

### **Can I use multiple RS 120 transmitters in a single location?**

The RS 120 Wireless Headphone System has a transmit range of approximately 300 feet and there are three (3) channels (frequencies) that the transmitter can transmit on.

It is possible to use up to three (3) transmitters in proximity of each other and this can be done without the transmitters interfering with each so long as each transmitter is set to a different channel (frequency).

On the front of the transmitter near towards the bottom is a small white switch which is the CHANNEL switch. This switch has three (3) positions (left, center, right) and each position corresponds to a different frequency.

When setting up multiple transmitters make sure the CHANNEL switch is set accordingly on each transmitter. For example on the first transmitter set the channel switch to a position (ie: to the left) and on the next transmitter set the switch to a different position (ie: in the center or to the right).

Once the transmitters are set accordingly you then use the TUNE dial on the headphones to tune into the appropriate audio signal you want to hear.

### **How do I add additional headphones to a RS 120 wireless headphone system?**

The RS 120 Wireless Headphones system is made up of two main components - the transmitter (TR 120) and the headphones (HDR 120). Headphones can be purchased individually but transmitters are not available individually. To expand a system to have multiple headphones there are couple of options when adding extra headphones to the system.

#### **OPTIONS:**

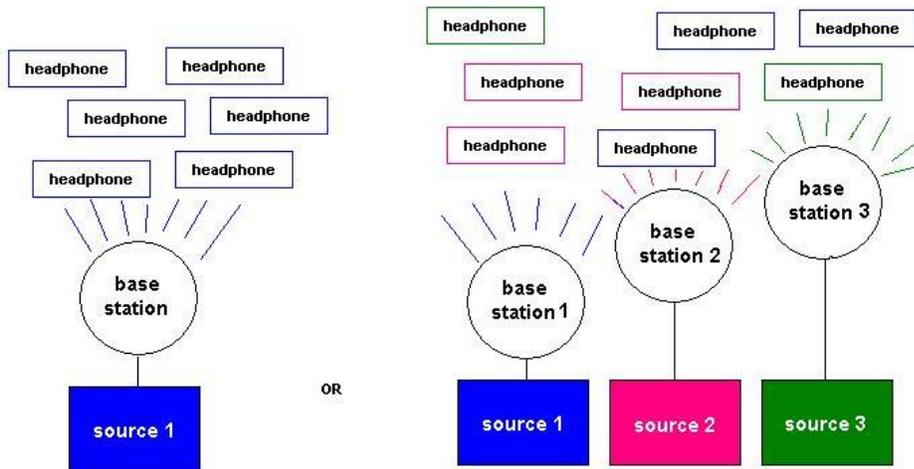
1) Purchase an additional set of headphones (HDR 120) and tune the headphones into the existing transmitter.

NOTE: The transmitter can only charge one headset at a time so the headphones would need to be placed on the base in turn to charge.

2) Purchase a second complete system (RS 120) and tune the headphones into the existing transmitter and then use the second transmitter only as a charging station.

3) Purchase a second complete system (RS 120) and have both transmitter set up and transmitting on separate channels. NOTE: This option would generally only be used when different audio sources are in use and then it is a matter of tuning the headphones to the appropriate base station to pick up the audio signal that is desired. The channel switch is a small white switch on the front of the base station near to bottom.

Here is a diagram showing the scenario with one transmitter (base station) transmitting to multiple headphones and the scenario with three different transmitters (base stations) connected to different audio sources transmitting to different headphones. NOTE: In the second scenario to change a headphone from receiving the signal from base station 1 to receiving the signal from base station 3 it is simply a matter of adjusting the TUNE dial on the headphones until the signal from the desired base station is picked up.



NOTE: Since the RS 120 is a radio frequency (RF) system the number of headphones that can be added is unlimited and the only requirement is that the headphones are in range of and tuned into the transmitter.

### How do I change the batteries of my RS 120 headphones?

When replacing the batteries of the RS 120 wireless headphones you should use rechargeable AAA 600-900 mAh NiMH batteries.

In order to insert the batteries into the headphones the ear cushions must be removed from the headphones.  
NOTE: Inside the headphones the batteries face the same direction.



### How do I change the ear pads of the RS 120 headphones?

To remove your ear cushions simply grip the rim of the cushion and rotate it counter clockwise.



