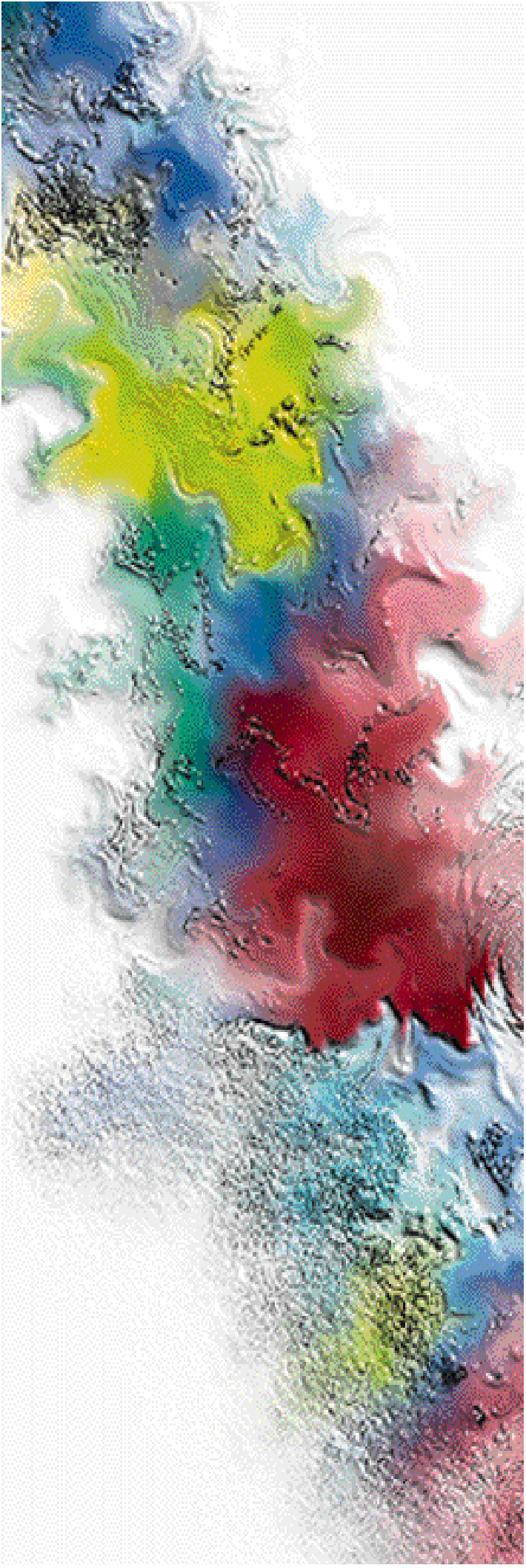

WMG™-Administrator! Messaging Switch

Series: Wireless Messaging System

System Version: Two-Way 3.0,
One-Way 1.07
Software Version: 3.3.7

Software Installation

Issue Date: April 1998

6880493G51-A

MOTOROLA

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MOTOROLA

Foreword

General Information

The information in this manual has been reviewed for accuracy. However, no responsibility is assumed for inaccuracies. Motorola® reserves the right to make changes to any products discussed herein. The information in this document is subject to change without notice. Motorola assumes no liability for hardware or software damage or loss of data because of errors or omissions in this manual. Motorola does not assume any liability arising from the application or use of any products or circuits described herein. Neither does Motorola convey any license under its patents or right of others.

Refer questions concerning the contents of this manual or requests for related circuit board information to the following location:

Motorola, Inc.
Paging Systems Group
Multimedia Publications Department
5401 North Beach St., MS E230-A
Fort Worth, TX 76137-2794

or telephone: **(817) 245-2824**

To access on-line electronic information (BBS) for service notices and the latest software releases, call the Paging One-Call-Support™ Center. To request additional manuals or parts, please contact the Motorola Americas Parts Division:

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telephone: **(847) 538-0021**

For Motorola Infrastructure and communicator test equipment, contact the Motorola Test Equipment Center:

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Global Service Organization

Motorola provides Infrastructure and communicator technical support through authorized or company-owned Service Centers. Motorola also provides service for communicators on a contract basis. For contract service information, please contact your local Motorola representative or the Paging One-Call-Support Center:

Motorola, Inc.
Paging One-Call-Support Center
5401 North Beach St., MS E112
Fort Worth, TX 76137-2794

telephone: **(800) 520-7243** or
(817) 245-4663
facsimile: (**817) 245-2141**

Service Training

Motorola, through its Advanced Messaging Technical Training Group in Fort Worth, Texas, offers courses on communicators, messaging switches, transmitters, and receivers. These courses are taught on the site or at a customer's location.

Students learn to install, configure, and maintain Motorola messaging systems. The classrooms at Motorola are equipped to ensure hands-on experience in practical lab exercises.

Training courses range from a basic introduction to communicators and messaging systems to customized classes on specific systems and large system applications.

To obtain a course catalog or scheduling information, please call (817) 245-2184 or (800) 724-3588 and ask for the training coordinator.

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Important Safety Information

The installation, maintenance, and / or operation of this equipment may present potentially unsafe conditions, including, but not limited to, electrical shock, improper voltage to components, and improper operation that can cause personal injury, death or damage to property.

Read Instructions: Read all the safety instructions before operating the equipment. Retain these safety instructions for future reference. Specialized procedures and instructions are required and must be followed. Also, all applicable safety procedures, such as Occupational, Safety, and Health Administration (OSHA) requirements, National Electric Code Requirements, local code requirements, safe working practices, and good judgement must be used by personnel.

Heed Admonitions: Adhere to all warnings on the equipment and in the operating instructions. Follow all operating and use instructions. Two safety admonitions are used in this instruction manual to indicate:

- Equipment damage–

  This safety admonition applies to an operating or maintenance procedure, practice or condition which, if not strictly observed, could result in damage to the equipment or database.

- Personal injury or injury that may result in death–

  This safety admonition applies to an operating or maintenance procedure, practice or condition which, if not strictly observed, could result in serious personal injury or death.

Mounting: Mount the equipment only as recommended by the manufacturer. Situate the equipment away from heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produces heat.

Power Sources and Grounding: Connect the equipment to the type of power source described in the installation instructions or as marked on the equipment. Take precautions to avoid defeating the grounding or polarization provisions of the equipment. Disconnect the power to the equipment by a circuit breaker when left unused for long periods of time.

Cleaning: Clean the outside of the equipment by using only a damp cloth. Do not immerse the equipment in any type of liquid, including water. Do not use liquid cleaners or aerosol cleaners. Dirt or other foreign matter should not be allowed to accumulate in the interior of the enclosure.

Damage Requiring Service: Do not attempt to perform service functions that are not described in the operating instructions. All other servicing should be referred to qualified service personnel.

Telephone Line Installation: All telephone line connections to the equipment should be accomplished with the telephone lines disconnected from the network interface.

Motorola is not responsible for static damage to equipment not sold under the Motorola logo.

PSG Limited Equipment Warranty for Non-U.S. and Non-Canadian Markets

General Terms

1. Motorola Paging Systems Group (PSG) manufactured infrastructure equipment is warranted to be free from defects in material and workmanship to the original purchaser only as set forth herein.

2. This Warranty covers only that equipment identified in paragraph 1 that is used in the manner and for the purpose intended.

3. This Warranty specifically excludes any and all software products from any source. PSG software products are the subject of the PSG Software Maintenance Program, addressed separately.

4. This Warranty shall commence 30 days after the date of shipment of the PSG infrastructure equipment.

5. The term of Warranty for all PSG infrastructure equipment is one (1) year parts and labor.

Limitations And Qualifications of Warranty

6. LIMITATION—THE REMEDY UNDER THIS WARRANTY IS LIMITED TO MOTOROLA'S REPAIR OR REPLACEMENT OF DEFECTIVE EQUIPMENT. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

7. This Warranty does not cover, nor include a remedy for, damages, defects or failure caused by:

   a. The equipment or any part of it NOT having been installed, modified, adapted, repaired, maintained, transported or relocated in accordance with Motorola technical specifications and instructions;

b. Storage not conforming to the Shipping, Receiving, and Installation section of the applicable Motorola Equipment Manual;

c. Environmental characteristics not conforming to the applicable Motorola Equipment Manual;

d. Nonconformance with the Equipment Operating Instructions in the applicable Motorola Equipment Manual;

e. External causes including, without limitation, use in conjunction with incompatible equipment, unless such use was with or under Motorola's prior written consent;

f. Cosmetic damages;

g. Damages caused by external electrical stress;

h. Lightning;

i. Accidental damage;

j. Negligence, neglect, mishandling, abuse, or misuse;

k. Force Majeure; and

l. Damage caused by Shipper(s).

Return of Equipment

8. If an item of PSG infrastructure equipment malfunctions or fails in normal use within the Warranty Period:

   a. The Customer shall promptly notify the nearest Motorola Area Customer Care Center (CCC) of the problem and provide the serial number of the defective item. Motorola shall then, at its option, either resolve the problem over the telephone or issue a Return Authorization Number to the Customer. The Customer shall, at its cost, ship the item to the Motorola Area CCC location designated at the time the Return Authorization Number is issued;

   b. The Return Authorization Number must be shown on the label attached to each returned item. A description of the fault must accompany each returned item. The returned item must be properly packed, and the insurance and shipping charges prepaid;

   c. Motorola shall either repair or replace the returned item. The replacement item may be new or refurbished. When refurbished, it shall be equivalent to new in operation. When a returned item is replaced by Motorola, the returned item shall become the property of Motorola;

d. Subject to all the terms of this Warranty, part availability and the clearance of Customs, Motorola shall complete the repair or exchange of Motorola-manufactured equipment returned under Warranty within fifteen (15) working days of receipt of the equipment;

e. Motorola shall, at its cost, ship the repaired or replaced item to the Customer. If the Customer has requested Express Shipping, the Customer shall pay Motorola an expedite fee; and

f. Equipment which is repaired or replaced by Motorola shall be free of defects in material and workmanship for the remainder of the original Warranty, or for 90 days from the date of repair or replacement, whichever is longer. All other terms of this Warranty shall apply to such repairs or replacements.

Advance Replacements

9. During the Warranty Period:

   a. At the Customer's request and for the Customer's convenience, Motorola may supply the Customer with Advance Replacement Parts (parts furnished in advance of Motorola's receipt of defective items). Motorola's provision of such parts will be contingent on part availability and on the Customer's maintaining a satisfactory credit standing with Motorola.

   b. Motorola shall ship the Advance Replacement Parts requested by the Customer within 48 hours of Motorola determining that such service is appropriate, if stock is available at the Motorola service location. If stock is not available, Motorola will make reasonable efforts to locate and provide it to the Customer within ten (10) working days.

   c. The Customer shall return defective items to the Motorola Area Customer Care Center within thirty (30) days from the date of shipment of the Advance Replacement Parts; failing which, Motorola shall bill and the Customer shall pay the full current list price of the Advance Replacement Parts.

10. To secure payment of the list price of Advance Replacement Parts if the defective items are not returned to Motorola, the Customer hereby grants to Motorola a purchase money security interest in any Advance Replacement Parts.

Excluded Equipment

11. The following equipment is excluded from this Warranty and is covered instead by the Original Equipment Manufacturer's Warranty:
    a. Equipment which is not an integral part of a basic system configuration and which is not manufactured by Motorola, such as batteries and satellite dish LNBs;
    b. Peripheral equipment such as printers, modems, data loggers, video display terminals, and lightning and surge protectors; and
    c. Equipment which is not listed in Motorola's Price Book.

Force Majeure

12. Motorola shall not be responsible for failure to discharge its obligations under this Warranty due to delays by suppliers, material shortages; strikes, lockouts or other labor disputes; disturbances, government regulations, floods, lightning, fires, wars, accidents, acts of God, and any other causes beyond Motorola's reasonable control.

Default and Termination

13. Motorola shall have the right to immediately terminate this Warranty, and to suspend its performance under this Warranty, upon notification to the Customer if the Customer:
    a. Assigns or transfers the Customer's rights or obligations under this Warranty without the prior written consent of Motorola; or
    b. Within thirty (30) days of written demand by Motorola, fails to pay (1) any charge for Advance Replacement Parts supplied under this Warranty, if the Customer has not timely returned the defective items, or (2) any other amount that may be due.

14. Notwithstanding any such termination of the Warranty to the Customer, the Customer shall remain responsible for all amounts then due.

Limitation of Liability

15. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS WARRANTY, EVEN IF MOTOROLA HAS BEEN ADVISED OF THE POSSIBILITY THEREOF, INCLUDING, WITHOUT LIMITATION, LOST PROFITS AND REVENUES, FAILURE TO REALIZE EXPECTED SAVINGS, LOST DATA OR ANY CLAIMS AGAINST THE CUSTOMER BY A THIRD PARTY.

Contents

Figures

Tables

Introduction

This manual describes the WMG-Administrator! Messaging Switch (WMG MS) software installation, and includes information on the following topics:

About This Manual

The *WMG™-Administrator! Messaging Switch Software Installation* manual includes the following chapters:

- Introduction: This chapter introduces the WMG™-Administrator! messaging switch (WMG MS) and provides an overview of the product functions and organization.
- Installing WMG MS System Software: This chapter contains information and procedures for installing the WMG MS system and application software including the Solaris operating system and peripheral software for the central processor(s), the OMC, the X-terminal, and the File Server (FS).
- Installing the UCC Software: This chapter contains information and procedures to reload system and application software to an existing UCC or to install and configure the software on a new UCC.
- Subsystem Power-Up Procedure: This chapter contains information and procedures for starting up the WMG MS in the proper sequence, and testing each subsystem for basic functionality.
- Abbreviations and Acronyms Listing: This appendix provides a list of telecommunications abbreviations and acronyms.
- IP Addresses and Network Diagram: This appendix provides the factory default values and configuration for the WMG MS IP Adresses and internetwork configuration.
- Wireless Messaging System Terminology: This appendix provides a list of WMG MS terms and definitions.

Purpose

This manual presents installation and configuration instructions for the WMG MS software. This manual also includes software installation instructions for the UCC and peripheral equipments.

Audience

This manual is intended for system administrators and technicians responsible for installing WMG MS software and hardware. Motorola recommends users of this manual have a strong knowledge of messaging systems, UNIX®, and telecommunications in general. Motorola WMG MS training is recommended (see the Service Training section in the foreword of this manual).

Other Publications

- *WMG-Administrator!™ Subscriber Database Operation*, number 6880492G22
- *WMG-Administrator!™ UCC Port Administration*, number 6880492G23
- *WMG-Administrator!™ System Administration*, number 6880492G21
- *WMG-Administrator!™ Installation*, number 6880493G15
- *WMG-Administrator!™ Hardware Installation* (Ultra Computer), number 6880493G50
- *WMG-Administrator!™ Hardware Installation* (Themis Computer), number 6880493G52

Note: You should also have the appropriate test equipment instruction manuals available.

Conventions Used in this Manual

Table 1-1 defines the notational conventions used in this manual.

Table 1-1: Conventions Used in This Manual

Example	Convention	Description
<Return> **<Control+O>** **<ctrl+o>**	Dual angle brackets (< >) Dual angle brackets and plus sign (+)	Indicates keys or key commands entered from the keyboard; for key commands, the plus sign indicates to hold down the first key and press the second key
Ok button **File** pull-down menu **File>New**	Palatino bold Palatino bold plus single bracket (>)	Indicates fields in a GUI requiring input or activation; or menu pull-down and pop-up commands
/hs/ucc/vru/config/chn_data	Lowercase Helvetica	Indicates system output, for example, information displayed in the GUI and x-terminal windows
/hs/ucc/vru/config/chn_data	Lowercase Helvetica bold	Indicates system input, for example, information entered into the system by the user

WMG MS Overview

The Motorola WMG MS is designed for the advanced messaging industry. The WMG MS maintains the subscriber database, receives message inputs, and manages information such as voice mail services. For valid remote callers, the system sends the message over the Wide Area Network (WAN) to the remote messaging switch for processing. The local transmitter broadcasts the messages.

The WMG MS offers several messaging applications which require increased message processing, file storage, system availability, and networking capabilities of the system. The modular WMG MS architecture is upgraded as the demand for system resources increases. As an integral element in the messaging network, the WMG MS provides the following services:

- Multi-frequency FLEX™ roaming protocol
- One- and two-way tone-only, numeric, and text messaging
- Integrated voice and messaging mail boxes
- Detailed subscriber database
- Graphical User Interface (GUI)
- Statistics and alarm information

Callers and subscribers access the system over the Public Switched Telephone Network (PSTN). The system accepts standard T1 or E1 trunk spans. Each WMG MS is connected to other elements in the Wireless Messaging System by a network of land lines, satellite links, or radio links (see Figure 1-1).

The addition of a return communications path creates a number of new messaging applications. These applications require the WMG MS to provide increased message processing, file storage, system availability, and networking capabilities. The modular WMG MS architecture is designed to meet these needs—today and as technology evolves.

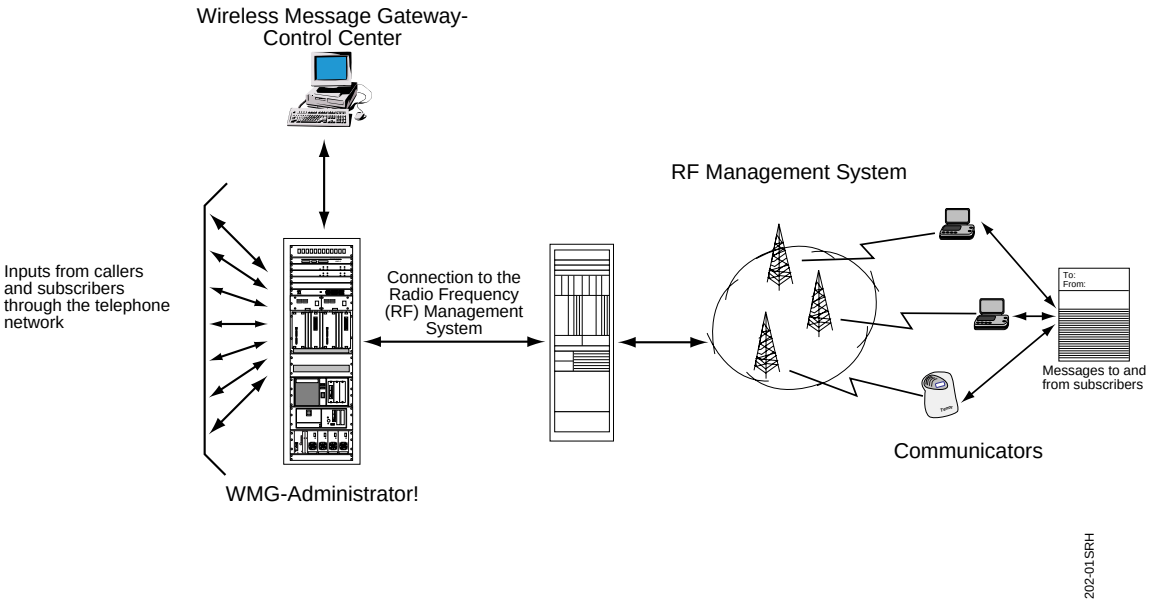

Figure 1-1: The WMG-Administrator! MS and the Wireless Messaging System

WMG MS Subsystems and Peripherals

The following subsystems comprise the WMG MS:

- The Central Processor (CP) maintains a copy of the subscriber database (the Operations and Maintenance Center {OMC} maintains the master subscriber database), messaging, and routing functions.
- The UCC provides the interface of the PSTN to the WMG MS using T1 or E1 trunk spans.
- The File Server controls the storage of voice and data messages using a Redundant Array of Inexpensive Disks (RAID) system.
- The (OMC) provides an operator interface through a graphical user interface (GUI) called the Wireless Message Gateway–Control Center. The WMG MS OMC accesses the Network Management System through the controller.

The WMG MS is made up of one or more cabinets, depending on redundancy and capacity requirements. The third and following cabinets usually contain additional UCC for expanded messaging capacity (see Figure 1-2 and Figure 1-3).

In a typical redundant system, two cabinets house the standard subsystems, including the CPs, the OMC, the FS, terminal server(s), and ethernet switches. Each cabinet of the WMG MS contains a power distribution panel (PDP) and if the site power is –48Vdc, each cabinet contains a power inverter.

The first cabinet houses the CP, OMC, and the FS. The second cabinet houses up to six (DC configuration) or seven UCCs (110 or 220 Vac configuration) and ethernet switches. The third through eleventh cabinets contain only UCCs (seven in the DC configuration, eight in the AC configuration). If the system comes with the full redundant option, it contains two of the following subsystems:

- CP
- Media converter
- Ethernet switch

WMG MS also includes the following peripheral devices:

- Terminal servers
- Alarm notification device
- Printers (optional)
- Power inverter (optional)

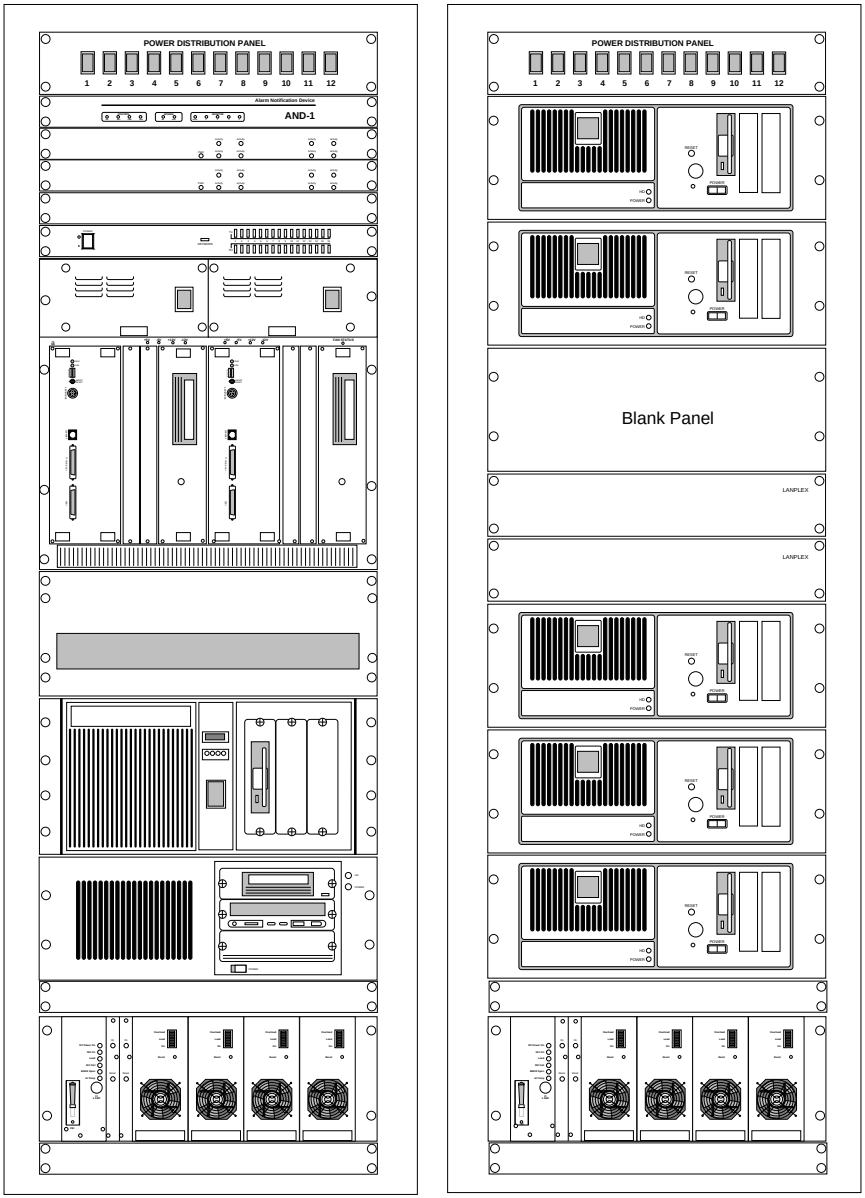

Figure 1-2: WMG MS—Typical Redundant DC Powered Two-Cabinet Configuration Without SS7

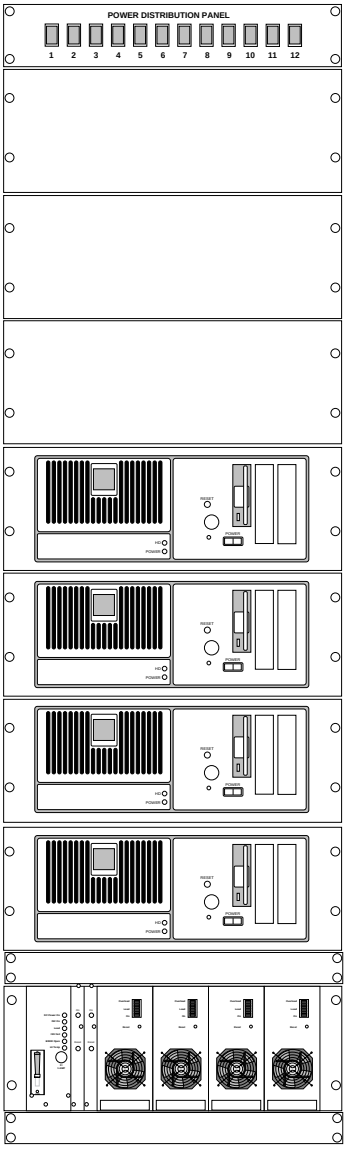

Figure 1-3: WMG MS—Typical DC-Powered Third Cabinet Configuration with Four UCCs

Wireless Message Gateway–Control Center

The Wireless Message Gateway–Control Center is the user interface to the WMG MS. Using the graphical interfaces, system operators can oversee and manage WMG MS operations, such as system configurations, statistics, alarms, classes of service, and subscriber administration.

Using an x-terminal to access the Wireless Message Gateway–Control Center, operators can perform the following tasks:

- Configure system parameters
- Administer Wireless Message Gateway–Control Center user permissions
- View WMG MS statistics and alarms
- Define classes of service and subscriber profiles

The Wireless Message Gateway–Control Center provides the following features:

- Operator and group security—The Wireless Message Gateway–Control Center uses UNIX security procedures for password administration and expiration.
- Statistics—The Wireless Message Gateway–Control Center collects statistics from each WMG MS subsystem—CP, UCC, FS, and OMC. The Statistics Viewer produces statistical reports. The format and content of the reports are configurable.
- Alarms—The Wireless Message Gateway–Control Center receives and reports alarm conditions. Alarm conditions have assigned severity levels. Visual indicators alert operators that alarms have been received. Alarms are stored in log files for later analysis.
- Configuration—The Wireless Message Gateway–Control Center provides the capability for managing system configurations, operational service status, and network and subsystem parameters.
- Subscriber management—The Wireless Message Gateway–Control Center provides the capability for managing the subscriber database.

Installing WMG System Software

This chapter describes the WMG-Administrator! Messaging Switch (WMG MS) software installation for Version 3.1.

WMG MS Software Installation Overview

The factory installs and configures software and for the WMG MS subsystems and peripherals. In some cases, software must be loaded at the site for upgrades, system expansion, or troubleshooting. This chapter provides procedures for loading the WMG MS software including the Solaris version operating system, and software for the following subsystems:

- X-terminal
- Operation and Maintenance Center (OMC), Central Processor (CP) 1, CP2
- Terminal Server (TS)
- File Server (FS)

Software Used by the WMG MS

The WMG MS uses the following vendor software for processing and managing messages:

- Solaris® operating system for the CP
- Informix® for the system database
- Network Appliance for the FS

Special Precautions and Instructions

- Prior to starting any procedure, check that all calibration stickers on the test equipment are current.
- Equipment can be damaged by improper cable installation. Ensure that cables are correctly oriented with their jacks prior to mating.
- Adhere to all warnings on equipment and in operating instructions.
- Always observe static safety precautions when handling static sensative parts.

