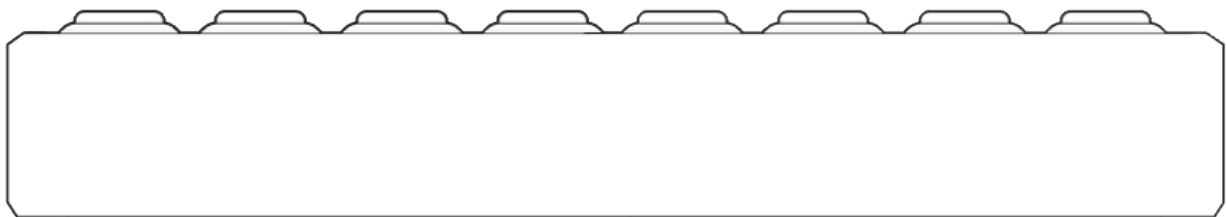# Midi Fighter 64

User Guide

Introduction

This user guide is split in two parts, first covering the Midi Fighter 64 hardware, then the second covering the Midi Fighter Utility and all relevant device settings.

If you are simply looking to learn how to set up and use an existing mapping in either Traktor or Ableton, please refer to the quick start guides, these are both available here.

djtechtools.com/midifighterhelp

Nomenclature

The Musical Instrument Device Interface (MIDI) protocol at its most basic level describes 16 channels, each consisting of 128 Notes, and 128 Control Change (CC) messages.

This user guide and the Midi Fighter Utility refers to these 16 channels as channels 0 through 15, the notes as notes 0 through 127, and the control change messages as CC's 0 through 127.
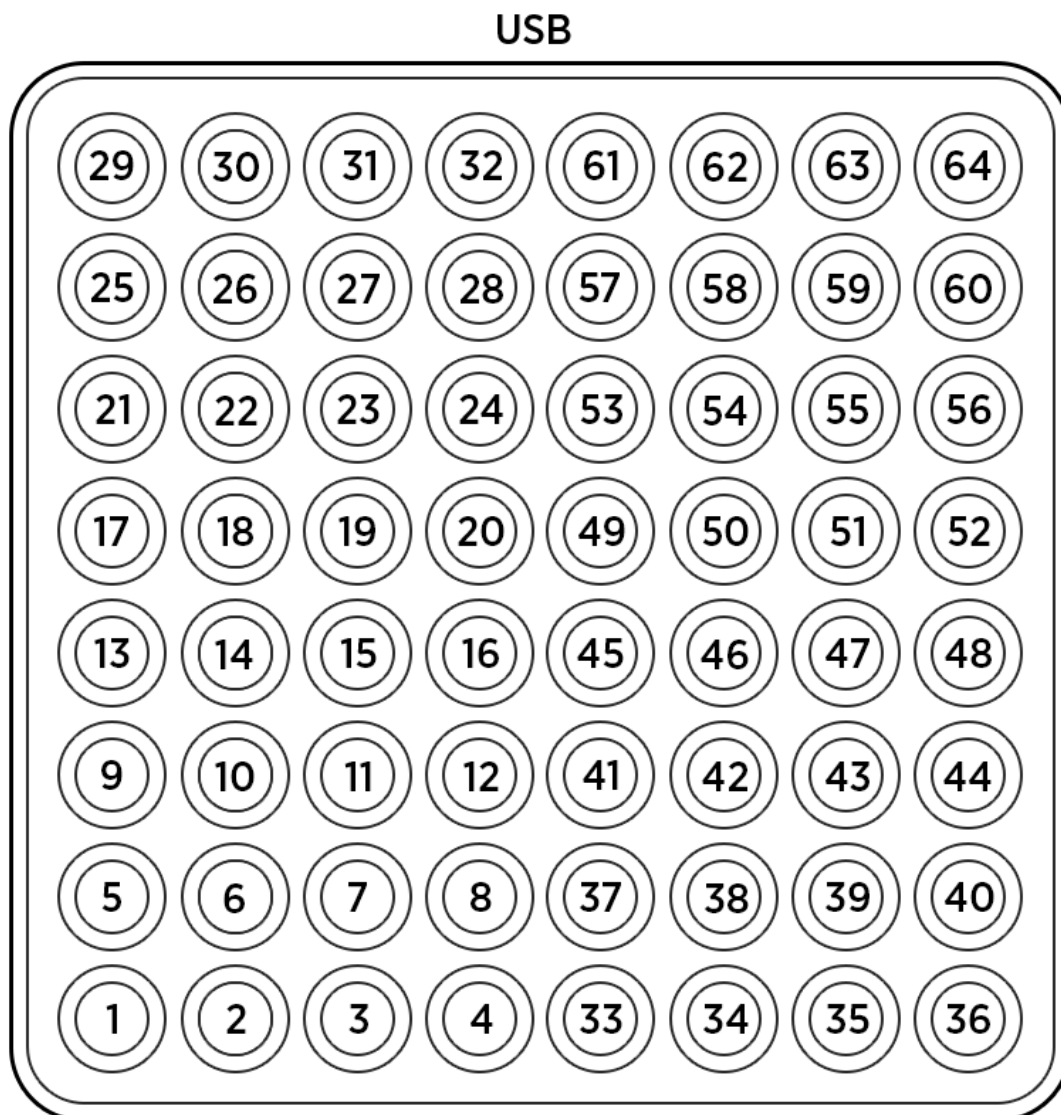
The Midi Fighter 64 Hardware

