

# MANUAL FOR PSILUZION HOOP

May 15, 2019

## INSTRUCTIONS FOR IMMEDIATE FUN

**1/ SECURE HOOP TOGETHER WITH TWIST...SLIDE...TWIST ( USE EXACT ALIGNMENT DON'T FORCE)**

**2/ PRESS BUTTON GENTLY with HOOP VERTICAL and SWITCH AT TOP**

**3/ USE FORWARD FLIPS TO SPEED UP and BACKWARD FLIPS to SLOW DOWN**

**YOU WILL HAVE 24 DIFFERENT cycling and changing displays**

**4/ PRESS BUTTON GENTLY WITH HOOP VERTICAL and SWITCH AT BOTTOM**

**YOU WILL HAVE COUNTLESS displays set to SHUFFLE RANDOMLY.**

**5/ FLIPS TO SPEED UP AND SLOW DOWN the SHUFFLE**

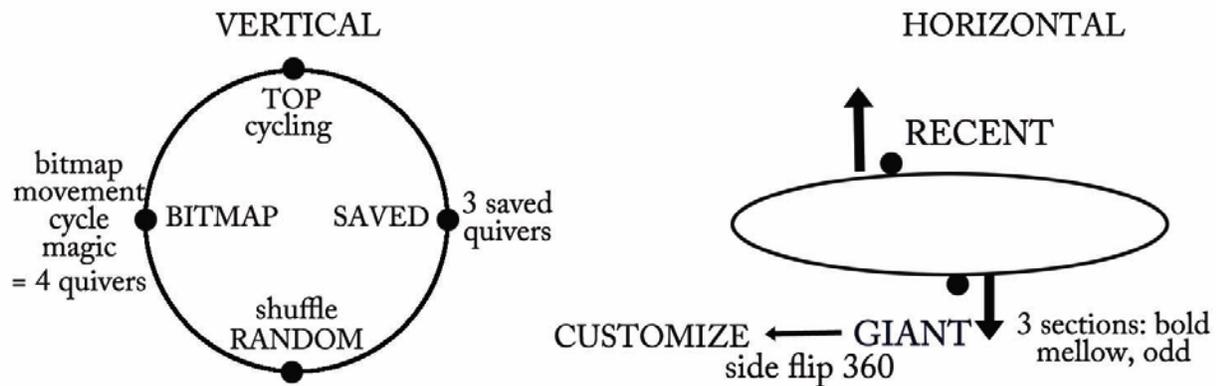
**6/ 2 BUTTON PUSHES TO STOP CYCLE OR SHUFFLE. 2 MORE BUTTON PUSHES TO LOCK**

**7/ READ THIS MANUAL, USE THE CHEAT SHEETS, SEE VIDS ON WEB SITE**

**8/ USE A LARGE MIRROR TO GET BETTER FEEDBACK**

## OVERVIEW OF PSILUZION HOOP FUNCTIONS

### TURN HOOP ON IN ANY OF 6 ORIENTATIONS



The orientations are, with their names, confirmation colors and brief description:

1 - vertical / switch at top UP TOP 20 Turquoise confirmation .

Cycles through 24 clear, bright and beautiful HOOPS. In over half of them, isolations vary segment pattern. In about 1/3 of these HOOPS isolations vary colors.

2 - vertical / switch at bottom DOWN RANDOM Red confirmation

3 – horizontal / switch up FACE UP RECENT Purple confirmation Here are the last 15 HOOPS that you LOCKED.

4 – horizontal / switch down FACE DOWN GIANT QUIVER Blue confirmation

5 vertical / switch to left side LEFT BITMAPS Pink confirmation

6 – vertical/switch to right side. RIGHT SAVED yellow confirmation

## CONNECTING AND DISCONNECTING THE HOOP

The hoop will arrive curled up and not joined at the connector. Cut the tape that is holding the hoop curled and let it uncurl naturally. There is a wider piece of tubing taped over the switch area – this is to prevent the hoop from turning on during shipping, and give extra protection to the switch and USB. Keep this small piece of tubing for when you ship or travel with the hoop. **Remove this piece of tubing before hooping.**

### TO CONNECT:

Hold the switch end of the hoop tubing in the right hand, and the other end of the hoop tubing in the left hand.

Slide the two hands together till the knob on the connector is right between and next to the two alignment lines on the left side.

Twist the hoop tubing about a 1/8 inch to line up the tongue in one hand with the grooves in the other, and then slide the two together. The shorter line will show you the exact amount of twist needed. Twist the top of the right hand towards you and the top of the left hand away from you.

**DISCONNECT:** : To disconnect you need to reverse the procedure. Easier to learn sometimes wearing a rubber glove to give you more traction. You **MUST** twist the tube the correct amount before pulling apart. Check the little raised lines on the connector to make sure you have the right amount of twist.

### TURNING THE HOOP ON AND OFF

A short push on the button switch will turn the hoop on. The push may need to be quite firm but don't force anything. It's a touch switch, not mechanical. The hoop will go through a couple quick confirmation patterns (which will be explained later) and then into a display.

To turn the hoop off requires a longer push (so that there is less possibility of turning the hoop off accidentally). The "OFF" function has various steps. To fully turn the hoop off requires a lengthy hold on the button, around 2 to 3 seconds, which can seem like a long time. (Slowly count 1001, 1002, 1003). While you are holding the button switch down, the display will change several times and then finally go dark. At this point release the button switch. After a second, the hoop will flash white and then stay dark and will be in power save OFF mode.

By holding down the switch for a shorter time you access the "Change orientation" function which will be explained later on. Also you will see the green display that indicates by the number of LEDs lit how much charge remains in the hoop.

If you are in the middle of hooping and you see this kind of green display, (a steady set of green LEDs going partway or all the way around the hoop) it means you are pushing down the button-switch, so immediately release/change your grip on the hoop before the hoop shuts off. Learn to hold the hoop on one side or the other of the switch and avoid pushing down on the switch itself while you are hooping. You will soon become sensitive to where the switch is, and the green display will help you to keep the hoop from turning off unexpectedly. If the hoop is without any movement for several seconds, it gradually dims down a bit to save power. Any movement will then wake it up.

## **SIMPLE FAST LOCK, UNLOCK, START / STOP CYCLING MOVES**

If the hoop is CYCLING, 2 quick button presses takes it out of cycle to manual.

LOCK: Press the button 2 times rapidly. The presses should be as short as can be, provided they are distinct and both occur within about a second.

Doesn't matter where the button is at the time, how the hoop is oriented or what mode you are in. You will get a red confirmation. There may be quite a pause before the red signal.

Note that it is the "HOOP" and not the display that is locked, so if the HOOP has a display that is constantly varying or cycling or responding to movement in a certain way, it will still do all that when its locked. | It just wont change into another HOOP until unlocked, so you cant flip from a locked HOOP.

You can leave a HOOP LOCKED and go to another orientation and the locked HOOP will be there still locked next time you go back to that orientation.

To UNLOCK the HOOP and allow navigation to work again, do 2 quick button pushes, and the next hoop appears, unlocked.

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**TO TURN CYCLE ON = 3 SHORT FAST BUTTON PRESSES = GREEN FLASH**  
**TO THEN TURN COLOR CYCLE ON = 3 SHORT PUSHES = YELLOW FLASH**  
**TO LOCK HOOP WITH COLOR CYCLE ON = 2 PUSHES = RED FLASH**  
**TO UNLOCK FROM COLOR CYCLE = 2 MORE PUSHES = NEXT HOOP**  
**TO TURN OFF CYCLE = 2 BUTTON PUSHES = WHITE FLASH**

Locking one orientation will not affect the other 5 orientations. But you can have several LOCKED HOOPS waiting for you, each in a different orientation.

Each time you LOCK a HOOP it is saved in the RECENT (horizontal/face up) orientation. You can have 15 of your favorites there as an addition to the 9 more permanently stored SAVED orientation HOOPS.

## **USEFUL and IMPORTANT DEFINITIONS for the PSILUZION hoop**

**BITMAPS:** An image made in photoshop (or similar program) that the psiluzion can display. About half the HOOPS in the psiluzion are either entirely a bitmap or have bitmap parts. The other displays are custom coded. Bitmaps allow logos and words and simple images and complex geometry, but their colors and patterns are usually less modifiable than the codes patterns. In the psiluzion bitmaps can vary their repeat numbers, how they fade or change, how they vary size and if they cycle colors.

