

LabWindows[®]/CVI

Master Index

July 1996 Edition

Part Number 320687C-01

**© Copyright 1994, 1996 National Instruments Corporation.
All rights reserved.**



Internet Support

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
VISA: visa.support@natinst.com
E-mail: info@natinst.com
FTP Site: ftp.natinst.com
Web Address: www.natinst.com



Bulletin Board Support

BBS United States: (512) 794-5422 or (800) 327-3077
BBS United Kingdom: 01635 551422
BBS France: 1 48 65 15 59



FaxBack Support

(512) 418-1111



Telephone Support (U.S.)

Tel: (512) 795-8248
Fax: (512) 794-5678



International Offices

Australia 03 9 879 9422, Austria 0662 45 79 90 0, Belgium 02 757 00 20,
Canada (Ontario) 519 622 9310, Canada (Québec) 514 694 8521, Denmark 45 76 26 00,
Finland 90 527 2321, France 1 48 14 24 24, Germany 089 741 31 30, Hong Kong 2645 3186,
Italy 02 413091, Japan 03 5472 2970, Korea 02 596 7456, Mexico 95 800 010 0793,
Netherlands 0348 433466, Norway 32 84 84 00, Singapore 2265886, Spain 91 640 0085,
Sweden 08 730 49 70, Switzerland 056 200 51 51, Taiwan 02 377 1200, U.K. 01635 523545

National Instruments Corporate Headquarters

6504 Bridge Point Parkway

Austin, TX 78730-5039

Tel: (512) 794-0100

Warranty

The media on which you receive National Instruments software are warranted not to fail to execute programming instructions, due to defects in materials and workmanship, for a period of 90 days from date of shipment, as evidenced by receipts or other documentation. National Instruments will, at its option, repair or replace software media that do not execute programming instructions if National Instruments receives notice of such defects during the warranty period. National Instruments does not warrant that the operation of the software shall be uninterrupted or error free.

A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. National Instruments will pay the shipping costs of returning to the owner parts which are covered by warranty.

National Instruments believes that the information in this manual is accurate. The document has been carefully reviewed for technical accuracy. In the event that technical or typographical errors exist, National Instruments reserves the right to make changes to subsequent editions of this document without prior notice to holders of this edition. The reader should consult National Instruments if errors are suspected. In no event shall National Instruments be liable for any damages arising out of or related to this document or the information contained in it.

EXCEPT AS SPECIFIED HEREIN, NATIONAL INSTRUMENTS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CUSTOMER'S RIGHT TO RECOVER DAMAGES CAUSED BY FAULT OR NEGLIGENCE ON THE PART OF NATIONAL INSTRUMENTS SHALL BE LIMITED TO THE AMOUNT THERETOFORE PAID BY THE CUSTOMER. NATIONAL INSTRUMENTS WILL NOT BE LIABLE FOR DAMAGES RESULTING FROM LOSS OF DATA, PROFITS, USE OF PRODUCTS, OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY THEREOF. This limitation of the liability of National Instruments will apply regardless of the form of action, whether in contract or tort, including negligence. Any action against National Instruments must be brought within one year after the cause of action accrues. National Instruments shall not be liable for any delay in performance due to causes beyond its reasonable control. The warranty provided herein does not cover damages, defects, malfunctions, or service failures caused by owner's failure to follow the National Instruments installation, operation, or maintenance instructions; owner's modification of the product; owner's abuse, misuse, or negligent acts; and power failure or surges, fire, flood, accident, actions of third parties, or other events outside reasonable control.

Copyright

Under the copyright laws, this publication may not be reproduced or transmitted in any form, electronic or mechanical, including photocopying, recording, storing in an information retrieval system, or translating, in whole or in part, without the prior written consent of National Instruments Corporation.

Trademarks

NI-DAQ[®], NI-488.2[™], and NI-488.2M[™], and NI-VXI[™] are trademarks of National Instruments Corporation.

Product and company names listed are trademarks or trade names of their respective companies.

WARNING REGARDING MEDICAL AND CLINICAL USE OF NATIONAL INSTRUMENTS PRODUCTS

National Instruments products are not designed with components and testing intended to ensure a level of reliability suitable for use in treatment and diagnosis of humans. Applications of National Instruments products involving medical or clinical treatment can create a potential for accidental injury caused by product failure, or by errors on the part of the user or application designer. Any use or application of National Instruments products for or involving medical or clinical treatment must be performed by properly trained and qualified medical personnel, and all traditional medical safeguards, equipment, and procedures that are appropriate in the particular situation to prevent serious injury or death should always continue to be used when National Instruments products are being used. National Instruments products are NOT intended to be a substitute for any form of established process, procedure, or equipment used to monitor or safeguard human health and safety in medical or clinical treatment.

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

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

Chapter 1 Introduction to LabWindows/CVI

Part I: Tutorial—Getting Acquainted with the LabWindows/CVI Development Environment

Chapter 2 Loading, Running, and Editing Source Code

Chapter 3 Interactive Code Generation Tools

Chapter 4 Executing and Debugging Tools

Part II: Tutorial—Building an Application in LabWindows/CVI

Chapter 5 Building a Graphical User Interface

Chapter 6 Using Function Panels and the Libraries

Chapter 7 Adding Analysis to Your Program

Chapter 8 Using an Instrument Driver

Chapter 9 Additional Exercises

Part III: Instrument Control, Data Acquisition, and LabWindows for DOS Conversions

Chapter 10 Getting Started with GPIB and VXI Instrument Control

Chapter 11 Getting Started with Data Acquisition

Chapter 12 Converting LabWindows for DOS Applications

LabWindows/CVI User Manual

Chapter 1 Configuring LabWindows/CVI

Chapter 2 LabWindows/CVI Overview

Chapter 3 Project Window

Chapter 4 Source, Interactive Execution, and Standard Input/Output Windows

- Chapter 5 Using Function Panels
- Chapter 6 Variable Display and Watch Windows
- Chapter 7 Array and String Display Windows
- Appendix A Source Window Keyboard Commands

LabWindows/CVI User Interface Reference Manual

- Chapter 1 User Interface Concepts
- Chapter 2 User Interface Editor Reference
- Chapter 3 Programming with the User Interface Library
- Chapter 4 User Interface Library Reference
- Chapter 5 LabWindows/CVI Sample Programs
- Appendix A Error Conditions

LabWindows/CVI Standard Libraries Reference Manual

- Chapter 1 ANSI C Library
- Chapter 2 Formatting and I/O Library
- Chapter 3 Analysis Library
- Chapter 4 GPIB and GPIB-488.2 Libraries
- Chapter 5 RS-232 Library
- Chapter 6 DDE Library
- Chapter 7 TCP Library
- Chapter 8 Utility Library
- Chapter 9 X Property Library

LabWindows/CVI Programmer Reference Manual

- Chapter 1 LabWindows/CVI Compiler
- Chapter 2 Using Loadable Compiled Modules
- Chapter 3 Building Multiplatform Applications
- Chapter 4 Creating and Distributing Standalone Executables
- Chapter 5 Distributing Libraries
- Appendix A Errors and Warnings
- Appendix B Error Checking in LabWindows/CVI

LabWindows/CVI Instrument Driver Developers Guide

- Chapter 1 Instrument Driver Overview
- Chapter 2 Developing an Instrument Driver
- Chapter 3 The Function Tree Editor
- Chapter 4 The Function Panel Editor
- Chapter 5 Adding Help Information
- Chapter 6 Programming Guidelines for Instrument Drivers
- Chapter 7 Required Instrument Driver Functions
- Chapter 8 Instrument Driver Example

LabWindows/CVI Advanced Analysis Library Reference Manual

- Chapter 1 Advanced Analysis Library Overview
- Chapter 2 Advanced Analysis Library Function Reference
- Appendix A Error Codes

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 <i>numeric/string control</i> .

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. $\text{Throughput Rate} = \text{Transfer Rate} - \text{Software Overhead Factor}$.
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.

