



KAIROSTM

HPN-2 | 3D CONTROLLER
firmware version 1.0.9

User Manual

available for download: www.manual.slidekamera.com



TIP

On the margins you will find information, which complement the contents of the manual. They are not essential for the correct operation of the device, but you might find them useful.

Before you start your work with the **KAIROS** controller we strongly recommend to read the manual carefully.

Please note that using the controller in a manner inconsistent with the instructions, any unauthorized repair attempts or any kind of modification of the device can cause a damage the manufacturer is not responsible for.

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HARDWARE VERISON

This manual is dedicated to **KAIROS 2** (HPN-2) - the new revision of the controller. Despite it's phisical resemblance to previous device - **KAIROS 1** (HPN-1), many features and device's firmware are incompatible.

You can verify, your product's version by the serial number.

The **KAIROS 2** has the serial number above "2000 0000" (all models purchased after 2020-01-01).

1. KAIROS controller

KAIROS is a controller designed to work with **SLIDEKAMERA** motion control devices. By default the controller can support up to 6 drives in any devices.

To control devices made of multiple motors, that enable motion in multiple dimensions, **KAIROS** controller treats them as separate, independent drives. For example, 2D heads (such as **BULL HEAD** or **X HEAD**) are recognized by the controller as two separate drives: one for horizontal rotation of the camera (PAN) and second - for its TILT.

Each of these drives is assigned to one axis. Parameters of every axis can be adjusted separately by the **KAIROS** controller.

The firmware of the **KAIROS** controller is frequently upgraded and can be easily updated by the user.

You can download the newest firmware at www.slidekamera.com/firmware and a corresponding, newest manual at www.manual.slidekamera.com

2. Technical specification

Weight:	1.45kg
Dimensions:	339mm x 169mm x 114mm
Compatible devices:	motion control devices equipped with the HET-BUS socket
Number of devices controlled in the same time:	up to 6 independent axes
Supply voltage:	10..17V DC min 12W
Operating temperature range:	0 to +40°C
Recommended relative humidity:	< 90%

3. Content of the set

The set includes:

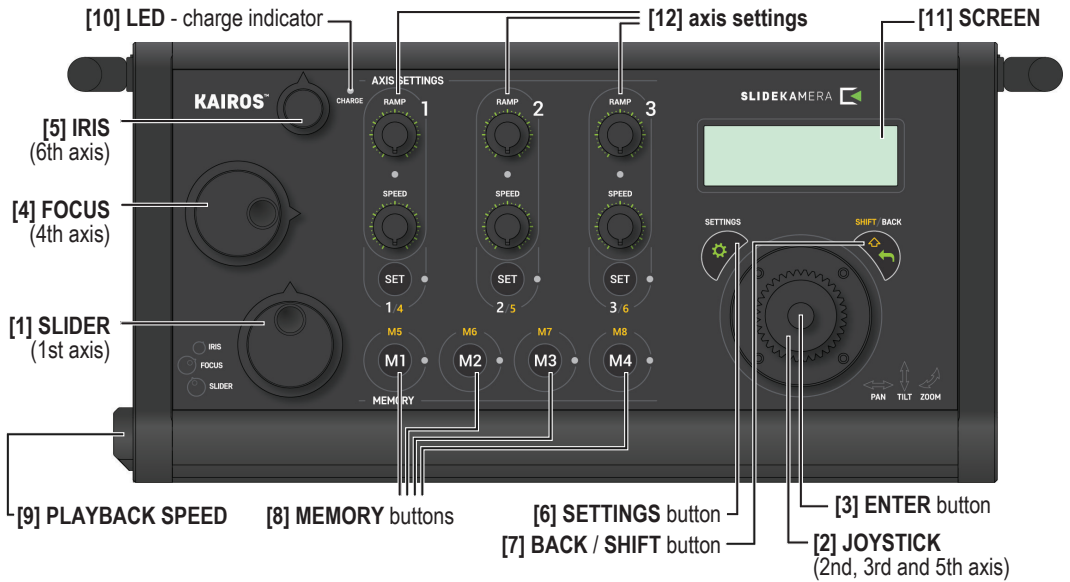
- **KAIROS** controller
- Wi-Fi antenna
- RF antenna
- **HET-BUS** steering cable (LEMO - RJ45)
- transport case

NOTE

The content of your kit may be different if your controller is a part of a set that was customised for you.

