

80s EPs manual 1.00
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Thank you for your interest in the 80s EPs.

Contact me for:

- * the latest free update
- * upgrades to the Pro versions
- * discount offers on other instruments
- * the newsletter
- * any questions regarding the instruments

The 80s EPs are virtual versions of 4 iconic 80s EP sounds from the Yamaha DX7 Mark II, each counting 1144 24bit/48kHz samples for the Pro versions. Requires the full version of Kontakt 3.5 or higher. They will work for 30 minutes in the free Kontakt Player every time but you won't be able to deep edit them.

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-- Lite versus pro versions.

The lite versions contain 12% of the samples: 4 velocity layers and 4 keys per octave. All 140 samples are full length & unlooped. To experience the full expressiveness of these instruments, upgrade to the pro versions. For producing a simple track where you just need the sound in the background the lite versions will suffice, for realistic sound, playing and solo's, get the pro version.

-- Tweaking the instruments:

Click the wrench, top left. Don't forget to resave adding "edit" to the name so you can roll back to the original if needed,

Samplestart: I kept the full attack in the samples. If the response feels indirect to you, click the samplestart button. It will change the playback starting point in each sample up to 3 milliseconds. You can set the second slider you see (constant) to your liking to tweak the samplestart point, the Kontakt script will remember your preference.

Release: mechanical instruments give sounds when you release the keys. The DX7 offers the option to emulate that behaviour so I sampled it as well. Does not work with the Detune button.

Keyfollow: DX tones are mono. In Kontakt you can spread low to high keys left to right. I used it modestly because extreme panning is terrible on headphones. You can tweak the effect with the "key position" slider under "amplifier". The script will remember your preference.

Vibrato: Vibrato is increasing and decreasing pitch. Increasing and decreasing volume (or repeating attacks) is Tremolo. Vibrato is set minimally (0.2% Sine, Frequency 0.75Hz) and linked to single key strokes like the original Fulltines tone. You can change Vibrato to your liking by

going to the top Multi-LFO module on the bottom. (LFO = Low Frequency Oscillator)

Tremolo: vintage Electric Piano effect. You can change Tremolo to your liking by going to the third Multi-LFO module on the bottom.

AutoPan: vintage Electric Piano effect. It's like Tremolo but moves the sound left and right instead of increasing and decreasing the volume so it doesn't work well with Keyfollow and Detune. You can tweak the effect by going to the fourth Multi-LFO module.

Detune: the iconic DX piano sounds for eighties ballads have the same tone panned hard left, hard right and in the center. The ones hard left and hard right are tuned up and down. This is different from what any effect processor can do because the left and right sounds are generated separately. It is not the same sound tuned up or down, it uses the minimal randomization of the DX engine creating the natural chorus of two instruments playing together. The 80s EP Kontakt script adds this minimal randomization in pitch and velocity but that's not enough for this effect. If you click the Detune button, your key borrows samples from the keys left and right, minimizing the phase canceling you get with traditional chorus effects. This of course works best in the Pro version because the lite version triggers the same sample three times if you press a C, D#, F# or A. Click the Low Pass Filter button to remove unwanted low frequencies.

Horror: a script that randomly tunes each key stroke up or down up to a quartertone. Combined with Detune you'll get three microtonal pitches that are always around the key you press but never quite there, and different every time.

High-Pass: cuts off unwanted low frequencies. You can tweak the effect by double clicking the first icon in the Group Insert FX row.

Equalizer: turns on an equalizer. You can tweak it by double clicking the second icon.

Low-pass: turns on different Low-pass modules. You can tweak them by double clicking the third to fifth icons, ignore the ones that are bypassed.

Band-pass: turns on a filter that only allows through one frequency band. Double click the sixth icon.

Phase Shifter: best when it moves, so it turns on the Oscillate Filters button. And off.

Oscillate Filters: links the second multi-LFO to the cutoff of the Low-pass, Band-pass filters and the Phase Shifter.

Filter Envelope: links the first AHDSR Envelope (on the bottom) to the cutoffs of the Low-pass and Band-pass filters. Works well with the Samplestart button.

Vel->Vol. Sets the relation between the speed of the key stroke (velocity) and the sample playback volume. For the Bright the original setting is 50% but lower settings are wonderful. For the Classic the original setting is 37%, for the FM 41% and for the Warm 32%.

Lo-fi: reduces the digital quality of the sample playback. With 24bit/48kHz samples there's a lot of reducing to be done.

Compressor: makes softer sounds a bit louder, resulting in a more compact sound. Go to InsertEffects, first icon, for tweaking.

Saturation: adds a little analog warmth.

Distortion: adds Tube overdrive. Best with Rotator or Cabinet.

Rotator: emulates a Leslie speaker that rotates sound. The sustain pedal slowly increases the speed to the rotation, if you want to remove that, right click on the "Speed" knob under the fourth icon under InsertEffects and select "remove MIDI automation".

Phase Insert: adds a Phaser to the FX chain.

Chorus Insert: adds a Chorus to the FX chain.

Cabinet: enables a speaker at the end of the FX chain.

Reverb: enables a digital Reverb module. Reverb uses less processing power than Convolution. For tweaking, go to SendEffects and double click the first icon.

Convolution: enables a Convolution module. On default you'll find an impulse response sample from the first Lexicon 960L Stage and Hall algorithm.

Delay: enables the Delay module.

