Stabilized Remote Head
SRH-3 & SRH-360  SUP 3.0

Manual

Date 01.06.2021

Dedicated to these products

KK.0037270  SRH-3 Stabilized Remote Head, No Radio, Set, Standard Joystick
KK.0037271  SRH-3 Stabilized Remote Head, No Radio, Set, Microforce Joystick
KK.0037272  SRH-3 Stabilized Remote Head, No Radio, Set, Broadcast Joystick

Dedicated to these products

KK.0037273  SRH-360 Stabilized Remote Head, No Radio, Set, Standard Joystick
KK.0037275  SRH-360 Stabilized Remote Head, No Radio, Set, Microforce Joystick
KK.0037276  SRH-360 Stabilized Remote Head, No Radio, Set, Broadcast Joystick
Scope

This document describes the components and the setup of the SRH-3 and SRH-360 Stabilized Remote Head system and its components.

Disclaimer

Before using the products described in this manual, be sure to read and understand all the respective instructions.

Otherwise the customer must contact ARRI before using the product.

While ARRI endeavors to enhance the quality, reliability and safety of their products, customers agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely.

To minimize the risk of damage to property or injury (including death) to persons arising from defects in the products, customers must incorporate sufficient safety measures in their work with the system and heed the stated conditions of use.

ARRI or its subsidiaries do not assume any responsibility for losses incurred due to improper handling or configuration of the product or other system components.

ARRI assumes no responsibility for any errors that may appear in this document.

The information is subject to change without NOTICE.

For product specification changes after this manual was published, refer to the latest published ARRI data sheets or release notes, etc., for the most up-to-date specifications.

Not all products and/or types are available in every country. Please check with an ARRI sales representative for availability and additional information.

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1 User Advisory / Application Requirements

The SRH-3 & SRH-360 stabilized remote head and related products should only be used by experienced and trained operators.

This product is not designed for inexperienced users, and must not be used without proper training.

Stabilization of remote heads is an extremely complex and at times difficult task and therefore stabilized remote heads do have their limitations. For example, the remote head will only correct for angular movement and not parallel movement. This means that when the remote head is attached directly to a lift, or to a pole, or structure that is subjected to vertical movement, it cannot compensate for lift as it moves up and down (because that movement is parallel). In order to absorb vertical and parallel movements, the remote head must be mounted on a suitable shock absorber.

Stabilization systems are limited by engine power, as well as their bandwidth or frequency response. Very fast movements required to correct the camera position may not be within system capabilities. This can be seen when using longer lenses.

The use of suitable Iso Dampers devices improves the application. Mounting a suitable Iso Dampers device between the remote head and the mounting point of the head, will soak up the fast, unwanted movements, leaving the stabilization with unwanted movements that are slower and within the bandwidth of the system.

There are many Iso Damper devices that follow different designs and qualities. Choosing the right Iso Damper is as important as the stabilized head itself.

Another purpose of Iso Dampers is that they decouple the stabilized remote head from some resonance and flexing of the mounting point.

All gimbal-based stabilized remote heads will always face some kind of drift. Drift is unwanted movement of the system usually caused by the gyro's and the earth's rotation, which can't be measured by the MEMS sensors.

Drift is normally measured in degrees per hour. The SRH-3 & SRH-360 remote head has a very small amount of drift that would only be noticed while the head is stationary over a long period of time. The average drift can be up to approximately 10° in 30 minutes. Drift can also be caused by a non-calibrated joystick or a loose camera setup, or an Iso Damper that is too soft.

Reduction of flexing or bending of the camera and lens package, and flexing of the remote head attachment are critical. The overall setup needs be as rigid as possible because any flexing can cause the head to vibrate or oscillate. Every attempt to improve the stiffness of the camera setup and the head attachment, and to reduce or eliminate any flexing should be made.

Many different camera and lens packages can be used with the SRH-3 & SRH-360, and there are also many different ways to mount the remote head. As a result, it is not always possible or practical to obtain perfect conditions regarding rigidity and balance. This may cause the load to become unstable and it will then shake and oscillate when the stabilization is active. In these situations, adjustment of the PID parameters will be required. The correct setting of these PID values is crucial for the proper working of the system.

An unbalanced camera setup will place more strain on the motors of the SRH-3 & SRH-360. The system will need more force to move the load and this will sometimes increase the possibility of the load becoming unstable, and that the remote head may over compensate or shake and oscillate.

Please remember that what the remote head is mounted on, and the manner in which it is mounted, will directly impact on its performance. The total mass of the head and its load are an important consideration when choosing how and where to mount it. This torque will change in direction and amplitude in varying amounts. The more solid the mount, the easier it is for the system to perform well. Sometimes even the leveling linkage on a camera crane will have play or backlash that allows the mounting point to move slightly when loads are reversed. If there is mechanical play between the components in the shock absorber, vibrations of the overall system may occur. Iso Dampers with the appropriate dimensions and hardness should always be used - the system may become too elastic if the Iso Damper used is too soft, causing vibration.

NOTE
Each of these aspects can lead to the motor power of single axis having to be lowered, which will limit the effectiveness of the overall stabilization.
2 For your safety

⚠️ Warning

The SRH-3 and SRH-360 stabilized remote heads and related products should only be used by experienced and trained operators. This product is not designed for inexperienced users and should not and must not be used without proper training. ARRI recommends that all users of the stabilized remote head read the manual in its entirety prior to use.

How To Use This Manual

All directions are given from a camera operator's point of view.

For example, camera-right side refers to the right side of the camera when standing behind the camera and operating it in a normal fashion.

NOTICE

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.

Strengthen Your Knowledge and Get Trained

The ARRI Academy courses provide unrivaled insights into the full possibilities of working with ARRI camera systems, camera stabilizer systems, lenses, lights and accessories. To learn more, please visit [http://arri.com/academy](http://arri.com/academy).

2.1 Risk Levels and Alert Symbols

Safety warnings, safety alert symbols, and signal words in these instructions indicate different risk levels.

⚠️ DANGER

*DANGER* indicates an imminent hazardous situation which, if not avoided, will result in death or serious injury.

⚠️ Warning

*WARNING* indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.

⚠️ CAUTION

*CAUTION* indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

*NOTE* explains practices not related to physical injury. No safety alert symbol appears with this signal word.

NOTE

Provides additional information to clarify or simplify a procedure.
2.2 Safety Instructions

⚠️ DANGER

Pay attention during setup and the entire operation that no fingers or limbs end up between the outer yoke and inner ring.
A high kinetic force can result between the outer and inner ring, depending on the weight and length of the camera.
Serious injuries can result through negligence. If this does happen then, cut off the power supply straight away and seek medical attention if necessary.

⚠️ CAUTION

Keep in mind that the SRH-3 & SRH-360 stabilized remote head is a fully stabilized Gimbal based device with a payload capacity of 30kg / 66 lb.
The amount of available torque is very high.
3 Generell Functions

3.1 Remote Head Front

- Mounting base for Mitchell Mount
- Emergency Stop Switch
- Pan axis
- Onboard computer
- Right junction box
- Yoke
- Mount for top support
- Left junction box
- Tilt motor
- Mounting platform
- Camera dovetail plate
- Side to side adjustment clamp

3.2 Remote Head Back

- Side Bracket mounting position (optional)
- Roll motor
- Roll motor
- Tilt Lock
- Roll axis
- End stop
- Clamp Lever fore and aft
- Safety lock camera dovetail plate
3.3 Connectors SRH-3

Right junction box

Left junction box

⚠️ CAUTION

The 12V aux power consumption should not exceed 14.4V / 5 Amps.

