SECOND SHOOTER™ USER GUIDE

by *Kessler*

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THE CONTROLLER

a) Menu Button
Navigate backwards to the previous menu with this button.

b) Directional Arrows
The directional arrows can be used to navigate through the menu and also control the Left/Right movement of the Slider motor or the Up/Down movement of the tilt axis. By pressing the Shift Button + Left/Right arrow, this will control the Pan Axis.
Press and hold (for 3 seconds) Left/Right or Up/Down to swap move orientations.

c) Enter Button
Use this button to select options through the menu.

d) Shift Button
This button in conjunction with other buttons allows for secondary controls.
Shift + Left/Right arrow controls the Pan axis
Shift + Enter turns the LED Light on/off
Shift toggles backlight on/off during time lapse move

e) USB Port
Connect the Controller to a computer via the supplied USB cable to update firmware.

f) Expansion Port
Connect peripherals like joystick controllers, jog wheels, etc. (for future release).

g) Wire Clip
Connect the power cord through this clip to prevent unwanted disconnection.

h) Power Port
Connect the supplied AC wall power cord or a 12V DC cable for battery power.
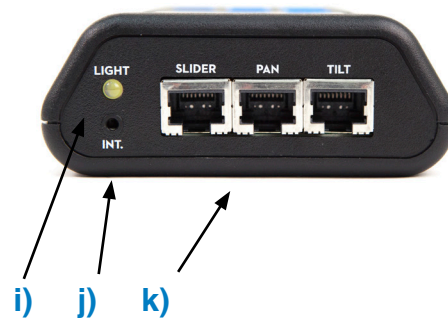
i) LED Light
Press Shift + Enter to turn off/on.

j) Intervalometer Port
Connect a camera via Camera Control Cable to this port for intervalometer control.

k) Cat5 Ports (Slider, Pan, Tilt)
Connect each axis to corresponding port via provided CAT5 cable.

GETTING STARTED: HARDWARE SET-UP

Slider Motor
Warning: Do NOT use any analog controllers such as Oracle or Basic Controllers with
Second Shooter Motors. Damage may occur.

1. Choose your desired motor speed by arranging the proper combination of motor pulleys. The metal pin on the Slider motor is to be used for storing the extra pulley.
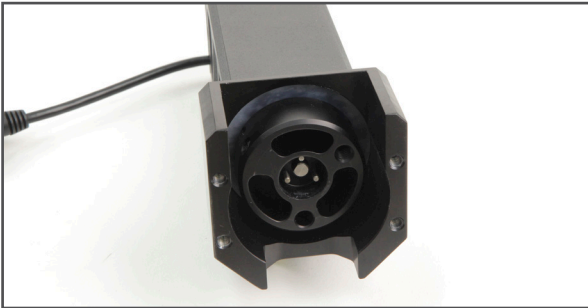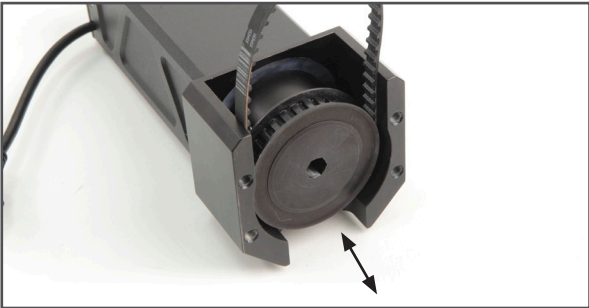
Large Pulley

Small Pulley

Pulley Storage Pin

2. To remove the pulley installed on the Slider motor, simply pull outward away from the motor.


3. To install the pulley, simply push the pulley onto the motor shaft while aligning the holes. Be sure to hold the belt in place while installing.

4. Install the Small Pulley onto the Slider Motor.

The pre-installed belt (labled 110XL) on the Slider Motor is to be used in most applications. However, if using the Small Pulley in conjunction with the Shuttle Pod, Shuttle Pod Mini or Pocket Dolly v2.0 follow steps 5-6.