Index

Numbers/Symbols

#line preprocessor directive, PRGREF: 1-5

* (asterisks) in format specifiers

 formatting functions, STDLIB: 2-39

 scanning functions, STDLIB: 2-48

<Control> key (SPARCstation),

 USER: 3-52

<filename> startup option (table),

 USER: 1-1

<FORWARD DELETE> key, multiplatform

 application considerations, PRGREF: 6-3

<Meta> key (SPARCstation), USER: 3-52

_cdecl calling convention qualifier,

 PRGREF: 1-6

__cdecl calling convention qualifier,

 PRGREF: 1-6

CVI macro, PRGREF: 1-4, USER: 3-48

_CVI_DEBUG_ macro, PRGREF: 1-4,

 USER: 3-48

_CVI_DLL_ macro, PRGREF: 1-5,

 USER: 3-49

_CVI_EXE_ macro, PRGREF: 1-4,

 USER: 3-49

_CVI_LIB_ macro, PRGREF: 1-5,

 USER: 3-49

__declspec(dllexport) calling convention

 qualifier, PRGREF: 1-6, 3-18

__declspec(dllimport) calling convention

 qualifier, PRGREF: 1-6

__DEFALIGN macro, PRGREF: 1-5,

 USER: 3-49

_export calling convention qualifier,

 PRGREF: 1-7

__export calling convention qualifier,

 PRGREF: 1-7

__FLAT__ macro, PRGREF: 1-5,

 USER: 3-49

__import calling convention qualifier,

 PRGREF: 1-7

__import calling convention qualifier,
 PRGREF: 1-7

__M_Ix86 macro, PRGREF: 1-5,

 USER: 3-49

__NI_BC_ macro, PRGREF: 1-5,

 USER: 3-49

__NI_i386_ macro, PRGREF: 1-4,

 USER: 3-48

__NI_mswin_ macro, PRGREF: 1-4, 6-1,

 USER: 3-48

__NI_mswin16_ macro, PRGREF: 1-4, 6-1,

 USER: 3-48

__NI_mswin32_ macro, PRGREF: 1-4, 1-5,

 6-1, USER: 3-48, 3-49

__NI_SC_ macro, PRGREF: 1-5,

 USER: 3-49

__NI_sparc_ macro, PRGREF: 1-4, 6-1,

 USER: 3-48

__NI_unix_ macro, PRGREF: 1-4, 6-1,

 USER: 3-48

__NI_VC_ macro, PRGREF: 1-5,

 USER: 3-49

__NI_WC_ macro, PRGREF: 1-5,

 USER: 3-49

__NT__ macro, PRGREF: 1-5, USER: 3-49

__stdcall calling convention qualifier,

 PRGREF: 1-6, 3-17

__stdcall calling convention qualifier,

 PRGREF: 1-6, 3-17 to 3-18, 3-20

__WIN32 macro, PRGREF: 1-5, USER: 3-49

__WIN32__ macro, PRGREF: 1-5,

 USER: 3-49

__WINDOWS macro, PRGREF: 1-5,

 USER: 3-49

1D array functions. *See* one-dimensional
array operation functions.

1D complex operation functions. *See* one-
dimensional complex operation functions.

2D array functions. *See* two-dimensional
array operation functions.

16-bit source code, converting to 32-bit source code, PRGREF: 1-9 to 1-10
16-bit Windows DLLs. *See* Microsoft Windows 16-bit DLLs.
32-bit Borland or Symantec compiled modules under Windows, PRGREF: 4-2 to 4-3
32-bit source code
 converting 16-bit source code to 32-bit source code, PRGREF: 1-9 to 1-10
 DLL calling directly back into 32-bit code, PRGREF: 4-12 to 4-14
32-bit Watcom compiled modules under Windows 3.1, PRGREF: 4-1 to 4-2
32-bit Windows DLLs. *See* Microsoft Windows 32-bit DLLs.

A

.a files, using with standalone executables, PRGREF: 7-8
About LabWindows/CVI command, Help menu, USER: 4-39
Abs1D function, ANLS: 2-1, STDLIB: 3-4 to 3-5
accessing physical memory. *See* physical memory access functions.
accessing window properties. *See* window properties, accessing.
ACDCEstimator function, ANLS: 2-1 to 2-2
AcquireData sample function
 adding to user interface, GS: 6-2
 assigning to Command button, GS: 5-6 to 5-7
action/status functions, instrument drivers, INST: 1-9
activate configuration option, USER: 1-3
Activate Panels When Resuming option, Run menu, USER: 4-31
Add File to Project command
 Edit menu
 adding instruments, GS: 8-12
 constructing projects, GS: 6-9
 illustration, GS: 2-5
 File menu, USER: 4-8, USRINT: 2-4

Add Files To DLL button, PRGREF: 7-12
Add Files To Executable button, PRGREF: 7-12
Add .FP File to Project command, File menu, USER: 5-7
Add Missing Includes command, Build menu, USER: 4-24
Add Program File to Project command, File menu, USER: 5-8
Add Watch Expression command
 Edit menu, USER: 6-8
 Options menu, USER: 6-3, 6-15
Add/Edit Watch Expression dialog box, USER: 6-3 to 6-4
Add1D function, ANLS: 2-2 to 2-3, STDLIB: 3-5
Add2D function, ANLS: 2-3, STDLIB: 3-5 to 3-6
Advanced Analysis Library functions
 error codes
 alphabetical list, ANLS: A-1 to A-3
 numeric list, ANLS: A-4 to A-6
 function panels
 array operation functions, ANLS: 1-2, 1-7
 array utility functions, ANLS: 1-8
 complex operation functions, ANLS: 1-3, 1-7
 curve fitting functions, ANLS: 1-6, 1-8
 function tree (table), ANLS: 1-1 to 1-7
 hints for using, ANLS: 1-8 to 1-9
 interpolation functions, ANLS: 1-6, 1-8
 measurement functions, ANLS: 1-5, 1-8
 signal generation functions, ANLS: 1-1 to 1-2, 1-7
 signal processing functions, ANLS: 1-3 to 1-5, 1-7
 statistics functions, ANLS: 1-5 to 1-6, 1-8
 vector and matrix algebra functions, ANLS: 1-6, 1-8

function reference

- Abs1D, ANLS: 2-1
- ACDCEstimator, ANLS: 2-1 to 2-2
- Add1D, ANLS: 2-2 to 2-3
- Add2D, ANLS: 2-3
- AllocIIRFilterPtr, ANLS: 2-5 to 2-6
- AmpPhaseSpectrum, ANLS: 2-4 to 2-5
- ANOVA1Way, ANLS: 2-6 to 2-11
- ANOVA2Way, ANLS: 2-11 to 2-19
- ANOVA3Way, ANLS: 2-19 to 2-29
- ArbitraryWave, ANLS: 2-30 to 2-31
- AutoPowerSpectrum, ANLS: 2-31 to 2-32
- BackSub, ANLS: 2-32 to 2-33
- Bessel_CascadeCoef, ANLS: 2-33 to 2-35
- Bessel_Coef, ANLS: 2-36 to 2-37
- BkmanWin, ANLS: 2-37
- BlkHarrisWin, ANLS: 2-36 to 2-37
- Bw_BPF, ANLS: 2-38
- Bw_BSF, ANLS: 2-39
- BW_CascadeCoef, ANLS: 2-40 to 2-41
- Bw_Coef, ANLS: 2-41 to 2-42
- Bw_HPF, ANLS: 2-42 to 2-43
- Bw_LPF, ANLS: 2-43 to 2-44
- CascadeToDirectCoef, ANLS: 2-44 to 2-45
- Ch_BPF, ANLS: 2-45 to 2-46
- Ch_BSF, ANLS: 2-46 to 2-47
- Ch_CascadeCoef, ANLS: 2-47 to 2-49
- Ch_Coef, ANLS: 2-49 to 2-50
- Ch_HPF, ANLS: 2-50 to 2-51
- Chirp, ANLS: 2-52 to 2-53
- Ch_LPF, ANLS: 2-51 to 2-52
- Clear1D, ANLS: 2-53
- Clip, ANLS: 2-54
- Contingency_Table, ANLS: 2-54 to 2-57
- Convolve, ANLS: 2-58 to 2-59
- Copy1D, ANLS: 2-59
- Correlate, ANLS: 2-59 to 2-60
- CosTaperedWin, ANLS: 2-60 to 2-61
- CrossPowerSpectrum, ANLS: 2-61 to 2-62
- CrossSpectrum, ANLS: 2-62 to 2-63
- CxAdd, ANLS: 2-63 to 2-64
- CxAdd1D, ANLS: 2-64 to 2-65
- CxDiv, ANLS: 2-65
- CxDiv1D, ANLS: 2-66
- CxExp, ANLS: 2-66 to 2-67
- CxLn, ANLS: 2-68
- CxLog, ANLS: 2-68 to 2-69
- CxMul, ANLS: 2-69
- CxMul1D, ANLS: 2-70
- CxPow, ANLS: 2-70 to 2-71
- CxRecip, ANLS: 2-71
- CxSqrt, ANLS: 2-72
- CxSub, ANLS: 2-72 to 2-73
- CxSub1D, ANLS: 2-73 to 2-74
- Decimate, ANLS: 2-74
- Deconvolve, ANLS: 2-75
- Determinant, ANLS: 2-76
- Difference, ANLS: 2-76 to 2-77
- Div1D, ANLS: 2-77 to 2-78
- Div2D, ANLS: 2-78
- DotProduct, ANLS: 2-79
- Elp_BPF, ANLS: 2-79 to 2-80
- Elp_BSF, ANLS: 2-80 to 2-81
- Elp_CascadeCoef, ANLS: 2-81 to 2-83
- Elp_Coef, ANLS: 2-83 to 2-84
- Elp_HPF, ANLS: 2-84 to 2-85
- Elp_LPF, ANLS: 2-85 to 2-86
- Equi_Ripple, ANLS: 2-86 to 2-89
- EquiRpl_BPF, ANLS: 2-89 to 2-90
- EquiRpl_BSF, ANLS: 2-91
- EquiRpl_HPF, ANLS: 2-92
- EquiRpl_LPF, ANLS: 2-93
- ExBkmanWin, ANLS: 2-94
- ExpFit, ANLS: 2-94 to 2-95
- ExpWin, ANLS: 2-96
- F_Dist, ANLS: 2-96 to 2-97
- FFT, ANLS: 2-97 to 2-98
- FHT, ANLS: 2-98 to 2-99
- FIR_Coef, ANLS: 2-99 to 2-100
- FlatTopWin, ANLS: 2-100
- ForceWin, ANLS: 2-101
- ForwSub, ANLS: 2-101 to 2-102

