Aquarius
owner's manual

SKAA® wireless speakers

Developed in Canada
built to survive a moose stomp

1. Introduction

Thanks for choosing Dillinger Labs. You're now the proud owner of Aquarius - Our flagship speaker system, complete with SKAA wireless technology.

SKAA prides itself on ease of use and flexibility. Combine these values with Dillinger Labs' commitment to audio quality and you get Aquarius. Truly great speakers.

We know you are eager to fire up your new speakers and we don't want to keep you waiting. Refer to **3. Quick Start Guide** to have your speakers up and running in no time. Once you're moving and grooving, come back and learn all about your new gear.

A few important bytes of information

Have you seen this icon before?

The SKAA Compatible Badge certifies that this Product has been tested and is fully compliant with all of the requirements of the SKAA Standard and has been granted SKAA Certification. This Product will work seamlessly with all other products sporting the SKAA Compatible Badge.

If your transmitter is capable of SKAA Pro, so is Aquarius! SKAA Pro reduces the latency of SKAA from 36ms to 19ms. Check out our video on SKAA Pro **here**.

For more information on the SKAA Standard, please visit **SKAA.com**. The SKAA® name as well as its associated marks, logos, and icons are trademarks or registered trademarks of Eleven Engineering Inc.

2. One and Done.

Your Aquarius speakers feature a single control that combines the SKAA Bond Button and a rotary knob for volume control.

Embrace the knob. Become one with the knob.
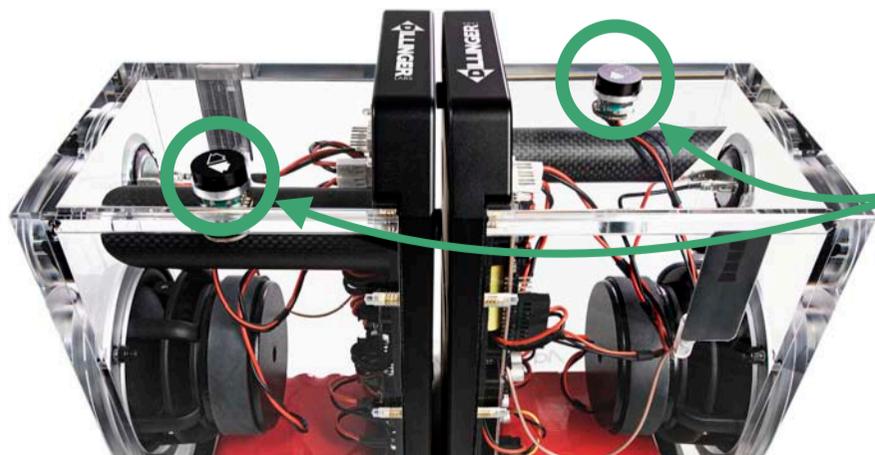
3. Quick Start Guide

Step 1: Connect your chosen SKAA Transmitter to an audio source and if required, turn the Transmitter on.
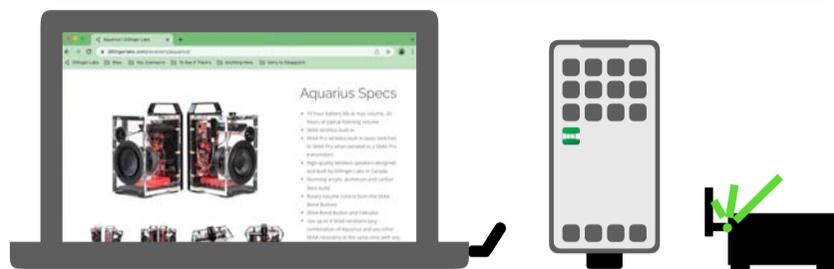
Ursula and Cassandra PC Users:
Mac OS: Navigate to *System Preferences > Sound*, and set the output device to *SKAA Transmitter*.
Microsoft OS: Navigate to *Sound Settings* and select *SKAA Transmitter* as your output device.

Step 2: Play audio on your device.

Step 3: Press n' hold the power switch for 1 second. Aquarius will instantly Bond to the Transmitter and the Bond Indicator will shine solid Amber. <u>You should now hear audio playing.</u>

If the Bond Indicator stays dim Amber and there is no audio, Factory Reset by clicking the Bond Button 6 times. The Bond Indicator will flash Red if the reset is successful.

Step 4: Adjust the volume by rotating these knobs. *Note: The output volume of your source device will affect the volume from Aquarius.*

Bonus Links :
SKAA Wireless Audio Beginner's Guide
SKAA YouTube Channel

4. Ginseng™

SKAA technology is known for robustness and reliability. This was possible by taking a ground-up approach to design a chip to meet strict performance goals. We present to you Ginseng™ by Eleven Engineering.

Unlike alternatives that utilize task switching architecture, Ginseng utilizes multithread architecture to process audio data. The ability to run multiple tasks simultaneously is the key to SKAA's superior performance.

5. Flush External (FE) Antenna

Wireless range is just as important as computing power. Ginseng is connected to an in-house engineered, artisanal farm-to-table, non-GMO, class-leading antenna. Brace yourself - here comes the antenna hype...

Look carefully at the location of your Aquarius' internal antenna. Follow the copper cable from the PCB to the black emblem on the side of the speaker. This is the antenna. We have done everything in our power to put it in the ideal position - elevated and away from metal and electronics. We went so far as to put it on the OUTSIDE of the speaker. Choices like this enable your Aquarius to achieve a 50-meter wireless range when paired with a transmitter capable of that same range.

Antenna hype complete.
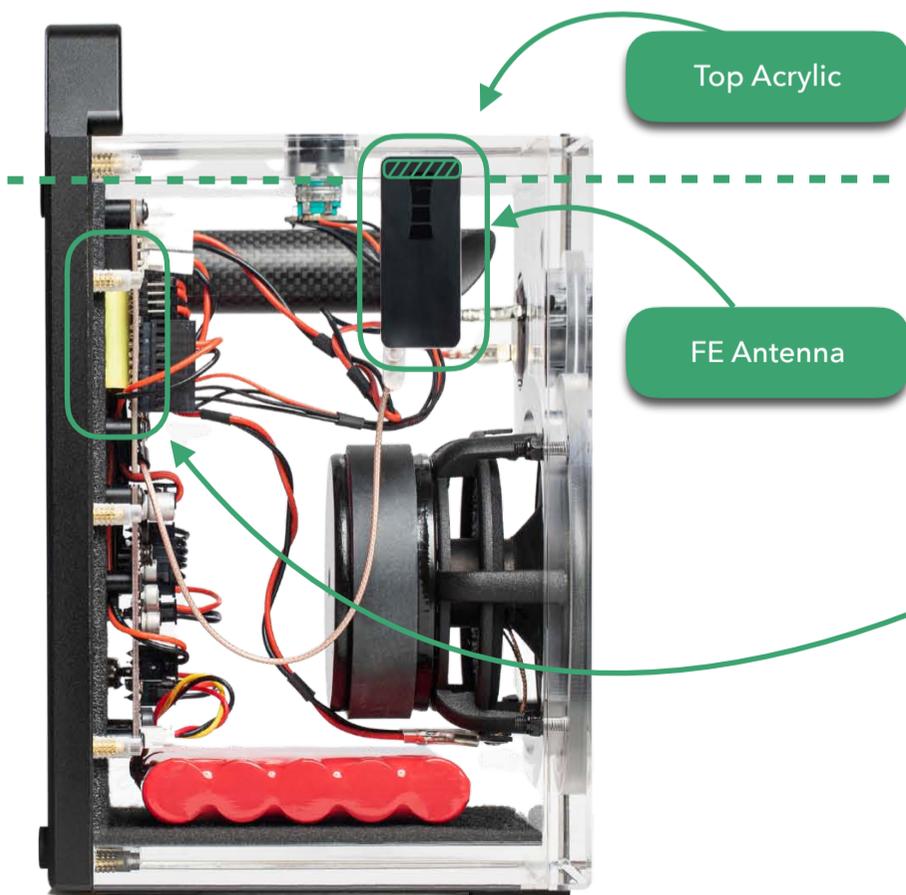
6. Digital Signal Processing (DSP)

Analog Devices is a world leader in Digital Signal Processing technology making their DSP Chip the perfect choice for your speakers. The DSP commits one channel to the woofer and one channel to the tweeter, preserving audio fidelity in the process. We've programmed the DSP to supply a flat EQ to give you a listening experience akin to that of a recording studio. Analog Devices and SKAA have allowed Aquarius to boldly go where no speaker has gone before. Where high fidelity wireless solutions reign supreme.

7. Class-D Amplifier

At the heart of Aquarius is its Merus™ amplifier - Infineon's most efficient audio amp. Merus boasts a stellar 92% efficiency, meaning that more of your battery's power is converted into sound and not into heat. More power savings means more hours of music giving Aquarius its 36+hour battery life at normal listening levels.

8. Film Capacitors
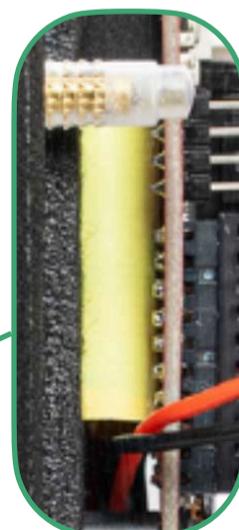
Film capacitors are an audio engineer's best friend! When an amplifier demands power, not all capacitors are capable of supplying an instantaneous flow of charge; this is where a film capacitor comes to the rescue. Next time you hear a kick drum in your Aquarius speakers, remember the film capacitor makes it happen with an extra punch.

9. Drivers: Woofer/Tweeter

We have selected the drivers for Aquarius with great care.

The woofer's frame is a cast aluminium basket with a carbon fibre cone. The ceramic core screams "attitude" with a punchy, dynamic and clean sound.

