RISC Router 3000E
Installation Guide

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RISC Router 3000E Installation Guide, Version 1.01

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Chapter 1 - Introduction

About the RISC Router 3000E

Congratulations on your purchase of the RISC Router 3000E multiport Ethernet router. The RISC Router 3000E supports the IP, IPX, AppleTalk, and DECnet protocols, with spanning-tree bridging support provided for other protocols.

This manual will help you install the RISC Router 3000E to connect two local Ethernet segments to one another. The RISC Router 3000E's serial ports may optionally be set to provide two LocalTalk ports. These segments may be connected to other Compatible Systems routers, or to routers from other vendors.

In short, the installation steps are:

1. **Install** the RISC Router hardware and connect it to your Ethernet segments.
2. **Select** the management method you wish to use with the router. If you want to use the RouterView management software, you must install the software on a Windows PC or Macintosh computer which is connected to your network.
3. **Configure** the RISC Router LAN parameters using the management method you have chosen.

If you have any difficulties during the installation or use of the RISC Router that are not answered by this guide, please call Compatible Systems Corporation or your RISC Router 3000E reseller. Compatible Systems' phone number is listed on the front of this guide. We will be happy to help you.

The manual is divided into several sections that should provide you with all the information you will need to use the RISC Router 3000E on your network.

Getting Started

This part of the manual describes the contents of the RISC Router 3000E package and emphasizes the preparation and equipment you will need to install the router.

Hardware Installation

Here you will find step-by-step instructions on how to physically install the RISC Router 3000E and connect it to your local Ethernet segments. Instructions are included for thick, thin, and twisted-pair Ethernet environments. Instructions are also included for choosing between Serial and LocalTalk operation, and for connecting devices to these ports.

RouterView Software Installation

If you plan to use RouterView, Compatible Systems' GUI (Graphical User Interface) management software which is included with your router, then read this section. Instructions are provided on how to install RouterView for Windows or Macintosh environments.

Command Line Preparation

If you have decided to use command line management, either out-of-band (through the AUX port), or in-band through Telnet, read this section.

Quickstart Configuration

The Quickstart section provides a list of parameters that must be entered into a router for proper operation.

Appendices

Additional information that might be of interest to you such as technical specifications and a quick reference to specific information can be found at the end of this guide.

Chapter 2 - Getting Started

A Few Notes

Please Read The Manuals

The manuals included with your RISC Router 3000E contain some very important information about the RISC Router 3000E and local and wide area networking in general. Please read this manual thoroughly, and refer to the management reference guides as required. It's worth the few minutes it will take.

Also, please fill out the warranty registration card and return it to us today. This will help us keep you informed of updates to the RISC Router 3000E and future products available from Compatible Systems.

Warranty and Service

The RISC Router 3000E is covered by the Compatible Systems Integrated Support Package, which includes a three-year comprehensive warranty, a twenty-four hour advanced replacement program, unlimited phone support, and software upgrades for the life of the product.

Compatible Systems maintains copies of current software updates on the Internet, CompuServe, AppleLink, an ARA server, and a bulletin board. You may download product software from any of these sources at any time. For more information on downloading current product software, see the appendices for this manual.

Getting Help With the RISC Router 3000E

If you have a question about the RISC Router 3000E and can't find the answer in this manual, feel free to call our technical support department at (800) 356-0283. You may also send support questions via e-mail to *support@Compatible.COM*.

What You Will Need To Get Started

Before connecting the RISC Router 3000E, please check the list below to make sure that you have received all of the items that are supplied with the RISC Router 3000E package.

You should also make sure you have any additional items that are necessary to connect the router to your network.

Supplied with the RISC Router 3000E

Please check your shipping package for the following items:

- RISC Router 3000E unit
- Rack-mount kit
- Power cord
- One DIN-8 to DB-25 auxiliary port cable
- Windows RouterView diskette
- Macintosh RouterView diskette
- Windows download software diskette
- Macintosh download software diskette
- RouterView reference guide
- Command line reference guide
- Warranty registration card

❖ **Note**: *Some routers may be shipped with an RS-232 "Y" cable. This cable can be used for auxiliary port operation.*

Needed For Installation

Before connecting the RISC Router 3000E to your network, you need to make sure that you have the necessary equipment and network taps for connecting to your local Ethernet segments.

