

Scan Code Assignments:

Under all Microsoft operating systems, all keyboards actually transmit Scan Code Set 2 values down the wire from the keyboard to the keyboard port. These values are translated to Scan Code Set 1 by the i8042 port chip. The rest of the operating system, and all applications that handle scan codes expect the values to be from Scan Code Set 1. Scan Code Set 3 is not used or required for operation of Microsoft operating systems. In the very early days of Windows NT®, an attempt was made to use the much more orthogonal Scan Code Set 3, but due to bugs in the implementation of this Scan Code Set on numerous OEM keyboards, the idea was abandoned

101/102 Enhanced Keyboard	Scan Code 2 Make	Scan Code 2 Break
~ `	0E	F0 0E
! 1	16	F0 16
@ 2	1E	F0 1E
# 3	26	F0 26
\$ 4	25	F0 25
% 5	2E	F0 2E
^ 6	36	F0 36
& 7	3D	F0 3D
* 8	3E	F0 3E
(9	46	F0 46
) 0	45	F0 45
_ -	4E	F0 4E
+ =	55	F0 55
Backspace	66	F0 66
Tab	0D	F0 0D
Q	15	F0 15
W	1D	F0 1D
E	24	F0 24
R	2D	F0 2D
T	2C	F0 2C
Y	35	F0 35
U	3C	F0 3C
I	43	F0 43
O	44	F0 44
P	4D	F0 4D
{ [54	F0 54
}]	5B	F0 5B
\	5D	F0 5D
Caps Lock	58	F0 58
A	1C	F0 1C
S	1B	F0 1B
D	23	F0 23
F	2B	F0 2B
G	34	F0 34
H	33	F0 33
J	3B	F0 3B
K	42	F0 42
L	4B	F0 4B
: ;	4C	F0 4C
" '	52	F0 52
Enter	5A	F0 5A
L SHIFT	12	F0 12
Z	1A	F0 1A
X	22	F0 22
C	21	F0 21
V	2A	F0 2A
B	32	F0 32
N	31	F0 31
M	3A	F0 3A

101/102 Enhanced Keyboard	Scan Code 2 Make	Scan Code 2 Break
< ,	41	F0 41
> .	49	F0 49
? /	4A	F0 4A
R SHIFT	59	F0 59
L CTRL	14	F0 14
L ALT	11	F0 11
Space Bar	29	F0 29
R ALT	E0 11	E0 F0 11
R CTRL	E0 14	E0 F0 14
Insert	Note 2	Note 2
Delete	Note 2	Note 2
L Arrow	Note 2	Note 2
Home	Note 2	Note 2
End	Note 2	Note 2
Up Arrow	Note 2	Note 2
Dn Arrow	Note 2	Note 2
Page Up	Note 2	Note 2
Page Down	Note 2	Note 2
R Arrow	Note 2	Note 2
Num Lock	77	F0 77
Numeric 7	6C	F0 6C
Numeric 4	6B	F0 6B
Numeric 1	69	F0 69
Numeric /	Note 3	Note 3
Numeric 8	75	F0 75
Numeric 5	73	F0 73
Numeric 2	72	F0 72
Numeric 0	70	F0 70
Numeric *	7C	F0 7C
Numeric 9	7D	F0 7D
Numeric 6	74	F0 74
Numeric 3	7A	F0 7A
Numeric .	71	F0 71
Numeric -	7B	F0 7B
Numeric +	79	F0 79
Numeric Enter	E0 5A	E0 F0 5A
Esc	76	F0 76
F1	05	F0 05
F2	06	F0 06
F3	04	F0 05
F4	0C	F0 0C
F5	03	F0 03
F6	0B	F0 0B
F7	83	F0 83
F8	0A	F0 0A
F9	01	F0 01
F10	09	F0 09
F11	78	F0 78
F12	07	F0 07
Print Screen	Note 4	Note 4
Scroll Lock	7E	F0 7E
Pause	Note 5	Note 5
Left Win	E0 1F	E0 F0 1F
Right Win	E0 27	E0 F0 27
Application	E0 2F	E0 F0 2F
ACPI Power	E0 37	E0 F0 37
ACPI Sleep	E0 3F	E0 F0 3F
ACPI Wake	E0 5E	E0 F0 5E

Note 1 – Not Used

Note 2 for Scan Code 2:

These keys may have additional “shift” and/or “unshift” scan codes preceding the **Base Make** code and following the **Base Break** code, depending upon the current state of **Num Lock** and the state of **SHIFT** key/s (when multiple keys are held down at the same time).

US key assignment	Base Make	Base Break
Insert	E0 70	E0 F0 70
Delete	E0 71	E0 F0 71
Left Arrow	E0 6B	E0 F0 6B
Home	E0 6C	E0 F0 6C
End	E0 69	E0 F0 69
Up Arrow	E0 75	E0 F0 75
Dn Arrow	E0 72	E0 F0 72
Page Up	E0 7D	E0 F0 7D
Page Down	E0 7A	E0 F0 7A
Right Arrow	E0 74	E0 F0 74

Num Lock ON	Precede Base Make code with	follow Base Break code with
Final Key only	E0 12	E0 F0 12
LSHIFT down + Final Key		
RSHIFT down + Final Key		
Both LSHIFT and RSHIFT down + Final Key		

Num Lock OFF	Precede Base Make code with	follow Base Break code with
Final Key only		
LSHIFT down + Final Key	E0 F0 12	E0 12
RSHIFT down + Final Key	E0 F0 59	E0 59
Both LSHIFT and RSHIFT down + Final Key	E0 F0 12 E0 F0 59	E0 59 E0 12

Note 3 for Scan Code 2:
(Numeric / on US keyboards)

Scan Code	base	L-SHIFT + base	R-SHIFT + base	L-SHIFT + R-SHIFT + base
2 make	E0 4A	E0 F0 12 E0 4A	E0 F0 59 E0 4A	E0 F0 12 E0 F0 59 E0 4A
2 break	E0 F0 4A	E0 F0 4A E0 12	E0 F0 4A E0 59	E0 F0 4A E0 59 E0 12

**Note 4 for Scan Code 2:
(Print Screen on US keyboards)**

Scan Code	Make	Break	L Ctrl or R Ctrl + LSHIFT or RSHIFT + Make	L Ctrl or R Ctrl + LSHIFT or RSHIFT + Break	L Alt or R Alt + Make	L Alt or R Alt + Break
2	E0 12 E0 7C	E0 F0 7C E0 F0 12	E0 7C	E0 F0 7C	84	F0 84

**Note 5 for Scan Code 2:
(Pause on US keyboards)**

Scan Code	Make	L-Ctrl or R-Ctrl + Make
2	E1 14 77 E1 F0 14 F0 77	E0 7E E0 F0 7E