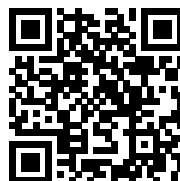


User Manual



X-MOTOR drive for Slidekamera HSK series sliders

Software version
rev 3.0

PDF version of the manual available for download: www.slidekamera.com

slidekamera  [®]
MADE IN EUROPE

1/2015

Before you start your work with Slidekamera X-MOTOR drive for Slidekamera HSK series sliders we strongly recommend to read the manual carefully. Please note that using the drive in a manner inconsistent with the instructions, unauthorized repair attempts or any kind of modification of the drive can cause damage the manufacturer is not responsible for.

In case of damage during transport you are required to submit:

- ☑ proof of purchase
- ☑ protective styrofoam inserts/ fillers included in the set in case of new product delivery

If you fail to comply with the abovementioned conditions, the manufacturer reserves the right to refuse the complaint.

Photos of products may slightly differ from the actual product due to constant modifications and improvements introduced by the manufacturer.

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1. Elements of Slidekamera X-MOTOR drive

Once you receive the shipment please make sure that all the elements of Slidekamera X-MOTOR drive are inside.



Set includes:

X-GEAR (driving motor with a worm gear and a housing equipped with a number of sockets) [1]

Set of drive heads (drive head that connects with a motor and a gear, and a driven head) connected with a toothed belt with a carriage that connects the belt with a slider [2]

Controller that controls the movement of the slider cart [3]

Cable connecting the motor with the controller [4]

Shutter release cable to connect the motor with the photo camera [5]

Shutter release cable extender – 1.8m [6]

Four M6 x 90mm screws fixing the drive heads to the slider rail [7]

Hinge clamp with a washer [8]

AC Adapter [9]

A detailed list of shutter release cables and photo cameras they support can be found on page 18 of this user manual.

2. Product description

Slidekamera X-MOTOR drive for HSK series sliders, is equipment specially designed for smooth shots in motion as well as Timelapse photos. X-MOTOR drive consists of an intuitive controller and X-GEAR power unit. Simple and functional menu of the controller provides excellent ergonomics of use. The controller allows to work in various working programs: VIDEO, ANIMATION, TIMELAPSE. Front panel of the controller is equipped a joystick and two knobs to adjust: SPEED and DAMPING. To eliminate any movement during shutter release, X-MOTOR set includes a shutter release cable that is used in ANIMATION and TIMELAPSE working programs. X-GEAR power unit allows for cartload of 7kg during vertical track and 20kg (see paragraph 3. Specification) during horizontal track. HKN-ST controller is equipped with 1/4" mounting hole that allows to attach it to slider cart, for example, using Slidekamera articulated arms: MagicArm 8" or 11".

2.1. HKN-ST controller

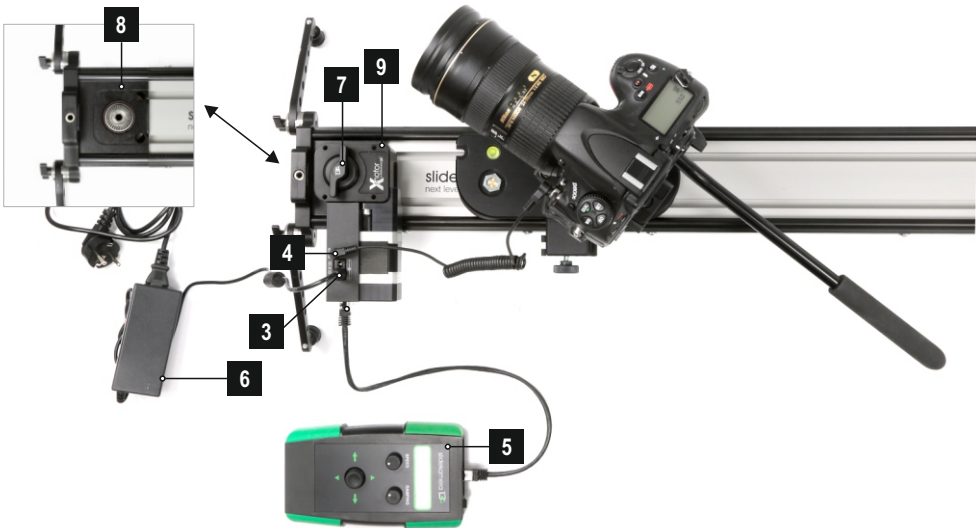
Front panel of the controller is equipped a joystick and two knobs to adjust: SPEED and DAMPING. SPEED knob allows to adjust speed range, whereas DAMPING knob regulates smooth acceleration and deceleration of movement, ie. the user can adjust the time at which the drive reaches the desired speed or stops. RJ-45 cable socket and power switch are located on the upper wall of the controller housing. Joystick, placed in the centre of the front panel, enables user friendly programming, controlling and configuration. Simple and functional menu provides the ergonomics of operation. HKN-ST controller is equipped with 1/4" mounting hole that allows to attach it to slider cart, for example, using Slidekamera articulated arms: MagicArm 8" or 11".



