DIGITAL AlphaServer Intelligent Peripheral Platform Version 1 to 2

Upgrade Manual

Part Number: EK-IPV12-UM. A01

October 1997

October 1997

S3535

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Preface

Introduction

This document provides information for upgrading a first generation (Version 1) AlphaServer Intelligent Peripheral Platform (ASIPP) to a second generation (Version 2) system. Both simplex and duplex upgrades are included in the upgrade procedures.

Audience

This document is for service personnel and self-maintenance customers who are responsible for managing and upgrading AlphaServer Intelligent Peripheral Platform systems.

Organization

Chapter 1 explains the prerequisites for the upgrade.

Chapter 2 describes the hardware removal and replacement procedures for upgrading a simplex (single processor with single I-Bus ISA bus expansion chassis) Version 1 system to a Version 2 system. Upgrades are described with and without AlphaServer upgrades.

Chapter 3 describes the hardware removal and replacement procedures for upgrading a duplex (dual processor with dual I-Bus ISA bus expansion chassis) Version 1 system to a Version 2 system. Upgrades are described with and without AlphaServer upgrades.

Chapter 4 describes how to update the system firmware.

Chapter 5 contains instructions on how to update your configuration data.

Chapter 6 explains how to complete the upgrade, including software installation of DIGITAL UNIX and other layered software products.

Appendix A contains drawings for the AlphaServer Intelligent Peripheral Platform for Version 1.

Appendix B contains drawings for the AlphaServer Intelligent Peripheral Platform for Version 2.

Appendix C contains information for running the EISA Bus Configuration Utility (ECU).

Conventions

This document uses the following conventions:

Convention	Meaning
IP	Describes an industry-standard acronym for Intelligent Peripheral.
Note	A note calls the reader's attention to any item of information that may be of special importance.
Caution	A caution contains information essential to avoid damage to the equipment.
Warning	A warning contains information essential to the safety of personnel.
❶	Circled numbers provide a link between figures or examples and text.
Italic type	Italic type emphasizes important information, indicates variables, and indicates complete titles of manuals.

Related Documentation

The following table lists reference documents for the hardware and software upgrade for the AlphaServer Intelligent Peripheral Platform.

Document Title	Part Number
Digital AlphaServer Intelligent Peripheral Platform Hardware Owner's Guide	EK-ASIP2-OG
AlphaServer Intelligent Peripheral Fault Manager for DIGITAL UNIX Installation and User's Guide	AA-QN0FB-TE
AlphaServer Intelligent Peripheral Platform System Manager's Guide	AA-QUDJB-TE
Installation Manual for Dialogic Drivers for DIGITAL UNIX V4.2	QA-4AKAA-GZ

Reader's Comments

DIGITAL welcomes your comments on this or any other manual. You can send your comments to DIGITAL by mail to the following address:

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Requirements for Upgrading AlphaServer IP from V1 to V2

This chapter provides an overview of the requirements for upgrading an ASIPP from Version 1 to Version 2.

1.1 Hardware Requirements

Be sure to note the following hardware differences between the ASIPP V1 and V2 systems as shown in Table 1-1.

Table 1-1 Hardware Differences Between ASIPP V1 and ASIPP V2 Systems

Item	ASIPP V1	ASIPP V2
CPU Type	AlphaServer 1000 4/XXX	AlphaServer 1000A 5/400
• No. EISA/ISA slots	7	2
• No. PCI slots	2	7 (3 primary, 4 secondary)
• No. PCI/EISA combo slots	1	0
• Simplex	1	1
• Duplex	2	2
Alarm Control Module (Located in CPU PCI slot)	NA	Yes
• Simplex		1
• Duplex		2
Alarm Indicator Panel with cable (Located at the front top of ASIPP cabinet frame)	NA	Yes
• Simplex		1
• Duplex		2
Alarm Sensor Module (Located in I-Bus ISA bus expansion chassis)	NA	Yes
• Simplex		1
• Duplex		2
Ethernet Network Interface Card	DE425-AA (EISA 10 Mbs Ethernet)	DE450-CA (PCI Ethernet adapter)
• Simplex	1 standard	1 standard
• Duplex	4 standard	2 standard

Table 1-1 (Cont.) Hardware Differences Between ASIPP V1 and ASIPP V2 Systems

Item	ASIPP V1	ASIPP V2
ISA Bus Expansion Chassis	Dialogic Telco Platform (DTP)	I-Bus ISA Bus Expansion Chassis (I-Bus 4820/R-2338)
• Number of slots	14	20
4 Port Acceleport Serial Line (SL) Module (Interface between 2 CPU SL ports & 2 DTP SL ports)	Yes	NA
• Simplex	1	
• Duplex	2	
StorageWorks Shelf	BA350 (Narrow SCSI)	BA356 (Wide SCSI)
• Simplex	1	1
• Duplex	2	2
SCSI Adapter	KZPSA-BB	KZPSA-BB
• Simplex	1	1
• Duplex	4	4
-48 VDC Inverter Fault Monitoring Cable	NA	Yes
• Simplex		1
• Duplex		1
AC Power Controller	877-DA (120V), 877-E (240 V)	H7600-AA, AB, DB
Communications Hub	DEChub 90	Optional
• Simplex	1	
• Duplex	2	

See the sections below to ascertain which hardware subsystems are replaced and which ones remain.

1.1.1 AlphaServer Upgrade Option

An upgrade to ASIPP V2 can be done with or without an AlphaServer upgrade. Table 1-1 shows the AlphaServer differences assuming an AlphaServer upgrade is desired. If an AlphaServer upgrade is desired, then the AlphaServer 1000 4/XXX CPU must be returned to DIGITAL. Also an AlphaServer upgrade decreases the number of EISA slots from 7 to 2, increases the number of PCI slots from 2 to 7, and decreases the number of PCI/EISA combination slots from 1 to 0. This could be a problem if the number of EISA slots needed exceeds 2 for the upgrade, since one slot is needed for the Acces I/O EISA bus repeater module.

1.1.2 Three New Modules

Three new modules have been added for the ASIPP V2 system:

- An alarm sensor module (mounted in the I-Bus ISA bus expansion chassis) which monitors the fault status of the I-Bus ISA bus expansion chassis.

- An alarm indicator panel (mounted on the top front of the ASIPP cabinet) which displays the ASIPP fault status.

- An alarm control module (mounted in the PCI backplane of the CPU) which monitors the fault status of the ASIPP system including the alarm indicator panel.

The alarm indicator panel comes with a cable which connects the alarm indicator panel to the alarm control module. The alarm sensor module also comes with a cable which connects the alarm sensor module to the alarm control module.

1.1.3 -48 Vdc Inverter

If a -48 Vdc inverter is present in the ASIPP V1 system, then a cable for monitoring the fault status of the inverter must be connected from the inverter to the alarm control module.

1.1.4 I-Bus ISA Bus Expansion Chassis

For the upgrade, the DTP ISA bus expansion chassis is removed and replaced by the I-Bus ISA bus expansion chassis. This increases the number of ISA slots from 14 to 20.

1.1.5 4 Port Acceleport Serial Line Module

This module is removed from the EISA bus backplane of the AlphaServer 1000 4/XXX CPU. It is not needed for the ASIPP V2 system.

1.1.6 StorageWorks Shelf

The BA350 narrow SCSI StorageWorks shelf is reused for the upgrade, even though the ASIPP V2 system now employs the wide SCSI BA356 StorageWorks shelf.

1.1.7 Ethernet Network Interface Card

For an AlphaServer upgrade, the EISA DE425-AA 10 Mbs Ethernet modules are replaced by PCI DE450-CA Ethernet modules to free up EISA bus slots. If no AlphaServer upgrade is desired, then the DE425-AA are reused. However, when performing an AlphaServer upgrade on an ASIPP V1 duplex system, four DE450-CA Ethernet modules will be included to preserve the same Ethernet configuration.

1.1.8 Communications Hub

The existing DEChub 90 communications hubs remain with the ASIPP system after the upgrade, even though it is optional for an ASIPP V2 system.

1.1.9 AC Power Controller

The existing 877-DA (120V), 877-E (240 V) power controllers should not be removed even though the ASIPP V2 uses the H7600 power controllers.

1.2 Software Requirements

Be sure to note the following software differences between the ASIPP V1 and V2 systems as shown in Table 1-2.

Table 1-2 Software Differences Between ASIPP V1 and ASIPP V2 Systems

Item	ASIPP V1	ASIPP V2
DIGITAL UNIX	Version 3.2X	Version 4.0B
• Simplex	1	1
• Duplex	2	2
Dialogic Drivers for DIGITAL UNIX	Version 4.15, 4.17, 4.17a	Version 4.2
• Simplex	1	1
• Duplex	2	2
IP Fault Manager for DIGITAL UNIX	V1	V2.0
• Simplex	1	1
• Duplex	2	2
Logical Storage Manager (LSM)	V1.1	V4.0 for UNIX V4.0B
• Simplex	1	1
• Duplex	2	2
• Included in SWKS TIER E U/A (QB-5RXAE-AA)		
Advanced File System Utilities	V4.0	V4.0a for UNIX V4.0B
• Simplex	1	1
• Duplex	2	2
• Included in SWKS TIER E U/A (QB-5RXAE-AA)		
DECsafe (Trucluster Available Server)	V1.3	V1.4 for UNIX V4.0B
• Simplex	0	0
• Duplex	2	2 (optional)
POLYCENTER Watchdog Agent	V2.2	NA
• Simplex	1	
• Duplex	2	
POLYCENTER Watchdog Consolidator	V2.2	NA
• Simplex	1	
• Duplex	2	
• Management Operational Console	1	
DECevent	NA	V2.5
• Simplex		1
• Duplex		2
ServerWORKS	NA	V3.0
• Simplex		1
• Duplex		2

See the sections below to ascertain which software products need to be removed, which ones are new and need to be installed, and which ones need to be upgraded to be compatible with DIGITAL UNIX V4.0B, which is the designated operating system for ASIPP V2.

1.2.1 DIGITAL UNIX

The DIGITAL UNIX V3.X operating system needs to be deinstalled and replaced by DIGITAL UNIX V4.0B

1.2.2 DIGITAL UNIX Layered Products to be Upgraded

The following software products need to be deinstalled and then reinstalled with the latest version compatible with DIGITAL UNIX V4.0B:

- Dialogic Drivers for DIGITAL UNIX V4.2

- IP Fault Manager for DIGITAL UNIX V2.0

- StorageWorks Tier E (Advanced File System Utilities V4.0a & Logical Storage Manager V4.0)

- DECsafe (Trucluster Available Server) V 1.4 (Duplex only)

1.2.3 DIGITAL UNIX Layered Products to be Removed

The following software products need to be removed by deinstalling them as they are obsolete products for ASIPP V2:

- POLYCENTER Watchdog Consolidator

- POLYCENTER Watchdog Agent

Also POLYCENTER Watchdog Consolidator should be removed from the Management Operation Console workstation.

1.2.4 New DIGITAL UNIX Layered Products to be Installed

The following new software products need to be installed as they are needed for ASIPP V2:

- DECevent V2.5

- ServerWORKS V3.0

ServerWORKS may also need to be installed on the Management Operation Console workstation, if present.

1.3 Recording Customized Configurations

Before you upgrade the hardware, be sure to record any customized configuration information stored in the AlphaServer 1000 4/XXX system NVRAM. This is particularly important when performing an upgrade to an AlphaServer 1000A 5/400. Once you upgrade the CPU and other hardware, any such customization information will be lost. It is recommended that you record the following items listed in Table 1-3, as well as any others particular to the system you are upgrading. Refer to the *AlphaServer 1000A Firmware Reference Guide* shipped with the AlphaServer 1000A upgrade kit.

Table 1-3 List of Customized Configuration Data

Item	Command
System Password	set password
Action on power-up	auto_action
Boot flags	boot_osflags
Boot device	bootdef_dev
Console display device	set console
Operating system type	os_type
Power-up/diagnostic display message	ocp_text
NVRAM script	edit nvram

Once you complete the upgrade and restore any customized configuration parameters, certain devices may appear differently in the AlphaServer 1000A *show config* or *show device* displays. For example, the boot device may be named differently in the new displays.

1.4 Saving Existing Licenses

Existing licenses can be saved to diskette and reloaded later using the following procedure:

1. Log into the root account.

2. List the existing licenses using the following command:

    # lmf list

3. For each product listed do the following:

    # lmf issue product_name.pak product_name

    where *product_name* is the name of the product.

    _____ **Note** _____

    The above command saves the licenses to files in the current working directory. Also, if there are duplicate licenses on the system you will need to use the following procedure to save them to a file.
    _____

4. Do a full listing on the duplicated licenses to get the producer and authorization numbers:

    # lmf list full for *duplicate* **| more**

    where *duplicate* is the name of the duplicated license.

5. Record the Producer and Authorization Number for each duplicated license.

6. Save the licenses using commands similar to the following:

    # lmf issue dup1.pak dup Producer1 Authorization_Number1

    # lmf issue dup2.pak dup Producer2 Authorization_Number2

    where dup is the name of the duplicated product license.

7. Insert a diskette into the diskette drive, ensuring that the diskette is not write locked, and format it using the following commands:

    # fddisk -fmt /dev/rfd0a

    # disklabel -w -r -t ufs /dev/rfd0a

    # newfs /dev/rfd0a

8. Mount the diskette using the following command:

    # mount -t ufs /dev/fd0a /mnt

    _____ **Note**_____

    If /mnt is already in use, create another directory and use it to mount the diskette.
    _____

    # mkdir /diskette

    # mount -t ufs /dev/fd0a /diskette

9. Now copy the license files to the diskette:

    # cp *.pak /mnt

    or

    # cp *.pak /diskette

    whichever is applicable.

10. Unmount the diskette:

    # umount /mnt

    or

    #umount /diskette

    whichever is applicable.

11. Remove the diskette and label it appropriately.

    _____ **Caution** _____

    Removing the diskette before unmounting it could result in data corruption on the diskette.
    _____

1.5 DEChub 90 Subsystem Configuration

When a CPU upgrade is performed, the Ethernet EISA Network Interface Cards are replaced by PCI Fast Ethernet Cards whose Ethernet addresses are different than the ones before. The configuration data in the DEChub 90 modules must be changed to reflect the new Ethernet addresses. If no CPU upgrade is needed, then the DEChub 90 modules need no reconfiguration.

1.6 High Level Upgrade Process

The basic upgrade process should be done in the following order:

1. Backup up all DIGITAL UNIX files on to a suitable backup media before attempting the upgrade.

2. Record any custom configuration information stored in CPU NVRAM as well as DEChub 90 configuration data.

3. Perform a power shutdown.

4. Relocate the DEChub 90 #1 to the rearmost rails (Duplex only).

5. Remove the topmost front 5.25" and 7" blank panels and replace with a 3.5" blank panel and the alarm indicator panel.

6. Relocate the BA350 StorageWorks shelves upward.

7. Remove obsolete modules and insert new modules in the CPU.

8. Remove the ASIPP V1 DTP boxes and replace with ASIPP V2 I-Bus ISA bus expansion chassis.

9. Connect alarm indicator panel cable to CPU alarm control module.

10. Power up CPU in ARC console mode.

11. Update ECU configuration.

12. Boot system to DIGITAL UNIX 3.2X.

13. Install DIGITAL UNIX V4.0B.

14. Install layered products and deinstall obsolete ones.

15. Perform verification test to determine ASIPP V2 system is operating properly.

2
Upgrading the Simplex AlphaServer IP from V1 to V2

2.1 Simplex AlphaServer IP Upgrade Process

The following sections provide a list of the four simplex upgrade kits, a parts list for the kits, the tools required, pre-upgrade information, and the upgrade process for the four different kits.

2.2 Simplex AlphaServer IP Upgrade Kits and Parts List

The four simplex upgrade kits are listed in Table 2-1 and the parts included in the four different simplex kits are listed in Table 2-2.

Table 2-1 Simplex AlphaServer Upgrade Kits

Upgrade Kit	Description
2T-IPUP1-SA	Simplex upgrade with no inverter and no AlphaServer 1000A upgrade
2T-IPUP1-SB	Simplex upgrade with no inverter and with AlphaServer 1000A upgrade
2T-IPUP1-SI	Simplex upgrade with inverter and no AlphaServer 1000A upgrade
2T-IPUP1-SJ	Simplex upgrade with inverter and with AlphaServer 1000A upgrade

Table 2-2 Simplex AlphaServer Upgrade Kit Parts List

Part Number	Description	Quantity per Variation/Revision			
		SA A01	SB A01	SI A01	SJ A01
2T-IPCON-AA	Alarm control module (no cables included)	1	1	1	1
2T-IPSEN-AA	IPFM V2 alarm sensor module (includes 17-04673-01 cable for bulkhead & 17-04677-01 cable for alarm control module	1	1	1	1
2T-IPAIP-AA	V2 alarm indicator panel (cables inc 70cl)	1	1	1	1
2T-VC220-IB	I-Bus ISA bus expansion chassis (use rev B)	1	1	1	1
DE450-CA	Ethernet PCI adapter	0	1	0	1

Table 2-2 (Cont.) Simplex AlphaServer Upgrade Kit Parts List

Part Number	Description	Quantity per Variation/Revision			
		SA A01	SB A01	SI A01	SJ A01
PB78U-FR	RM AlphaServer 1000A 5/400 Upgrade Kit	0	1	0	1
2T-VC220-IP	Acces I/O EISA bus repeater module	REF	REF	REF	REF
17-04676-01	Cable for -48 Vdc inverter connection to alarm control module	0	0	1	1
34-35583-12	3.5 in. Blank Panel	1	1	1	1
34-35583-14	8.75 in. Blank Panel	1	1	1	1
90-07031-00	4 in. Cable Ties	20	20	20	20
90-07031-00	7 in. Cable Ties	6	6	6	6
90-11326-01	Cable Tie lock (adhesive backing)	8	8	8	8
QA-4K4AA-H8	IPFM V2 software CD-ROM kit	1	1	1	1
QL-4K4A9-AA	IPFM V2 U/A TRAD LIC	1	1	1	1
EK-ASIP2-OG	*DIGITAL AlphaServer Intelligent Peripheral Platform Hardware Owner's Guide*	1	1	1	1
QB-4AKAA-SA	Dialogic Drivers for DIGITAL UNIX V4.2 CD-ROM package	1	1	1	1
QA-4AKAA-GZ	Dialogic Drivers for DIGITAL UNIX DOC KIT V4.2	1	1	1	1
EK-VOICE-IN	*AlphaServer Voice Platform Hardware Installation Guide*	1	1	1	1
QA-MT4AA-H8	DIGITAL UNIX V4.0B CD-ROM	1	1	1	1
QA-054AA-H8	DIGITAL UNIX SW LP (UNIX V4.0B)	1	1	1	1
QB-4QYAA-SA	ServerWORKS V3.0 (UNIX 4.0B) for PC	1	0	1	0
QL-0EGAE-RA	POLY AdvFS Util U/A Trad UPD Lic	1	1	1	1
QL-2GVAE-RA	DEC LSM U/A Trad UPD Lic	1	1	1	1
QL-MT4AE-7R	DIGITAL UNIX AS1000 UPD LIC	1	0	1	0
QL-MT7AE-AA	DIGITAL UNIX AS1000 TRAD LIC	1	1	1	1
QL-MT6AE-AA	DIGITAL UNIX AS1000 Server Extensions	1	1	1	1
None *	DECevent V2.5	1	1	1	1
EK-IPV12-UM	*DIGITAL AlphaServer Intelligent Peripheral Platform Version 1 to 2 Upgrade Manual*	1	1	1	1
* Will be included in future DIGITAL UNIX Operating System releases. See section 6.5.					

_____**Notes**_____

All installed layered product software should be compatible with DIGITAL UNIX 4.0B.

All upgrade kits include a traditional unlimited DIGITAL UNIX license, as the AlphaServer 1000A upgrade kits only include a base server upgrade. Also DIGITAL UNIX Server Extensions were added . See items QL-MT7AE-AA and QL-MT6AE-AA.

_____

2.3 Tools

The hardware upgrade requires the following tools:

- Number 2 Phillips-head screwdriver

- Number 1 Phillips-head screwdriver

- Flat blade screwdriver,1/4 inch wide

- Allen wrench 1/8 inch

- Antistatic wriststrap kit

2.4 Before You Begin

- Backup up all DIGITAL UNIX files on to a suitable backup media before attempting the upgrade.

- Check the contents of the upgrade kit to make sure you have all the items you need.

- Remove and replace components in the order listed in this chapter.

- Keep all cables and hardware unless otherwise noted.

- Keep all screws and nuts that you remove. You will be reusing them.

_____ **WARNING** _____

Make sure the subsystem units On/Off switch is in the Off position before removing system covers and/or panels.

_____

_____ **Caution** _____

When handling internal system components, use an antistatic wriststrap to avoid damaging the components.

_____

_____ **WARNING** _____

The upgrade process requires removing and installing equipment chassis which weigh more than 40 lb. Ensure that sufficient personnel are available to assist in the upgrade.

_____

Before you begin the actual upgrade procedure, ask the system manager to ask all users to log off within a short time, approximately 10 minutes, so their work will not be disrupted by the upgrade procedure.

2.5 Simplex AlphaServer IP with no AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a simplex AlphaServer IP with no AlphaServer upgrade using the 2T-IPUP1-SA upgrade kit.

2.5.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a *shutdown -h now* UNIX command from the root account on the AlphaServer 1000.

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP, to the Off position. Remove the DTP front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the AlphaServer 1000 AC power switch to the Off position.

4. At the bottom rear of the cabinet, set the AC power switch on both 877-DA or 877-E power controllers to the Off position.

5. Disconnect the 877-DA or 877-E power controller power cords from the external ac receptacles.

2.5.2 Step 2: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

1. Remove the 5.25 in. blank panel.

2. Remove the two 7 in. blank panels.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the alarm indicator panel assembly, 2T-IPAIP-AA, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assembly as needed.

9. Install four U-nuts and four ball-studs at hole numbers 104 and 95 from the bottom of the cabinet on the left and right front rails.

2.5.3 Step 3: Relocate BA350 StorageWorks Shelf

1. Open the door to the BA350 shelf.

2. Remove the AC cable(s).

3. Remove the signal cable.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf is now free to be relocated.

10. Reinstall the BA350 shelf by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 85 and 86 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cable.

16. Reinstall the AC cable(s).

17. Install the 7 in. blank panel above BA350 shelf.

2.5.4 Step 4: Modify the AlphaServer 1000

1. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000.

2. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.
_____

3. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

4. Pull out the shelf and AlphaServer 1000 and lift and remove the top cover.

5. Remove the obsolete Four Port Acceleport Serial Line cable, PN 17-03852-33, connected between the DTP Com Port and the Four Port Acceleport module.

