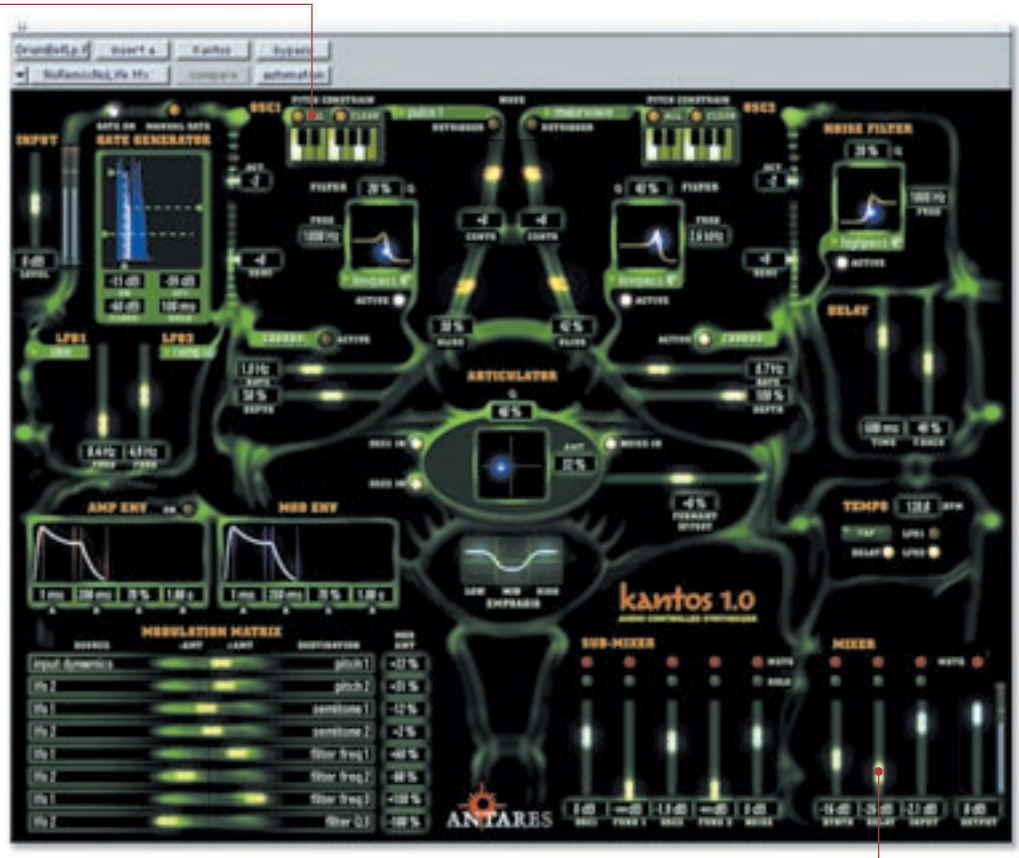

PITCH-CONSTRAIN KEYBOARD > The unpredictable results of Kantos can be easily constrained to one or more notes.

MIXER CONTROLS > Within the main mixer and the submixer, level controls exist for each of the main synthesis parameters, as well as the dry input signal.

ANTARES KANTOS 1.0

DON'T CALL IT A VOCODER BY MARKKUS ROVITO

>Don't blame Antares for the annoying rash of robotically pitched vocals in songs by Cher, Madonna, Kid Rock and every flavor-of-the-minute R&B diva and teen pop group on the planet. Just because the company's Auto-Tune technology made most of those glissando squeaks possible, it's not the company's fault. It had good intentions.

In any case, I defy musical hacks to misuse Antares' latest triumph, Kantos 1.0. This plug-in confuses the difference between audio processor and synthesizer by recognizing the amplitude, pitch, harmonic content and formant information of incoming audio and using that to drive its synthesizer. The results are often scary good and sometimes just plain scary. The Kantos sound is many things: fiendish, blissful, trippy, haunting, gorgeous and nasty. It's probably what medieval minstrels would have sounded like if they had synthesizers, and it's sure to become the Residents' favorite instrument. One thing it's not is predictable.

