LabWindows®/CVI
Master Index

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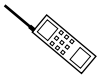

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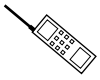

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About This Manual

The *LabWindows/CVI Master Index* contains a comprehensive index and glossary, as well as a list of chapter titles for each manual of the LabWindows/CVI documentation set.

Organization of This Manual

This manual is organized as follows.

Master List of Contents contains the chapter titles of every manual in the LabWindows/CVI set.

Master Glossary is a compilation of all the LabWindows/CVI manual glossaries.

Master Index contains a comprehensive index of important terms and concepts and tells where you can find them in the LabWindows/CVI manual set.

The appendix, *Customer Communication*, contains forms you can use to request help from National Instruments or to comment on our products and manuals.

Conventions Used in This Manual

This index is for use with the following manuals. Each page number entry is preceded by a code in capital letters that identifies the manual in which it appears. The following manual list indicates which code indicates which manual.

ANLS	*LabWindows/CVI Advanced Analysis Library Reference Manual*
GS	*Getting Started with LabWindows/CVI*
INST	*LabWindows/CVI Instrument Driver Developers Guide*
PRGREF	*LabWindows/CVI Programmer Reference Manual*
STDLIB	*LabWindows/CVI Standard Libraries Reference Manual*
USER	*LabWindows/CVI User Manual*
USRINT	*LabWindows/CVI User Interface Reference Manual*

Customer Communication

National Instruments wants to receive your comments on our products and manuals. We are interested in the applications you develop with our products, and we want to help you if you have problems with them. To make it easy for you to contact us, this manual contains comment and technical support forms for you to complete. These forms are in the appendix, *Customer Communication*, at the end of this manual.

Master List of Contents

Getting Started with LabWindows/CVI

LabWindows/CVI User Manual

LabWindows/CVI User Interface Reference Manual

LabWindows/CVI Standard Libraries Reference Manual

LabWindows/CVI Programmer Reference Manual

LabWindows/CVI Instrument Driver Developers Guide

LabWindows/CVI Advanced Analysis Library Reference Manual

Master Glossary

Prefix	Meaning	Value
p-	pico-	10^{-12}
n-	nano-	10^{-9}
µ-	micro-	10^{-6}
m-	milli-	10^{-3}
k-	kilo-	10^{3}
M-	mega-	10^{6}

Numbers/Symbols

1D — One-dimensional.

2D — Two-dimensional.

A

A — Analog input.

A/D — Analog-to-digital.

AC — Alternating current.

active window — The window affected by user input at a given moment. The title of an active window is highlighted.

ADC A/D converter — An electronic device, often an integrated circuit, that converts an analog voltage to a digital number.

ADC resolution — The resolution of the ADC, which is measured in bits. An ADC with 16 bits has a higher resolution, and thus a higher degree of accuracy, than a 12-bit ADC.

analog trigger	A trigger that occurs at a user-selected point on an incoming analog signal. Triggering can be set to occur at a specific level on either an increasing or a decreasing signal (positive or negative slope). Analog triggering can be implemented either in software or in hardware. When implemented in software, all data is collected, transferred into system memory, and analyzed for the trigger condition. When analog triggering is implemented in hardware, no data is transferred to system memory until the trigger condition has occurred.
ANOVA	Analysis of variance.
ANSI	American National Standards Institute.
AO	Analog output.
API	Application Programming Interface.
Array Display	A mechanism for viewing and editing numeric arrays.
asynchronous	(1) Hardware—A property of an event that occurs at an arbitrary time, without synchronization to a reference clock. (2) Software—A property of a function that begins an operation and returns prior to the completion or termination of the operation.
auto-exclusion	A mechanism that prevents pre-existing lines from executing in the Interactive Execution Window.
automatic serial	A feature in which serial polls are executed automatically by the GPIB polling driver whenever a device asserts the SRQ line.

B

B	Bytes.
background acquisition	Data is acquired by a DAQ system while another program or processing routine is running without apparent interruption.
binary control	A function panel control that resembles a physical on/off switch and can produce one of two values depending upon the position of the switch.
binary switch	A control that selects between two states: on and off.
bipolar	A signal range that includes both positive and negative values (for example, -5 V to +5 V).

bitmap	A set of data that can be used to draw a graphic image. The data consist of information determining the height and width of the image or pixel grid, and the color of each pixel.
block-mode	A high-speed data transfer in which the address of the data is sent followed by a specified number of back-to-back data words.
bps	Bits per second.
breakpoint	An interruption in the execution of a program.
`Breakpoint`	A function that interrupts the execution of a program.
Breakpoint command	A specific command that interrupts the execution of a program.

