Appendix C: USB Keyboard/Keypad Page (0x07)

This section is the **Usage Page** for key codes to be used in implementing a USB keyboard. A **Boot Keyboard** (84-, 101- or 104-key) should at a minimum support all associated usage codes as indicated in the "Boot" column below.

Note: Due to the variation of keyboards from language to language, it is not feasible to specify exact key mappings for every language. Where this list is not specific for a key function in a language, the closest equivalent key position should be used, so that a keyboard may be modified for a different language by simply printing different keycaps. One example is the Y key on a North American keyboard. In Germany, this is typically Z. Rather than changing the keyboard firmware to put the Z Usage into that place in the descriptor list, the vendor should use the Y Usage on both the North American and German keyboards. This continues to be the existing practice in the industry, in order to minimize the number of changes to the electronics to accommodate other languages.

Usage index (dec)	Usage Index (hex)	Usage	Ref:typical AT-101 position	PC-AT	Mac-intosh	UNIX	Boot
0	00	Reserved (no event indicated) [9]	N/A	√	√	√	84/101/104
1	01	Keyboard ErrorRollOver[9]	N/A	√	√	√	84/101/104
2	02	Keyboard POSTFail[9]	N/A	√	√	√	84/101/104
3	03	Keyboard ErrorUndefined[9]	N/A	√	√	√	84/101/104
4	04	Keyboard a and A[4]	31	√	√	√	84/101/104
5	05	Keyboard b and B	50	√	√	√	84/101/104
6	06	Keyboard c and C[4]	48	√	√	√	84/101/104
7	07	Keyboard d and D	33	√	√	√	84/101/104
8	08	Keyboard e and E	19	√	√	√	84/101/104
9	09	Keyboard f and F	34	√	√	√	84/101/104
10	0A	Keyboard g and G	35	√	√	√	84/101/104
11	0B	Keyboard h and H	36	√	√	√	84/101/104
12	0C	Keyboard i and I	24	√	√	√	84/101/104
13	0D	Keyboard j and J	37	√	√	√	84/101/104
14	0E	Keyboard k and K	38	√	√	√	84/101/104
15	0F	Keyboard l and L	39	√	√	√	84/101/104
16	10	Keyboard m and M[4]	52	√	√	√	84/101/104
17	11	Keyboard n and N	51	√	√	√	84/101/104
18	12	Keyboard o and O[4]	25	√	√	√	84/101/104
19	13	Keyboard p and P[4]	26	√	√	√	84/101/104
20	14	Keyboard q and Q[4]	17	√	√	√	84/101/104
21	15	Keyboard r and R	20	√	√	√	84/101/104
22	16	Keyboard s and S[4]	32	√	√	√	84/101/104
23	17	Keyboard t and T	21	√	√	√	84/101/104
24	18	Keyboard u and U	23	√	√	√	84/101/104
25	19	Keyboard v and V	49	√	√	√	84/101/104
26	1A	Keyboard w and W[4]	18	√	√	√	84/101/104
27	1B	Keyboard x and X[4]	47	√	√	√	84/101/104
28	1C	Keyboard y and Y[4]	22	√	√	√	84/101/104
29	1D	Keyboard z and Z[4]	46	√	√	√	84/101/104
30	1E	Keyboard 1 and ! [4]	2	√	√	√	84/101/104
31	1F	Keyboard 2 and @[4]	3	√	√	√	84/101/104
32	20	Keyboard 3 and #[4]	4	√	√	√	84/101/104
33	21	Keyboard 4 and $[4]	5	√	√	√	84/101/104
34	22	Keyboard 5 and %[4]	6	√	√	√	84/101/104
35	23	Keyboard 6 and ^[4]	7	√	√	√	84/101/104
36	24	Keyboard 7 and &[4]	8	√	√	√	84/101/104
37	25	Keyboard 8 and *[4]	9	√	√	√	84/101/104

