CONCRETE

ライトレフト

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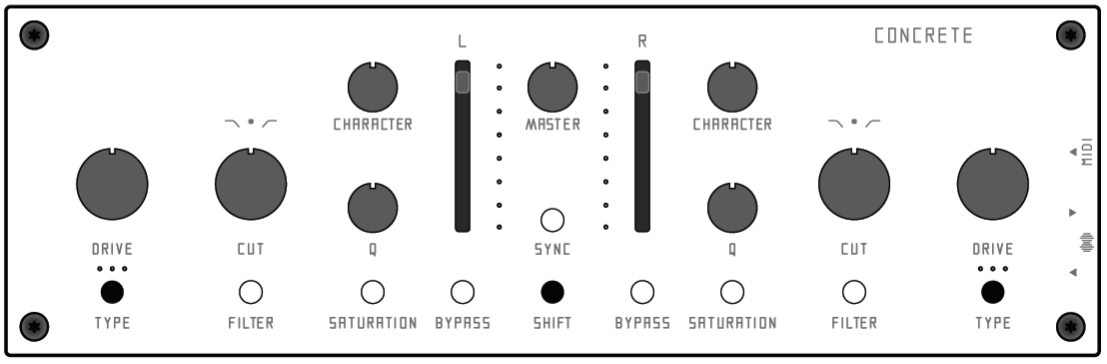
CONCRETE



CONCRETE is a compact stereo sound processor that combines digital drive engines, an analog filter, flexible routing, and hands-on performance control in a single device. It is designed to shape sound directly from the hardware surface, without interrupting the creative flow.

The device can work as a stereo processor, as two independent mono processors, or as a serial processing chain. Drive, character, filter, dry/wet balance, compressor, and routing can be combined in different ways depending on the source material and the result you want to achieve.

CONCRETE is built for both subtle coloration and extreme sound transformation. It can add weight, movement, compression, and harmonic detail to drums, synthesizers, samples, full mixes, or external instruments. It can also be pushed into distortion, crushed textures, feedback-like tones, and unstable processed sounds.

This manual covers the core concepts and operating principles. The best way to understand **CONCRETE** is to connect it to a real setup, try different drive engines, change the filter position, experiment with parallel and series routing, and find the processing chain that fits your sound.

SPECIFICATIONS

- **ENCLOSURE:** The casing and front panel are precision-machined from a single piece of aluminum.
- **DIMENSIONS AND WEIGHT:** 230x72x15mm, 350g
- **FILTERS:** Each channel features analog low-pass and high-pass filtering, controlled by dedicated center-detented knobs located on the left and right sides of the device for independent channel adjustment.
- **DRIVE:** Concrete's firmware allows users to select one of four drive types by pressing the TYPE buttons.
- **CHARACTER:** Depending on the loaded engine, the character of the effect shifts and takes on a different role.
- **MIDI:** All CONCRETE parameters can be controlled via MIDI over USB or TRS.

QUICK START GUIDE

BOOT MODE

Before using Concrete for the first time, you can check the Boot Mode. To enter Boot Mode, hold **SHIFT** while connecting Concrete to your computer with a USB cable. In this mode, Concrete appears as a USB drive. This is used for installing new firmware.

FIRMWARE UPDATE

Download the latest firmware from the **DOWNLOAD & SUPPORT** section on our website.

To update CONCRETE, connect it to your computer while holding **SHIFT**. CONCRETE will appear as an external drive. Copy the firmware file to this drive, then safely eject it and disconnect the USB cable.

After the update, turn **CONCRETE** on while holding the **SYNC** button to load the **INIT** preset.

INIT PRESET

Concrete retains its settings even after being powered off. To reset the unit to the default **INIT** preset, power on Concrete while holding the **SYNC** button.

INPUT VOLUME *is set to full.*
NOISE GATE *is set to 0.*
COMPRESSOR *is turned off.*
Both channels are set to ***STEREO*** *mode.*
Routing is set to ***PARALLEL*** *mode.*
SATURATION DRY/WET *is fully on.*
FILTER *is placed after* ***SATURATION*** *in the signal chain.*

All other parameters follow the current knob positions on the panel.

MIDI CHANNEL

Concrete allows MIDI communication to be customized by selecting dedicated MIDI channels for sending and receiving signals. During this process, the built-in LEDs provide visual feedback, indicating which of the 16 available channels is currently active.

LED channel indication

Bottom left LED: MIDI Channel 1
Top right LED: MIDI Channel 16

To cycle through and select the desired MIDI channel, press the **SYNC** button. Each press switches to the next channel, and the corresponding **LED** will flash to indicate the selection.

