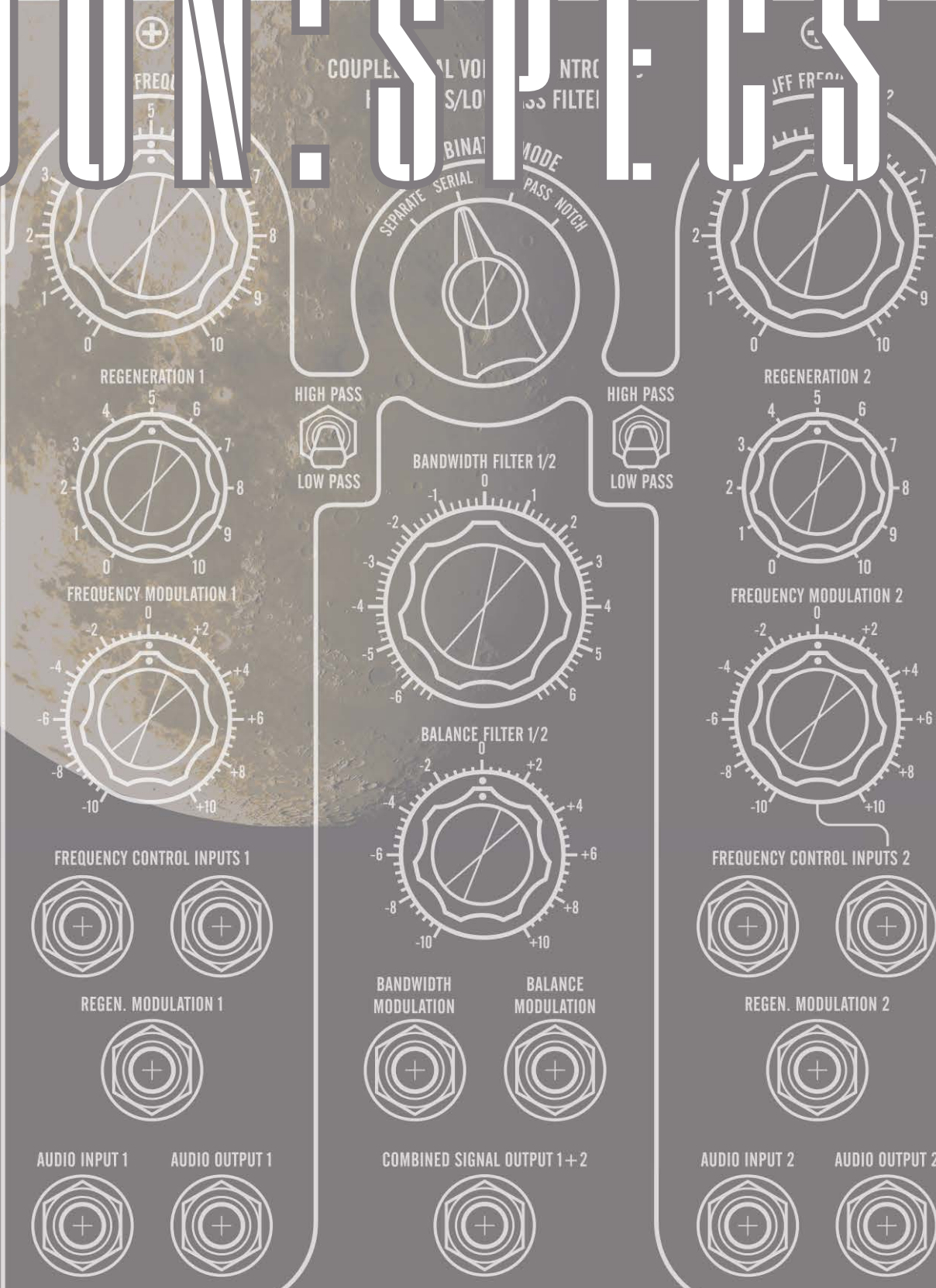
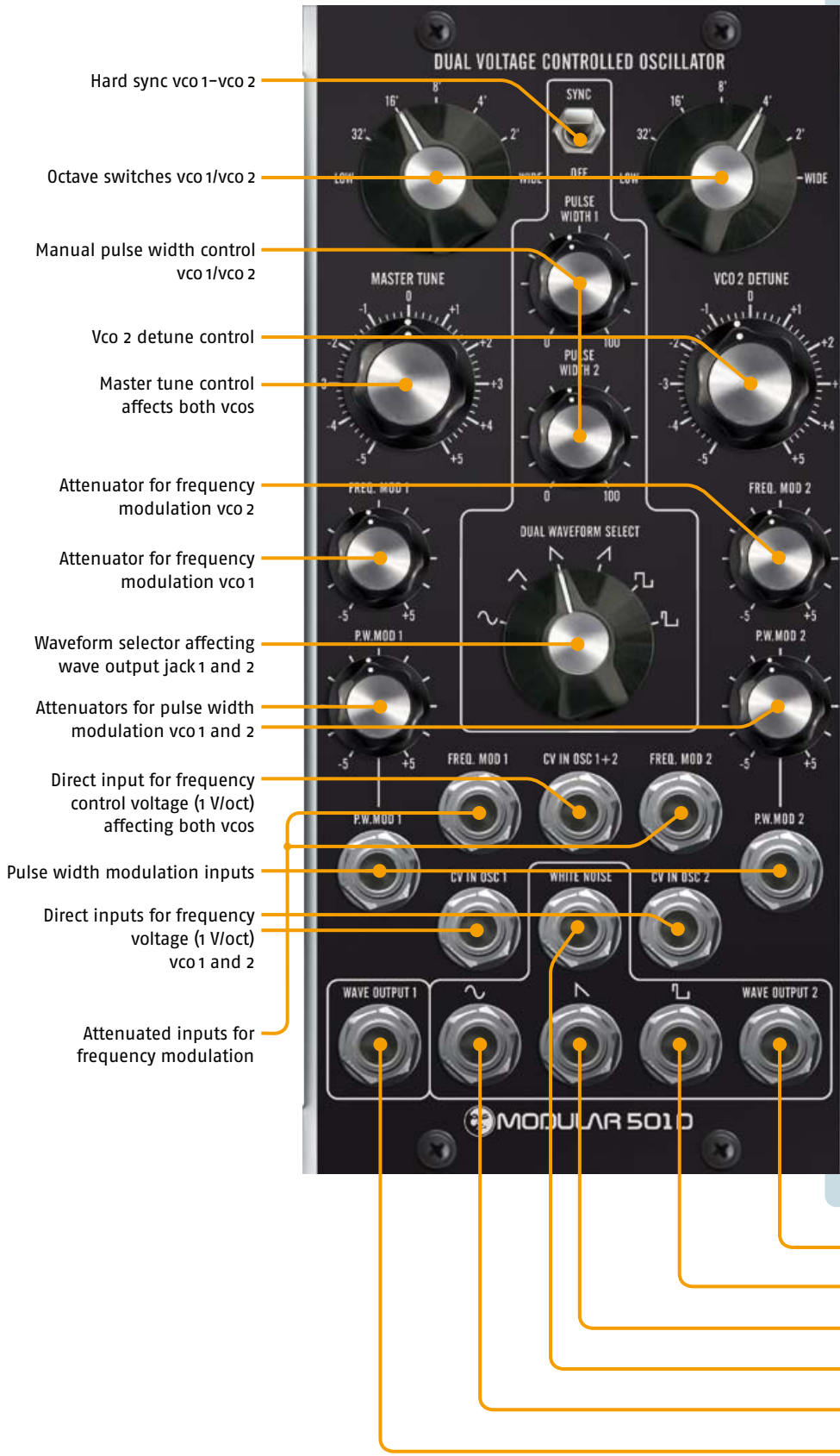


MOON-SPEERS



501D

DUAL VOLTAGE CONTROLLED OSCILLATOR



The M 501D **DUAL OSCILLATOR MODULE** combines two voltage controlled oscillator circuits in one double-width unit. The two oscillator halves enter a symbiosis in that they share some controls which affect both while other functions are individual to each oscillator.

Each oscillator has its own octave range switch (32'...2' plus low frequency and wide settings, 'wide' augmenting the range of the tune pots to the whole 10-octave span of the oscillators).

The master tune control on the left side affects (in the 32' - 2' ranges) both vcOs while the corresponding pot on the right controls the detune interval (± 1 octave) between vco1 and 2. In the "low" and "wide" both tuning controls are independent.

Bipolar attenuators for frequency and pulse width modulation with their corresponding input jacks are separate as are the two pulse width controls.

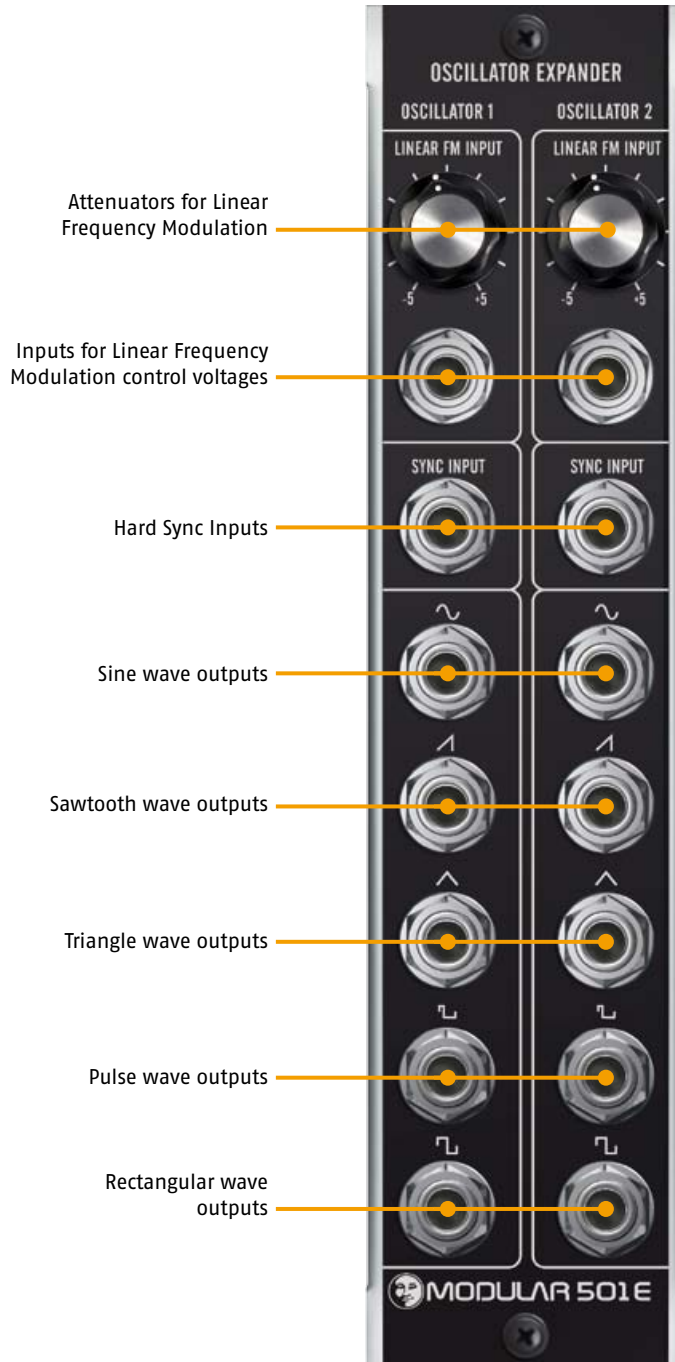
The central waveform selector controls both wave outputs 1 and 2 while three additional output jacks provide sine, sawtooth and pulse waves of oscillator 2; the output area is completed by a white noise source. More individual wave outputs can be obtained by adding the 501E expander module.

The seven control voltage inputs allow control of frequency modulation and pulse width modulation of vco 1 and 2. Two more jacks* control frequency (1V/oct) while the central cv input jack controls both oscillators at once.

*These connections are available on rear side of the module for internal cabling within the synthesizer; there are two more internal CV connectors without jacks on the front.

501E

DUAL OSCILLATOR EXPANDER



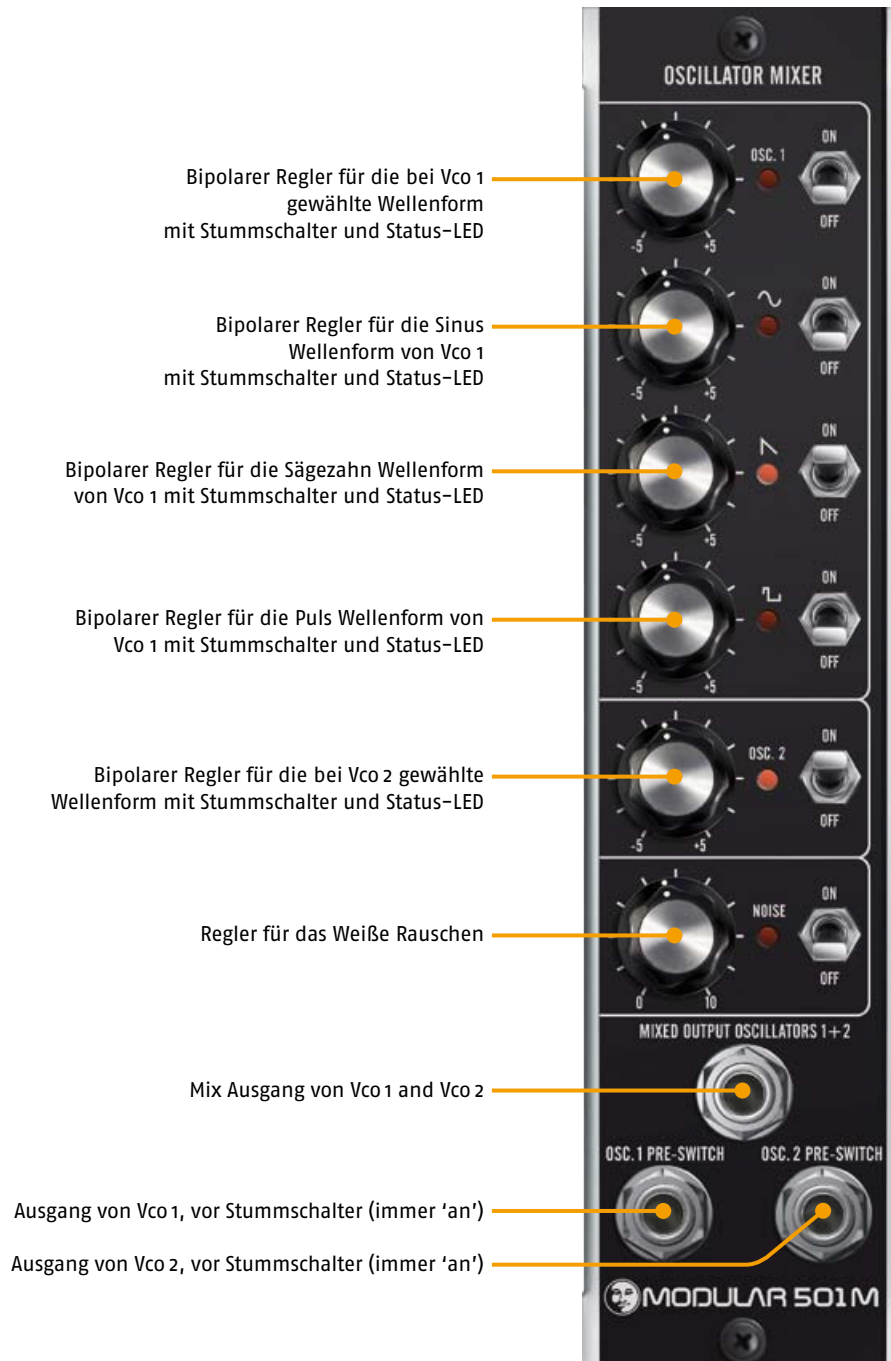
The M 501 E **OSCILLATOR EXPANDER** adds more inputs and outputs to the 501 D dual oscillator.

Ten output jacks provide the individual waveform outputs of oscillator 1 and 2: sine, sawtooth, triangle, rectangular and pulse.

The four inputs expand both vcocs by linear frequency modulation and hard sync.

501M

DUAL OSCILLATOR MIXER



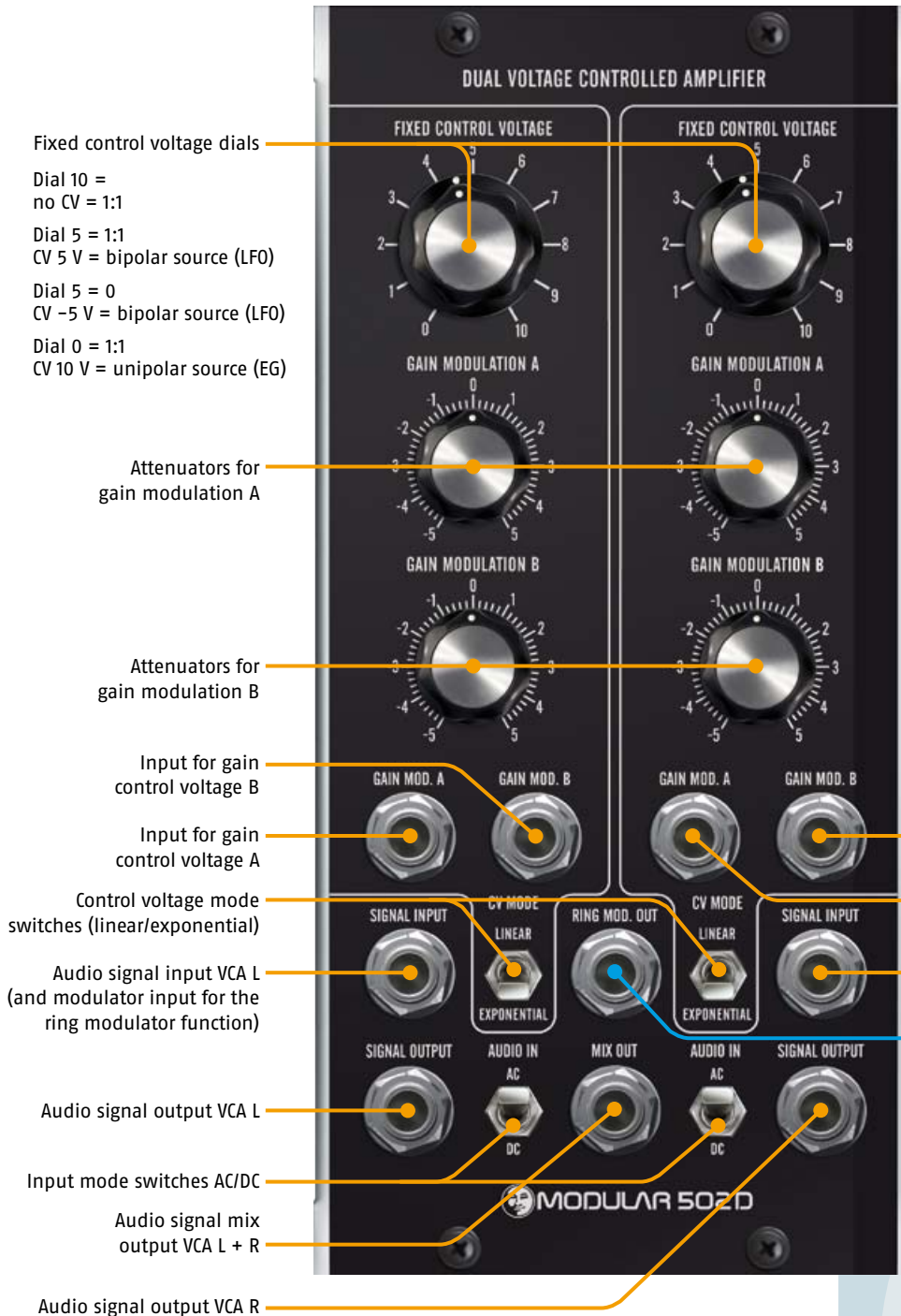
Der M 501 M **OSCILLATOR MIXER** ist ein sechskanaliges Mixermodul, das die angewählten Wave-Ausgänge von Vco 1 und 2, dazu drei individuelle Ausgänge von Vco 1 (Sinus, Sägezahn, Puls und Weißes Rauschen) zusammenmischt.

Die bipolaren Regler erlauben zudem die Invertierung der Signale. Jeder Kanal verfügt über einen Stummschalter mit Status-LED.

Die drei Ausgangsbuchsen liefern einen Mix beider Oszillatoren, dazu zwei individuelle Ausgänge für Vco 1 und 2, welche die Mute-Schalter ignorieren (immer 'an').

502D

DUAL VOLTAGE CONTROLLED AMPLIFIER AND RING MODULATOR



Fixed control voltage dials
Dial 10 =
no CV = 1:1
Dial 5 = 1:1
CV 5 V = bipolar source (LFO)
Dial 5 = 0
CV -5 V = bipolar source (LFO)
Dial 0 = 1:1
CV 10 V = unipolar source (EG)

Attenuators for
gain modulation A

Attenuators for
gain modulation B

Input for gain
control voltage B

Input for gain
control voltage A

Control voltage mode
switches (linear/exponential)

Audio signal input VCA L
(and modulator input for the
ring modulator function)

Audio signal output VCA L

Input mode switches AC/DC

Audio signal mix
output VCA L + R

Audio signal output VCA R

The **M 502 D DUAL VCA** module combines two separate voltage controlled amplifier circuits with each two modulation inputs, switchable linear/exponential mode, switchable AC/DC mode (audio signals/control voltages), single, mix and ring modulator outputs.

The module can act as two independent mono or one stereo VCA, as dual channel VC mixer, as auto-pan module, as ring modulator and voltage controlled attenuator for control voltages.

Normalized connections:

- the right VCA's gain mod. input A is normalized to gain mod. input A of the left VCA
- the right VCA's gain mod. input B is normalized to gain mod. input B of the left VCA
- the right VCA's signal input is normalized to the signal input of the left VCA

This allows controlling both VCAs by a single control voltage

Input for gain
control voltage B

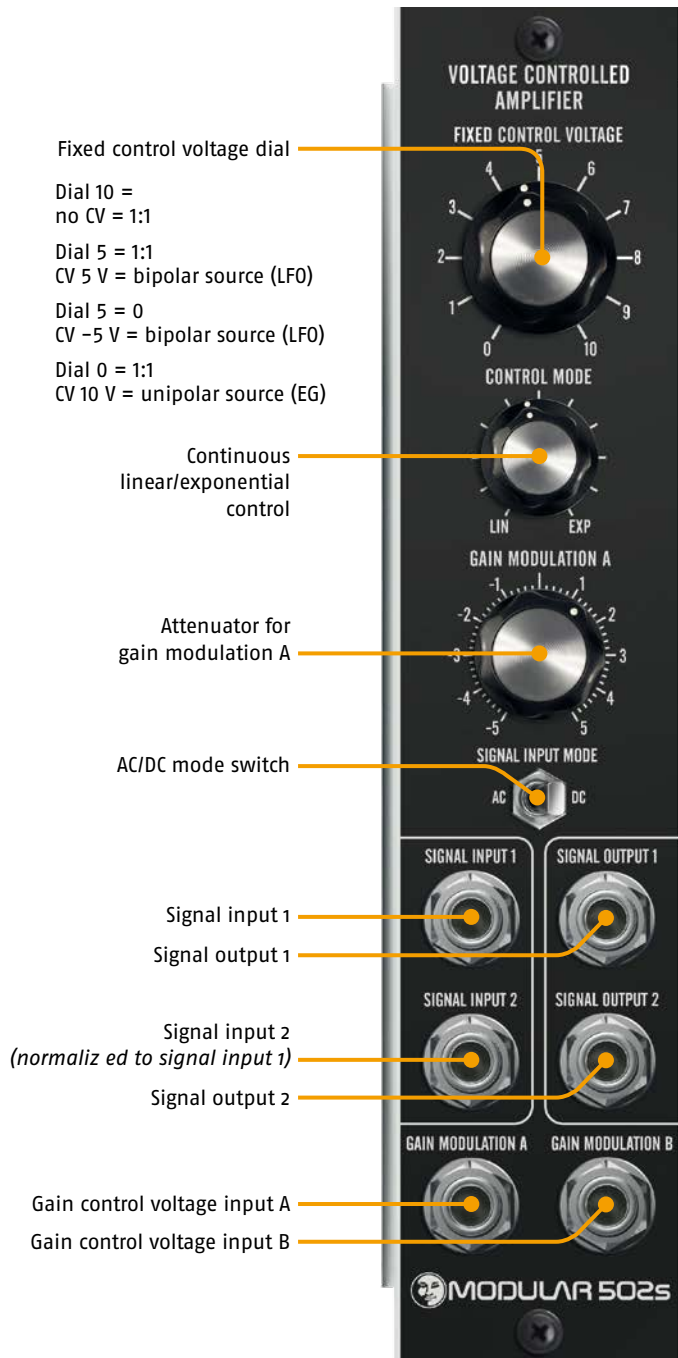
Input for gain
control voltage A

Audio signal input VCA R (and carrier
input for the ring modulator)

Ring modulator output

502s

SIMPLE DUAL VOLTAGE CONTROLLED AMPLIFIER



The **M 502 S SIMPLE DUAL VCA** module combines two separate voltage controlled amplifier circuits each with its own signal input and signal output plus modulation input.

The module has a continuous linear/exponential controller and switchable AC/DC mode (audio signals/control voltages).

The module can act as two independent mono or one stereo VCA.

Operating modes:

MODE #1 - PANNING between Output 1 and 2

Signal input 1	AUDIO
Signal input 2	not patched
Gain Mod A	CV
Gain Mod B	not patched

MODE #2 - MIXING of Input 1 and Input 2

Signal input 1	AUDIO
Signal Input 2	AUDIO
Gain Mod A	CV
Gain Mod B	not patched

MODE #3 - DUAL VCA

Signal Input 1	AUDIO 1
Signal Input 2	AUDIO 2
Gain Mod A	CV 1 (attenuation)
Gain Mod B	CV 2 (no attenuation)

Normalized connections:

- Signal input 2 is normalized to the signal input 1
- Gain Modulation B: Normalisation of reversed „GAIN MODULATION A“ post attenuator.

