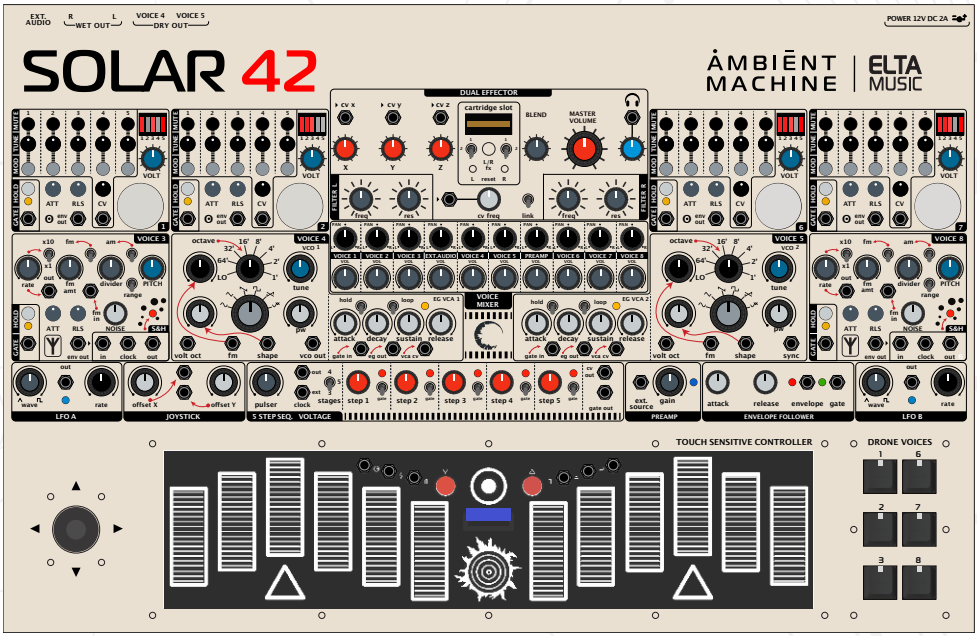
ELTA MUSIC | ÀMBIĒNT MACHINE

USER MANUAL


VOLT
ATT
RLS
CV
env
out
VOICE
x10
fm
am
x1
out
fm
amt
divider
fm

SOLAR 42 is a unique experimental electronic music instrument, analogue microtonal ambient drone machine and semi-modular stand-alone synthesizer. Perfect for live performances, creating soundtracks for movies or theatrical productions, atmospheric soundscapes, microtonal and background music. This is an improved version of its predecessor Elta Music SOLAR 50 model. The **SOLAR 42** offers a vast array of sounds that can be created. The instrument is created with the inspiration taken from early electronic musical instruments of the 1920s and 1950s, particularly Leo Theremin's instrument called “Harmonium”, and from the soundtrack of science fiction movie "Blade Runner 2049"



SOLAR 42 does not look like a classic synthesizer which may confuse the user due to complicated design. In fact, it is easy to use and program. It has 8 voices as separate blocks, a mixer with pan and double effector and various blocks of CV sources. The instrument is made in such a way that you can create full-blown drone or ambient tracks on it without multitrack recording.

FEATURES

- Two volt octave VCO voices with different waveform variations, morphing and touch sensitive keypad controller for volt octave voices.
- Six drone voices with separate push-button keypad
- Two white noise generators,
- Two S&H generators
- Five LFO generators,
- 5 step sequencer,
- Joystick
- Preamp for contact mic + envelope follower
- Stereo mixer with panoramic left and right channels
- Dual 12 dB POLIVOKS filter
- Dual cartridge effector combiner with CV control. Now you can load a different effect on each channel.
- Stereo audio output. Dry audio outputs volt octave voices. External audio input.

OUTS VOLTAGE SPECIFICATION

DRY V4 V5: max. 1 V

WET: max. 2 V

VCO: 10 V (-5V...+5V)

EG: 0...8 V

ENV VOICES 1,2,3,6,7,8: -10 V...+ 10 V

LFOs: 0...+10V

PULSERL: -10V...+10V

ENV FOLLOWER CV: 0...+10V

ENV FOLLOWER GATE: 0...+8V

JOYSTICK: -10V...+10V
left: -10V...-5V...0V
middle: -5V...0...+5V
right: 0...+5V...+10V

S&H: -5V...+5V

VOICE 3, 5 MODULATOR: 0....+12V

5 STEP SEQ CV: 0...+5V

5 STEP SEQ GATE: 0...+10V

POWER SUPPLY: DC 12V 1A...2A

WEIGHT: 5,4 KG (11,9 lb)

SIZE: 49,5 cm x 32 cm x 2,9 cm (5,6 cm height including potentiometer knobs)

SOLAR SET: SOLAR 42, cartridges kit, DC 12V2A power supply, instructions, 5 minijack patches, sticker pack.