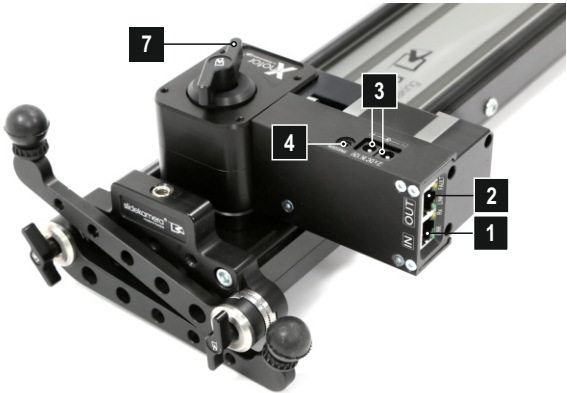
- Power switch [1]
- RJ-45 cable socket [2]
- LCD display [3]
- SPEED knob [4]
- DAMPING knob [5]
- Joystick [6]
- 1/4" mounting hole [7]

2.2. X-GEAR

X-GEAR power unit consists of a gear, motor and steering electronics. After connecting the power unit to the power source, and attaching the cable connecting the controller [5] and the motor (cable should be connected to the socket marked IN) the device is ready. Turn on the controller and start the calibration.



- Controller socket [1]
- Socket for additional drives [2]
- Power socket [3]
- Shutter release cable socket [4]
- Controller [5]
- AC adapter [6]
- Hinge clamp [7]
- Drive head [8]
- X-GEAR (motor+gear) [9]

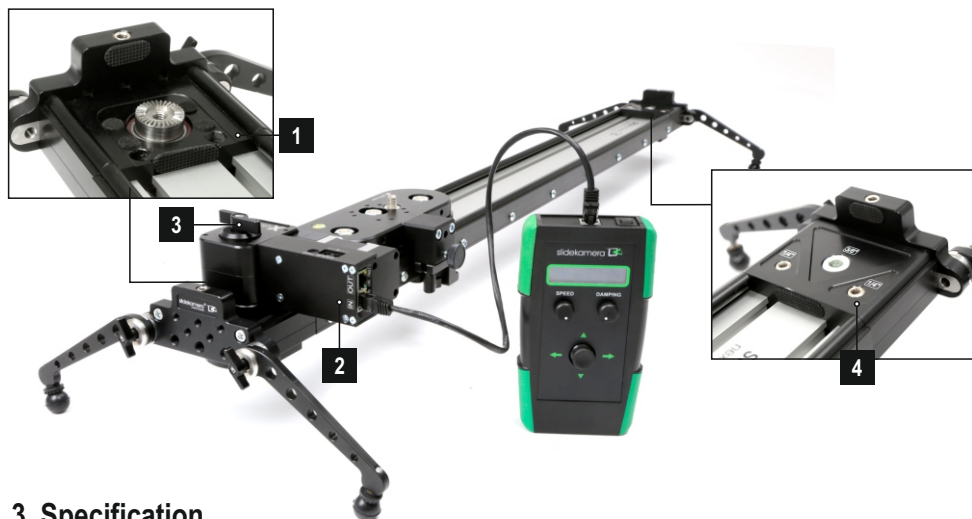


Driving motor markings:

| | |
|-------|--|
| LINK | Indicates that controller cable is properly connected. |
| Rx | When orange light flashes slowly the user is informed that the driving motor is powered but has not yet received any command from the controller. When orange light starts flashing rapidly this indicates that the driving motor received a command from the controller. |
| FAULT | Flashing light indicates existing error. Detailed explanations of erros codes can be found in paragraph 5.2.1 of this user manual. |

2.3. Heads set

A set of drive heads consists of two drive heads, one head per side, mounted to the slider with four M6x90 screws. First drive head [1] is used for mounting X-GEAR [2] (motor + gear) using a hinge clamp [3]. Second drive head [4] is equipped with 1/4" and 3/8" holes with hardened inserts for attaching accessories.



