

AdrenaLinn

Groove Filter FX + Amp Modeling + Drum Box



User Manual

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and Roger Linn

Roger Linn
DESIGN

Roger Linn Design • Berkeley, CA • www.rogerlinndesign.com



Tested To Comply
With FCC Standards
FOR OFFICE USE



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

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

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Welcome

Thank you for purchasing the AdrenaLinn, the first product from my new company, Roger Linn Design. Though my name is usually associated with having invented the first digital drum machine or “groove box,” I am a guitar player and am particularly excited about creating this groundbreaking product for guitarists and bassists.

What is the AdrenaLinn? It’s the first commercially-available processor for guitar (or bass or keyboard) players that can produce the sequenced rhythmic sounds previously available only on keyboard synthesizers with sequencers. Just play along with AdrenaLinn’s internal drum machine, and hear your axe transformed into a dynamically filtered, rhythmic sequence – all in sync to the drumbeat! Other sound processors just change your sound, but AdrenaLinn can even change your sound in a different way on every note.

It doesn’t stop there, though; run it through the AdrenaLinn’s amp models and tempo-synced digital delay, and you have a sound that absolutely screams. AdrenaLinn can also create tremolo, vibrato, flanging, volume swells, auto-wa, envelope wa, and many other effects.

Finally, the AdrenaLinn plays well with others. Drive it via MIDI from a groovebox, keyboard sequencer, drum machine, or digital recorder. You can even hook up a footpedal via MIDI.

Read on, and take your instrument to places it’s never been before.

A handwritten signature in black ink that reads "Roger Linn". The signature is written in a cursive, flowing style with a large initial 'R'.

I Wanna Use It Right Now!

In light of the current rise in Attention Deficit Disorder, we offer the following abbreviated manual:

- 1 Plug the wall-mounted power supply into an AC power source. Plug the other end in to the AdrenaLinn's 7.5 VDC jack.
- 2 Connect your instrument to the INPUT jack.
- 3 Connect the MONO/LEFT output jack to your amp.
- 4 While playing your instrument, adjust the INPUT control so that the CLIP light goes on only when playing loud.
- 5 Press (and quickly release) the MAIN button.
- 6 Select Factory Preset 00 by turning the PRESET control to the left until the display shows "F00".
- 7 Press the START footswitch once and play a sustained chord on your instrument. (Notice that the sound of your instrument changes rhythmically over time, in sync with the Drumbeat.) Press it again to stop.
- 8 Try selecting a different Preset, Drumbeat or tempo by turning these controls.

I Wanna Edit a Preset or Drumbeat Right Now!

- 1 Find the parameter to be edited in the EDIT section.
- 2 Press the UP or DOWN arrow buttons until the light to the left of the parameter is lit.
- 3 Turn the knob above the parameter to edit it. (If the light above the parameter is lit, the parameter's current value will appear in the display; if not, turn the knob above it one "click" to light the light and display the current value.)
- 4 If a *preset* parameter was edited (rows 1-5), save the changes by holding the UP arrow button, selecting the destination preset number, then pressing the UP arrow button again. If a *drumbeat* parameter was edited (rows 6 or 7), save the changes by holding the DOWN arrow button, selecting the destination drumbeat number, then pressing the DOWN arrow button again.

Chapter 1: AdrenaLinn Operation Basics

About Modes Of Operation

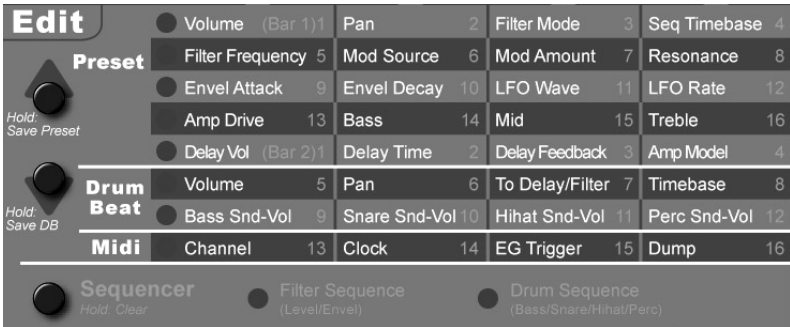
The AdrenaLinn has two principal modes of operation.

Main Mode is the primary mode of operation that you will use while playing, and is selected automatically when power is turned on. In MAIN mode, the four physical rotary knobs control PRESET, DRUMBEAT, TEMPO and VOLUME.



To enter Main Mode, press the MAIN button. Its associated LED (to the immediate left of the PRESET knob) will light.

Edit Mode lets you tweak existing sounds and create new ones.



To enter Edit Mode, press any of the three buttons under Edit. The Main LED goes out after you enter Edit mode.

Inputs and Outputs

The **Input** is a mono unbalanced ¼" phone jack. Using the Input Level control, you can vary the input sensitivity from guitar pickup levels to -10db line levels.

The **Stereo Outputs** are two mono unbalanced ¼" phone jacks. Using the Volume control, you can vary the output level from less than guitar pickup levels to greater than -10db line levels. Using the Left output exclusively will mix the stereo output signal to mono.

The **Phones** output is for connection to standard stereo headphones.

About Presets

A **Preset** is a collection of parameter settings that produce a particular effect or sound. This effect processes the instrument plugged into the INPUT jack.

Example: A Preset might create a rhythmically synchronized effect, change your instrument's tone, process it through a certain type of amp model, etc.

The AdrenaLinn contains 200 Presets:

- **Presets F00-F99** are **Factory Presets**. These cannot be edited, but were designed by expert sound designers so you can start using the box right away.
- **Presets U00-U99** are **User Presets**. They are initially the same as the Factory Presets, but you can edit them to create your own effects.

About Drumbeats

A **Drumbeat** is a two-measure rhythm pattern that also contains any other drum-related parameters, such as drum mix and drum sound selection.

The drum sound can be independent of the Preset, or a portion of the drums can feed the filter or delay, as described later.

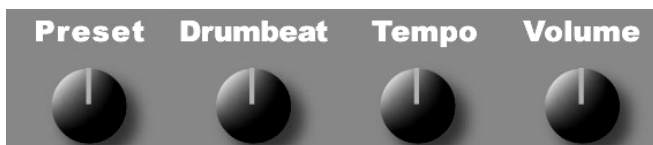
The internal digital drum machine has 200 Drumbeats:

- **Drumbeats F00-F99** are factory Drumbeats and cannot be edited.
- **Drumbeats U00-U99** are User Presets that are initially the same as the factory Drumbeats, but you can edit them to create new Drumbeats.

Chapter 2: Main Mode Controls And Functions

The Controls

There are four physical knobs. Their primary functions (those that are active in Main mode) are printed in bold above the knobs.



PRESET selects the active Preset.

- Turning the knob counterclockwise eventually reaches Factory Preset 00 (F00).
- Turning the knob clockwise from that point steps through the 100 Factory Presets (F00-F99) then the 100 User Presets (U00-U99).

DRUMBEAT selects the active Drumbeat.

- Turning the knob counterclockwise eventually reaches Factory Drumbeat 00 (F00).
- Turning the knob clockwise from that point steps through the 100 factory Drumbeats (F00-F99) then through 100 user Drumbeats (U00-U99).

TEMPO varies the playing tempo.

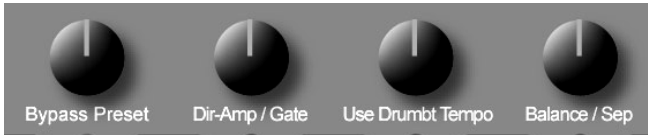
- Tempo is variable from 30 to 250 Beats Per Minute (BPM).
- When you select a new drumbeat, that drumbeat's tempo will become active. You can also set a mode in which the tempo always remains the same until you manual change it. (See 'Secondary Knob Functions' on page 11.)

VOLUME adjusts the output level.

- 00 is somewhat lower than guitar levels.
- 40 is the default and is equal to guitar pickup levels.
- 99 is somewhat higher than line levels.

Secondary Knob Functions

Pressing *and holding* the MAIN button illuminates the main section's lower LED, indicating that the knobs now control the *secondary functions* printed immediately below them. (Return the knobs to their primary functions at any time by briefly pressing the MAIN button.)



BYPASS PRESET controls the Bypass footswitch function (see next section). There are three options:

- **byp** (bypass): Select by rotating the knob fully counter-clockwise. Pressing the footswitch toggles between the unprocessed and processed sounds.
- **RES** (restart): Select by turning one click clockwise from *byp*. Pressing the footswitch restarts the currently playing Drumbeat and filter sequence. This is useful when overdubbing onto an existing recording where electronic sync isn't available. If the tempo between the AdrenaLinn and the other recording starts to drift, press this switch on the downbeat to do a manual re-sync.
- **F00 – U99**: This is similar to the *byp* setting, but pressing the footswitch toggles between the active Preset and the Preset selected by this knob. *Example*: You might want a distorted amp sound to be your default sound instead of the standard "clean" bypassed sound.

