

MIDISynth TB-3 1.1.0

User Guide

<http://sigabort.co/midisynth.html>

<http://forum.sigabort.co/index.php?board=29.0>

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All software tested again Ableton Live 9.5 and Max 7.1.

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1 Installation

MIDISynth TB-3 can be run as a Max for Live device or in Max runtime.

In order to use Max for Live (M4L) you will need a license available from the Ableton website.

If you do not have M4L then it is possible to run the editor using Max without purchasing a license.

You can download the latest version of Max from Cycling '74 at <https://cycling74.com/downloads/>

This will install the 30-day trial for Max which will turn into the runtime version once this has expired – there is no separate explicit runtime version of Max 7. If you are an existing Max 6 user then you can fire up the separate runtime version of Max.

1.1 Ableton Live

Drop the amxd into your set to start.

MIDISynth TB-3 comes with an included version of M4L-Midi that gives you complete access to all controls from within Live – mixer controls, distortion, and FX controls.

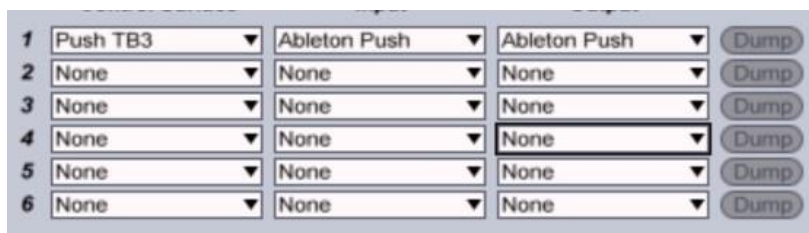
1.1.1 Remote Script

There is a custom remote script that can be installed which will give you more coherent control of both effects units from Push. Without the script these will be hard to manage due to the high number of parameters – using the script will conveniently bank these up for dynamic access.

If you are not familiar with installing remote scripts you can read this article here:

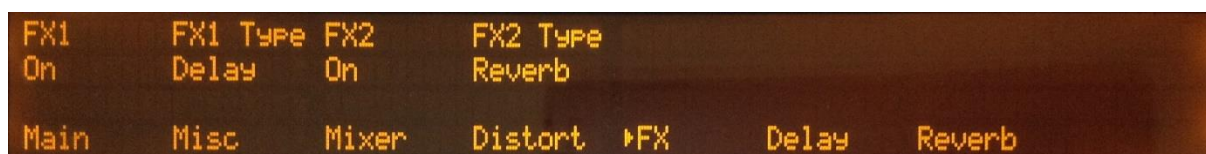
<https://www.ableton.com/en/help/article/install-third-party-remote-script/>

If installed correctly you will get the option to select 'Push TB3' as your control surface rather than the standard script. This script operates identically to the stock Push script but with enhancements for this software.



There is no Push2 script yet – depending on demand this may or may not get produced due to the amount of effort involved.

Once installed you will be presented with 7 banks that can be accessed via normal Push operation.



Some of the FX devices have more than 8 parameters and a second press of the particular effect button will toggle between the first 8 and remaining parameters.

A screenshot of a digital display with a dark background and orange text. The display shows two rows of parameters. The first row has eight columns: Type (Stereo), Sync (Off), Time (41), Damp (7), LPF (3), Fbck (63), Dry (80), and Wet (80). The second row has seven columns: Main, Misc, Mixer, Distort, FX, Delay (with a right-pointing arrow), and Reverb.

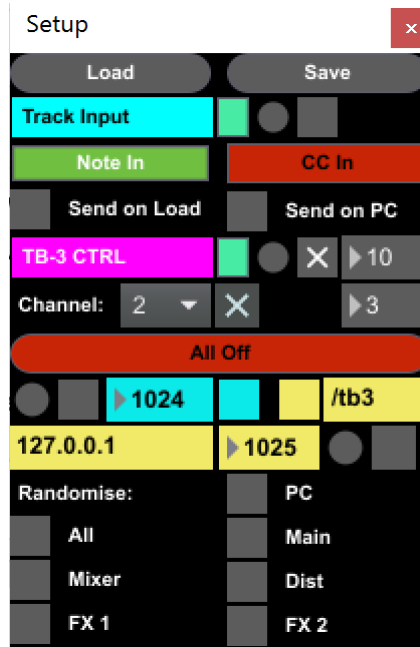
Type	Sync	Time	Damp	LPF	Fbck	Dry	Wet
Stereo	Off	41	7	3	63	80	80
Main	Misc	Mixer	Distort	FX	▶Delay	Reverb	

1.2 Max

There is no installation for Max, you only need to start the provided mxf file.

