



Training for MAXIMA

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Location UK, July 2017

Training for MAXIMA

Agenda

- How does it work?
- Key Features & Applications
- Hardware Components
- Mounts & Connectors
- Camera Plates
- Preparing the Camera
- Mounting the Camera
- Adjusting the horizontal level
- The 5 User Preset (Factory Presets)
- Functions of the Onboard Computer
- Connecting wireless controls (Wheels, Joystick)
- Why do we need a GUI (calibration software)
- Installing the GUI to the Computer
- Connecting the MAXIMA to a computer
- Connecting the MAXIMA via USB
- Motor Power Adjustment
- Adjusting the Zoom (direction, speed,...)
- Stabilized or Follow Mode
- Adjusting the Follow Mode
- Troubleshooting
- Mounting MAXIMA Accessories

Key Features & Applications



Key Features & Applications



Key Features & Applications



Key Features & Applications

MAXIMA Key Features

- Max payload: 30 Kg
- Ultra compact design
- Long camera setups (even film camera)
- Camera Dim: **1000 x 220 x 220** mm (L * B * H)
- Fastest mechanical balancing on the market
- Dedicated camera dovetail plates for perfect COG
- High Capacity Power Supply for system and camera
- Standard industrial batteries (Gold-Mount or V-Mount)
- Weight: 7,4 Kg

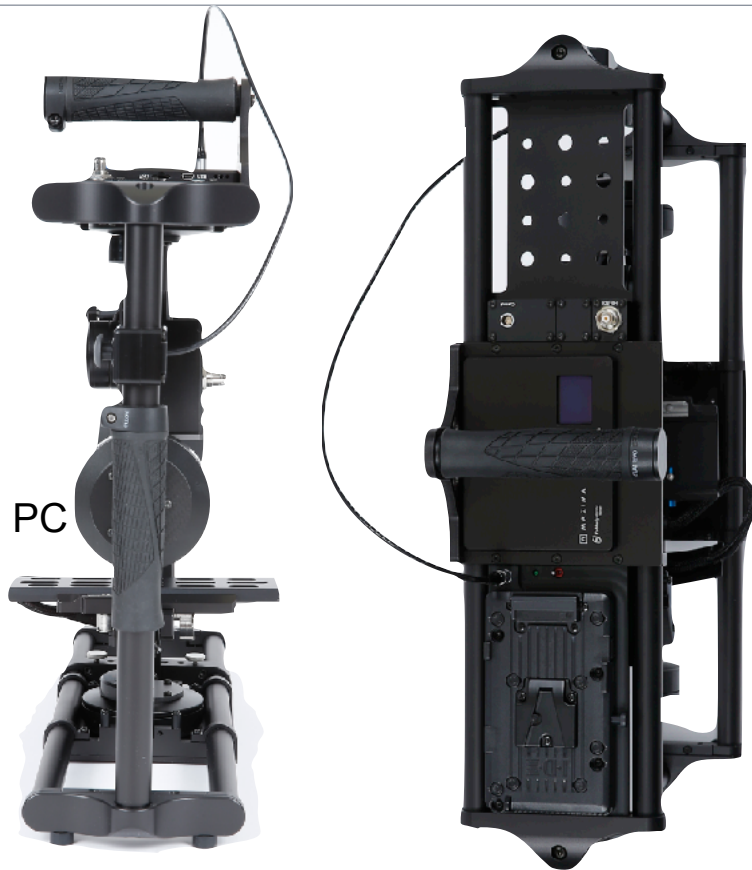


Key Features & Applications

MAXIMA Key Features

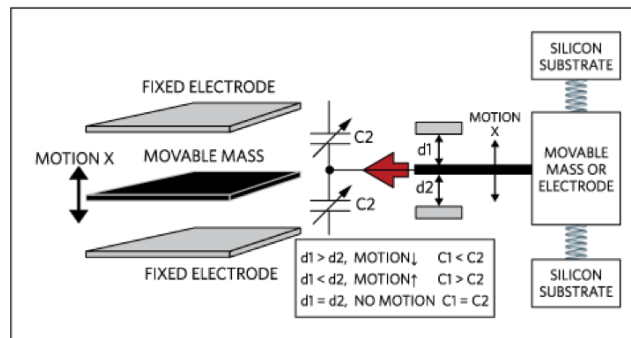
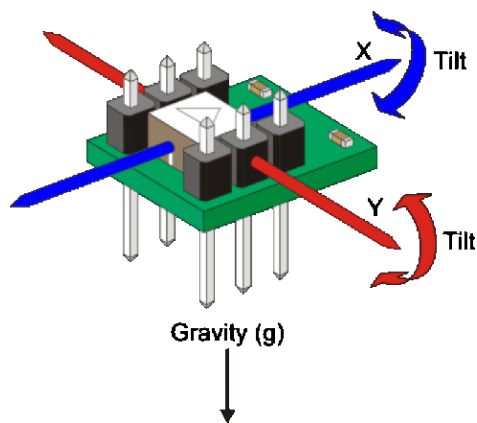
The industry's Standard

- Wireless remote through Joystick or Wheels
- 0,017° resolution
- GUI with 5 programable user presets
- Factory preset on an EPROM in the unit
- Sensors and Settings can be restored easily without a PC
- The GUI needs Windows 10
- Runs also on a Mac with Paralles and Windows 10
- Simplified GUI for Basic and advanced setups



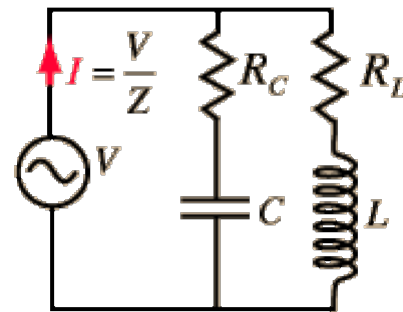
How does a Gimbal work?

Gyroscope Effect (Accelerometer)



Maximum impedance
at resonant frequency

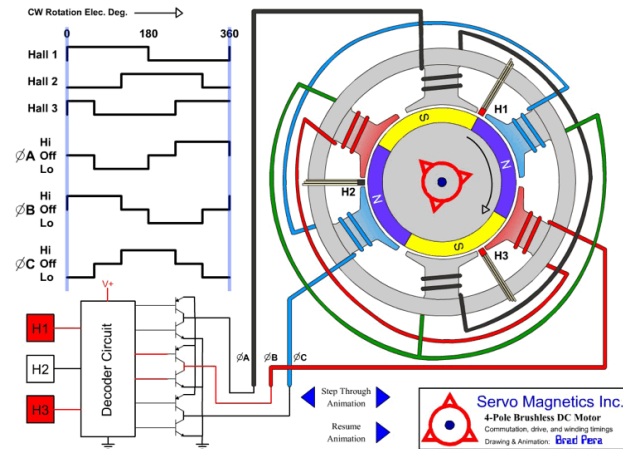
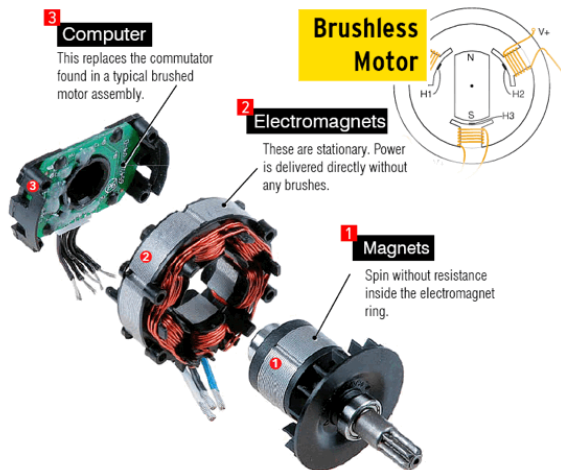
$$\omega_0 \approx \frac{1}{\sqrt{LC}}$$



Parallel Resonance

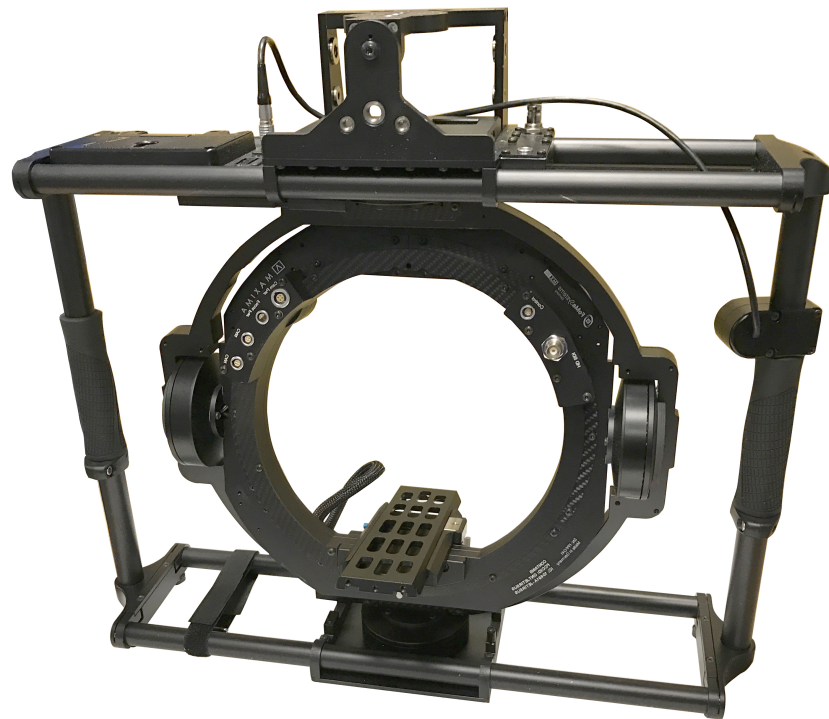
How does a Gimbal work?

