

UNO Synth Pro

Analog Paraphonic Dual-Filter Synthesizer



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Introduction

Thank you for purchasing UNO Synth Pro.

In The Box

- UNO Synth Pro
- USB cable
- Power Supply (not on Desktop version)
- Registration Card
- Quick Start Guide

Register Your UNO Synth Pro

By registering, you can access technical support, activate your warranty and receive free JamPoints™, which will be added to your account. JamPoints™ allow you to obtain discounts on future IK purchases! Registering also keeps you informed of all the latest software updates and IK products.

Register at: www.ikmultimedia.com/registration

Precautions

Locations

Using the unit in the following locations can result in a malfunction:

- In direct sunlight
- Location of extreme temperature or humidity
- Excessively dusty or dirty locations
- Locations of excessive vibration
- Close to magnetic fields

Power Supply

Please use only the USB cable or the Power supply provided with the unit and connect the cable to the correct POWER port on the device.

Interference with other electrical devices

Radios and televisions placed nearby may experience reception interference. Operate the unit at a suitable distance from radios and televisions.

Handling

To avoid breakage, do not apply excessive force to the knobs, capacitive controls, buttons or the OLED display.

Care

If the exterior becomes dirty, wipe it with a clean and dry cloth. Do not use liquid cleaners such as benzene or thinner, or cleaning compounds or flammable polishes.

Keep this manual

After reading, please keep this manual for later reference.

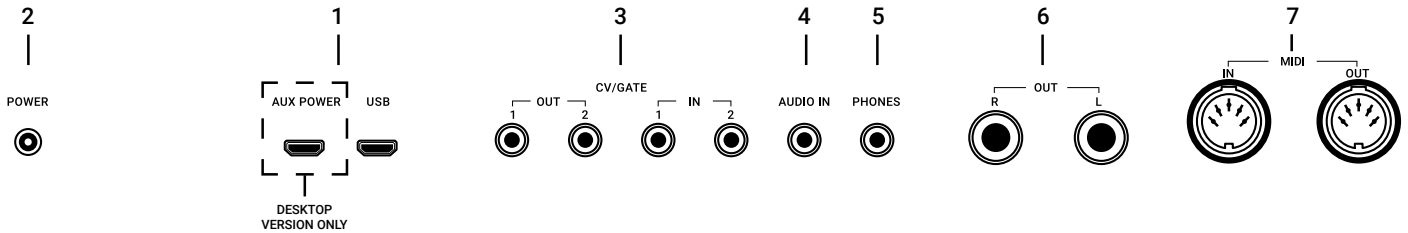
Keep foreign matter out of your unit

Never set any container with liquid in it near this unit. If liquid gets into the unit, it could cause a breakdown, fire, or electrical shock. Be careful not to let metal objects get into the equipment. If something does slip into the unit, unplug the USB cable, then contact your nearest IK Multimedia dealer or the store where the equipment was purchased.

Specification subject to change

The information contained in this manual is believed to be correct at the time of printing. However, IK Multimedia reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

1 – Installation and Setup



Please note: To prevent malfunction and equipment failure, always turn down the volume and turn off all the units before making any connections.

UNO Synth Pro Desktop is USB powered and includes two USB micro ports labeled USB and AUX POWER. When connected to a USB host (Mac, Windows), enough power may be provided by the host. If the connected host does not provide enough power, then AUX POWER is needed.

1 – USB Ports

USB transmits data, while AUX POWER only powers the unit.

AUX POWER is present only on the desktop version.

2 – POWER

Connect the provided power supply to power the unit

3 – CV/GATE

These are typically used to send or receive electrical signals with external devices such as a Eurorack modular system. These connections can be used as CV, Gate or Sync signals.

The CV output sends and receives a control voltage you can use to control external oscillators, filters or other voltage-controlled devices. A gate can send or receive a simple on-off message from external devices similar to a note on-off message. Gate signals are typically used for triggering envelopes or advancing sequencer steps. Sync sends or receives time-based signals from external devices.

4 – Audio IN

Connect an external mono audio source. The incoming audio can be processed through the internal sound engine or simply passed through as a daisy chain with no processing.

5 – Phones

Connect your headphones to the UNO Synth Pro with a stereo mini-plug.

6 – Audio OUT

Connect the UNO Synth Pro output to an external amp, mixer or audio interface. Note that the output is stereo because of the integrated digital effects.

7 – MIDI IN/OUT ports

Connect the UNO Synth Pro to a MIDI interface, controller, synthesizer or drum machine with standard 5-pin MIDI DIN connectors.

2 – Turning The Unit On/Off - Calibration Process

UNO Synth Pro powers on as soon as the power supply is connected to the unit. The unit can then be powered on and off by pressing and holding the HOLD Button.

Once powered ON it automatically starts the first tuning and capacitance sensing calibration. During the calibration the display will first show a static “UNO,” the FW version and then a blinking “CALIBRATION.”



The unit will then be ready for use and the last used preset will be loaded and indicated on the display.

Do not press buttons or put objects on the unit during the calibration as this will incorrectly calibrate the capacitance sensing system. In case of incorrect calibration of the capacitance sensing system, please power off the unit, and then turn it on again to repeat the process.

Various noises and calibration sounds might be audible during the startup of the unit, so we recommend turning your system volume down while starting up.

3 – Overview

UNO Synth Pro is a powerful and portable paraphonic synthesizer with features that change the meaning of “complete instrument” for the price range. It’s an instrument that will become known for its sound and flexibility, ready for creative artists that need inspiration.

Raw, warm, tight and everything in-between, this paraphonic beast is the first of its kind thanks to the easy and powerful analog architecture and the complex digital controls.

The synth architecture provided by Sound Machines based on the IK Multimedia design presents an analog audio path and a digitally-controlled engine with these features:

Features

Huge analog sound

- 3 wave-morphing oscillators
- Sync and pulse-width modulation
- FM and ring modulation
- 3 voice paraphony

Dual filters for unrivaled tone sculpting

- 24 available filter modes
- Original UNO Synth OTA filter
- New SSI filter with self-oscillation
- Serial and parallel configurations

Massive sonic flexibility

- 2 full ADSR envelopes + 2 LFOs
- 16-slot modulation matrix
- Analog drive circuit
- 3 FX – reverb, delay, modulation

Powerful control

- 256 user-editable presets
- 10-mode onboard arpeggiator
- 64-step sequencer with parameters recording
- CV/Gate automation

