7. NCD keyboards

Some keyboards natively produce Set 3 scancodes. When connected to a PC one will by default see translated Set 3 scancodes. This means that the F9 and F10 keys have make codes **60** and **61** and break codes **e0** and **e1**. Thus, these latter codes are ordinary key release codes here, not protocol codes.

The N-nnn type numbers indicate the number nnn of keys the keyboard has.

7.1 A Japanese keyboard using e0 as ordinary scancode

Benjamin Carter <bcarter@ultra5.cs.umr.edu> reports:

I recently came into possession of a 97-key keyboard with Japanese markings on the keys. (The keys also have the standard qwerty-characters on them, with the exception of some of the meta-keys (there are 3 keys near the Alt keys on either side of the spacebar with only Japanese characters on them so I don't know what they are). In any case, the keyboard sends out scancodes that work for all the main keys (backspace, letters and numbers, enter, shift), but the numeric keypad, Alt keys, and function keys don't work. I have run the board through `showkey -s`*, so I know what scancodes this keyboard sends out. However, the F9 and F10 keys send out **60** and **61**, respectively, so their key release events send out **e0** and **e1**, confusing the keyboard driver.*

(Compare this with the table giving the translated Set 3 scancodes. The reported codes are almost identical.)

These are across the top of the keyboard.

58 (F1), **59** (F2), **5a** (F3), **5b** (F4), **5c** (F5), **5d** (F6), **5e** (F7), **5f** (F8), **60** (F9), **61** (F10), **62** (F11), **63** (F12)

76 (Break), **77** (Setup).

top row

64 (Esc), **02** (1), **03** (2), **04** (3), **05** (4), **06** (5), **07** (6), **08** (7), **09** (8), **0a** (9), **0b** (0), **0c** (-), **0d** (=), **29** (`), **0e** (Backspace)

2nd row

0f (Tab), **10** (Q), **11** (W), **12** (E), **13** (R), **14** (T), **15** (Y), **16** (U), **17** (I), **18** (O), **19** (P), **1a** ([), **1b** (]), **79** (Del), **6e** (Line Feed)

3rd row

38 (Ctrl), **1e** (A), **1f** (S), **20** (D), **21** (F), **22** (G), **23** (H), **24** (J), **25** (K), **26** (L), **27** (;), **28** ('), **75** (\), **1c** (Return)

4th row

2a (Shift_L), **2c** (Z), **2d** (X), **2e** (C), **2f** (V), **30** (B), **31** (N), **32** (M), **33** (,), **34** (.), **35** (/), **3a** ((unknown)), **36** (Shift_R)

bottom row

1d (Caps Lock), **71** (Alt_L), **01** ((unknown)), **39** (Space), **45** ((unknown)), **72** (Alt_R), **46** ((unknown))

numeric keypad. No "grey" section on the keyboard.

47 (7), **48** (8), **49** (9), **54** (Keypad -), **4b** (4), **4c** (5), **4d** (6), **37** (Keypad +), **4f** (1), **50** (2), **51** (3), **4e** (Keypad Enter), **52** (0), **78** (Up), **53** (Keypad .), **56** (Left), **55** (Down), **7d** (Right), **7e** (Keypad ,).

7.2 The NCD N-123NA keyboard

There are more keyboards that do not use **e0** as escape code. For example, Paul Schulz <pauls@caemrad.com.au> reports the same for Sun Type 5 Keyboard with PS/2 connector, NCD model N-123NA. The scancodes are very similar to those given above:

Sun Keys (far left)

44 (Help), **42** (Stop), **40** (Again), **3e** (Props), **65** (Undo), **70** (Front), **66** (Copy), **67** (Open), **68** (Paste), **69** (Find), **6a** (Cut),

Top row

64 (ESC), **58** (F1), **59** (F2), **5a** (F3), **5b** (F4), **5c** (F5), **5d** (F6), **5e** (F7), **5f** (F8), **60** (F9), **61** (F10), **62** (F11), **63** (F12),

1st row

29 (~/`), **02** (!/1), **03** (@/2), **04** (#/3), **05** ($/4), **06** (%/5), **07** (^/6), **08** (&/7), **09** (*/8), **0a** ((/9), **0b**)/0), **0c** (_/-), **0d** (+/=), **0e** (BS),

2nd row

0f (TAB), **10** (Q), **11** (W), **12** (E), **13** (R), **14** (T), **15** (Y), **16** (U), **17** (I), **18** (O), **19** (P), **1a** ({/[), **1b** (}/]), **75** (|/\),

3rd row

29 (CAPS), **30** (A), **31** (S), **32** (D), **33** (F), **34** (G), **35** (H), **36** (J), **37** (K), **38** (L), **39** (:/;), **40** ("/'), **28** (Enter),

4th row

2a (Shift), **2c** (Z), **2d** (X), **2e** (C), **2f** (V), **30** (B), **31** (N), **32** (M), **33** (</,), **34** (>/.), **35** (?//), **36** (Shift),

Bottom row

38 (Ctrl), **71** (Alt), **66** (Meta), **39** (Space), **6c** (Meta), **72** (Compose), **3a** (Alt),

To the right

6e (PrintScreen/SysRq), **76** (ScrollLock), **77** (Pause/Break),

76 (Insert), **7f** (Home), **6f** (PageUp),

79 (Del), **7a** (End), **7e** (PageDown),

80 (.), **81** (.), **82** (.),

d4 (.), **78** (Up), **41** (.),

56 (Left), **55** (Down), **7d** (Right),

Keypad

6d (Mute), **73** (Brightness/Vol Down), **74** (Brightness/Vol Up), **53** (Setup),

01 (NumLock), **45** (/), **46** (*), **54** (-),

47 (7/Home), **48** (8/Up), **4d** (9/PgUp), **37** (+),

4b (4/Left), **4c** (5), **4d** (6/Right),

4f (1/End), **50** (2/Down), **51** (3/PgDn), **4e** (Enter),

52 (0/Ins), **53** (./Del).

7.3 The NCD N-123UX keyboard

Don Christensen reports that his NCD N-123UX keyboard returns scancode Set 3.

7.4 The NCD N-97 keyboard

David Monro reports: I have a PS/2 keyboard, an NCD N-97, which shipped with some NCD X terminals and also with some Mips workstations IIRC. This keyboard returns Set 3 keycodes even when its told to be in Set 2. In particular, the release codes for F9 and F10 are **e0** and **e1**. The keyboard ID is **ab 85**.

7.5 NCD X terminals

NCD keyboards are often used with NCD X terminals. Here the key combinations to get into the boot monitor.

N-101	LCtrl-LAlt-Setup
N-102 or Windows compatible	LAlt-CapsLock-Setup
VT220-compatible	Ctrl-Compose-F3

N-108LK	Ctrl-LAlt-F3
N-97	LAlt-CapsLock-Setup
N-97 Kana and Hitachi Kana	LAlt-CapsLock-Setup
N-107 Sun type 4 compatible	Stop A (L1-A)
N-123 Sun type 5 compatible	Stop-A (L1-A)
Nokia 122	
3270 (122-key Lexmark)	LShift LAlt Setup
	(on the left keypad)

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