Colin Henderson
Digital Bird Motion Control

Digital Bird PTZplus WIFI Control Quickstart

The Digital Bird PTZplus WIFI controller is an essential part of the Bird Camera Motion Control system project. Only one controller is required to control all of the devices on the system including PTZ heads, Slider Mini Jib, Video Turntable/Pan head and more. Even if you are using the system purely in wired VISCA mode the WIFI controller is currently still required for system setup tasks. The WIFI controller can also be used in tandem with VISCA control provided there is a good WIFI signal between the controller and the devices. All programmed moves require the WIFI controller.

Home Menu Layout
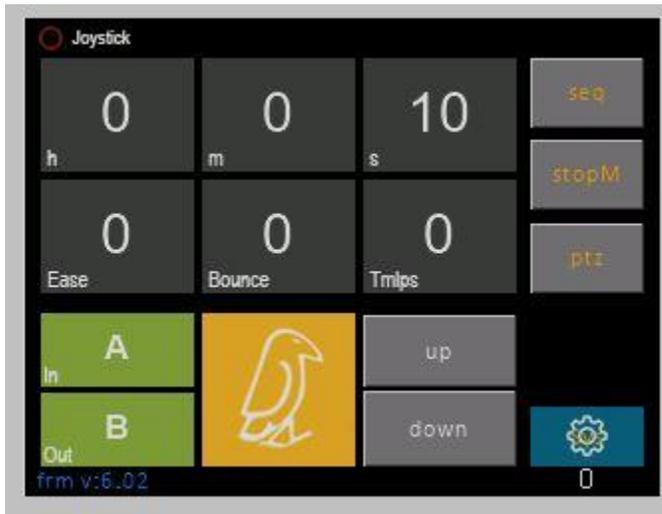
When you first power on the controller you will be taken to the home menu which provides all the basic controls for A-B programmed moves.

- **[hours]**, **[minute's]**, and **[seconds]**.
  On the top we have the three time presets namelyThese control how long we want our move to take. Note these values are approximate and do not take account of any easing which may be applied.

- **[Ease]** also known as ramp or acceleration controls how fast the system accelerates and decelerates at the start and end of each move. The value can be set from 0-3 0 being no ease, start and stop as quickly as possible up to 3 which provides a smooth stop and start.

- **[Bounce]** As the name suggests tells the system how many times you would like it to bounce back and forward between A and B key points. Note the numbers will rise up to 12 thereafter it will display **INF** assuming you just want it to keep going on and on for example if you were filming an interview.

- **[Tmlps]** Allows you to use the system for time-lapse recording. For this you will need to connect your camera to one of the shutter ports on any of the devices.The **[Tmlps]** button moves up in steps of 25 frames. When timelapse is set above 0 the **[seconds]** button above will default to 2". This value now represents the number of seconds we wan't the system to pause between time-lapse move's. If the camera system is set up in Bulb mode then this will also be the number of seconds the camera shutter remains open. The system also allows a little more time than this to ensure the system is completely stationary before the shutter is triggered.

A-B Key position setup

[IN] and **[OUT]**

Bottom left of the home menu you will see the green buttons which are used to set the start and end or in and out positions for our move.

To set the start point press the **[IN]** button once to see it turn blue. This will release all the steppers on the system allowing you to manually move the camera to your desired start point. This is true for all parts of the system including the slider jib and pan tilt head. When you are happy press the **[IN]** button once more. The button should turn green and the steepers will once again lock the system in position.
Use the **[OUT]** button in the same way and adjust the camera position to your desired out point or end of move.This time when you press the **[OUT]** button again to confirm your position the system will automatically return the system to the start position ready to play the move.

To play your move

To play the move simply press the large yellow button with the bird to play your move. If you have the PTZplus controller you can also use the tactile **LED** button to play the move. If you have a cable attached between your camera and the shutter port on any of the devices the camera will start and stop recording at the start and end of the move.

Using the PTZplus joystick to set IN and OUT positions
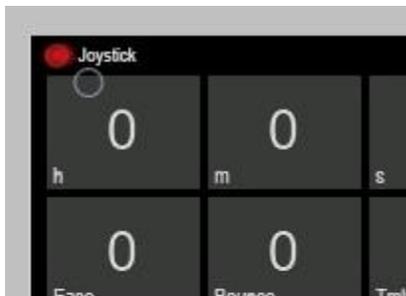
If you are using the PTZplus controller you can also use the joysticks on the controller to move the system to your required in and out positions. To do this you must first press the small button on top of the large 3 axis joystick. On the display you should see the small dot next to the word "joystick" at the top left corner turn solid red.

