

Tony Valentino of Quickfilter Technologies on Signal Management



Hosted by Alix Paultre, the Tinker's Toolbox is the Advantage Design Group's web-based interview show where we talk about the latest technology, components, and design issues for the electronic design engineering community.



In this podcast we talk to Tony Valentino, Quickfilter Technologies COO, about signal management issues and the challenges facing the designer. The company specializes in digital filtering and audio processing technology and recently released a 3-channel audio processor designed for direct insertion into an audio serial digital data path.

[Right-click to download the podcast](#) [1]

Here is another link to the podcast in case the play button is not visible: [Quickfilter interview](#) [1]

Here is a link to a datasheet on the company's QF3DFX Profound Sound Audio Processor: [Quickfilter Datasheet](#) [2]

Here is a release on the product:

Quickfilter Technologies today announced a powerful 3-channel audio processor that is designed for seamless insertion into an audio serial digital data path. The single-chip QF3DFX Profound Sound Audio Processor is easily configured using the Quickfilter QFPro Design Software with royalty-free user-tunable advanced audio algorithms for psychoacoustic effects such as bass enhancement, high frequency restoration, and virtual surround sound. The QF3DFX Profound Sound Audio

Processor can be configured to interface with I2S or TDM based audio systems. It can operate over a broad range of data rates up to 48 kilo-samples per second (ksps) and can support data resolutions of 16 or 24 bits. The QF3DFX is self-booting and provides pin control for volume up, volume down, mute and profiles supporting cost-sensitive designs with minimal external requirements. The device automatically powers down when audio data is not present, thereby enabling its use in low power applications such as wireless headsets and speakers.

In consumer audio products such as iPods, MP3 docking stations, and sound bars, the speakers have been scaled down and placed close together such that they have poor bass response and minimal stereo separation. With the Quickfilter Profound Sound chip, these same speakers can reproduce bass notes down to 40Hz while, at the same time, providing enough separation to create a virtual surround sound from just two small speakers.

Typical applications include:

- Powered Speaker Products
- Sound Bars
- Docking Stations
- Internet Radio
- MP3 Players
- Stereo Headsets (wired or wireless)
- Televisions
- Home Theatre
- Automotive audio products
- PC Audio
- Tablet Audio

“While there are alternative solutions with existing DSPs and commercially licensed software, the unique aspect of the QF3DFX is that our customers can achieve superior audio performance at a lower cost and without the need for commercially licensed software,” said Tony Valentino, Quickfilter Technologies Chief Operating Officer. “With commercially licensed software, the customer’s system sounds the way the software vendors want it to sound. Configuration changes are difficult, if not prohibited. Because the QF3DFX Profound Sound audio processor is completely configurable by the user, the sound can be unique to that customer. Also, using the QFPro software, all tuning can be done in real time by the audio engineer, not the DSP engineer, thus reducing software iterations and improving time to market,” adds Mr. Valentino.

“The QF3DFX Profound Sound chip is presently under evaluation by every major docking station and sound bar manufacturer, with several of them already committing to designs,” Mr. Valentino continued. “And, because of the unique implementation of the silicon and software components of this solution, future generations of this product can be introduced without the need for a silicon spin, thus providing our customers with a more rapid reaction time to changing market requirements.”

The QF3DFX Profound Sound audio processor is available now in production

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quantities. In 10,000- piece quantities, pricing is \$0.95 per chip. The device comes packaged in a 4x4mm 24 pin QFN. The associated development kit, the QF3DFX-DK, is also available now for purchase at Digi-Key and other Quickfilter distributors world-wide. More information is available on the Quickfilter web site - www.quickfiltertech.com [3].

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<http://www.ecnmag.com/podcasts/2011/11/tony-valentino-quickfilter-technologies-signal-management>

Links:

[1] <http://www.ecnmag.com/sites/ecnmag.com/files/legacyfiles/ECN/Multimedia/Audio/2011/11/quickfilter.MP3>

[2] http://www.ecnmag.com/sites/ecnmag.com/files/legacyfiles/ECN/Multimedia/Audio/2011/11/QFT_QF3DFX_04152011_nonconfidential_data_sheet_09152011.pdf

[3] <http://www.quickfiltertech.com>