Kessler
ORACLE™
Control System

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Thank you for choosing Kessler Crane™

Your complete satisfaction is our priority, so please let us know if there is

anything we can do for you.

You can find additional instructional documents on our website on the

instructions page (www.kessleru.com)

If you have questions about anything, please do not hesitate to contact us.

We will be happy to assist you.

Thank you again,

Kessler Crane™

Note:
Due to the nature of a firmware based product such as the ORACLE, the contents of this manual may not fully represent the latest version of the firmware. Please check online at KesslerCrane.com for the latest version. The version of this manual is 2.06.2 SL and is relevant to the 2.06.2 SL version firmware on the ORACLE™.

Included Items:

- ORACLE™ Controller
- 100v-240v input (50-60Hz, 1.4A) AC Power Supply w/ North America Wall Plug.
- 25ft CAT5 Cable

Optional Accessories:

- elektraDRIVE 12v DC Power Adapter
- elektraDRIVE 12v Battery
- 12v Y Adapter
- Australia / New Zealand Region Wall Cord
- F.I.G.S. / Continental Europe Region Wall Cord

Supported Features & Specifications:

- Backlit LCD display with menu and setting values.
- Fully adjustable controls for Max Speed, Dampening, & Dead Band.
- Movement Recording / Memory Function with three memory banks.
- Time Lapse control
- Premium Multi-Function Joystick
- Joystick orientation can be easily set in the menu.
- Cabling is CAT5 / CAT6 cable with RJ45 connectors (standard network cable).
- Powered by standard AC power supply with wall plug, or optional 12v DC adapter and battery pack.
- SmartLapse™ advanced time lapse recording option
- Rear Mount - Rotatable (Clamp from 0.5"-1.25")

Operation Power Range

- 11.9 VDC to 15 VDC
- 4.16 Amps (minimum)

The ORACLE™ controller can only control either the Revolution Head or an elektraDRIVE motor at one time. To perform 3-axis movements with both the Revolution Head and a elektraDRIVE motor for a slider at the same time, you will need __two__ controllers.

The ORACLE™ is Intervalometer capable. To use this function, you will need the $99.95 Camera Control Module.

Powering up and connecting your ORACLE to an elektraDRIVE motor or Revolution pan/tilt head.

The ORACLE does not have an on/off switch. To power the unit on, simply connect it to the provided power source.

Connect either an elektraDRIVE motor or Revolution head using the included CAT5 network cable. If you need a longer or shorter cable, any standard CAT5 network cable can be used in place of the provided one.

The Revolution Head requires two RJ45 plugs to be connected to the CAT5 cable coming from the ORACLE unit. A 2-way CAT5 splitter is included with the Revolution head so both motors can be connected.

This section will cover the basic functions of the ORACLE and what each button and dial controls in the system.
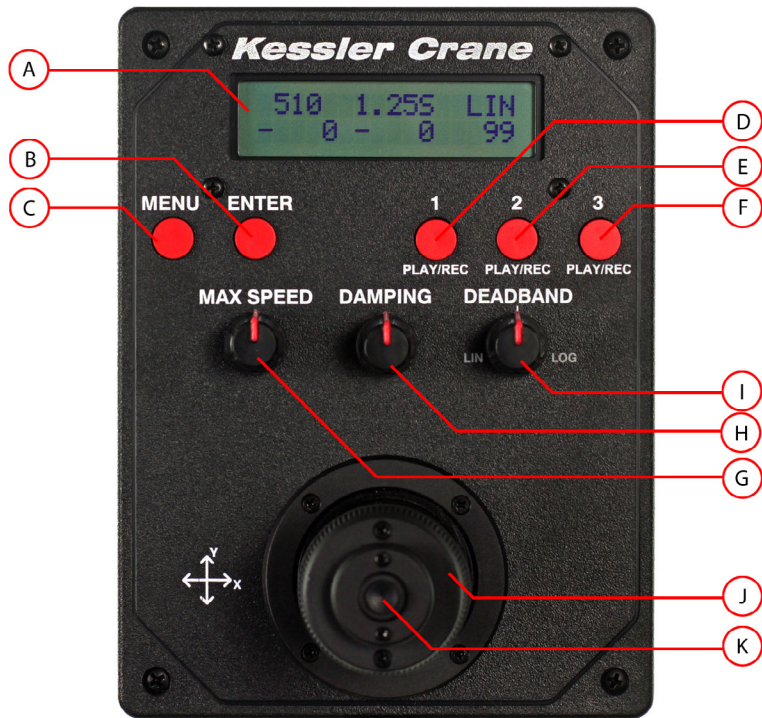
A   Backlit LCD Screen
B   MENU Button
C   ENTER Button
D   Memory Bank 1
E   Memory Bank 2
F   Memory Bank 3
G   MAX SPEED Control Dial
H   DAMPENING Control Dial
I   Deadband Control Dial
J   Joystick Button
K   Joystick

A. Backlit LCD Screen
The LCD screen displays menu options and current status of the ORACLE. Below is a sample of the home screen and values.
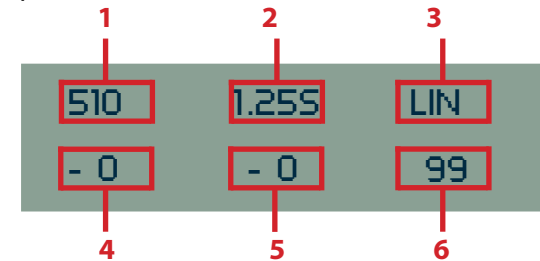
1. MAX SPEED value (28 - 1000) see G.
2. DAMPING in seconds (.05s - 2.55s) see H.
3. DEADBAND mode (LIN or LOG) see I.
4. Current Joystick Y speed value (+/-)
5. Current Joystick X speed value (+/-)
6. LIN/LOG value (0-99 in LIN mode and 99-0 in LOG mode).

To access child menus from the home screen, press the MENU button (B.) on the ORACLE.

B. MENU Button
The **MENU** button is used to call up the ORACLE menu when on the home screen. It can also be used to escape back to parent menus and cancel changes when altering settings in the ORACLE options.

C. ENTER Button
The **ENTER** button is used to save settings when making changes to the ORACLE options. Alternatively, the center **JOYSTICK BUTTON** (**J.**) can also be used in most cases.

D. E. F. Memory banks 1, 2, and 3
The ORACLE has 3 memory banks for storing and playing back camera moves. Each bank can be cleared by holding the corresponding button down for 5 seconds.

The 1, 2, AND 3 BUTTONS can also be used to select their corresponding menu options when navigating the ORACLE settings menus.

This section will cover the basic functions of the ORACLE and what each button and dial controls in the system.
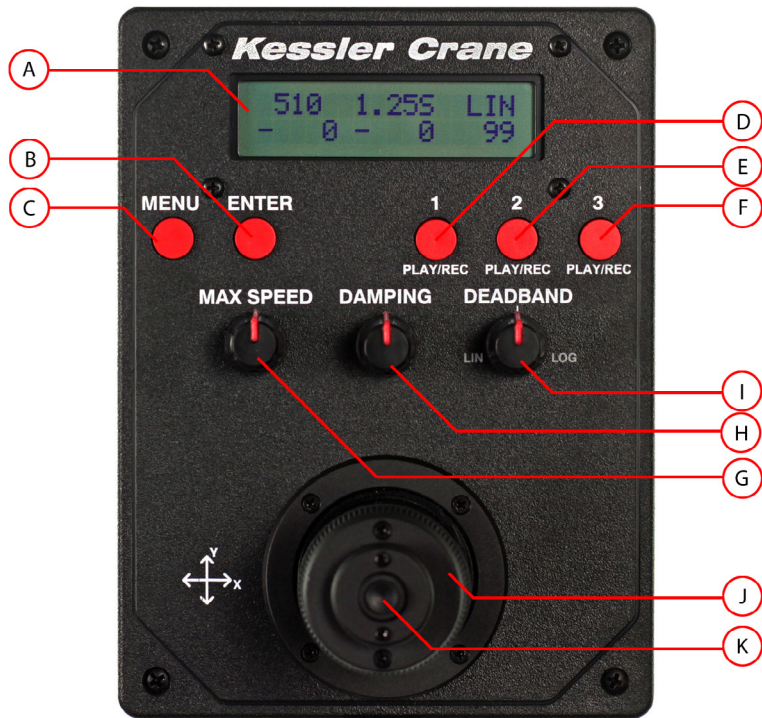
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K   Joystick

For more information on recording and playing back camera moves, reference that section in this quick start guide or in the ORACLE manual.

G. MAX SPEED control dial

This dial is used to control the maximum speed of the elektraDRIVE motors. The value is adjustable from 28 (being the slowest) to 1000 (being the fastest) and is displayed in the left column of the top row on the home screen. For the sliders, these values are arbitrary and will vary depending on the which series of motor you are using. Adjust and test as needed to achieve the speed required.

This dial can be adjusted in real-time during a camera move to ramp speed up and down. These values are also recorded if creating a recording to one of the memory banks.

H. DAMPING control dial

This dial is used to control the damping of the elektraDRIVE motors. The value is adjustable in seconds from .055s to 2.55s and is displayed in the center column of the top row on the home screen.

Damping is the amount of time the motor takes to achieve maximum speed (**G.**). This helps smooth the motion of moves.

