AvidNews™

System Preparation Guide

Avid

tools for storytellers™

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Application of Council Directives: 73/23/EEC, 89/336/EEC. Standards to which Conformity is Declared: EN 60950: 1992 + A1, A2: 1993, IEC950: 1992 + A1, A2: 1993 Mod., CISPR 22:1985 / EN 55022:1988 Class A (1), EN 50082-1, IEC801 -2, -3, -4. Manufacturer’s Name: Avid Technology Inc., 1925 Andover Street, Tewksbury, MA 01876, USA. European Contact: Nearest Avid Sales and Service Office or Avid Technology Int’l B.V., Sandyford Business Center, Unit 3, Dublin 18, Ireland. Type of Equipment: Information Technology Equipment. Product Name: Avid Editing System, PCI Media Composer, MCXpress for Macintosh, Film Composer. Base Model Numbers: 400S, 800, 900, 1000, 4000, 8000, MC Offline, Media Station. Product Options: All. Year of Manufacture:1997. (1) The product was tested in a typical Avid Media Composer configuration.

I the undersigned, hereby declare that the equipment specified above conforms to the above Directives and Standards.

George R. Smith, Quality Manager Ref: C97029a, C97030a

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Preface

This guide provides information on setting up and configuring your AvidNews™ systems. The AvidNews systems include the Newsroom Computer System, Media System, and Broadcast Control System.

Who Should Use This Guide

This guide is written for the system manager, network administrator, or person who is responsible for connecting the AvidNews components to the network.

After you have purchased the AvidNews components according to Avid's requirements and specifications, use this guide to set up and configure the AvidNews system on your network. Before installing any equipment, the site must already have a configured network.

This guide recommends the order in which to set up the equipment, provides generic procedures on installing Avid kits, and directs you to other documents that provide detailed software instruction.

About This Guide

This guide contains the following information:

- Chapter 1, “Component Summary,” provides a brief description and function of each AvidNews console. Also included are a list of the kits supplied by Avid and a list of the items the customer must supply. Recommended tools are also listed.
- Chapter 2, “Newsroom Computer System Installation,” provides instructions on installing the console multiplexor hardware and connecting the console to the News Servers. The News Server network connection is also explained.
- Chapter 3, “Network and Serial Communication Connections,” contains information about the PCU, its connection to the News Server, and explains how to connect serial devices to it. Sample Ethernet and patch panel connections are also illustrated.
- Chapter 4, “Client Installation,” explains the client workstation connection to AvidNews. The Media Editor is considered a client workstation. Connecting a local printer to a workstation is also included.
- Chapter 5, “Media System and Broadcast Control System Installation,” provides instructions on installing Media System and Broadcast Control System hardware and connecting them to the network. This chapter also discusses the teleprompter connection.
- Chapter 6, “Starting Up and Shutting Down,” discusses how to start up and shut down the client workstations and News Servers.
- Appendixes provide instructions for loading the UNIX operating system on the mirrored News Servers. The operating system and application software is already loaded when the News Servers are purchased through Avid.

Symbols and Conventions

This guide uses the following special symbols and conventions.

Structure of Text

1. Numbered lists, when the order of the primary items is important.
    a. Alphabetical lists, when the order of secondary items is important.

- Bulleted lists, when the order of primary items is unimportant.
    - Indented dashed lists, when the order of secondary items is unimportant.

Look here in the margin for tips and environment-specific information.

In the margin you will find tips that help you perform tasks more easily and efficiently. You will also find information specific to a particular operating environment.

A note provides important related information, reminders, recommendations, and strong suggestions.

A caution means that a specific action you take could harm your computer or cause you to lose data.

Keyboard Conventions

Control-*x*, means to press and hold down the Control key and then press another key.

"Type" in a command procedure means to type the command on the command line and then press the Enter key.

Console Conventions

Commands that you enter at the console, console screen displays, and console prompts are presented in a `typewriter`-style typeface called `courier`:

- Commands that you need to type are in **`bold courier`**. If you are instructed to type a console command, the instructions look something like this:

  Type **`so`** at the `login:` prompt.

- Output to the console screen is in `plain courier`:

```
WAVD_A: list s
T11   miller   A
T23   stevens  A
T82   allen    B
```

Some console displays shown in this guide are quite long. To make them more understandable, the lengthy console displays have been edited to emphasize only the most important information. An ellipsis (...) represents portions of the console display not shown in the text.

The console can display each computer's prompt based on the system ID and the computer's name. Examples in this guide use a fictional station and system ID of WAVD. For example, the following is the console prompt for computer A on the WAVD system:

```
WAVD_A:
```

If You Need Help

The following sections describe help tips on the system operation, console commands, and UNIX and specific devices.

Help With Performing a System Operation

If you are having trouble performing a system operation, you should:

1. Repeat the procedure, carefully following the instructions provided for the task in this guide.

2. Refer to the documentation included with your hardware to review the maintenance procedures or the hardware-related issues.
3. Check the Services & Support section of the Avid web site at http://www.avid.com for the latest FAQs, Tips & Techniques, Avid Answers, and other Avid online offerings.
4. Check the Avid Bulletin Board, "Avid Online," for information about product and user conferences. If you do not find the solution to your problem, you can exchange information with other Avid customers and Customer Support representatives.
5. Maintenance Agreement contract customers can contact Avid Customer Support at:
   - 1-800-869-7009 or 1-978-640-2500 in the USA
   - 44-1753-655999 in Europe
   - 65-476-7666 in Asia/Pacific

Help With the Syntax of Console Commands

If you are at the console, and are unsure about the function of a console command, use the `help` command.

To view instructions about using a command, type `help` followed by the name of the command. For example, type **`help dbpurge`** for help on the `dbpurge` command. The following appears:

```
dbpurge <path> [-hlf] [<interval>] -- can only run on master
       A '-' as path purges all queues with the default interval
       A '-v' will purge all queues as above in verbose mode
       A '-h' will purge HELD entries - (superuser)
       A '-l' will purge LOCKED entries - (superuser)
       A '-f' will purge future entries - (superuser)
       Interval is expressed in <hours> or <days>.<hours>
```

Help With UNIX or Specific Devices

Your best source for more detailed information about UNIX is the UNIX documentation for your operating system. Any UNIX features not mentioned in this guide are not supported in the AvidNews system.

For more information about any device connected to your AvidNews system, refer to the documentation included with the device.

Other AvidNews Documentation

The following documents provide more information pertaining to AvidNews products.

AvidNews Newsroom Computer System Documentation

- *Avid Console Multiplexor User's Manual* describes installing the console multiplexor software and configuration settings.
- *AvidNews Newsroom Computer System User's Guide* describes the user workstation software functions.
- AvidNews Newsroom Computer System online help gives you quick-reference information about user-level software functions.
- *AvidNews Newsroom Computer System Operations Manual* describes the system administrative functions and software.
- *AvidNews Newsroom Computer System Installation Guide* describes the installation process for customers not now using Avid NetStation™.
- *AvidNews Newsroom Computer System Update Guide* describes the process for updating from an Avid NetStation system to AvidNews Newsroom Computer System.
- *AvidNews Newsroom Computer System Release Notes* provides installation, administration, and user-level information that may not have been available at the time the other documentation was printed.

AvidNews Media System Documentation

- *AvidNews Media Editor User's Guide* provides basic information about using the Media Editor, which is a component of AvidNews Media System.
- AvidNews Media Editor online help gives you quick-reference information about user-level software functions of the Media Editor.
- *AvidNews Media System Operations Manual* provides system administrators with operational information about the Media System for AvidNews. It includes basic instructions on how to administer the Media System components and maintain the desktop media editors.
- *AvidNews Media System Installation Guide* describes the Media System installation process.
- *AvidNews Media System Release Notes* provides installation, administration, and user-level information that may not have been available at the time the other documentation was printed.

AvidNews Broadcast Control System Documentation

- *AvidNews Broadcast Control System User's Guide* describes the user-level software functions for BCS.
- AvidNews Broadcast Control System online help gives you quick-reference information about user-level software functions.
- *AvidNews Broadcast Control System Operations Manual* provides AvidNews system administrators with operational and maintenance information about BCS.
- *AvidNews Broadcast Control System Release Notes* provides installation, administration, and user-level information that may not have been available at the time the other documentation was printed.

If You Have Documentation Comments

Avid Technology continuously seeks to improve its customer documentation. We value your comments about this guide or other Avid-supplied documentation.

Send your documentation comments by e-mail to Avid Technology at:

TechPubs@avid.com

Include the title of the document, its part number, revision, and the specific section that you're commenting on in all correspondence.

CHAPTER 1

Component Summary

AvidNews is an integrated digital system used for creating and producing a news broadcast. AvidNews consists of three products: the Media System, the AvidNews Newsroom Computer System, and the Broadcast Control System (BCS). A newsroom may have any one or all of these products.

This guide describes the installation and configuration of the AvidNews system components. The network must be operational before installing the AvidNews components. This guide assumes that the customer has purchased the AvidNews system components based on Avid's recommendations.

Other AvidNews documents will be needed in conjunction with this guide to complete the AvidNews system configuration. This document describes the physical connections and then directs you to other Avid documents that describe how to install the software, configure the system files, and operate the system. For a complete list of related documents, see "Other AvidNews Documentation" on page xviii.

The following sections provide a brief overview of the three products that make up the AvidNews system.

Newsroom Computer System

AvidNews Newsroom Computer System operates on industry-standard technologies, including Windows® 95 and Windows NT® personal computers (PCs), Intel® and Silicon Graphics® servers, and TCP/IP Internet networking protocols.

Figure 1-1 shows a close-up of the standard Newsroom Computer System components. The mirrored News Servers are the core of the Newsroom Computer System. The servers are controlled by the console multiplexer. The Ethernet™ hub, patch panel, and peripheral controller unit (PCU) are components used to communicate with the users and devices through the network.

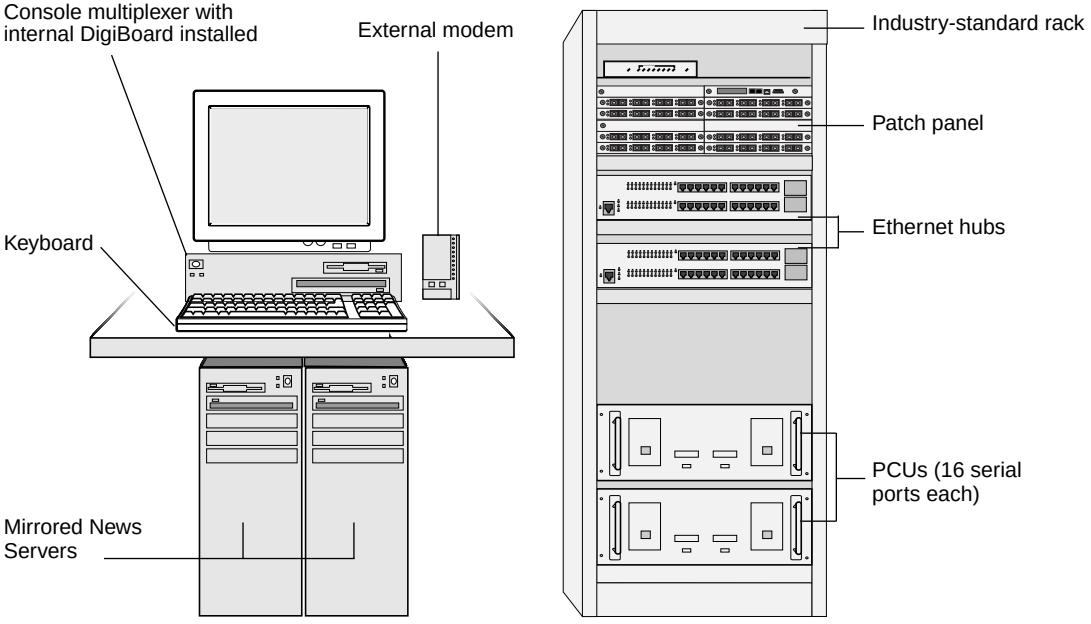


Figure 1-1 Newsroom Computer System Layout

Media System

Video and audio feeds enter the AvidNews system through the Media Capture Station. The Media Capture Station digitizes the data, storing low-resolution media on a Media Asset Server and high-resolution media on a Media Server. The Media Asset Manager maps the high- and low-resolution digitized data. As soon as the digitized data is stored in the Media Asset Server, journalists can preview, flag, or rough-cut the media, using the AvidNews Media Editor workstations without leaving their workstations or circulating tapes.

The Media Editor workstations use the low-resolution media to make their edits. This prevents the large, high-resolution media files from burdening the workstations and network. The edits performed on the workstations are applied to the high-resolution video and audio when the files are sent to air.

Figure 1-2 on page 1-4 shows a close-up of the Media System components. Video is captured by both the Media Capture Station and NewsCutter or Media Recorder at the same time. The digitized video is stored in the appropriate servers and mapped by the Media Asset Manager.

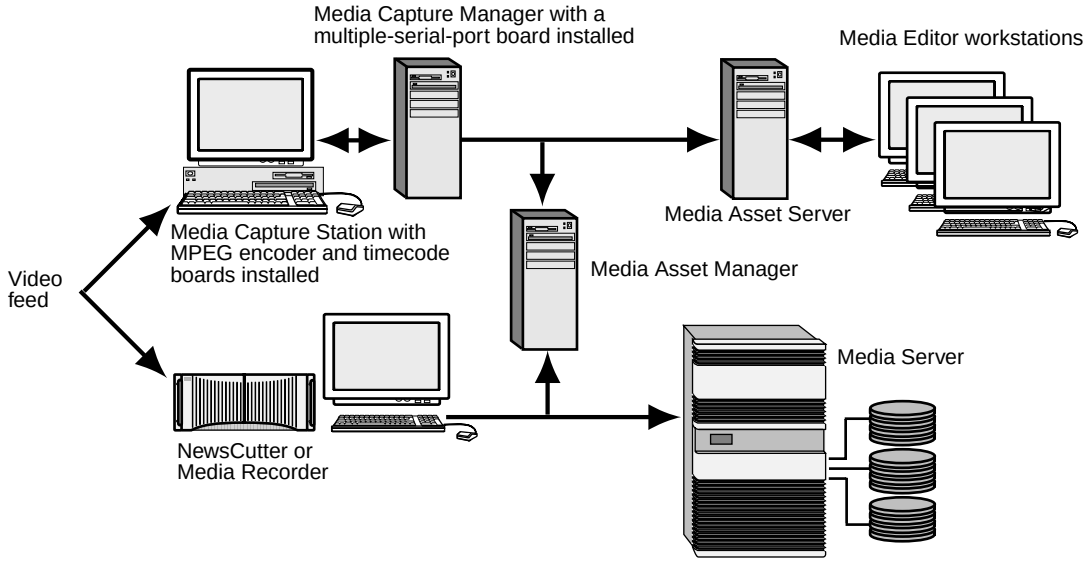


Figure 1-2 Media System Layout

Broadcast Control System

AvidNews Broadcast Control System (BCS) controls the playback of on-air operations produced on the workstations. The BCS can operate in both integrated and standalone operations.

The BCS consists of a server and a client. The client uses a graphical user interface (GUI) to control events. The server:

- Directly controls production and playback devices
- Receives information from the AvidNews Workstation as control events are entered into scripts
- Automatically reorders events as stories are reordered in the AvidNews rundown
- Handles several shows at the same time, if desired
- Enables back-to-back show production

The BCS controls the still stores, character generator, and playback devices (disk- and tape-based).

The teleprompter is connected directly to the network. The closed-caption text is derived from the teleprompter when needed.

Technical directors have their own Windows-based client to control events on the BCS.

Figure 1-3 shows a close-up of the BCS components. The technical director runs the BCS from the Broadcast Control workstation. The technical director creates a playlist using the stories created by the journalist. The stories are merged with still stores and text, (generated on the character generator) and sent to air via a playback device. Playback devices can be tape- or disk-based.

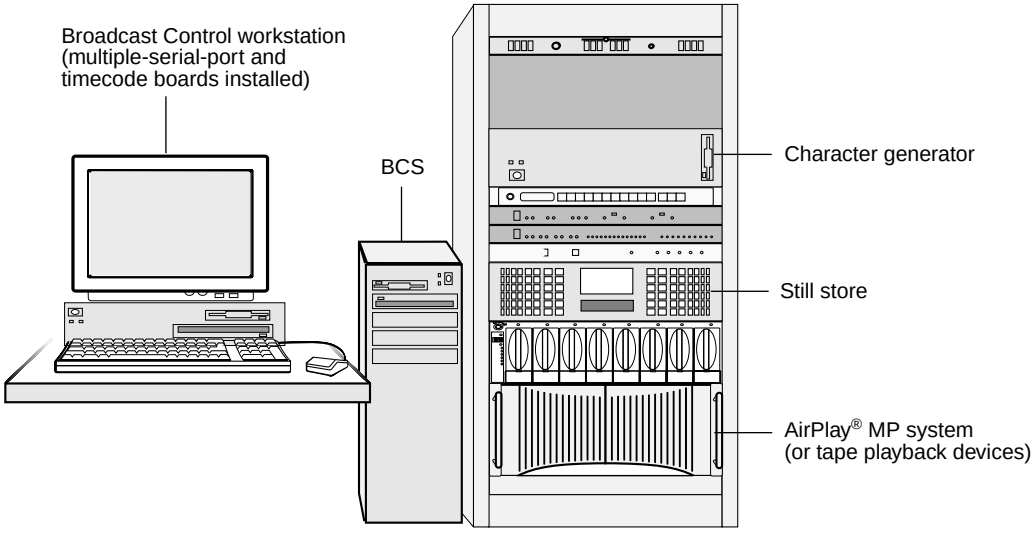


Figure 1-3 BCS Layout

Customer-Supplied Components

The following sections give a brief functional description of the Newsroom Computer System, the Media System, and the BCS components. These components are supplied by the customer.

Newsroom Computer System Components

The Newsroom Computer System is the foundation of the AvidNews system. The following sections describe the components that make up the Newsroom Computer System.

News Server

The News Server consists of two servers that fully mirror the database for immediate cutover in the event of a server failure. Adding a third mirrored News Server increases the client-load capacity. Depending on the server, the number of clients varies.

The News Server stores the database and text created by the AvidNews Workstations (client workstations). Although most industry-standard servers can be used as News Servers, the following servers have been approved by Avid:

- The Dell® PowerEdge® 2200 is an Intel-based SCO® UNIX server. This mirrored News Server is recommended for sites that support up to 120 clients. If three servers are used, up to 180 clients are supported.
- The Silicon Graphics O2™ is a MIPS RISC®-based UNIX server. This mirrored News Server is recommended for sites that support up to 250 clients.
- The Silicon Graphics Origin200™ is a MIPS RISC-based UNIX server. This mirrored News Server is recommended for sites that support over 250 clients.

Console Multiplexor

The console multiplexor is typically located in the computer room near the News Server and is used by the system administrator to command and control the servers. The console multiplexer is a low-end computer that needs only the Microsoft® disk operating system (MS-DOS) installed (version 3.11 or higher).

The console cannot be used as a client workstation. Commands can be sent either to a single server or to all the mirrored servers at the same time.

Besides allowing the system administrator to enter commands to the News Servers, the console multiplexor also displays status and error messages from the News Servers. These messages are recorded in log files.

The console software, in conjunction with a customer-supplied modem, allows the station staff and Avid Customer Support personnel to remotely control, diagnose, and troubleshoot server and database problems.

Avid provides a DigiBoard® that must be installed in the console multiplexer. The DigiBoard provides four 25-pin serial connectors.

- One connector is connected to a modem used for dialing into the console for remote access and diagnosis.
- Two of the connectors are connected to the mirrored News Servers.
- The fourth connector is used only if a third mirrored server is added.

The DigiBoard supplied by Avid is shown in Figure 1-4 on page 1-8. Detailed cabling configurations for the DigiBoard serial connectors are provided in the DigiBoard documentation.

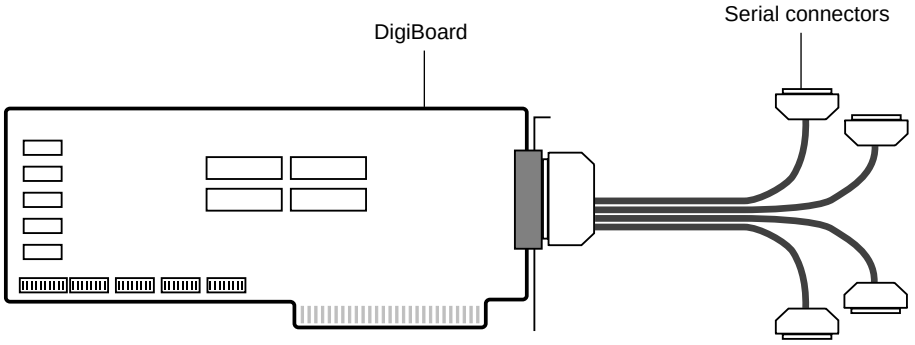


Figure 1-4 DigiBoard Layout

Modem

The console multiplexer requires an external modem (9600 baud or higher) for remote access to News Servers. The modem uses an analog telephone line. In addition to the dedicated phone line for the modem, the console operator should also have a telephone situated in such a way that the console can be accessed while consulting with Avid Customer Service.

Uninterruptible Power Supply

Surge protection and an uninterruptible power supply (UPS) are essential for AvidNews systems. If the computers lose power even for a moment, the entire system will stop functioning. There must be one alternating current (ac) connector for each Avid server and each PCU power supply. The circuit must have a dedicated circuit breaker and an isolated ground.

Most systems are designed to work with single-phase (three-wire) power cord with a grounded neutral conductor. To reduce the risk of electric shock, always plug the cord into a grounded power outlet.

For best performance, keep all system power connections on the same power feed distribution panel. Do not connect fans, lamps, coffee pots, or other equipment to the same outlet that is powering the AvidNews equipment.

Peripheral Controller Unit

The peripheral controller unit (PCU) is a low-end computer connected between a server and one or more serial devices such as terminals, printers, and wire services. The PCU relieves the server of routine communication with the devices.

Each PCU provides up to 16 serial device connections. The PCUs have two removable power supplies that you can easily take out and replace if a PCU power supply failure occurs.

Ethernet Hub

The Ethernet hub routes data between the clients and the server. Ethernet hubs have multiple RJ-45 connectors that connect all of the network devices. A 10Base-T Ethernet hub is acceptable for AvidNews Workstations, but the 100Base-T hub is preferred. Media Editor workstations require either dedicated 10 Mb/s switched ports or a 100Base-T connection. The PCU will only work on a 10 Mb/s connection. Typically, status LEDs on the hub show valid connections or network activity.

Patch Panel

A patch panel is used as a junction box where all of the incoming connections from the workstations and network devices are centralized in the computer room. This is where the incoming connections access the system. Patch panels allow you to reconfigure and diagnose the system with minimal effort; failed computer components can easily be bypassed. Avid recommends that the system administrator keep a log of each device connected to the patch panel.

The customer is responsible for running the cable from the computer room to each distribution point. In turn, the distribution points connect each network device (terminals, printers, teleprompters, and wire services) via a category-5 cable.

Station Network

AvidNews systems are designed to work over industry-standard local area networks (LAN) and wide area networks (WAN), using standard TCP/IP networking protocols. Workstations and PCUs can operate over routers in a WAN environment.

The system can coexist with other industry-standard protocols, but some components, such as PCUs, must be isolated from protocols such as IPX and NetBIOS.

Workstations belonging to the newsroom staff (journalists, editors, assignment managers, and producers) should already be part of the station's network. Once the AvidNews software is running on the network servers, install the AvidNews workstation software on the staff's existing desktop computers to convert them into AvidNews workstations. Additional workstations can be added or removed at anytime.

Media System Components

The Media System essentially lets you digitizes a video feed, edit the video, then broadcast a story using the edited video. The following describes the components that make up the Media System.

Media Capture Station

Media Capture Stations are used to capture and record incoming video and audio. The capture stations are controlled by the Media Capture manager. The Avid Media Recorder® or NewsCutter® can be used as high-resolution capture devices. The low- and high-resolution digitized media files are stored separately. The Media Asset Manager maps the low- and high-resolution frame information to each other.

- Low-resolution capture station – The low-resolution capture station receives the video transmission, digitizes the video into MPEG images, and stores the images in the Media Asset Server.
- High-resolution capture station – This component is not a part of AvidNews. The high-resolution capture station may be an Avid Technology product such as a NewsCutter, or it could be a tape device. The high-resolution capture station receives the video transmission, digitizes the video into high-resolution images, and stores the images in the Media Server.

