

TRINITY 2 Graphical User Interface

QUICK GUIDE

01.09.2022



1 About the Product

ATTENTION

All versions of the product are intended exclusively for professional use and may only be used by skilled personnel.

Every user should read and understand the operating instructions and the user manual. Use the product only for the purpose described in this document. Always follow the instructions and system requirements for all equipment involved.

What is it?

The GUI (graphical user interface) of the TRINITY 2 allows the user to quickly and directly adjust all the necessary settings for functions such as TILT, ROLL, Focus, Iris and Zoom on a single page.

What does it do?

These include settings such as speed, direction, ramp, window (deadband), sensitivity, ratio, and PID. Automated motion sequences can also be pre-programmed and their triggering can be assigned to freely selectable buttons.

The user can save his settings in 3 groups, each with three user presets, and call them up again at any time.

Additional accessories such as radio modules can be paired and activated via the GUI.

How does it work?

In general, the GUI is programmed via the touch panel.

Certain functions such as SPEED and RAMP can also be assigned to the Jog-Wheel knobs.

Other functions such as HOME, TRUE ROLL, TRUE HORIZON, FOLLOW ON/OFF and LIMITS ON/OFF can either be assigned to the buttons on the Jog-Wheel or to the buttons on the Master Grip TRINITY 2.

What problems does it solve?

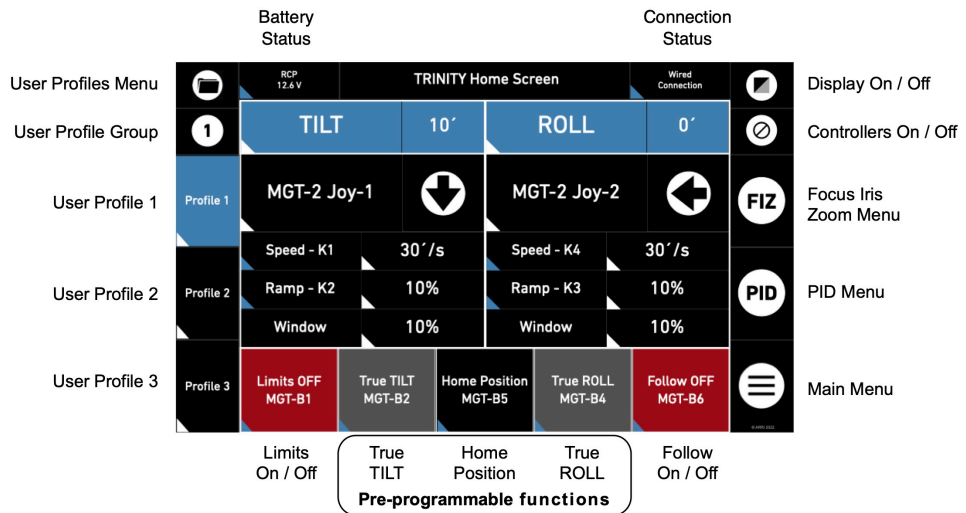
Due to the condensed form of the menu navigation, the user can quickly and intuitively make all the necessary settings "on the fly" on the set.

2 Home Screen

Foreword

The TRINITY 2 GUI (graphical user interface) provides direct access to the **TILT** and **ROLL** axes in the central part of the touch panel and access to the user presets, the pre-programmable functions as well as submenus for FIZ, PID and the main menu in the peripheral areas.

Overview



The entire range of functions of the GUI is only visible and usable if the **RCP-3** is connected to the **TRINITY 2 head** via cable or RF module.

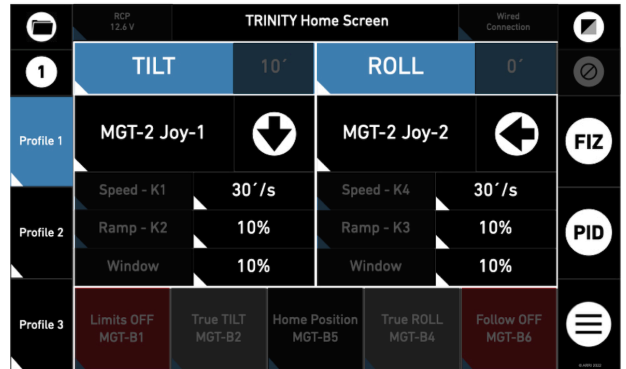
Interaction with the different fields

The TRINITY 2 GUI offers three different types of fields and three different interactions with the fields.

Direct Interaction

Fields that have a **white triangle** react immediately to touch. Values or functions can be changed immediately.

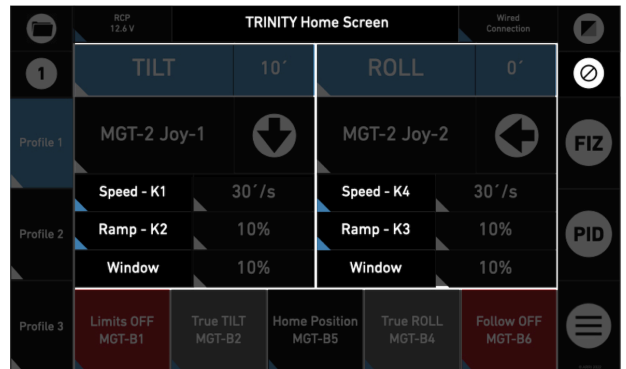
All of the fields that are still shown in this figure can also be addressed directly.



3 Seconds Interaction

Fields with a **blue triangle** only react after the field has been **pressed for three seconds**.

All fields that are still shown in this figure must also be pressed for **three seconds** to activate the function.