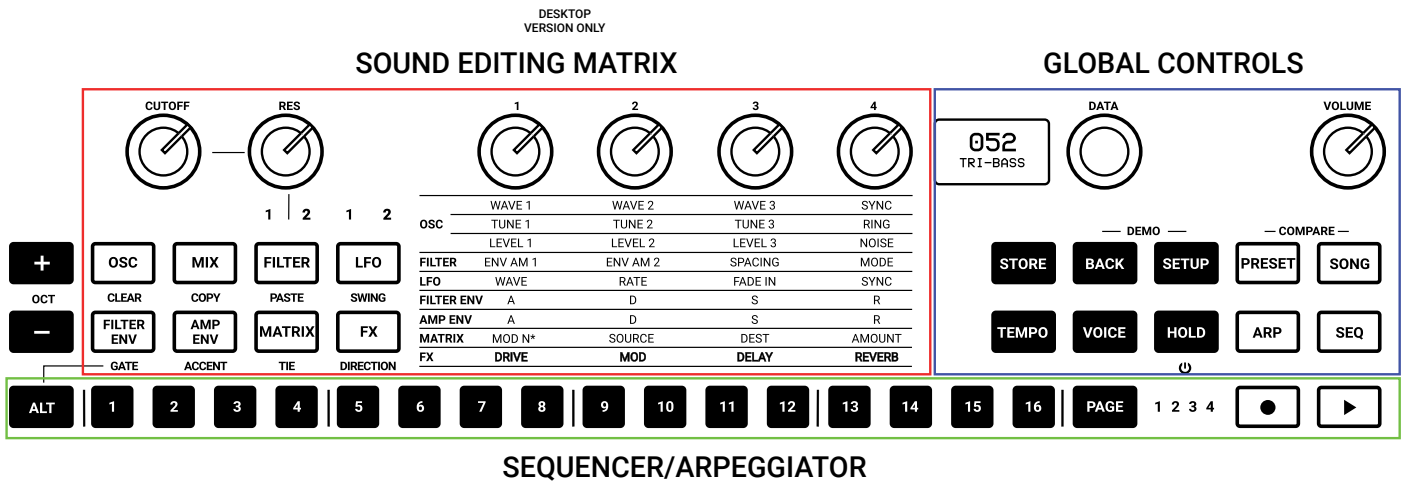
Advanced connectivity

- Noiseless balanced stereo/headphone outs
- USB and MIDI In/Out
- 2 Programmable CV/Gate In/Out
- Audio input for filters and FX, daisy-chain

UNO for all

- Tabletop – ultra-lightweight and portable
- Keyboard – compact metal housing
- Full-size 37 keys Fatar keyboard with pitch/mod wheels
- Powered via USB or power bank

4 – Front Panel Interface



The interface is designed with groups of controls divided by their function.

Sound Editing Matrix:

The group of buttons, knobs and lighted text indicators work together to navigate the sound design parameters of the synth engine. These controls are located on the left and are comprised of 8 buttons, 6 knobs and the lighted text indicators in the center of the product.

Global controls:

This is the group of buttons on the right along with the display and push encoder, dedicated to selecting in which mode the synth operates, such as the Play mode, Preset Mode, Sequencer Mode, Edit Mode and the internal and MIDI utility Settings.

Sequencer and Arpeggiator:

These are secondary input controls to play and control the synthesizer. Sequencer and ARP editing is accessible through the secondary functions of the 8 sound editing buttons on the left. These secondary functions are accessed via the ALT button.

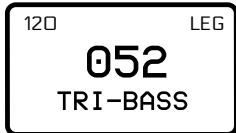
Keyboard:

Accepts input to play and control the synthesizer. On the Desktop version the 32 keys and 2 strips are the only capacitance-sensing controls. On the Keyboard version we have a full-size 37 semi-weighted keys Fatar synth action with velocity and aftertouch.

4.1 – Home Display

The display of the USP on the home page gives information about the Preset, BPM/Sync and the Voice mode. On the top left, when sync is set to INTERNAL, the BPM is shown, otherwise the EXT will let you know that the machine will wait for external tempo.

On the top right the Voice mode of the preset is shown as LEG for legato, MON for mono and PAR for paraphonic.



4.2 – Sound Editing Matrix

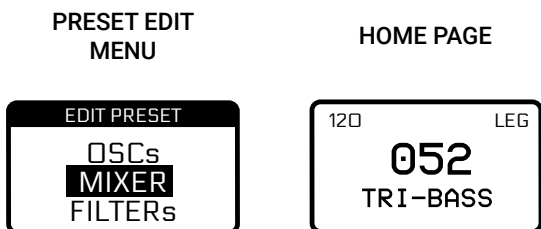
The sound editing matrix is comprised of 8 buttons, 6 knobs, 9 lighted text indicators and 4 LEDs.

The interaction between the controls is easy: when a button is pressed, the related text indicator lights to highlight the active parameters. The 4 pots at the top modify the highlighted parameters.

Each time you need to go deeper into the editing of a section, PUSH the DATA encoder: you will jump directly inside the EDIT PRESET menu, being able to move inside it with combination of PUSH, DATA and BACK.

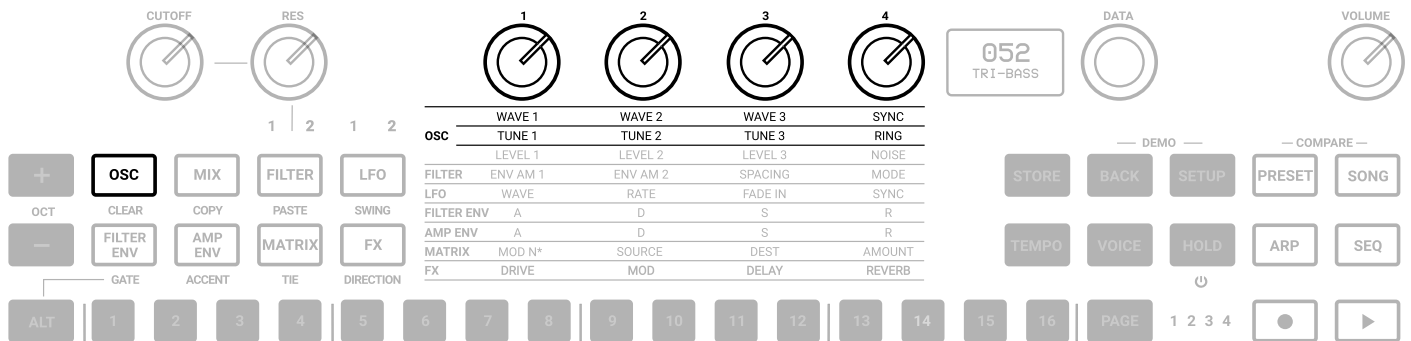
The EDIT PRESET menu is where all the parts of the synth engine, even the ones not shown on the interface, are available for editing. An example is the GLIDE, which is inside the OSCs section of the EDIT PRESET menu.

To access this menu there is the method shown above, or by pressing PRESET while the home page is shown. To exit, press PRESET again or use BACK the number of time necessary to exit the nested menu.



NOTE: we can call HOME page the display view where the name of the preset, the slot number, the tempo and the voice mode are shown.

4.2.1 – Oscillators (OSC)



The UNO Synth Pro voice is comprised of 3 analog oscillators and a noise generator.

To enter the editing of the oscillators, press OSC; the OSC button will light, and the 1st row of the oscillator text indicators in the center section will light. Pressing OSC again lights the 2nd row.

Pressing OSC toggles between the two rows.

OSC1, 2 and 3 WAVE: As seen on the UNO synth, the wave is selected by a continuous wave shaper going from Triangle to Saw to Pulse with PWM from 50% to 98%.

SYNC: When engaged, the phase of OSC2, OSC3 or both is forced to be synchronized to the phase of OSC1. This adds harmonic overtones to the frequency of oscillator 2 and/or 3, creating complex waveforms. The possible selections are:

- OFF
- OSC 2 Sync
- OSC 3 Sync
- OSC 2-3 Sync

OSC1 and OSC2 TUNE: The tuning system is similar to the original UNO Synth, but with an increased semitone range of +/- 2 octaves. The first +/-100 cents (1 semitone) are adjusted in cents and the remaining course in semitones.

