

# 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.*

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
00-00	Reserved						
01	Keyboard ErrorRollOver <sup>1</sup>	Sel	N/A	✓	✓	✓	4/101/104
02	Keyboard POSTFail <sup>1</sup>	Sel	N/A	✓	✓	✓	4/101/104
03	Keyboard ErrorUndefined <sup>1</sup>	Sel	N/A	✓	✓	✓	4/101/104
04	Keyboard a and A <sup>2</sup>	Sel	31	✓	✓	✓	4/101/104
05	Keyboard b and B	Sel	50	✓	✓	✓	4/101/104
06	Keyboard c and C <sup>2</sup>	Sel	48	✓	✓	✓	4/101/104
07	Keyboard d and D	Sel	33	✓	✓	✓	4/101/104
08	Keyboard e and E	Sel	19	✓	✓	✓	4/101/104
09	Keyboard f and F	Sel	34	✓	✓	✓	4/101/104
0A	Keyboard g and G	Sel	35	✓	✓	✓	4/101/104
0B	Keyboard h and H	Sel	36	✓	✓	✓	4/101/104
0C	Keyboard i and I	Sel	24	✓	✓	✓	4/101/104
0D	Keyboard j and J	Sel	37	✓	✓	✓	4/101/104
0E	Keyboard k and K	Sel	38	✓	✓	✓	4/101/104
0F	Keyboard l and L	Sel	39	✓	✓	✓	4/101/104
10	Keyboard m and M <sup>2</sup>	Sel	52	✓	✓	✓	4/101/104
11	Keyboard n and N	Sel	51	✓	✓	✓	4/101/104
12	Keyboard o and O <sup>2</sup>	Sel	25	✓	✓	✓	4/101/104
13	Keyboard p and P <sup>2</sup>	Sel	26	✓	✓	✓	4/101/104
14	Keyboard q and Q <sup>2</sup>	Sel	17	✓	✓	✓	4/101/104
15	Keyboard r and R	Sel	20	✓	✓	✓	4/101/104
16	Keyboard s and S	Sel	32	✓	✓	✓	4/101/104
17	Keyboard t and T	Sel	21	✓	✓	✓	4/101/104
18	Keyboard u and U	Sel	23	✓	✓	✓	4/101/104

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
19	Keyboard v and V	Sel	49	✓	✓	✓	4/101/104
1A	Keyboard w and W <sup>2</sup>	Sel	18	✓	✓	✓	4/101/104
1B	Keyboard x and X <sup>2</sup>	Sel	47	✓	✓	✓	4/101/104
1C	Keyboard y and Y <sup>2</sup>	Sel	22	✓	✓	✓	4/101/104
1D	Keyboard z and Z <sup>2</sup>	Sel	46	✓	✓	✓	4/101/104
1E	Keyboard 1 and ! <sup>2</sup>	Sel	2	✓	✓	✓	4/101/104
1F	Keyboard 2 and @ <sup>2</sup>	Sel	3	✓	✓	✓	4/101/104
20	Keyboard 3 and # <sup>2</sup>	Sel	4	✓	✓	✓	4/101/104
21	Keyboard 4 and \$ <sup>2</sup>	Sel	5	✓	✓	✓	4/101/104
22	Keyboard 5 and % <sup>2</sup>	Sel	6	✓	✓	✓	4/101/104
23	Keyboard 6 and ^ <sup>2</sup>	Sel	7	✓	✓	✓	4/101/104
24	Keyboard 7 and & <sup>2</sup>	Sel	8	✓	✓	✓	4/101/104
25	Keyboard 8 and * <sup>2</sup>	Sel	9	✓	✓	✓	4/101/104
26	Keyboard 9 and ( <sup>2</sup>	Sel	10	✓	✓	✓	4/101/104
27	Keyboard 0 and ) <sup>2</sup>	Sel	11	✓	✓	✓	4/101/104
28	Keyboard Return (ENTER) <sup>3</sup>	Sel	43	✓	✓	✓	4/101/104
29	Keyboard ESCAPE	Sel	110	✓	✓	✓	4/101/104
2A	Keyboard DELETE (Backspace) <sup>4</sup>	Sel	15	✓	✓	✓	4/101/104
2B	Keyboard Tab	Sel	16	✓	✓	✓	4/101/104
2C	Keyboard Spacebar	Sel	61	✓	✓	✓	4/101/104
2D	Keyboard - and (underscore) <sup>2</sup>	Sel	12	✓	✓	✓	4/101/104
2E	Keyboard = and + <sup>2</sup>	Sel	13	✓	✓	✓	4/101/104
2F	Keyboard [ and { <sup>2</sup>	Sel	27	✓	✓	✓	4/101/104
30	Keyboard ] and } <sup>2</sup>	Sel	28	✓	✓	✓	4/101/104
31	Keyboard \ and	Sel	29	✓	✓	✓	4/101/104
32	Keyboard Non-US # and ~ <sup>5</sup>	Sel	42	✓	✓	✓	4/101/104
33	Keyboard ; and : <sup>2</sup>	Sel	40	✓	✓	✓	4/101/104
34	Keyboard ‘ and “ <sup>2</sup>	Sel	41	✓	✓	✓	4/101/104
35	Keyboard Grave Accent and Tilde <sup>2</sup>	Sel	1	✓	✓	✓	4/101/104
36	Keyboard , and < <sup>2</sup>	Sel	53	✓	✓	✓	4/101/104
37	Keyboard . and > <sup>2</sup>	Sel	54	✓	✓	✓	4/101/104
38	Keyboard / and ? <sup>2</sup>	Sel	55	✓	✓	✓	4/101/104
39	Keyboard Caps Lock <sup>6</sup>	Sel	30	✓	✓	✓	4/101/104
3A	Keyboard F1	Sel	112	✓	✓	✓	4/101/104
3B	Keyboard F2	Sel	113	✓	✓	✓	4/101/104
3C	Keyboard F3	Sel	114	✓	✓	✓	4/101/104
3D	Keyboard F4	Sel	115	✓	✓	✓	4/101/104