C

canvas	An arbitrary drawing surface to display text, shapes, and bitmap images.
caption bar	An area directly beneath the command bar at the top of a window that displays the name of the file you are working on.
CDECL	A function calling convention in which function arguments are passed right to left.
check box	A dialog box item that allows you to toggle between two possible options.
click	A mouse-specific term; to quickly press and release the mouse button.
clipboard	A temporary storage area LabWindows/CVI uses to hold text that is cut, copied, or deleted from a work area.
cm	Centimeters.
CodeBuilder	The LabWindows/CVI feature that creates code based on a `.uir` file to connect your GUI to the rest of your program. This code can be compiled and run as soon as it is created.
cold-junction compensation	A method of compensating for inaccuracies in thermocouple circuits.
command bar	An area along the top of a window that contains the names of the LabWindows/CVI command menus.

command button	A dialog box item that, when selected, executes a command associated with the dialog box.
common control	A function panel control that specifies the first parameter in both primary and secondary functions associated with a function panel. A common control appears on a function panel in the same color or intensity as a primary control.
compiler define	A command line argument passed to the compiler that defines an identifier as a macro to the preprocessor.
confirm pop-up panel	Allows you to confirm an action before it is taken.
control	An input and output device that appears on a function panel for specifying function parameters and displaying function results.
conversion time	The time required, in an analog input or output system, from the moment a channel is interrogated (such as with a read instruction) to the moment that accurate data is available.
counter/timer	A circuit that counts external pulses or clock pulses (timing).
coupling	The manner in which a signal is connected from one location to another.
cursor	The flashing rectangle that shows where you can enter text on the screen. If you have a mouse installed, there is also a mouse cursor.
cursor location indicator	An element of the LabWindows/CVI screen that specifies the row and column position of the cursor in the window.

D

D/A	Digital-to-analog.
DAC D/A converter	An electronic device, often an integrated circuit, that converts a digital number into a corresponding analog voltage or current.
Data acquisition	(1) Collecting and measuring electrical signals from sensors, transducers, and test probes or fixtures and inputting them to a computer for processing. (2) Collecting and measuring the same kinds of electrical signals with A/D and/or DIO boards plugged into a PC, and possibly generating control signals with D/A and/or DIO boards in the same PC.
DC	Direct current.

default command	The action that takes place when ENTER is pressed and no command is specifically selected. Default command buttons are indicated in dialog boxes with an outline.
device	Device is used to refer to a DAQ device inside your computer or attached directly to your computer via a parallel port. Plug-in boards, PCMCIA cards, and devices such as the DAQPad-1200, which connects to your computer parallel port, are all examples of DAQ devices. SCXI modules are distinct from devices, with the exception of the SCXI-1200, which is a hybrid.
DFT	Discrete Fourier Transform.
dialog box	A prompt mechanism in which you specify additional information needed to complete a command.
differential input	An analog input consisting of two terminals, both of which are isolated from computer ground, whose difference is measured.
digital port	See port.
DIO	Digital I/O.
DLL	Dynamic Link Library. A file containing a collection of functions that can be used by multiple applications (.exe files).
double-click	A mouse-specific term; to click the mouse button twice in rapid succession.
drag	A mouse-specific term; to hold down the mouse button while moving the mouse across a flat surface, such as a mouse pad.
DSP	Digital signal processing.

E

entry mode indicator	An element of the LabWindows/CVI screen that indicates the current text entry mode (insert or overwrite).
event	Informs the application program that the user has performed an action. An event is generated whenever the user selects a command from the menu bar or manipulates a control that was configured to generate events.
excluded code	Code that is ignored during compilation and execution. Excluded lines of code are displayed in a different color than included lines of code.

external module	A .lib, .obj, or .dll file that can be loaded and executed.
external trigger	A voltage pulse from an external source that triggers an event such as A/D conversion.

