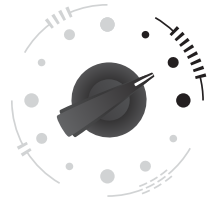




COSMOS

ユーザー
マニュアル



Giant reverb. Simulates an echo in a hall several kilometers in size. Due to the enormous size, early reflections sound like individual echoes, which merge very slowly into the finely dispersed noise intrinsic of a reverb.

- Huge hall.
- Super-huge hall.
- Insanely-super-huge hall.



Granular delay. Asynchronous granular stereo-delay.

- Small size of delay and grains.
- Medium size of delay and grains.
- Large delay and grain size, plus an additional central granular delay.

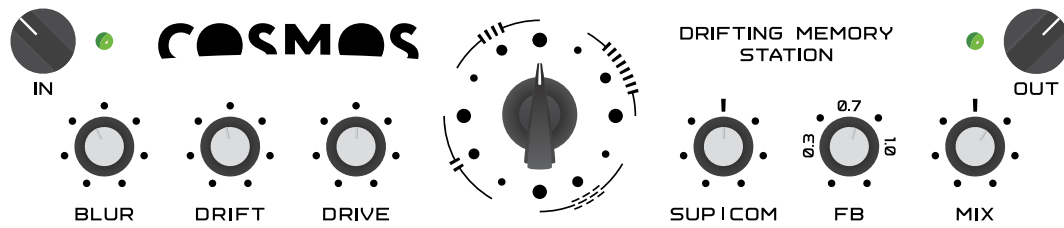
SOUND LEVEL INDICATOR



Shows the volume level of the sound circulating in the delays.
 Green – the volume level is sufficient for proper signal processing.
 Yellow – maximum volume level without distortion.
 Red – the limiter is triggered, limiting the signal.

In most cases, you should keep the volume level in the green-yellow part of the range. Due to the high-quality sound path, even at a very low volume level, when the indicator does not light up at all, the sound will remain clear and beautiful, until it completely disappears. Also, a constantly lit red indicator LED does not mean that the sound is corrupted. Instead of the harsh distortion inherent to digital clipping, you will hear a soft overdrive as on tape recorders. This is due to the built-in limiter, which prevents hard clipping and distortion. You can use delay overload as an artistic effect without fear of harsh digital distortion or clipping.

KNOBS



IN

Adjusts the input level. Set the knob in such a position that the adjacent volume indicator lights up green and does not light up or occasionally light up red. The red LED illuminates when the input A/D converter is overloaded, resulting in harsh digital distortion that cannot be further mitigated by the internal limiter. If the red indicator lights up occasionally, this means that only individual signal peaks are reaching the maximum, which is usually acceptable.

BLUR

In algorithms **||** and **||||** (delays) – adds cross-feedback between delay lines, which leads to a gradual blurring of their content.

In the algorithm **|||||** (reverb), it does nothing.

In the algorithm **≡≡≡** (granular), it modulates the position of the grains with a noise signal.

DRIFT

In algorithms **||** and **||||** (delays) – it modulates the panorama of delays with an asynchronous LFO, whose frequency, in turn, is modulated by a slow chaotic signal.

In the algorithm **|||||** (reverb), it does nothing.

In the algorithm **≡≡≡** (granular), it modulates the positions of grains with an asynchronous LFO, whose frequency, in turn, is modulated by a slow chaotic signal.

DRIVE

Adds gentle distortion to the sound, similar to a guitar overdrive.

SUP|COM

By turning the knob from zero to midpoint (first half of the scale), a suppressor is added. Suppressor is an effect that suppresses recorded sounds with newly arriving ones. In this case, the louder the incoming sound, the stronger the suppression level. The suppressor allows you to automatically replace the contents of the delays when new sounds arrive and play them until the next one arrives. The minimum position of the knob corresponds to the switched off suppressor, the middle one to it fully switched on. Mid to Maximum – Suppressor off.

Rotating the knob clockwise from mid to maximum (second half of the scale) adds a compressor, with the suppressor off. Compressor is an effect that makes soft sounds louder and loud sounds quieter. The sum of the recorded and incoming signals is used as the compressor control signal. The middle position of the knob corresponds to the switched off compressor, the maximum position corresponds to it fully switched on. Zero to Mid – Compressor off.