3.4 Connectors SRH-360

Right junction box

Left junction box

⚠️ CAUTION

The 12V aux power consumption should not exceed 14.4V / 5 Amps.

NOTICE

When using a 12G video signal from the camera, only a 12G video cable may be used. Using non-12G specified video cables will result in image quality problems.
3.5 Junction Box SRH-3

- Main power in
- FS CAN Bus
- FF CAN Bus*
- HD SDI Out 1
- Emergency Shut OFF Switch
- HD SDI Out 2

3.6 Junction Box SRH-360

- Main power in
- FS CAN Bus
- FF CAN Bus*
- 12 G HD SDI Out
- Emergency Shut OFF Switch

**NOTICE**

* Reserved for future accessories. Do not use!
### Available cables

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam Power, Cine, 12V, XLR, HiCap</td>
<td>K2.0010470</td>
</tr>
<tr>
<td>Cam Power, Cine, 24V, Fischer 2pin</td>
<td>K2.0010471</td>
</tr>
<tr>
<td>Cam Power, Cine, 24V, ALEXA Mini</td>
<td>K2.0020467</td>
</tr>
<tr>
<td>Cam Power, Cine, 12V, HiCap, ALEXA</td>
<td>K2.0010538</td>
</tr>
<tr>
<td>Cam Power, Cine, 12V, HiCap, ALEXA Mini</td>
<td>K2.0010540</td>
</tr>
<tr>
<td>Cam Power, Cine, 12V, HiCap, AMIRA, 90°</td>
<td>K2.0010565</td>
</tr>
<tr>
<td>Cam Power, Cine, 12V, HiCap, Red EPIC</td>
<td>K2.0010472</td>
</tr>
<tr>
<td>Cam Power, Cine &amp; EFP, 12V, XLR</td>
<td>K2.0010469</td>
</tr>
<tr>
<td>HD SDI BNC Cable</td>
<td>K2.0010476</td>
</tr>
<tr>
<td>Cable LBUS 0.2m/8 inch</td>
<td>K2.0006749</td>
</tr>
<tr>
<td>Cable LBUS 0.3m/1ft</td>
<td>K2.0006750</td>
</tr>
<tr>
<td>Cable LBUS 0.5m/1.5ft</td>
<td>K2.0006751</td>
</tr>
<tr>
<td>Cable LBUS 0.8m/2.5ft</td>
<td>K2.0006752</td>
</tr>
<tr>
<td>Cable LBUS 1.5m/5ft</td>
<td>K2.0006753</td>
</tr>
<tr>
<td>SRH Power Supply Set, 600W</td>
<td>K0.0019478</td>
</tr>
<tr>
<td>SRH Power Supply Power and Data Cable, 12V/24V, 20m/65.6ft</td>
<td>K2.0019303</td>
</tr>
<tr>
<td>SRH High Capacity Camera Power Cable Set</td>
<td>K0.0012269</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable Set, 12V/24V, 20m/66ft</td>
<td>K0.0021437</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable Set 12V/24V, 10m/33ft.</td>
<td>K0.0021438</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable, 12V/24V, 0.5m/1.64ft</td>
<td>K2.0019306</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable 12V, 4pin XLR, 20m/66ft</td>
<td>K2.0021430</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable 24V, 3pin XLR, 20m/66ft</td>
<td>K2.0021429</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable 12V, 4pin XLR, 10m/33ft</td>
<td>K2.0021428</td>
</tr>
<tr>
<td>SRH High Capacity Battery Power Cable 24V, 3pin XLR, 10m/33ft</td>
<td>K2.0021427</td>
</tr>
<tr>
<td>SRH FS CAN Bus Cable, 1m/3.2ft</td>
<td>K2.0033762</td>
</tr>
<tr>
<td>SRH FS CAN Bus Cable, 5m/16.4ft</td>
<td>K2.0037701</td>
</tr>
<tr>
<td>SRH FS CAN Bus Cable, 10m/32.8ft</td>
<td>K2.0019302</td>
</tr>
<tr>
<td>SRH FS CAN Bus Cable, 25m/82 ft</td>
<td>K2.0019301</td>
</tr>
<tr>
<td>SRH FS CAN Bus Coupler, 0.2m/0.65ft</td>
<td>K2.0019300</td>
</tr>
</tbody>
</table>
4 Remote Head Attachment

4.1 Mounting the Stabilized Remote Head

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to be able to use the maximum stabilization performance of the SRH-3 &amp; SRH-360, the remote head may only be mounted on cranes, dollies, towers, cable cams or other support suitable for use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting the stabilized remote head to a crane, dolly, support arm or any other device, has to be done by experienced operator or grip personal. Make sure that all safety regulations have been considered.</td>
</tr>
</tbody>
</table>

Step 1

4.2 Mechanical Home Position SRH-3

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since the SRH-3 has no slip ring and therefore the rotation of the pan axis is limited to +/- 270 °, the mechanical zero / home position must already be considered during the assembly of the SRH-3 on a crane or dolly. The position will be displayed as: -270° / 0° / +270°</td>
</tr>
</tbody>
</table>

Use the junction box at the pan axis as orientation:

In Underslung the junction box points into the set, in Overslung in the opposite direction.

<table>
<thead>
<tr>
<th>Underslung</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° / Home Position</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overslung</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° / Home Position</td>
</tr>
</tbody>
</table>

Step 2

4.3 ISO Damper

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilization systems are limited by engine power, as well as their bandwidth or frequency response. Stabilized remote heads have difficulty isolating certain shocks and violent movements in the vertical axis. Even certain lateral movements can not always be perfectly corrected. Very fast movements required to correct the camera position may not be within system capabilities. This can be seen when using longer lenses. The use of Iso Dampers devices improves the application. Mounting the Iso Dampers device between the remote head and the mounting point of the head, will soak up the fast, unwanted movements, leaving the stabilization with unwanted movements that are slower and within the bandwidth of the system. When a stabilized remote head, such as the SRH-3 &amp; SRH-360, is attached to a fast-moving vehicle that travels over difficult terrain, extreme shocks and forces are applied to the remote head.</td>
</tr>
</tbody>
</table>
4.4  
**Vibration Isolator for SRH-3 & SRH-360**

The vibration isolator offers Mitchell Mounts at both ends. To support fast and easy mounting of the SRH-3 & SRH-360, the shape of the lower blue Mitchell Mount is optimized for the SRH-3 & SRH-360.

**Order Numbers**

| Vibration Isolator for SRH, Gen. 2, metric, Basic Set | KK.0039359 |
| Vibration Isolator for SRH, Gen. 2, imperial, Basic Set | Available soon |

contains:

- K2.0038752 Vibration Isolator for SRH, Gen. 2, metric
- Or
- K2.00xxxxx Vibration Isolator for SRH, Gen. 2, imperial
- Plus
- K2.0038756 Wrench for SRH Castle Nut, Mitchell Mount
- K2.0038758 Case for Vibration Isolator for SRH, Gen 2

4.5  
**Black-Tek ISO Damper**

The Black-Tek ISO-Damper offers adjustable oil-dampened double axis swing. The damper perfectly reduces vibrations, when accelerating and braking the boom of a Techno-Crane. It will also prevent your remote head from damage when using it on tracking vehicles in rough terrain. A quick lock mechanisms will reduced rigging time.

Available soon

5  
**Camera Preparation / Balancing**

**NOTICE**

The entire balancing procedure of the stabilized remote head is based on symmetry and neutral balance.

