Doepfer dives deeper into industry-standard Eurorack small-format modular system with quirky quintet of polyphonic modules

GRAEFELING, GERMANY: having made musical waves during a show-stopping showcase of prototypes closer to home at SUPERBOOTH18 in Berlin, Germany, esteemed electronic musical device designer Doepfer is proud to globally announce availability of its A-111-4 Quad Poly VCO, A-105-4 Quad Poly SSI VCF, A-132-8 Octal Poly VCA, A-141-4 Quad Poly VCADSR, and A-190-5 Polyphonic USB/Midi to CV/Gate Interface — a quirky quintet of polyphonic modules that sees the trailblazing company diving deeper into the now-industry-standard Eurorack small-format modular system standard that it initiated and popularised with its ever-expanding A-100 ANALOG MODULAR SYSTEM — as of March 1...

Who better to throw light on the thinking behind this quirky quintet than company CEO Dieter Doepfer himself. "Modular synthesizers are almost exclusively monophonic structures since true polyphonic patches require a lot of modules — at least four VCOs, four VCFs, four VCAs, and eight ADSRs for a ‘classic’ four-voice patch," he begins. "But even then it’s difficult to control filter resonance or modulation depth of all the filters, for example, or the attack and decay time of all the envelope generators simultaneously. It’s possible to integrate these functions into the modular synth world with our polyphonic modules, though the idea is not just to recreate a standard polyphonic synth within the modular system but rather realise new polyphonic structures that go far beyond a standard polyphonic synth and also far beyond the typical monophonic structures of a modular system since they still offer access to all parameters via CV or gate."

Getting going, then, the A-111-4 Quad VCO module features four precision C643340-based — triangle core — VCOs (Voltage Oscillator/Controllers), each with its own separate internal +/- power supply (to ensure stability and prevent unwanted VCO synchronisation). Each VCO has the same individual controls, and inputs/outputs, as follows: 5V/10V/20V/40V/60V (in [Voltage control input]); +1 / -1 Octave switch; Tune control; + 2 semitones / - 1 octave / - 4 octaves range selectable via internal jumpers; Mod. (modulation) CV In [Control Voltage input]; Output signal even if the other VCA in the chain is open. On the other hand, as soon as a patch cable is inserted into one of the sockets; audio input as well as an audio input and output. The module itself includes the following controls and inputs/outputs: 1V/10V/20V/40V/60V (output); 5V/10V/20V/40V/60V (input); triangle waveform output; sawtooth waveform output; rectangular waveform output — about 50% without external pulse-width modulation; 5V (sync input) — C643340-type hard or soft sync selectable via internal jumper; and 10 minutes range (with appropriate external control voltage). Continuing further down its familiar (silver-grey) front panel, a Master section for all four VCOs includes the following controls and inputs/outputs: 1V/10V/20V/40V/60V (input); triangle waveform output; sawtooth waveform output — about 50% without external pulse-width modulation; 5V (sync input) — C643340-type hard or soft sync selectable via internal jumper; and 10 minutes range (with appropriate external control voltage). Complete control also allows clipping/ distortion of the waveform. Key parameters — for example, the A-111-4 Quad VCO module — at the filter inputs. This parameter is also voltage-controlled, as is the resonance (Q). Applications include polyphonic patches requiring four VCOs with the same parameters.

Perfectly named, the A-132-8 Octal Poly VCA module is an octal VCA (Voltage Controlled Amplifier), primarily primed for polyphonic applications. As such, it includes four pairs of VCAs — each pair including two daisy-chained VCAs, with one VCA having a linear control scale and the other a linear or exponential control scale, selectable via internal jumpers. Two VCAs are provided for each voice since one VCA is usually required for the loudness envelope and another for velocity (or other functions like individual voltage-controlled loudness of each voice, amplitude modulation, and so on). All VCAs are DC coupled and can be used in specialised applications and also for processing control voltages. The module features two Default Gate controls — GL and GX — that enable opening of the first four VCAs (GL) and/or second four VCAs (GX), with GL and GX generating two internal [0 - +10V] control voltages which are connected to the switching contacts of the 1L - 4L sockets (controlling GL) and 1X - 4X sockets (controlling GX). If no patch cable is inserted into the socket in question then the internal default control voltage level is +1V. If no patch cable is inserted into the socket in question then the internal default control voltage level is +1V. If no patch cable is inserted into the socket in question then the internal default control voltage level is +1V. The range of the audio input level (L) and/or audio output level (G) is 0 - +10V. The module itself includes the following controls and inputs/outputs: 5V/10V/20V/40V/60V (input); triangle waveform output; sawtooth waveform output; rectangular waveform output — about 50% without external pulse-width modulation; 5V (sync input) — C643340-type hard or soft sync selectable via internal jumper; and 10 minutes range (with appropriate external control voltage). Applications include polyphonic patches requiring four VCOs with the same parameters.

