

SE-3A

USER MANUAL



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* Additional kudos to David Gale whose 11th hour queries and suggestions resulted in front panel, feature access fine-tuning and a dedicated EXIT button!

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TABLE OF CONTENTS

4	LIMITED WARRANTY
5-6	SAFETY ESSENTIALS - SEC. 1
6	UNPACKING & INSPECTION - SEC. 2
7	SETUP, CONNECTIONS & CARE - SEC. 3
8	REGISTRATION - SEC. 4
9	FEATURES & CONTROLS - SEC. 5
10	TIM CASWELL SPEAKS - SEC. 6
11-21	FRONT PANEL - SEC. 7
13	PROGRAMMER - SEC. 7a
14	CONTROL - SEC. 7b
15	MOD - SEC. 7c
16 - 17	OSC BANK - SEC. 7d
18	FILTER - SEC. 7e
19 - 21	ENVELOPE GENERATORS - SEC. 7f
22 - 24	EDIT WINDOWS - SEC. 8
25	COMMON FUNCTIONS - SEC. 9
26	SCREEN JUMPS & SHORTCUTS - SEC. 10
27	EXTERNAL INPUT - SEC. 11
28 - 34	PATCH - BANKS - SEC. 12
35	BACK PANEL - SEC. 13
36	GLOSSARY - SEC. 14
37 - 40	MIDI DOCUMENTATION - SEC. 15
41	TROUBLESHOOTING - SEC. 16
42 - 43	SPECIFICATIONS - SEC. 17
44	LEGAL - SEC. 18

LIMITED WARRANTY TERMS AND CONDITIONS

This Limited Warranty applies only to ANALOGIA INC./STUDIO ELECTRONICS products purchased in the United States of America. Outside the USA, warranty policy and service is determined by the laws of the country of purchase and followed by our local authorized distributor. A listing of our authorized distributors is available at <http://www.studioelectronics.com/shop/distributors/>

ANALOGIA INC./STUDIO ELECTRONICS warrants to the 1st owner of a covered product purchased directly from ANALOGIA INC./STUDIO ELECTRONICS, or an authorized ANALOGIA INC./STUDIO ELECTRONICS dealer in the US, that this product will be free from defects in materials and or workmanship for a period of one year from the date of purchase. Please register this product online via <https://studioelectronics.com/register/> to establish the date of purchase (NOT A REQUIREMENT FOR WARRANTY SERVICE BUT A GOOD IDEA).

To exercise your rights under this Warranty as the 1st owner/purchaser, **YOU MUST SHIP THIS PRODUCT IN ITS ORIGINAL PACKAGING** (which we can replace and send to you for \$10) at your expense, with proof of purchase documentation and the ANALOGIA INC./STUDIO ELECTRONICS supplied power adapter, to ANALOGIA INC. An RMA (Return Material Authorization) number from ANALOGIA INC./STUDIO ELECTRONICS must be obtained 1st before returning any product. Email RMA requests to rma@studioelectronics.com, or call us at (310) 640-3546 to secure an RMA #. Products shipped to ANALOGIA INC. without an RMA will be refused and returned. Shipping insurance is optional, but highly recommended.

ANALOGIA INC./STUDIO ELECTRONICS will repair or replace this product at its sole option and at no charge to you for parts and labor—when deemed necessary and within the warranty period—provided that ANALOGIA INC./STUDIO ELECTRONICS reserves the right to determine whether the product is “defective” for purposes of this Limited Warranty. This Warranty does not apply if damage to this product occurs as a result of abuse or misuse, abnormal use or handling, improper packaging, another product’s interaction, exposure to temperature extremes, or if the product has been altered or modified/customized in any way, or the damage was caused by unauthorized repair or service. The original product must return to ANALOGIA INC. unaltered.

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This Limited Warranty and the right of replacement is in lieu of any and all other warranties—which you hereby waive—and it gives US purchasers specific legal rights. You may also have other rights which vary from State to State.

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1 SAFETY ESSENTIALS

Warnings, Precautions, and Advice

WARNING! - When using electric products basic precautions should always be followed to avoid the possibility of serious injury or even death to you or others, as well as damage to the device or other property from electrical shock, fire, or other risks. These precautions include, but are not limited to, the following “to do” list

- Read, save, and understand all of the instructions before using product.
- Do not use product near any water source—such as a bathtub, wash basin, kitchen sink, or swimming pool.
- Clean with a soft, dry cloth with unit unplugged from AC outlet.
- This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an Audiologist.
- Do not place anything heavy on the instrument.
- The product should be situated so that its location or position does not interfere with its proper ventilation.
- The product should be located away from heat sources such as radiators, heat registers, or other items that produce heat.
- Avoid using the product where it may be affected by dust or hot sunlight.
- Make sure the line voltage in your location matches the input voltage specifications on the DC power adapter.
- Mute channel volume before making audio connections to prevent malfunction and speaker damage.
- Unplug power supply cord from outlet when not in use for an extended period.
- Do not trample the power supply cord, trip over it, or pull at it; grasp the plug portion when unplugging.
- Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings.
- Protect the unit from strong jolts and vibration and never apply strong pressure to the front, back or side panels, or strike them in any manner.

The product should be serviced by qualified service personnel when:

- a) The power supply cord or the plug has been damaged.
 - b) Solid objects or liquid either have fallen or spilled into the product.
 - c) The product has been exposed to rain.
 - d) The product does not appear to operate normally or exhibits a marked change in performance.
 - e) The product has been dropped, or the enclosure is damaged.
- Do not attempt to service the product beyond that described in the user maintenance instructions. All other servicing should be referred to qualified technicians.

DANGER! INSTRUCTIONS RELEVANT TO RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS:

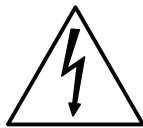
Do not open the chassis. There are no user serviceable parts inside. Refer all servicing to qualified personnel only.

- Mute channel volume before making audio connections to prevent malfunction and speaker damage.
- Unplug power supply cord from outlet when not in use for an extended period.
- Do not trample on the power-supply cord, trip over it, nor pull at it, but grasp the plug portion when unplugging.
- Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings.
- Protect the unit from strong jolts and vibration and never apply strong pressure to the front, back or side panels, or strike them in any manner.

GROUNDING INSTRUCTIONS: This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord with equipment grounding conductor and a grounding plug, which must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER! Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product. If it does not fit the outlet, have a proper outlet installed by a qualified electrician.

SAVE THESE INSTRUCTIONS!



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltages" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and servicing (maintenance) instructions found in the literature accompanying the product.



2 UNPACKING & INSPECTION

Check the contents of the shipping carton. Be careful when unpacking your Midimini to insure nothing is missing or damaged. Save the carton and packing materials for possible factory calibration or repair issues in the future.

SE-3X ships with the following items:

1. IEC power cord
2. User Manual
3. SE Sticker

3 SETUP, CONNECTIONS & CARE

WHAT YOU WILL NEED

1. A clean and sturdy surface where you can set your SE-3X .
2. A properly grounded AC outlet supplying 115 Volts to 240 Volts AC; 50/60 Hz.
3. One 1/4 Inch (TS) Male Instrument Cable, and means of amplification or monitoring: there is no headphone connection.

POWER

Plug the included IEC cable's female end into the IEC power jack on the back of your SE-3X , and then plug the male end of the cable into an AC outlet. The SE-3X's auto-switching regulated supply will operate properly on either 115 volt or 240 volt AC line voltage.

NOTE: Allow SE-3X 5-10 minutes to warm up before use, as it is an Analog Instrument. If the unit has been subjected to temperatures under 60 degrees for an extended period, optimal oscillator tuning and stability may require 15-20 minutes of warm-up time, during which time you could dig deeper into this manual. Avoid operation in direct sunlight.

AUDIO OUTPUT

With the **CONTROL VOLUME** knob turned to 0, plug one end of a 1/4" instrument cable into the Audio output and the other end of the cable into your mixer, amplifier, or audio interface. Adjust **VOLUME** to desired level.

NOTE: The **AUDIO** out jack is TS and TRS 1/4" cable compatible.

CARING AND CLEANING

Clean the '3X with a soft, nearly dry cloth only; do not use solvents or abrasive detergents. The semi-matte finish is unique and requires thoughtful handling and maintenance—like anything of beauty; it's a luxury finish to be sure.

4 REGISTRATION

Registering your SE-3X synth creates a handshake between owner and manufacturer, insures access to Analogia Inc. tech. support, warranty service, product updates, and if desired, promotional offers. As always, our Facebook, SoundCloud, and Instagram outlets are current and generally helpful, so swing by.



5 FEATURES & CONTROLS

The **SE-3X** brings paraphonic expression to the “1X” monophonic rackmount analog classic; we didn't stop there.

SOFTWARE

- Paraphonic Mode: for easy and electric '3X chords and colors
- Front Panel Control for Oscillator 2 & 3 Fine Tune
- Front Panel Control for Oscillator Levels
- LFO Gate from our BOOMSTAR / MIDIMINI V30
- LFO Gate Tempo Hold: rate stays steady during program changes
- SE-02 Envelope Routines with their Cleaner Attack & Decay Stages + Original Linear & Magical Quasi-Exponential ENVs
- Exponential Glide Routine from the OMEGA & '1X Linear Glide
- New Front Panel Screen Jumps & Shortcuts
- Last Patch Used Recall on Power Recycle

HARDWARE

- Two fuzz modes: 70s & 90s. Front panel switchable.
- RESONANT FILTER COLLECTION: Four filters, six modes: 24 dB MINI; 24 dB ARP; 24dB, 6dB, “Mix Mode” JUNO/JUPITER. SEM remains the built-in filter. Front panel switchable.

FRONT PANEL LAYOUT

PROGRAMMER, CONTROL, MOD, OSC BANK, FILTERS, ENVELOPE GENERATORS.

6 TIM CASWELL SPEAKS

Maiden Rock, WI

5-25-2021

The SE-1 was Studio Electronics' first original product. We had spent several years adding MIDI, doing mods, and rack-mounting older synths. By 1991, we were ready to create our own product. Based largely on the MiniMoog, but incorporating many features from other classic Analog synths, it stored 255 patches and had extensive MIDI control; quickly it greased & boomed the bottom and wormed its way to the top on a multitude of hit records, soundtracks, video games, and touring racks.

After making it for 10 years or so and getting a lot of customer requests, we decided a major update was in order. The original ROM chip that held the operating system was full, so we designed a new CPU board, using a much larger Flash chip which enabled updating the OS over MIDI. Other standouts included 4 banks of 128 ROM patches, 4 RAM banks (an upsized battery-backed SRAM chip made that possible), and a CV generator boost to produce smoother envelopes and LFOs. The pot reading was greatly improved as well, making that vital programming aspect much faster and smoother.

We continued to sell them for another 10 years...

In 2020, we got a request from one of our top dealers and good friends, Lewis Chiodo at Awave, to make a second special '1X model for him. In addition to the custom hardware he wanted—2 extra VCFs, ARP & "Juno"—he wondered if we could include some potent software updates too. At first I declined, since I hadn't been working with the Motorola (now Freescale) chip that ran it for several years, added to that, my development system for it didn't work anymore. After some persuasion, however, I decided to try. Progress was painfully slow at first, but I was eventually able to put it all together, with the usual optimistic and determined circuit-bending assist from Greg St. Regis.