Technical data

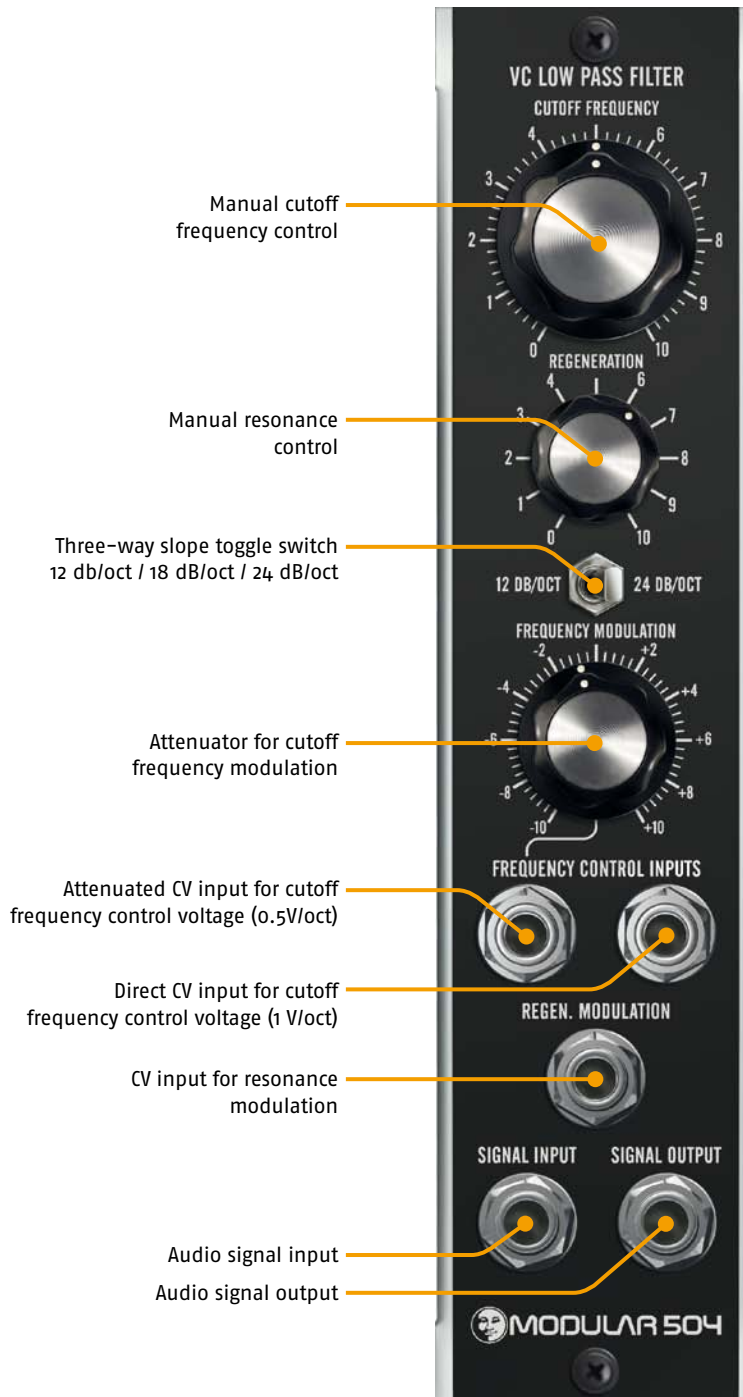
Signal level	20V ptp
CV range (full span)	-5V - +5V (for unity gain)
(Above and/or below will amplify)	

Operating voltages

+15V / 35mA
-15V / 35mA

504

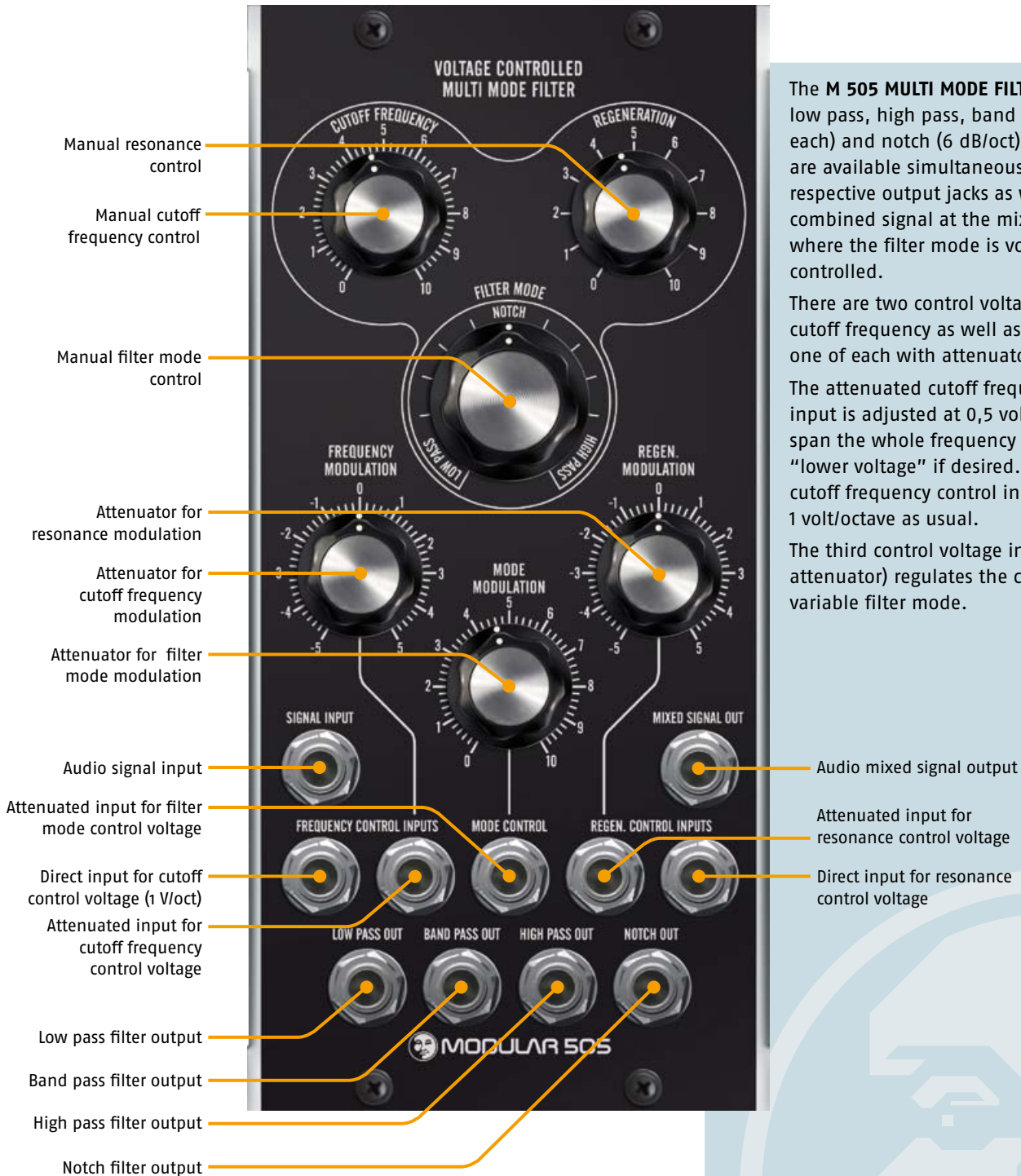
VOLTAGE CONTROLLED LOWPASS LADDER FILTER



The **M504 VOLTAGE CONTROLLED LOW PASS FILTER** is a traditional ladder-type low pass filter, switchable 12/18/24 dB/oct slope with voltage controllable cutoff frequency and regeneration.

505

VOLTAGE CONTROLLED MULTI MODE FILTER



The **M 505 MULTI MODE FILTER** features low pass, high pass, band pass (12 dB/oct each) and notch (6 dB/oct) modes, which are available simultaneously at their respective output jacks as well as a combined signal at the mixed output, where the filter mode is voltage controlled.

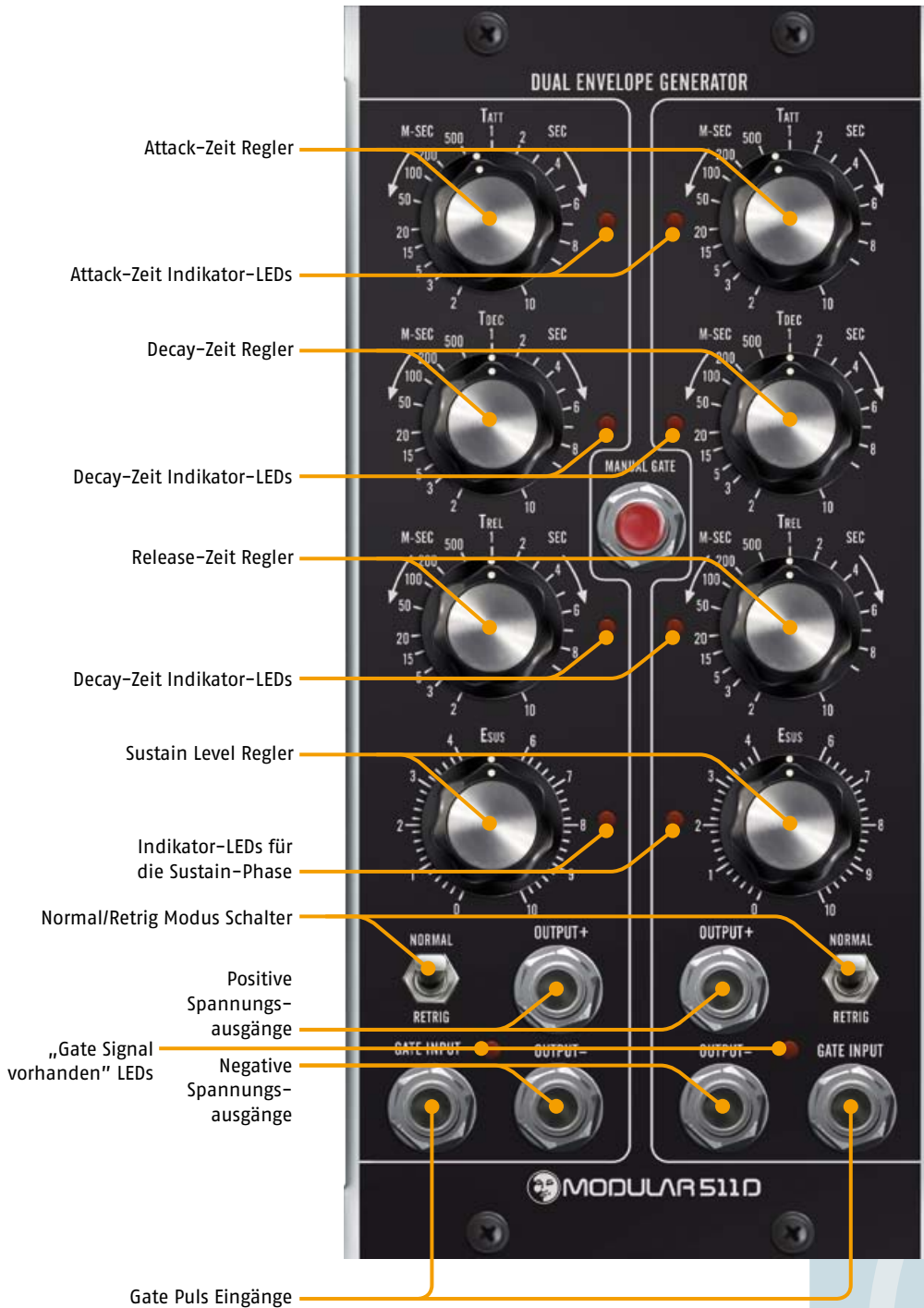
There are two control voltage inputs for cutoff frequency as well as regeneration, one of each with attenuators.

The attenuated cutoff frequency control input is adjusted at 0,5 volt/octave to span the whole frequency range using "lower voltage" if desired. The direct cutoff frequency control input runs at 1 volt/octave as usual.

The third control voltage input (with attenuator) regulates the continuously variable filter mode.

511D

DUAL ENVELOPE GENERATOR



Attack-Zeit Regler

Attack-Zeit Indikator-LEDs

Decay-Zeit Regler

Decay-Zeit Indikator-LEDs

Release-Zeit Regler

Decay-Zeit Indikator-LEDs

Sustain Level Regler

Indikator-LEDs für die Sustain-Phase

Normal/Retrig Modus Schalter

Positive Spannungsausgänge

„Gate Signal vorhanden“ LEDs

Negative Spannungsausgänge

Gate Puls Eingänge

Das 511 D **DUAL ENVELOPE GENERATOR** Modul ist ein Konturgenerator im typischen ADSR-Stil mit vier Parametern: Attack Zeit, Decay Zeit, Release Zeit und Sustain Level.

Die Zeit-Parameter haben einen Regelbereich von 1 ms bis etwa 20 Sekunden. Über den „Manual Gate“ Knopf lassen sich beide Konturen manuell auslösen. Die Trigger-Schwelle des Gateeingangs liegt bei ca. 1 Volt, positive Flanke.

Zwei LEDs dienen als Indikatoren für ein anliegendes Gate-Signal. Zwei mal vier weitere LEDs leuchten während der jeweiligen Phase der Kontur auf.

Die Kontur-Spannungsausgänge liefern 0 bis 10 Volt am positiven Ausgang und 0 bis -10 Volt am invertierten Ausgang. Beide Konturen sind umschaltbar zwischen „Normal“ und „Retrig“ Modus.

511c

VOLTAGE CONTROLLED ENVELOPE GENERATOR

Modulation Amount

VOLTAGE CONTROLLED ENVELOPE GENERATOR

CV IN ATTACK VOLTAGE CONTROL

CV IN DECAY VOLTAGE CONTROL

CV IN RELEASE VOLTAGE CONTROL

CV IN SUSTAIN LEVEL CONTROL

CV IN AMOUNT VOLTAGE CONTROL

GATE INPUT MANUAL GATE OUTPUT+ OUTPUT-

MODULAR 511c

Control voltage* for attack time

Control voltage* for decay time

Control voltage* for release time

Control voltage* for sustain level

Control voltage for amount of contour (internally connected to +10 volt if nothing is patched)

Manual gate button

Gate input (trigger threshold ca. 1 volt, positive edge)

The time control voltage inputs are "chained": i. e. a control voltage in the „attack“-input controls the inputs D, and R as well, if there is nothing else patched.

* Range 0-10 volts, higher control voltages give longer envelope times

Attack time (1 ms - approx. 20 s**)

Decay time (1 ms - approx. 20 s**)

Release time (1 ms - approx. 20 s**)

Sustain level (0 - 100 %)

Normal voltage output (0 → 10 volts)

Inverted voltage output (0 → -10 volts)

**at maximum modulation

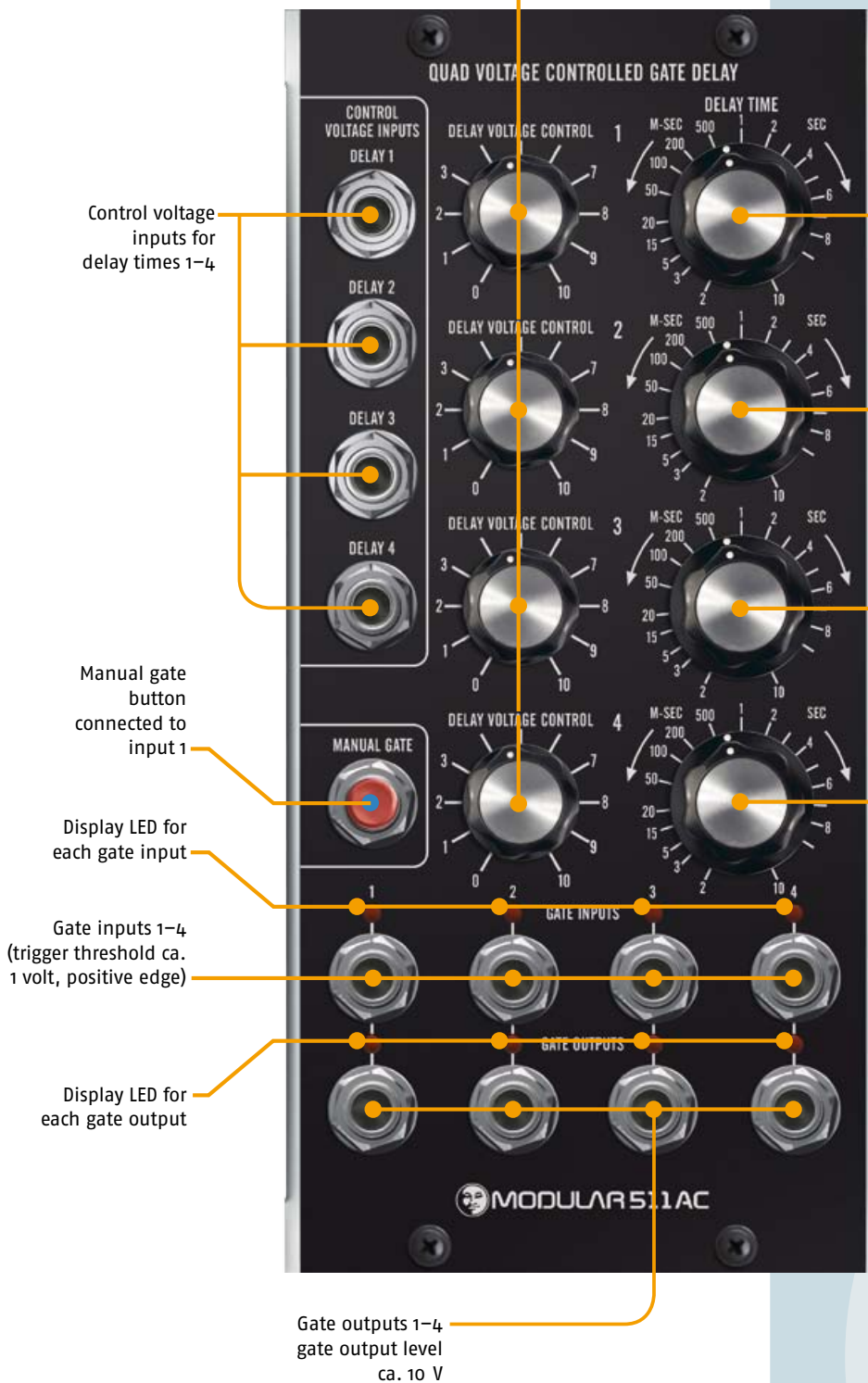
Indicator lamp for gate pulse present

Indicator lamp for envelope

511AC

QUAD VOLTAGE CONTROLLED GATE DELAY

Modulation Amount



The M 511ac **QUAD GATE DELAY** combines four voltage controlled gate delay circuits in one module, which delay the incoming gate signals in a range from ca. 1 ms up to 20 seconds. Each delay unit has its own pair of display LEDs.

The four gate in/outputs are internally connected like this: Output 1 goes into input 2, output 2 goes into input 3 and output 3 goes into input 4. This allows complex delay combinations without external patching.

The 'Manual Gate' button affects delay input 1.

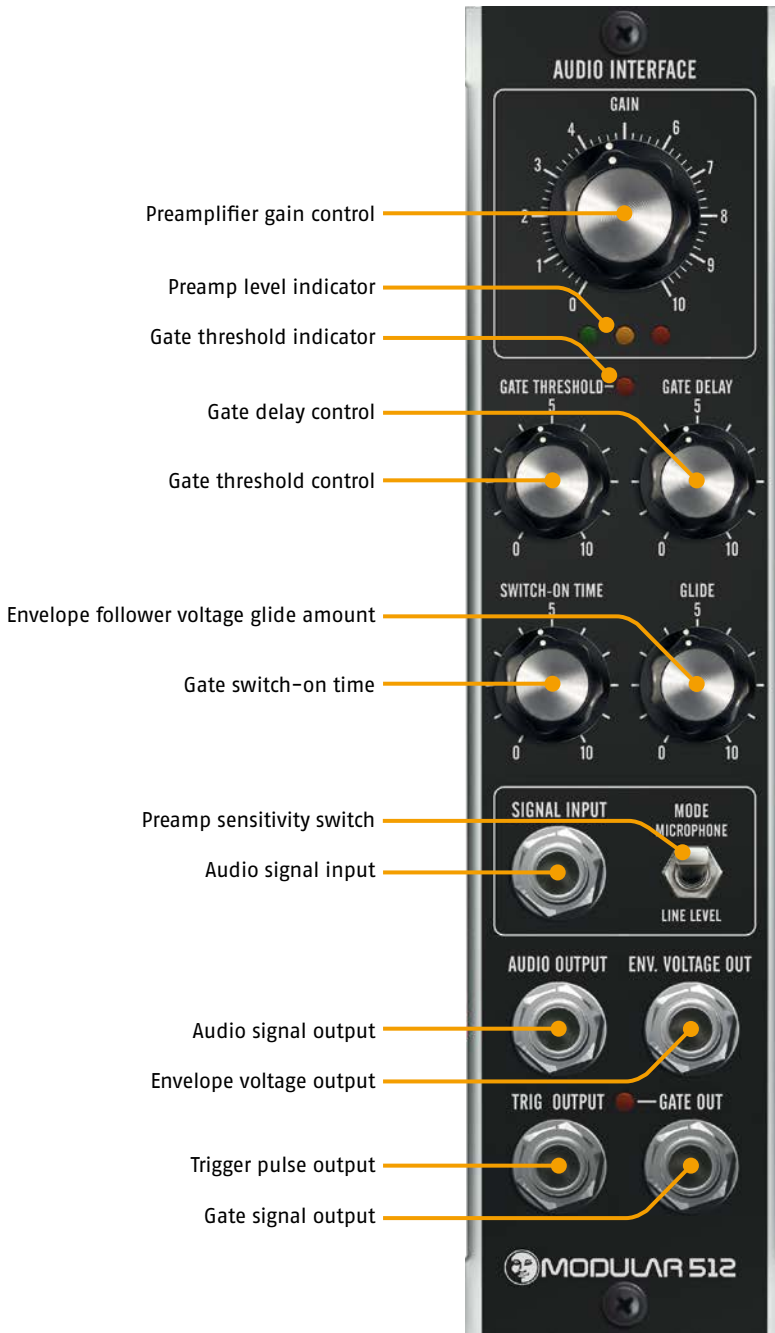
The time control voltage inputs are "chained": i. e. a control voltage in the input 1 jack controls the inputs 2/3/4 as well, if there is nothing else patched. (Input 1 is internally connected to +10 volts if nothing is patched).

Control range 0-10 volts, higher control voltages give longer delay times.

Delay time 1-4
1 ms - ca. 20 s (at maximum control voltage)

512

AUDIO INTERFACE • ENVELOPE FOLLOWER • TRIGGER EXTRACTOR



- Pre-Amplifier for instruments or microphones
- Envelope follower with glide
- Trigger/Gate Extractor with gate delay and switch-on time

Via the **512 AUDIO INTERFACE** one can integrate external Audio and different Instruments into his modular system. First it is a **preamplifier** to raise microphone or line signals to modular level to be used inside the synthesizer system.

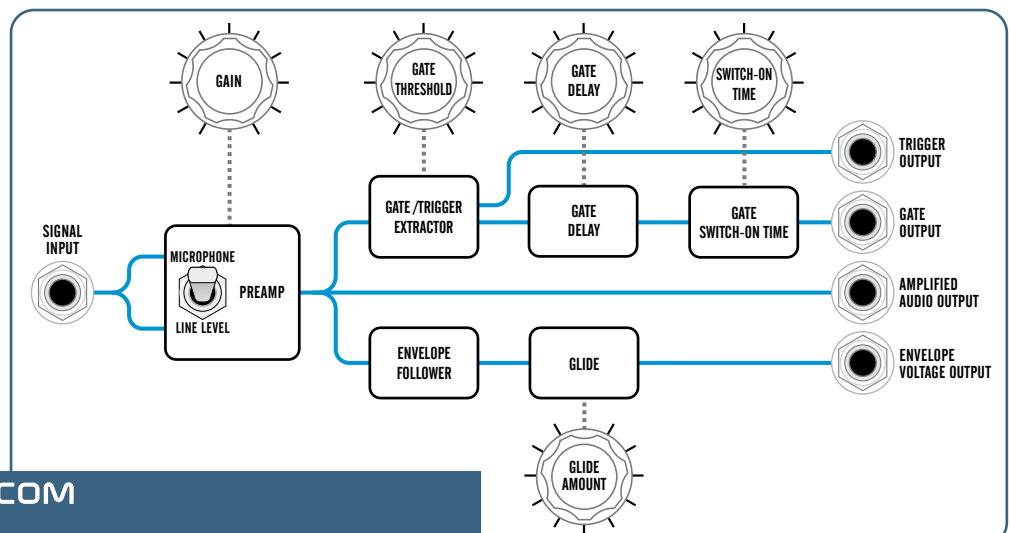
- The signal passes the gain control with 3-LED-level indicator and microphone/line level input switch.

The audio output provides the amplified input signal.

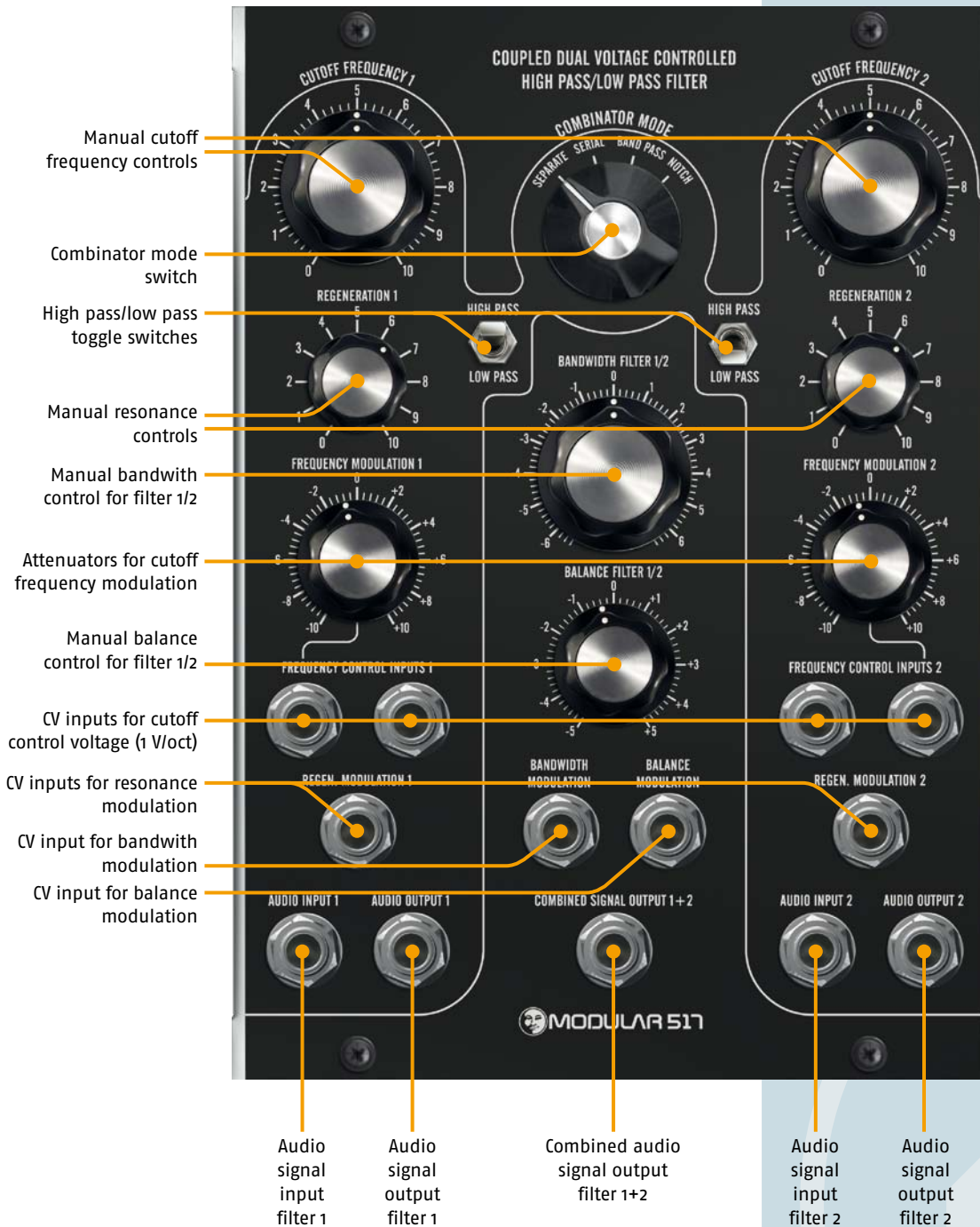
- The **gate/trigger threshold** control defines the level from which the gate/trigger pulse is released

- The **Switch-on time** defines the length of the gate pulse, the gate delay controls the delay of this pulse.

- The **glide control** "softens" the form of the generated envelope voltage.



DUAL VOLTAGE CONTROLLED HIGHPASS/LOWPASS FILTER



This module combines two **VOLTAGE CONTROLLED FILTER** circuits in one triple-width unit.