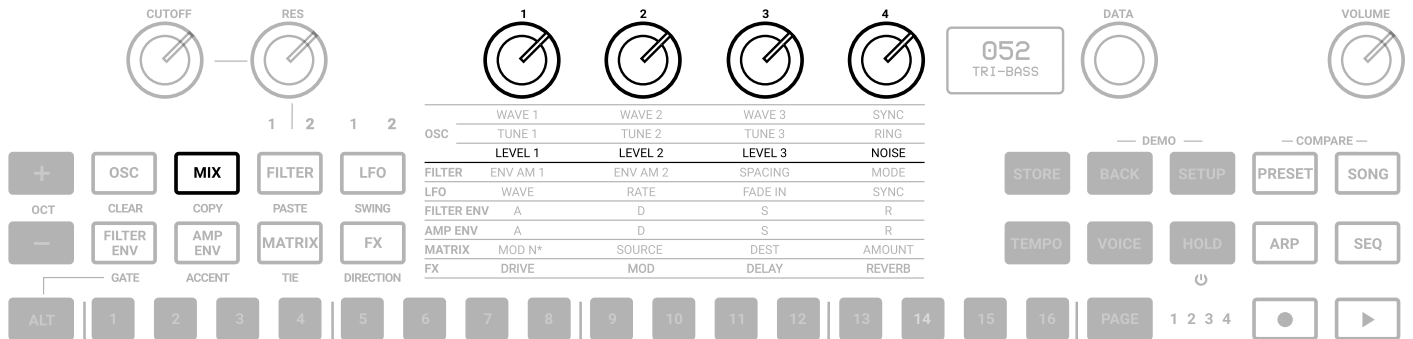
Tip: after modifying the tune with the knobs and it changes to semitone adjustment, you can still use the data knob to adjust the tune in cents.

RING: Ring Modulation outputs the sum and difference of the frequencies created by the two oscillators. Adjusting the pitch of Oscillator 2 creates atonal and metallic sounds.

When ON, OSC 1 ring modulates OSC 2. RING is an ON/OFF control.

Other parameters are accessible from the EDIT PRESET menu.

4.2.2 - Mixer (MIX)



Pressing the MIXER button lights the 3rd row of text indicators.

LEVEL 1: adjusts the pre-filter volume of Oscillator 1 from 0 to 127.

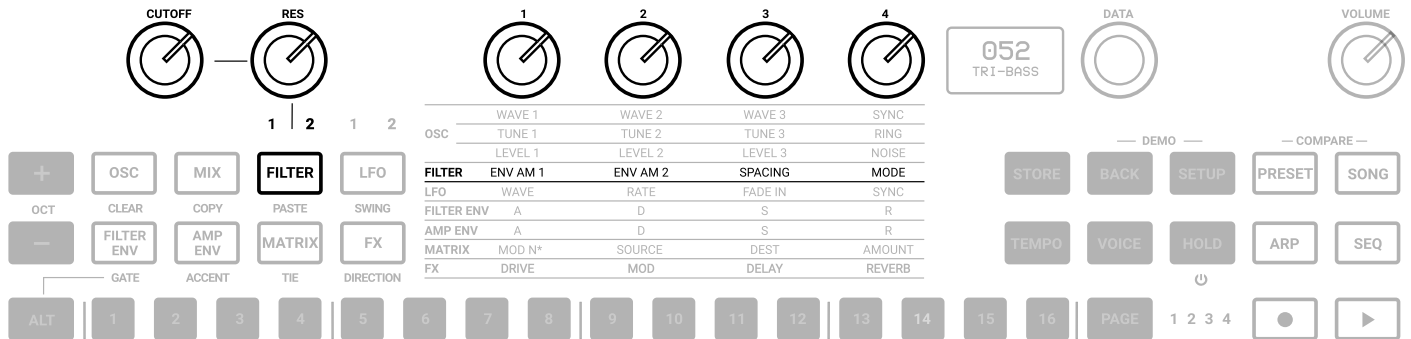
LEVEL 2: adjusts the pre-filter volume of Oscillator 2 from 0 to 127.

LEVEL 3: adjusts the pre-filter volume of Oscillator 3 from 0 to 127.

NOISE: adjusts the pre-filter volume of the Noise Generator from 0 to 127.

The External audio in routing is selectable in the MIXER section inside the EDIT PRESET menu, between PRE (so the audio enters pre-filters and became part of the audio sources) and POST (which acts as an audio daisy chain).

4.2.3 – Filters (FILTER)



The UNO Synth Pro is equipped with 2 filters for its voice that can be routed either in series or parallel.

Filter 1 is a 2-pole OTA based filter with HP and LP modes. This is a version of the original UNO Synth filter with improved stability and control.

Filter 2 is a selectable 2 or 4-Pole LP based on the SSI2164 chip.

The CUTOFF and RESonance controls are shared for the 2 filters. They are located outside the matrix and are always available.

Pressing the FILTER button lights the 4th row of text indicators.

Pressing the FILTER button toggles between them with lighted indicator text to identify which filter is currently selected.

CUTOFF: Adjusts the cutoff frequency of the filter from 20Hz to 22kHz.

RES: Adjusts the resonance of the filter from 0 to 127. Filter 2 will begin to self-oscillate at around value 105.

ENV AM 1 or Envelope Amount to Filter 1: This is a fixed modulation route that determines how much the Filter Envelope modulates the cutoff frequency of FILTER 1 with a range of -63 to 64.

ENV AM 2 or Envelope Amount to Filter 2: This is a fixed modulation that determines how much the Filter Envelope modulates the cutoff frequency of FILTER 2 with a range of -63 to 64.

SPACING: The spacing control is an offset between the cutoff frequencies of the two filters. Positive values increase the cutoff frequency of Filter 2 in relation to Filter 1. Negative values do the opposite: Negative Spacing values decrease the cutoff frequency of Filter 2 in relation to Filter 1. The control range is from -63 to 64.

The Spacing control is a fixed modulation route like the Envelope Amount to Filter control.

MODE: Depending on the selected filter, selects the mode, slope and routing of the two filters using as following:

FILTER 1:

- 2P LP 0°
- 2P LP 180°
- 2P HP 0°
- 2P HP 180°
- BYPASS

FILTER 2

- 2P LP SERIAL
- 4P LP SERIAL
- 2P LP PARALLEL
- 4P LP PARALLEL
- BYPASS SERIAL
- BYPASS PARALLEL

Other parameters are accessible from the EDIT PRESET menu.

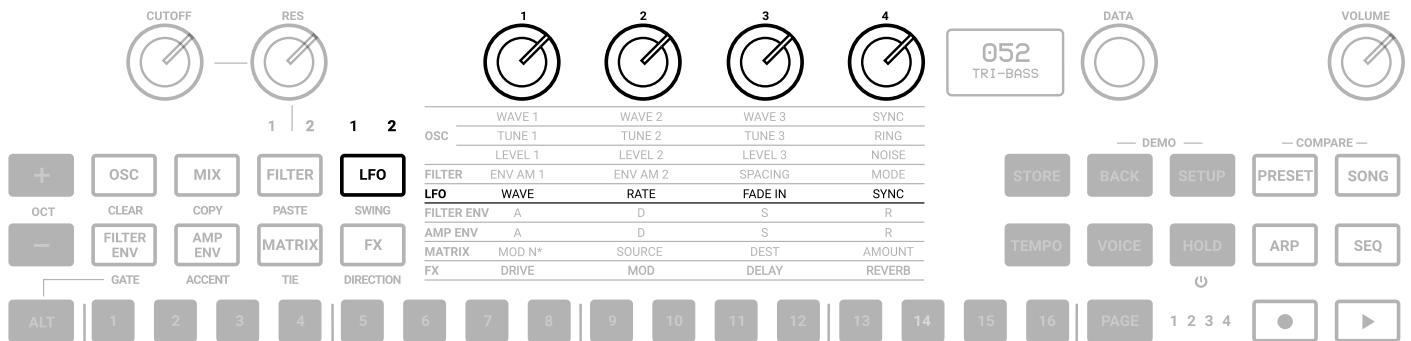
LINK: This control has 3 status:

- OFF
- CUTOFF, which links only the Cutoff frequencies of the filters
- CUTOFF + RES, which links both cutoff and resonance of the filters

When this parameter is in CUTOFF, operating either the FILTER 1 CUTOFF or the FILTER 2 CUTOFF will uniformly change both of their Cutoff frequencies. The relative offset between the Cutoff Frequency settings of the Filters is preserved as the linked value is increased or decreased.