The tweeter, on the other hand, provides a smooth, mellow response from its silk dome.

Besides the superior material quality of the drivers, the mounting location of the tweeter plays an important role. To widen the stereo image delivered by Aquarius, the tweeters are pushed to the extreme left and right in their respective speaker.

10. Feet
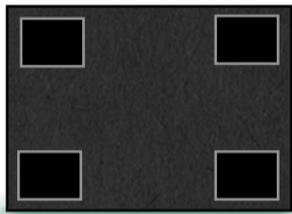
Keeping a powerful speaker like Aquarius in one place is no small feet. Get it? Feet??

Take a moment and gaze upon Aquarius' Feet. Whatever surface you place these speakers on, the Feet will never allow the speaker to creep. Aquarius speakers will stay exactly where you want them even at maximum volume.

11. The Back Plate

The back plate serves as the backbone of Aquarius - holding it all together and looking good while doing it.

Aquarius' back plate is manufactured by machining a large block of aluminium into its final shape. This manufacturing technique is deliberately chosen to achieve the rigid structure required to endure the extensive vibration your speakers will experience through their long lifetime.

The back plate acts as a two-pound aluminium heatsink for the electronics – especially the Class-D Amplifier. Thanks to the large surface contact between the amp and the backplate, any heat dissipated is effortlessly diverted into the aluminium. Excellent heat transfer ability allows us to drive the amp at its maximum power level indefinitely.

The backplate also sports the SKAA icon. When you see this, you know good things are coming.

12. One Control

The Bond Button/Knob gives you full control of your speakers with a push and twist.
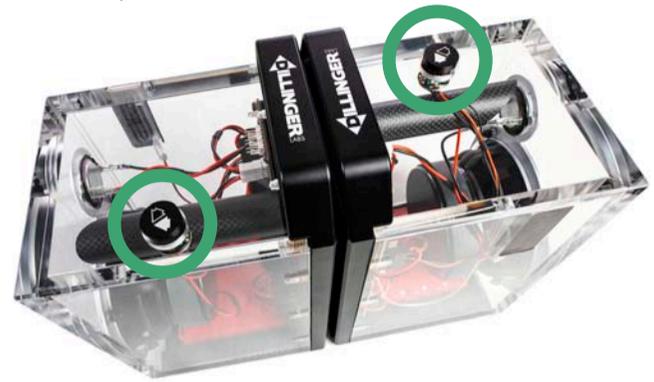
Want to change the volume?
    – rotate the knob.
Want to search the Green List for your favourite Transmitters?
    – single click the Bond Button.
Want to play audio from a new Transmitter?
    – double-click the Bond Button.

*Check out the **SKAA Receiver's User Guide** later in this manual for a complete list of SKAA commands.*

*Power users: check out our video diving deep into the Bond Button and the Green List **here**.*

13. The Tuned Port

The Port of Aquarius has a few seemingly unremarkable traits that make it quite remarkable, indeed. We've made it as long as possible with a 45° slice inside the speaker which leads to a gentle flare on the back plate; choices that achieve four important goals:

1. Improve bass performance – all the way down to 55Hz
2. Minimize resonant frequencies
3. Near-perfect elimination of chuffing
4. Port turbulence prevention

45°
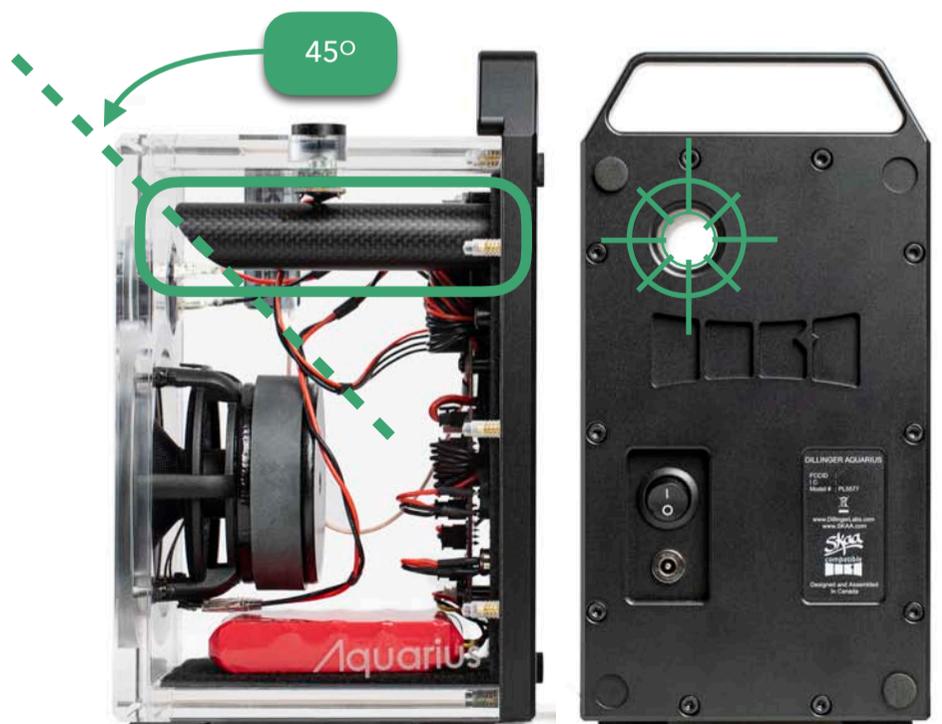
14. Charging

Aquarius has a phenomenal 36+ hour battery life at normal listening volumes, but eventually, you'll need to charge them back up. Each speaker is shipped with a 24VDC 65W charging adapter:

The charging jack is located on the backplate, below the power switch as shown here:

Charging jack
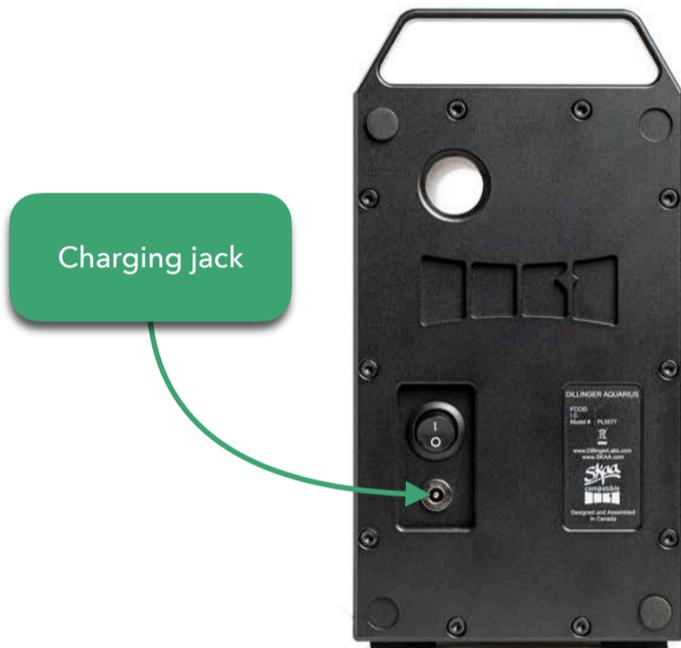
When the battery reaches 45 minutes of remaining run time, an orange LED will begin flashing - it's time to plug in the charging adapter.

A full battery recharge will take 2 to 3 hours from empty.

If you keep your speakers plugged in full time, be sure to unplug from power once a month and fully deplete your batteries. Doing this will extend the battery life.

An orange LED will stay on during charging and will turn off once fully charged.

PRO TIP: leaving the charger plugged-in while music is playing will allow Aquarius to play LOUDER.

15. The Gravity Lock™

Gravity Lock™ allows you to conveniently carry a pair of Aquarius speakers in one hand. Simply interlock two speakers back to back as shown in the image below.