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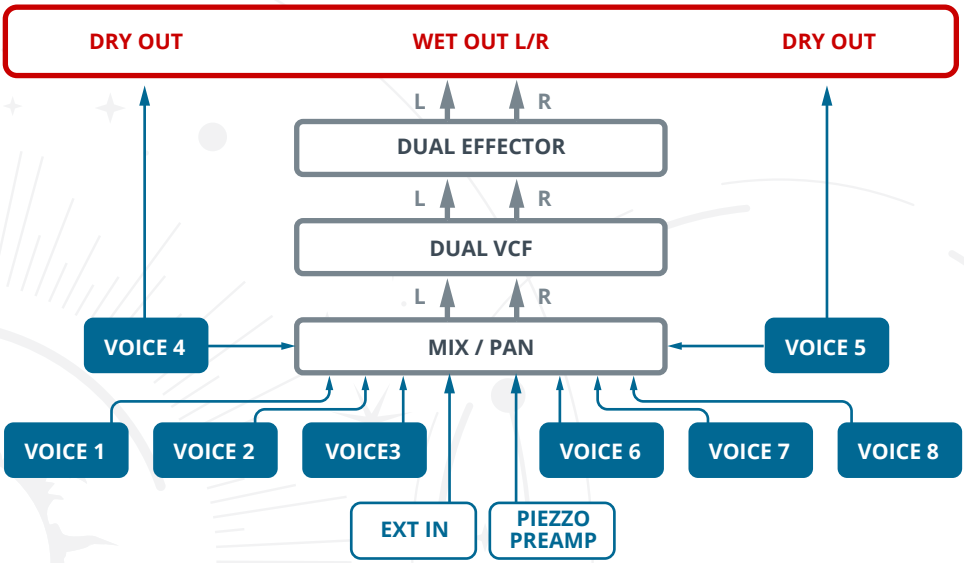
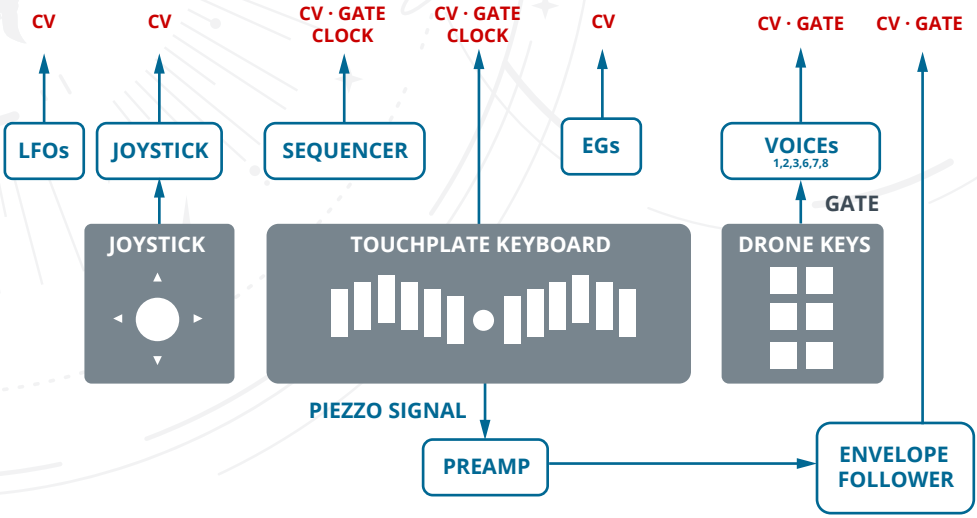
is the answer to the ultimate question of life, the universe and all things.....

BLOCK SCHEME

AUDIO ROUTING

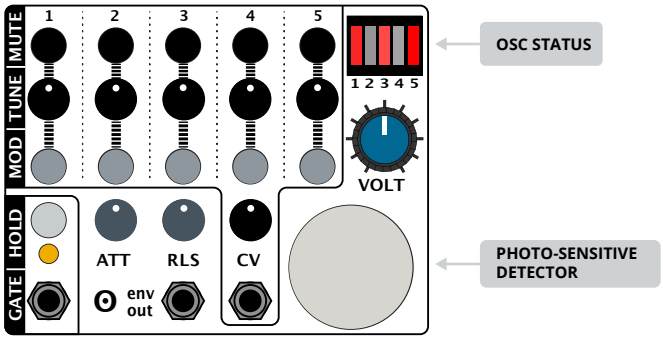


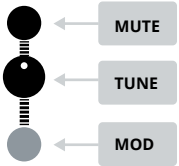
CONTROL SIGNAL SOURCES



Each voice consists of 5 simple sawtooth generators (**NO VOLT OCTAVE**) that do not have a logarithmic or linear voltage control like standard VCOs. There is only a **PITCH KNOB** – **TUNE**. 1st generator has a tuning knob from C0 to G2; 2nd generator – from B1 to G3; 3rd – from D3 to B4; 4th– from E 4 to C6; 5th – from G5 to D7; It covers the approximate range of 8 octaves from B0 to D7.

Attention! This is an approximate data. It may vary slightly in one direction or another.

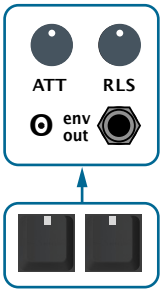




Each of the 5 generators in one voice can be turned off or on by **MUTE BUTTONS** allowing you to create different variations of chords and triads. Two-sounds mode or using one generator. You can modulate the pitch of the oscillators using the **MOD BUTTONS** by sending any CV source to the input of **CV MOD** or by using a light-sensitive eye that changes the frequency of the oscillators. User surrounding light atmosphere also influences ona **PHOTO-SENSITIVE DETECTOR** of the instrument, when activating a **MOD BUTTON** on any generator the frequency (pitch) of a generator is changed depending on the level of surrounding light.

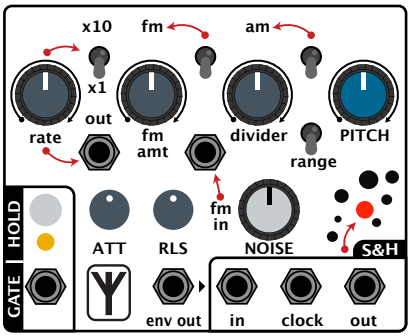
If the MOD buttons are not switched on, the generators run stably, without deviations!

The **VOLT KNOB** transposes down all 5 voice generators at the same time. After half the stroke of the knob, generators start to modulate each other creating FM synthesis effect.



Voices are triggered using the **pushbutton keyboard**, **buttons 3 and 8**, creating a 5V gate that triggers the Attack/Release envelope, opening the VCA in the voice. External CV sources can be used to trigger the voice, driving the envelope. The output of the envelope can be used to trigger the next voice or to modulate the voltage on the filter or the effector.

New drone voices 3 and 8 are based on the DIY noise synthesizers created by Russian electro-shaman artist **Papa Srapa**, who made electronic devices with similar sounds in the early 2000s. Sirens, bird cries, sounds of space monsters and firearms volleys, as well as the sounds of surf and wind can be imitated with these drone voices.