In the middle position of the knob, where the suppressor is turned off, some uncertainty can arise due to the inevitable natural noise of the analog control circuits. Therefore, this position of the knob is recommended to avoid. However, this uncertainty can also add spice to your performance :)

FB

Feedback – the level of delivery of the output signal of the delays to their input. If the value is less than 1.0, the sounds in the delays will fade out. If the value is equal to 1.0, sounds stay at the same level. If the value is greater than 1.0, volume level will increase. In most cases, this knob should be at a position slightly less than 1.0.

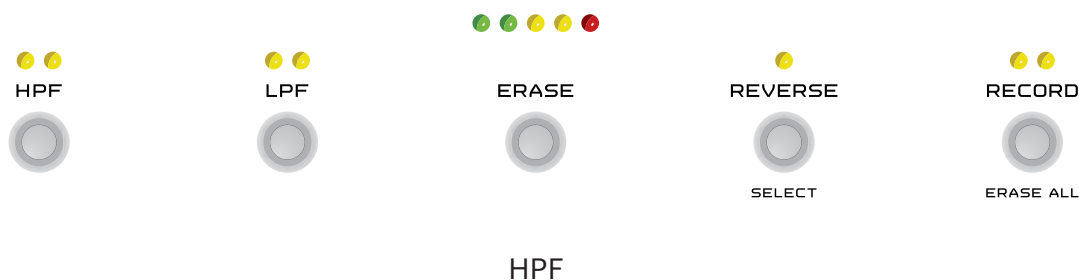
MIX

Determines the balance between incoming and outgoing signals. In most cases, this knob should be set in the middle position where the signals are equal.

OUT

Output signal level. The green LED next to this knob is the power indicator.

BUTTONS



High-pass cutoff filter (high frequencies pass, low frequencies are cut). It has three fixed cutoff frequency settings. To change the frequency, hold down the **HPF** button and press the **REVERSE (SELECT)** button.

The filter status is indicated by two LEDs above it:

- ● – the filter is off.
- ● – minimum cutoff frequency (least filter effect).
- ● – medium cutoff frequency (medium filter effect).
- ● – maximum cutoff frequency (the greatest influence of the filter).

LPF

Low-pass cutoff filter (low frequencies pass, high frequencies are cut). It has three fixed cutoff frequency settings. To change the frequency, hold down the **LPF** button and press the **REVERSE (SELECT)** button.

The filter status is indicated by two LEDs above it

- ● – the filter is off.
- ● – the minimum cutoff frequency (the greatest influence of the filter).
- ● – medium cutoff frequency (middle filter effect).
- ● – maximum cutoff frequency (least filter effect).

ERASE

Erases sounds recorded in delay lines. To instantly clear all memory, hold down the **ERASE** button and press the **RECORD (ERASE ALL)** button.

REVERSE





Switches on reverse playback.

RECORD

Enables writing to the device memory. If this button is not pressed, the sounds recorded in the device's memory are played back and can be modified by the built-in effects, but new incoming sounds are not recorded to the memory. In this case, the incoming sounds are still mixed with the recorded sounds and fed to the output of the device. Record Off is good for soloing over recorded sounds, which are used as background in this case.

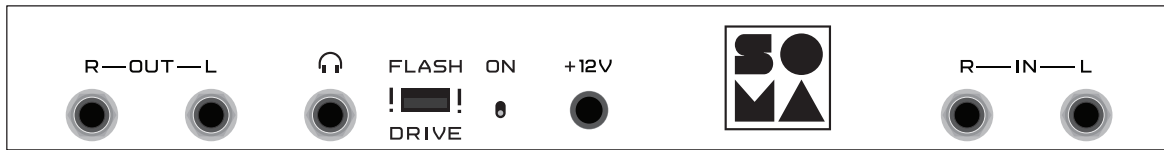
The record function has four modes of operation. To switch modes, hold down the **RECORD** button and press the **REVERSE (SELECT)** button.

The recording status is indicated by two LEDs above the button:

-  – recording is off.
-  – records to the first group of delays of current algorithm.
-  – records to the second group of delays of current algorithm.
-  – records to all delays of the current algorithm. (This is the main mode, it is here that all the magic of COSMOS is revealed)

In algorithms **II** and **IIII** (delays), if you press and hold the **RECORD** button for more than five seconds, the playback speed of the delay's content will be slowed down twice. To return to normal mode, press the **RECORD** button again and hold it for more than five seconds.