As you bring the two speakers together, notice the bumpers align with pockets on the opposite backplate (circled in the image). Once they interlock, they stay firmly in place while you comfortably carry your speakers.
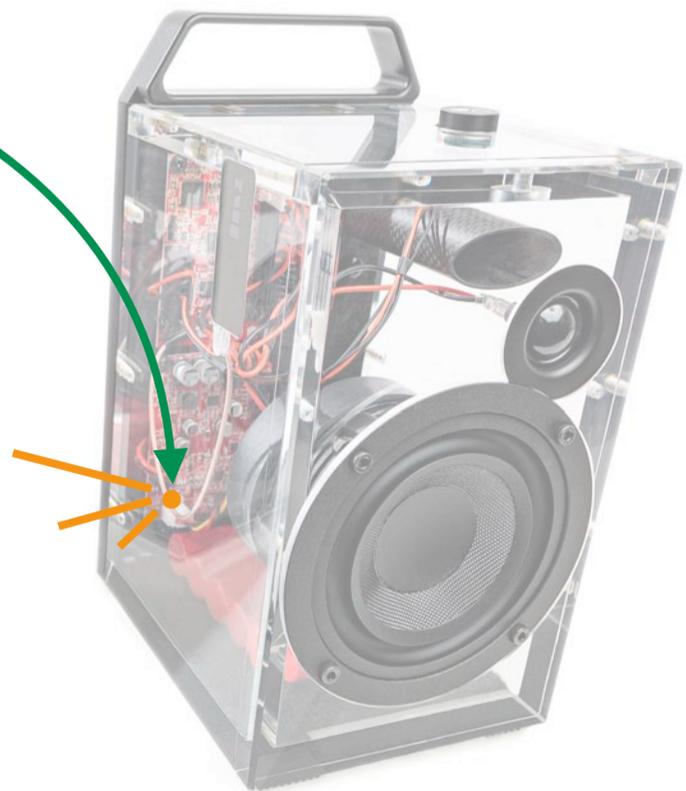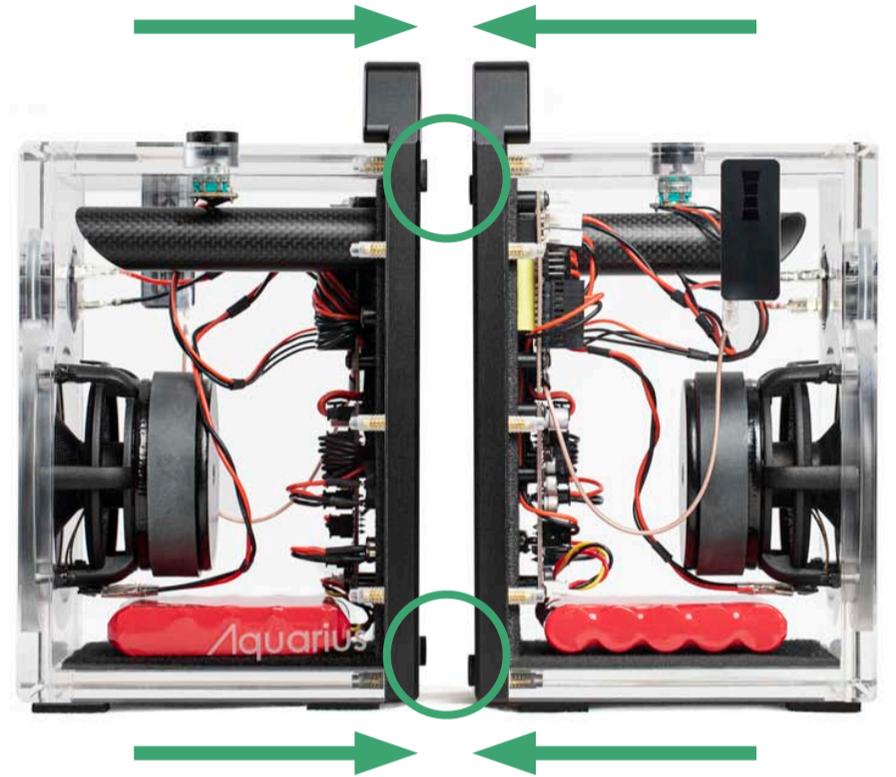
16. SKAA cmd App

SKAA cmd ("command") is the app that you don't really need. Though, once you hear about what it can do, you'll certainly WANT it…

SKAA cmd provides a long list of additional features to your SKAA setup. For use with Ursula, Cassandra, Diz and Gemma transmitters - you can add custom names to Receivers, easily mute all Receivers, adjust individual volumes, see which Receivers are bonded to your Transmitter and so much more!

The SKAA cmd App is available for iOS, Android, Mac, and Windows platforms. It can be downloaded from the Apple App Store, Google Play Store, and at **www.skaa.com/tlc/skaa-cmd/**

Check out **www.skaa.com/tlc/support/** for the dedicated SKAA cmd App user's guide.
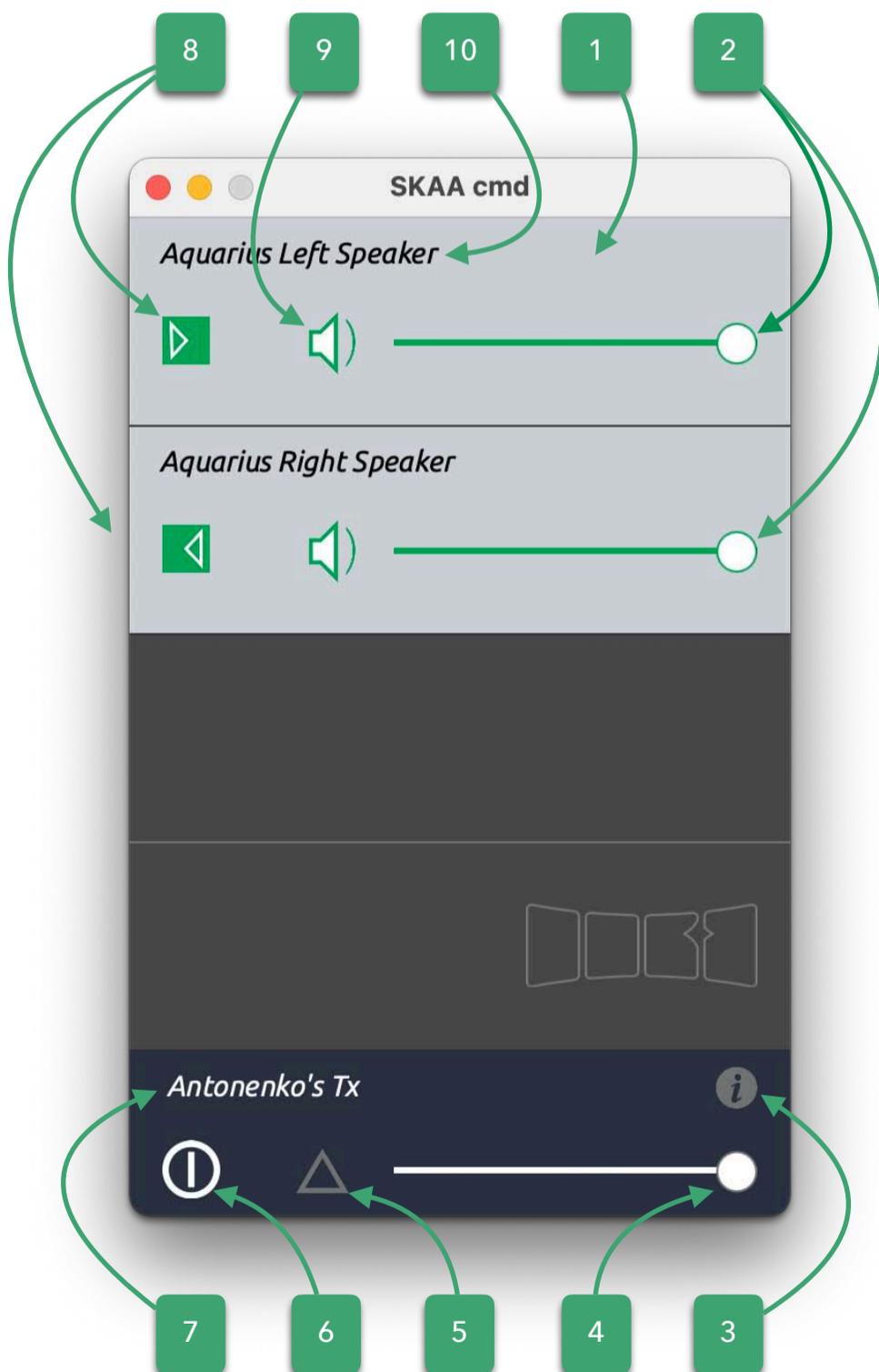
1. Your transmitter has 4 bays and you can park a receiver or Cluster (see no.17) in each bay

2. Local volume control. Move this slider to modify the volume of each Receiver

3. Click "*i*" to see the App Info Screen. Here you can view the app version and Transmitter version.

4. Global volume control. This slider changes the volume on all Receivers simultaneously.

5. Once pressed, this triangle will summon a fearsome *LAZER* to *ZAP* all volumes to zero. Fear not, it's just a global mute button. Press each Receiver's speaker icon to unmute.

6. Transmitter Power Mode Customization
RED: Always ON
GREY: Always OFF
WHITE: ON only when there is audio

7. Customize the name of your Transmitter.

8. Audio Routing: The Green Bond Block lets you choose whether a Receiver is playing left, right, or both channels. From the factory, your Aquarius speakers are configured with the left and right speakers playing their respective channels.
—— **PLEASE NOTE** ——
If you only use one speaker to play audio, you may want to set it to a Mono output.

9. Press to mute an individual Receiver. Press again to unmute.

10. Give your speakers a snappy nickname like "Aquarius Almighty"

…or something better. Or worse. You do you…

17. Clusters

Clustering is a power user feature that allows you to take a group of SKAA speakers and make them act as a single unit. Check out our YouTube video explaining the Clustering feature **here**.

The following Cluster example sets up the Left Aquarius as a master and the Right Aquarius as a slave.

Step 1: Place two Aquarius speakers near each other and ensure both of them are turned OFF.

Left

Right

Step 2: Using the Master (left) speaker, hold down the Bond Button, then turn the speaker ON

press n' hold

press ON
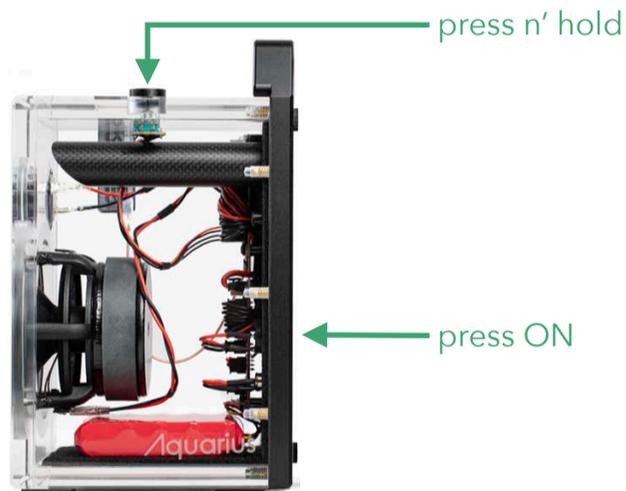
Step 3: After a few moments the Bond Indicator will flash Red, release the Bond Button

