DIGITAL AlphaServer Voice Platform

Hardware Installation Guide

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Table of Contents

Preface

1 Introduction

Overview....1-1
AlphaServer Voice Platform Models....1-2
AlphaServer Voice Board, Module, and Cabling Options....1-4

2 EISA Configuration Utility (ECU)

Introduction....2-1
ECU Configurations....2-1
- Configuring IRQ Type A Boards....2-2
  - I/O Port Selection....2-2
  - IRQ Selection....2-2
  - Memory Block Selection....2-2
- Configuring IRQ Type B Boards....2-2
  - I/O Port Selection....2-2
  - IRQ Selection....2-3
  - Memory Block Selection....2-3
- Configuring IRQ Type C Boards....2-4
  - I/O Port Selection....2-4
  - IRQ Selection....2-4
- Configuring GammaFax Boards....2-4
- Configuring Antares Boards....2-5
- Configuring Boards in an Expansion Box....2-5

Completing the ECU Configuration....2-5

Contents

3 Installation

Introduction 3-1
PEB Only Options 3-4
2T-VC41E (D/41E) Option Board 3-4
2T-VCF4E (VFX/40E) and 2T-VCF40 (VFX/40) Option Boards 3-6
2T-VC121 (D/121B) Option Board 3-8
2T-VCLSI (LSI/120) Option Board 3-10
2T-VC211 (DTI/211) Option Board 3-12
2T-VC212 (DTI/212) Option Board 3-14
2T-VCFAX (FAX/120) Option Board 3-16
2T-VCVRP (VR/160) Option Board 3-18
2T-VCVR4 (VRM/40) Daughterboard Option 3-20
2T-VCVR2 (VRM/2C) Daughterboard Option 3-21
2T-VCDMX (DMX) Option Board 3-22
2T-VCMSI (MSI/C) Option Board 3-24
2T-VCM40 (MSI/40) Daughterboard Option 3-26
PEB and SCbus Options 3-28
2T-VC240 (D/240SC) Option Board 3-28
2T-VC24T (D/240SC-T1) Option Board 3-31
2T-VC320 (D/320SC) Option Board 3-34
2T-VCC06-AA (CP-6/SC) and 2T-VCC12-AA (CP-12/SC) Option Boards 3-37
2T-VC4SC (D/41ESC) Option Board 3-39
SCbus Only Options 3-41
2T-VC250-AA (Antares 2000/50) Option Board 3-41
2T-VC350-AA (Antares 3000/50) Option Board 3-41
2T-VC650-AA (Antares 6000/50) Option Board 3-41
2T-VC16L (D/160SC-LS) Option Board 3-43
2T-VCFSC (VFX/40ESC) Option Board 3-45
2T-VC30E (D/300SC-E1) Option Board 3-47
2T-VC242-US (D/240SC-2T1) Option Board 3-50
2T-VC480-US (D/480SC-2T1) Option Board 3-52
2T-VC302 (D/300SC-2E1) Option Board 3-54
2T-VC600 (D/600SC-2E1) Option Board 3-56
2T-VCI40-US (DTI/240SC) and 2T-VCI41-US (DTI/241SC) Option Boards 3-58
2T-VCI80-US (DTI/480SC) Option Board 3-60
2T-VCI30 (DTI/300SC) and 2T-VCI31 (DTI/301SC) Boards 3-62
2T-VCI60 (DTI/600SC) Option Board 3-64
2T-VCM80-AA (MSI/80SC), 2T-VCM16-AA (MSI/160SC) and 2T-VCM24-AA (MSI/240SC) Option Boards 3-66
2T-VCD32-AA (DCB/320SC), 2T-VCD64-AA (DCB/640SC), and 2T-VCD96-AA Boards 3-68
Miscellaneous Options 3-70

2T-VC220-IB Expansion Box 3-70
2T-VC220-IP Interconnect Kit 3-72

4 Troubleshooting

Where to look 4-1
System problems 4-1
Voice and Network Interface boards 4-1
Voice-recognition boards 4-2

A Board Configurations (PEB and SCbus)

SCbus Configurations A–1
PEB Configurations A–1

Figures

Figure 3-1: 2T-VC41E (D/41E) Board 3-5
Figure 3-2: 2T-VCF4E (VFX/40E) Board 3-7
Figure 3-3: 2T-VC121 (D/121B) Board 3-9
Figure 3-4: 2T-VCLSI (LSI/120) Board 3-11
Figure 3-5: 2T-VC211 (DTI/211) Board 3-13
Figure 3-6: 2T-VC212 (DTI/212) Board 3-15
Figure 3-7: 2T-VCFAX (FAX/120) Board 3-17
Figure 3-8: 2T-VCVRP (VR/160) Board 3-19
Figure 3-9: 2T-VCVR4 (VRM/40) Daughterboard 3-20
Figure 3-10: 2T-VCVR2 (VRM/2C) Daughterboard 3-21
Figure 3-11: 2T-VCDMX (DMX) Board 3-23
Figure 3-12: 2T-VCMSI (MSI/C) Board 3-25
Figure 3-13: 2T-VCM40 (MSI/40) Daughterboard 3-27
Figure 3-14: 2T-VC240 (D/240SC Rev. 1) Board 3-29
Figure 3-15: 2T-VC240 (D/240SC Rev. 2) Board 3-30
Figure 3-16: 2T-VC24T (D/240SC-T1 Rev. 1) Board 3-32
Figure 3-17: 2T-VC24T (D/240SC-T1 Rev. 2) Board 3-33
Figure 3-18: 2T-VC320 (D/320SC Rev. 1) Board 3-35
Figure 3-19: 2T-VC320 (D/320SC Rev. 2) Board 3-36
Figure 3-20: 2T-VCC06-AA & 2T-VCC12-AA (CP-6/SC & CP-12/SC) Boards 3-38
Figure 3-21: 2T-VC4SC (D/41ESC) Board 3-40
Figure 3-22: 2T-VC250-AA (Antares 2000/50), 2T-VC350-AA (Antares 3000/50), 2T-VC650-AA (Antares 6000/50) Board 3-42
Figure 3-23 2T-VC16L: (D/160SC-LS) 3-44

Figure 3-24: 2T-VCFSC (VFX/40ESC) Board 3-46
Figure 3-25: 2T-VC30E (D/300SC-E1 Rev. 1) Board 3-48
Figure 3-26: 2T-VC30E (D/300SC-E1 Rev. 2) Board 3-49
Figure 3-27: 2T-VC242-US (D/240SC-2T1) Option Board 3-51
Figure 3-28: 2T-VC480-US (D/480SC-2T1) Option Board 3-53
Figure 3-29: 2T-VC302 (D/300SC-2E1) Option Board 3-55
Figure 3-30: 2T-VC600 (D/600SC-2E1) 3-57
Figure 3-31: 2T-VCI40-US (DTI/240SC) & 2T-VCI41-US (DTI/241SC) 3-59
Figure 3-32: 2T-VC180-US (DTI/480SC) Option Board 3-61
Figure 3-33: 2T-VCI30 (DTI/300SC) & 2T-VCI31 (DTI/301SC) Boards 3-63
Figure 3-34: 2T-VCI60 (DTI/600SC) Option Board 3-65
Figure 3-35: 2T-VCM80-AA (MSI/80SC), 2T-VCM16-AA (MSI/160SC), & 2T-VCM24-AA (MSI/240SC) Boards 3-67
Figure 3-36: 2T-VCD32-AA (DCB/320SC), 2T-VCD64-AA (DCB/640SC), & 2T-VCD96-AA (DCB/960SC) Option Boards 3-69
Figure A-4-1: Low-Density 4-Channel Analog Configurations A–1
Figure A-4-2: Low-Density 2/16-Channel Voice-Recognition Configuration A–2
Figure A-4-3: Standard-Density Configurations A–3
Figure A-4-4: Mixed-Density Configurations A–4
Figure A-4-5: High-Density Configuration A–5

Tables

Table 1-1: Available AlphaServer Voice Platform Models 1-2
Table 1-2: PEB Board Options 1-4
Table 1-3: PEB and SCbus Board Options 1-5
Table 1-4: SCbus Board Options 1-6
Table 1-5: Miscellaneous Equipment 1-7
Table 1-6: Terminator and Cabling Options (PEB) 1-7
Table 1-7: Terminator and Cabling Options (SCbus) 1-8
Table 1-8: Miscellaneous Cables and Other Options 1-8
Table 3-1: Board/IRQ Types 3-2

Preface

Overview

The *DIGITAL AlphaServer Voice Platform Hardware Installation Guide* provides information for installing Dialogic's voice-processing, voice-recognition, network-interface, and fax-interface boards used with DIGITAL AlphaServer systems. It also provides information about I-Bus 20-slot ISA Expansion Box (2T-VC220-IB) and Access Technologies' Interconnect Kit (2T-VC220-IP) that can be used with rackmount versions of the AlphaServer systems.

Organization

The *AlphaServer Voice Platform Hardware Installation Guide* is organized as follows:

- **Chapter 1, Introduction** describes the DIGITAL AlphaServer voice platform. Tables 1-1 through 1-10 list model numbers and describe AlphaServer platforms and the available telephony options.
- **Chapter 2, EISA Configuration Utility (ECU)** describes the procedure for using the ECU to configure the installed voice and network-interface boards.
- **Chapter 3, Installation** describes the installation procedure for Dialogic's voice-processing, voice-recognition, network-interface, and fax-interface boards, and I-Bus 20-slot ISA expansion box and Access Technologies' interconnect kit that can be used with rackmount AlphaServer systems.
- **Chapter 4, Troubleshooting** provides procedures for troubleshooting the voice-recognition and network-interface boards after installation.
- **Appendix A, Board Configurations (PEB and SCbus)** illustrates how the different voice and network-interface boards can be interconnected.

Conventions

The following conventions are used in this guide:

Convention	Meaning
Note	A note calls the reader's attention to important information.
Caution	A caution contains information essential to avoid damage to the equipment.
Warning	A warning contains information essential to the safety of personnel.

Related Documentation

For more information about DIGITAL's AlphaServer systems, refer to the following documentation:

AlphaServer 1000 Owner's Guide	EK-DTLSV-OG
AlphaServer 1000 Rackmount Owner's Guide	EK-RMALP-OG
AlphaServer 1000A Rackmount Owner's Guide	EK-RMNOR-OG
AlphaServer 1000/1000A Model 5/xxx Owner's Guide Supplement	EK-AL530-OG
Dialogic Drivers for DIGITAL UNIX Software Installation Guide	AA-QJHPB-TE

For more information about Dialogic's voice-processing, voice-recognition, network-interface, and fax-interface boards, refer to the following documentation included in the DIGITAL AlphaServer Voice Platform Hardware Document Kit (QA-4FBAA-GZ):

Voice Hardware Reference	05-0147-xxx[1]
Network Hardware Reference	05-0176-xxx[1]
FAX/120 Hardware Reference	05-0034-xxx[1]
VR/160 Hardware Reference	05-0062-xxx[1]
SCbus Configuration Planning Guide	05-0288-xxx[1]
GammaFax CP-6/SC & CP-12/SC Hardware Installation Guide	05-7002- xxx[1]

For more information about the 20-slot ISA expansion box from I-bus, refer to the following documentation:

Model 4820 AT System Enclosure User's/Technical Manual	095-80891-xx[2]

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[1] xxx represents the manual's version number.
[2] xx represents the manual's version number.

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1
Introduction

Overview

An AlphaServer Voice Platform consists of either a wide-tower or rackmounted AlphaServer system with DIGITAL UNIX[3] or Windows NT operating systems along with Dialogic voice boards and drivers. Voice board options are installed in available ISA slots within the AlphaServer system or installed in an optional ISA expansion box. Drivers are installed during software installation after the operating system has been installed.

The optional I-Bus 20-slot ISA Expansion Box is available for rackmounted AlphaServer systems.

Note

When using an expansion box, all telephony boards are installed in the expansion box rather than within the AlphaServer system.

The Access Technologies' Interconnect Kit (2T-VC220-IP), consisting of two interface boards and an interconnect cable, is required to connect an ISA slot in the rackmounted AlphaServer system to the expansion box.

[3] DIGITAL UNIX, formerly called DEC OSF/1.

AlphaServer Voice Platform Models

Table 1-1 lists the model numbers for the available AlphaServer systems.

Table 1-1: Available AlphaServer Voice Platform Models

Platform	Operating System	Model Number
120 Vac AlphaServer 1000 5/300 wide-tower package system	Windows NT	CT-VC75B-AA
120 Vac AlphaServer 1000 5/300 wide-tower package system	DIGITAL UNIX	CT-VC75B-FA
240 Vac AlphaServer 1000 5/300 wide-tower package system	Windows NT	CT-VC75B-AB
240 Vac AlphaServer 1000 5/300 wide-tower package system	DIGITAL UNIX	CT-VC75B-FB
120 Vac AlphaServer 1000 5/300 wide-tower system building block	Windows NT	CT-VC75C-AA
120 Vac AlphaServer 1000 5/300 wide-tower system building block	DIGITAL UNIX	CT-VC75C-FA
240 Vac AlphaServer 1000 5/300 wide-tower system building block	Windows NT	CT-VC75C-AB
240 Vac AlphaServer 1000 5/300 wide-tower system building block	DIGITAL UNIX	CT-VC75C-FB
120 Vac AlphaServer 1000 5/300 rackmount system building block	Windows NT	CT-VC75S-AA
120 Vac AlphaServer 1000 5/300 rackmount system building block	DIGITAL UNIX	CT-VC75S-FA
240 Vac AlphaServer 1000 5/300 rackmount system building block	Windows NT	CT-VC75S-AB
240 Vac AlphaServer 1000 5/300 rackmount system building block	DIGITAL UNIX	CT-VC75S-FB
120 Vac AlphaServer 1000 5/300 rackmount package system	Windows NT	CT-VC75P-AA
120 Vac AlphaServer 1000 5/300 rackmount package system	DIGITAL UNIX	CT-VC75P-FA
240 Vac AlphaServer 1000 5/300 rackmount package system	Windows NT	CT-VC75P-AB
240 Vac AlphaServer 1000 5/300 rackmount package system	DIGITAL UNIX	CT-VC75P-FB

Table 1-1: Available AlphaServer Voice Platform Models (cont.)

Platform	Operating System	Model Number
120 Vac AlphaServer 1000A 5/400 rackmount system building block	Windows NT	CT-VC78S-AA
120 Vac AlphaServer 1000A 5/400 rackmount system building block	DIGITAL UNIX	CT-VC78S-FA
240 Vac AlphaServer 1000A 5/400 rackmount system building block	Windows NT	CT-VC78S-AB
240 Vac AlphaServer 1000A 5/400 rackmount system building block	DIGITAL UNIX	CT-VC78S-FB
120 Vac AlphaServer 1000A 5/400 rackmount system building block w/unlimited UNIX user license.	DIGITAL UNIX	CT-VC78S-FC
240 Vac AlphaServer 1000A 5/400 rackmount system building block w/unlimited UNIX user license.	DIGITAL UNIX	CT-VC78S-FD
120 Vac AlphaServer 1000A 5/400 rackmount package system	Windows NT	CT-VC78P-AA
120 Vac AlphaServer 1000A 5/400 rackmount package system	DIGITAL UNIX	CT-VC78P-FA
240 Vac AlphaServer 1000A 5/400 rackmount package system	Windows NT	CT-VC78P-AB
240 Vac AlphaServer 1000A 5/400 rackmount package system	DIGITAL UNIX	CT-VC78P-FB
120 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB	Windows NT	CT-VC78P-AC
120 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB	DIGITAL UNIX	CT-VC78P-FC
240 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB	Windows NT	CT-VC78P-AD
240 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB	DIGITAL UNIX	CT-VC78P-FD
120 Vac AlphaServer 1000A 5/400 rackmount package system 128MB 2.1GB w/unlimited UNIX user license.	DIGITAL UNIX	CT-VC78P-FE

Table 1-1: Available AlphaServer Voice Platform Models (cont.)

Platform	Operating System	Model Number
240 Vac AlphaServer 1000A 5/400 rackmount package system 128MB 2.1GB w/unlimited UNIX user license	DIGITAL UNIX	CT-VC78P-FF
120 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB w/unlimited UNIX user license	DIGITAL UNIX	CT-VC78P-FG
240 Vac AlphaServer 1000A 5/400 rackmount package system 256MB 2.1GB w/unlimited UNIX user license	DIGITAL UNIX	CT-VC78P-FH

AlphaServer Voice Board, Module, and Cabling Options

Dialogic board options available for the AlphaServer Voice Platform are listed in the following tables. Tables listing miscellaneous options and cabling are also included.

Each option is categorized by the type of bus for which it is designed. Boards and modules can support PCM Expansion Bus (PEB) products only, Signal Computing Bus (SCbus) products only, or both PEB or SCbus, depending on your environment.

Table 1-2: PEB Board Options

Dialogic Board Description	Bus Type[4]	DIGITAL Model Number[5]
D/41E, a 4-channel, low-density, analog loop-start call processing board.	---	2T-VC41E-xx
VFX/40, a 4-channel, low-density, analog loop-start call processing and 9,600 bits/s fax processing board.	---	2T-VCF40-xx
VFX/40E, a 4-channel, low-density, analog loop-start call processing and 14,400 bits/s fax processing board.	---	2T-VCF4E-xx
D/121B, a 12-channel, standard-density, analog loop-start call processing board.	PEB	2T-VC121-xx
LSI/120, a 12-channel, standard-density, analog loop-start network interface board.	PEB	2T-VCLSI-xx

[4] --- means standalone use only

[5] xx represents a two-letter country code

Table 1-2: PEB Board Options (cont.)

