# Installation Guide for the GPIB-RF

What You Need to Get Started

- ☐ One of the following GPIB controllers, which comes in your kit:
  GPIB-232CT-A, 100-120 VAC
  GPIB-232CT-A, DC

- ☐ If you have an AC version of the GPIB-232CT-A, you need the U.S.A. standard power cord, which comes in your kit

- ☐ If you have a DC version of the GPIB-232CT-A, you need the wall-mount power supply (100-120 VAC, 9V 1A), which comes in your kit

- ☐ Two 902-928 MHz radio modems, which come in your kit

- ☐ Two 5/8 wave (3 dB gain) antennas, which come in your kit

- ☐ Two DC wall-mount power supplies (120 VAC, 9V 500mA), which come in your kit

- ☐ 3.5 in. high density (1.44 MB) distribution disk, which comes in your kit:
  NI-488.2 Software for DOS and the GPIB-232/485CT-A or
  NI-488.2 Software for Windows and the GPIB-232/485CT-A

- ☐ Two shielded serial cables (RS-232 DTE to DCE), which come in your kit

- ☐ Shielded GPIB cables*, which you can order from National Instruments:
  Type X1 Single-Shielded GPIB cable - 1 m, 2 m, or 4 m
  Type X2 Double-Shielded GPIB cable - 1 m, 2 m, or 4 m

  * To meet FCC emission limits for this device you must use a double-shielded (Type X2) GPIB cable. Operating this equipment with a non-shielded cable may cause interference to radio and television reception.

Hardware Configuration and Installation

The following sections include information and references to help you install and configure the hardware for your GPIB-RF kit. The following picture should help you determine where to look in your documentation for specific information about the parts of your system.
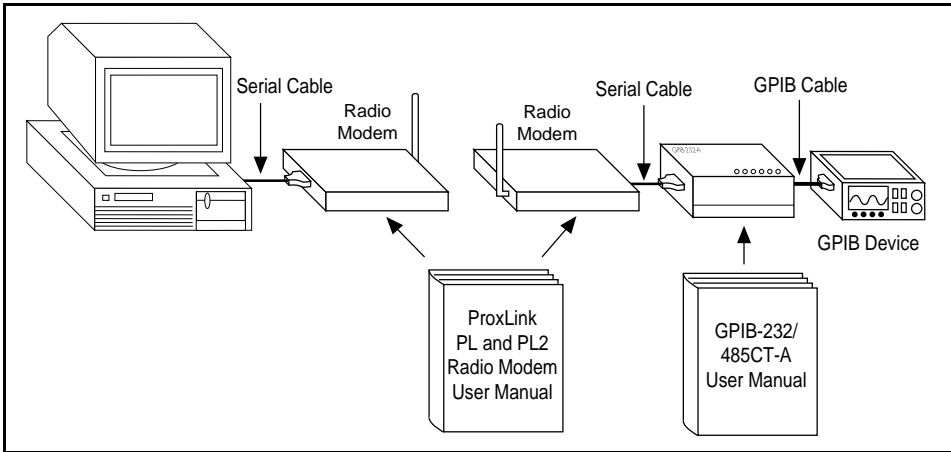
The *ProxLink PL and PL2 Radio Modem Family User's Manual* contains detailed information about the ProxLink PL2 radio modem. It includes instructions for serial port and radio parameter configuration.

The *GPIB-232/485CT-A User Manual* contains detailed information on the GPIB-232CT-A. It includes hardware configuration switch settings and programming commands for users who choose not to use the NI-488.2 software for the GPIB-232CT-A.

Configuring the Hardware (Optional)

The default hardware settings for the radio modems and the GPIB-232CT-A are compatible with the default software settings. If you change the hardware settings, make sure that you also change the software settings so that they are compatible.

Refer to the *GPIB-232/485CT-A User Manual* to change the hardware settings on the GPIB-232CT-A. Refer to the *ProxLink PL and PL2 Radio Modem Family User's Manual* to change the hardware settings on the radio modems.

Install the Hardware

Step 1. Power Off Your System

1. Power off your system.

2. Unplug all power cords.

Step 2. Connect the Cables

1. Connect the end of one serial cable to the serial connector on the GPIB-232CT-A and securely fasten the holding screws. Connect the other end of this serial cable to the serial connector on one of the radio modems and securely fasten the holding screws.

2. Connect the end of the other serial cable to the serial connector on the other radio modem and securely fasten the holding screws. Connect the other end of this serial cable to the serial port on your computer. *Be sure* to use only shielded serial cables, and follow all appropriate serial cabling restrictions.

3. Connect the GPIB cable to the GPIB connector on the GPIB-232CT-A and tighten the thumb screws on the connector. Connect the other end to your GPIB device(s). *Be sure* to follow all IEEE 488 cabling restrictions, and use only shielded GPIB cables.

4. Connect one antenna to the EXR polarized connector on the back of each radio modem.

5. If you have an AC version of the GPIB-232CT-A, connect the power cord to the power receptacle on the front panel, then plug the supply into an AC outlet of the correct voltage. If you have a DC version of the GPIB 232CT-A, connect the DC power plug of the 9 V 1A DC power supply to the power jack on the serial end of the GPIB-232CT-A, then plug the supply into an AC outlet of the correct voltage.

6. Connect the DC power plug of one of the 9 V 500 mA DC power supplies to one of the radio modems, then plug the supply into an AC outlet of the correct voltage. Repeat this step with the DC power supply for the other radio modem. The red **PWR** LED indicator on the front of each radio modem should come on when the DC power supply for each radio modem is plugged in.


