SONAR 2015

"Lexington" Update

ENGINEERED IN BOSTON, MA
SONAR

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It's the holiday season, and we hope all of you are getting ever closer to realizing your musical dreams. We're doing our best to help contribute to that cause, and given the response to Kingston's speed increases and improved stability, this month's Lexington release does an encore by focusing again on making SONAR even faster and more rock-solid than ever. But that's not all, as five new Style Dials make their debut—and we also have articles that re-visit the power of the PX-64 percussion strip, as well as reveal some of the ways long-time SONAR user Craig Anderton gets the sounds on his new album. We've even found a chair that makes it easier to do long sessions without getting a sore back.

As we move into a new year, we wish you the very best, thank you for your support, and believe that the best is yet to come. Stay tuned! *– Bill Jackson and the Cakewalk Team*

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Performance and Speed Optimizations: Continuing with Kingston's speed optimizations, Lexington takes it even further with optimizations that relate to projects with hundreds or thousands of clips, loading time, file imports, and several other enhancements.

Five New Style Dials: Improve your workflow with these single-knob effects that give you the sounds you want as quickly and simply as possible. Choose from SHAPER, GATER, SMOOTHER, PULSE, and DEPTH to apply a variety of signal processing options to dress up your tracks.

Interview with Lance Riley | The Style Dial Backstory: What's the value of single-knob effects? What was the inspiration behind them? What are some of the best ways to use them? Product Manager Lance Riley talks about the genesis of Style Dials, and gives a hint of where they're going.

Workflow Enhancements and Fixes: In addition to the optimizations, Lexington includes bug fixes and enhancements that affect Staff View, the PRV, clip splitting, the Start Screen, Matrix View, Event List data, drag drop and drag copy, control surface persistence, and many more.

Technique | Seven Steps to Punchy Percussion with the PX-64: It's easy to overlook this clever percussion strip because of all the recent additions to SONAR, but it remains an effective tool for processing drums. This techniques-oriented article provides seven steps you can follow to get great drum sounds.

Anatomy of a SONAR Project—The *Neo-* Album: It started with SONAR X1, ended with SONAR 2015 Platinum, and in between used just about every function SONAR offered. This article demonstrates the settings used to obtain a variety of sounds, as well as a variety of techniques, and includes links to audio examples.

Review | Virtu Sealth Music Engineer's Chair: A chair designed specifically for engineers may seem odd—what can you do that's going to make a specific difference?—but a lot of thought went into the Virtu Stealth. This review explains what it's all about, and why it *does* make a difference.

BlogBeat: A roundup of a few of the Cakewalk Blog's "greatest hits." Check out the "shootout" of 15 different compressors, get the lowdown on what audio specs really mean, find out about parallel compression, learn how to take advantage of crucial Addictive Drums 2 features, and more.

How to Download the Lexington Update

Open the **Cakewalk Command Center**. If you don't have the latest installer (CakewalkCommandCenterSetup1.1.2.2.exe), please download it from the Cakewalk Command Center home page.

To download the **Lexington** core update itself, download from the core SONAR Artist, Professional, or Platinum category. It is not necessary to download anything else.

Performance and Speed Optimizations
Artist, Professional, Platinum

The positive reception to Kingston's performance optimizations were, to put it mildly, inspiring. As a result, the Lexington development team continued to focus on possible areas of improvement. The improvements are particularly noticeable with projects hosting large numbers of tracks, plug-ins, and clips, although all types of projects benefit.

SPEED INCREASES FOR PROJECTS WITH HUNDREDS/THOUSANDS OF CLIPS

This optimization improves clip handling when a project contains hundreds or thousands of clips. To test a suitable scenario, transients were turned on for three minutes of drums, then split on transients to create 958 separate clips. This track was then cloned to create a total of 1,916 clips, with AudioSnap still enabled, in order to time various operations. (Note: Tests were conducted using an older AMD Phenom II X6 1055T Processor with 8 GB RAM running 64-bit Windows 8.1.)

Operation	X3/Kingston	SONAR Lexington	Improvement
Select All	2 secs	0.1 seconds	20x faster
Open context menu for clips with all selected	3 seconds	0.8 seconds	3.75x faster
Clicking before audio on track to set Now Time	3.9 seconds	0.1 seconds	39x faster
Changing the active track	2.2 seconds	0.1 seconds	22x faster
Bounce all to clips	27.8 seconds	14.2 seconds	1.96x faster
Quantize all clip start times (AudioSnap on or off)	10.9 seconds	2.0 seconds	5.5x faster

FILE IMPORT OPTIMIZATIONS

Importing audio files has been optimized in several ways. The performance gains are most visible when importing multiple wave files or multichannel audio files. X3 was chosen as a benchmark for the comparison below, but similar gains occur with releases prior to Lexington.

Operation	SONAR X3	SONAR Lexington	Improvement
Import 2 second 24-channel audio file	7 seconds	< 2 seconds	3.5x faster
Import 23 REX files from browser	13 seconds	5 seconds	2.6x faster

PROJECT LOAD SPEEDUP

Having projects load as fast as possible is always desirable, so loading protocols were optimized further for the most commonly encountered project settings. For example, projects with plug-ins on stereo tracks (a very common scenario) benefit substantially from this. Additionally, unnecessary automation parameter updates during load were deferred, which greatly speeds up loading projects with many tracks and plug-ins.