A low value will make the motor jump to full speed quickly creating snappy moves.
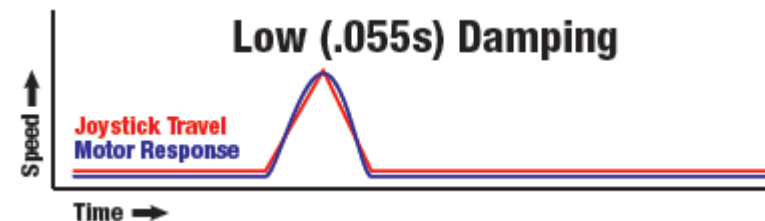
This section will cover the basic functions of the ORACLE and what each button and dial controls in the system.
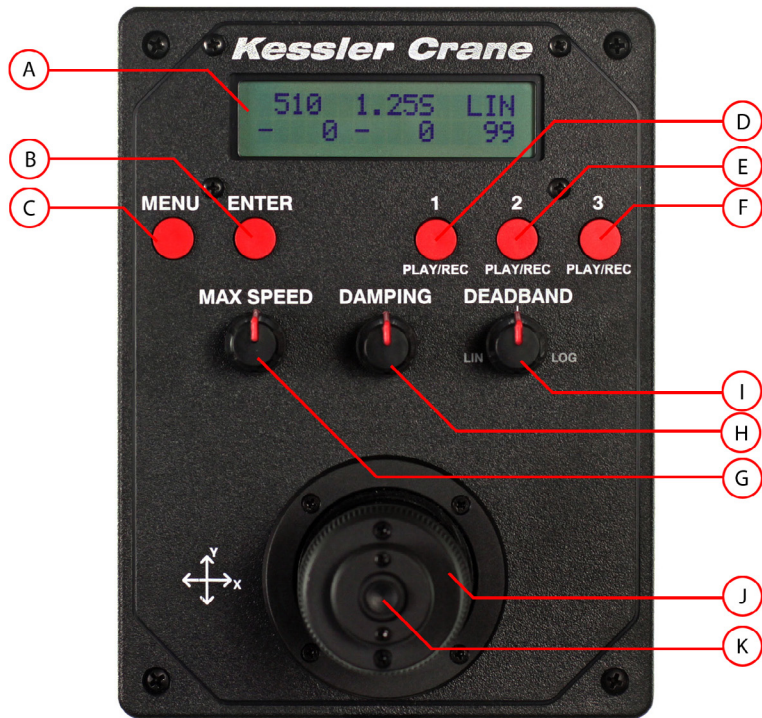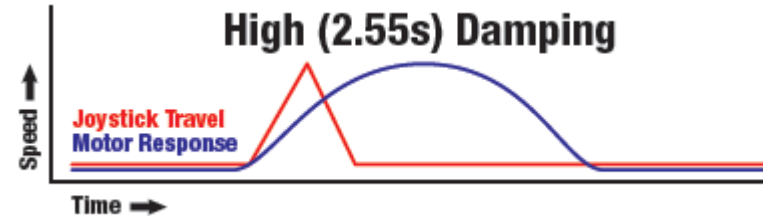

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J	Joystick Button
K	Joystick

A higher value will slowly ramp the motor up to speed and then back down when the joystick is released.

This is useful when wanting to create very smooth moves with gradual start and stop motions.

Select the time frame you want in seconds to determine how much damping is applied to the motor start up and shut down.

I. DEADBAND control dial (LIN/LOG)
The DEADBAND dial controls the sensitivity of the joystick. The values can be adjusted from $0 - 99$ in LIN (linear) mode and $99 - 0$ in LOG (logarithmic) mode.

Deadband is the circle of travel from the center of the joystick before power is sent to the motor(s).

Low **DEADBAND** setting.
Full range of joystick sensitivity.
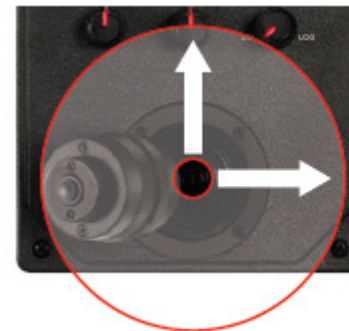
High **DEADBAND** setting.
Limited range of joystick sensitivity.

This section will cover the basic functions of the ORACLE and what each button and dial controls in the system.
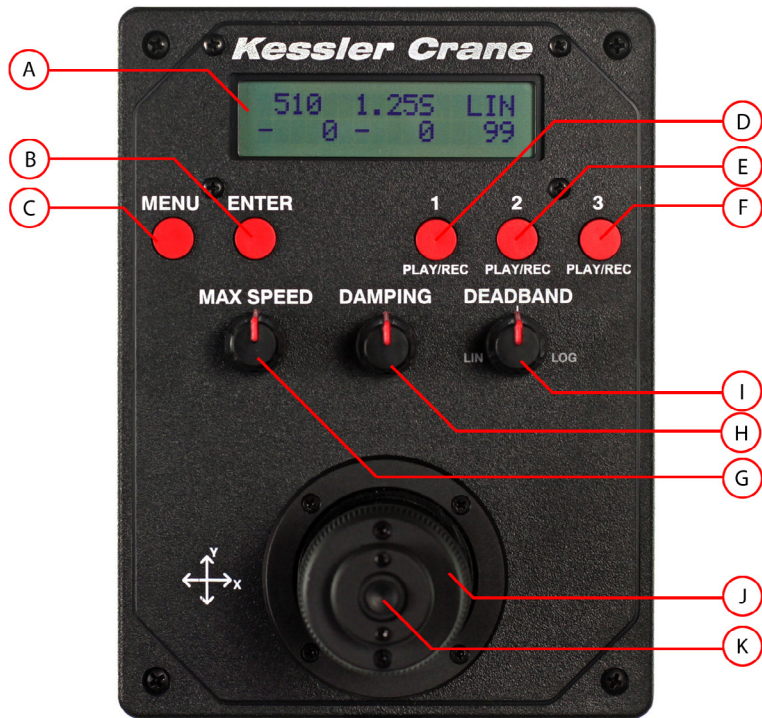
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I	Deadband Control Dial
J	Joystick Button
K	Joystick

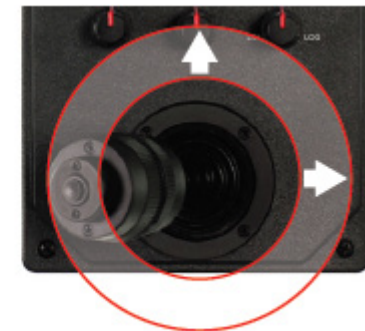In **LIN** (linear) mode, 50% travel of the joystick equates to a 50% increase in speed. By adjusting the **LIN** value, you can increase and decrease the sensitivity of the joystick. Higher numbers will make the joystick less sensitive toward the middle. Any remaining travel of the joystick will be in linear values.

In **LOG** (logarithmic) mode, the movement of the joystick has an exponential effect on the speed of the motors. In this mode, the first 50% of joystick will increase power from 0 to approximately 10% on the motor(s). The remaining 50% of joystick will increase speed from approximately 11% to full power.

This section will cover the basic functions of the ORACLE and what each button and dial controls in the system.

A   Backlit LCD Screen
B   MENU Button
C   ENTER Button
D   Memory Bank 1
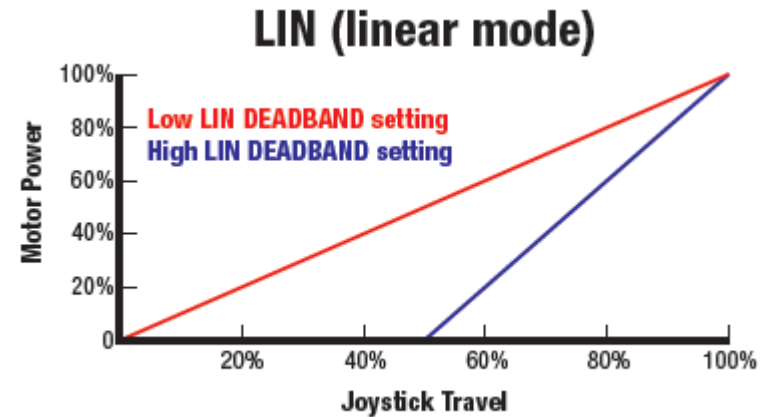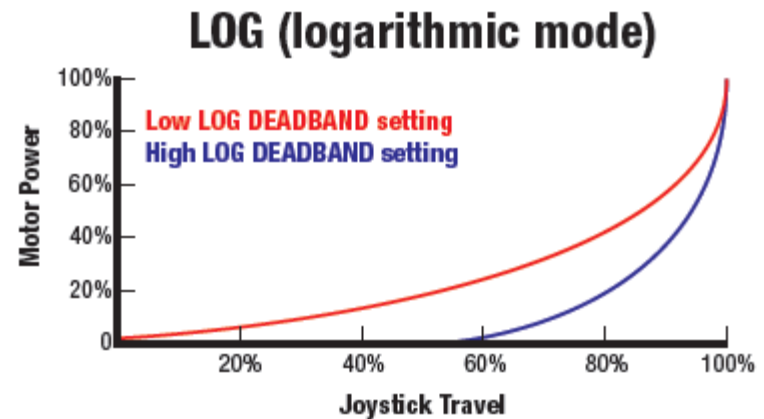E   Memory Bank 2
F   Memory Bank 3
G   MAX SPEED Control Dial
H   DAMPENING Control Dial
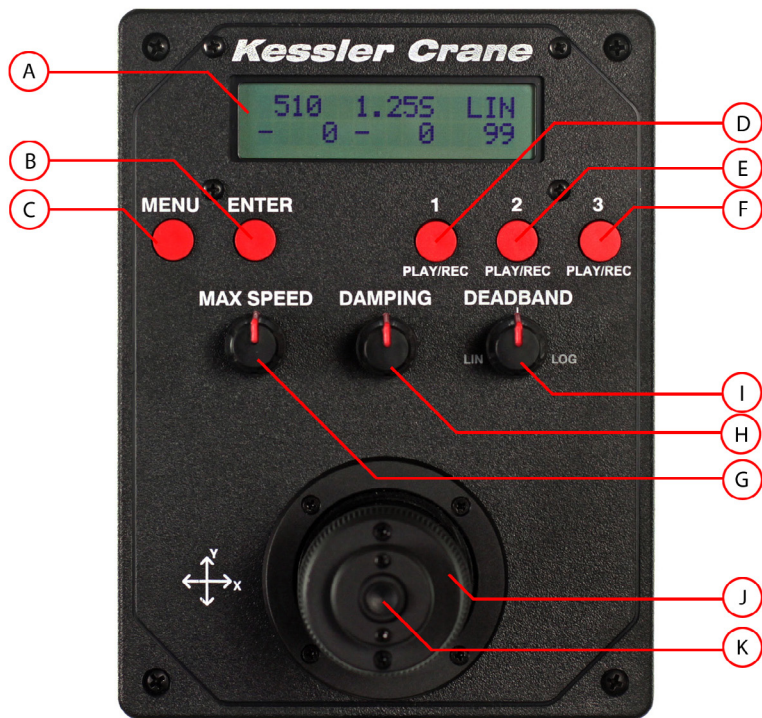I   Deadband Control Dial
J   Joystick Button
K   Joystick

Logarithmic mode is useful if fully zoomed in with your camera. It allows very precise, slow control at the center of the joystick with the ability to perform quick moves as the joystick is moved to the outer limits.

