

Reason 3 and AlphaTrack

Introduction

This document describes the AlphaTrack control plug-in for Propellerhead's Reason. It is based on using AlphaTrack v1.0 drivers on either a Windows PC, or a Mac running OS X along with Reason v3.0.4+. Reason uses its "Remote" interface technology to automatically map AlphaTrack controls to buttons, knobs, and faders on Reason's devices. The next sections include:

1. Installing AlphaTrack Remote support and enabling it for use in Reason
2. An overview of AlphaTrack and its features
3. A general description of how AlphaTrack works with Reason
4. Detailed control mapping descriptions for each Reason device.

Installing AlphaTrack Remote Support

On Windows XP and Vista

Load the AlphaTrack CD-ROM. A window with an AlphaTrack image will appear with a few menu options. Select "Install Driver and Plugins" and proceed through the installation procedure. When you reach the "Select Additional Tasks" window make sure that "Install the Reason plugin" box is checked, then continue the installation.

On Mac OS X

Double-click the "AlphaTrack Remote Installer" package and follow its instructions.

Enabling AlphaTrack in Reason

Once the AlphaTrack Remote files are installed make sure that your AlphaTrack is attached to a USB port on your computer (with drivers installed). Start Reason and go to the "Control Surfaces and Keyboards" tab of the "Preferences..." window ("Edit/Preferences..." on Windows, "Reason/Preferences..." on the Mac). Click "Auto-detect Surfaces" and your AlphaTrack will be detected and enabled for use in Reason. Please see your Reason documentation for general information about control surface use.

Overview

The AlphaTrack features a high-resolution, 100mm, touch-sensitive, motorized fader, 3 touch-sensitive encoders, 5 modes select buttons, 8 general function buttons, channel dependent backlit Rec, Solo, and Mute buttons, 5-button transport controls, SHIFT key, a touch-sensitive strip, and a 32-character LCD display. There are also 17 LED indicators. Silk-screened labels clearly indicate the basic function of many of the buttons, however detailed instructions for all functions follow. On the back, next to the USB jack, is a 1/4" jack for a standard momentary foot-switch.

Pressing play will cause the project to begin playback just as if you had clicked the play button on the screen. Likewise most of the basic controls function just like their on-screen equivalents. While the AlphaTrack employs many advanced features, it is designed for ease of use right out of the box.

Encoders, Mode Buttons and the LCD

When you first open a Reason session, AlphaTrack briefly shows the name of the current track on the top line of the LCD. It then changes to a list of device control name, with the lower line of the LCD showing the control values. The exact parameters displayed will depend upon what kind of device is attached to that track. As soon as any one of the encoders, or the fader, is touched the display will instantly update with additional information about that parameter. Turn or press an encoder to make changes. For many parameter types you can press and turn an encoder for finer resolution adjustments. Releasing the encoder returns the previous display. Below the three encoders are five mode buttons. Pressing any of these changes the mapping between encoders and device controls. This cooperative behavior between the encoders, mode buttons, and LCD are an important part of AlphaTrack's overall design. Each of the encoder modes for each device type is explained in detail below.

SHIFT

The SHIFT key allows other buttons to perform more than one function, expanding the range of control that AlphaTrack has over Reason. Press and hold SHIFT, then press another function button to access its expanded feature. However, SHIFT also has a "sticky" feature to simplify one-handed operation. Pressing SHIFT alone will lock it in the enabled position. The SHIFT LED will stay on. Now multiple shifted functions can be preformed without holding the SHIFT key. Press SHIFT again at any time to disable it.

Transport Controls

The standard 5-button transport is located just above the touch strip at the bottom. In addition to the basic REW, FFWD, STOP, PLAY, and RECORD functions, these buttons can also be used with the SHIFT key for additional functions.

Other Buttons

Above the transport controls are 4 buttons with LED's labeled Previous TRACK, Next TRACK, LOOP and FLIP. Above these are found generic function buttons labeled F1 - F4. More information about these buttons can be found later in this document.