The SE-3X... Hard to believe it was nearly 30 years ago the SE-1 helped the world to play... TC

MY SOFTWARE NOTES:

1. The exponential glide routine from the Omega. Now you can choose that or the original linear glide.
2. The Omega/CODE Envelope routines. These show up as EXP2 in the Envelope window; this is in addition to the original linear and magical quasi-exponential Envelopes.
3. Page 2 Mix knobs for the Oscillators. Due to space restrictions, the SE-1(X) didn't allow direct control, requiring navigating to the Audio Mixer page for tweaks—tedious. Now holding Shift and using the Pulse Width pots to adjust Oscillator mix levels brings balance and satisfaction.
4. OSC 2 & 3 Fine Tune: Hold Shift and rotate 2 & 3 Frequency knobs. Another useful and efficient jump-cut.
5. LFO Gate from our Boomstar and Mini V-30. A venerable and most funky feature from the ARP Odyssey and 2600; LFO 3 can now gate the Envelopes: hold Shift and press LFO 3, or send it CC #9. MIDI sync applies, of course when received. Will maintain tempo and effect once engaged when scrolling (with Q dial) through patches.
6. Lastly for spice and "poly" nice-nice, Paraphonic Mode: This allows the 3 oscillators to be played by 3 different MIDI notes, for easy and electric 3X chords. All 3 oscillators still go thru the same VCF and VCA, so it's not truly polyphonic, but with some care and creativity in programming, it can sure seem/swing like it. Check out Marc St. Regis' demos to see just how warm and snappy it can sound: <https://soundcloud.com/studio-electronics/sets/se-3x>

p.s. Last patch recall now happens upon power recycle.

7 FRONT PANEL



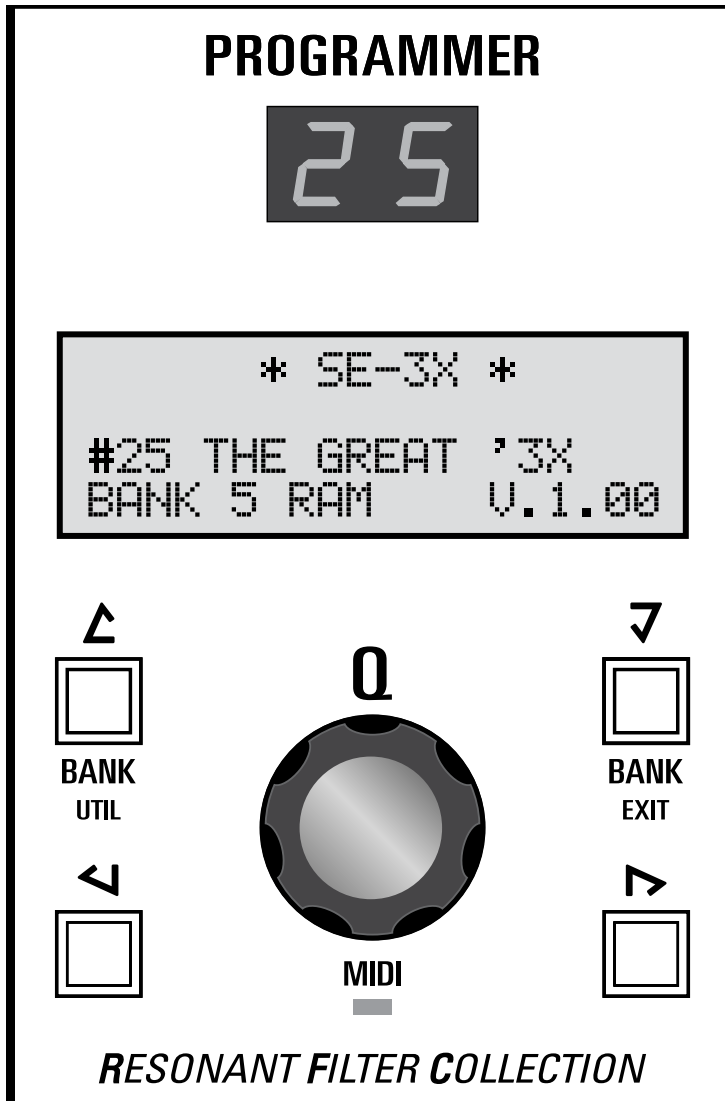
FRONT PANEL pg. 2



7a PROGRAMMER

Change the Channel Already

From basic patch info, to “deep into the weeds” values and destinations settings... the place to find your voice.



LITTLE RED LED

Displays Patch # and edit state: 2 periods indicate saved patch is in the process of being changed.

LCD PATCH & PARAMETER BLUE

Displays patch number/name and destinations/values when modified knob or switch setting is linked to an edit page. Current OS shown on bottom right.

ARROW KEYS / BANK & PANEL 2 SHORTCUTS

Up/down arrows select 1 of 8 banks: 4 ROM, 4 RAM; left/right arrows and Q dial select 1-99 patches. In an edit page, the arrow keys position the cursor into the accessible, desired field. When periods appear patch has been edited, temporarily stored in the edit buffer.

Pressing and holding **SHIFT**, while rotating the **Q** dial or pressing left and right arrow keys, will scroll through edit pages/windows; pressing and holding **SHIFT** (PANEL 2) and **UTIL** will access **PANEL 2** functions, displaying the MIDI CHANNEL/MEMORY PROTECT/SYSX page for **UTIL**. **SHIFT + EXIT** clears all edits and returns to the Patch Name page.[SAVE + SHIFT... still operative?]

Q DIAL

Spin to select patches or adjust parameters inside an edit page: enter edit pages from an unedited patch by pressing and holding SHIFT and rotating encoder in either direction, or skip the Q Dial and press and hold SHIFT and tap any of the arrow keys.

MIDI LIGHT

MIDI signal receive indicator; also flashes LFO Gate tempo and trigger when GATE mode is enabled (PANEL 2 + LFO3)

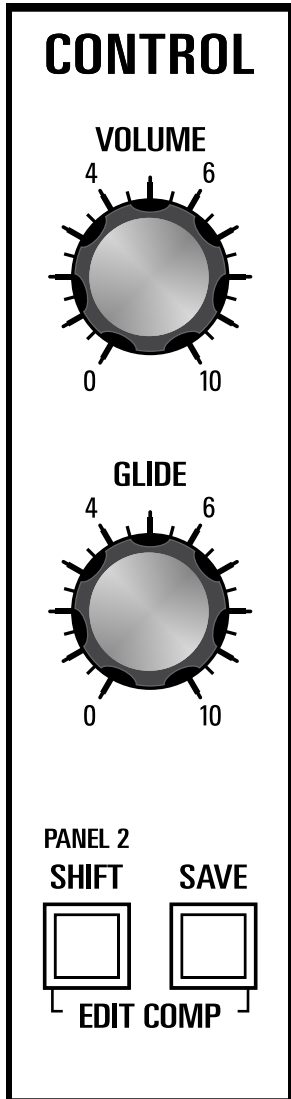
[See 7c MOD: [GATE](#)]

 **Holding SHIFT and pressing the left arrow twice, from an unedited patch, will fly you to the MIDI Channel page.**

7b CONTROL

Let it Begin with You

The '3X doesn't go to 11, but it will feel like it, especially with the just the right dab of glide.



VOLUME

Sets the final gain stage.

GLIDE

Sets the Glide— a seamless, continuous shift in pitch when transitioning from one semitone to the next. The **GLIDE** knob determines the amount of time taken between notes: 0 = off, 10 is maximum. A familiar feature on early monophonic synthesizers. Choose between **LIN**: linear, or **EXP**: a more dramatic and Tim Caswell-favored exponential experience.

SHIFT / PANEL 2

Pressing and holding **SHIFT** while rotating the **Q** dial, or pressing the left and right arrow keys, will scroll through edit pages/windows in the LCD; pressing and holding **SHIFT (PANEL 2)** and the switches labeled with green text: **UTIL, EXIT, GATE, PARA** will access those **PANEL 2** functions, displaying the MIDI CHANNEL... edit window for **UTIL**, and the GLIDE... window for **PARA**. **PANEL 2** + rotation of the **OSCVOL** pot opens the AUDIO MIXER window; **PANEL 2** + rotation of the **FINE** pot, the TUNING window.

SAVE

Commits edits to RAM location. Pressing this button once will initiate "SAVE TO". Use **BANK**, left /right arrow keys, or encoder to select RAM bank and patch #, then press **SAVE** again to complete. Pressing **SHIFT** following **SAVE** will exit the **SAVE** function and restore the blessed factory patch.

EDIT COMPARE

Pressing and holding **SHIFT** and then pressing **SAVE** enters **EDIT COMPARE**: do you like the new you—wild & willful edits you have made to the '3X's analog sound? Find out!

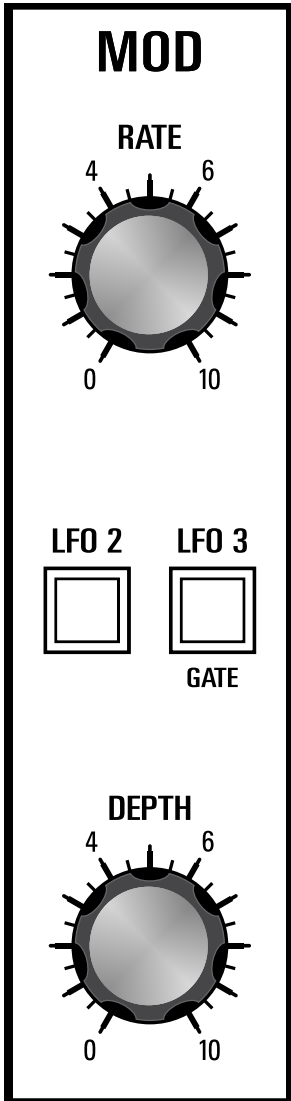
Repeating that switch pattern returns you to your programming, always with the option to discard: **SHIFT/EXIT** rotate encoder forward and back to clear, or save your body of work for future generations.



ROM patch edits must be saved to RAM locations; the SAVE button, once depressed, will remain illuminated and ineffectual until a RAM spot is selected, or SHIFT is pressed to exit saving process.

7c MOD

Movement Never Sounded so Good



Modulation is the use of a control signal to create an often repetitive pattern of pitch, level, or harmonic and rhythmic content changes, infusing sound with movement, color, and intriguing unpredictability, where random circuits or calculations are involved. If a simple but lovely vibrato is all that is needed, so be it. Keep it plain preacher.

RATE

Adjusts the speed of LFOs 1 - 3. Each LFO being independent, can be set at a different rate. [lock to clock rates?]

LFO2

When this switch is lit, **RATE** and **DEPTH** controls affect **LFO2**.

LFO3

When this switch is lit, **RATE** and **DEPTH** controls affect **LFO3**.

GATE

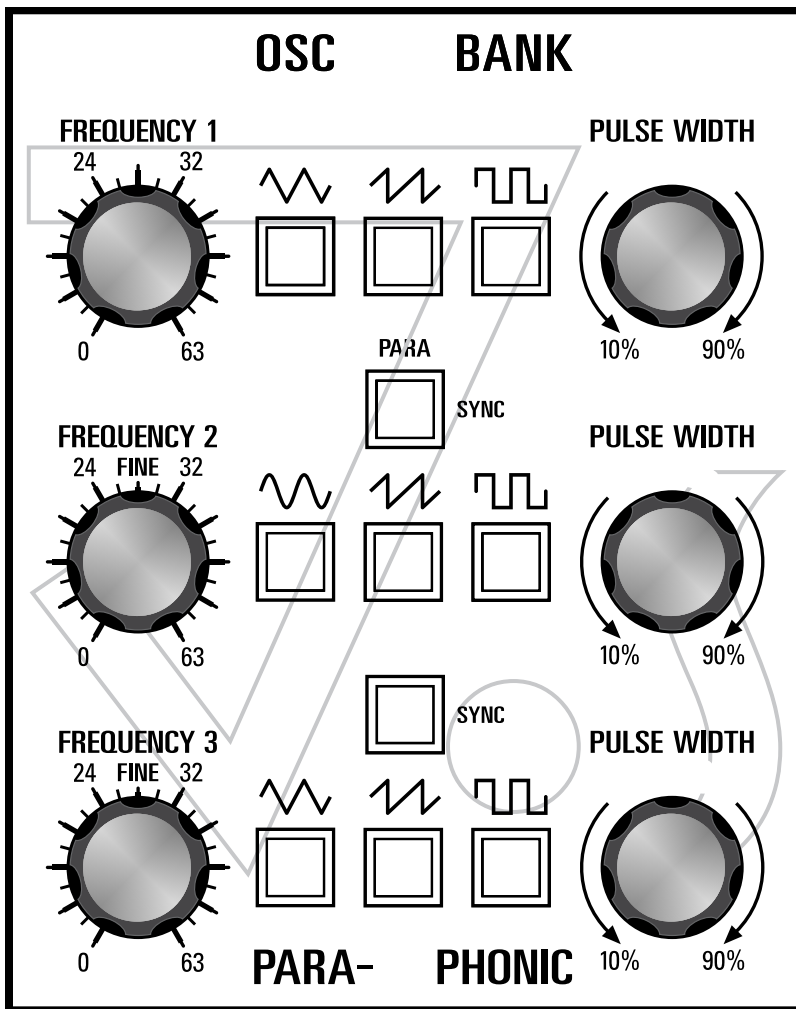
Pressing and holding **PANEL 2** (SHIFT) and then pressing **GATE** (LFO3) directs Low Frequency Oscillator 3 to trigger the gate of ENV1—filter envelope and ENV2—amp envelope. Amounts can be adjusted in **MOD** area; sending CC #9 works too. MIDI sync applies, of course. [?] Duplicate button press sequence to disable **GATE** effect and return to your regularly scheduled programming.

