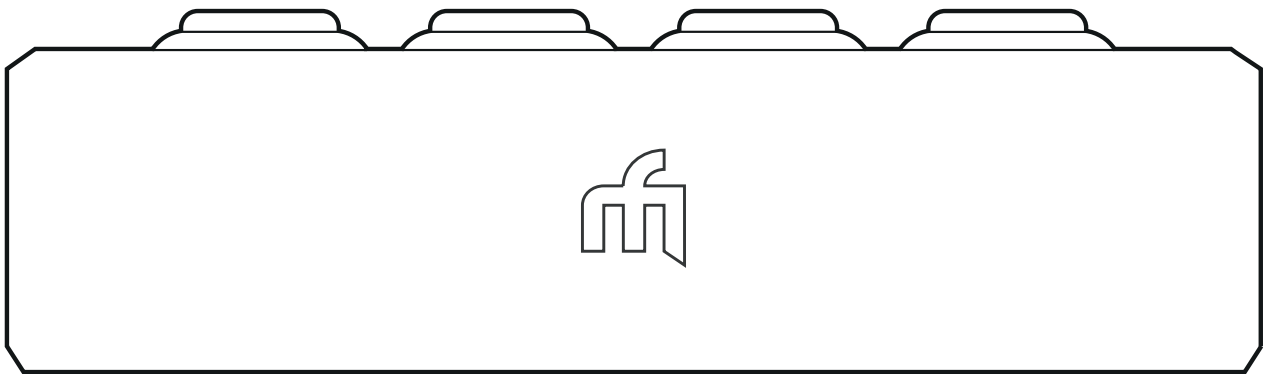


Midi Fighter Spectra



User Guide



DJTECHTOOLS.COM

Ver 1.01

Introduction

This user guide is split in two parts, first covering the Midi Fighter Utility and all relevant device settings, the second details the hardware & MIDI operation of the Midi Fighter Spectra

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](#).

[Midi Fighter Spectra Downloads](#)

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 Spectra.

Getting Started

The Midi Fighter Utility software can be downloaded using the following links.

[Download For Mac](#)

[Download For PC](#)

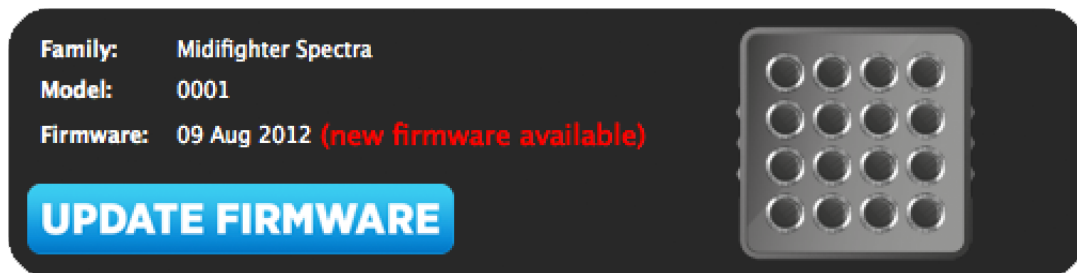
Once this has been installed you will find a shortcut on your desktop if using PC, or if using Mac you can find the utility under Applications\Midi Fighter Utility.

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

Note: If the Midi Fighter Utility does not detect the Midi Fighter Spectra 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 blue, 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 Spectra 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 Spectra this can be a good place to start when diagnosing the problem.

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

Tools>Midi Fighter>Factory Reset

Loading Alternate Firmware

Using the Midi Fighter Utility it is possible to switch to alternate firwmware versions such as the Remix Deck firmware.

