OTTOBIT jr
오토비트

MANUAL v.4

MORE THAN LOGIC. UNITING ART + ENGINEERING.

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TABLE OF CONTENTS

SECTION 1	PG. 1	FRONT PANEL CONTROLS
SECTION 2	PG. 2-4	GLOBAL SETTINGS CONFIGURATION MODE
SECTION 3	PG. 4-5	STUTTER IN DEPTH
SECTION 4	PG. 5	STUTTER HOLD IN DEPTH
SECTION 5	PG. 5-6	SEQUENCER IN DEPTH
SECTION 6	PG. 7-8	EXPRESSION JACK MODES IN DEPTH

- 6a - EXPRESSION PEDAL
- 6b - TAP SWITCH
- 6c - 4 BUTTON PRESET SWITCH
- 6d - MIDI

SECTION 7	PG. 9	KNOB BEHAVIOR IN DEPTH
SECTION 8	PG. 9	PRESETS IN DEPTH
SECTION 9	PG. 9	TEMPO IN DEPTH
SECTION 10	PG. 10	MIDI CC TABLES
SECTION 11	PG. 11	PRESET 1 FACTORY SETTINGS
SECTION 12	PG. 12	TECHNICAL SPECIFICATIONS

SECTION 1 - FRONT PANEL CONTROLS

Sample Rate: Changes the sample rate from 48 Hz to 48 kHz
Alt Function: Step 1 First step of the sequencer

Stutter: Changes the play speed and length of the stutter
Alt Function: Step 4 Fourth step of the sequencer

Tap LED / Alt Function Switch: Tap to enter tempo; hold for Alt Functions. LED blinks at the quarter note tempo rate. Alt Functions are only accessible when ALT [HOLD] switch is held

Tap Tempo: Sets the speed and the timing of the Sequencer and the Stutter. Hold to freeze the Stutter Buffer

Filter: Changes the cutoff frequency of the Meris original ladder style low pass filter from 96Hz to 24kHz . **Alt Function: Step 2** Second step of the sequencer

Sequencer Play Mode: Sets Sequencer to Play Once, Play Twice, Play 4 Times, Play 8 Times, or Play Continuously
Alt Function: Step 5 Fifth step of the sequencer

Bits: Changes the bit depth from 1 bit to 24 bits
Alt Function: Step 3 Third step of the sequencer

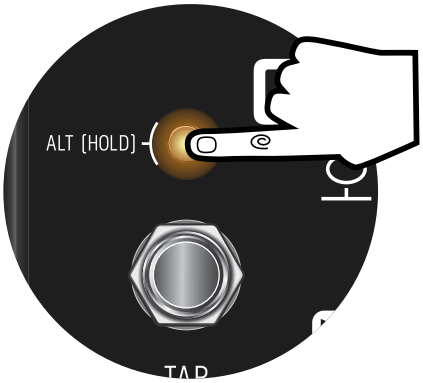
Sequencer Multiply: Sets the sequencer speed as a multiple of the tap tempo
Alt Function: Step 6 Sixth step of the sequencer

Bypass LED / Sequencer Type Switch:
Switch LED Indicates bypass status. Small LEDs indicate active sequencer type. Both small LEDs OFF indicates sample rate sequencer active

Bypass: Processes signal when LED is ON, passes dry signal entirely in analog [buffered or relay] when OFFindicates sample rate sequencer active

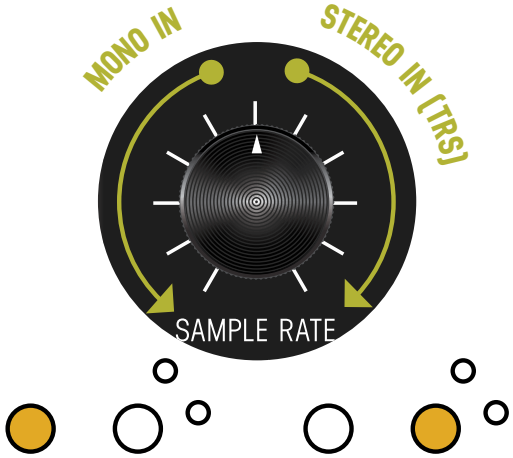
SECTION 2 - GLOBAL SETTINGS CONFIGURATION MODE