DEPTH

Adjusts the amount of the selected LFO.

💡 **Wait... wait... So how does one address LFO1? Best dumb sounding correct answer: When neither switch is on LFO1 is in line for adjustments.**

7d OSC BANK



Oscillations Creative

Oscillators are the biogenesis of Analog synthesis, producing periodic or regularly repeating waveforms—familiar pitched sounds when in the right range. Tuning controls alter the frequency or pitch of the oscillators, whereas wave shape selectors, Pulse Width, and Sync controls shape the harmonic spectrum of the signal, its basic timbre, or tone color.

Waveform Characteristics

Triangle: Fluty, with odd harmonics like the Square wave, but its amplitude is quite weak in comparison to its fundamental. The Triangle possesses more brilliance than the similarly shaped sine.

Sawtooth: Bright, buzzy, brassy—the richest harmonically—containing both even and odd harmonics of the fundamental frequency. A very smooth tone is yours with a low-pass filter on tap.

Square: In its even state, it is a full bouncy sound—a bass beast for many. Near the edges of its duty cycle, or width, the beloved \square becomes a “clavi,” reedy, nasal affair, with odd harmonics only. The \square (wide rectangle) introduces even numbered harmonics changing the overall harmonic mix. The \square (narrow rectangle) hypes lower numbered harmonics

—both odd and even.

FREQUENCY 1, 2, 3

Controls the pitch of each oscillator. Stepped (quantized) in semi-tones over a five octave range.

FINE 2, 3

Controls the fine tune of oscillators 2 & 3. PANEL 2 FINE tune shortcut: Press and hold **PANEL 2** (left bottom of CONTROL section) then rotate **FREQUENCY 2 / 3**.

WAVEFORM SWITCHES

Triangle, Sawtooth and Pulse Waves can be selected individually or combined for more complex shapes.

PARA

Allows the 3 oscillators to be played by 3 different MIDI notes; all 3 oscillators share the same VCF and VCA, so it's not truly polyphonic, but with some care and creativity in programming, or even live playing, fancy colors and engaging

rhythms can surprise and even exceed expectations. Always starts with OSC1 and cycles through 2 & 3, “remembering” notes played: more obvious with longer release times. Faux Prepared mode—each mode a different synth ala the Omega 8—can be expressive, with different waveforms settings, independent LFO modulation, ENV3 & 4 contouring, and competing & complimenting Pulse Width movement for starters. Keeping it basic and uniform is effective too.

Paraphonic Mode Shortcut: Press and hold **SHIFT** (left bottom of **CONTROL** section) then press **PARA**. Edit window will open with **PARA** option selected. Paraphonic Mode is a ‘3X NOTE PRIORITY option (LOW, HIGH, **PARA**, LAST) located at the bottom of the GLIDE / NOTE PRIORITY PAGE.

SYNC 2, 3

Forces the pitch of OSC2/3 to follow the pitch of OSC1 in hard synchronization, so that OSC2/3 will tune only to the harmonic frequencies of Oscillator 1. Intermediate frequencies of OSC2/3 will produce almost digital sounding “metallic” wave shapes and timbres; both Oscillators sharing the same base frequency makes it all possible.

Pulse WIDTH 1, 2, 3 Sets the width of the Square waveform, ranging from wide, square rectangular forms to narrow, nasally tall skyscraper-like shapes. A classic Square wave dials in at ‘round about a 12 o’clock knob setting, for that wonderfully warm and yet hollowed-out, rubbery bass tone and Lou-reedy lead.

OSC VOL 1, 2, 3

Sets the mix levels for **OSC**’s 1, 2, 3. Oscillator Volume Shortcut: Press and hold **SHIFT** (left bottom of **CONTROL** section) then rotate **Pulse WIDTH/OSCVOL** pot; the LCD display will jump to the AUDIO MIXER page.



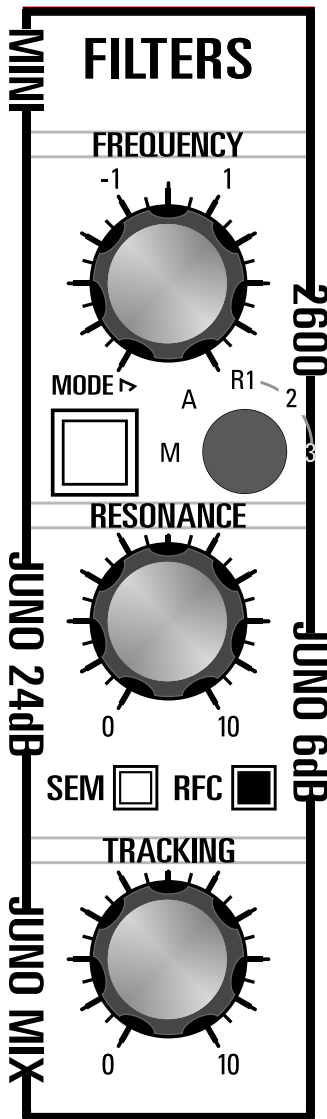
Not all green panel shortcuts are created equal—connected to LCD edit windows—just UTIL (utility) and PARA (paraphonic mode).



Use sync feature in conjunction with Envelopes 3 and 4 assigned to SWP2, or SP3, for subtle and dramatic harmonic filtering effects.



7e FILTERS



Resonant Filter Collection (and still SEM after all these years)

3 Classic Resonant Hardware Filters: MINI, 2600, Juno: 24dB, 6dB & Mix—a customized blend of the Juno types. Put them to work in Paraphonic Mode and behold the Glory.

FREQUENCY

The lower the cutoff frequency, the less harmonic content the waveform will retain after passing through the filter. A wave shape rounding and smoothing also occurs as this cutoff frequency is reduced. Play, sequence, trigger a note, and harmonic content produced above the cutoff frequency is reduced by the filter on a 24/12/6dB per Octave slope; MIX Mode, which resembles a bandpass meets hipass meets band reject filter, features a slope value of great mystery and suspense.

MODE SWITCH & MINI POT

When the **MODE** switch is pressed/lit the rotary switch setting determines the Resonant Filter in circuit: Mini, ARP™ (2600), and the 3 Roland™ (Juno) modes. Unlit, the boxy, boomy SEM filter of “Basic Record” built into the voice board is working its 12 dB alchemy.

Frustration Reducer: Hardware Resonant Filter setting not saved with patch data.

RESONANCE

The resonance, or “Q,” emphasizes, or boosts the cutoff frequency region, making the presence of harmonics more apparent. Self-oscillation for our Resonant filters happens when the knob passes the 3 o’clock position, resulting in a pure sine wave—use as a separate unique tone source; it will track reasonably well over several octaves with **TRACKING** at 10. Resonance is in fact positive feedback—a ubiquitous and signature sound of subtractive synthesis. Note: The SEM filter does not self oscillate.

TRACKING

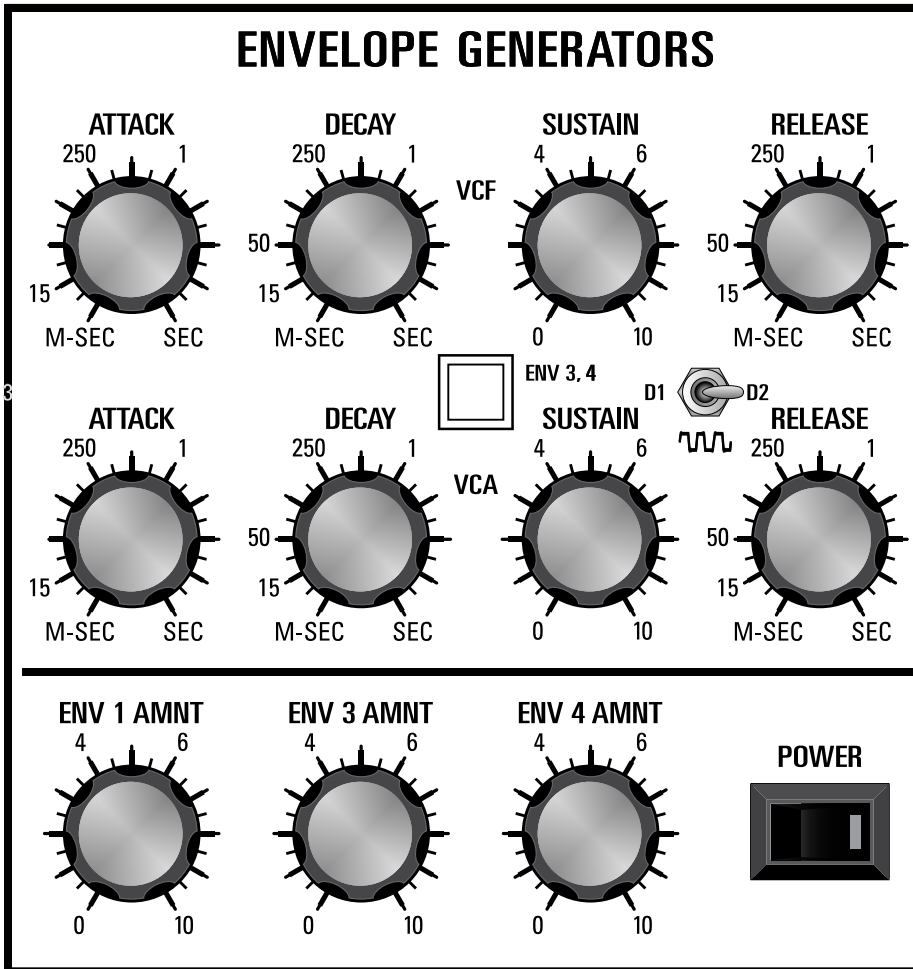
Applies keyboard CV (control voltage) to the filter. The more tracking used, the brighter the sound will get as you ascend the keyboard. Maximum tracking is 1 v/octave.



Why all these filters (Maestro Greg St. Regis is asking you)?

The Resonant Filter Collection is a rich representation of history's most popular subtractive synthesis discrete filters: the creamy, boomy depth of the Mini, the grunge and mid-range character of the 2600, and the clean crisp energy & resonance snap of the 8106, with its 6db and 24db outputs—those two additional modes combine in MIX (#3) for a snarl and bite you’ll soon wonder how you lived without ;) There are mainly subtle differences between the Mini, ARP, and 8106 (Juno/Jupiter), but it is in the subtlety wherein lies the magic. They all benefit from three discrete warm oscillators flowing through their circuits to pass, ultimately, through a dual stage MiniMoog VCA, adding its own unique vintage coloration. Press all three Oscillators and waveforms into service; push the resonance settings into chirp nirvana... a myriad of soul-calming, energizing harmonic timbres will come for you. Switch in the overdrive, either soft or hard, for perhaps the most satisfying part: rich full bodied harmonic distortion/saturation that pumps sub-harmonics and compresses sagely. The SEM filter is always there for you to take a break from that resonance life and go lo-mid aggressive and boxy. Five unique authentic filters—there's never a dull moment. In early tests, R3 (the combo mode of the 8106 filter) is turning out to be a fan favorite. What will be yours?