release
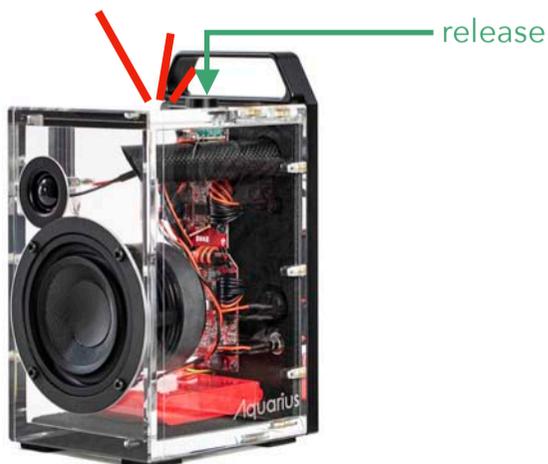
Step 4: While the master speaker is flashing red, turn ON the slave (right) speaker. You should now see the Bond Indicator on the Slave and Master speakers both flashing red. Wait 10 seconds.
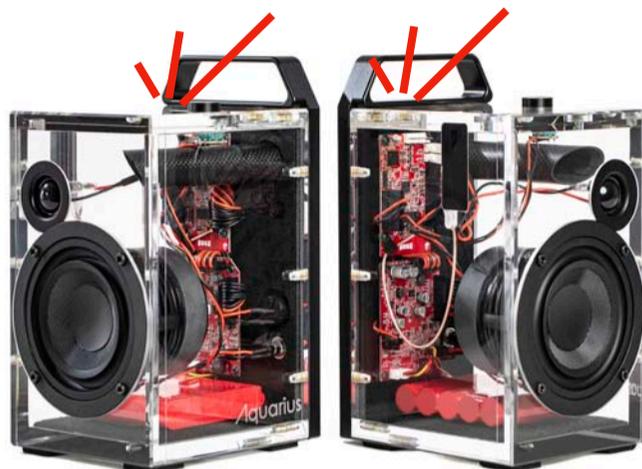
Step 5: Once the Bond Indicators turn solid red, turn OFF and ON both speakers.
Congratulations, you have made a Cluster of two speakers!

Step 6: When you connect the master speaker to the SKAA cmd app, you will see a window similar to the one shown below. Notice how a SKAA cluster is made using two speakers with the left speaker as the master.
You can cluster up to 4 receivers of the same type. Check out our YouTube Guide on Clusters **here**.

SKAA cmd

Aquarius Left Speaker

Antonenko's Tx
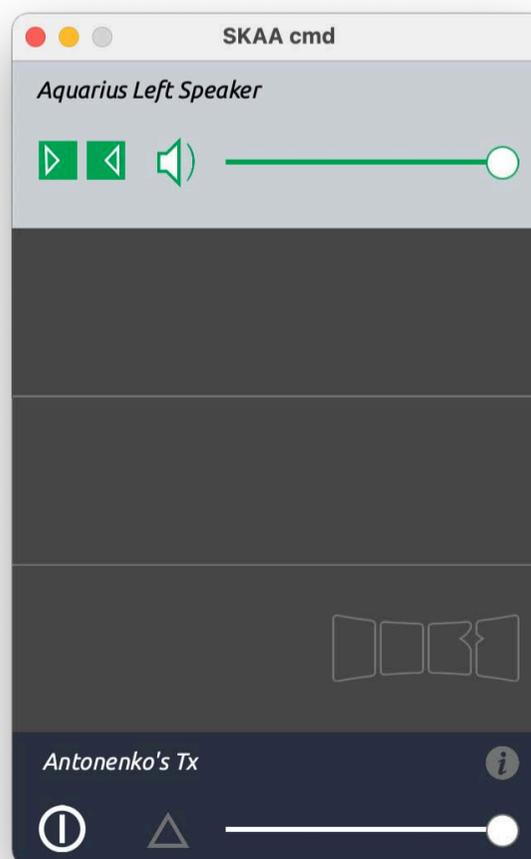
18. Specifications

Cabinet construction	Crystal clear acrylic, solid aluminium back plate
Battery capacity	48.1 Wh
Battery life	18.5 to 36+ hours dependant on listening level
Charge time	2.75 Hours
Amplifier power	60 W RMS
Amplifier type	High efficiency class D
Woofer spec	40W Max 4'' diameter with 1" voice coil - concave rubber surround
Tweeter spec	20W Max 0.76'' diameter - silk cap and cone
Woofer impedance	8Ω
Tweeter impedance	6Ω
Tuned port	0.862" ID (21.9 mm), carbon fiber construction
Frequency response (Bi-Amp Out)	37Hz - 22 kHz +/- 3 dB RE: 997 Hz at 1W, AES17 LPF
THD+N (Bi-Amp Out)	< 0.05 % @ 1W, 200 Hz – 20 kHz, AES17 LPF
SNR A-weighted (Bi-Amp Out)	> 82 dB Re: 997Hz at 1W, AES17 LPF
Digital resolution	48 kSamples/s, 16 bit
SKAA transport latency	36.72 +/- 1.5 samples
SKAA Pro transport latency	19.39 +/- 1.5 samples
Crossover frequency	3 kHz
Antenna type	FE Model B0
RF power	15 dBm
Dimensions (W*L*H)	12.8*15.2*24.8cm - 5*5.98*9.76"
Weight (each)	4.5 kg - 9.9 lbs
Power Supply Rating (1 per Speaker)	24VDC 65W

19. Important Information

Please read the following information carefully. Failure to follow the safety guidelines may result in personal injury or user dissatisfaction.

1. Do not poke the woofer and tweeter cones. They don't like it.

2. Never place anything into the tuned port on the back side of the speaker.

3. Only use the provided power adapter for charging.

4. Never store or operate speakers near a heat source.

5. Do not operate Aquarius speakers in rain. Contrary to their name, your speakers are not water-resistant.

6. Do not charge speakers during electrical storms.

7. Once fully charged, remove speakers from external power. This will lengthen their battery life.

8. Listening to speakers at maximum volume nearby may lead to partial hearing loss. We do not recommend listening to volumes beyond 90% within 3 meters of the speaker to preserve your hearing.

9. Not for use by those under the age of 12.

10. Any disassembly of the speakers will void your warranty.

11. The acrylic which makes Aquarius so unique is also quite fragile. Handle your speakers with great care.

12. Aquarius is not a sentient being capable of care and compassion. You will love them but they will not love you back.

*Dillinger Labs advises the reader that this owner's manual is being continuously updated to reflect the most up-to-date and accurate information regarding Aquarius speakers. Please check our **website** periodically for the most recent version of this manual.*

*Should you have any comments or questions about SKAA or Dillinger Labs products, we invite you to write to us **here**.*

*Check out our **YouTube channel** to familiarize yourself with an array of fantastic SKAA products.*
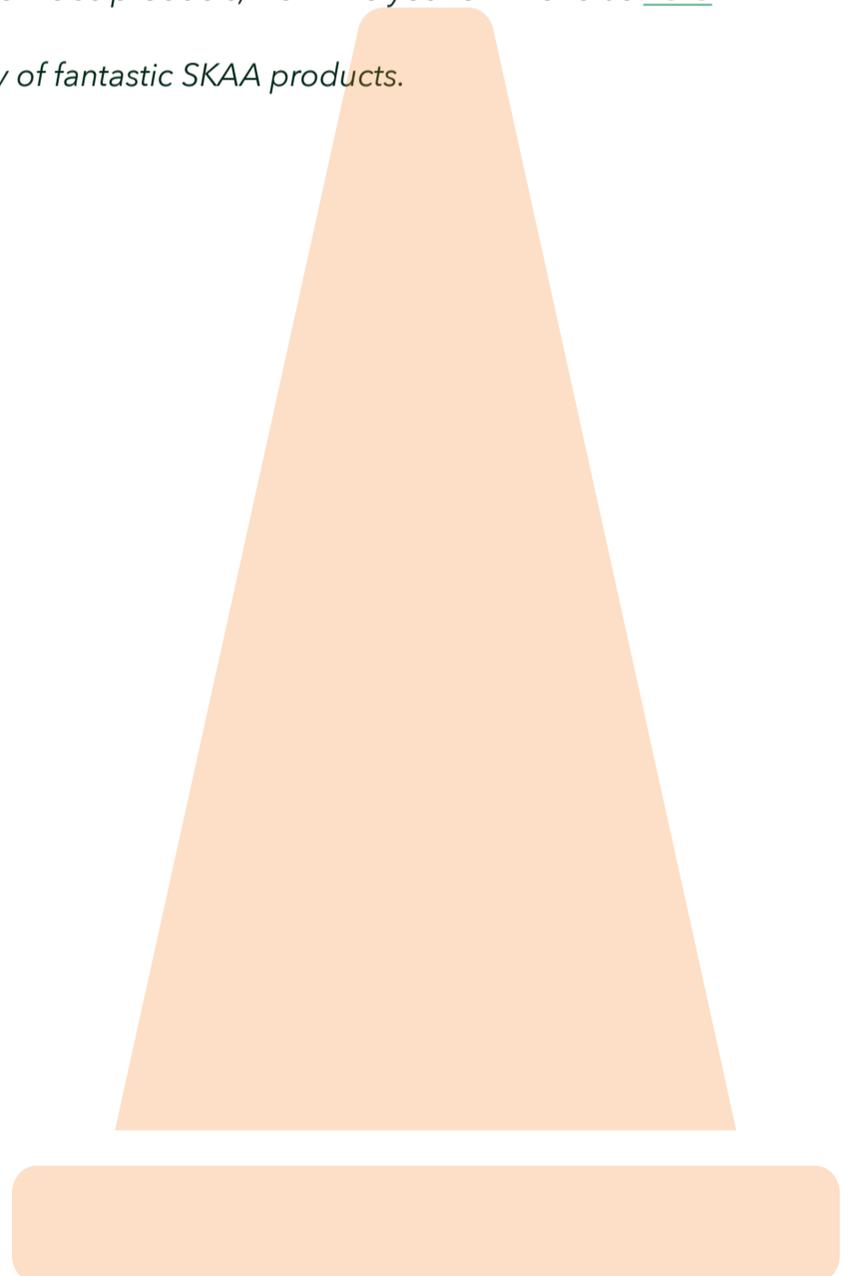
SKAA® RECEIVER USER'S GUIDE

Each SKAA receiver uses a *Green List* to remember your *favourite* audio sources (SKAA transmitters). A Green glowing Indicator on your receiver means you are listening to a favourite, or hunting for one. You can also *explore* to find new transmitters—an Amber Indicator means you are *exploring* for transmitters which are not on your Green List. The ◁▶ Bond Button on your receiver lets you select which audio source (SKAA transmitter) you're listening to.