- FreeIIRFilterPtr, ANLS: 2-102
 - to 2-104
- GaussNoise, ANLS: 2-103 to 2-104
- GenCosWin, ANLS: 2-104
- GenLSFit, ANLS: 2-105 to 2-111
- GenLSFitCoef, ANLS: 2-112
 - to 2-113
- GetAnalysisErrorString,
ANLS: 2-113
- HamWin, ANLS: 2-114
- HanWin, ANLS: 2-114 to 2-115
- Histogram, ANLS: 2-115 to 2-116
- IIRCascadeFiltering, ANLS: 2-116
 - to 2-117
- IIRFiltering, ANLS: 2-118 to 2-119
- Impulse, ANLS: 2-119 to 2-120
- ImpulseResponse, ANLS: 2-120
- Integrate, ANLS: 2-121
- InvCh_BPF, ANLS: 2-122
- InvCh_BSF, ANLS: 2-123
- InvCh_CascadeCoef, ANLS: 2-124
 - to 2-125
- InvCh_Coef, ANLS: 2-125 to 2-126
- InvCh_HFP, ANLS: 2-126 to 2-127
- InvCh_LPF, ANLS: 2-127 to 2-128
- InvF_Dist, ANLS: 2-128 to 2-129
- InvFFT, ANLS: 2-129 to 2-130
- InvFHT, ANLS: 2-130 to 2-131
- InvMatrix, ANLS: 2-131 to 2-132
- InvN_Dist, ANLS: 2-132
- InvT_Dist, ANLS: 2-133
- InvXX_Dist, ANLS: 2-133 to 2-134
- Ksr_BPF, ANLS: 2-134 to 2-135
- Ksr_BSF, ANLS: 2-136 to 2-137
- Ksr_HPF, ANLS: 2-137 to 2-138
- Ksr_LPF, ANLS: 2-138 to 2-139
- Ksr_Win, ANLS: 2-139 to 2-140
- LinEqs, ANLS: 2-140 to 2-141
- LinEv1D, ANLS: 2-141 to 2-142
- LinEv2D, ANLS: 2-142 to 2-143
- LinFit, ANLS: 2-143 to 2-144
- LU, ANLS: 2-144 to 2-145
- MatrixMul, ANLS: 2-145 to 2-146
- MaxMin1D, ANLS: 2-146 to 2-147
- MaxMin2D, ANLS: 2-147 to 2-148
- Mean, ANLS: 2-148
- Median, ANLS: 2-149
- Mode, ANLS: 2-149 to 2-150
- Moment, ANLS: 2-150 to 2-151
- Mul1D, ANLS: 2-151 to 2-152
- Mul2D, ANLS: 2-152
- N-Dist, ANLS: 2-153
- Neg1D, ANLS: 2-153 to 2-154
- NetworkFunctions, ANLS: 2-154
 - to 2-156
- NonLinearFit, ANLS: 2-156
 - to 2-157
- Normal1D, ANLS: 2-157 to 2-158
- Normal2D, ANLS: 2-158 to 2-159
- PolyEv1D, ANLS: 2-159 to 2-160
- PolyEv2D, ANLS: 2-160 to 2-161
- PolyFit, ANLS: 2-162 to 2-163
- PolyInterp, ANLS: 2-163 to 2-164
- PowerFrequencyEstimate, ANLS:
2-164 to 2-166
- Prod1D, ANLS: 2-166 to 2-167
- Pulse, ANLS: 2-167 to 2-168
- PulseParam, ANLS: 2-168 to 2-169
- QScale1D, ANLS: 2-170
- QScale2D, ANLS: 2-170 to 2-171
- Ramp, ANLS: 2-171 to 2-172
- RatInterp, ANLS: 2-172 to 2-173
- ReFFT, ANLS: 2-174
- ReInvFFT, ANLS: 2-175
- ResetIIRFilter, ANLS: 2-176
- Reverse, ANLS: 2-177
- RMS, ANLS: 2-177 to 2-178
- SawtoothWave, ANLS: 2-178
 - to 2-179
- Scale1D, ANLS: 2-179
- Scale2D, ANLS: 2-180
- ScaledWindow, ANLS: 2-181
 - to 2-182
- Set1D, ANLS: 2-182 to 2-183
- Shift, ANLS: 2-183 to 2-184
- Sinc, ANLS: 2-184
- SinePattern, ANLS: 2-185
- SineWave, ANLS: 2-186 to 2-187
- Sort, ANLS: 2-187
- Spectrum, ANLS: 2-188
- SpectrumUnitConversion, ANLS:
2-188 to 2-191

- SpInterp, ANLS: 2-192 to 2-193
- Spline, ANLS: 2-193 to 2-194
- SquareWave, ANLS: 2-194 to 2-195
- StdDev, ANLS: 2-196
- Sub1D, ANLS: 2-196 to 2-197
- Sub2D, ANLS: 2-197 to 2-198
- Subset1D, ANLS: 2-198
- Sum1D, ANLS: 2-199
- Sum2D, ANLS: 2-199 to 2-200
- T_Dist, ANLS: 2-200 to 2-201
- ToPolar, ANLS: 2-201
- ToPolar1D, ANLS: 2-202
- ToRect, ANLS: 2-203
- ToRect1D, ANLS: 2-203 to 2-204
- Trace, ANLS: 2-204
- TransferFunction, ANLS: 2-205 to 2-206
- Transpose, ANLS: 2-206
- Triangle, ANLS: 2-206 to 2-207
- TriangleWave, ANLS: 2-207 to 2-208
- TriWin, ANLS: 2-208 to 2-209
- Uniform, ANLS: 2-209
- UnWrap1D, ANLS: 2-210
- Variance, ANLS: 2-210 to 2-211
- WhiteNoise, ANLS: 2-211 to 2-212
- Wind_BPF, ANLS: 2-212 to 2-213
- Wind_BSF, ANLS: 2-213 to 2-215
- Wind_HPF, ANLS: 2-215 to 2-216
- Wind_LPF, ANLS: 2-216 to 2-217
- XX_Dist, ANLS: 2-218
- status reporting, PRGREF: B-3
- AdviseDDEDataReady function, STDLIB: 6-6 to 6-8
- AIAcquireTriggeredWaveforms function, STDLIB: 10-8 to 10-13
- AIAcquireWaveforms function, STDLIB: 10-13 to 10-14
- AICheckAcquisition function, STDLIB: 10-15
- AIClearAcquisition function, STDLIB: 10-15
- AIReadAcquisition function, STDLIB: 10-16 to 10-17
- AISampleChannel function, GS: 11-3, STDLIB: 10-17 to 10-18
- AISampleChannels function, STDLIB: 10-18
- AISampleChannels, STDLIB: 10-18
- Channel String, STDLIB: 10-4 to 10-5
- AIStartAcquisition function, STDLIB: 10-19
- Align Horizontal Centers command
 - Arrange menu, USRINT: 2-21
 - Edit menu, INST: 4-5
- Alignment command
 - Arrange menu, USRINT: 2-20 to 2-21
 - Edit menu, INST: 4-5
- All Callbacks command, Generate menu, USRINT: 2-27
- All Code command
 - description, USRINT: 2-25 to 2-26
 - Generate All Code dialog box, USRINT: 2-25
- AllocBitmapData function, USRINT: 4-12 to 4-13
- AllocIIRFilterPtr function, ANLS: 2-5 to 2-6
- AllocImageBits function, USRINT: 4-14 to 4-15
- Alphabetize command, Select Function Panel dialog box, USER: 3-36
- Always Append Code to End option, Preferences command, USRINT: 2-30
- Always prompt before fixing pathnames option, USER: 3-55
- AmpPhaseSpectrum function, ANLS: 2-4 to 2-5
- analog input functions. *See also* Easy I/O for DAQ Library.
 - AIAcquireTriggeredWaveforms, STDLIB: 10-8 to 10-13
 - AIAcquireWaveforms, STDLIB: 10-33 to 10-34
 - AISampleChannel, STDLIB: 10-17 to 10-18
 - AISampleChannels, STDLIB: 10-18
 - Channel String, STDLIB: 10-4 to 10-5
- analog output functions. *See also* Easy I/O for DAQ Library.
 - AOCheckWaveforms, STDLIB: 10-20
 - AOClearWaveforms, STDLIB: 10-20
 - AOGenerateWaveforms, STDLIB: 10-21 to 10-22