IMPROVED MULTICHANNEL AUDIO FILE SUPPORT

SONAR now supports Multichannel PCM WAV files with more than 24 channels. Because Microsoft doesn't support such files natively, prior to Lexington multichannel WAV files with more than 24 channels that were not authored in a specific way (WAV format extensible, in case you wondered) would not load properly. SONAR now has native support for such files, and will import them properly as well as import them faster.

## 5 New Style Dials
Artist, Professional, Platinum

Lexington adds five Style Dials to the existing group of GRIT, SPACE, and MAX. As with all Style Dials, the dial controls multiple parameters simultaneously to give a wide range of effects; they're compatible with the MixStrip in SONAR Artist, and the ProChannel with SONAR Professional and SONAR Platinum. As for the story behind Style Dials, check out the interview with Product Manager Lance Riley on page 9.

GATER is a classic drum-oriented gating effect that removes unwanted bleed in close miked drums. This simple, one-knob approach makes dealing with unwanted bleed really easy to handle. At lower settings the knob is more open and natural sounding with a slower release. At higher settings it is a quick and fast gate for a more extreme and impacting sounds on a drum mix making the drums really pop. GATER is particularly effective with drum loops as well as close-miked drums.

SHAPER is also designed for drums. One very common situation when close miking drums is that the drum attack can be a bit dull when the mic placement isn't quite right, or the preamps don't respond to drum transients quickly enough to reproduce a clean hit. The SHAPER Style Dial can help out in these types of situations. Dialing to the right emphasizes the drum's attack, while dialing to the left boosts the drum's decay. Also try SHAPER with hand percussion, and even bass.
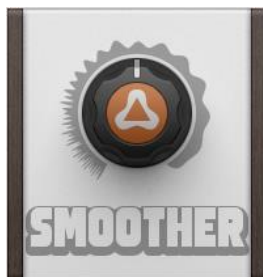
SMOOTHER is a de-harsher and de-esser that manages to do so while still preserving a track's presence. Based on multiband compression, SMOOTHER reduces the complexity of multiband processing by optimizing it for the specific task of reducing harshness. It's great on vocals, guitars, drums, cymbals, and any other sound source that needs taming in the upper midrange. Amp sims can also benefit from SMOOTHER; automation can bring SMOOTHER in or out as needed.

DEPTH is a type of stereo widener that uses small amounts of delay, phase processing, and cross-panning to create a wider and "bigger" stereo image. Turn the dial clockwise to widen the image. This module is great for widening stereo drum loops or a stereo guitar bus, as well as pulling a lead vocal back from the forefront of a mix; the widening effect is best heard on stereo tracks or buses, but the Depth's impact can still be effective on mono elements in a mix.

PULSE is a tremolo effect that modulates level, and was inspired by vintage tube amps that had simple tremolo controls. The sound is smooth and lush at lower settings, while rotating the dial clockwise increases the tremolo's speed (rate). However, this also adds some saturation to the output; fully counter-clockwise bypasses PULSE. This effect sounds fantastic on keyboards, synths, and electric guitars, and handles automation extremely well.

Interview with Lance Riley: The Style Dial Backstory

By Craig Anderton

Product Manager Lance Riley's interest in effects started at a young age with guitar pedals, and continued when he landed at Berklee College of Music to pursue a degree in Music Production & Engineering. As a Product Manager at Cakewalk, he's no longer constrained to using effects that others have designed, because now he gets to design his own—and have them become part of SONAR. Lance took time out of working on the latest update to talk with us about what's going on behind that dial.

CA: Cakewalk has produced several sophisticated plug-ins such as the VX-64 Vocal Strip, Linear Phase mastering processors, PX-64 Percussion strip, ProChannel modules, and so on. It seems like an effect with one dial would be a step backward. What's the point of a processor with one knob?

LR: The primary focus of most SONAR users is music creation—and the faster you can work, the better. We thought many customers would like instant access to the types of FX they use in a project, but in a quick and easy format. Ideally, Style Dials would be so useful you'd be able to do a satisfying mix with only them. The first three Style Dials—GRIT, MAX, and SPACE—were just the start of this concept. When they were well-received we started to work on the next batch, which led to the five new Style Dials. These focus more on processing drums, guitars, and vocals.

CA: Why wouldn't someone use just one knob from an existing processor?

LR: You "see" only one knob, but it controls multiple parameters and there's a lot going on under the hood. As you of all people know, each knob on an FX Chain panel can control four separate parameters; Style Dials take the concept further. We try to make it so every position along the knob is a "sweet spot," and all you need to do is find the one that works for you.

CA: Do you have any particular precedents in mind for Style Dials, or do you start each one from scratch?

LR: That depends. Some are inspired by features of existing gear, some solve particular problems. For example with GATER, I loved

how simple and musical the gates were on the high-end British consoles from the past, and wanted to give the same kind of effect with a digital gate. The key here is that GATER ignores very low and high end material, making the detection not have to work so hard to get the drums to sing through. There were also early hardware rack effects that used digital technology to produce stereo effects, and that's what DEPTH is about. It was a challenge to reduce that kind of complexity to a single knob, but I think it worked out well. PULSE is about the simple kind of tremolo used on vintage tube amps. Who doesn't like tube amps?