J. Joystick Button
The **JOYSTICK BUTTON** is used for making selections in the menu system of the ORACLE. It functions the same as the **ENTER** button (**C.**)

K. Joystick
The Joystick is used for moving sliders left and right (X travel of joystick) and Pan/Tilt heads (X and Y travel of joystick). It is also used for navigating the menu system of the ORACLE.

The current position values of the joystick are displayed in the first two columns of the second row on the ORACLE home screen (**A.**). The first number displays the current Y speed value while the second set of numbers displays the X speed value.
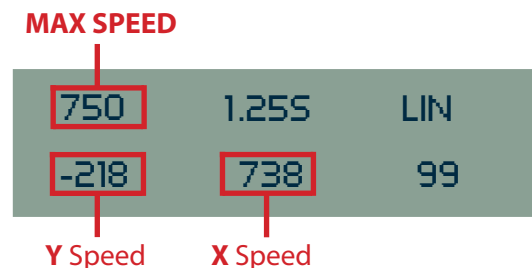
These values are dependant on the **MAX SPEED** (**G.**) setting and will vary between **28-1000** depending on what the **MAX SPEED** is currently set to.

This function allows you to control your camera through the Oracle controller. You must have the Kessler Crane Camera Control Module for this to function.

Pictures: The number of pictures that will be taken over the specified Time Lapse period

Exposure Time: The time that the shutter is open for each photo

Shutter Delay: The time that the shutter is closed between each photo that is taken

1.   Enter Camera mode by selecting Camera from the main Menu
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Camera              <

Motion Control      v
```

2.   Select Camera Setup
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Camera Setup        <

Intervmtr Start
```

Note:
You can move the joystick LEFT/RIGHT to navigate through sub-menus

4.   Change Exposure Time values by moving the joystick UP/DOWN
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Exposure Time

              1.00 S
```

5.   Change Shutter Delay values by moving the joystick UP/DOWN
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Shutter Delay

              0.50 S
```

Note:
Use 0.50 seconds or more for most applications. If you use a faster shutter delay (ex. 0.25 s), your camera may not be able to recover fast enough.

5.   Change Pictures/Run Time values by moving the joystick UP/DOWN
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Shutter Delay       720

Run Time            1 hr
```
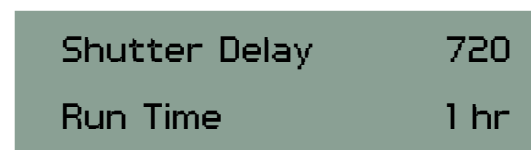
6.   Select Intervmtr Start by moving the joystick UP/DOWN
      Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Camera Setup

Intervmtr Start     <
```
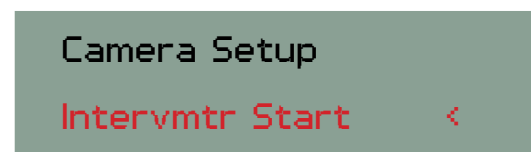
8.   Select `1:Start` or `Enter:Test` by pressing the
        corresponding button
        Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

> `1:Start`
>
> `ENTER:Test`

Note:
1:Start will cause your camera to start taking photos, but will not start
any movement.
Enter:Test will cause you camera to take 1 picture. This is helpful if you
need to take a test picture or this can be used as a manual shutter
button.

9.   The next screen will show:

Pictures Remaining

> `Pictures          938`
>
> `2.05 S       56.03 M`

Delay Time
Remaining

Overall Time
Remaining
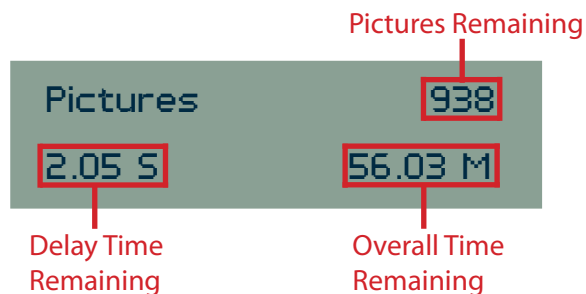
Note:
Press the Menu button at any time to exit

SLIDER/DOLLY RECORD & PLAYBACK

This section will cover recording and playing back real-time camera moves on a Kessler Crane slider/dolly unit.

1: Once in **Slider/TT** mode press the **MENU** button until you get to the main menu

2. Use the joystick to move the camera carriage to your desired start position. Note this position. For convenience you can use a piece of tape, wax pencil, or optional measuring strip.

3. Move the Joystick down and select **Motion Control**
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm

```
Camera

Motion Control      < v
```

4. Move the Joystick down and select **Live Record**.
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm

```
SmartLapse

Live Record         < v
```
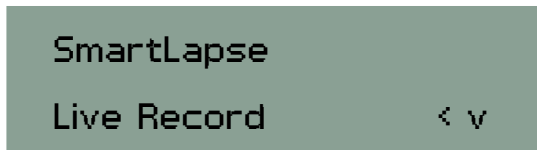
5. Press any **1, 2, 3 Button** to select a memory location

```
Live Record.

Press 1, 2 or 3
```
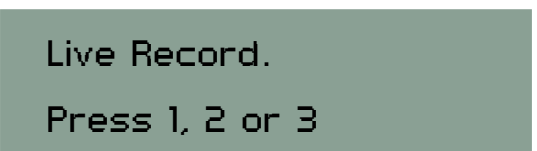
Note:
You can also set a Live Record on a specific memory location by holding down any 1, 2, or 3 button for 5 seconds from the home screen followed by choosing 1:Live

6. The screen will display **Erasing**

```
Erasing.
```

7. Move the joystick LEFT/RIGHT to begin recording your camera movement. Press the **MIDDLE JOYSTICK BUTTON** to begin recording with a pause before the beginning your movement.

```
Move Joystick to

Start Record
```

8. The **MAX SPEED**, **DAMPING**, and **DEADBAND** dials can all be adjusted during this time and will be recorded as will the timing.

9. All movement is recorded in real time and a seconds counter is displayed on the screen.

```
Recording

1          10
```

Memory Bank   Seconds Counter
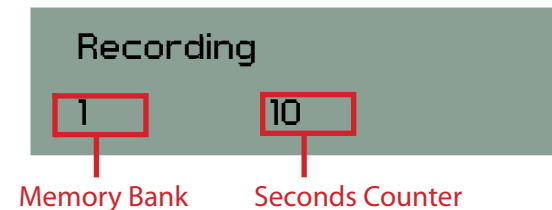
SLIDER/DOLLY RECORD & PLAYBACK

10. To stop recording press the same memory bank **BUTTON (1, 2, OR 3)** you chose earlier or press the **MIDDLE JOYSTICK BUTTON.**

11. To play back your recorded movement, press the **BUTTON (1, 2, OR 3)** for the memory bank you recorded under.

12. The screen will prompt you to return the carriage to the start position.

> Please Return to
>
> Start Position

13. Use the joystick to move the carriage to your marked start position.

14. Press your memory bank **BUTTON (1, 2, OR 3)** again to start playback. The screen will display Playback with the selected memory bank and seconds counter.

> Playback
>
> 1   25.45 S

15. To cancel the playback, move the joystick on the ORACLE and you will be returned to the home screen.

Quick Tip:
When beginning a camera move recording, you can press the centerbutton on the joystick to start a recording without moving the camera. This is useful if you want to create a time delay before camera movement starts.

Quick Tip:
The Joystick can be moved during a recorded playback to stop all playback moves immediately. It acts as an "emergency brake" during live playback to prevent accidental damage.

REVOLUTION HEAD RECORD & PLAYBACK

This section will cover recording and playing back real-time camera moves on a Kessler Crane Revolution pan/tilt head.

1: Once in Head Unit mode press the **MENU** button until you get to the main menu

1. Use the joystick to move the Revolution Head to your desired start position.

2. Press and hold a numbered memory bank **BUTTON (1, 2, OR 3)** for 5 seconds to clear that memory bank

3. Screen will saying Erasing

```
Erasing
```

4. Select 1: Live with the **1 Button**

```
Record- 1:Live

2:SmartLapse
```
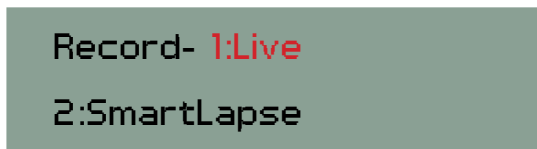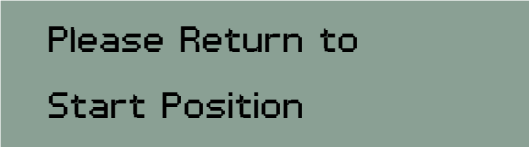
Note:
Take note of where the head is positioned. Mark positions with a wax pencil if necessary so you can return to it when prompted. Another way to mark start position is to mount a laser pointer to your Revolution head. Mark the point on the wall, floor, ceiling, etc. of where the laser is pointing. When the ORACLE™ prompts you to return the Revolution head to the start position, you can simply maneuver the head so the laser points to the same location. This assures the head is starting out in the same position.

