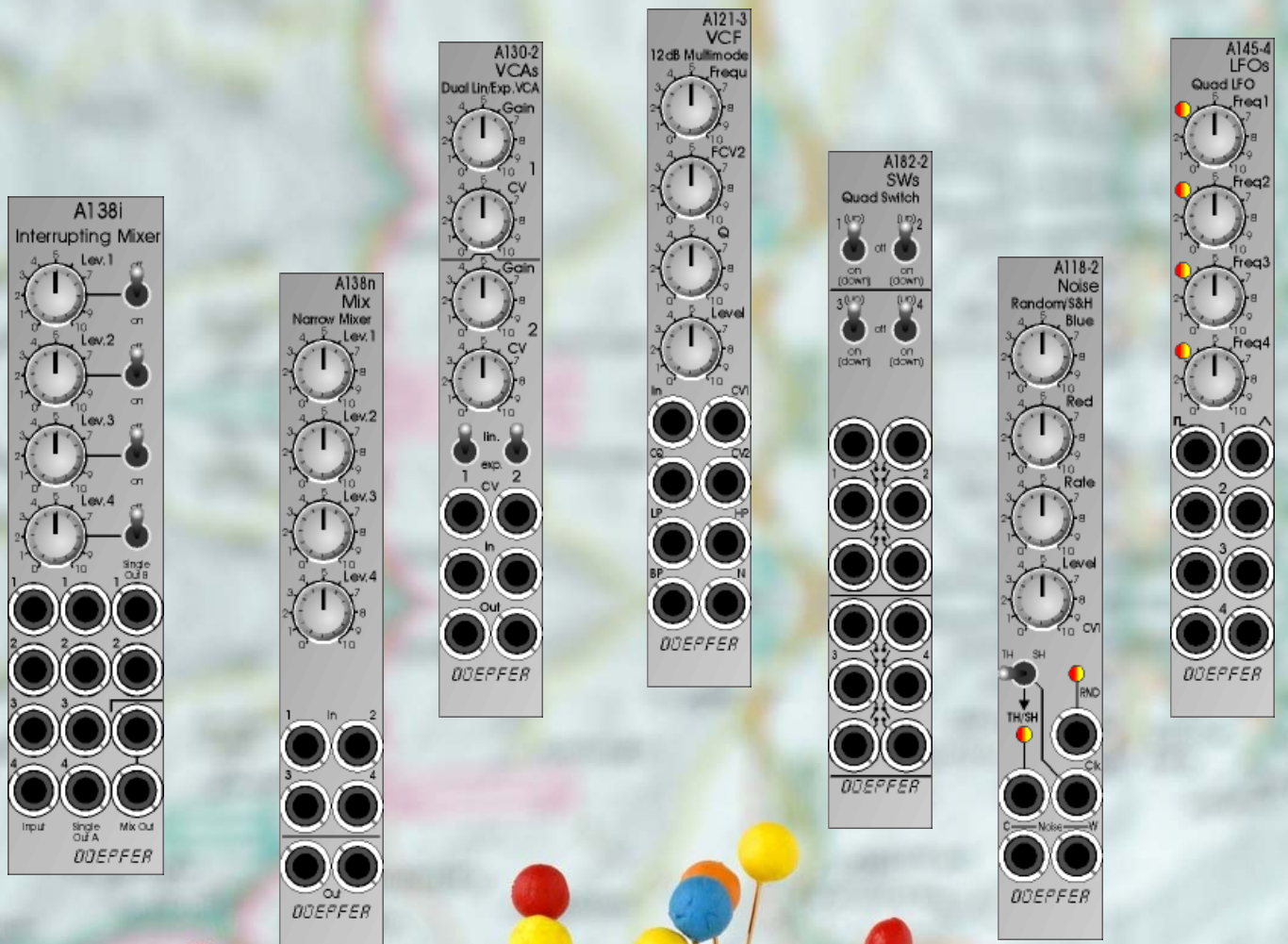


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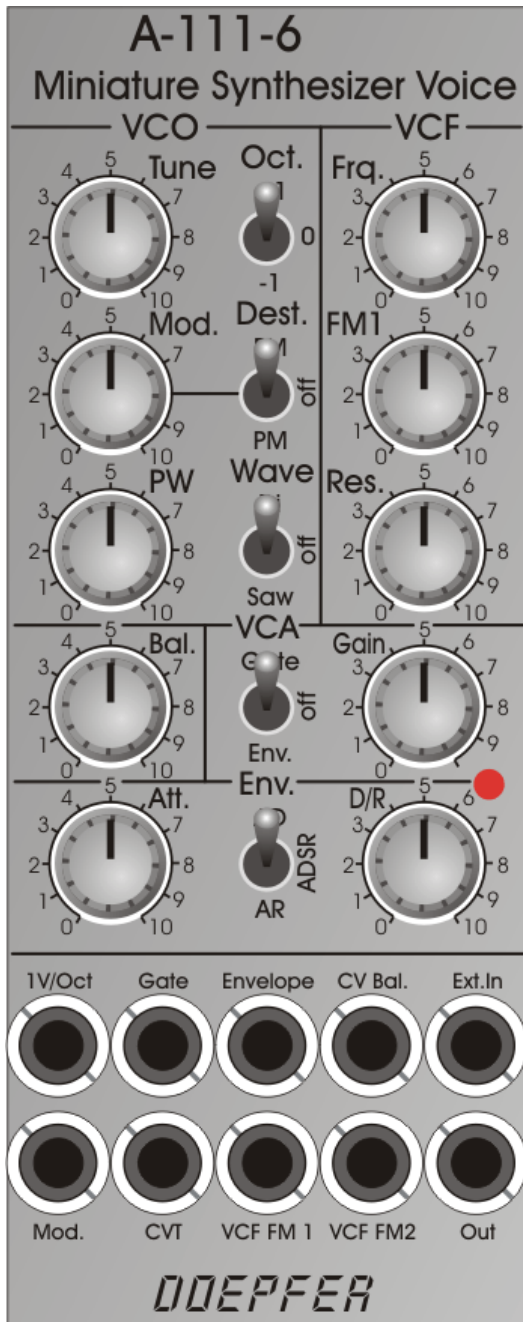
Superbooth 2019

Booth No. 0236



A-111-6 Miniature Synthesizer

Slim Line Series



Complete miniature synthesizer voice module with 10 HP width

VCO

- triangle core VCO
- manual tune control and octave switch
- modulation input for frequency (FM) or pulsewidth modulation (PM)
- manual pulsewidth control
- waveform switch (sawtooth / off / triangle)
- 1V/oct input
- Balance unit : two inverse working VCAs controlled by manual control and CV input, VCA1 is connected to the VCO output, VCA2 to the socket Ext.In. which is normalled to the internal sub-octave signal ($f/2$)

VCF

- 24 dB low pass, 10Hz ... 20kHz
- manual frequency control
- two frequency modulation inputs, FM1 (with attenuator) is normalled to the internal **Envelope** signal, FM2 without attenuator (about 1V/oct, e.g. for VCF tracking or sine wave VCO)
- manual resonance (up to self oscillation = sine wave VCO)

VCA

- initial gain (to open the VCA without envelope)
- controlled by internal envelope or gate signal

Envelope

- AR/ADSR/AD mode selectable via switch
- manual controls for Attack and Decay/Release
- Sustain is fixed to 50% in ADSR mode and $D=R$
- CV input for time control, by means of two internal jumpers one can select which time parameters are controlled by the CVT input (e.g. A only or D/R only or A/D/R) and in which direction (i.e. if an increasing CVT shortens or stretches the time parameter in question)
- Envelope LED display
- Attack time range: ~ 1ms ... 5 sec (can be extended by using the CVT input)
- Decay/Release time range: ~ 1ms ... 15 sec (can be extended by using the CVT input)

A-118-2 Noise / Random / T&H / S&H

Slim Line Series



Module A-118-2 generates the signals white noise, colored noise, continuous random voltage and stepped random voltage. The noise signal is generated 100% analog by amplification of the noise of a transistor. White and colored noise are usually used as audio sources. The random voltages are normally used as control voltages (e.g. for filter frequency or any other voltage controlled parameter).

