

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

Manual

Date 01.06.2021



Dedicated to these products

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

Imprint

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Document revision history

Version	Release Nr	SUP	Date
1.1	F07424	3.0	01.06.2021

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.

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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.

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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.

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Table of Contents

1	User Advisory / Application Requirements	4
2	For your safety	5
3	Generell Functions / Connectors / Available Cables	7
4	Remote Head Attachment / Mounting, Securing, ISO Damper	11
5	Camera Preparation, Mounting and Balancing / Tilt Lock	13
5	Remote Head Setup	14
6	Power Supply / Recommended Batteries / Wiring Diagram	15
7	Remote Control Panel / Wiring / Functions	16
8	Remote Control GUI / Functions / Emergency Stop	17
9	Controls Setup / Auto Assignment / Manual Assignment / Available Controllers / Changing Directions / Speed / Ramp	19
10	PID Setup / Quick Setup	21
11	Drop	23
12	Home Position	24
13	True Horizon	25
14	True Tilt	25
15	End Stops	26
16	Follow Mode	27
17	Dynamic Modes	28
18	Additional Controls Setup / Dead Band / Sensitivity / Filter / Ratio	30
19	Additional Remote Head Settings / Pan Motor On/ Off / Motor Mode	31
20	External Radio Modules / Setup & Range	32
21	FIZ Setup Assigning / Available Controllers / Mode / Torque / Calibration / Speed	33
22	Profile Management / Selecting profiles / Cloning Profiles	35
23	Info / Remote Control Panel / Remote Head	36
24	Service / Remote Control Panel / Remote Head	37
25	Power Disconnection	39
26	Dimensions	39
27	Pinout	40
28	Assignable Controllers & Functions	41
29	Declaration of Conformity	42

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 gyros 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

A 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 <u>http://arri.com/academy</u>.

2.1

Risk Levels and Alert Symbols

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

A 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.

A 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

A 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.



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.



camera dovetail plate

3

Generell Functions

3.3 Connectors SRH-3





Right junction box

Left junction box



3.4 Connectors SRH-360



Right junction box

Left junction box



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







NOTICE
* Reserved for future accessories. Do not use!

3.7 Available cables

Cam Power, Cine, 12V, XLR, HiCap	K2.0010470
Cam Power, Cine, 24V, Fischer 2pin	K2.0010471
Cam Power, Cine, 24V, ALEXA Mini	K2.0020467
Cam Power, Cine, 12V, HiCap, ALEXA	K2.0010538
Cam Power, Cine, 12V, HiCap, ALEXA Mini	K2.0010540
Cam Power, Cine, 12V, HiCap, AMIRA, 90°	K2.0010565
Cam Power, Cine, 12V, HiCap, Red EPIC	K2.0010472
Cam Power, Cine & EFP, 12V, XLR	K2.0010469
HD SDI BNC Cable	K2.0010476
Cable LBUS 0.2m/8 inch	K2.0006749
Cable LBUS 0.3m/1ft	K2.0006750
Cable LBUS 0.5m/1.5ft	K2.0006751
Cable LBUS 0.8m/2.5ft	K2.0006752
Cable LBUS 1.5m/5ft	K2.0006753

SRH Power Supply Set, 600W	K0.0019478
SRH Power Supply Power and Data Cable, 12V/24V, 20m/65.6ft	K2.0019303
SRH High Capacity Camera Power Cable Set	K0.0012269
SRH High Capacity Battery Power Cable Set, 12V/24V, 20m/66ft	K0.0021437
SRH High Capacity Battery Power Cable Set 12V/24V, 10m/33ft.	K0.0021438
SRH High Capacity Battery Power Cable, 12V/24V, 0.5m/1.64ft	K2.0019306
SRH High Capacity Battery Power Cable 12V, 4pin XLR, 20m/66ft	K2.0021430
SRH High Capacity Battery Power Cable 24V, 3pin XLR, 20m/66ft	K2.0021429
SRH High Capacity Battery Power Cable 12V, 4pin XLR, 10m/33ft	K2.0021428
SRH High Capacity Battery Power Cable 24V, 3pin XLR, 10m/33ft	K2.0021427

SRH FS CAN Bus Cable, 1m/3.2ft	K2.0033762
SRH FS CAN Bus Cable, 5m/16.4ft	K2.0037701
SRH FS CAN Bus Cable, 10m/32.8ft	K2.0019302
SRH FS CAN Bus Cable, 25m/82 ft	K2.0019301
SRH FS CAN Bus Coupler, 0.2m/0.65ft	K2.0019300

4 Remote Head Attachment

4.1

42

Mounting the Stabilized Remote Head

In order to be able to use the maximum stabilization performance of the SRH-3 & SRH-360, the remote head may only be mounted on cranes, dollies, towers, cable cams or other support suitable for use.