9. Move the joystick LEFT/RIGHT to begin recording your camera movement. Press the **MIDDLE JOYSTICK BUTTON** to begin recording with a pause before the beginning your movement.
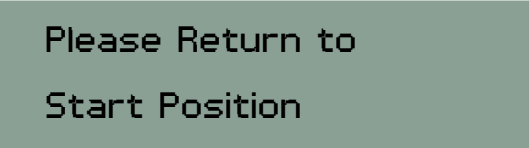
10. **MAX SPEED, DAMPING** and **DEADBAND** can all be adjusted during this time and will be recorded as will the timing

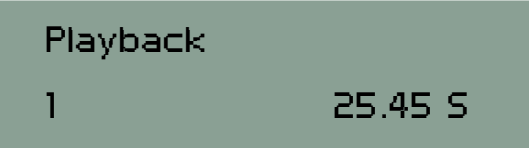11. All movement is recorded in real time and a seconds counter is displayed on the screen

```
Recording

1                    11
```

Memory Bank   Seconds Counter
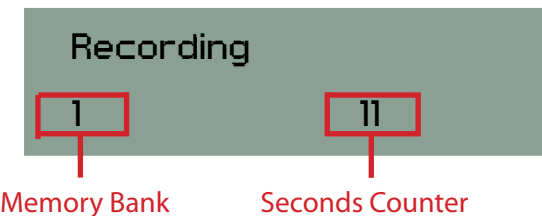
12. Press the same memory bank **BUTTON (1, 2, OR 3)** again or press the **MIDDLE JOYSTICK BUTTON** stop the recording

13. To play back your recorded movement, press the **BUTTON (1, 2, OR 3)** for the memory bank you recorded it on

14. The screen will prompt you to return the Revolution head to the start position marked in the **Note** on the previous page

```
Please Return to

Start Position
```

16. Use the joystick to move the head back to your start position

17. Press your memory bank **BUTTON (1, 2, OR 3)** again to start playback. The screen will display Play Back with the amount of time remaining.

REVOLUTION HEAD RECORD & PLAYBACK

```
Play Back

 1                3.13 M
```

Memory Bank   Time Remaining

18.   To cancel the playback, move the joystick on the ORACLE™ and you will be returned to the home screen.

Quick Tip:
The Joystick can be moved during a recorded playback to stop all playback moves immediately. It acts as an "emergency brake" during live playback to prevent accidental damage.

USING FLASH MARK COMPOSITING

The screen will display flash mark at the beginning of playbacks and can be used as a digital clapboard for syncing layered footage.

When Playing back a live camera move, you will notice the screen briefly displays this:

```
▐▐▐▐▐▐   Flash  ▐▐▐▐▐▐
▐▐▐▐▐▐    Mark   ▐▐▐▐▐▐
```

You can use the "Flash Mark" screen as a visual clapper board when you need to sync footage.

This is useful if you are layering several recordings on top of one another for compositing work.

If you hold the Oracle in front of your camera and press a memory bank button for play back, you can use the "Flash Mark" screen flash as your sync point.

It is a good idea to leave a few seconds of no movement at the front of your recorded move to allow you time to get the ORACLE out of frame before the camera move starts.

TIME LAPSE & STOP MOTION WITH ORACLE™

Live record

Use this mode to record your motion then play it back in real time. You can record 25+ minutes of movement in each memory bank.

Smart Lapse™

SmartLapse™ is a remarkable method of recording a non-linear path in real time. You then play the path in any time span from the time you it took you to make the recording up to 29.5 days. Smartlapse™ works by pulsing the power out in .05 second bits and recording each bit rather than streaming smooth power like in live mode. Then, when you want to play this recording back we simply replay each pulse back but with varying delays biased off of your over all time of playback. Because you are only able to record 10 steps per second it is important to move as slow as you can to create the smallest possible "movements" per pulse to give you a very smooth play back.

Continuous

This method will allow the camera to take pictures while the cart is in motion to give more of the "film" or "video" look to your time lapse. (Please see Shoot - Move - Shoot vs Continuous on page 39)

Shoot - Move - Shoot

This method of time-lapse shooting will interleave your picture taking and movement. The camera first takes its picture. Next the head or slider will then move, stop, then the camera will take the next picture. This method will give your time lapse more of a hyper real or stop motion look. (please see Shoot - Move - Shoot vs Continuous on page 39) **Note:** You may notice that when you go to adjust how many pictures you want to take the number of pictures jumps in odd increments. This is because when you created your path in SmartLapse™ you have determined the amount of moves so the Oracle™ will only allow an amount of pictures that can be evenly divided into the amount of moves that you have made with a max amount of pictures to be 2 pictures per pulse/move. Any more than 2 pictures per will play back choppy. **EXAMPLE**: if you recorded a move that took 2000 pulses the maximum amount of pictures will be 4000 with 2000 or lower providing the smoothest playback.

Stop motion

This method is identical to Shoot - Move - Shoot but will only take one picture at a time. Once the first picture is taken the head or slider will move into the next position and wait until you are ready to take the next picture. Once you are ready simply press enter and the cycle will start over until the complete path is finished.

No Intervalometer

This mode will simply turn off the intervalometer while the motion is ran.

Advanced Mode

With advance mode you will be able create a cycle. Within this cycle you will be able to control how long a motor comes on for, how long it will stay off for, what power it will run at when it is on and how many times this cycle will repeat. You could use this mode for something as simple as telling a turntable to turn on for 1 hour at speed 50 then shut off and only have one cycle. To creating an string of thousands of micro pulses in durations of 50 milliseconds each to create a time lapse. Or even to turn on for a calculated amount of time that will equate to 8 equal moves of rotation and to take a picture at each position to create a 360 degree panoramic.

When in advance with Shoot - Move - Shoot, the number of pictures will not be limited like it is when shooting shoot move shoot in SmartLapse™ be case the amount of moves will not be predetermined.

SMARTLAPSE™ TIME LAPSE

The SmartLapse™ mode can be used on either a slider, dolly or Revolution head. With SmartLapse™, you can record a real-time camera move to one of the memory banks and then play that move back over a longer length of time (up to 29.5 days).

1:    Once in Head Unit or Slider/TT mode press the **MENU** button until you get to the main menu

1.   Turn the **DAMPENING** dial all the way down to 0.05 S

2.   Adjust **DEADBAND** dial to a value of 10 on the LIN side.

3.   Press and hold down one of the 3 memory bank **BUTTONS (1, 2, OR 3)** for 5 seconds.

    The word Erasing appears for a few seconds.

4.   In the next menu select 2:SmartLapse by pressing the **2 BUTTON**

Make sure to note your start position by using marking tape or a white wax pencil so that you may return to it when prompted.

5.   Move the joystick to start the recording right away or press the center joystick button to start recording without moving the device. The following screen is displayed during recording:

Memory Bank

Y Speed   **X** Speed   Seconds
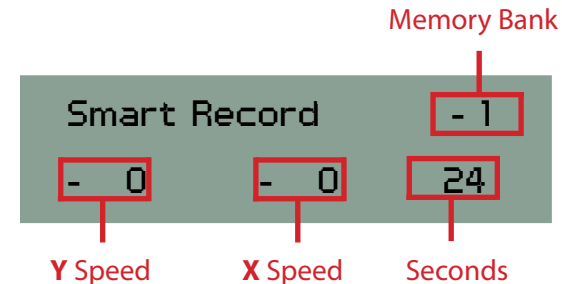
Note:
To get soft starts and stops it is best to have the speed turned all the way down then push the joystick all the way the direction you want to move as you slowly (over 10 seconds or so) dial the speed up to the desired level then back down to stop.

Also, keep in mind this is an actual recording so keep your maximum speed slow & under these specified values:
CineSlider, Shuttle Pod & Pocket Dolly: **300**
Revolution Head: **100**

You may notice that the movement while recording is jerky or pulsing. This is normal as that is the result of the pulse recording method of SmartLapse™.

6.   To stop recording press the same memory bank **BUTTON (1, 2, OR 3)** you chose earlier or press the **MIDDLE JOYSTICK BUTTON.**

7.   To playback the SmartLapse™ recording, press the memory bank **BUTTON (1, 2, OR 3)** that you recorded to and adjust the play back time using the joystick.

SMARTLAPSE™ TIME LAPSE

8. Move the joystick up or down to select one of the following: ShootMoveShoot, Continuous, Stop Motion, or No Intervlmtr (Intervalometer) Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm

```
ShootMoveShoot

Continuous            v
```

```
Stop Motion          ^

No Intervlmtr
```
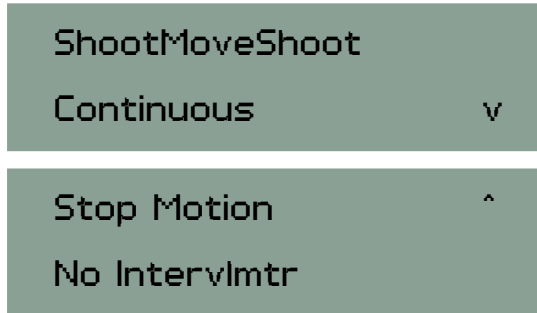
Note:
See page 17 for details on different shooting modes

9. Move the joystick UP/DOWN to select the number of Pictures

```
Pictures

            1000
```

10. Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm or scroll through the sub-menus by moving the joystick LEFT/RIGHT

11. You can adjust Y:Playback Time from the time you took to make the recording up to 29.5 days. Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Y:Playback Time

Synced         1.00 H
```

Note:
(Only in Shoot - Move - Shoot)
Make sure to have "Synced" shown if you want your camera time to auto sync with the SmartLapse™ play back. Otherwise if you selected 1 hour for the camera time and 2 hours for SmartLapse™, your camera will finish at 1 hour with the slider/head running for an additional hour.

12. Return to your marked Start Position

13. Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to start the playback

14. You will see the current memory bank being used as well as the time remaining

```
Memory 1

            1.16 H
```
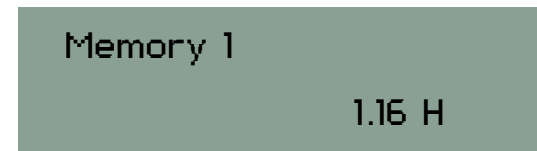
15. To cancel the playback and return to the menu, press ANY BUTTON on the ORACLE.

SLIDER/DOLLY

In Advanced mode, you can program complex motor movements on a slider/dolly/shuttle pod. If you need to create a complex time lapse move, we recommend using the optional SmartLapse™ mode as it is easier to program.

1:      Once in Slider/TT mode press the **MENU** button until you get to the main menu

2.   Select Motion Control
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Advanced          < ^