DIRECT-AMP / GATE optimizes the AdrenaLinn's sound for different amp and mixer situations.

- **Dir** (direct): For feeding a console or other flat-response, hi-fidelity sound system. The AdrenaLinn's noise gate is on, which reduces noise when not playing. This is the default setting and produces the best sound quality.
- **Amp** (guitar amp): This setting is intended for playing through a guitar amp. The upper midrange and lower treble frequencies are reduced to compensate for the fact that guitar amps typically boost these ranges. The AdrenaLinn's noise gate is on, which reduces noise when not playing. (NOTE: Many people prefer the *Dir* setting even when playing through a guitar amp.)

- **Dng** (direct, no gate): Same as the DIR setting except the noise gate is turned off.
- **Ang** (amp, no gate): Same as the AMP setting except the noise gate is turned off.

USE DRUMBEAT TEMPO selects the tempo the AdrenaLinn follows when you select a Drumbeat. The options are:

- **On** (default): The tempo changes immediately to the new Drumbeat's stored tempo.
- **OFF**: The AdrenaLinn ignores the Drumbeat's stored tempo. Tempo remains as set until changed manually.

BALANCE/SEP controls the mix of the instrument (Preset) signal and the Drumbeat.

- The range is from P50 (all Preset, no Drumbeat) to EQU (equal Preset and Drumbeat volume) to d50 (all Drumbeat, no Preset).
- An additional step past d50, SEP (separate), routes the instrument signal to the left output and the Drumbeat to the right output.

Start and Bypass Footswitches

The two footswitches provide live performance functions.



START begins the Drumbeat and filter sequence when pressed. Press again to stop. This is like the start/stop button on any sequencer or drum machine.

Holding the START footswitch for about a half second provides two additional functions:

- If held while AdrenaLinn is stopped, before the Drumbeat starts you'll hear a one measure count-in of four quarter-note hi-hat ticks.
- If held while AdrenaLinn is playing, the current Drumbeat plays until the end of the current measure, and then stops.

BYPASS provides a standard bypass function (e.g., switches between processed and unprocessed sounds). However, the BYPASS PRESET control also lets the bypass switch provide additional functions, as described under “Secondary Knob Functions” on page 11.

Holding the BYPASS footswitch sets the tempo. Hold it for exactly one measure of the desired new tempo, releasing it at the downbeat of the next measure. The playing tempo will immediately change to the held tempo.

Initializing All Data

To initialize the AdrenaLinn to the same state it was when shipped from the factory, holding both the START and BYPASS footswitches while connecting power. This will do the following:

- Copy the 100 factory presets over the 100 user presets
- Copy the 100 factory drumbeats over the 100 user drumbeats
- Initialize the MAIN and MIDI parameters to their factory-shipping values

Chapter 3: Edit Mode – Editing Presets

Although the 100 Factory Presets do a great job of showing off what the AdrenaLinn can do, you can create up to 100 custom Presets to personalize your sound. Creating a Preset generally involves the following steps:

- 1 Choose a Preset that's close to what you want.
- 2 Use the AdrenaLinn's editing options to modify various parameters, thus changing the sound.
- 3 Save the modified Preset as one of the 100 User Presets.

Preset Editing Basics

The AdrenaLinn's Edit section lists all available Preset parameters in a matrix of 5 rows and 4 columns (two additional rows edit Drumbeats, and the bottom row edits MIDI parameters).

Edit									
<div style="margin-bottom: 10px;"> Presets <input type="button" value="UP"/> <input type="button" value="DOWN"/> </div> <div> Drum Beat <input type="button" value="UP"/> <input type="button" value="DOWN"/> </div> <div> Midi <input type="button" value="UP"/> <input type="button" value="DOWN"/> </div>	●	Volume (Bar 1)	1	Pan	2	Filter Mode	3	Seq Timebase	4
	●	Filter Frequency	5	Mod Source	6	Mod Amount	7	Resonance	8
	●	Envel Attack	9	Envel Decay	10	LFO Wave	11	LFO Rate	12
	●	Amp Drive	13	Bass	14	Mid	15	Treble	16
	●	Delay Vol (Bar 2)	1	Delay Time	2	Delay Feedback	3	Amp Model	4
●	Volume	5	Pan	6	To Delay/Filter	7	Timebase	8	
●	Bass Snd-Vol	9	Snare Snd-Vol	10	Hihat Snd-Vol	11	Perc Snd-Vol	12	
●	Channel	13	Clock	14	EG Trigger	15	Dump	16	
●	Sequencer <small>Hold: Clear</small>		●	Filter Sequence <small>(Level/Envel)</small>		●	Drum Sequence <small>(Bass/Snare/Hihat/Perc)</small>		

Example: The top row of editable Preset parameters consists of **Volume**, **Pan**, **Filter Mode**, and **Sequence Timebase**. The bottom row of editable Preset parameters includes **Delay Vol**, **Delay Time**, **Delay Feedback**, and **Amp Model**.

Choosing the parameter to edit is simple:

- 1 Locate the row that contains the parameter to be edited.
- 2 Press either the UP or DOWN arrow buttons until the LED next to the desired row lights.
- 3 Locate the column that contains the parameter to be edited.
- 4 Turn the knob associated with that column to change the parameter value.

Example: You want to alter the Delay Volume, which is located in Edit Preset Row 5. Press the UP or DOWN arrow buttons until Row 5's LED

lights. Delay Volume is in the first column, so the leftmost knob varies the amount of Delay Volume.

There are a couple details:

- Upon selecting a row, if the LED directly above the parameter name is lit, the display shows the current parameter value. If the LED above the parameter is not lit, turn the knob above it *one* “click” in either direction to select the column and view the parameter value. (The parameter value won’t actually change until a second click occurs.)
- Upon editing a parameter, the five row LEDs will blink. This isn’t just to amuse you with a light show, it’s to remind you to save your edits. *Edits are not saved until you use the Save Preset feature (page 39). If you select a different Preset before saving, any edits will be lost!*

The AdrenaLinn Signal Path



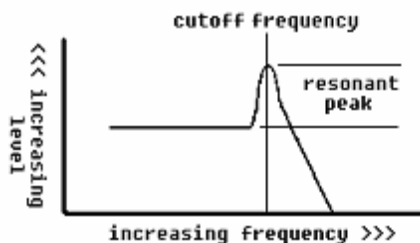
The AdrenaLinn routes your instrument through three sophisticated digital processors: first Filters, then Amp Model, and then Delay.

Filters This is AdrenaLinn's main sound-shaping tool. There are six types of filters to affect your sound, explained below:

1. Two Pole Lowpass Filter

This is 2-pole, 12 dB per octave **lowpass filter**. Like all filters, it blocks some frequencies and passes others. A lowpass filter passes frequencies below a particular frequency, and rejects frequencies above it. The frequency that divides these two regions is called the **cutoff frequency** or **filter frequency**. So, raising the filter frequency makes a brighter sound as it allows more high frequencies to pass through. This particular type of filter is called a 2 pole filter, which provides a gentile reduction of high frequencies of 12 deciBels per octave above the filter frequency. 2 pole filters were used commonly in vintage Oberheim synthesizers.

A second filter parameter, **resonance**, boosts response over a narrow range at the cutoff frequency. This produces a sharper peak that, when you vary the cutoff frequency, sounds more like a wa-wa than a tone control. Resonance values range from 00 to 99. Higher levels produce a sharper, more resonant effect.



The relationship between frequency, amplitude, and resonance

2. Four Pole Lowpass Filter

This filter is identical to the 2-pole filter described above but has a steeper slope above the filter frequency of 24 decibels per octave. This type of filter was commonly used in vintage Moog synthesizers.

3. Flanger

A flanger imparts a whooshing, “jet airplane” effect by combining a signal delayed over a range of approximately 0 to 12 milliseconds with the unprocessed sound. In flanger mode, the Filter Frequency parameter controls delay time. The Resonance parameter controls delay feedback. Increasing Resonance emphasizes a particular frequency, adding a sense of pitch to the sound.

4. Inverted Flanger

This is identical to Flanger above but with a phase-inverted delayed signal. This removes more bass frequencies, particularly at higher Filter Frequency settings, to produce a different flanging tonality. Resonance behaves as with Flanger.

5. Pitch

This is a single delay with a range between 0 and 20 milliseconds. Modulating delay time changes the pitch. *Example:* Modulating with the LFO sine wave causes a periodic pitch change (vibrato). The Resonance parameter has no effect.