**FLIP:** a slow and steady movement of the whole hoop, usually done holding the hoop with both hands in front of the body. They are used for navigation, to move from one HOOP to another, or between sets of hoops. When hoop is **CYCLING**, used to speed up or slow down the **SHUFFLE/CYCLE** rates. In easy customization mode front and back flips change settings.

Front and back flips start with the hoop vertical and the switch at the top, facing you. Side flips start with the hoop horizontal and the switch to your left side, at 9 o'clock. A flip may need to be a full 360 degrees or it could be just 180.

**"HOOP":** as well as using this word to refer to the physical object of the whole psiluzion wheel, we also use HOOP to mean a distinct functional UNIT with its own set of displays, settings, modes etc . A HOOP can be saved or locked. A HOOP could have a whole series of other displays in it that are cycling etc. You flip the hoop to change HOOPS. You could refer to a "HOOP" as a setting, display or mode, but many of the HOOPS in the psiluzion have their own settings, displays and modes that can be changed. There are a couple hundred distinct HOOPS in the psiluzion, and most of them can be varied in dozens of ways, giving you thousands of different display possibilities. HOOP in caps means the functional unit in the psiluzion hoop.

**ISOLATION:** turning the hoop like a steering wheel, in either direction, with the hoop in a vertical orientation.

**ORIENTATION:** One of 6 positions of the hoop that serve to access different functions. Turning the hoop ON in any of these orientations will access different modes and HOOPS. When you turn the hoop on in any of these 6 positions, you will get a confirmation color signal for that particular orientation.

**QUIVER:** a set of HOOPS. In the psiluzion hoop each orientation has one or more quivers.

**SHUFFLE vs CYCLE:** Shuffle is a random selection. RANDOM mode operates as a SHUFFLE. Cycle is a selection of one thing after another but always in the same order. Some HOOPS have colors that CYCLE. Other HOOPS have a whole series of displays that are cycling. You can set a quiver of HOOPS to CYCLE. (Three button pushes).

**SIGNAL MOVES:** There are combinations of flips and isolations that signal the hoop to do different things – like changing brightness, saving a HOOP, setting sensitivity, selecting a color.

**SWITCH:** the psiluzion has just one electronic switch that has several functions – ON/OFF, half off (from one orientation to another without turning the hoop off), LOCK/UNLOCK, toggle CYCLE on and off.

## DETAILS OF EACH ORIENTATION

**TOP 20 UP vertical / switch at top Turquoise confirmation.**

This top orientation actually has 24 “HOOPS” in it.

They are on CYCLE, so one HOOP will change to the next one automatically.

Default cycle speed is now around 2 seconds (around 30 BPM) ...to change this :

FRONT FLIPS: speed up - Currently goes up to around 100 bpm (nearly 2 times per second)

BACK FLIPS: slow down - Down to around once every 15 seconds (4 BPM)

TO turn off cycling: 2 button pushes (quickly) and get white confirmation color

Now you are on manual. Manual = front flips take you to the next display/HOOP,

back flips take you to previous display/HOOP (= navigate with flips)

Then To STOP/HOLD/LOCK a HOOP: 2 button pushes. RED confirmation . LOCK prevents navigation but allows other internal changes in the HOOP, like isolation control, movement responsiveness, color cycle and so on.

To then UNLOCK : 2 button pushes (UNLOCKS,GOES TO NEXT HOOP and stays in manual navigation) ....or if you want to go back to cyle: 3 button presses...GREEN confirmation

To go from regular cycling HOOPS to cycling colors: 3 button pushes (confirmation color YELLOW)

NOTE: the color cycling does not apply to the bitmap portions of these HOOPS. Most of the HOOPS in the TOP orientation are combinations of bitmaps with regular coded displays

To exit cycling into manual navigation : 2 or 3 more button pushes WHITE confirmation

Many of these top 20 HOOPS are responsive to isolations – and this changes either the color scheme or the segment pattern as you isolate – going clockwise or counter clockwise will both work, though they each take you in a different direction through the settings. For 14 of the HOOPS in the top orientation of 24 HOOPS, isolations work to change segment pattern. For 7 other HOOPS isolations work to change color schemes. For three of these TOP HOOPS isolations have no effect.

The BPM is remembered, so if you have front or backflipped to change the BPM, then next time you go back to this orientation the BPM will be as you set it. This is useful for performance. To clear the BPM you can do either a quiver reset or a global reset. (remember the global reset will erase your custom saved HOOPS and return everything to default). Or of course just use flips to adjust BPM again.

In TOP orientation: BRIGHTNESS move works; SAVE move works; TAP BPM will work

**RECENT** EASY SAVE face up - the hoop flat with switch upwards Purple confirmation

The last 15 HOOPS from TOP, GIANT and BITMAP orientations that you LOCK with 2 button pushes (red confirmation) will be saved here.

Any time you double press and lock a HOOP from these three orientations it goes to recent. If you've customized a HOOP, you only get the default version in recent.

You can then make these favorite recent HOOPS cycle or use flips to navigate through them.

You can SAVE a HOOP from here to any of the 9 slots in saved quivers, and further modify the HOOP from the saved quivers.

**SAVED QUIVERS** RIGHT vertical/switch to right side. yellow confirmation

3 quivers. Each one has 3 HOOPS in it.

You can save any 9 HOOPS to these quivers: HOOPS you find elsewhere in the psiluzion, or that you modify with new settings or download. You need to learn the SAVE signal move to save a HOOP.

You can upload saved HOOPS to a computer and download back into your hoop. Need some computer skills to do this and its described on a tutorial page. (Same steps as psikohoop.)

Simplest way to SAVE a HOOP is from the face down orientation/ GIANT quiver. Side flip twice from any HOOP in that orientation and you will be in easy customization mode. Double press switch to LOCK once in this mode and it will take you to a display where by isolation you can select the place to save that HOOP into one of the 9 places in saved quivers. (NOTE: the isolation/selection is the last part of the regular save move)

From all other orientations you need to use the whole save-move to save a HOOP. Info on the save move is on cheat sheets and several psikohoop tutorial videos. (The move is the same in the psikohoop as in the psiluzion).

**When you save a new HOOP, it overwrites one of these default saved HOOPS, but those can be retrieved individually with a reset move. Doing a global reset wipes all your custom saved HOOPS and reverts to defaults.**

If you have already saved HOOPS to one or more of the 9 spaces in saved, then in the isolation/selection part of the save move, the color of corresponding slots is changed to help you not overwrite a HOOP you still want.

Navigate in saved quivers with flips. In the saved quivers it takes a full 360 degrees to go from one HOOP to the next (to help make sure you don't change HOOPS unintentionally).

Side flip from horizontal 360 to horizontal to go from one quiver to the next.

The default three HOOPS in the first quiver of SAVE are mellow, not flashing or zooming around, not crazy...good for long periods of relaxed hooping.

The three HOOPS in the second quiver of SAVE are more flashy and colorful but not way crazy.

The three HOOPS in the third quiver of SAVE are each cycling through 7 other HOOPS. You flip to navigate between these cycling HOOPS. You can change the speed of the cycling by doing a LOCK (2 button press), getting a red confirmation and then using front or backflips to change speed. Or do TAP BPM move

To navigate again you need to UNLOCK with another 2 button pushes.

Some of these HOOPS can be modified with isolations or BUMP.

If you want to change the color of these HOOPS you can for example do the “select color” signal move (see cheat sheets, section on signal moves in this manual [page 23](#), and tutorial videos for the psikohoop). Try this on the third HOOP in the first quiver of saved – a rainbow HOOP in three large segments. The hoop will remember your changes.

NOTE: Color changes will only work on the HOOPS or parts of the HOOPS that are not bitmaps (about half of the total number of HOOPS in the psiluzion are bitmaps, ie images made in photoshop, the rest are hand coded).

In any of the save quivers, use 3 button pushes to go into cycle mode. Cycling turns on for all three quivers. In cycle mode, front flips act to speed up the changes and backflips slow it down. You can set the speed of the cycle differently for each of the 3 quivers. So if you are going to be hooping to three different beats you can set that up before hand. The psiluzion will remember your speed settings.

NOTE: the default HOOPS in the third quiver do not look great on CYCLE because they are already cycling inside themselves, but if and when you over-write those, cycling will work great. If you are using default HOOPS in save, just use the two first quivers for cycling, or set the cycle speed very low, like once every 7 seconds or so, and then the third quiver will also look great.

For more precise control of the cycle speed, use the TAP BPM move.