```

3.   Select Advanced by moving the joystick down
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Advanced          < ^


```

4.   Move the joystick up or down to select one of the following: ShootMoveShoot, Continuous, Stop Motion, or No Intervlmtr (Intervalometer)
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
ShootMoveShoot

Continuous          v
```

```
Stop Motion         ^

No Intervlmtr
```
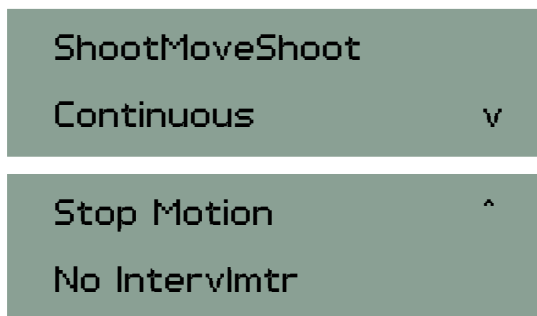
Note:
See page 17 for details on different shooting modes

5.   Press the **1 button** to select 1:SLIDER or the **2 button** to select 2:AXIS2

```
1:SLIDER        2:AXIS2

ENTER:Run
```
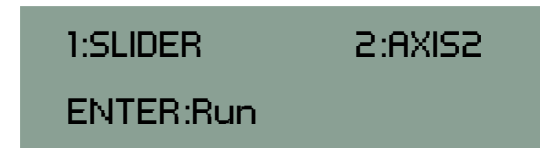
Quick Tip:
Move the joystick LEFT/RIGHT (X-Axis) to scroll through the sub-menus for 1:SLIDER & 2:AXIS2

6.   The 9 Sub-Menus are as follows:
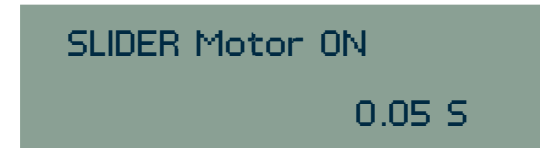
```
SLIDER Motor ON

              0.05 S
```

This setting tells the motor how long to remain on. Stepper motors have two states. On and off. This setting determines how long the motor is on for each step. The default setting is a good starting point for time lapse work.

Note:
For more information on how a stepper motor works and how these values effect movement, see the Stepper Motors Demystified section of this manual.

The default is 0.05 S (seconds). We recommend leaving this at the default for starting out.

Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to accept the setting.

```
SLIDER Motor OFF

              0.05 S
```
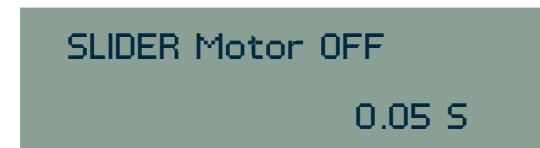
SLIDER/DOLLY

Again, the default is 0.05 s (seconds). This is the amount of time the motor remains off before running again. Leave this at the default for now by pressing the **MIDDLE JOYSTICK BUTTON** or **ENTER**.

```
SLIDER Power


                      40
```

The default power is 40 and is a good starting point for time lapse work. The power setting tells the ORACLE how much power to send to the motor when it is on.
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to continue.

Note:
The Slider Power setting can be either a positive number or negative number. This will determine whether the carriage travels left or right. Two determine whether you need a negative or positive number, make note of the X/Y values on the home screen. If you move left and the X values are negative, you'll know that you need a negative value set for Y:Slide Power to move left and a positive Y:Slide Power to move right.

```
SLIDER Cycles

     2000       50.00 M
```

Cycles are the number of times your motor will cycle on/off for the move. To increase or decrease the amount of time you want the move to last, toggle the JOYSTICK UP/DOWN to adjust the number of cycles. The time value will change to tell you how long the move will take. Once you have your cycle settings adjusted, press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to continue.

```
Min Time Needed

Synced          20.00 M
```

Note:
(Only in Shoot - Move - Shoot)
Make sure to have "Synced" shown if you want your camera time to auto sync with the SmartLapse™ play back. Otherwise if you selected 1 hour for the camera time and 2 hours for SmartLapse™, your camera will finish at 1 hour with the slider/head running for an additional hour.

```
AXIS 2 Motor ON

                   0.05 S
```

```
AXIS 2 Motor OFF

                   0.05 S
```

```
AXIS 2 Power


                      40
```

```
AXIS 2 Cycles

     2000        3.33 M
```

The above for menus are have the same meaning as the similar SLIDER menus.

11.   Your advanced settings are now complete and you are returned to the main menu screen for the advanced setup. You can now press the **1 BUTTON** to edit the Slider settings, the **2 BUTTON** to edit the AXIS2 settings or **ENTER** to run. Press **ENTER** to continue.

```
1:Slider    2:AXIS2

ENTER:Run
```
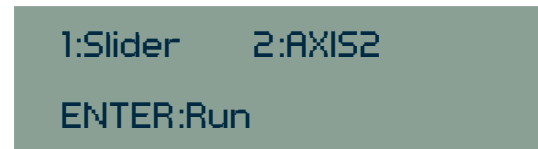
SLIDER/DOLLY

12.   Press the **1 BUTTON** to select the 1:Run option and begin
running the move.

```
Menu:Exit        1:Run

                 ENTER:Edit
```

13.   The screen will now display a countdown of cycles for the
move you setup.

```
Slider On        1966

Axis 2 On        1674
```

Note:
To cancel the playback and return to the menu, press ANY BUTTON on
the ORACLE.

HEAD UNIT

Using Advanced Mode in the ORACLE to create custom time lapse moves. If you have the optional SmartLapse™ feature, we recommend using it instead as it is easier to accomplish complex moves very simply.

1:    Once in Head Unit mode press the **MENU** button until you get to the main menu

2.   Move the joystick to select Motion Control
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Camera

Motion Control       < v
```

3.   Move the joystick down to select Advanced
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Advanced            <   ^
```

4.   Move the joystick up or down to select one of the following: ShootMoveShoot, Continuous, Stop Motion, or No Intervlmtr (Intervalometer)
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
ShootMoveShoot

Continuous             v
```

```
Stop Motion            ^

No Intervlmtr
```
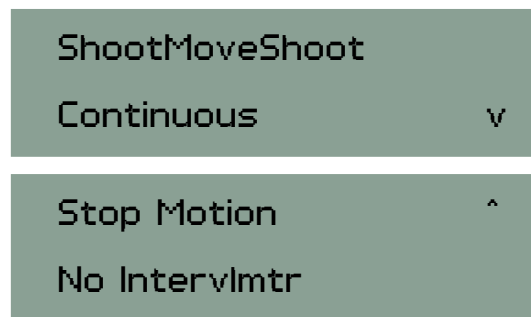
Note:
See page 17 for details on different shooting modes

Note:
When setting up a time lapse on the Revolution head, both Pan and Tilt need to be programmed.

5.   Press the **1 BUTTON** to enter 1:Pan setup or the **2 Button** to select 2:Tilt

Quick Tip:
Move the joystick LEFT/RIGHT (X-Axis) to scroll through the sub-menus for 1:PAN&2:TILT

Once you complete the Pan setup, the menu system will automatically continue to the TILT setup screens. The Tilt settings are identical to the Pan settings. The only difference is that they operate in the Y (up and down) direction.

6.   The 9 Sub-Menus are as follows:
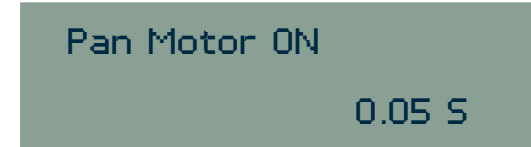
```
Pan Motor ON

           0.05 S
```

This setting tells the motor how long to remain on. Stepper motors have two states. On and off. This setting determines how long the motor is on for each step. The default setting is a good starting point for time lapse work.

Note:
For more information on how a stepper motor works and how these values effect movement, see the Stepper Motors Demystified section of this manual.

The default is 0.05 S (seconds). We recommend leaving this at the default for starting out.

Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to accept the setting.

HEAD UNIT

```
PAN Motor OFF

            0.05 S
```

Again, the default is 0.05 s (seconds). This is the amount of time the motor remains off before running again. Leave this at the default for now by pressing the **MIDDLE JOYSTICK BUTTON** or **ENTER**.
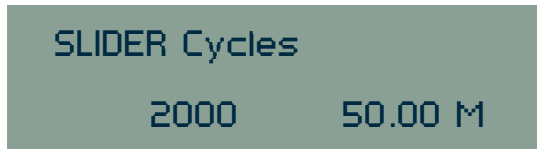
```
PAN Power

                40
```

The default power is 40 and is a good starting point for time lapse work. The power setting tells the ORACLE how much power to send to the motor when it is on.
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to continue.

Note:
The Slider Power setting can be either a positive number or negative number. This will determine whether the carriage travels left or right. Two determine whether you need a negative or positive number, make note of the X/Y values on the home screen. If you move left and the X values are negative, you'll know that you need a negative value set for Y:Slide Power to move left and a positive Y:Slide Power to move right.

```
PAN Cycles

    2000      50.00 M
```

Cycles are the number of times your motor will cycle on/off for the move. To increase or decrease the amount of time you want the move to last, toggle the JOYSTICK UP/DOWN to adjust the number of cycles. The time value will change to tell you how long the move will take. Once you have your cycle settings adjusted, press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to continue

```
Min Time Needed

Synced          20.00 M
```

Note:
Make sure to have "Synced" shown if you want your camera time to auto sync with the SmartLapse™ play back. Otherwise if you selected 1 hour for the camera time and 2 hours for SmartLapse™, your camera will finish at 1 hour with the slider/head running for an additional hour.

```
TILT Motor ON
            0.05 S
```

```
TILT Motor OFF
            0.25 S
```

```
TILT Power

                40
```

```
TILT Cycles

    2000      3.33 M
```

The above for menus have the same meaning as the similar SLIDER menus.
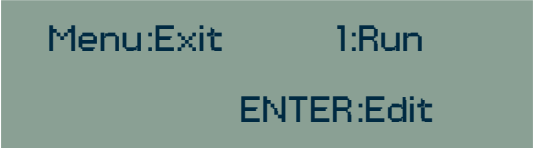
HEAD UNIT

7.   Your advanced settings are now complete and you are returned to the main menu screen for the advanced setup. You can now press the **1 BUTTON** to edit the Slider settings, the **2 BUTTON** to edit the TILT settings or **ENTER** to run. Press **ENTER** to continue.