5. Place the smaller belt (labled 100XL) around the Small Pulley.
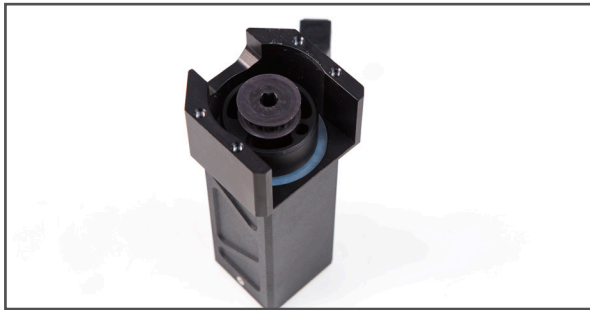
6. Mount the Slider Motor onto the Motor Mount utilizing the threaded holes nearest to the pulley on the back side of the motor.
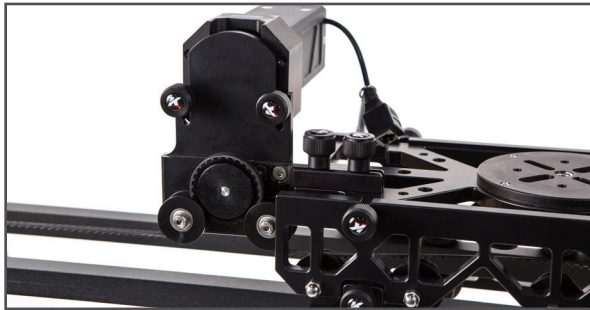
7. Choose between the following pulley combinations: Fast, Normal and Slow.

Fast (Low Torque)
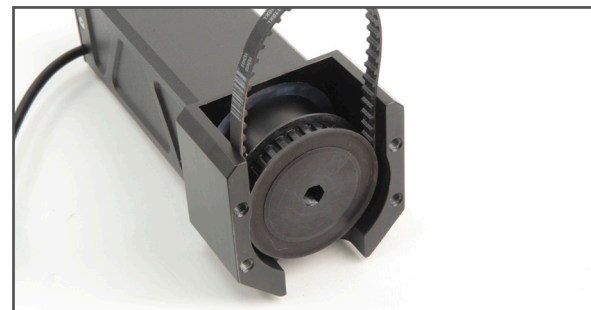
This combination is only compatible with CineSlider, Philip Bloom and Stealth sliders.

Normal
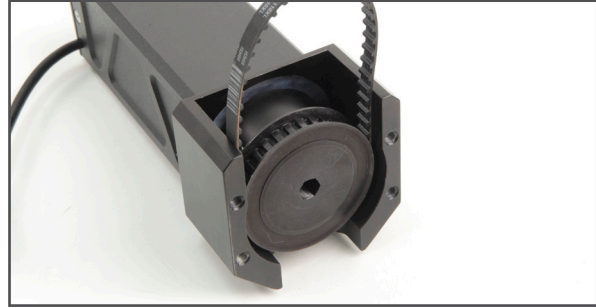
This combination requires the pulley from the Motor Mount Kit to be used on the slider.

Slow (High Torque)
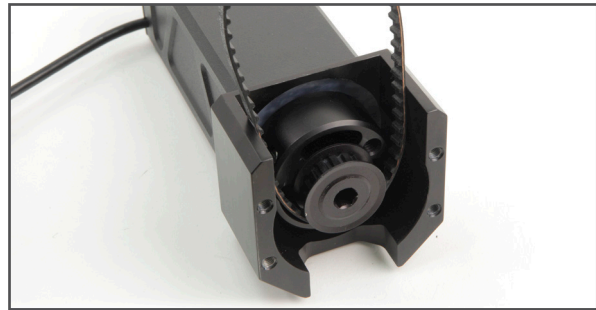
8. Mount Slider motor to slider using a Kessler Motor Mount.

