



Software Product Description

**PRODUCT NAME: DIGITAL IEA11/OpenVMS, ISA to IEEE-488 Interface
Version 1.1**

SPD 60.65.01

DESCRIPTION

The DIGITAL IEA11 product (2T-IEA11-DA) includes the hardware, software, documentation and licenses required to support the IEEE-488 bus applications on selected Alpha computer systems. Specifically, the following items are included:

- IOtech AT488 module, a high speed ISA/IEEE-488 interface board
- 3.5" floppy diskette containing an EISA Configuration (ECU) file for the IOtech AT488
- JX-Driver, an OpenVMS Alpha device driver for the IOtech AT488 on CD-ROM
- DIGITAL IEA11 exerciser test software
- DIGITAL IEA11 User's and Installation Guide
- Software license

The JX-Driver enables the user to communicate to IEEE-488 devices through the OpenVMS QIO system service. The OpenVMS QIO requests are issued by the user's application from high-level languages such as C, Fortran, and Ada. The JX-Driver uses programmed I/O to transfer commands and addresses. Data can be written or read between the JX-Driver and the IEEE-488 devices through either Programmed I/O or Direct Memory Access (DMA).

Up to 15 devices may be connected on a single IEEE-488 bus. Up to two DIGITAL IEA11 devices per system are supported. The number of DIGITAL IEA11 devices allowed may be limited by the number of system resources available in a system configuration. The DIGITAL IEA11 may be used as a controller-in-charge or as a device in peripheral mode on the IEEE-488 bus.

The JX-Driver was written to be compatible with the IEX-VMS driver used with the DIGITAL IEQ11 and DIGITAL IEU11 products. Functional and application differences are documented in the User's and Installation Guide. Minor application modifications will be necessary. See below for supported processors and operating environment.

CONFORMANCE TO STANDARDS

The DIGITAL IEA11 product conforms to standard IEEE-488.1-1987. The following IEEE-488 functions are supported:

Controller (C1, C2, C3, C4, C5)
Talker and Extended Talker (T1, TE1)
Listener and Extended Listener (L1, LE1)
Automatic Source Handshake (SH1)
Automatic Acceptor Handshake (AH1)
Service Request (SR1)
Remote/Local (RL1)
Parallel Poll (PP1, PP2)
Device Clear (DC1)
Device Trigger (DT1)

QIO Functions Supported By The JX-Driver:

Initialize Unit
Write Data
Read Data
Send IEEE-488 Bus Commands
Request Service
Issue a Serial Poll
Configure Devices for Parallel Poll
Load Parallel Poll Register
Perform a Parallel Poll

Go to Controller-Active-State
Go to Controller-Standby-State
Pass Control
Sense Mode
Set Mode
Issue an Auxiliary Command
Enable Event Recognition
Recognize Events

The event recognition facility allows the user's process to specify the events on the IEEE-488 bus to detect. The interface is capable of detecting the occurrence of the following events:

Service Request	Deaddressed
Addressed as Listener	Device Clear
Addressed as Talker	

When the DIGITAL IEA11 is reading data from an IEEE-488 device, the read can be terminated in one of three ways:

- *Byte Count* - Transfer terminates after the specified number of bytes have been read.
- *EOI Detection* - Transfer terminates if, during the reception of a byte, the EOI line is true.
- *Match Character* - Transfer terminates after the specified termination match character has been consecutively received the specified number of times.

HARDWARE REQUIREMENTS

Processors Supported

DIGITAL AlphaServer systems:

DIGITAL AlphaServer 1000 4/xxx
DIGITAL AlphaServer 1000A 4/2xx
DIGITAL AlphaServer 2000 4/2xx
DIGITAL AlphaServer 2100 4/2xx
DIGITAL AlphaServer 2100 5/2xx
DIGITAL AlphaServer 4100 5/3xx

DIGITAL AlphaStation systems:

DIGITAL AlphaStation 200 4/xxx
DIGITAL AlphaStation 600 5/3xx

Other systems:

DIGITAL Modular Computing Components 4/2xx

Other Hardware Required

The 2T-IEA11-DA does not include an IEEE-488 cable. Cables must be ordered separately.

Disk Space Requirements

Disk space required for installation: 6000 blocks
Disk space required for use (permanent): 4000 blocks

These counts refer to the disk space required on the system disk. The actual disk space required may vary depending on the specific system configuration and software options employed by the user.

SOFTWARE REQUIREMENTS

DIGITAL OpenVMS Alpha Operating System Version 6.2 or 7.1

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

RESTRICTIONS

- The DIGITAL IEA11 product is currently only supported on single processor systems.
- Up to two DIGITAL IEA11s may be configured in a single system. This may be restricted by available system resources like IRQ and DMA channels.
- Depending on the width of the external IEEE-488 cable connector, use of adjacent EISA/ISA slots may not be possible.

DISTRIBUTION MEDIA

CD-ROM for driver and documentation
RX23 3.5" ECU floppy

ORDERING INFORMATION

The 2T-IEA11-DA is a bundled product containing:

IOtech AT488 hardware
Software License
Software JX-Driver kit on CD-ROM
ECU Configuration disk on RX23
User's and Installation Guide

SOFTWARE LICENSING

This software is relicensable in conjunction with the associated AT488 interface hardware.

This software is only furnished under a license. For more information about Digital Equipment Corporation's licensing terms and policies, contact the local DIGITAL office.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from DIGITAL.
For more information, contact the local DIGITAL office.

- ® IEEE-488 is a registered trademark of The Institute of Electrical and Electronics Engineers, Inc.
- ™ AlphaServer, AlphaStation, DIGITAL, OpenVMS, and the DIGITAL Logo are trademarks of Digital Equipment Corporation.

Printed in U.S.A. © 1997 Digital Equipment Corporation.
All rights reserved.