6. Remove obsolete Four Port Acceleport module, PN 2T-DGACC-AA, from the EISA bus backplane.

7. Install the new alarm control module, PN 2T-IPCON-AA, in PCI backplane slot 10.

8. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

9. Lock the top cover using the system unit key.

10. Slide the AlphaServer 1000 into the cabinet until the bezel locks.

11. Install the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

2.5.5 Step 5: Remove the DTP Chassis and 7 in. Blank Panel and Replace with I-Bus ISA Bus Expansion Chassis and 8.75 in. Blank Panel

1. Remove the 7 in. blank panel located above the DTP.

2. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs.

3. Install four U-nuts and four ball-studs at hole numbers 80 and 68 from the bottom of the cabinet on the left and right front rails.

4. Remove the cables from the DTP cable retractor mounted on the left rear rail.

5. Unplug all external cables from the I/O area on the rear of the DTP and label for reconnection.

6. Remove the four Phillips-head screws that secure the front DTP panel to the cabinet front rails.

7. Slide the DTP out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

8. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP.

9. Remove the obsolete DTP rails from the cabinet.

10. Remove the eight Phillips-head screws that secure the top cover to the DTP and remove the top cover.

11. Remove all of the printed circuit boards from the DTP backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

12. Mount the new inner slides onto the I-Bus ISA bus expansion chassis using the provide hardware.

13. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

14. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

15. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis.

16. Install the boards that were removed from DTP into the I-Bus ISA bus expansion chassis in the same physical location as they were installed in the DTP except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 17 through 20.

_____

17. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis.

18. Lift out the drive mounting assembly and put it aside.

19. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

20. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

21. Reinstall the top cover using the same Phillips-head screws.

22. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the cabinet.

23. Slide the I-Bus ISA bus expansion chassis onto the cabinet rails and fully into the cabinet.

24. Secure the I-Bus ISA bus expansion chassis front panel using #10 screws at hole numbers 54, 61, and 64 from the bottom of the cabinet.

25. Connect the AC power cord for the I-Bus ISA bus expansion chassis.

26. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000.

27. Install the 8.75 in. blank panel above the I-Bus ISA bus expansion chassis.

28. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

2.5.6 Step 6: AC Normal Power Up

1. Reconnect the 877-DA or 877-E power controller power cords to the external ac receptacles.

2. At the bottom rear of the cabinet, ensure that the indicator light on both 877 power controllers is lit. This indicates that ac power is being applied. Set the ac power switches to the On position.

3. Observe that ac power is applied to the DEChub 90 and the BA350 StorageWorks units.

4. Place the I-Bus ISA bus expansion chassis ac switch to the On position and ensure that the fans are operational.

5. Place the AlphaServer 1000 front panel switch to the On position. After a short wait the operator control panel on the front of the system displays the message, "Model x-xxx", and the video screen displays initialization and testing information.

2.6 Simplex AlphaServer IP with an AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a simplex AlphaServer IP with an AlphaServer upgrade using the 2T-IPUP1-SB upgrade kit.

2.6.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a *shutdown -h now* UNIX command from the root account on the AlphaServer 1000.

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP, to the Off position. Remove the DTP front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the AlphaServer 1000 AC power switch to the Off position.

4. At the bottom rear of the cabinet, set the AC power switch on both 877-DA or 877-E power controllers to the Off position.

5. Disconnect the 877-DA or 877-E power controller power cords from the external ac receptacles.

2.6.2 Step 2: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

1. Remove the 5.25 in. blank panel.

2. Remove the two 7 in. blank panels.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the alarm indicator panel assembly, 2T-IPAIP-AA, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assembly as needed.

9. Install four U-nuts and four ball-studs at hole numbers 104 and 95 from the bottom of the cabinet on the left and right front rails.

2.6.3 Step 3: Relocate BA350 StorageWorks Shelf

1. Open the door to the BA350 shelf.

2. Remove the AC cable(s).

3. Remove the signal cable.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf is now free to be relocated.

10. Reinstall the BA350 shelf by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 85 and 86 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cable.

16. Reinstall the AC cable(s).

17. Install the 7 in. blank panel above BA350 shelf.

2.6.4 Step 4: Upgrade the AlphaServer 1000 to an AlphaServer 1000A

1. Remove all external cables from the PCI and EISA slots located at the rear bulkhead of AlphaServer 1000 and label the cables for reconnection.

2. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000.

3. Remove the chassis hold-down bracket, two screws are inserted in the shelf and the remaining two screws are inserted in the AlphaServer 1000, put aside for later reuse. This bracket is located at the middle rear of the shelf.

4. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

5. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

6. Pull out the shelf and AlphaServer 1000 and lift and remove the top cover.

7. Remove the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, and set it aside.

8. Remove the SIMMs from the memory banks, the storage devices (CD-ROM, hard disk drive, and tape drive), the KZPSA-BB SCSI adapter, and the graphics module (if installed) from the AlphaServer 1000, and set them aside.

9. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

10. Lock the top cover using the system unit key.

_____ **WARNING** _____

The AlphaServer units weigh approximately 70 lb. Ensure that sufficient personnel or the proper lifting equipment is available for removing the AlphaServer 1000 and installing the AlphaServer 1000A.
_____

11. Remove the AlphaServer 1000 from the cabinet shelf and set it aside.

12. Install the AlphaServer 1000A on the cabinet shelf.

13. Turn the top cover lock to the left to unlock the system unit. The key is located at the rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.
_____

14. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches. Lift up on the cover.

15. Reinstall the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, in backplane slot 2.

16. Reinstall the SIMMs in the memory banks, the storage devices, the KZPSA-BB SCSI adapter in slot 8, and the graphics module (if it was installed in the AlphaServer 1000) in slot 4 if it is a PCI module or slot 1 if it is an EISA module.

17. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

18. Install the new Ethernet PCI adapter, PN DE450-CA, in backplane slot 5.

19. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

20. Lock the top cover using the system key.

21. Slide the AlphaServer 1000A into the cabinet. Install the chassis hold-down bracket in the middle rear of the shelf.

22. Reinstall the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

23. Connect the AC power cord for the AlphaServer 1000A.

24. Reconnect all external cables at the I/O area of AlphaServer 1000A.

2.6.5 Step 5: Remove the DTP Chassis and 7 in. Blank Panel and Replace with I-Bus ISA Bus Expansion Chassis and 8.75 in. Blank Panel

1. Remove the 7 in. blank panel located above the DTP.

2. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs.

3. Install four U-nuts and four ball-studs at hole numbers 80 and 68 from the bottom of the cabinet on the left and right front rails.

4. Remove the cables from the DTP cable retractor mounted on the left rear rail.

5. Unplug all external cables from the I/O area on the rear of the DTP and label for reconnection.

6. Remove the four Phillips-head screws that secure the front DTP panel to the cabinet front rails.

7. Slide the DTP out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

8. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP.

9. Remove the obsolete DTP rails from the cabinet.

10. Remove the eight Phillips-head screws that secure the top cover to the DTP and remove the top cover.

11. Remove all of the printed circuit boards from the DTP backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

12. Mount the new inner slides onto the I-Bus ISA bus expansion chassis using the provide hardware.

13. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

14. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

15. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis.

16. Install the boards that were removed from DTP into the I-Bus ISA bus expansion chassis in the same physical location as they were installed in the DTP except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note**_____

The alarm sensor module and cables may already be factory installed in the I-Bus
ISA bus expansion chassis. If they are, skip steps 17 through 20.
_____

17. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus
    expansion chassis.

18. Lift out the drive mounting assembly and put it aside.

19. In the same location, insert the alarm sensor module mounting assembly. The vertical
    side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place.
    The bottom is screwed into place using the existing four holes and flat-head screws.

20. Mount the alarm sensor module on the four standoffs located on the vertical side of the
    mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect
    the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin
    connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes
    between the alarm sensor module 4-pin connector (J2) and the front left compartment
    located right next to the alarm sensor module compartment. One end of the airflow
    sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other
    end, which is routed over top of the left side of the right compartment into the right side
    of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

21. Reinstall the top cover using the same Phillips-head screws.

22. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the
    cabinet.

23. Slide the I-Bus ISA bus expansion chassis onto the cabinet rails and fully into the
    cabinet.

24. Secure the I-Bus ISA bus expansion chassis front panel using #10 screws at hole numbers
    54, 61, and 64 from the bottom of the cabinet.

25. Connect the AC power cord for the I-Bus ISA bus expansion chassis.

26. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis and
    connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA
    bus expansion chassis to the 6-pin MJ connector on the alarm control module installed in
    PCI backplane slot 10 of the AlphaServer 1000A.

27. Install the 8.75 in. blank panel above the I-Bus ISA bus expansion chassis.

28. Dress all cables from all units, using cable retractors or cable management brackets and
    rails, with tie wraps and adhesive backed cable mounts.

2.6.6 Step 6: AC Normal Power Up

1. Reconnect the 877-DA or 877-E power controller power cords to the external ac receptacles.

2. At the bottom rear of the cabinet, ensure that the indicator light on both 877 power controllers is lit. This indicates that ac power is being applied. Set the ac power switches to the On position.

3. Observe that ac power is applied to the DEChub 90 and the BA350 StorageWorks units.

4. Place the I-Bus ISA bus expansion chassis ac switch to the On position and ensure that the fans are operational.

5. Place the AlphaServer 1000A front panel switch to the On position. After a short wait the operator control panel on the front of the system displays the message, "Model x-xxx", and the video screen displays initialization and testing information.

2.7 Simplex AlphaServer IP with -48 Vdc Inverter and no AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a simplex AlphaServer IP with a -48 Vdc inverter and no AlphaServer upgrade using the 2T-IPUP1-SI upgrade kit.

2.7.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a ***shutdown -h now*** UNIX command from the root account on the AlphaServer 1000.

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP, to the Off position. Remove the DTP front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the AlphaServer 1000 AC power switch to the Off position.

4. Ensure that the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) on the rear panel of the power inverter are on the Off position.

5. Ensure that the AC POWER circuit breaker (CB1) on the front of the inverter alarm module is in the Off position.

6. Ensure that the INV On/Off switch on the front of the inverter alarm module is in the Off position.

2.7.2 Step 2: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

1. Remove the 5.25 in. blank panel.

2. Remove the two 7 in. blank panels.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the alarm indicator panel assembly, 2T-IPAIP-AA, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assembly as needed.

9. Install four U-nuts and four ball-studs at hole numbers 104 and 95 from the bottom of the cabinet on the left and right front rails.

2.7.3 Step 3: Relocate BA350 StorageWorks Shelf

1. Open the door to the BA350 shelf.

2. Remove the AC cable(s).

3. Remove the signal cable.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf is now free to be relocated.

10. Reinstall the BA350 shelf by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 85 and 86 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cable.

16. Reinstall the AC cable(s).

17. Install the 7 in. blank panel above BA350 shelf.

2.7.4 Step 4: Modify the AlphaServer 1000

1. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000.

2. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

3. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

4. Pull out the shelf and AlphaServer 1000 and lift and remove the top cover.

5. Remove the obsolete Four Port Acceleport Serial Line cable, PN 17-03852-33, connected between the DTP Com Port and the Four Port Acceleport module.

6. Remove obsolete Four Port Acceleport module, PN 2T-DGACC-AA, from the EISA bus backplane.

7. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

8. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

9. Lock the top cover using the system unit key.

10. Slide the AlphaServer 1000 into the cabinet until the bezel locks.

11. Install the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

2.7.5 Step 5: Remove the DTP Chassis and 7 in. Blank Panel and Replace with I-Bus ISA Bus Expansion Chassis and 8.75 in. Blank Panel

1. Remove the 7 in. blank panel located above the DTP.

2. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs.

3. Install four U-nuts and four ball-studs at hole numbers 80 and 68 from the bottom of the cabinet on the left and right front rails.

4. Remove the cables from the DTP cable retractor mounted on the left rear rail.

5. Unplug all external cables from the I/O area on the rear of the DTP and label for reconnection.

6. Remove the four Phillips-head screws that secure the front DTP panel to the cabinet front rails.

7. Slide the DTP out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

8. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP.

9. Remove the obsolete DTP rails from the cabinet.

10. Remove the eight Phillips-head screws that secure the top cover to the DTP and remove the top cover.

11. Remove all of the printed circuit boards from the DTP backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

12. Mount the new inner slides onto the I-Bus ISA bus expansion chassis using the provide hardware.

13. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

14. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

15. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis.

16. Install the boards that were removed from DTP into the I-Bus ISA bus expansion chassis in the same physical location as they were installed in the DTP except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 17 through 20.

_____

17. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis.

18. Lift out the drive mounting assembly and put it aside.

19. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

20. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

21. Reinstall the top cover using the same Phillips-head screws.

22. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the cabinet.

23. Slide the I-Bus ISA bus expansion chassis onto the cabinet rails and fully into the cabinet.

24. Secure the I-Bus ISA bus expansion chassis front panel using #10 screws at hole numbers 54, 61, and 64 from the bottom of the cabinet.

25. Connect the AC power cord for the I-Bus ISA bus expansion chassis.

26. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000.

27. Install the 8.75 in. blank panel above the I-Bus ISA bus expansion chassis.

28. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

2.7.6 Step 6: Install -48 Vdc Power Inverter Alarm Cable

Connect the -48 Vdc inverter alarm cable (PN 17-04676-01) between the 25-pin D-connector (J17), located at the right rear of the -48 Vdc power inverter, and the alarm control module (PN 2T-IPCON-AA) installed in PCI slot 10 of the AlphaServer 1000.

2.7.7 Step 7: -48 Vdc Inverter Normal Power Up

1. Place the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) to the closed (On) position.

2. Place the INV On/Off switch on the inverter alarm module to the On position.

3. Verify that the DC On, the BRKR Open, and the INV On LEDs on the inverter alarm module are lit.

4. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

5. Verify that the bottom segment of the ten-segment LED on all of the inverter power modules is lit.

6. Place the AC POWER circuit breaker (CB1) on the inverter alarm module to the closed position.

7. Verify that the DC On, the INV On, and the Load LEDs on the inverter alarm module are lit. The BRKR Open LED should not be lit.

8. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

9. Verify that the three ac fans are functioning properly.

10. Verify that multiple segments of the ten-segment LED on all inverter power modules are lit. The number of segments lit depends on the load on the power inverter. All of the inverter power modules should have approximately the same number of segments lit since they share the load.

11. One at a time, turn on the systems or equipment connected to the power inverter AC output connectors. The first systems to come on will be the DEChub 90 and the BA350. Next, turn on the I-Bus ISA bus expansion chassis and lastly, apply AC power to the AlphaServer 1000.

2.8 Simplex AlphaServer IP with -48 Vdc Inverter and with an AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a simplex AlphaServer IP with a -48 Vdc inverter and with an AlphaServer upgrade using the 2T-IPUP1-SJ upgrade kit.

2.8.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a ***shutdown -h now*** UNIX command from the root account on the AlphaServer 1000.

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP, to the Off position. Remove the DTP front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the AlphaServer 1000 AC power switch to the Off position.

4. Ensure that the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) on the rear panel of the power inverter are on the Off position.

5. Ensure that the AC POWER circuit breaker (CB1) on the front of the inverter alarm module is in the Off position.

6. Ensure that the INV On/Off switch on the front of the inverter alarm module is in the Off position.

2.8.2 Step 2: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

1. Remove the 5.25 in. blank panel.

2. Remove the two 7 in. blank panels.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the alarm indicator panel assembly, 2T-IPAIP-AA, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assembly as needed.

9. Install four U-nuts and four ball-studs at hole numbers 104 and 95 from the bottom of the cabinet on the left and right front rails.

2.8.3 Step 3: Relocate BA350 StorageWorks Shelf

1. Open the door to the BA350 shelf.

2. Remove the AC cable(s).

3. Remove the signal cable.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf is now free to be relocated.

10. Reinstall the BA350 shelf by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 85 and 86 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cable.

16. Reinstall the AC cable(s).

17. Install the 7 in. blank panel above BA350 shelf.

2.8.4 Step 4: Upgrade the AlphaServer 1000 to an AlphaServer 1000A

1. Remove all external cables from the PCI and EISA slots located at the rear bulkhead of AlphaServer 1000 and label the cables for reconnection.

2. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000.

3. Remove the chassis hold-down bracket, two screws are inserted in the shelf and the remaining two screws are inserted in the AlphaServer 1000, put aside for later reuse. This bracket is located at the middle rear of the shelf.

4. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

5. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

6. Pull out the shelf and AlphaServer 1000 and lift and remove the top cover.

7. Remove the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, and set it aside.

8. Remove the SIMMs from the memory banks, the storage devices (CD-ROM, hard disk drive, and tape drive), the KZPSA-BB SCSI adapter, and the graphics module (if installed) from the AlphaServer 1000, and set them aside.

9. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

10. Lock the top cover using the system unit key.

_____**WARNING**_____

The AlphaServer units weigh approximately 70 lb. Ensure that sufficient personnel or the proper lifting equipment is available for removing the AlphaServer 1000 and installing the AlphaServer 1000A.

_____

11. Remove the AlphaServer 1000 from the cabinet shelf and set it aside.

12. Install the AlphaServer 1000A on the cabinet shelf.

13. Turn the top cover lock to the left to unlock the system unit. The key is located at the rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

14. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches. Lift up on the cover.

15. Reinstall the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, in backplane slot 2.

16. Reinstall the SIMMs in the memory banks, the storage devices, the KZPSA-BB SCSI adapter in slot 8, and the graphics module (if it was installed in the AlphaServer 1000) in slot 4 if it is a PCI module or slot 1 if it is an EISA module.

17. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

18. Install the new Ethernet PCI adapter, PN DE450-CA, in backplane slot 5.

19. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

20. Lock the top cover using the system key.

21. Slide the AlphaServer 1000A into the cabinet. Install the chassis hold-down bracket in the middle rear of the shelf.

22. Reinstall the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

23. Connect the ac power cord for the AlphaServer 1000A.

24. Reconnect all external cables at the I/O area of AlphaServer 1000A.

2.8.5 Step 5: Remove the DTP Chassis and 7 in. Blank Panel and Replace with I-Bus ISA Bus Expansion Chassis and 8.75 in. Blank Panel

1. Remove the 7 in. blank panel located above the DTP.

2. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs.

3. Install four U-nuts and four ball-studs at hole numbers 80 and 68 from the bottom of the cabinet on the left and right front rails.

4. Remove the cables from the DTP cable retractor mounted on the left rear rail.

5. Unplug all external cables from the I/O area on the rear of the DTP and label for reconnection.

6. Remove the four Phillips-head screws that secure the front DTP panel to the cabinet front rails.

7. Slide the DTP out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

8. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP.

9. Remove the obsolete DTP rails from the cabinet.

10. Remove the eight Phillips-head screws that secure the top cover to the DTP and remove the top cover.

11. Remove all of the printed circuit boards from the DTP backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

12. Mount the new inner slides onto the I-Bus ISA bus expansion chassis using the provide hardware.

13. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

14. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

15. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis.

16. Install the boards that were removed from DTP into the I-Bus ISA bus expansion chassis in the same physical location as they were installed in the DTP except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot
J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus
ISA bus expansion chassis. If they are, skip steps 17 through 20.

_____

17. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus
    expansion chassis.

18. Lift out the drive mounting assembly and put it aside.

19. In the same location, insert the alarm sensor module mounting assembly. The vertical
    side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place.
    The bottom is screwed into place using the existing four holes and flat-head screws.

20. Mount the alarm sensor module on the four standoffs located on the vertical side of the
    mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect
    the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin
    connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes
    between the alarm sensor module 4-pin connector (J2) and the front left compartment
    located right next to the alarm sensor module compartment. One end of the airflow
    sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other
    end, which is routed over top of the left side of the right compartment into the right side
    of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

21. Reinstall the top cover using the same Phillips-head screws.

22. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the
    cabinet.

23. Slide the I-Bus ISA bus expansion chassis onto the cabinet rails and fully into the
    cabinet.

24. Secure the I-Bus ISA bus expansion chassis front panel using #10 screws at hole numbers
    54, 61, and 64 from the bottom of the cabinet.

25. Connect the ac power cord for the I-Bus ISA bus expansion chassis.

26. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis and
    connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA
    bus expansion chassis to the 6-pin MJ connector on the alarm control module installed in
    PCI backplane slot 10 of the AlphaServer 1000A.

27. Install the 8.75 in. blank panel above the I-Bus ISA bus expansion chassis.

28. Dress all cables from all units, using cable retractors or cable management brackets and
    rails, with tie wraps and adhesive backed cable mounts.

2.8.6 Step 6: Install -48 Vdc Power Inverter Alarm Cable

Connect the -48 Vdc inverter alarm cable (PN 17-04676-01) between the 25-pin D-connector
(J17), located at the right rear of the -48 Vdc power inverter, and the alarm control module
(PN 2T-IPCON-AA) installed in slot 10 of the AlphaServer 1000A.

2.8.7 Step 7: -48 Vdc Inverter Normal Power Up

1. Place the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) to the closed (On) position.

2. Place the INV On/Off switch on the inverter alarm module to the On position.

3. Verify that the DC On, the BRKR Open, and the INV On LEDs on the inverter alarm module are lit.

4. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

5. Verify that the bottom segment of the ten-segment LED on all of the inverter power modules is lit.

6. Place the AC POWER circuit breaker (CB1) on the inverter alarm module to the closed position.

7. Verify that the DC On, the INV On, and the Load LEDs on the inverter alarm module are lit. The BRKR Open LED should not be lit.

8. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

9. Verify that the three ac fans are functioning properly.

10. Verify that multiple segments of the ten-segment LED on all inverter power modules are lit. The number of segments lit depends on the load on the power inverter. All of the inverter power modules should have approximately the same number of segments lit since they share the load.

11. One at a time, turn on the systems or equipment connected to the power inverter AC output connectors. The first systems to come on will be the DEChub 90 and the BA350. Next, turn on the I-Bus ISA bus expansion chassis and lastly, apply AC power to the AlphaServer 1000A.

3

Upgrading the Duplex AlphaServer IP from V1 to V2

3.1 Duplex AlphaServer IP Upgrade Process

The following sections provide a list of the four duplex upgrade kits, a parts list for the kits, the tools required, pre-upgrade information, and the upgrade process for the four different kits.

3.2 Duplex AlphaServer IP Upgrade Kits and Parts List

The four duplex upgrade kits are listed in Table 3-1 and the parts included in the four different duplex kits are listed in Table 3-2.