Many plug-ins are simply inexpensive software solutions for doing things that hardware can do at a higher cost. But every so often, a unique plug-in comes along that can change the way artists approach making music and fill their brains with new ideas. Kantos is just such a product. Although not everyone will see its point, it's destined to cause a ruckus in the music world.

BOOT CAMP

Kantos 1.0 runs on both Mac (MAS, RTAS and VST) and PC (DirectX and VST). A Mac OS X version is in development. Installation was uneventful; copy protection is via challenge and response. To launch Kantos, open a project in your audio sequencer and assign Kantos to a track

PRODUCT SUMMARY

ANTARES

KANTOS 1.0 > $299

Pros: Grandiose sound palette. Extensive modulation matrix. Full automation. User-creatable wavetables. Creates something from nothing. Original. Inspiring.

Cons: Can be finicky with input audio. Can't be controlled with MIDI interfaces. Processor-hungry. Not yet compatible with Mac OS X.

Contact: tel. (831) 461-7800; e-mail info@antarestech.com; Web www.antarestech.com

SYSTEM REQUIREMENTS

MAC: G3 (G4 recommended)/233; Mac OS 8.6–9.x; host program supporting MAS, RTAS or VST plug-ins

PC: Pentium or Athlon (1 GHz or faster); host program supporting DirectX or VST plug-ins

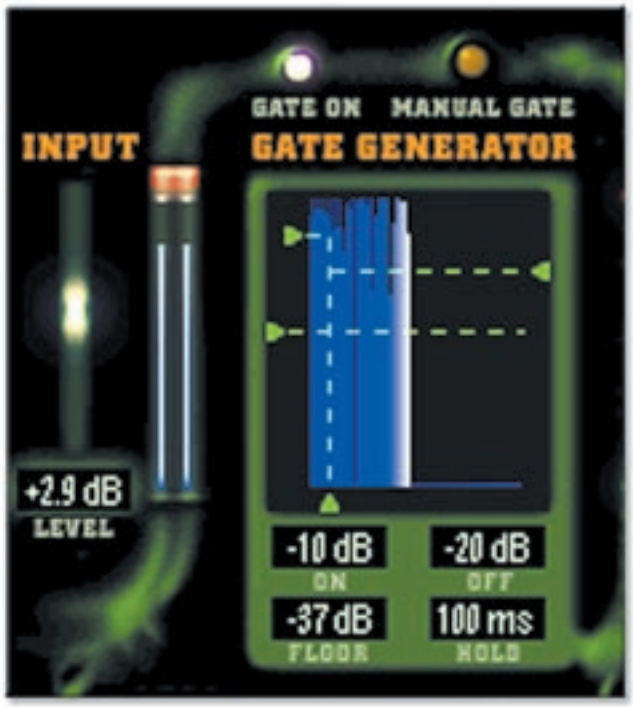

FIG. 1 > The Gate Generator applies note-on and -off messages to the incoming audio's dynamics. Users may adjust the thresholds for on and off triggers, the note hold time and a floor to cut off low-level signals.

as you would any effect plug-in. At first sight, Antares looks awkward even to frequent users of hardware and software synths. Its design is like something out of a sci-fi dystopia flick in which robotic creations have taken over and enslaved the human race. Even to the unintimidated, I recommend a shuffle through the 62-page manual. It's painless, and Kantos will feel as comfortable as three-year-old pajamas once you finish the quick tutorials.

Never once did Kantos crash my Mac G4/466 MHz, but it did have the two-year-old computer feeling geriatric. With Pro Tools running four tracks of audio, I was only able to run three instances of Kantos and only two inside a 20-track song. Still, Kantos never stuttered or experienced any noticeable latency. Those blessed with a dual-processor G4 should be up to their eyes in Kantos mayhem.

