



## ADVANCED SETTINGS AND CONFIGURATIONS

### Phoenix commands for Scripting and Bluetooth Control

Underneath it all, the Phoenix Hoop is command line driven, so all functions can be accessed via simple commands that can be issued from scripts, Bluetooth, and customized button mappings. This makes for an extremely flexible platform for scripting and customized configuration. See the end of the tutorial for *Choreographed Scripting*.

**\*NOTE\*** We have a “Script Designer Tool” located on our website under the “Tutorial” tab. Here you can drag and drop your chosen patterns onto a timeline and a script will be created. Then you copy the contents of the script into your TextEdit or NotePad program and save it onto your hoop. Also see our Scripting tutorial video for more details on scripting.

<b>cd</b>	Change directory ex. "cd favorites" would move to a folder named favorites
<b>btconfig</b>	Reconfigures bluetooth. ex "btconfig phoenix 1234" would set the name to phoenix and the pin to 1234
<b>bootloader</b>	Sets the hoop to bootloader mode for updates. *Do not use unless you are going to update the hoop. It will stay in bootloader mode until updated*
<b>decrease &lt;param&gt;</b>	Decreases a numeric parameter. Possible parameters BRIGHTNESS (**Step = 20) AUTOPLAY_DELAY (**Step = 1000) SPEED (**Step = 10) CHASE (**Step = 1)
<b>increase &lt;param&gt;</b>	Increases a numeric parameter. Possible parameters BRIGHTNESS (**Step = 20) AUTOPLAY_DELAY (**Step = 1000) SPEED (**Step = 10) CHASE (**Step = 1)
<b>download &lt;filename&gt;</b>	Download a file from the hoop. *BUGGY

<b>upload</b> <b>&lt;filename&gt;</b> <b>[DE,AD,BE,EF]</b>	Upload a file to the hoop. *BUGGY
<b>favorite</b> <b>&lt;pattern&gt;</b>	Copies <pattern> to a folder named 'favorites'. If <pattern> is unspecified, it uses the current pattern. *BUGGY
<b>get &lt;param&gt;</b>	Gets value of specified parameters. Valid parameters (PATTERN_LIST, FOLDER_LIST, VARS, HOOP_INFO, ACCELEROMETER)
<b>save_config</b>	Writes current settings to settings.cfg
<b>load_config</b>	Loads settings.cfg
<b>next_folder</b>	Move to next folder
<b>next_pattern</b>	Move to next pattern
<b>prev_folder</b>	Move to previous folder
<b>prev_pattern</b>	Move to previous pattern
<b>save_and_sleep</b>	Saves the current settings and puts the hoop into sleep mode
<b>restart_script</b>	Restarts the selected script.
<b>play</b> <b>&lt;pattern.bmp&gt;</b> <b>&lt;fps&gt;</b>	Plays specified pattern. If FPS is provided: -When in script mode, this indicates the number of times the pattern should play before the next script command -When in normal hoop mode this specifies the desired Frames Per Second to play the pattern.
<b>streampattern</b>	Sets the hoop to receive a stream of data as a pattern via bluetooth.. not really tested or used. But could be used to feed patterns to the hoop wirelessly
<b>toggle &lt;param&gt;</b>	Toggles a parameter. Valid params: POWER - Puts the hoop to sleep/wakes the hoop up AUTOPLAY - Turns AUTOPLAY on/off
<b>map &lt;BUTTON&gt;</b> <b>"command"</b>	Maps a button to a particular command. command must be <= 40 chars in length  Valid Buttons: IR_POWER IR_CH_UP IR_CH_DOWN IR_VOL_UP IR_VOL_DOWN IR_MUTE IR_AVTV
<b>set &lt;param&gt;</b> <b>&lt;value&gt;</b>	Used to set values of parameters. Valid parameters are as follows: BRIGHTNESS [0-255] - Sets BRIGHTNESS. ENABLE_BRIGHTNESS_AUTOADJUST [0,1] - Enables or disables

the automatic brightness adjustment feature that dims really bright patterns.  
ENABLE\_LOW\_BATTERY\_CHECK [0,1] - Enables or disables the battery monitor. Turning this off can decrease the time it takes to change patterns.

BRIGHTNESS\_ADJUST\_RATIO [0.5-2.0] - Modifies how drastically the BRIGHTNESS\_AUTOADJUST feature dims bright patterns. Lower values means more drastic dimming.

NUM\_LEDS [0-180] - Sets the number of LEDs in device. Best performance when matched to the physical number of LEDs of the device.

BAUD [9600,57600,etc] - Sets BAUD rate for communication with Bluetooth/Serial

CHASE [0-255] - Sets CHASE value. Pattern will shift x number of pixels with each update.