7f ENVELOPE GENERATORS



Shapers up & Fly Right

FILTER ENV SERMON: The Filter envelope shapes the timbre and overtone content of the audio signal as it flows from the circuitry of the mixer. This envelope or contour generator is used to dynamically move the cutoff frequency. It works as such: Each time a note or noise is triggered, an envelope or contour generator attached to the Filter's cutoff frequency is actuated, and sending a control signal to the filter; the control signal rises at one rate: attack, falls at a second rate: decay, levels out to a certain point: sustain, a steady control voltage as long as the gate or note is maintained, finally falling off and vanishing at a third rate: release, upon surrender of gate, or fingers generally (though noses have been employed when digits "run dry").

ATTACK (VCF)

Sets the **FILTER** Attack time. The **ATTACK** time determines the initial segment of

the envelope. The frequency at which the initial contour begins is determined by the **FREQUENCY** (filter) setting, while the peak which it reaches is determined by the **FREQUENCY** and **ENV1 AMNT** amount settings combined. Incrementing the **ATTACK** knob with a healthy **ENV1 AMNT** amount, from 1 m-sec to approximately 10 seconds, will result in the brightness of the sound increasing sharply and dramatically at 1st, and then more gradually as the **ATTACK** time lengthens.

DECAY (VCF)

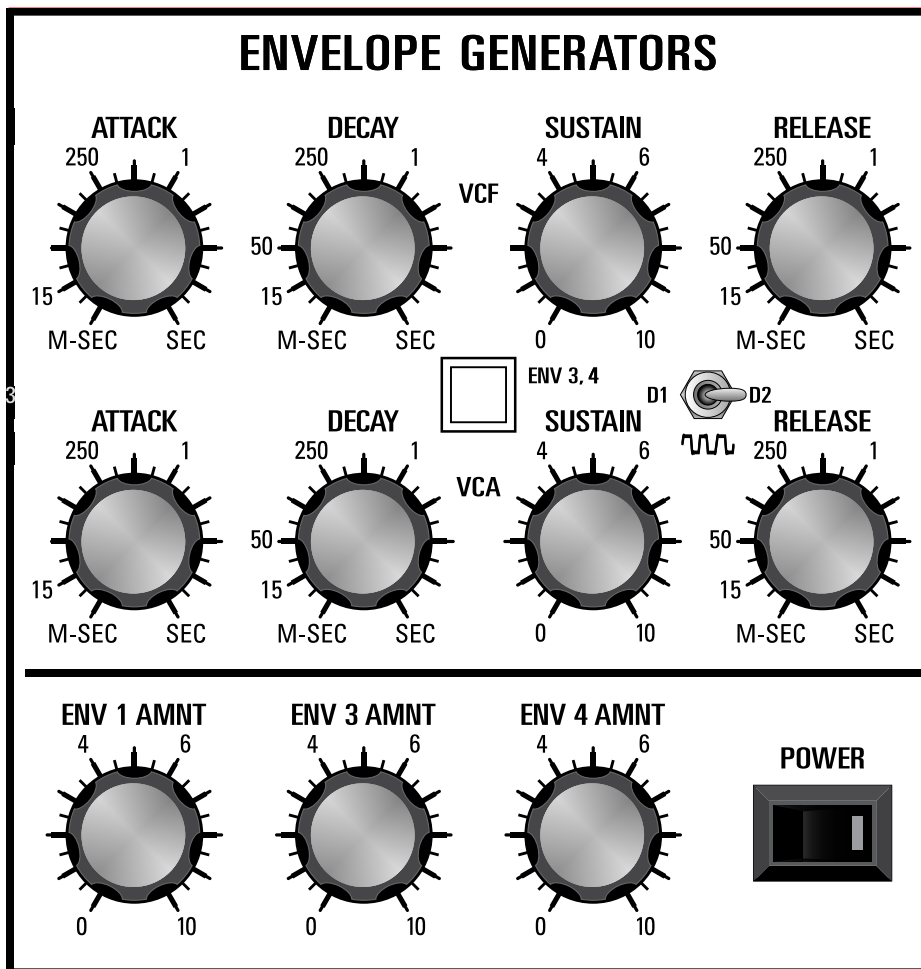
Sets the **FILTER** **DECAY** time. **DECAY** time determines the duration of the second segment of the envelope, i.e., the fall from the **ATTACK** peak to the **SUSTAIN** level. When repeatedly triggering a note/noise and increasing the value with a robust **ENV1 AMNT** amount from 1 m-sec to approximately 20 sec., you will at 1st hear the brightness drop sharply after the initial **ATTACK**. This drop will become more gradual as the **DECAY** time lengthens.

SUSTAIN (VCF)

Sets the **FILTER** **SUSTAIN** level. **SUSTAIN** level determines the filter frequency at which the envelope holds after the initial rise and fall. The frequency of the **SUSTAIN** level can be as high as the initial peak, which would override the

DECAY stage, or it can be as low as the frequency at which the envelope contour began. **SUSTAIN** is only active while a note is held. Note: The 3X's envelope has a peak slightly higher than the **SUSTAIN** can reach. **RELEASE (VCF)** Sets the Filter **RELEASE** time. Release is the fourth and final stage of the envelope contour: after the initial rise and fall of the **ATTACK** and **DECAY** times surrender to the **SUSTAIN** level. **RELEASE** time takes effect after key lift, determining the length of time for the envelope generator's output to go from the

SUSTAIN level to zero. Note: If sustain is set at zero, then the release knob setting is irrelevant. There is no level from which the envelope can release.



ENV1 AMNT

Sets the depth of Envelope 1 (filter) modulation amount as it is applied to the filter **FREQUENCY**. The shape of the filter envelope is determined by the contouring controls **ATTACK**, **DECAY**, **SUSTAIN**, and **RELEASE**. Our **ENV1** draws the **FREQUENCY** down, an accidental "feature" of the MIDIMINI that is decidedly useful and one of its trademark quirks/strengths!

ENV3, 4 SWITCH (VCA)

Selects auxiliary Envelopes 3 & 4 and allocates panel knob control to them. Envelope 3 is topmost.

D1 D2 (VCA)

3-way switch toggles between Drive 1 and Drive 2. Center off position.

ATTACK (VCA)

Adjusts the length of time for the envelope generator's output to go from zero level (when key is initially pressed) to maximum level.

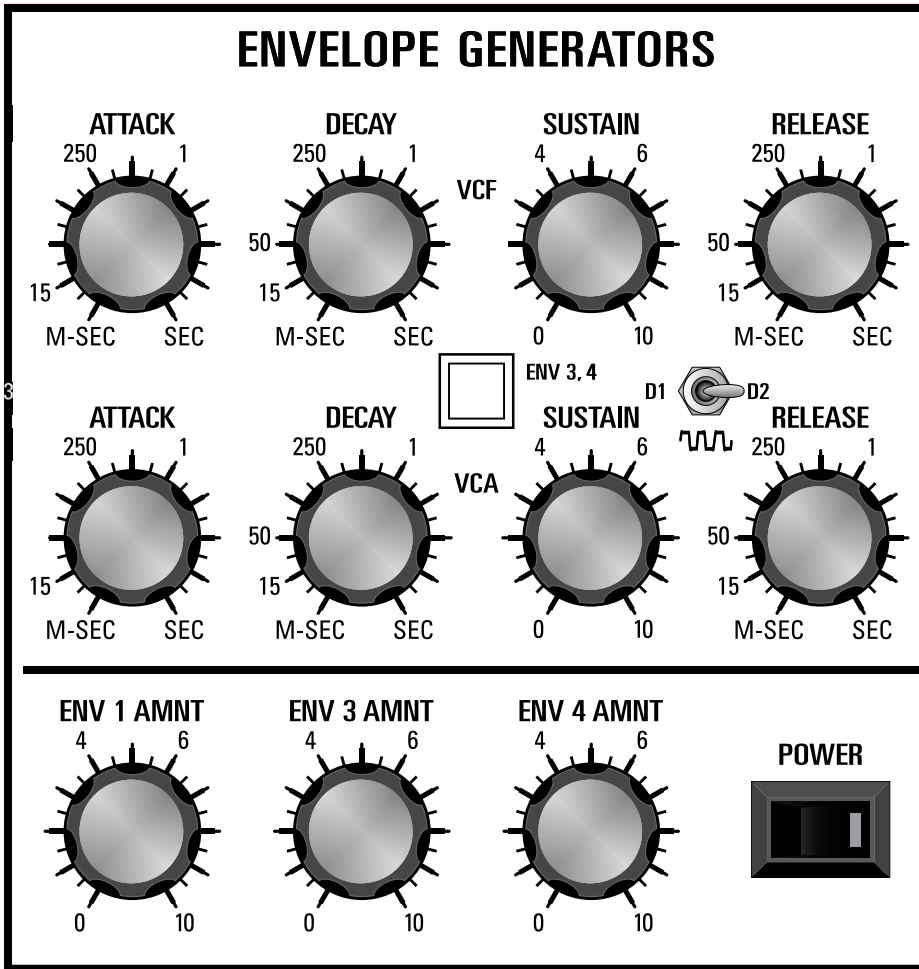
DECAY (VCA)

Adjusts the length of time for the envelope generator's output level to go from maximum level to sustain level.

(SUSTAIN) (VCA)

Adjusts the sustain level from zero to maximum. This is a level control, not a time control. Sustain time is determined by touch. If sustain is set at maximum, then the decay knob setting is irrelevant. There is no level below maximum to which the envelope can decay.

7f ENVELOPE GENERATORS pg. 3



RELEASE (VCA)

After releasing key, adjusts the length of time for the envelope generator's output to go from sustain level to zero. If sustain is set at zero, then the release knob setting is irrelevant. There is no level from which the envelope can release.

ENV3 AMNT

Sets the depth of the applied envelope to the chosen destination. (See LCD edit page).

ENV4 AMNT

Sets the depth of the applied envelope to the chosen destination. (See LCD edit page).

8 EDIT PAGES

What's in the Menus?

11 edit windows to navigate functions not accessible or fully accessible on the front panel worthy of your time and attention. Maneuver via the < >, up/down arrows, or press and hold SHIFT & rotate encoder.

GLIDE	LIN
AUTO GLIDE	0
MULTITRIGGER	OFF
NOTE PRIORITY	LOW

envelope is triggered only when key is fully released then re-struck. **NOTE PRIORITY:** Selects LOW, HIGH, PARA(phonic), LAST. Determines how 2 - 3 overlapping notes will be handled: LOW ignores higher notes, HIGH lower notes, PARA allows the the Oscillators to be played by 3 different MIDI notes.

TUNING:	MAIN	0
OSC 1	12	
OSC 2	25 FINE	+ 1
OSC 3	12 FINE	- 1

AUDIO MIXER			
OSC1	98%	RMOD	0%
OSC2	95%	NOISE	0%
OSC3	15%	N2VCA	OFF

warmer. **N2VCA OFF:** If OFF, Noise passes through Filters to VCA, if ON, noise is routed around filters directly into the VCA. A good B3 keyclick simulator: assign Noise to either ENV3, or ENV4 for short decay contouring.

ENV 1	>	VCF	DYN	50%
ENV 2	>	VCA	DYN	15%
ENV 3	>	SWP2	DYN	0%
ENV 4	>	SWP3	DYN	0%

GLIDE / NOTE PRIORITY PAGE

GLIDE: Selects Linear or Exponential glide and glide off. **AUTO GLIDE:** Pitch bends from chosen interval to note being played. Interval is selected in semitone increments up or down one octave. Glide pot on panel sets the bend rate. Normal glide is defeated when any auto bend interval is chosen. **MULT TRIGGER:** When on, filter envelope is triggered with each keystroke; when off, the

OSCILLATOR TUNE PAGE

TUNING MAIN: Continuously varies overall pitch flat or sharp just over a semi-tone. **OSC1, 2, 3:** Adjusts individual pitch in half steps: 0-63. **FINE 2, 3:** Continuously varies Oscillator 2 & 3's pitch flat or sharp just over a semitone.