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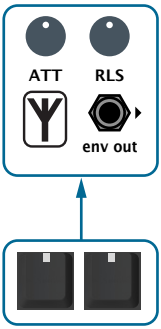


Combining positions of four potentiometers and four switches provides great possibilities for creating such kinds of sounds. The "sound machine" circuit consists of two Trigger-Schmidt oscillators. One of them which operates at low frequency is used as a square wave modulator (**RATE CONTROL, RATE SWITCH** and **CV OUT**), while the other oscillator operates in the audio frequency range between notes C0 and E7 (approximately) are used for tone generation. It has **PITCH KNOBS** and **RANGE SWITCH**. Control knobs are used to adjust the frequency, depth and modulation mode of the oscillator.

Switches can connect generators in one voice with four different combinations:

1. **Continuous drone sound.** The frequency is adjusted with **PITCH** potentiometer and **RANGE switch**. **FM** and **AM** toggle switched to lower position. All controls are in leftmost position, **PITCH** potentiometer starts at 1 o'clock + **RANGE** switched to select the pitch.

2. **Frequency modulation drone sound.** Toggle switch **FM** to the up position. The modulation frequency is adjusted with the **RATE** potentiometer and switch **X1/X10**, the modulation depth (deviation) is adjusted with the **FM AMOUNT** and **DIVIDER** potentiometers. The device will generate a continuous audio signal with various frequencies.

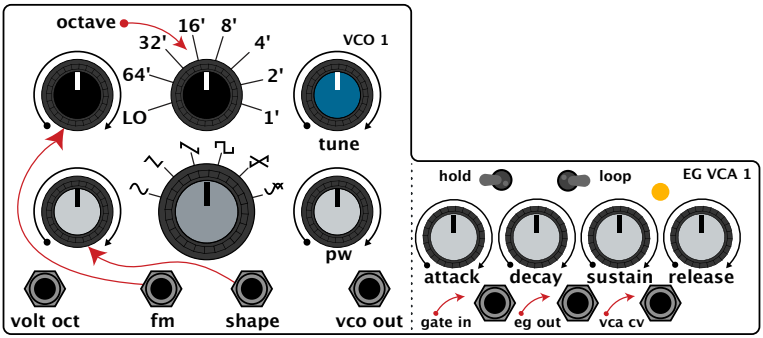
3. **Amplitude modulation drone sound.** The unit will produce an intermittent audio signal with a periodicity defined by the **RATE** potentiometer and the **X1/X10** switch, and a tone defined by **PITCH** and **RANGE**. Toggle switch **FM** to DOWN position, **AM** to UP position.

4. **Amplitude and frequency modulation of drone sound.** Finally in the fourth mode we get an intermittent tone with frequency modulation. The frequency of the interruption is set by **RATE** potentiometer, the frequency of the tone is set by **PITCH** potentiometer and the depth of modulation is set by **FM AMOUNT** and **DIVIDER**. The **FM** and **AM** toggle switch is in UP position.

5. To get a clean noise sound. Turn all knobs to the far left position, set all switches down, and set NOISE control to maximum.

The white noise in these voices is additionally fed to the **Sample and Hold generator** through IN jack. To start it you need to send any LFO or modulator source to the clock socket, which will set the speed of operation.

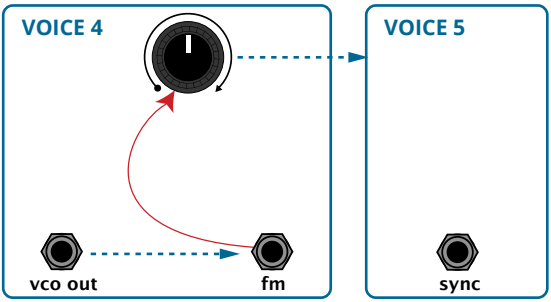
Voices 4 and 5 Triangle core analog voltage controlled oscillator based around the famous **AS3340** VCO chip. Alongside traditional wave shapes there are two more variable, morphing waveforms (saw to inverted saw, sine to triangle). There are 6 waveforms in total.



Features:

- pulse width control (SHAPE) with CV input and attenuator;
- linear FM input with attenuator;
- 8-position octave switch for quick and precise coarse tuning;
- tune knob controls the pitch continuously over one octave;
- external sync input;
- six waveform outputs;
- V/O input.

Voices 4 and 5 mirror each other except for two things. **Voice 4** has a **VCO output** and **voice 5** has a **SYNC input**. In voice 5, the output from voice 4 is normalised to the **FM** input jack, which can be adjusted using the FM attenuator.

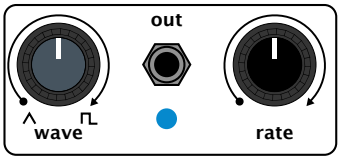


By default, the V/O voltage and Gate from the **touch keyboard** goes the same on both 4 and 5 voices.

LFOs

There are two independent **LFO A** and **LFO B** on board, with the waveform tunable from square to triangle and a knob set to the center position that adjusts the mix of triangle and square waves.

They are slightly different LFO speeds. **LFO A** is slow while **LFO B** is fast. These LFOs were intentionally designed to produce positive voltage swing only, in order to connect them to the photosensors of DRONE VOICES 1, 2, 6, 7 (since those are using red LEDs, which only work with positive voltage levels).

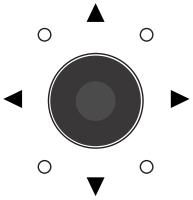


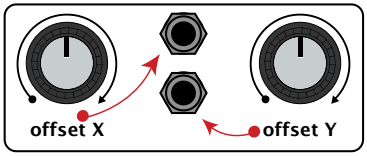
JOYSTICK

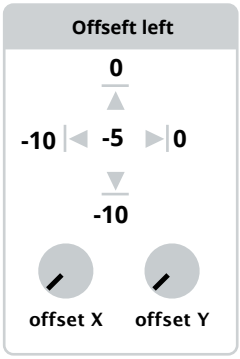
This unit has a small position-locking built in **JOYSTICK** made with a style of game consoles.