Table 3-1 Duplex AlphaServer Upgrade Kits

Upgrade Kit	Description
2T-IPUP1-DA	Duplex upgrade with no inverter and no AlphaServer 1000A upgrade
2T-IPUP1-DB	Duplex upgrade with no inverter and with AlphaServer 1000A upgrade
2T-IPUP1-DI	Duplex upgrade with inverter and no AlphaServer 1000A upgrade
2T-IPUP1-DJ	Duplex upgrade with inverter and with AlphaServer 1000A upgrade

Table 3-2 Duplex AlphaServer Upgrade Kit Parts List

Part Number	Description	Quantity per Variation/Revision			
		DA A01	DB A01	DI A01	DJ A01
2T-IPCON-AA	Alarm control module (no cables included)	2	2	2	2
2T-IPSEN-AA	IPFM V2 alarm sensor module (includes 17-04673-01 cable for bulkhead & 17-04677-01 cable for alarm control module	2	2	2	2
2T-IPAIP-AB	Duplex V2 alarm indicator panel (cables inc 70cl)	1	1	1	1
2T-VC220-IB	I-Bus ISA bus expansion chassis (use rev B)	2	2	2	2
DE450-CA	Ethernet PCI adapter	0	4	0	4

Table 3-2 (Cont.) Duplex AlphaServer Upgrade Kit Parts List

Part Number	Description	Quantity per Variation/Revision			
		DA A01	DB A01	DI A01	DJ A01
PB78U-FR	RM AlphaServer 1000A 5/400 Upgrade Kit	0	2	0	2
2T-VC220-IP	Acces I/O EISA bus repeater module	REF	REF	REF	REF
17-04676-01	Cable for -48 Vdc inverter connection to alarm control module	0	0	1	1
34-35583-12	3.5 in. Blank Panel	1	1	1	1
34-35583-14	8.75 in. Blank Panel	0	0	0	0
90-07031-00	4 in. Cable Ties	40	40	40	40
90-07031-00	7 in. Cable Ties	12	12	12	12
90-11326-01	Cable Tie lock (adhesive backing)	16	16	16	16
QA-4K4AA-H8	IPFM V2 software CD-ROM kit	1	1	1	1
QL-4K4A9-AA	IPFM V2 U/A TRAD LIC	2	2	2	2
EK-ASIP2-OG	*DIGITAL AlphaServer Intelligent Peripheral Platform Hardware Owner's Guide*	1	1	1	1
QB-4AKAA-SA	Dialogic Drivers for DIGITAL UNIX V4.2 CD-ROM package	2	2	2	2
QA-4AKAA-GZ	Dialogic Drivers for DIGITAL UNIX DOC KIT V4.2	1	1	1	1
EK-VOICE-IN	*AlphaServer Voice Platform Hardware Installation Guide*	1	1	1	1
QA-MT4AA-H8	DIGITAL UNIX V4.0B CD-ROM	1	1	1	1
QA-054AA-H8	DIGITAL UNIX SW LP (UNIX V4.0B)	1	1	1	1
QB-4QYAA-SA	ServerWORKS V3.0 (UNIX 4.0B) for PC	2	0	2	0
QL-0EGAE-RA	POLY AdvFS Util U/A Trad UPD Lic	2	2	2	2
QL-2GVAE-RA	DEC LSM U/A Trad UPD Lic	2	2	2	2
QL-MT4AE-7R	DIGITAL UNIX AS1000 UPD LIC	2	0	2	0
QL-MT7AE-AA	DIGITAL UNIX AS1000 TRAD LIC	2	2	2	2
QL-MT6AE-AA	DIGITAL UNIX AS1000 Server Extensions	2	2	2	2
QL-05SAE-RA	Trucluster Available Server Upgr LIC	2	2	2	2
None *	DECevent V2.5	2	2	2	2
EK-IPV12-UM	*DIGITAL AlphaServer Intelligent Peripheral Platform Version 1 to 2 Upgrade Manual*	1	1	1	1
* Will be included in future DIGITAL UNIX Operating System releases. See section 6.5.					

_____**Notes** _____

All installed layered product software should be compatible with DIGITAL UNIX 4.0B.

All upgrade kits include a traditional unlimited DIGITAL UNIX license, as the AlphaServer 1000A upgrade kits only include a base server upgrade. Also DIGITAL UNIX Server Extensions were added . See items QL-MT7AE-AA and QL-MT6AE-AA.

_____

3.3 Tools

The hardware upgrade requires the following tools:

- Number 2 Phillips-head screwdriver

- Number 1 Phillips-head screwdriver

- Flat blade screwdriver,1/4 inch wide

- Allen wrench 1/8 inch

- Antistatic wriststrap kit

3.4 Before You Begin

- Backup up all DIGITAL UNIX files on to a suitable backup media before attempting the upgrade.

- Check the contents of the upgrade kit to make sure you have all the items you need.

- Remove and replace components in the order listed in this chapter.

- Keep all cables and hardware unless otherwise noted.

- Keep all screws and nuts that you remove. You will be reusing them.

_____ **WARNING** _____

Make sure the subsystem units On/Off switch is in the Off position before removing system covers and/or panels.
_____

_____ **Caution** _____

When handling internal system components, use an antistatic wriststrap to avoid damaging the components.
_____

_____ **WARNING** _____

The upgrade process requires removing and installing equipment chassis which weigh more than 40 lb. Ensure that sufficient personnel are available to assist in the upgrade.
_____

Before you begin the actual upgrade procedure, ask the system manager to ask all users to log off within a short time, approximately 10 minutes, so their work will not be disrupted by the upgrade procedure.

3.5 Duplex AlphaServer IP with no AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a duplex AlphaServer IP with no AlphaServer upgrade using the 2T-IPUP1-DA upgrade kit.

3.5.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a *shutdown -h now* UNIX command from the root account. Do this first on the AlphaServer 1000 #1 (the bottom one) and complete the operation with the AlphaServer 1000 #2 (the top one).

    See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP #1 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #1, to the Off position. Remove the DTP #1 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the DC switch, located on the front of the DTP #2 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #2, to the Off position. Remove the DTP #2 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

4. Set the AlphaServer 1000 #1 (the bottom one) AC power switch to the Off position.

5. Set the AlphaServer 1000 #2 (the top one) AC power switch to the Off position.

6. At the bottom rear of the cabinet, set the AC power switch on both 877-DA or 877-E power controllers to the Off position.

7. Disconnect the 877-DA or 877-E power controller power cords from the external ac receptacles.

8. Remove the cables from all of the cable retractors.

9. Remove all of the cable retractors. Set these aside for later reinstallation.

3.5.2 Step 2: Relocate DEChub 90 #1 (Bottom One)

_____ **Note** _____

The DEChub 90 #2 (the top one) is left installed as it is. No work is to be performed on the DEChub 90 #2 at this time.

_____

1. Move the right vertical rear rail, located next to the door, to the third hole from the end.

2. Move the left vertical rail toward the rear of the cabinet to the third hole from the end. (Each rail uses eight screws.).

3. Remove all signal and ac cables from DEChub 90 modules and label the cables for reinstallation.

4. Remove top and bottom DEChub 90 cage assembly module horizontal locking bars.

5. Remove all modules from the DEChub 90 cage assembly module.

6. Remove the four screws, the DEChub 90 cage assembly module, and the eight U-nuts.

7. Reinstall the eight U-nuts that were removed in step 6 onto the rearmost vertical rails and put them in exactly the same hole configuration as before, hole numbers 96, 95, 78, and 77 from the bottom of the cabinet.

8. Put the DEChub 90 cage assembly module onto the newly located rearmost rails at hole numbers 96 and 77 from the bottom of the cabinet.

9. Reinstall DEChub 90 modules and the horizontal locking bars.

10. Reconnect all signal and ac cables to the original configuration.

11. Dress cables as necessary.

3.5.3 Step 3: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

_____ **Note**_____

Before installing the alarm indicator panel assembly, install the second alarm indicator panel module into the right side of the alarm indicator panel assembly and connect the accompanying cable to it.

_____

1. Remove the 5.25 in. blank panel.

2. Remove the 7 in. blank panel.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the duplex alarm indicator panel assembly, 2T-IPAIP-AB, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assemblies as needed.

3.5.4 Step 4: Relocate BA350 StorageWorks Shelves #1 and #2

1. Open the door to the BA350 shelf #2 (the top one).

2. Remove the AC cable(s).

3. Remove the signal cables.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 #2 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #2 is now free to be relocated.

10. Reinstall the BA350 shelf #2 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 105, 100, and 94 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 104 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 #2 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 102 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 98 and 97 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cables.

16. Reinstall the AC cable(s).

17. Open the door to the BA350 shelf #1 (the bottom one).

18. Remove the AC cable(s).

19. Remove the signal cables.

20. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

21. Remove the door and save the spacer hardware.

22. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

23. Remove the BA350 #1 box.

24. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

25. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #1 is now free to be relocated.

26. Reinstall the BA350 shelf #1 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

27. Slide the BA350 #1 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

28. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 86 and 85 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

29. Reinstall the door on the hinge using the spacer hardware.

30. Tighten the Allen and Phillips-head screws.

31. Reinstall the signal cables.

32. Reinstall the AC cable(s).

3.5.5 Step 5: Modify the AlphaServer 1000 #1 and #2

1. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000 #2 (the top one).

2. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

3. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

4. Pull out the shelf and AlphaServer 1000 #2 and lift up and remove the top cover.

5. Remove the obsolete Four Port Acceleport Serial Line cable, PN 17-03852-33, connected between the DTP Com Port and the Four Port Acceleport module.

6. Remove obsolete Four Port Acceleport module, PN 2T-DGACC-AA, from the EISA bus backplane.

7. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

8. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

9. Lock the top cover using the system unit key.

10. Slide the AlphaServer 1000 #2 into the cabinet until the bezel locks.

11. Install the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

12. Repeat steps 1 through 11 to modify the AlphaServer 1000 #1 (the bottom one).

3.5.6 Step 6: Remove the DTP Chassis #1 and #2 and Replace with I-Bus ISA Bus Expansion Chassis #1 and #2

_____ **Note** _____

Before starting the installation of the I-Bus ISA bus expansion chassis, label every signal cable connected to the Dialogic module signal connectors on the rear bulkhead of the DTP chassis and record the EISA bus slot position of every Dialogic module. This will ensure that the same exact signal cable and module slot position will be maintained after the upgrade procedure.

_____

1. Unplug all external cables from the I/O area on the rear of DTP #1 and DTP #2.

2. Remove the four Phillips-head screws that secure the front DTP #2 (the top one) panel to the cabinet front rails.

3. Slide the DTP #2 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

4. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #2.

5. Remove the obsolete DTP #2 rails from the cabinet.

6. Remove the eight Phillips-head screws that secure the top cover to the DTP #2 and remove the top cover.

7. Remove all of the printed circuit boards from the DTP #2 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

8. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #2 using the provided hardware.

9. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

10. Mount the outer rail assemblies inside the cabinet at hole numbers 72 and 70 from the bottom of the cabinet.

11. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #2.

12. Install the boards that were removed from DTP #2 into the I-Bus ISA bus expansion chassis #2 in the same physical location as they were installed in the DTP #2 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 13 through 16.

_____

13. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #2.

14. Lift out the drive mounting assembly and put it aside.

15. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

16. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment

located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

17. Reinstall the top cover using the same Phillips-head screws.

18. Install six U-nuts on the front rails at hole numbers 69, 76, and 79 from the bottom of the cabinet.

19. Slide the I-Bus ISA bus expansion chassis #2 onto the cabinet rails and fully into the cabinet.

20. Secure the I-Bus ISA bus expansion chassis #2 front panel using #10 screws at hole numbers 69, 76, and 79 from the bottom of the cabinet.

21. Connect the AC power cord for the I-Bus ISA bus expansion chassis #2.

22. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #2 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #2 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000 #2.

23. Remove the four Phillips-head screws that secure the front DTP #1 (the bottom one) panel to the cabinet front rails.

24. Slide the DTP #1 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

25. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #1.

26. Remove the obsolete DTP #1 rails from the cabinet.

27. Remove the eight Phillips-head screws that secure the top cover to the DTP #1 and remove the top cover.

28. Remove all of the printed circuit boards from the DTP #1 backplane. There may be up to 14 boards.

_____ **Note**_____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

29. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #1 using the provided hardware.

30. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

31. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

32. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #1.

33. Install the boards that were removed from DTP #1 into the I-Bus ISA bus expansion chassis #1 in the same physical location as they were installed in the DTP #1 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 34 through 37.

_____

34. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #1.

35. Lift out the drive mounting assembly and put it aside.

36. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

37. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

38. Reinstall the top cover using the same Phillips-head screws.

39. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the cabinet.

40. Slide the I-Bus ISA bus expansion chassis #1 onto the cabinet rails and fully into the cabinet.

41. Secure the I-Bus ISA bus expansion chassis #1 front panel using #10 screws at hole numbers 54, 61, and 64 from the bottom of the cabinet.

42. Connect the AC power cord for the I-Bus ISA bus expansion chassis #1.

43. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #1 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #1 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000 #1.

3.5.7 Step 7: Reinstall Cable Retractors

1. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 68 from the bottom of the cabinet.

2. Install cable retractor #2 (the top one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 2 (the top one) at hole numbers 70 and 68 from the bottom of the cabinet using #10 screws.

_____ **Note** _____

Hole number 70 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #2.

_____

3. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 53 from the bottom of the cabinet.

4. Install cable retractor #1 (the bottom one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 1 (the bottom one) at hole numbers 55 and 53 from the bottom of the cabinet using #10 screws.

_____ **Note** _____

Hole number 55 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #1.

_____

5. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 41 and 38 from the bottom of the cabinet.

6. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000 #2 (the top one) at hole numbers 41 and 38 from the bottom of the cabinet using #10 screws.

7. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 23 and 20 from the bottom of the cabinet.

8. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000 #1 (the bottom one) at hole numbers 23 and 20 from the bottom of the cabinet using #10 screws.

9. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

3.5.8 Step 8: AC Normal Power Up

1. Reconnect the 877-DA or 877-E power controller power cords to the external ac receptacles.

2. At the bottom rear of the cabinet, ensure that the indicator light on both 877 power controllers is lit. This indicates that ac power is being applied. Set the ac power switches to the On position.

3. Observe that ac power is applied to both DEChub 90 and the BA350 StorageWorks units.

4. Place both I-Bus ISA bus expansion chassis ac switches to the On position and ensure that the fans are operational.

5. Place both AlphaServer 1000 front panel switch to the On position. After a short wait the operator control panel on the front of the system displays the message, "Model x-xxx", and the video screen displays initialization and testing information.

3.6 Duplex AlphaServer IP with an AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a duplex AlphaServer IP with an AlphaServer upgrade using the 2T-IPUP1-DB upgrade kit.

3.6.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a ***shutdown -h now*** UNIX command from the root account. Do this first on the AlphaServer 1000 #1 (the bottom one) and complete the operation with the AlphaServer 1000 #2 (the top one).

    See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP #1 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #1, to the Off position. Remove the DTP #1 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the DC switch, located on the front of the DTP #2 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #2, to the Off position. Remove the DTP #2 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

4. Set the AlphaServer 1000 #1 (the bottom one) AC power switch to the Off position.

5. Set the AlphaServer 1000 #2 (the top one) AC power switch to the Off position.

6. At the bottom rear of the cabinet, set the AC power switch on both 877-DA or 877-E power controllers to the Off position.

7. Disconnect the 877-DA or 877-E power controller power cords from the external ac receptacles.

8. Remove the cables from all of the cable retractors.

9. Remove all of the cable retractors. Set these aside for later reinstallation.

3.6.2 Step 2: Relocate DEChub 90 #1 (Bottom One)

_____ **Note** _____

The DEChub 90 #2 (the top one) is left installed as it is. No work is to be performed on the DEChub 90 #2 at this time.

_____

1. Move the right vertical rear rail, located next to the door, to the third hole from the end.

2. Move the left vertical rail towards the rear of the cabinet to the third hole from the end. (Each rail uses eight screws.).

3. Remove all signal and ac cables from DEChub 90 modules and label the cables for reinstallation.

4. Remove top and bottom DEChub 90 cage assembly module horizontal locking bars.

5. Remove all modules from the DEChub 90 cage assembly module.

6. Remove the four screws, the DEChub 90 cage assembly module, and the eight U-nuts.

7. Reinstall the eight U-nuts that were removed in step 6 onto the rearmost vertical rails and put them in exactly the same hole configuration as before, hole numbers 96, 95, 78, and 77 from the bottom of the cabinet.

8. Put the DEChub 90 cage assembly module onto the newly located rearmost rails at hole numbers 96 and 77 from the bottom of the cabinet.

9. Reinstall DEChub 90 modules and the horizontal locking bars.

10. Reconnect all signal and ac cables to the original configuration.

11. Dress cables as necessary.

3.6.3 Step 3: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

_____ **Note** _____

Before installing the alarm indicator panel assembly, install the second alarm indicator panel module into the right side of the alarm indicator panel assembly and connect the accompanying cable to it.

_____

1. Remove the 5.25 in. blank panel.

2. Remove the 7 in. blank panel.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the duplex alarm indicator panel assembly, 2T-IPAIP-AB, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assemblies as needed.

3.6.4 Step 4: Relocate BA350 StorageWorks Shelves #1 and #2

1. Open the door to the BA350 shelf #2 (the top one).

2. Remove the AC cable(s).

3. Remove the signal cables.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 #2 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #2 is now free to be relocated.

10. Reinstall the BA350 shelf #2 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 105, 100, and 94 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 104 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 #2 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 102 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 98 and 97 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cables.

16. Reinstall the AC cable(s).

17. Open the door to the BA350 shelf #1 (the bottom one).

18. Remove the AC cable(s).

19. Remove the signal cables.

20. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

21. Remove the door and save the spacer hardware.

22. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

23. Remove the BA350 #1 box.

24. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

25. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #1 is now free to be relocated.

26. Reinstall the BA350 shelf #1 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

27. Slide the BA350 #1 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

28. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 86 and 85 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

29. Reinstall the door on the hinge using the spacer hardware.

30. Tighten the Allen and Phillips-head screws.

31. Reinstall the signal cables.

32. Reinstall the AC cable(s).

3.6.5 Step 5: Upgrade the AlphaServer 1000 to an AlphaServer 1000A

1. Remove all external cables from the PCI and EISA slots located at the rear bulkhead of AlphaServer 1000 #2 (the top one) and label the cables for reconnection.

2. Remove the ac power cord from the AlphaServer 1000 #2.

3. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000 #2.

4. Remove the chassis hold-down bracket, two screws are inserted in the shelf and the remaining two screws are inserted in the AlphaServer 1000 #2, put aside for later reuse. This bracket is located at the middle rear of the shelf.

5. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

6. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

7. Pull out the shelf and the AlphaServer 1000 #2 and lift and remove the top cover.

8. Remove the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, and set it aside.

9. Remove the SIMMs from the memory banks, the storage devices (CD-ROM, hard disk drive, and tape drive), the two KZPSA-BB SCSI adapters, and the graphic module (if installed) from the AlphaServer 1000, and set them aside.

10. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

11. Lock the top cover using the system unit key.

_____ **WARNING** _____

The AlphaServer units weigh approximately 70 lb. Ensure that sufficient personnel or the proper lifting equipment is available for removing the AlphaServer 1000 and installing the AlphaServer 1000A.

_____

12. Remove the AlphaServer 1000 #2 from the cabinet shelf and set it aside.

13. Install the AlphaServer 1000A #2 on the cabinet shelf.

14. Turn the top cover lock to the left to unlock the system unit. The key is located at the rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually
numbered for identification.

_____

15. Grasp the finger grove at the rear of the top cover and pull the top cover straight back
    about two inches. Lift up on the cover.

16. Reinstall the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT),
    PN 2T-VC220-IP, in backplane slot 2.

17. Reinstall the SIMMs in the memory banks, the storage devices, the two KZPSA-BB SCSI
    adapters in slots 8 and 9, and the graphics module (if it was installed in the AlphaServer
    1000) in slot 4 if it is a PCI module or slot 1 if it is an EISA module.

18. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

19. Install the two new Ethernet PCI adapters, PN DE450-CA, in backplane slots 5 and 6.

20. Align the top cover with the top of the side panels and slide the cover gently onto the unit
    from the rear.

21. Lock the top cover using the system key.

22. Slide the AlphaServer 1000A #2 into the cabinet. Install the chassis hold-down bracket in
    the middle rear of the shelf.

23. Reinstall the red shipping bracket. This will prevent the system from accidentally sliding
    out of the cabinet.

24. Connect the AC power cord for the AlphaServer 1000A #2.

25. Reconnect all external cables at the I/O area of AlphaServer 1000A #2.

26. Repeat steps 1 through 25 to upgrade the AlphaServer 1000 #1 (the bottom one) to the
    AlphaServer 1000A #1.

3.6.6 Step 6: Remove the DTP Chassis #1 and #2 and Replace with I-Bus ISA Bus Expansion Chassis #1 and #2

_____ **Note** _____

Before starting the installation of the I-Bus ISA bus expansion chassis, label every
signal cable connected to the Dialogic module signal connectors on the rear
bulkhead of the DTP chassis and record the EISA bus slot position of every
Dialogic module. This will ensure that the same exact signal cable and module
slot position will be maintained after the upgrade procedure.

_____

1. Unplug all external cables from the I/O area on the rear of DTP #1 and DTP #2.

2. Remove the four Phillips-head screws that secure the front DTP #2 (the top one) panel to
   the cabinet front rails.

3. Slide the DTP #2 out of the cabinet and remove it from the cabinet mounted rails. Place
   this unit on a work area table.

4. Remove the four standoffs mounted to the front cabinet rails that were used to secure the
   DTP #2.

5. Remove the obsolete DTP #2 rails from the cabinet.

6. Remove the eight Phillips-head screws that secure the top cover to the DTP #2 and remove the top cover.

7. Remove all of the printed circuit boards from the DTP #2 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

8. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #2 using the provided hardware.

9. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

10. Mount the outer rail assemblies inside the cabinet at hole numbers 72 and 70 from the bottom of the cabinet.

11. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #2.

12. Install the boards that were removed from DTP #2 into the I-Bus ISA bus expansion chassis #2 in the same physical location as they were installed in the DTP #2 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 13 through 16.

_____

13. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #2.

14. Lift out the drive mounting assembly and put it aside.

15. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

16. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

17. Reinstall the top cover using the same Phillips-head screws.

18. Install six U-nuts on the front rails at hole numbers 69, 76, and 79 from the bottom of the cabinet.

19. Slide the I-Bus ISA bus expansion chassis #2 onto the cabinet rails and fully into the cabinet.

20. Secure the I-Bus ISA bus expansion chassis #2 front panel using #10 screws at hole numbers 69, 76, and 79 from the bottom of the cabinet.