The two identical filters are switchable high pass/low pass filters with independent controls for cutoff frequency and regeneration.

The four-mode combinator allows using the filters as:

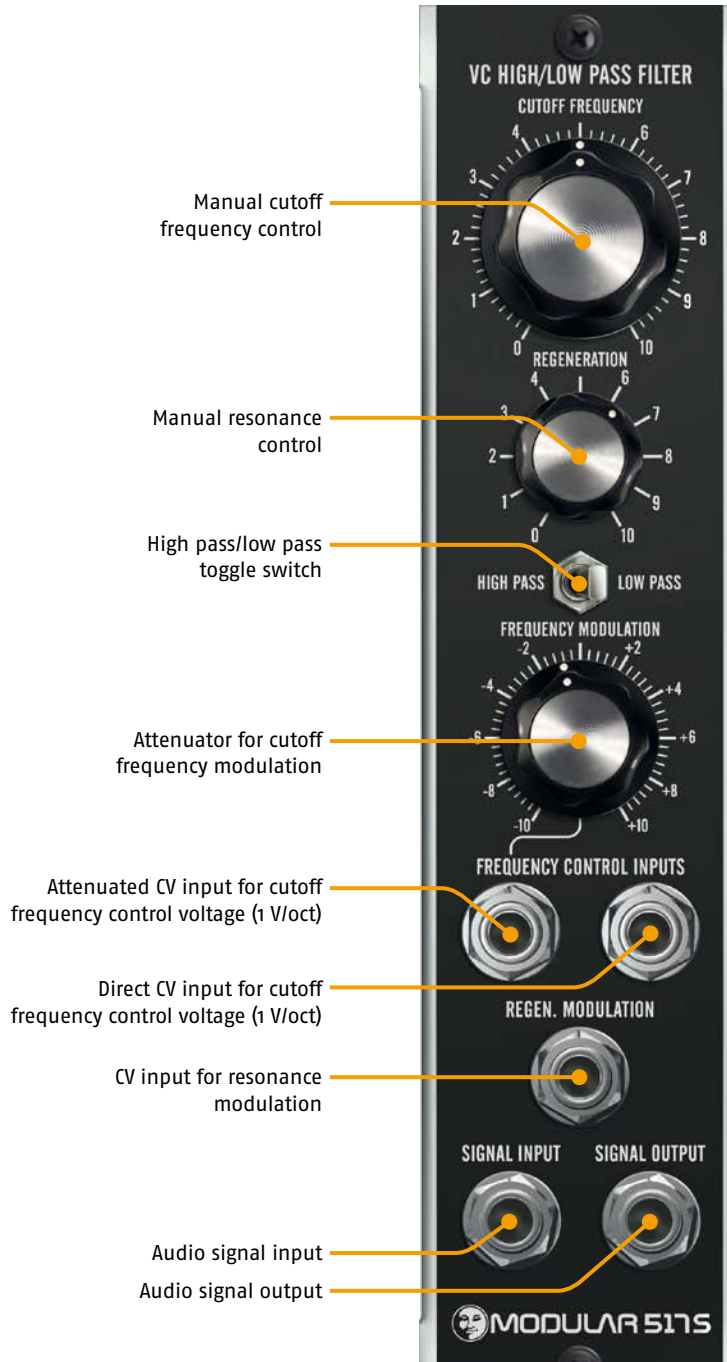
- two separate filters ("stereo mode")
- two filters in series ("maximum slope")
- notch/band reject mode
- band pass mode

The balance between filter 1 and 2 and the bandwidth are voltage controllable.

An additional jack combines both filters' audio outputs.

517S

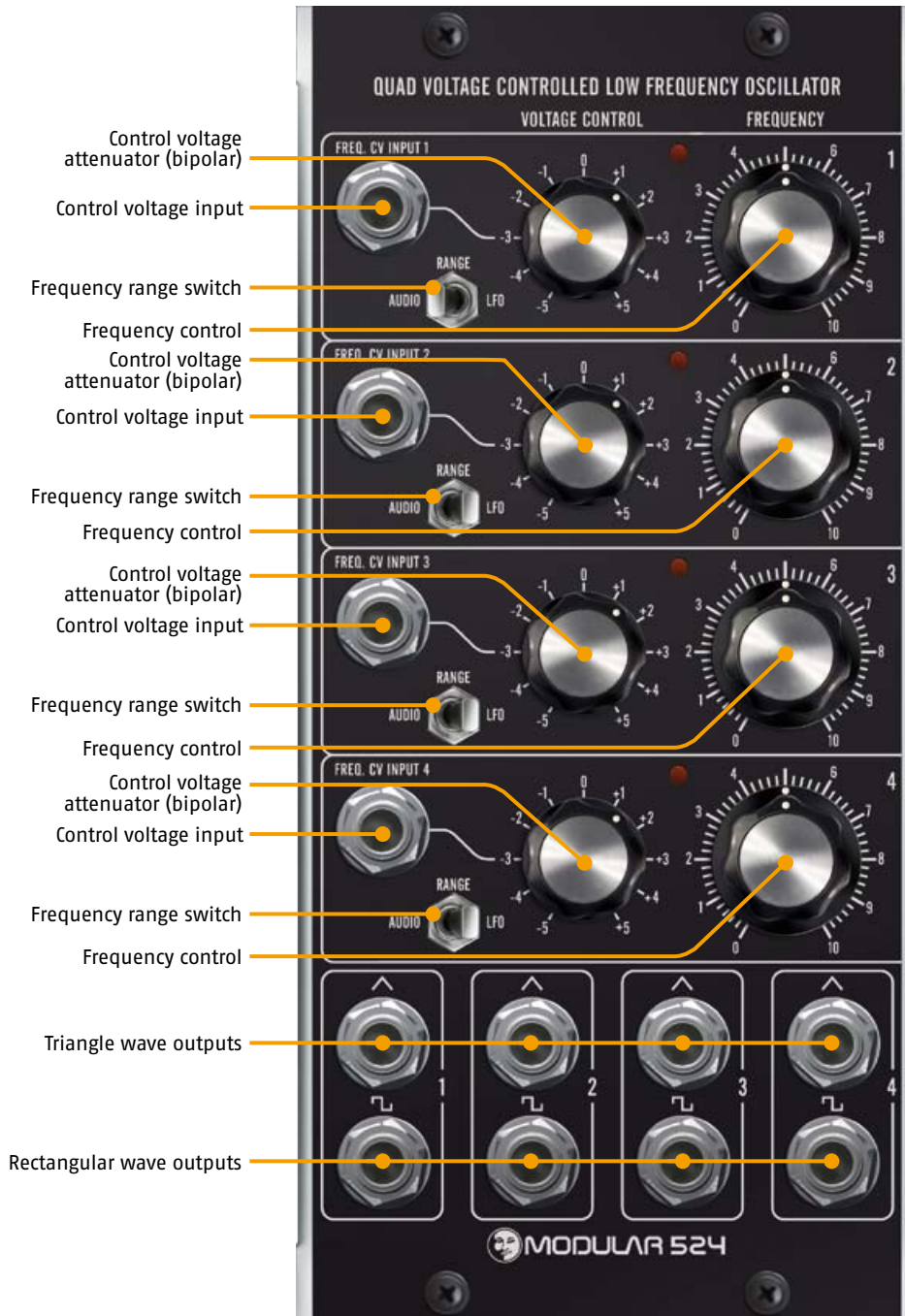
VOLTAGE CONTROLLED HIGHPASS/LOWPASS FILTER



The **SINGLE VOLTAGE CONTROLLED FILTER** is one half of the 517 module minus the combinator part, featuring a single switchable high pass/low pass filter with voltage controllable cutoff frequency and regeneration.

524

QUAD VOLTAGE CONTROLLED LFO



The M 524 **QUAD LOW FREQUENCY OSCILLATOR** module combines four voltage controlled low frequency oscillators.

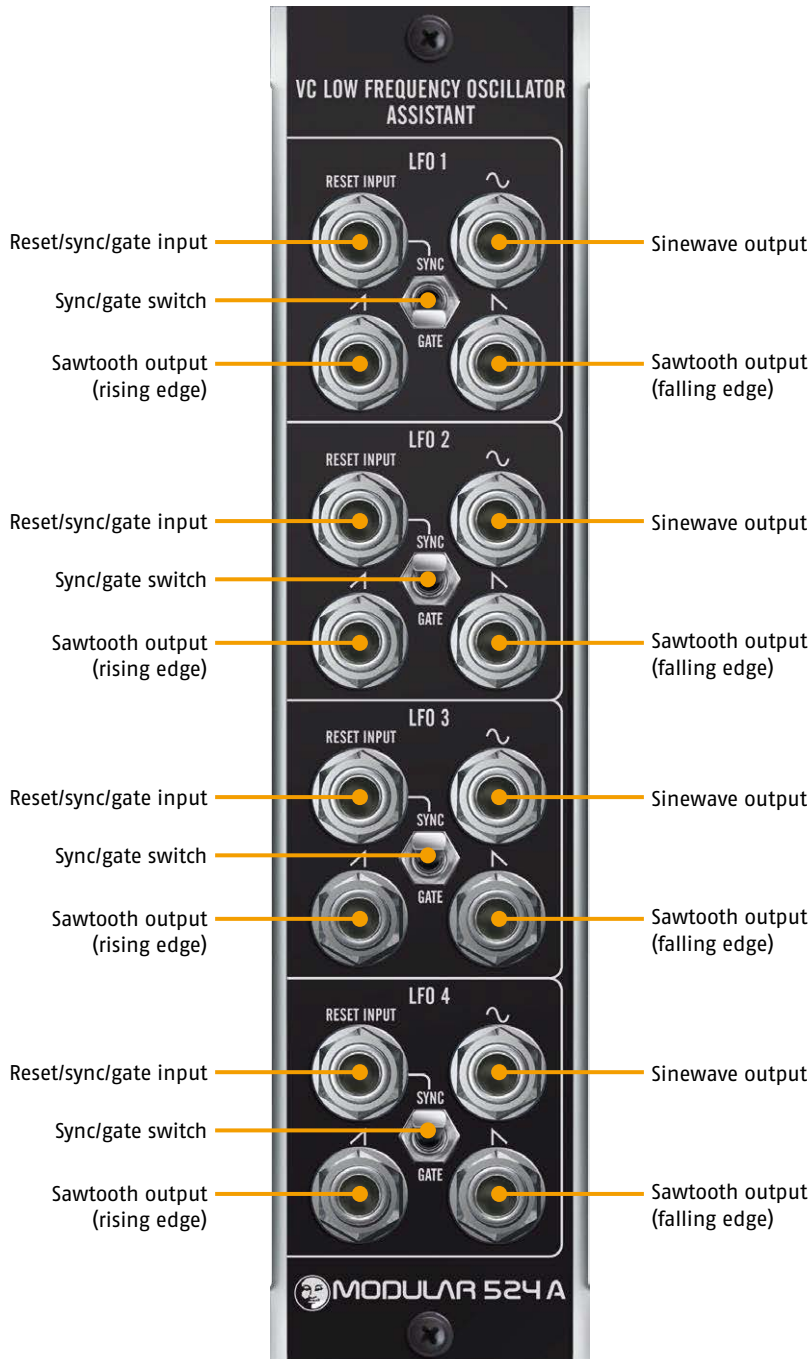
Each oscillator produces triangle and rectangular waveforms, has a frequency controller, control voltage attenuator (bipolar) and switchable frequency range ("Audio" approx. 0.5 Hz to 4500 Hz, "LFO" approx. 5 minutes/cycle to 40 Hz; these ranges can be expanded vastly via additional control voltages).

Even though the LFOs are V/oct controllable, they are not recommended for serious vco applications.

The forthcoming assistant module will provide additional waveforms and synchronisation capabilities.

524A

LOW FREQUENCY OSCILLATOR ASSISTANT



The **QUAD LOW FREQUENCY OSCILLATOR ASSISTANT** adds three additional waveform outputs to each of the four LFOs of the attached 524 module: sine, positive sawtooth, negative sawtooth.

The four reset input jacks allow syncing of the LFO frequency to external sources as clock pulses, gates outputs etc. In gate mode each LFO can be gated by external signals.

525 REVERSIBLE ATTENUATORS

Four active bipolar attenuators for audio signals and control voltages

„0“-position = no output signal present

“+10” position = output signal equals input signal (unity gain)

“-10” Position = output signal equals input signal (unity gain), but inverted

Input jacks (1-4 chained)

Input 1 is internally connected to +10 volt if nothing is patched. So the module doubles as single to quad variable voltage source.

Outputs 1-4



525M CP

REVERSIBLE ATTENUATOR/MIXER

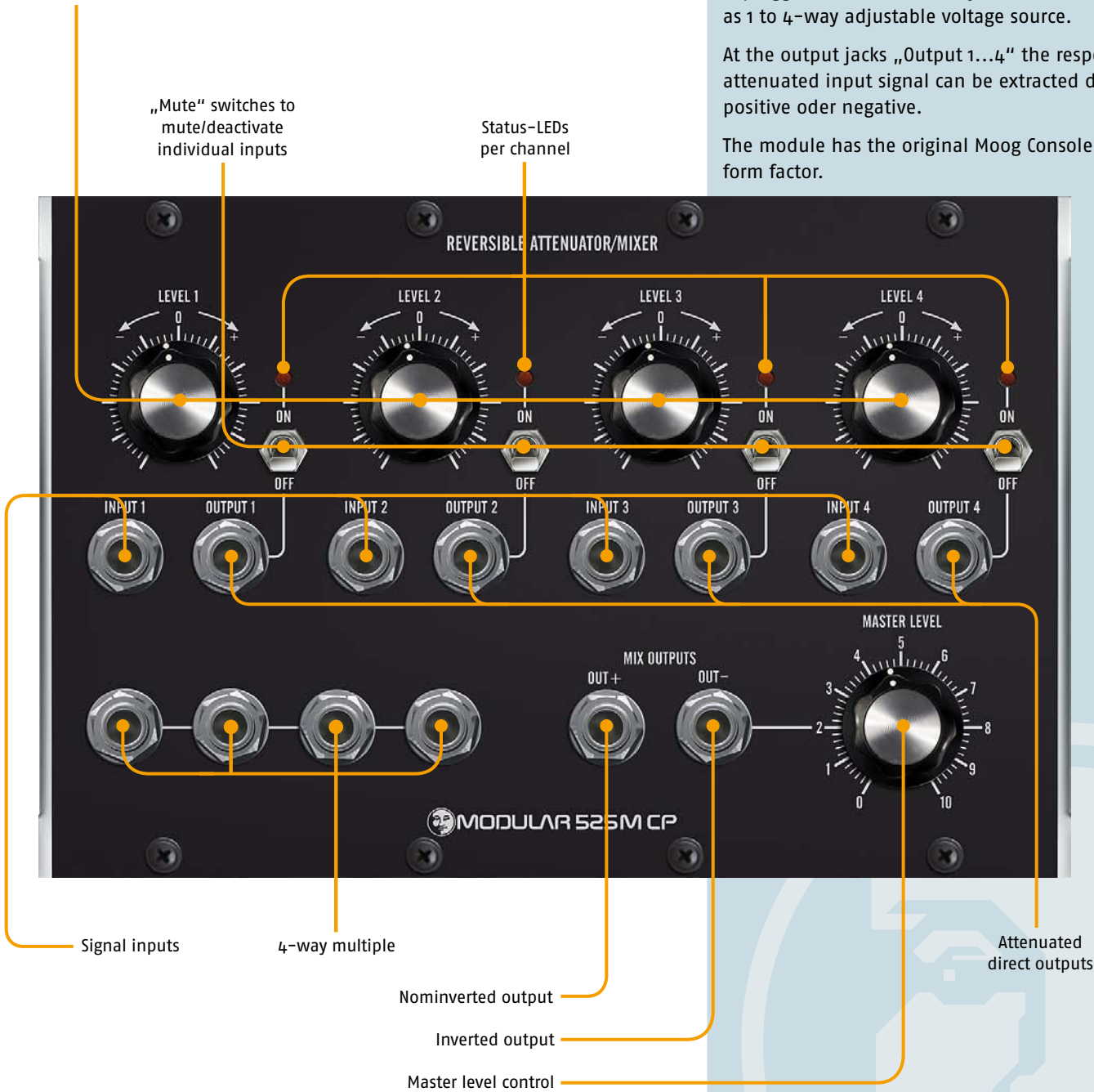
Four active bipolar attenuators for audio signals and control voltages
 „0“-position = no output signal present
 “+10” position = output signal equals input signal (unity gain)
 “-10” Position = output signal equals input signal (unity gain), but inverted

Active bipolar four-channel mixer for audio signals and control voltages with master-level control, channel on/off switches with status-LEDs as well as inverted and noninverted outputs.

The four input jacks are daisy-chained and input 1 is fed with a +10 volts fixed voltage, as long as nothing is plugged in there. That way the M 525 MCP doubles as 1 to 4-way adjustable voltage source.

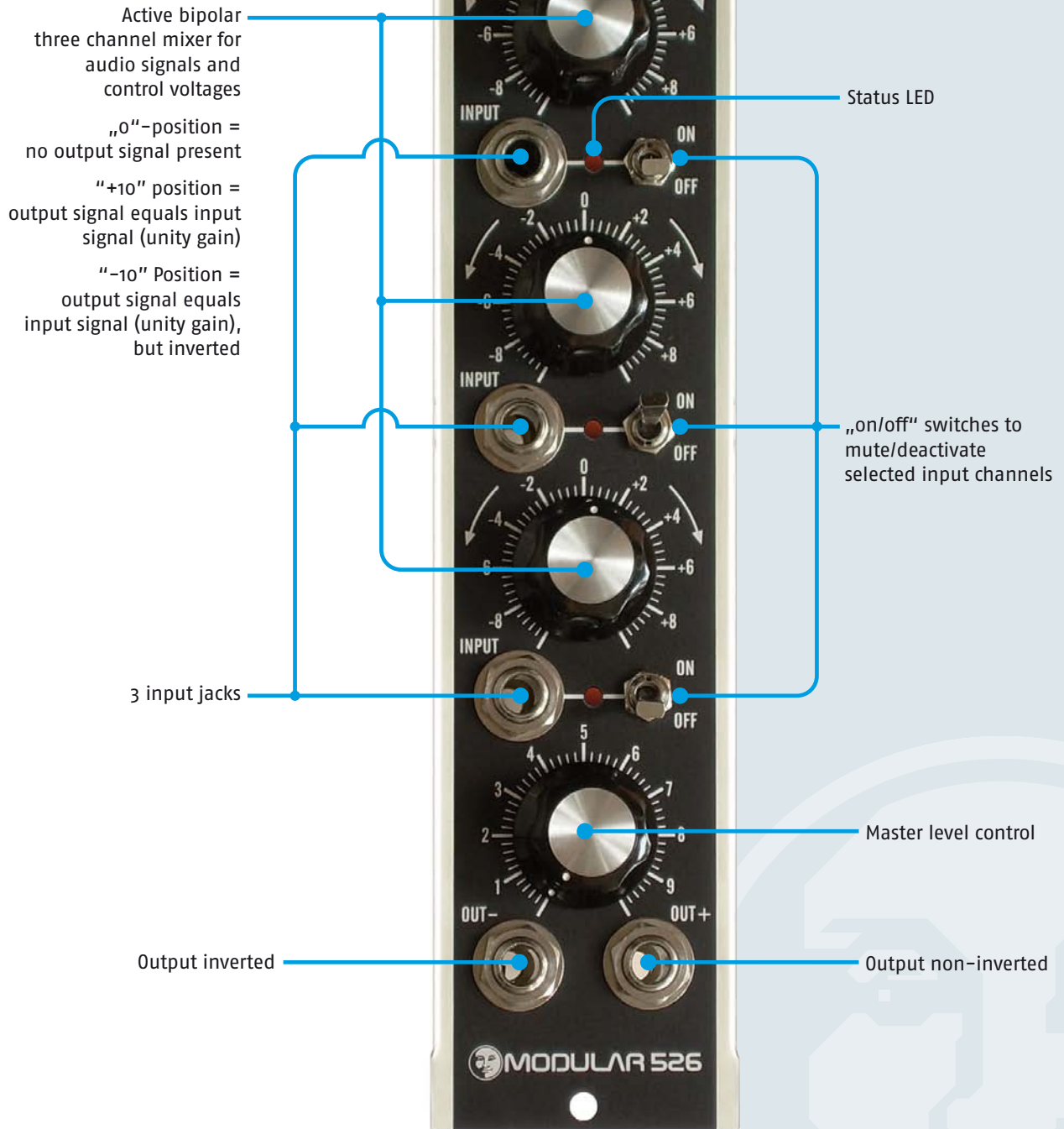
At the output jacks „Output 1..4“ the respective attenuated input signal can be extracted directly, positive oder negative.

The module has the original Moog Console Panel form factor.



526

REVERSIBLE MIXER



528

SAMPLE AND HOLD

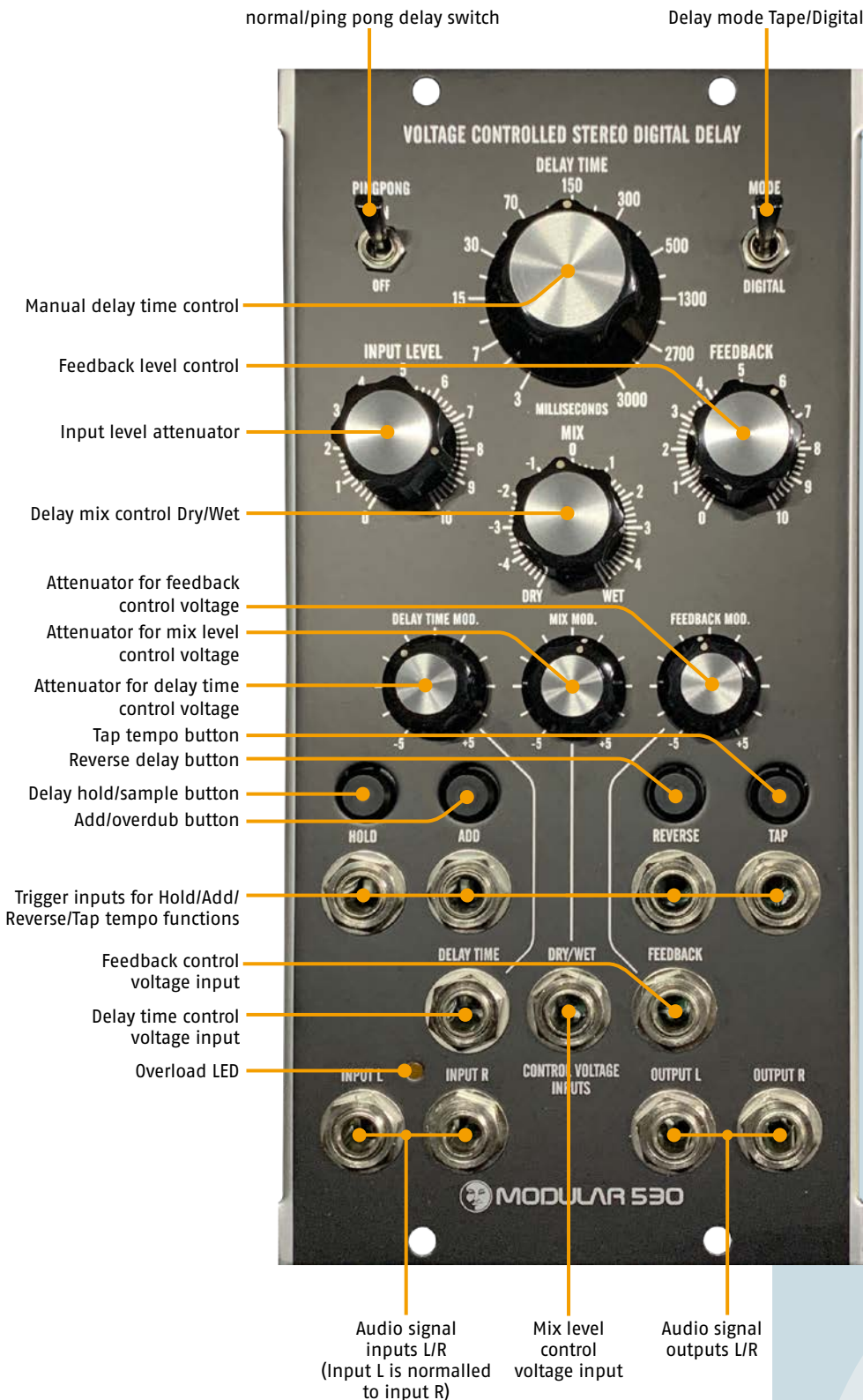


The **M 528 SAMPLE & HOLD** module is a sample & hold circuit consisting of the following elements:

- The voltage controlled clock oscillator gates the sample circuit and doubles as a VCLFO with triangular and rectangular waveforms.
- External gate input
- Signal input can be the internal noise source (white noise and random voltage, both with separate output jacks) or an external sample signal.
- Dual voltage output jacks with switchable variable glide (portamento) control.

530

VOLTAGE CONTROLLED DIGITAL DELAY



The M 530 **VOLTAGE CONTROLLED DIGITAL DELAY** is a high quality stereo delay with a lot of unique features. Tape, digital and ping-pong modes of delay, hold with overdub and delicate delay time and feedback control in combination with CV and trigger control over various parameters make this module not only a modular FX unit but also an instrument on its own.

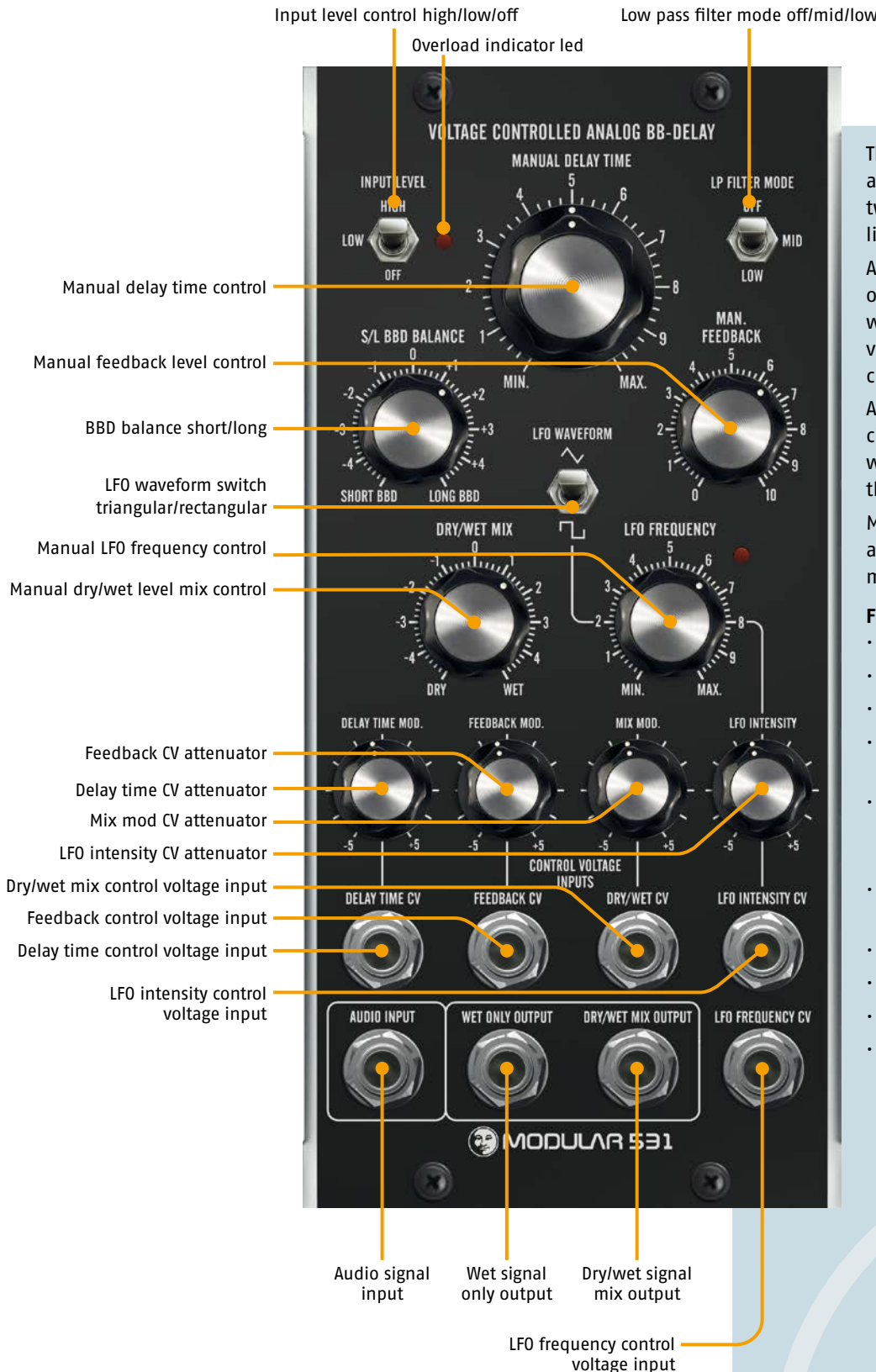
- Delay time 3–3000 ms
 - Tap and clock synchronization of delay time Reverse delay mode
 - Hold mode samples up to 40 seconds of audio (hold mode) with overdub feature (add)
 - Trigger control over Hold, Add and Reverse
 - CV control over delay time, dry/wet mix and feedback
 - Feedback path soft limiting compression
 - Add to hold soft limiting compression
- Jumpers/connectors on the rear side allow internal connections.