Ethernet Connection Requirements

The RISC Router 3000E's Ethernet ports directly support thick, thin, and 10BaseT twisted-pair Ethernet. Changing the Ethernet media type

on a port requires setting an external switch – simply plug the proper Ethernet connector into the connector and then set the switch to point to the connector.

Other Ethernet cabling types (fiber optic cabling or pre-10BaseT twisted-pair) can be supported using adapters which connect to a thick Ethernet port.

Thick Ethernet

To connect one of the router's Ethernet ports to a standard (thick) Ethernet cable you will need a transceiver cable connection at the correct location on your Ethernet cable. The transceiver cable will attach directly to the DB-15 connector on the router.

Thin Ethernet

In order to connect the router to a thin Ethernet cable, connect a T-connector to one of the BNC connectors located on the rear panel of the unit.

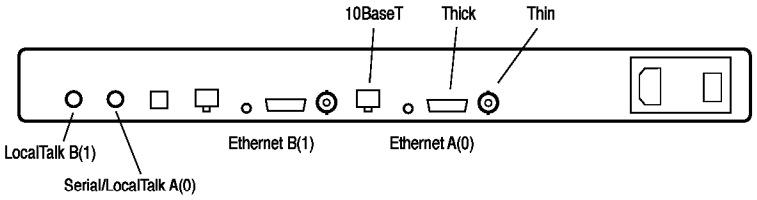
10Base-T Twisted-Pair Ethernet

To connect one of the router's Ethernet ports to twisted-pair Ethernet cabling you will need an unshielded twisted-pair wire that is connected to a 10BaseT-compatible twisted-pair hub.

❖ **Note**: *Ethernet cables and cable connectors are not supplied with the RISC Router product. Please contact your reseller or your Compatible Systems representative for information on obtaining the correct Ethernet cabling supplies.*

❖ **Note**: *These hardware installation instructions assume that your Ethernet cabling is already in place. Thin coaxial Ethernet network cabling should be terminated at each end with 50 Ohm terminator plugs. A T-connector or transceiver must be available in the location where you will be installing the router.*

Chapter 3 - Hardware Installation



3000E Back Panel

This section of the manual describes how to connect the RISC Router 3000E to your Ethernet network segments. In summary, the steps for installation are:

1. **Make sure the router is powered down and not plugged in to the wall.**
2. **Wall or rack-mount the router, if required.**
3. **Connect the router to the Ethernet network segments.**
4. **Plug in the power cable and power up the router.**

Mounting the Router

The RISC Router 3000E can be mounted in a variety of different ways, or can be left standalone on a desktop or equipment table.

❖ **Note**: *When stacking other equipment on the RISC Router 3000E, do not exceed 25 pounds of evenly distributed weight on top of the router. Additional weight may bend the case.*

A rack mounting kit is included with the router.

19" Rack Front Mount

Install the rack-mount ears on the sides of the case towards the front, using the screws provided. Position the ears so that they are flush with the front of the case. The slotted holes in the ears will mate with the mounting holes in a standard 19" rack.

❖ **Note**: *The RISC Router 3000E is 1U high when its bottom-mounted rubber feet are removed. If you intend to mount the unit in a 1U space, make sure your equipment rack is well ventilated. Otherwise, thermal problems may occur.*

Connecting the Router to the Ethernet

For thick and thin Ethernet networks you should have installed your Ethernet cabling before you install the RISC Router 3000E.

If you have a coax installation, the Ethernet network cable should be terminated at both ends with 50 Ohm network terminating resistors, and a T-connector or transceiver should be available at the location where you will connect the router.

If you are installing a twisted-pair connection, and the twisted-pair hub is already in place, or a T-connector or thicknet transceiver is already installed on your Ethernet cable, you can connect the router to an active network without interrupting network activity.