This section describes the hardware & MIDI operation of the Midi Fighter 64 in detail and should be used as a reference when creating your own MIDI mapping in your software of choice.

This section assumes that the reader is already familiar with the basics of the MIDI protocol.

Introduction

The Midi Fighter 64 consists of 64 high quality arcade triggers with MIDI controlled full color ring illumination. Each of these triggers will send a different note when pressed and offer a optional CC message that triggers along it for momentary secondary control.

Fig 1 Hardware Naming Convention

USB

29	30	31	32	61	62	63	64
25	26	27	28	57	58	59	60
21	22	23	24	53	54	55	56
17	18	19	20	49	50	51	52
13	14	15	16	45	46	47	48
9	10	11	12	41	42	43	44
5	6	7	8	37	38	39	40
1	2	3	4	33	34	35	36

Arcade Triggers

Each trigger sends a Note On when pressed and a Note Off once released. Since these triggers are not velocity sensitive the velocity defaults to 127. This value may be adjusted using the Utility. By default all arcade trigger notes are sent on MIDI Channel 3.

If the 'Note+CC' option is enabled then the Midi Fighter 64 arcade triggers will also send CC's. When the trigger is pressed a CC with value 127 is sent, when the trigger is released a CC with value 0 is sent. Momentary CC's are sent on Channel 4.

This is useful for control of effects in Ableton, where note messages will only toggle the effect each time the button is pressed and released. By mapping to a CC rather than the Note you can create a mapping where the effect is on while the button is down, and off when the button is released.

In Appendix 1 you will find a complete list of MIDI data for each button.

Setting Arcade Trigger Color

The ring illumination color of the arcade triggers has two states, active (pressed) and inactive (released).

By using MIDI messages the user can access a much more complete palette which overrides the default inactive/active color setting and control both the color and animation state of each arcade trigger ring.

To set the color send a MIDI Note On of the same pitch and channel as the arcade trigger you are trying to control. The velocity of the note will determine the color selected. A velocity of 0 will disable MIDI control of color.