System Software Installation—Required Materials

At the system level, the WMG MS uses the Solaris operating system and the Informix database software. Most of the installation and configuration of the operating system and database is performed using an automated WMG MS installation script.

The WMG MS uses preset (factory default) Internet Protocol (IP) addresses to define the Control LAN, Voice LAN, OMC LAN and RF-Conductor! (RF-C!) LAN. Appendix B lists the default IP addresses, host names, and configuration drawings to use when installing WMG software. To modify system IP addresses, use the vi text editor or other editor of your choice. (consult your network administrator) The address values and host names are located on the CP1, CP2, and the OMC in the /etc/hosts file.

Note: Use the customer's IP plan when makeing changes to the **/etc/hosts** *file to avoid installation errors. The installation of some applications require that the IP address for that host be identified at the time of installation. Changing the IP address of that host at a later time may require that the application be reinstalled.*

Following the procedures in this chapter overwrites existing files, data, and system configuration information.

Required Tools and Equipment for Themis/SPARC 20-based Systems

Assemble the following items to perform the software installation procedures for Themis/SPARC 20-based systems:

- External CD-ROM drive–
  - External or stand-alone CD-ROM drive configured for use with the Openboot EEPROM
  - SCSI-2 cabling for the external SCSI-2 connection on the back of the CP VME chassis
  - SCSI termination appropriate for the CD-ROM drive
- Software Media–
  - Solaris CD-ROM version 2.5.1, Hardware (8280520F33); SunSoft label information: May 1996, Part #704–5235–10, Revision A
  - WMG installation tape–Package Load DAT Tape (0180302F82)

- X-terminal supplied with the system
- Serial cable made of the following three parts–
  - Motorola Part #5880567S01 DB25-RJ45 adapter
  - Motorola Part #5880550S01 DB9-RJ45 adapter
  - Motorola Part #0180301F97 serial RJ45-RJ45 cable kit
- Software license information for the following–
  - Solaris ID and system environment ID
  - Informix keycards
  - Report Writer
  - WMG Application licenses

Required Equipment for Sun Ultra-based systems

Assemble the following items to perform the software installation procedures for Ultra-based systems:

- Software Media–
  - Solaris CD-ROM version 2.5.1, Hardware (8280520F33); SunSoft label information: May 1996, Part #704–5235–10, Revision A
  - The WMG installation tape–Package Load DAT Tape (0180302F82)
- X-terminal supplied with the system
- Serial cable made of the following three parts–
  - Motorola Part #5880567S01 DB25-RJ45 adapter
  - Motorola Part #5880550S01 DB9-RJ45 adapter
  - Motorola Part #0180301F97 serial RJ45-RJ45 cable kit.
- Software license information for the following–
  - Solaris ID and system environment ID
  - Informix keycards
  - Report Writer
  - WMG application licenses
- WMG MS release notes

  Software is continually changing, and the release notes may contain important information that is not in this book.

Configuring the X-Terminal

The x-terminal is the display interface for the WMG Control Center. The WMG Control Center is a Graphical User Interface (GUI) for issuing commands, setting up system parameters, and generating reports. The WMG MS x-terminal has two configuration environments, the NCD windows environment and the NCD Boot Monitor. The windows environment is a GUI, and the Boot Monitor is menu driven. The initial configuration of the x-terminal in this procedure occurs in the Boot Monitor. Later procedures in the WMG MS configuration occurs through the windows environment.

Use the following procedures to configure the x-terminal:

1. Power up the x-terminal.

   The NCD windows environment appears.

2. Press the following keys at the same time: **<Ctrl+Left Alt>** and **<Setup>**

   The Boot Monitor command line prompt appears.

3. Load the default values:
   a. Type **nv <Return>**
   b. Type **L <Return>**
   c. Type **S <Return>**
   d. Type **Y <Return>**
   e. Type **q <Return>**

4. Press **<Setup>** at the Boot Monitor prompt.

   The Boot Monitor main menu appears (see Figure 2-1).

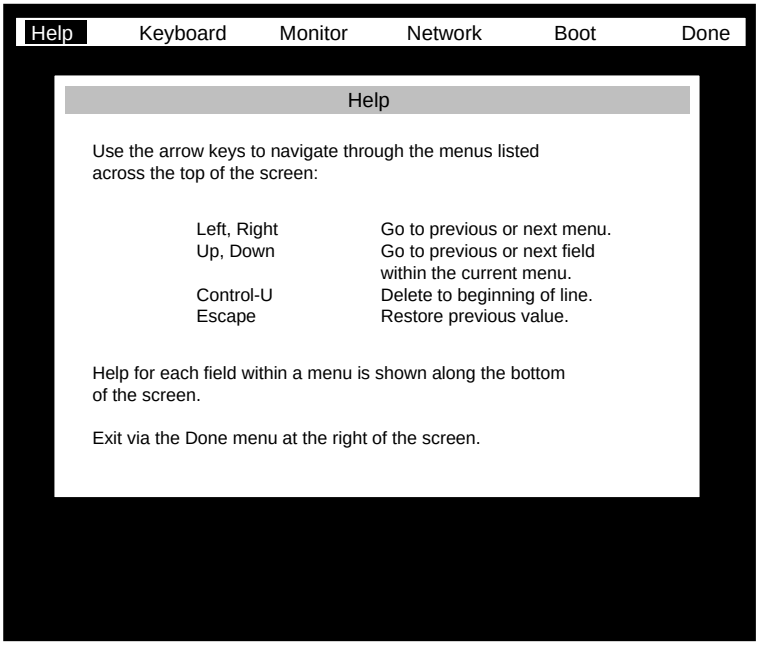

Figure 2-1: Boot Monitor Main Menu

The main menu displays the names of the six menus. To move from one menu item to the next, use the left and right arrow keys. As you navigate through the menu bar, the active menu name highlights, and the corresponding window displays. Below the window, a smaller help window displays instructions.

5. Use the **right arrow** key to select **Keyboard**.

   The window displays available keyboard settings.

6. Select **IBMPS/2** if your keyboard is the N-101 MPS type, otherwise select **n-101** (See the label on the bottom of the keyboard for information).

7. Press the **arrow keys** to select **Monitor**.

   The Monitor window displays the available settings.

8. Select the appropriate setting (**1280 x 1024 70 Hz color** for the NCD HMX model) and press the right arrow key.

The Dots Per Inch pop-up menu appears.

9. Change the dots per inch setting to **100**.

10. Press the **right arrow** key to select **Network**.

    The Network window displays the current network settings.

11. Press **spacebar** until **NVRAM** selection is highlighted.

12. Configure the network settings as follows:
    a. Enter the terminal (omcterm1 or omcterm2) IP address–
       - Type **10.5.0.16** if this NCD is omcterm1.
       - Type **10.5.0.17** for omcterm2 .
    b. Enter the first boot host IP address; type **10.5.0.2**
    c. Use the default value of 0.0.0.0 for the second boot host IP address; type **0.0.0.0**.
    d. Use the default value of 0.0.0.0 for the third boot host IP address; type **0.0.0.0**.
    e. Enter the gateway IP address; type **0.0.0.0**.
    f. Make the subnet mask a C class IP; type **255.255.0.0**.
    g. Enter the broadcast IP address; type **10.5.255.255**.
    h. Use the default for the Terminal NCDnet address; type **0.0**.
    i. Use the default for the Host NCDnet Address; type **0.0**.
    j. Use the default for the Router NCDnet Address; type **0.0**.
    k. Press the **spacebar** until **No for SNAP (802.2 Encapsulation)** is highlighted.

ALL IP addresses used in this manual are the factory default values and are not suitable for use as the customer-specific IP addresses needed to configure the WMG MS system. You must have the customer IP address plan to continue the configuration and installation process.

13. Use the **right arrow** key to select **Boot** from the top of the menu and the Unix Config Directory.
    a. Type **/usr/local/wmg/config/<Return>.**

Note: Be certain to enter the trailing slash (/).

b. Use the **arrow keys** to highlight the **TFTP** selection.

c. For TFTP Order, use the default of **2**.

d. For NFS Order, press **D** to disable.

e. For MOP Order, press **D** to disable.

f. For LOCAL, use the default of **1**.

14. Use the **right arrow** key to select **Done** from the top of the main menu.

15. Select **Reboot**. The following prompt appears:

    Save Parameters and reboot. Press <Return> to confirm.

16. Press **<Return>** to save the settings and reboot.

The x-terminal reboots and displays the NCD windows environment window.

Setting the OMC Serial Connection

1. Connect a serial cable from the NCD x-terminal to the OMC console port ttya (see Figure 2-2 and Figure 2-3).

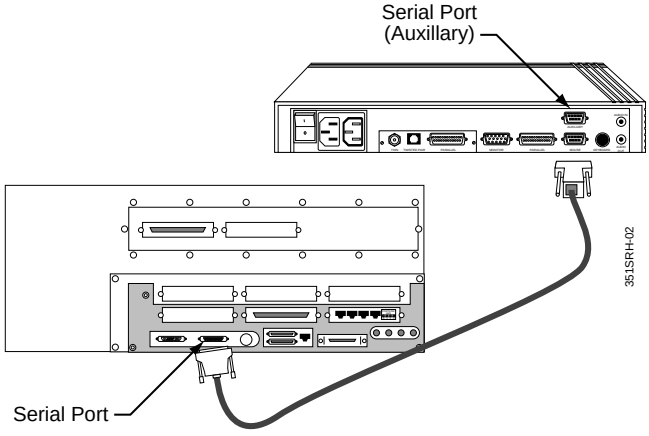

Figure 2-2: Connecting the NCD X-Terminal to the OMC TTYA/B Port—Themis Systems

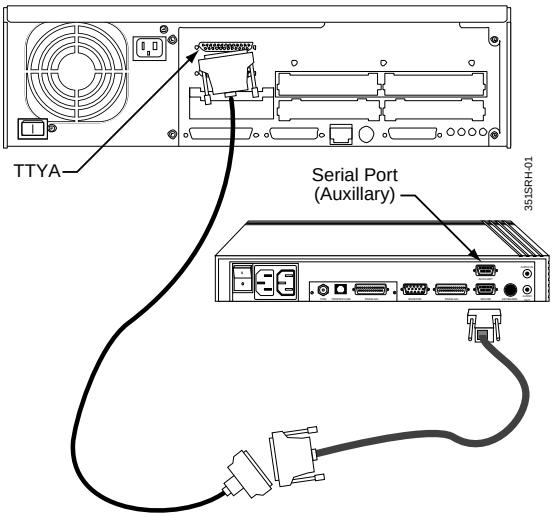

Figure 2-3: Connecting the NCD X-terminal to the OMC console Port—Ultra-Based Systems

2. Select the NCD Window Manager from the NCD window, by selecting **WindowMgr>NCD Window Manager.**

   The NCD User Services: Console window appears (see Figure 2-4).

3. Select **Terminals** From the NCD User Services window.

   The NCD User Services: Terminal Emulator window appears.

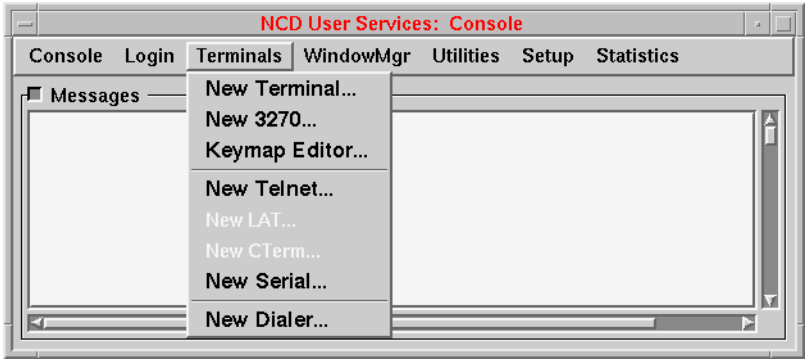

Figure 2-4: NCD User Services Console Window

4. Select **serial port**.

   The connecting to serial port 1...success message displays.

5. From the Serial window, select **Fonts**, then select **Jumbo**.

6. Push the power distribution panel switch for the OMC to ON position.

7. Turn the OMC power switch on:
   - For Themis-based systems, the power switch is on the front side.
   - For Ultra-based systems, the power switch is on the back side.

   Openboot diagnostic messages begin to scroll in the NCD Terminal window.

8. When the RAM test and initialization begins, press **<Break>**

   The system responds with an ok prompt.

Installing the OMC Operating System and Database

The WMG installation script performs most of the installation automatically, though some configuration information must be entered manually. The installation script handles the following tasks:

- Solaris
  - Formatting the disk drive type
  - Installing the Solaris software
  - Installing Solaris patches
- IP address definition
- Informix
  - Installing the ESQL (run time) and Dynamic Server (run time) tapes

There are two phases to the Solaris and Informix installation process:

- Defining system identification and configuration
- Running the OMC installation script

Note: The OMC installation requires a CD-ROM caddy.

Setting the OMC Open Boot Parameters

1. Reset NVRAM to factory defaults by typing:

   set-defaults <Return>

2. At the **ok** prompt, reboot the processor board by typing:

   reset <Return>

3. During the RAM tests, press **<Break>.**

   The system responds with the ok prompt.

4. Change the TTYA-mode parameter. Type the following at the ok prompt:

   setenv ttya-mode 9600,8,n,1,s <Return>.

5. At the ok prompt, type

setenv diag-switch? true <Return>

6. Change the diag-service parameter by typing the following at the ok prompt:
   – For Themis-based systems, type:

     setenv diag-device fastdisk <Return>

   – For Ultra-based systems, type:

     setenv diag-device disk <Return>

For Ultra-based systems skip to Step 13.

7. At the ok prompt, type:

   setenv boot-device fastdisk <Return>

8. Modify the NVRAM at the ok prompt, by typing

   nvedit <Return>.

9. At line 0, type the following:

   devalias fastdisk /iommu@f,e0000000/sbus@f,e0001000/QLGC,isp@1,10000/sd@3,0 <Return>

10. Press **<Ctl+C>** to exit nvedit.

11. Store the NVRAM changes; type:

    nvstore <Return>

12. At the ok prompt, type:

    setenv use-nvramrc? true <**Return**>

13. At the ok prompt, type

    printenv <Return>

    The OMC parameters window displays. Verify that the information in the OMC parameters window is correct (see Figure 2-5).

14. Repeat this procedure to correct any errors.

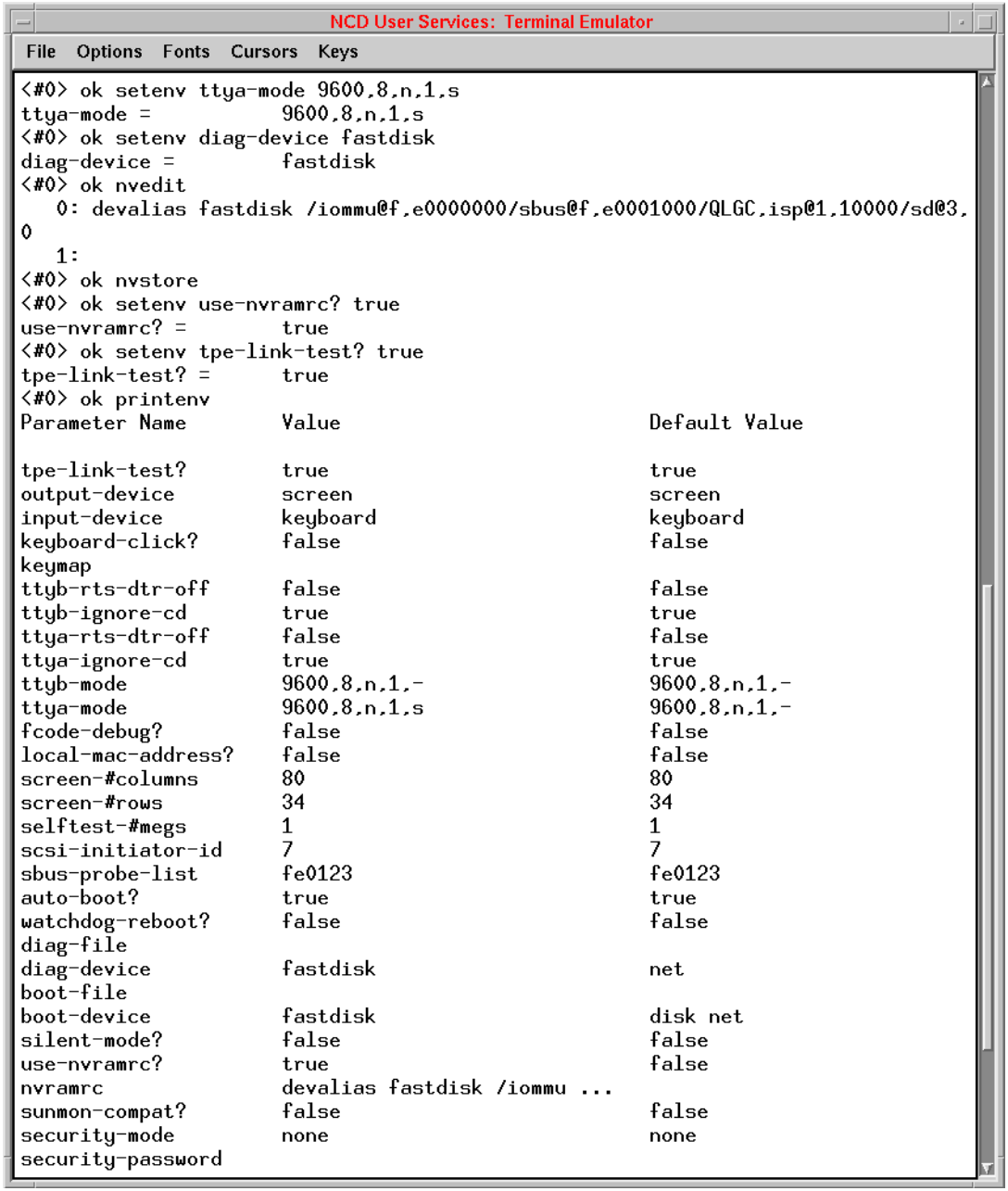

Figure 2-5: Openboot Parameters for OMC

15. Reboot the system at the ok prompt; type:

    reset <Return>

16. Press **<Break>** during the RAM tests.

    The system responds with the ok prompt.

17. Verify that the system SCSI IDs are properly set; type:

    probe-scsi-all <Return>

    For Ultra-based systems, type **Y <Return>** to continue.

18. Verify the following settings:
    - For Themis-based systems–
      - target 3: OMC disc drive
      - target 4: 4-mm DAT tape drive
      - target 6: external CD-ROM drive
    - For Ultra-based systems–
      - target 0: OMC disk drive
      - target 4: 4-mm DAT tape drive
      - target 6: external CD-ROM drive

    This completes setting the OMC open boot parameters.

Defining the OMC System Identification and Configuration

Configure the system setup information before running the WMG installation scripts:

1. Insert the Solaris Hardware 2.5.1 CD-ROM (part number 8280520F33) into the CD-ROM drive.

2. Type the following at the ok prompt:

   boot cdrom <Return>

   The boot takes approximately four minutes.

3. Select the type of terminal in use (see Figure 2-6).

   For the x-terminal emulator type:

   12 <Return>

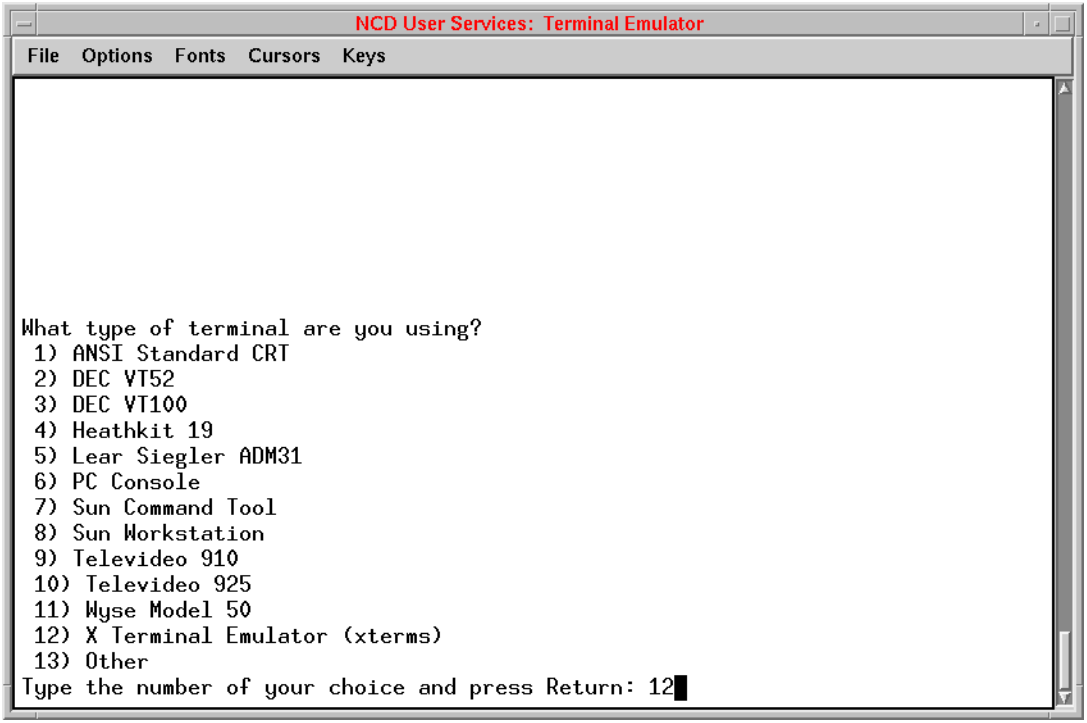

Figure 2-6: Terminal Selection

4. Read the display and press **<F2>** to continue.

   The Identify This System window appears.

5. Read the display and press **<F2>** to continue.

   The Host Name window appears.

6. Type the host name for the system: **omc <F2>**.

   The Network Connectivity window appears.

7. Accept the default for Networked: Yes **<F2>**.

   The IP Address window appears.

8. Type the factory default for the OMC: **10.5.0.2 <F2>**.

   The Confirm Information window appears.

9. Verify that the network information entered in the previous windows is correct. If the information is correct, press **<F2>** to continue.

   The Name Service window appears.

10. Provide the name service information:
    a. Use the arrow keys to select **None** for the name service.
    b. Press **<Return>** to mark the selection.
    c. Press **<F2>** to continue.

    The Confirmation Information windows appears.

11. Press**<F2>** to continue.

    The Subnets window appears.

12. Specify that the system is part of a subnet:
    a. Use the arrow keys to select **Yes.**
    b. Press **<Return>** to mark the selection.
    c. Press **<F2>** to continue.

    The Netmask window appears.

13. Define the netmask of the subnet.
    a. Enter the subnet value in the Netmask field that corresponds to the internet class IP address by typing **255.255.0.0 <F2>**.

    The Time Zone Region window appears.

14. Specify the default time zone:
    a. Use the arrow keys to select the appropriate country value, then press **<Return>.**
    b. Use the arrow keys to select the appropriate time zone file, then press **<Return>.**

    The Date and Time window appears.

    c. Enter the appropriate date and time for the selected country.

    The Confirm Information window appears.

15. Verify that the information entered on the previous windows is correct.

16. Press **<F4>** to make changes, if needed.

17. Press **<F2>** to continue.

18. After confirming the information by pressing **<F2>,** the Install Solaris Software—Initial window appears. (see Figure 2-7)

Note: Wait until the CD-ROM finishes reading the CD. This takes approximately two minutes.

19. Press **<F5>** to exit Solaris installation and to begin the WMG installation script.

    The Exit Installation window appears (see Figure 2-8).

20. Press **<F2>** to exit Solaris installation.

Note: The system saves all information defined until to this point.

The system displays the # prompt. The WMG installation script is ready for execution.

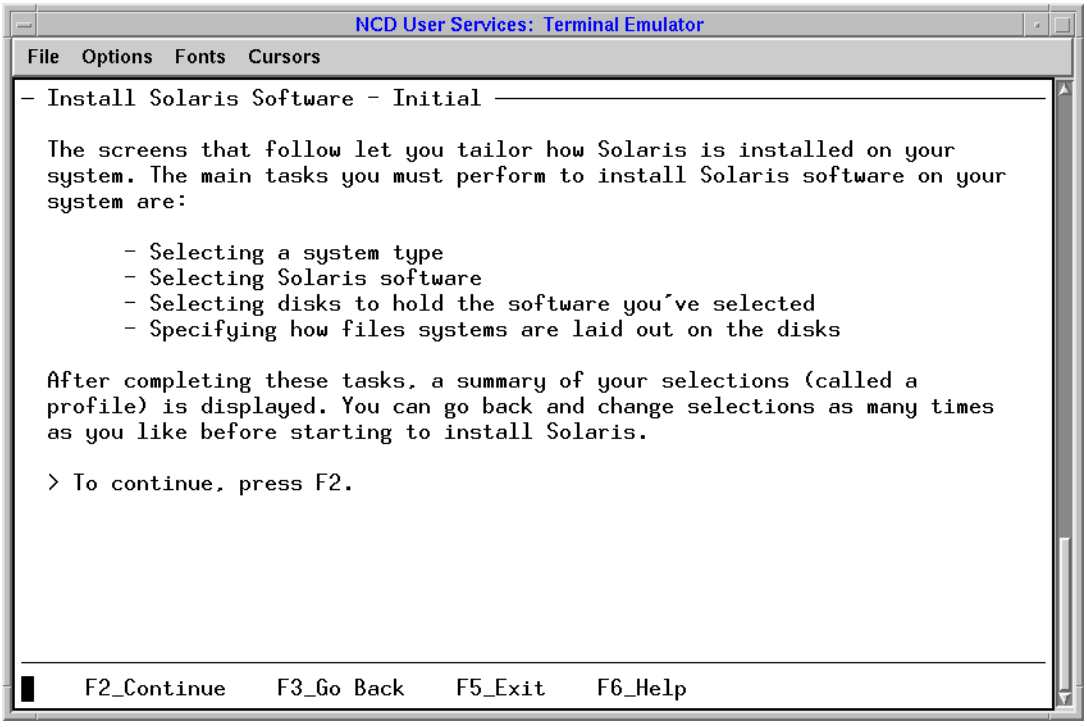

Figure 2-7: Install Solaris Software—Initial

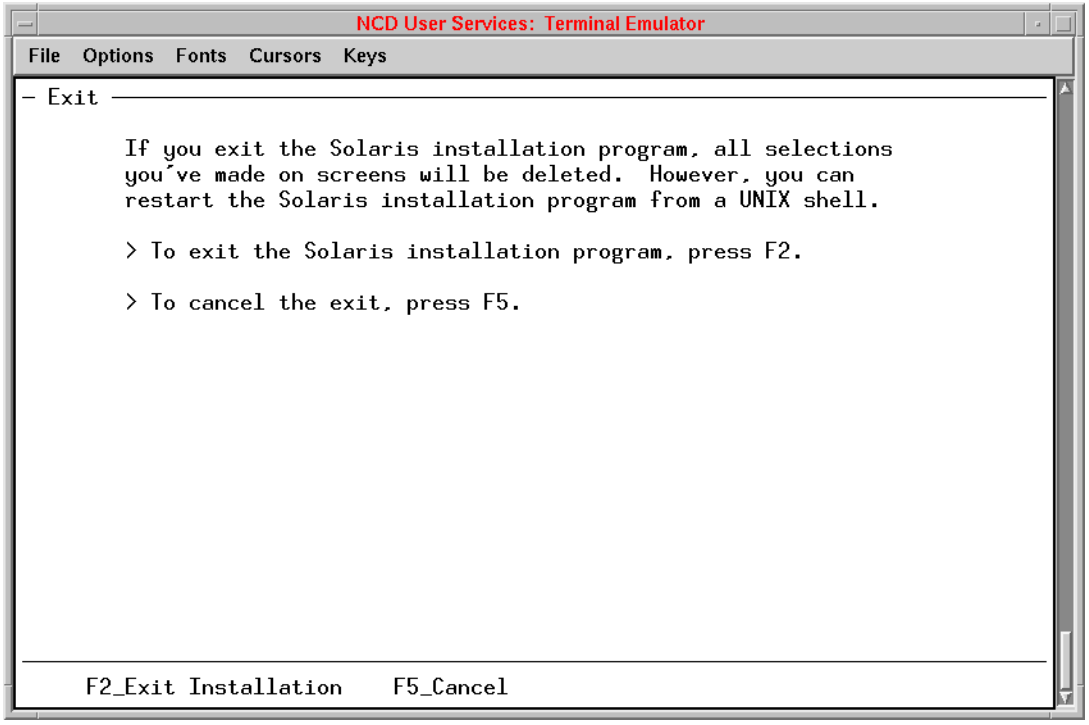

Figure 2-8: Exit Solaris Installation Window

Installing the OMC Load Tape

Use this procedure to load the OMC tape:

1. Verify that the 4-mm DAT installation tape is the correct part number (0180302F82) and version.

2. Verify that the 4-mm DAT cartridge is write protected.

3. Verify that the Informix version number for the serial number and the serial number key matches the Informix version in the installation script prompt.

