

# Crane Song Ltd. TRAKKER Comp-Lim

Versatile processor can handle from clean to mean -- and everywhere in between

by Eddie Ciletti



As a single-channel compressor/limiter with a wide range of "character settings," the Crane Song TRAKKER is in its own league. What sets TRAKKER apart from most of the competition is designer David Hill's commitment to build all of his products from the ground up, transistor by transistor. His is not the easy way.

Dynamics manipulation is not for purists, but you could say that Crane Song's TRAKKER is an audiophile product in the truest sense of that word. The design starts with clean, fast, transparent circuitry. On top of this foundation are 12 color options and four clean options, switched in or out by relays, and not with electronic switching circuits.

## No Implants

Gear with a super-chic exterior often makes me question what's on the inside. TRAKKER is not built to impress doctors or lawyers looking to impress their friends. Its clean, simple layout is soothing. Take one look inside and you will see why TRAKKER is worth every penny of its \$1695 list price. The choice of high-quality parts, robust metal work, and circuitry (I was allowed to browse the schematics) shows that no shortcuts were taken. Give any of your techno-geek friends a peek, and they will tell you, "That's the way I would build it if I had the time."

The front-panel controls are clearly labeled; the metering is big and bright with generous resolution to let you know what's truly going on. Compared to the STC-8 (Crane Song's first dynamics processor), there is nothing ambiguous about TRAKKER's nomenclature. There is one "magic knob," labeled Character, which dials in (or out) the various "color" options described in the next section. You don't have to read the manual to figure out how to use TRAKKER, although its information is concise, useful, less technical than this review, and without ego.

## SUMMARY

Here's the "color" commentary. The Character options for each quadrant are Soft Knee, Hard Knee, Optical, and Air-Optical. Within each quadrant there are Clean, Vintage, Clean-VCA, and Vintage-VCA options. Vintage-VCA is the most funky, especially with fast attack and release settings. (In VCA mode, transient harmonic distortion is added.) The Vintage setting puts a single-ended (Neve style) Class A amplifier in the audio path that has triode-like distortion (up to 6.5 percent) that is mostly second harmonic with some third (0.5 percent). The Optical settings have program dependent, nonlinear release times. Soft Knee does not have program-dependent release time. Air-Optical adds brightness as gain reduction increases beyond 12 dB (about 0.5 dB rise at 15 kHz) with a very wide bandwidth. This is noticeable in a good way!

## FIRST TASTE

I first used TRAKKER on a Takamine acoustic guitar with a pickup. I had already recorded this guitar on another track with a Neumann TLM 193 and the TC Electronic Gold Channel. This time, I needed to effect the guitar to make it seem more like a bass instrument. Using an Alembic preamp to feed TRAKKER, I upped the Threshold until gain reduction kicked in, noticing, at first, that the guitarist's style was generating some major low-frequency thumps. I couldn't afford to rolloff any low frequencies, but by dialing in a faster Attack time, the thumps all but disappeared.

## FINALE

My own preference for Slow Attack, Fast Release, and Gentle Knee made many of the options, except in the Air-Optical quadrant, fairly indistinguishable. Still, I was able to raise the level 4 dB to 6 dB without radically altering the sound. I know this is not the normal approach, so I went to the fastest Attack and Release settings, trying to make TRAKKER sound bad -- but that's a difficult thing to do when compared to many other compressor/limiters. TRAKKER gets the most usable range out of each of its controls, letting you approach the "danger zone," but not get sucked in. An LA-2A, 1176 or 160X can't be clean like TRAKKER, but I believe you'll find TRAKKER to be a versatile dynamics processor -- from clean to mean -- pleasing many different tastes and being the "master" of its trade.

## FET MESSAGE

Let's pretend that your ear is the detector of a compressor, your hand on the volume control represents the control voltage. In an optical limiter, sound is first converted into light, then coupled to a photosensitive resistor that is connected to another resistor, the two forming a voltage divider. A volume control is a variable resistor. A compressor, in its most basic form, is an "automatic volume control." The beauty of two Classic optical limiters, the LA-2A and LA-3A, is that an audio amplifier and two transformers are what's between the input and output connectors. Substitute a Field Effect Transistor (FET) for the photo resistor -- as is the case in the Classic 1176LN -- and you must now make a circuit that creates attack and release curves, plus bias the FET to work in its optimum range. It gets complicated...

TRAKKER uses Pulse Width Modulation (PWM) to control the FET. This eliminates distortion typical of the older, more typical FET designs and, more important, makes performance more predictable. Stack eight TRAKKERS together, and they will track to within 0.1 dB -- when linked -- for the first 20 dB of gain reduction. You could not do this with two 1176's, especially at their age! This is the foundation of clean signal processing. MANUFACTURER: Crane Song Ltd., 2117 East 5th Street, Superior, WI 54880. Tel: 715-398-3627. Web: [www.cranesong.com](http://www.cranesong.com).

APPLICATION: Audio dynamics processor.

SUMMARY: High-voltage discrete Class A transistor circuitry with no ICs in the primary signal path. Single-channel compressor/limiter, up to eight Trakkers can be linked for surround or other multichannel purposes.

STRENGTHS: "Knee" feature adds impact to the Attack and Release controls; Character switch delivers 16 sonic "color" variations; excellent meters.

WEAKNESSES: None.