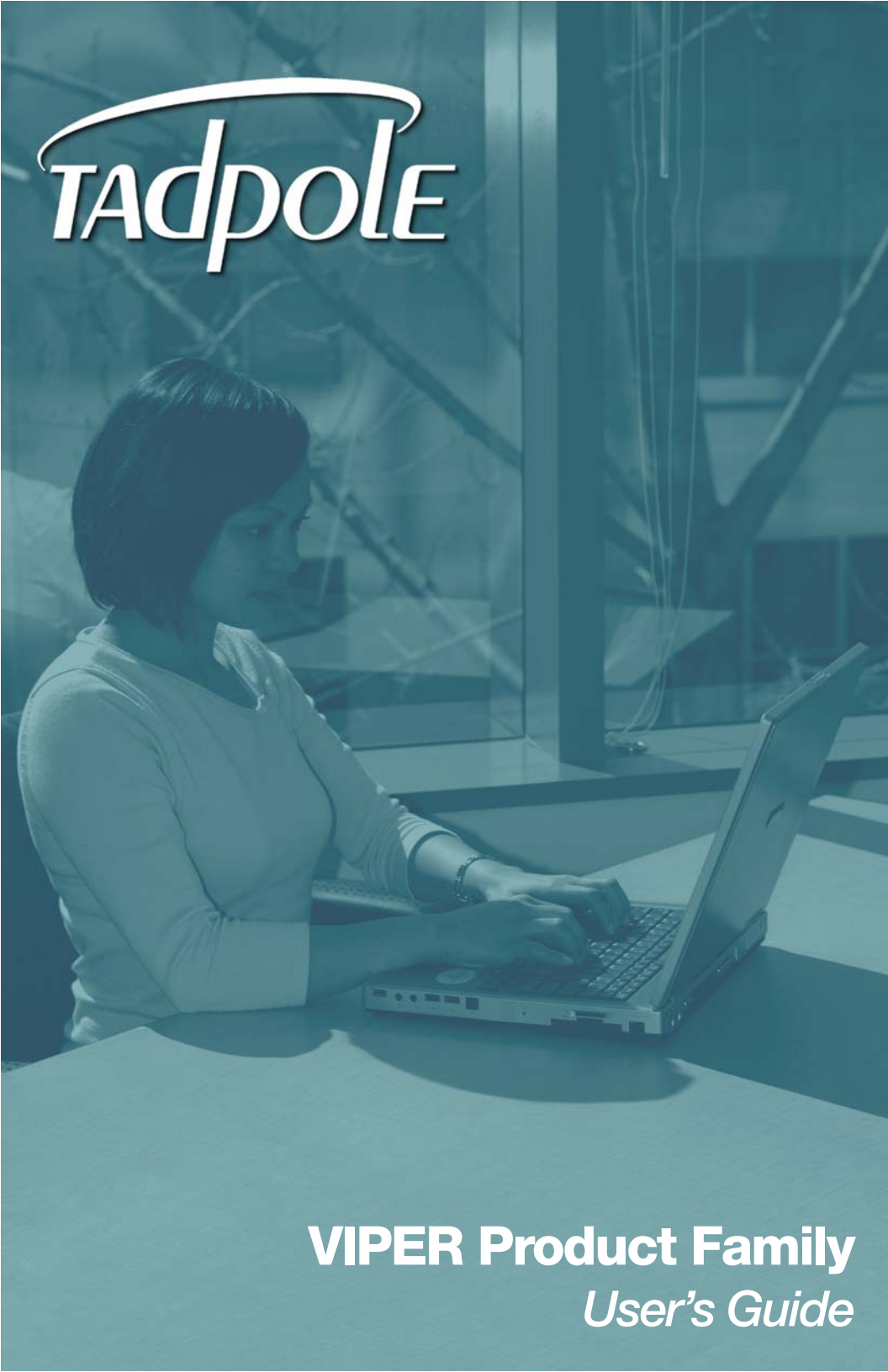


VIPER Product Family

User's Guide

Contact Information

Please contact Tadpole at:

North America Corporate Office
20450 Stevens Creek Boulevard
Cupertino, CA 95014
Tel:408-973-9944
Fax: 760-973-9593

North American Customer Service
7:00 AM to 6:00 PM PST
Tel: 1-800-734-7030
Fax: 760-930-0762
E-mail: support@tadpole.com

Government Support
Tadpole Computer, Inc.
21355 Ridgetop Circle, Ste 150
Dulles, VA 20166
Phone: 703-433-1157 Ext. 8
Fax: 703-433-9561

Europe
Tel: +44 870 432 41 61
Fax: +44 870 432 41 62
Email: support@tadpole.com

Online
E-mail: info@tadpole.com
http://www.tadpolecomputer.com

Copyright and Trademark Information

Part Number: 431110401 Rev. C
Printed in the United States of America

Disclaimer of Warranty Notice

Tadpole makes no representations or warranties with respect to this manual, and shall not be liable for technical or editorial omissions made herein; nor incidental or consequential damages resulting from the furnishing, performance, or use of this manual. Further, Tadpole reserves the right to make changes in the specifications of the product described within this manual at any time without notice and without obligation of Tadpole to notify any person of such revision or changes.

Environmental Statement

Tadpole Computer Inc. supports the concept of an environmentally responsible corporation. To this end we attempt to produce environmentally friendly products, minimize waste, and make use of recycled or used parts in our products to make most use of used materials and components that pass our rigorous test and qualification procedures. All products containing such parts and components are supported fully by our manufacturers new product warranty.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a 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,
20450 Stevens Creek Boulevard
Cupertino, CA 95014
(408) 973-9944

Declare under our sole responsibility that the product

VIPER

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 undesirable operation.

Shielded Cables

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

The connection of unshielded 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 Notice

This digital apparatus does not exceed 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 prescrites dans le Reglement sur le brouillage radio-electrique edicte' par le ministere des Communications du Canada.

Safety Precautions

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

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

WARNING: Do not dispose of the VIPER batteries in fire. Disposal of the VIPER batteries in fire may cause personal injury.

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

Sicherheitshinweise

WARNUNG: Beim Betrieb der VIPER Notebook treten hohe Spannungen innerhalb des Gehauses 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 VIPER Notebook mit Trockenbatterien (Primarzellen) zu betreiben oder solche mit dem Netz/Ladegerat zu laden. Versuche dieser Art konnen Personen-oder Sachschaden zur Folge haben.

WARNUNG: Betreiben Sie Ihre VIPER Notebook nicht bei feuchten oder nassen Umgebungsbedingungen. Falls Wasser oder Feuchtigkeit in das Gehause eingedrungen ist, sollten Sie Ihr Gerat vor Wiederinbetriebnahme von einem qualifizierten Servicetechniker uberprufen 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. Follow all of the instructions and warnings marked on this notebook or included in this manual.
2. Do not use this notebook in unstable or unsupported conditions.
3. The notebook may fall, causing serious damage to the notebook and others around.
4. Slots and openings in the cabinet are for ventilation. To ensure reliable operation of the notebook, and to protect it from overheating, these openings must not be blocked or covered. Don't use this notebook on a bed, sofa, rug or other similar surface. This notebook should never be placed near an oven, a radiator, or heat register. This notebook should not be placed in a built-in installation unless proper ventilation is provided.
5. Never push objects of any kind into the notebook 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 notebook.
6. This notebook should only be connected to the AC power source indicated on your notebook 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 notebook to a power outlet matching the power requirements of this notebook.
7. Do not allow anything to rest on the power cord. Do not locate this notebook where people will walk on the cord.
8. If you have to use an extension cord with this notebook, 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 notebooks plugged into the main AC power outlet does not exceed 15 amps.
9. Unplug your notebook from the main electrical power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
10. Do not use this notebook near water.
11. This product is equipped with a 2-wire non-grounded type plug.

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 rebutles batteries usagees conformement aux instructions du fablicant.

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

Wichtige Sicherheitsvorschriften Unbedingt beachten

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

1. Beachten Sie alle Hinweise, die am Gerat selbst angebracht oder in den zugehorigen Handbuchern vermerkt sind.
2. Stellen Sie das Gerat an einem sicheren, stabilen Arbeitsplatz auf.
3. Am Gerat angebrachte Offnungen (Schlitze und sonstige Offnungen) dienen der Beluftung des Gerates. Um ein zuverlassiges Arbeiten des Gerates zu gewahrleisten und um Uberhitzung zu vermeiden, mussen diese Offnungen unbedingt freigehalten werden. Betreiben Sie das Gerat nie auf Betten, Sofas oder anderen, weichen Unterlagen.
4. Stecken Sie keine Gegegenstande (Schraubenzieher, Buroklammern, etc.) in die Offnungen. Sie wurden damit Kurzschlusse herbeifuhren, die zur Zerstorung des Gerates fuhren, sich der Gefahr eines Stromschlages aussetzen oder das Gerat in Brand setzen.
5. Das Gerat darf nur an vorschriftsmassige Steckdosen mit der auf dem Gerat angegebenen Netzspannung angeschlossen werden. Wenn Sie nicht sicher sind, welche Netzspannung richtig ist, wenden Sie sich an den Lieferanten des Gerates oder an das zustandige Elektrizitatswerk.. Bitte nur an genugend stark abgesicherte Steckdosen anschliessen, die der Leistungsaufnahme des Gerates entsprechen.
6. Auf das Netzanschlusskabel durfen keine Gegenstande gestellt werden.
7. Legen Sie das Netzkabel so, dass niemand darauftreten oder daruber stolpern kann.
8. Wenn Sie Verlangerungskabel benutzen, mussen Sie sicher sein, dass die gesamte Leistungsaufnahme nicht grosser ist, als das Verlangerungskabel zulasst. Der gesamte Stromverbrauch aller angeschlossenen Gerate darf nicht mehr als 15A betragen.
9. Wenn Sie das Gerat reinigen, muss das Netzkabel aus der Steckdose gezogen werden.
10. Das Gerat durfen Sie nicht in der Nahe von Wasserleitungen benutzen.

Wartung der Notebook

Wenn Ihre Notebook nicht ordnungsgemass arbeitet, durfen Sie nur die Einstellungen vornehmen, die im Handbuch genannt werden. Andere Einstellungen oder Veranderungen konnen den Rechner beschadigen oder zerstoren. Umfangreiche und kostspielige Reparaturen wurden notwendig werden, um das Gerat wieder betriebsfahig zu machen.

Ziehen Sie den Netzstecker aus der Steckdose und verstandigen Sie den zustandigen Kundendienst bei folgenden Storungen:

1. Netzkabel ist defekt oder stark abgenutzt.
2. Flussigkeit ist in das Gerat gelangt.
3. Das Gerat war Regen oder Leitungswasser ausgesetzt.
4. Das Gerat ist heruntergefallen oder das Gerhause ist beschadigt.
5. Das Gerat arbeitet nicht mehr richtig.

Achtung!

Wenn Sie das Gerat offnen mussen (Abnahme der verschraubten Haube), ist unbedingt folgendes zu beachten:

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

Table of Contents

3 - Using VIPER 19

Table of Contents

Preface

Conventions in this user guide

The following conventions are used in this Guide:

Symbols

The following symbols are used in this book:

NOTE: Special note for clarification.

CAUTION: Risk of personal injury and equipment damage.

WARNING: Danger of explosion if battery is incorrectly replaced.