A DANGER

NOTICE

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.

NOTICE

Step 1

Mechanical Home Position SRH-3

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°

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.



Overslung 0° / Home Position

Step 2

4.3 ISO Damper

NOTICE

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 & SRH-360, is attached to a fast-moving vehicle that travels over difficult terrain, extreme shocks and forces are applied to the remote head.

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

Vibration Isolator for SRH, Gen. 2, imperial, Basic Set

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

Remote Head Attachment



KK.0039359

Available soon



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.

Step 3 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

https://www.arri.com/en/camera-systems/camera-stabilizer-systems/stabilized-remoteheads/dovetail-plates-and-brackets

Step 4

5.2 Tilt Lock



A 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.



13

Remote Head Setup



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 leaver at the front.

Move the camera left or right until the

camera remains in a neutral horizontal position.

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

NOTICE

Clamp Lever Side to Side





Clamp Lever (fore and aft adjustment)

Safety



Clamp Lever (fore and aft adjustment)





Lock

6 Powering the SRH-3 & SRH-360

A CAUTION

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.

6.1
Batteries (Recommended)BEBOB CUBE 1200www.bebob.deAnton Bauer CINE VCLXwww.antonbauer.comBlock Batterywww.blockbattery.comCinepower Magnum 60www.cinepower.com





Step 8

6.2

Wiring the SRH-3 & SRH-360 remote head and the Remote Control Panel



7 Remote Control Panel

Step 9

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

Available cables









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.

Direction(adjustable)		Pow Re	er Stat emote lead	us Power Rem Con	Status iote trol	;	Dynamic Mode Status	Rac Stat	lio us		
Selected User Profile - Profile 1		Head 24		,1V Remote 12,1V		H. Dyn.	ull		Head –	Selected	
Axes	- Pan	Dir Std		Tilt	Tilt Dir Std		Roll	Dir Std			Menu
Assigned Control Device	Standard	J1 P	'an	Standard J1 Tilt		Kno	Knob 8		FIZ -	Focus, Iris, Zoom Menu	
Current Head Angle	- Angle			Angle	() ⁰	Angle	0 0			
Ramp Start %	-Ramp Start	3	К4	Ramp Start	6	К5	Ramp Start	22	К6		
Speed %	- Speed	13	К1	Speed	15	К2	Speed	38	К3	PID -	PID Menu
Ramp Stop %	-Ramp Stop	3	К4	Ramp Stop	6	К5	Ramp Stop	22	К6		
Move to Home Position (TS / assignable)	Home Position TS	Tı Hor E	ue izon 84	True Tilt TS	Con	trols	End Stops On B5	Fol O B	low ff 6	Menu -	— Main Menu Access
Move to True Horizon (B4 / assignable)				Move to True Tilt (TS / assignable)	Ren Cor On	note ntrol / Off	End Stop Limits On / Off (B5 / assignable)	Fol Mc On (B6 / as	low ode / Off signable		

General functionality of the touchscreen

8.2 Home Screen

All fields marked in **blue** open a submenu for quick adjustments

Profil 1	Head 24,1			
Pan	Dir Std			
Standard J1 Pan				
Angle	45°			

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

R	oll	On TS	0	-89	89		Back
I	Discard		Fac Pres	tory sets	Sa	Home	

17

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



8.5 **Emergency Stop** remote head





NOTE An activated emergency stop switch will backlit 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.



18

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 Assignme

S	ignmen	t		
			Current Pan Setpoint Assign Pan Setpoint	į
	Pan	Dir Std		1 K2 >
	Standar	d J1 Pan	Standard J1 Tilt Knob 8	ecian
	Angle	0		ssign

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

Available controllers Pan, Tilt, Roll

SJ1T	Stan	dard J 1 Til i	t	Stan up/d	dard Joystic own	:k 1		DRWP	DRW	-1 Pa	n	DRW-1, ARRI Wheels, Pan
SJ1P	Star	Profile 1	He	Stan ad 24	dard Joystic 1V Ren	k 1 note 1	2,1V	H. Dyn.	ull		Lined	DRW-1, ARRI Wheels, Tilt
		Pan	Dir	Std	Tilt	Dir	Std	Roll	Dir	Std	Heau	DRW-1, ARRI Wheels, Roll
MF1T	Micr	Standar	d J1 F	Pan	Standar	d J1 ⁻	Tilt	Kno	b 8		FIZ	
MF1P	Micr	Angle	()	Angle	()	Angle	()	Slider	DEH-1, ARRI Encoder Head, Pan
		<u> </u>	3	К4	<u> </u>	6	К5	<u> </u>	22	K6		DEH-1, ARRI Encoder Head, Tilt
BC1T	Broa	Speed	13	К1	Speed	15	К2	Speed	38	К3		
BC1P	Broa		3	К4		6	К5		22	К6		Control through the Touchscreen of the Remote
		Default			Controls			Endstops	Fol	low		Control Panel
		Position			On			On		11	Menu	
		B3						B5	B	6		
K1 K8	Knot	D 1 KNOD	8	Knor	bs			B1 B6	Butto	n 1	Button 6	Buttons

NOTE

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

Standby connecting Control...