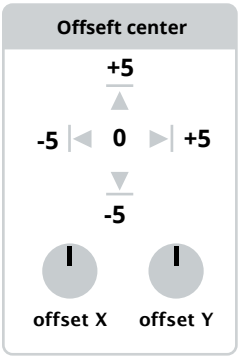
It has two voltage offset regulators and two **CV outputs** of X and Y axes. Maximum value of CV voltages at extreme positions of X and Y axes -10V..0V.. +10V.

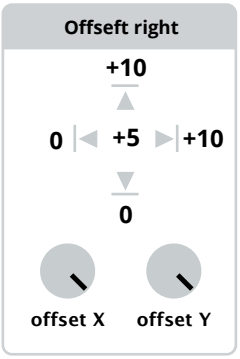
And with zero volts in the center!





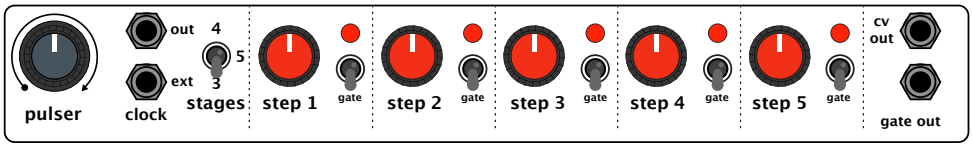






SEQUENCER

A classic, Buchla inspired **5-stage sequential voltage source**. The output of each step can be adjusted continuously from 0V to 5V with the corresponding potentiometer.



The sequential voltage generates sequences of gates and stored control voltages. It's equipped with an internal clock, the **PULSER** that sets the speed of the sequencer, but you can use any other external clock/trigger source through the **EXT. CLOCK** input jack to run the sequencer (for example the **LFOs** or the **CV outputs** from the touch keyboard).

To create different articulations, the **GATE switches** turns off the **GATE output** for each step. This does not affect the CV voltage output.

The **STAGES switch** sets the maximum number of steps in the sequence (3, 4, or 5). The **PULSER** potentiometer sets the speed of the internal clock generator, this periodic signal is available at the **CLOCK OUT** jack.

Touch keyboard also has a built-in sequencer (up to 16 steps). But this sequencer is physically more convenient to adjust while playing.

To get a Buchla style, use the trigger output of the touch keyboard. Connect this sequencer's **PULSER** pulse generator to the keyboard's **CLOCK** input. Alternatively, connect the keyboard's internal pulse generator to the sequencer's **EXT CLOCK** jack.

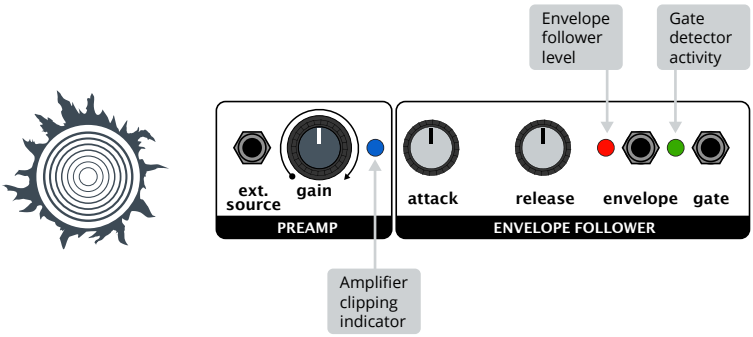
There are many options for starting the sequencer from external sources.

CONTACT MIC + ENVELOPE FOLLOWER

Built-in (internal) contact microphone (**PIEZZO**) soldered right under the sensor keyboard (mounted under the sun), turning the case of SOLAR 42 into a microphone.

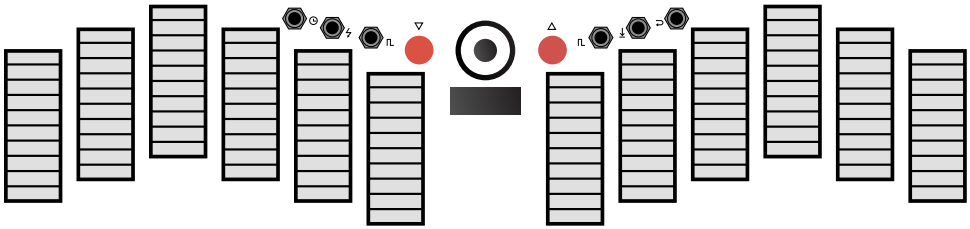
A large palette of organic and physical sounds can be produced by scratching, tapping and more generally by collecting any acoustic waves using the built-in effector with the cartridges. Amplification stage is suitable for external contact microphones, electro-acoustic instruments like guitars or plain line-level signals. With its built-in envelope follower and gate detector it can also be the gateway between external audio sources and CV.

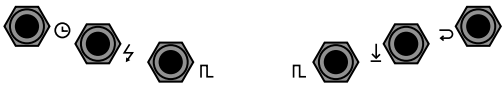
To mute the preamp, set **GAIN** to minimum or remove the volume knob on the mixer.



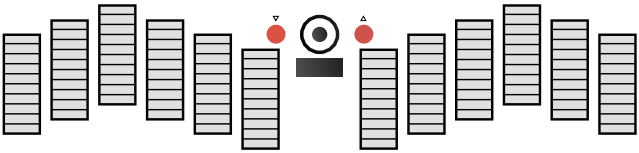
- Audio amplifier with 1M input impedance, up to 40dB of gain. This large gain ranges covers everything - from the amplification of line- level instruments, to the magnification of tiny sonic details captured by external contact microphones.
- Ext. Source 3,5 mm jack connector.
- External input bypassing the built-in contact microphone.
- Envelope follower with attack and release and Envelope CV output
- Gate +8V output.