Technical data

- Max. audio input level before clipping 16Vptp
- Trigger inputs 0–8 V (high level > 1 V)
- CV range (full span) -5 V – +5 V
- Frequency range 5 Hz – 24 kHz
- Sampling frequency 48 kHz, 24bit
- Audio codecs
 - 108 dynamic range,
 - 98 dB THD+N

531

VOLTAGE CONTROLLED BBD ANALOG DELAY



The M 531 **BBD ANALOG DELAY** is an analogue delay module which includes two separate bucket brigade delay lines.

A short one with 1024 stages and a long one featuring 4096 stages. Both delays work simultaneously and one can fade voltage controlled between them to create multi-tap delay effects.

An advanced clock noise cancellation circuit reduces unwanted BBD noise without filtering higher frequencies of the audio signal.

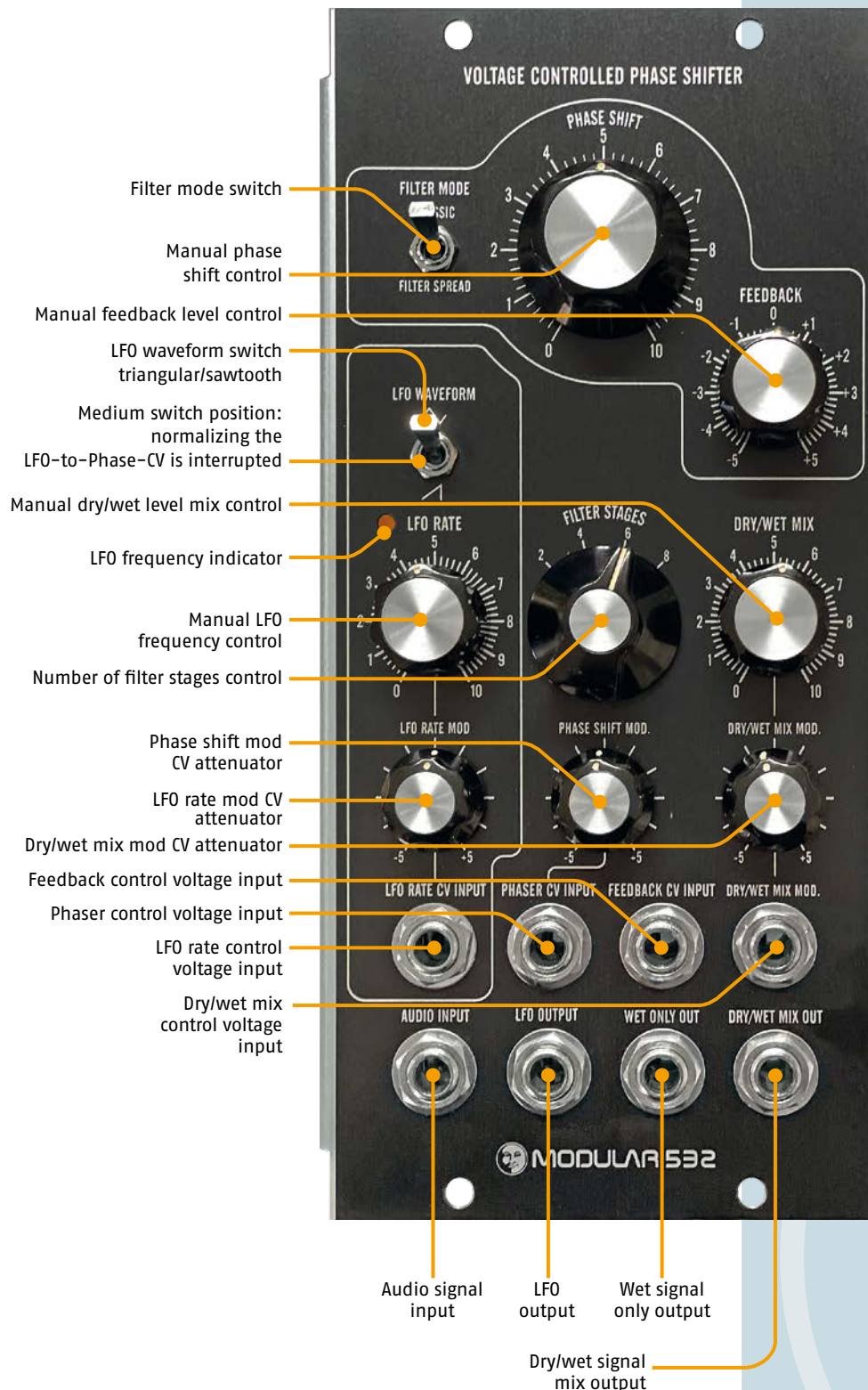
Most parameters are voltage controlled, allowing integration in a complex modular setup.

Features

- Full analogue design
- 2 delay lines 1024/4096 stages
- Smooth crossfade between delay lines
- Voltage control over delay time, feedback and dry/wet mix
- Built in LFO (triangle and rectangular waveforms), with voltage control over speed and intensity
- separate audio outputs for dry/wet mixed signal and wet signal only
- Switchable audio input sensitivity
- Switchable low pass filter mode
- Audio level 10 V ptp
- CV range (full span) -5V – +5V

532

VOLTAGE CONTROLLED PHASE SHIFTER



The M 532 **Voltage Controlled Phase Shifter** is a phaser module based on a classic phaser design.

Features

Full analogue design with up to eight phasing stages. Built in voltage controlled LFO (triangle and rising sawtooth waveforms).

The „LFO OUTPUT” is normalized to the „PHASER CV INPUT”.

Voltage control over phase shift, feedback and dry/wet mix.

With „FILTER MODE” in the „CLASSIC” position all phasing stages receive the same phase shift information.

The „SPREAD” mode is supplying them with different phase shift information.

Audio Level 10V ptp
CV range (full span) -5V - +5V

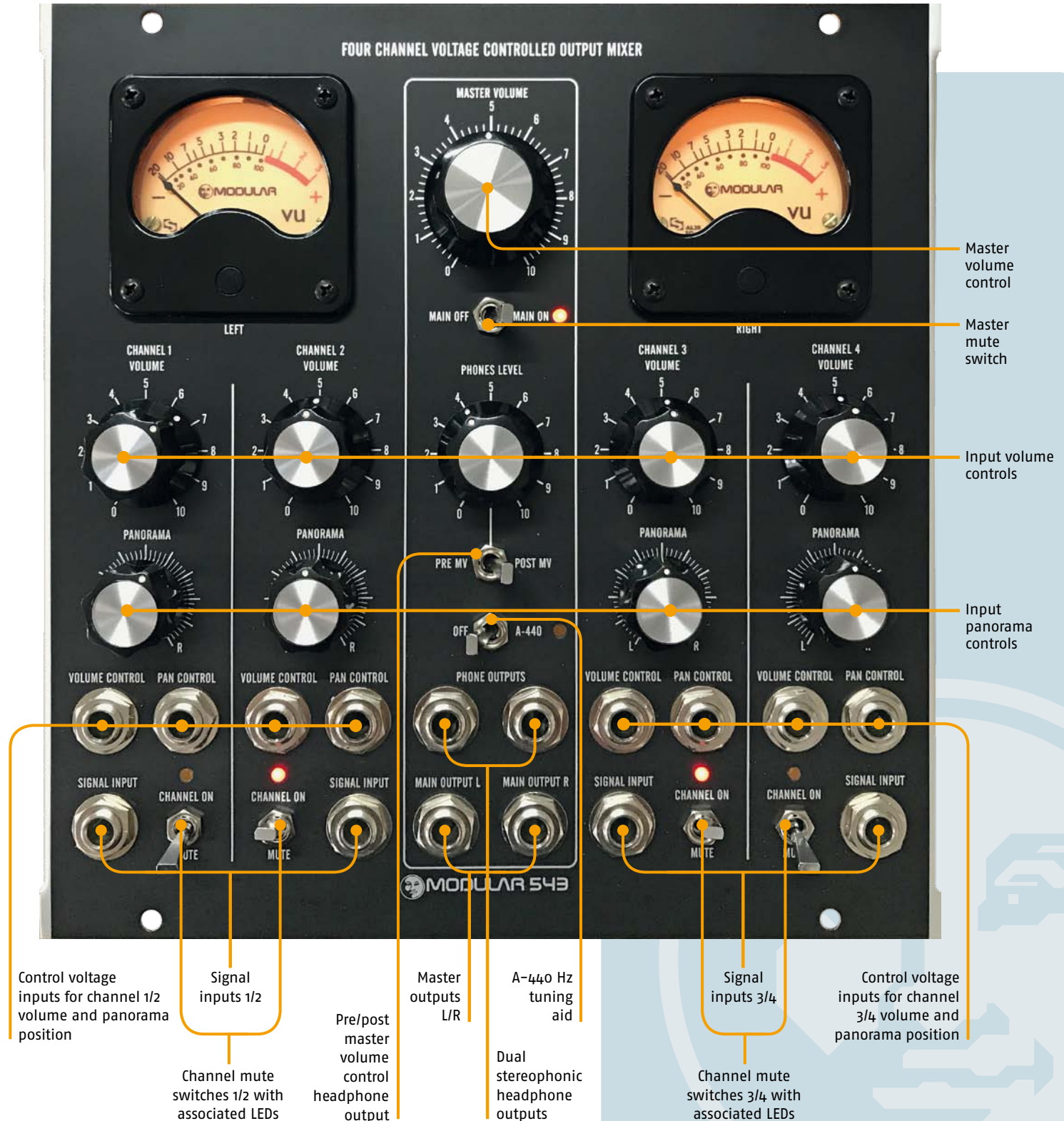
Operating voltages
+15 volts (60 mA)
-15 volts (60 mA)

543

VOLTAGE CONTROLLED OUTPUT MIXER

Four-channel master mixer for audio signals and control voltages with master-level control, channel on/off switches with status-LEDs as well as independent voltage controllable input volumes and panorama positions. Master volume control with dual stereo headphone outputs (switchable pre/post master control). Switchable 440 Hz tuning aid.

Voltage ranges 0–10 volts, panorama control (set at center position) needs -5/+5 for full left/right range. The module is DC-coupled (except headphone outputs) to use it e.g. as a quad input/dual output mixer for control voltages. DC coupling can be defeated via jumpers on the PCB. Two vintage style VU meters display the L/R master levels.



TM

543 CP

VOLTAGE CONTROLLED OUTPUT MIXER

Four-channel master mixer for audio signals and control voltages with master-level control, channel on/off switches with status-LEDs as well as independent voltage controllable input volumes and panorama positions.

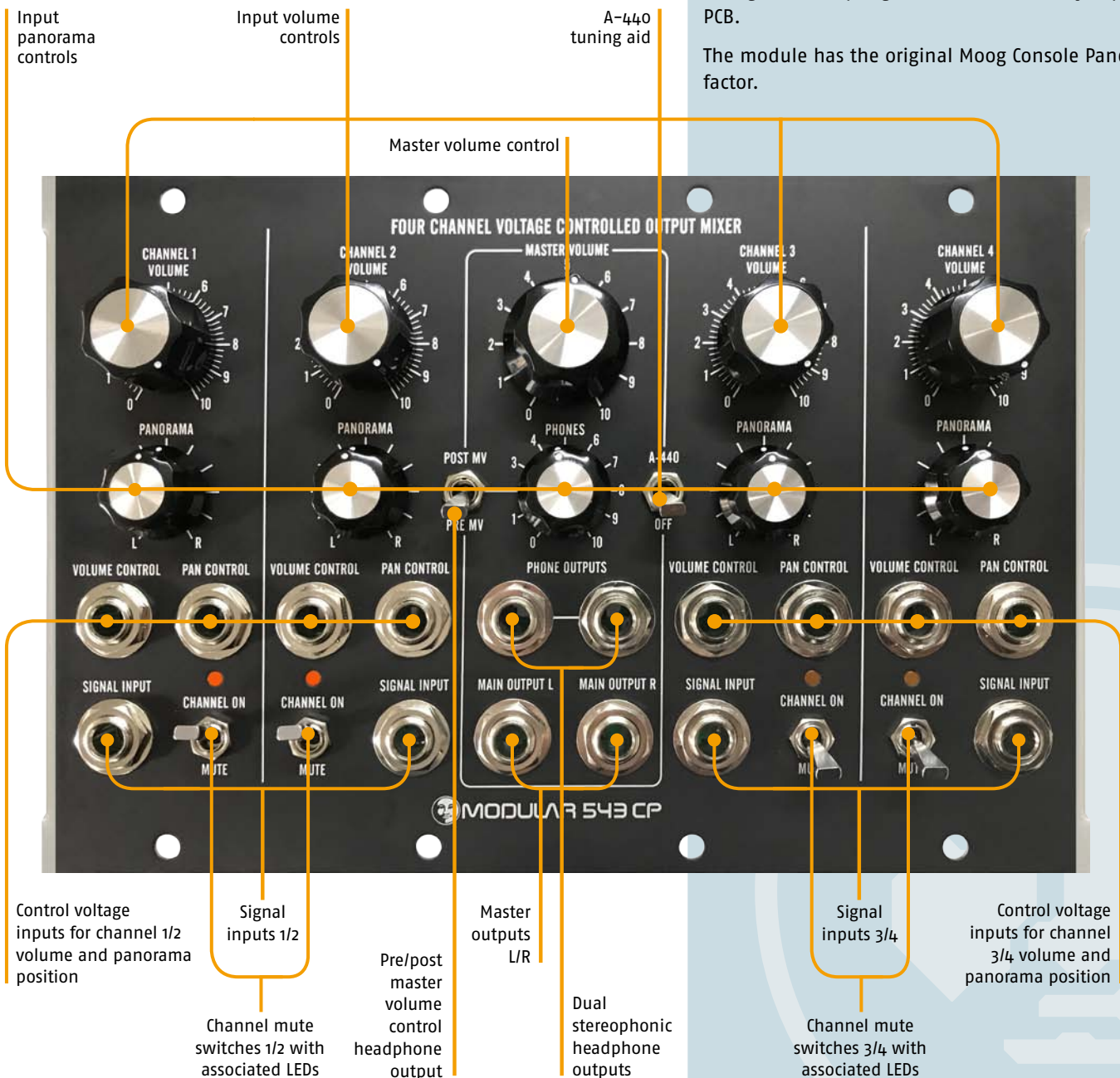
Master volume control with dual stereo headphone outputs (switchable pre/post master control).

Switchable 440 hz tuning aid.

Voltage ranges 0-10 volts, panorama control (set at center position) needs -5/+5 for full left/right range.

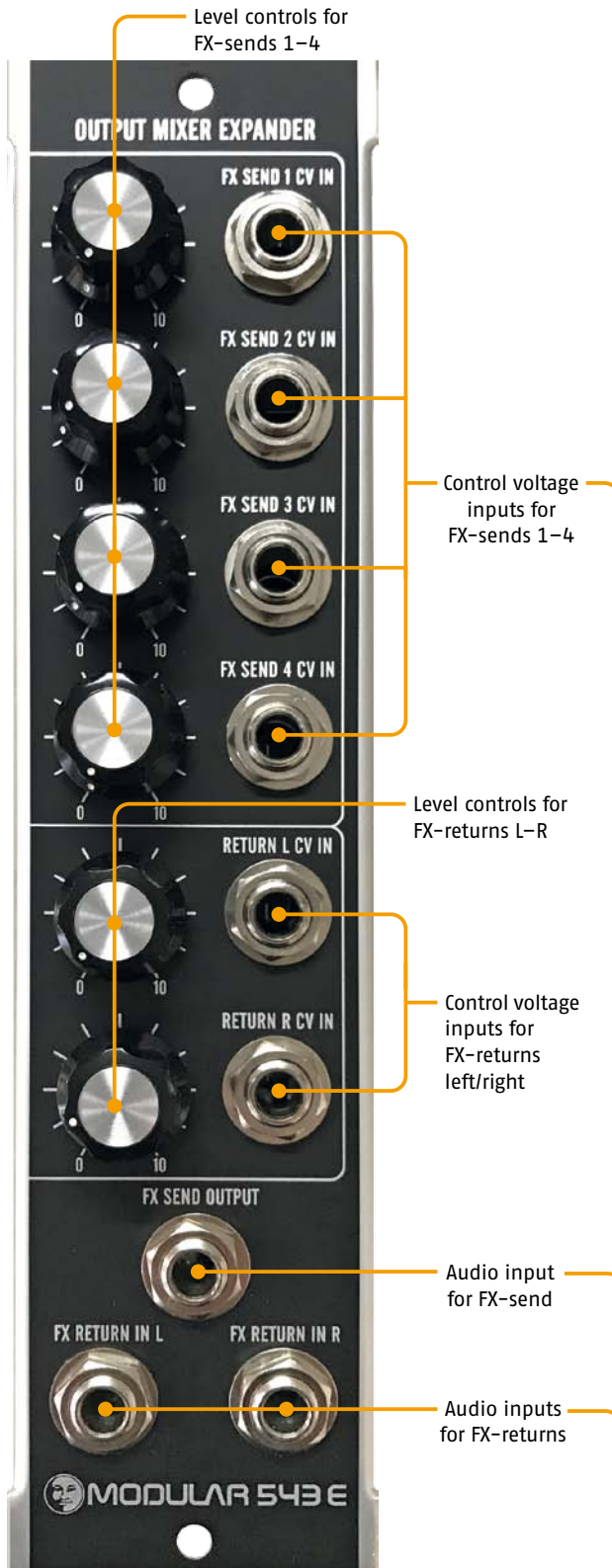
The module is DC-coupled (except headphone outputs) to use it e.g. as a quad input/dual output mixer for control voltages. DC coupling can be defeated via jumpers on the PCB.

The module has the original Moog Console Panel form factor.



M543E/ECP

OUTPUT MIXER AUX-SEND/RETURN EXPANDER



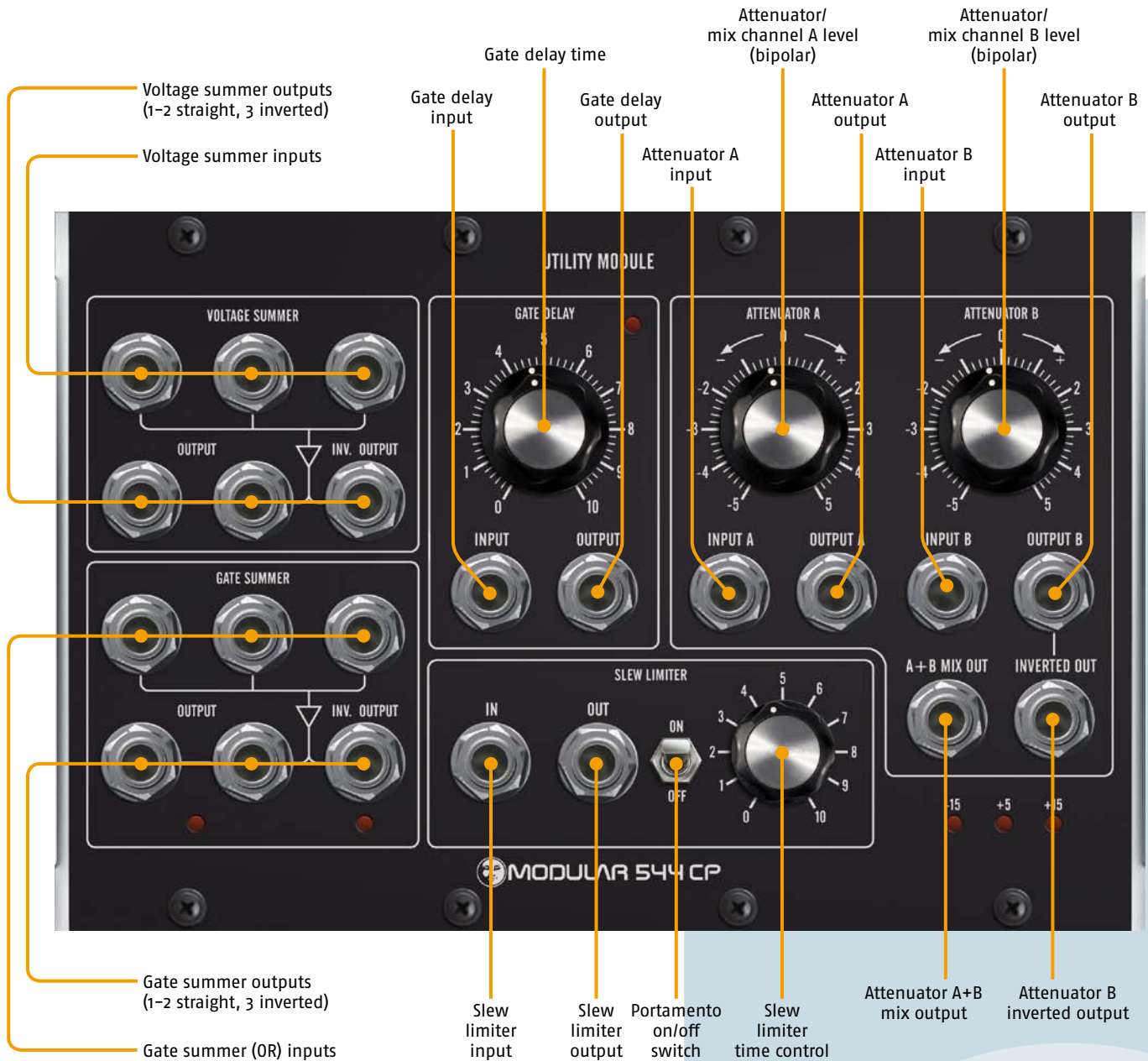
The M543 E and M543 E CP are expander modules to upgrade the M543/M543CP output mixer modules by a 4-channel send/stereo return FX path.

Two or more of these modules can be connected to the mixer modules to have more effects paths.



544 CP

UTILITY MODULE IN CP-SIZE FORMAT



The **M 544 CP UTILITY MODULE** incorporates a couple of useful control voltage and logic functions in a CP sized module (4 units wide):

- Two bipolar attenuators which double simultaneously as 2-channel mixer and signal inverter. If nothing is plugged into the inputs, 5 volts are present, so output A and B deliver a variable voltage between -5 and +5 volts and the A+B output delivers the sum of both to be used as a "level shifter" (for A or B).
- Slew limiter with dedicated on/off switch
- Gate delay
- 3-input voltage summer/inverter with 3 output jacks (2 straight, 1 inverted)
- 3-input gate summer/inverter (OR logic) with 3 output jacks (2 straight, 1 inverted) and status leds
- 3 leds indicating power supply voltages

Normalized connections:

- The voltage summer output is daisy-chained to the Slew Limiter input
- The gate summer output is daisy-chained to the Gate Delay input

551

MIDI TO VOLTAGE CONVERTER

Rotary switch to select the Midi modulation source, which appears as a control voltage at the "Controller"-jack. In addition the module sets itself to the Midi channel of the attached Midi source device (e.g. keyboard) if in position "Ch. Select"

Output for the keyboard-control voltage (according to the Midi note-number)

Output for the "Controller"-voltage

Output for the keyboard gate signal

Output for the pitch bend voltage

Indicator LEDs for gate- and controller activity

Output for the modulation wheel voltage

Output for the velocity control voltage

Switch to select keyboard priority

Addition of pitch bend voltage

Legato-mode on/off

Midi activity indicator at Midi-input

Midi-input

Midi-thru



The M 551 is a module, which transforms an attached Midi signal into a couple of analogue control voltages. Thereby modular synthesizers can be integrated into a Midi-network and controlled by Midi-master-keyboards or Midi-hardware- or software-sequencers/DAWs. The M 551 derives the following six control voltages from the fed Midi-messages:

- **Keyboard CV** (from Midi-note-number)
Depending on the 'Priority' switch, the lowest, highest or last received note-on message is getting transformed.
Voltage range: $-2/+8 V$
- **Gate** (from the current Midi note-on/note-off commands)
- **Velocity** (transforms the key velocity [note-on velocity] of the current note-on message)
Voltage range: $0-10 V$
- **Mod. Wheel** (derives a control voltage from Midi-modulation messages [Controller 1].
Voltage range: $0-10 V$
- **Pitch Wheel** (control voltage from the Midi pitch bend commands, bipolar)
Voltage range: $\pm 5 V$
(If "Add Bend CV" is active, a pitch bend voltage of $\pm 0,5 V$ is added internally to the keyboard control voltage).
- **Controller** (transforms a selectable Midi controller into a control voltage [$0-10 V$])

Available are:

- After touch
- Breath controller (CC 2)
- Foot pedal (CC 4)
- Sustain pedal (CC 64)
- Panorama (CC 10)
- Main volume (CC 7),
- the unspecified parameters CC 20, CC 21, CC 22.

The functions of the three toggle switches are:

- **Add Bend CV**
In 'on'-position the Midi Pitch bend voltage (attenuated to $\pm 0.5 V$) is added internally to the keyboard voltage to ease pitchbending the oscillator

- **Priority**
Keyboard control voltage/gate signal/velocity voltage are derived from the highest/lowest/last received note-on message

- **Keyboard Mode**

Retrig triggers a new keyboard control voltage/gate signal combination at any struck key

Legato starts a new event not before all keys are released

To select the **Midi-Channel**: Dial the rotary switch to the „Channel Select" position and initiate a MIDI-channel message (e. g. strike a note on a keyboard); the module sets itself to the most recently received MIDI channel (this setting is saved even if the unit is switched off)

551 CP

DUAL CHANNEL MIDI TO CONTROL VOLTAGE CONVERTER

V. 2.0 [April 2019]

The **551 CP DUAL MIDI TO CONTROL VOLTAGE** converts MIDI data into analog control voltages.

MIDI note-on commands get converted into keyboard control voltage, gate signal and note-on velocity voltage. Three more output jacks generate voltages from pitch- and modulation wheel controllers plus a selectable controller source. An additional output jack does deliver a MIDI Clock signal.