Notes

Notes precede information that requires special attention. Example:

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

Warnings and cautions

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

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

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

Procedures

Procedures are numbered. Example:

1. Turn on your notebook.

Keyboard conventions

Keyboard keys are shown in initial upper-case type. Example:

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

Screen messages

Screen messages appear in Helvetica type bounded by rules. Example:

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

```
VIPER
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 previous example are variables because the values shown for ROM Rev., serial number, Ethernet address, and host ID will vary from system to system.

Table of figures

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 VIPER features, please visit the Customer Service area on the Tadpole web site at::

http://www.tadpole.com/html/support/

Chapter 1
Overview

VIPER product line

Welcome to the VIPER Product Family User Guide. Your new VIPER features the most innovative advances in portable computing technology. It combines state-of-the-art ergonomics with sophisticated architecture to provide you with a personal computer that is compact, powerful, and easy to use. VIPER can be ordered with any combination of the following options.

Display options

The display options for the VIPER product family include a 15.0 inch color display supporting SXGA+ graphics (1400 x 1050 resolution).

Storage options

VIPER comes with either a DVD-RW, DVD/CD-ROM, or DVD/CD-RW drive located on the front panel. Internal hard drive capacity ranges from 20 to 80GB.

Memory options

Internal memory options for VIPER range from 256MB to 2GB.

Not supported

The Memory Stick and Secure Digital card slots are not supported.

VIPER components

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

Figure 1-1: VIPER components

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

Each carton contains:

1. VIPER portable notebook
2. Carrying case
3. AC adapter and 2 power cord (both US and UK versions)
4. Rechargeable battery
5. Removable CD or DVD/CD drive
6. Tadpole Support Software (Installation) CD
7. VIPER *User Guide* (this manual) and other documentation on CDs
8. Solaris Operating Environment CD

VIPER options

The following sections describe the options available for the VIPER system.

Languages

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

Hardware and software sources

Options from your VIPER Dealer

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

The following items are available from your VIPER representative:

- Auto/Airline power adapter
- DB-15 to 13W3 video cable adapter
- Carry Case
- Deluxe Carry Case
- Hardside (rugged) Carry Case
- External Floppy Drive
- External CD-ROM
- External CD-RW
- External Keyboard & Mouse
- Country kits (Power cords, Solaris versions)
- Spare battery
- Spare AC Adapter

Options from Sun Microsystems

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
- USB Sun Type 6 keyboards

Options from third-party suppliers

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
- USB devices
- Audio input/output devices (amplifiers, microphones, etc.)
- NIC
- Memory cards

VIPER features

Your new VIPER includes the following features:

- An UltraSPARC-IIIi processor running at 1.2GHz
- 256MB of high-speed RAM, factory upgradeable to 2GB
- a 15.0 inch display providing 1400 x 1050 resolution
- Full-size, Sun Type 5 compatible integrated keyboard
- An integrated three-button trackpad
- One internal hard disk drives (HDD) of varying capacity
- Removable DVD-RW, DVD/CD-ROM, or DVD/CD-RW drive
- Internal stereo speakers
- Audio input and output jacks that support:
  - Line Out, for connection to external stereo devices
  - Microphone-in, for connection to an external microphone
- 3 USB ports for connecting external devices such as an external keyboard, mouse, or floppy drive
- 1 RJ45 port that supports Gigabit twisted-pair Ethernet connections
- Support for wireless networking
- An RJ-12 port that supports one serial interface for connecting industry-standard TIA/EIA-232-F devices
- A Centronics compatible (DB-25) parallel port for connecting a printer or other industry-standard parallel port device
- 1 PCMCIA/CardBus slot for Type I or Type II cards
- A port for connecting an AC power adapter
- A VGA port (DB-15) for attaching an optional external monitor
- 2 PS2 ports (6-pin Mini-DIN) for connecting an optional external keyboard and/or mouse

For more information about the features listed , see the section on “Using VIPER features” beginning on page 35.

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 using the contact information found on page ii.

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

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 the section on Troubleshooting for more information about these commands.

Chapter 2
Getting Started

Overview

Getting Started provides a brief, pictorial introduction to get you started. The next chapter, “Using VIPER features” on page 35, describes more detailed information about these features. A few minutes spent on these two chapters will ensure you get the most out of the VIPER.

First steps

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

1. Check the ambient air temperature to make sure it is between 41–104º F (5–40º C).

CAUTION: If your notebook 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 notebook's temperature. Let your VIPER adjust to room temperature before proceeding.

2. Install the VIPER Lithium-Ion battery into the battery bay, which is located on the front left side of the VIPER - the same side as the AC power jack. Push it in until you hear it click into place.

Figure 2-1: Installing the battery

WARNING: Use only VIPER batteries. Never insert a battery made for another model of the SPARCbook or for any other computer or appliance, even if its appearance is similar.

3. For AC power operation, plug in the AC power adapter.

The battery need not be installed for AC operation. For more detailed instructions on the AC adapter, see "Using an AC adapter" on page 24.

4. Open the VIPER

Open the VIPER display screen by sliding the display cover latch towards the right of the VIPER and lifting up on the cover as shown in the following illustration.

Figure 2-2: Opening the VIPER display

Identifying components and features

System with the display open

Identify the following components and features of the VIPER:

1	Case Latch	8	Keyboard
2	Display	9	Microphone
3	Power Button	10	Touch Pad
4	Easy Buttons	11	Touch Pad Left, Middle, and Right Buttons
5	Left Speaker	12	DVD/CD Drive
6	Right Speaker	13	System Status Lights
7	Keyboard Status LEDS	14	Wireless LED

Figure 2-3: VIPER front view

Left side panel

Identify the following ports on the left side of the VIPER:

1	AC Power Jack
2	Kensington Lock

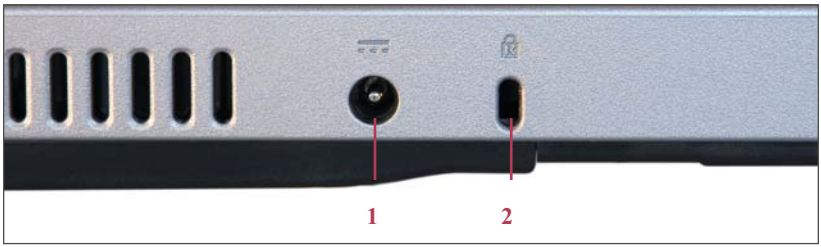


Figure 2-4: VIPER left side

Right side panel (front)

Identify the following ports on the right side (front) of the VIPER:

1	USB	4	USB
2	Microphone Jack	5	USB
3	Headphone Jack	6	Serial

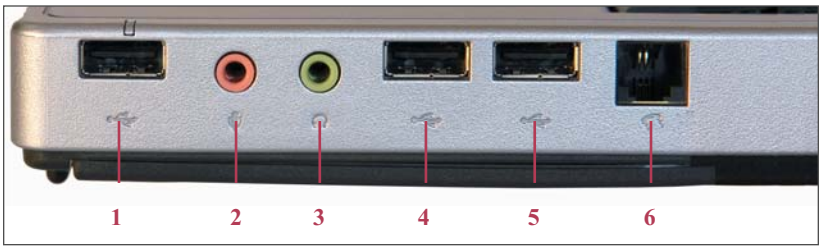


Figure 2-5: VIPER right side (front)

Right side panel (back)

Identify the following ports on the right side (back) of the VIPER:

1 Reset Button	4 PCMCIA/CardBus
2 Secure Digital Card (***not supported***)	5 Ethernet
3 Memory Stick (***not supported***)	

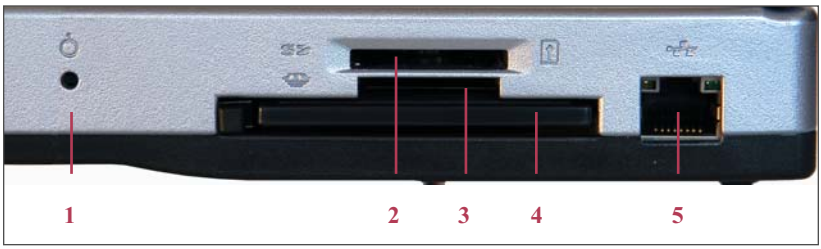


Figure 2-6: VIPER right side (back)

Back panel

Identify the following ports on the back panel of the VIPER:

1 PS2	3 VGA Monitor
2 PS2	4 Parallel

Figure 2-7: VIPER back panel

Bottom of the VIPER

Identify the following ports on the bottom of the VIPER :

1	Air vents	5	Hard drive bay
2	DVD/CD Release latch	6	DVD/CD removal grip
3	Memory cover	7	DVD/CD bay
4	Battery Release latch	8	Battery bay

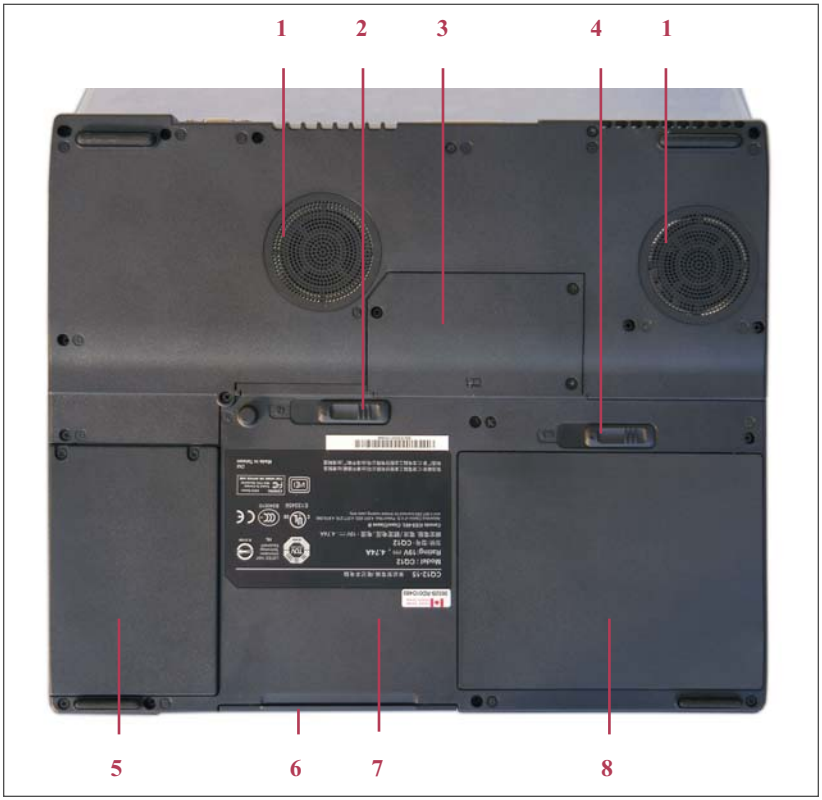


Figure 2-8: Bottom of VIPER

Powering up

The following steps outline the process for powering your VIPER system up.

1. Turn on all external devices, then turn on your VIPER with the **Power** switch which is above the top center part of the keyboard as shown in the Figure 2-9.

Figure 2-9: VIPER power switch

2. View the initial system screens.

After the self-tests have successfully completed, an initial message appears. Then system messages scroll as the operating system and GNOME windowing environment load.

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

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 VIPER” provides more detailed information about the various tasks involved in using your VIPER.

Chapter 3
Using VIPER

Overview

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 VIPER.

Setting up

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

- Position the VIPER 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 VIPER. Do not cover or block the ventilation fans or slots on the case – two round air inlets on the bottom, and exhaust outlets on the left side and back of the unit.

CAUTION: Never spray or directly apply any cleaners or solvents to the VIPER case or LCD.

Opening the display cover

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

To open the display cover:

1. Slide the display cover latch to the right to release the display cover as shown in the illustration below.

Figure 3-1: Opening the display cover

2. Gently raise the cover to an upright position.

You can adjust the screen up to 30 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. (See the table of common keyboard combinations on page 64 more information.)

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

Closing the display cover

To close the display cover:

1. Gently pull the cover forward and down.
2. Carefully press the top of the cover down toward the keyboard until the case latch "clicks" into its closed position.

The system's response to closing the cover can be configured to be one of the following options:

- No action
- Suspend system
- Screen blank
- Shutdown

For more information on how to configure any of these responses, please see the section on "System control dialog" on page 99.

Providing power

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

Using an AC adapter

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

To power the VIPER from AC power:

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

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

3. Plug the connector from the AC adapter into the AC Power Jack as shown in Figure 3-2. Then plug the AC cable plug into a nearby AC outlet.

Figure 3-2: AC adapter connector

NOTE: 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.

Unplugging 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 VIPER.

Using batteries

Inserting the battery

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

1. Install the VIPER Lithium-Ion battery into the battery bay, which is located on the front left under side of the VIPER - the same side as the AC power jack. Push it in until you hear it click into place.

Figure 3-3: Inserting the battery

Front panel battery status LED

LED color	Condition Indicated
Steady Green	Fully charged
Flashing Green	Charging in progress (length of flash indicates the state of charge)
Amber	Running off the battery (with greater than 10% capacity remaining)
Steady Red	Between 5% and 10% capacity remaining)
Flashing Red	Less than 5% capacity remaining

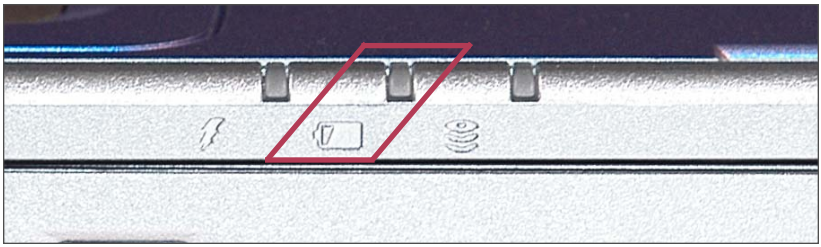


Figure 3-4 Front panel battery status LED

Recharging a new battery

After installing a new battery, use the AC adapter to recharge the battery. It takes about 2.5 hours to recharge a new battery when the VIPER is turned off. After fully charging the battery, you can operate the VIPER for about 1 hour, depending on your configuration and applications.

Removing the battery

1. Shut down the VIPER according to the instructions in "Shutting VIPER down" on page 33.
2. Turn the VIPER over.
3. Press the battery latch to the right (away from the side), grasp the edge of the battery and gently pull it out of the battery bay.

Figure 3-5: Removing the battery

Operating VIPER

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

Starting VIPER

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

CAUTION: Failure to start up and shut down the VIPER notebook properly can damage important system files and may affect your product warranty.

To start the VIPER, make sure the notebook is at room temperature before powering up. This is particularly important when the notebook is brought from a very cold environment into a warm room. In such cases, moisture can condense on and inside the notebook and cause problems. Allow at least two hours for the VIPER 's temperature to stabilize after bringing it from a very cold or very warm environment before proceeding.

Starting the VIPER on an Ethernet network

If you will be using the VIPER on an Ethernet network, you will need to:

1. 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 (or use DHCP which provides automatic IP address resolution)
    - 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
    - DNS Domain
    - IP Address of DNS Nameserver
    - IP Address of Gateway Router

2. Connect the Ethernet cable to the Gigabit Ethernet connector.
3. Make sure that all cables attached to peripherals (such as printers, mouse and monitor) are securely plugged into the correct connectors.
4. Make certain that each device is plugged into an AC outlet or power strip, if necessary.
5. Power on all attached peripherals.
6. Use the VIPER 's power switch to turn on your notebook.

The VIPER 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:

```
VIPER (UltraSPARC-IIIi xxxMHz),

OpenBoot x.xx Tadpole x.xx, xxxx MB memory installed,
Serial #xxxxxxx

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 VIPER does not respond when the power switch is turned on, refer to Appendix C of this guide for troubleshooting suggestions.