Dialogic Board Description	Bus Type[6]	DIGITAL Model Number[7]
DTI/211,a 24-channel, standard-density, T1 network interface board.	PEB	2T-VC211-xx
DTI/212, a 30-channel, standard-density, E1 network interface board.	PEB	2T-VC212-xx
FAX/120, a 12-channel, standard-density, fax processing board.	PEB	2T-VCFAX-xx
VRP, a 4/8/12/16-channel, standard-density, T1 voice recognition board.	PEB	2T-VCVRP-xx
VRM/40, a 4-channel, discrete voice recognition daughterboard.	PEB	2T-VCVR4-xx
VRM/2C, a 2-channel, continuous voice recognition daughterboard.	PEB	2T-VCVR2-xx
DMX (DIGITAL Matrix Switch) board for switching time slots on as many as four PEB spans.	PEB	2T-VCDMX-AA
MSI/C (Modular Station Interface) board. It is used to connect up to 24 analog station devices.	PEB	2T-VCMSI-AA
MSI/40 daughterboard for the MSI/C that provides 4 line interfaces and COder/DECoders. (Requires an external MSI Power Module.)	PEB	2T-VCM40-AA

Table 1-3: PEB and SCbus Board Options

Dialogic Board Description	Bus Type	DIGITAL Model Number[5]
D/240SC, a 24-channel, high-density, voice processing board.	PEB or SCbus	2T-VC240-xx
D/240SC-T1, a 24-channel, high-density, voice-processing and network-interface board.	PEB or SCbus	2T-VC24T-xx
D/320SC, a 32-channel, high-density, voice-processing board.	PEB or SCbus	2T-VC320-xx
D/41ESC, a 4-channel, low-density, analog loop-start call processing board.	PEB or SCbus	2T-VC4SC-xx
CP-6/SC, a 6-channel, high density, multi-line fax processing board.	PEB or SCbus	2T-VCC06-AA
CP-12/SC, a 12-channel, high density, multi-line fax processing board.	PEB or SCbus	2T-VCC12-AA

---

6 --- means standalone use only

7 xx represents a two-letter country code

Table 1-4: SCbus Board Options

Dialogic Board Description	Bus Type	DIGITAL Model Number[8]
D/160SC-LS, a 16-channel voice processing and analog interface board.	SCbus	2T-VC16L-xx
D/300SC-E1, a 30-channel DSP-based voice processing board with onboard digital E1 interface.	SCbus	2T-VC30E-xx
VFX/40ESC, a 4-channel, low-density, analog loop-start call-processing and 14,400 bits/s fax processing board.	SCbus	2T-VCFSC-xx
D/240SC-2T1, a 24-channel voice processing board with dual T1 network interfaces.	SCbus	2T-VC242-US
D/480SC-2T1, a 48-channel voice processing board with dual T1 network interfaces.	SCbus	2T-VC480-US
D/600SC-2E1-120, a 60-channel voice processing board with dual 120 Ohm E1 network interfaces.	SCbus	2T-VC600-EU
D/300SC-2E1-75, a 30-channel voice processing board with dual 75 Ohm E1 network interfaces.	SCbus	2T-VC302-75
D/300SC-2E1-120, a 30-channel voice processing board with dual 120 Ohm E1 network interfaces.	SCbus	2T-VC302-EU
DTI/240SC, a 24-channel, high-density, T1 network interface board.	SCbus	2T-VCI40-US
DTI/241SC, a 24-channel, high-density, T1 network interface board with tone signaling.	SCbus	2T-VCI41-US
DTI/300SC-75, a 30-channel, high-density, 75 Ohm E1 network interface board.	SCbus	2T-VCI30-75
DTI/301SC-75, a 30-channel, high-density, 75 Ohm E1 network interface board with tone signaling.	SCbus	2T-VCI31-75
DTI/300SC-120, a 30-channel, high-density, 120 Ohm E1 network interface board.	SCbus	2T-VCI30-EU
DTI/301SC-120, a 30-channel, high-density, 120 Ohm E1 network interface board with tone signaling.	SCbus	2T-VCI31-EU
DTI/480SC, a 48-channel, high-density, dual T1 network interface board.	SCbus	2T-VCI80-US
DTI/600SC-75, a 60-channel, high-density, dual 75 Ohm E1 network interface board.	SCbus	2T-VCI60-75
DTI/600SC-120, a 60-channel, high-density, dual 120 Ohm E1 network interface board.	SCbus	2T-VCI60-EU

[8] xx represents a two-character country code or variation

Table 1-4: SCbus Options (cont.)

Dialogic Board Description	Bus Type	DIGITAL Model Number[9]
DCB/320SC, an audio conferencing board supplying 32 ports.	SCbus	2T-VCD32-AA
DCB/640SC, an audio conferencing board supplying 64 ports.	SCbus	2T-VCD64-AA
DCB/960SC, an audio conferencing board supplying 96 ports.	SCbus	2T-VCD96-AA
Antares 2000/50, a DSP expansion board with up to 32-channel capacity, 512Kb local SRAM, 4Mb Global DRAM.	SCbus	2T-VC250-AA
Antares 3000/50, a DSP expansion board with up to 32-channel capacity, 512Kb local SRAM, 8Mb Global DRAM.	SCbus	2T-VC350-AA
Antares 6000/50, a DSP expansion board with up to 32-channel capacity, 2Mb local SRAM, 8Mb Global DRAM.	SCbus	2T-VC650-AA
MSI/80SC (Modular Station Interface) board, to connect up to 8 analog station devices.	SCbus	2T-VCM80-xx
MSI/160SC (Modular Station Interface) board, to connect up to 16 analog station devices.	SCbus	2T-VCM16-xx
MSI/240SC (Modular Station Interface) board, to connect up to 24 analog station devices.	SCbus	2T-VCM24-xx

Table 1-5: Miscellaneous Equipment

DIGITAL Model Number	Description
2T-VC220-IB	I-Bus 20-slot expansion box
2T-VC220-IP	Access Technologies' interconnect kit (two interface boards and a two meter interconnect cable)

Table 1-6: Terminator and Cabling Options (PEB)

DIGITAL Model Number	Description
2T-VCPEB-01	PEB terminator
2T-VCPEB-02	2-connector PEB flat ribbon cable

[9] xx represents a two-character country code or variation

Table 1-6: Terminator and Cabling Options (PEB) (cont.)

DIGITAL Model Number	Description
2T-VCPEB-03	3-connector PEB flat ribbon cable
2T-VCPEB-04	4-connector PEB flat ribbon cable
2T-VCPEB-05	5-connector PEB flat ribbon cable
2T-VCPEB-06	6-connector PEB flat ribbon cable
2T-VCPEB-07	7-connector PEB flat ribbon cable
2T-VCPEB-08	8-connector PEB flat ribbon cable
2T-VCPEB-09	9-connector PEB flat ribbon cable
2T-VCFIC-01	Fax interconnect flat ribbon cable
2T-VC220-RJ	RJ-11 distribution box with 25-pin Sub-D connector
2T-VCPEB-98	Male-to-Male crossover ribbon cable (DMX)
2T-VCPEB-99	Male-to-Female crossover ribbon cable (DMX)

Table 1-7: Terminator and Cabling Options (SCbus)

DIGITAL Model Number	Description
2T-VCSCC-04	4-Connector flat ribbon SC cable
2T-VCSCC-08	8-Connector flat ribbon SC cable
2T-VCSCC-12	12-Connector flat ribbon SC cable
2T-VCSCC-16	16-Connector flat ribbon SC cable

Table 1-8: Miscellaneous Cables and Other Options

DIGITAL Model Number	Description
2T-VCMPS -01	-24 Vdc MSI power module (120/240 Vac)
2T-VCSA2-TE	SA/240 24-port Telephone Station Adapter
2T-VCSA2-LS	SA/160 16-port Telephone Station Adapter

2
EISA Configuration Utility (ECU)

Before you run the EISA Configuration Utility (ECU), you should be familiar with this utility. For more information and instructions on using the ECU, refer to the AlphaServer system documentation.

Introduction

Run the ECU before you install the software. Run it from the console prompt with the `runecu` command.

The ECU is used to register the boards with the system hardware, and to reserve the addresses and interrupt request levels (IRQs) that are to be used by the boards. The ECU will attempt to identify and resolve resource conflicts and may also be used to determine unused I/O ports, shared memory addresses, and IRQs.

The system may crash during boot if the hardware is configured into Dialogic configuration files and the ECU has not yet been run to configure the hardware into the system configuration EEPROM. If this occurs, either run the ECU to configure the hardware into the system or boot a saved kernel and edit the Dialogic configuration files.

There are four ECU files shipped on the floppy disk. The first file (!ISA4000.cfg) is for Dialogic network-interface and voice boards of IRQ type A and IRQ type B. The second file (!ISA4010.cfg) is for Dialogic network-interface boards of IRQ type C. The third file (!ISA4020.cfg) is for GammaFax boards. The fourth file (!ISA4030.cfg) is for Antares boards.

After you complete the configuration, exit from the ECU and cycle power to the system.

ECU Configurations

The following sections contain the configuration process for IRQ type A, type B, and type C boards. These boards can be installed either in the system box or the 2T-VC220-IB Expansion Box.

Configuring IRQ Type A Boards

I/O Port Selection

The I/O port selection is used to reserve the ports so that other modules in the system will not be able to allocate them using ECU.

It is possible to select from 1 to 8 SpringBoards (D/121B or VRP) installed. This enables the possibility of allocating 1 to 8 consecutive I/O port locations from the same slot.

IRQ Selection

For the first IRQ type A board on the EISA bus, choose "Allocate SpringBoard IRQ." Press F6 to select the appropriate IRQ for the type A boards. Since all IRQ type A boards share both IRQ and memory allocation, it is only necessary to configure one IRQ type A board.

Note

It is important that the ECU IRQ selections be set correctly. This reserves the IRQ and informs the DIGITAL UNIX operating system to which driver the interrupts should be delivered. If the IRQ selections are not set correctly in the ECU, then the software will not function properly.

Memory Block Selection

The memory block selection is used to reserve the address range(s) so that other modules in the system will not be able to allocate them using ECU.

Select one memory block for the first board of this type. Since these boards are capable of sharing memory, it is not necessary to allocate memory for the remaining boards. However, if enough memory is available, it would improve system performance by spreading out memory allocation as much as possible.

Press F6 and select the size of memory block required for the board in this slot:

- 8K = 2000 hex = size of VRP memory block
- 24K = 6000 hex = size of D/121B memory block

Configuring IRQ Type B Boards

I/O Port Selection

Select "No SpringBoards installed" for all boards of IRQ type B.

IRQ Selection

For the first IRQ type B board on the EISA bus, choose “Allocate SpanCard IRQ.” Press F6 to select the appropriate IRQ for the type B boards. Since all IRQ Type B boards share both IRQ and memory allocation, it is only necessary to configure one IRQ type B board.

Note

It is important that the ECU IRQ selections be set correctly. This reserves the IRQ and informs the DIGITAL UNIX operating system to which driver the interrupts should be delivered. If the IRQ selections are not set correctly in the ECU, then the software will not function properly.

Memory Block Selection

The memory block selection is used to reserve the address range(s) so that other modules in the system will not be able to allocate them using ECU.

Select one memory block for the first board of this type. Since these boards are required to share memory, it is not necessary to allocate memory for the remaining boards.

Note

All IRQ Type B boards must share a single memory block. This block should normally be 32K, but may be set to 8K if only D/41E or VFX/40E boards are used in the system.

Configuring IRQ Type C Boards

Boards of IRQ type C only require IRQ and I/O port selection. They *do not* require memory block selection.

I/O Port Selection

Select “One DTI/2xx.” Press F6 to select the specific I/O port for the DTI/2xx board.

IRQ Selection

For the first IRQ type C board on the EISA bus, choose “Allocate DTI/2xx IRQ.” Press F6 to select the appropriate IRQ for the type C boards. For the remaining IRQ type C boards installed in the system, choose “IRQ(s) already allocated” or “No DTI/2xx modules.”

Note

It is important that the ECU IRQ selections be set correctly. This reserves the IRQ and informs the DIGITAL UNIX operating system to which driver the interrupts should be delivered. If the IRQ selections are not set correctly in the ECU, then the software will not function properly.

Configuring GammaFax Boards

GammaFax boards 2T-VCC06-AA (CP-6/SC) and 2T-VCC12-AA (CP-12/SC) require only CSR settings. The actual ports used are implicitly set via the four DIP switches on switch block SW1. The 16 values listed in the ECU may be individually set to either OFF, CP6 or CP12. For each CP-6 or CP-12 installed in the system, set the I/O port range corresponding to the switch setting to the appropriate board type.

If using an expansion box, then one ECU entry may be used to configure all of the CP-6/CP-12 boards installed in the expansion box.

Note

Setting “E” (14) or “F” (15) may *not* be used if a VGA is installed in the system (will work with TGA). Setting “F” (15) may only be used with a CP-6 board. If 96 ports of GammaFax are being installed, settings “E” (14) and/or “F” (15) will be used; therefore, a VGA may not be used.

Configuring Antares Boards

The Antares option boards only require setting the IRQs and the port addresses. Using ECU, under Dialogic Antares Card Definition, the IRQ is selected by setting the Antares Interrupt Vector; the port address is selected by setting the Antares Switch Setting.

Please refer to the *Quick Install for the Antares Board* Quick Installation Card for setting the port address on the board accordingly.

Configuring Boards in an Expansion Box

If the Dialogic boards are configured in an expansion box using the Windows NT operating system, both IRQ type A and type B boards may be configured by selecting a single ECU entry. To allocate both IRQ types in a single slot, choose "Allocate SpanCard and SpringBoard IRQs."

Do not choose the "Allocate SpanCard and SpringBoard IRQs" option if you are using DIGITAL UNIX. If you are using Dialogic boards of multiple IRQ types in an expansion box on DIGITAL UNIX, then use the expansion box slot for one of the IRQ types and use spare EISA slots for the other types. For example, if you are using an expansion box connected to EISA slot 3 in the system with IRQ type A and type B boards, configure EISA slot 3 for all of the IRQ type A boards and an unused slot for all of the type B boards.

Completing the ECU Configuration

Record the selected values. These values are for setting switches and jumpers on the boards, and are required during the software installation procedure.

Caution

While still in ECU, lock the Dialogic boards. This prevents the installation of other modules from automatically changing the allocation. If the boards are not locked, then be careful when you install other modules. If ECU does change the allocations, then changes will need to be made to the software configuration, and to the board switch and jumper settings.

Refer to the system documentation for instructions on how to save the changed settings and to exit the ECU.

If the Dialogic Drivers software is already configured on the system, then the software configuration may have to be changed to match the hardware change.

3
Installation

This chapter provides information about installing and configuring the AlphaServer Voice board options.

Introduction

Telephony boards are installed in available ISA slots in the AlphaServer system. Some basic configuration rules follow:

- One and only one of the voice or network-interface boards of IRQ type A and type B installed in the same AlphaServer system must have an interrupt terminator jumper installed.
- PEB terminators must normally be installed on boards at the ends of PEB cables. However, when installing voice boards on an SCbus, a PEB terminator is never used.
- All voice and network-interface boards installed in the same AlphaServer system must have different board identification numbers.
- All telephony boards of the same IRQ type (see the following table) installed in the same AlphaServer system must be set to the same IRQ setting; Each IRQ type group must use a different IRQ setting. The IRQ for only one board of each IRQ type must be specified when you run the EISA Configuration Utility (ECU) (See Chapter 2). The ECU designates all other boards within the IRQ type as “IRQ already allocated”.

The following boards are included in each of the three IRQ types:

Table 3-1: Board/IRQ Types

Type A (Springboard)	Type B (SpanCard)	Type C (DTI/2xx)
2T-VC121 (D/121B)	2T-VC16L (D/160SC-LS)	2T-VC211 (DTI/211)
2T-VCVRP (VRP)	2T-VC24T (D/240SC-T1)	2T-VC212 (DTI/212)
	2T-VC240 (D/240SC)	2T-VCDMX (DMX)
	2T-VC30E (D/300SC-E1)	2T-VCMSI (MSI/C)
	2T-VC320 (D/320SC)	2T-VCM40 (MSI/40)
	2T-VC41E (D/41E)	
	2T-VC4SC (D/41ESC)	
	2T-VCF4E (VFX/40E)	
	2T-VCFSC (VFX/40ESC)	
	2T-VCF40 (VFX/40)	
	2T-VC242-US (D/240SC-2T1)	
	2T-VC480-US (D/480SC-2T1)	
	2T-VC600-EU (D/600SC-2E1-120)	
	2T-VC302-75 (D/300SC-2E1-75)	
	2T-VC302-EU (D/300SC-2E1-120)	
	2T-VCI40-US (DTI/240SC)	
	2T-VCI41-US (DTI/241SC)	
	2T-VCI30-75 (DTI/300SC-75)	
	2T-VCI31-75 (DTI/301SC-75)	
	2T-VCI30-EU (DTI/300SC-120)	
	2T-VCI31-EU (DTI/300SC-120)	
	2T-VCI80-US (DTI/480SC)	
	2T-VCI60-75 (DTI/600SC-75)	
	2T-VCI60-EU (DTI/600SC-120)	
	2T-VCD32-AA (DCB/320SC)	
	2T-VCD64-AA (DCB/640SC)	
	2T-VCD96-AA (DCB/960SC)	
	2T-VCM80-xx (MSI/80SC)	
	2T-VCM16-xx (MSI/160SC)	
	2T-VCM24-xx (MSI/240SC)	

Note

The 2T-VCLSI (LSI/120), 2T-VCFAX (FAX/120), 2T-VCVR4 (VRM/40), 2T-VCVR2 (VRM/2C), 2T-VCC06 (CP-6/SC), and 2T-VCC12 (CP-12/SC) option boards do not require IRQ settings.