The Solar **keyboard** is a performance oriented touch controller featuring 12 capacitively sensitive plates, equipped with highly accurate Volt/octave outputs, ready to connect to your modular setup also.





CLOCK	**External clock input**. When a clock pulse is received the keyboard automatically switches to external clock source. Recommended level: 0 to +5V, though higher voltages are accepted.
V/OCT	**Volt/octave output**, ranges over 8 octaves from 0V to +8V. By default the signal present on this output is normalized to the Volt/octave input of the VCOs (voice 4 and 5)
GATE LEFT (MAIN)	**0 to 10V gate output**. By default the signal present on this output is normalized to the gate input of the envelope generators controlling the voltage controlled amplifiers of voices 4 and 5.
GATE RIGHT	**0 to 10V gate output.**
PRESSURE	**Control voltage or Volt/octave output**, ranges over 8 octaves from 0V to +8V. The signal on this output is determind by 'Behaviour' and 'Pressure output' parameters.
RESET	**Arpeggiato reset input.** A raising edge on this input resets the arpeggiator to its first step. Recommended level 0 to +5V, though higher voltages are accepted.



▽△ **BUTTONS**

The pushbuttons are used to transpose the output of the keyboard. Their behaviour depends on some settings.
In 'Single behaviour' when quantiser is enabled the pushbuttons set the active octave range of the keyboard. In 'Single behaviour' when quantiser is disabled the pushbuttons add an offset to the signal present at the Volt/octave output. In 'Twin and split behaviour' pressing the pushbutton will enable or disable the offset of the corresponding side of the keyboard. When quantiser is enabled the amount of offset can be altered by semitones over 5 octaves. When quantiser is disabled the amount of offset can be finetuned in 0.0025V steps over 5V.
To change the value of the offset press and hold the button and rotate the encoder (just make sure that currently no parameter is highlighted for editing).

○ **ENCODER**

Rotate **the encoder** to scroll through the list of parameters, click the encoder to to select a parameter for editing.

KEYBOARD PLATES

To activate a plate's designated note or voltage level, simply press it. This value will be present on the Volt/octave output as analog voltage. For tuning a note plate, press and hold it while rotating the encoder to adjust its value. For successful adjustment, ensure that no parameter is currently highlighted for editing.
The signal level present on the pressure output is directly proportional to the readings of the capacitive sensors connected to the plates. It's essential to note that the Solar keyboard is not force-sensitive but responds to the surface area of flesh applied directly to the plates. The capacitive sensor's output increases with more finger surface area placed on the plate.

The keyboard's functionality is determined by certain parameters. These parameters can be grouped as follows:

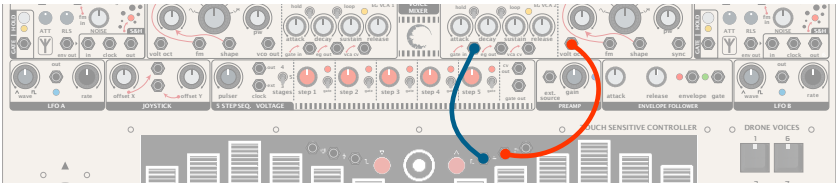
- BEHAVIOUR
- PLATE/BUTTON EDITOR
- MODE
- ARPEGGIATOR
- SEQUENCER
- PORTAMENTO
- VIBRATO
- PRESSURE
- QUANTISER
- CLOCK
- PRESETS

BEHAVIOUR

SINGLE 12 key mode, the signal present on the pressure output is determined by the 'Pressure output' parameter (see below).

TWIN In this mode, the keyboard separates into two distinct controllers, each equipped with 6 note plates. In this configuration, the pressure output functions as the Volt/octave output for the right side. While the two sides share the same parameters, they can be played independently.

SPLIT Similar to the twin mode, the keyboard can also operate in a split mode with two sides, each having separate parameters. This configuration enables various possibilities, such as having an arpeggiator on the left side and a simple keyboard on the right side.



Connection in SPLIT and TWIN mode

PLATE/BUTTON EDITOR

EDITOR While highlighted you're able to modify the value of buttons and plates. To change the value of the buttons press and hold the button and rotate the encoder. For tuning a note plate, press and hold it while rotating the encoder to adjust its value.

MODE

Sets the operation mode of the keyboard controller. In split mode each side can operate in different mode.

KEYBOARD Touch controlled keyboard, pressing a plate triggers a note corresponding to the plate.

ARPEGGIATOR Arpeggiation is a common synthesizer feature that generates a looping sequence (arpeggio) when you press down a chord.

SEQUENCER A 16-step sequencer, transposed by the active note plate values.

ARPEGGIATOR

HOLD When enabled the arpeggiator will continue to play the arpeggiated sequence even when note plates are not held.

CLOCK Sets the clock multiplication/division ratio for the arpeggiator.

DIRECTION Synthesizers with traditional piano keys will generate the order of the arpeggiated sequence based on the incoming notes. Solar creates an arpeggio based on the sequence number of pressed plates and

The direction parameter.

- forward [eg.: 1, 2, 5, 8, 1, 2, 5, 8...]
- backward [eg.: 8, 5, 2, 1, 8, 5, 2, 1...]
- ping-pong [eg.: 1, 2, 5, 8, 5, 2, 1, 2...]
- random

VARIATION When enabled the arpeggiated progression will be played again transposed by the selected intervall. The possible number of repeated variations can be: OFF (no variation), x1, x2, x3

INTERVAL Sets the **interval of repeated variations** from 1 to 12 semitones.

RHYTHM Applies a **rhythmic pattern** to the arpeggiators clock source. Think of it as a gate sequencer between the clock source and the arpeggiators clock input. Steps that are enabled will let through the incoming clock signal, while the steps that are disabled will mute it.

LENGTH Sets the **length of the rhythm** sequencer from 1 to 8 steps

SEQUENCER

RUN

Sets the way that the sequencer moves its index. When free mode is selected the sequencer is clocked continously. In keyboard controlled mode the sequencer moves its index only while a note plate is held.