9.3 Changing Direction

The marked field indicates the selected direction.

Pan	Dir Std	Tilt	Dir Std	Roll	Dir Std
Standard	d J1 Pan	Standar	d J1 Tilt	Kno	b 8

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)

Profile 1	He	ead 24	,1V Ren	note 1	2,1V	H. Dyn.	ull		Head			Pan	Dir	
Pan	Dir	Std	Tilt	Dir	Std	Roll	Dir	Std		к	Ö KA	Angle		
Standar	d J1 F	Pan	Standar	d J1 [·]	Tilt	Kno	b 8		FIZ	: Č	Ô	Ramp Start	3	
Angle	()	Angle	()	Angle		0	Slider	K2'S	, С. КЗ	Speed	13	
	3	К4		6	К5		22	К6		кз:0:	Кб	Ramp Stop	3	
Speed	13	К1	Speed	15	К2	Speed	38	КЗ	PID					
$\overline{\}$	3	К4		6	К5	$\overline{\}$	22	К6						
Default	TI	ue	Controls			Endstops	Fol	low						
Position			On			On	0	ff	Menu					
B3		34				B5		36						

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**.

					Profile 1		н	ead: PID			
Î	Roll	Dir	Std			Power	P	- '-	D	Drop	
I	Kno	b 8	010	FIZ	Pan	70.0 TS	20.0 TS	1.0 тs	30.0 TS	30.0 тs	
I	Angle)		Tile	Power	200	10	250		
I	Ramp Start	22	K6		THU			T.U TS	25.U		
İ	Speed	38	КЗ	PID	Poll	Power	2 F	75	25		Save to
l	Ramp Stop	22	К6		quii	TS O	Z.O TS	TS TS	3.5 TS		Back
	End Stops	Fo	low			_ .	0	inte			L
	On B5	O	f f 6	Menu	Disc	card	Se	tup	Sa	ive	Horne

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.

Light	camera weight	5	-	10	kg	11	-	22	lb.
Medium	camera weight	10	-	20	kg	22	-	44	lb.
Heavy	camera weight	20	-	30	kg	44	-	66	lb.

Desc	ribe the (Camera S	Setup	
Weight	Light	Medium	Heavy	
Length	Short	Medium	Long	
Cancel			Ар	ply

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.

Profile 1		н	ead: PID		
Pan	Power 100.0 TS	Р 30.0 тs	' 1.0 тs	50.0 ⊤s	Drop 30.0 TS
Tilt	Power 100.0 TS	Р 20.0 тз	' 1.0 тв	25.0 ⊤s	
Roll	Porver 100.0	Р 2.5 тs	7.5 TS	₀ 3.5 ⊤s	

Desc	ribe the (Camera S	Betup	
Weight	Light	Medium	Heavy	
Length	Short	Medium	Long	
Cancel	User m	odified		

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** then 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!



100.0 20.0

Roll 100.0

Tilt



25.0



Profile 1		н	ead: PID		
Pan	Power 100.0 TS	Р 30.0 тs	1.0 тs	50.0 ⊤s	Drop 30.0 тs
Tilt	Power 100.0 TS	Р 20.0 ТS	1.0 ™	25.0 ⊤s	
Roll	Power 100.0 TS	2.5 TS	7.5 Ts	₀ 3.5 ⊤s	
Profile 1		н	ead: PID		
Pan	Power 100.0 TS	9 30.0 тs	1.0 тs	50.0 ⊤s	30.0
Tilt	Power 100.0 TS	Р 20.0 ТS	і 1.0 тя	° 25.0 ™	
Roll	Power 100.0 TS	₽ 2.5 ™	7.5 TS	D 3.5 ⊤s	

Step 15

NOTICE

Without any Drop compensation, strong vibrations occur at steep angles.

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.

Choose Pan Drop - Choose Pan Drop - Concel Assign 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.





Pan

Tilt

Roll

12 Home Position SRH-3

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



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.



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**.







24 Step 16

13 True Horizon

The **True Horizon** function, moves the **Roll** axis back 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.



Set new True Horizon	Мо	ve to True Ho	rizon
Assign Back	Set	new True Ho	rizon
		Assign	Back

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

NOTICE

The End Stops for the Pan axis of the SRH-360 can be enabled only when this axis is operated in speed mode.