4. Insert the installation tape into the 4-mm DAT tape drive of OMC.

5. Enter the following UNIX commands at the # prompt:

   cd / <Return>

   tar -xvf /dev/rmt/0lb <Return>

   /tmp/wmg_setup <Return>

Note: The wmg_setup installation process takes several hours.

The installation script prompts for the Informix serial number and serial number key (see Figure 2-9). Two Informix products, Embedded SQL Run Time and OnLine Dynamic Server (part number 8280520F25 and 8280520F24), require serial numbers and serial number keys. The Informix serial number information comes in a manner similar to the license quantities—from the Informix license and key cards.

Note: Verify that in the Informix serial number and the serial number key that are identical to those found on the license cards.

6. Type the Informix Embedded SQL Run Time Facility serial number and press **<Return>.**

7. Type the Informix Embedded SQL Run Time Facility serial number key (uppercase letters only) and press **<Return>**.

8. Type the Informix-OnLine Dynamic Server serial number and press **<Return>**.

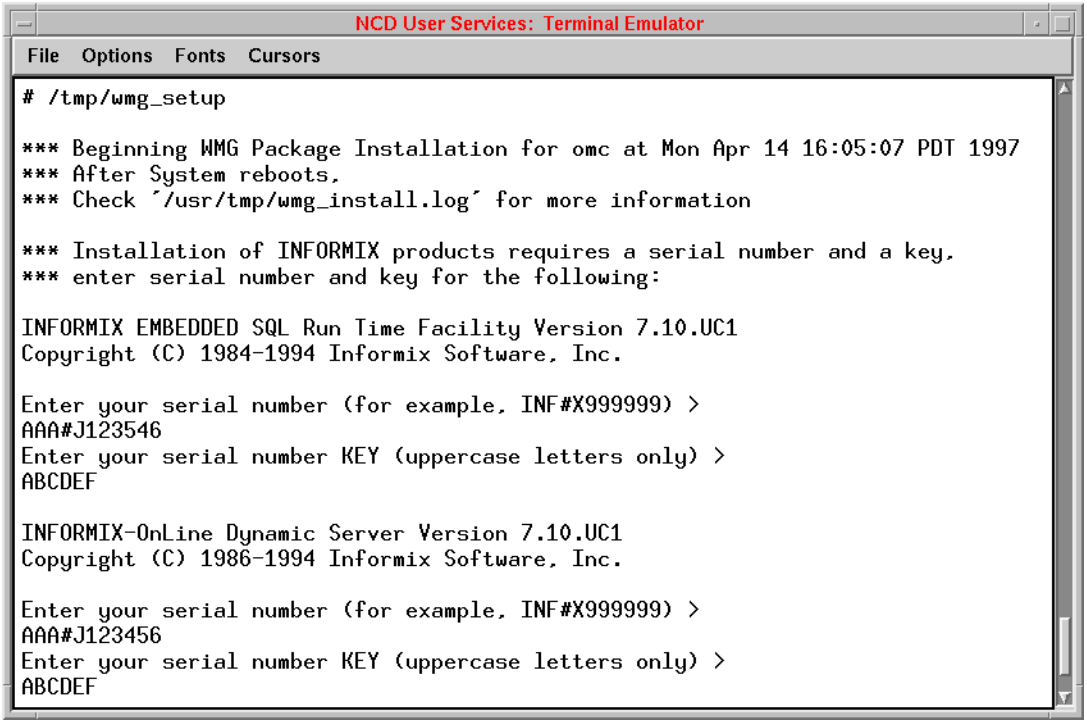

Figure 2-9: Information Installation Script Menu

9. Type the Informix-OnLine Dynamic Server serial number key (uppercase letters only) and press **<Return>**.

10. Define IP addresses for WMG standard host names. Press **<Return>** at each prompt to accept defaults.

    The license type codes, Informix, and IP addresses for WMG MS standard host names are now defined. The WMG installation script formats the disc drive and loads the OMC. After all WMG MS software is installed, the system reboots from the disc drive. The WMG MS system default IP addresses are contained in Appendix B.

Note: This section takes approximately four hours to complete.

The Root Password window appears (see Figure 2-10).

11. Type **motorola** (or a customer specified root password) as the root password and press <**Return**>.

12. Record the root password for future use.

13. Repeat the password entry to confirm.

    The installation is complete.

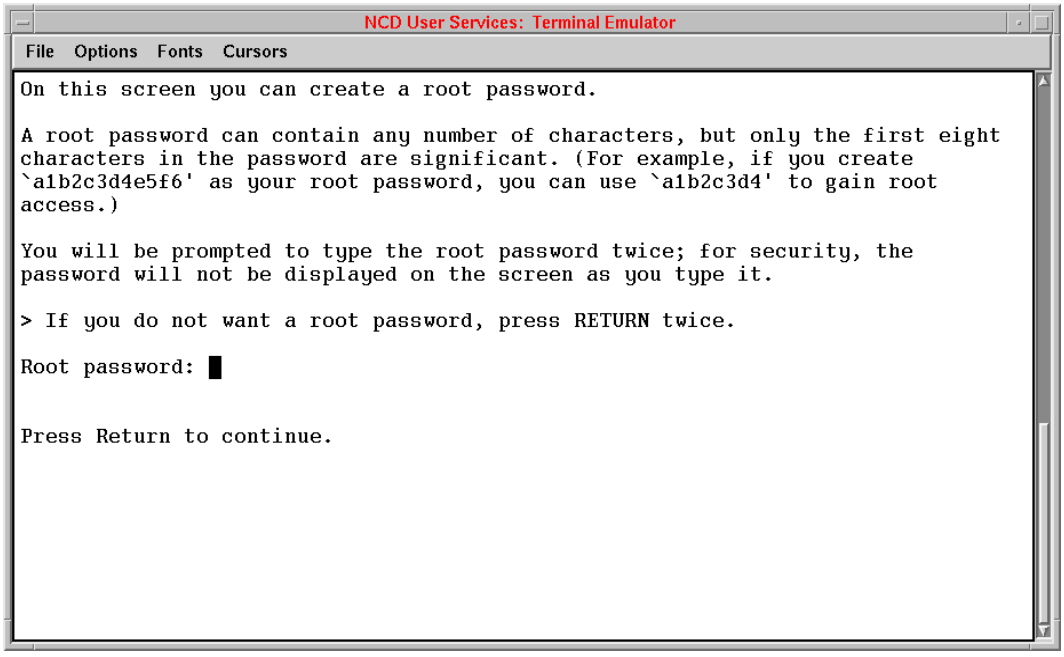

Figure 2-10: Root Password Window

14. Log in to the OMC; type **root** <**Return**>.

15. Type **motorola** (or a customer specified root password) and press <**Return**>.

After defining the system identification and configuration and running the WMG MS installation script, disconnect the CD-ROM drive using the following procedure.

Disconnecting the OMC CD-ROM (Themis-Based Systems)

Disconnect the CD-ROM drive using the following procedure:

1. Eject the DAT tape and CD-ROM disk while using the same NCD terminal emulator window as in the previous installation.
   a. Eject the DAT tape by typing the following in the NCD terminal emulator window:

      mt -f /dev/rmt/0lb rewoffl <Return>

   a. Eject the CD-ROM disk by typing the following in the NCD terminal emulator window:

      eject <Return>

2. Log out of the OMC by typing:

   exit <Return>

3. Wait for the OpenBoot ok prompt.

4. Turn off the power to the CD-ROM and OMC.

Power down the CD-ROM and the OMC before disconnecting the serial console cable.

5. Disconnect the serial console cable.

6. Power up the OMC.

7. Press **<Setup>** to display the NCD User Services window after the OMC boots.

8. Select the **Console** option.

9. Select **Reboot** in the NCD Console Window.

   The x-terminal reboots.

Configuring the Terminal Server

The terminal server provides the serial connections for the WMG MS subsystem components. Specific keys on the keyboard control the navigation through the terminal server user interface windows and menus (see Table 2-1).

Table 2-1: Terminal Server Navigation Keys

Menu Key	Description
Left Arrow	Moves the cursor left
Right Arrow	Moves the cursor right
Up Arrow	Moves the cursor up
Down Arrow	Moves the cursor down
<Tab>	Moves the cursor right
<Back Space>	Moves the cursor back one field or deletes a character depending on how the user configures this key
<Del>	Deletes a character
<Spacebar>	Toggles through the options for a particular field
<Return>	Selects the option the cursor is positioned on or selects the list of options from the Connections Menu
<Esc>	Cancels the current command or takes the user back one menu

Terminal Server Configuration

Use the following procedure to configure the terminal server:

Note: Power to the terminal server must be shut off before starting this procedure.

10. Use an RJ-45-DB9 adapter (part number 58R80550S01) and a null modem to connect the serial cable from the NCD console serial port to port 1 on Terminal Server 1.

11. Push the PDP switch for Terminal Server 1 to the ON position.

12. Push the Terminal Server 1 power switch to on.

Note: This is the down position.

13. Verify that the Power indicator light is on (green).

14. From the login prompt, type:

    su <Return>

Note: If the Connections Menu appears, press **<Return>** *and select* **CLI** *and press* **<Return>** *to get to the local prompt*

15. At the local prompt, type the following login sequence:

    su <Return>

    iolan <Return>

16. At the ADMIN:local prompt, type the following sequence:

    facreset <Return>

    y <Return>

    Wait for the message: System is Shutting Down message

17. Turn off the power to the terminal server.

18. Turn on the power to the terminal server.

19. At the local login prompt, type the command:

    su <Return>

20. At the local prompt, type the command:

    set term vt100 <Return>

    The Connections menu appears.

21. Press **<Return>** from the Connections menu to display the Commands pop-up menu.

22. Select **Admin Mode** from the Commands Pop-up menu (see Figure 2-11).

    The Administration menu appears.

23. Select the **password** field, and press **<Return>**.

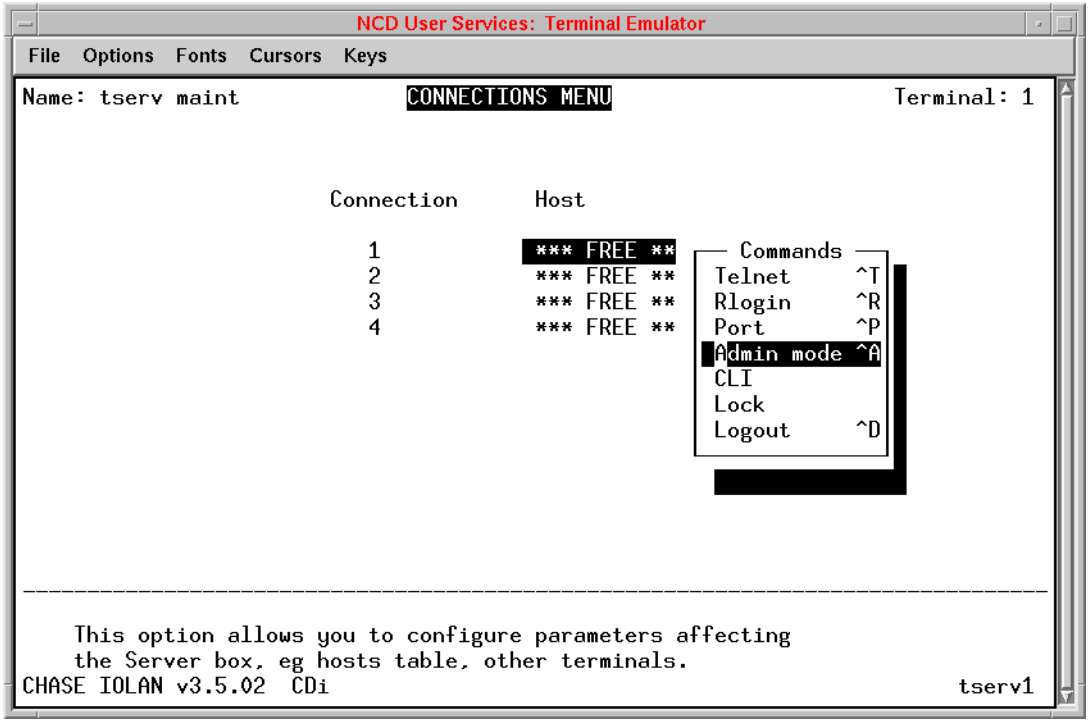

Figure 2-11: Terminal Server Connections

24. Type the password (**iolan** is the default password) and press **<Return>**.

    The Administration menu displays with additional fields.

25. Select **server: Examine/modify Server parameters** from the Administration menu, and press **<Return>** (see Figure 2-12).

    The Server Configuration window appears (see Figure 2-13).

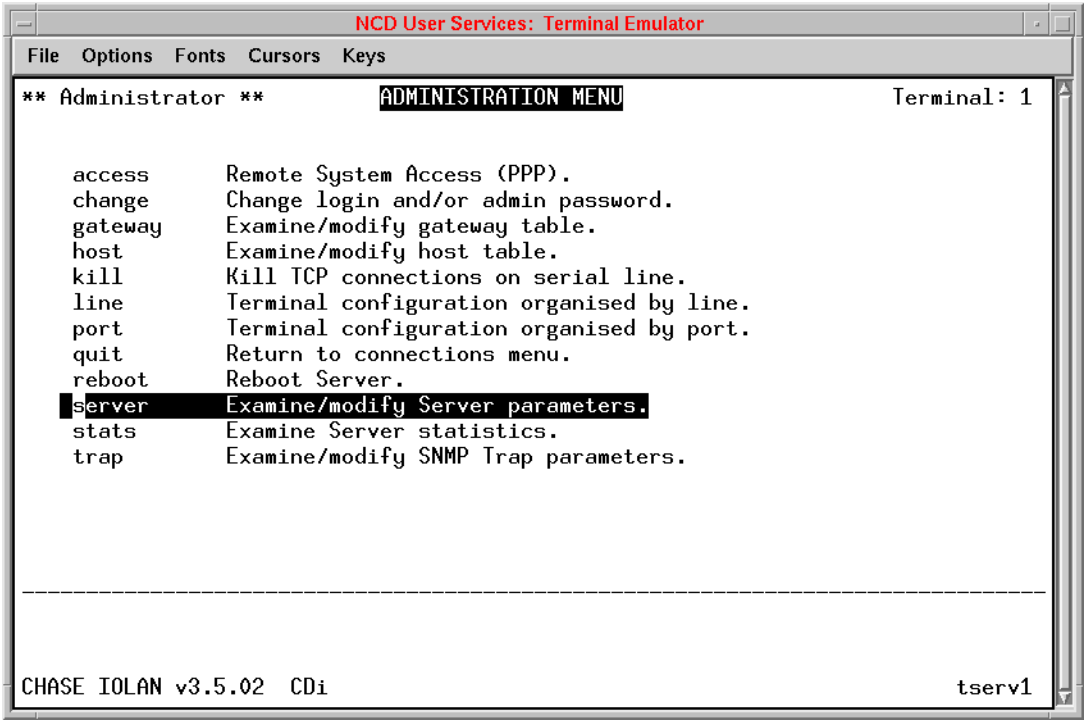

Figure 2-12: Administration Menu

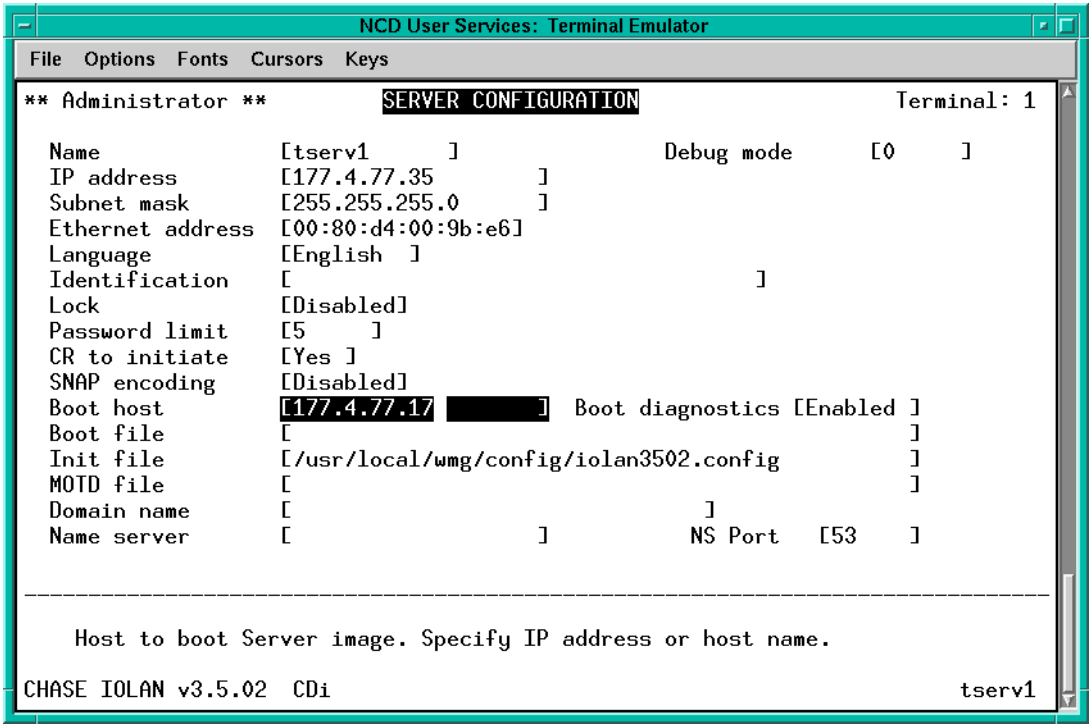

Figure 2-13: Server Configuration Window for Version 3.5.02

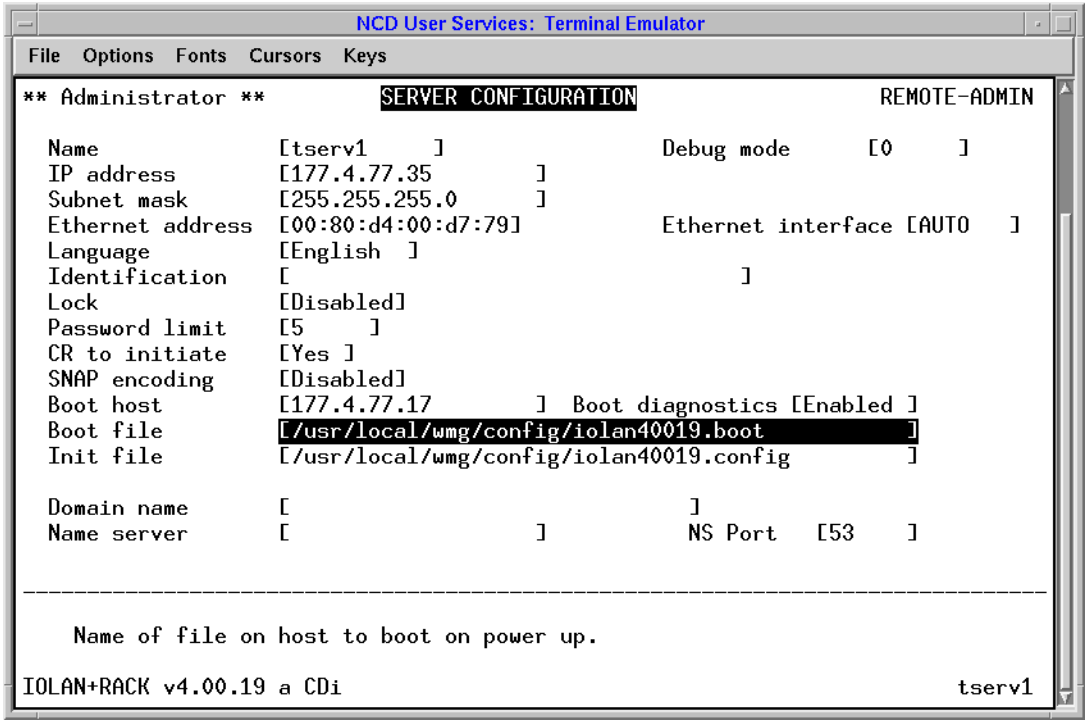

Figure 2-14: Server Configuration Window for Version 4.00.19

26. Define the following parameters in the Server Configuration window:
    a. Name: enter a name for the terminal server that matches the host name of the terminal server; type: **tserv1**.
    b. IP address: enter the IP address of the terminal server; type: **177.4.77.35**.
    c. Subnet mask: enter the value that corresponds with the IP; type: **255.255.255.0**.
    d. Ethernet Address: **Accept default**
    e. Language: **English** or the appropriate language.
    f. Identification: leave blank
    g. Lock: **Disabled**
    h. Password limit: **5** (change if desired)
    i. CR to initiate: **Yes**

j. SNAP encoding: **Disabled**

k. Boot host: Type **177.4.77.17**

l. Boot file: leave blank
   - For IOLAN v3.5.02: leave blank
   - For IOLAN v4.00.19: **/usr/local/wmg/config/iolan40019.boot**

m. Init file: (modify, the path to the terminal server configuration file on the CP)
   - For IOLAN v3.5.02: **/usr/local/wmg/config/iolan3502.config**
   - For IOLAN v4.00.19: **/usr/local/wmg/config/iolan40019.config**

n. Domain name: leave blank

o. Name server: leave blank

27. Press **<Return>**.

28. Select **Save & Exit** from the Commands pop-up menu, and press **<Return>**.

    The Administration menu appears.

29. Select **reboot: Reboot Server**, press **<Return>**, then press the **<Spacebar>** (see Figure 2-15).

    The message ***Terminal Server Shutdown in progress*** appears. If the reboot is successful, the message Image Load Complete appears, and the terminal server login prompt displays (tserv1>).

30. Disconnect the cable going from Port 1 on the back of the Terminal Server and the NCD serial port.

This completes the procedure for configuring the WMG MS terminal.

Repeat the above procedure for the remaining terminal servers using the corresponding IP addresses (see Appendix B).

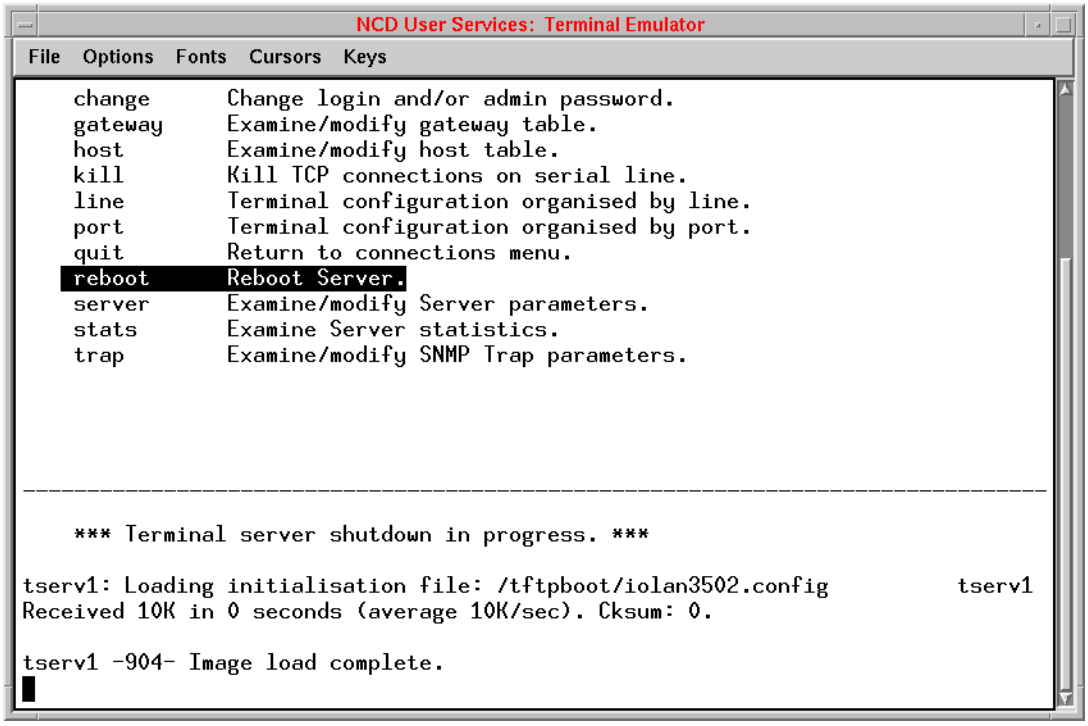

Figure 2-15: Administration Menu

Terminal Server Configuration for TNPP (optional)

Note: This procedure assumes that power is shut off to the terminal server.

1. Connect the serial cable from the NCD console serial port to port 1 on Terminal Server 2.
2. Turn on power to Terminal Server 2.
3. Verify that the power indicator on the power switch is ON (green).
4. From the local prompt, type:

   su <Return>

Note: If the Connections Menu appears, press **<Return>**, *select* **CLI, *then*** *press* **<Return>** *to get to the local prompt*

5. At the local prompt, type:

   su <Return>
   iolan <Return>

6. At the ADMIN:local prompt, type **facreset <Return>**.

7. Type **y** to continue.

8. Wait for the message:

   System is Shutting Down

9. Turn off the power to the terminal server.

10. Turn on the power to the terminal server.

11. At the local login prompt, type:

    su <Return>

12. At the local prompt type:

    set term vt100 <Return>

    The Connections menu appears (see Figure 2-11).

13. From the **Connections** menu, press **<Return>** to display the Commands pop-up menu.

14. Select **Admin Mode** from the Commands pop-up menu.

    The Administration menu appears.