Step 3. Power On Your System and Switch on the GPIB-232CT-A

1. Plug the power cords for your computer system into a power outlet and power on all devices.

2. If you have an AC version, use the front panel rocker switch to power on your GPIB-232CT-A. If you have a DC version, use the power switch on the rear panel to power on your GPIB-232CT-A.

The **POWER** LED indicator should come on immediately. The **READY** LED indicator should come on after the GPIB-232CT-A has passed its power-on self test, indicating the unit is ready for operation. If the **READY** LED does not come on within seven seconds after the unit is powered on, recheck all connections and switch settings and retry the power-on sequence. If the **READY** LED still does not come on, refer to Chapter 4, *Installation Verification and Troubleshooting, of* the *Getting Started with Your GPIB-232/485CT-A and the NI-488.2 Software for Windows* manual.

Software Installation and Configuration

The following pictures can help you determine where to look in your documentation for specific information about the parts of your system.
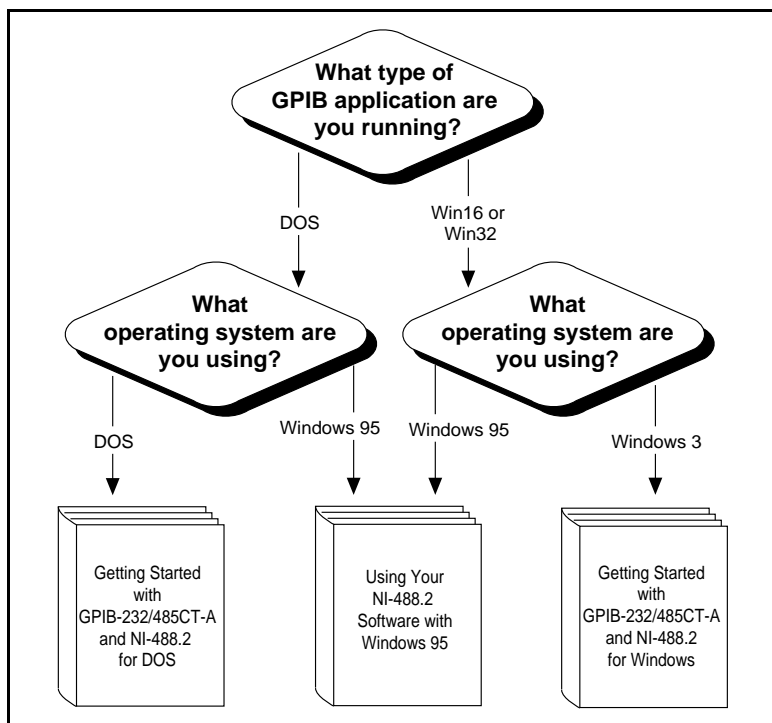

The *Getting Started with Your GPIB-232/485CT-A and the NI-488.2 Software for Windows* manual contains information needed to install the GPIB-232CT-A and NI-488.2 software for Windows 3.1.

The *Getting Started with Your GPIB-232/485CT-A and the NI-488.2 Software for DOS* manual contains information needed to install the GPIB-232CT-A and NI-488.2 software for DOS.

The *Using Your NI-488.2 Software for DOS or Windows 3 with Windows 95* manual includes instructions for using your GPIB-232CT-A and NI-488.2 software under Windows 95.

Software Development
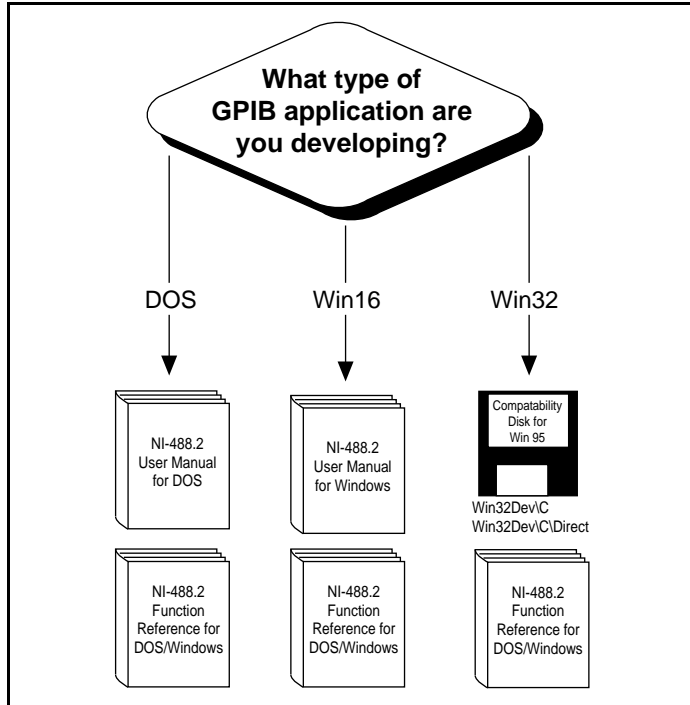
The *NI-488.2 User Manual for Windows* manual contains information on the basics of GPIB and how to develop an application program. The user manual also contains debugging information and detailed examples.

The *NI-488.2 User Manual for DOS* manual contains information on the basics of GPIB and how to develop an application program. The user manual also contains debugging information and detailed examples.

The *NI-488.2 Function Reference Manual for DOS/Windows* manual describes the NI-488 functions and NI-488.2 routines for Windows and DOS. It includes information such as purpose, format, parameters, and possible errors.

The readme files in the Win32Dev\C and Win32Dev\C\Direct directories of the compatibility disk for Windows 95 contain information about developing applications in Windows 95.