Media Capture Manager

The Media Capture Manager controls one or more Media Capture Stations and coordinates dual recording between a Media Capture Station and a NewsCutter or Media Recorder.

Media Asset Manager

The Media Asset Manager is the media database. It contains the information that maps each frame in the low-resolution video clip to its corresponding frame in the high-resolution video clip. The Media Asset Manager uses an INFORMIX® database.

Media Asset Server

The Media Asset Server receives video clips in MPEG format from the low-resolution capture station, stores these clips, and delivers them to the Media Editor when a journalist requests them.

Media Server

The Media Server stores high-resolution video clips. The server receives video from the high-resolution capture station, stores it, and delivers it to a playback device, such as an Avid AirPlay MP system, at broadcast time.

Broadcast Control System Components

The BCS is a computer that controls media playback devices. The media playback device can be any high-resolution video system such as a video deck system or playback application like AirPlay MP. The playback device retrieves the video clips from the Media Server or tape and plays them for the broadcast.

Workstations

The customer is responsible for supplying client workstations to the newsroom staff (journalists, editors, assignment managers, and producers). The staff's existing desktop computers that meet the minimum AvidNews workstation requirements can be converted into AvidNews workstations.

Once the AvidNews software is running on the network servers, install the AvidNews workstation software on the staff's computers to convert then into AvidNews workstations. (Assuming the newsroom staff computers are already part of the station's network.)

Multimedia desktop computers can be used as Media Editor workstations for low-resolution rough-cut video editing and text creation with video browsing. Additional workstations can be added or removed at anytime.

Printing

System printers connect to PCUs via RS-232 serial connections. The system printers must have RS-232 serial ports and accept standard ASCII text using X-on/X-off protocol.

Workstations can have access to local printers though their network connection, in addition to system printers connected serially to the PCU ports. Follow the instructions provided with the computer documentation.

To print locally, connect a parallel printer directly to the parallel port on the customer-supplied computer. Follow the instructions provided with the computer.

Cabling

Most of today's network cabling uses category-5 unshielded twisted pair (UTP) wiring. Category-5 supports up to 100 megabits per second. The cable contains four twisted pairs of wires, for a total of eight wires.

Cable lengths are determined by the customer's needs. A floor plan of the facility, with the locations marked where the users and equipment are located, will help plan the cabling needs. Cables of excessive length clutter the area and are not recommended.

Avid recommends using category-5 cables for connections whenever possible. The signals used on each pin vary according to the application. Shielded communication grade cables are recommended for serial connections. This includes the serial connection between the system printers and PCUs.

Category-5 cables use an 8-pin RJ-45 jack (see Figure 1-5). The IEEE specification for Ethernet 10Base-T requires that two twisted pairs be used. One pair is connected to pins 1 and 2, and the second pair is connected to pins 3 and 6.

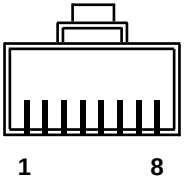


Figure 1-5 Category-5 Cable With RJ-45 Connector

Wire Services

Customers must provide a feed from all wire-service selector boxes to the computer room. You can provide this with a group run or with individual cables. The wire service selector boxes must not filter out nonprinting characters such as SOH and ETX. Avid uses these signals to recognize the start and end of wire stories.

Avid-Supplied Kits

AvidNews software must be loaded on each system and server before it can become part of the AvidNews system. In addition to the AvidNews software, Table 1-1 lists hardware and other software provided with the AvidNews kits. Items supplied with the kits must be installed in their appropriate computers. INFORMIX database and client licenses are included with some kits.

Table 1-1 Avid-Supplied Hardware and Software

System	Description
Console Multiplexer	
DigiBoard	Four-connector serial board, required for the mirrored News Server connections
Media Capture Stations	
Timecode board	The house or source timecode identifies the video frames
MPEG encoder	Captures and compresses video and audio into MPEG

Table 1-1 Avid-Supplied Hardware and Software (Continued)

System	Description
Media Capture Manager	
Multiple-serial-port board	Serial board that includes a serial panel that connects multiple serial devices
INFORMIX Client License	INFORMIX CLI and Connect software and licenses are supplied with the AvidNews Media Editor license
Media Editor Workstation	
INFORMIX Client License	INFORMIX CLI and Connect software and licenses are supplied with the AvidNews Media Editor license
Media Asset Server	
Software	pcANYWHERE™
INFORMIX database License	INFORMIX; must include the Dynamic Online Server license (V7.22 for NT) for the number of clients that will connect (supplied with the AvidNews Media Manager license)
Broadcast Control System	
Timecode board	The house or source timecode identifies the video frames
Multiple-serial-port board	Serial board that includes a serial panel that connects multiple serial devices

Recommended Tools

Tools may be required when performing the following functions:

- Installing an expansion board (some Avid kits include expansion boards that must be installed)
- Installing options not all ready installed in systems

- Creating cables
- Troubleshooting

The most common tools and their purpose are listed as follows:

- Mini tracker — a serial breakout tool for monitoring serial signals.
- Ground strap for static discharge — releases static discharge; used when handling printed circuit boards.
- Needle-nose pliers — handy tool used to pick up or hold items in tight areas.
- Phillips-head screwdriver — Phillips-head screws are typically used to secure system covers and expansion boards.
- Flat-head screwdriver (small) — small flat-head screws are typically used to secure serial cables.
- Cable-making tools — used when prefabricated interface cables are not available.
    - Wire cutters
    - Wire striper
    - RJ-45 cable crimper
    - Spare RJ-45 connectors

Do not leave more than 1/4-inch of twisted pair cable exposed (do not strip jacket more than is necessary). Exposing extra cable reduces the balanced signal properties.

Avid recommends using category-5 cables with RJ-45 connectors when making serial and Ethernet connections. To avoid making custom cables for these connections, stock assorted length category-5 cables.

CHAPTER 2

Newsroom Computer System Installation

This chapter explains the setup of the Newsroom Computer Systems. Information includes using an uninterruptible power supply (UPS) with all systems. It includes installing the DigiBoard, serial connections to the console multiplexor, and network connections.

Connecting the UPS

AvidNews systems require an UPS to protect against power failures. Each News Server must have its own UPS. The console multiplexor and PCUs can share an UPS with a mirrored News Server.

Check that the UPS has surge protection and a high enough rating to handle all of the systems connected to it. The rating plate on each system will help calculate the required rating for the UPS. Figure 2-1 on page 2-2 shows how to connect multiple systems to an UPS using a power strip.

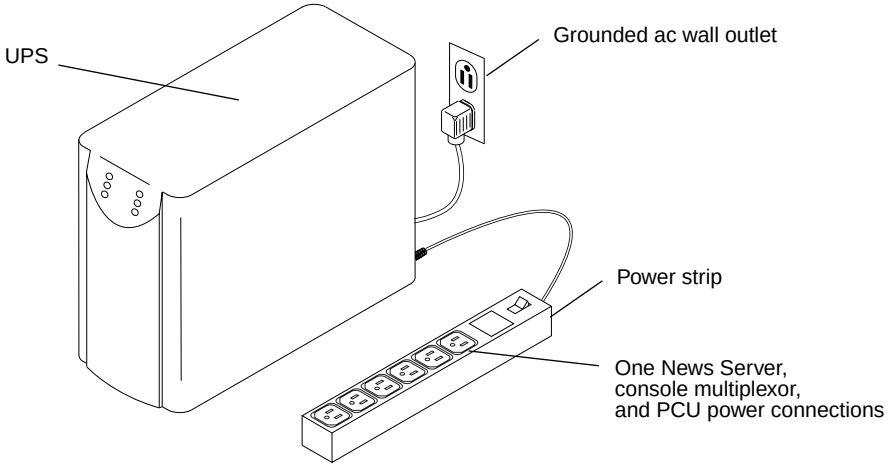


Figure 2-1 UPS Connections

Setting up the Console Multiplexor

Unpack and set up the console multiplexor computer according to the manufacture's instructions. After setting up the computer, power on the system and install MS-DOS according to Microsoft's instructions.

Avid recommends powering on the console computer before installing the DigiBoard. This lets you know if the computer is working before opening it. Remember to power off the system before installing any hardware.

After you have set up the console multiplexor computer, connected the monitor, and loaded MS-DOS, install the DigiBoard and the console multiplexor software according the following sections.

Installing the DigiBoard

Avid provides a DigiBoard to be installed into the console multiplexor computer. The DigiBoard is an expansion board that plugs into an industry standard architecture (ISA) slot on the computer's system board.

This document provides a generic installation procedure. DigiBoard's documentation provides installation instructions, configuration settings, and cabling diagrams. Before installing the DigiBoard into the console multiplexor, set the board's configuration switches.

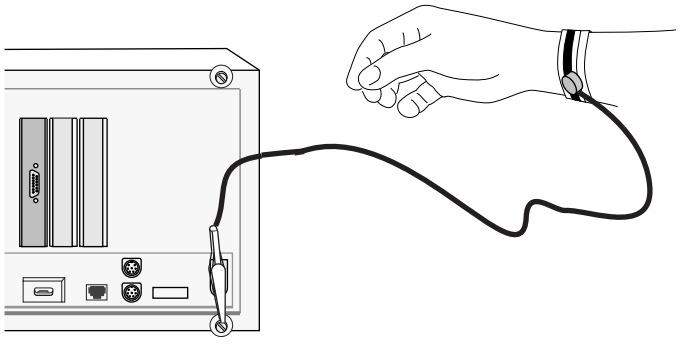
The DigiBoard provided by Avid is the PC/4 version.

Configuring the DigiBoard

To configure the DigiBoard:

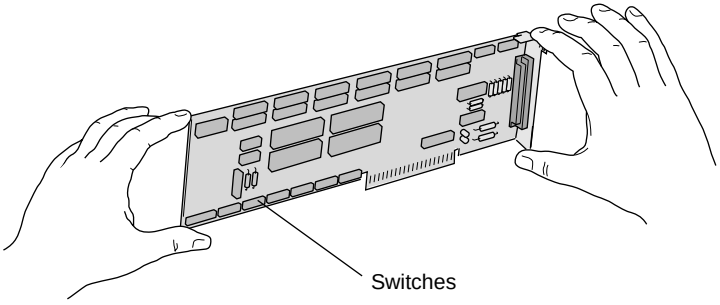
1. Put on a wrist strap and attach the ground clip to the computer's chassis.

Semiconductor devices are vulnerable to damage by electrostatic discharge (ESD). Always use an ESD wrist strap or other grounding device when opening the computer or removing any circuit boards from its packing.



2. Remove the Digiboard from its staticproof bag.

   Hold the board by its outer edges to avoid touching the components and connector on the board.



3. Configure the switches and jumpers as shown in Table 2-1 and Table 2-2.

   See the documentation that is supplied with your DigiBoard to identify the switches and jumpers.

Table 2-1 DigiBoard Switch Settings

Switch	SW–1	SW–2	SW–3	SW–4	SW–5	SW–6	SW–7	SW–8	SW–9	SW–10
DS1	On	On	On	On	On	On	On	On	On	Off
DS2	Off	On	Off	Off	On	On	On	On	NA	NA
DS3	Off	On	Off	Off	On	On	Off	On	NA	NA
DS4	Off	On	Off	Off	On	Off	On	On	NA	NA
DS5	Off	On	Off	Off	On	Off	Off	On	NA	NA

Table 2-2 DigiBoard Jumper Settings

Jumper	Setting
J85	Jumpered
J89	Jumpered
J1	Jumper on pins 1–2
J2	Jumper on pins 1–2
J3	Jumper on pins 1–2
J4	Jumper on pins 1–2
J9	Jumper on pins 2–3
J10	Jumper on pins 2–3

Installing the Digiboard

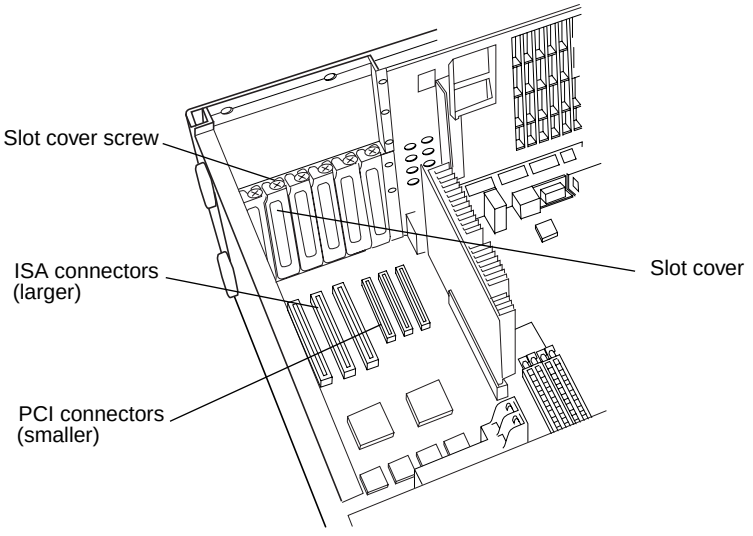
After the DigiBoard's switches and jumpers have been configured, use the following instructions in conjunction with the documentation provided with the system.

To install the Digiboard:

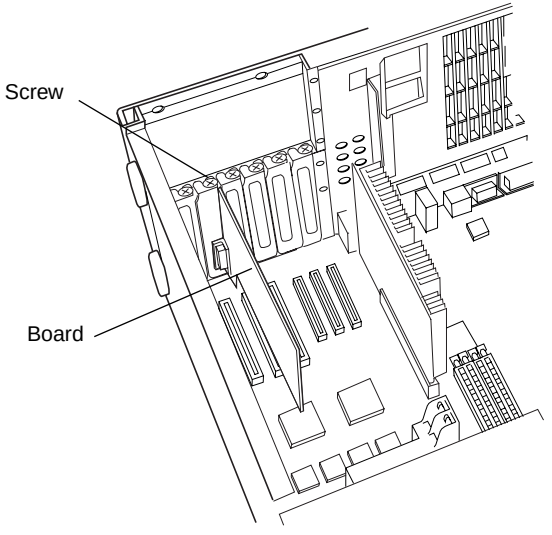
1. Remove the computer's cover according to the manufacturer's instructions. See the documentation supplied with the computer.

Label all cables you disconnect. Note the position and location in which the cables are installed.

2. Remove the expansion slot cover from within the computer.



3. Align the connector on the DigiBoard with the system board ISA connector.



4. Press the board firmly until the connector is seated.

   Do not force the board. If you meet with a lot of resistance, pull it out, inspect the connector, and try again.

5. Reinstall the screw used for the slot cover to secure the DigiBoard.
6. Reconnect any cables that you disconnected.
7. Replace the console multiplexor cover.

Cabling the News Servers to the Console

This section describes how to connect the News Servers to the console multiplexor computer. This should only be done after all optional hardware has been installed and the operating system and the AvidNews software has been loaded into all systems.

The DigiBoard comes with the serial cable shown in Figure 2-2. Use this cable to connect the mirrored News Servers and an external modem to the console multiplexor. One end of this cable has a 78-pin connector. The other end provides four DB-25 serial connectors.

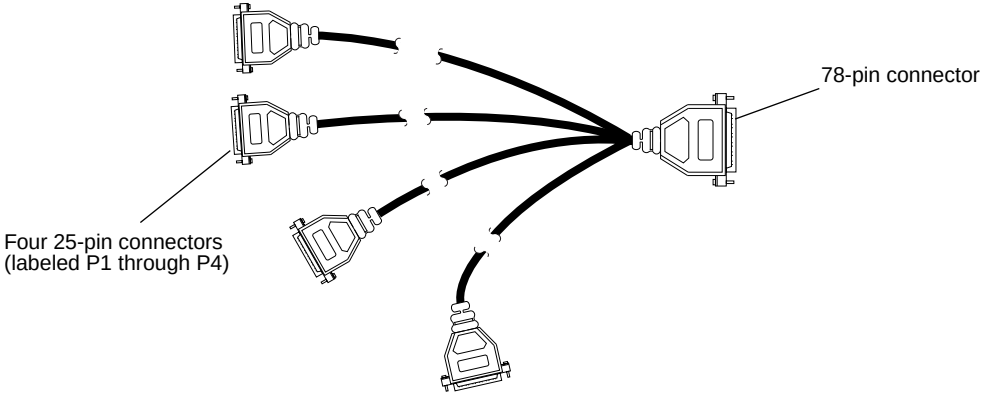


Figure 2-2 DigiBoard Connector Cable

The connection between the console multiplexor cable and the News Servers requires a Data Terminal Equipment (DTE) serial connection.

Figure 2-3 shows a configuration diagram of the connection. The DigiBoard documentation provides additional configuration diagrams.

The only signals that are required are the Transmit data, Receive data, and Signal ground. All other signal can be left disconnected.

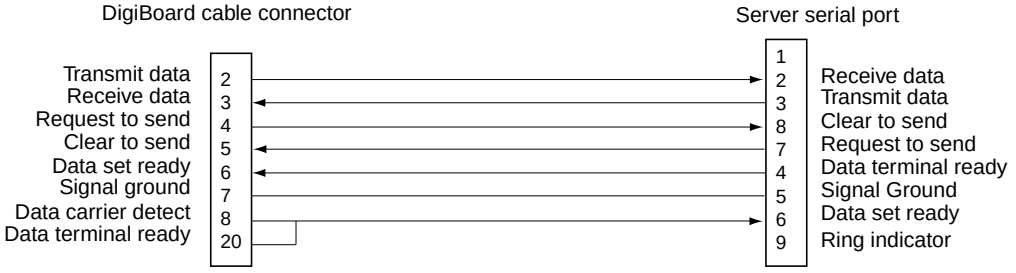
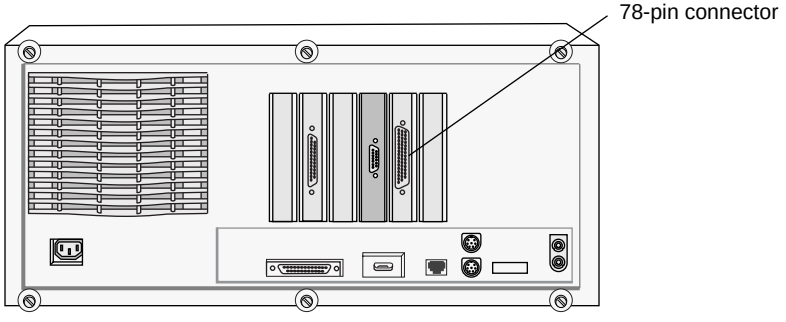


Figure 2-3 DigiBoard-to-Server Cable Configuration

The serial connection described in the following procedure assumes that a 9-pin-to-RJ-45 adapter is used on the server end and a 25-pin-to-RJ-45 adapter is used on the DigiBoard console cable. Category-5 cables with RJ-45 jacks connect the servers to the console.

To connect the console cable to the servers:

1. Connect the 78-pin end of the cable connects to the DigiBoard installed in the console multiplexor.



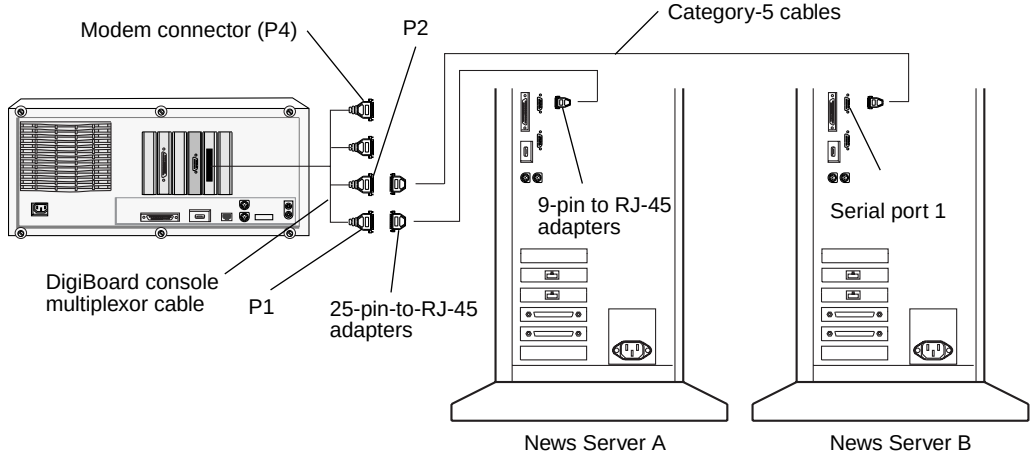
2. Secure the connection with the two screws attached to the cable.
3. Connect the mirrored servers to the DigiBoard using 9-pin-to-RJ-45 adapters and 25-pin-to-RJ-45 adapters. The RJ-45 connection is made with a category-5 cable.

Optional 9-pin-to-RJ-45 adapters and 25-pin-to-RJ-45 adapters are available through Avid.

a. Connect a 9-pin-to-RJ-45 adapter to serial port 1 of each mirrored server.

b. Connect a 25-pin-to-RJ-45 adapter to the DigiBoard connectors labeled P1 and P2.

c. Connect News Server A to DigiBoard connector P1, and News Server B to DigiBoard connector P2, using category-5 cables with RJ-45 jacks.



The serial cable length between the systems should not exceed 100 feet. Serial cables that exceed 100-feet long might cause communication errors.

Cabling the Modem to the Console

The modem allows the station staff and Avid Customer Support personnel to remotely control, diagnose, and troubleshoot server and database problems.

Connect the external modem into the P4 connector of the DigiBoard console multiplexor cable. The P4 connector is a DB-25 serial connection. The modem must also plug into an analog telephone line.

If the AvidNews site happens to have four News Servers, all four connectors on the DigiBoard cable are used by the servers. Connect the external modem into the serial port of the console multiplexor. For more information, see the Avid Console Multiplexor User's Manual.

The connection is a Data Communication Equipment (DCE) serial connection. A DCE is a straight connection between the connectors.

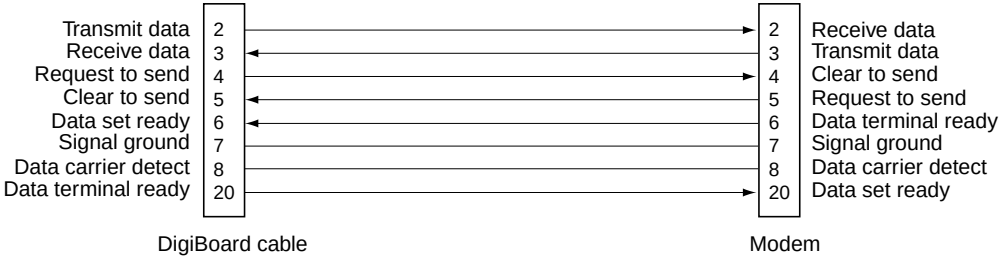


Figure 2-4 DigiBoard-to-Modem Cable Configuration

The modem is configured through the console multiplexor software. Instructions are provided in the *Avid Console Multiplexor User's Manual*. Set up the modem for:

- Auto-answer
- Fixed serial port speed of 9600 baud
- 8 bits, no parity, 1 stop bit
- X-on/X-off flow control
- No answer-mode messages displayed
- No command echo

Installing the Console Application

Install the console multiplexor software according to the *Avid Console Multiplexor User's Manual*.

Configuring the News Servers

Keep the following in mind when setting up the News Servers:

- The News Servers need to be installed in close proximity to the console multiplexor. Initially, a keyboard and monitor will need to be attached to the News Servers to configure the servers and install the operating system and AvidNews software. Once the software is loaded and the servers are configured, the keyboard and monitor can be removed and the servers can then be controlled from the console multiplexor.
- When the News Servers are purchased through Avid, all hardware is installed, the drives are partitioned, and the operating system is loaded. The AvidNews server software and database must be loaded according to the *Avid Newsroom Computer System Installation Guide.*
- If an existing version of Avid NetStation is installed, load the AvidNews software according to the *AvidNews Newsroom Computer System Update Guide*.
- When the console multiplexor and News Servers are connected and the software is loaded, proceed to "News Server Operational Check" on page 2-24.