The A-118-2 gives you the ability to mix the relative amounts of Red and Blue noise (low/high frequency component) in the colored noise output. For the continuous random voltage the rate of change (Rate) and amplitude (Level) of the random voltage can be adjusted.

The continuous random voltage is used as source for the S&H/T&H unit. The type of operation can be set to S&H (sample and hold) or T&H (track and hold). When T&H is chosen the output signal follows the input signal as long as the Clock input is "high". As soon as the clock signal changes to "low" the last voltage is stored. When S&H is chosen the input signal is sampled at the rising edge of the Clock signal.

For the Clock signal a "digital" signal (e.g. Clock, Gate, rectangle output of an LFO) is required. Dual color LEDs are used to indicate the continuous and stepped random voltages.

Controls:

- **Blue:** share of the high frequencies in the the colored noise output
- **Red:** share of the low frequencies in the the colored noise output
- **Rate:** rate of change of the continuous random voltage
- **Level:** amplitude of the continuous random voltage
- **TH/SH:** switches between T&H und S&H

Inputs and outputs:

- **RND:** continuous random voltage output (with LED display)
- **TH/SH:** stepped random voltage output (with LED display)
- **Clk:** Clock input of the S&H/T&H unit
- **C Noise:** colored noise output
- **W Noise:** white noise output

Width: 4HP

A-121-3 12dB Multimode Filter

Slim Line Series



- voltage-controlled multi-mode filter with a cut-off slope of -12 dB / octave (identical to the filter of the [Dark Energy II/III](#) but has been expanded by the voltage controlled resonance feature)
- four simultaneous outputs are available, each with different characteristics: low-pass (*LP*), high-pass (*HP*), band-pass (*BP*) and notch (*N*)
- manual control *Frequ.* for the cut-off frequency of the filter (the cut-off frequency determines the point at which the respective filter effect appears)
- two inputs for frequency control by means of external control voltages (frequency modulation, e.g. by ADSR or LFO):
- control voltage input *CV1* without attenuator, about 1V/octave sensitivity
- control voltage input *CV2* with attenuator *FCV2* for the adjustment of the modulation depth of input *CV2*
- frequency range about 10Hz ... 20kHz
- Manual control *Q* for the resonance of the filter
- control voltage input *CQ* without attenuator for voltage control of the resonance
- resonance up to self-oscillation, in which case the module will behave like a sine wave oscillator even without audio input signal
- audio input *In* with attenuator *Level* for the adjustment of the filter input level (beyond about pos. 5 clipping/distortion occurs with typical A-100 audio levels)

Module A-121-3 is functionally nearly identical to module [A-121-2](#). Only the distances between the controls and sockets are smaller and rubberized, small rotary knobs are used. Therefore the front panel width is only 4HP compared to 8HP of the A-121-2. In the first place it is planned for applications where only limited space is available. The only functional difference compared to the A-121-2 is the missing attenuator for the resonance CV input *CQ*.

Width: 4HP

A-130-2 Dual linear/exponential VCA

Slim Line Series



Module A-130-2 is composed of two identical voltage controlled amplifiers (VCA). Each VCA has a manual gain control (also named Initial Gain) and a control voltage input with attenuator. The character of the control scale can be switched to linear or exponential. All inputs and outputs are DC coupled. Consequently the VCAs can be used to process both audio and control voltages (e.g. for voltage control of the level of LFO or envelope signals). The signal input has no attenuator available but is capable to process up to 16Vpp signals (i.e. -8V...+8V) without distortion. For the processing of higher levels an external attenuator (e.g. [A-183-1](#)) is recommended.