### **How do I set up the RS 120 wireless headphones?**

The RS 120 can be connected via a 3.5 mm plug into a dedicated headphone jack (which will often cut sound to the external speakers) OR to the RED & WHITE RCA audio output jacks (often found on the back of the TV, cable box, receiver, DVR, etc) and when connected in this manner they will allow for operation of both the headphones and the external speakers.

NOTE: Please check out our online Set Up video: [RS 120](#)

LINK: ([https://www.youtube.com/watch?v=lkEGgXD\\_NI](https://www.youtube.com/watch?v=lkEGgXD_NI))

To connect the headphones you will need to plug the transmitter into a power source and the audio cables into an audio source. When you connect the transmitter/charging station to the power outlet and place the headphones on the cradle the RED light will come on to indicate charging. When you plug the audio cables into an audio source (via either the RED & WHITE RCA audio output jacks or a dedicated headphone jack) that is turned on a GREEN light will appear on the transmitter. The aim when connecting the audio cables is to get a GREEN light on the transmitter because it indicates that an audio signal has been located by the transmitter. Once you have the GREEN light on the transmitter then it is simply a matter of tuning the headphones into the transmitter. NOTE: The GREEN light indicates that there is both a power source and an audio source present and NOT only a power source and sometimes the two are confused.

On many audio sources the audio output connections are located on that back of the audio device and this is where the cables from the transmitter should plug in. Typically a headphone jack is designated by a headphone icon and analog audio RCA connections will usually be RED & WHITE. Sometimes the colors of the cables coordinate with the colors on the audio connections and sometimes they don't so a bit of experimentation may be required. Remember the aim is to get the GREEN light on the transmitter to come on and stay on. Once the transmitter is connected to the TV and the GREEN light is showing on the transmitter then getting sound should not be an issue as it is simply a matter of using the tuning dial on the headphones to locate the signal being sent out by the transmitter.

If the GREEN light doesn't come on or COMES ON AND AFTER A FEW MINUTES GOES AWAY when the transmitter is plugged into both a power source and an audio source then it means that the audio signal is too low (or not getting to the transmitter at all). The transmitter needs a nice, loud signal to work with or the internal electronics will shut off within 5 minutes if no/very little volume is detected to conserve battery life. If this is the case then the signal level needs to be increased before reaching the transmitter. This can be accomplished by turning up your source on variable-level outputs (ie: TV Volume) or by increasing the signal from a fixed-level output (increasing the output level to the audio output jacks which is done through the TV set up options). Try increasing it in small increments to prevent overload which results in distortion. Also check to see that you are connected to outputs and not inputs.

If you are still not successful in getting the GREEN light to appear on the transmitter or you are unable to adjust the audio settings on the TV you may also try to connect to a set top box (cable box, DVR, HD receiver, etc) through its audio outputs or connect through a headphone plug.

NOTE: If there is no analog audio output available on your audio source and the only option for connecting the headphones is a digital audio output then a digital to analog decoder would be needed to connect to the digital output to change the digital signal to an analog signal for the headphones to use.

A good digital to analog decoder is the OREI DA 34 ([http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr\\_1\\_1?ie=UTF8&qid=1412708965&sr=8-1&keywords=orei+DA+34](http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr_1_1?ie=UTF8&qid=1412708965&sr=8-1&keywords=orei+DA+34))

### **Should the charging light of the RS 120 always remain on?**

On the front of the transmitter there is the battery charging indicator light and when the battery is charging this indicator will light up RED. Any time the battery is charging (ie: the headphones are on the charging cradle) this light will be lit RED and it will NOT turn off until the headphones are removed from the charger.

NOTE: The batteries cannot be overcharged because Sennheiser utilizes "trickle charge" technology so that once a battery is charged the charging switches to a lower level to maintain the battery's full charge.

### **What do I do if my RS 120 unit suddenly stopped working?**

In a situation where a unit that has been functioning correctly has suddenly stopped for no apparent reason the issue is likely an internal electronics glitch caused by a power surge. To resolve this issue an internal electronics reset is required.

Disconnect the transmitter (base station) from both the audio source and the power source and at the same time remove the batteries from the headset. Leave the system disconnected from power and the batteries out of the headset for 15 minutes. This gives the internal electronics unit a chance to reset back to factory settings.

NOTE: If the batteries need changing it is best to use AAA size 600-900 miliamp NiMH batteries.