Configuring the News Server Hardware

Although most industry-standard servers can be used as News Servers, the following servers have been approved by Avid and are referenced in this document:

- Dell PowerEdge 2200 (Intel-based server)
- Silicon Graphics O2 (MIPS RISC-based server)
- Silicon Graphics Origin200 (MIPS RISC-based server)

Prepare the News Servers as follows:

1. Inspect the server and software against the packing list and purchase specification. Look for peripheral discrepancies (for example, SCSI devices or network boards).
2. The News Servers might require some preparation prior to installing the operating system, AvidNews software, and the database. Install any optional hardware according to the manufacturer's documentation. Systems are processed in pairs. The two systems are referred to as "News Server A" and "News Server B." Label the servers A and B.
3. Once the News Server hardware is completely installed, continue on to the following sections to get the servers connected to the network and the software installed.

Temporary Monitor and Keyboard Connections

A keyboard and monitor are temporarily required to configure and load the software on the News Servers. The mirrored servers are configured one at a time.

The Avid-recommended servers come with a personal system (PS)/2®-compatible keyboard. These servers also provide a video graphics array (VGA)-compatible monitor connector. Although the servers do not automatically come with a monitor, this industry-standard monitor should be available at the site. Both the keyboard and monitor connections are keyed to fit in only the correct position on the rear of the servers. Follow the documentation provided by the manufacturer when connecting the keyboard and monitor.

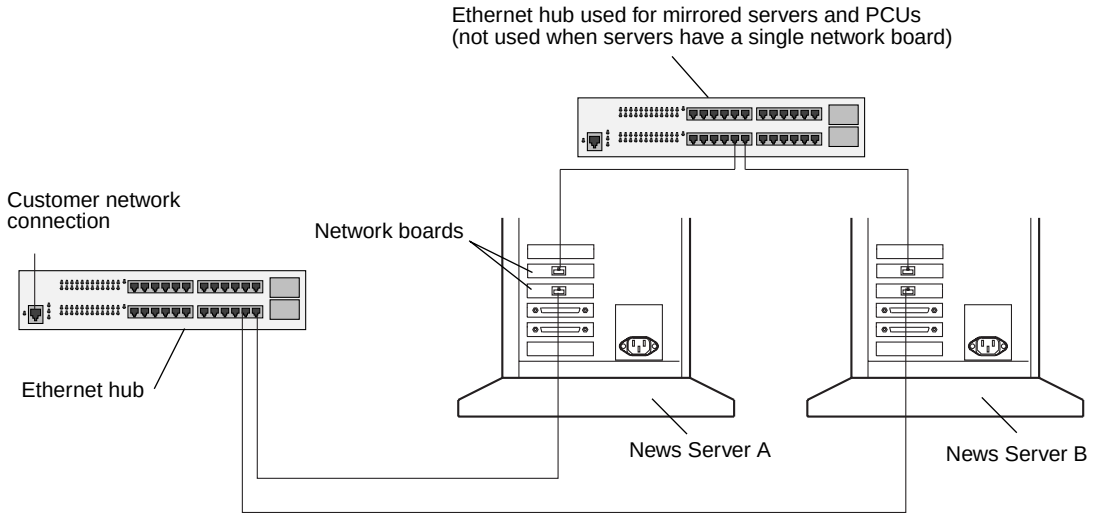
Connecting the News Servers to the Network

This section describes how to connect the News Servers to the network. The News Servers can connect to either a 10Base-T or 100Base-T Ethernet hub. The network connection described in the following procedure assumes that the site network uses category-5 cables with RJ-45 jacks. Older network connections use BNC connectors. If using BNC connections, cable the servers as described in the following procedure, replacing the connections with BNC connectors.

The Silicon Graphics servers have two network boards installed in the servers. The PowerEdge servers have one network board installed. The second network board in the Silicon Graphics servers connects to a dedicated 10Base-T Ethernet hub. This Ethernet hub handles just the network traffic between the PCUs and News Severs.

To connect the News Servers to the network:

1. Connect News Servers with two network boards as follows. (Silicon Graphics servers are specified to have a dual-network board installed.) Proceed to step 2 if connecting PowerEdge servers with one-network board.
    a. Connect a category-5 cable with RJ-45 jacks into one of the network boards on each News Server.
    b. Connect the other end of the category-5 cable into available RJ-45 jacks on a dedicated server/PCU 10Base-T Ethernet hub.
2. Connect the second or only network board in each News Server to the LAN Ethernet hub.
    a. Connect a category-5 cable with an RJ-45 jack into a second or only network board on each News Server.
    b. Connect the other end of the category-5 cable into an available RJ-45 jack on network Ethernet hub.



Loading the News Server Operating System

News Servers purchased through Avid already have the drives partitioned and the operating system loaded. If the News Servers were purchased directly from the manufacturer, the following might need to be performed before loading the Avid software.

1. Format any unformated drives according to the server's documentation.

Do not format the primary drive if the operating system has already be loaded.

2. Load the UNIX operating system. The operating system will already be loaded if purchased through Avid.
   - If loading SCO UNIX into PowerEdge 2200 News Servers, see Appendix A.
   - If loading UNIX into Silicon Graphics O2 or Origin200 News Servers, see Appendix B.

3. Load the AvidNews software according to the *AvidNews Newsroom Computer System Installation Guide*. If you are upgrading from Avid NetStation, see the *AvidNews Newsroom Computer System Update Guide*.

Installing the AvidNews Server Software and Database

Load the AvidNews server software and database according to the *Avid Newsroom Computer System Installation Guide*. If an existing version of Avid NetStation is installed, load the AvidNews software according to the *AvidNews Newsroom Computer System Update Guide*.

Always read the release notes before installing the software, as they contain the most current information. The release notes might contain changes to procedures that have happened after the documents were printed.

After installing the AvidNews server software and database, create emergency and boot file system diskettes according to the following sections.

IP Addresses

Each TCP/IP network must provide a unique IP address (a 32-bit numeric identifier) usually expressed as four groups of 8-bit decimal numbers (0 to 256) separated by dots, as in 192.168.0.1. To obtain a block of IP address, register a domain and buy a block of assigned IP addresses from your Internet service provider. Each network must have a block of IP addresses. Establish a block of IP addresses for the AvidNews clients and devices.

On a strictly local network, choose your own IP addresses from three blocks of IP addresses specifically set aside for private networks. To learn more about private or local networks, contact your network consultant.

Assigning an IP Address

The AvidNews system allows connections only from clients whose Ethernet or Internet addresses are listed in the system/client/dos queue or the system/client/windows queue. After changing the stories, type **`configure -n`** to apply the changes. For more information, see the *AvidNews Newsroom Computer System Installation Guide*. or the *AvidNews Newsroom Computer System Operations Manual*. If you are upgrading from Avid NetStation, see the *AvidNews Newsroom Computer System Update Guide*.

License Process

The number of people that can connect to the AvidNews system at any one time is equal to the number of PC client resources you set up and list in the servers' site/config file. Your system's license indicates the maximum number of these resources you can configure and the maximum number of users who can connect simultaneously. For instructions on adding a PC resource, see the *AvidNews Newsroom Computer System Operations Manual*.

Site Configuration File

Your AvidNews system needs to keep track of which devices are connected to which computers and how they are connected. This information is contained in the site configuration file (/site/config). Each computer in your system has a copy of this file that it reads when it starts up and when you execute the `configure` console command.

Whenever you make changes to a site file, such as the configuration file, be sure to select all the computers in your system. Unlike database stories, site files are not automatically mirrored from one computer's disk to another.

The /site/config file is a system road map. It lists all the devices, servers and resources that are configured to run on your system. If a device is not in the site configuration file, the system will not know about it and cannot use it.

Standard devices and resources you may configure in this file include terminals, printers, AvidNews workstations, and wire services.

The /site/config file is stored on all the computers in your system, but it is only the configuration file on the master computer that is active and used when the system is started up.

Table 2-3 shows some of the more common device configuration lines.

Table 2-3 Sample Device Configuration Lines

Type	Number	Speed	Printer	Program	Name	Comment
terminal	23	19200-7	5	news	-	;coakley
printer	37	9600-8	4			;LJ4
dialup	46	9600-8a	0	news	-	;983-9627
wire	58	9600		anpa7	AP	;AP
line	76	2400-7e		modem	hayes	;dialout
driver	68	2400-8nh	infindriver	CG	-	;Chyron
special	94	19200-7e	mct	-	200	;mct terminal
server	231	monitor	231	-		;6 pm show

Following is a sample configuration file that contains a variety standard of entries. To list the contents of the site configuration file, go to the AvidNews console and type:

```
cat /site/config
```

The following is a sample starter configuration file:

```
;HOST SECTION
host    ab      a
        net     mirror      10
        reslist             101
        reslist             401
        reslist             501
        reslist             121
        servers             131 141 143
        servers             201
;
host    ab      b
        net       mirror    20 145
        reslist             100
        reslist             402
        reslist             502
        reslist             120 122
        reslist             150
        servers             130 132 140 142 144
        servers             200
;
host    a       a
        net       mirror    10 20 145
        reslist             100 101 120 121 122
        reslist             150
        reslist             401 402
        reslist             501 502
        servers             130 131 132 140 141 142 143 144
        servers             200 201
;
host    b       b
        net       mirror    10 20 145
        reslist             100 101 120 121 122
        reslist             150
        reslist             401 402
        reslist             501 502
        servers             130 131 132 140 141 142 143 144
        servers             200 201
;
; CCUS AND PCUS
;
ccu            10   ccu10          a         11 12 13 14 15 16 17 18
ccu            20   pcu20          pc        21 22 23 24 25 26 27 28
;
```

```
; CCU AND PCU DEVICES
;
printer         11    2400     11              -          ;
terminal        12   19200     0     news      -          ;
terminal        13    9600-8n  1     news      -          ;
wire            14    2400    anpa7 AX        -          ;
special         15   19200     mct   -         200        ; MCT
dialup          16   38400-8na 0     news      D16        ;
printer         17    9600-8n  1                          ;
wire            18    9600   anpa7 AP   -    ;
;
terminal        21    9600-8n  1     news      -          ;
terminal        22    9600-8n  1     news      -          ;
terminal        23   19200-8n  1     news      -          ;
terminal        24   19200-8n  1     news      -          ;
line            25    9600-8na       modem     hayes      ; dialout modem
dialup          26   38400-8na 0     news      -          ; dialup modem
terminal        27   19200-8n  1     news      -          ;
driver          28    9600-8nh       infindriver   cg     ; CHYRON DRIVER
;
; RXNET/TXNET DEVICES
;
special         100  0    txnet     100       -          ; txnet
special         101  0    rxnet     -         -          ; rxnet
;
; NETWORK TERMINAL
;
terminal        120  0    1         news      -          ; net terminal
;
; NETWORK RESOURCES
;
resource        121  console        -         -          ;
resource        122  net            -         -          ;
;
server          130  parallel       130       -          ; parallel
server          131  keyword        131       keyword    ; keyword server
server          132  action         132       -          ; timed-action
server          140  distribution   140       -          ; distribution server
server          141  printserver    141       -          ; slave printing
server          142  mailserver     142       -          ; mailserver
server          143  seek           143       -          ; seek server
server          144  seek           144       -          ; seek server
;
mcspc           145  mcspc1  avidapdriver    ap1     -  ; airplay
;
; SERVERS
server          200  monitor        200       -          ;
server          201  monitor        201       -          ;
;
```

```
websession     150  -              -         -       - ;
;
; ANDOS SESSIONS
;
andos          401  -   1    news      -         ; andos
andos          402  -   1    news      -         ; andos
;
; ANWS SESSIONS
;
anws           501  -   0    gnews     -         ; anws
anws           502  -   1    gnews     -         ; anws
;
server         900 xi          -       -              ; just for extraction
server         901 wxlate      -       -              ; just for extraction
server         902 rcat        -       -              ; just for extraction
server         903 workdebug   -       -              ; just for extraction
server         904 msgdebug    -       -              ; just for extraction
;
```

The following explains each section of the sample configuration file.

- Semicolons are used to precede comments and to separate different sections with blank lines.
- The site configuration file is divided into two major sections: the *host section* and the *device section*, or *body.*
- The host section contains information about the various configurations your system is capable of running, and what devices are used in each of those configurations.

The format for each host section is:

```
host  <system configuration>  <computer>
                <net>
                <reslist>
                <servers>
```

system configuration refers to whether the system is running single, dual, or triple News Servers. A standard installation with two AvidNews News Servers normally runs in a dual configuration: AB. Triple systems normally run ABC. The *computer* refers to the particular News Server that runs in this configuration.

The *net*, *reslist*, and *servers* lines refer to the devices, resources, and servers that are configured on that particular News Server in that system configuration.

The *top host* section details the device, resource, and server numbers that run on the News Server A in a dual AB configuration. The second host section details the ones that are assigned to News Server B.

Information in the *alternate* host section is used by the system if one of the News Servers fail. In the example, the `host b b` section contains a list of all the devices, including the ones that normally run on News Server A. If A experiences a failure and is shut down, the system can be reconfigured to run all the devices, resources, and servers on B.

When you run the `configure` command, the master News Server (usually News Server A) looks at the current system configuration and then assigns each News Server the devices listed for the News Server in that system configuration.

In the sample site configuration file, when you run the `configure` command in an AB (dual) configuration, the odd numbered items are assigned to News Server B and the even numbered items are assigned to News Server A.

Any item number listed in the host section must have a corresponding line in the device section or body of the configuration file, and vice versa.

For example, if you are adding an AvidNews workstation resource to the body of the file, you must also add it to one or more host sections so the system knows which News Server would be responsible for it.

Changing the Site Configuration File

Whenever you add, remove, or modify devices on your system, you need to make corresponding changes to the site configuration file. To change the file, use `edit`, the UNIX line editor. (For information about using the editor, see the *AvidNews Newsroom Computer System Operations Manual*).

To edit the site configuration file, use the following instructions. In this example, we add a workstation to PCU 10, port number eight.

1. Select all News Servers and type:
   ```
   edit config
   ```
2. Add the device number to the configuration file.

SCO Systems

If you are running the AvidNews system on SCO UNIX, use device numbers in the range 1 - 1000.

IRIX Systems

If you are running the AvidNews system on a Silicon Graphic IRIX system, use device numbers in the range 1 - 3000.

In this example, add the workstation's device number to PCU 10's configuration line. This line currently looks like this:

```
pcu   10   pcu10    at   11  12  13  14  15  16  17  -
```

Change the `-` at the end of the line to the number `18`, so the line looks like this:

```
pcu   10   pcu10    at   11  12  13  14  15  16  17  18
```

3. Add a configuration line for the new workstation to the end of this PCU definition. Currently, the last line in the definition describes device 17. Add a workstation configuration line for workstation 18 below this line.
   ```
   printer   17   1200-7e   1    ;[4-04] newsrm-TI880
   workstation 18 9600-7e   4   news  anderson; user anderson
   ```
   The new line begins with the word "workstation," followed by the workstation's device number (`18`). The workstation communicates at 9600 baud, 7 bit, even parity, uses printer number 4, and the program is `news`. The workstation has a device name of `anderson` to identify the person who usually uses it.
4. Type **`w`** to write your changes to disk.
5. Type **`q`** to quit `edit`.
6. Test your configuration changes.

   Use the following form of the `configure` command:
   ```
   configure  /site/config  <system>  <computer>
   ```

system refers to the set of computers that make up your AvidNews system, while *computer* is the News Server whose configuration you have changed. In this example, we added a workstation to PCU 10, which is connected to News Server A in system AB. To test this change, type:

```
configure /site/config ab a
```

When the prompt returns, the configuration file has been checked. If the system detects any errors, it displays `bad configuration` messages. To help you debug the file, `configure` displays the line numbers of any lines that have problems.

Testing the Configuration File After Changes

Whenever you make changes to /site/config, always run a test on the changes (using the `configure` command) to make sure there are no problems with the new configuration. A *test configure* will warn of problems or if license limits are exceeded. Some configuration problems will prevent system configuration and startup.

Command syntax is:

`configure <`*`file to test configure`*`> <`*`system configuration to test`*`>`

For example:

`WAVD_A:` **`configure /site/config  ab a`**

Applying Configuration Changes

After you test the new configuration, put it into effect by doing the following:

1. Stop any devices affected by the new configuration.
2. Run the following commands:

```
offline
configure (master)
online
```

3. Wait for messages from the system being configured, and then restart the newly added devices or any devices affected by the new configuration.
4. If you change the type of device on a PCU port, the entire PCU will need to be stopped and restarted.

News Server Operational Check

At this point, the console multiplexor and News Servers are capable of communication with each other and all of the AvidNews software should be loaded on the console multiplexor and News Servers.

Serial Connection Test

If available, use a mini tracker (a breakout tool for monitoring signals) to check the serial connections. A valid connection is indicated by the green LEDs illuminated when the mini tracker is inserted between the cable and the port.

Ping Test

The ping test checks if devices connected to the network are acknowledged by the network. Each device on the network has an IP address. When you type the `ping` command and IP address of a device on the network, a message acknowledging that the device is valid appears.

1. From the console multiplexor keyboard, press Enter at the `safe to power` off message.
2. When the boot sequence pauses, press Ctrl-D for normal startup.
3. From the News Server keyboard, type **`root`** and press Enter at the login prompt.

4. Type **`avid`** (your site might use a different name) and press Enter for the password.
5. Type **`ping -c 10 192.168.0.1`** and press Enter. Replace the *192.168.0.1* with the actual IP address assigned to the device.

   `Message reply from ...` appears if the network sees the device.

   `Request time out` appears it the device was not seen by the network.

CHAPTER 3

Network and Serial Communication Connections

Serial devices are connected to the AvidNews Newsroom Computer System through a peripheral controller unit (PCU). The predecessor to the PCU is the communications concentrator unit (CCU). Both are low-end computers that connect a server to one or more serial devices.

The PCU expands the available serial ports and relieves the server of the routine communication between the devices. This guide only discusses category-5 connections with RJ-45 jacks. For information on CCUs and PCUs with BNC connections, see the *AvidNews Newsroom Computer System Operations Manual*.

Your system may have existing CCUs that have been upgraded to PCUs. Such devices must be configured as PCUs, although their physical operation remains the same.

Introduction to the PCU

A fully configured PCU enclosure has two sets of components inside and is considered to be two PCUs. The front panel contains two LED displays, two reset buttons, and two power buttons. The reset buttons clear the PCU memory prior to restarting it. The LED displays allow each PCU to display its current status. The power buttons cycle the power on each PCU separately; use the power switch on the back to turn the whole enclosure on or off.

Figure 3-1 shows a 16-I/O port PCU IVa. The PCU IIIa is an 8-I/O port PCU. The same enclosure is used but only half of the controls and connectors are available. This document uses the PCU IVa version of the PCU in its illustrations.

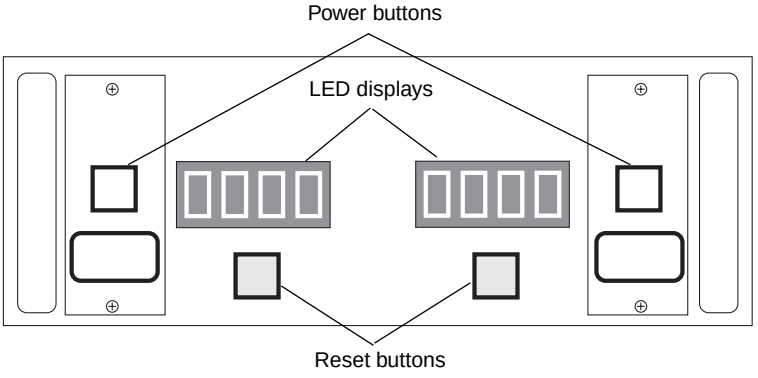


Figure 3-1 PCU IVa Front Panel

The PCU IVa enclosure contains (the PCU IIIa enclosure contains one of each):

- One backplain designed to house and operate two independent board sets
- Two microprocessor boards, which contain the PCUs' processors and memory

- Two I/O boards, which provide a connection for the serial devices. The devices communicate with the network through the PCU
- Two Ethernet boards, which allow the PCU and its attached devices to communicate with the network
- Two independent power supplies

The PCU performs a hardware self-test every time it is turned on. If the hardware test passes, the PCU boots up to a point where it can be restarted from the console.

As the PCU tests itself, it shows a number of status codes on the LED display. If the PCU passes all its diagnostic tests, it displays "0000," indicating that it has successfully completed the self-test and is ready to be restarted. The 8000 codes are typically shown during a normal boot of the PCU, while the 9000 codes represent errors.

If the PCU finds a hardware error, it displays an error code. Sometimes a hardware error is transitory, and resetting the PCU a second time may cause the PCU to reset without error. If the PCU continues to display the error code after you reset it a second time, see the *AvidNews Newsroom Computer System Operations Manual* for a list of codes with their meanings.

To reset a PCU and clear its memory, press the appropriate reset button. The PCU displays 8888 after receiving a reset request from the host computer. Once it has been restarted and is operational, it displays its device number.

Connecting the PCU to the Network

PCUs come with Ethernet boards installed and with the internal switches set to enable network communication. The PCU communicates with the network through a 10Base-T Ethernet hub.

If the site has more that 8 serial devices, even though there are 16 ports, use more than one PCU. When 8 devices are connected to a PCU and half of the PCU fails, the devices can be reconnected to the surviving half of the PCU.

Locating the PCU Ports

As shown in Figure 3-2, a fully configured PCU back panel contains 16 I/O ports, 2 Ethernet connectors, a power receptacle, and a power switch.

The serial devices connect to 16 I/O ports (8 on each side). The I/O ports are 25-pin serial connectors. The power switch controls power to the whole PCU; it is always in the "on" position. The power receptacle is where the power cord attaches to the PCU. Avid recommends plugging the power cord into an UPS. For instructions, see "Connecting the UPS" on page 2-1.

Figure 3-2 shows a PCU IVa that contains 16 I/O ports. If you have an 8 I/O port PCU, the system has half the amount of connectors.

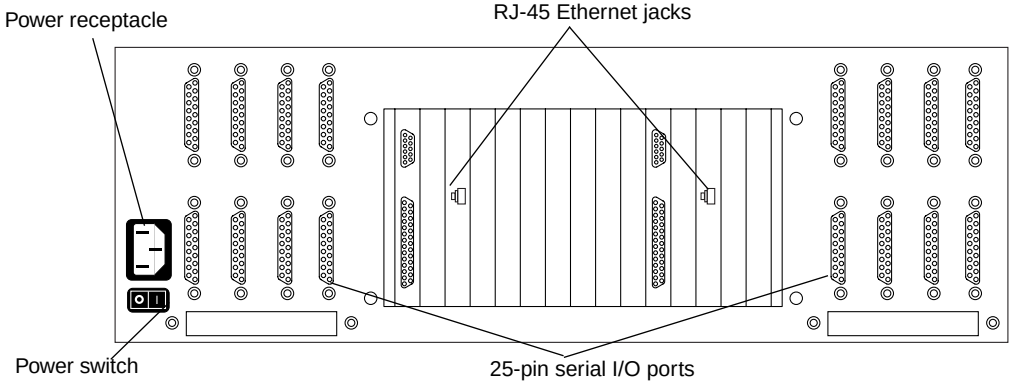


Figure 3-2 PCU IVa Connections

PCU Ethernet Connection

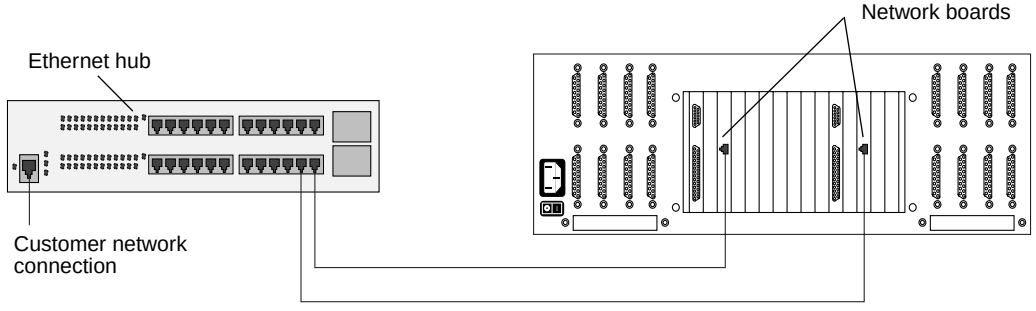
Each network board in the PCU must be connected to the Ethernet hub. The connection assumes that the site network uses category-5 cables with RJ-45 jacks. If using PCUs with BNC connections, see the *AvidNews Newsroom Computer System Operations Manual* for more information.

To connect the PCU to the network:

1. Connect a category-5 cable into the network board RJ-45 jacks in the PCU.
2. Connect the other end of the category-5 cable into an available RJ-45 jack on a 10Base-T Ethernet hub.