6. Volume

This is not actually a filter, but rather a volume control that allows volume modulation effects such as tremolo. When selected, the Filter Frequency parameter controls the initial volume. The Resonance parameter has no effect.

After the filters, the other two sound processors in the signal path are:

Amp Model The AdrenaLinn includes several guitar amp simulations. Although the signal path diagram shows the amp model as after the filter, this can be changed to before the filter in any Preset. Putting distortion before or after a filter makes for a very different sound.

Audio Delay Delay adds echoes to your sound, from short ambient effects to long repeating effects. These echoes can be in time with your music.

AdrenaLinn Signal Path Diagram

Guitar In

Filters

Inverted Flanger
 Flanger
 Pitch
 Volume
 Off

Filter Mode

Frequency
 Mod Amount
 Resonance

Amp Modeling

Clean Console preamp
 Fuzz Box
 Solidano
 Boogie Dial Rectifier
 Matchless Chetahn
 Vox-AC-30 Top Boost
 Modern Marshall
 Classic Marshall
 Early Marshall
 Old small Fender
 Fender Deluxe
 Fender Bassman
 Off

Amp Models*

Amp Drive before filter
 Bass
 Mid
 Treble

Modulation Source

Off
 Audio Envelope
 Peak hold
 MIDI Note
 MIDI Velocity
 MIDI Bend
 MIDI Controller
 MIDI Pressure
 EG x LFO
 EG x Hold
 EG x MIDI note
 EG x MIDI Velocity
 EG x MIDI Controller
 LFO x Sequencer
 LFO x Audio
 LFO x MIDI Controller
 S&S x Note
 S&S x MIDI Pressure

Sequencer

1/8th note
 1/8th triplet
 1/16th note
 1/16th triplet
 1/16th half swing
 1/16th full swing
 Drum Beat

Timebase

Envelope Generator

Attack
 Decay

Low-Frequency Oscillator (LFO)

LFO Rate
 LFO Wave

BAR 1	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env
	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
BAR 2	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env	Env
	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

* These amp names are trademarks of their respective manufacturers. No claim is made that the AdrenaLinn duplicates these sounds exactly, but rather, that it produces tones inspired by these classic amps.

Delay

Delay Time

0 99

Volume

0 99

Feedback

0 99

8 measures
2 measures
1 measure
1/2 note
1/4 note
1/8 note
1/8 note triplet
1/16 note
1/16 note triplet
1/32 note
1/32 note triplet

Volume/Pan

Pan Setting

L50 R50

Main Volume

0 99

Delay
Sequence
Envelope
LFO
Audio
Hid
MIDI Note
MIDI Velocity
MIDI Bend
MIDI Controller
MIDI Pressure

Out to Stereo Amp

Bass Snd-Vol → 0 9

Snare Snd-Vol → 0 9

Hi Hat Snd-Vol → 0 9

Perc Snd-Vol → 0 9

Drum Box

Volume

0 99

Delay

d0 F99

Filter

To Delay/Filter

Tempo

30 250

Timebase

1/8 note
1/8 triplet
1/16 note
1/16 full swing

Pan

L50 R50

Stereo Preset 1
Stereo Preset 2
Stereo Preset 3
Stereo Preset 4

Linn 9000
Sine Wave
TR 909
TR 808
Open
Live 2
Live 1
Rock 2
Rock 1

Linn 9000
Crosstalk
TR 909
TR 808
Brush
Ringy
Tight
Ambient

Linn 9000
Tamborine
Shaker
TR 909
TR 808
Ride
Loose 3
Loose 2
Loose 1
Tick

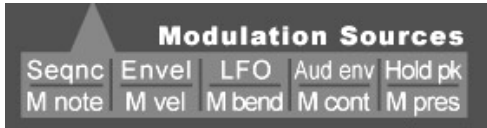
Drum Mach.
Corgas
Toms/Tamb.
Small Inst.
DJ Sounds

		1				2				3				4			
BAR 1	Bass	[Slider]															
	Snare	[Slider]															
	Hi Hat	[Slider]															
	Perc	[Slider]															
		5				6				7				8			
BAR 2	Bass	[Slider]															
	Snare	[Slider]															
	Hi Hat	[Slider]															
	Perc	[Slider]															

Filter Modulation

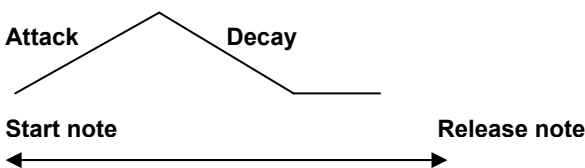
Changing the filter frequency (a process called **modulation**) can add all kinds of interesting effects. *Examples:* A wa-wa changes frequency in response to foot-controlled pedal motion; an envelope-followed filter changes filter frequency in response to the incoming signal's level.

The AdrenaLinn has 10 different ways to modulate the filter.



AdrenaLinn block diagram. 10 modulation sources can affect the filter.

- **Filter Sequencer** A sequencer produces a series of control signals that alter the filter frequency in a predictable, rhythmic way. This sequencer produces 32 steps, each with 100 possible levels and the option to trigger the envelope generator. The sequence syncs automatically with the internal drum machine or external MIDI input, making it easy to apply a repeating rhythmic pattern to your instrument's sound.
- **Envelope Generator** This is triggered either by notes you play or notes played at the MIDI input. Upon triggering, the filter frequency rises over an adjustable **attack time**. The filter frequency then falls over a period specified by the **decay time**.



Envelope generator parameters.

- **Low Frequency Oscillator (LFO)** LFOs provide a cyclic waveform, like the kind that varies volume when creating tremolo. The AdrenaLinn produces waveforms with different shapes (sine, triangle, sawtooth, pulse and random waveforms), and in addition to tremolo can do auto-panning, slow filter sweeps, chorus and flanging. The waveforms may be synced to the internal drum machine or MIDI, allowing the LFO's modulations to move with the beat.



LFO waveforms available for modulating the AdrenaLinn filter

- **Audio Envelope** This modulation signal (also called an “envelope follower”) tracks the input signal level. As the input signal increases, the filter frequency increases; when the input signal decreases, the filter frequency decreases. This provides the effect of analog “envelope filter” products, like the classic Mutron and Funk Machine stompboxes.
- **Hold Peak** This resembles the Audio Envelope, but after detecting the input signal level when a note is played, it holds this level until the next note occurs. (Note to synthesizer fans: think of this as being similar to a MIDI keyboard's velocity messages.)

There are also five modulation sources that respond to standard MIDI messages at the MIDI input. These can come from a MIDI keyboard, MIDI guitar synthesizer, MIDI groove box, etc. If you are not familiar with MIDI basics, go to <http://www.rogerlinndesign.com> for more information.

- **MIDI Note Number** The AdrenaLinn reads the pitch of the last keyboard key or guitar synth note that appeared at the MIDI input, and maps this to cutoff frequency. Higher notes produce higher cutoff frequencies.
- **MIDI Velocity** This message represents a note's loudness. Louder notes produce higher filter frequencies.
- **MIDI Bend Wheel** MIDI keyboards typically have pitch bend wheels that alter pitch, like bending a guitar string. MIDI guitars sometimes use a vibrato tailpiece to produce these messages, or derive them when you bend a string. Bending pitch up with the wheel increases the filter frequency, bending pitch down decreases filter frequency.

- **MIDI Controller** In addition to pitch bend wheels, MIDI keyboards have other physical controllers that produce MIDI data. Each controller has a specific number. The AdrenaLinn responds to **mod wheel** (controller #1), **expression** (controller #11), **general purpose controller 1** (controller #16), **standard controller 1 - sound variation** (controller #70), or **standard controller 4 - brightness** (controller #74). As the controller value increases, so does the filter frequency (except with inverted modulation; see next section).
- **MIDI Pressure** Some MIDI keyboards produce a control message that's proportional to how hard you press a keyboard key after it's down (this is also called aftertouch). Increasing pressure raises the filter frequency.

We've already covered basic editing concepts. Now it's time for an in-depth look at every single parameter – how to access them, what they do, and their possible values.

Row 1 – Volume, Pan, Filter Mode and Sequence Timebase



Volume controls the overall Preset volume (00 to 99). Use this to match the volumes of different Presets. A good average setting is 50. When setting this parameter, compare the Preset's level to the level when **BYPASS** is on.