**RANDOM** DOWN vertical / switch at bottom Red confirmation

Speed up SHUFFLE = front flips ...up to about 100 BPM (Almost two changes a second)

SLOW down shuffle =back flips...down to around once every 23 seconds

The hoop remembers the shuffle speed (when you go back to random orientation).

2 button pushes (white confirmation) exits shuffle. You are now in manual and front flips will take you to another random HOOP. BACKFLIPS will take you to fully random HOOPS (with even more random settings)

From MANUAL a 2 button push will LOCK the HOOP and you can play with it and/or save it. That HOOP will NOT be remembered in the random orientation. The next time you go into random it will be cycling again.

A lot of these HOOPS will be crazy and disjointed or not clear, but many of them may be unique and worth playing with and saving. If you are on fast shuffle there is no way to LOCK and SAVE a HOOP, so if you are in the mood to find new HOOPS to save then use manual mode, or set the shuffle speed really slow using backflips. Once you see something you really like you can LOCK it and then do SAVE move to put it in the SAVED QUIVERS.

NOTE: HOOPS that are locked in random will NOT go to RECENT orientation (because it cannot save all their settings) To SAVE a random HOOP you need to do the full save move and put it in the saved quivers.

SHUFFLE speed can also be more precisely set with the TAP BPM move [see page 34](#)

**GIANT QUIVER** FACE DOWN horizontal / switch down Blue confirmation

This orientation is one big quiver with 125 HOOPS in it. A lot of them have isolation/segment change or isolation/color changes or BUMP/color change already set. There are no bitmaps.

Three distinct sections of the quiver – BOLD, MELLOW and ODD.

Manual (flips) navigation will take you through all 125 HOOPS. With 3 button presses a section will CYCLE separately. This allows you to cycle through just the 45 BOLD/STRONG/FLASHY/FULL HOOPS or the 38 MELLOW/FLOWY/SOFT/HOOPS or the 42 ODD/SEQUENCING/STRANGE/PARTLY LIT HOOPS. Of course you can adjust speed of cycle with front and back flips or TAP BPM move.

All the HOOPS in this orientation can be used as a start to further customization. **Side flip a full 360 to get into these EASY CUSTOMIZE modes and navigate between them.**

Once in any of these modes, use FLIPS to change settings. For example, in red mode use flip to change color scheme.

**RED** - change color

**YELLOW** - select/add a bitmap

**AQUA** – if you have added a bitmap : change its segment pattern – the ratio between the bitmap image and the surrounding display, and the relative positions of bitmap to surrounding display.

If you did not add a bitmap but side flipped from red all the way to aqua : flips will make other adjustments like sequencing segments, speed, etc. Won't always do anything but tries to do something.

**BLUE** - toggles between stretching or centering the bitmap. This means the bitmap image is either enlarged to fit the circle or centered at its original size.

**PURPLE** - sets how many times the bitmap image is repeated

**GREEN** - back to the giant quiver and its normal functions (navigate with flips, button pushes for autocytle and LOCK etc)

While in easy customize mode double press to LOCK and open SAVE selection (to save your HOOP into one of the 9 saved slots). You will then need to isolate clockwise (the hoop is vertical with button switch facing you) to select the slot in the saved quivers and then reverse the isolation to SAVE. (white confirmation). If a slot is purple = you have already saved to that slot, so you may not want to over-write it. (see page 25 for full description of SAVE move)

**CYCLE HOOPS** in these modes: If you are not looking to save a HOOP and just want some cool changing effects, you can triple press in any of these modes to start cycling eg red to have colors cycle, yellow to cycle bitmaps, aqua to cycle segment patterns and so forth. THIS GIVES you multiple sets of cycling HOOPS which can be as simple or complex as you like. The cycle speed can be changed with flips and TAP BPM, as usual.

## **BITMAPS and more**

LEFT vertical / switch to left side Pink confirmation

There are 4 quivers in this orientation. Navigate from one quiver to another with 360 side flips.

The last used HOOP in this orientation will be remembered and when you turn the hoop on again in this orientation you will be in that HOOP.

### **QUIVER 1 : BITMAPS:**

The first default HOOP is a set of thin-lined rectangles, and the lines slowly change color. (The first HOOP for each quiver is noted here so you can recognize which quiver you are in as you navigate. The psiluzion hoop remembers the last HOOP you were using in this orientation so if you were playing in the BITMAP orientation before you turned the hoop off, you wont necessarily see the first HOOP of a quiver when you come back to this orientation, but once you side flip to change quivers you will then see the first HOOP of each quiver)

There are around 100 bitmaps here.

Backflips and front flips will navigate through them.

They can be set to CYCLE with three button pushes. Front / back flips then speed up / slow down the cycling. Cycling is remembered if hoop is turned off. Two button pushes then stops cycling.

Two more button pushes LOCKS that HOOP. Saved move works to save. LOCKED HOOPS are also then stored in recent (face-up) orientation.

### **QUIVER 2: COMPLEX HOOPS**

The first display is 3 large purple segments, which then fills with a complex changing pattern.

There are 10 complex HOOPS. A rough description of each would be Pink, Fire, Thin lines, Rasta colors, Soft, Rainbow, Pink-yellow, Dotty-dim, White and Colorful.

Navigate through these HOOPS with flips. Usual controls (3 button pushes=cycle, 2 button pushes LOCK etc. Note that a LOCKED HOOP disables navigation to other HOOPS but keeps the movement responsiveness within the complex HOOP).

COMPLEX HOOPS respond to different types of movement. ISOLATIONS, HOOPING around core, FAST movement, SPINNING around the wrist, and OTHER – can all be detected and the display vary accordingly. Clockwise is distinguished from counter-clockwise in: isolations, hooping and spinning around wrist. FAST and SPINNING give the same display. OTHER appears when the hoop does not recognize any of the other movements.

Complex HOOPS may take a couple seconds to recognize the type of hooping you are doing, whether its around your waist or wrist or if you are doing isolations. Other HOOPS in the psiluzion may recognize angles and speed and so forth, but with complex HOOPS it takes the a little time to sort out directions and type of movement. Play with a particular complex HOOP for a while and learn to recognize the various displays and what triggers them and how to stay in them. Then you can use these complex HOOPS to accentuate a performance.

The last HOOP, Colorful, has different controls – 3 different displays distinguishing between orientations of vertical, face up and face down. You could access this HOOP from the start of the quiver by doing a backflip.

### **QUIVER 3 – CYCLING HOOPS**

The first display is fire

There are 17 HOOPS in this quiver, each one with 7 other HOOPS inside it. Each of the 17 HOOPS can be LOCKED and/or SAVED. If you LOCK one of these HOOPS it will then appear in RECENT (face-up) orientation with its internal cycling of the 7 HOOPS inside it. Similar with SAVED.

These 17 HOOPS each have a common theme, which could be called fire, bitmaps emoticon 1, many circles, bitmap emoticon 2, propeller, complex color patterns, thin lines, white crazy, colorful, psi-brain, rectangles, white lines and squares, intricate patterns, dragonfly, glyphs, sparkly dots, wavy.

The whole quiver can be made to cycle (3 button presses) but that is not so interesting because you will only see the first display in each HOOP. Better is to select one of the 17 HOOPS and then LOCK it (red confirmation) and use FLIPS to speed-up/slow down the cycle rate. You can also use TAP BPM move to get more precise timing control. These 17 hoops are ideal for SYNC between multiple psiluzion hoops.

### **QUIVER 4 MAGIC**

First display is a single white light that travels around the hoop.

Currently 7 HOOPS in this quiver.

First 4 are variations of the gravity ball – where a “ball” responds to the gravity of the moon, mars, earth and Saturn. Just to give you the opportunity to hoop around the solar system.

Then there is a HOOP which fills in light as you isolate and you can use that as a magic effect.

Then a couple HOOPS that are really intended for learning about the psiluzions response to orientations but can be used to create special effects.

### **CUSTOM LOGO, WORD OR SIMPLE IMAGE**

You can have us make you a custom bitmap to go in the bitmap quiver, or you can make your own. Instructions also in the tutorial section of the website. You will need photoshop skills and be quite savvy with a PC computer. The simpler the image the better. Words should be 6 letters or less. Priced individually.

The custom bitmaps will be put at the end of the bitmap quiver, so you can access them by turning the hoop on at 9 o'clock and then doing a backflip.

You can then also save them to the saved quiver and recent orientation.

We can also customize the various orientations and HOOPS available, but this would require many hours of work and will be priced accordingly.