TO START GLOBAL SETTING CONFIGURATION MODE



HOLD **(L)** LED switch on power up (power up takes 3 secs); all of the front panels LEDs will blink 3 times

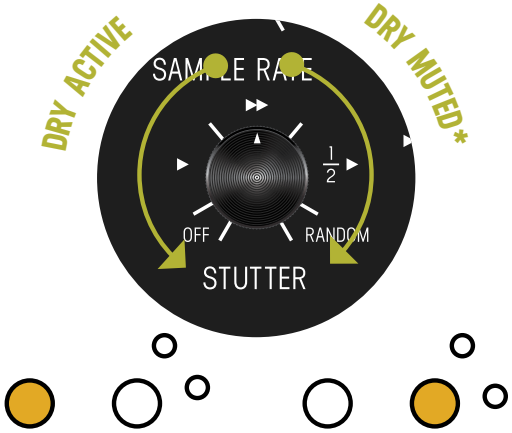
INPUT MODE:



(L) LED indicates MONO

(R) LED indicates TRS

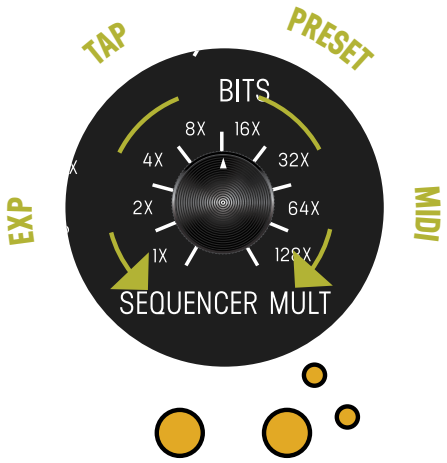
KILL DRY: *With **DRY MUTED**, the pedal delivers wet only in active mode; in bypass, the entire pedal is muted.



(L) LED indicates DRY ACTIVE

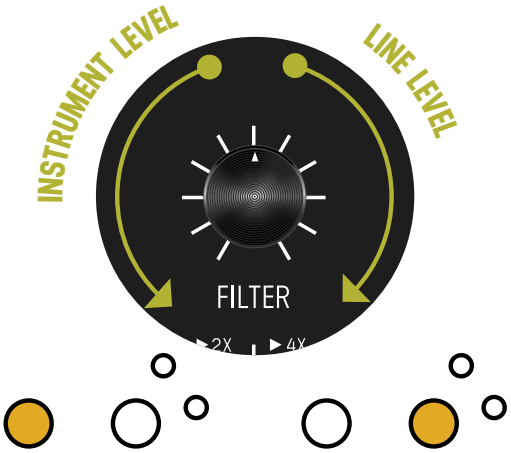
(R) LED indicates DRY MUTED

EXPRESSION MODE:



LEDs on front panel blink to indicate EXP, TAP, PRESET, & MIDI

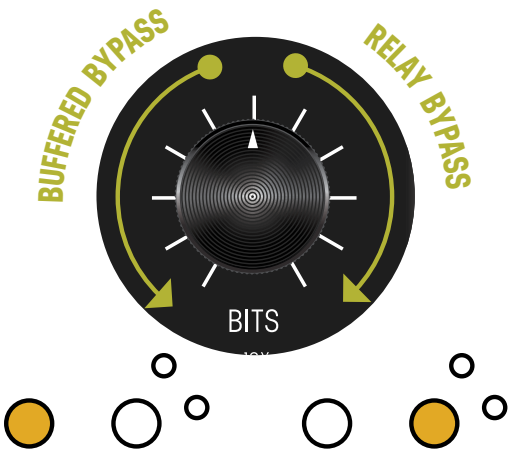
LINE/SYNTH LEVEL:



(L) LED indicates INSTRUMENT LEVEL

(R) LED indicates LINE LEVEL

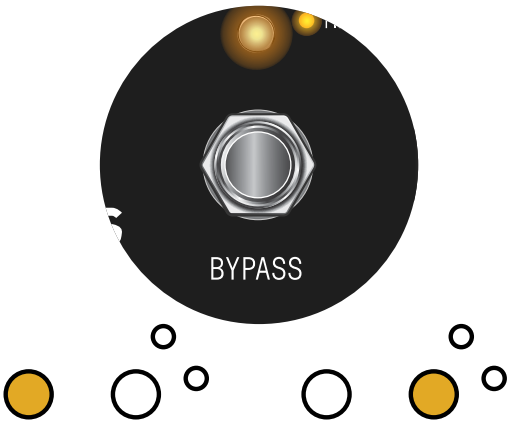
BYPASS MODE:



(L) LED indicates BUFFERED BYPASS

(R) LED indicates RELAY BYPASS

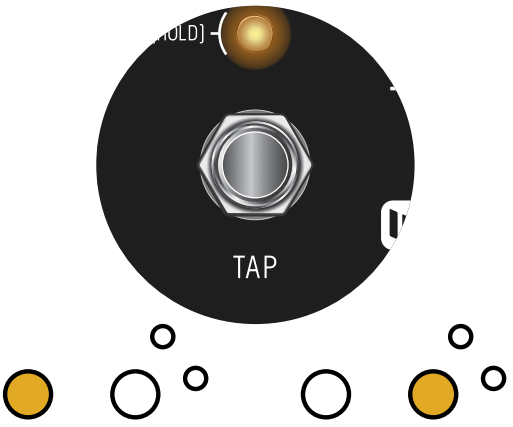
MIDI THRU ON: Toggle [R] foot switch



[**L**] LED indicates MIDI OUT

[**R**] LED indicates MIDI THRU

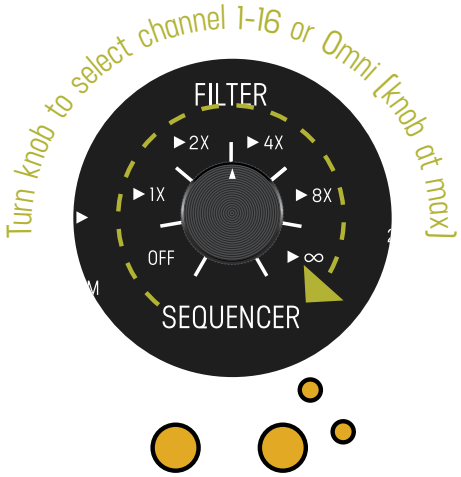
GLOBAL TEMPO: Toggle [L] foot switch



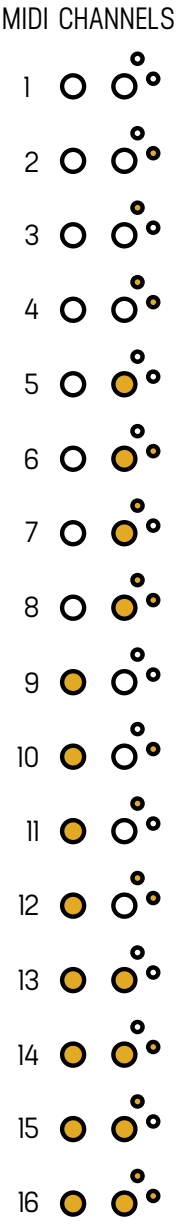
[**L**] LED indicates GLOBAL TEMPO

[**R**] LED indicates per PRESET TEMPO

MIDI CHANNEL:



LEDs on front panel blink to indicate binary



SECTION 3 - STUTTER IN DEPTH

The Ottobit Jr.'s Stutter effect records and plays back audio to create the stuck buffer sound popularized by the character Max Headroom in the 80's.