The Antares cards have their own Interrupt and ECU file.

An optional I-Bus 20-slot ISA expansion box is available for rackmounted AlphaServer systems. An Access Technologies' interconnect kit is required to connect an EISA slot in the rackmounted AlphaServer system to the expansion box.

After you install and cable the options, power up the expansion box and then the AlphaServer system. Refer to the EISA Configuration Utility (ECU) chapter of this guide to configure the installed options.

The following sections provide configuration and installation information for each Dialogic telephony option.

PEB Only Options

AlphaServer Voice options in this section are used with PCM Expansion Bus (PEB) products.

2T-VC41E (D/41E) Option Board

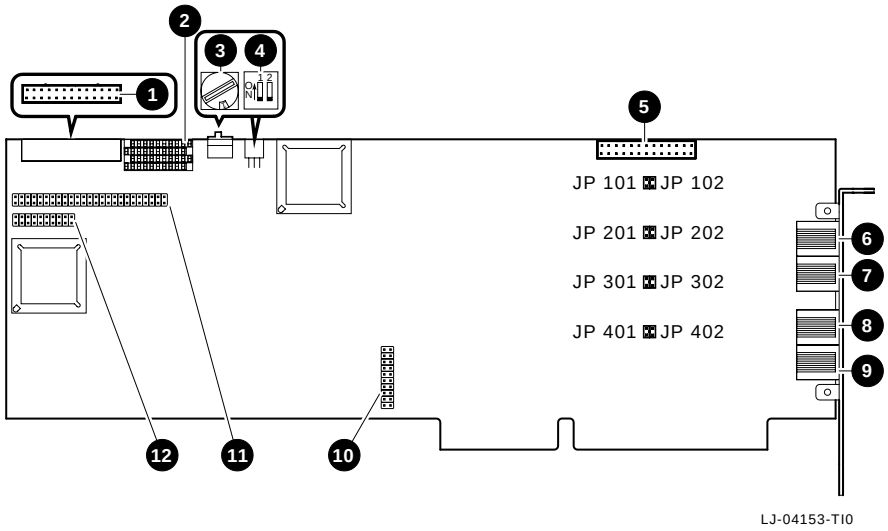
The 2T-VC41E (D/41E) board is a 4-channel loop-start voice and network-interface board that provides four telephone line network-interface circuits for direct connection to analog loop-start lines.

Jumpers JP101 through JP402 are factory set and country specific. Do not alter these settings.

Refer to Dialogic's *Voice Hardware Reference* manual, the AlphaServer system documentation, Figure 3-1, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual and Dialogics's *Quick Install for the D/41E and D/41ESC Boards (and VFX Boards)* Quick Installation Card, while you perform the following configuration steps:
   a. Set the board identification number using rotary switch SW1 and switch block SW2 switch 2.
   b. Set the default line state using switch block SW2 switch 1.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the appropriate telephone line to each of the RJ-11 female jacks on the board.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-1: 2T-VC41E (D/41E) Board



1. PEB connector P5
2. PEB terminator socket
3. Rotary switch SW1
4. Switch block SW2
5. AEB connector P3
6. Channel 1 input jack J1
7. Channel 2 input jack J2
8. Channel 3 input jack J3
9. Channel 4 input jack J4
10. AEB connector J6 for daughterboards
11. Daughterboard connector J5
12. Daughterboard connector J7

2T-VCF4E (VFX/40E) and 2T-VCF40 (VFX/40) Option Boards

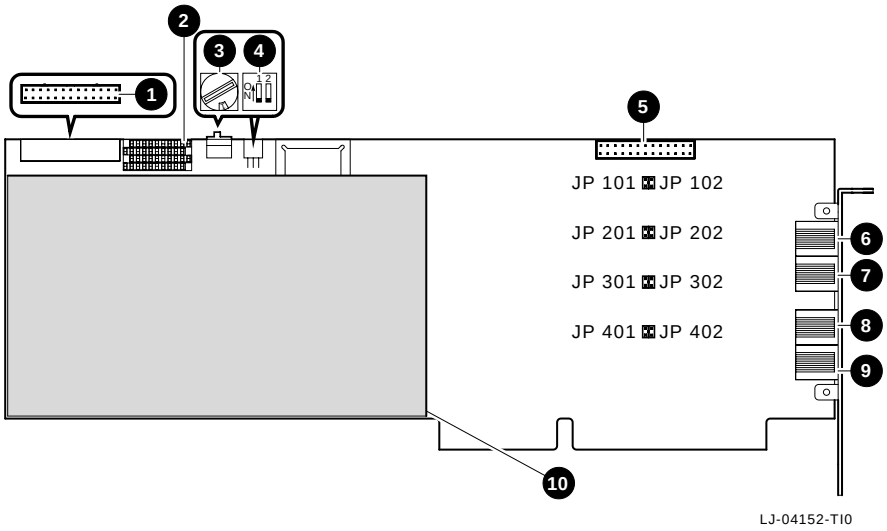
The 2T-VCF4E (VFX/40E) board is a 4-channel loop-start voice and 14,400 bits/s fax board that provides four telephone line network-interface circuits for direct connection to analog loop-start lines. The 2T-VCF40 (VFX/40) board is similar, but provides 9,600 bits/s fax service.

Jumpers JP101 through JP402 are factory set and country specific. Do not alter these settings.

Refer to the AlphaServer system documentation, Figure 3-2, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogics's *Quick Install for the D/41E and D/41ESC Boards (and VFX Boards)* Quick Installation Card while you perform the following configuration:
   a. Set the board identification number using rotary switch SW1 and switch block SW2 switch 2.
   b. Set the default line state using switch block SW2 switch 1.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the appropriate telephone line to each of the RJ-11 female jacks on the board.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-2: 2T-VCF4E (VFX/40E) Board



1. Not Used
2. Not Used
3. Rotary switch SW1
4. Switch block SW2
5. AEB connector B3
6. Channel 1 input jack J1
7. Channel 2 input jack J2
8. Channel 3 input jack J3
9. Channel 4 input jack J4
10. 2T-VCX4E (FAX/40E) daughterboard

2T-VC121 (D/121B) Option Board

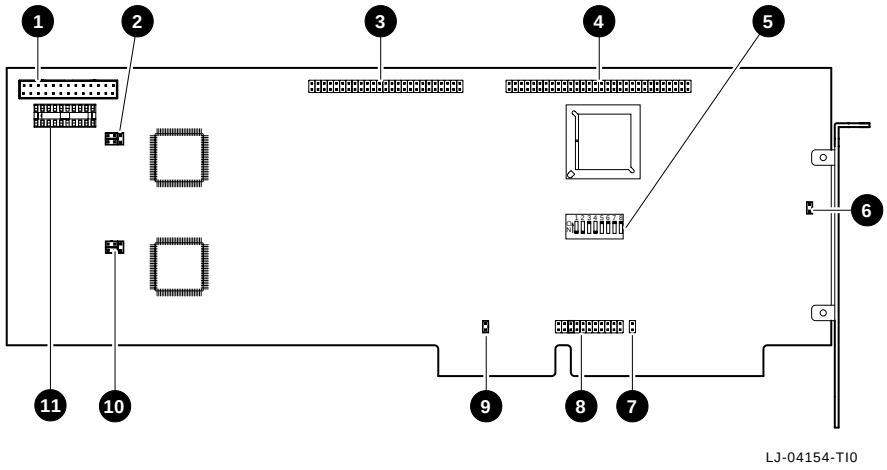
The 2T-VC121 (D/121B) board is a 12-channel analog loop-start call-processing board. It *must* be installed with a network-interface board. You can install the board in either of these configurations:

- With one 2T-VCLSI (LSI/120) 12-channel standalone telephone network interface (voice only) board.
- With one 2T-VC211 (DTI/211) 24-channel standalone telephone network interface (voice only) board, which can support up to two 2T-VC121 (D/121B) boards.

Refer to the Dialogic *Voice Hardware Reference* manual, the AlphaServer system documentation, Figure 3-3, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual while you perform the following configuration steps:
    a. Set the base I/O port address switches on switch block SW1.
    b. Set the IRQ setting using jumper block JP1. All boards of the same IRQ type (see Table 2-1) in the system must be set to the same IRQ setting.
    c. Set the interrupt terminator JP7. Only one board in an IRQ type group (see Table 2-1) in the system can have this jumper installed.
    d. Set the 8-bit bus mode jumper JP168 and the 16-bit bus mode jumper JP16 to select 8-bit or 16-bit mode.
    e. Install a PEB terminator (if needed). Normally, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A).
    f. Attach a PEB cable with the proper number of connectors to the PEB connector.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-3: 2T-VC121 (D/121B) Board



1. PEB connector
2. Factory-assigned jumper JPX1
3. FAX/120 connector P2
4. Connector P3
5. I/O port address switch block SW1
6. 8-bit bus mode jumper JP168
7. Interrupt terminator JP7
8. IRQ setting jumper block JP1
9. 16-bit bus mode jumper JP16
10. Factory-assigned jumper JPZ1
11. PEB terminator socket

2T-VCLSI (LSI/120) Option Board

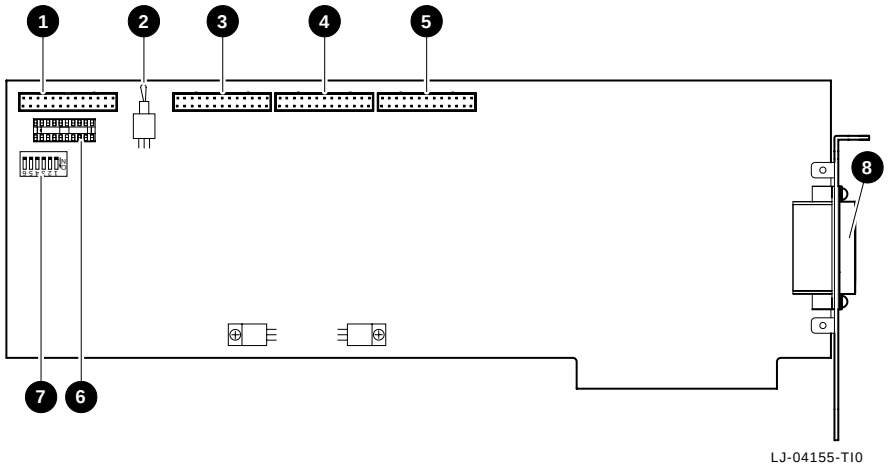
The 2T-VCLSI (LSI/120) board is a 12-channel analog loop-start network-interface board. It must be installed with a call-processing board. You can install the board in either of these configurations:

- With one 2T-VC121 (D/121B) 12-port DSP-based voice board.
- With one 2T-VC240 (D/240SC) 24-port DSP-based voice board, which can support up to two 2T-VCLSI (LSI/120) boards.

Refer to the Dialogic *Network Hardware Reference* manual, the AlphaServer system documentation, Figure 3-4, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Network Hardware Reference* manual while you perform the following configuration steps:
   a. Set the switch settings on switch block SW1.
   b. Set the Norm/Loop switch SW2 to the Norm position.
   c. Install a PEB terminator (if needed). Normally, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A).
   d. Attach a PEB cable with the proper number of connectors (see Appendix A) to the PEB connector.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
6. Connect the appropriate external communication cable to the DB-25 male connector P3 on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-4: 2T-VCLSI (LSI/120) Board



1. PEB connector P2
2. Norm/Loop switch SW2
3. AEB connector P4
4. AEB connector P5
5. AEB connector P6
6. PEB terminator socket
7. Switch block SW1
8. DB-25 male connector P3

2T-VC211 (DTI/211) Option Board

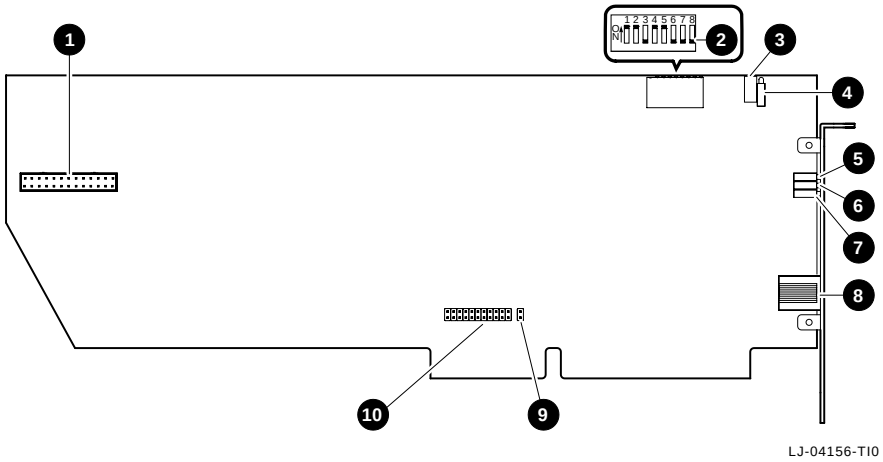
The 2T-VC211 (DTI/211) board is a 24-channel T1 network-interface board. It must be installed with a call-processing board. You can install the board in one of these configurations:

- With one 2T-VC240 (D/240SC) 24-port DSP-based voice board.
- With up to two 2T-VC121 (D/121B) 12-port DSP-based voice boards.

Refer to the Dialogic *Network Hardware Reference* manual, the AlphaServer system documentation, Figure 3-5, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Network Hardware Reference* manual while you perform the following configuration steps:
   a. Set the base I/O port address switches on switch block SW1.
   b. Set the IRQ setting using jumper block JP1. All boards of the same IRQ type (see Table 2-1) in the system must be set to the same IRQ setting.
   c. Set the interrupt terminator JP2. Only one board in an IRQ type group (see Table 2-1) in the system can have this jumper installed.
   d. Set the remote loopback test switch SW101 to the OFF position.
   e. Attach a PEB cable with the proper number of connectors to the PEB connector P201.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
6. Connect the appropriate external communication cable to the RJ-48C connector jack J201 on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-5: 2T-VC211 (DTI/211) Board



1. PEB connector P201
2. I/O port address switch block SW1
3. Remote loopback test switch SW101
4. Remote loopback LED (red)
5. Alarm LED (red)
6. Alarm LED (yellow)
7. Signal present LED (green)
8. RJ-48C connector jack J201
9. Interrupt terminator JP2
10. IRQ setting jumper block JP1

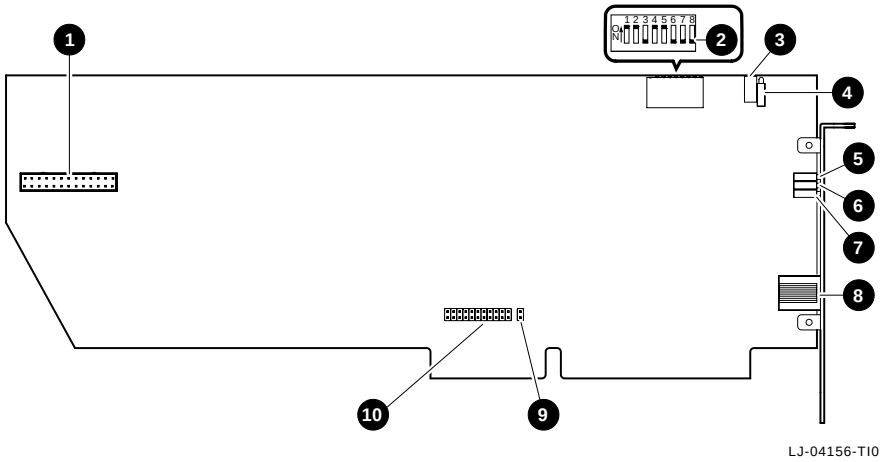
2T-VC212 (DTI/212) Option Board

The 2T-VC212 (DTI/212) board is a 30-channel E1 network-interface board. It *must* be installed with a call-processing board. You can install one 2T-VC212 (DTI/212) board with a 2T-VC320 (D/320SC) board.

Refer to Dialogic's *Network Hardware Reference* manual, the AlphaServer system documentation, Figure 3-6, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Network Hardware Reference* manual and perform the following configuration steps:
   a. Set the base I/O port address switches on switch block SW1.
   b. Set the IRQ setting using jumper block JP1. All boards of the same IRQ type (see Table 2-1) in the system must be set to the same IRQ setting.
   c. Set the interrupt terminator JP2. Only one board in an IRQ type group (see Table 2-1) in the system can have this jumper installed.
   d. Set the remote loopback test switch SW101 to the OFF position.
   e. Attach a PEB cable with the proper number of connectors to the PEB connector P201.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
6. Connect the appropriate telephone lines to the available connectors on the board. This is either a single RJ-48C connector (120 Ohm variant) or two BNC connectors (75 Ohm variant of the board).
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-6: 2T-VC212 (DTI/212) Board



1. PEB connector P201
2. I/O port address switch block SW1
3. Remote loopback test switch SW101
4. Remote loopback LED (red)
5. Alarm LED (red)
6. Alarm LED (yellow)
7. Signal present LED (green)
8. RJ-48C connector J201[10]
9. Interrupt terminator JP2
10. IRQ setting jumper block JP1

[10] 120 Ohm variant of this board is shown. The 75 Ohm variant has two BNC style connectors.