21. Connect the AC power cord for the I-Bus ISA bus expansion chassis #2.

22. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #2 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #2 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000A #2.

23. Remove the four Phillips-head screws that secure the front DTP #1 (the bottom one) panel to the cabinet front rails.

24. Slide the DTP #1 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

25. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #1.

26. Remove the obsolete DTP #1 rails from the cabinet.

27. Remove the eight Phillips-head screws that secure the top cover to the DTP #1 and remove the top cover.

28. Remove all of the printed circuit boards from the DTP #1 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

29. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #1 using the provided hardware.

30. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

31. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

32. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #1.

33. Install the boards that were removed from DTP #1 into the I-Bus ISA bus expansion chassis #1 in the same physical location as they were installed in the DTP #1 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note**_____

The alarm sensor module and cables may already be factory installed in the I-Bus
ISA bus expansion chassis. If they are, skip steps 34 through 37.
_____

34. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus
    expansion chassis #1.

35. Lift out the drive mounting assembly and put it aside.

36. In the same location, insert the alarm sensor module mounting assembly. The vertical
    side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place.
    The bottom is screwed into place using the existing four holes and flat-head screws.

37. Mount the alarm sensor module on the four standoffs located on the vertical side of the
    mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect
    the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin
    connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes
    between the alarm sensor module 4-pin connector (J2) and the front left compartment
    located right next to the alarm sensor module compartment. One end of the airflow
    sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other
    end, which is routed over top of the left side of the right compartment into the right side
    of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

38. Reinstall the top cover using the same Phillips-head screws.

39. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the
    cabinet.

40. Slide the I-Bus ISA bus expansion chassis #1 onto the cabinet rails and fully into the
    cabinet.

41. Secure the I-Bus ISA bus expansion chassis #1 front panel using #10 screws at hole
    numbers 54, 61, and 64 from the bottom of the cabinet.

42. Connect the AC power cord for the I-Bus ISA bus expansion chassis #1.

43. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #1
    and connect the alarm sensor module cable from the connector on the rear of the I-Bus
    ISA bus expansion chassis #1 to the 6-pin MJ connector on the alarm control module
    installed in PCI backplane slot 10 of the AlphaServer 1000A #1.

3.6.7 Step 7: Reinstall Cable Retractors

1. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 68 from
   the bottom of the cabinet.

2. Install cable retractor #2 (the top one), on the right middle rail (as viewed from the rear)
   behind the I-Bus ISA bus expansion chassis # 2 (the top one) at hole numbers 70 and 68
   from the bottom of the cabinet using #10 screws.

   _____ **Note**_____

   Hole number 70 is used by both the I-Bus ISA bus expansion chassis cabinet rail
   assembly and cable retractor #2.
   _____

3. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 53 from
   the bottom of the cabinet.

4. Install cable retractor #1 (the bottom one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 1 (the bottom one) at hole numbers 55 and 53 from the bottom of the cabinet using #10 screws.

_____ **Note** _____

Hole number 55 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #1.

_____

5. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 41 and 38 from the bottom of the cabinet.

6. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000A #2 (the top one) at hole numbers 41 and 38 from the bottom of the cabinet using #10 screws.

7. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 23 and 20 from the bottom of the cabinet.

8. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000A #1 (the bottom one) at hole numbers 23 and 20 from the bottom of the cabinet using #10 screws.

9. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

3.6.8 Step 8: AC Normal Power Up

1. Reconnect the 877-DA or 877-E power controller power cords to the external ac receptacles.

2. At the bottom rear of the cabinet, ensure that the indicator light on both 877 power controllers is lit. This indicates that ac power is being applied. Set the ac power switches to the On position.

3. Observe that ac power is applied to both DEChub 90 and the BA350 StorageWorks units.

4. Place both I-Bus ISA bus expansion chassis ac switches to the On position and ensure that the fans are operational.

5. Place both AlphaServer 1000A front panel switch to the On position. After a short wait the operator control panel on the front of the system displays the message, "Model x-xxx", and the video screen displays initialization and testing information.

3.7 Duplex AlphaServer IP with -48 Vdc Inverter and no AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a duplex AlphaServer IP with a -48 Vdc inverter and no AlphaServer upgrade using the 2T-IPUP1-DI upgrade kit.

3.7.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a ***shutdown -h now*** UNIX command from the root account. Do this first on the AlphaServer 1000 #1 (the bottom one) and complete the operation with the AlphaServer 1000 #2 (the top one).

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP #1 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #1, to the Off position. Remove the DTP #1 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the DC switch, located on the front of the DTP #2 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #2, to the Off position. Remove the DTP #2 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

4. Set the AlphaServer 1000 #1 (the bottom one) AC power switch to the Off position.

5. Set the AlphaServer 1000 #2 (the top one) AC power switch to the Off position.

6. Ensure that the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) on the rear panel of the power inverter are on the Off position.

7. Ensure that the AC POWER circuit breaker (CB1) on the front of the inverter alarm module is in the Off position.

8. Ensure that the INV On/Off switch on the front of the inverter alarm module is in the Off position.

9. Remove the cables from all of the cable retractors.

10. Remove all of the cable retractors. Set these aside for later reinstallation.

3.7.2 Step 2: Relocate DEChub 90 #1 (Bottom One)

_____ **Note**_____

The DEChub 90 #2 (the top one) is left installed as it is. No work is to be performed on the DEChub 90 #2 at this time.

_____

1. Move the right vertical rear rail, located next to the door, to the third hole from the end.

2. Move the left vertical rail towards the rear of the cabinet to the third hole from the end. (Each rail uses eight screws.).

3. Remove all signal and ac cables from DEChub 90 modules and label the cables for reinstallation.

4. Remove top and bottom DEChub 90 cage assembly module horizontal locking bars.

5. Remove all modules from the DEChub 90 cage assembly module.

6. Remove the four screws, the DEChub 90 cage assembly module, and the eight U-nuts.

7. Reinstall the eight U-nuts that were removed in step 6 onto the rearmost vertical rails and put them in exactly the same hole configuration as before, hole numbers 96, 95, 78, and 77 from the bottom of the cabinet.

8. Put the DEChub 90 cage assembly module onto the newly located rearmost rails at hole numbers 96 and 77 from the bottom of the cabinet.

9. Reinstall DEChub 90 modules and the horizontal locking bars.

10. Reconnect all signal and ac cables to the original configuration.

11. Dress cables as necessary.

3.7.3 Step 3: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

_____ **Note** _____

Before installing the alarm indicator panel assembly, install the second alarm indicator panel module into the right side of the alarm indicator panel assembly and connect the accompanying cable to it.

_____

1. Remove the 5.25 in. blank panel.

2. Remove the 7 in. blank panel.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the duplex alarm indicator panel assembly, 2T-IPAIP-AB, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assemblies as needed.

3.7.4 Step 4: Relocate BA350 StorageWorks Shelves #1 and #2

1. Open the door to the BA350 shelf #2 (the top one).

2. Remove the AC cable(s).

3. Remove the signal cables.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 #2 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #2 is now free to be relocated.

10. Reinstall the BA350 shelf #2 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 105, 100, and 94 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 104 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 #2 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 102 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 98 and 97 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cables.

16. Reinstall the AC cable(s).

17. Open the door to the BA350 shelf #1 (the bottom one).

18. Remove the AC cable(s).

19. Remove the signal cables.

20. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

21. Remove the door and save the spacer hardware.

22. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

23. Remove the BA350 #1 box.

24. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

25. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #1 is now free to be relocated.

26. Reinstall the BA350 shelf #1 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

27. Slide the BA350 #1 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

28. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 86 and 85 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

29. Reinstall the door on the hinge using the spacer hardware.

30. Tighten the Allen and Phillips-head screws.

31. Reinstall the signal cables.

32. Reinstall the AC cable(s).

3.7.5 Step 5: Modify the AlphaServer 1000 #1 and #2

1. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000 #2 (the top one).

2. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.

_____

3. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

4. Pull out the shelf and AlphaServer 1000 #2 and lift and remove the top cover

5. Remove the obsolete Four Port Acceleport Serial Line cable, PN 17-03852-33, connected between the DTP Com Port and the Four Port Acceleport module.

6. Remove obsolete Four Port Acceleport module, PN 2T-DGACC-AA, from the EISA bus backplane.

7. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

8. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

9. Lock the top cover using the system unit key.

10. Slide the AlphaServer 1000 #2 into the cabinet until the bezel locks.

11. Install the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

12. Repeat steps 1 through 11 to modify the AlphaServer 1000 #1 (the bottom one).

3.7.6 Step 6: Remove the DTP Chassis #1 and #2 and Replace with I-Bus ISA Bus Expansion Chassis #1 and #2

_____ **Note** _____

Before starting the installation of the I-Bus ISA bus expansion chassis, label every signal cable connected to the Dialogic module signal connectors on the rear bulkhead of the DTP chassis and record the EISA bus slot position of every Dialogic module. This will ensure that the same exact signal cable and module slot position will be maintained after the upgrade procedure.

_____

1. Unplug all external cables from the I/O area on the rear of DTP #1 and DTP #2.

2. Remove the four Phillips-head screws that secure the front DTP #2 (the top one) panel to the cabinet front rails.

3.   Slide the DTP #2 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

4.   Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #2.

5.   Remove the obsolete DTP #2 rails from the cabinet.

6.   Remove the eight Phillips-head screws that secure the top cover to the DTP #2 and remove the top cover.

7.   Remove all of the printed circuit boards from the DTP #2 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

8.   Mount the new inner slides onto the I-Bus ISA bus expansion chassis #2 using the provided hardware.

9.   Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

10. Mount the outer rail assemblies inside the cabinet at hole numbers 72 and 70 from the bottom of the cabinet.

11. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #2.

12. Install the boards that were removed from DTP #2 into the I-Bus ISA bus expansion chassis #2 in the same physical location as they were installed in the DTP #2 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 13 through 16.

_____

13. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #2.

14. Lift out the drive mounting assembly and put it aside.

15. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

16. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin

connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

17. Reinstall the top cover using the same Phillips-head screws.

18. Install six U-nuts on the front rails at hole numbers 69, 76, and 79 from the bottom of the cabinet.

19. Slide the I-Bus ISA bus expansion chassis #2 onto the cabinet rails and fully into the cabinet.

20. Secure the I-Bus ISA bus expansion chassis #2 front panel using #10 screws at hole numbers 69, 76, and 79 from the bottom of the cabinet.

21. Connect the AC power cord for the I-Bus ISA bus expansion chassis #2.

22. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #2 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #2 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000 #2.

23. Remove the four Phillips-head screws that secure the front DTP #1 (the bottom one) panel to the cabinet front rails.

24. Slide the DTP #1 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

25. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #1.

26. Remove the obsolete DTP #1 rails from the cabinet.

27. Remove the eight Phillips-head screws that secure the top cover to the DTP #1 and remove the top cover.

28. Remove all of the printed circuit boards from the DTP #1 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

29. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #1 using the provided hardware.

30. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

31. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

32. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #1.

33. Install the boards that were removed from DTP #1 into the I-Bus ISA bus expansion chassis #1 in the same physical location as they were installed in the DTP #1 except for the LR3-AT board.

_____ **Note**_____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note**_____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 34 through 37.

_____

34. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #1.

35. Lift out the drive mounting assembly and put it aside.

36. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

37. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

38. Reinstall the top cover using the same Phillips-head screws.

39. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the cabinet.

40. Slide the I-Bus ISA bus expansion chassis #1 onto the cabinet rails and fully into the cabinet.

41. Secure the I-Bus ISA bus expansion chassis #1 front panel using #10 screws at hole numbers 54, 61, and 64 from the bottom of the cabinet.

42. Connect the AC power cord for the I-Bus ISA bus expansion chassis #1.

43. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #1 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #1 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000 #1.

3.7.7 Step 7: Reinstall Cable Retractors

1. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 68 from the bottom of the cabinet.

2. Install cable retractor #2 (the top one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 2 (the top one) at hole numbers 70 and 68 from the bottom of the cabinet using #10 screws.

_____ **Note** _____

Hole number 70 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #2.

_____

3. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 53 from the bottom of the cabinet.

4. Install cable retractor #1 (the bottom one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 1 (the bottom one) at hole numbers 55 and 53 from the bottom of the cabinet using #10 screws.

_____ **Note** _____

Hole number 55 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #1.

_____

5. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 41 and 38 from the bottom of the cabinet.

6. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000 #2 (the top one) at hole numbers 41 and 38 from the bottom of the cabinet using #10 screws.

7. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 23 and 20 from the bottom of the cabinet.

8. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000 #1 (the bottom one) at hole numbers 23 and 20 from the bottom of the cabinet using #10 screws.

9. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

3.7.8 Step 8: Install -48 Vdc Power Inverter Alarm Cable

Connect the -48 Vdc inverter alarm cable (PN 17-04676-01) between the 25-pin D-connector (J17), located at the right rear of the -48 Vdc power inverter, and the alarm control module (PN 2T-IPCON-AA) installed in slot 10 of the AlphaServer 1000 #1.

3.7.9 Step 9: -48 Vdc Inverter Normal Power Up

1. Place the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) to the closed (On) position.

2. Place the INV On/Off switch on the inverter alarm module to the On position.

3. Verify that the DC On, the BRKR Open, and the INV On LEDs on the inverter alarm module are lit.

4. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

5. Verify that the bottom segment of the ten-segment LED on all of the inverter power modules is lit.

6. Place the AC POWER circuit breaker (CB1) on the inverter alarm module to the closed position.

7. Verify that the DC On, the INV On, and the Load LEDs on the inverter alarm module are lit. The BRKR Open LED should not be lit.

8. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

9. Verify that the three ac fans are functioning properly.

10. Verify that multiple segments of the ten-segment LED on all inverter power modules are lit. The number of segments lit depends on the load on the power inverter. All of the inverter power modules should have approximately the same number of segments lit since they share the load.

11. One at a time, turn on the systems or equipment connected to the power inverter AC output connectors. The first systems to come on will be both DEChub 90 and BA350 StorageWorks shelves. Next, turn on both I-Bus ISA bus expansion chassis and lastly, apply AC power to both AlphaServer 1000 systems.

3.8 Duplex AlphaServer IP with -48 Vdc Inverter and with an AlphaServer Upgrade

Perform the procedure in the following sections to upgrade a duplex AlphaServer IP with a -48 Vdc inverter and with an AlphaServer upgrade using the 2T-IPUP1-DJ upgrade kit.

3.8.1 Step 1: Perform a Power Shutdown

1. Perform an orderly shutdown of the operating systems by executing a ***shutdown -h now*** UNIX command from the root account. Do this first on the AlphaServer 1000 #1 (the bottom one) and complete the operation with the AlphaServer 1000 #2 (the top one).

   See Appendix A for reference information and drawings for the AlphaServer IP V1 system to see where you are starting from. See Appendix B for reference information and drawings for the AlphaServer IP V2 system to see where you will be ending.

2. Set the DC switch, located on the front of the DTP #1 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #1, to the Off position. Remove the DTP #1 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

3. Set the DC switch, located on the front of the DTP #2 (Dialogic Telco Platform), to the Off position (this will generate an alarm condition). Set the AC switch, located in the rear of the DTP #2, to the Off position. Remove the DTP #2 front top cover and disable the DTP alarm by setting the module micro toggle switch to the left, the Off position.

4. Set the AlphaServer 1000 #1 (the bottom one) AC power switch to the Off position.

5. Set the AlphaServer 1000 #2 (the top one) AC power switch to the Off position.

6. Ensure that the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) on the rear panel of the power inverter are on the Off position.

7. Ensure that the AC POWER circuit breaker (CB1) on the front of the inverter alarm module is in the Off position.

8. Ensure that the INV On/Off switch on the front of the inverter alarm module is in the Off position.

9. Remove the cables from all of the cable retractors.

10. Remove all of the cable retractors. Set these aside for later reinstallation.

3.8.2 Step 2: Relocate DEChub 90 #1 (Bottom One)

_____ **Note** _____

The DEChub 90 #2 (the top one) is left installed as it is. No work is to be performed on the DEChub 90 #2 at this time.

_____

1. Move the right vertical rear rail, located next to the door, to the third hole from the end.

2. Move the left vertical rail towards the rear of the cabinet to the third hole from the end. (Each rail uses eight screws.).

3. Remove all signal and ac cables from DEChub 90 modules and label the cables for reinstallation.

4. Remove top and bottom DEChub 90 cage assembly module horizontal locking bars.

5. Remove all modules from the DEChub 90 cage assembly module.

6. Remove the four screws, the DEChub 90 cage assembly module, and the eight U-nuts.

7. Reinstall the eight U-nuts that were removed in step 6 onto the rearmost vertical rails and put them in exactly the same hole configuration as before, hole numbers 96, 95, 78, and 77 from the bottom of the cabinet.

8. Put the DEChub 90 cage assembly module onto the newly located rearmost rails at hole numbers 96 and 77 from the bottom of the cabinet.

9. Reinstall DEChub 90 modules and the horizontal locking bars.

10. Reconnect all signal and ac cables to the original configuration.

11. Dress cables as necessary.

3.8.3 Step 3: Remove the Top 5.25 in. and 7 in. Blank Panels and Replace with a 3.5 in. Blank Panel and Alarm Indicator Panel

_____ **Note** _____

Before installing the alarm indicator panel assembly, install the second alarm indicator panel module into the right side of the alarm indicator panel assembly and connect the accompanying cable to it.

_____

1. Remove the 5.25 in. blank panel.

2. Remove the 7 in. blank panel.

3. Remove the panel mounting hardware consisting of four U-nuts and four ball-studs for each of the blank panels except for the U-nuts and ball-studs installed in holes 119 from the bottom of the cabinet on the left and right front rails.

4. Install two U-nuts and two ball-studs in hole number 116 from the bottom of the cabinet on the left and right front rails.

5. Install the 3.5 in. blank panel on the ball-studs mounted in holes 119 and 116 on the left and right front rails.

6. Install four U-nuts at hole numbers 113 and 107 from the bottom of the cabinet on the left and right front rails.

7. Install the duplex alarm indicator panel assembly, 2T-IPAIP-AB, at hole numbers 113 and 107 on the left and right front rails using the supplied hardware.

8. Dress the alarm indicator panel cable assemblies as needed.

3.8.4 Step 4: Relocate BA350 StorageWorks Shelves #1 and #2

1. Open the door to the BA350 shelf #2 (the top one).

2. Remove the AC cable(s).

3. Remove the signal cables.

4. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

5. Remove the door and save the spacer hardware.

6. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

7. Remove the BA350 #2 box.

8. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

9. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #2 is now free to be relocated.

10. Reinstall the BA350 shelf #2 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 105, 100, and 94 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 104 from the bottom of the cabinet on the left and right front rails.

11. Slide the BA350 #2 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 102 from the bottom of the cabinet on the left and right front rails.

12. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 98 and 97 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

13. Reinstall the door on the hinge using the spacer hardware.

14. Tighten the Allen and Phillips-head screws.

15. Reinstall the signal cables.

16. Reinstall the AC cable(s).

17. Open the door to the BA350 shelf #1 (the bottom one).

18. Remove the AC cable(s).

19. Remove the signal cables.

20. Loosen the Allen screws and the Phillips-head screws located just below the Allen screw. Do not remove at this time.

21. Remove the door and save the spacer hardware.

22. Remove the screws located just below the ball-studs and remove the Z hold down brackets.

23. Remove the BA350 #1 box.

24. Remove the Allen and Phillips-head screws that are securing the door hinge. (These screws are already loose.)

25. Remove the two ball-studs and six Phillips-head screws. The BA350 shelf #1 is now free to be relocated.

26. Reinstall the BA350 shelf #1 by moving it up 6 holes for a total of 3.5 in., using the six Phillips-head screws at hole numbers 93, 88, and 82 from the bottom of the cabinet on the left and right front rails and then install the ball-studs at hole number 92 from the bottom of the cabinet on the left and right front rails.

27. Slide the BA350 #1 box into the shelf and reinstall the Z hold down brackets located below the ball-studs using two Phillips-head screws at hole number 90 from the bottom of the cabinet on the left and right front rails.

28. Reinstall the door hinge using the Phillips-head and Allen screws at hole numbers 86 and 85 from the bottom of the cabinet on the left and right front rails. Do not tighten at this time.

29. Reinstall the door on the hinge using the spacer hardware.

30. Tighten the Allen and Phillips-head screws.

31. Reinstall the signal cables.

32. Reinstall the AC cable(s).

3.8.5 Step 5: Upgrade the AlphaServer 1000 to an AlphaServer 1000A

1. Remove all external cables from the PCI and EISA slots located at the rear bulkhead of AlphaServer 1000 #2 (the top one) and label the cables for reconnection.

2. Remove the ac power cord from the AlphaServer 1000 #2.

3. Remove the red shipping bracket located at the left rear shelf location of the AlphaServer 1000 #2.

4. Remove the chassis hold-down bracket, two screws are inserted in the shelf and the remaining two screws are inserted in the AlphaServer 1000 #2, put aside for later reuse. This bracket is located at the middle rear of the shelf.

5. Turn the top cover lock to the left to unlock the system unit. The key is located at the top rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.
_____

6. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches.

7. Pull out the shelf and AlphaServer 1000 #2 and lift and remove the top cover.

8. Remove the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, and set it aside.

9. Remove the SIMMs from the memory banks, the storage devices (CD-ROM, hard disk drive, and tape drive), the two KZPSA-BB SCSI adapters, and the graphics module (if installed) from the AlphaServer 1000, and set them aside.

10. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

11. Lock the top cover using the system unit key.

_____ **WARNING** _____

The AlphaServer units weigh approximately 70 lb. Ensure that sufficient personnel or the proper lifting equipment is available for removing the AlphaServer 1000 and installing the AlphaServer 1000A.
_____

12. Remove the AlphaServer 1000 #2 from the cabinet shelf and set it aside.

13. Install the AlphaServer 1000A #2 on the cabinet shelf.

14. Turn the top cover lock to the left to unlock the system unit. The key is located at the rear of the system.

_____ **Note** _____

Keys are unique to the system. Keys are not interchangeable and are individually numbered for identification.
_____

15. Grasp the finger grove at the rear of the top cover and pull the top cover straight back about two inches. Lift up on the cover.

16. Reinstall the Acces I/O EISA bus repeater module, expansion transmitter card (LT3-AT), PN 2T-VC220-IP, in backplane slot 2.