The Stutter control knob sets the stutter length and how many times the stutter repeats. The knob is broken up into three speed ranges: full speed, double speed, half speed, and each range has 7 different selections. Adding to that, the minimum position of the stutter knob turns the stutter off and turning the knob to its maximum sets the stutter to random, giving you 23 positions in total. Here they are:

Stutter knob sections:

1. Stutter Off
2. Full Speed, Stutter Once
3. Full Speed, Stutter Twice
4. Full Speed, Stutter Three Times
5. Full Speed, Stutter Four Times
6. Full Speed, Stutter Six Times
7. Full Speed, Stutter Eight Times
8. Full Speed, Stutter Sixteen Times
9. Double Speed, Stutter Once
10. Double Speed, Stutter Twice
11. Double Speed, Stutter Three Times
12. Double Speed, Stutter Four Times
13. Double Speed, Stutter Six Times
14. Double Speed, Stutter Eight Times
15. Double Speed, Stutter Sixteen Times
16. Half Speed, Stutter Once
17. Half Speed, Stutter Twice
18. Half Speed, Stutter Three Times
19. Half Speed, Stutter Four Times
20. Half Speed, Stutter Six Times
21. Half Speed, Stutter Eight Times
22. Half Speed, Stutter Sixteen Times
23. Random (combination of all of the above, plus the reverse of all the above)

SECTION 4 - STUTTER HOLD IN DEPTH

Hold Tap Tempo, hold an external tap switch, or send the Stutter Hold MIDI CC to freeze the audio that is being stuttered. The Stutter Hold works by freezing whatever the stutter is playing. If the stutter is playing back some snippet of audio, then holding tap will immediately hold that snippet indefinitely until you let go. You can also enter a stutter hold, before a stutter has trapped any audio. Without playing anything, hold tap to tell the Ottobit Jr. that you want the stutter to be held, and then we you play something it will stutter that note or chord until you let go. Both ways work, and the response time should feel immediate.

If you are having trouble getting the stutter to trigger, try playing dry guitar into the Ottobit Jr. Then, once you get the results you're after, try adding back your external effects. The pick attack detection can work on most signals, but if your signal is extremely noisy, then it may have a hard time discerning pick attacks from the noise (like if you had an extremely cranked fuzz pedal at the input).

SECTION 5 - SEQUENCER IN DEPTH

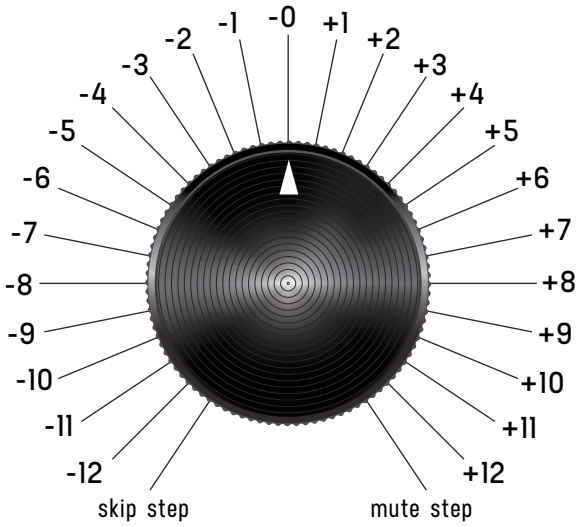
The Ottobit Jr. features a 6 step sequencer with three different control types: Pitch Sequence, Filter Sequence, and Sample Rate Sequence. To set the value of each of the six steps, simply hold the Alt switch and move the knob corresponding with the step you want to edit. For all sequencer types, while holding Alt to edit a step, when the knob is at minimum that step is skipped and when the knob is at maximum that step is muted.

To tune just one step, hold down the alt button, set 5 of the knobs to minimum, and then just use one of the knobs to tune a single step. This is a good way to go if you feel a little lost. And this is usually how to start dialing in a sequence. Set all the knobs to "Skip" and then start adding the steps into the sequence one by one.