When this parameter is in CUTOFF + RES, operating either the FILTER 1 CUTOFF and RES or the FILTER 2 CUTOFF and RES will uniformly change both of their Cutoff frequencies. The relative offset between the Cutoff Frequency settings of the Filters is preserved as the linked value is increased or decreased.

4.1.4 – LFOs (LFO)



There are 2 LFOs that extend into the audio range

Press the LFO button to light the 5th row of text indicators and access the LFO 1 controls. The 1 above the LFO button will light. Press the LFO button again to light the 2 indicator and access the LFO 2 parameters.

Pressing LFO toggles between the two LFOs. Each LFO has these identical controls:

WAVE: Hard switch between Sine, Triangle, Falling Sawtooth, Rising Sawtooth, Square, Random, S&H, Noise.

RATE: Selects the speed of the LFO 1 from 0,01Hz to 100Hz. When the sync is enabled, the Rate is synchronized to the tempo and the rate is displayed in BPM.

FADE IN: This parameter controls how much time it takes for the LFO amplitude to rise from zero to maximum. The value is expressed in seconds from 0.0 to 10.0 (one decimal place).

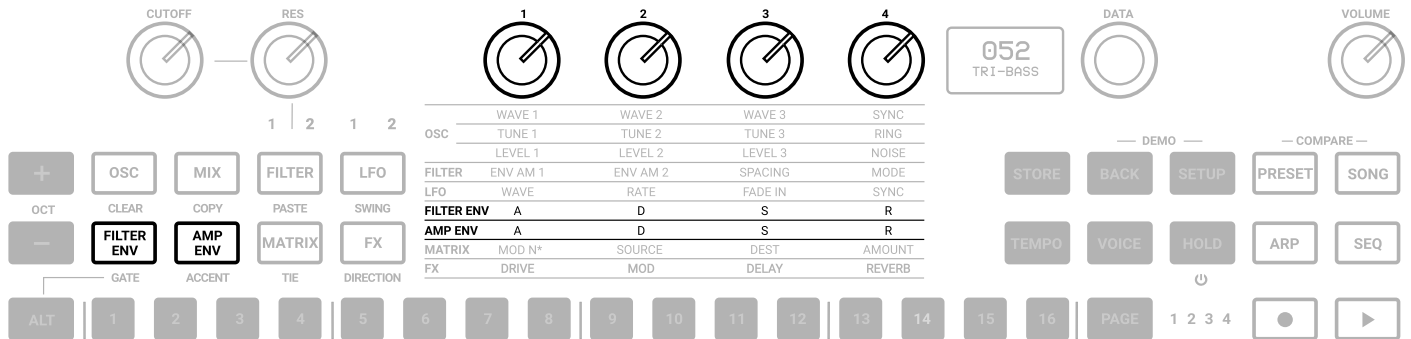
SYNC: An ON/OFF control. When ON, the LFO rate synchronizes to the tempo with the following musical note subdivisions: 1/1 1/2, 1/4, 1/4d,1/4t, 1/8, 1/8d,1/8t, 1/16, 1/16d,1/16t, 1/32, 1/32d, 1/32t, 1/64, 1/64d, 1/64t, 1/128.

Other parameters are accessible from the EDIT PRESET menu.

FADE IN CURVE: This parameter selects the type of curve to apply at the Fade In time between Linear, Logarithmic and Exponential.

RETRIGGER: An ON/OFF control, which resets the phase of the LFO each time a key is pressed. The re-trigger can also be set in the Modulation Matrix using other sources to reset the LFO.

4.2.5 – Envelopes (FILTER ENV - AMP ENV)



There are two ADSR envelopes, the Filter Envelope and the Amp Envelope. The Filter Envelope modulates the cutoff frequency of the two filters with the modulation amount set by the Envelope Amount controls for each filter. The Amp Envelope modulates the volume of the VCA by 100%.

The envelopes can also be used as sources to modulate other parts of the synth in the Modulation Matrix.

FILTER ENVELOPE

To access the Filter envelope, press the FILTER ENV button, which lights the 6th row of the text indicators.

ATTACK: Sets the amount of time from 0 to its maximum. The range is from 0 to 30 sec.

DECAY: Sets the amount of time needed to go from peak to the specified sustain level. The range is 0.1ms to 30 sec.

SUSTAIN: Sets the level of the held note. Unlike A, D and R, Sustain is a level and not a time control. The range is from 0 to 127.

RELEASE: Sets the amount of time for the sustain level to 0. The range is 0.1ms to 30 sec.

AMP ENVELOPE

To access the AMP envelope, press the AMP ENV button, which lights the 7th row of the text indicators.

ATTACK: Sets the amount of time from 0 to its maximum. The range is 0.1ms to 30 sec.

DECAY: Sets the amount of time needed to go from peak from the specified sustain level. The range is 0.1ms to 30 sec.

SUSTAIN: Sets the level of the held note. Unlike A, D and R, Sustain is a level and not a time control. The range

is from 0 to 127.

RELEASE: Sets the amount of time for the sustain level to 0. The range is 0.1ms to 30 sec.

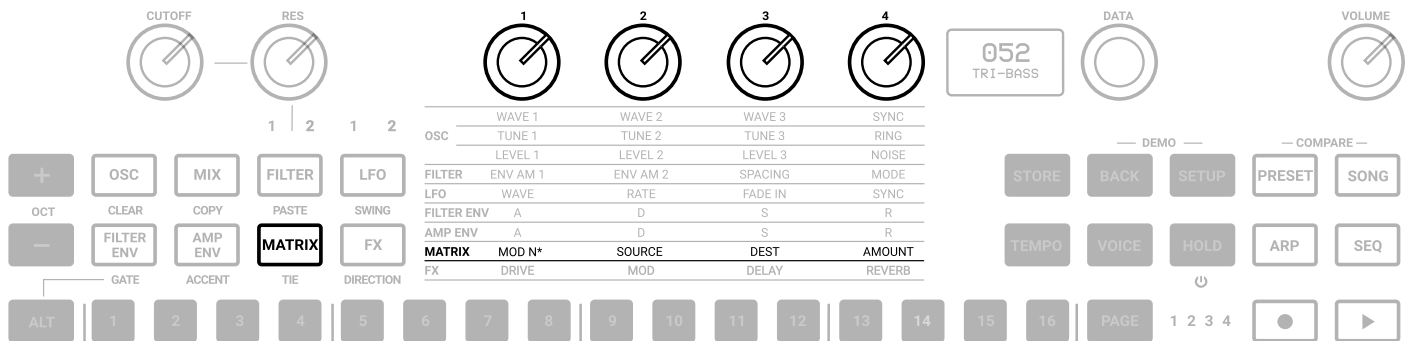
Other parameters are accessible from the EDIT PRESET menu.