17. Reinstall the SIMMs in the memory banks, the storage devices, the two KZPSA-BB SCSI adapters in slots 8 and 9, and the graphics module (if it was installed in the AlphaServer 1000) in slot 4 if it is a PCI module or slot 1 if it is an EISA module.

18. Install the new alarm control module, PN 2T-IPCON-AA, in backplane slot 10.

19. Install the two new Ethernet PCI adapters, PN DE450-CA, in backplane slots 5 and 6.

20. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear.

21. Lock the top cover using the system key.

22. Slide the AlphaServer 1000A #2 into the cabinet. Install the chassis hold-down bracket in the middle rear of the shelf.

23. Reinstall the red shipping bracket. This will prevent the system from accidentally sliding out of the cabinet.

24. Connect the AC power cord for the AlphaServer 1000A #2.

25. Reconnect all external cables at the I/O area of AlphaServer 1000A #2.

26. Repeat steps 1 through 25 to upgrade the AlphaServer 1000 #1 (the bottom one) to the AlphaServer 1000A #1.

3.8.6 Step 6: Remove the DTP Chassis #1 and #2 and Replace with I-Bus ISA Bus Expansion Chassis #1 and #2

_____ **Note** _____

Before starting the installation of the I-Bus ISA bus expansion chassis, label every signal cable connected to the Dialogic module signal connectors on the rear bulkhead of the DTP chassis and record the EISA bus slot position of every Dialogic module. This will ensure that the same exact signal cable and module slot position will be maintained after the upgrade procedure.

_____

1. Unplug all external cables from the I/O area on the rear of DTP #1 and DTP #2.

2. Remove the four Phillips-head screws that secure the front DTP #2 (the top one) panel to the cabinet front rails.

3. Slide the DTP #2 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

4. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #2.

5. Remove the obsolete DTP #2 rails from the cabinet.

6. Remove the eight Phillips-head screws that secure the top cover to the DTP #2 and remove the top cover.

7. Remove all of the printed circuit boards from the DTP #2 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

8. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #2 using the provided hardware.

9. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

10. Mount the outer rail assemblies inside the cabinet at hole numbers 72 and 70 from the bottom of the cabinet.

11. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #2.

12. Install the boards that were removed from DTP #2 into the I-Bus ISA bus expansion chassis #2 in the same physical location as they were installed in the DTP #2 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note** _____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 13 through 16.

_____

13. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #2.

14. Lift out the drive mounting assembly and put it aside.

15. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

16. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

17. Reinstall the top cover using the same Phillips-head screws.

18. Install six U-nuts on the front rails at hole numbers 69, 76, and 79 from the bottom of the cabinet.

19. Slide the I-Bus ISA bus expansion chassis #2 onto the cabinet rails and fully into the cabinet.

20. Secure the I-Bus ISA bus expansion chassis #2 front panel using #10 screws at hole numbers 69, 76, and 79 from the bottom of the cabinet.

21. Connect the AC power cord for the I-Bus ISA bus expansion chassis #2.

22. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #2 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #2 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000A #2.

23. Remove the four Phillips-head screws that secure the front DTP #1 (the bottom one) panel to the cabinet front rails.

24. Slide the DTP #1 out of the cabinet and remove it from the cabinet mounted rails. Place this unit on a work area table.

25. Remove the four standoffs mounted to the front cabinet rails that were used to secure the DTP #1.

26. Remove the obsolete DTP #1 rails from the cabinet.

27. Remove the eight Phillips-head screws that secure the top cover to the DTP #1 and remove the top cover.

28. Remove all of the printed circuit boards from the DTP #1 backplane. There may be up to 14 boards.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is located in slot 1. Also make a note of the physical locations of the other boards and their respective cables.

_____

29. Mount the new inner slides onto the I-Bus ISA bus expansion chassis #1 using the provided hardware.

30. Assemble the I-Bus ISA bus expansion chassis outer rail assemblies as instructed.

31. Mount the outer rail assemblies inside the cabinet at hole numbers 57 and 55 from the bottom of the cabinet.

32. Remove the screws from the top cover and remove the top cover assembly from the I-Bus ISA bus expansion chassis #1.

33. Install the boards that were removed from DTP #1 into the I-Bus ISA bus expansion chassis #1 in the same physical location as they were installed in the DTP #1 except for the LR3-AT board.

_____ **Note** _____

The Acces I/O module, expansion receiver board (LR3-AT), is installed in slot J10.

_____

_____ **Note**_____

The alarm sensor module and cables may already be factory installed in the I-Bus ISA bus expansion chassis. If they are, skip steps 34 through 37.
_____

34. Remove four flat-head screws located at the bottom right side of the I-Bus ISA bus expansion chassis #1.

35. Lift out the drive mounting assembly and put it aside.

36. In the same location, insert the alarm sensor module mounting assembly. The vertical side is facing the front of the I-Bus ISA bus expansion chassis. Snap this side in place. The bottom is screwed into place using the existing four holes and flat-head screws.

37. Mount the alarm sensor module on the four standoffs located on the vertical side of the mounting assembly. Mount it so that J1, the 6-pin connector, is on the left side. Connect the existing bulkhead cable, PN 17-04673-01, between the alarm sensor module 6-pin connector and the top rear of the chassis. The existing DC cable, PN 17-04674-01, goes between the alarm sensor module 4-pin connector (J2) and the front left compartment located right next to the alarm sensor module compartment. One end of the airflow sensor cable is connected to the alarm sensor module 2-pin connector (J3) and the other end, which is routed over top of the left side of the right compartment into the right side of the left compartment, is fitted into a 'C' clamp to hold the airflow sensor.

38. Reinstall the top cover using the same Phillips-head screws.

39. Install six U-nuts on the front rails at hole numbers 54, 61, and 64 from the bottom of the cabinet.

40. Slide the I-Bus ISA bus expansion chassis #1 onto the cabinet rails and fully into the cabinet.

41. Secure the I-Bus ISA bus expansion chassis #1 front panel using #10 screws at hole numbers 54, 61, and 64 from the bottom of the cabinet.

42. Connect the AC power cord for the I-Bus ISA bus expansion chassis #1.

43. Reconnect all external cables at the I/O area of the I-Bus ISA bus expansion chassis #1 and connect the alarm sensor module cable from the connector on the rear of the I-Bus ISA bus expansion chassis #1 to the 6-pin MJ connector on the alarm control module installed in PCI backplane slot 10 of the AlphaServer 1000A #1.

3.8.7 Step 7: Reinstall Cable Retractors

1. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 68 from the bottom of the cabinet.

2. Install cable retractor #2 (the top one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 2 (the top one) at hole numbers 70 and 68 from the bottom of the cabinet using #10 screws.

    _____ **Note** _____

    Hole number 70 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #2.

    _____

3. Install a U-nut on the right middle rail (as viewed from the rear) at hole number 53 from the bottom of the cabinet.

4. Install cable retractor #1 (the bottom one), on the right middle rail (as viewed from the rear) behind the I-Bus ISA bus expansion chassis # 1 (the bottom one) at hole numbers 55 and 53 from the bottom of the cabinet using #10 screws.

    _____ **Note** _____

    Hole number 55 is used by both the I-Bus ISA bus expansion chassis cabinet rail assembly and cable retractor #1.

    _____

5. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 41 and 38 from the bottom of the cabinet.

6. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000A #2 (the top one) at hole numbers 41 and 38 from the bottom of the cabinet using #10 screws.

7. Install a U-nut on the right middle rail (as viewed from the rear) at hole numbers 23 and 20 from the bottom of the cabinet.

8. Install a cable retractor on the right middle rail (as viewed from the rear) behind the AlphaServer 1000A #1 (the bottom one) at hole numbers 23 and 20 from the bottom of the cabinet using #10 screws.

9. Dress all cables from all units, using cable retractors or cable management brackets and rails, with tie wraps and adhesive backed cable mounts.

3.8.8 Step 8: Install -48 Vdc Power Inverter Alarm Cable

Connect the -48 Vdc inverter alarm cable (PN 17-04676-01) between the 25-pin D-connector (J17), located at the right rear of the -48 Vdc power inverter, and the alarm control module (PN 2T-IPCON-AA) installed in slot 10 of the AlphaServer 1000A #1.

3.8.9 Step 9: -48 Vdc Inverter Normal Power Up

1. Place the -48 Vdc input A circuit breaker (CB1) and the -48 Vdc input B circuit breaker (CB2) to the closed (On) position.

2. Place the INV On/Off switch on the inverter alarm module to the On position.

3. Verify that the DC On, the BRKR Open, and the INV On LEDs on the inverter alarm module are lit.

4. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

5. Verify that the bottom segment of the ten-segment LED on all of the inverter power modules is lit.

6. Place the AC POWER circuit breaker (CB1) on the inverter alarm module to the closed position.

7. Verify that the DC On, the INV On, and the Load LEDs on the inverter alarm module are lit. The BRKR Open LED should not be lit.

8. Verify that the On LED on the inverter control module is lit. On redundant power inverters, the On LED is lit on one of the inverter control modules (master control module) and not lit on the other inverter control module (slave control module).

9. Verify that the three ac fans are functioning properly.

10. Verify that multiple segments of the ten-segment LED on all inverter power modules are lit. The number of segments lit depends on the load on the power inverter. All of the inverter power modules should have approximately the same number of segments lit since they share the load.

11. One at a time, turn on the systems or equipment connected to the power inverter AC output connectors. The first systems to come on will be both DEChub 90 and BA350 StorageWorks shelves. Next, turn on both I-Bus ISA bus expansion chassis and lastly, apply AC power to both AlphaServer 1000A systems.

4
Updating the AlphaServer IP System Firmware

4.1 Firmware Update

The following sections provide the information needed for updating the AlphaServer IP system firmware.

4.1.1 Items Needed for Firmware Update

To update the AlphaServer IP system firmware, you will need either the Alpha Systems Firmware Update V3.9 CD-ROM (PN AG-PTMWW-BE) or a bootable firmware floppy disk. (See the web page listings in Section 4.1.3 for more information.

4.1.2 Update Procedure

Check the current firmware version on your system by typing the following at the console prompt:

>>> **show version**

The current Installation Guide shows that the minimum version is 3.1 for AlphaServer 1000 and AlphaServer 1000A systems

The latest version of the firmware on the V3.9 Firmware CD-ROM is V4.8. It is suggested that you update to the latest version of the firmware before performing the operating system installation.

4.1.2.1 Update Using CD-ROM

The procedure for updating the firmware on an OpenVMS or DIGITAL UNIX system using the Alpha Firmware CD-ROM from the SRM console is shown below.

Update Steps	Display	Process
Insert Alpha Firmware CD-ROM into CD-ROM drive	**>>> show device**	Find the CD-ROM device ID e.g dka400
Boot the Alpha Firmware CD-ROM	**>>> Boot dka400**	Boot code determines AlphaServer type then displays the firmware update file and a Bootfile: prompt.
Press the enter key after the Bootfile prompt	**Bootfile:**	Use the default firmware update file
Type update at the LFU prompt	**UPD> update**	Update console and option firmware
Answer Y(es) to the confirmation question	**Confirm update on ARC SRM PKB0 [Y/(N)] Y**	Confirm update options
Type exit after the firmware update is complete	**UPD>exit**	Exit the LFU and initialize the system

Example:

```
>>> show device

dka400.1.0.1.0  DKA400 RRD43  1084

>>> boot dka400

 (boot dka400.1.0.1.0)

block 0 of dka400.1.0.1.0 is a valid boot block

reading 989 blocks from dka400.5.0.1000.0

bootstrap code read in

base = 156000, image_start = 0, image_bytes = 7ba00

initializing HWRPB at 2000

initializing page table at 148000

initializing machine state

setting affinity to the primary CPU

jumping to bootstrap code

 [Release notes are displayed]

Bootfile:  [press enter-key]

eb.....ea.e9.e8.e7.e6.

Checking dba500.5.0.1000.0 for the option firmware files. . .

Copying DFEAA130 from dka400.1.0.1.0. . .

Copying DFEAB246 from dka400.1.0.1.0. . .

Copying DFPAA246 from dka400.1.0.1.0. . .

Copying KZPSAA10 from dka400.1.0.1.0. . .
```

```
          ***** Loadable Firmware Update Utility *****

     -------------------------------------------------------------

     Function    Description

     -------------------------------------------------------------

     Display     Displays the system's configuration table.

     Exit        Done exit LFU (reset).

     List        Lists the device, revision, firmware name and
                   update revision.

     Update      Replaces current firmware with loadable data image.

     Verify      Compares loadable and hardware images.

     ? or Help   Scrolls this function table.

     -------------------------------------------------------------

     UPD> UPDATE

     UPD> exit
```

_____ **Note** _____

The firmware is now loaded into ROM. Typing exit will reset the AlphaServer
system which invokes the new firmware.

_____

4.1.2.2 Update Using Bootable Firmware Diskette

Insert the floppy on the target system and boot it from the SRM console:

>>> **boot dva0**

For more detailed instructions, please refer to the release notes.

4.1.3 Sources for More Information

The following web page lists the procedure for creating a bootable firmware floppy diskette
for the AlphaServer 1000A Model 4xx and Model 5xx:

http://ftp.digital.com/pub/DEC/Alpha/firmware/readmes/alpha1000a.html

The following web page lists the procedure for creating a bootable firmware floppy diskette
for the AlphaServer 1000 Model 4xx and Model 5xx:

http://ftp.digital.com/pub/DEC/Alpha/firmware/readmes/alpha1000.html

The following web page lists the release notes for updating firmware on the AlphaServer
800/1000/1000A using the firmware update CD ROM:

http://ftp.digital.com/pub/DEC/Alpha/firmware/v3.9/doc/alpha1000_v48_fw_relnote.txt

5
Updating Configuration Data for the AlphaServer IP System

5.1 Upgrade Process

The ECU configuration should be verified before doing any hardware upgrades.

Check with the customer/partner to verify that they still have the original ECU diskette used for configuring their system. If the diskette is not available, the V1.10 version of the ECU diskette (PN AK-Q2CRK-CA) should be used for all DIGITAL and Dialogic devices. Any other ECU files for third party devices should be available from either the customer/partner or from the third party vendor.

5.1.1 Monitor Setup

If the system has a graphics card, attach a graphics monitor to the port on the card. Attach the mouse and keyboard using the labeled ports.

If there is no graphics card installed, you will need to use a VT220 attached to the first serial port (COM1). Please note that there may be difficulties running ECU on the serial terminal if the terminal settings are incorrect. According to note 285 of the Jensen notes file (AYJEN1::JENSEN), you will need the following settings:

8 bit controls

9600 baud

8 bit data

no parity

1 stop bit.

5.1.2 Getting Started

Shutdown the system, insert the ECU diskette into the diskette drive, and type "ecu" or "runecu" at the console prompt.

```
>>> runecu
```

5.2 Rebuilding the EISA Configuration Data

Refer to Appendix C for more information concerning reconfiguring your ECU data.

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6

</div>

Completing the Upgrade for the AlphaServer IP System

6.1 Installing DIGITAL UNIX V4.0B

The following sections provide the monitor setup, a list of required equipment/items, installation hints, needed documentation, and the installation procedure for installing DIGITAL UNIX version 4.0B on the AlphaServer IP system.

6.1.1 Monitor Setup

If you have a graphics monitor, the installation of the operating system will be done via a graphical user interface that will allow you to answer all necessary questions and manipulate disk partitions before the installation proceeds.

If you do not have a graphics monitor, you get the standard installation script. If this is the case, you will have to use the system management option of the installation procedure in order to alter disk partitions.

6.1.2 Required Equipment/Items

The following is a list of the required equipment/items needed for installing DIGITAL UNIX version 4.0B on the AlphaServer IP system.

- DIGITAL UNIX 4.0B or 4.0C Operating System CD (PN AG-QTM9D-BE)

- DIGITAL UNIX 4.0B Associated Products CD Volume 1 (PN AG-QTMAC-BE)

- DIGITAL UNIX 4.0B Associated Products CD Volume 2 (PN AG-QX6FC-BE)

- DIGITAL UNIX Software Product Library Package (PN QA-054AA-W8)

- DIGITAL UNIX System Administration Guide (PN AA-PS2RE-TE)

- DIGITAL UNIX Installation Guide (PN AA-QTLGA-TE but also available on the Operating System CD)

- DECevent 2.5 tape (See Section 6.5 for more information)

- IPFM for DIGITAL UNIX V2.0 CD (PN AG-QN0HB-BE)

- Dialogic Drivers CD V4.2 FT1 for DIGITAL UNIX 4.0B (PN AG-R7HGA-BE)

- Dialogic Drivers for DIGITAL UNIX Software Installation Guide (PN AA-QJHPE-TE)

- DIGITAL AlphaServer Voice Platform Hardware Installation Guide (PN EK-VOICE-IN)

- CD caddy (needed for older model CD drives) (optional)

- Diskettes (PN RX23K-FM)

- AlphaServer Intelligent Peripheral Platform System Managers Guide (PN AA-QUOJB-TE)

It is recommended that you print out and review the Installation Guide(s) before trying to complete an installation.

6.1.3 Installation Hints

The following are hints that are helpful when installing DIGITAL UNIX version 4.0B on the AlphaServer IP system.

- Use AdvFS as your file system type. AdvFS provides rapid crash recovery, high performance, and a flexible structure that enables you to manage your file systems while it is on line.

- Double the size of the root partition (a). The 4.0 kernels tend to be much larger than the 3.2 kernels. Increasing the size of the root partition will prevent filling it up when doing kernel rebuilds.

- Make the size of the swap partition at least 3 times the size of system memory. Not doing so may cause the system to hang. Use partition b for the swap partition. Note that more swap space can be added later using the **swapon** command. See manual pages for more information.

- Use disk partition g for the user partition. Partition h will be used in configuring LSM and should be sized to 1 Meg. Partition g should use all other remaining space on the disk.

- Include all mandatory and optional subsets when loading the operating system unless you are told otherwise. For most systems it is better to have the subsets and not need them than to need the subsets and not have them.

- Include all options during the kernel build.

6.1.4 Other DIGITAL UNIX 4.0 Operating System Documentation

For more detailed information concerning the installation of DIGITAL UNIX, refer to the following documents:

- DIGITAL_UNIX_V4_0B_Install_Gde.ps

- DIGITAL_UNIX_V4_0B_Release_Notes.ps

Both of these documents are available on the Operating System CD in the ~/DOCUMENTATION/POSTSCRIPT subdirectory.

To access the documents perform the following:

Determine the device number of the CD drive using the following command:

> **# file /dev/rrz*c | grep RRD**

You should see a response similar to the following:

> **/dev/rrz4c: character special (8/4098) SCSI #0 RRD44 disk #32 (SCSI ID #4)**

The SCSI ID is the number of the device you want to mount the CD on, in this case **/dev/rz4c**.

Load the Operating System CD into the CD drive of a system running DIGITAL UNIX.

Mount the CD using the following command:

> **# mount -dr /dev/rz4c /mnt**

Note: /mnt is a default mount point that should be available on any DIGITAL UNIX system. If you get an error, try creating a mount point:

> **# mkdir /cdrom**

and mount the CD with it:

> **# mount -dr /dev/rz4c /cdrom**

Then set default to the document directory using your chosen mount point as the top level directory:

> **# cd /mnt/DOCUMENTATION/POSTSCRIPT**

> OR

> **# cd /cdrom/DOCUMENTATION/POSTCRIPT**

It is recommended that you print the files and review them before attempting to do an installation.

6.1.5 Installation Procedure

The following sections provide the procedure for installing DIGITAL UNIX version 4.0B on the AlphaServer IP system.

6.1.5.1 Set Console Flags

Set console to graphics. (This assumes that you have a graphics monitor.)

> **>>> set console graphics**

Set bus_probe_algorithm to new.

> **>>> set bus_probe_algorithm new**

Set auto_action to halt.

> **>>> set auto_action halt**

Set bootfile to null.

> **>>> set bootfile**

Make a note of the amount of system memory.

> **>>> show memory**

6.1.5.2 Booting From the Operating System CD

Insert the DIGITAL UNIX V4.0 Operating System CD into the CD-ROM drive.

Enter the following command to determine the unit number of the CD-ROM drive:

> **>>> show device**

Look for a line that contains RRD, something similar to the following:

> **dka500.5.0.6.0   DKA500   RRD45   2893**

In this case "DKA500" indicates the CD-ROM device.

Enter the boot command with the CD-ROM device:

> **>>> boot DKA500**

See Section 4.4 of the DIGITAL UNIX Installation Guide for V4.0 for more detailed information.

6.1.5.3 After Booting the System

If your system console has graphics capabilities, the X Server is started up and an Installation Setup window is displayed. Please note that it may take a few minutes for the window to be displayed. Otherwise, a text-based installation procedure is displayed. See the DIGITAL UNIX Installation Guide (Chapter titled "Performing Default Custom and Cloned Installations") for more information on text-based installations.

Basically the Installation Setup window give you the ability to point and click on various items in order to input responses or select from a menu of responses. You may have to move the window in order to see portions of the window not currently being displayed.

The responses you need to make are listed below:

Install Type:	Click on input field and select Custom.
Hostname:	Click on input field and enter the system name.
Root Password:	Click on input field and input the root password.
	Note: A "*" is echoed for each character that you input for this field.
Verify Password:	Click on input field and re-enter the password.
	Note: A "*" is echoed for each character that you input for this field.
Date:	Click on input field and enter the date.
Time:	Skip the time for now. You will enter the time as one of the final steps.
Location:	Click on input field and select appropriate location (default: US).
Time Zone:	Click on input field and select appropriate time zone (default: Eastern).

6.1.5.4 Selecting File System Type for /usr, /var, and Swap Partition

Click on the File System Type input fields for the root and usr partitions and select AdvFS.

Partition "g" is normally used for the /usr partition.

Partition "b" is normally used as the swap partition.

/var is normally bundled in as part of the /usr partition.

Review the partition table and make any necessary corrections.

6.1.5.5 Selecting Software

Click on the <u>Select Software</u>… button and wait for the <u>Software Selection</u> window to appear. Click on <u>Add All</u> to load all mandatory and optional subsets. Then click on <u>OK</u> to commit.

6.1.5.6 Partitioning Disk(s)

1. Click on the <u>Partition Disks</u>… button and wait for the <u>Device Selection for Partition</u> window to appear.

2. Select the disk to be partitioned, then click on <u>OK</u>. (The first or only item in the list is usually the system disk, so select whichever is applicable. Make a note of which device is being used as the system disk because this information will be needed for completing the installation.)