Essentials

| ◁▶ *Button*	*Command*	*Indicator*
Hold a few seconds	<u>Add / Delete</u> Manually add / delete the current transmitter to / from your Green List	🟡 to 🟢 = Added 🔴 (flash) = Deleted
-	<u>Auto Add</u> SKAA will automatically add the current Amber transmitter to your Green List if you listen to it for 30 minutes	🟡 to 🟢 = Added
1 Click	<u>Green Mode</u> Rotate through your list of *favourite* transmitters (Green List) — when a favourite transmitter is found, the search stops and audio plays from that transmitter	🟢 (dim) = Hunting 🟢 (flash) = Next one 🟢 (bright) = Bonded
2 Clicks	<u>Amber Mode</u> *Explore* for new, unknown transmitters (ones which are not already on your Green List)	🟡 (dim) = Hunting 🟡 (bright) = Bonded

More Commands

| ◁▶ *Button*	*Command*	*Indicator*
3 Clicks	<u>Mute</u> do again to Unmute; any Click command will first Unmute and then do its function	🟡, 🟢 or 🔴 = Muted (slow flash)
4 Clicks	<u>Red Mode</u> If you have 2 or more transmitters on your Green List, power on just the one you want to hear and it plays automatically.	🔴 (dim) = Hunting 🔴 (bright) = Bonded
6 Clicks	<u>Factory Reset</u> Clear Green List. Start Over!	🔴 (flash) = Reset Done
Hold during power on	Make a Cluster of Receivers: 1. Power off all transmitters and receivers 2. Power on the Master receiver while holding down its Bond Button—hold the button down until the Indicator begins to flash Red 3. With the remaining receivers within 3 meters of the Master receiver, power on the first one, wait for its Indicator to flash Red and then power on the second one; continue until all of them are powered on 4. Once all of the Indicators stop flashing (turn solid Red), power off all of the receivers	🔴 (flash) = Receiver has entered 'Cluster Up' mode 🔴 (bright) = The Cluster has been successfully made

QUESTIONS AND ANSWERS

Question	Answer
How does the Green List work?	You can store up to 10 SKAA transmitters on your Green List. These are your "favourite" audio sources. Every time you add a transmitter, it is assigned the first open spot on the Green List. When you single click the ◁▶ Bond Button, the receiver hunts through the Green List much like a car radio hunts for radio stations when you press seek. If the Indicator is dim Green and flashes every few seconds, this tells you the receiver is hunting through the Green List. Say you have 5 transmitters on your Green List; your receiver will hunt through the list one by one: 1, 2, 3, 4, 5 and then back to 1 and so on. The dim Green Indicator flashes every time the receiver moves to the next spot on the list. This hunting goes on for up to 1 minute. If your receiver doesn't find any of your favourite transmitters, it stops hunting and just waits for the last bonded favourite. If your receiver does find one of your favourite transmitters, the hunting stops, the Indicator turns bright green, and your receiver starts playing audio from that favourite. A dim Green Indicator that is NOT flashing means the receiver is just sitting on one spot, waiting for a specific favourite transmitter to show up.
How do I bond with a specific Green transmitter?	Play audio from your source device and ensure it has a SKAA transmitter connected. Click the ◁▶ Bond Button on your receiver. The receiver hunts through the Green List, flashing the Indicator as it goes. Once your receiver finds one of your favourite transmitters, it bonds to it and plays audio from that transmitter. If that isn't the transmitter you wanted, click the Bond Button once more. Repeat until your receiver bonds with the transmitter you want and you're hearing the correct audio playing.
How do I select transmitters if I can't reach my Bond Button?	Say you want to put your receiver on a high shelf where you can't reach the Bond Button easily. First, set up your Green List: add all of the transmitters you'll want to use. Then 4-click the ◁▶ Bond Button to enter Red Mode. Now put the receiver up on the high shelf. Power on just one of your transmitters and power off all others. The receiver automatically bonds to the transmitter that's on.
How do I delete a transmitter from my Green List?	Factory Reset (6 Clicks of the Bond Button) clears the Green List and lets you start over from scratch. If however, you'd like to delete just one transmitter from your Green List, first bond your receiver to the transmitter you wish to delete. See the section above: How do I bond with a specific Green transmitter?. Once you are bonded to it, hold down the ◁▶ Bond Button for a few seconds until you see the Indicator flash Red –this Red flash means the transmitter has been deleted.
What is a Cluster?	Clusters are an optional convenience for "power users". A Cluster is several SKAA receivers behaving as one product. A left & right speaker pair, for example, or a sound bar and subwoofer.
What is the Master receiver?	In any Cluster, there is a single Master receiver, and all of the other receivers in the Cluster follow its behaviour. You can control the entire Cluster by operating the ◁▶ Bond Button of the Master. A receiver must have a physical Bond Button in order to become the Master.
How do I "uncluster" several receivers?	Do the Make a Cluster of Receivers procedure once for each receiver, but omit Step 3. Do them one at a time. This gives each of the receivers a functioning ◁▶ Bond Button, and each of them will thereafter operate independently.
What are some tips for making Clusters?	Each step in the Make a Cluster of Receivers procedure has a 10-second time limit. When you see the Master's Indicator start to flash Red, you have 10 seconds to power on the next receiver. When that receiver's Indicator starts to flash Red, you have 10 more seconds to power on the next one, and so on.
Why does only one of my Bond Buttons work?	When you make a Cluster from several receivers, the first one powered on in the Make a Cluster of Receivers procedure becomes the Master of the Cluster. Only the Master's ◁▶ Bond Button works because a Cluster uses just one Green List –the Master's Green List. The Bond Button of each of the other receivers will work only for the Mute / Unmute function (3-Click of the Bond Button).
Can any group of receivers be made into a Cluster?	No. The receivers must be members of the same product family. If they are not, the Make a Cluster of Receivers procedure won't work. This is because only receivers which were designed to work together (as a single product) can be made into a Cluster.

Aquarius Use Case #1

Computer with a pair of Aquarius speakers

Ursula Transmitter

Aquarius Speaker

L

Aquarius Speaker

R
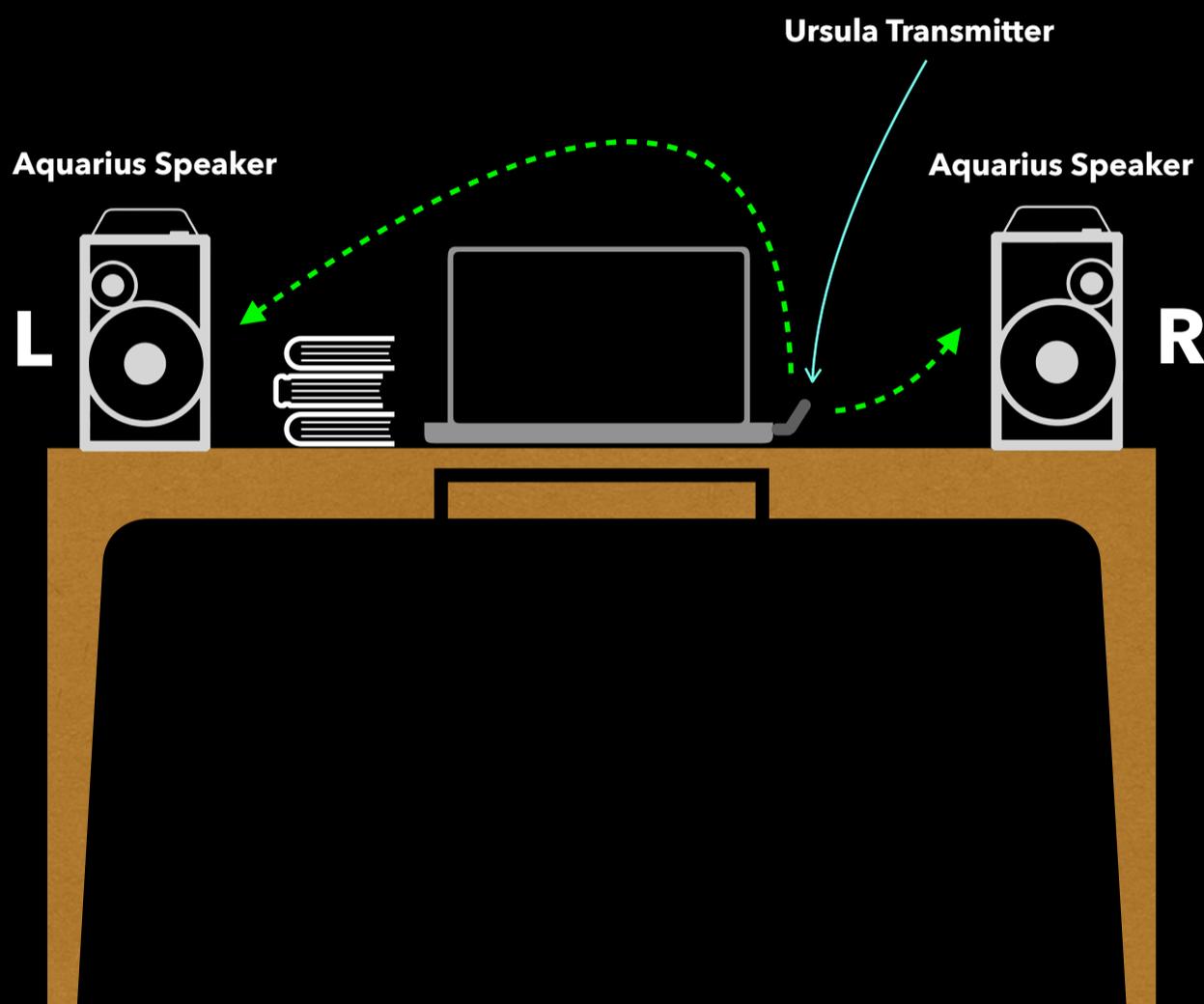
Legend: SKAA - 36 ms latency   SKAA Pro - 19 ms latency   Wire