NOTE: After powering-up the VIPER for the first time, you are ready to configure your notebook. Consult your system administrator for details.

Restarting VIPER

Restarting a VIPER that has been halted and powered down is a simple procedure:

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

The VIPER 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:

```
VIPER (UltraSPARC-IIIi 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 or press Enter.
5. Type your user password at the password prompt and click OK or press Enter.

Shutting VIPER down

Before turning off your VIPER 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 VIPER.

TADeuts

TADeuts, which is installed with the other system software at the factory, and is also included as a standard component of the installation process when using the VIPER Installation CD, is a power management utility which will automatically close your programs and shut down the operating system safely.

Shutting down with TADeuts

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

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

Shutting down without TADeuts

If you do not have TADeuts installed, please see the section on “TADeuts and Shutdown” on page 100.

Shutting down when closing the cover

The system can be configured to perform a shutdown when VIPER’s cover is closed. For more information on how to configure VIPER in this way, please see the section on “System control dialog” on page 99.

Moving VIPER

If you want to move the VIPER after shutting down, perform the following procedures:

1. Disconnect all cables and connectors (including the AC adapter cable) from the VIPER.
2. Fold the display cover down and close and latch the case.
3. You can now move the VIPER to a new location, reconnect, and restart.

Using VIPER features

This section contains operational tips and other information unique to the VIPER feature set.

For more detailed information on a listed feature, refer to “VIPER Specifications” on page 145.

For a list of pin assignments for VIPER connectors, see “Connector pin assignments” beginning on page 151.

Using the DVD/CD module

The DVD/CD module provides you with the hardware basics to turn your VIPER computer into a fully functioning multimedia computer. Beyond its audio and video capabilities, since many software packages are coming out solely on CD-ROM, the addition of this module provides an easier installation procedure for software applications.

DVD discs can hold up to 4.7GB of data and/or video. CD-ROM discs can hold up to 700MB of data. Because they are randomly accessible, data can be easily organized for quick retrieval during a search.

Systems equipped with the DVD/CD-RW drive can also record, or "burn," CDs, providing a high-capacity backup option.

Precautions to follow when handling DVD/CD-ROM discs

- Always hold the disc by the edges
- Avoid touching the surface of the disc
- Use a clean, dry, cloth to remove dust, smudges, or fingerprints
- Wipe from the center outward
- Do not write on the bottom surface of the disc
- Extremes in temperature may damage discs
- Store discs in a cool dry place
- Do not use benzene, thinners, or cleaners
- Do not bend or drop the discs
- Do not place objects on top of discs
- Do not insert any foreign objects into the disc tray
- Do not force the tray to open or close manually
- When not in use, keep the tray closed to prevent dust or dirt from entering the drive unit

Loading a disc

To play a DVD/CD disc, follow the instructions listed below.

1. Press the eject button on the front panel. The tray ejects from the drive.

Figure 3-6: Ejected DVD/CD tray

2. Place the disc into the tray with the disc's label facing up. Make sure the center hole in the disc is firmly latched over the hub on the drive.
3. Push the tray back into the drive.

NOTE: The eject button on the front panel will not eject the disc if it is mounted. You must use the `umount` and `eject` commands, or use the Solaris File Manager to eject the disc in that case.

Using PCMCIA/CardBus cards

Your VIPER computer features one PCMCIA/CardBus expansion socket designed to interface with either a Type I or Type II PC card. This sophisticated innovation allows you to expand and customize your VIPER computer to meet a wide range of computing needs without sacrificing portability. PC cards accommodate a number of expansion options. Memory cards, MODEMs, hard disks, SCSI adapter, and network (LAN) adapters are just a small sample of the PC card products available on today's market.

Most PC cards are plug-and-play devices, i.e., they can be inserted into the PCMCIA/CardBus expansion sockets while the computer is powered on. However, this type of hot insertion does not apply to all PC cards. Refer to the documentation that came with your PC card for detailed information on insertion and operation of PC cards.

Extended PC cards

An extended PC Card is longer than a standard PC Card. When using extended PC Cards, follow these precautions:

- Protect the exposed end of an installed card. If the end of the card is struck, the system board may be damaged.
- Always remove an extended PC Card before packing your notebook in its carry case.

Figure 3-7: PCMCIA/CardBus slot

Inserting PC card

Please refer to Figure 3-6 and the following instructions for inserting and ejecting a PCMCIA/CardBus card:

1. Locate the PCMCIA/CardBus eject button. The push-button latch may need to be in before inserting the card.
2. Hold the PCMCIA/CardBus card with the arrow side up and the connector side toward the socket.
3. Align the card connectors with the appropriate socket and carefully slide the card into the socket until it locks into place.
4. If you encounter too much resistance, do not force the card. Check the card orientation and try again.

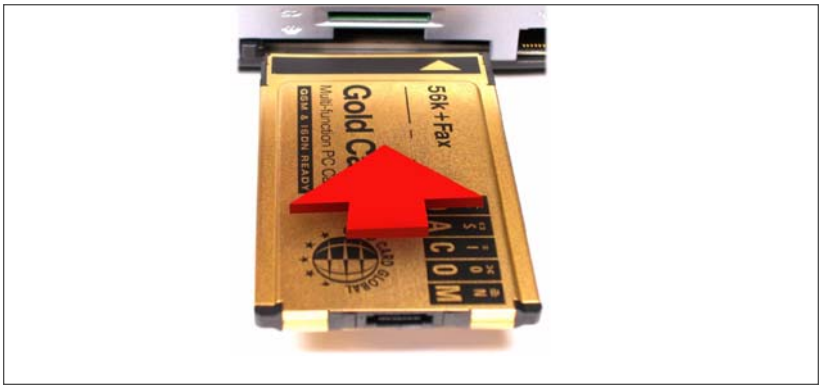


Figure 3-8: Inserting a PC card

Removing a PC card

Before ejecting a PC card, ensure that it is not being accessed by the system. Memory card users must never change a card's write protect switch while the card is inserted into a PCMCIA/CardBus socket. To change the switch setting, (a) eject the card, (b) change the switch setting, and (c) re-insert the card.

CAUTION: Never try to remove a PC card by pulling on its cable, if one is attached.

1. Remove any cable attached to the PC card
2. Locate the PCMCIA/CardBus eject button.
3. To remove a PC card simply push the eject button once; the eject button pops out.

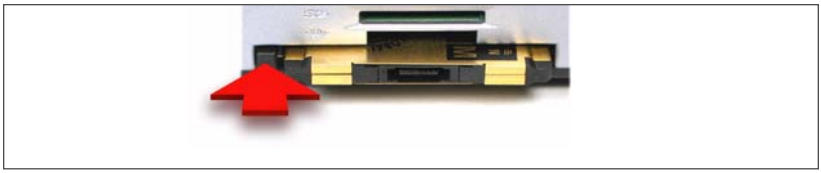


Figure 3-9: Releasing the PC card eject button

4. Push the button again to eject the PC card. Remove the card and store it properly. (Note that the eject button must be pushed all the way in to stay in.)

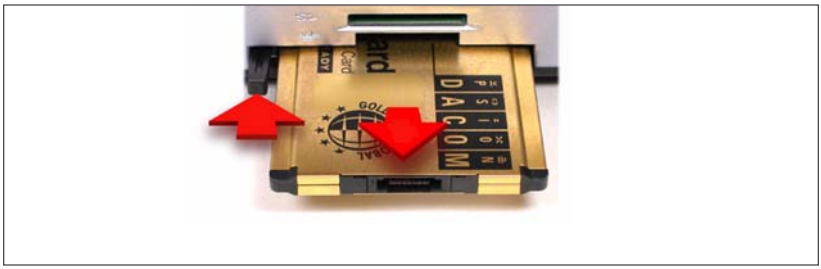


Figure 3-10: Removing the PC card

Using Memory Stick cards (*Not supported*)

This computer has a Memory Stick socket. It can be used for transferring information from other peripherals such as digital cameras or PDAs. It can also be found in many other electronic devices including: electronic musical instruments, voice recorders, scanners and e-book readers.

Figure 3-11: Memory Stick slot

Inserting a Memory Stick

To insert a Memory Stick, make sure the socket does not already contain one and then follow these steps:

1. Put the card right side up, making sure the notched corner is closest to the socket and on the right-hand side.
2. Insert the card fully until it locks into place. You will feel a slight click. You may then release pressure on the card and it will stay fully inserted in the socket.

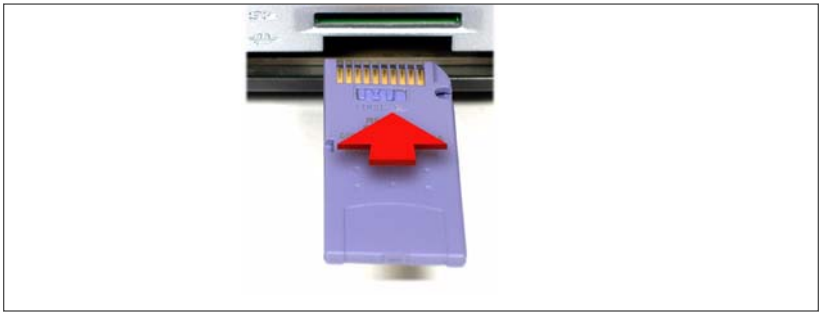


Figure 3-12: Inserting a Memory Stick card

NOTE: If Solaris doesn't recognize the Memory Stick, try removing the card and reinserting it again. The Memory Stick LED may be lit even when the system is not accessing the Memory Stick.

Removing a Memory Stick

To remove a Memory Stick, follow these steps:

1. Right-click on the card in the File Manager window and select the eject option.
2. Push the card in and then let go. When you push the already inserted card fully into the socket, you will feel a slight click as the card is unlocked. When you remove your finger, the card will be ejected.

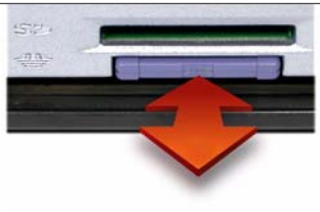


Figure 3-13: Releasing a Memory Stick card

3. Remove the card, being careful not to bend it.

Figure 3-14: Removing a Memory Stick card

NOTE: Don't remove the card while it is being accessed or you will loose data. Wait until the Memory Stick LED goes out.

NOTE: When the screen displays "Copying..." data is being written to the Memory Stick and care should be taken to wait until the operating system has finished accessing the card. You may wait another 15 seconds for the process to complete.

General Memory Stick tips

- Do not remove the while the LED is on
- Only format the Memory Stick with the device it came from
- When removing the card please pull it out completely; do not leave it partially inserted
- Please format the Memory Stick before use

Using Secure Digital cards (*Not supported*)

This computer has a Secure Digital memory card socket. It can be used for transferring information from other peripherals such as digital cameras or PDAs. It can also be found in many other electronic devices including: electronic musical instruments, voice recorders, scanners and e-book readers.

Figure 3-15: Secure Digital slot

Inserting a Secure Digital card

To insert a Secure Digital card, make sure the socket does not already contain a Secure Digital card and then follow these steps:

1. Put the card right side up, making sure the notched corner is closest to the socket and on the right-hand side.
2. Insert the card fully until it locks into place. You will feel a slight click and when you remove you finger the card will stay fully inserted in the socket.

Figure 3-16: Inserting a Secure Digital card

NOTE: If Solaris doesn't recognize the Secure Digital card, try removing the card and reinserting it again. The Secure Digital LED may be lit even when the system is not accessing the Secure Digital card.

Removing a Secure Digital card

To remove a Secure Digital card, follow these steps:

1. Right-click on the card in the File Manager window and select the eject option..
2. Push the card in and then let go. When you push the already inserted card fully into the socket, you will feel a slight click as the card is unlocked. When you remove your finger, the card will be ejected.

Figure 3-17: Releasing a Secure Digital card

3. Remove the card, being careful not to bend it.

Figure 3-18: Removing a Secure Digital card

NOTE: Don't remove the card while it is being accessed or you will loose data. Wait until the Secure Digital LED goes out.

NOTE: When the screen displays "Copying..." data is being written to the Secure Digital card and care should be taken to wait until the operating system has finished accessing the card. You may wait another 15 seconds for the process to complete.

General Secure Digital Card tips

- Do not remove the Secure Digital card while the LED is on
- Only format the Secure Digital card with the device it came from
- When removing the card please pull it out completely; do not leave it partially inserted
- Please format the Secure Digital card before use

Using the USB port

The VIPER is equipped with three Universal Serial Bus (USB) connectors. The USB connectors and their supporting circuitry were designed in full compliance with the Universal Serial Bus Specification 2.0, and offer additional performance improvements over the 1.x spec while remaining compatible with 1.x devices. Any Sun/Solaris compatible device that uses this standard can be connected to this port.

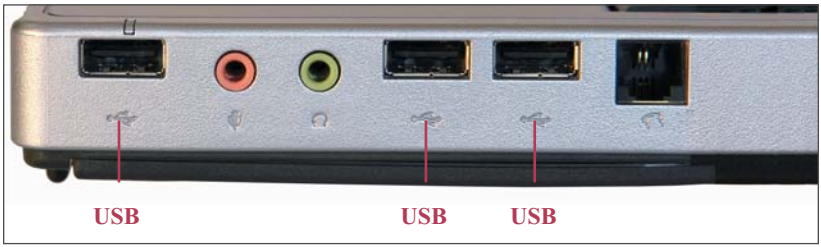


Figure 3-19: USB port connectors

Using the Ethernet port

To connect the VIPER to an Ethernet network:

1. Set it on a work surface near the Ethernet twisted-pair cable or transceiver/MAU.
2. Attach a twisted-pair cable to the VIPER 's Gigabit Ethernet LAN port, which is `bge0`.

Figure 3-20: RJ-45 Ethernet port

Using the Wireless LAN

Wireless networking is supported in VIPER. To configure and activate wireless networking, you need:

- A unique TCP/IP address (or enterprise DHCP support)
- The Service Set Identification ("SSID", which is sometimes referred to as a "wireless network name")
- A channel number (values vary by country; for the United States they are 1–11)
- A Wired-Equivalent Privacy security key ("WEP" hex key specific to your network) if your wireless network requires it

The `wifitool` and `wificonfig` commands mentioned in the following pages are used to configure the link layer - the logical equivalent of plugging a network cable in. Whereas with a network cable the only configuration choice is typically which port to plug it into, with wireless networking the options are somewhat more complex, but logically the steps are equivalent.

Standard Solaris commands can then be used to configure the network layer interface (ipw0) after the link layer is configured.

GUI Link Layer Configuration

Double-clicking on the "wifitool" icon or issuing the following command (as root):