F

FFT	Fast Fourier Transform.
FHT	Fast Hartley Transform.
FIFO	A first-in first-out memory buffer; the first data stored is the first data sent to the acceptor.
file select pop-up panel	A predefined pop-up panel that displays a list of files on disk from which the user can select.
FIR	Finite impulse response.
format string	A mini-program that instructs the formatting and scanning functions how to transform the input arguments to the output arguments. For conciseness, format strings are constructed using single-character codes.
.fp file	A file containing information about the function tree and function panels of an instrument module.
full-screen mode	A screen display mode in which one window occupies the entire screen.
function panel	A screen-oriented user interface to the LabWindows/CVI libraries in which you can interactively execute library functions and generate code for inclusion in a program.
Function Panel Editor	The window used to create and modify instrument driver function panels. It is described in the *LabWindows/CVI Instrument Library Developer's Guide*.
function panel window	A window that contains one or more function panels.
function tree	The hierarchical structure in which the functions in a library or an instrument driver are grouped. The function tree simplifies access to a library or instrument driver by presenting functions organized according to the operation they perform, as opposed to a single linear listing of all available functions.
Function Tree Editor	The window in which you build the skeleton of a function panel file. It is described in the *LabWindows/CVI Instrument Library Developer's Guide*.

G

G gain	The factor by which a signal is amplified, sometimes expressed in decibels.
gender	Refers to cable connector types. A male connector is one with protruding pins, like a lamp plug. A female connector has holes, like an outlet.
gender changer	A small device that can be attached to serial cable connectors or PC sockets, among others, to convert a female connector into a male, or a male connector into a female.
Generated Code window	A small window located at the bottom of the function panel that displays the code produced by the manipulation of function panel controls.
global control	A function panel control that displays the contents of global variables in a library function. Global controls allow you to monitor global variables in a function that are not specifically returned as results by the function. These are read-only controls that cannot be altered by the user, and do not contribute a parameter to the generated code.
global variable control	A function panel control that displays the value of a global variable defined in LabWindows/CVI at the time the function panel is operated.
glue code	Special code that provides the interface between 32-bit LabWindows/CVI applications and 16-bit DLLs.
GPIB	General Purpose Interface Bus is the common name for the communications interface system defined in ANSI/IEEE Standards 488.1-1987 and 488.2-1992.
graph control	Displays graphical data as one or more plots.
graph pop-up panel	A predefined pop-up panel for displaying numerical data graphically. There are different functions for graphing X, Y, X-Y, and waveform data sets.
group	A collection of digital ports, combined to form a larger entity for digital input and/or output.

H

handshaking	Prevents overflow of the input queue that occurs when the receiver is unable to empty its input queue as quickly as the sender is able to fill it. The RS-232 Library has two types of handshaking–software handshaking, and hardware handshaking. You should enable one or the other if you want to ensure that your application program synchronizes its data transfers with other serial devices that perform handshaking.

hex	Hexadecimal.
highlight	The way in which input focus is displayed on a LabWindows/CVI screen; to move the input focus onto an item.
hot control	Similar to normal control except that the control generates an event when acted upon by the user. Events are returned to the application program, which must determine what action to take. Normally, a hot control generates an event when its state is changed. For example, if the user moves a binary switch from off to on, an event is generated.
Hz	Hertz.

I

I/O	Input/output.
ID	Identification.
IDFT	Inverse Discrete Fourier Transform.
IEEE	Institute of Electrical and Electronics Engineers.
IFFT	Inverse Fast Fourier Transform.
IFHT	Inverse Fast Hartley Transform.
IIR	Infinite impulse response.
immediate action menu	A menu that has no menu items associated with it and takes effect immediately when selected. An exclamation point (!) appears at the end of any immediate action command.
in.	Inches.
include file	A file that contains function declarations, constant definitions, and external declaration of global variables exported by the instrument driver.
indicator control	A control that can be changed programmatically but cannot be operated by the user. LED, scale, text, text box, graph (without cursors), and strip chart controls are always indicators.
input control	A function panel control that accepts a value typed in from the keyboard. An input control can have a default value associated with it. This value appears in the control when the panel is first displayed.

input focus	A mechanism for emphasis displayed on the screen as a highlight on an item, signifying that the item is active. User input affects the item in the dialog box that has the input focus.
instrument driver	A set of high-level functions for controlling an instrument. It encapsulates many low-level operations, such as data formatting and GPIB, RS-232, and VXI communication, into intuitive, high-level functions. An instrument driver can pertain to one particular instrument or to a group of related instruments. An instrument driver consists of a program and a set of function panels. The program contains the code for the high-level functions. Associated with the instrument program is an include file that declares the high-level functions you can call, the global variables you can access, and the defined constants you can use.
Instrument Library	A LabWindows/CVI library that contains instrument drivers.
Interactive Execution window	A LabWindows/CVI work area in which sections of code may be executed without creating an entire program.
interrupt	A computer signal indicating that the CPU should suspend its current task to service a designated activity.