3. Wait for the <u>Configure Partition</u> window to appear.

4. Click on the <u>Units</u>: input field and select <u>Megabytes</u>.

5. Click on partition "a" in the partition graph.

6. Move the right "border" for the "a" partition to the right until its size is approximately 134 megabytes.

_____ **Note**_____

> A large dot will appear on the border if the neighboring partition to the right is contiguous with the selected partition. If there is no dot, slide the right border of the selected partition to the left until a visible separation appears. Then slide the border back to the right until the dot appears.

_____

7. Click on partition "b" in the partition graph.

8. Move the right "border" of the "b" partition to the right until its size is approximately 3 times the size of system memory. For instance, if the system has 128 Meg of memory the "b" partition will need to be approximately 384 Meg.

9. Click on partitions "g" and "h" in the Use Partitions portion of the window. These partitions would normally show up as the default. If the "h" partition happens to be unselectable, use the procedure outlined in the previous note to make the "g" and "h" partitions contiguous. Make the h partition 1 Meg. (**Note:** The h partition will be used for LSM configuration.) The g partition should use all other remaining space.

10. Click on the Commit button after you are satisfied with your settings.

11. Wait for the Commit Confirmation window to appear.

12. Click on OK in the Commit Confirmation window. Then click on Close in the Configure Partition window.

13. Now enter the time in the Time: input field of the Installation Setup window and click on Setup Done.

14. Wait for the Ready to Begin Installation window, and then click on OK. The installation takes approximately one hour.

6.1.5.7 Completing the Installation

After the installation has finished, the system should display the console prompt. Enter the following commands to complete the installation:

> **>>> set boot_osflags A**

> **>>> set bootdef_dev DKA0**

> > **Note:** Be sure to use the same device that was used previously in Section 6.1.5.6.

> **>>> boot**

See Section 5.18 of the DIGITAL UNIX Installation Guide for V4.0 for more information.

The system will boot, go through some configuration steps, then bring you to a point where you can select kernel options. If you see "---More to follow" at the bottom of the screen just hit Return.

When prompted, enter the number for the "All of the above" option.

Answer Yes to the confirmation question.

Answer No to the edit configuration file question.

Wait about five minutes for the kernel to be built and for the system to boot up to the login window.

Login as **root** using the previously supplied password.

6.1.5.8 Installing DIGITAL UNIX Patches

It is **mandatory** that you install the latest version of the DIGITAL UNIX Patch kit. The kit can be retrieved from the "DIGITAL UNIX V4.0 Family Patch Kit Information" web page located at:

http://webkits.zk3.dec.com/

Refer to the "DIGITAL UNIX V4.0B Patch Kit" section of this page for the kit and installation instructions.

Because the patch kit is not available on a CD, it must be installed via tape. See Section 6.5 for more information concerning creating an installation tape.

6.1.5.9 Loading Licenses

Use lmfsetup script to load any licenses.

#lmfsetup

Input the license information as you are prompted for it.

See the man page on lmfsetup for more information:

 # man lmfsetup

If licenses were saved to a diskette use the following procedure:

Insert the diskette into the drive and mount it using the following command:

 # mount -t ufs /dev/fd0a /mnt

Set default to the mounted diskette:

 # cd /mnt

List the license files:

 # ls *.pak

For each file listed type the following:

 # lmf register -< *PAK_file*

where *PAK_file* is the name of the license file.

After all licenses have been registered use the following command to activate them:

 # lmf reset

Unmount the diskette:

 # umount /mnt

Remove the diskette from the drive.

_____ **Note** _____

Removing the diskette before unmounting it could result in data corruption on the diskette.

_____

6.2 Installing DIGITAL UNIX Layered Products

The following sections provide a list of required equipment/items, installation hints, and the procedure for installing DIGITAL UNIX layered products on the AlphaServer IP system.

6.2.1 Required Items

- DIGITAL UNIX Layered Products CD set

- DIGITAL UNIX Associated Products CD set

- List of previously installed layered products

- Licenses for layered products

6.2.2 Installation Hints

Review the installation guide, release notes, and the software product description for each layered product to be installed. These documents are usually included as part of the layered product subdirectory. The software product description contains useful licensing information if the product in question needs a license.

Be sure to consult with the customer/partner to determine what (if any) other layered products need to be installed so that you can prepare accordingly.

_____ **Note** _____

All installations should be done from the root account unless otherwise specified.
_____

6.2.3 Installation Procedure

1. Review the layered product master index to determine which CDs contain the layered products you wish to install. A copy of the master index is on the first CD of the software product library set.

2. Insert the appropriate CD into CD-ROM drive and mount it using procedure outlined in Section 6.1.4.

3. Set default to the appropriate subdirectory on the CD.

4. Review the installation guide, software product description, and the release notes for the given layered product. This will help you identify any prerequisite software or licenses that may be needed.

_____ **Note** _____

Text versions of documents can be reviewed with the standard vi editor. Postscript documentation can be viewed using the **/usr/bin/X11/showps** command. Documentation can usually be found in the documentation subdirectory of the layered product subdirectory.
_____

5. Set default to the kit subdirectory and type the following:

   # setld -l

6. Be sure to follow any post installation instructions.

6.3 Installing Advanced File System Utilities

See notes in previous section.

_____ **Note** _____

Before starting the Graphical User Interface for the Advanced File System be sure
to configure your network first, otherwise an error will occur and the GUI
application will exit.

_____

6.4 Installing Dialogic Drivers for DIGITAL UNIX V4.2

The following sections provide a list of required equipment/items, installation hints, and the
procedure for installing Dialogic Drivers for DIGITAL UNIX on the AlphaServer IP system.

6.4.1 Required Items

- Dialogic Drivers V4.2 FT1 for Digital UNIX 4.0B CD (PN AG-R7HGA-BE)

- Dialogic Drivers for DIGITAL UNIX Software Installation Guide (PN AA-QJHPE-TE)

  This document was last available online at:

  META::77DUA11:[IWS4LIB.SCRATCH.ALPHAVOICE_S]SW911.PS

- DIGITAL AlphaServer Voice Platform Hardware Installation Guide (PN EK-VOICE-IN)

  This document was last available online at:

  META::77DUA11:[IWS4LIB.SCRATCH.AVOICE]HW94.PS

Refer to the appropriate documentation for hardware and software installation procedures.
The above software and hardware file names are subject to change without notice.

6.5 Installing DECevent 2.5

See the following web page to get the kit, documentation, and product authorization key for
installing DECevent 2.5:

http://pinkft.cxo.dec.com/decevent

Until DECevent 2.5 is made available on a CD, it must be installed via tape.

To make a tape you will need a UNIX system configured with a DAT tape drive and
Netscape with appropriate network connection and proxies.

Go the the URL given above, then click on **V2.5 kits**.

Download the tar file to your current directory by clicking on **V2.50A** then clicking on **OK** in
the Save As… window. The download may take a minute or two depending on the speed of
your system and the network connection.

Note: If Netscape options are set properly, the file will automatically download to the
current directory.

 Un-tar the file:

 # tar xvf dia_unxaxp_2511.tar

This creates a DIA_UNXAXP_FULL_2511 directory with all files needed for installation.

Re-tar the DIA_UNXAXP_FULL_2511 directory to tape:

> **# tar cv DIA_UNXAXP_FULL_2511**

Verify the tape using the following command:

> **# tar tv**

To do the installation from tape insert the tape into the drive and do the following:

> **# cd /usr**

Untar the kit from tape using the following command:

> **# tar xv**

Install the software using the setld command:

> **# setld -l DIA_UNXAXP_FULL_2511**

Previous versions of the DECevent software and documentation can also be found on the DIGITAL UNIX V4.0B Associated Products CD, Volume 1 (PN AG-QTMAC-BE). See Section 6.1.4 for directions on mounting a CD.

_____ **Note**_____

DECevent 2.5 is a pre-requisite for installing the Intelligent Peripheral Fault Manager.
_____

6.6 Installing Intelligent Peripheral Fault Manager V2.0

The following sections provide a list of required equipment/items, installation hints, and the procedure for installing the Intelligent Peripheral Fault Manager V2.0 on the AlphaServer IP system.

6.6.1 Required Items

- Intelligent Peripheral Fault Manager V2.0 CD

- Installation guide (included with CD)

Refer to the *AlphaServer Intelligent Peripheral Fault Manager for DIGITAL UNIX Installation and User's Guide* for more information. This document was last available at:

> **META::USER11:[UNCH.ASIP2]UIG_REV2.PS**

6.7 Installing Trucluster Available Server or Production Server V1.4

Trucluster Available Server and Production Server V1.4 software and documentation can be found on the DIGITAL UNIX V4.0B Associated Products CD, Volume 2 (PN AG-QX6FC-BE). See Section 6.1.4 for directions on mounting a CD.

_____ **Note** _____

This software is only needed for duplex or multiplex systems. This software should be installed on each system in the cluster.

_____

After completing the Trucluster software installation, it is **mandatory** that you install the Trucluster V1.4A patch kit. The kit and installation instructions can be found on the following web page:

http://webkits.zk3.dec.com/

Refer to the "TCR 1.4A Patch Kit" section of this page for the kit and installation instructions.

Because the patch kit is not available on a CD, it must be installed via tape. See Section 6.5 for more information concerning creating an installation tape.

6.8 Configuration Procedures

Refer to the *AlphaServer Intelligent Peripheral Platform System Manager's Guide* (PN AA-QUOJB-TE) for configuration procedures.

A
AlphaServer IP Platform Version 1 System Drawings

Introduction

This appendix contains diagrams of the AlphaServer Intelligent Peripheral (IP) Platform Version 1 simplex and duplex, ac and dc, systems.

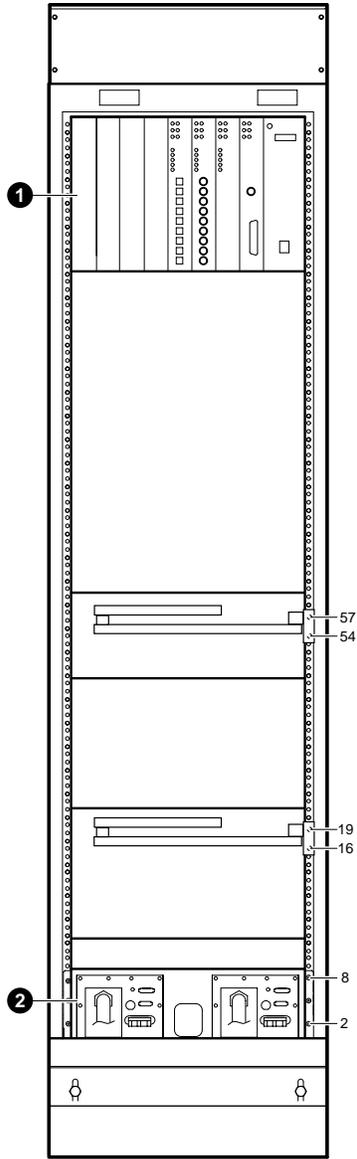# AlphaServer IP Platform Version 1 Simplex Systems

This section contains the front, side, and rear views of the version 1 simplex systems.

Figure A-1 IP Platform Simplex AC System Front and Side View
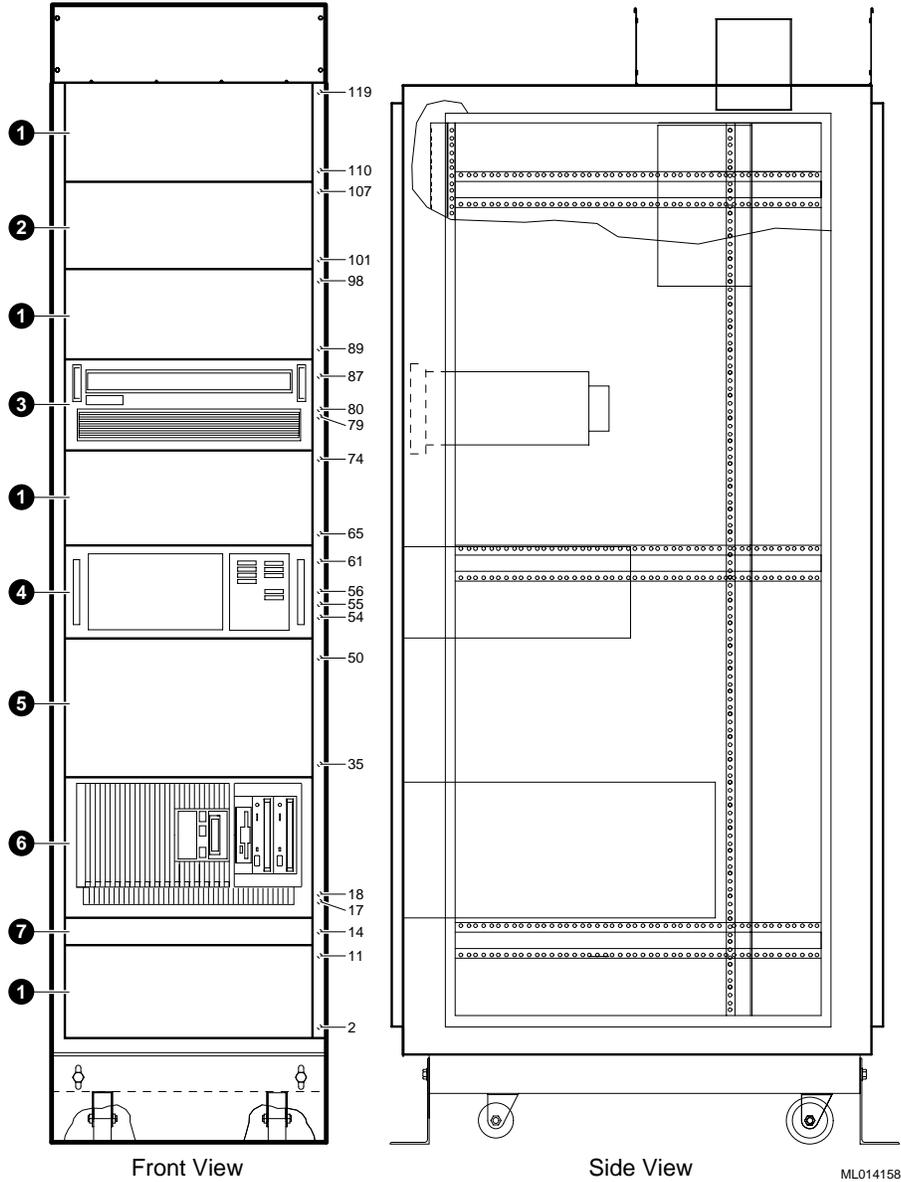
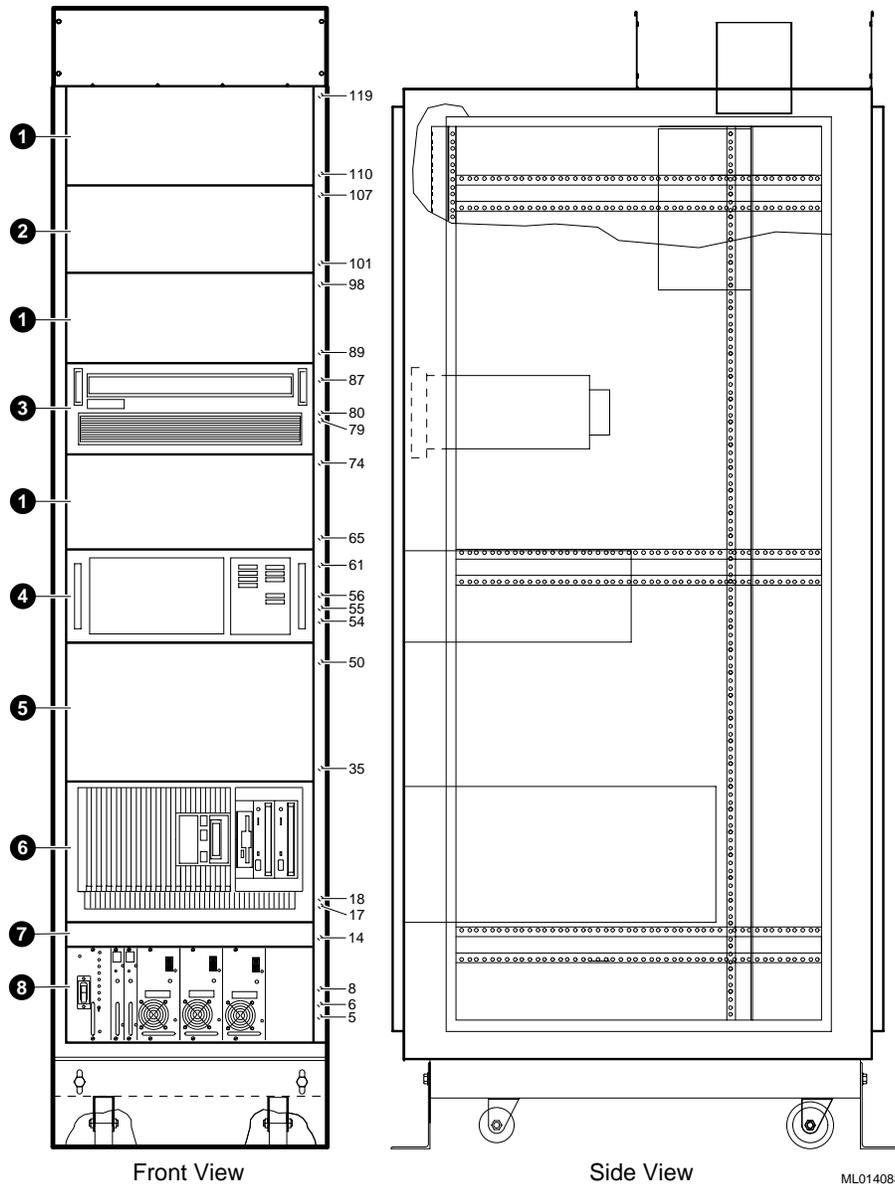| ❶ | 7 in. blank panel | ❺ | 10.5 in. blank panel |
❷	5.25 in. blank panel	❻	AlphaServer 1000
❸	BA350 StorageWorks shelf	❼	1.75 in. blank panel
❹	DTP expansion chassis		

Figure A-2 IP Platform Simplex AC System Rear View

Rear View
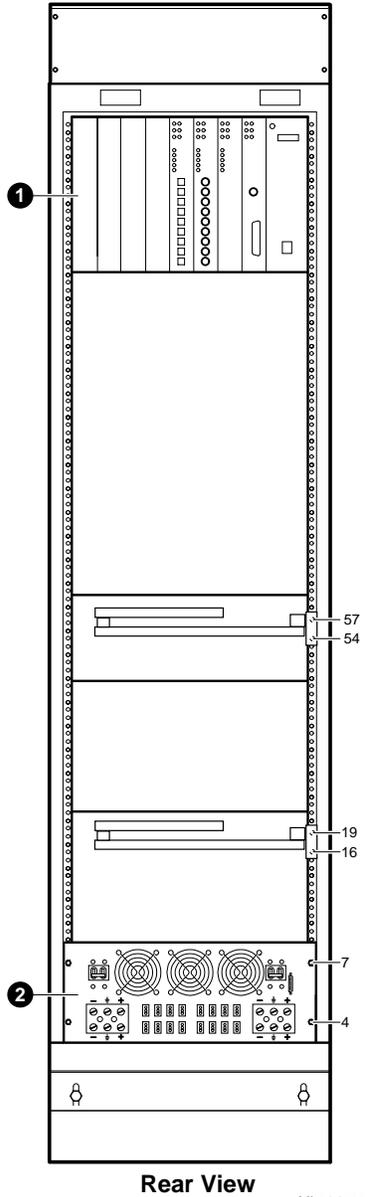
ML014091

❶   DEChub 90   ❷   877-DA (120 Vac) or 877-E (240 Vac)
                                    AC power controllers

Figure A-3 IP Platform Simplex DC System Front and Side View

Front View   Side View   ML014088

❶   7 in. blank panel   ❺   10.5 in. blank panel

❷   5.25 in. blank panel   ❻   AlphaServer 1000

❸   BA350 StorageWorks shelf   ❼   1.75 in. blank panel

❹   DTP expansion chassis   ❽   -48 Vdc inverter

Figure A-4 IP Platform Simplex DC System Rear View
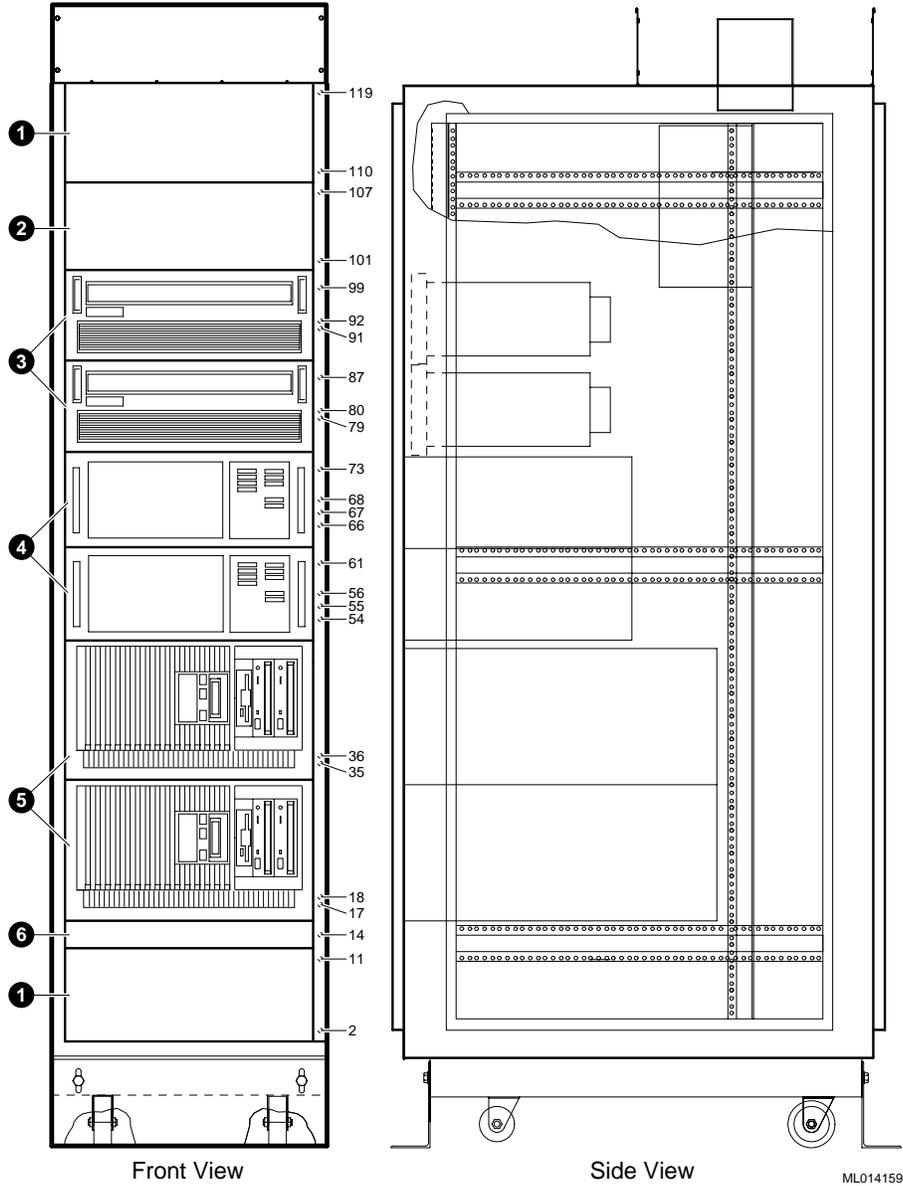

Rear View

ML014093

❶   DEChub 90   ❷   -48 Vdc inverter

# AlphaServer IP Platform Version 1 Duplex Systems

This section contains the front, side, and rear views of the version 1 duplex systems.