3. Specification

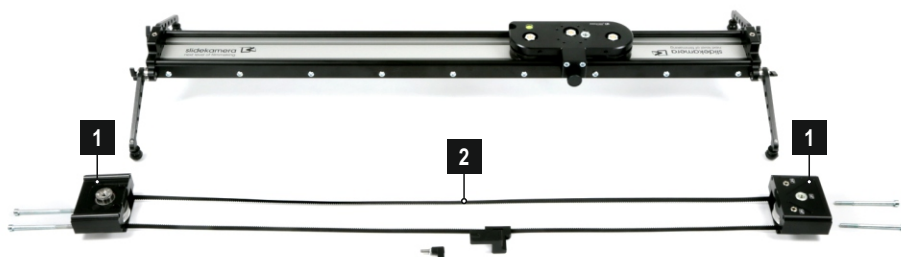
| | |
|---|--|
| Supply voltage: | 10..18V DC |
| Current consumption: | Continuous horizontal track: max 1A @ 12V Continuous vertical track with max. payload: 2,5A @ 12V |
| Operating time with battery 12V 7Ah (room temperature, horizontal track): | over 7h |
| Cart speed: | maximum 50mm/s - in VIDEO program minimum 100mm/999h - in TIMELAPSE program |
| Operating temperature range: | -10°C to 70°C |
| Shutter release cable (one to choose): | WS-1, WS-2, WS-3, WS-4, WS-5, WS-6, WS-7, WS-8, WS-9 cables used in ANIMATION, TIMELAPSE programs |
| Dimensions: | Width: 140mm Length: 190mm Height: 50mm (with joystic: 60mm) |
| Weight (controller, driving motor): | 1720g |
| Slider cart payload: | Maximum payload for horizontal track: 20kg Maximum payload for vertical track: 7kg |

4. Mounting Slidekamera X-MOTOR drive to HSK series slider

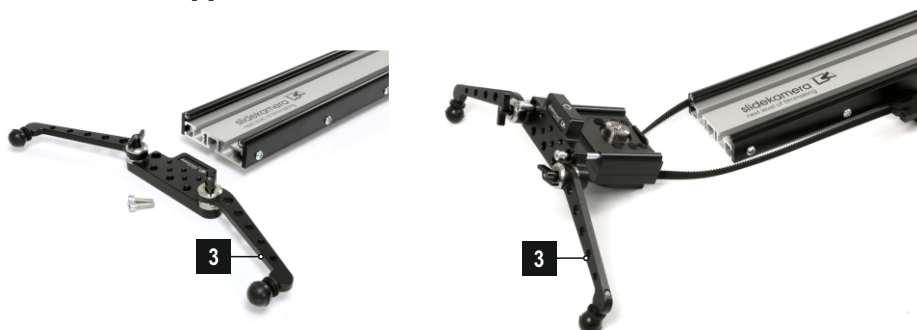
4.1. Mounting drive heads

Instructions and explanations presented in following chapters contain set of guidelines recommended by the manufacturer on how to properly mount X-MOTOR drive on Slidekamera HSK-5 sliders. Please note that mounting and using the drive in a manner inconsistent with the instructions can cause damage the manufacturer is not responsible for.

Place the drive heads [1] with the attached toothed belt [2] in parallel position to the slider. Pay attention so that the drive head with a motor mounting axis is on the left side of the slider. The tooth belt must not be tangled.



Remove the sides of sliders [3].



Insert M6 x 90mm screws [4] through the holes of the side feet and next through the holes of the drive head. Attach the screws to the slider.

Place the two parts of the belt in a way so that they are outside of the mounting ports of the slider rail (mounting ports in the middle of the belt).

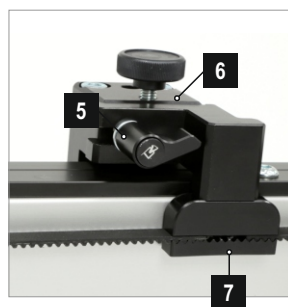
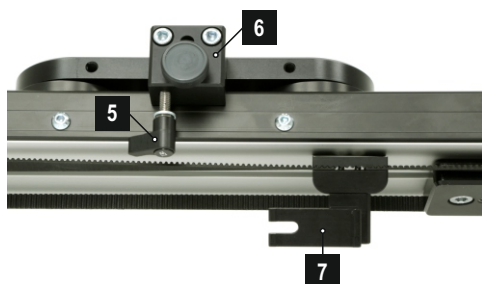


Insert M6 x 90mm screws [4] into the next side feet and then into the driven head [1]. Place the head to the slider rail in a way so that the head is in contact with the lower edge of the rail. Straighten the head so that rail mounting holes line up with the mounting holes of the head. Tighten the screws thus connecting the side feet and the head to the slider rail.



4.2. Connecting the drive unit with the cart

Screw the hinge clamp [5] into the hole in the bottom of the slider brake [6]. Attach the carriage [7] (mounted to the tooth belt) to the slider brake using the hinge clamp.



4.3. X-GEAR mounting (motor+gear)

Attach the motor with worm gear to the drive head mounted to the slider using the hinge clamp [1]. Place the clamp on the gear in a way so that gear centring pins align with the drive head holes.

PLEASE NOTE: Pay attention so that the clutch teeth are properly positioned.



5. How to operate the controller

After you switch the power on the startup screen will appear on LCD for about 1,5s.

IMPORTANT!!!

Before the first use of the drive it is necessary to perform automatic calibration of the driving motor. This step is necessary for the drive to function properly and cannot be neglected. Automatic calibration is performed only before the first use, it determines the range of movement for your HSK series slider.