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
3E	Keyboard F5	Sel	116	✓	✓	✓	4/101/104
3F	Keyboard F6	Sel	117	✓	✓	✓	4/101/104
40	Keyboard F7	Sel	118	✓	✓	✓	4/101/104
41	Keyboard F8	Sel	119	✓	✓	✓	4/101/104
42	Keyboard F9	Sel	120	✓	✓	✓	4/101/104
43	Keyboard F10	Sel	121	✓	✓	✓	4/101/104
44	Keyboard F11	Sel	122	✓	✓	✓	4/101/104
45	Keyboard F12	Sel	123	✓	✓	✓	4/101/104
46	Keyboard PrintScreen <sup>7</sup>	Sel	124	✓	✓	✓	4/101/104
47	Keyboard Scroll Lock <sup>6</sup>	Sel	125	✓	✓	✓	4/101/104
48	Keyboard Pause <sup>7</sup>	Sel	126	✓	✓	✓	4/101/104
49	Keyboard Insert <sup>7</sup>	Sel	75	✓	✓	✓	4/101/104
4A	Keyboard Home <sup>7</sup>	Sel	80	✓	✓	✓	4/101/104
4B	Keyboard PageUp <sup>7</sup>	Sel	85	✓	✓	✓	4/101/104
4C	Keyboard Delete Forward <sup>7,8</sup>	Sel	76	✓	✓	✓	4/101/104
4D	Keyboard End <sup>7</sup>	Sel	81	✓	✓	✓	4/101/104
4E	Keyboard PageDown <sup>7</sup>	Sel	86	✓	✓	✓	4/101/104
4F	Keyboard RightArrow <sup>7</sup>	Sel	89	✓	✓	✓	4/101/104
50	Keyboard LeftArrow <sup>7</sup>	Sel	79	✓	✓	✓	4/101/104
51	Keyboard DownArrow <sup>7</sup>	Sel	84	✓	✓	✓	4/101/104
52	Keyboard UpArrow <sup>7</sup>	Sel	83	✓	✓	✓	4/101/104
53	Keypad Num Lock and Clear <sup>6</sup>	Sel	90	✓	✓	✓	4/101/104
54	Keypad / <sup>7</sup>	Sel	95	✓	✓	✓	4/101/104
55	Keypad *	Sel	100	✓	✓	✓	4/101/104
56	Keypad -	Sel	105	✓	✓	✓	4/101/104
57	Keypad +	Sel	106	✓	✓	✓	4/101/104
58	Keypad ENTER <sup>3</sup>	Sel	108	✓	✓	✓	4/101/104
59	Keypad 1 and End	Sel	93	✓	✓	✓	4/101/104
5A	Keypad 2 and Down Arrow	Sel	98	✓	✓	✓	4/101/104
5B	Keypad 3 and PageDn	Sel	103	✓	✓	✓	4/101/104
5C	Keypad 4 and Left Arrow	Sel	92	✓	✓	✓	4/101/104
5D	Keypad 5	Sel	97	✓	✓	✓	4/101/104
5E	Keypad 6 and Right Arrow	Sel	102	✓	✓	✓	4/101/104
5F	Keypad 7 and Home	Sel	91	✓	✓	✓	4/101/104
60	Keypad 8 and Up Arrow	Sel	96	✓	✓	✓	4/101/104
61	Keypad 9 and PageUp	Sel	101	✓	✓	✓	4/101/104
62	Keypad 0 and Insert	Sel	99	✓	✓	✓	4/101/104