LENGTH

Sets the number of steps in the sequence from 2 to 16 steps.

CLOCK

Sets the clock multiplication/division ratio for the arpeggiator.

DIRECTION

Sets the direction of the sequencer, the available options are in the following order:

- **forward:** This is the default playback direction. The sequence plays forward from left to right.
- **backward:** The sequence plays in reverse, beginning with the final note of the sequence.
- **ping-pong:** The sequence plays forward in its entirety, then backward in its entirety.
- **random**: The sequence plays in continuously varying random order.

EDITOR

Press the encoder to enter the editor, rotate the encoder to select a step. When a gate is selected simply press the encoder to enable disable that. When a note/value fader is selected press the encoder to highlight it in order to edit. To exit the editor press and hold the encoder for 1 second.

CV OUTPUT

Has two options: continuous or gated. In gated mode the CV output will be updated only if the step's gate is enabled. In continuous mode the CV output always corresponds to the note value of the currently active step.

RHYTHM

Applies a rhythmic pattern to the sequencers clock source. Think of it as a gate sequencer between the clock source and the sequencers clock input. Steps that are enabled will let through the incoming clock signal, while the steps that are disabled will mute it.

LENGTH

Sets the length of the rhythm sequencer from 1 to 8 steps.

PORTAMENTO

PORTAMENTO

Set the speed of gliding (0 - 255), i.e. how much time it takes to transition from one pitch to the next. This creates slew limiting effect on the CV output.

LEGATO

off - Portamento is always on.

on - Gliding happens only when two or more note plates are touched simultaneously (this parameter has no effect when arpeggiator is enabled).

VIBRATO

SPEED Sets (0 - 127) of the LFO that's modulating the pitch (Volt/octave) output, thereby creating vibrato effect.

DEPTH Sets the amount of **modulation** (0 - 127).

DELAY Specifies a **time delay** (0 - 127) before vibrato begins to apply until it reaches the full strength determined by the depth parameter.

PRESSURE CONTROL When enabled, **the modulation amount** is altered by **the pressure** applied to keys.

PRESSURE

OUTPUT **pressure** - The voltage on the pressure output will continuously follow the pressure applied to key plates.

ASR - Attack/sustain/release envelope generator.

AD - Attack/decay envelope generator.

LOOP - Looped AD envelope generator.

random - Outputs a random voltage whenever a plate is pressed.

RISE Creates slew limiting effect on **rising edge** in pressure and random modes, sets attack time in envelope modes (0 - 255).

FALL Creates slew limiting effect on **falling edge** in pressure and random modes, sets decay/release time in envelope modes (0 - 255).

QUANTISER

SCALE EDITOR Turn notes on/off of the scale applied by the note quantiser. When all notes are disabled, the keyboard functions as a microtonal keyboard. In this mode, it allows for the exploration and performance of microtonal music, where pitches and intervals can be finely tuned beyond the standard 12-tone equal temperament system. This feature enables musicians to access a wider range of scales and tonalities, opening up new possibilities for creative expression and experimentation in their compositions and performances.

LOAD SCALE Select and load a preset scale/mode to the quantiser and to the keyboard also. (Semitones, Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian, Blues major, Blues minor, Pentatonic major, Pentatonic minor, Folk, Japanese, Gamelan, Gypsy, Arabian, Flamenco, Whole tone).

ROOT NOTE Sets the **root note** of the scale applied by the note quantiser from C to H.

CLOCK

CLOCK

Sets the tempo of the keyboards **internal clock** within a range of 10 to 300 BPM (Beats Per Minute). While this range might seem limited at first, it can be significantly extended by utilizing the arpeggiator's clock multiplication/ division parameter.

When a clock pulse is received through the **CLOCK INPUT** jack, the keyboard will automatically switch to using the external clock source for synchronization. To revert back to the internal clock, all you need to do is modify the BPM setting. By adjusting the tempo value manually, the keyboard will resume using its internal clock for tempo generation.

PRESETS

PRESETS

The keyboard can save 4 presets, containing the values of all the parameters listed above, except the clock tempo. Rotate the encoder to scroll through presets **A to D**, click the encoder to enter a sub-selection page where you can load, save or initialise a preset.

KEYBOARD'S CALIBRATION

To enter calibration settings **press and hold the encoder while powering up** the synthesizer.

VOLT/OCTAVE OUTPUT CALIBRATION

Connect a multimeter to the Volt/octave output jack, scroll through the calibration points (0V, 2V, 5V and 8V), by rotating the encoder adjust the output so that is as close to the displayed value as possible.

PRESSURE OUTPUT CALIBRATION

Connect a multimeter to the Pressure output jack, scroll through the calibration points (0V, 2V, 5V and 8V), by rotating the encoder adjust the output so that is as close to the displayed value as possible.

INIT CALIBRATION VALUES

Press and hold the encoder knob for 1 second to revert DAC calibration values to an initial state.

DAC VOLTAGE REFERENCE SOURCE

Enables/disables the internal voltage reference of the DAC (digital-to-analog converter). Set VREF to INTERNAL if using DAC8562 or DAC8563, set VREF to EX if using AD5663.

PRESSURE MINIMUM

Sets the minimum threshold for the pressure sensitivity. The voltage on the Pressure output should start to rise after a plate is touched and just a small amount of pressure is applied.

PRESSURE MAXIMUM

Sets the maximum threshold for the pressure sensitivity, that is at which pressure level should the voltage at Pressure output reach its maximum level.

MPR121 CHARGE/DISCHARGE & DEBOUNCE

If the keyboard behaves unpredictably, as if it's a sequencer clocked by a Geiger counter, try increasing DEBOUNCE and/or lowering CHARGE/ DISCHARGE parameters. The best practice is to keep CHARGE/DISCHARGE as high as possible and DEBOUNCE as low as possible. By default the initial values should work flawlessly.