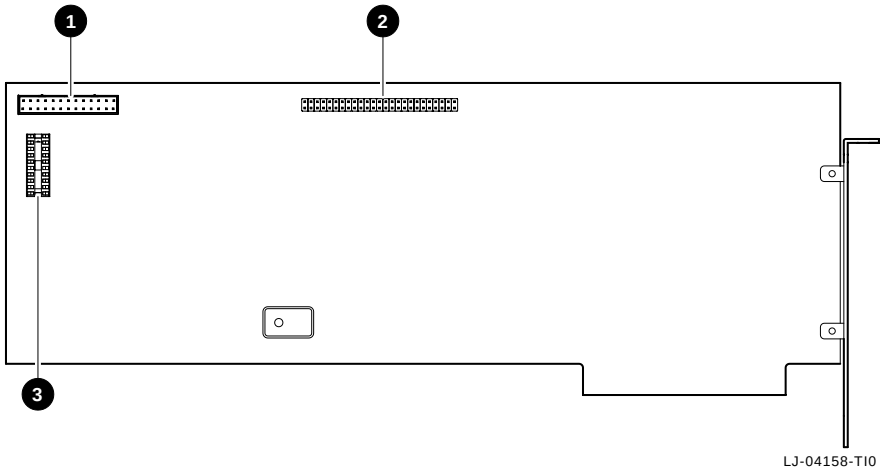
2T-VCFAX (FAX/120) Option Board

The 2T-VCFAX (FAX/120) board is a 12-channel fax-processing board. It must be installed in a slot adjacent to a 2T-VC121 (D/121B) board and must be connected to this board with a P2 ribbon cable.

Refer to Dialogic's *FAX/120 Hardware Reference* manual, the AlphaServer system documentation, Figure 3-7, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogic's *FAX/120 Hardware Reference* manual while you perform the following configuration steps:
    a. Install a PEB terminator (if needed). Normally, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A).
    b. Attach a PEB cable with the proper number of connectors to the PEB connector P1.
    c. Attach a P2 ribbon cable to the P2 connector.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot adjacent to a 2T-VC121 (D/121B) board.
5. Connect the P2 ribbon cable to the P2 connector on the adjacent 2T-VC121 (D/121B) board.
6. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-7: 2T-VCFAX (FAX/120) Board



1. PEB connector P1
2. D/121B connector P2
3. PEB terminator socket

2T-VCVRP (VR/160) Option Board

The 2T-VCVRP (VR/160) board is a 4/8/12/16-channel voice-recognition board. It can be installed with these call-processing boards:

- 2T-VC121 (D/121B)
- 2T-VC240 (D/240SC)
- 2T-VC320 (D/320SC)
- 2T-VC24T (D/240SC-T1)

Note

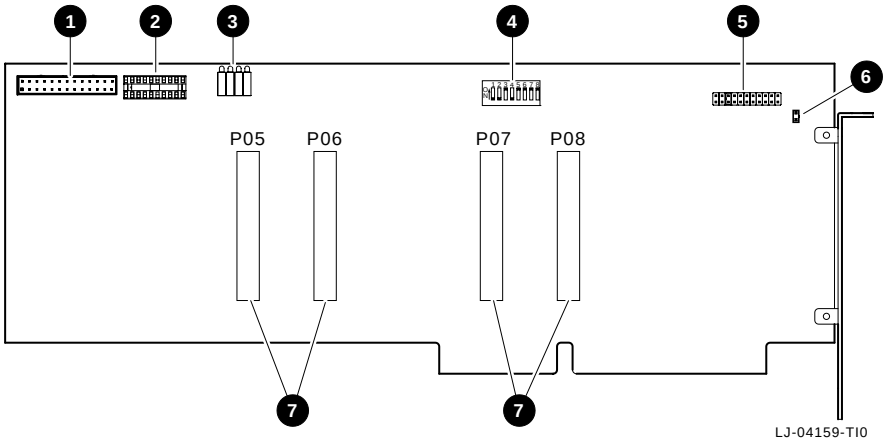
Before you install the board, you must connect either a 2T-VCVR4 (VRM/40) or 2T-VCVR2 (VRM/2C) daughterboard to the board. Information about these daughterboards and how to mount them appears in the sections immediately following this one.

Refer to Dialogic's *VR/160 Hardware Reference* manual, the AlphaServer system documentation, Figure 3-8, and the following procedure to configure and install this board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogic's *VR/160 Hardware Reference* manual and perform the following configuration steps:
   a. Set the base I/O port address switches on switch block SW01.
   b. Set the IRQ setting using jumper block JP01. All boards of the same IRQ type (see Table 3-1) in the system must be set to the same IRQ setting.
   c. Set the interrupt terminator JP07. Only one board in an IRQ type group (see Table 3-1) in the system can have this jumper installed.
   d. Connect either a 2T-VCVR4 (VRM/40) or 2T-VCVR2 (VRM/2C) daughterboard to this board. Before continuing, go to the appropriate section immediately following this one for information about installing the daughterboard you are using.
   e. Install a PEB terminator (if needed). Normally, PEB terminators must be installed on boards at the ends of PEB cables (refer to Appendix A).
   f. Attach a PEB cable with the proper number of connectors to the PEB connector P04.

4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-8: 2T-VCVRP (VR/160) Board



1. PEB connector P04
2. PEB terminator socket
3. Daughterboard LEDs
4. I/O port address switch block SW01
5. IRQ setting jumper block JP01
6. Interrupt terminator JP07
7. Daughterboard connectors P05, P06, P07, and P08

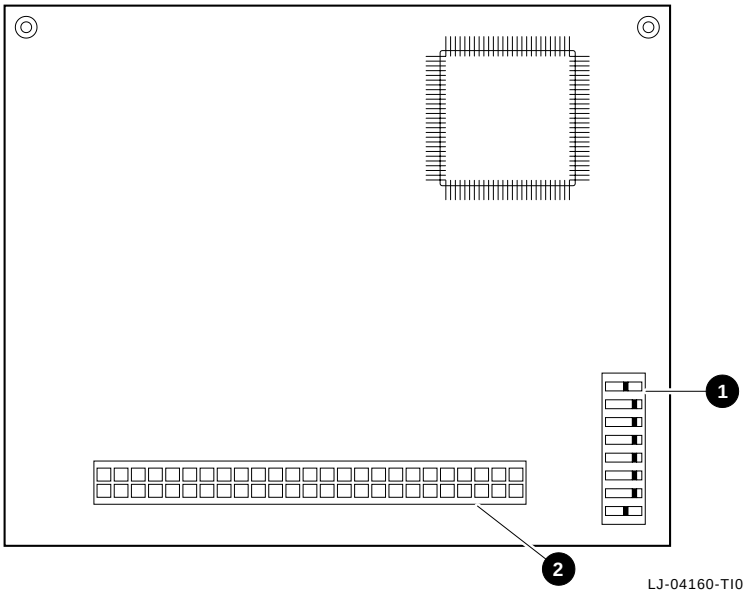
2T-VCVR4 (VRM/40) Daughterboard Option

The 2T-VCVR4 (VRM/40) board is a 4-channel discrete voice-recognition daughterboard that mounts directly to a 2T-VCVRP (VR/160) 4/8/12/16-channel voice-recognition board. You can connect up to four of these daughterboards to a 2T-VCVRP (VR/160) board.

Refer to the Board Installation chapter of the Dialogic *VR/160 Hardware Reference* manual, Figure 3-9, and the following procedure to configure and connect this daughterboard to the 2T-VCVRP (VR/160) voice board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the daughterboard.
3. Refer to Dialogic's *VR/160 Hardware Reference* manual and set the base I/O port address switches on switch block SW01.
4. Connect the daughterboard to the 2T-VCVRP (VR/160) board. Connect the first daughterboard to P05, the second to P06, and so on.
5. Return to the *2T-VCVRP (VR/160) Option Board* section of this guide and continue to install and configure this module.

Figure 3-9: 2T-VCVR4 (VRM/40) Daughterboard



1. I/O port address switch block SW01
2. VRP board connector P1

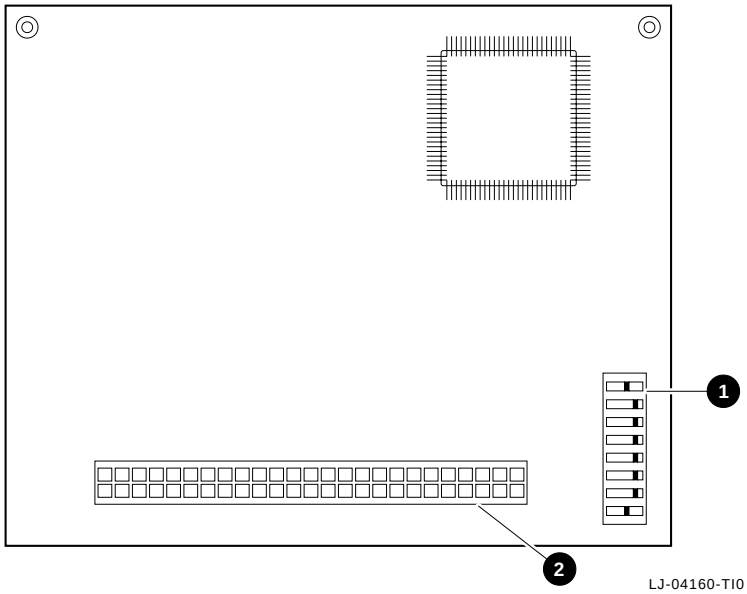
2T-VCVR2 (VRM/2C) Daughterboard Option

The 2T-VCVR2 (VRM/2C) board is a 2-channel continuous voice-recognition daughterboard that mounts directly to a 2T-VCVRP (VR/160) 4/8/12/16-channel voice-recognition board. Up to four of these daughterboards can be connected to a 2T-VCVRP (VR/160) board.

Refer to Dialogic's *VR/160 Hardware Reference* manual, Figure 3-10, and the following procedure to configure and connect this daughterboard to the 2T-VCVRP (VR/160) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the daughterboard.
3. Refer to Dialogic's *VR/160 Hardware Reference* manual and set the base I/O port address switches on switch block SW01.
4. Connect the 2T-VCVR2 (VRM/2C) daughterboard to the 2T-VCVRP (VR/160) board. Connect the first daughterboard to P05, the second to P06, and so on.
5. Return to the *2T-VCVRP (VR/160) Option Board* section of this guide and continue to install and configure this module.

Figure 3-10: 2T-VCVR2 (VRM/2C) Daughterboard



1. I/O port address switch block SW01
2. VRP board connector P1

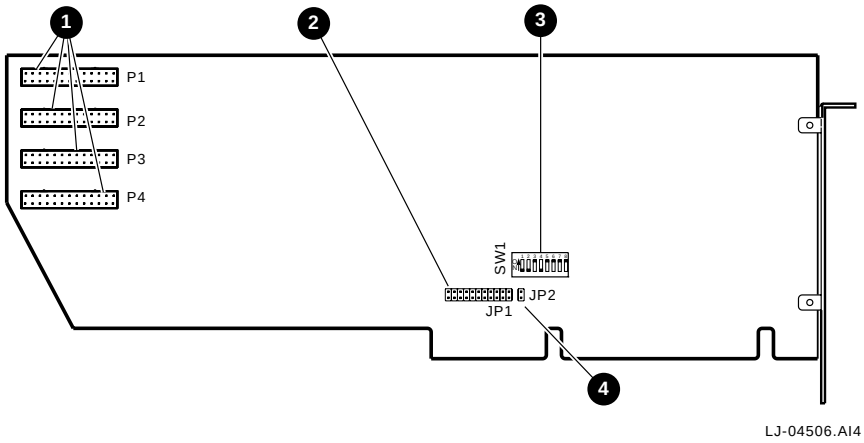
2T-VCDMX (DMX) Option Board

The 2T-VCDMX (DMX) board is a digital matrix switch that allows routing of calls across multiple time slots. This board provides an interface to up to four PCM Expansion Buses (PEBs).

Refer to Dialogic's *Network Hardware Reference* manual, your AlphaServer system documentation, Figure 3-11, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Network Hardware Reference* manual and perform the following configuration steps:
   a. Set the base I/O port address switches on switch block SW1.
   b. Set the IRQ setting using jumper block JP1. All boards of the same IRQ type (see Table 2-1) in the system must be set to the same IRQ setting.
   c. Set the interrupt terminator JP2. Only one board in an IRQ type group (see Table 2-1) in the system can have this jumper installed.
   d. Attach a PEB crossover cable from each PEB to the DMX, beginning with P1, then P2, and so on.
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-11: 2T-VCDMX (DMX) Board



1. PEB connectors P1 through P4
2. IRQ setting jumper block JP1
3. I/O port address switch block SW1
4. Interrupt terminator JP2

2T-VCMSI (MSI/C) Option Board

The 2T-VCMSI (MSI/C) board can connect up to 24 analog devices, such as local telephones, modems, fax machines, or audio equipment to a PCM Expansion Bus (PEB). You can add up to six 2T-VCM40 (MSI/40) daughterboards, each with four station interfaces.

Refer to Dialogic's *Network Hardware Reference* manual, your AlphaServer system documentation, Figure 3-12, and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Network Hardware Reference* manual and perform the following configuration steps:
   a. Set the base I/O port address switches on switch block SW1.
   b. Set the IRQ setting using jumper block JP1. All boards of the same IRQ type (see Figure 3-1) in the system must be set to the same IRQ setting.
   c. Set the interrupt terminator JP2. Only one board in an IRQ type group (see Figure 3-1) in the system can have this jumper installed.
   d. Connect the 2T-VCVCM (MSI/40) daughterboard(s) to this board. Before you continue, go to the section of this guide that explains how to install this daughterboard.
   e. Normally, PEB terminators must be installed on boards at the ends of PEB cables (refer to Appendix A). Install a PEB terminator in ONE of the following sockets according to how the board is being used:

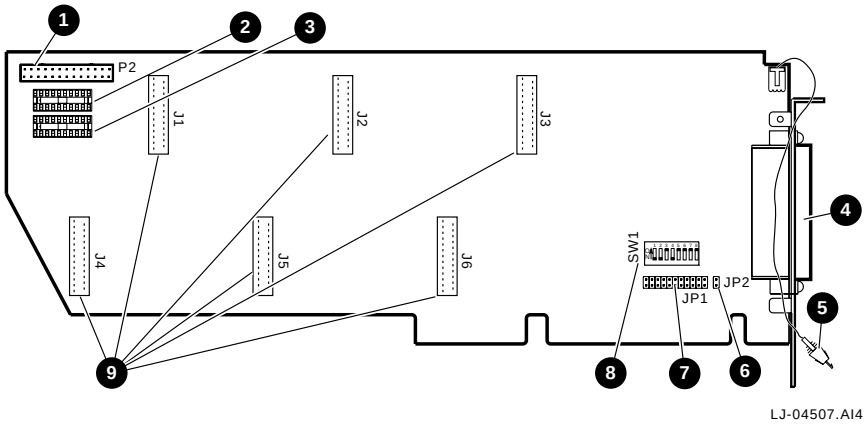
      XRN1: When the board functions as a network module and provides clocking information to other boards on the PEB.

      XRN2: When the board functions as a resource module and receives clocking information from the PEB.

   f. Attach a PEB cable with the proper number of connectors to PEB connector P2.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB cable to the other boards in your configuration. If this board is being added to an existing configuration, the PEB cable connecting the other boards may have to be replaced with a PEB cable with the proper number of connectors.

6. Connect the cable that leads to your telephones to the RJ-21X station interface connector P1.
7. Connect the external power connector P3 to the external MSI power supply.
8. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-12: 2T-VCMSI (MSI/C) Board



1. PEB connector P2
2. PEB terminator socket XRN1
3. PEB terminator socket XRN2
4. RJ-21X station interface connector P1
5. External power connector P3
6. Interrupt terminator JP2
7. Interrupt terminator JP1
8. I/O port address switch block SW1
9. Daughterboard connectors J1 through J6

2T-VCM40 (MSI/40) Daughterboard Option

The 2T-VCM40 (MSI/40) board provides four loop-start interfaces for connecting analog devices to a T1 or E1 system. You can add as many as six of these daughterboards to each 2T-VCMSI (MSI/C) board.

This daughterboard can be used in either T1 or E1 environments. A maximum configuration allows the hardware to connect all 24 time slots of a T1 or loop-start system to 24 analog station devices. Two 2T-VCMSI (MSI/C) boards and eight daughterboards are needed to service all 30 channels in an E1 system.

Note

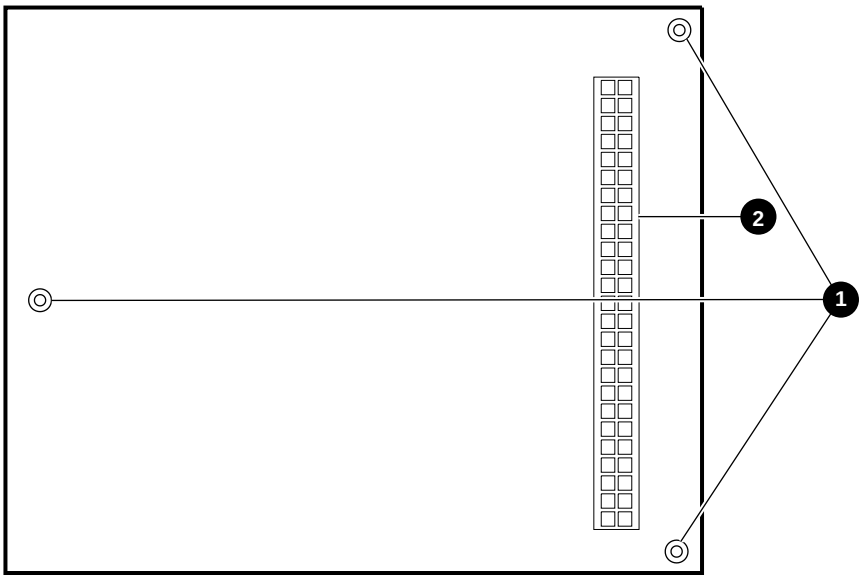
To install a daughterboard, you must have an MSI power module or other compatible external 24 Vdc power supply. A single power supply module can support up to six daughterboards.