## THE HALF-OFF

To make it easier and have less time between hoop displays as you change orientations, there is a “half off” function – with the hoop still lit, put it in the new orientation, and then hold down the button for a second till you see the new orientation color confirmation, release button as soon as you see the color, and then you can continue hooping with the new quiver of HOOPS.

## WAYS TO RESET

Many of the HOOPS in the TOP, GIANT and BITMAP orientations respond to isolations to change color or segment pattern. Some of these HOOPS respond to BUMPS to change settings. To reset one of these HOOPS, do a front or back flip and then return to that HOOP and it will be reset. A half-off will also reset one of these HOOPS.

In general, orientations and quivers that are set to manual (Giant/bitmap/save/recent) remember the HOOP you were last using and on a half-off or full OFF/ON you will go back to that particular HOOP. Quivers that are cycling (either in default or because you set them) re-start from the beginning, when you go back to that quiver.

### PSILUZION memory function.

In the SAVED, BITMAP, GIANT and RECENT orientations, the psiluzion remembers whatever display you are in when you turn the hoop off. If you turn the hoop back on in that same orientation, you will be back in that same display. So you can have 4 selected HOOPS waiting for you, even LOCKING OR SAVING. In random mode the hoop remembers the shuffle speed

**RESET MOVE for an orientation:** If you get lost in the HOOPS or quivers of an orientation, or you want to reset a quiver to the default settings, do a reset move. When you turn the hoop on, you will see the display change a few times in a couple seconds, and then an actual HOOP display will appear. As soon as the display appears, start jiggling or bouncing or shaking the hoop, and you will see a red arc start to go around the hoop. Continue your movements, till the arc goes all the way around the hoop and you will have reset that orientation. Might be helpful to check out the introductory videos on this, or play with various speeds and intensities of shaking movement till you find a way that works for you and that you can include in your hooping repertoire. You can actually make it look like an interesting hoop movement. NOTE: in the saved quiver this move applies to each individual HOOP, not the whole quiver.

**GLOBAL RESET** This move returns the whole psiluzion to its original settings. It will remove your saved hoops, so approach with caution. Holding the hoop in both hands, turn it ON with the switch at the bottom and facing you, and right after the red confirmation appears, do a smooth isolation from 6 o'clock up to 8 or 9 o'clock and back, and then do that again. You should see a red arc spreading around the hoop and then beginning to flash to remind you this is irreversible (if you want OUT, then just start moving the hoop into another orientation and the global reset will not happen). Wait till the arc completes to get the global reset. The hoop needs to be OFF before you start a global reset, it wont work from a half-off.

**HARD RESET.** USE IF hoop WONT TURN ON. Like a computer reboot. Hold the button down and keep holding. The hoop will go through various displays and then go dark – keep holding for 10 seconds total (count one thousand and one, one thousand and two, etc) and when you let go of the switch, the hoop should restart. There will be a couple seconds pause before it restarts. You wont need to do this unless the hoop totally packs up. If the hoop will not light and the hard reset doesn't work, then charge it for ten minutes and see if it lights. If still doesn't light but its been charged for at least ten minutes, do another hard reset.

**SUDDEN CRASHES** - The hoop is sensitive to static electricity, and if the atmosphere is very dry and you are wearing staticky clothes, you may experience a sudden turn-off. The hoop will turn back on though. Check website FAQ page for updates on this.

## **CARE OF YOUR HOOP**

The psi-luzion is somewhat weatherproof. Once it is properly closed, you should be able to leave it lying in the wet grass, or hoop with it in the rain and snow, or have it get muddy at a festival, or survive the dust at burning man, etc.

**The hoop will NOT survive falling into water**, especially NOT seawater (unless its just for an instant, or you are very lucky). **Full waterproofing requires a special kit and instructions, and has to be done each time you charge the hoop.**

If the hoop does get wet, dry the area around the switch and connector, and then open the hoop up and dry the open end of the USB port and the inside of the coupler piece that the USB port fits into. Flick/tip any water out, then use a cloth or paper towel and/or cotton swabs. Leave the hoop open in a dry and safe place to let the water evaporate completely and make sure the insides of the hoop are dry. You could use a hair drier, or compressed air, but don't overheat the tubing. If you look inside the coupler piece you will see a black circular piece of rubber foam, and this is for the USB port to press up against and to keep the water out of the insides of the hoop.

When the hoop is disconnected or not fully connected it will definitely not be waterproof, and if water gets inside the hoop that may be the end of it. Sea water especially is the enemy of electronic parts. Plastics, especially PP more than HDPE, get more brittle with exposure to sunlight, so don't leave the hoop lying around in the sun - it will become less responsive and crack more easily. Of course don't leave in a car to bake, or if you must, then lie it flat and cover with a white or light sheet, and crack the windows open a little.

DO **NOT** FORCE the connector, if you try to yank it out when not properly first twisted, you could break it. It's the most expensive fix, next to sea-water damage.

## **CARE OF THE USB PORT – VITAL INFO**

The USB port is the most delicate part of this hoop. The less stress you put on it and the more care you use in connecting and disconnecting the USB cable, the longer the life of your hoop.

PLEASE PLEASE PLEASE...be super careful, precise, anal, neurotic, fastidious and exacting about this. The sort of attention, gentle control and care you might give to threading a needle and sewing, or putting in contact lenses..... Its up to you. It will only take one yank, one trip over a cable, one forceful misaligned insertion, one clumsy pull...to destroy the hoop.....The psiluzion is strong and durable when connected, but super vulnerable around its USB connection.

To replace the USB port means building a whole new hoop –So its an expensive fix, around \$100 or more, and in most cases will NOT be covered by warranty....

## **CHARGING THE HOOP**

The hoop charges fast : full charge in around two hours; 95% charge in 1 hour; 75% charge in ½ hour. So half an hour charge will give you over 1 ½ hours lit time on regular brightness and varied settings.

When you first receive the hoop it will already be charged. Each time you turn the hoop off, (or ON or half-off) by holding down the button switch, the display will turn green for a second to indicate how much charge is left. When that green indicator covers only a small segment of the hoop, its time to charge.

The length of lit time will vary greatly with the settings you use, so its hard to predict exactly, but you will soon get the feel of it. The least amount of lit time you should get, with the hoop set to max brightness (see later in this manual for brightness setting) and with an all-white static display (which consumes the most power) should be around 20 mins.

With some settings you will get more than 4 hours. (eg with colored strobes, many dark spaces and on low brightness etc). With varied settings, and hooping in a variety of different displays, 2 hours lit time would be usual.

You first need to disconnect the hoop by twisting it around 1/8 inch in the correct direction and then slide apart. On one end of the connector you will see a small rectangular port which is the USB port. This is used for charging the hoop and for installing/upgrading/sharing programs and settings. The connection is a micro-USB which is currently used by most (NON iphone) smart phones. You could use the charger that comes with your phone, if the plug fits into this micro USB port. To charge the hoop you need to connect one end of the USB cable to the hoop and the other end to a power source such as a computer or wall socket charger that is included with the psiluzion.

It's a quirk of lithium batteries that they can get stressed if left on charge too long. They keep discharging slightly and charging again, and this will lower the overall life of the batteries. So get to know roughly how long it takes to fully charge your hoop and then unplug . A good starting time to try would be 2 hours.

Remove the hoop from the power source when it's charged. It will be fully charged within 3 hours but you can leave it overnight if necessary. Then reconnect the two ends of the hoop immediately to protect the delicate USB port connection, to keep the shape of the hoop and to reduce the risk of dust and moisture getting into the hoop, or of someone tripping on the opened hoop, or trying to use it without knowing how to connect it.

## **CHARGING INDICATORS**

When you plug the lit hoop in to a powered USB charger or computer, the display changes to one steady turquoise light. (Note the hoop has to be ON to see the charging indicator, and you can either turn the hoop ON before connecting to USB or when its already charging.)

If the cable becomes disconnected the light changes to red. If it connects again it will go back to turquoise... It may be that the hoop got bumped or moved and the USB port disconnected, so carefully reset the USB cable in the port.

If you have the lights off when you plug the hoop in, then no lights will show, not even the single turquoise light.

## **SIGNAL MOVES**

Please see the Tutorial video link: <http://youtu.be/2QiGR1cTLoU> intermediate\_4\_signal\_moves

And the intermediate level tutorial document on the psihoops website for more extended descriptions and examples of these signal moves. (The signal moves here are the same for the psiluzion and the psikohoop).