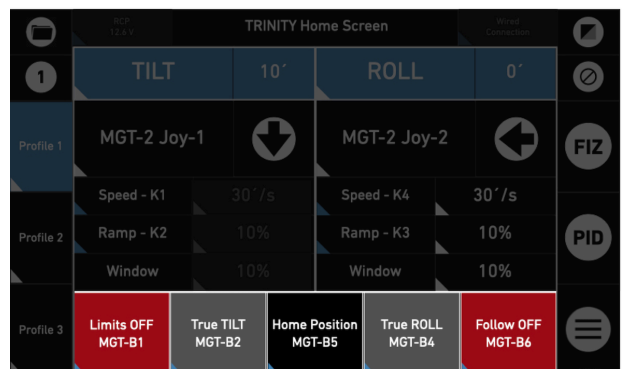


Combined Interaction

There is a combined interaction specifically for the fields at the bottom of the display.

If you press the field briefly, a function is triggered directly, or a function is switched on or off.

Pressing the field for three seconds opens a sub-menu that allows you to program the selected function.



3 Assign Controllers

Foreword

As a digital controller, the RCP-3 GUI recognizes:

- the joysticks of the Master Grip TRINITY
- the three / six buttons on the Master Grip TRINITY
- the four Jog-Wheels on the RCP
- the ARRI Wheel DRW-1
- the encoder head DEH-1 & 2
- the OCU-1

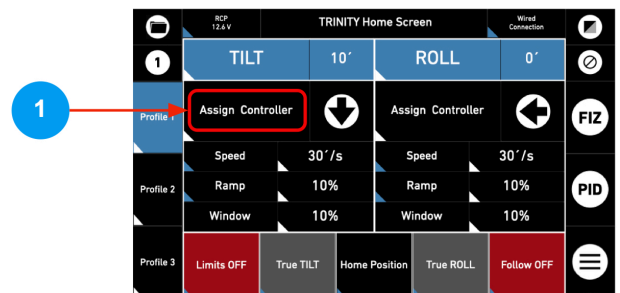
Further future digital controllers will be made available via software updates.



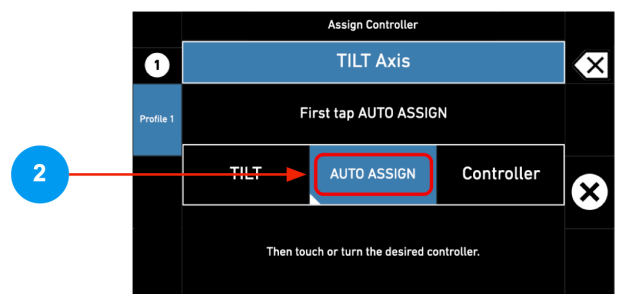
All digital controllers are registered with the RCP-3 using the same procedure.

Assigning TILT and ROLL to MGT-1 / MGT-2

- ▶ Tap the desired controller / field.

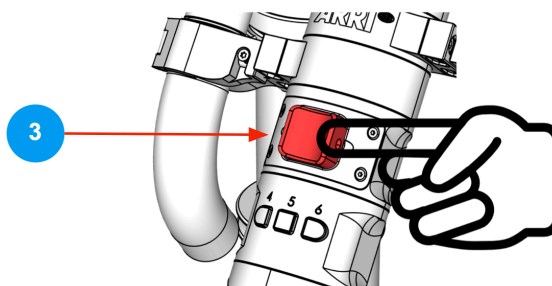


- ▶ Tap **AUTO ASSIGN**

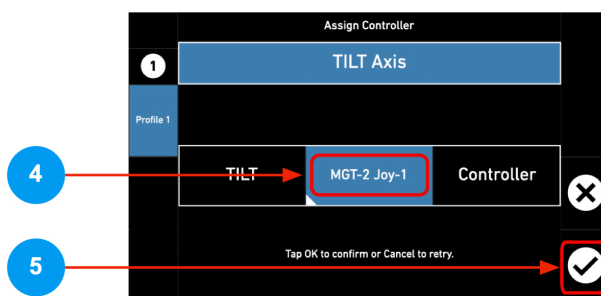


Assigning TILT and ROLL to MGT-1 / MGT-2

- ▶ Touch the desired controller.
As in this case the top joystick for the TILT function.

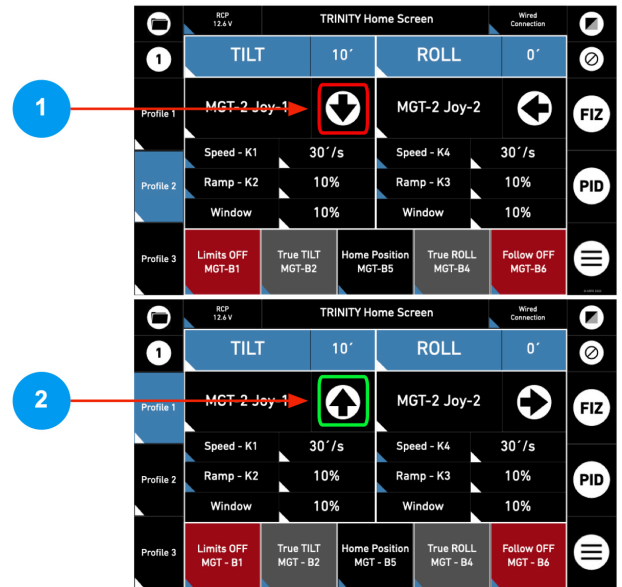


- ▶ Check in the display whether the desired controller has been assigned to the function.
If everything is as desired, tap **OK**.



4 Changing Directions

- ▶ Tap the arrow icon to swap directions.