Brushless motors



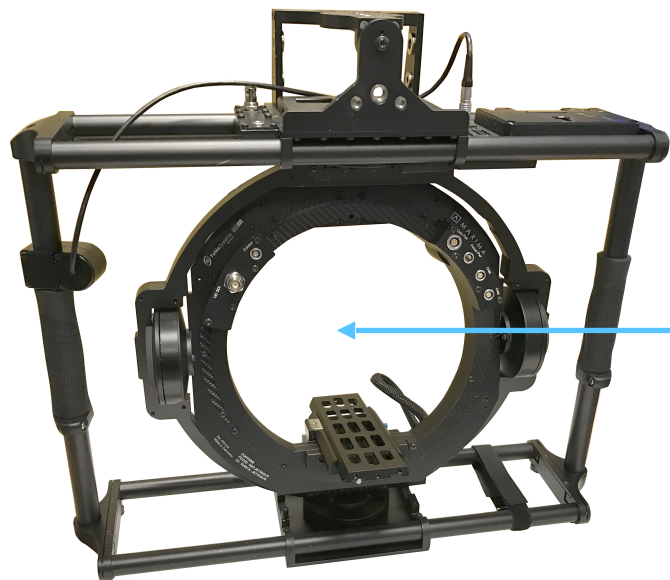
How does a Gimbal work?

Design



How does a Gimbal work?

