Midi Fighter 3D MIDI Map – Traktor Mode

This document describes the MIDI messages for the Midi Fighter 3D in Traktor Mode.

Because of the differences in mapping between Traktor, Ableton, and other software DJTT has created different modes which are optimized for use with particular software. You can set the software mode using the Midi Fighter Utility. The Utiliy is available here,

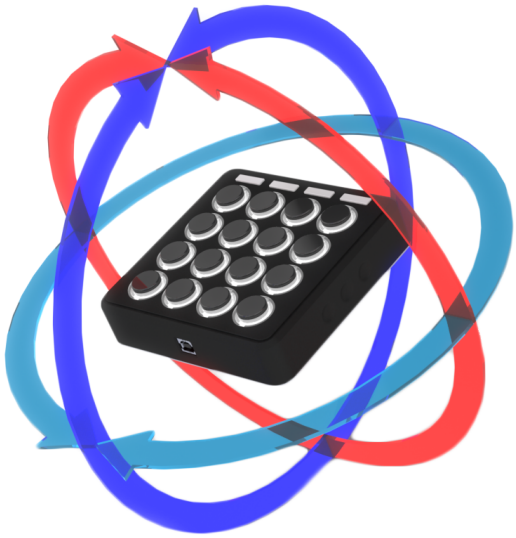
Midi Fighter Utility Windows Installer

Midi Fighter Utility OS X Installer

The Midi Fighter 3D sends and receives a wide range of MIDI messages. For simplicity this document divides them in to three categories.

- Button messages
- Motion messages
- LED control messages

The Midi Fighter 3D sends and receives all messages on MIDI channels 3 through 5 by default, however you can change the MIDI base channel by using the Midi Fighter Utility software. Because the Midi Fighter 3D uses 4 consecutive channels the highest channel you can select is Channel 13.



Part 1: Button Messages

The Midi Fighter 3D has a total of 26 buttons.

- 16 high performance arcade buttons with RGB backlighting.
- 4 bank buttons with white backlighting.
- 6 side auxiliary buttons with no backlighting.

4 Banks Mode

The Midi Fighter 3D defaults to banked mode. In this mode the 16 arcade buttons send different notes depending on which bank is currently selected.

All arcade button notes are sent on channel 3. All other messages are sent on channels 4 – 6.

The bank selection can be changed by pushing the desired bank button, the LED of the currently selected bank will glow white. In Traktor mode the banks buttons also send midi signal as detailed in the diagram below.

The 6 side buttons are fixed and send the same notes regardless of which bank is selected.

The graphic below shows the midi note sent by each arcade button in each of the four banks.