5 Setting the Joystick Values

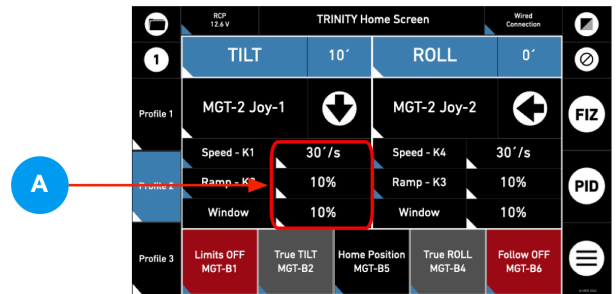
Foreword

There are two ways to change joystick values:

A

In the home screen you can directly set values such as:

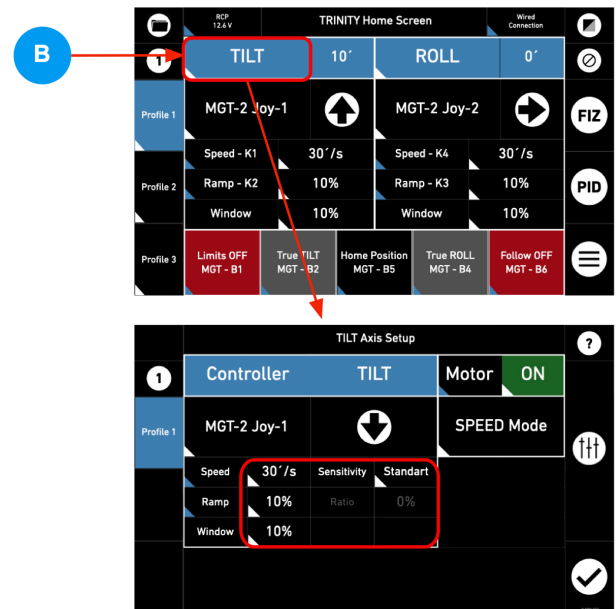
- Speed
- Ramp
- Window.



B

If you go over the sub menu of the respective axis, you can set:

- Speed
- Ramp
- Window
- Ratio
- Sensitivity of the joystick.



Speed value

The speed is shown in degrees per second. Ultimately, this makes it easier to set reproducible speeds, regardless of whether the Master Grip TRINITY joystick or the ARRI Wheels DRW-1 are used.

Ramp value

The ramp is specified in percent.

The **higher** the value, the **softer / slower** the movement starts and ends. Avoid unnecessarily high values for automated functions.

Window value

The window / deadband is specified as a percentage.

The **higher** the value, the **later** the joystick responds to the user and the later the axis starts moving.

Avoid values that are too low, otherwise movements that occur while walking can lead to unwanted movements in the axis.

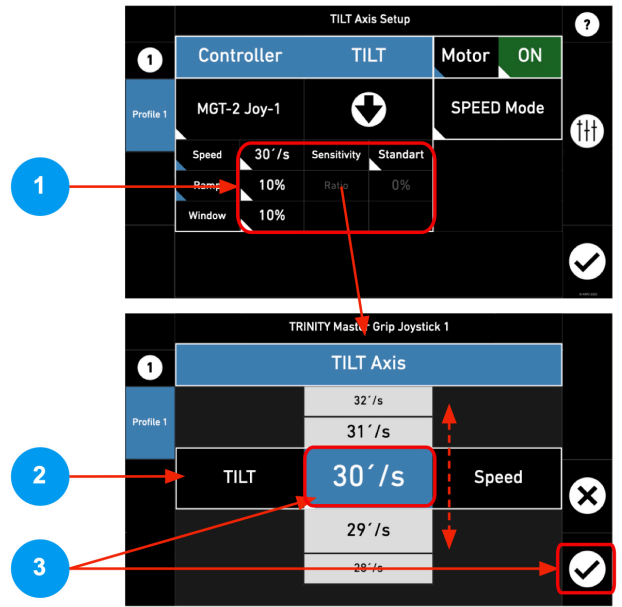
Also avoid values that are too high, otherwise the joystick will react too late to the user and the desired movements will be somewhat unpredictable.

Sensitivity value

The sensitivity setting allows you to choose different ways of how the joystick feels. It goes from **Liniar**, which is very **direct**, to **Medium**, which behaves more like an **analogue joystick**.

Changing Values

- ▶ To adjust one of the values to your needs, simply tap **directly on the desired value**.
- ▶ A new screen will open.
- ▶ There you can dial in the desired value.
- ▶ Touch the **value twice** or press **OK** to accept the new value.



6 Setting the PID Values

Foreword

It is important to accept that all necessary steps, such as the camera setup, the way additional accessories are mounted and the PID settings, must be properly performed.

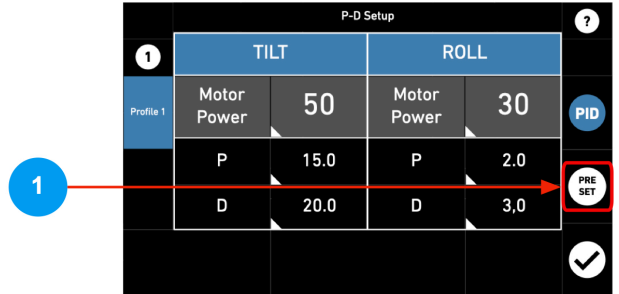
- ▶ Start with a solid camera setup.
- ▶ Make sure that all required components are firmly attached to the camera.
- ▶ Avoid assemblies that use tape or Velcro.
- ▶ Check that all clamps are securely locked.
- ▶ If only one step is missing, the desired overall system performance can not be achieved.



The quickest way to set PID values is to use the PID presets.