The amplification range is 0...1. Even with a higher external control voltage the amplification remains at 1 (kind of "amplification clipping" at 1).

Controls (for each of both units):

- **Gain:** manual gain control (Initial Gain) in the range 0...1
- **CV:** attenuator for the CV input
- **lin/exp:** switches the VCA characteristic to linear or exponential, in center position the VCA is off (mute function)

Inputs and outputs (for each of both units):

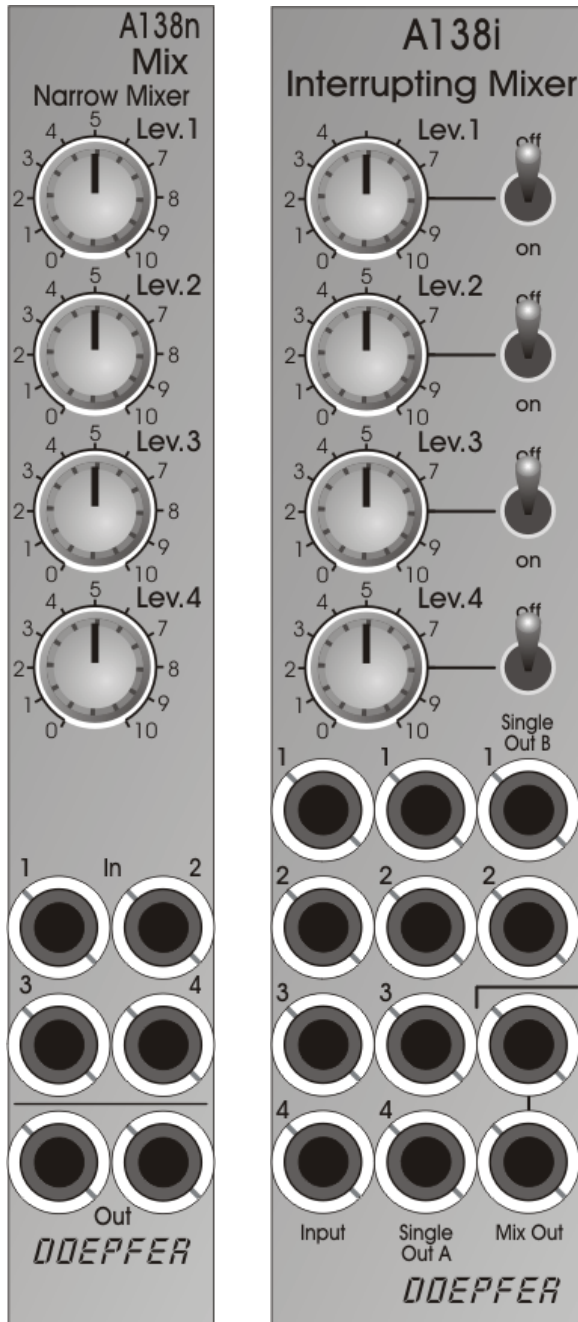
- **CV:** control voltage input, min. +5V required for max. amplification (1) with CV control fully CW and Gain fully CCW
- **In:** signal input, max. 16Vpp (+8V...-8V) without distortion
- **Out:** signal output

Width: 4HP

A-130-2 is the slim version of module [A-132-3](#) and offers essentially the same features. But the distances between the controls are smaller and rubberized small-sized knobs are used. In return the front panel has 4 HP only which is half the width of the [A-132-3](#). The module is primarily planned for applications where only limited space is available.

A-138n Narrow Mixer / A-138i Interrupting Mixer

Slim Line Series



Module A-138n is a simple four channel mixer, which can be used with either control voltages or audio signals. Each of the four inputs has an attenuator available. The output is twice available (two sockets, hard-wired like a multiple).

Width: 4HP

Module A-138i is a four channel mixer with an additional mute switch for each input. On top of that it is equipped with two types of single outputs and a dual mix output. All inputs and outputs are DC coupled. Consequently the VCAs can be used to mix both audio and control voltages.