- AOUpdateChannel, STDLIB: 10-22 to 10-23
- AOUpdateChannels, STDLIB: 10-23 to 10-24
- Channel String, STDLIB: 10-7
- Analysis command, Library menu, USER: 3-38 to 3-39
- Analysis Library
 - definition, USER: 3-38
 - status reporting by, PRGREF: B-3
- Analysis Library functions
 - error conditions, STDLIB: 3-37
 - function panels
 - classes and subclasses, STDLIB: 3-3
 - function tree (table), STDLIB: 3-1 to 3-2
 - hints for using, STDLIB: 3-3 to 3-4
 - function reference
 - Abs1D, STDLIB: 3-4 to 3-5
 - Add1D, STDLIB: 3-5
 - Add2D, STDLIB: 3-5 to 3-6
 - Clear1D, STDLIB: 3-6 to 3-7
 - Copy1D, STDLIB: 3-7
 - CxAdd, STDLIB: 3-7 to 3-8
 - CxAdd1D, STDLIB: 3-8 to 3-9
 - CxDiv, STDLIB: 3-9
 - CxDiv1D, STDLIB: 3-10
 - CxLinEv1D, STDLIB: 3-11
 - CxMul, STDLIB: 3-12
 - CxMul1D, STDLIB: 3-12 to 3-13
 - CxRecip, STDLIB: 3-13 to 3-14
 - CxSub, STDLIB: 3-14
 - CxSub1D, STDLIB: 3-15
 - Determinant, STDLIB: 3-16
 - Div1D, STDLIB: 3-16 to 3-17
 - Div2D, STDLIB: 3-17 to 3-18
 - DotProduct, STDLIB: 3-18
 - GetAnalysisErrorString, STDLIB: 3-19
 - Histogram, STDLIB: 3-19 to 3-20
 - InvMatrix, STDLIB: 3-20 to 3-21
 - LinEv1D, STDLIB: 3-21
 - LinEv2D, STDLIB: 3-22
 - MatrixMul, STDLIB: 3-23
 - MaxMin1D, STDLIB: 3-24
 - MaxMin2D, STDLIB: 3-24 to 3-25
 - Mean, STDLIB: 3-25 to 3-26
 - Mul1D, STDLIB: 3-26 to 3-27
 - Mul2D, STDLIB: 3-27
 - Neg1D, STDLIB: 3-28
 - Set1D, STDLIB: 3-28
 - Sort, STDLIB: 3-29
 - StdDev, STDLIB: 3-29 to 3-30
 - Sub1D, STDLIB: 3-30 to 3-31
 - Sub2D, STDLIB: 3-31
 - Subset1D, STDLIB: 3-32
 - ToPolar, STDLIB: 3-32 to 3-33
 - ToPolar1D, STDLIB: 3-33 to 3-34
 - ToRect, STDLIB: 3-34 to 3-35
 - ToRect1D, STDLIB: 3-35
 - Transpose, STDLIB: 3-36
 - overview, STDLIB: 3-1
 - reporting analysis errors, STDLIB: 3-4
- analysis of variance functions
 - ANOVA1Way, ANLS: 2-3
 - ANOVA2Way, ANLS: 2-11 to 2-19
 - ANOVA3Way, ANLS: 2-19 to 2-29
 - definition, ANLS: 1-8
 - function tree, ANLS: 1-6
- ANSI C command, Library menu, USER: 3-41
- ANSI C Library
 - available in LabWindows/CVI, GS: 1-4
 - C locale, STDLIB: 1-2 to 1-5
 - information values (table), STDLIB: 1-3
 - LC_COLLATE, STDLIB: 1-5
 - LC_CTYPE, STDLIB: 1-4 to 1-5
 - LC_MONETARY, STDLIB: 1-4
 - LC_NUMERIC, STDLIB: 1-4
 - LC_TIME, STDLIB: 1-5
 - character processing, STDLIB: 1-5
 - classes (table), STDLIB: 1-1 to 1-2
 - control functions, STDLIB: 1-7 to 1-9
 - definition, USER: 3-41
 - errno set by file I/O functions, STDLIB: 1-6
 - fdopen function, STDLIB: 1-9 to 1-10
 - include files, for Windows 95/NT, PRGREF: 3-9
 - input/output facilities, STDLIB: 1-6
 - low-level I/O functions, STDLIB: 1-2

- mathematical functions, STDLIB: 1-6
- standard language additions, STDLIB: 1-2 to 1-5
- status reporting by, PRGREF: B-6
- string processing, STDLIB: 1-5
- time and date functions, STDLIB: 1-6 to 1-7
- ANSI C macros, STDLIB: 1-2
- ANSI C specifications
 - compatibility of Source window, GS: 2-7
 - multiplatform application portability, PRGREF: 6-2
 - non-ANSI LabWindows/CVI compiler keywords, PRGREF: 1-5
 - using low-level I/O functions, PRGREF: 1-8
- Any Array data type, INST: 2-6
- Any Type data type, INST: 2-6
- AOCheckWaveforms function, STDLIB: 10-20
- AOClearWaveforms function, STDLIB: 10-20
- AOGenerateWaveforms function, STDLIB: 10-21 to 10-22
- AOSampleChannel function, GS: 11-4
- AOUpdateChannel function, STDLIB: 10-22 to 10-23
- AOUpdateChannels function, STDLIB: 10-23 to 10-24
- appFont option, USER: 1-6
- application functions
 - PREFIX_init and PREFIX_close functions not called by (note), INST: 1-10
 - purpose and use, INST: 1-9 to 1-10
- applications, creating, USER: 2-5 to 2-6
- Apply Default Font command, Edit menu, USRINT: 2-15
- ArbitraryWave function, ANLS: 2-30 to 2-31
- architecture. *See* instrument driver architecture.
- Arrange menu, User Interface Editor
 - Align Horizontal Centers command, USRINT: 2-21
 - Alignment command, USRINT: 2-20 to 2-21
 - Center Label command, USRINT: 2-22
 - Control Coordinates command, USRINT: 2-23
 - Control ZPlane Order command, USRINT: 2-22
 - Distribute Vertical Centers command, USRINT: 2-22
 - Distribution command, USRINT: 2-21 to 2-22
 - illustration, USRINT: 2-20
- array analysis operations
 - definition, ANLS: 1-7
 - performing analysis operations in place, ANLS: 1-9
- array data types, user-defined, INST: 2-8
- Array Display command, View menu, USER: 6-12, 7-1
- Array Display window
 - displayed in View menu, USER: 3-44
 - displaying arrays, GS: 4-8 to 4-9
 - Edit menu, USER: 7-5 to 7-7
 - editing arrays, GS: 4-10
 - File menu, USER: 7-4 to 7-5
 - Format menu, USER: 7-8
 - invoking, USER: 7-1
 - multi-dimensional arrays
 - illustration, USER: 7-2
 - Reset Indices dialog box, USER: 7-2 to 7-3
 - specifying dimensions, USER: 7-2
 - Options menu, USER: 7-9
 - purpose and use, USER: 2-4, 7-1
 - Run menu, USER: 7-9
 - single-dimensional array (figure), USER: 7-1
 - Window menu, USER: 7-9
- array indexing errors. *See* pointer protection errors.
- array operation functions
 - Abs1D, ANLS: 2-1, STDLIB: 3-4 to 3-5
 - Add1D, ANLS: 2-2 to 2-3, STDLIB: 3-5
 - Add2D, ANLS: 2-3, STDLIB: 3-5 to 3-6
 - definition, ANLS: 1-7

