Sun Type 5 Keyboard and Mouse Product Notes

Including New Features and System Support

Sun Microsystems Computer Corporation
2550 Garcia Avenue
Mountain View, CA 94043
U.S.A.

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2550 Garcia Avenue, Mountain View, California 94043-1100 U.S.A.

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Sun Type 5 Keyboard and Mouse

This document contains the following sections:

- "System Support" on page 2. This section provides system support information. Be sure to install any necessary supplements before installing the Type 5 keyboard.
- "Installing the Type 5 Keyboard and Mouse" on page 5. This includes installing the keyboard as part of a new system, as well as replacing the keyboard on a system already in use.
- "New features" on page 10. This section describes the new features of the Type 5 keyboard and changes from previous keyboards and mice.
- "Diagnostic Codes" on page 16. If you have a SPARCstation™ 2, ELC™, or IPX™ system, read this section for information about the diagnostic codes display.
- "Known Problems" on page 17.

For more information about the Type 5 keyboard, refer to *Using Your Sun Keyboard*, the reference card included with the Type 5 keyboard.

System Support

The Sun™ Type 5 keyboard is supported on all SPARC® platforms. These tables list the supported software and firmware versions for the Type 5 keyboard.

The Type 5 mouse is supported on all systems that support the Type 4 mouse.

Operating System Support

- Solaris 1.0.1 (SunOS 4.1.2) and later releases.
- Solaris 1.0 (SunOS 4.1.1 Rev B), SunOS 4.1.1, SunOS 4.1 *plus* SunOS patch.
- SunOS 4.0.3 and earlier releases do not support the Type 5 keyboard. To use the Type 5 keyboard, you need to upgrade to one of the software versions listed above.
- French-Canadian keyboard only: requires Solaris 2.2. This keyboard is not supported on earlier releases, and no patches are available.

Window System Support

- OpenWindows 3.0 or later.
- OpenWindows 2.0 *plus* OpenWindows patch.
- SunView.
- French-Canadian keyboard only: requires OpenWindows 3.2 or later.

PROM Support

- OpenBoot PROM 2.5 or higher.
- OpenBoot PROM 1.3 through 2.4 *plus* OpenBoot PROM patch for all other keyboards. Without this patch, the Type 5 keyboard works like a U.S. Type 4 keyboard.
- OpenBoot PROMs 1.2 or earlier and SunMon EEPROMs do not support the Type 5 keyboard. The Type 5 keyboard works like a U.S. Type 4 keyboard with these boot PROM versions.
- French-Canadian keyboard only: OpenBoot PROM 2.9 or higher. The Type 5 keyboard works like a Type 4 keyboard with earlier versions of OpenBoot PROM and SunMon EEPROMs.

If you need any of the three patches listed above, contact your local If sales office for the Type 5 Keyboard Supplement CD (Part Number T5KBD-21). This CD contains:

- SunOS™ 4.1/4.1.1 patch
- OpenWindows™ 2.0 patch
- OpenBoot™ PROM patch

OpenBoot PROM

This section applies only to SPARCstation 1, 1+, 2, ELC, SLC, IPC, or IPX systems because these systems may have an OpenBoot PROM version 2.4 or earlier.

To determine which OpenBoot PROM version your system has, complete the following steps. This procedure will make your system unavailable for other processes, so you may want to warn clients before performing this procedure on a server.

1. **Type `/bin/sync` and press Return.**
2. **Press Stop(L1)-a (or Stop-q on French keyboards).**
   The `ok` or > prompt appears on the screen.
3. **If you see the > prompt, type `n` and press Return.**
   This puts you in new command mode. The `ok` prompt appears.
4. **Type `.version` at the `ok` prompt and press Return.**
5. **Note the release number.**
6. **Type `go` and press Return to resume.**
7. **Refresh your screen.**
   If you are running a window system, redisplay the desktop. If you are not running a window system, press the Return key to redisplay the system prompt.

