

Versarray™ VR Pro™ 112 FIR Filter Now Available

A high performance FIR filter has been created for the Versarray VR Pro 112 powered line array speaker system. Introducing *Resolution Pro™* FIR filter technology from Crest Audio®.

Using State-of-the-Art equipment, the latest filter software technology, and sophisticated measurement and processing techniques, an FIR filter has been designed that does not cause off-axis response problems or add excessive latency to the system.

This filter has been incorporated into the Presets available for the Versarray VR Pro 112 sound reinforcement loudspeaker system. Use of the filter is recommended when the extra 3.1 ms of latency will not be an issue for the intended use. Some live sound applications may dictate no further added latency on top of the regular system processing latency of 3.6 ms.

Resulting improvements in the sound are related to increased clarity, with a smoother, more precise presentation of complex music material. These improvements are not huge, as the Versarray VR Pro 112 was already a speaker system with the highest caliber of clarity, resolution and smoothness. When the music gets really busy, and the inner detail can become a little bit fuzzy, the new filter can unravel this fuzz, and let the source material shine through unrestricted.

What about the FIR Wizard included in the Versarray™ GUI software?

It is strongly recommended that users and owner's NOT try to use the FIR Wizard built into the Versarray™ GUI software, as this method is limited severely by the quality of the computer sound card involved. Even when incorporating an outboard "sound card" that can interface with the software, the microphone and measurement environment will ultimately limit what the automatic software can do, and it won't be able to provide the lower latency or refinement of the very sophisticated software and techniques used in generating the Crest Audio factory FIR filters.

Why aren't there any FIR filters for the Versarray Subwoofers?

The lower in frequency that an FIR filter extends, the more taps are needed to process the signal accurately. For a Subwoofer with signals being processed down to 20 Hz, the number of taps required would cause the added latency to become unwieldy, even for just playback use. In order to maintain proper alignment with the VR Pro 112 cabinets, the 112 cabinets would then have to be delayed that additional amount as well, causing the entire sound system to have a high amount of excess latency between the original signal at the mic and the resulting output at the speakers.

Most well designed Subwoofer's respond in a desirable manner to conventional analog EQ or the digital equivalent IIR filter, to correct or shape the response as needed. Thus, FIR filters are not really needed, nor are they desirable for Subwoofers

How do I add the FIR filters to my existing Versarray™ system?

It is an easy process for those using the factory supplied Presets, just download the new FIR enabled Presets, and load them in via the Versarray™ GUI software. The steps to load factory supplied Presets is outlined in detail in the Owner's Manual, starting around page 30. The Owner's Manual can be downloaded at:

<https://peaveycommercialaudio.com/versarray/>

and the new Presets are also available at that page.

The Presets all have the same names as before, but with a capital "F" added to the beginning of the Preset file name.

EXAMPLE:

old file name

6Cabs_Mild_Angle

new file name with FIR filter capability

F6Cabs_Mild_Angle

Note that the new FIR enabled Presets have the FIR filter coefficients present, but the default setting of the FIR filter is "Bypass". It can be activated by clicking on the Bypass button, so the check mark disappears.

Custom Presets

If using a custom Preset with venue specific settings or EQ, then there is a procedure to load the FIR filter coefficients into an existing Preset.

This procedure will be available as a download from the above cited URL for the Versarray system. The FIR filter file will be a download there as well.