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.







Profile 1		End Stops					
Pan	Endstop Off T\$	Angle O	N/A	N/A	Clear		
Tilt	Endistop On TS	Angie O	Update 1 -110	Update 2 110	Clear		
Roll	Endstop On TS	Angle O	Update 1 -89	Update 2 89	Clear		

Profile 1	End Stops					
Pan	Endstop Off TS	Angle 270	Set 1 90	Set 2	Clear	
Tilt	Endstop On TS	Angle O	Update 1 -110	Update 2 110	Clear	
Roll	Endstop On TS	Angle O	Update 1 -89	Update 2 89	Clear	

Profile 1		E	nd Stops		
Pan	Endstop Off TS	Angle 270	Set 1 90	Set 2	Clear
Tilt	Endstop On T\$	Angle O	-110	Update 2 110	Clear
Roll	Endstop On TS	Алдіе <mark>(</mark>	Update 1 -89	Update 2 89	Clear

Profile 1	End Stops					
Pan	Endistop On TS	Angle O	Update 1 90	Update 2 270	Clear	
Tilt	Endistop On TS	Angie O	-110	Update 2	Clear	
Roll	Endstop On TS	Angie O	Update 1 -89	Update 2 89	Clear	

Profile 1		End Stops					
Pan	Endstop On TS	Angle O	Update 1 90	Update 2 270	Clear		
Tilt	Endistop On TS	Angle O	-110	Update 2	Clear		
Roll	Endstop On TS	Angle O	Update 1 -89	Update 2 89	Clear		

16 Follow Mode On / Off

NOTICE

This Function is only available in Speed Mode.

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.







Ramp Submenu







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**.

Std. Dyn	ull
Roll	Dir Std

17.2

Changing the Dynamic Modes

ut	13	Head	Main Menu		Profile 1	Settings		R
Dir ob 8	Std	FIZ	Shot P.	Settings	Mounting Position	High Dynamic N/A	Startup Settings	
20	0° K6		Status	Service	Home Position Set	Standard Dynamic	SRH-3	s
50 20	K3 K6	PID	Library	Info		Low Dynamic	Low Voltage Level 20.0 V	ŀ
Fo	llow Off 36	Menu	Tower	FIZ	Home Discard	Factory Presets	Save	

Touch Menu

Touch Settings

Touch Head



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

			Hoad	
	Dir	Std	Head	
	ob 8			
	()°	FIZ	
	20	K6		
	50	К3		
	20	K6	PID	
	Fo	llow		
	E)ff 36	Menu	
s	ele	ect	Mai	n



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!

Profile 1 Controls: Position of Pan Control Dead Band Ramp Start O 1 3 Standard JI Pan Knob 4

Choose Pan Dead Band						
	1.0					
Ľ		Touchscreen		, T		
Car	icel	Assign	ок			

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.

Direction	Sensitivity	Ramp Stop
Standard	-20	3
Touchscreen	Touchscreen	Knob 4
	Filter O Touchscreen	





Additional Controls Settings

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.

	Speeds:	Turns	Movement	Speed Value	Angle / Turn
Pan	Slow	65	for 360° Pan	39	3,45°
Tilt	Slow	17.5	for 60° Tilt	39	5,51°
Roll	Slow	17.5	for 60° Tilt	39	3,45°
Pan	Medium	35.5	for 360° Pan	50	6,49°
Tilt	Medium	9.25	for 60° Tilt	50	10,14°
Roll	Medium	9.25	for 60° Tilt	50	6,49°
Pan	Fast	19	for 360° Pan	61	12,45°
Tilt	Fast	4.75	for 60° Tilt	61	19,06°
Roll	Fast	4.75	for 60° Tilt	61	12,45°



Profile 1			Controls			Head
	Position	Offset	Speed	Batio		
Pan			25 K1	0 TS		rız
	Pesition	Offset	Speed	Ratio		Sider
Tilt			25	0		
			1.2	TS		
	Position	Cffset	Speed	Patio		1
Roll			25	0		⊢
			K3	TS		Back
Discard		Default		Save		Horne



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.

Nator BID Made	
Pan On Speed	
Tilt On Speed	Slider

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".

Profile 1	Head						
Dan	Motor	PID	Mode				
Pan	OII		speed				
	~	PID	Mode				
Tilt	Un		Speed				
		PID	Mode				
Roll	On		Angle				

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.

Profile 1			Head
	Motor	PID	Mode
Pan	On		Angle
	Motor	PID	Mode
Tilt	On		Angle
	Motor	PID	Mode
Roll	On		Angle

20 External Radio Modules

NOTICE

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.

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.

NOTICE

Please read the separate manual of the ERM modules.

20.2 Range

NOTICE

The quality and range of the radio connection strongly depends on the general radio situation on site.