4. Construction

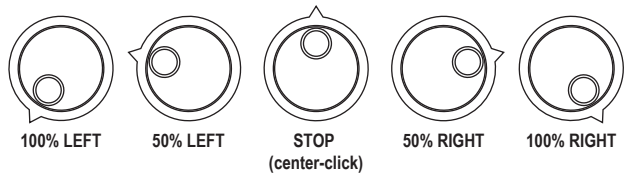
4.1. Control panel



TIP

In some circumstances (overhang system, operating from the other side, etc) you will find, that the drive moves in the opposite direction. You can reverse the direction of the drives in the **AXIS SETTINGS** menu and operate as usual. For details refer to “**8.1. Axis custom menu**” (p. 10).

[1] **SLIDER (1st axis)**: use the knob to set the car's **direction** and **speed**.



[2] **JOYSTICK - THE HEAD (2nd and 3rd axis)**: tilt the joystick left-right and up-down to rotate the camera horizontally and vertically; **ZOOM (5th axis)**: rotate the joystick to change the zoom of the lens;

[3] **ENTER** button: there's a button on the top of the joystick, it's used to change settings of the controller or navigate in the options menu;

[4] **FOCUS (4th axis)**: use the knob to control the focus lens motor;

[5] **IRIS (6th axis)**: use the knob to control the iris lens motor;

The position of the [4] **FOCUS** and [5] **IRIS** knobs corresponds directly to the position of a focus and iris rings on your lens:

[6] **SETTINGS** button: enter the settings menu; depending on the current dialog displayed on the screen, the button enters appropriate settings;

[7] **BACK/SHIFT** button - dual-function button: use this button to access additional memory banks [9] and settings for axes 4-6 (hold it to access functions marked yellow); in menus and options dialogs use this button to go one step back;

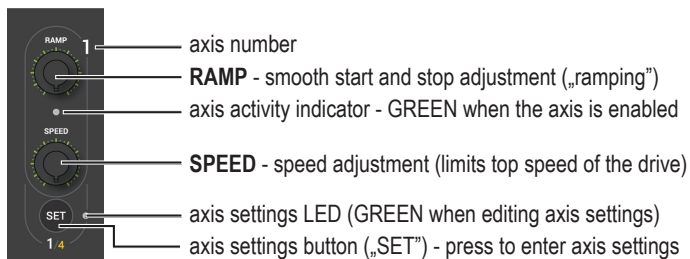
[8] MEMORY buttons - use them to access memory banks; press M1-M4 to access banks 1-4, press SHIFT + M1-M4 to access banks 5-8. Long press to enter the memory settings, short press for execute recorded data. You can find more about memory banks in **"10. Record and playback"** (p. 14).

[9] PLAYBACK SPEED - with this knob you can change the speed of the drives during playback of the motion stored in memory banks.

[10] LED - charge indicator - indicates the state of the device's power supply.
 OFF - there's no power supply connected to the device;
 RED - external power connected, the internal battery is being charged;
 GREEN - external power connected, the internal battery is fully charged;
 FLASHING RED/GREEN - error of the power supply.

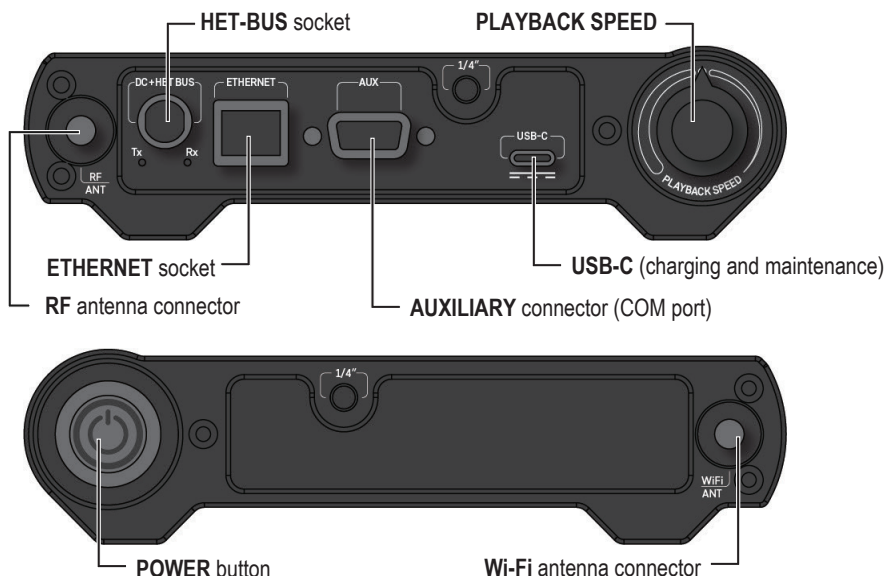
[11] SCREEN - shows current device's state, settings menus, infos and many more.