The RISC Router 3000E's Ethernet interfaces feature three media connector types. The active media connection will be selected based on the media switch setting for that port.

Connecting to Thick Ethernet

To connect the router to a thick Ethernet network, simply plug one end of a transceiver cable into one of the DB-15 transceiver connectors located on the back panel of the unit. Then, plug the other end of the transceiver cable into the transceiver which should already be attached to the thick Ethernet cable.

Connecting to Thin Ethernet

In order to connect the router to a thin Ethernet cable, connect a T-connector to the BNC connector located on the rear panel of the unit.

Connecting to Twisted-Pair Ethernet

Before connecting the router to twisted-pair cabling you need an unshielded twisted-pair cable that is already connected to your 10BaseT-compatible twisted-pair hub.

To connect the router to the twisted-pair network, simply plug the twisted-pair cable into one of the RJ-45 connectors on the back of the unit.

Connecting an Out-of-Band Management Console

If you wish to connect an out-of-band management console, use the supplied auxiliary cable and connect it to Serial/LocalTalk port A on the back of the RISC Router 3000E. Then configure port A for serial operation by setting the test switch on the back of the unit to position 1.

You can use a dumb terminal or a computer equipped with VT100 terminal emulation to communicate through this port.

The default baud rate for serial port operation is 9600.

❖ **Note**: *During operation, you do not need to cycle power for changes between switch position 0 (LocalTalk) and switch position 1 (Serial) to become active.*

❖ **Note**: *Port A will also automatically be set for serial port operation if both LocalTalk channels (A & B) are turned off using Telnet or RouterView.*

Powering Up the Router

Power up the router by plugging it in and turning on the power switch located at the far right of the back panel. At power-up, the router will take approximately one minute to become visible to RouterView.

❖ **Note**: *If you want to use Telnet as a management method, you must configure an IP address into the router using an out-of-band console or RouterView before you will be able to contact the router.*

Chapter 4 - RouterView Software Installation

All of the routers in Compatible Systems' multiprotocol family, including all MicroRouter and RISC Router models, can be managed from a single management platform called RouterView. Both a Windows and a Macintosh version of RouterView were included with your RISC Router 3000E.

❖ **Note:** *Although the installation procedures for the Windows and Macintosh versions of RouterView are slightly different, the programs themselves are virtually identical. Once you have installed RouterView on the platform of your choice, you can find more information on how to use it in the RouterView Reference Guide which was included with your router.*

RouterView for Windows

RouterView for Windows allows you to manage the RISC Router 3000E from an IBM-compatible PC running Windows. The PC can either be configured as an IPX ODI client on a Novell NetWare internet, or as an IP WinSock client on an IP internet.

System Requirements

In order to successfully run RouterView for Windows, you need:

- IBM PC or compatible w/ 386 or later processor
- Windows 3.1 or Windows for Workgroups installed
- VGA or better monitor

And either (or both) of:

- Novell IPX client configuration on a NetWare network, using IPXODI.COM
- WinSock client configuration on an IP network

❖ **Note:** *The "IPX 101" appendix to the RouterView Reference Guide contains some tips on getting Novell's IPX ODI running on your client machine.*

❖ **Note:** *To force a Windows machine which has both IPX and IP installed to use IP, you must select IP operation in RouterView's options window, which can be selected via the Administration menu.*

Installing and Running RouterView for Windows

This version of the RouterView program can be found on a 3.5-inch diskette labeled "RouterView - Windows Disk" that was included with your RISC Router 3000E.

Start Windows. Insert the diskette into your computer's disk drive. At the Windows Program Manager, select "Run" from the File menu and type A:SETUP (where A: is the drive containing the RouterView diskette). This will invoke an auto-installation program supplied with RouterView.

The installation program will ask you to select (or create) a directory in which it should locate RouterView and its associated files and database subdirectory.

Once the installation is complete, double click on the RouterView icon to open the program. For further information on using RouterView, see the RouterView Reference Guide included with your router.