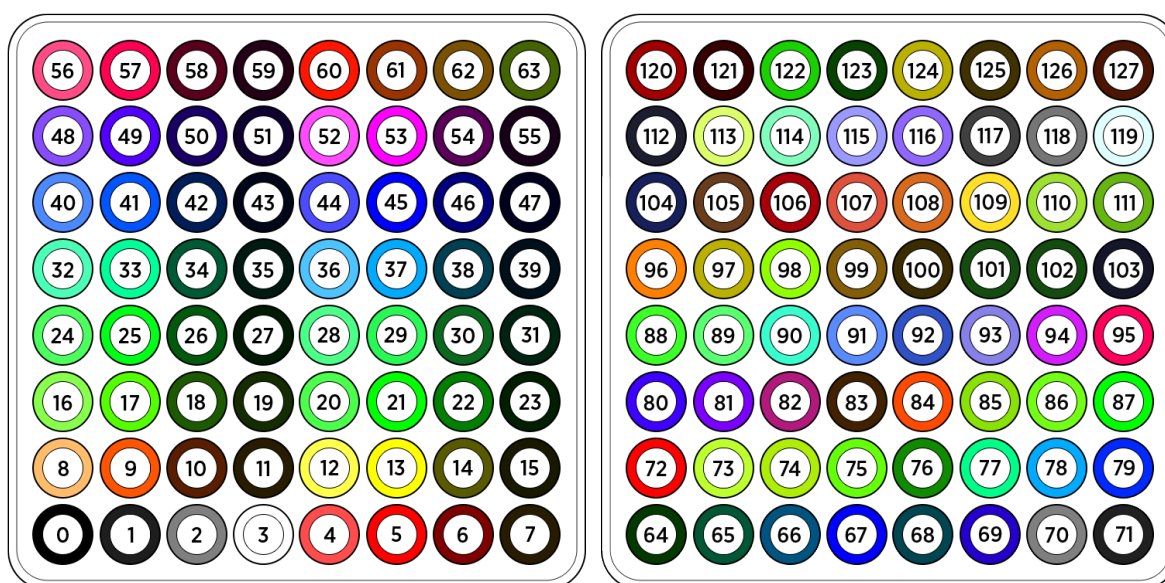> *e.g. To set the color of the first arcade trigger to Bright Red send a Ch3 E3 Note On of Velocity 5.*

Fig 2 MIDI Color Velocity Settings

Setting Arcade Trigger Animation State

By sending MIDI Notes of a particular velocity it is also possible to set a variety of animation states for each ring, these animations modify the color state of the ring illumination.

The available animation states are,

Brightness Level | Velocity 18 - 33

This animation allows the user to set the brightness of the current color to one of 16 brightness levels between 0 and 100%. This is useful for creating VU meters.

Gate | Velocity 34 - 41

Allows the user to gate (flash) the current color at one of 8 different rates. If a MIDI clock signal is present the timing is derived from that, otherwise the timing is based on a half second interval which is the equivalent of 120 BPM. This is useful for creating warnings, for example in Traktor you could map the Track End Warning output to flash an LED when the track is nearing its end.

Pulse | Velocity 42 - 49

Similar to the Gate animation this allows the user to pulse the current color at one of 8 different rates. If a MIDI clock is present the timing is derived from that otherwise the timing is based on a half second interval which is the equivalent of 120 BPM. This animation is useful for creating subtle alerts, for example in Traktor you could map the Loop On output to control the pulse rate to reflect that the loop is active, and what length it is set to.

Geometry | Velocity 50 - 53

Like the Spark animation available in the 3D and Spectra, Geometry animations trigger a light display that affect the active button and ones near it in a specific pattern. Available patterns are: Square, Circle, Star and Triangle.

To set the animation state of a given arcade trigger ring send a Note On message of the same Note but 3 octaves lower and on Channel 4.

I.e. To set the animation state of the first arcade trigger to Gate 1/4 send a Ch4 E0 Note On of Velocity 39.

It is important to note that the MIDI color setting and MIDI animation setting can be used in conjunction.

i.e. To set the first arcade trigger to Bright Red flashing at a rate of 1/2 first send the color information with a Ch3 C3 Note On of Velocity 13, then the animation setting with a Ch4 E0 Note On of Velocity 39.

Banks Modes

The Midi Fighter 64 defaults to banked mode. In this mode the 64 arcade buttons send different notes depending on which bank is currently selected. All arcade button notes are sent on channel 3 for Bank 1 and channel 2 for Bank 2. All other messages are sent on channels 4 - 6.

The bank selection can be changed by holding the top right button for 2 seconds to access Bank 2 or the top left button to return to Bank 1. This allows you to still use those buttons for sweeps or risers that ease transitions between Sound Packs. Colors can be set individually the buttons on each bank via the MF Utility so it's easier to tell them apart. Banks buttons also send midi signal as detailed in the Advanced Bank Control section below.

