Twiddler.cfg Version 4 Binary File Format

Header # of bytes	Settings and table location information (16 bytes)	Used in Twiddler3	Default config example data (hex) Location	Value	Note
1	config format version	✓	0000	04	Version 4
2	chord-map offset from start of file, LSB first then MSB	✓	0001	10 00	Address 0010
2	mouse-chord-map offset, LSB first then MSB		0003	F8 01	Address 01F8
2	string table offset, LSB first then MSB	✓	0005	1F 02	Address 021F
2	mouse mode time - timeout for staying in mouse mode		0007	DC 05	
2	mouse jump time - allows for a quick double-tap in a direction, within a this timeout, to start out with a faster mouse movement		0009	7F 01	
1	normal mouse starting speed		000B	03	
1	mouse jump mode starting speed		000C	06	
1	mouse acceleration factor		000D	0A	
1	delay on key repeat		000E	64	
1	options byte bit 0x01: key repeat enabled bit 0x02: mass storage mode enabled on power-on	✓	000F	05	key repeat and mass storage enabled

Chord Map # of bytes	Entries of four bytes, terminated with an all-zero entry	Used in Twiddler3	Default config example data (hex) Location	Value	Note
2	Chord representation, LSB first then MSB	✓	0010	00 08	O OOLO
1	HID modifier byte for this HID key code, or use FF for sequence	✓	0012	00	no modifiers
1	HID key code (see notes), or sequence index	✓	0013	2A	BACKSPACE
			0014	44 40	O MMOM
			0016	00	no modifiers
			0017	2B	TAB
			. . .		
			00A4	80 02	O OMOL
			00A6	20	SHIFT
			00A7	21	'3' (i.e. '#')
			. . .		
			01C8	20 02	O ORRO
			01CA	FF	sequence
			01CB	00	Index 0
			01C8	20 12	S ORRO
			01CA	FF	sequence
			01CB	01	Index 1
			. . .		
4	End of table delimiter		01F4	00 00 00 00	End of table

Mouse Map # of bytes	Entries of three bytes, terminated with an all-zero entry	Used in Twiddler3
2	Chord representation, LSB first then MSB	
1	Mouse action byte	
3	End of table delimiter	

Default config example data (hex)		
Location	Value	Note
01F8	08 00	
01FA	02	
. . .		
021C	00 00 00	End of table

Sequence Map # of bytes	Variable-length entries, terminated with a 0-length entry	Used in Twiddler3
2	Length of sequence entry, LSB first then MSB. First sequence is known as index 0, next sequence is known as index 1, etc.	✓
1	HID modifier byte for this HID code in the sequence(see notes)	✓
1	HID key code in the sequence (see notes)	✓
	... additional 2-byte sets depending on length of sequence ...	✓
4	End of table delimiter	✓

Default config example data (hex)		
Location	Value	Note
021F	0A 00	10 byte entry(index 0)
0221	00	no modifiers
0222	17	't'
0223	00	no modifiers
0224	0B	'h'
0225	00	no modifiers
0226	08	'e'
0227	00	no modifiers
0228	2C	SPACE
0229	0A 00	10 byte entry(index 1)
022B	20	SHIFT
022C	17	't' (i.e. 'T')
022D	00	no modifiers
022E	0B	'h'
022F	00	no modifiers
0230	08	'e'
0231	00	no modifiers
0232	2C	SPACE
0233	08 00	8 byte entry(index 2)
0235	00	no modifiers
0236	12	'o'
0237	00	no modifiers
0238	09	'f'
0239	00	no modifiers
023A	2C	SPACE
. . .		
0283	00 00	End of table

Notes: Config version 4 format was used in Twiddler 2.1. Not all file information is used in Twiddler 3
HID key codes referenced from: http://www.usb.org/developers/hidpage/Hut1_12v2.pdf
HID key codes:0xFB through 0xFE are reserved for special purposes (like going to upgrade mode)

Button Chord Representation Bitmask:

HID Modifier byte Bitmask:0x01: Left Ctrl0x02: Left Shift0

Thumb
bit 0 4 8 12

Fingers
bit 3 bit 2 bit 1
bit 7 bit 6 bit 5
bit 11 bit 10 bit 9
bit 15 bit 14 bit 13

THUMBS
0x0001 "NUM" button
0x0010 "ALT" button
0x0100 "CTRL" button
0x1000 "SHFT" button

FINGERS
0x0002 "A" button
0x0004 "E" button
0x0008 "SP" button

0x0020 "B" button
0x0040 "F" button
0x0080 "DEL" button

0x0200 "C" button
0x0400 "G" button
0x0800 "BS" button

Revision	Notes
0	Initial Release