- 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.

Focus - Iris - Zoom / FIZ 21

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.

Assigning Focus, Iris and Zoom

Assigning Focus Iris and Zoom

FIZ controller menu.

Touching FIZ on the Home screen will open the





K0.0019595





KK.0022270

K2.0009490

KK.0024836

K2.0009363

Head Dir Std ob 8 FIZ 0° 20 K6 50 K3 20 K6 PID Follow Menu B6

Head	d]] 13	H. Dyn.	note 12,1V	JV Ren	Head 24	Profile 1
	Dir Std	Zeom	Dir Std	Iris	Dir Std	Fecus
- 62	creen	Touchs	Touchsoreen		screen	Touch
	0.0	Position	0.0	Position	0.0	Position

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

The FIZ home screen allows to assign the wanted

controllers by touching the marked areas.

21.3 **Available Controllers**

IFW1	Focus Wheel 1	Internal Focus Wheel 1
IFW2	Focus Wheel 2	Internal Focus Wheel 2
IZR1	Zoom Rocker 1	Internal Zoom Rocker 1
IZR2	Zoom Rocker 2	Internal Zoom Rocker 2
MLW	Left Wheel	Master Grip Left Focus Wheel
MRW	Right Wheel	Master Grip Right Focus Wheel
MLR	Left Rocker	Master Grip Left Zoom Rocker
MRR	Right Rocker	Master Grip Right Zoom Rocker
MLRB	MLR Button	Master Grip Left Rocker, Red Button
MRRB	MRR Button	Master Grip Right Rocker, Red Button
MLWB	MLW Button	Master Grip Left Wheel, Red Button
MRWB	MRW Button	Master Grip Right Wheel, Red Button
OCU	OCU-1	OCU Focus Wheel



Step 1

21.1

21.2

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.

Settings

Service

Info

FIZ

Select Menu Select FIZ

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

	NOTICE	
Focus Wheel	should be set to Position .	
Iris Slider	should be set to Position .	
Zoom Rocker	should be set to Speed.	

Model Torus Plac Plac Iter Focus On 2 Pos. 0 Focus 1/2 Mode Torus Pos. 0 Focus 1/2 Mode Torus Mode Faile Celetation Mode Torus Mode Faile Celetation

2

2

Pos. 0

0

Speer 25

ocus

Iris

oom

21.6 Calibration

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

NOTICE

NOTICE

You can also calibrate the motors by pressing the calibration knob at the single cforce motor.

NOTICE

When using the **LCUBE CUB-2** with broadcast lenses, calibration is **not required**.

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.

Profile 1			FIZ			Heed
Focus	Motor On TS	Torque 2 TS	Pos.	Ratio O TS	Calibration FOCUS	re
Iris	Motor On TS	Torque 2 TS	Mode Pos.	Ratio O TS	Calibration	Slider
Zoom	Motor Off TS	Torque 2 TS	Speed	^{Speed} 25	Calibration	Back
Disc	ard	Default		Sa	ave	linne





Profile 1	FIZ					
Focus	Motor On TS	Torque 2 TS	Mode POS. TS	Ratio O TS	Calibration Focus	12
Iris	Motor On TS	Torque 2 TS	Mode POS. TS	Ratio O TS	Calibration	tāder
Zoom	Motor Off TS	Torque 2 TS	Speed	^{Speed} 25	Calibration	Back
Discard Defa		ault	Sa	ave	Home	

Profile 1	FIZ					
	Motor	Torque	Mode	Ratio	Calibration	
Focus	On	2	Pos.	0	Focus	
	TS	TS	TS			
	Motor	Torque	Mode	Ratio	Calibration	
Iris	On	2	Pos.	0	Iris	Slider
	TS	T'S	TS			
	Motor	Torque	Mode	Speed	Calibration	
Zoom	Off	2	Speed	25	Zoom	<u> </u>
	TS	TS	TS			Back
Discard		Default		Sa	Home	



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.) 5	25.0 тs 3.5 тs	С С		Save to Back		
	Profile 1	He	ad 24,	11		6 av	~			Head
	Pan	Dir	Std			Sav	C	Home	Std	
22.3	Standar	d J1 F	Pan	Stand	dard J1	Tilt	Kr	nob 8		FIZ
Startup Settings	Angle	()	Angle		0	Angle		0	Slider
To ensure that the remote head works properly		3	K4		6	К5		22	К6	
remote control panel is not connected, you car	Speed	13	K1	Speed	15	K2	Speed	38	К3	PID
In this way, the remote head starts	\sim	3	К4	$\overline{}$	6	К5		22	K6	
with the proper PID values and Rol Dirst	Head lefa	Settina		C(Mountin	g Position	Setting High Dynamic Fnable	s Startup Set	tings Remote	low	
LBUS settings until the remote	FIZ DSIT	Service	י	 Default	Position S	Standard Dynan	nic	System	6	Menu
Specific is particle is contributed. Regel do is 8 8 8 8 8 8 8 8 8 8 8 8 8 8	PID	Info					Low Voltage	Level Radio		
End Stops Off B5 B6	Menu	FIZ	Home	Dis	card	Factory Presets	Sav	e _{Home}		
				Brothe 1		Satissi			•	