5.1. Specifying startup parameters

After switching the power on it is necessary to determine the working mode of the drive. We differentiate three types of modes: **AUTO**, **MAN** and **FREE**.

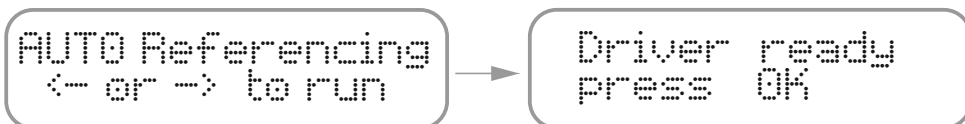
AUTO -basic automatic calibration. The drive automatically moves to the reference point. Movement range corresponds to the one specified during the automatic calibration.

MAN – the user determines the reference points (hence the movement range) by using the joystick and the **SPEED** knob.

FREE – this mode does not require setting any movement range. Not recommended when working with HSK series sliders.

5.1.1. AUTO (basic automatic calibration)

In case of **AUTO** working mode, after switching the power, a message will appear on LCD screen:



Wówczas przy pomocy joysticka należy wskazać kierunek jazdy aby napęd automatycznie dojechał do punktu skrajnego. Po ustaleniu punktu skrajnego na ekranie sterownika pojawi się komunikat o gotowości sterownika do pracy. Po wciśnięciu **OK** (naciśnięcie joysticka) na ekranie pojawia się menu główne.

5.1.2. MAN (manual calibration)

In case of **MAN** working mode, the controller moves to the manual calibration. This mode allows to determine the reference points anywhere on HSK series slider rail, not necessarily at the ends. This mode is recommended if you need to determine a short range of motion for the cart.

When setting points of reference in MAN mode exercise extreme caution so that the cart does not hit the side feet of your Slidekamera HSK series slider.

Message on the screen requires the user to determine points of reference. By moving the joystick right and left set the reference points for the drive. Use **SPEED** knob to determine the speed of the cart, this will allow you to decelerate before the cart reaches second point of reference. Press the joystick to accept.

Set 1st RefPoint
<- -> & press OK

Set 2nd RefPoint
<- -> & press OK

As soon as the user sets the reference points, a message on LCD appears that the drive is ready for work. After pressing OK (understood as pressing the joystick) the main menu appears on the screen.

Driver ready
press OK

5.1.3. FREE (no limits)

In case of FREE working mode, there are no limits as to the movement range. **FREE** Mode does not require setting any reference points. The driver is immediately ready to work.

**When working with the drive in FREE Mode exercise extreme caution.
Lack of reference points increases the risk of the cart hitting the side feet.
It may cause damage of the equipment.**

5.2. Main menu

As soon as the startup parameters are determined the controller enters a main menu with working programs and additional CONFIG menu. Navigate by moving joystick up and down. Sign "❖ ❖" indicates selected choice. Press the joystick to enter selected program. Main menu features four entries: „VIDEO“, „ANIMATION“, „TIMELAPSE“ and „CONFIG“.

5.2.1. Menu CONFIG

After entering [Info] there will be information about the voltage: V_{in} , and range of motion for the cart determined during initial calibration: L.

ANIMATION
» CONFIG «

CONFIG menu has five entries "[Info]", "Power", "Backlight", "[Calibration]" and "<Back>". The list boxes in square brackets [] indicate functions generating own screen. In order to activate them, press the joystick. At the end of each submenu there is "<Back>". Pressing the joystick in this field results in returning to the main menu. The remaining fields of the submenu are the parameters, next is the value of the parameter. To change the value move the joystick right or left.

Power - driving motor power: In case of X-GEAR it is 100% with not change possibility.

Back Light - adjusts the brightness of the LCD. By moving the joystick left or right you can set the brightness within the range of: 10-100%

[Calibration] - driving motor automatic calibration described in point 5.2.1.1 of the manual

<Back> - return to main menu

UWAGA!

If the backlight of the LCD screen starts flashing and there will be an orange flashing light under FAULT marking on the right socket of the driving motor, the user is informed about existing error. In such situation, immediately enter CONFIG menu → [Info]. Information about the error should appear in the upper right corner of the screen.



„U“: means that the battery voltage is too low. Replace the battery immediately in order to avoid to a sudden stop of the drive, which may result in damage to the equipment.

„t“: (Thermal Warning) indicates temperature warning. Turn off the drive immediately so as not to overheat the driving motor.

„T“: (Thermal Shutdown) indicates emergency drive shutdown due to overheating. You should immediately turn off the drive and wait until FAULT light switches off.

Vin=9.8V U
L 1276.1mm

5.2.1.1. Driving motor automatic calibration

Please note that automatic calibration is only possible when working with the slider. After selecting [Calibration] from „CONFIG“ menu a message appears on LCD:

CALIBRATION
<- or -> to run

CALIBRATION
in progress

Use the joystick to determine the direction of the movement so that the drive can automatically set the reference points.