2 Setup

Click on the setup button to bring up setup options.



2.1.1 Load

Load settings from a file

2.1.2 Save

Save settings to a file

Note: For Live, settings will also be saved in the Live set, and can also be saved in Live presets, so this is not necessary, though it is still possible to archive your settings outside of Live.

2.1.3 MIDI Source Input Selector (blue)

This allows you to select a source for MIDI data (note/cc) to send through to the synth. This may be a virtual MIDI port if controlling the synth from an external source via CC, or can be set to 'Track Input' to receive data from the Live track on which the device lives.

2.1.4 Note In

Select this to process note in information – this should be selected when a sequencer (e.g. Live) is being used to send MIDI note information rather than using the TB-3 on-board sequencer.

2.1.5 CC In

Select this to process controller information – this should be selected when a sequencer (e.g. Live) is being used to send controller information rather than using the TB-3 on-board sequencer.

2.1.6 Send On Load

Select this to send all current settings from the UI to the synth at startup.

2.1.7 Send on PC

Select this to send all current settings from the UI to the synth when a program change occurs on the UI.

2.1.8 MIDI Input/Output Device (purple)

Select MIDI input and output channel from synth.

Note: For Live users this will default to Track Input. If you wish to use all functionality of the editor and have M4L-Midi installed you should change this to be the MIDI device name (e.g. TB-3 CTRL).

If the indicator stays red and does not turn green when selecting in Live then either M4L-Midi is not correctly installed or it is likely that Live has the MIDI device open and M4L-Midi cannot open it. Please ensure that the MIDI device is not enabled in Live preferences (i.e. has track, remote and sync turned off).

For Windows users I you may wish to use the 'TB-3 CTRL' input and output which leaves the main 'TB-3' MIDI channel for use by Live.

2.1.9 PC Delay Time

The number of milliseconds to wait after sending a PC (Program Change) message to the synth before sending UI state (if selected).

It usually takes some time for a synth to process a PC message and it will ignore any messages arriving shortly afterwards. If settings are not reaching the synth as expected, try increasing this value.

2.1.10 PC Delay Time

MIDI channel your TB-3 is set to send/receive on. This defaults to 2.

2.1.11 Process Incoming CC from TB-3

If checked then the UI will respond to changes on the front panel controls on the TB-3.

Note: If you wish to record automation of knob controls into Live this needs to be enabled.

2.1.12 OSC In Port

Port number to monitor for incoming OSC messages.

2.1.13 OSC Name

Name to identify OSC messages

2.1.14 OSC Host Address

IP address of OSC target.

2.1.15 OSC Out port

Port number to send OSC messages to.

2.1.16 Throttle Time

The number of milliseconds to wait between sending each UI parameter to the synth.

Some synths may not be able to process all messages arriving immediately and some may be dropped. If settings are not reaching the synth as expected, try increasing this value.

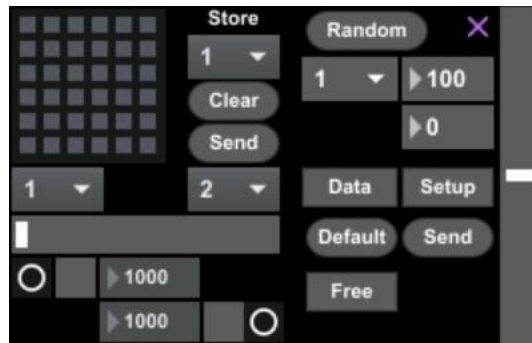
2.1.17 Randomise

Select which portions of the UI will be randomised via the randomise button.

3 Operation

The UI is split into three main sections which can be expanded and collapsed using the X controls.

3.1 Preset/Morphing/Randomisation Controls



3.1.1 Presets

Up to 36 presets can be stored and recalled. Each preset contains all controls for the synth.

Presets will be stored with the device in an Ableton Live set and can be loaded/saved from the setup dialog when running standalone.

3.1.1.1 Preset Grid

Stored preset slots will be highlighted and can be selected to load that preset.

3.1.1.2 Store

Store current settings at the specified slot.

3.1.1.3 Clear

Clear selected preset.

3.1.1.4 Send

Send selected preset to synth.

3.1.1.5 Free/Sync

This button toggles when the preset is loaded.

- Free – preset will be loaded as soon as it is selected.
- Sync – preset will be loaded for the next bar. This actually occurs just after 31/32ths of the bar so that the synth has time to process the changes before the next bar starts.

3.1.1.6 Accessing Presets via MIDI

You can recall any presets stored in the editor via MIDI PC (Program Change) messages (1-36) that are sent to the designated MIDI in channel.