Each input is - apart from the mute switch - equipped with the usual attenuator.

The single outputs offer the attenuated and possibly muted signal of the channel in question.

Two version of single outputs are available:

- **Single Output A:** If a plug is inserted into the single output "A" socket the channel in question is removed from the sum signal.
- **Single Output B:** If a plug is inserted into the single output "B" socket the channel in question is not removed from the sum signal. This type of single outputs is available only for the channels 1 and 2.

The output is twice available (two sockets, hard-wired like a multiple).

Width: 6HP

The distances between the controls and sockets of these modules are smaller as for the standard A-100 modules and rubberized small-sized knobs are used. The modules are primarily planned for applications where only limited space is available.

A-145-4 Quad Low Frequency Oscillator LFO

Slim Line Series



Module A-145-4 is a simple quad LFO (Low Frequency Oscillator). Not a very "exciting" module, just a bread-and-butter device and a simple demon for work. Virtually in every modular system several LFOs are required for modulation purposes. The module contains four simple LFOs with the waveforms triangle and rectangle. A dual color LED (red = positive / yellow = negative output voltage) indicates the triangle output of each LFO. The frequency range can be chosen for each LFO individually by means of a jumper between about 50 Hz ... 0,04 Hz (about 20 seconds, jumper removed) and about 2Hz ... 0,002 (about 8 minutes, jumper installed).

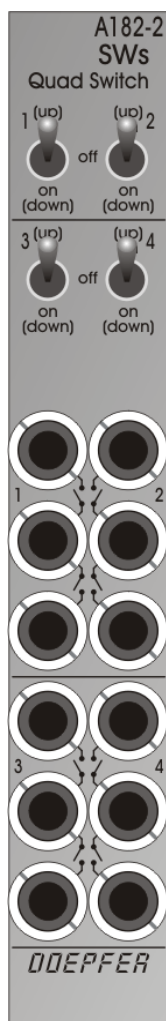
The module can be treated as a slimmed version of the quad LFO A-143-3 as it has similar features available. But the distances between the controls are smaller and rubberized small-sized knobs are used. In return the front panel has 4 HP only which is less than one third of the A-143-3. The module is primarily planned for applications where only limited space is available. The functional difference compared to the A-143-3 are the missing sawtooth outputs and frequency range switches.

If more advanced features are required (e.g. additional waveforms, complex waveforms, waveform reset, adjustable waveforms, voltage controlled frequency and level) the modules A-143-1, A-143-3, A-143-4, A-145-1, A-146 and A-147-2 are available.

Width: 4HP

A-182-2 Quad Switches

Slim Line Series



A-182-2 is a simple passive module that contains four changeover switches, which are used to connect or disconnect the sockets of the corresponding socket triplet:

- in the upper position of the switch the upper socket of the corresponding socket triplet is connected to the center socket
- in the lower position of the switch the lower socket of the corresponding socket triplet is connected to the center socket
- in the center position of the switch the sockets are not connected

Each unit of the module can be used to switch between two signals or to interrupt/connect a signal. In the last case the third socket of the triplet is not used.

The module is fully passive and both audio or control signals can be switched.

Width: 4HP

Estimated delivery dates and prices:

Product	Estimated delivery date	Estimated price [Euro]
A-111-6 Miniature Synth	Summer/fall 2019	180.00
A-118-2 Noise/Random	May/June 2019	80.00
A-121-3 Multimode VCF	May/June 2019	100.00
A-130-2 Dual lin/exp. VCA	May/June 2019	80.00
A-138i Interrupting Mixer	May/June 2019	80.00
A-138n Mixer	May/June 2019	50.00
A-145-4 Quad LFO	May/June 2019	80.00
A-182-2 Quad Switch	May/June 2019	60.00

Doepfer Musikelektronik GmbH
Geigerstr. 13
82166 Graefelfing
Germany
Phone: +49 89 89809510
Website: www.doepfer.com
Email: sales@doepfer.de