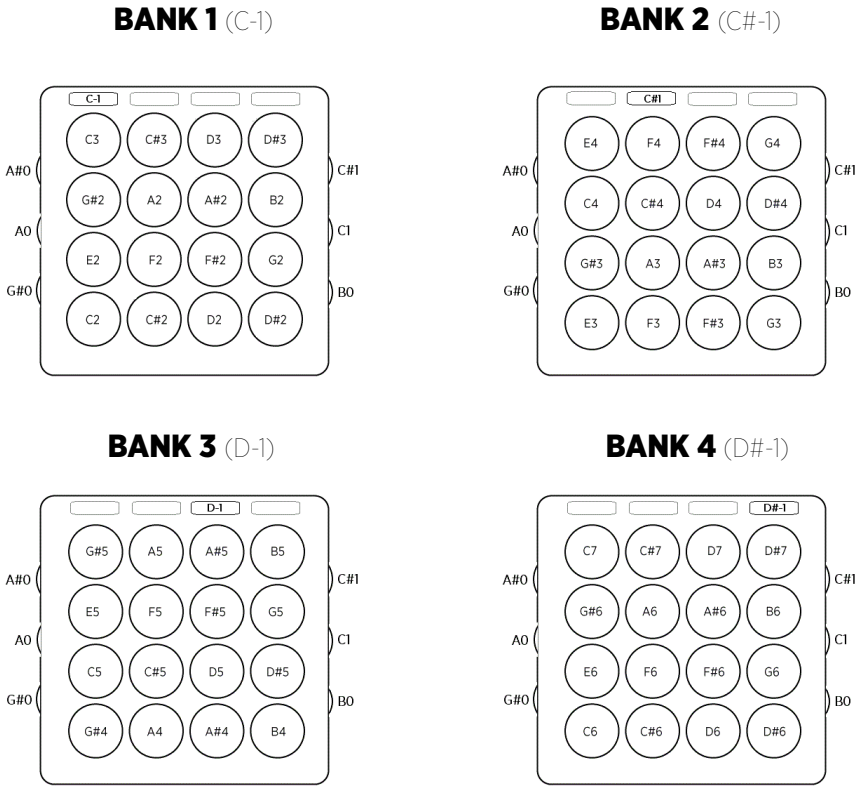


Figure 1.1 Four Banks Mode Enabled

4 Banks Mode Disabled

If you do not wish to use banks when creating your own midi mapping you can set the “Four Banks Mode” to “Disabled” using the Midi Fighter Utility software. When four banks mode is disabled the arcade buttons will send the same MIDI data regardless of the state of the bank buttons

There are two Four Banks Disabled options.

1. **Four Banks Disabled Hold**

   In this mode the bank buttons behave like any normal button, sending a note on when held, and a note off when released.

2. **Four Banks Disabled Toggle**

   In this mode the banks buttons have toggle functionality, changing state each time they are pressed then released.

   The following diagram details the MIDI notes for all buttons when Four Banks Mode is disabled.

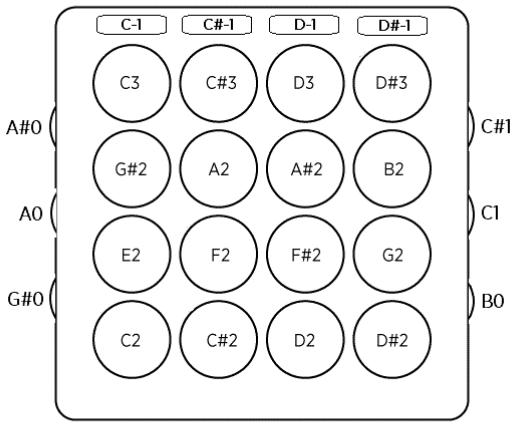


Fig 1.2 Four Banks Disabled

Part 2: Motion Messages

The Midi Fighter 3D carries an arsenal of electronic sensors which are used to track its orrientation and translate this into a variety of MIDI messages allowing highly expressive control of your software. There are two types of orientation messages - edge tilt, and button rotation.

Edge Tilt Messages

The Midi Fighter 3D generates the following tilt based control change messages. All tilt messages are sent on Channel 4.

- Left Tilt – CC0
- Forwards Tilt – CC1
- Right Tilt – CC2
- Back Tilt – CC3

In Traktor mode the Midi Fighter 3D also sends secondary tilt CC's. These operate over the second half of the range of the primary CC.

- Left Tilt Secondary – CC4
- Forwards Tilt Secondary – CC5
- Right Tilt Secondary – CC6
- Back Tilt Secondary – CC7

While sitting flat on the table all four CC's will be at zero, when the Midi Fighter 3D is tilted on an edge it will send a CC which varies from 0 – 127 corresponding to its tilt angle on that edge.

The Midi Fighter 3D also sends a channel 4 F0 note on event when any edge CC is active, and note off event when all edges are inactive, ie the Midi Fighter 3D is flat on the table.

As well as a note to indicate if the device is in edge tilt or not, the Midi Fighter 3D sends a channel 4 F1 note on event whenever it detects that it has been picked up. This is Pickup Mode.

Button Rotation Messages

The Midi Fighter 3D also generates rotation or "pitch" CC's for each arcade button.

There are 3 rotation modes, Relative (default), Absolute, and Disabled.

The rotation messages are only sent when a button is pressed, and the device is in "Pick Up Mode"

Relative Mode

In relative mode when an arcade button is pressed, then the device is rotated a CC is sent proportional to the change in rotation from the point at which the arcade button was pressed. The CC is sent on channel 4 when the rotation is counter clock-wise, and channel 5 when the rotation is clock-wise.

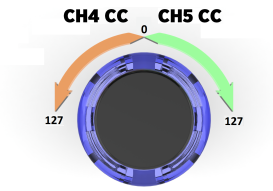


Fig 1.3 Relative Button CC

Absolute Mode

Absolute mode was created for the instance when you want to be able to point the Midi Fighter 3D in a certain direction and always get the same CC value.

This is primarily useful for FX like the beatmasher and gater where you need to be able to reliably jump between different rates.