K

KB	Kilobytes of memory.
ksamples	1,000 samples.

L

.LBW file	A file containing code stored in LabWindows for DOS binary format, a format translatable into C or BASIC source code by the LabWindows for DOS environment.
LED	A control that is modeled to operate like light emitting diodes, which indicate on/off states. When an LED is on, it appears lighted.
.LFP file	A file containing information about the function tree and function panels for a LabWindows/CVI permanent library.
list box	A dialog box item that displays a list of possible choices for completing a command in the dialog box.
LSB	Least significant bit.

lvalue	A C expression that refers to an object that can be examined and modified. The name lvalue comes from the fact that only lvalues may appear on the left side of an assignment. Examples of lvalues are variables, parameters, array element references such as `a[i]`, `struct` element references such as `s->name` or `s.name`, and pointer dereferences such as `*ptr`. Expressions that are not lvalues are called rvalues.
.LWI file	A file containing instrument include statements in LabWindows for DOS binary format.

M

manual scaling	Where SetAxRange is called to explicitly set the maximum and minimum X and Y values.
MB	Megabytes of memory.
menu	An area accessible from the command bar that displays a subset of the possible command choices.
menu bar	A mechanism for encapsulating a set of commands. A menu bar appears at the top of the screen and contains a set of menu titles.
message control	A function panel control that serves as a documentation tool that allows you to place text on a function panel.
message pop-up panel	A predefined pop-up panel for displaying a message.
MIO	Multifunction I/O.
mouse cursor	A mouse-specific term; the rectangular block on the screen that shows the current mouse position.
ms	Milliseconds.
mse	Mean squared error.
mux	Multiplexer; a switching device with multiple inputs that sequentially connects each of its inputs to its output, typically at high speeds, in order to measure several signals with a single analog input channel.

N

new style (function definition)	A function definition in which parameters are declared directly in the parameter list.
NI-488 functions	National Instruments functions you use to communicate with GPIB devices built according to the ANSI/IEEE Standards 488.1-1987 and 488.2-1992.
NI-488.2 routines	National Instruments routines you use to communicate with GPIB devices built according to the ANSI/IEEE Standard 488.2-1992.
normal control	A control that can be operated by the user and changed programmatically.
numeric control	A function panel control that allows you to specify a numeric value using the mouse.
numeric/string control	Used to input or view numeric values or text strings. A typical use of this control might be to input a person's name or to display a voltage value.

O

old style (function definition)	A function definition in which parameters are declared outside of the parameter list.
ordinal number	A numeric value that corresponds to a function within a DLL. It is arbitrarily defined by the linker that creates the DLL or it may be specified in the .def file when the DLL is created.
output control	A function panel control that displays a value determined by the function you execute. An output control parameter must be a string, an array, or a reference parameter of type integer, long, single-precision, or double-precision.

P

panel	A rectangular region of the screen containing a set of controls that accept input from the user and display information to the user. Panels can perform many different functions, from representing the front panel of an instrument to allowing the user to select a file name.
PASCAL	A function calling convention in which function arguments are passed left to right.
pen	A drawing construct which defines the characteristics to be used to draw images on a canvas control. The settable attributes include width, style, color, mode and pattern of the line or object drawn.

pixel	An element of a picture. The smallest resolvable rectangular area of an image, either on a screen or stored in memory. Each pixel has its own brightness and color, usually represented as a red, green, and blue intensities (see RGB).
plot	Consists of a curve, a point, a geometric shape, or a text string.
point	A mouse-specific term; to move the mouse until the pointer rests on the item to which you want to click on.
pointer	A mouse-specific term; the rectangular block on the screen that shows the current mouse position.
pop-up panel	A panel that pops up, accepts user input, and then disappears.
port	A digital port, consisting of four or eight lines of digital input and/or output.
postriggering	The technique used on a DAQ board to acquire a programmed number of samples after trigger conditions are met.
press	A mouse-specific term; to hold down the mouse button.
pretriggering	The technique used on a DAQ board to keep a continuous buffer filled with data, so that when the trigger conditions are met, the sample includes the data leading up to the trigger condition.
primary control	A function panel control that specifies parameters in the function panel's primary function.
primary function	The function that performs the main task associated with a function panel. A function panel has only one primary function, but can have many secondary functions.
primary parameter	A parameter that becomes a formal parameter to the function call.
Project window	A window that keeps track of the components that make up your current project. The Project window maintains a list of files such as source files, uir files, header files, or object modules, and also contains status information about each file in your project.
prompt command	A command that requires additional information before it can be executed; a prompt command appears on a pull-down menu suffixed with three ellipses (…).
prompt pop-up panel	A predefined pop-up panel for requesting input from the user.