AUDIO MIXER PAGE

OSC1, 2, 3: Adjusts individual output levels: patches with multiple waveforms or multiple oscillators may produce (primarily pleasant) distortion from overloading the filter input. Decrease mix levels to avoid "browning out." **RMOD:** Adjusts Ring Modulator level—the mix, or heterodyne of OSC2 and OSC3—and outputs the sum and difference of the frequencies present in each waveform, making it a heroic harmonic thickener and

ENVELOPE EDIT PAGE

Displays envelopes 1 - 4 destination and velocity sensitivity settings. **ENV1 VCF** & **ENV2 VCA**, are fixed to filter and amplifier respectively, 3 & 4 are assignable. Envelope 3 & 4 destinations: **PW1, 2, 3:** OSC1, 2, 3 Pulse Width; **MIX2:** Level of OSC2; **SWP2:** Filter decay "sweep"

frequency of OSC2; **MIX3**: Level of OSC3; **SWP3**: Filter decay “sweep” frequency of OSC3; **RMOD**: Ringmod level; **NOIS**: Noise level; **RESO**: Resonance level. **DYN** (ENV) 1 - 4: Percentage of velocity information sent to each envelope amount. Translation: Play faster/harder, get more mod.

```

LFO  ASSIGN:      WAVE:
LFO1>  VCFFM      TRI
LFO2>  NOASSN     TRI
LFO3>  OSC2PW     TRI
  
```

Resonance; **NOASSN**: No Assignment; **OSC3FM**: Frequency of OSC3; **VCFFM**: Filter Frequency; **OSC2MX**: Level of OSC2; **OSC1PW**: Pulse Width; **OSC3MX**: Level of OSC3; **OSC2PW**: Pulse Width. LFO's 1-3 **WAVEs**: triangle, square, sawtooth up, sawtooth down, noise, sample & hold. *LFO1 only.

```

LFO:  SYNC  KEYTRIG
LFO1  SELE  OFF
LFO2  SELF  OFF
LFO3  SELF  OFF
  
```

```

12DB  TYPE      LP
ENV   INVERT    OFF
ENV   CURVE     EXP
OSC   BOUNCE    ON1
  
```

```

MIDI CHANNEL:      1
MEMORY PROTECT:   OFF
SYSX:SEND PROGRAM(S)
SELECT, SAVE-SEND # 1
  
```

MODULATION ASSIGN PAGE

Displays LFOs 1 - 3 destinations and waveforms. Functions that LFOs 1 - 3 can modulate: ***OSC123**: Frequency of all OSCs; **RMODMX**: Ring Mod level; **OSC3PW**: OSC3 Pulse Width; **OSC1FM**: Frequency of OSC1; **NOISMX**: Noise Level; **VOLUME**: Main Level; **OSC2FM**: Frequency of OSC2; **VCFRES**: Filter

MODULATION SYNC PAGE

Displays LFOs 1 - 3 destinations and waveforms and Key-trigger. **SELF**: Sets modulation clock to internal. **MIDI**: Enables reception of MIDI Sync. **KEYTRIG**: **ON** sets modulation wave start-point to key strike.

SEM FILTER / ENV PAGE

Selects **LP**: Low-pass, or **HP**: High-pass mode for 12 dB S.E.M. filter. **ENV INVERT**: Selects the inverting of Envelopes 1, 3, or both. **ENV CURVE**: Selects a **LIN**, Linear, **EXP(1)**, Quasi-Exponential, or **EXP2**, SE-02/ Omega Exponential curve for all envelopes. **OSC BOUNCE**: Select 3 amounts of time between trigger of the gate and the CV. **OFF**: Default; **ON1**: MPU101 quirk; **ON2**: Exaggerated MPU101 quirk.

MIDI CHANNEL / SYSEX PAGE

MIDI CHANNEL: Selects reception channel, 1 - 16. **MEMORY PROTECT**: **OFF** - Memory Protect off. **ON1** - no saving can be done. **ON2** - no saving can be done and front panel pots are disabled. **SYSX:SEND PROGRAM(S) SELECT, SAVE-SEND**: Initiates System Exclusive functions. Select an individual patch # or entire RAM memory: **ALL**, then press SAVE.

MOD	LFO1			26%
TOUCH	OSC3			0%
CON 1	MIX3	#	0	0%
CON 2	PW3	#	2	0%

MIDI CONTROLLER PAGE

MIDI CHANNEL: This page displays and allows selection of assignments to Modwheel, Aftertouch, Continuous Controller 1 and Continuous Controller 2. Page functions that can be changed and managed via MIDI: **LFO1:** Depth of LFO1; **PW3:** Pulse Width of OSC; **ENV3:** Env. 3 amount; **LFO2 :** Depth of LFO2; **VCF:**

Filter cutoff frequency; **ENV4:** Env. 4 amount; **LFO3:** Depth of LFO3; **RESO:** Filter Resonance; **ENV1:** ENV1 amount; **OSC2:** Frequency of OSC2; **MIX2:** Level of OSC2; **LFO1:** LFO1 rate; **OSC3:** Frequency of OSC3; **MIX3:** Level of OSC3; **LFO2:** LFO2 rate; **PW1:** Pulse Width of OSC1; **MIXR:** Level of Ringmod; **LFO3:** LFO3 rate; **PW2:** Pulse Width of OSC2; **MIXN:** Level of Noise. The range of each controller can be scaled from 0% (no effect) to 99% (full effect). Controller 1 and Controller 2 can be assigned to receive any of the 128 possible MIDI controllers, with these exceptions: **CON #1** reserved for Mod wheel, **CON #64** reserved for Sustain pedal, **CON #5** reserved for Glide time, **CON #65** reserved for Glide on/off, **CON #7** reserved for Main Volume, **CON #121-127** reserved for Mode Messages. Note: MIDI controllers add data to the function selected from the patch function value; they are additive. Limit one MIDI controller per destination. For complete list—including switches and functions not accessible in the menu, see **MIDI DOCUMENTATION...** pp. 36-40.

BEND:	RANGE:	
PITCH	2 SEMITONES	
CUTOFF	0 SEMITONES	
TRANSPOSE		LOW

BENDER PAGE

PITCH: Sets bend range from 0 to one octave in semitone increments. **CUTOFF:** Assigns bender to control Filter Frequency in semitone increments. **TRANSPOSE:** Overall pitch transposition: **HIGH:** Octave up; **MED:** Default; **LOW:** Octave down.

* SE-3X *	
NAME PROGRAM	
#01	ANALOG IS ON !
BANK 1 ROM	U.1.00

NAME PROGRAM PAGE

Get personal with it: name your creations. The cursor will default to the first character. Use the **Q** knob to select the letter or character. Use the **I < >** arrow buttons to move the cursor back or forward. Pressing the up or down arrow creates a blank space.

9 COMMON FUNCTIONS

You'll get yours - just what you deserve.

Setting MIDI Channel: Hold **SHIFT** button and press left arrow switch 4x to get to **MIDI CHANNEL / SYSEX PAGE**. Rotate encoder.

Saving an edited RAM Patch (banks 5-8): Press **SAVE** switch once; it will illuminate and **SAVE TO:** will appear. You can save your edited patch over the stored sound by pressing the **SAVE** button once again, or you can choose a new destination by turning the **Q** knob to select another patch location. To save to a different bank, press either the up or down arrow switches. If you want to cancel the process or get back to the main page press the **SHIFT** button. ROM patches (bank 1-4) can be modified but not permanently altered: save ROM bank edits to RAM (banks 1-5) locations.

Escaping from an Edited Patch: Press and hold **SHIFT** and then **EXIT** (under down arrow). This will get you to the main page; you can clear your edits by rotating the **Q** knob.

Accessing Edit Pages: While holding the shift button press the < > arrow buttons or turn the **Q** knob.

Selecting Bank: Press up/down buttons.

Choosing Mono or Para Mode: Press and hold **PANEL 2** (SHIFT) then press **PARA** (OS2 SYNC).

Adjusting Oscillators's 2 & 3 Levels: Press and hold **PANEL 2** (SHIFT) then rotate **FINE** knobs (OSC's 2 & 3 frequency knobs).

Syncing LFO's to MIDI Clock: Press and hold **SHIFT** then rotate **Q** dial six times to travel to **MODULATION SYNC PAGE**. Set **SYNC** to **MIDI**. Send MIDI Clock from external device.

Selecting SEM Filter: Turn off **MODE** switch in **FILTERS** panel.

Toggling LFO Gate: Press and hold **PANEL 2** then press **GATE**.

10 SCREEN JUMPS & SHORTCUTS

Go Ahead and Jump - Might as Well.

PRESSING	JUMP
LFO2 / LFO3	MODULATION ASSIGN PAGE
OSX 3 SYNC	OSCILLATOR TUNE PAGE
MODE	SEM FILTER / ENV PAGE
ENV 3. 4	ENVELOPE EDIT PAGE
MOVING	JUMP
GLIDE	GLIDE / NOTE PRIORITY PAGE, GLIDE VALUE FUNCTION
FREQUENCY 1, 2, 3	OSCILLATOR TUNE PAGE, COARSE VALUE FUNCTION
PRESSING, HOLDING & 2ND PRESS	JUMP
PANEL 2 + UTIL	MIDI CHANNEL / SYSEX PAGE
PANEL 2 + EXIT	EXIT PATCH EDIT FUNCTION
PANEL 2 + GATE	ENABLE/DISABLE LFO GATE
PANEL 2 + PARA	GLIDE / NOTE PRIORITY PAGE, ENABLE/DISABLE PARAPHONIC FUNCTION
PRESSING AND TURNING	JUMP
PANEL 2 + FINE	OSCILLATOR TUNE PAGE, OSC 2 & 3 FINE TUNE FUNCTION
PANEL 2 + OSC VOL	AUDIO MIXER PAGE, OSC 1, 2, 3 LEVEL FUNCTION

11 EXTERNAL INPUT

Sound Sources not of our making.

External Audio Input

External sound sources which replace the **Noise** circuit once connected, can be processed through the SE-3X's filter circuits and modulated by LFOs, RING MOD, and envelopes via this audio input. Use the **NOISE** mix level in the **AUDIO MIXER PAGE** to adjust. Any amount of level may be sent into this input, however, higher levels will ultimately overload the filter input and distortion effects will occur. A MIDI note must be received and sustained or pulsed, to trigger the envelopes (open the gate) and process the signal. **AUDIO MIX** levels can add or remove the SE-1X sound sources.