AvidNews systems using Silicon Graphics servers connect to a dedicated 10Base-T Ethernet hub that handles only the network traffic between the PCUs and News Servers.

Do not connect the PCU to 100Base-T Ethernet hubs.



3. Repeat steps 1 and 2 for each PCU to be connected.

For information on setting the PCU's IP address, see "PCU IP Addresses" on page 3-8.

Connecting Devices to the PCU

Serial devices connect to the PCU I/O ports using 25-pin serial connectors. AvidNews systems support the following types of devices attached to the PCU:

- Modems – Connect dial-up modems for access to outside information.
- Printers – AvidNews system printers are made available to all workstations through this serial connection. The system also supports slave printers connected directly to a workstation and the ability to print into a queue in the database.
- Services – A network connection that lets users connect to and log in on another computer from their workstations.
- Video terminals – A video display terminal could be used as workstation in which a user can log in to the AvidNews system. This option is now replaced by the PC workstations.
- Wires – A wire service provides news stories to the AvidNews system.

Divide your serial devices evenly among the PCU computers. This yields the maximum performance possible from each PCU. If a PCU fails, reconfigure the failed PCU's devices to the surviving PCUs until the failed PCU is repaired.

When connecting a device to one of these ports, use a cable that will meet the requirements of both the PCU and serial device. The PCU offers a variety of serial protocols to communicate with the devices. Each I/O port in the PCU can be configured independently. See the serial device's documentation to check the pin assignments and communication requirements.

The connection between the PCU connector and a printer or video terminal requires a DTE serial connection. Figure 3-3 on page 3-7 shows a configuration diagram of the connection.

The only signals that are required are the Transmit data, Receive data, and Signal ground. All other signal can be left disconnected.

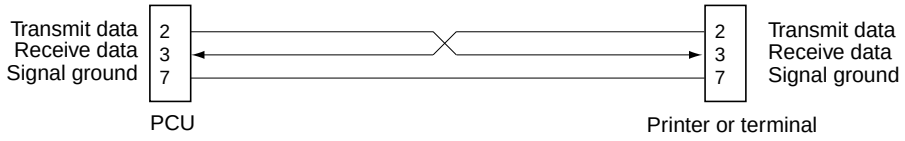


Figure 3-3 PCU-to-Printer or Terminal Cable Configuration

The connection between the PCU connector and a wire service or modem is a DCE serial connection. Figure 3-4 and Figure 3-5 show the straight DCE connections.

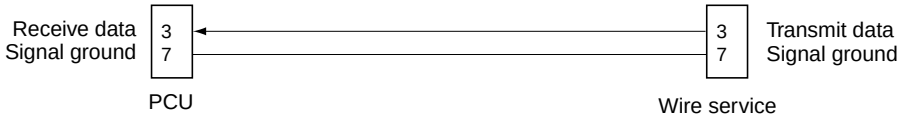


Figure 3-4 PCU-to-Wire Service Cable Configuration

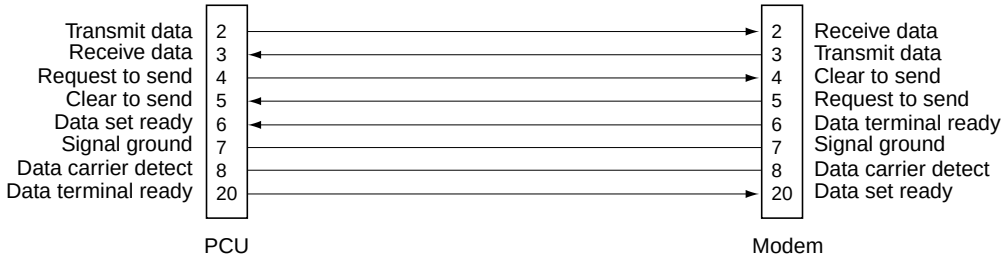


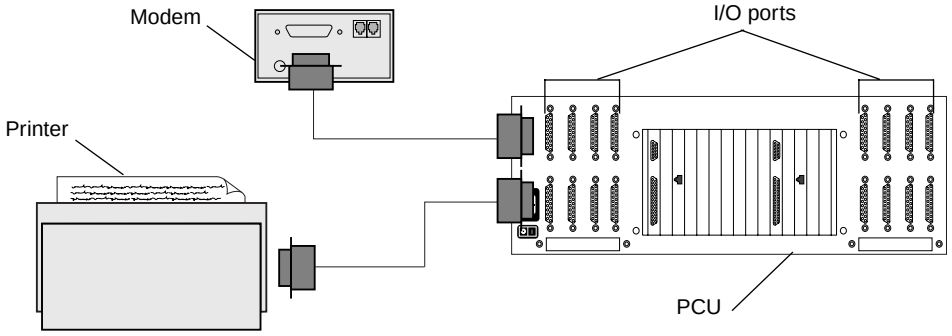
Figure 3-5 PCU-to-Modem Cable Configuration

To connect a device:

1. Connect one end of the serial cable to an available 25-pin I/O port on the PCU.
2. Secure the connection with the two screws attached to the cable.

3. Connect and secure the other end of the serial cable to the serial device.

   The following figure shows two devices connected to the PCU: a serial printer and modem.



4. Configure the protocol on the serial device according to the device's documentation.
5. Continue to the section "PCU Serial Port Configuration" to select the serial protocol for the PCU and identify the devices on the network.
6. Repeat steps 1 through 5 for every serial device to be connected.

PCU IP Addresses

After physically connecting a PCU to the network, the assigned IP address must be entered into the PCU. Usually the network administrator is the person that assigns the IP addresses. See "IP Addresses" on page 2-15 for more information.

PCUs obtain their IP addresses using the `bootp` protocol. When they are turned on or reset, they broadcast a `bootp` request.

When the News Servers detect a `bootp` request, the server `bootp` table is checked to see if the requestor is listed. If the device making the request is listed in the `bootp` table, the server provides an IP address to the requestor.

In order for a PCU to receive an IP address assignment, the PCU must be listed in the following two News Server files:

- /etc/hosts
- /etc/bootptab (the `bootp` table)

These files are ASCII UNIX text files and can be edited using the AvidNews `edit` command. For instructions on using the `edit` command, see the *AvidNews Newsroom Computer System Operations Manual*.

The format of the information in /etc/hosts is as follows:

```
<IP address>   <name of device>  <optional alias names>
```

The format of the information in /etc/bootptab varies by platform and differs from SCO UNIX and Silicon Graphics IRIX servers. The general format of the /etc/bootptab is listed as follows:

```
<PCU name>  <type>  <physical address>  <ip address>  <boot file>
```

The PCU name must correspond to the PCU entry in the /etc/hosts file. The type will always be `1`. Examples of the `bootptab` for SCO and Silicon Graphics follow:

The Silicon Graphics IRIX /etc/bootptab entry is:

```
pcu10   1       00:20:af:f4:30:db       10.1.0.101      pcuos.exe
```

The SCO UNIX /etc/bootptab entry is:

```
pcu20:  ht=1:   ha=02608cdbcf32:        ip=10.1.0.102:
```

For more information on the format of the `bootp` tables, see the *AvidNews Newsroom Computer System Operations Manual* (AvidNews release 1.1).

During the PCU power-on self-test:

- If the PCU stops at 8000, this is an indication that a `bootp` request was sent but did not get an IP address response. Possible causes include:
  - The PCU is not properly listed in /etc/bootptab on the servers.
  - There is a mismatch between the addresses for the PCU in the /etc/hosts and /etc/bootptab files.
  - The PCU is not attached to the network.
  - The PCU is operating over a router and the router is not properly set up as a `bootp` relay agent. The router is not passing `bootp` requests.
- If the PCU stops at 0000, this is an indication that a `bootp` request did get a response, and gave the PCU an IP address.

Once you have edited the /etc/hosts and /etc/bootptab files, connect the PCU to the network and power it up. If the configuration is properly set up, the PCU should display 0000 on the LEDs.

PCU Serial Port Configuration

The News Servers must have the information about which devices are connected to the PCU. This information is held in the configuration file (config file). Each device connected to the PCU has a command line in the configuration file that is read when the News Server starts up. See "Changing the Site Configuration File" on page 2-21 for more information. For detailed instructions, see the *AvidNews Newsroom Computer System Operations Manual*.

Whenever you make changes to a site file, such as the configuration file, be sure to select all the computers in your system. Site files are not automatically mirrored from one computer's disk to another.

Major changes require that the PCU be stopped (using the `stop` command) before reconfiguring the system. Such changes include:

- Adding a device
- Changing a device type
- Changing a PCU's speed
- Altering the PCU's configuration

To reconfigure the AvidNews system:

1. Log out any affected users.

To make extensive changes to multiple PCUs, log everyone out using the ***`logout all`*** *and* ***`stop all`*** *commands, reconfigure the system, then use the* ***`restart all`*** *command.*

2. Stop the devices or PCUs or the computer they are running on.

   `WAVD_A:` **`stop 10`**
3. Select the master computer, become a superuser, type **`offline`**, type **`configure`**, and make the changes.
4. Type **`online`** to bring the system back online.
5. Exit from superuser by pressing Ctrl-D.
6. When you see the `system being configured` message, restart the affected devices or PCUs.

   `WAVD_A:` **`restart 10`**
7. Back up your site files.

License Limitations

The license for your AvidNews system determines the number of devices that you are authorized to connect to the system. Each time the system is configured, the licensing information is checked. An error message appears if the configuration file defines more devices than are licensed in any of the following categories:

- Serial devices
- PCUs
- CPUs (servers)
- Web sessions
- Network workstations
- AvidNews workstations

To see the current license allowances, type **`status licence`** on the console multiplexor and press Enter. Contact an Avid sales representative to increase license allowances. For more information on license limits, see the *AvidNews Newsroom Computer System Operations Manual*.

Device Numbering

Each PCU and each device connected to it must have a unique device number to identify it. Use device numbers to refer to devices when using commands such as `restart` and when adding configuration lines to your configuration file. Your system uses device numbers in its console messages (for example, `failed to load device 11`).

Numbering the system's devices in this way lets you quickly determine which PCU (and which port on the PCU) a device is connected to just by looking at the device's number. System maintenance is simpler if each device number corresponds to the PCU and the port it is connected to. Avid recommends the following numbering convention:

- If the PCU has 16 ports, it is considered to be two PCUs. Each half (group of 8 ports) is considered to be a PCU.
- Number the PCUs in multiples of ten. A system with four network PCUs would have 10, 20, 30, and 40 as device numbers.
- The serial ports on the PCU are numbered 1 through 8 on each side of the PCU. Use these port numbers in combination with the PCU's device number when assigning device numbers to the devices connected to the PCU. For example, give a printer connected to port 1 on PCU 10 device number 11.

Ethernet Client and Patch Panel Connections

A patch panel centralizes the incoming and outgoing cables in the computer room. Typically, patch panels do not contain any electronic components. This is where the incoming cables plug into a panel and share common signals.

Avid recommends that patch panels use category-5 cables. These patch panel connections support serial connections as well as Ethernet connections. Components typically connected through the patch panel are:

- Workstations
- Printers
- Teleprompters
- Wire services

Patch panels are optional. Cables coming into the computer room can connect directly into an Ethernet hub or PCU.

Patch panels allow you to reconfigure and diagnose the system with minimal effort; failed computer components can easily be bypassed.

- If a workstation has lost its network connection, try troubleshooting the problem by changing the connection on the patch panel to a new connection that provides the same source. If this solves the problem, you can conclude the problem is within the component that was providing the source signal. Either that component or the way that component is configured could be the problem.

  If the problem was not fixed, the fault is between the patch panel connection and the problem component.

- When updating a connection from a 10Base-T Ethernet hub to an 100Base-T Ethernet hub, try moving the link in the patch panel from one jack to another.

Disconnect 10Base-T cables from the Ethernet hub whenever the cable is not used. Unterminated cables act as an antenna to introduce noise onto the network.

An example of a patch panel configuration is shown in Figure 3-6. The upper and lower patch panel connectors are hardwired together.

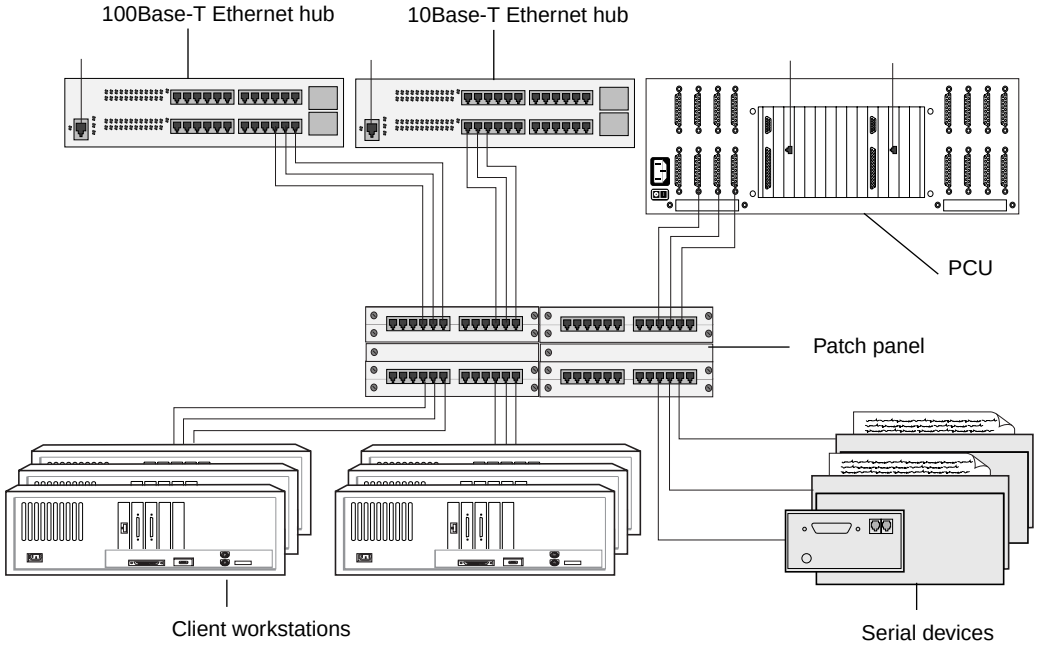


Figure 3-6 Sample Patch Panel Configuration

Avid recommends that the system administrator keep a log of each device connected to the patch panel.

Introduction to the Machine Control System

The Machine Control System (MCS) is a personal computer (PC) that controls one serial production device. A MCS/PC is required for each production device. The alterative to using a MCS/PC is the BCS. For more information, see "Setting Up the Broadcast Control System" on page 5-11.

The following are production devices:

- Playback devices
- Still store devices
- Character generators

After the production staff puts event requests in a show's scripts, the producer can have the MCS/PC collect each event request and create a list of playback events called a *playlist.* The MCS/PC sends the playlist to the production device. A device operator can play events from the device's console. A single operator can control up to four production devices using a Machine Control Terminal (MCT).

A MCT is an option to MCS/PC that allows a single operator to monitor and control the playback of events. A MCT provides the operator with the ability to play events out of sequence and to cancel playing events if necessary.

The device's driver must be loaded on the MCS/PC before it can communicate with that device. The MCS/PC requires the installation of a network board. The board is used for the network connection. The production device connects directly to the serial port on the MCS/PC.

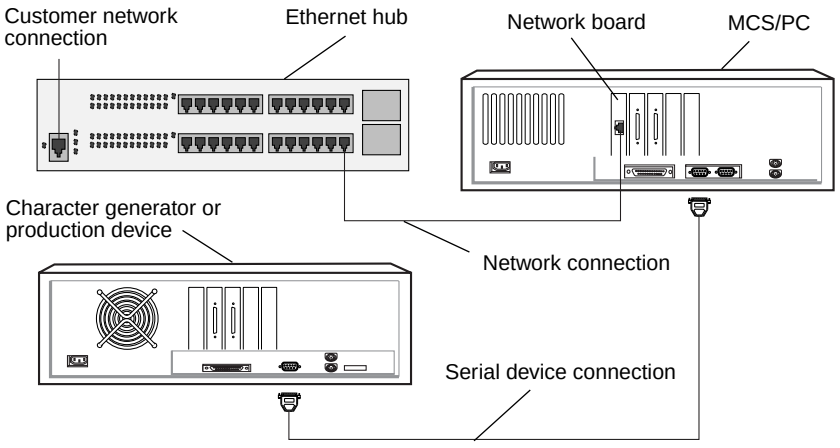
MCS/PC Connections

The network board in the MCS/PC must be connected to the Ethernet hub. The connection assumes that the site network uses category-5 cables with RJ-45 jacks.

To connect the PCU to the network:

1. Connect a category-5 cable into the network board RJ-45 jacks in the MCS/PC.
2. Connect the other end of the category-5 cable into an available RJ-45 jack on an Ethernet hub.
3. Connect one end of the serial cable to a port on the MCS/PC.
4. Secure the connection with the two screws attached to the cable.
5. Connect and secure the other end of the serial cable to the serial device.

   The following figure shows the network and serial connection to the MCS/PC.



6. Repeat steps 1 through 5 for each MCS/PC to be connected.

Configuring the MCS/PC

The News Servers must have the information about the device connected to the MCS/PC. This information is held in the configuration file (config file). The device connected to the MCS/PC must have a command line in the configuration file that is read when the News Server starts up. The "License Limitations" on page 3-11 also apply to the MCS/PC. For more information on configuring the MCS/PC, see the *AvidNews Machine Control System Operations Manual*.

Once the MCS/PC is fully configured as described in the following sections, the keyboard, mouse, and monitor can be removed from the MCS/PC.

MCS/PC IP Addresses

After physically connecting an MCS/PC to the network, the IP address of the MCS/PC must be entered into the /etc/hosts and /etc/bootptab files on the News Servers. The News Servers use these entries to download programs to and communicate with the MCS/PC.

The format of the information in /etc/bootptab varies by platform and differs from SCO UNIX and Silicon Graphics IRIX servers. The general format of the /etc/bootptab is listed as follows:

```
<mcspc name> <type> <physical address> <ip address> <boot file>
```

The PCU name must correspond to the PCU entry in the /etc/hosts file. The type will always be `1`. Examples of the `bootptab` for SCO and Silicon Graphics follow:

The Silicon Graphics IRIX /etc/bootptab entry is:

```
mcspc1   1   00:20:af:38:ab:01    10.1.100.103   mcsboot.exe
```

The SCO UNIX /etc/bootptab entry is:

```
mcspc1  ht=1  ha=00:20:af:38:ab:01    10.1.100.103
```

For more information on the format of the `bootp` tables, see the *AvidNews Newsroom Computer System Operations Manual* (AvidNews release 1.1).

Setting a Windows 95 Computer to Come Up in DOS

This procedure only applies to MCS/PC's with Windows 95 operating systems. The computer must boot to a DOS prompt to use it as an MCS/PC.

To configure a Windows 95 operating system to boot up to a DOS prompt:

1. Boot the MCS/PC.

   The MCS/PC will boot into Windows 95.

2. Choosing Shut Down from the Start button.

3. When the confirming window appears, click Restart in DOS Mode and `OK`.

   The MCS/PC will automatically restart and display `C:\` prompt.

4. At the `C:\` prompt, type **`attrib –h –r –s msdos.sys`** and press Enter. This removes the attributes on the msdos.sys file.

5. Type **`edit msdos.sys`** and press Enter.

6. Using the arrow keys, move the cursor to the last line in the file.

7. Type **`BootMenu=1`** and press Enter.

8. Type **`BootMenuDefault=6`** and press Enter.

9. Type **`BootMenuDelay=0`** and press Enter.

10. Save the file by choosing Save from the File menu.

11. Exit the file by choosing Exit from the File menu.

    The application closes.

12. At the `C:\` prompt, type **`attrib +h +r +s msdos.sys`** and press Enter. This reapplies the attributes to the msdos.sys file.

13. Restart the MCS/PC. The MCS/PC will now boot to a `C:\` prompt each time it is powered on.

    To have the MCS/PC boot to Windows 95 again, repeat the procedure, removing the three statements added to the msdos.sys file.

Installing the Network Configuration Software

Avid provides AttachMate™ (Wollongong) software that provides network capabilities to a DOS operated computer. The two included applications that must be installed are:

- PathWay Runtime (DOS version)
- PathWay Access (DOS version)

The network board driver diskette that comes with the installed network board must also be available. PathWay Runtime prompts you for the drivers during the installation.

The following procedure assumes the MCS/PC already boots to a `C:\` prompt. If the MCS/PC has Windows 95 installed, see "Installing the Network Configuration Software" on page 3-19.

To install the AttachMate software:

1. Boot the MCS/PC.

   The MCS/PC will boot to `C:\` prompt.

2. Insert the PathWay Runtime for DOS diskette into the MCS/PC diskette drive.

3. At the `C:\` prompt, type **`a:\pwsetup`** and press Enter. This starts the setup utility on the diskette drive.

   Follow the screen prompts and PathWay Runtime documentation to install the application.

4. After the PathWay Runtime setup application is done, exit the application and remove the PathWay Runtime diskette.

5. Insert the PathWay Access for DOS diskette into the MCS/PC diskette drive.

6. At the `C:\` prompt, type **`a:\pwsetup`** and press Enter. This starts the setup utility on the diskette drive.

   Follow the screen prompts and PathWay Access documentation to install the application.

7. After the PathWay Access setup application is done, exit the application and remove the PathWay Access diskette.
8. Restart the MCS/PC. The MCS/PC will now automatically load the AttachMate software at bootup.

   The AttachMate software give three audio beeps when the MCS/PC has successfully booted up and launched the application.

Loading the MCSBOOT file

Copy MSCBOOT.EXE file is provided with News Server software. to the MCS/PC. Locate the file MSCBOOT.EXE file in the /exc/ccu/tftp/mcspc directory.

To copy the MCSBOOT.EXE file to the MCS/PC:

1. Boot the MCS/PC.

   The MCS/PC will boot to `C:\` prompt.
2. At the `C:\` prompt, type **`md mcspc`** and press Enter. This make a directory called mcspc.
3. At the `C:\` prompt, type **`cd mcspc`** and press Enter. This changes the current directory to the mcspc directory.
4. From the console multiplexor /exc/ccu/tftp/mcspc directory, type **`cp mcsboot.exe ..`** at `mcspc` prompt and press Enter. This copies the mcsboot.exe file the /exc/ccu/tftp directory.
5. At the `tftp` prompt, type **`mode binary`** and press Enter.
6. Type **`get mcsboot.exe`** and press Enter.
7. Add the mcsboot statement to the autoexec.bat file so that the MCS/PC will automatically run the mcsboot.exe when turned on.
   a. At the `C:\` prompt of the MCS/PC, type **`edit autoexec.bat`** and press Enter.
   b. Using the arrow keys, move the cursor to the last line in the file.
   c. Type **`cd \mcspc`** and press Enter.

d. Type **`mcsboot`** and press Enter.

e. Save the file by choosing Save from the File menu.

f. Exit the file by choosing Exit from the File menu.

CHAPTER 4

Client Installation

The staff's existing desktop computers can be converted into AvidNews workstations as long as they meet the minimum AvidNews workstation requirements. Essentially there are two types of client workstations: multimedia and nonmultimedia. The Multimedia workstations are referred to as *Media Editor workstations*.

Before the AvidNews client software can be fully operational, the News Servers must be configured and set up as described in Chapter 2. This chapter provides information on connecting the client workstations to the network, setting the assigned network IP address on the workstations, and installing the AvidNews client software.

As long as the client license requirements are met, additional workstations can be added or removed at any time by performing the tasks described in this chapter.

Video terminal (VT) workstations must be connected to the network through a PCU. For information, see "Connecting Devices to the PCU" on page 3-6.

Connecting the Clients to the Network

Workstations must have a network board installed. The network board enables the workstation to connect to the network and become an AvidNews client.

If the workstation does not already have a network board installed, purchase a TCP/IP-compatible network board and install the board according to the network board's documentation.