OSCILLATE WILDLY

You can adjust most values in Kantos in real time either in text boxes or by clicking-and-dragging a lever or a point in an x-y axis. In the upper-left corner, the Gate Generator derives note-on and -off triggers from the incoming audio (see **Fig. 1**). For best results, Kantos needs audio with hot levels. In the Gate Generator, you may adjust the levels for note-on and -off triggers, note hold time and the threshold for ignoring audio signals (to weed out background noise, hum and so forth).

Generated notes then enter the Kantos synthesizer, which is monophonic yet robust. Two wavetable oscillators and a noise source all have resonant filters with 2- and 4-pole mode for low-, band- and highpass filters. There are 38 preset wavetable oscillators of the standard waveform variety (sawtooth, square and so on) and digital-audio samples such as slap bass, strings, drone and more. Some of the wavetables sound like patches from vanilla digital synths of yore, but there are also incredible standouts like spectra-flange, which produces a ghostly inward sucking sound. Extra wavetables are available on the CD-ROM and from the Antares Website. Users can also create their own wavetables in a sample editor.

The filters are pleasantly warm but not as aggressive with high-resonant shrieks or low-end rumbles as other software or digital hardware synths on the market. The x-y (frequency and Q) axis on the filters is great for clicking around and getting instant, drastic variations you can't get with knobs. You can also drag the x-y point with the mouse for fantastic manual rhythmic effects. However, dragging the filter in this way sounds different resonant peaks as it moves through the spectrum.

Both oscillators have a five-octave range, a glide control, tuning to the cent and semitone and a chorus effect—also warm-sounding—with rate and depth controls. Turn on the oscillators, direct the choruses to add a little creative filtering, and you're on a bullet train to fat city.

Of course, it wouldn't be an Antares product without a little pitch correction or, in this case, constraining. Each oscillator has a one-octave pitch-constrain keyboard. Kantos will constrain the pitch of the incoming audio to the nearest notes highlighted on the keyboard. You could constrain all sounds to one note, one chord or one key, or highlight all or none of the notes. This is an excellent feature to get unexpectedly musical results. You could have a drum loop playing the notes of a chord or constrain the oscillators to separate notes to give a spoken-word phrase some harmony.

GENUINE ARTICULATOR

Oscillators and the noise source may be fed into the Articulator, the smoke and mirror of the Kantos magic trick (see **Fig. 2**). It analyzes the harmonic and formant information of the incoming audio and applies it to the oscillators and noise. The two parameters of the Articulator's x-y axis are Amount and Q (character) of the harmonic processing. Its works similarly to a vocoder, yet, sonically, it's much more expansive than a vocoder. You don't really need to understand what it does; just click around and enjoy the result. A 3-band graphic equalizer enhances the Articulator's output.

The Articulator is one of the keys to feeding Kantos a sound file and getting back much more than any ordinary plug-in could offer. Yes, you get plenty of opportunity to vocode not only robotic voices but also spooky, beyond-the-grave rasps and more. But you could just as easily record yourself humming a melody and turn that into a rip-roaring lead synth or string swell. I'll go out on a limb and guess that you will feed Kantos a drum loop. You'll get more than a tweaked-out percussion

