Appendix A

Configuring installation hardware

UnixWare 7 automatically determines the correct hardware settings for EISA, MCA, and PCI hardware devices needed to install the system. If you have an ISA device, or the devices in your system have hardware conflicts such as duplicate interrupt vectors, you need to enter the Device Configuration Utility (DCU) by selecting **Run the DCU interactively** during the installation.

You can also enter the DCU after installing your system, to add additional hardware devices not needed by the installation. See Chapter 7, "Adding or removing hard disks, tapes, and other devices" (page 69) for more information.

NOTE UnixWare 7 provides several other hardware configuration managers to configure network, modem, print, audio, and video devices after you install the system. See "Configuring additional hardware" (page 44) for a complete list.

Navigating the DCU is comparable to navigating the installation windows, with similar cursor movement, text entry, and help keys active.

From within the DCU, you can:

- View hardware device configuration (page 92), to view all detected and configured hardware on your system.
- Modify hardware device configuration (page 93), to resolve interrupt, I/O, and memory conflicts between devices.
- Activate a software device driver (page 94) needed by your hardware device.
- Configure a software device driver (page 95) to support the hardware.

NOTE You can only make changes with the DCU once during the installation. If you apply changes and exit the DCU, then realize you need to make more changes, you must re-start the installation.

Viewing hardware device configuration

To view the currently detected hardware on your system, select **Hardware Device Configuration** from the DCU main menu. The Hardware Device Configuration window appears. This window displays hardware parameters for each device configured on your system. If a value is not needed, a dash appears in its place.

The fields shown are:

"Configuration Status"	Indicates whether or not the hardware controller will (**Y**) or will not (**N**) be configured into the kernel.
"Device Name"	Displays the name of the device. If a driver is assigned to an entry, the entry will be either the device name such as `COM Port`, or a ***driver name*** such as `asyc`, the driver for the COM port. If the device name is `UNKNOWN` on an EISA, MCA or PCI system, this is an entry from NVRAM (Non-Volatile Random Access Memory) indicating that the DCU cannot assign a driver name. For example, if you have installed a network adapter, but have not installed the corresponding software for the adapter, it will be listed as `UNKNOWN`. If the device name is `unused`, this indicates that an ISA driver is disabled, but the device parameters are retained.
"IRQ"	Specifies the interrupt request vector (IRQ) value for the hardware controller.
"IOStart, IOend"	Lists the start and end addresses, in hexadecimal notation, for the controller's I/O address range.
"Memstart, MemEnd"	Lists the start and end addresses, in hexadecimal notation, for the hardware controller's memory address range. For an HBA controller, these are the start and end addresses of the BIOS for the controller.
"DMA"	Lists the DMA channel for the controller.

To view additional information about any of the entries, use the arrow keys to highlight the desired controller and press ⟨F6⟩. When you do, you see configuration information for the following advanced parameters:

"Unit"	The unit number for a controller which supports multiple devices.
"IPL"	The interrupt priority level, for those devices which have priority handling capability.
"ITYPE"	The IRQ sharing type.
"BindCPU"	The CPU to which the device binds.

Additional information about these parameters is described in the "Installation hardware checklist" (page 19).

Modifying hardware device configuration

To change a device driver parameter for a device:

1. Select **Hardware Device Configuration** from the DCU main menu. The Hardware Device Configuration window appears.
2. Move the cursor to the field for the parameter you want to change.

   To change an advanced parameter, first bring up the advanced window by highlighting the desired driver and pressing ⟨F6⟩.
3. Change the parameter in one of these ways:
   - Directly entering text.
   - Pressing ⟨F2⟩ to toggle between available choices. When the desired choice is visible, press ⟨Enter⟩.
   - Pressing ⟨F2⟩ to bring up a selection list and highlighting the desired choice. When the desired choice is visible, press ⟨Enter⟩.

   Continue changing values until you have removed any duplicate or overlapping IRQ, I/O, or memory addresses.

   NOTE Exceptions to this rule are those devices that can share interrupt vectors. These devices *must* be configured to have the appropriate ITYPE and IPL values, or the system may not boot correctly.

   NOTE Do not change entries for the keyboard. Doing so may impair the operation of your system.
4. To return to the DCU main menu, press ⟨F10⟩.
5. If necessary, view and activate software device drivers (page 94) and add a new controller (page 95).

A

6. When you have finished making all changes with the DCU, select **Apply Changes & Exit DCU** to save your changes.

Viewing and activating software device drivers

The following procedures allow you to view or activate the device drivers currently installed on your system.

1. From the DCU main menu, select **Software Device Drivers**.
2. Select a device driver category. If you are unsure which category the desired device driver is in, select **All Software Device Drivers**.

   The Software Device Drivers window for the selected class of device drivers is displayed. The window contains three fields:

"Active/Inactive"	If an asterisk (*) appears in this field, the driver is available for use assuming the hardware it supports is installed and enabled. If the field is empty, the device driver is inactive and supports no devices.
"Driver"	Lists the device driver name.
"Names of Supported Devices"	Lists the hardware controllers the device driver supports (if available).