After the reset period reconnect the system to power and put the batteries back in the headset. The aim when connecting the audio cables is to get a GREEN light on the transmitter because it indicates that an audio source has been located by the transmitter. Once you have the GREEN light on the transmitter then it is simply a matter of using the TUNE dial on the headphones to tune the headphones into the transmitter.

If the GREEN light doesn't come on or comes on and then goes away when the transmitter is plugged into both a power source and an audio source then it means that the audio signal is too low (or not getting to the transmitter at all). The transmitter needs a nice, strong signal to work with and if the audio signal is very weak (or non-existent) the internal electronics will shut off within 5 minutes to conserve battery life. If this is the case then the signal level needs to be increased before reaching the transmitter. This can be accomplished by turning up your source on variable-level outputs (TV Volume) or by increasing the signal from a fixed-level output (increasing the output level to the audio output jacks which is done through the TV set up options). Try increasing it in small increments to prevent overload which results in distortion. Also check to see that you are connected to outputs and not inputs.

If there is no way to increase the audio signal and hence the GREEN light does not come on and stay on on the transmitter it would be recommended to try to connect to a set top box (cable box, DVR, HD receiver, etc) through its audio outputs or connect through a headphone plug in order to get a stronger signal.

### **What is the difference between RS 120 and TR 120 and HDR 120?**

The RS 120 is the model number refers to the complete wireless headphone system. This system consists of the transmitter (TR 120) and headphones (HDR 120).

### **What should I do if I get static in the RS 120 headphones?**

These headphones need to be connected into the RED and WHITE RCA audio outputs or the 3.5 mm headphone jack. Double check your connections as sometimes devices will have extra RCA connections near the ones you need and if you connect into the incorrect one that can cause sound issues. If you are connecting into the 3.5 mm headphone plug please ensure it is a dedicated headphone plug and not a digital audio out as a digital audio out is not directly compatible with these headphones.

When you connect to an audio source that is turned on the GREEN light will appear on the front of the transmitter. This GREEN light indicates that there is an audio signal and then it is simply a matter of using the TUNE dial on the headset to tune into your audio signal. NOTE: If the GREEN light turns off that indicates that there is no audio signal or the audio signal is too weak for the headphones to use and the transmitter has turned off and this will result in static. It is imperative that the GREEN light is on.

If you are getting static in the headphones and using the TUNE dial does not resolve the issue then you should change the channel on the transmitter (small white switch near the base of the unit) and then re-tune the headphones.

If none of the three (3) channels on the transmitter results in a clear signal then you will want to try connecting to a different audio source to determine if it is the headphones or the audio source that is the issue. If you connect to a new audio source and the static is gone then that indicates that the original audio source is the issue.

### **What should I do if the batteries in my RS 120 are not charging?**

On the front of the transmitter there is the battery charging indicator light and when the battery is charging this indicator will light up RED. NOTE: Any time the battery is charging this light will be lit RED and it will NOT turn off until the headphones are removed from the charger. The batteries cannot be overcharged.

In a situation where the battery does not appear to be charging there are a few things to check.

Firstly make sure that the batteries in the headphones are rechargeable 600-900 mAh NiMH batteries as standard alkaline batteries will NOT charge.

Secondly make sure that the batteries are correctly aligned and securely in place. Occasionally the batteries wiggle loose and causes the non-charging issue.

Thirdly ensure that the power supply is connected into the transmitter and into a functioning electrical supply. NOTE: Sometimes when the power cable is connected into a power strip the power strip is not functioning correctly or not providing enough power for charging so it is advised to connect directly into a wall outlet.

In order for the battery to charge a good connection needs to be made between the contact points on the headphones and the charging cradle. To ensure that a good charging connection is made make sure that the ear cups are not extended as extended ear cups can cause the headphones to not align correctly and hence not charge. On occasion when the headphones are brand new and the headband cushions are stiff or the headphones are older and the cushions have started to spread out the cushions can be preventing the headphones from making contact with the charging cradle. In a situation like this applying some downward pressure to the headphones when they are on the cradle can ensure the contact is made.

If none of the above solutions work then it is recommended that you try an internal electronics reset by disconnecting the system from both the audio source and the power source and leaving the system disconnected for 15 minutes. This gives the unit a chance to reset back to factory settings. At the same time you should check the batteries and change them if necessary. When changing batteries you want to use 600-900 milliamp NiMH AAA batteries. After the reset period you should reconnect the system and test.