CALIBRATION
L 1276.1mm

After the automatic calibration is performed there will be a message on the screen displaying the length of motion range for the cart for your HSK series slider. After the power is turned off the information is stored in the controller so there is no need to repeat the procedure until you mount the drive on a slider of a different length.

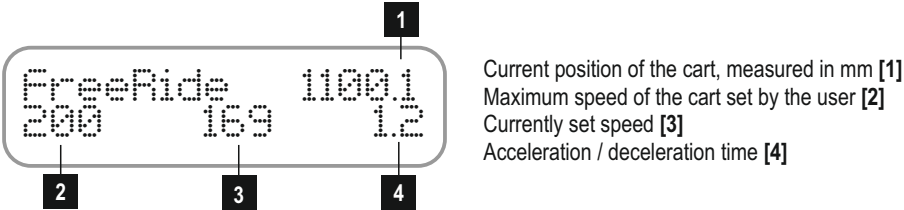
5.2.2. VIDEO

As you enter VIDEO program, a submenu will appear on the screen with different operating modes: [Free Ride], [Recording], [Playback], [VideoLoop], <Back>.

»VIDEO«
TIMELAPSE

5.2.2.1. Free Ride

Free Ride mode allows the user to control the speed of the cart using joystick and adjusting knobs. **SPEED** knob sets the maximum speed desired by the user. **DAMPING** knob is used to determine the time at which the drive reaches the desired speed or stops, what allows to achieve very smooth acceleration and deceleration of the cart. By moving the joystick right or left you can control the level of acceleration/deceleration of the cart. Pressing the joystick causes the driving motor to stop immediately and the controller returns to **VIDEO** menu.



When you work in Free Ride mode you can change **SPEED** and **DAMPING** parameters at any time during the movement. **SPEED** knob allows to set the speed value within the range of 2 -200mm/s. **DAMPING** knob allows to set the acceleration/deceleration time within the range from 0.1s to 10s. Sample screen presented above informs that the maximum speed of the cart is set on 200mm /s [2] , the currently set speed of the cart is 169mm/s [3]. The value is 1.2 [4] , means that the maximum speed will be achieved after 1.2 seconds.

Please note that depending on the chosen method of calibration the current position of the cart is measured and presented on the screen in a different way. The table below illustrates and explains the messages on the controller. The table refers to all modes and programs unless it is indicated otherwise in the manual.

Table showing the positioning of the cart for different calibration methods.

| | |
|--------------------------|---|
| <p>AUTO / MAN</p> | <p>Selecting AUTO or MAN for a calibration method, please note that the position of "0" means the left extreme point of reference. The value grows as the cart moves closer to the right extreme point of reference. The direction of movement is indicated with currently set speed value. If the currently set speed is in the opposite direction it is marked with the sign "-".</p> |
| <p>FREE Mode</p> | <p>Selecting FREE Mode the user does not determine any reference points, therefore the position at which the cart stands at that moment is marked as "0" (starting point). From that starting point, any position to the left is determined as a negative number whereas any position to the right, as a positive number. The direction of movement is indicated with currently set speed value. If the currently set speed is in the opposite direction it is marked with the sign "-".</p> |

5.2.2.2. Recording

Recording mode is designed to record the movements of cart in order to play it back later in **Playback** mode. Movement control (SPEED and DAMPING) is exactly the same as in **Free Ride** mode, so the user can change SPEED and DAMPING parameters at any time during the movement. In order to finish the recording and return to the menu press the joystick. The controller can store 59 seconds of the recording. Recorded movement is stored in the controller until the power supply is switched off.



- 1 Current position of the cart, measured in mm [1]
- Maximum speed of the cart set by the user [2]
- Currently set speed [3]
- Acceleration / deceleration time [4]



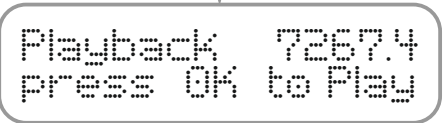
If length of the recorded movement exceeds 59 seconds, a message on the screen will appear informing the user that the controller memory is full. To stop the recording before the end of 59 seconds, press the joystick. In order to play back the recorded movement, return to the main menu and enter Playback mode.

5.2.2.3. Playback

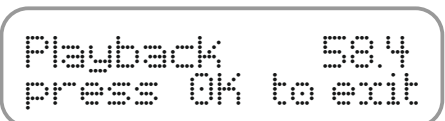
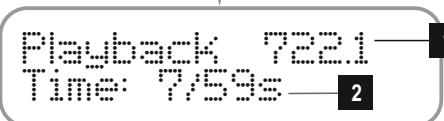
Playback mode plays back movements of the cart saved in Recording mode. Once you enter Playback mode the screen displays information about the length of the recording or the lack of it.