```
/usr/sbin/wifitool
```

...will launch the wifitool GUI tool, a graphic user-interface to configure the link layer for the wireless network.

Additionally, when using the wifitool you can save the configuration to /etc/TAD,wifi/ipw0.cfg (the default location) using the `File->Save` menu. This allows the configuration to be remembered and reused the next time the machine reboots. You may also reload specific saved configurations using the `File->Load` menu.

Command Line Link Layer Configuration

The following command can be used (instead of using the GUI interface described above) to configure the link layer for the wireless LAN:

```
wificonfig -N settings ipw0
```

...where "s*ettings*" is a comma-delimited list of the following attributes:

adhoc=[0 | 1]	0 means infrastructure mode, 1 means adhoc mode
ssid=*ssid*	The SSID to connect to (sometimes referred to as the Network Name)
channel=*channel*	The channel to use, only used in adhoc mode (a number between 1 & 14, inclusive)
wep_key_0=*wep_key*	The hexadecimal key to use for WEP (either 10 or 26 hex digits for 40 or 128 bit encryption, respectively)
wep_enable=[0 | 1]	Enables or disables the use of WEP (0 = disable, 1 = enable)
wep_mandatory=[0 | 1]	Makes WEP mandatory if 1, 0 means WEP is optional
authentication=[1 | 2]	Sets authentication mode, 1 = open system, 2 = shared key

Command Line Link Layer Configuration Example

The following is an an example to use the network SSID "my_net" with WEP and shared key enabled, using the 40-bit key 0123456789, in infrastructure mode:

```
wificonfig -N \
adhoc=0,ssid=my_net,wep_key_0=0123456789,wep_e
nable=1,wep_mandatory=1,authentication=2 ipw0
```

NOTE: Please note the continuation backslash in red in the example above, as the entire command would be on one line

Network Layer Configuration

Once the link layer has been configured, the following command can be used to configure the network layer for the wireless LAN:

```
ifconfig ipw0 plumb
ifconfig ipw0 tcp-ip_address up
```

NOTE: You may also use "ifconfig ipw0 dhcp start" instead of "ifconfig ipw0 *tcp-ip-address* up", by referencing your Solaris system administration guide for TCP/IP address configuration. This commmand allows you to get your IP address and configuration via DHCP.

This documentation may be found online by using the following url: "http://docs.sun.com/db/doc/806-4075."

Using the Serial port

VIPER has an RJ-12 port on the right side for a single serial port.

To use your serial port:

1. Shut down the VIPER according to the instructions in "Shutting VIPER down" on page 33.
2. Make sure the serial device you will be connecting to it is also off.
3. Connect a serial device to the RJ-12 connector and power up VIPER and the serial device.

Figure 3-21: Serial port

Using the Parallel port

The VIPER back panel has a 25-pin parallel port connector.

To use your parallel ports:

1. Shut down the VIPER according to the instructions in "Shutting VIPER down" on page 33.
2. Make sure the parallel device you will be connecting to it is also off.
3. Connect a parallel device to the 25-pin connector and power up VIPER and the parallel device.

Figure 3-22: Parallel port

Integrated keyboard

Your VIPER computer features a low-profile 87 key enhanced keyboard that emulates all the functions of a full-size 101/102 key keyboard including an embedded keypad and a full array of special function keys. This section covers the VIPER 's keyboard, and identifies several keys that are commonly used when working with either the Operating System or other software.

Figure 3-23: Integrated keyboard layout

The alphanumeric keys located on the keyboard are in the same position as those found on a standard typewriter. The usage of these keys is straightforward. There are some keys such as the 12 Function keys, Scroll Lock, Print Screen, etc., whose functions may be unfamiliar to you. This section identifies some of these keys and discusses their functions when used with either the Operating System Software or other application software, such as word processors, spread sheet applications, or database management programs.

Special keys

Refer to Figure 3-20 for the locations of the keys described in this section.

[Esc]

The Escape key allows you to cancel any specific command you may have just keyed in. For example, if you mistakenly hit the function key, [F1], in your word processor or spread sheet program, but want to "cancel" the command so that the computer will ignore the function key, just press [Esc].

[Enter]

While using application software, the purpose of this key is similar to a typewriter's return key, pressing this key will position the blinking cursor to the beginning of the next line on the display screen.

[PrntScrn/SysRq]

Pressing this key will cause whatever is on the screen at the time to be printed. Note that in some software programs this key may be used in conjunction with other keys for other specific functions.

Consult your software user's manual for more information.

[Num Lk/Scroll Lk]

When Scroll Lock is engaged, pressing the cursor control keys moves the cursor by fields of text. Press the [Fn] + [Num Lk/Scroll Lk] keys to engage this mode. Pressing these keys again will disengage the Scroll Lock function.

[Caps Lock]

The [Caps Lock] key corresponds to a typewriter's Shift Lock key, but it only affects letter keys. The number keys and function keys are not affected. Even with the [Caps Lock] key engaged, if you want to generate the symbols and punctuation marks above the number keys, you must still use the [Shift] key. Note that when the [Caps Lock] key is engaged, the Caps Lock indicator comes on.

[Shift]

Similar to the typewriter's Shift key, this key allows you to type letters in “UPPER CASE.”

Modifier keys

The following keys only function when used in conjunction with other keys.

[Pause/Break]

The Break key is used in conjunction with the Control key ([Ctrl] + [Pause/Break]) to cancel a command.

[Fn]

Pressing this key engages the alternate function (labeled in blue) on selected keys. For example, simultaneously pressing the [Fn] + [F2] keys decreases the display brightness.

[♦]

Refer to the user's manual of the software you are using for details on how to use the ♦ key.

[Ctrl]

Refer to the user's manual of the software you are using for details on how to use the Ctrl key.

[Alt]

Refer to the user's guide of the software you are using for more details on how to use Alt key.

[Alt/Graph]

Refer to the user's guide of the software you are using for specific details on how to use the Alt/Graph key.

[Compose]

The Compose key may be used in conjunction with other keys for generating foreign language characters.

Refer to the user's guide of the software you are using for more details on how to use this key.

Cursor control and editing keys

The keys listed in this section are specifically used to move the cursor on the display. When used in combination with other keys, these cursor control keys provide some very powerful editing functions.

The cursor's location indicates where you can type text on the screen. Having the ability to quickly move the cursor around the screen while editing text will significantly improve your efficiency.

The importance of these Cursor Control keys is more apparent when using application software such as word processors, spread sheet applications, and databases. In addition, while using your operating system software (OS), several of these keys play an important role in moving the cursor or editing.

Refer to your software manuals for details on how to use these keys.

Left and Right Arrow Keys

Pressing either of these keys will move the cursor one character at a time in the direction shown on the arrow key.

Up and Down Arrow Keys

Pressing either of these keys will move the cursor one line at a time in the direction shown on the arrow key.

[Page Up] or [Page Dn]

These keys allow you to quickly move the cursor on the screen page by page, or window by window, depending on the software you are using.

[Home]

Refer to your application software manual to find out how your software specifically uses the [Home] key to quickly move the cursor to either the beginning of a document or the beginning of a line.

[End]

Refer to your application software manual to find out how to use the End key to quickly move the cursor to the end of a line or to the end of a document.

[Insert]

The Insert key is used mainly for editing. It enables you to insert characters within the text while interacting with the OS. Some applications, however, automatically insert text while within a document, so depending upon the software you are using you may or may not need to use this key. In some applications, Insert is a toggle – alternating between character insert and character overtype.

[Delete]

This key is used for editing text at either the OS command prompt or the text within a document. Pressing the Delete key will remove any characters to the right of the cursor and then pull from the right the remaining typed characters.

[Back Space]

While within a document, the Back Space Key allows you to move the cursor to the left and simultaneously erase characters in its path. Note that this is different from the left arrow key, which will not erase any typed characters.

Function keys

Notice the twelve function keys at the top of the keyboard. These keys appear in sequence ([F1], [F2], [F3], . . . [F11], [F12]) from left to right. The functions these keys perform vary with respect to the operating system and software in use.

Refer to the appropriate software user's guides for more detailed information on function key definitions.

Common keyboard combinations

The following table lists commonly used keyboard combinations for the VIPER computer.

Key Combinations	Definitions
	Increases audio volume
	Decreases audio volume
	Mutes audio volume
	Increases display brightness
	Decreases display brightness
	Num lock
	Scroll lock

When using an external keyboard, the Fn key can be simulated by pressing the left-Ctrl + left-Alt keys.

Easy buttons

The Easy buttons are not currently supported.

Figure 3-24: Easy Buttons

The Touch Pad

The touch pad is a touch-sensitive pointing device that provides all the features of a mouse. Please refer to Figure 3-25 and the following explanation for the touch pad's operating instructions.

Figure 3-25: The Touch Pad

Using the Touch Pad

1. Place your fingers on the keyboard in the normal typing position.
2. The touch pad is easily accessible by moving either your left or right thumb off the space bar and on to the touch pad.
3. Gently move your thumb across the touch pad in the direction you want the cursor to move. The pad detects the change in pressure and moves the cursor in the corresponding direction.
4. With a conventional mouse, selections are usually made by double-clicking the mouse's left button. The touch pad also supports this feature. It is described in detail below. If you are familiar with the operations of a mouse you may only need to scan the information below as a review. The touch pad buttons have essentially the same function as mouse buttons. Clicking these buttons makes selections, drags objects, or performs a variety of other functions depending on the software. To select an object, first move the pointer over the object you want to select, and then press the lower button one time and release it. The functionality of these buttons depends on your software. Refer to your software user's manuals for specific information on the touch pad (mouse) functions.

Middle Button

The middle button is needed by Solaris applications like the terminal emulator to copy/paste. Operating the button in any direction acts like a normal middle mouse button on a mouse.

Double-clicking

Double-clicking is a common technique for selecting objects or launching programs from icons. Move the pointer over the object you wish to select, then rapidly press the left button two times. This action is commonly referred to as “double-clicking on an object.”

Double-tapping

Double-tapping is another technique for selecting objects or executing applications from icons. For the most part double-tapping is very similar to the double-clicking technique of a mouse. The difference is that instead of double-clicking on a mouse button, you double-tap on the pressure sensitive touch pad to make the selection. Once the cursor has been moved to the object you want to select, lightly double-tap the pressure sensitive touch pad itself. This double-tapping will select the desired item and prompt the software to perform the related operation.

Single-tapping

Many of the functions within the OS can also be launched by using Single-tapping. Once the cursor has been moved to the object you want to select, lightly single-tap on the pressure sensitive touch pad. This single- tapping will select the desired item and prompt the software to perform the related operation.

Dragging

When working with programs that employ a graphical user interface (GUI), dragging objects from one point on the screen to another is a technique you will have to master. To drag an object, first move the pointer over the object, then press and hold down the left button. Now without releasing the button, move the object to a new location on the screen by moving your finger across the touch pad. Once the object is in the desired position, release the button to drop the object in place.

Multimedia sound system

The VIPER 's built-in audio capabilities allow you to take advantage of a wide range of education and entertainment multimedia software available on today's growing market without the additional costs of add-on cards and peripheral hardware. The multimedia sound system features a sophisticated on-board FM sound generator that produces realistic music in 16-bit stereo.

The integrated stereo speakers are located on the interior top sides of the VIPER, above the keyboard. The left speaker is shown in the illustration below.

Figure 3-26: Left (channel) stereo speaker

VIPER comes equipped with a built-in microphone for audio and music recordings, as is shown in the illustration below.

Figure 3-27: Built-in microphone

Audio connection options

An external microphone can be connected to the microphone jack. External speakers or headphones can be connected to the VIPER 's Headphone/Line-out jack. These ports are located on the front right-hand side as shown in Figure 3-28 below.

Figure 3-28: Microphone and Headphone ports