ENCODER DIRECTION

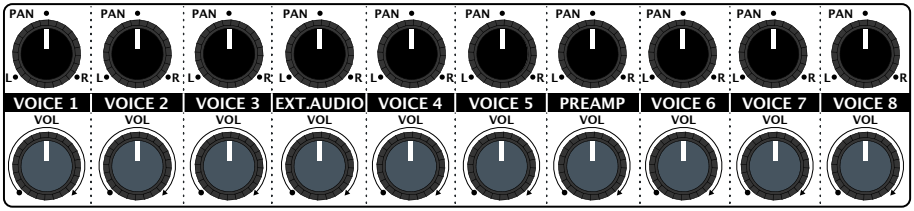
Determines the direction of encoder rotation. It has two states: normal or reversed.

SAVE CALIBRATION SETTINGS

Press and hold the encoder knob for 1 second to save calibration data and settings.

MIXER

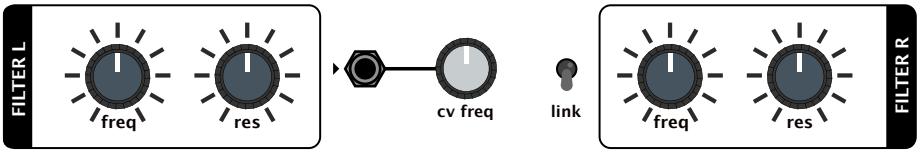
Mixer section of **SOLAR 52** allows to control the **VOLUME** and **PANORAMA** for 8 voices, EXTERNAL AUDIO and for signal from PREAMP



FILTER

Dual POLIVOKS filter utilizes the classic Soviet filter chip for a unique and iconic filter tone. This filter will make your sound dirty and angry. With the resonance turned up, you won't lose bass frequencies.

This dual POLIVOKS filter uses Soviet UD12 chips, which give a recognizable dirty tone. Due to the inaccuracy of these chips, these filters cannot be identically identical and will differ slightly from each other. This is not a disadvantage, but rather a highlight.

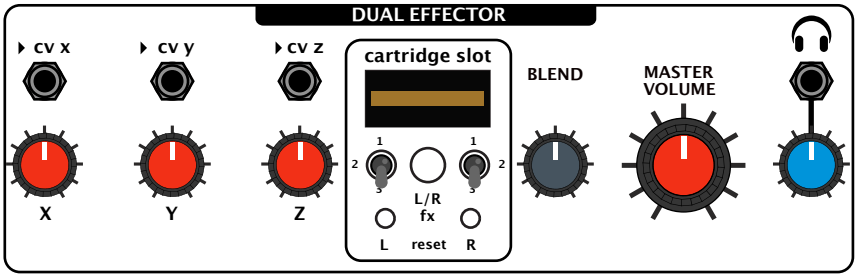


FREQ - manual filter cutoff frequency RESONANCE - Filter resonance (boost the frequency near cutoff point)

CV - you can control/automate filter cutoff via CV using CV in.

LINK - when switched on links CV on filter 1 to control both filters 1 and 2

Audio signals enter the **effector** (with cartridges) which is controlled by CV as well - the same circuit is used in ELTA music CONSOLE pedal and SOLAR 50. Here the **BLEND** knob sets the effect level. The **MASTER VOLUME** knob sets the overall volume WET OUT L and R channel. **X, Y, Z** parameters controlled by CV -10V..+10V. SOLAR 42 now has one such block per left and right channel. X Y Z, Blend and Master controls are shared.



Each effect has its own parameters on the **X, Y, Z knobs**. Each cartridge has three effects. To use it, just insert a cartridge on any side into the slot and press **reset/load button** according to the left or right channel.

1-2-3 program selector – switches active effect from the cartridge. Press the **L/R** button when it is OFF in order to load left channel effects. Press the **L/R** button when it is ON to load right channel effects. You can also load different effects and cartridges on each channel of the effector. If you remove the cartridge from the slot and switch the effect toggle or press the **load button** in the selected channel, the effect will be erased from memory.

You can save the effect in the memory by switching to another channel. For example you load an effect from a cartridge to the left channel then switch the **L/R** button to the right channel, now you can insert another cartridge into the slot and load it to the right channel.

Insert the cartridge into the slot, either side. Select the effect loading channel with the **L/R FX** button and the effect number with the **1-2-3** toggle switch, then press the **RESET** button of the corresponding channel.