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.









infe					
Hardware T Herdware V Serial Num	'ype SRH-36 fersion ber	50	Head		
CCPU Firm	ware V01.00	1.00			
MCPU Firm	ware V01.00	1.00	<u> </u>		
LCPU Firm RCPU Firm	ware V 01.00 ware N/A	1.00			
WCPU Firm	ware N/A		Back		
Mainboard	LBUS	Expander	Hame		

36

Service

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.

NOTICE

Don't touch the controller during the calibration process.

24.3

Restore Current Profile

Touching Current Profile will restore the current user profile.

A CAUTION
All settings, of the selected user profile will be deleted!
The current selected user profile will be restored back to
the factory presets.

SERVICE					Renote
Restore	Factory Presets		Current	l Prafile	Hesic
Calibrate	Joystick STJ-1	Joystick STJ-2	Joystick MFJ-1	Joystick MFJ-2	Factory
Calibrate	Joystick DCJ-1	Jeystick OCJ-2	Rocker 12/8-1	Rocker 128-2	Back
					Hame

24.4

Restore Factory Presets / Remote Control Panel

Touching Factory Presets will restore all user profiles.

		🛦 CAU	TION		
All setti	ngs, all Use	r Profiles	will be de	leted!	
All user	profiles will b	e restored	back to th	e Factory	Presets.

NOTICE

The previously connected controllers are retained and are recognized again immediately.

Service					Renote
Restore	Factory Presets		e Factory Presets Current Profile		Head
Calibrate	Joystick STJ-1	Joystick STJ-2	Joystick MFJ-1	Joystick MFJ-2	Factory
Calibrate	Joystick DCJ-1	Jøystick OCJ-2	Rocker 12/8-1	Rocker 12R-2	Back
					Нати



1
1

Md. Dyn ut Head Roli Dir Sid Head Knob 8 FiZ Settings Angle O' FiZ anv Start 20 K6 Speed 50 ka June Mt Stops Follow Info Off Off Mervy FIZ

	Ser	vice			Renote
Restore	Factory Presets		Restore Factory Presets Current Profile		Head
Calibrate	Joystick STJ-1	Joystick STJ-2	Joystick MEJ-1	Joystick MFJ-2	Factory
Calibrate	Joystick DCJ-1	Jøystick (JCJ-2	Rocker 12/8-1	Rocker 12R-2	Bach
					Hame

	Ser	vice			Renote
Restore	Factory Presets		Current Profile		Head
Calibrate	Joystick STJ-1	Joystick STJ-2	Joystick MEJ-1	Joystick MFJ-2	Factory
Calibrate	Jøystick DCJ-1	Jøystick 00J-2	Rocker 12R-1	Rodkir 128-2	Back
					Hame

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.

Service					Renote
Restore Factory Presets Current #		Factory Presets		t Prafile	Head
Calibrate	Joystick STJ-1	Joystick STJ-2	Joystick MEJ-1	Joystick MFJ-2	Factory
Calibrate	Joystick DCJ-1	Jeystick (JCJ-2	Rocker 12/R-1	Rocker 12R-2	Back
					Нате

oanorate	oyro		
			Back
			Hame
	Ser	vice	Renot
	ſ		

Restore

Calibrate

Service	Renote
Restore Factory Defaults	Head
Calibrate Oyro	Fastory

25 Power Disconnection

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

Stabilized Axes Max. Payload Height Width Depth Head Depth Base Ring Diameter Ring Height centre Weight Max. Tilt Range Max. Roll Range Max. Pan Range Max. Pan Rate Max. Tilt Rate 3 (Pan, Tilt, Roll) up to 30 Kg / 66 lbs. 652 mm / 25,67in 412 mm / 16,22in 150 mm / 5,9in 246 mm / 9,68in 260 mm / 10,23in 209 mm / 8,23in 11,6 Kg / 25,57lbs + 60° / -110° +/- 90° Unlimited / Slip Ring 240° / Sec. 240° / Sec.



