

# *TADPOLE*



## **UltraBook IIe**

*User Guide*

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UltraBookIle User Guide

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## **FCC Compliance Statement**

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

---

## **Declaration of Conformity**

We, Tadpole,  
2300 Faraday Avenue  
Carlsbad, California USA 92008  
(760) 929-0992

Declare under our sole responsibility that the product

### **UltraBookIIe Portable Workstation**

complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

---

## **Shielded Cables**

Connections between the UltraBookIIe workstation and peripherals must be made using shielded cables in order to maintain compliance with FCC radio frequency emission limits.

The connection of nonshielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels that exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## **Modifications**

Modifications to this device not approved by Tadpole may void the authority granted to the user by the FCC to operate this equipment.

## **DOC Class B Notice**

This digital apparatus does not exceed Class B limits for radio noise emission for a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

## **Avis**

Le present appareil numerique ne met pas de bruits radio-electriques depassant les limites applicables aux appareils numeriques de la classe B prescrites dans le Reglement sur le brouillage radio-electrique edicte' par le ministere des Communications du Canada.

---

## Safety Precautions



**WARNING:** Hazardous voltages are present inside the UltraBookIIe workstation. To reduce the risk of electrical shock and/or personal injury, follow the operating and installation instructions carefully.



**WARNING:** Do not attempt to recharge alkaline or other non-rechargeable batteries with the UltraBookIIe workstation's AC adapter/charger. Alkaline batteries cannot be recharged. Attempting to recharge alkaline batteries may cause personal injury and/or damage to the UltraBookIIe workstation.



**WARNING:** To prevent fire, shock hazard, or damage to the equipment, do not expose the UltraBookIIe workstation to rain or moisture. Do not immerse the UltraBookIIe workstation in water. If water has entered the UltraBookIIe workstation cabinet, do not use the workstation until it has been inspected by Tadpole.



**WARNING:** Do not dispose of UltraBookIIe batteries in fire. Disposal of UltraBookIIe batteries in fire may cause personal injury.



**WARNING:** All service and upgrades to the UltraBookIIe workstation must be performed by a trained technician only. Otherwise, you may encounter personal injury and/or damage your workstation.

## Sicherheitshinweise



**WARNUNG:** Beim Betrieb der UltraBookIIe Workstation treten hohe Spannungen innerhalb des Gehäuses auf. Bitte befolgen Sie auf jeden Fall die Bedienungs- und Installationsanweisungen um jegliches Risiko einer Verletzung oder eines Personenschadens zu vermeiden.



**WARNUNG:** Versuchen Sie auf keinen Fall, Ihre UltraBookIIe Workstation mit Trockenbatterien (Primärzellen) zu betreiben oder solche mit dem Netz/Ladegerät zu laden. Versuche dieser Art können Personen-oder Sachschaden zur Folge haben.



**WARNUNG:** Betreiben Sie Ihre UltraBookIIe Workstation nicht bei feuchten oder nassen Umgebungsbedingungen. Falls Wasser oder Feuchtigkeit in das Gehäuse eingedrungen ist, sollten Sie Ihr Gerät vor Wiederinbetriebnahme von einem qualifizierten Servicetechniker überprüfen lassen.

---

## Important Safety Instructions

The following instructions pertain to the risk of fire, electric shock or bodily injury. Please read all of these instructions carefully.

1. Save these instructions for later use.
2. Follow all of the instructions and warnings marked on this workstation or included in this manual.
3. Do not use this workstation in unstable or unsupported conditions.
4. The workstation may fall, causing serious damage to the workstation and others around.
5. Slots and openings in the cabinet are for ventilation. To ensure reliable operation of the workstation, and to protect it from overheating, these openings must not be blocked or covered. Don't use this workstation on a bed, sofa, rug or other similar surface. This workstation should never be placed near an oven, a radiator, or heat register. This workstation should not be placed in a built-in installation unless proper ventilation is provided.
6. Never push objects of any kind into the workstation cabinet openings as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Keep liquids of any kind away from the workstation.



7. This workstation should only be connected to the AC power source indicated on your workstation system's information label. If you are not sure of the type of AC power available, consult your dealer or local power company. Only connect this workstation to a power outlet matching the power requirements of this workstation.
8. Do not allow anything to rest on the power cord. Do not locate this workstation where people will walk on the cord.
9. If you have to use an extension cord with this workstation, make sure that the total amperage rating of all equipment plugged into it does not exceed the amperage rating of the extension cord. Also, make sure that the total of all workstations plugged into the main AC power outlet does not exceed 15 amps.
10. Unplug your workstation from the main electrical power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
11. Do not use this workstation near water.
12. This product is equipped with a 2-wire non-grounded type plug.

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## Battery Warning Instruction



**WARNING:** *Danger of explosion if battery is incorrectly replaced. Replace only with the same or equipment type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.*



**ATTENTION:** *Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie de meme type ou d'un type recommande par le constructeur. Mettre au rebuttes batteries usegees conformement aux instructions du fabricant.*



**VORSICHT:** *Explosionsgefahr bei unsachgemäsem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.*

## Earthed Socket Instruction



**WARNING:** *Only connect this equipment to an earthed socket outlet. Apparätet ma kun tilkobles jordet stikkontakt. Apparaten skall anslutas till jordat nätuttag. Laite on liitettävä suojäkoskettipistoraassian.*



*ATTENTION: Debrancher avant d'ouvrir.*



*ATENCIÓN: Desconecte fuerza eléctrica antes del servicio.*

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## **Wichtige Sicherheitsvorschriften. Unbedingt beachten.**

Die nachfolgenden Anweisungen betreffen die Gefahr von Verletzungen durch elektrische Spannung, Feuer und mechanische Einwirkung. Bitte lesen sie diese Anweisungen sorgfältig.

- 1.** Beachten Sie alle Hinweise, die am Gerät selbst angebracht oder in den zugehörigen Handbüchern vermerkt sind.
- 2.** Stellen Sie das Gerät an einem sicheren, stabilen Arbeitsplatz auf.
- 3.** Am Gerät angebrachte Öffnungen (Schlitze und sonstige Öffnungen) dienen der Belüftung des Gerätes. Um ein zuverlässiges Arbeiten des Gerätes zu gewährleisten und um Überhitzung zu vermeiden, müssen diese Öffnungen unbedingt freigehalten werden. Betreiben Sie das Gerät nie auf Betten, Sofas oder anderen, weichen Unterlagen.
- 4.** Stecken Sie keine Gegenstände (Schraubenzieher, Büroklammern, etc.) in die Öffnungen. Sie würden damit Kurzschlüsse herbeiführen, die zur Zerstörung des Gerätes führen, sich der Gefahr eines Stromschlages aussetzen oder das Gerät in Brand setzen.
- 5.** Das Gerät darf nur an vorschriftsmässige Steckdosen mit der auf dem Gerät angegebenen Netzspannung angeschlossen werden. Wenn Sie nicht sicher sind, welche Netzspannung richtig ist, wenden Sie sich an den Lieferanten des Gerätes oder an das zuständige Elektrizitätswerk.. Bitte nur an genügend stark abgesicherte Steckdosen anschliessen, die der Leistungsaufnahme des Gerätes entsprechen.
- 6.** Auf das Netzanschlusskabel dürfen keine Gegenstände gestellt werden.

7. Legen Sie das Netzkabel so, dass niemand darauftreten oder darüber stolpern kann.
8. Wenn Sie Verlängerungskabel benutzen, müssen Sie sicher sein, dass die gesamte Leistungsaufnahme nicht grösser ist, als das Verlängerungskabel zulässt. Der gesamte Stromverbrauch aller angeschlossenen Geräte darf nicht mehr als 15A betragen.
9. Wenn Sie das Gerät reinigen, muss das Netzkabel aus der Steckdose gezogen werden.
10. Das Gerät dürfen Sie nicht in der Nähe von Wasserleitungen benutzen.

## **Wartung der Workstation**

Wenn Ihre Workstation nicht ordnungsgemäss arbeitet, dürfen Sie nur die Einstellungen vornehmen, die im Handbuch genannt werden. Andere Einstellungen oder Veränderungen können den Rechner beschädigen oder zerstören. Umfangreiche und kostspielige Reparaturen würden notwendig werden, um das Gerät wieder betriebsfähig zu machen.

Ziehen Sie den Netzstecker aus der Steckdose und verständigen Sie den zuständigen Kundendienst bei folgenden Störungen:

1. Netzkabel ist defekt oder stark abgenutzt.
2. Flüssigkeit ist in das Gerät gelangt.
3. Das Gerät war Regen oder Leitungswasser ausgesetzt.
4. Das Gerät ist heruntergefallen oder das Gehäuse ist beschädigt.
5. Das Gerät arbeitet nicht mehr richtig.

## **Achtung!**

Wenn Sie das Gerät öffnen müssen (Abnahme der verschraubten Haube), ist unbedingt folgendes zu beachten:

1. Das Netzkabel muss aus der Steckdose gezogen werden und zwar bevor Sie das Gerät öffnen.
2. Die Haube muss wieder montiert und verschraubt werden. Erst dann darf das Netzkabel wieder eingesteckt werden.



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## **Table of Contents**

# Preface

Welcome to the *UltraBookIIe User Guide*. This manual contains valuable information about using your new UltraBookIIe.



## Preface

### *Conventions in This User Guide*

---

## Conventions in This User Guide

The following conventions are used in this Guide:

### Procedures

Procedures are numbered.

Example:

- 1.** Turn on your workstation.

### Notes

Notes precede information that requires special attention.

Example:



For your convenience, you can attach an external keyboard and mouse.

### Warnings and Cautions

Information of a hazardous nature is shown as indented and preceded by warning/caution icon.

Example:



**CAUTION:** To avoid damage to the product, do not subject it to excessive shock.

Example:



**WARNING!** To reduce risk of electric shock, do not open unit. No user serviceable parts inside. Refer all servicing to qualified personnel only.

Warnings highlight conditions of potential personal injury. Cautions point out possible equipment damage.

## Keyboard Conventions

Keyboard keys are shown in initial upper-case type.

1. Type `ls` and press the Enter key to list the contents of a directory.

## Screen Messages

Screen messages appear in Courier type within a box.

Example:

After the UltraBookIIe passes its self-test, the following initial message appears:

```
UltraBookIIe
ROM Rev. x.xx, xx, Serial #xxxxxxx
xxMB memory installed, Keyboard Present
Ethernet address x:x:xx:x:x:xx, Host ID: xxxxxxxx
```

## Variables

Variables appear as a lower-case x. For example, the x's in the screen on the previous page are variables because the values shown for ROM Rev., serial number, Ethernet address, and host ID will vary from system to system.

**Preface**

*Conventions in This User Guide*

**Supplemental Documentation**

For more information about the Solaris operating system, refer to the Sun Solaris Operating Environment documentation shipped with your system.

For more information on related UltraBookIle features, refer to the other documents also on the Tadpole web site by visiting:

<http://www.tadpole.com>



# Overview

Before using your UltraBookIIe portable workstation, it is important to review the following topics:

- Unpacking your UltraBookIIe components
- A list of features for the UltraBookIIe
- Customer Service and Support

**Overview**

*UltraBookIIe Components*

---

**UltraBookIIe Components**

As you unpack your UltraBookIIe, check the shipping carton and the components inside it for damage. Here are the items you should find in your shipping carton:



If either the shipping carton is damaged or the UltraBookIIe components are missing or damaged, please contact your shipper or dealer immediately.

Each carton contains:

1. UltraBookIIe portable workstation
2. Carrying case
3. AC adapter and power cord
4. Rechargeable battery pack
5. Removable hard drive
6. Tadpole Support Software (Installation) CD
7. *UltraBookIIe User Guide* (this manual) and other documentation on CDs
8. Solaris Operating Environment media kit of CDs and documentation (optional, not pictured)

## Overview

### *UltraBookIIe Features*

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## UltraBookIIe Features

Your new UltraBookIIe includes the following features:

- An UltraSPARC-IIe-compatible motherboard, running at 500 MHz with a 256 KB data and instruction cache
- 256 MB of high-speed RAM, factory upgradeable to 2 GB
- 14.1 inch display with 1024 x 768 resolution, supporting a 256K-color palette and 64-shades of gray
- A full-size 97-key Sun Type-5 compatible keyboard with 12 function keys
- An integrated three-button trackpad
- A status LCD that displays system status icons
- Up to two removable hard disk drives (HDDs) of varying capacity
- Internal DVD-ROM drive
- Audio input and output jacks that support:
  - Line Out, for connection to external stereophonic devices
  - Line In, for connection to external stereo audio sources

- Mono/stereo microphone, for connection to an external microphone
- Internal monophonic speaker
- 2 PCMCIA Type I or Type II cards, or 1 Type III slot
- 4 USB ports for connecting external devices such as an external keyboard or mouse
- A port for connecting an AC power adapter
- A VGA port for attaching an optional external monitor
- A standard RJ45 port that supports both 10-Base T and 100-Base T twisted pair Ethernet connections
- A standard 9-pin port that supports one serial interface for connecting industry-standard TIA/EIA-232-F devices
- A standard 25-pin parallel port for connecting a printer or other industry-standard parallel port device

For more information about the features listed here, see “Detailed Hardware Description” on page 95.

For tips on using the features listed here, see “Using UltraBookIIe” on page 15.

## Overview

### *Customer Service and Support*

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## Customer Service and Support

If the information presented in this guide does not meet your needs, or you have questions, you may contact Tadpole's Customer Service and Support staff.

### North America

7:00 AM to 6:00 PM PST

Tel: 1-800 734-7030

Fax: (760) 930-0762

E-mail: [support@tadpole.com](mailto:support@tadpole.com)

### Europe

9:00 AM to 5:00 PM GMT

Tel: +44 1223 428200

Fax: +44 1223 428201

E-mail: [support@tadpole.com](mailto:support@tadpole.com)

Before you call, have the serial number for your UltraBookIIe nearby. This number appears on the bottom of the UltraBookIIe.

If you received an error message, it will also help if you write down the following information:

- 1.** The exact description of the problem.
- 2.** The task you were performing when you encountered the problem.
- 3.** The command you typed when the error occurred. You may want to check the command line to make sure you did not make a mistake.
- 4.** The directory you were in. You can use “pwd” to obtain this information.
- 5.** The account you were using. You can use “whoami” to obtain this information.

6. Version of the operating system you are using. You can use `uname -a` or `more /etc/release` to obtain this information. See “Customer Service and Support” on page 76 for more information about these commands.

**Overview**

*Customer Service and Support*



# Getting Started

# 2

Getting Started provides a brief, pictorial introduction to get you started. The next chapter, “Using UltraBookIIe” on page 15, describes more detailed information about these features. A few minutes spent on these two chapters will ensure you get the most out of UltraBookIIe. For more detailed hardware descriptions, see “Detailed Hardware Description” on page 95 of this manual.

## Getting Started

*Steps to Follow*

---

### Steps to Follow

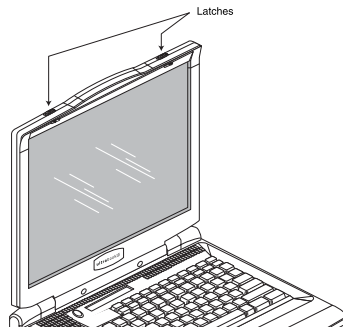
Once you've completed the following steps, you'll be ready to start working with your UltraBookIIe.

1. Check the ambient air temperature to make sure it is between 4° to 40° C (40° to 104° F).



**Caution:** If your workstation has been exposed to temperature extremes (variations of more than 10 degrees of temperature or 10 percentage points of humidity), you will need to stabilize the workstation's temperature. Let your UltraBookIIe adjust to room temperature before proceeding. As shown in Step 1, the operating temperature range is 4° to 40° C.

2. Open the UltraBookIIe



Open the UltraBookIIe display screen by sliding the display cover latches as shown in Step 2.