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
63	Keypad . and Delete	Sel	104	✓	✓	✓	4/101/104
64	Keyboard Non-US \and   <sup>9,10</sup>	Sel	45	✓	✓	✓	4/101/104
65	Keyboard Application <sup>11</sup>	Sel	129	✓		✓	104
66	Keyboard Power <sup>1</sup>	Sel			✓	✓	
67	Keypad =	Sel			✓		
68	Keyboard F13	Sel			✓		
69	Keyboard F14	Sel			✓		
6A	Keyboard F15	Sel			✓		
6B	Keyboard F16	Sel					
6C	Keyboard F17	Sel					
6D	Keyboard F18	Sel					
6E	Keyboard F19	Sel					
6F	Keyboard F20	Sel					
70	Keyboard F21	Sel					
71	Keyboard F22	Sel					
72	Keyboard F23	Sel					
73	Keyboard F24	Sel					
74	Keyboard Execute	Sel				✓	
75	Keyboard Help	Sel				✓	
76	Keyboard Menu	Sel				✓	
77	Keyboard Select	Sel				✓	
78	Keyboard Stop	Sel				✓	
79	Keyboard Again	Sel				✓	
7A	Keyboard Undo	Sel				✓	
7B	Keyboard Cut	Sel				✓	
7C	Keyboard Copy	Sel				✓	
7D	Keyboard Paste	Sel				✓	
7E	Keyboard Find	Sel				✓	
7F	Keyboard Mute	Sel				✓	
80	Keyboard Volume Up	Sel				✓	
81	Keyboard Volume Down	Sel				✓	
82	Keyboard Locking Caps Lock <sup>12</sup>	Sel				✓	
83	Keyboard Locking Num Lock <sup>12</sup>	Sel				✓	
84	Keyboard Locking Scroll Lock <sup>12</sup>	Sel				✓	
85	Keypad Comma <sup>13</sup>	Sel	107				
86	Keypad Equal Sign <sup>14</sup>	Sel				✓	
87	Keyboard International1 <sup>15,16</sup>	Sel	56				
88	Keyboard International2 <sup>17</sup>	Sel					
89	Keyboard International3 <sup>18</sup>	Sel					
8A	Keyboard International4 <sup>19</sup>	Sel					