In the psiluzion "signal moves" are movements that tell the hoop to do something. These signal moves are ways to navigate through the menus and also to select different parameters to change displays in real time or change modes

There are 2 HOOPS in the vertical/left/bitmap/magic quiver that can serve as a training set to make the signal moves easier to understand and perform successfully.

Turn the hoop on in the bitmap orientation. You will see a pink color confirmation. Side flip backwards (the far edge of the hoop coming up and toward you all the way around 360) till you see a single small segment travelling around the hoop. Now backflip once to a HOOP with one or more short segments lit. This HOOP can show you how the orientations are being recognized.

The colors are the same as the confirmation colors for the orientations – so vertical with switch at top is turquoise, switch at right is yellow, at bottom is red, at left is pink. Horizontal face up is purple and face down is blue.

What you are seeing is the result of a program in the chip that takes the data coming from the sensor and controls the LEDs. In this HOOP it recognizes angles and orientations and changes the display accordingly. Experiment with seeing how speed, position and movement affect the display. Also how long each color stays lit. Its worth playing with these HOOPS and practicing a bit - the variables will be very similar in the actual signal moves, although in a regular signal move you wont see colored segments.

Try doing isolations and flips with the segmented “training” HOOP. (the one that has short segments of different colors as you change the hoop’s orientation from vertical to horizontal etc)

For example doing this will make it much easier to learn the SAVE move:

With the hoop vertical (12 o’clock) and switch facing you, you will see turquoise, if there is more than one colored segment, wait for it to clear (around a second) then holding the hoop with your left hand and going around clockwise in an isolation you will see yellow at three o’clock and red at 6 o’clock. While doing this signal move as practice in the segmented HOOP, you should continue to see the turquoise/yellow/red segments – if you are going too slowly or pause too long then the previous segments will disappear, and the hoop will not be able to understand your signal.

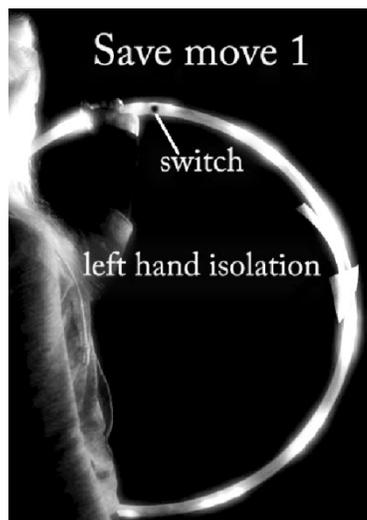
When the switch is at the bottom, slowly and evenly flip the hoop so your hand is again at the top of the vertical hoop. The switch will now be on the opposite side of the hoop, facing away from you. A purple color will appear as you move the hoop through the horizontal plane and when you are back at vertical you will see another turquoise segment. Try that a few times to get the hang of it. That is called an iso-flip (isolation plus flip) and is the first part of the SAVE move.

The next part of the save move is to isolate to the left through 9 o’clock down to 6 and back, and this is called a half-back. With the segmented training HOOP you should see yellow and then red as you go down and then yellow followed by turquoise as you back up to 12 o’clock. You might expect to see a pink segment at 9 o’clock but because the switch is now facing away from you it will act as 3 o’clock...(the magic of mirrors...if you imagine a large see through clock suspended in the middle of a room and hands pointing at 3 o’clock, if you walk around and look at it from the other side you would see the hands pointing to 9 o’clock...or take a thin sheet of paper like a post-it note and draw a long arrow vertically up and a short arrow pointing to the right, then turn the paper over and look through it and you will see the short arrow pointing the other way).

We will cover the main signal moves in this manual: save; brightness; sensitivity, tap BPM (there are several others but you probably will not need them). Already covered are the controls using the switch: on/off; half-off; cycle; color cycle; lock/unlock.

## How to SAVE a HOOP

This may be your most used signal move...it’s the most complex move, so once you get this one you got the rest

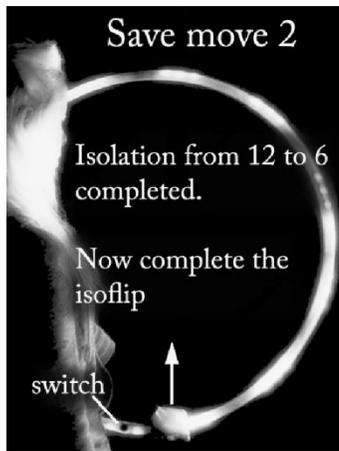


The save move is all done with the left hand. Use the right hand to steady the hoop. Wait a second or two before starting the move so the hoop resets and is ready to “listen” to your movements.

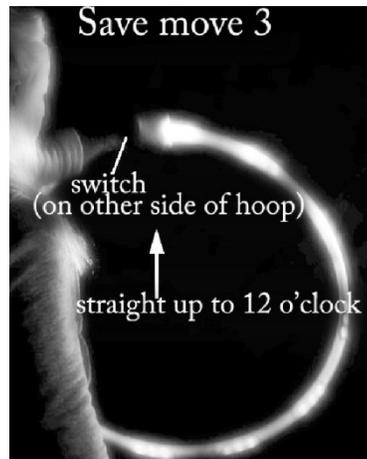
The isolations and the flip should be done smoothly and steadily, starting with the hoop vertical and stationary. Make sure the switch is at the top and facing you when you start the movement.

Rotate the hoop to the right/clockwise like a steering wheel, keeping the hoop in the same place, as though the “hub” of it was fixed like a steering wheel.

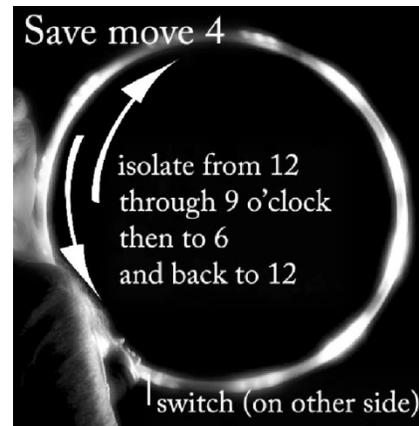
That kind of movement is called an isolation.



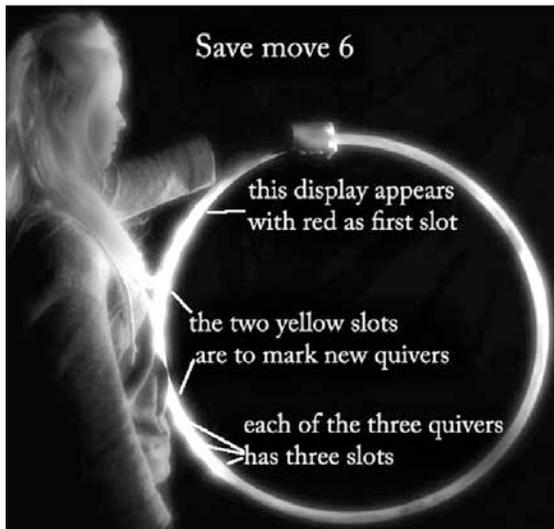
Go from 12 o'clock (switch at the top) around to 6 o'clock (switch at bottom). Slow and even, taking about a second



Bring your left hand towards you and upwards so that it ends up with the hoop vertical and your hand at the top. The switch will now be facing away from you.

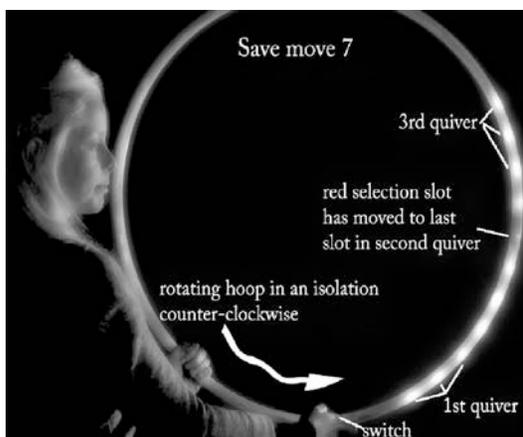


Do an isolation with the left hand down from the top to the bottom and back, smoothly, slowly and steadily. Should take around 2 seconds to complete the isolation down and back



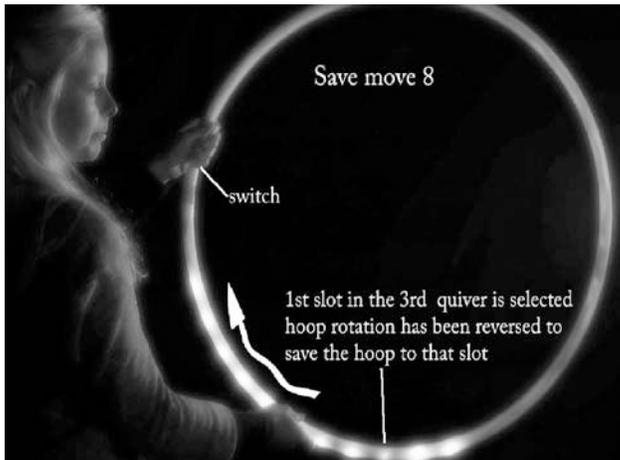
Now you have done an isolation and then a flip, followed by a half-back (isolation HALF way around and back) which is why this save move is labelled ISOFLIP-HALF BACK.

