

INSTALLATION NOTES

Form 741-040917

Part Number	Description
AC28	ISA Bus to Pamux Bus Adapter
ADAPTERCARDTOOLKITCD	ISA Pamux Developer Toolkit

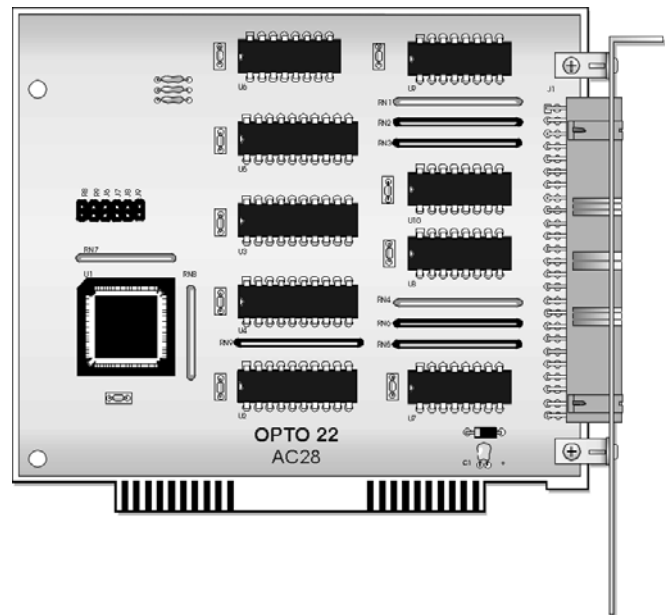
Description

The AC28 is a high-speed adapter card designed to link the Pamux® bus to IBM PC/AT or compatible computers. The AC28 is compatible with computers that feature a standard 8-MHz ISA bus.

Each AC28 can access up to 512 points of I/O along a Pamux bus of up to 500 feet in length. Four AC28s can be installed in one PC, supporting up to 2,048 points of I/O. The AC28 includes a 50-pin male header connector and is compatible with HH-series flat-ribbon cable. The card requires 5 VDC @ 1.5 A and operates at temperatures of 0° C to 70° C.

Included with the AC28 is the Opto 22 Adapter Card Toolkits CD, containing the ISA Pamux Toolkit. This toolkit includes the Pamux driver and supports Microsoft Windows 95, 98, and NT. (If you need a DOS driver, contact Opto 22 Product Support.)

Also shipped with the AC28 is Opto 22 form #726, the *Pamux User's Guide*.



Installation

Setting the Jumpers

The AC28 includes six jumpers. Jumpers J6, J7, J8, and J9 are used to set the AC28 base address. Jumpers R8 and R9 are used to set the reset port address. Tables 1 and 2 show the jumper configurations for these addresses.

Table 1: Base Address Jumpers

Base Address	J9	J8	J7	J6
100 hex	In	Out	In	In
140 hex	In	Out	In	Out
180 hex	In	Out	Out	In
280 hex	Out	In	Out	In

Table 2: Reset Port Address Jumpers

Reset Port Address	R9	R8
0E0 hex	In	In
1E0 hex	In	Out
2E0 hex	Out	In
3E0 hex	Out	Out

Note: The IBM PC can use only addresses 2E0 and 3E0.

Installation (continued)

Installing Hardware

The AC28 adapter card installs into any ISA expansion slot of an IBM PC/AT or compatible computer.

1. Turn off the computer. Remove the power cord and the computer's cover.
2. Before handling the AC28, discharge excess static electricity by touching the computer's metal chassis.
3. Follow instructions in your computer's documentation for installing an ISA expansion card such as the AC28.

Installing Software

To install the Pamux driver, insert the Opto 22 Adapter Card Toolkits CD into your CD-ROM drive. The installer should open automatically; if it does not, open the file setup.exe. Follow instructions to install the toolkit for the AC28.

If you have any questions about Pamux products, contact Opto 22 Product Support at 800-835-6786 or 951-695-3080, Monday through Friday, 8 a.m. to 5 p.m. Pacific Time.