Refer to the Board Installation chapter of the Dialogic *Network Hardware Reference* manual, Figure 3-13 (which shows a bottom view of the daughterboard), and the following procedure to configure and connect this daughterboard to the 2T-VCMSI (MSI/C) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the daughterboard.
3. Connect the daughterboard to the 2T-VCMSI (MSI/C) board. Connect the first daughterboard to J1, the second to J2, and so on. When you are working with an E1 system that uses two 2T-VCMSI (MSI/C) boards, divide the number of daughter-boards being used equally between the boards.

Return to the *2T-VCMSI (MSI/C) Option Board* section of this guide and continue to install and configure this module.

Figure 3-13: 2T-VCM40 (MSI/40) Daughterboard



1. Standoffs
2. 50-Pin connector P01

PEB and SCbus Options

The AlphaServer Voice options in this section can either be used with PEB or with Signal Computing Bus (SCbus) products. The way you configure any of these boards depends on the bus type of your installation.

Caution

You cannot mix PEB only and SCbus only options on the same system!

2T-VC240 (D/240SC) Option Board

The 2T-VC240 (D/240SC) board is a 24-channel voice-processing board that must be installed with a network-interface board. This board can be used in PEB or SCbus environments, as follows:

- In PEB environments:
  - ⇒ With one 2T-VC211 (DTI/211) 24-channel standalone telephone interface (voice only) board.
  - ⇒ With up to two 2T-VCLSI (LSI/120) 12-channel standalone telephone network interface (voice only) boards.
- In SCbus environments:
  - ⇒ This board is compatible with other SCbus-only boards.

Refer to the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual, the AlphaServer system documentation, Figure 3-14 or Figure 3-15, and the following procedure to configure and install this board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual while you perform the following configuration steps:
   a. Set the board identification number with rotary switch.
   b. If you are installing boards in a PEB environment, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A). (In SCbus installations, no PEB terminator is required.)

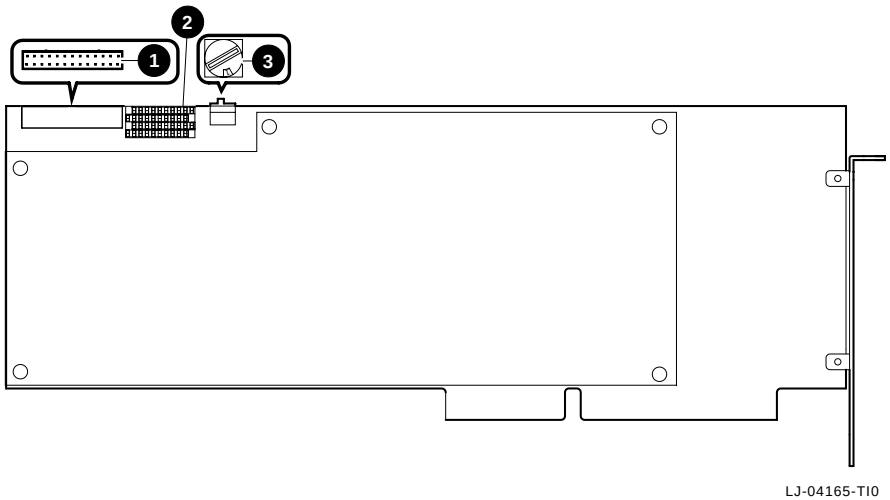
If you are using this card with other PEB products, and this board is at the end of a PEB cable or is being installed as a standalone board, install a PEB terminator in the holes in the terminator socket. Use the lower set of holes in the terminator socket as you look at the board, with the edge connectors down.

Otherwise, continue with the next step.

c. Depending on the environment, attach a PEB or SCbus cable with the proper number of connectors to the PEB/SCbus connector.

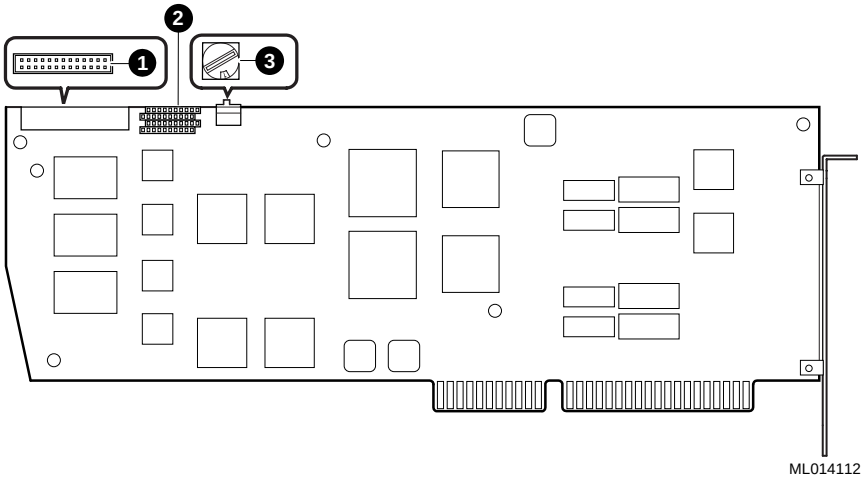
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB/SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the PEB/SCbus cable connecting the other boards with a PEB/SCbus cable with the proper number of connectors.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-14: 2T-VC240 (D/240SC Rev. 1) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch

Figure 3-15: 2T-VC240 (D/240SC Rev. 2) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch

2T-VC24T (D/240SC-T1) Option Board

The 2T-VC24T (D/240SC-T1) board is a 24-channel voice-processing and T1 network-interface board. It can be used with either PEB or SCbus products.

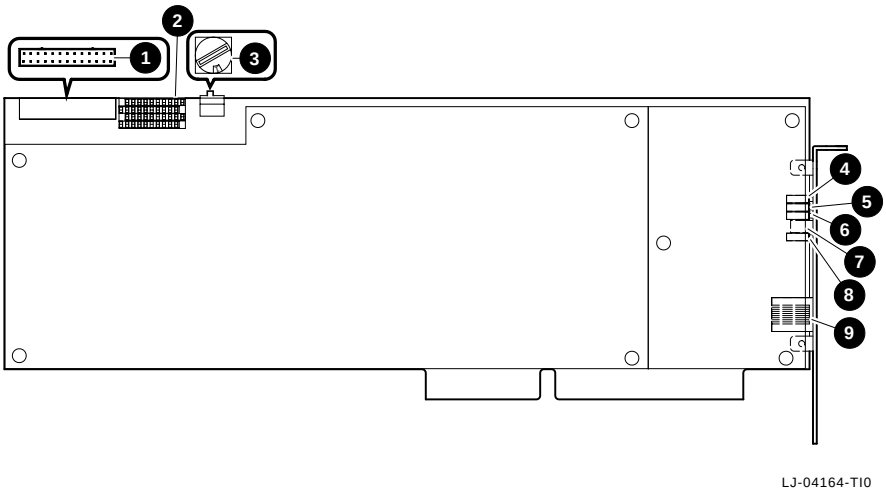
Refer to Dialogic's *Voice Hardware Reference* manual, the system documentation, Figure 3-16 or Figure 3-17, and the following procedure to configure and install the 2T-VC24T (D/240SC-T1) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual and Dialogic's *Quick Install for the D/240SC-T1, D/300SC-E1, DTI/241SC and DTI/301SC Boards* Quick Installation Card while you perform the following configuration steps:
   a. Set the board identification number with the rotary switch.
   b. Set the remote loopback test switch to the OFF position.
   c. If you are installing boards in a PEB environment, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A). (In SCbus installations, no PEB terminator is required.)

      If you are using this card with other PEB products, and this board is at the end of a PEB cable or is being installed as a standalone board, install a PEB terminator in the holes in the terminator socket. Use the lower set of holes in the terminator socket as you look at the board, with the edge connectors down.

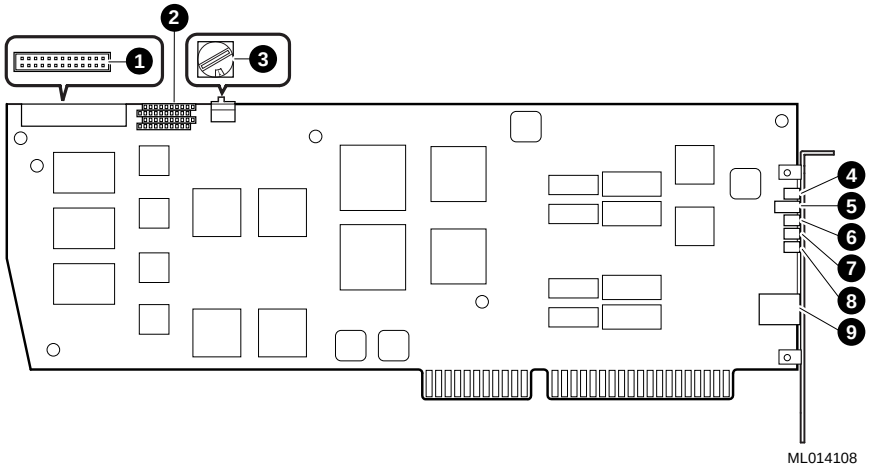
      Otherwise, continue with the next step.
   d. Depending on the environment, attach a PEB or SCbus cable with the proper number of connectors to the PEB/SCbus connector.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB/SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the PEB/SCbus cable connecting the other boards with a PEB/SCbus cable with the proper number of connectors.
6. Connect the appropriate telephone line to the RJ-48C connector on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-16: 2T-VC24T (D/240SC-T1 Rev. 1) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal present LED (green)
7. Remote loopback test switch
8. Remote loopback LED (red)
9. RJ-48C connector jack

Figure 3-17: 2T-VC24T (D/240SC-T1 Rev. 2) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Remote loopback LED (red)
5. Remote loopback test switch
6. Signal present LED (green)
7. Alarm LED (yellow)
8. Alarm LED (red)
9. RJ-48C connector jack

2T-VC320 (D/320SC) Option Board

The 2T-VC320 (D/320SC) board is a 32-channel voice-processing board. This board can be used in PEB or SCbus environments, as follows:

- In PEB environments:

  ⇒ With a 2T-VC212 (DTI/212) 30-channel standalone telephone network interface (voice only) board.

- In SCbus environments:

  ⇒ This board is compatible with other SCbus-only boards.

Refer to the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual, the AlphaServer system documentation, Figure 3-18 or Figure 3-19, and the following procedure to configure and install this board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual while you perform the following configuration steps:

   a. Set the board identification number with rotary switch.

   b. If you are installing boards in a PEB environment, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A). (In SCbus installations, no PEB terminator is required.)

      If you are using this card with other PEB products, and this board is at the end of a PEB cable or is being installed as a standalone board, install a PEB terminator in the holes in the terminator socket. Use the lower set of holes in the terminator socket as you look at the board, with the edge connectors down.

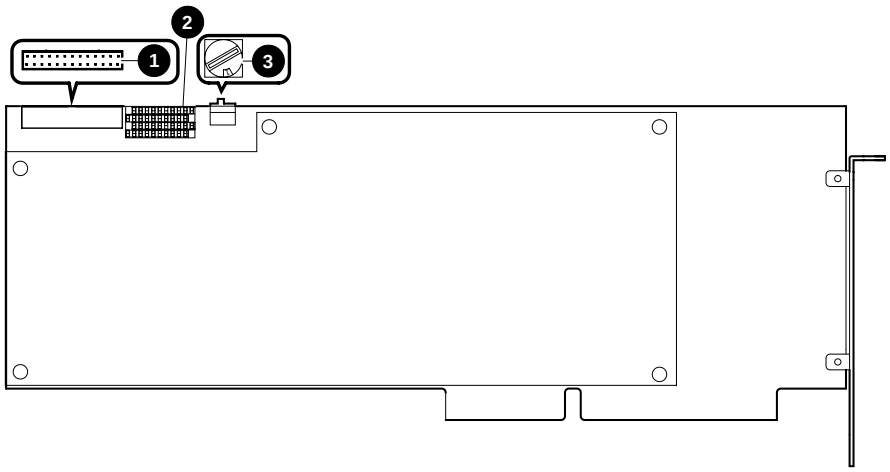
      Otherwise, continue with the next step.

   c. Depending on the environment, attach a PEB or SCbus cable with the proper number of connectors to the PEB/SCbus connector.

4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB/SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the PEB/SCbus cable connecting the other boards with a PEB/SCbus cable with the proper number of connectors.

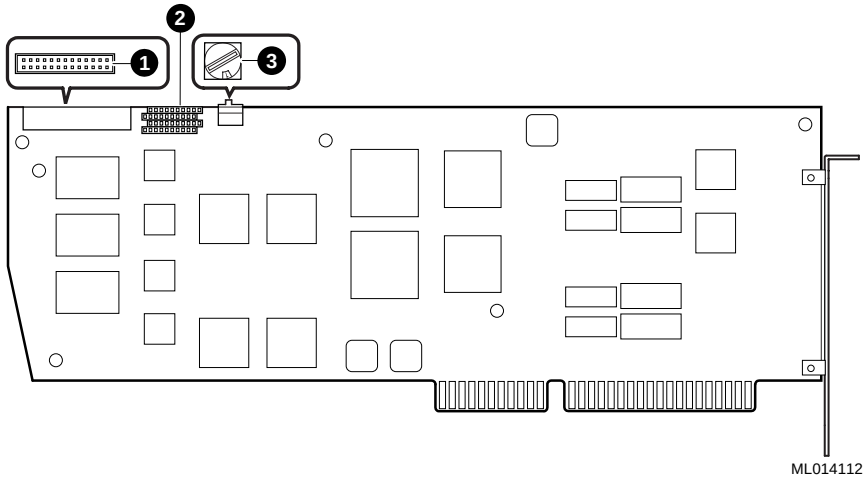
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-18: 2T-VC320 (D/320SC Rev. 1) Board



1. PEB connector
2. PEB terminator socket
3. Rotary switch

Figure 3-19: 2T-VC320 (D/320SC Rev. 2) Board



1. PEB connector
2. PEB terminator socket
3. Rotary switch

2T-VCC06-AA (CP-6/SC) and 2T-VCC12-AA (CP-12/SC) Option Boards

The 2T-VCC06-AA (CP-6/SC) option board is a 6-channel, high density multi-line fax processing board that must be installed with a network-interface board.
The 2T-VCC12-AA (CP-12/SC) board combines two fax boards: the CP-6/SC base board and a daughterboard, which supports 12 complete fax channels. Both boards can be used in PEB and SCbus environments, as follows:

- In PEB environments:

  With one if the following telephone network interface boards:

LSI/120	D/240SC-T1
DT1/211	D/41ESC
DTI/212	

  In SCbus environments this board is compatible with other SCbus-only boards.

Refer to the Installation Basics chapter of Dialogic's *Network Hardware Reference* manual, the AlphaServer system documentation, Figure 3-20, and the following procedure to configure and install this board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate sections in GammaLink's *GammaFax CP-6/SC and CP-12/SC Hardware Installation Guide* while you perform the following configuration steps:

   a. Set the board I/O address on the CP-6/SC base board with DIP switch block SWI.

   b. If you are installing boards in a PEB environment, PEB terminators must be installed on boards at the ends of PEB cables (See Appendix A). (In SCbus installations, no PEB terminator is required).

      If you are using this card with other PEB products, and this board is at an end of a PEB cable, install a PEB terminator in the holes in the terminator socket.

      Otherwise, continue with the next step.

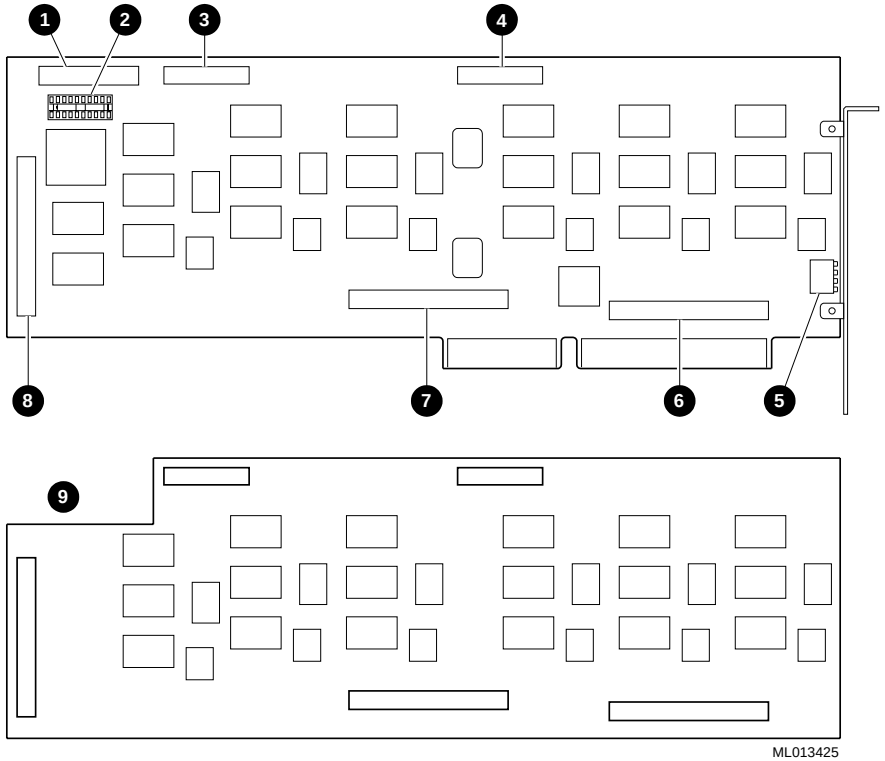
   c. Depending on the environment, attach a PEB or SCbus cable with the proper number of connectors to the PEB/SCbus connector.

   4. Refer to your AlphaServer system documentation for the EISA board installation procedures and install the board in an available EISA slot.