If you have an

- OpenBoot PROM 1.3 through 2.4 (without the patch)
- OpenBoot PROM 1.2 or earlier version
- SunMon EEPROM

the Type 5 keyboard works like a U.S. Type 4 keyboard at the boot PROM level. The Type 4 U.S. keyboard is shown here for your reference.

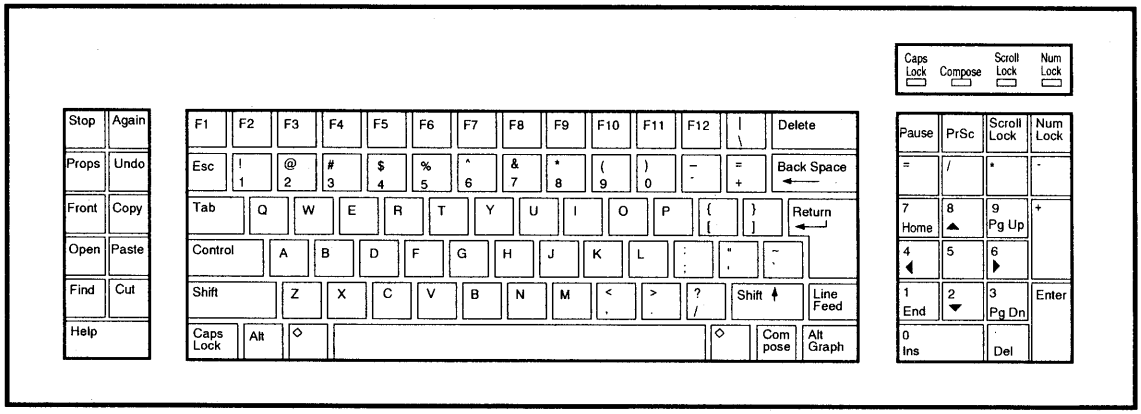


Figure 1 U.S. Type 4 Keyboard Layout

Installing the Type 5 Keyboard and Mouse

If you have a SPARCstation 1, 1+, 2, SLC, ELC, IPC, or IPX system, these instructions replace the installation instructions for the Type 4 keyboard in the manuals for those platforms.

If your system is running:

1. **Halt your system and turn it off.**
   See your system documentation for instructions.
2. **Unplug the old keyboard from the system unit.**

Connecting the Mouse to the Keyboard

1. **Remove the mouse with its attached cable from the carton.**
2. **Locate the jacks on the underside of the keyboard.**
3. **Insert the plug on the end of the mouse cable into a keyboard jack.**
   The jack you use depends on where you want to place the mouse on your desktop. Insert the plug into the right jack if you are right-handed; insert it into the left jack if you are left-handed.
   a. **Align the key groove on the cable plug with the key slot on the jack.**
   b. **Push the cable plug into the jack until the cable is firmly connected.**