Only a precisely executed camera preparation will enable you to get the best performance out of the SRH-3 & SRH-360 stabilized remote head.
5.1 The right Camera Dovetail Plates and accessories

We highly recommend to use the so called Stabilizer Adapter Mount / SAM plates.

The SAM plates ensure secure and vibration-free attachment of the camera to the SRH-3 & SRH-360. The SAM plates allow the use of other accessories, such as the SSB-1 bracket and the counterweights.

By mounting the Sam plates on longer CSS dovetail plates, longer camera settings can be used with the SRH-3 & SRH-360.

To secure the camera from the top, the Top support bracket is highly recommended.

LINK

5.2 Tilt Lock

DANGER
While camera setup the Tilt Lock needs to be engaged! (Locked)

Before powering up the remote head, the Tilt Lock must be disengaged!

An engaged Tilt Lock may cause damage by overheating the tilt motors.

Overcurrent detection remote head

In case the remote head detects that one or multiple of its axes can not be moved anymore for longer than 20 (pan and tilt axes) respective 5 (roll axis) seconds, all motors are turned off automatically and an according message is displayed at the remote control.

A common cause for this situation can be the tilt lock (which must be removed for the normal operation of the remote head). Or the roll axis is blocked by accessories, which are mounted to the camera.

Remove the condition which blocks the axis movement and cycle the emergency stop in order to enable the motors again.
**Step 5**

5.3  
**Mounting Camera Dovetail Plate**  
First open the clamp lever to insert the camera dovetail / SAM plate.

To remove the camera dovetail / SAM plate push the blue safety lock.

**Step 6**

5.4  
**Fore and Aft Balance**  
Unlock the tilt lock mechanism first.

Open the clamp lever to move the dovetail plate forward or backward.

Move the camera **fore** or **aft**, until the camera remains in a neutral horizontal position.

**NOTICE**  
When adding or removing components, the camera position must be readjusted.

**Step 7**

5.5  
**Side to Side Balance**  
Open the clamp lever at the front.

Move the camera **left** or **right** until the camera remains in a neutral horizontal position.

**NOTICE**  
When adding or removing components, the camera position must be readjusted.
6 \hspace{1cm} \textbf{Powering the SRH-3 & SRH-360}

\begin{table}[h]
\centering
\begin{tabular}{|l|}
\hline
\textbf{CAUTION} \\
\hline
To perform in the desired way, the stabilized remote head requires at least min. 24V / 8A over the 3pin XLR plug and min. 12V / 5A via the 4pin XLR plug. \\
Use only suitable and recommended power cords, batteries and power supplies. \\
Otherwise the desired performance cannot be guaranteed.  \\
The power supply for the EUT, has to provide "SELV" and a short-circuit-proof „limited power source“, according to EN 60950-1. \\
\hline
\end{tabular}
\end{table}

6.1 \hspace{1cm} \textbf{Batteries (Recommended)}

- BEBOB CUBE 1200 \hspace{1cm} \textsf{www.bebob.de}
- Anton Bauer CINE VCLX \hspace{1cm} \textsf{www.antonbauer.com}
- Block Battery \hspace{1cm} \textsf{www.blockbattery.com}
- Cinepower Magnum 60 \hspace{1cm} \textsf{www.cinepower.com}

\textbf{Step 8}

6.2 \hspace{1cm} \textbf{Wiring the SRH-3 & SRH-360 remote head and the Remote Control Panel}

\begin{itemize}
\item \textbf{12V / 24V Block batteries}
\item \textbf{FS CAN Bus}
\item \textbf{SRH Power Supply Set, 600W}
\item \textbf{12V}
\item \textbf{Note}
\end{itemize}

\textit{When using the external radio modules ERM-SRH 2.4 / 900 in wireless mode, an external 12V power supply for the remote control panel is required!}
7 Remote Control Panel

Step 9

7.1 Connecting the remote control panel with the remote head (hardwired)

Available cables
- SRH FS CAN Bus Cable, 1m/3.2ft
- SRH FS CAN Bus Cable, 5m/16.4ft
- SRH FS CAN Bus Cable, 10m/32.8ft
- SRH FS CAN Bus Cable, 25m/82 ft
- SRH FS CAN Bus Coupler, 0.2m/0.65ft

7.2 Functions on the top (factory presets)

7.3 Functions on the rear

7.4 Functions on the right and left side
8 Remote Control / GUI (Graphical User Interface)

8.1 Software factory presets

The SRH-3 & SRH-360 has a factory preset for the main functions such as joystick, speed and ramp. The factory preset settings ensure all necessary basic functions and enable immediate operation.

General functionality of the touchscreen

8.2 Home Screen
All fields marked in blue open a submenu for quick adjustments

8.3 Sub Menus

Touch Save to store the current settings.

Touch Factory Presets to reset the current setting to the factory settings.

Touch Discard to cancel the actual settings.

Touch Back to return to the previous page
Step 10

8.3 Emergency Stop remote control panel / remote head

This information appears on the screen after the emergency stop switch has been triggered.

The emergency stop switch can be triggered on the remote control panel and on the remote head.

This means that the remote head has its motors turned off as long as the emergency stop switch is activated.

8.4 Emergency Stop remote control panel

![Emergency Stop Remote Control]

⚠️ CAUTION

Do not pull the Emergency Stop knob! Turn the knob to the left.

8.5 Emergency Stop remote head

![Emergency Stop Head]

NOTE

An activated emergency stop switch will be lit by a red LED ring. Pressing the switch deactivates the emergency stop.

Step 11

8.6 Mounting Position

Once the remote control is connected to the remote head, the display will ask for the position of the remote head.
9 Controls Setup

Step 12

9.1 Auto Assignment Controller

For a fast and easy setup, this menu will show up, as soon the DRW-1, DEH-1, Knob Solo is connected to the remote control panel.

**NOTE**

Press **Cancel** if DRW-1 or DEH-1 has already been assigned and values have already been set.

Press **OK** to overwrite your last values.

**NOTE**

The Auto Assignment function can be deactivated in the **Settings** menu for the remote control.

9.2 Manual Assignment

Touch the **field** below Pan, Tilt, Roll and select the desired controller in the submenu.

**Available controllers Pan, Tilt, Roll**

<table>
<thead>
<tr>
<th>SJ1T</th>
<th>Standard J 1 Tilt</th>
<th>Standard Joystick 1 up/down</th>
<th>DRWP</th>
<th>DRW-1 Pan</th>
<th>DRW-1, ARRI Wheels, Pan</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJ1P</td>
<td>Standard J 1 Pan</td>
<td>Standard Joystick 1 left/right</td>
<td>DRWT</td>
<td>DRW-1 Tilt</td>
<td>DRW-1, ARRI Wheels, Tilt</td>
</tr>
<tr>
<td>MF1T</td>
<td>Microforce J 1 Tilt</td>
<td>Microforce Joystick 1 up/down</td>
<td>DRWR</td>
<td>DRW-1 Roll</td>
<td>DRW-1, ARRI Wheels, Roll</td>
</tr>
<tr>
<td>MF1P</td>
<td>Microforce J 1 Pan</td>
<td>Microforce Joystick 1 left/right</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BC1T</td>
<td>Broadcast J 1 Tilt</td>
<td>Broadcast Joystick 1 up/down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BC1P</td>
<td>Broadcast J 1 Pan</td>
<td>Broadcast Joystick 1 left/right</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1 ... K8</td>
<td>Knob 1 ... Knob 8</td>
<td>Knobs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1 ... B6</td>
<td>Button 1 ... Button 6</td>
<td>Buttons</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

As soon as a controller is connected to the Remote Control Panel, the following information appears briefly.
9.3 Changing Direction

The marked field indicates the selected direction.

