Thank you for your purchase of HRT's AirStreamer. This owner's manual will guide you through setting up, and operating your AirStreamer. Please read the entire document and if you have any questions or concerns, please contact either your HRT dealer or HRT directly before proceeding. HRT may be reached by email at support@hirestech.com, we generally respond to all inquiries with 24 hours, often much sooner.

Packing list

Included with the AirStreamer are a number of accessories. These include the AirStreamer itself, the USB Wireless Master (smaller of the two devices) and the following items:

1) 2 meter long USB A to USB mini B cable
2) .25 meter long USB A to USB mini B cable
3) 2 antennas (one short, one long)
4) AC mains to USB power supply

Initial Setup

The first part of the setup will be to connect shorter of the two antennas to the SMA socket on the Wireless Master. The antenna itself and the receptacle on the Wireless Master are threaded so simply rotate the antenna until it is fully threaded into the socket to a gentle 'finger tight' level. Next, using the .25 meter long USB A to USB mini B cable, connect the Wireless Master to an available USB port on your host. A valid host can be a computer, a tablet, a smartphone, or any other product that can accept a USB audio device. The specifics for setup of the wireless master are unique to each type of host and the specific operating system that the host is running. After connecting with the USB A to USB mini B cable, you may begin with the Host Configuration steps.

Host configuration

After connecting the AirStreamer to the host, a process known as enumeration will begin. The first time this is done, the host and device (Wireless Master) will exchange a series of information that will be used to establish the capabilities and requirements of the pairing. For most modern operating systems, the requirements of the Wireless Master are understood and there will be no necessity to load any drivers or software; simply wait for

the host to finish its initial enumeration and from that point forward, unless you move the Wireless Master to a different host or USB port on the same host, the process will be nearly instantaneous.

The next step is to inform the host that you wish it to use the Wireless Master as an audio destination. How this is accomplished is specific to the operating system that your host is running.

Windows XP

Windows XP with SP3 (Service Pack 3) is the oldest of the Windows operating systems which will natively support a USB Audio Class 1.0 device like the Wireless Master. Any version of Windows prior to this may not be compatible.

The primary task is to inform the OS that the Wireless Master is your intended destination for audio output. Making XP aware of this choice is done using the Control Panel.
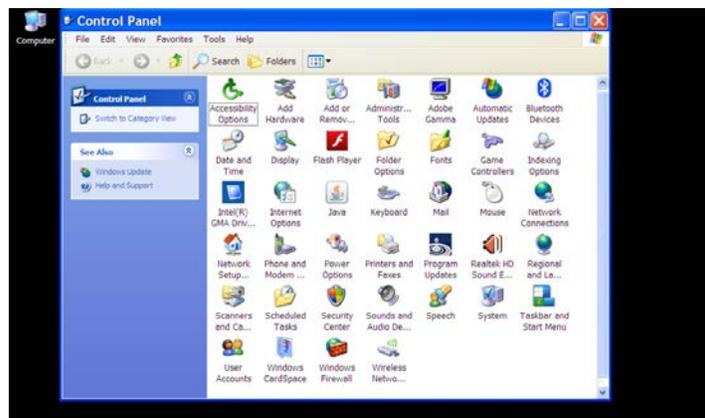
Open 'Control Panel' on your computer and select the 'Sounds and Audio Devices' option; under 'Sound Playback' in the 'Audio' tab, make certain that the Wireless Master is selected as the audio destination.

You may now use whatever media player you prefer, but be aware that some media players may require you to select the Wireless Master, as not all honor the preferences choice that you made using the 'Sound and Audio Devices' Properties selection.
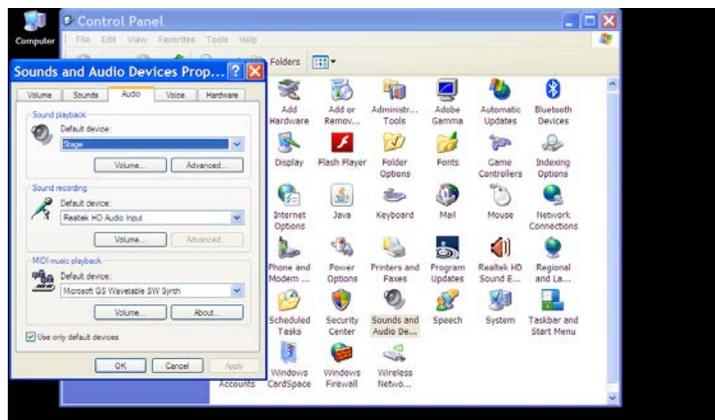
Volume and mute can be controlled by the mixer of XP.