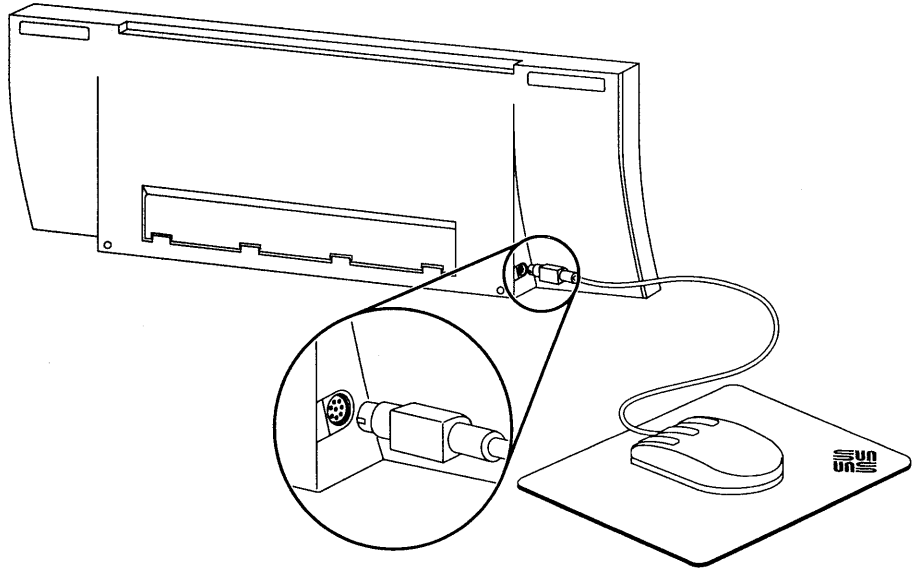


Figure 2 Connecting the Mouse to the Keyboard

Connecting the Keyboard to the System Unit

1. **Insert the connector on either end of the keyboard cable into the other keyboard jack.**
   a. **Align the key groove on the cable plug with the key slot on the jack.**
   b. **Push the cable plug into the jack until the cable is firmly connected.**

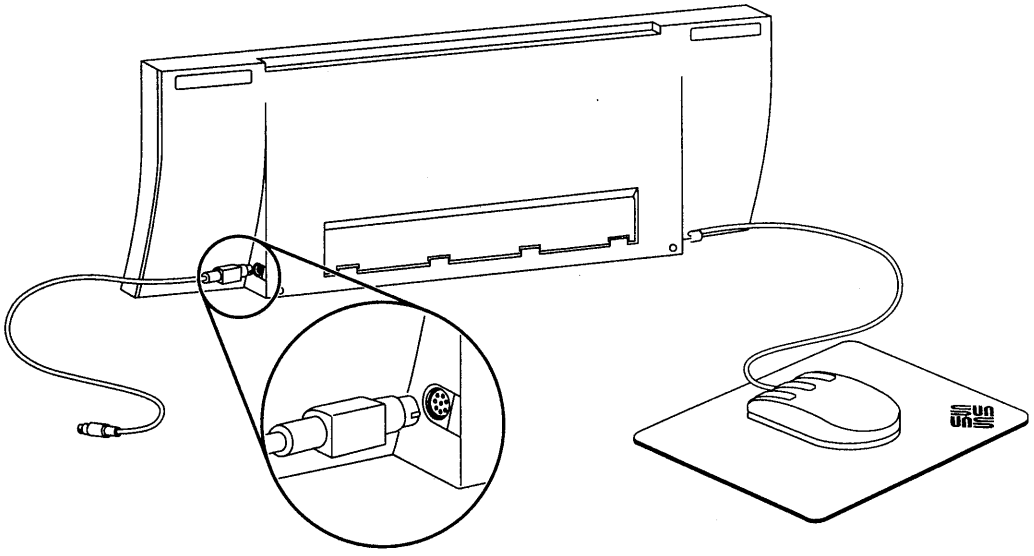


Figure 3 Connecting the Keyboard to the System Unit

2. **Find the keyboard port on the back panel of the system unit.**
   The keyboard port is labeled on the back panel with a keyboard icon.

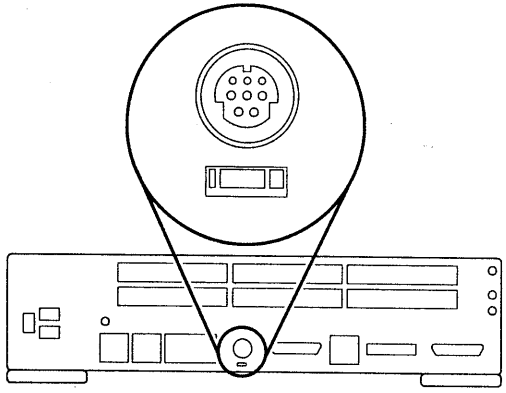


Figure 4 Keyboard Port

3. **Push the remaining keyboard cable plug into the keyboard port.**
   a. **Align the key groove on the cable plug with the key slot on the port.**
   b. **Push the cable plug into the port so that the cable is firmly connected.**
4. **Place the keyboard in a comfortable position on your desktop and adjust the angle of the keyboard if necessary.**
5. **Set the Type 5 mouse on the Type 5 mouse pad.**
   You can continue to use the Type 4 mouse and mouse pad if you prefer.

