clip)
- Playback (Fast Forward)
- Shutter Speed (Camera must be set to RM/RCP Control Mode)
- White Balance (Camera must be set to RM/RCP Control Mode)
- ISO as GAIN in dB (Camera must be set to RM/RCP Control Mode)

11.6 Cinefade License for Hi-5 and Hi-5 SX

The Cinefade License Key activates remote control of a Cinefade device via a Hi-5 or Hi-5 SX hand unit.

- Requires a RIA-1 or cforce mini RF to be used as the radio host
- VariND and Rotapola functions are also supported when connected hardwired via LBUS to a Hi-5. No Cinefade Effect possible without a RIA-1 or cforce mini RF in the LBUS chain.

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

This License supports the following features:

- VariND control via Hi-5/Hi-5 SX force pad or user buttons
- Rotapola control via Hi-5/Hi-5 SX 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)

12 Appendix

12.1 Hi-5 & Hi-5 SX Sets and Accessories

Hi-5 Sets

KK.0041791	Hi-5 Hand Unit Basic Set
KK.0041793	Hi-5 RX-TX 2400 Set
KK.0041792	Hi-5 RX-TX 900 Set
KK.0042529	Hi-5 Hand Unit Basic Set w/o Batteries, Charger
KK.0039973	Hi-5 Hand Unit Body Kit

Hi-5 SX Sets

KK.0051704	Hi-5 SX Body Kit
KK.0051708	Hi-5 SX Basic Set
KK.0051705	Hi-5 SX Basic Set w/o Batteries, Charger
KK.0051713	ECS Single Axis Starter Set

Hi-5 & Hi-5 SX Parts

K2.0039959	Hi-5 Neck Strap
K2.0039958	Hi-5 Hand Strap
K2.0037880	Hi-5 Monitor Bracket
K2.0039965	RF-Cover
K2.0039838	Bluetooth Dongle
K2.0040015	Hi-5 PanzerGlass

Hi-5 & Hi-5 SX Licenses

10.0040582	RED Camera Control License Key for Hi-5 and Hi-5 SX
10.0040584	Sony Camera Control License Key for Hi-5 and Hi-5 SX
10.0040585	Focusbug License Key for Hi-5 and Hi-5 SX
10.0040586	Cinefade License Key for Hi-5 and Hi-5 SX
10.0051711	Hi-5 SX Plus License
10.0051712	Hi-5 SX All-Axis License

Hi-5 & Hi-5 SX Power Supply

K2.0036022	Li-Ion Battery Pack LBP-3500
K2.0039874	LBP Battery Charger

Hi-5 & Hi-5 SX Smart Ring Sets

KK.0051709	Hi-5 Custom Smart Ring Set (5x)
KK.0047820	Smart Focus Ring Set Feet (10x)
KK.0047821	Smart Focus Ring Set Meter (10x)
KK.0047206	Smart Focus Ring Left Hander Set Feet (10x)
KK.0047205	Smart Focus Ring Left Hander Set Meter (10x)
KK.0047204	Smart Focus Ring Reverse Set Feet (10x)
KK.0047203	Smart Focus Ring Reverse Set Meter (10x)
KK.0047207	Smart Iris Ring Set (5x)

NOTICE

All rings can also be purchased individually. For details please see: [Sets and Accessories](#)

Hi-5 & Hi-5 SX Radio Modules

K2.0033702	RF-EMIP Radio Module 2400 MHz DSSS
KK.0039985	RF-EMIP Radio Module 2400 MHz DSSS Set (2x)
K2.0036598	RF-2400 Radio Module 2400 MHz FHSS
KK.0039984	RF-2400 Radio Module 2400 MHz FHSS Set (2x)
K2.0036599	RF-900 Radio Module 900 MHz FHSS
KK.0039986	RF-900 Radio Module 900 MHz FHSS Set (2x)
K2.0041437	900MHz Antenna RPSMA
K2.0002007	2400MHz Antenna RPSMA, straight

12.2 Radio Interface Adapter RIA-1

KK.0039980	Radio Interface Adapter RIA-1 Set
K2.0036186	Radio Interface Adapter RIA-1
K2.0039465	RIA-1 Bracket
KK.0047820	Smart Focus Ring Set Feet
KK.0047821	Smart Focus Ring Set Meter

12.3 ZMU - 4 and Accessories

KK.0043770	ZMU-4 Zoom Main Unit Basic Set
K2.0039926	ZMU-4 Zoom Main Unit Body
K2.0041744	Rosette Adapter RA-7
K2.0044203	Rosette Adapter RA-8
K2.0044543	ZMU-4 ARRI Rosette

12.4 Hi-5 Force-Pad Replacement

1. Unscrew both TX6 screws on the left top side of the hand unit and remove the button. Some older units may have a version with only one screw.
2. Mount the Hi-5 Force-Pad Cover Black (K4.0042707).
3. Tighten both TX6 screws and make sure the cover is mounted straight.

12.5 Advanced Service Training ECS

This pre-recorded online training is designed to transfer detailed knowledge about the service and maintenance of ARRI's Electronic Control System

Participants will get step-by-step instructions on how to disassemble and reassemble the ECS products, learning every action they might be confronted with on set or in the workshop.

After completing this training, attendees will be authorized to order tools and spare parts that are not available to others. You get permanent access to your personal online service training library, with pre-recorded videos, up-to-date service manuals, and software download links.

Details find here: [ARRI Advanced Service Training ECS](#)

13 ARRI Service Contacts

Please see the current list of service partners at [service contacts](#).



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