This CP module offers two independent converters (A/B) to generate voltages for duophonic or twin-channel-use.

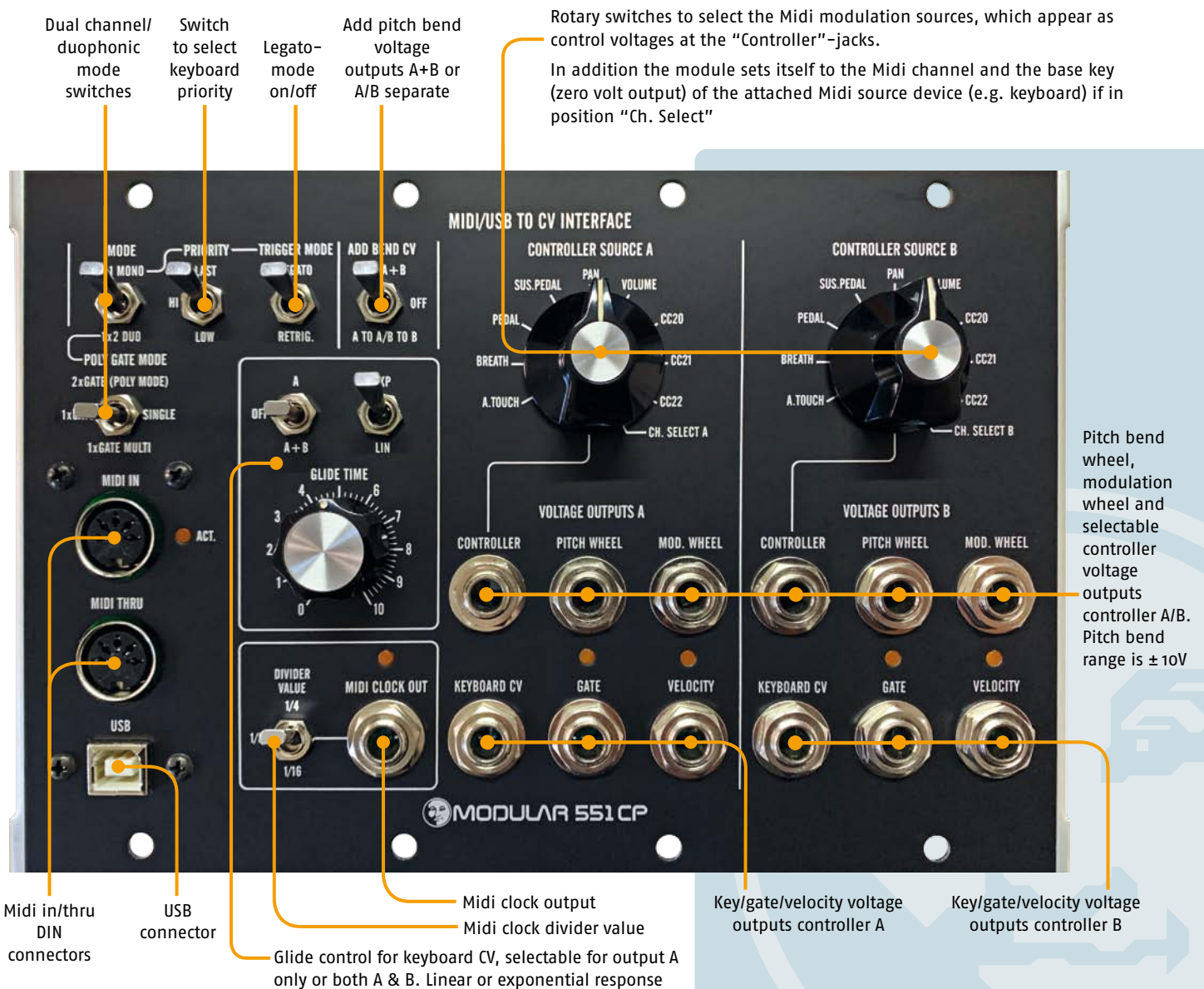
The module has the original Moog Console Panel form factor.

The monophonic converter(s) work mostly as in the standard 551 module. Both converters can be set to react to the same MIDI channel. This does allow to access different controllers at the same time.

Note: In duophonic mode „CH Select“ of converter B is deactivated. This mode simulates the functionality of a Moog™ 952 („vintage“) or 953 („re-issue“) keyboard: Converter A is reflecting the lowest and converter B the highest key voltage. The converters are allocated dynamically and their outputs change accordingly.

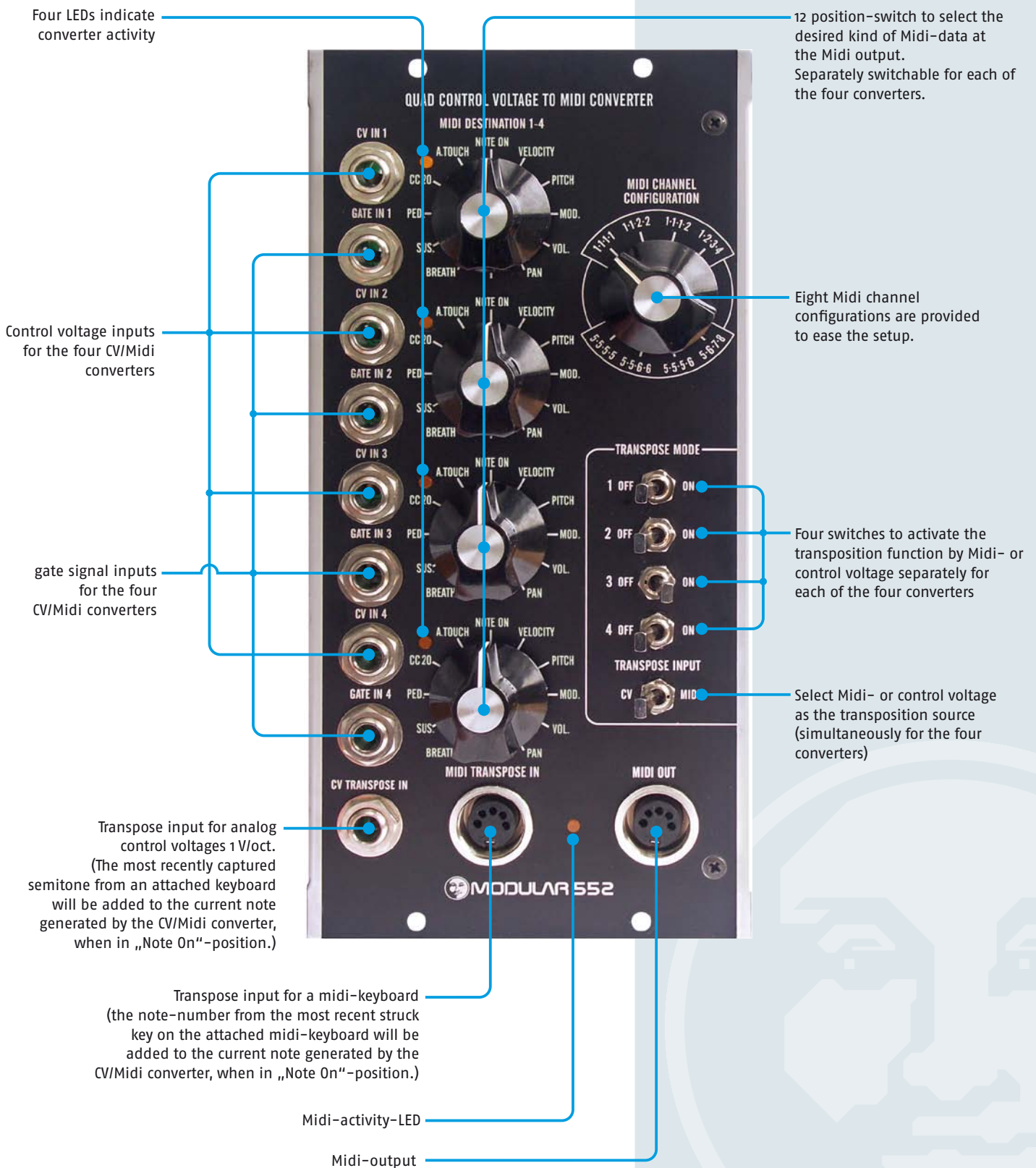
Example:

- strike 1st key = G1-note → converter A,
- strike 2nd key = G2-note → converter B,
- release 1st key → converter A = now G2 and converter B = „off“.



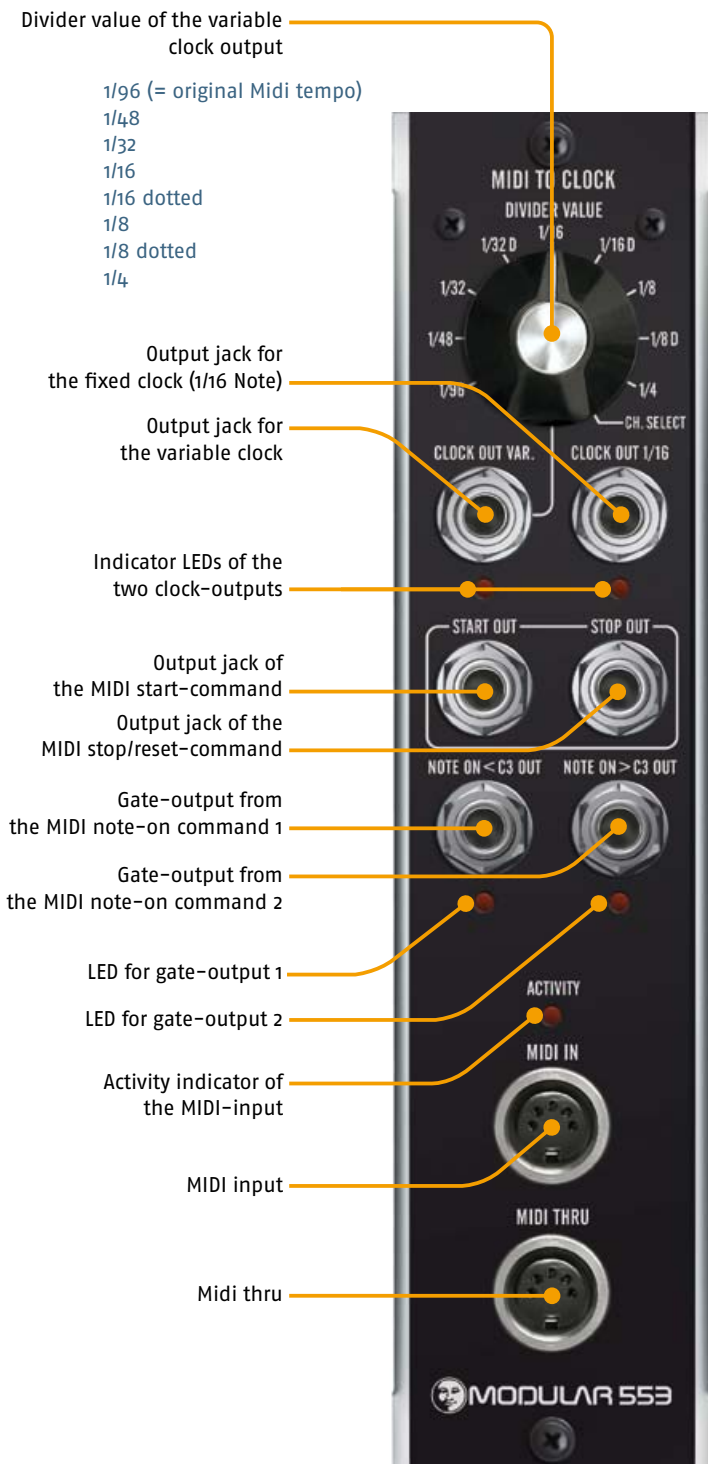
552

CONTROL VOLTAGE TO MIDI CONVERTER



553

MIDI TO CLOCKSIGNAL CONVERTER



The M553 is a module, which converts a MIDI clock into analog clock and gate-signals, to synchronize e. g. analog step-sequencers to MIDI-hardware- or software-sequencers.

The MIDI clock (MIDI real time message) has a native resolution of 1/96 notes (24 ticks per quarter note) of which the M553 derives the following signals:

Variable Clock

The divider value of the left clock-output can selected among the MIDI original clock (1/96) and these fractions:

- 1/48
- 1/32 dotted
- 1/32
- 1/16 dotted
- 1/16
- 1/8 dotted
- 1/8
- 1/4

Fixed Clock

The right clock-output supplies a fixed clock signal, divided down to 1/16 notes.

Start/Stop

Whenever the MIDI device puts out start- and/or stop/reset-commands, these jacks supply relevant trigger-signals to e. g.

- control an analog sequencer via suitable inputs
- or reset an analog sequencer
- skip notes, trigger switches etc.

Note-on

Both „Note-on >C3“ and „Note-on <_C3“ jacks supply gate signals, derived from MIDI note-on commands. This way the user can utilize one ordinary MIDI-track in a MIDI (software-)sequencer to create two streams of defined trigger signals, to be used - via the M553 - to synchronize/control analog equipment.

The left output generates a gate signal, whenever a MIDI note-on command below C3 (= MIDI note number 1-59) reaches

the module. The right output reacts accordingly, if a note-on command of C3 or above (= MIDI note number 60-127) arrives in the M553's input.

These „note-on to gate“ activities work in parallel to the „normal“ MIDI to clock conversion.

Midi-Channel

To select the MIDI channel (for the „note-on to gate“ function): Dial the rotary switch to the „channel select“ position and initiate a MIDI-channel message (e. g. strike a note on a keyboard); the module sets itself to the most recently received MIDI channel (this setting is saved even if the unit is switched off).

554

OCTAL CLOCK DIVIDER

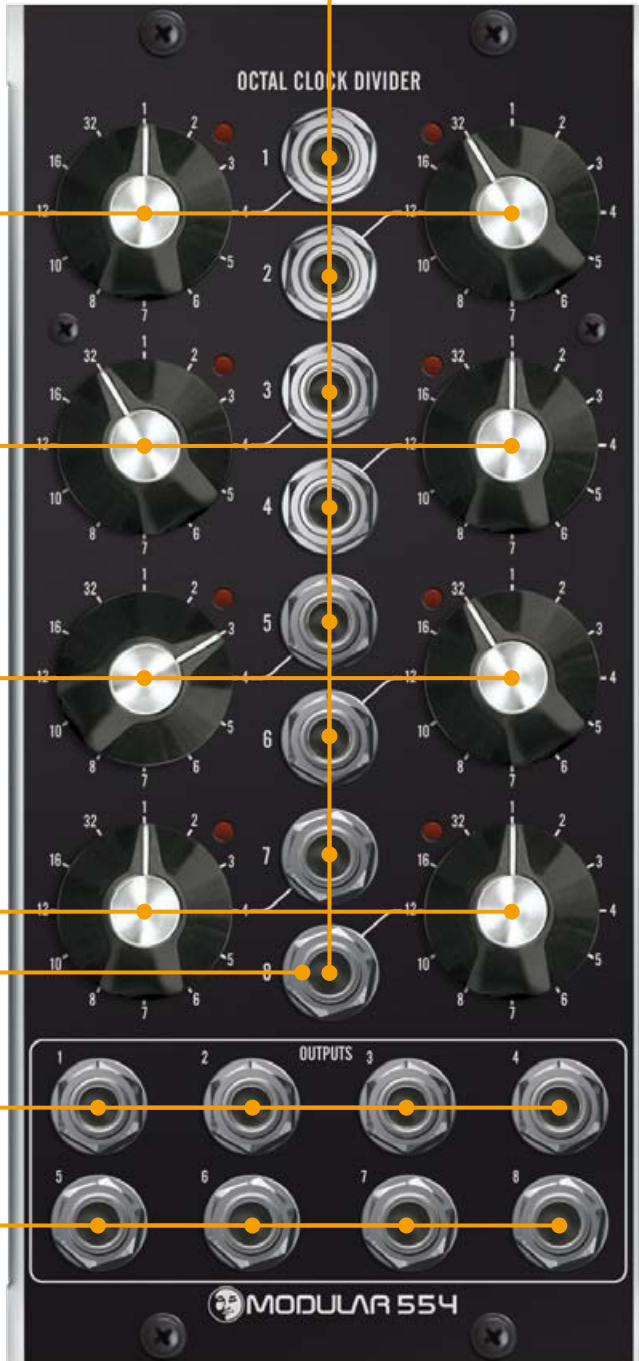
Eight individual divider inputs

Eight individual rotary switches to select the division factors:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 10
- 12
- 16
- 32

If the rear mode jumper is removed: a signal fed into input 8 works as 'master reset' for all dividers if the rotary switch 8 is in a position other than 1.

Eight individual clock outputs



The M 554 **OCTAL CLOCK DIVIDER** combines eight divider circuits in one module.

Each of the dividers offers twelve division factors:

- 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 10 / 12 / 16 / 32

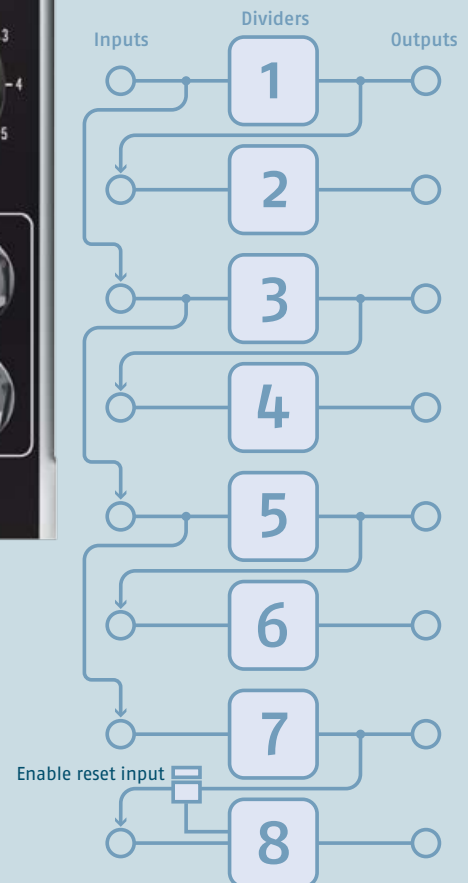
and has its own LED indicator. In position 1 the clock signal is fed through and the internal divider will be reset.

The input jacks are normalized to allow complex divider combinations without external patching:

Input 1 is daisy chained to input 3, input 3 to 5, input 5 to 7.

Output 1 is daisy chained to input 2, output 3 to input 4, output 5 to input 6 and output 7 to input 8.

Input 8 doubles as master reset input if the rear 'mode jumper' is removed.



563

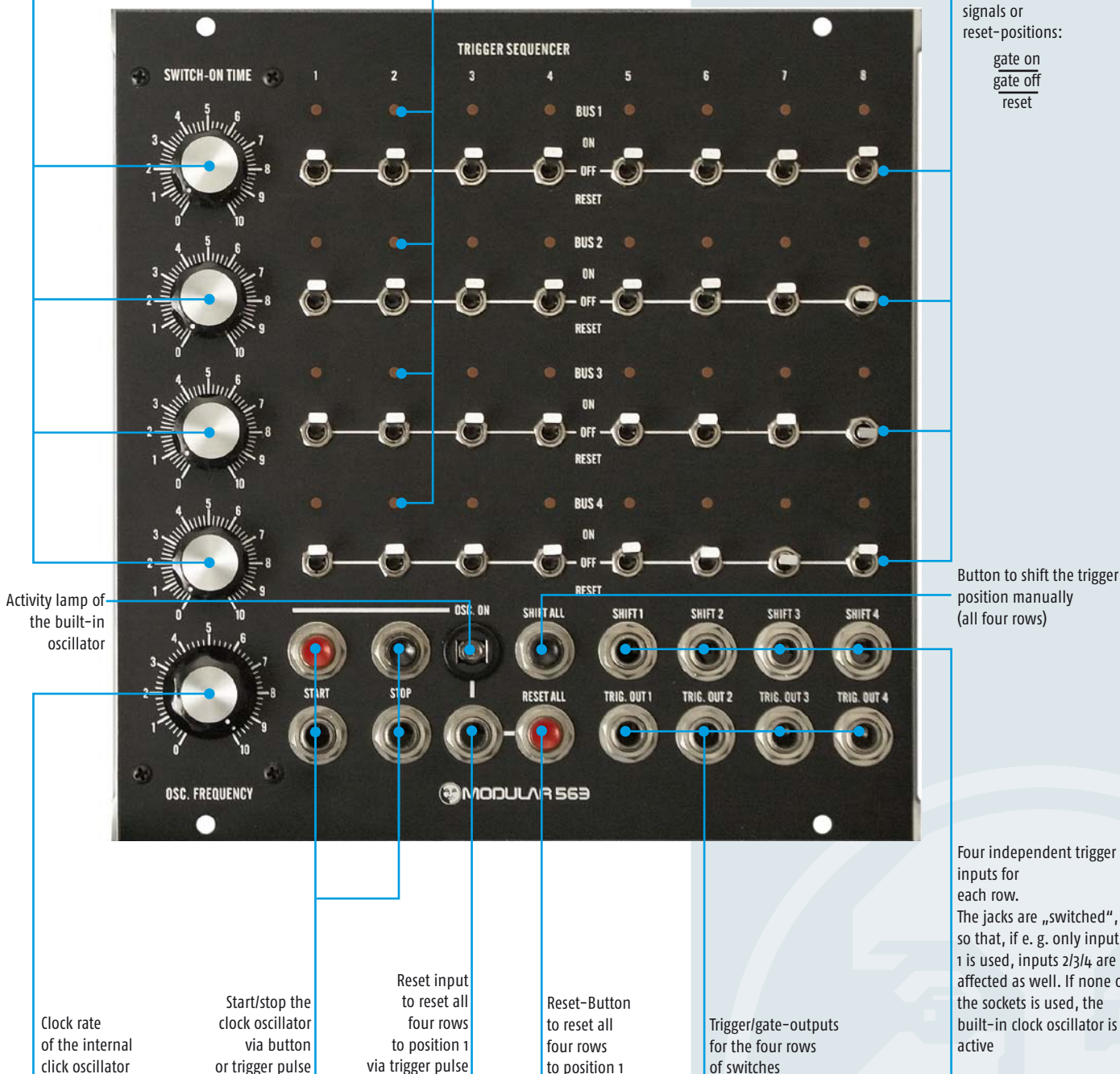
TRIGGER SEQUENCER V2

Switch-on time:
adjustable width of the gate pulse
independently for each row

Four LED rows
indicating the
„gate on“ status

Four independent
rows of switches to
set trigger/gate
signals or
reset-positions:

gate on
gate off
reset



Button to shift the trigger
position manually
(all four rows)

Activity lamp of
the built-in
oscillator

Four independent trigger
inputs for
each row.
The jacks are „switched“,
so that, if e. g. only input
1 is used, inputs 2/3/4 are
affected as well. If none of
the sockets is used, the
built-in clock oscillator is
active

Clock rate
of the internal
click oscillator

Start/stop the
clock oscillator
via button
or trigger pulse

Reset input
to reset all
four rows
to position 1
via trigger pulse

Reset-Button
to reset all
four rows
to position 1

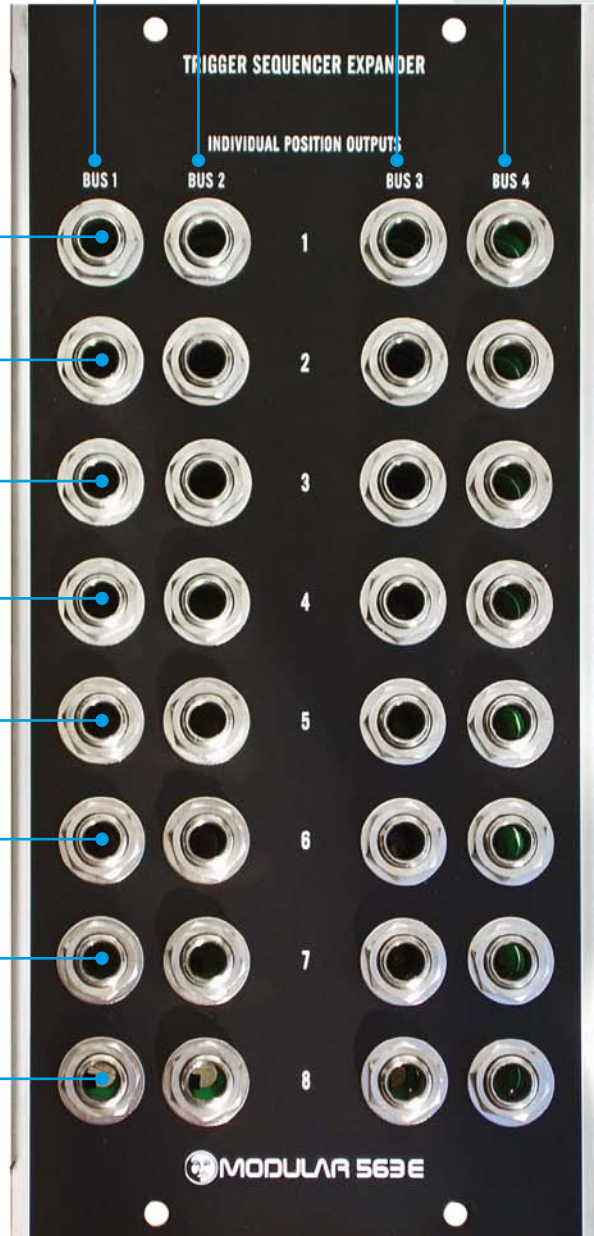
Trigger/gate-outputs
for the four rows
of switches

563E

TRIGGER SEQUENCER EXPANDER

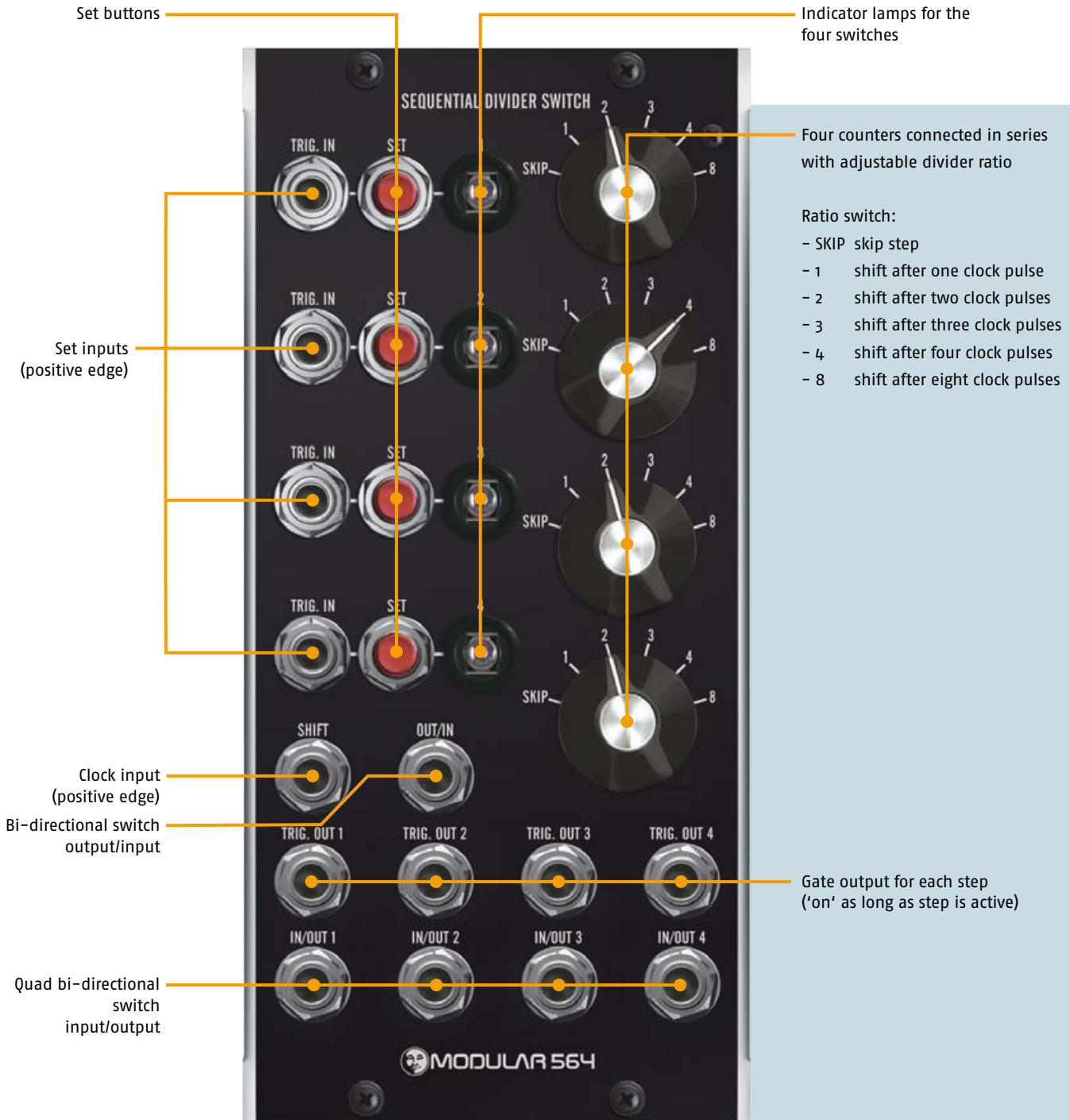
Four rows of jacks for the M 563v2's four trigger-busses

Eight individual outputs for the step-positions of the M563



564v2

SEQUENTIAL DIVIDER SWITCH



565v2

QUAD QUANTIZER

Variable control voltages are quantized into semitone intervals (1/12 volt).
Input voltage range 0 to +10.58 volts

Gate pulses fed into the "Gate In"-jack trigger the quantizer; in „low“ state no quantization occurs. An "open" Gate input quantizes, i. e. if no gate jacks are patched.