❖ **Note**: *RouterView will be able to use the transport protocol (IP or IPX) you have selected to access Compatible Systems routers anywhere on your internetwork. This means you can use the IP transport option to manage routers across the global Internet network if you are connected to it.*

❖ **Note**: *For an up-to-date description of the changes (if any) made to Windows system files by the installation program, see the* README.TXT *file located in the RouterView installation directory.*

RouterView for Macintosh

RouterView for Macintosh allows you to manage the RISC Router 3000E from an Apple Macintosh or compatible computer. RouterView for Macintosh uses the AppleTalk protocol to communicate with the router.

System Requirements

A Macintosh version of RouterView was included with your router. You can run RouterView from any Macintosh on your network that meets the following technical specifications:

- Macintosh with 68030 or later processor (including PowerPC)
- System 7.0 or later.

❖ **Note**: *Although older Macintoshes such as SE/30's and IIsi's will run RouterView adequately for infrequent use, a newer/faster machine is preferable for larger networks where RouterView will be used more often.*

Installing and Running RouterView for Macintosh

To install RouterView for Macintosh, simply insert the RouterView diskette into the floppy drive of your Macintosh. Then double click on the self extracting archive (.sea) icon. You will be asked where you would like to install your copy of the RouterView program and data files.

Once the installation is complete, double-click on the RouterView icon and the program will start up and ask you to select/create a location for its database. Once the database has been created, this message will not reappear when you run RouterView.

For further information on using RouterView, see the RouterView Reference Guide included with your router.

Chapter 5 - Setting Up Command Line Management

The command-line interface allows you to configure and monitor the router in-band via Telnet or out-of-band with a terminal connected to the RISC Router 3000E's AUX port.

Telnet is a remote terminal communications protocol based on TCP/IP. With Telnet you can log into and manage the router from anywhere on your IP internetwork, even across the global Internet if you choose. To do this, you must run Telnet client software on your local computer, which will communicate with the Telnet server built into the router.

In order to be able to access the command-line interface via Telnet, you must first set some IP parameters in the router. You can do this through Serial Port A using a terminal or a PC with terminal emulation software, or with RouterView if you prefer.

After the IP parameters are set, you can complete the configuration in-band with Telnet.

Out-of-Band Command-Line Management

Set a terminal or a PC to a baud rate of 9600, and connect it to the router's Serial Port A using the auxiliary cable which was supplied with the router. Press the <Return> key three or four times.

Enter the default password ***letmein*** at the password prompt. The command line interface prompt will appear on the screen.

For further information on using the command line interface, see the Command Line Reference Guide that was supplied with your router.

❖ **Note**: *Port A will operate in Serial mode if the test switch on the back of the RISC Router 3000E is set to position 1. It will also automatically be set for Serial mode if both LocalTalk channels (A & B) are turned off using Telnet or RouterView.*

Setting Up Telnet Operation

Before being able to access the command line interface via Telnet, you will need to complete basic IP configuration for the port which you will connect through.

This can be done using the **set ip** commands from a console. For more information on these commands, see the Command Line Reference Guide which was supplied with your router.

The required parameters for Telnet operation are the IP address, IP subnet mask, and IP broadcast address. To change the configuration parameters in the RISC Router 3000E, you will have to enter a requested password. The default password is ***letmein***.

After you have set these basic IP parameters, you can use Telnet to access the router from any node on your IP internetwork. Invoke the Telnet client on your local computer with the IP address of the router you wish to manage.

❖ **Note**: *Proper syntax is vital to effective operation of the command line. Case is not significant – you may enter commands in upper case, lower case, or a combination of the two.*

Chapter 6 - Quickstart Instructions

This Quickstart section briefly discusses the major parameters that must be set in order to use the router.

There are a number of parameter settings which are optional, in the sense that they are not required for all installations. These settings are not covered in this section.