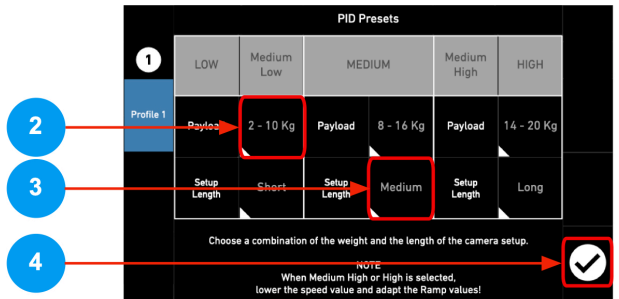
Enter the PID Submenu

- ▶ Tap PRESET



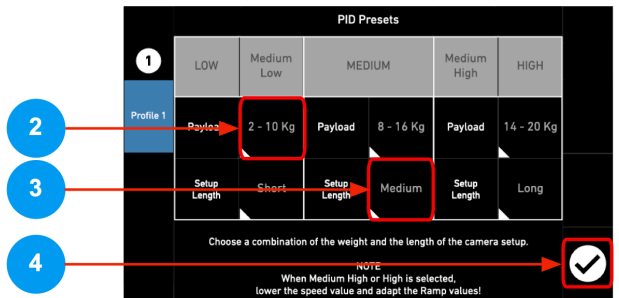
Preset Submenu

- ▶ Choose the approximate weight of the camera setup.
- ▶ Choose the approximate length of the camera setup.
- ▶ Tap OK



Selecting Weight and Length

- ▶ Choose the approximate weight of the camera setup.
- ▶ Choose the approximate length of the camera setup.
- ▶ Tap OK



Fine-Tuning



If the TRINITY 2 head shows a tendency to vibrate, i.e. the selected preset values are not quite perfect, then the PID values must be adjusted manually.

In general, we always want to work with the lowest possible PID values.

Since the TRINITY 2 motors now run on 24V, we always have enough torque available, so even very low PID values can work very well.

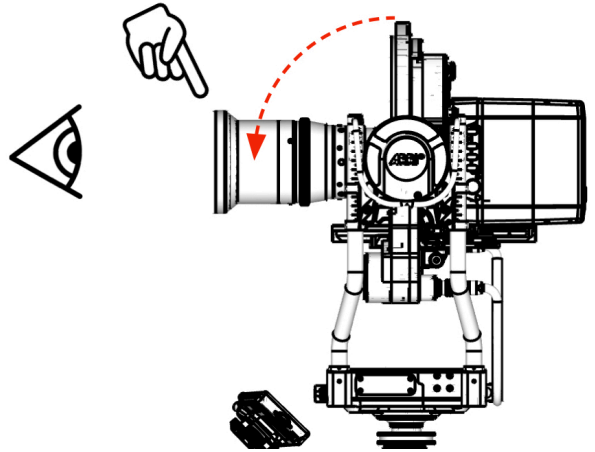
Motor Power



If you notice a tendency for **high-frequency vibration**, first try **reducing the motor power**.

Determination of the required motor power

- ▶ Use your index finger and touch the top front of the lens.
- ▶ Push down the whole camera setup.
- ▶ Reduce the motor power value so that the camera setup does not slip.
- ▶ Also **reduce the motor power** of the **ROLL** axis **proportionally**.



		TILT		ROLL		
1						?
Profile 1	Motor Power	50	Motor Power	30		PID
	P	15.0	P	2.0		PRE SET
	D	20.0	D	3.0		
						✓

PID



If you notice **high frequency vibrations**, slowly **decrease the P and D values**.

PID Settings

- ▶ Tap on the **D** number to change the value.
- ▶ The D value is automatically adjusted.
- ▶ Tap **OK**

		TILT		ROLL		
1						?
Profile 1	Motor Power	50	Motor Power	30		PID
	P	15.0	P	2.0		PRE SET
	D	20.0	D	3.0		
						✓



If you notice **low frequency** vibrations, slowly **increase** the P and D **values**.

PID Settings

- ▶ Tap on the **D** number to change the value.
- ▶ The D value is automatically adjusted.
- ▶ Tap **OK**

		P-D Setup		?	
1		TILT		ROLL	
Profile 1	Motor Power	50	Motor Power	30	PID
	P	15.0	P	2.0	PRE SET
	D	20.0	D	3.0	✓

7 Home Position

Foreword



The TRINITY 2 works with two types of home position:

1. The **Global Home** position
2. The **Customs Home** position

Global Home Position

The global home position, i.e. the absolute zero position, is oriented using the force of gravity.

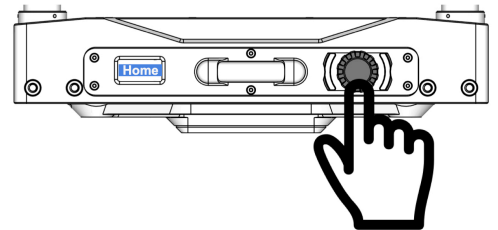


Neither the position nor the speed at which the tilt and roll axis return to the zero position can be changed by the user.

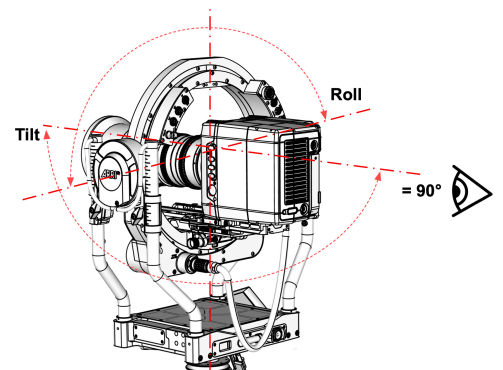
Global Home can only be triggered by pressing the jog wheel on the TRINITY 2 Head.

Trigger Global Home Position

- ▶ **HOME** will appear on the small display once the TRINITY 2 Head is fully powered on.
- ▶ **Press** the **Jog-Wheel** to move the Tilt and Roll axis in the **neutral Home position**.



- ▶ Observe that the TILT and ROLL axis have automatically moved to the global / absolute zero position.