Figure A-5 IP Platform Duplex AC System Front and Side View

❶	7 in. blank panel	❹	DTP expansion chassis
❷	5.25 in. blank panel	❺	AlphaServer 1000
❸	BA350 StorageWorks shelf	❻	1.75 in. blank panel

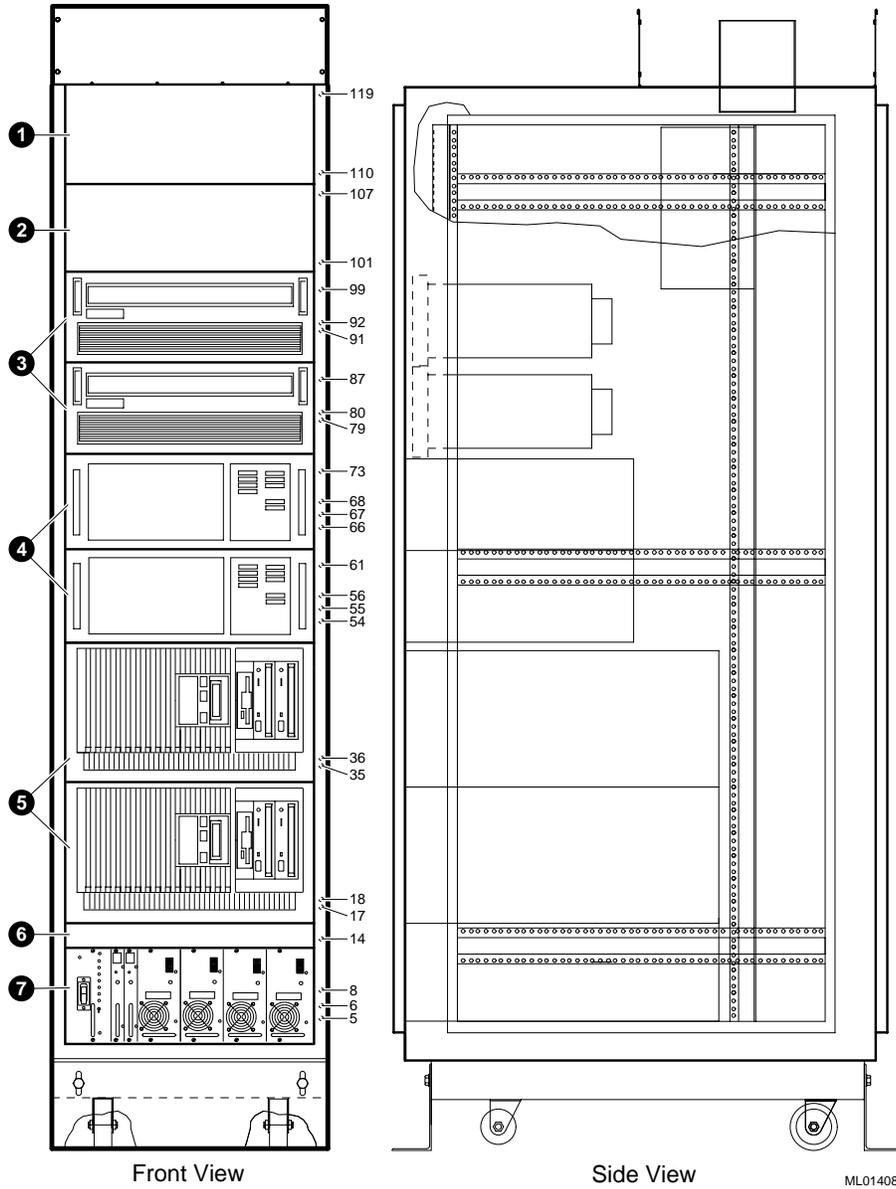**Figure A-6 IP Platform Duplex AC System Rear View**
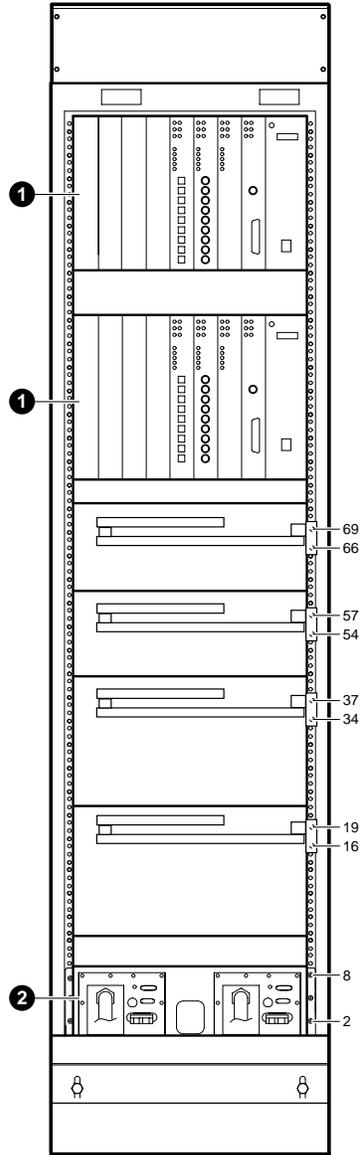
Rear View
ML014090

❶   DEChub 90   ❷   877-DA (120 Vac) or 877-E (240 Vac)
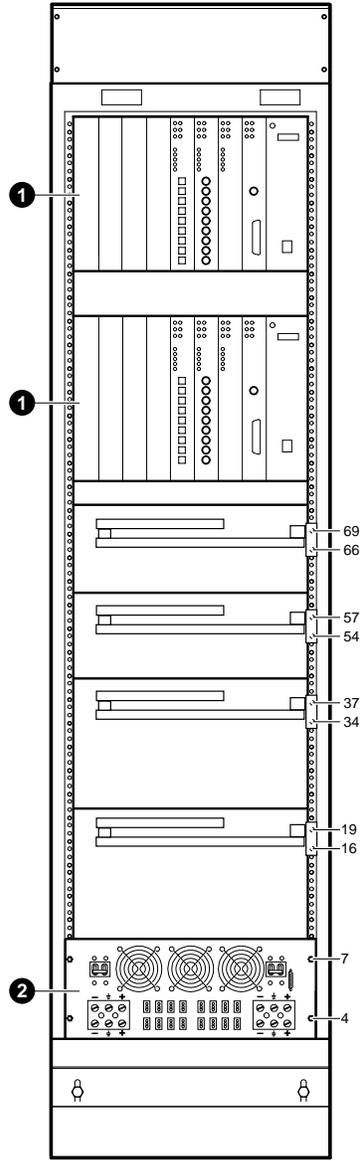   AC power controllers

Figure A-7 IP Platform Duplex DC System Front and Side View

Front View   Side View   ML014089

❶   7 in. blank panel   ❺   AlphaServer 1000

❷   5.25 in. blank panel   ❻   1.75 in. blank panel

❸   BA350 StorageWorks shelf   ❼   -48 Vdc inverter

❹   DTP expansion chassis

Figure A-8 IP Platform Duplex DC System Rear View

Rear View

ML014092

❶   DEChub 90   ❷   -48 Vdc inverter

B
# AlphaServer IP Platform Version 2 System Drawings

Introduction

This appendix contains diagrams of the AlphaServer Intelligent Peripheral (IP) Platform Version 2 simplex and duplex, ac and dc, systems. Unit assembly drawings that depict signal interconnections between major system subassemblies are also included for the simplex and duplex systems.

# AlphaServer IP Platform Version 2 Simplex Systems

This section contains the front, side, and rear views of the version 2 simplex systems along with a unit assembly drawing of the version 2 simplex system.

Figure B-1 IP Platform Simplex AC System Front and Side View
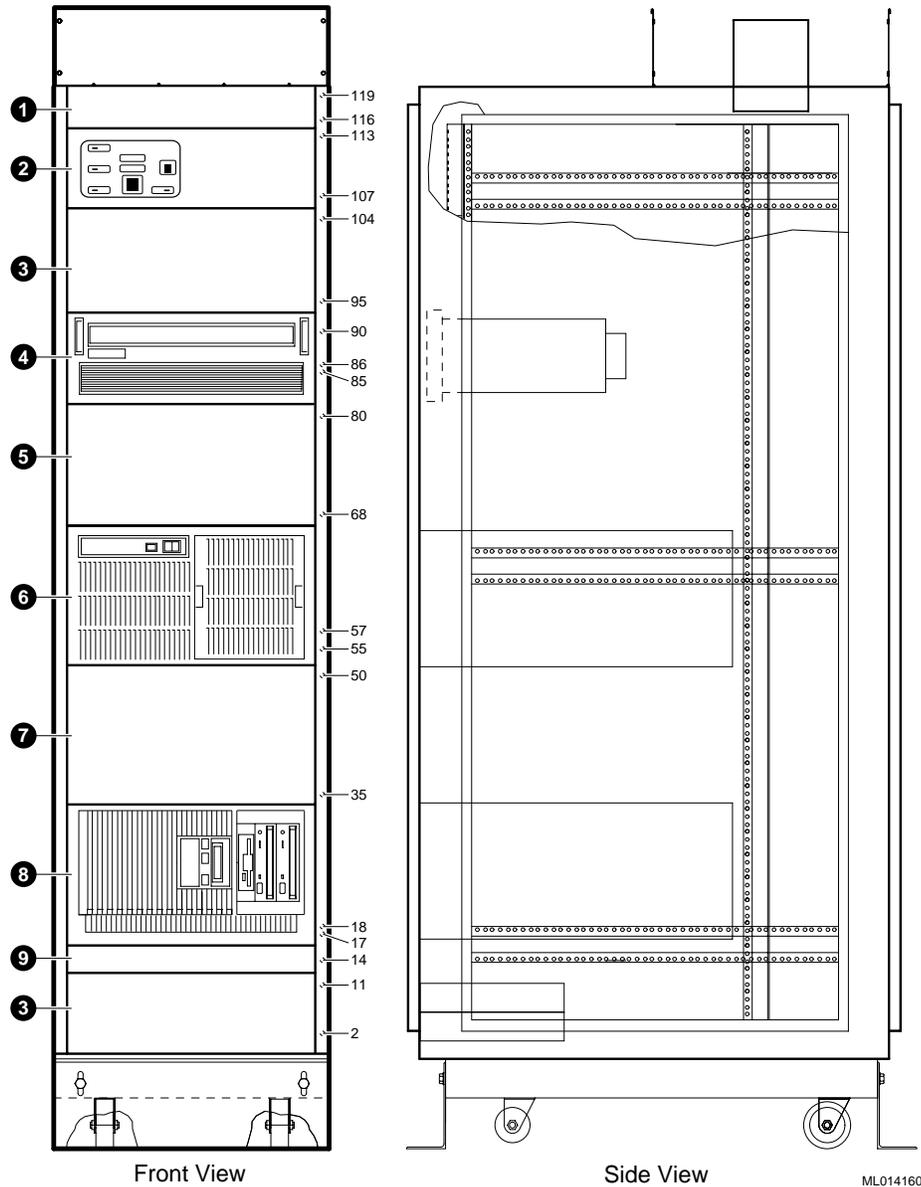
❶	3.5 in. blank panel	❻	I-Bus ISA bus expansion chassis
❷	Alarm indicator panel	❼	10.5 in. blank panel
❸	7 in. blank panel	❽	AlphaServer 1000 or 1000A
❹	BA350 StorageWorks shelf	❾	1.75 in. blank panel
❺	8.75 in. blank panel		

Figure B-2 IP Platform Simplex AC System Rear View
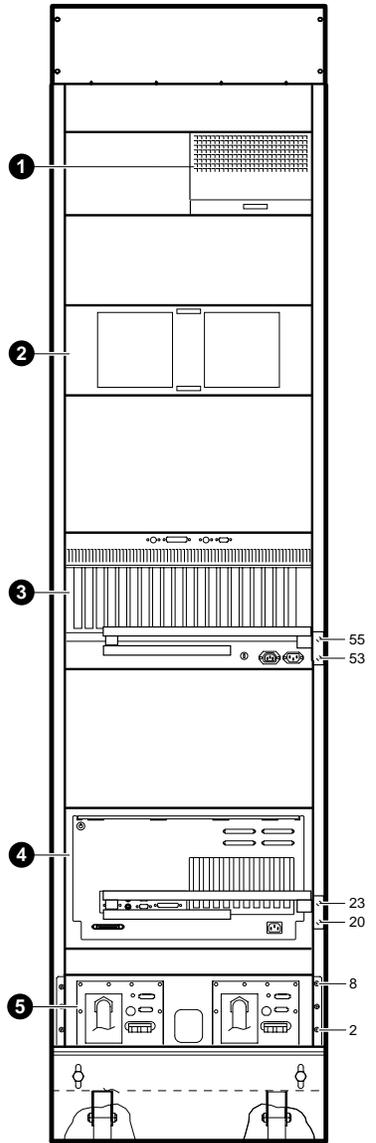
Back View   ML014087

❶ Alarm indicator panel   ❹ AlphaServer 1000 or 1000A

❷ BA350 StorageWorks shelf   ❺ 877-DA (120 Vac) or 877-E (240 Vac)
                                           AC power controllers

❸ I-Bus ISA bus expansion chassis

Figure B-3 IP Platform Simplex DC System Front and Side View

Front View   Side View   ML014083

❶   3.5 in. blank panel   ❻   I-Bus ISA bus expansion chassis

❷   Alarm indicator panel   ❼   10.5 in. blank panel

❸   7 in. blank panel   ❽   AlphaServer 1000 or 1000A

❹   BA350 StorageWorks shelf   ❾   1.75 in. blank panel

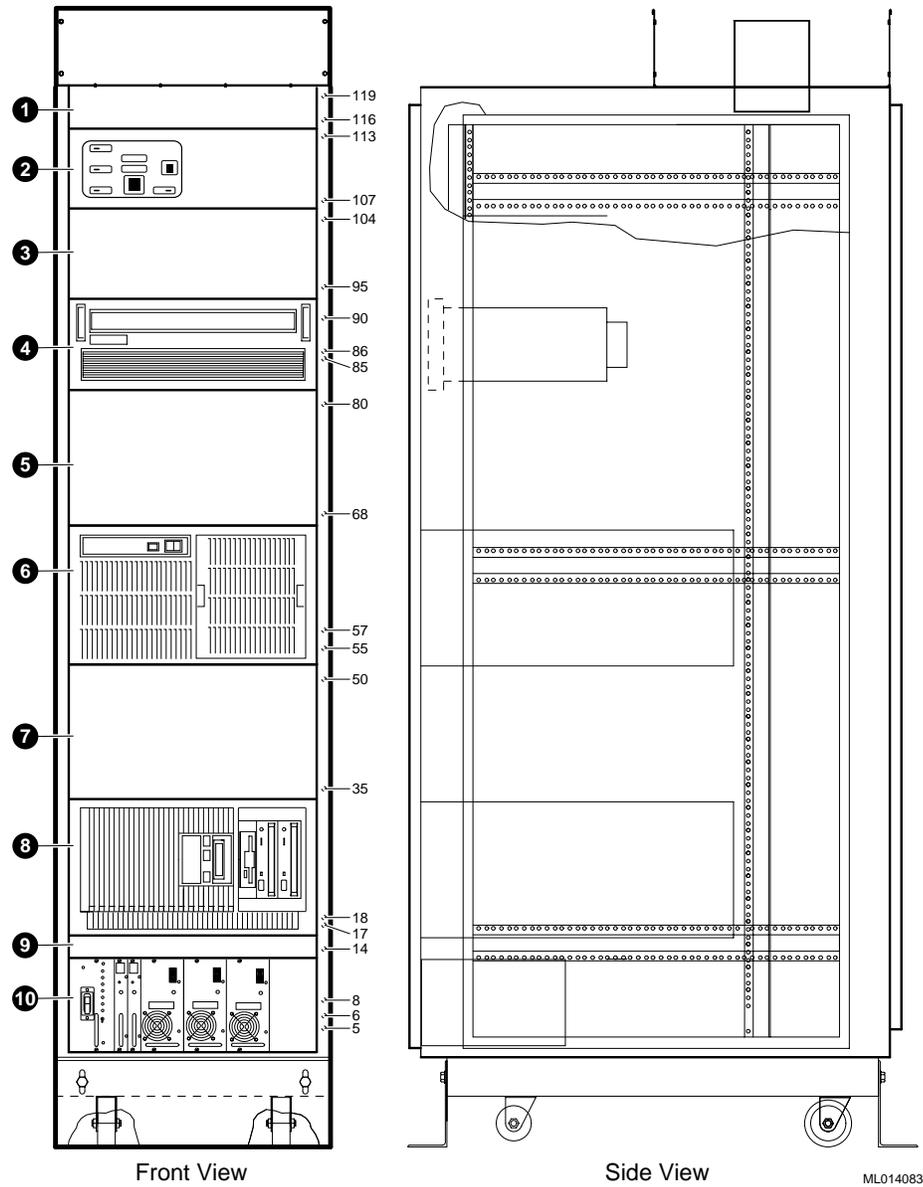❺   8.75 in. blank panel   ❿   -48 Vdc inverter

Figure B-4 IP Platform Simplex DC System Rear View
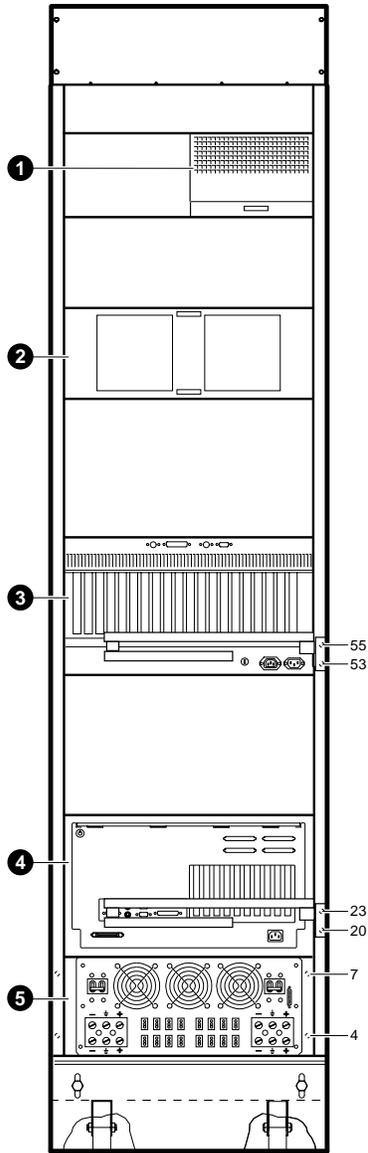
Back View   ML014086

❶   Alarm indicator panel   ❹   AlphaServer 1000 or 1000A

❷   BA350 StorageWorks shelf   ❺   -48 Vdc inverter

❸   I-Bus ISA bus expansion chassis

Figure B-5 IP Platform Simplex System Typical Unit Assembly Drawing
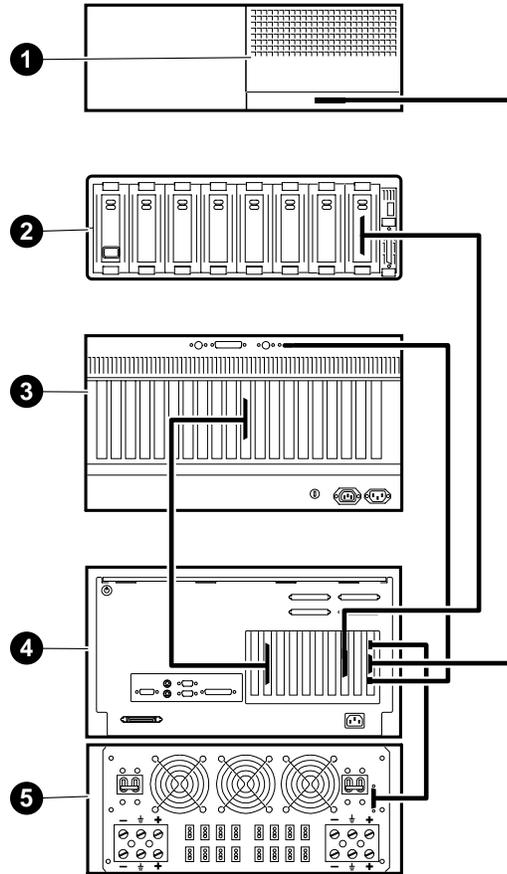
ML014094

❶   Rear view of alarm indicator panel

❷   Front view of BA350 StorageWorks shelf

❸   Rear view of I-Bus ISA bus expansion
      chassis

❹   Rear view of AlphaServer 1000 or
      1000A

❺   Rear view of -48 Vdc inverter

AlphaServer IP Platform Version 2 Duplex Systems

This section contains the front, side, and rear views of the version 2 duplex systems along with a unit assembly drawing of the version 2 duplex system.