3. Install the correct UltraBookIIe Lithium-Ion battery.



**Figure 2-1 Battery Partially Inserted**

Insert the battery pack into the bay. Push in until you hear it click into place. The battery bay is located on the same side of the unit as the PCMCIA and audio ports.

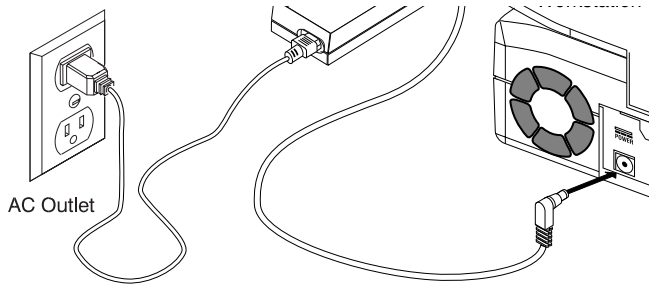


**Warning:** Use only UltraBookIIe batteries. Never insert a battery made for another model of UltraBook or for any other computer or appliance, even if its appearance is similar.

4. For AC power operation, plug in the AC power adapter, as shown below.

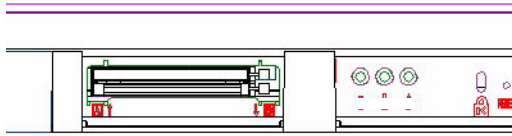
## Getting Started

*Steps to Follow*

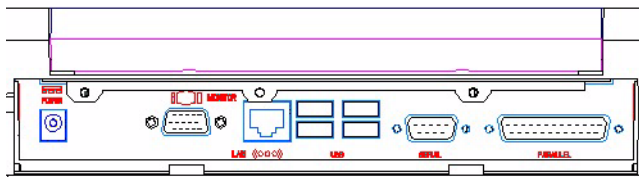


The battery need not be installed for AC operation. For more detailed instructions on plugging in the AC adapter, see “Using an AC adapter” on page 18.

5. Open the UltraBookIIe side panels.



6. Open the UltraBookIIe back panel.

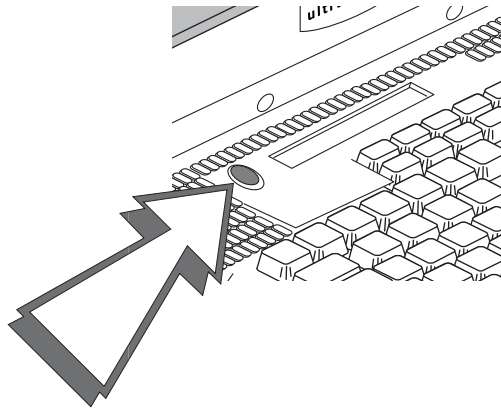


Although the UltraBookIIe is completely self-contained, the back panel shown in Step 6 provides access for connecting the workstation to a wide variety of external devices, including Ethernet networks. Lower the cover plate and

connect the external device to the appropriate connector. See Chapter 3, “Using UltraBookIIe” for more information about connections.

Turn on all external devices, then turn on your UltraBookIIe, as shown in Step 7.

7. Turn the power switch on.



8. View the initial system screens.

After the self-tests have successfully completed, an initial message appears. Then system messages scroll as the operating system loads.

If the system is booted with the factory software load intact, the Common Desktop Environment (CDE) login banner appears. (Note that the GNOME windowing environment may replace CDE as the standard Solaris windowing system in future Solaris operating environment releases.)

9. Log on to the system and follow the prompts.

## Getting Started

### *Steps to Follow*



If the factory software load is altered, the CDE may not appear. If this is the case, after the last system message, the screen displays the login prompt and you can log into the system. At this point, you may start your application.

The next chapter, “Using UltraBookIle” on page 15, provides more detailed information about the Getting Started tasks.

# Using UltraBookIIe

This chapter provides more detailed information about the tasks described in Chapter 2, “Getting Started.” A few minutes spent here will help you get the utmost benefit from your UltraBookIIe.

## Setting Up

The UltraBookIIe is designed to provide many years of error-free operation. The workstation will last longer by following these guidelines:

- Position the UltraBookIIe so you can easily access the connectors on the back and side panels.
- The area should be free of obstructions, allowing you to open the display screen completely, without hindrance.
- Adequate ventilation is required for the UltraBookIIe. Do not cover or block the ventilation slots or fans on the case.



Never spray or directly apply strong cleaners or solvents to the UltraBookIIe case or LCD.

## Opening the Display Cover

The display is located on the inside of the top cover. When you are not using the UltraBookIIe, the cover should remain closed. This protects the display against damage.

To open the display cover:

- 1.** Slide the two display cover latches outward to the left and right sides of the unit (see Figure 3-1).



2. Gently raise the cover to its full, upright position.

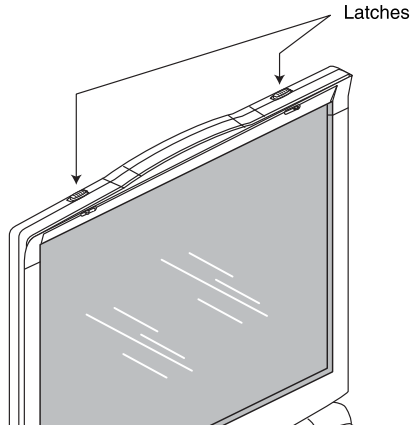


Figure 3-1 Raising the Display Cover

You can adjust the screen up to 27 degrees from vertical for a better viewing angle. Use the backlight intensity keys on the integral keyboard to adjust the brightness of the backlight to achieve the best viewing conditions.

## Closing the Display Cover

To close the display cover:

1. Gently pull the cover forward and down.
2. Carefully press the back of the cover down toward the keyboard until both case latches “click” into their closed positions.

At this point, you can connect the UltraBookIIe to your selected optional equipment and power up the workstation.

## Providing Power

The UltraBookIIe can operate from an AC power adapter or a rechargeable Lithium-Ion battery pack.

### **Using an AC adapter**

You may use AC power to operate the UltraBookIIe. The battery need not be installed for AC operation.

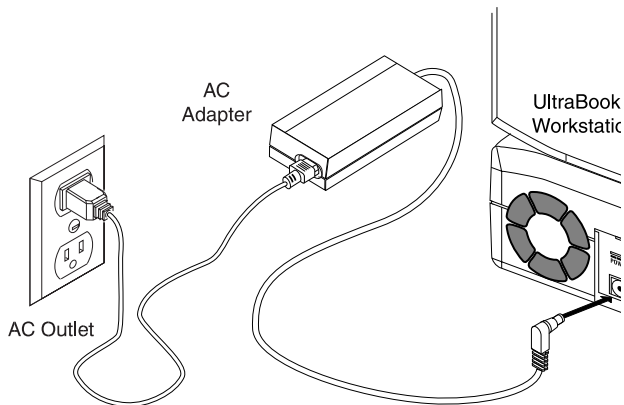
To power the UltraBookIIe from AC power:

1. Locate the UltraBookIIe near a grounded AC outlet.
2. Make sure the outlet is not controlled by a wall switch, which can cause the workstation to be turned off accidentally.



**Warning:** Use only the supplied AC adapter with the UltraBookIIe. Do not use an AC adapter designed for use with another product.

3. Plug the connector from the AC adapter into the power input socket on the UltraBookIIe. Then plug the AC cable plug into a nearby AC outlet.



**Figure 3-2 Connecting to AC Power**



The AC adapter can be plugged into a 100 – 240-Volt source at 50 – 60 Hz. The AC adapter will automatically adjust to the AC

input voltage and frequency. The only requirement is that the AC adapter/charger must correctly fit the AC outlet.

**To unplug the AC Adapter:** Unplug the AC cable from the AC outlet. Then slide the connector from the AC adapter out of the power input socket on the UltraBookIIe.

After installing a new battery pack, use the AC adapter to recharge the battery pack. It takes about 2.5 hours to recharge a new battery when the UltraBookIIe is turned off. After fully charging the battery pack, you can operate the UltraBookIIe for about 2 hours, depending on your configuration and applications.

### **Using Batteries**

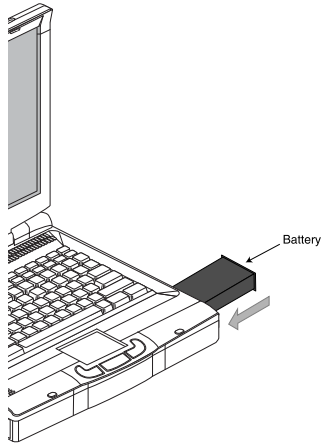
The battery can be installed with the UltraBookIIe powered on or off. To install the battery pack:

- 1.** Insert the battery pack in the bay. The battery bay is located in the same side of the unit as the audio and PCMCIA ports.

## Using UltraBookIIe

### Setting Up

2. Push the battery in until you hear it click into place.

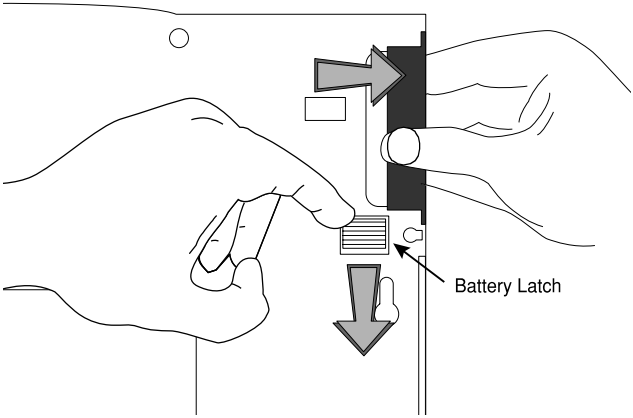


**Figure 3-3 Installing the Battery Pack**

To remove the battery pack:

1. Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
2. Turn the UltraBookIIe over.

- 3. Press the battery latch (see Figure 3-4) away from the battery.



**Figure 3-4 Pressing the Battery Latch**

## Using UltraBookIIe

### *Operating UltraBookIIe*

4. Grasp the battery's faceplate and gently pull it out of the battery bay.

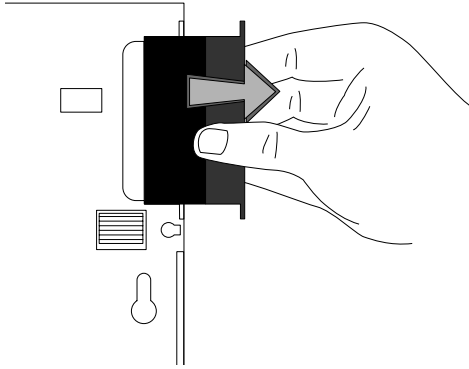


Figure 3-5 Removing the Battery Pack

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## Operating UltraBookIIe

Before turning on your UltraBookIIe workstation and beginning your day, you will need to prepare the workstation. This includes acclimating the workstation to its environment and starting its operating system.

### Starting UltraBookIIe

To ensure long life and ease of operation, you need to follow a few general guidelines when starting up and shutting down your UltraBookIIe workstation.



**Caution:** Failure to start up and shut down the UltraBookIIe workstation properly can damage important system files and may affect your product warranty.

To start the UltraBookIIe:

- 1.** Make sure the UltraBookIIe is at room temperature before powering up. This is particularly important when the workstation is brought from a very cold environment into a warm room. In such cases, moisture can condense on and inside the workstation and cause problems. Allow at least two hours for the UltraBookIIe's temperature to stabilize after bringing it from a very cold or very warm environment before proceeding.
- 2.** (Optional) If you will be using the UltraBookIIe on an Ethernet network, you will need to:
- 3.** Contact the person responsible for your computer network (the Network Administrator) to obtain the following applicable information:
  - A host name that does not duplicate an existing host name
  - An IP address
  - An optional Network Information Service (NIS) domain name
  - A user account and password if using NIS
  - An Ethernet cable
  - A connection to the desired Ethernet network
- 4.** Connect the Ethernet cable to the 10-Base T/100-Base T Ethernet connector.
- 5.** Make sure that all cables attached to peripherals (such as printers, mouse and monitor) are securely plugged into the correct connectors.
- 6.** Make certain that each device is plugged into an AC outlet or power strip.
- 7.** Power on all attached peripherals.

## Using UltraBookIIe

### Operating UltraBookIIe

8. Use the UltraBookIIe's power switch to turn on your workstation.

The UltraBookIIe begins its self-test diagnostics and starts to boot. It is normal for the screen to be blank for up to 20 seconds before displaying the following initial message:

```
UltraBookIIe
ROM Rev.x.xx, Serial #xxxxxxx
xx MB memory installed, Keyboard Present
Ethernet address x:x:xx:x:x:xx, Host ID: xxxxxxxx
```

A variety of system messages will be displayed on the screen as Solaris continues to boot. After the last system message, the screen will display the “hostname console login” prompt.

```
hostname console login:
```

If the UltraBookIIe does not respond when the power switch is turned on, refer to Chapter 4 of this guide for troubleshooting suggestions.



After powering-up the UltraBookIIe for the first time, you are ready to configure your workstation. Consult your system administrator for details.

## Restarting UltraBookIIe

Restarting an UltraBookIIe that has been halted and powered down is a simple procedure.

To restart the UltraBookIIe:

1. Verify that cables from all connected peripheral devices, such as an external monitor, are connected to the appropriate connectors on the back of the UltraBookIIe.



## Using UltraBookIIe

### *Operating UltraBookIIe*

2. Power-up the peripherals before powering-up the UltraBookIIe (see the peripheral manuals for more information).
3. Turn on the UltraBookIIe.

The UltraBookIIe begins its self-test diagnostics and starts to boot. It is normal for the screen to be blank for up to 20 seconds before displaying the following initial message:

```
UltraBookIIe (UltraSPARC-IIe xxxMhz),  
OpenBoot x.xx Tadpole x.xx, xxxx MB memory installed, Serial #xxxxxxx  
Ethernet address x:x:xx:x:x:xx, Host ID: xxxxxxxx
```

Various system messages will appear on the screen during the boot process. After the last system message, the screen will prompt you for your login name and then your password.

4. Type your user ID at the user name prompt and click OK.
5. Type your user password at the password prompt and click OK.

## Shutting UltraBookIIe Down

Before turning off your UltraBookIIe for the day, save your work, close all programs and databases, and shut down its operating system. You may also want to power down any peripheral devices you have connected to the UltraBookIIe.

### Using TADeuts

If you have TADeuts installed on your UltraBookIIe, this power management software will automatically close your programs and databases and shut down the operating system safely.

TADeuts is installed with the other system software at the factory, but if you have reloaded Solaris or repartitioned the hard disk drive, you will need to reload TADeuts or manually shut down your programs and operating system each time you are finished for the day.



**Caution:** If you are not certain TADeuts is installed on your workstation, **DO NOT** simply turn off the power to your workstation as this can damage or destroy critical operating system files and data. Failing to properly shut down the operating system and workstation can also damage attached peripheral devices as well as the workstation itself.

To check if TADeuts is installed:

1. At the “#” prompt, type

```
pkginfo | grep uts
```

2. If TADeuts is present, this command will return the following information:

```
System      TADeuts      Tadpole UltraBook IIe Utilities for Solaris x
```

3. If TADeuts is not present, the “#” prompt will return with no response. Contact your system administrator if you need assistance reloading TADeuts from the UltraBookIIe Support Software (Installation) CD or downloading it via FTP from [ftp.tadpole.com](http://ftp.tadpole.com).

### **Shutting Down Without TADeuts**

To shut down the UltraBookIIe safely if TADeuts is not installed:

1. Save your work and close any application or database that may have work in progress.
2. At the “#” prompt, type `init 0` to shut down the operating system.
3. Press the power switch.
4. Power down peripherals as needed.

### **Shutting Down With TADeuts**

To shut down the UltraBookIIe with TADeuts installed (normal shutdown):

1. Save your work.
2. Press the power switch.
3. Power down peripherals as needed.

### **Moving UltraBookIIe**

1. If you want to move the UltraBookIIe after shutting down, disconnect all cables and connectors (including the AC adapter cable) from the UltraBookIIe.