Pan controls the Preset's position in the stereo field. The range is from 50L (full left) to C (center) to 50R (full right). Turning this control all the way to the right past 50R presents additional options:

Display	Function
dLy (delay)	Pans the instrument signal hard left and the delayed signal hard right.
SEQ	The Filter Sequencer modulates the pan position
EG	The Envelope Generator modulates the pan position
LFO	The LFO modulates the pan position
AUd	The Audio Envelope modulates the pan position
HOL	The Hold Peak modulates the pan position
NOT	MIDI Note On messages modulate the pan from full left (lower notes) to full right (higher notes)
VEL	MIDI Velocity messages modulate the pan from full left (lower velocities) to full right (higher velocities)
CON	MIDI Controller messages modulate the pan from full left (lower controller values) to full right (higher controller values)
BE _n	MIDI Bend messages modulate the pan from full left (bend down) to full right (bend up)
PrE	MIDI Pressure messages modulate the pan from full left (no pressure) to full right (maximum pressure)

Note: If EG is selected while the Mod Source parameter is set to either SEQ, L-S or S-n, or it is set to E-L while the LFO Wave is set to Random, then the envelope generator will not trigger from the input instrument. This is because the envelope generator is being triggered from the sequencer of LFO during these modes. See the Filter and Modulation section on page 29 for more information.

Filter Mode determines how the filter will process the signal. The six parameter values represent six different filter operation modes.

Filter Mode	How the Filter Responds
2PO	Filter response used in vintage Oberheim keyboard synthesizers (2 pole, 12 dB/octave lowpass). Gently attenuates frequencies above the filter's cutoff. Higher resonance settings give a sharper, more peaky effect; sweeping a filter set to high resonance sounds like a wa-wa, low resonance sounds like a tone control.
4PO	Filter response used in classic Moog keyboard synthesizers (4 pole, 24 dB/octave lowpass). Produces a more drastic reduction of frequencies above the filter's cutoff frequency. Resonance behaves as with 2PO.
FL1 (Flanger)	Flanging imparts a whooshing, "jet airplane" effect by combining a signal with the same signal delayed over a range of approximately 0 to 12 milliseconds. In flanger mode, the Filter Frequency parameter controls delay time. The Resonance parameter controls delay feedback. Increasing Resonance emphasizes a particular frequency, adding a sense of pitch to the sound.
FL2 (Flanger)	Same as FL1 but with an inverted delayed signal. This removes more bass frequencies, particularly at higher Filter Frequency settings, to produce a different flanging tonality. Resonance behaves as with FL1.

PIT (Pitch)	Single delay with a range between 0 and 20 milliseconds. Modulating delay time changes the pitch. Example: Modulating with the LFO sine wave causes a periodic pitch change (vibrato). The Resonance parameter has no effect.
VOL	This is not actually a filter, but rather a volume control that allows volume modulation effects such as tremolo. When selected, the Filter Frequency parameter controls the initial volume. The Resonance parameter has no effect.
OFF	Turns off all filter response.

Sequence Timebase controls the filter sequence timebase (i.e., the note value given to each sequence step). There are 5 settings:

Display	Option
8n	Each sequence step is an 1/8 note. Every alternate step in the sequence is skipped for a total of 16 steps, or 2 bars of 1/8 notes.
8t	Each sequence step is an 1/8 note triplet. If selected, the 4 th step of each group of 4 is skipped for a total of 24 steps, or 2 bars of 1/8 note triplets.
16n	Each sequence step is an even 1/16 note, for a total of 32 steps, or 2 bars of 1/16 notes.
16h	Same as '16n,' except that the 1/16 notes are played halfway between even timing and swing* timing.
16S	Same as '16n,' except that the 1/16 notes are played in swing* timing.
DB	The active Drumbeat's timebase provides the sequence's timebase.

*The swing function affects the timing of *pairs* of equal-value notes. Each note normally defaults to taking up 50% of the total duration of both notes; adding swing lengthens the *first* note of the pair, and to keep the total duration of both notes the same, shortens the second note of the pair. This imparts the kind of feel found in shuffles and some jazz tunes.

Row 2: Filter and Modulation

Filter Frequency 5 | Mod Source 6 | Mod Amount 7 | Resonance 8

Filter Frequency has one of 3 functions depending on the Filter Mode setting (see the containing an explanation of Filter Mode starting on page 26).

- If Filter Mode is 2PO or 4PO, this parameter controls the lowpass filter's initial frequency. The range is from 0 (around 100 Hz) to 99 (approximately 10 kHz).
- If Filter Mode is either FL1 or FL2 (flanger) or PIT (pitch), this parameter controls the delayed signal's initial delay time from 0 (20 ms delay) to 99 (500 ms delay)
- If Filter Mode is VOL (volume), this parameter controls the initial volume.

Modulation Source chooses which modulation source will affect the filter cutoff frequency, delay time, or volume (depending on the filter mode, as described above). X indicates that one parameter modulates another (e.g., Env Gen X MIDI Vel means that the envelope generator modulates the MIDI velocity). "+" indicates the the two sources are added. 3-character abbreviations in the display represent the various sources:

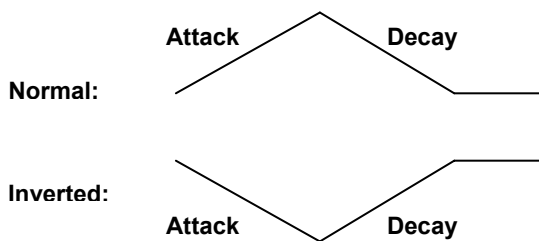
Display	Modulation Source
SEq	Sequence
EG	Envelope Gen
LFO	LFO
AUd	Audio Envelope
HOL	Hold Peak
nOt	MIDI Note
VEL	MIDI Velocity
bEn	MIDI Bend
COn	MIDI Cont
PrE	MIDI Pressure
E-L	Env Gen X LFO
E-H	Env Gen X Hold Peak
E-n	Env Gen X MIDI Note
E-V	Env Gen X MIDI Vel

E-b	Env Gen X MIDI Bend
E-C	Env Gen X MIDI Cont
E-P	Env Gen X MIDI Pressure
L-S	LFO X Seq
L-A	LFO X Aud
L-C	LFO X MIDI Cont
L-P	LFO X MIDI Pressure
S-n	Sequence + MIDI Note

Note: If E-L (envelope generator X LFO) is selected while the LFO's Rate parameter is set to a tempo-based setting and it's Wave parameter is set to Random, then the envelope generator will be triggered by the LFO clock. This permits effects wherein the envelope generator triggers at a constant rate but at a random level.

Modulation Amount controls how much the selected modulation source affects the filter. The range is from -99 (full inverted modulation) to 0 (no modulation) to 99 (full modulation).

Inverted modulation causes upward movements of the modulation source to produce downward movements of the filter frequency. For example, with an envelope generator, instead of the attack causing the cutoff to increase, it causes the cutoff to decrease.



Standard vs. inverted envelope

Filter Resonance assumes one of two functions depending on the Filter Mode setting. If Filter Mode is set to either 2PO or 4PO (lowpass filters), this controls the resonant peak's level at the filter frequency. (See The AdrenaLinn Signal Path section on page 17.) If set to FL1, FL2 (flangers) or PIT (pitch), this controls the delayed signal's feedback, causing a resonant pitch. If set to VOL (volume) this controls the initial volume before modulation. (For more information, see the explanation of the Filter Mode parameter starting on page 26.)

Row 3: Envelope Generator & LFO

● Envel Attack 9 Envel Decay 10 LFO Wave 11 LFO Rate 12

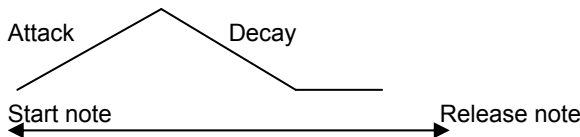
An envelope generator controls how the sound *changes over time*. Some instrument sounds, such as guitar, have a fast *attack* and slow *decay* — they start very quickly and fade away slowly. However, woodwinds build up more slowly as the pipe fills with air, then remain at a sustained level until the note stops. Using the envelope generator to modulate the filter frequency produces effects such as auto-wah and many others.

The AdrenaLinn envelope generator has two parameters.

Attack sets the time for the envelope to go from no level to full once it receives a note trigger. The range is from 0 (instant) to 99 (approximately 5 seconds).

Decay sets the time for the signal to decay from its peak. There are two ranges of decay settings:

0-99: The decay begins immediately after the attack phase reaches its peak and decays down until it reaches the bottom of its travel or until the played note stops, whichever occurs first. The range is from 0 (instant) to 99 (approximately 5 seconds).



r00-r99: After the attack phase, the envelope level remains high until the played note is released, then the **release** phase begins (“r”). The range is from 0 (instant) to 99 (approximately 5 seconds).