[12] AXIS SETTINGS - axes 1-3 individual hardware controllers to set working parameters; for details refer to **"8. LIVE CONTROL mode"** (p. 10).



TIP
 To access settings for axes 4-6, press SHIFT + SET (1 for 4th axis, etc). You can change the working parameters of those axes in the settings menu - **"8.1. Axis custom menu"** (p. 10).

4.2. Sockets and connectors



5. Connections

5.1. By wire

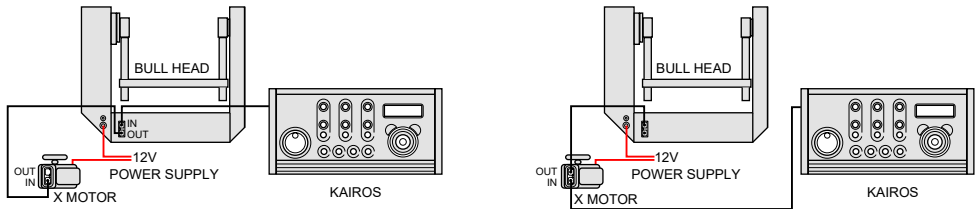
KAIROS controller can be connected to any device equipped with **HET-BUS** socket (RJ-45 or LEMO), such as slider drives and remote heads.

Most devices have two **HET-BUS** ports and multiple devices can be daisy chained to one controller (order of the devices is not important).

Connecting cables:

- connect **KAIROS** controller to the first device of your choice, to it's **HET-BUS IN** socket using steering cable;
- further device (if there is any) connect by connecting it's **HET-BUS IN** socket with **HET-BUS OUT** socket of the previous device;
- connect power supply to devices, that require external power source for their motors (heads, sliders, etc.), if you're using RJ-45 connector, plug the power adapter to all devices; if you're using **HET-BUS** with LEMO connectors, plug the power to the first device;
- **KAIROS** controller is powered by the **HET-BUS** connector and requires no additional power supply, when connected to compatible drive.

Examples of connecting **KAIROS** controller with other devices:



6. Power supply

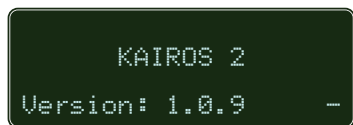
KAIROS controller has a built in battery, that enables the controller to work wireless without any power adaptors.

KAIROS battery is charged by:

- **HET-BUS** socket - during operation with compatible devices connected to the socket (please note, that not all devices are able to charge the **KAIROS** controller via **HET-BUS**);
- **USB-C** socket - you can use any standard phone charger;

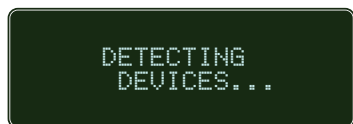
7. Preparing the controller

7.1. Turn on the controller

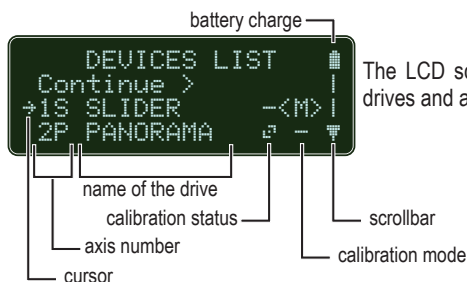


To turn the controller on, push the **POWER** button on the right hand side. The splash screen with the firmware version number will appear.

7.2. Detecting devices



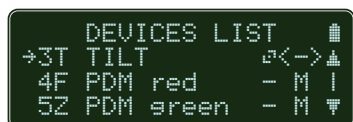
After connecting and powering the devices, **KAIROS** controller detects available drives.



The LCD screen displays the list of drives and assigned axes.

TIP

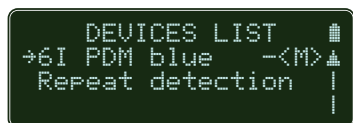
The scrollbar arrows indicate if there are any positions in the menu above or below the current screen. The > bracket indicates that the position on the list contains another dialog (e.g. sub-menu).



Use the joystick to navigate through menu pages. To change a value indicated by the cursor and <> brackets, move the joystick left/right.

NOTE

The **KAIROS** will always list three **PDMOVIE (PDM)** drives if a head with compatible **LCS** port is connected, even if the drives are not present.



If a connected device is not visible on the list, check the cable connections and select "Repeat detection".

NOTE

Working with safety limits removed can cause damage and/or injuries. For safety reasons the **KAIROS** controller cannot set the axes to infinite mode, but it may be applied by another device, e.g. for diagnostics.