Usage index (dec)	Usage Index (hex)	Usage	Ref:typical AT-101 position	PC-AT	Mac-intosh	UNIX	Boot
38	26	Keyboard 9 and ([4]	10	√	√	√	84/101/104
39	27	Keyboard 0 and) [4]	11	√	√	√	84/101/104
40	28	Keyboard Return(ENTER) [5]	43	√	√	√	84/101/104
41	29	Keyboard ESCAPE	110	√	√	√	84/101/104
42	2A	Keyboard DELETE (Backspace) [13]	15	√	√	√	84/101/104
43	2B	Keyboard Tab	16	√	√	√	84/101/104
44	2C	Keyboard Spacebar	61	√	√	√	84/101/104
45	2D	Keyboard - and (underscore) [4]	12	√	√	√	84/101/104
46	2E	Keyboard = and+[4]	13	√	√	√	84/101/104
47	2F	Keyboard [and {[4]	27	√	√	√	84/101/104
48	30	Keyboard] and }[4]	28	√	√	√	84/101/104
49	31	Keyboard \ and |	29	√	√	√	84/101/104
50	32	Keyboard Non-US# and ~[2]	42	√	√	√	84/101/104
51	33	Keyboard [4]	40	√	√	√	84/101/104
52	34	Keyboard ' and "[4]	41	√	√	√	84/101/104
53	35	Keyboard Grave Accent and Tilde[4]	1	√	√	√	84/101/104
54	36	Keyboard , and <[4]	53	√	√	√	84/101/104
55	37	Keyboard . and >[4]	54	√	√	√	84/101/104
56	38	Keyboard / and ? [4]	55	√	√	√	84/101/104
57	39	Keyboard CapsLock[11]	30	√	√	√	84/101/104
58	3A	Keyboard F1	112	√	√	√	84/101/104
59	3B	Keyboard F2	113	√	√	√	84/101/104
60	3C	Keyboard F3	114	√	√	√	84/101/104
61	3D	Keyboard F4	115	√	√	√	84/101/104
62	3E	Keyboard F5	116	√	√	√	84/101/104
63	3F	Keyboard F6	117	√	√	√	84/101/104
64	40	Keyboard F7	118	√	√	√	84/101/104
65	41	Keyboard F8	119	√	√	√	84/101/104
66	42	Keyboard F9	120	√	√	√	84/101/104
67	43	Keyboard F10	121	√	√	√	84/101/104
68	44	Keyboard F11	122	√	√	√	101/104
69	45	Keyboard F12	123	√	√	√	101/104
70	46	Keyboard PrintScreen[1]	124	√	√	√	101/104
71	47	Keyboard ScrollLock[11]	125	√	√	√	84/101/104
72	48	Keyboard Pause[1]	126	√	√	√	101/104
73	49	Keyboard Insert[1]	75	√	√	√	101/104
74	4A	Keyboard Home[1]	80	√	√	√	101/104
75	4B	Keyboard PageUp[1]	85	√	√	√	101/104
76	4C	Keyboard Delete Forward[1]	76	√	√	√	101/104
77	4D	Keyboard End[1]	81	√	√	√	101/104
78	4E	Keyboard PageDown[1]	86	√	√	√	101/104
79	4F	Keyboard RightArrow[1]	89	√	√	√	101/104
80	50	Keyboard LeftArrow[1]	79	√	√	√	101/104
81	51	Keyboard DownArrow[1]	84	√	√	√	101/104
82	52	Keyboard UpArrow[1]	83	√	√	√	101/104
83	53	Keypad NumLock and Clear[11]	90	√	√	√	101/104
84	54	Keypad /[1]	95	√	√	√	101/104