   Many device drivers support multiple controllers. The Software Device Drivers window lists the controllers supported by each device driver. If a device driver is inactive, the UnixWare system cannot access any of the controllers that the device driver supports.
3. To view a specific device driver, move the cursor to it and press ⟨F6⟩. Information about the driver appears. For a description of the fields, see "Modifying hardware device configuration" (page 93).

   Press ⟨Enter⟩ to return to the Software Device Drivers window.
4. To activate a device driver, move the cursor to the device driver's status field and press ⟨Space⟩.

   NOTE If you want to add a new controller, the device driver that supports this controller must be active.

5. If you are an experienced administrator who is installing the UnixWare 7 system, and if there are device drivers on your HBA diskettes that you are sure will not be needed on your system, you can instruct the installation software not to install these device drivers. To do so, remove the asterisk next to each of these device drivers.

A.dcu.s 6 August 1998 SCCS file: /f/english/InstallG/s.A.dcu.s SCCS ID: 100.11 Last delta: 98/02/17 17:23:28

6. To apply the changes and return to the Software Device Drivers window, press ⟨F10⟩, then press ⟨Enter⟩.

Adding a new controller for a device driver

1. From the DCU main menu, select **Software Device Drivers**.
2. Select a device driver category. If you are unsure which category the desired device driver is in, select **All Software Device Drivers**.

   The Software Device Drivers window for the selected class of device drivers is displayed.
3. Move the cursor to the desired device driver.

   NOTE If the device driver is not active, activate it by pressing ⟨Space⟩.
4. Press ⟨F5⟩ to add a new driver.

   The New Hardware Configuration window is displayed. Default values may also be displayed. This window contains the fields for the values found in the hardware checklist (page 19).
5. Enter the correct configuration parameters for the new controller.

   After you enter these values, you can:

   - Press ⟨F8⟩ to cancel the new controller configuration.
   - Press ⟨F4⟩ to verify that correct values are entered in each field before applying the changes.

     If an error is reported, re-enter the parameter until it succeeds. If the verification succeeds or the message `Driver does not support the verify function` appears, press ⟨Enter⟩ to continue.
   - To apply the changes and return to the Software Device Drivers window, press ⟨F10⟩, then press ⟨Enter⟩.

After you add the new controller, view the Hardware Device Configuration window (page 93) to verify that the new hardware parameters do not conflict with the existing hardware controllers.

A

Configuring PC Card (PCMCIA) modems

The **Network Configuration Manager** configures most networking hardware devices. However, one special type of modem — the PC Card (PCMCIA) modem used on some laptop computers — is configured within the DCU.

PC Card modems are enabled by the **pcic** driver when the system boots up, and are controlled by the **asyc** driver while in use. To configure a PC Card modem you should first enable the **pcic** driver, and then create a new **asyc** entry.

Enabling the pcic driver

1. Enter the Device Configuration Utility.
2. Select **Software Device Drivers** from the DCU main menu.
3. Select **Miscellaneous** from the **Software Device Drivers Selection** menu.
4. Enable the **pcic** entry if it is not already selected. If an asterisk does not appear next to the **pcic** entry, move the cursor to the **pcic** entry and press ⟨Space⟩.
5. Press ⟨F5⟩ to create an instance of the **pcic** driver.
6. If necessary, modify the default memory range (MemStart and MemEnd).

   The **pcic** driver requires an 8KB memory window. The D0000-D1FFF memory range is often available on laptop computers.
7. Press ⟨F10⟩ to enable the **pcic** driver and return to the Software Device Drivers window.
8. Press ⟨Enter⟩ to return to the **Software Device Driver Selections** menu.
9. Select **Communications Cards** from the **Software Device Driver Selections** menu.
10. Move the cursor to the **asyc** entry, and press ⟨Space⟩ to select it if it is not already enabled.
11. Press ⟨F5⟩ to create a new instance of the **asyc** driver.
12. Specify this as a PC Card entry by entering **20** in the “Unit” field.
13. Change the default IRQ value to an available IRQ.

    You can use IRQ 3 on most laptops.

A.dcu.s 6 August 1998 SCCS file: /f/english/InstallG/s.A.dcu.s SCCS ID: 100.11 Last delta: 98/02/17 17:23:28

14. Change the I/O address range (IOStart and IOend) to an unused I/O address range.

    On most laptops, the I/O address range 2f8-2ff is available. Set IOStart to 2f8 and IOend to 2ff.

15. Press ⟨F10⟩ to create the new **asyc** entry and return to the "Software Device Drivers" screen.
16. Press ⟨Enter⟩ to return to the **Software Device Driver Selections** menu.
17. Select **Return to DCU Main Menu** from the **Software Device Driver Selections** menu.
18. When you are finished configuring all installation devices, select **Apply Changes & Exit DCU** to save your changes.

NOTE For the PC Card modem to function properly, the modem must be in the PC Card socket when the UnixWare 7 system is booted, and should not be removed until the system is shut down.

A

A.dcu.s 6 August 1998 SCCS file: /f/english/InstallG/s.A.dcu.s SCCS ID: 100.11 Last delta: 98/02/17 17:23:28