- Div1D, ANLS: 2-77 to 2-78, STDLIB: 3-16 to 3-17
- Div2D, ANLS: 2-78, STDLIB: 3-17 to 3-18
- function tree, ANLS: 1-2
- LinEv1D, ANLS: 2-141 to 2-142, STDLIB: 3-21
- LinEv2D, ANLS: 2-142 to 2-143, STDLIB: 3-22
- MaxMin1D, ANLS: 2-146 to 2-147, STDLIB: 3-24
- MaxMin2D, ANLS: 2-147 to 2-148, STDLIB: 3-24 to 3-25
- Mul1D, ANLS: 2-151 to 2-152, STDLIB: 3-26 to 3-27
- Mul2D, ANLS: 2-152, STDLIB: 3-27
- Neg1D, ANLS: 2-153 to 2-154, STDLIB: 3-28
- PolyEv1D, ANLS: 2-159 to 2-160
- PolyEv2D, ANLS: 2-160 to 2-161
- Prod1D, ANLS: 2-166 to 2-167
- QScale1D, ANLS: 2-170
- QScale2D, ANLS: 2-170 to 2-171
- Scale1D, ANLS: 2-179
- Scale2D, ANLS: 2-180
- Sub1D, ANLS: 2-196 to 2-197, STDLIB: 3-30 to 3-31
- Sub2D, ANLS: 2-197 to 2-198, STDLIB: 3-31
- Subset1D, ANLS: 2-198, STDLIB: 3-32
- Sum1D, ANLS: 2-199
- Sum2D, ANLS: 2-199 to 2-200
- array passing in glue code, PRGREF: 4-10
- array utility functions
 - Clear1D, ANLS: 2-53, STDLIB: 3-6 to 3-7
 - Copy1D, ANLS: 2-59, STDLIB: 3-7
 - definition, ANLS: 1-8
 - function tree, ANLS: 1-8
 - Set1D, ANLS: 2-182 to 2-183, STDLIB: 3-28
 - UnWrap1D, ANLS: 2-210
- arrays
 - declaring from function panels, GS: 8-8
 - displaying, GS: 4-8 to 4-9
 - editing, GS: 4-10
 - generating random array of data, GS: 6-3 to 6-4
- ArrayToFile function, STDLIB: 2-4 to 2-6
- ASCII keys, USRINT: 3-26, 4-157 to 4-158
- ASCII text format
 - loading objects into User Interface Editor window, USRINT: 2-34
 - saving contents of User Interface Editor window in, USRINT: 2-33
- Assign Missing Constants command, Options menu, USRINT: 2-33
- asterisks (*) in format specifiers
 - formatting functions, STDLIB: 2-39
 - scanning functions, STDLIB: 2-48
- asynchronous acquisition functions
 - AICheckAcquisition, STDLIB: 10-15
 - AIClearAcquisition, STDLIB: 10-15
 - AIReadAcquisition, STDLIB: 10-16 to 10-17
 - AIStartAcquisition, STDLIB: 10-19
 - PlotLastAIWaveformsPopup, STDLIB: 10-47
- asynchronous callbacks
 - compiled modules using, PRGREF: 2-5
 - notification of SRQ and other GPIB events, STDLIB: 4-12
 - restrictions with ibNotify function, STDLIB: 4-20
- asynchronous DLL functions, PRGREF: 4-11 to 4-12
- AT-DSP2200 Library (LabWindows for DOS), GS: 12-2
- Attach and Edit Source command, Edit Instrument dialog box, INST: 3-8, USER: 3-35
- ATTR_ACTIVATE_WHEN_CLICKED_ON, USRINT: 3-12
- ATTR_ACTIVE, USRINT: 3-12
- ATTR_ACTIVE_YAXIS, USRINT: 3-72
- ATTR_ALLOW_MISSING_CALLBACKS, USRINT: 3-86
- ATTR_ALLOW_ROOM_FOR_IMAGES, USRINT: 3-39
- ATTR_ALLOW_UNSAFE_TIMER_EVENTS, USRINT: 3-86

ATTR_BACKCOLOR, USRINT: 3-12
 ATTR_BINARY_SWITCH_COLOR,
 USRINT: 3-41
 ATTR_BORDER_VISIBLE, USRINT: 3-68
 ATTR_CALLBACK_DATA,
 USRINT: 3-12, 3-24, 3-32
 ATTR_CALLBACK_FUNCTION_POINTER,
 USRINT: 3-12, 3-24, 3-32
 ATTR_CALLBACK_NAME,
 USRINT: 3-12, 3-24, 3-32
 ATTR_CALLBACK_NAME_LENGTH,
 USRINT: 3-12, 3-24, 3-32
 ATTR_CAN_MAXIMIZE,
 USRINT: 3-12, 3-17
 ATTR_CAN_MINIMIZE,
 USRINT: 3-12, 3-17
 ATTR_CHECK_MODE, USRINT: 3-39
 ATTR_CHECK_RANGE,
 USRINT: 3-37, 3-51
 ATTR_CHECK_STYLE, USRINT: 3-40
 ATTR_CHECKED, USRINT: 3-25
 ATTR_CLOSE_CTRL, USRINT: 3-12
 ATTR_CLOSE_ITEM_VISIBLE,
 USRINT: 3-12, 3-17
 ATTR_CMD_BUTTON_COLOR,
 USRINT: 3-40
 ATTR_COLOR_MODE,
 USRINT: 3-89, 3-91
 ATTR_CONFORM_TO_SYSTEM,
 USRINT: 3-13
 ATTR_CONSTANT_NAME,
 USRINT: 3-13, 3-24, 3-32
 ATTR_CONSTANT_NAME_LENGTH,
 USRINT: 3-13, 3-24, 3-32
 ATTR_COPY_ORIGINAL_DATA,
 USRINT: 3-72, 3-84 to 3-85
 ATTR_CROSS_HAIR_STYLE,
 USRINT: 3-74, 3-78
 ATTR_CTRL_INDEX, USRINT: 3-37
 ATTR_CTRL_MODE, USRINT: 3-33
 ATTR_CTRL_STYLE, USRINT: 3-32,
 3-46 to 3-50
 ATTR_CTRL_TAB_POSITION,
 USRINT: 3-33
 ATTR_CTRL_VAL, USRINT: 3-33
 ATTR_CURSOR_COLOR, USRINT: 3-74
 ATTR_CURSOR_MODE, USRINT: 3-74
 ATTR_CURSOR_POINT_STYLE,
 USRINT: 3-74, 3-78 to 3-79
 ATTR_CURSOR_YAXIS, USRINT: 3-74
 ATTR_DATA_MODE,
 USRINT: 3-72, 3-84
 ATTR_DATA_TYPE, USRINT: 3-36, 3-50
 ATTR_DFLT_INDEX, USRINT: 3-37
 ATTR_DFLT_VALUE, USRINT: 3-37
 ATTR_DIG_DISP_HEIGHT,
 USRINT: 3-42
 ATTR_DIG_DISP_LEFT, USRINT: 3-42
 ATTR_DIG_DISP_TOP, USRINT: 3-42
 ATTR_DIG_DISP_WIDTH, USRINT: 3-42
 ATTR_DIMMED,
 USRINT: 3-13, 3-24, 3-32
 ATTR_DRAW_LIGHT_BEVEL,
 USRINT: 3-25
 ATTR_DRAW_POLICY,
 USRINT: 3-56, 3-57
 ATTR_DUPLEX, USRINT: 3-89, 3-90
 ATTR_EDGE_STYLE, USRINT: 3-68
 ATTR_EJECT_AFTER,
 USRINT: 3-89, 3-90
 ATTR_ENABLE_ZOOMING,
 USRINT: 3-72
 ATTR_ENABLED,
 USRINT: 3-44, 3-64, 3-65
 ATTR_ENTER_IS_NEWLINE,
 USRINT: 3-38
 ATTR_EXTRA_LINES, USRINT: 3-38
 ATTR_FILL_COLOR, USRINT: 3-42
 ATTR_FILL_HOUSING_COLOR,
 USRINT: 3-43
 ATTR_FILL_OPTION, USRINT: 3-43
 ATTR_FIRST_CHILD, USRINT: 3-13
 ATTR_FIRST_VISIBLE_LINE,
 USRINT: 3-39
 ATTR_FIT_MODE, USRINT: 3-44
 ATTR_FLOATING, USRINT: 3-13
 ATTR_FORMAT, USRINT: 3-37, 3-51
 ATTR_FRAME_COLOR,
 USRINT: 3-13, 3-34
 ATTR_FRAME_STYLE, USRINT: 3-13,
 3-18 to 3-19