Touch Strip

At the very bottom of AlphaTrack is located an innovative feature: the touch strip. This behaves similar to a ribbon controller and is another touch-sensitive surface that can detect different actions: 1- and 2-finger moves, and left, middle, and right side taps. If your touch strip is ever acting inconsistent, recalibrating your AlphaTrack's touch-sensitive surfaces may help. Press STOP+SHIFT+F4 to recalibrate your AlphaTrack. Be sure not to touch it while it is calibrating. Once the message disappears from the LCD display you can continue normal operation.

Fader section

The 10-bit, 100mm motorized fader is also tough-sensitive to provide smooth operation and automation recording. Next to the fader there are illuminated buttons and LED's for additional control.

How AlphaTrack Works with Reason

Global, and Device-specific Controls

AlphaTrack controls are either “global” or “device-specific” within Reason. Global controls function the same no matter what device is mapped to the AlphaTrack. These controls include:

- the 5-button transport keys (Rewind, Fast Forward, Stop, Play, Record)
- Track Up/Down, Loop, and Flip buttons
- and, in most cases, the Rec, Solo, and Mute buttons

and the shifted functions of these controls.

The device-specific controls are:

- the touch-sensitive fader
- 3 touch-sensitive encoders
- 5 “mode” buttons just below the encoders
- 4 “F” buttons just below the mode buttons

and the shifted functions of these controls.

Global Controls

Below is a table that summarizes the global controls that are mapped to Reason. You will also find “Reason_Layout_v1.0.pdf” on the AlphaTrack CD-ROM, which serves as a quick visual guide for the AlphaTrack functions with Reason. You may want to print this document for quick reference.

Button Name	Normal Function	SHIFT + Function
REW	Rewind	Go to left locator
FFWD	Fast forward	Go to right locator
STOP	Stop	(AlphaTrack local settings)
PLAY	Play	Toggle click on/off
RECORD	Record	Toggle overdub/replace
◀ TRACK	Previous sequencer track	Previous patch/loop
TRACK ▶	Next sequencer track	Next patch/loop
LOOP	Toggle Loop on/off	Reset automation override
FLIP	Undo	Fader motor disable/enable
MUTE *	Toggle track’s mute on/off	Clear all mutes
SOLO *	Toggle track’s solo on/off	Clear all solos
REC	Show select device name on LCD	Cycle on/off/bypass switch**

* Except when a mixer or Redrum device is selected. See details of these buttons’ operations in the device-specific sections below.

** This is a device-specific function, and is described in detail in the next section.

Using the Touch Strip

The left and right locator positions and the song position can be moved using the touch strip, as summarized in the following table. Slide 1 finger on the strip to move the song position by beats (aligned to beats); use 2 fingers to move by 4 beats at a time (aligned to 4-beat units). Tap the left end of the strip and slide 1 or 2 fingers to move the left locator. Tap the right end of the strip and do the same to move the right locator. Tap near the middle of the strip, or wait about 5 seconds without using the strip, and the 1 and 2 finger motions again move the song position.

Touch Strip Operation	Function
Tap left end*	Select left locator to move
Tap in middle	Select song position to move
Tap right end*	Select right locator to move
1-finger slide	Move by 1-beat (aligned)
2-finger slide	Move by 4 beats (aligned)

* After this tap, if the touch strip is untouched for 5 seconds, then the song position is reselected.

Device-Specific Controls and Selecting Devices

There are two ways to map the AlphaTrack to a specific device. One is by navigating through the sequencer tracks. As you select a track (using the Previous and Next Track buttons on AlphaTrack, or by clicking with your mouse), the AlphaTrack follows the track selection, automatically mapping to the selected track's device.

Alternatively, you can lock AlphaTrack to any device, whether it is represented by a sequencer track or not, by right-clicking (Windows)/control-clicking (Mac) on the device and selecting "Lock to Frontier AlphaTrack." The AlphaTrack will now stay linked to that device regardless of what track is selected in the sequencer. Repeat this procedure to release AlphaTrack from the device.