Touching the marked field opens the Direction submenu.

Touching the field in the middle toggles between Standard and Reverse.

9.4 Speed (K1, K2, K3)

In factory preset Speed is assigned to:
K1 Pan
K2 Tilt
K3 Roll

Turning the knob to the right will increase the Speed value.
The selected Speed values are displayed on the home screen.

9.5 Ramp (K4, K5, K6)

In factory preset Ramp is assigned to:
K4 Pan
K5 Tilt
K6 Roll

Turning the knob to the right will increase the Start and Stop Ramp value.
The selected Start and Stop Ramp values are displayed on the home screen.

9.6 Controls On / Off

As a security measure, you can lock all controllers of the remote control panel by touching Controller On / Off.

Touching will toggle between On and Off.
10  PID / Quick Setup

NOTICE

It is important to understand and to accept that all necessary steps, such as setting up the camera, attaching the remote head to the crane, the quality of the crane itself and the PID settings, must be taken into account and properly performed.

1. Start with a solid camera setup.
2. Make sure that all required components are firmly attached to the camera.
3. Avoid assemblies that use tape or Velcro.
4. Check that all clamps are securely locked.

If only one step is missing, the desired overall system performance can not be achieved.

Step 13

10.1  PID Quick Setup

To reach the PID Quick Setup press PID at the Home page, then press Quick Setup.

10.2  Camera Weight / Size Preselection

With this simple selection you can set the weight and the length of the camera.

The selection then results in motor power and the necessary torque.

<table>
<thead>
<tr>
<th>Light</th>
<th>camera weight</th>
<th>5 - 10 kg</th>
<th>11 - 22 lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td>camera weight</td>
<td>10 - 20 kg</td>
<td>22 - 44 lb.</td>
</tr>
<tr>
<td>Heavy</td>
<td>camera weight</td>
<td>20 - 30 kg</td>
<td>44 - 66 lb.</td>
</tr>
</tbody>
</table>

When you have made your selection, press Apply.

NOTE

As soon as you manually fine-tune the PID values of the PID presets and thus change the PID presets, this is indicated by yellow values.
Step 14

10.3 Fine tuning of the current PID values

1. Set the Joystick Ramp to ZERO (Pan & Tilt) (K4 & K5)

2. Physical test to determine the necessary tilt power value. Touch the lens at the front end, slowly push the camera down and check if the tilt axis starts to slip.

3. If the Tilt axis slips, you must increase the Power value for the Tilt axis.

**NOTE**
When the remote head starts to vibrate, reduce the Power value!

4. Once the Tilt Power value meets your expectations, the same Power value will be used for the Pan axis as well. Press Save!

5. Adjusting the PID values:

**NOTE**
Now a camera picture on a larger monitor screen is needed.

6. Choose and frame a fixed point in the set.

7. Use the joystick and move the remote head to the selected position in the set and stop the head right there.

8. Check if the camera:
   - stops at the selected point
   - whether the camera exceeds the point
   - whether the camera is bouncing left and right

9. If the camera exceeds the desired point, increase the P and D values in increments of five.

**NOTE**
The D value must be min. 5 higher than the P value.

**NOTE**
When the remote head starts to vibrate, reduce the P value!

10. If the remote head bounces to the left and right when you reach the desired point, you must slowly increase the D value of the Pan axis.

11. Once the Pan PID values meets your expectations, reduce the P and D values by 10 and use the little lower values for the Tilt axis. Press Save!
11 Drop

Step 15

At very steep angles, the weight distribution of the camera setup changes extremely.

The weight of the camera remains the same during tilting, but the overall length of the weight distribution becomes shorter and shorter the steeper the tilt angle becomes. Therefore, power and torque must be adjusted in relation to the current angle of inclination.

A correct Drop setting permanently balances the Pan and Tilt values as the camera angle gets steeper and steeper.

11.1 Adjusting Drop

Touch Drop to open the Drop Sub Menu.

Slowly move the camera to the 90° top-down position.

As soon as the remote head starts to vibrate, slowly move the slider to the right and increase the Drop value until the remote head stops vibrating.

Press OK.

11.2 „Master Control“

NOTE
The Drop setting is a pretty powerful way to control the overall performance and behavior of the SRH-3 & SRH-360.

Although the PID settings were carried out perfectly, there may be undesirable vibrations in connection with the general mounting situation on the crane or dolly.

In order to get this unexpected vibrations under control immediately, it is advisable to assign the drop on one of the knobs, e.g. K7.

As soon as vibrations occur, simply turn K7 a little to the left to lower the drop value and the vibrations will disappear immediately.

**NOTE**
Without any Drop compensation, strong vibrations occur at steep angles.
12 Home Position SRH-3

This function moves the remote head back to its predefined starting position.

---

**NOTICE**
Since the SRH-3 has no slip ring and therefore the rotation of the pan axis is limited to +/- 270 °, the mechanical zero / home position must already be considered during the assembly of the SRH-3 on a crane or dolly.

The position will be displayed as: -270° / 0° / +270°

---

**NOTICE**
Use the junction box at the pan axis as orientation.

---

In Underslung the junction box points into the set, in Overslung in the opposite direction.

By default, this function is assigned to the Touch Screen.

Touching Home Position on the Home Screen, will open a submenu, where the remote head can be moved in the Home Position and where this function can be assigned to a button.

**NOTE**
If the function is used more often, it is helpful to assign it to B3.

---

**NOTICE**
With the SRH-3, the Home Position, are fixed values and cannot be changed by the user.

---

12.1 Setting a new Home Position SRH-360

By default, this function is assigned to the Touch Screen.

Touching Home Position on the Home Screen, will open a submenu.

To set a new custom Home Position, use the controller (joystick, wheels) to move the Pan, Tilt and Roll axes in the desired Home Position.

Press Set new Home Position

Press Ok to store the new Home Position.

**NOTE**
If the function is used more often, it is helpful to assign it to B3.
13 True Horizon

The True Horizon function, moves the Roll axis back to the set position.

When using the DRW-1 wheels or the DEH-1 encoder head, it can be very helpful to return horizon / roll axis to the neutral position by simply pressing a button.

True Horizon will also work when using the second Rocker to control the Roll axis.

NOTE
By factory preset, this function is assigned to B4.

Touching True Horizon on the Home Screen, will open a submenu, where the remote head can be moved in the True Horizon position and where this function can be assigned to a button.

Customizing the True Horizon only SRH-360

To set a new custom True Horizon Position, use the controller (joystick, wheels) to move the Roll axes in the desired position.

Press Set new True Horizon.

Press Ok to store the new Home Position.

14 True Tilt

The True Tilt function, moves the Tilt axis back to the set position.

NOTE
By default, this function is assigned to the Touch Screen.

Touching True Tilt on the Home Screen, will open a submenu, where the remote head can be moved in the Home Position and where this function can be assigned to a button.

Customizing the True Tilt only SRH-360

To set a new custom True Tilt Position, use the controller (joystick, wheels) to move the Roll axes in the desired position.

Press Set new True Tilt.

Press Ok to store the new Home Position.
15 End Stops On / Off

End Stops N/A Indicates whether end stops / limits values are not set and are therefore not active.

End Stops On Indicates whether end stops / limits values are set and are therefore active.

By default, this function is assigned to button B5.