In absolute mode the Midi Fighter 3D takes a compass reading when it is first powered on, this is its home position. If the device is in pickup mode and button is pressed while in the home position a CC of 64 is sent, on channel 4, if the Midi Fighter 3D is pointing 80 degrees clockwise to the home position it will send 127, and at 80 degrees counter clock-wise from the home position it will send 0.

If you use this mode it is important to always connect the device only once it is positioned correctly.

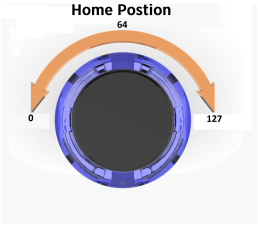


Fig 1.4 Absolute Button CC

Part 3: LED Control Messages

It is possible to use MIDI messages to control both the LEDs of the bank buttons as well as the LEDs of the arcade buttons. By sending a MIDI out on the same note as a given arcade button you can use velocity to choose its color, brightness, and several different basic animations, bank button control is limited to on/off state.

Bank Button LEDs

The ability to control the bank button LEDs varies depending on which Four Banks mode the device is currently set to.

Four Banks Enabled

When four banks is enabled there is no capability to change the state of the LEDs. In this mode any MIDI out message will force the device to switch the to the bank selected by the relevant button.

Four Banks Disabled Hold

By sending a MIDI out message with a non-zero velocity on the same note as the MIDI in for any of the bank buttons you can turn the LED on, sending a 0 velocity or note off will turn this LED off.

Four Banks Disabled Toggle

In this mode there is no control of the LED as the LED will always reflects the state of the toggle.

Arcade Button LEDs

Sending a Note On message of the same pitch (note) as a given arcade button will overide the default inactive/active color state of the buttons illumination.

The velocity of this Note On is used to set the color or animation for that buttons LED.

Velocity	Effect
0 or Note off	Default LED behaviour
01-65	Reserved
66	White
67	Black
68	Pink
69	Low Pink
70	Purple
71	Low Purple
72	Blue
73	Low Blue
74	Cyan
75	Low Cyan
76	Green
77	Low Green
78	Chartreusse
79	Low Chartreusse
80	Yellow
81	Low Yellow
82	Orange
83	Low Orange
84	Red
85	Low Red
86	Reserved
87 - 102	15 brightness levels of inactive color, 102 is brightest
103 - 118	15 brightness levels of active color, 118 is brightest
119	RGB Color CycleAnimation
120	Red CycleAnimation
121	Green Cycle Animation
122	Blue Cycle Animation
123	0.5 Hz or beat Active Color Blink Animation
124	1 Hz or ½ beatActive Color Blink Animation
125	2 Hz or ¼ beat Active Color Blink Animation
126	4 Hz or 1/8 beat Active Color Blink Animation
127	8 Hz or 1/16 beatActive Color Blink Animation

Appendix: Complete List of Midi Messages in Traktor Mode

Please note the following

- If four banks mode is disabled then the arcade buttons send the notes listed for bank 1 in the table below.

- All LEDs are mapped to the same channel and pitch as their respective buttons.

Control	Channel	Type	Number	Note
Left Side Button 1	4	Note	22	A#0
Left Side Button 2	4	Note	21	A0
Left Side Button 3	4	Note	20	G#0
Right Side Button 1	4	Note	25	C#1
Right Side Button 2	4	Note	24	C1
Right Side Button 3	4	Note	23	B0
Bank Button 1	4	Note	0	C-1
Bank Button 2	4	Note	1	C#-1
Bank Button 3	4	Note	2	D-1
Bank Button 4	4	Note	3	D#-1
Left Tilt Primary	4	CC	0	-
Left Tilt Secondary	4	CC	4	-
Forwards Tilt Primary	4	CC	1	-
Forwards Tilt Secondary	4	CC	5	-
Right Tilt Primary	4	CC	2	-
Right Tilt Secondary	4	CC	6	-
Back Tilt Primary	4	CC	3	-
Back Tilt Secondary	4	CC	7	-
Edge Tilt Active	4	Note	17	F0
Pick Up Mode Active	4	Note	29	F1
Arcade Buttons				
Bank 1 Button 1	3,4,5	Note & CC*	48	C3
Bank 1 Button 2	3,4,5	Note & CC*	49	C#3
Bank 1 Button 3	3,4,5	Note & CC*	50	D3
Bank 1 Button 4	3,4,5	Note & CC*	51	D#3
Bank 1 Button 5	3,4,5	Note & CC*	44	G#2
Bank 1 Button 6	3,4,5	Note & CC*	45	A2
Bank 1 Button 7	3,4,5	Note & CC*	46	A#2
Bank 1 Button 8	3,4,5	Note & CC*	47	B2
Bank 1 Button 9	3,4,5	Note & CC*	40	E2
Bank 1 Button 10	3,4,5	Note & CC*	41	F2
Bank 1 Button 11	3,4,5	Note & CC*	42	F#2
Bank 1 Button 12	3,4,5	Note & CC*	43	G2
Bank 1 Button 13	3,4,5	Note & CC*	36	C2
Bank 1 Button 14	3,4,5	Note & CC*	37	C#2
Bank 1 Button 15	3,4,5	Note & CC*	38	D2
Bank 1 Button 16	3,4,5	Note & CC*	39	D#2
Bank 2 Button 1	3,4,5	Note & CC*	64	E4
Bank 2 Button 2	3,4,5	Note & CC*	65	F4
Bank 2 Button 3	3,4,5	Note & CC*	66	D7