You will find a list of alternate firmware available for the Midi Fighter Spectra under the menu

Tools>Alternate Firmware

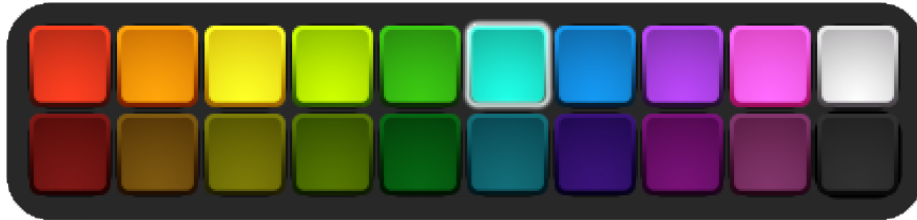
Once you select a firmware version the utility will automatically update your device.

Use of the Remix Deck firmware is covered in the Midi Fighter Spectra Remix Deck User Guide.

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 in all four virtual banks.

To chose your color settings first pick a color from the pallete 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.



You can change between virtual banks using the four bank buttons above the arcade buttons.



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

SEND TO MIDIFIGHTER

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 Spectra uses 3 channels and the second and third channels will follow the base channel sequentially.

Key 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.

Momentary CC

When this option is enabled the Midi Fighter Spectra 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.

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!

Bank Side Buttons

By default the note pitch or CC # of any side buttons configured for MIDI operation will change for each virtual bank,

Animations

The animations section allows you to configure the various global animations settings for the Midi Fighter Spectra display

Sleep Timer

The Midi Fighter Spectra 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 key will wake the Midi Fighter from sleep.

Sleep Rainbow

When the Midi Fighter Spectra goes into sleep mode it will display a rainbow animation, if you simply want it to turn the display off while in sleep mode you can disable this option.

Spark

Spark enables an animation where a burst of sparks shoot across the display with each press of an arcade trigger.

Bank Change

Bank Change enables an animation where a wave of white washes across the display to indicate a deck change.

Side Key Functions

Using the Utility the 6 side buttons can be configured to send either Notes, Control Changes messages (CC's), or perform certain internal functions like changing the bank selection.

The following side button functions are available:

Note

The button will send a Note On when pressed, and a Note Off when released.

CC

The button will send a Control Change message with a value of 127.

Next Bank

The button will increase the bank selection by 1

Previous Bank

The button will decrease the bank selection by 1

Bank 1

The button will select Bank 1

Bank 2

The button will select Bank 2

Bank 3

The button will select Bank 3

Bank 4

The button will select Bank 4

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.

The Midi Fighter Spectra Hardware

This section describes the hardware & MIDI operation of the Midi Fighter Spectra 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 Spectra consists of 16 arcade triggers with MIDI controlled full color ring illumination, and 6 user configurable buttons mounted on the side of the device. The side buttons have no LED illumination.

The Midi Fighter Spectra firmware makes it possible to access up four virtual 'Banks' or 'groups' of buttons. To access the virtual banks ensure that some of the side buttons are configured for bank change actions in the Midi Fighter Utility Software.

Each of the 16 arcade triggers will send a different note in each bank, allowing access of up to 64 unique notes across the four banks. By default any side button MIDI Notes or CC's are also unique for each bank, this behaviour can be disabled with the Utility by un-checking the "Bank Side Buttons" option.

For a full description of the bank operation refer to the virtual bank section.

