

# Stabilized Remote Head

## **SRH-3** SUP 2.2

### Manual

Date 01.08.2019



## Imprint

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## Scope

This document describes the components and the setup of the SRH-3 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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# 1 User Advisory / Application Requirements

The SRH-3 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 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 to 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, 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. 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 stabilisation.



## 2 For your safety

### **Warning**

The SRH-3 stabilized remote head 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 SRH-3 stabilized remote head read the manual in its entirety prior to use.

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.

#### 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.

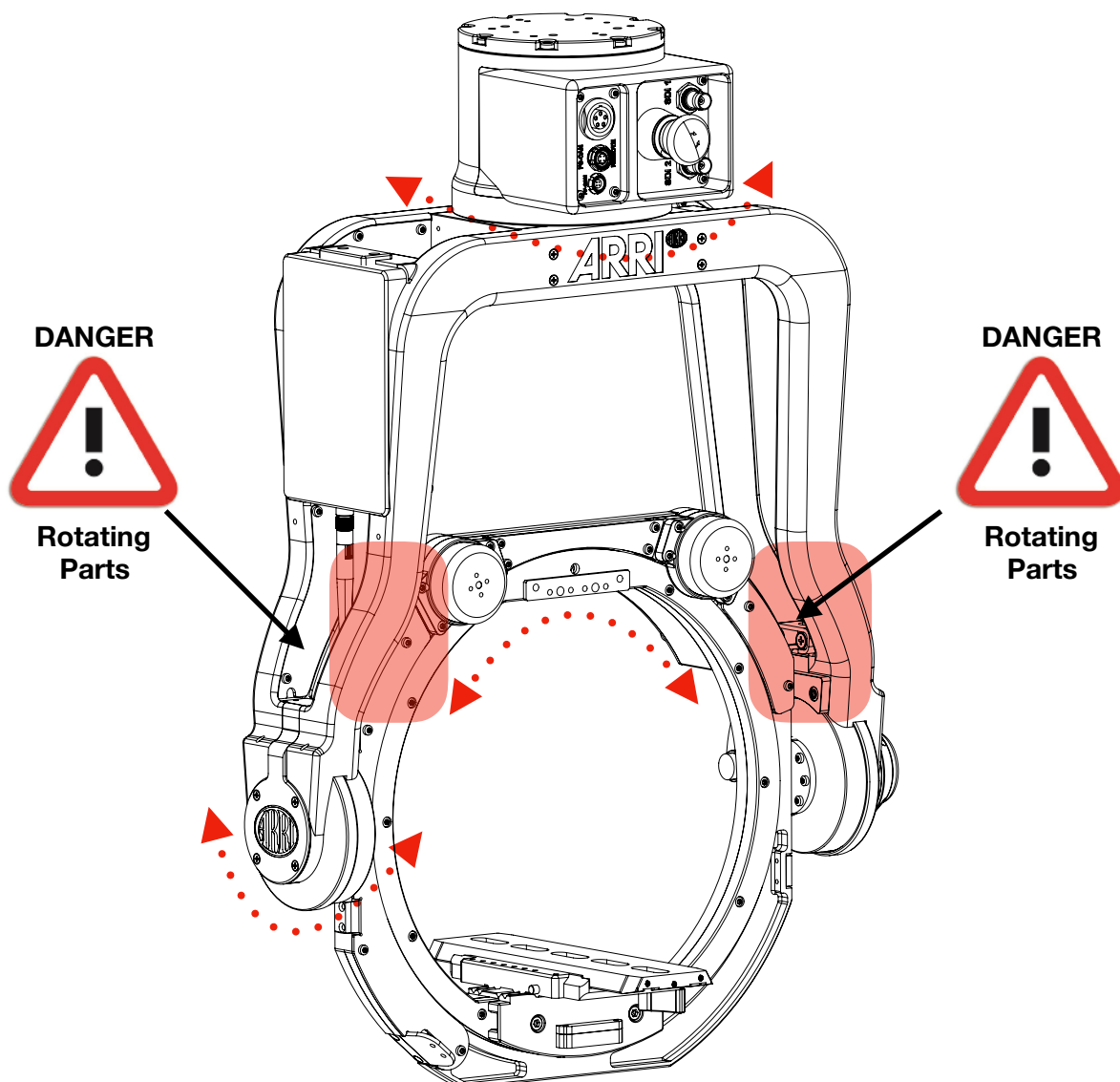
### **NOTE**

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.

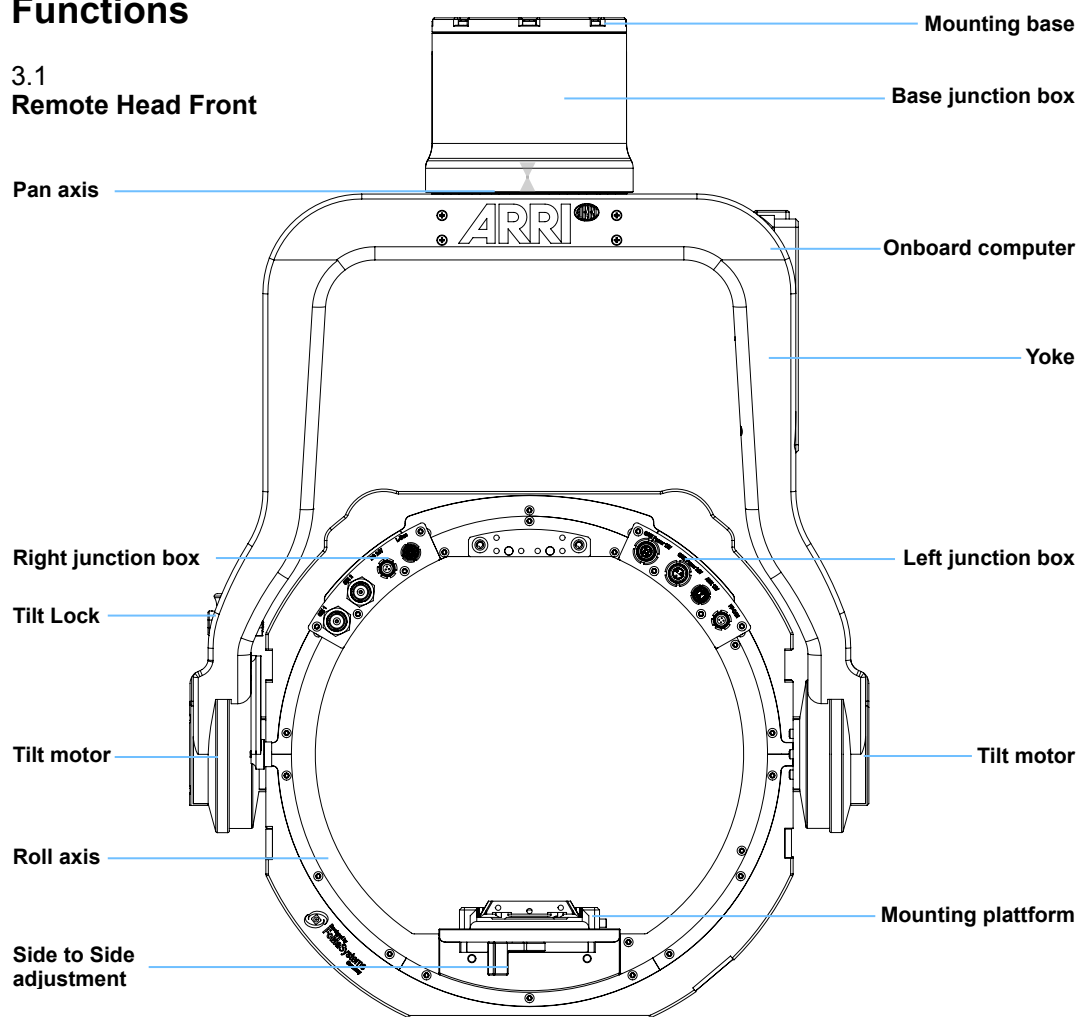


### **⚠ CAUTION**

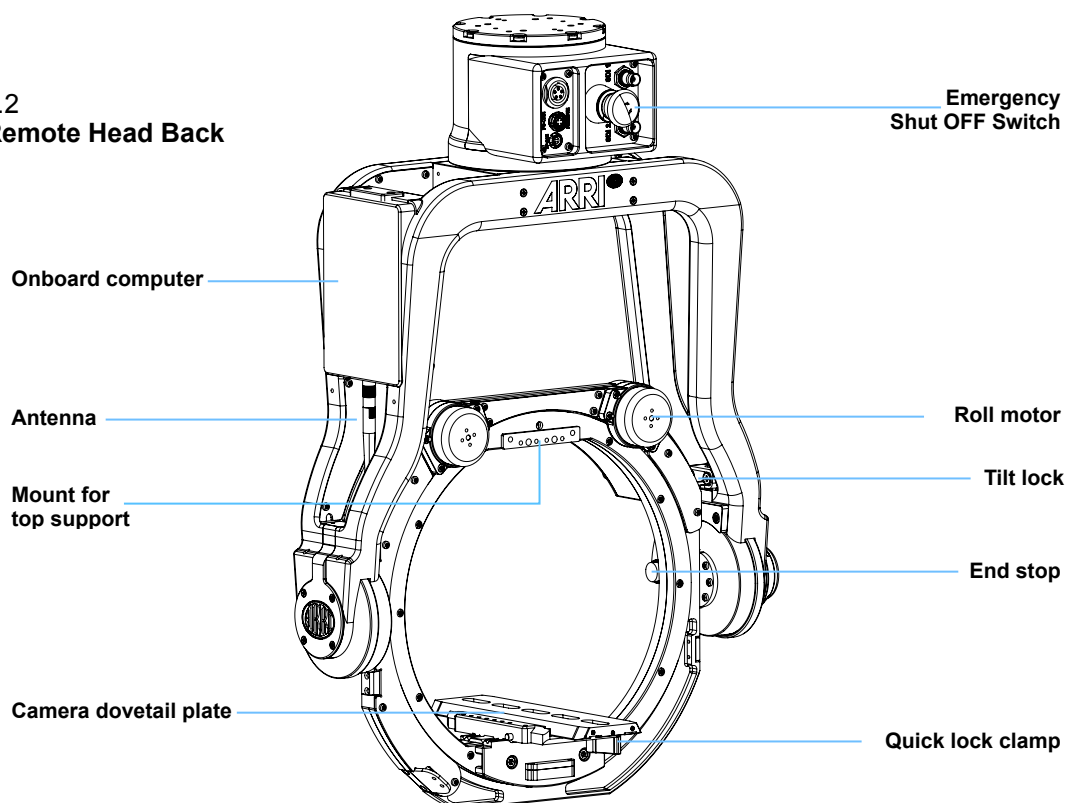
Keep in mind that the SRH-3 stabilized remote head is a fully stabilized Gimbal based device with a payload capacity of 30kg / 66 lb. The amount of available torque is very high.