9. Connect CAT5 cable from Slider motor to the SLIDER port on the Controller.

Pan & Tilt Axis

1. Mount your Pan & Tilt head utilizing the 3/8"-16 and ¼" – 20 holes on the underside of the Head. *(Recommended Mounting: Kessler Kwik Release + 3/8"-16 Kwik Short Plate)*

2. Connect CAT5 cable from the side of the Pan base to the PAN port on the controller.

3. Connect CAT5 cable from the Tilt axis to the TILT port on the controller.

4. Plug in power supply.

Intervalometer Connect

1. For time lapse or stop motion, connect a Camera Control Cable to the INT. port on the controller to the camera.

POWERING UP

Operating Mode

- **STANDALONE** *Choose this mode if only using one controller*
- **MASTER/SLAVE** *Choose this mode if using two controllers*

Standalone

- **PROGRAM MOVE**
- **MANUAL MOVE**
- **TURNTABLE**
- **SETTINGS**

Master/Slave

1. Select either **MASTER (1)** or **SLAVE (2)** for each controller. One controller will need to be selected as Master and other selected as Slave.

Settings

- **OPERATING MODE** *Select Standalone or Master/Slave mode*
- **CONTROL OPTIONS** *Inverts Controls depending on user preference*
- **FIRMWARE UPDATE** *See "Updating Firmware" section*
- **LASH COMPENSATION** *See "Updating Firmware" section*

SETTING UP A MOVE

Manual Move

Standalone Mode

1. Select **MANUAL MOVE** to do a live move without programming.

2. The default speed of Manual Move mode is 50%. This selection will be blinking. If you'd like to adjust that speed up or down you can do so using the Up or Down arrow. Once you've adjusted that to the speed you like, press Enter.

3. The screen will now display **RUNNING** which allows you to manually move each axis by using the directional arrows.

By pressing Enter while moving the slider axis, you can lock the speed for motor movement without holding the button down. Press any button to stop.

SETTING UP A MOVE

Master/Slave Mode

Follow steps 1 and 2 above then proceed below.

(MASTER ACTIVE) will be shown at the bottom of the screen. When selected, the Master controller will control the axes connected to the Master controller and the Slave controller will control the axes connected to the Slave controller.

Double-tap the SHIFT button to change to **(SLAVE ACTIVE).** When selected, the Master controller will control the axes connected to the Slave controller. The Slave controller can also control the same axes.

Turntable

1. Select **TURNTABLE** for continuous panning.

   The speed can be adjusted by pressing the Up or Down arrow at any time.

   Press the Left or Right arrow to start/stop panning.

Program Move

Standalone Mode

1. Select **PROGRAM MOVE**

2. Choose **EDIT MOVE**, **NEW MOVE** or **SKIP**

   *If a move has not yet been programmed, skip to *New Move* below.

SETTING UP A MOVE

Master/Slave Mode

Skip to **Edit Move, New Move** *or Skip if not in Master/Slave Mode*

Follow steps 1 and 2 above then proceed below.

(MASTER ACTIVE) will be shown at the bottom of the screen. When selected, the Master controller will control the axes connected to the Master controller and the Slave controller will control the axes connected to the Slave controller.

Double-tap the SHIFT button to change to **(SLAVE ACTIVE).** When selected, the Master controller will control the axes connected to the Slave controller. The Slave controller can also control the same axes.

Edit Move

This will allow you to edit the last move that was programmed within the controller.

* **1ST KEY FRAME** - Edit the first key frame position
* **2ND KEY FRAME** - Edit the second key frame position

If a 3 key frame move is programmed the following options will also appear:

* **3RD KEY FRAME** - Edit the third key frame position

New Move

Choose **2 KEY FRAMES** or **3 KEY FRAMES**

* **2 KEY FRAMES**
The 1st key frame is the beginning position and the 2nd key frame is the end position.

1. Position each axis in the desired beginning position and press ENTER to select **SET 1ST KEY FRAME.**

2. Position each axis in the desired end position and then press ENTER to select **SET 2ND KEY FRAME.**

By pressing Enter while moving the slider axis, you can lock the speed for motor movement without holding the button down. Press any button to stop.

SETTING UP A MOVE

- **3 KEY FRAMES**
  The 1st key frame is the begin position, the 2nd key frame can be set at a desired position between the 1st and 3rd, and the 3rd key frame is the end position.

