

AUDIOREVIEW



Reviewed by:
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KLARK TEKNIK Square One Dynamics Processor

Klark Teknik was founded by English brothers Phil and Terry Clarke in 1974. Their engineering prowess resulted in some of the world's first digital delays and reverbs, as well as a long line of highly regarded graphic and parametric equalizers. Today, the Klark Teknik line includes top-shelf digital EQs and processors, a 96-track digital recorder for live shows, and digital snake (audio-over-Ethernet) products.

The Klark Teknik Square One line is designed to bring high-quality analog processing to live applications. The line includes a flexible 8x24 active/passive splitter, stereo 31-band EQ and eight-channel dynamics processor. We tested the Square One Dynamics processor (\$2,118 list).

COMPRESSORS, GATES AND FILTERS

The first thing I noticed about the Dynamics processor is its distinctive—and attractive—purple color scheme. The processor

has eight channels arrayed side-by-side in a three-rack-space chassis. Main inputs and outputs are on XLR connectors, while external key inputs are on balanced 1/4-inch connectors.

The Dynamics processor offers a somewhat unique take on compression and gating. Each channel will perform compression or gating—not both. Several of the controls do double-duty, performing a similar function in both modes. These include the threshold, ratio, attack time, release time knobs and side chain filter controls; input and gain reduction meters perform identical functions in both modes as well.

In compression mode, two switches work together to deliver four different compression sounds. The first switch selects between RMS (average) and peak detection, the latter labeled "Vintage." The second switch selects between hard and soft knee. These switches interact greatly with

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product(s):	Square One Dynamics Processor
phone:	(866) 814-4434
website:	www.klarkteknik.com
suggested retail price:	\$499

AUDIOREVIEW

the threshold and attack/release time controls, changing the compression response from subtle to much more pronounced. Change the knee setting from soft to hard, for example, and you'll need to raise the threshold to achieve similar gain reduction. Switch from peak (vintage) to RMS detection, and your attack time setting will likely be too slow.

Another feature that sets the Dynamics processor apart is its sidechain controls. In addition to an external sidechain input for each channel, the processor offers a sweepable sidechain filter. This filter spans from 40 Hz up to 16,000 Hz and offers both normal and narrow settings. The filter allows you to "tune" the compressor or gate to be more sensitive at certain frequencies. Filter a compressor's sidechain to pass a narrow band of high frequencies, for example, and you've just created a de-esser. If you want the compressor on a drum submix to compress kick more than snare, set the filter to a narrow band around 100 Hz. Similarly, you can use the filter to "tune" the gate to be more sensitive to the desired sound (an upper-mid filter to pass acoustic guitar and reject bass, for example).

Since it's tough to dial in a sidechain filter without hearing it, the Dynamics processor offers two options for hearing the filter settings. In normal solo mode, pressing a filter's Solo button routes its signal to a solo bus with dedicated output. Send this solo output to an extra channel of your mixer for monitoring in headphones while you dial in the filter. The second option doesn't use the solo bus. Instead, a sidechain "solo in place" mode replaces the channel's output signal with the sidechain signal. You clearly can't use this mid-show

The processor's threshold control spans an unheard of 85 dB range, meaning an accidental bump of the knob could set off a major event.

or mid-service, but it's sure a nice option during sound check.

Compressor and gate modes each have one control that wouldn't make sense on the other. The gate has a hold time control to delay the closing of the gate after the input signal falls back below the threshold; this control spans a range from two milliseconds (ms) to two seconds. The compressor has a dedicated makeup gain control that ranges from 0 dB to a whopping +30 dB.

In Use

I particularly enjoy testing compressors because I find that most of them impart a subtle but unmistakable coloration to the sound. In most cases, this coloration is actually beneficial, making a sound seem "larger" or "fuller" or "more forward" or [add your own adjective here]. The big news with the Klark-Teknik Dynamics processor is that it doesn't color the sound at all. Not one bit.

Even when slamming a signal with 15 to 20 dB of gain reduction, the sound of this compressor stays strikingly true to the input sound. The sound isn't dulled, squashed, or hyped in any way. This unit is easily among the most transparent analog compressors I've heard in 20+ years of testing processors.

I had several "is it really engaged?" moments with the Klark Teknik, and in each case I verified that it was indeed working. It's crazy-clean, which is a wonderful thing if you're after pure gain reduction with no side effects. If you're hoping for a processor that both compresses and adds adjectives to your sound, you may be disappointed. My hunch is that most people

would prefer an ultra-clean compressor over one that adds too much coloration. Kudos to Klark-Teknik for achieving such transparent compression.

Every combination of the peak/RMS and knee switches delivers a different—but useful—compression response. The peak/hard knee combination allows you to set the attack and release time controls with surgical precision. The RMS/soft knee setting, on the other hand, all but ignores the attack and release time knobs. Users with good ears will quickly get a feel for the different modes, and choosing the right one for the input signal will become easy. The manual does a good job explaining the different compression modes. Actually, the manual does an excellent job explaining about the unit and dynamics processing in general. If only every product manual were this good.

Unfortunately, attack and release ranges are not labeled because they change based on whether the channel is in compressor or gate mode. In both cases, I felt the attack times to be on the short side. For compression, the fastest attack time is a blazing 100 microseconds and the slowest just 20 ms. Most compressors offer maximum attack times in the 50 to 100 ms range, and certain sounds do benefit. Attack times on the gate range from 10 microseconds to 10 ms, the latter still being too fast for certain sounds and gating effects. I'm surprised the Dynamics processor doesn't offer a program-dependent (auto) release time setting. The lack of a power switch seems a bit odd as well.


One of the Dynamics processor's key controls is compromised by the fact that it

does double-duty for compression and gating. The processor's threshold control spans an unheard of 85 dB range. At higher compression ratios, moving the threshold knob just a few degrees can increase gain reduction from a few dB to 20 dB or more. This makes dialing in the amount of compression a challenge at times, and can turn the accidental bump of the threshold knob into a major event.

Though designed in England and bearing a boutique European price tag, the Square One processors are actually made in China. Fit and finish is excellent however, and the controls feel solid and smooth. Klark Teknik backs the Square One line with a three-year warranty.

In summary, the Klark Teknik Dynamics processor is a study in trade-offs. It offers the flexibility of compression or gating on each channel, but some of the controls are stretched doing double duty. The processor offers extensive sidechain filtering, but that control space could have been used toward simultaneous compression and gating (or even compression, gating and limiting). It offers a broad control range on one knob (30 dB of makeup gain, for example) and a rather limited control range on another (i.e. attack time).

You may wonder what drove some of these design decisions, but you can't argue with the Dynamics processor's sound (or lack thereof). The Klark Teknik isn't cheap, but it delivers a transparency that goes beyond its \$250-per-channel price tag. If you think a compressor should be seen and not heard, the Klark Teknik Dynamics processor is worth a closer look.

LOREN ALLDRIN has been a regular contributor to *Church Production Magazine* since 1999. 

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