Usage index (dec)	Usage Index (hex)	Usage	Ref:typical AT-101 position	PC-AT	Mac-intosh	UNIX	Boot
85	55	Keypad *	100	√	√	√	84/101/104
86	56	Keypad -	105	√	√	√	84/101/104
87	57	Keypad +	106	√	√	√	84/101/104
88	58	Keypad ENTER5	108	√	√	√	101/104
89	59	Keypad 1 and End	93	√	√	√	84/101/104
90	5A	Keypad 2 and Down Arrow	98	√	√	√	84/101/104
91	5B	Keypad 3 and PageDn	103	√	√	√	84/101/104
92	5C	Keypad 4 and Left Arrow	92	√	√	√	84/101/104
93	5D	Keypad 5	97	√	√	√	84/101/104
94	5E	Keypad 6 and Righ tArrow	102	√	√	√	84/101/104
95	5F	Keypad 7 and Home	91	√	√	√	84/101/104
96	60	Keypad 8 and Up Arrow	96	√	√	√	84/101/104
97	61	Keypad 9 and PageUp	101	√	√	√	84/101/104
98	62	Keypad 0 and Insert	99	√	√	√	84/101/104
99	63	Keypad . and Delete	104	√	√	√	84/101/104
100	64	Keyboard Non-US\ and |[3;6]	45	√	√	√	84/101/104
101	65	Keyboard Application[10]	129	√		√	104
102	66	Keyboard Power[9]			√	√	
103	67	Keypad =			√		
104	68	Keyboard F13			√		
105	69	Keyboard F14			√		
106	6A	Keyboard F15			√		
107	6B	Keyboard F16					
108	6C	Keyboard F17					
109	6D	Keyboard F18					
110	6E	Keyboard F19					
111	6F	Keyboard F20					
112	70	Keyboard F21					
113	71	Keyboard F22					
114	72	Keyboard F23					
115	73	Keyboard F24					
116	74	Keyboard Execute				√	
117	75	Keyboard Help				√	
118	76	Keyboard Menu				√	
119	77	Keyboard Select				√	
120	78	Keyboard Stop				√	
121	79	Keyboard Again				√	
122	7A	Keyboard Undo				√	
123	7B	Keyboard Cut				√	
124	7C	Keyboard Copy				√	
125	7D	Keyboard Paste				√	
126	7E	Keyboard Find				√	
127	7F	Keyboard Mute				√	
128	80	Keyboard Volume Up				√	
129	81	Keyboard Volume Down				√	
130	82	Keyboard Locking Caps Lock[12]				√	
131	83	Keyboard Locking Num Lock[12]				√	
132	84	Keyboard Locking Scroll Lock [12]				√	
133	85	Keypad Comma					

Usage index (dec)	Usage Index (hex)	Usage	Ref:typical AT-101 position	PC-AT	Mac-intosh	UNIX	Boot
134	86	Keypad Equal Sign					
135	87	Keyboard Kanji1[15]					
136	88	Keyboard Kanji2[16]					
137	89	Keyboard Kanji3[17]					
138	8A	Keyboard Kanji4[18]					
139	8B	Keyboard Kanji5[19]					
140	8C	Keyboard Kanji6[20]					
141	8D	Keyboard Kanji7[21]					
142	8E	Keyboard Kanji8[22]					
143	8F	Keyboard Kanji9[22]					
144	90	Keyboard LANG1[8]					
145	91	Keyboard LANG2[8]					
146	92	Keyboard LANG3[8]					
147	93	Keyboard LANG4[8]					
148	94	Keyboard LANG5[8]					
149	95	Keyboard LANG6[8]					
150	96	Keyboard LANG7[8]					
151	97	Keyboard LANG8[8]					
152	98	Keyboard LANG9[8]					
153	99	Keyboard AlternateErase[7]					
154	9A	Keyboard SysReq/Attenti[1]					
155	9B	Keyboard Cancel					
156	9C	Keyboard Clear					
157	9D	Keyboard Prior					
158	9E	Keyboard Return					
159	9F	Keyboard Separator					
160	A0	Keyboard Out					
161	A1	Keyboard Oper					
162	A2	Keyboard Clear/Again					
163	A3	Keyboard CrSel/Props					
164	A4	Keyboard ExSel					
165-223	A5-DF	Reserved					
224	E0	Keyboard LeftControl	58	√	√	√	84/101/104
225	E1	Keyboard LeftShift	44	√	√	√	84/101/104
226	E2	Keyboard LeftAlt	60	√	√	√	84/101/104
227	E3	Keyboard Left GUI[10;23]	127	√	√	√	104
228	E4	Keyboard RightControl	64	√	√	√	101/104
229	E5	Keyboard RightShift	57	√	√	√	84/101/104
230	E6	Keyboard RightAlt	62	√	√	√	101/104
231	E7	Keyboard Right GUI[10;24]	128	√	√	√	104
232-255	E8-FF	Reserved					