### 3 Functions

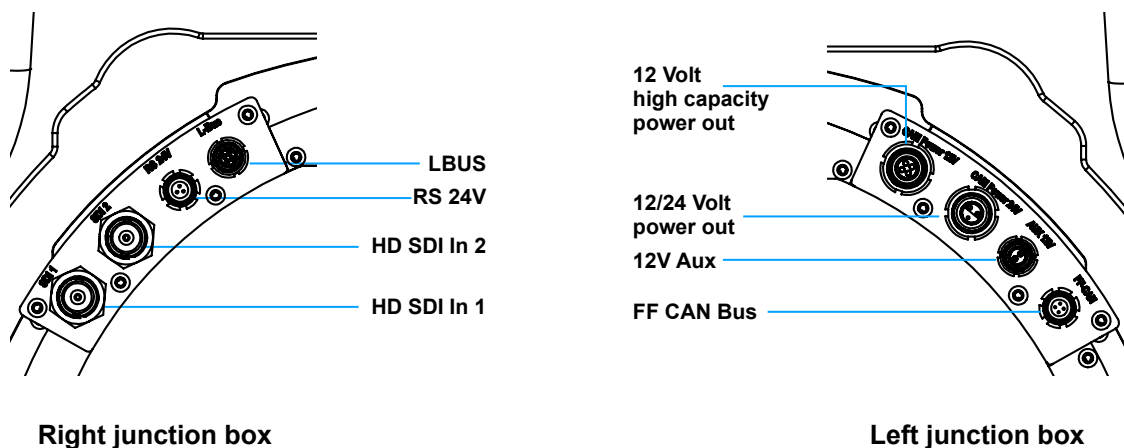
#### 3.1 Remote Head Front



#### 3.2 Remote Head Back

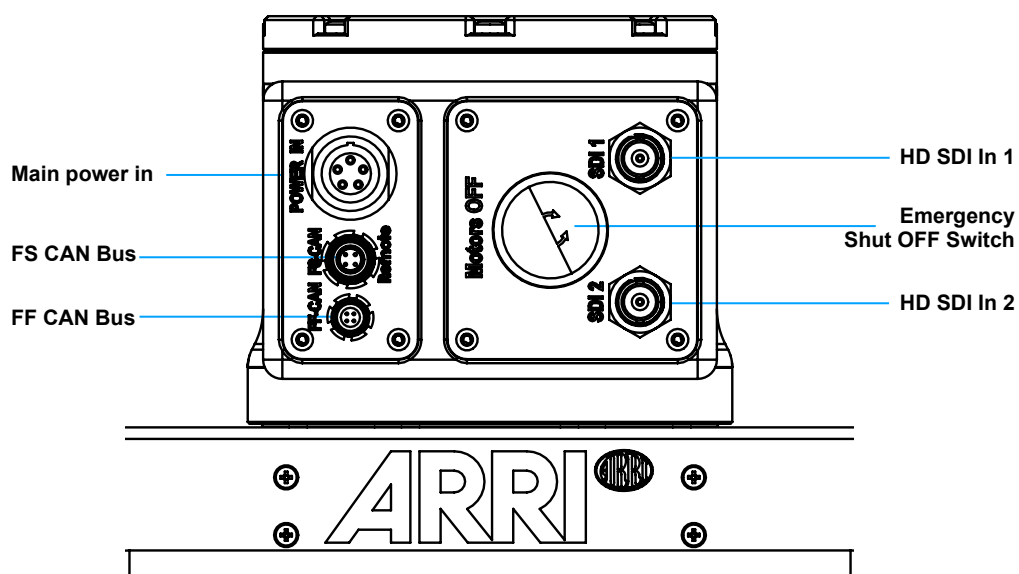


### 3.3 Remote Head Connectors



<b>⚠ CAUTION</b>
The 12V aux power consumption should not exceed 14,4V / 5 Amps.

### 3.4 Remote Head Base Junction Box / Rear



## 4 Setup Remote Head

### ⚠ DANGER

Mounting the the SRH-3 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.

### Step 1

#### Alignment for Top Down

##### NOTICE

To be able to do a **90° top down** shot, the camera needs to be mounted in a certain way into the ring.

The junction boxes of the ring needs to point in the same direction as the lens.



### Step 2

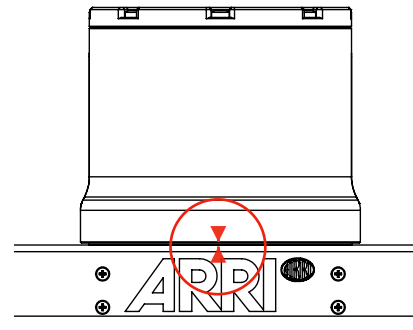
#### Home Position

##### ⚠ CAUTION

Before powering up the remote head, align the **home position** indicator arrows as shown.

##### ⚠ CAUTION

If you don't align the **home position**, the performance of the remote head will be affected and the pan range will be **reduced** by more than **50%**.



### Step 3

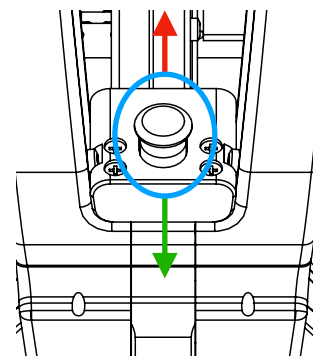
#### Tilt Lock

##### ⚠ DANGER

While the **camera setup** the **Tilt Lock** needs to be **engaged**!

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

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



## 5 Camera Setup / Balancing

### Step 4

#### Camera Preparation

The entire balancing procedure of the SRH-3 stabilized remote head is based on **symmetry** and **neutral balance**.

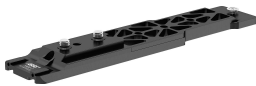
#### NOTE

Only a precisely executed camera preparation will enable you to get the best performance out of the SRH-3 stabilized remote head.



#### Camera Dovetail Plates

We highly recommend to use the so called Stabilizer Adapter Mount plates: SAM-1, SAM-2, SAM-3 or the SAM-4.



SAM-1 Stabilizer Adapter Mount for  
ALEXA  
K2.0018851



SAM-2 Stabilizer Adapter Mount for  
ALEXA Mini  
K2.0014215

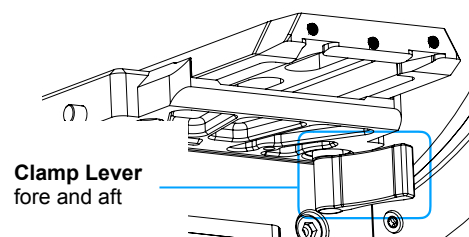


SAM-3 Stabilizer Adapter Mount for  
AMIRA  
K2.0014630

### Step 5

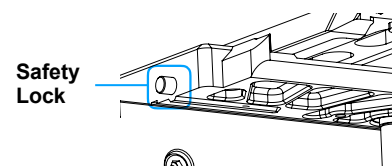
#### Mounting Camera Dovetail Plate

Open the clamp lever to insert the camera dovetail plate.



Clamp Lever  
fore and aft

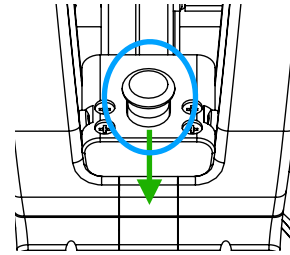
Push the safety lock to remove the camera dovetail plate.



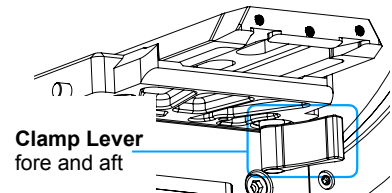
Safety  
Lock

**Step 6****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 forwards or backwards until the camera remains in a horizontal position.

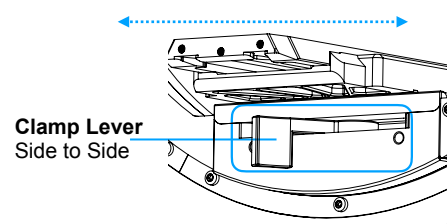
**NOTE**

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

Move the camera forwards or backwards until the camera remains in a horizontal position

**Step 7****Side to Side Balance**

Open the clamp lever at the front.



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



## 6 Powering the remote head

### ⚠ CAUTION

To perform in the desired way, the stabilized remote head requires at least min. **24V / 5A** over the **3pin XLR** plug and min. **12V / 5A** via the **4pin XLR** plug.

**Use only suitable and recommended power cables, batteries, and power adapters.**

The power supply for the EUT, has to provide "SELV" and a short-circuit-proof „limited power source", according to EN 60950-1.

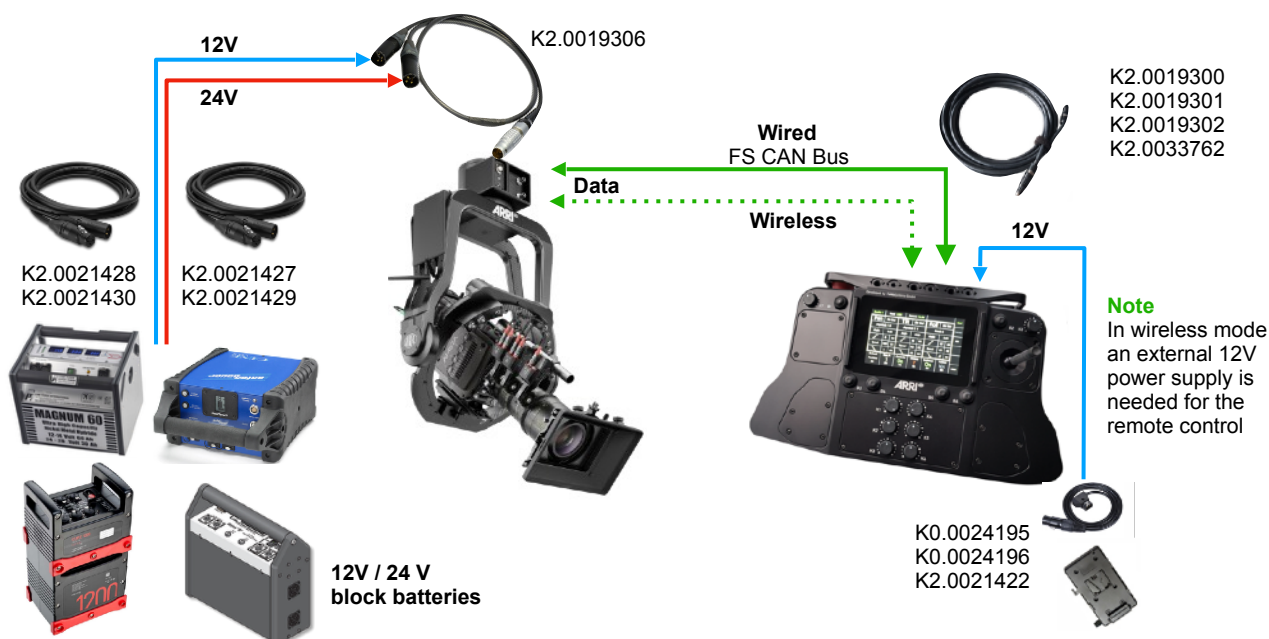


### Batteries (Recommended)

BEBOB CUBE 1200	<a href="http://www.bebob.de">www.bebob.de</a>
Anton Bauer CINE VCLX	<a href="http://www.antonbauer.com">www.antonbauer.com</a>
Block Battery	<a href="http://www.blockbattery.com">www.blockbattery.com</a>
Cinepower Magnum 60	<a href="http://www.cinepower.com">www.cinepower.com</a>