Depending upon your media player and its capabilities the mixer function of XP may be bypassed. Even if bypassed, the system volume and mute control should still be accessible. Please consult the documentation included with your media player for any special setup or capabilities that it might have or require.

Windows Vista, 7, 8 or 8.x

For a Windows Vista, Windows 7, Windows 8 or Windows 8.x host, the choice for the audio destination of any computer based material is made from the 'Playback devices' option of the audio icon located on the task bar at the bottom of the desktop. For Windows 8 or 8.x, you must first select the desktop tile in order to access this icon.


Begin by right clicking on the speaker icon on the task bar, this will expose a series of options. Select (using a left mouse click) the 'Playback devices' option from the list.
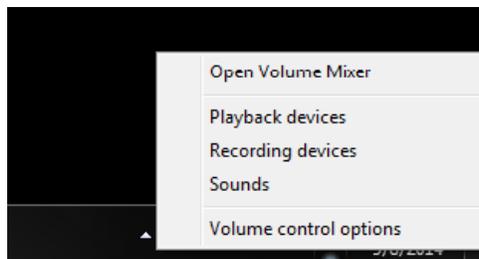

This will open up a separate window titled 'Sound'.
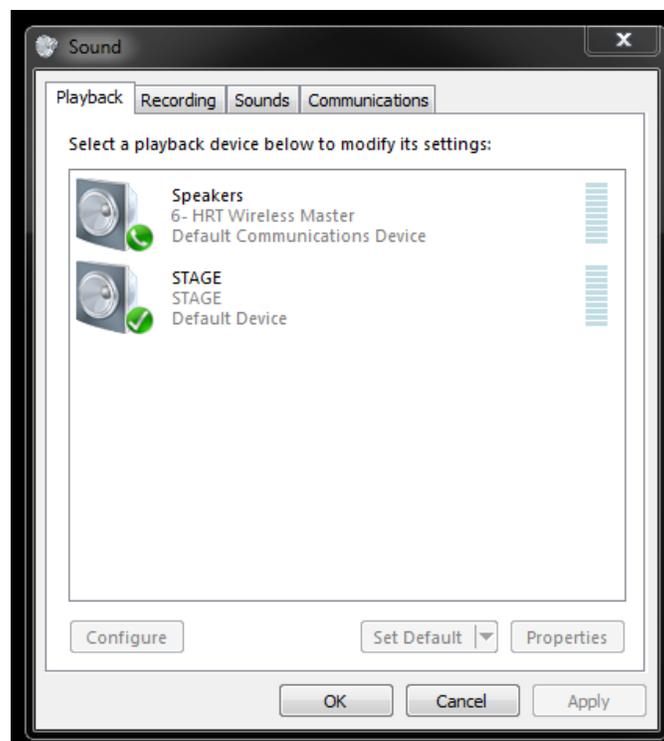
The 'Sound' window has a number of tabs - the first one to the left is the 'Playback' tab. Here, you will have one or more devices listed, the HRT Wireless Master of the AirStreamer will be one of these devices. Select the HRT Wireless Master by left clicking the entry to highlight it, and if you have more than one, you may wish to make this your default so that HRT Wireless Master remains as the primary audio destination. A right mouse click will expose the option to set the default audio destination.
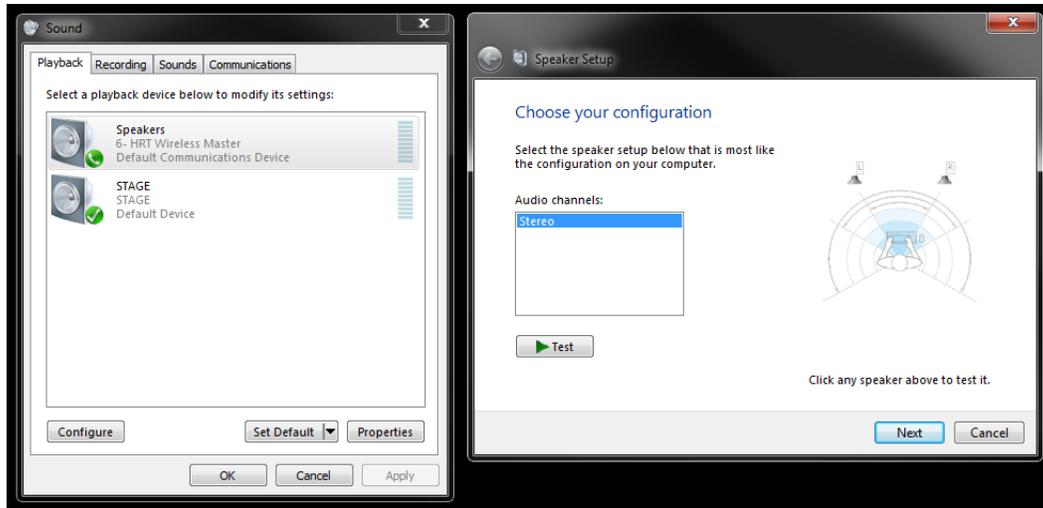