LOOP: Both envelopes have the ability to loop. When the control is set to ON, it goes back to the attack stage after the end of the decay stage, and repeats the envelope cycle until stopped.

RETRIGGER: Retrigger of both the envelopes is automatically switched when using the VOICE button to switch between MONO, LEGATO and PARAPHONIC mode.

However, you can individually select the ON/OFF status of the retrigger based on the necessity.

4.2.6 – Modulation Matrix (MATRIX)

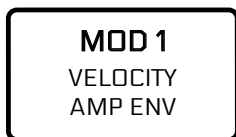


The Modulation Matrix is the way to create modulation connections between parts of the engine, which are usually not connected (ex: the amp envelope modulating the OSC2 wave).

There are 16 modulation slots available, each with a source, destination and amount. Modulation amounts can have unipolar or bipolar values depending on the destination. For bipolar destinations, negative values create inverted modulations.

The Modulation Matrix is accessed by pressing the MATRIX button, which lights the 8th row of text indicators.

MOD N*: Selects the modulation slot number between 1 and 16. Unlike the other parameters, the display here will show not only the slot number, but also the source and the destination.



SOURCE: Selects from the available modulation sources.

DEST: Selects from the available modulation destinations.

AMOUNT: Adjusts the bipolar amount of modulation, depending on the destination and source parameters.

CV and Gate connections are defined in the Modulation Matrix by selecting them as destinations for the CV/ Gate outputs) or sources for the CV/Gate inputs.

The shortcut for the MATRIX row is available by holding the MATRIX button and pressing a 1-16 button to select the modulation slot number.

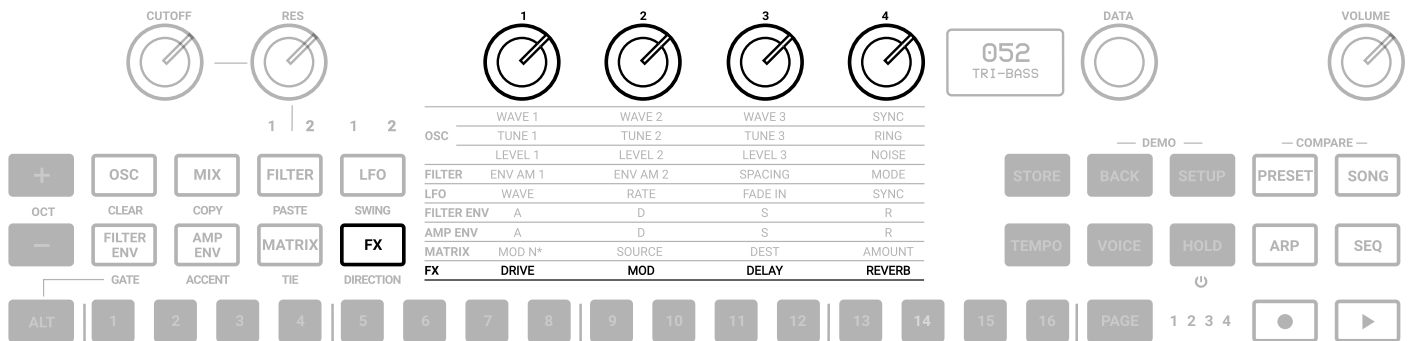
MODULATION SOURCES	MODULATION DESTINATIONS
Velocity	OFF
Mod Wheel	Osc 1 Tune
Aftertouch	Osc 1 Wave
Key Pitch	Osc 1 Level
Key Gate	Osc 2 Tune
Osc 1 Tune	Osc 2 Wave
Osc 1 Level	Osc 2 Level
Osc 2 Tune	Osc 2 FM Amount
Osc 2 Tune	Osc 3 Tune
Osc 3 Tune	Osc 3 Wave
Osc 3 Level	Osc 3 Level
Noise	Osc 3 FM Amount
Filter 1 Cutoff	Noise level
Filter 1 Res	Filter 1 Cutoff
Filter 2 Cutoff	Filter 1 Res
Filter 2 Res	Filter 2 Cutoff
Filter Spacing	Filter 2 Res
LFO 1	Filter Spacing
LFO 1 Fade In	LFO 1 Wave
LFO 2	LFO 1 Rate
LFO 2 Fade in	LFO 2 Wave
Filter Env	LFO 2 Rate
Amp Env	Filter 1 Env Amount
CV 1 IN	Filter 2 Env Amount
GATE 1 IN	Amp Env Amount
CV 2 IN	Drive Amount
GATE 2 IN	Delay Amount
Accent	Reverb Amount
Gate	Mod Amount
Tie	CV OUT 1
	GATE OUT 1
	CV OUT 2
	GATE OUT 2
	Accent Amount
	Mod N1-16 Amounts

CV (control voltage)

CV input is bipolar (where value 64 is +2.5V).

CV output is unipolar (positive range only from 0 to +5V).

4.2.6 – Effects (FX)



UNO Synth Pro is equipped with 3 slots of digital effects, which are MODulation, DELAY and REVERB, plus an analog DRIVE.

All effects are mono-to-stereo, 48kHz 16-bit. The FX amounts are available by pressing the FX button, which lights the 9th and last row of the text indicators.

DRIVE: Adjusts the amount of signal going to the drive circuit, which is built around 2 diodes positioned after the filter stage. The range is 0 to 127.

MOD: Adjusts the amount of Modulation added to the DRY signal.

DELAY: Adjusts the amount of Delay added to the DRY signal.

REVERB: Adjusts the amount of Reverb added to the DRY signal.

Other parameters are accessible from the EDIT PRESET menu.

4.2.7 – Effects Type List And Parameters

The controls for the effects are:

DELAY:

TYPE: Selects between MONO, STEREO, DOUBLER, PING PONG and LCR.

SYNC: Enables or disables the sync of the delay division to the master tempo.

TIME (both L and R when available): Adjusts the delay tempo and division. When sync is off, the tempo goes from 1ms to 350ms without decimal values. When sync is on, the values are 1/4, 1/8 T, 1/8 D, 1/8, 1/16 T, 1/16 D, 1/16, 1/32T, 1/32 D, 1/32 (some divisions depend on the master tempo).

NOTE: The maximum total delay time is 1 second, which becomes 500ms for stereo delays and 350 for LCR. For this reason, available time divisions depend on the delay type and BPM.

FEEDBACK: Adjusts the delay feedback from 0% to 80% (where 100% is near auto oscillation).

FILTER: Adjusts the LPF cutoff from 20Hz to 10000Hz.

REVERB:

TYPE: Selects between HALL, PLATE, REVERSE and SPRING.

PRE-DELAY: Adjusts the pre-delay time between 0ms and 200ms.

SIZE: Adjusts the reverb size between 0 and 100.

TIME: Adjusts the reverb decay time. Each type has a different way to deal with the decay:

- **HALL PLATE:** will have 3 controls: TIME with min 0.1 and max 30 sec, TIME LOW and TIME HIGH (with the same range). Changing TIME will automatically change the other 2 settings. If you changed manually TIME LOW or HIGH, the control TIME will automatically retain the ratio between the controls.
- **REVERSE:** Time is a feedback control that goes from 0% to 100%
- **SPRING:** Time goes from 0.2 to 15 sec.

FILTER: Adjusts the LPF IN from 50Hz to 10kHz.

MODULATIONS:

TYPE: Selects between CHORUS, PHASER and FLANGER

MODE: Available only for CHORUS. Select between SYNTH I, SYNTH II and STRING.

