

10 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.

The usage type of all key codes is Selectors (Sel), except for the modifier keys Keyboard Left Control (0x224) to Keyboard Right GUI (0x231) which are Dynamic Flags (DV).

Note A general note on **Usages** and languages: 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.

Table 12: Keyboard/Keypad Page

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- Mac UNI			Boot
				AT	X		
0	00	Reserved (no event indicated) ⁹	N/A	✓	✓	✓	4/101/104
1	01	Keyboard ErrorRollOver ⁹	N/A	✓	✓	✓	4/101/104
2	02	Keyboard POSTFail ⁹	N/A	✓	✓	✓	4/101/104
3	03	Keyboard ErrorUndefined ⁹	N/A	✓	✓	✓	4/101/104
4	04	Keyboard a and A ⁴	31	✓	✓	✓	4/101/104
5	05	Keyboard b and B	50	✓	✓	✓	4/101/104
6	06	Keyboard c and C ⁴	48	✓	✓	✓	4/101/104
7	07	Keyboard d and D	33	✓	✓	✓	4/101/104
8	08	Keyboard e and E	19	✓	✓	✓	4/101/104
9	09	Keyboard f and F	34	✓	✓	✓	4/101/104
10	0A	Keyboard g and G	35	✓	✓	✓	4/101/104
11	0B	Keyboard h and H	36	✓	✓	✓	4/101/104
12	0C	Keyboard i and I	24	✓	✓	✓	4/101/104
13	0D	Keyboard j and J	37	✓	✓	✓	4/101/104
14	0E	Keyboard k and K	38	✓	✓	✓	4/101/104
15	0F	Keyboard l and L	39	✓	✓	✓	4/101/104
16	10	Keyboard m and M ⁴	52	✓	✓	✓	4/101/104
17	11	Keyboard n and N	51	✓	✓	✓	4/101/104
18	12	Keyboard o and O ⁴	25	✓	✓	✓	4/101/104
19	13	Keyboard p and P ⁴	26	✓	✓	✓	4/101/104
20	14	Keyboard q and Q ⁴	17	✓	✓	✓	4/101/104

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- Mac UNI			Boot
				AT	X		
21	15	Keyboard r and R	20	✓	✓	✓	4/101/104
22	16	Keyboard s and S ⁴	32	✓	✓	✓	4/101/104
23	17	Keyboard t and T	21	✓	✓	✓	4/101/104
24	18	Keyboard u and U	23	✓	✓	✓	4/101/104
25	19	Keyboard v and V	49	✓	✓	✓	4/101/104
26	1A	Keyboard w and W ⁴	18	✓	✓	✓	4/101/104
27	1B	Keyboard x and X ⁴	47	✓	✓	✓	4/101/104
28	1C	Keyboard y and Y ⁴	22	✓	✓	✓	4/101/104
29	1D	Keyboard z and Z ⁴	46	✓	✓	✓	4/101/104
30	1E	Keyboard 1 and ! ⁴	2	✓	✓	✓	4/101/104
31	1F	Keyboard 2 and @ ⁴	3	✓	✓	✓	4/101/104
32	20	Keyboard 3 and # ⁴	4	✓	✓	✓	4/101/104
33	21	Keyboard 4 and \$ ⁴	5	✓	✓	✓	4/101/104
34	22	Keyboard 5 and % ⁴	6	✓	✓	✓	4/101/104
35	23	Keyboard 6 and ^ ⁴	7	✓	✓	✓	4/101/104
36	24	Keyboard 7 and & ⁴	8	✓	✓	✓	4/101/104
37	25	Keyboard 8 and * ⁴	9	✓	✓	✓	4/101/104
38	26	Keyboard 9 and (⁴	10	✓	✓	✓	4/101/104
39	27	Keyboard 0 and) ⁴	11	✓	✓	✓	4/101/104
40	28	Keyboard Return (ENTER) ⁵	43	✓	✓	✓	4/101/104
41	29	Keyboard ESCAPE	110	✓	✓	✓	4/101/104
42	2A	Keyboard DELETE (Backspace) ¹³	15	✓	✓	✓	4/101/104
43	2B	Keyboard Tab	16	✓	✓	✓	4/101/104
44	2C	Keyboard Spacebar	61	✓	✓	✓	4/101/104
45	2D	Keyboard - and (underscore) ⁴	12	✓	✓	✓	4/101/104
46	2E	Keyboard = and + ⁴	13	✓	✓	✓	4/101/104
47	2F	Keyboard [and { ⁴	27	✓	✓	✓	4/101/104
48	30	Keyboard] and } ⁴	28	✓	✓	✓	4/101/104
49	31	Keyboard \ and	29	✓	✓	✓	4/101/104
50	32	Keyboard Non-US # and ~ ²	42	✓	✓	✓	4/101/104
51	33	Keyboard ; and : ⁴	40	✓	✓	✓	4/101/104
52	34	Keyboard ' and " ⁴	41	✓	✓	✓	4/101/104
53	35	Keyboard Grave Accent and Tilde ⁴	1	✓	✓	✓	4/101/104
54	36	Keyboard, and < ⁴	53	✓	✓	✓	4/101/104
55	37	Keyboard . and > ⁴	54	✓	✓	✓	4/101/104
56	38	Keyboard / and ? ⁴	55	✓	✓	✓	4/101/104
57	39	Keyboard Caps Lock ¹¹	30	✓	✓	✓	4/101/104
58	3A	Keyboard F1	112	✓	✓	✓	4/101/104