WARNING: The Audio jacks are three-terminal stereo jacks. They are not compatible with two-terminal mono plugs. Connecting a mono plug into the Speaker Out jack, may damage the VIPER.

All audio features are software controlled. The master volume is both hardware and software controlled.

Audio volume control

The following hot key combinations control audio output volume:

Key Combinations	Definitions
	Increases audio volume
	Decreases audio volume
	Mutes audio volume

Recording with an external microphone

To use an external microphone to record:

1. Make sure the microphone is plugged into the microphone jack on your VIPER (see Figure 3-28).
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 VIPER.

Using an external display

To connect an external monitor:

1. Shut down the VIPER according to the instructions in "Shutting VIPER down" on page 33.
2. Connect the cable from the monitor to the VIPER 's external 15-pin VGA video port.

Figure 3-29: External monitor port

When you start your notebook with an external display device, such as an external monitor or projector, attached and turned on, the image may appear on either the display or the external device.

NOTE: Appendix B, "External Monitor Matrix," provides more information about using and configuring various LCD/external monitor combinations.

Using an external keyboard or pointing device

To use an external keyboard or pointing device:

1. Simply connect the keyboard or pointing device to the PS2 port on the back panel. You do not need to power down your VIPER before connecting or disconnecting these devices when using the PS2 ports on the back panel as shown in Figure 3-30.

Figure 3-30: PS2 (keyboard/mouse) ports on back panel

NOTE: OpenBoot (the "ok" prompt) can only recognize a single keyboard. It will select a USB keyboard by default, if one is present when the system first powers up. Solaris does not have this limitation, and can use a USB keyboard, PS/2 keyboard, or the internal keyboard, even at the same time.

System status indicator LEDs

The VIPER includes 6 System Status indicator LEDs, located on the lower left portion of the display and the upper left portion of the keyboard (See Figures 3-31 and 3-32.)

These indicators inform you of the VIPER 's current operating status at a glance.

Status lights on the front panel

The different LED indicators on the front panel of the computer display conditions for:

1	System Mode (Green for DC connected)
2	Battery power (Steady Green for fully charged, Flashing Green for charging in progress, Amber for running off battery with greater than 10% charge remaining, Steady Red for 5% – 10% capacity remaining, Flashing Red for less than 5% capacity remaining)
3	Hard drive access

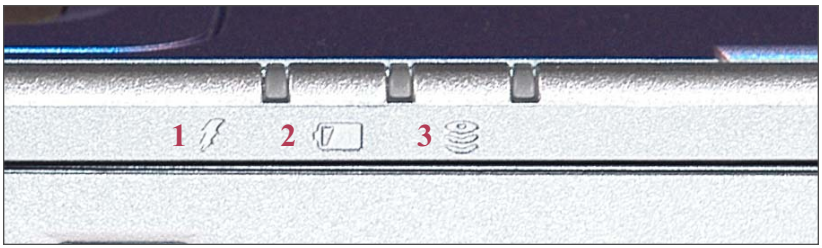


Figure 3-31: System status LEDs on the front panel

Status lights above the keyboard

The different LED indicators on the front panel of the computer display conditions for:

1	Indicates the uppercase letter function is enabled/disabled (Caps lock)
2	Indicates the numeric keypad is enabled/disabled (Number lock)
3	Indicates the scroll lock function is enabled/disabled (Scroll lock)

Figure 3-32: System status LEDs above the keyboard

Chapter 4
Maintaining VIPER

Overview

It is important to maintain the VIPER. This chapter provides information for cleaning, packing, and storing the notebook, and battery maintenance. This chapter also provides information about hardware upgrade options and procedures for the internal hard disk drive and memory.

Maintaining VIPER

Cautions

WARNING: Any service and upgrades to the VIPER 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 VIPER, and void your warranty.

WARNUNG: Das Offnen des Gehauses zum Zwecke der Reparatur oder zum Wechseln/Hinzufugen von Modulen darf nur von einem qualifizierten Servicetechniker durchgefuhrt werden. Es besteht Gefahr durch Elektroschock. Durch unsachgemasse Behandlung kann ihre VIPER Notebook beschadigt werden, ausserdem erlischt dadurch die Garantie.

CAUTION: Changes or modifications to the VIPER not expressly approved by Tadpole could void your authority to operate VIPER.

If the product does not operate normally, adjust only those controls that are covered by the operating instructions. Unplug the VIPER 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 notebook or it has been exposed to rain or water.
- If the notebook has been dropped or the case has been damaged.
- If the notebook exhibits a distinct change in performance for the worse.
- If the display is cracked.

Removing the main system cover

CAUTION: 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 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. (Apres le couverde a encleve, visse le couverde en place et remettre le cordon d'alimentation.)

Cleaning VIPER

As a portable notebook, the VIPER may collect dust and dirt, requiring occasional cleaning.

To clean the VIPER:

1. Shut down the VIPER according to the instructions in "Shutting VIPER down" on page 33.
2. Unplug the AC adapter/charger and remove the battery from the system before cleaning.
3. Once the VIPER 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 VIPER. 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 VIPER. Such cleaners will damage the case's finish.

6. Do not use liquid cleaners on the interior of the VIPER. 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 VIPER for shipment:

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

CAUTION: Damage caused by shipping the VIPER notebook in containers other than the original shipping container is not covered by the warranty. Keep and use the original shipping container.

NOTE: If the original materials are unavailable, contact Tadpole customer service for a new container. The original shipping containers are specifically designed for the VIPER notebook.

5. Ship with any commercial carrier.

Storage

If you intend to store the VIPER 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 (see "Battery maintenance" on page 87). Do not store the VIPER for extended periods with the battery installed.
3. Disconnect all cables and pack the VIPER as described in "Packing and shipping" on the prior page.

Unpacking from storage

When you want to start using the VIPER again:

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

Low battery shutdown

The VIPER '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 1 hour, depending on the type and number of processes you are performing.

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

As battery power decreases, the VIPER performs a sequence of events, described on the next page. During this sequence, the VIPER 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.

NOTE: The Duration period in the tables on the next page reflects approximate times during typical operating activities and conditions.

Low battery shutdown events

Fully charged battery

Duration:	1-2 hours
System Actions:	None
User Actions:	None required
Front Panel LED:	Steady Green (flashing green indicates battery charging)

Low battery (greater than 10% charge remaining)

Duration:	10 - 15 minutes
System Actions:	Warning message displayed on the Console; audible warning sounds; if CDE is running, PowerTool window pops up, displaying battery capacity
User Actions:	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
Front Panel LED:	Amber

Critical battery (less than 5% charge remaining)

Duration:	2 minutes
System Actions:	Power management daemon starts system shutdown sequence, after which it enters PROM Monitor (OBP)
User Actions:	Solaris shutdown cannot be interrupted; attaching AC adapter will still require you to boot the VIPER after the shutdown.
Front Panel LED:	Flashing Red

Power Shutdown

Duration:	1-2 minutes
System Actions:	System remains in OBP until battery power is exhausted, causing automatic power shutdown.
User Actions:	Connect the AC adapter and reboot the VIPER
Front Panel LED:	Flashing Red

Battery maintenance

When operating the VIPER 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 VIPER quickly and safely, or connect the AC adapter to maintain system operation. The VIPER will continue to remind you about the low battery status if you continue to use battery power.

Refer to "Shutting VIPER down" on page 33 for more information on shutting down the VIPER.

Battery charging

When the AC Adapter is plugged in, the system automatically begins charging the battery. If an over 140º F (60º C) temperature condition occurs while charging the battery, the process will be stopped. If the battery temperature falls below 122º F (50º C), the system will resume the battery charging process.

Swapping batteries

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

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

Replacing batteries

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 with a new one. Replacement batteries can be obtained from a VIPER representative.

CAUTION: Worn batteries should be discarded in accordance with the disposal requirements for your area.

Hardware upgrade options

Internal hard disk

VIPER comes preconfigured from the factory according to the initial order from the user. Hard drives are available from 20 – 80GB in capacity.

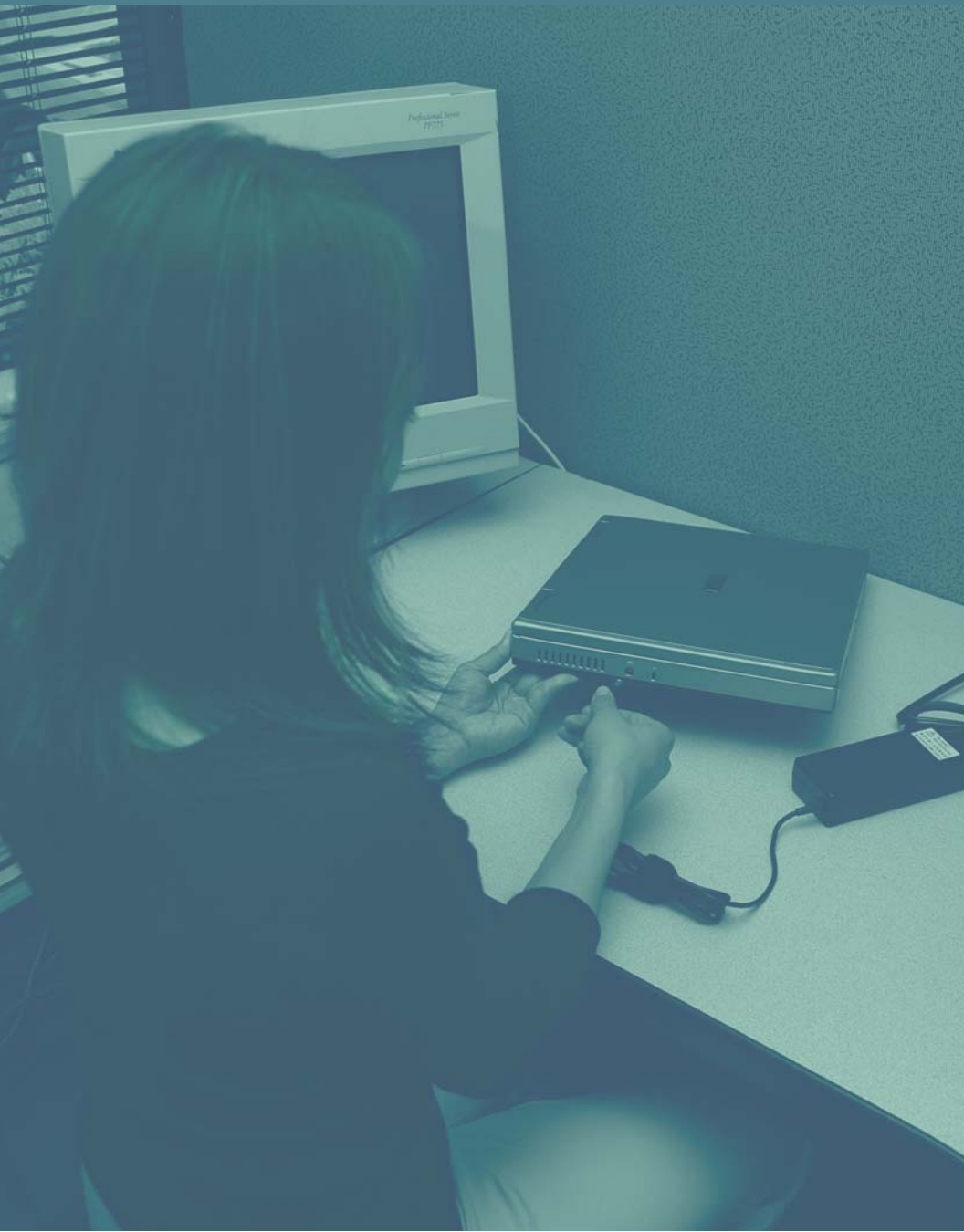
Hard disk upgrades for larger capacity drives may be ordered from Tadpole, and contain the hard drive as well as the necessary installation instructions. Please contact your authorized Tadpole representative for more information.

Memory (RAM)

VIPER comes preconfigured from the factory according to the initial order from the user. VIPER supports from 256MB – 2GB ECC SDRAM.

Memory upgrades may be ordered from Tadpole, and contain the appropriate memory modules and the necessary installation instructions. Please contact your authorized Tadpole representative for more information.

Chapter 5
Power Management



Overview

The VIPER 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.

CAUTION: If power to the VIPER 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 VIPER down" on page 33.

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
- CPU Speed
- Exit Button
- LCD Off Button

Power Source

The Power Source text area shows you whether your VIPER 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**.

Battery Status

The Battery Status text area tells you whether the internal battery is currently **Charging, Discharging,** or **Idle** (fully charged). If a battery is not being discharged or charged, the battery state is shown as **Idle**.

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 VIPER.

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 VIPER is turned off. After fully charging the battery pack, you can operate the VIPER for about 1-2 hours with a single battery, depending on your configuration and applications.

CPU Speed

The CPU Speed Indicator shows the setting for the CPU speed as set under the System Management dialog box.

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.

NOTE: 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.

PowerTool 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 Details dialog box.

System Menu

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

Help Menu

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

Battery Details dialog box

The Battery Details dialog box provides the user with detailed information about the battery such as temperature, current (charge/discharge), and capacity. The Battery Details dialog box also allows the user to check the status of alarms and of the battery.

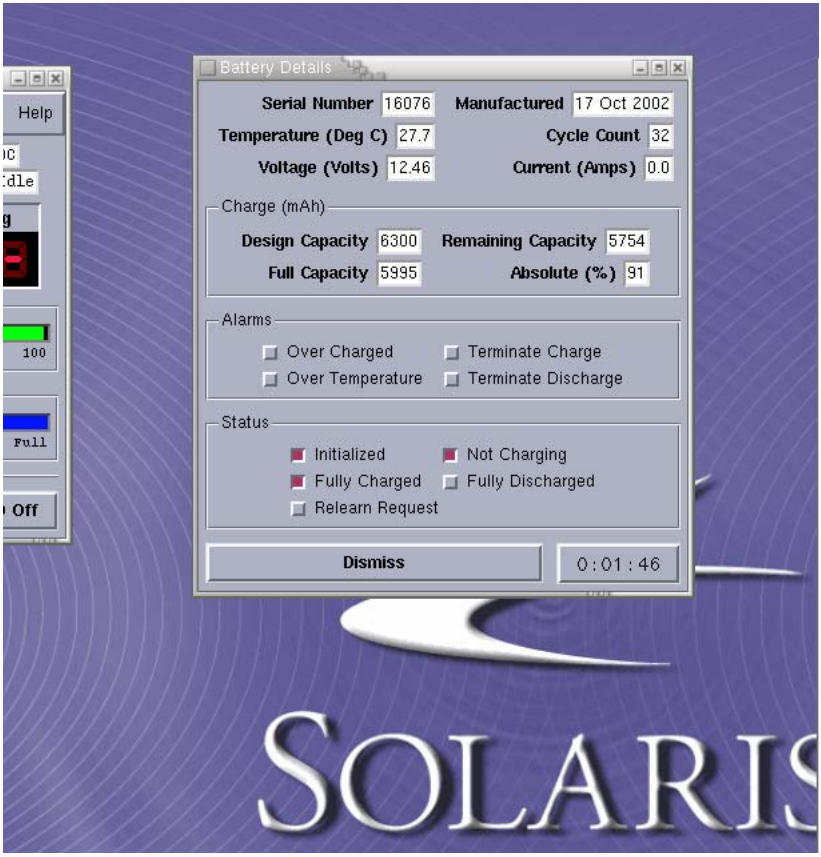


Figure 5-2: Battery Details dialog

System Management dialog box

The System Management dialog box provides the user a high level of customization of system power management. The user can set different CPU speeds for battery versus DC operation. You can also set various options for system behavior when the lid (display) is closed as well as system behavior when the power switch is pressed. The bottom section of the System Management dialog box allows for turning on/off audible warnings.

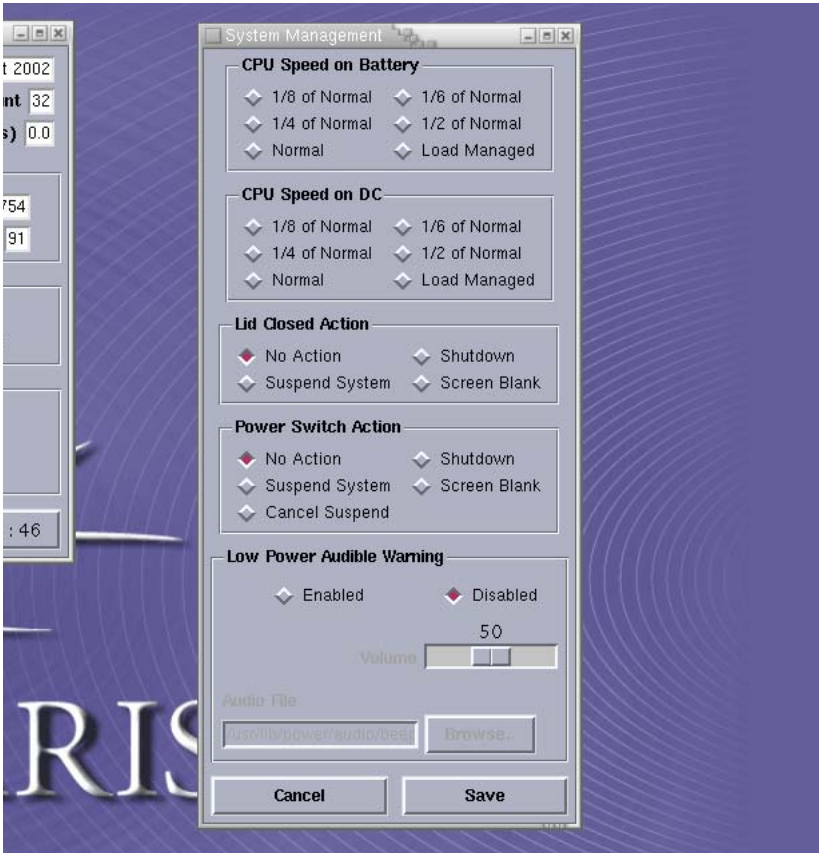


Figure 5-3: System Management dialog

TADcar and shutdown

TADcar is a power management utility which will automatically close your programs and shut down the operating system safely.

If you have reloaded Solaris from a CD other than the VIPER Installation CD, you may need to reload TADcar or manually shut down your programs and operating system each time you are finished for the day.

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

To check if TADcar is installed:

1. At the "#" prompt, type