Corner Button Bank Change

If you do not wish to use banks when creating your own midi mapping you can set the "Corner Button Bank Change" setting to "Disabled" using the Midi Fighter Utility software. When this mode is disabled the arcade buttons will send the MIDI data specific to Bank 1

Hold

In this mode the bank buttons behave like any normal button, sending a note on when held, and a note off when released. By holding the top left or right buttons for 2 seconds you can navigate between the virtual banks available in your device.

Press

Similar to Hold but removes the 2 second delay, making bank changes happen instantly.

Disabled

Disables bank functionality altogether and MIDI notes sent by the arcade buttons are sent on channel 3, matching the first bank layout.

Advanced Bank Control

It is also possible to use MIDI to read and set the currently selected bank.

When the virtual bank selection changes the Midi Fighter 64 sends an updated CC value to indicate a new bank has been selected. By default the bank selection notes are sent on MIDI Channel 3.

> *I.e. When changing from Bank 1 to Bank 2 the Midi Fighter will send a Ch3 CC03 with velocity of value 1.*

By using MIDI Out on your software of choice and sending a CC message to the MIDI Fighter 64 it is also possible to force it to automatically change to a specific bank.

Bank Change CC

Bank 1 | Ch.3 CC 03 Velocity 0   **Bank 2 | Ch.3** CC 03 Velocity 1-127

The Midi Fighter Utility Software

This section covers the Midi Fighter Utility software. This is an application for PC & Mac that can be used to control, configure, and update your Midi Fighter 64.

Getting Started

The Midi Fighter Utility software can be downloaded using the following links. Version 2.68 or higher is required to use with your Midi Fighter 64

Download For Mac

Download For PC

Once this has been installed you will find a shortcut on your desktop if using PC, or you can find the utility in your Applications folder if using Mac.

To get started launch the application and connect your Midi Fighter 64 to a spare USB port.

Note: If the Midi Fighter Utility does not detect your controller please make sure all other MIDI software has been shut down, then restart the utility and reconnect the device.

Firmware Update

It is important to ensure your device is loaded with the latest firmware. You can tell if you need to update your firmware by looking at the device information section.
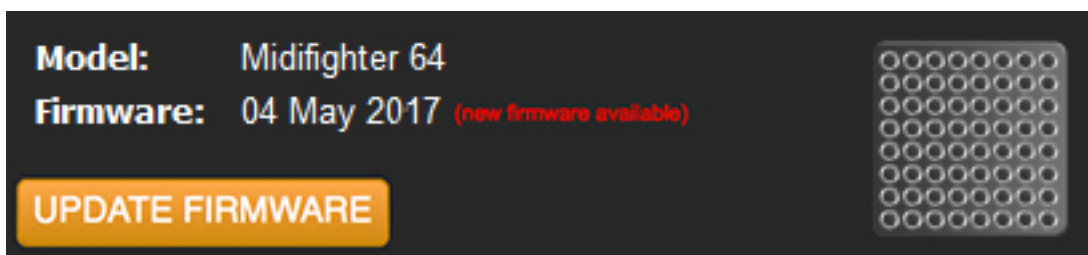
If the device firmware needs to be updated the "Update Firmware" button will display in orange, and the text "new firmware available" will display in red. If the firmware is already up to date the 'Update Firmware' button will display in grey and the text "up to date" will appear in green.

To update the device firmware simply click the update firmware button.

Note: When updating the firmware do not connect the Midi Fighter 64 via a USB Hub, this may lead to a bricked device.

Performing a Factory Reset

Using the Midi Fighter Utility it is possible to restore all device settings and color information back to the factory defaults. If you are having trouble with your Midi Fighter 64 this can be a good place to start when diagnosing the problem.

To perform a factory reset connect your Midi Fighter 64 to the Utility and in the menu bar click,

Tools>Midi Fighter>Factory Reset

Importing & Exporting Settings

It is possible to import and export device settings, this is useful for saving and sharing device settings and color information used for a particular mappings.

To export your settings click File>Export Settings and enter the name you wish to save the file under.