### **Why do I hear an "echo" in the RS 120 headphones?**

The RS 120 headphones are "open air" headphones which means that they allow sound in and out of the headphones. The headphones are designed like this to provide a more expansive sound scape and more nuance to the audio.

The "echo" that is sometimes experienced is caused because the same sound (ie the sound through the headphones and the other speakers) is being heard twice at slightly different times.

To resolve this issue there are a couple of options you can try:

- 1) Turn the volume in the headphones up until it covers the sound from the other speaker and eliminates the echo.
- 2) Turn the sound from the other speakers down until it gets low enough that the volume through the headphones is stronger than the sound from the other speakers and hence the headphones hide the echo.

NOTE: Sometimes a combination of option one and option two are needed to achieve the desired results.

### **How do I get the best transmission range out of my wireless headphones?**

While the overall transmission range for wireless headphones is mostly determined by the wireless technology being utilized by the individual wireless headphone product there are multiple external factors (like obstacles, audio signal strength, wireless signal congestion, etc) that can effect the wireless signal transmission range of wireless headphones.

Obstacles are one of the main factors that can effect the transmission range of the wireless signal. While the

wireless signal (with the exception of infrared signals) can pass through obstacles (like walls) ultimately range will be affected (likely reduced) by passing through these obstacles and the more dense the obstacle the greater the effect will be on the signal. For example a signal passing through a glass window won't be affected very much whereas a signal passing through a concrete wall will be effected much more greatly. Having a clear line of sight does provide the best transmission range.

The audio signal being output by your audio source to the transmitter of the headphones is another key factor in transmission range. A weaker audio signal going into the transmitter means the transmitter has a weaker signal to work with which can in turn reduce the transmission strength which ultimately affects range. Ensure that your audio source is outputting the best possible signal for the transmitter to use.

### **How do I get sound ONLY from the headphones and not the speakers?**

Having sound ONLY from the headphones and not the TV is actually determined by how the headphones are connected to the audio source. Generally speaking there are a couple of ways of creating this type of connection which are:

- 1) Connect the headphones to a dedicated headphone jack which will usually automatically route sound from the TV speakers to the headphone jack and hence audio is only coming out of the headphone jack.
- 2) If a set top box (cable box, DVR, etc) is in use look for audio output jacks on this device and connect the headphones to the set top box to allow for independent operation of TV speakers and headphones and hence the TV volume can be turned down or muted.
- 3) Check the TV manual/set up guide for an option that allows the TV to operate the speakers and audio output jacks independently (ie: fixed output) to allow for independent operation of TV speakers and headphones and hence the TV volume can be turned down or muted.

### **How do I know if the wireless headphones will work on my audio device?**

Our Wireless Headphone Systems can be connected into virtually any audio device and it is just a matter of identifying the appropriate audio output port and then having the appropriate connecting plug or component.

The type of connector you have available will depend on the Sennheiser Wireless Headphone System that you choose. The type of audio output that you will have available to connect into will depend on the audio device you are connecting to.

Typical audio output ports include:

- 3.5mm headphone port
- red and white RCA audio output ports
- digital audio output (either optical or coaxial)

NOTE: In some instances an adapter or extra component will be needed to make the appropriate connection.

For example to change a 3.5mm headphone plug to an RCA connection you would use a female 3.5mm to male RCA adapter.

For example to change an analog connection (3.5mm headphone plug or red and white RCA plugs) to a digital connection (ie: optical) you would use a digital to analog decoder (like the OREI DA 34).

## What are the basic differences between the different wireless headphone models?

Sennheiser offers a range of wireless headset options that utilize a variety of audio transmission signals (including Radio Frequency and Digital Audio Signals) and both on ear and around the ear models to suit different wearing preferences.

These wireless headphone systems can be connected via a 3.5 mm plug into a dedicated headphone jack (which will often cut sound to the external speakers) OR to the RED & WHITE RCA audio output jacks (often found on the back of the TV, cable box, receiver, DVR, etc) and when connected in this manner they will allow for operation of both the headphones and the external speakers. All models offer unique functions yet will be able to provide an excellent listening experience and personal preference will play a large part in selection.

Our range of wireless headphones can be seen on our website (<http://en-us.sennheiser.com/wireless-tv-headphones>).

NOTE: We do NOT recommend Bluetooth headsets for applications like TV watching as the latency (time it takes for a Bluetooth signal to be transmitted) that is inherent to all Bluetooth devices causes the audio to be out of sync with the video.

