



BASIC OPERATION - LOOPREC / LOOPREC2

This user guide applies to LOOPREC and LOOPREC2 unless *noted otherwise*.

Add a new LOOPREC module within a Voltage Modular session and connect a mono audio source to the IN jack, then connect the OUT jack to your MAIN OUT, mixer or effects etc. The IN / OUT LEDs will light blue for signals over -60dB and light red when close to clipping at -1.0dB. There is also a built-in limiter at the output stage.

Note: LOOPREC2 has stereo in / out. For mono sources, use the L(M) input.

1. To start recording a loop, click the LOOP button
2. To stop recording, click LOOP again
3. To add an overdub, click LOOP again
4. To stop the loop, click the STOP button
5. To play your recorded loop from the beginning, click LOOP
6. To clear your loop, click the CLEAR button

The steps above with LOOPREC in the default settings cover what most simple “two button” hardware loopers do. Quite often loop clear is a long press on the stop button whereas we have a dedicated button for clearing the loop.

The CLEAR / STOP buttons will also stop / cancel any playback or recording in progress.

LOOP DISPLAY BAR

The display bar will be blank (black) when no loop has been recorded yet or when the previous loop has been cleared. When recording, the bar will be red and represents the length of your current recording in relation to the maximum loop length of two minutes.

When you finish recording the bar will turn green (play) or orange (overdub) depending on the LOOPING MODE (see below) and the bar length represents the loop “play head”. This is a handy visual cue so you can see where you are in the loop.

LOOP DECAY / LEVEL

DECAY can be used to fade your loop out over time. At the maximum setting the loop will play continuously without fade. Setting to somewhere around half-way is good for building-up evolving soundscape type loops. Please note that the loop playback will always decay in both play and overdub modes.

LEVEL sets the output level of the loop. At maximum setting, the loop level will be the same as your record source. If the OUT jack LED lights red, your output is close to the maximum output so reducing the loop LEVEL might help.

LOOPREC2 has the option to control DECAY and LEVEL via CV IN. These inputs expect a voltage between 0 and +5.0V.

AUTO RECORD

When switched on, LOOPREC will start recording your loop as soon as a signal is received over the trigger threshold set by the knob. In most cases the minimum setting (-96dB) should work fine, but if your source is a little noisy, try increasing the threshold. The TRIG LED will light when the threshold has been reached / exceeded.

Please note that when AUTO-RECORD is on, if you CLEAR a loop, or STOP recording, auto-record will be temporarily disabled internally until the input signal has remained below the trigger threshold for half a second. This prevents decaying notes re-triggering recording. Once the TRIG LED has been off for half a second, auto-record will work again as normal.

LOOPREC2 has the option to toggle AUTO-RECORD via CV IN with a trigger of > +1.0V.

LOOPING MODE

This mode determines whether LOOPREC goes into play or overdub mode at the end of a recording. In both modes, the LOOP button will toggle between play and overdub mode once a loop has been recorded.

PLAY MODE

Typically you want your loops to LOOP! Select ONCE if you only want your loop to play back once. When recording in ONCE mode, the loop will repeat once after recording has ended.

STOP MODE

When clicking the STOP button, LOOPREC will either stop the loop NOW (as soon as you click the button) or wait until playback has reached the END of the loop. This can be useful for ending rhythmic loops cleanly.

CV TRIGGERS

The LOOP and STOP commands can be externally triggered via CV with a +/-1.0V pulse or more.

Note: LOOPREC2 also accepts a CV trigger to CLEAR the loop.

WAV FILE EXPORT / IMPORT

LOOPREC supports uncompressed .WAV files sampled at 48KHz only. Files are exported as 24 bit mono. Please note that you can import stereo files, but they will be converted to mono.

Note: LOOPREC2 supports stereo file import / export.

You can access the import / export menu by clicking on the file button icon in the LOOP DECAY / LEVEL area. If no loop is loaded, you'll be taken straight to an import file dialog.

By default, loops are saved and restored in your documents_folder/Voltage Modular/ LOOPREC/Loops. The name and location of your documents_folder depends on your operating system.