LFO Rate controls the rate at which the LFO oscillates to provide periodic modulation effects such as tremolo, auto-pan, and slow filter or flanger sweeps. There are two types of settings: *fixed* settings (constant LFO rate) and *tempo-based* settings (these sync the LFO to the Drumbeat's playing tempo – e.g., tremolo that pulses every 1/8 or 1/4 note). The options are:

Display	Rate
0-99	Fixed rate, from 1 cycle/10 seconds to 10 Hz
8b	One cycle every 8 bars
4b	One cycle every 4 bars
2b	One cycle every 2 bars
1b	One cycle every bar
2n	One cycle every ½ note
4n	One cycle every ¼ note
8n	One cycle every 1/8 note
8t	One cycle every 1/8 note triplet note
16n	One cycle every 1/16 note
16t	One cycle every 1/16 note triplet
32n	One cycle every 1/32 note
32t	One cycle every 1/32 note triplet

LFO Wave chooses a waveform shape, as represented by the following 3-character abbreviations:

Display	Waveform Shape
SIN	Sine wave
TRI	Triangle wave
PUL	Pulse wave at 50% duty cycle (square wave)
SAT	Sawtooth wave
RAN	Stepped waveform with a new random value on each cycle

Note: If the Mod Source parameter is set to E-L (envelope generator X LFO) while the LFO's Rate parameter is set to a tempo-based setting and the LFO Wave parameter is set to Random, then the envelope generator will be triggered by the LFO clock—not by the input signal. This permits effects wherein the envelope generator triggers at a constant rate but at a random level.

Note: Normally, the envelope generator starts its cycle whenever it receives a note at the AdrenaLinn's input. (Either the audio input or the MIDI input; see page 52 for the section containing the EG Trigger parameter.) However, it can also be triggered from a particular step of the filter sequence or the LFO:

- The envelope generator is triggered by the filter sequencer's steps if the Mod Source parameter is set to SEQ or L-S (and the LFO Wave is not set to Random).
- The envelope generator is triggered by the LFO if the Mod Source is set to LFO, E-L, L-S, L-A-, L-C or L-P and the LFO Wave is set to Random.

Row 4: Amp Drive, Bass, Mid & Treble

Amp Drive	13	Bass	14	Mid	15	Treble	16
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Amp Drive controls the amount of amp drive (distortion) from 0 (no distortion) to 99 (maximum distortion). Going clockwise past 99 accesses settings b00 through b99. These are identical to the first 100 settings (0-99) except that the signal path has the distortion before the filter instead of after. This gives a sound similar to placing a wah pedal after a distortion box. The amount of amp drive for each amp model is substantially increased from the original amps modeled.

Bass controls the amount of bass frequencies and models the range and frequency response of the selected amp model.

Mid controls the amount of midrange frequencies and models the range and frequency response of the selected amp model.

Treble controls the amount of treble frequencies and models the range and frequency response of the selected amp model.

Note: The Amp Model parameter appears in row 5 of the EDIT section.

Row 5: Delay Effects & Amp Model



Delay Volume sets the level of delayed signal added to the main signal. The range is from 0 (no delay signal) to 99 (delay equal to main signal).

Delay Time controls the time separating each repeat. The first option provides a fixed delay; the others reference delay times to the Drumbeat or MIDI tempo. Therefore, the delay shortens at faster tempos, and lengthens at slower tempos.

Display	Rate
0-99	Fixed rate, from 0 (nearly instantaneous) to 1 second
2n	Delay time of one 1/2 note *
4n	Delay time of one 1/4 note *
8n	Delay time of one 1/8 note
8t	Delay time of one 1/8 note triplet
16n	Delay time of one 1/16 note
16t	Delay time of one 1/16 note triplet
32n	Delay time of one 1/32 note
32t	Delay time of one 1/32 note triplet

* Using these settings at slow tempos can require more than the maximum 1 second of available delay time. If so, the AdrenaLinn internally switches to the next higher tempo-based setting. *Examples:* If 2n is selected and the tempo is less than 121 BPM, the AdrenaLinn switches to 4n (1/4 note delay). Also, if 2n or 4n is selected and the tempo is less than 61 BPM, the delay switches to 8n (1/8 notes).

Delay Feedback determines how many delayed repeats occur after the first delayed signal, from 0 (none) to 99 (slightly below infinite repeats).

Amp Model chooses one of twelve different guitar amp models:

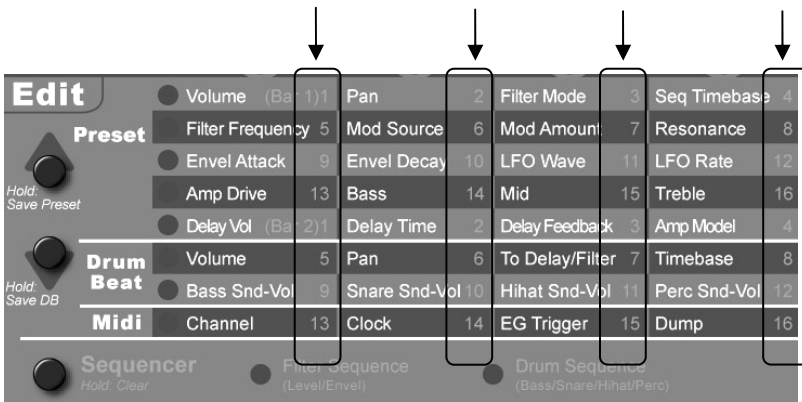
Model	Description
OFF	Flat response—amp modeling bypassed
1	Fender Bassman simulation
2	Fender Deluxe Reverb simulation
3	Old small fender simulation
4	Early Marshall simulation
5	Classic Marshall simulation
6	Modern Marshall simulation
7	Vox AC-30 Top Boost simulation
8	Matchless Chieftan simulation
9	Boogie Dual Rectifier simulation
10	Soldano simulation
11	Fuzz box simulation
12	Clean Console preamp simulation

Note: The above amp names are trademarks of their respective manufacturers. No claim is made that the AdrenaLinn duplicates these sounds exactly, but rather, that it produces tones inspired by these classic amps.

Editing the Filter Sequence

Each of the 200 presets incorporates a unique **filter sequence**. Each sequence has 32 steps. Each step can have a modulation level from 0 to 99, as well as the option to trigger the envelope generator when that step plays in the sequence. (To see a visual representation of this, see the SoundDiver editor screen on page 56.)

Editing the filter sequence uses an alternate mode of the 8 x 4 Edit matrix, where the 32 steps printed in gray (“Bar 1, 1-16” and “Bar 2, 1-16”) replace the 32 parameter functions printed in white:



Alternate panel functions for sequence editing

To edit the active Preset’s filter sequence:

- 1 Select (or create) a Preset where the filter sequence is the modulation source. (Filter Mode = SEQ)
- 2 Using the UP or DOWN arrow buttons, select one of the Preset rows in the Edit section (one of the upper 5 rows).
- 3 Press the SEQUENCER button once. The Filter Sequence LED lights. Note: The display’s left character shows “L,” indicating that you can now edit sequence Level data.
- 4 To edit the sequence level at a particular step, visually locate the desired step number (1 through 16 in either bar 1 or 2) in the 8 x 4 matrix, then press the UP and DOWN buttons until the LED to the left of the row containing the step number lights. Then, turn the control directly above the step number. (The display shows the current value of the step at the intersection of the lit row and column LEDs.) As with parameter editing, to light a particular column LED,

turn the control above it one 'click' in either direction. Subsequent clicks will edit the displayed value. The range is L00-L99.

Note: If the Sequence Timebase is set to '8n' (1/8 notes), edits to even-numbered steps (columns 2 and 4) will have no effect. If the Sequence Timebase is set to '8t' (1/8 note triplets), edits to steps in column 4 (steps not falling on 1/8 note triplets) will have no effect.

- 5 Each step can optionally trigger the envelope generator as the AdrenaLinn steps through the sequence. To edit the envelope generator on/off status for each step, press the SEQUENCER button again once. Now, the left part of the display shows "Eg" to indicate Envelope Generator trigger edit mode. As with editing Level information, locate the desired step, then edit the data. Select "Eg0" for no envelope or "Eg1" to trigger the envelope at this step.
- 6 To exit Sequencer mode and return to normal parameter editing, press SEQUENCER again. The Filter Sequence light will turn off. Or press MAIN, then either the UP or DOWN button.

In summary, pressing SEQUENCER while one of the 5 Preset rows (rows 1-5) is selected rotates between 3 states:

1. Editing sequence step level data (L00 – L99)
2. Editing sequence step envelope generator on/off status (EG0 or EG1)
3. Normal editing of Preset parameters (no sequence editing)

The Filter Sequence LED will be on for selections 1 and 2 above.