Note – You must use the new Type 5 mouse pad (labeled 403368-001) with the Type 5 mouse! The Type 5 mouse does not function correctly with the old Type 4 mouse pad (labeled 403104-001).

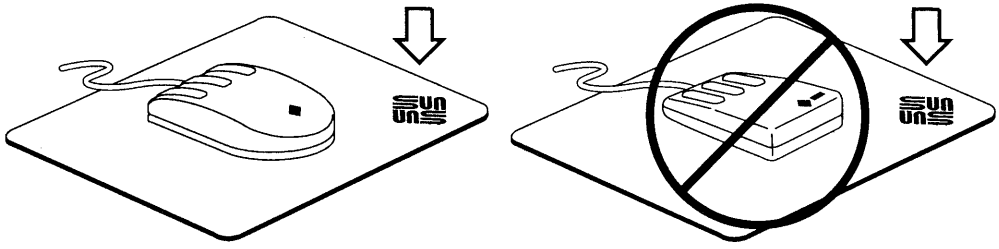


Figure 5 The Type 5 mouse pad has the Sun logo and the grid is gray.

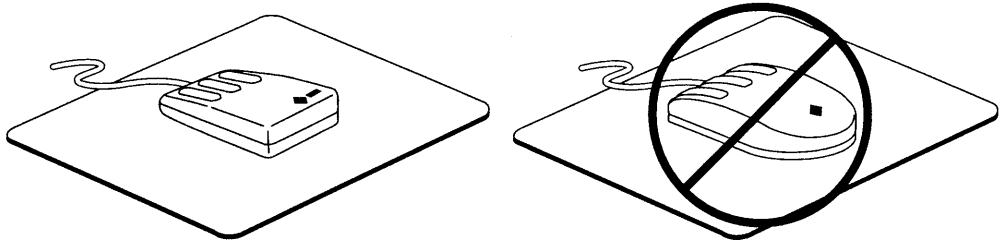


Figure 6 The Type 4 mouse pad does not have the Sun logo and the grid is blue.

6. **If you are left-handed, you can reverse the functioning of the mouse buttons.**
   If your system software supports this, its documentation will have instructions.

If you are installing a new system:

- **Continue with the installation procedure as described in the installation guide for your platform.**

If you are connecting the Type 5 keyboard in a system that was already installed:

- **Turn on the system power and boot the system.**
  See the installation guide for your platform for instructions.

Note – If you have trouble double-clicking, go to your properties menu and change the mouse multi-click setting to a longer interval.

New Features

These new and changed features of the Type 5 keyboard and mouse are described in this section:

- Power and audio/display keys added
- R-key support changed
- Line Feed key not supported
- L-key labels removed
- New ergonomic mouse design with higher cpi (counts per inch)

Power, Audio, and Display Keys

Power Key

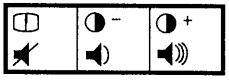
The power key, located in the upper-right corner of the keyboard, enables you to turn your system on and off from the keyboard (on platforms that support this feature).

The power key requires both software and hardware support.

The operating system documentation contains information on power key support and operation, if it is supported.

The power key is not supported on the Sun-4™ series, SPARCclassic™, SPARCstation 1, 1+, 2, 10, SLC™, ELC, IPC, IPX, and LX systems. If your system supports the power key, its documentation has more information about power key support and operation.

Audio/Display Keys: Audio



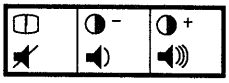
The three audio keys are located in the upper-right corner of the keyboard. These keys provide audio volume control (mute, volume decrease, and volume increase).

The audio keys require both software and hardware support.

The operating system documentation contains information on the operation of these keys when they are supported. As of this writing, no SunOS or Solaris® operating system release supports these keys.

These keys are supported on all hardware platforms that have a speaker *and* support the Type 5 keyboard.

Audio/Display Keys: Display



The three display keys are located in the upper-right corner of the keyboard. These keys provide display control for degaussing (for monitor displays only), decreasing contrast, and increasing contrast.