ATTR_FRAME_THICKNESS,
 USRINT: 3-13
ATTR_FRAME_VISIBLE, USRINT: 3-44
ATTR_GRAPH_BGCOLOR,
 USRINT: 3-68
ATTR_GRID_COLOR, USRINT: 3-68
ATTR_HEIGHT, USRINT: 3-13, 3-33
ATTR_HILITE_CURRENT_ITEM,
 USRINT: 3-40
ATTR_HSCROLL_OFFSET,
 USRINT: 3-13, 3-38
ATTR_HSCROLL_OFFSET_MAX,
 USRINT: 3-13
ATTR_IMAGE_FILE, USRINT: 3-45
ATTR_IMAGE_FILE_LENGTH,
 USRINT: 3-45
ATTR_INCR_VALUE, USRINT: 3-37
ATTR_INNER_LOG_MARKERS_VISIBLE,
 USRINT: 3-68
ATTR_INTERPOLATE_PIXELS,
 USRINT: 3-75
ATTR_INTERVAL, USRINT: 3-44, 3-64
ATTR_IS_SEPARATOR, USRINT: 3-25
ATTR_ITEM_NAME, USRINT: 3-25
ATTR_ITEM_NAME_LENGTH,
 USRINT: 3-25
ATTR_LABEL_BGCOLOR,
 USRINT: 3-35
ATTR_LABEL_BOLD, USRINT: 3-34
ATTR_LABEL_COLOR, USRINT: 3-34
ATTR_LABEL_FONT, USRINT: 3-34
ATTR_LABEL_FONT_NAME_LENGTH,
 USRINT: 3-34
ATTR_LABEL_HEIGHT, USRINT: 3-35
ATTR_LABEL_ITALIC, USRINT: 3-34
ATTR_LABEL_JUSTIFY, USRINT: 3-35
ATTR_LABEL_LEFT, USRINT: 3-35
ATTR_LABEL_POINT_SIZE,
 USRINT: 3-34
ATTR_LABEL_RAISED, USRINT: 3-35
ATTR_LABEL_SIZE_TO_TEXT,
 USRINT: 3-35
ATTR_LABEL_STRIKEOUT,
 USRINT: 3-34
ATTR_LABEL_TEXT, USRINT: 3-34
ATTR_LABEL_TEXT_LENGTH,
 USRINT: 3-34
ATTR_LABEL_TOP, USRINT: 3-35
ATTR_LABEL_UNDERLINE,
 USRINT: 3-34
ATTR_LABEL_VISIBLE, USRINT: 3-34
ATTR_LABEL_WIDTH, USRINT: 3-35
ATTR_LEFT, USRINT: 3-14, 3-33
ATTR_LINE_STYLE, USRINT: 3-74, 3-79
ATTR_MARKER_END_ANGLE,
 USRINT: 3-43
ATTR_MARKER_START_ANGLE,
 USRINT: 3-43
ATTR_MARKER_STYLE, USRINT: 3-42
ATTR_MAX_ENTRY_LENGTH,
 USRINT: 3-38
ATTR_MAX_VALUE, USRINT: 3-37
ATTR_MENU_ARROW_COLOR,
 USRINT: 3-43
ATTR_MENU_BAR_VISIBLE,
 USRINT: 3-14
ATTR_MENU_HEIGHT, USRINT: 3-14
ATTR_MENU_NAME, USRINT: 3-25
ATTR_MENU_NAME_LENGTH,
 USRINT: 3-25
ATTR_MIN_VALUE, USRINT: 3-37
ATTR_MOUSE_CURSOR,
 USRINT: 3-14, 3-19
ATTR_MOVABLE, USRINT: 3-14
ATTR_NEEDLE_COLOR, USRINT: 3-42
ATTR_NEXT_CTRL, USRINT: 3-33
ATTR_NEXT_PANEL, USRINT: 3-14
ATTR_NO_EDIT_TEXT, USRINT: 3-40
ATTR_NSCROLL_OFFSET_MAX,
 USRINT: 3-37
ATTR_NUM_CHILDREN, USRINT: 3-14
ATTR_NUM_COPIES, USRINT: 3-89
ATTR_NUM_CTRL, USRINT: 3-14
ATTR_NUM_CURSORS, USRINT: 3-72
ATTR_NUM_MENU_ITEMS,
 USRINT: 3-25
ATTR_NUM_MENUS, USRINT: 3-25
ATTR_NUM_POINTS, USRINT: 3-75
ATTR_NUM_TRACES, USRINT: 3-73
ATTR_OFF_COLOR, USRINT: 3-41
ATTR_OFF_TEXT, USRINT: 3-41

ATTR_OFF_TEXT_LENGTH,
 USRINT: 3-41
 ATTR_OFF_VALUE, USRINT: 3-41
 ATTR_OFF_VALUE_LENGTH,
 USRINT: 3-41
 ATTR_ON_COLOR, USRINT: 3-41
 ATTR_ON_TEXT, USRINT: 3-41
 ATTR_ON_TEXT_LENGTH,
 USRINT: 3-41
 ATTR_ON_VALUE, USRINT: 3-41
 ATTR_ON_VALUE_LENGTH,
 USRINT: 3-41
 ATTR_ORIENTATION,
 USRINT: 3-89, 3-90
 ATTR_OVERLAPPED, USRINT: 3-33
 ATTR_OVERLAPPED_POLICY,
 USRINT: 3-56, 3-58
 ATTR_PANEL_FIRST_CTRL,
 USRINT: 3-14
 ATTR_PANEL_MENU_BAR_CONSTANT,
 USRINT: 3-14
 ATTR_PANEL_MENU_BAR_CONSTANT
 _LENGTH, USRINT: 3-14
 ATTR_PANEL_PARENT, USRINT: 3-14
 ATTR_PAPER_HEIGHT,
 USRINT: 3-89, 3-90
 ATTR_PAPER_WIDTH,
 USRINT: 3-89, 3-90
 ATTR_PARENT_SHARES_SHORTCUT
 _KEYS, USRINT: 3-14
 ATTR_PEN_COLOR, USRINT: 3-56
 ATTR_PEN_FILL_COLOR, USRINT: 3-56
 ATTR_PEN_MODE, USRINT: 3-56, 3-58
 ATTR_PEN_PATTERN, USRINT: 3-56,
 3-58 to 3-59
 ATTR_PEN_STYLE, USRINT: 3-56
 ATTR_PEN_WIDTH, USRINT: 3-57
 ATTR_PICT_BGCOLOR, USRINT: 3-44
 ATTR_PLOT_AREA_HEIGHT,
 USRINT: 3-68
 ATTR_PLOT_AREA_WIDTH,
 USRINT: 3-68
 ATTR_PLOT_BGCOLOR, USRINT: 3-68
 ATTR_PLOT_FONT, USRINT: 3-75
 ATTR_PLOT_FONT_NAME_LENGTH,
 USRINT: 3-75
 ATTR_PLOT_ORIGIN,
 USRINT: 3-75, 3-81
 ATTR_PLOT_SNAPPABLE,
 USRINT: 3-75
 ATTR_PLOT_STYLE,
 USRINT: 3-74, 3-80
 ATTR_PLOT_XDATA, USRINT: 3-76
 ATTR_PLOT_XDATA_SIZE,
 USRINT: 3-77
 ATTR_PLOT_XDATA_TYPE,
 USRINT: 3-76
 ATTR_PLOT_YAXIS, USRINT: 3-75
 ATTR_PLOT_YDATA, USRINT: 3-76
 ATTR_PLOT_YDATA_SIZE,
 USRINT: 3-77
 ATTR_PLOT_YDATA_TYPE,
 USRINT: 3-76
 ATTR_PLOT_ZDATA, USRINT: 3-76
 ATTR_PLOT_ZDATA_SIZE,
 USRINT: 3-77
 ATTR_PLOT_ZDATA_TYPE,
 USRINT: 3-76
 ATTR_PLOT_ZPLANE_POSITION,
 USRINT: 3-76
 ATTR_POINTS_PER_SCREEN,
 USRINT: 3-73
 ATTR_PRECISION, USRINT: 3-37
 ATTR_REFRESH_GRAPH,
 USRINT: 3-72, 3-83
 ATTR_REPORT_LOAD_FAILURE,
 USRINT: 3-86, 3-87
 ATTR_SCROLL_BAR_COLOR,
 USRINT: 3-14, 3-39
 ATTR_SCROLL_BAR_SIZE,
 USRINT: 3-39
 ATTR_SCROLL_BARS,
 USRINT: 3-15, 3-39
 ATTR_SCROLL_MODE, USRINT: 3-73
 ATTR_SHIFT_TEXT_PLOTS,
 USRINT: 3-73
 ATTR_SHORTCUT_KEY,
 USRINT: 3-25, 3-40
 ATTR_SHOW_DIG_DISP, USRINT: 3-42
 ATTR_SHOW_INCDEC_ARROWS,
 USRINT: 3-37