Next to the axes names there's calibration status indicator:

- - the axis is not calibrated, you have to calibrate in order to use it;
- ⚡ - the axis has been calibrated and you can use the old data;
- ∞ - safety limits are removed, the axis drive can work infinitely;

You can set the calibration method (use joystick to move the cursor to the corresponding axis and change the parameter by moving the joystick left-right):

- - the calibration will not be performed, default for previously calibrated drives;
- ⚡ - automatic calibration (available only for the slider and PDMOVIE motors - the drive will gently bounce off the edges to find the working range);
- M - manual - working range defined by user.

Make sure that the SLIDER knob is in the center position (speed set to 0%) and select "Continue" to calibrate selected axes.

NOTE

Always recalibrate the drives, if the hardware setup was modified, the drive was moved manually or the power was lost during operation.

7.3. Alternative connections

The KAIROS controller has multiple options to connect devices; to change the connection type, that the controller use, press **SETTINGS** button on the **DEVICES LIST** screen or during **DETECTING DEVICES**. Additional menu will appear.



NOTE

Do not connect network devices to the ports of the SLIDEKAMERA drives described as HET-BUS, as they're not compatible with the ethernet signal, despite similar connector.

You can change the Connection setting:

HETBUS - standard communication port for SLIDEKAMERA drives; it's wired connection that's using lemo or RJ-45 plugs (for the KAIROS controller it's mini-lemo plug on the left hand side of the controller);

ETHERNET - you can connect the KAIROS controller to the local network and control the drives, that are attached to it; use the RJ-45 socket to plug the **ETHERNET** cable;

WIFI - the controller can be connected by Wi-Fi to the local network or to compatible drives, that act as Access Point; note that for properly configured Access Points you have to provide the password in order to connect to the network;

RF - direct radio connection for compatible SLIDEKAMERA devices, more reliable and with less delay than standard Wi-Fi connection;

Select the connection type and wait for the changes to be applied. Some additional configuration may be required.

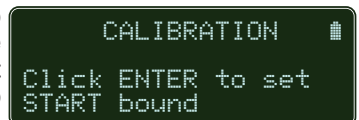
7.4. Calibrating SLIDEKAMERA devices

Calibration is a process of setting safety limits - extreme positions, that will never be exceeded. This prevents breaking off cables or damaging the camera.

Using the joystick and slider's knob move the camera in all axes to one of the extreme positions (it doesn't matter left or right). Be careful not to touch the slider's end brackets with the cart, or not to touch the head with the camera lens or the battery, as you're operating now without any safety limits.

You can reduce the drive's speed with the corresponding knobs on the **AXIS SETTINGS** panel to gain the precision of the movement.

Press **ENTER** to continue.



Set an opposite extreme position of the camera for all axes.

Press **ENTER** to continue.

The calibration process is finished. Press **ENTER** to confirm, or **BACK** to repeat the process if you want to calibrate the drives again.

```
CALIBRATION
Click ENTER to set
END bound
```

```
CALIBRATION
Calib. completed
ENTER: Finish
BACK: Repeat calib.
```

NOTE

For safety reasons the KAIROS controller will not work with the drives, that are not calibrated.

7.5. Calibrating PDMOVIE drives

Lenses with hard-stops

AUTO

If you're using lenses with hard-stops, you can calibrate the drive automatically, by using the AUTO (⌂) method in the devices list menu. The drives will run to the extreme positions to check it's working range during calibration process. You can recalibrate the PDMOVIE drive automatically by holding the button on the drive.

MANUAL

You can also use the MANUAL method. In this mode you will have to skip the setting of START and END points on the PDMOVIE drives during calibration (set those positions for SLIDEKAMERA drives only, or - if calibrating PDMOVIE drives only - press ENTER on the CALIBRATION screen without setting any positions).

Perform the actual calibration on the drive by holding the button on the drive, or use the by-hand approach described for focus-by-wire lens.

TIP

If you don't know, what type of lens do you have, rotate the ring on the lens barrel. If it stops at the extreme positions and you cannot rotate the ring any further, it's the manual lens with hard stops. If you can rotate the ring on and on, it's the electronic lens with by-wire engine. Note, that there are lenses with both type of rings, e.g. electronic by-wire for focus ring and mechanical ring with hard-stops for zoom.

Focus-by-wire

If you're using lens with focus-by-wire ring, run the manual calibration procedure on the KAIROS controller, as with hard-stops lens. Perform the actual calibration on the drive by rotating the focus ring by hand to one extreme position, then to the second extreme position, and move the ring a little back to the direction of the first position.

The drive is calibrated and should rotate slowly to the position indicated by the controller. The motor is engaged and you won't be able to freely rotate the lens ring.

