

## Footec Control Systems P3S Stereo Compressor

And I thought my API 2500 stereo compressor was complex and versatile! Welcome to the Footec Control Systems *P3S Stereo Compressor*, a self-proclaimed “Swiss Army Knife” that actually lives up to its name. If you’re familiar with the API 2500 (*Tape Op* #52) or the ubiquitous Empirical Labs Distressor (#32), then you’ll understand what Swiss Army Knife (SAK) compressors aim to do; they provide multiple modes of operation that vary their function and sound to such a degree that they actually are like having more than one compressor in the same box. Because of their complexity and versatility, these SAK compressors come with a steep learning curve. It usually takes more know-how to get a subtle, transparent compression curve out of an SAK comp than it does to destroy your signal with a distorted, pumping wall of violence, so if you want a set-it-and-forget-it compressor, an SAK is not it. If you want a compressor that’s going to produce a ton of different sounds, then an SAK is the way to go, and the *P3S* is a great one.

You can do so much tonal and dynamic shaping with the *P3S* that its relatively simple appearance is initially misleading. The fact that it’s enclosed in a drab brown 1RU-height rack enclosure only helps to belie its complexity. But, this apparent simplicity is a blessing in disguise because any more controls, or any less organization, would be far too much to deal with while in the flow of making a record. The *P3S* breaks its controls into three basic groups on the front panel: the typical rotary controls for attack, release, threshold, ratio, and gain; two sidechain pushbuttons; and four time-constant mode buttons.

The first group of knobs for compression settings will be familiar, and they work as you’d expect. The only surprise here is the amazingly wide span of low ratios. From being set fully counterclockwise to 12 o’clock on the ratio knob, you’re only traveling from a ratio of 1:1 up to 2:1; that’s half the knob’s range until you get to where most compressors begin. More on this in a bit.

The second group of controls changes the sidechain properties, and they are more powerful than you might expect. A high-pass filter puts a 100 Hz low cut on the detector. Taking low end out of the detector circuit is a feature that any SAK compressor is going to want to include as it can drastically change the way the compressor behaves when bigger low-end signals are present. This is a great feature for processing whole mixes or drum and bass subgroups when you want the compressor to ignore the low-end thumps while putting a sheen on the rest of the music. Or, conversely, if you want the compressor to pump with the beat, let the compressor respond to the low-end signals.

The other sidechain control is the F/B button that changes the topology of the unit from feed-forward to feedback. These two topologies change the entire behavior and sound of the compressor. In the simplest terms, a feed-forward compressor looks at the input signal and a feedback compressor looks at the *already processed* output signal. Feed-forward compressors (like the famous SSL bus compressor and all of its imitators) tend to be “grabby” and a bit fast, producing a thicker, smoother sound. It makes sense, as they’re able to respond directly to what’s being fed into them — a very immediate response to a signal that has all its transients intact. Think of feed-forward compressors as meeting their guests right at the front door to the party. Feedback compressors meet their guests after they’ve had a couple cocktails and mingled for a bit. The feedback topology looks at the signal after it’s already been compressed and then sends that response backward to the compressor circuit and tells it how to behave. Just like a guest that’s had some time to loosen up, feedback compressors (like the famous Fairchild 660) tend to be a little

mellower and more open. Another key feature is that as you raise the gain on a feedback type compressor, the gain change will then interact with the input circuit, effectively lowering the threshold by raising the level of the signal the compressor is responding to.

So, with the *P3S*, this seemingly innocent button changes the entire behavior and sound of the compressor, offering up a very tight, modern sound (feed-forward/SSL) and a more open, vintage sound (feedback/Fairchild). The *P3S* doesn’t really sound like an SSL or a Fairchild per se, but it leans in those directions according to which mode you’re using. Playing with this button is no small thing, and you’re going to find yourself learning a lot about how these two very different topologies work and sound.

For most SAK compressors, that’s enough to present you with a rather comprehensive set of controls, but we haven’t even gotten to the heart of the *P3S*’s tone-shaping abilities — the time constants. Here we stumble on a physics concept that is really beyond the scope of this review. As a general statement, a time constant in a compressor characterizes how the compression circuit is going to respond to a signal (quickly or slowly; linearly or on a curve; with a variable or fixed release; etc). By manipulating *and combining* the different time constants in the *P3S*, you’re going to drastically change a whole different set of parameters that affect how the compressor behaves and sounds. There are four time constant buttons on the *P3S*, and they can be used in any combination.

The A/R pushbutton enables the attack and release controls. Otherwise, they’re automatic. I found myself needing the extra control in many cases, especially when working in lower ratios when I wanted to really tweak the minutia of the compression characteristics.

The N/L pushbutton enables the nonlinear capacitor circuit for automatic adaptive compression. With this time constant, you get a very fast attack and release in response to short transient sounds, and a longer attack and release in response to slower changes in level. The effect is a very drastic change in response to fast, percussive sounds like drums, and it will interact with the beat. The N/L mode is similar to the “Nuke” mode of the Empirical Labs Distressor. As with any auto setting, mileage will vary, and you never really know if this is going to work until you try it.

The RMS pushbutton enables the fixed RMS timing feature that emulates the compression curve of the human ear. The RMS mode is where you’ll find your tame, transparent compression curves and is where I spent most of my time with the *P3S* when trying to get reasonable compression rather than compression effects. The RMS mode is very open sounding, and it works beautifully with the old-school feedback topology to produce natural sounding compression without artifacts.

The Peak pushbutton enables the fixed peak timing feature, and this time constant produces a darker, thicker tone — perfect on splashy cymbals. Combine this with the feed-forward topology, and you’re into the thick, rich tones that the SSL bus compressor is famous for.