ATTR_SHOW_MORE_BUTTON,
 USRINT: 3-43
ATTR_SHOW_RADIX, USRINT: 3-37
ATTR_SHOW_TRANSPARENT,
 USRINT: 3-43
ATTR_SIZABLE, USRINT: 3-15
ATTR_SIZE_TO_TEXT, USRINT: 3-40
ATTR_SLIDER_COLOR, USRINT: 3-42
ATTR_SLIDER_HEIGHT, USRINT: 3-43
ATTR_SLIDER_WIDTH, USRINT: 3-43
ATTR_SMOOTH_UPDATE,
 USRINT: 3-73, 3-82, 3-84
ATTR_STRING_TEXT_LENGTH,
 USRINT: 3-38
ATTR_SUBIMAGE_HEIGHT,
 USRINT: 3-45
ATTR_SUBIMAGE_LEFT, USRINT: 3-45
ATTR_SUBIMAGE_TOP, USRINT: 3-45
ATTR_SUBIMAGE_WIDTH,
 USRINT: 3-45
ATTR_SUBMENU_ID, USRINT: 3-25
ATTR_SYSTEM_MENU_VISIBLE,
 USRINT: 3-15
ATTR_SYSTEM_WINDOW_HANDLE,
 USRINT: 3-15, 3-17
ATTR_TAB_INTERVAL, USRINT: 3-89
ATTR_TEXT_BGCOLOR, USRINT: 3-36
ATTR_TEXT_BOLD, USRINT: 3-35
ATTR_TEXT_CLICK_TOGGLES_CHECK,
 USRINT: 3-39, 3-40
ATTR_TEXT_COLOR, USRINT: 3-35
ATTR_TEXT_FONT, USRINT: 3-35
ATTR_TEXT_FONT_NAME_LENGTH,
 USRINT: 3-36
ATTR_TEXT_ITALIC, USRINT: 3-36
ATTR_TEXT_JUSTIFY, USRINT: 3-36
ATTR_TEXT_POINT_SIZE,
 USRINT: 3-36
ATTR_TEXT_RAISED, USRINT: 3-40
ATTR_TEXT_SELECTION_LENGTH,
 USRINT: 3-38
ATTR_TEXT_SELECTION_START,
 USRINT: 3-38
ATTR_TEXT_STRIKEOUT,
 USRINT: 3-36
ATTR_TEXT_UNDERLINE,
 USRINT: 3-36
ATTR_TEXT_WRAP, USRINT: 3-89
ATTR_TICK_STYLE, USRINT: 3-42
ATTR_TITLE, USRINT: 3-15
ATTR_TITLE_BACKCOLOR,
 USRINT: 3-15
ATTR_TITLE_BOLD, USRINT: 3-15
ATTR_TITLE_COLOR, USRINT: 3-15
ATTR_TITLE_FONT, USRINT: 3-15
ATTR_TITLE_FONT_NAME_LENGTH,
 USRINT: 3-15
ATTR_TITLE_ITALIC, USRINT: 3-15
ATTR_TITLE_LENGTH, USRINT: 3-15
ATTR_TITLE_POINT_SIZE,
 USRINT: 3-15
ATTR_TITLE_SIZE_TO_FONT,
 USRINT: 3-16
ATTR_TITLE_STRIKEOUT,
 USRINT: 3-16
ATTR_TITLE_UNDERLINE,
 USRINT: 3-16
ATTR_TITLEBAR_THICKNESS,
 USRINT: 3-16
ATTR_TITLEBAR_VISIBLE,
 USRINT: 3-16
ATTR_TOP, USRINT: 3-16, 3-33
ATTR_TOTAL_LINES, USRINT: 3-38
ATTR_TRACE_BGCOLOR,
 USRINT: 3-76
ATTR_TRACE_COLOR, USRINT: 3-74
ATTR_TRACE_POINT_STYLE, USRINT:
 3-74, 3-78 to 3-79
ATTR_TRACE_VISIBLE, USRINT: 3-74
ATTR_USE_SUBIMAGE, USRINT: 3-45
ATTR_VISIBLE, USRINT: 3-16, 3-33
ATTR_VISIBLE_LINES, USRINT: 3-39
ATTR_VSCROLL_OFFSET,
 USRINT: 3-16
ATTR_VSCROLL_OFFSET_MAX,
 USRINT: 3-16
ATTR_WIDTH, USRINT: 3-16, 3-33
ATTR_WINDOW_ZOOM,
 USRINT: 3-16, 3-17
ATTR_WRAP_MODE, USRINT: 3-38
ATTR_XAXIS_GAIN, USRINT: 3-69

- ATTR_XAXIS_OFFSET, USRINT: 3-69
ATTR_XCOORD_AT_ORIGIN,
 USRINT: 3-57
ATTR_XDIVISIONS, USRINT: 3-69
ATTR_XENG_UNITS, USRINT: 3-69
ATTR_XFORMAT, USRINT: 3-69
ATTR_XGRID_VISIBLE, USRINT: 3-69
ATTR_XLABEL_VISIBLE, USRINT: 3-69
ATTR_XMAP_MODE, USRINT: 3-73
ATTR_XMARK_ORIGIN, USRINT: 3-73
ATTR_XNAME, USRINT: 3-69
ATTR_XNAME_LENGTH, USRINT: 3-70
ATTR_XOFFSET, USRINT: 3-89, 3-90
ATTR_XPRECISION, USRINT: 3-70
ATTR_XRESOLUTION,
 USRINT: 3-89, 3-90
ATTR_XREVERSE, USRINT: 3-73
ATTR_XSCALING, USRINT: 3-57
ATTR_XUSE_LABEL_STRINGS,
 USRINT: 3-69
ATTR_XYLABEL_BOLD, USRINT: 3-70
ATTR_XYLABEL_COLOR,
 USRINT: 3-70
ATTR_XYLABEL_FONT, USRINT: 3-70
ATTR_XYLABEL_FONT_NAME_LENGTH,
 USRINT: 3-70
ATTR_XYLABEL_ITALIC,
 USRINT: 3-70
ATTR_XYLABEL_POINT_SIZE,
 USRINT: 3-71
ATTR_XYLABEL_STRIKEOUT,
 USRINT: 3-71
ATTR_XYLABEL_UNDERLINE,
 USRINT: 3-71
ATTR_XYNAME_BOLD, USRINT: 3-71
ATTR_XYNAME_COLOR, USRINT: 3-71
ATTR_XYNAME_FONT, USRINT: 3-71
ATTR_XYNAME_FONT_NAME_LENGTH,
 USRINT: 3-71
ATTR_XYNAME_ITALIC, USRINT: 3-71
ATTR_XYNAME_POINT_SIZE,
 USRINT: 3-71
ATTR_XYNAME_STRIKEOUT,
 USRINT: 3-71
ATTR_XYNAME_UNDERLINE,
 USRINT: 3-71
- ATTR_YAXIS_GAIN, USRINT: 3-69
ATTR_YAXIS_OFFSET, USRINT: 3-70
ATTR_YAXIS_REVERSE, USRINT: 3-70
ATTR_YCOORD_AT_ORIGIN,
 USRINT: 3-57
ATTR_YDIVISIONS, USRINT: 3-71
ATTR_YENG_UNITS, USRINT: 3-71
ATTR_YFORMAT, USRINT: 3-71
ATTR_YGRID_VISIBLE, USRINT: 3-72
ATTR_YLABEL_VISIBLE, USRINT: 3-72
ATTR_YMAP_MODE, USRINT: 3-72
ATTR_YMARK_ORIGIN, USRINT: 3-73
ATTR_YNAME, USRINT: 3-72
ATTR_YNAME_LENGTH, USRINT: 3-72
ATTR_YOFFSET, USRINT: 3-89, 3-90
ATTR_YPRECISION, USRINT: 3-72
ATTR_YRESOLUTION,
 USRINT: 3-89, 3-90
ATTR_YSCALING, USRINT: 3-57
ATTR_YUSE_LABEL_STRINGS,
 USRINT: 3-70
ATTR_ZPLANE_POSITION,
 USRINT: 3-16, 3-33
- attribute constants, selecting, USER: 5-12
to 5-13
- attributes
- canvas controls, USRINT: 3-56 to 3-59
 - ATTR_DRAW_POLICY values
(table), USRINT: 3-57
 - ATTR_OVERLAPPED_POLICY
values (table), USRINT: 3-58
 - ATTR_PEN_MODE values (table),
USRINT: 3-58
 - list of attributes (table), USRINT:
3-56 to 3-57
 - pixel values for
ATTR_PEN_PATTERN,
USRINT: 3-58 to 3-59
 - controls
 - ATTR_CHECK_RANGE values
(table), USRINT: 3-51
 - control data types for
ATTR_DATA_TYPE (table),
USRINT: 3-50