EFFECTOR'S CARTRIGES

CATHEDRAL
Various reverbs

Program 1: Shimmer
- (X) Octave up
- (Y) Octave down
- (Z) Decay

Program 2: Oct up delay
- (X) Feedback
- (Y) Delay
- (Z) Reverb

Program 3: Space reverb
- (X) Feedback
- (Y) Delay
- (Z) Reverb

MAGIC
Pitched delays

Program1: Pitch delay
- (X) Feedback
- (Y) Delay
- (Z) Pitch

Program 2: Reverse Pitch delay
- (X) Feedback
- (Y) Delay
- (Z) Pitch

Program 3: Bell pitchdelay
- (X) Feedback
- (Y) Delay
- (Z) Pitch

TIME
Classic Mod delays

Program 1: Delay reverb
- (X) Feedback
- (Y) Delay
- (Z) Reverb

Program 2: Delay chorus
- (X) Feedback
- (Y) Delay
- (Z) Mod depth

Program 3: Delay Vibrato
- (X) Feedback
- (Y) Delay/vibratorate
- (Z) Mod depth

VIBROTREM
Modulation effects

Program 1: Tremolo
- (X) Depth
- (Y) Rate
- (Z) Reverb

Program 2: Vibrato
- (X) Depth
- (Y) Rate
- (Z) Reverb

Program 3: Chorus
- (X) Depth
- (Y) Rate
- (Z) Reverb

FILTER
Filter and Wah

Program1: Auto Wah
- (X) Filter amount
- (Y) Evelope
- (Z) Reverb

Program 2: HP/LP filter
- (X) HP cutoff
- (Y) LP cutoff
- (Z) Resonance

Program 3: Notch filter
- (X) Cut 1
- (Y) Cut 2
- (Z) Resonance

VIBE
Rotary phase mods

Program 1: Phaser
- (X) Depth
- (Y) Rate
- (Z) Reverb

Program 2: Flanger
- (X) Depth
- (Y) Rate
- (Z) Reverb

Program 3: Resonance flanger
- (X) Resonance
- (Y) Rate
- (Z) Mod depth

EFFECTOR'S CARTRIGES

PITCH SHIFTER
Octave and pitch

Program 1: SynthTaver
- (X) Octave down
- (Y) Octave up
- (Z) Direct

Program 2: Octaver
- (X) Octave down
- (Y) Octave up
- (Z) Direct

Program 3: Pitch Harmonizer
- (X) Pitch 1
- (Y) Pitch 2
- (Z) Voice mix

INFINITY
Big Ambient effects

Program 1: Resonance Reveb
- (X) Pre delay
- (Y) Pre delay mod
- (Z) Decay

Program 2: O.D.D (oscillating dirte delay)
- (X) Feedback
- (Y) Delay
- (Z) Pitch

Program 3: Resonance Delay
- (X) Feedback
- (Y) Delay
- (Z) Pitch

STRING RINGER
Audio rate modulation

Program 1: Synthetic Ring
- (X) Frequency
- (Y) Resonance
- (Z) Sub

Program 2: Ring Mod
- (X) Frequency
- (Y) Rate
- (Z) Reverb

Program 3: S&H Ring Mod
- (X) Pitch Speed
- (Y) S&H Rate
- (Z) Freq Ring Mod

SYNTEX-1
Bass synth

Program 1: Vibe Synth
- (X) Vibrato Rate
- (Y) Resonance
- (Z) Sub

Program 2: Pulse Synth
- (X) Tremolo Rate
- (Y) Resonance
- (Z) Sub

Program 3: Acid Synth
- (X) Tone
- (Y) Color
- (Z) Sub

DIGITAL
Sample rate crusher

Program1: Filter DAC
- (X) Sample rate
- (Y) Cutoff
- (Z) Input gain

Program 2: LFO DAC (oscillatingdirty delay)
- (X) Sample rate
- (Y) LFO speed
- (Z) LFO amount

Program 3: Envelope crusher
- (X) Sample rate
- (Y) Envelope amount
- (Z) Input gain

GENERATOR
Noise mini synth

Program 1: FM tone
- (X) Pitch 1
- (Y) Pitch 2
- (Z) FM 2-1

Program 2: Ramp
- (X) LFO rate
- (Y) Pitch
- (Z) Pitch mod +/-

Program 3: Voice
- (X) Cutoff
- (Y) Pitch
- (Z) LP/HP

WARRANTY

Please follow the instructions while operating with SOLAR 42 , because only this will guarantee the proper work of the module and ensure the warranty from Elta Music.

Use the SOLAR 42 **exclusively with the power supply unit (PSU) supplied with the system**. Powering it with other PSU units may cause permanent damage to the device.

Water is lethal for most electric devices unless they have been rendered waterproof. The SOLAR 42 is NOT intended for use in a humid or wet environment. No liquids or other conducting substances should be allowed into the module. If it happens, the module should be disconnected from the main power supply immediately, then dried, examined and cleaned by a qualified technician.

Do not expose the instrument to temperatures above +50°C or below -20°C. If you have transported the instrument in extremely low temperatures, leave it at room temperature for an hour before plugging it in. Transport the instrument carefully.

Never let it drop or fall over. The Warranty does not apply to instruments with visual damage. SOLAR 42 must be shipped in the original packaging only. Any instrument shipped to us for return, exchange and/or warranty repair must be in its original packaging. All other deliveries will be rejected and returned to you. Ensure that you keep the original packaging and technical documentation.

If you discover any faults within 14 days, you have the right to return the product and receive a new one. But only if the packaging is intact and has the original cosmetic appearance.

After the 14 day period has expired, you are entitled to receive free servicing of the instrument for one year.

Delivery is at the expense of the customer.

SOLAR 42 team:

Arseniy Tokarev – idea, design, development

Szabo Mate «DOBOZ» – PCB design, development multitouch sensor keyboard, firmware

Dmitry Churikov «mdr.MODULAR» – user manual

Timur Krekov – graphics, render images

Grygoriy Ryazanov – housing development

NA company, Marupe,Latvia – production, assembly, packaging

- A clicking noise may be heard in the headphones or audio output when the instrument is switched on. In this case turn the volume down to zero.
- The headphone volume knob makes a crunching sound when it is turned.

You may still find some nuances. Please let us know!

It's not a bug, it's a feature :)

- SOLAR 42 is a fully analogue instrument, except for the touch-sensitive multifunctional keyboard and effector which are semi-digital. All oscillators, drones, mixer, preamp and filter are analogue.
- Since SOLAR 42 has two effector circuits, some effects on the left and right channels may differ slightly from each other, creating a "live" stereo sound. The same applies to the filter. A slight difference in the operation of the cutoff knob gives a voluminous stereo sound.
- When GAIN is maxed out in the Preamp you'll hear a touch keyboard operation noise.
- The photo sensors in 1-2-6-7 voices can pick up radiation from various daylight bulbs and translate that into sound.
- Do not use Master Volume at maximum, as you will hear digital noise from the effector. This is because there is no VCA on the output of the effector to mute the output sound completely. Use maximum volume on the mixer, and Master Volume at 3-4 o'clock maximum.

Advantages over the old SOLAR 50 model

- New drone voices
- Volt/octave voices for playing notes from the multifunction keyboard
- No noise from drone voices when switched off
- New power supply with no noise and no "freezes"
- More CV blocks
- Panorama mixer
- Stereo effector
- Stereo output
- Separate keypad for DRONE voices

ELTA MUSIC

Designer and engineered
by Arseny Tokarev

Made in Riga, LV
eltamusic.com

RoHS CE