5. Connect the PEB/SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the PEB/SCbus cable connecting the other boards with a PEB/SCbus cable with the proper number of connectors.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-20: 2T-VCC06-AA & 2T-VCC12-AA (CP-6/SC & CP-12/SC) Boards



1. PEB/SCbus connector
2. PEB terminator socket
3. 26-pin interboard connector
4. 26-pin interboard connector
5. I/O port address DIP switch block (SW1)
6. 50-pin interboard connector
7. 50-pin interboard connector
8. 50-pin interboard connector
9. CP-12/SC daughterboard

2T-VC4SC (D/41ESC) Option Board

The 2T-VC4SC (D/41ESC) board is a 4-channel loop-start voice and network-interface board designed for use with the PEB or SCbus. It provides four telephone line network-interface circuits for direct connection to analog loop-start lines.

Jumpers JP101 through JP402 are factory set and country specific. *Do not alter these settings.*

Refer to Dialogic's *Voice Hardware Reference* manual, your AlphaServer system documentation, and Figure 3-21 while you configure and install the board according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogic's *Quick Install for the D/41E and D/41ESC Boards (and VFX Boards)* Quick Installation Card while you perform the following configuration steps:
   a. Set the board identification number using rotary switch SW1 and switch block SW2 switch 2.
   b. Set the default line state using switch block SW2 switch 1.
   c. If you are installing boards in a PEB environment, PEB terminators must be installed on boards at the ends of PEB cables (see Appendix A). (In SCbus installations, no PEB terminator is required).

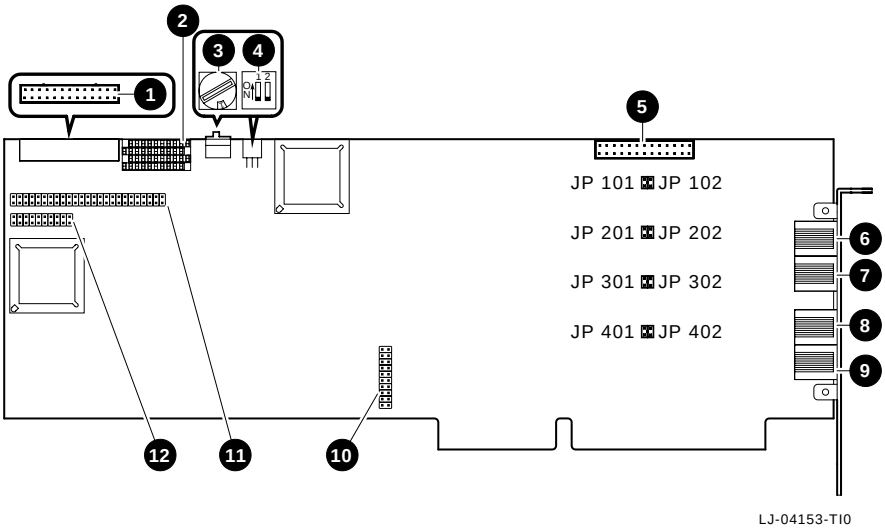
      If you are using this card with other PEB products, and this board is at the end of a PEB cable or is being installed as a standalone board, install a PEB terminator in the holes in the terminator socket. Use the lower set of holes in the terminator socket as you look at the board, with the edge connectors down.

   Otherwise, continue with the next step.

   d. Depending on the environment, attach a PEB or SCbus cable with the proper number of connectors to the PEB/SCbus connector P5.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the PEB/SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the PEB/SCbus cable connecting the other boards with a PEB/SCbus cable with the proper number of connectors.
6. Connect the appropriate telephone line to each of the RJ-11 female jacks on the board.

7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-21: 2T-VC4SC (D/41ESC) Board



1. PEB/SCbus connector P5
2. PEB terminator
3. Rotary switch SW1
4. Switch block SW2
5. AEB connector P3
6. Channel 1 input jack J1
7. Channel 2 input jack J2
8. Channel 3 input jack J3
9. Channel 4 input jack J4
10. AEB connector J6 for daughterboards
11. Daughterboard connector J5
12. Daughterboard connector J7

SCbus Only Options

The AlphaServer Voice options in this section are for use exclusively with SCbus products.

2T-VC250-AA (Antares 2000/50) Option Board

2T-VC350-AA (Antares 3000/50) Option Board

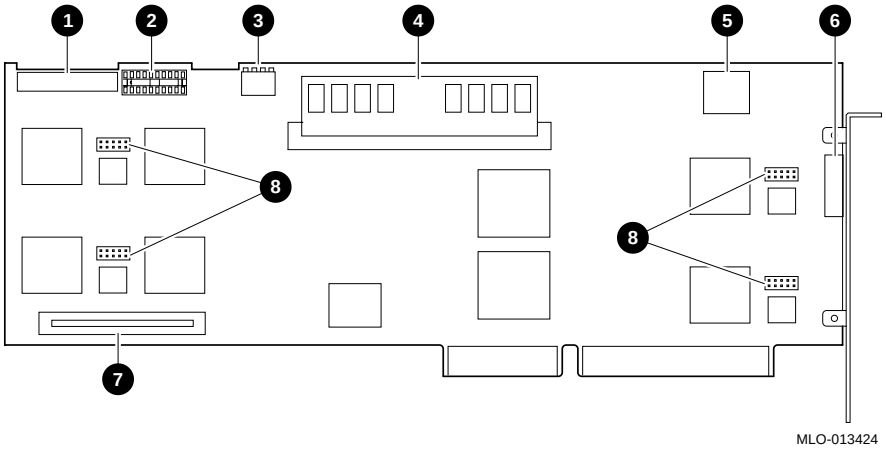
2T-VC650-AA (Antares 6000/50) Option Board

The 2T-VC250-AA (Antares 2000/50), 2T-VC350-AA (Antares 3000/50) and the 2T-VC650-AA (Antares 6000/50) Option boards are powerful DSP expansion boards that provide flexibility to support SCbus-based applications, up to 32-channel capability via the SCbus.

Refer to Dialogic's *Quick Install for the Antares Board* Quick Installation Card, Figure 3-22 and the following procedure to configure and install the board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the *Quick Install for the Antares Board* Quick Installation Card to set up the port address (SWI).
4. Refer to the AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with a SCbus cable with the proper number of connectors.
6. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-22: 2T-VC250-AA (Antares 2000/50), 2T-VC350-AA (Antares 3000/50), 2T-VC650-AA (Antares 6000/50) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Port address switch SW1
4. Global DRAM SIM module
5. Security/License Key
6. Status Lights
7. Daughterboard
8. DSP emulator port connectors

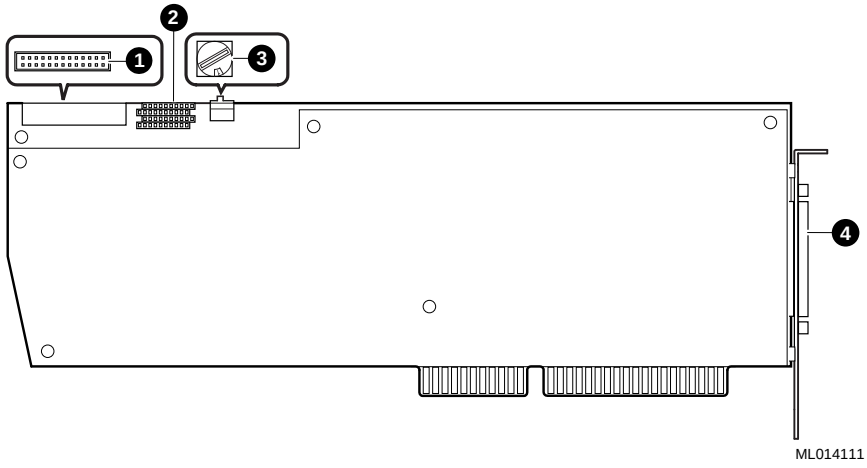
2T-VC16L (D/160SC-LS) Option Board

The 2T-VC16L (D/160SC-LS) board is a 16-channel call processing and loop-start network-interface board.

Refer to your AlphaServer system documentation and Figure 3-23 while you configure and install the board according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogic's *Quick Install for the D/160SC-LS Board* Quick Installation Card while you perform the following configuration steps:
   a. Set the board identification number with rotary switch.
   b. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with a SCbus cable with the proper number of connectors.
6. Connect a telephone station adapter to the DB-37 connector on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-23 2T-VC16L: (D/160SC-LS)



1. PEB/SCbus connector
2. PEB termination socket
3. Rotary switch
4. DB-37 connector

2T-VCFSC (VFX/40ESC) Option Board

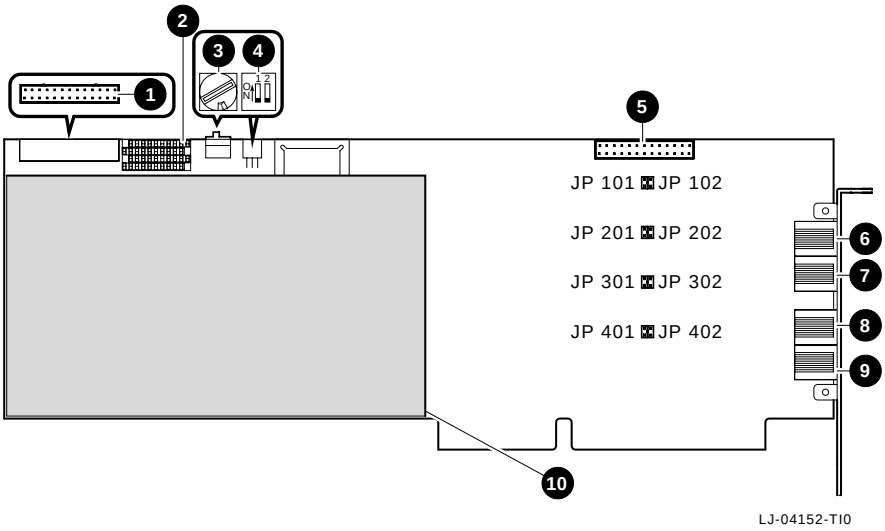
The 2T-VCFSC (VFX/40ESC) board is a 4-channel loop-start voice and 14,400 bits/s fax board designed for the SCbus. It provides four telephone line network-interface circuits for direct connection to analog loop-start lines.

Jumpers JP101 through JP402 are factory set and country specific. *Do not alter these settings.*

Refer to your AlphaServer system documentation and Figure 3-24 while you configure and install the board according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to Dialogic's *Quick Install for the D/41E and D/41ESC Boards (and VFX Boards)* Quick Installation Card while you perform the following configuration steps:
   a. Set the board identification number using rotary switch SW1 and switch block SW2 switch 2.
   b. Set the default line state using switch block SW2 switch 1.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with a SCbus cable with the proper number of connectors.
6. Connect the appropriate telephone line to each of the RJ-11 female jacks on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-24: 2T-VCFSC (VFX/40ESC) Board



1. SCbus connector P5
2. Not used
3. Rotary switch SW1
4. Switch block SW2
5. AEB connector B3
6. Channel 1 input jack J1
7. Channel 2 input jack J2
8. Channel 3 input jack J3
9. Channel 4 input jack J4
10. FAX/40E daughterboard

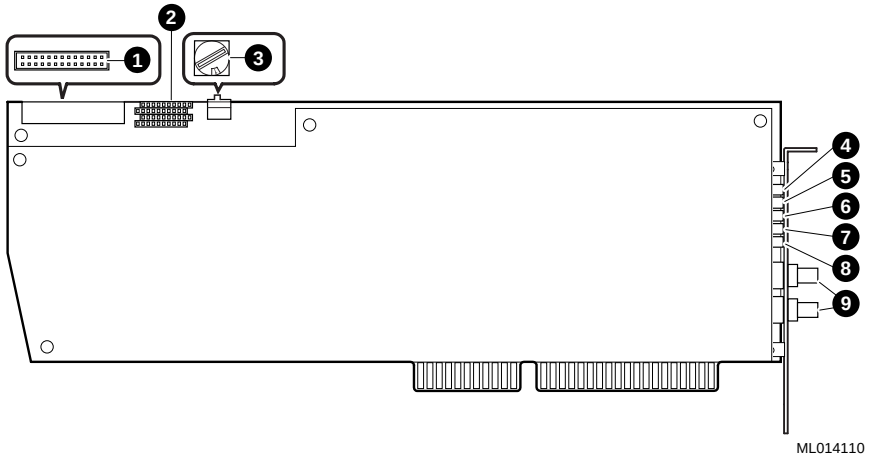
2T-VC30E (D/300SC-E1) Option Board

The 2T-VC30E (D/300SC-E1) board is a 30-channel voice-processing and E1 network-interface board.

Refer to Dialogic's *Quick Install for the D/240SC-T1, D/300SC-E1, DTI/241SC, & DTI/301SC Boards* Quick Installation Card, your AlphaServer system documentation, and Figure 3-25 or Figure 3-26, while you configure and install the board according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with rotary switch.
4. Attach a SCbus cable with the proper number of connectors to the SCbus connector if needed.
5. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
6. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with a SCbus cable with the proper number of connectors.
7. Connect the appropriate telephone lines to the available connectors on the board. These are either BNC connectors (75 Ohm variant of the board) or a single RJ-48C connector (120 Ohm variant).
8. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

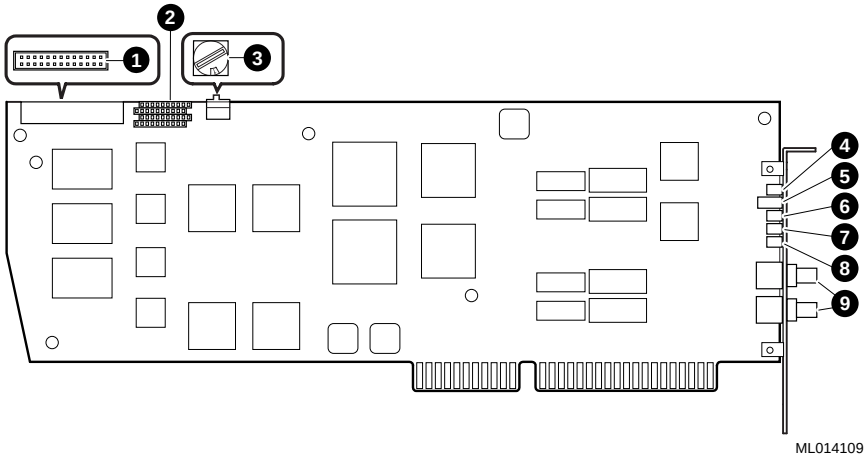
Figure 3-25: 2T-VC30E (D/300SC-E1 Rev. 1) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal present LED (green)
7. Remote loopback test switch
8. Remote loopback LED (red)
9. BNC connectors[11]

11 75 Ohm variant of this board is illustrated. The 120 Ohm version has a single RJ-48C style connector.

Figure 3-26: 2T-VC30E (D/300SC-E1 Rev. 2) Board



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Remote loopback LED (red)
5. Remote loopback test Switch
6. Signal Present LED (green)
7. Alarm LED (yellow)
8. Alarm LED (red)
9. BNC connectors [12]

[12] 75 Ohm variant of this board is illustrated. The 120 Ohm version has a single RJ-48C style connector.

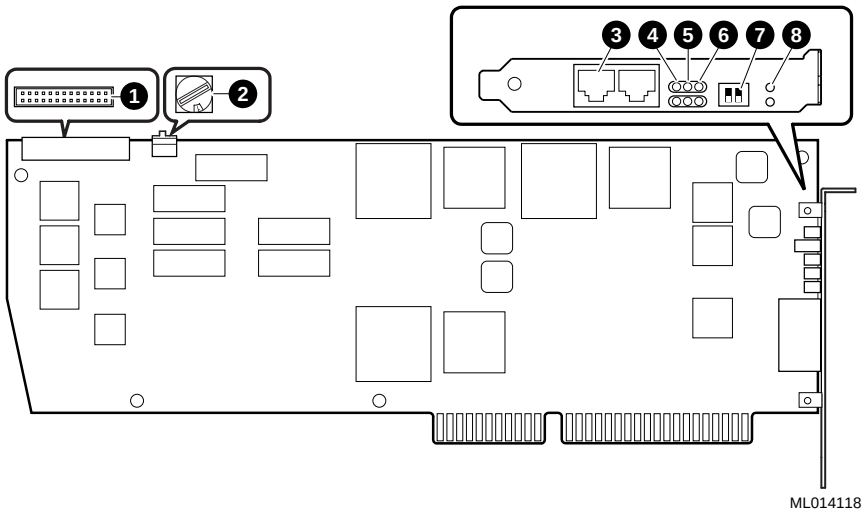
2T-VC242-US (D/240SC-2T1) Option Board

The 2T-VC242-US (D/240SC-2T1) is a 24-channel voice processing board with dual T1 network interfaces.

Refer to Dialogic's *Voice Hardware Reference* manual, the system documentation, Figure 3-27, and the following procedure to configure and install the 2T-VC242-US (D/240SC-2T1) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual and Dialogic's *Quick Install for the D/240SC-2T1, D/480SC-2T1 & DTI/480SC Boards* Quick Installation Card while you perform the following configuration steps:
    a. Set the board identification number with the rotary switch.
    b. Set the remote loopback test switch to the OFF position.
    c. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
6. Connect the appropriate telephone line(s) to the RJ-48C connector(s) on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-27: 2T-VC242-US (D/240SC-2T1) Option Board



1. SCbus connector
2. Rotary switch
3. RJ-48C Connector Jack
4. Alarm LED (red)
5. Alarm LED (yellow
6. Signal Present LED (green)
7. Remote Loopback Test Switch
8. Remote Loopback LED (red) [13]

[13] Callouts 3-8 indicate the connector, LEDs, and switch for the second T1 span. The complementary connector, LEDs, and switch are for the first T1 span.