The display keys require both software and hardware support.

The operating system documentation contains information on the operation of these keys when they are supported.

These keys require an intelligent display—one that supports keyboard controls. If your display supports keyboard controls, the display documentation has more information about this.

R-Key Support

The Type 5 keyboard no longer supports the R-keys. On the Type 4 keyboard, these keys are located on the right keypad. However, all of the R-keys—except for the R4 key— exist on the Type 5 keyboard, but they are not marked with the R-key number and the arrangement of the keys is different than on the Type 4. To find where the R-keys are located , see "Remapping the Keyboard" on page 12.

Line Feed Key

The Type 5 keyboard no longer supports the Line Feed key. To enter a line feed character, press Control-j. You can also remap another key to function as the Line Feed key.

Remapping the Keyboard

To remap your keyboard, refer to the keymap assignments shown in Figure 7 through Figure 10 and your operating system documentation.

Table 1 Comparative Mappings for the Right Keypad on Type 4 and Type 5 Keyboards

Key	Type 4 Label	Type 5 Label	Comments
R1	`Pause`	`Pause`	Moved on Type 5
R2	`PrSc`	`Print Screen`	Moved on Type 5
R3	`Scroll Lock Break`	`Scroll Lock`	Moved on Type 5
R4	=	*none*	No equivalent key on the Type 5
R5	/	/	Same on both keyboards
R6	*	*	Same on both keyboards
R7	`Home, 7`	`Home, 7`	Same on both keyboards
R8	↑, 8	↑, 8	Same on both keyboards
R9	`PgUp, 9`	`PgUp, 9`	Same on both keyboards
R10	←, 4	←, 4	Same on both keyboards
R11	5	5	Same on both keyboards
R12	→, 6	→, 6	Same on both keyboards
R13	`End, 1`	`End, 1`	Same on both keyboards
R14	↓, 2	↓, 2	Same on both keyboards
R15	`PgDn, 3`	`PgDn, 3`	Same on both keyboards
B8	`Ins, 0`	`Ins, 0`	Same on both keyboards
B10	`Del, .`	`Del, .`	Same on both keyboards
B11	`Enter`	`Enter`	Same on both keyboards
B14	+	+	Same on both keyboards
B15	-	-	Same on both keyboards

L-Key Labels

The L-keys are no longer labeled with the L-key number on the Type 5 keyboard. They are still marked with their functional names (Stop, Again, etc.) and function the same.

Table 2 Type 4 Keyboard L-Key equivalents on the Type 5 Keyboard

This key:	Corresponds to:
Stop	L1
Again	L2
Props	L3
Undo	L4
Front	L5
Copy	L6
Open	L7
Paste	L8
Find	L9
Cut	L10

Type 5 Mouse

- Both the Type 5 mouse and the Type 4 mouse are optical, but the Type 5 LED is infrared.
- The Type 5 mouse functions at a higher cpi (counts per inch). Therefore, the Type 5 mouse does not function correctly with the Type 4 mouse pad and vice versa. See page 8.
- Like the Type 4 mouse, the Type 5 mouse is 1200 baud (bps). The two types of mice are transparent to system software and firmware.

Keycode Assignments

The keycode assignments for all Type 5 keyboards are shown below. Use these keycodes when remapping your keyboard. Be sure to use the layout for your specific keyboard. Refer to your operating system documentation for more information on remapping keys.