## Step 8

### Wiring Diagram

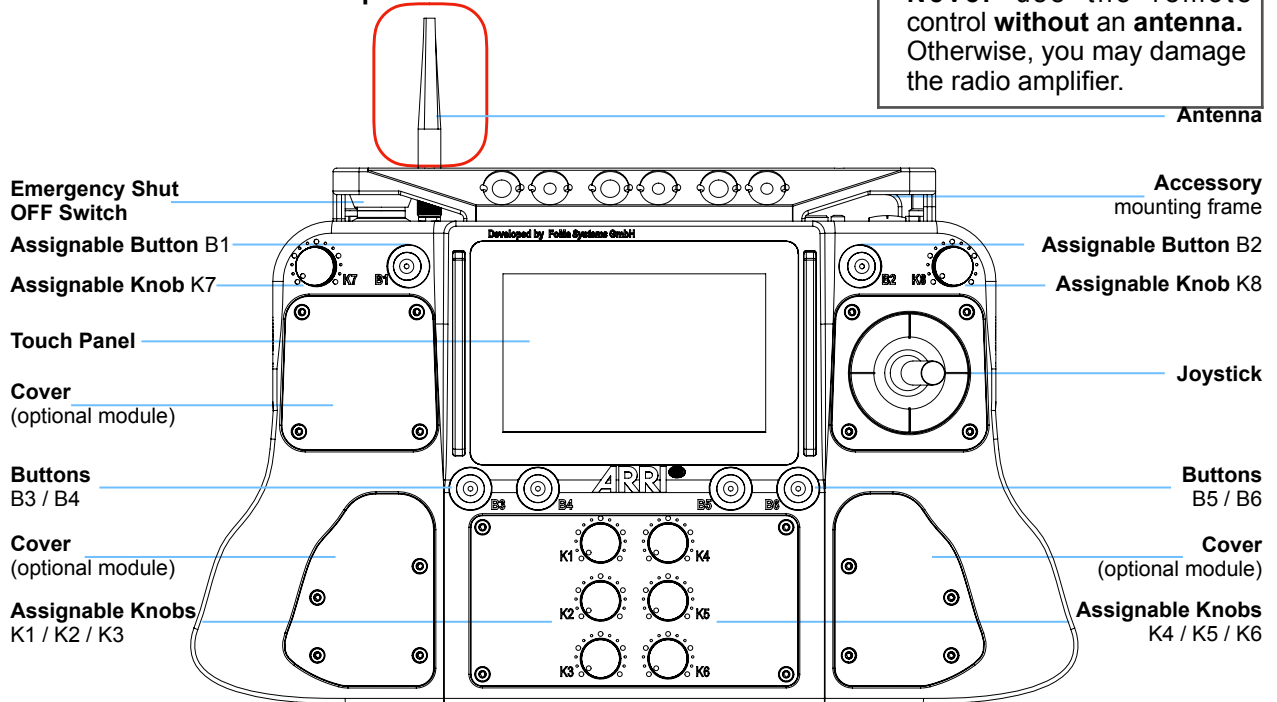




## 7 Remote Control

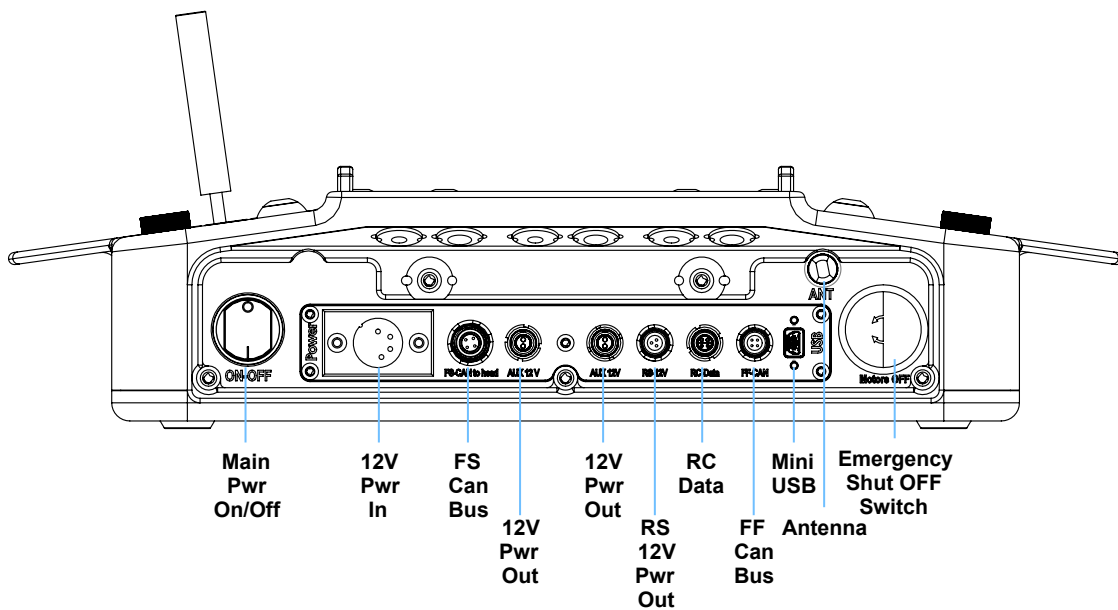
### 7.1

#### Functions on the top



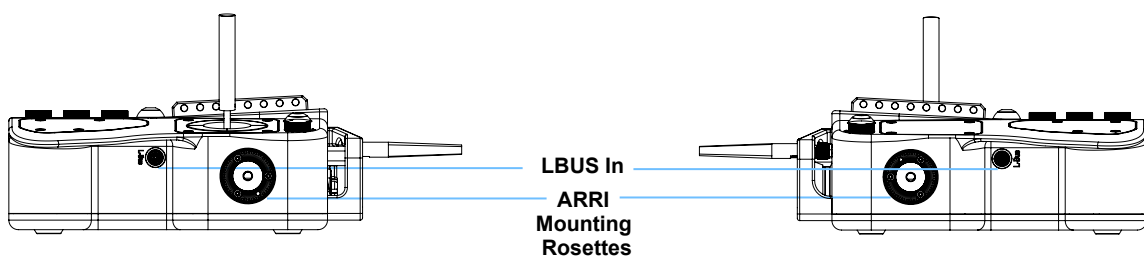
### 7.2

#### Functions on the rear

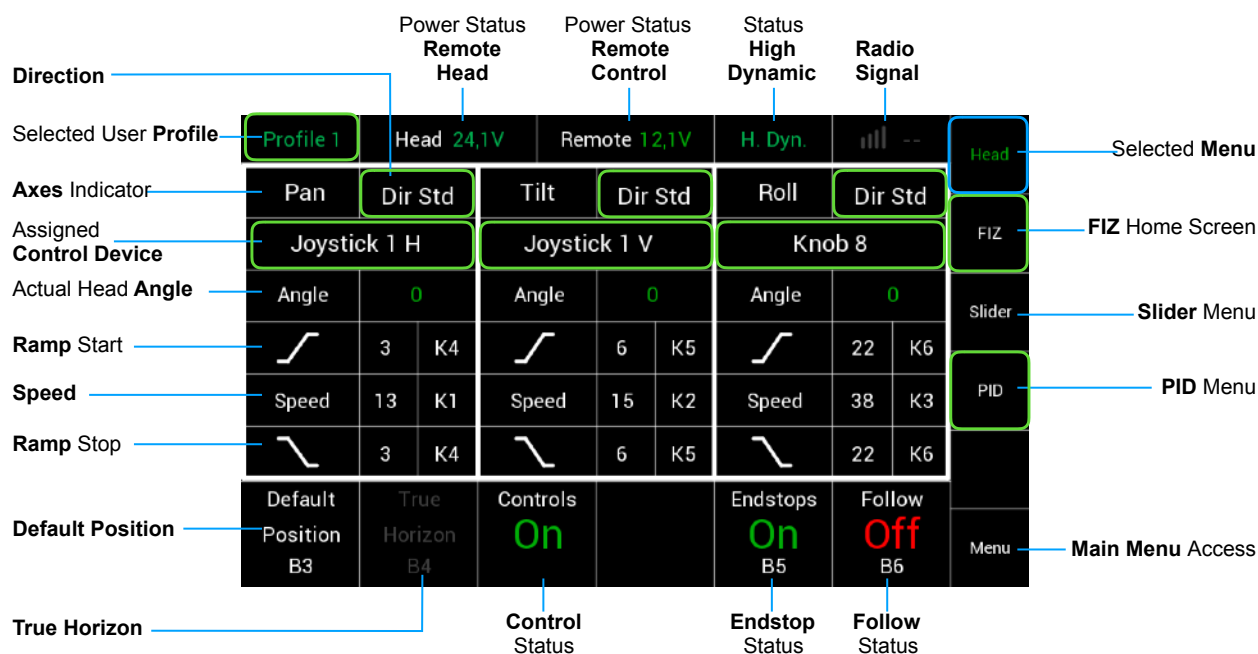
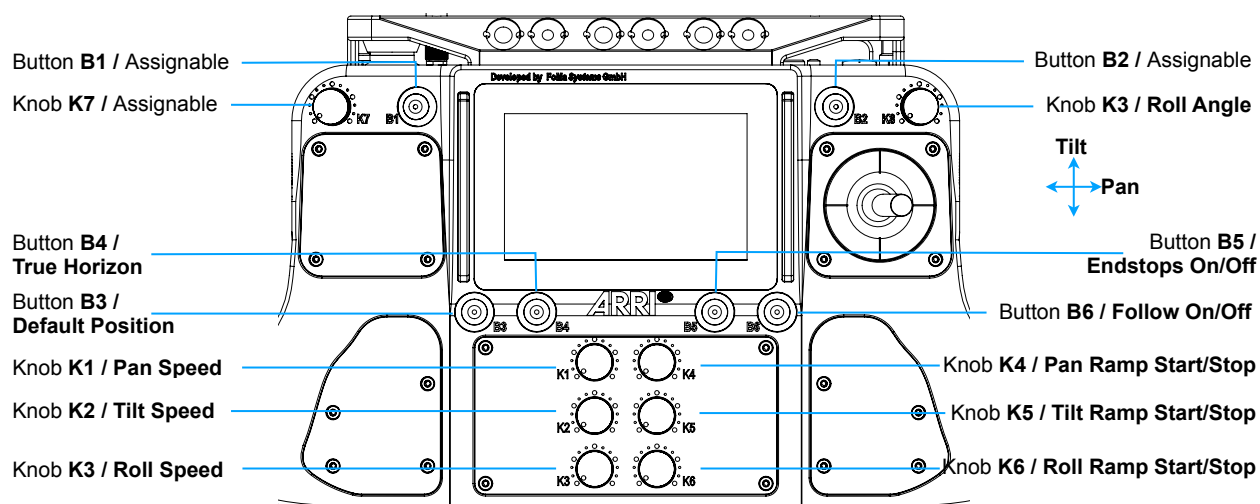


### 7.3

#### Functions on the right and left side

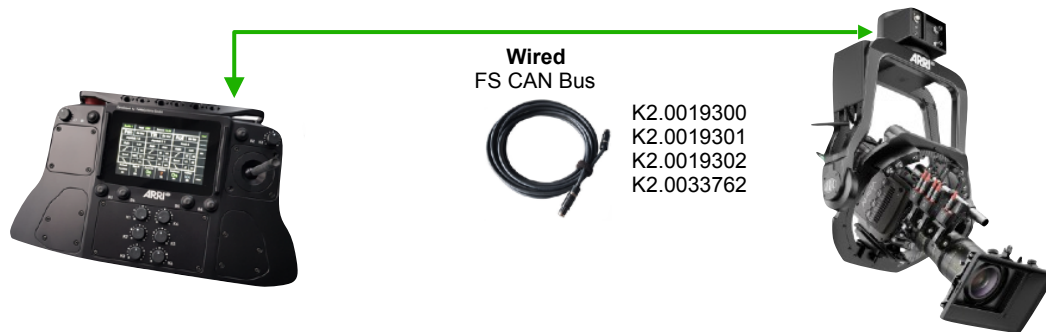


## 8 SRH-3 Remote Control / GUI (Graphical User Interface)

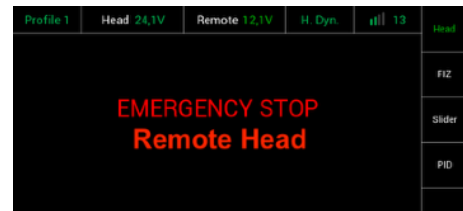


**Step 9**

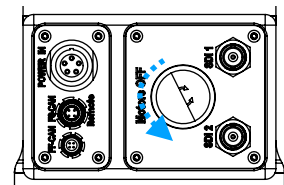
Connect the remote control hardwired with the remote head

**Step 10**

Emergency Shut Off

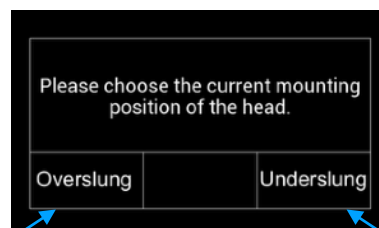
**NOTE**

To release the Emergency Shut Off Switch, carefully turn the red knob to the left.

**Step 11**

**Mounting Position**

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

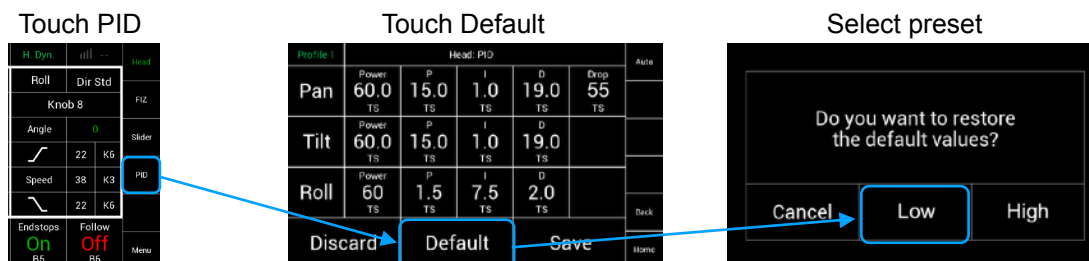


## 9 PID / Quick Setup

### Step 12

#### Camera Weight Preselection

To make setting the PID values as easy as possible, the user can select a light or heavy camera preset from the submenu.



#### NOTE

**Low** stands for a camera weight of **5 kg - 10 kg**, which is used in a **low dynamic** setup.  
**High** stands for a camera weight of **10 kg - 20 kg** and more, which is used in a **high dynamic** setup.

### Step 13

#### PID Setup Fine Trim

#### NOTE

Start with a solid camera setup

- 1 Set **Ramp** to **ZERO** on the Joystick (Pan & Tilt) (K4 & K5)



- 2 Adjusting the **Power** value for Tilt first.

By physical Selecting the lens, try move the **Tilt** axis **down** and check if the camera **slipping**.

- 3 If the **Tilt** axis **slips**, you **must increase** the **Power** 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

First, you need a camera picture.

- 6 Choose a fixed point in the set.

- 7 Use the joystick to pan and stop the remote head at the selected point in the set.

The image shows two screenshots of the PID setup interface. The first screenshot shows a table of PID values for Pan, Tilt, and Roll, with 'Tilt' highlighted. The second screenshot shows the same table with 'Pan' highlighted. Both screenshots have 'Save' highlighted.

Power	P	I	D	Drop
Pan 60.0 TS	15.0 TS	1.0 TS	19.0 TS	0.0 TS
Tilt 60.0 TS	15.0 TS	1.0 TS	19.0 TS	
Roll 60 TS	1.5 TS	7.5 TS	2.0 TS	



- 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 steps **higher** than the **P** value.