Bank 2 Button 4	3,4,5	Note & CC*	67	D#7
Bank 2 Button 5	3,4,5	Note & CC*	60	C4
Bank 2 Button 6	3,4,5	Note & CC*	61	C#4
Bank 2 Button 7	3,4,5	Note & CC*	62	D4
Bank 2 Button 8	3,4,5	Note & CC*	63	D#4
Bank 2 Button 9	3,4,5	Note & CC*	56	G#3
Bank 2 Button 10	3,4,5	Note & CC*	57	A3
Bank 2 Button 11	3,4,5	Note & CC*	58	A#3
Bank 2 Button 12	3,4,5	Note & CC*	59	B3
Bank 2 Button 13	3,4,5	Note & CC*	52	E3
Bank 2 Button 14	3,4,5	Note & CC*	53	F3
Bank 2 Button 15	3,4,5	Note & CC*	54	F#3
Bank 2 Button 16	3,4,5	Note & CC*	55	G3
Bank 3 Button 1	3,4,5	Note & CC*	80	G#5
Bank 3 Button 2	3,4,5	Note & CC*	81	A5
Bank 3 Button 3	3,4,5	Note & CC*	82	A#5
Bank 3 Button 4	3,4,5	Note & CC*	83	B5
Bank 3 Button 5	3,4,5	Note & CC*	76	E5
Bank 3 Button 6	3,4,5	Note & CC*	77	F5
Bank 3 Button 7	3,4,5	Note & CC*	78	F#5
Bank 3 Button 8	3,4,5	Note & CC*	79	G5
Bank 3 Button 9	3,4,5	Note & CC*	72	C5
Bank 3 Button 10	3,4,5	Note & CC*	73	C#5
Bank 3 Button 11	3,4,5	Note & CC*	74	D5
Bank 3 Button 12	3,4,5	Note & CC*	75	D#5
Bank 3 Button 13	3,4,5	Note & CC*	68	G#4
Bank 3 Button 14	3,4,5	Note & CC*	69	A4
Bank 3 Button 15	3,4,5	Note & CC*	70	A#4
Bank 3 Button 16	3,4,5	Note & CC*	71	B4
Bank 4 Button 1	3,4,5	Note & CC*	96	C7
Bank 4 Button 2	3,4,5	Note & CC*	97	C#7
Bank 4 Button 3	3,4,5	Note & CC*	98	D7
Bank 4 Button 4	3,4,5	Note & CC*	99	D#7
Bank 4 Button 5	3,4,5	Note & CC*	92	G#6
Bank 4 Button 6	3,4,5	Note & CC*	93	A6
Bank 4 Button 7	3,4,5	Note & CC*	94	A#6
Bank 4 Button 8	3,4,5	Note & CC*	95	B6
Bank 4 Button 9	3,4,5	Note & CC*	88	E6
Bank 4 Button 10	3,4,5	Note & CC*	89	F6
Bank 4 Button 11	3,4,5	Note & CC*	90	F#6
Bank 4 Button 12	3,4,5	Note & CC*	91	G6
Bank 4 Button 13	3,4,5	Note & CC*	84	C6
Bank 4 Button 14	3,4,5	Note & CC*	85	C#6
Bank 4 Button 15	3,4,5	Note & CC*	86	D6
Bank 4 Button 16	3,4,5	Note & CC*	87	D#6

*****The arcade buttons also send button rotation CC's. Theses CC's share the same number as the buttons note but are sent on channel 4 if in absolute mode, and channels 4 & 5 if in relative mode.