

IS SPEAKERS - AMPLIFICATION GUIDELINES

Internal Tech Note for Models: IS6, IS8, IS10, IS10W, IS15W

Amplifier Selection

Sonance's new Motion Flex IS speakers were designed for peak performance when used in conjunction with Sonance DSP amplifiers. A substantial library of DSP presets tailored to these new IS speakers are now available. This makes it easy to unlock optimal sound regardless of IS model, finish type, finish thickness, or room properties when driven by a Sonance DSP amp.

Built-in IS Speaker Protection

In order to protect the speakers and the installation surface, *all IS speakers have integrated, self-resetting poly fuses for each transducer*. If a speaker is overdriven, one or both of the poly fuses will trip, and the transducers will cease to make sound. This protects both the driver and the installation surface from damage in overdrive conditions. After a few minutes, the fuses will reset on their own, and the speakers will perform as normal.

This built-in protection system is more than adequate to safeguard the vast majority of applications and user behaviors.

3rd Party Amplifiers & Extended Protection

IS woofers (models IS10W and IS15W) *must be powered by a Sonance DSP amplifier* using the appropriate DSP preset.

For IS full-range speakers (models IS6, IS8, and IS10), a Sonance DSP amp is the best choice for most applications; however, there may be times when a 3rd party amp is used. Because 3rd party amps vary substantially in output, DSP capability, load stability, etc., extra protection is required as an additional safety measure to prevent overdriving IS full-range speakers.

This extended protection device is a High Pass Filter (HPF) that protects the speaker from over-excursion (too much movement of the speaker panel in and out) by reducing sub-sonic frequencies delivered to the speakers. The HPF has no audible effect while adding an extra layer of safety when driving IS from a 3rd party amp.

IS6 has the HPF built-in. No special action is needed to use this speaker with a 3rd party amp.

IS8 and **IS10** require the HPF to be installed at the amplifier terminals when driven by a 3rd party amp. These are available now from Sonance.

SKU **93507** - IS8 HPF (Pair)

SKU **93508** - IS10 HPF (Pair)

Sonance has made a running production change to all IS8 & IS10 speakers. We anticipate this change beginning to ship in Q2 2021 which will eliminate the need for an external High Pass Filter. **See pg. 4 for IS8/IS10 version identification info.**

IS AMPLIFICATION GUIDE

Please follow these guidelines when pairing IS Speakers with various types of amplification.

Sonance DSP amps:

Always select the appropriate DSP preset for the model of IS speaker in use and according to the finish type and room type.

3rd Party amps:

Do not use a 3rd party amp to drive IS10W and IS15W woofers. Always use a Sonance DSP amp.

For **IS6**, no special action is needed.

For **IS8**, install a single HPF (SKU 93507) at the amplifier terminals for each output channel in use.

For **IS10**, install a single HPF (SKU 93508) at the amplifier terminals for each output channel in use.

For all speakers, pay close attention to Sonance IS speaker rated RMS power handling. Ensure the 3rd party amplifier's maximum RMS watts-per-channel at 4 ohms closely matches or is less than the IS speaker's rated power handling. If the amplifier's power capabilities exceed those of the speakers, damage to the speaker or installed finish may occur if the speaker is overdriven.

AVRs:

Do not use an AVR to drive IS10W and IS15W woofers. Always use a Sonance DSP amp.

For **IS6**, activate the AVR's internal High Pass Filter and set it to 100Hz.

For **IS8** and **IS10**, activate the AVR's internal High Pass Filter and set it to 80Hz.

FAQ

Why is the HPF built-into the IS6 and not the IS8 and IS10?

The IS6 diaphragm actually had the most inward and outward movement as we measured these speakers during development (more than even the IS15W). This is because for a speaker to produce more bass, it needs *either* increased size or increased movement in and out. This is also why the IS15W does not actually move in and out as much as you would think—the diaphragm (at 32” x 32”) has enormous surface area. It’s also why the IS6 must move in and out a fairly good distance—because the diaphragm is so small.

In order to protect the speaker and the finished installation surface, the built-in HPF was needed in the IS6 to keep motion within safe limits. At the time of first production, we chose to not implement the HPF in the IS8 and IS10 because the diaphragm movement was within safe limits.

Why are you now building the HPF into the IS8 and IS10?