While editing the filter sequence, the AdrenaLinn may be either playing or stopped. If playing, the row and column LEDs will flash to show the currently playing step within the 32 step sequence. Note that the Sequence Timebase parameter influences the total number of steps:

- If the active preset's Sequence Timebase is 16n (1/16 note), 16h (half swing), or 16S (swing), then all 32 steps in the Drumbeat sequence are available for editing.
- If the preset's Sequence Timebase is set to 1/8n (1/8 notes), then the Drumbeat sequence will consist of 16 eighth notes, and the steps in columns 2 and 4 (every other 1/16 note) are disabled.
- If the preset's Sequence Timebase is set to 1/8t (1/8 note triplets), then the filter sequence will consist of 24 eighth note triplets, and the steps in column 4 are disabled.

Note: If a sequence step has the envelope generator turned on (EG1), normally the envelope's decay will be terminated when the next step plays. However, if the next step's level is set to 0, the envelope will continue to decay into that next step.

Clearing Sequence Data

To clear sequence level or envelope generator on/off status data for an entire sequence:

- 1 Press SEQUENCER repeatedly until either Level (“L”) or Envelope Generator on/off data (“Eg”) is displayed.
- 2 Press and hold the SEQUENCER button for 1/2 second.

Saving and Copying Presets

Upon editing any Preset parameter, the 5 Preset LEDs blink periodically to indicate that the Preset must be saved to preserve any changes.

Changing Presets without saving changes loses any edits you made prior to changing Presets.

To save edits to the active Preset to the same or a different Preset:

- 1 Press and hold the UP button for ½ second. If the active Preset is a User Preset, its number appears in the display. If the active Preset is a Factory Preset, then the same numbered Preset in the user bank will appear (because you can’t save to a factory preset). The column 1 and Main LEDs will also blink, prompting you to select the destination User Preset.
- 2 To save your edits to the displayed User Preset, briefly press UP again (press any other button to cancel the save).
- 3 To copy to a different User Preset (U00-U99), select it with the column 1 control, then press UP again. To cancel the save, press any other button.

Creating Popular Effects

The following section will step you through how to create and edit settings for a number of popular effects:

Tremolo

1. Adjust the Filter Mode to VOL (Volume).
2. Adjust the Mod Source parameter to LFO (Low-Frequency Oscillator).
3. Adjust Filter Frequency to 75.
4. Adjust Mod Amount to 50.
5. Adjust the LFO Wave parameter to Sin (sine wave).
6. Adjust the LFO Rate to the desired cycle rate: either a *fixed* cycle, with a range from 0 to 99, or a *synced* cycle with a range from every 8 measures to every 32nd note (see details on LFO Rate on page 30).

Flanger

1. Adjust the Filter Mode parameter to FL1 or FL2.
2. Adjust the Mod Source parameter to LFO (Low-Frequency Oscillator).
3. Adjust the LFO Wave parameter to Sin (sine wave).
4. Adjust the LFO Rate to the desired cycle rate: either a *fixed* cycle, with a range from 0 to 99, or a *synced* cycle with a range from every 8 measures to every 32nd note (see details on LFO Rate on page 30).
5. Adjust the Filter Frequency (which controls the delay time range in your flanger cycle) to a medium setting, around 50.
6. Adjust the Mod Amount to a lower setting, around 30. For less bass tonality in your flanger, set Mod the Amount to an inverted setting, around -30.
7. Adjust the Resonance (which controls the delay feedback) to a lower setting, around 30, adding a sense of pitch to your flanger.
8. Hint: If you are using an Amp Model along with the flanger, set your Amp Drive to go before the flanger in the signal path (Scroll the Amp Drive parameter past 99 until you see a “b” in the LED display). This allows for a fuller flange tone, much like putting your distortion pedal before your flange pedal.

Audio-Triggered Envelope Generator (“Auto-Wah”)

1. Adjust the Filter Mode to "4P0" (4-pole) filter.
2. Adjust the Mod Source to "AUD" (audio).
3. Set the Mod Amount to a high setting like 99,
4. Set the Resonance to a fairly high setting like 60. The filter will now affect your guitar tone according to the level of audio input, giving you an "auto-wah."

LFO Pan (“Auto-Pan”)

1. Obviously, make sure you are running the stereo outputs into a stereo source.
2. Adjust the Pan parameter to LFO.
3. Set the LFO Wave to Sin (sine wave).
4. Adjust the length of your pan cycle by setting the LFO Rate parameter to the desired length (8-measures, 4-measures, 1-measure, whole notes, etc).

Amp Model Only

1. Turn the Filter Mode to OFF.
2. Select the desired Amp Model (a full list of the amp simulations is found earlier in this section).
3. Adjust the Amp Drive to desired amount.

Delay Only

1. Turn the Filter Mode to OFF.
2. Turn the Amp Model to OFF.
3. Adjust the Delay Time (0-99 for a fixed setting, or $\frac{1}{2}$ note– $\frac{1}{32}$ nd note for a synced setting).
4. Adjust the Delay Volume and the Delay Feedback to desired amount.

Chapter 4: Edit Mode - Editing Drumbeats

The AdrenaLinn contains 100 **Factory Drumbeats** (F00-F99) and 100 **User Drumbeats** (U00-U99). Here's the basic info:

- Each Drumbeat contains 32 steps, normally played as 2 measures of 1/16 notes.
- Each step contains bass, snare, hihat and percussion voices. The bass, snare, and hi-hat can each play at one of three volume levels and the percussion voice can play one of three percussion instruments at a single volume level.
- For each Drumbeat, a selection of alternate sounds is available for the bass, snare, hi-hat and percussion instruments.
- The instrument mix, stereo placement and other parameters are editable.

Row 6: Volume, Pan, To Delay/Filter and Timebase

Volume 5 | Pan 6 | To Delay/Filter 7 | Timebase 8

Volume controls the overall Drumbeat volume (00 to 99). Use this to match the volumes of different Drumbeats.

Pan controls the Drumbeat's pan position in the stereo field, from L50 (fully left) to C (center) to R50 (fully right). Increasing the value past R50 calls up additional Preset stereo settings:

Display	Option
St1	Kick = C, Snare = C, hi-hat = L25, perc1 = L25, perc2 = C, perc3 = R25
St2	Kick = L50, Snare = R50, hi-hat = L50, perc1 = L25, perc2 = C, perc3 = R25
St3	Kick = L25, Snare = R25, hi-hat = L50, perc1 = L25, perc2 = C, perc3 = R25
St4	Kick = L50, Snare = L50, hi-hat = L50, perc1 = L25, perc2 = C, perc3 = R25

To Delay/Filter allows routing the drum signal to either the delay input or filter input. The options are D00 – D99 (amount to delay), followed by F00-F99 (amount to filter input). By sending the drumbeat to the filter,

you can create some very interesting processed drumbeats. (See the next section, “Filter-processed Drumbeats” for more information.)

Timebase controls both the Drumbeat’s note duration and the amount of swing. There are 5 settings:

Display	Option
8n	Each step of the sequence is an 1/8 note. Every alternate step in the sequence is skipped for a total of 16 steps, or 2 bars of 1/8 notes.
8t	Each step of the sequence is an 1/8 note triplet. If selected, the 4th step of each group of 4 is skipped for a total of 24 steps, or 2 bars of 1/8 note triplets.
16n	Each step of the sequence is an even 1/16 note, for a total of 32 steps, or 2 bars of 1/16 notes.
16h	Same as 16n, except that the 1/16 notes are played halfway between even timing and swing timing.
16S	Same as 16n, except that the 1/16 notes are played in swing timing.

Filter-processed Drumbeats

It is possible to send the AdrenaLinn’s drumbeats through the main instrument-processing signal path (filters, amp models and delay). This permits the creation of very interesting and unique processed drumbeats.

To do this, set the To Delay/Filter parameter (described in the section starting on page 44) between F00 and F99, depending on how much of the drumbeat you want sent to the signal path. Then select any preset while playing the drumbeat to hear the effect. Each selected preset will process the drumbeat differently. If you want to reduce the unprocessed drumbeat sound, reduce the drumbeat’s Volume parameter, described in the same section.

Row 7: Volume and Sound Select for Each Drum



Bass Sound-Volume controls, for any selected Drumbeat, the bass mix volume and bass drum sample. The display shows 2 digits separated by a dash (-). The left digit (1-9) shows which of 9 bass drum sounds is selected. The right digit (0-9) displays the bass drum volume within the drum mix. Turning the control moves through the 10 volume levels for the first bass sound, then the 10 volume levels for the second bass sound, and so on through all 9 sounds.

Snare Sound-Volume works identically to the Bass Sound-Volume parameter, except that it affects the snare sound.

Hihat Sound-Volume works identically to the Bass Sound-Volume parameter, except that it affects the hi-hat sound.