15. Select the **password field** and press **<Return>**.

16. Type the password **iolan**, press **<Return>.**

17. The Administration menu displays with additional fields (see Figure 2-16).

18. From the Administration Menu, select **server: Examine/modify Server parameters**.

19. The Server Configuration window appears (see Figure 2-17).

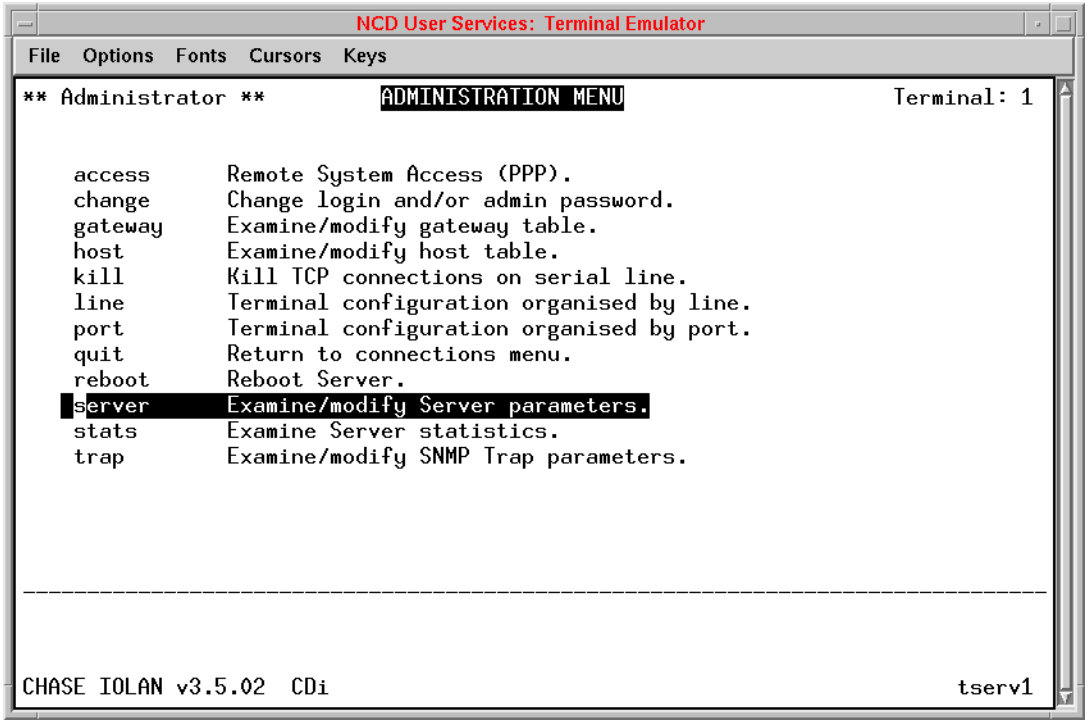

Figure 2-16: Administration Menu

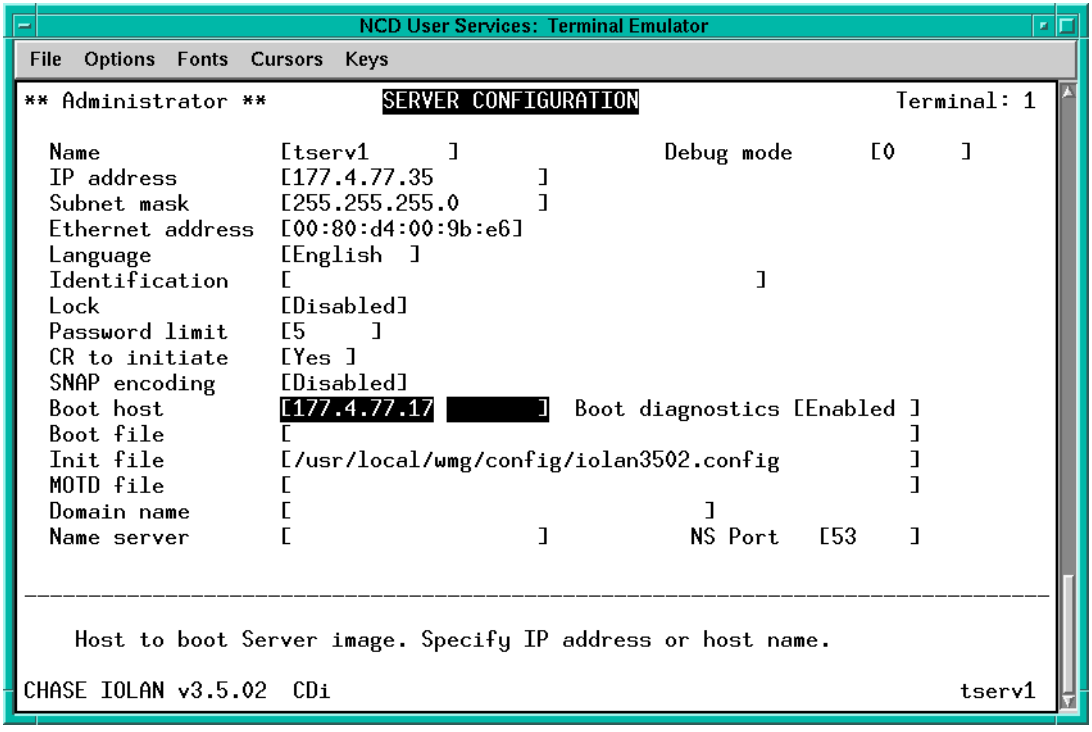

Figure 2-17: Server Configuration window

20. Enter the following information in the relevant fields:
    a. Name: enter a name for the terminal server that matches the “host name” of the terminal server; type **tserv2**
    b. IP address: enter the IP address of the terminal server: Type **177.4.77.36**
    c. Subnet mask: enter the value that corresponds with the IP: Type **255.255.255.0**
    d. Ethernet Address: **Accept default**
    e. Language: **English**
    f. Identification: **leave blank**
    g. Lock: **Disabled**
    h. Password limit: **5**

i. CR to initiate: **Yes**

j. SNAP encoding: **Disabled**

k. Boot host: **177.4.77.17**

l. Boot file: **/usr/local/wmg/config/iolan3502_vblck16.boot**

m. Init file: **leave blank**

n. Domain name: **leave blank**

o. Name server: **leave blank**

21. Press **<Return>** then select **Save & Exit** from the Commands Pop-up menu.

22. Press **<Return>**.

    The Administration menu appears (see Figure 2-15).

23. Select reboot: **Reboot Server,** press **<Return>**, then press the **spacebar**.

The message ***Terminal Server Shutdown in progress*** appears. If the reboot is successful, the message Image Load Complete appears and the terminal server login prompt is displayed (tserv2>).

24. Disconnect the cable going from Port 1 on the back of the Terminal Server the to NCD serial port.

    This completes the procedure for configuring the terminal server

25. After all the terminal servers are configured close the NCD widow.

Configuring the Ethernet Switch

To configure the ethernet switch, a terminal server serial port must be connected to the terminal serial port on the ethernet switch. This terminal server port was configured in the previous section, paragraph, "Configuring the Terminal Server").

Use the following procedure to configure the LanPlex 2500 ethernet switch:

1. Select **Terminals** from the NCD User Services window.

2. Select **New Telnet** from the **Terminals** drop-down menu.

3. Press **<Setup>** from the Wireless Message Gateway -Control Center, and select **Terminals>New Telnet**.

   The NCD Telnet window appears.

4. At the telnet window enter **omc <Return>** for the service.

5. Push the power distribution panel switch for Ethernet Switch 1 to ON position.

6. Push the Ethernet Switch 1 power switch (back side) to ON position

7. Verify that the Power LEDs are ON (green)

8. Login as **root** and enter **motorola** (or a specified root password).

9. From the omc prompt in the NCD window, type the following:

   For enet 1 type: **telnet tserv1 10005 <Return>**
   For enet 2 type: **telnet tserv1 10006 <Return>**

The 5-digit number is the port number in the form of 100xx, with xx being the two-digit terminal server port number; for instance, 06. The resulting would be 10006, in this example. (The port # is 10005 for ethernet switch 1 and 10006 for ethernet switch 2.)

The ethernet switch responds with a prompt for access level and password.

10. Type **adm** at the prompt, and press **<Return>**.

11. Press **<Return>** at the password prompt.

    The Administrative Console menu appears.

Note: For help using the Administrative Console, enter a question mark (?).

Setting the Ethernet Switch System Level Parameters

Use this procedure to set the ethernet switch system level parameters.

1. At the Administrative Console, type **sys** and press **<Return>**.

   The System menu appears.

2. At the System menu: type **nvD** and press **<Return>**.

   The System nvData window appears.

3. At the System nvData window, type **reset** and press **<Return>**.

4. Type **Y <Return>** to continue.

   The ethernet switch will reboot.

5. At the prompt, type **adm** and press **<Return>**.

6. At the password prompt, press **<Return>**.

   The Administrative Console top-level menu appears.

7. At the prompt, Select a menu option:, type **sys** and press **<Return>**.

   The System menu appears.

8. At the prompt, Select menu option (system):, type **tim** and press <**Return>**.

   The system displays the current date and time.

9. Type **Y** and press **<Return>** to change the time.

   Enter a new date and time (12hr format) if necessary, using the default format of mm/dd/yy and hh:mm:ss AM or PM and press **<Return>** to accept.

10. At the prompt, Select menu option (system):, type **nam** and press **<Return>.**

11. At the prompt, Select menu option (system):, type the system name and press <Return>.

    Type **enet1** for ethernet switch 1, or **enet2** for ethernet switch 2.

12. At the prompt, Select menu option (system):, type **q** and press **<Return>** to return to the previous level menu.

Setting the Ethernet Switch Bridge Level Parameters

Use this procedure to set the ethernet switch bridge level parameters.

1. At the prompt, Select a menu option:, type **bri** and press **<Return>**.

   The Bridge menu appears.

2. At the prompt, Select menu option (bridge):, type **stpS** and press **<Return>**.

3. The system prompts to enter a new value (disabled or enabled); type **ena** and press **<Return>**.

4. At the prompt, Select menu option (bridge):, type **stpM** and press **<Return>**.

5. The system prompts to enter a new value [20]; type **6** and press **<Return>**.

6. At the prompt, Select menu option (bridge):, type **stpF** and press **<Return>**.

7. The system prompts to enter new value [15]; type **4** and press **<Return>**.

Setting IP Level Parameters

1. Type **ip** at the prompt, Select a menu option:, and press <**Return**>.

   The IP Level menu appears (see Figure 2-18).

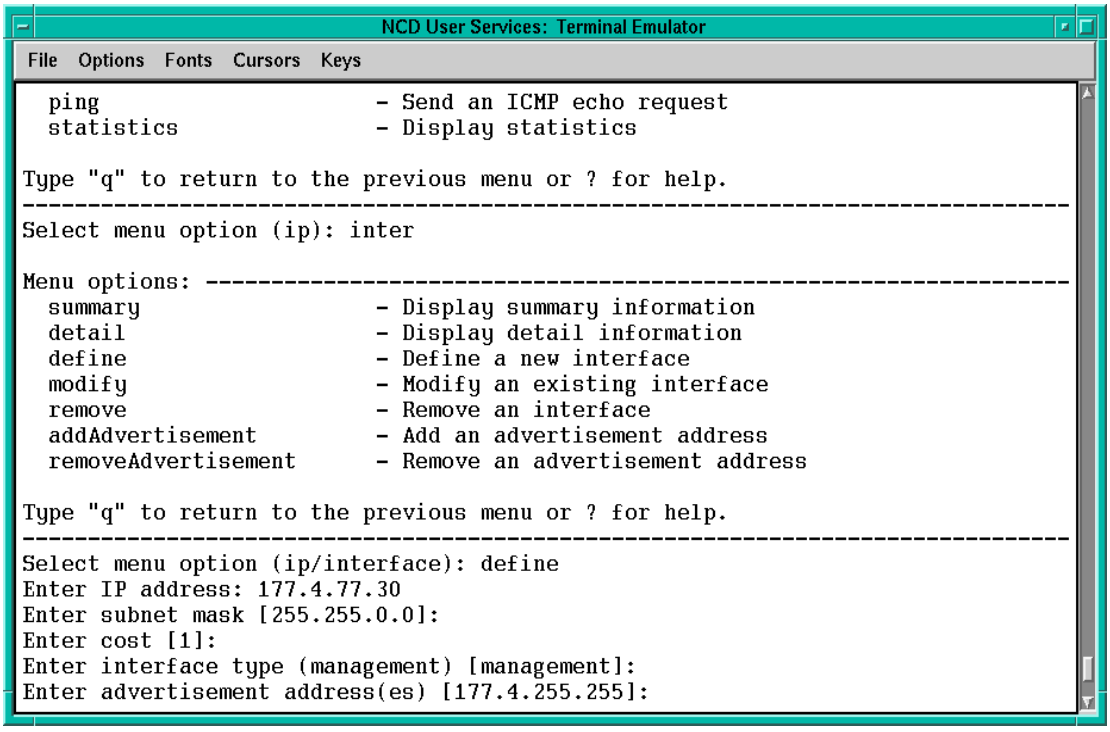

Figure 2-18: IP Level Parameters

2. Type **inter** at the prompt, Select menu option (ip):, and press <**Return**>.

   The IP / Interface menu appears.

3. At the prompt, Select menu option (ip/interface):, type **def** and press **<Return>**.

   a. Enter the IP address for enet1 or enet2:
      - **177.4.77.30** for enet1 or **177.4.77.31** for enet2

   b. Enter the subnet mask, type **255.255.255.0** and press **<Return>**.

   c. Enter broadcast address, press **<Return>** to accept the default.

d. Enter the cost, press **<Return>** to accept the default of 1.

e. Select **all** and press **<Return>**

f. Type **q** to return to the Select Main option (ip) window

g. Select **in** to enter ip / interface window

4. Type **dis** and press **<Return>**.

   The system displays the defined IP parameters.

5. Verify the IP parameters for each of the subnets.

6. At the prompt, Select menu option (ip/interface):, type **q** and press **<Return>** to return to the previous menu.

7. At the prompt, Select menu option (ip):, type **rip** and press **<Return>**.

8. The system displays Enter RIP mode (off, passive, active); type **off** and press **<Return>**.

9. At the prompt, Select menu option (ip):, type **ping** and press **<Return>**.

10. Enter the destination IP address to ping, type **177.4.77.17** and press **<Return>**.

    The enet responds that the address is alive.

11. At the prompt, Select menu option (ip):, type **q** and press **<Return>** to return to the previous level menu.

12. At the prompt, Select menu option:, type **sys** and press **<Return>** to return to the previous level menu.

    The Administrative Console top level menu appears.

13. At the prompt, Select menu option (system):, type **reb** and press **<Return>**.

14. Type **y** for yes to reboot the system and press **<Return>**.

15. Exit from the terminal session; type **Ctl-]**

16. At the telnet > prompt, type **quit**.

You have now completed the ethernet switch software configuration to the specifications of the WMG MS.

Note: Repeat this procedure for each ethernet switch in the system.

Configuring File Server Software

To configure the File Server (FS), connect a terminal server serial port to the serial console port on the file server. This terminal server port was configured in terminal server configuration procedures.

Before configuring the FS, ensure that both Power Distribution Panel switches are turned on for the FS. There is one power circuit for the Redundant Array of Independent Disks (RAID) and a separate power circuit for the system controller. If possible, power up the RAID before applying power to the controller.

Setting Up the FS

1. Insert Network Appliance System Bootup Disk version 3.1.4d.
2. From the Terminal Emulator window, at the omc prompt type the following:

   telnet tserv1 10004 <Return>
3. Push the power distribution switch for Disk Storage (RAID) to the ON position.
4. Verify that both disk storage power supply LEDs (left front above power connector, top is shelf status, bottom is power supply status) are ON (green)
5. Push the power distribution panel switch for the file server to ON position.
6. Push the file server power switch to ON position.
7. Verify that the file server LED status is as follows:

   Left LED (Active) is OFF (this will ON (green) when there is CPU activity).
   Middle LED (STDBY / SERV) is OFF (Note: if ON (yellow) this is a problem).
   Right LED (Power) is ON (green).
8. At theprompt, Selection (1-5)?, type **4 <Return>** to install new file system.
9. At the prompt, Zero disks and install a new file system?, type **y <Return>**.
10. At the prompt, This will erase all data on the disks, are you sure?, type **y <Return>**.
11. At the prompt, hot spare?, type **no <Return>**.

The file server responds with a list of setup prompts requesting configuration information (see Figure 2-19).

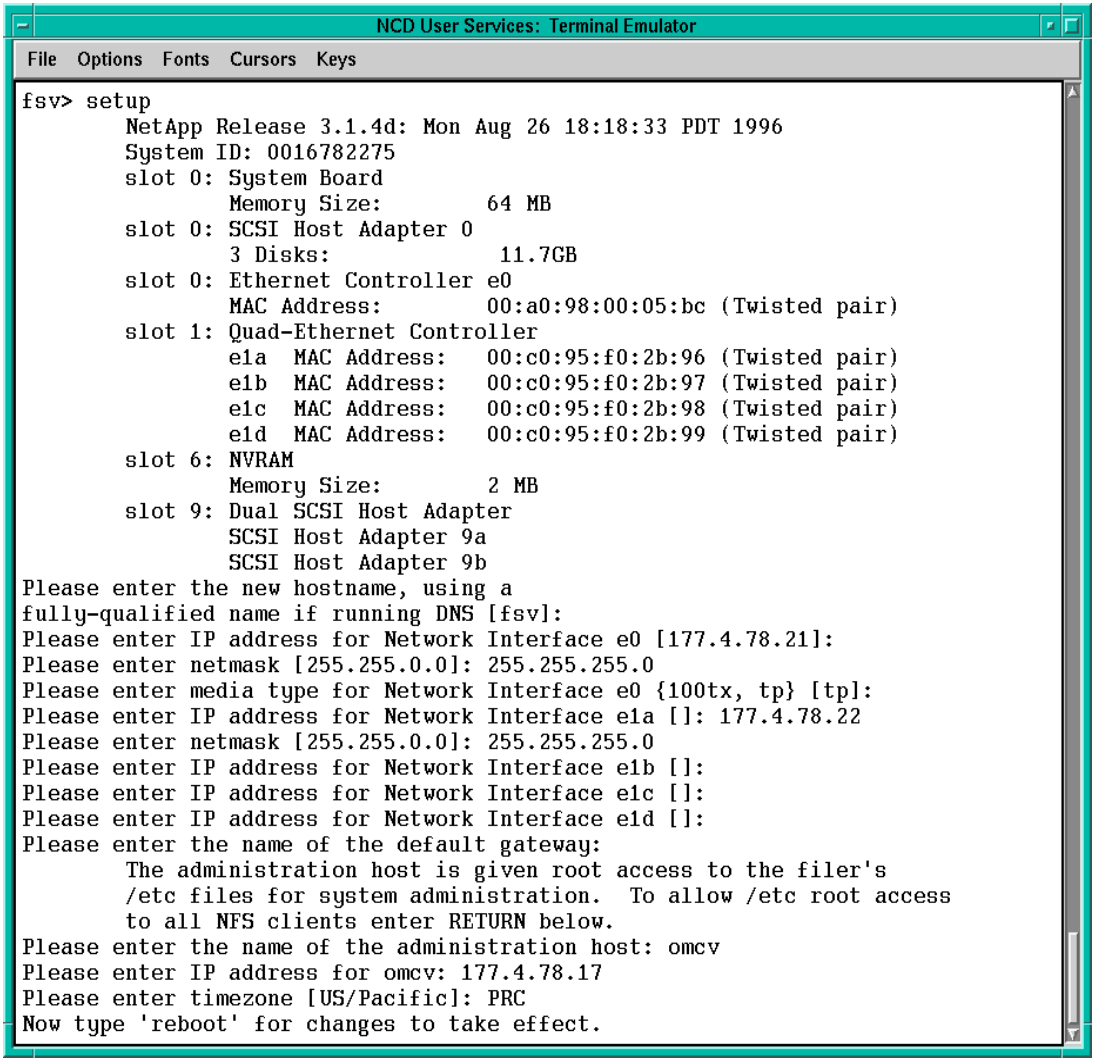

Figure 2-19: File Server Setup Menu

12. Enter the host name for the FS by typing **fsv <Return>**.

13. Enter the IP address for network Interface e0[] by typing **177.4.78.21 <Return>**.

This is the address of the file server voice LAN.

Note: The Setup program provides the names of each interface. In the above step, network interface e0 is the Ethernet controller in slot 0 on the mother board.

If the Filer has the quad ethernet port expansion option, no setup is required for these ports in this WMGMS release.

14. Enter the netmask for the network interface e0 by typing **255.255.255.0 <Return>**.

15. Select media type for network interface e0. Press **<Return>** to use the default value of **tp**.

16. Press **<Return>** to retain the unconfigured defaults of IP addresses for expansion ports e1a, e1b, e1c, or e1d. For each prompt:
    a. Enter the IP address for Network Interface ela[]:**<Return>**
    b. Enter the IP address for Network Interface e1b[]:**<Return>**
    c. Enter the IP address for Network Interface elc[]:**<Return>**
    d. Enter the IP address for Network Interface eld[]:**<Return>**
    e. Enter the IP address for Network Interface f8[]:**<Return>**

17. At the prompt, enter name of the default gateway, press **<Return>**.

18. At the prompt, IP address of the gateway, press **<Return>**.

19. Enter the name of the administration host (the voice LAN name assigned to the CP by typing:

    omcv <**Return**>

20. Enter the IP address of the administration host (OMC) by typing:

    177.4.78.17 <Return>

    The file server setup is complete.

21. Press **<Setup>** and open **New Telnet Window**.

22. Select **Terminals>New Telnet**.

23. Type **10.5.0.2** (OMC) and press **<Return>**.

24. At the omc prompt, type the following

    mount fsv:/ /mnt <Return>
    cd /mnt <Return>
    tar -xvf /usr/local/wmg/config/Utilities/fileserv31c/3.1.4d.tar_i <Return>
    cd / <Return>
    umount /mnt <Return>

25. Return to the FSV Telnet window; type **telnet fsv** and press **<Return>**.

26. Type **passwd** and press **<Return>**.

27. Enter **motorola** twice to confirm the password.

28. Type **maxfiles 99999999999**.

    The system displays max inode count cannot exceed <nnnnn>.

29. Type: **maxfiles** <nnnnn> (the number obtained in Step 28).

30. Type **download <Return>**.

31. Remove the System Boot disk.

32. Type **reboot** and press **<Return>**.

    The system reboots--as indicated by the prompt for a password (see Figure 2-20).

33. Press **<Cntl +1>**.

34. At the prompt, telnet>, type **quit <Return>**.

    The file server is configuration is complete.

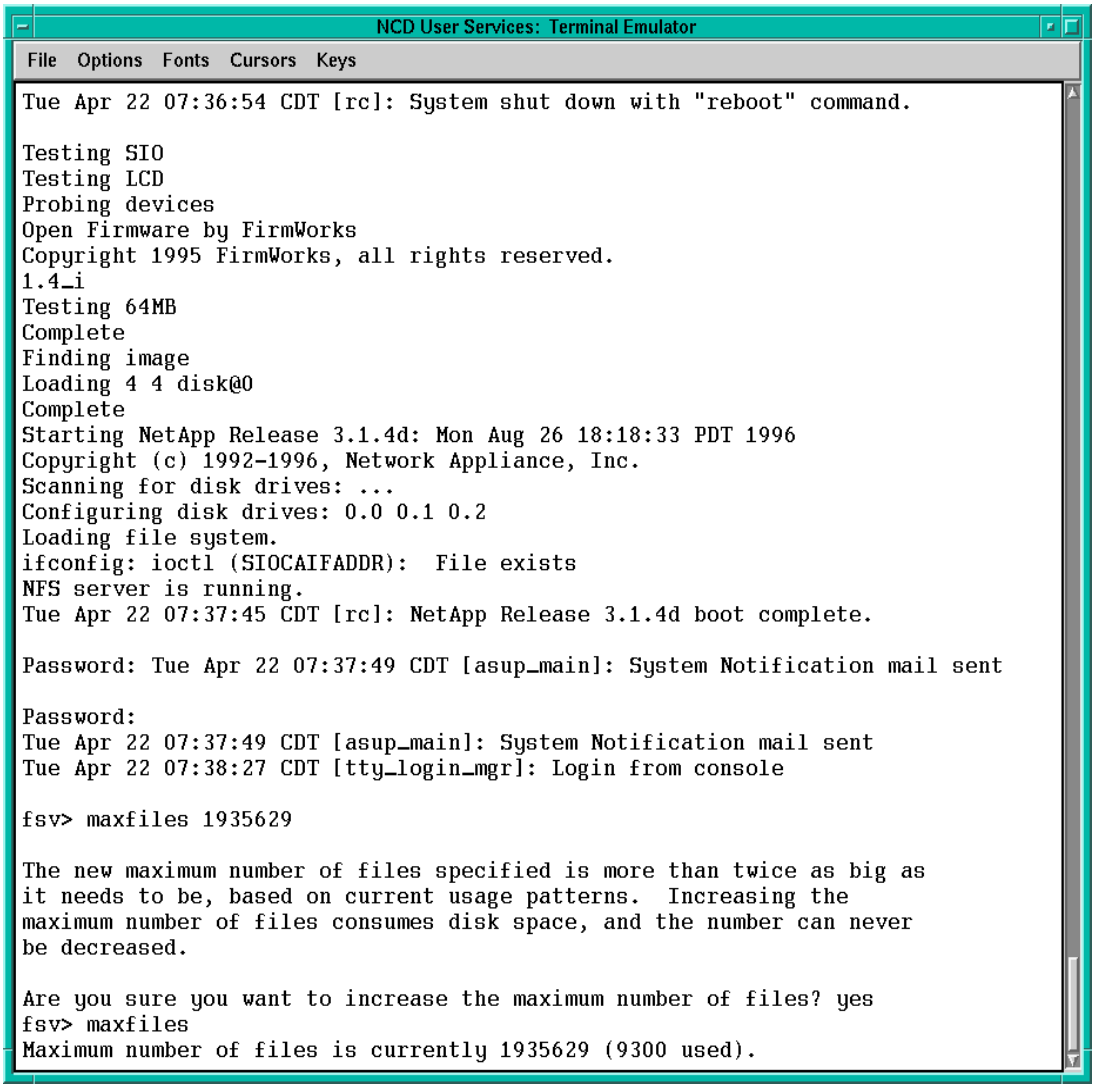

Figure 2-20: File Server Configuration

Local Printer Setup

The HP™ 4MP and HP 5M printers are supported for use with the WMG MS. This section contains a separate configuration procedure for each printer.

Setting up the HP 4MP

Use the printer control panel to perform the following configuration procedure for the HP 4M printer:

1. Verify that that the printer has paper.

Note: The front panel menu does not respond unless the printer has paper in the paper tray.

2. Turn the printer power distribution switch ON.

3. Turn the printer ON.

4. Press **<On Line>** on the front control panel to set the printer to off line.

5. Press **<Menu>** until [MIO MENU] appears on the printer display.

6. Press **<Item>** until [CFG NETWORK=NO *] appears on the printer display.

7. Press **<+/->** until [CFG NETWORK=YES] appears on the printer display.

8. Press **<Return>** until [CFG NETWORK=YES *] appears on the printer display.

9. Press **<Item>** until [TCP/IP=OFF *] appears on the printer display.

10. Press **<+/->** until [TCP/IP=ON] appears on the printer display.

11. Press **<Return>** until [TCP/IP=ON *] appears on the printer display.

12. Press the **<Item>** until [CFG TCP/IP=NO *] appears on the printer display.

13. Press **<+/->** until [CFG TCP/IP=YES] appears on the printer display.

14. Press **<Return>** until [CFG TCP/IP=YES *] appears on the printer display.

15. Press <**Item**> until [BOOTP=YES *] appears on the printer display.

16. Press <**+/-**> until [BOOTP=NO] appears on the printer display.

17. Press <**Return**> until [BOOTP=NO *] appears on the printer display.

18. Press <**Item**> until [IP BYTE 1=0] appears on the printer display.

19. Press <**+/-**> until [IP BYTE 1=10] appears on the printer display.

Note: Hold down the <**+/-**> *button for automatic incrementing.*

20. Press <**Return**> until [IP BYTE 1=10*] appears on the printer display.

21. Press <**Item**> until [IP BYTE 2=0] appears on the printer display.

22. Press <**+/-**> until [IP BYTE 2=5] appears on the printer display.

Note: Hold down the <**+/-**> *button for automatic incrementing.*

23. Press <**Return**> until [IP BYTE 2=5 *] appears on the printer display.

24. Press <**Item**> until [IP BYTE 3=0] appears on the printer display.

25. Press <**+/-**> until [IP BYTE 3=0] appears on the printer display.

Note: Hold down the <**+/-**> *button for automatic incrementing.*

26. Press <**Return**> until [IP BYTE 3=0 *] appears on the printer display.

27. Press <**Item**> until [IP BYTE 4=0] appears on the printer display.

28. Press <**+/-**> until [IP BYTE 4=50] appears on the printer display.

Note: Hold down the <**+/-**> *button for automatic incrementing.*

29. Press <**Return**> until [IP BYTE 4=50 *] appears on the printer display.

30. Press <**On Line**> to place the printer in the on line mode.

Local printer set up is complete for HP 4MP.

