HYPErION HOOP

Owner's Manual
Revised 2/28/2017

This manual has information for casual and advanced users, plus troubleshooting and repair information. You probably don't need to read the whole thing, but we recommend at least skimming the first section.

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ARGENT
DATA SYSTEMS

Important Notes

Your hoop comes pre-loaded with more than a thousand patterns and is ready to use, but please read this section first!

- Use only 14500 size lithium-ion rechargeable batteries in your hoop.
- Don't try to use the hoop's batteries in a device designed for regular AA batteries. The higher voltage may cause damage to the device.
- Don't short the battery terminals! The battery can get extremely hot or even catch fire. Don't keep it in a pocket with your car keys, for example. We're speaking from personal experience on this one.
- When the hoop shows a single red light, the battery is nearly dead. Shut off the hoop, change batteries, or connect it to a USB charger. Draining the battery more than necessary will shorten the battery's life.

Right out of the box your hoop may be a bit out of round. Leave it flat on the ground, preferably in a warm place, and it will return to its normal shape.

Batteries come partially charged. You can use them right away but they might not last long until they've been fully charged. If you're the patient type, you can put them in the charger while you read this manual.[1]

About this Manual

This is very possibly the longest manual ever written for a hoop that includes no information on how to actually hoop. Don't be intimidated by the size of the manual or the number of buttons on the controls – you can get started by just turning on the hoop and experimenting. It's safe to press any button on either remote to see what happens. All of the functions that have lasting effects require a button to be held down. Everything else can be undone by turning the hoop off and back on again.

Software updates for the hoop can add and change features and the functions of the remote controls. This manual applies to the latest software version at the time it was printed. If you install software updates, you should check the Hyperion website for updated instructions.

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[1]Or if you're like 90% of new hoop owners, you're probably only reading this manual now because you ran all of the batteries down as soon as you got the hoop out of the box and now you have to wait for the to recharge. We understand.

Turning on the Hoop

Put a charged battery in the open end of the hoop, with the positive end (marked with a '+') facing out. Be careful – leaving a battery in backwards could damage the charging circuit. Adding a bit of tape to the '+' end of the battery can make it easier to identify by sight and feel[2].

Connect the two ends of the hoop. A spring button locks the connector into one of two positions. The outer hole is the 'off' position, and the inner is the 'on' position. The hoop should turn on as soon as the connector is closed completely.

The hoop will always display a short startup pattern to indicate it's starting and to test all of the LEDs. The first LED will light red and the last will light blue, and all of the LEDs will light white in quick succession. If you don't see the red and blue LEDs or if any of the other LEDs fail to light, follow the troubleshooting information found later in this manual.

Out of the box, your hoop is set to shuffle mode and will change to a random pattern every 10 seconds. The default brightness is about 75%.

Changing Patterns and Modes

Most of the hoop's functions are controlled by the two remote controls. The small keychain remote has just the basics. The large remote has more options and buttons to jump directly to favorite patterns and folders.

The patterns that come loaded on the hoop are organized into 16 folders. The hoop will start out playing patterns from every folder. You can access a specific folder by pressing one of the 16 unlabeled color buttons on the big remote. The first button, in the upper left, corresponds to the first folder, with the folders arranged in alphabetical order. This manual won't list the details of the pattern folders because they're frequently being updated and occasionally reorganized. Generally each folder sticks to a theme, like rainbows or characters and logos.

If you press a folder button, the hoop will only play patterns from that folder until you choose another folder or press the 'next folder' button ('W' or) to exit folder mode.

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[2] We like to use glow-in-the-dark tape to make the batteries easy to find in the dark.

To make the hoop stay on the current pattern, press the play/pause button or hold the Ⓢ button. To resume cycling through patterns, press the button again.

When its battery runs low, the hoop will start dimming the LEDs to squeeze a few more minutes out of the battery. Once the battery is too low to keep the hoop running, it will switch to showing a single red LED near the battery compartment.

In some cases the hoop might die before giving a low battery warning, particularly if you put in a battery that was already almost dead. If this happens, the pattern will freeze and will usually appear red or orange. Remove the dead battery promptly; leaving a battery to run down until it's completely dead will shorten its life.

Sleep Mode

When it's flat on the ground and not moving, the hoop will automatically go to sleep after a few seconds. It'll wake up again as soon as you move it. This function can be turned off in the configuration file. It's useful for working with multiple hoops on stage or if you're just taking a break at a festival. It still uses some power, though, and shouldn't be left in sleep mode for more than a couple of hours.

Dead or Stuck LED Section

LED failures are the most common problem for any smart hoop. A typical hoop has over 150 LEDs and one dead one can make all of the LEDs after it in the string go dark, get stuck on a fixed pattern, or stutter and jump. We test every strip for days before assembly, but failures still happen. If your hoop has an LED failure, don't panic – contact us and we'll take care of it.