Aquarius Use Case #2

2.1 Home Theatre System

SKAA *compatible*

Aquarius Speaker

L

Aquarius Speaker

R

Television

Talisa Transmitter

SKAA compatible Subwoofer
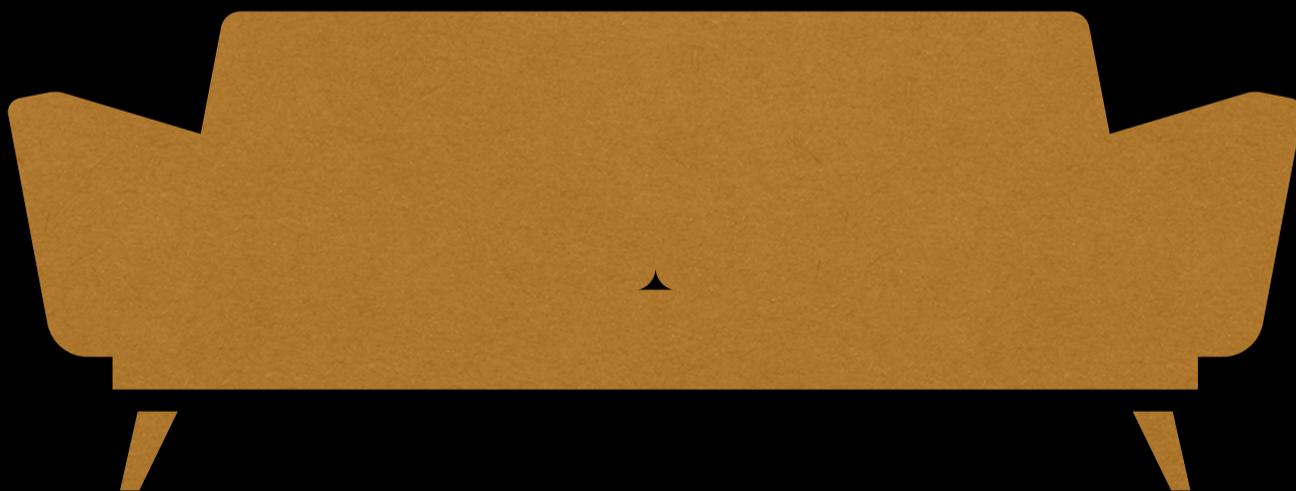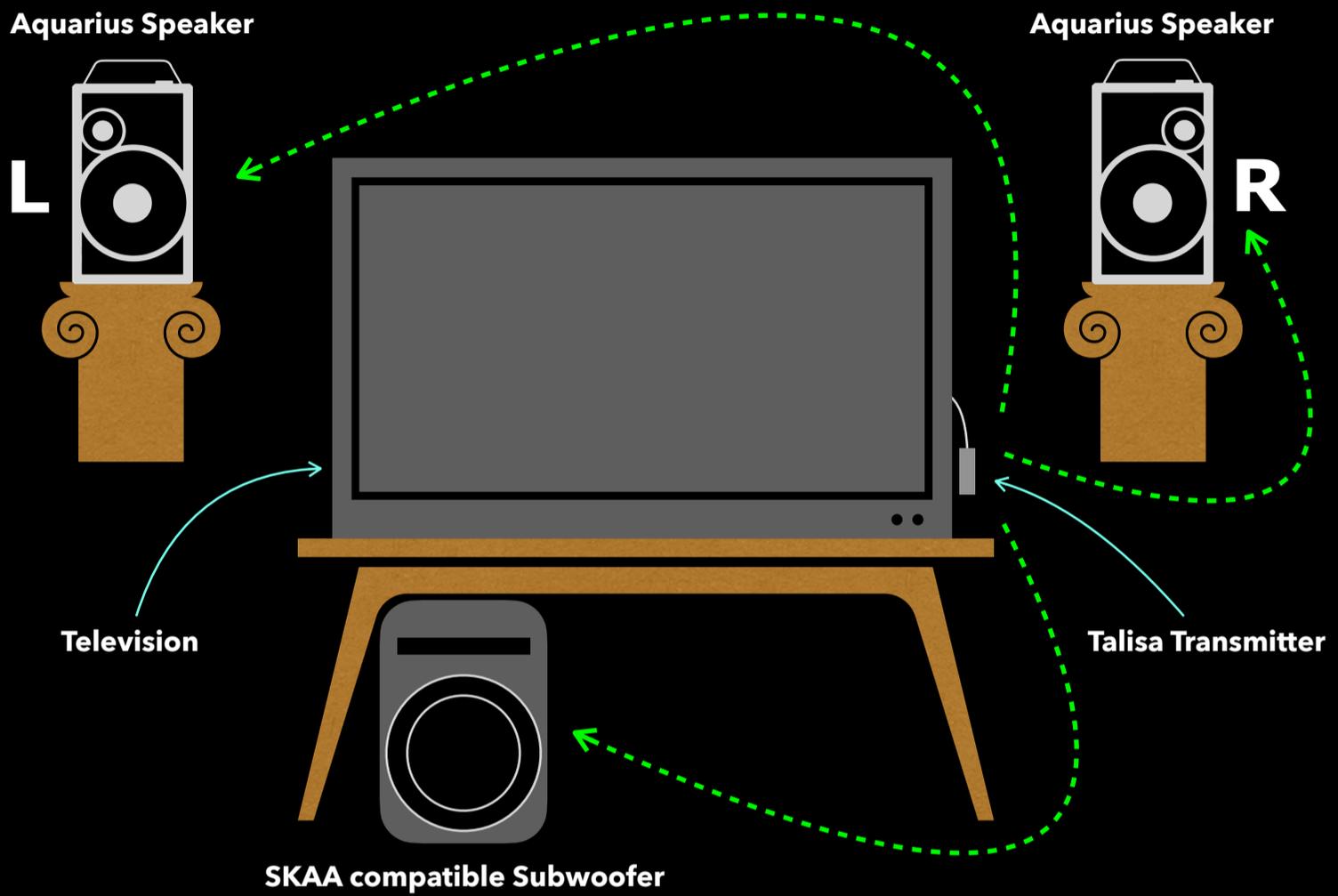
Legend: — — → **SKAA - 36 ms latency**   - - → **SKAA Pro - 19 ms latency**   ⌒→ **Wire**

Aquarius Use Case #3

Cluster of speakers

*If you wish to control a whole sound system using only one speaker, you can do that by setting up a Cluster. Check out section **17. Cluster of Speakers** and **SKAA RECEIVER USER'S GUIDE** at the end of this manual for detailed info.*

SLAVE
Aquarius Speaker

Mono

Talisa Transmitter

Television

SKAA compatible Subwoofer

MASTER OF THE CLUSTER
Aquarius Speaker

L

SLAVE
Aquarius Speaker

R
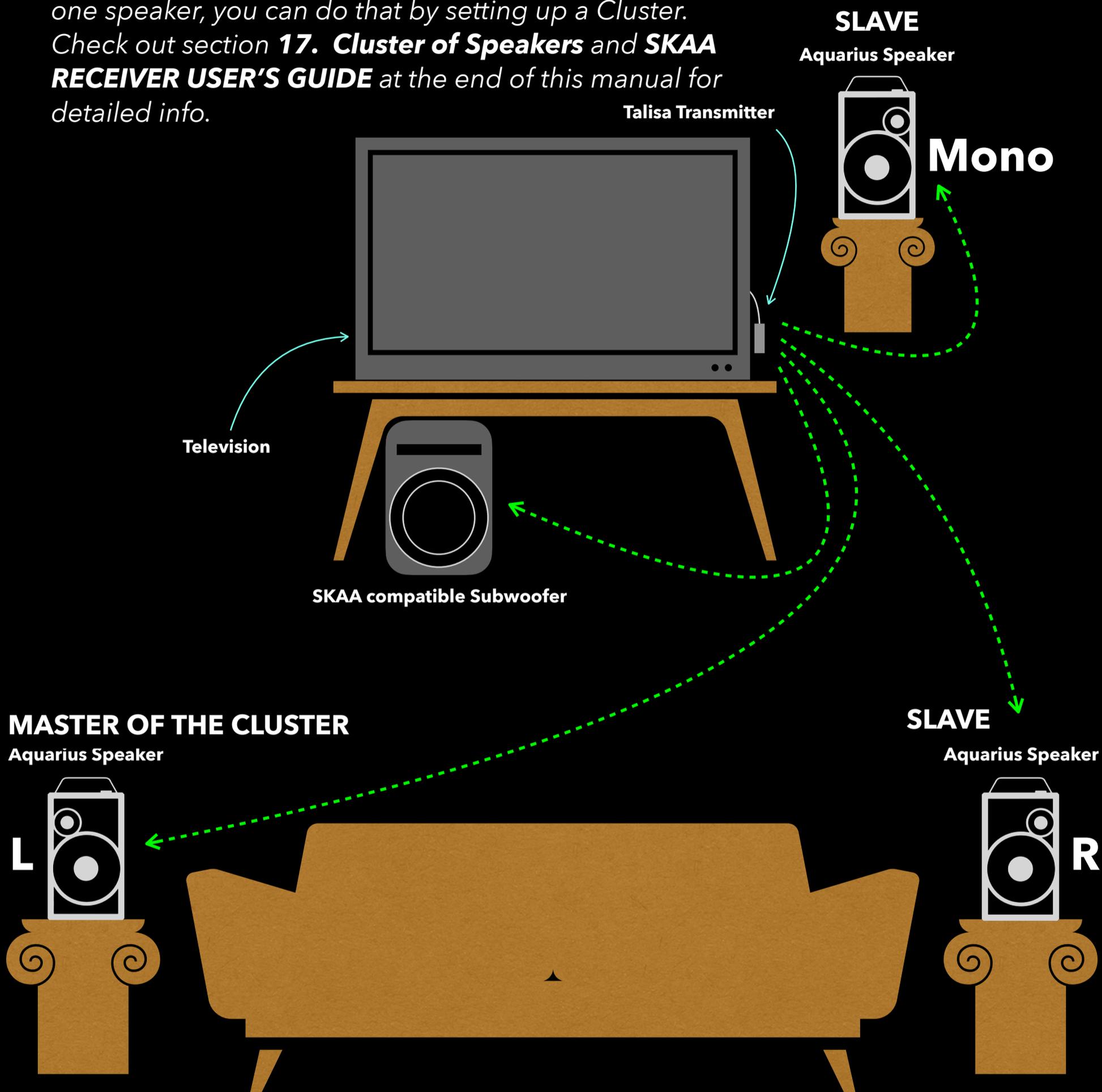
Legend:
- - - → **SKAA - 36 ms latency**
- - - → **SKAA Pro - 19 ms latency**
⌒→ **Wire**