A few quick differences to keep in mind when choosing:

### WIRELESS HEADPHONES

- RS 110 - Uses regular batteries and needs to be manually tuned to transmitter to operate. Uses Radio Frequency (RF) technology to transmit the audio. Features an ON EAR "Open-Aire" ear cup design for hyper realistic sound however ambient sound will pass into the headphone too. The wireless range is up to 300 feet.

- RS 120 - Uses rechargeable batteries and needs to be manually tuned to transmitter to operate. Uses Radio Frequency (RF) technology to transmit the audio. Features an ON EAR "Open-Aire" ear cup design for hyper realistic sound however ambient sound will pass into the headphone too. The wireless range is up to 300 feet.

- RS 160 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. The transmitter can be powered by batteries for a portable solution. Features an AROUND THE EAR closed ear cup design that will block out ambient sound. The wireless range is up to 60 feet.

- RS 165 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. Features an AROUND THE EAR closed ear cup design that will block out ambient sound. The wireless range is up to 100 feet. Turning on the headphones automatically turns on the transmitter.

- RS 170 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. Features a selectable Bass Boost and Surround Sound options. Features an AROUND THE EAR closed ear cup design that will block out ambient sound. The wireless range is up to 260 feet.

- RS 175 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. Features a selectable Bass Boost and Surround Sound options. Features an AROUND THE EAR closed ear cup design that will block out ambient sound. The wireless range is up to 300 feet. Turning on the headphones automatically turns on the transmitter.

- RS 180 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. Features an AROUND THE EAR "Open-Aire" ear cup design for hyper realistic sound however ambient sound will pass into the headphone too. Additional features include a left/right balance control (ie: individual volume for each ear) and a speech intelligibility circuit to make spoken word much easier to understand. The wireless range is up to 360 feet.

- RS 185 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital signal to transmit the audio. Features an AROUND THE EAR "Open-Aire" ear cup design for hyper realistic sound however ambient sound will pass into the headphone too. Additional features include a left/right balance control (ie: individual volume for each ear) and a speech intelligibility circuit to make spoken word much easier to understand which can be controlled by Automatic Level Control (ALC) or Manual Level Control (MLC). The wireless range is up to 328 feet. Turning on the headphones automatically turns on the transmitter.

- RS 220 - Uses rechargeable batteries and will automatically tune to the transmitter once set up. Uses a digital

signal to transmit the audio. Features an AROUND THE EAR "Open-Aire" ear cup design for hyper realistic sound however ambient sound will pass into the headphone too. This unit offers an expanded frequency response range that makes these wireless headphones the equivalent of the Sennheiser HD 600 Series wired audiophile headphones.

### **What are the impedance levels of wireless headphone transmitters?**

- The impedance of the RS 110 and RS 120 wireless headphone transmitter is 12 kohm.
- The impedance of the RS 130 and RS 140 wireless headphone transmitter is 15 kohm.
  
- The impedance of the RS 170 and RS 180 wireless headphone transmitter depends on the setting on the attenuation switch. At 0 dB it is 80 kohm and at -8 dB it is 12 kohm.

### **What do I do if my Wireless Headphone System suddenly stopped working?**

In a situation where a unit that has been functioning correctly has suddenly stopped functioning for no apparent reason the issue is likely an internal electronics glitch caused by a power surge. To resolve this issue an internal electronics reset is required.

Disconnect the transmitter (base station) from both the audio source and the power source and at the same time remove the batteries from the headset. Leave the system disconnected from power and the batteries out of the headset for 15 minutes. This gives the internal electronics unit a chance to reset back to factory settings.

After the reset period reconnect the system to power and put the batteries back in the headset and test the system.

### **What headphones can connect directly into a optical audio output?**

The number of wireless headphones (regardless of manufacturer) that will connect directly to a optical audio output is actually quite limited. The Sennheiser RS 175, RS 185 and RS 195 Wireless Headphones have the ability to connect directly to a digital optical output that is outputting a PCM signal.

The alternate way to connect to a digital output is to use a digital to analog decoder which will take the digital signal and change it into an analog signal. When using a digital to analog decoder any analog headphones have the ability to be connected to a digital output.

NOTE: The Digital to Analog Decoder we recommend is the OREI DA 34 as it is a good quality component that not too expensive but does not compromise the audio quality.