Setting up the HP 5M

Use the printer control panel to perform the following configuration procedure for the HP 5M printer:

1. Verify that that the printer has paper.

Note: The front panel menu does not respond unless the printer has paper in the paper tray.

2. Turn the printer power distribution switch ON.
3. Turn the printer ON.
4. Press <**On Line**> on the front control panel of the printer to set the printer to off line.
5. Press <**Menu**> until [HP MIO MENU] appears on the printer display.
6. Press <**Item**> until [CFG NETWORK=NO *] appears on the printer display.
7. Press <**Value** > until [CFG NETWORK=YES] appears on the printer display.
8. Press <**Select**> until [CFG NETWORK=YES *] appears on the printer display.
9. Press <**Item**> until [NOVELL*] appears on the printer display.
10. Press <**Item**>, then <+/-> until [NOVELL=ON] appears on the printer display.
11. Press <**Value**>, then <+/-> until [NOVELL=OFF *] appears on the printer display.
12. Press <**Select**>.
13. Press <**Item**>, then <+/-> until [DLC/LLL] appears on the printer display.
14. Press <**Value**>, then <+/-> until [OFF] appears on the printer display.
15. Press <**Select**>.
16. Press <**Item**> until [TCP/IP*] appears on the printer display.

17. Press <**Value**>, then <+/-> until [ON] appears on the printer display.
18. Press <**Select**>.
19. Press <**Item**> until [ETALR] appears on the printer display.
20. Press <**Value**>, then <+/-> until [OFF] appears on the printer display.
21. Press <**Select**>.
22. Press <**Item**> until [CFG TCP/IP] appears on the printer display.
23. Press <**Value**>, then <+/-> until [YES] appears on the printer display.
24. Press <**Select**>.
25. Press <**Item**> until [BOOTP] appears on the printer display.
26. Press <**Value**>, then <+/-> until [BOOTP=NO] appears on the printer display.
27. Press <**Item**> until [BOOTP=NO *] appears on the printer display.
28. Press <**Item**> until **[IP BYTE 1=0]** appears on the printer display.
29. Press <**Value**>, then <+/-> until [IP BYTE 1=10] appears on the printer display.

Note: Hold down the <+/-> button for automatic incrementing or decrementing.

30. Press <**Select**> until [IP BYTE 1=10 *] appears on the printer display.
31. Press the <**Item**> until [IP BYTE 2=0] appears on the printer display.
32. Press the <**Value**>, then <+/- > until [IP BYTE 2=5] appears on the printer display.
33. Press <**Select**> until [IP BYTE 2=5 *] appears on the printer display.
34. Press <**Item**> until [IP BYTE 3=0 *] appears on the printer display.
35. Press <**Value**>, then <+/-> until [IP BYTE 3=0] appears on the printer display.

36. Press <**Select**> until [IP BYTE 3=0 *] appears on the printer display.
37. Press <**Item**> until **[IP BYTE 4=0]** appears on the printer display.
38. Press <**Value**>, then <+/-> until [IP BYTE 4=50] appears on the printer display.
39. Press <**Select**> until [IP BYTE 4=50 *] appears on the printer display.
40. Press <**60**> to place the printer in the on line mode.
41. Press <**Item**> until [SM BYTE 1] appears on the printer display.
42. Press <**Value**>, then <+/-> until 255 appears in the printer display.
43. Press <**Select**>.
44. Press <**Item**> button until [SM BYTE 2] appears on the printer display.
45. Press <**Value**>, then <+/-> until 255 appears in the printer display.
46. Press <**Select**>.
47. Press <**Item**> until [SM BYTE 3] appears on the printer display.
48. Press <**Value**>, then <+/-> until 0 appears in the printer display.
49. Press <**Select**>.
50. Press <**Item**> until [SM BYTE 4] appears on the printer display.
51. Press <**Value**>, then <+/-> until 0 appears in the printer display.
52. Press <**Select**>.
53. Press <**Item**> until [LG BYTE 1] appears on the printer display.
54. Press <**Value**>, then <+/-> until 10 appears in the printer display.
55. Press <**Select**>.

56. Press <**Item**> until [LG BYTE 2] appears on the printer display.
57. Press <**Value**>, then <**+/-**> until 5 appears in the printer display.
58. Press <**Select**>.
59. Press <**Item**> until [LG BYTE 3] appears on the printer display.
60. Press <**Value**>, then <**+/-**> until 0 appears in the printer display.
61. Press <**Select**>.
62. Press <**Item**> until [LG BYTE 4] appears on the printer display.
63. Press <**Value**>, then <**+/-**> until 2 appears in the printer display.
64. Press <**Select**>.
65. Press <**Item**> until [GW BYTE 1] appears on the printer display.
66. Press <**Value**>, then <**+/-**> until 10 appears in the printer display.
67. Press <**Select**>.
68. Press <**Item**> until [GW BYTE 2] appears on the printer display.
69. Press <**Value**>, then <**+/-**> until 5 appears in the printer display.
70. Press <**Select**>.
71. Press <**Item**> until [GW BYTE 3] appears on the printer display.
72. Press <**Value**>, then <**+/-**> until 0 appears in the printer display.
73. Press <**Select**>.
74. Press <**Item**> until [GW BYTE 4] appears on the printer display.
75. Press <**Value**>, then <**+/-**> until 2 appears in the printer display.

76. Press <**Select**>.

77. Press <**Item**> until TIMEOUT appears on the printer display.

78. Press <**Value**>. Press <**+/-**> until 90 appears in the printer display.

79. Press <**Select**>.

Local printer set up is complete for HP 5M.

Defining a Network Printer

Use this procedure if using a network printer.

1. From the omc # prompt, type **jetadmin <Return>**.

   The HP JetAdmin main menu appears.

2. Select Configuration; type **1 <Return>**.

   The Configuration menu appears.

3. Select Add printer to local spooler; type **3 <Return>**.

4. Enter the network printer name; type **laserjet <Return>**.

   The printer parameters menu appears.

5. Type **6 <Return>** for Additional printer configuration.

6. Type **1 <Return>** for Model Script.

   The Model Script Printer screen appears.

7. Based on the printer model enter the following:
   a. If the printer type is a 4MP, type **net_lj4x <Return>**.
   a. If the printer type is a 5M, type **net_l5jx <Return>**.

   The Configurable Parameters screen appears.

8. Type **4 <Return>** to change the True End-Of-Job to OFF.

9. If the Banner Page Option is ON, Type **5 <Return>** to change to OFF.

10. Type **q <Return>** to move to the queue parameters screen.

11. Type **5 <Return>** to change the default queue to YES.

12. Type **0 <Return>** to configure.

    The configuration screen appears.

13. Press **<Return>** at the OK to configure? prompt.

14. Press **<Return>** to continue.

15. Type **q** and press **<Return>** to return to the main menu.

Installing the WMG CP Operating System

Loading CP1 Tape and Boot CD-ROM

Use this procedure to load the CP tape and boot the CD-ROM.

For Themis-based CPs:

1. If the CP is running, log on to the CP, perform a CP software shutdown, and turn the power off at the Power Distribution Panel (PDP) and at the CP.

2. Remove the SCSI-2 terminator at the rear of the CP 1 VME chassis and attach the SCSI-2 cable for the CD-ROM drive.

3. Set the SCSI ID for the CD-ROM drive to 6.

4. Attach the connector labeled J2 on the three-connector end of the serial console cable to the auxiliary DB9 serial port on the back of the x-terminal, and attach the single-connector end of the cable to the TTYA / B port on the front face of CP1 (see Figure 2-21).

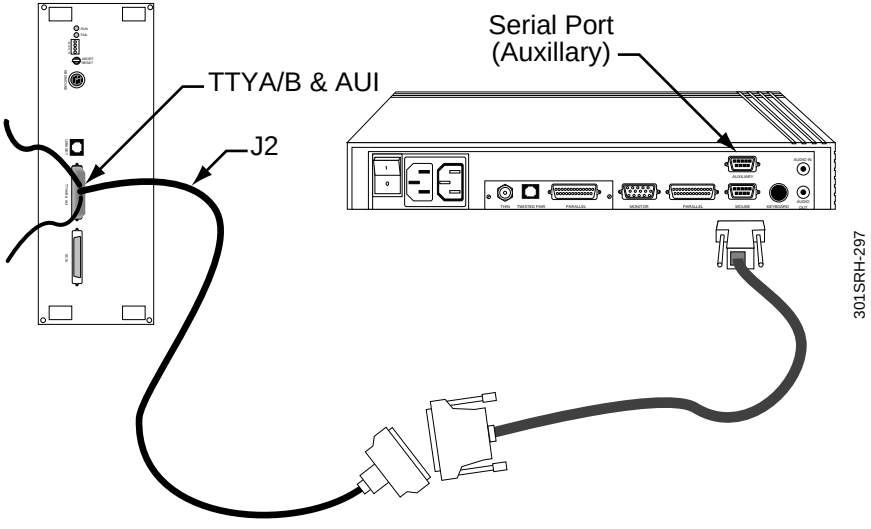

Figure 2-21: Connecting the X-Terminal to the Themis CP1 or CP2 TTA/B Port

The following are the part numbers for the components of the serial cable:

– Motorola part number #5880567S01 DB25-RJ45 adapter
– Motorola part number #5880550S01 DB9-RJ45 adapter
– Motorola part number #0180301F97 serial RJ45-RJ45 cable kit

This connection requires a Null modem and DB25-DB9 adapter.

For Ultra-based CPs:

1. If the CP is running, log on to the CP, perform a CP software shutdown, and turn the power off at the PDP and at the CP.

2. Before applying power to the computer, attach the DB25-DB9 serial maintenance cable between TTYA on the computer to the auxiliary serial port on the back of the x-terminal (see Figure 2-22).

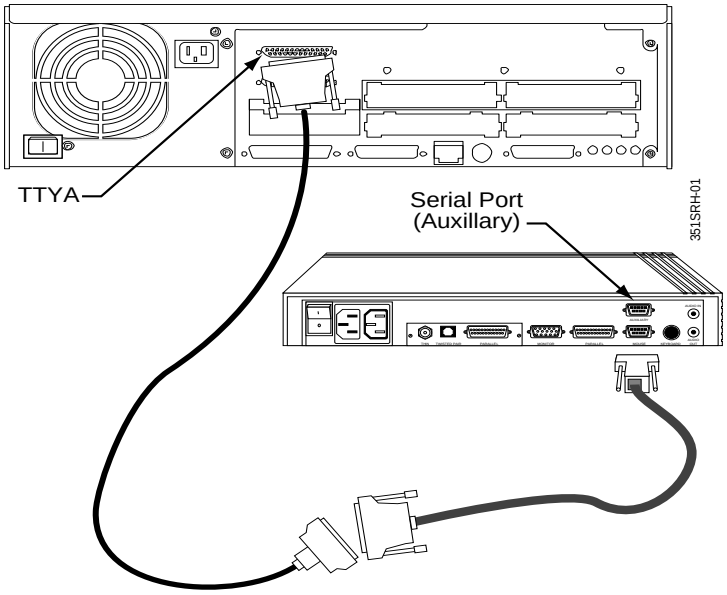

Figure 2-22: Connecting the X-Terminal to the Ultra Primary or Secondary CP

The following are the part numbers for the components of the serial cable:

– Motorola part number #5880567S01 DB25-RJ45 adapter
– Motorola part number #5880550S01 DB9-RJ45 adapter
– Motorola part number #0180301F97 serial RJ45-RJ45 cable kit

Setting the CP1 Open Boot Parameters

1. Turn on the NCD Window Manager.

2. Select **WindowMgr>NCD Window Manager**.

   The NCD User Services: Console window appears (see Figure 2-23).

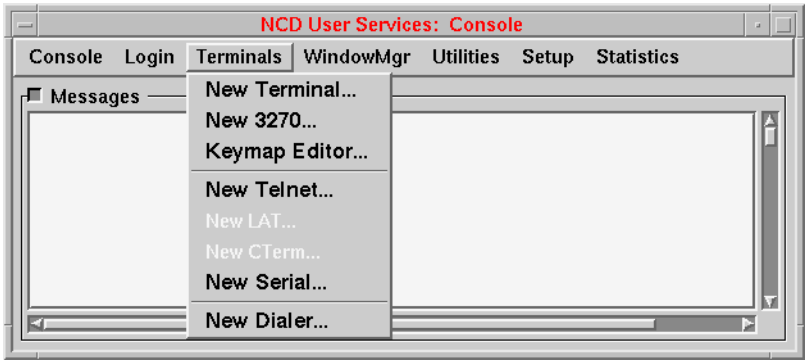

Figure 2-23: NCD User Services Console Window

3. Select **Terminals>New Serial** from the NCD User Services window.

   The NCD User Services: Terminal Emulator window appears.

4. Select **serial port**.

   The message: connecting to serial port 1...success displays.

5. From the Serial window select **Fonts**, then select **Jumbo**.

6. Turn the power on at the PDP and at the CP.

   Openboot diagnostic messages begin to scroll in the NCD Terminal window.

7. When the RAM test / initialization begins, press the **<Break>** key.

   The system responds with an ok prompt.

8. Reset NVRAM to factory defaults, type **set-defaults <Return>**.

9. Reboot the processor; type **reset <Return>**.

10. During the RAM tests press **<Break>**.

    The system responds with the ok prompt

Setting the Open Boot Parameters

1. Change the ttya-mode parameter. From the ok prompt, type:

   setenv ttya-mode 9600,8,n,1,s <Return>

2. Change the diag-service parameter. From the ok prompt, type:

   setenv diag-device disk <Return>

3. From the ok prompt, type:

   setenv diag-switch? true <Return>

Note: For Ultra CPs, skip to Step .

4. Modify NVRAM. From the ok prompt, type:

   nvedit <Return>

5. From line 0, type:

   xx 3e00.0003 2e spacec! <Return>

6. From line 1, type:

   cd /obio/zs@0,0 <Return>

Note: Note: In the following step there is a space between the quotation mark " and the letter k in the word keyword.

7. From line 2, type:

   " keyboard" delete-attribute <Return>

8. Press **<Ctrl+C>** to exit nvedit.

9. Store the NVRAM changes, type:

nvstore <Return>

10. At the ok prompt, type:

    setenv use-nvramrc? true <Return> Verify the changes by typing:

    printenv <Return>

    The updated parameter information is displayed at the end of this section.

11. Reboot the processor; type:

    reset <Return>

12. During the RAM tests press **<Break>**.

    The system responds with the ok prompt.

13. Verify that the system SCSI IDs are properly set, type:

    probe-scsi-all <Return>

14. Verify the following settings:
    - target 4: 4mm DAT tape drive
    - target 6: CDROM

    For Themis-based CPs—target 3: CP1 and CP2 disc drive

    For Ultra base CPs—target 0: CP1 and CP2 disc drive

Note: Repeat the above procedure for CP2 (if equipped).

Identifying the CP1 System

1. Insert the Solaris 2.5.1 Hardware CD-ROM into the CD-ROM drive.

2. Type **boot cdrom**, and press **<Return>** at the ok prompt.

3. Select the type of terminal in use (see Figure 2-24); type **12** if using the X Terminal Emulator and press **<Return>**.

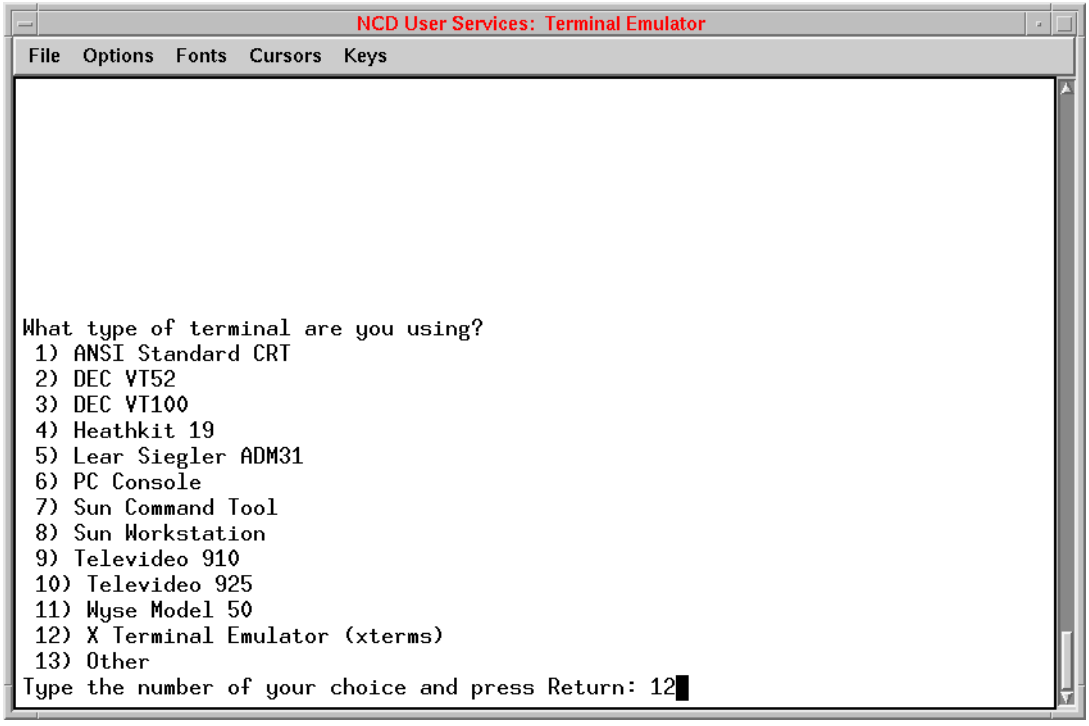

Figure 2-24: Select Type of Terminal

The Solaris Installation Program window appears (see Figure 2-25).

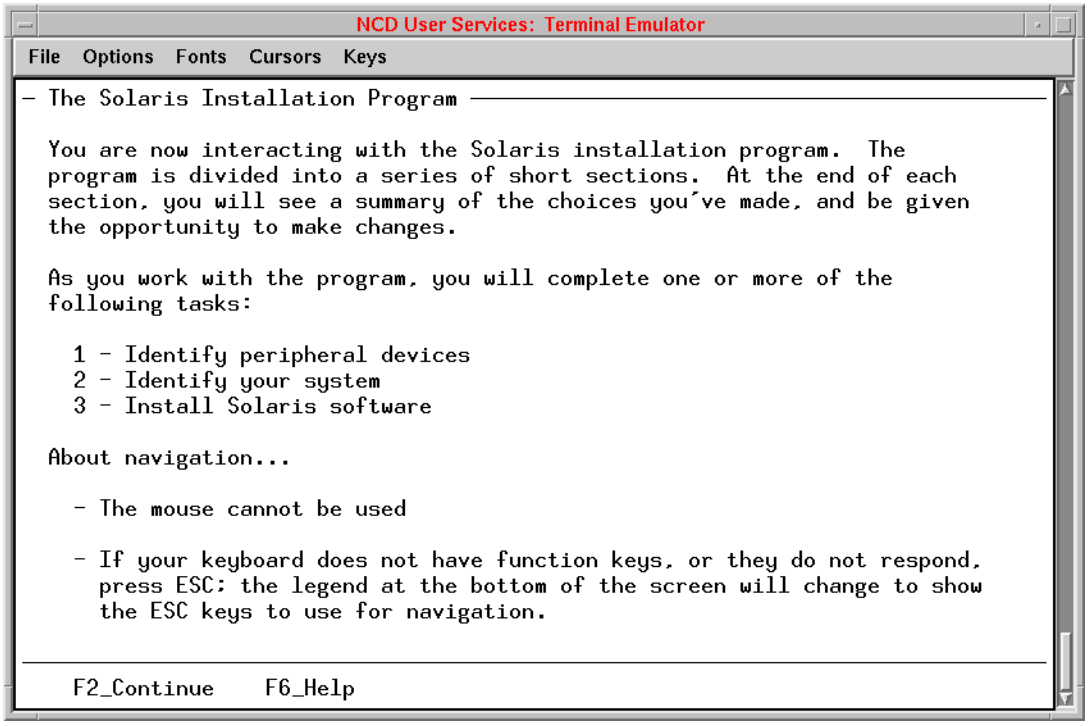

Figure 2-25: Solaris Installation Program Window

4. Press <**F2**> to continue.

   The Identify This System window appears.

5. Press <**F2**> to continue.

   The Host Name window appears.

6. Type the host name (that is, **cp1** or **cp2**) of the system, and press <**F2**> to continue.

   The Network Connectivity window appears.

7. Use the arrow keys to select **Yes** for Networked, and press <**F2**>.

   The Primary Network Interface window appears.

8. Accept the default for the primary network interface. Press <**F2**> to continue.

The IP Address window appears.

9. Type the Internet Protocol (IP) address for the onboard ethernet interface (le0 or hme0)—this is the IP address for the host name.

   For CP1, type **177.3.77.10 <F2>**.

   For CP2, type **177.3.77.11 <F2>**.

   The Confirm Information window appears.

10. Verify that the network information entered in the previous windows. If the information is correct, press **<F2>** to continue.

    The Name Service window appears.

11. Provide name service information by using the arrow keys to select **None** for the name service then press **<Return>** to mark the selection. Press **<F2>**.

    The Name Service Confirmation window appears.

12. Press **<F2>** to continue.

    The Subnets window appears.

13. Specify that the system is part of a subnet by using the arrow keys to select **Yes**, and press **<Return>**. Press **<F2>** to continue.

    The Netmask window appears.

14. Accept the default of **255.255.255.0** for the netmask. Press **<F2>** to continue.

    The Time Zone Regions window appears.

15. Verify that the information entered on the previous windows. If the information is correct, press **<F2>**.

16. Specify the default time zone by using the arrow keys to select the **Other - Specify time zone** file, and press **<Return>**.

17. Select the appropriate file name and press **<Return>**.

18. Enter the international time for the selected country. Press **<F2>**.

    The Confirm Information window appears.

19. Verify that the information entered in the previous windows. If the information is correct, press **<F2>** to continue. Press **<F4>** to make changes.

    The Install Solaris Software window appears (see Figure 2-26).

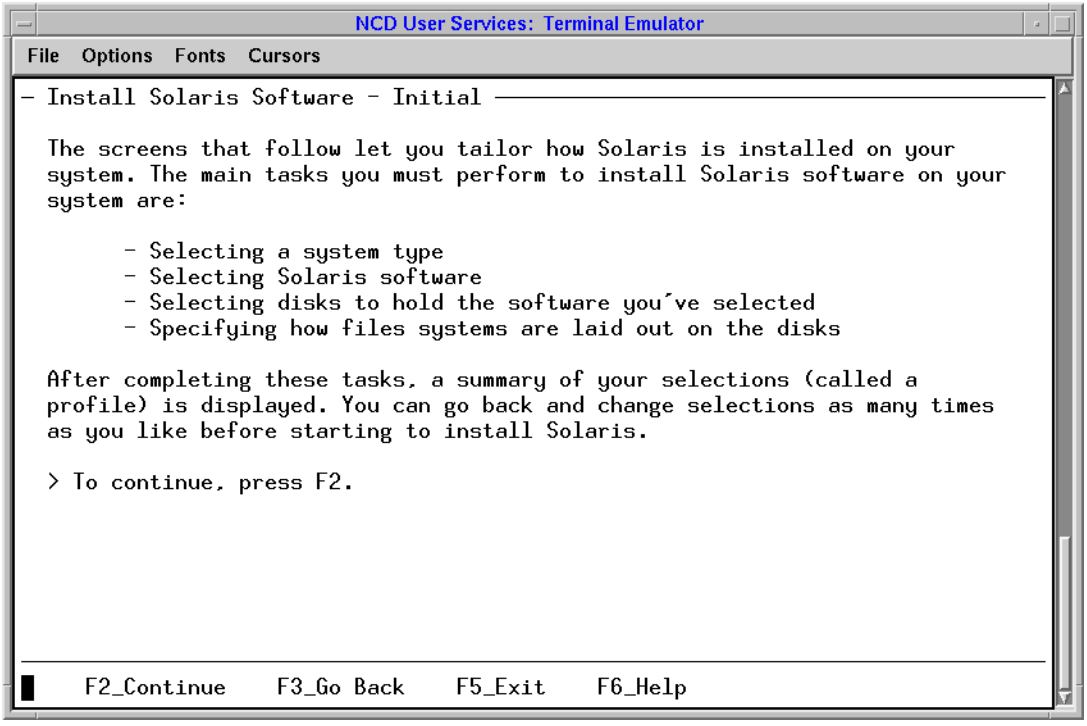

Figure 2-26: Install Solaris Software

20. Press **<F5>** to exit the Solaris Installation.

    The Exit Installation window appears (see Figure 2-27).

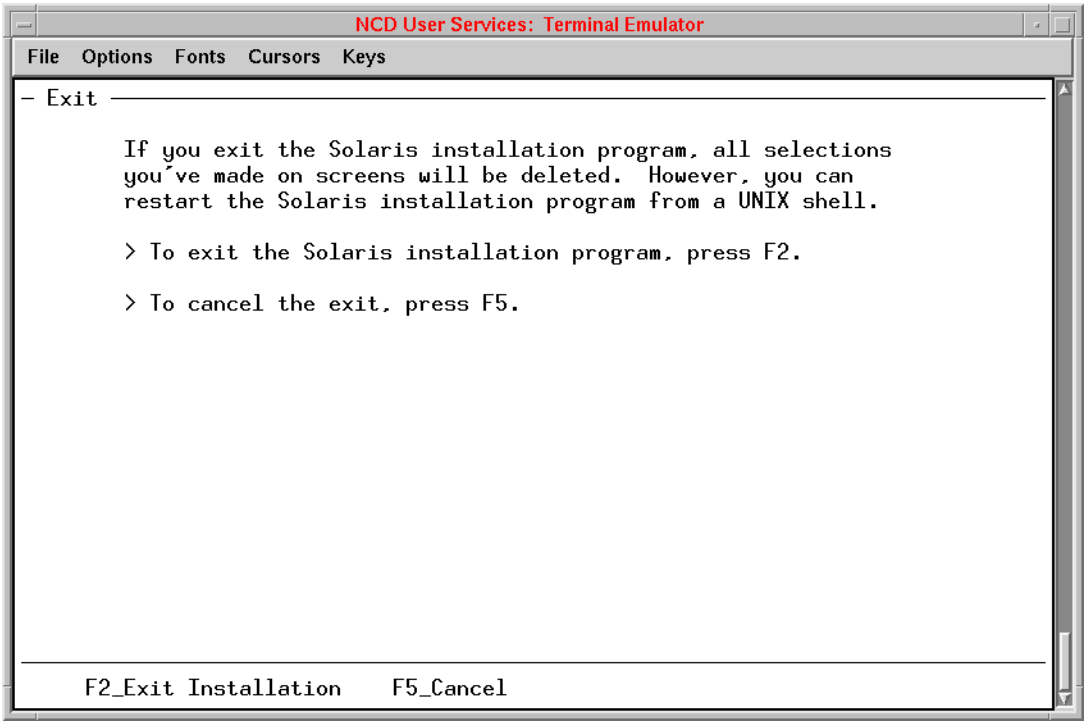

Figure 2-27: Exit Solaris Installation Window

21. Press **<F2>** to exit Solaris installation.

The system saves all information defined to this point and displays the # prompt.