12 PATCH BANKS

Venerable ROM Reset & Designer Series

FACTORY BANK A

01 ANALOG IS ON !	26 JANACHY	51 VARIOUS FUNK V. 1	76 BLACKWELL'S TUDE
02 SECOND 2 NONE	27 87 % WRAITH	52 LINDA'S WINGS	77 ROCKFORD VIALS
03 26 HUNDRED BLOCK	28 SCEPPACERQUA	53 FUNC LEAD/SINE	78 PUNCTUATION UK
04 BASIC RECORD	29 VICTOR'S WAVE	54 FUNC LEAD/PULSE	79 SOUND SEASONAL
05 WATCH HIM	30 REPRESENTN' S.E.	55 FUNC LEAD/SAW	80 ORIENTED
06 BOOMIN'	31 WAH WAH WAHTZUN	56 BACK IN THE DAY	81 HORN OF PLENTY
07 GLOOMIN'	32 LONG & SHORTOFIT	57 SANDFORDIZED	82 STEVIE HORN
08 BASS - LINES	33 RIONERO'S SONS	58 SHADES OF MY D6	83 MISSION ...
09 COMIN' CORRECT	34 SAFE & SANE	59 SERIOUS DYNAMICS	84 REED ALERT !
10 EVENTFULL SHOCK	35 ERIT'S HOME	60 DR. WORM	85 REEDON GAS
11 FACE THE BASS	36 FUZZ - FACED	61 VIBRACHI RES.	86 WE REMEMBER Z
12 SMOOTHED OUT	37 VOCALITY	62 RESONANT EXPERT	87 ELECTRO VIBE
13 NEUBLE, JAMES	38 SERVICE TO HIM	63 ETHEREAL MAN	88 THE SOUND IS ALL
14 BROTHER OF MIKE	39 GAIN RECOVERY	64 ... WOMAN	89 ON 2ND THOUGHT
15 WE REMEMBER TONY	40 JOHN BLACK JR.	65 ... CHILD	90 HOOKED ON SONICS
16 CAPRETTA ETHOS	41 PRIORY OF Z. < 0	66 FANTASTIC 70'S	91 THE MAJESTIC 12
17 U FEEL THAT 2 ?	42 THE REVEREND	67 PROFUNDIS IMPORT	92 CASWELLZ GENIUS
18 CLIFFORD'S 10 %	43 FOUNDATION	68 4 U 2 KNOW	93 ENGLISH GARDEN
19 SCRIPTED	44 'N SOUL IN T. H.	69 MR. HAMERTIA<GK>	94 MIND SWEEPER
20 CAPRICORN 1	45 THERIOT BROS'	70 "MY BROTHAH" T/A	95 OUTER NIMITZ
21 CARLO'S WAY	46 BASS STOPS HERE	71 HIS YOKE IS EASY	96 CANYONS O' STEEL
22 AQUADREAD	47 PUTNAM PROBLEM	72 & HISBURDENIS LT	97 ONCE AGAIN
23 ARCADIA'S QUEEN	48 WARM & NICE	73 DEEP THOUGHTS	98 SUCTION PIPE
24 MARNI'S BEST	49 UP RIGHT	74 ROOM WITH A VIEW	99 SINE ON THE
25 DISCONNECT	50 BLUE NOTE COOL	75 CAMILLE'S DA	

FACTORY BANK B

01 MOUNTAIN POLO	26 AFTER TOUCH VOL.	#51 HEARTACHE TON. K.	#76 NAMM WAH
02 BEAUTY SO BRIGHT	27 SAPONACEOUS	#52 LEVY'S ALCMY. 909	#77 SORRY NEEDLE
03 ONCE YOU KNOW	28 BRIZAKILO	#53 LEON'S KICKE	#78 CRACKED HEAD
04 THICKEN	29 CLONE 1	#54 S.E. KICKE BONUS	#79 50'S TELEVISION
05 B-3 BASE + RES.	30 CLONE 2	#55 'N SOUL CRAAACK	#80 DONTPLAYSOHARD
06 THE SHUFFLE TUNE	31 CLONE 3	#56 LOWEST FI SNARE	#81 GLIDE BUG
07 INVERTEDNESS	32 CLONE 4	#57 AFTER MARKET SNR	#82 AIR SHOW/ENGINES
08 SHADES OF BERLIN	33 THE DEEP SOUTH	#58 S.E. SNARE BONUS	#83 IN THE WORLD
09 DAYLIGHT BURN	34 SCHOOL - YARD	#59 EMERSON'S LEAD	#84 BEWAROVE
10 FABRIC OF ROSE	35 SCHOOL-YARD 2	#60 EMERSON'S LEAD 2	#85 LYING SIGNS&WON.
11 ROGUES OBEY	36 SLOW DANCER	#61 ETCHO MABER	#86 QUEST 4 MEANING ?
12 INVERTABLE	37 LOW PROFILES	#62 ETCHO MABER B	#87 UNEEDTHA
13 THOUGHT OF THAT	38 ON THE REEL	#63 ETCHO M. FLANGE	#88 BREAD OF LIFE
14 PRECISION BASS	39 COR WARRIOR	#64 INGRAM'S SKILLZ	#89 SAMPLE&STRIKE LP
15 NEW LEGACY	40 FUZZ FACED U	#65 INGRAM'S SKILLZ B	#90 SAMPLE & STRIKE BP
16 SUPER GLOOMIN'	41 NEAR BASS XPER.	#66 INGRAM'S SKILLZ C	#91 QUADRION
17 LOGAN ?	42 SINE OF THE X'S +	#67 HOODWORMED	#92 SHELTER PROJECT
18 HEVONICS	43 SOLID BOY	#68 REPEAT RINGS	#93 WHICH WAY L.A.
19 NOW THAT I'VE ...	44 DAVE'S CLASSIC 2	#69 L.V.'S MINI 1	#94 GROUND ZERO
20 SLOP FACTOR	45 TOTAL BASSOONERY	#70 L.V.'S MINI 2	#95 GOLLUM'S RACKET
21 P. C. DOLLARS	46 ANGLOE	#71 L.V.'S MINI 3	#96 WARN THEM !
22 IN THEORY YES	47 MOLMOH	#72 FUN W/MOD WHEELS	#97 B 4 IT'S 2 LATE
23 F D B SENSOR	48 CHASTITY'S CHILD	#73 KNOW YOUR MOD W.	#98 A. GRANITE FORCE
24 TRANSONIC	49 PERALANDRIAN	#74 ENGLISH MODWHEEL	#99 PULSAR 2000
25 TRANSONIC + A.T.RS	50 DOOMIN' KICK	#75 SEVENTH DEAL	

LEX G

1 BURSTIN' HOWL	26 DUNK SQUAD, THE	51 HANK'S ERRAND	76 REED OF PLENTY
2 BURSTIN' HOWL II	27 SAY NO MORE	52 HANK'S ERRAND 2	77 DIG CHORDS77-84
3 BURSTN' HOWL III	28 LATER THN U THNK	53 REDEEM THE TIME	78 DIG CHORDS 77-84
4 LOW-TONED	29 COMPRESSION DEAL	54 ALL IN USE	79 DIG CHORDS 77-84
5 ADIPOSIA	30 COMPRESSION D. 2	55 ALL IN USE 2	80 DIG CHORDS 77-84
6 INQUIRY	31 SAVA THE FLAVA	56 ALL IN USE 3	81 DIG CHORDS 77-84
7 INQUIRY 2	32 STURDY LEGS	57 BUSTIT IN E FLAT	82 DIG CHORDS 77-84
8 SOMEWHAT VOCAL	33 AQUASONICKED!!	58 BUSTIT IN E F. 2	83 DIG CHORDS 77-84
9 COMPTON VIEW	34 FADEAWAY BOMB	59 FROG FACTOR'D IN	84 DIG CHORDS 77-84
10 COMPTON VIEW 2	35 FIXED LAND	60 THEODETTI	85 YEARNING 2 BE 1
11 SENTRAL THEME	36 LOOK MA-NO OSC!!	61 THEIR PRINCE	86 PURE SINE OF..
12 RUBBERBANDIN'	37 IN THEORY, NO	62 F2THEU2THEN2THEK	87 TOROBE'S HILL
13 PULSE BASED	38 CLEAN SWEEP	63 TALKATIV'	88 GREAT WALL
14 JOHN & THEM	39 SORN EYES	64 TALKATIV' 2	89 HOW DID THEY
15 TRUE P. II	40 GO INVERT!!	65 SLAP HAPPY	90 VARIATION Z
16 A. SMOOTHER	41 GARBOLA	66 SLAP HAPPY 2	91 VARIATION Z 2
17 VELUTINOUS	42 STEVIE'S KINDNES	67 URANDULA'S COAT	92 CORPORATE GOONS
18 TRUE POTENTIAL	43 STEVIE'S JOY	68 HERBIE'S DREAM	93 WHIAL
19 TRUE POTENTIAL 2 SWELL	44 STEVIE'S LOVE	69 HERBIE'S DREAM 2	94 EARLY 80'S PERC
20 RESONANCE	45 STEVIES HAPPINEZ	70 ZEPHYRITIC	95 DEADLY CYCLE
21 GIVE IT UP 4 GSR	46 D-6'N ALL NIGHT	71 ZEPHYRITIC 2	96 EFFEX OF S. C
22 PHOENIX PROGRAM	47 WORD TO THE MINI	72 RAVELIAN	97 BELOW MIDDLE C
23 PHOENIX PROGRAM2	48 SHOOTERS BOUNCE	73 POULENCIAN	98 M.I.A.
24 AFTER HOURS	49 SONSHINE ON ME	74 HONEGGERIAN	99 RESOLUTION(A.T.)
25 FOSTERIAN	50 ALL MY LIFE	75 FOREIGN FILM	

ALLEC SERIES

1 NEW BLOOD	26 AFTER TWO	51 POOLIN'	76 VARIATION Z '01
2 STILL FUNKY	27 SAPONACEOUS+	52 POOLIN' II	77 TAKE ATHORITY
3 B-3 BASS II	28 LATER THAN THAT	53 YEARNING SPIRIT	78 HIGHLY ON
4 TOO CLOSE TO IT	29 COMPRESSION RUN	54 BERNIE	79 90'S TELEVISION
5 NO RESEMBLANCE	30 IMPOSSIBE	55 BERNIE 2	80 NOTHING ON
6 N.R. II	31 IMPOSSIBE D.	56 DON'T EVER ASK	81 COURT T.V.
7 INVERTEDNESSY	32 CLINIC 5	57 ME TO DEPART	82 PIXELATED
8 INVERTEDNESSY II	33 THE DEEPEST	58 ETCHO MABER S.	83 AUTHOR OF FEAR
9 IF U HAVE 2 KNOW	34 SCHOOL-YARD '01	59 WITH PERMISSION	84 ELLA'S DAYDREAM
10 FABRICIOUS	35 SELDOM SCENE	60 U AND LA'S COAT	85 DISTORTIOS
11 ROGUE PLANET	36 SLOW DANZ	61 DISSARAYED	86 S&H OVER EASY
12 RUBBERBANDIN'	37 IN THEORY, NO	62 MILTON	87 GLASSUHA
13 INVERTO	38 IN IT NOW	63 GIVE THANKS	88 FORGIVE ME L.
14 TRUE POTENTATE	39 WALLACE & G.	64 INGRAM '01	89 SAMPLE&STRIKE'01
15 TRUE P. II	40 FUZZ FACED UNIT	65 INGRAM '01 II	90 ALARMIE
16 TRUE P. III	41 FUZZ F. U. II	66 INGRAM '01 III	91 SCIABIN'S SONS
17 LOGANICK	42 GOOD 4 U	67 HOODWORMED '01	92 YEAR 2000
18 HEAVY MOMENT	43 GRABDATBENDER	68 HOODWORM. '01 II	93 WHIYAL
19 NOW THAT I KNOW	44 SUPPORT	69 HOODWORM.'01 III	94 ELI'S 2ND FIGURE
20 RESONENTIAL	45 EDGER	70 KNOW YOUR WIFE	95 GOLLUM'S R. '01
21 P.C. MINDED	46 EDGER II	71 BRIGHTWOOD	96 DON'T PUSH IT
22 IN THEORY SERIES	47 MINI FOUND	72 BRIGHTOUR	97 TONY'S BROTHERS
23 F D B SENSOR II	48 MINI FOUND II	73 GREAT WHY	98 NAMM-MARES
24 TRANSCENIC	49 WARREN DRIVE	74 ZAVINY	99 MASS 4 JFFREY
25 MIXED BAG	50 JAMPLI	75 ZAVINY II	