When you select [Playback] there will be a message displayed on the screen: "Go Home?". The controller requires the user decision whether the cart should return to the position where the recording of movement started (→ Y) or whether to start playing back the movement from the current position of the cart (N ←). Select the option by moving the joystick in the appropriate direction. You can return to **VIDEO** menu at any time by pressing the joystick.

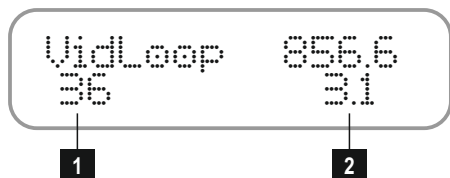


The controller displays information about the current position of the cart [1] and the current/ overall time of the recording [2]. As the recorded movement stops press the joystick to return to **VIDEO** menu.



5.2.2.4. VideoLoop

During VideoLoop mode the cart moves from one reference point to the other without stop. It automatically turns back and starts moving in the opposite direction once it reaches the end of the movement range. There is no need for the user to determine the direction of the movement. The user can change **SPEED** and **DAMPING** parameters at any time during the movement. **SPEED** knob allows to set the speed value of the cart [1]. **DAMPING** knob allows to set the acceleration/deceleration time [2]. Pressing the joystick causes the driving motor to stop immediately and the controller returns to VIDEO menu.



In **VideoLoop** mode there is no "—" sign when the cart moves in the opposite direction.

Currently set speed of the cart [1]
Acceleration/deceleration time [2]

If you selected **FREE** Mode when setting startup parameters it is important to remember that the drive has no reference points set. Consequently, it will move only in one direction and will not turn back. Use **SPEED** knob to adjust the speed of the cart paying special attention so it does not hit side feet of the slider.

5.2.3. TIMELAPSE

TIMELAPSE program is designed for interval shots synchronized with the movement of the cart (Motion Timelapse). Shutter release cable connected to the socket on driving motor enables to synchronize the drive with the camera. After entering **TIMELAPSE** program the user has to set the parameters below:

Mode – Continuous / SDS working mode

Direction – cart movement direction: left/right

Interval – time at which the drive takes a shot (1-600s)

Expos. – duration time of the trigger signal (from 0.1 to 99.9 s)

Shots – number of photos to take during the track (from 10 to 30 thousand). Time of the track is calculated automatically by the controller. It can be determined from the formula: Interval x Shots

[Start] – **TIMELAPSE** program starts

<Back> – controller returns to main menu

In **Continuous** mode, the cart moves smoothly with a constant speed. In this case, there is no need to use the cable release attached to the driving motor (especially for short exposure times). The release time can be successfully set on the camera, or in the cable release with the interval function.

In **SDS mode (Shot Drive Shot)** the cart moves in steps between the points where you want to take photos. The trigger signal, with a preset duration time (Expos.) is given to the next point before the cart moves. Shutter release cable connected to the socket on driving motor enables to synchronize the drive with the camera. The distance that the drive covers during the track is calculated from the place where the cart is currently located, to the end of the range of movement in a set point direction (Direction).

Please note that it is important to select a proper direction of the movement in **TIMELAPSE** program.

If you choose movement direction as left and the cart will be located in the left reference point "0", the device will encounter resistance as it is the end of its movement range. Consequently, the drive will not move.

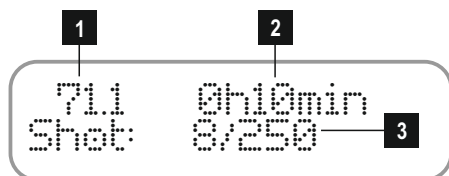
If specified startup parameters were: **AUTO** or **MAN** the controller will calculate automatically length of step for **SDS** mode and speed for **Continuous** mode. However, in **FREE mode**, due to the fact that no reference points were defined, after setting all parameters there would be an additional message on the controller screen asking the user to manually determine the length of step: 1 – 999mm.

Set Step:
< 10 >mm

PLEASE NOTE: The controller will set the maximum length of step for the drive depending on the time that is has for the movement (it is calculated from the formula: Interval-Exposure).

In case of **Continuous** mode, once you start **TIMELAPSE** mode (by selecting **[Start]**), use **SPEED** knob to set the speed for the cart: 0.1 to 10 mm / s.

The sample screen presented below informs about the position of the cart on the slider rail **[1]**. There are 10 min left until the end of the track **[2]**. The drive has already taken eight photos out of two hundred and fifty photos set by the user **[3]**. The user can stop the program at any time by pressing the joystick for 2 seconds. When the drive has taken all the photos and stops the program there will be a message on the screen: **Timelaps end OK to exit**. Press the joystick to return to the main menu.