Remember that by default, sequencer tracks are created only for instrument devices. Reason will create a sequencer track for automation of mixer or effect devices if you hold down [Alt] (Windows) or [Option] (Mac) when you add the new mixer or effect device.

Control Modes

Although there are only three encoders, they can be mapped to many different device controls using the mode buttons (which are right below the encoders). While these buttons have mixer-oriented labels (and are used that way when a mixer device is selected), they are used as generic mode buttons here. Only one mode is selected at a time.

When mapped to a device, each button may have up to 2 modes. When a mode button is pressed its LED lights up showing it is selected (and all other mode button LED's are off). If it is enabled for 2 modes, then pressing it again makes its LED slowly flash indicating that its second ("b") mode is selected. Pressing this mode button again toggles between its first and second modes ("a" and "b").

A device can use up to 10 modes if all 5 mode buttons are enabled for both their "a" and "b" modes. In this document, the mode buttons are numbered 1 through 5 (from left to right) instead of being named "Pan," "Sends," and so on. While these names are useful for the mixer devices, for all other devices

these mode buttons are used generically. When we refer to mode “3b” that means the second mode of the third (EQ) mode button (with its LED slowly flashing). Mode “5” or “5a” is the last (Auto) mode button with its LED on solid.

If a mode button is only used for 1 mode then its LED will not flash no matter how many times you press it. If a mode button is not used at all, then pressing it will not light its LED (and the currently selected mode’s LED will stay lit). If a device has only one mode, then none of the mode buttons are used, and none of their LED’s are lit.

While the 3 encoders are mapped differently with each mode, the fader and “F” buttons have a single set of mapped functions for simpler devices, and have multiple “modal” functions for the more complex devices. Touching the fader will cause the display to show what is currently mapped to the fader and show its value. Pressing an “F” button that is mapped will cause the top line of the display to show its mapped parameter’s name and new value.

The Display

When you are not touching the fader or encoders, the display shows a short device parameter name and value for each encoder. Touch the fader, or an encoder, and the display responds with the top line showing the control’s long parameter name and the bottom line giving either its long parameter value or its short numeric value and a graphic display of its value. This graphic display can be a level bar graph, a left/right pan indicator, or a numeric selection indicator, depending on the type of parameter.

The display’s top line can also temporarily show other items when they change, including the selected device name, the patch name, and “F” button parameter name and values.

Encoders

AlphaTrack’s encoders are not only touch sensitive, they can also be pushed down like a button. Sometimes pushing down on the encoder doesn’t change its behavior. This is the case when it is being used to select among a small number of items, as when it is used to select a channel on a mixer or select one of 5 parameter settings.

But most of the time the encoder is mapped to a parameter with a large range, like from 0 to 127 (for many level parameters) or from -64 to 63 (for a pan value, for example). In these cases, turning the encoder changes the value by +/-8 per “click.” This lets you cover the full range of the control in one turn of the wrist. You can also accurately adjust the control by +/-1 per click by pushing and turning the encoder.

In most cases, the device knobs are mapped to the encoders from left to right. For complex devices, logical groups of knobs are kept together. Not all three encoders are always enabled. In any given mode, only one or two of the encoders might be in use.

“F” Buttons

AlphaTrack’s 4 “F” buttons can be used to control more than 4 device parameters. There is an unshifted set of 4 (F1-4) controls, and a shifted set of 4 (F5-8) controls. For some complex devices there are multiple sets of buttons controlled by the mode buttons.

Each “F” button is either mapped to an on/off type control, a “select from list” type control, or is unused. When mapped to an on/off control, the button’s LED is lit if the control is on. For a list control,

the button's LED is lit when the last item in the list is selected. If an "F" button is used by a device then pressing it will briefly show the mapped parameter's name and value on the top line of the LCD.