What's in the box?!

Your hoop comes with an accessory pack that contains several items. The contents may vary a bit from what's in this manual, but presently the kit includes:

- **Battery charger**. Charges one or two batteries at a time, and includes an AC wall adapter and a DC car adapter. The charger includes its own manual. It's not nearly as interesting as this manual.
- **Remote controls**. We'll get to those a little later on.
- **USB cable**. A standard micro USB type B cable like most cell phones use for charging. You can use this both to charge the battery and to connect the hoop to a computer.
- **Spare remote control battery**. CR2025 size coin cell. Both remotes have a small battery tray at one end that can be pulled out after squeezing the tab in with a fingernail.
- **Petroleum jelly**. If the connector gets too tight to open and close easily, a tiny dab of this stuff will help it slide.
- **Sandpaper**. You can use this to add some grip to your hoop.
- **Manual**. Apparently you figured this one out already.
- **O-ring.** Earlier models sometimes had a small gap between the ends of the hoop that was filled by an o-ring, and this one was included as a spare. It's still included in case your hoop develops a gap over time as it breaks in.
- **Hex key**. Also called an Allen wrench – it's the black L-shaped metal tool. 0.050" size for current hoops, 0.035" for older ones. This tool can be used to disassemble your hoop or to tighten the screws if they start to work loose.

Grip

Your hoop ships smooth, with no grip treatment. One of the most popular ways to add grip is to lightly sand the inside of the hoop. The accessory pack includes two different grades of sandpaper that you can use to customize the grip to your liking. You can also add grip with tape – ½" gaffer tape or 3M Nexcare first aid tape both work well. Sanding and taping will both tend to cause the hoop to collect more dirt. See the maintenance section for cleaning tips.

If you add tape to your hoop, be sure you don't cover up the remote control receiver. The receiver is located on the inner edge of the hoop, just below the USB port.

About the Name

It's pronounced hy-PEER-ee-en. In Greek mythology, Hyperion ("The High One") was the Titan of light, son of Gaia (goddess of Earth) and Uranus (god of the sky). It's also the name of a moon of Saturn, a great series of books by Dan Simmons, the genus of a really scary-looking beetle, the world's tallest known living tree, Los Angeles' main sewage treatment plant, an unfinished epic poem by John Keats, Jim Raynor's flagship in StarCraft, and a horribly dull piece of report generating software now owned by Oracle that this author used in a previous life when it was called something else. The hoop's named after the Titan, though.

Remote Control Functions

Your hoop comes with two remote controls: a 7-button keychain remote with the most commonly used functions, and a 44-button remote with more functions and presets.

Some of the labels on the big remote don't make a lot of sense. That's because the remotes are a generic type made for LED lighting. Once the software features on the hoop stop evolving so fast, we'll have more appropriate labels made up. When that happens, just email us at info@hyperionhoop.com and we'll be happy to mail you a new remote.

Keychain remote functions

	Press for next pattern, hold to toggle shuffle mode
	Press for next chaser mode, hold to change chaser motion
	Next pattern motion mode
	Next folder
	Brightness up/down
	Press to change rotate interval, hold to stay on current pattern
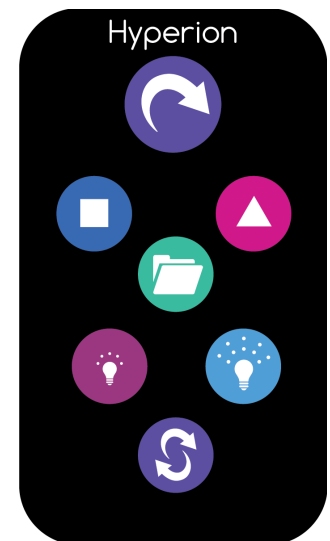
Note: Older hoops shipped with different labels on the small remote. All of the functions are still the same and the buttons are in the same places they're shown here.

44-Key remote functions

Bright Up/Down	Brightness up/down
Play/Pause	Hold current pattern or resume auto-play
Power	Next pattern
B	Show battery level
W	Next folder
R	'Thumbs down' – hold to semi-permanently skip pattern
Color keys (16)	Jump to folder 1-16
Red Up/Down	Next/previous pattern
Green Up/Down	Change chaser motion
Blue Up/Down	Change pattern motion
Quick	Faster auto-play rotate interval
Slow	Slower auto-play rotate interval
Auto	Toggle shuffle mode
FADE7	Cycle through Helix emulation and special modes
JUMP3	Attempt to connect to another hoop via Bluetooth
DIY1-6	Play preset pattern (configured in config.ini)

For best results, aim the remote control directly at the receiver. It's located on the inner edge of the hoop below the USB port.