Design



Hardware Components

MAXIMA Control



**4 Way
Joystick
Pan and Tilt**

Hardware Components

MAXIMA Onboard Control



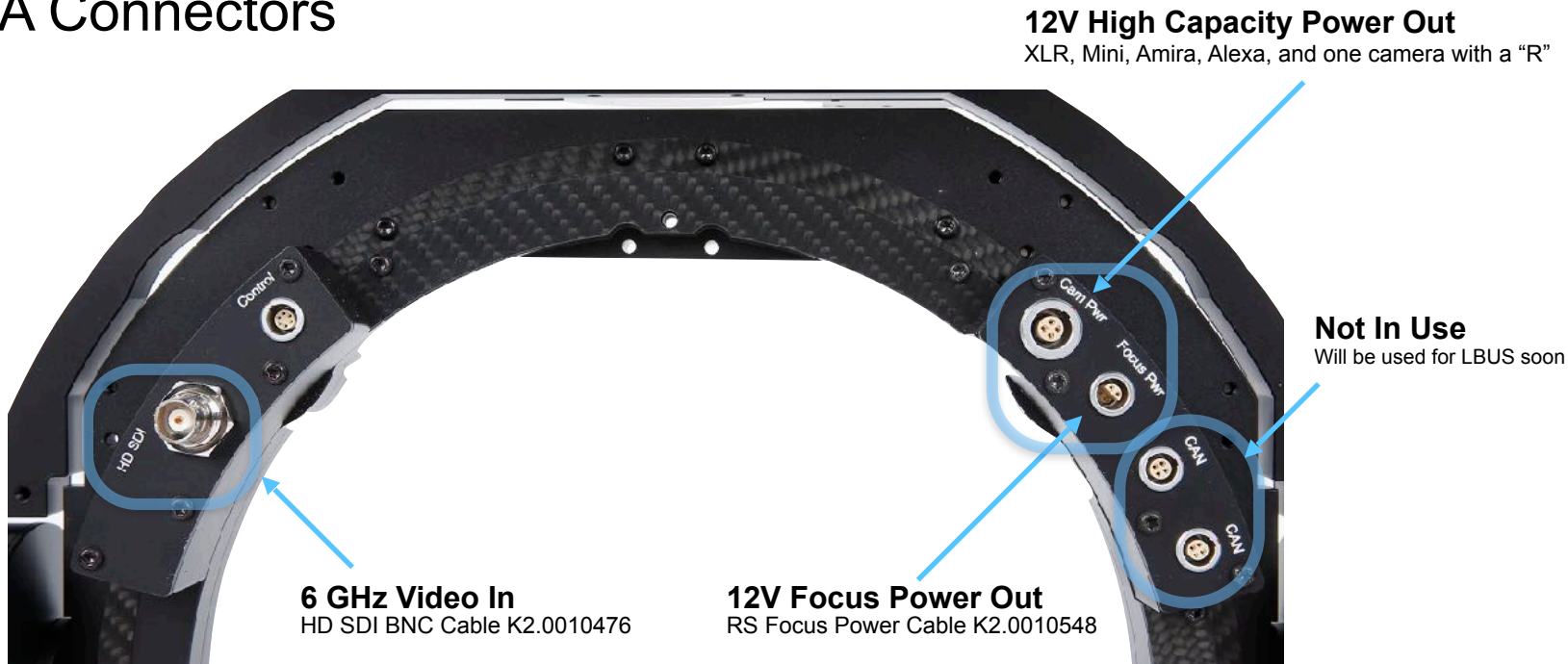
Menu Buttons

Horizontal
Adjustment

Display

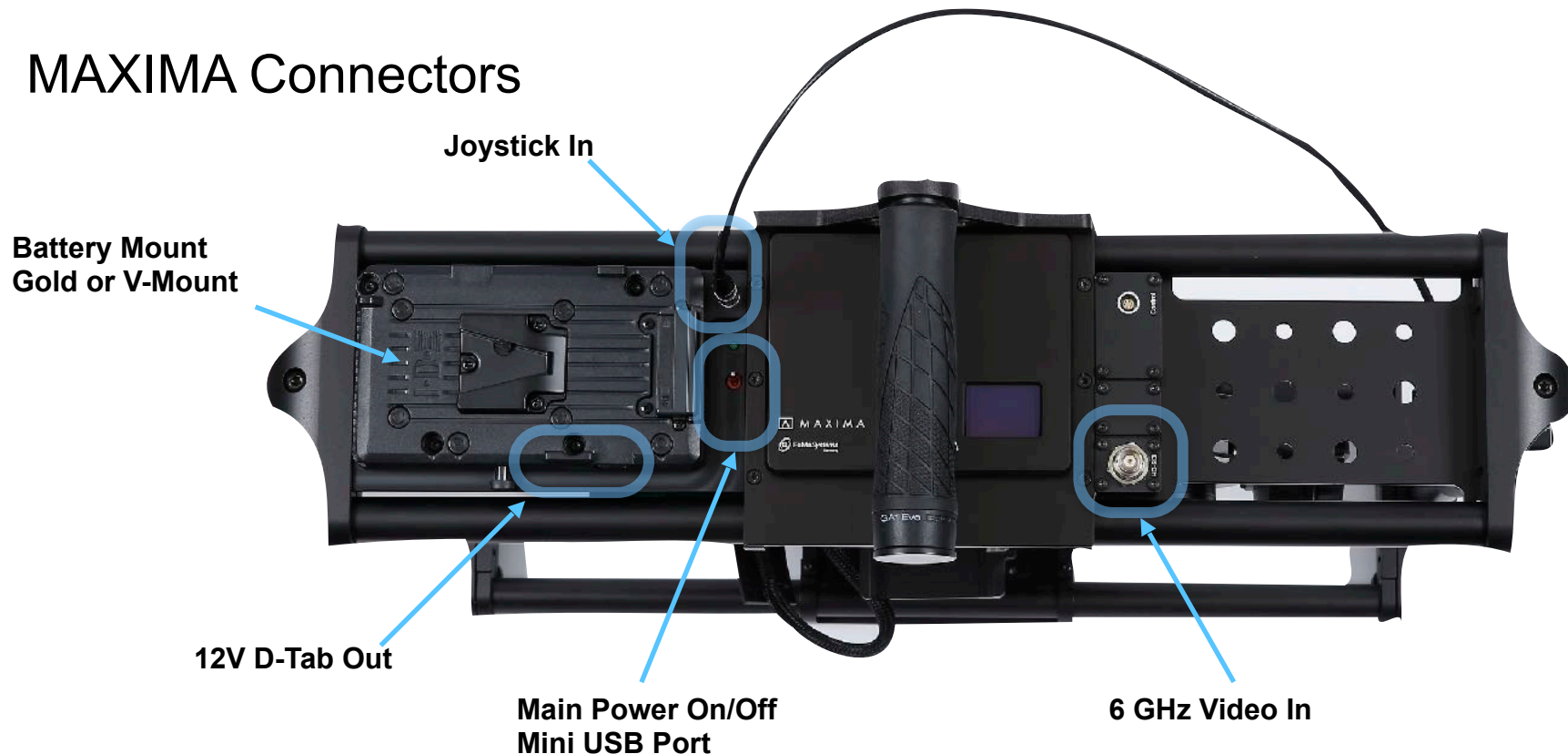
Hardware Components

MAXIMA Connectors



Hardware Components

MAXIMA Connectors

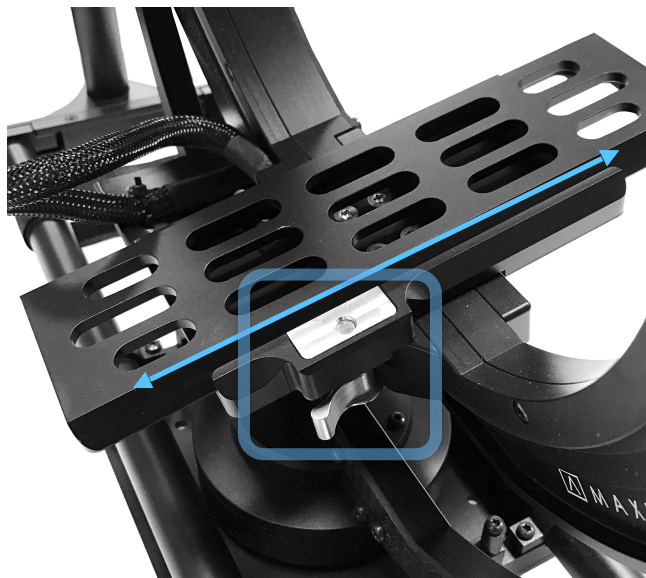


Hardware Components



Hardware Components

MAXIMA Quick Lock Camera Mount

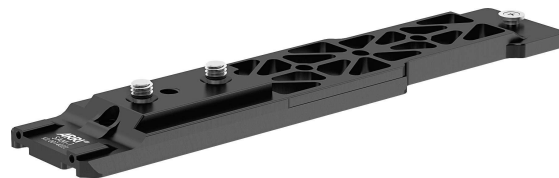


Preparing the Camera

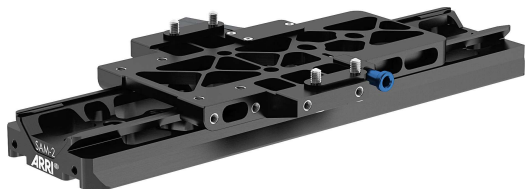
The right dovetail plate



QL Camera Plate long MAXIMA / TRINITY
K2.0014907



SAM-1 Stabilizer Adapter Mount for ALEXA
K2.0014022



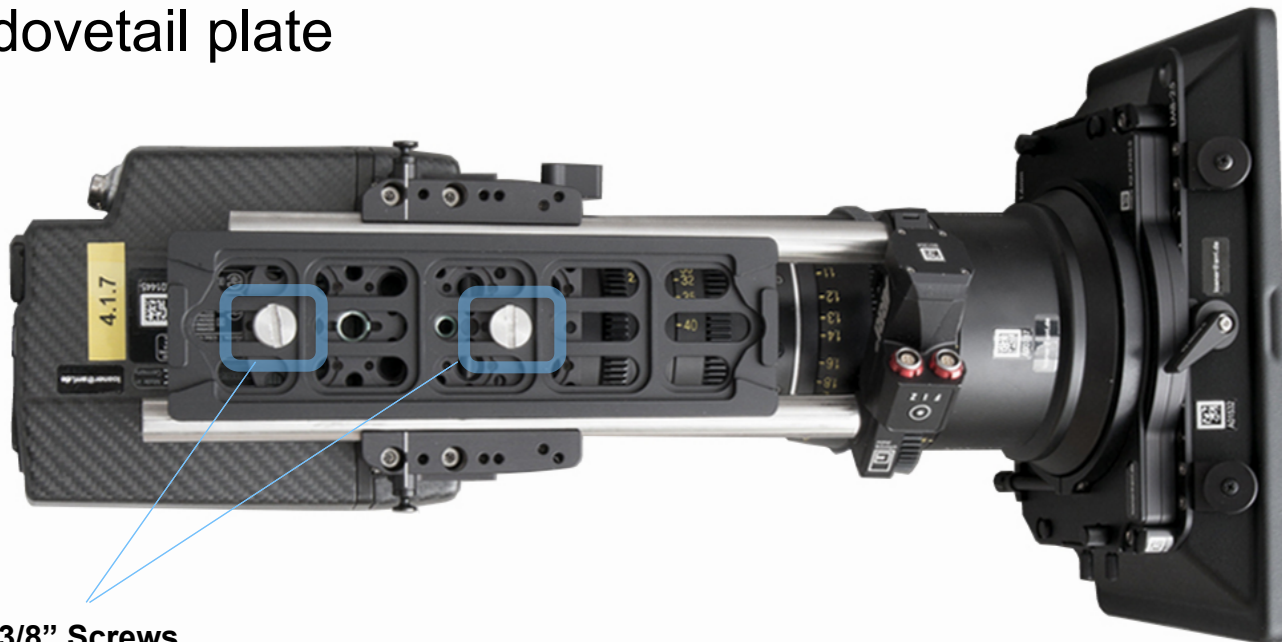
SAM-2 Stabilizer Adapter Mount for ALEXA Mini
K2.0014215



SAM-3 Stabilizer Adapter Mount for AMIRA
K2.0014630

Preparing the Camera

Mounting the dovetail plate



3/8" Screws

Note:

Make sure that the Plate is parallel to the camera body and that both screws are tighten

Mounting the Camera

Mounting the dovetail plate

Safety Lock

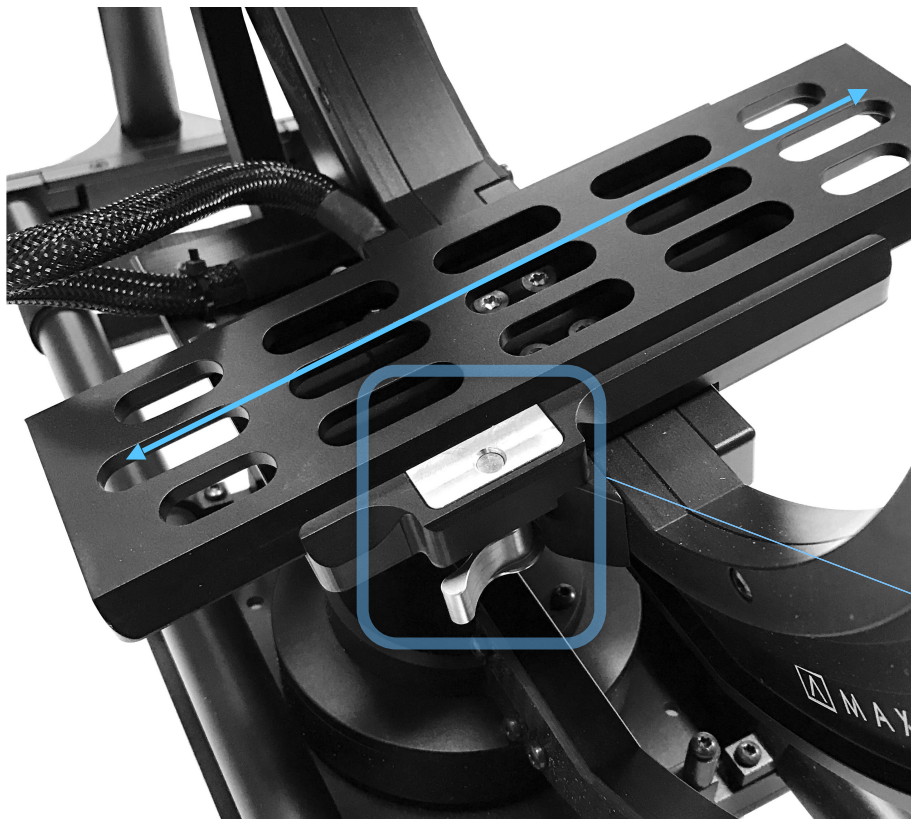


Clamp lever

Positioning the Camera

COG

Centre of Gravity



Clamp lever

Positioning the Camera

Add Battery

Note:

minimum 150 Watts

Bigger is better :)



Positioning the Camera

Switching On the MAXIMA



Setting up the MAXIMA