When you press either the **[IN]** or **[OUT]** buttons you can now use the joysticks on the controller to move the devices to their required positions.

Other Functions on home menu

On the right hand side of the display you will see three more buttons titled **[SEQ]** six key sequencer, **[stopM]** stop motion, and **[PTZ]** the digital bird WIFI PTZ live camera move setup. which are covered under their own section.

Bottom Right you will see the small gear icon for the configuration menu covered later under System Configuration.

Tip: *If power is cycled on any of your devices while performing a move setup for example if a battery runs flat or for any other reason. you should restart the controller also, since the controller may have become out of step with the devices.*
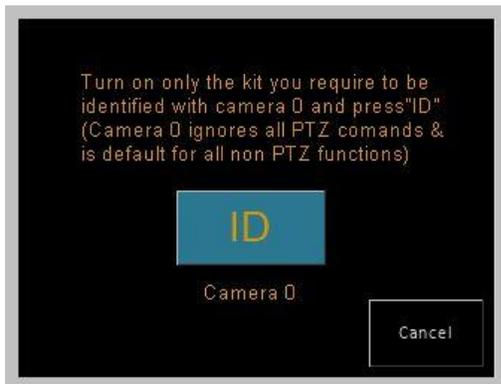
The PTZ functions menu

WIFI PTZ Menu

With the latest update the Digital Bird WIFI PTZ menu now allows you to set up to 4 camera systems for live camera moves. Each camera system may consist of a Pan Tilt head combined with any number of other Digital Bird Devices for example a slider or the mini Jib.

Slaving your devices to a Camera System

- Select **[Cam1]** from the PTZ menu
- Turn on **only** the parts of your system you want to be slave to camera 1 (This may be just a single device or a number of devices working together as a system)
- Select the **[IDset]** button from the PTZ menu. You should see a splash screen with a large blue button in the center labeled **[ID]** which you can now press. All of the devices turned on at the start of this procedure should now be slave to Camera1. You can confirm this by checking the small OLED display on each device. This should confirm the devices all have an ID of 1

- You can set up to 4 camera systems in this way by first selecting **[Cam1-4]** in the PTZ window and using the **[IDset]** button to slave the devices.

Tip:

When you are setting up a system you must ensure that only the devices you wish to be part of that system are turned on otherwise you will overwrite the ID of your other setups!

When a system is set up for PTZ control ID 1-4 you cannot use it for programmed moves. A system ID must be 0 for programmed moves. You can set a system back to 0 by selecting [ID0] from the settings menu on the home page. Once again ensure that only the devices you want to change ID are turned on when you use this function.

Saving PTZ presets or Poses

Poses or Presets are recorded positions for all axes on your system which can be recalled with the tap of a button. Poses saved using the WIFI controller can also be recalled from OBS using the VISCA connection however vMix does not use the memory slots on the head but keeps its own record of the positions and will therefore not recognise presets saved from the WIFI controller.

With the latest update each camera system can record up to 9 poses which can be recalled simply by pressing one of the six **[Pose]** buttons. These poses are relevant only to the camera system currently highlighted.

- Select the [**pose1-9]** you want to record. The button will turn yellow. If a pose has previously been recorded on that button the system will move to that position.
- To change the position simply use the joysticks to position your system as required then select **[SavePose]** to store that position to the current button.

While only nine poses are available for the Digital Bird WIFI PTZ setup each PTZ head can store up to 16 poses when using the system wired with OBS. Unlimited with vMix

All to Pose

The [**All to Pose**] button is a new feature on V6.03 which offers you a quick and easy way to have all 4 camera systems move to the same Pose/Preset number. This may be very useful if for example you want all 4 of your cameras to target a particular Actor on your set quicklay for example a lead singer or the drummer etc. Using the function requires some pre- thought regarding how you set up your Poses / Presets beforehand.

Example: If we say we want to use preset 4 to point at the drummer in a band using camera 1. Then it would be simplest to use preset 4 when we set up the drummer on the other 3 cameras also. In this way regardless which camera we are controlling preset or Pose 4 is always a view of the drummer.