### **What is the wireless signal range of wireless headphones?**

As an industry standard the range of wireless headphones is measured "line of sight" (headphones from transmitter) as it is the only way for all manufacturers to measure the range in an equal manner.

The effective wireless signal transmission range (ie: how far the headphones can get from the transmitter) will vary from product to product and is determined by the type of wireless transmission signal being used by the individual wireless headphone system.

The effective wireless signal transmission range will also be affected by external factors like obstacles, audio signal strength, wireless signal congestion, etc.

### **Why do I only hear sound from one of my audio sources?**

In a situation that where there are multiple audio components (ie: cable box, DVD, player, etc) connected and the headphones are only receiving sound from one of the audio components likely indicates that one of two scenarios is occurring.

#### **SCENARIO ONE**

The transmitter is connected directly into an external audio component (like the cable box) and hence can only get sound from that component. To get sound from a different external component the headphones would need to be disconnect from the original external device and connect to the other external component directly.

A solution to avoid having to unplug from one component and plug into the other component all the time you could use an AV switching box to create a hub where all the external components can be connected into one place. The hub will then provide outputs to run audio to the TV and audio to the headphones as well.

NOTE: An analog version of an AV Hub can be seen here: ([http://www.amazon.com/Cables-To-Go-28750-Composite/dp/B0032ANC8M/ref=sr\\_1\\_1?ie=UTF8&qid=1393521908&sr=8-1&keywords=Cables+to+go+28750](http://www.amazon.com/Cables-To-Go-28750-Composite/dp/B0032ANC8M/ref=sr_1_1?ie=UTF8&qid=1393521908&sr=8-1&keywords=Cables+to+go+28750)).

NOTE: A HDMI version of an AV Hub can be seen here: ([http://www.amazon.com/Monoprice-Matrix-Switch-Splitter-Analog/dp/B004264PT0/ref=sr\\_1\\_3?s=electronics&ie=UTF8&qid=1372360465&sr=1-3&keywords=hDMI+rca+switch](http://www.amazon.com/Monoprice-Matrix-Switch-Splitter-Analog/dp/B004264PT0/ref=sr_1_3?s=electronics&ie=UTF8&qid=1372360465&sr=1-3&keywords=hDMI+rca+switch)).

#### **SCENARIO TWO**

All of the external audio components are connected directly into a device (TV, Receiver, etc) however the devices are utilizing different types of audio signal (analog, digital, HDMI, etc) and the device that the headphones are connected to can only output some of these signals in a format that the headphones can utilize. The headphones are designed to use an analog signal so this is the type of signal that the device needs to output for the headphones to use.

The solutions that could be used here would be to try and get all the external audio components connected using the same type of audio signal and utilize something like the AV Hub mentioned above. Alternatively a component like a Digital to Analog Decoder or Digital Audio Decoder which will accept different forms of audio signals (including multi-audio stream signals like HDMI) and convert the signals back to analog for the headphones to use could also be utilized.

NOTE: A couple of the versions of the Digital to Analog Decoder are as follows:

- GEFEN Digital Audio Decoder ([http://www.amazon.com/Gefen-GTV-DD-2-AA-Digital-Audio-Decoder/dp/B0021QBIBQ/ref=sr\\_1\\_2?ie=UTF8&qid=1393427713&sr=8-2&keywords=GEFEN+digital+to+analog+decoder](http://www.amazon.com/Gefen-GTV-DD-2-AA-Digital-Audio-Decoder/dp/B0021QBIBQ/ref=sr_1_2?ie=UTF8&qid=1393427713&sr=8-2&keywords=GEFEN+digital+to+analog+decoder))

- OREI Digital to Analog Audio Decoder ([http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr\\_1\\_2?ie=UTF8&qid=1393427822&sr=8-2&keywords=OREI+da+34](http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr_1_2?ie=UTF8&qid=1393427822&sr=8-2&keywords=OREI+da+34))

### **Why don't I get audio from all sources (Netflix, Apple TV, Amazon FireStick, etc)?**

Audio coming from certain content providers or devices (Netflix, Roku, Apple TV etc.) typically use an advanced digital audio signal such as HDMI or advanced Dolby audio. These cannot be translated into analog or PCM by most television software and so the signal is not passed through into the headphones. As a result you may get silence or audio from a different source like your cable box.