1. Position each axis in the desired beginning position and press ENTER to select **SET 1ST KEY FRAME.**

2. Position each axis in the desired end position and then press ENTER to select **SET 2ND KEY FRAME.**

3. Position each axis in the desired end position and then press ENTER to select **SET 3RD KEY FRAME.**
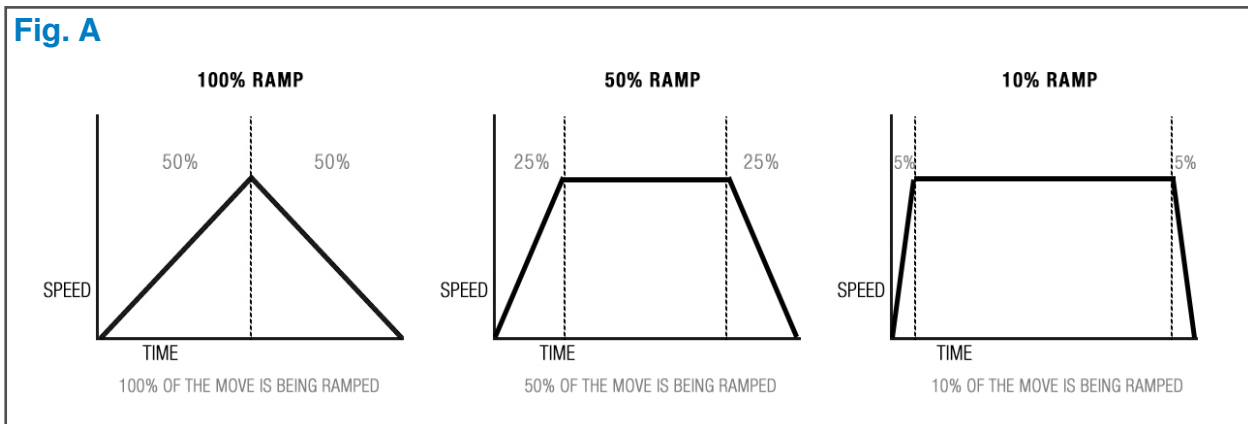
Skip

Advance to the next menu without programming a new move

Choose one of the following shooting modes:

- **LOOP/SCRUB**
- **RUN ONCE**
- **TIME LAPSE**
- **STOP MOTION**

Loop/Scrub

1. Set **TIME** and **RAMP** values by selecting with Enter and adjusting with the Up and Down arrows:

- **TIME** – *The amount of time it will take to complete entire move*

- **RAMP** – *Percentage value indicates the change in speed of the movement over the entire move. The time value to the right shows how fast/slow the system gets up to the top speed or how fast/slow the camera comes to a stop.*

Fig. A

100% RAMP	50% RAMP	10% RAMP
50% 50%	25% 25%	5% 5%
SPEED	SPEED	SPEED
TIME	TIME	TIME
100% OF THE MOVE IS BEING RAMPED	50% OF THE MOVE IS BEING RAMPED	10% OF THE MOVE IS BEING RAMPED

SETTING UP A MOVE

2. Press ENTER to select **RUN.**

- **SCRUBBING** – *Press ENTER while Looping to enter SCRUB mode. This feature will allow you to manually advance the position of the Slide, Pan & Tilt axis within the programmed move by holding the LEFT or RIGHT arrow button.*

Run Once

1. Set **TIME** and **RAMP** values by selecting with Enter and adjusting with the Up and Down arrows:

- **TIME** – *The amount of time it will take to complete entire move*

- **RAMP** – *Percentage value indicates the change in speed of the movement over the entire move. The time value to the right shows how fast/slow the system gets up to the top speed or how fast/slow the camera comes to a stop. [see Fig. A above]*

2. Press ENTER to select **RUN.**

Time Lapse

1. Select **SHOOT/MOVE/SHOOT** or **CONTINUOUS** mode:

- **SHOOT/MOVE/SHOOT** – *Camera will only fire when not moving. That is, the camera will fire, move to next position, stop and fire.*

- **CONTINUOUS** – *Camera will move without stopping and fire throughout the duration of the move*

  *If using a 3rd party intervalometer, select Continuous and set the overall run time by increasing or decreasing the Photos value. The exposure, delay and photo values will not be used.