The 5 User Presets (factory settings)

Good for Camera setups up to 10Kg

User Mode	Motor Power	Tilt	Pan	Feels	Good for
1	45	Follow	Follow	Very direct	Handheld Look
2	45	<i>Fully Stabilized</i>	Follow	Very direct	Handheld Look
3	45	Follow	Follow	Less direct	Easy Rig / running shots
4	45	<i>Fully Stabilized</i>	Follow	Less direct	Easy Rig / running shots
5	45	<i>Fully Stabilized</i>	<i>Fully Stabilized</i>	Very direct	To be used with the wireless control or wheels

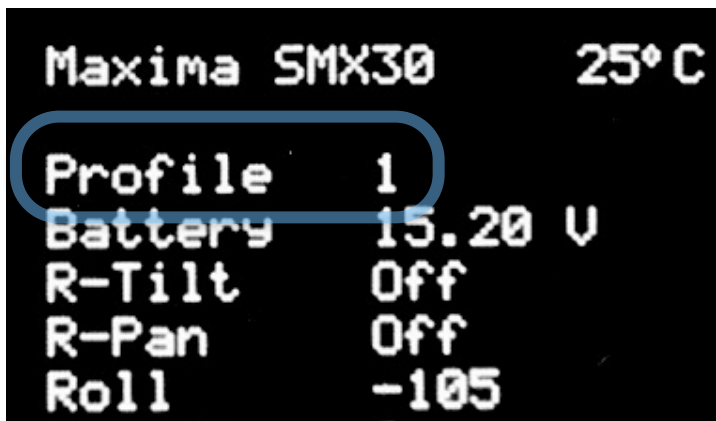
MAXIMA Onboard Adjustments

Changing the User Presets



By pressing MODE **one time**,
you will recall user mode **ONE**.

By pressing MODE **twice**,
you will recall user mode **TWO**
and so on.



MAXIMA Onboard Adjustments

Changing Joystick Direction

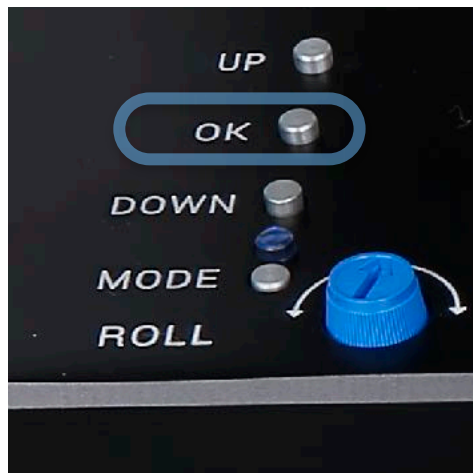


- Press the **OK** key
- „Joystick“ will appear
- Press the **OK** key
- Select:
 „Normal“ - “Inverted“ - „Off“
 By pressing key UP or DOWN
- Press **OK** to confirm

1. Joystick
2. Remote
3. Calibration
4. Remote Pairing
5. Restore
6. Info
7. Exit

MAXIMA Onboard Adjustments

Pairing Remote Controls



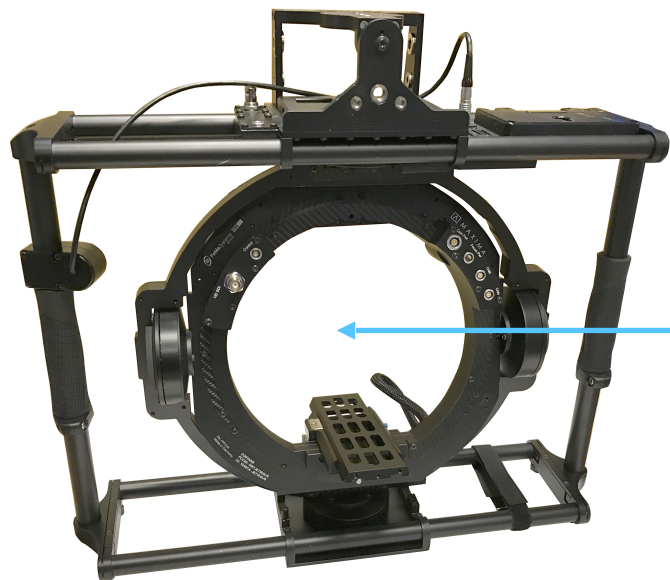
- Switch **Off** the Remote Control first!
- Press the **OK** key
- Press „**Down**“ till „**Remote Pairing**“
- Press the **OK** key

Now the MAXIMA will start a 10 sec. count down.