```
1:Slider     2:TILT
ENTER:Run
```

8.   Press the **1 BUTTON** to select the 1:Run option and begin running the move.

```
Menu:Exit        1:Run

        ENTER:Edit
```

9.   The screen will now display a countdown of cycles for the move you setup.

```
Pan On          1966

Tilt On         1674
```

Note:
To cancel the playback and return to the menu, press ANY BUTTON on the ORACLE.

Quick Tip:
To quickly navigate the PAN/TILT menus, move the joystick LEFT/RIGHT to jump back and forth between settings. Move the joystick UP/DOWN to change values and the center button to save.

LEVERAGING THE POWER OF ADVANCED MODE

Advanced mode can be used for much more than just time lapse work. Experiment with different motor on / off values and slide power settings to create any move you need.

For example, you could attach a rotating plate to the elektraDrive motor and set the ORACLE to rotate the plate 20 degrees every 3 seconds for taking virtual reality (QTVR) product photos. This would give you a full 360 degree spin in 20 degree increments with 3 seconds between each move to take a picture. The entire sequence would take 54 seconds to complete.

Advanced mode is very powerful. With a little creativity and simple math, you can accomplish some amazing things.

Check out the www.kesslercrane.com for more ideas.

STEPPER MOTORS DEMYSTIFIED

Understanding how a stepper motor works can aid greatly when doing advanced configurations with the ORACLE. This section will briefly cover the basics of a stepper motor and how it interacts with an ORACLE.

The stepper motors, used in the Kessler Crane systems, have only 4 variables with which we are concerned. **ON, OFF, CYCLES,** and **POWER.**

ON and **OFF** are just that. The motor is either on or it is off. The **POWER** determines how much the motor moves when it is in the on mode. **CYCLES** is how many times the on/off sequence occurs.

So let's go through a basic setup to explain further. If we set the motor **ON** time to be 0.5 seconds and the motor **OFF** time to also be 0.5 seconds, a complete **CYCLE** of on/ off would take 1 second. If we ran this on/off cycle 30 times, the entire move would take 30 seconds. The only variable we are missing in this equation is **POWER**.

POWER determines how far the motor will move when it is on. The lower the power, the less distance it will travel. The greater the power, the greater the distance. We liken this to the difference between walking and running.
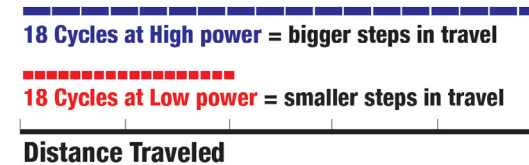
In our sample, we know the motor turns **ON** and will move for 0.5 seconds in each **CYCLE.** By adjusting the **POWER,** we can determine how far it moves in that half second. If you want a slow, short move, you would use a low power. For a faster, long move, a high power would accomplish this.

The following charts show a generic example of the difference between a high **POWER** setting and a low **POWER** setting while keeping the **ON**, **OFF,** and **CYCLES** variables constant.

18 Cycles at High power = bigger steps in travel

18 Cycles at Low power = smaller steps in travel

Distance Traveled

The above sample is very basic but it gives you an idea of what you can do by adjusting only one variable. In Advanced mode on the ORACLE, you can individually adjust each variable (**ON, OFF, CYCLES, POWER**) to create custom moves.

For example, lets say you have a Kessler Shuttle Pod setup on a 30 foot track and you want to program the ORACLE so the motor comes on every 10 minutes and moves the Pod 1 foot. In this example, we know that our motor **OFF** time should be 10 minutes so there is a 10 minute gap between each time the motor turns on and moves the Pod. If we are moving the Pod 1 foot in each **CYCLE** and our track is 30 feet long, we'll want to keep the cycles to less than 30 so we don't run out of track.

The only two variables left is **ON** time and **POWER**. These two variables are the only unknowns in this sample. We'll need to do some experimentation here to find the proper combination of **ON** time and **POWER** that translates into a 1 foot move on the Pod. In this example, we can leave the **POWER** at the default of 40 and simply adjust the **ON** time until we get 1 foot in travel. Let's say that time ends up being 2 seconds for the sake of this example (this number will vary depending on your specific setup and motor being used).

Now we know each variable to create a move every 10 minutes in 1 foot increments down a 30 foot track. We will set the motor **OFF** time to 10 minutes, the motor **ON** time to 2 seconds, the **POWER** defaulted to 40, and the **CYCLES** set to 30. When we hit run, the Pod will move 1 foot and stop. 10 minutes later, the next cycle will start and the Pod will move another 1 foot and stop. It will do this 30 times (cycles) before the move is complete.

STEPPER MOTORS DEMYSTIFIED

You are not just limited to linear moves like this. Another real-world example would be setting up a turn table on an elektraDRIVE motor where you just want the motor to turn on and stay on for a certain period of time.

If you wanted your turn table to spin for 10 minutes, you could define a motor **ON** time of 10 minutes at **POWER** 40 and 1 **CYCLE**. This would spin the table for 10 minutes and then stop (1 cycle).

This may sound complicated all written out but once you get some practical experience with the ORACLE, this will be easier to make sense of. Adjusting the 4 variables in advanced mode of the ORACLE will allow you to create just about any move you can imagine for an endless number of configurations.

MOTION CONTROL - ADVANCED

REVOLUTION TIME LAPSE TIPS FOR ADVANCED MODE

Here are some approximate figures to use as a starting point. These figures where populated with a Canon 7D equipped with an extended battery grip and a 15mm lens. Using these figures should get you close to the reported results but you may need to adjust the **MOTOR OFF** time to tweak the movement over time to perfect your results.

Being the load on the pan always remains the same, you will find very little variation once you have established the common result to your unit. A few tips.

• Try to get your camera as close to perfect center of gravity that is balanced up and down as well as forward to back.

• Leave your **MOTOR ON** time set to **.05 SEC** and your **MOTOR POWER** set to **50**.

• Make your distance over time adjustments by lengthening or shortening the **MOTOR OFF** time.

PAN:
Keep **MOTOR ON** to **.05 SEC, MOTOR POWER** to **50** and run your **CYCLES** to cover the time you want the time lapse to take (i.e. If you want a 60 minute time lapse, adjust the **CYCLES** up to a number that the ORACLE says will last 60 minutes).

Degrees of PAN movement over:	30 Minutes	1 Hour	2 Hours	4 Hours
	motor off time	motor off time	motor off time	motor off time
22.5 °	4 seconds	8 seconds	16 seconds	32 seconds
45 °	2 seconds	4 seconds	8 seconds	16 seconds
90 °	1 second	2 seconds	4 seconds	8 seconds
180 °	.5 seconds	1 second	2 seconds	4 seconds

TILT:
Keep **MOTOR ON** to **.05 SEC, MOTOR POWER** to **50** and run your **CYCLES** to cover the time you want the time lapse to take (i.e. If you want a 60 minute time lapse, adjust the **CYCLES** up to a number that the ORACLE says will last 60 minutes).

These figures were populated with a camera set up that was approximately 50% below center of gravity. If you were to have the camera raised to be on perfect center of gravity, you would use the same figures as the pan settings above.

Degrees of TILT movement over:	30 Minutes	1 Hour	2 Hours	4 Hours
	motor off time	motor off time	motor off time	motor off time
22.5 °	2 seconds	4 seconds	8 seconds	16 seconds
45 °	1 second	2 seconds	4 seconds	8 seconds
90 °	.5 seconds	1 seconds	2 seconds	4 seconds
180 °	.25 seconds	.5 seconds	1 second	2 seconds

Once you have tried one of these settings it is a good idea to write down your result if it is different than what these charts state so you can adjust or repeat the move next time. You may also tweak the **MOTOR POWER** settings to fine tune results. For example if your **MOTOR POWER** is **50** and you expect your move to go 90 degrees over a period, and it actually goes 95 degrees you can reduce the **MOTOR POWER** to say **45**, so each movement is slightly slower. We do not recommend setting the Motor Power over "50" when using long exposures.

SLIDER/DOLLY TIME LAPSE CALIBRATION

Note:
Simple mode is a feature from the older versions of the Oracle. The new SmartLapse™ mode superceeds it in everyway and is the preferred method. Although if you are used to using Simple mode you can still activate it by following these instructions.

1:      Once in Slider/TT mode press the **MENU** button until you get to the main menu

2.   Select Motion Control by moving the joystick UP/DOWN
        Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm

```
Camera

Motion Control      <  v
```

3.   To toggle Simple mode, move the Joystick down to Advanced
        Press and hold the **1 Button** for 5 seconds
        Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Advanced            ^

Simple              <
```
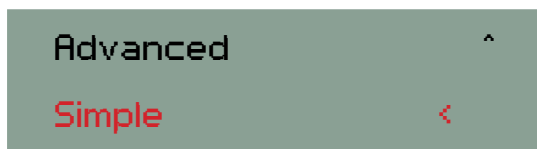
Before running your first time lapse on a slider or dolly, perform the calibration procedure to insure proper function.

4.   Select one of the following:
        Continuous or No Intervlmtr
        Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Continuous

No Intervlmtr
```

NOTE:
See page 17 for descriptions of Continuous & Intervlmter (Intervalometer)

9.   Press the **3 Button** to select Cal (Calibration).

```
1:Distance        3:Cal

2:Time       ENTER:Run
```

10.   Move the joystick up/down followed by **MIDDLE JOYSTICK BUTTON** or **ENTER** or press the **1 BUTTON** to select the 10 minute calibration or press the **2 BUTTON** to select the 30 minute calibration followed by the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
1:    10 Mins

2:    30 Mins
```

NOTE:
You can run either a 10 minute or 30 minute calibration. The longer the calibration time, the more accurate the results.

11.   Make sure the slider motor is positioned to your left and move the carriage to the left side (closest to the motor) of the track using the joystick.