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
8B	Keyboard International <sup>5</sup> <sup>20</sup>	Sel					
8C	Keyboard International <sup>6</sup> <sup>21</sup>	Sel					
8D	Keyboard International <sup>7</sup> <sup>22</sup>	Sel					
8E	Keyboard International <sup>8</sup> <sup>23</sup>	Sel					
8F	Keyboard International <sup>9</sup> <sup>23</sup>	Sel					
90	Keyboard LANG <sup>1</sup> <sup>24</sup>	Sel					
91	Keyboard LANG <sup>2</sup> <sup>25</sup>	Sel					
92	Keyboard LANG <sup>3</sup> <sup>26</sup>	Sel					
93	Keyboard LANG <sup>4</sup> <sup>27</sup>	Sel					
94	Keyboard LANG <sup>5</sup> <sup>28</sup>	Sel					
95	Keyboard LANG <sup>6</sup> <sup>29</sup>	Sel					
96	Keyboard LANG <sup>7</sup> <sup>29</sup>	Sel					
97	Keyboard LANG <sup>8</sup> <sup>29</sup>	Sel					
98	Keyboard LANG <sup>9</sup> <sup>29</sup>	Sel					
99	Keyboard Alternate Erase <sup>30</sup>	Sel					
9A	Keyboard SysReq/Attention <sup>7</sup>	Sel					
9B	Keyboard Cancel	Sel					
9C	Keyboard Clear	Sel					
9D	Keyboard Prior	Sel					
9E	Keyboard Return	Sel					
9F	Keyboard Separator	Sel					
A0	Keyboard Out	Sel					
A1	Keyboard Oper	Sel					
A2	Keyboard Clear/Again	Sel					
A3	Keyboard CrSel/Props	Sel					
A4	Keyboard ExSel	Sel					
A5-AF	<i>Reserved</i>						
B0	Keypad 00	Sel					
B1	Keypad 000	Sel					
B2	Thousands Separator <sup>31</sup>	Sel					
B3	Decimal Separator <sup>31</sup>	Sel					
B4	Currency Unit <sup>32</sup>	Sel					
B5	Currency Sub-unit <sup>32</sup>	Sel					
B6	Keypad (	Sel					
B7	Keypad )	Sel					
B8	Keypad {	Sel					
B9	Keypad }	Sel					
BA	Keypad Tab	Sel					
BB	Keypad Backspace	Sel					

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
BC	Keypad A	Sel					
BD	Keypad B	Sel					
BE	Keypad C	Sel					
BF	Keypad D	Sel					
C0	Keypad E	Sel					
C1	Keypad F	Sel					
C2	Keypad XOR	Sel					
C3	Keypad ^	Sel					
C4	Keypad %	Sel					
C5	Keypad <	Sel					
C6	Keypad >	Sel					
C7	Keypad &	Sel					
C8	Keypad &&	Sel					
C9	Keypad	Sel					
CA	Keypad	Sel					
CB	Keypad :	Sel					
CC	Keypad #	Sel					
CD	Keypad Space	Sel					
CE	Keypad @	Sel					
CF	Keypad !	Sel					
D0	Keypad Memory Store	Sel					
D1	Keypad Memory Recall	Sel					
D2	Keypad Memory Clear	Sel					
D3	Keypad Memory Add	Sel					
D4	Keypad Memory Subtract	Sel					
D5	Keypad Memory Multiply	Sel					
D6	Keypad Memory Divide	Sel					
D7	Keypad +/-	Sel					
D8	Keypad Clear	Sel					
D9	Keypad Clear Entry	Sel					
DA	Keypad Binary	Sel					
DB	Keypad Octal	Sel					
DC	Keypad Decimal	Sel					
DD	Keypad Hexadecimal	Sel					
DE-DF	<i>Reserved</i>						
E0	Keyboard LeftControl	DV	58	✓	✓	✓	4/101/104
E1	Keyboard LeftShift	DV	44	✓	✓	✓	4/101/104
E2	Keyboard LeftAlt	DV	60	✓	✓	✓	4/101/104
E3	Keyboard Left GUI <sup>11,33</sup>	DV	127	✓	✓	✓	104
E4	Keyboard RightControl	DV	64	✓	✓	✓	101/104

Usage ID	Usage Name	Usage Type	AT-101	PC-AT	Mac	Unix	Boot
E5	Keyboard RightShift	DV	57	✓	✓	✓	4/101/104
E6	Keyboard RightAlt	DV	62	✓	✓	✓	101/104
E7	Keyboard Right GUI <sup>11,34</sup>	DV	128	✓	✓	✓	104
E8-FFFF	<i>Reserved</i>						

<sup>1</sup>Reserved for typical keyboard status or keyboard errors. Sent as a member of the keyboard array. Not a physical key.

<sup>2</sup>Typically remapped for other languages in the host system.

<sup>3</sup>Keyboard Enter and Keypad Enter generate different Usage codes.

<sup>4</sup>Backs up the cursor one position, deleting a character as it goes.

<sup>5</sup>Typical language mappings: US: \|Belg:  $\mu$  `£French Canadian: <>Danish: ' \* Dutch: <>French: \* $\mu$  German: # 'Italian: ù §LatinAmerica: } `| Norwegian: , \* Spain: }Ç Swedish: , \* Swiss: \$ £UK: # ~

<sup>6</sup>Implemented as a non-locking key; sent as member of an array.