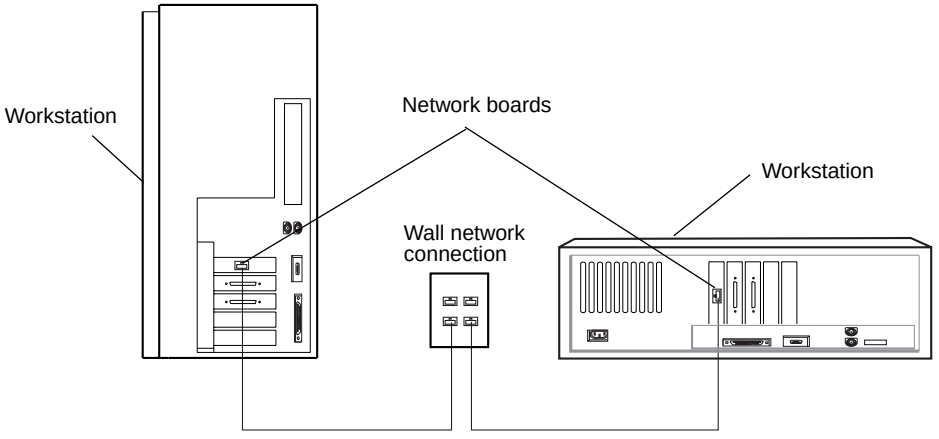
Connecting the Workstation to the Network

The network connection described in the following procedure assumes that the site network uses category-5 cables with RJ-45 jacks.

To connect the workstation to the network:

1. Connect one end of a category-5 cable with RJ-45 jack to the workstation network board.
2. Connect the RJ-45 jack on the other end of the cable to the closest network distribution jack.

Some network boards have an LED that indicates the network signal is present.



Connecting Workstations to a Patch Panel

The workstations connect into wall network distribution boxes. These boxes are typically spread around the newsroom where the staff is located. Boxes contain one to four RJ-45 jacks.

The network box connections lead to the computer room. The network boxes use category-5 cables that run through the walls and ceilings. Many times the cables are combined into larger cables. Once in the computer room, the cable is split up, labeled, and connected to an Ethernet hub or patch panel. Figure 4-1 shows how workstations connect to the network using patch panels. For more information on patch panels, see "Ethernet Client and Patch Panel Connections" on page 3–13.

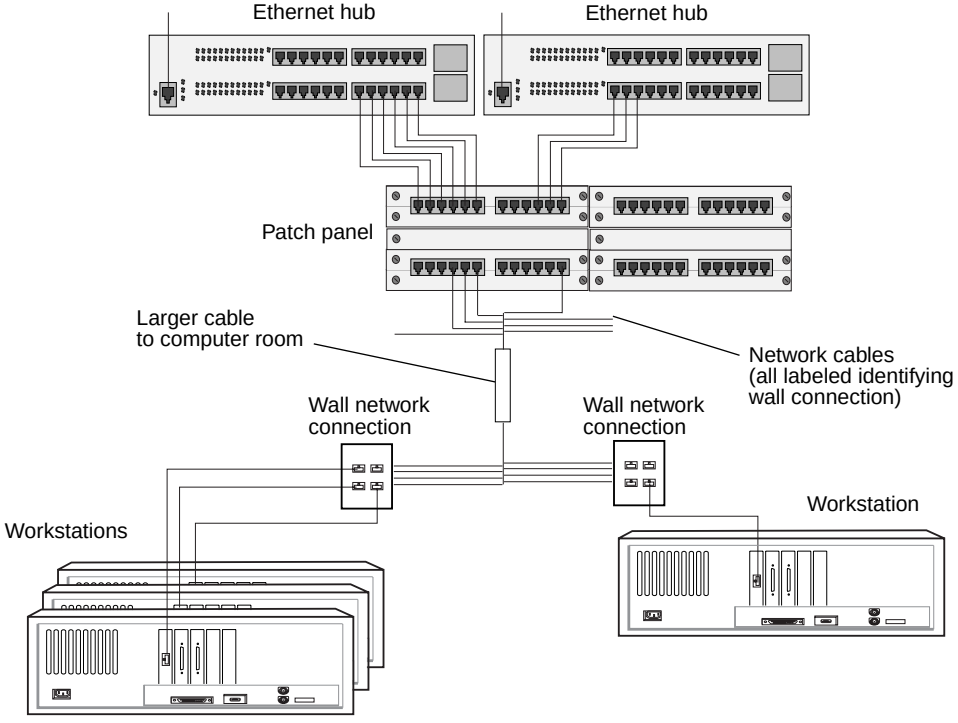


Figure 4-1 Workstation Patch Panel Configuration

Entering the Client IP Address

If the workstation is already a client of the site's network, an IP address is already established. If this is a new workstation, an IP address must be assigned to the workstation and the server's configuration file must be updated. Usually the network administrator is the person that assigns the IP addresses. For more information, see "IP Addresses" on page 2-15. When configuring the server files, see "Applying Configuration Changes" on page 2–23.

To enter an IP address on a workstation, double-click the Network icon in the Windows Control Panel. For instructions on entering the IP address on the workstation, see the documentation that comes with the Windows operating system. Test the network connection using the "Ping Test" on page 2–24. Once the ping test is successful, install the client software.

Installing the AvidNews Client Software

Install the AvidNews client workstation software according to the instructions provided in the *AvidNews Newsroom Computer System Update Guide* or the *AvidNews Newsroom Computer System Installation Guide*.

Authorizing Client PC's

The AvidNews system security is enforced by allowing only authorized client to log in. Unauthorized clients cannot log in. Authorized clients are listed in the database under a story in the SYSTEM.CLIENT.WINDOWS queue. Besides the SYSTEM.CLIENT.WINDOWS story, one additional story needs to be placed in SYSTEM.CLIENT.VERSIONS.

Generally, only clients with the same version software as the News Server are allowed access. The VERSIONS story is a listing of AvidNews software versions that can log in and use the server without being prompted to be upgraded.

There is a unique procedure required to authorized the first client. It involves editing a UNIX text file on the console and then placing that file into the database using the `doc` command. Once the first client is authorized, that user can log in and authorize more clients.

For detailed information on using the UNIX editor, see the AvidNews Newsroom Computer System Operations Manual.

To verify the software versions and log in the first client:

1. Purge any existing stories in the SYSTEM.CLIENT queues:
   a. At the `WAVD_A#` prompt, type **`dbpurge system.client 0`** and press Enter. The following appears:
      ```
      purge of system.client with purge interval of 0 hour ok?
      ```
   b. Type **`y`** and press Enter. The following appears:
      ```
      Do you really want to purge SYSTEM.CLIENT.DOS(y/n)
      ```
   c. Type **`y`** and press Enter. The following appears:
      ```
      Do you really want to purge SYSTEM.CLIENT.VERSIONS(y/n)
      ```
   d. Type **`y`** and press Enter. The following appears:
      ```
      Do you really want to purge SYSTEM.CLIENT.WINDOWS(y/n)
      ```
   e. Type **`y`** and press Enter. The following appears:
      ```
      purge complete
      ```
2. Check the workserver version on the News Server (workserver is the program that manages connections between the server and the clients).

   At the `WAVD_A#` prompt, type **`version workserver`** and press Enter. The version number similar to the following appears:
   ```
   workserver:  1.1  SGI/IRIX
   ```

3. Edit the workserver version number as follows. Add additional lines if the version of the client software differs from that of workserver. (This is sometimes the case with updated versions of AvidNews Workstation.)

   a. At the `WAVD_A#` prompt, type **`ed /tmp/version workserver`** and press Enter. The following appears:

      ```
      ?/tmp/version
      ```

   b. Type **`a`** and press Enter.

   c. Type **`; workserver version number`** and press Enter.

   d. Type **`1.1`** and press Enter.

   e. Type **`; acceptable client versions`** and press Enter.

   f. Type **`1.1.0.100`** and press Enter.

   g. Type period (`.`) and press Enter.

   h. Type **`w`** and press Enter. The following appears:

      ```
      19
      ```

   i. Type **`q`** to quit and press Enter.

4. Use the `doc` command to put a copy of this file into the database. The following is an example of the `doc` command:

   At the `WAVD_A#` prompt, type **`doc -pu system.client.versions /tmp/versions`** and press Enter.

5. Edit the list of authorized clients. Clients are authorized by IP address. Add the first client's IP address as show in the following example:

   a. At the `WAVD_A#` prompt, type **`ed /tmp/windows`** and press Enter. The following appears:

      ```
      ?/tmp/windows
      ```

   b. Type **`a`** and press Enter.

   c. Type **`10.100.17.85`** and press Enter.

   d. Type period (`.`) and press Enter.

e. Type **w** and press Enter. The following appears:

```
14
```

f. Type **q** to quit and press Enter.

6. Use the `doc` command to put a list of authorized IP addresses into the database. The following is an example of the `doc` command:

   At the `WAVD_A#` prompt, type **`doc -pu system.client.windows /tmp/versions`** and press Enter.

7. Take the News Server offline and do a `configure -n` to check the files placed in the database.

   a. At the `WAVD_A#` prompt, type **`offline`** and press Enter.

   b. Type **`configure -n`** and press Enter.

   c. Type **`online`** and press Enter.

Log in from the initial client with the username of **`news`**. The news user will not have an initial password, leave the password field blank when logging in. During the initial log in, you will be prompted to supply a new password for the news user.

Client Hosts File

The workstations need a pointer in their host file to find the News Servers on the network when logging into Avid News. This is done by adding the News Servers addresses to the client workstation's hosts files.

The host file is an ASCII file that must be created or edited using a DOS or Windows text editor. Be sure that the file is not saved with an extension (such as .TXT of .DOC), the file must be named simply HOSTS.

Depending on the workstations operating system, located the host file in the following locations:

- Windows95 — C:\WINDOWS\HOSTS
- Windows NT — C:\WINNT\SYSTEM32\DRIVERS\ETC\HOSTS

The format of the client workstation hosts file is as follows:

<IP Address> <server name> <alternate server name>

For example:

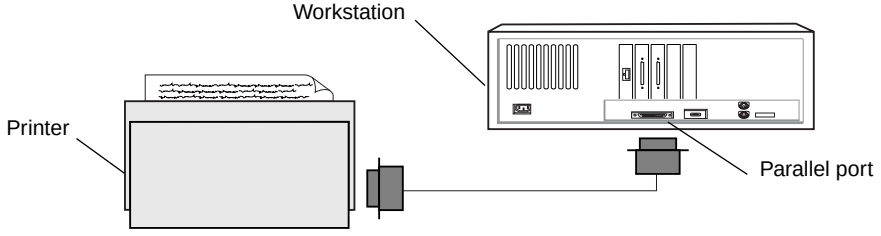
```
10.1.100.1    wavd_a   WAVD_A  A
10.1.100.2    wavd_b   WAVD_B  B
```

Connecting a Local Client Printer

When connecting a local printer to a client workstation, use a parallel printer connected to the parallel port on the workstation. The local printer only supports the client workstation it is connected to. Do not select local printers from other clients. For information about connecting network printers, see "Connecting Devices to the PCU" on page 3-6.

To connect a local printer:

1. Connect one end of the parallel cable to the parallel port on the workstation.
2. Secure the connection with the two screws attached to the cable.
3. Connect and secure the other end of the parallel cable to the serial parallel printer.



4. Configure the printer through the Windows Control Panel using the documentation that came with the printer and your computer.

CHAPTER 5

Media System and Broadcast Control System Installation

This chapter describes the Media System and Broadcast Control System (BCS) components. It explains what Avid hardware needs to get installed in which components and how to connect the components to the AvidNews system.

Setting up the Media System

The Media System integrates video production into the Newsroom Computer System. The following sections describe the setup and cabling of the Media System components to the AvidNews system. The Media System includes the following components:

- Media Capture Manager – Controls one or more low-resolution Media Capture Stations and coordinates dual recording between a Media Capture Station and the NewsCutter or Media Recorder. Avid provides a multiple-serial-port board that needs to be installed in the computer to give the Media Capture Manager its high-resolution capabilities.

- Media Capture Stations (low-resolution) – Controlled by the Media Capture Manager and are used to record low-resolution video. The following expansion boards are provided by Avid and must be installed into the low-resolution Media Capture Stations.
  - Timecode board – Connects the house or source timecode
  - MPEG encoder – Captures and compresses video and audio into MPEG

  High-resolution video is captured using Avid's NewsCutter or Media Recorder. The NewsCutter also allows you to edit the digitized video. Media Recorder only digitally records the video.
- Media Editor workstations – allow journalists to create media compositions from the video to accompany the news stories. This multimedia computer is considered a workstation and connects to the AvidNews system as described in Chapter 4. Avid does not provide any additional hardware that needs to be installed.

INFORMIX CLI and Connect software and licenses are supplied with the AvidNews Media Editor license.

- Media Asset Manager – Maps the information link between the low- and high-resolution media. Avid does not provide any additional hardware that needs to be installed.
- Media Asset Server – Stores the low-resolution video captured by the Media Capture Station. Avid does not provide any additional hardware that needs to be installed.
- Media Server – Stores the high-resolution video captured by the NewsCutter or Media Recorder. The Media Server is Avid-installed only.

Media System managers and servers require an UPS to protect against power failures (see Chapter 2). These Media System components can share an UPS with each other.

Avid recommends powering on the each computer before installing the Avid-supplied kits. This lets you know if the computer is working before you open it and install any hardware.

Unpack and set up each of these computers according to the manufacturers' instructions. After the computers have been set up, install the Avid-supplied hardware and software according the following sections.

Installing the Media System Expansion Boards

Generic procedures for installing expansion boards are provided in "Installing the DigiBoard" section on page 2-3. More specific instructions are provided with computer manufacturer's documentation. The expansion boards provided by Avid also come with documentation that provides configuration information. Review the expansion board documentation before installing it.

The following Media System expansion boards are provided by Avid and plug into PCI connectors on the computer's system board:

- The multiple-serial-port board is installed into the Media Capture Manager computer.
- The timecode board and MPEG encoder board is installed into the Media Capture Station computer.

Semiconductor devices are vulnerable to damage by electrostatic discharge (ESD). Always use an ESD wrist strap or other grounding device when opening the computer or removing any circuit boards from its packing.

Multiple-Serial-Port Board Installation

To install the multiple-serial-port board:

1. Put on a wrist strap and attach the ground clip to the computer's chassis.
2. Remove the multiple-serial-port board from its staticproof bag.

3. Install the board. See “Installing the DigiBoard” on page 2-3.

   The multiple-serial-port board installs into a PCI slot in the computer.

4. Load the software and configure the board according to the board’s user’s guide.

Timecode Board Installation

To install the timecode board:

1. Put on a wrist strap and attach the ground clip to the computer’s chassis.
2. Remove the timecode board from its staticproof bag.
3. Install the board. See “Installing the DigiBoard” on page 2-3.

   The timecode board installs into a PCI slot in the computer.

4. Load the software and configure the board according to the *PC-LTC RDR, GEN, & RG1 Instruction Manual*.

MPEG Encoder Board Installation

To install the MPEG encoder board:

1. Put on a wrist strap and attach the ground clip to the computer’s chassis.
2. Remove the MPEG encoder board from its staticproof bag.
3. Install the board. See “Installing the DigiBoard” on page 2-3.

   The MPEG encoder board installs into a PCI slot in the computer. Since the MPEG encoder board is plug and play, Windows will automatically detect it.

4. Load the software and configure the board according to the *MPEGator User’s Guide*.

Cabling the Media System

All of the Media System components connect to the network as described in the "Media System Network Connections" section. Only the Media Capture Manager and Media Capture Station need additional connections and are described later in this chapter. The Media Server must be Avid-installed.

Media System Network Connections

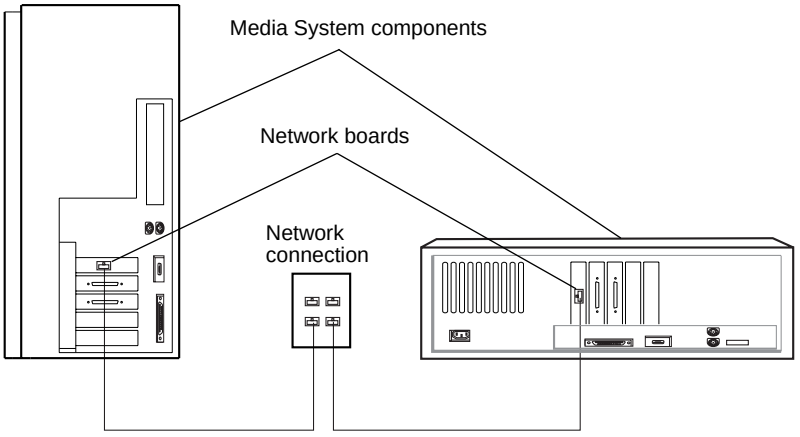
The appearance of Media System components might differ greatly. The principle network connection is the same regardless of the components' appearance. All the components require a network board installed. As with all network devices, an IP address must be assigned to the each of the Media System components (see the "IP Addresses" section on page 2-15).

The network connection described in the following procedure assumes that the site network uses category-5 cables with RJ-45 jacks. Early network connections use BNC connectors. If using BNC connections, cable the servers as described in the following procedure, replacing the connections with BNC connectors.

To connect a Media System component to the network:

1. Connect one end of a category-5 cable with RJ-45 jack to the network board in the Media System component.
2. Connect the RJ-45 jack on the other end of the cable to the closest network distribution jack.

Some network boards have an LED that indicates the network signal is present.



Media Capture Manager Connections

Avid supplies a multiple-serial-port board that must be installed in the Media Capture Manager as previously described. The multiple-serial-port board comes with a connector panel and serial cable. The serial cable is used to connect the board to the connector panel. The connector panel provides eight DB-25 serial connectors.

The serial connection described in the following procedure assumes that 9-pin-to-RJ-45 and 25-pin-to-RJ-45 adapters are used on all serial connectors. A category-5 cable with RJ-45 jacks is used to cable all the components.

To connect Media Capture Manager to the NewsCutter or Media Recorder:

1. Connect one end of the multiple-serial-port board cable to the board connector in the Media Capture Manager.

   Secure the connection with the two screws attached to the cable.

2. Connect the other end of the multiple-serial-port board cable to the connector panel.

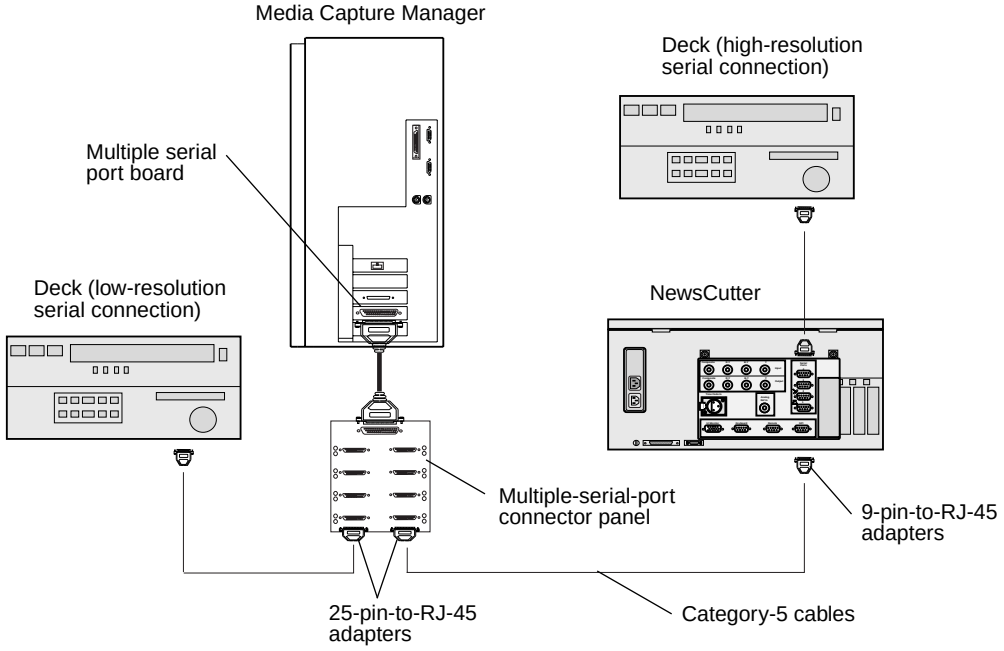
   Secure the connection with the two screws attached to the cable.

3. Connect the NewsCutter to the multiple-serial-port connector panel using 9-pin-to-RJ-45 and 25-pin-to-RJ-45 adapters. The RJ-45 connection is made with a category-5 cable.

Optional 9-pin-to-RJ-45 adapters and 25-pin-to-RJ-45 adapters are available through Avid.

4. Connect the deck to the NewsCutter using 9-pin-to-RJ-45 adapters. The RJ-45 connection is made with a category-5 cable.

   For more information on connecting the NewsCutter to decks, see the *Avid Digital News Gathering System Hardware Guide*.



5. (Optional low-resolution connection.) Connect a deck directly to the multiple serial connector panel using 9-pin-to-RJ-45 and 25-pin-to-RJ-45 adapters. The RJ-45 connection is made with a category-5 cable.

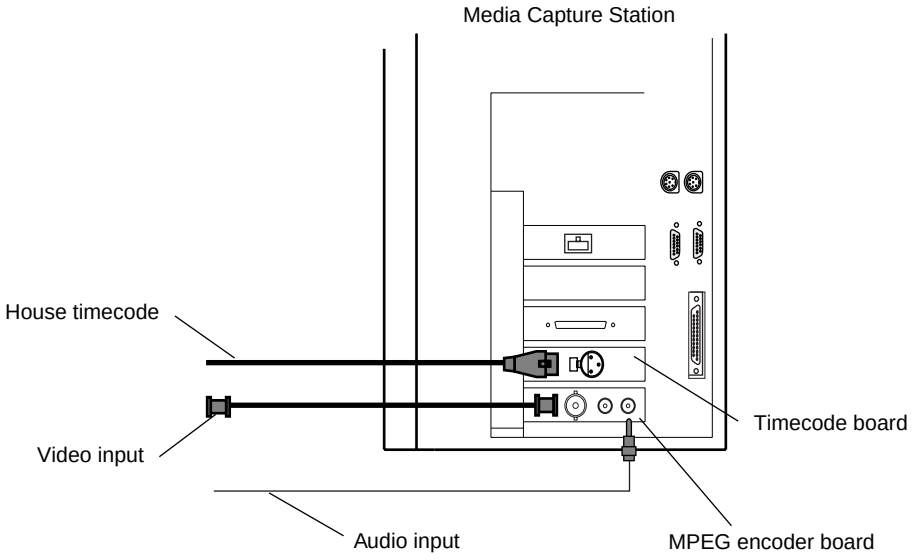
Media Capture Station Connections

Low-resolution video is recorded from the video feed by the Media Capture Station. High-resolution video is recorded at the same time by the NewsCutter or Media Recorder. Dual digitizing is initiated from the high-resolution device. When you dual digitize, the low-resolution video is linked to the high-resolution video automatically by the Media Capture Manager. The low-resolution video is stored in the Media Asset Server and can be viewed by the Media Editor workstations.

High-resolution video is captured through the Media Capture Manager and is stored in the Media Server. For connections, see the "Media Capture Manager Connections" section on page 5-6.

After installing the timecode board and MPEG encoder board in the Media Capture Station as previously described, connect timecode and video feed as follows:

1. Connect the house or source timecode to the connector on the timecode board installed in the Media Capture Station.
2. Connect the video feed (or deck) to the MPEG encoder board installed in the Media Capture Station.
    a. Connect the video signal to the BNC connector on the MPEG encoder board.
    b. Connect the audio signal to the audio input jack (bottom) on the MPEG encoder board.



Media Editor Workstation Connections

Media Editor workstations are used by the journalist to edit low-resolution video. Avid does not provide any additional hardware that needs to be installed in the Media Editor workstation. Network connections are provided in Chapter 4.

INFORMIX CLI and Connect software and licenses are supplied with the AvidNews Media Editor license.

Media Asset Server Connections

The Media Asset Server stores the low-resolution video that is captured by the Media Capture Station. Avid does not provide any additional hardware that needs to be installed in the Media Asset Server. The application is included on the Media System software CD.

Media Asset Manager Connections

The Media Asset Manager contains the information that maps each frame in the low-resolution video to its corresponding frame in the high-resolution video.

The Media Asset Manager uses the INFORMIX database to link the low-resolution and high-resolution video. If the high-resolution media are not available, the playback device can recover the missing pieces from digital linear tape (DLT) or videotape.

Avid does not provide any additional hardware that needs to be installed in the Media Asset Server. The application is included on the Media System software CD.

Media Server Connections

The Media Server stores the high-resolution video that is captured by the NewsCutter or Media Recorder. The high-resolution video is used by the playback device when sending clips to air.

The Media Server must be installed by Avid personnel. Typically, the Media Server is a Silicon Graphics server (a different model from the News Servers) that uses a redundant array of independent disks (RAID) to store the high-resolution video.