```
pkginfo | grep TADcar
```

2. If TADcar is present, the following will be displayed:

```
System TADcar Tadpole VIPER Utilities for Solaris x
```

3. If TADcar is not present, the # prompt will return with no response. If this is the case, reinstall TADcar from the VIPER Installation CD, or shutdown without TADcar.

Shutting down without TADcar

To shut down the VIPER without TADcar:

1. Save your work and close any open application or database.
2. At the "#" prompt, type `init 0` to shut down Solaris.
3. Press the power switch.
4. Power down peripherals as needed.

Chapter 6
Changing Locations

Overview

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 Tadpole notebook to existing networks.

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” (Solaris CPR) 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 another whenever you require.

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. Each location has it's own directory and configuration files live below that in the databases directory in the same tree position as they would normally. Configuration files are created when you define a new location and are modified directly when using the GUI tool.

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

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 generally 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 `/etc/locations/init.d`, but using the Locations dialog box does not require that you know where these files are stored.

When you change to another location, the software shuts down the current system services, removes the standard configuration files associated with those services, copies the relevant configuration files from the new location databases directory into the standard place and starts the services associated with the new location. If the given location is a sublocation of the current location, only the services associated with the sublocation are 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 Notebook Tools menu (in GNOME go to Applications->System Tools->Location Tool) or type this command in a terminal window:

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

If you do not have root system administrator privileges, you will see an "access-denied" 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 109 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. After initializing the Locations Tool software, you will be prompted to reboot the system. After initializing and rebooting, the Locations Tool is ready for use. When you next open the Locations Tool, 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 options

- Toolbar 1 (checkbox)
- Balloon Help (checkbox)

Help menu option

- Location Tool Version

Tool bar

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
- Suspend System button: Attempts to Suspend the system when you clicked. If the current location cannot be suspended, clicking this button changes to a location that can be suspended and then performs the Suspend procedure. If there are no suspendable locations, the button is not active. See "Suspendable Locations" on page 115 for more information.

Status bar

The left panel shows the name of the current location in use.

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

The next panel shows the IP address being used 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 your system.

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 while the location change take place. 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.

Sublocations list

Beneath the Locations dialog box's Locations list you will see a sublocation checkbox. Click this if you wish to select or change to a sublocation for the current location.

When the sublocation checkbox is checked, you will see a list that displays all sublocations that were defined for the current location.

Click the name of a sublocation to select it. Double-click the name of a sublocation to switch 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).

Subdivisions are named by the parent location followed by a colon and the sublocation number. Refer to “Defining a new Sublocation” on page 118 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 is active.

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

After you fill out these text areas, click OK to display the Location Configuration dialog box, which you can than use to check and modify the configuration that has just been initialized.

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 Configuration dialog box. This allows you to modify a location you have selected.

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 that location under a different name. You can then modify the new copy of the 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 (using an editor outside of the locations GUI) rather than by using the dialog box.

Exit

Choose Exit to close the Locations dialog box.

Using the Configuration dialog

Use the Configuration dialog 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.

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. Once you have added an IP address you can modify the netmask for that 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.

NIS (YP)

Creates or modifies the appropriate entry or entries normally found in `/etc/defaultdomain` and `/var/yp/binding/domain/ypservers`.

Printers

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

NFS

Creates or modifies the NFS specific entries in `/etc/vfstab`.

NFS Server

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

PPP

Creates or modifies the appropriate entry or entries normally found in the `/etc/ppp` directory.

Action buttons

In addition to the tabs described above, the config dialog box has four “action” buttons at the bottom of the frame:

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.

Click Scripts to open the Location Scripts Editor dialog in order to manually configure the start/stop scripts.

Using the Scripts Editor dialog

You will see this box when you select the Scripts button from the Editor dialog. The scripts are normally managed automatically and a warning dialog is presented the first time you attempt to manually manage scripts for a particular location. Once you select to manage the scripts for a particular location, the Location Tool will no longer automatically change them.

The Location Scripts Editor dialog box shows you the name and description of the location you are managing. The scripts 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.

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

To mark a location as suspendable click the Suspendable checkbox while the item list is blank. To indicate that the system should switch to another location before suspending select the alternate location from the list and then click Suspendable.

The Suspend System button will appear on the Locations dialog box when this location is active and can be suspended so that a single click can suspend the system. `Susploc(1m)` can be invoked from the command line to perform the same task.

Starting and stopping scripts

The Available list shows you all the Solaris operating environment scripts that can be added to start or stop lists.

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 an REM button to remove a script you have selected from a list. 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.

Click an ADD 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 Configuration dialog box, with tabs you can use to define information about the following aspects of this location. See “Using the Configuration dialog” on page 112 for more information.

Defining a new sublocation

A sublocation defines a minor modification to its parent 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 sublocation for the current location.

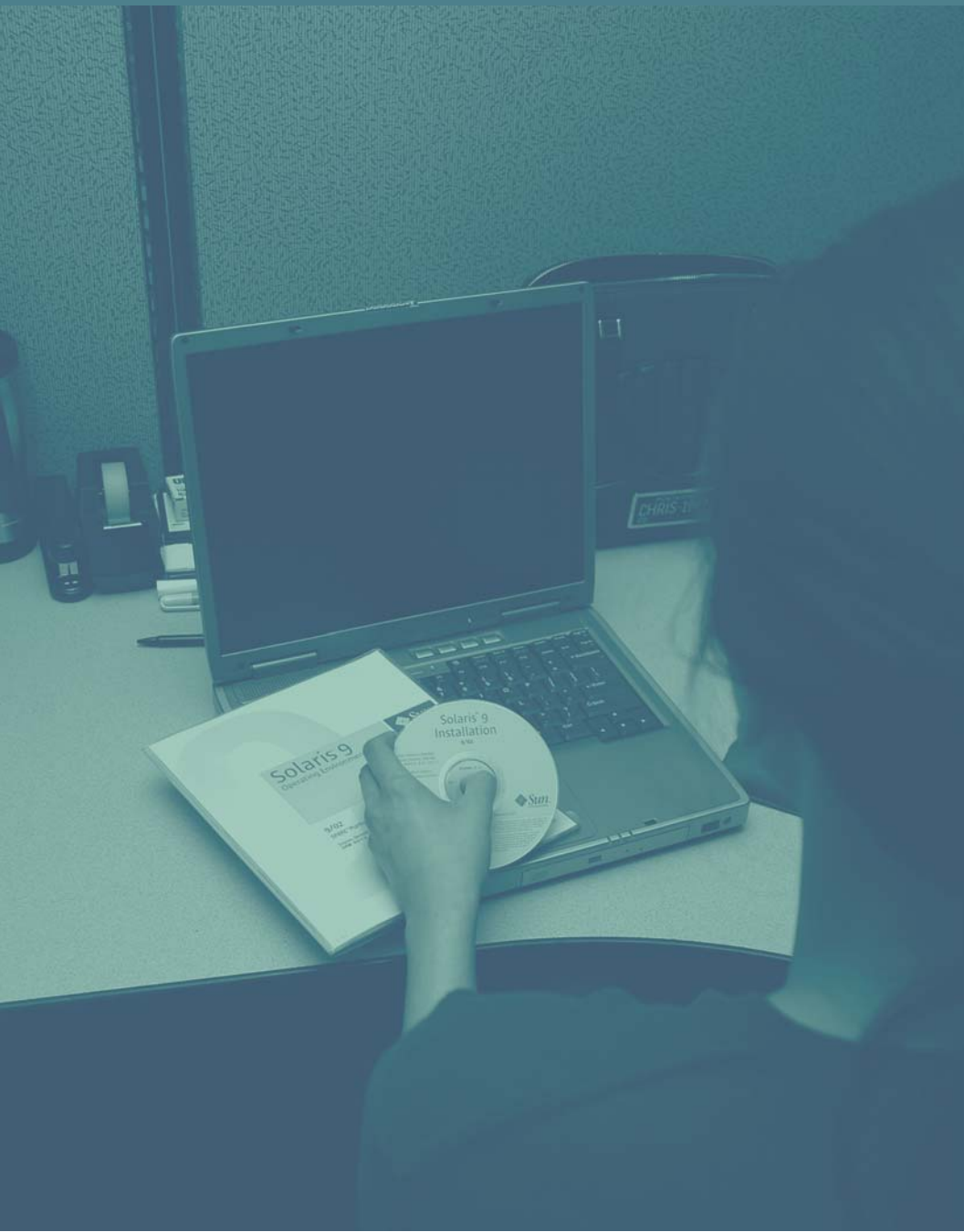
Use the Create a new sublocation dialog box to specify the necessary information about the sublocation you wish to create.

1. Click the Number up and down arrows to specify the sublocation number you want for this Sublocation. All the sublocation of a particular location are numbered and displayed in the Sublocations list of the Location Editor dialog box. See "Sublocations list" on page 108 for information about how to change to a sublocation by double-clicking it from the Sublocations 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 116 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.

Chapter 7
Installing Solaris



Overview

The Sun Solaris™ operating system has been preinstalled on your VIPER, 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.

At any time you may choose to reinstall Solaris on your VIPER, 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 VIPER 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.

Prerequisites

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

- This VIPER *User Guide*.
- The Tadpole Installation Support CD for VIPER
- A backup tape or CD-ROM (or other media) of your data.
- A backup tape or CD-ROM (or other media) 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.

NOTE: 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 VIPER, back it up before beginning this procedure.

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

2. Read the Solaris 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 VIPER 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 VIPER 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 VIPER 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.

NOTE: 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 VIPER 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 VIPER 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 notebook such as your VIPER 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 VIPER 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 VIPER will never be connected to a network via an Ethernet or similar network adapter.
2. Click Next to proceed.

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

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

NOTE: 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 VIPER software.

Since you are installing your VIPER 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
```