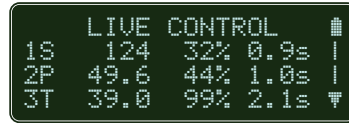
NOTE

During manual calibration of the PDMOVIE drives always observe the scale on the lens and do not exceed the extreme markings. It's crucial to keep the precision and repeatability of the lens control system.

8. LIVE CONTROL mode

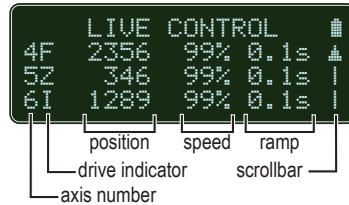
After successful calibration the safety limits are applied and the **KAIROS** controller automatically runs **LIVE CONTROL** mode. It's basic mode, used to operate connected drives in real time.

The device is immediately ready to work. You can control your drives with the joystick and/or the knobs on the control panel of the **KAIROS** controller.



LIVE CONTROL					
1S	124	32%	0.9s		
2P	49.6	44%	1.0s		
3T	39.0	99%	2.1s		

The LCD screen displays all parameters of the devices. These values can be altered by using the control panel of the **KAIROS** controller.



LIVE CONTROL					
4F	2356	99%	0.1s		
5Z	346	99%	0.1s		
6I	1289	99%	0.1s		

position speed ramp
drive indicator scrollbar
axis number

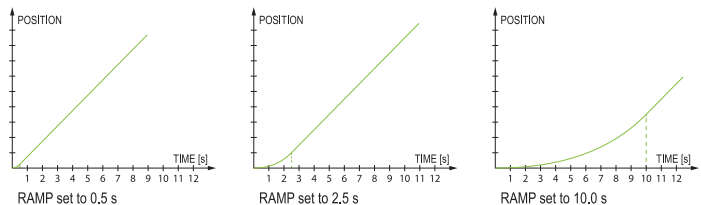
To scroll down the device's list press **ENTER** (as you cannot use joystick for scrolling and navigating right now - it's used to control your head or other devices).

TIP

To access settings for axes 4-6, press **SHIFT + SET** (1 for 4th axis, etc). You can change the working parameters (**RAMP**, **SPEED**) of those axes in the settings menu.

position - actual position of the drive, measured from one calibration point; for linear drives (e.g. sliders) the value corresponds to position in millimeters, for angular drives (e.g. remote heads) - position in degrees; for the **PDMOVIE** drives the position values are steps in 0-7200 range;

RAMP - smooth start and stop adjustment („ramping”), specified in seconds; the value is adjusted independently for each axis by a knob on the control panel of the **KAIROS** controller;



SPEED - drive's speed limit, specified as percentage of its maximum speed; the value is adjusted independently for each axis by a knob on the control panel of the **KAIROS** controller;

8.1. Axis custom menu

To enter the axis custom menu, press **SET** button on the axis settings section of the control panel. Axis settings LED will light up.

Live - behaviour of the axis in live mode:

ON - the axis is active in live mode;

PR LX - available for panorama axis only: the head works in parallax mode - advanced solution for tracking shots; position of the head is linked to the position of a slider (the camera rotates as the slider moves), movement of the joystick doesn't affect the rotation of the head; for setting the Parallax mode refer to "**9. PARALLAX**" (p. 12).

OFF - the axis is inactive.

TIP

You can also access all axes menus from the main settings menu - for details refer to "**11. KAIROS controller settings**" (p. 16).

Playback - behaviour of the axis during playing the content of memory banks:

- ON** - the axis plays back recorded data;
- MAN** - manual mode; recorded data for this axis will be discarded, Live mode will be used instead (you can operate this axis by hand during playback);
- PRLX** - available for panorama axis only: the head works in parallax mode
 - advanced solution for tracking shots; position of the head is linked to the recorded slider's position (the camera rotates as the slider moves), movement of the joystick doesn't affect the rotation of the head;
- OFF** - the axis is inactive.

Invert - reverse the direction of the motion; relevant in some hardware configurations (e.g. when operator of the controller stands on the other side of the slider, or the remote head operates upside down):

- ON** - the motion is reversed;
- OFF** - the axis operates as usual.

Rebound - the direction of the motion will be reversed when the drive (e.g. the slider's cart) reaches one of the extreme positions; this feature is useful for a simple loop of a slider's cart - when Rebound is enabled, you can simply set a slider's speed with a Slider knob and the cart will run back and forth until you set the Slider knob to 0.