There’s also a hidden mode here; if you take out all the time constants, you get a distortion mode that is controlled by the ratio knob. This can be a dull growl or full-blown, solid-state fuzz — perfect for parallel processing when you’re trying to add harmonic complexity to a signal, or if you just want to destroy something. And finally, the unit I tested shipped with output transformers that can be switched in and out on the back panel.

Now, take all those different time constants, the sidechain options, standard compression settings, and the transformer switch together, and then imagine all the different combinations, and you’ll see that if the *P3S* really were a Swiss Army Knife, it’d be one of those ridiculously fat ones that has five blades, a saw,

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scissors, a magnifying glass, a corkscrew, and a full set of silverware. But, unlike that ridiculous knife, the *P3S* is actually quite elegant and far easier to get a handle on than you might imagine. Yes, the learning curve is steep, but when you realize that you've really only got to figure out which buttons do what and in what combinations, it's rather straightforward. What I loved about using this *P3S* is that once I had a handle on it, I was able to use it as much like an EQ as a compressor, shaping the tone of the signal with simple pushbuttons until I found what I wanted. Once I knew more about those buttons, I was able to predict what would work, and I could make the choice with less trial and error. In short, using the *P3S* was way more intuitive than I could have imagined, and what initially seems like a rather dull interface turns out to be one of the most elegant I've used in quite a while. This interface is a brilliantly conceived simplification of what could have been a time-sucking disarray of features.

My complaints with the interface are that the knobs could use clearer hash marks for doing recalls, and the mode buttons should illuminate when engaged. I'd also much prefer a front-mounted power switch and transformer-engagement switch, both of which are on the rear panel. I'd also recommend that Foote Control Systems gets a little more playful with the names of the time constants. RMS could be called "Easy Going" while Peak could be called "Dark Chocolate," N/L could be called "Fickle" and "A/R" could be called "Tweak Freak." I started to think in more playful terms like these as I got to know the unit, and doing so really helped me form impressions of those time constants.

Because SAK compressors tend to be known for their extreme settings, I want to stress that it's easy to achieve transparent low-ratio compression with the *P3S*. That ratio knob is really great with its vast sweep between 1:1 and 1:2. When dialing in subtle curves, I was thrilled to have that much room to subtly change the ratio to exactly tailor the compressor for the program signal. On a cymbal-heavy drum subgroup, for example, I was able to tuck the cymbals down just enough to keep them from obscuring the sibilance of the vocals with a ratio of 1.3:1. Going up to 2:1 was much too splashy, and 1:1 wasn't really doing anything. It's not often you'll find such control over the lower ratios. It's like having ten different kinds of tiny tweezers on your Swiss Army Knife — pretty handy when you're pulling out splinters. The *P3S* really sounds good at these lower ratios in RMS mode, and with RMS ("Easy Going") and Peak ("Dark Chocolate") mode engaged together, you can darken the tone of the signal without really changing the dynamics. And of course, you can smash things with the *P3S*. Trying all kinds of combinations gave so many varied effects that I won't bother to describe all that's possible. Just know that from subtle limiting to smashed-glass compression, there are so many different ways to get the *P3S* to behave and sound that you really do have a sonic Swiss Army Knife in your hands.

Despite its ability to change topologies and time constants in myriad ways, the *P3S* has a sound of its own. This is hardware with transformers, so you're getting that nice 3D effect and a good amount of punch just by running through it. (I had the version with the output transformers, and I highly recommend that you get them if you're going to buy one. I'm not sure why it's optional, as there's a switch to disengage them.) The sound contains enough analog punch and harmonic richness that you'll find yourself using the *P3S* for the sound of the hardware in cases where you don't really need compression. Everything I used the *P3S* on — from drum subgroups to string sections — picked up a warm-yet-detailed sonic texture that's nearly impossible to get out of a plug-in. The sonic texture sits well in a mix, and it isn't as obtrusive or forward as some other SAK compressors I've used.

As a stereo unit with one set of controls, the *P3S* is clearly a mixer's tool, but don't discount its ability to work in both tracking and mastering situations. For tracking, it's obvious that it will work on everything from crushing a room mic to gently tucking in a string quartet; but for mastering, those ultra low ratios and the "Easy Going" RMS mode are going to come into play. This is truly an all-rounder.

At \$1700 street, the *P3S* is going to start showing up in more and more studios — I'm sure of it. Because this is hardware, it's not going to become obsolete or require an upgrade, yet the *P3S* is flexible enough that as your tastes and projects evolve over the course of your career, this compressor can adapt. As someone who has used the API 2500 for many years, I have appreciated how that unit can shape-shift not just from day-to-day, but from year-to-year as my techniques and tastes transform. If you're like me, you'll move in-and-out of different modes of operation, so it's nice to own hardware that can do the same. As I said earlier, it's hard to sum up what the *P3S* sounds like because it's so versatile, but — to extend the metaphor one last time — a Swiss Army Knife isn't judged by its versatility alone, but by the quality of the metals and craftsmanship in the blades. In this regard, the *P3S* is top-notch. And I need to say it again; don't let the *P3S* intimidate you with its versatility. It's a very musical and intuitive compressor that manages to pack all that versatility and complexity into a unit that — despite its protean nature — feels like one tool rather than many. FCS is distributed exclusively by Mercenary Audio.

(\$1700 direct; [www.mercenary.com](http://www.mercenary.com))

—Allen Farnelo, [www.farnelo.com](http://www.farnelo.com)