AUTOPLAY [0,1] - Enables/Disables AUTOPLAY (Automatic pattern changes)

SCRIPT\_NAME "script.txt" - Changes the active script to "script.txt"

ENABLE\_ACCELEROMETER [0,1] - Enables accelerometer if device is equipped with it

STREAM\_ACCELEROMETER [0,1] - Streams accelerometer data over bluetooth if device is equipped with it

GYRO\_POI\_COMPENSATION [0,1] - Enables/Disables SpeedSense (Speed compensation)

MENU [0,1] - Unfinished feature. Probably will be removed

SHUFFLE [0,1] - Replaced by AUTOPLAY

ENABLE\_JOYSTICK [0,1] - Enables or Disables the joystick if device is equipped with it

SPEED [0-???) - Sets FPS

MAX\_SPEED [0-???) - Sets FPS (Same as SPEED)

SORT\_MODE [ALPHA,FAST,RANDOM] - Sets sorting mode when navigating patterns.

ALPHA - Alphabetical

FAST - Logical order on disk. (Fastest pattern

changes)

RANDOM - Chooses next pattern randomly

AUTOPLAY\_DELAY [0-???) - Sets delay between pattern changes when in AUTOPLAY mode

IMG\_VERTICAL\_ORIENTATION [LEFT\_TO\_RIGHT, RIGHT\_TO\_LEFT] - Flips patterns horizontally (Yes, these seem backwards but there is a reason behind it)

IMG\_HORIZONTAL\_ORIENTATION [TOP\_TO\_BOTTOM, BOTTOM\_TO\_TOP] - Flips Patterns vertically

AUTO\_ORIENT [0,1] - Auto orients the pattern if the hoop decides it's right-side up or upside down based on accelerometer data

QUICK\_PATTERN - ?? Don't remember. some unfinished feature.

NAME [hoop name] - Set the name of the hoop

HW\_VER [###] - Set the version of the hoop hardware

SW\_VER [###] - Set the version of the hoop software

ENABLE\_DEBUG\_LOG [0,1] - Enables or disables logging of debug output to output.txt

MAX\_CHARGES [0,255] - Configures the number of charges used in automated battery tests.

ChargeRetentionThreshold [0-32767] - Configures the period to wait when testing the charge retention during automated battery tests. Value is in seconds.

DischargeRetentionThreshold [0-32767] - Configures the period to

	<p>wait when testing the discharge retention during automated battery tests. Value is in seconds.</p> <p>DischargeRetentionThreshold [0-32767] - Configures the period to wait when testing the discharge retention during automated battery tests. Value is in seconds.</p> <p>CHARGED_VOLTAGE_MIN [3.3-4.2] - Configures the lowest voltage of what is considered charged for automated battery tests. Value is in volts.</p> <p>CHARGED_VOLTAGE_MAX [3.3-4.2] - Configures the upper voltage of what is considered charged for automated battery tests. Value is in volts.</p> <p>DISCHARGED_VOLTAGE_MIN [0-3.6] - Configures the lowest voltage of what is considered discharged for automated battery tests. Value is in volts.</p> <p>DISCHARGED_VOLTAGE_MAX [0-3.6] - Configures the upper voltage of what is considered discharged for automated battery tests. Value is in volts.</p> <p>CHARGE_TIME_MAX [0-32767] - Configures the upper limit of what is considered an acceptable charge time for automated battery tests. Value is in seconds.</p> <p>DISCHARGE_TIME_MIN [0-32767] - Configures the lower limit of what is considered an acceptable discharge time for automated battery tests. Value is in seconds.</p> <p>DATAMODE [COMMAND, STREAMING, FILE, MIDI] - COMMAND (DEFAULT)</p> <p>STREAMING is for streaming patterns to the hoop</p> <p>FILE is for sending files to the hoop</p> <p>MIDI is for streaming a MIDI signal to the hoop to control it via MIDI over bluetooth</p>

## **SCRIPTING**

The Phoenix, like all other SpinFX props can be scripted to create complex choreographed performances. All commands known to the operating system can be used in a script. The format is a simple timecode followed by the command to run at that time. Example Format HH:MM:SS.mmm [COMMAND] where HH is Hours, MM is Minutes, SS is seconds, and mmm is milliseconds.

### **Example script**

```
00:00:00.000 play white_strobe.bmp
00:00:01.000 set BRIGHTNESS 20
00:00:02.000 set BRIGHTNESS 40
00:00:03.000 set BRIGHTNESS 60
00:00:04.000 set BRIGHTNESS 80
00:00:05.000 set BRIGHTNESS 100
00:00:06.000 set BRIGHTNESS 120
```

```
00:00:07.000 set BRIGHTNESS 140
00:00:08.000 set BRIGHTNESS 160
00:00:09.000 set BRIGHTNESS 180
00:00:10.000 set BRIGHTNESS 200
00:00:20.000 play iso_rainbow.bmp
00:00:30.000 play butterfly.bmp
00:01:10.500 play egypt.bmp
00:01:30.000 set BRIGHTNESS 255
00:01:30.000 play white_strobe.bmp
00:01:40.000 play celtic_spiral.bmp
00:01:40.000 set AUTOPLAY 1
```

You can load the same script or unique scripts onto multiple SpinFX props for synchronized choreographed performances. Please reference our Scripting and Choreo Mode tutorials for more details.