CA: Well, that's a whole other topic! How about the problems other Style Dials are intended to solve?

LR: I've run into lots of situations where a vocal is harsh, too sibilant, yet kind of dull all at the same time. Ideally it would be great to re-track but sometimes you need to live with the final vocal take. Multiband compression can work for this, but you have to spend lots of time dialing in the optimum settings. SMOOTHER is a dynamic multiband compressor optimized for these cases, without the complications. And SHAPER does transient shaping but again, without complications. Turn the dial one way…more attack. Turn it the other way, more sustain. That's 90% of what you use transient shaping for anyway.

CA: It seems like Style Dials are designed mostly for set-and-forget applications—twist knob, find sweet spot, done.

LR: Actually, no. I mean, you *can* use them that way and they do work well, but we paid a lot of attention to automation response. It's lots of fun to use automation with GATER on drum loops to decrease the intensity in a song's break to make the drum hits small and thin, then automate turning off the Style Dial on the drop so the drums hit really hard. And you might need SMOOTHER on vocals only in selected parts, so you automate it to appear and disappear as needed…or automate SHAPER to change drum dynamics as appropriate. With PULSE, you can think of automation as adding expression pedal capabilities.

CA: How about a set-and-forget application?

LR: One of my favorites is to clone a vocal track, apply a decent amount of GRIT, SMOOTHER, DEPTH, and SPACE, then mix the highly processed signal in subtly with the original vocal. It can add a sort of third dimension to a vocal without sounding unnatural.

CA: What Style Dials are planned for the future?

LR: We're considering several ideas, but don't have anything firmed up yet. In any event we'll continue to pursue Style Dials as long as they fill what we see as real needs.

Fixes and Workflow Enhancements
Artist, Professional, Platinum

Fixed issues where:

- Audio / MIDI engine could crash when undoing an import of multichannel wave files
- Control Surface / ACT settings did not persist when the available MIDI ports changed
- Matrix View recording would fail when the Matrix was set to Follow Transport
- Wheel information Event List display was not left-justified
- PRV MIDI CC info could disappear under certain circumstances
- Drag Drop/Drag Copy of MIDI CC event Smart Tool keyboard shortcuts were not consistent with Move Tool shortcuts
- Enabling a musical snap value via keybinding would not engage Snap if it was off
- MBT Pool Lines would not immediately follow snap resolution changes
- Punch-in range didn't always honor Snap resolution
- CTRL+dragging notes in the Staff View could cause a crash
- Pinning projects with certain characters in the Start Screen would cause a blank screen
- Notifications from the Start Screen didn't always open in the default web browser
- Split at Sample might not split the very first time

Technique: Seven Steps to Punchy Percussion with the PX-64

By Craig Anderton

The PX-64 percussion strip, a suite of processors designed for processing drums and percussion, is one of SONAR's classic plug-ins but remains one of its most useful. Although you can create similar functionality on an *à la carte* basis by adding plug-ins and creating a track preset that includes them, the PX-64 adds a few twists of its own and offers the convenience of bundling multiple functions into a single, unified plug-in.

Suppose you have an acoustic drum part or drum loop, and you want to make it larger-than-life. Here's how you'd go about the tweaking process with the PX-64.

STEP 1: SATURATION

There are saturation options (the brown fader controls and associated bypass switches to the extreme left and right of the GUI) for the input and output. If you want to use Saturation, it's best to add it early on in the editing process, as EQ and dynamics will probably need to be changed if you alter the amount of distortion.

The highlighted areas are the input and output saturation. The graphic of a lit triode tube above the input Saturation switch indicates that the saturation algorithm is affecting the signal.

Using saturation brings up an essential point about the PX-64: Don't hesitate to divide up a drum part into different sends or outputs, and have a PX-64 for each one—or even use a PX-64 on each drum output. For example, the saturation can sound great with toms or kick, but not hi-hat. So, you might want a PX-64 instance on kick, another on the tom submix, one only for hats and cymbals, etc. The PX-64 is efficient enough that you should be able to do this without problems. Think of it as you would a vocal strip: Just as each voice goes through its own strip, so can each drum "voice."

STEP 2: EQ

I've always had the best luck with processing when nailing the tone first—after that, everything falls into place much more easily.

One common tweak for drums is to add a bit of high-end boost for "air." When used in moderation, this can bring out transients that make a part seem more close and present. The EQ's High band is ideal for this, but make sure its mode switch is set for Shelf (lower position), and not Lowpass (upper position). Set the frequency to around 10 kHz, and the Level control around 2-4 dB.

Another common EQ tweak is to add a slight upper midrange boost to bring out the attack sound of the stick (or beater) hitting the drum. Here, the High-Mid band comes into play. Boosting by a couple dB around 3.5-5 kHz will give the drums a more percussive vibe.

One PX-64 limitation is you don't have a bandpass option for anything below 200 Hz. So, if you want to boost or cut the kick, your only option is a shelving response. I'll typically add a dB or so if the kick needs a bit more body.

To accentuate these kinds of changes in the high and low ends even further, you can cut response a bit around 250 – 400 Hz. This keeps the kick and high end intact, while taking out a bit of the midrange build-up that can happen in a room when recording acoustic drums.