The four Gate-INS are passed through.

Quantized control voltage outputs with a range of more than ten octaves (128 semitones).

Gate Output supplies a pulse, whenever the (quantized) output voltage changes. The LEDs display exactly this pulse.



The M565 V2 QUAD QUANTIZER features four independent quantizer circuits.

The module quantizes variable control voltages into semitone intervals (1/12 volt) over an input voltage range 0 to +10.58 volts, in other words more than ten octaves (128 semitones).

Gate pulses fed into the "Gate In"-jack trigger the quantizer; in „low“ state no quantization occurs (useful to sync the quantization process precisely to a sequencer-clock out).

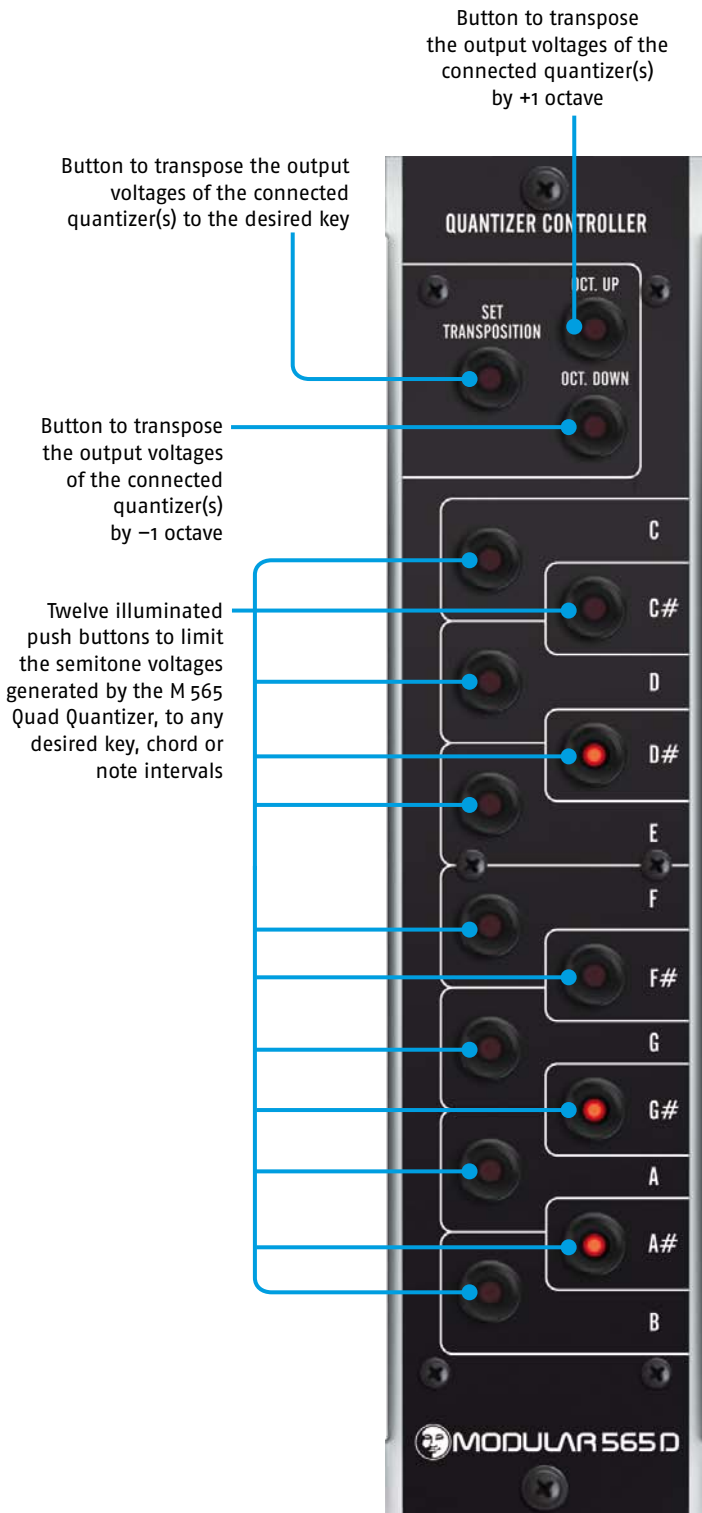
An "open" gate input is recognized by the module, it quantizes, i. e. if no gate jacks are patched. The four gate-ins are passed through, one plugged IN 1 feeds IN 2 to IN 4 as well.

The gate outputs supply a pulse, whenever the (quantized) output voltage changes. The LEDs display exactly this pulse. The most recent quantized value remains preserved until the next quantization will occur.

Two adapters are on-board to connect one or two M 565 E Quantizer Controller modules.

An M 565 v1 Quad Quantizer Modul can be updated, to allow connection to M 565 E controller modules.

565 D QUANTIZER CONTROLLER



The M 565 D Quantizer Controller allows to limit the output voltages generated by the M 565 v3 Quad Quantizer to any desired key, chord or note interval. Using the array of 12 keyboard-like arranged illuminated push buttons on the right, notes can be activated or deactivated in any combination.

The adjusted scale works over the whole quantizing range of the M 565 V3 (± 10 octaves), and controls all four quantizing-units in parallel.

Up to two M 565 D Quantizer Controller modules can be connected to a single M 565 v3, which allows two different keys/scales to be used at once.

Quantizer 1 and 2 depend on the first quantizer controller, quantizer 3 and 4 on the second.

The upper three buttons transpose the output voltages of the connected quantizer(s) in semitone increments to the desired key plus one octave up or down.

When the button "Set Transpose" is pushed, its LED blinks and the "keyboard" shows the current transposition; the transposition status can be changed by pushing the desired "key". Pushing the "Set Transpose" button again exits the transpose mode. The Octave up/down buttons are permanently active.

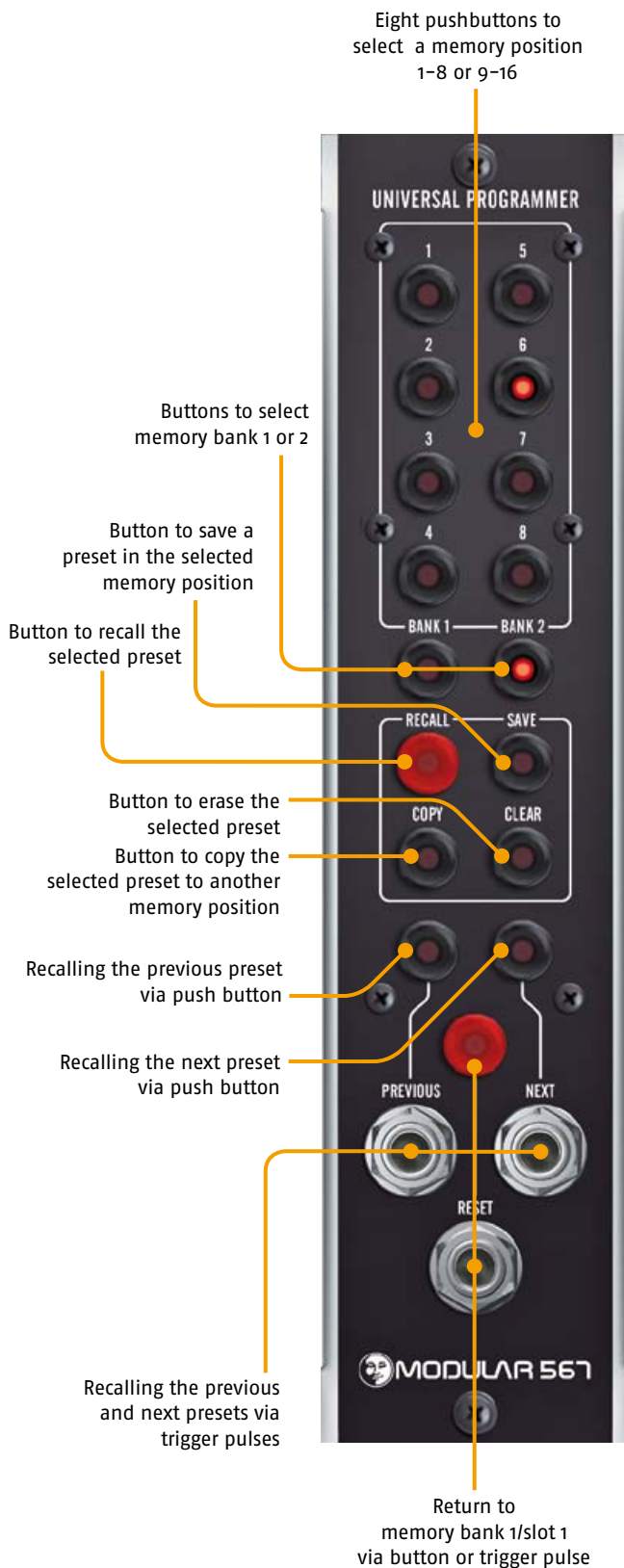
By connecting the M 567 Universal Programmer module, the user can save up to 16 different scales to call them up at the touch of a button (or even a trigger pulse).

An M 565 v1 or v2 Quad Quantizer module can be updated to a v3, then allowing the connection of M 565 D Controller Modules.

TM

567

UNIVERSAL PROGRAMMER MODULE



The M 567 Universal Programmer is the follow-up module to the M 568 P. While the latter was conceived as an extension to the M 568 Quad Sequential Trigger Source, the M 567 provides storage for other modules too.

The non-volatile memory of the M 567 comprises two memory banks with 8 memory slots each. They are selected by the two "Memory Bank" buttons and the eight "1...8" buttons. Pushing the "Recall" button activates a saved preset.

The "visible" preset is being hold in an edit-buffer, a sort of "zero"-memory position – so nothing will get lost when switching the module on and off. Only when a memory slot gets recalled the edit buffer is overwritten (therefore there is no automatic recall of the dialed memory position when the module is turned on).

To save an adjusted or modified preset, push the "Save"-button (save-LED blinks), select the desired memory-position and push the "Save"-button again (save-LED dies out, preset is saved).

To erase an adjusted or modified preset, push the "Clear"-button (clear-LED blinks), select the desired memory-position and push the "Clear" button again (clear-LED dies out, preset is erased).

To duplicate an adjusted or modified preset or to move it to another memory slot, push the "Copy"-button (copy-LED blinks), select the desired source memory-position, push the "Save"-button (save-LED blinks), select the desired destination memory-position and push the "Copy"-button again (LEDs die out). The preset is copied now.

Using the "Previous/Next" buttons/jacks combination in the lower part of the module, the next and previous memory slots can be recalled – using the respective push-button or a trigger pulse.

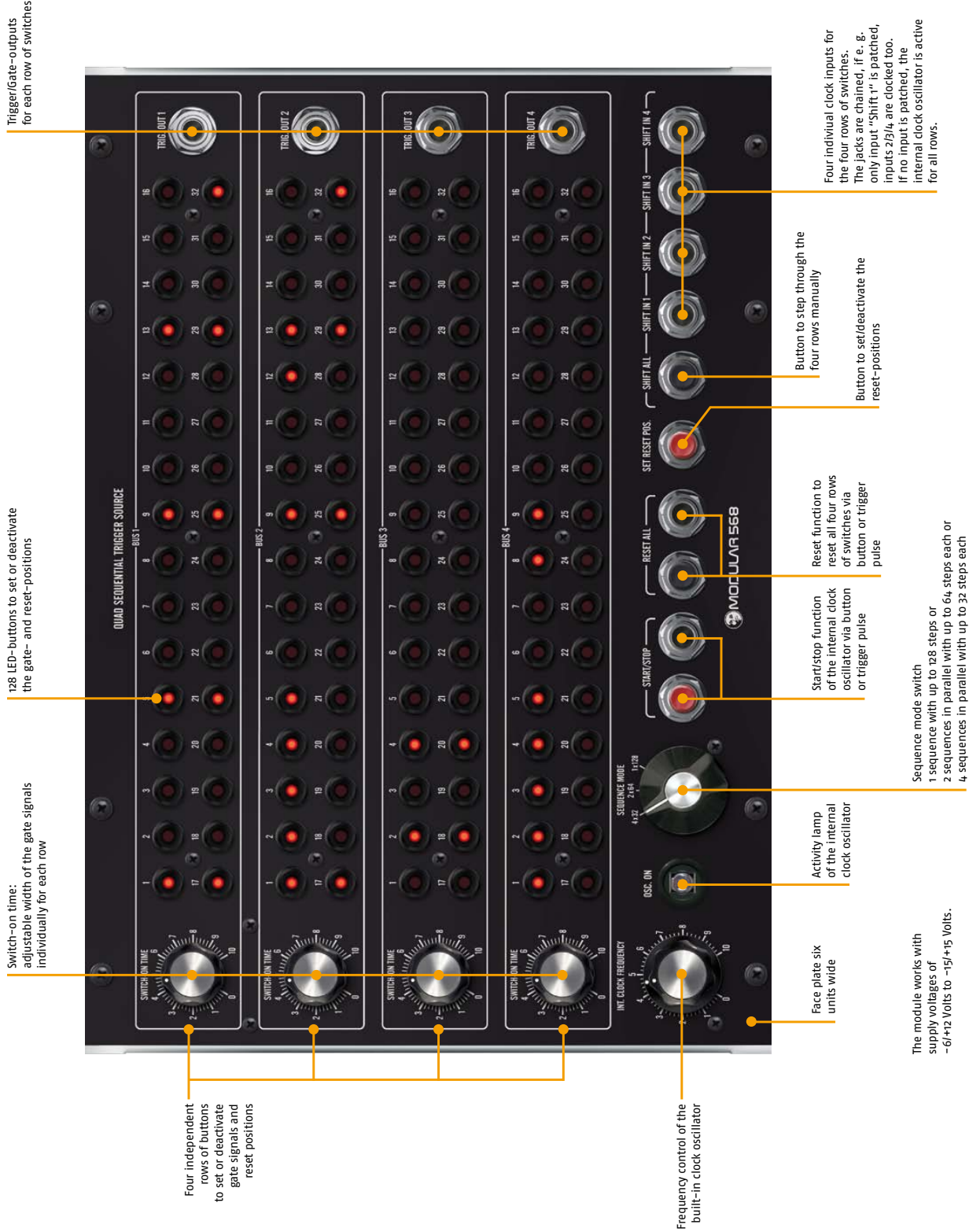
Example: preset 5 in memory bank 1 is running and I push the "Next"-button: preset 6 gets recalled, pushing the "Previous"-button will activate preset 4.

Button and jack "Reset" activate a return to memory bank 1/slot 1.

TM

568

QUAD SEQUENTIAL TRIGGER SOURCE



Trigger/Gate-outputs for each row of switches

128 LED-buttons to set or deactivate the gate- and reset-positions

Switch-on time: adjustable width of the gate signals individually for each row

Four independent rows of buttons to set or deactivate gate signals and reset positions

Frequency control of the built-in clock oscillator

Face plate six units wide

Start/stop function of the internal clock oscillator via button or trigger pulse

Button to step through the four rows manually

Button to set/deactivate the reset-positions

Four individual clock inputs for the four rows of switches. The jacks are chained, if e. g. only input "Shift 1" is patched, inputs 2/3/4 are clocked too. If no input is patched, the internal clock oscillator is active for all rows.

Sequence mode switch
1 sequence with up to 128 steps or
2 sequences in parallel with up to 64 steps each or
4 sequences in parallel with up to 32 steps each

The module works with supply voltages of -6/+12 Volts to -15/+15 Volts.

The M 568 **QUAD SEQUENTIAL TRIGGER SOURCE** is an elaborated trigger sequencer. It features four tracks of trigger positions, each with 32 steps, which can be combined to one long sequence of up to 128 steps:

- 4 sequences with up to 32 steps
- 2 sequences with up to 64 steps
- 1 sequence with up to 128 steps

The gate positions are activated by pushing the associated button. The LED lights up. Pushing the button again deactivates the respective gate position.

More than one reset position per row can be set. The active reset buttons are displayed by means of blinking LEDs. By reaching the first blinking position a reset to step 1 is actuated (and triggers a gate, if position 1 is active/LED on).

To set/remove a reset position push and hold the „Set Reset Pos“ button - then push as many buttons as desired and release „Set Reset Pos“.

Pushing and holding „Set Reset Pos“ and „Reset All“ deactivates all gate and reset positions at once.

The gate outputs are „mirrored“ depending on the chosen „Sequence Mode“. In 2 x 64 mode the gate outputs 1 and 2 respectively 3 and 4 deliver the same output, while the switch-on times of both parallel outputs may be different.

This means: E. g. output 1 with a short gate time provides all active gates, while output 2 with a relatively long gate time provides only a few „long“ gate signals.

In 1 x 128 mode the four gate outputs provide four times the same signal in parallel. This time with individual gate lengths, as desired, as well.

568 A

QSTS ASSISTANT MODULE

4-way switch to select the running direction of the 568 QSTS's four tracks: forward, reverse, forward/reverse („ping-pong“), random

The M 568 A module is an addition to the M 568 Quad Sequential Trigger Source. It expands the four trigger tracks of the 568 QSTS with a couple of useful functions:

- each track has its own reset-input jack
- each track has two independent trigger outputs, which can be assigned to any desired step position

Assigning/deleting these positions takes place at the 568 QSTS module in combination with the „Select A“ and „Select B“ buttons at the 568 A module:

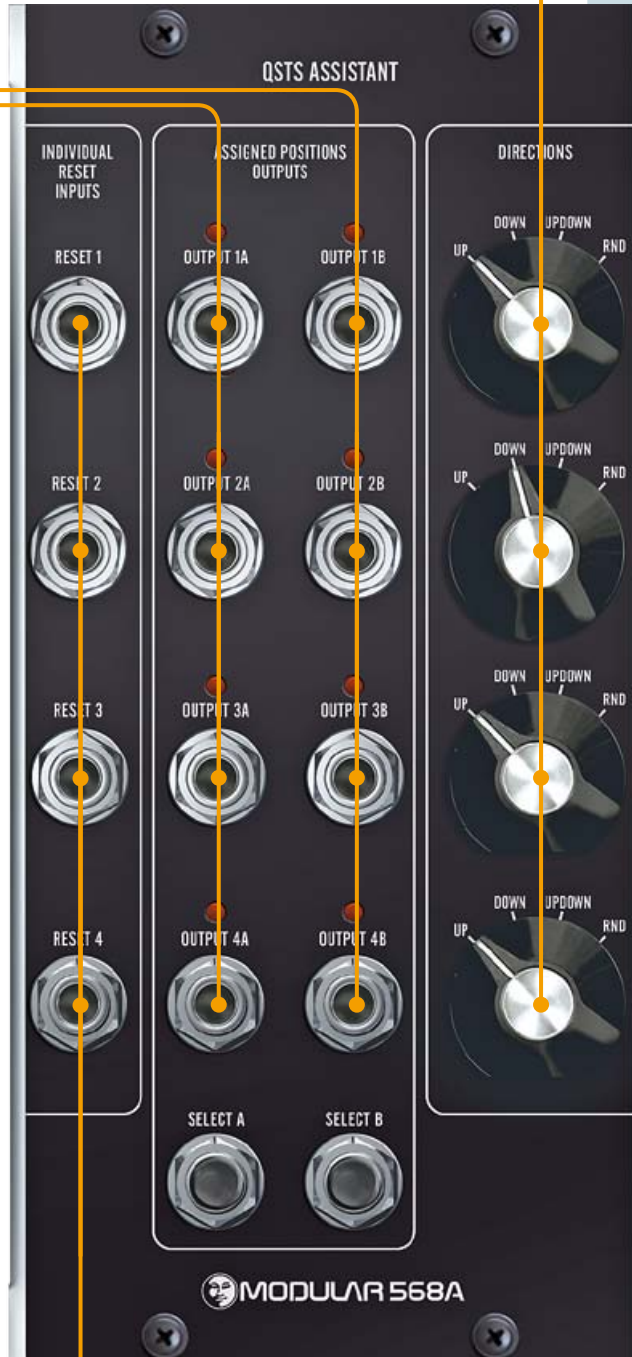
Press and hold the select A/B button (set positionen on the 568 QSTS blink), press the desired position at the 568 QSTS.

If a 568 P programmer module is attached to the 568 QSTS, the eight step-positions of the 568 A will be saved together with the sequences.

- each track has a 4-position rotary switch to select the 568 QSTS's running direction

Changing the direction (except random) doesn't happen at once but after the next reset (end/start/turning back) of the respective track.

Two individually assignable trigger-outputs for each of the 568 QSTS's four tracks



Four individual reset inputs for track 1-4 of the 568 QSTS

569

QUAD SEQUENTIAL VOLTAGE SOURCE

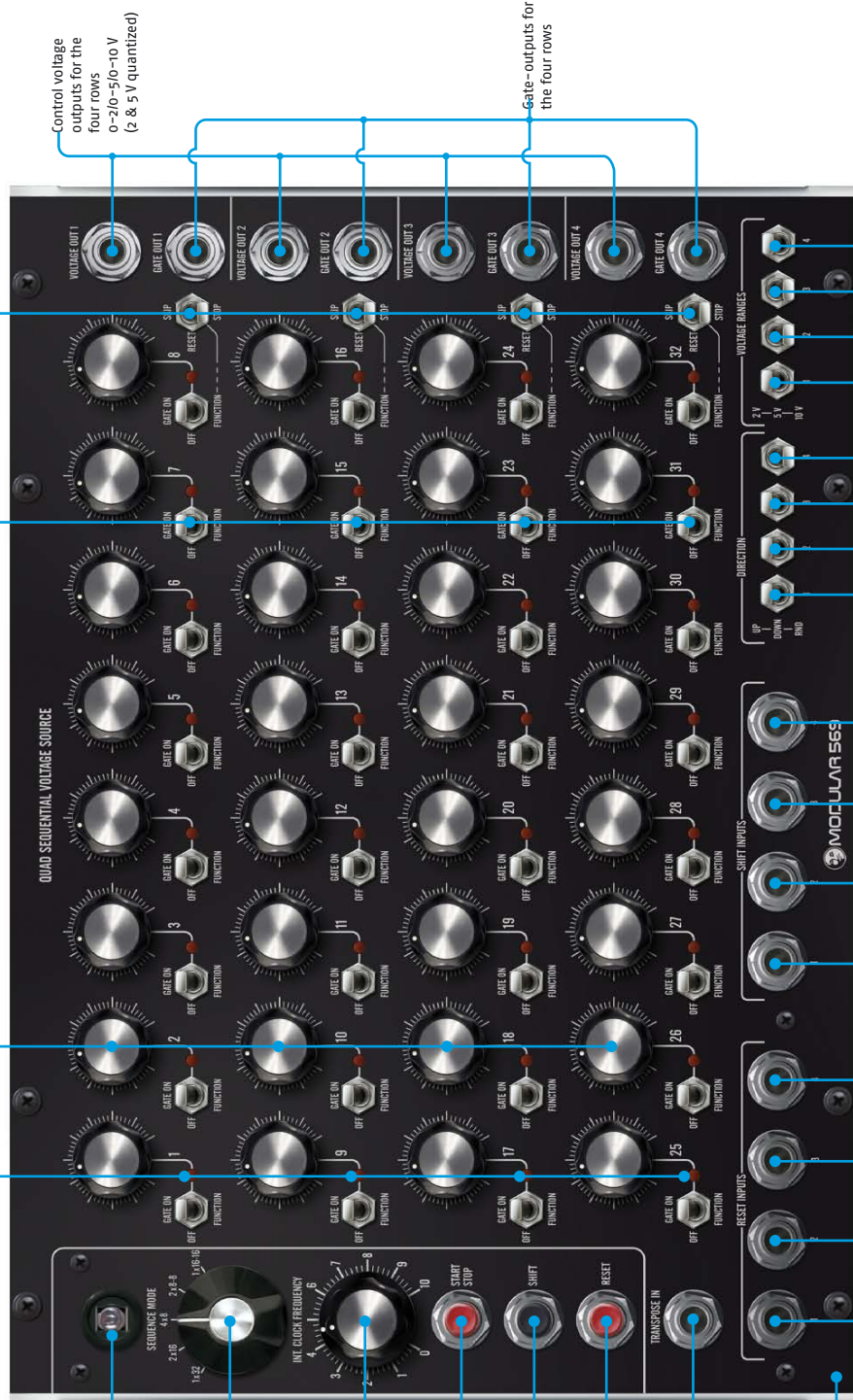
32 Position - LEDs

32 control voltage pots in four rows with eight positions each; voltage range (separately switchable for each row) 0-2V-5V-10V.
The 2V and 5V ranges are quantized.

With the step-mode switches in their "Function" position, the switches in this row can have one of the following functions:

- 32 step-mode switches offering for every step/voltage position:
- Gate on
- Gate off
- "Function"

QUAD SEQUENTIAL VOLTAGE SOURCE



Control voltage outputs for the four rows 0-2V-5V-10V (2 & 5V quantized)

Gate-outputs for the four rows

Control voltage ranges are switchable independently for the four rows between 0-2 volts, 0-5 volts and 0-10 volts.
The 0-2 volts and 0-5 volts ranges are quantized to semitones (1V/oct), the Direction-switches 2 resp. 2/4, activate the "ping-pong"-mode (bidirectional).

Separate direction-switches "up-down-random" for each of the four sequencer rows (function dependant on the chosen "Sequence Mode").
In sequence-mode 16 or 32, the Direction-switches 2 resp. 2/4, activate the "ping-pong"-mode (bidirectional).