Generally these buttons are mapped to device controls from left-to-right, at least for simple devices.

Enable Off/On/Bypass

If the currently selected device has an Off/On/Bypass switch, then it is controlled by SHIFT+REC (the illuminated REC button in the left column above the MUTE and SOLO buttons). Enabling SHIFT and hitting REC will cycle through the three switch states, and its state will be temporarily shown on the top line of AlphaTrack's display.

The important things to remember are:

- pressing REC will always tell you what device you have selected.
- the AlphaTrack display will always show you what parameter you have selected.
- there is always one more trick you haven't found yet.

Explore, Create, and Have Fun!

AlphaTrack and Reason's Devices

The following sections describe how AlphaTrack is used to control each Reason device.

Mixer 14:2 and Line Mixer 6:2

Many of AlphaTrack's features are optimized for per-channel mixing functions. When a 14:2 mixer device is selected, the left encoder always controls which mixer channel is selected. When the PAN mode (1a) is selected the right encoder controls channel PAN position. Press SEND (2a) to control the Aux 1 and 2 Send levels for that channel. Press SEND a second time (2b) to control Aux 3 and 4. If the Master channel is selected the SEND mode controls Returns 1 – 4 in the same way.

EQ mode (3a) accesses the Treble and Bass knobs.

The F1 button controls the Aux Pre/Post switch, and F2 button enables the EQ controls.

Turn the left encoder all the way to the right to select the master. The fader sets channel level, and the illuminated MUTE and SOLO buttons are mapped to the mixer channel's mute and solo, *not* the sequencer track's mute and solo as with other devices.

The Line Mixer 6:2 mapping includes the PAN mode and one SEND mode for the encoders. The center encoder, F1 and F2 are not used.

As you turn the left encoder to select different mixer channels, the fader is not updated until either the encoder knob is released or after a one second of delay, whichever comes first. This keeps the fader from being "beaten up" as you quickly scroll through the mixer channels.

Combinator

This is a simple mapping, with a single fader/encoder mode. The fader controls the first of the four rotary controls; the three encoders control the other three. F1-4 map to the four buttons below the rotary controls. F5 (shifted F1) is "Run Pattern Devices" and F6 is "Bypass All FX."

Additionally, you can use the Previous and Next Patch controls (SHIFT+<TRACK/TRACK>) to recall Combinator patches.

The Show Programmer and Show Devices controls are not accessible from AlphaTrack.

SubTractor Analog Synthesizer

This mapping is different than most in that the “F” buttons change their function depending on the mode. It is also a very large mapping, with all 10 modes being used and some shifted encoder functions. The fader always controls the master volume, and SHIFT + <TRACK and SHIFT + TRACK> call up the previous and next patches, respectfully. Most of the controls on SubTractor can be controlled. As an example, to adjust the Filter 2 Resonance, press the SENDS (mode 2) button twice (its LED should flash) and turn the right encoder.

Here is how the encoders and buttons are used in each mode:

Table Format:

Mode	Section	Left Encoder	Middle Encoder	Right Encoder	-----	Encoders
		Left Encoder	Middle Encoder	Right Encoder	-----	Shifted Encoders
		F1	F2	F3	F4	Buttons