This procedure requires measuring the distance the slider moves from start point to end point. The easiest way to do this is to move the carriage all the way to the end of the track (point A), run the calibration, then measure the gap between point A and point B when complete.

SLIDER/DOLLY TIME LAPSE CALIBRATION

12.   Once your start point has been set, press the the **MIDDLE JOYSTICK BUTTON** or **ENTER** to begin the calibration

```
Set Start Point

ENTER: Begin
```

13.   The screen will display Slider On with a countdown.

```
Slider On          1505
```

14.   Let the calibration complete. If you need to cut the calibration short you can hit the **MENU** Button at any time.

NOTE:
The shorter the calibration time, the less accurate the calibration.

15.   To complete the calibration, measure the distance between your start point (A) and ending point (B).

16.   Move the joystick LEFT/RIGHT to adjust the values in the ORACLE to match the distance in inches or centimeters that the carriage moved during the calibration.
This number will vary in distance depending on your specific setup / motor selection.
Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** to confirm

```
Adj Dist Moved

2.75IN          6.98CM
```

17.   Press **ENTER** or the **MIDDLE JOYSTICK BUTTON** again to save calibration data, or **MENU** to cancel calibration data.

18.   Your system is now calibrated for accurate moves as the ORACLE now knows how far over time the carriage will move with setup used in calibration.

Quick Tip:
If moving between extreme environmental conditions, major camera weight changes, or different incline angles, we recommend running the calibration again to insure accuracy.

SLIDER/DOLLY TIME LAPSE

Before running your first time lapse on a slider or dolly, perform the calibration procedure to insure proper function.

1:    Once in Slider/TT mode press the **MENU** button until you get to the main menu

2.   Select Motion Control by moving the joystick up or down
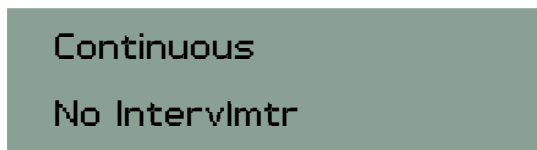Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Camera

Motion Control    <  v
```

3.   To toggle Simple mode, move the Joystick down to Advanced
Press and hold the **1 Button** for 5 seconds
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Advanced            ^

Simple              <
```

4.   Select one of the following:
Continuous or No Intervlmtr
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Continuous

No Intervlmtr
```
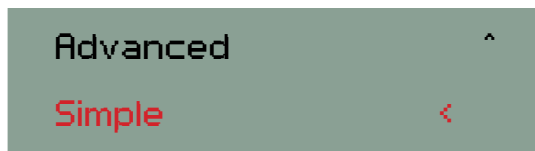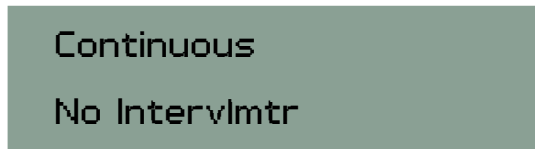
5.   Press the **1 BUTTON** to select 1:Distance

```
1:Distance      3:Cal

2:Time     ENTER:Run
```
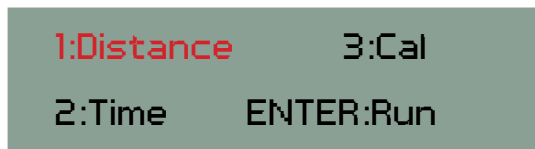
6.   Move the joystick up and down to change the Y:Distance amount. Distance is displayed in both inches and centimeters.

```
Y:Distance

2.8IN           7.1CM
```

7.   Once you have your desired distance adjusted press **MIDDLE JOYSTICK BUTTON** or **ENTER** to save.
This will bring up the next menu for setting time.

Note:
You can move the joystick LEFT/RIGHT to navigate through sub-menus

8.   Move the joystick up and down to select Y:Time.
Time can be adjusted in decimal minutes (M), decimal hours (H), or decimal days (D).

```
Y:Time

            20.00M
```

9.   Once you have your desired time set press the **MIDDLE JOYSTICK BUTTON** or **ENTER**

10.   Press **ENTER** again

```
1:Distance      3:Cal

2:Time     ENTER:Run
```
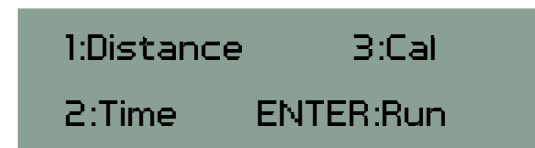
SLIDER/DOLLY TIME LAPSE CALIBRATION

11.   Press the **1 BUTTON** to Run.

```
Menu: Exit        1:Run

3:Tst         ENTER:Edit
```

12.   The screen will display Slider On with a timer countdown.

```
Slider On        1954
```

Note:
If you selected a very long time period, movement of the carriage may not be evident. If the ORACLE is counting down, the slider is moving.

Quick Tip:
To cancel or edit a time lapse move once it has started, press the MENU button

The ORACLE joystick can be adjusted to suit your preference or particular setup.

If you find that the joystick moves your Slider/Dolly/Head in the opposite direction of what you would like, you can reverse the direction the joystick moves the motor(s).

The joystick can be set to move in clockwise (CW) or counter clockwise (CCW) on both the X and Y axis independently.

1.   From the home screen, press the **MENU** button

```
510        1.25S      LIN

- 0        - 0          99
```
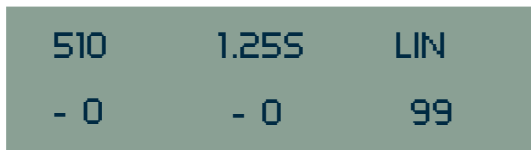
2.   Move the **Joystick** downward until Joystick is selected
        Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

```
Joystick              <  ^

Utility
```

4.   Move the **Joystick** LEFT/RIGHT/UP/DOWN so that the arrow is
        on the value you want to make changes to.