The EQ set as described; note how the graph toward the right shows the equalizer's frequency response.

The Vintage/Classic switch for the two midrange controls adds a different sort of character. I find Vintage a little more aggressive, and Classic a bit more neutral—but it's a subtle difference.

STEP 3: SHAPE TRANSIENTS

Once we have EQ squared away, check out the transient Shaper module. This is a prime example of "just because you have it doesn't mean you have to use it," because the Shaper can

produce effects anywhere along the scale of "gimmicky" to "magical." I find it most useful for making poorly recorded drums sound better, but it can also add increased definition to well-recorded drums, and special effects to whatever you want to throw at it.

The key is to start by adjusting the Attack, as this determines whether the drums are going to sound "tight" (fast) or "mushy" (slow). While it may seem counter-intuitive to want mushy drums, this can actually work well with room mic tracks, which will almost certainly have reduced transients anyway compared to close mics. And while ultra-fast attacks can sound annoying with a full drum set, they can help bassier percussion instruments (e.g., talking drum) punch through a mix better, even at low levels.

Two additional controls, Weight and Decay, alter the original transient shape in more radical ways. When you want a big, fat sound, increasing Weight is the equivalent of increasing the Hold time on a synthesizer envelope—the initial attack and subsequent decay stay louder, longer.

Decay brings up the drum transient's tail, but how this affects the drum sound depends mostly on how it was recorded. If there's a lot of room sound, bringing up the tail is like turning up the room mics to get more room sound. On the other hand with dry drums, it just emphasizes the decay a little bit more.

The Attack has been made a bit faster, but also, the Color controls are very much involved in this sound: The attack Color control is thickening the sound of the transient (indicated by the red line being above the transient), while the decay Color is thinning out the transient's decay

The Weight and Decay both have Color controls, which provide tonal contours to the initial attack and the decay. This is different compared to EQ, which changes tonality over the sound as a whole.

STEP 4: DYNAMICS

The PX-64 has both a Compressor and Expander. The Compressor is mercifully simple: There are controls for Threshold, Ratio, and bypass…period. This is a good time to remember my comments about using multiple PX-64s for different submixes, as any compression you might want on the kick would likely be different from the compression needed on, say, the toms.

Don't overlook that you can turn the Compressor into a limiter by setting the Ratio control to "Inf to 1." In this case, I strongly suggest keeping the threshold high, so the limiter catches only the highest peaks. Percussiveness lost at this stage will almost certainly not be regained; besides, during mastering, it's very probable compression will be used, and that will keep peaks under control anyway.

The Expander is a good option for reducing room sound and leakage between drums, as well as giving a more percussive quality to instruments that were recorded in fairly reverberant spaces. There's the same complement of controls as for the Compressor, but instead of compressing above a threshold, this expands *below* a threshold. The Ratio control might as well have been called a "naturalness" control, because higher ratios give a more gated effect (in fact, one way to get gated tom effects is simply to set a high ratio).

STEP 5: GOT DELAY?

The Delay effect is just that—an effect. It's not something you'd use to add subtle timing differences, like moving the snare ahead or behind the beat just a tad, nor a way to add early reflection-type effect. However, it does have an extra compared to the norm: A filter, with a variable cutoff frequency and a response that can morph smoothly from lowpass to bandpass to highpass, alters the delay's sound. You can even approximate some 20th-century tape delay sounds by emphasizing the midrange with the bandpass response.

STEP 6: PUT MATTERS IN ORDER

The lower right shows the routing for the five modules; just drag-and-drop to change their order. My "standard" order is Shaper, Compressor, EQ, Expander, and Delay. However, here are some other useful combinations.

Delay/Shaper: If you're using a lot of feedback, this lets the Shaper alter the transients of individual echoes. Although having Shaper before Delay gives a similar effect because you're delaying the shaped sound, if the delayed signal itself incorporates filtering, that can negate some of the Shaper's effect. If the Shaper is *after* the delay, it processes the transients regardless of how they've been filtered.

EQ/Compressor: If you're using EQ to cut response in order to solve a problem (e.g., resonance, poor recording technique, overbearing cymbals), putting a compressor after it will bring up the level of the section you cut, thus reducing the effectiveness of the cut. On the other hand if you've used EQ to boost a range of frequencies, compressing after EQ may be needed to prevent overloads on resonant peaks. Experiment—that's the advantage of having an interface where you can move sections around.

STEP 7: RE-TWEAK!

Before signing off, save—then re-visit your previous settings. You may want to touch up the EQ a bit to compensate for some unforeseen results of combining, say, compression with decay, or beef up the overall sound just a tad using the Shaper's weight control. Once you have all that squared away…done!

Anatomy of a Project: The *Neo-* Album

By Craig Anderton

I recently finished a new album called *Neo-* that was done almost entirely within SONAR's "ecosystem," including plug-ins and FX Chains. I thought you might find it interesting to see the settings used to obtain specific sounds as well as hear them, so I've posted unlisted YouTube links to previews of Side 1 and Side 2 of *Neo-* so you can hear what's being described in this article. Hopefully, some of these techniques will help you obtain some of the sounds you want to use in your own projects.