- After **5 seconds** the MAXIMA will beeb.
- Switch **ON** the wireless Remote Control.
- Now the Remote will be paired
- We are using the “Jeti” Protocol. For the RC

1. Joystick
2. Remote
3. Calibration
4. Remote Pairing
5. Restore
6. Info
7. Exit

Why do I need a Software?



MAXIMA GUI

Why do I need a Software?



If the the camera setup is more than 10 Kg,
you need to adapted the **Motor Power adjustment** of the MAXIMA.

MAXIMA GUI

Why do I need a Software?

You should use the GUI to adjust the **Speed**, and **Feel** of the Joystick to your personal needs and taste.



MAXIMA GUI

Why do I need a Software?

You will need the GUI to adjust the **Speed**, and **Feel** of the **Follow Mode** to your personal needs.



MAXIMA GUI

Why do I need a Software?

You need the GUI if you want adjust the **wireless Remote**, or if you want to use the **PLC Remote Wheels** to control the MAXIMA.



MAXIMA GUI

Installing the GUI

- The software does not need a powerful computer
- It is a quite lightweight software
- You can run it on any PC with Windows 10
- Or Windows Tablets with Windows 10
- Or on a Mac running Parallels

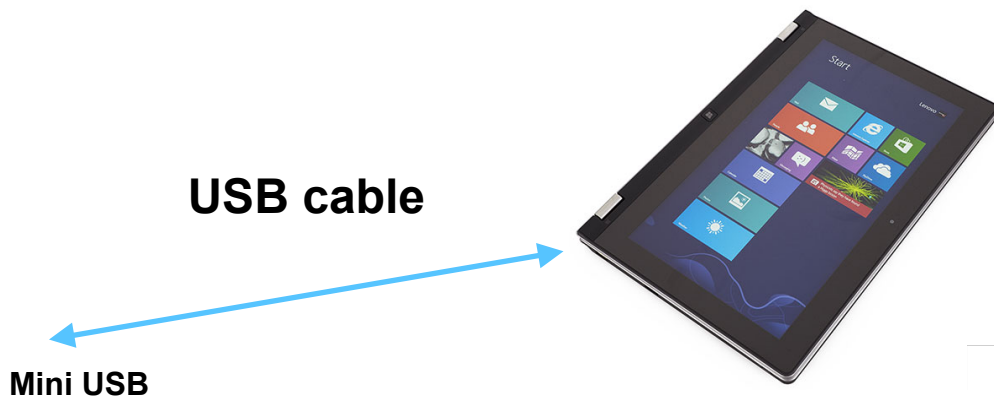
NOTE:

Ensure that all USB drivers and the latest GUI is installed properly.



MAXIMA GUI

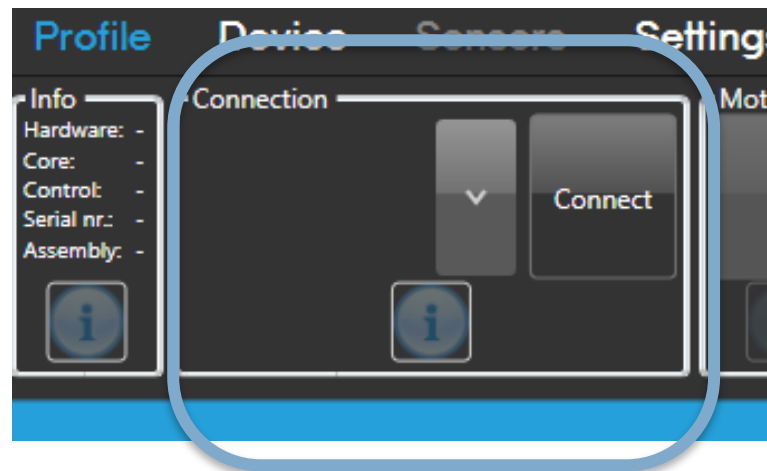
Connecting the PC



MAXIMA GUI

Select the USB port

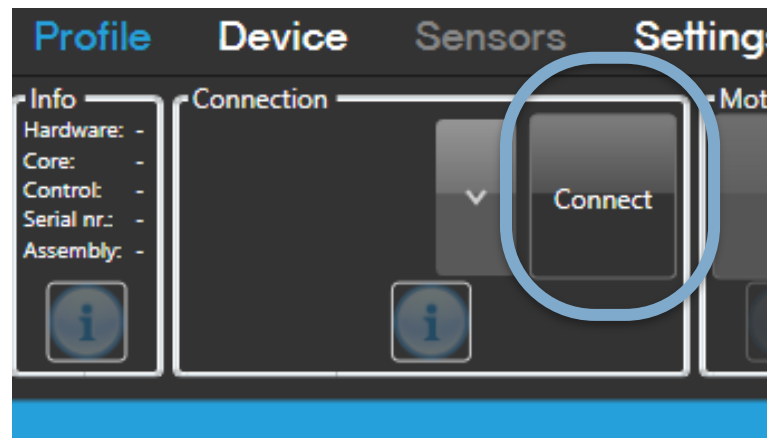
- Start the GUI
- Wait a short moment, till the MAXIMA display comes back on again.
- Select the USB port (COM3 most of the time)
- Press **Connect**
- Now all profiles of the MAXIMA will be uploaded into the MAXIMA software.



MAXIMA GUI

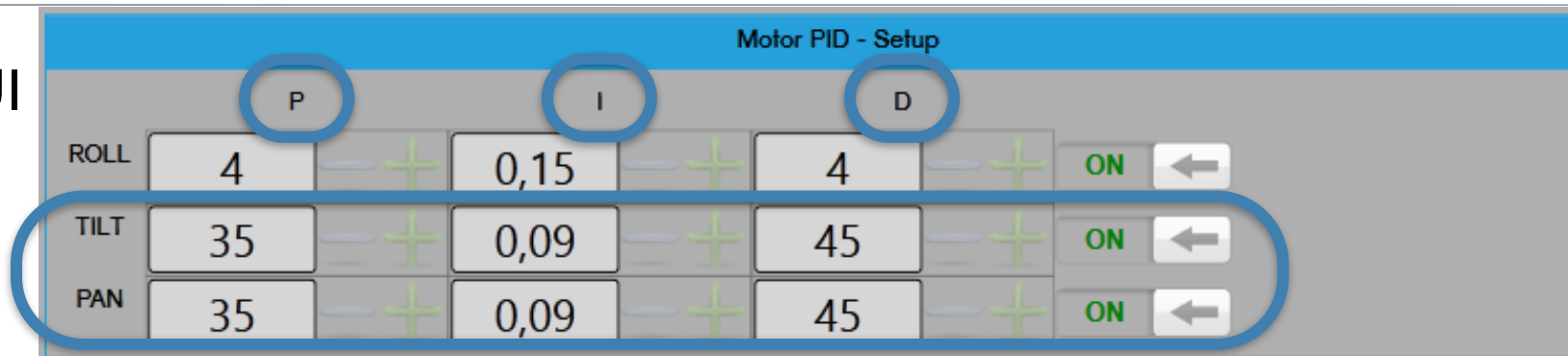
Connecting the MAXIMA

- Press “Connect”
- Make sure to hold and secure the camera for a short while.
- Note: While connecting the MAXIMA to the GUI the motors will be engaged for a short moment. So it helps when you secure the camera