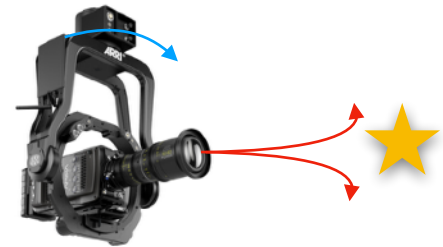
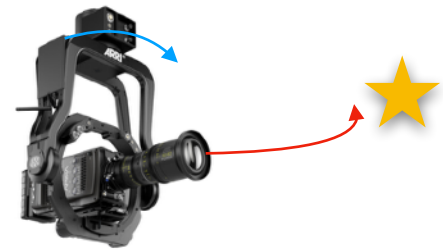
**NOTE**

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 **PID** value of the Pan axis meets your expectations, the same **PID** value will be used for the **Tilt** axis as well.

Press **Save!**



Profile 1	Head: PID			
Pan	Power 60.0 TS	P 15.0 TS	I 1.0 TS	D 19.0 TS
Tilt	Power 60.0 TS	P 15.0 TS	I 1.0 TS	D 19.0 TS

Profile 1	Head: PID			
Pan	Power 60.0 TS	P 15.0 TS	I 1.0 TS	D 19.0 TS
Tilt	Power 60.0 TS	P 15.0 TS	I 1.0 TS	D 19.0 TS

**Step 14****12 Drop**

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

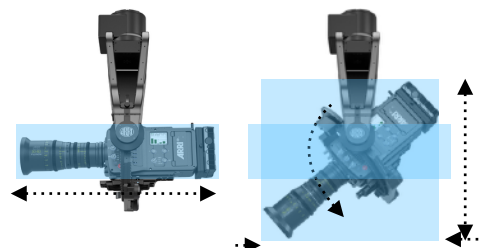
The Drop setting permanently balances the Pan and Tilt values as the camera angle gets steeper and steeper.

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

As the remote head begins to **vibrate**, slowly **increase** the **Drop** value until the remote head **stops vibrating**.

**NOTE**

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



Profile 1	Head: PID				
Pan	Power 60.0 TS	P 15.0 TS	I 1.0 TS	D 19.0 TS	Drop 55 TS

Choose Pan Drop

-

60.0

+

Touchscreen

Cancel

Assign

OK

**NOTICE**

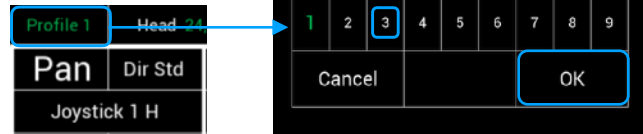
It is important to **understand** and to **accept** that all necessary steps, such as setting up the camera, attaching the remote head to the crane, the quality of the crane itself and the PID settings, must be taken into account and properly performed. If only one step is missing, the desired overall system performance can not be achieved.

## 10 Controls Setup

### 10.1

#### Changing Profiles

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



Each time changes are confirmed with **Save** or **OK**, the changes are saved in the selected profile.

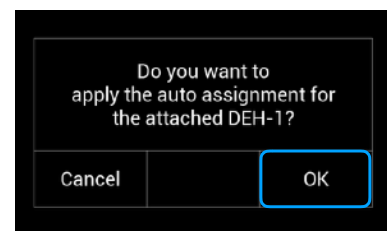
### 10.2

#### Auto Assignment

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

#### NOTE

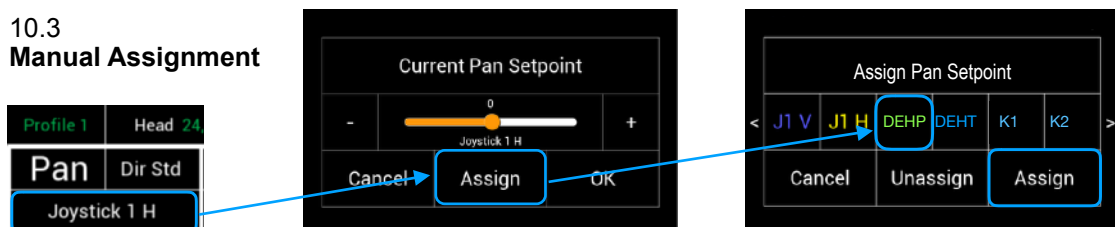
Press **Cancel** if DRW-1 or DEH-1 has already been assigned and values have already been set.  
Press **OK** to overwrite your last values.



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

### 10.3

#### Manual Assignment



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

#### Available controllers

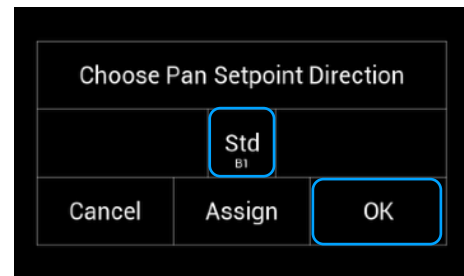
<b>J1 V</b>	Joystick 1 V	Joystick 1, up/down
<b>J1 H</b>	Joystick 1 H	Joystick 1, left /right
<b>J2 V</b>	Joystick 2 V	Joystick 2, up/down
<b>J2 H</b>	Joystick 2 H	Joystick 2, left /right
<b>DRWP</b>	DRW-1 Pan	DRW-1, ARRI Wheels, <b>Pan</b>
<b>DRWT</b>	DRW-1 Tilt	DRW-1, ARRI Wheels, <b>Tilt</b>
<b>DRWR</b>	DRW-1 Roll	DRW-1, ARRI Wheels, <b>Roll</b>
<b>V R</b>	VCW Roll	PLC VC Wheels, Roll
<b>V T</b>	VCW Tilt	PLC VC Wheels, Tilt
<b>V P</b>	VCW Pan	PLC VC Wheels, Pan

<b>DEHP</b>	DEH-1 Pan	DEH-1, ARRI Encoder Head, <b>Pan</b>
<b>DEHT</b>	DEH-1 Tilt	DEH-1, ARRI Encoder Head, <b>Tilt</b>
<b>TS</b>	Touchscreen	Control through the Touchscreen of the Remote Control
<b>K1 ... K8</b>	Knob 1 ... Knob 8	Knobs
<b>B1 ... B6</b>	Button 1 ... Button 6	Buttons
<b>V SR</b>	VCW Speed Roll	PLC VCW, Speed Roll Poti
<b>V ST</b>	VCW Speed Tilt	PLC VCW, Speed Tilt Poti
<b>V SP</b>	VCW Speed Pan	PLC VCW, Speed Pan Poti
<b>V DR</b>	VCW Direction Roll	PLC VCW, Direction Roll Switch
<b>V DT</b>	VCW Direction Tilt	PLC VCW, Direction Tilt Switch
<b>V DP</b>	VCW Direction Pan	PLC VCW, Direction Pan Switch

## 10.4 Changing Direction

Profile 1	Head 24.1V	Remote 12.1V	H. Dyn.	all
Pan	Dir Std	Tilt	Dir Std	Roll
Joystick 1 H	Joystick 1 V	Knob 8		

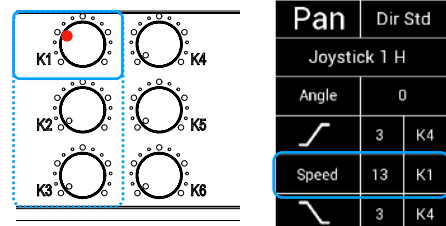
This field indicates the selected direction of the assigned controller.



Selecting **Dir** will open the **Direction** submenu.  
Selecting the field in the middle **toggles** between **Standard** and **Reverse**.

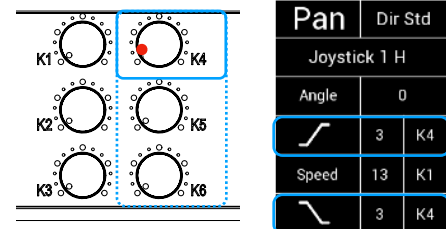
## 10.5 Speed (K1, K2, K3)

The selected speed is displayed on the home screen.



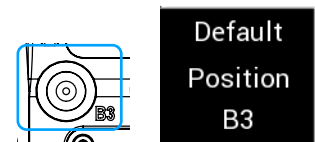
## 10.6 Ramp (K4, K5, K6)

The selected ramp is displayed on the home screen.



## 10.7 Default Position Button / Home

This function moves the remote head back to its **predefined starting position**.  
By default, this function is assigned to **button B3**.



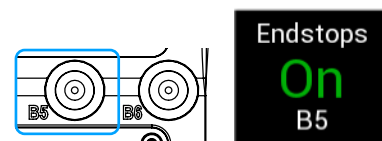
## 10.8 True Horizon (Page 24)

The True Horizon function, moves the **roll axis** back to the **horizontal position**.  
By default, this function is assigned to **button B4**.



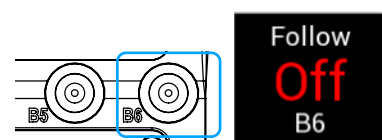
## 10.9 Endstop On/Off (Page 22)

Indicates whether **Endstops** / Limits are active or not.  
By default, this function is assigned to button **B5**.



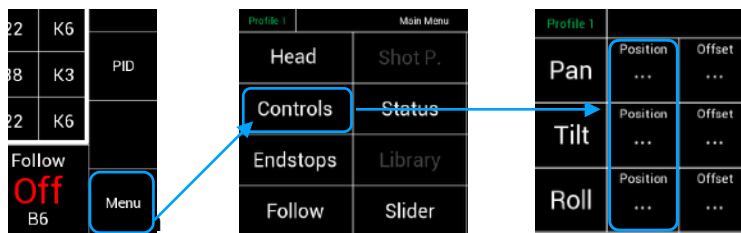
## 10.10 Follow On/Off (Page 23)

Indicates if the **Follow Mode** is **active or not**.  
By default, this function is assigned to button **B6**.



## 11 Additional Controls Setup

- Deadband
- Sensitivity
- Ramp Mode
- Filter
- Ratio



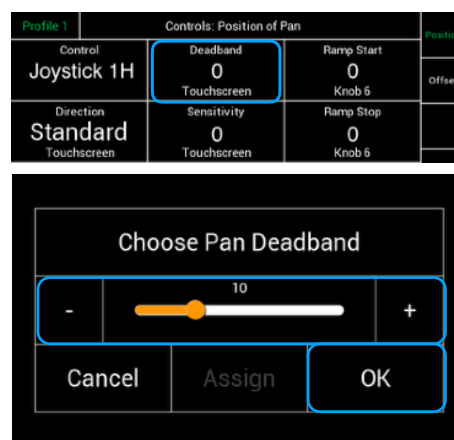
### 11.1

#### Deadband

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

#### NOTE

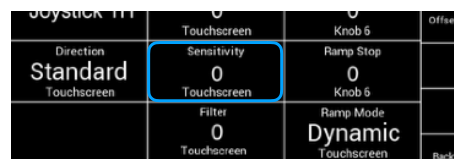
If the **DRW-1** wheels or the **DEH-1** encoder head is used as a controller, **Deadband** must be set to **0**! Otherwise there would be a **delay** in response!



### 11.2

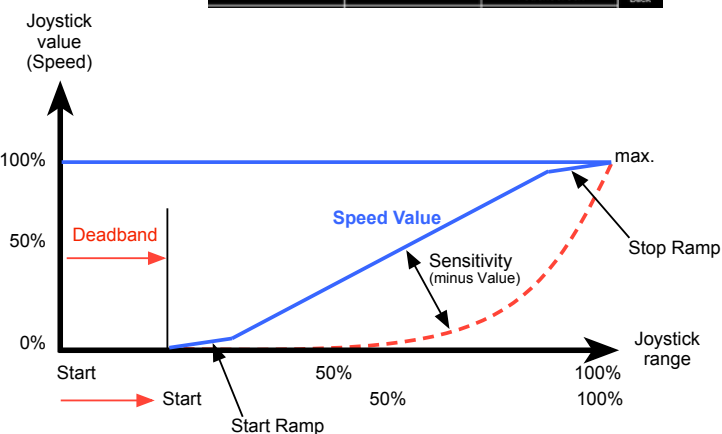
#### Sensitivity Submenu

All three parameters are related to each other. If the speed is adjusted to a value below 50, keep the ramp value as low as possible. If the value is too high, there will be more or less **no** movement in the end.



#### NOTE

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!





## 11.3

**Ramp Mode / Dynamic or Constant**

Selecting the field toggles between **Dynamic** ramp and **Constant** ramp.