## Using UltraBookIIe

### *Using UltraBookIIe Features*

2. Close and latch the rear panel cover, then fold the display cover down and close and latch the case.
3. You can now move the UltraBookIIe to a new location, reconnect, and restart.

---

## Using UltraBookIIe Features

This section contains operational tips and other information unique to the UltraBookIIe feature set. For more detailed information on a listed feature, refer to “UltraBookIIe Specifications” on page 119.

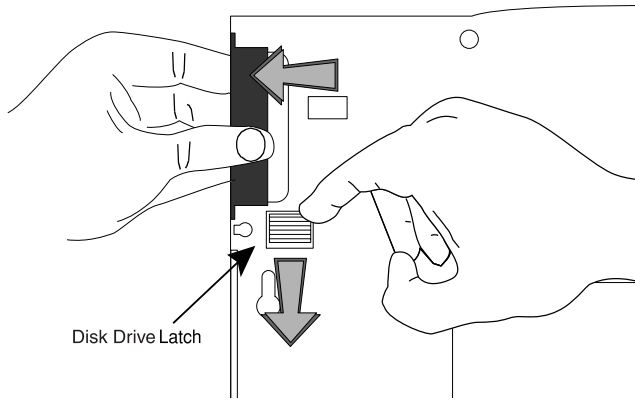
### Removing Hard Disk Drives

The UltraBookIIe comes equipped with up to two removable hard disk drives.

To remove a hard disk drive:

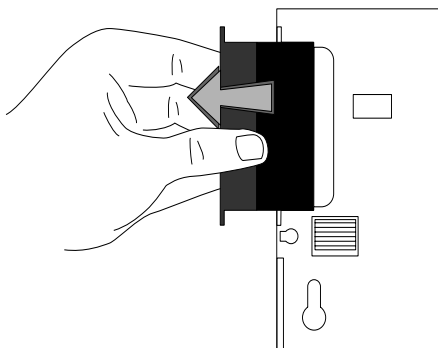
1. Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
2. Turn the UltraBookIIe over.

3. Press the hard disk drive latch (see Figure 3-6) away from the drive.



**Figure 3-6 Releasing the Hard Disk Drive**

4. Grasp the drive's faceplate and gently pull it out of the drive bay.



**Figure 3-7 Removing the Hard Disk Drive**

## **Inserting Hard Disk Drives**

To insert a hard disk drive:

- 1.** Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
- 2.** Insert a drive into a drive bay.



**Figure 3-8 Partially Inserted Disk Drives**

- 3.** Press gently until you hear the drive click into place.

## **Recording with the External Microphone**

To use this microphone to record:

- 1.** Make sure the microphone is plugged into the microphone jack on your UltraBookIIe.
- 2.** Make sure the recording source is sufficiently close to the microphone (1 to 2 ft).

3. Unplug any external audio input devices connected to the UltraBookIIe.

## **Ejecting PCMCIA Cards**

The eject buttons work each slot independently. To eject a card, push the applicable PCMCIA eject button. The card will release and slide out.

## **Using an External Keyboard or Pointing Device**

- Power down your UltraBookIIe before connecting or disconnecting an external keyboard.
- The integrated trackpad is disabled whenever an external pointing device is used.

## **Using an External Display**

To connect an external monitor:

1. Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
2. Connect the cable from the monitor to the UltraBookIIe’s external 15-pin VGA video port. Refer to “External Monitor Matrix” on page 139 for more information about using external monitors.

## **Connecting an Ethernet Cable**

To connect the UltraBookIIe to an Ethernet network:

1. Set it on a work surface near the Ethernet twisted-pair cable or transceiver/MAU.

## Using UltraBookIIe

### Using UltraBookIIe Features

2. Attach a twisted-pair cable to the UltraBookIIe's 10-Base T/100-Base T Ethernet LAN port (see Figure 3-9).

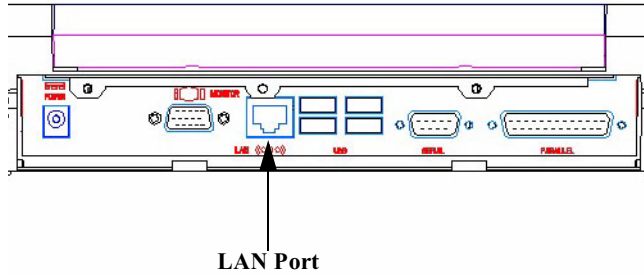


Figure 3-9 UltraBookIIe Local Area Network (LAN) port

## Using the Serial and Parallel Port

The UltraBookIIe back panel has a 9-pin connector for a single serial port and a 25-pin parallel port connector (see Figure 3-10).

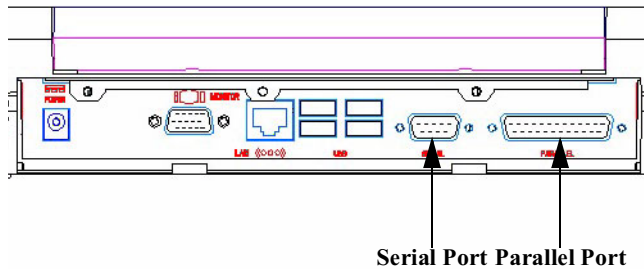


Figure 3-10 Serial and Parallel Port Connectors

To use your serial and parallel ports:

1. Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
2. Turn off the serial device you will be connecting to it.



3. Connect a serial device to the 9-pin connector.
4. Connect a parallel device to the 25-pin connector.

For a list of pin assignments for UltraBookIIe connectors, see “Connector Pin Assignments” on page 125.

## **Upgrading Memory (RAM)**

Your UltraBookIIe can support up to 2 GB of random access memory (RAM). Memory upgrades are available as a return-to-factory option. Contact your Tadpole sales representative for details.

**Using UltraBookIIe**  
*Using UltraBookIIe Features*

# Maintaining UltraBookIIe

It is important to maintain the UltraBookIIe. This chapter provides information for cleaning, packing, and storing the workstation, and battery maintenance.

## Cautions



**Warning:** Any service and upgrades to the UltraBookIIe which require opening and removing the unit's case must be performed by a trained technician only. Otherwise, you may encounter personal injury, damage the UltraBookIIe, and void your warranty.



**WARNUNG:** Das Öffnen des Gehäuses zum Zwecke der Reparatur oder zum Wechseln/Hinzufügen von Modulen darf nur von einem qualifizierten Servicetechniker durchgeführt werden. Es besteht Gefahr durch Elektroschock. Durch unsachgemässe Behandlung kann ihre UltraBookIIe Workstation beschädigt werden, ausserdem erlischt dadurch die Garantie.



**Caution:** Changes or modifications to the UltraBookIIe not expressly approved by Tadpole could void your authority to operate UltraBookIIe.

If the product does not operate normally, adjust only those controls that are covered by the operating instructions. Unplug the UltraBookIIe from the power outlet and call Customer Service under any of the following conditions:

- If the power cord or plug is damaged or frayed.

- If liquid has been spilled into the workstation or it has been exposed to rain or water.
- If the workstation has been dropped or the case has been damaged.
- If the workstation exhibits a distinct change in performance for the worse.
- If the display is cracked.



**Stop!** *After your warranty period, if you ever have to remove the main system unit cover, observe the following precautions:*

*The power supply cord must be unplugged and the battery pack removed from the system before the main system unit cover is removed. (Separe le cordon d'alimentation et puls enleve le couverde.)*

*Once removed, the cover must be replaced and screwed in position before the power supply is plugged back in. (Après le couverde a enleve, visse le couverde en place et remettre le cordon d'alimentation.)*

---

## Cleaning UltraBookIIe

As a portable workstation, the UltraBookIIe may collect dust and dirt, requiring occasional cleaning.

To clean the UltraBookIIe:

1. Shut down the UltraBookIIe according to the instructions in “Shutting UltraBookIIe Down” on page 26.
2. Unplug the AC adapter/charger and remove the battery pack from the system before cleaning.
3. Once the UltraBookIIe is turned off, you may clean the cases and key tops with a soft cloth dampened only with mild soap and water.



**Caution:** Never use any water or water-based products on the display panel. Use only a dry, soft cloth. Screen damage could result.

4. Avoid getting any liquid directly on the UltraBookIIe. Moisten a lint-free cloth with cleaner and use the damp cloth to clean the case.
5. Use cotton-tipped swabs, moistened with cleaner, to clean key tops, slots, and recesses. Do not use liquid cleaner on connectors or metal contacts. Use only a commercial contact cleaning spray on such parts.



**Caution:** Never use flammable or organic cleaning solvents or abrasive cleaners to clean the UltraBookIIe. Such cleaners will damage the case's finish.

6. Do not use liquid cleaners on the interior of the UltraBookIIe. Accumulated dust may be blown out of the interior using dry, low-pressure compressed air. Always wear eye protection when using compressed air to blow out dust.

---

## Packing and Shipping

To pack the UltraBookIIe for shipment:

1. Disconnect all cables from connectors on the UltraBookIIe side and rear panel. Do not pack the UltraBookIIe with cables still attached to connectors.
2. Verify the connector panel on the back of the UltraBookIIe and the battery compartment are closed.
3. Close and lock the display cover.
4. Pack the UltraBookIIe in the **original** shipping container.



**Caution:** Damage caused by shipping the UltraBookIIe workstation in containers other than the original shipping container is not covered by the warranty. Keep and use the original shipping container.



If the original materials are unavailable, contact Tadpole customer service for a new container. The original shipping containers are specifically designed for the UltraBookIIe workstation.

5. Ship with any commercial carrier.

## Maintaining UltraBookIIe

### *Storage*

---

## Storage

If you intend to store the UltraBookIIe longer than 60 days:

- 1.** Make a complete backup copy of the contents of the hard disk(s).
- 2.** Fully discharge and remove the battery pack (see “Battery Pack Maintenance” on page 43). Do not store the UltraBookIIe for extended periods with the battery pack installed.
- 3.** Disconnect all cables and pack the UltraBookIIe as described in “Packing and Shipping” on page 39.

---

## Unpacking From Storage

When you want to start using the UltraBookIIe again:

- 1.** Give the UltraBookIIe enough time to stabilize at room temperature before operating. This is particularly important when the workstation is brought from a very cold environment into a warm room. In such cases, moisture can condense on and inside the workstation and can cause problems. Allow at least two hours for the workstation temperature to stabilize after bringing it from a very cold or very warm environment before proceeding.
- 2.** Reinstall the battery pack and charge it for three hours without operating the UltraBookIIe before attempting to operate the UltraBookIIe on battery power.



---

## Low Battery Shutdown

The UltraBookIIe's battery is uniquely designed to provide the longest possible duration. As with any battery, however, prolonged use will require the battery to be recharged. Typically, battery power lasts up to two hours, depending on the type and number of processes you are performing.

To prolong battery use, use the brightness push-buttons (**FN Bri+ / Bri-**) on the integral keyboard to reduce the brightness of, and the power consumption by, the LCD.

As battery power decreases, the UltraBookIIe performs a sequence of events, described in the table on the next page. During this sequence, the UltraBookIIe provides constant messages and an audible alarm informing you of the battery's current status. If you have CDE running, PowerTool also appears, which displays the current battery voltage. If you desire, you can use the PowerTool to turn off the alarm.



The Duration column in the table on the next page reflects approximate times during typical operating activities and conditions.

## Maintaining UltraBookIIe

### Low Battery Shutdown

<b>Battery Status</b>	<b>Duration (estimated)</b>	<b>System Actions</b>	<b>User Actions</b>
Fully charged	Up to 2 hours	None	None required
Low battery condition	10 - 15 minutes	Warning message displayed on the Console.  Audible warning sounds.  If CDE is running, PowerTool window pops up, displaying battery capacity.	Attach AC adapter, or save and begin exiting processes.  To complete jobs currently running, use dimmer switch to lower the LCD intensity and save battery power.  Use the PowerTool to turn off the alarm, if desired.
Critical battery condition	2 minutes	Power management daemon starts system shutdown sequence, after which it enters PROM Monitor (OBP).	Solaris shutdown cannot be interrupted. Attaching AC adapter will still require you to boot the UltraBookIIe after the shutdown.
Power Shutdown	1-2 minutes	System remains in OBP until battery power is exhausted, causing automatic power shutdown.	Connect the AC adapter and reboot the UltraBookIIe.

---

## Battery Pack Maintenance

When operating the UltraBookIIe from battery power, pay particular attention to:

1. **Low battery warning** —When the battery reaches the end of its charge, a “battery low” message appears, a beeping alarm sounds, and a PowerTool window appears if CDE is running. These indications mean you have approximately 15 minutes to complete your work before the battery charge is exhausted.
2. When this occurs, follow the proper procedure to shut down the UltraBookIIe quickly and safely, or connect the AC adapter to maintain system operation. The UltraBookIIe will continue to remind you about the low battery status if you continue to use battery power.

Refer to “Shutting UltraBookIIe Down” on page 26 for more information on shutting down the UltraBookIIe.

- **Swapping battery packs**—One way to obtain maximum use out of the UltraBookIIe's portability is to pre-charge one or more rechargeable battery packs before operating the workstation from battery power. For example, you may purchase additional battery packs, charge them, and carry them with you into the field. As each battery pack becomes discharged, bring the UltraBookIIe to a halt, then remove the discharged pack and replace it with one that is fully charged.



If you shut down the UltraBookIIe to swap batteries, follow the proper shutdown procedures; otherwise, important system files may be corrupted.

## Maintaining UltraBookIIe

### *Battery Pack Maintenance*

- Replacing battery packs—When lithium-ion batteries reach the end of their service life, they indicate their impending failure by providing shorter and shorter intervals of service between recharging and finally by failing to hold a charge. When this occurs, you must replace the worn out battery pack with a new one. Replacement battery packs can be obtained from an UltraBookIIe representative.



**Caution:** Worn battery packs should be discarded in accordance with the disposal requirements for your area.

# Power Management

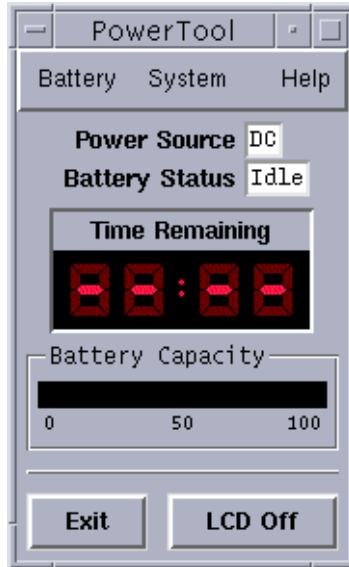
# 5

The UltraBookIIe PowerTool allows you to control the power management behavior of your system. The main program dialog provides a status information and control panel for critical power management areas such as displays of available battery capacity, estimated battery time remaining, current power source and power status.

---

## Understanding the PowerTool

Figure 5-1 shows the main PowerTool dialog box.



**Figure 5-1 PowerTool Dialog**

The PowerTool is installed as `/usr/bin/pwrtool` when you install the power management utility.

By default, the PowerTool is configured to pop up automatically when the low battery condition configured in `/etc/pm/pm.cf` is reached. However, you can run the PowerTool at any time using the `/usr/bin/pwrtool` command or by clicking the PowerTool icon on the CDE (or GNOME) desktop.

## Power Management

### *Understanding the PowerTool*



**Caution:** If power to the UltraBookIIe is suddenly turned off and there is no available battery power, the unit's power management features will not be able to perform a graceful shutdown, which may damage important system files. For more information, see "Shutting UltraBookIIe Down" on page 26.

## PowerTool Indicators

The main PowerTool dialog box, shown in Figure 5-1, provides access to the PowerTool power management features:

- Power Source
- Battery Status
- Time Remaining
- Battery Capacity
- Exit Button
- LCD Off Button

## Power Source

The Power Source text area shows you whether your UltraBookIIe is currently drawing power from your wall outlet or internal battery.