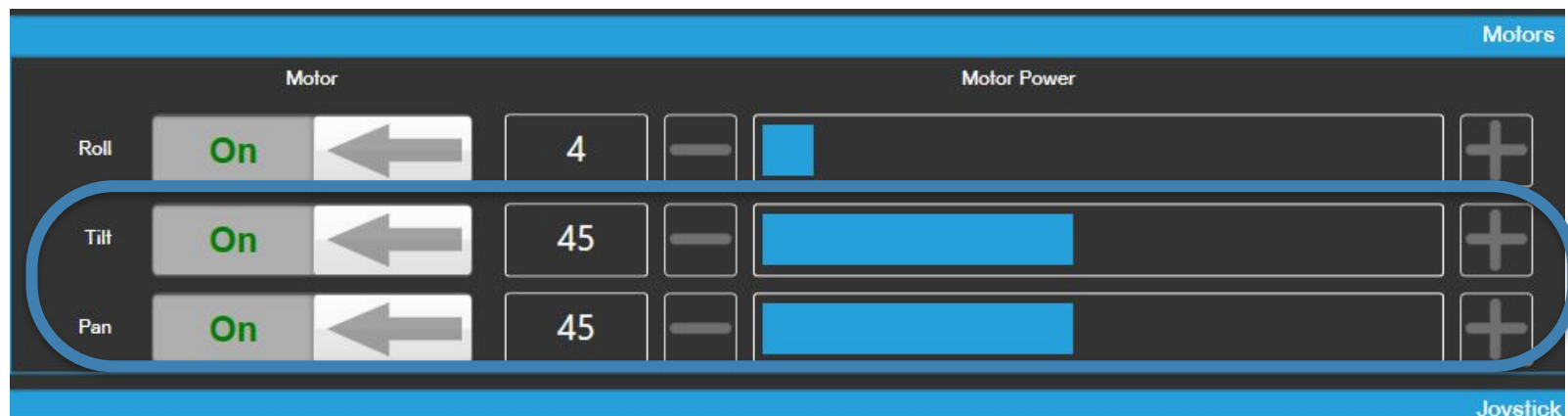


MAXIMA GUI

Old GUI



New Simplified GUI



MAXIMA GUI

Simplified / Advanced GUI



MAXIMA GUI

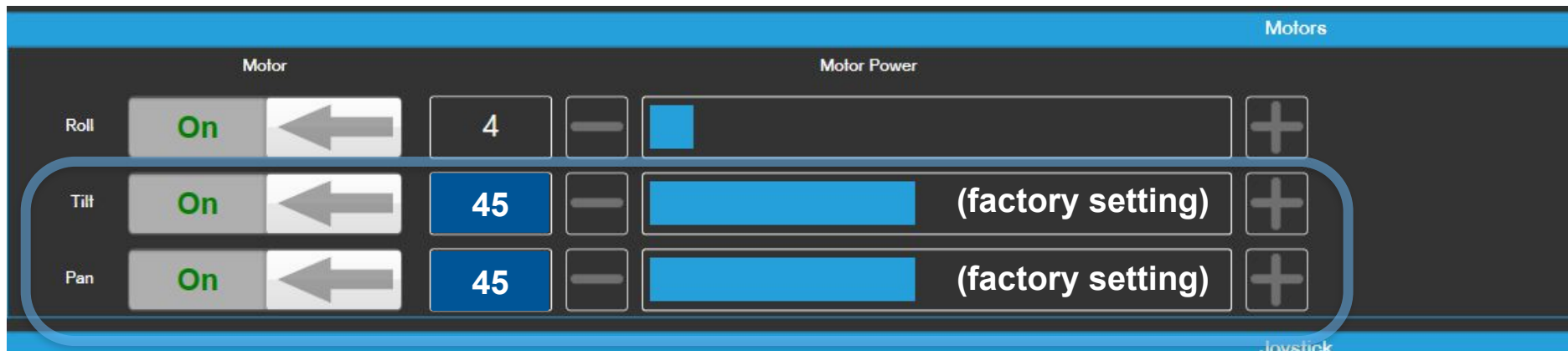
Motor Power Ranges

camera setup	up to	Motor Power
Light	8 Kg	45 (factory setting)
Medium	15 Kg	80
Heavy	30 Kg	110

3 Motor Power ranges – for 3 Camera Weight ranges

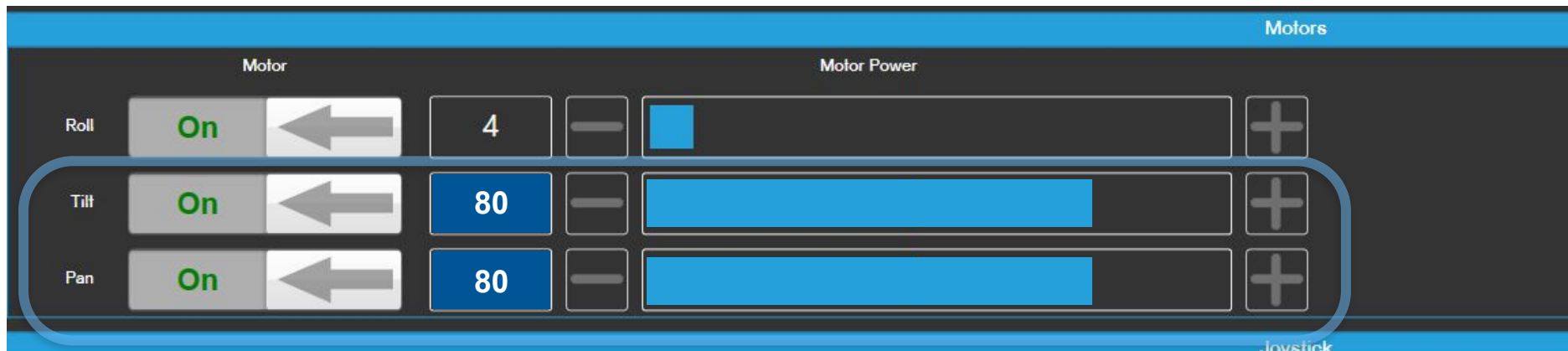
MAXIMA GUI

Adjusting the Motor Power



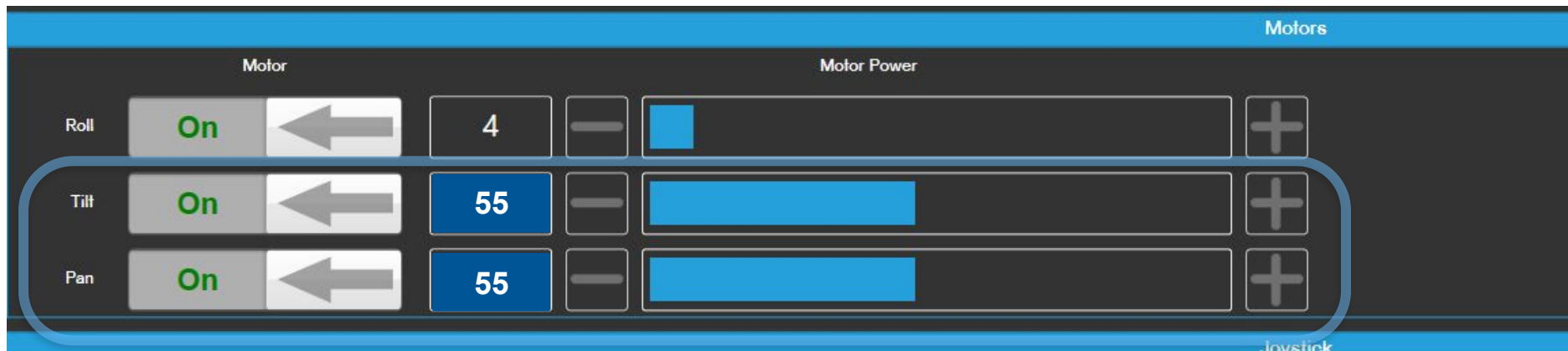
MAXIMA GUI

Adjusting the Motor Power to a higher Camera Weight



MAXIMA GUI

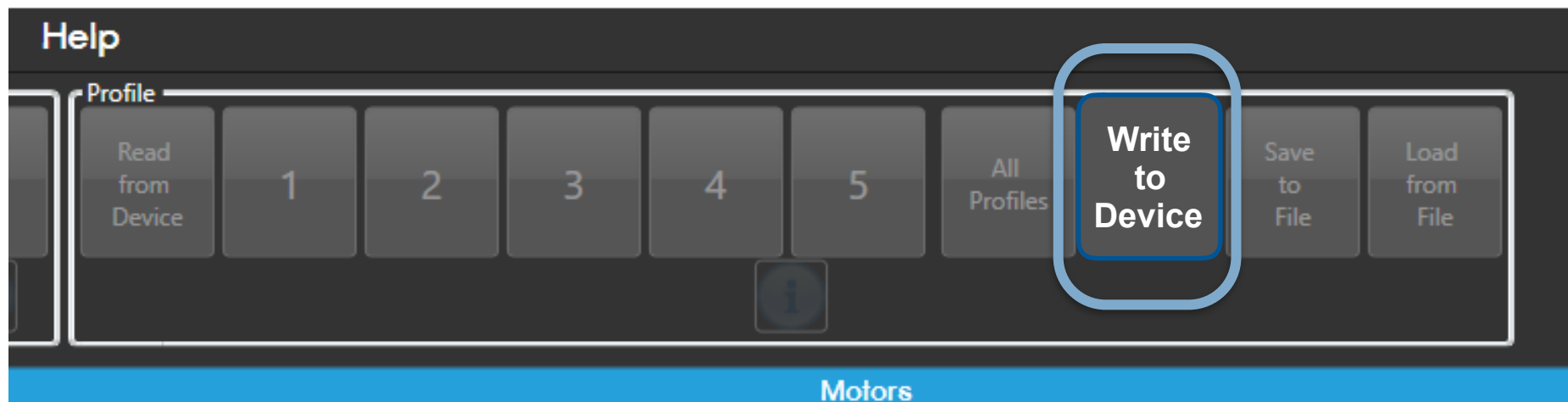
Adjusting the Motor Power



Steps of 5 up and down is good

MAXIMA GUI

Writing Setting to the MAXIMA



Always press „Write to Device“ after you did changes!

MAXIMA GUI

Adjusting the Motor Power

Why does the MAXIMA vibrates?

How do I know if the Motor Power is right?

MAXIMA GUI

Vibrations

If the System vibrates, make sure that all

- Screws
- Clamps
- Battery
- other accessories are fully tighten.

MAXIMA GUI

Vibrations

If the System vibrates, lift the MAXIMA up from the table, case or the stand, to see if it stops.

Note:

- * Gimbals are made for elastic mounts, like humans, spring arms and so on.
- * Stands or tables are too stiff, that's why Gimbals start to vibrate.

MAXIMA GUI

The right Motor Power

If the one of the axis slips, when you touch the camera at the back,
Motor Power is to **low**.

If the System vibrates, even when you lift up from the table or stand,
Motor Power is to **high**.

MAXIMA GUI

Adjusting the Zoom / Touch and Feel

Joystick Speed

Joystick Direction

End of the move

Start of the move

The screenshot displays the MAXIMA GUI with the following settings:

Section	Parameter	Value	Unit
Direction	Roll	Std	
	Tilt	Std	
	Pan	Std	
Speed	Tilt	60	
	Pan	255	
Delay	Tilt	2	
	Pan	2	
Deadband/Ramp	Deadband [Digits]	10	
	Ramp [%]	50	

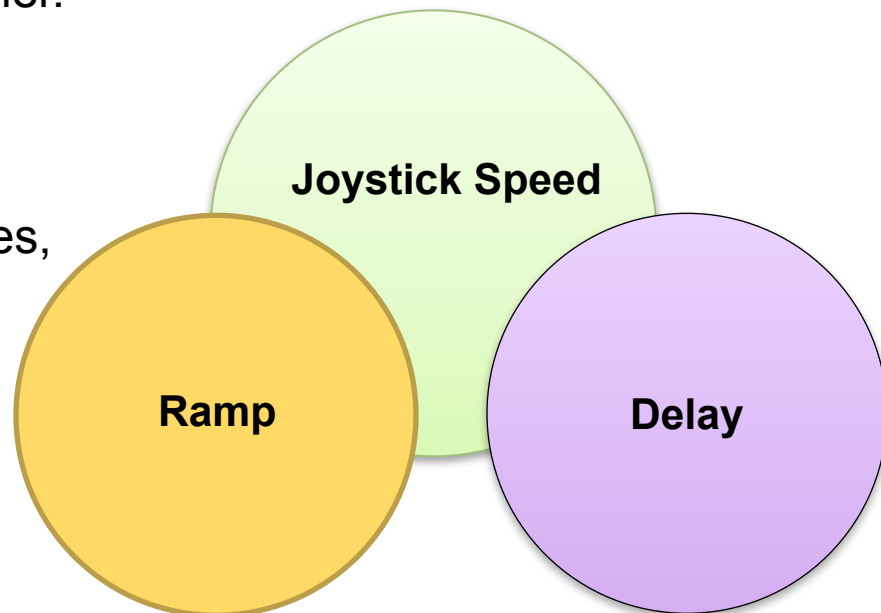
MAXIMA GUI

Adjusting the Zoom / Touch and Feel

All three parameters are related to each other.