"New Day"

What's interesting about this song was how it was written. I created a "Chord Library" for SONAR that's like the audio equivalent of a "fake book" for guitar players—with chords for major, minor, 5, 6, 7, 90, 13, augmented, diminished, maj7, maj9, min9, and sus4, all recorded with a Gold Top Les Paul. These have their own Content Location in the browser, and I drag chords into the timeline to try out chord progressions. With the Browser's "Preview at Host Tempo" and "Loop Preview" turned off, it's easy to click on chords until you find the "right" next chord for a chord progression. Usually I delete these after the song has taken shape and play the part, but I left the chord library chords in because they did the job. Aside from the J-45 acoustic guitar track that appears toward the end, all the guitars are from the chord library.

Speaking of the J-45, it runs direct into the Acoustic Piezo amp. The screen shot shows the settings. The object was a bright, present sound that could ride "above" the distorted Chord Library guitar sounds.

"I Want My Heaven Now"

This is loaded with CA-X amps. The main rhythm guitar part is the High Gain amp, followed by my ADT Stereo FX Chain which is also used all over the vocals. The lead guitar is the Blues Lead, and the "nasty" slide guitar is Vintage Crunch. The solo guitar at the end is the Hard Rock amp, and the bass (from the Dimension Pro EB5 Expansion Pack) uses the Bass Growl bass amp. Any echo comes from the Anderton Collection Vintage Echo FX chain, and is augmented by another of my "one knob"-type effects, Vox Verb II.

"Catch Me, I'm Dreaming"

Most of the drum parts on *Neo-* were from the Discrete Drums Series 2 library by Chris McHugh, which has neutral, brilliantly played beats. This drum ProChannel (with minor EQ variations) is used for most of the acoustic drum parts on the album.

The "special sauce" is the Tube module at the very beginning, which chops transients down to size but adds no *audible* distortion. The Concrete Limiter is more about bringing up the ambience, tom rings, and lower-level sounds than taming peaks, while the EQ brings the kick up, and cuts out some of the lower midrange to give a crisp, defined sound. As to the reversed drum sounds, that's just reversing the drum part, rendering it with reverb, then reversing the reverb and lining it up with the drums.

The 12-string that powers a lot of the song isn't a 12-string, it's one of the patches from the Les Paul Standard Expansion Pack. An SFZ file defines keyranges to create the 12-string sound, then I cut a lot of the lows to give that famous 60s 12-string sound. The backwards 12-strings were created similarly.
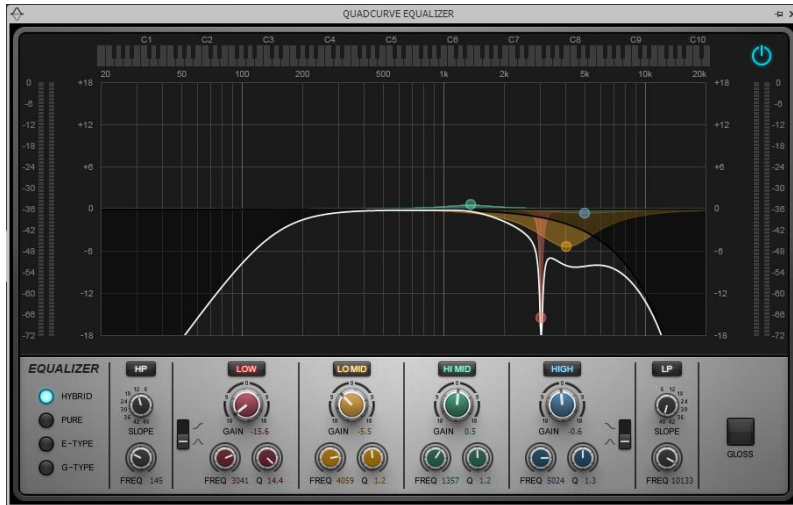
"When the Grid Goes Down"

This was the second song I recorded for *Neo-*, so it went through a lot of changes as SONAR and the album evolved. The most notable SONAR element is salvaging a weak kick with the Drum Replacer, which did a *great* job. The pounding, cinematic drums are from Damage, an instrument for Native Instruments' Kontakt. You'll hear it on quite a few songs.

This song was cut before I had the CA-X amps, and taming another amp sim required pretty radical amounts of EQ (see above). The QuadCurve EQ's Hybrid option, which allows for steep notches, was perfect. The notch reduced "fizz," while the highpass tightened up the low end for an open-back cabinet sound, and the lowpass took off some otherwise shrieking highs in conjunction with a cut around 4 kHz.

The harmonica is a real harmonica, while the "ear candy" is all arpeggiated guitar sounds from my "AdrenaLinn Guitars" loop library (out of print).

"Daughter"

Aside from an acoustic drum loop on the choruses, this uses only synthesized instruments. The DX7 throwback is from the TTS-1, while the lead "feedback" synth is from the "Electronic Guitars" Expansion Pack for Rapture. The organ sound is also Rapture, from my "Minimoog Tribute" Expansion Pack (out of print). Like "New Day" this also used the Chord Library for writing the chorus and as with "New Day," I left the chords in for the final mix.