Pitch Sequence

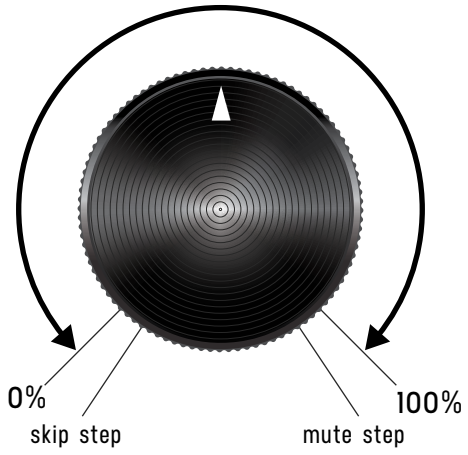
When set to sequence pitch, each step gives you the choice of every semitone between and octave below and an octave above the guitar's pitch, with the middle of the knob equal to no shifting [just dry guitar]. And as with every mode, when the knob is at minimum, that step is set to Skip; and when the knob is set to maximum, that step is set to Mute. To sum up, between Dry, Skip, Mute and 24 different semitones, you have 27 different choices for the pitch sequence on each step.

KNOB DIVISION FOR STEP IN PITCH SEQ MODE



KNOB DIVISION FOR STEP IN FILTER SEQ MODE AND SAMPLE RATE SEQ MODE

Continuous Range from 0% to 100% with skip and mute at the end points



Filter Sequence

The sequencer controls the filter as a modifier, meaning each individual step of the sequencer modifies whatever the main front panel Filter knob is set to. This way, the sequence is always tracking what the front panel Filter knob is doing and the Filter knob always sets the overall maximum cutoff frequency.

It's probably easiest to think of it in terms of percent. When adjusting the steps, if you turn a 2nd layer knob to noon that step will change the filter frequency to 50 percent of what you had set on the front panel. So if you set the main Filter control to a cutoff of 1000Hz, then when that step of the sequence comes around you would hear a filter cutoff of 500Hz.

Sample Rate Sequence

The Sequencer also works as a "modifier" or "second source" when controlling the Sample Rate. When the sequencer is set to Sample Rate, it is modifying whatever the front panel Sample Rate knob is set to just like it does when it is set to control the Filter cutoff. And as with every mode, when the knob is at minimum, that step is set to Skip; and when the knob is set to maximum, that step is set to Mute.

SECTION 6 - EXPRESSION JACK MODES IN DEPTH

The Expression Pedal Jack is a multifunction jack that gives you 4 different modes of operation that you can choose in Global Settings Mode: Expression Pedal, Tap Switch, 4 Button Preset Switch, and MIDI.

Section 6a. Expression Pedal

The expression pedal works by morphing between two complete settings of all of the knob values (even the second layer knob values). This gives you two complete and distinct presets in one that you can then use the expression pedal to morph between. Put the expression pedal to the "toe up position" and set the knobs (including the 2nd layer ones) any way you wish, and then put the expression pedal to the "toe down position" and set the knobs to create your seconds sound. Now sweeping the expression pedal from heel to toe will smoothly morph between those two sets of settings. You can also manipulate the expression pedal using MIDI CC #04.

When using the expression pedal, if you ever want to quickly copy the "toe up" to the "toe down" settings of the expression pedal, just unplug the cable from the Ottobit Jr. at the EXP jack and then plug it back in. It's a really useful shortcut so you don't have to manually recreate your sound if all you want the expression pedal to change is just one parameter.

Section 6b. Tap Switch

For the Ottobit Jr., the external switch controls Tap Tempo and has all of the same functionality as the tap button on the main pedal, this includes Stutter Hold. As with the main tap switch, if you hold the externally connected tap switch it will cause the stutter hold the current or next valid stutter buffer.

Section 6c. 4 Button Preset Switch

This mode gives you access to and instant enabling of presets 1 through 4, when connected with a proprietary Meris 4 button switch.

Section 6d. MIDI

The Ottobit Jr. features both MIDI In and Out via the EXP jack, and has a rich and deep MIDI implementation. All the knobs, alt functions, expression pedal, and switches are available via MIDI CCs. You can receive program change messages (MIDI PCs), sync to MIDI Beat Clock (Ottobit Jr.), you also have the ability to send and receive presets. Be sure to set the your desired MIDI channel in Global Settings Configuration Mode. If you have multiple devices connected to MIDI in a chain, you will probably want each to device to set to listen to and send on its own channel.

