

GPIB Solutions for Solaris



Overview

National Instruments has supplied GPIB interface kits for Solaris since 1988. Because of their high performance and reliability, these workstations are popular instrument-control platforms. We offer a variety of interface choices, including plug-in interfaces that connect directly to the PCI bus or SBus in the workstation and external Ethernet-to-GPIB controllers. Ethernet provides an attractive solution when there are no expansion slots available.

The NI GPIB-ENET/100 combines the benefits of networked instrumentation systems with the performance of a plug-in GPIB interface. Furthermore, your NI-488.2 software applications are always portable between platforms, regardless of the computer or GPIB controller type you choose.

NI-488.2 for Solaris

After two decades, NI-488.2 remains the *de facto* industry standard for GPIB software. NI-488.2 for Solaris combines development tools to get your application up and running fast with a high-performance driver to minimize your test time. NI-488.2 for Solaris is a UNIX device driver installed in the operating system. NI-488.2 works with Solaris 2.5.1 or higher. You can install the driver as a loadable module or statically link it directly into the kernel image. Using NI-488.2, several tasks can concurrently access one GPIB interface if the tasks are communicating with different devices.

You can access the NI-488.2 API from applications written in National Instruments LabVIEW or LabWindows/CVI directly or by using the language interface library for applications written in C. The language interface is included as linkable object code or in C source code that you compile. You can then place the object code in a system library or link it directly to your NI-488.2 applications.

Bus	Product	IEEE 488.1 Interlocked Handshake Transfer Rate	IEEE 488.1 Non-Interlocked Handshake (HS488) Transfer Rate	Driver Installation	Page	Part Number
PCI	PCI-GPIB	1.5 Mbytes/s	7.7 Mbytes/s	Loadable	665	777462-01
Ethernet	GPIB-ENET/100	900.0 kbytes/s	1.3 Mbytes/s	Application library	677	*
SBus	GPIB-SPRC-B	1.4 Mbytes/s	3.6 Mbytes/s	Loadable	682	776789-01

*See page 677 for complete GPIB-ENET/100 part number information.

Table 1. GPIB Hardware Interfaces for Solaris

GPIB Interface Kit for Sun SPARCstations

NI GPIB-SPRC-B

- TNT4882C ASIC
 - Completely IEEE 488.2 compatible
 - FIFO buffers to decouple GPIB transfers from SBus transfers
 - Byte-to-long word (32 bit) packing and unpacking in hardware to increase throughput and efficiency of SBus
- Maximum GPIB transfer rates
 - More than 1.4 Mbytes/s (IEEE 488.1)
 - More than 3.6 Mbytes/s (HS488)
- SBus DVMA data transfers
 - No jumpers – software-controlled configuration
 - Loadable NI-488.2 driver for simple installation
 - Signal handling for immediate servicing of GPIB events
 - Software compatible with all previous versions of SB-GPIB board

Operating System

- Solaris

Recommended Software

- LabVIEW
- LabWindows/CVI

Driver Software (included)

- NI-488.2



Overview

The National Instruments GPIB-SPRC-B is a low-cost, high-performance IEEE 488 interface kit for Sun SPARCstation Series workstations equipped with SBus slots. The kit includes the NI SB-GPIB/TNT interface board and NI-488.2 software for Solaris. The TNT4882C ASIC makes the SB-GPIB/TNT a maximum-performance IEEE 488.2 interface board. The TNT4882C chip performs the basic IEEE 488 Talker, Listener, and Controller functions required by the IEEE 488.2 standard. With the TNT4882C and the SBus Direct Virtual Memory Access (DVMA) transfers, data

transfers can reach more than 1.4 Mbytes/s using the IEEE 488.1 3-wire handshake. The TNT4882C can significantly increase the throughput of the associated multitasking Solaris driver software. The SB-GPIB/TNT also implements HS488, so you can have data transfers of more than 3.6 Mbytes/s.

You can install the SB-GPIB/TNT in any single-width master SBus slot. Standard IEEE 488 cables connect the SB-GPIB/TNT to up to 14 instruments. You can install two or more SB-GPIB/TNT boards in a single computer to control more instruments.

Ordering Information

GPIB-SPRC-B776789-01
Kit includes SB-GPIB/TNT board and NI-488.2 for Solaris.

GPIB Cables

X2 cable (double shielded)

1 m	763061-01
2 m	763061-02
4 m	763061-03
8 m	763061-04

BUY ONLINE!

Visit ni.com/info and enter *gpibspb*.

Specifications

IEEE 488 Bus Transfer Rates

IEEE 488 interlocked handshake	More than 1.4 Mbytes/s
IEEE 488 non-interlocked (HS488) handshake ...	More than 3.6 Mbytes/s

(Actual rates depend on system configuration and instrument capabilities.)

Power Requirement from SBus

+5 VDC	300 mA typical, 330 mA maximum
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Physical

Dimensions	14.7 by 8.4 cm (5.8 by 3.3 in.) single width
I/O connector	IEEE 488 standard 24 pin

Operating Environment

Ambient temperature	0 to 55 °C
Relative humidity	10 to 90%, noncondensing

Storage Environment

Ambient temperature	-20 to 70 °C
Relative humidity	5 to 95%, noncondensing

Electrostatic Discharge Protection (GPIB I/O pins)

By Mil 883C Section 3015C	1,500 V
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Compliance

Online at ni.com/hardref.nsf