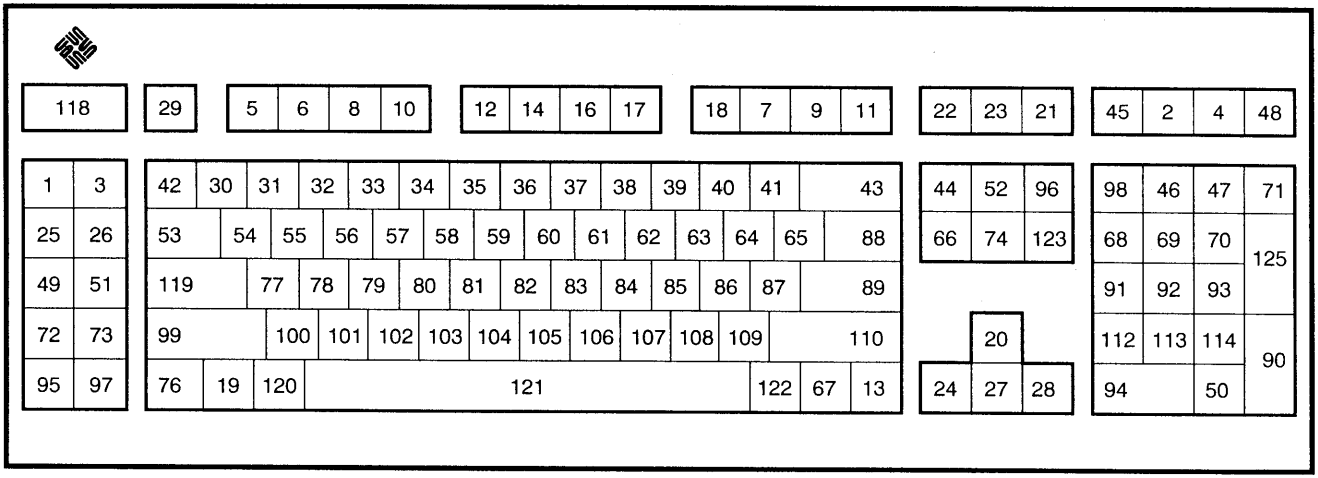


Figure 7 Keycode Assignments for the U.S., Taiwanese, and Korean Keyboards

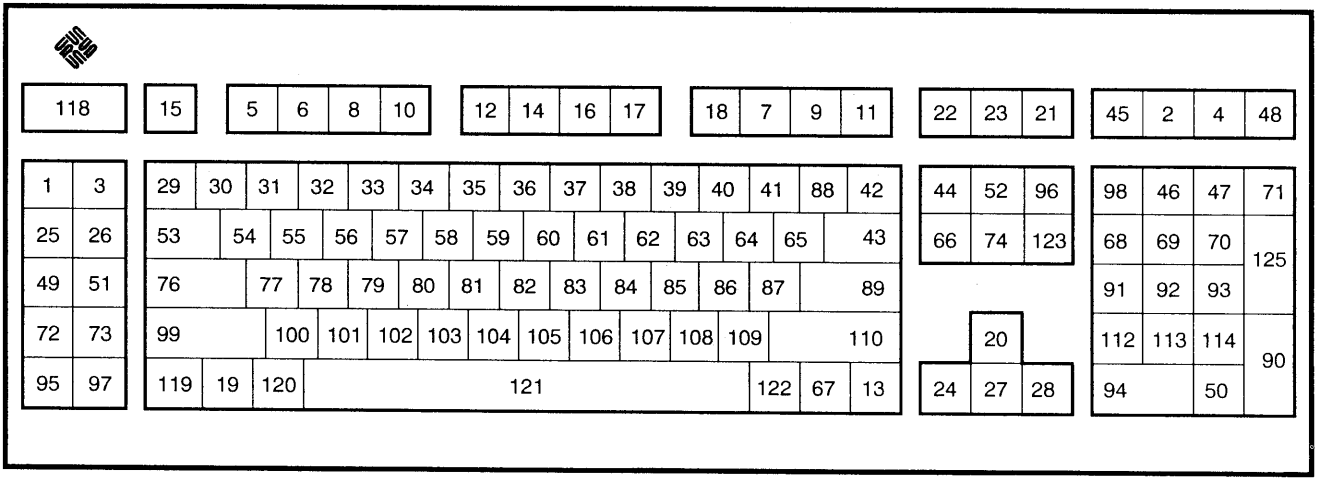


