



electro-harmonix 1071-798B1 Superego+ Synth Engine/Multi Effect User Manual

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electro-harmonix

SUPEREGO+
SYNTH ENGINE/MULTI-EFFECT



Congratulations on your purchase of the Electro-Harmonix Superego+ synth engine and multi-effect. Just like the original award-winning Superego, the Superego+ excels at creating synth effects, ethereal layers, fluid glissandos, infinite sustain and more. But wait, kids, there's more! The Superego+ adds new mind-blowing features such as: a Threshold control that reacts to your picking dynamics; separate Attack and Decay controls; expression pedal input; and the optional ability to control the pedal via an external footswitch. And to really extend

the range of the Superego, we've included 11 unique effects to help you explore even more otherworldly soundscapes. Add additional effects through the effects loop for even more craziness. Or, just use the effects alone as you would with any standard multi-effect device. Whether on stage or in the studio, if you're an ambient/drone specialist or just looking for something a little new or different, relax your mind, set the controls for the heart of the sun, and start crafting some unique and special sounds.

WARNING: Your SUPEREGO+ comes equipped with an Electro-Harmonix 9.6DC-200BI power supply (same as used by Boss® & Ibanez®: 9.6 Volts DC 200mA). The Superego+ requires 140mA at 9VDC with a center-negative plug. Use of the wrong adapter or a plug with the wrong polarity may damage your SUPEREGO+ and void the warranty.

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GETTING STARTED: MODES

Let's begin our exploration of the Superego+ by learning about the five major functions you can select with the MODE footswitch. Each press and release of the MODE footswitch cycles through the following modes:

MOMENT

When set to MOMENT mode, the Superego+ freezes your signal at the moment you press and hold the BYPASS footswitch and continues to produce the frozen effect as long you hold down the footswitch. When you release BYPASS the frozen signal fades out. With a mix of dry signal, you can play over the frozen sound. Release and press and hold the BYPASS footswitch as you play a new chord/note to create a new freeze.

SUSTAIN (MOMENT+AUTO)

In SUSTAIN mode, the Superego+ works similarly to a piano sustain pedal. The Superego+ continues to automatically freeze notes as you play and while the BYPASS footswitch is held down. Use the THRESHOLD knob to set trigger sensitivity to your playing and instrument. Release BYPASS to fade out the frozen sound and disable the effect.

AUTO

In AUTO mode, the Superego+ automatically freezes the notes you play while the pedal is on. Press and release BYPASS once to enable AUTO mode. Doubletap BYPASS to go into bypass mode. Press and hold BYPASS while a frozen signal is sounding to momentarily stop accepting new signals; when you release BYPASS, the AUTO mode returns to freezing your notes. Use the THRESHOLD knob to set trigger sensitivity to your playing and instrument.

LATCH

In LATCH mode, the Superego+ freezes your signal at the moment you press the BYPASS footswitch and continues to produce the frozen effect even after you release BYPASS. To freeze a new sound press and release BYPASS again. Double-tap BYPASS to enter bypass mode and fade out the frozen signal.

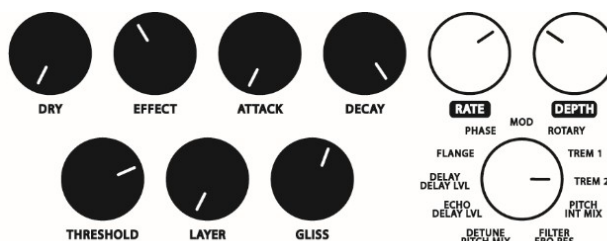
LIVE EFFECTS (MOMENT+AUTO+LATCH)

In LIVE EFFECTS mode, the dry signal is routed through the built-in effects of the Superego+ and the internal synth engine is disabled. You cannot freeze sound while in this mode. Use either the EFFECT or BYPASS footswitch to toggle an effect on or off in this mode. The effect signal is routed through the external effects loop after it goes through the Superego+ internal effects.