The flashing **LED** indicates that the selected **MIDI** channel settings have been saved. Disconnect the **USB** cable to power down the unit, then reconnect it to restart Concrete with the new **MIDI** settings applied.

NOTE: Changing the **MIDI** channel setting is available only in Boot Mode.

CORE FUNCTIONS

DRIVE ENGINES

CONCRETE has 4 drive engines. Use the TYPE button to select the engine. In every mode, **DRIVE** and **CHARACTER** work together.

Their response changes depending on the selected engine, so try different combinations to find the right amount of color, movement, and distortion.

- **DIODE** (LED 1 ON) – Sharp clipping with a direct and aggressive character. Good for adding edge, density, and stronger harmonic bite. Turning **CHARACTER** down changes the BIAS.
- **SINE** (LED 2 ON) – Smooth wave-shaped saturation with a rounder response. Can give the sound a softer edge, more body, and a smoother sense of movement. **CHARACTER** adds extra gain.
- **BIT CRUSHER** (LED 3 ON) – Digital degradation with a crushed, broken texture. It pushes the signal into rougher, degraded territory, from lo-fi color to more broken and unstable textures. The **CHARACTER** knob changes the bit depth from 2-bit down to 24-bit.
- **TUBE EMULATION** (LED 1 + LED 2 ON) – Warm saturation inspired by tube-style harmonic coloration. Good for adding weight, compression, and musical thickness. Turning **CHARACTER** down changes the BIAS.

CHARACTER

Its function varies depending on the active engine, allowing the same knob to control different sound parameters such as bias, gain, or bit depth. Use **CHARACTER** together with **DRIVE** to fine-tune the amount, shape, and response of the distortion.

The **CHARACTER** control is designed so that its rightmost position provides the most neutral and stable starting point. From there, turning the knob from right to left progressively *“breaks down”* the sound.

In **DIODE** and **TUBE** modes, **CHARACTER** adjusts the bias, while in **BIT CRUSHER** mode it reduces the bit depth. This design allows users to begin with a cleaner, more controlled signal and gradually introduce instability, degradation, and distortion by turning **CHARACTER** to the left.

Because of this design approach, some **DRIVE** engines become more extreme when the knob is turned backward, rather than forward in the conventional “increase parameter” direction.

- **DIODE**: changes BIAS.
- **SINE**: adds gain.
- **BIT CRUSHER**: changes bit depth.
- **TUBE EMULATION**: changes BIAS.

NOTE: We plan to expand the number of **DRIVE** engines in future updates, as well as add more options for how they can be combined and arranged inside the device.

FILTER

CONCRETE has two analog filters, one for each channel. Both filters function as a low-pass or high-pass, allowing the signal to be shaped independently on each side or processed as a stereo pair.

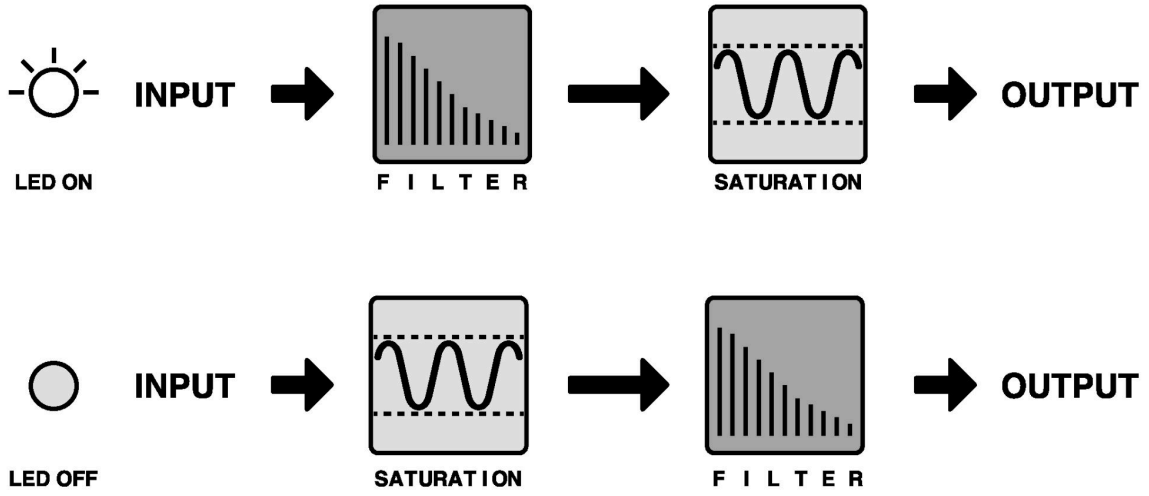
The **CUT** and **Q** controls function identically on both sides of the device: **CUT** sets the filter frequency, while **Q** controls resonance.