- If the power is coming from the AC adapter and cord attached to your wall outlet, the Power Source text area displays **DC**.
- If the power is coming from the internal battery, the Power Source text area displays **Battery**.

## Power Management

### *Understanding the PowerTool*

#### **Battery Status**

The Battery Status text area tells you whether the internal battery is currently **Charging**, **Discharging**, **Idle** (fully charged), or **Calibrate**.

If a battery is not being discharged or charged, the battery state is shown as **Idle**, unless it requires calibration. If a battery requires calibration, the word **Calibrate** is displayed beneath the battery indicator.



Batteries requiring calibration should be recalibrated at your earliest opportunity. Battery calibration requires connection to AC power. Refer to “Battery Calibration Dialog Box” on page 51 for instructions.

#### **Time Remaining**

If the system is currently being powered by the battery, the time remaining is an estimate of how long the system can continue to run before the battery is exhausted.

If the battery is charging, the time remaining is an indication of how long it will take to fully charge the battery. The time estimates are obtained from a controller chip within the battery itself.

#### **Battery Capacity**

The Battery Capacity slider resembles a fuel gauge on a car’s dashboard. It shows approximately how much battery power remains available to your UltraBookIIe.

After installing a new battery pack, use the AC adapter to recharge the battery pack. It takes about 2.5 hours to recharge a new battery when the UltraBookIIe is turned off.



## Power Management

### *Understanding the PowerTool*

After fully charging the battery pack, you can operate the UltraBookIIe for about 2 hours with a single battery, depending on your configuration and applications.

#### **Exit**

Pressing **Exit** allows you to quit or halt the PowerTool dialog.

#### **LCD Off**

Pressing **LCD Off** blanks (turns off) the main LCD display panel and locks the keyboard. Press this button to reduce power consumption by turning off the main LCD display panel during critical computations. This feature also prevents you from inadvertently interrupting a lengthy process by blocking unwanted keyboard input. Press one of the buttons of your pointing device to turn the LCD display panel back on.



The LCD display panel will not power up again until user input is detected from one of the buttons of your pointing device. Normal keyboard input and mouse movement *will not* power up the display panel. This functionality is designed to conserve critical computational resources where screen display is not immediately required and prevent interruptions to critical computations.

## **Power Management**

### *Understanding the PowerTool*

## **Power Tool Menus**

The PowerTool dialog box's menus provide access to additional power management features by launching additional dialog boxes, which are described below.

- Battery
- System
- Help

### **Battery Menu**

The Battery menu provides access to the Battery Calibration dialog box.

### **System Menu**

The System menu provides access to the System Control dialog box.

### **Help Menu**

The Help menu provides access to on-screen information about power management features.

## Power Management

### *Understanding the PowerTool*

### Battery Calibration Dialog Box

Choose Calibrate Battery from the PowerTool dialog box's Battery menu to display the Battery Calibration dialog box. This dialog box enables you to calibrate a battery for use with the PowerTool dialog box's Battery Capacity slider.

The Battery Calibration dialog box explains the Calibration process and indicates approximately how long the process will take.

Click Yes to calibrate your battery.

Figure 5-2 shows the Calibration dialog box.

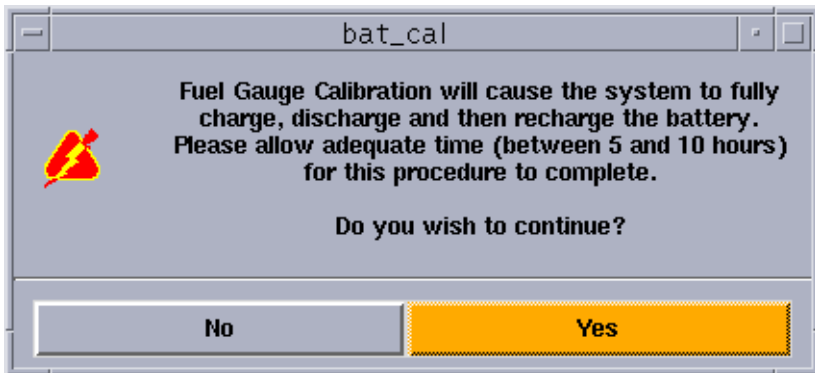


Figure 5-2 Battery Calibration Dialog

## Power Management

### *Understanding the PowerTool*

## System Control Dialog Box

The System menu enables you to tailor other power management features such as an audible low power warning, and the behavior of the UltraBookIIe power button. Choose System Control from the PowerTool dialog box's System menu to display the System Control dialog box.

Figure 5-3 shows the System Control dialog box.



Figure 5-3 System Control Dialog

# Changing Locations

# 6

This chapter explains how to use Tadpole's Locations software to customize system settings to accurately reflect conditions at the locations where you connect your UltraBookIIe to existing networks.

## Changing Locations

### *Introduction*

---

## Introduction

The Locations dialog box enables you to control and manipulate the network interfaces and systems services that are normally only started or stopped during system boot or shutdown. Changing these interfaces and services on the fly is most useful on portable systems that incorporate Save and Resume functionality and are liable to require connection to different networks without having to reboot.

The Locations dialog box enables you to define as many different locations as you wish and to switch from one to the next whenever you wish.

A location consists of a set of system services and configurations for those services. Location information is stored in subdirectories of the `/etc/locations` directory. Files in these subdirectories perform the same functions as a number of standard Solaris configuration files normally found in the `/etc` and `/var` directories. Copies of the location configuration files are created when you define a new location.

The Locations software rewrites the contents of these configuration files, in a manner similar to the Solaris `admintool`, or copies their contents to a “mirror” file in a different directory. In this way a number of different locations can be stored, recalled, and used to specify the configuration information a system administrator would normally define for a static workstation. Refer to the `admintool(4)` man page for more information about how a single set of dialog boxes changes the configuration files that define your system’s location.

A particular location is defined by a basic definition of services, but it can have numbered sublocations that define minor changes of service. For instance a sublocation could

## Changing Locations

### *Launching the Locations Dialog*

involve starting a PPP service. Changing between sublocations is considerably faster than changing between full locations.

You define a sublocation for a newly created or existing location by clicking the New Sublocation button on the dialog box that defines the services to be started and stopped when that location is invoked.

The Locations software maintains control over services with a set of scripts, in a manner very similar to the system control scripts in `/etc/init.d`. In fact, location scripts often call system control scripts to perform start or stop functions. Refer to the `init.d(4)` man page for more information.

The default directory for location scripts is `/usr/lib/locations/init.d`, but using the Locations dialog box does not require that you know where these files are stored.

When you double-click a location in the Locations dialog box's Locations list, the software shuts down the current system services and restarts the services associated with the new location, effectively changing location. If the given location is a sublocation of the current location, only the services associated with the sublocation is affected. This can be considerably quicker than a full location change.

---

## Launching the Locations Dialog

To launch the Locations dialog box, Click the Location Tool icon on the CDE (or GNOME) Notebook Tools menu or type this command in a terminal window:

```
/usr/bin/loctool &
```

## Changing Locations

### *Locations Dialog Features*

If you do not have root system administrator privileges, you will see an access-deny list message. This means that the `/etc/locations/access` file must be manually edited to add your user name.

The first time the Locations software is launched, you will see an initialization dialog box. This dialog box prompts you for the information necessary to configure the software and define an initial location, called Original, based on the information from a number of Unix system files. Refer to “New” on page 60 for more information about defining a location.

When you see the Initialize now? prompt, confirm that you wish to configure the Location software by clicking OK.

The Initloc dialog box explains the Location initialization procedure. When you exit from this dialog box, you will see the Locations dialog box, which is your main interface with the Locations software.

The Locations dialog box enables you to use the following elements:

- Menus
- A toolbar
- A status bar
- A Locations list from which you choose locations

---

## Locations Dialog Features

These features of the Locations dialog box are described below.

### Menus

The Locations dialog box offers three menus:



- File menu
- Options menu
- Help menu

These menus and their options are described below.

### **File Menu Options**

- New
- Modify
- Delete
- Copy
- Update
- Edit

### **Options Menu Option**

- Toolbar 1 (checkbox)

### **Help Menu Option**

- Location tool version

## **Toolbar**

The toolbar contains icons which initiate actions corresponding to File menu options:

- Paper icon: Creates a new location
- Folder with arrow icon: Modifies an existing location
- Scissors icon: Deletes a location
- Dual paper icon: Duplicates a Location

## **Changing Locations**

### *Locations Dialog Features*

- **Suspend System button:** Suspends the system when you click this button, so that when you power the system back on the current work session and location are restored. If the current location cannot be suspended, clicking this button changes to a location that can be suspended and then performs the Suspend procedure. See “Suspendable Locations” on page 62 for more information.

## **Status bar**

The left panel shows name of current location in use

The next panel shows the timezone being used at that location.

The next panel shows the IP address being used by your UltraBookIIe at that location.

The lower panel shows the description of the current location that was specified in the Information text area when the location was created or modified.

## **Locations list**

Shows list of all locations that have been created for this machine.

Inside the list, double-click the location you wish to change to. This launches a Location change dialog box that prompts you to verify that you wish to change to the specified location.

## **Location Change Dialog**

This dialog box prompts you to confirm that you want to change to the location you selected. Click OK to confirm your intentions and initiate the change of location.

A Location Change Output dialog box shows you what is happening as the location change takes place.

## **Location Change Output Dialog**

The Location change output dialog box provides status information as it shows the steps that take place while the location is changed. Certain scripts will be halted and later restarted. Certain entries in configuration files will be deleted or modified. Certain interfaces will be unconfigured and then reconfigured. Warning messages will be displayed in red text.

When the location change procedure is finished, you will see this message:

```
Locations change complete.
```

At this point you can close the Location change dialog box. If there were no warning messages, the dialog box will close automatically after a short time.

## **Sub Locations List**

Underneath the Locations dialog box's Locations list you will see a Sub Location checkbox. Make sure the Sub Location checkbox is checked if you wish to select or change to a sublocation for the current location.

When the Sub Location checkbox is checked, you will see a Sub Locations list that displays all sublocations that were defined when the current location was created or modified.

Click the name of a sublocation to select it. Double-click the name of a sublocation to change to it. The Location change output dialog box will show you the results of changing to that sublocation (and its parent location, if different from the current location).

## Changing Locations

### *Using the File Menu*

Subdivisions are named by the parent location followed by a colon and the sublocation number. See “Defining a New Sublocation” on page 64 for more information about sublocation numbers.

---

## Using the File Menu

This section shows you how to use the File menu options, or the corresponding Toolbar icons.

### **New**

Choose the New option to create a new location. When you do, you'll see a Create a new location dialog box, which prompts you for the information necessary to create a new location.

In the Name text area, type the name of the location you wish to create.

In the Information text area, type a brief description of this location that will be displayed in the Locations dialog box when the location you are creating is made current.

Click the From current system settings checkbox if you want the new location you are defining to be configured the way your UltraBookIIe is currently configured. If this checkbox is checked, the UltraBookIIe “reads” itself and applies the appropriate values to the Location Editor dialog box. This is the same procedure that occurs when you first initialize the Locations software.

After you fill out these text areas, click OK to display the Location Editor dialog box, which you will use to specify which scripts will be started and stopped when this location is chosen, as well as configure other location-specific aspects of the location you are creating.

## **Modify**

Choose the Modify menu option to edit a selected location.

Highlight a location in the Locations list and choose Modify from the File menu, or the equivalent tool from the toolbar, to display the Location Editor dialog box which enables you to modify a location you have selected in the Locations list.

## **Delete**

Choose Delete to remove a selected location.

Highlight a location in the Locations list and choose Delete from the File menu or the corresponding icon from the Locations dialog box's toolbar to delete that location.

You will see a Remove location dialog box that prompts you to confirm that you want to delete the location you chose. Click OK if you wish to continue with the deletion.

## **Copy**

Choose Copy to duplicate a selected location.

Highlight a location in the Locations list and choose Copy from the File menu or the corresponding icon from the Locations dialog box's toolbar to copy or duplicate that location to a location with a different name. You can then modify that location to make minor changes to it. This is often a faster and easier way to define a location that closely resembles another than to create it “from scratch.”

## **Update**

Choose Update to refresh the contents of the dialog box if you have changed any of the configuration files manually rather than by using the dialog box.

## **Exit**

Choose Exit to close the Locations dialog box.

## Changing Locations

*Using the Location Editor Dialog*

---

### Using the Location Editor Dialog

Use the Location Editor dialog box when you are creating, copying, or modifying a location. You will see this dialog box when you choose New, Modify, or Copy from the Location dialog box's File menu, or the corresponding icons from the Location dialog box's toolbar.

The Location Editor dialog box shows you the name and description of the location you are creating or modifying. They were specified when the location was created or modified.

### Suspendable Locations

Next to the location name and description is a Suspendable icon, Suspendable checkbox, and drop-down list of suspendable locations. These refer to the ability of the CDE (or GNOME) desktop environment to let you suspend the state of your UltraBookIIe.

Normally, when you choose the Suspend System option from the CDE Workspace Menu, you see a Power Off Selection dialog box that enables you to suspend or shutdown your system. Suspending a system is similar to shutting it down, except that your working session is saved and reestablished when you power your system back on.

If you use the Locations software to define multiple locations, some of them represent sessions that are capable of being suspended, and some of them may represent sessions that cannot be suspended because of current network connections.

Make sure the Suspendable checkbox is clicked when you define or modify a location that you wish to be suspendable. This will ensure that a Suspend System button will appear on

## Changing Locations

### *Using the Location Editor Dialog*

the Locations dialog box when this location is active so that a single click can suspend the system and restore that location when the system is powered back on.

The Suspendable checkbox shows which existing locations are capable of being suspended.

## Starting and Stopping Scripts

The Available list shows you all the Solaris operating environment scripts that are available for you to start or stop when changing to this location. You may wish to stop and then start some of these scripts when you change to this location.

Click on the name of a script in the Available list if you wish to add it to the Start or Stop list, or both. When you click on a script in the Available list, its purpose will be briefly described and it will be highlighted in the Start and Stop list if it is contained there. In addition, the appropriate buttons in the Start and Stop lists become available for your use:

Click an ADD button to provide a Script index number that specifies the sequence in which this script will be started or stopped relative to the other scripts in the list. Scripts with lower numbers are started or stopped before scripts with higher numbers. Use the up and down arrows next to the Script index numeric area to assign a higher or lower number, or highlight the existing number and type in the number you wish to assign to this script. Click OK to add the script to the list.

Click a REM button to remove a script you have selected from the list in which you selected it. A script\_chooser dialog box will confirm your choice and also offer you a checkbox to specify whether you want to remove the corresponding script from the other list. Click OK when you are ready to remove the script from one or both lists.

## Changing Locations

### *Using the Location Editor Dialog*

Click an ADA button to add all the scripts in the Available list to the corresponding Start or Stop list.

Click a CLR button to clear all the scripts from the corresponding Start or Stop list.

Click Save to save the location you have defined or modified.

Click Config to define or modify additional configuration information about this location. This will display the config dialog box, with tabs you can use to define information about the following aspects of this location. See “Using the config Dialog” on page 65 for more information.

## Defining a New Sublocation

A sublocation of a particular location is usually a slightly different version of that location. For instance, you might define a sublocation of the location you typically use so that it merely starts one additional script but otherwise keeps the characteristics of the parent location.

Click New Sublocation to define one or more sublocations for the current location.

Use the Create a new sublocation dialog box to specify the necessary information about the sublocation you wish to create.

1. Click the Number up and down arrows to specify the sublocation number you want for this sublocation. All the sublocations of a particular location are numbered and displayed in the Sublocations list of the Location Editor dialog box. See “Sub Locations List” on page 59 for information about how to change to a sublocation by double-clicking it from the Sub Locations list.
2. Type information about the sublocation that you wish to be displayed in the Location Editor dialog box.