If we then decide we want all 4 cameras to quicklay direct their attention to the drummer we can select pose/Preset 4 on any of the cameras then by selecting [**All to Pose**] the system will tell the other 3 cameras to also move to Pose 4. In this way if we are ISO recording we have 4 views of the drummer performing his drum solo from different points of view around the stage.

Setting Focus Zoom and Tilt limits

Each camera system and lens arrangement will require different limits to be set on the DB3 head. This is the case regardless of whether you are using the system in WIFI or wired VISCA mode. We can set those limits using the **[Limits]** button on the PTZ menu.

Note*: if you are using the balanced or OT head's you can only set limits for the Focus or Zoom motor not tilt. This may change with a future update.*

- Select **[Limits]** You will be presented with a splash screen asking you to turn both the zoom and focus motors to their end stops and tilt the head down as far as it will go without making contact with the body of the head. now press the large blue **[Next]** at the center of the screen.

- Now tilt the camera up as far as it will go and turn the focus and zoom rings to their furthest stop in the opposite direction. Press **[Next]** again and the system should return the head to its home position. You can test that Tilt Focus and Zoom are restrained from moving past the limits you set. Limits are retained even after the power on the head has been recycled.

Tip:

You can start and stop the focus/ zoom limits at either end of the turn however this may mean that the zoom and focus in OBS and vMix are reversed. If this is the case, start from the opposite stop!

Clearing all Poses and Key positions back to zero

If your setup has moved to a new location or you are starting fresh with a new set, your stored key points and PTZ poses will likely no longer be relevant. To set all key points and PTZ Poses back to zero select the **[ClrKeys]** button from the settings menu on the Home page.

Tip

If the controller is in the PTZ menu when the head is powered off and on again the controller will be out of step with the head. To fix this simply go back to the home menu then back again into the PTZ menu to bring the head back into step with the controller. (This is an issue I hope to address with a future update)

[A-B prog] [Seq prog] and [Bounce]
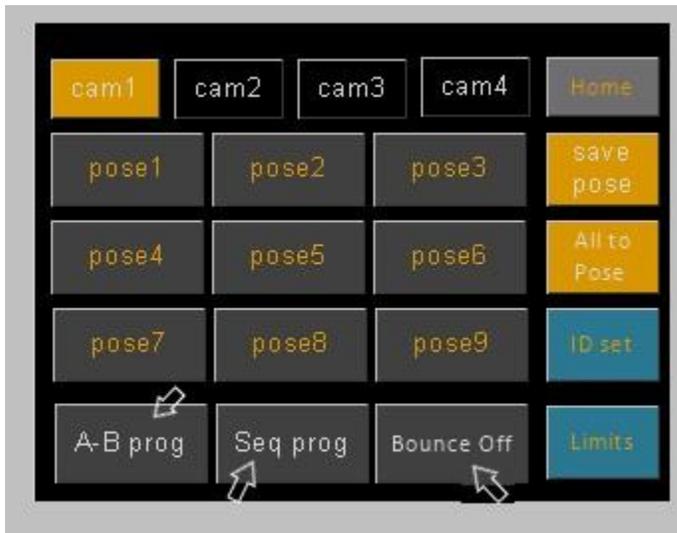
At the bottom of the PTZ menu you will see three buttons: **[A-B prog] [Seq prog] and [Bounce]** this is a new feature on V6. Essentially these buttons allow you to call your pre-programmed A-B move and sequencer moves as though they were PTZ presets. Bounce can be either on or off for the moves. Essentially the system utilizes presets 15 and 16 for this purpose which allows you to start either of the programmed moves from OBS or your PTZ controller using VISCA commands.

Example: You have a DB3 head mounted on the Mini Jib and you set up an A_B move from the home menu which lifts the camera from the piano player's hands to his face.

During the performance you can trigger this move by selecting the **[A_B prog]** button from the PTZ menu. If **[Bounce]** is on then the system repeats the move indefinitely until you turn bounce off. This move can also be triggered from OBS by calling **Preset 15** for the A-B program or **Preset16** for the Sequencer program.