Customs Home Position



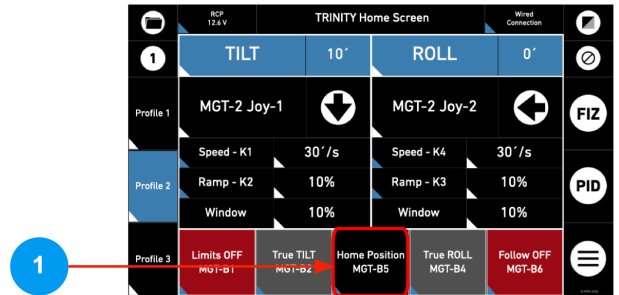
The GUI offers a submenu where the Customs Home Position can be set.

Fully automated motion sequences can also be programmed in the submenu.

The automated motion sequences can then be triggered via a selected button on the Master Grip TRINITY.

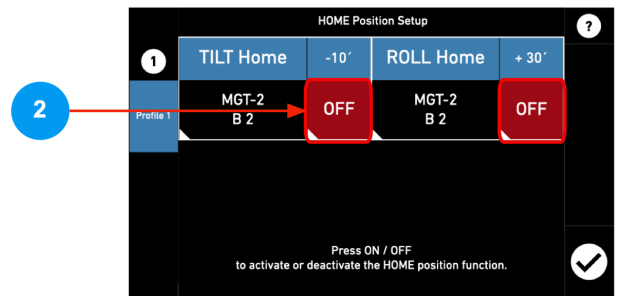
Enter the Home Position sub menu

- ▶ Press the **Home Position** field for **3 seconds** to enter the submenu.



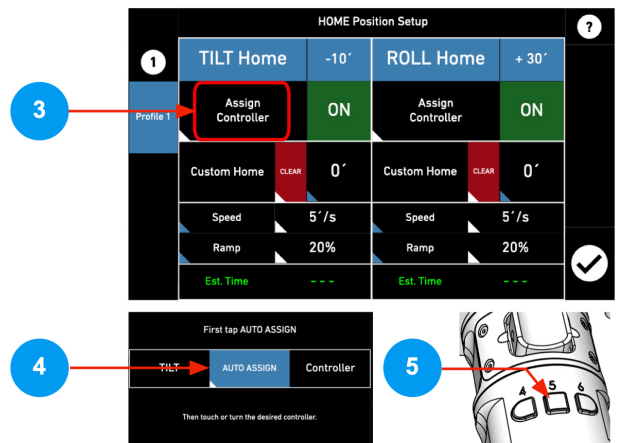
Enable Axes

- ▶ Touch the **OFF** field to enable the desired axes.



Assign Controller

- ▶ Touch the **Controller** field to select the desired controller.
- ▶ Touch **AUTO ASSIGN**.
- ▶ Touch the the desired controller / trigger. (We recommend button 5).



Customs Home Position

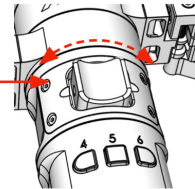


If desired, the user can define his own home position that is not on the global zero position.

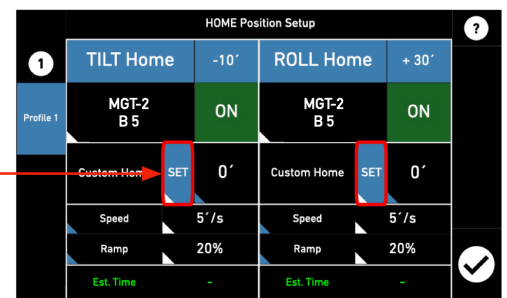
Set Custom Home Position

- ▶ Use the **joystick**, or another LBUS controller like the DRW-1, and move the TILT and ROLL axis to the desired position.
- ▶ Tap **Set** to finally set this **custom Home** position.
- ▶ Tap **OK**

1



2

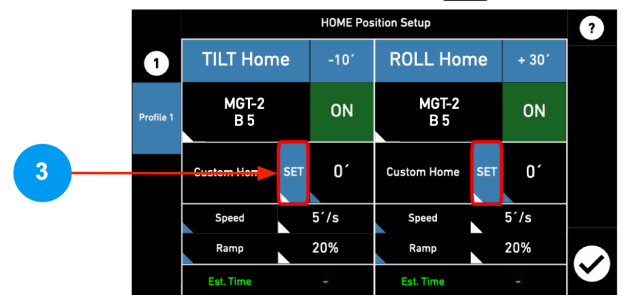
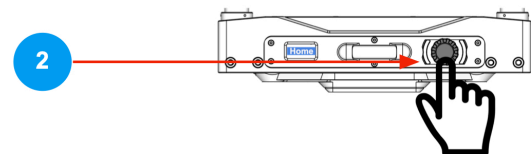
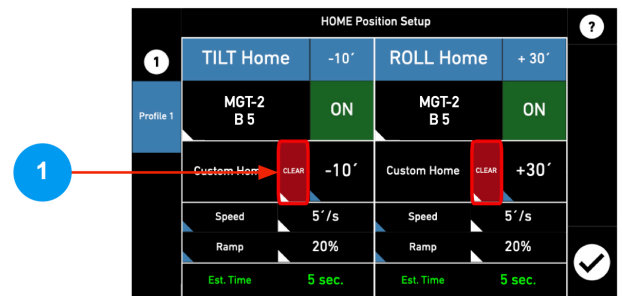


Each time you touch **button 5** on the MGT-2, the head will move to the user-defined **Custom Home Position**.

If you wish to **start** the movement from a **neutral** position, **first** touch the **Jog-Wheel** on the **TRINITY 2** head to force a **clean start** of this movement.