STARTER SETTINGS 3

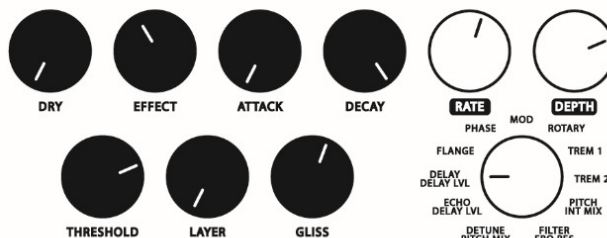
Staccato Trem

MODE: AUTO



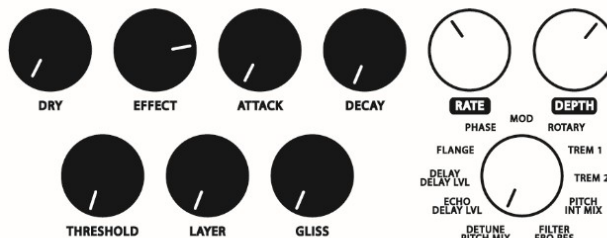
Gliss Delay

MODE: AUTO



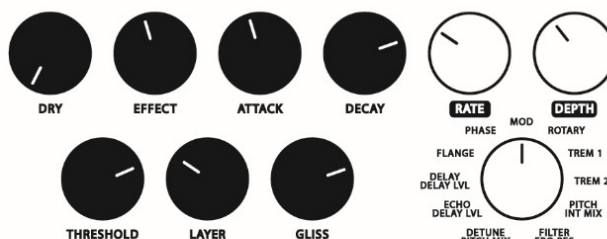
Lush Detune

MODE: LIVE FX



Pitch Vibe Pad

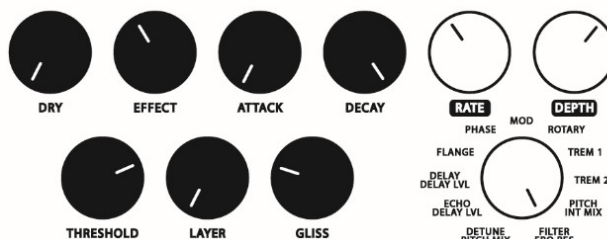
MODE: AUTO



Filter Sweep

MODE: AUTO

NOTE: use an expression pedal to control the filter sweep



CONTROLS

DRY Knob

Controls the volume level of the dry signal. As you turn DRY clockwise the volume of the DRY signal increases to a maximum of +3dB.

EFFECT Knob

Controls the volume of the affected signal. Fully CCW removes the effect signal entirely. Fully CW presents the maximum effect signal. The effect volume control operates before the SEND output jack in the signal chain.

ATTACK Knob

Controls the fade-in speed of the frozen signal. When set fully CCW, the frozen signal starts immediately. As the knob is turned CW the frozen signal fades in more slowly. Adjust the ATTACK knob to create swell and pad effects.

DECAY Knob

Controls the fade-out speed of the frozen signal. When fully CCW, the frozen signal fades out quickly. As the knob is turned CW, the fade-out time increases. When set fully CW, the frozen signal plays indefinitely until a new freeze function is triggered. If the DECAY knob is set very high at the time the Superego+ goes into bypass, the bypass LED flashes as the effect signal fades out. This bypass fade-out time is determined by the DECAY setting and provides a maximum fade-out time of up to 2 seconds. Once the bypass fadeout is complete the LED turns off as the Superego+ enters bypass.

THRESHOLD Knob

Controls how sensitive the Superego+ is to the input signal. THRESHOLD is least sensitive when set fully CCW. In this setting, the input signal has to be very strong to trigger the effect. As the knob is turned CW, the Superego+ becomes more sensitive and the effect becomes increasingly easier to trigger. When set fully CW, even light playing will trigger the effect.

LAYER Knob

In SUSTAIN, AUTO, and LATCH modes, use the LAYER knob to set the level of the previously frozen signal when it is mixed with a newly frozen signal. When set fully CCW, the previously frozen signal is not present in a new freeze. At a setting of fully CW, 100% of the previously frozen signal is present. The LAYER knob works in a similar fashion to the feedback knob on a delay or the overdub amount on a looper. Adjust to taste!

GLISS Knob

Controls the speed of the glissando effect. The glissando/portamento feature glides the pitch of one frozen sound into the next. This function is great for smooth transitions with lots of texture.

Effects Selector

Knob Selects which of the 11 effects will be applied to the frozen or effected signal when the EFFECT footswitch is engaged. See p. 8 for detailed descriptions of each effect.

RATE Knob

Controls the rate/speed of the selected effect. For effects that do not utilize a rate control, the RATE knob will have an alternate function. This alternate function is printed (in purple) below the effect name on the Effects Selector knob.