Phaser Send: enables a Phaser module for parallel instead of chain processing.

Chorus Send: enables a Chorus module for parallel instead of chain processing.

Flanger: enables a parallel Flanger module.

Sample & Hold: turns the Phase Shifter and the Delay on and links the Phase Shifter and Pan to the fifth multi-LFO.

Crumble: enables Lo-fi and Delay and links the Lo-fi Sample rate and Bit rate to the second AHDSR envelope, slowly crunching down the playback quality of each triggered sample.

Fade: fades the samples in and out. Really nice with Detune and low Vel->Vol settings, more experimental with Detune and Rotator or Horror.

-- About the Kontakt 3, 4 & 5 versions

Not everyone wants to pay upgrade prices every time a software manufacturer releases a new version, that's why I added a Kontakt 3.5 patch. Kontakt 3.5 is the last version that works on PowerPC Apples. The only difference between the 3.5 and the 4 patch is that the non-automatable buttons are replaced by automatable switches. Kontakt 5.21 is a big difference though, I replaced everything that can be replaced with its new FX. Kontakt 5 users might want to try the Kontakt 4 patch as well, I like the old FX modules as much as the new ones. Kontakt 5.21 is the last Kontakt version that's supported under Windows XP and OSX Snow Leopard.

-- About the DX engine

The first Yamaha synthesizer with a DX engine was launched in 1983. The DX7 had 6 operators and became known for its basses, bells and electric piano emulations. The sound is so iconic for the eighties that every wave-rom based synth since then has FM bells and piano patches.

Many incarnations of the real thing appeared, some in simpler versions with 4 operators, others in more complex instruments like the DX1, in 2014 still going for second hand prices of \$10,000. The 12bit DX7/TX816 was replaced

by the 16bit DX7II/TX802, the DX7II was replaced by the SY77 with added sample synthesis. Later the engine appeared in the FS1R with formant filters and 8 operators, in the DX200 with filters and as a PLG-150DX card for the Motif ES and S80. Even the CP1, Yamaha's flagship stage piano from 2009, has an integrated DX engine.

The DX engine is also emulated in software: FM8, the PX7 for Reason, Hexter for Linux and MOD-7 for the Korg Oasys and Kronos.

Pro's clearly think it does not work to get "that feel" with a regular wave-rom based synth. Once you play with the real thing you understand why. The engine has slight randomization like analog synthesis and expressive colour differences between soft and loud attacks that are only matched by acoustic instruments. The difference in character between soft and loud attacks also make it possible to still have high output while playing soft and mellow. A couple of waves cannot reproduce that. The software emulators lack the bite. They are wonderful instruments on their own but the DX engine still has something extra.

-- About the four tones

There are thousands of sysex files for the DX7 on the internet. I imported thousands of them in koresound format using FM8 and audited and rated about two thousand EP presets in Kore 2, a brilliant - discontinued - preset librarian. I picked 4 different classes - bright, classic, FM and warm - and uploaded the best 8 presets per class to my TX802.

I then analyzed the presets and created my own bank of 32 EPs inspired on what I found. I sampled the best of those. The Bright is close to the famous Fulltines patch, the Classic is close to the DX1 Rhodes sound, the FM is close to the FM Rhodes sound and the Warm is like the DX7 sounds you hear on Alan Parson's Project albums.

-- About the sampling

To get closer to the real thing than anything else I sampled in 12 velocity layers chromatically, resulting in $88 \times 12 = 1056$ samples. Like with pictures - a higher resolution creates a sharper image.

To avoid multiple layers of noise (with 4 TX802 samples simultaneously you get 4 times more TX802 noise...) I let the TX802 sustain the tone for the needed duration. Kontakt fades the samples out at the right moments - and with the samples the noise. So only the attacks have the needed noise, after that it just fades out. I recorded the samples with a Mackie Onyx through the line in, straight from the phones output because the phones output had the least noise.

I cut off some low frequencies using H-EQ from Waves and removed a tad of noise with Waves NS1.

After that I added colour to the samples to get a more ready tone for live use without having to put Kontakt in a plugin chain, putting strain on the CPU and causing latency. If you are a purist and this has you worrying, skip to the alinea after the following one.

The Bright samples have been processed with BBE Sonic Maximizer, a brilliant device that reorganizes frequencies so higher frequencies are unmasked and audio becomes brighter or gets more body, depending on how you tweak it. After that it was processed by Native Instrument's Transient Master, a plugin that can boost or attenuate attacks or decays. After that a touch of Waves Manny EQ and Manny EQ Tone Shaper. That's a processing chain worth \$448 right there. The Classic has been processed with the Sonic Maximizer, the Waves Maserati GRP and Waves Kramer Master Tape. The GRP, like the Tone Shaper, adds some secret ingredients even without compressing and the KMT is tape saturation the way Eddie Kramer likes it. The FM has been processed by the Sonic Maximizer, Transient Master, Native Instruments

VC2A and KMT. The Warm has been treated with Waves H-EQ, the Sonic Maximizer and again KMT. No software DX emulator can top the result.

Of course, professionals prefer the possibility to use clean samples and add their own flavour. That's why the Pro versions have 1144 samples that have only been treated with low cut and noise reduction next to the 1004 coloured samples that are not in the lite versions.

The lite versions only have 140 coloured samples each.

-- End User License Agreement - October 2014

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