Deleting the Custom Home Position

- ▶ Tap **CLEAR** first.
- ▶ Touch the Jog-Wheel at the TRINITY 2 head to force the **Global Home Position**.
- ▶ Tap **Set**.
- ▶ Tap **OK**.



8 True Roll

Foreword

With the **True Roll** function, you can define a start and end point between which the camera can be precisely moved back and forth on the Roll axis.

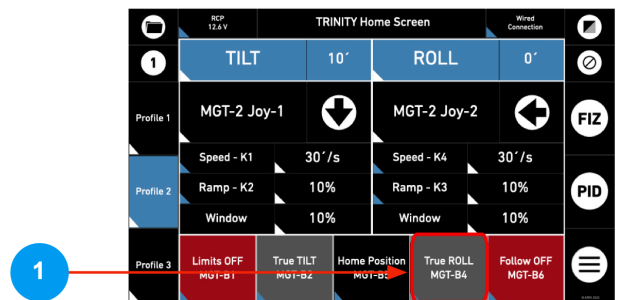
Independent of the joystick settings, different and own speeds and ramps can be set for the True Roll function.

As soon as a zoom lens is used and can be controlled via a cforce mini motor or an LCUBE-2, the zoom movement can be synchronized with the roll movement.

Enable True Roll

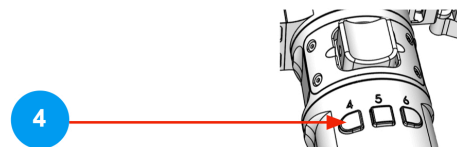
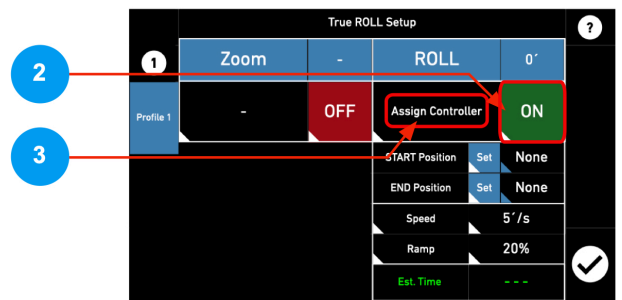
Enter the True Roll sub menu

- ▶ Press the **True Roll** field for **3 seconds** to enter the submenu.

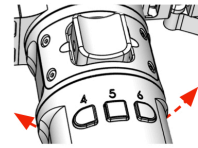


Enable Axes / Assign Controller

- ▶ Touch the **OFF** field to enable the Roll axis.
- ▶ Assign a button to trigger the True Roll function.
- ▶ We recommend button 4



Automated Roll Movement



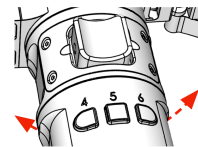
Set Start Position

- ▶ Use the **lower joystick**, or another LBUS controller like the DRW-1, and move the ROLL axis to the desired **Start** position.

The screenshot shows the 'True ROLL Setup' screen. Callout 1 points to the 'ROLL' axis value '0°'. Callout 2 points to the 'MGT B4' field which is 'ON'. Callout 3 points to the 'START Position' field which is '-360°'. Other visible fields include 'END Position' at '0°', 'Speed' at '5°/s', 'Ramp' at '20%', and 'Est. Time' at '5 sec.'.

Set Stop Position

- ▶ Now move the ROLL axis to the desired **Stop** position.
- ▶ Tap **SET**
- ▶ Set the desire Speed (max. 100°/sec) and Ramp (max. 20%) values.
- ▶ Tap **OK**



The screenshot shows the 'True ROLL Setup' screen. Callout 1 points to the 'ROLL' axis value '0°'. Callout 2 points to the 'MGT B4' field which is 'ON'. Callout 3 points to the 'END Position' field which is '45°'. Callout 4 points to the 'OK' button (checkmark icon) in the bottom right corner. Other visible fields include 'START Position' at '-360°', 'Speed' at '5°/s', 'Ramp' at '20%', and 'Est. Time' at '5 sec.'.



As soon as the assigned trigger button for true roll is pressed, the camera moves from **start to stop**.

When the button is **pressed again**, the camera moves **reversed** from **stop to start**.

ATTENTION

Start the movement always at a slow speed.

Watch the **Ring Main Cable** and make sure it doesn't get caught on the camera or accessories.

9 True Tilt

Foreword

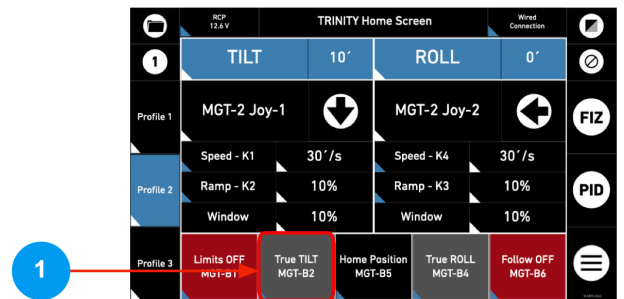
With the **True Tilt** function, you can define an end point to which the camera moves precisely on the tilt axis when the assigned button is pressed.

The **True Tilt** feature helps you get the same **head room** over and over again while moving the TRINITY from **high mode** to **low mode**.

Enable True Tilt

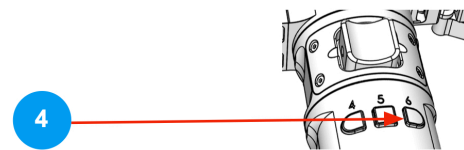
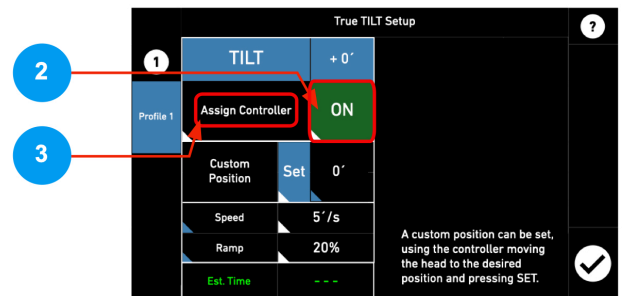
Enter the True Tilt sub menu

- ▶ Press the **True Tilt** field for **3 seconds** to enter the True Tilt sub menu.