pt	Point.
pts/s	Points per second.
pull-down menu	A menu title without an exclamation point contains a collection of commands that appear when you select it.
push button	Used to trigger an action indicated by a label on the button.

R

radio button	Similar to binary switches, these buttons allow you to switch between the off and on state. A radio button is either pressed in or popped out.
rect	A structure used to specify the location and size of a rectangle in the Cartesian coordinate systems used in canvas controls and bitmaps. The structure contains four integer values, top, left, height, and width.
resolution	The smallest signal increment that can be detected by a measurement system. Resolution can be expressed in bits, in proportions, or in percent of full scale. For example, a system has 12-bit resolution, one part in 4,096 resolution, and 0.0244 percent of full scale.
resource file	Contains all of the object associated with a user interface. This includes menu bars, panels, controls, pop-up panels, preferences, images, and fonts. To display user interface objects, an application program must call the User Interface Library to load them from the resource file. A single application program can use multiple resource files.
return value control	A function panel control that displays a value returned from a function as a return value rather than as a formal parameter.
return value error reporting method	The method used to declare each instrument driver routine as an integer function and return the appropriate value.
RGB	Red-green-blue. The three colors of light which can be mixed to produce any other color.
ring control	A function panel control that represents a range of values much like the slide control, but displays only a single item in a list, rather than displaying the whole list at once as the slide control does. Each item has a different value associated with it. This value is placed in the function call.
rms	Root mean squared.

RTD	Resistance temperature detector. A metallic probe that measures temperature based upon its coefficient of resistivity.
rvalue	Any C expression that is not an lvalue. Examples of rvalues are array names, functions, function calls such as f(), assignment expressions such as x = e and cast expressions such as (AnyType)e.

S

s	Seconds.
s/pt	Seconds per point.
S/s	Samples per second; used to express the rate at which a DAQ board samples an analog signal.
Sample-and-Hold (S/H)	A circuit that acquires and stores an analog voltage on a capacitor for a short period of time.
scale control	Indicates the magnitude of a value relative to a predefined range. The scale moves up and down within the control as its value changes. Scale controls are indicator controls and cannot be operated.
scroll bars	Areas along the bottom and right sides of a window that show your relative position in the file. Scroll bars can be used with a mouse to move about in the window.
scrollable text box	A dialog box item that displays text in a scrollable display.
SCXI	Signal Conditioning eXtensions for Instrumentation; the National Instruments product line for conditioning low-level signals within an external chassis near sensors so only high-level signals are sent to DAQ boards in the noisy PC environment.
SDK	Software Development Kit.
secondary control	A function panel control that specifies the parameter in a secondary function. Each secondary control is associated with a different secondary function, as opposed to primary controls, which are associated with the same function.
secondary function	A function that performs a task that is complementary to, but not required by, the primary task. Secondary functions do not appear in the Generated Code window unless you specifically activate them.

secondary parameter	A parameter that becomes a parameter to a separate function.
select	To choose the item that the next executed action will affect by moving the input focus (highlight) to a particular item or area.
selection list control	Used to select a item from a list.
self-calibrating	A property of a DAQ board that has an extremely stable onboard reference and calibrates its own A/D and D/A circuits without manual adjustments by the user.
shortcut key commands	A combination of keystrokes that provide a means of executing a command without accessing a menu in the command bar.
Single-Ended (SE) Inputs	An analog input that is measured with respect to a common ground.
slide control	A function panel control that resembles a physical slide switch. A slide control is a means for selecting one item from a list of options; it inserts a value in a function call that depends upon the position of the cross-bar on the switch.
slider	The cross-bar on the slide control which determines the value placed in the function call.
software trigger	A programmed event that triggers an event such as data acquisition.
Source window	A LabWindows/CVI work area in which complete programs are edited and executed. This window is designated by the file extension .c.
split-screen mode	A screen display mode in which two windows occupy the screen at once; each window occupies one-half of the display.
Standard Input/ Output window	A LabWindows/CVI work area in which output to and input from the user take place.
standard libraries	The LabWindows/CVI ANSI C, Formatting and I/O, Analysis, GPIB/GPIB-488.2, RS-232, TCP, DDE, Utility, X Property libraries and the Easy I/O for DAQ library.
STC System	Timing Controller.
step mode	A program execution mode in which a program is manually executed one instruction at a time; each instruction in the program is highlighted as it is executed.
string control	See *numeric/string control*.