Percussion Sound-Volume works similarly to the Bass Sound-Volume parameter, except that it affects the percussion sound. However, for this parameter, each sound selection (the leftmost digit) changes the entire set of 3 percussion sounds used in the percussion part of the Drumbeat. Also, there are only 5 sound selections available (1-5), each containing 3 percussion sounds.

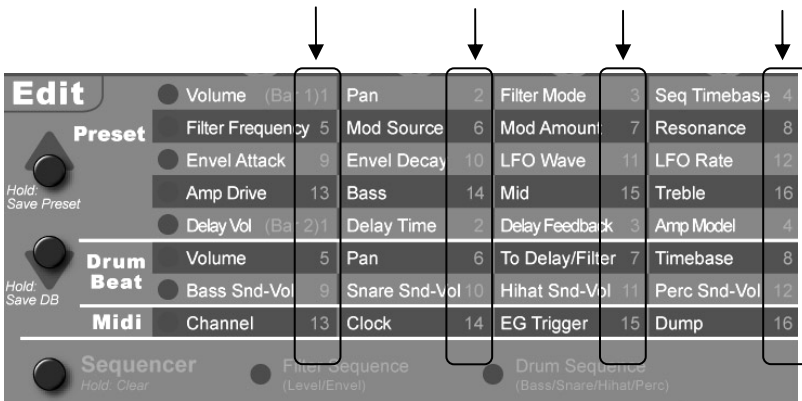
Editing the Drumbeat Sequence

Each drumbeat sequence has 32 steps. Each step may contain:

1. Bass drum at one of 3 volume levels or off
2. Snare drum at one of 3 volume levels or off
3. Hihat at one of one of 3 volume levels or off
4. Percussion: one of 3 percussion instruments may play at a single volume.

(To see a visual representation of the drumbeat data, see the SoundDiver drumbeat editor screen in the section starting on page 56.)

Editing the drumbeat sequence uses an alternate mode of the 8 x 4 Edit matrix, where the 32 steps printed in gray (“Bar 1, 1-16” and “Bar 2, 1-16”) replace the 32 parameter functions printed in white:



Alternate panel functions for drumbeat sequence editing

To edit the active Drumbeat’s note sequence:

1. Select the Drumbeat to be edited.
2. Using the UP and/or DOWN arrow keys, select one of the Drumbeat rows in the Edit section (rows 6 or 7).
3. Press the SEQUENCER button once. The Drum Sequence LED lights. The function of the 8 X 4 edit matrix now changes from the 32 parameter names printed in white to the 32 sequence step numbers (two sets of 16) printed in gray. The leftmost display character shows “b,” indicating that you can now edit bass drum data.

- 4 To edit the Bass drum level at a particular step, locate the desired step number (1 through 16 in either bar 1 or 2), then press the UP and/or DOWN buttons until the LED to the left of the step number lights.
- 5 Turn the control directly above the step number. The display shows the current step value at the intersection of the lit row and column LEDs. As with parameter editing, to light a particular column LED, turn the control directly above it one 'click' in either direction. Subsequent clicks will edit the displayed value. The range is "bA0" (off) to "bA3" (loudest bass drum).
- 6 There are four available drums for each sequence: bass, snare, hi-hat and percussion. Press the SEQUENCER button again to edit snare data, again for hi-hat data, and again for percussion data. The display's leftmost character shows bA for bass, Sn for snare, Hi for hihat and PE for percussion.
- 7 To exit sequencer mode and return to normal parameter editing, press SEQUENCER repeatedly until the drum sequence button turns off (this happens after the Perc edit step). Or press MAIN, then either the UP or DOWN button.

In summary, pressing SEQUENCER while one of the 2 Drumbeat rows (rows 6 or 7) is selected rotates between 5 states:

1. Editing step's bass drum level data (bA0 – bA3)
2. Editing step's snare drum level data (Sn0 – Sn3)
3. Editing step's hihat level data (Hi0 – Hi3)
4. Editing step's percussion data (PE0 – PE3)
5. Normal editing of Drumbeat parameters (no drumbeat sequence editing)

The Drum Sequence LED will be on for selections 1 through 4 above.

While editing the Drumbeat sequence, the Adrenalinn may be either playing or stopped. If playing, the row and column LEDs will flash to show the currently playing step within the 32 step sequence. Note that the timebase influences the total number of steps:

- If the active Drumbeat's timebase is 16n (1/16 notes), 16h (half swing), or 16S (swing), then all 32 steps in the Drumbeat sequence are available for editing.
- If the Drumbeat's timebase is set to 1/8n (1/8 notes), then the Drumbeat sequence will consist of 16 eighth notes, and the steps in columns 2 and 4 (every other 1/16 note) are disabled.
- If the Drumbeat's timebase is set to 1/8t (1/8 note triplets), then the filter sequence will consist of 24 eighth note triplets, and the steps in column 4 are disabled.

Clearing Sequence Data

To clear all notes of a specific drum within the sequence:

1. Press the SEQUENCER button repeatedly to step through each drum type until you see the drum you want to erase (bA = bas, Sn = snare, Hi = hi-hat, PE = percussion).
2. Press and hold the SEQUENCER button for 1/2 second.

Saving and Copying Drumbeats

Upon editing any parameter in the Drumbeat subsection of the Edit section, the two Drumbeat edit row LEDs blink periodically to remind you that the Drumbeat must be saved to preserve any changes. *Changing Drumbeats without saving changes loses any edits you made prior to changing Drumbeats.*

To save edits to the active Drumbeat to the same or a different Drumbeat:

1. Press and hold the DOWN button for 1/2 second. If the active Drumbeat is a User Drumbeat, its number appears in the display. If the active Drumbeat is a Factory Drumbeat, then the same numbered Drumbeat in the user bank will appear (because you can't save to a factory drumbeat). The Drumbeat row and column 2 LEDs will also blink, prompting you to select the destination user Drumbeat.
2. To save your edits to the displayed User Drumbeat, press DOWN again (press any other button to cancel the save).
3. To copy to a different user Drumbeat (U00-U99), select it with the column 2 control (Drumbeat), then briefly press DOWN again (press any other button to cancel the save).

Chapter 5: Edit Mode

– Edit MIDI Settings

Row 8: MIDI Settings

Midi	Channel	13	Clock	14	EG Trigger	15	Dump	16
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The last Edit section row contains MIDI-related parameters.

Channel selects the MIDI channel (1-16 or ALL) over which the AdrenaLinn receives MIDI Channel Voice messages (MIDI note, velocity, bend, controller, pressure and program change). The default setting is ALL (Omni mode).

NOTE: When using the SoundDiver MIDI editor, be sure to set to this to either ALL or to the same MIDI channel that SoundDiver is using. If not, SoundDiver won't be able to remotely change presets.

Clock chooses the clock source to which the AdrenaLinn's time-related effects will sync. The settings are:

Display	Option
OFF	No MIDI clock functions, either in or out.
IN	Incoming MIDI Clock messages replace the internal clock. MIDI Start messages cause the AdrenaLinn to start playing from the beginning; MIDI Stop messages stop playback. MIDI Continue messages cause sequences to resume playing from the location at which they were stopped. MIDI Song Position Pointer messages position the AdrenaLinn's internal sequence to the position indicated by the message.
OUT	The AdrenaLinn transmits MIDI Clock messages via its MIDI out. Pressing Start issues a MIDI Start command; stopping the AdrenaLinn sends a MIDI Stop command.
I-O	This combines the functions of both the IN and OUT settings.

EG Trigger selects the triggering source for the envelope generator:

Display	Option
AUD	(Audio) Envelope generator is triggered by audio input
MID	(MIDI) Envelope generator is triggered by MIDI input
AnP	(Audio, No Program changes) Same as AUD except incoming MIDI Program Changes are ignored
MnP	(MIDI, No Program changes) Same as MID except incoming MIDI Program Changes are ignored

NOTE: When using the SoundDiver MIDI editor, be sure to set to this to either AUD or MID. If not, SoundDiver won't be able to remotely change presets.

Dump selects which of three types of MIDI dumps will be performed when the Bypass footswitch is pressed:

Display	Option
PST	(Preset) Sends the currently selected preset
DBT	(Drumbeat) Sends the currently selected drumbeat
ALL	Sends all user presets and drumbeats

Note: After selecting this parameter, the Bypass LED blinks to indicate that pressing the Bypass footswitch will initiate the MIDI dump.

To transfer a preset from one AdrenaLinn to another:

1. Connect a MIDI cable from the source AdrenaLinn's MIDI OUT to the destination AdrenaLinn's MIDI IN.
2. On the destination AdrenaLinn, select the destination user preset.
3. On the source AdrenaLinn, select the preset number to be sent, select the DUMP parameter, set its value to PST, and press the BYPASS footswitch to perform the transfer.