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC-Mac UNI			Boot
				AT	X		
59	3B	Keyboard F2	113	✓	✓	✓	4/101/104
60	3C	Keyboard F3	114	✓	✓	✓	4/101/104
61	3D	Keyboard F4	115	✓	✓	✓	4/101/104
62	3E	Keyboard F5	116	✓	✓	✓	4/101/104
63	3F	Keyboard F6	117	✓	✓	✓	4/101/104
64	40	Keyboard F7	118	✓	✓	✓	4/101/104
65	41	Keyboard F8	119	✓	✓	✓	4/101/104
66	42	Keyboard F9	120	✓	✓	✓	4/101/104
67	43	Keyboard F10	121	✓	✓	✓	4/101/104
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 Scroll Lock ¹¹	125	✓	✓	✓	4/101/104
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;14}	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 Num Lock and Clear ¹¹	90	✓	✓	✓	101/104
84	54	Keypad / ¹	95	✓	✓	✓	101/104
85	55	Keypad *	100	✓	✓	✓	4/101/104
86	56	Keypad -	105	✓	✓	✓	4/101/104
87	57	Keypad +	106	✓	✓	✓	4/101/104
88	58	Keypad ENTER ⁵	108	✓	✓	✓	101/104
89	59	Keypad 1 and End	93	✓	✓	✓	4/101/104
90	5A	Keypad 2 and Down Arrow	98	✓	✓	✓	4/101/104
91	5B	Keypad 3 and PageDn	103	✓	✓	✓	4/101/104
92	5C	Keypad 4 and Left Arrow	92	✓	✓	✓	4/101/104
93	5D	Keypad 5	97	✓	✓	✓	4/101/104
94	5E	Keypad 6 and Right Arrow	102	✓	✓	✓	4/101/104
95	5F	Keypad 7 and Home	91	✓	✓	✓	4/101/104
96	60	Keypad 8 and Up Arrow	96	✓	✓	✓	4/101/104

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- Mac UNI			Boot
				AT	X		
97	61	Keypad 9 and PageUp	101	√	√	√	4/101/104
98	62	Keypad 0 and Insert	99	√	√	√	4/101/104
99	63	Keypad . and Delete	104	√	√	√	4/101/104
100	64	Keyboard Non-US \ and ^{3;6}	45	√	√	√	4/101/104
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 ²⁷	107				
134	86	Keypad Equal Sign ²⁹					

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- Mac UNI AT X	Boot
135	87	Keyboard International ¹ ^{5,28}	56		
136	88	Keyboard International ² ¹⁶			
137	89	Keyboard International ³ ¹⁷			
138	8A	Keyboard International ⁴ ¹⁸			
139	8B	Keyboard International ⁵ ¹⁹			
140	8C	Keyboard International ⁶ ²⁰			
141	8D	Keyboard International ⁷ ²¹			
142	8E	Keyboard International ⁸ ²²			
143	8F	Keyboard International ⁹ ²²			
144	90	Keyboard LANG ¹ ²⁵			
145	91	Keyboard LANG ² ²⁶			
146	92	Keyboard LANG ³ ³⁰			
147	93	Keyboard LANG ⁴ ³¹			
148	94	Keyboard LANG ⁵ ³²			
149	95	Keyboard LANG ⁶ ⁸			
150	96	Keyboard LANG ⁷ ⁸			
151	97	Keyboard LANG ⁸ ⁸			
152	98	Keyboard LANG ⁹ ⁸			
153	99	Keyboard Alternate Erase ⁷			
154	9A	Keyboard SysReq/Attention 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			
165-175	A5-CF	Reserved			
176	B0	Keypad 00			
177	B1	Keypad 000			
178	B2	Thousands Separator ³³			
179	B3	Decimal Separator ³³			
180	B4	Currency Unit ³⁴			
181	B5	Currency Sub-unit ³⁴			
182	B6	Keypad (