First adjust the speed

When Ramp and Delay getting higher values, you will need to adapted the speed again.



MAXIMA GUI

Which Mode do I need?

Follow Mode



***Handheld
Easy Rig
artemis Arm & Vest***

Fully Stabilized

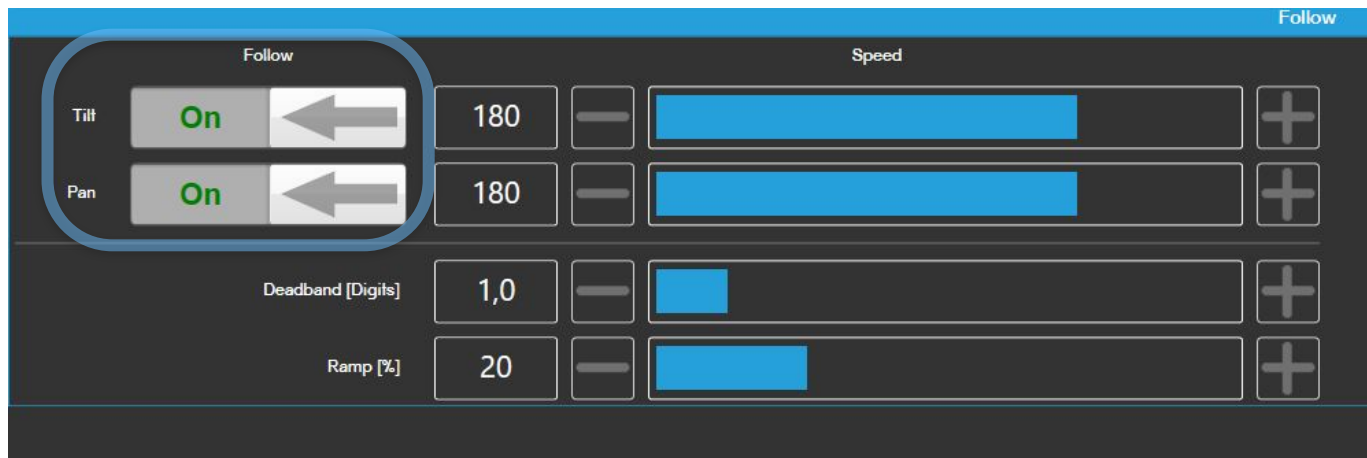


***Handheld
Hard Mounted
Crane & Trinity***

MAXIMA GUI

Switching between Follow and fully Stabilized Mode

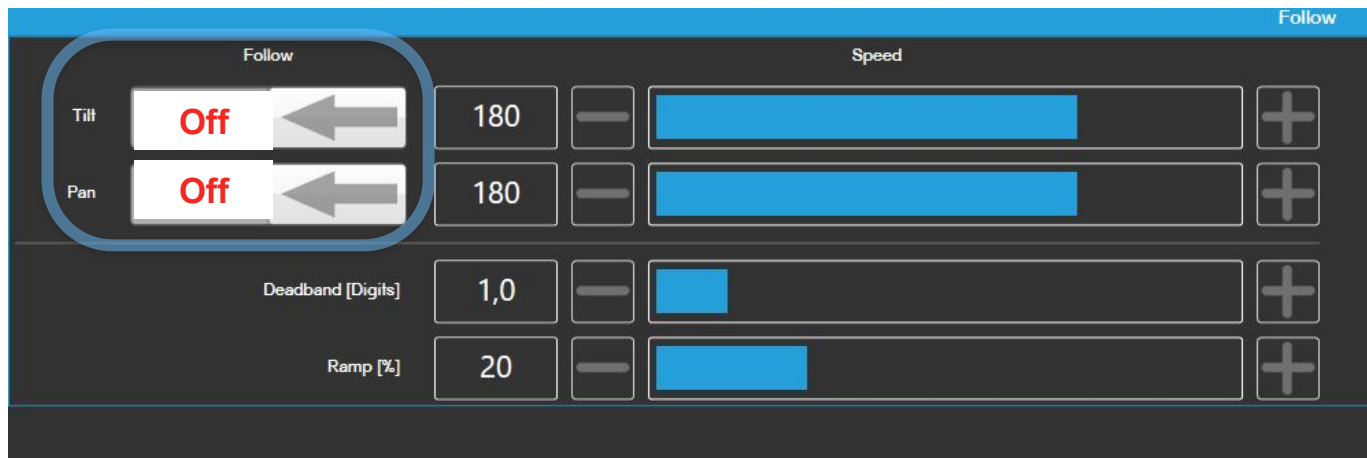
Follow Mode



MAXIMA GUI

Switching between Follow and fully Stabilized Mode

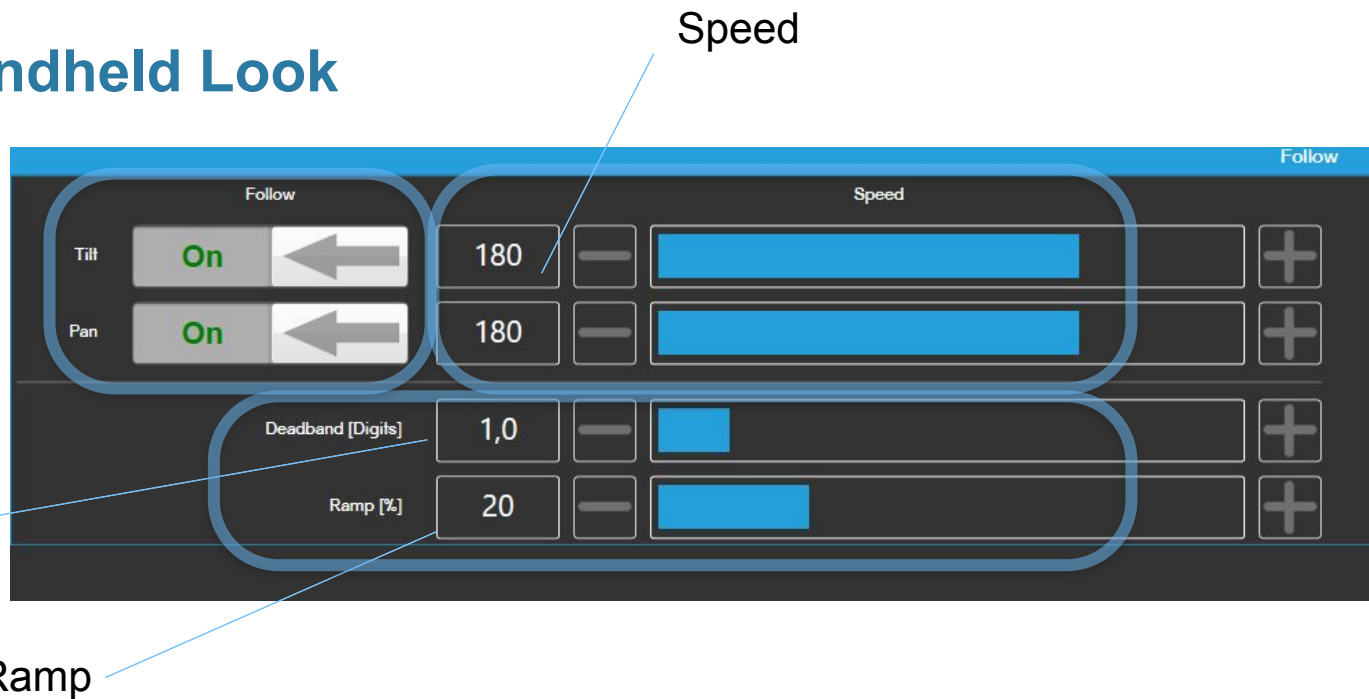
Fully Stabilized Mode



MAXIMA GUI

Follow Mode / Touch and Feel

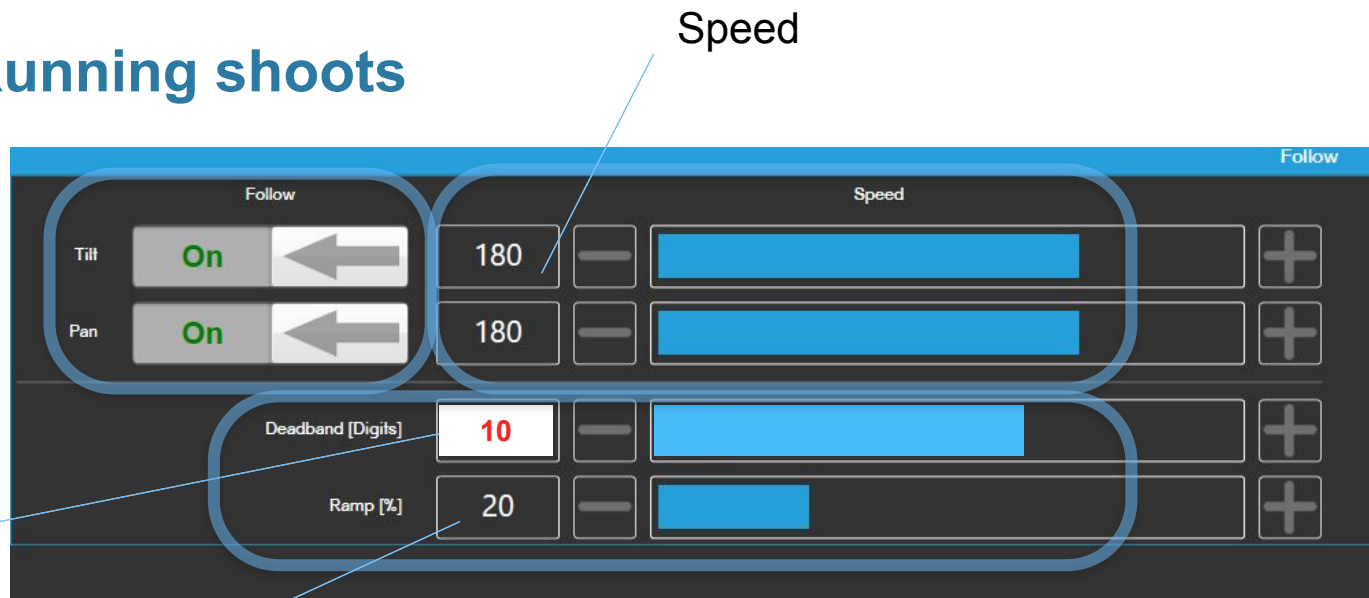
Very Direct / Handheld Look



MAXIMA GUI

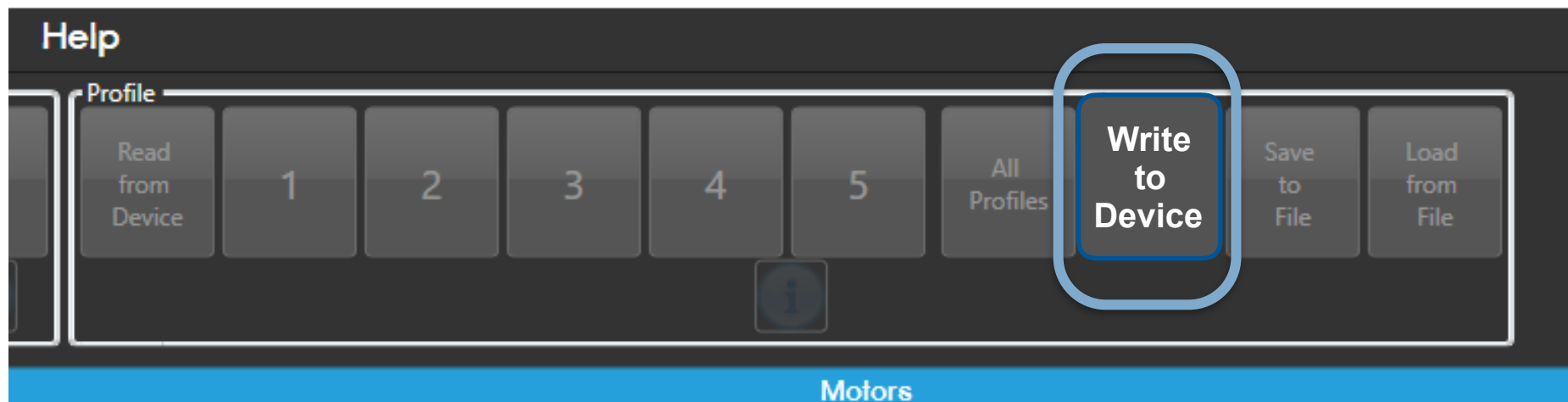
Follow Mode / Touch and Feel

Very Indirect / Running shoots



MAXIMA GUI

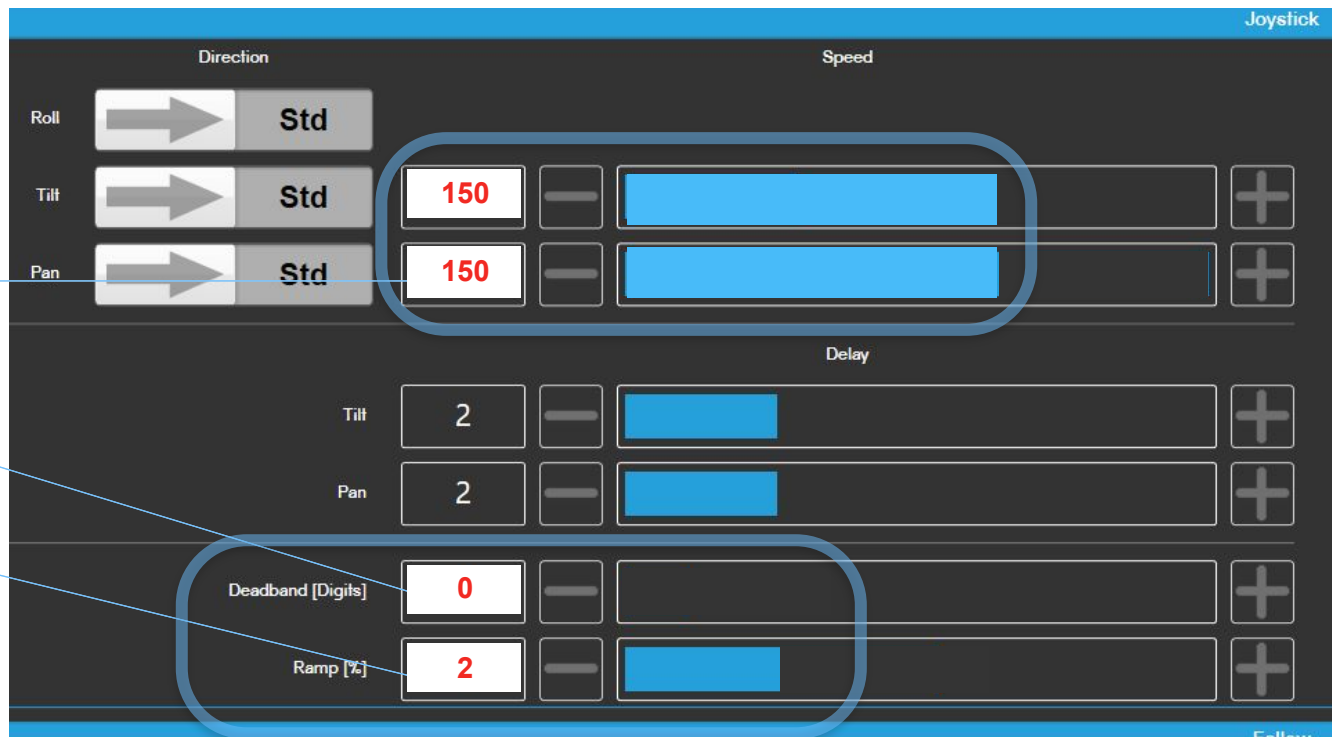
Writing Setting to the MAXIMA



Always press „Write to Device“ after you did changes!

Fully Stabilized Mode / Settings for PLC Wheels

1. Go Preset **“5”**
2. Joystick Speed min. to **“150”**
3. Set Deadband to **“0”**
4. Set Ramp to **“2”**



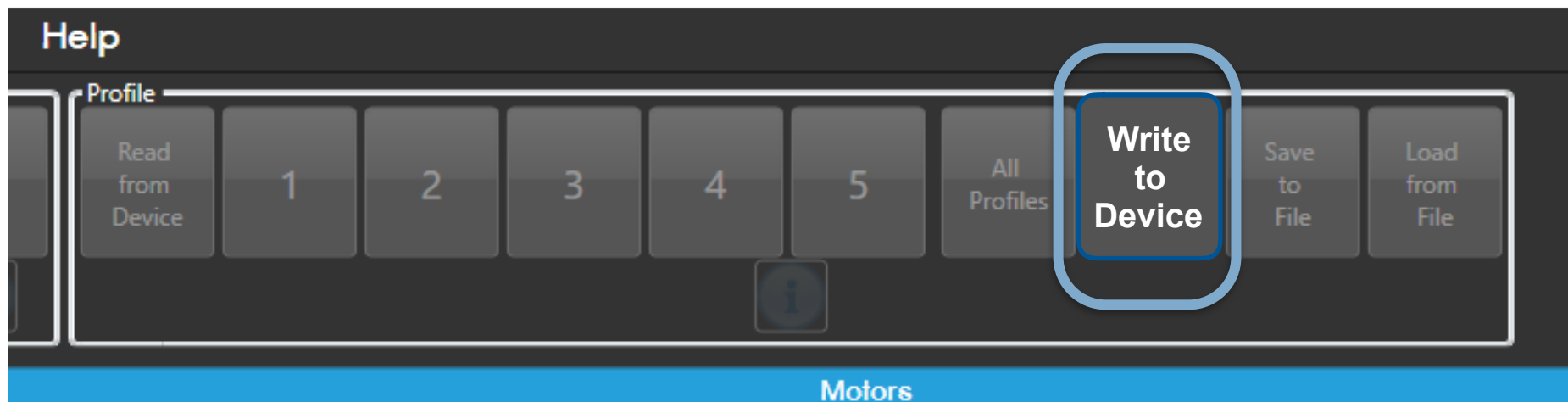
MAXIMA GUI

Cloning Adjustments



MAXIMA GUI

Writing Setting to the MAXIMA



Always press „Write to Device“ after you did changes!

MAXIMA Trouble Shooting

Service Information



For Service and Remote Access
Firmware version and serial
number can be find here:

- Press the **OK** key
- Press the **DOWN** till Info
- Press the **OK**

1. Joystick
2. Remote
3. Calibration
4. Remote Pairing
5. Restore
6. Info
7. Exit

MAXIMA Trouble Shooting

Restore Sensors



If the MAXIMA is hard to control or having troubles holding its position, it will be helpful to reset the sensors.