**Constant Ramp** (preset) will keep the adjusted ramp, regardless of the speed values.

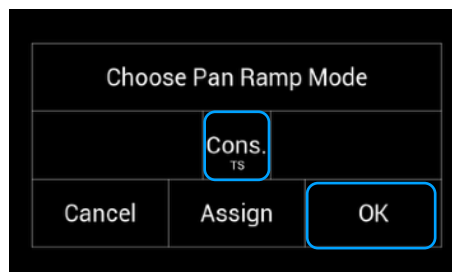
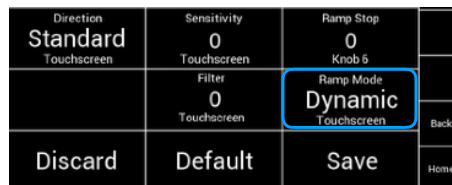
**Dynamic Ramp**

The dynamic ramp can only be used when the controller is used in Speed Mode, like the joystick.

**Dynamic Ramp** is directly related the selected tilt and pan speed.

**Higher speed** will produce a **slower** and more **flat** ramp.

**Lower speed** will produce a **faster** and **steeper** ramp.



## 11.4

**Filter**

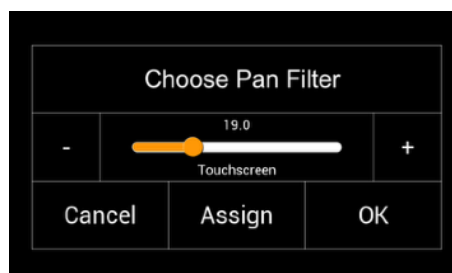
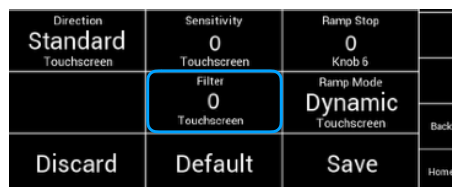
Additional low pass filter function for encoder based controllers, like the DEH-1.

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.

**NOTE**

A too high filter value may cause a **delay** in response.



## 11.5

**Ratio**

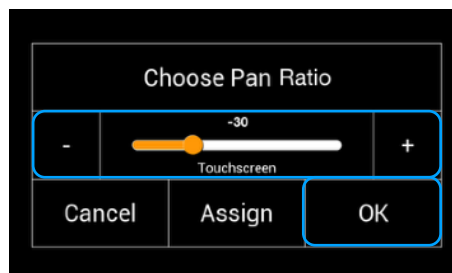
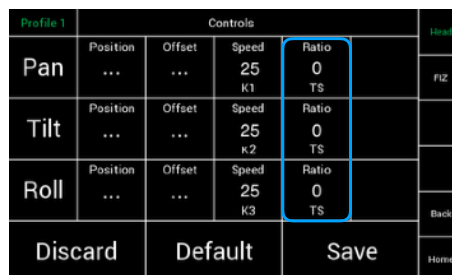
Selecting **Ratio** will open a new touchscreen display where you can select the required **Speed Ratio** of the selected axis (Pan / Tilt / Roll).

**NOTE**

When shooting with a 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%.

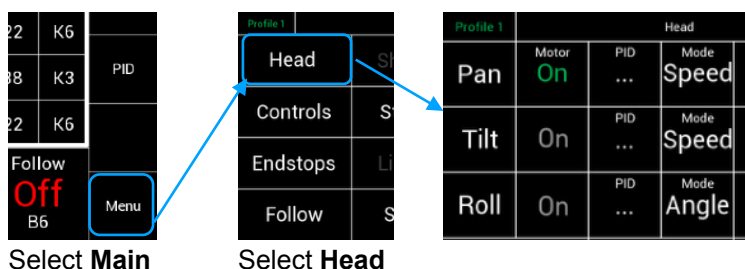
**NOTE**

Refer to the **specific manuals** when using the **DRW-1** wheels or the **DEH-1** encoder head.



## 12 Remote Head Setup

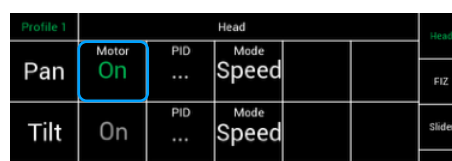
- Pan Motor On/Off
- Motor Mode
- Endstops / Limits
- Follow / Pan Lock
- True Horizon
- High Dynamic Mode
- Mounting Position



### 12.1

#### Pan Motor On/Off

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



### 12.2

#### Mode

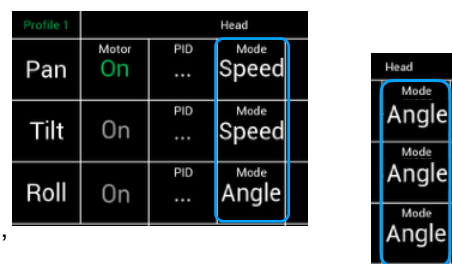
In the **Motor Mode** column, the motors can be set for **Speed** or **Angle** mode.

#### NOTE

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

#### NOTE

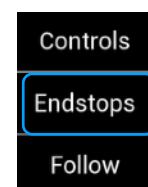
If you use **DRW-1** wheels or the **DEH-1** encoder head, the **Pan** and **Tilt** motors should be set to **Angle** mode.



### 12.3

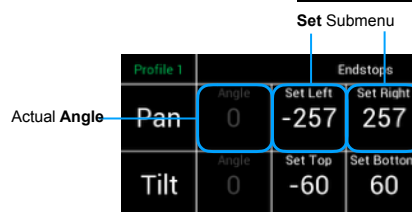
#### Endstops / Limits

In the **Endstops** menu you can define start and end positions for each axis and activate or deactivate them individually.

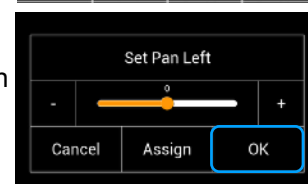


#### Angle Display

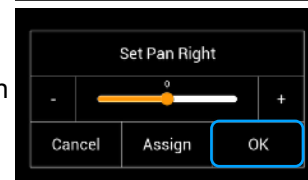
The angle column indicates the current position of single axes, measured as angles.



The **Set Left / Top / Min** selection opens a new touchscreen display with a slider that allows the operator to adjust the position of the **left end stop**, measured as an angle, for each axis individually.



The **Set Right / Top / Min** selection opens a new touchscreen display with a slider that allows the operator to adjust the position of the **right end stop**, measured as an angle, for each axis individually.



## 12.4

**Follow / Pan Lock**

The **Follow** mode allows the horizontal Pan and the vertical Tilt movement of the remote head to be synchronised with the horizontal Pan and the vertical Tilt movement of the crane. This function is also called **Pan Lock**.

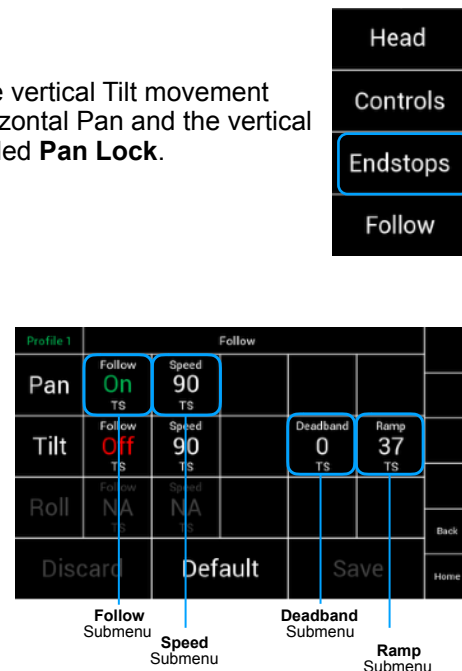
Selecting **Follow** will open a new submenu.

The Follow Mode menu will control the **Speed**, **Deadband** and **Ramp** of the **Follow** mode individually for each axis.

**NOTE**

In general, the **Follow** function can be used to lock a selected axis by activating the **Follow** function and setting the **speed** for the selected axis to **100**.

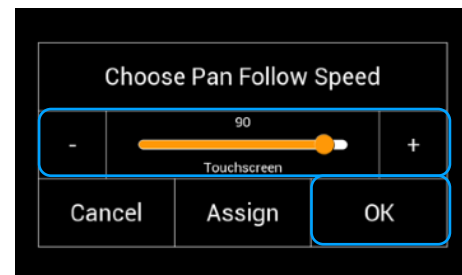
The **Deadband** slider should be set to **0** and the Ramp slider set to **0**.

**Follow Speed**

The **Follow Speed** selection will open a new menu with a slider to allow the operator to set the speed of the follow function individually for each axis.

**NOTE**

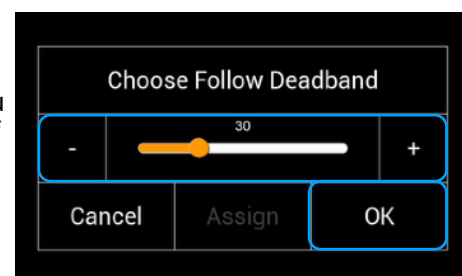
The minimum speed should be **100** to enable the **Pan Lock**.

**Follow Deadband**

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

**NOTE**

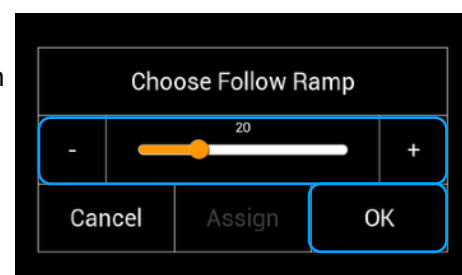
The Deadband should be **0 to max 30** to enable the **Pan Lock**.

**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 the Pan Lock.  
**Follow On/Off**



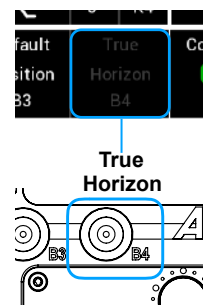
## 12.5

**True Horizon**

Sometimes the composition of the frame requires manually adjusted horizon and an easy way to get the Roll axis back to the physical Zero position.

This is especially important when using wheels, or for fast movements.

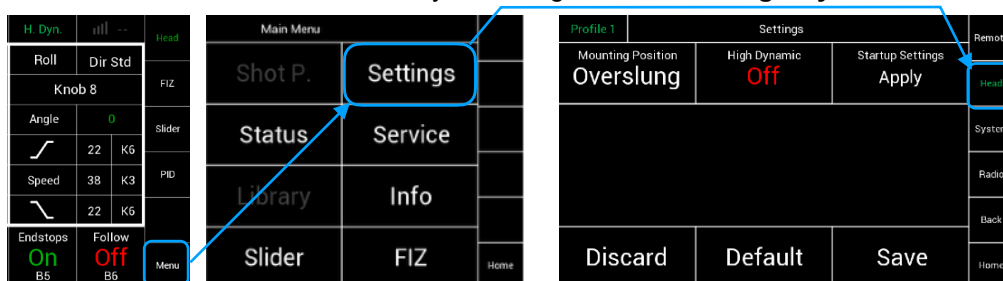
The True Horizon function allows to move the head back into the Zero position just by Selecting the assigned button **B4**.



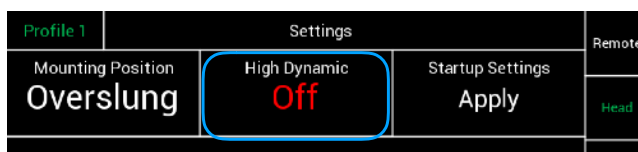
## 12.6

**High Dynamic Mode**

If the remote head is used under extreme centrifugal circumstances, you can increase the overall stabilization by activating the so-called **High Dynamic Mode**.



Selecting **High Dynamic** mode will activate the high dynamic mode.

**NOTICE**

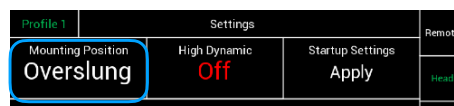
**The activation of the High Dynamic mode takes 5 - 10 seconds.**

Do not move your head until the activation of the High Dynamic mode is complete.

## 12.7

**Mounting Position**

If necessary, the **Mounting Position** can also be selected manually.



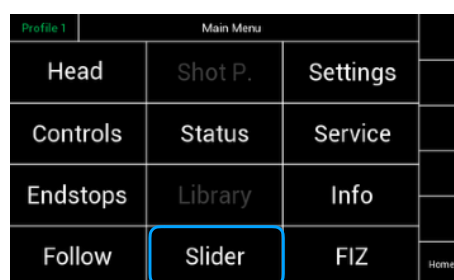
## 12.8

**Slider**

Selecting the **Slider** will open the **Slider** home screen.

**NOTE**

Since this is a very special application, the setup will be covered in a **separate manual**.