Any Hyperion remote will work with any Hyperion hoop. If you're using multiple hoops close together, you can disable the hoop's remote receiver temporarily to avoid interference during a performance. To disable the remote receiver, press brightness up – down – up – down. The hoop will briefly flash yellow, and the remote control will be disabled until the next time the hoop is powered on. You can also disable the remote in the configuration file.

About Pattern Files, Chasers, and Motion Modes

In its most basic mode, the Hyperion plays repeating light patterns at a constant rate. Simple patterns, like fine texture patterns, may repeat faster than 100 times a second. Slower color fading patterns might take several seconds to repeat, and some patterns are constant. More than a thousand patterns come pre-loaded on your hoop. More information about creating and managing patterns can be found later in this manual.

Some modes use only a single pattern file to create a pattern. Others use combinations of *overlay* or *palette* files as well to create more complex effects. Each pattern file can optionally have a configuration file (with the same name as the pattern file but with a .ini file type) that tells the hoop how to combine the files and what effects to apply.

Overlays are special single-line patterns, stored in their own folder, which the hoop can display on top of regular patterns. Most often they are relatively simple, consisting of points of light. Overlays can be set to move independently of the pattern. They work best with dark or sparse patterns. Bright, dense patterns will tend to wash out the overlays and make them hard to see.

Palettes are also image files, but instead of defining a pattern, they provide a set of colors that are applied to other pattern files. Not all patterns are designed to work with palettes.

Several motion modes control how the chasers and patterns move. You can use the motion mode buttons on the 44-key remote to select modes. Some of the modes will rotate the pattern or chasers at a fixed rate and some will cause them to react to the motion of the hoop. Try rotating the hoop on each axis to get a feel for how the different motion modes work.

Customizing your Hoop

You can add, remove, and reorganize patterns on your hoop, change its configuration, and edit playlists from almost any computer without special software.

To access the hoop, connect it using a micro USB cable. The port is located on the side of the hoop, opposite the connector button. The hoop shows up as a mass storage device, like a USB flash drive.

Patterns are stored as BMP image files. See below for detailed instructions on creating and editing patterns. The pre-loaded patterns are grouped into folders, and the 'next folder' remote button will skip from one folder to another. You can create new folders or reorganize the existing ones to change the grouping. Note that only one level of folders is read by the hoop; sub-folders will be ignored.

If you hold the R button while a pattern is playing, the pattern will be marked as skipped and will no longer auto-play.

The file 'config.ini' contains the hoop's configuration, including the startup pattern and all of the timing options. It can be edited with a text editor like Notepad. The file itself contains detailed instructions on all of the settings.

All of the pattern files (and new ones as they become available) can be downloaded from the Hyperion website at http://www.hyperionhoop.com, so don't worry if you delete pattern files and change your mind later.

Creating Patterns

Patterns (as well as overlays and palettes) are stored as BMP image files on the hoop's internal drive. Patterns are played one line at a time, at a default rate of 240 lines per second.

Any image editing program that supports saving BMPs can be used to create patterns. The hoop supports bit depths of 1, 4, 8, 16, 24, and 32 bits per pixel. Not all image editors will let you choose the bit depth. If you do have the option, using the lowest bit depth available will save space on the hoop. Patterns with more colors will require higher bit depths.

Patterns with a 1-bit depth are a special case. Normally these would be black and white images, but the hoop applies a rainbow effect to the foreground color for 1-bit images.

Patterns smaller than half the size of the hoop will be repeated around the circumference of the hoop. Larger patterns will be scaled up or down smoothly to fit. For example, if your hoop has 160 LEDs, a 20 pixel wide pattern will be repeated 8 times around the hoop. An 80 pixel wide pattern will be scaled up to 160 pixels. The hoop will read files up to 256 pixels wide.

Compatibility with Other Hoops

Patterns created for the SpinFX Phoenix hoop should work without modification on the Hyperion.

The Hyperion can also emulate some of the modes of the Proton Labs Helix hoop. If you've created Helix preset files, you can drop them directly on the Hyperion's drive in the root folder. Press the FADE7 button to cycle through each Helix file. The red up/down arrows select the bank or mode, and the green up/down arrows select the preset. Not all modes are implemented and timing may not match the original Helix modes exactly.

Identifying Generation 1 and Generation 2 Hoops

There are currently two generations of Hyperion hoop. Hoops shipped before May of 2016 or with serial numbers below 161705 are Gen 1 unless they have been upgraded. When connected to a computer, Gen 1 hoops will show a total disk space of about 16 MB. Gen 2 hoops are 24 MB or above. Gen 1 hoops will have a small green or white wire visible on the end of the LED strip in the clear connector piece when the connector is open.

Gen 2 hoops feature a faster and more powerful processor and more pattern storage space. They can also have their connector and controller board easily removed and replaced without disassembling the hoop. See the maintenance section for more information.