FILTER / SATURATION ORDER

CONCRETE allows you to change the processing order of the filter and saturation stages.
By default, the signal passes through **SATURATION** first, then through the **FILTER**.

To swap the order, hold **SHIFT** and press **BYPASS**.

When the order is swapped, the **FILTER** is placed before **SATURATION**.
This can change the response of the drive stage significantly.



With **FILTER** before **SATURATION**, the selected frequency range is shaped before it enters the drive engine.

With **SATURATION** before **FILTER**, the drive engine affects the full signal first, and the filter shapes the result afterwards.

VOLUME SLIDERS

VOLUME sliders control the output volume of each channel. When **SHIFT** is held, the same sliders control the input volume instead. This allows you to adjust how much signal enters the processing chain separately from the final output level.

INPUT / OUTPUT STEREO / MONO

STEREO/MONO changes how the left and right channels are placed in the stereo field.

INPUT STEREO/MONO controls the incoming signal. Hold **SHIFT** and turn the left **CHARACTER** knob to switch the input between stereo and mono. In the left position, the left and right input channels remain in stereo. In the right position, both input channels are centered before processing.

OUTPUT STEREO/MONO controls the processed signal at the output. Hold **SHIFT** and turn the right **CHARACTER** knob to switch the output between stereo and mono. In the left position, the left and right output channels remain in stereo. In the right position, both output channels are centered.

SYNC

In **SYNC** mode, all controls on the left side control the right side as well, as if both sides were being adjusted at the same time.

MIDI IN / OUT

CONCRETE can receive and send MIDI signals. Hold **SHIFT** and press the left **SATURATION button** to turn MIDI IN on/off. Hold **SHIFT** and press the right **SATURATION button** to turn MIDI OUT on/off. If the LED is on, the function is enabled. If the LED is off, the function is disabled.

SHIFT

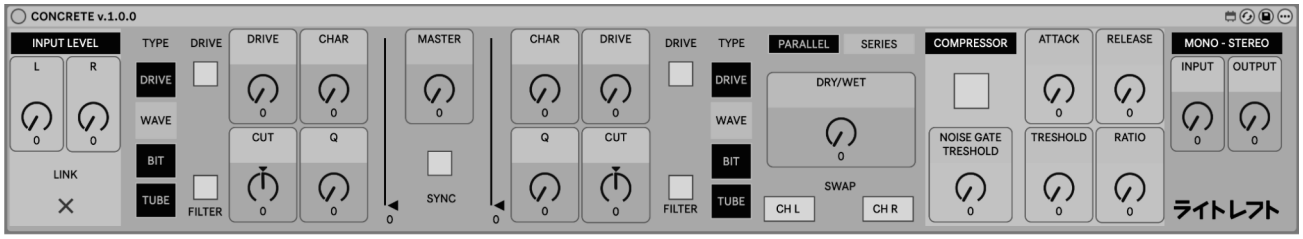
When **SHIFT** is held, the interface changes to its secondary functions. From left to right:

- **DRIVE TYPE- L:** stays unchanged.
- **FILTER - L/R:** turns the preamp on/off.
- **SATURATION - L:** turns MIDI IN on/off; **R:** turns MIDI OUT on/off.
- **BYPASS L/R:** changes the order of the filter and distortion.
- **SYNC:** turns the compressor on or off.
- **CHARACTER - L:** switches the INPUT between stereo and mono; **R:** switches the OUTPUT between stereo and mono.
- **VOLUME L/R:** controls input volume L/R.
- **MASTER:** controls SATURATION DRY/WET.
- **DRIVE TYPE - R (PARALLEL / SERIES):** changes routing, where the **Left position** provides stereo play and the **Right position** centers both channels.

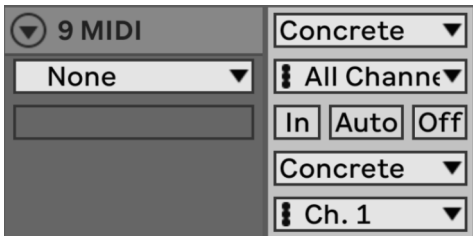
MAX4LIVE PATCH

To make CONCRETE easier to learn and to allow instant control from inside a project, we created a **Max for Live** patch for **Ableton Live**. We understand that not everyone uses Ableton or feels comfortable working in that environment, so we are also planning to develop a standalone control software that can be used with any DAW.