26.2 Remote Head SRH-3

Stabilized Axis Max. Payload Height Width Depth Head Death Base Ring Diameter Ring Height centre Weight Max. Tilt Range Max. Roll Range Max. Pan Range Max. Pan Rate Max. Tilt Rate 3 (Pan, Tilt, Roll) up to 30 Kg / 66 lbs. 608 mm / 23.93" 412 mm / 16.22" 150 mm / 5.9" 165 mm / 6,49" 260 mm / 10.23" 209 mm / 8.23" 9,4 Kg / 20,7 lbs. + 60° / -110° +/- 90° 540° +/-270° 240° / Sec. 240° / Sec.



27 Pinout Remote Head SRH-3 SRH-360 / Remote Control Panel

12V/ 24V / FS-CAN IN		FF-CAN: 4 POL		
	LEMO ECG.3B.305.CLL		Fischer DBP 102 A053 - 140	
	1 = GND 2 = FOMA BUS Slow L 3 = FOMA BUS Slow H 4 = 12 V IN		1 = GND 2 = CAN1 L 3 = CAN2 H 4 = 12V	
	5 = 24 V IN	AUX Pwr 12V	LEMO ECG.0B.302.CLN	
FS-CAN	Fischer DBP 103 A053 - 140		1 = GND 2 = 12V OUT	
	1 = GND 2 = CAN1 L 3 = CAN2 H	CAM PWR 12V/ 24V	LEMO ECP.1S.303.CLN	
	4 = 12V OUT		1 = 12V 2 = GND 3 = 24V	
FF-CAN	Eischer DBP 102 4053 - 140			
		12V HiCap		
	1 = GND		LEMO ECG.1B.304.CLN	
	2 = CAN1 L 3 = CAN2 H 4 = 12V		1 = 12V 2 = GND 3 = GND	
HD BNC 6G-SDI	AMPHENOL 112522		4 = 12V	
		LBUS	LEMO ECG.0B.304.CLN	
			1 = GND 2 = CAN L 3 = 12V 4 = CAN H	
		RS 24V Lötseite Buchse	FISCHER DGP 102 A052 - 13	



1 = GND 2 = 12V/24V

28 Assignable Controllers and Functions

SJ1P	Standard J 1 Pan	Standard Joystick 1, Pan, left /right
SJ1T	Standard J 1 Tilt	Standard Joystick 1, Tilt, up/down
MF1P	Microforce J 1 Pan	Microforce Joystick 1, Pan, left /right
MF1T	Microforce J 1 Tilt	Microforce Joystick 1, Tilt, up/down
		· ·
DO1D	Deserves to the Deserves	Decederation of Dec. 1-6 bight
BC1P	Broadcast J T Pan	Broadcast Joystick T, Pan, left /right
BC1T	Broadcast 1 Tilt	Broadcast Joystick 1 Tilt un/down
Boll		
J2 H	Joystick 2 H	Additional Joystick 2, Pan, left /right
J2 V	Joystick 2 V	Additional Joystick 2, Tilt, up/down
DRWP	DRW Pan	DRW-1, ARRI Wheels, Pan, Pan, left /right
DRWT	DRW Tilt	DRW-1, ARRI Wheels, Tilt, up/down
DRWR	DRW Roll	DRW-1, ARRI Wheels, Roll
DEHP	DEH Pan	DEH-1, ARRI Encoder Head, Pan, left /right
DEHT	DEH Tilt	DEH-1, ARRI Encoder Head, Tilt, up/down
		,, ,
TS	Touchscreen	Control through Remote Control Panel
K1 K8	Knob 1 Knob 8	Knobs
B1 B6	Button 1 Button 6	Buttons
51		Buttons
		Wheel 1
		Wheel 2
	Focus Wileel 2	Wheel 2
IZR1		Rocker 1
IZR2	Zoom Rocker 2	Rocker 2
MLW	Left Wheel	Master Grip Lett Focus Wheel
MRW	Right Wheel	Master Grip Right Focus Wheel
MLR	Left Rocker	Master Grip Left Zoom Rocker
MRR	Right Rocker	Master Grip Right Zoom Rocker
MLRB	MLR Button	Master Grip Left Rocker, Red Button
MRRB	MRR Button	Master Grip Right Rocker, Red Button
MLWB	MLW Button	Master Grip Left Wheel, Red Button
MRWB	MRW Button	Master Grip Right Wheel, Red Button
OCU	OCU Wheel	OCU-1 Wheel
OCUL	OCU Left	OCU-1 Left Button
OCUM	OCU Middle	OCU-1 Middle Button
OCUR	OCU Right	OCU-1 Right Button
	C C	Ĵ
MLRJ	MLR Joystick center	Master Grip Left Rocker Joystick center
MLRL	MIR Joystick left	Master Grip Left Rocker Joystick Left
MIRR	MIR Joystick right	Master Grip Left Rocker Joystick, right
MIRU	MLR Joystick up	Master Grin Left Rocker Joystick, up
MIRD	MLR loystick down	Master Grip Left Rocker Joystick, down
MIRH	MLP loystick borizontal (left & right)	Master Grip Left Rocker Joystick, down
	MLR Joystick vortical (up & down)	Master Grip Left Rocker Joystick, Norizontal (left & right)
	MEN DOYSLOK VELICAL (UP & UOWII)	master onp centrocker obystick, vertical (up & uowit)
MDD	MPP lovotick conten	Mantor Crip Loft Booker, loughout and
		Moster Orig Left Booker, Jourtielt Left
MKKL		Master Grip Left Rocker Joystick left
MKKK	WIRK JOYSTICK right	Master Grip Lett Rocker Joystick right
MRRU	MRR Joystick up	Master Grip Lett Rocker Joystick up
MRRD	MRR Joystick down	Master Grip Lett Rocker Joystick down
MRRH	MRR Joystick horizontal (left & right)	Master Grip Left Rocker Joystick horizontal (left & right)
MRRV	MRR Joystick vertical (up & down)	Master Grip Left Rocker Joystick vertical (up & down)