Aside from the drum loops, I played the drums with Session Drummer 3, using sounds from the Platinum Samples Legends library (I love the toms). The tambourine is from the "EDM Percussion" Loop Library and as with almost all the cuts, the bass is the "Gibson EB 5-String Bass" expansion pack for Dimension Pro but in this case, is doubled in spots with Arturia's MiniMoog V.

Because the electric piano is delicate, I wanted the bass to have power for contrast, and the screen shot shows the ProChannel strip used for bass. The Concrete Limiter

smoothed out the dynamics, while the EQ gave a *major* treble boost (although this uses the ±6 dB scale, so it's not as much as it seems) before the Tube distortion, which provides just the right amount of grit and growl. The final touch was the A-Type Console Emulator, which was maxed out to bring the "virtual audio transformer" into play that can sound so good with bass.

"Maladie Du Coeur"

In this song, aside from the rhythm guitar part at the beginning, none of the other guitars (2014 Les Paul Standard and a 2014 Melody Melody Maker) have *any* EQ at all, just a little delay—sometimes no processing is the best processing. On the other hand, the "Gibson EB 5-String Bass" Expansion Pack bass EQ curve (left) is another example of boosting the highs to cut through a track, with a midrange reduction to make the lows and highs even more apparent. Again, the Concrete Limiter provides dynamics control for the bass—I like it better than compression because the sound seems more natural. The Discrete Drums libraries didn't have Caribbean beats, so I made some by loading individual drum samples from the Discrete Drums library (for consistency) into Session Drummer 3, and playing manually.

"Have Just a Little Faith"

This was the first song recorded after finishing the CA-X series amps, so I went a little over the top using them. The screen shot shows the settings used for the main guitar parts (all 2014 Les Paul Standard). The top is the main rhythm guitar, the second the slide guitar that kicks in afterward, and the third is the lead guitar solo that appears toward the end. The lead guitar also had some significant ProChannel EQ, which you can see on the left.
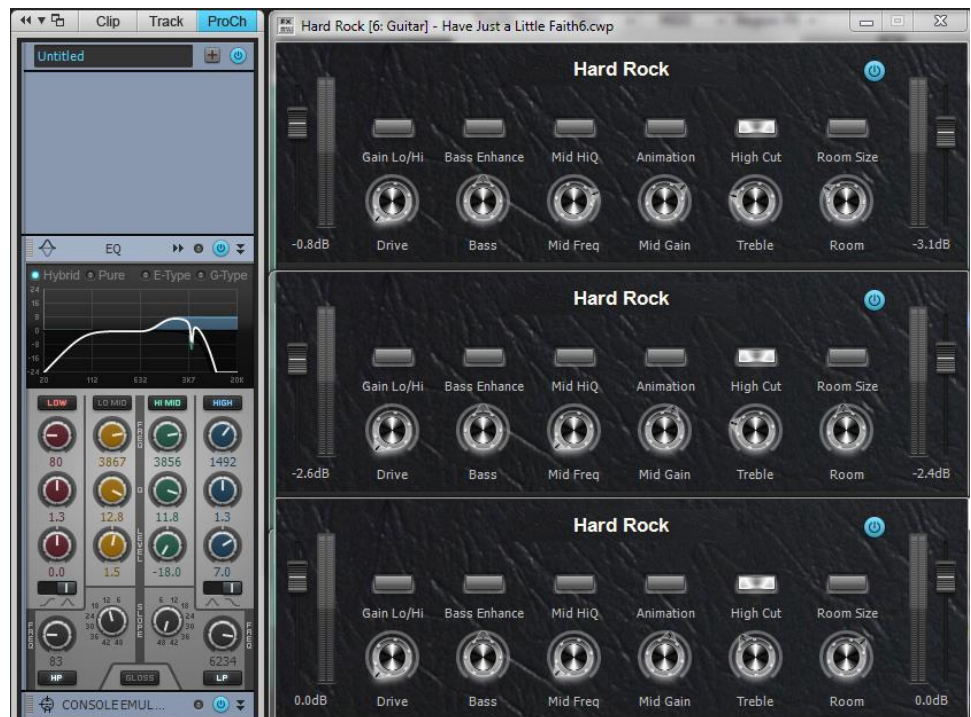
Incidentally, that funky piano is True Pianos, which runs through the ProChannel Tube module; the little step-sequenced electronic ear candy sounds are Rapture using one of the "Rhythmic" patches from my "Electronic Guitars" expansion pack; and the tambourine is from the "EDM Percussion" Loop Library. The massed vocals were all about Take Lanes—I recorded vocals into ten Take Lanes, using the techniques described in my *Sound on Sound* column about using Take Lanes as layers, then bounced them into one big vocal chorus. Not quite Queen, but...
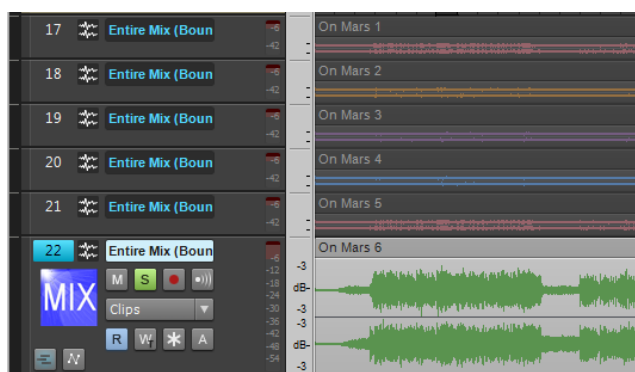
"On Mars"

I've mentioned keeping my two-track final mixes within a project, and the screen shot here shows that I bounced to five tracks before I finally got it right on the sixth mix. When you do this, Exclusive Solo is very useful because you can click on each mix to compare and contrast. Aside from that, it's the usual combination of CA-X amps and EB 5 bass, along with drum loops from my "Turbulent Filth Monsters" loop library.