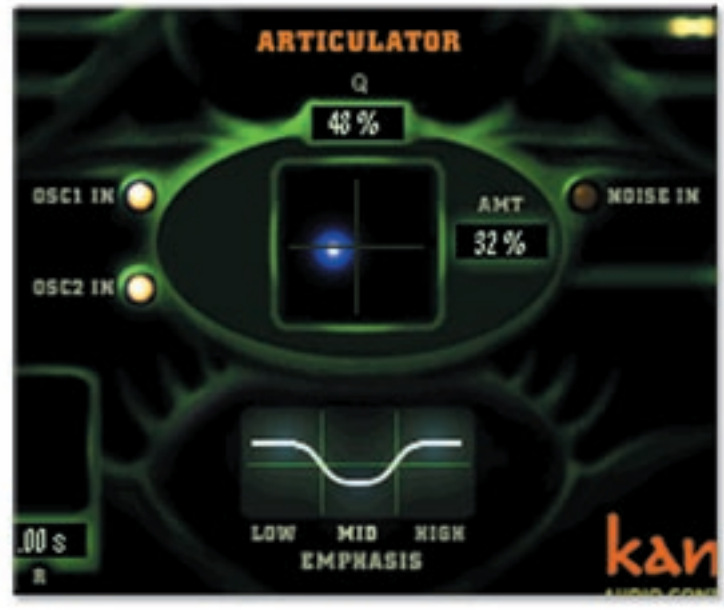

FIG. 2 > The Articulator processes the oscillators and noise with the input audio's harmonic and formant information. As with the filters, users can click or drag the x-y axis point and also adjust the 3-band EQ, called Emphasis.

track; you may get subby, cavernous, sweeping ambience that can spruce up a sparse song or a melodic, bouncy synth bass. The more than 50 presets in Kantos will lead you in these directions and more, but they are merely starting points that begin to show off the true power of the Kantos synthesizer.

TO THE MATRIX AND BEYOND

Rounding out the Kantos interface are two tempo-synchable LFOs with six selectable shapes, amplitude and modulation envelopes and a tempo-synchable delay unit that only offers quarter-note delay. To get an eighth-note delay, double the tempo manually or with the Tap button or halve it for a half-note delay.

All of the components within Kantos shine in the sizable modulation matrix. There are eight modulation routings, in which seven sources—input pitch, input dynamics, input timbre, LFO1, LFO2, amp envelope and mod envelope—can modulate one of 35 destinations. You can adjust the modulation amount for each routing up to ±100 percent. This section is possibly the most indicative of the Kantos character yet is too huge to cover adequately here. Suffice it to say, the possibilities are impressive and seemingly inexhaustible. You can't go wrong with old favorites like routing an LFO to a filter cutoff, but not every synth lets you route input dynamics to formant offset, so dig in and get stupid.

The final yet still-worthy piece to the puzzle is the mixing section. A submixer has channels for Osc1, Osc2 and Noise, as well as Fund1 and Fund2, which are sine waves generated from the input frequencies. These can really beef up the overall sound or even stand on their own as bass tones. The main mixer parses the synth amount, delay amount and dry input signal together. It's nice to be able to retain the dry signal if needed on the same track rather than having to duplicate the audio in another sequencer track. All mixer and submixer channels have Solo and Mute buttons.

At first, I was thrilled to even have the mixer, but then I got greedy. In future updates, I would love to see pan controls on all of the channels and delay on/off switches for individual submixer channels. However, when Kantos is inserted on a stereo track, pan controls do exist.

HEAVY USE

There's no right or wrong way to use Kantos; you just need to make it useful to your music, and that's easy to do. For my needs, I had success using Kantos to add background ambiences to tracks by feeding it drum loops, melody lines and even vocals. The wonderful thing is that it really doesn't matter what you give it—you can mangle the audio until it's utterly FUBAR.

On the other hand, I also became quite fond of singing bass lines or other parts and then coming up with a sound I liked for the part in Kantos. Sure, I could have played the parts on a keyboard, but I'm no Herbie Hancock—without quantization, I'm nothing. By singing out instrument parts, I could get the performance out quickly in one or two takes rather than first figuring out how to play it and then suffering through a dozen or more takes. Obviously, Norah Jones won't need to do this, and purists will recognize Kantos as the evil product it is for giving talentless musicians like me an easier go of it.

THE GLAMOROUS LIFE

Do you need Kantos 1.0 to make good music? Probably not. You'll get killer sounds from it, but there are countless ways to do that. All writers, whether they write prose or music, eventually get writer's block. A tool such as Kantos is a perfect antidote. Any producer with constipation of the synapses can feed old material into it, fool around and derive some completely unthought of new soundscapes and even melodic differences that can quickly launch a new song. For a 1.0 product, Kantos is remarkably mature and always ran without a hitch.