Sequencer Menu

Six Key Sequencer
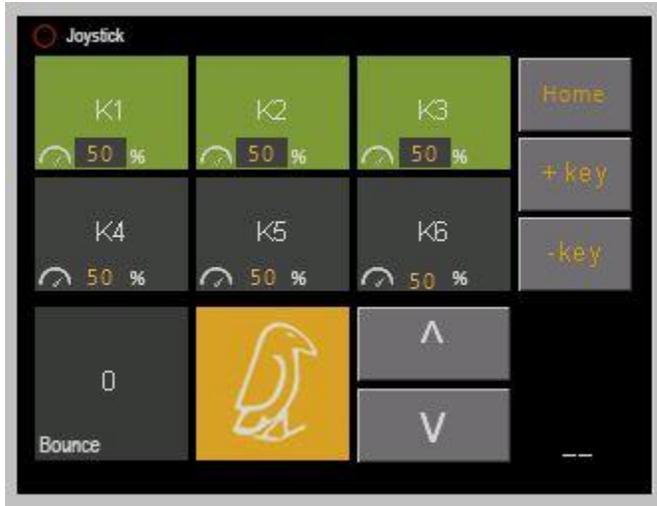
The Digital Bird sequencer allows you to set up to 6 key positions for a single move.

At the top by default you will see three buttons labeled **[K1-K3]** up to 6 key points can be recorded by selecting the **[+key]** function on the right of the display to add another 3 key points.

Setting up your keypoints

select your first keypoint **[K1]** and the button should turn blue. You can now adjust your system's position as required including any device you are currently using, slider, Jip, PTZ head focus zoom etc etc. When happy, select **[K1]** again to confirm the position for the complete system.

Perform the same routine for each of the Key points. When happy press the yellow play button to see the move performed.

Adjusting keypoint speeds

Speed in the sequencer is handled differently from the A-B moves. By default the speed setting for each keypoint is 50% . If for example we wish to increase the speed between K1 and K2 we can select **[K1]** and using the up and down buttons increase or decrease the value over that part of the move.

Once key points have been set, pressing any of the **[K1-6]** buttons will move the system to the stored position.

Delete or clear all stored keypoints

All key points are stored on the system even when power is cycled. For a fresh setup all keypoint can be cleared from the setup button in the home menu using the **[ClrKeys]** option.

[Bounce] on the sequencer works in the same way it does for simple A-B moves.

Using the PTZplus joystick to set IN and OUT positions

As with the A-B moves. If you are using the PTZplus controller you can also use the joysticks on the controller to move the system to your required in and out positions. To do this you must first press the small button on top of the large 3 axis joystick. On the display you should see the small dot next to the word "joystick" at the top left corner turn solid red.

Know when you press either the **[K1-6]** buttons you can use the joysticks on the controller to move the devices to their required positions.

Stop Motion Menu
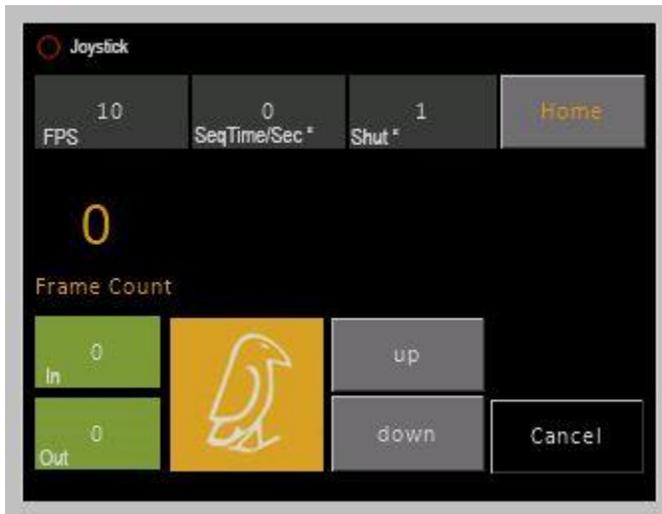
The Digital Bird Stop motion system provides you with all the basic functions required for stop motion animation control.

1. Use the [FPS] button to set your frames per second framerate
2. Use the [SeqTimeSec] to set how many seconds of animation you which to record
3. Use the [Shut] button to control how long the shutter is to remain open. This is only viable if the camera is in Bulb mode and your exposure time is longer than 1" more often you will leave this to the camera.
4. [In] and [Out] buttons are used to set your start and end positions in the same way they work on the home menu.
5. Press the [Bird] to start recording your frames and you should see the frame counter counting down the frames as you go.