SCROGGIN'S SYNQUENCE

1 SYNCQUENCE	26 SUBTLE DISDAIN	51 METAMORPHO-KICK	76 SKILLSAW
2 LORDZ OF LEADZ	27 WARM MEMORIES	52 CRUSTYBASTARD909	77 PULSE PATHOGEN
3 SINISTRY O SOUND	28 AFTERDARKENED	53 DETROITS' NAYBOR	78 LISTEN FOR
4 FLASH BOREDOM	29 AFTER THE FALL	54 BACKSTAGE 909	79 UNDERWATER PULSE
5 FLASH MOREDOM	30 WARNING CHIME	55 BRIANS'SUBSHAKER	80 DEEPSPACEENTROPY
6 PROLONGED MARCH	31 ON OR OFF	56 POPPY 808 KICK	81 WHOLEPOSITION
7 SMEKUON'S FILTER	32 TOWEL OF SUSPECT	57 CHEEZ MARKET SNR.	82 CORNERSTONE 1995
8 HARDSTEPPIN	33 BANDWIDTH METER	58 SHORTSNARE	83 SATELLITE TERROR
9 909 NASTI TEASER	34 WHIP FOR WISDOM	59 SNARES ARE BOGUS	84 FALLING MIR
10 PUNCHME PULSE	35 RISE RIGHT	60 SPONGE BOX	85 GERMAN FLEDGLING
11 PUNCHME SAW	36 DRIP WITH ANALOG	61 SEMPER FU SNARE	86 RANCID RABIT
12 RING OF BELLTONE	37 PULSE ME	62 NAME THAT ET SNR.	87 THREERINGSERVICE
13 I INSIST	38 BEATING THE FREQ	63 CANTANKEROUS BOO	88 OBSERVANT TREES
14 BROOMCAKE	39 INSECTISLIDE	64 WHEEL TO LIVE	89 CIRCUITS CRY OUT
15 UNSYNCEDESEQUENCE	40 OMINOUSIMUS	65 TRIPPIN' OVER ME	90 WOMEN NEX TO ME
16 ACIDIC RYTHMIC	41 AMBIENT SUSPENSE	66 RAYO DIAWOHNI	91 STILLSMALLVOICE
17 JACKED UP FUNK	42 TAKE IT IN	67 INSOMNIAK SLEEP	92 CHEWYON
18 ARPEGGIO ON ACID	43 SECONDS REMAIN	68 IMPRESSIONABLE	93 CHEWYON 2
19 SPLIT SYNC	44 MAUDLIN WHEEL	69 HILLS HAVE EYES	94 WHIPIT OBLIVION
20 BEYOND ANALOGUE	45 POLYGONE DOOR	70 RISETODAOCASION	95 COMPRENDO DEBAJO
21 HOLDMETHENSAMPLE	46 POLYGON DOOR	71 RISE BASS RISE	96 ACID NEWS FLASH
22 RISE OF DECEIVER	47 BEYOND A SHADOW	72 1996D&BRISE	97 RHYTHMIC BELLS
23 MODULATOR RIGID	48 NEBULAE HERESY	73 REPEAT AFTER ME	98 WHO STOLE SYNC ?
24 TRILLS OF ENERGY	49 THE UNFOUNDED	74 PERVASSIVE SYNTH	99 DARK LEAD
25 SATURN'S RINGS	50 SIMMONS BRICK	75 SQUARE MEAL	

DIADEMER

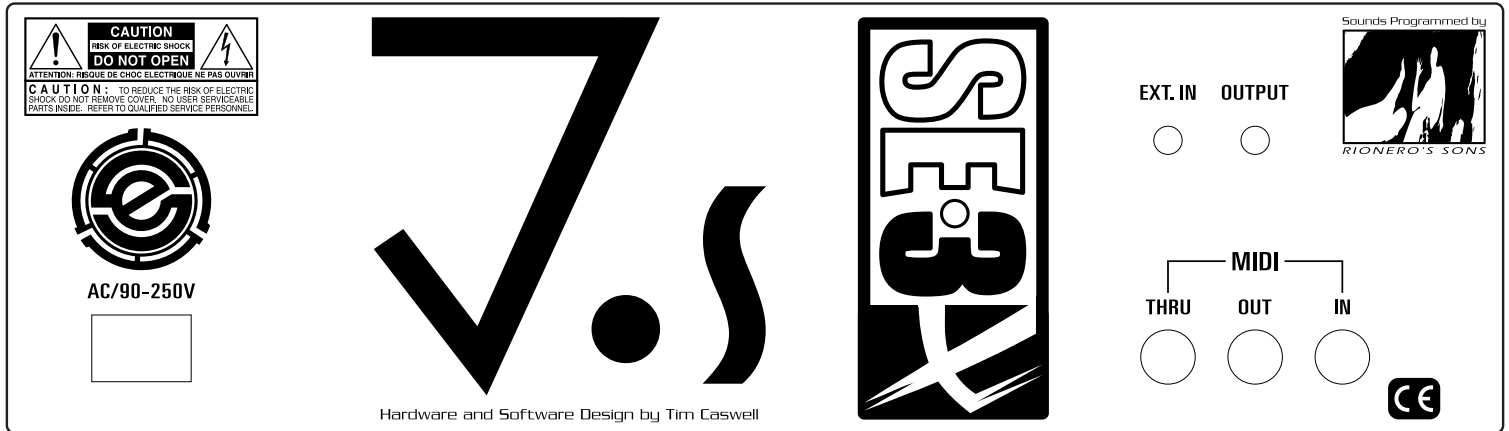
1	BEHIND THE BASS	26	JOY TO MYSELF	51	MUST FOR FUZZ	76	EARLY SYNTH REED
2	SUREFOOTED SLY	27	HOLD ME TONIGHT	52	AMERICAN IDLE	77	WEST END
3	MISSING CLIFF	28	HARMONIC	53	CLASSIK LEAD	78	SAMPLE STUTTER
4	DIRTY DOGS	29	VIOLYNN	54	CLASSIK LEAD 2	79	ON THE BEAT
5	SMART FREQ	30	INTERNAL ORGANS	55	CLASSIK WARM	80	BATTLE ZONE
6	OVERFREQ	31	FAKE THE LEA	56	RESONANT TEXPERT	81	LOADED FUZZES
7	OOM BAAA	32	MOODY ORCH VOL 1	57	SALTWATER	82	INNER LEADER
8	MULTITIMBA	33	MOODY ORCH VOL 2	58	1 SU	83	DIADEMER
9	BIG CITY TIM	34	MOODY ORCH VOL 3	59	2 SUN	84	SETTLED KID
10	BIG CITY LFOS	35	INFO@NOVAMUSIK	60	440 VOLTS	85	JAPAN TOWN SUN
11	LOW BLOWS	36	NEVER NATION	61	DJ PENDRAGON	86	KRAFT WIGLEE
12	WHITE LINES	37	@KORDI@N LOVE	62	BUMBLE BASS	87	KRAFTY
13	SAW AND PEPPA	38	KILL THE PIGGY	63	BUMBLE BASS 2MIX	88	SPAGETTI STERN
14	BET ON WET	39	23BIT 182KHZ	64	TIN CAN BAND	89	NEIGHBOR NOISE
15	FLIPPER 24	40	JASMINE TEA	65	ORBITAL DAY	90	NEIGHBOR NOISE Z
16	FLIPPER 12	41	APPROACHING TARE	66	PERVASMUSHARIS	91	NEIGHBOR NOISEZ2
17	GIME A SINE	42	PEARL HARBOR	67	HAPPY STANCE BAZ	92	NEIGHBOR NOISEZ3
18	DROP BASS	43	PEARL HARBOR'S	68	BULL DOSIER	93	POD RACER
19	DROP BASS GLIDA	44	LOST	69	KEEP ME IN YOURS	94	@LIENLAZER
20	DAY DRIPPA	45	THE PULSE SKIPS	70	RESO INTRUDER	95	NEOPOLITANSTATIC
21	HYPNO TOAD	46	PUNKS AND JERKS	71	FOREVER LEADS	96	SWELTAH
22	BUTTA CENSOR	47	SYNTHON	72	NO THANG Z	97	CRUSTY PULSE
23	BASIC RECORD 07	48	BASIC PULSI	73	READING RAINBOW	98	OVERDRIVE ME
24	VELO TONERS	49	RINGMODSWAY	74	TEAR DROP SLOPE	99	PROPER RESONANCE
25	TAKE ON NOVA	50	YOU EFF OHH	75	24 ZAWINUL		

INFARED

1	INFARED PULSE	26	BEACOUPISS	51	TRESOR BASS FIRE	76	FAIRLIGHT Q
2	GET BORKED JACK	27	TRIBBELS ZOID	52	DON SOLARIS	77	SATISFACTORY
3	DUSTED	28	BATTLESTAR	53	DERRICK SOLID	78	HEADHUNTER
4	BREEZEBLOC	29	THE MOURNINGSTAR	54	SVEN BATH	79	MUSIKEASEL MK1
5	RE-EMERGE	30	FALLING	55	DELIA POWERED	80	HOUSE OF WINDSOR
6	1997 BRISTOL	31	SERGE SALADHEAD	56	REVERB ZAP	81	GHETTO BIRD 07
7	MODKICK 78	32	BUB IN TUB	57	CARPENTER OBIE	82	TOKYO BLADES 100
8	SICK S.E.M	33	13 SECONDS LEFT	58	BANDPASS LFODIVE	83	RING MANIFESTO
9	DROP CHEMICALS	34	THE RING	59	SICK MOOG15	84	GHOST DETUNE
10	STARTING A FIRE	35	THE CON OF MAN	60	SWAMP THING II	85	DARKEST CRYSTAL
11	SWAMP THING	36	TELETUBBY ATTACK	61	TR606 KICK	86	TARDIS NOISE LFO
12	MORODER 100M	37	DETROIT 1	62	BERLINKICK	87	REVERSE TAPEWORM
13	R50E HI-Q	38	DETROIT 2	63	CHICAGO KICK	88	BIGWAVE VS
14	CR78 HAT	39	DETROIT 3	64	KNUCKLE KICK	89	FAUX WAVETERM
15	MIRA'S HOUSE	40	DETROIT 4	65	HOLLAND KICK	90	MOJAVE GREEN
16	TWOISM 4 EFIL	41	FEMME TOM	66	PWM SWEEPER BASS	91	MILLS' SON
17	NONNAHS ACID	42	REZDRUM	67	DAM-FREQ 202	92	DUB BOY FC
18	BAD DRAGON STEP	43	SHEETMETALS	68	JP8 BOOMBOOM	93	SAY UNKLE
19	BLUE	44	MATT'S MC202	69	SEQSYNQ II	94	MINIMAL PWM
20	606 CHAT	45	JUNO UNISON	70	STANTON SESSIONS	95	MU-TRON SQUARE
21	FREESTYLE OBIE	46	ARP THIS SUB	71	ICELANDIK BASE	96	JILTED FIRE
22	PUNCH DRUNK 15	47	VOCODER SEQUENCE	72	SYNQ BROTHERS	97	MATRIX 6R
23	SEASICK MOOG55	48	DEJA VU ARP	73	PUSH COWGIRL	98	FOR T LOVER...
24	SEQSYNQ W/MOD	49	16TH NOTE SECRET	74	ONE BIG VCO?	99	CHICAGO OUT
25	LORD OV WAR	50	MIGRAINE PWM	75	HARTNOLL XPANDER		

13 BACK PANEL

Power (& AUDIO/MIDI) to the Panels



AC INPUT

Plug in female end of supplied IEC cable to unit and male end to power socket. The SE-3X's auto-switching regulated supply will operate properly on either 115 volt or 230 volt AC line voltage.

EXT. IN

Processes External Audio information. MIDI note(s) must be sent to the SE-3X to open gate/VCA.

OUTPUT

Connect a 1/4" to 1/4" audio cable to this jack and then to the line input of a mixer, audio interface, keyboard amplifier, etc.

MIDI

IN

Receives MIDI Notes, MIDI Volume, Velocity, Pitch Bend, Aftertouch, Mod Wheel and Sustain Pedal, Glide on/off , Glide.

OUT

Sends standard **MIDI** messages and System Exclusive data to external **MIDI** hardware.

THRU

Forwards the signal arriving at the **MIDI IN** jack to additional **MIDI** equipment.