DOWNLOAD from **https://www.lightreft.jp**



To use the patch, open it in Ableton Live, connect CONCRETE to your computer, and set the following MIDI settings:



MIDI CC ONLY FUNCTIONS

The following functions are secondary controls that are not available directly from the hardware panel. They can be accessed and adjusted only via external MIDI CC control.

COMPRESSOR

The **COMPRESSOR** helps control the dynamics of the processed signal. It can make the sound more stable, dense, and controlled, especially when using higher DRIVE, CHARACTER, or Q settings.

Hold **SHIFT** and press **SYNC** to turn the **COMPRESSOR** on or off.

While **SHIFT** is held:

- **LED on**: COMPRESSOR on.
- **LED off**: COMPRESSOR off.

Additional COMPRESSOR parameters, such as **ATTACK**, **RELEASE**, **THRESHOLD**, and **RATIO**, can be controlled via MIDI (See MIDI CC Chart) or the Max for Live patch.

NOISE GATE

The **NOISE GATE** helps reduce low-level noise when the input signal falls below the threshold. This can be useful when using high-gain DRIVE settings or when processing noisy external sources.

NOISE GATE THRESHOLD can be controlled via **MIDI** or the **Max for Live** patch (described later in this manual).

Set the **NOISE GATE THRESHOLD** to 0 to keep the gate fully open.

MIDI CC CHART

CC	VALUE	CHNL	COMMENT
14	DRIVE	LEFT	
15	CUT	LEFT	
16	CHARACTER	LEFT	
17	Q	LEFT	
18	VOLUME (OUTPUT)	LEFT	
19	**MASTER VOL**		
20	VOLUME (OUTPUT)	RIGHT	
21	Q	RIGHT	
22	CHARACTER	RIGHT	
23	CUT	RIGHT	
24	DRIVE	RIGHT	
46	TYPE	LEFT	
47	FILTER (ON/OFF)	LEFT	
48	SATURATION (ON/OFF)	LEFT	
49	BYPASS	LEFT	
50	**SYNC**		
51	BYPASS	RIGHT	
52	SATURATION (ON/OFF)	RIGHT	
53	FILTER (ON/OFF)	RIGHT	

54	TYPE	RIGHT	
55	SWAP	LEFT	**SWAP** changes the order of the filter and drive. • *On the device hold **SHIFT** and press left **BYPASS**.* **LED on: filter → drive** **LED off: drive → filter**
56	**COMPRESSOR** (ON/OFF)		• *On the device hold **SHIFT** and press **SYNC**.* While **SHIFT** is held: **LED on: compressor on** **LED off: compressor off**
57	SWAP	RIGHT	**SWAP** changes the order of the filter and drive. • *On the device hold **SHIFT** and press right **BYPASS**.* **LED on: filter → drive** **LED off: drive → filter**
58	COMPRESSOR ATTACK		0 - 50ms

59	COMPRESSOR RELEASE		1 - 200ms
60	COMPRESSOR THRESHOLD		-18dBu - 11dBu
61	COMPRESSOR RATIO		1.5:1 - 10:1
62	**NOISE GATE THRESHOLD**		
63	STEREO/MONO (INPUT)		**STEREO/MONO** changes the stereo position of the left and right channels. **Left position: left and right channels play in stereo.** **Right position: both channels are centered.** • *On the device, hold **SHIFT** and turn the left **CHARACTER** pot*
64	**SATURATION DRY / WET**		**DRY/WET** affects only the saturation, not the filter. • *On the device, hold **SHIFT** and turn the **MASTER** knob.*
65	PARALLEL / SERIES		**PARALLEL / SERIES** changes how the left and right channels are routed. **PARALLEL**: left and right work separately. **SERIES**: the left channel goes into the right channel, and both channels are mixed into mono signal. • *On the device, hold **SHIFT** and press the right **TYPE** button.* **First LED blinking: Parallel mode** **Second LED blinking: Series mode**

66	STEREO/MONO (OUTPUT)		**STEREO/MONO** changes the stereo position of the left and right channels. Left position: left and right channels play in stereo. Right position: both channels are centered. • *On the device, hold **SHIFT** and turn the right **CHARACTER** pot*
67	VOLUME (INPUT)	LEFT	**VOLUME (INPUT)** controls the input level of each channel. • *On the device, hold **SHIFT** and move the left slider.* While **SHIFT** is held, the LEDs show the input signal level
68	VOLUME (INPUT)	RIGHT	**VOLUME (INPUT)** controls the input level of each channel. • *On the device, hold **SHIFT** and move the right slider.* While **SHIFT** is held, the LEDs show the input signal level