

GPIB ↔ RS-232 Converter

GPIB-232CV-A

- NAT4882 ASIC
 - Completely IEEE 488.2 compatible
 - Reduced software overhead
 - Increased reliability
- Built-in 256 KB RAM data buffer
- Switch-selectable interface parameters include IEEE 488 address, transfer rate, parity, stop bits, word length, and termination mode
- Special SRO-ON-EMPTY feature for maximum GPIB performance
- Built-in DMA controller for high-speed GPIB transfers into buffer memory
- 8 RS-232 data transfer rates up to 38.4 kb/s; hardware handshaking and the XON/XOFF protocols prevent data loss
- RS-232 cable lengths extend GPIB up to 15.6 m (50 ft)
- 9-pin RS-232 connector
- Power options
 - Internal AC switching power supply
 - External DC power supply

Applications

- Print from a laptop computer to an IEEE 488 printer
- High-speed print buffer (a computer with an IEEE 488 interface can transfer data to an RS-232 printer or plotter over the IEEE 488 port at high speed and quickly return control to the computer)
- Interface an RS-232 device to an IEEE 488 bus system



GPIB-to-RS-232 Converter

Overview

The National Instruments GPIB-232CV-A IEEE 488 to RS-232 protocol converter transparently converts data between the two ports without control codes or special commands. The GPIB-232CV-A also increases the efficiency of the interface system by isolating a slow device from the faster port using its built-in DMA controller and 256 KB RAM buffer. You can use the GPIB-232CV-A with virtually all PCs.

The GPIB-232CV-A links either a GPIB controller to an instrument with an RS-232 port or a GPIB device to a computer through the computer serial port. For example, the GPIB-232CV-A can interface a GPIB device, such as an IEEE 488 spectrum analyzer, to a computer with an RS-232 port; or it can connect an RS-232 device, such as a printer or plotter, to a GPIB network. Data transfers in either direction are possible at all times.

Depending on the version, the GPIB-232CV-A can accept either AC or DC power input.

Hardware

The GPIB-232CV-A operating system is contained in read-only memory (ROM) and can address up to 256 KB of dynamic random-access memory (RAM). The operating system programs

and maintains the NAT4882 GPIB controller chip, which implements all GPIB functionality. Figure 2 shows the GPIB-232CV-A block diagram.

Modes of Operation

You can configure the GPIB-232CV-A to run in one of two modes – device mode or controller mode. Device mode configures the GPIB-232CV-A to perform as a GPIB Talker/Listener controlled by another GPIB Controller. Controller mode configures the GPIB-232CV-A as a GPIB Controller that addresses a single GPIB device to talk or listen.

INFO CODES

For more information or to order products online, visit ni.com/info and enter:

gpi232cva

BUY ONLINE!

GPIB Instrument Control/Connectivity

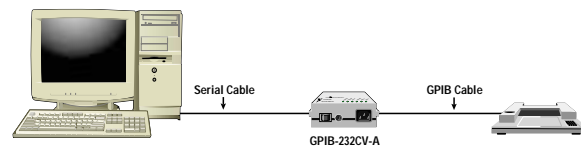


Figure 1. GPIB-232CV-A Application Example

GPIB ↔ RS-232 Converter

GPIB-to-RS232 Converter

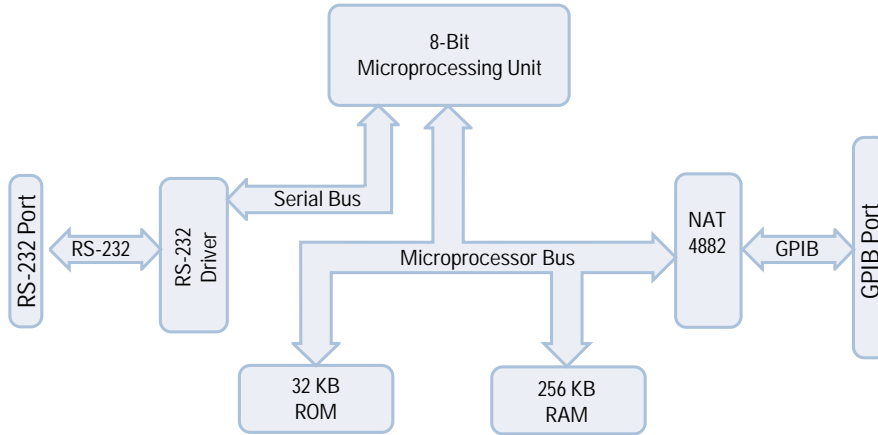


Figure 2. GPIB-232CV-A Block Diagram

GPIB Instrument Control/Connectivity

Ordering Information

GPIB-232CV-A

AC version776669-0P
 DC version776898-Y1

- P = Power source
 1 = U.S. 120 VAC
 2 = Swiss 220 VAC
 3 = Australian 240 VAC
 4 = Universal Euro 240 VAC
 5 = North American 240 VAC
 6 = United Kingdom 240 VAC
- Y = Power Supply source
 0 = U.S. 120 VAC
 3 = Universal Euro 240 VAC

Cables

National Instruments recommends you use the following cables with the GPIB-232CV-A

Serial null modem cable (9-pin D-Sub to 9-pin D-Sub)

1 m182238-01
 2 m182238-02
 4 m182238-04

RS1 cable (9-pin D-Sub to 25-pin D-Sub)

1 m181074-10

GPIB-232CV-A/Mac cable (9-pin D-Sub to Macintosh port, 8-pin DIN)

1 m182514-01

Specifications

GPIB Transfer Rate
 GPIB reads into buffer memory..... Up to 625 kbytes/s

Buffer Details

C-Mode
 Serial to GPIB 256 KB

D-Mode, small serial buffer
 Serial to GPIB 256 B
 GPIB to serial..... 256 KB

D-Mode, large serial buffer
 Serial to GPIB 32 KB
 GPIB to serial..... 224 KB

Power Requirements

AC version (50 to 60 Hz)
 100 to 120 ±10% VAC..... 5 VA
 220 to 240 ±10% VAC..... 5 VA

DC version
 5 to 13 VDC 700 mA

Physical

Dimensions
 AC version 7.6 by 4.4 by 11.8 cm
 (3.0 by 1.7 by 4.7 in.)
 DC version 7.6 by 2.8 by 11.8 cm
 (3.0 by 1.1 by 4.7 in.)

Weight 340.2 g (12 oz)

I/O Connectors
 GPIB port IEEE 488 standard 24-pin
 RS-232 port Standard 9-pin male D-Sub

Operating Environment
 Temperature..... 0 to 40 °C
 Relative humidity 10 to 90%, noncondensing

Storage Environment
 Temperature..... -20 to 70 °C
 Relative humidity 10 to 90%, noncondensing

Noise Emissions
 FCC Class A verified (AC version)
 FCC Class B verified (DC version)