SECTION 7 - KNOB BEHAVIOR IN DEPTH

Depending on the EXP Jack modes you have chosen, the Ottobit Jr. will scan the top layer knobs and update the knobs on power up. If your Ottobit Jr. is set to either "Expression Pedal" or "Tap Switch" for its EXP mode, then it will scan the knobs at power up. This means if you change the knobs whether the unit is off, those values will be how the pedal sounds next time you turn the pedal is on. Additionally, the Tempo and the Sequencer Types are auto saved and return to whatever they were set to last when powering up the pedal. In these two EXP modes, Ottobit Jr. behaves exactly like all classic guitar pedals work (WYSIWYG). If your Ottobit Jr. is set to either "4 Button Preset Switch" or "MIDI" for its EXP jack mode, then the pedal will simply recall the preset that is stored in the current memory location. This setting makes sure that the Ottobit Jr. functions like a standard multi-preset device for those who depend on recalling exact sounds for a performance.

SECTION 8 - PRESETS IN DEPTH

The Ottobit Jr. features 16 internal preset locations. The first four presets are accessible by a compatible 4 button footswitch and all sixteen presets are accessible by MIDI Program Change messages.
To save a preset simply hold the Alt button. The preset is saved every time you edit the "Alt"/2nd layer knobs, this is how the Ottobit Jr. is able to keep your sequencer step settings in its memory after a power down.
To save a preset to a different location than your current location, either press the desired preset button on a compatible 4 button footswitch or send a Program Change message over MIDI to which ever preset you would like to edit. After you are done with any changes, just press and hold the "Alt" button to save.

The Ottobit Jr. can also send and receive full presets for via MIDI Sysex Data. To send a preset from the Ottobit Jr. to your computer, while holding the Alt button, press the Bypass LED (sequencer select) switch. The Ottobit Jr. is also always listening for preset data. Simply send any presets you have backed up on your PC back to the Ottobit Jr. and it will overwrite that preset with the data you sent. If you are happy with the newly received preset, press Alt and the Ottobit Jr. will save that data to the current preset location.

SECTION 9 - TEMPO IN DEPTH

In the Ottobit Jr. you can set the tempo using one of the following tapping in quarter notes using the integrated Tap switch or External Tap switch, MIDI Beat Clock, Tempo MIDI CC, Tap Switch MIDI CC.
The Ottobit Jr. has a very wide tempo range that extends from 23.4 BPM to 6000 BPM. This lets you put the Sequencer in the audio band to allow for ring mod effects. You can even get the Sequencer running at speeds of up to 768000 BPM by using the "Sequencer Mult" control.

In the Ottobit Jr., both the Stutter and the Sequencer listen to Tap Tempo. That's also where the "Sequencer Mult" knob can come in handy; it works the way a note division control works, and you get lots of options to have the Sequencer run at a faster rate (although still linked to tempo) than the stutter. For odd meters, try limiting the Sequencer to an odd number of steps, by setting some of the step values to "Skip".

SECTION 10 - EXPRESSION JACK MODES IN DEPTH

CONTROL CHANGE	OTTOBIT JR. CONTROL	RECEIVE VALUE RANGE	TRANSMIT VALUE RANGE
CC# 04	EXPRESSION PEDAL	0 TO 127	0 TO 127
CC# 14	BYPASS	0 TO 63 = FX BYPASS 64 TO 127 = FX ENABLE	0 FOR FX BYPASS 127 FOR FX ENABLE
CC# 15	TEMPO	0 TO 127	0 TO 127
CC# 16	SAMPLE RATE	0 TO 127	0 TO 127
CC# 17	FILTER	0 TO 127	0 TO 127
CC# 18	BITS	0 TO 127	0 TO 127
CC# 19	STUTTER	0 TO 127	0 TO 127
CC# 20	SEQUENCER	0 TO 127	0 TO 127
CC# 21	SEQUENCER MULT	0 TO 127	0 TO 127
CC# 22	STEP 1	0 TO 127	0 TO 127
CC# 23	STEP 2	0 TO 127	0 TO 127
CC# 24	STEP 3	0 TO 127	0 TO 127
CC# 25	STEP 4	0 TO 127	0 TO 127
CC# 26	STEP 5	0 TO 127	0 TO 127
CC# 27	STEP 6	0 TO 127	0 TO 127
CC# 28	TAP	127 = TAP PRESS	127 = TAP PRESS
CC# 29	SEQUENCER TYPE	0 - 62 = PITCH 63 = SAMPLE RATE 64 - 127 = FILTER	0 = PITCH 63 = SAMPLE RATE 127 = FILTER
CC# 31	STUTTER HOLD	0 TO 63 = HOLD OFF 64 TO 127 = HOLD ON	0 = HOLD OFF 127 = HOLD ON