Figure B-6 IP Platform Duplex AC System Front and Side View
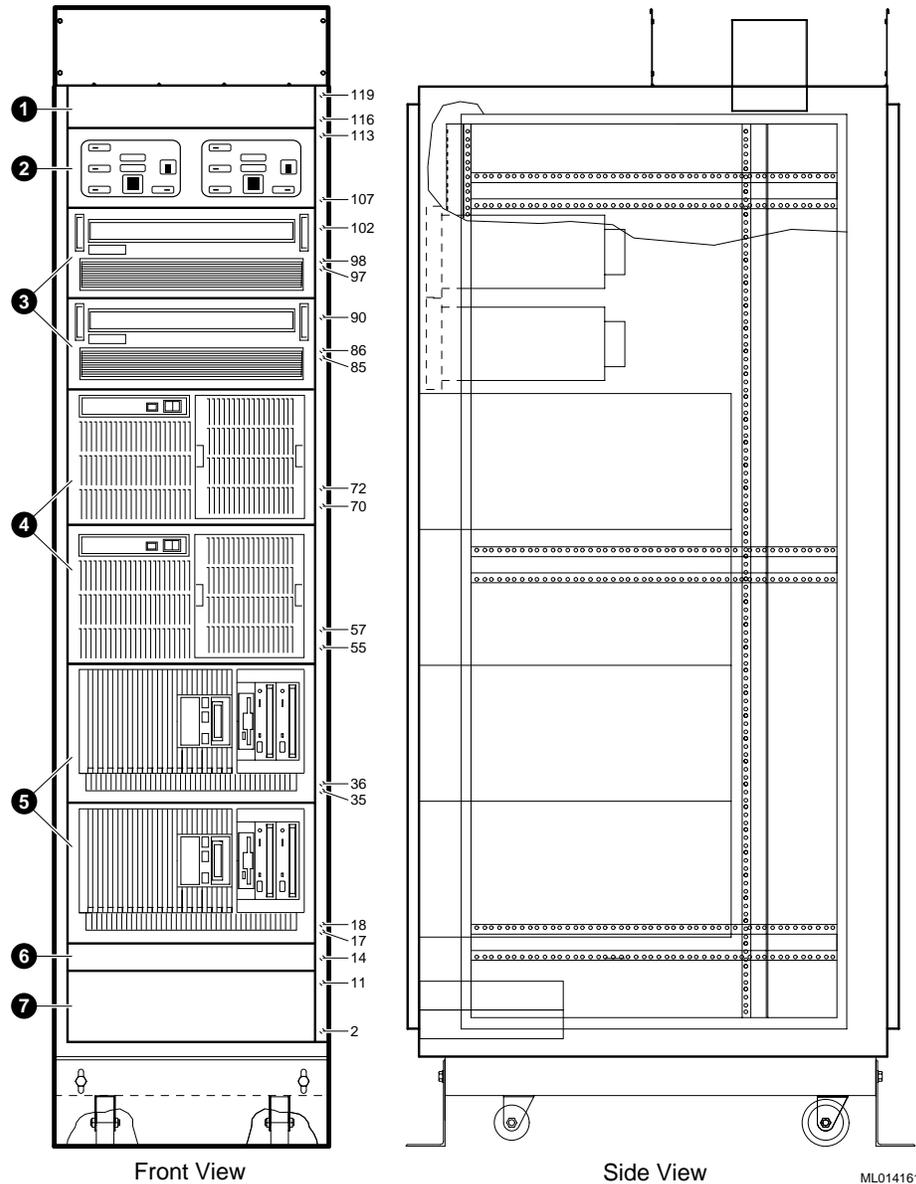
❶	3.5 in. blank panel	❺	AlphaServer 1000 or 1000A
❷	Alarm indicator panels	❻	1.75 in. blank panel
❸	BA350 StorageWorks shelves	❼	7 in. blank panel
❹	I-Bus ISA bus expansion chassis		

Figure B-7 IP Platform Duplex AC System Rear View

Back View   ML014084

❶	Alarm indicator panels	❹	AlphaServer 1000 or 1000A
❷	BA350 StorageWorks shelves	❺	877-DA (120 Vac) or 877-E (240 Vac) AC power controllers
❸	I-Bus ISA bus expansion chassis		

Figure B-8 IP Platform Duplex DC System Front and Side View
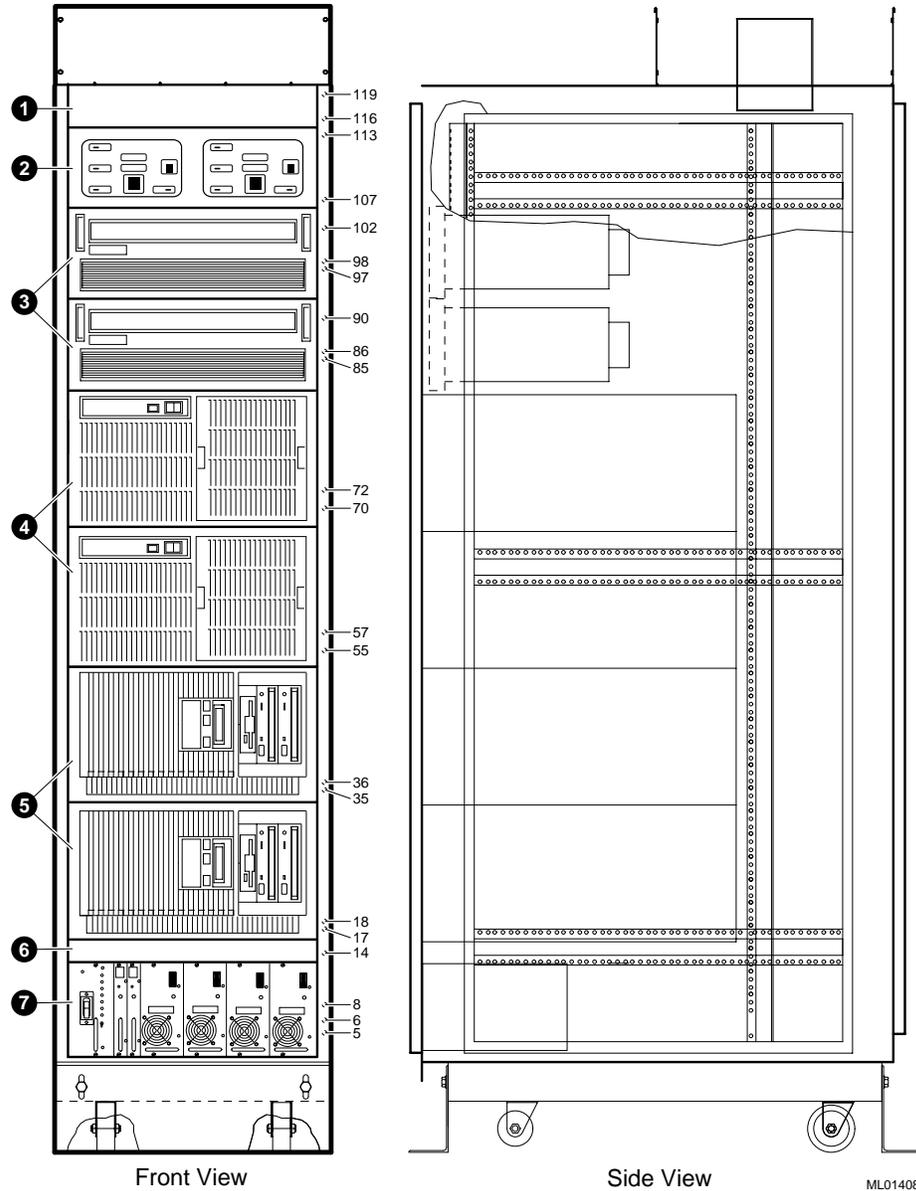
Front View   Side View   ML014082

❶ 3.5 in. blank panel   ❺ AlphaServer 1000 or 1000A

❷ Alarm indicator panels   ❻ 1.75 in. blank panel

❸ BA350 StorageWorks shelves   ❼ -48 Vdc inverter

❹ I-Bus ISA bus expansion chassis

Figure B-9 IP Platform Duplex DC System Rear View

Back View   ML014085

❶ Alarm indicator panels   ❹ AlphaServer 1000 or 1000A

❷ BA350 StorageWorks shelves   ❺ -48 Vdc inverter

❸ I-Bus ISA bus expansion chassis

Figure B-10 IP Platform Duplex System Typical Unit Assembly Drawing
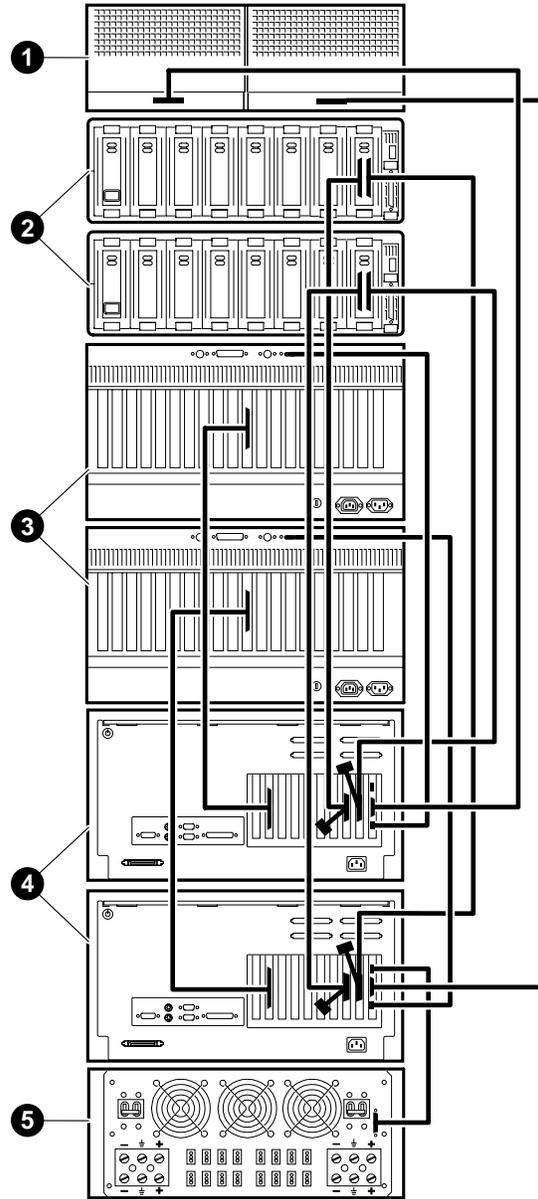
ML014095

❶   Rear view of alarm indicator panels

❷   Front view of BA350 StorageWorks shelves

❸   Rear view of I-Bus ISA bus expansion chassis

❹   Rear view of AlphaServer 1000 or 1000A

❺   Rear view of -48 Vdc inverter

C
EISA Bus Configuration Utility (ECU)

The ECU or EISA Bus Configuration Utility is used to define the parameters of ISA boards that may be added to the system. EISA boards are configured automatically. This utility is started from the console prompt (>>>) after reboot.

Starting the ECU

Shutdown the system. For example, from a Root login enter "shutdown -h now".

Place the ECU floppy disk in Drive A.

From the >>> prompt enter *runecu*.

The system will show comments like "loaded from ARC".

Finally, the EISA Configuration Utility will appear, looking like an old-fashioned DOS utility.

Opening Display

```
This program is provided to help you set your computer's
configuration. You should use this program the first time you set
up your computer and whenever you add additional boards or
options. OK=ENTER


Loading Configuration Files, please wait…


EISA Configuration Utility,              Help = F1


--Steps to configuring your computer—

Step 1:  Important EISA configuration information

Step 2:  Add or remove boards

Step 3:  View or edit details

Step 4:  Examine required switches

Step 5:  Save and exit

(Select = ENTER   Cancel = ESC)
```

```
--Help—

To learn about the EISA configuration process and how it differs
from ISA configuration, press ENTER. To read a short explanation
of each of the configuration steps, use the UP arrow and DOWN
arrow keys.
```

Step 1. Important EISA Configuration Information

1 of 7

```
Welcome to EISA.

Your new EISA computer requires a new approach to configuration.
Please take just a few minutes to read all of the screens in this
step (Step 1) for more information.

You may return to these screens at any time by pressing F1 and
selecting 'EISA configuration' from the help menu.

To continue, press ENTER.

>Next = ENTER<   <Previous = F9>  <Done = F10>
```

2 of 7

```
An important benefit of EISA is the ability of EISA computers to
accept both EISA and ISA personal computer accessories. Because
ISA boards are configured manually and EISA boards are configured
automatically, this feature greatly influences the configuration
process.

This EISA Configuration Utility:

•   Automatically detects and configures EISA boards.

•   Assists in configuring ISA boards by determining the necessary
    switch and jumper settings.

Although you must make the physical changes to ISA boards, it is
no longer necessary to consult manufacturer's manuals for switch
settings or to experiment with different combinations of settings.
```

3 of 7

```
If you have only EISA boards in your computer, then only Step 5 is
required to save your configuration. However, if your computer
contains one or more ISA boards, Steps 2, 3, 4, and 5 are required
to complete and save your configuration.

To determine if a board is EISA or ISA, look at the contact and
the gaps along the connector. EISA boards have two rows of
contacts and several gaps. ISA boards have one row and no more
than one gap.
```

```
                                  ___                        |
      ____                       |   |                       |      ←ISA
          |__|__|__|__|__|__|__|     |__|__|__|__|__|__|__|

                        ___          ___          ___        |
      ____| | | | |     | | | | |    | | | | |    | | | | |          ←EISA
          |_|_|_|_|     |_|_|_|_|    |_|_|_|_|    |_|_|_|_|
```
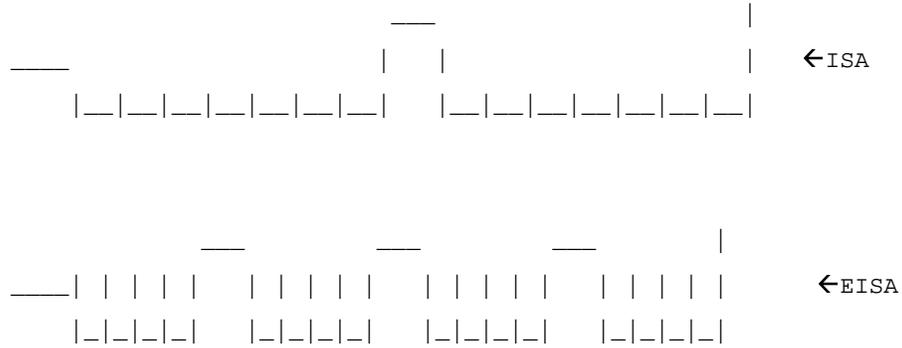
4 of 7

In Step 2., you will see a list of boards detected in your
configuration. When your computer is correctly configured, each
EISA and ISA board appears in this list. EISA boards are added
automatically. The Add feature in Step 2 allows you to add ISA
boards to the list. You must physically install the ISA boards
later, after you have checked their switch and jumper settings,
saved your configuration, and turned off your computer.

Caution, do not physically install boards while the computer is
on.

5 of 7

In Step 3, you can examine and change the settings of each
function and the resources allocated to those configurations.
functions. Changes are usually required only for complex
configurations.

Each board has specific functions (e.g. memory options, parallel
or serial ports) and each function may have user-selectable
settings (e.g. COM1 or COM2 for a serial port). To perform a
function, a board may require specific system resources. Resource
types include system interrupts (IRQs), direct memory access (DMA)
channels, I/O ports or memory locations.

If you edit a function or resource in Step 3, you may have to
change a switch or jumper setting. This utility uses the
information displayed in Step 3 to determine the correct switch
and jumper settings displayed in Step 4.

6 of 7

In Step 4, the correct switch and jumper settings are displayed
for each board with switches or jumpers that you must physically
set. Although this program cannot detect or change the settings of
ISA boards, it uses the information displayed in Step 3 to
determine the correct settings. You must set your boards EXACTLY
as displayed in the diagrams [of your ISA board's hardware
manual].

7 of 7

> After you have finished reading this introduction (Step 1), you
> should follow these steps to configure your computer:

```
Step 2:     Add or remove boards   Add boards that this program
                                    cannot add automatically.
Step 3:     View or edit details   Check or change memory, printer
                                    ports, IRQs, etc.
Step 4:     Examine required       Verify the correct switch and
            switches               jumper settings as necessary.
Step 5:     Save and exit          Save your configuration and
                                    restart the computer.
```

Step 2: Add or remove boards.

Listed are the boards and options detected in your computer.

- To add the boards or options which could not be detected or which you plan to install, press INSERT

- To move the highlighted board to another slot, press F7

- To remove the highlighted board from your configuration, press DEL.

- When you have completed this step, press F10

```
> System DIGITAL 1000 AlphaServer Family System Board

Slot 1      (Empty)

Slot 2      (Empty)

Slot 3      (Empty)

Slot 4      (Empty)

Slot 5      (Empty)

Slot 6      (Empty)

Slot 7      (Empty)

Slot 8      (Empty)

>Add = INSERT<     <Remove = DEL>   <Move = F7>   <Done = F10>
```

From doing an INSERT you will see —

To add a board to the list, you must locate the diskette
containing the board's configuration (CFG) file.

- If there is an option configuration diskette included with your board or option, insert that diskette and press ENTER.

- CFG files for many popular boards are on the SYSTEM CONFIGURATION diskette. To look for your CFG file there, press ENTER.

- Other CFG files are contained on the CFG FILE LIBRARY diskette.
  To look for your CFG file there, insert that diskette and press
  ENTER.

On pressing ENTER you will see –

```
Reading directory.  Please wait…
```

```
Add Configuration (CFG) file
```

```
Select a file to add.
```

```
Directory:  FLP1:\*.cfg
```

```
-------------------------------------------------------------
```

>!TCM6090.cfg	3Com 3C509-TP Network Adapter
…	
!ISA4010.CFG	Dialogic DTI/2xx, DMX, MSI/C Adapter Definitions
!ISA4000.CFG	Dialogic Voice Card Adapter Definitions
!ISA4020.CFG	GammaLink Fax Card Adapter Definitions
!ISA4030.CFG	Dialogic Antares Card Definition

```
-------------------------------------------------------------
```

```
>Select = ENTER<   <Sort = F6>  <Directory = F7>  <Cancel = ESC>
```

This brought up another screen that said:

```
Board Name:     Dialogic Voice Card Adapter Definitions
```

```
Manufacturer's Comments:     Use this for Dialogic voice cards.
```

```
>Ok = ENTER<  <Cancel = ESC>
```

You go to another screen that says:

```
Select an acceptable slot for the board and press ENTER.
```

```
System DIGITAL 1000 AlphaServer Family System Board
```

```
>  →      Slot 1  (Empty)  (This row is highlighted initially)

   →      Slot 2  (Empty)

   →      Slot 3  (Empty)

   →      Slot 4  (Empty)

   →      Slot 5  (Empty)

   →      Slot 6  (Empty)

   →      Slot 7  (Empty)

   →      Slot 8  (Empty)
```

```
The → indicates an acceptable slot for the board.
```

```
 >Ok = ENTER<   <Cancel = ESC>
```

You are then returned to the board display with the changes to the cards displayed:

```
> System DIGITAL 1000 AlphaServer Family System Board
```

```
Slot 1    Dialogic Voice Card Adapter Definitions
```

```
Slot 2      (Empty)

Slot 3      (Empty)

Slot 4      (Empty)

Slot 5      (Empty)

Slot 6      (Empty)

Slot 7      (Empty)

Slot 8      (Empty)

>Add = INSERT<    <Remove = DEL>  <Move = F7>  <Done = F10>
```

Step 3: View or Edit Details

```
Press UP arrow and DOWN arrow to see all information.
```

- To edit the functions of the highlighted item, press ENTER

- To edit its resources (IRQs, DMAs, I/O ports, or memory), press F6.

- When you have finished this step, press F10.

All cards are then listed as follows:

```
System - DIGITAL 1000 AlphaServer Family System Board

 SYSMEM                   Enabled

 COM1                     Enabled

 COM2                     Enabled

 LPT1                     Enabled

 FD1                      Enabled

 101 – KEY                Always Enabled

 PS2 MOUSE                Always Enabled

 VGA Graphic Controller   Enabled


Slot 1 – Dialogic Voice Card Adapter Definitions
   Added

   ISA I/O Resource Allocation        No SpringBoards

   ISA IRQ Allocation            IRQs alread allocated

   ISA MEMORY Allocation         No Memory Block Required
>Edit = ENTER< <Edit Resources = F6> <Advanced = F7> <Done = F10>
```

Editing "No SpringBoards"

```
Press <Enter> and arrow to select "One Springboard".

At that position, enter F6 to edit resources. A screen appears
with choices as

        One Springboard

   These are the resources used by this choice. Use the

   PLUS (+) and MINUS (-) keys to change items marked with

   the "oo/F1" symbol.
```

```
      Port address > 340h-343h  Size:byte    oo/F1

      Enter Done (F10) when complete.
```

Editing IRQs already allocated:

```
   Arrow to this selection and press <Enter>.

   The ISA IRQ Allocation screen is displayed.

   Arrow to the appropriate choice:

    ( ) IRQs already allocated

    (0) Allocate SpringBoard IRQ        ← select this for the D/121B

    ( ) Allocate SpanCard IRQ

    ( ) Allocate Springboard & SpanCard IRQ

   Enter F6 and select the IRQ. You see the change display
```

On Entering F6

```
   These are the resources used by this choice. Use the PLUS (+) and
   MINUS (-) keys to change items marked with a (oo/F1) symbol


   Interrupt (IRQ) >4   Trigger:edge   oo/F1

   Note, increasing and decreasing values does not show sequential
   values but skips around.

   Enter F10 when done.
```

Similarly, add the number of memory blocks, adding the memory base address and the "Memory amount". For example, "one MEMORY Block required" with a "Memory address" of "0D0000h" and a "Memory amount" of "24K other".

Step 4. Examine Required Switches.

```
   You must PHYSICALLY verify that the switches and jumpers of each
   board marked with an arrow (→) are set as required. These
   settings cannot be detected or changed by this program.
```

- To view the required settings for the highlighted board, press ENTER.

- Pick up the board and compare its settings to the required settings.

- Change the board settings to match the required settings.

For the Dialogic voice card you don't get a display, only the following comments:

```
   Software Statement:    1

   Consult the Voice Hardware Reference documentation to determine
   the switch and/or jumper settings for the ISA boards.  Remember to
   set the rotary switches different for each SpanCard.
```

Step 5. Save and Exit.

In order to complete the configuration process, you must save your configuration. In this step, you must select whether to save your configuration or to discard your changes before exiting this program.

If you choose to save, this program will save the new configuration in your computer's nonvolatile memory and in a file on your SYSTEM CONFIGURATION diskette, and then your computer will be restarted for you. If you choose to discard the configuration, any changes you have made will be lost.

Save the configuration and restart the computer

Discard the configuration and return to the main menu

>Select = ENTER< <Cancel = ESC>

Please wait…

Reboot:

Your configuration has been saved, and if possible a backup SYSTEM.SCI file has been made on the current drive.

To complete your configuration, you must do one of the following:

If you need to install boards or change switches and jumpers on boards already installed, turn off your computer and do so.

If you want to test your system or install an operating system, press ENTER to restart your computer, run the configuration utility again, and select the appropriate main menu item.

If you are finished configuring, remove the SYSTEM CONFIGURATION diskette if it is in drive A and press ENTER to restart your computer.

The system can then be powered off and the cards added.