Key Scancodes

Code	Key	Code	Key	Code	Key
00	NoKey	3D	F3	70	ALT-F9
01	ALT-Esc	3E	F4	71	ALT-F10
02	ALT-Space	3F	F5	72	CTRL-PrtSc
04	CTRL-Ins	40	F6	73	CTRL-Left
05	SHIFT-Ins	41	F7	74	CTRL-Right
06	CTRL-Del	42	F8	75	CTRL-end
07	SHIFT-Del	43	F9	76	CTRL-PgDn
08	ALT-Back	44	F10	77	CTRL-Home
09	ALT-SHIFT-Back	47	Home	78	ALT-1
0F	SHIFT-Tab	48	Up	79	ALT-2
10	ALT-Q	49	PgUp	7A	ALT-3
11	ALT-W	4B	Left	7B	ALT-4
12	ALT-E	4C	Center	7C	ALT-5
13	ALT-R	4D	Right	7D	ALT-6
14	ALT-T	4E	ALT-GrayPlus	7E	ALT-7
15	ALT-Y	4F	end	7F	ALT-8
16	ALT-U	50	Down	80	ALT-9
17	ALT-I	51	PgDn	81	ALT-0
18	ALT-O	52	Ins	82	ALT-Minus
19	ALT-P	53	Del	83	ALT-Equal
1A	ALT-LftBrack	54	SHIFT-F1	84	CTRL-PgUp
1B	ALT-RgtBrack	55	SHIFT-F2	85	F11
1E	ALT-A	56	SHIFT-F3	86	F12
1F	ALT-S	57	SHIFT-F4	87	SHIFT-F11
20	ALT-D	58	SHIFT-F5	88	SHIFT-F12
21	ALT-F	59	SHIFT-F6	89	CTRL-F11
22	ALT-G	5A	SHIFT-F7	8A	CTRL-F12
23	ALT-H	5B	SHIFT-F8	8B	ALT-F11
24	ALT-J	5C	SHIFT-F9	8C	ALT-F12
25	ALT-K	5D	SHIFT-F10	8D	CTRL-Up
26	ALT-L	5E	CTRL-F1	8E	CTRL-Minus
27	ALT-SemiCol	5F	CTRL-F2	8F	CTRL-Center
28	ALT-Quote	60	CTRL-F3	90	CTRL-GreyPlus
29	ALT-OpQuote	61	CTRL-F4	91	CTRL-Down
2B	ALT-BkSlash	62	CTRL-F5	94	CTRL-Tab
2C	ALT-Z	63	CTRL-F6	97	ALT-Home
2D	ALT-X	64	CTRL-F7	98	ALT-Up
2E	ALT-C	65	CTRL-F8	99	ALT-PgUp
2F	ALT-V	66	CTRL-F9	9B	ALT-Left
30	ALT-B	67	CTRL-F10	9D	ALT-Right
31	ALT-N	68	ALT-F1	9F	ALT-end
32	ALT-M	69	ALT-F2	A0	ALT-Down
33	ALT-Comma	6A	ALT-F3	A1	ALT-PgDn
34	ALT-Period	6B	ALT-F4	A2	ALT-Ins
35	ALT-Slash	6C	ALT-F5	A3	ALT-Del
37	ALT-GreyAst	6D	ALT-F6	A5	ALT-Tab
3B	F1	6E	ALT-F7		
3C	F2	6F	ALT-F8		

Special keys scan codes

Key	Code	SHIFT-Key	CTRL-Key	Alt-Key
NoKey	00			
F1	3B	54	5E	68
F2	3C	55	5F	69
F3	3D	56	60	6A
F4	3E	57	61	6B
F5	3F	58	62	6C
F6	40	59	63	6D
F7	41	5A	64	6E
F8	42	5B	65	6F
F9	43	5C	66	70
F10	44	5D	67	71
F11	85	87	89	8B
F12	86	88	8A	8C
Home	47		77	97
Up	48		8D	98
PgUp	49		84	99
Left	4B		73	9B
Center	4C		8F	
Right	4D		74	9D
end	4F		75	9F
Down	50		91	A0
PgDn	51		76	A1
Ins	52	05	04	A2
Del	53	07	06	A3
Tab	8	0F	94	A5
GreyPlus			90	4E