Separate shift inputs for each of the four sequencer rows (function dependant on the chosen "Sequence Mode")

Separate reset inputs for each of the four sequencer rows (function dependant on the chosen "Sequence Mode")

The last analog sequencer you'll ever need...

The M569 is an analog step-sequencer with up to 32 positions, arranged in four rows.

Each row can be controlled absolutely independent from each other, so that the user has practically up to four separate sequencers at his disposal, each with its own clock- and reset-input jacks, and - at the same time - different running directions (up, down, random and "ping-pong").

In addition the control voltage outputs can be switched between three ranges (2 V, 5 V und 10 V, with the 2 V und 5 V ranges supplying a (to 1/12 V) quantized output voltage.

Each step position has its own "step-mode"-switch to toggle the gate signal of the respective step position on or off.

In the "Function" position it (again separately for the four rows) can be defined as skip, reset or stop-command.

The sequencer modes in detail:

1 x 32

All four rows run in series to achieve sequences of up to 32 steps; only Reset Input 1 and Shift Input 1 are active then; as well as the switches Direction 1, Range 1 and Function 1.

With the Direction switch 2 in the Down or Random position the "ping-pong"-mode (up-down) is activated. All four gate- and voltage-outputs supply an identical output signal.

2 x 16

Rows 1 and 2 run in series, as well as rows 3 and 4, (1 & 2 and 3 & 4 in parallel), so up to 16 steps divided in two sequences are possible here.

Reset Input 1 & 3 and Shift Input 1 & 3 are active, just as the switches Direction 1 & 3, Range 1 & 3 and Function 1 & 3.

With Direction switches 2 resp. 4 in position Down or Random, the "ping-pong"-mode (up-down) is activated.

The gate-outputs 1 & 2, 3 & 4, and the control voltage-outputs 1 & 2, 3 & 4, supply each identical signals.

4 x 8

All four rows 1, 2, 3 & 4 run in parallel and independently from each other, all inputs, switches and jacks act separately, the four outputs deliver their own signal each. This is the "four-sequencers-in-one" mode.

2 x 8-8

Sort of "preset-subset" of the 4 x 8 mode. All four sequencer-rows run always in parallel and in step, controlled by one common pair of shift- and reset commands, just like a "four-channel-sequencer".

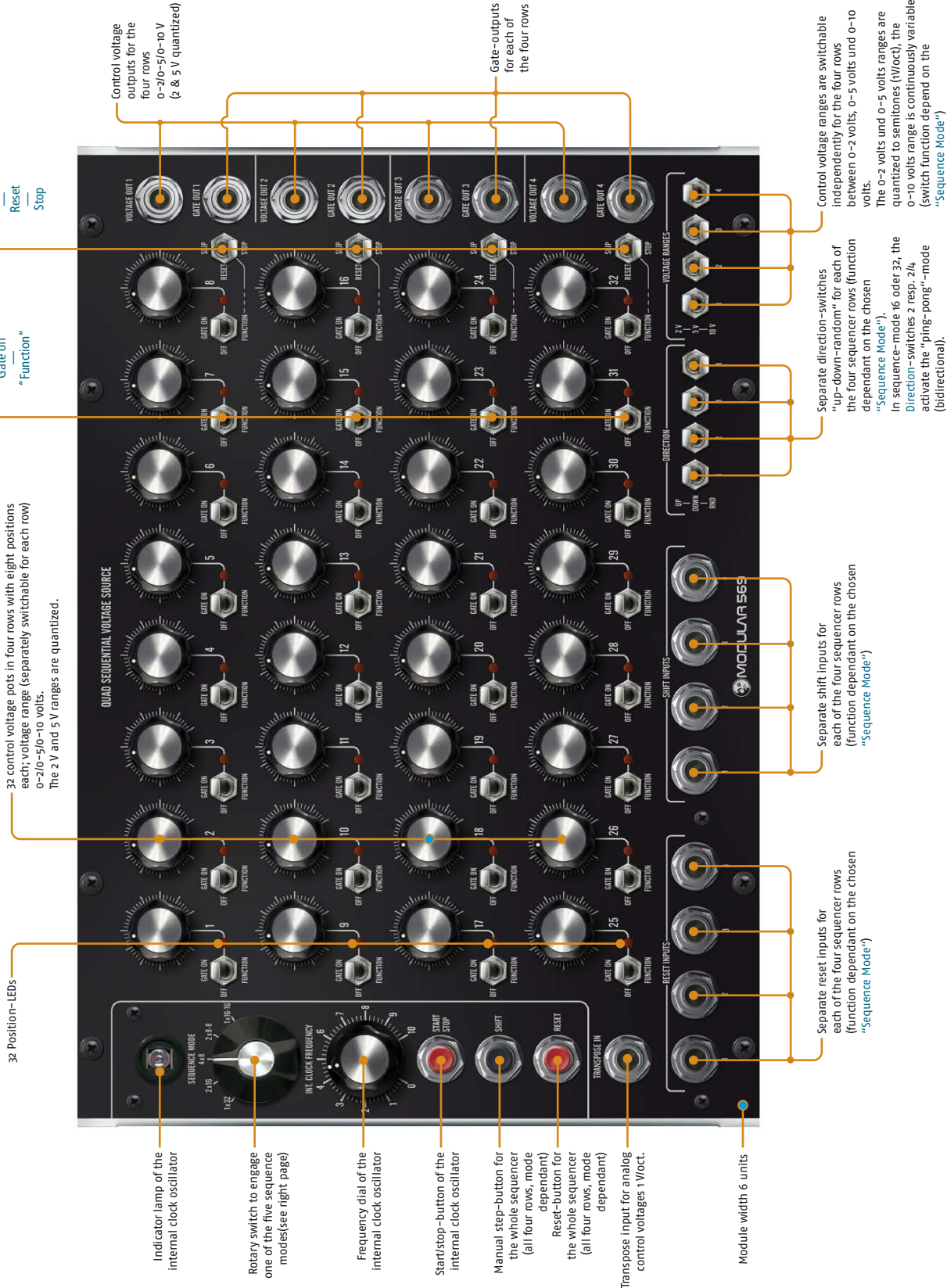
1 x 16-16

Another "preset-subset", this time derived from the 2 x 16 mode.

The sequencer-rows 1/2 und 3/4 run always in parallel and in step, controlled by two common pairs of shift- and reset commands, just like a 16 step "two-channel-sequencer" - think 'stereo'.

569 V2

QUAD SEQUENTIAL VOLTAGE SOURCE



The last analog sequencer you'll ever need...

The **M569 V2** is an analog step-sequencer with up to 32 positions, arranged in four rows.

Each row can be controlled absolutely independently from each other, so that the user has practically up to four separate sequencers at his disposal, each with its own clock- and reset-input jacks, and – at the same time – different running directions (up, down, random and “ping-pong”).

In addition the control voltage outputs can be switched between three ranges (2 V, 5 V und 10 V, with the 2 V and 5 V ranges supplying a (to 1/12 V) quantized output voltage.

Each step position has its own “step-mode” – switch to toggle the gate signal of the respective step position on or off. In the “Function” position it (again separately for the four rows) can be defined as skip, reset or stop-command.

The new version of the **569 Quad Sequential Voltage Source** is called **v2**. The main differences to the original **569** lie “under the hood”:

- It can “speak” to the **569 E Quad Voltage Store Expander**.
- It can be expanded by the **569 C Row Mode Controller**. That module allows to assign up to three special functions to defined steps of a sequence:

1. Control voltage
2. Gate-on time
3. Clock division
4. Clock multiplication (aka “ratchet”)
5. The transp. input of the 569 can be switched on and off per row.

– It can now be expanded by up to two **565 D** quantizer controller modules.

The sequencer modes in detail:

1 x 32
All four rows run in series to achieve sequences of up to 32 steps; only **Reset Input 1** and **Shift Input 1** are active then; as well as the switches **Direction 1**, **Range 1** and **Function 1**. With the **Direction** switch 2 in the **Down** or **Random** position the “ping-pong”-mode (up-down) is activated. All four gate- and voltage-outputs supply an identical output signal.

2 x 16
Rows 1 and 2 run in series, as well as rows 3 and 4 (1 & 2 and 3 & 4 in parallel), so up to 16 steps divided in two sequences are possible here. **Reset Input 1 & 3** and **Shift Input 1 & 3** are active, just as the switches **Direction 1 & 3**, **Range 1 & 3** and **Function 1 & 3**.

With **Direction** switches 2 resp. 4 in position **Down** or **Random**, the “ping-pong”-mode (up-down) is activated. The gate-outputs 1 & 2, 3 & 4, and the control voltage-outputs 1 & 2, 3 & 4 supply each identical signals.

4 x 8
All four rows 1, 2, 3 & 4 run in parallel and independently from each other, all inputs, switches and jacks act separately, the four outputs deliver their own signal each. This is the “four-sequencers-in-one” mode.

2 x 8-8
Sort of “preset-subset” of the 4 x 8 mode. All four sequencer-rows run always in parallel and in step, controlled by one common pair of shift- and reset commands, just like a “four-channel-sequencer”.

1 x 16-16
Another “preset-subset”, this time derived from the 2 x 16 mode. The sequencer-rows 1/2 and 3/4 run always in parallel and in step, controlled by two common pairs of shift- and reset commands, just like a 16 step “two-channel-sequencer” – think “stereo”.

With the step-mode switches in their “Function” position, the switches in this row can have one of the following functions:
Skip
Reset
Stop

32 step-mode switches offering for every step/ voltage position:
Gate on
Gate off
“Function”

32 control voltage pots in four rows with eight positions each; voltage range (separately switchable for each row) 0-2/0-5/0-10 volts.
The 2 V and 5 V ranges are quantized.

Control voltage outputs for the four rows 0-2/0-5/0-10 V (2 & 5 V quantized)

Gate-outputs for each of the four rows

Control voltage ranges are switchable independently for the four rows between 0-2 volts, 0-5 volts und 0-10 volts.
The 0-2 volts und 0-5 volts ranges are quantized to semitones (1/12oct) the 0-10 volts range is continuously variable (switch function depend on the “Sequence Mode”).

Separate direction-switches “up-down-random” for each of the four sequencer rows (function dependent on the chosen “Sequence Mode”).
Direction-switches 2 resp. 2/4, activate the “ping-pong”-mode (bidirectional).

Separate reset inputs for each of the four sequencer rows (function dependent on the chosen “Sequence Mode”).

Separate shift inputs for each of the four sequencer rows (function dependent on the chosen “Sequence Mode”).

569C

ROW MODE CONTROLLER



Mode control switches for the four rows of the 569 v2.

The four positions allow:
 - add control voltage
 - define gate-on time
 - clock division (fewer triggers per clock step
 - clock multiplication (more triggers per clock step aka "ratchet")

The control switches can work on up to three rows of the sequencer

Row 1 to control row 2/3/4
 Row 2 to control row 1/3/4
 Row 3 to control row 1/2/4
 Row 4 to control row 1/2/3

Activated by the "Desitination" buttons

Buttons to switch transposition control voltage inputs on/off per row

The 569 **QUAD SEQUENTIAL VOLTAGE SOURCE** now reaches its version 2.0. The main differences to the original 569 lie "under the hood".

Enhancement #1: it can "speak" to the 569 E Quad Voltage Store Expander.

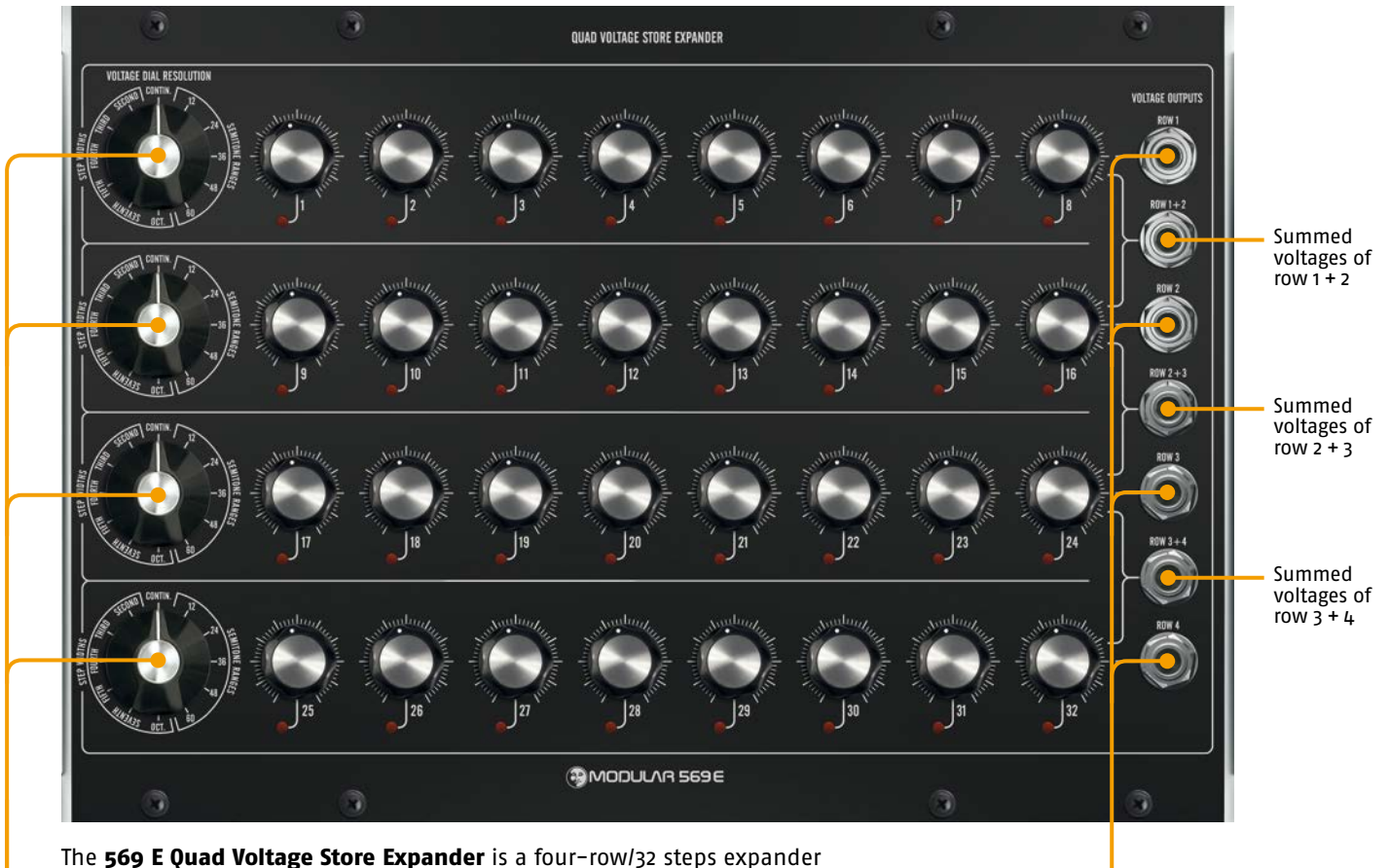
Enhancement #2: it can be expanded by the 569 C Row Mode Controller. This module allows to assign up to three special functions to defined steps of a sequence:

1. Control voltage
2. Gate-on time
3. Clock division
4. Clock multiplication (aka "ratchet")
5. The transpose input of the 569 can be switched on and off per row.

Enhancement #3: it can be expanded by up to two 565 D quantizer controller modules.

569E

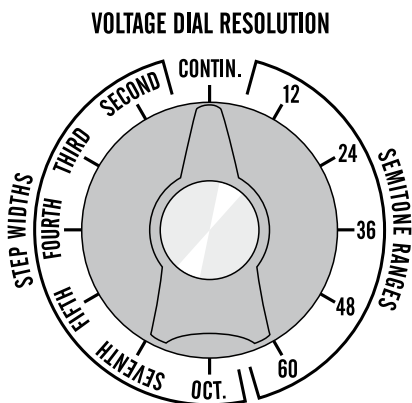
QUAD VOLTAGE STORE EXPANDER



The **569 E Quad Voltage Store Expander** is a four-row/32 steps expander module for the 569 v2 Sequencer. It expands the 569 sequencer by 4 x 8 control voltage dials of which two rows can be combined to sum their corresponding output voltages.

This way you can control the voltages in defined steps to set precise sequences on the fly. The four "Voltage Dial Resolution" dials on the left side specify the quantized ranges of the voltage controllers in three ways.

Single voltage outputs per row



Contin. = the full control range, unquantized 0 – 10 V

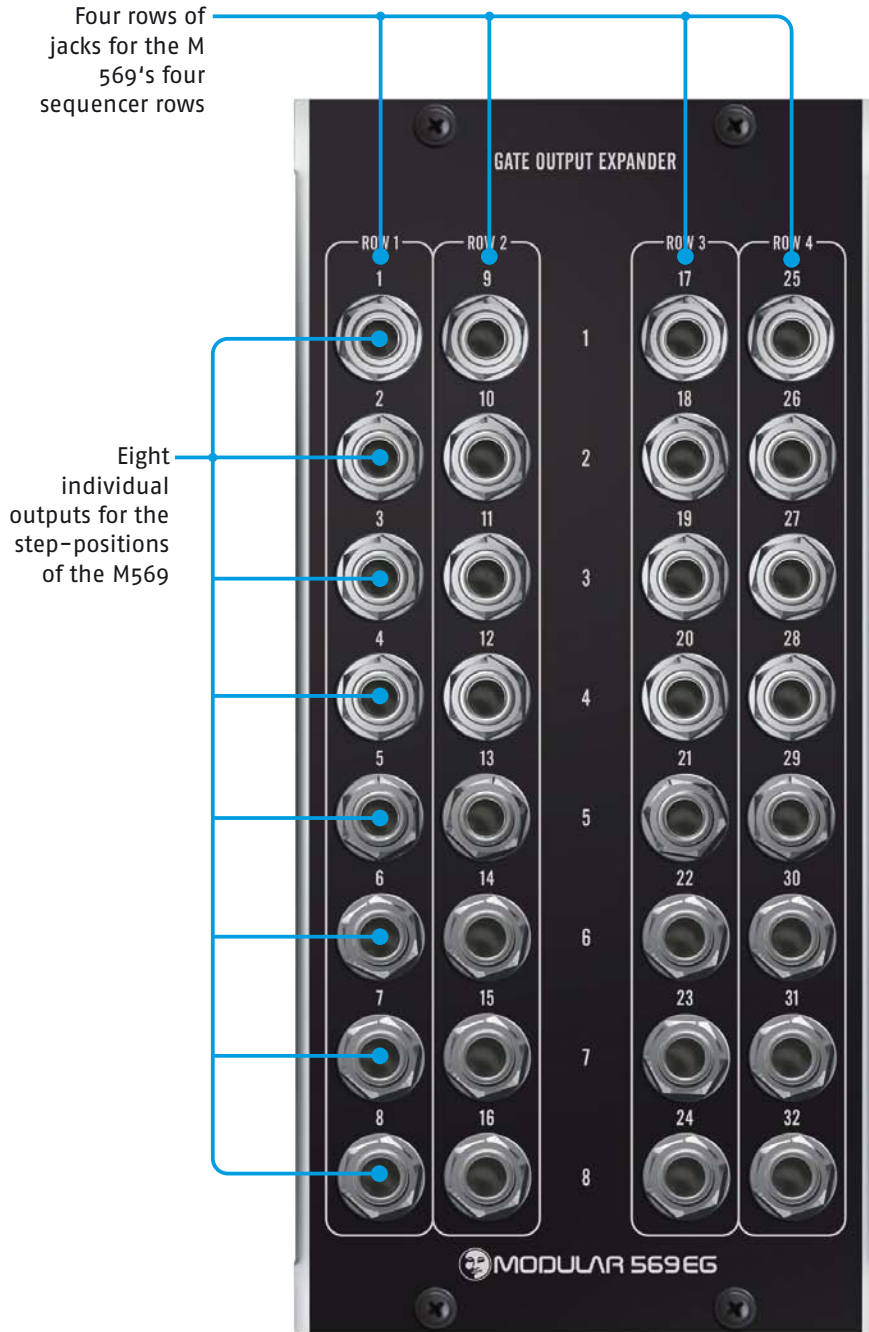
Right half/Semitone Ranges: the controls are quantized in semitones while the the pot's full range is divided in 12, 24, 36, 48 or 60 steps.

Left half/Step Widths: the control range (0-10 V) is divided in steps

- second (2 semitones),
- third (4 semitones),
- fourth (5 semitones),
- fifth (7 semitones),
- seventh (9 semitones) and
- octave (12 semitones).

569 EG

GATE OUTPUT EXPANDER

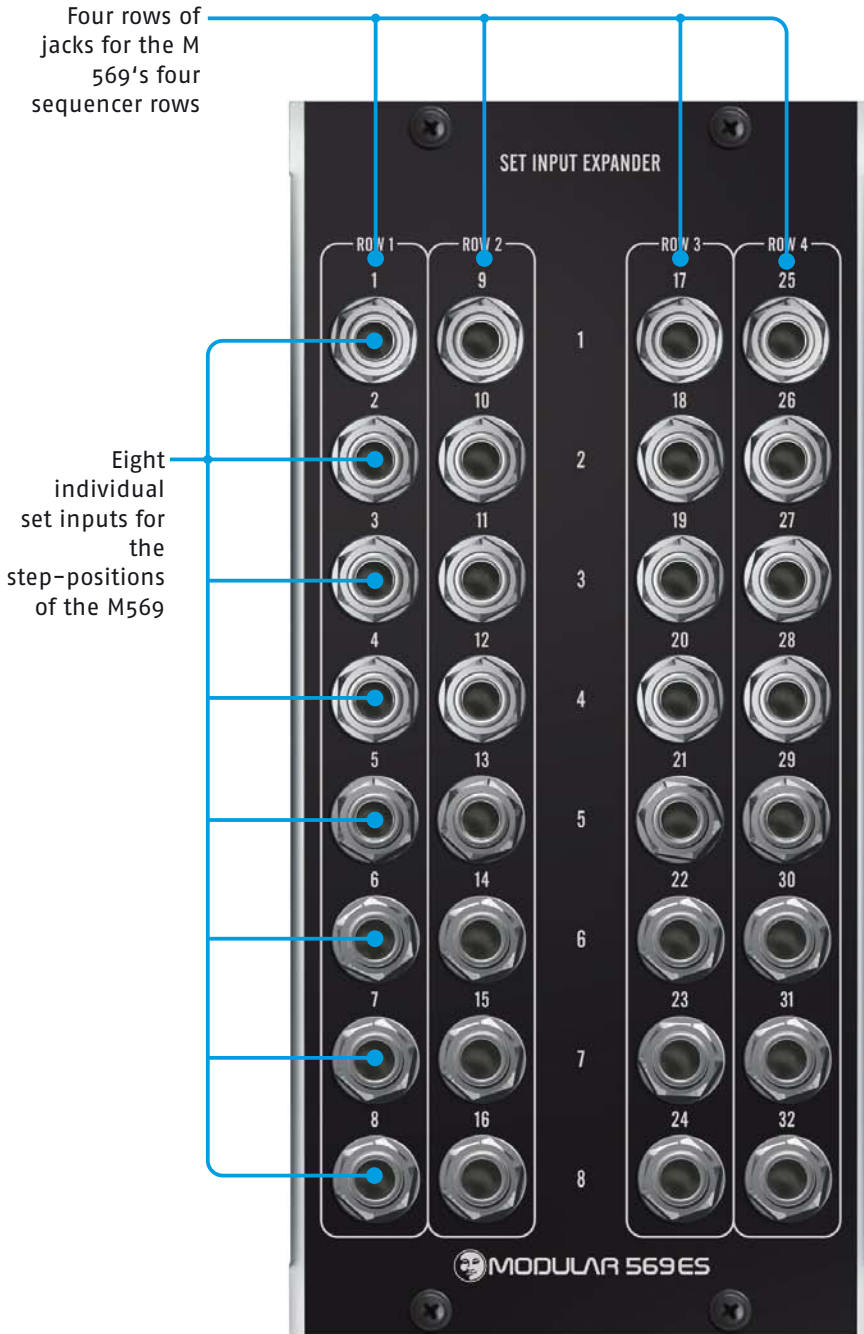


The M569 EG is a companion module to the M569 quad sequential voltage source.

It expands the M569 by 32 individual gate outputs and allows direct access to every single step position.

569 ES

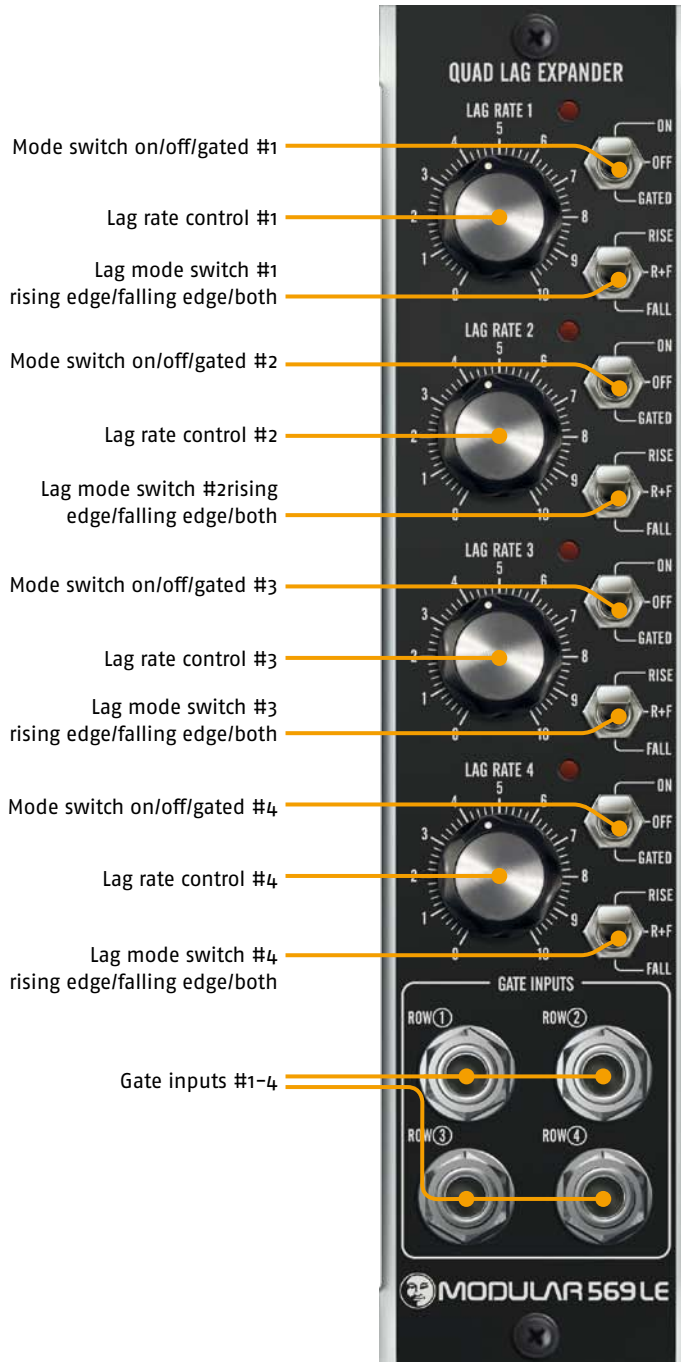
SET INPUT EXPANDER



The M569 ES is a companion module to the M569 quad sequential voltage source. It expands the M569 by 32 individual set inputs and allows direct positioning of every single step position.