Figure 8 Keycode Assignments for the UNIX Keyboard

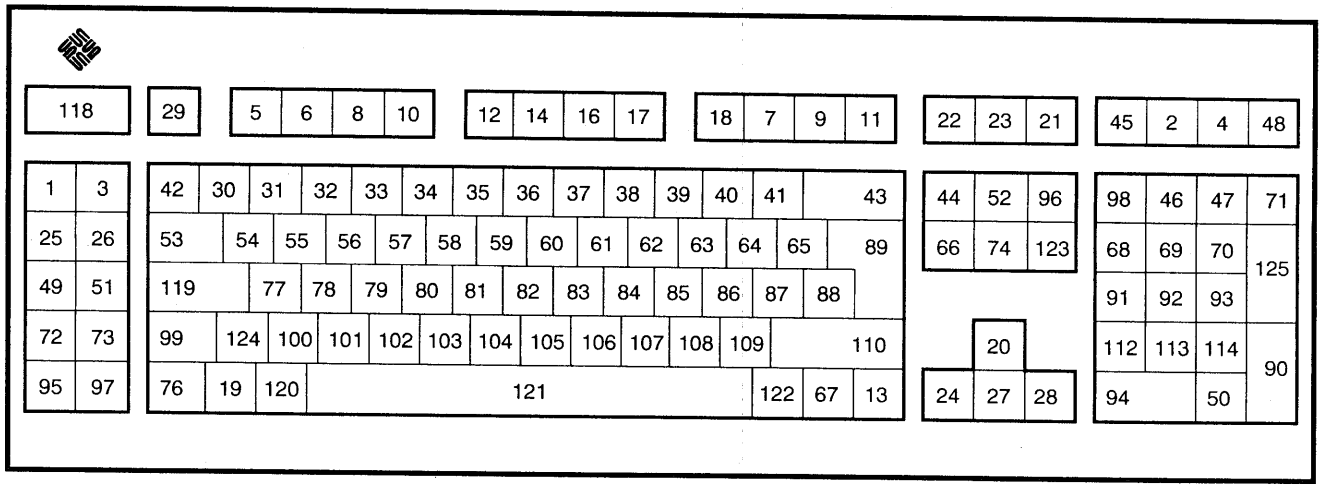


Figure 9 Keycode Assignments for TUV-Compliant Keyboards[1]