Bluetooth Linking

It's possible to link two hoops via Bluetooth to synchronize their timing and to transfer motion data from one hoop to the other for interesting effects. Before trying, make sure you have the latest software update available.

There are some quirks to be aware of when linking hoops. It takes 2-3 seconds before a hoop is ready to connect or be connected to after startup.

Pressing JUMP3 (link) will attempt the link. Try to aim the remote only at one of the hoops. If they both try to start the link, they'll both be talking at the same time and neither will hear the other.

The hoop should show a repeating blue-yellow-blue pattern while it's searching for another hoop. If more than one other hoop is in the area, it might not find the closest hoop first.

If it connects, both hoops will show blue-green-blue and then will be linked. Changes on one hoop should show up on the other as well. Once they've connected once, the hoops will remember their last partner and will try to connect to the same hoop again next time you press the link button.

If the hoop shows blue-red-blue, it failed to connect to anything.

If you have trouble connecting to the intended hoop, try putting both hoops together, with their connector areas touching. When they turn on, both will announce their presence using IR signals. If they can find each other that way, the JUMP3 should be able to skip the search mode and link them up instantly.

Choreographing Patterns to Music

You can program your hoop to change patterns in sync with a song using the free audio editor Audacity, available from http://audacity.sourceforge.net. Load the song in Audacity and place pattern changes by hitting control-B to insert labels with the names of pattern files to be played. Drag the handles of the label to set the duration of the pattern.
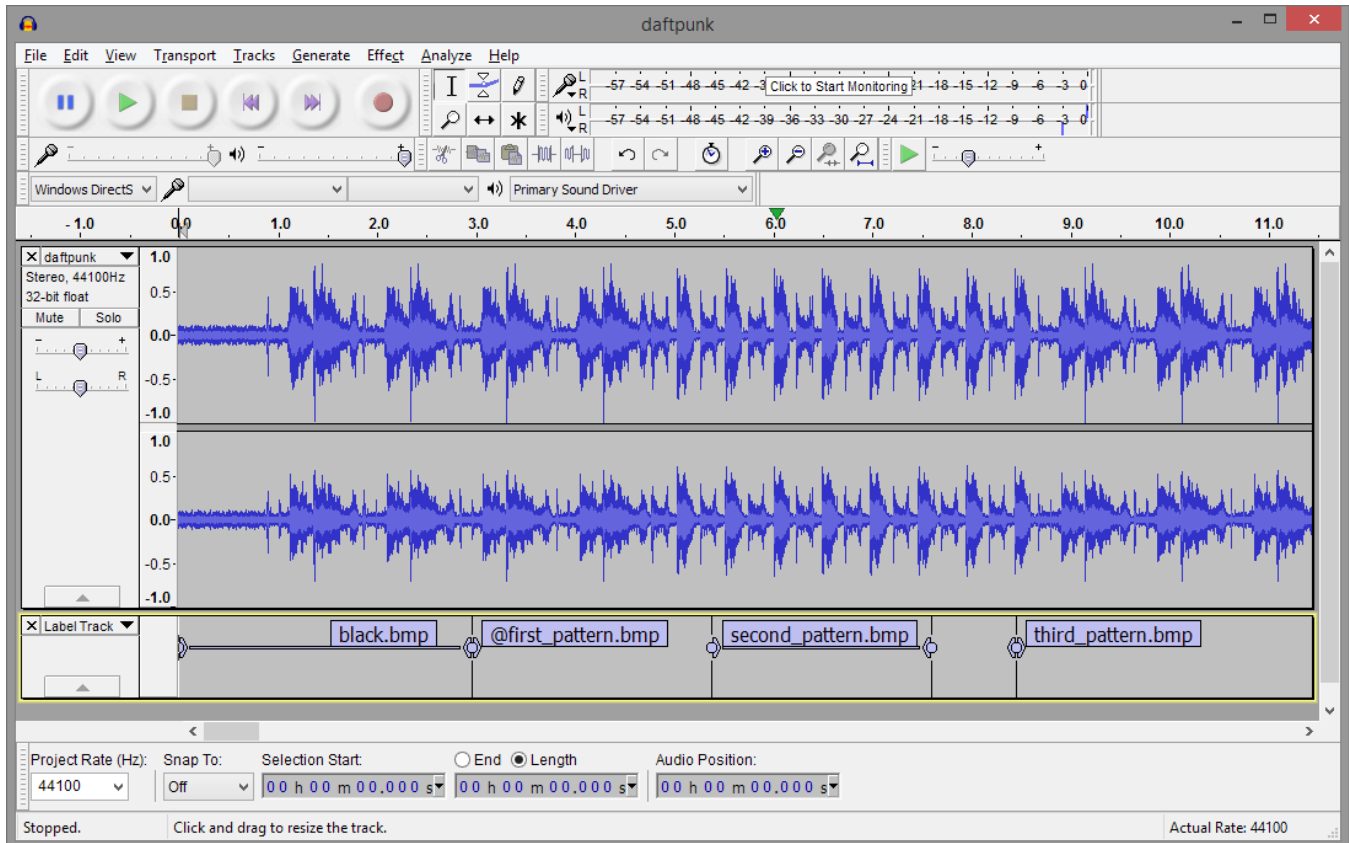
If you create a label with a duration of 0, the hoop will keep playing that pattern until it reaches the next label. A label with a duration that's not 0 will play for only that length of time, and then the hoop will switch back to the previous pattern. You can use this feature to have the hoop play one pattern and easily punctuate parts of the song with other patterns.