569 LE

QUAD SEQUENCER LAG EXPANDER

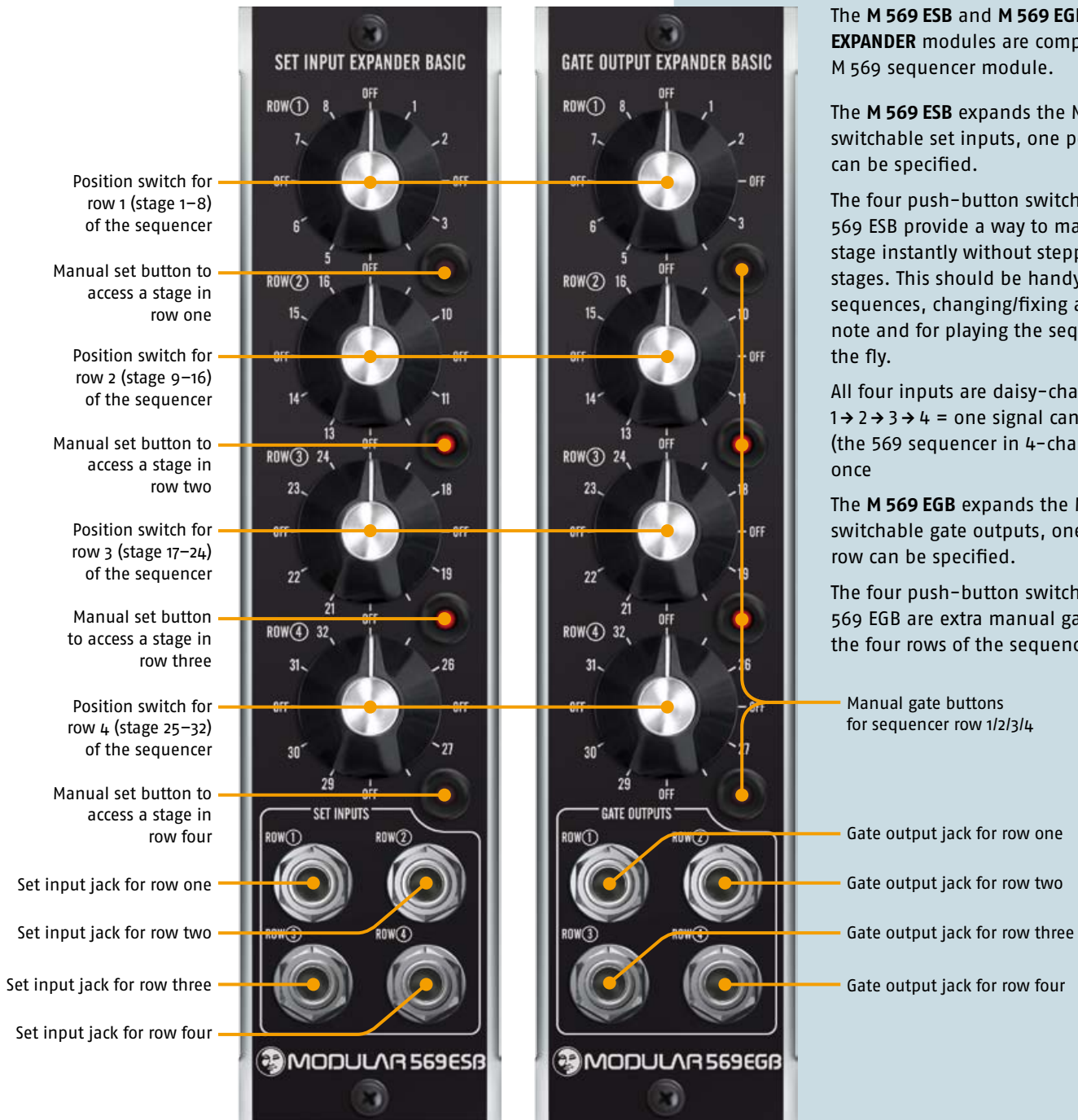


The **M 569 LE EXPANDER** is another companion module to the M 569 sequencer which expands the sequencer's four rows by four lag voltage outputs (aka portamento).

Each row has its own lag rate control as well as switchable on/off/gated mode and switchable lag function for rising or falling edge only or both.

569 ESB/EGB

SET INPUT EXPANDER/GATE OUTPUT EXPANDER BASIC



The **M 569 ESB** and **M 569 EGB BASIC EXPANDER** modules are companions to the M 569 sequencer module.

The **M 569 ESB** expands the M569 by four switchable set inputs, one position per row can be specified.

The four push-button switches on the 569 ESB provide a way to manually access a stage instantly without stepping through all stages. This should be handy for setting up sequences, changing/fixing a particular note and for playing the sequencer on the fly.

All four inputs are daisy-chained: 1 → 2 → 3 → 4 = one signal can set all rows (the 569 sequencer in 4-channel mode) at once

The **M 569 EGB** expands the M 569 by four switchable gate outputs, one position per row can be specified.

The four push-button switches on the 569 EGB are extra manual gate buttons for the four rows of the sequencer.

Manual gate buttons for sequencer row 1/2/3/4

Gate output jack for row one

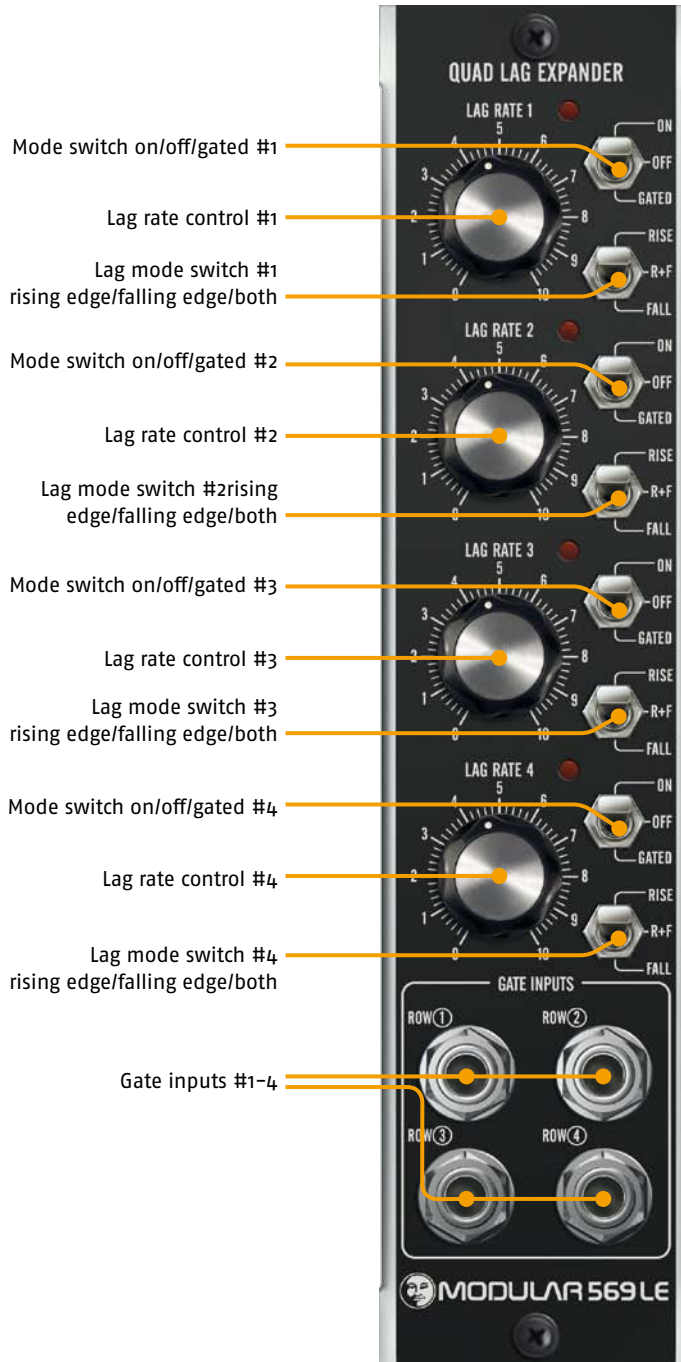
Gate output jack for row two

Gate output jack for row three

Gate output jack for row four

569 LE

QUAD SEQUENCER LAG EXPANDER

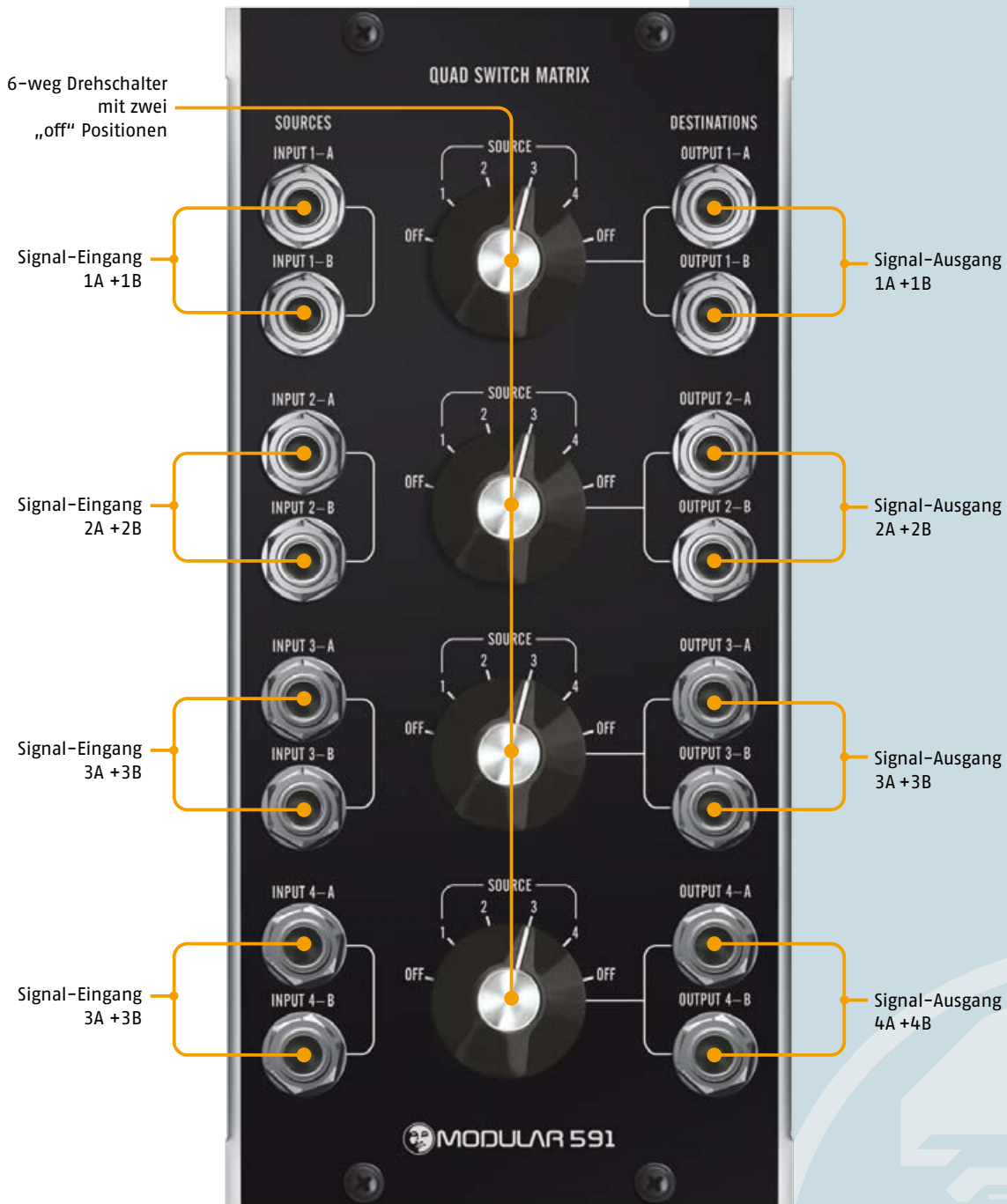


The **M 569 LE EXPANDER** is another companion module to the M 569 sequencer which expands the sequencer's four rows by four lag voltage outputs (aka portamento).

Each row has its own lag rate control as well as switchable on/off/gated mode and switchable lag function for rising or falling edge only or both.

591

QUAD SWITCH MATRIX ROUTER



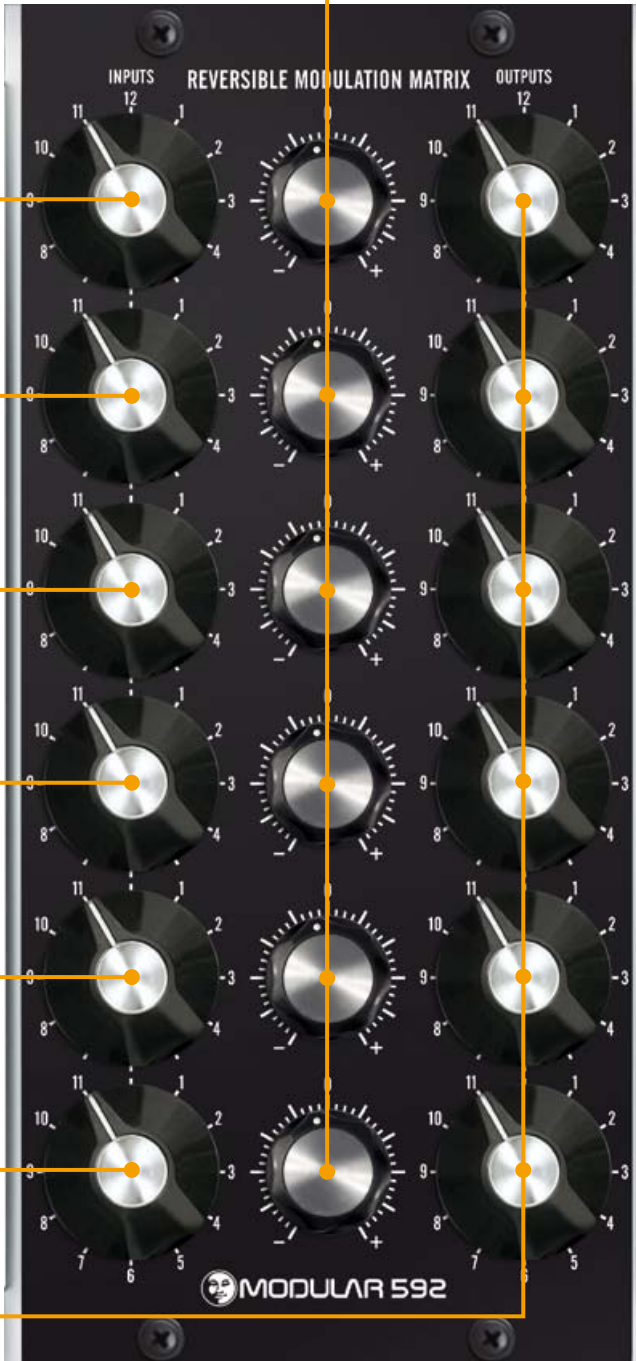
Über vier Drehschalter werden 2 x 4 Signalwege („Source“) paarweise auf vier Ausgangsbuchsen-Paare („Destination“) geroutet.

592

REVERSIBLE MODULATION MATRIX

Six control define the amplitude of the inserted input signal

Six rotary switches to chose between 12 modulation/control voltage sources



Six rotary switches to chose between 12 modulation/control outputs

Operating Voltages
+15/-15 volts
+12/-12 volts
+12/-6 volts

The **M 592 REVERSIBLE MODULATION MATRIX** combines six attenuator-units, consisting of three elements each:

- 12 position input selector to chose one of 12 signal inputs
- reversible attenuator, which attenuates or amplifies the input signal in a range from -200% to +200% (or $\pm 100\%$ depending on the jumper setting on the module PCB); in zero-position the signal is suppressed completely
- 12 position output selector to chose one of 12 signal outputs

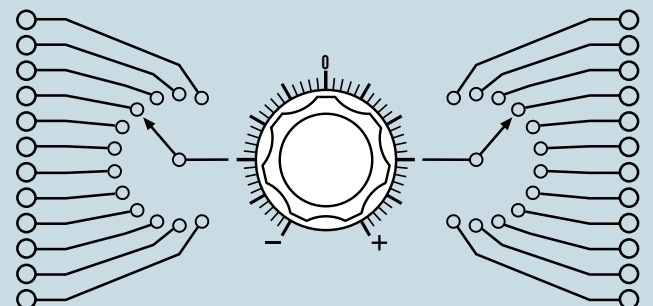
The complete modulation matrix consists of three (or in one special case two, see below) modules – the central active control unit M 592 and the sub-modules M 592i/592o with 12 in- and 12 output-jacks.

The inputs are connected via switching jacks: one single modulation source can – without any extra patchcords – be routed to several different outputs at once via independent attenuators. If no plug is inserted at input 1 a fixed 5 volt voltage is present. By changing the setting of the jumpers on the back of the input module these connections can be interrupted.

If more than one input signal is routed to an output, these voltages are summed in the output module.

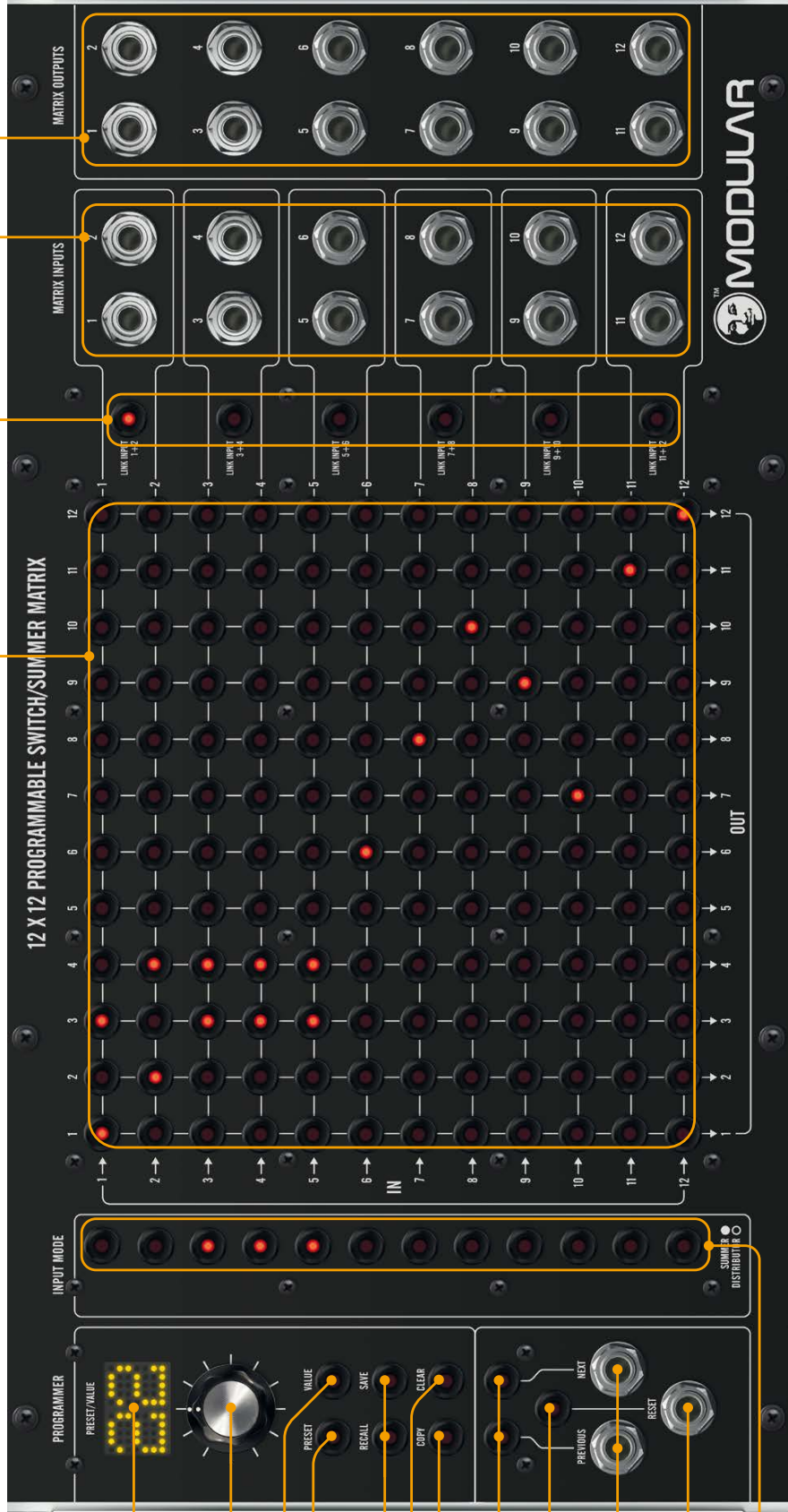
Using the connectors on the rear of the in/ out submodules, internal pre-wiring is possible.

When using an original Moog cabinet (e. g. IIIp), an in/out- module of the size of a "CP"-panel (2U width) is available. See page 2.



595

12X12 PROGRAMMABLE SWITCH/SUMMER MATRIX



144 illuminated push buttons to specify the connections of the 12 inputs and 12 outputs

6 link buttons to combine the input pairs to act in parallel (e.g. pitch-voltage and gate signals)

12 input jacks (vertical rows)

12 output jacks (horizontal rows)

Preset/value display

Encoder/actuator dial

Button to enter "value mode"

Button to enter "preset mode"

Buttons to recall and save presets

Button to erase the selected preset

Button to copy the selected preset to another memory position

Recalling the next/previous preset via push button

Button to return to preset 01

Inputs to recall the previous and next presets via trigger pulse

Inputs to return to preset 01 via trigger pulse

Input mode buttons to toggle the 12 inputs individually from summer to distributor mode

Programmer

- 99 memory locations with an independent edit buffer.
- The programmer's endless rotary encoder with integrated pushbutton does allow to dial to a memory location and to confirm/about a command (RECALL, SAVE, COPY, CLEAR).
- With the lower "go to" buttons/jacks one can step through memory positions in either direction, even with trigger pulses from external sources.

The M 595 PROGRAMMABLE SWITCH/SUMMER MATRIX

is a solution to manage the distribution and/or mixing of 12 inputs to 12 outputs.

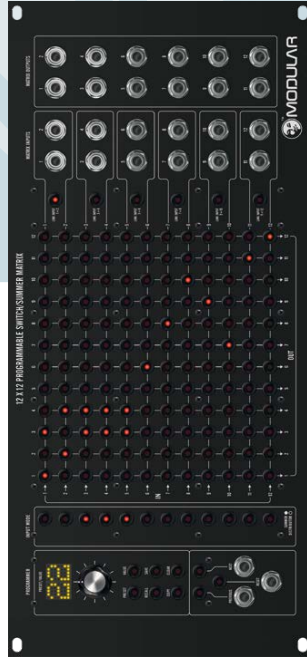
- 12 DC-coupled and buffered inputs and outputs, fully analogue with a high precision signal path.

Input mode

- Routing/Distribution (off/on) or mixing signals (off/full)

Link mode

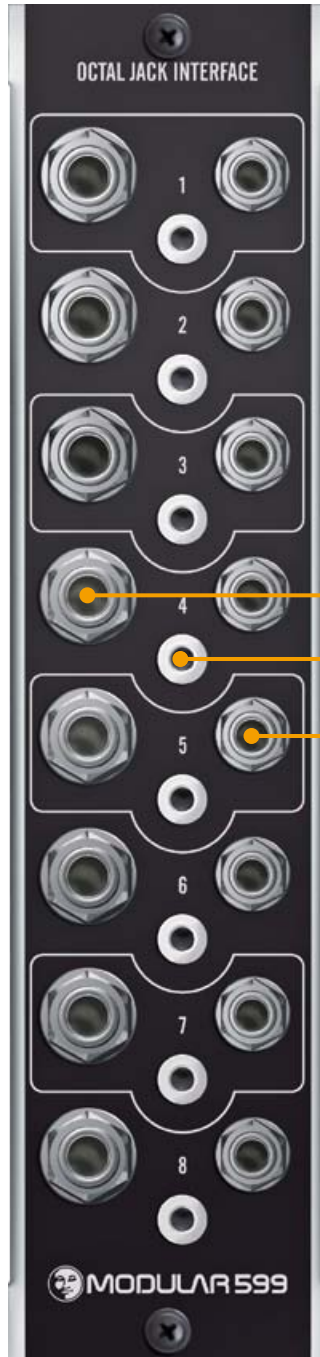
Inputs and outputs are paired to handle immediately a combination of e.g. the CV and GATE outputs of a sequencer or a stereo audio signal.



In the future the switch/summer matrix system will be available as a 19" self contained rack mountable unit.

599

OCTAL JACK INTERFACE



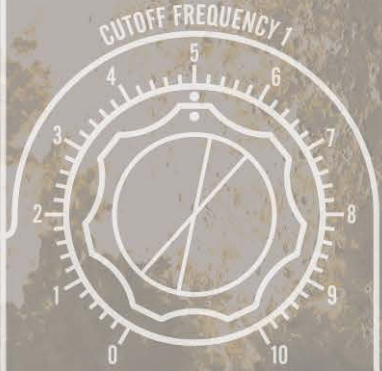
The M 599 **OCTAL JACK INTERFACE** module combines eight sets of jacks:

- 1/4" (6,35 mm)
- Banana
- 1/8" (3,5 mm)

COUPLED DUAL VOLTAGE CONTROLLED
HIGH PASS/LOW PASS FILTER

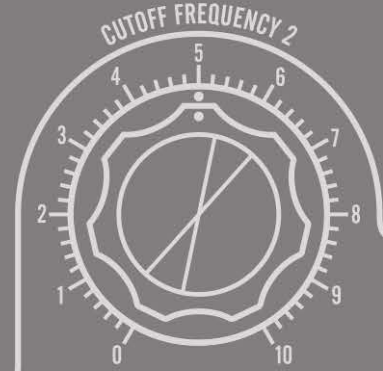
⊕

CUTOFF FREQUENCY 1



⊕

CUTOFF FREQUENCY 2



COMBINATOR MODE

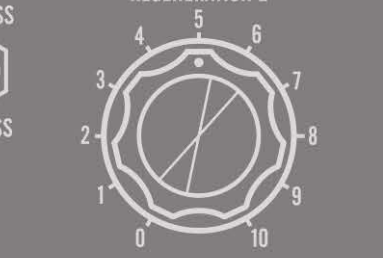
SEPARATE SERIAL BAND PASS NOTCH



REGENERATION 1



REGENERATION 2



HIGH PASS



LOW PASS




HIGH PASS



LOW PASS



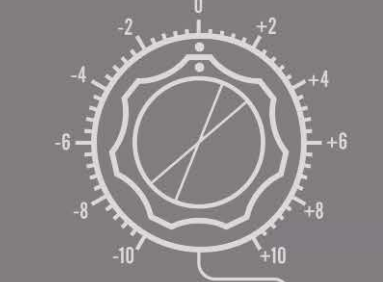
FREQUENCY MODULATION 1




BANDWIDTH FILTER 1/2



FREQUENCY MODULATION 2



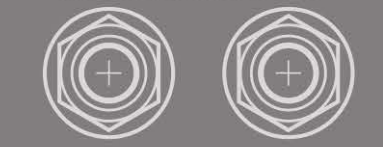
FREQUENCY CONTROL INPUTS 1



BALANCE FILTER 1/2



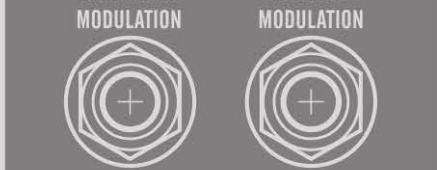
FREQUENCY CONTROL INPUTS 2




REGEN. MODULATION 1



BANDWIDTH MODULATION




BALANCE MODULATION




REGEN. MODULATION 2




AUDIO INPUT 1




AUDIO OUTPUT 1



COMBINED SIGNAL OUTPUT 1+2



AUDIO INPUT 2



AUDIO OUTPUT 2