Aquarius Use Case #4

Home-brew Party

Aquarius Speaker L

Aquarius Speaker R

iPad

Diz Transmitter

Aquarius Speaker L

Aquarius Speaker R
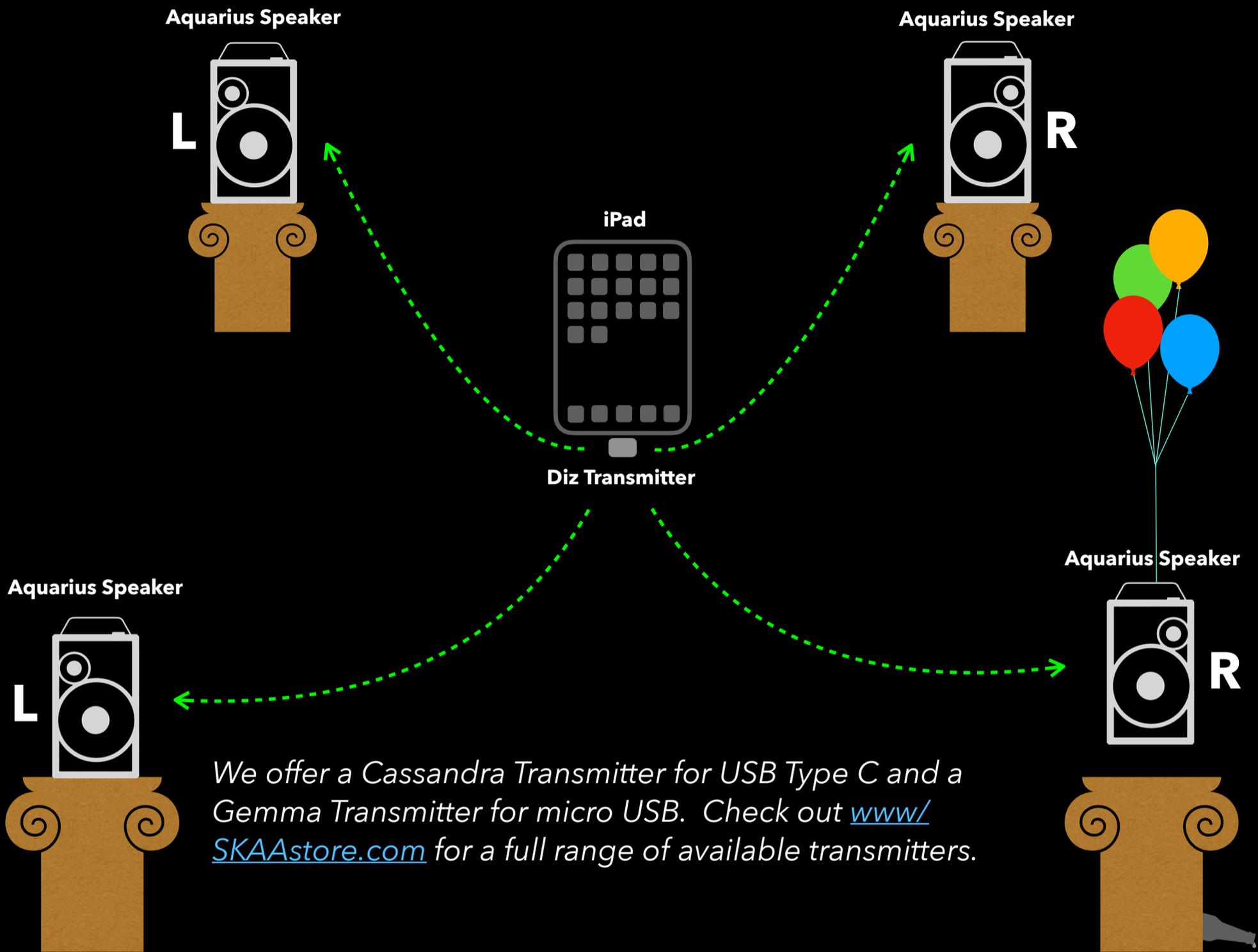
We offer a Cassandra Transmitter for USB Type C and a Gemma Transmitter for micro USB. Check out www/ SKAAstore.com for a full range of available transmitters.
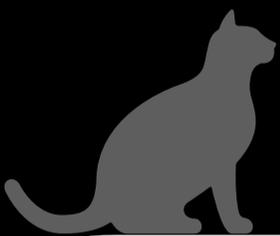
Legend: ⇢ SKAA - 36 ms latency ⇢ SKAA Pro - 19 ms latency ⌒ Wire

Aquarius Use Case #5

DJ House Party

Aquarius Speaker
L

Aquarius Speaker
R

Aquarius Speaker
L

Aquarius Speaker
R

Dani Transmitter

Powered Subwoofer

Powered Subwoofer
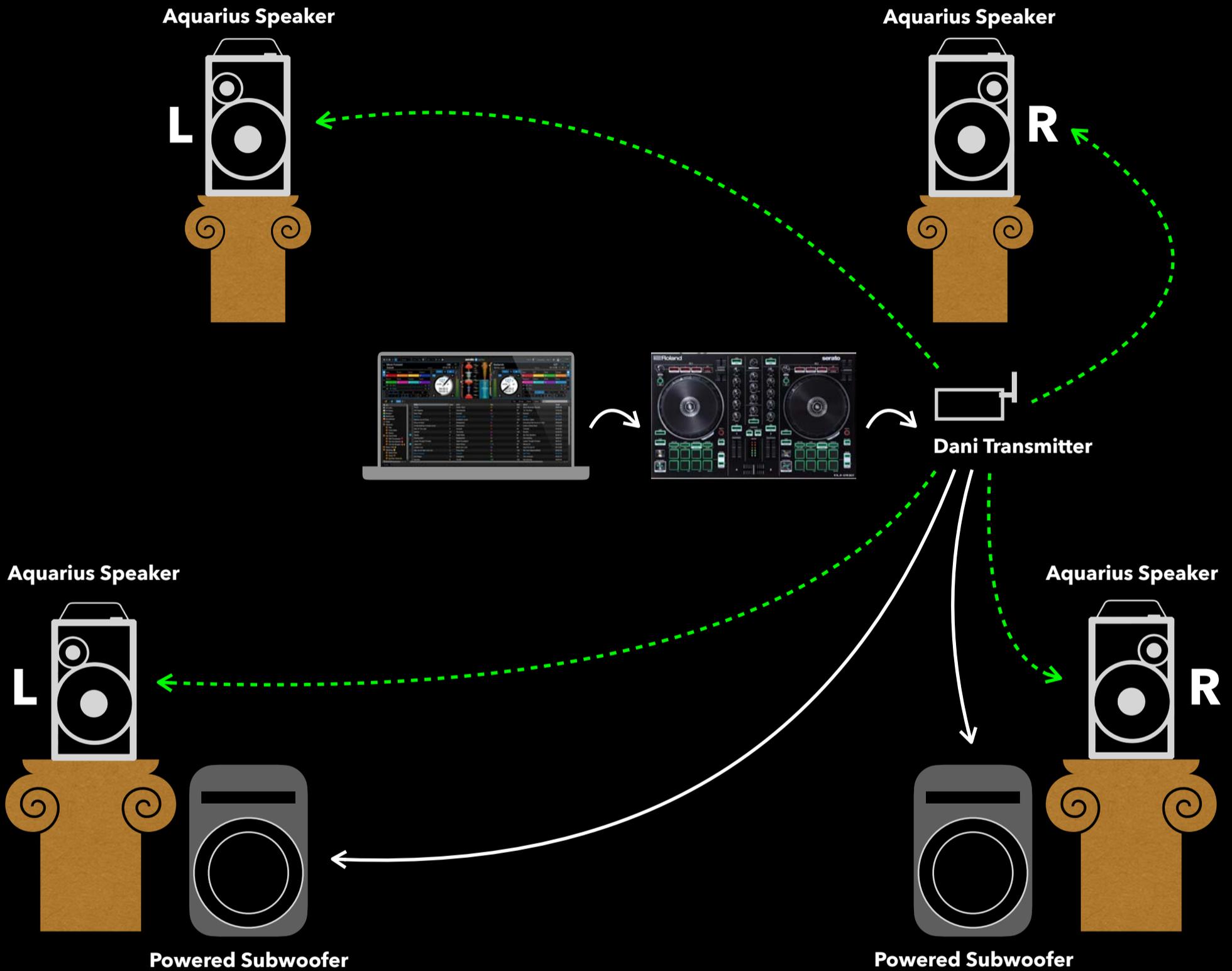
Legend: SKAA - 36 ms latency   SKAA Pro - 19 ms latency   Wire