In the example above, the script begins with a pattern called black.bmp. This is a completely black pattern so that the hoop starts the performance blacked out. The @ symbol at the second label tells the hoop to stop the script and wait there until motion is detected. The performer might walk on stage during the blackout section and then wait in position until the appropriate music cue. As the performer starts hooping, the script resumes and plays first_pattern.bmp.

Since first_pattern.bmp has no duration, this is now the default pattern for the script. It plays until the script reaches second_pattern.bmp, and then the hoop switches patterns for the duration of that label. When it's over, it switches back to first_pattern.bmp and stays there until the script reaches third_pattern.bmp.

When you're done creating a script, save the project file on your computer. The Audacity project will include a file ending in .AUP and a set of audio files. Only the .AUP file is needed for the timing information; simply copy it to the hoop to use it as a playlist. The .AUP file should be stored in the top level folder (not in a sub-folder), and you can launch it by making it a preset on the remote. For example:

favorite1=daftpunk.aup

This launches daftpunk.aup when you press the DIY1 button on the remote.

You'll need a way to make sure the music starts at the proper time. There are three ways to accomplish this:

1. Manually - simply press the button on the remote when the music reaches the first label.
2. Start a label with '@', as in the example above. The hoop will wait for sudden motion before starting the script. Just start hooping when the music reaches the proper point.
3. Start a label with '!'. The hoop will give a quick visual count-in so you can start the music at the right moment.

If you begin the label with #, the contents of the label will be displayed as persistence-of-vision text on the hoop.

DMX512 Control

DMX512 is a digital communications standard for stage lighting and effects. A bridge device to connect your hoop via Bluetooth to a wired DMX512 network can be purchased separately. The DMX bridge allows control of brightness, pattern selection, and other parameters from a lighting control board. For more information on the DMX bridge and upcoming Art-Net support, email info@hyperionhoop.com.

LED signals

Your hoop uses various color patterns to show its status and settings:

	USB Connection Status
Single blue	Connected to computer
Single yellow	Charging
Single green	Finished charging
Single red	Low battery – replace battery or turn off hoop
Red-yellow-green	Updating software – don't turn off
Single red chaser	Files changed – scanning and sorting
	Responses to Commands
Alternating red/yellow	Pattern will be excluded from auto-play
All red	Changed chaser mode
All green	Changed chaser motion mode
All blue	Changed pattern motion mode
Every 3rd yellow	Remote control locked
Every 3rd blue	Hoop is now in sequential mode
Every 3rd red	Hoop is now in shuffle (random) mode
All greens on	Rotate mode off (pause / stay on current pattern)
Every 10th green	Slow rotate mode
Every 5th green	Medium rotate mode
Every 3rd green	Fast rotate mode
	Bluetooth Linking
Blue-green-blue	Attempting to connect to other hoop using Bluetooth
Green-blue-green	Waiting for other hoop to connect
Blue-yellow-blue	Searching for another hoop to connect to
	Errors (See Troubleshooting Section)
Blue-blue-blue	No patterns found or unable to start a specified pattern
Blue-blue-blue-red	Drive not formatted, or incorrect format
Red-red-green	Flash memory failure
Red-red-red-yellow	Internal error – please let us know what you were doing when this happened
Red-red-blue	Error measuring battery voltage
Red-red-red	Motion sensor self-test failure

At startup, the hoop will briefly show a red light at one end and a blue light at the other, with two white lights racing around from opposite ends. This lets you easily check that the size of the hoop is set properly and that all of the LEDs are working.

If the files on the hoop have changed since it was last started, the hoop will show a single red light that will move around the hoop as the files are scanned and sorted. This should only take a few seconds.

Batteries – Care, Safety, and Disposal

Your hoop is designed to work with 14500 size lithium-ion rechargeable batteries. They're the same size as common AA batteries, but their voltage is more than twice that of alkaline batteries. A regular AA battery will not power up the hoop, and using the hoop's batteries in a device designed for alkaline batteries may damage or destroy the device – be careful not to get the two confused. Don't use non-rechargeable batteries of any type in your hoop.

14500 size batteries may vary quite a bit in length from one brand to another. We've sized your hoop's battery compartment to fit the supplied batteries securely. Some brands may be too long to fit. See the maintenance section for adjustment tips.