15.1 Setting End Stops

The End Stops values can be set in the End Stops menu in the Main menu.

Touch Main and then End Stops will open the End Stops settings menu.

In the End Stops settings menu you can define the start and end positions for each axis and activate or deactivate them individually.

15.2 End Stops On / Off

Here you can activate the End Stop function for each axis. Just touch On / Off.

NOTE
Both end stops per axis must be set in order to finally activate the end stop function.

15.3 Current Angle

The green numbers indicate the current positions of the individual axes.

15.4 To set the end stop positions, move the head to the desired first end position and touch Set 1 of the axis. Afterwards, move the head to the desired opposite end position and touch Set 2 of the axis.

15.5 Press Update, to redo any of the End Stops.

15.6 Press Clear to delete both end stops of the current axis.
16 Follow Mode On / Off

Indicates if the Follow Mode is active or not.

By default, this function is assigned to button B6.

Follow Mode / Pan Lock

The Follow mode allows the horizontal Pan and the vertical Tilt movement of the remote head to be synchronized with the horizontal Pan and the vertical Tilt movement of the crane.

This function is also called Pan Lock.

16.1 Setting Follow Mode

In the Follow mode settings menu you can define Speed, Dead Band and Ramp of the Follow mode individually for each axis.

Touch Main and then Follow to go to the Follow settings menu.

16.2 Touch Follow On / Off to activate the Follow mode.

16.3 Follow Speed

Touch Speed and set a minimum speed value of 89 (better 100) to ensure synchronized movement between the crane and the remote head.

Press OK

16.4 Follow Dead Band

The Follow Dead Band selection opens a new menu with a slider that allows you to set the Dead Band of the Follow function for each axis individually.

NOTE

The Dead Band should be 0 to max 30 to enable the Pan Lock.

16.5 Follow Ramp

The Follow Ramp selection opens a new menu with a slider that allows you to set the Ramp of the Follow function for each axis individually.

NOTE

The Ramp should be 0 to enable a proper Pan Lock.
17 Dynamic Modes

The SRH-3 & SRH-360 offer three different Dynamic Modes:

**Low Dynamic Mode / L. Dyn**
If the remote head is used on a tripod or dolly and it is important that the head drifts as little as possible, then the Low Dynamic Mode is the right choice.

**Standard Dynamic Mode / Std. Dyn**
By default, the remote head works in Standard dynamic mode, which ensures the best overall performance for the average daily shooting scenarios.

**High Dynamic Mode / H. Dyn**
When the remote head is used in extreme centrifugal conditions, the overall stabilization performance is maximized by activating the High dynamic mode.

17.1 Status Dynamic Mode

The home screen indicates the current Dynamic Mode. In this case **Standard Dynamic Mode**.

17.2 Changing the Dynamic Modes

---

**NOTICE**

Press always Standard to leave the Low or High dynamic mode!

**NOTICE**

The activation / deactivation of the Low and High dynamic mode takes up to 2 minutes!

Do not touch or move the remote head until dynamic mode activation / deactivation is complete!
18 Additional Controls Setup

- Dead Band
- Sensitivity
- Filter
- Ratio

18.1 Dead Band

This value determines when the remote head responds after the control device (joystick) has been moved.

**NOTICE**

If the DRW-1 wheels or the DEH-1 encoder head is used as a controller, Dead Band must be set to 0! Otherwise there would be a delay in response!

18.2 Sensitivity

Sensitivity will change the sensitivity for the selected controller.

If the sensitivity value is too low, there will be more or less no movement in the end.

**NOTICE**

If the DRW-1 wheels or the DEH-1 encoder head is used as a controller, Sensitivity must be set to 0! Otherwise there would be a delay in response!
18.3 Filter

Additional low pass filter function for encoder based controllers, like the DEH-1.

When the DEH-1 is used in a car or a train, vibrations of the vehicle may be transmitted to the DEH-1's encoders.

This can lead to irritations in the pan and tilt axis. In case of such irritations, the operator can use the Filter function to set a low-pass filter value, which allows to eliminate these disturbing vibrations.

18.4 Ratio in Speed Mode

Selecting Ratio will open a new sub menu where you can select the required Speed Ratio of the selected axis.

When shooting with an extreme tele lens, it can be very helpful to change the speed ratio from 0 (1:1) to -30. This will reduce the speed development to -30%.

18.5 Ratio in Angle Mode

In angle mode, the position of the DEH-1 encoder head is sent as an exact angle, i.e. H. 1:1 to the remote head.

Since only angle data is transmitted, there is normally no speed control.

In order to be able to change the „perceived speed", you have to change the gear ratio between controller and remote head.

This adjustment happens via the ratio value.

**Speed 50 means a 1:1 gear ratio.**

A higher value increases the gear ratio / the „perceived speed”

To simplify the setting, the Ratio settings is assigned to the Speed knobs K1, K2, K3.

**NOTE**

To simulate the original gear ratio of the ARRI gear head (slow, medium and fast), you need to set the speed values as shown in the list.

<table>
<thead>
<tr>
<th>Speeds:</th>
<th>Turns</th>
<th>Movement</th>
<th>Speed Value</th>
<th>Angle / Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan</td>
<td>Slow</td>
<td>65</td>
<td>39</td>
<td>3,45°</td>
</tr>
<tr>
<td>Tilt</td>
<td>Slow</td>
<td>17.5</td>
<td>39</td>
<td>5,51°</td>
</tr>
<tr>
<td>Roll</td>
<td>Slow</td>
<td>17.5</td>
<td>39</td>
<td>3,45°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speeds:</th>
<th>Turns</th>
<th>Movement</th>
<th>Speed Value</th>
<th>Angle / Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan</td>
<td>Medium</td>
<td>35.5</td>
<td>50</td>
<td>6,49°</td>
</tr>
<tr>
<td>Tilt</td>
<td>Medium</td>
<td>9.25</td>
<td>50</td>
<td>10,14°</td>
</tr>
<tr>
<td>Roll</td>
<td>Medium</td>
<td>9.25</td>
<td>50</td>
<td>6,49°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speeds:</th>
<th>Turns</th>
<th>Movement</th>
<th>Speed Value</th>
<th>Angle / Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan</td>
<td>Fast</td>
<td>19</td>
<td>61</td>
<td>12,45°</td>
</tr>
<tr>
<td>Tilt</td>
<td>Fast</td>
<td>4.75</td>
<td>61</td>
<td>19,06°</td>
</tr>
<tr>
<td>Roll</td>
<td>Fast</td>
<td>4.75</td>
<td>61</td>
<td>12,45°</td>
</tr>
</tbody>
</table>
19 Additional Remote Head Settings

- Pan Motor On / Off
- Motor Mode

19.1 Pan Motor On / Off

Selecting Motor On / Off will toggle between Pan motor On and Off.

19.2 Motor Mode

In the Motor Mode column, the motors can be set to Speed or Angle mode.

**NOTICE**

If you use the internal Joystick the Pan and Tilt motors should be set to Speed mode.

**Speed Mode** is the right choice when shooting in very dynamic situations with fast moving targets, like cars, or sport. The control of the head is more intuitive and more „direct“.

**NOTICE**

If you use DRW-1 wheels or the DEH-1 encoder head, the Pan and Tilt motors should be set to Angle mode.

Angle Mode is the right choice for cranes, dollies, static applications or when very long focal lengths are used.
External Radio Modules

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since 2020, the SRH-3 and SRH-360 remote heads do not have an internal radio system, both remote heads can only be controlled wirelessly via the External Radio Modules.</td>
</tr>
</tbody>
</table>

To operate the SRH-3 & SRH-360 without internal radio wireless, the ERM-2400 or ERM-900 must be connected to the remote head and the remote control panel and set up in the radio setup menu.