After pressing 'Configure', another window titled 'Speaker Setup' will open. The next step is to left click on the 'Next' button. This will expose another option, titled 'Full-range speakers'.
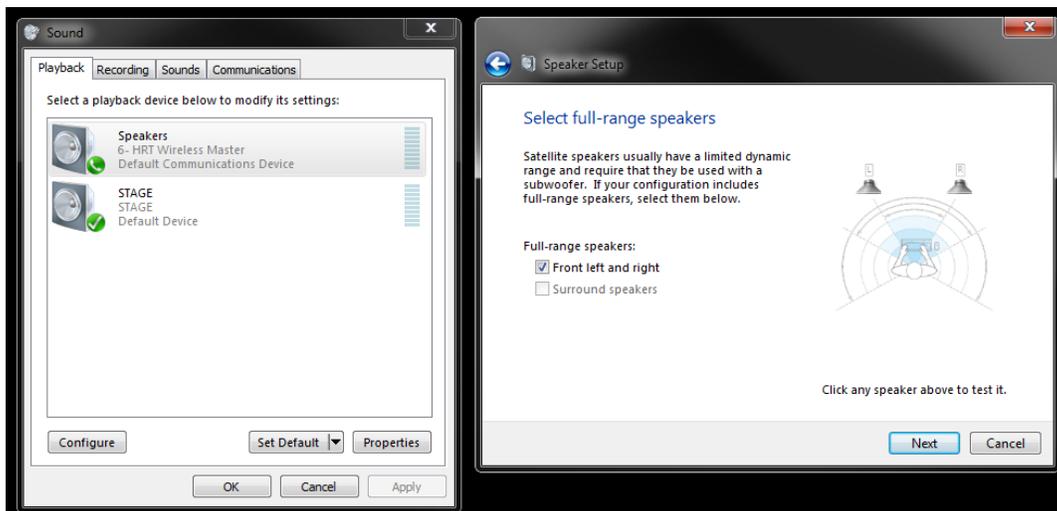
At a minimum, and assuming that you will be using a high performance audio system with the analog audio output of the Air Streamer, you will need to configure the entry to inform the OS that the Audio System is a full range capable (as opposed to limited range) one. This is accomplished by left clicking on the option box next to 'Front left and right', tick this option using a left click of the mouse. Once done, you can proceed, by left clicking the 'Next' button.
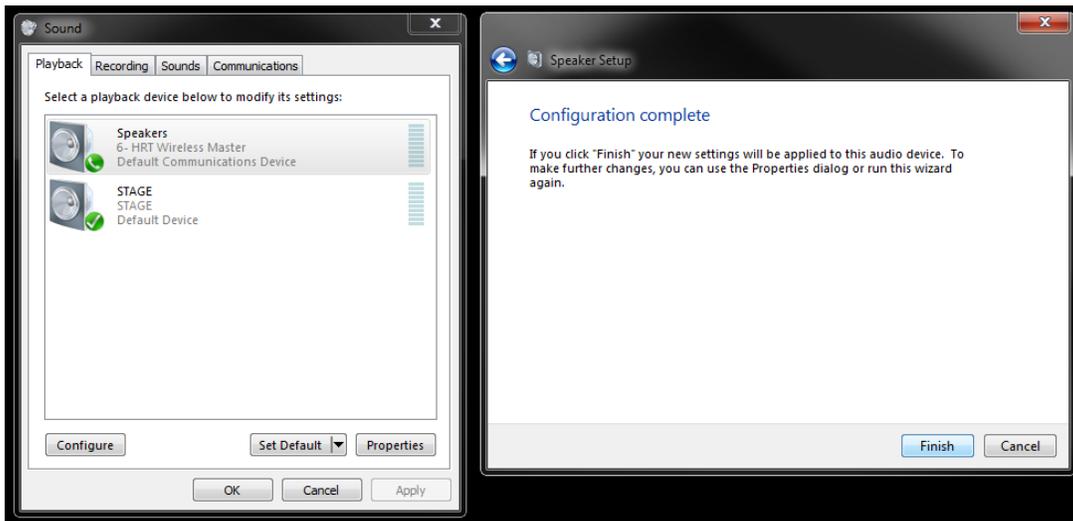
The final required step is to click on 'Finish'. This will return you to the 'Sound' window. Here, you may go deeper into the setup options by selecting Properties or you may exit by pressing 'OK'.
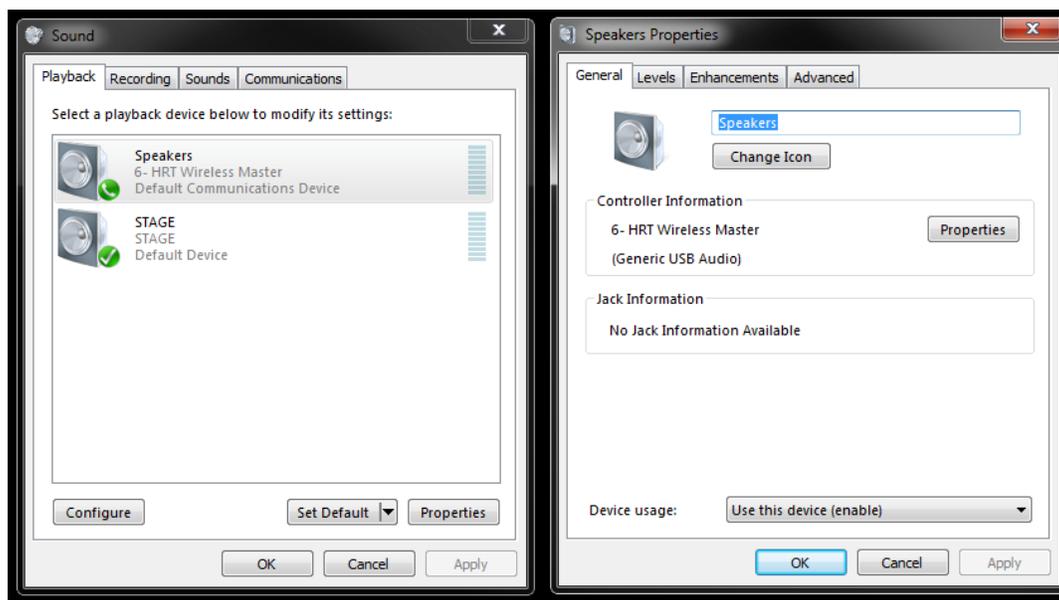