(A) With the expanded capabilities of our new Invisible Series speakers, there are new use cases that are now possible. Furthermore, Motion Flex IS speakers have a lot more bass than before and are lower in distortion and coloration, which could lead to end-users playing them at higher volumes for longer durations than our previous generation of IS.

(B) Now that the Motion Flex IS products have been launched and shipped, we are hearing more and more from customers about use-cases that in some instances include 3rd party amplifiers such as Sonos AMP.

Taking the two points above into consideration, we have decided to take additional steps to ensure great results and safe operation regardless of the application while simplifying the ordering and installation process. Building the HPFs into the IS8 and IS10 will help us achieve all of those goals with zero detriment to sonic performance.

Will DSP EQ presets be different for IS8 & IS10 once the HPF is added?

Yes. We will have new IS8 and IS10 EQ presets available for Sonance DSP amps for the updated products with the HPF built-in.

For IS8/IS10 speakers **without HPFs** built-in:
use presets named “**IS EQ Presets 2020.**”

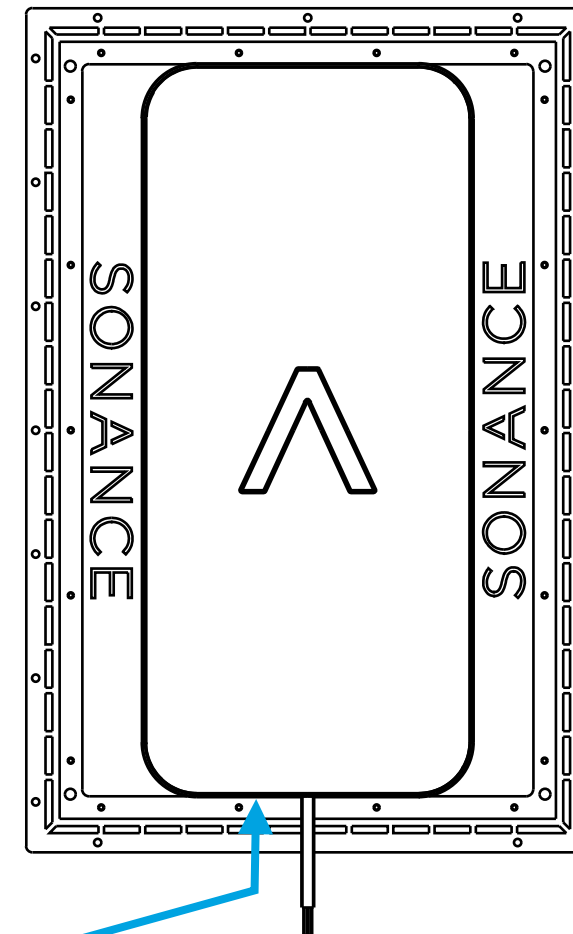
For IS8/IS10 speakers **with HPFs** built-in:
use presets named “**IS EQ Presets 2021.**”

See pg. 4 for IS8/IS10 version identification guide.

FAQ CONT.

How do I know if an IS8 or IS10 has the HPF built-in?

Check the serial number on the carton or on the speaker near the input cable. Look at the date code starting at digit #7 (which immediately follows the SKU number).



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- Serial numbers with a date code starting 20 **do not have** the HPF built-in.
 - Serial numbers with a date code starting 21 or higher **have** the HPF built-in.
- For example, the speaker above does not have a HPF built-in because the date code starts with 20.

What if I don't have access to the serial number (threw away the box or speaker already installed)?

Disconnect the speaker from the amplifier.

Use a high quality voltmeter set to DC resistance to measure across the + and - speaker cable leads.

- If the voltmeter registers a small resistance in ohms, the speaker **does not** have a HPF.
- If the voltmeter registers "open" or infinite resistance, the speaker **has** a HPF.

IS8 / IS10 HIGH PASS FILTER INSTALLATION

Install the IS8 / IS10 HPF at the amplifier terminals for easier serviceability. Use one HPF per speaker. Connect the HPF in series with the positive speaker lead. See diagram below.

IMPORTANT: Use the appropriate HPF SKU for the model of IS speaker in use.

SKU **93507** - IS8 HPF (Pair)
SKU **93508** - IS10 HPF (Pair)