3. Click Ok to define the sublocation.
4. Follow the instructions in “Starting and Stopping Scripts” on page 63 to specify the script or scripts you want to start or stop for this sublocation.

## Closing the Location Editor Dialog

Click Close to close this dialog box.

---

## Using the config Dialog

Timezone creates or modifies the appropriate entry or entries normally found in `/usr/share/lib/zoneinfo/portabletime`.

TCP/IP defines or modifies network interfaces, including interface names, IP addresses, and hostnames, as well as the IP addresses of gateways. To define a network interface or gateway, type the information into the appropriate text areas or choose them from the drop-down menus and then click Add. The IP address must be valid for the network.

To delete an entry in the Network Interfaces list or Gateways list, select it and click Delete.

DNS creates or modifies the appropriate entry or entries normally found in `/etc/resolv.conf`. This file contains the name server configuration. Refer to the `resolv.conf (4)` man page for more information.

PPP creates or modifies the appropriate entry or entries normally found in `/etc/asppp.cf`.

AutoFS creates or modifies the appropriate entry or entries normally found in `/etc/auto_master` and `/etc/auto_home`.

## Changing Locations

### *Using the config Dialog*

Domain creates or modifies the appropriate entry or entries normally found in `/etc/defaultdomain`.

Printers creates or modifies the appropriate entry or entries normally found in `/etc/printers.conf(4)`. Refer to the `printers.conf(4)` man page for more information.

NFS creates or modifies the appropriate entry or entries normally found in `/etc/dfstab`. This file contains a list of local filesystems to be exported, allowing other NFS clients to access these filesystems. Refer to the `dfstab(4)` man page for more information.

In addition to the tabs described above, the config dialog box has three buttons:

Click Apply when you want to apply the configuration changes you have made so far without closing the config dialog box.

Click OK when you wish to apply the configuration changes you have made so far and close the config dialog box.

Click Cancel to close the config dialog box without applying any configuration changes you have made.

# Troubleshooting

Use the suggestions in this chapter to diagnose and correct typical problems you may encounter.

To help you find the relevant information quickly, refer to the following Quick Fix Table.


<b>If You Have a Problem with ...</b>	<b>See</b>
Starting and Booting	68
Battery Operation	71
Ethernet	72
Serial Ports	74
External video	74
External keyboard/mouse	75

---

## Starting and Booting


**Symptom:** The UltraBookIIe will not power up from the AC adapter.

Make sure that:

- The AC icon is displayed on the Status LCD after pushing the power button.
- The power-on icon  is displayed on the Status LCD after pushing the power button.
- The AC adapter is securely plugged into the UltraBookIIe's power input socket, and the AC adapter's power cord is securely plugged into both the AC adapter and the AC outlet.
- Power is available at the wall outlet (use a lamp to test it).

**Symptom:** The UltraBookIIe will not power-up from the battery.

Make sure that:

- The power-on icon  is displayed on the Status LCD after pushing the power button.
- The battery pack is correctly installed in the battery compartment. See “Using Batteries” on page 19, “Battery Pack Maintenance” on page 43, and “Battery Technology” on page 112 for complete information.
- The battery pack is fully charged. To be sure, remove the battery pack and press the QuikCheck button on the top. If the battery pack is fully charged, all the lights on the drawing of the battery will be green. If it is partially charged, the number


of green lights indicates the relative amount of charge the battery pack carries. No green lights means the battery is not charged.

**Symptom:** The UltraBookIIe will not boot from the network.

Make sure that:

- The server is properly operating and the Ethernet link is functioning.
- The twisted-pair cable is securely plugged into the UltraBookIIe connector.
- The workstation's operating system is correctly configured for the network, if this is a new network node.

**Symptom:** The UltraBookIIe will not boot from the hard disk drive.

If the hard drive activity icon  :

- Does not display, indicating a hard disk problem exists, contact Tadpole Customer Service and Support.
- Displays, but the UltraBookIIe fails to boot, boot from the Solaris CD-ROM and restore the boot file. You may need to have a Solaris system administrator do this for you. If this step fails to solve the problem, the boot files may be corrupted and you may have to reload the operating system.
- Displays, but the UltraBookIIe fails to boot, boot from the CD-ROM for further diagnostics.

## Troubleshooting

### Starting and Booting

**Symptom:** The UltraBookIIe halts during boot and displays the following messages:

```
boot device:/PCI Bus/dmfe@0,00000 File and args:
lost carrier (transceiver cable problem?)
ARP/RARP send failed.
Check Ethernet cable and transceiver.
Lost carrier (transceiver cable problem?)
ARP/RARP send failed.
Check Ethernet cable and transceiver.
```

1. The UltraBookIIe is trying to boot from a network server that is either not connected or unavailable. Hold down the **Stop** key and press **A**.
2. At the “OK” prompt, type: `boot disk`.
3. If Step b above fails, type: `set-defaults` to set the workstation to the default, then try step b once more.

**Symptom:** The UltraBookIIe stops booting for several minutes and displays the following message:

```
Starting RPC and net services:
```

The system then displays one of the following error messages:

```
dmfe0: no carrier transceiver cable problem
```

```
NIS: server not responding to domain "???"; still trying
```

- The UltraBookIIe is configured to use an NIS server that is not connected or is unavailable. Hold down the **Stop** key and press **A**.
- At the “OK” prompt, type: `boot -s`. Several system messages appear, followed by the “#” prompt (the single user prompt).
- At the “#” prompt, type  
`mv /var/yp /var/yp-`  
or  
`mv /var/nis /var/nis-`

and

```
cp /etc/nsswitch.files  
/etc/nsswitch.conf
```

- At the “#” prompt, type `exit` and press **Enter**.

---

## Blank LCD Display Panel

**Symptom:** The LCD display panel goes blank and the system will not respond to the keyboard or to moving the pointing device.

- If the LCD Off feature has been activated in the PowerTool power management system, press one of the buttons of your pointing device to reactivate the LCD display panel. Refer to “Exit” on page 49 for more information about LCD Off.
- The LCD display will also be blank if the UltraBookIIe has shut down automatically due to low battery capacity or user inactivity. See “Power Management” on page 45 for more information on Power Management.
- A blank LCD display may also indicate a system failure if the system does not behave normally after shutting down and restarting.

## Battery Operation

**Symptom:** Low battery warning occurs when the workstation is started or shortly after power-up.

1. Connect the AC adapter, shut down the system according to the instructions in “Shutting UltraBookIIe Down” on page 26, and recharge the battery for 3 hours. Then try using the UltraBookIIe again.

## Troubleshooting

### Ethernet

2. If recharging fails to correct the problem, test the AC adapter by removing the battery pack from the UltraBookIle and trying to operate from the adapter only.
3. Try to calibrate the battery. For more information about battery calibration, see “Battery Calibration Dialog Box” on page 51.
4. If the AC adapter is working and the battery still fails to hold a charge, replace the battery pack.

Replacement battery packs can be obtained from an UltraBookIle representative.




**Caution:** Do not use an UltraBookIli or UltraBookII battery. They are not interchangeable with the UltraBookIle, even though their appearances are similar. Use only UltraBookIle batteries; otherwise damage to your system may occur.

---

## Ethernet

**Symptom:** The UltraBookIle fails to access a network through the Ethernet connection.

1. Check for the Ethernet icon  in the status LCD display.
2. If you have a console window active, the Ethernet cable can be removed or inserted any time. When inserted, the speed and duplex conditions of the connection are displayed.
3. Make sure the Ethernet cable is securely connected at both ends.



4. At the “#” prompt, type  
`ifconfig -a`, press **Enter**, and look for `dmfe0` to verify the Ethernet connection. Your display should show a list of active flags, one of which must be “up”. You should also see your Internet address.

If `dmfe0` does not appear, try typing the following commands at the “#” prompt:

```
ifconfig dmfe0 plumb
ifconfig dmfe0 IPADDR up
```

5. Type `ping -s <hostname>` and press **Enter** to verify your connection to the host. The display should show the following information continuously:
  - `64 bytes returned`
  - Your Internet address
  - One ICMP sequence number
  - The round-trip time it takes data to travel from the workstation to the host and back

If `<hostname>` is not in your host file, use an IP address.

To stop this information from scrolling, hold down the **Ctrl** key and press **C**.

6. Run `watch-net` at OBP as a low level hardware port check.

## **Serial Port**

**Symptom:** Serial device fails to function.

- Check that the device is connected to the serial port. Verify the port assignment by connecting the device cable to the other serial port and retrying the serial port.
- Port parameters may be configured incorrectly for the application or attached device. Refer to the manual that came with your application or device for more information.

---

## **External Video Port**

**Symptom:** External monitor display remains blank.

- Check the monitor connection to the UltraBookIIe. If you use an external monitor, be sure that your monitor cable uses a VGA-type connector. A VGA-to-J13W3 adapter is required to connect some Sun-type external monitors to the UltraBookIIe.
- See “External Monitor Matrix” on page 139 for the correct combination of external monitor and OBP commands. UltraBookIIe will support only selected monitor resolution and refresh rates. Check the external monitor manual to make sure the monitor is compatible with the UltraBookIIe output.
- Be sure to provide the correct OBP PCI-Bus-probe-list parameters to enable or disable the external monitor. See “External Monitor Matrix” on page 139 for more information.

---

## **External Keyboard/Mouse Port**

**Symptom:** The external keyboard or mouse fails to work.

- Make sure that the external keyboard or mouse is securely plugged into the appropriate UltraBookIIe connector before powering on the UltraBookIIe.

## Troubleshooting

### *Customer Service and Support*

---

## Customer Service and Support

If the troubleshooting information in this chapter does not resolve the problem, you may contact Tadpole's Customer Service and Support staff.

North America

7:00 AM to 6:00 PM PST

Phone (800) 734-7030

Fax (760) 930-0762

Email: [support@tadpole.com](mailto:support@tadpole.com)

Europe

9:00 AM to 5:00 PM GMT

Tel: +44 1223 428200

Fax: +44 1223 428201

E-mail: [support@tadpole.com](mailto:support@tadpole.com)

Before you call, have the UltraBookIIe serial number nearby. This number appears on the bottom of the UltraBookIIe.

If you received an error message, it will also help if you write down the following information:

- Serial number of your system.
- The exact description of the problem.
- The task you were performing when you encountered the problem.
- The command you typed when the error occurred. You may want to check the command line to make sure you did not make a mistake.
- The directory you were in. You can use `pwd` to obtain this information.

## Troubleshooting

### Customer Service and Support

- The account you were using. You can use `whoami` to obtain this information.
- Version of the operating system you are using. You can use one or both of the two following commands to obtain different types of version information:

Use `uname -a` to obtain release information including the exact patch.

```
SunOS xxxxxxx x.x Generic_XXXXXX-xx sun4u sparc TAD,UltraBookIIe
```

Use `more /etc/release` to obtain release information including the release date on the install CD.

```
Solaris X xx/xx xxxxx_xx_XXXXXX_xx SPARC  
Copyright xxxx Sun Microsystems, Inc. All Rights Reserved.  
Assembled xx xxxxx xxxx
```

## **Troubleshooting**

*Customer Service and Support*

# Installing the Solaris Operating System

The Sun Solaris™ operating system has been preinstalled on your UltrabookIIe, along with special software enhancements from Tadpole. The operating system of any computer, sometimes called an operating environment, is the software that underlies the application software you install after the operating system software is installed, and the data files that you create.

At any time you may choose to reinstall Solaris on your UltrabookIIe, or to upgrade to a later version of Solaris. When you choose to install Solaris, you will generally need to reinstall the application software you use, and the data you have previously created. Before you can reinstall these files, you will need to back them up from your existing Solaris environment.

To install a later version of Solaris, purchase it from Tadpole or from Sun Microsystems, Inc. If you are buying Solaris from a source other than Tadpole, make sure you buy the SPARC Platform version, and that you contact Tadpole to get the UltraBookIIe Support Software (Installation) CD that corresponds to the version of Solaris you are installing. You can refer to the Tadpole website for version information, files, and instructions.

## Installing the Solaris Operating System

### *Prerequisites*

---

## Prerequisites

Before reinstalling or updating your Solaris operating system, make sure you have the following prerequisites on hand:

- This *UltrabookIIe User Guide*.
- A backup tape or CD-ROM (or other media) of your data.
- A backup tape or CD-ROM (or other media), or the original installation CD-ROMs, of any application software you use, including software from Tadpole.
- The SPARC™ Platform Edition for Sun™ Computer Systems media kit. From this box you are likely to need at least the following:
  - The SPARC Platform Edition media folder containing multiple installation CD-ROMs, including Solaris Installation, Solaris Software, and Solaris documentation.
  - The SPARC Platform Edition *Start Here* foldout guide.
  - The *Solaris (SPARC™ Platform Edition) Installation Release Notes*.



Subsequent versions of Solaris may have somewhat different titles. If so, make sure that the Solaris installation media and any Solaris documentation that refers to installation are available before you begin installing Solaris.



---

## Launching the Solaris Installation

1. If there is existing data on your UltrabookIIe, back it up before beginning this procedure.



For more information, refer to your Sun System Administration Manual or the Solaris man pages for *ufsdump* and *cpio*.

2. Read the *Solaris (SPARC™ Platform Edition) Installation Release Notes* for any information you should know before you begin.
3. Follow the instructions in the SPARC Platform Edition *Start Here* guide. (If your *Start Here* guide refers to both SPARC and Intel Architecture (IA) systems, remember that your UltrabookIIe uses a SPARC architecture.
  - Choose the Solaris Installation CD method rather than the Solaris Interactive Installation Program. This uses the newer and easier Solaris Web Start installation procedure and is normally accomplished by booting from the Solaris Installation CD rather than either of Solaris Software CDs 1 and 2. However you will be using the UltraBookIIe Support Software (Installation) CD rather than the Solaris Installation CD.
  - Follow the *Start Here* guide's instructions for that installation method, but make sure you use the UltraBookIIe Support Software (Installation) CD.
4. Follow the steps on the screen, using your *SPARC Platform Edition Solaris Installation Guide* as a guide, and the information in this chapter to answer the questions you are asked during the installation process.
5. Choose the language you want the Solaris Web Start Installer to run in. This will launch the installation program.

---

## **Choosing Initial Install Rather Than Upgrade**

The Solaris installation program may detect an existing version of the Solaris operating environment and inform you that you have the option of upgrading your existing operating system rather than doing an Initial Install.

This option is not recommended, and the upgrade procedure is outside the scope of this document. For information about upgrading a previous version of Solaris, refer to the *Solaris Installation Guide*.

If you are given the option of performing an Upgrade, choose Initial Install instead.

- 1. Choose Initial Install.**
- 2.** Respond appropriately to the prompts that follow until your UltrabookIIe automatically reboots and launches the Solaris Web Start installation wizard's Welcome screen. Accepting default values will usually provide acceptable results, but you may wish to consult your system administrator about swap size and partition sizes if your UltraBookIIe will be running applications with other requirements.
- 3.** Indicate that you do not wish to format the drive, shown by its filename.
- 4.** Specify the swap file size. A traditional formula for determining swap size is twice the amount of memory in the system. You can either accept the default or check with your system administrator for advice about the swap size to specify.
- 5.** The system will reboot and then launch the Web Start installer, which will gather the information necessary to configure:
  - Network

- Name Service
  - Date and Time
  - Root Password
  - Proxy Server Information
  - Power Management
6. When prompted, click **Next** so that you can answer the questions necessary for this system configuration procedure. They are described in the remainder of this chapter, but may vary somewhat depending on the version of the Solaris operating environment you are installing.

---

## Configuring the Networking

The best way to install a portable workstation such as your UltrabookIIe is to install it as a networked, standalone system that does not run NIS or any other naming service and does not use DHCP. Then, once Solaris is installed, you can use UltrabookIIe software to configure networked states for this system.

A Network Connectivity dialog box prompts you to select the network option for your system.