ERM-2400  Ext. Radio Module 2.4 GHz RXD-TXD Set  K2.0033757  
ERM-900  Ext. Radio Module 900 MHz RXD-TXD Set  K2.0033758  

20.1  
External Radio Modules ERM-2400 and ERM-900 setup

By connecting the external radio modules ERM-2400 and ERM-900 via the FS-CAN Bus cable to the remote control panel and the remote head, the modules will change after an initial setup automatically into transmitter and receiver mode. The FS-CAN Bus cable provides data and power to the external radio modules.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please read the separate manual of the ERM modules.</td>
</tr>
</tbody>
</table>

20.2  
Range

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quality and range of the radio connection strongly depends on the general radio situation on site.</td>
</tr>
</tbody>
</table>

1. Make sure that you select the correct region in which you operate the device.  
2. Avoid multiple products that use the same frequency or the same channel in the 2.4 GHz bandwidth.  
3. Start first those devices that use fixed frequencies. Then devices that work with channel hopping.  
4. WiFi transmitters, receivers or networks can strongly influence the quality of the 2.4 GHz connection.  
5. Ask your staff to turn off the "hotspot" function in their mobile phones.  
6. Disable unnecessary, unused WiFi systems, such as routers for example.  
7. Especially non-certified or illegal radio systems, can affect the range of the wireless connection extremely.  
8. Disable all illegal radio systems. |
21 Focus - Iris - Zoom / FIZ

Introduction

Using the optional internal focus wheel or the internal zoom rocker or LBUS-based controls such as Master Grips Focus and Zoom or the OCU-1 allows you to control the cforce mini motors or selected broadcast lenses via the LCUBE CUB-2.

Step 1

21.1 Assigning Focus, Iris and Zoom

Touching FIZ on the Home screen will open the FIZ controller menu.

21.2 Assigning Focus Iris and Zoom

The FIZ home screen allows to assign the wanted controllers by touching the marked areas.

Touching the marked area will open a new menu, where the desired controllers can be assigned.

21.3 Available Controllers

<table>
<thead>
<tr>
<th>Controller</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFW1</td>
<td>Focus Wheel 1 Internal Focus Wheel 1</td>
</tr>
<tr>
<td>IFW2</td>
<td>Focus Wheel 2 Internal Focus Wheel 2</td>
</tr>
<tr>
<td>IZR1</td>
<td>Zoom Rocker 1 Internal Zoom Rocker 1</td>
</tr>
<tr>
<td>IZR2</td>
<td>Zoom Rocker 2 Internal Zoom Rocker 2</td>
</tr>
<tr>
<td>MLW</td>
<td>Left Wheel Master Grip Left Focus Wheel</td>
</tr>
<tr>
<td>MRW</td>
<td>Right Wheel Master Grip Right Focus Wheel</td>
</tr>
<tr>
<td>MLR</td>
<td>Left Rocker Master Grip Left Zoom Rocker</td>
</tr>
<tr>
<td>MRR</td>
<td>Right Rocker Master Grip Right Zoom Rocker</td>
</tr>
<tr>
<td>MLRB</td>
<td>MLR Button Master Grip Left Rocker, Red Button</td>
</tr>
<tr>
<td>MRRB</td>
<td>MRR Button Master Grip Right Rocker, Red Button</td>
</tr>
<tr>
<td>MLWB</td>
<td>MLW Button Master Grip Left Wheel, Red Button</td>
</tr>
<tr>
<td>MRWB</td>
<td>MRW Button Master Grip Right Wheel, Red Button</td>
</tr>
<tr>
<td>OCU</td>
<td>OCU-1 OCU Focus Wheel</td>
</tr>
</tbody>
</table>
Step 1

21.4 FIZ Controllers Adjustments

- Motor Mode
- Calibration
- Torque
- Speed

21.5 Motor Mode

In the Motor Mode column, the motors can be changed from Position to Speed mode.

Touching the marked area will toggle between Position and Speed mode.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
</table>
| **Focus Wheel** should be set to **Position**.  
**Iris Slider** should be set to **Position**.  
**Zoom Rocker** should be set to **Speed**. |

21.6 Calibration

By selecting Calibrate, every single cforce mini motor will be calibrated.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
</table>
| **Green** indicates that the motor is calibrated.  
**Red** means that the motor needs to be calibrated. |

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can also calibrate the motors by pressing the calibration knob at the single cforce motor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>When using the LCUBE CUB-2 with broadcast lenses, calibration is <strong>not required</strong>.</td>
</tr>
</tbody>
</table>

21.7 Speed

In general, the speed of FIZ motors can only be adjusted while the motor is operating in Speed mode.

Selecting Speed selection will open the speed adjustment menu.

21.8 Torque

Selecting Torque selection will open the torque adjustment menu.

Keep the Torque value as low as possible. This will help to keep the overall power consumption low.
22 Profile Management

22.1 Selecting Profiles

During use, all values, assignments and settings are permanently written to the current selected profile. In this case in Profile 1.

Touching Profile opens a new window where another profile can be selected.

22.2 Cloning Setting

In some menus, like PID menu the values can also be stored / cloned into other profiles.

22.3 Startup Settings

To ensure that the remote head works properly when it is switched on even when the remote control panel is not connected, you can save the current profile in the remote head.

In this way, the remote head starts with the proper PID values and LBUS settings until the remote control panel is connected.

Selecting Startup Settings Apply will save the current profile in the remote head.

22.4 Profiles Backup

As a backup all nine profiles can be stored into the remote head.

If the remote control panel needs to be swapped, you can read your current profiles back to the new remote control panel.

Selecting Save Settings to Head will save the all profiles in the remote head.

Selecting Read Settings from Head will read back all profiles in the remote control panel.
23 Info

Info Menu Remote / Head

23.1 Remote Control Panel

Selecting Remote will provide information about the Mainboard, LBUS, and Expander.

23.2 Mainboard

The Mainboard Info Screen will show the actual SW version.

23.3 LBUS

The LBUS Info Screen will show the actual SW version of the connected LBUS controller.

23.4 Expander

The Expander Info Screen will show the actual SW version of the connected Expanders, like the Joystick or the internal Focus and Zoom controllers.

23.5 Head

Selecting Head will provide information about the Mainboard, LBUS, and Expander for the remote head.
24 Service

Touching Service opens a new submenu in which you can carry out calibrations and restores for the remote control panel and the remote head.

24.1 Remote Control Panel

Selecting Remote will open the remote control panel Service menu.

24.2 Calibrate

By selecting Calibrate, internal controllers such as the internal joystick or zoom rocker can be calibrated.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't touch the controller during the calibration process.</td>
</tr>
</tbody>
</table>

24.3 Restore Current Profile

Touching Current Profile will restore the current user profile.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>All settings, of the selected user profile will be deleted! The current selected user profile will be restored back to the factory presets.</td>
</tr>
</tbody>
</table>

24.4 Restore Factory Presets / Remote Control Panel

Touching Factory Presets will restore all user profiles.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>All settings, all User Profiles will be deleted! All user profiles will be restored back to the Factory Presets.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The previously connected controllers are retained and are recognized again immediately.</td>
</tr>
</tbody>
</table>
24.5 Remote Head

Selecting Head will open the head service menu.