29 Declaration of Conformity

42

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:

- Directive 2014/53/EU of the European Parliament and the Council of 16 April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment - OJ L 153, 22 May 2014, p. 62–106
- Directive 2011/65/EU of the European Parliament and the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment - OJ L 174, 1 July 2011, p. 88–110

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

 o EN 62368-1: 2014 + AC:2015-05 + AC:2015-11; EN 60950-1: 2006+A11:2009+A1:2010+A12:2011+AC:2011+A2:2013; EN 62479:2010
- - 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: http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/index_en.htm

Year of affixed CE-marking: 2018

Munich 13.12.2018

Sign

1

Sign

Walter Trauninger Managing Director Dr. Sebastian Lange Head of Quality Management

APPENDIX-I

List of additional accessories:

Item Model name

ARRI Digital Remote Wheels - DRW-1



Arnold & Richter Cine Technik GmbH & Co. Betriebs KG

Business Unit Camera Systems, Türkenstr.89, D-80799 München

EU–Konformitätserklärung EU–Declaration of Conformity

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 Apendix I
 - Europe Setting for Software 01.14.00 or later and Antenna Proant 333 Ex-It 2400 Foldable, Accessories regarding Apendix I

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

 Richtlinie 2014/53/EU des Europäischen Parlaments und des Rates vom 16. April 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung von Funkanlagen auf dem Markt - OJ L 153, 22.5.2014, S. 62–106
 Directive 2014/53/EU of the European Parliament and the Council of 16 April 2014 on the barmonisation of the laws of the

Directive 2014/53/EU of the European Parliament and the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment - OJ L 153, 22 May 2014, p. 62–106 Richtlinie 2011/65/EU des Europäischen Parlaments und des Rates vom 8. Juni 2011 zur

 Richtlinie 2011/65/EU des Europäischen Parlaments und des Rates vom 8. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten - OJ L 174, 1.7.2011, S. 88–110
 Discrition 2011/65/EU ofte Europaen Bediement and the Coursell of 9, June 2014 on the contribution of the use of endain

Directive 2011/65/EU of the European Parliament and the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment - OJ L 174, 1 July 2011, p. 88–110

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
 - EN 62368-1: 2014 + AC:2015-05 + AC:2015-11;
- EN 60950-1: 2006+A11:2009+A1:2010+A12:2011+AC2011+A2:2013 ; EN 62479 :2010
 At 2.4 h soch 2014/201511 data and another sectors another sectors another sectors and another sectors another sectors another sectors another sectors another sector
- Art. 3.1 b nach 2014/30/EU –following 2014/30/EU
 - EN 301 489-1 V2.1.1; EN 301 489-17 V3.1.1; EN 61000-4-2:2009; EN 61000-4-3:2006 A1:2009 A2:2010; EN 55032: 2012, CISPR 32 :2015, EN 55035 :2017
- Art. 3.2
- EN 300 328 V2.1.1;

Grundlegende Anforderungen zu Nr. 2. - Essential Requirements regarding No 2 • EN 50581: 2012:

Für die Ermittlung der entsprechenden Normen haben wir die folgende Quelle verwendet: To evaluate the respective information, we used:

http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/index_en.htm

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

Arnold & Richter Cine Technik GmbH & Co. Betriebs KG

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Dr. Sebastian Lange Leiter Qualitätsmanagement / Head of Quality Management

Sitz: München, Register: Amtsgericht München, HRA-Nr. 57918 Persönlich haftende Gesellschafterin: Arnold & Richter Cine Technik GmbH Sitz: Munchen, Register: Amtsgericht München, HRB-Nr. 54477 Geschäftsführung: Dr. Michael Neuhäuser; Dr. Jörg Pohiman; Stephan Schenk; Walter Trauniger

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