Installing the Media System Application

The software applications for the following Media System components are provided on a single CD. Load the software according to the *Avid Media System Installation Guide*.

- Media Capture Manager
- Media Capture Stations (low-resolution)
- Media Editor workstation
- Media Asset Manager
- Media Asset Server

Install the high-resolution Media System component software according to the following Avid documentation:

- *Avid NewsCutter Release Notes*
- *Avid Media Recorder Release Notes*
- *Avid MediaServer Release Notes*

Setting Up the Broadcast Control System

The BCS controls the character generators, still stores, and playback devices. A playback device will play-to-air the stories created on the journalist's workstations from a playlist. The following sections describe the setup and cabling of the BCS and playback devices to the AvidNews system. Avid provides two expansion boards that must be installed into the BCS.

Installing the Broadcast Control System Expansion Boards

Generic procedures for installing expansion boards are all ready provided in "Installing the DigiBoard" section on page 2-3. More specific instructions are provided with computer manufacturer's documentation. The expansion boards provided by Avid also come with documentation that provides configuration information. Review the expansion board documentation before installing it.

The following BCS expansion boards are provided by Avid and plug into PCI connectors on the computer's system board:

- Multiple-serial-port board
- Timecode board

Semiconductor devices are vulnerable to damage by electrostatic discharge (ESD). Always use an ESD wrist strap or other grounding device when opening the computer or removing any circuit boards from its packing.

Multiple-Serial-Port Board Installation

To install the multiple-serial-port board:

1. Put on a wrist strap and attach the ground clip to the computer's chassis.
2. Remove the multiple-serial-port board from its staticproof bag.
3. Install the board. See "Installing the DigiBoard" on page 2-3.

   The multiple-serial-port board installs into a PCI slot in the computer.
4. Load the software and configure the board according to the board's user's guide.

Timecode Board Installation

To install the timecode board:

1. Put on a wrist strap and attach the ground clip to the computer's chassis.
2. Remove the timecode board from its staticproof bag.
3. Install the board. See "Installing the DigiBoard" on page 2-3.

   The timecode board installs into a PCI slot in the computer.

   An interrupt request (IRQ) will need to be selected for the board. See the Windows documentation for information about what IRQs are currently available.

4. Load the software and configure the board according to the *PC-LTC RDR, GEN, & RG1 Instruction Manual*.

Cabling the Broadcast Control System

The BCS connects to the network as described in the "Broadcast Control System Network Connection" section on page 5-13. For the multiple-serial-port and timecode board connections, see the "Broadcast Control System Connections" section on page 5-14.

Broadcast Control System Network Connection

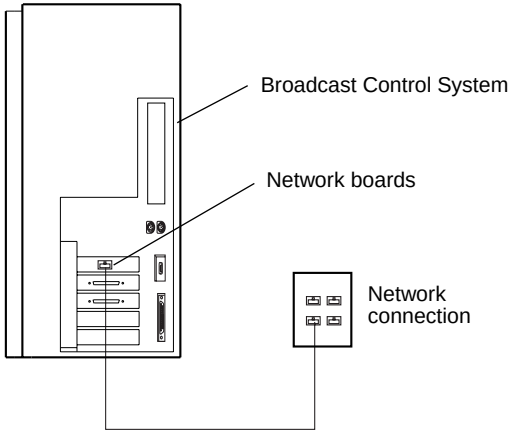
The BCS requires a network board installed. As with all network devices, an IP address must also assigned (see the "IP Addresses" section on page 2-15).

The network connection described in the following procedure assumes that the site network uses category-5 cables with RJ-45 jacks. Early network connections use BNC connectors. If using BNC connections, cable the servers as described in the following procedure, replacing the connections with BNC connectors.

To connect the BCS to the network:

1. Connect one end of a category-5 cable with RJ-45 jack to the network board in the BCS.
2. Connect the RJ-45 jack on the other end of the cable to the closest network distribution jack.

Some network boards have an LED that indicates the network signal is present.



Broadcast Control System Connections

Avid supplies a multiple-serial-port board and a timecode board that must be installed in the BCS as previously described. The multiple-serial-port board comes with a connector panel and serial cable. The serial cable is used to connect the board to the connector panel. The connector panel provides eight DB-25 serial connectors.

The serial connection described in the following procedure assumes that 9-pin-to-RJ-45 and 25-pin-to-RJ-45 adapters are used on all serial connectors. A category-5 cable with RJ-45 jack is used to cable all the components.

To connect BCS to control devices:

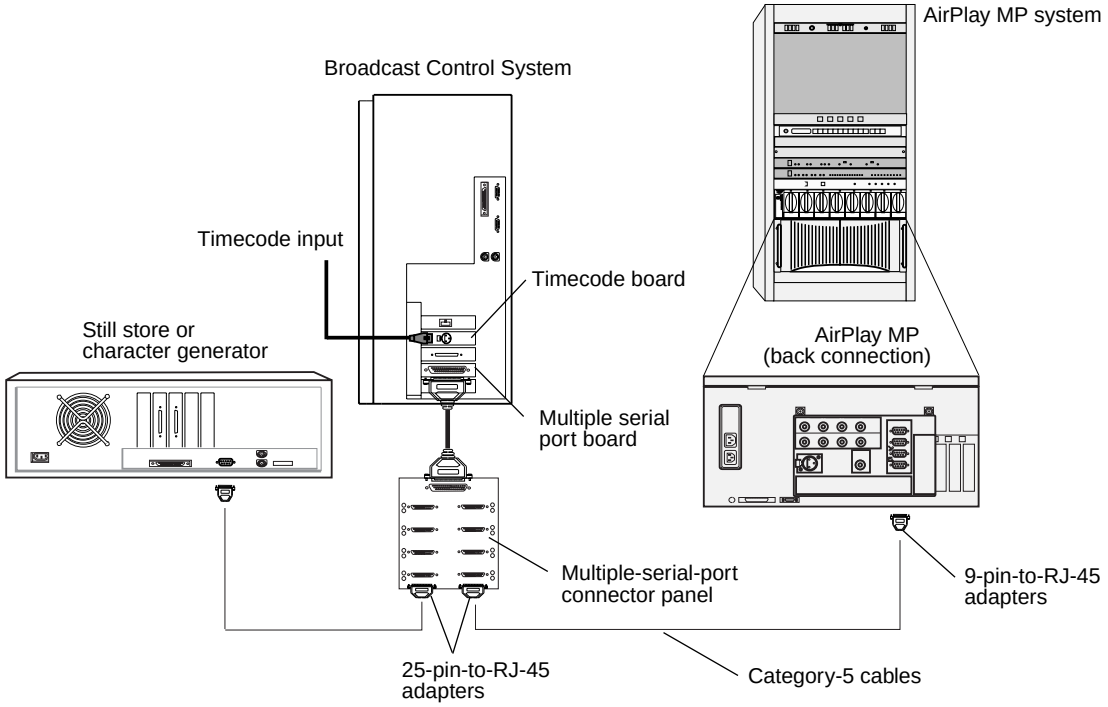
1. Connect the house or source timecode to the connector on the timecode board installed in the BCS.
2. Connect one end of the multiple-serial-port board cable to the board connector in the BCS.

   Secure the connection with the two screws attached to the cable.
3. Connect the other end of the multiple-serial-port board cable to the connector panel.

   Secure the connection with the two screws attached to the cable.
4. Connect the still store, character generator, and AirPlay MP systems to the multiple-serial-port connector panel using 9-pin-to-RJ-45 and 25-pin-to-RJ-45 adapters. The RJ-45 connection is made with a category-5 cable.

   For more information on connecting AirPlay MP systems, see the *Avid Digital News Gathering System Hardware Guide*.

Optional 9-pin to RJ-45 adapters and 25-pin to RJ-45 adapters are available through Avid.



Installing the Broadcast Control System Application

Load the BCS software according to the *Avid Broadcast Control System Installation Guide*.

Install the Avid AirPlay MP software according to the *Avid AirPlay MP Release Notes*.

Teleprompters

Teleprompters are computers that provide a large font video display. This display can be read directly or it can be sent to monitors for easier viewing by the newscaster. The teleprompter computer requires a network board installed. As with all network devices, an IP address must also assigned (see the "IP Addresses" section on page 2-15). The network connection is the same as previously described (see the "Broadcast Control System Network Connection" section on page 5-13).

Closed-caption encoders connect to a serial port on the teleprompter and provide closed caption to viewers with decoders.

CHAPTER 6

Starting Up and Shutting Down

The following sections describe the procedures for starting up and shutting down the AvidNews system.

Starting the System

Use the following procedure to reboot your News Servers and synchronize them so that they run together as a single system.

To start up your AvidNews system:

1. Power up or reboot the News Servers using either step a or step b.
    a. If you halted the News Servers when you shut down your system, boot each News Server from the console. News Servers that have their operating systems halted display the boot prompt on the console. Select all News Servers and enter your News Server's boot command.

    After a few seconds, each News Server displays the ? prompt. This indicates that each News Server is unnamed and running independently of the others.

If you did not shut down the system as described, check the console history for messages indicating that all News Servers shut down at the same time. Do not connect News Servers unless you are sure that they are mirrored. If you can't find messages indicating simultaneous shutdown, or are otherwise unsure whether the disks are mirrored, call Avid for assistance before proceeding.

If you shut down the system as instructed, the system mirrors the databases and you can continue the startup procedure.

b. If you turned off the News Servers when you shut down your system, boot them to the login prompt by turning them on. Use one of the following procedures:

SCO UNIX

For a SCO UNIX system, if you turned off the News Servers, turn on each News Server. Each News Server displays a boot prompt, as in the following example:

```
SCO UNIX System V/386 on i0486
Boot
:
```

Press Enter to continue. As each News Server boots, it displays copyright and hardware configuration messages such as these:

```
hd(40)unix systty=sio auto
Loading kernel hd(40)unix .text
.......................................
Loading kernel hd(40)unix .data
.......................................
Loading kernel hd(40)unix .bss
...
The system is ready.
```

SGI IRIX

For an SGI IRIX system, if you turned off the News Servers, turn on each News Server. The console displays:

```
Press any key to boot
```

Press any key.

2. Make sure all News Servers are selected and type **so** to log in as system operator.

3. Select all News Servers and type **`connect #`** to connect.

   The # character causes the console to send the connect commands to their respective News Servers (for example, `connect a` to News Server A, `connect b` to News Server B, and so on). When connected, each News Server displays status messages like those in the example shown in step 1 b and the system prompt returns.

   Messages similar to the following appear:

   ```
   Network interface in0 marked UP address 125.0.0.1 netmask
   255.0.0.0
   100 aliases longest (alias producer) 15 bytes, 4000 bytes
   total
   A is offline
   System is AB. Master is A.
   Disk status is OK.
   WAVD_A:
   ```

   Connecting the News Servers provides each News Server with a unique name and causes each one to read and interpret the system profile. The News Servers can work together as a system after reading the system profile information.

4. Optional. Check for edit and order locks if you are restarting the system after a power failure.

   During a power failure, the system might not have had time to remove edit and order locks from the database before shutting down. When you restart the system, remove these locks.

   Checking for edit and order locks might take time, depending on the size of the database. In an emergency, bypass this step to get the system running. Go back later and remove locks to provide system access.

   The system can detect invalid locks and will ignore them. If the session was started after edit-lock time, the lock cannot be from that session.

   To remove edit and order locks, select one News Server and type **`dbclean -x`**.

   The `-x` option tells `dbclean` to skip the queues or directories marked with a skip flag, reducing the time it takes to run.

The period (.)after the `-x` causes `dbclean` to start at the root directory of the database, so that it does not miss any part of the database not marked with a skip flag.

5. Make sure all News Servers are selected and type **`startup`** to start the system.

   Information similar to the following appears:

```
A  Fri Aug 17 17:32:15  msg:  System being configured.
checking free space
data base size (113977) free blocks (1100)
starting news programs
booting pcu 10 on port 1
booting pcu 20 on port 2
```

   The `startup` command does the following:

   - Causes the master News Server to read the configuration file
   - Brings each News Server online so users can log in

   The console displays device-ready messages (`Hot-to-go`) as each device starts up, indicating that the device is online and available.

Resources used for AvidNews Workstation sessions do not print any messages until a workstation establishes a connection.

Shutting Down the System

If you need to turn off your News Servers or reboot the system, first shut down the system. Shutting down the system:

- Saves any open stories
- Removes any remaining edit and order locks
- Ensures that each News Server's copy of the database is the same

Because an orderly shutdown of the system requires that you shut down all News Servers at the same time, most steps in this procedure are performed on all News Servers. Make sure that you have selected all News Servers except where instructed to do otherwise.

Shutting Down all News Servers

To shut down your AvidNews system:

1. Select all News Servers and type **`offline`** to take the system offline.

   The `offline` command prevents users from logging in.

2. Select all News Servers and type **`broadcast`** followed by the message warning users that the system will be going down.

   ```
   WAVD_A: broadcast WARNING! System going down at 12:00
   ```

   Include the time the system will be going down.

3. At the specified shutdown time, select one News Server and type **`list s`** to check who is still logged in.

   A message similar to the following appears:

   ```
   T11   miller        A
   T82   allen         B
   T101  stevens       A
   R801  stevens       A
   ```

   The `list s` command lists:

   - The device controlling the session
   - The user account used for the session
   - The News Server servicing the session

4. Select all News Servers and type **`logout all`** to log out all users.

   If a user is editing a story, this saves the file and logs out the user.

5. Type **`list s`** to check for connect session users.

   The `logout all` console command does not log out users who are currently in a connect session.

   ```
   WAVD_A: list s
   T101  stevens       A
   R801  stevens       A
   ```

   If any users are still logged in, notify them of the shutdown by some other means, such as by telephone.

If a user is in a connect session when you shut down the system, the user's workstation stops, the session is disconnected, and any unsaved work is lost. Make sure any connect session users have logged out before you continue the shutdown.

6. Type **`shutdown`** to shut down the system.

   A message similar to the following appears:

   ```
   WARNING! This will stop all devices on this computer, and
   close the database.
   To prevent loss of work in progress, 'logout all' first.
   Do you really want to do this (y/n)?
   ```

7. Type **`y`** to continue.

   ```
   Do you really want to do this (y/n)? y
   /exc/shutdown: Stopping all devices
   /exc/shutdown: Closing database
   ```

   The shutdown process stops all workstations, wires, and other devices and no further changes can be made to the database.

8. Type the **`su`** command at the prompt and the superuser password at the `password` prompt to become a console superuser.

   ```
   WAVD_A: su
   password:
   SU: so /dev/console
   ```

IRIX Servers

On SGI servers, type **sync** to save changes to the system software, and type **halt** to halt the system. You must be a superuser.

```
WAVD_A# sync
WAVD_A# halt
Syncing disks... done
Unix Halted
>>>
```

When the console displays the boot prompt, the News Servers are halted.

SCO Servers

Shut down the system by typing **init 0** (zero) at the prompt.

```
WAVD_A# init 0
INIT: New run level: 0
The system is coming down.  Please wait.
System services are now being stopped.
...
The system is down.
**   Safe to Power Off      **
        -or-
** Press Any Key to Reboot    **
```

9. Turn off each News Server.

When you are ready to start up your system, follow the procedure described in "Starting the Workstation" on page 6-8.

Starting Up and Shutting Down Workstations

Workstations can be started up or shut down independently of the News Servers. If the News Server prompts you that it is shutting down, you should shut down the application. You do not have to power off your workstation. If you don't close your application and log off from the News Server, your work might be lost. See the following two sections for procedures on starting up and shutting down the workstation.

Starting the Workstation

To start up the workstation:

1. Turn on the power switch on the workstation.

   The workstation will boot to Windows.

2. Launch the AvidNews application from the Start button. An AvidNews shortcut can be placed on your desktop (see the Windows documentation for instructions on making shortcuts).

3. Enter your user name and password when prompted by the News Server.

Shutting Down the Workstation

To shut down the workstation:

1. Save your work by choosing Save from the File menu.

2. Exit the application by choosing Exit from the File menu.

   The application closes.

3. Optional. Exit Windows by choosing Shut Down from the Start button.

   Windows 95 and Windows NT will automatically power off the workstation.

APPENDIX A

SCO UNIX Operating System

If the News Servers were not purchased from Avid, the operating system might not be loaded. The operating system must loaded on the servers before loading the Avid software. This appendix provides a procedure for loading SCO UNIX into PowerEdge 2200 servers. The SCO operating system must be version 5.0.4 or greater.

News Servers purchased from Avid will already have UNIX loaded on the servers and are ready for the Avid software. To load the Avid software, see *"Installing the AvidNews Server Software and Database" on page 2-15.*

The instructions for loading SCO UNIX described in this appendix suggest that you choose the defaults except where indicated in the following procedure.

Loading SCO on the Intel-Based Server

To load the SCO operating system:

1. Insert SCO Boot Diskette into diskette drive.
2. Power up the server and view the recognized installed hardware on the monitor. Note the installed memory and devices listed:

- 0000640K System RAM Passed
- 097280K Extended RAM Passed
- 0256K Cache SRAM Passed
- Adaptec AIC 7880 Ultra/UltraW
- SCSI ID: LUN Number #:# 0:0 - Seagate...Drive c:
- SCSI ID: LUN Number #:# 5:0 - NEC CD-ROM
- SCSI ID: LUN Number #:# 6:0 - ARCHIVE Python 00095-001

The DAT drive vendor identification is ARCHIVE. Verify SCSI ID's are not in conflict.

- HDD SCSI ID = 0
- CDROM SCSI ID = 5
- DAT Drive SCSI ID = 6

3. Do one of the following:
   - Press Enter at the Boot prompt.
   - Enter the bootstring for a boot time loadable driver (BTLD) if one is required for the SCSI interface installed in your News Server (check the SCO UNIX documentation or the installation instructions for the SCSI adapter).

     For example, the command to load the BTLD for the Adaptec AHA-2940u SCSI card is as follows:

     ```
     restart link=alad325
     ```

   The kernel will load for a few minutes.
4. Press Enter after the kernel has loaded.
5. Press Enter at the `Installing SCO OpenServer Software` blue screen.
6. Press Enter to select the SCSI CD-ROM.
7. Press Enter until on `Accept above choices`, then press Enter again.

8. When prompted, insert the SCO V CD-ROM and press Enter.
9. Accept the keyboard and language defaults by pressing Enter twice.
10. Open the SCO OpenServer Enterprise System license and type in license and code numbers and press Enter.

The SCO OpenServer Enterprise System license entry is case sensitive.

11. Press Enter to continue at the `Additional Licensed Software` prompt.
12. Press Enter to select `Fresh` at the `Type of Installation`.
13. Press tab to select `OK`, and then press Enter.
14. Type **`avid`** (your site might use a different name) and press Enter for the system name.

Generally sites use their call-letters in place of "avid." Any name can be used but the name is limited to 8 characters.

15. Type in a valid site *Domain Name* and press Enter. If no valid domains are available, leave the selection blank, clear it using the Delete key.
16. Press Enter to accept default (traditional) for the Security Profile.
17. Enter the Time Zone and press enter.
18. Select the *Language* and press enter, the default is english.
19. Press Enter to `Accept Above Choices`.
20. At the `Initial System Profile` prompt, press Enter 4 times to accept all of the default values.
21. Prepare the hard drive as follows:
    a. At the `Hard disk setup` prompt, press space bar twice.
    b. Select `Interactive Fdisk/Divvy` using the down arrow and press Enter.

c. Press Enter to continue.

d. Press Enter twice, to "Accept Above Choices.

22. Press Enter to select "Optional Software."

a. Press the space bar twice.

a. Using the up and down arrows to navigate, and the space bar to select or deselect the software, select the services indicated in Table A-1. Press Enter after selecting each service.

Table A-1 Operating System Services

Service	Select	Do not select
OS Shell Utilities	x	
File Editor and Manipulation Tools	x	
Basic OS Utilities Set	x	
Backup Utilities	x	
ArcServe/Open Lite from Cheyenne		x
Printer Utilities	x	
Power Management		x
UUCP, Mic Net and Messaging Utilities	x	
Calendar Utilities		x
Additional System Admin.	x	
Doctor Lite System Management		x
Documentation Servers	x	
Basic DOS Utilities	x	

Table A-1 Operating System Services (Continued)

Service	Select	Do not select
Internationalization		x
Enhanced Mail Readers		x

b. When asked to select a Graphical Environment, type **n** for None selected.

c. Select the network protocol services indicated in Table A-2. Press Enter after each selection.

Table A-2 Network Protocol Services

Protocol	Select	Do not select
Network Adapter Drivers	x	
TCP/IP Runtime System	x	
NFS Runtime System		x
IPX/SPX Runtime System		x
SCO Gateway for Netware		x
LAN Manager Client		x
PC Interface Server		x
Network Install Server	x	

d. When asked to select Internet FastStart, type **n** for None selected.

e. Select the documents indicated in Table A-3. Press Enter after each selection.

Table A-3 Documentation

Document	Select	Do not select
UNIX English Documentation	x	
Mail Reader		x
Basic X Clients		x
X Client		x
X Desktop		x
X Server and Drivers		x
Network Adapter Driver Documentation	x	
TCP/IP Documentation	x	
NFS		x
LAN Manager Client		x
PC Interface Server		x
IPX/SPX		x
Netware Gateway		x
Netscape Fastrack Server		x
Internet Manager		x

f. When asked to select the Language, accept the default.
g. Press Enter to accept Language.
h. Verify that Optional Software indicates 115 MB selected
i. Press Enter twice to accept all the service selections.

23. At the Network Card setup, press space bar to Select `Deferred` and press Enter.
24. At the `Network Address` prompt, press Enter to select `No Networking Card Configured` (default).
25. At the `Video and Graphics` prompt, press Enter to select `No Graphics` (default).
26. At the `Mouse` prompt, press Enter to select `No Mouse Configured` (default).
27. At the E-Mail System setup, press space bar to select `sendmail` and press Enter.
28. Press Enter twice to choices.
29. Setup Root Password as follows:
    a. Type **`avid`** (your site might use a different name) and press Enter.
    a. Type **`avid`** (your site might use a different name) and press Enter to confirm.
    b. Press Enter to accept choices
    c. Select `OK` and press Enter to continue.
30. Setup Divvy Table as follows:
    a. Type **`1`** and press Enter to continue with hard disk initialization.
    b. Type **`2`** to use the entire disk for UNIX and press Enter.
    c. Type **`y`** and press Enter.
    d. Press Enter to continue.
    e. Type **`q`** to quit and press Enter.
    f. Again type **`q`** to quit and press Enter.
31. At the `Bad Blocks Allocate` prompt, type **`511`** and press Enter.

32. At the `Swap-Space Allocation` prompt, type **`64000`** and press Enter.
33. At the `Boot-Space Allocation` prompt, type **`30000`** and press Enter.
34. At the `Separate U Filesystem` prompt, type **`n`** and press Enter.
35. At the `Manual Adjustments to HDD` prompt, type **`y`** and press Enter.
36. At the HDD partition table, select the 4-GB drive values shown in Table A-4, the Last Block column may differ.
    a. Type **`c, 3`** and press Enter.
    b. Type **`t, 3`** and press Enter.
    c. Type zero (**`0`**) (for Non FS) and press Enter.
    d. Type **`n, 3, rp5`** and press Enter.
    e. Type **`e, 2, 605999`** and press Enter.
    f. Type **`s, 3, 606000`** and press Enter.
    g. Type **`e, 3, 2653999`** and press Enter.
    h. Type **`c, 4`** and press Enter.
    i. Type **`n, 4, spare`** and press Enter.
    j. Type **`s, 4, 2654000`** and press Enter.
    k. Type **`e, 4, 4176849`** and press Enter.
    l. Type **`s, 6, 4176850`** and press Enter.

Table A-4 4-GB Partition Table

Name	Type	FS	Partition	First block	Last block
boot	eafs	yes	0	0	29999
swap	non fs	no	1	30000	93999

Table A-4 4-GB Partition Table (Continued)

Name	Type	FS	Partition	First block	Last block
root	htfs	yes	2	94000	605999
rp5	non fs	yes	3	606000	2653999
spare	htfs	yes	4	2654000	4176849
	not used	no	5		
recover	non fs	no	6	4176850	4176899
d1057all	whole dsk	no	7	0	4184900

37. Type “q” to quit and press Enter.
38. Type “I” to install from CD ROM and press Enter.
39. Press Enter 3 times to accept default mnt points.
40. Operating System Software installer will run unattended, and will take 30-40 minutes to load.
41. Remove SCO Boot Diskette and put back into SCO software and document box.
42. Press Enter twice to continue.
43. Press Enter to reboot.
44. Press Enter at the boot prompt.
45. Press Ctrl-D to continue with a normal startup.
46. Set Date and Time or Press Enter if they correct.
47. Login as root at the login prompt and press Enter.
48. Type **`avid`** (your site might use a different name) at the password prompt and press Enter.