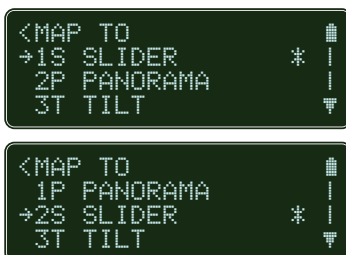
- ON** - the Rebound is enabled;
- OFF** - the Rebound is disabled, the drive stops at the end of a working range defined in calibration process.

Parallax - advanced tracking mode, used to keep the object in frame regardless the position on the slider; for setting and operating the Parallax mode refer to **"9. PARALLAX"** (p. 12).

Calibrate - recalibrate the axis; use this option to perform calibration for selected axis only;

Map to - set a different drive to use particular controller (e.g. you can set the joystick to control the motion of a slider, etc.).

To remap drive's assignment, enter the **Map to** in Settings menu for an axis currently assigned to the drive you want to change. The selected drive is marked with a * symbol. Navigate the cursor to the axis you want the drive to be assigned to and press **ENTER**. The drive's name will appear next to the chosen axis number (if there is any drive assigned to that axis, the drives will change places).



Info - additional informations about the axis and assigned drive.

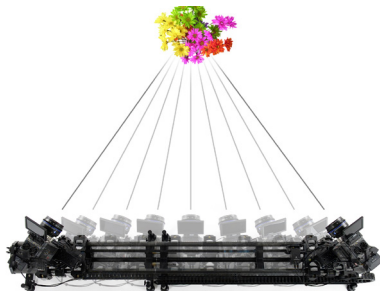
CANCEL - discard changes and exit the menu;

BACK - save changes and exit.

TIP

Recorded keyframes and moves are assigned to the drive, not the axis number - so when you swap the drive's axes the motion will be played back correctly.

9. PARALLAX



The **KAIROS** controller is equipped in auto tracking feature - **PARALLAX**.

It is designed to keep correct angle of the camera during motion of the slider and to eliminate the parallax effect. That enables the camera to hold the subject in the frame and to keep correct composition of the image.

PARALLAX feature has to be configured and calibrated to work properly.

To configure **PARALLAX** go to **SETTINGS** for the Panorama axis by pressing **SET** button on the Axis settings panel and choose **Parallax >**.

9.1. Configuring PARALLAX

<PARALLAX LINK
→SLIDER

Choose the drive you want the head to be linked to. Usually it's the slider's drive. In most cases there's no other choice, but you may have other sliders in your system to choose from.

You can change the assignment later using the **Set link >** option.

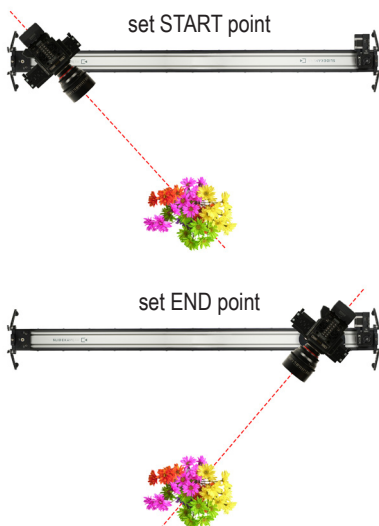
<PARALLAX SETT.
→Set target >
Set zero >
Set link >

The **PARALLAX** is enabled, you have to configure the settings to make it work properly.

You have to set two parameters: "target" and "zero".

You can discard all your settings by selecting **Reset** option.

<PARALLAX SETT.
→Reset
Back



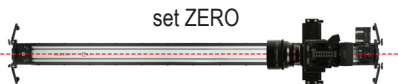
Set TARGET

- choose **Set target >** from the Parallax settings menu;
- set **START point** - set the slider's cart at the beginning of your working range and aim the camera at the filmed object to set correct composition of the frame;
- confirm by pressing **ENTER**;
- set **END point** - set the slider and the head in the opposite position, aim the camera to set your object in frame;
- confirm by pressing **ENTER**;
- the controller will return to Parallax settings menu.

9.2. Set ZERO

Setting “zero” is optional, but highly recommended. By setting additional point of reference for the PARALLAX system, you enable advanced mode, that calculates exact position of the filmed object and allows you to work precisely, on long focal length, at short distance to the object or at high angle.

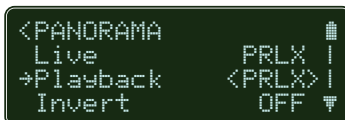
- choose **Set zero** > from the Parallax settings menu;
- set **ZERO** - set the slider's cart on a side and rotate the head to align the lens axis parallel to the slider; you can use the viewfinder of the camera to set a point on the axis of the slider (e.g. 1/4" mounting thread) in the middle of a frame;
- confirm by pressing ENTER;
- the controller will return to Parallax settings menu.