When you come to the end of this move, and have done it well enough that the hoop recognizes it, the hoop will flash grayish white... and a row of lights will appear to the left of your left hand. At that point your left hand is holding the top of the hoop with the switch away from you.



Move that left hand in a smooth, slow, even isolation to the left, in the direction of the lights, and you will see the red light next to your hand move along a row of white and yellow lights. You may need to continue the isolation quite a ways to accomplish this. When this display is first activated, there will be a red light lit followed by two white lights, then a yellow light followed by three white lights and then a yellow followed by three more white.

The white lights are the locations of the saved slots in each quiver of three. The yellow light marks the end of one quiver and the start of another. So you have three quivers in the SAVED pack, with three HOOPS in each quiver, so a total of 9 possible saved HOOPS.



Once you have moved that red light to any new spot that you select, by doing a smooth and slow isolation in the direction of the lights, reverse the direction of your isolation till the hoop flashes white, and the new HOOP will be saved to that slot.....Note that the isolation you do to select the slot in the saved quivers has to be very smooth without any jerks or bumps or reversals, so practice this a bit before you have some really cool and useful hoops saved. (In case you overwrite one of your favorites by mistake).

Once you have saved a HOOP to a slot, or modified a default saved HOOP by changing color or BPM etc, that slot will go blue to show you its customized. If the red dot is above a blue slot then it will show as purple.

The suggestion here is to put some of your favorite HOOPS in the SAVED quiver. Then when you are under pressure of performance or whatever, just open the hoop in saved orientation (3 o'clock, for the 3 pack of saved quivers) and you can navigate with front or back flips and side flips. You should be able to do that under any kind of pressure! You don't have to remember or do any other moves. Perhaps have one saved quiver of really mellow HOOPS in 3 different color schemes, have one quiver that is best for isolations or your special style, and have one quiver of crazy HOOPS for maximum effect.

Each of the three quivers acts independently and each HOOP in those quivers is mostly independent of the others.

In the psiluzion the default HOOPS in the third quiver are cycling HOOPS, each with 7 HOOPS inside them. By LOCKING any of these HOOPS you can then set the cycling speed.

The things you set in one of the saved HOOPS, like color, BPM, segment pattern, speed, or any of the effects from easy-customize mode, will be remembered in that particular saved HOOP.

Remember that front and back flips trigger on the vertical, Side flips trigger on the horizontal. In saved quivers it always takes 360 to trigger.

NOTE: your saved HOOPS can be reset individually with shake move (the quiver reset move but here just applying to each HOOP individually) The normal quiver reset shake move acts differently in the saved quivers and only resets that one HOOP you are in. The timing of the shake is critical for the reset. You need to start shaking right at the end of the yellow color confirmation and right at the very start of the actual hoop display. It's a very small window.

Remember that a global reset will erase all your custom saved HOOPS.

If you want to keep one or more of your saved HOOPS you can upload to a computer and download them again at a later time, or swap with friends. See advanced tutorials on the web site.

## **DIFFERENCES IN SAVED QUIVERS from other quivers.**

**IN SAVED:** Front and backflips always take a full 360 degrees.

BPM can be set for each HOOP individually.

Reset move applies to each HOOP and not the whole quiver/orientation.

Controls like sensitivity and color apply to each HOOP individually.

(Brightness and bump sensitivity are global however)

Cycle speed of HOOPS can be set separately for each quiver, so you can have each set of three HOOPS cycling at a different speed, either using flip moves or TAP BPM separately in each of the three quivers of saved.

### ***SIGNAL MOVE DOESN'T WORK:***

If you do the move and don't get the result, check these things:

Did you do the move too fast?

Did you start the move too soon (less than 2 seconds) after the previous try?

Were there jerks, bumps or uneven movements in the move?

Did you pause too long while in the middle of the move?

Did you start with the switch in some other position than facing you at the top of the hoop?

Is the hoop charged enough?

Did you actually complete the move fine, but didn't notice the confirmation color?

Did you do the move incorrectly? Is the HOOP LOCKED? (there will be a red signal if locked)

Try doing the move in front of a mirror.

Look at the videos that show the particular move

Work with a friend who has mastered that move....

Practice with the 2 learning HOOPS in the magic quiver of the bitmap orientation.

Contact Merlin and we can skype you through it.

## **BRIGHTNESS CONTROL**

Tutorial video link: [http://youtu.be/fu0TtcwL\\_uc](http://youtu.be/fu0TtcwL_uc) intermediate\_6\_brightness and several from the series of short tutorials.

There are three level of brightness and by default the hoop is set to the middle one, which we call normal. There are several uses for this control.

The first is obviously to make a brighter display, perhaps when there is too much ambient light or for the finale of a performance or just when you want to impress people.

Some displays look better at different brightness levels. Sometimes a dimmer display actually looks better. It may also shift the attention from the hoop to the hooper and their dance, and this is a good thing!

### **EXTENDING LIT TIME**

A second and crucial use for brightness control is to save the batteries and **extend the lit time** of the hoop. We have not yet worked out the exact ratio of lit time to various different displays in the 3 different settings of brightness control. But from dim to very bright, it would be roughly 4 times as long a lit time. Which would be important for all night play etc. The displays that use the most battery power are the steady white with all the LEDs lit. (Because white is made by mixing all three of the red/blue/green colors in each LEDs, each of them fully on, it uses the most juice.) So if you want to get maximum lit time use displays with the minimum of LEDs, and use the displays and settings that have slow strobing effects and no white in them, and also put the brightness on the dim setting.

Another use of the brightness control is for parents to regulate the intensity of the light for their young children. If a kid is playing a whole lot with a psiluzion hoop, I would make sure that the displays were not too bright and disorienting. Some HOOPS and a whole section (38 HOOPS) of the giant quiver are specifically made with mellow settings which can still be a lot of fun and possibly less stressful to the nervous system.

## **BRIGHTNESS CONTROL SIGNAL MOVE:**

Have the hoop upright with the switch at the top and facing you.

Start with the **right** hand holding the hoop to the right of the switch (not touching the switch though)

The left hand is steadying the hoop. The right hand will move the hoop in an isolation.

1/ Do a half isolation from 12 o'clock through 9 o'clock to 6 o'clock at the bottom of the hoop.

2/ Bring the right hand holding the bottom of the hoop up towards your face and on up to 12 o'clock.

3/Immediately continue in a clockwise isolation through 3 o'clock down through 6 o'clock and around up towards 9 o'clock. The left hand becomes active in the isolation, so you are doing a 2 handed isolation.

4/ When you get around 9 o'clock you will see the hoop flash and then near the connector some orange lights will appear. These will be either one, two or three segments of orange lights, each about 4 inches. The rest of the hoop will be dark. One segment =low, 2 = normal and 3= max bright.

5/Continue to turn the hoop and the number of segments will change. If you miss the setting you want just continue to isolate and the three settings will appear in order again.

6/ When you have the setting you want, reverse the direction of the isolation for a little, and you will see a whitish/pinkish flash and that means you have successfully selected that setting.

7/ Confirm the setting by doing a half-off (pushing the button for a short time). The first display that appears is the green battery indicator and within that display, near the connector, will be one, two or three orange segments, indicating the brightness level.

Be aware that if the hoop is not sufficiently charged for the green indicator to go more than a quarter of the way around the hoop, you may not see the correct setting

NOTE: The brightness setting move is a global setting and will affect all the HOOPS in the psiluzion.

The hoop will remember brightness settings, so once set you don't need to reset it when turning the hoop back on.

**SENSITIVITY control.** The sensitivity control comes into play when a particular HOOP responds to movement – some HOOPS respond to different directions of movement, some to angles and orientations, some to speed, some to the difference between hooping around core and body and hand, and some to combinations of the above, and some have no movement response....but if a h HOOP responds at all to movement, then the sensitivity controls will affect it.