Aquarius Use Case #6

Hybrid Speaker DJ Set-up

Aquarius Speaker

L

Aquarius Speaker

R

Dani Transmitter

Powered Subwoofer

Powered Subwoofer

Streetheart Receiver

Streetheart Receiver

Powered Speaker

Powered Speaker

Streetheart receivers are available from
skaastore.com/products/streetheart.
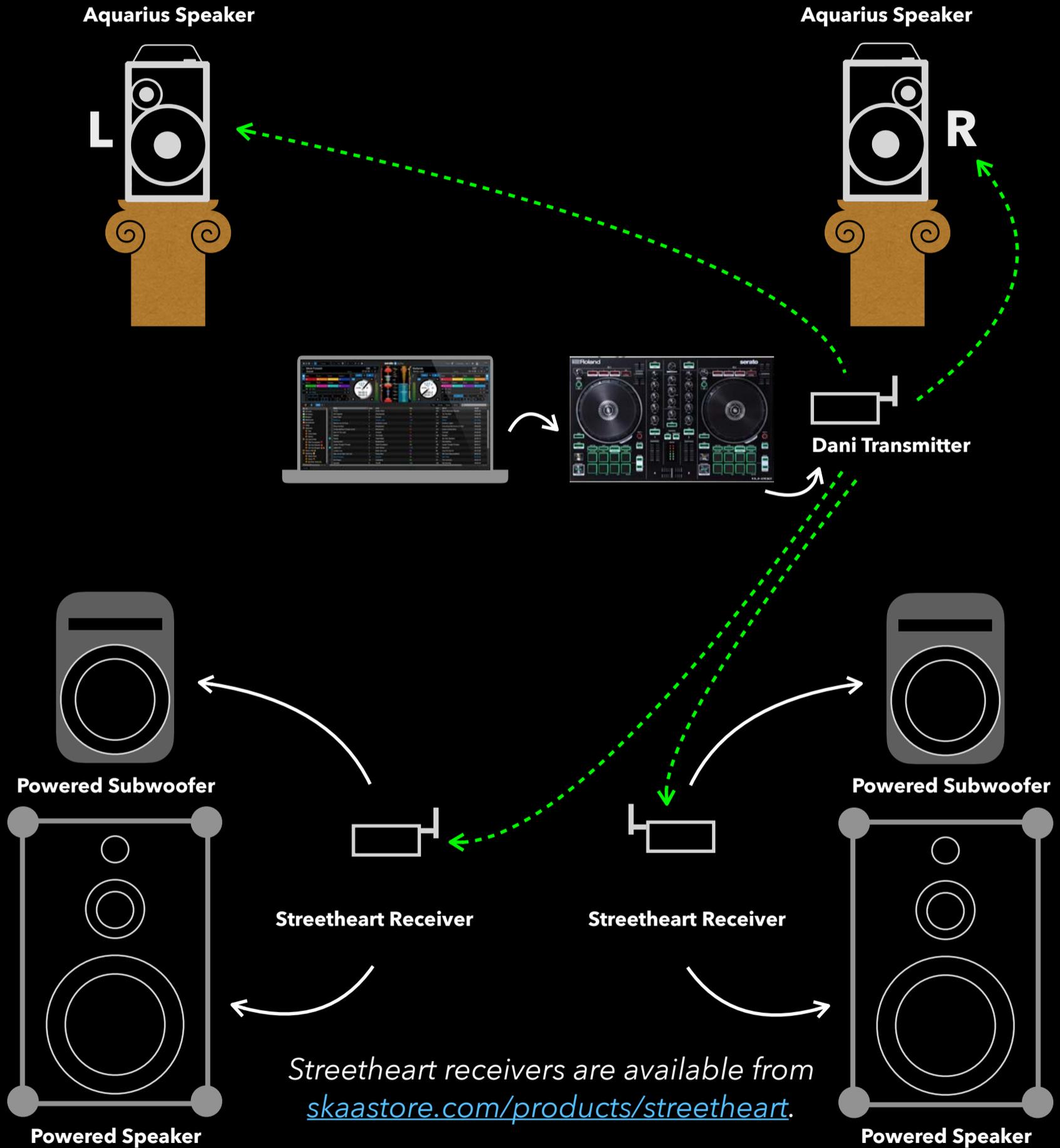
Legend: --▸ **SKAA - 36 ms latency**   --▸ **SKAA Pro - 19 ms latency**   ⌒▸ **Wire**

Aquarius Use Case #7

DJ with Mic & Headphones

SKAA pro

Aquarius Speaker
Mono

Valerie microphone

Aquarius Speaker
Mono

Helix Headphones

Dani Transmitter

Aquarius Speaker
L

Aquarius Speaker
R

Powered Subwoofer

Streetheart Receiver

Powered Subwoofer
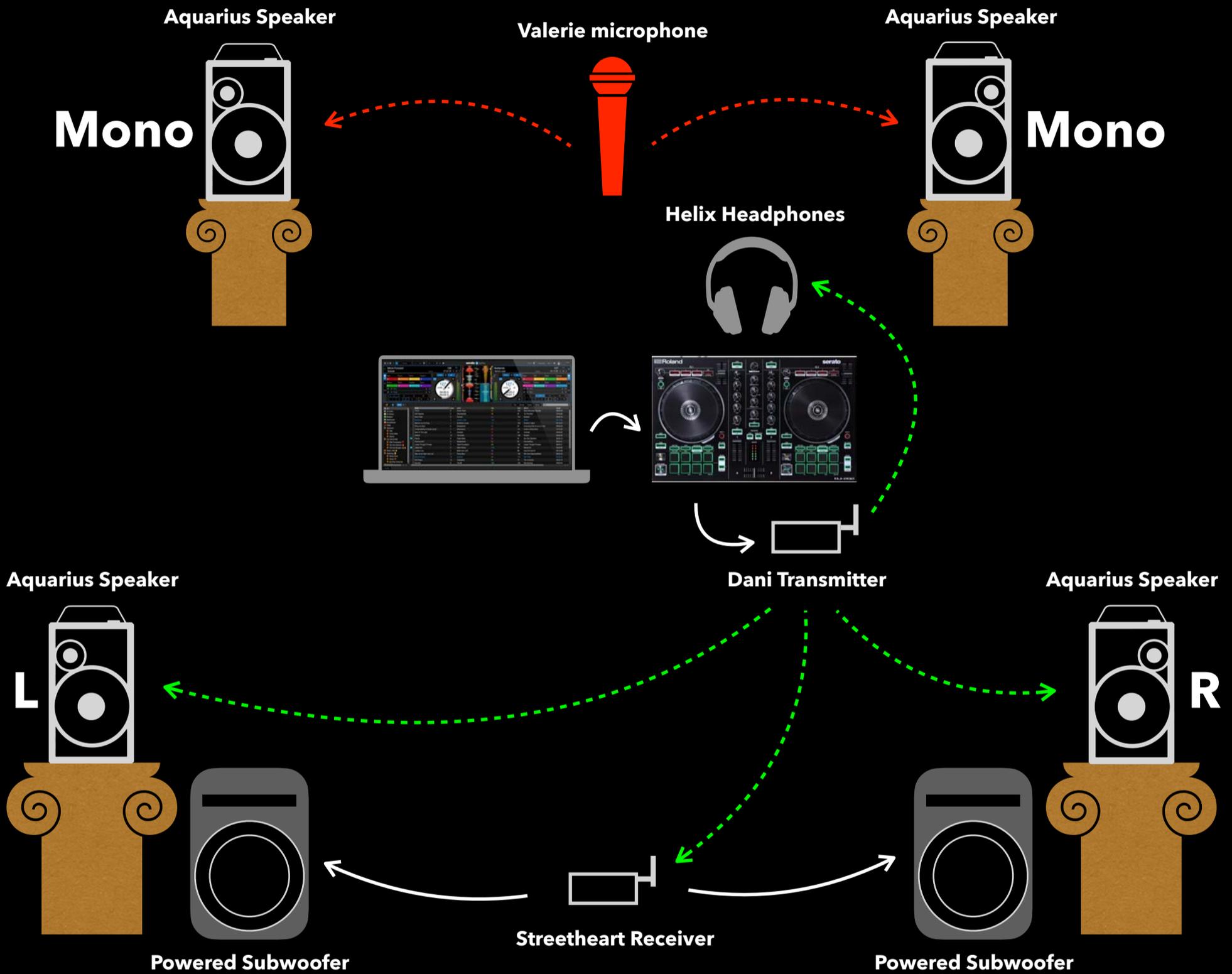
Legend:
- - - → SKAA - 36 ms latency
- - - → SKAA Pro - 19 ms latency
⌐→ Wire

Aquarius Use Case #8

ULTIMATE DJ Set-up

SKAA pro

Aquarius Speaker   Aquarius Speaker

Mono   Mono

Valerie microphone

Aquarius Speaker   Aquarius Speaker

Dani Transmitter

L

Dani Transmitter

Streetheart Receiver   **Streetheart Receiver**

Powered Speaker   **Powered Speaker**

**Legend:**   SKAA - 36 ms latency   SKAA Pro - 19 ms latency   Wire