Assuming that you elected to go deeper and configure the Wireless Master, a new window will open titled 'Speakers Properties'. This control panel is divided into four sections in the form of tabs labeled 'General', 'Levels', 'Enhancements', and 'Advanced'.

We will explore the 'General' tab first. There are options to change both the name of the entry from the default of "Speakers" and also the ability to change the associated icon. As the default icon is represented by a speaker symbol, this should suffice, but the default name can be changed to one that is more recognizable and we would suggest that you use "AirStreamer" as this is where audio routed through the Wireless Master will be converted to usable analog audio. Simply type over the default name to make the change.
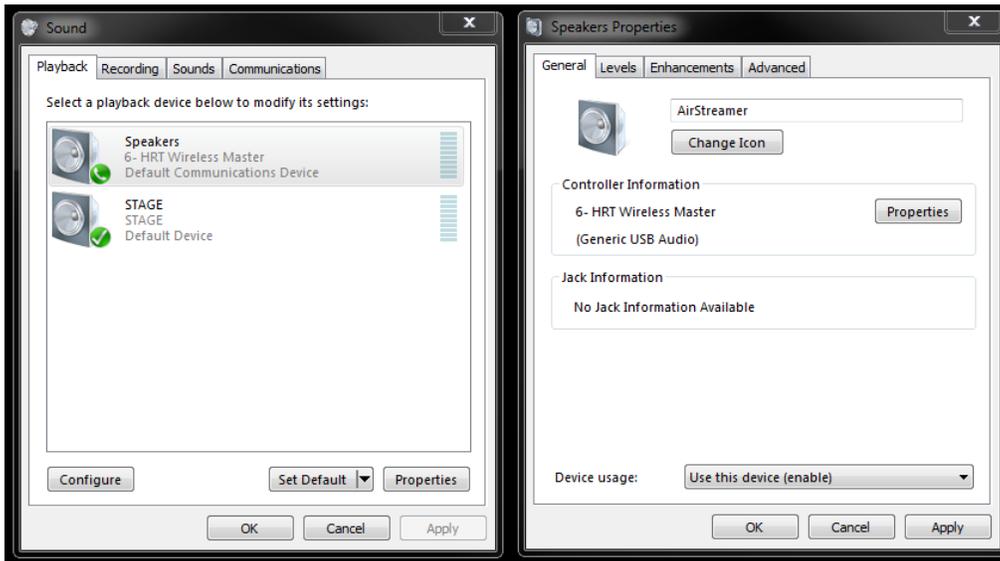
You may now continue on the path of setting up the 'Speakers Properties' by selecting the second tab titled Levels.
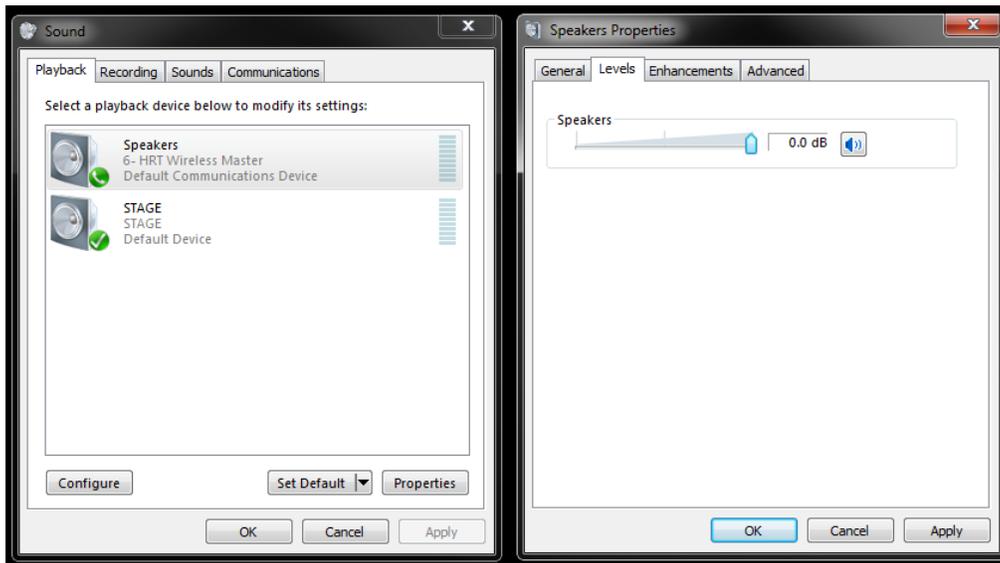

