

Overview

Header, Chord Table, String Location Table, String Contents Table

Header

Length (bytes): 16

Header Structure

# Bytes	Field	Value	Note	Example
1	Config Format Version	0x05	Version 5	
1	Options A (boolean flags) [0] Enable Key Repeat, 0=Off, 1=On [1] Enable Direct Key Mode, 0=Off, 1=On [2] Joystick Mouse Click, 0=Right-Click, 1=Left-Click [3] Disable Bluetooth Radio, 0=Enabled, 1=Disabled [4] Enable Stick Num Key, 0=Off, 1=On [5] 0 [6] 0 [7] Enable Stick Shift Key, 0=Off, 1=On	0x05		
2	Number of Chords in Chord Table (max 1020) *	0x0079	121 chords	
2	Sleep Timeout *	0x05DC	1500 seconds	
2	Mouse Left-Click or Chord Mapping Use 0x0000 to activate Mouse Click action. Other values follow the Chord Mapping syntax.	0x0000		
2	Mouse Middle-Click or Chord Mapping Use 0x0000 to activate Mouse Click action. Other values follow the Chord Mapping syntax.	0x0000		
2	Mouse Right-Click or Chord Mapping Use 0x0000 to activate Mouse Click action. Other values follow the Chord Mapping syntax.	0x0000		
1	Mouse Acceleration Factor	0x0A		
1	Key Repeat Delay	0x64	recommended	
1	Options B (boolean flags) Reserved	0x00		
1	Options C (boolean flags) [0] Haptic Feedback Enable, 0=Off, 1=On [1] 0 [2] 0 [3] 0 [4] 0 [5] 0 [6] 0 [7] 0	0x00		

Chord Table

List of Chords, each record is 4-bytes, containing the Chord Representation and Chord Mapping

Records sorted in ascending order of Chord Representation value

Length (bytes): 4 * # of chords in Chord Table (see Header)

Located immediately following the Header

Chord Representation Bitmasks (2-bytes)

Bit	Button
0	NUM button
4	ALT button
8	CTRL button
12	SHFT button
1	A button
2	E button
3	SP button
5	B button
6	F button
7	DEL button
9	C button
10	G button
11	BS button
13	D button
14	H button
15	ENT button

HID Modifier Bitmasks (1-byte)

Bit	Button
0	Left Ctrl
1	Left Shift
2	Left Alt
3	Left GUI
4	Right Ctrl
5	Right Shift
6	Right Alt
7	Right GUI

Chord Mapping (2-bytes)

Byte	Single Keycode	String (Multiple Keycodes)
LSB	HID modifier byte	0xFF
MSB	HID key code	0-based index to record in String Location Table

Chord Table Record Structure

# Bytes	Field
2	Chord Representation *
2	Chord Mapping

Example

Value	Note
0x0002	0 00LO
0x00	no modifiers
0x04	'a'
0x0220	0 ORRO
0xFF	(String)
0x00	(String Index 0)
0x0280	0 OMOL
0x20	SHIFT
0x21	'#' (shifted '3')
0x0420	S ORMO
0xFF	(String)
0x01	(String Index 1)
0x4044	0 MMOM
0x00	no modifiers

Twiddler.cfg Version 5 Binary File Format

0x2B	TAB
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String Location Table

Lookup Table for Location of String
 Max 256 records, 4 bytes per record
 Length (bytes): 0 to 1024
 Located immediately following the Chord Table

String Location Table Record Structure

# Bytes	Field
4	Location of String index [i] *

Example

Value	Note
0x00000220	String [0]
0x0000022A	String [1]

String Contents Table

Variable-length records
 2-byte prefix representing the length of the record, followed by 'n' Chord Mappings.
 Chord mappings here must be single characters, not indexes to other strings.
 Located immediately following the String Location Map

String Contents Table Record Structure

# Bytes	Field
2	Number of bytes in this String record, little endian. Length includes this Field, plus 2*n (n= number of characters)
2	[0] Single-Keycode Chord Mapping
...	...
2	[n-1] Single-Keycode Chord Mapping

Example

Value	Note
0x000A	10-byte record
0x00	no modifiers
0x17	't'
0x00	no modifiers
0x0B	'h'
0x00	no modifiers
0x08	'e'
0x00	no modifiers
0x2C	<SPACE>
0x0008	8-byte record
0x00	no modifiers
0x12	'o'
0x00	no modifiers
0x09	'f'
0x00	no modifiers
0x2C	<SPACE>

Notes

All multi-byte values stored as Little Endian (LSB first then MSB) (*)
 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)

Revision History

Revision	Notes
0	Initial Release
1	Spelling corrections
2	Haptic Feedback enable bit
3	Header mouse buttons order correction