1a	Osc 1	Phase 1	Waveform 1	FM	-----	Encoders
		Octave	Semitone	Cent	-----	Shifted Encoders
		Phase Mode	Keyboard Track			Buttons
1b	Osc 2	Phase 2	Waveform 2	Mix	-----	Encoders
		Octave	Semitone	Cent	-----	Shifted Encoders
		On-Off	Phase Mode	Keyboard Track	Ring Mod	Buttons
2a	Filter 1	Frequency	Resonance	Keyboard Track	-----	Encoders
		Filter 1 Type	Link			Buttons
2b	Filter 2	Frequency		Resonance		Encoders
		On-Off				Buttons
3a	Noise	Decay	Color	Level	-----	Encoders
		On-Off				Buttons
3b	Mod En	Attack	Decay	Gain	-----	Encoders
		Sustain	Release	Gain	-----	Shifted Encoders
		Invert	Destination			Buttons
4a	LFO1	Rate		Amount	-----	Encoders
		LFO1 Waveform		Destination	-----	Shifted Encoders
		Sync Enable				Buttons
4b	LFO2	LFO2 Dest	Rate	Amount	-----	Encoders
		LFO2 Dest	Keyboard Track	Delay	-----	Shifted Encoders
5a	Filter Env	Attack	Decay	Amount	-----	Encoders
		Sustain	Release	Amount	-----	Shifted Encoders
		Invert				Buttons
5b	Amp Env	Attack		Decay	-----	Encoders
		Sustain		Release	-----	Shifted Encoders

Malstrom Grintable Synthesizer

This mapping, like the SubTractor mapping, is different than most in that the “F” buttons change depending on the mode. It’s also another huge mapping ... all 10 modes are used, and many encoders have shifted functions as well. The fader controls the master volume, and SHIFT+<TRACK/TRACK> maps to previous/next patch, as usual. Most of the Malstrom panel display can be controlled. Here’s how the modes work:

1a	Mod A	Curve Select		Rate	-----	Encoders
		Pitch	Index	Shift	-----	Shifted Encoders
		On-Off	One Shot	Sync	Target	Buttons
1b	Mod B	Curve Select		Rate	-----	Encoders
		Pitch	Index	Shift	-----	Shifted Encoders
		On-Off	One Shot	Sync	Target	Buttons
2a	Osc A	Motion	Index	Shift	-----	Encoders
		Octave	Semitone	Cent	-----	Shifted Encoders
		On-Off	To Shaper	To Filter B		Buttons
2b	Osc A	Attack	Decay	Gain	-----	Encoders
		Sustain	Release	Gain	-----	Shifted Encoders
3a	Osc B	Motion	Index	Shift	-----	Encoders
		Octave	Semitone	Cent	-----	Shifted Encoders
		On-Off	To Filter B			Buttons
3b	Osc B	Attack	Decay	Gain	-----	Encoders
		Sustain	Release	Gain	-----	Shifted Encoders
4a	Shaper	Mode	Amount	Spread Amount	-----	Encoders
		On-Off				Buttons
4b	Filter Env	Attack	Decay	Amount	-----	Encoders
		Sustain	Release	Amount	-----	Shifted Encoders
		Invert				Buttons
5a	Filter A	Mode	Resonance	Frequency	-----	Encoders
		On-Off	Envelope	Keyboard Track		Buttons
5b	Filter B	Mode	Resonance	Frequency	-----	Encoders
		On-Off	Envelope	Keyboard Track		Buttons

NN19 Digital Sampler

When mapped to an NN19, the fader and “F” buttons are mapped to these controls:

Fader	F1	F2	F3	F4
Master Level	Solo Sample	LFO Sync	Filter On-Off	Invert Filter Env.

SHIFT+<TRACK/TRACK> let you select the previous/next patch.

The NN19 uses all 10 modes for these encoder mappings:

1a	Osc	Sample Start	Octave	Semitone	Encoders
1b	Osc	Env Amount	Keyboard Track	Fine Tune	Encoders
2a	LFO	Rate		Amount	Encoders
2b	LFO	Waveform		Destination	Encoders
3a	Filter	Frequency	Resonance	Keyboard Track	Encoders
3b	Filter Env	Attack	Decay	Amount	Encoders
		Sustain	Release	Amount	Shifted Encoders
4a	Amp Env	Attack		Decay	Encoders
4b	Amp Env	Sustain		Release	Encoders
5a		Portamento	Stereo Spread	Spread Mode	Encoders
5b	Controller	Filter Frequency	LFO	Amp	Encoders

NN-XT Advanced Sampler

AlphaTrack can control the NN-XT’s “Global Controls” (the ones on its front panel interface); it cannot access the many “Remote Editor” controls. The AlphaTrack’s fader and buttons map to these controls:

Fader	F1	F2	F3	F4
Master Level	External Control Surface	High Quality Interpolation		

As usual, SHIFT+<TRACK/TRACK> selects the previous/next patches.