Enable the Tilt axis / Assign Controller

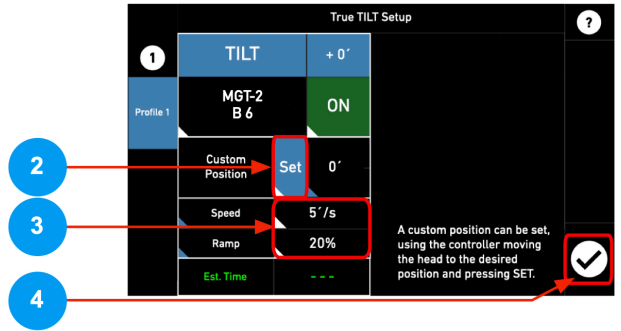
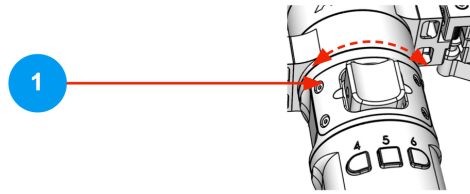
- ▶ Touch the **OFF** field to enable the Tilt axis.
- ▶ Assign a button to trigger the **True Tilt** function.
- ▶ We recommend button 6.



Automated Tilt Movement

Set End Position

- ▶ Use the **upper joystick**, or another LBUS controller like the DRW-1, and move the Tilt axis to the desired **End** position.
- ▶ Tap **Set**.
- ▶ Set the desired Speed (max. 100°/sec) and Ramp (max. 20%) values.
- ▶ Tap **OK**.



Each time you touch **button 6** on the MGT-2, the head will move to the user-defined **Tilt position**.

If you wish to **start** the movement from a **neutral** position, **first** touch the **bottom 5** to move to the **Home Position**, or touch the **Jog-Wheel** on the **TRINITY 2** head to force a **clean start** of this movement.

10 TRINITY Mode / Follow Mode

Foreword

The TRINITY 2 can be operated in two different modes: **TRINITY mode** and **Follow mode**.

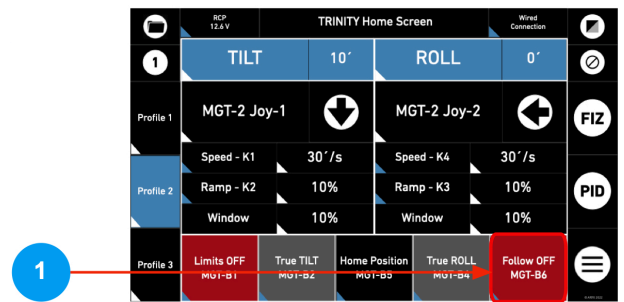
In **TRINITY** mode, the camera's tilt axis always keeps the position defined by the joystick. Regardless of the angle in which the post / TRINITY is currently located.

In **Follow** mode, the camera's tilt axis is linked to the tilt axis of the Post / TRINITY. So if the post is tilted forward, the camera follows this movement. Similar to a mechanical camera stabilizer system like the ARTEMIS.

Switch between modes

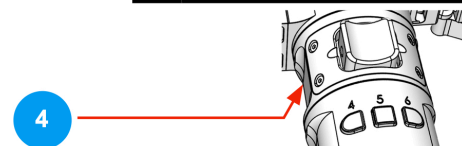
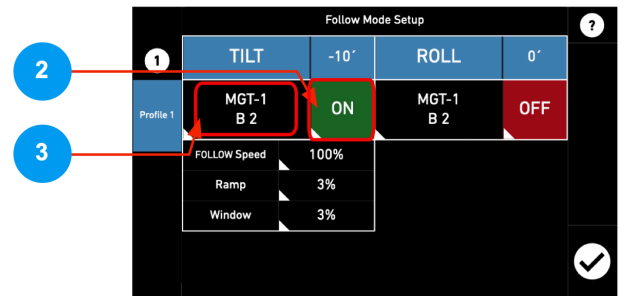
Enter the True Tilt submenu

- ▶ Press the **Follow** field for **3 seconds** to enter the Follow mode submenu.



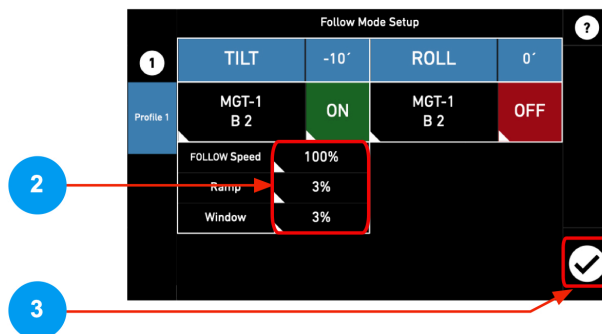
Enable Follow Mode / Assign Controller

- ▶ Touch the **OFF** field to enable the Follow mode.
- ▶ Assign a button to trigger the **Follow Mode ON / OFF** function.
- ▶ We recommend button 2.



Follow Mode Properties

- ▶ In order to generate a **synchronous movement** of post and camera, the speed value must be **100 %/sec.**
- ▶ Adjust the Window and Ramp.
- ▶ Tap **OK**



The **lower** the **Speed** value and the **higher** the **Ramp** and **Window** values, the more delayed the camera reacts to the tilt movements of the post.