DEPTH Knob

Controls the depth/amount of the selected effect. For effects that do not need a depth control, the DEPTH knob will have the alternate function printed in green below the effect on the Effects Selector knob.

BYPASS Footswitch

Enables or disables the Superego+ pedal. Depending on what mode the Superego+ is in, this footswitch can function as a freeze trigger, or an auto-trigger enable/disable (See MODES for more information).

EFFECT Footswitch

Turns the internal effect section of the Superego+ on and off. In LIVE EFFECTS MODE the EFFECT footswitch, as well as the BYPASS footswitch, turn the Superego+ on and off.

MODE Footswitch

Cycles through the five modes are indicated by the mode LEDs.

POWER/INPUT/OUTPUT

POWER

Connect the output plug of the supplied AC Adaptor into the 9V power jack at the top of the Superego+. The polarity at the power jack is center-negative only, the Superego+ draws 140mA. Do not exceed 10VDC at the power jack.

INPUT Jack

Plug the output of another effects pedal or an instrument such as guitar, bass, or keyboard into this 1/4" input jack. This jack is the main input to the Superego+.

OUTPUT Jack

Use this jack for the main output of the Superego+. Connect a 1/4" cable from the OUTPUT jack to your amplifier, another effects pedal, a mixer, or an audio recorder. Experiment with placing other effects after the Superego+ to create rich soundscapes.

SEND Jack

If you would like the freeze signal to go through an external effects chain while keeping your dry signal out of this chain, use the Superego+ built-in effects loop. Connect SEND to the input of the external effect. Alternately, you can use the SEND jack as a "wet-only" output; when you do so, the freeze signal is muted at the OUTPUT jack. The EFFECT knob always controls the volume at the SEND jack.

RETURN Jack

If using the external effects loop, plug the output of the external effect(s) into the RETURN jack. The signal present at the RETURN jack is mixed with the dry signal and sent to the OUTPUT jack.

EXP (Expression) Jack

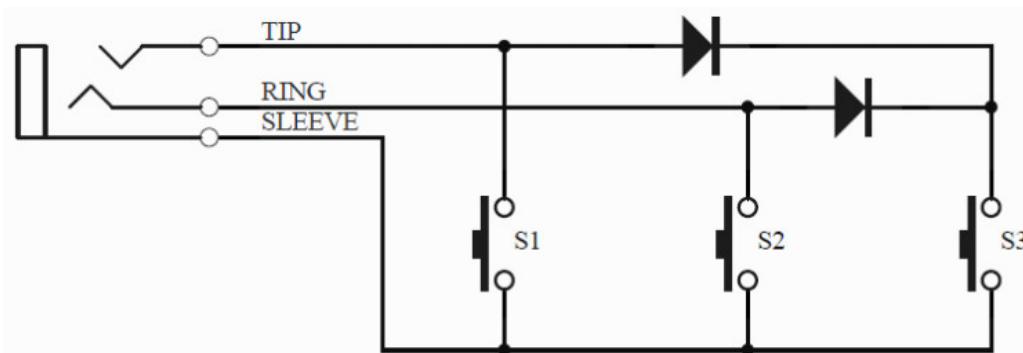
Connect a standard TRS expression pedal or control voltage (CV) between 0 to 5V to the EXP input to allow external control over the ATTACK, DECAY, RATE, DEPTH, THRESHOLD, LAYER and GLISS parameters. An EXP preset can be saved for each effect setting. The SUPEREGO+ will take a “snapshot” of all 7 knob parameters at the heel-down position and a snapshot of all 7 knob parameters at the toe-down position, allowing the expression pedal to sweep between the two settings. NOTE: Refer to the SETTING EXPRESSION PEDAL PRESETS section on p. 9 of this manual.

Once an EXP preset has been saved the LED between RATE and DEPTH lights red, otherwise this LED lights green.

You can also use an expression pedal or other CV source without programming a preset. Each internal effect has a default expression control range that is active by default from the factory or after erasing the expression pedal preset.

EXT (External Control) Jack

Use a TRS three-button external/auxiliary switch (such as the DigiTech® FS3X) to remotely control the Superego+ footswitches. To connect the external switch, unplug the power from Superego+, connect the external switch to the EXT jack and then apply power. If you're handy at DIY, you could build your own footswitch based on the following circuit diagram:



The switch connected to the TIP+RING of the external footswitch behaves like the BYPASS footswitch. Use this control to remotely switch the Superego+ on and off. This switch will also control triggers in LATCH mode.