Tip:

It is probably wize not to use batteries when recording long stop motion sequences since a battery failure in the middle of your recorded sequence will send you back to the start!

Setup Configuration Menu
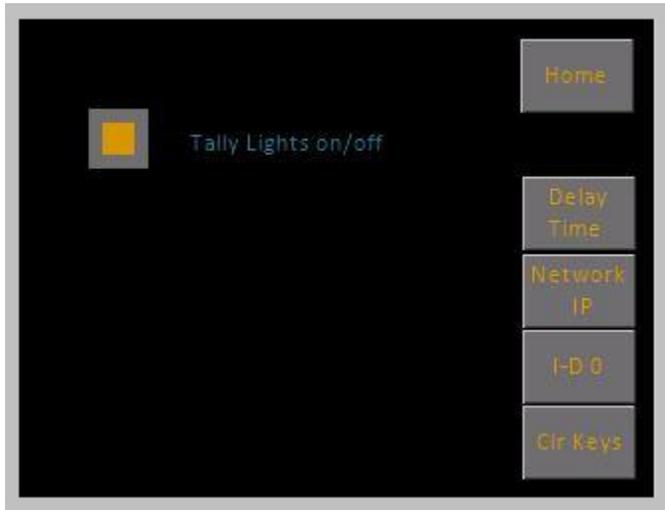
New to release v6.0 of the Digital Bird control system the settings menu currently offers a growing number of system variables and setup options.

Delay Time
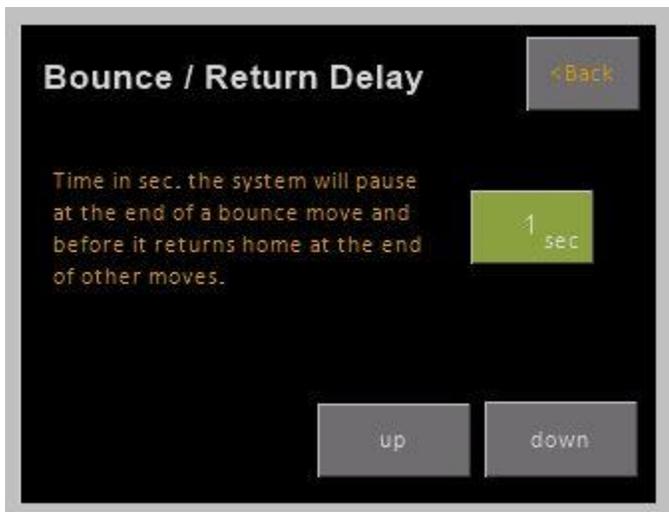
The **[Delay Time]** function sets a delay for two senrose:

- The delay at the end of A-B move before the camera stops recording and returns to home.
- The delay at the start and end of any Bounce moves

By default this delay is set to 1" however you can increase this up to 10" using the delay setup function. Once set this is stored to memory and is recalled again on startup.

Network IP address setup for DB3 VISCA heads only

This is where we set the DB3 head network IP address. When using the system wired over VISCA each PTZ head must have its own unique IP address. Any number of heads can be controlled with OBS or vMix provided each has its own unique address. When you first select this option you will see a splash screen warning you that only one head should be powered up when performing this task. If two or more heads are powered up they will all be stamped with the same IP address!

- Device IP address is the unique address you are giving this particular head. The first four parts of the IP should match the IP of your controlling computer's network . So for example if your controlling computer's IP is **192.168.100.1** then your device address might be **192.168.100.80** provided 80 is not already in use on your network.
- The controller IP is a single box underneath since the first four parts of the controller IP will be the same as the device IP so in the case above this will be **1**
- The UDP box should be left as **1259**
- When you are happy select **[SET]** You will be issued instructions to turn off your PTZ head. Unplug any network cables and restart the system

System ID-0

This sets the system ID for any system currently powered on back to 0. A device must have an ID of 0 to use the programmed moves. If using the system in PTZ mode ID may be 1-3.

ClrKeys

Clearing all Poses and Key positions back to zero

If your setup has moved to a new location or you are starting fresh with a new set, your stored key points and PTZ poses will likely no longer be relevant. To set all key points and PTZ Poses back to zero select the **[ClrKeys]** button.

Tally Lights

This allows you to turn off tally lights if you are concerned about reflections on your subject. Currently this is not sticky so you will have to turn it off each time you power the system. (This will be addressed in a future update)