A slider control labeled 'Speakers' will allow the volume to be changed as required. If your audio system includes its own volume control capability, then the typical recommendation would be to keep the control set to the far right (maximum volume) and make changes to level using the audio systems volume control. If however your system lacks its own volume control feature or if you wish to use the volume control of the AirStreamer system, you may do so with this or any other system volume control available from your computer. In addition to the normal 'percentage' based level indication (0% to 100%) you may elect to use a decibel system (dB). By right clicking on the small box to the right of the volume slider, you can choose either numbering system. Lastly, there is a mute control (shown as a speaker symbol). You can toggle mute on or off using a left mouse click. Please note that if mute is selected, there will be no audio output from the AirStreamer's analog audio sockets.

The next tab, titled 'Enhancements' can be selected by a left mouse click on the appropriate tab.
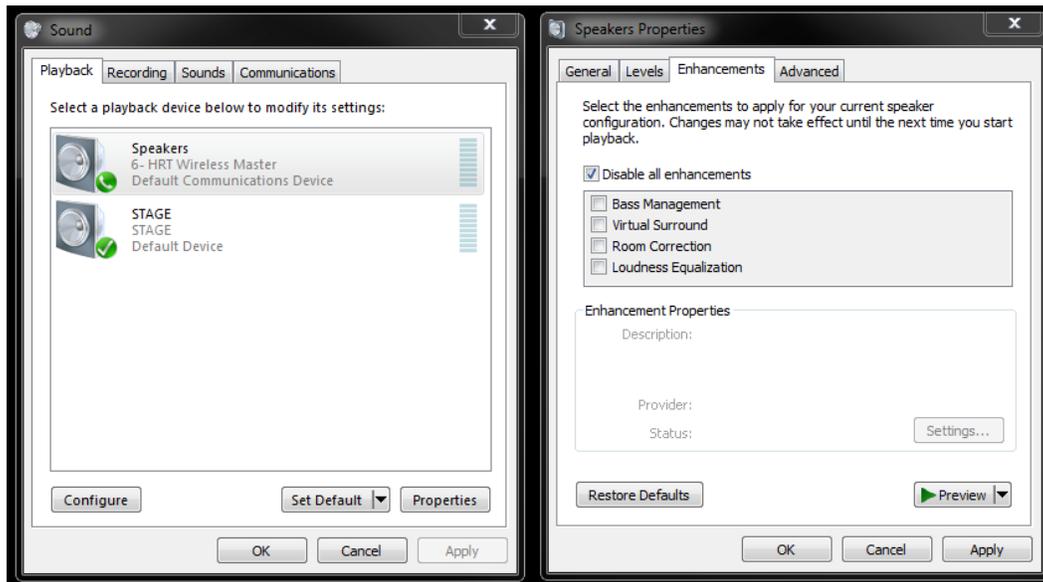
Our typical recommendation would be to select the 'Disable all enhancements' box but you may elect to enable some options depending upon the capabilities and needs of your audio system.