The encoders are used in three modes:

1a		Mod Wheel		Ext. Ctrl Wheel	Encoders
2a		Filter Frequency	Resonance	Mod Env Decay	Encoders
3a	Amp Env	Attack	Decay	Release	Encoders

Dr.REX Loop Player

With this device, the fader and “F” buttons are mapped this way:

Fader	F1	F2	F3	F4
Master Level	Preview	Filter On-Off	LFO Sync	

SHIFT+<TRACK/TRACK> selects the previous/next loops.

The encoder functions in the different modes are:

1a	Osc	Osc	Fine	Env Amount	Encoders
1b	Slice	Transpose			Encoders
2a	Filter	Frequency	Resolution	Mode	Encoders
3a	Filter	Amount	Attack	Decay	Encoders
3b	Filter		Sustain	Release	Encoders
4a	LFO	Rate		Amount	Encoders
4b	LFO	Waveform		Destination	Encoders
5a	Amp	Attack		Decay	Encoders
5b	Amp	Sustain		Release	Encoders

Redrum Drum Computer

AlphaTrack can control Redrum’s 10 drum channels one at a time, much like it controls a mixer’s channels. You can always change which drum is selected using the left encoder. AlphaTrack does not control the pattern section of Redrum.

For the selected drum channel, the illuminated MUTE and SOLO buttons control the drum’s mute and solo functions, *not the sequencer track’s mute and solo*. Controls are mapped this way:

Fader	F1	F2	F3	F4
Master Level	Play	Decay/Gate mode toggle		

SHIFT+REW/FFWD can be used to select the previous/next patch.

Encoder mapping:

1a	Pan	Drum Select		Pan	Encoders
2a	Sends	Drum Select	Send1 Level	Send2 Level	Encoders
3a		Drum Select	Level	Velocity-to-Lev	Encoders
4a		Drum Select	Length	Pitch	Encoders
5a		Drum Select	Start Rate	Vel-to-StartRate	Encoders

MClass Equalizer

The MClass Equalizer is a basic 4 band EQ with 3 standard controls per band. Select each band with mode buttons 1 – 4. For each band the 3 encoders will map to Frequency, Gain, and Q. As usual, you can press and turn an encoder for fine control. Optionally, pressing the desired mode button a second time will remap Frequency control to the fader for fine control (1000 steps), as well as move Gain to the first encoder to expand the LCD display information.

The enable/disable function for each band is controlled with the F1 – F4 buttons, and Shift+F1 controls the Lo Cut enable switch. In summary:

F1	F2	F3	F4
Lo Shelf On-Off	Param 1 On-Off	Param 2 On-Off	Hi Shelf On-Off
Lo Cut On-Off (Shifted)			

1a	Lo Shelf	Frequency	Gain	Q	Encoders
1b	Lo Shelf	Gain		Q	Enc. (Freq on Fader)
2a	Param 1	Frequency	Gain	Q	Encoders
2b	Param 1	Gain		Q	Enc. (Freq on Fader)
3a	Param 2	Frequency	Gain	Q	Encoders
3b	Param 2	Gain		Q	Enc. (Freq on Fader)
4a	Hi Shelf	Frequency	Gain	Q	Encoders
4b	Hi Shelf	Gain		Q	Enc. (Freq on Fader)

MClass Stereo Imager

The Lo Band, X-Over Freq, and Hi-Band knobs map to the three encoders. F1 controls the Solo Mode selector, and F2 the Separate Out band selector (found on the back of the unit). In summary:

Left Encoder	Middle Encoder	Right Encoder
Lo Band	X-Over Freq	Hi-Band

F1	F2	F3	F4
Solo Mode	Separate Out		

MClass Compressor

There are two sets (left and right) of 3 knobs on this device that map to the three encoders via two modes. The Soft Knee, Sidechain, and Release Adapt buttons map to F1-F3. In summary:

F1	F2	F3	F4
Soft Knee	Sidechain	Release Adapt	

	Left Encoder	Middle	Right
1a	Left	Input Gain	Threshold
2a	Right	Attack	Release
			Output Gain

MClass Maximizer

The three encoders map to Input Gain, Output Gain and Soft Clip amount. F1-F4 map to the Limiter and Look Ahead enable buttons, and the Attack and Release speed selections. When shifted, F1 maps to the Soft Clip button and F2 maps to the meter mode selection

Left Encoder	Middle Encoder	Right Encoder
Input Gain	Output Gain	Soft Clip

F1	F2	F3	F4
Limiter	Look Ahead	Attack	Release
Soft Clip (Shifted)	Meter Mode Select (Shifted)		

RV7000 Advanced Reverb

Five control modes are used for this device. The first maps the fader to Dry-Wet and the three encoders to Decay, HF Damp, and HI EQ on the main panel. The other 4 modes map the left and right encoders to left and right knobs on the RV7000 “Remote Programmer.” (Note: To view the Remote Programmer you must click on the arrow to the left of the “Remote Programmer” port on main panel.)

Important, when mode 2 is selected and the programmer Edit Mode is set for “Reverb”, the left encoder is used to select the reverb algorithm. You will need to press the left encoder while turning (fine adjust) to get at all the algorithms.

	Fader	Left Encoder	Middle Encoder	Right Encoder
1a	Dry-Wet	Decay	HF Damp	HI EQ
2a		Left Knob 1		Right Knob 1
3a		Left Knob 2		Right Knob 2
4a		Left Knob 3		Right Knob 3
5a		Left Knob 4		Right Knob 4

F1	F2	F3	F4
EQ Enable	Gate Enable	Edit Mode	

Scream 4 Distortion

Here are the mappings:

Fader	F1	F2	F3	F4
Master Level	Damage On-Off	Cut On-Off	Body On-Off	

	Left Encoder	Middle	Right
1a	Damage	Damage Control	Param 1
2a	Damage	Damage Type	Param 2
3a	Filter	Cut Lo	Cut Mid
4a	Body	Body Resonance	Cut Hi
5a	Body	Body Type	Scale
			Auto

BV512 Digital Vocoder

All 10 modes are used for this device. In mode “1a” the three encoders control three of the red knobs, and the three green knobs in mode “1b.” The rest of the modes map the fader and three encoders to control frequency band levels, four at a time. (Note: not all band level controls are used when fewer than 32 bands are selected.) The “2a” mode maps the fader to band 1 and the encoders to bands 2-4. The “3a” mode maps them to bands 5-8. This continues in groups of 4 bands with the “5a” mode selecting bands 12-16, the “2b” mode selecting bands 17 - 20, and the final “5b” mode selecting bands 29-32.

	Fader	Left Encoder	Middle Encoder	Right Encoder
1a		Band Number	Shift	Dry/Wet
1b		Attack	Decay	HF Emphasis
2a	Freq. band 1	Freq. band 2	Freq. band 3	Freq. band 4
2b	Freq. band 17	Freq. band 18	Freq. band 19	Freq. band 20
3a	Freq. band 5	Freq. band 6	Freq. band 7	Freq. band 8
3b	Freq. band 21	Freq. band 22	Freq. band 23	Freq. band 24
4a	Freq. band 9	Freq. band 10	Freq. band 11	Freq. band 12
4b	Freq. band 25	Freq. band 26	Freq. band 27	Freq. band 28
5a	Freq. band 13	Freq. band 14	Freq. band 15	Freq. band 16
5b	Freq. band 29	Freq. band 30	Freq. band 31	Freq. band 32

F1	F2	F3	F4
Equalizer/Vocoder	Hold		

RV-7 Digital Reverb

There are two modes used by this device. In both, the left encoder controls the algorithm setting. The middle and right encoders switch between Size and Decay, or Damp and Dry/Wet.