24.6 Restore Factory Presets / Remote Head

If Factory Presets is selected, all memory settings of the remote head will be restored back to the factory presets.

**NOTICE**

Don't worry.
All Remote Control Panel settings are retained.
In this way you can ensure that all current Remote Control Panel values are updated and refreshed in the remote head.

24.7 Sensor & Gyro Calibration

If the remote head behaves abnormally, the situation can be remedied immediately by calibrating the gyro.

Calibration is also recommended when the head has been transported over long distances.
For example, the remote head was last used in a city and next it will be used in the mountains.

Choose Gyro Calibration in order to perform the Camera Gyro calibration.

**NOTICE**

Secure the camera.
Since the motors are switched off during the calibration, it may be that the camera tilts over the tilt axis.

24.8 Factory

Only an ARRI service technician can access this function.
25 Power Disconnection

⚠️ CAUTION ⚠️

To disconnect the device safely from the power source, remove both cables from the SRH-3 / SRH-360 remote head.
Mount and operate the device in an orientation to ensure easy access to the connectors.

26 Dimensions

26.1 Remote Head SRH-360

<table>
<thead>
<tr>
<th>Specification</th>
<th>SRH-360</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilized Axes</td>
<td>3 (Pan, Tilt, Roll)</td>
</tr>
<tr>
<td>Max. Payload</td>
<td>up to 30 Kg / 66 lbs.</td>
</tr>
<tr>
<td>Height</td>
<td>652 mm / 25.67in</td>
</tr>
<tr>
<td>Width</td>
<td>412 mm / 16.22in</td>
</tr>
<tr>
<td>Depth Head</td>
<td>150 mm / 5.9in</td>
</tr>
<tr>
<td>Depth Base</td>
<td>246 mm / 9.68in</td>
</tr>
<tr>
<td>Ring Diameter</td>
<td>260 mm / 10.23in</td>
</tr>
<tr>
<td>Ring Height centre</td>
<td>209 mm / 8.23in</td>
</tr>
<tr>
<td>Weight</td>
<td>11.6 Kg / 25.57lbs</td>
</tr>
<tr>
<td>Max. Tilt Range</td>
<td>+ 60° / -110°</td>
</tr>
<tr>
<td>Max. Roll Range</td>
<td>+/- 90°</td>
</tr>
<tr>
<td>Max. Pan Range</td>
<td>Unlimited / Slip Ring</td>
</tr>
<tr>
<td>Max. Pan Rate</td>
<td>240° / Sec.</td>
</tr>
<tr>
<td>Max. Tilt Rate</td>
<td>240° / Sec.</td>
</tr>
</tbody>
</table>

26.2 Remote Head SR-3

<table>
<thead>
<tr>
<th>Specification</th>
<th>SR-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilized Axis</td>
<td>3 (Pan, Tilt, Roll)</td>
</tr>
<tr>
<td>Max. Payload</td>
<td>up to 30 Kg / 66 lbs.</td>
</tr>
<tr>
<td>Height</td>
<td>608 mm / 23.93”</td>
</tr>
<tr>
<td>Width</td>
<td>412 mm / 16.22”</td>
</tr>
<tr>
<td>Depth Head</td>
<td>150 mm / 5.9”</td>
</tr>
<tr>
<td>Death Base</td>
<td>165 mm / 6.49”</td>
</tr>
<tr>
<td>Ring Diameter</td>
<td>260 mm / 10.23”</td>
</tr>
<tr>
<td>Ring Height centre</td>
<td>209 mm / 8.23”</td>
</tr>
<tr>
<td>Weight</td>
<td>9.4 Kg / 20.7 lbs.</td>
</tr>
<tr>
<td>Max. Tilt Range</td>
<td>+ 60° / -110°</td>
</tr>
<tr>
<td>Max. Roll Range</td>
<td>+/- 90°</td>
</tr>
<tr>
<td>Max. Pan Range</td>
<td>540° +/-270°</td>
</tr>
<tr>
<td>Max. Pan Rate</td>
<td>240° / Sec.</td>
</tr>
<tr>
<td>Max. Tilt Rate</td>
<td>240° / Sec.</td>
</tr>
</tbody>
</table>

All data subject to change without further notice.
Pinout
Remote Head SRH-3 SRH-360 / Remote Control Panel

12V/24V / FS-CAN IN
LEMO ECG.3B.305.CLL
1 = GND
2 = FOMA BUS Slow L
3 = FOMA BUS Slow H
4 = 12 V IN
5 = 24 V IN

FS-CAN
Fischer DBP 103 A053 - 140
1 = GND
2 = CAN1 L
3 = CAN2 H
4 = 12V OUT

FF-CAN
Fischer DBP 102 A053 - 140
1 = GND
2 = CAN1 L
3 = CAN2 H
4 = 12V

HD BNC 6G-SDI AMPHENOL 112522

All data subject to change without further notice.
## Assignable Controllers and Functions