Again, as implied by name, the A-190-5 Polyphonic USB/Midi to CV/Gate Interface is a quad voltage-controlled envelope generator — again, primarily primed for polyphonic applications. As such, it features four ADSR-type voltage-controlled envelope generators with exponential curve shapes (charge/discharge curves of a capacitor), Common manual controls and CVA, CVB, CSV, and CVF inputs, with corresponding potentiometers are provided for the attack (A), decay (D), sustain (S), and release (R) parameters. All four envelope generators have a gate input (G1 - G4), a control LED, and an envelope output (Out 1 - Out 4). Applications include polyphonic patches, such as for envelope generators with the same envelope parameters as four control voltages for all four VCAs, VCFs, or other modules.

Last, but by no means least, providing four voices with a 1V/10V/20V/40V/60V (control voltage) to control voltages (CV) and a Gate output (to control envelope generators), alongside two additional (CV2 and CV3) control voltages, the appropriately-named A-190-5 Polyphonic USB/Midi to CV/Gate Interface module does what it says on the tin. These two additional control voltage outputs can be controlled by MIDI velocity/volume, modulation, pitch bend, aftertouch, or freely assignable MIDI controllers. Multiple — four-voice monophonic (to control four monophonic voices by four successive MIDI channels): four-voice polyphonic (to control four monophonic voices by one MIDI channel) with several (rotating/non-rotating) sub-modes; two-voice polyphonic (to control two monophonic voices by one MIDI channel); and unison — modes are selected by switches with the result shown in the LCD. In play mode, for example, the LEDs of the first four switches display the gate states, while certain parameters of each mode can be edited.

Ending on a high note, Dieter Doepfer deduces, "Modular synthesizers will still be predominantly used for monophonic sounds, as I’m well aware, but at least one polyphonic sound appears in many pieces of music and now it’s possible to integrate this into the modular synth world with our polyphonic modules."
Within Germany, the A-111-4 Quad VCO, A-105-4 Quad Poly SSI VCF, A-132-8 Octal Poly VCA, A-141-4 Quad Poly VCADSR, and A-190-5 Polyphonic USB/Midi to CV/Gate Interface modules can be ordered online from Doepfer directly (http://www.doepfer.de/form_e.htm) or via one of its German dealers (https://docs.doepfer.eu/en/dealer-germany/) for €400.00 EUR, €200.00 EUR, €160.00 EUR, €160.00 EUR, and €300.00 EUR, respectively.

Outside of Germany, the A-111-4 Quad VCO, A-105-4 Quad Poly SSI VCF, A-132-8 Octal Poly VCA, A-141-4 Quad Poly VCADSR, and A-190-5 Polyphonic USB/Midi to CV/Gate Interface modules can only be ordered from Doepfer dealers in the territories listed here: https://docs.doepfer.eu/en/
(Note that residents in countries without representation can, however, order from Doepfer directly.)

For more in-depth information, please visit the dedicated A-111-4 Quad VCO webpage here: http://www.doepfer.de/A1114.htm
For more in-depth information, please visit the dedicated A-105-4 Quad Poly SSI VCF webpage here: http://www.doepfer.de/a1054.htm
For more in-depth information, please visit the dedicated A-132-8 Octal Poly VCA webpage here: http://www.doepfer.de/a1328.htm
For more in-depth information, please visit the dedicated A-141-4 Quad Poly VCADSR webpage here: http://www.doepfer.de/a1414.htm
For more in-depth info, please visit the dedicated A-190-5 Polyphonic USB/Midi to CV/Gate Interface webpage here: http://www.doepfer.de/a1905.htm

About Doepfer (www.doepfer.com)

Doepfer Musikelektronik CEO Dieter Doepfer began building electronic musical devices in 1979 with a voltage-controlled phaser module for the Formant modular synthesizer, a Moog modular system-style DIY kit documented as a series of articles in Elektor magazine; moving onwards and upwards, he then began developing devices under his own name, including the classic MAQ16/3 MIDI ANALOG SEQUENCER (in close collaboration with German techno-pop pioneers Kraftwerk), and subsequently spearheaded an analogue renaissance with the MS-404 MIDI ANALOG SYNTHESIZER in 1995: “It was such a big success, it opened the door to the A-100. We designed a lot of stuff for Kraftwerk, and they wanted everything in silver. So, when we started with the modular system, since we had such a strong relationship at that time with Kraftwerk, and everything was silver, we made it silver!” Kraftwerk's Kling Klang studio that toured throughout 1998 laden with distinctive silver-grey Doepfer devices like the super-sized SCHALTWERK MIDI TRIGGER SEQUENCER and REGELWERK MIDI FADER CONTROLLER had a lot to answer for! Today, Doepfer's diverse range of products — also available in black! — encompasses USB/MIDI interfaces, master keyboards, sequencers, synthesizers, and more; musically, the Graefelfing-based German company counts such synth luminaries as Hollywood hotshot Hans Zimmer and stadium superstars Depeche Mode amongst its global user base. Better still, the A-100 ANALOG MODULAR SYSTEM remains the most compact, affordable, and flexible such system ever produced with over 125 of those still-silver-grey modules in the range… more are (always) on the cards, including more polyphonic modules. Meanwhile, the so-called Eurorack small-format modular system popularised by Doepfer has mushroomed to industry-standard status with hundreds of third-party manufacturers — both bigger and smaller — making compatible modules.