- Press the **OK** key
- Press the **DOWN** key till „Restore“
- Press the **DOWN** key one time
“**Sensors**“
- Press the **OK** key
- Press the **UP** key one time “**Yes**“
- Press the **OK** key
- Do not touch or move the MAXIMA
- Wait till the Maxima is back

1. Joystick
2. Remote
3. Calibration
4. Remote Pairing
5. Restore
6. Info
7. Exit

MAXIMA Trouble Shooting

Restore Settings



If you want to bring back all setting to the factory setup, follow the steps below:

- Press the **OK** key
- Press the **DOWN** key four times
- Press the **OK** key “**Settings**”
- Press the **UP** key one time “**Yes**”
- Press the **OK** key
- Do not touch or move the MAXIMA
- Wait till the Maxima is back

1. Joystick
2. Remote
3. Calibration
4. Remote Pairing
5. Restore
6. Info
7. Exit

MAXIMA Accessories



MAXIMA Mounting Pro Set
K0.0012302



MAXIMA Mounting Plate
K2.0014909



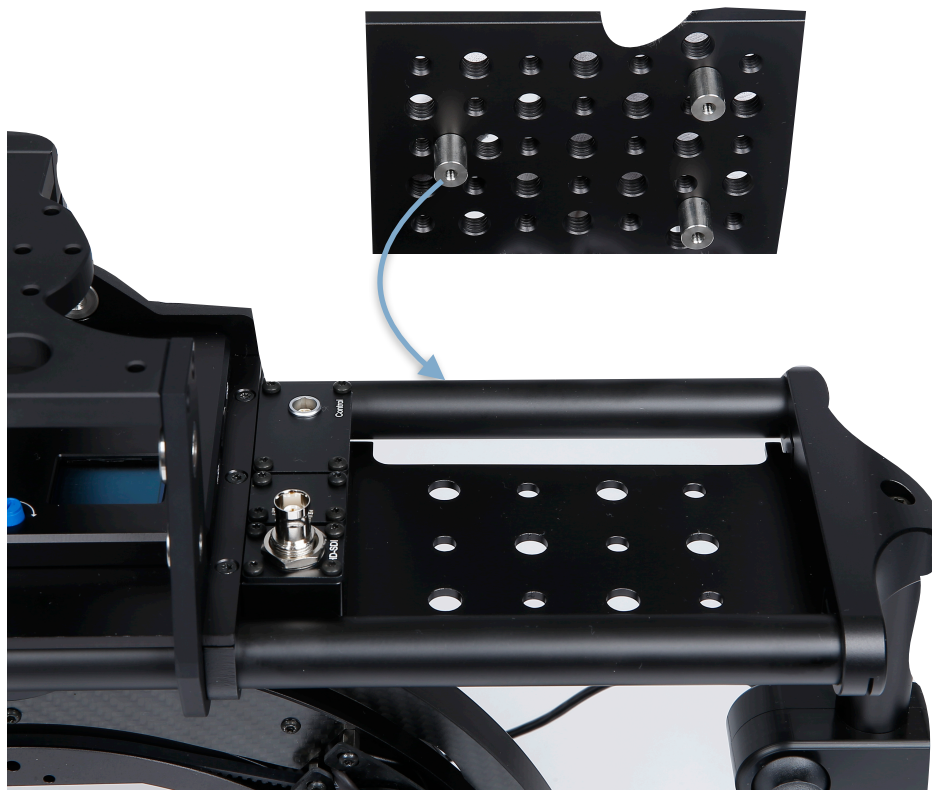
Pan Lock Bracket
K2.0014908

MAXIMA Accessories

Adding the MAXIMA Mounting Plate

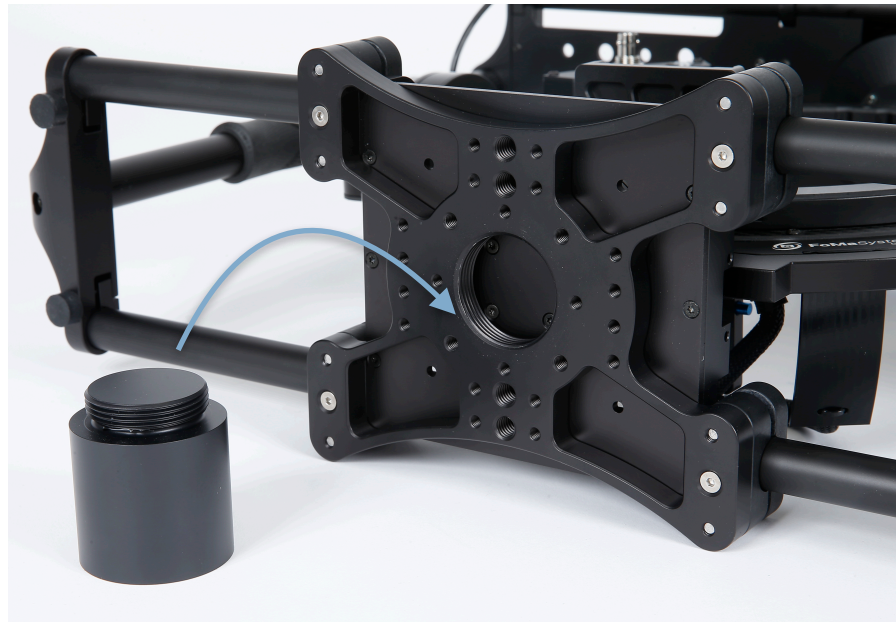


K2.0014909



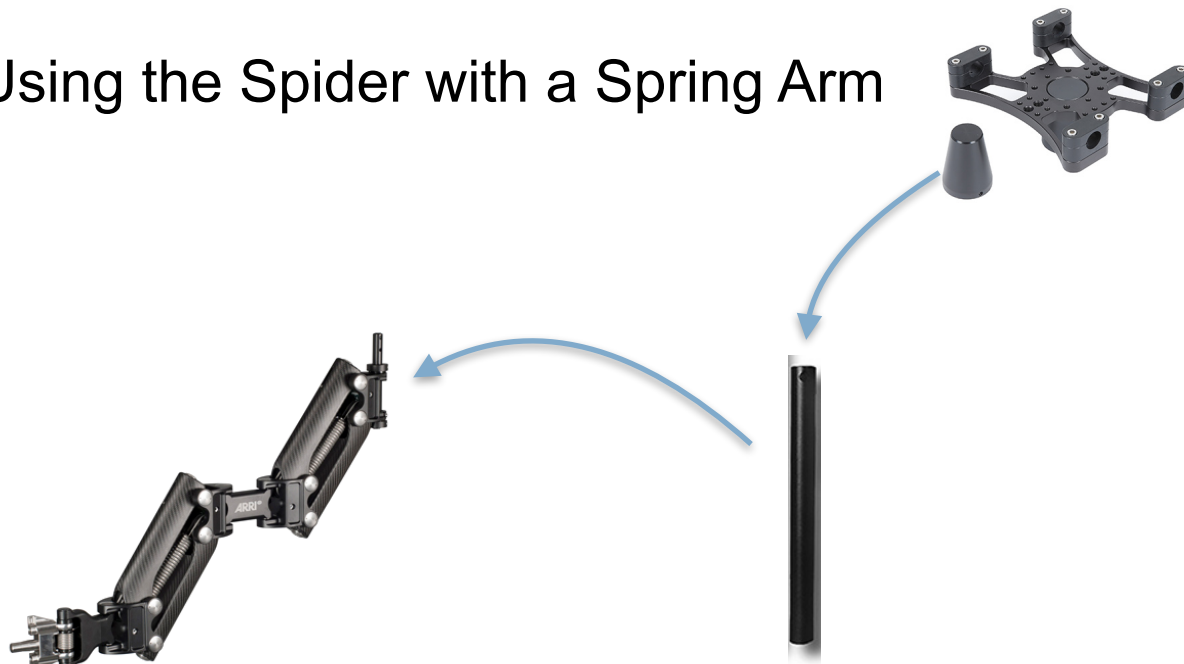
MAXIMA Accessories

Mounting the Spider



MAXIMA Accessories

Using the Spider with a Spring Arm



artemis Spring Arm Carbon / 19 kg
artemis Spring Arm Carbon / 23 kg

K2.0010330
K2.0010331

artemis Spring Arm / 19 kg
artemis Spring Arm / 23 kg

K2.0010327
K2.0010328

Arm Post 10" - Ø 5/8"
K2.0010455
Arm Post 12" - Ø 5/8"
K2.0010456



MAXIMA Accessories

Adding Euro or Mitchell Mount



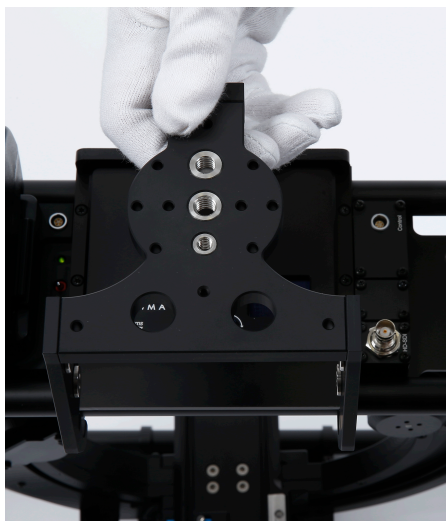
MAXIMA Accessories



Adding the **MAXIMA** Top Mount



Remove the handle screw



Hook in the Mount at the back rod.



Bring back the screw and tighten it.

MAXIMA Accessories

Adding the MAXIMA Pan Lock

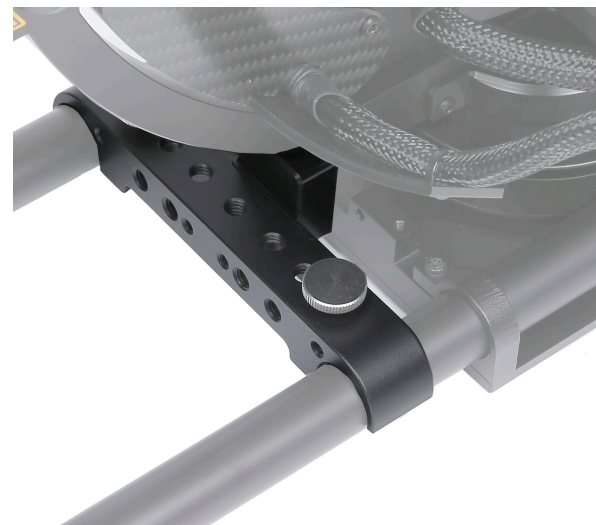


K2.0014908

**Switch OFF
the Pan Motor
by using GUI**



Open both Clamps
and place the bracket
onto the rods



Move the Bracket
under the outer ring.



Certified Training for MAXIMA

training@arri.de