The final tab, titled 'Advanced' is next. As before, select this tab with a left mouse click.
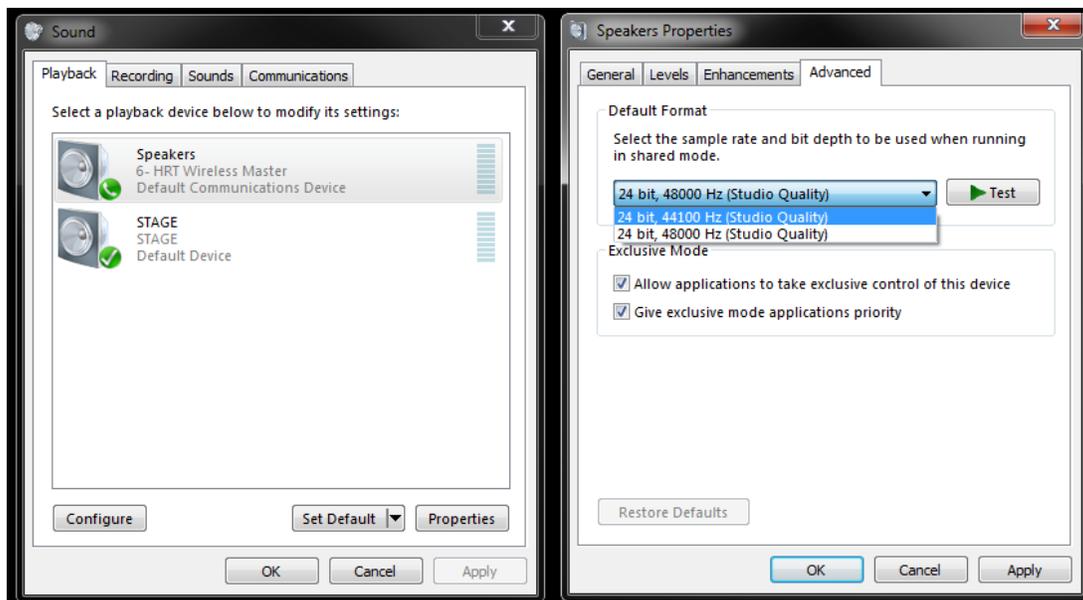
The 'Default Format' section will allow you to select the Windows mixer's output sample rate. The options are either "24 bit, 44100 Hz (Studio Quality)" (44.1 kHz) or "24 bit, 48000 Hz (Studio Quality)" (48 kHz). For most source material, you will select the 44100 Hz option. This would be correct for source material derived from CD or CD quality sources or for any integer (whole number) multiple of 44100 Hz such as 88200 Hz, or 176400 Hz ones.

Regardless of the bit depth of the source material, the Wireless Master / AirStreamer system will use 24 bit depth as both 16 and 24 bit audio formats will travel a 24 bit path with the best quality.

There are two additional options under Exclusive Mode. Our recommendation would be to select both boxes using a left mouse click.

To 'lock in' the changes you have selected you will first left mouse click on 'OK', then when the 'Sound' tab is left, left mouse click on 'OK' to finalize the setup.

You may return to these options at any time by beginning the process again from the task bar.

You may now jump to the 'AirStreamer Setup' section of this manual.