2T-VC480-US (D/480SC-2T1) Option Board

The 2T-VC480-US (D/480SC-2T1) is a 48-channel voice processing board with dual T1 network interfaces.

Refer to Dialogic's *Voice Hardware Reference* manual, the system documentation, Figure 3-28, and the following procedure to configure and install the 2T-VC480-US (D/480SC-2T1) board:

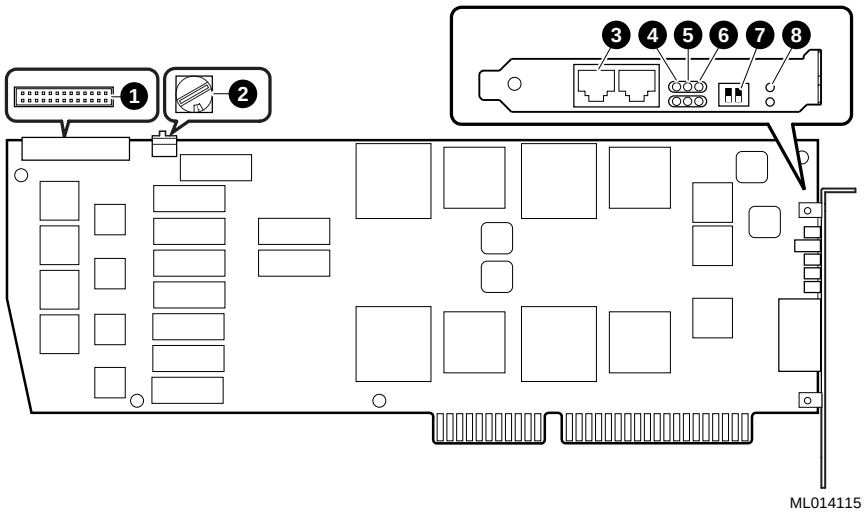
1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Refer to the appropriate section in the Board Installation chapter of Dialogic's *Voice Hardware Reference* manual and Dialogic's *Quick Install for the D/240SC-2T1, D/480SC-2T1 & DTI/480SC Boards* Quick Installation Card while you perform the following configuration steps:

   a.) Set the board identification number with the rotary switch.

   b.) Set the remote loopback test switch to the OFF position.

   c.) Attach an SCbus cable with the proper number of connectors to the SCbus connector.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
5. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
6. Connect the appropriate telephone line(s) to the RJ-48C connector(s) on the board.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-28: 2T-VC480-US (D/480SC-2T1) Option Board



1. SCbus connector
2. Rotary Switch
3. RJ-48C Connector Jack
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal Present LED (green)
7. Remote Loopback Test Switch
8. Remote Loopback LED (red) [14]

[14] Callouts 3-8 indicate the connector, LEDs, and switch for the second T1 span. The complementary connector, LEDs, and switch are for the first T1 span.

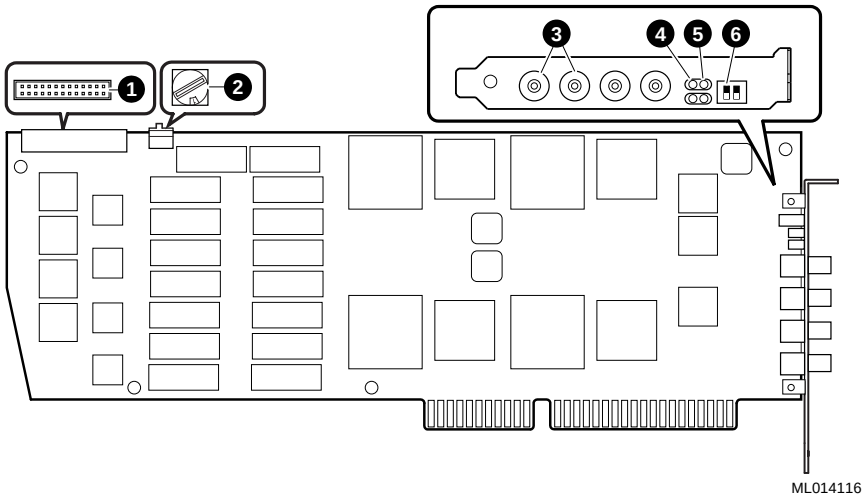
2T-VC302 (D/300SC-2E1) Option Board

The 2T-VC302 (D/300SC-2E1) is a 30-channel voice processing board with dual E1 network interfaces.

Refer to Dialogic's *DualSpan E-1 Series* Quick Install Card, your AlphaServer system documentation and Figure 3-29 while you configure and install the 2T-VC302 (D/300SC-2E1) according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line(s) to the available connector(s) on the board. These are either BNC connectors (75 Ohm variant of the board) or RJ-48C connectors (120 Ohm variant).
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-29: 2T-VC302 (D/300SC-2E1) Option Board



1. SCbus connector
2. Rotary switch
3. BNC connectors [15]
4. Alarm LED (red)
5. Signal Present LED (green)
6. Remote Loopback Test switch [16]

[15] 75 Ohm variant of this board is shown. 120 Ohm version has dual RJ-48C style connectors.

[16] Callouts 3-6 indicate the connectors, LEDs, and switch for the second E1 span. The complementary connectors, LEDs, and switch are for the first E1 span.

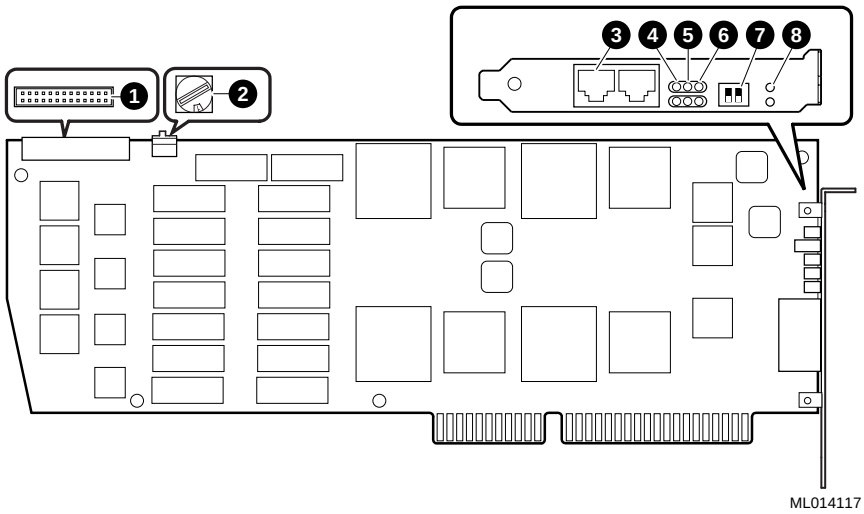
2T-VC600 (D/600SC-2E1) Option Board

The 2T-VC600 (D/600SC-2E1) is a 60-channel voice processing board with dual E1 network interfaces.

Refer to Dialogic's *Dual Span E-1 Series* Quick Install Card, your AlphaServer system documentation and Figure 3-30 while you configure and install the 2T-VC600 (D/600SC-2E1) according to the following procedure:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line(s) to the available connector(s) on the board. These are either BNC connectors (75 Ohm variant of the board) or RJ-48C connectors (120 Ohm variant).
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-30: 2T-VC600 (D/600SC-2E1)



1. SCbus connector
2. Rotary switch
3. RJ-48C connector jack
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal present LED (green)
7. Remote loopback test switch
8. Remote loopback LED (red) [17]

[17] Callouts 3-8 indicate the connector, LEDs, and switch for the second T1 span. The complementary connector, LEDs, and switch are for the first T1 span.

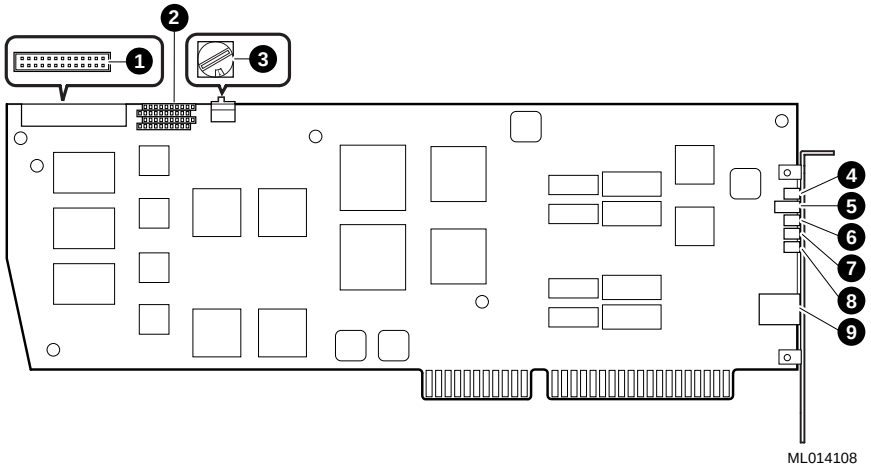
2T-VCI40-US (DTI/240SC) and 2T-VCI41-US (DTI/241SC) Option Boards

The 2T-VCI40-US (DTI/240SC) and 2T-VCI41-US (DTI/241SC) boards are 24-channel T1 network interface boards. The 2T-VCI41-US (DTI/241SC) board supports tone signaling and outbound call progress detection.

Refer to Dialogic's *Dialog/HD* Quick Install Card, your system documentation, Figure 3-31 and the following procedure to configure and install the 2T-VCI40-US (DTI/240SC) and 2T-VCI41-US (DTI/241SC) boards:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line to the RJ-48C connector on the board.
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide toconfigure the installed options.

Figure 3-31: 2T-VCI40-US (DTI/240SC) & 2T-VCI41-US (DTI/241SC)



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Remote loopback LED (red)
5. Remote loopback test switch
6. Signal present LED (green)
7. Alarm LED (yellow)
8. Alarm LED (red)
9. RJ-48C connector jack

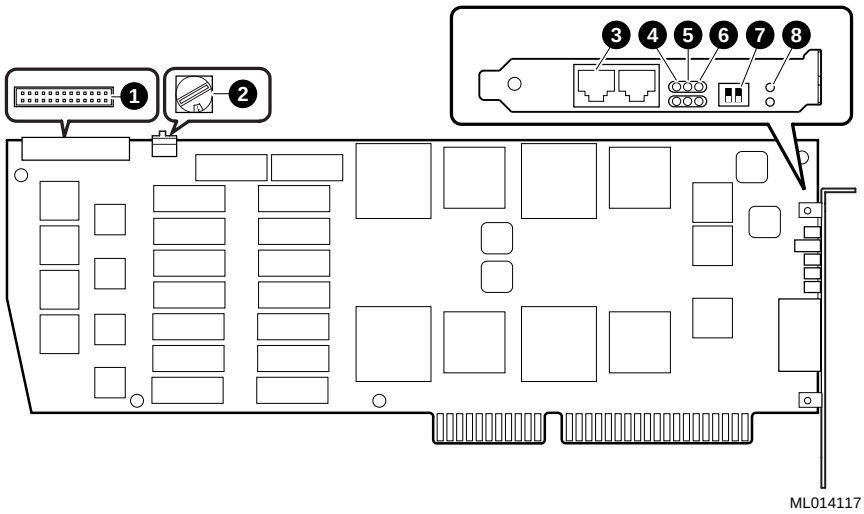
2T-VCI80-US (DTI/480SC) Option Board

The 2T-VCI80-US (DTI/480SC) board is a 48-channel T1 network interface board with dual T1 interfaces.

Refer to Dialogic's *Quick Install for the D/240SC-2T1, D/480SC-2T1, & DTI/480SC* Quick Installation Card, your system documentation, Figure 3-32, and the following procedure to configure and install the 2T-VCI80-US (DTI/480SC) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach a SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line(s) to the RJ-48C connector(s) on the board.
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-32: 2T-VC180-US (DTI/480SC) Option Board



1. SCbus connector
2. Rotary switch
3. RJ-48C connector jack
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal present LED (green)
7. Remote loopback test switch
8. Remote loopback LED (red) [18]

[18] Callouts 3-8 indicate the connector, LEDs, and switch for the second T1 span. The complementary connector, LEDs, and switch are for the first T1 span.

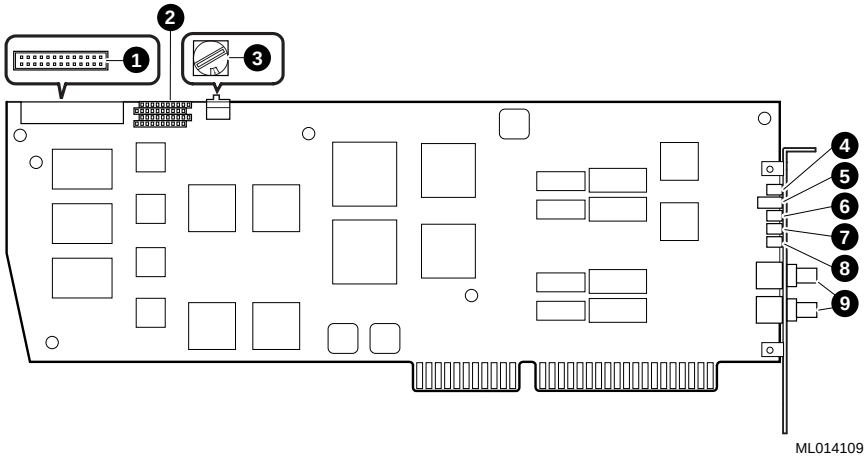
2T-VCI30 (DTI/300SC) and 2T-VCI31 (DTI/301SC) Boards

The 2T-VCI30 (DTI/300SC) and 2T-VCI31 (DTI/301SC) boards are 30-channel E1 network interface boards. The 2T-VCI31 (DTI/301SC) board supports tone signaling and outbound call progress detection.

Refer to Dialogic's *Dialog/HD* Quick Install Card, your system documentation, Figure 3-33, and the following procedure to configure and install the 2T-VCI30 (DTI/300SC) and 2T-VCI31 (DTI/301SC) boards:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line(s) to the available connector(s) on the board. These are either BNC connectors (75 Ohm variant of the board) or a single RJ-48C connector (120 Ohm variant).
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-33: 2T-VCI30 (DTI/300SC) & 2T-VCI31 (DTI/301SC) Boards



1. PEB/SCbus connector
2. PEB terminator socket
3. Rotary switch
4. Remote loopback LED (red)
5. Remote loopback test Switch
6. Signal Present LED (green)
7. Alarm LED (yellow)
8. Alarm LED (red)
9. BNC connectors [19]

19 75 Ohm variant of this board is illustrated. The 120 Ohm version has a single RJ-48C style connector.

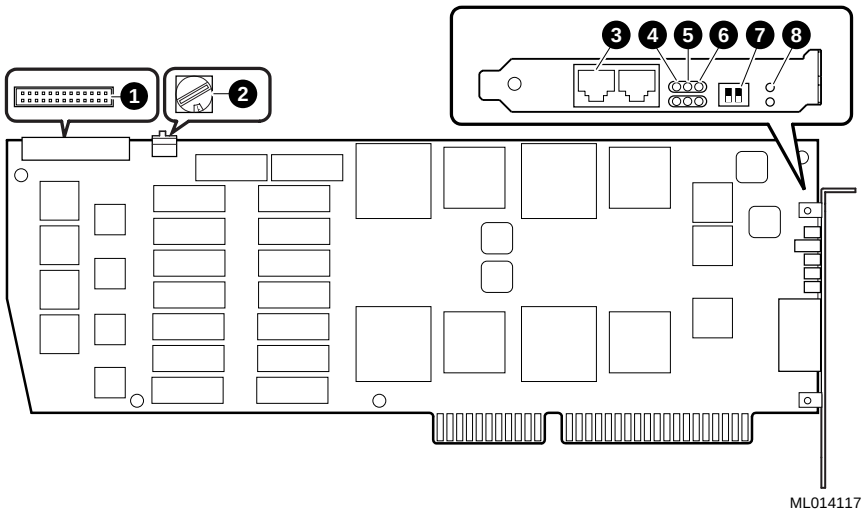
2T-VCI60 (DTI/600SC) Option Board

The 2T-VCI60 (DTI/600SC) board is a 60-channel E1 network interface board with dual E-1 network interfaces.

Refer to Dialogic's *DualSpan E-1* Series Quick Install Card, your system documentation, Figure 3-34, and the following procedure to configure and install the 2T-VCI60 (DTI/600SC) board:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Set the remote loopback test switch to the OFF position.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the appropriate telephone line(s) to the available connector(s) on the board. These are either BNC connectors (75 Ohm variant of the board) or RJ-48C connectors (120 Ohm variant).
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-34: 2T-VCI60 (DTI/600SC) Option Board



1. SCbus connector
2. Rotary switch
3. RJ-48C connector jack [20]
4. Alarm LED (red)
5. Alarm LED (yellow)
6. Signal present LED (green)
7. Remote loopback test switch
8. Remote loopback LED (red) [21]

[20] 120 Ohm variant of this board is shown. The 75 Ohm version has four BNC style connectors.

[21] Callouts 3-8 indicate the connector, LEDs, and switch for the first E1 span. The complementary connector, LEDs, and switch are for the first E1 span.