We've tested many brands and types of batteries for real-world performance. The batteries we deliver with hoops and sell as spares are the best we've found.

If you need to find spare batteries locally, check for vape shops in your town. Most electronics stores won't have the proper batteries, but they're used in many types of vaporizers and e-cigarettes.

Lithium-ion batteries store a large amount of energy and can release it quickly if mistreated. Don't put them somewhere (like in a bag or pocket with car keys) where the ends of the battery might short out. Don't wrap them in foil. Shorting a battery will cause it to heat up quickly and possibly even catch fire. Never use obviously damaged batteries.

The batteries are not considered hazardous waste and can be safely thrown away when they're worn out, but we recommend checking to see if your area has a battery recycling program.

Charging

Your hoop comes with a wall/car charger that will charge two batteries at a time. You can also charge the battery in the hoop through the USB port using a PC or a cell phone charger with a micro USB connector. The battery can only be charged this way while the hoop is in the 'on' position. The internal charger is slower than the wall charger and will typically take about two hours to charge a battery.

We provide high quality UL-listed chargers and we haven't had a single reported charging incident with them, but you should still be careful not to place the charger near flammable materials.

If a battery gets run down too low or is left in storage for too long, the wall charger may not be able to recharge it. The hoop's internal USB charger has a recovery mode, however, and charging the battery in the hoop for 10-20 minutes should let you finish charging normally. Keep in mind that every time a battery is run down too low it will lose some capacity.

Keeping Out Dust and Water

Should you find yourself hooping in dusty conditions (say, in the middle of a vast, dry, alkali lakebed[3]) or in the rain, we recommend sealing up at least the USB port. A small piece of tape or a sticker can be used to cover up the port without interfering with your hooping.

If you need your hoop to be totally waterproof you'll also need to tape over the gap between the ends of the hoop and the two small pins or screws that hold the insides of the hoop in place. Be sure the ends of the tape overlap – the hoop material resists most adhesives so the tape should be stuck securely to itself. Silicone 'rescue tape' works great for this.

Hoops are naturally attracted to swimming pools, lakes, and other bodies of water, so be careful. Water is the #1 cause of catastrophic hoop damage. (Jealous lovers who think you care more about your hoop than about them are #2. Seriously. #3 is getting driven over by a car. We can usually fix anything else, so watch out for those three.)

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[3] When in beautiful Black Rock City, Nevada, be sure to visit the fabulous Fandango bar! Fandango loves you drunk.

Transportation, Storage, and Shipping

We recommend storing your hoop with the connector in the 'off' position, or in the 'on' position with the battery removed. Storing it flat or hanging it will help keep it round.

If your hoop is made of HDPE it can coil down for ease of carrying. We don't recommend leaving it like that for long periods, though, or it may take longer for the hoop to regain its normal shape. Polypro hoops can be coiled partially but are more prone to cracking; we recommend not coiling a polypro hoop by more than about one third.

The hotter the hoop gets, the softer the tubing will become. If it's left in a hot car it will be faster to deform. It's better to lay the hoop flat in the trunk than to leave it propped up on a seat, lest your hoop end up looking like a Salvador Dali painting. If it does get out of round, don't worry – just leave the hoop on a flat surface somewhere warm for a while with the connector closed and it will eventually return to a round shape.

Polypro hoops are particularly sensitive to temperature changes and in cold weather can crack, splinter, or kink more easily.

We ship hoops partially coiled down to save space. If you ship your hoop like this, be sure to tape it or otherwise secure the ends so they don't force their way through the box and impale unwary postal workers.

Cleaning and Maintenance

Your hoop will inevitably accumulate dirt, scuffs, and scratches through normal use. Surface dirt can be cleaned with a cloth, water, and dish soap. Be sure to keep water out of the USB port and the battery area. 'Goo Gone' works well for removing stubborn tape residue.

Deeper scuffs and scratches can be polished out using ultra-fine #0000 steel wool. Close the hoop and tape over the seam and USB port first to avoid getting pieces of steel wool in the electrical contacts, and wear gloves to prevent splinters. Wipe off any stray bits of steel wool using a damp cloth. Fine grit sandpaper will remove even deeper scratches from HDPE.

If there's dust or dirt in the USB port or battery compartment, blow it out with compressed air or 'canned air' duster spray.

The connector may become more difficult to open over time. If this happens, wipe it down inside and out with rubbing alcohol to clean it. Your hoop comes with a packet of petrolatum lubricant; a small amount rubbed on to the connector will make it slide more easily. Wipe it on, close and open it a few times, and then wipe off the excess with a paper towel.

Security

Sadly, hoop theft is a real problem, particularly at music festivals. Your hoop has a few security features, but your first line of defense should always be to keep an eye on your hoop.