In this section:

RV = RouterView

CL = Command Line

❖ **Note**: *Considerably more information on the meaning of the router's parameters is provided in the RouterView Reference Guide and the Command Line Reference Guide. You should use this list as a starting point to look up more specific information in the other documents. If you need more general information on the protocols, see the Appendices in the RouterView Reference Guide.*

Ethernet Port Configuration

With proper planning, you should be able to configure both of the RISC Router 3000E ports at once. Once you have saved the configuration in the router, run some quick tests from workstations on the configured segments to check your configuration parameters (i.e. IP ping tests, mounting IPX servers, etc.).

Don't forget to save your configuration to a file using RouterView, or to note the configuration parameters if you are using the command line.

IP Protocol

Required for IP

These parameters set the basic address characteristics of the port. They provide enough information for another IP node to find the port (such

as a Telnet client), but not enough information for routing to take place.

- IP Address
- IP Subnet Mask
- IP Broadcast Address

RV: Use the Ethernet/IP screen to set these parameters.

CL: Use the **interface**(misc) and **ip**(set) commands.

Suggested for IP

These parameters help supply information about the segment (or bridge group) that the port is connected to. With this information, routing can take place.

- IP RIP (Routing Information Protocol)

and/or

- IP Static Routes

RV: Use the Ethernet/IP screen to set RIP, and the IP Static Routing Window (All/IP) to set static routes.

CL: Use **interface**(misc) and **ip flags**(set) to set RIP, and **ip route**(add) to add static routes.

❖ **Note**: *IP Bridging is turned ON in the default configuration which is shipped in the RISC Router 3000E. If you wish to leave IP bridging on, you should configure the bridge port with the information listed above. If you wish to route IP, you need to first turn IP bridging off using the Ethernet/IP RouterView screen, or the* ***interface****(misc) and* ***bridge****(set) commands.*

IPX Protocol

Required for IPX

There are generally no required changes from the shipping Ethernet configuration for IPX. The Ethernet port will autoconfigure to use the two most common IPX frame types, and will autoadapt to conditions on the Ethernet.

Suggested for IPX

You may want to set your own network numbers, rather than using the autoconfigured values. You may also want to turn off unused frame types.

RV: Use the Ethernet/IPX screen.

CL: Use **interface**(misc) and **ipx**(set).

AppleTalk Protocol

Required for AppleTalk

There are generally no required changes from the shipping Ethernet configuration for AppleTalk. The Ethernet port will autoconfigure to use AppleTalk Phase II, and will autoadapt to conditions on the Ethernet.

Suggested for AppleTalk

You may want to set your own network numbers, rather than using the autoconfigured values. You may also want to use more meaningful zone names.

RV: Use the Ethernet/AppleTalk screen.

CL: Use **interface**(misc) and **appletalk**(set).

DECnet Protocol

Required for DECnet

The router's shipping configuration does not have DECnet turned on. You must turn it on and set several DECnet parameters.

- Turn DECnet on
- Set DECnet area
- Set DECnet node

RV: Use the Main DECnet screen (All/DECnet).

CL: Use **decnet**(set).

Suggested for DECnet

Setting the parameters above should be adequate for most installations.

LocalTalk Port Configuration

Before attempting to use LocalTalk, make sure that the test switch on the back of the router is set to position 0. Otherwise, the ports will be forced to Serial operation.

AppleTalk Protocol

Required for AppleTalk

There are generally no required changes from the shipping LocalTalk configuration for AppleTalk. The LocalTalk port will autoconfigure, and will autoadapt to conditions on the network.

Suggested for AppleTalk

You may want to set your own network numbers, rather than using the autoconfigured values. You may also want to use more meaningful zone names.

RV: Use the LocalTalk/AppleTalk screen.

CL: Use **interface**(misc) and **appletalk**(set).

IP Protocol

Required for IP

There are two different ways of setting IP parameters for a LocalTalk port. The "forwarding" method is the most widely used, and is suggested for quickstart applications.

- IP On
- IP Forwarding
- First IP Address in Range
- Number of Dynamic Addresses

RV: Use the LocalTalk/IP screen to set these parameters.