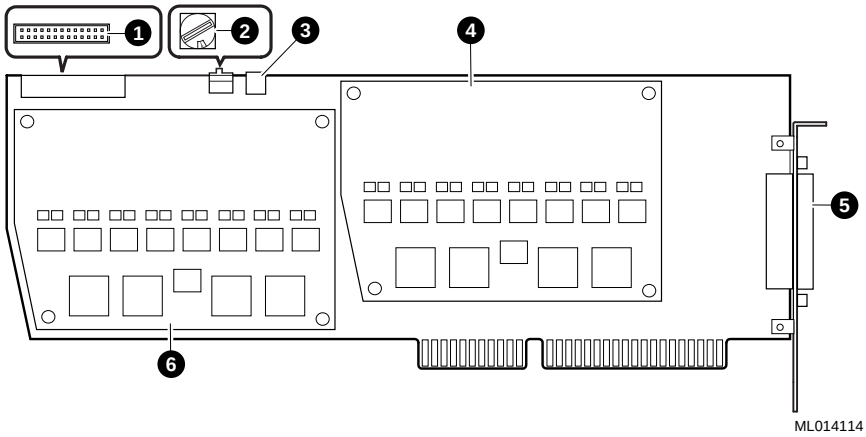
2T-VCM80-AA (MSI/80SC), 2T-VCM16-AA (MSI/160SC) and 2T-VCM24-AA (MSI/240SC) Option Boards

The 2T-VCM80-AA (MSI/80SC), 2T-VCM16-AA (MSI/160SC) and 2T-VCM24-AA (MSI/240SC) boards are modular station interface boards allowing connection of up to 24 analog telephone devices to computer telephony systems.

Refer to Dialogic's *Quick Install for the MSI/xxxSC* Quick Installation Card, your system documentation, Figure 3-35, and the following procedure to configure and install the 2T-VCMxx (MSI/xxxSC) boards:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch SW1.
4. Set the board identification number switchpack SW2 to OFF to select the low board ID numbers 00 - 0F, and ON to select the high board ID numbers 10-1F.
5. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
6. Refer to your AlphaServer system documentation for the EISA board installation procedure and install the board in an available EISA slot.
7. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
8. Connect the RJ-21X station interface connector on the board to an RJ-21X telephone service or to the optional 2T-VCSA2-TE (SA/240) 24-port telephone station adapter.
9. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-35: 2T-VCM80-AA (MSI/80SC), 2T-VCM16-AA (MSI/160SC), & 2T-VCM24-AA (MSI/240SC) Boards



1. SCbus connector
2. Rotary switch SW1
3. Switch Block SW2
4. MSI daughterboard (not present on MSI/160SC or MSI/80SC)
5. RJ-21X Station Interface Connector
6. MSI daughterboard (not present on MSI/80SC)

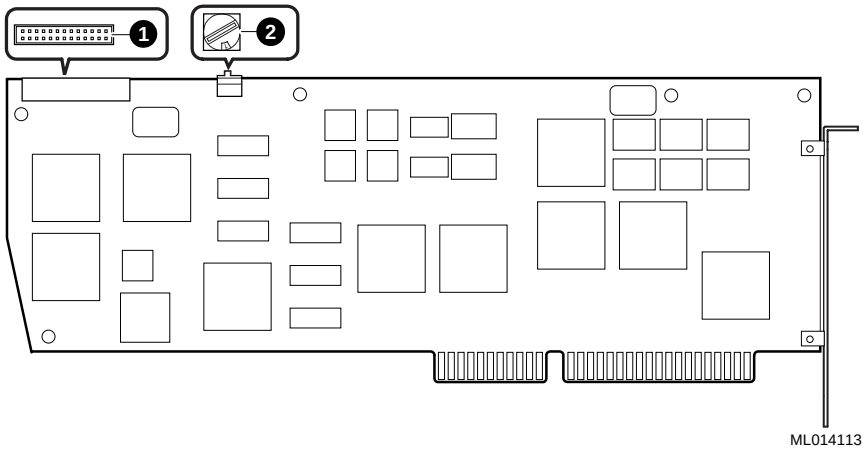
2T-VCD32-AA (DCB/320SC), 2T-VCD64-AA (DCB/640SC), and 2T-VCD96-AA (DCB/960SC) Boards

The 2T-VCD32-AA (DCB/320SC), 2T-VCD64-AA (DCB/640SC), and 2T-VCD96-AA (DCB/960SC) are audio conferencing boards that support up to 96 conferencing resources.

Refer to the *Dialogic Audio Conferencing* Quick Install Card, the system documentation, Figure 3-36, and the following procedure to configure and install the 2T-VCDxx-AA (DCB/xxxSC) boards:

1. Perform an orderly shutdown of the AlphaServer system.
2. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the board.
3. Set the board identification number with the rotary switch.
4. Attach an SCbus cable with the proper number of connectors to the SCbus connector.
5. Refer to your AlphaServer system documentation for the EISA board Installation procedure and install the board in an available EISA slot.
6. Connect the SCbus cable to the other boards in your configuration. If this board is being added to an existing configuration, you may have to replace the SCbus cable connecting the other boards with an SCbus cable with the proper number of connectors.
7. Refer to the EISA Configuration Utility (ECU) chapter in this guide to configure the installed options.

Figure 3-36: 2T-VCD32-AA (DCB/320SC), 2T-VCD64-AA (DCB/640SC), & 2T-VCD96-AA (DCB/960SC) Option Boards



1. SCbus connector
2. Rotary Switch

Miscellaneous Options

The AlphaServer Voice options in this section can be used with any PEB or SCbus product.

2T-VC220-IB Expansion Box

The 2T-VC220-IB I-Bus Model 4820 20-slot ISA Expansion Box is available for rackmounted AlphaServer systems. If the expansion box is used, all of the 2T-VCXXX-XX option boards used must be installed in the expansion box. A 2T-VC220-IP Access Technologies' Interconnect Kit, consisting of two interface boards and an interconnect cable, is required to connect an ISA slot in the rackmounted AlphaServer system to the expansion box.

The expansion box requires 22.23 cm (8.75 in.) of vertical space in the cabinet for installation. It must be installed directly below the AlphaServer chassis to prevent cabling problems if an optional BA350 storage shelf is also installed in the cabinet.

Perform the following procedure to install the expansion box in the cabinet with the AlphaServer system:

1. Perform an orderly shutdown of the AlphaServer system, power down the cabinet, and unplug the cabinet from the ac power source.
2. Select the first two holes directly below the AlphaServer chassis on the cabinet rail that have a 1.27 cm (0.50 in.) space between them.
3. Make a mark between the holes. This is your starting point.
4. Measure down 22.23 cm (8.75 in.) and make a mark. The area between the marks is the installation area.
5. Measure and mark the installation area on both front and both rear cabinet rails.
6. Remove the outer slide from the left side of the expansion box by sliding it toward the rear of the box. Extend the outer slide to the rear as far as it will go, then push in the slide lock and continue extending the outer slide to the rear until it is completely free from the inner slide race.
7. Align the left outer slide assembly with the sixth and seventh holes up from the bottom of the installation area on the left front and rear cabinet rails. Secure the assembly to the cabinet rails using four 10-32 truss-head screws (two in front, two in rear) and two 10-32 bar nuts (one in front, one in rear).
8. Remove the outer slide from the right side of the expansion box by sliding it toward the rear of the box. Extend the outer slide to the rear as far as it will go, then push in the slide lock and continue extending the outer slide to the rear until it is completely free from the inner slide race.

9. Align the right outer slide assembly with the sixth and seventh holes up from the bottom of the installation area on the right front and rear cabinet rails. Secure the assembly to the cabinet rails using four 10-32 truss-head screws (two in front, two in rear) and two 10-32 bar nuts (one in front, one in rear).
10. Install a 10-32 clip nut over the third, tenth, and thirteenth hole up from the bottom of the installation area on the right and left front cabinet rails by sliding them over the edge of the rail and aligning them with the holes.
11. Slide both the left and right inner slide races attached to the expansion box toward the rear until they fully extend and lock in place.

WARNING

The expansion box weighs approximately 25 kg (55 lb). Use sufficient personnel or proper lifting equipment to install it. Failure to do so could cause personal injury.

Before you attempt to install the expansion box into a cabinet, ensure that the cabinet is stable and that all provided stabilizing features have been activated.

12. Lift the expansion box and position it so that the extended left and right inner slide races align with the outer slide assemblies that are attached to the cabinet rails.
13. Move the expansion box into the cabinet while ensuring that the inner slide races slide into the outer slide assemblies.
14. Tighten the six screws (three on each side) that secure the expansion box front bezel to the cabinet rails.

Now you are ready to install the 2T-VC220-IP Interconnect Kit.

2T-VC220-IP Interconnect Kit

The 2T-VC220-IP Access Technologies' Interconnect Kit consists of two interface boards and an interconnect cable, and is used to connect an EISA slot in the rackmounted AlphaServer system to the 2T-VC220-IB Expansion Box.

Use the following procedure to install the interconnect kit:

WARNING

Before you extend the AlphaServer system or the expansion box on their slides, ensure that the cabinet is stable and that all provided stabilizing features have been activated.

1. Perform an orderly shutdown of the AlphaServer system, power down the cabinet, and unplug the cabinet from the AC power source.
2. Fully extend the AlphaServer system on its slides.
3. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the transmit interface board.
4. Refer to your AlphaServer system documentation for the EISA board installation procedure, and install the transmit interface board in an available EISA slot in the AlphaServer system.
5. Fully extend the expansion box on its slides.
6. Remove the expansion box top cover by removing the four screws along the top front edge of the expansion box and lifting the cover.
7. Wear an antistatic wriststrap and observe standard antistatic procedures while you unpack the receive interface board.
8. Install the receive interface board in slot 1 of the expansion box.
9. Connect the interconnect cable between the transmit interface board in the rackmounted AlphaServer system EISA slot and the receive interface board in the expansion box.

Now you can install the telephony option boards in the remaining expansion box slots.

4
Troubleshooting

Where to look

System problems

Refer to the system documentation for troubleshooting problems related to the DIGITAL AlphaServer system.

Voice and Network Interface boards

Refer to Dialogic's *Voice Hardware Reference* manual for troubleshooting problems related to the following voice and network-interface boards:

2T-VC41E (D/41E)
2T-VC121 (D/121B)
2T-VC240 (D/240SC)
2T-VC24T (D/240SC-T1)
2T-VC320 (D/320SC)
2T-VC600 (D/600SC-2EI)
2T-VC302 (D/300SC-2EI)
2T-VC242 (D/240SC-2TI)
2T-VC480 (D/480SC-2TI)

Refer to Dialogic's *Network Hardware Reference* manual for troubleshooting problems related to the following voice and network-interface boards:

2T-VCLSI (LSI/120)	2T-VCI30 (DTI/300SC)
2T-VC211 (DTI/211)	2T-VCI31 (DTI/301SC)
2T-VC212 (DTI/212)	2T-VCI80 (DTI/480SC)
2T-VCDMX (DMX)	2T-VCI60 (DTI/600SC)
2T-VCMSI (MSI/C)	2T-VCM80 (MSI/80SC)
2T-VCM40 (MSI/40)	2T-VCM16 (MSI/160SC)
2T-VCI40 (DTI/240SC)	2T-VCM24 (MSI/240SC)
2T-VCI41 (DTI/241SC)	

Voice-recognition boards

Refer to Dialogic's *VR/160 Hardware Reference* manual for troubleshooting problems related to the following voice-recognition boards:

- 2T-VCVRP (VRP)
- 2T-VCVR4 (VRM/40)
- 2T-VCVR2 (VRM/2C)

Refer to Dialogic's *FAX/120 Hardware Reference* manual for troubleshooting problems related to the 2T-VCFAX (FAX/120) board.

Refer to GammaLink's *GammaFax CP-6/SC & CP-12/SC Hardware Installation Guide* for troubleshooting problems related to the 2T-VCC06 (CP-6/SC) and the 2T-VCC12 (CP-12/SC) boards.

A

Board Configurations (PEB and SCbus)

This appendix illustrates the low-density, standard-density, mixed-density, and high-density board configurations that are supported on AlphaServer voice platforms in PEB and SCbus environments.

SCbus Configurations

Any SCbus boards can be used in an SCbus configuration. All boards should be connected to the same bus.

PEB Configurations

Figure A-4-1 shows low-density 4-channel analog configurations.

Figure A-4-1: Low-Density 4-Channel Analog Configurations

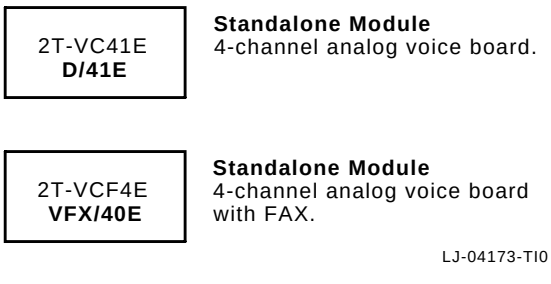


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Figure A-4-2 shows a low-density 2/16-channel voice-recognition configuration.

Figure A-4-2: Low-Density 2/16-Channel Voice-Recognition Configuration

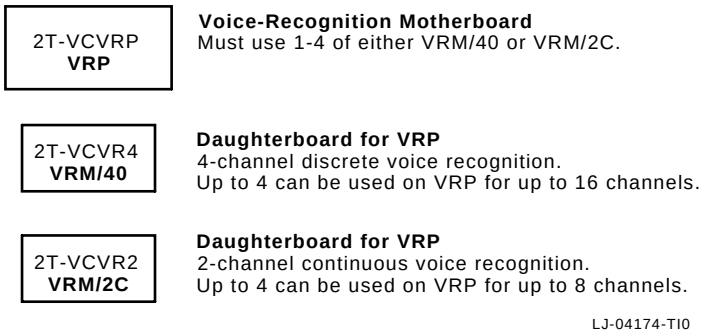

Figure A-4-3 shows standard-density configurations.

Figure A-4-3: Standard-Density Configurations

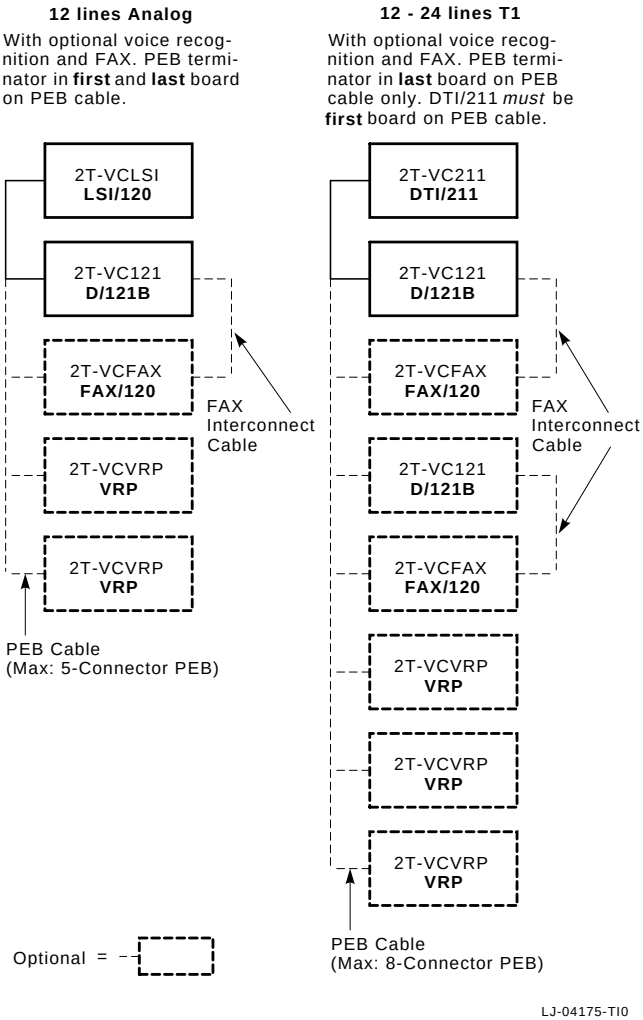

Figure A-4-4 shows mixed-density (standard and high) configurations.

Figure A-4-4: Mixed-Density Configurations

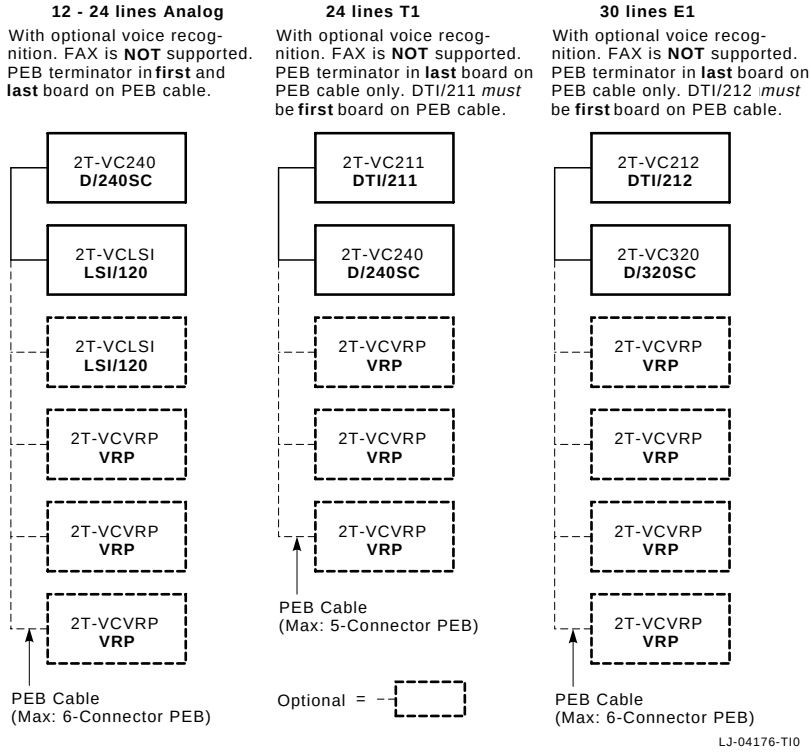

Figure A-4-5 shows a high-density configuration.

Figure A-4-5: High-Density Configuration