3.1.2 Changing Presets from Live

In order to change the preset from Live use a Live clip and set the program change information for programs 1-36.

3.1.3 Morphing

It is possible to morph between 2 presets, or over a range of presets, using the slider provided. You can use the dropdowns to select the start and end point. It is also possible to automate the morphing using the controls below which will morph over a given fixed time period (specified in ms) or over a tempo related time period.

Note: Morphing is currently only available for the main section (not mixer, distortion, FX) – this will hopefully come as an enhancement but needs additional R&D in order to handle this efficiently.

3.1.3.1.1 Start Preset

Preset to start morphing at

3.1.3.1.2 End Preset

Present to end morphing at

3.1.3.1.3 Morph slider

Manual slider to morph between the presets

3.1.3.1.4 Auto Morph Up

Automatically morph from start to end

3.1.3.1.5 Auto Morph Down

Automatically morph from end to start

3.1.3.1.6 Morph Up Time

Morph up time in milliseconds or bars

3.1.3.1.7 Morph Down Time

Morph down time in milliseconds or bars

3.1.3.1.8 Ping-Pong

Select this to automatically morph in the opposite direction once a morph has completed.

3.1.4 Randomisation

Two randomisation algorithms are provided for discovering new sounds. Which elements of the synth are to be randomised can be configured through the Settings dialog.

It is possible to control the randomisation of each control via the Data dialog, whereby the max value for a randomised control can be given. Setting this to 0 will effectively turn off randomisation for that control.

Note: Randomisation is not currently provided for FX 1 and 2 on/off or type.

3.1.4.1 Random 1

This randomiser will generate completely random values with no context as to the current state of the synth. It has 2 values:

Max – this determines the max upper value – a random value will be chosen between 0 and this %age of the value set in the data screen

Minimum – this constant %age will be supplied as a minimum value and added to the random %age generated above

3.1.4.2 Random 2

This randomiser will generate random values based on the current values in the synth.

%age – this determines the %age movement (either +ve or –ve) from the current value. This works appropriately for scalar and bipolar controls.

3.2 Main (Front Panel) Controls

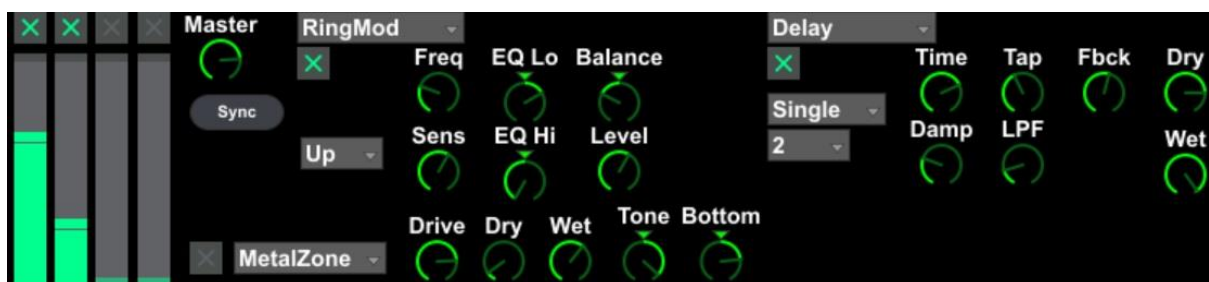


This part of the UI represents the basic controls for the synth that are available from the front panel.

The 2 XY controls are linked to cutoff/res and env mod/env dec respectively.

The purple check mark in between the 2 XY controls can be used to extend the display to show mixer/distortion and FX controls (if available).

3.3 Mixer/Distortion/FX Controls



Note: If you are using Live and have not installed M4L-Midi, this section of the synth will not be available as it is not possible to send the information directly to/from Live without this support.

3.3.1 Mixer

Enable/disable the four sound sources and change their relative volumes: Saw, Square, White Noise, Pink Noise.

Note: The noise sources are LOUD relative to the wave sources so be aware if you are messing around on headphones!

3.3.2 Distortion

Select from 1 of 25 distortion types:

Mid Boost, Clean Boost, Treble Bst, Blues OD, Crunch, Natural OD, OD-1, T-Scream, Turbo OD, Warm OD, Distortion, Mild DS, Mid DS, RAT, GUV DS, DST+, Modern DS, Solid DS, Stack, Loud, Metal Zone, Lead, 60s FUZZ, Oct FUZZ, MUFF FUZZ

3.3.3 FX 1

Select from 1 of 10 effect types:

Compressor, Ring Mod, Bit Crusher, Tremelo, Chorus, Flanger, Phaser, Delay, Pitch Shifter, EQ

3.3.4 FX 2

Select from 1 of 9 effect types:

Compressor, Ring Mod, Bit Crusher, Tremelo, Chorus, Flanger, Phaser, Delay, Reverb

3.3.5 Sync

Pressing the sync button will set the mixer, distortion and FX controls to the current state of the preset you have selected on the synth – this is not possible for the front panel controls (request outstanding with Roland for future enhancement).