In order to resolve this, you will need to change the audio output format in the app or device to PCM (may be in the smart hub on some TVs) or you will need a digital to analog decoder. The Digital to Analog Decoder will take the advanced digital signal and decode it into an analog signal that your headphones can utilize.

You will not lose audio quality as the digital signal is a carrier signal only. Any audio you hear from your TV speakers, sound bar or headphones is an analog signal. The digital signal is translated by the TV, receiver or other device by the time it reaches the transducers. The only difference is where the audio signal is translated.

If your digital optical output is not in use we recommend the OREI DA34. The OREI DA 34 can be seen here: ([http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr\\_1\\_1?ie=UTF8&qid=1407330599&sr=8-1&keywords=OREI+DA+34](http://www.amazon.com/Orei-DA34-Digital-5-1-Channel-Headphone/dp/B008EPW700/ref=sr_1_1?ie=UTF8&qid=1407330599&sr=8-1&keywords=OREI+DA+34)).

If the digital optical output is already being used by a device like a sound bar you will want the J-TECH Digital to Analog Decoder because it offers both an analog output for the headphones to use and an optical output for the soundbar (or other device) to use. The J-TECH can be seen here: ([http://www.amazon.com/J-Tech-Digital-JTDDBSW0301-Decoder-5-1-Channel/dp/B00L3OZK1G/ref=sr\\_1\\_1?ie=UTF8&qid=1428599714&sr=8-1&keywords=jtech+digital+to+analog+decoder](http://www.amazon.com/J-Tech-Digital-JTDDBSW0301-Decoder-5-1-Channel/dp/B00L3OZK1G/ref=sr_1_1?ie=UTF8&qid=1428599714&sr=8-1&keywords=jtech+digital+to+analog+decoder)).

Please bear in mind that we recommend these specific devices because we have tested them and know that they work. We do not recommend digital to analog CONVERTERS (a different device entirely) because they cannot translate the more complex digital audio signals.

NOTE: We do suggest looking at your TV's documentation to make sure that there are no design features that prevent certain digital signals (like HDMI signals) from being output through the Digital Optical output before purchase. It is possible for this feature to exist but exceedingly rare so for most applications the Digital to Analog DECODER is the optimum solution.

### **Why is the headphone sound slightly behind the video image or speaker sound?**

The issue where the sound of the headphones is slightly behind the image on the TV or audio from the speakers could be caused by the latency of the headphones (the time it takes to transmit sound via a wireless signal) or it could be the device that the headphones are connected into and how that device is outputting the audio signal that is the issue.

Latency occurs in all wireless headphones however the technology being used to create the wireless signal does affect how much latency is caused. For example a Radio Frequency (RF) model (like the RS 120) has a latency of

approximately 1 m/s whereas a KLEER digital model (like the RS 160/RS 170/RS 180) has a latency of approximately 45 m/s. Usually the delay (even at the 45 m/s level) is not discernible and hence goes unnoticed.

The component that the headphones are connected to will also affect this issue and could make the inherent latency more obvious. For example if a TV outputs sound to its own speakers slightly faster than it outputs sound to the audio output jacks that the headphones are connected to then that would mean that there is a delay in the audio getting to the headphones on top of the latency of the headphones so the difference between audio and image would be more obvious.

To overcome latency issues sometimes the component that the headphones are connected into will have a latency adjustment which can be used to adjust the component to match up with the headphones. If the component does not have a latency adjustment then a second option would be to connect the headphones directly to the audio source (ie: cable box, DVD player, etc) so that the headphones get the audio signal slightly before the TV and hence the latency factor compensates for getting the audio signal before the TV.

### **Can I use multiple RS 120 transmitters in a single location?**

The RS 120 Wireless Headphone System has a transmit range of approximately 300 feet and there are three (3) channels (frequencies) that the transmitter can transmit on.

It is possible to use up to three (3) transmitters in proximity of each other and this can be done without the transmitters interfering with each so long as each transmitter is set to a different channel (frequency).

On the front of the transmitter near towards the bottom is a small white switch which is the CHANNEL switch. This switch has three (3) positions (left, center, right) and each position corresponds to a different frequency.

When setting up multiple transmitters make sure the CHANNEL switch is set accordingly on each transmitter. For example on the first transmitter set the channel switch to a position (ie: to the left) and on the next transmitter set the switch to a different position (ie: in the center or to the right).

Once the transmitters are set accordingly you then use the TUNE dial on the headphones to tune into the appropriate audio signal you want to hear.