CL: Use the **interface**(misc) and **ip-macip**(set) commands.

Suggested for IP

The parameters above are adequate for most simple IP LocalTalk installations.

Appendix A - Shipping Defaults

Ethernet Ports

IP Routing Defaults

- Off, both ports

IP Bridging Defaults

- On, both ports
- Address: 198.41.12.1
- Subnet Mask: 255.255.255.0
- Broadcast Address: 198.41.12.255
- IP RIP off

IPX Routing Defaults

- 802.3 on, autoseeding, both ports
- 802.2 on, autoseeding, both ports
- Type II off, both ports
- 802.2 SNAP off, both ports

IPX Bridging Defaults

- Off, both ports

AppleTalk Routing Defaults

- Phase 1 off, both ports
- Phase 2 on, autoseeding, both ports

AppleTalk Bridging Defaults

- Off, both ports

DECnet Defaults

- Off, both ports

Bridging Defaults

- On, bridging all non-routed protocols

LocalTalk Ports

AppleTalk Routing Defaults

- On, autoseeding, both ports

IP Routing Defaults

- Off, both ports

Appendix B - Connector and Cable Pin Outs

Pin Outs for DIN-8 to RS-232 Console Cable (DTE/Female)

DIN-8 (DTE)	RS-232		DB-25 Data (DTE/Female)	RS-232
1	RTS	->	5	CTS
2	CTS	<-	4	RTS
3	Tx Data	->	3	Rx Data
4	Ground	<->	7	Ground
5	Rx Data	<-	2	Tx Data
6	Tx Clock	<->	17	Tx Clock
7	DCD	<-	8	DCD
8	Rx Clock	<-	15	Rx Clock
Shield		<->	Shield	

Notes:

1. This cable is a null-modem DTE-to-DTE cable.

Appendix C - Light Patterns and Test Switch Settings

RISC Router 3000E Light Patterns

The RISC Router 3000E uses a number of light patterns on its front LED bars to indicate operating conditions.

Power On, No Traffic

The router will scan through both LED bars, from left to right, illuminating one element at a time.

❖ **Note**: *Lights 1 and 10 are directly connected to the router's 10BaseT interface and indicate 10BaseT link (1) and 10BaseT polarity (10). If link is on, then the router has a good connection to the hub. If polarity is on, then there is probably a wiring problem in the receive pair. The link light on the hub will indicate that the hub "sees" the router.*

Traffic Indicators (per LED Bar)

Scan from 3 to 5: Ethernet transmit packet

Scan from 8 to 6: Ethernet receive packet

Activity on 2: LocalTalk transmit packet

Activity on 9: LocalTalk receive packet

Other Indicators (on All LED Bars)

5 & 6 flashing: Router stacks starting up

3,4 & 7,8 flashing: Running from ROM

3,5 & 7,9 on solid: Erasing Flash ROM

2 to 9 (Bar A) & 9 to 2 (Bar B) rotating: Flash ROM erase due to switch setting five is complete. Set switch to zero and cycle power.

Level 1 Panic Indicators

Any continuous flashing pattern not noted above may be caused by a software "panic." This is a sign that a condition has been detected that

the software does not know how to deal with: either an unusual network condition, or a hardware failure.

❖ **Note**: *Level 1 panics are very unusual. These are not the same as the Level 2 panics which simply cause the router to save the reason for the panic and restart. Level 2 panic signatures will be noted by the command line or RouterView.*

RISC Router 3000E Switch Settings

0	**Normal Operation**
1	**Force Serial Operation on Serial/LocalTalk A**
2	Unused*
3	**Run Boot ROM Downloader**
4	Unused*
5	**Erase Flash ROM (OS and Configuration)**
6	Unused*
7	Unused*
8	Unused*
9	**Allow *letmein* password for 5 minutes after powerup**

Notes:

1. Settings marked with an asterisk may erase your Flash ROM. Please don't use these settings without first contacting Compatible Systems Tech Support.