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- Mac UNI		Boot
				AT	X	
183	B7	Keypad)				
184	B8	Keypad {				
185	B9	Keypad }				
186	BA	Keypad Tab				
187	BB	Keypad Backspace				
188	BC	Keypad A				
189	BD	Keypad B				
190	BE	Keypad C				
191	BF	Keypad D				
192	C0	Keypad E				
193	C1	Keypad F				
194	C2	Keypad XOR				
195	C3	Keypad ^				
196	C4	Keypad %				
197	C5	Keypad <				
198	C6	Keypad >				
199	C7	Keypad &				
200	C8	Keypad &&				
201	C9	Keypad				
202	CA	Keypad				
203	CB	Keypad :				
204	CC	Keypad #				
205	CD	Keypad Space				
206	CE	Keypad @				
207	CF	Keypad !				
208	D0	Keypad Memory Store				
209	D1	Keypad Memory Recall				
210	D2	Keypad Memory Clear				
211	D3	Keypad Memory Add				
212	D4	Keypad Memory Subtract				
213	D5	Keypad Memory Multiply				
214	D6	Keypad Memory Divide				
215	D7	Keypad +/-				
216	D8	Keypad Clear				
217	D9	Keypad Clear Entry				
218	DA	Keypad Binary				
219	DB	Keypad Octal				
220	DC	Keypad Decimal				

Usage ID (Dec)	Usage ID (Hex)	Usage Name	Ref: Typical AT-101 Position	PC- AT	Mac X	UNI X	Boot
221	DD	Keypad Hexadecimal					
222-223	DE-DF	Reserved					
224	E0	Keyboard LeftControl	58	√	√	√	4/101/104
225	E1	Keyboard LeftShift	44	√	√	√	4/101/104
226	E2	Keyboard LeftAlt	60	√	√	√	4/101/104
227	E3	Keyboard Left GUI ^{10;23}	127	√	√	√	104
228	E4	Keyboard RightControl	64	√	√	√	101/104
229	E5	Keyboard RightShift	57	√	√	√	4/101/104
230	E6	Keyboard RightAlt	62	√	√	√	101/104
231	E7	Keyboard Right GUI ^{10;24}	128	√	√	√	104
232-65535	E8-FFFF	Reserved					

Footnotes 1-15, 20-34

- ¹ Usage of keys is not modified by the state of the Control, Alt, Shift or Num Lock keys. That is, a key does not send extra codes to compensate for the state of any Control, Alt, Shift or Num Lock keys.
- ² Typical language mappings: US: \| Belg: µ`£ FrCa: <|> Dan: * Dutch: <|> Fren: *µ Ger: #` Ital: ù\$ LatAm: }`] Nor: ,* Span: }Ç Swed: , * Swiss: \$£ UK: #~.
- ³ Typical language mappings: Belg: <|> FrCa: «°» Dan: <|> Dutch:]|[Fren: <|> Ger: <|> Ital: <|> LatAm: <|> Nor: <|> Span: <|> Swed: <|> Swiss: <|> UK: \| Brazil: \.
- ⁴ Typically remapped for other languages in the host system.
- ⁵ Keyboard Enter and Keypad Enter generate different Usage codes.
- ⁶ Typically near the Left-Shift key in AT-102 implementations.
- ⁷ Example, Erase-Eaze™ key.
- ⁸ Reserved for language-specific functions, such as Front End Processors and Input Method Editors.
- ⁹ Reserved for typical keyboard status or keyboard errors. Sent as a member of the keyboard array. Not a physical key.
- ¹⁰ Windows key for Windows 95, and "Compose."
- ¹¹ Implemented as a non-locking key; sent as member of an array.
- ¹² Implemented as a locking key; sent as a toggle button. Available for legacy support; however, most systems should use the non-locking version of this key.
- ¹³ Backs up the cursor one position, deleting a character as it goes.
- ¹⁴ Deletes one character without changing position.
- ¹⁵⁻²⁰ See additional foot notes below.
- ²¹ Toggle Double-Byte/Single-Byte mode.
- ²² Undefined, available for other Front End Language Processors.
- ²³ Windowing environment key, examples are Microsoft Left Win key, Mac Left Apple key, Sun Left Meta key
- ²⁴ Windowing environment key, examples are Microsoft® RIGHT WIN key, Macintosh® RIGHT APPLE key, Sun® RIGHT META key.
- ²⁵ Hangul/English toggle key. This usage is used as an input method editor control key on a Korean language keyboard.
- ²⁶ Hanja conversion key. This usage is used as an input method editor control key on a Korean language keyboard.
- ²⁷ Keypad Comma is the appropriate usage for the Brazilian keypad period (.) key. This represents the closest possible match, and system software should do the correct mapping based on the current locale setting.
- ²⁸ Keyboard International1 should be identified via footnote as the appropriate usage for the Brazilian forward-slash (/) and question-mark (?) key. This usage should also be renamed to either "Keyboard Non-US / and ?" or to "Keyboard International1" now that it's become clear that it does not only apply to Kanji keyboards anymore.