	Left Encoder	Middle	Right
1a	Algorithm	Size	Decay
2a	Algorithm	Damp	Dry/Wet

DDL-1 Digital Delay Line

Feedback, Pan, and Dry/Wet are mapped to the three encoders. Unit and Step Length are mapped to “F1” and “F2.” The fader is mapped to delay time in milliseconds; the shifted fader is mapped to delay time in steps.

Fader	Left Encoder	Middle Encoder	Right Encoder
Delay Time (ms)	Feedback	Pan	Dry/Wet
Delay Time (steps) (Shifted)			

D-11 Foldback Distortion

The Amount and Foldback knobs are mapped to the left and right encoders. No other controls are used.

Left Encoder	Middle Encoder	Right Encoder
Amount		Foldback

ECF-42 Envelope Controlled Filter

This device has two sets of 4 knobs which are mapped to two modes of the fader and three encoders. The “F1” button controls the 3-value MODE button.

	Fader	Left Encoder	Middle Encoder	Right Encoder
1a	Frequency	Resonance	Env. Amount	Velocity
2a	Attack	Decay	Sustain	Release

F1	F2	F3	F4
Mode			

CF-101 Chorus/Flanger

This device has one set of 4 knobs mapped to the fader and the three encoders. Its two buttons, Sync and Send Mode, are mapped to “F1” and “F2.”

Fader	Left Encoder	Middle Encoder	Right Encoder
Delay	Feedback	Rate	Mod Amount

F1	F2	F3	F4
Sync	Send Mode		

PH-90 Phaser

This is a simple mapping of the 6 knobs to the 3 encoders using two modes. The “F1” button is mapped to the SYNC switch.

	Left Encoder	Middle Encoder	Right Encoder
1a	Frequency	Split	Width
2a	Rate	F. Mod	Feedback

F1	F2	F3	F4
Sync			

UN-16 Unison

This simple device uses the left and right encoders to control Detune and Wet/Dry. The “F1” button changes Voice Count. (Note: the Voice Count value shown on the display is just an index, from 0 to 2. It is not the number of voices.)

Left Encoder	Middle Encoder	Right Encoder
Detune		Wet/Dry

F1	F2	F3	F4
Voice Count			

COMP-01 Compressor/Limiter

This device’s four knobs are mapped to the fader and three encoders. No modes or “F” buttons are used.

Fader	Left Encoder	Middle Encoder	Right Encoder
Ratio	Threshold	Attack	Release

PEQ-2 Two Band Parametric EQ

The fader is not used with this device. Two modes are used: one for filter A, and one for filter B. The three encoders control the three parametric EQ knobs. The F1 button turns Filter B on and off.

	Left Encoder	Middle Encoder	Right Encoder	
1a	Band A	Frequency	Q	Gain
2a	Band B	Frequency	Q	Gain

F1	F2	F3	F4
Filter B On-Off			

Spider Audio Merger & Splitter

This device has no input controls.

Spider CV Merger & Splitter

This device has no input controls.

Matrix Pattern Sequencer

The fader and middle encoder are unused with this device. The left encoder selects one of four pattern banks; the right encoder selects the resolution. There are three modes that affect the four “F” buttons. In the first, the buttons select patterns 1-4, in the second they select patterns 5-8, and in the third mode the first button is Pattern On/Off, and the second is Run On/Off.

Left Encoder	Middle Encoder	Right Encoder
Select Bank		Resolution

	F1	F2	F3	F4
1a	Pattern 1	Pattern 2	Pattern 3	Pattern 4
2a	Pattern 5	Pattern 6	Pattern 7	Pattern 8
3a	Pattern On/Off	Run On/Off		

ReBirth Input Machine

This device has no input controls.