To import your settings click File>Import Settings and select the settings file you wish to load.

Note: Once these settings are loaded you must still press "Send to Midi Fighter" to save them to the device.

Color Settings

The right hand side of the Midi Fighter Utility interface is used for configuring the color of the arcade rim lighting. You can set the color for both the active (pressed) and inactive (released) state for each arcade trigger. Note that you can click a button and then drag across other buttons, to set the color of many buttons quickly.

To choose your color settings first pick a color from the palette tool.
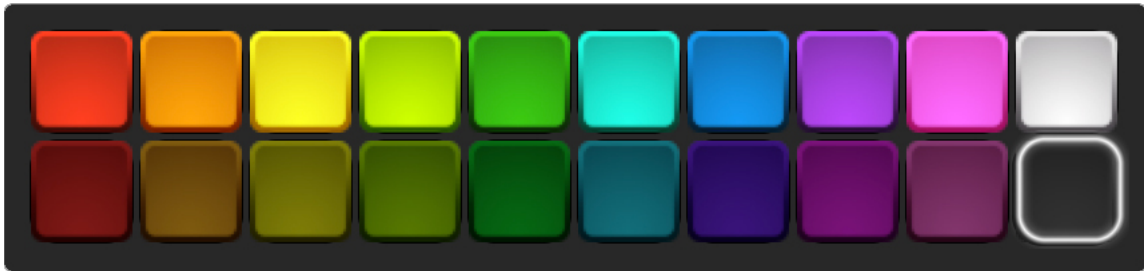
To apply this color to the inactive state click in the outer rim of the desired button.

To apply this color to the active state click in the center of the desired button.

Once you are happy with your changes you must save them by click the "Send To Midi Fighter" button.

Note: More colors are available by sending specific MIDI messages to the unit as detailed on page 4 of this guide.

Device Settings

On the left side of the Utility interface are a number of device hardware settings.

MIDI Channel

This sets the base MIDI channel that the Midi Fighter will send and receive MIDI data on. The Midi Fighter 64 uses 3 channels and the second and third channels will follow the base channel sequentially.

MIDI Velocity

The Midi Fighter triggers & buttons are not velocity sensitive. This setting sets the default velocity for Note On messages from the Midi Fighter.

MIDI Type

- Notes - useful for drum racks and toggle mapping in general)

- CCs - useful when momentary action is required)

- Notes+CCs - previously referred as "Ableton Mode" in other Midi Fighter models, in this mode arcade triggers will send both Note & Control Change messages. This is useful when using the device in Ableton as it allows you to map momentary control of FX to the arcade triggers, whereas Note On messages will only provide toggle control.

Corner Button Bank Change

There are 2 banks available in the 64, accessible by holding down the top right button for 2 seconds to enter Bank 2 and holding the top left button to return to Bank 1. The original message for those buttons are still sent to enable smoother Sound Pack changes. This functionality can be disabled from the MF Utility. Other options are available as detailed on page 6 of this guide.

Sleep Timer

The Midi Fighter 64 can be configured to sleep after a certain period of inactivity. You can configure the sleep timer to be between 0 and 120 minutes. A setting of 0 will disable sleep. Pressing any button will wake the Midi Fighter from sleep.

Combos

The Combos check box enables sending of 'Super Combo' MIDI notes. These are special notes sent only when specific patterns of arcade triggers are pressed, just like an arcade game. The full details of the super combos are secret, but details can be found on the Midi Fighter forum! Currently these are only available in the lower left quadrant.

Animations

The animations section allows you to configure the various global animations settings for the Midi Fighter 64 display. If you prefer to have these per button make sure set this to None so you don't have overlapping animations.