Appendix D - Downloading Software From Compatible Systems

We make the latest versions of operating software for all Compatible Systems products available from a number of on-line sources. The latest versions of RouterView management software are also available at these locations.

To download software, select the proper source and follow the instructions below.

The Compatible Systems FTP Server

The FTP Server is accessible via the Internet. If your company does not have an Internet account, check the other sources.

1. FTP to ftp.Compatible.COM and login as "anonymous." Change the working directory to Compatible (cd Compatible). List the available directories (ls). Change the working directory to the appropriate directory (e.g. RISC Router).
2. To transfer the files from the FTP server, type "get" followed by the filename.
3. Disconnect from the FTP server.

❖ **Note**: *Uncompressed downloads (suitable for TFTP and RouterView Windows downloading) are stored as .dld files. Self-extracting Windows compatible style files (and RouterView for Windows itself) are stored as .exe files. Self extracting Macintosh style files are stored as .sea.bin (MacBinary) and/or .sea.hqx (Binhex) files.*

❖ **Note**: *These files are also accessible via the World Wide Web at* ***http://www.compatible.com***

CompuServe

Compatible Systems maintains a software library in the LAN Vendors Forum of the CompuServe on-line service. To access the software library, follow these steps:

1. Type the GO COMPATIBLE command. This will place you in the LAN Vendors Forum.
2. Compatible Systems may be found in section 12 of this forum. Follow the instructions provided by CompuServe regarding downloading files.

Bulletin Board

Compatible Systems administers a bulletin board that you can access using standard telecommunications software. The bulletin board supports modem settings of 8-N-1 and speeds up to 9600 Kbps. The BBS phone number is (303) 443-0845.

1. Type 'bbs' at the first login prompt.
2. Type "guest" at both the user and password query of the BBS login prompt. At any time after you login, you may type 'h' and receive a list of valid commands.
3. Once logged in, change to the files section of the BBS by using the 'F' command. Set the transfer protocol you wish to use (Zmodem is default) using the 'P' command.
4. Select the appropriate sub-board according to product and download the file(s) that you need via the 'd' command.

AppleTalk Remote Access Server

You can reach our AppleTalk Remote Access (ARA) server at (303) 444-8769. You must have Apple's ARA software to access this server.

1. Use the Chooser to select the server named "Compatible ARA Server" which is located in the "DemoNet Zone" zone. Select the "Guests" volume.
2. Login to the server as a guest.
3. Open the appropriate folder and simply drag the file onto your hard disk.

Appendix E - Terms and Conditions

Compatible Systems Corporation (Compatible Systems) offers to sell only on the condition that Customer's acceptance is expressly limited to Compatible Systems' terms and conditions of sale. Compatible Systems' acceptance of any order from Customer is expressly made conditional on assent to these terms and conditions of sale unless otherwise specifically agreed to in writing by Compatible Systems. In the absence of such agreement, commencement of performance or delivery shall be for Customer's convenience only and shall not be construed as an acceptance of Compatible Systems' terms and conditions. If a contract is not earlier formed by mutual agreement in writing, Customer's acceptance of any goods or services shall be deemed acceptance of the terms and conditions stated herein.

1. **Warranty**. Compatible Systems warrants to the Customer and to all persons who purchase Products from the Customer during the Warranty terms ("subsequent purchasers"), that, for a period of three (3) years from the date (the "shipping date") on which Compatible Systems ships the Products to the Customer: (a) the Product meets, in all material respects, all specifications published by Compatible Systems for such Products as of the shipping date; (b) the Products are free from all material defects in materials and workmanship under normal use and service; and (c) that as a result of the purchase of the Products from Compatible Systems, the Customer will have good title to the Products, free and clear of all liens and encumbrances.

Compatible Systems' obligations pursuant to this Warranty, and the sole remedies of the Customer and of any subsequent purchaser, shall be limited to the repair or replacement, in Compatible Systems' sole discretion, of any of the Products that do not conform to this Warranty.