1. Choose **Networked** unless your UltrabookIIe will never be connected to a network via an Ethernet or similar network adapter.
2. Click **Next** to proceed.



Disregard any messages indicating that your system should be connected to a network during installation.

## Installing the Solaris Operating System

### *System Identification*

3. When you are asked if you want to use DHCP for your network interface configuration, choose No and click **Next**.



If you use DHCP, you will not be able to specify static IP, hostname, or netmask entries until after Solaris has been installed.

---

## System Identification

The Solaris installation now prompts you to provide the following information that you determined in step1 of the SPARC Platform Edition *Start Here* guide before installing:

- Your system hostname
- Your IP address
- Your subnet mask

You can change your hostname and IP address later if you want, using UltrabookIle software.

Since you are installing your UltrabookIle as a networked but standalone system, you will rely on your own local system files for password and host information.

1. When prompted, enter a hostname for your system and click **Next**.
2. Enter an IP address for your system. This example uses the address

192.9.200.1



If you will always be using your UltrabookIle on the same network and already have a specific IP address, you can type it here. But usually it is preferable to enter the

“temporary” IP address shown above. This will restore the workstation to its preset factory defaults for network connectivity, which provide greater flexibility for most users.

3. Click **Next** to proceed.

The Netmask dialog box requires a subnet mask address, similar to an IP address. Unless you will always be using your UltrabookIIe on the same network and already have a specific subnet mask address, accept the default netmask; otherwise type in the subnet mask you will be using.

4. Click **Next**.

---

## IPv6

During the Solaris installation sequence you will be asked whether you want to enable an enhanced version of the Internet Protocol called IPv6. You can safely enable IPv6.

1. When prompted to enable IPv6, make sure the **Yes** radio button is checked and click **Next**.

---

## Setting the Name Service

The Name Service dialog box prompts you for the name of the name service your UltrabookIIe will be using.

1. Make sure the **None** radio button is checked and click **Next** to proceed.



If you selected any option other than **None**, your workstation will not boot successfully unless it is attached to the

## Installing the Solaris Operating System

### Default Router

network with the server, or unless you have configured this machine as a server. This is normal behavior for Solaris.

---

## Default Router

You must indicate whether you want to specify the default network route or let the operating environment software try to find it. Unless you will always be using your UltraBookIIe with the same physical network, choose the Find one option.

1. Make sure the Find one radio button is checked and click **Next**.

---

## Warning Messages

From time to time, if your UltrabookIIe is not currently connected to an active network, you may see warning messages such as this:

```
dmfe0: No carrier - twisted pair cable problem or hub link test
disabled?
```

You can safely ignore these messages during the installation procedure.

---

## Setting the Time Zone

The Time Zone dialog box prompts you for your default time zone.

1. Select the appropriate geographic location.
2. When you have specified your time zone, click **Next** to proceed.

---

## Setting the Date and Time

The Date and Time dialog box prompts you for your default time zone.

1. Specify the correct date and time if the displayed values are not correct.
2. Click **Next** to proceed.

---

## Adding a Root Password

The Root Password dialog box prompts you for the alphanumeric string you want to use for the root password, as described in the *Solaris Installation Guide*.

1. Type the root password you wish to use in both text areas.

---

## Turning Off Power Management

You can choose to turn off the Power Management feature.

1. Make sure the Turn Power Management Off radio button is checked.
2. Make sure the Don't ask... radio button is checked unless you prefer to see this dialog box each time you reboot.
3. Click **Next** to proceed.

---

## Proxy Server Configuration

During the Solaris installation sequence you will be asked whether you want to connect directly to the Internet or prefer to specify a fixed proxy server host. You should choose a direct connection unless you will always be using your UltrabookIIe on the same network, and connecting to the Internet only through a specific proxy server on that network.

1. Make sure the Direct connection to the internet radio button is checked and click **Next**.

---

## Confirming Host and Network Information

The Confirm Information dialog box displays a summary of the information you have specified and prompts you to confirm the information you have entered.

1. Verify that the information is correct.
2. If it is incorrect, choose **Back** and correct the information.
3. If the information is correct, choose **Confirm** to proceed.
4. Wait as your UltraBookIIe is configured the way you specified.

You may see an error message indicating that no network route could be detected at this time. This is normal, since you specified that you wanted the Solaris software to detect a route rather than specify one yourself. Accept this message so the software can attempt to detect a route upon rebooting.

5. Click **Accept** to proceed, and confirm your information again if prompted to do so.



---

## The Solaris Web Start Welcome

The Solaris Web Start software displays the Solaris Web Start Installation Kiosk and Welcome to Solaris dialog box. From this point on, you can click on any link in the Kiosk menu.



In some cases, the Kiosk might obscure a dialog box. To display an obscured dialog box, click **Send Kiosk to Background** from the Kiosk menu.

1. Click **Next** on the Solaris Web Start Welcome dialog box.

---

## Specifying the Installation Media

Specify installing from CD media unless you are installing Solaris from a network

1. Make sure the CD radio button is checked and click **Next**.
2. When prompted, insert the Solaris Software 1 of 2 CD in your UltraBookIIe DVD drive and click **OK**.

---

## Selecting the Installation Type

You can safely choose the Default Install option rather than the optional Custom Install option. But since your UltraBookIIe is SPARC-compliant, you can choose any of the Solaris software options presented to you.

## Installing the Solaris Operating System

### *Installation Procedures*

1. If you want a default Solaris software installation, make sure the **Default Install** radio button is checked and click **Next**.
2. If instead you choose a custom Solaris software installation, respond appropriately to any additional questions you see about the software you choose to install.

---

## Installation Procedures

As the software is installed, informational messages inform you of the progress of the installation.

1. Follow the on-screen instructions and pay attention to the on-screen messages.

After installation from the first CD is complete, an Installation Summary dialog box shows you the status of the installation.

2. Click the **Details** button if you wish to see a log of the installation process.
3. Click **Next** when you are ready to proceed.
4. Repeat the steps in “Specifying the Installation Media” on page 89, using the Solaris Software 2 of 2 CD this time instead of the 1 of 2 CD.

After installation from the second CD is complete, an Installation Summary dialog box shows you the status of the installation.

5. Click the **Details** button if you wish to see a log of the installation process.
6. Click **Next** when you are ready for additional software to be installed.

## Installing the Solaris Operating System

### *Optional Documentation*

After the additional software is installed, another Installation Summary dialog box shows you the status of the installation.

7. Click the **Details** button if you wish to see a log of the installation process, and then click **Next**.

---

## Optional Documentation

You may see another Specify Media dialog box referring to European documentation.

1. If you do not need European documentation, click **Skip** to proceed.

---

## Finishing Up

1. Click **Reboot Now** when you see the Reboot dialog box.

---

## Logging In

After the system reboots, you'll see a dialog box that prompts you for a user name and password.

1. If you have chosen an Initial Install, specify **root** as the user name.
2. Specify the root password you assigned in "Adding a Root Password" on page 87.

---

## Completing the Installation

To complete the installation, follow the on-screen prompts.

## Installing the Solaris Operating System

*Notes on Custom Installations*

---

### Notes on Custom Installations

If you chose Custom Install rather than Default Install, you will have to provide additional information during the installation procedure. Some of this information is described below:

#### Laying Out File Systems

If you chose to modify a file system on a disk, the Disk dialog box enables you to partition or allocate the disk you selected. The program can assume the requirements and do the allocation for you. This is called the auto-layout feature.

1. Follow the instructions in the *Solaris Installation Guide*.

The installation program continues and allows you to set sizes and mount points for each file system.



While you can select any layout option applicable to this installation, Tadpole recommends that you also specify additional partitions for `/opt` and `/var`.

2. Select `/opt` and then `/var` and modify them as described in the *Solaris Installation Guide*.



Tadpole recommends increasing the various partition sizes for best overall system performance. Please consult the README files on the UltraBookIIe Support Software (Installation) CD for more details.

3. When you've finished modifying the layout of file systems, click **Next**.

## Installing the Solaris Operating System

*Notes on Custom Installations*



Refer to the additional disk configuration requirements in the README file for your Solaris version on the UltraBookIIe Support Software (Installation) CD.

**Installing the Solaris Operating System**  
*Notes on Custom Installations*

# Detailed Hardware Description

This chapter provides a detailed description of the UltraBookIIe hardware.

## Detailed Hardware Description

### *Physical Packaging*

---

## Physical Packaging

The UltraBookIIe provides a slim, clamshell-style package, while maintaining full workstation capability. The UltraBookIIe laptop form-factor weighs 8 pounds and has a footprint of 11 inches deep by 13 inches wide.

The keyboard is forward mounted in the base section of the UltraBookIIe and the base section is sloped to provide a comfortable palm rest for wrist support during extended use. The center positioning of the 66mm by 50mm integrated touchpad allows right- or left-handed usage.

The textured case of the UltraBookIIe provides non-slip carrying and scratch resistance. The hinged lid assembly allows 120° swivel for various viewing positions. The UltraBookIIe may operate with the lid closed when an external monitor and keyboard are attached.

---

## CPU Technology

The system motherboard is a dual-sided, 12.4-inch by 10.6-inch PCBA. This PCBA contains the processor complex, and several embedded I/O controllers. Dual-sided surface mount technology and PGA (Pin Grid Array) packaging reduce physical requirements and improve reliability.

The basic motherboard architecture is based on the Sun Ultra AXe reference design. The Sun Ultra AXe reference design consists of a Sun UltraSPARC IIe processor and processor complex.



Various PCI devices connect the processor to low-level I/O functionality, including the E-bus and the Ethernet media access layer. The Ethernet media access layer bridges the Ethernet MDO layer with the Media Independent Interface (MII) layer.

The E-bus is a low-level peripheral interface providing connection to the flash boot memory, NVRAM, and SMBus bus interface. The SMBus bus provides connection to the system's intelligent power supply module.

An embedded EIDE controller provides all hard disk capability and access.

---

## **SPARC Compatibility**

The UltraBookIIe uses a SPARC-compatible motherboard, based on the Sun UltraSPARC IIe processor, and runs at 500 MHz. The UltraBookIIe also uses the Sun LSI chipsets for compatibility. As a result, any hardware or peripheral device compatible with Sun workstations is fully compatible with the UltraBookIIe.

---

## **UltraBookIIe 500**

The UltraBookIIe 500 CPU uses the Sun UltraSPARC IIe processor operating at 500 MHz. This PGA device resides on the motherboard.

The UltraSPARC IIe processor chip houses both the IU and FPU functions, as well as first-level caches. These caches contain 16 KB for data and 16 KB for instructions. The UltraBookIIe includes an integrated 512KB internal second-level cache.

The processor interfaces directly with the memory subsystem and the PCI Bus.

## Detailed Hardware Description

### Flash Memory

At 500 Mhz, the CPU delivers 20 SPECint95 and 21 SPECfp95.

---

## Flash Memory

The UltraBookIle includes 1 MB of flash memory for use during system bootup.

---

## System Memory

Memory on the UltraBookIle is accessed through a 288-bit data path. UltraBookIle memory includes ECC protection. The memory subsystem supports memory of 60 ns access time.

The UltraBookIle accepts 256MB and 512MB 133Mhz SDRAM expansion modules.

The UltraBookIle comes with a minimum memory configuration of 256 MB. System main memory is provided through plug-in expansion modules. Additional memory upgrades provide a maximum configuration of 2 GB.

Three versions of the main memory module are available, each providing a different amount of system memory.

Valid Memory Configuration	Memory Modules Required
256 MB	1 x 256
512 MB	2 x 256 or 1 x 512
1 GB	2 x 512
1.5 GB	3 x 512
2 GB	4 x 512

---

## Display Technology

The UltraBookIIe workstation supports high-resolution 1024 x 768 LCD panels.

### Standard Display Controller

The standard UltraBookIIe display controller is a PCI controller based on the ATI 3D RAGE XL with an 8 MB frame buffer. The standard controller conforms to the ATI MACH 64 architecture standard. This controller is a multi-functional and multi-resolution display. The display controller drives the internal display panel first and then provides output to an attached external monitor, supporting a maximum color density of 256K or 64 shades of gray at 1024 x 768 pixels. The standard display controller supports a maximum refresh rate of 76 Hz.

### Active Matrix Display

The UltraBookIIe is configured with a 14.1 inch 1024 x 768 active matrix color LCD. This display type supports 256 colors from a palette of 262,144 colors plus 64 shades of gray scale. It has a 60 Hz refresh rate.

The display has a response time of 80 ms and also makes use of two brightness push buttons to optimize display viewing. The brightness push button, **FN Bri-** and **Bri+**, are located on the UltraBookIIe's keyboard. Both display panels use active matrix TFT technology. The LCD draws approximately 3 watts.



As an added convenience, the UltraBookIIe provides a VGA port on the back panel for attaching an external monitor, as shown in Figure 9-8.

## Detailed Hardware Description

### *Display Technology*

#### External Monitor Support

VGA connectors plug directly into the external video port on the UltraBookIIe back panel, as shown in Figure 9-8.

If you have a different type of monitor, check your monitor manual and Appendix E for compatibility and use the included adaptor to connect the monitor.

When using the internal LCD, an external syncing monitor can also be attached, allowing simultaneous LCD and monitor operation. For Sun monitors you will need a VGA-to-J13W3 adaptor. If external non-syncing monitors are used, the internal LCD will not operate during external monitor operation (it will be blanked).



The UltraBookIIe supports simultaneous on-board and external video device display using VESA standard 1024 x 768 x 60Hz mode and timing.

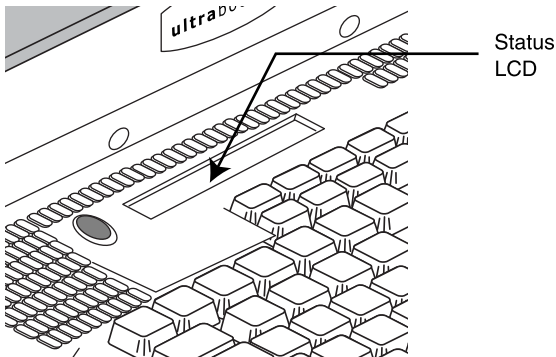
The UltraBookIIe supports the following external monitor standards:

- SVGA (800 x 600)
- XGA (1024 x 768)
- Sun (1152 x 900)
- SXGA (1280 x 1024)
- Frame rates, 60 Hz, 72 Hz, 76 Hz

For more information on using external monitors, see “External Monitor Matrix” on page 139.

## Status Liquid Crystal Display (LCD)

A single LCD panel below the main display shows current system status and activity. The status LCD indicator uses symbols to show the state of various system functions and conditions as described in the following table.



**Figure 9-1 Status LCD**

The Status LCD provides a running status on the following items and conditions:

- Hard disk
- Network
- External Monitor
- Caps Lock
- Compose
- Battery
- AC cord
- Power Button
- Over-temperature indicator
- Heartbeat indicator

## Detailed Hardware Description

### Display Technology

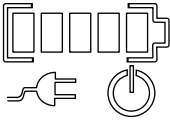
Symbol	Condition
	<b>Hard disk</b>  The hard disk activity symbol displays during hard disk use, e.g., during read/write operations and other conditions where hard disk activity is required.
	<b>Network</b>  The network activity symbol displays during network use. This symbol continues to display as long as you are connected to a networked environment.
	<b>External Monitor</b>  The external monitor symbol displays after you have connected the workstation to an external monitor or other display device, e.g., LCD projection panel. This symbol continues to display as long as you are connected to an external display device.
	<b>Key Lock Status</b>   This symbol displays after you press the Caps Lock key on the keyboard. It continues to display until the key is pressed again and released.   This symbol displays after you press the Compose key on the keyboard. It continues to display until the key is pressed again and released.




**Symbol**


**Condition**


**Power Status**



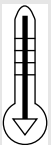
This symbol appears during normal battery use  and operating conditions. During normal battery use, the battery symbol displays percentage of available capacity in percentile segments of 20% each. It continues to display as long as battery power is in use or until the current battery process terminates.