```
Axis1      CCW < UP/DN

Axis2      CW     L/R
```

5.   While selected, toggle Axis1 or Axis2 from CCW to CW
        by pressing the **MIDDLE JOYSTICK BUTTON** or **ENTER**.

6.   While selected, toggle UP/DN, L/R, TWIST by pressing
        the **MIDDLE JOYSTICK BUTTON** or **ENTER**.

7.   When finished, press the **MENU** button.

Note:
In Slider/TT mode:
        Axis 1 refers to Slider
        Axis 2 refers to 2nd Device

In Head Unit mode:
        Axis 1 refers to Tilt
        Axis 2 refers to Pan

There are 2 ways to toggle which mode you want (Head/Slider/TT).

If power is OFF:

1.   Connect the ORACLE to the elektraDRIVE motor with a standard CAT5 cable.

2.   Connect the power to the ORACLE

3.   Move the joystick down once to select Head Unit or Slider/TT
   Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

> Head Unit   <
>
> Slider/TT
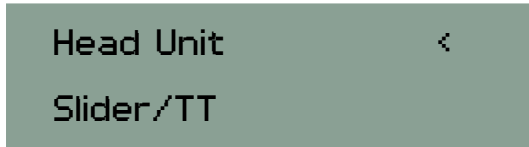
If power is already ON:

1.   Press the **MENU** button until you see Camera and Motion Control

> Camera
>
> Motion Control   v

2.   Move the Joystick down to select Utility.
   Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

> Joystick   ^
>
> Utility   <

3.   Select Head/Slider/TT
   Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

> Head/Slider/TT   <
>
> Battery   v
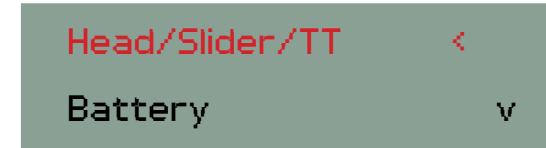
4.   Select Head Unit or Slider/TT depending on what unit you are using
   Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.
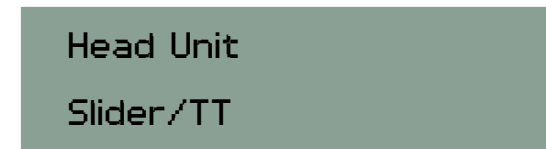
> Head Unit
>
> Slider/TT

1.   Press the **MENU** button until you see Camera and
Motion Control

> Camera
>
> Motion Control   v

2.   Move the Joystick down to select Utility.
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm
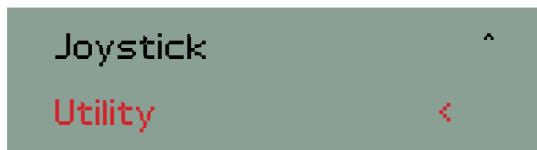
> Joystick   ^
>
> Utility   <

3.   Move the Joystick down to select Battery
Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm

> Head/Slider/TT
>
> Battery   < v
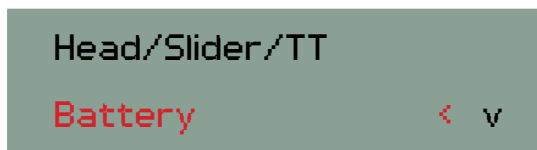
4.   The screen will display the following:

> E   12.0 Volts   F
>
> ▮▮▮▮▮
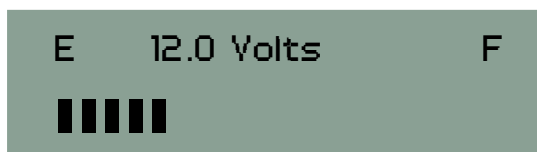
Note:

The battery meter is calibrated to be used with the Kessler Crane™ battery pack. If used with a wall outlet or other battery systems it may not read correctly.

Before running your first time lapse on a slider or dolly, perform the calibration procedure to insure proper function.

1:     Once in Slider/TT mode press the **MENU** button until you get to the main menu

> Joystick   ^
>
> Utility   <

7.   Move the joystick DOWN until **SimpleMode PWR** is selected Press the **MIDDLE JOYSTICK BUTTON** or **ENTER** to confirm.

> SimpleMode PWR   < ^
>
> Current Sense
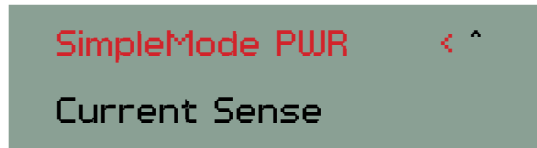
Note:
If you need to re-set the power to the default level, press the 1 Button to select 1:Default Power and then Enter to Save

8.   To adjust the Simple mode power level, press the **2 BUTTON**

> 1:Default Power
>
> 2:Simple PWR ADJ
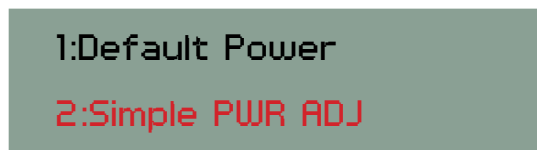
9.   You can adjust the Simple Mode power by moving the joystick UP/DOWN (Y direction).
       Power 40 is the default setting.

> Set Simple Mode
>
> Power   40
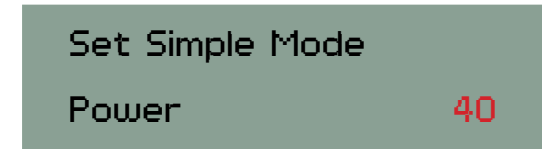
If you are moving the camera on a vertical and need more power, slowly increase this number and test until you get the results you need. For a totally vertical move with a standard DSLR camera, try adjusting power to 70 - 80.

If you need your camera to move in the opposite direction of the default, use a negative number for Simple Mode power. This will reverse the direction of the motor and subsequently, the direction of the camera movement.

If your move is going from left to right in Simple Mode with a power of 40, changing the Simple Mode default power to -40 will reverse the direction to right from left.

10.   Press **ENTER** to Save or cancel your changes.

11.   Press **ENTER** to Save or press **MENU** to Cancel

12.   After completing the Simple Mode power adjustments and your test results are favorable, re-run the time lapse calibration to correct for the new motor power setting.

Quick Tip:
To determine what power to level to enter, set up your rig in the position you intend to use. In live mode, turn the power dial all the way down. Move the joystick in the direction you need the camera to move and slowly turn the power dial up until you get a smooth, non-pulsing move. Make note of the power reading on the screen and use this number for your Simple Mode Power level.

Current Sense is a feature that will sense a high current from an impact.

This mainly pertains to the REVOLUTION Pan & Tilt Head, as the sliders have a clutch system that would take care of most situations when there is an impact.

Example:
If you have a REVOLUTION Pant & Tilt Head mounted to a wall and it swings and hits the wall, Current Sense would act as a circuit breaker and stop the motion of the head. Movement can then be started again by moving the joystick.

Basic guidelines to follow for a quick how-to on time lapse.

- Set lens to manual focus

- Disable IS (Image Stabilization) on lens

- Set camera to manual mode

- To focus at night use a laser dot

- White Balance Set to Manual (Normally 5500 K - Daylight)

- Choose shooting format: RAW or JPEG

- Format card

- Set camera to Live View to determine your framing, exposure and focus using the zoom button – Set to exposure simulation (not movie mode) so you can adjust the shutter slower than 1/24th

- Keep camera in Live View the whole timelapse so the mirror will stay locked up. Drains more battery but less headache than using mirror lockup which requires you to calculate the intervals differently since the first interval rotation will lock the mirror up and the second interval rotation will take the picture calculating the intervals. Important for the mirror to be locked up to avoid it from causing blur in a long exposure

- Make sure batteries are charged

- In bright light, use an ND filter so you can stop down without over exposure. Now you can slow the shutter for a smoother play back.

- Number of pictures for a Time Lapse:
One way to determine this is think about how long you want your final time lapse video clip to be. If you want the final video to be 30 seconds and you are going to shoot at 24 fps you would take 24 x 30 =720 pictures. This is a good starting point but if you are shooting fast exposures and you have the pictures too far apart the time-lapse could look choppy so when it doubt take more photos so the delay between them will be smaller. You can always speed up the clip in post if it is too long.

FOR TIME LAPSE DISCUSSION VISIT:

www.timelapse.kessleru.com

A GREAT BLOG ABOUT TIMELAPSE:
"Filming Astro Time Lapse with Tom Lowe"

blog.tylerginter.com/?p=562

www.timescapes.org
by Tom Lowe

With two ORACLE controllers, it is possible to setup a 3 axis time lapse by mounting a Revolution head to a slider or dolly. This section will cover a few tips for 3 axis work.•

When doing a 3 axis time lapse, it is much easier to record your slider/dolly move independently of your pan/tilt Revolution head move.

For example, let's say you want to do a 4 hour time lapse. You want your slider to move the camera left to right as your Revolution head starts your shot at the top of a tree and transitions to the bottom of a flower.

To do this 3 axis move, break it into two separate recordings. First, program one ORACLE to move the slider the desired distance over the 4 hour time period. You can use Simple Mode time lapse or SmartLapse to setup this 4 hour move.

Once you have the side to side move recorded, you will know the start position and ending position on that axis.

Now move the slider/dolly back to the start position and use your second ORACLE to position the start position of your Revolution head. Aim your camera where you want your time lapse to start and mark the head's position then move your slider/dolly to its ending point.

Now you can set the ending point of your Revolution head. The easiest way to do this is to use SmartLapse and record your desired pan/tilt head move. End it so your camera is pointed where you want your time lapse to complete.

All you have to do now is set this move to play back over 4 hours (the same time set on the first ORACLE for the slider/dolly move) via Smart-Lapse.

Return both the slider/dolly and the Revolution head back to their starting positions and begin playback on each ORACLE. Your move will now be synced over 4 hours and will produce a unison result that looks like it was programmed as one.

Q. *Is there a Simple mode for the Head Unit?*

A. No. Simple mode for a Head Unit would require calibration which would, in most cases, be too difficult.

Q. *Where is Simple mode and how do I access it?*

A. Simple mode is a hidden menu item. Refer to page 31 - step 3 for detailed instructions.

Q. *Why does the ORACLE turn off when I move the motor?*

A. The Battery is low or the Power Supply is rated below 4.16 Amps. Either charge the battery or use a proper power supply.

Q. *Why is the Menu eratic? Why can't I change the settings?*

A. Check the middle joystick button for damage.
If you find that it is damaged and you need to use the ORACLE ASAP, you can unscrew the top of the ORACLE and disconnect the blue wires from the circuit board. This will disable the middle joystick button. You can use the enter button in replace of it.
Please send your ORACLE in to Kessler Crane for repair.

FROM POWER OFF

```
Head Unit          <
Slider/TT          <
```

```
500      1.25S     LIN
- 0      - 0       0
```

```
Head/Slider/TT     <
Battery            <
```

```
SimpleMode PWR     <
Current Sense      <
```

```
Head Unit          <
Slider/TT          <
```

```
E       12.0 Volts
IIIII
```

```
Current Sense
Off
```

```
Camera             <
Motion Control     < v
```

```
Joystick           < ^
Utility            <
```

```
Camera Setup       <
Intervlmtr Start   <
```

```
1:Default Power
2:Simple Pwr ADJ
```

```
Pictures
         1000
```

```
Run Time
         1.75 H
```

```
Axis1  CCW    UP/DN <
Axis2  CCW    L/R
```

```
Exposure Time
         1.00 S
```

```
1:Start
ENTER:Test
```

```
Save: Enter
Cancel: Menu
```

```
Set Simple Mode
Power           40
```

```
Shutter Delay
         0.25 S
```

```
Pictures
1000
```

```
Save: Enter
Cancel: Menu
```

```
SmartLapse <
Live Record < v
```

```
Advanced           < ^
Simple             <
```

```
SmartLapse Record
Press 1, 2 or 3
```

```
Live Record
Press 1, 2 or 3
```

```
Continuous         <
No Intervlmtr      <
```

```
ShootMoveShoot     <
Continuous         < v
```

```
Stop Motion        < ^
No Intervlmtr      <
```

Note:
If in **Head Unit** mode,
Settings to be edited:
1:Pan   2:Tilt

If in **Slider/TT** mode,
Settings to be edited:
1:SLIDER   2:AXIS 2

```
Move Joystick to
Start Record
```

```
Move Joystick to
Start Record
```

```
1:Distance   3:Cal
2:Time    ENTER:Run
```

```
1:SLIDER   2:AXIS2
     ENTER: Run
```

```
Smart Record    - 1
- 0   - 0      22
```

```
Recording
1      16
```

```
SLIDER Motor ON
         0.05 S
```

```
Menu:Exit     1:Run
3:Tst    ENTER:Edit
```

PRESS DESIRED MEMORY BANK BUTTON (1, 2 or 3)

```
Please Return to
Start Position
```

```
SLIDER Motor OFF
         0.05 S
```

```
Slider On     5945
Axis 2 On     5945
```

```
ShootMoveShoot     <
Continuous         < v
```

```
Stop Motion        < ^
No Intervlmtr      <
```

```
SLIDER Power
            40
```

```
Menu:Exit    1:Run
3:Tst    ENTER:Edit
```

```
1: 10 Mins   <
2: 30 Mins   <
```

```
Y:Distance
   2.8IN      7.1CM
```

```
SLIDER Cycles
          6000
```

```
Pictures
         2000
```

```
Slider On     5945
```

```
Set Start Point
ENTER:Begin
```

```
Y:Time
           1.69 H
```

```
Min Time Needed
Synced     1.68 H
```

```
Y:Playback
Time
```

```
Slider On      5945
```

```
AXIS 2 Motor ON
          0.05 S
```

```
Please Return to
Start Position
```

```
Adj Dist Moved
  8.45IN   21.48CM
```

```
AXIS 2 Motor OFF
          0.05 S
```

Note:
If **ShootMoveShoot** is chosen,
Axis 2 will copy values from **Axis 1** for:
Motor ON, Motor OFF, Cycles.
(**Axis2/Tilt** will only be shown)

```
Memory 1
         1.17 H
```

```
Save: Enter
Cancel: Menu
```

```
AXIS 2 Power
            40
```

```
AXIS 2 Cycles
          6000
```