REAR PANEL



R-OUT-L Balanced stereo output. If the jack is plugged into only one of the outputs, the device automatically creates a mono mix, thus preserving the full sound pan of COSMOS.

 – headphones output.

FLASH DRIVE – USB 2.0 port for flash drives only, for firmware updates. Do not connect anything other than a standard flash drive! Do not connect to a computer! Incorrect usage can damage COSMOS and voids the factory warranty!

ON – power switch.

Connector **+12V** – power input DC 12 volts, 0.5 ampere, center – plus. Use only the power supply supplied with the device! If it fails, it can be replaced with a high-quality modern switching power supply with an output voltage of 12 volts, the center is plus and an output current of at least 0.5 amperes (more is OK). The power supply must have a wide AC input voltage range of 100-240 volts. Such power supplies have excellent output voltage stabilization required for the device. Do not use COSMOS with nonstabilized voltage from transformer power supplies. It can lead to damage to the device, which is not covered by the warranty repair!

R-IN-L stereo input of the device. Can take both TS and TRS cables. If the jack is plugged into only one of the inputs, the device will automatically duplicate the signal to the second channel. In most cases, it makes no sense to feed a stereo signal, as it will still be split into delay groups and will lose the stereo effect. However, this can make sense if you intentionally want different signals to go to different delay groups. The left and right input channels are assigned to different delay groups. This also makes sense in the alternative firmware that contains a traditional stereo looper.

To connect a mono signal, plug a mono jack into any of the device inputs (the second input will receive the same signal automatically).

FIRMWARE UPDATE

COSMOS firmware is easily upgradable. Several firmware versions are available, providing different algorithms and their variations.

To download new firmware:

1. Download the firmware from **somasynths.com** → **COSMOS** → **FIRMWARE**
2. Save the firmware in the root directory of the flash drive. The file system of the flash drive must be FAT32. We recommend that you do not use high-capacity flash drives. 1-32 GB flash drives are ideal. Do not put several firmware versions in the root directory of one flash drive!
3. Turn off COSMOS.
4. Insert the flash drive into the USB port on the rear panel.
5. While holding down the RECORD button, turn on the power switch.
6. The switching of the LEDs above the RECORD button indicates a successful progress of update process.
7. Upon completion of the update process, COSMOS will automatically enter the operating mode, which will be evidenced by the running light on LEDs from left to right, which you see every time you turn on the device.
8. Now the flash drive can be removed.

If the firmware update process fails, the red LED next to the **IN** knob will turn on. If this happens:

- Check the operability of the flash drive.
- Make sure the firmware is placed in the root directory and the file name has not been changed.
- Try another flash drive.
- Try to delete all contents from the flash drive and format it before copying the firmware.

SPECIFICATIONS

Minimum input voltage	0.35 V peak-to-peak
Maximum output voltage at line outputs	11.3 V peak-to-peak
The maximum output voltage at the headphones output.	10.4 V peak-to-peak
Frequency response	10–22000 Hz
Sound memory	44.7 sec
Supply voltage	DC 12 V *
Power connector polarity.	center plus
Current consumption.	0.25 A
Dimensions	342 x 153 x 68 mm
Weight	2.2 kg

* Use only the power supply supplied with the device! In case of failure, it can be replaced with a high-quality modern switched-mode power supply with an output voltage of DC 12 volts, the center is plus and an output current of at least 0.5 amperes (more is fine). The power supply must have a wide AC input voltage range of 100-240 volts. Such power supplies have excellent output voltage stabilization required for the device. It is forbidden to use COSMOS with nonstabilized voltage from transformer power supplies. It can lead to damage to the device, which is not covered by the warranty repair!

CREDITS

Andrzej Slowik – production management and control.
Anastasia Azartsova – top and rear panel design and web design.
Arseniy Vasylenko – web administration.
Evgeny Aleynik – lawyer consulting.
Grigory Ryazanov – industrial construction for mass production.
Grzegorz Lacek – management, network, sales and communications.
Maxim Manakov – development of USB driver and firmware bootloader.
Pawel Wieczorek – production technologies.
Thomas Lundberg – customer support, communication, text editor and proofreader.
Valery Zaveryaev – manual design and layout.