Note: LOOPREC2 will save loops to a LOOPREC2 sub-folder.

When a loop has been stored, LOOPREC will attempt to restore it on start-up during the next session. Please note that LOOPREC only remembers the path to your file, so if you move or rename the file, the restore will fail and you'll get an error message. If you can't remember where your loop came from, hover over the file menu button.

So please remember, if you want your recorded loop to be restored during your next Voltage Modular session, don't forget to export it!

ADVANCED FEATURES - LOOPREC2

The following applies to LOOPREC2 only.

LOOP DISPLAY

The LOOPREC2 display also shows a representation of the audio in a recorded loop. If you are performing to a specific tempo, you can toggle bar lines on the display with the small [|] button.

RECORD FADE IN / OUT

When recording, audio is ramped-up or down to avoid clicks in the loop. The default value of 10ms is barely perceptible, but if you need sample-level accuracy in your recordings (for diagnostic purposes, for example) set the time to zero. Alternatively, longer fade times can be used creatively when overdubbing to create almost granular soundscape type effects.

FX SECTION

LOOPREC2 features some effects for spicing up your loops! Please note these are non-destructive, i.e. they are applied to the output of the looped audio, not the recorded loop itself.

Please also note that the FX are not applied to your incoming audio - only what's in the loop.

FX are enabled with the adjacent mini toggle buttons with arrows indicating which effect(s) are enabled / disabled.

When any FX are enabled, you have the option to export the loop with the effects applied. This can be useful if you're building some pre-fabricated loops for performance or recording projects.

WOBBLE is an unusual pitch-shift effect that can sound similar to a wobbly tape recorder. The pitch shift depth and rate do not occur at a set / consistent frequency to give the effect an organic quality. This is also an interesting stereo effect as unlike a tape recorder, the left and right channels wobble independently! Increase the control for a more pronounced effect.

SWAY is a stereo pan effect, again, with a drifting non-consistent depth and rate. Increase the control for a more pronounced effect.

HI / LO CUT

HI CUT and LO CUT are a pair of highpass and lowpass filters respectively. LO CUT range is 0 - 1000Hz. HI CUT range is 1 - 10KHz. These filters can be used to create a lo-fi vibe to your recorded loops.

DRIVE applies tube-like grit and distortion to the loop - great for giving drum loops an aggressive edge!

COMP is a simple one-knob compressor with automatic gain compensation - great for adding a bit of punch and presence to your loop. The LED next to its enable button will light when the recorded audio in the loop is above the compression threshold.

DELAY

LOOPREC2 features a stereo ping-pong delay based on our popular AULDELAY module with a few tweaks.

The position of the DELAY in the signal chain can be altered as follows:

LP -> DLY : The looper feeds into the delay. This is probably the most useful setting for ambient type looping.

DLY -> LP : Delay is applied to the incoming audio before it reaches the looper. This also means the delay effect will be recorded in the loop.

The DELAY effect will be heard on the input audio regardless of its position. When exporting loops with FX, if the delay position is LP -> DLY, the exported audio will also include the DELAY effect.

TIME varies the delay time between 50ms and 8 seconds - almost a mini looper in itself!

CALC in conjunction with the Delay Time Note knob enables auto calculation of the delay time according to the current loop tempo and a specific note duration. For example, your go-to setting might be CALC enabled and a 1/8D note length.

MIX varies the level of the delay effect.

FEEDBACK varies the delay regeneration or number of repeats. Please note that at very low FEEDBACK values, the delay will not ping-pong.

MOD introduces a variable amount of modulation to the delay time. As is typical with many of our modulation effects, this does not occur at an obvious repeating rate for a more organic feel.

The HI / LO CUT controls apply tone-shaping to the delay feedback. You can create warm / analog-flavoured delays by increasing the LO CUT and decreasing the HI CUT values.

ADDITIONAL LOOP FEATURES

New in LOOPREC2, we've added some performance oriented features often found in more sophisticated hardware loopers.