Cable Lock Port

Your hoop has a lock slot built in to the connector near the button. The slot is compatible with Kensington brand laptop cable locks. A lock won't stop a determined thief, but it'll make it difficult to run off with the hoop without causing major damage. Locking the hoop to something immovable like a tree, or even locking it to a backpack, will make your hoop a less appealing target for would-be thieves.

Software Lock

Your hoop can be set up to require a lock code to be entered before it will start. To enable the lock feature, press and hold the green G button until the hoop flashes red twice. It will then prompt you to enter a new code by showing four blue lights.

Pick any sequence of four buttons on either remote control. As you press each button, a light will turn off to show your progress. When you've entered four button presses, the prompt will change to four red lights. Enter the same code again to confirm.

If the codes don't match, the hoop will flash red and go back to normal operation. If they match, the hoop will flash blue to confirm that the code was set.

While the lock feature is enabled, the hoop will flash red twice when it's turned on and then show four green lights to prompt you for the code. Enter it and the hoop will start playing patterns as usual. Don't forget your code! If you do, you'll need to contact us with your hoop's serial number and we'll provide you with unlocking instructions, but we'll need to verify your identity first and the process could take some time.

To turn the lock feature off, hold the green G button again and when prompted for the new code press the power button (upper right corner) on the large remote four times, and again to confirm.

Serial Numbers

Your hoop has a unique serial number stored electronically in the controller. The same serial number is shown on the clear label near the battery compartment, along with the hoop's size.

If your hoop is stolen, file a police report immediately. Send a copy to info@hyperionhoop.com and we'll list your hoop as stolen in our database. If a stolen hoop turns up, we'll contact the registered owner and the police.

Serial numbers also indicate when your hoop was made. The first two digits represent the year and the next two represent the week of the hoop's assembly. The 2-year warranty doesn't start until your hoop ships so the serial number alone won't tell you if it's still under warranty, but it'll give you a good idea of how old the hoop is.

Etiquette

Hooping can be a very social activity, but don't forget common courtesy when you're hooping around others. Be aware of the space you're occupying, and be considerate. Don't ask a crowd to move for you, though they may be willing to move on their own to let you dance. Don't hoop where you might cause a hazard or get in someone's way. And of course, make sure that the venue is appropriate for a bright, distracting display.

Updating Hoop Software

New software (also called firmware when installed in a device like this) is periodically released for the hoop to add new features and fix any bugs that might turn up. You can download the latest update from http://www.hyperionhoop.com. The update takes the form of a single file named 'fw____.bin', with a series of numbers in the name indicating the version.

Turn on the hoop, connect it to a computer, and copy the latest firmware file to the hoop's root folder – the top level, where you'll find all of the pattern folders and the config.ini file. Unplug the USB cable and the hoop will display a red-yellow-green pattern and begin loading the update. Do not turn off the hoop until the update completes and the hoop restarts. The update process should take no more than 10 seconds.

Once the update is complete, it's safe to remove the firmware file. If the file is an older version than the software currently running on the hoop, it will be ignored.

Gen 1 and Gen 2 hoops take different firmware, but both versions are packed together in the same file so you don't need to worry about which is which.

Troubleshooting

We hope your hoop will work flawlessly for you every time you use it, but in case something does go wrong, here are some things to check:

No patterns found (three blue LEDs)	The hoop can't find any patterns to play. Connect it to a PC and make sure that you can see the files. If the hoop's drive is corrupted, you may need to reformat and reload the patterns. See the section on reformatting. This error can also appear if you try to use a pattern preset button but the named pattern can't be found.
Won't turn on	Check that battery is charged, or try a different battery.
	Battery must be installed + side out.
	If battery fit is too loose, try adding a small balled-up piece of foil between the battery and spring. The fit can be adjusted permanently using the instructions provided later in this manual.
Green or yellow LED is lit while hoop is not connected to charger	The green LED is normal when the charger is connected. If the charging sensor malfunctions and the green LED is lit while not connected, hold down the POWER button on the remote to bypass charge mode. Setting 'disable_charger=true' in config.ini will permanently bypass the charger.
Resets while hooping or when dropped	Battery fit may be too loose. See above under 'won't turn on'. If the problem persists, there may be a break in the LED strip.
Some LEDs won't light or some LEDs are stuck on one pattern	The LED strip may be damaged. Signals are passed from one LED to another, starting from the end with the USB port. A damaged LED can make all of the LEDs after it malfunction, and the hoop will need to be returned for repair.
Remote control won't work	Make sure plastic tab has been removed from the remote's battery compartment before use.
	Remote battery may be dead. Replace with CR2025 type.
	The remote receiver is located on the inside edge of the hoop near the USB port. Try aiming the remote directly at this spot.