3.4 FX Architecture

Whilst there are 2 FX units in the TB-3 and there are 2 FX send controls, there is not a direct 1-1 relationship between these and the 2 send knobs do different things under different circumstances.

Different presets have the FX2 send (i.e. the front panel control) mapped to different destinations – it is possible to see this by selecting a preset, pressing Sync, changing the FX2 knob and then pressing Sync again. The majority of the time the control is mapped to the ‘Wet’ component of the effect, but this is not always the case, e.g.

- B24 – Control mapped to delay feedback
- B27 – Control mapped to distortion drive
- B28 – Control mapped to chorus depth

It is not possible to change these mappings so you may wish to bear this in mind when creating your own patches.

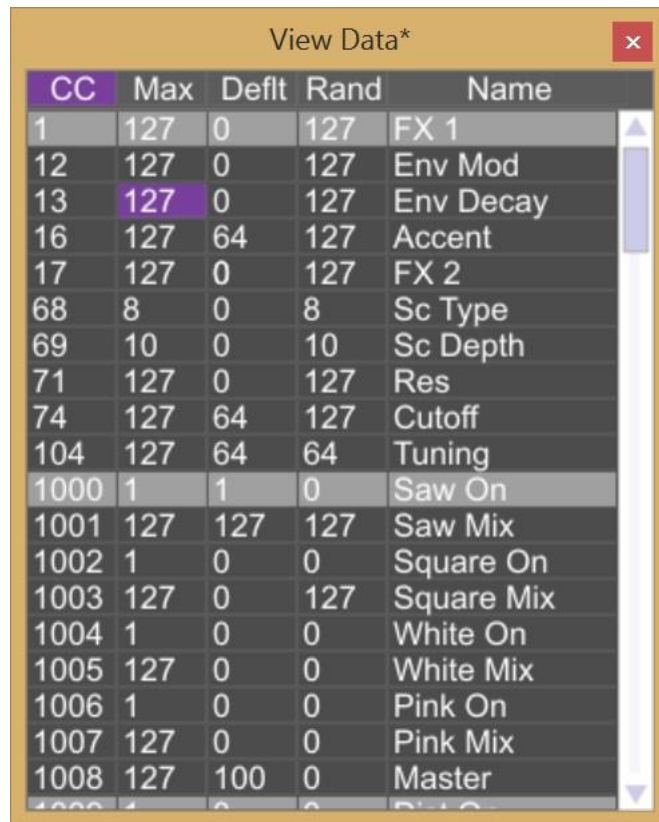
Additionally, it appears as though when selecting a different effect for FX-2 from the preset default, the FX2 send knob becomes disconnected and no longer controls the effect send – as this point you will need to adjust the Wet levels manually in the effect section.

I will work on providing some mapping options for the next release. Until this is completed it may be best to choose a relevant starting preset, i.e. if you want to create a new preset with a delay as the FX2 effect then choose a preset that already has this and modify that one. As the FX1 send knob doesn't appear to be directly to the FX1 unit this should not matter.

Please bear with me in this area as it is completely undocumented and so this is all trial-by-error.

4 Controller Data

Click on the data button to bring up the control data for the synth.



The screenshot shows a window titled "View Data*" with a close button (x) in the top right corner. The window contains a table with the following columns: CC, Max, Deflt, Rand, and Name. The table lists various controller parameters for a synth, with the value 127 highlighted in the CC column for the "Env Decay" row.

CC	Max	Deflt	Rand	Name
1	127	0	127	FX 1
12	127	0	127	Env Mod
13	127	0	127	Env Decay
16	127	64	127	Accent
17	127	0	127	FX 2
68	8	0	8	Sc Type
69	10	0	10	Sc Depth
71	127	0	127	Res
74	127	64	127	Cutoff
104	127	64	64	Tuning
1000	1	1	0	Saw On
1001	127	127	127	Saw Mix
1002	1	0	0	Square On
1003	127	0	127	Square Mix
1004	1	0	0	White On
1005	127	0	0	White Mix
1006	1	0	0	Pink On
1007	127	0	0	Pink Mix
1008	127	100	0	Master

It is possible to change the default value for a control to be set when the Default button is pressed, and also to provide an upper range for the randomisation.