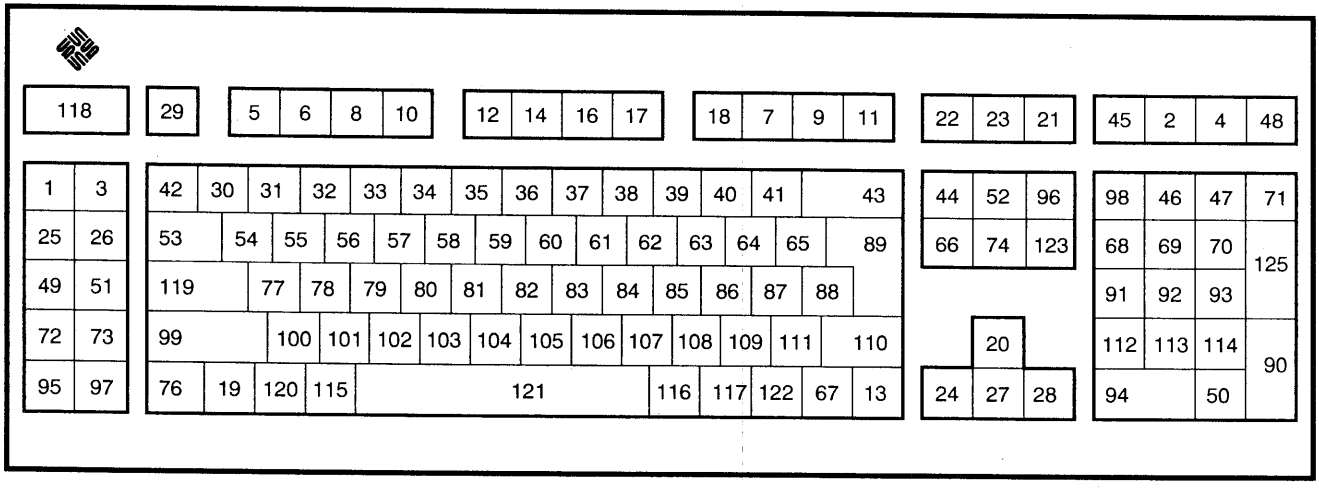


Figure 10 Keycode Assignments for the Japanese Keyboard

1. TUV-compliant keyboards are all keyboards except for U.S., UNIX, Japanese, Korean, and Taiwanese keyboards.

Diagnostic Codes

Read this section only if you have a SPARCstation 2, ELC, or IPX system.

The Type 4 keyboard displays diagnostic codes on the four LEDs (light-emitting diodes) located on the upper-right corner of the keyboard. However, on the Type 5 keyboard, the LEDs are located on the keys themselves. The diagnostic code patterns have the same meanings—only the *positions* of the LEDs have changed.

For example, a pattern of "off/off/on/on" on a Type 4 keyboard would appear like this:

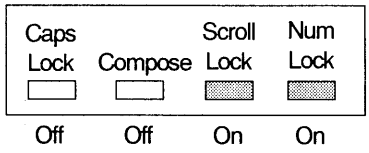


Figure 11 Type 4 Keyboard LEDs

On a U.S. Type 5 keyboard, the pattern would appear like this:

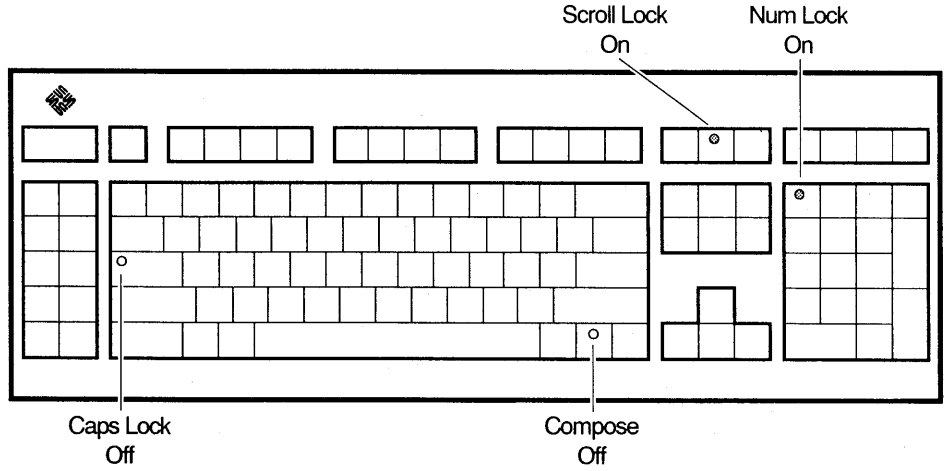


Figure 12 U.S. Type 5 Keyboard LEDs

For more information on the diagnostic codes, see the documentation for your system.

Known Problems

OpenWindows 3.0.0 Environment

If you have a Dutch keyboard and are running the OpenWindows 3.0.0 environment, the keystrokes are reversed for the upper and lowercase letter S. This means that if you press the S key, you get an uppercase letter "S," and if you press Shift-s, you get a lowercase letter "s."

To fix this:

1. **Log on as superuser to the host machine where the OpenWindows software is running in the local disk (possibly a server).**
2. **Edit the file** `$OPENWINHOME/etc/keytables/Netherland5.kt` **and change line number 235 from:**

```
78  RN    XK_S      XK_s      XK_ssharp
```

to:

```
78  RN    XK_s      XK_S      XK_ssharp
```

This problem was corrected in Open Windows 3.0.1.

OpenWindows 2.0 Environment

If you have a Danish, Dutch, German, Norwegian, or Swedish keyboard and are running the OpenWindows 2.0 environment, the decimal separator (comma) on the numeric keypad (located on the lower right-hand corner of the keyboard) produces a period (".") instead of a comma (","). To fix this, you must upgrade to OpenWindows 3.0 software.