This Warranty shall be invalidated if the Products (a) have not been installed, handled, or used in accordance with Compatible Systems recommended procedures; (b) have been damaged through the negligence or abuse of the Customer or of any subsequent purchasers; (c) are damaged by causes external to the Products, including (without limitation) shipping damage, power or air conditioning failure, or accident or catastrophe of any

nature; and (d) have been subjected to repairs or attempted repairs by any person other than Compatible Systems (or an authorized Compatible Systems service technician).

To obtain service under this Warranty, the Customer (or subsequent purchaser, if applicable) must follow the procedures outlined below, under "Product Return Policy."

THE WARRANTIES SET FORTH IN THESE TERMS AND CONDITIONS ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WITHOUT LIMITATION ON THE GENERALITY OF THE FOREGOING SENTENCE, COMPATIBLE SYSTEMS EXPRESSLY DISCLAIMS AND EXCLUDES ALL IMPLIED WARRANTIES OF MERCHANTIBILITY AND OF FITNESS (GENERALLY OR FOR A PARTICULAR PURPOSE).

2. **Shipments**. All delivery indications are estimated and are dependent in part upon prompt receipt of all necessary information to service an order. Compatible Systems shall not be liable for any premium transportation or other costs or losses incurred by Customer as a result of Compatible Systems inability to deliver Product in accordance with Customer's requested delivery dates. All shipments by Compatible Systems are made F.O.B. factory (Boulder, Colorado); risk of loss shall pass to Customer at point of shipment. Unless specified by the Customer, Compatible Systems will select the mode of transportation for each order. Compatible Systems reserves the right to make deliveries in installments. Partial shipments are subject to the terms of payment noted below. Compatible Systems reserves the right to allocate inventory and production if such allocation becomes necessary.

3. **Payment Terms**. Payment shall be made prior to shipment or upon delivery, unless otherwise agreed to in writing. Payment shall not constitute acceptance of the goods.

4. **Force Majeure**. All orders accepted by Compatible Systems are subject to postponement or cancellation for any cause beyond the reasonable control of Compatible Systems, including without limitation: inability to obtain necessary materials and components; strikes, labor disturbances, and other unavailability of workers; fire, flood, and other acts of God; war, riot, civil insurrection, and other disturbances; production or engineering difficulties; and governmental regulations, orders, directives, and restrictions.

5. **Product Return Policy**. Prior to shipping any Product to Compatible Systems, the Customer must contact Compatible Systems Technical Support (by letter or telephone) with the following information: (a) reason for return; (b) quantity, description, and model number, and (if applicable) serial number of each item being returned; (c) original Compatible Systems Sales Agreement number; and (d) any special instructions. Upon receipt of this information, Compatible Systems will issue an RMA ("Return Material Authorization") number and any required U.S. Customs identification to assure correct identification of the Customer and to insure prompt and accurate processing.

6. **Limitation of Remedies**. Compatible Systems' liability for all claims brought pursuant to or in connection with this agreement, including the purported breach hereof, shall be limited: (a) in the case of claims for breach of warranty, to compliance with the repair or replacement provisions of the warranty, and (b) in all other cases (including any claim that the warranty failed of its essential purpose), to actual damages of the Customer (or, if appropriate, of the subsequent purchaser). IN NO EVENT SHALL COMPATIBLE SYSTEMS BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ARISING OUT OF THE SALE, USE, INSTALLATION OR OPERATION OF THE PRODUCTS, WHETHER A CLAIM IS BASED ON STRICT LIABILITY, BREACH OF WARRANTY, NEGLIGENCE, OR ANY OTHER CAUSE WHATSOEVER, WHETHER OR NOT SIMILAR. This limitation on remedies shall apply even if Compatible Systems is advised of the possibility and nature of any special, consequential, or incidental damages.

7. **Governing Law; Merger**. This agreement and all Terms and Conditions hereof shall be governed by, and construed in accordance with the internal laws of the State of Colorado. Except as superseded by a separate written contract signed by both Compatible Systems and the Customer, superseding all prior negotiations or offers, written or oral, this agreement may be amended only in writing, signed by an authorized officer of Compatible Systems.