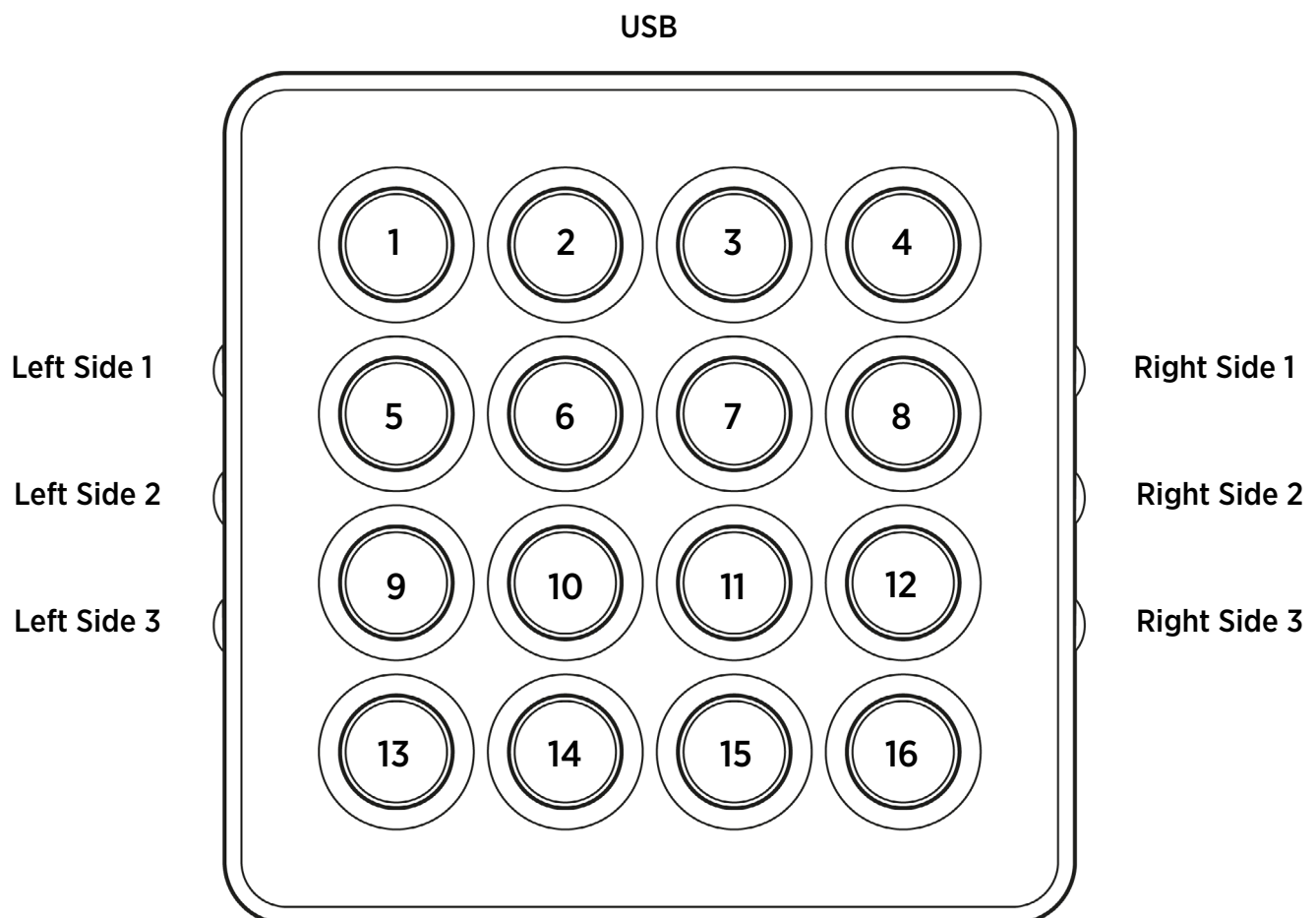


Fig 1 Hardware Naming Convention

Arcade Triggers

Each trigger sends a Note On when pressed and a Note Off once released. Because 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 'Momentary CC' option is enabled then the Midi Fighter Spectra 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 in each bank

Setting Arcade Trigger Color

The ring illumination color of the arcade triggers has two states, active (pressed) and inactive (released). The Utility can be used to set the inactive and active color state of each ring in each of the four virtual banks.

By using MIDI messages the user can also override the default inactive/active color setting and control both the color and animation state of each arcade trigger ring.

There are 10 colors available, each with a bright state and a dim state. 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.

ie. To set the color of the first arcade trigger to Bright Red send a Ch3 C3 Note On of Velocity 7.

The following table shows the velocity range for each color. You may notice that the velocity range 121 - 127 is not covered, this range will force the LED to its active color as set in the Utility regardless of if the button is pushed or not.