INTENSITY/DEPTH: Available only for CHORUS. Adjusts the intensity of the effect between 0% and 100%.

RATE: Adjusts the speed of the effect

COLOR: Available only for PHASER. Select between COLOR 1 and 2.

FEEDBACK: Available only for FLANGER. Adjust the amount of feedback in a range of +/-100%

4.2.8 – Other Sound Editing Shortcuts

Due to the complexity of the engine and the limitation of the UI, some shortcuts are handy to speed up the process of sound design for advanced users.

For editing, depending on which sound editing button is pressed, pressing the DATA encoder will show the relative menu or parameter inside the EDIT PRESET menu (e.g. OSC will show the OSC menu).

Holding one of the sound editing buttons and pressing a step will allow editing parameters normally found inside the EDIT PRESET menu. For example, by holding the FILTER button, pressing the steps will let you select both filters modes until step 11, which jumps to the LINK parameter.

5 – Global Controls

The global settings are a group of buttons dedicated to the play mode, the presets and the internal MIDI and system settings.

5.1 – Presets

The unit is capable of storing 256 presets. The presets can be recalled by Program Change with 2 banks of 128 presets each.

All presets can be renamed on the machine itself using a maximum of 14 characters each.

A preset stores all the parameters on the panel, the parameters found on the PRESET MENU, the sequence, the arpeggiator settings and the effects settings.

5.1.1 – The Edit Preset Menu

The EDIT PRESET menu is accessible by pressing DATA or when pressing the PRESET button while the preset name is shown on the display.

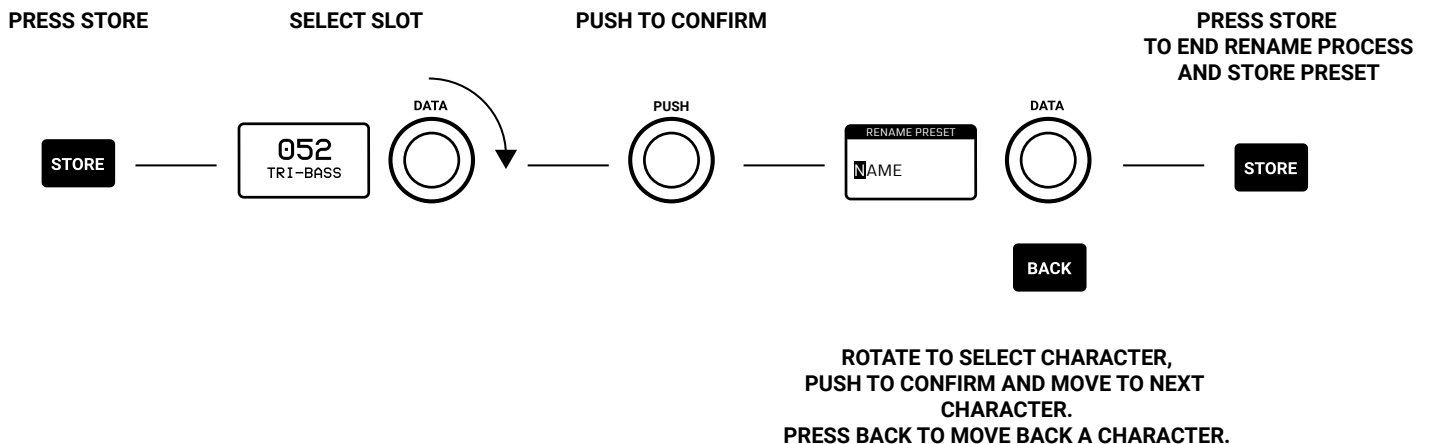
In this menu, you can view and adjust all the parameters related to the synth engine (OSC, FILTERS, etc.)

5.1.2 - Store a Preset

To store a preset, press the STORE button at any time. Once pressed, the display will show the name of the loaded preset and the slot number blinking. Use the DATA to select the slot number and PUSH to confirm, or press BACK to discard.

Once the desired slot is selected, Press STORE to rename the preset. Use the DATA to select the letter, press DATA to select the next character and BACK to selected the previous.

Once the name is complete, press STORE again to finish the storing procedure.



5.1.3 – Recall Preset

To recall a preset, the PRESET button has to be lit, meaning preset operations are enabled. Turning the DATA knob will show the preset lists, but only PUSH will recall the preset. BACK discards the operation.

You can also use the steps if the ARP or SEQ aren't active: pressing a step will jump to the relative preset; since UNO Synth Pro has 256 preset slots, to jump between them with the steps, we divided them in 16 banks of 16 presets - when ALT is pressed the steps selects the Bank.

5.1.4 – Rename Preset

While storing a preset, or in the preset menu, you can rename a preset.

The rename process is done letter by letter, using the DATA rotation to select the letter, the PUSH to move to the next character, the BACK to move to the previous character and STORE to confirm the rename.

The characters are always capital, starting with a space then numbers from 1 to 0, then letters in alphabetical order, then symbols as follows:

-space- ,1...0, A...Z, .-_

5.1.5 – Initialize A Preset

To initialize a preset, enter the EDIT PRESET menu, the last selection is INITIALIZE. You will ask to confirm the initialization: use BACK to discard or push DATA to confirm.

Please note: once initialized a preset cannot be restored.

5.1.6 – Compare Preset

All parameters of a preset can be changed at any given time for sound design and performance purposes, and a preset is not stored until the procedure is used. At any given time, you can recall the original selected and loaded preset in real-time by pressing PRESET and SONG.

5.1.7 – Demo

The DEMO will start the overview “presentation” of the machine by randomly selecting and playing 20 presets of the first 128 slots. You can start the DEMO by pressing BACK and SETUP. At the end of the 20-preset playback, the synth will return to normal operation.

You can stop the demo only pressing BACK and SETUP again, and only the VOLUME is available during the

5.2 – Setup

The setup menu is where the global utility settings are selected. Machine settings includes MIDI and system management.

5.2.1 – Master Tuning

In this first voice of the menu, you can select the Master Tuning between +/-50cents from the standard A at 440Hz.

5.2.2 – MIDI

UNO Synth Pro transmits the front panel knob and button movements via Control Change messages (CC), and also receives CC messages for external control.

Each parameter or control on the synth has its own unique Control Change number, so you can completely control the unit via external controllers or computers.

MIDI data can also be exchanged between the UNO Synth Pro and a computer using a USB cable.

CHANNEL IN: between 1 and 16

CHANNEL OUT: between 1 and 16

SOFT THRU: The MIDI Soft Thru functionality, when enabled, allows messages from the MIDI IN DIN of the unit, to be copied to the MIDI OUT DIN.

INTERFACE: When the MIDI Interface Mode is enabled, the MIDI messages incoming from the USB are copied to the MIDI OUT DIN of the unit, and the MIDI messages incoming from the MIDI IN DIN are copied to the USB.

PROGRAM CHANGE: Program Change messages allow the recall of a preset without touching the interface. You can enable and disable the receive and transmit of Program Change messages.

5.2.3 – Sync

You can synchronize the UNO tempo to the clock of an external sequencer or other devices.

SEND: the send of the MIDI Clock can be turned ON or OFF, or you can use the CV SYNC.

Note that the CV Sync uses both CV OUT ports: on CV OUT 1 it will send the clock, while on CV OUT 2 it will send the gate. The gate information will be used by some devices as RUN/STOP trigger.

RECEIVE: you can select the sync between Internal, External and USB, or you can use the CV SYNC.