String Display window	A window for viewing and editing string variables and arrays.
strip chart control	A graph that displays graphical data as one or more traces in real time.
stylized fonts	Fixed-size, bitmapped fonts that have a variety of type faces.
synchronous	(1) Hardware—Property of an event that is synchronized to a reference clock. (2) Software—Property of a function that begins an operation and returns only when the operation is complete.
system fonts	Bitmapped fonts designed for a particular display adapter. They are sized to fit the standard 80-column by 25-line display format. The User Interface Library automatically selects the appropriate system font for your adapter.

T

TC	Terminal count.
text box	A dialog box item in which text is entered from the keyboard to complete a command.
text controls	Display a string of text.
throughput rate	The data, measured in bytes/s, for a given continuous operation, calculated to include software overhead. Throughput Rate = Transfer Rate - Software Overhead Factor.
timer control	A user interface control that schedules the periodic execution of a callback function. A typical use of this control might be to update a graph every second.
traces	Curves in strip charts.
transfer rate	The rate, measured in bytes/s, at which data is moved from source to destination after software initialization and set up operations; the maximum rate at which the hardware can operate.

U

unipolar	A signal range that is always positive (for example, 0 to +10 V).
User Interface Editor	Used to create resource files.

User Interface Editor window	The window in which you build pull-down menus, dialog boxes, panels, and controls and save them to a User Interface Resource (.UIR) file. It is described in the *LabWindows/CVI User Interface Reference Manual*.
User Interface Library	Includes a set of functions for controlling the interface programmatically, as well as a resource editor for defining the user interface components.

V

V	Volts.
validate control	Similar to hot control except that all numeric/scalar controls on the panel are validated before the event is generated. The value of each numeric/scalar control is checked against its predefined range. If an invalid condition is found, a dialog box appears to inform you.
value parameter	An integer, long, or double-precision scalar parameter whose value is not modified by the subroutine or function. In other words, an integer, long, single-precision, or double-precision scalar parameter is a value parameter if and only if its function panel control is *not* an output control.
Variable Display window	A display that shows the values of the variables that are currently defined in LabWindows/CVI.
VDC	Volts direct current.

W

Watch window	A window that shows the values of user-selectable variables and expressions that are currently defined.
window	A working area that supports operations related to a specific task in the development and execution processes.
work area	The area of the LabWindows/CVI screen that contains the text displayed in a window.

X

Xmodem functions	Allow you to transfer files using a data transfer protocol. The protocol uses a generally accepted technique for performing serial file transfers with error-checking. Files are sent in packets that contain data from the files plus error-checking and synchronization information.

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Appendix
Customer Communication

For your convenience, this appendix contains forms to help you gather the information necessary to help us solve technical problems you might have as well as a form you can use to comment on the product documentation. Filling out a copy of the *Technical Support Form* before contacting National Instruments helps us help you better and faster.

National Instruments provides comprehensive technical assistance around the world. In the U.S. and Canada, applications engineers are available Monday through Friday from 8:00 a.m. to 6:00 p.m. (central time). In other countries, contact the nearest branch office. You may fax questions to us at any time.

Electronic Services

Bulletin Board Support

National Instruments has BBS and FTP sites dedicated for 24-hour support with a collection of files and documents to answer most common customer questions. From these sites, you can also download the latest instrument drivers, updates, and example programs. For recorded instructions on how to use the bulletin board and FTP services and for BBS automated information, call (512) 795-6990. You can access these services at:

- United States: (512) 794-5422 or (800) 327-3077
  Up to 14,400 baud, 8 data bits, 1 stop bit, no parity
- United Kingdom: 01635 551422
  Up to 9,600 baud, 8 data bits, 1 stop bit, no parity
- France: 1 48 65 15 59
  Up to 9,600 baud, 8 data bits, 1 stop bit, no parity

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FaxBack is a 24-hour information retrieval system containing a library of documents on a wide range of technical information. You can access FaxBack from a touch-tone telephone at the following number: (512) 418-1111.