The switch connected to the RING controls the EFFECT footswitch. This switch can be used to remotely turn on and off the Superego+ internal effects. The switch connected to TIP works as a MODE selector and an EFFECT off switch. A single press is the equivalent of double-tapping the BYPASS footswitch to enter bypass when the Superego+ is in SUSTAIN, AUTO, or LATCH mode. To change modes, press and hold the TIP+RING switch; the Superego+ will slowly cycle through the 5 modes. Release the footswitch to select the currently lit mode.

USING A SINGLE EXTERNAL SWITCH WITH A ¼" TS CABLE

When using a single external switch with a ¼" TS cable (standard guitar cable), the switch will have the same functionality as the onboard BYPASS footswitch.

USING EXTERNAL CLOCK TRIGGER WITH A ¼" TS CABLE

You can also use a clock signal to trigger the Superego+ BYPASS function. Connect the clock signal to the TIP of the EXT Jack. Each negative-going clock signal present at the TIP connection is equivalent to pressing the BYPASS footswitch. The nominal amplitude for the clock signal is 0V to 5V. The Superego+ is triggered by the falling edge of the clock signal.

EFFECTS

FLANGE, PHASE, MOD and ROTARY use the RATE and DEPTH knobs as indicated. Other effects assign different functions to the RATE and DEPTH knobs. These alternate functions are indicated by the purple and green text next to the relevant effect name on the Effect Selector knob. The purple text indicates the parameter that is controlled by the RATE knob. The green text indicates the parameter that is controlled by the DEPTH knob. Note: The LED above the Effect Selector knob lights green to indicate that the effects section is active. With an EXP pedal attached, a red LED indicates that you have programmed an EXP pedal preset for the effect selected.

DETUNE: Subtle and shimmery pitch detune. EXP pedal controls pitch.

ECHO: Pristine repeats. Feedback is preset. EXP pedal controls delay time.

DELAY: Warm, analog-sounding repeats with modulation. Feedback is preset. EXP pedal controls delay time.

FLANGE: Electric Mistress-style flanger with filter matrix, rate, and feedback control. DEPTH controls the feedback amount. The RATE knob controls both the filter matrix and the flange rate. With the RATE knob fully CCW, the filter matrix is at a minimum. The filter range increases to its maximum setting at about 11 o'clock on the RATE knob. As you turn RATE past 11 o'clock the flange will begin to oscillate very slowly; modulation speed increases to maximum when RATE is set fully CW. EXP pedal controls rate.

PHASE: Small Stone style phase shifting. EXP pedal controls rate.

MOD: Pitch-based vibrato or chorus. RATE controls speed. Depth is 0 at noon. Noon to CCW is pitch vibrato depth. Noon to CW is chorus depth. EXP sets rate.

ROTARY: Rich rotary sound. Use the DEPTH knob to control tweeter/horn balance. Turning the DEPTH knob CCW adds more horn and reduces the tweeter. Turning the DEPTH Knob CW adds more tweeter and reduces the horn. Expression pedal controls rate.

TREM 1: Sine wave tremolo. EXP pedal controls rate.

TREM 2: Square wave tremolo. EXP pedal controls rate.

PITCH: Pitch shifting effect. The RATE knob at noon is unity. CW steps up the major scale (also including minor 3rd and minor 7th) to +1 octave. CCW steps down the major down to -1 octave. EXP pedal controls +1 octave whammy-style effect over the unity effected signal.

FILTER: Resonant Low-Pass filter. RATE controls frequency and DEPTH controls resonance. EXP pedal controls the frequency.

SETTING EXPRESSION PEDAL PRESETS

Program and save EXP pedal presets by executing the following steps:

1. Insert an expression pedal into the EXP jack.
2. Tap the EFFECT footswitch, if necessary, to ensure that the effects are off.
3. Press and hold the EFFECT footswitch for more than one second. The green Effects LED will start to blink.
4. Release the EFFECT footswitch.
5. Set the expression pedal to heel-down and set the 7 controllable knobs (ATTACK, DECAY, RATE, DEPTH, THRESHOLD, LAYER and GLISS) to the desired heel-down setting.
6. Put the expression pedal in the toe-down position and set the same 7 knobs to the desired toe-down setting. If you do not want a knob to change with the expression pedal then do not turn it during this step.
7. NOTE: The expression pedal must be placed into the heel-down and toe-down positions at least once during preset acquisition.
8. Press and hold the EFFECT footswitch.
9. The Effects LED will flash red to confirm that a preset has been saved. The Red LED will only light with an expression pedal plugged into the EXP jack.
10. Release the EFFECT footswitch, the red LED goes solid. The solid red LED indicates that an expression pedal preset has been saved and is active.