NOTE: If you will always be using your VIPER 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 notebook 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 VIPER 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

Internet Protocol version 6 (IPv6) adds increased address space and improves Internet functionality using a simplified header format, support for authentication and privacy, autoconfiguration of address assignments, and enables new quality-of-service capabilities.

During the Solaris installation sequence you will be asked whether you want to enable IPv6.

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

Setting the name server

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

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

NOTE: If you selected any option other than None, your notebook will not boot successfully unless it is attached to the 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 VIPER 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 VIPER is not currently connected to an active network, you may see warning messages such as this:

```
bge0: 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 (an option that Tadpole recommends).

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 VIPER 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 VIPER 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.

NOTE: 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 VIPER 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 VIPER is SPARC-compliant, you can choose any of the Solaris software options presented to you.

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 139, 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.

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 134.

Completing the installation

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

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.

NOTE: 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.

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

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

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

Chapter 8
VIPER Specifications

VIPER Specifications

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	1.2GHz UltraSPARCIIIi
FPU processor	Combined
Memory	256MB to 2GB ECC SDRAM Two slots, PC-133, 144-pin SO-DIMMs
Cache	1 MB 4-way on-chip L2 cache 16KB data and 16KB instruction on CPU chip
Hard drive	20 – 80GB capacity; 13ms average seek time; l9.5mm/2.5" height HDD; PCI Bus Master Enhanced IDE; Ultra DMA66/100
DVD/CD DVD-RW combo drive	Integrated CD-ROM (24x) or CD-RW/DVD combo drive (24x Read, 8x Write CD-RW; 8x DVD) 4x/2x DVD-R Read/Write; 4x/1x DVD-RW Read/Write; 8x DVD-ROM Read; 24x/16x CD-R Read/Write; 10x CD-RW Read/Write; 24x CD-ROM Read; 1x DVD-RAM (4.7GB) Read
PCMCIA/Cardbus	One Type I or Type II
Memory Stick cards	***Not supported***
Secure Digital cards	***Not supported***
Wireless LAN	Integrated 802.11b wireless option

Display	15.0" SXGA+ 1400 x 1050 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	8.36 in (214 mm)
Display width	11.14 in (286 mm)
Display diagonal	15.0 in (358 mm)
Keyboard	87 full-travel keys; Sun Type 5 compatible
Touchpad	Three-button integrated
I/O ports	Gigabit Ethernet via RJ-45 connector
	RJ-12 serial port (300-115.2K baud)
	Centronics-compatible parallel port
	3 USB 2.0 ports
	16-bit audio-out port (48KHz)
	Microphone port
	External video: DB-15 VGA port
	External keyboard: PS2 or USB port
	External mouse: PS2 or USB port

VIPER Specifications

Controls	Power on/off switch
	Display brightness (Fn + Up-Arrow/Down-Arrow keyboard function keys)
Other features	Time-of-day clock with separate battery backup
	Nylon carrying case
Approx. Height	1.8 inches (46 mm)
Approx. Width	13 inches (330 mm)
Approx. Length	10.5 inches (267 mm)
Approx. Volume	0.14 cu. ft. (0.04 cu. m)
Approx. Weight	>7.0 pounds (3.2 kg) fully configured with battery, CD-ROM and one hard disk drive
Environmental Altitude	0 to 10,000 ft. (0 to 3048 m) non-pressurized
Operating temperature	+40 to +104 degrees F (4 to + 40 degrees C)
Storage temperature	- 4 to +140 degrees F (-20 to + 60 degrees C)
Operating humidity	20-80% RH non-condensing: 27C max wet bulb
Storage humidity	93% RH non-condensing: 35C max wet bulb

Battery/power supply	Lithium-Ion battery, 11.1 V nominal, 6.3 Amp-hour capacity
Discharge time	Approximately 1 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
AC adapter/charger	Compact AC-DC auto-sensing power adapter, 90-264 VAC, 47-63Hz
Voltage	100-240 VAC
Frequency	50-60 Hz
Power supply	50 W continuous
DC output	19V DC@4.74A
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, 3 ft (.9m)

Operating Systems	Solaris 8 Operating Environment
	Solaris 9 Operating Environment
Productivity Options	StarOffice 7.0

VIPER Specifications

VIPER Options	Auto/Airline power adapter
	DB-15 to 13W3 video cable adapter
	Carry Case
	Deluxe Carry Case
	Hardside (rugged) Carry Case
	External Floppy Drive
	External CD-ROM
	External CD-RW
	External Keyboard & Mouse
	Country kits (Power cords, Solaris versions)
	Spare battery
	Spare AC Adapter
Safety Compliance	UL 1950
	CSA C22.2 No. 950
	CE
Regulatory Compliance	FCC
	CE (EN50081-1, EN50082-1, IEC 801-2, IEC 801-3, IEC 801-4)
	NOM

Appendix A

Connector Pin Assignments

Overview

This chapter describes the pin assignments for relevant VIPER connectors.

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 A-1 shows the 1/8" male connector.

Pin	Signal
Tip	LEFT CHANNEL
Ring	RIGHT CHANNEL
Shield	GND

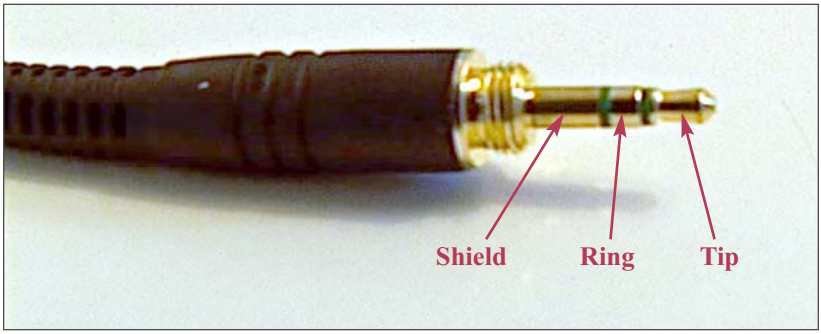


Figure A-1: Audio line -out connector

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 A-2 shows the 1/8" male connector.

Pin	Signal
Tip	LEFT CHANNEL
Ring	RIGHT CHANNEL
Shield	GND

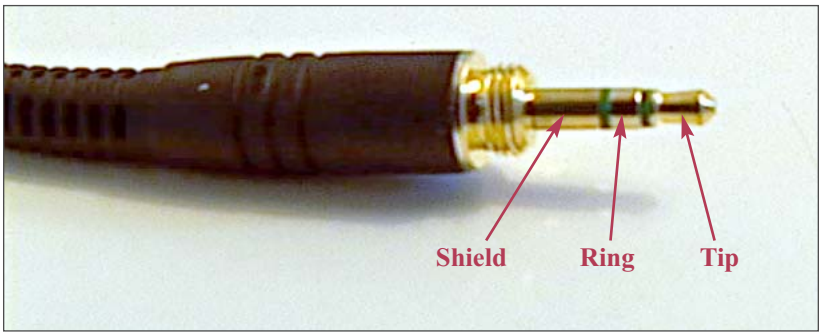


Figure A-2: Microphone connector

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 A-3 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

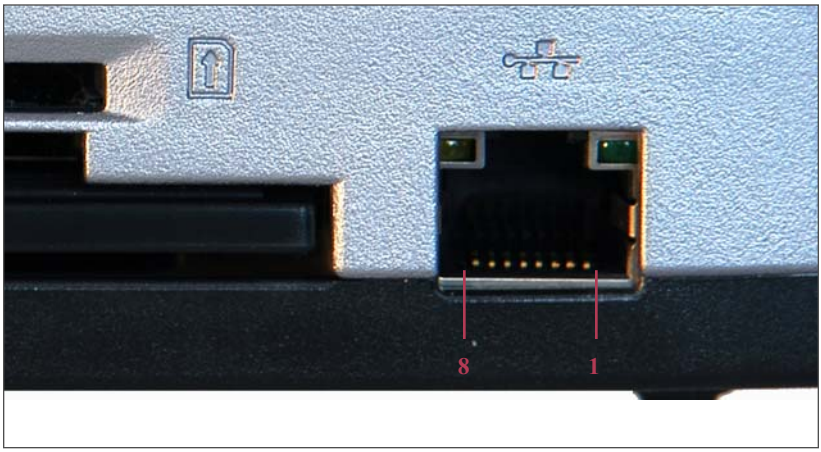


Figure A-3: Ethernet twisted-pair connector

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

Figure A-4: USB port connectors

Serial port connector

The Serial port connector is a female, RJ-12 connector. The following table lists the pin assignments for this connector (as well as if using a DB9 adapter).

RJ-12	DB9	Signal
1	7	RTS
2	3	TXD
3	N/C	GND
4	5	GND
5	2	RXD
6	8	CTS

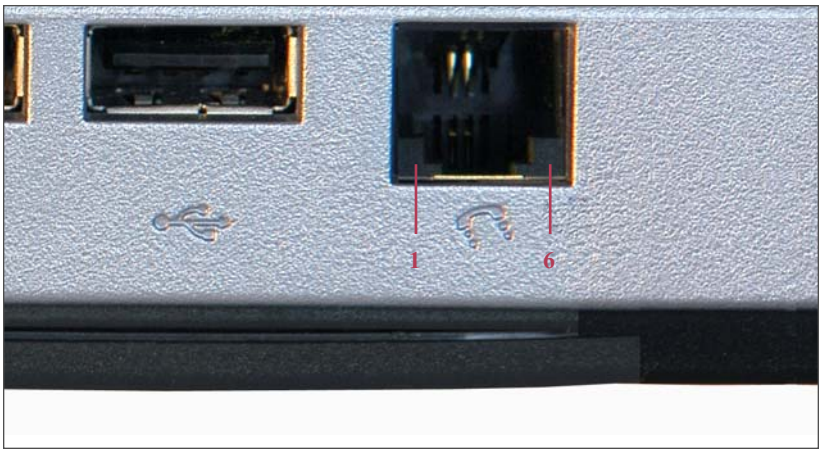


Figure A-5: Serial port connector

Parallel port connector

The Parallel port connector is a female, 25-pin (DB25) connector. The following table lists the pin assignments for this connector. Figure A-6 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>	18-25	GND

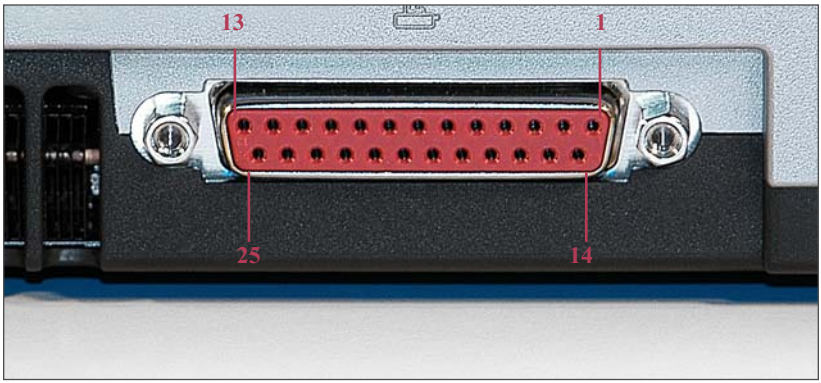


Figure A-6: Parallel port connector

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		

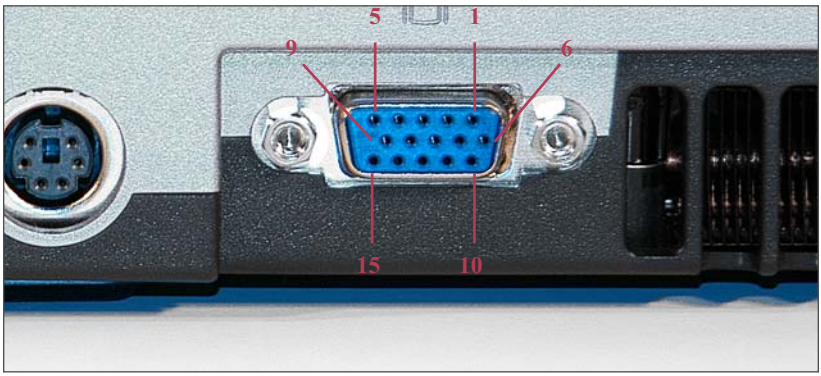


Figure A-7: External monitor connector

DC input connector

The DC input connector provides DC power to the unit. Figure A-9 shows this connector.

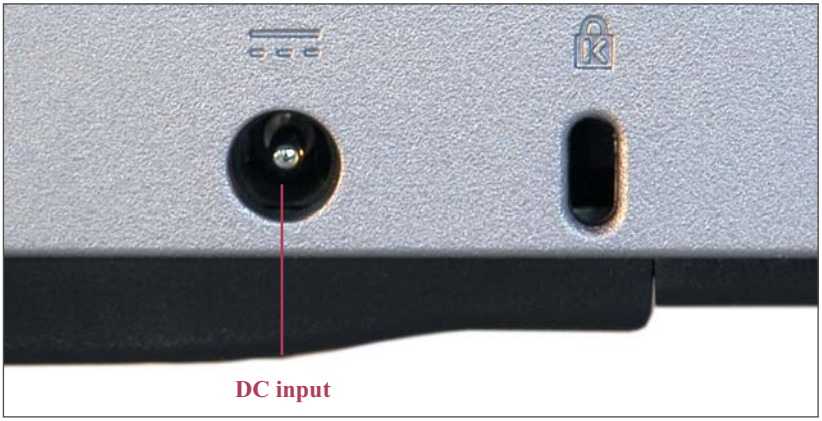


Figure A-8: DC input connector

Appendix B
External Monitor Matrix

Overview

The VIPER 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.

To connect an external monitor, please follow these steps:

1. Turn off the external monitor and your computer.
2. Set the monitor on a monitor stand, desk top, or other level surface near the computer.
3. Connect the external monitor's video cable to the matching video connector at the back of the computer. If the cable is not permanently attached to the monitor, connect it to the monitor also.
4. Tighten all the screws on the monitor cable connector(s) to eliminate RFI radio frequency interference.
5. Connect your external monitor to a grounded electrical outlet.

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

VIPER ATI display controller

The VIPER 's ATI display controller allows it to drive an external monitor. In some combinations, the VIPER can drive both the LCD and an external monitor simultaneously.

This list charts the various combinations and the OBP commands to activate them.

OBP/CDE Command	LCD Resolution	External Monitor
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
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

NOTE: The VIPER 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 notebook will then be in "Open Boot PROM" (OBP) mode.)

2. Execute the OBP commands corresponding to the LCD/monitor settings as listed in the table on the previous page.
3. After entering the command string, type `go` or `boot`, depending on any messages given at the command line.
4. Press **Enter** to resume using the VIPER.

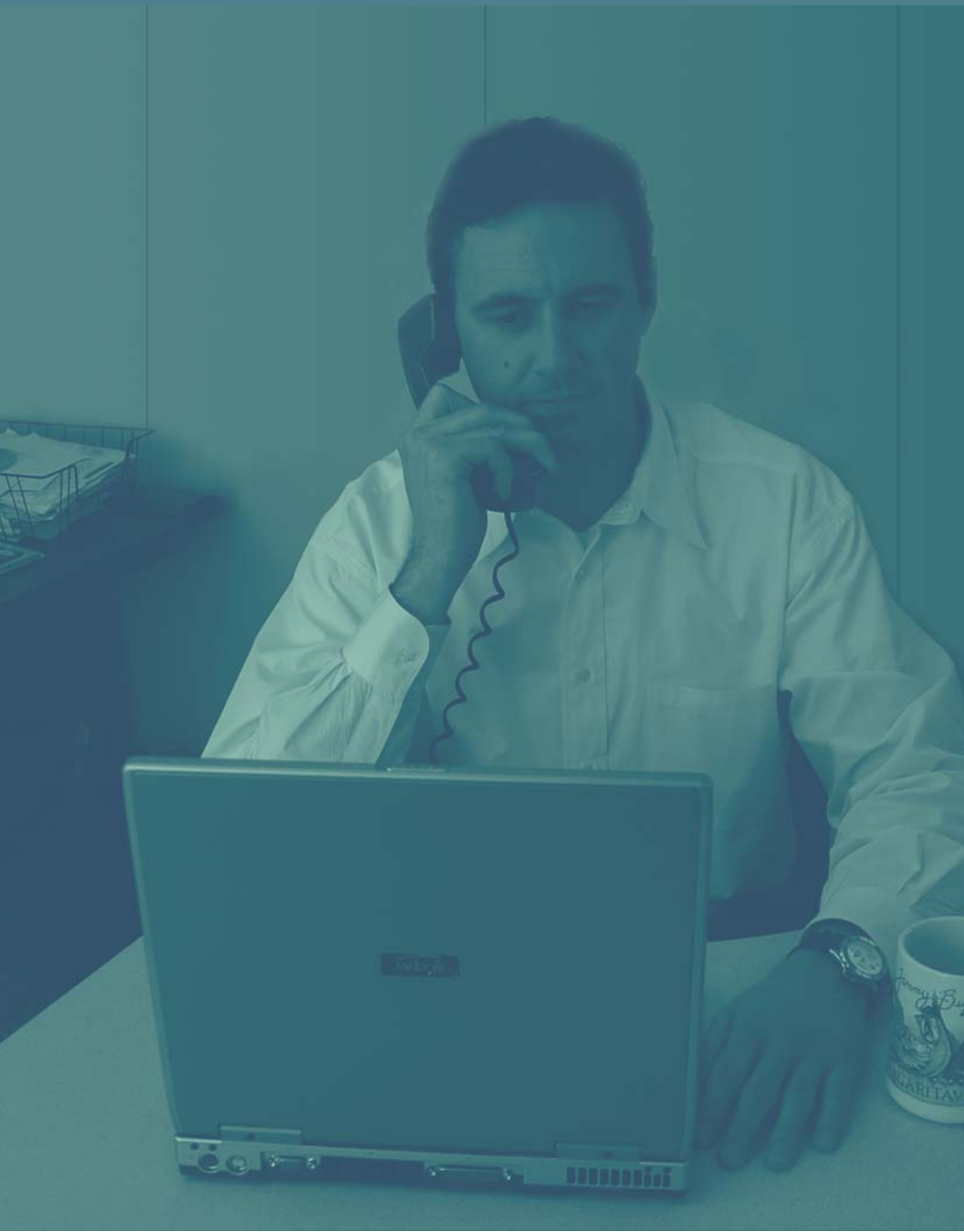
Configuring the display using boot PROM commands

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 VIPER.
2. Power on the system according to the instructions in "Starting VIPER" on page 28.
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.

Appendix C
Troubleshooting



Overview

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.

Starting and booting

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

Make sure that:

- The AC LED on the lower left of the display housing is on after pushing the power button.
- The AC adapter is securely plugged into the VIPER '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 VIPER will not power-up from the battery.

Make sure that:

- The AC LED on the lower left of the display housing is on after pushing the power button.
- The battery is correctly installed in the battery compartment. See Using batteries on page 26 and Battery maintenance on page 87 for more information.
- The battery is fully charged. To be sure, remove the battery and press the QuickCheck button on the top. If the battery 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 carries. No green lights means the battery is not charged.

Symptom: The VIPER 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 VIPER connector.
- The notebook's operating system is correctly configured for the network, if this is a new network node.

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

If the hard drive LED :

- Does not display, indicating a hard disk problem exists, contact Tadpole Customer Service and Support.
- Displays, but the VIPER 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 VIPER fails to boot, boot from the CD-ROM for further diagnostics.

Symptom: The VIPER 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 VIPER 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 2 above fails, type: `set-defaults` to set the notebook to the default, then try Step 2 once more.

Symptom: The VIPER 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:

```
bge0: no carrier transceiver cable problem

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

- The VIPER 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 110 for more information about LCD Off.
- The LCD display will also be blank if the VIPER has shut down automatically due to low battery capacity or user inactivity. See Power Management on page 91 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 notebook is started, or shortly after power-up.

1. Connect the AC adapter, shut down the system according to the instructions in Shutting VIPER down on page 33, and recharge the battery for 3 hours. Then try using the VIPER again.
2. If recharging fails to correct the problem, test the AC adapter by removing the battery from the VIPER 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 98.
4. If the AC adapter is working and the battery still fails to hold a charge, replace the battery.

Replacement batteries can be obtained from an VIPER representative.

CAUTION: Do not use a SPARCbook battery. They are not interchangeable with the VIPER, even though their appearances are similar. Use only VIPER batteries; otherwise damage to your system may occur.

Ethernet port

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

1. 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.
2. Make sure the Ethernet cable is securely connected at both ends.
3. At the # prompt, type `ifconfig -a`, press Enter, and look for bge0 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 bge0 does not appear, try typing the following commands at the # prompt:

```
ifconfig bge0 plumb

ifconfig bge0 IPADDR up
```

4. 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 notebook 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.

5. 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 VIPER. 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 VIPER.
- See the external monitor matrix on page 163 for the correct combination of external monitor and OBP commands. VIPER will support only selected monitor resolution and refresh rates. Check the external monitor manual to make sure the monitor is compatible with the VIPER output.
- Be sure to provide the correct OBP PCI-Bus-probe-list parameters to enable or disable the external monitor. See the external monitor matrix on page 163 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 VIPER connector before powering on the VIPER.

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 Corporate Office
20450 Stevens Creek Boulevard
Cupertino, CA 95014
Tel:408-973-9944
Fax: 760-973-9593

North American Customer Service
7:00 AM to 6:00 PM PST
Tel: 1-800-734-7030
Fax: 760-930-0762
E-mail: support@tadpole.com

Government Support
Tadpole Computer, Inc.
21355 Ridgetop Circle, Ste 150
Dulles, VA 20166
Phone: 703-433-1157 Ext. 8
Fax: 703-433-9561

Europe
Tel: +44 870 432 41 61
Fax: +44 870 432 41 62
Email: support@tadpole.com

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.
- 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,VIPER
```

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

```
Solaris X xx/xx xxxxx_xx_xxxxx_xx SPARC

Copyright xxxx Sun Microsystems, Inc. All Rights
Reserved.

Assembled xx xxxxx xxxx
```

Index