To transfer a drumbeat from one AdrenaLinn to another:

1. Connect a MIDI cable from the source AdrenaLinn's MIDI OUT to the destination AdrenaLinn's MIDI IN.
2. On the destination AdrenaLinn, select a user drumbeat.
3. On the source AdrenaLinn, select the drumbeat number to be sent, select the DUMP parameter, set its value to DBT, and press the BYPASS footswitch to perform the transfer.

Synchronizing to MIDI

One of the AdrenaLinn's most powerful features is that it plays well with others – like drum machines, sequencers, groove boxes, and other rhythmically-oriented devices. To sync the AdrenaLinn to MIDI (see page 52 for information on editing MIDI parameters):

- 1 Set the MIDI Clock parameter to “In” or “I-O”.
- 2 Connect the MIDI Clock output from the device to which you want to sync to the MIDI input.
- 3 Press Play on the external device. The AdrenaLinn will start playing in sync.

Appendix

Frequently Asked Questions

Q: How big is it?

A: 7-1/4" wide by 5-5/8" front-to-back by 1-1/2" high.

Q: Is the internal processing analog or digital?

A: All processing is digital.

Q: What is the resolution of the internal digital processing?

A: A-D and D-A conversion is 24 bits at 40kHz sampling rate. Internal processing is 32 bit.

Q: What is the maximum delay time?

A: 1 second.

Q: How many drum sounds are there?

A: There are 9 samples each of bass drum, snare and hihat, and 15 percussion samples.

Q: Can I separate the drum sound from the guitar sound?

A: Yes. Press and hold the main button and that will bring you to the secondary functions on the main knobs. Turning the forth knob to the left will mix out the drumbeat, while turning to the right will mix out the preset. If you turn the knob all the way to the right, the LED will read "SEP" and this will route the drumbeat to the right output and the preset to the left.

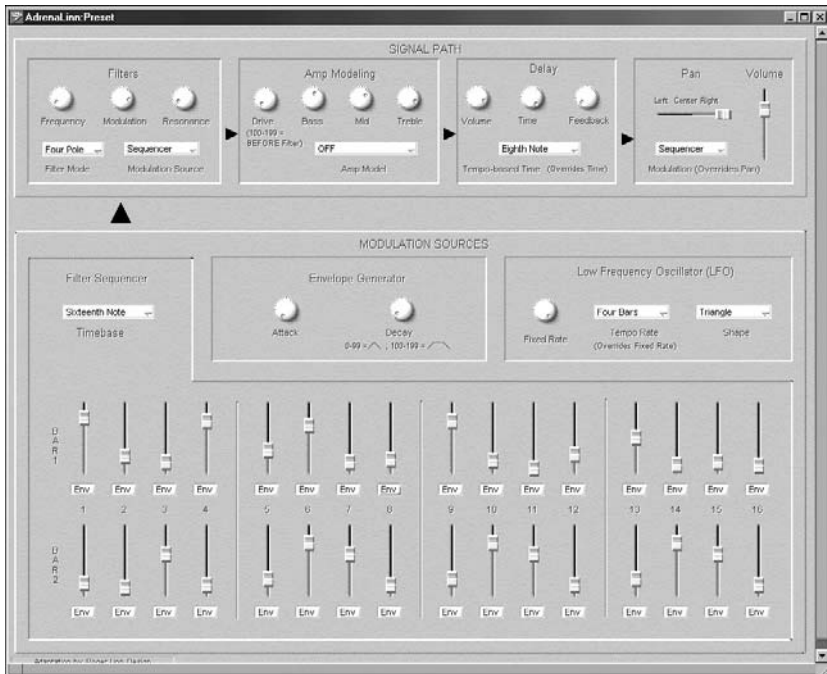
Q: Which amps are modeled in the AdrenaLinn?

A: The AdrenaLinn has twelve Amp simulations: Fender Bassman, Fender Deluxe, Small Fender, Early Marshall, Classic Marshall, Modern Marshall, Vox AC30 Top Boost, Matchless, Boogie Rectifier, Soldano, Fuzz Box, and Clean Preamp.

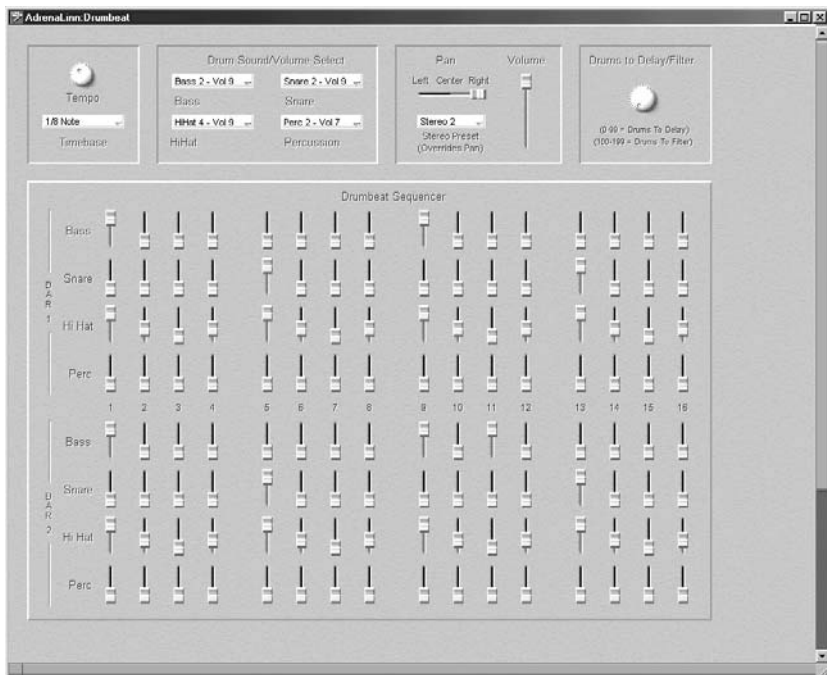
PC/Mac Editing With Emagic SoundDiver

As an alternative to editing on the front panel, you may edit AdrenaLinn presets and drumbeats on either a Windows PC or a Macintosh by using the SoundDiver MIDI device editor and librarian program from Emagic. SoundDiver not only permits easier editing, but also allows saving of AdrenaLinn presets and drumbeats to your computer for transferring between users.

Here are some screen shots from the AdrenaLinn programming module for SoundDiver:



SoundDiver screen for editing AdrenaLinn presets



SoundDiver screen for editing AdrenaLinn drumbeats

To learn more about SoundDiver, go to Emagic's web site, www.emagic.de. Once you purchase SoundDiver, you may need to download the AdrenaLinn editing module from their web site or our web site, www.rogerlinndesign.com.

Support, Warranty and Repair

For technical support, consider reading the manual before contacting us. Next, check the support section of our web site at www.rogerlinndesign.com for frequently asked questions and tips. If that doesn't answer your questions, the support section provides a technical support form, or you may call us at (510) 898-4878 or email us at support@rogerlinndesign.com. If you send an email, please include your name and product serial number.

Roger Linn Design warrants this product, when purchased directly from us or from one of our authorized dealers in the U.S. or Canada, to be free of defects in materials and workmanship for a period of one year from the date of original purchase. During the warranty period, Roger Linn Design shall either repair or replace the product if we determine it to be defective. If purchased from an authorized U.S. dealer, we may require proof of purchase in the form of either the completed original warranty card (included in the new product) or a copy of the original sales receipt.

If you think your product needs repair, contact us using any of the methods shown in the paragraph above. If we determine that your product needs to be sent back to us for repair, we will give you the shipping address as well as an RA (return authorization) number which you must write on the outside of the shipping box when you send it back to us. (Products returned without a RA number on the outside of the box will be refused.) Warranty repairs are free, but you must pay for shipping to us; we'll pay for the return shipping. Be sure to include your name, return shipping address (duh) and phone number.

Credits

Roger Linn would like to express his gratitude for a job well done to the fine engineers and companies who worked on the AdrenaLinn's development:

Primary engineers:

- Dan Ash, DSP software
- Darius Mostowfi, hardware design, microcontroller software, DSP algorithm design and coding.
- Dave Smith, microcontroller software and MIDI editor software. (Yes, *the* Dave Smith who founded Sequential Circuits, invented the Prophet 5 synthesizer, and invented MIDI.)

Additional engineers:

- Tom Oberheim, initial hardware design. (Yes, *the* Tom Oberheim who founded Oberheim Electronics and invented all the wonderful Oberheim synthesizers.)
- Gints Klimanis, DSP software simulator and DSP software
- Interform Design, industrial design assistance

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