Loading the CP1 Installation Tape

1. Verify that the 4-mm DAT installation tape provided is the correct part number (0180302F15) and version.

2. Insert the installation tape into the 4-mm DAT tape drive of CP1 or CP2.

3. Enter the following UNIX commands at the # prompt.

cd / <Return>
tar -xvf /dev/rmt/0lb <Return>
/tmp/wmg_setup <Return>

4. Define IP addresses for WMG standard host names. Accept the IP defaults by pressing **<Return>** at each prompt. The system prompts for confirmation.

Note: Consult your network administrator for IP information. If your system IP map differs from the WMG standard system IPs, modify as necessary. The WMG system diagram shows the pre-set standard system IPs (see Appendix B).

When the IP addresses for WMG standard host names are defined, the WMG MS installation script formats the disc drive and loads the CP1 tape. After the WMG MS software installation completes, the CP1 board reboots from the disc drive.

Note: The wmg_setup installation process takes approximately three hours.

The Root Password window appears (see Figure 2-28).

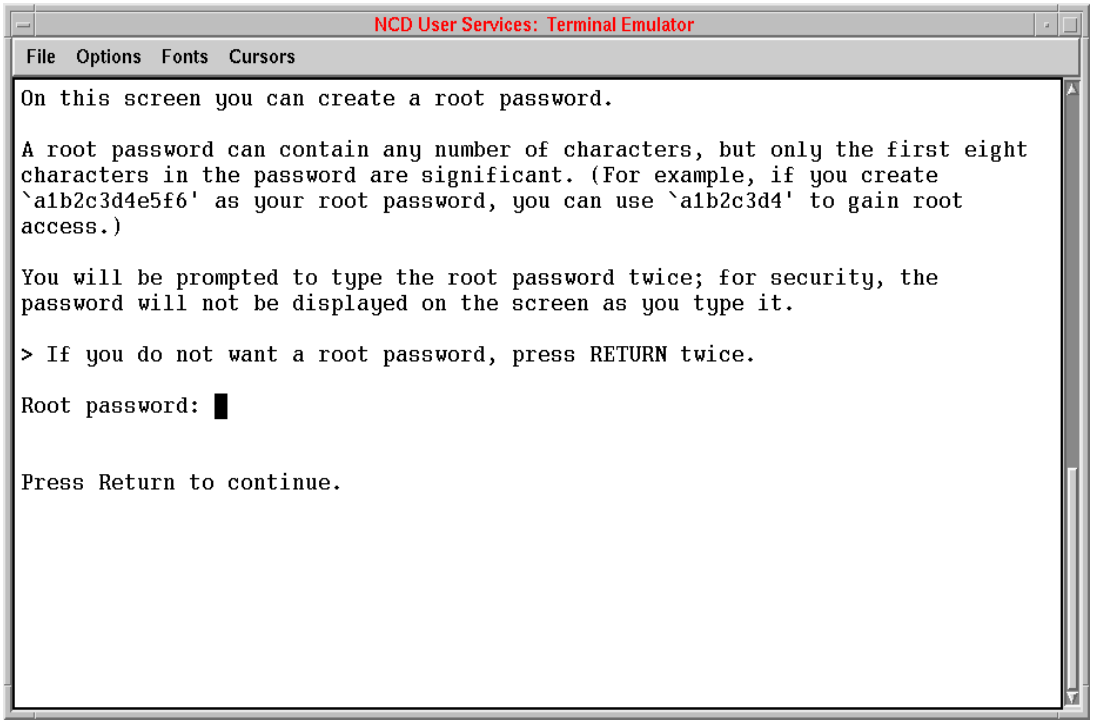

Figure 2-28: Root Password Window

5. Type **motorola** (or a specified root password) as the root password, and press <**Return**>.

6. Record the root password for future use.

7. At the prompt, repeat the password entry to confirm.

8. Login to the CP1 by typing **root** for the login name, and press <**Return**>.

9. Type **motorola** (or a specified root password), and press <**Return**>.

The WMG MS installation script is complete.

Disconnecting the CP1 CD-ROM

Use this procedure to eject the DAT tape and the CD-ROM.

1. Type **mt -f /dev/rmt/0lb rewoffl**, and press **<Return>**.

2. Eject the CD-ROM disk. Type **eject** and press **<Return>** in the NCD Terminal Emulator window.

   For Ultra CPs, type exit at the prompt, power down the CP, and disconnect the serial cable.

Disconnecting the CP1 CD-ROM on Themis Systems

Use this procedure to disconnect the CD-ROM drive from Themis-based CPs, after completing the previous procedure.

3. Type **sync <Return>**.

4. Type **halt <Return>**.

   This shuts down the Solaris operating system.

5. Wait for the OpenBoot ok prompt.

6. Turn off the power to the CD-ROM and the CP.

7. Disconnect the SCSI cable between the CD-ROM drive and the CP SCSI port (on the back of the CP chassis).

8. Plug the SCSI-2 terminator into the SCSI port on the back of the CP1.

9. Remove the console cable connected to the serial port of the x-terminal.

10. Turn the power on to CP1.

    The system reboots.

Repeat this procedure starting from the paragraph, "Loading CP1 Tape and Boot CD-ROM" for CP2 (if equipped).

Loading WMG Applications

This section describes the procedure for installing and configuring the WMG MS application software.

Overview

WMG MS applications install after the WMG MS system software and the UCC software. The following shows the WMG MS applications installation process:

- FS config:./configfs.factory
- OMC install: /install.factory
- Create OMC database:./install_after_reboot
- CP1 and CP2 install: /install.factory
- UCC install:./ucc_app_install
- License Report Writer:./setiqlic

File Server Configuration

1. At the omc prompt, run the file server install script by typing:

   cd /usr/local/wmg/config <Return>

   ./config_fs.factory <Return>

2. Enter the filer server host name by typing:

   fsv <Return>

3. Login to the file server by typing:

   telnet fsv <Return>.

4. Type: **motorola** (or a specified root password) at the password: prompt, and press **<Return>**.

5. Log into the file server and reconfigure the server using the new setup installed with the config_fs script. Type **reboot** and press **<Return>** at the fsv> prompt.

6. The filer server will close the telnet connection during reboot.

OMC System Application Installation

Use this procedure to install the OMC system application.

1. At the omc prompt, run the install script by typing:

   ./install.factory <Return>

2. Type **y** and press **<Return>** to specify x-terminals for the system.

3. Enter the IPs for each x-terminal. For the first x-terminal type:

   omcterm1 <Return>

   For a second x-terminal (if required) type:

   omcterm2 <Return>

4. Press **<Return>** to continue.

5. Type **n** and press **<Return>** to reboot later.

Creating the OMC Database

Use the following procedure to create the OMC database.

1. Run the install_after_reboot script to set up the license files and the database, and to tape archive symbolic links, by typing:

   cd /usr/local/wmg/config <Return>

   ./install_after_reboot.factory <Return>

2. Type **yes** and press **<Return>** to set up WMG licenses.

3. Enter the appropriate licenses as indicated on the vend ticket.

4. Type **y** and press **<Return>** to run db initialization.

5. Confirm the db initialization.

6. At the prompt, Load WMG database, press **<Return>**.
7. At the prompt, Please mount tape 1 on /usr/informix/archive_tape_dev, press **<Return>**.

   The system displays end of install_after_reboot messages.
8. At the prompt, System must be rebooted ... reboot now, press <Return>.
9. Wait until OMC reboots.
10. In the application x-login window login as **root** and enter **motorola** as password,
11. From the WMG application menu, do the following
    a. Select **System**
    b. Select **Text Editor**
    c. Select **edit WMG.ini**
    d. Select **Search** and look for **Pipes**
    e. At the end of the line press **<Return>**
12. Type **Pipe=1000,IPNPTEST1234,,rfc_ipnp**.
13. Select **Save and Exit.**

CP1 or CP2 System Application Installation

1. Select **Administration** from the WMG Application window.
2. Type **telnet cp1c** and press **<Return>**.
3. Type **root** for the login name and press **<Return>** to login to CP1.
4. Type **motorola** (or a specified root password) and press **<Return>**.
5. Run the install script by typing:

   cd /usr/local/wmg/config <Return>

   ./install.factory <Return>

6. At the prompt, type **no** and press **<Return>**.

7. Repeat Step 1 through Step 6 for CP2 and use cp2c as the node name to telnet to CP2.

8. At the prompt, System must be rebooted, type **yes** and press **<Enter>**.

Installing the UCC System Application

1. At the omc prompt, type **cd /wmgucc <Return>**.

2. Type **tar -xvf ucc-tar_file <Return>**.

3. At the omc prompt, type:

   chmod +x ucc_app_install ucc_extract ucc_chan_cfg <Return>

4. Verify that the mode was changed; type:

   ls -al ucc_app_install ucc_extract ucc_chan_cfg <Return>

5. Execute the script; type **./ucc_app_install <Return>**.

   The UCC Application Installation window appears (see Figure 2-29).

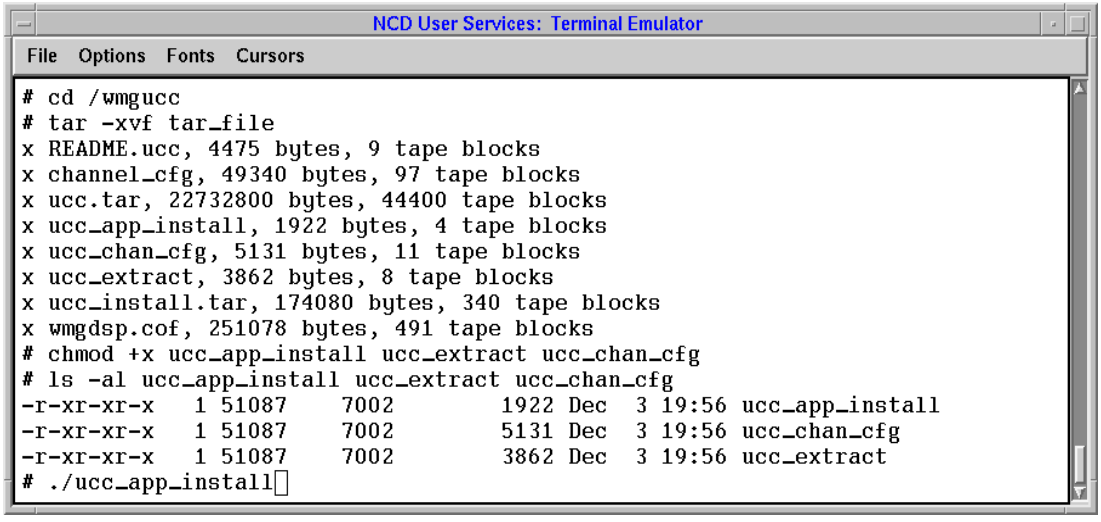

Figure 2-29: UCC Application Installation Window

6. Input the UCC ID number of the UCC being installed:

   For the UCC, type **1 <Return>**

   Or, for the second UCC, type **2 <Return>**

7. Press **<Return>** to continue. The UCC File Extraction screen appears.

8. Extract the tar file. Type **Y** from the prompt, Do you want to extract the tar file.

Note: Note: Once the tar file extraction has been done for the first UCC, it is unnecessary to repeat it for the second UCC.

9. Type **n** to install from DAT tape.

10. Type **/wmgucc <Return>** for the install directory location.

    The UCC File Extraction window appears (see Figure 2-30).

11. Press **<Return>** to continue.

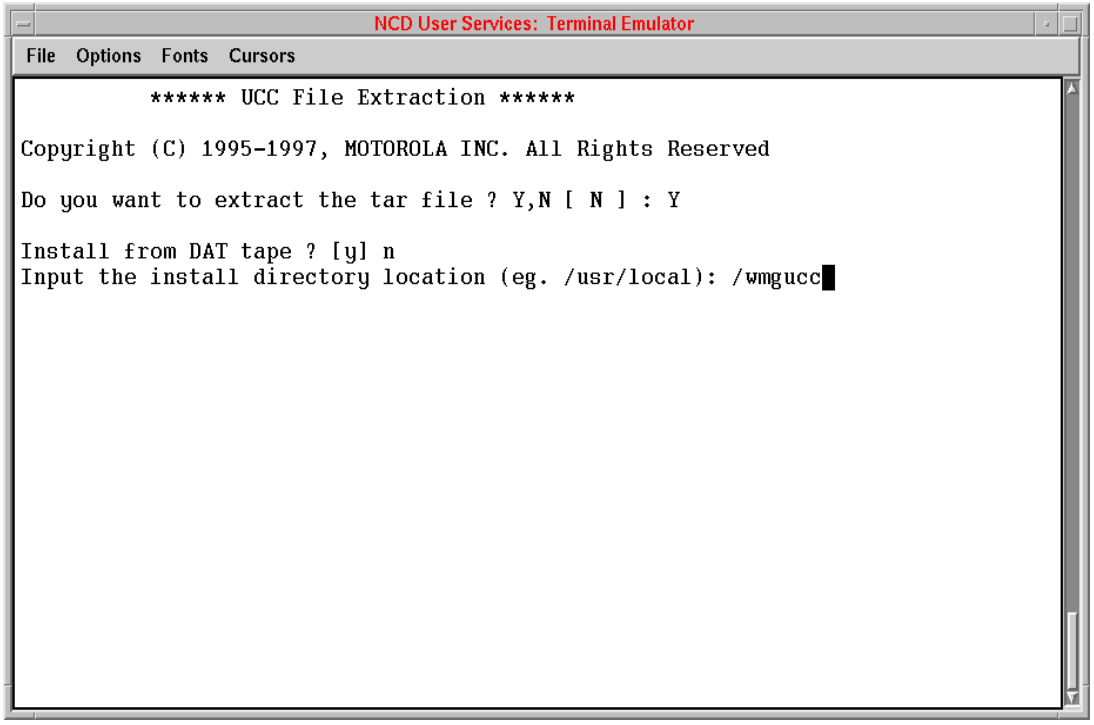

Figure 2-30: UCC File Extraction Window

12. Define the type of board.

Note: Note: The following section explains how to identify E1 or T1 or UAP boards.

The system has E1 boards if one of the following options are on the vend ticket Y569AD or Y569AE. The system has T1 boards if vend ticket is Y569AF.

13. Type **E1** or **T1** **<Return>**.

14. Enter the number of voice channels (use 24 channels for each T1 installed and use 30 channels for each E1 installed). According to the type of channel in your system, multiply the number of channels for a single board (24 or 30) by the total number of boards and enter the value.

<Total number of channels**> <Return>**

15. Type **n <Return>** at the prompt, Does this UCC support SS7?.

16. Select a TELCO configuration.
    a. If the channel type is E1, type **r2_8_nop <Return>**.
    b. If the channel type is T1, type **dtmf_7_wink_pre** and type **1 <Return>** to input the prepend digit.

17. Press **<Return>** for no area code.

18. Press **<Return>** for no area name.

19. Press **<Return>** to continue.

    The system displays the message uccxx Application Installation was successful.

20. Press **<Return>** to reboot the UCC.

21. Repeat ucc_app_install for all UCCs in the system.

    This concludes the WMG MS software installation.

Installing the UCC Software

This chapter describes the installation of the Universal Communications Controller (UCC) software.

UCC Software Installation Overview

The Motorola factory installs the UCC software. Use this procedure to reload software to an existing UCC or to load software to a new UCC. The UCC requires the installation and configuration of the following software:

- WinBIOS Setup
- Ethernet board(s)
- UnixWare 2.1 operating system
- UnixWare 2.1.2 operating system
- UnixWare 2.1 patches
- UnixWare 2.1.2 patches
- NIC (E1 or T1 Dialogic)
- Global Call development
- R2 protocol (E1 only)
- UAP board
- Clone install script
- Cloning tape

Because of the wide range of UCC functionality, several software interfaces are associated with the hardware. The following procedures provide navigation and keystroke information. Some familiarity with PC-based software behavior is helpful to perform the installation tasks.

Required Tools and Equipment

Installing the UCC software requires the following items:

- A CD-ROM drive connected to the UCC SCSI port with the SCSI-ID for the CD-ROM drive set to 1
- A VGA board in the UCC and a VGA monitor connected to the VGA board
- Two 3.5-in., 1.44 MB, DOS formatted disks
- One blank 4 mm DAT tape
- A SCSI DAT drive with a blank 4-mm DAT cartridge connected to the UCC
- A CD-ROM drive is connected to the UCC SCSI port with the SCSI-ID for the CD-ROM drive to 1
- Software for UnixWare 2.1–
  - SCO DR DOS Bootable disk (part # 0180302F36)
  - SCO UnixWare Installation disk (part # 0180302F36)
  - SCO UnixWare Host Bus Adapters disk (part # 0180302F36)
- Software for UnixWare 2.1.2–
  - SCO DR DOS Bootable disk (part # 0180302F49)
  - SCO UnixWare Installation disk (part # 0180302F49)
  - SCO UnixWare Host Bus Adapters disk (part # 8280520F49)

- Additional Software–
  - SMC EtherEZ ISA LAN Adapters disk
  - SCO UnixWare Host Bus Adapters Patch disk (part # 0180302F54)
  - SCO UnixWare 2.1.1 OS upgrades and patches tape (part # 0180302F17)
  - Dialogic™ Development Package 4.2 disks (part # 8280520F39)
  - Antares™ Developer Base Package Version 2.01 R. 3 disk (part # 820520F40)
  - UnixWare 2.0 SCbus SR 4.2SC disks
  - Global Call (part # 8280520F48)
  - R2 Protocol (part # 8280520F43)
  - Dialogic Patches (part # 01v80302F43)
  - Dialogic ICAPI Call Control Library for Global Call disks
  - UCC R3.1 Install Scripts disk (part # 0180302F23)
  - SCO UnixWare UCC Clone Install Script disk
  - UnixWare activation key and CD-ROM serial number

Note: Have the WMG MS release notes available when installing the software in this chapter. Software is continually changing, and the release notes may contain important information relating to the software or procedures that are covered in this book.

Running the WinBIOS Setup

The main menu of the WinBIOS Setup program divides into the following four windows:

- Setup
- Utility
- Security
- Default

Use only the Setup window for the initial UCC software configuration.

WinBIOS Keyboard Conventions

Table 3-1: Using WinBIOS Navigation Keys

Key	Description
<Enter> (Return)	Press Enter key to make a selection and continue.
<Tab>	Press Tab key.
<Esc>	Press Esc key.
<Del>	Press Del key.
Arrow Keys	Press the left, right, up, down keys to move the cursor to the left of, right of, above, below the current location.
<+> <–>	Press the <+> and <–> keys to adjust values.
<Alt+H>	Press the Alt key and the letter H for online help.

Procedure

Follow these steps to run the WinBIOS Setup program:

1. Turn on the Power Distribution Panel (PDP) switch for UCC1
2. Power up UCC1 (the switch is inside the right front door).
3. Verify that the power LED is ON (green).

4. Press **<Del>** to run WinBIOS Setup during memory testing and scanning.

   The WinBIOS Setup menu appears.

5. Select **Standard** from the main menu and press **<Return>.**

   The Standard Setup window displays five icons.

6. Define the setting, and press **<Esc>** after each entry.
   a. Date: use <+> and <-> to set the current date and time.
   b. Floppy A: **1.44 MB, 3.5 in.**
   c. Floppy B: **Not Installed**
   d. Master Disk: **SCSI**
   e. Slave Disk: **Not Installed**

7. Press **<Esc>** to save the changes and return to the Setup menu.

8. Select **Advanced** from the main menu and press **<Return>**.

   The Advanced Setup window appears.

Note: To change a setting, press the **<Return>** *key to access the Options pop-up menu. Use the arrow keys to toggle choices.*

9. Define the Advanced Setup settings (see Table 3-2). Some fields do not apply to all versions. The UCC Version column identifies fields specific to a certain UCC version.

Table 3-2: Advanced Setup Window Settings (Sheet 1 of 2)

Field	Setting	UCC Version
Typematic Rate (Chars/S)	30	166 MHz box (Ver R03)
System Keyboard	Absent	
Primary Display	Absent	
Above 1 MB Memory Test	Disabled	
Memory Test Tick Sound	Disabled	
Parity Error Check	Enabled	166 MHz box (Ver R03)

Table 3-2: Advanced Setup Window Settings (Sheet 2 of 2)

Field	Setting	UCC Version
Hit DEL Message Display	Enabled	
Extended BIOS RAM Area	0:300	166 MHz box (Ver R03)
Wait For F1 If Any Error	Disabled	
System Boot Up Num Lock	Off	
Floppy Drive Seek At Boot	Enabled	
Floppy Drive Swapping	Disabled	
System Boot Up Sequence	A:, C:	
Password Checking	Setup	
Cache Memory	Both	
Adapter Shadow Cacheable	Disabled	
System BIOS Shadow Cacheable	Enabled	
ISA Video Shadow C000, 32K	Disabled	
ISA Adapter Shadow C800, 16K	Disabled	
ISA Adapter Shadow CC00, 16K	Disabled	
ISA Adapter Shadow D000, 16K	Disabled	
ISA Adapter Shadow D400, 16K	Disabled	
ISA Adapter Shadow D800, 16K	Disabled	
ISA Adapter Shadow DC00, 16K	Disabled	
IDE Block Mode	Disabled	
Primary Ctrl, 32-Bit Transfer	Enabled	166 MHz box (Ver R03)
Primary Master LBA Mode	Disabled	
Primary Slave LBA Mode	Disabled	
Secondary Ctrl Drives Present	None	
Boot to PnP Operating System	No	166 MHz box (Ver R03)
OS2 Above 64 MB Memory Support	Disabled	166 MHz box (Ver R03)

10. Press **<Esc>** to save the changes and return to the main menu.

11. Select **Chipset** from the main menu and press **<Return>**.

    The Chipset Setup window appears.

12. Define the settings (see Table 3-3).

Table 3-3: Chipset Setup Window Settings

Field	Setting	UCC Version
ISA VGA Frame Buffer Size	Disabled	
PCI VGA Palette Snooping	Disabled	
PCI VGA Buffering	Disabled	
On Board PCI SCSI	Enabled	
On Board PCI IDE	Disabled	166 MHz box (Ver R03)
On Board PCI Video	Enabled	166 MHz box (Ver R03)
Boot To PnP operating system	No	75 MHz box (Ver R02)
OS2 Above 64 MB Memory Support	Disabled	75 MHz box (Ver R02)
IRQ5 Available to	ISA/EISA	
IRQ9 Available to	ISA/EISA	
IRQ10 Available to	ISA/EISA	
IRQ11 Available to	PCI/PnP	
IRQ12 Available to	ISA/EISA	166 MHz box (Ver R03)
IRQ14 Available to	ISA/EISA	166 MHz box (Ver R03)
IRQ15 Available to	ISA/EISA	

13. Press **<Esc>** to save the changes and return to the main menu.

14. Select **Chipset Setup** from the main menu and press **<Return>**.

    The Chipset Setup window appears.

15. Define the settings (see Table 3-4).

Table 3-4: Chipset Setup Window Settings

Field	Setting
Advanced Power Management	Disabled
IRQ1 Break Event	Enabled
IRQ3 Break Event	Disabled
IRQ4 Break Event	Disabled
IRQ5 Break Event	Disabled
IRQ6 Break Event	Enabled
IRQ7 Break Event	Disabled
IRQ8 Break Event	Disabled
IRQ9 Break Event	Disabled
IRQ10 Break Event	Disabled
IRQ11 Break Event	Disabled
IRQ12 Break Event	Enabled
IRQ13 Break Event	Disabled
IRQ14 Break Event	Disabled
IRQ15 Break Event	Disabled

Note: Do not set the unlisted events.

16. Press **<Esc>** to save the changes and return to the Setup menu.

17. Select **Peripheral** from the menu and press **<Return>**.

    The Peripheral Setup window appears.

18. Define the settings (see Table 3-5).

Table 3-5: Peripheral Setup Window Settings

Field	Setting	UCC Version
Programming Mode	Manual	
OnBoard FDC	Enabled	
OnBoard IDE	Disabled	75 MHz box (Ver R02)
Serial Port1	3F8H	
Serial Port2	Disabled	
Parallel Port	378H	
Parallel Port Mode	Normal	

19. Press **<Esc>** to save the changes and return to the main menu.

20. Press **<Esc>** to save the system configuration and exit the setup menu.

    The Exit Setup window appears.

21. Select **Save Changes and Exit** and press **<Return>**.

    The system automatically reboots.

22. During the system boot memory test, turn off power to the system.

    The WinBIOS Setup is complete.

Configuring the Ethernet Boards

The EZStart utility program configures the ethernet SMC EtherEZ 8416 boards.

EZStart Keyboard Conventions

The EZStart utility program uses the following navigation keys (see Table 3-1).

Table 3-6: Using EZStart Navigation Keys

Key	Description
<Enter> (Return)	Press the Enter key to select a highlighted function.
<Tab>	Press the Tab key to move to the next field or button.
<Shift+Tab>	Press Shift+Tab keys to move to a previous field or button.
Arrow Keys	Press the up or down keys to move the cursor above or below the current selection.
<F1>	Press the F1 key to obtain help.
<Spacebar>	Press the spacebar to display a menu of values for a highlighted item.
<Alt+underscored character>	Press and hold the Alt key and underscored character to select a function that is not highlighted. For example, use **<Alt+ x>** to E<u>x</u>it).
<F3>, **<F4>**	Press F3 or F4 keys to close the current window.

Procedure

Follow these steps to configure the ethernet boards:

1. Insert the DR DOS bootable disk Release 6.0 into the UCC floppy drive.

2. Power up the UCC.

3. After the boot up memory check, verify that the system detects both the hard drive and CD-ROM drive. The hard drive is SCSI ID 00 and the CD-ROM is SCSI ID 01.

4. Set the date and time and press **<Return>**.

5. Remove the DR DOS disk and insert the SMC EZStart SuperDisk version 2.4 Setup disk 1 of 1.

6. Type **ezstart <Return>**.

   The EZStart Ethernet Adapter Selection menu appears.

7. If a license menu appears, type **<Alt+Y>** to accept the licensing agreement.

8. Select the first entry (first ethernet card) in the list by pressing **<Return>** or **<Alt+S>**.

   The EZStart V.5.46 for Ethernet window appears.

9. Press **<Alt+C>** to select **Custom Setup**.

   The Custom Installation window appears.

10. Press **<Alt +S>** to select **Setup**.

    The Custom Setup window appears.

11. Navigate through the fields to set the following parameters (see Table 3-1):
    a. Addressing Mode: **Memory Mapped**
    b. RAM Base: **D000**
    c. Required Settings—
       - I/O Base: **280**
       - IRQ: **3**
       - RAM base: **D000**
    d. Boot ROM: **accept defaults**
    e. Network Interface: **Automatic Media Detection**

12. Press **<Alt+S>** to save the parameter settings.

13. Select **OK** in the status window.

    The first ethernet board is now configured. The same basic steps are repeated to configure the second board.

14. Select **Previous** from the Custom Installation window.

    The EZStart V. 5.46 for Ethernet window appears.

15. Press **<Alt+S>** to choose **Select Adapter**.

16. Highlight the second entry (second ethernet card) in the list and press **<Return>** from the Ethernet Adapter Selection menu.

    The EZStart V. 5.46 for Ethernet window appears.

17. Press **<Alt+C>** to select **Custom Setup**.

    The Custom Installation window appears.

18. Press **<Alt+S>** to select **Setup**.

    The Custom Setup window appears.