MORE ABOUT EXPRESSION PEDAL PRESETS

- To exit programming an expression pedal preset without saving changes, press and release the EFFECT footswitch at any time before step 8 in the above procedure.
- When a preset is active, turning any of the 7 control knobs will save that knob's new setting as both the heel-down and toe-down setting. The EFFECTS LED will flash red for half a second and then remain lit solid.
- To erase a preset, make sure the EFFECTS are off. Press and hold the EFFECTS footswitch for 5 seconds. After one second the green LED will begin flashing. After 5 seconds the green LED will flash quickly. Release the EFFECTS footswitch and the preset will be cleared. The EFFECTS LED will light green

NOTES AND SPECIFICATIONS

- Buffered bypass
- Input impedance: 2.2M ohms (INPUT and RETURN jacks)
- Output impedance: 500 ohms (OUTPUT and SEND jacks)
- See p. 10 for a blank user template you can photocopy or use directly to record your favorite personal settings.
- Go to www.ehx.com/products/superego-plus to download a blank template you can print and fill out to keep track of your favorite settings.

BLANK USER SETTINGS

DRY

EFFECT

ATTACK

DECAY

THRESHOLD

LAYER

GLISS

RATE

DEPTH

PHASE

MOD

ROTARY

FLANGE

TREM 1

DELAY
DELAY LVL

TREM 2

ECHO
DELAY LVL

PITCH
INT MIX

DETUNE
PITCH MIX

FILTER
FRQ RES

DRY

EFFECT

ATTACK

DECAY

THRESHOLD

LAYER

GLISS

RATE

DEPTH

PHASE

MOD

ROTARY

FLANGE

TREM 1

DELAY
DELAY LVL

TREM 2

ECHO
DELAY LVL

PITCH
INT MIX

DETUNE
PITCH MIX

FILTER
FRQ RES

DRY

EFFECT

ATTACK

DECAY

THRESHOLD

LAYER

GLISS

RATE

DEPTH

PHASE

MOD

ROTARY

FLANGE

TREM 1

DELAY
DELAY LVL

TREM 2

ECHO
DELAY LVL

PITCH
INT MIX

DETUNE
PITCH MIX

FILTER
FRQ RES

DRY

EFFECT

ATTACK

DECAY

THRESHOLD

LAYER

GLISS

RATE

DEPTH

PHASE

MOD

ROTARY

FLANGE

TREM 1

DELAY
DELAY LVL

TREM 2

ECHO
DELAY LVL

PITCH
INT MIX

DETUNE
PITCH MIX

FILTER
FRQ RES

WARRANTY INFORMATION

Please register online at <http://www.ehx.com/product-registration> or complete and return the enclosed warranty card within 10 days of purchase. Electro-Harmonix will repair or replace, at its discretion, a product that fails to operate due to defects in materials or workmanship for a period of one year from the date of purchase. This applies only to original purchasers who have bought their product from an authorized Electro-Harmonix retailer. Repaired or replaced units will then be warranted for the unexpired portion of the original warranty term. If you should need to return your unit for service within the warranty period, please contact the appropriate office listed below. Customers outside the regions listed below, please contact EHX Customer Service for information on warranty repairs at info@ehx.com or +1-718-9378300. USA and Canadian customers: please obtain a Return Authorization Number (RA#) from EHX Customer Service before returning your product. Include with your returned unit a written description of the problem as well as your name, address, telephone number, e-mail address, RA#, and a copy of your receipt clearly showing the purchase date.

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FCC COMPLIANCE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.



Documents / Resources

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SUPEREGO+
SPEECH ENGINE EFFECT

SuperEgo+ is a new member of the Electro-Harmonix Speech Engine family of effects. It is designed to provide a wide range of speech processing capabilities, including voice distortion, pitch bending, and time stretching. SuperEgo+ is a versatile and powerful tool for creating unique and expressive vocal sounds.

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1071-798B1, Superego Synth Engine, Superego Multi Effect

References

- info@ehx.com