Current position of the cart **[1]**
Time remaining to the end of the track **[2]**
Number of currently taken shots / number of shots to capture **[3]**

5.2.4. ANIMATION

ANIMATION allows to program track of the cart during which the drive take series of photos (the drive will trigger the shutter release itself through a cable connected to the camera). After entering **ANIMATION** program set the individual parameters:

Direction – direction in which the cart moves: right/ left

HomePos – home position (measured in mm). Position determined by the user from which the drive should start its work. Home position can be determined in any place on the rail (within the range of calibration)

Step – length of step (measured in mm)

Steps – number of steps. Controller calculates the maximum amount of steps basing on home position (**HomePos**) and selected direction of movement.

Shots – number of shots to take after the cart stops

Delay – time of the delay. Time after the cart stops before the drive triggers the shutter (0-9s)

[Start] – **ANIMATION** program starts

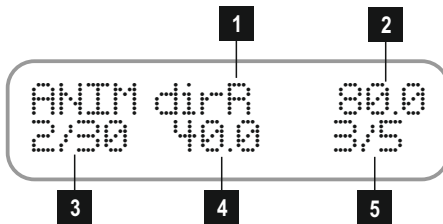
<Back> – controller returns to main menu

When you select **[Start]** in **ANIMATION** program there will be a message displayed on the screen: **"Go Home?"**. The controller requires the user decision whether the cart should start the movement from determined **HomePos** (→ Y) or whether to start the movement from the current position of the cart (N ←). Select the option by moving the joystick in the appropriate direction. **DirF** on the screen indicates the selected direction of the movement, in that particular example: right. You can return to the main menu at any time by pressing the joystick.


```
ANIM dir-R
Go Home? N<- ->Y
```

Please note that it is important to select a proper direction of the movement in ANIMATION program. If you choose movement direction as left and the cart will be located in the left reference point "0", the device will encounter resistance as it is the end of its movement range. Consequently, the drive will not move.

After the user determines the desired starting position, information about current parameters will appear on the LCD. In order to start, move the joystick in a direction you selected earlier. After the first step, move the joystick again to initiate another steps. The user can freely move a step forward or backward (by moving the joystick right or left) or skip a few steps forward or backward (by holding the joystick longer in a selected direction).



Selected movement direction [1]
 Current position of the cart [2]
 Current step/ number of programed steps [3]
 Length of step [4]
 Number of shots already taken/
 number of all shots to take [5]

Sample screen presented above informs that the user selected right as movement direction [1]. If the user chose left, there would be: dir-L on the screen. Current position of the cart is 80mm [2] from the left reference point in AUTO or MAN mode, or starting point in **FREE Mode**. Length of step set by the user is 40mm [4]. The drive currently performs second step out of thirty steps set [3]. The drive has already taken three shots out of five shots set [5]. The user can stop the program at any time by pressing the joystick. When the drive has taken all the photos and stops the program there will be a message on the screen with the current position of the cart. Press the joystick to return to the main menu.

```
ANIM dir-R 327.0
press OK. to exit
```

6. Maintenance and operation

Maintenance of Slidekamera X-MOTOR drive reduces to keeping the drive clean. Use professional maintenance products for this type of equipment, such as Dry Lube with Teflon or antistatic cloth. Elements of the drive do not require any lubrication.

**Any changes in design and repairs are made only and exclusively by the manufacturer.
Failure to comply with the recommended guidelines outlined in this manual
will result in loss of warranty.**

7. Transport

Slidekamera X-MOTOR drive must be transported in a transport box that provides a proper protection of the equipment against any damage. The manufacturer recommends using Slidekamera cover with foam insert for X-SLIDER. Slidekamera transport covers are designed for comfortable and secure transport of your photo and video equipment.

8. Gwarancja

All Slidekamera products are covered manufacturer's warranty for a period of 12 months from the date of sale. Warranty covers any design faults or of the material of the product which resulted in the product malfunctioning. The 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 and 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. You can download the complaint from: **www.slidekamera.pl / 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