These are found below the LOOP / STOP buttons.

MULT / x2 doubles the length of your loop by duplicating the current loop. This is useful if you want to initially record a basic rhythmic loop of one bar, then add a 2 bar melodic part on top. You can keep doubling-up the loop length up to the maximum length of two minutes.

REVRs changes the play direction of the loop.

SPEED x1/2 halves the playback speed of the loop.

Please note that when recording a new loop, REVRs and SPEED will be automatically switched off.

The QUANT buttons below REVRs and SPEED buttons enable quantisation to the next beat / quarter note of when the reverse or speed change is applied. If you're playing to a set tempo, this can be useful.

MULT, REVRs and SPEED can be toggled via CV triggers sent to the respective input jacks below.

LOOP SYNC

LOOPREC2 adds quite a few features relating to loops that are intended to be a specific tempo and time signature.

Please note that LOOPREC2 does not perform any time-stretching of recorded loops, so changing the tempo will not alter the loop in any way. The idea is that once you've decided on a tempo for your project, you stick to it.

Enable or disable LOOP SYNC with the toggle button. Note that when LOOP SYNC is off, the tempo, beats and bars displays won't be updated and certain functions will have no effect, for example - creating empty loops and beat quantise features.

CLOCK EXT / HOST

These buttons optionally determine if LOOPREC2 uses an external or host / DAW tempo. If you want to perform "free looping" jams, make sure neither of these buttons are enabled. You can quickly switch either off by swiping the control to the left.

When both buttons are off, LOOPREC2 will use its own internal clock.

Please note, when SYNC is EXT or HOST, you cannot manually override the tempo.

When using EXT, you must connect a clock source to the CLOCK IN jack.

BPM shows the current tempo that LOOPREC2 is using. It can be adjusted to a target tempo using the knob below when using the internal clock.

When creating new loops and using the internal clock, LOOPREC2 will attempt to determine the tempo based on the current BEATS per bar settings.

LOOPREC2 will also perform this calculation when importing loops. In some cases, this calculation will not be what you were expecting - typically half or double the "known" value. If this is the case, you can half or double the base tempo using the adjacent switch.

In cases when you want to manually perform the tempo calculation, use the CALC BPM button. An example of when you might want to do this is if you change the number of beats / time signature.

RECORD QUANT / FREE

When recording new loops, you have the option to quantise the loop length to the nearest / next beat if RECORD / QUANT is enabled. Note that LOOP SYNC also needs to be enabled for this to work.

NEW LOOP

Another option to create loops that are perfectly in time, is to start with an empty loop based on the current BPM and BEATS value. Select either 1 BAR or 4 BARS, and don't forget, if you need say an 8 bar loop, use MULT X2 to double the loop length from 4 to 8.

Note that LOOP SYNC also needs to be enabled to create new loops of set bar lengths.

CLOCK IN / OUT

When using an EXT clock source, please make sure you connect it to the CLOCK IN jack. Optionally, connect other modules, such as another LOOPREC2 via the CLOCK OUT send clock.

The clock IN / OUT jacks use the Voltage Modular standard of a +5.0V pulse at 96 PPQ.

TRIG OUT PLAY / STOP

These jacks send triggers when a loop starts or ends. A play trigger will also be sent at the start of recording new loops. This is useful if you're tempo synchronising other modules and you can also use PLAY trigger or reset other clocks.

Remember the STOP trigger won't be sent straight away if you have STOP MODE set to END. This can also be useful in performance situations where you want things to end cleanly at the end of a bar / loop.

LOOP sends a trigger at the start of each loop cycle.

BEAT sends a trigger on each new beat. For convenience a toggle button above the jack can be used to temporarily enable / disable the trigger. Please note that the beat trigger voltages vary. For beat 1, the value will be +5.0V and +4.0 for subsequent beats. This could be useful for determining if LOOPREC2 is at the start of a new bar for example for triggering accents when using percussion modules.

1/16 sends a trigger every 1/16th note. This can be useful for driving step sequencers for example.

www.waverley-instruments.com/looprec