19. Use the arrow keys to highlight, **<Return>** to select, and **<Tab>** to move through the fields to set the following parameters:
    a. Addressing Mode: **Memory Mapped**
    b. RAM Base: **D400**
    c. Plug and Play Adapter Feature: **Disabled**
    d. Required Settings—
       - I/O Base: **300**
       - IRQ: **5**
    e. Boot ROM: **accept defaults**
    f. Network Interface: **Automatic Media Detection**

20. Press **<Alt+S>** to save the parameter settings.

21. Select **OK** in the status window.

22. From the Custom Installation window, select **Previous**.

    The EZStart V. 5.46 for Ethernet window appears.

23. Press **<Alt+S>** for **Select Adapter**.

24. Verify that the settings (see Table 3-7).

Table 3-7: Ethernet Board Settings

Board Number	I/O Base	IRQ	RAM Window	ROM Window
1	280	3	D000–D1FF	None
2	300	5	D400–D5FF	None

25. Press **<Alt+X>** to exit.

Note: *Disregard the disk error message,* cannot load the file A:\COMMAND.COM.

26. Turn the system power off and eject the disk.

Configuration is complete for the SMC EtherEZ 8416 ethernet boards.

Installing UnixWare 2.1 or 2.1.2

UnixWare provides the operating system for the UCC. Before installing this software, connect an external CD-ROM drive to the SCSI port:

1. Connect an external CD-ROM drive to the SCSI port on the back of the UCC.

2. Set the SCSI-ID for the CD-ROM drive to 1.

UnixWare Keyboard Conventions

The UnixWare installation uses function keys for navigation (see Table 3-1). Each key does not apply to every window. Some windows use additional function keys for window-specific options. The status line at the bottom of the window indicates when these keys are active and the available options.

Table 3-8: Using UnixWare Navigation Keys

Key	Description
<**Enter**> (Return)	Press the Enter key to make a selection and continue. In windows where you must type data in multiple fields, <Return> moves the cursor to the next field.
<F10>	In windows where you must type data in multiple fields, press the F10 key to apply and continue. In other windows, the F10 key is the same as <Return>.
<Tab>	Press the Tab key to move to the next field on a window.
<Shift +Tab>	Press and hold the Shift and Tab keys to move to the previous field.
Arrow Keys	Press the left, right, up, and down arrow keys to move the cursor to the left of, right of, above, or below the current location.
<**PgDn**>	Press the PgDn key to move to the next page of a window with more than one page of data. The window footer informs you when a window contains more than one page.
<**PgUp**>	Press the PgUp key to move to the previous page of a window with more than one page of data.
<F1>	Press the F1 key to display help for the current window or menu option.
<F2>	Press the F2 key to display choices (if available) provided for the current field.

Note: Some UCCs have Seagate ST 3.5-in. hard drives. These drives require a separate HBA disk supplied by Seagate. Installation and hard drive recognition are not possible without this disk. Novell supports Quantum hard drives.

Procedure

Follow these steps to install the UnixWare Personal Edition 2.1 operating system onto the UCC.

1. Insert the SCO UnixWare Installation disk Version 2.1 disk into UCC drive A.

2. Place the SCO UnixWare Personal Edition Version 2.1 CD-ROM into the CD-ROM drive (part number 0180302F36 or 0180302F49).

3. Power up the UCC.

Note: The Unixware window takes approximately 3 minutes to appear. Do not enter any key strokes during this time. Wait until the ASCII Welcome Banner appears.

4. Press **<Return>** after the Welcome to UnixWare 2.1 Installation message displays.

5. Select **US (ASCII)** for keyboard type and press **<Return>**.

6. Type the CD-ROM serial number and activation key from Certificate of License and Authenticity.

   The serial number and activation key are case sensitive; enter the information exactly as it appears.

Note: The license key for the software and the CD-ROM serial number are a matched set. The license key and serial number are different for each UCC. Use the appropriate license key and serial number for each UCC in systems with more than one UCC.

7. Press **<F10>** to apply.

   The UnixWare 2.1 Installation menu appears with a **Choices** pop-up menu.

8. Select **Continue Installation <Return>**.

9. Remove the UnixWare 2.1 Installation disk from the UCC disk drive.

10. Insert the UnixWare Host Bus Adapter Drivers Patches Release 2.1 disk (0180302F54).

11. From the Choices pop-up menu, select: **Install Host Bus Adapter Driver (HBA) <Return>**.

    The system displays: Please wait..... loading HBA hardware driver.

12. From the **Choices** pop-up menu, select: **Install Another HBA Diskette <Return>**.

13. Insert the UnixWare Host Bus Adapter Drivers Release disk (part number 0180302F36 or 0180302F49).

    The system displays please wait..... loading HBA hardware driver.

14. From the **Choices** pop-up menu, select: **Continue Installation <Return>**.

15. Again, from the **Choices** pop-up menu, select: **Continue Installation <Return>**.

    The system displays: Please wait while the system hardware drivers are loaded.

16. From the Select Installation Method window, select: **Install From CD-ROM <Return>**.

Note: If the CD-ROM option does not appear, check the CD-ROM cable, power, or for an incorrect software driver.

17. From the **Choices** pop-up menu, select: **Yes, continue the installation** and press **<Return>**.

18. If you have previously installed UnixWare 2.1, select **Perform Destructive Installation** and press **<Return>**.

    The **Destructive Installation** pop-up menu appears.

19. From the **Destructive Installation** pop-up menu, select:

    Use the Entire Disk for UnixWare 2.1 (Erase All Partitions): <Return>

20. For the System Node Name, type **ucc1c <Return>**.

    The UCCs are named ucc1c, ucc2c. Use the proper UCC name.

21. Set Date and Time to the current date and time and select the appropriate time zone from the displayed list. Press **<F10>** to apply.

22. Read the messages contained in the Install Menu and press **<Return>** to continue.

23. From the Install Menu, select **View or Change Package Selection <Return>**.

    The Package Selection window appears.

    In the Package Selection window, use the arrow keys to move around the window and the spacebar to select or deselect the parameters.

24. Press **<F5>** to select all.

25. Use the arrow keys to move the cursor and **<Spacebar>** to deselect the following packages:
    a. Basic UnixWare Packages—Additional Platform Utilities, Language Supplement, Printer Support
    b. Networking Packages—NetWare Networking, NetWare UNIX Client, NetWare Integration Kit
    c. UnixWare Documentation—All User and Administration documentation
    d. Graphics Packages—DynaText Document Browser
    e. Page down using the **<PgDn>** key.
    f. Advanced UnixWare—Auditing, Optimizing C Compilation System

26. Press **<Return>** to return to the Install Menu.

27. Select: **Accept All Settings and Install Now <Return>**.

Note: The installation process takes approximately 30 minutes.

28. Re-insert the HBA Drivers 2.1 disk when the prompt appears, and press **<Return>**.

Note: If the UCC prompts for CBxx HBA disk then use part number 0180302F54, otherwise use 0180302F36 or 0180302F49.

29. When the UnixWare Installation prompt appears, remove the HBA Drivers 2.1 disk and the CD-ROM and press **<Return>** to reboot.

30. From the Network Interface Card Selection Support Utility—Summary window, select: **Add an Entry for a card** and press **<Return>**.

31. Press **<PgDn>** to select **SMC_EtherEZ_Ethernet_8416** and press **<Return>**.

32. From the **Configuring: SMC_EtherEZ_Ethernet_8416** pop-up menu, use the **<F2>** key to select the following options for card 1:
    a. IRQ: **3**
    b. I/O Address: **280–29F**
    c. Memory: **D0000–D3FFF**

33. Press **<F10>** to apply.

34. Select: **Add an Entry for a card** and press **<Return>**.

35. Press **<PgDn>** to select **SMC_EtherEZ_Ethernet_8416**.

36. From the **Configuring: SMC...8416** pop-up menu, type the following options for card 2:
    a. IRQ: **5 <F2>**
    b. I/O Address: **300–31F <F2>**
    c. Memory: **D4000–D7FFF <F2>**

37. Press <**F10>** to apply.

    The Configuration Information for cards 1 and 2 appears.

38. Select: **Accept All Entries** and press **<Return>**.

39. Respond **Yes** to the Are You Sure pop-up prompt.

    The system responds: installing drivers...

40. From the Multiple Card Init Setup Values window, select the first card on the list and enter the following information:
    a. Configure as gateway: **no**
    b. Device handle: **SMC8K_0**
    c. Node Name: **ucc1v** (ucc2v, ucc3v and so on, for additional UCCs)
    d. Network Frame Type: leave blank

41. Press **<F10>** to apply.

42. From the System Values window, enter the following information:
    a. System IP address for ucc1v: **177.4.78.101**
    (See Appendix B for additional UCC IP addresses.)
    b. System Netmask: **0xffffff00**

Note: Disregard the remaining entry fields.

43. Press **<F10>** to apply.

44. Select the second card from the **Multiple Card Init Setup Values** pop-up window and enter the following information:
    a. Configure as gateway: **no**
    b. Device handle: **SMC8K_1**
    c. Node Name: **ucc1c** (ucc2v, ucc3v and so on, for additional UCCs)
    d. Network Frame Type: leave blank

45. Press **<F10>** to apply.

46. From the Inet Setup Values From System Values window, enter the following information:
    a. System IP address: **177.4.77.101**
    (See Appendix B for additional UCC IP addresses.)
    b. System Netmask: **0xffffff00**

Note: Disregard the remaining entries.

47. Press <**F10>** to apply.

48. Select: **Exit from Init Setup <Return>.**

49. From the Network Information Service (NIS) Installation and Configuration window, select: **No for Configure NIS Now**.

50. Select: **Apply** and press **<Return>**.

51. From the Mouse Selection window, type: **4 No Mouse** and press **<Return>**.

52. At the Owner's Account window, type:
    a. Owner's name: **wmgucc** <Return>
    b. Owner's login ID: **wmgucc** <Return>
    c. Owner's user number: **101** <**Return**> (102 for UCC2; 103 for UCC3)

53. Select **Apply** and press **<Return>**.

54. Press **<Return>** to continue.

Note: Keep a record of the owner's name and login ID for reference.

The next window prompts you to enter passwords for New Password, Root Password, and Administrator's Password.

55. Type **motorola** for each password (new password, root password, and Administrator's password) and press **<Return>**.

56. When prompted to confirm the password, type the password again and press **<Return>**.

57. From the SCO UnixWare log in window, type **motorola** for the password and type **wmgucc**. Press **<Return>** to log on.

Note: For this stage of the UnixWare installation, open an icon by moving the yellow outline box to it and pressing **<Spacebar>**. *Then press* **<Alt + F>** *to open the* **File** *menu. Scroll down the* **File** *menu and select the* **Open** *option. This opens the icon. To back out of the window, select* **<Alt + F>** *to open the File menu, scroll down the File menu, and select the* **Exit** *option.*

58. From the **Welcome to Unixware 2.1** menu, press **<Alt+D>** (to select delete welcome).

59. Select the following icons in succession: **Admin_Tools, Networking, and Dialup_Setup**.

60. From the Dialup_Setup window, select: **Actions <Return>**.

61. From the **Actions** menu, select: **Set up Devices..., Device, and New.**

62. Navigate through the following fields (see Table 3-1) and set the following parameters:
    a. Port: **Com1**
    b. Connect to: **Direct**

c. Configure port as: **Bidirectional**

d. Speed: **other, 9600NP**

e. Port is: **Enabled**

63. When the parameters are correct, select: **Add** and press **<Return>**.

64. Return to the UnixWare Desktop by selecting **Exit** from the various windows.

65. From the main menu, select: **Save and Exit** <Return>.

66. Press <**Ctrl**+**Alt**+**Del**> to reboot the UCC.

If installing UnixWare 2.1 operating system (OS) then installation is complete.

67. Power off during RAM testing.

UnixWare installation is complete.

Installing UnixWare 2.1.1 OS Upgrade

If you have installed UnixWare 2.1.2 (part number 0180302F49), then install the 2.1.2 OS upgrade and patches outlined in paragraph, "Installing UnixWare 2.1.2 OS Upgrade".

If you have installed UnxiWare 2.1 (part number 0180302F36), follow these steps to install the UnixWare 2.1.1 OS upgrade:

1. Plug in the DAT tape drive and set the SCSI ID to 2.

2. Power up the UCC.

3. Press **<Alt+E>** at the SCO login to go to the command line.

4. At the root prompt, type:

   root <Return>

5. At the password prompt, type:

   motorola <Return>

6. Type: **init1 <Return>.**

7. At the root prompt, type:

   root <Return>

8. At the password prompt, type:

   motorola <Return>

9. Insert the 4-mm DAT WMG UCC 2.1.1 OS Upgrade and Patches tape (part number 0180302F17).

10. Type: **tar -xvf /dev/rmt/ctape1 <Return>.**

11. Type: **cd /ux2.1.1 <Return>.**

12. Type:**./upgrade211 <Return>.**

13. Press **<Return>** to select all packages.

14. Press **<Return>** to continue with installation.

15. Select: **1** to disable Single UNIX Specification conformance now, and press **<Return>**.

16. Select: **2** to continue with installation, and press **<Return>**.

Note: This process takes approximately 15 minutes.

17. Select: **1** to continue and press **<Return>**.

18. Select: **3** to skip backup and press **<Return>**.

19. Select: **2** to continue with the installation.

Note: This process takes approximately 30 minutes.

20. Remove the tape and press **<Return>** to reboot.

Installation of the UnixWare upgrade is complete.

Installing UnixWare 2.1.1 OS Patches

Follow these steps to upgrade the UnixWare 2.1.1 OS:

1. At the SCO UnixWare 2.1.1 window, press **<Alt+E>** to exit.

2. At the root prompt, type:
   root <Return>

3. At the password prompt, type:
   motorola <Return>

4. Type: **cd /ux2.1.1 <Return>.**

5. Type: **./addpatch01 <Return>.**

6. Press **<Return>** at each prompt to accept all defaults.

7. Press **<Return>** to continue with installation.

8. Type the following to add the remaining patches:

   ./addpatchxx <Return>.

   Where xx is **02**, **03**, **04**, **06**, **05**, **07**.

   The Network Interface Card Support utility executes while installing patch 03.

Note: Add patches in this order: 02, 03, 04, 06, 05, 07. Patch 06 must be installed before patch 05. The command, **Addpatch07**, *displays the error message,* driver does not exist. *Disregard this message.*

9. For each patch, press **<Return>** to select all defaults.

10. Install patch 04 after the following prompt:

    Release Notes ***IMPORTANT NOTICE ***

    Package ptf3123 locks down ptf 3107

    Package pft3107 cannot be removed

11. Press **<Return>** at the Network Interface Card Support Utility window.

12. When all patches are installed, type: **cd / <Return>**.

13. Type: **shutdown -y -g0 -i6 <Return>**.

    The system reboots to the SCO UnixWare 2.1.1 login window.

Installation of the UnixWare patch is complete.

Installing UnixWare 2.1.2 OS Upgrade

Follow this procedure to upgrade UnixWare 2.1.2 (part number 0180302F49):

1. Press **<Alt+E>** to get to the command line.

2. At the root prompt, type:

   root <Return>

3. At the password prompt, type:

   motorola <Return>

4. To set the run level to 1, type: **init 1 <Return>.**

   This command changes the run level to 1 and logout.

5. At the root prompt, type:

   root <Return>

6. At the password prompt, type:

   motorola <Return>

7. Type: **/usr/bin/installcd <Return>**

   The following message appears: This script will install Update 2.1.1, Update 2.1.2, and the Internet components....

8. Press **<Return>**

   The following message appears:

   update211 update212 pmd"

   Installation of Unixware Update 2.1.1 in progress. Please Wait...

   Installation of UnixWare Update 2.1.2 (update212) was successful.

9. At the prompt type the Serial Number and Activation Key from the SCO Unixware Internet Server Certificate of License and Authenticity. The Serial Number and Activation Key are case sensitive; enter the information exactly as it appears, then **Apply**.

10. Type **No** to all Internet Fast Start Set packages, then **Apply**.

11. Press **<Return>** at the prompt, You have not installed any packages.

12. Type: **n** for Strong Encryption Supplement.

13. The system reboots to complete the update process. When the packaging command completes, the system is finished.

14. Verify that the disk Drive and the CD-ROM tray is empty.

UnixWare 2.1.2 OS Installation is now complete.

Installing Unixware 2.1.2 OS Patches

Follow these steps to upgrade the UnixWare 2.1.2 OS:

1. Plug in the tape drive and set the SCSI ID to 2.

2. Power on the UCC.

3. At the SCO Login Window, press <**Alt+E>** to get a command line.

4. At the root prompt, type:

   root <Return>

5. At the password prompt, type:

   motorola <Return>

6. Type: **init 1** and **<Return>.**

7. At the root prompt, type:

   root <Return>

8. At the password prompt, type:

   motorola <Return>

9. Insert the 4-mm DAT WMG UCC 2.1.1 OS Upgrade and Patches tape (part number 0180302F17).

10. Type: **tar -xvf /dev/rmt/ctape1 <Return>.**

11. Type: **cd /ux2.1.1** and **<Return>**.

12. Type: **./addpatch06 <Return>**.

13. Press **<Return>** at the prompts to accept all defaults.

14. Type the following to add the remaining patches:

    ./addpatchxx <Return>.

    Where xx is **06**, **05**, **07**.

Note: Add the patches in the following order: 06, 05, 07.

15. When all the patches are installed, type: **cd / <Return>**.

16. Type: **shutdown -y -g0 -i6 <Return>**.

    The system reboots to the SCO UnixWare window.

Installation of the UnixWare patch is complete.

Installing E1 or T1 Dialogic Software

Perform the following steps to install the E1 or T1 Dialogic board software.

1. From the SCO UnixWare 2.1.1 login window, press **<Alt+E>** to exit.

2. At the root prompt, type:

   root <Return>

3. At the password prompt, type:

   motorola <Return>

4. Insert the Dialogic SR 4.2 disk (part number 8280520F39) number 1 of 10 in the UCC drive.

5. Type: **installpkg <Return>.**

6. Type **F** to install from a floppy disk.

7. Press **<Return>** to continue.

   The system displays installation in progress messages.

8. To confirm the drive number you wish to install from ([default] 0,1), type:

   0 <Return>

9. At the prompt, Do you wish to continue with the installation, type:

   Y <Return>

10. Type */* (the full directory path for tmp directory) and press **<Return>**.

Note: Depending on the Dialogic packages you choose to install, you may have the option of installing libraries.

11. At the prompt, Do you wish to install the available libraries [yn]?, type:

    N <Return>

12. At the prompt, Y for a single rebuild and N for individual package rebuilds [yn]?, type:

    Y <Return>

13. Select the following modules for installation by pressing **Y <Return>** at the prompt:
    - D/42 Development Package? [n]
    - DMX Demonstration Package? [n]
    - FAX Development Package? [n]
    - NETWORK Development Package? [n]
    - TTS Development Package? [n]
    - VR Development Package? [n]
    - Voice Demonstration Package? [n]
    - Voice Development Package? [n]

14. At the prompt, type **Y** to verify that the following modules are selected for installation:
    - NETWORK Development Package
      Voice Development Package

15. Have the Dialogic board configuration information ready before continuing.

16. At the prompt, Do you wish to continue with installation [yn]?, type:

    Y <Return>

17. At the following prompts, press **<Return>** to accept the default values that are listed in parenthesis or type the values provided and press **<Return>**:
    - Enter the number of MSI boards in the system (0): **<Return>**
    - Enter the number of DMX boards in the system (0): **<Return>**
    - Enter the number of DTI/211 boards in the system (0): **<Return>**
    - Enter the number of DTI/212 boards in the system (0): **<Return>**
    - Enter the number of DTI/1xx boards in the system (0): **<Return>**
    - Enter the number of HD Voice boards in the system (0): **<Return>**
    - Enter the number of T1/E1 Frontend HD boards in the system (0): **<Return>**
    - Enter the number of T1/E1 voice/INI HD boards in the system (0):

      Type the number (**1, 2,** or **3**) of E1 or T1 boards your system has and **<Return>**.
    - Enter the selected IRQ level for all T1/E1 voice/INI HD boards (5): **10 <Return>**
    - Enter the memory address for all T1/E1 voice/INI HD boards (D8000): **E0000 <Return>**
    - Enter the board ID (0 - F) for T1/E1 voice/INI HD board #1 (0): **1 <Return>**

Note: If your system has two E1 or T1 boards, proceed to Step 18, otherwise skip to Step 20.

18. At the prompt, Enter the board ID (0 - F) for T1/E1 voice/INI HD board #2 (2):, type:

    2 <Return>

Note: If your system has three E1 or T1 boards, proceed to Step 19, otherwise skip to Step 20.

19. At the prompt, Enter the board ID (0 - F) for T1/E1 voice/INI HD board #2 (3):, type:

    3 <Return>

20. At the prompt, Enter the module type for T1/E1 voice/INI HD board #1 (NETWORK):, type:

    SCBUS <Return>

21. At the prompt, Enter the number of LSI Frontend HD boards in the system (0):, press **<Return>.**

22. At the prompt Enter the number of D/41E TYPE boards in the system (0):, press **<Return>.**

23. At the prompt, type **Y** to verify that the following information is correct:

    T1/E1 voice/INI HD # 1: Address E0000 IRQ 10 Modtype: SCBUS

    The message repeats for each T1 or E1 board in the system.

24. Press **<Return>** to continue the installation.

25. At the prompt, press **<Return>** to continue the installation.

26. At the prompt, insert disk number 2 into the drive and press **<Return>.**

27. At the prompt, insert disk number 3 into the drive and press **<Return>**.

28. At the prompt, insert disk number 4 into the drive and press **<Return>**.

29. At the prompt, insert disk number 6 into the drive and press **<Return>.**

    The system displays the prompts, Finished reading from diskettes...Please wait...Installing Voice Development Package...Install in progress.

30. Press **<Return>** to continue the installation.

31. At the prompt, Would you like to review release notes [YN], type the appropriate response.

    The system displays the messages: Based on your configuration, Dialogic drivers will now be installed. The installation of the Dialogic Generic Voice Development Platform - Version 4.2 is now complete.

32. Press **<Return>** to continue the installation.

    The system displays Installing NETWORK Development Package...Install in progress...

33. Press **<Return>** to continue the installation.

34. At the prompt, Do you wish to continue installing DTI drivers [yn]?, type:

    N <Return>

35. At the prompt, Do you wish to continue with installation [yn]?, type:

    Y <Return>

36. At the prompt, Would you like to view the release notes [yn]?, type the appropriate response and press **<Return>**.

    The system displays the message: The installation of the Dialogic DTI UNIX Development Package - Version 4.2 is now complete.

37. Press **<Return>** to continue the installation.

    The system displays the messages: The following package installations now require a UNIX system kernel rebuild: Dialogic Generic Voice Development Platform - Version 4.2.

38. At the prompt, Do you wish to build a kernel now [yn]?, type:

    Y <Return>

    The system displays The unix kernel will be rebuilt to include your configuration changes during the next system reboot. Installation complete. Unix kernel rebuilt successfully.

    Reboot the system before starting the Dialogic Packages.

39. Remove the disk from the disk drive.

40. Type: **shutdown -y -g0 -i6 <Return>**.

    After rebooting, the SCO UnixWare 2.1.1 Welcome window appears.

The installation of the System Release for Dialogic, Version 4.2 is now complete.

Installing the Global Call Development Package

Use this procedure to install the Global Call Development Package:

1. From the SCO UnixWare window, type **<Alt+E>** to exit.

2. At the root prompt, type:

   root <Return>

3. At the password prompt, type:

   motorola <Return>

4. Insert the Dialogic Global Call disk (part number 8280520F44) 1 of 2 in the UCC disk drive.

5. At the prompt, type: **installpkg <Return>.**

6. Type **F** to install from the floppy disk.

7. Press **<Return>** to continue.

   The system displays the message: Installation in progress.

8. At the prompt, eject the Dialogic Global Call disk 1 of 2 and insert the Dialogic Global Call disk (part number 8280520F44) 2 of 2.

9. Press **<Return>** to continue.

10. At the prompt, Do you wish to install the library, type **y <Return>**.

11. At the prompt, Do you wish to install the demos, type **y <Return>**.

12. At the prompt, Do you wish to change the default destination, type: **n <Return>**.

13. At the prompt, Would you like to view the release notes, type the appropriate response and press **<Return>**.

14. At the prompt, eject the Global Call disk 2 of 2.

15. Insert the Dialogic ICAPI Call Control Library disk (part number 8280520F44) 1 of 2.

16. Type: **installpkg <Return>**.

17. Type **F** to install from the floppy disk.

18. Press **<Return>** to continue.

    An installation in progress message appears.

19. Eject the Dialogic ICAPI Call Control Library disk 1 of 2 and insert the Dialogic ICAPI Call Control Library disk (8280520F44) 2 of 2. Press **<Return>** to continue.

20. Press **<Return>** to continue.

21. At the prompt, Do you wish to install the library, type **y** and press **<Return>**.

22. Press **<Return>** to continue.

23. Press **<Return>**.

    A message appears stating that installation is complete.

24. Remove the ICAPI Call Control Library disk 2 of 2.

Installation of the Global Call Development Package is complete.

Installing the R2 Protocol Disk (E1 Option Only)

Install the R2 protocol as follows:

1. Insert the R2 protocol disk (part number 8280520F43) in the UCC floppy drive.
2. Type: **installpkg <Return>**.
3. Type **F** to install from the floppy disk.
4. Press **<Return>** to begin installation.
5. Press **<Return>** to continue.
6. At the prompt, Edit Inbound Call Support protocol file (s), type: **n <Return>**.
7. At the prompt, Edit Outbound Call Support protocol file (s), type: **n <Return>**.
8. Press **<Return>** to continue.
9. At the prompt, Do you wish to continue, type **y <Return>**.
10. At the prompt, Continue Installation, type **y <Return>**.
11. Press **<Return>** to continue.
12. Type **<Shift+:>** and press **<Return>** to exit the vi editor.
13. At the prompt, Do you wish to review the release notes, type the appropriate response (y/n) and press **<Return>.**
14. Eject the protocol disk.

Installation of the protocol is complete.

Loading Dialogic Patches

Use this procedure to load Dialogic patches:

1. Insert the Dialogic Patches disk (part number 0180302F43) into disk drive.
2. Type: **tar -xv <Return>**.
3. Type: **cd /tmp/patches/ptr4202 <Return>**.
4. Type: **./Install <Return>**.
5. Press **<Return>** at the prompts to continue.
6. At the prompt, Do you want to continue, type: **y <Return>**
7. At the prompt, Do you want to build the new kernel, type: **y <Return>**.
8. Press **<Return>** to complete the patch installation.
9. Type: **cd /tmp/patches/ptr4846 <Return>**.
10. Type: **./install <Return>**.
11. Press **<Return>** at prompts to continue.
12. At the prompt, Do you want to continue Installation, type **y <Return>**.
13. At the prompt, Do you want to build the new kernel, type **y <Return>**.
14. Press **<Return>** to complete the patch installation.
15. Remove the floppy disk from UCC.
16. Type: **cd / <Return>**.
17. Type: **shutdown -y -g0 -i6 <Return>**.
18. The system rebuilds the kernel and then reboots.

The Dialogic patches are complete.

Loading the UCC System Installation Script

Perform the following steps to load the UCC system installation script:

1. From the SCO UnixWare 2.1.1 login window, press **<Alt+E>** to exit.

2. At the root prompt, type:

   root <Return>

3. At the password prompt, type:

   motorola <Return>

4. Insert the UCC Install Script disk (part number 0180302F23) in the disk drive.

5. At the # prompt type: **tar -xv <Return>**.

6. Type: **cd /ucc_install <Return>**.

7. Type: **./ucc_master_install <Return>**.

8. At the prompt, Type of board T1 or E1 [E1], type the kind of NIC card the system has: **E1** or **T1 <Return>**

   If the system is using E1 boards, at the prompt, Install CN1 R2 Protocol?, type **y <Return>**.

9. At the prompt, Number of boards 1, 2, or 3 [2], type the number of E1 or T1 boards (2 is the default value) and press **<Return>**.