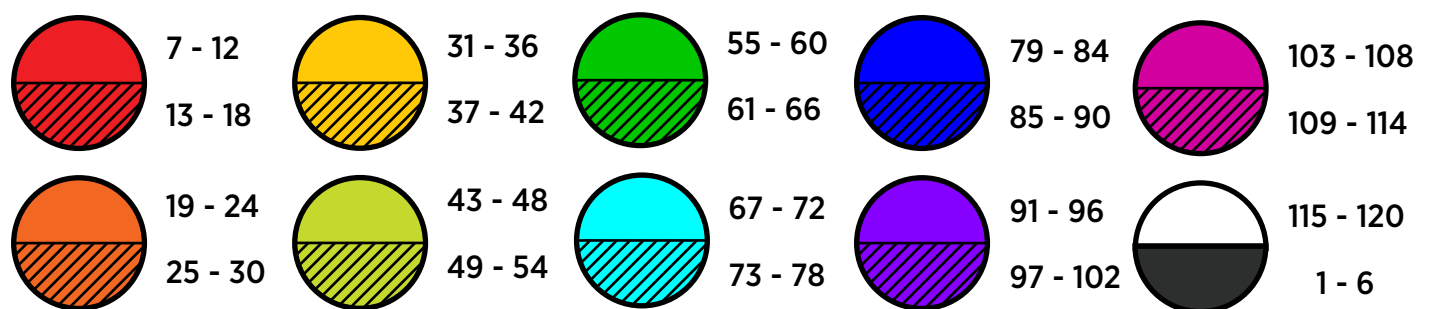


Fig 2 MIDI Color Velocity Settings

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.

To set the animation state of a given arcade trigger ring send a Note On message of the same pitch, but on Channel 4.

ie To set the animation state of the first arcade trigger to Gate 1/4 send a Ch4 C3 Note On of Velocity 39.

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

ie. 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 7, then the animation setting with a Ch4 C3 Note On of Velocity 39.

Side Buttons

Using the Utility the 6 side buttons can be configured to send either Notes, Control Changes messages (CC's), or perform certain internal functions like changing the bank selection.

If a side button is set for MIDI function the pitch of the note or CC number will change in each virtual bank. This can be disabled by unchecking the "Bank Side Button" check box in the Utility.

The following side button functions are available:

Note

The button will send a Note On when pressed, and a Note Off when released.

CC

The button will send a Control Change message with a value of 127.

Next Bank

The button will increase the bank selection by 1

Previous Bank

The button will decrease the bank selection by 1

Bank 1

The button will select Bank 1

Bank 2

The button will select Bank 2

Bank 3

The button will select Bank 3

Bank 4

The button will select Bank 4

By default side button MIDI messages are sent on Channel 4.

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

Virtual Bank Operation

The Midi Fighter Spectra makes it possible to access up to four virtual banks. In each bank the arcade triggers and side buttons* will send different MIDI Notes or CC's.

To switch between virtual bank the side buttons must be configured to allow bank switching. By default the middle left side button decrements the bank selection, and the middle right side button increments the bank selection. Please refer to the side button section of this manual for further information.

*Side buttons can be set to not change with bank by disabling the "Bank Side Buttons" option in the Utility.

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 Spectra sends a Note On to indicate a new bank has been selected. It will also send a Note Off to indicate the previously selected bank is no longer active. By default the bank selection notes are sent on MIDI Channel 4.

ie When changing from Bank 1 to Bank 2 the Midi Fighter will send a Ch4 C-1 Note Off followed by a Ch4 C#-1 Note On.

By sending Note On messages to the MIDI Fighter Spectra it is also possible to force it to automatically change to a specific bank.