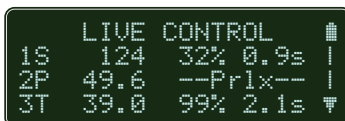
The PARALLAX feature is fully configured.

9.3. Enable PARALLAX

To enable PARALLAX feature, go to the PANORAMA axis settings and set **Live** and/or **Playback** mode to **PRLX**.



After enabling PARALLAX in Playback mode, you will notice that **SPEED** and **RAMP** settings on the screen are not available for Panorama axis, as the values are overridden by the tracking system.



Enabling the PARALLAX in Live mode will control the Panorama axis during manual operation, but recorded moves will be played back as are stored in the memory banks.

Enabling PARALLAX in Playback mode will force the Panorama axis to discard the recorded data and will link it to the motion of a slider, using current **TARGET** and **ZERO** settings. The recorded data will not be removed and will be used to playback when you set back the Playback mode to **ON**.

10. Record and playback

KAIROS controller is equipped with 8 memory banks. Each one can store a single camera position, A-B move or recorded free move. Memory banks 1-4 are available directly with the **M1-M4** buttons. To use memory banks 5-8, hold **BACK / SHIFT** button and press a **M1-M4** button.

10.1. Recording

```
<SLOT M1
→New keyframe >
  New trajectory >
    New track record >
```

To record a position or move in the memory of the KAIROS controller, hold one of the memory buttons. A menu will appear, that corresponds to the chosen memory slot.

New keyframe > - record a single position of a camera; you can use this option to store different positions in memory banks and restore them, e.g. during live show to switch the camera between saved views.

```
<SAVE KEYFRAME
Move to change Pos.
ENTER: Set KEYFRAME
```

- select **New keyframe >** and press ENTER;
- set the position of the camera with the joystick and knobs;
- confirm by pressing ENTER.

The keyframe is recorded in the memory bank.

New trajectory > - record a simple A-B move (motion between two specified positions).

```
<SAVE TRAJECTORY
Move to change Pos.
ENTER: Set START
```

```
<SAVE TRAJECTORY
Move to change Pos.
ENTER: Set END
```

- select **New trajectory >** and press ENTER;
- move the camera to the first (START) position
- confirm by pressing ENTER;
- move the camera to the second (END) position
- confirm by pressing ENTER;

The trajectory is recorded in the memory bank.

New track record > - record a free move

```
<SAVE TRACK
Ready to record
track!
ENTER: Start RECORD
```

```
<SAVE TRACK
Move to change Pos.
00:15.5
ENTER: Stop RECORD
```

- select **New track record >** and press ENTER;
- move the camera to the point, where you want to begin your recording;
- press ENTER to start recording;
- perform the move using joystick and knobs;
- press ENTER to stop recording;

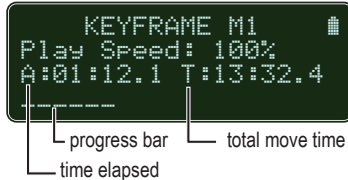
The track (free move) is recorded in the memory bank.

10.2. Playback

To play back stored data, press once the button corresponding to the chosen memory bank.

KEYFRAME

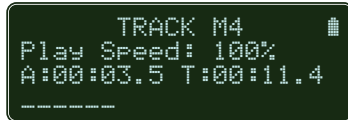
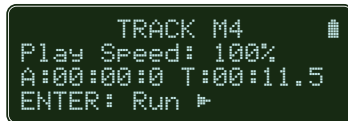
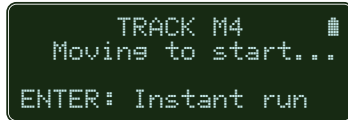
If a KEYFRAME is stored in a memory bank, the camera will immediately go to the recorded position after pressing the memory button.



TRAJECTORY or TRACK

To play a TRAJECTORY or TRACK:

- press the memory button;
- the camera will go to the START point immediately and pause;
- press the ENTER button or the memory button to trigger the move;
- the drives will play back recorded move;
- the controller will revert to LIVE CONTROL after finished playback.



TIP

If you press the ENTER button before the camera reaches the START point, you will turn on the "Instant run" mode, that will trigger the playback as soon as the camera reaches the START point.

10.3. Playback speed

You can control the motion of the camera during moving to KEYFRAME or playing the TRAJECTORY (A-B move).

The axes will respect the SPEED and RAMP settings, that were set before triggering the playback (changing the RAMP and SPEED knobs during the played motion don't affect played motion).

All axes, regardless the speed settings, will be played back in sync - all drives will start and stop playback exactly at the same moment. The faster drives will be slowed down to keep synchronisation with axes with slower settings.