• Square

• Circle

• Star

• Triangle

• None

Note: Per button animations are available via MIDI Out, sent on Notes/CC 0-63 for Bank 1 and 64-127 for Bank 2 on Ch.4 (e.g. Animations for the top left arcade button are sent to CC28 Ch4 or Note E0 Ch.4)

Appendix 1

MIDI Messages (Bank 1)

Control	Note Ch	Note	Note/CC #	CC & Anim Ch.	Note/CC #
Arcade Button 1	3	C1	36	4	0
Arcade Button 2	3	C#1	37	4	1
Arcade Button 3	3	D1	38	4	2
Arcade Button 4	3	D#1	39	4	3
Arcade Button 5	3	E1	40	4	4
Arcade Button 6	3	F1	41	4	5
Arcade Button 7	3	F#1	42	4	6
Arcade Button 8	3	G1	43	4	7
Arcade Button 9	3	G#1	44	4	8
Arcade Button 10	3	A1	45	4	9
Arcade Button 11	3	A#1	46	4	10
Arcade Button 12	3	B1	47	4	11
Arcade Button 13	3	C2	48	4	12
Arcade Button 14	3	C#2	49	4	13
Arcade Button 15	3	D2	50	4	14
Arcade Button 16	3	D#2	51	4	15
Arcade Button 17	3	E2	52	4	16
Arcade Button 18	3	F2	53	4	17
Arcade Button 19	3	F#2	54	4	18
Arcade Button 20	3	G2	55	4	19
Arcade Button 21	3	G#2	56	4	20
Arcade Button 22	3	A2	57	4	21
Arcade Button 23	3	A#2	58	4	22
Arcade Button 24	3	B2	59	4	23
Arcade Button 25	3	C3	60	4	24
Arcade Button 26	3	C#3	61	4	25
Arcade Button 27	3	D3	62	4	26
Arcade Button 28	3	D#3	63	4	27
Arcade Button 29	3	E3	64	4	28
Arcade Button 30	3	F3	65	4	29
Arcade Button 31	3	F#3	66	4	30

Control	Note Ch	Note	Note/CC #	CC & Anim. Ch.	Note/CC #
Arcade Button 32	3	G3	67	4	31
Arcade Button 33	3	G#3	68	4	32
Arcade Button 34	3	A3	69	4	33
Arcade Button 35	3	A#3	70	4	34
Arcade Button 36	3	B3	71	4	35
Arcade Button 37	3	C4	72	4	36
Arcade Button 38	3	C#4	73	4	37
Arcade Button 39	3	D4	74	4	38
Arcade Button 40	3	D#4	75	4	39
Arcade Button 41	3	E4	76	4	40
Arcade Button 42	3	F4	77	4	41
Arcade Button 43	3	F#4	78	4	42
Arcade Button 44	3	G4	79	4	43
Arcade Button 45	3	G#4	80	4	44
Arcade Button 46	3	A4	81	4	45
Arcade Button 47	3	A#4	82	4	46
Arcade Button 48	3	B4	83	4	47
Arcade Button 49	3	C5	84	4	48
Arcade Button 50	3	C#5	85	4	49
Arcade Button 51	3	D5	86	4	50
Arcade Button 52	3	D#5	87	4	51
Arcade Button 53	3	E5	88	4	52
Arcade Button 54	3	F5	89	4	53
Arcade Button 55	3	F#5	90	4	54
Arcade Button 56	3	G5	91	4	55
Arcade Button 57	3	G#5	92	4	56
Arcade Button 58	3	A5	93	4	57
Arcade Button 59	3	A#5	94	4	58
Arcade Button 60	3	B5	95	4	59
Arcade Button 61	3	C6	96	4	60
Arcade Button 62	3	C#6	97	4	61
Arcade Button 63	3	D6	98	4	62
Arcade Button 64	3	D#6	99	4	63

CC only available when "Notes+CCs" mode is active in the Utility

MIDI Messages (Bank 2)