OSX

Any modern version of OSX will support the Wireless Master and its USB Audio Class 1.0 transfer mode. The minimum requirement is to inform OSX that the Wireless Master is your choice destination for audio content. This is accomplished by using the 'Sound' portion of 'Preferences'.
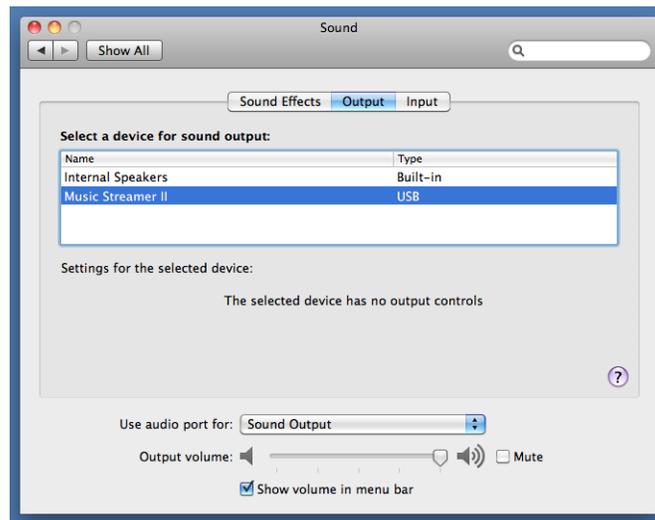
You may also want to redirect the 'Sound Effects' (system sounds) away from the Wireless Master and have those sounds produced by the computer's internal speakers. To inform the OS of your preference for 'Sound Effects', open the 'Sound Effects' tab.
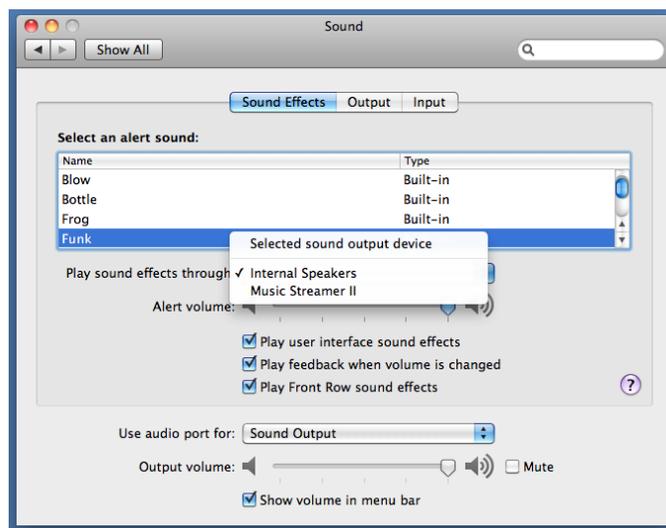
Select the 'Internal Speakers' for these types of sounds.

While OSX offers many options for media players, the most common will be the preinstalled iTunes player. This player uses the audio subsystem of OSX and routes all its audio through the system mixer and SRC (sample rate converter). The output sample rate for any audio content will be determined by the settings of the SRC, not the source material itself. In order to have the best results, it is always best to avoid the SRC process. This can be accomplished by setting the output to match the sample rate of the source material you will be playing (most often 44.1 kHz). Setting the output sample rate is accomplished by using the 'Audio MIDI Setup' utility.
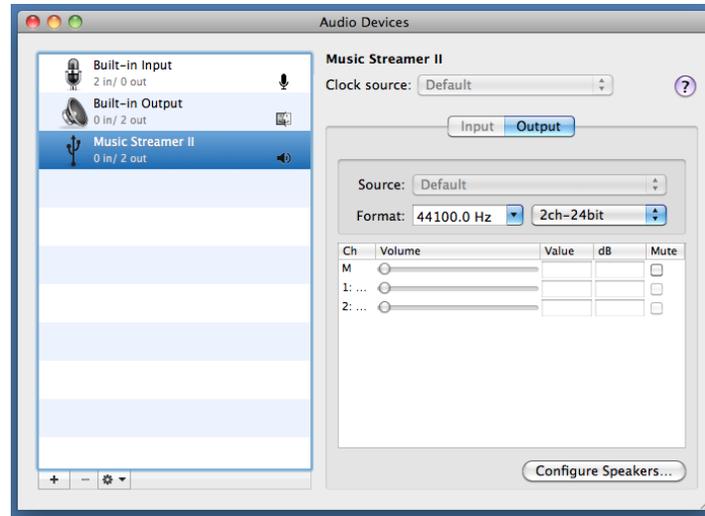
Open 'Audio MIDI' and select the Wireless Master, next choose the output sample rate you will be playing using the 'Format:' pull down menu. Note, it is unnecessary to match the bit depth, both 16 and 24 bit material can pass down a 24 bit path unaltered. The converse is however not the case, select the '2ch-24bit' option. Please note, for the best results, you should not make a change to the sample rate using the 'Audio MIDI' utility while iTunes or any application which generates audio output is open in either the foreground or background. Always fully close iTunes or any other sound generating application before making any changes using 'Audio MIDI'.

The last consideration for iTunes is the built in sound processing options, including equalization. Generally, you will get better results if you defeat this processing option.

This is accomplished from within the iTunes application. The 'Equalizer' has an enable option labeled 'On', if this option is unchecked, the equalizer is bypassed.

Should you elect to use a different media player, its capabilities and setup requirements may differ from iTunes; please consult with the documentation for the specific media player for details on its configuration when using the microStreamer as your audio destination.

Other host platforms

The Wireless Master / AirStreamer combination can be used with other host platforms including Chromebooks running Chrome OS, tablets like the Apple iPad family, smartphones such as the Apple iPhone family (iPhone 4S and later), some smartphones and tablets running Android OS (these may require a third party media player), along with certain network attached storage devices (NAS), and other hosts running Linux operating systems. The specific requirements are that the host have a compliant USB controller that supports host mode, a USB host stack that includes support for a USB Audio Class 1.0 device and a media player that can access a USB audio device.