On low sensitivity you may not see any response except with very fast movements or sudden changes in direction or bumps to the hoop. High sensitivity can give you reactions to a very light finger tap, or a slight increase in speed or acceleration.

**SENSITIVITY CONTROL MOVE-** It's the same move (mirror image) as the brightness control but done with the left hand. Do a left-hand isoflip (see the cheat sheets) and then a wheel turn/isolation using both hands (so you can keep the wheel turn smooth and even)

You will see a quick blue flash and then

1 pink segment about 4 inches wide = low sensitivity ,

2 pink segments = medium sensitivity,

3 pink segments = high sensitivity.

**NOTE: The next three indicators have an additional green segment and they are the BUMP MODE sensitivity settings.**

Keep rotating the hoop till you have the setting you want and then carefully and gently without bumping or shaking the hoop, reverse direction of the isolation and it will select that setting and give you a confirmation flash. If you bump or jerk the reversal of direction you could jump into another setting.

## **BUMP MODE**

The controls for this mode are accessed through the same sensitivity move described above.

Once you have done the sensitivity move and are in the isolation to select the setting you want, continue to isolate past the normal sensitivity settings (one, two or three pink) and you will get to three levels of bump mode sensitivity (pink plus short green, medium green and long green segments) and at the desired setting reverse the isolation to select - then you will be in BUMP mode.

BUMP mode will affect the h HOOPS in RANDOM and TOP when they are on manual (2 button pushes to go from shuffle to manual), the BITMAP quiver, RECENT and the GIANT orientation. In these quivers a BUMP will navigate to the next HOOP. If you find the right sensitivity level to match your style then you can use the BUMP move to accent your play or performance.

To turn BUMP mode OFF you have some choices - do the sensitivity move and select a regular sensitivity level 1, 2 or 3. (the bars with no green). In the TOP and bottom (= Random mode) orientations, which are cycling/shuffling by default, doing a half off or turning the hoop OFF and back ON will clear the bump mode and put you back to cycling HOOPS. A quiver reset will turn BUMP off (currently to turn BUMP back on after a quiver reset you need to do a full off/on or a half off into another quiver and then half off back again) and also a global reset will put the sensitivity back from BUMP to normal default sensitivity.

The sensitivity level you choose will affect how much movement or bump it takes to trigger the change. A slight tap can do it at max sensitivity. Also a major factor is the position of the switch/connector. Since the sensor is localized in the connector area, you will need to get familiar with how to move in order to trigger or not to trigger the change. For example if you are paddling the hoop around your chest and reversing directions each time, in order to get a change on each reversal its best to orient the connector so you touch it (or near it) each time you reverse the direction.

## **INTERNAL BUMP MODE**

In many of the HOOPS in the giant quiver BUMP mode is already coded in, and works to change colors or sometimes segment patterns. BUMP will work in these HOOPS even if the global BUMP sensitivity is turned off (ie hoop is on regular sensitivity settings).

For example, the first HOOP in giant quiver (turn hoop on with it horizontal and the switch down) has BUMP/color. If you bump the hoop (paddle or break or whatever) the color scheme changes. LOCKING this HOOP with 2 button presses will NOT stop the bump/color changes. It will stop flips from navigating HOOPS – so that you wont jump out of this HOOP.

If you want to LOCK the color you have a couple choices. Do the LOCK COLOR signal move (the same as the SAVE move but done with the right hand...see cheat sheets and also the tutorial vids for psikohoop)

Or you can do a full 360 sideflip to go into easy customize. (only available through the giant quiver)

NOTE: many HOOPS have internal settings that are integral to those particular HOOPS – for example, instead of BUMP, isolations may change segment pattern or color. This allows more control because Bumps can be somewhat random, being triggered by passing over the hand or other unintentional movements. Or a HOOP may respond to angle, orientation, speed of hooping, the direction of spin and so forth. These settings when they are integral to a HOOP are still present when the HOOP is locked.

## **TAP BPM MOVE**

This move allows you to set a more exact tempo, to match the beat of the music for example.

**TAP\_BPM** = ISOFLIP, ISOFLIP (with left hand and it stays on the hoop)

That means:

- 1/ hoop is vertical, left hand at top of hoop, switch facing you. Right hand supports hoop throughout. The left hand is next to the connector throughout.
- 2/ isolate clockwise (to right) down to 6 and then flip up straight to 12 (smoothly and slowly) The switch is now facing away from you, at the top of the vertical hoop.
- 3/ isolate again with left hand, this time counter-clockwise (left) to 6 and then back to 12.

Once the hoop recognizes the move, it goes yellow and is now ready for your taps.

4/ Now tap gently, and very evenly, the beat you want. Each time the hoop registers your tap it will give a brief white flash. The hoop needs two consecutive intervals that are exact, so the minimum number of taps would be 3. Carry on tapping till the hoop gets it.

Using a metronome is a good guide, especially for slower tempos – its very hard to be exact with the interval of your taps when they are more than a couple seconds apart. (you download a metronome app free for your phone). If you tap the hoop right after you hear the beat each time you can get it exact even at slow speeds of once every four seconds (which is about the slowest it will accept)

When the hoop accepts your tempo it will flash white and you will see the cycling appear at that tempo. The cycling could be color or HOOP or segment pattern. Sometimes the hoop accepts the TAP but stays showing one display and needs an extra shake/bump or tap to nudge it into cycling.

## **BPM (beats per minute) TAP MOVE and FLIPS TO CHANGE BPM.**

The speed of certain effects (like color cycling, sequencing around the hoop or internal changing of displays) within any one HOOP can be controlled so that they are in the rhythm you prefer or on the beat of the music. Also the cycling speed between HOOPS, and the shuffle speed in random.

Easiest way to do this is with flips, but you may not get an exact tempo to match music with front and back flips - they select a range of preset timings. TAP BPM is more exact and you should be able to set it to an exact beat without it drifting.

In cycle or shuffle, you can use TAP BPM in conjunction with flips or in place of them. The TAP BPM sets the maximum fast tempo. After setting a beat with BPM move, you cannot then front flip to further speed it up. But you can use backflips to slow the beat down. This is useful because its difficult to get exact intervals between taps when they are slower than a couple seconds.

If you want a long interval between beats (up to 20+ seconds) first you can set a beat with BPM say once every 3 or 4 seconds (use a metronome ) and then when you backflip each flip will lower the speed by a multiple of what you tapped in. If I tap in a BPM of 15 (once every 4 seconds) then the first backflip will take me to 8 second intervals and the second backflip to 12 seconds, and the third backflip to 16 seconds, and so on. I can then use front flips to go back to 4 second intervals but not faster in this example (because I originally set the BPM to once every 4 seconds)

If I want to stay in a faster BPM range I could set the BPM to 120 (2 beats per second) and then one backflip would take me to 60 BPM (one per second) and the next backflip down to 45 BPM (these are not absolutely exact values).

Use the tap-BPM move for more accurate and faster shifts. With a combination of flips and tap-BPM you can vary cycling speed from around 160 BPM to once every 20 seconds or so. (160 is easier to see with color cycle, changing HOOPS may take each one longer to load).

The sequencing speed and cycling speed are linked together with a certain ratio in the psiluzion software so that they look good together and both will fit into the rhythm you want or the BPM of the music; (one will be a multiple or fraction of the other).

## **SYNCHRONIZING 2 OR MORE PSILUZION HOOPS TO CYCLE TOGETHER.**

The easiest place to use this function is in the TOP orientation because its already cycling. The default cycle speed is around once every 2 seconds or approx 30 BPM.

Practice first with the default tempo

Best to do a quiver/orientation shake reset first, on each hoop, to clear any previous timing that was set. Then, holding the hoops vertical with the switch at the top, do a half-off on each of the hoops. You need to wait to see the turquoise confirmation color for the TOP orientation and then release both hoops' buttons at the exact same moment. If the two hoops do not look in sync, then try this step again, holding the switch down and releasing both buttons in sync. Remember that when you do a half-off you need to have the hoop/switch in the correct orientation or the half-off will just take you to another orientation/mode.

If you have more than two hoops, its best to use a metronome and have someone help you, so you can both (or all) release the button on the same beat. You should all press the button to start the half-off at roughly the same time but starting the half-off doesn't need to be synchronized, its just the release of the button that needs to be done at the exact same time for all hoops. With 20 hoops and one metronome, ten people could set up the hoops just before a performance, and they will stay in sync. The timing is remembered and if the hoops have been turned off, turn them back on in the right orientation and do another synchronized half-off/release.