11 User Profiles

Foreword

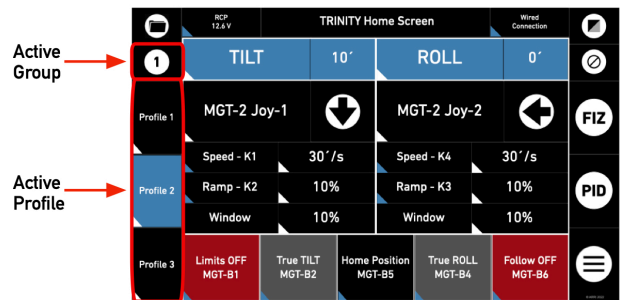
The TRINITY 2 GUI offers three user profile groups, each with three user profiles.

In order to speed up general programming, individual user profiles or groups can be duplicated / cloned.

Select Profiles

Home Screen

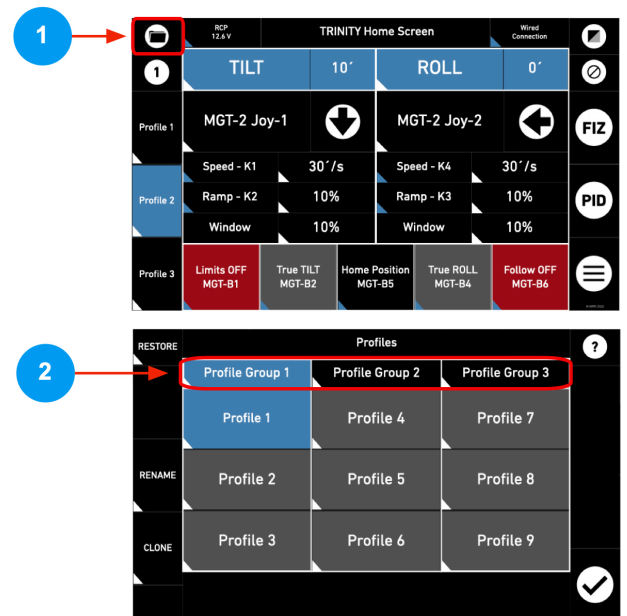
- ▶ The number indicates the active user profile group.
- ▶ Tap on one of the three user profiles to switch between the profiles.



Manage User Profiles

Select Group and Profile

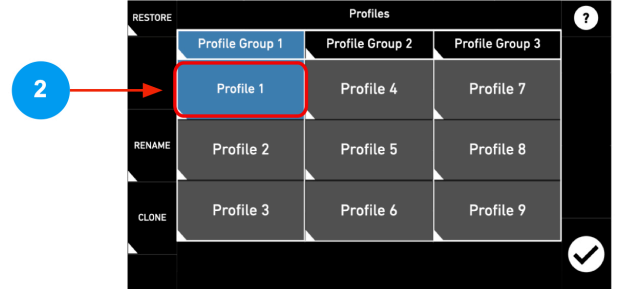
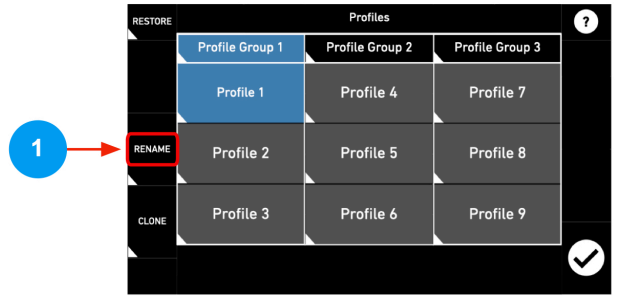
- ▶ Tap on the **folder icon** to reach the user profiles submenu.
- ▶ Select the user profile group you want to work in.
- ▶ Select the user profile you want to work with.
- ▶ Tap **OK**



Manage User Profiles

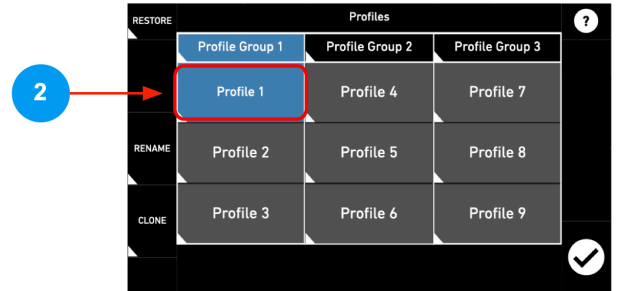
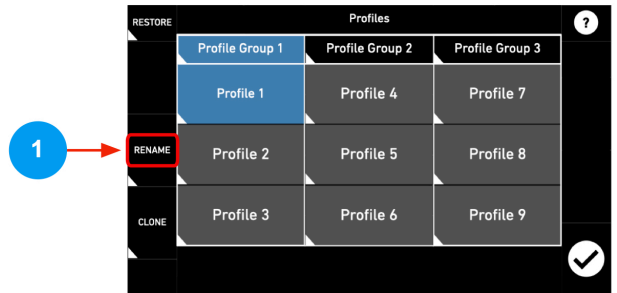
Rename Profiles

- ▶ Tap **Rename**
- ▶ Select the user profile you like to rename.
- ▶ A keyboard will appear.
- ▶ Create a meaningful name.
- ▶ Tap **OK**



Clone Profiles

- ▶ Tap **Clone**
- ▶ Select the user profile you like to rename.
- ▶ A keyboard will appear.
- ▶ Create a meaningful name.
- ▶ Tap **OK**



Restore Profiles

- ▶ Tap **Restore** to factory reset an individual profile or an entire group.
- ▶ Select the user profile or group you like to restore.
- ▶ A warning will appear.
- ▶ As soon you continue, the selected profile / group will be restored.
- ▶ Tap **OK**