14 GLOSSARY OF ABBREVIATIONS

CON: Control (section)
CV: Control Voltage
DYN: Dynamics
EG: Envelope Generator
ENV: Envelope
EXP: Exponential
EXT: External
IN: Input
KEY: Keyboard
LFO: Low Frequency Oscillator
LIN: Linear

LP: Low Pass
MOD: Modulation
OSC: Oscillator
OUT: Output
P. BEND: Pitch Bend
PNL: Panel
REL: Release
SYNC: Synchronisation
VCA: Voltage Controlled Amplifier
VCF: Voltage Controlled Filter
VCO: Voltage Controlled Oscillator

15 MIDI DOCUMENTATION / ASSIGNMENTS

MIDI Implementation Chart

	Function	Transmitted	Recognized	Remarks
Basic Channel	Default Changed	x x	1-16 1-16	Memorized
Note Numbers	: True Voice	x x	0 0 -127	
Velocity	Note On Note Off	x x	0 0	Envelopes 1-4
Aftertouch	Key Channel	x x	x 0	No defaults. Assigned per patch.
Pitch Bend		x	0	
Knobs		0	0	
Switches		0	0	

Control Change (Reserved)	1	X	o	Modulation Wheel Portamento Time Channel Volume Sustain Pedal Portamento On/Off See p. 38 for full list.
	5	X	o	
	7	X	o	
	64	X	o	
	65	X	o	
System Real Time	: Clock	X	o	LFO MIDI Sync
	: Start	X	X	
	: Continue	X	X	
	: Stop	X	X	

0=Yes
X-No

LFOs			
Oscillator 1, 2, 3 frequency, VCF frequency			
DYNAMICS	MODWHEEL	AFTERTOUCH	BENDER
*ENV 1-4	*OSC 2, 3 Frequency, *Pulse Width 1-3, VCF Frequency, VCF Resonance, *MIX 2, 3, MIX Ringmod, MIX Noise, ENV 3 Amount, ENV 4 Amount, ENV 1 Amount, *LFO 1-3, *LFO Depth 1-3	*OSC 2, 3 Frequency, *Pulse Width 1-3, VCF Frequency, VCF Resonance, *MIX 2, 3, MIX Ringmod, MIX Noise, ENV 3 Amount, ENV 4 Amount, ENV 1 Amount, *LFO 1-3, *LFO Depth 1-3	Oscillators 1, 2, 3 (Pitch), VCF Frequency
*Individual Control	*Individual Control	*Individual Control	

SE-1X vs SE-3X MIDI CC NUMBERS

	SE-1X CC#S	SE-3X V.1.1 CC#S
	<i>OLD</i>	<i>NEW</i>
0	BANK SELECT MSBYTE*	
1	MOD WHEEL *	
5	GLIDE TIME*	
7	VOLUME*	
9		LFO GATE ON/OFF
32	BANK SELECT LSBYTE*	
41		NOISE LEVEL
48		OSC1 LEVEL
49		OSC2 LEVEL
50		OSC3 LEVEL
51		RING MOD LEVEL
54	OSC1 COARSE FREQ	
55	TRI1 ON/OFF	
56	SAW1 “	
57	PULSE1 “	
58	PULSE WIDTH 1 “	
59	OSC2 COARSE FREQ	

60	TRI2 ON/OFF	
61	SAW2 “	
62	PULSE2	
63	PULSE WIDTH 2	
64	HOLD ON/OFF*	
65	GLIDE ON/OFF*	
70	OSC3 COARSE FREQ	NULL
71	TRI3 ON/OFF	VCF RESO
72	SAW3 “	NULL
73	PULSE3 “	NULL
74	OSC3 PULSE WIDTH	VCF CUTOFF
80	LFO1 RATE	
81	LFO1 DEPTH	
82	LFO2 RATE	
83	LFO2 DEPTH	
85	LFO3 RATE	
86	LFO3 DEPTH	
87	OSC1 LEVEL	OSC3 COARSE FREQ
88	OSC2 LEVEL	TRI3 ON/OFF
89	OSC3 LEVEL	SAW3 ON/OFF
90	NOISE LEVEL	PULSE3 ON/OFF
91	RING MOD LEVEL	OSC3 PULSE WIDTH
92	VCF CUTOFF	OSC2 SYNC *NEW
93	VCF RESONANCE	OSC3 SYNC *NEW
94	VCF KEYBOARD TRACKING	
95	ENV 1 AMOUNT TO VCF	
102	ENV1 ATTACK	

103	ENV1 DECAY	
104	ENV1 SUSTAIN LEVEL	
105	ENV1 RELEASE	
106	ENV2 ATTACK	
107	ENV2 DECAY	
108	ENV2 SUSTAIN LEVEL	
109	ENV2 RELEASE	
110	ENV3 AMOUNT	
111	ENC3 ATTACK	
112	ENV3 DECAY	
113	ENV3 SUSTAIN LEVEL	
114	ENV3 RELEASE	
115	ENV4 AMOUNT	
116	ENV4 ATTACK	
117	ENV4 DECAY	
118	ENV4 SUSTAIN LEVEL	
119	ENV4 RELEASE	
123	ALL NOTES OFF*	

16 TROUBLESHOOTING

No Sound

Check all audio connections (and Power).

Check all MIDI connections. Ensure the '3X' is set to receive on the correct channel. [see [Setting MIDI Channel](#) p. 25]

Exit and reset Patch. [see [Escaping from an Edited Patch](#) p. 25]

Turn up Volume. [see [CONTROL](#) p. 14]

Turn up OSC/MIX levels. [see [OSC VOL 1, 2, 3](#) p. 17 & [AUDIO MIXER PAGE](#) p. 22]

Turn off MIDI sync. [see [MODULATION SYNC PAGE](#) p. 23]

Turn off LFO GATE. [see [GATE](#) p. 15]

Soft Sound

Check all audio connections.

Turn up Volume. [see [CONTROL](#) p. 14]

Turn up OSC/MIX levels. [see [OSC VOL 1, 2, 3](#) p. 17 & [AUDIO MIXER PAGE](#) p. 22]

Unwanted Distorted Sound

Turn down OSC / RMOD / NOISE levels. [see [OSC VOL 1, 2, 3](#) p. 17 & [AUDIO MIXER PAGE](#) p. 22]

Unwanted Noise

Turn down NOISE level. [see [OSC VOL 1, 2, 3](#) p. 17 & [AUDIO MIXER PAGE](#) p. 22]

Out of Tune

Set [MASTER TUNE](#) to 440 Hz. [see p.22] Or one could experiment with 432 Hz, as was done here with our Boomstar SEM: <https://tinyurl.com/tha942f>

Plain Lost

Press and hold **SHIFT**, press **EXIT**, then rotate **Q** dial. [see [Escaping from an Edited Patch](#) p. 25]

17 SPECIFICATIONS

SYNTHESIZER TYPE

Monophonic/Paraphonic Rackmount Analog

SOUND ENGINE

Discrete Analog

Combinable Triangle, Sawtooth, Variable Pulse Width Waveforms

SOUND SOURCES

3 Voltage Controlled Discrete Analog Oscillators: OSC 1 waveforms: triangle, sawtooth, variable width square; OSC 2 waveforms: sine, sawtooth, variable width square; OSC 3 waveforms: triangle, sawtooth, variable width square. All waveforms output simultaneously. OSC 1 syncs to OSC 2, 3

Noise Generator

FILTERS

3 Voltage Controlled 4 Pole, 24 dB per Octave Low Pass Ladder Filters - 10 Hz to 20 kHz Range;

Juno/Jupiter has 3 modes: 24dB, 12dB, Mix

1 Voltage-Controlled 2-Pole 12dB/oct filter with Lo Pass and Band Pass modes

Key Tracking, Self-Oscillating Resonance* (at Cutoff Frequency)

* 12dB SEM excluded

AMPLIFIER

Loudness Contour with a Dynamic Range of 81 dB

CONTOUR GENERATORS

4 multiple Stage Envelope Generators: attack, decay, sustain, release with inverting & multiple triggering. Envelope 1 fixed to filter frequency. Envelope 2 fixed to amplifier level. Envelopes 3 & 4 are assignable. ADSR speed increased from standard SE-1X

MODULATION SOURCES

4 Four-Stage (ADSR) Envelope Generators

3 LFOs with 6 waveforms: triangle, square, sawtooth up, sawtooth down, noise, sample & hold

MODULATION DESTINATIONS

LFOs 1, 2, 3: VCOs 1, 2, 3 frequency; VCOs 1, 2, 3 mix level; VCOs 1, 2, 3 pulse width; ring mod mix level; noise mix level; VCF resonance; VCF frequency; volume. Envelopes 3, 4: VCOs 1, 2, 3 frequency; VCOs 1, 2, 3 mix level; VCOs 1, 2, 3 pulse width; ring mod mix level; noise mix level; LFO 1, 2, 3 rate, depth, VCF resonance

GLIDE

Software - Linear and Exponential

17 SPECIFICATIONS pg. 2

FUZZ

Switchable fixed value hardware amplifier overdrive for saturated distortion: 70's (soft fuzz), 90's (hard fuzz)

PRESETS:

4 factory banks, 4 designer banks: Scroggins Synquence, Infared, Diademer, PARAdizer (available 6/21)

FACEPLATE

Matte Black, high contrast 4 color black, red, blue, green, white

ADDITIONAL FEATURES

Noise Generator, hardware Ring Modulation, External Audio Input

POTS, SWITCHES

1 rotary encoder, 24 knobs, 20 square switches—17 illuminated, one three-way toggle (fuzz), one 5-way rotary switch (filter selection), power

LED DISPLAY

.5" high Patch indicator

MAIN DISPLAY

20" x 4" blue backlit liquid crystal

AUDIO INPUT

1/4" Rear Panel TS

Voltage: +10 millivolts (min); +10 volt (max); Nominal Input Impedance: 100K Ohms

AUDIO OUTPUT

1/4" Back Panel TS

Output Voltage (typical): 0.5 volts Maximum Voltage: 4.2 volts (peak-to-peak); Nominal Output Impedance: 3K Ohms

MIDI

IN & Thru (dIn)

DIMENSIONS

19" (48.26 cm) Wide x 6 1/8" (15.56 cm) Deep x 5.25" (13.34 cm) High - 3 rack spaces

WEIGHT

11 lbs / 4.99 kg

POWER

90 - 250 volts AC auto switching

18 LEGAL

LIABILITY

Neither Analogia Inc./Studio Electronics nor anyone else involved in the creation, production, or delivery of this product shall be liable for any direct, indirect, incidental, special, consequential or punitive damages whatsoever arising out of the use of this product, or inability to use this product; including without limitation: damages for loss of business, profits, goodwill, business interruption, loss of business information, data or any other pecuniary loss, even if Analogia Inc./Studio Electronics were previously advised of the possibility of such damages. Some states do not allow limitations on the length of an implied warranty, or the exclusion or limitation of incidental or consequential damages, so the above limitation and/or exclusions may not apply to you.

FCC

DO NOT MODIFY THE UNIT! This product, when installed as indicated in the instructions contained in this manual, meets FCC requirement. Modifications not expressly approved by Analogia Inc./Studio Electronics may void your authority granted by the FCC, to use this product.

IMPORTANT: When connecting this product to accessories and/or another product, use only high quality shielded cables. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies, and if not installed and used according to the instructions specified in this product's operation manual, may cause interference harmful to the operation of aforementioned other electronic devices.

Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference (which can be determined by turning the unit "OFF" and "ON"), please try to eliminate the problem by using one of the following measures:

- Relocate either this product or the device that is being affected by the interference.
 - Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).
 - In the case of radio or TV interferences, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial cable.
- If these corrective measures do not bring any satisfied results, please consult the local retailer authorized to distribute this type of product. If you cannot locate the appropriate retailer, please contact Analogia inc. These **FCC** statements apply only to those products distributed in the USA.

CANADA

NOTICE: This class B digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulation.

AVIS: Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

EUROPE

NOTICE: This product complies with the requirements for European Directive 89/336/EEC.

NOTES:

ANALOGIA INC. - Ardent Proprietors of STUDIO ELECTRONICS

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