"Little Pieces"

The Vocal Chain to the right is common to most of the songs. The Concrete Limiter brings down the peaks, which means the CA-2A compressor doesn't have to work as hard. There's quite a bit of compression on there. Also, this was cut using an SM58 (Neat Microphones' King Bee mic, which I'm using now for vocals, wasn't available at the time) and this explains the significant treble boost, coupled with a bass cut to reduce the proximity effect. The reverb was Softube's TSAR-1R, which alternates with the BREVERB for vocal chores on the album. On "thicker" vocals, I use the TSAR-1R and on "thinner" vocals, the BREVERB.

"Only Ever After You"

This was very interesting from a procedural standpoint, as it was a cover of a song by British songwriter Mark Longworth. The original (with a decidedly "punk" feel) was provided on an MP3. When covering his songs, I like to transfer them into a MIDI-based arrangement so I can experiment with tempo and key while creating the arrangement, so I dragged the MP3 into a SONAR track, then turned on the metronome and adjusted SONAR's tempo by ear to match the MP3 as closely as possible. Once

the tempo was close, I went to the end and did the final tempo tweaks so the measure markers in the last part of the song lined up with the waveform peaks. That distributed any drift evenly throughout the length of the song.

As the cover version's genesis was MIDI-based, the next step was loading the TTS-1 as a "scratchpad." Many of Mark's songs have clever chord progressions, so to create a reference track I played chords along with the song on a MIDI keyboard, using a sustained sound that lasted the duration of the section with that chord. Basically, it's playing a pad (tonic, third, and fifth) that defines chord changes. This track fed the A|A|S Strum Acoustic Session plug-in not because I wanted strums, but because Strum Session reads out the chord progression as the song plays. Given that I often try out numerous keys, I can just follow along with the chord readout after transposing instead of figuring it out on the fly while I find the right key for my vocals. In the screen shot the top track is the original mixed version of Mark's song, below that is the MIDI reference track, and at the bottom, the Strum Acoustic Session track that drives the plug-in to display the chord changes.

For some reason, I ended up slowing down the tempo and doing it as a ballad—very different from the original. Although I expected Mark never to talk to me again after hearing my version, he actually liked it very much...an excellent song is an excellent song, no matter how you arrange it.

"I Say Yes"

This uses the same processing and instruments as in most of the songs—EB 5 bass, CA-X amps, etc. But what was interesting is I started off with using strings from Kontakt 5, but for kicks I tried the SI-Strings. Oddly, once I EQ'ed them as shown in the screen shot on page 23, they fell perfectly into the track. This isn't a knock on the Kontakt strings; I use them a lot. But you never know when something unexpected is going to do the job.

Also note the VX-64 settings. For vocals I usually use the Concrete Limiter/CA-2A combo for dynamics and the QuadCurve for EQ so I don't need similar VX-64 elements, but the Doubler is something special, and the ability to filter the echo effect with a specific response curve and

cutoff is something no other delay does. Almost all the songs with echo on the vocals used either the Vintage Echo FX chain or the VX-64.

Finally, note the Percussion Humanizer. This is another Anderton Collection FX Chain that I use a lot on percussion so it doesn't sound "sampled" and repetitive. If you haven't checked it out, give it a try.

"Black Market Daydreams"

This is another song by Mark Longworth, and was the first song I recorded for the album. You may also recognize it as the song that was used for the "Mixing with the ProChannel" tutorial. Note the pulsing guitar part in the beginning: it's the result of a compressor processing the guitar, with its sidechain fed by the drum track.

As a result of the song's age, at this point it was considered finished, and all the tracks had been rendered as WAV files—so there's nothing to show other than audio. I do this not just for archiving purposes, but to avoid the temptation to go back and re-tweak...I generally prefer to look ahead and move forward.

Review: Virtu Stealth Music Engineer's Chair

By Craig Anderton

Sitting in front of a computer monitor or mixing console for hours on end may get the job done, but it does no favors for your back. Years ago I bought a Herman Miller Aeron chair, and while it was better than the average office chair, a couple years into it the foam back support broke, as did the right armrest mounting (although this ended up being an advantage, because it was easier to play guitar while sitting down). I'm not a particularly heavy guy, and given the price, I felt there was no excuse for having these kinds of problems in what I considered a relatively short period of time.

Then at the WFX convention in Nashville, I saw a chair that was supposedly designed specifically for musicians and engineers. Say what? Our butts are all pretty much the same, right? But I sat down and found it very comfortable. Intrigued but skeptical, I talked to the designer, Steve Knight, about what justified the claim that it's for musicians and engineers—and in the process, it became clear he put a lot of thought into not just what would make a comfortable chair, but one that would address the particular needs of the studio or touring professional yet still have a relatively conventional look.