When the battery is charging, the outer edges of the symbol blink to indicate a charging state.

This symbol appears when AC power is in use, e.g., when using the workstation's AC adapter. 

This symbol appears after you push the power button to turn on the workstation. It continues to display until the power button is pressed again to turn off the workstation. 

**Over-Temperature**



This symbol appears during two operating conditions, over-temperature and critical high temperature. When the operating temperature is outside of acceptable parameters, the symbol displays and flashes to warn you of this condition. If the temperature continues to exceed acceptable parameters, the over temperature symbol turns a solid color and the workstation shuts down.



**Caution:** Do not allow the UltraBookIIe to reach a state of critical high temperature—this will damage the unit.

## Detailed Hardware Description

### *Input-Output Devices*

---

## Input-Output Devices

Input-output devices are supported through device bays and access panels. The UltraBookIIe has three device bays and three access panels.

Device bays are cavities in the unit into which you can install modular devices such as a hard disk drive or a single lithium-ion battery. Two device bays are located on the left side of the unit and are reserved for hard disk drive modules. The third device bay is located on the right side of the unit and is reserved for a lithium-ion battery module. Empty disk modules are available for empty or unused device bays.

Access panels consist of ports, connectors, and switches hidden behind three fold-down panel doors. Two access panels are located along the right side of the unit. The third access panel is located to the rear of the unit. Audio devices are supported through a series of input and output jacks located on the right rear panel.

The UltraBookIIe accepts the following removable device modules:

- Removable hard disk drives
- Lithium-ion battery module

## Hard Disk Storage

The UltraBookIIe uses low-profile, high performance, 2.5-inch removable hard drive modules with an integrated EIDE controller conforming to ATA-4 PIO mode 4 and multi-word DMA modes 0, 1, and 2 specifications. These drives require a 5V input and dissipate approximately 2 Watts of power.

Hard disk modules can be installed in either of the two left-side device bays.





Of the two left-side device bays, the device bay closest to the rear of the workstation is reserved for the system's primary boot device. If you have only one hard disk, install it in this slot.

## DVD-ROM Drive

The UltraBookIIe contains a built-in DVD-ROM drive that supports both DVD-ROM and CD-ROM disks. The external floppy drive provides media ejection via a manual push button.



Figure 9-2 UltraBookIIe DVD-ROM Drive

## PCMCIA (PC Card)

The UltraBookIIe has two PCMCIA slots, as shown in Figure 9-9. The PCMCIA slots are located on the right side of the workstation. The workstation supports two Type I or Type II cards or one Type III card.



Always refer to the PCMCIA device manual for information about the device you are using.

## Detailed Hardware Description

### Input-Output Devices

## Keyboard and Touchpad

The UltraBookIIe's 97-key internal keyboard (as shown in Figure 9-3) provides all the functions of a Sun Type-6 US keyboard. The UltraBookIIe also provides an integrated touchpad for operations that require a pointing device.

### Internal Keyboard

A full-sized, 97-key, 12-function key keyboard is standard for the UltraBookIIe, as shown in Figure 9-3. The keyboard includes an integrated 3-button touchpad for applications that require a pointing device. When an external keyboard is connected, the built-in keyboard does not function. Power the UltraBookIIe down before adding or removing an external keyboard.



Figure 9-3 UltraBookIIe Keyboard Layout

## Touchpad

An integrated micro touchpad facilitates mouseless operation. The touchpad is 66 x 50 mm in size, has three buttons, and is pixel-accurate. The touchpad is disabled when an external mouse or an external keyboard with a mouse is connected to the UltraBookIIe.

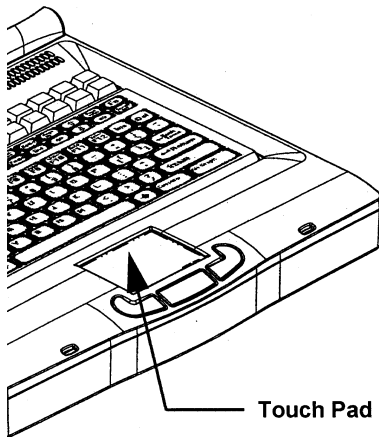


Figure 9-4 Keyboard and Pointing Device

## External Keyboard or Mouse

The UltraBookIIe provides 4 USB connectors for connecting external devices such as an external keyboard or mouse. These USB connectors are shown in Figure 9-8. You can connect an external Sun Type-6 or newer keyboard when the UltraBookIIe is turned on or off.

You can connect an International keyboard to the keyboard connector port. Doing so will disable the internal keyboard.

You can connect an external mouse to another USB connector. An external mouse or other pointing device will disable the on-board touchpad.

## Detailed Hardware Description

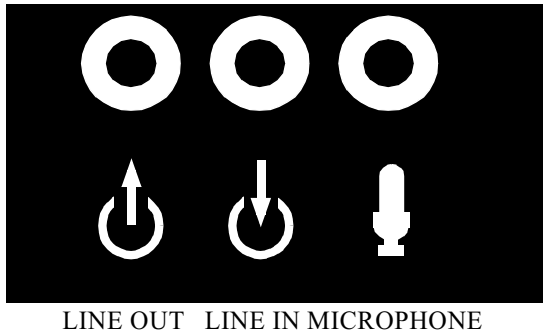
### *Input-Output Devices*

## Onboard Audio

The UltraBookIIe provides a variety of onboard audio services and connectors, including:

- Audio and microphone jacks
- Internal speaker

The right rear panel contains audio input and output jacks for connecting external audio devices, as shown in Figure 9-5. Audio line input and output jacks are standard 1/8" stereo jacks. The microphone jack is a standard 1/8" stereo/monophonic jack.



**Figure 9-5 Onboard Audio**

The UltraBookIIe provides the following audio functionality:

- Line In
- Line Out
- Microphone
- Internal speaker

#### **Line In**

The Line In jack allows you to connect the system to external stereo signals and other audio sources, e.g., compact disk or audio tape players.

#### **Line Out**

The Line Out jack allows you to connect the system audio output to external stereophonic devices, e.g., external amplifiers or amplified speakers.

#### **Microphone**

The microphone jack allows you to connect an external mono/stereo microphone to the system. The UltraBookIIe accepts a Sun microphone or other Positron™ compatible recording device for recording audio input.

#### **Internal Speaker**

The UltraBookIIe includes a built-in audio speaker which reproduces monophonic sound generated by application programs.

## Detailed Hardware Description

### *External Connections*

---

## External Connections

This section describes the UltraBookIIe's available external connections. For information on external devices, see "Input-Output Devices" on page 104.

The access ports support a wide variety of input-output options, including:

- Ethernet
- Serial
- Parallel
- Video
- DC power
- USB

### **Ethernet**

The UltraBookIIe rear panel provides a built-in twisted pair (10-Base T/100-Base T) Ethernet network port as shown in Figure 9-8. This industry-standard RJ-45 telephone-type connector allows connection to twisted pair Ethernet networks. A twisted-pair Ethernet cable is similar in appearance to a modular telephone cord.

### **Serial and Parallel**

The UltraBookIIe provides a single 9-pin serial port and a single 25-pin parallel connector on the rear panel. Use these connectors for attaching industry-standard serial and parallel devices.

The serial port supports asynchronous communications at speeds from 300 to 115,000 bps. It supports a complete set of EIA RS-232C modem signals.

## **Video**

The UltraBookIIe supports monitors equipped with VGA connectors. For more information on external display capabilities, see “External Monitor Support” on page 100.

## **DC Power**

The UltraBookIIe receives 19 volts of continuous DC power at a maximum of 50 watts using the supplied AC adapter. Additionally, the UltraBookIIe may receive 10V DC nominal from an onboard battery module with a rated capacity of 4500 mAh when not tethered using the AC adapter.

## **Universal Serial Bus (USB)**

The rear panel of the UltraBookIIe includes 4 USB ports for connecting input and output devices.

---

## **Power Supply**

The UltraBookIIe gets power from the internal battery module or by connecting the external AC power adapter/charger.

## **AC Adapter**

The adapter operates from 100–240 volts AC. The adapter is a switcher-type power supply operating at a nominal frequency of 75 kHz. It provides DC power input for running the system. The adapter provides 19 volts DC to the main system. The UltraBookIIe supports full desktop functionality when tethered to the AC adapter. The AC adapter also supports simultaneous workstation usability and battery charging.

Battery charge management follows a constant-current, constant-voltage (CCCV) scheme, with a charge-time cutoff. A maximum absolute temperature shutoff ensures that the

## Detailed Hardware Description

### *Power Supply*

maximum charge is provided to the battery, but does not reach temperatures high enough to cause damage or limit lifetime.

## Battery Technology

The UltraBookIIe uses a lithium-ion battery module to power the workstation when AC power is not available.

The lithium-ion battery module has a gravimetric power density 100% higher than NiMH or NiCd batteries and suffers no memory effect from the recharge cycle. The battery device bay is located at the front-right side of the workstation.



**Figure 9-6 Battery and Battery Device Bay**

The 4500 mAh battery module provides approximately two hours of continuous-use battery operation, depending on system configuration. The battery module has nine cells, supplying 11.1 volts nominal to the internal DC power converter.



## Detailed Hardware Description

### Power Supply

The battery module contains a five element LED power gauge allowing you to check the charge status of the battery module before installing it in the UltraBookIIe. The power gauge displays remaining capacity in increments of 20%.

As battery power decreases, the workstation monitors performance and warns you of low battery power. You should then save your work before the battery charge is exhausted. Battery life updates continue as long as the low-battery condition exists.

During a low-battery condition, switch to AC power or halt the UltraBookIIe and power-down. Continued battery use will eventually lead to an automatic shutdown. For information about halting and powering-down the UltraBookIIe, see “Shutting UltraBookIIe Down” on page 26.



If you switch to AC power instead of shutting down the UltraBookIIe, you can remove and replace battery modules while the system is connected to AC power.



**Caution:** Follow the proper shut down procedures for the UltraBookIIe described in “Shutting UltraBookIIe Down” on page 26. Otherwise, you may corrupt important system files on your workstation.



**Caution:** Never use nickel cadmium or nickel metal hydride batteries with the UltraBookIIe or try to recharge such batteries with the AC adapter. Use only the lithium-ion battery module supplied with the UltraBookIIe.

## Detailed Hardware Description

### Power Supply



**WARNUNG:** Ihre UltraBookIIe Workstation wird mit einer aufladbaren Lithium Ionen Batterie geliefert. Versuchen Sie auf keinen Fall, Ihre UltraBookIIe Workstation mit Trockenbatterien (Primärzellen), Nickel Kadmium- oder Nickel Metall Hydrid Akkus zu betreiben oder solche mit dem Netz/Ladegerät zu laden.



For information on installing the battery module, refer to “Using Batteries” on page 19.

## Battery Recharging

You can use the AC adapter to recharge the battery module. The battery module recharges automatically when the battery module is installed and the workstation is connected to its AC adapter. It takes approximately 2.5 hours to recharge the battery module with the workstation powered off. When powered up, the workstation dynamically calculates the difference between the AC adapter capacity and the power required to operate the workstation. Any remaining capacity is automatically applied to background charging.



Background charging requires 3-4 hours to fully recharge the battery module, depending on battery condition and workstation power requirements.

The battery module can be discharged and recharged from 500 to 1,000 times before it needs replacing. When you need to replace the battery module, obtain a replacement battery module from your authorized Tadpole representative.

The battery charger circuit has two modes of operation, fast and background charge. Fast charge is enabled when the external AC power adapter/charger is connected and the system is powered off. Fast charge provides a full recharge of the batteries within 2.5 hours.

---

## Device Bays and Access Port Locations

This section shows you where to connect external devices to the UltraBookIIe and where to install modular components. You can make connections to the UltraBookIIe at the rear and right-side access ports.

Open the rear and right-side access panels in order to use the UltraBookIIe's access ports.

To install modular components, insert the component in the appropriate device bay. See "Input-Output Devices" on page 104 for more information.

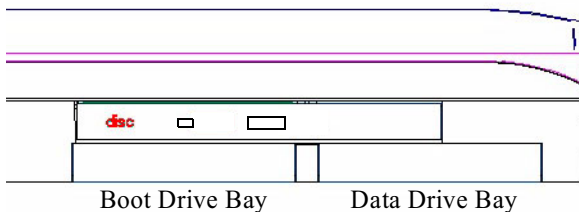


Figure 9-7 UltraBookIIe DVD and Hard Disk Drive Bays

# Detailed Hardware Description

## Options

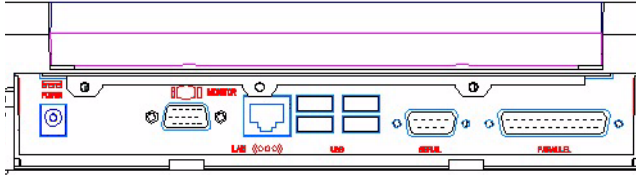


Figure 9-8 UltraBookIIe Rear Access Ports



“Connector Pin Assignments” on page 125 contains a list of the connector pin assignments.

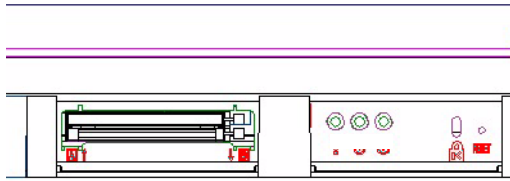


Figure 9-9 UltraBookIIe Right-Side Access Ports

---

## Options

The following sections describe the options available for the UltraBookIIe workstations.

### Languages

Standard C, C++, FORTRAN, ADA, and a wide selection of other languages are available from SunPro or third parties for use on the UltraBookIIe.

## Sources

UltraBookIIe replacement parts and options are available from your authorized UltraBookIIe dealer. Contact your local dealer or Tadpole for a listing of the dealers in your area.

The following items are available from your UltraBookIIe representative:

- AC adapter
- Rechargeable battery pack
- 56K fax/modem PCMCIA card
- Nylon carrying case
- Hard carrying case
- User-installable hard disk modules
- Additional memory modules (factory-installed only)
- Three-button USB mouse
- Additional manuals on CD
- Information regarding supported third-party PCMCIA card devices

The following items are available from Sun Microsystems dealers:

- Solaris operating systems on CD-ROM
- Three-button mouse (USB only)
- High-performance color, monochrome, and grayscale video monitors
- Video monitor cables and adapters
- Laser printers
- Serial port cables

## **Detailed Hardware Description**

### *Options*

- Documentation CDs
- USB Sun Type 6 keyboards

The following items are available from third-party suppliers:

- Ethernet transceiver cables
- High-performance color, monochrome, and grayscale video monitors
- Video monitor cables
- Laser printers
- External modems
- Serial port cables
- Audio input/output devices (amplifiers, microphones, etc.)