Some of these other host platforms will require an adapter (cable or other) in addition to the USB A to mini B cable included with the Wireless Master. Please contact either your HRT dealer or HRT's support staff for details on what may be required for your specific pairing.

AirStreamer Setup:

Using the larger of the two antennas, connect it to the SMA socket on the front of the AirStreamer's body. This is a threaded connection so tighten to a modest 'finger tight' level. This antenna has a flexible joint and assuming that the AirStreamer is going to sit on its body the antenna should be orientated so that it is points upward.

Next, connect the larger end of the 2 meter USB A to USB mini B cable to the included power supply (specific to different destination countries) and connect the smaller end to the power socket on the front side of the AirStreamer. The back side of the AirStreamer includes two RCA style sockets. One of the sockets has a white insulator color and is nearest to the "L" symbol, this is the left channel output; the one with the red insulator color and that is nearest to the "R" symbol, this is the right channel output. Be certain to connect these sockets with an appropriate length cable to the appropriate line level input on your audio system.

Wireless Master / AirStreamer pairing steps:

Now that the Wireless Master and the AirStreamer are connected to your host and your audio system and are both powered on, you may pair the two products so that they can communicate with one another.

Depending upon whether or not the two have been paired before, the LED indicators of the Wireless Master and the AirStreamer will be either slowly blinking or solidly illuminated. Assuming that they have not been paired, they will be blinking.

To pair, first press the pairing button on either the Wireless Master (this will require a small object to access the recessed button; a straightened out paper clip being a good choice) or on the AirStreamer. Once the button is pressed, the LED will now blink quickly and this indicates that it is looking for a partner. Press the button on the other device (Wireless master if you began with the AirStreamer or AirStreamer if you began with the Wireless Master) will complete the pairing. Assuming that the two are within the allowable distance (10 meters in most circumstances) the two LEDs will now be steadily illuminated. This indicates that the two are paired and ready to send audio. The pairing process needs to be accomplished within 30 seconds. If more time elapses, begin the process again by pressing both pairing buttons.

Operating tips:

Volume control

As the volume control within the AirStreamer is a digital attenuator, and if your audio system has an analog domain attenuator (volume control) then using the control associated with your audio system will result in better performance.

Sample rate

Despite claims to the contrary, so called *up sampling* (interpolation) will not improve the audio performance of any sound file. To avoid the SRC process present in most modern operating systems, you will need to either use a media player that can bypass the operating systems, SRC (Sample Rate Converter) or manually intervene to set the sample rate to match that of the source material. Matching the native sample rate of the source material you will be playing will give the best results. If your source material is at a sample rate greater than the Wireless Master and AirStreamer will accommodate (as example 96 kHz) then using integer sample rate selection will be preferable to using a non-integer one. For source material that is 96 kHz, 192 kHz, or any other sample rate this is wholly divisible (integer) by 48 kHz, the correct choice would be to set the Wireless Master to 48 kHz. For source material that is an integer of 44.1 kHz (such as 88.2, or 176.4 kHz) you should select 44.1 kHz. The intent is to avoid non integer sample rate conversion as this will diminish the audio quality.

In Windows, this is accomplished using the 'Advanced' tab of the Sound Properties (as mentioned in the Setup section of this document). With a host running OSX, this is accomplished by using the Audio MIDI Setup utility. Unique to OSX is the behavior that dictates that you should NEVER change the sample rate using the Audio MIDI Setup utility while iTunes (or any other audio producing application that routes its output through the audio subsystem) is open in either the foreground or background. Always fully close iTunes (or other application) before making any sample rate changes using the utility.

Distance Considerations:

The Wireless Master / AirStreamer combination use a portion of the unlicensed 2.4 GHz wireless segment. The distance where reliable communications can be maintained will be determined by a number of factors including the use of other 2.4 GHz wireless devices (cordless phones, WiFi networks, and several other types of products all compete for available bandwidth in this segment), 10 to 15 meters is typically reliable. As the power requirements of the Wireless Master have been kept very low to allow it to run for extended periods of time from battery powered portable hosts, the RF (radio frequency) power is low. If you find that you need more distance from the pairing, an option higher gain antenna (like that used on the AirStreamer) can replace the small antenna normally used on the Wireless Master. Contact either your HRT dealer or HRT directly to inquire about purchasing the optional higher gain antenna. You may also find that slightly repositioning either of both the Wireless Master and AirStreamer may improve the distance capabilities. A bit of experimentation may be helpful.

Questions or concerns?

HRT has extensive experience with assisting users to obtain the best results from their product pairings. Please feel free to email us (support@hirestech.com) with any questions or concerns that you might have; we are always happy to assist.