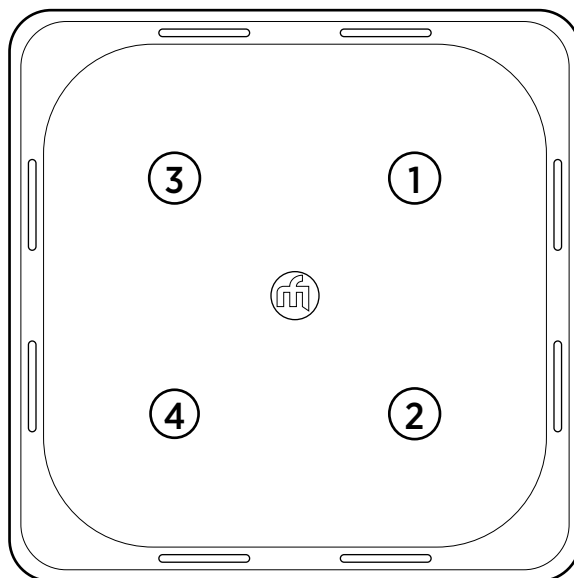
ie To force a change to Bank 2 send a Ch4 C-1 Note on

Bank Change Notes

Bank 1		Ch4 C-1
Bank 2		Ch4 C#-1
Bank 3		Ch4 D-1
Bank 4		Ch4 D#-1

Ground Lighting

The Midi Fighter Spectra has four white ground lighting LED's mounted on the base of the unit. These ground lighting LEDs can be individually controlled via MIDI Notes and set to a variety of brightness levels and animation states.



The ground LED control notes are

LED 1 = Ch4 E0
LED 2 = Ch4 F0
LED 3 = Ch4 F#0
LED 4 = Ch4 G0

A Note On of velocity 127 will simply turn the LED on, however by varying the velocity of the control notes you can also set the brightness, flash and pulse rate of each ground LED.

The available velocity settings are

Brightness Level | Velocity 18 - 33

This animation allows the user to set the brightness of the LED to one of 16 brightness levels between 0 and 100%.

Gate | Velocity 34 - 41

Allows the user to gate (flash) the LED 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.

Pulse | Velocity 42 - 49

Similar to the Gate animation this allows the user to pulse the LED 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.

Appendix 1

Bank 1 MIDI

Control	Note Ch	Note	Note #	CC Ch	CC #
Left Side 1	4	A#0	22	5	22
Left Side 2	4	A0	21	5	21
Left Side 3	4	G#0	20	5	20
Right Side 1	4	C#1	25	5	25
Right Side 2	4	C1	24	5	24
Right Side 3	4	B0	23	5	23
Arcade Button 1	3	C3	48	4	48
Arcade Button 2	3	C#3	49	4	49
Arcade Button 3	3	D3	50	4	50
Arcade Button 4	3	D#3	51	4	51
Arcade Button 5	3	G#2	44	4	44
Arcade Button 6	3	A2	45	4	45
Arcade Button 7	3	A#2	46	4	46
Arcade Button 8	3	B2	47	4	47
Arcade Button 9	3	E2	40	4	40
Arcade Button 10	3	F2	41	4	41
Arcade Button 11	3	F#2	42	4	42
Arcade Button 12	3	G2	43	4	43
Arcade Button 13	3	C2	36	4	36
Arcade Button 14	3	C#2	37	4	37
Arcade Button 15	3	D2	38	4	38
Arcade Button 16	3	D#2	39	4	39

Appendix 1 contd...

Bank 2 MIDI

Control	Note Ch	Note	Note #	CC Ch	CC #
Left Side 1	4	A#0	28	5	28
Left Side 2	4	A0	27	5	27
Left Side 3	4	G#0	26	5	26
Right Side 1	4	C#1	31	5	31
Right Side 2	4	C1	30	5	30
Right Side 3	4	B0	29	5	29
Arcade Button 1	3	E4	64	4	64
Arcade Button 2	3	F4	65	4	65
Arcade Button 3	3	F#4	66	4	66
Arcade Button 4	3	G4	67	4	67
Arcade Button 5	3	C4	60	4	60
Arcade Button 6	3	C#4	61	4	61
Arcade Button 7	3	D4	62	4	62
Arcade Button 8	3	D#4	63	4	63
Arcade Button 9	3	G#3	56	4	56
Arcade Button 10	3	A3	57	4	57
Arcade Button 11	3	A#3	58	4	58
Arcade Button 12	3	B3	59	4	59
Arcade Button 13	3	E3	52	4	52
Arcade Button 14	3	F3	53	4	53
Arcade Button 15	3	F#3	54	4	54
Arcade Button 16	3	G3	55	4	55

Appendix 1 contd...