10. At the prompt, Installing DSP board Yes or No [No]:
    - Type **Y <Return>** if your system has UAP boards.
    - Type **N <Return>** if your system does not have UAP boards.

11. If the system has UAP boards, type the number of UAP boards in this UCC (usually 4). For example, type:

    4 <Return>

12. Press **<Return>** to continue.

13. Remove the floppy disk, and press **<Return>** to reboot the system.

    The system displays a series of installation and configuration messages.

When these messages conclude, installation of the clone script is complete.

Configuring the UCC System

Configure the UCC as follows:

1. At the root prompt, type:

   root <Return>

2. At the password prompt, type:

   motorola <Return>

3. Set the run level to 1; type **init 1 <Return>**.

4. At the prompt, UCC> Login:, type **root <Return>**.

5. At the prompt, UCC> Password:, type **motorola <Return>**.

6. To change directories to install, type **cd /ucc_install <Return>**.

7. To execute the following script to configure the system, type **./ucc_system_install <Return>**.

8. Type the UCC ID.

   The range is 1–64, and reflects the total number of UCCs a system can have. If this is the first UCC, type **1 <Return>**.

9. Press **<Return>** to continue.

10. Type **N <Return>** at the prompt, Configure TELCO boards.

11. Type **Y <Return>** at the prompt, Configure UCC for redundant CPs.

12. Type **N <Return>** at the prompt, Configuring UCC for SS7.

13. Press **<Return>** to continue.

14. Press **<Space bar>** until Time Zone prompt appears.

15. At the prompt, Time Zone: type the appropriate time zone and press **<Return>**.

16. Press **<Return>** to reboot UCC.

The UCC system configuration is complete.

Generating the Clone Tape

Generate a clone tape for each UCC in the system. This procedure reduces the recovery time of new hard drive replacement to approximately an hour.

1. Plug in and power up the tape drive.

2. Set the SCSI ID to 2.

3. Verify that two 3.5-in., 1.44 MB disks and a 4-mm DAT tape are available for use.

Note: If the system is running, type **<Control+Alt+Del>** *to reboot. During the memory test, power down the UCC.*

4. Power on the UCC.

5. At the root prompt, type:

   root <Return>

6. At the password prompt, type:

   motorola <Return>

7. To set the run level to 1, type:

   init 1 <Return>

8. At the root prompt, type:

   root <Return>

9. At the password prompt, type:

   motorola <Return>

10. From the # prompt, type:

    sysadm format <Return>

    The UnixWare Operations, Administration and Maintenance window appears.

11. Insert a blank disk in the UCC drive.

12. Select: **Diskette for Devices Available <F3>**.

13. Press **<F2>** to display **Choices** for the **Format Removable Media** pop-up window.
14. Press **<F3>** to select **diskette1** from the **Device Drive Choices** pop-up window.
15. Press **<F3>** to continue from the **Format Removable Media** pop-up menu.
16. To save select **3.5 1.44 <F3>**.
17. From the **Format Removable Media** pop-up window, press **<F3>** to continue.

    The message, Formatting in Progress, appears.
18. Eject disk 1; insert disk 2, and press **<F3>** to continue.
19. Press **<F3>** to continue with formatting of the second disk.
20. When the message Format of Volume Complete appears, remove the second disk.
21. Press **<F6>** for **cancel** to back out of this menu**.**
22. Press **<F7>** for the **Command** menu. Use the down arrow to scroll and select **Exit**.
23. From the # prompt, type:

    emergency_disk diskette1 <Return>
24. Insert Clone disk 1 and press **<Return>**.
25. When the prompt appears, eject Clone disk 1; insert Clone disk 2, and press **<Return>**.
26. Insert the blank 4-mm DAT tape in the tape drive.
27. Type: **emergency_rec ctape1 <Return>**.
28. Press **<Return>** to continue.

    The process takes approximately 30 minutes. When complete, the message, Creation of Emergency Recovery Tape was successful, appears.
29. Eject the floppy disk.
30. Eject the 4-mm DAT tape.

31. Type: **shutdown -y -g0 -i6 <Return>**.

The UCC SCO UnixWare OS installation is now complete.

Restoring the UCC System Cloning Tape

Use this procedure to restore the SCO UnixWare software, Antares, and Dialogic packages. Set up the system software in preparation for installation of UCC system application software.

The symbol, UCC>, is the UCC prompt to input information as described below.

Note: UCC hardware—WinBIOS and ethernet boards—must be configured identically to the master system (the UCC used to create the clone tape).

A clone tape for each UCC must be previously created and the replacement hard drive must be identical to the original for this procedure to work. If the replacement hard drive is not identical to the original, you must start with the first procedure in this chapter (see paragraph, "Running the WinBIOS Setup"). The entire process takes approximately eight hours.

Hardware Requirements

- External DAT tape drive
- SCSI cable
- VGA board
- VGA monitor

Software Requirements

- System Recovery disks (2) for SCO UnixWare 2.1.1
- System Recovery DAT tape (1) for SCO UnixWare 2.1.1

Procedure

Perform the following steps for systems that have UnixWare and UCC application software currently installed:

1. From the SCO UnixWare 2.1.1 login window, press **<Alt+E>** to exit.

2. Log in as the root user. At the root prompt, type:

   root <Return>

3. At the password prompt, type:

   motorola <Return>

4. Remove the UnixWare software by executing fdisk to delete the partition. Log in the UCC as a root user and type:
   - UCC> **fdisk Return>**
   - UCC> **3 <Return>**

     (Delete a partition)
   - UCC> **1 <Return>**

     (Partition to delete)
   - UCC> **Y** (Yes) **<Return>**
   - UCC> **4** (Exit) **<Return>**

5. Power down the UCC.

6. Insert SCO UnixWare Emergency Backup Disk 1 into the floppy disk drive.

7. Connect the tape unit with the SCSI ID set to 2.

8. Power up the UCC.

9. When asked for the second Backup Disk, remove Emergency Backup Disk 1, and insert Emergency Backup Disk 2 into floppy disk drive and press **<Return>**.

10. At the window, the hard disk is NOT sane, press **<Return>**.

11. Select **Restore Disk(s)** from the **Emergency Recovery Menu** and press **<Return>**.

12. Insert SCO UnixWare Emergency Backup Tape into the tape drive and press **<Return>**.

Note: This procedure may take 45–60 minutes to complete.

13. At the window, Disk(s) is (are) successfully restored, press **<Return>**.

14. Remove SCO UnixWare Emergency Backup Disk 2, and remove the DAT tape drive cable.

15. Choose **Reboot from the Emergency Recovery** menu and press **<Return>**.

16. Once the SCO UnixWare OS reboots, press **<Alt+E>** to exit the Welcome window.

17. At the login prompt, type:

    root <Return>

18. At the password prompt, type:

    motorola <Return>

19. Change directories. At the UCC prompt, type:

    cd /ucc_install <Return>

20. Execute the following script to configure the system. At the UCC prompt, type:

    ./ucc_system_install <Return>

21. Type the UCC ID.

    The range of UCCS a system can have is 1–64. For the first UCC, type:

    1 <Return>

22. Press **<Return>** to continue.

23. At the prompt, Configure TELCO boards, type:

    N <Return>

24. At the prompt, Configuring UCC for redundant CPs type:
    - **Y <Return>** for a system with redundant CPs.
    - **N <Return>** for a system with a single CP.

25. At the prompt, Configuring UCC for SS7, type:

    N <Return>

26. Press **<Return>** to continue.

27. At the time zone prompt, type:

    Q <Return>

28. Type the appropriate time zone and press **<Return>**.

29. Press **<Return>** to reboot the UCC.

30. Install the UCC system software at this time (see paragraph, "UCC Software Installation Overview" or the README.ucc file found on the release tapes).

    Installation of UCC cloning tape is complete.

This process completes the entire UCC installation.

Wireless Messaging System Terminology

This chapter contains two tables: Table A-1 and Table A-2.

Table A-1: The Wireless Messaging System Glossary List (Sheet 1 of 6)

Term	Description
AddressBook	List of destinations used with the MessageBook for inbound messaging
Alarm	A report following an evaluation and interpretation of an event or fault that is usually routed to a system operator
Automatic Attendant Group	A group where the caller may choose, from a list, one member to receive the message
Barring	Message deposit is not accepted
Billing Interface	A system interface providing subscriber provisioning capabilities and past messaging information to an external computer
Billing Management System	A device that uses the Billing Interface to provision subscribers and retrieve message information
Bureau Service	An operator service providing message deposits, information management, and secretarial services for callers and subscribers
Caller	The individual who enters a message or service request into the gateway
Canned Message	A message that is predefined within the system or a communicator, and is referenced by a short code
Cell	A small group of transmitters (smaller than a subzone) that transmits simultaneously
Central Office	The telephone switching bureau that supplies the spans to the messaging site, usually the PSTN
Communicator (see note)	A device that receives and transmits messages over wireline or radio links, usually a belt-worn device that an individual carries; also, the PMU, PCD, or message communicator
Coverage Area	A collection of Service Areas

Table A-1: The Wireless Messaging System Glossary List (Sheet 2 of 6)

Term	Description
Deferral	A message not sent at the first opportunity, but sent at a specified time and date
Deregistration	Communicator no longer registered on the system
Destination	The point to which a message is to be sent
Direct Messages	Messages destined for a Message Communicator, as opposed to Mailbox Messages
Diversion	A message redirected to another destination (or subscriber) other than that specified by the caller
Escalation Group	A group in which a message is automatically sent, one by one, to each member, until an acknowledgment is received
Event	A report of an occurrence within the system
Fault	A report of an occurrence that indicates that something is not functioning properly
Feature Available	A feature available for use by subscriber
Feature Denied	A feature programmed for operation, but not yet functioning for a subscriber
Feature Inactive	A feature no longer functioning for the subscriber
Feature Invoked	The feature used by the system to process a call or message for the subscriber
Feature Unavailable	A feature not longer available for use by the subscriber
Feature Undefined	A feature no longer programmed with the parameters necessary for operation
Gateway	The messaging terminal (WMG)
Graphical User Interface (GUI)	The operator interface provided by the system with user-friendly graphical images
Group	A system-defined collection of subscribers for which one message is destined
Inbound message	A message sent by a communicator to the system
Information Service Address	The Radio Channel Address used to send a message to a group of communicators simultaneously
Information Service Provider	A registered message originator that can also manage a set of subscribers

Table A-1: The Wireless Messaging System Glossary List (Sheet 3 of 6)

Term	Description
Inlinking	A connection from a destination outside the WMG (telephone or network) that the WMG allows to be established; see Outlinking
Legitimization Code	A code that allows callers to use a feature
Maildrop	Messages that are received in a communicator that replace an earlier message in the same reserved memory location
Mailbox Messages	Messages deposited in the WMG for retrieval later by the subscriber
Master Group	A group that includes other groups and subscribers
MessageBook	List of canned texts used with the AddressBook for inbound messaging
Message Communicator	see **Communicator**
Message Transfer	The transmission of previously received messages to another destination
Modem	A device that converts a telephone line communication medium to a serial line medium; typically used for computers to enter messages to the gateway, or for remote access to the gateway
Messaging Switch (MS)	A device that can perform the following functions: accepting message deposits, managing the subscriber database and features, or sending messages over the radio network. One MS can encompass all three functions.
Messaging Switch Home (MS-H)	A device that can manage the subscriber database and subscriber features, and store messages for each subscriber
Messaging Switch Input (MS-I)	A device that can accept message deposits and send the messaging information to the MS-H; often, the MS-I and MS-H are the same physical device.
Messaging Switch (MS-O)	A device that can send messages over the radio network and perform batching, encoding, and scheduling.
Messaging System	The entire paging network and components/units
Network Provider	The owner and operator of the entire messaging network infrastructure; including the gateway, RF manager, transmitters, and receivers; sometimes the Network Provider and System Operator are the same entity.
Network Management System	A device that manages and monitors all elements of the messaging system (terminal, RF manager, Tx, Rx); can provide the means to control operations or optimize the use of resources

Table A-1: The Wireless Messaging System Glossary List (Sheet 4 of 6)

Term	Description
Notification Message	The message generated to the PMU when a message is deposited in a mailbox
Operator	An individual that interfaces with the gateway to perform configuration, messaging, or management tasks
Originator	The individual or computer system that deposits a message or service request into the gateway
Outbound message	A message sent by the system to the PMU
Outlinking	A connection to a destination outside the gateway (telephone or network) that the gateway establishes; see Inlinking
Pager Type	The PMU model, including its capabilities
Paging Terminal	A messaging system accepting message deposits and sending them to their destinations
Password	An access code for the Subscriber Information Management (Mailbox, DMS, Subscriber Storybook™)
Personal Address	The individual Radio Channel Address used to send a message to a particular PMU
PMU Serial Number	An identifying number unique to each PMU
Private	A message condition that indicates that the message cannot be transferred, diverted, or transmitted to another subscriber other than the originally intended subscriber
Private Mailing List	A subscribe- defined group used for Mailbox messaging
Prompt	A tone or voice indication to the caller that provides information about the caller's choices, and responds to the caller during a message entry session or a subscriber information management session
Radio Channel Address	The identification used by the radio signaling protocol to address a PMU (inbound and outbound); sometimes called RIC or Capcode
ReceiveList	List of canned texts that a PMU uses to interpret outbound alphanumeric messages
Receiver	A radio receiving device that receives the inbound messages from the PMU (RF-Audience!™)
Receiver Concentrator	A device that receives data from the receivers and forwards it to the messaging system

Table A-1: The Wireless Messaging System Glossary List (Sheet 5 of 6)

Term	Description
Registration	The PMU's identification of itself and its location to the system
Reverse Channel Address	The identification used by the PMU when sending an inbound message to the system
ResponseList	List of canned texts that a PMU uses to respond to outbound messages
RF Channel	The radio frequency channel used by the PMU
RF-manager	The transmitter network controller (RF-Conductor!™)
Roaming Area	A Coverage Area in which the message can be temporarily sent to a PMU
Scripting	The operator's ability to customize the call or command flow for some functions of the gateway
Sender ID	A code that identifies the caller
Service Area	An area in which the message will be sent., specifying the RF manager ID, RF Channel, and Zone
Service Provider	The individual or business entity that sells, operates, and maintains the messaging functions for the public; the system operator sells or leases time and resources to this entity.
Signaling Scheme	The radio protocol used to communicate with the PMU
Span	A group of telephone trunk lines
Speech to Text	The conversion of voice into a numeric message, alphanumeric massage, or a command
Subchannel	The splitting of one RF-Channel into subchannels that are used for independent radio traffic
Subscriber	The individual who is the registered person for a Message Communicator (or PMU)
Subscriber Active	The system accepts and transmits messages for the subscriber.
Subscriber COS	A set of characteristics that are shared by subscribers
Subscriber Inactive	A subscriber profile programmed in the system, but not available for use by the subscriber
Subscriber Information Management	The ability to manage the Subscriber Storybook, DMS, and Mailbox features
Subscriber Profile	A set of characteristics shared by subscribers

Table A-1: The Wireless Messaging System Glossary List (Sheet 6 of 6)

Term	Description
Subscriber Storybook	The set of parameters that define the characteristics and capabilities of the subscriber
Subscriber Undefined	A subscriber profile no longer programmed in the system
Subscription	The subscriber's definition in the gateway where features, services, and Message Communicator information are stored; the Subscriber Storybook
Subzone	The subdividing of transmitters in one zone into smaller groups that cover smaller geographical areas; several subzones can exist within one zone.
SuperUser	A system operator that has overall control of the gateway and all other operators
System Provider	The individual or business entity that owns and operates the gateway (messaging terminal); the network provider sells or leases the gateway to the system operator if they are separate entities
Text to Speech	The conversion of numeric or alphanumeric messages into voice; also used to enunciate messages
TouchTone	DTMF (dual-tone multifrequency)
Transaction ID	The identification used to note a particular event related to the message flow within the system; typically used to identify a particular message for acknowledgment
Transmitter	A radio station device that transmits the outbound radio protocol to the PMU
Transport Medium	Method of transporting data from one location to another (wireline, wireless, network)
Trunk	A single voice channel within a telephone span line (30 trunks for E1, 24 for T1)
Urgent	A message condition that indicates that the system will notify the subscriber when these messages are present in the DMS or the Mailbox, before notifying of the presence of other messages
Voice Mail	Common term for the Audio Mailbox

Table A-2: Telecommunications Terminology (Sheet 1 of 6)

Name or Acronym	Definition
80486	A microprocessor from Intel

Table A-2: Telecommunications Terminology (Sheet 2 of 6)

Name or Acronym	Definition
ACK	Acknowledge
AMG	Motorola's Advanced Messaging Group
Bell 103	Modem line specification 300 bps
Bell 202	Modem line specification 1200 bps
BellCore	Bell Communications Research™
BMS	Billing Management System
Capcode	PMU radio signaling address
CCITT	Comité Consultatif International Télégraphe et Téléphone
CCS7	Common Channel Signaling System 7
CDR	Call Detail Record
CEPT	Committee of European Post and Telephone
CLI	Call Line Identity
COS	Class of Service
CP	Central Processor
CPU	Central Processing Unit
DCI	Digital Channel Interface
DID	Direct Inward Dialing
DOS	Disk Operating System
DS1	Digital Signal 1 (T1 physical)
DSP	Digital Signal Processor
DTMF	Dual-Tone MultiFrequency
E1	European trunk level 1
ERMES	European Radio Message System
FAX	Facsimile transmission
FS	File Server

Table A-2: Telecommunications Terminology (Sheet 3 of 6)

Name or Acronym	Definition
FTP™	File Transfer Protocol
GSC	Golay Sequential Code
GUI	Graphical User Interface
ICD	Interface Control Document
InFLEXion	Two-way Asymmetric Voice and data radio signaling protocol
I/O	Input/Output
ICC	Intelligent Communications Controller
ID	Identity
IDE	Integrated Disk Electronics
ISA	Industry Standard Architecture (for PCs)
ISDN	Integrated Services Digital Network
kbps	Thousand bits per second
LAN	Local Area Network
MB	MegaBytes (million bytes)
MF/R1	MultiFrequency / Region 1
MFC/R2	MultiFrequency Compelled / Region 2
MHz	MegaHertz
MIPS	Millions of Instructions Per Second
MS	Messaging Switch
MS-H	Messaging Switch–Home
MS-I	Messaging Switch–Input
MS-O	Messaging Switch–Output
N1	Nippon trunk level 1
NewsPager™	NewsPager Corporation of America signaling code
NFS	Network File Server™

Table A-2: Telecommunications Terminology (Sheet 4 of 6)

Name or Acronym	Definition
NIC	Network Interface Controller
OMC	Operation and Maintenance Center
OS	Operating System
PCI	Personal Computer Interface
Pentium™	A microprocessor from Intel
PIN	Personal Identity Number
PMU	Personal Message Unit (pager or radio receiver)
POCSAG	Post Office Code Standardization Advisory Group
PSTN	Public Switched Telephone Network
RAID	Redundant Array of Inexpensive Disks
RAM	Random-Access Memory
ReFLEX™	Two-Way Asymmetric radio signaling protocol
RF	Radio Frequency
RIC	Radio Identity Code
RISC	Reduced Instruction-Set Computer
RS-232	Serial interface specification
RX	Receiver
SCSI	Small Computer System Interface
SDD	Software Design Document
SLIP	Synchronous Line Interface Protocol™
SNMP	Simple Network Management Protocol™
SPARC	Scalable Processor Architecture™
SRS	Software Requirements Document
T1	Trunk level 1 (U.S.A.)
TAM	Two-way Asymmetric

Table A-2: Telecommunications Terminology (Sheet 5 of 6)

Name or Acronym	Definition
TAP	Telocator Alpha Protocol
TCP/IP™	Transmission Control Protocol / Internet Protocol
TDP	Telocator Data Protocol
TIPP	Telocator Internetworking Paging Protocol
TIS	Telocator Inter-Switch paging application protocol
TME	Telocator Message Entry
TNPP	Telocator Network Paging Protocol
TouchTone	DTMF
TSI	Time Slot Interchange
TX	Transmitter
UAP	Universal Applications Processor
UCC	Universal Communications Controller
UNIX™	A computer operating system
UTC	Universal Time Coordinated
V.21	Modem line specification 300 bps
V.22	Modem line specification 2400 bps
V.27	Fax line specification 4800 bps
V.29	Fax line specification 9600 bps
V.32	Modem line specification 9600 bps
V.42	Modem line specification 19,200 bps
Vac	Volts AC
Vdc	Volts DC
VMEbus	Versa Module Europa
Windows™	Microsoft Windows system for PCs
WMG™	Motorola's Wireless Message Gateway™

Table A-2: Telecommunications Terminology (Sheet 6 of 6)

Name or Acronym	Definition
WMtp™	Wireless Messaging transfer protocol™
X.25	Packet switching standard (CCITT)
X.400	Message handling system standard (CCITT)

IP Addresses and Network Diagram

This appendix contains the default IP addresses for WMG MS and a network diagram for VME-based Themis systems. The subnet mask for 10.x.x is 255.255.0.0. The subnet mask for 17.x.x is 255.255.255.0.

Table B-1: WMG MS Address Assignments (Sheet 1 of 2)

IP Address	Host Name	Subsystem Name	Connect to LAN
177.4.77.17	omcc	qe1	OMC
177.4.78.17	omcv	qe0	
10.5.0.2	omc	hme0	OMC
177.7.77.16	omcterm1	OMC Terminal	OMC
177.7.77.17	omcterm2	OMC Terminal-optional	OMC
177.4.77.35	tserv1	Terminal Server	OMC
10.4.0.2	cp1_rfc	qe1	RFC
177.4.78.10	cp1v	qe0	
177.4.77.10	cp1c	qe2	
177.7.77.12	cp1dcc		
177.3.77.10	cp1	hme0	Control
10.4.0.3	cp2_rfc	qe1	
177.3.77.11	cp2	hme0	
177.4.78.11	cp2v	qe0	
177.4.77.11	cp2c	qe2	
177.7.77.13	cp2dcc		
177.4.77.61	ucc1dci		
177.4.77.101	ucc1c	UCC#1	Control

Table B-1: WMG MS Address Assignments (Sheet 2 of 2)

IP Address	Host Name	Subsystem Name	Connect to LAN
177.4.78.101	ucc1v	UCC1c	Voice
177.4.77.102	ucc2c	UCC#2	Control
177.4.78.102	ucc2v	UCC#2	Voice
177.4.77.62	ucc3dci		
177.4.77.103	ucc3c	UCC#3 (optional expansion cabinet)	Control
177.4.78.103	ucc3v	UCC#3 (optional expansion cabinet)	Voice
177.4.77.104	ucc4c	UCC#4 (optional expansion cabinet)	Control
177.4.78.104	ucc4v	UCC#4 (optional expansion cabinet)	Voice
177.4.77.105	ucc5c	UCC#5 (optional expansion cabinet)	Control
177.4.78.105	ucc5v	UCC#5 (optional expansion cabinet)	Voice
177.4.77.106	ucc6c	UCC#6 (optional expansion cabinet)	Control
177.4.78.106	ucc6v	UCC#6 (optional expansion cabinet)	Voice
177.4.77.107	ucc7c	UCC#7 (optional expansion cabinet)	Control
177.4.78.107	ucc7v	UCC#7 (optional expansion cabinet)	Voice
177.4.77.108	ucc8c	UCC#8 (optional expansion cabinet)	Control
177.4.78.108	ucc8v	UCC#8 (optional expansion cabinet)	Voice
177.4.77.109	ucc9c	UCC#9 (optional expansion cabinet)	Control
177.4.78.109	ucc9c	UCC#9 (optional expansion cabinet)	Voice
177.4.77.10.10	ucc10c	UCC#10 (optional expansion cabinet)	Control
177.4.78.10.10	ucc10v	UCC#10 (optional expansion cabinet)	Voice
177.4.78.21	fs1	File server	Voice
177.4.78.22	fs2	File server	Voice

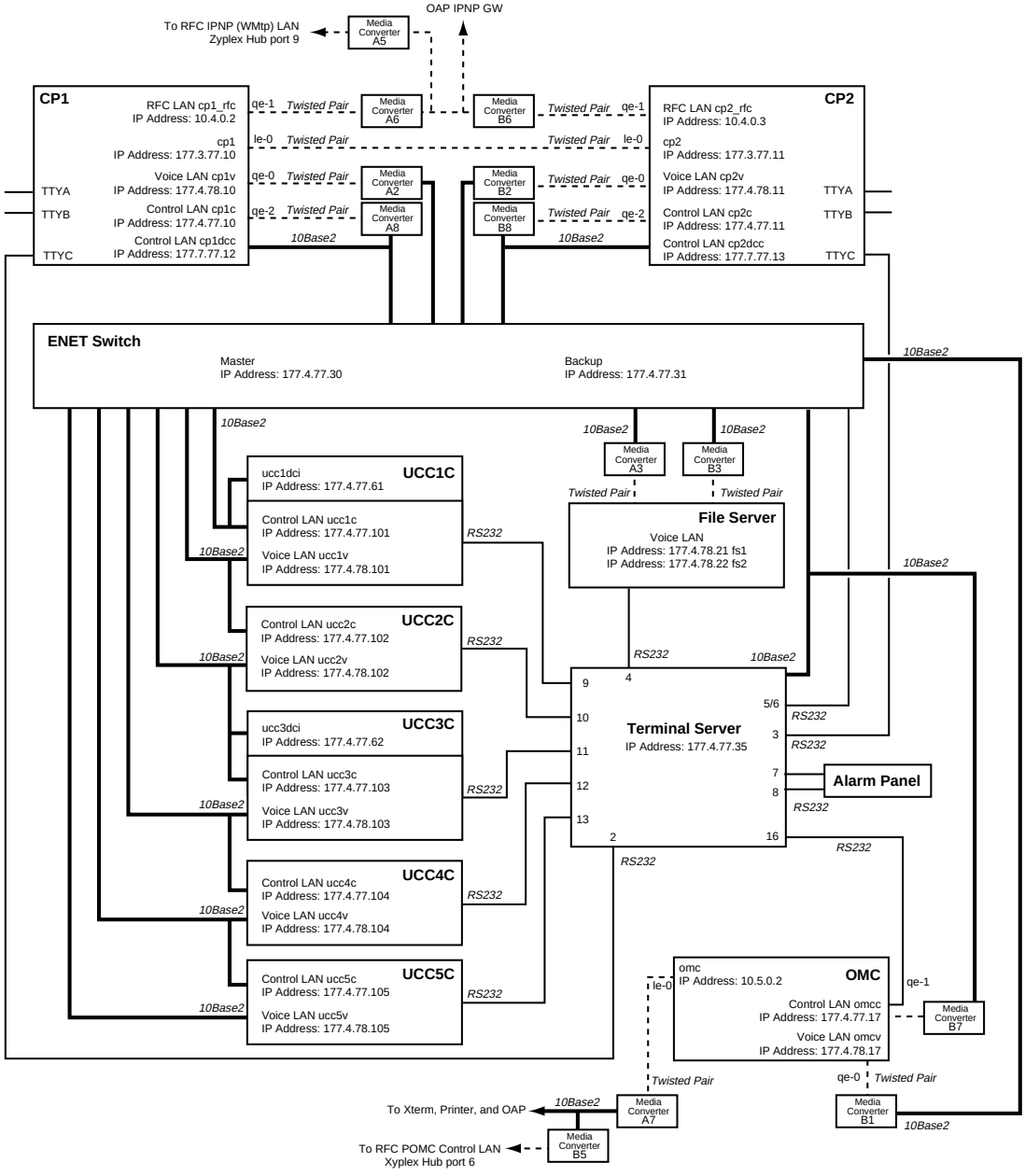

Figure B-1: Themis Based Systems Network Diagram