FTP Support

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E-Mail Support (currently U.S. only)

You can submit technical support questions to the appropriate applications engineering team through e-mail at the Internet addresses listed below. Remember to include your name, address, and phone number so we can contact you with solutions and suggestions.

GPIB:	`gpib.support@natinst.com`
DAQ:	`daq.support@natinst.com`
VXI:	`vxi.support@natinst.com`
LabVIEW:	`lv.support@natinst.com`
LabWindows:	`lw.support@natinst.com`
HiQ:	`hiq.support@natinst.com`
Lookout:	`lookout.support@natinst.com`
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Fax and Telephone Support

National Instruments has branch offices all over the world. Use the list below to find the technical support number for your country. If there is no National Instruments office in your country, contact the source from which you purchased your software to obtain support.

	 **Telephone**	 **Fax**
Australia	03 9 879 9422	03 9 879 9179
Austria	0662 45 79 90 0	0662 45 79 90 19
Belgium	02 757 00 20	02 757 03 11
Canada (Ontario)	519 622 9310	
Canada (Quebec)	514 694 8521	514 694 4399
Denmark	45 76 26 00	45 76 26 02
Finland	90 527 2321	90 502 2930
France	1 48 14 24 24	1 48 14 24 14
Germany	089 741 31 30	089 714 60 35
Hong Kong	2645 3186	2686 8505
Italy	02 413091	02 41309215
Japan	03 5472 2970	03 5472 2977
Korea	02 596 7456	02 596 7455
Mexico	95 800 010 0793	5 520 3282
Netherlands	0348 433466	0348 430673
Norway	32 84 84 00	32 84 86 00
Singapore	2265886	2265887
Spain	91 640 0085	91 640 0533
Sweden	08 730 49 70	08 730 43 70
Switzerland	056 200 51 51	056 200 51 55
Taiwan	02 377 1200	02 737 4644
U.K.	01635 523545	01635 523154

Technical Support Form

Photocopy this form and update it each time you make changes to your software or hardware, and use the completed copy of this form as a reference for your current configuration. Completing this form accurately before contacting National Instruments for technical support helps our applications engineers answer your questions more efficiently.

If you are using any National Instruments hardware or software products related to this problem, include the configuration forms from their user manuals. Include additional pages if necessary.

Name _____

Company _____

Address _____

_____

Fax (_____)_____ Phone (_____)_____

Computer brand _____ Model _____ Processor _____

Operating system: Windows 3.1, Windows for Workgroups 3.11, Windows NT 3.1, Windows NT 3.5, Windows 95, other (include version number)_____

Clock Speed _____MHz RAM _____MB Display adapter _____

Mouse ___yes ___no Other adapters installed _____

Hard disk capacity _____MB Brand _____

Instruments used _____

National Instruments hardware product model _____ Revision _____

Configuration _____

National Instruments software product _____ Version _____

Configuration _____

The problem is _____

_____

_____

_____

List any error messages _____

_____

_____

_____

The following steps will reproduce the problem _____

_____

_____

_____

Hardware and Software Configuration Form

Record the settings and revisions of your hardware and software on the line to the right of each item. Complete a new copy of this form each time you revise your software or hardware configuration, and use this form as a reference for your current configuration. When you complete this form accurately before contacting National Instruments for technical support, our applications engineers can answer your questions more efficiently.

National Instruments Products

Data Acquisition Hardware Revision _____

Interrupt Level of Hardware _____

DMA Channels of Hardware _____

Base I/O Address of Hardware _____

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Microprocessor _____

Clock Frequency _____

Type of Video Board Installed _____

Operating System _____

Operating System Version _____

Operating System Mode _____

Programming Language _____

Programming Language Version _____

Other Boards in System _____

Base I/O Address of Other Boards _____

DMA Channels of Other Boards _____

Interrupt Level of Other Boards _____

Documentation Comment Form

National Instruments encourages you to comment on the documentation supplied with our products. This information helps us provide quality products to meet your needs.

Title: **LabWindows®/CVI Master Index**

Edition Date: **July 1996**

Part Number: **320687C-01**

Please comment on the completeness, clarity, and organization of the manual.

_____

_____

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If you find errors in the manual, please record the page numbers and describe the errors.

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Thank you for your help.

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