Note that the CV SYNC uses both CV IN ports: on CV IN 1 it will receive the clock, while on CV IN 2 it will receive the gate. The gate information will be used as PLAY/STOP trigger for the sequencer

5.2.4 – Keyboard

VELOCITY

Sets the default velocity for the keyboard on the desktop version.

SCALE

Quantizes the tone generator to different musical scales using the natural note keys (white keys). The default setting is Chromatic where incoming note data will not be converted.

When a scale other than Chromatic is selected, the accidental note keys (black keys) on the keyboard will be disabled. This makes it possible to gliss across the bottom part of the keyboard with ease and play only the notes in the chosen scale.

The available Scales are:

- Chromatic
- Major
- Minor
- Major Pentatonic
- Major Blues
- Minor Pentatonic
- Minor Blues
- Minor Harmonic
- Mixolydian
- Dorian
- Klezmer
- Hungarian Gypsy
- Spanish Gypsy
- Japanese
- South-East Asian

TRANSCOPE

You can transpose the entire keyboard +/- 12 semitones.

PITCH WHEEL

Adjust the Pitch Wheel range between 0 and 12 semitones

KNOB

UNO Synth Pro knob behavior uses “Absolute Mode” by default: this means that the knob value is recalled using the absolute value of the position of the knob when edited (i.e.: turn a pot and the value jumps immediately from the stored value to the edited value).

The other 2 modes are Pass-Through and Relative. In Pass-Through Mode, turning the knob has no effect until after the edited value equals the preset value (or “passes through” the stored value).

In Relative Mode, the changes are relative to the stored setting and the full value range of the knob is not available until either the minimum or maximum value and the respective lower or upper limit of the knob’s travel is reached.

METRONOME

“OFF”, “ON”, or “PLAY”. OFF means the metronome is off in all situations. ON means the metronome is on and hearable only when in real-time recording. PLAY means the metronome is always on, both in real-time recording and in Playback.

The metronome is affected by the division chosen for a pattern.

CALIBRATE

UNO Synth Pro does a calibration and tuning of the oscillators each time it’s turned on. From the Setup menu you can start a calibration process for the oscillators.

OS UPDATE

Sets UNO Synth Pro in FW update mode. You can exit this stage only with a complete power cycle, disconnecting all the cables from the units.

5.3 – Song

Pressing SONG will activate song mode. In Song mode you can chain up to 64 presets.

When the chain is active, the steps of the sequencer become the presets to chain. By default, the patterns are empty. Pressing the step lets you enter or modify the preset number to insert in the step. Pressing play will start the playback of the song from the selected step.

To insert a preset, press a step: The display will show the preset number of the selected step (default is “EMPTY,” meaning an empty preset is inserted) and to modify use the DATA ENCODER.

To modify other steps, press the desired step and repeat the operation.

An EMPTY preset will play as a 16-step silence that can be used for pauses.

You can use the ALT functions such as CLEAR, COPY and PASTE on the steps. to clear a song, hold CLEAR and press SONG.

The song will have its own tempo, which can be adjusted with the TEMPO button.

5.4 – Arpeggiator

UNO Synth Pro is equipped with a multimode arpeggiator with 10 modes, a 4-octave range and hold functionality.

The modes are:

UP: Held notes play from the lowest to the highest (default).

DOWN: Held notes play from the highest to the lowest.

U/D: Held notes play from the lowest to the highest then down to the lowest again.

UD+: A variation of U/D (up/down) where the upper note and the lower note play twice at the top and bottom of the pattern instead of just playing once.

D/U: Held notes play from the highest to the lowest then up to the highest again.

DU+: A variation of D/U (down/up) where the lower note and the upper note play twice at the bottom and top of the pattern instead of just playing once.

RND: Held notes play in a random order.

PLY: (as played) The held notes played in the order in which they are triggered.

X2U: Each note in the arpeggio plays twice from the lowest to the highest.

X2D: Each note in the arpeggio plays twice from the highest to the lowest.

Selecting the arpeggiator mode

To select the arpeggiator mode press the ALT button, then Press DIRECTION. Use DATA to select between the modes.

Selecting the arpeggiator gate

To select the arpeggiator mode press the ALT button, then Press GATE. Use DATA to select between 0 and 10, where 10 is a legato note.

Adjusting the swing

To select the arpeggiator mode press the ALT button, then Press SWING. Use DATA to select between 50% and 80%.

Note that the Swing is global parameter for both ARP and sequencer.

Selecting the arpeggiator triggers

The arpeggiator is constantly repeating the played notes in loop, and while this happens the 16 steps light up following the arpeggio notes.

Pressing the steps, you can select when the notes from the arpeggio will be played, creating different rhythmic patterns.

Holding the arpeggio

You can hold the arpeggio notes by pressing HOLD. The button will light up when engaged.

Recording the arpeggio into the sequencer

To record the arpeggio into the sequencer, while holding the notes for the arpeggio with the arpeggiator engaged, press REC+PLAY: the sequencer button will blink and it will record the arpeggio in 16 steps. Once the 16th step is recorded, the arpeggiator will disengage and the sequencer will playback what has been recorded.

5.5 – Sequencer

The sequencer is a 64-step sequencer capable of recording notes, chords and parameters.

Recording options are REALTIME and STEP.

Majority of the editing parameters can be recorded in the sequencer, plus some additional sequencer-only parameters such as Accent, Tie and Gate.

Activate sequencer

The sequencer activates when the SEQ button is pressed and the button lights up, or when PLAY is pressed and the playback of the sequencer starts.

Everything is active apart from the ARP. To record the ARP into the sequencer you must start with the arpeggiator first.

Exit sequencer

To exit the sequencer mode, press SEQ and the LED turns off. Please note: it's not possible to exit the sequencer if the unit is in PLAY, hence you must cease playback to exit the sequencer.

Realtime Recording

To enter the real-time mode recording press SEQ, then hold REC and press PLAY.

The REC button LED starts blinking and the PLAY and SEQ LEDs light up.

From now on, every note and parameter received as input is recorded as step information, smoothed between steps, differently from the step mode recording.

The real-time recording stops itself at the end of a loop, switching to Step Recording.

To return in Realtime recording, always hold REC and press PLAY.

Step Recording

The Step recording is activated when REC is engaged; once activated, holding a step will let you insert data in that step, which could be notes, chords and parameters or combinations of those. To move between steps simply hold different steps.

The Step Recording always overrides the real-time recorded elements.

Modify Step Data

To view the data stored in a step, hold a step when SEQ is active: The display will show the data in a list scrollable via DATA. To modify a parameter, activate the recording by pressing REC, hold the desired step and scroll with DATA to highlight the desired parameter; PUSH to enter the parameter editing and adjust with the DATA. Once finished, release the step.

5.5.1 – ALT(ernative) Editing button

When enabled, the ALT editing option become available and the buttons of the sound editing section become the alternate editing buttons.

Please note that only CUTOFF, RES and DATA remain editable.

CLEAR: This is the tool used to clear the majority of the events recorded or saved.

While holding CLEAR:

- Press any step to delete all the events stored in the step (valid also on SONG mode).
- Press SEQ to delete the entire sequence.

Press Clear while the parameter list is open to clear the selected parameter.

COPY: While holding COPY, press any step to copy the events, or press SEQ to copy the entire sequence.

You can copy a page of the sequencer into another, using the same sequence as above with the page button; note that the length of the sequencer needs to be more than 16 steps to hear any changes.

PASTE: While holding PASTE, press any step to paste copied events on another step, or press SEQ on another preset to paste the entire sequence.