## 13 Wireless Setup

### 13.1

#### Introduction

The SRH-3 remote head and remote control can communicate with each other in two ways:

1.

The **build-in 2.4 GHz** wireless radio system using the so-called white-radio module EMIP400.

This radio module offers **14 channels** and transmits on a **fixed single** channel, which is set to **channel 13** as a preset.

2.

#### External Radio Modules ERM-2400 and ERM-900

By connecting the external radio modules **ERM-2400** and **ERM-900** via the **FS-CAN Bus** cable to the remote control 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 the needed power to the external radio modules.



**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**

#### NOTE

Please read the separate manual of the ERM modules.

#### NOTE

The SRH-3 remote head and remote control will be delivered into your region with the **required region settings** and a **deactivated radio module**.

### Step 1

#### 13.2

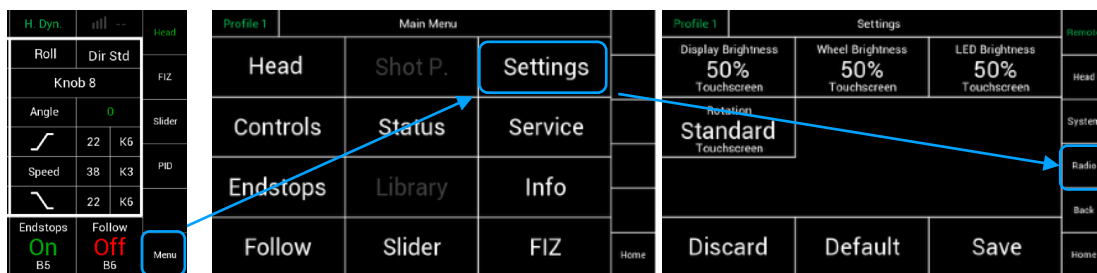
#### Activating the build-in 2.4 GHz radio module



#### NOTICE

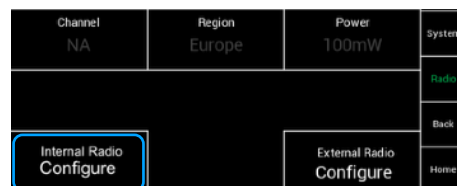
To **activate** or to **change** the built-in radio module and related **settings**, the remote control panel and the remote head must be connected via the FS Can Bus cable.

## Step 2

Select **Menu**Select **Settings**Select **Radio**

## Step 3

Select **Internal Radio** to activate the **internal** radio module.

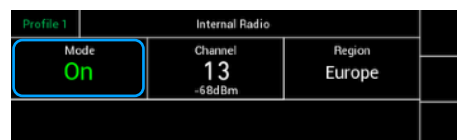


## Step 4

Selecting **Mode** will toggle between radio **On** and radio **Off**.

**NOTE**

Once the radio module is activated, it is set to **channel 13** (factory preset).

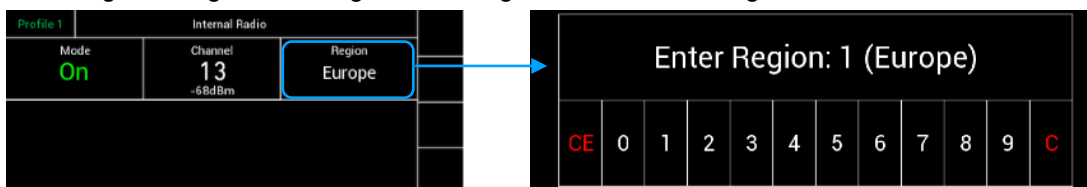


## Step 5

**Changing the Region****NOTICE**

Make sure that you select the proper area you are operating the device in. All available region settings comply with Part 15 of the FCC rules.

To change the regional settings, touch Region and enter the region code shown below.



0	Japan	6	Canada	13	Philippines
1	Europe	7	China	14	Russia
2	USA	8	Egypt	15	Singapore
3	South Korea	9	Hong Kong	16	South Africa
4	World	10	India	17	Taiwan
5	Australia	11	Israel	18	Thailand
		12	New Zealand	19	

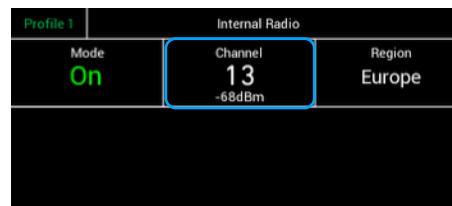
**NOTICE**

Wireless region settings specify where the wireless function can be used in compliance with local regulations. It may be illegal to use the wireless function in a region other than specified in the setting. Please ensure that the region is configured correctly, e. g. when traveling.

## Step 6

## Selecting Channels

Each time the **Channel** is touched, the next highest channel is selected.



## Available Channels

The **blue** channels are the existing channels of the EMIP300 radio module, **used** by the **WCU-4**.

The **green** channels are **new additional channels** of the EMIP400.

**The additional new channels are placed between the existing EMIP300 channels.**

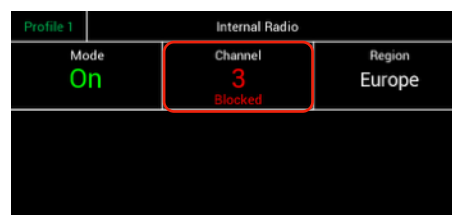
**NOTE**

Make sure that the selected frequencies are not too close together to avoid interference between the SRH-3 remote control and the WCU-4.

Channel	Frequency
0	2.410 GHz
1	2.415 GHz
8	2.420 GHz
9	2.425 GHz
2	2.430 GHz
3	2.435 GHz
10	2.440 GHz
11	2.445 GHz
4	2.450 GHz
5	2.455 GHz
12	2.460 GHz
13	2.465 GHz
6	2.470 GHz
7	2.475 GHz

## Not available channels

If one of the selected channels is already being used by another wireless device on set, the selected channel will be displayed as **blocked**

13.3  
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.

## 14 Focus - Iris - Zoom / FIZ

### 14.1

#### 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

#### Assigning Focus, Iris and Zoom

The **FIZ home screen** can be reached by Selecting **FIZ** in the Home Screen.

#### Assigning Focus and Zoom

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

**Selecting the marked area** will open a new touchscreen display menu, where the desired controllers can be selected and assigned.

#### Step 2

#### Available Controllers

<b>IFW1</b>	<b>Focus Wheel 1</b>	Internal Focus Wheel 1
<b>IFW2</b>	<b>Focus Wheel 2</b>	Internal Focus Wheel 2
<b>IZR1</b>	<b>Zoom Rocker 1</b>	Internal Zoom Rocker 1
<b>IZR2</b>	<b>Zoom Rocker 2</b>	Internal Zoom Rocker 2
<b>MLW</b>	<b>Left Wheel</b>	Master Grip Left Focus Wheel
<b>MRW</b>	<b>Right Wheel</b>	Master Grip Right Focus Wheel
<b>MLR</b>	<b>Left Rocker</b>	Master Grip Left Zoom Rocker
<b>MRR</b>	<b>Right Rocker</b>	Master Grip Right Zoom Rocker
<b>MLRB</b>	<b>MLR Button</b>	Master Grip Left Rocker, Red Button
<b>MRRB</b>	<b>MRR Button</b>	Master Grip Right Rocker, Red Button
<b>MLWB</b>	<b>MLW Button</b>	Master Grip Left Wheel, Red Button
<b>MRWB</b>	<b>MRW Button</b>	Master Grip Right Wheel, Red Button
<b>OCU</b>	<b>OCU-1</b>	OCU Focus Wheel
<b>V F</b>	<b>VCW Focus</b>	PLC VCW, Focus Knob
<b>V I</b>	<b>VCW Iris</b>	PLC VCW, Iris Knob
<b>V Z</b>	<b>VCW Zoom</b>	PLC VCW, Zoom Knob

#### Unassigning Controllers

To unassign a selected controller, touch **Unassign**.

#### NOTE

After a controller was unassigned, the function will be **only** available through the **touchscreen**.



K0.0019595



KK.0022270

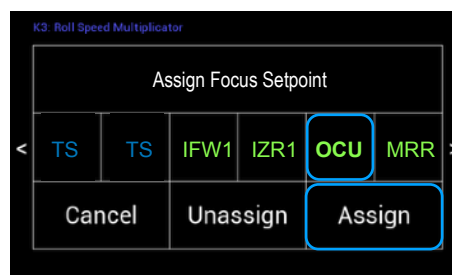
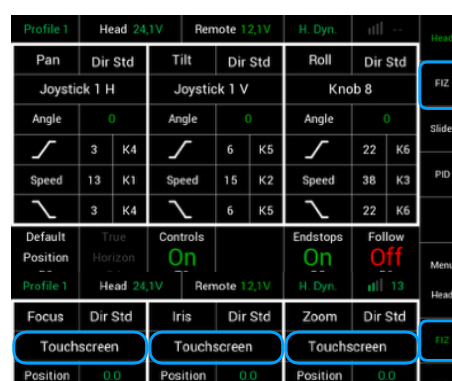


K2.0009363

K2.0009490



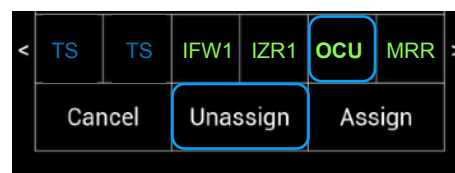
KK.0024836



#### Step 3

Use the arrows at the side to see all available controllers.

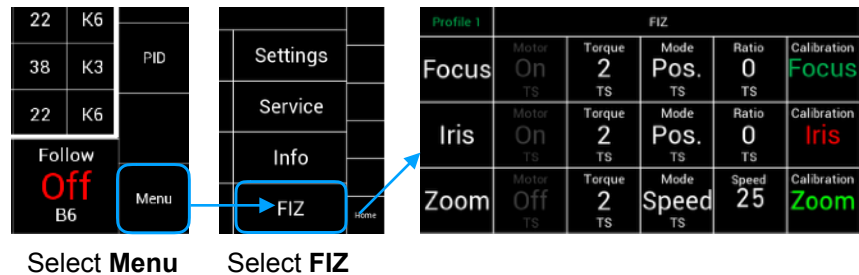
Touch the desired controller and press **Assign**.





## 14.2 FIZ Controllers Adjustments

- Calibration
- Torque
- Mode
- Speed



## 14.3 Calibration

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

### NOTE

**Green** indicates that the motor is calibrated.  
**Red** means that the motor needs to be calibrated.

### NOTE

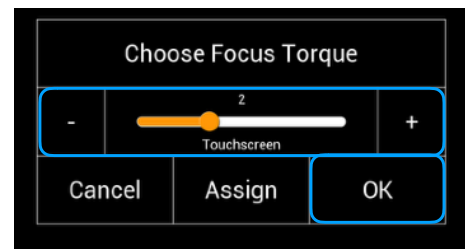
When using the **LCUBE CUB-2** and Broadcast lenses, calibration is **not required**.

Profile 1	FIZ					
Focus	Motor On TS	Torque 2 TS	Mode Pos. TS	Ratio 0 TS	Calibration Focus	Head
Iris	Motor On TS	Torque 2 TS	Mode Pos. TS	Ratio 0 TS	Calibration Iris	FIZ
Zoom	Motor Off TS	Torque 2 TS	Mode Speed TS	Speed 25	Calibration Zoom	Slider
Discard    Default    Save						Back
						Home

Profile 1	FIZ					
Focus	Motor On TS	Torque 2 TS	Mode Pos. TS	Ratio 0 TS	Calibration Focus	FIZ

## 14.4 Torque

**Torque** selection opens a new touch screen display with a slider that adjusts the torque required for the selected lens motor.



## 14.5 Mode

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

### NOTE

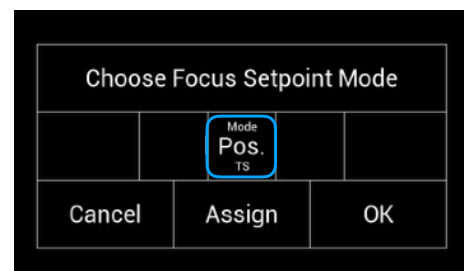
**Focus Wheel** should be set to **Position**.

**Iris Slider** should be set to **Position**.

**Zoom Rocker** should be set to **Speed**.

Selecting the **marked area** will toggle between **Position** and **Speed**.