# UltraBookIISpecifications

10

Operating system	Solaris 8 or later. CDE version 3.x or later
Network support	Tadpole software tools, plus NTP, NIS+, DHCP, NFS, DNS
Java tools	Java virtual machine
IU processor	500 MHz  UltraSPARC IIe
FPU processor	Combined
Performance	500 MHz  20 SPECint95  21 SPECfp95
Memory	256 MB to 2 GB DRAM with ECC Memory expansion using daughter boards (factory-installed only)
Cache	256KB on-chip secondary cache  16 KB data and 16 KB instruction on CPU chip
Hard Disk Drive	EIDE (ATA2) 20 GB formatted 12 ms average seek time Optional 1- or 2-drive configuration
Optional Removable Hard Disk Drive	EIDE (ATA4) 30 GB formatted 13 ms average seek time

## UltraBookIIe Specifications

PCMCIA	One or two Type I and/or Type II, One Type III
Display	14.1 in  XGA 1024 x 768 active matrix LCD
Color Palette	262,144
Grayscale Palette	64
Pixel aspect ratio	1:1
Screen aspect ratio	4:3
Dot pitch	.28 mm
Dots per inch	90.7
Display height	8.36in (214 mm)
Display width	11.14 in (286 mm)
Display diagonal	14.1 in (358 mm)
Keyboard	97 full-travel keys Sun-5 compatible keyboard
Touchpad	Three-button integrated



I/O ports	Ethernet (10/100 Mbps) twisted pair standard (10 Base T/100 Base T)
	RS-232C serial port
	Centronics-compatible parallel port
	4 USB ports
	One 16-bit audio port (48 kHz)
	Internal speaker
	Microphone
	External video: VGA port
	External keyboard: USB port
	External mouse: USB port
	Controls
	Display brightness (FN Bri+/Bri- keyboard function keys)
Other features	Time-of-day clock with separate battery backup
	Nylon carrying case
	Simultaneous display capabilities when connecting UltraBookIIe 1024 x 768 model to XGA resolution external monitor

## UltraBookIIe Specifications

System Dimensions	
Height	2.3 inches (58 mm)
Width	12.84 inches (326 mm)
Length	11.66 inches (296 mm)
Volume	
Weight	0.18 cu. ft. (0.05 cu. m) 8.0 pounds (3.6 kg) without battery
Battery weight	1.15 pound
Environmental Altitude	0 to 10,000 ft. (0 to 3048 m)
Operating temperature	+40 to +104 degrees F (4 to + 40 degrees C) Temperature-sensitive fan speed
Storage temperature	- 4 to +140 degrees F (-20 to + 60 degrees C)
Battery/power supply	Lithium-Ion battery, 11.1 V nominal, 4.5 Amp-hour capacity
Discharge time	Approximately 2 hour in continuous use (application-dependent)
Recharge time	2.5 hours charging only with system power off
Background recharge time	3-4 hours with system power on Varies due to operating power draw

<b>UltraBookIIe AC adapter/charger</b>	<b>Automatic voltage and frequency sensing</b>
Voltage	100-240 VAC
Frequency	50-60 Hz
Power supply	50 W continuous
DC output	19V DC@3.68A
Length	5.24 in (133.10 mm)
Width	2.28 in (57.10 mm)
Height	1.15 in (29.21 mm)
Weight	9.3 oz (0.263 kg)
AC cord	Two wire, UL/CSA approved IEC 320/c8 connector, 6 ft (1.8 m)
DC cord	SPT1 type cable with right angle, 3 ft (.9m)
Safety	UL 1950, IEC 950, CE,CSA C22.2 No. 950
EMC	ITE-FCC Part 15 (Class B) Class B, CE (EN55022) Class B, (EN 50081-1, EN50082-1, EN 6100-4-2, EN 6100-4-3, EN 6100-4-4, EN 6100-4-5, EN 6100-4-6)

## UltraBookIIe Specifications

### Options

Expansion memory daughter boards  
(factory-installed only)

Internal disk drive upgrades

Nylon carrying case

Extra battery pack

Hard carrying case

Extra manual set (CD)

Fax/Modem

## Connector Pin Assignments

# 11

This chapter describes the pin assignments for the UltraBookIIe connectors listed in the table below. The connectors are listed in the order they appear on the UltraBookIIe, beginning with the front-most access port on the right side of the unit.

<b>Connector</b>	<b>See...</b>
Audio Line In Connector	page 126
Audio Line Out Connector	page 127
Microphone Connector	page 128
Serial port Connector	page 129
USB Connector	page 129
Parallel port Connector	page 130
DC Input Connector	page 131
External monitor Connector	page 132
Ethernet twisted-pair Connector	page 133

## Connector Pin Assignments

### *Audio Line In Connector*

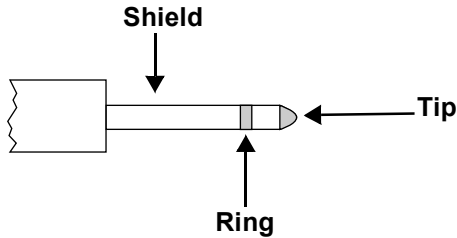
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## Audio Line In Connector

The Audio In Connector is a standard female, 1/8", audio miniature jack. The following table lists the pin assignments for this connector. For illustration purposes, Figure 11-1 shows the 1/8" male connector.

Pin	Signal
Tip	LEFT CHANNEL
Ring	RIGHT CHANNEL
Shield	GND

**Figure 11-1 Audio Line In Mating Connector**



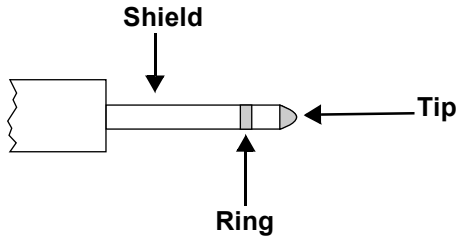
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## Audio Line Out Connector

The Audio Line Out Connector is a standard female, 1/8", audio miniature jack. The following table lists the pin assignments for this connector. For illustration purposes, Figure 11-2 shows the 1/8" male connector.

Pin	Signal
Tip	LEFT CHANNEL
Ring	RIGHT CHANNEL
Shield	GND

**Figure 11-2 Audio Line Out Mating Connector**



## Connector Pin Assignments

### Microphone Connector

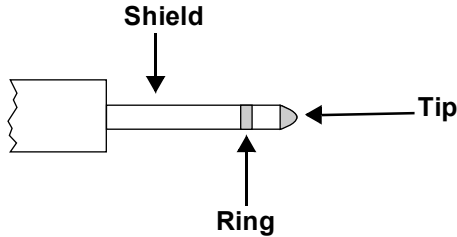
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## Microphone Connector

The Microphone Connector is a standard female, 1/8", audio miniature jack. The following table lists the pin assignments for this connector. For illustration purposes, Figure 11-3 shows the 1/8" male connector.

Pin	Signal
Tip	LEFT CHANNEL
Ring	RIGHT CHANNEL
Shield	GND

**Figure 11-3 Microphone Mating Connector**





---

## Serial Port Connector

The Serial Port Connector is a female, 9-pin (DB9) connector. The following table lists the pin assignments for this connector.

Pin	Signal
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RIA

---

## USB Port Connector

The USB connector is a standard female connector. The following table lists the pin assignments for this connector.

Pin	Signal
1	VCC +5V
2	DATA NEGATIVE
3	DATA POSITIVE
4	GND

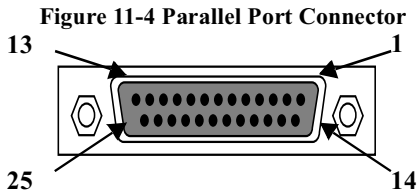
## Connector Pin Assignments

### Parallel Port Connector

## Parallel Port Connector

The Parallel Port Connector on the I/O break-out cable is a female, 25-pin (DB25) connector. The following table lists the pin assignments for this connector. Figure 11-4 shows this connector.

Pin	Signal	Pin	Signal
1	P_DATA-STROBE-L	10	P_ACKNOWLEDGE_L
2	P_DATA<0>	11	P_BUSY
3	P_DATA<1>	12	P_PE
4	P_DATA<2>	13	P_SLCT
5	P_DATA<3>	14	P_AUTO_FEED_L
6	P_DATA<4>	15	P_ERROR_L
7	P_DATA<5>	16	P_INIT_L
8	P_DATA<6>	17	P_SELECT_IN_L
9	P_DATA<7>	18-2	GND
		5	

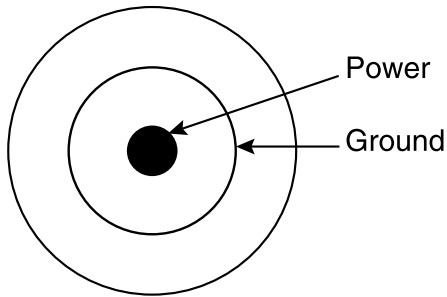


---

## **DC Input Connector**

The DC Input Connector provides DC power to the unit. Figure 11-5 shows this connector.

**Figure 11-5 DC Input Connector**



## Connector Pin Assignments

### *External Monitor Connector*

---

## External Monitor Connector

The External Monitor Connector is a female, 15-pin VGA connector. The following table lists the pin assignments for this connector.

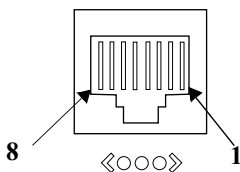
Pin	Signal	Pin	Signal
1	RED	9	N/A
2	GREEN	10	GND
3	BLUE	11	N/A
4	N/A	12	ID1
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	ID2
8	GND		

## Ethernet Twisted-Pair Connector

The Ethernet Twisted-Pair Connector is a female, 8-pin miniature RJ-45 telephone jack. The following table lists the pin assignments for this connector. Figure 11-6 shows this connector.

Pin	Signal
1	TXD+
2	TXD-
3	TXD- RXD+
4	TXD_COM
5	TXD_COM
6	RXD-
7	RXD_COM
8	RXD_COM

**Figure 11-6 Ethernet Twisted-Pair Connector**



**Connector Pin Assignments**  
*Ethernet Twisted-Pair Connector*

# NVRAM Settings

# 12

The following table lists typical UltraBookIIe NVRAM settings. When you receive your UltraBookIIe, the factory-preset values are configured to their default settings using the OBP “set-defaults” command.

Variable	Value	Default Value
#power-cycles	123	No default
system-board-serial#	f8 f7 75 f1 7f 7f 55 fb . . .	No default
system-board-date	df 75 f7 fb fd f5 da df . . .	No default
ttyb-rts-dtr-off	false	false
ttyb-ignore-cd	true	true
ttya-rts-dtr-off	false	false
ttya-ignore-cd	true	true
ttyb-mode	9600, 8, n, 1, -	9600, 8, n, 1, -
ttya-mode	9600, 8, n, 1, -	9600, 8, n, 1, -
pci-probe-list	7,11,1,3,8,14,d,13	7,11,1,3,8,14,d,13
mfg-mode	off	off
diag-level	max	max
fcode-debug?	false	false
output-device	screen	screen
input-device	keyboard	keyboard
load-base	16384	16384
auto-boot-retry?	false	false
boot-command	boot	boot
auto-boot?	true	true
watchdog-reboot?	false	false
diag-file		
diag-device	disk	net
boot-file		
boot-device	disk	disk net

## NVRAM Settings

### *Additional Environment Variables*

Variable	Value	Default Value
local-mac-address?	false	false
net-timeout	0	0
ansi-terminal?	true	true
screen-#columns	80	80
screen-#rows	34	34
silent-mode?	false	false
use-nvramrc?	false	false
nvramrc		
security-mode	none	No default
security-password		
security-#badlogins	0	No default
oem-logo		No default
oem-logo?	false	false
oem-banner		No default
oem-banner?	false	false
hardware-revision		No default
last-hardware-update		No default
diag-switch?	false	false

---

## Additional Environment Variables

In addition to the default NVRAM environment variables shown above, the following environment variables can be set with `setenv` and viewed with `printenv`.

### **backlight-brightness**

Takes a decimal value between 1 and 99, and sets the startup brightness to this value. The setting chosen by the user with the `Bri+/Bri-` keys is not currently stored over system resets.



**battery-reporting?**

Takes a true or false value, and if set to false will not display the summary of battery charge/run time remaining after the banner is displayed. The time is taken from the battery itself, and strange values are just a feature of the battery pack and cannot be ‘sorted out’ in OBP.

**startup-noise**

If set to zero, the system will not give a low/high startup noise (default is 1 and noisy). Error conditions signalled by the system PIC will always make a noise.

**input-device****keyboard**

If set to this (the default), any external USB keyboard will be used in preference to the internal PS/2 keyboard.

**usbkey**

If set to this, will use the USB keyboard instead of PS/2 keyboard, even if there is no USB keyboard available at bootup

**ps2key**

If set to this, will use the internal PS/2 keyboard instead of any external USB keyboard

**output-device****screen**

Will default to the LCD if no external monitor, or go to the external monitor and choose a refresh rate to suit, and disable the LCD

## **NVRAM Settings**

### *Additional Environment Variables*

#### **crt**

Will drive the external display and disable the internal LCD, even if there is no monitor connected

#### **lcd**

Will drive the LCD at its chosen refresh rate and disable any external monitor

#### **dual**

Will drive both external monitor and internal LCD at the LCD's preferred refresh rate, regardless of the presence of an external display

Note that the Status LCD will display a monitor icon whenever the external interface is active, regardless of the presence of any device connected to the port. There may be a few seconds of random screen data present during startup in 'dual' mode; this is normal and not a cause for concern.

# External Monitor Matrix

*13*

The UltraBookIIe ATI Display controller is used to display on the built-in screen as well as on an external display if you choose to use one.

Ensure that if you use an external monitor it is capable of operating within the following parameters.

## External Monitor Matrix

### *UltraBookIIe ATI Display Controller*

---

## UltraBookIIe ATI Display Controller

The ATI video controller supports 24 bpp (16 million color, external only) through the OBP command “ati-pgx24?”. This command is “true” in the NVRAM settings. Only 1024 x 768, 800 x 600, and 1152 x 900 pixel resolutions are supported with this function.

The UltraBookIIe is delivered with a 1024 x 768 pixel resolution 14.1 inch Liquid Crystal Display (LCD). It also has the option to drive an external monitor. In some combinations, the UltraBookIIe can drive both the LCD and an external monitor simultaneously. This list charts the various combinations and the OBP commands to activate them.

<b>OBP/CDE Command</b>	<b>LCD Resolution</b>	<b>External Monitor</b>
800-mon *	NOT SUPPORTED	800x600 60Hz
800-vesa *	NOT SUPPORTED	800x600 60Hz
1024-mon *	OFF	1024x768 60Hz
1024-vesa *	OFF	1024x768 60Hz
1152-mon	NOT SUPPORTED	1152x900 66Hz
1152-vesa	NOT SUPPORTED	1152x900 66Hz
1280-mon	NOT SUPPORTED	1280x1024 67Hz
1280-vesa	NOT SUPPORTED	1280x1024 67Hz
1280-fastmon	NOT SUPPORTED	1280x1024 76Hz
1280-fastvesa	NOT SUPPORTED	1280x1024 76Hz
lcd-only	1024x768 60Hz	OFF

## External Monitor Matrix

UltraBookIIe ATI Display Controller

OBP/CDE Command	LCD Resolution	External Monitor
lcd+monitor	1024x768 60Hz	1024x768 60Hz
lcd+vesa	1024x768 60Hz	1024x768 60Hz
lcd-off	OFF	NO CHANGE
lcd-on	1024x768 60Hz	NO CHANGE
monitor-off	NO CHANGE	OFF
monitor-on	NO CHANGE	ENABLED AT CURRENT RESOLUTION
csync-on	OFF	COMPOSITE SYNC ENABLED
csync-off	OFF	COMPOSITE SYNC DISABLED

\* =Not supported by window manager display control



The UltraBookIIe supports simultaneous on-board and external video device display using VESA standard 1024 x 768 x 60 Hz mode and timing.

---

## Changing Resolutions

Changing the display resolution is best done during the boot sequence, either during start-up or rebooting specifically to change the resolution.

1. To enter the command string, press “Stop” and “A” together during the boot sequence, right after the memory test and before the hard disk begins accessing.

The workstation will then be in “Open Boot PROM” (OBP) mode.



You can now execute OBP commands. Enter the command for the desired resolution corresponding to the type of display you have.

2. After entering the command string, type **go** or **boot**, depending on any messages given at the command line.
3. Press **Enter** to resume using the UltraBookIIe.

## Configuring the Display Using Boot PROM Commands

In some cases, you may need to configure the LCD display and external port manually.

To change the configuration:

1. Disconnect the external device from the UltraBookIIe.
2. Power on the system according to the instructions in “Starting UltraBookIIe” on page 22.
3. Stop the boot sequence by entering **stop-A** after the LCD display illuminates.
4. Disable the automatic boot feature by typing **setenv auto-boot? false** at the OK prompt.

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