5 User Presets

You can store any changes you make in the user presets on the TB-3 (firmware version 1.10 and later).

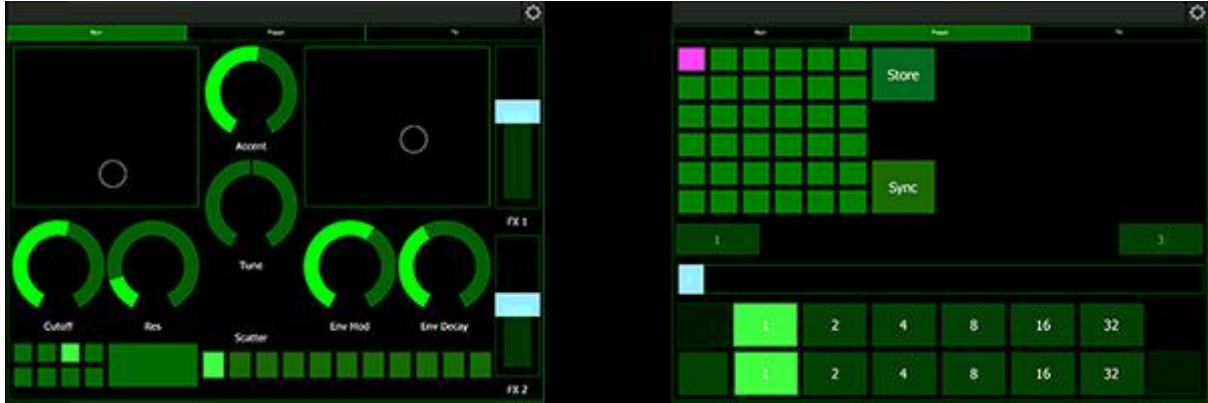
To do this:

- Make the changes you require
- Stop the sequencer
- Turn the **[VALUE]** knob while holding down the **[ENV MOD]** button to select the user bank destination(U01–U15)
- Press the **[PLAY/STOP]** button to save or any other buttons to cancel

Some users have reported problems with recalling stored user presets after a power cycle. Whilst nothing to do with the MIDISynth software they have also reported that doing a factory restore on the TB-3 allows the presets to be stored and recalled correctly.

6 Lemur Script

The Lemur script is still in development and should be available in the near future.



7 Mapping

This table show the extended CC mapping and OSC mapping for all controls.

CC Number	OSC	Description
1	/fx1	FX1 Send
7	/master	Master volume
12	/envmod	Envelope modulation
13	/envdec	Envelope decay
16	/accent	Accent
17	/fx2	FX2 Send
68	/sctype	Scatter Type
69	/scdepth	Scatter Depth
71	/res	Resonance
74	/cutoff	Cutoff
104	/tuning	Tuning
24	/sawon	Saw on/off
25	/sawmix	Saw level
26	/squareon	Square on/off
27	/squaremix	Square mix
28	/whiteon	White noise on/off
29	/whitemix	White noise mix
30	/pinkon	Pink noise on/off
31	/pinkmix	Pink noise mix
32	/dist_on	Distortion On/Off
33	/dist_type	Dist type
34	/dist_drive	Dist drive
35	/dist_bottom	Dist bottom
36	/dist_tone	Dist tone
37	/dist_wet	Dist wet level
38	/dist_dry	Dist dry level
40	/fx1_on	FX 1 On/Off
41	/fx1_type	FX 1 Type
42	/fx1_param1	FX 1 Param 1
43	/fx1_param2	FX 1 Param 2
44	/fx1_param3	FX 1 Param 3
45	/fx1_param4	FX 1 Param 4
46	/fx1_param5	FX 1 Param 5
47	/fx1_param6	FX 1 Param 6
48	/fx1_param7	FX 1 Param 7
49	/fx1_param8	FX 1 Param 8
50	/fx1_param9	FX 1 Param 9
51	/fx1_param10	FX 1 Param 10
52	/fx2_on	FX 2 On/Off
53	/fx2_type	FX 2 Type
53	/fx2_param1	FX 2 Param 1
54	/fx2_param2	FX 2 Param 2
55	/fx2_param3	FX 2 Param 3
56	/fx2_param4	FX 2 Param 4

57	/fx2_param5	FX 2 Param 5
58	/fx2_param6	FX 2 Param 6
59	/fx2_param7	FX 2 Param 7
60	/fx2_param8	FX 2 Param 8
61	/fx2_param9	FX 2 Param 9