Profile 1	FIZ					
Focus	Motor On TS	Torque 2 TS	Mode Pos. TS	Ratio 0 TS	Calibration Focus	Head
						FIZ



## 14.6

**Speed** (FIZ motor in Speed Mode)**NOTE**

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

Speed	13	K1	Speed	15	K2	Speed	38	K3	PID
	3	K4		6	K5		22	K6	
Default	Position	B3	True	Horizon	B4	Controls	On	TS	
						Endstops	On	B5	
						Follow	Off	B6	
									Menu

Profile 1	Main Menu						Head
	Head	Shot P.	Settings				FIZ
	Controls	Status	Service				Slider
	Endstops	Library	Info				
	Follow	Slider	FIZ				Home
	Iris	On	Torque	2	Mode	0	Calibration
		TS		TS		TS	Iris
	Zoom	Off	Torque	2	Mode	Speed	25
		TS		TS		TS	Zoom
	Discard	Default	Save				Home

For example, to adjust the speed of the **Zoom** motor touch: **Menu - FIZ**

Selecting **Speed** selection will open a new touchscreen display with a slider to allow the operator to set the needed **Speed** for the selected lens motor.

## 14.7

**Speed** (FIZ motors in Position Mode)**NOTE**

In **Position** mode, the speed cannot be changed in general.

Alternatively, you can change the **Ratio** between the controller and the **Focus** motor.

**For example**

To cover the entire focus area of a broadcast lens with the OCU-1, set the **Ratio** for a 1: 1 rotation of the OCU-1 and lens 360 ° to **+20**.

Profile 1	FIZ						Head
	Focus	On	Torque	2	Mode	0	Calibration
		TS		TS		TS	Focus
	Iris	On	Torque	2	Mode	0	Calibration
		TS		TS		TS	Iris
	Zoom	Off	Torque	2	Mode	Speed	25
		TS		TS		TS	Zoom

## 14.8

**Fine trimming the FIZ controller**

In addition to speed and ratio, the following parameters can also be set: **Deadband**, **Sensitivity**, **Ramp** and **Ramp Mode**.

Profile 1	Controls						Head
	Focus	Position	Speed	25	Ratio	0	FIZ
		...	TS	TS	TS		
	Iris	Position	Speed	25	Ratio	0	Slider
		...	TS	TS	TS		
	Zoom	Position	Speed	25	Ratio	0	Back
		...	TS	TS	TS		
	Discard	Default	Save				Home

Profile 1	Controls: Position of Focus						Position
	Control	Deadband	Ramp Start				
	OCU	0	0				
		Touchscreen	Touchscreen				
	Direction	Sensitivity	Ramp Stop				
	Standard	0	0				
		Touchscreen	Touchscreen				
	Filter	Ramp Mode					
	0	Constant					
		Touchscreen	Touchscreen				
	Discard	Default	Save				Home

Selecting **Position** will open a sub menu for each controller.

**NOTE**

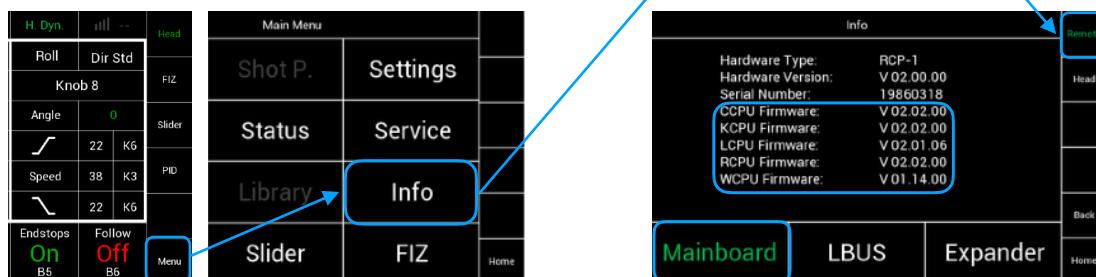
To ensure direct response of the FIZ controller ensure that:

Deadband	set to	<b>0 or max 3</b>
Ramp Start	set to	<b>0 or max 4</b>
Ramp Stop	set to	<b>0 or max 4</b>
Ramp Mode	set to	<b>Constant</b>

## 15 Info / Service

### 15.1

#### Info Menu Remote / Head



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

The **Mainboard Info Screen** will show the actual **SUP** version.

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

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

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

### 15.2

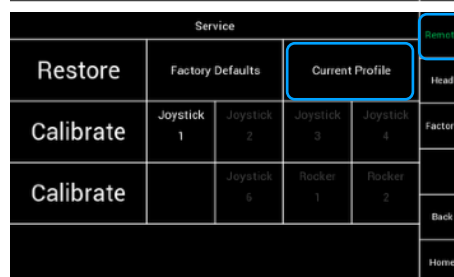
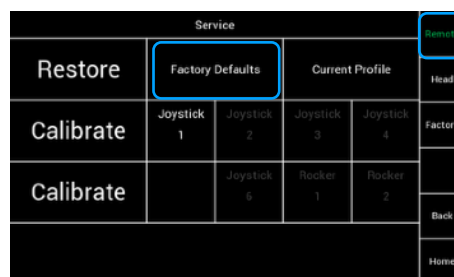
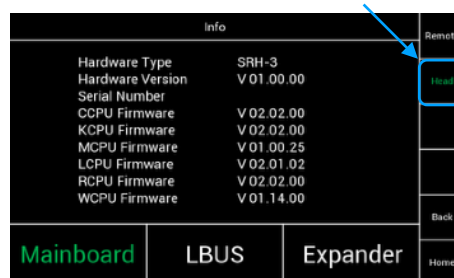
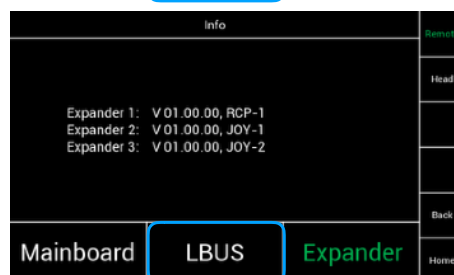
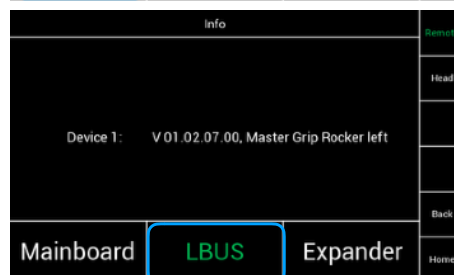
#### Service / Remote Control

Selecting **Service** opens a new submenu. The service menu allows you to **restore** the factory defaults of the remote control and remote control head and to calibrate the sensors and the internal joystick.

If **Factory Defaults** is selected, all user profiles will be reset to the factory defaults.

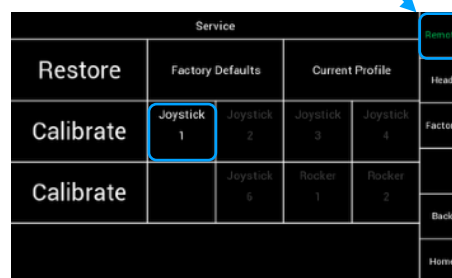
**NOTE**  
All settings will be deleted!

Selecting **Current Profile** will only restore the currently selected profile.



### 15.3 Joystick Calibration

Selecting **Calibrate** Joystick 1 opens a new submenu in which the **internal joystick** can be **calibrated**.



Service					Remote
Restore	Factory Defaults		Current Profile		Head
Calibrate	Joystick 1	Joystick 2	Joystick 3	Joystick 4	Factory
Calibrate		Joystick 5	Rocker 1	Rocker 2	Back
					Home

### 15.4 Service / Remote head

Selecting **Head** will open the head service menu.

If **Factory Defaults** is selected, all memory settings in the remote head will be reset to factory defaults.

**NOTE**  
**Don't worry - your settings are all retained.**

Service					Remote
Restore	Factory Defaults		Sensor Calibration		Head
Calibrate	Camera Gyro				Factory
Autotune	Pan	Tilt	Roll	All	Back
					Home

### 15.5 Sensor Calibration

Selecting **Sensor Calibration** opens a new submenu in which the sensors of the remote head can be **calibrated**.

Service					Remote
Restore	Factory Defaults		Sensor Calibration		Head
Calibrate	Camera Gyro				Factory
Autotune	Pan	Tilt	Roll	All	Back
					Home

#### NOTICE

If the remote head has been transported to a distant location since the last Sensor Calibration, it is **recommended** to **perform a sensor calibration**.

#### NOTICE

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

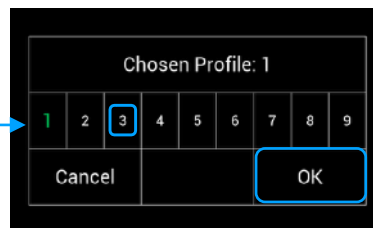
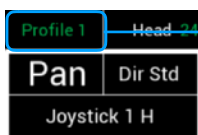
**Please secure the camera.**

## 16 Profile Management

### 16.1

#### Selecting Profiles

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



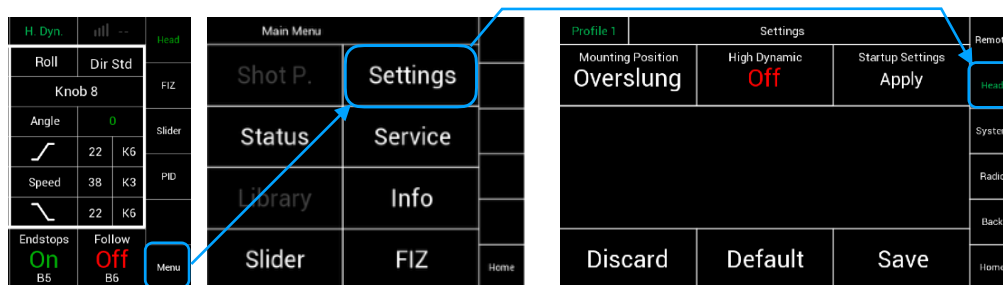
**Selecting Profile** opens a new window where another profile can be selected.

### 16.2

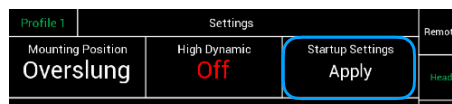
#### Startup Settings

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

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



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

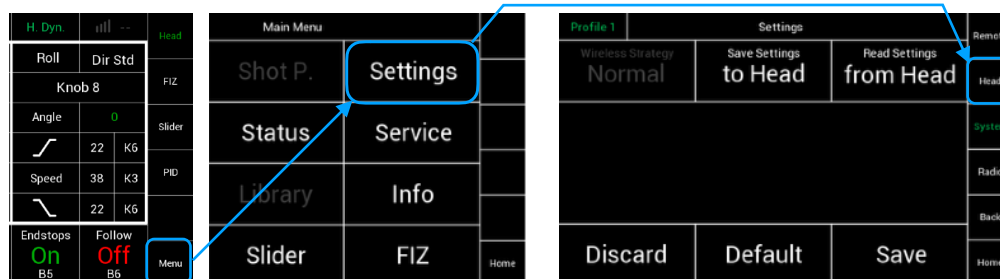


### 16.3

#### Profiles Backup

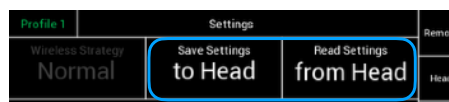
As a backup all nine profiles of the remote control can be stored in the remote head.

If the remote control needs to be swapped, you can write your existing profiles back to the new remote control.



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

Selecting **Read Settings from Head** will write back all profiles in the remote control.