SECTION 11 - OTTOBIT JR. PRESET 1 FACTORY SETTINGS

EXPRESSION	PARAMETER	KNOB POSITION	REAL WORLD VALUE	MIDI DECIMAL	MIDI HEX
TOE UP	SAMPLE RATE	MAX	48 KHZ	127	7F
TOE UP	FILTER	MAX	FILTER IS BYPASSED	127	7F
TOE UP	BITS	MAX	32 BITS	127	7F
TOE UP	STUTTER	MIN	STUTTER IS OFF	0	0
TOE UP	SEQUENCER	MAX	CONTINOUS SEQUENCE	127	7F
TOE UP	SEQUENCER MULT	MIN	1X MULT	0	0
TOE UP	STEP 1	11 O'CLOCK	DOWN A PERFECT 4TH	38	26
TOE UP	STEP 2	10 O'CLOCK	DOWN A MINOR 6TH	26	1A
TOE UP	STEP 3	8 O'CLOCK	DOWN AN OCTAVE	3	3
TOE UP	STEP 4	2 O'CLOCK	UP A PERFECT 5TH	102	66
TOE UP	STEP 5	1 O'CLOCK	UP A MAJOR 3RD	87	57
TOE UP	STEP 6	12 O'CLOCK	NO PITCH SHIFTING	63	3F
	SEQUENCER TYPE	N/A	PITCH SEQUENCER	0	0
	TEMPO	N/A	143 BPM	42	2A
TOE DOWN	SAMPLE RATE	12 O'CLOCK	11930 HZ	63	3F
TOE DOWN	FILTER	12 O'CLOCK	1926.2 HZ	63	3F
TOE DOWN	BITS	11 O'CLOCK	8 BITS	58	3A
TOE DOWN	STUTTER	MIN	STUTTER IS OFF	0	0
TOE DOWN	SEQUENCER	MAX	CONTINOUS SEQUENCE	127	7F
TOE DOWN	SEQUENCER MULT	11 O'CLOCK	8X MULT	50	32
TOE DOWN	STEP 1	11 O'CLOCK	DOWN A PERFECT 4TH	38	26
TOE DOWN	STEP 2	10 O'CLOCK	DOWN A MINOR 6TH	26	1A
TOE DOWN	STEP 3	8 O'CLOCK	DOWN AN OCTAVE	3	3
TOE DOWN	STEP 4	2 O'CLOCK	UP A PERFECT 5TH	102	66
TOE DOWN	STEP 5	1 O'CLOCK	UP A MAJOR 3RD	87	57
TOE DOWN	STEP 6	12 O'CLOCK	NO PITCH SHIFTING	63	3F

SECTION 12 - TECHNICAL SPECIFICATIONS

Conversion	24 bit A/D and D/A
DSP	32 bit floating point
Sample Rate	48000 Hz
Input Impedance	1 Meg Ohm
SNR	110dB typical
Frequency Response	20Hz-20kHz
Max Input Level	+9 dBu (instrument level setting)
	+12.5 dBu (line/synth level setting)
Power	9V DC center-negative, 150mA, 2.1mm jack
Bypass	Selectable True Bypass (Relay) or Analog Buffered Bypass
Dimensions	4.25" wide, 4.5" long, 2" tall
Weight	14.6 ounces

Federal Communications Commission Radio Frequency Interference Statement

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

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

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 equipment requires shielded interface cables in order to meet FCC class B limit.
Any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.