Bank 3 MIDI

Control	Note Ch	Note	Note #	CC Ch	CC #
Left Side 1	4	A#0	34	5	34
Left Side 2	4	A0	33	5	33
Left Side 3	4	G#0	32	5	32
Right Side 1	4	C#1	37	5	37
Right Side 2	4	C1	36	5	36
Right Side 3	4	B0	35	5	35
Arcade Button 1	3	G#5	80	4	80
Arcade Button 2	3	A5	81	4	81
Arcade Button 3	3	A#5	82	4	82
Arcade Button 4	3	B5	83	4	83
Arcade Button 5	3	E5	76	4	76
Arcade Button 6	3	F5	77	4	77
Arcade Button 7	3	F#5	78	4	78
Arcade Button 8	3	G5	79	4	79
Arcade Button 9	3	C5	72	4	72
Arcade Button 10	3	C#5	73	4	73
Arcade Button 11	3	D5	74	4	74
Arcade Button 12	3	D#5	75	4	75
Arcade Button 13	3	G#4	68	4	68
Arcade Button 14	3	A4	69	4	69
Arcade Button 15	3	A#4	70	4	70
Arcade Button 16	3	B4	71	4	71

Appendix 1 contd...

Bank 4 MIDI

Control	Note Ch	Note	Note #	CC Ch	CC #
Left Side 1	4	A#0	40	5	40
Left Side 2	4	A0	39	5	39
Left Side 3	4	G#0	38	5	38
Right Side 1	4	C#1	43	5	43
Right Side 2	4	C1	42	5	42
Right Side 3	4	B0	41	5	41
Arcade Button 1	3	C7	96	4	96
Arcade Button 2	3	C#7	97	4	97
Arcade Button 3	3	D7	98	4	98
Arcade Button 4	3	D#7	99	4	99
Arcade Button 5	3	G#6	92	4	92
Arcade Button 6	3	A6	93	4	93
Arcade Button 7	3	A#6	94	4	94
Arcade Button 8	3	B6	95	4	95
Arcade Button 9	3	E6	88	4	88
Arcade Button 10	3	F6	89	4	89
Arcade Button 11	3	F#6	90	4	90
Arcade Button 12	3	G6	91	4	91
Arcade Button 13	3	C6	84	4	84
Arcade Button 14	3	C#6	85	4	85
Arcade Button 15	3	D6	86	4	86
Arcade Button 16	3	D#6	87	4	87

Appendix 2

Animation Settings

Velocity	Animation	Setting
<18	None	-
18	Brightness	Level 0 - off
19	Brightness	Level 1
20	Brightness	Level 2
21	Brightness	Level 3
22	Brightness	Level 4
23	Brightness	Level 5
24	Brightness	Level 6
25	Brightness	Level 7
26	Brightness	Level 8
27	Brightness	Level 9
28	Brightness	Level 10
29	Brightness	Level 11
30	Brightness	Level 12
31	Brightness	Level 13
32	Brightness	Level 14
33	Brightness	Level 15
34	Gate	16
35	Gate	8
36	Gate	4
37	Gate	2
38	Gate	1
39	Gate	$\frac{1}{2}$
40	Gate	$\frac{1}{4}$
41	Gate	$\frac{1}{8}$
42	Pulse	32
43	Pulse	16
44	Pulse	8
45	Pulse	4
46	Pulse	2
47	Pulse	1
48	Pulse	$\frac{1}{2}$
49	Pulse	$\frac{1}{8}$
>50	None	-