Control	Note Ch	Note	Note/CC #	CC & Anim Ch.	CC #*
Arcade Button 1	2	C1	36	4	64
Arcade Button 2	2	C#1	37	4	65
Arcade Button 3	2	D1	38	4	66
Arcade Button 4	2	D#1	39	4	67
Arcade Button 5	2	E1	40	4	68
Arcade Button 6	2	F1	41	4	69
Arcade Button 7	2	F#1	42	4	70
Arcade Button 8	2	G1	43	4	71
Arcade Button 9	2	G#1	44	4	72
Arcade Button 10	2	A1	45	4	73
Arcade Button 11	2	A#1	46	4	74
Arcade Button 12	2	B1	47	4	75
Arcade Button 13	2	C2	48	4	76
Arcade Button 14	2	C#2	49	4	77
Arcade Button 15	2	D2	50	4	78
Arcade Button 16	2	D#2	51	4	79
Arcade Button 17	2	E2	52	4	80
Arcade Button 18	2	F2	53	4	81
Arcade Button 19	2	F#2	54	4	82
Arcade Button 20	2	G2	55	4	83
Arcade Button 21	2	G#2	56	4	84
Arcade Button 22	2	A2	57	4	85
Arcade Button 23	2	A#2	58	4	86
Arcade Button 24	2	B2	59	4	87
Arcade Button 25	2	C3	60	4	88
Arcade Button 26	2	C#3	61	4	89
Arcade Button 27	2	D3	62	4	90
Arcade Button 28	2	D#3	63	4	91
Arcade Button 29	2	E3	64	4	92
Arcade Button 30	2	F3	65	4	93
Arcade Button 31	2	F#3	66	4	94
Arcade Button 32	2	G3	67	4	95
Arcade Button 33	2	G#3	68	4	96
Arcade Button 34	2	A3	69	4	97

Control	Note Ch	Note	Note/CC #	CC & Anim Ch.	CC #*
Arcade Button 35	2	A#3	70	4	98
Arcade Button 36	2	B3	71	4	99
Arcade Button 37	2	C4	72	4	100
Arcade Button 38	2	C#4	73	4	101
Arcade Button 39	2	D4	74	4	102
Arcade Button 40	2	D#4	75	4	103
Arcade Button 41	2	E4	76	4	104
Arcade Button 42	2	F4	77	4	105
Arcade Button 43	2	F#4	78	4	106
Arcade Button 44	2	G4	79	4	107
Arcade Button 45	2	G#4	80	4	108
Arcade Button 46	2	A4	81	4	109
Arcade Button 47	2	A#4	82	4	110
Arcade Button 48	2	B4	83	4	111
Arcade Button 49	2	C5	84	4	112
Arcade Button 50	2	C#5	85	4	113
Arcade Button 51	2	D5	86	4	114
Arcade Button 52	2	D#5	87	4	115
Arcade Button 53	2	E5	88	4	116
Arcade Button 54	2	F5	89	4	117
Arcade Button 55	2	F#5	90	4	118
Arcade Button 56	2	G5	91	4	119
Arcade Button 57	2	G#5	92	4	120
Arcade Button 58	2	A5	93	4	121
Arcade Button 59	2	A#5	94	4	122
Arcade Button 60	2	B5	95	4	123
Arcade Button 61	2	C6	96	4	124
Arcade Button 62	2	C#6	97	4	125
Arcade Button 63	2	D6	98	4	126
Arcade Button 64	2	D#6	99	4	127

CC only available when "Notes+CCs" mode is active in the Utility

Appendix 2

Animation Settings

Velocity / CC Value	Animation	Setting
0 - 17	None	-
18-33	Brightness	Level 0-15
34	Gate	Toggles every 16 beats
35	Gate	Toggles every 8 beats
36	Gate	Toggles every 4 beats
37	Gate	Toggles every 2 beats
38	Gate	Toggles every beat
39	Gate	Toggles every 1/2 beat
40	Gate	Toggles every 1/4 beat
41	Gate	Toggles every 1/8 beat
42	Pulse	Pulses every 32 beats
43	Pulse	Pulses every 16 beats
44	Pulse	Pulses every 8 beats
45	Pulse	Pulses every 4 beats
46	Pulse	Pulses every 2 beats
47	Pulse	Pulses every beat
48	Pulse	Pulses every 1/2 beat
49	Pulse	Pulses every 1/8 beat
50	Geometric	Square Animation
51	Geometric	Circle Animation
52	Geometric	Star Animation
53	Geometric	Triangle Animation
54 - 127	None	-

Note: Animations are sent on Notes/CC 0-63 for Bank 1 and 64-127 for Bank 2 on Ch.4 (e.g. Animations for the top left arcade button are sent to CC28 Ch4 or Note E0 Ch.4)