Adding Operating System Links

To install the DAT driver:

1. Type **mkdev tape** and press Enter at the # prompt.
2. Type **1** and press Enter to configure SCSI Tape Drive.
   a. Type **3** and press Enter to remove a SCSI tape drive.
   b. Type **0** and press Enter.
   c. Type **y** and press Enter.
   d. Type **q** and press Enter.
   e. Type **1** to configure SCSI tape drive.
   f. Type **1** to install SCSI tape drive.
   g. Press Enter for the default (alad).
   h. Type **0** and press Enter for SCSI host adapter.
   i. Enter for SCSI bus number. The default is 0.
   j. Type the *Target ID* and press Enter (the SCSI ID is displayed at powerup).
   k. Press Enter to except `0` as the default lun.
3. Type **y** and press Enter to update the SCSI configuration.
4. Type **ARCHIVE** and press Enter (the vendor ID is displayed at powerup).
5. Press Enter for default SCSI version.
6. Press Enter for default responsive data format.
7. Type **4** for DAT drive (compressing and noncompressing).
8. Type **q** and press Enter three times to quit.

Rebuilding the Kernel

To rebuild the kernel:

1. Type **y** and press Enter to create the new kernel.
2. Type **y** and press Enter to boot by default.
3. Type **y** and press Enter to rebuild kernel environment.
4. Type **sync** and press Enter.
5. Type **reboot** and press Enter.

Loading LAN Adapter Drivers

The LAN adapter drives cannot be executed from console multiplexor.

To install the LAN adapter drives:

1. Press Enter at the `boot` prompt.
2. Press Ctrl-D for normal setup.
3. Press Enter to accept the Time and Date fields.
4. Log in as **root**.
5. Type your *site name* for the password.
6. Type **scoadmin** and press Enter.
7. Select the networks using arrow keys and then press Enter.
8. Select `Network Configuration Manager` and then press Enter.
9. Press Enter to accept the default hardware.
10. Press Enter to accept the default Add New LAN Adapter.
11. Verify that the COM Fast EtherLink XL PCI (3C905)... adapter has been found.
12. Press Tab twice, then press Enter to continue.
13. Press Tab and then Enter to add the adapter.

14. Type the local *host name*. Type ***host name*_a** for News Server A and ***host name*_b** for News Server B, then press Enter.
15. Type the IP address and press Enter. Example addresses might be:
    - System A – *125.1.0.1*
    - System B – *125.1.0.2*
    - System C – *125.1.0.3*
16. Press Enter twice to accept defaults for the Netmask and Broadcast Addresses.
17. Enter the Domain Name (leave this field blank if it's not known).
18. Delete the TCP Conn number (press the Delete key three times).
19. Type **512** and press Enter for a new TCP Conn number.
20. Delete the default Pseudo tty's number. Type **64** and press Enter for the new Pseudo tty number.
21. Press Enter to continue.
22. Press Enter for OK.
23. Press Enter to accept the hardware.
24. Type **x** to exit.

Relinking the Kernel and Check the File System

To relink the kernel and check the file system:

1. Select Yes to relink kernel and press Enter.
2. Type **y** (yes) and press Enter to boot by default.
3. Type **y** (yes) and press Enter to rebuild.
4. Press Enter.
5. Press Tab twice.
6. Press Enter.
7. Type **x**, to exit.

8. Remove the CD.
9. At the # prompt, type **sync** and press Enter.
10. Type **shutdown -g0 -y su** and press Enter to shut down to a single-user mode.
11. From the console multiplexor keyboard, log in as **root** and press Enter.
12. Type the *password* and press Enter.
13. At the # root prompt, type **fsck -ofull -y** and press Enter.

If File System Check returns an error, seek technical assistance.

14. At the # prompt, type **sync** and press Enter.
15. Type **reboot** and press Enter.
16. At the `boot` prompt, press Enter.
17. When the boot sequence pauses, press Ctrl-D for normal startup.
18. Press Enter at the `Time` and `Date` prompt.

Installing the SCO Patches

Contact SCO to get applicable patches. Avid installs the SCO Release Supplement 504c (rs504c) and recommends that it be installed on all SCO 5.0.4 servers. Install patches according to the instructions provided by SCO.

For SCO's web page regarding patches and fixes, see:

www.sco.com/support/index.html#patches

For SCO's searchable collection of support notes, see:

www5.sco.com/Support/ssl.html

For SCO's web pages for information on how to register their operating system software, see:

www.sco.com/products/prodreg.htm

Enabling the Console Multiplexor Port

Edit the following file from the fileserver's keyboard.

1. Type **ed/etc/default/boot** and press Enter.
2. Type **1** and press Enter.
3. Continue to press Enter until the ? prompt appears.
4. At the ? prompt, type the following:
   a. Type **a** and press Enter to add text.
   b. Type **SYSTTY=1** and press Enter.
   c. Type **apm.exists=ignore** and press Enter.
   d. Type period (**.**) and press Enter to stop adding text.
   e. Type **w** and press Enter to write to disk.
   f. Type **q** and press Enter to quit.
5. Type **ed /etc/default/tar** and press Enter at the # prompt.
6. Continue to press Enter until ? prompt appears.
7. At the ? prompt, type the following (this changes the last line of the file).
   a. Type **c** and press Enter to change the file.
   b. Type **archive=/dev/rStp0[Tab] 20[Tab] 0[Tab] y** and press Enter. Note that [Tab] means to press the Tab key on the keyboard.
   c. Type period (**.**) and press Enter.
   d. Type **w** and press Enter.
   e. Type **q** and press Enter to quit.
8. Type **cd /dev** and press Enter.
9. Type **enable tty1a** and press Enter.
10. Type **disable tty02 tty03 tty04 tty05 tty06 tty07 tty08 tty09 tty10 tty11 tty12** and press Enter.

When the News Server reboots, the SCO boot messages will be displayed through the COM1 serial port (9600-8n) instead of the VGA monitor. Primary control of the News Server will now be from the COM port, though it is still possible to login via the keyboard on the VGA monitor.

Disabling the News Server Keyboard

After the software has been loaded on the News Servers, disable the keyboards in CMOS.

1. From the News Servers keyboard, press the F2 to enter setup.
2. Use the arrow keys to select `Boot Sequence` and press Enter.
3. Use the arrow keys to select `Post Errors` and press the Space bar to disable it.
4. Press Esc twice.
5. Select `Save change & Exit` and press Enter.
6. Press Enter to continue.
7. Repeat this procedure on all News Servers.

APPENDIX B

Silicon Graphics UNIX Operating System

If the News Servers were not purchased from Avid, the operating system might not be loaded. The operating system must loaded on the servers before loading the Avid software. This appendix provides a procedure for loading UNIX on the Silicon Graphics O2 and Origin200 servers.

News Servers purchased from Avid will already have UNIX loaded on the servers and are ready for the Avid software. To load the Avid software, see *"Installing the AvidNews Server Software and Database" on page 2-15.*

The instructions for loading UNIX described in this appendix suggest that you choose the defaults except where indicated in the following procedure.

Verifying the Server Hardware

Before installing the system, verify that the following hardware is already installed or install the hardware according the Silicon Graphics documentation.

- PCI Network board
- Two internal SCSI hard disk drives

- External DAT drive (Avid recommends SCSI ID 4)
- A keyboard, mouse, and monitor (temperately needed)

Once the hardware is installed, turn on the server and preconfigure the server to install the operating system.

To prepare the server:

1. Connect AC power cords to the Monitor, O2 server, and external DAT drive.
2. Connect a console multiplexor to COM port 1.
3. Power up the server, monitor, and external DAT drive.
4. Log in as root.
5. From the Toolchest, select Desktop, and then Open Unix Shell.
6. Redirect the console output to a serial port as follows:
   a. Type **`nvram console d`** and press Enter.
   b. Type **`nvram dbaud 9600`** and press Enter.
7. Check the sectors per tracks and tracks per cylinders by typing **`prtvtoc`** and pressing Enter. The following information should appear.

   ```
   Sectors per – 125
   Tracks per cylinders – 5
   ```

   If the following information appears, substitute the values in parenthesis for the rest of the procedures in this appendix.

   ```
   Sectors per tracks – 171
   Tracks per cylinders – 3
   ```

   If either match, seek technical assistance.
8. Boot the server to the System Maintenance menu.
   a. Type **`halt`** and press Enter.
   b. Press any key to restart.
   c. Press **`Esc`** to perform system maintenance.
   d. Type **`5`** and press Enter to enter Command Monitor.

Format and Partition the Primary Drive

At the `Command Monitor` prompt, you can boot from the CD and run the `fx` program to format and partition disk drives.

To format the drive:

1. Insert the IRIX CD.
2. At the main menu `Option?` prompt, type **`5`** and press Enter.

```
System Maintenance Menu
1) Start System
2) Install System Software
3) Run Diagnostics
4) Recover System
5) Enter Command Monitor
Type exit to return to the menu.
```

3. Type **`boot -f dksc(0,4,8)sashARCS`** and press Enter. The following appears:

```
119792+20432+3152+335552+44264d+4300+6432 entry: 0x83fa80f0
Standalone Shell SGI Version 6.3 ARCS   Nov 26, 1996 (32 Bit)
```

4. At the sash (`/`) prompt, type **`boot -f dksc(0,4,7)stand/fx.ARCS --x`** and press Enter. The following appears:

```
96608+26784+19312+2816528+52856d+6556+9984 entry: 0x83ccfdb0
SGI Version 6.3 ARCS   Nov 26, 1996
```

5. At `fx` prompt, type **`dksc`** *`device-name`* and press Enter.
6. At `fx` prompt, type **`0`** *ctlr#* and press Enter.
7. At `fx` prompt, type **`1`** *`drive#`* and press Enter.
8. When the display ends with `...opening dksc(0,1,0),` press Enter.

```
...controller test...OK
Scsi drive type == SGI     IBM DORS-32160W WA6A
--- please choose one (? for help, to quit this menu)---
[exi]t            [d]ebug/          [l]abel/          [a]uto
[b]adblock/ [exe]rcise/ [r]epartition/ [f]ormat
```

9. At the `fx` prompt, press **a** and press Enter. The following appears:

```
----- create sgiinfo-----
...creating default sgiinfo
 * * * * * W A R N I N G * * * * *
about to destroy data on disk dksc(0,1,0)! ok?
```

10. Press **y** then press Enter to destroy any data on the disk. The following appears:

This takes about an hour.

```
writing label info to dksc(0,1,0)
----- exercise-----
sequential pass 1: scanning [(0), (4196875)] (6715 cyls)
...... 10..... 20..... 30..... 40..... 50.....
6670..... 6680..... 6690..... 6700..... 6710....
writing label info to dksc(0,1,0)
----- done-----
--- please choose one (? for help, .. to quit this menu)---
[exi]t [d]ebug/ [l]abel/ [a]uto
[b]adblock/ [exe]rcise/ [r]epartition/ [f]ormat
```

11. At the `fx` prompt, press **r** then press Enter. The following appears:

```
----- partitions-----
part  type cyls blocks Megabytes   (base+size)
  0: xfs 5 + 6291 3125 + 3931875 2 + 1920
  1: raw 6296 + 419 3935000 + 261875 1921 + 128
  8: volhdr 0 + 5 0 + 3125 0 + 2
 10: volume 0 + 6715 0 + 4196875 0 + 2049
capacity is 4197405 blocks
--- please choose one (? for help, .. to quit this menu)---
[ro]otdrive [o]ptiondrive [e]xpert [u]srrootdrive [re]size
```

12. At the `fx/repartition` prompt, type **e** and then press Enter. The following appears:

```
Warning: you will need to re-install all software and restore
user data from backups after changing the partition layout.
Changing partitions will cause all data on the drive to be
lost.  Be sure you have the drive backed up if it contains any
user data.  Continue?
```

13. Type **y** to continue. The following appears:

```
Enter .. when done
fx/repartition/expert: change partition =
```

14. Type **0** then press Enter. The following appears:

```
before:  type xfs base: 5 cyls, 3125 blks, 2 Mb
          len: 6291 cyls, 3931875 blks,1920 Mb
fx/repartition/expert: partition type =
```

15. Type **xfs** and press Enter. The following appears:

```
fx/repartition/expert: base cyl =
```

16. Type **5** then press Enter. The following appears:

```
fx/repartition/expert: number of cyls (max 6710) = (6291)
```

17. Type **3140** or (**3179**) and press Enter. The following appears:

```
after:  type xfs base: 5 cyls, 3125 blks, 2 Mb
        len:  3140 cyls, 1962500 blks,  958 Mb
fx/repartition/expert: change partition =
```

18. Type **1** then press Enter. The following appears:

```
before:type raw base:6296 cyls, 3935000 blks, 1921 Mb
       len: 419 cyls,  261875 blks,  128 Mb
fx/repartition/expert: partition type =
```

19. Type **raw** and press Enter. The following appears:

```
fx/repartition/expert: base cyl = (6296)
```

20. Type **3146** or (**3725**) and press Enter. The following appears:

```
fx/repartition/expert: number of cyls (max 3569) = (419)
```

21. Type **209** or (**256**) and press Enter. The following appears:

```
after:type raw base: 3146 cyls, 1966250 blks, 960 Mb
      len:   209 cyls,  130625 blks,   64 Mb
fx/repartition/expert: change partition =
```

22. Type **0** and press Enter. The following appears:

```
before: type volhdr base: 0 cyls, 0 blks, 0 Mb
        len: 0 cyls, 0 blks, 0 Mb
fx/repartition/expert: partition type = (volhdr)
```

23. Press Enter. The following appears:

```
fx/repartition/expert: base cyl =
```

24. Type **0** and press Enter. The following appears:

```
fx/repartition/expert: number of cyls (max 6715) =
```

25. Type **0** and press Enter. The following appears:

```
after: type volhdr base: 0 cyls, 0 blks, 0 Mb
       len: 0 cyls, 0 blks, 0 Mb
fx/repartition/expert: change partition =
```

26. Type **7** and press Enter. The following appears:

```
before:  type volhdr    base: 0 cyls, 0 blks, 0 Mb
         len: 0 cyls, 0 blks, 0 Mb
fx/repartition/expert: partition type = (volhdr)
```

27. Type **xfs** and press Enter. The following appears:

```
fx/repartition/expert: base cyl = (0)
```

28. Type **3356** or (**3982**) and press Enter. The following appears:

```
fx/repartition/expert: number of cyls (max 3359) = (0)
```

29. Type **3359** or (**4200**) and press Enter. The following appears:

```
after:type xfs base: 3356 cyls, 2097500 blks, 1024 Mb
       len:  3359 cyls, 2099375 blks, 1025 Mb
fx/repartition/expert: change partition =
```

30. Type **8** then press Enter. The following appears:

```
before:  type volhdr base: 0 cyls, 0 blks, 0 Mb
         len: 5 cyls, 3125 blks, 2 Mb
fx/repartition/expert: partition type =
```

31. Type **volhdr** and press Enter. The following appears:

```
fx/repartition/expert: base cyl =
```

32. Type **6** and press Enter. The following appears:

```
fx/repartition/expert: number of cyls (max 6715) =
```

33. Type **5** and press Enter. The following appears:

```
after:  type volhdr    base:     0 cyls,       0 blks,    0 Mb
                        len:     5 cyls,    3125 blks,    2 Mb
----- partitions-----
part  type cyls blocks Megabytes   (base+size)
  0: xfs 5 + 3140 3125 + 1962500 2 + 958
  1: raw 3146 + 209 1966250 + 130625 960 + 64
  7: xfs 3356 + 3359 2097500 + 2099375 1024 + 1025
  8: volhdr 0 + 5 0 + 3125 0 + 2
 10: volume 0 + 6715 0 + 4196875 0 + 2049
capacity is 4197405 blocks
--- please choose one (? for help, .. to quit this menu)---
[ro]otdrive [o]ptiondrive [e]xpert [u]srrootdrive [re]size
```

34. At the `fx/repartition` prompt, type two periods (`..`) and press Enter. The following appears:

```
--- please choose one (? for help, .. to quit this menu)---
[exi]t [d]ebug/ [l]abel/ [a]uto [b]adblock/ [exe]rcise/
[r]epartition/ [f]ormat
```

35. At the `fx` prompt, type **`exi`** and press Enter.

    The server runs power-on diagnostics.

Loading UNIX on the Servers

The UNIX operating system is loaded on the Silicon Graphics server from the IRIX 6.3 CD.

To load the operating system:

1. Turn on the server if not already running from the previous procedure.
2. At the main menu ? prompt, type **`2`** and press Enter.

   ```
   System Maintenance Menu
   1) Start System
   2) Install System Software
   3) Run Diagnostics
   4) Recover System
   5) Enter Command Monitor
   ```

   Type **`exit`** to return to the menu.

   The following appears:

   ```
   Installing System Software
   Press <Esc> to return to the menu.
   1) Remote Tape  2) Remote Directory 3)[Local CD-ROM]  4) Local
   Tape
   *a) Local SCSI CD-ROM drive 4
   Enter 1-4 to select source type, a to select the source, press
   Esc to quit, or press Enter to start:
   ```

3. Type **`a`** then press Enter. The following appears:

   ```
   1) Remote Tape 2) Remote Directory 3)[Local CD-ROM] 4) Local
   Tape *a) Local SCSI CD-ROM drive 4
   Enter 1-4 to select source type, a to select the source, <esc>
   to quit, or <enter> to start:
   ```

4. Press Enter. The following appears:

   ```
   Insert the installation CD-ROM, then press enter:
   ```

5. Insert the installation CD-ROM (if not already inserted), then press Enter.

   A message stating that the system is copying installation program to the disk with the following information.

```
root on dev 128,17; boot swap file on /dev/swap swplo 56000
Creating miniroot devices, please wait...
Current system date is Wed Apr 30 09:06:10 PDT 1997
Mounting file systems:
/dev/dsk/dks0d1s0: Invalid argument
No valid file system found on: /dev/dsk/dks0d1s0
This is your system disk: without it we have nothing
on which to install software.

Make new file system on /dev/dsk/dks0d1s0 [yes/no/sh/help],
```

6. Type **yes** and press Enter. The following appears:

```
About to remake (mkfs) file system on: /dev/dsk/dks0d1s0
This will destroy all data on disk partition: /dev/dsk/
dks0d1s0.
Are you sure? [y/n] (n):
```

7. Press **y** then press Enter. The following appears:

```
Do you want an EFS or an XFS filesystem? [efs/xfs]:
```

8. Type **xfs** and press Enter. The following appears:

```
Block size of filesystem 512 or 4096 bytes?
```

9. Type **512** and press Enter. The following appears:

```
Doing: mkfs -b size=512 /dev/dsk/dks0d1s0
meta-data=/dev/rdsk/dks0d1s0 isize=256 agcount=8,
agsize=250000 blks
data = bsize=512    blocks=2000000, imaxpct=25
log =internal log bsize=512 blocks=1000
realtime =none extsz=65536  blocks=0, rtextents=0
Trying again to mount /dev/dsk/dks0d1s0 on /root.
   /dev/miniroot on  /
   /dev/dsk/dks0d1s0 on  /root

Invoking software installation.

Default distribution to install from: /CDROM/dist
For help on inst commands, type "help overview".
```

The Installation Main Menu appear similar to the following:

```
1. from [source ...]                Specify location of software to be installed
2. open [source ...]                Specify additional software locations
3. close [source ...]               Close distributions
4. list [keywords] [names]          Display information about software subsystems
5. go                               Perform software installation and removal now
6. install [keywords] [names]       Select subsystems to be installed
7. remove [keywords] [names]        Select subsystems to be removed
8. keep [keywords] [names]          Do not install or remove these subsystems
9. step [keywords] [names]          Interactive mode for install/remove/keep
10. conflicts [choice ...]          List or resolve installation conflicts
11. help [topic]                    Get help in general or on a specific word
12. view ...                        Go to the View Commands Menu
13. admin ...                       Go to the Administrative Commands Menu
14. quit                            Terminate software installation
```

10. At the `Inst` prompt, type **`install *`** and press Enter.

    IRIX revision information appears with Important Notes about the product.

11. When asked for `more? or h=help` press **n**. The following appears:

    ```
    Reading product descriptions .. 100% Done.
    This CD is part of a set.  If you plan to install from another
    CD, please insert it now and press "Enter" - this will allow
    you to select software from two or more CDs, and to resolve
    all conflicts up-front, before starting the install.


    You may also enter the name of a different distribution, or
    enter "done" if you are ready to proceed with the
    installation now.
    1 /CDROM/dist
    2 done (no action)
    Install software from: [/CDROM/dist]
    ```

12. Type **2** then press Enter. Type the following at the prompt to remove extra features.

    a. At the `Inst` prompt, type **`remove appletalk`** and press Enter.

    b. At the `Inst` prompt, type **`remove FDDIXPress`** and press Enter.

    c. At the `Inst` prompt, type **`remove dmedia_eoe.data`** and press Enter.

d. At the `Inst` prompt, type **`remove isdn_eoe`** and press Enter.

e. At the `Inst` prompt, type **`remove performer_eoe`** and press Enter.

f. At the `Inst` prompt, type **`go`** and press Enter.

The following appears:

```
ERROR: Conflicts must be resolved.


x_eoe.sw.xdps cannot be installed because of missing
prerequisites:
  1a. Do not install x_eoe.sw.xdps (1253422531)
  1b. Also install dps_eoe.sw.dpsfonts (0 - 2147483647) from
an additional distribution -- insert another CD or specify
another software distribution.
desktop_base.sw.dso6_2 cannot be installed because of missing
prerequisites:
  2a. Do not install desktop_base.sw.dso6_2 (1253422520)
  2b. Also install media_warehouse.sw.viewers (0 -
2147483647) and webviewer.sw.eoe (1233026200 - 2147483647)
from an additional distribution -- insert another CD or
specify another software distribution.
Resolve conflicts by typing "conflicts choice ..." or try
"help conflicts"
```

13. At the `Inst` prompt, type **`conflicts 1a 2a`** and press Enter. The following appears:

```
No conflicts
```

14. At the `Inst` prompt, type **`go`** and press Enter.

You will see many items scroll by on the screen while the software is installing. At the end of the installation the following appears:

```
Installations and removals were successful.
You may continue with installations or quit now.


To install from another CD, change the CD in the drive and
enter command "from".
```

15. At the `Inst` prompt, type **`quit`** press Enter. The following appears:

```
Requickstarting ELF files (see rqsall(1)) .. 100% Done.
Automatically reconfiguring the operating system.

Ready to restart the system.  Restart? { (y)es, (n)o,
(sh)ell, (h)elp }: y
Preparing to restart system ...
Running the power-on diagnostics ...
Starting up the system...
```

The server restarts and displays the IRIX version number and the following message.

```
Apr 30 10:01:10 xlv_labd[43]: There are no XLV labels on any
disks.
network: WARNING: IRIS's Internet address is the default.
Using standalone network mode.
IRIS login:
```

Installing the IRIX Patches

The Silicon Graphics CD contains a single kernel rollup patch for the "IRIX 6.3 including R10000" operating system. Silicon Graphics preinstalls this patch on the IRIX 6.3 system disks. Avid strongly recommends reinstalling these patches. AvidNews software has been tested and approved using IRIX 6.3 with patch 1719 installed.

This patch (patch 1719) contains several important fixes. For more details, see the IRIX Release Notes or Readme file provided with the patch. Patch 1719 should be applied as follows.

1. If continuing from the previous section, "Loading UNIX on the Servers", you will be sitting at an `inst` prompt. Eject the CD-ROM by pressing the eject button
2. Load the "IRIX 6.2, 6.3 and 6.4 S2MP Recommended/Required Patches" CD. Wait for the CD to mount.

3. At the `inst` prompt, type **`from`** and press Enter.

```
Previous installation sites:
 1 /CDROM/dist
 2 none (no distribution, view installed products)
 3 quit (no action)
```

4. Install the software from/CDROM/dist, type **`/CDROM/6.3_O2`** and press Enter.

5. Select `patch 1719.`

```
This patch 1719 may be superseded by future kernel roll-up
more? (h=help) n
Reading product descriptions .. 100% Done.
```

6. At the `Inst` prompt, type **`install A`** and press Enter.

7. At the `Inst` prompt, type **`go`** and press Enter.

```
Pre-installation check ..   8%
Checking space requirements ..  16%
Installing/removing files ..  16%
Installing new versions of selected patchSG0001719.eoe_sw
subsystems
Installing/removing files ..  94%
Running exit-commands ..  99%
Checking dependencies .. 100% Done.
Installations and removals were successful.
You may continue with installations or quit now.
```

   To install other patches or software, use `from` command to change the path.