2. Set values for **EXPOSURE, DELAY** & **PHOTOS** by using the Up and Down arrows.

   *With the curser over the number of photos, holding Shift will show **CLIP TIME**. This is the duration of time that the time lapse will exist on a 24 fps timeline.*

3. Press the Down arrow and select **NEXT.**

4. Set the **RAMP** value by selecting with Enter and adjusting with the Up and Down arrows:

- **RAMP** – *Percentage value indicates the change in speed of the movement over the entire move. The frame value to the right shows how many images until the system gets up to the top speed or how many images until the camera comes to a stop. [see Fig. A above]*

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SETTING UP A MOVE

5. For additional (not required) time lapse settings select **ADVANCED FEATURES**

6. Set values for the following - when finished select **DONE**:

- **START DELAY** - *Adds time prior to the move*

- **PRE PHOTOS** - *Adds photos prior to the start of the move*

- **POST PHOTOS** - *Adds photos after the move ends*

7. Select **START** to begin the time-lapse.

   The motors will move into the start position (1st key frame) and the backlight will turn off. Press the Shift button to toggle the backlight on/off. Press the Enter button to Pause/Resume the time lapse move.

Stop Motion

1. Set values for **#PHOTOS** & **RAMP:**

- **#PHOTOS** - *Indicates the number of photographs taken during the entirety of the move*

- **RAMP** – *Percentage value indicates the change in speed of the movement over the entire move. The frame value to the right shows how many images until the system gets up to the top speed or how many images until the camera comes to a stop.*

2. Select **AUTO ADVANCE** or **MANUAL ADVANCE** by pressing Enter to toggle selections.

- **AUTO ADVANCE** - *In this mode, after the camera fires, the system will automatically advance to the next position in the movement*

- **MANUAL ADVANCE** - *After firing the photo, you will hit Left or Right to move the camera into the next/previous position in the move*

3. Select **NEXT** by pressing Enter.

4a. Select **SNAP** to trigger the camera and repeat for auto advance.

4b. Select **SNAP** to trigger the camera. Press the Left or Right arrow to move the camera into the next/previous position for manual advance. Repeat.

CONNECTING TO KOS

1. Connect a USB cable from the Second Shooter Controller USB port to a USB port on a laptop/computer.

2. Power on the Second Shooter Controller.

3. Start the kOS application on the computer.
   (kOS is available for download at support.kesslercrane.com)

4a. kOS will prompt to install for Second Shooter or CineDrive. Select Second Shooter.

If no prompt appears, go to HELP > SUPPORT > SWITCH EDITIONS and select kOS for Second Shooter.

4b. kOS will prompt to "Purchase License" or "Continue Trial". Select Purchase License to purchase kOS Premium for Second Shooter. Select Continue Trial to try kOS Premium for 30 days. kOS Lite will be loaded once the trial has ended. More details are available if Purchase License is selected.

4c. To upgrade to the Premium Edition from the Lite addition, after the Trial Period has ended, go to HELP > PURCHASE KOS FOR SECOND SHOOTER PREMIUM.

UPDATING FIRMWARE

1. Download and extract the attached zip file. There are 2 files within the zip. The one you will need is **2NDSHOOTER.IMG.**

2. Plug in the power cord for the Second Shooter controller.

3. Plug the micro-USB to USB cable from the USB port on the computer into the micro-USB port on the controller.

4. Once system powers up, navigate to **SETTINGS.**

5. In **SETTINGS**, find and select **FIRMWARE UPDATE.**

   The Controller will display **FIRMWARE UPDATE READY…**

6. The Controller will show up as a USB device on your computer titled 2nd Shooter.

7. Go to the location where you extracted **2NDSHOOTER.IMG.**

8. Click and drag **2NDSHOOTER.IMG** to the USB device titled 2nd Shooter and release.

9. The system is now updating. The Controller's screen will detail the update process.

10. Select **REBOOT** to restart the controller.

    MAC Users:
    Once 'Reboot' is selected during the update firmware process, a 'Disk Not Ejected Properly' message appears on the Mac OS X desktop. Users may simply close this message without issue.

11. As the system restarts, confirm the splash screen shows the latest firmware version across the bottom.

TERM REFERENCE GUIDE

Exposure – *The length of time the camera's shutter is open when taking a photograph*

Delay – *Amount of time between photos*

Ramp – *Rate of Change of acceleration/deceleration*