<sup>7</sup>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.

<sup>8</sup>Deletes one character without changing position.

<sup>9</sup>Typical language mappings: Belg: <\>French Canadian: <°>Danish: <\>Dutch: ||| French: <>German: <|>Italian: <>LatinAmerica: <>Norwegian: <>Spain: <>Swedish: <|>Swiss: <>UK: \|Brazil: \|

<sup>10</sup>Typically near the Left-Shift key in AT-102 implementations.

<sup>11</sup>Windows key for Windows 95, and *Compose*.

<sup>12</sup>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.

<sup>13</sup>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.

<sup>14</sup>Used on AS/400 keyboards.

<sup>15</sup>See additional footnotes below

<sup>16</sup>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.

<sup>17</sup>See additional footnotes below

<sup>18</sup>See additional footnotes below

<sup>19</sup>See additional footnotes below

<sup>20</sup>See additional footnotes below

<sup>21</sup>See additional footnotes below

<sup>22</sup>Toggle Double-Byte/Single-Byte mode.

<sup>23</sup>Undefined, available for other Front End Language Processors.

<sup>24</sup>Hangul/English toggle key. This usage is used as an input method editor control key on a Korean language keyboard.

<sup>25</sup>Hanja conversion key. This usage is used as an input method editor control key on a Korean language keyboard.

<sup>26</sup>Defines the Katakana key for Japanese USB word-processing keyboards.

<sup>27</sup>Defines the Hiragana key for Japanese USB word-processing keyboards.

<sup>28</sup>Defines the Zenkaku/Hankaku key for Japanese USB word-processing keyboards.

<sup>29</sup>Reserved for language-specific functions, such as Front End Processors and Input Method Editors.

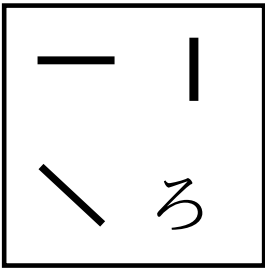
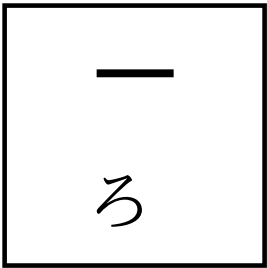

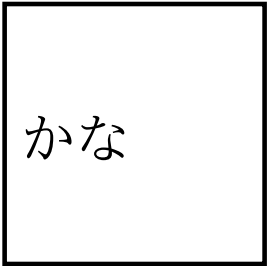
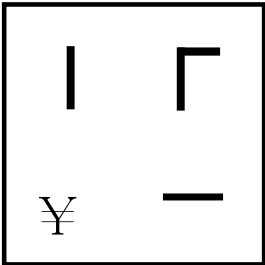
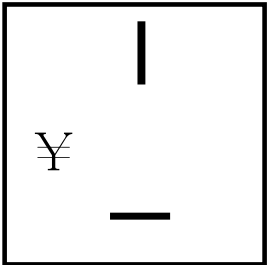



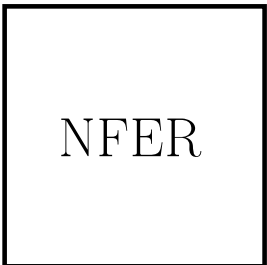
<sup>30</sup>Example, Erase-Eaze™ key.

<sup>31</sup>The symbol displayed will depend on the current locale settings of the operating system. For example, the US thousands separator would be a comma, and the decimal separator would be a period.

<sup>32</sup>The symbol displayed will depend on the current locale settings of the operating system. For example the US currency unit would be \$ and the sub-unit would be ¢.

<sup>33</sup>Windowing environment key, examples are Microsoft Left Win key, Mac Left Apple key, Sun Left Meta key

<sup>34</sup>Windowing environment key, examples are Microsoft®RIGHT WIN key, Macintosh®RIGHT APPLE key, Sun®RIGHT META key.

Note	AT-104	DOS/V-109 (suggested)	PC98 (suggested)
15	No Function		
17	No Function		
18	No Function		
19	No Function		
20	No Function		
21	No Function	No Function	