<table>
<thead>
<tr>
<th>SJ1P</th>
<th>Standard J 1 Pan</th>
<th>Standard Joystick 1, Pan, left/right</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJ1T</td>
<td>Standard J 1 Tilt</td>
<td>Standard Joystick 1, Tilt, up/down</td>
</tr>
<tr>
<td>MF1P</td>
<td>Microforce J 1 Pan</td>
<td>Microforce Joystick 1, Pan, left/right</td>
</tr>
<tr>
<td>MF1T</td>
<td>Microforce J 1 Tilt</td>
<td>Microforce Joystick 1, Tilt, up/down</td>
</tr>
<tr>
<td>BC1P</td>
<td>Broadcast J 1 Pan</td>
<td>Broadcast Joystick 1, Pan, left/right</td>
</tr>
<tr>
<td>BC1T</td>
<td>Broadcast J 1 Tilt</td>
<td>Broadcast Joystick 1, Tilt, up/down</td>
</tr>
<tr>
<td>J2H</td>
<td>Joystick 2 H</td>
<td>Additional Joystick 2, Pan, left/right</td>
</tr>
<tr>
<td>J2V</td>
<td>Joystick 2 V</td>
<td>Additional Joystick 2, Tilt, up/down</td>
</tr>
<tr>
<td>DRWP</td>
<td>DRW Pan</td>
<td>DRW-1, ARRI Wheels, Pan, Pan, left/right</td>
</tr>
<tr>
<td>DRWT</td>
<td>DRW Tilt</td>
<td>DRW-1, ARRI Wheels, Tilt, up/down</td>
</tr>
<tr>
<td>DRWR</td>
<td>DRW Roll</td>
<td>DRW-1, ARRI Wheels, Roll</td>
</tr>
<tr>
<td>DEHP</td>
<td>DEH Pan</td>
<td>DEH-1, ARRI Encoder Head, Pan, left/right</td>
</tr>
<tr>
<td>DEHT</td>
<td>DEH Tilt</td>
<td>DEH-1, ARRI Encoder Head, Tilt, up/down</td>
</tr>
<tr>
<td>TS</td>
<td>Touchscreen</td>
<td>Control through Remote Control Panel</td>
</tr>
<tr>
<td>K1 … K8</td>
<td>Knob 1 … Knob 8</td>
<td>Knobs</td>
</tr>
<tr>
<td>B1 … B6</td>
<td>Button 1 … Button 6</td>
<td>Buttons</td>
</tr>
<tr>
<td>IFW1</td>
<td>Focus Wheel 1</td>
<td>Wheel 1</td>
</tr>
<tr>
<td>IFW2</td>
<td>Focus Wheel 2</td>
<td>Wheel 2</td>
</tr>
<tr>
<td>IZR1</td>
<td>Zoom Rocker 1</td>
<td>Rocker 1</td>
</tr>
<tr>
<td>IZR2</td>
<td>Zoom Rocker 2</td>
<td>Rocker 2</td>
</tr>
<tr>
<td>MLW</td>
<td>Left Wheel</td>
<td>Master Grip Left Focus Wheel</td>
</tr>
<tr>
<td>MRW</td>
<td>Right Wheel</td>
<td>Master Grip Right Focus Wheel</td>
</tr>
<tr>
<td>MLR</td>
<td>Left Rocker</td>
<td>Master Grip Left Zoom Rocker</td>
</tr>
<tr>
<td>MRR</td>
<td>Right Rocker</td>
<td>Master Grip Right Zoom Rocker</td>
</tr>
<tr>
<td>MLRB</td>
<td>MLR Button</td>
<td>Master Grip Left Rocker, Red Button</td>
</tr>
<tr>
<td>MRRB</td>
<td>MRR Button</td>
<td>Master Grip Right Rocker, Red Button</td>
</tr>
<tr>
<td>MLWB</td>
<td>MLW Button</td>
<td>Master Grip Left Wheel, Red Button</td>
</tr>
<tr>
<td>MRWB</td>
<td>MRW Button</td>
<td>Master Grip Right Wheel, Red Button</td>
</tr>
<tr>
<td>OCU</td>
<td>OCU Wheel</td>
<td>OCU-1 Wheel</td>
</tr>
<tr>
<td>OCUL</td>
<td>OCU Left</td>
<td>OCU-1 Left Button</td>
</tr>
<tr>
<td>OCUM</td>
<td>OCU Middle</td>
<td>OCU-1 Middle Button</td>
</tr>
<tr>
<td>OCR</td>
<td>OCU Right</td>
<td>OCU-1 Right Button</td>
</tr>
<tr>
<td>MLRJ</td>
<td>MLR Joystick center</td>
<td>Master Grip Left Rocker Joystick center</td>
</tr>
<tr>
<td>MLRL</td>
<td>MLR Joystick left</td>
<td>Master Grip Left Rocker Joystick, left</td>
</tr>
<tr>
<td>MLRR</td>
<td>MLR Joystick right</td>
<td>Master Grip Left Rocker Joystick, right</td>
</tr>
<tr>
<td>MLRU</td>
<td>MLR Joystick up</td>
<td>Master Grip Left Rocker Joystick, up</td>
</tr>
<tr>
<td>MLRD</td>
<td>MLR Joystick down</td>
<td>Master Grip Left Rocker Joystick, down</td>
</tr>
<tr>
<td>MLRH</td>
<td>MLR Joystick horizontal (left &amp; right)</td>
<td>Master Grip Left Rocker Joystick, horizontal (left &amp; right)</td>
</tr>
<tr>
<td>MLRV</td>
<td>MLR Joystick vertical (up &amp; down)</td>
<td>Master Grip Left Rocker Joystick, vertical (up &amp; down)</td>
</tr>
<tr>
<td>MRRJ</td>
<td>MRR Joystick center</td>
<td>Master Grip Left Rocker Joystick center</td>
</tr>
<tr>
<td>MRRRL</td>
<td>MRR Joystick left</td>
<td>Master Grip Left Rocker Joystick left</td>
</tr>
<tr>
<td>MRRR</td>
<td>MRR Joystick right</td>
<td>Master Grip Left Rocker Joystick right</td>
</tr>
<tr>
<td>MRRU</td>
<td>MRR Joystick up</td>
<td>Master Grip Left Rocker Joystick up</td>
</tr>
<tr>
<td>MRRD</td>
<td>MRR Joystick down</td>
<td>Master Grip Left Rocker Joystick down</td>
</tr>
<tr>
<td>MRRH</td>
<td>MRR Joystick horizontal (left &amp; right)</td>
<td>Master Grip Left Rocker Joystick horizontal (left &amp; right)</td>
</tr>
<tr>
<td>MRRV</td>
<td>MRR Joystick vertical (up &amp; down)</td>
<td>Master Grip Left Rocker Joystick vertical (up &amp; down)</td>
</tr>
</tbody>
</table>

All data subject to change without further notice.
EU–Declaration of Conformity

Brand Name: ARRI
Product Description: Camera Stabilizer System:
• ARRI Stabilized Remote Head SRH-360 Pro Set including ARRI Stabilized Remote Head – SRH-360 and ARRI Remote Control Panel – Remote Control-1 & 2
• Europe Setting for Software 01.14.00 or later and Antenna Proant 333 Ex-It 2400 Foldable, Accessories regarding Appendix I

The designated products conform to the specifications of the following European directives:


The compliance with the requirements of the European Directives was proved by the application of the following standards:

Essential Requirements regarding No 1
• Art. 3.1 a following 2014/35/EU
• Art. 3.1 b following 2014/30/EU
• Art. 3.2
  o EN 300 328 V2.1.1;
  Essential Requirements regarding No 2
• EN 50581: 2012;

To evaluate the respective information, we used:

Year of affixed CE-marking: 2018

Munich 13.12.2018

Sign
Walter Trauninger
Managing Director

Sign
Dr. Sebastian Lange
Head of Quality Management

APPENDIX-I

List of additional accessories:

<table>
<thead>
<tr>
<th>Item</th>
<th>Model name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ARRI Digital Remote Wheels - DRW-1</td>
</tr>
</tbody>
</table>
EU-Konformitätserklärung
EU-Declaration of Conformity

ARRI

Markenname / Brand Name: ARRI

Produktbezeichnung / Product Description:
Kamerastabilisierungssystem / Camera Stabilizer System:

- ARRI Stabilized Remote Head SRH-3 Pro Set including ARRI Stabilized Remote Head – SRH-3 and ARRI Remote Control Panel – RCP-1
  + Europa Setting der Software 01.14.00 oder höher und Antenne Proant 333 Ex-IT 2400, Zubehör gemäß Appendix I
  + Europe Setting for Software 01.14.00 or later and Antenna Proant 333 Ex-IT 2400 Foldable, Accessories regarding Appendix I

Die bezeichneten Produkte stimmen mit den Vorschriften folgender Europäischer Richtlinien überein:
The designated products conform to the specifications of the following European directives:


Die Übereinstimmung mit den Richtlinien erfolgte unter Anwendung nachfolgend genannter Normen:
The compliance with the requirements of the European Directives was proved by the application of the following standards:

Grundlegende Anforderungen zu Nr. 1. - Essential Requirements regarding No 1
   • Art. 3.1 a nach 2014/35/EU – following 2014/35/EU
   • Art. 3.1 b nach 2014/30/EU – following 2014/30/EU
     o EN 301 489-1 V2.1.1; EN 301 489-17 V3.1.1; EN 61000-4-2:2009; EN 61000-4-3:2006
   • Art. 3.2
     o EN 300 326 V2.1.1;

Grundlegende Anforderungen zu Nr. 2. - Essential Requirements regarding No 2
   • EN 50861: 2012,
   Für die Ermittlung der entsprechenden Normen haben wir die folgende Quelle verwendet:
   To evaluate the respective information, we used:

Jahr der Anbringung des CE-Zeichens / Year of affixed CE-marking: 2018

München, den 15.07.2019

gez/sig
Dr. Michael Neuhäuser
Geschäftsführer / Managing Director

gez/sig
Dr. Sebastian Lange
Leiter Qualitätsmanagement / Head of Quality Management
Australia / New Zealand