## 17 Power Disconnection

### ⚠ CAUTION

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

## 18 Dimensions

### 18.1

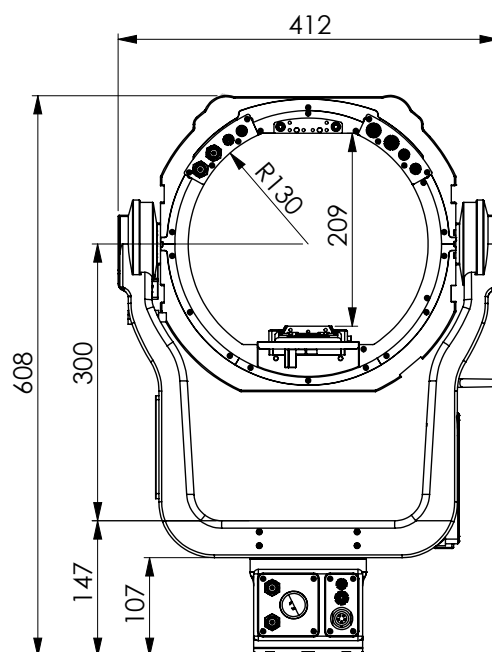
#### Remote Head

Stabilized Axis	3 (Pan, Tilt, Roll)
Max. Payload	up to 30 Kg / 66 lbs.
Height	60,8 cm / 23,93"
Width	41,2 cm / 16,22"

Depth Head	13 cm / 5.12"
Death Base	16,5 cm / 6,49"
Ring Diameter	26 cm / 10,23"
Ring Height centre	20,9 cm / 8,23"

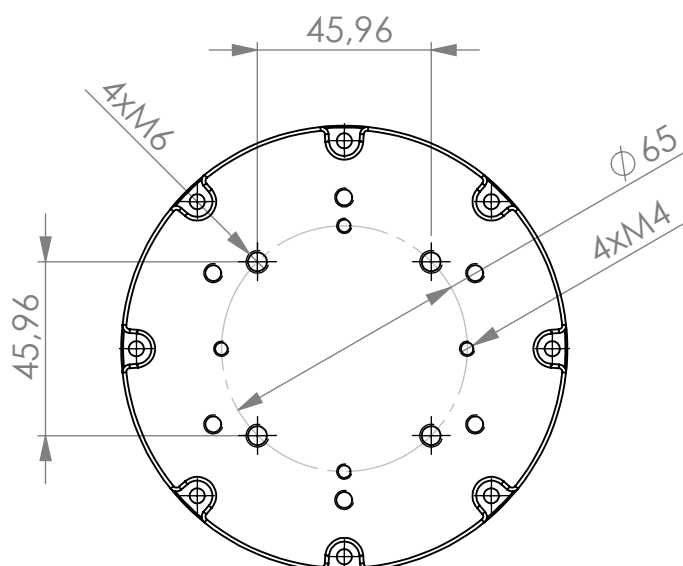
Weight	9,0 Kg / 19.8 lbs.
--------	--------------------

Max. Tilt Range	+ 60° / -110°
Max. Roll Range	+/- 90°
Max. Pan Range	540° +/-270°
Max. Pan Rate	240° / Sec.
Max. Tilt Rate	240° / Sec.

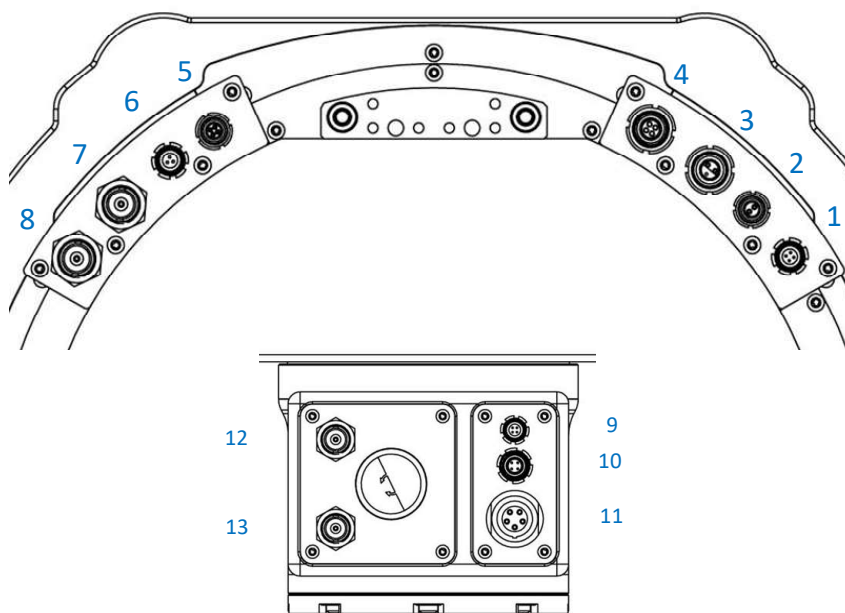


### 18.2

#### Dimensions Baseplate

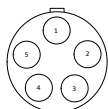


## 19 Pinout Remote Head / Remote Control



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

11

FS-CAN

Fischer DBP 103 A053 - 140



1 = GND  
2 = CAN1 L  
3 = CAN2 H  
4 = 12V OUT

10

FF-CAN

Fischer DBP 102 A053 - 140



1 = GND  
2 = CAN1 L  
3 = CAN2 H  
4 = 12V

9

HD BNC 6G-SDI

AMPHENOL 112522



6, 7, 12, 13

FF-CAN: 4 POL

Fischer DBP 102 A053 - 140



1 = GND  
2 = CAN1 L  
3 = CAN2 H  
4 = 12V

1

AUX Pwr 12V

LEMO ECG.0B.302.CLN



1 = GND  
2 = 12V OUT

2

CAM PWR 12V/ 24V

LEMO ECG.1S.303.CLN



1 = 12V  
2 = GND  
3 = 24V

3

12V HiCap

LEMO ECG.1B.304.CLN



1 = 12V  
2 = GND  
3 = GND  
4 = 12V

4

LBUS

LEMO ECG.0B.304.CLN



1 = GND  
2 = CAN L  
3 = 12V  
4 = CAN H

5

RS 24V

FISCHER DGP 102 A052 - 130



1 = GND  
2 = 12V/24V

6

## 20 Assignable Controllers and Functions

J1 V	Joystick 1 V	Joystick 1, up/down
J1 H	Joystick 1 H	Joystick 1, left /right
J2 V	Joystick 2 V	Joystick 2, up/down
J2 H	Joystick 2 H	Joystick 2, left /right
DRWP	DRW <b>Pan</b>	DRW-1, ARRI Wheels, Pan
DRWT	DRW <b>Tilt</b>	DRW-1, ARRI Wheels, Tilt
DRWR	DRW <b>Roll</b>	DRW-1, ARRI Wheels, Roll
V R	VCW <b>Roll</b>	PLC VC Wheels, Roll
V T	VCW <b>Tilt</b>	PLC VC Wheels, Tilt
V P	VCW <b>Pan</b>	PLC VC Wheels, Pan
DEHP	DEH <b>Pan</b>	DEH-1, ARRI Encoder Head, Pan
DEHT	DEH <b>Tilt</b>	DEH-1, ARRI Encoder Head, Tilt
TS	Touchscreen	Control through RCP
K1 ... K8	Knob 1 ... Knob 8	Knobs
B1 ... B6	Button 1 ... Button 6	Buttons
V SR	VCW <b>Speed Roll</b>	PLC VCW, Speed Roll Poti
V ST	VCW <b>Speed Tilt</b>	PLC VCW, Speed Tilt Poti
V SP	VCW <b>Speed Pan</b>	PLC VCW, Speed Pan Poti
V DR	VCW <b>Direction Roll</b>	PLC VCW, Direction Roll Switch
V DT	VCW <b>Direction Tilt</b>	PLC VCW, Direction Tilt Switch
V DP	VCW <b>Direction Pan</b>	PLC VCW, Direction Pan Switch
V A1	VCW Aux1	PLC VCW, Aux1 Switch
V A2	VCW Aux2	PLC VCW, Aux2 Switch
V C	VCW Camera	PLC VCW, Camera Switch
IFW1	<b>Focus</b> Wheel 1	Wheel 1
IFW2	<b>Focus</b> Wheel 2	Wheel 2
IZR1	<b>Zoom</b> Rocker 1	Rocker 1
IZR2	<b>Zoom</b> Rocker 2	Rocker 2
MLW	Left <b>Wheel</b>	Master Grip Left Focus Wheel
MRW	Right <b>Wheel</b>	Master Grip Right Focus Wheel
MLR	Left <b>Rocker</b>	Master Grip Left Zoom Rocker
MRR	Right <b>Rocker</b>	Master Grip Right Zoom Rocker
MLRB	MLR <b>Button</b>	Master Grip Left Rocker, Red Button
MRRB	MRR <b>Button</b>	Master Grip Right Rocker, Red Button
MLWB	MLW <b>Button</b>	Master Grip Left Wheel, Red Button
MRWB	MRW <b>Button</b>	Master Grip Right Wheel, Red Button
OCU	OCU <b>Wheel</b>	OCU-1 Wheel
OCUL	OCU <b>Left</b>	OCU-1 Left Button
OCUM	OCU <b>Middle</b>	OCU-1 Middle Button
OCUR	OCU <b>Right</b>	OCU-1 Right Button
V F	VCW <b>Focus</b>	PLC VCW, Focus Knob
V I	VCW <b>Iris</b>	PLC VCW, Iris Knob
V Z	VCW <b>Zoom</b>	PLC VCW, Zoom Knob
MLRJ	MLR Joystick <b>center</b>	Master Grip Left Rocker Joystick center
MLRL	MLR Joystick <b>left</b>	Master Grip Left Rocker Joystick, left
MLRR	MLR Joystick <b>right</b>	Master Grip Left Rocker Joystick, right
MLRU	MLR Joystick <b>up</b>	Master Grip Left Rocker Joystick, up
MLRD	MLR Joystick <b>down</b>	Master Grip Left Rocker Joystick, down
MLRH	MLR Joystick <b>horizontal</b> (left & right)	Master Grip Left Rocker Joystick, horizontal (left & right)
MLRV	MLR Joystick <b>vertical</b> (up & down)	Master Grip Left Rocker Joystick, vertical (up & down)
MRRJ	MRR Joystick <b>center</b>	Master Grip Left Rocker Joystick center
MRRL	MRR Joystick <b>left</b>	Master Grip Left Rocker Joystick left
MRRR	MRR Joystick <b>right</b>	Master Grip Left Rocker Joystick right
MRRU	MRR Joystick <b>up</b>	Master Grip Left Rocker Joystick up
MRRD	MRR Joystick <b>down</b>	Master Grip Left Rocker Joystick down
MRRH	MRR Joystick <b>horizontal</b> (left & right)	Master Grip Left Rocker Joystick horizontal (left & right)
MRRV	MRR Joystick <b>vertical</b> (up & down)	Master Grip Left Rocker Joystick vertical (up & down)



## 21 Declaration of Conformity

### EU-Declaration of Conformity

Brand Name: ARRI  
Product Description: Camera Stabilizer System:

- **ARRI Stabilized Remote Head SRH-3 Pro Set including ARRI Stabilized Remote Head – SRH-3 and ARRI Remote Control Panel – Remote Control-1**

+ 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:

1. 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
2. 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+AC2011+A2:2013 ; EN 62479 :2010
- Art. 3.1 b 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 A1:2009 A2:2010 ; EN 55032: 2012, EN 55035 :2017
- 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](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

Sign

Walter Trauninger  
Managing Director

Dr. Sebastian Lange  
Head of Quality Management

### APPENDIX-I

List of additional accessories:

Item	Model name
1	<b>ARRI Digital Remote Wheels - DRW-1</b>

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### FCC Compliance Statement

**Class A Statement:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

**Note:** This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- **ECS transceiver module:** FCC ID: Y7N-EMIP400

### Industry Canada Compliance Statement

Complies with the Canadian ICES-003 Class A specifications.

*Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.*

This device complies with RSS-210 of Industry Canada.

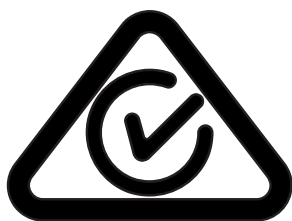
*Cet appareil est conforme à CNR-210 d'Industrie Canada.*

This Class A device meets all the requirements of the Canadian interference-causing equipment regulations

*Cet appareil numérique de la Classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.*

- **ECS transceiver module:** IC ID: 9482A-EMIP400

### Australia / New Zealand



**TRA**  
**REGISTERED No:**  
 SRH-3: ER72306/19  
 RDP-1: ER72308/19  
**DEALER No:**  
 DA68290/17

### China

- **ECS transceiver module:**

本设备包含型号核准代码（分别）为：

CMIIT ID: 2017DJ7865 (M)

CMIIT ID: 2017DJ7863 (M)

- **SRH-3 Pro Set**

本设备包含型号核准代码（分别）为：

CMIIT ID: 2018DP6608

... 的无线电发射模块。

**India**

- **ECS transceiver module:** Certification no.: ETA-1386/2018/ERLO  
ETA-1385/2018/ERLO

**Japan**

- **ECS transceiver module:** MIC-ID: 020-180029  
020-180030

**Taiwan**

- **ECS transceiver module:** NCC: CCAH18LP0650TO  
CCA18LP0660TO

**低功率電波輻射性電機管理辦法****警語一**

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

(即低功率電波輻射性電機管理辦法第十二條)

The low-power radio-frequency devices must not be altered by changing the frequency, enhancing emission power, adding external antenna, and modification of original design characteristic as well as function.

**警語二**

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

(即低功率電波輻射性電機管理辦法第十四條)

The operation of the low-power radio-frequency devices is subject to the conditions that no harmful interference is caused. The user must stop operating the device immediately should harmful interference is caused and shall not resume until the condition causing the harmful interference has been corrected.

Moreover, the interference must be accepted that may be caused by the operation of an authorized communications, or ISM equipment.

Regarding §10(10) of Radio equipment directive 2014/53/EU, the wireless video module has restrictions in the following markets: Non



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 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:

1. 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 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
2. 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  
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
- 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](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

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