Knight was a professional race car driver who had his share of broken bones and other physical issues, so his primary motivation for getting involved in chair design was so that he could take care of himself with something not only comfortable, but that offered true back support and took pressure of the lower back's vertebrae. The Virtu Stealth isn't the only chair his company makes, but here's why the claims of it being something for us musicians more than hold up.

Although it's less expensive than a Herman Miller chair (and cost is always important to musicians!), the Virtu Stealth is a better chair. I'll let you know in a couple years if it holds up, but it's built solidly—instead of the Aeron's foam back support, there's a metal mesh. And speaking of back support, it's for real. This is the only chair I've ever used where my back felt better *after* sitting in it than before. The backrest matches the curve in your back and is spring-loaded, so as you lean forward or backward, the backrest follows and continues to provide support. The only caution I'd give is to spend some time getting the backrest height adjustment just right for your back to provide the most lumbar support.

The arm rests are removable (you don't have to break one to accommodate your guitar) and you can vary their width, so no matter how you position your arms when mixing or typing, there's support. Of course the chair's height is variable, but the entire seat pan can tilt backward and be locked into place. Even more interestingly, you can also slope it downward/forward somewhat to place your thighs in a position that relieves back pressure. The convex mesh seating surface distributes pressure evenly where you're sitting; I noticed that not only did my back feel better, but the circulation to my legs was improved as well.

Furthermore, if you tilt the seat a bit forward and raise the height, you can sort of sit/stand and if you're a singer, your diaphragm isn't scrunched up. The chair also has a smaller horizontal "footprint" than a Herman Miller, so you can put two chairs side-by-side when you need two sets of hands on a mixing console. Although there's no extended height to support your neck, I didn't really think about it because I found the back support was so solid that my spine just did what it wanted to do, and my neck ended up in alignment anyway.

There are three main models, with prices ranging from $549 to $650, although it's well worth visiting the Stealth chair site to see if any sales are happening (currently the Studio Model is available for $375). You also need to choose the right height for your needs; the Studio Model goes from 19.5" to 25", while the Touring model does 22.5" – 30". Super-heavy-duty casters are optional at extra cost, but they also raise the height somewhat so take that into account. Unless you plan to roll your chair over concrete, I doubt you'd need the special casters.

Although I was very impressed when I first started using the chair, I waited about a month before writing this review because I wanted to live with it for a while. If anything, my opinion now is more positive than it was initially because the Virtu Stealth has really proven itself. The attention to detail is considerable, so it takes a while to pick up on all the details. For example, the chair is non-reflective so it doesn't reflect lights if you're mixing in a front of house situation.

I'll admit it may seem odd to get this excited about a chair, but when you spend as much time sitting as I do, it's not just a chair—it's an investment in physical well-being. To take a cue from MasterCard…big screen computer monitor: about $800. SSD terabyte drive: $400. Not having a sore back after grueling sessions: Priceless.

BlogBeat

The Cakewalk blog is loaded with useful and interesting information, so don't miss out! Here are some of the blog's "greatest hits."

[15-Compressor Shootout: Lead Vocals](). We all know every compressor plug-in has its own unique sound, but these distinctions are often subtle. This blog post from **Joey Adams** does a side-by-side comparison of 15 different compressor plug-ins available from Cakewalk, and also includes audio examples, a downloadable spec sheet, and more.

[Addictive Drums 2 Sounds Like a Real Drummer, But How?]() It's no secret that AD2 has some very impressive samples, but quality of sounds aren't everything in emulating a drummer behind a kit. **Dan Gonzalez** walks you through exactly what gives AD2 its realistic human-like qualities, and how to take advantage of its programming options.
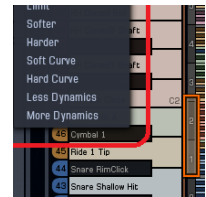
[Parallel Compression - Now Easier than Ever](). Using SONAR's recently-implemented Patch Points and Aux Tracks, **Joey Adams** walks you through the most efficient method of doing parallel compression in SONAR, demonstrating a way to add body and sustain to drum sounds while still preserving the performance's dynamics.
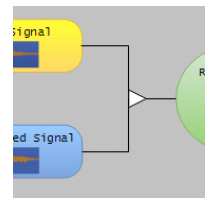
[Month-End Artist Recap: Nov 2015—World Tours, Wahlburgers, and More](). The Cakewalk Artist lineup is up to some very exciting business. In this Month-End Artist Recap, Cakewalk's **Jimmy Landry** talks about what artists on the Cakewalk roster like LA producer Yogi Lonich, Norman Matthew of Murder FM, producer/DJ R1CKONE, and others are up to these days.
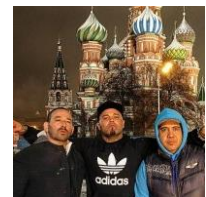
[Five Questions about Audio Specs.]() So what exactly is total harmonic distortion, anyway? And why should you care? **Craig Anderton** explains the basics of audio specs—what they mean, how they're measured, why they're important, the way they relate to audio interfaces, and even how they can be manipulated to mislead rather than enlighten.
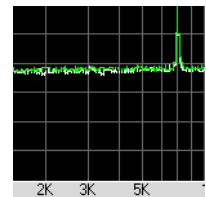
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