Acknowledgment Data

You can identify the last board communicated with by using acknowledgment lines. The acknowledgment data is read at the reset port address. This Pamux feature works only with the following revisions of Pamux boards:

- AC28: Revision C or later
- B4: Revision L or later
- B5: Revision J or later
- B6: Revision G or later

Refer to Table 3 as a guide to using this feature.

Table 3: Communication Acknowledgment

PAMUX Configuration	Data
Old AC28 with no connection or any board	FF hex
New AC28 with no connection or an old Pamux brain board	00 hex
New AC28 with new B4	01 hex
New AC28 with new B5	02 hex
New AC28 with new B6	03 hex

Products

Opto 22 produces a broad array of reliable, flexible hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications.

SNAP Ethernet Systems

Based on the Internet Protocol (IP), SNAP Ethernet systems offer flexibility in their network connectivity and in the software applications they work with. The physical network may be a wired Ethernet network, a cellular wireless network, or a modem. A wide variety of software applications can exchange data with SNAP Ethernet systems, including:

- Opto 22's own ioProject™ suite of control and HMI software
- Manufacturing resource planning (MRP), enterprise management, and other enterprise systems
- Human-machine interfaces (HMIs)
- Databases
- Email systems
- OPC client software
- Custom applications
- Modbus/TCP software and hardware.



SNAP Ethernet system hardware consists of controllers and I/O units. Controllers provide central control and data distribution. I/O units provide local connection to sensors and equipment.

SNAP OEM Systems

Opto 22 SNAP OEM I/O systems are highly configurable, programmable processors intended for OEMs, IT professionals, and others who need to use custom software with Opto 22 SNAP I/O modules.

Linux® applications running on these systems can read and write to analog, simple digital, and serial I/O points on SNAP I/O modules using easily implemented file-based operations. Applications can be developed using several common development tools and environments, including C or C++, Java, and shell scripts.



M2M Systems

Machine-to-machine (M2M) systems connect your business computer systems to the machines, devices, and environments you want to monitor, control, or collect data from. M2M systems often use wireless cellular communications to link remote facilities to central systems over the Internet, or to provide monitoring and control capability via a cellular phone.

Opto 22's Nvio™ systems include everything you need for M2M—interface and communications hardware, data service plan, and Web portal—in one easy-to-use package. Visit nvio.opto22.com for more information.

Opto 22 Software

Opto 22's ioProject and FactoryFloor® software suites provide full-featured and cost-effective control, HMI, and OPC software to power your Opto 22 hardware. These software applications help you develop control automation solutions, build easy-to-use operator interfaces, and expand your manufacturing systems' connectivity.



Quality

In delivering hardware and software solutions for worldwide device management and control, Opto 22 retains the highest commitment to quality. We do no statistical testing; each product is made in the U.S.A. and is tested twice before leaving our 160,000 square-foot manufacturing facility in Temecula, California. That's why we can guarantee solid-state relays and optically-isolated I/O modules *for life*.

Product Support

Opto 22's Product Support Group offers comprehensive technical support for Opto 22 products. The staff of support engineers represents years of training and experience, and can assist with a variety of project implementation questions. Product support is available in English and Spanish from Monday through Friday, 7 a.m. to 5 p.m. PST.

Opto 22 Web Sites

- www.opto22.com
- nvio.opto22.com
- www.internetio.com (live Internet I/O demo)

Other Resources

- OptoInfo CDs
- Custom integration and development
- Hands-on customer training classes.



About Opto 22

Opto 22 manufactures and develops hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications. Using standard, commercially available Internet, networking, and computer technologies, Opto 22's input/output and control systems allow customers to monitor, control, and acquire data from all of the mechanical, electrical, and electronic assets that are key to their business operations. Opto 22's products and services support automation end users, OEMs, and information technology and operations personnel.

Founded in 1974 and with over 85 million Opto 22-connected devices deployed worldwide, the company has an established reputation for quality and reliability.