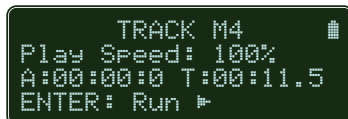
Playing the recorded TRACK (free move) you cannot alter the SPEED and RAMP settings of the axes, as they are "baked in" in the recording.

PLAYBACK SPEED knob

To change the time of the recording (for moving to KEYFRAME, playing the TRAJECTORY or the TRACK) you can use the PLAYBACK SPEED knob. It sets the global speed for all axes during playback. You can stretch the time of the motion, but the motion's path remain intact.

You can rotate the knob anytime, before playback, during setting start position, waiting for trigger command or during playback.

If you change the PLAYBACK SPEED, the value in % will be visible on the screen and total time of the recording will be changed accordingly. This way you can set a playback time precisely.



TIP

The RAMP settings are independent - you can change accelerations of each axis separately using different RAMP settings, therefore you can alter the synchronization in between the START and STOP points (the START and STOP are always in sync for all axes).

10.4. Playback settings

```
<SLOT M1
→Settings >
  New keyframe >
  New trajectory >
```

When a TRAJECTORY or TRACK is stored in the memory bank, additional Settings option in the memory menu appears.

```
<TRAJ.SETTINGS
→Repeat <0>|
  Return OFF|
  Invert OFF▼
```

Repeat - number of repetitions of recorded move; for infinite loop set value below zero, ∞ mark will appear.

Return - the way the drives return to START after finished playback:

OFF - for one repetition the drives will not return to the START position; for multiple repetitions OFF works as FAST RET.;

FAST RET. - the drives will return to START as fast as possible after finished playback;

MIRROR - after finished playback the recorded move will be played back again in reverse;

Invert - plays the recorded move in reverse;

11. KAIROS controller settings

In LIVE CONTROL mode press SETTINGS button to enter the device's settings menu:

Detect devices > - search for new drives connected to the controller;

Devices settings > - access to axes menus, also available by pressing SET buttons on axis settings panel;

Devices alerts > - list of alarms (if there were any) for diagnostics and troubleshooting;

Memory slots > - management for the memory banks:

Save preset > - save recordings in the memory bank as a preset for further use;

Load preset > - load previously saved preset (note, that this will overwrite current memory banks);

Reset slots > - purges memory banks;

Backlight > - set the light level for the screen and status LEDs on the device; decreasing light levels may extend device's battery life; increase brightness gains visibility in bright conditions (direct sunlight, heavy studio lighting, etc).

Time & date > - set current timezone, time and date;

About > - technical informations about the device (name, firmware, serial number, etc.)

TIP

The controller will update the time and date automatically, if is connected to the ethernet with internet access.

12. Maintenance and operation

KAIROS controller does not need any additional service or lubrication of the components.

Maintenance procedures are reduced to keeping the equipment clean.

13. Terms of warranty

All **SLIDEKAMERA** products are covered by the manufacturer's warranty for a period of 12 months from the date of sale. Warranty covers production faults and material defects, which resulted in the product malfunctioning. Warranty covers the repair, or, if the repair proves impossible, replacement of the product with a new one. However, the cost of repair of the product cannot overrun the catalogue value of the product. The warranty does not cover damage and / or product defects resulting from the improper usage, as well as not following product maintenance specifications.

The warranty excludes:

- unauthorized attempts to repair or modify
- mechanical damage caused during transport and operation of such features as scratches, dents, pits, dirt, etc.
- flooding, moisture

To obtain warranty service the purchaser should deliver the damaged product together with a proof of purchase or proof of payment (invoice, cash register receipt). The product will be accepted for warranty service on condition, that it is delivered with correctly filled in complaint form and properly protected during transport.

The complaint form is available for download at: www.slidekamera.com

After the warranty period is exceeded any spare parts can be purchased directly from the manufacturer or in any selected points of sale.

PLEASE NOTE:

Any package sent at the expense of HET-CNC s.c., 80-175 Gdańsk, ul. Kartuska 386 will not be received.

IMPORTANT INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT IN ACCORDANCE WITH EC DIRECTIVE 2002/96/EC



At the end of its working life, the product must not be disposed of as urban waste. It must be taken to a special local authority differentiated waste collection centre or to a dealer providing this service. Disposing of electronic equipment separately avoids possible negative consequences for the environment and health deriving from inappropriate disposal and enables the constituent materials to be recovered to obtain significant savings in energy and resources. As a reminder of the obligation to dispose of electronic equipment separately, the product is marked with a crossed-out wheeled dustbin.

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