SWING: While holding SWING, use DATA to select between value 50% (default) until 80%. The swing value is global for both ARP and SEQ.

GATE: After pressing Gate, press any step to insert a gated note. A gated note is any note recorded in the sequencer, but with a shortened length with selection between OFF and 10.

ACCENT: After pressing ACCENT, press any step to add an accent modulation and use the DATA knob to determine the amount of accent between 0 and 127.

TIE: This control operates only in LEGATO, and you can switch it ON/OFF. After pressing TIE, press any step to add a tied note, hence a legato note from the pressed step to the following.

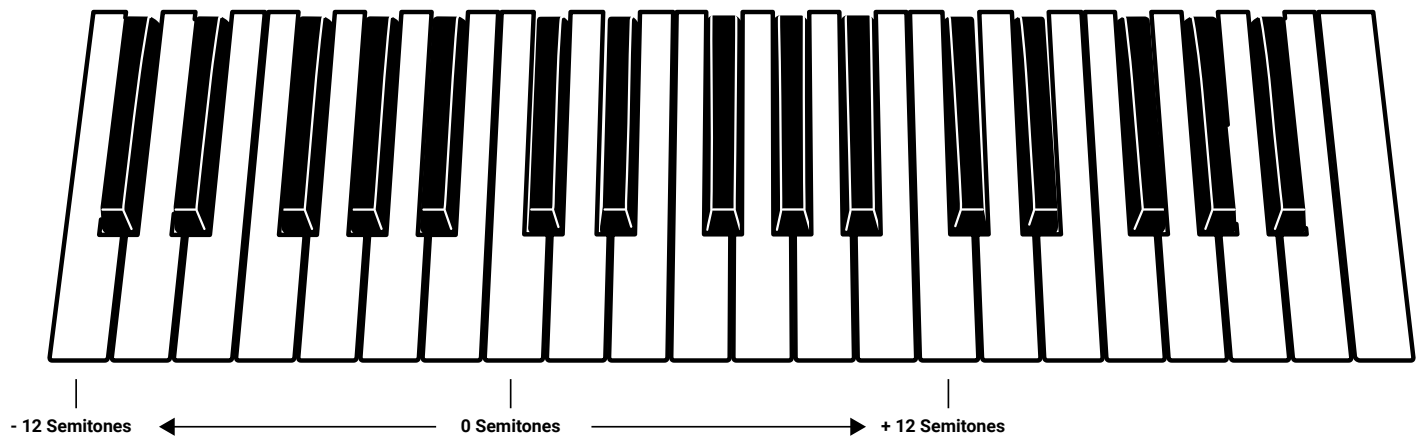
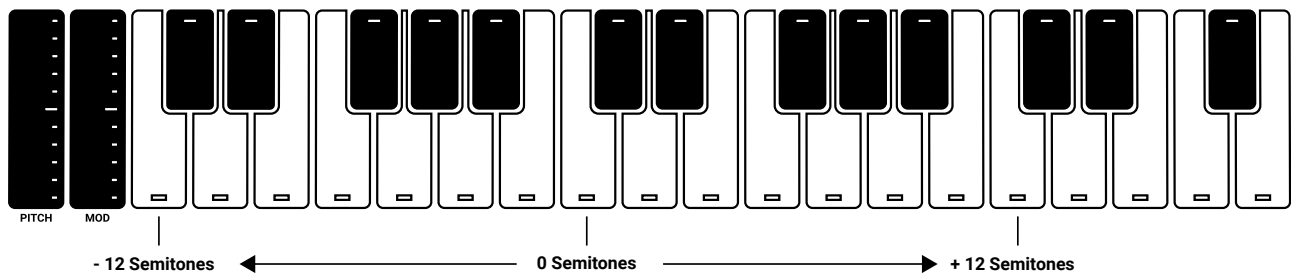
DIRECTION: After pressing DIRECTION, use DATA to select between Forward, Backward and Back'n'Forth.

LENGTH: to modify the length of the sequencer, press the OCTAVE + button and adjust the length with the DATA encoder

TRANSCOPE: sequences can be transposed +/- 1 octave. Pressing OCTAVE - the display will show the transpose value, by default on 0st (semitones).

The second C key on the keyboard will be the 0st position (on the Desktop version the LED will also light up).

Use the keyboard range of 1 octave above or below to transpose the sequence accordingly.



5.6 – Voice Mode: Assign System

The voice assign system is responsible for the allocation of the voices composing the analog engine, and change behavior based on the VOICE MODE selected.

Using the VOICE button, the screen will show the selection and the relative options to customize the selected mode.

The voice mode is a parameter saved in a preset.

LEGATO: When LEGATO mode is enabled, and detached notes are played, each Attack will still be re-triggered, but when overlapping notes are played, the pitches will change without new Attacks, for Legato response. This is the standard and default mode of the synthesizer.

MONO: The MONO mode is selected by pressing the “VOICE” button until the display shows “MONO”.

PARAPHONIC: In this mode the 3 Oscillators will play up to 3 different notes (or pitches) played on the keyboard. This is possible as the 3 oscillators pitch can be controlled separately in a one voice synth architecture.

Please note that each oscillator can still have different settings, so if you want a “poly” sound remember to set the oscillators accordingly.

6 – FAQ and Troubleshooting

1. The ARP is not working properly, what could be the issue?

This can occur when no MIDI Clock data is being sent to the unit. Please check your SYNC setting in the UNO Synth Pro as this may be set to USB, or EXTERNAL which could result in no incoming data. Setting the SYNC setting to INTERNAL will correct this behavior.

2. How come the Sequencer/Patterns are not playing back?

This can occur when no MIDI Clock data is being sent to the unit. Please check your SYNC setting in the UNO Synth Pro as this may be set to USB, or EXTERNAL which could result in no incoming data. Setting the SYNC setting to INTERNAL will correct this behavior.

Additionally, it's possible a sequence/pattern has not been recorded - please check to see if a sequence/pattern has been recorded.

3. Is there a Factory Reset option?

In order to do a Factory Reset on the UNO Synth Pro, you can download the Factory installer from the [User Area](#) or the [IK Product Manager](#).

Please visit ikmultimedia.com/unosynthpro for more info.

4. How can I replace my UNO Synth Pro power supply?

The UNO Synth Pro uses the iRig PSU 3A Power Supply and it's available for purchase on our online store [here](#).

5. There is excessive noise or interference when I play the UNO Synth Pro.

If your UNO Synth Pro is connected to your computer via the USB port, the ground noise and interference from the USB may be increased. The easiest way to avoid this is to power the UNO Synth Pro using a standard wall charger (with 5V 1.5A output) and then use MIDI DIN cables to connect to your computer.

Alternatively, if you want to maintain the USB connection to the UNO Synth Pro, you can reduce the USB noise and interference by either using a TRS cable into a balanced input on your audio interface or a USB isolator.

6. Where can I find my IK product Serial Number?

The Serial Number is written on the Registration Card (included with your IK product).

IMPORTANT: the number zero can easily be identified in your Serial Number because it's crossed by a line.

7 – Support

For any questions you may have, please refer to the FAQ webpage at:

ikmultimedia.com/faq

Here you will find answers to the most commonly asked questions.

To submit a Technical Support Form, go to:

ikmultimedia.com/support

For warranty information, please visit:

ikmultimedia.com/warranty

For other requests such as Product, Sales, or Web info, please go to:

ikmultimedia.com/contact-us

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All specifications are subject to change without further notice.

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