## **SYNC in OTHER QUIVERS**

You could do three button pushes in the bitmap orientation to enable cycling and same procedure would then apply.

Or do two slow and steady side-flips when you start in the bitmap orientation and you will see a fire HOOP that changes displays. (Remember that side-flips start with the hoop horizontal and not vertical, and trigger on the horizontal.) Then you could front or back flip to navigate to any of the 17 cycling HOOPS in this quiver – each hoop will be cycling through 7 other HOOPS with a common theme, for example white color or intricate geometry, and these HOOPS look great synced. Some of these hoops will have more obvious differences in their displays so try one of those first. Best to LOCK any of these hoops (with two quick button pushes/red confirmation in each hoop) BEFORE doing the half-off to SYNC, so that flips wont navigate you to another HOOP by mistake...if that happens the hoops may not be in sync anymore or even if they are in sync in terms of when they change, the displays will be different.

In the random quiver you will be able to get the shuffle speed to sync but it may not look synced because each HOOP that appears randomly may take different times to load or may start with mostly dark display or whatever....so the SYNC effect wont be as visible in the random mode.

In the saved quivers, you can start cycling in all the quivers by doing three button presses in any of the quivers. If you have not already set tempo for any of these quivers they should all now be cycling at same speed. Use a half-off in the same way as for any other orientation, to SYNC multiple hoops.

## **CHANGING SPEED BEFORE SYNC**

You may of course want to SYNC other tempos in all the HOOPS.

There are a couple ways to do this, with flips or with the BPM move, or with a combo.

Once an orientation is cycling, whether by default or because you have set it with three button pushes, then front-flips will speed up the cycling and back flips will slow it down. If you are trying to SYNC multiple hoops to a new tempo using flips, you need to make certain that each hoop is flipped the same number of times and with no pauses. Normally when you flip, the first flip takes a full revolution of 360 degrees (all the way around from vertical to vertical with the button ending up at the same place, at the top of the hoop and facing you.) Remember that a front or back flip starts on the vertical and triggers on the vertical. After doing the first flip the next flip triggers when the hoop has made half a revolution, or 180 degrees, when the switch is at 6 o'clock. So if you pause when doing flips the hoop may reset and each hoop may end up with different number of flips. Or you could just do one full flip and check the timing and then do another flip after a couple seconds. The display will change when the hoop recognizes a flip, either 360 or 180, and that can help you to count.

Try this in the TOP orientation. Do a quiver/orientation shake reset first to clear any previous settings in this orientation. Cycle speed should be around once every two seconds approx. 30 BPM. Do a full 360 front flip slowly and evenly from vertical to vertical. Cycle speed should now be faster, just under once a second, or approx 45 BPM. Another full front flip takes it to around 1 ½ times a second, approx 95 BPM. Another full front flip takes it to almost 2 times a second or approx 115 BPM. (120 would be twice a second).

By doing the same number of flips on both hoops, they will be changing at the same speed. Now a half off on both hoops together and a synchronized release and both hoops will be SYNCED.

Backflips will slow the tempo in a similar way, but to make the tempos really slow, use the combination of BPM move and then backflip (described in the section above "Synchronizing 2 or more..."). Once you do a half-off however, front or backflips will no longer change the speed...the speed is locked in by the half-off. So if you want to use a combination of tap BPM and then backflips, do this on each hoop before doing a synchronized half-off/release.

Good thing is that the hoop remembers the tempo and next time you go to that orientation it will be there for you.

## **SYNC IN SAVED QUIVERS**

You can change the speed of cycling for any of the three saved quivers with either flips or BPM move and that particular quiver will now cycle at the new speed and will remember that speed. To SYNC two or more hoops in saved quivers is the same as in other orientations. You can do this independently for each of the three saved quivers. Once you are in the same saved quiver on both hoops, and they are cycling through the same HOOP displays, at the same speed, you can SYNC those HOOPS with a half off in the 3 o'clock orientation.

In the default three HOOPS of the third SAVED quiver, each hoop is already cycling inside itself through 7 other HOOPS. (These are from the cycling quiver, 3<sup>rd</sup> quiver in the bitmap orientation). So it doesn't make sense to have these three HOOPS cycle from one to the next unless you set the tempo below once every 7 seconds or once every 14 seconds...then as well as the HOOPS internal cycling you will get cycling between all three HOOPS in that saved quiver.

See the cheat sheets, and the advanced psikohoop tutorials and videos on the website.

**CHILDREN:**

Some adult supervision is necessary. Make sure that they can twist the tubing well enough to securely fix the hoop together at the connector. Or the adult can be responsible for connecting and charging the hoop.

With younger children, we advise keeping them in the quiet quiver, the still quiver in 9 pack (see later) or a mellow HOOP you have saved into the save quiver, so that the displays are easier on the eyes and nervous system. For children, limit the time playing with the hoop, perhaps to 10 to 20 minutes. Try to give them a mirror so that they don't have to stare at the displays from close up. Set the brightness to DIM. Supervise them until you are sure they are safe and responsible for themselves, others around, and the environment.

**WARNING:** The displays and the interactions with this hoop can be addictive. The psiluzion can probably drive you nuts. Flashing lights at close quarters may not be everyone's cup of tea, so be sensitive to people, mood and setting. As with a regular psihoop, hurting yourself or others with this instrument is counter to the intention of whirled peace! Take it easy...

Hopefully none of these displays will trigger any bad reactions. However, as with any flashing lights, there is always a chance that an individual may have a bad reaction, so monitor this in yourself and others, until you are sure. Be especially cautious if you or anyone in the close vicinity is prone to any epileptic events. We have tried to keep the displays safe, but because of the flexibility of the user programming and interactivity between the user and display, especially when there are many hoops involved at the same time, it is impossible to completely control.

## WARRANTY

I am offering a 6 month warranty on the psiluzion from the date of purchase. The hoops are tested thoroughly before shipping. If there is obvious damage to the hoop when it arrives please notify me immediately at [merlin@psihoops.com](mailto:merlin@psihoops.com) or 619 921 3544 and we will sort it out with the mail carrier. For other problems, you should keep your receipt and it will be easier if you have the original box. The warranty is supposed to cover defects in workmanship, materials and design, and not extreme or inappropriate use. Not following the instructions in terms of weatherproofing, care of the hoop, opening and closing the hoop, charging the hoop, and so forth, voids the warranty.

Cracks in the tubing will not be covered, unless they are present at the time of receiving the hoop. To crack this PP tubing usually requires cold weather and a lot of force. If you do forceful pinch reversals when the tubing is cold (below around 50 degrees), or drop the hoop onto concrete when its cold, or step on the hoop with shoes, etc... you can put minute stress fractures in the tubing, and then at a later time when you are just hooping normally, the hoop can crack. But in warm conditions and without extreme force, the tubing will last for years. Sunlight will also degrade the tubing and make it more brittle, so if you leave the hoop outside for long periods, the tubing will crack easier and not be so responsive to your movement and touch. I will replace tubing for \$60.

However, if the connector area of the hoop is damaged, it may have damaged the sensors, master board, connections to the switch and USB and that could be an expensive repair, could amount to \$150. You will have to pay the shipping back to me, but I will repair the hoop for free provided that you:

a/ haven't obviously abused the hoop by bending it too far, twisting it in half or squashing it with something, stepping on it with shoes, immersing it in water, leaving it in a sun-baked car and so forth

b/ haven't removed the connector at either end of the tubing.

c/ haven't broken the USB port by tripping on the wires or yanking them or forcing the USB port in some way.

i.e I will repair or replace it for six months if it fails under "normal use", which certainly includes fast and extreme hooping, if done with awareness and sensitivity.

After the six month period I will look at it and give you an estimate for repairs.

Get your questions on the FAQ page by emailing [merlin@psihoops.com](mailto:merlin@psihoops.com) Share on the Blog page. Give us feedback on the tutorials and videos. Make videos of your own and post them on the site and on youtube etc.

The interactive controls of the psiluzion have been made to align with the physics and behavior of an unsecured wheel turning in space – specifically, a hoop! - and the challenge is to discover how best to work with each display or set of controls in order to learn new skills, increase fluidity and express more with your hoop dance; and of course to have the most fun doing so.....

Please be advised that I have two patents on these hoops and the type of displays they make.

US patents 2013/0225037 A1 and 9,370,727 B2 [www.psihoops.com](http://www.psihoops.com)