8. At the `inst` prompt, type **`quit`** and press Enter.

```
Requickstarting ELF files (see rqsall(1)) .. 100% Done.
Automatically reconfiguring the operating system.
Ready to restart the system.  Restart? { (y)es, (n)o,
(sh)ell, (h)elp }: y
Preparing to restart system ...
```

Configuring and Partitioning Additional Drives

To format and partition additional drives:

1. At the `IRIS 1#` prompt, type **`Add_disk`** and press Enter. The following appears:

   ```
   Adding SCSI disk 2 on controller 0
   SCSI disk 2 appears to have a valid filesystem, overwrite it?
   (n)
   ```

2. Type **`y`** then Enter. The following appears:

   ```
   /dev/dsk/dks0d2s7 mounted on /disk02
   New disk ready to use as /disk02.
   Filesystem Type kbytes use avail %use iuse ifree %iuse
    Mounted
   /dev/dsk/dks0d2s7 xfs 1024748 144 1024604 1 3 1028733 1
    /disk02
   ```

3. At the `IRIS 2#` prompt, type **`ed /etc/fstab`** and press Enter. The following appears:

   ```
   100
   ```

4. Type **`1`** and then press Enter. The following appears:

   ```
   /dev/root / xfs rw,raw=/dev/rroot 0 0
   ```

5. Press Enter. The following appears:

   ```
   /dev/dsk/dks0d2s7 /disk02 xfs rw,raw=/dev/rdsk/dks0d2s7 0 0
   ```

6. Type **`d`** and then press Enter.

7. Type **`w`** and then press Enter. The following appears:

   ```
   40
   ```

8. Type **`q`** and then press Enter. Use the UNIX documentation to complete the procedure.

   Select the default whenever possible.

9. At the `IRIS 4#` prompt, type **`umount /dev/dsk/dks0d2s7`** and press Enter.

Partitioning the second hard drive will vary depending on the manufacturer and model number of the second hard drive installed. The following specifies the second drive partitioned as an "option drive."

10. At the `IRIS 1#` prompt, type **`fx -x`** and press Enter. The following appears:

```
fx version 6.3, Nov 26, 1996
fx: "device-name" = (dksc)
```

11. Press Enter. The following appears:

```
fx: ctlr# = (0)
```

12. Press Enter. The following appears:

```
fx: drive# = (1)
```

13. Type **`2`** and then press Enter. The following appears:

```
fx: lun# = (0)
```

14. Press Enter. The following appears:

```
...opening dksc(0,2,0)
...controller test...OK
Scsi drive type == SGI     IBM DORS-32160W WA6A
----- please choose one (? for help, .. to quit this
menu)-----
[exi]t          [d]ebug/       [l]abel/      [a]uto
[b]adblock/     [exe]rcise/    [r]epartition/ [f]ormat
fx>
```

15. Type **`r`** and then press Enter. The following appears:

```
----- partitions-----
part  type       cyls            blocks          Megabytes
(base+size)
  7: xfs        5 + 8161       2565 + 4186593       1 + 2044
  8: volhdr     0 + 5             0 + 2565          0 + 1
 10: volume     0 + 8182          0 + 4197366       0 + 2049
 15: xfslog  8166 + 16      4189158 + 8208       2045 + 4

capacity is 4197405 blocks

----- please choose one (? for help, .. to quit this
menu)-----
[ro]otdrive           [o]ptiondrive         [e]xpert
[u]srrootdrive        [re]size
fx/repartition>
```

16. Press **`o`** to select the optional drive, and then press Enter. The following appears:

```
fx/repartition/optiondrive: type of data partition = (xfs)
```

17. Press Enter. The following appears:

```
fx/repartition/optiondrive: create usr log partition? = (yes)
```

18. Type **no** and then press Enter. The following appears:

```
Warning: you will need to re-install all software and restore
user data from backups after changing the partition layout.
Changing partitions will cause all data on the drive to be
lost. Be sure you have the drive backed up if it contains any
user data. Continue?
```

19. Type **y** and then press Enter. The following appears:

```
----- partitions-----
part  type       cyls            blocks          Megabytes
(base+size)
  7: xfs        5 + 8177       2565 + 4194801       1 + 2048
  8: volhdr     0 + 5             0 + 2565          0 + 1
 10: volume     0 + 8182          0 + 4197366       0 + 2049

capacity is 4197405 blocks

----- please choose one (? for help, .. to quit this
menu)-----
[ro]otdrive           [o]ptiondrive         [e]xpert
[u]srrootdrive        [re]size
fx/repartition> ..

----- please choose one (? for help, .. to quit this
menu)-----
[exi]t            [d]ebug/          [l]abel/          [a]uto
[b]adblock/        [exe]rcise/        [r]epartition/
[f]ormat
fx>
```

20. Type **exi** and then press Enter.

Verify the Drive Partitioning

Use the `prtvtoc` command to display the partition tables for the system disk and the option disk.

At the `IRIS 6#` prompt, type **`prtvtoc /dev/dsk/dks0d1s7`** and press Enter. Information similar to the following appears:

```
* /dev/dsk/dks0d1s7 (bootfile "/unix")
*     512 bytes/sector
*     125 sectors/track
*       5 tracks/cylinder
*    6715 cylinders
*       5 cylinders occupied by header
*    6710 accessible cylinders
* Unallocated space:
*       Start         Size
*     1965625          625
*     2096875          625
*
Partition  Type Fs   Start: sec   (cyl)    Size: sec    (cyl) Mount Directory
 0          xfs  yes        3125  (   5)      1962500   (3140)
 1          raw          1966250  (3146)       130625   ( 209)
 7          xfs          2097500  (3356)      2099375   (3359)
 8       volhdr                0  (   0)         3125   (   5)
10       volume                0  (   0)      4196875   (6715)
```

At the `IRIS 7#` prompt type **`prtvtoc /dev/dsk/dks0d2s7`** and press Enter. Information similar to the following should appear:

```
* /dev/dsk/dks0d2s7 (bootfile "/unix")
*     512 bytes/sector
*     125 sectors/track
*       5 tracks/cylinder
*    6715 cylinders
*       5 cylinders occupied by header
*    6710 accessible cylinders
* Unallocated space:
*       Start         Size
*        3125      2094375
*
Partition Type  Fs   Start: sec   (cyl)    Size: sec    (cyl)  Mount Directory
 7          xfs          2097500  (3356)      2099375   (3359)
 8       volhdr                0  (   0)         3125   (   5)
10       volume                0  (   0)      4196875   (6715)
```

Setting Up the Network

After installing the patches, an additional step is necessary before the AvidNews software can be loaded. The system must be named and assigned an IP address as follows.

The following example shows the News Server A installed with a host-name of wavd_a and IP address of 10.100.21.114:

1. Set the hostname of the News Server (it should end in _a for the News Server A and _b for News Server B).
2. At the `IRIS 4#` prompt, type **`hostname -s wavd_a`** and press Enter.
3. At the `IRIS 5#` prompt, type **`hostname`** and press Enter. The following appears:

   ```
   wavd_a
   ```
4. A type **`hostname`** and press Enter.
5. Edit the system ID file to match the hostname by typing **`cat /etc/sys_id`** and pressing Enter at the `IRIS 6#` prompt. The following appears:

   ```
   IRIS
   ```
6. At the `IRIS 7#` prompt, type **`ed /etc/sys_id`** and press Enter. The following appears:

   ```
   5
   ```
7. Type **`c`** and press Enter.
8. Type **`wavd_a`** and press Enter.
9. Type period (**`.`**) and press Enter.
10. Type **`w`** and press Enter. The following appears:

    ```
    9
    ```
11. Type **`q`** to quit and press Enter.

12. At the `IRIS 8#` prompt, type **`cat /etc/sys_id`** and press Enter. The following appears:

    ```
    wavd_a
    ```

    Edit the hosts file by typing **`ed /etc/hosts`** and pressing Enter at the `IRIS 9#` prompt. The following appears:

    ```
    838
    ```

    The following example appends an entry on the News Server with the desired IP address and any alias names.

    a. Type **`a`** and press Enter.

    b. Type **`10.100.21.114 wavd_a wavd_a.avid.com wavd_a.local`** and press Enter.

    c. Type **`10.100.21.115 wavd_b wavd_b.avid.com wavd_b.local`** and press Enter.

    d. Type period (**`.`**) and press Enter.

    e. Type **`w`** and press Enter. The following appears:

    ```
    1039
    ```

    f. Type **`q`** to quit and press Enter.

13. Setup the network interfaces. The built-in `ec0` interface will be the mirror network, it should be named <*systemname*>_a for News Server A and <*systemname*>_b for News Server B. The `ec1` interface should have the same name with the number one added to the end of it. The `ec1` interface will be the device network. See the following example:

    a. Type **`ed /etc/config/netif.options`** at the IRIS 10# prompt.

    ```
    2441
    ```

    b. Type **`/: if/`** and press Enter. The following appears:

    ```
    #  before or after the = character (for example:
    if1name=fxp1).
    ```

    c. Type **`//`** and press Enter. The following appears:

    ```
    : if1name=
    ```

    d. Type **`c`** and press Enter.

e. Type **`if1name=ec0`** and press Enter.

f. Type period (**`.`**) and press Enter.

g. Type **`//`** and press Enter. The following appears:

```
: if1addr=$HOSTNAME
```

h. Type **`c`** and press Enter.

i. Type **`if1addr=wavd_a`** and press Enter.

```
if1addr=wavd_a
```

j. Type period (**`.`**) and press Enter.

k. Type **`//`** and press Enter. The following appears:

```
: if2name=
```

l. Type **`c`** and press Enter.

m. Type **`if2name=ec1`** and press Enter.

n. Type period (**`.`**) and press Enter.

o. Type **`//`** and press Enter. The following appears:

```
: if2addr=gate-$HOSTNAME
```

p. Type **`c`** and press Enter.

q. Type **`if2name=wavd_a1`** and press Enter.

r. Type period (**`.`**) and press Enter.

s. Type **`w`** and press Enter. The following appears:

```
2431
```

t. Type **`q`** to quit and press Enter.

14. Check the timezone setting on the system and change it if necessary.
    - Change the `P` in the `TZ=PST8PDT` statement.
      - P — Pacific
      - M — Mountain
      - C — Central
      - E — Eastern
    - Change the number to reflect the number of hours behind the standard time.
      - 5 — Eastern
      - 6 — Central
      - 7 — Mountain
      - 8 — Pacific

    See the following example:

    a. Type **`cat /etc/TIMEZONE`** at the `IRIS 11#` prompt.

    ```
    #ident  "@(#)sadmin:etc/TIMEZONE        1.2"
    #ident  "$Revision: 1.6 $"
    # Set timezone environment to default for the News Server
    TZ=PST8PDT
    ```

    b. Type **`ed /etc/TIMEZONE`** at the `IRIS 12#` prompt.

    ```
    128
    ```

    c. Type **`/TZ/`** and press Enter. The following appears:

    ```
    TZ=PST8PDT
    ```

    d. Type **`c`** and press Enter.

    e. Type **`TZ=EST5EDT`** and press Enter.

    f. Type period (**`.`**) and press Enter.

    g. Type **`w`** and press Enter. The following appears:

    ```
    128
    ```

    h. Type **`q`** to quit and press Enter.

15. Reboot the News Server.

When the News Serves boots, verify its proper IP address with the `ifconfig` command.

1. At the `IRIS 13#` prompt, type **`sync`** and press Enter.
2. At the `IRIS 14#` prompt, type **`reboot`** and press Enter.

```
Shutdown started.     Thu Mar  5 06:23:12 PST 1998
INIT: New run level: 6
The system is shutting down.
Please wait.
Running power-on diagnostics...
Starting up the system...
IRIX Release 6.3 IP32 Version 12161207 System V Copyright
1987-1996 Silicon
Graphics, Inc.
All Rights Reserved.
Mar  5 09:24:33 xlv_labd[40]: There are no XLV labels on any
disks.
The system is coming up.
```

3. At the log in prompt type **`root`** and press Enter.

```
IRIX Release 6.3 IP32 wavd_a
Copyright 1987-1996 Silicon Graphics, Inc. All Rights
Reserved.
Last login: Thu Mar  5 09:26:47 EST 1998 on ttyd1
```

4. Type **`ifconfig ec0`** at the wavd_a 1# prompt to verify the IP address.

```
ec0: flags=c23<UP,BROADCAST,NOTRAILERS,FILTMULTI,MULTICAST>
inet 10.100.21.114 netmask 0xff000000 broadcast
10.255.255.255
```

Glossary

10Base-T Low-cost point-to-point 10Mb/sec Ethernet using four unshielded twisted pairs (UTP) of wire (only two pairs are actually used) with RJ-45 connectors.

100Base-T Low-cost point-to-point 100Mb/sec Ethernet using four unshielded twisted pairs (UTP) of wire (only two pairs are actually used) with RJ-45 connectors.

absolute time The time assigned to a clip when it was encoded.

account A level of authorization assigned to individuals using AvidNews. This determines the type of information users can access and the actions they can perform. Account types include user, user manager, superuser, and system administrator.

alias A code of up to 12 alphanumeric characters. The alias substitutes individual user names and automates the distribution of a mail story to a group of people.

anchor 1. The on-air talent presenting a newscast to a television audience. Also called a *presenter*.
2. The indicator in a story panel that links a script to production information.

ASCII American Standard Code for Information Interchange. The standard that governs the recording of characters by a sequence of binary digits, as in a computerized timecode or video-editing system.

auto-backup A function in AvidNews that writes a backup copy of an open story to a user's local disk at specified time intervals.

auto-refresh A queue attribute that automatically redisplays the queue screen whenever changes are made to the queue.

autoscript A mode in which the production cue area of a story is automatically displayed if production cues are in the story. If there are no production cues added to a story, the story is displayed unscripted.

backtime The exact time when a story in a newscast must start in order for the show to remain on schedule. Television newscasts typically use back-time to ensure that the newscast ends precisely as scheduled.

baud Unit for measuring the rate of the digital data transmission. Usually one baud equals one bit per second.

branch A subordinate segment of the directory as displayed in the directory panel.

Broadcast Control System (BCS) A product produced by Avid Technology that works with AvidNews to run a show's production devices, such as character generators, still-stores, and videotape devices.

bulletin An incoming wire story coded as high-priority by a wire service; it is fed directly into the AvidNews "priority" queue. Users are informed of its arrival with both an audio signal and lightning bolt icon in the status portion of the workspace.

clip A segment of digitized source material.

connect To call a service that is either local (such as an archive system) or remote (such as Nexis). In AvidNews, users connect to services to access data.

cue See *production cue*.

cume (cumulative) time The amount of airtime required from the beginning of the show up to a certain point in the show in order for the show to remain on-schedule. It is displayed with each entry in a rundown queue. Cume time is used by producers when building, ordering, or airing a newscast.

DAT Digital audiotape. A digital audio recording format that uses 3.8mm-wide magnetic tape in a plastic cassette.

DEAD queue A queue containing stories that have been either deleted by users or purged automatically by the system. These stories are recycled automatically as new space is required.

device Any computer peripheral of hardware component (such as printer, mouse, monitor, or hard disk) capable of receiving or sending data.

directory panel An area in the workspace that displays the hierarchy of folders and queues in AvidNews. Users can use the directory panel to navigate through the system.

duration The length of a show or story. It is calculated by using the elapsed time in a broadcast when a story begins.

easy lock A feature that allows a user to open a queue or story while preventing others from doing the same. It is similar to a key lock, but is created without a key. Therefore, others cannot be granted access. See also *lock*, *key lock*.

Edit Decision List (EDL) A list of edits made during offline editing and used to direct the online editing of the master.

edit lock A feature that prevents two people from working in a story simultaneously. The AvidNews system automatically places a story in edit-lock mode when a user is working in a story, and a user can also manually edit lock a story.

encode The process of converting analog video to a digital form.

Ethernet A standard for connecting computers in a local area network (LAN). The actual technicalities are based on a Collision Sense Multiple Access protocol (CSMA).

export 1. To create an EDL from a sequence.
2. To conform a sequence.

extract To remove a selected area from an edited sequence and close the resulting gap in the sequence.

float To temporarily suspend a story. The story's time is removed from the show timing. Float time is also ignored by the teleprompter and machine control. Floating is used when you are not sure whether or where to put a story in a rundown.

form A preformatted layout (template) containing the fields and the field positions (such as anchor and writer) required for a story. The form serves as a copy master when creating a new story.

gigabyte (GB) Approximately one billion bytes (1,073,741,824 bytes) of information.

hard out A story in a newscast that has a fixed start time, usually at the end of a segment or show. It is manually entered into the system.

headframe A single frame that can be used to help visually identify a clip, a subclip, or a sequence.

high resolution Digital video of a resolution suitable for broadcast.

IN point Starting point of an edit. Also known as a *mark IN*.

insert The process of including a subclip into a sequence.

IP address Internet Protocol address. This is a 32-bit numeric identifier usually expressed as four groups of 8-bit decimal numbers (0 to 256) separated by dots, as in 192.168.0.1.

ISA Industry Standard Architecture. A bus standard used in personal computers.

key A special alphanumeric code that a user assigns to a queue or story to lock it. To open, or unlock, a queue or story, a user must have the key. See also *lock*, *easy lock*, *key lock*.

key lock A feature that allows a user to lock a queue. To open the key-locked queue, all users (including the individual who put the key lock on the queue) must know the "key" if they want to open, move, duplicate, print, or delete the queue. See also *lock*, *easy lock*.

kill To delete a story and place it in the DEAD queue.

lineup See *rundown*.

load The process of opening a clip into the editor in preparation for viewing or editing.

Local Area Network (LAN) This is a network of computers located in a common environment, such as in a building or building complex.

lock To protect a queue or story from access by unauthorized users. A queue or story can be locked and unlocked with a key or by a username specific lock. See also *key*, *easy lock*, *key lock*.

low resolution Digital video of a resolution suitable for edits.

marker A mark added to a selected frame to qualify a particular location within a sequence.

Messages of the Day window A window that displays one or more messages for AvidNews system users when they log in to the system.

mirroring A fault tolerance method that keeps identical copies of data on disk partitions located on different physical hard disks and servers.

multimedia In computing, multimedia refers to the presentation of information on a computer using sound, graphics, animation, and text.

network A group of computers and other devices connected together so they can communicate with each other.

network address A network number that uniquely identifies a network cable segment. It is also referred to as the IPX external network number.

order lock A temporary lock that the AvidNews system places on a queue when a user changes a sequence of stories in that queue. Order locking does not prevent other users from accessing the queue, but does prevent them from ordering the queues simultaneously.

OUT point End point of an edit, or a mark on a clip indicating a transition point. Also known as a *mark OUT*.

out time The total length of time for a show (shown in hours, minutes, and seconds) or the actual time by which the show must end (shown in 12-hour-clock time). See also *backtime*.

panel A part of a workspace. In AvidNews, the three panels are the directory panel, queue panel, and story panel.

partition A method of assigning disk space, creating two or more virtual disks from a single physical disk (similar to creating a directory).

password A word a user enters when logging in to the AvidNews system. Passwords are alphanumeric and must be between 5- and 12-characters long.

pathname The hierarchical name of the directory and queue in which a story is located. For example, the pathname for the YANKEES queue is WIRES.SPORTS.STORIES.YANKEES.

PCI Peripheral Component Interconnect. A bus standard used in newer computers.

player controls The electronic equivalent of a tape-deck controls.

priority queue 1. An area where AvidNews places copies of wire stories (usually in WIRES.ADVISORY.PRIORITY).
2. IA queue designated to be read first by a server program for new stories.

production cue A prompt to start a story element, such as a video playback. In AvidNews, it is typically to the left of a scripted story, and provides information for other devices being controlled in the rundown. Production cues are usually prefaced by an asterisk (*).

purge To remove stories from queues (based on age) and place them in the DEAD queue. Purged stories are recycled as needed as new space is required. See also *purge interval*.

purge interval A queue trait that indicates the time after which a story is considered "old." AvidNews will scan the entire database hourly and purge old stories from a queue.

queue An area of the database that contains stories related to a general topic.

queue form The area used to display the contents, size, and labels of a queue panel.

queue panel An area in the AvidNews workspace that contains a list of the stories in a queue. Users can add, delete, and sequence stories in the queue panel.

queue property A trait that controls the characteristics of an AvidNews queue. Queue properties include the refresh trait, read-only purge interval, sorting, and so on.

read access Authority granted to users that allows them to read and duplicate the contents of a directory, queue, or story.

read rate The number of words per minute at which a talent can read a news story. The system determines the total running time of a newscast based on the read rate of the assigned anchor.

refresh A queue property or trait that automatically updates your screen's display of the queue when changes are made to that queue by another user or by the system.

relative-to-mark time Time is displayed as though the start of the clip is at the locator mark.

relative-to-start time Time is displayed as though the start of the clip is at 00;00;00;00.

remote service An archival system, bulletin board, or any information service that allows you to establish a connection to another service.

results queue An area in AvidNews in which the results from a Find All search are placed.

roll To play a video. The digital equivalent of starting the tapedeck.

RS-232 The Electronic Industries Association standard for short-range serial control.

RS-422 The Electronic Industries Association standard for medium-range serial control.

rundown queue A lineup of stories included in a newscast. A rundown queue usually contains a backtime or cume time form field to display the timing of the newscast.

SCO Santa Cruz Operation UNIX operating system.

Scratchpad A buffer in which text or notes are stored until the appropriate recovery procedures is performed. Deleted text and notes are stored in the Scratchpad. It is separate from the Windows Clipboard and allows clippings to be accumulated.

script A story that is read on the air. Typically, a script also contains production cues and references to the related media annotations.

SCSI Small Computer System Interface is an industry standard with guidelines for connecting peripheral devices (such as hard drives and tape backup systems) and their controllers to a microprocessor. The SCSI, commonly pronounced "scuzzy," interface defines standards for hardware and software to communicate between a host computer and a peripheral device. Computers and peripheral devices designed to meet SCSI Specifications are normally compatible.

selection bar The box at the left edge of a queue panel that, when clicked, selects a story and all of that story's details.

server A special program the system uses to handle the distribution of stories internally.

session The way in which a workspace is customized. Toolbars, workspace layout, and preferences can be customized and saved with a session.

sorted queue A queue in which stories are sorted according to criteria specified by the system administrator.

source queue A queue from which stories are copied or moved.

story A uniquely identified file containing text; stories are grouped in queues.

story form An area at the top of a story panel that contains information about a story, such as its title, length, or status.

story panel An area in the AvidNews workspace that displays the story form, text, and production cues of a story.

subclip An edited part of a clip. In a sequence, a subclip is bound by *mark IN* and *mark OUT* points.

superuser A user account that is given access to restricted functions in the AvidNews system. Only a system administrator can assign superuser status.

system administrator A person responsible for maintaining the AvidNews system and keeping all functions operating properly.

TCP/IP Transmission Control Protocol/Internet Protocol is a platform-independent protocol for intercomputer communication.

time bar A graphical representation of the duration of a clip, including an indication of the current position and the IN and OUT marks.

user An individual who has a valid user account in the AvidNews system.

user ID A special alphanumeric code that identifies a user account in the AvidNews system. A user ID can be up to 20-characters long.

user manager A user ID given the authority to add, modify, delete, and search for information about user accounts. User manager status can be assigned by a system administrator only.

user name The word established to identify the individual user. Enter your user name and your password to log in. User names are alphanumeric and are up to 20-characters long.

video clip See *clip*.

Windows A graphical shell operating environment that runs on top of DOS. It contains many accessories and features that access DOS functions such as file, program, and printer management. Windows is referred to as a GUI (Graphical User Interface).

Windows NT Microsoft Windows New Technology Operating System, that implements protected process multitasking, security, and other features of traditional operating systems, while maintaining a high level of compatibility with Windows 95.

wire bulletin See *bulletin*.

workspace The area within the AvidNews main window consisting of the directory panel, queue panel, and story panel. This area is where users can view, add, edit, and delete information.

write access The ability to add new stories, edit existing stories in a particular queue, add a queue, or add a directory.

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