Field Guide

by Stevan White

Inovonics

Good Audio Processing is Not Always Expensive

As a contract engineer I get a lot of questions about which equipment is the best, which is the least expensive, and which is the best combination of the two.

The part of the country in which I work is largely populated by small to medium-sized markets. As a consequence, most of my clients are very cost conscious. Nevertheless, they still want to sound the very best they can.

Although there are those who might argue with me, I think the most bang-for-the-buck audio processor has an Inovonics logo on the front.

THE IMPORTANT PART

The most desirable feature of any Inovonics product is not the fancy front panel. They are clean and simple with minimal adjustments. It probably is not even the remote control interface that lets you dial in on a modem and remotely change parameters.

We also are not talking about sound quality – top-notch sound is non-negotiable. But price is important – and at half or less than their competitors, the cost of an Inovonics processor is a most desirable feature. Most of my clients ask if they will be getting a quality product for the price.

I have nothing against the other processors; I have used them too. But how impressed are listeners with the stylized front panel, slick knobs, buttons, and LCD screen? All they care about is what they can hear and any Inovonics processor will produce loud, clean audio that will not fatigue the listener. If they are not fatigued, they are less likely to tune somewhere else. Keeping you legal is a no-extra-cost bonus feature.

MAKING THE AUDIO "SING"

Here is a tip that might save you some frustration with any brand of audio processing: make sure you are operating it in its "sweet spot." That is when you get the most performance out of it without pushing it to its limits.

Inovonics makes this easy with the "gain-riding" AGC. There are several LEDs that show AGC activity. Just set the input trim pots so that the 0 dB and -5 dB LEDs are lit up most of the time and one is about as bright as the other. You can use program material for this but, to get the left and right channels properly balanced, connect one channel at a time and set each channel independently.

When you are satisfied with your adjustments, plug the other channel in and continue with the other settings. The quick-start section of the manual makes it easy and the results are the proof. No pun intended but, speaking of "proof," the processing can be bypassed with the simple flip of a switch.

COST EFFECTIVE AM PROCESSING

If you are a "less is more" type, like myself, the model 222 AM NRSC limiter will be part of your installation. This little workhorse has been around for a long time, and for a good reason: it works.

Inovonics 222 AM Limiter

The 222 is a bare-bones NRSC compliant peak limiter that can be used by itself or as part of a bigger system. The 222 does what it is supposed to do, and does it well. If you want a little extra "oomph" in your audio, try using an AGC, some EQ, or maybe an aural exciter as part of your audio chain.

For a more "full featured" AM system, I am also a big fan of the model 235 AM processor. It does everything you need for AM in a single rack space: gain-riding AGC, followed by variable low- and high-frequency EQ, 3-band compression, an asymmetrical limiter/clipper peak controller, and an NRSC low-pass filter.

Frankly, I would love to have a 235 for my ham radio station; if not a 235, at least a 222 (or, maybe I can find an old model 250 AM in good condition). But on an AM station, these boxes shine!

FM CHOICES

My favorite choice for an FM multi-band processor/stereo generator has been – and still is – the DAVID. When it was first introduced, it was called the "giant killer" or something like that. The first one was the model 715; then came the model 716 DAVID-II and now we have the model 718 DAVID-III.

Each new model included something that customers had asked for while keeping the cost reasonable. Both the model 716 and 718 are still available from the

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factory. The model 716 DAVID-II incorporates AGC, compression, limiting, stereo generator and composite clipper.

The Model 718 DAVID-III

Add EQ and multi-band compression/limiting to that and you have the model 718 DAVID-III.

Both of them are neatly tucked into a single rack space package.

A few years ago Inovonics introduced the Omega_FM, their first all digital FM air chain processor. They describe it as a "powerful, software-driven digital processor and stereo generator that provides major-league processing at half the expected cost." It does.

DO IT ALL – EASILY

You can use the composite output to feed your analog transmitter and the AES/EBU digital output to feed your IBOC/HD digital transmitter. Connect a laptop computer to the serial port and you can adjust each parameter as much or as little as you like if the front panel adjustments just do not get you there.

If your Omega_FM suddenly goes south, as one did on me once, you can most likely use that laptop to zap it back to life. This was much better than the normal trip back to the factory for most any other unit; Inovonics tech support suggested that I try reloading the software before packing up the unit.

I plugged the computer into the network and headed to the "Downloads" page at www.inovon.com and found the necessary file. Within a few minutes I was ready to reload the Omega's operating software.

Like many top-end processors, the Omega can be controlled via software.

It was easy and, as with any computer, I rebooted it to allow the new software to be recognized by the unit and – in under thirty minutes – I had the Omega_FM back up and running without ever taking it out of the rack!

TEST DRIVE

As with most processor manufacturers, you can have a thirty-day demo on any Inovonics product to see if it is right for you.

Run one of these units for awhile and see if you still feel like you need a little something extra. Without spending a whole lot more money, I often try one of the inexpensive spectral enhancers made by Aphex, dbx, Behringer or BBE in front of it.

This combination has fooled many General Managers and Program Directors into thinking they have a little more than they really do. In fact, I know of a couple of instances where a station purchased one of the higher-dollar boxes and still found it "just didn't sound right" to the "golden ears" at the station.

At one of these stations, a contract engineer friend actually re-installed the Inovonics DAVID and an inexpensive "spectral enhancer" box behind the rack and then told the GM and PD, "I've made a few more adjustments. What do you think now?" They were once again happy because they sounded better than ever.

Of course, the higher-dollar unit was still in the rack, still had audio fed to it, still had blinking lights and dancing meters but now it was the "backup" air chain. Who knew?

Just us sneaky engineers.

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