9. Shutter release cables for Slidekamera X-MOTOR drive

| Type: | Supported cameras |
|-------------|---|
| WS-1 | Canon: EOS 10D, EOS 1D, EOS 1D C, EOS 1D mk II, EOS 1D mk II N, EOS 1D mk III, EOS 1D mk IV, EOS 1D X, EOS 1Ds, EOS 1Ds mk2, EOS 1Ds mk3, EOS 20D, EOS 20Da, EOS 30D, EOS 40D, EOS 50D, EOS 5D, EOS 5D mk II, EOS 5D mk III, EOS 6D, EOS 7D, EOS D30, EOS D60 Kodak: DSC-530 (i inne) |
| WS-2 | Canon: Digital Rebel, EOS 1000D, EOS 100D, EOS 1100D, EOS 300D, EOS 350D, EOS 400D, EOS 450D, EOS 500D, EOS 550D, EOS 600D, EOS 60D, EOS 60Da, EOS 650D, EOS 700D, EOS 70D, Kiss Digital, Kiss F Digital, Kiss N, Kiss X2, Kiss X3, Kiss X4, Kiss X5, Kiss X50, Kiss X6, PowerShot G1 X, PowerShot G10, PowerShot G11, PowerShot G12, PowerShot G15, PowerShot SX50 HS, Rebel SL1, Rebel T1i, Rebel T2i, Rebel T3, Rebel T3i, Rebel T4i, Rebel T5i, Rebel XS, Rebel XSi, Rebel XT, Rebel Xti, Contax: 645, N, N Digital, N1, NX FujiFilm: X-E1 Hasselblad: H, H3D, H4D-200MS, H4D-31, H4D-40, H4D-50, H4D-50MS, H4D-60, Pentax: 645D, ist D, ist DL, ist DL2, ist DS, ist DS2, K-30, K-5, K-5 II, K-5 IIs, K-50, K-500, K-7, K-m, K10 Grand Prix, K100D, K100D Super, K10D, K1 10D, K200D, K20D, MZ-6, MZ-L, ZX-L, Samsung: GX-1L, GX-1S, GX-20, NX-10, NX-100, NX-11, NX-5 Sigma: SD1, SD1 Merrill, SD15 (i inne) |
| WS-3 | FujiFilm: S3 Pro, S5 Pro Kodak: DCS Pro 14n Nikon: D1, D1H, D1X, D2, D200, D2H, D2HS, D2X, D2XS, D3, D300, D300S, D3s, D3X, D4, D700, D800, D800 E, D1, D100(with MB-D100 battery grip), D1H, D1X, D2, D200, D2H, D2HS, D2X, D2XS, D3, D300, D300S, D3s, D3X, D4, D4s, D700, D800, D800 E i D810 (i inne) |
| WS-4 | Nikon: D3100, D3200, D5000, D5100, D5200, D60, D7000, D7100, D90, D750, (i inne) |
| WS-5 | Nikon: D70S, Nikon D80 (i inne) |
| WS-6 | Leica: DigiLux 2, DigiLux 3, V Lux 1, V Lux 2, V Lux 3 Panasonic: FT2, FZ100, FZ15, FZ150, FZ20, FZ200, FZ30, FZ50, G1, G10, G2, G3, G5, GF1, GH1, GH2, GH3, GX1, L1, L10, LC1, TS2, GH4 (i inne) |
| WS-7 | Hassleblad HV Minolta DiIMAGE: 5, 7, 7Hi, 7i, A1, A2, A200 Minolta Dynax: 3, 4, 5000, 500si, 505si, 5D, 7, 7000, 7D, 9, 9000, Sweets Minolta Maxxum: 3, 4, 5000, 500si, 505si, 5D, 600si, 7, 7000, 700si, 7D, 807si, 9, 9000 Sony: A100, A200, A300, A33, A35, A350, A37, A400, A450, A500, A55, A550, A550V, A560, A57, A580, A65, A65V, A700, A77, A77V, A850, A900, A99 |
| WS-8 | Olympus: SP-590 SP-570 SP-550 E-520 E-P3 |
| WS-9 | Sony Alpha A7, A7R, A7S, A58, A3000, A5000, A5100, A6000 Sony RX10, RX100 II, RX100 III, HX300, HX50V, HX60V, NEX-3NL |

Photo cameras with no shutter release socket: **Nikon** D3000

10. Accessories for Slidekamera X-MOTOR drive

Power supply:

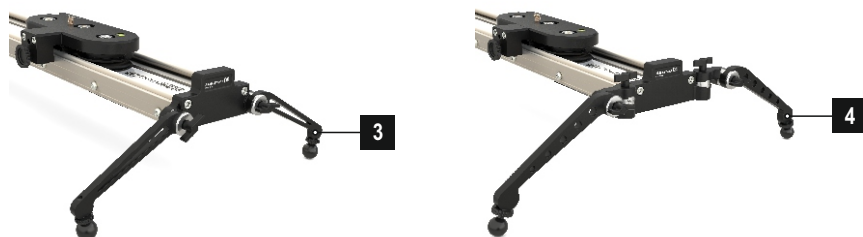
Slidekamera AF-7 power pack [1] with AF-7-K1 power lead [2]



Slide Kamera HSK series slider:

HSK-5/ HSK-6 slider STANDARD [3]

HSK-5 / HSK-6 slider PRO [4]



Depending on the model sliders are equipped with a different type of side feet: STANDARD or PRO.

Available lengths of HSK-5 slider: 1000, 1500, 2000mm.

Transport:

Slidekamera cover with foam insert for X-SLIDER 1300-2300mm [5]

PSK transport cover [6]



Additional accessories:

Slidekamera Magic Arm 8" [1]
Slidekamera Magic Arm 11" [2]



Shutter release cables:

- WS-1 [1]
- WS-2 [2]
- WS-3 [3]
- WS-4 [4]
- WS-5 [5]
- WS-6 [6]
- WS-7 [7]
- WS-8 [8]
- WS-9 [9]