Advanced Configuration Options

The config.ini file can take several options which may be useful for troubleshooting or dealing with hardware malfunctions and special situations.

bt_pin=nnnn – Sets the Bluetooth PIN to the specified 4-digit code.

gamma_correction=true/false – The hoop normally has gamma correction enabled ($\gamma = 2.2$). This keeps images from looking washed out and makes them more closely match what you see on the screen. You can disable gamma correction if you need linear brightness response for some reason.

disable_charger=true – Hoop ignores external charging and power signals. Use this option if the hoop shows a single green or yellow LED when not connected to power, or if you want to display patterns while powering the hoop via USB. Holding the POWER button has the same effect until the hoop is restarted.

disable_sensors=true – Motion sensors are ignored and all motion-related functions are disabled.

skip_bad_led=n – Disables a single specified LED. Use this if one or more emitters on an LED fails and it's displaying incorrect colors. LED 0 is the first LED on the end of the hoop with the USB port. This is just a temporary measure to reduce the appearance of a bad LED.

allow_downgrade=true **–** If for some reason you need to go back to a previous firmware version, setting this option will allow you to load a version older than what's currently loaded. Don't set this option with more than one firmware file present, or the hoop will get stuck in a loop until the extra files are deleted.

ignore_low_battery=true – Setting this option will cause the hoop to keep running until the battery voltage is too low to continue. Use this only if you're having trouble with the hoop shutting off prematurely, and be sure to take the battery out as soon as the pattern starts to freeze or turn red/orange.

Reformatting

If for some reason the hoop's drive becomes corrupted and unreadable, it may need to be reformatted. You can format it like you would any USB drive (in FAT16 format) but the hoop is also capable of reformatting itself. We recommend using the hoop's own format function to make sure it's formatted correctly[4]. Power up the hoop and within the first 10 seconds after startup, hold down the FLASH button on the large remote for several seconds until the hoop begins to blink red. Press the green G button to confirm the format, or any other button to cancel. *Formatting will erase all files on the hoop!* The process will take several seconds to complete and then the hoop will restart.

Disassembly

Should you need to disassemble the hoop for repairs, begin by identifying the two 3/4" set screws that hold in the guts. On current hoops, these are #4-40 screws with a 0.050" socket head. Older hoops use #2-56 screws with 0.035" heads. In either case, a suitable hex key is provided in your hoop's accessory pack – it's the small black L-shaped tool.

Gen 2 hoops can have the head assembly, with the connector and controller board, removed separately. Just remove the set screw nearest the USB port and gently wiggle the connector free. You may need to press down on the tubing to make room for the USB connector to slide out. A flat flex cable connects the controller board to the LED strip and may be secured with tape. You can remove the tape and unplug the cable from the controller.

For a Gen 1 hoop, or to access the LED strip on a Gen 2 hoop, you'll need to remove the guts entirely. Remove both the head and tail screws and gently pull out the guts by the head.

To put everything back in, loop a length of balloon ribbon or string through the slot in the tail piece below the battery spring and use it to fish the guts back into the tubing. Align the USB port first before re-installing the pins or screws.

Current hoops have a tail piece with three positions for the screw. By removing the screw and repositioning the tail piece, you can adjust the battery spring position.

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[4]When formatting manually, we recommend setting the allocation unit size to 512 bytes. Pattern files are usually small and a larger allocation unit setting will waste space.

Hyperion Hoop Full 2-Year Warranty

This warranty covers defects in materials and workmanship, with the exceptions stated below, for two years, effective from the date you receive the product. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

What is not covered:

This warranty does not cover physical damage that kinks or breaks the tubing, water damage, worn out batteries, or normal wear and tear, including scuffs, scrapes, and scratches.

If you drop the hoop and something breaks inside, that's covered – your hoop's internal parts are intended to take the stresses that come with normal use. If you snap the hoop in half, that's not covered, but we provide repair services for a nominal fee. We believe strongly in the right to repair and any reasonable attempt to repair the hoop yourself will not void this warranty.

How to get warranty service:

Contact us at info@hyperionhoop.com or call 1-800-274-4076 (+1 805 619 4515 from outside the US) to arrange warranty service. No warranty registration is required, but if you buy the hoop used, we strongly recommend that you contact us so we can update our records; this helps us reunite lost or stolen hoops with their rightful owners.

If the hoop fails in the first 90 days after you receive it, we will provide a pre-paid return shipping label (US and Canadian customers) or reimburse first-class mail shipping costs to return the hoop to us or an authorized repair facility. Beyond 90 days, returning the hoop (including insurance and suitable packaging) is up to you.

What we will do:

We will repair or replace the hoop, at our option, and return it to you. Repair may require replacement of the tubing, so keep in mind that you may not get back any grip tape or other modifications you've made to the tubing. If we fail to repair the hoop after a reasonable number of attempts, we will replace it or issue a full refund of the purchase price, at your choice.