



# Software Product Description

**PRODUCT NAME: DIGITAL IEP11/OpenVMS, PCI to IEEE-488 Interface  
Version 1.1**

**SPD 70.13.02**

## DESCRIPTION

The DIGITAL IEP11 product (2T-IEP11-CA) includes the hardware, software, documentation and licenses required to support IEEE-488 bus applications on selected Alpha computer systems. Specifically, the following items are included:

- National Instruments PCI-GPIB module, a high speed PCI/IEEE-488 interface board
- JPDRIVER, an OpenVMS Alpha device driver for the National Instruments PCI-GPIB on CD-ROM
- DIGITAL IEP11 exerciser test software
- DIGITAL IEP11 User's and Installation Guide
- Software license

The JPDRIVER 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 JPDRIVER uses programmed I/O to transfer data, commands, and addresses.

Up to 15 devices may be connected on a single IEEE-488 bus, with the DIGITAL IEP11 itself counting as one device. Up to two DIGITAL IEP11 devices per system are supported. The number of DIGITAL IEP11 devices allowed may be limited by the number of system resources available in a system configuration. The DIGITAL IEP11 may be used as a controller-in-charge or as a device in peripheral mode on the IEEE-488 bus.

The JPDRIVER 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 IEP11 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 JPDRIVER:

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 IEP11 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 received.

## HARDWARE REQUIREMENTS

### *Processors Supported*

#### **DIGITAL AlphaServer systems:**

DIGITAL AlphaServer 4000 systems  
DIGITAL AlphaServer 4100 systems

#### **Other systems:**

DIGITAL Modular Computing Components Alpha Systems

### *Other Hardware Required*

The 2T-IEP11-CA 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 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 IEP11 product is currently only supported on single processor systems.
- Up to two DIGITAL IEP11s may be configured in a single system. This may be restricted by available system resources.
- Depending on the width of the external IEEE-488 cable connector, use of adjacent PCI slots may not be possible.

## DISTRIBUTION MEDIA

CD-ROM for driver and documentation

## ORDERING INFORMATION

The 2T-IEP11-CA is a bundled product containing:

National Instruments PCI-GPIB hardware  
Software License  
Software JPDRIVER kit on CD-ROM  
User's and Installation Guide

## SOFTWARE LICENSING

This software is relicensable in conjunction with the associated PCI-GPIB 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.

© 1998 Digital Equipment Corporation.  
All rights reserved.