- control styles for
 - ATTR_CTRL_STYLE (table),
USRINT: 3-46 to 3-50
- list of attributes (table), USRINT:
3-32 to 3-33
- numeric formats for
 - ATTR_FORMAT (table),
USRINT: 3-51
- graph and strip chart controls
 - cursor styles for
 - ATTR_CROSSHAIR_STYLE
(table), USRINT: 3-78
 - discussion of specific attributes,
USRINT: 3-77 to 3-80
 - line styles for ATTR_LINE_STYLE
(table), USRINT: 3-79
 - list of attributes (table), USRINT:
3-68 to 3-77
 - plot origins, USRINT: 3-80 to 3-81
 - plot styles for ATTR_PLOT_STYLE
(table), USRINT: 3-80
 - styles for
 - ATTR_CURSOR_POINT_STYLE
and
ATTR_TRACE_POINT_STYLE
(table), USRINT: 3-78 to 3-79
 - two Y axes, USRINT: 3-81
 - values for ATTR_PLOT_ORIGIN
(table), USRINT: 3-81
- hard copy, USRINT: 3-89
- menu bars
 - constants for masking three bit fields
(table), USRINT: 3-28
 - menu and menu item attributes
(table), USRINT: 3-24 to 3-25
 - modifiers and virtual keys for
shortcut keys (table), USRINT:
3-26 to 3-27
- panels
 - color values (table), USRINT: 3-17
to 3-18
 - fonts, USRINT: 3-20 to 3-21
 - frame style values, USRINT: 3-18
 - geometric attributes (table),
USRINT: 3-18
 - list of attributes (table), USRINT:
3-12 to 3-16
 - values and cursor styles for
ATTR_MOUSE-CURSOR (table),
USRINT: 3-19
 - picture controls, USRINT: 3-52 to 3-53
 - appearance, USRINT: 3-51
 - giving picture controls visual impact,
USRINT: 3-51
 - setting user interface attributes
programmatically, GS: 9-3 to 9-4
 - system attributes, USRINT: 3-86 to 3-88
 - list of attributes (table),
USRINT: 3-86
 - reporting load failures, USRINT:
3-87 to 3-88
 - unsafe timer events, USRINT: 3-86
to 3-87
 - timer controls, USRINT: 3-64 to 3-65
- Auto Save Project command, File menu,
USER: 3-6
- Auto-Load List command, Edit menu,
PRGREF: 8-2
- automatic serial polling
 - compatibility, STDLIB: 4-8
 - hardware interrupts, STDLIB: 4-8 to 4-9
 - purpose and use, STDLIB: 4-7 to 4-8
- RQS events
 - ibInstallCallback function,
STDLIB: 4-17
 - ibNotify function, STDLIB: 4-19
- SRQI events
 - ibInstallCallback function,
STDLIB: 4-17
 - ibNotify function, STDLIB: 4-19
- AutoPowerSpectrum function, ANLS: 2-31
to 2-32
- autoscaling of graph plots, USRINT: 3-82
to 3-83
- axis label string functions
 - ClearAxisItems, USRINT: 4-46 to 4-47
 - DeleteAxisItem, USRINT: 4-55 to 4-56
 - function tree, USRINT: 4-5
 - GetAxisItem, USRINT: 4-82 to 4-83
 - GetAxisItemLabelLength, USRINT:
4-83 to 4-84

- GetNumAxisItems, USRINT: 4-111
 - InsertAxisItem, USRINT: 4-128 to 4-129
 - ReplaceAxisItem, USRINT: 4-213 to 4-214
 - axis scale functions
 - function tree, USRINT: 4-5
 - GetAxisRange, USRINT: 4-84 to 4-85
 - GetAxisScalingMode, USRINT: 4-86 to 4-87
 - SetAxisRange, USRINT: 4-224 to 4-226
 - SetAxisScalingMode, USRINT: 4-223 to 4-224
- B**
- BackSub function, ANLS: 2-32 to 2-33
 - Balance command, Edit menu, USER: 4-12
 - base I/O address for data acquisition boards, GS: 11-2
 - BASIC programs, converting to C, GS: 12-1 to 12-2
 - basic statistics functions
 - definition, ANLS: 1-8
 - function tree, ANLS: 1-5 to 1-6
 - Histogram, ANLS: 2-115 to 2-116
 - Mean, ANLS: 2-148
 - Median, ANLS: 2-149
 - Mode, ANLS: 2-149 to 2-150
 - Moment, ANLS: 2-150 to 2-151
 - RMS, ANLS: 2-177 to 2-178
 - StdDev, ANLS: 2-196
 - Variance, ANLS: 2-210 to 2-211
 - batch drawing, canvas controls, USRINT: 3-54
 - Beep function, STDLIB: 8-5
 - Beginning/End of Selection command, View menu, USER: 4-19
 - Bessel_CascadeCoef function, ANLS: 2-33 to 2-35
 - Bessel_Coef function, ANLS: 2-36 to 2-37
 - bin directory (table), USER: 1-4
 - Binary command, Create menu, INST: 4-11 to 4-12
 - binary control parameters, specifying, USER: 5-5
 - binary controls
 - control label, INST: 4-11
 - Create Binary Control dialog box
 - available items, INST: 4-11
 - creating function window (example), INST: 4-24, 4-26
 - creating, INST: 4-11 to 4-12, 4-24
 - data type, INST: 4-11
 - default value, INST: 4-11
 - definition, INST: 4-11
 - Edit Binary Control dialog box, INST: 8-5
 - Edit On/Off Settings dialog box
 - available items, INST: 4-12
 - creating function window (example), INST: 4-24
 - Edit On/Off Settings dialog box, INST: 4-27
 - GPIB instrument driver example, INST: 8-5
 - Instrument Handle control example, INST: 8-4 to 8-5
 - parameter position, INST: 4-11
 - binary switch controls
 - definition, USRINT: 1-12
 - illustration, USRINT: 1-12
 - bit fields, Windows 32-bit DLLs, PRGREF: 3-5
 - bitmap, offscreen, USRINT: 3-55
 - bitmap functions
 - AllocBitmapData, USRINT: 4-12 to 4-13
 - DiscardBitmap, USRINT: 4-61
 - function tree, USRINT: 4-8
 - GetBimapData, USRINT: 4-87 to 4-89
 - GetBitmapFromFile, USRINT: 4-89 to 4-90
 - GetBitmapInfo, USRINT: 4-90 to 4-91
 - GetCtrlBitmap, USRINT: 4-92 to 4-93
 - GetCtrlDisplayBitmap, USRINT: 4-94 to 4-95
 - GetPanelDisplayBitmap, USRINT: 4-114 to 4-116

- NewBitmap, USRINT: 4-151 to 4-153
- SetCtrlBitmap, USRINT: 4-227 to 4-228
- bitmap objects, USRINT: 3-62 to 3-63
 - creating, extracting, or discarding, USRINT: 3-62
 - displaying or copying, USRINT: 3-63
 - retrieving image data, USRINT: 3-63
 - Windows metafiles, USRINT: 3-62 to 3-63
- BkmanWin function, ANLS: 2-37
- BlkHarrisWin function, ANLS: 2-36 to 2-37
- board control functions, GPIB, STDLIB: 4-3, 4-7
- Borland C/C++
 - Borland or Symantec 32-bit compiled modules under Windows, PRGREF: 4-2 to 4-3
 - creating 16-bit Windows DLLs, PRGREF: 4-21 to 4-22
 - creating object and library files for use in LabWindows/CVI, PRGREF: 3-14 to 3-15
- Bottom Edges option
 - Alignment command, USRINT: 2-21
 - Distribution command, USRINT: 2-21
- Bracket Styles command, Options menu, USER: 4-35
- brackets
 - finding pairs of, USER: 4-12
 - setting location for, USER: 4-35
- Break at First Statement command, Run menu
 - Project window, USER: 3-28
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-26, 4-29
 - step mode execution, GS: 4-2
- break on library error functions
 - DisableBreakOnLibraryErrors, STDLIB: 8-11 to 8-12
 - EnableBreakOnLibraryErrors, STDLIB: 8-15
 - GetBreakOnLibraryErrors, STDLIB: 8-17
 - GetBreakOnProtectionErrors, STDLIB: 8-18
 - SetBreakOnLibraryErrors, STDLIB: 8-63 to 8-64
 - SetBreakOnProtectionErrors, STDLIB: 8-64 to 8-65
- Break on Library Errors option, PRGREF: 1-15 to 1-16, 7-16, B-1, USER: 3-51
- Breakpoint function, STDLIB: 8-6, USER: 4-25
- breakpoints, GS: 4-3 to 4-5. *See also* watch variables/expressions.
 - applicable only in source code modules (note), USER: 4-26
 - breakpoint on error, GS: 4-3
 - breakpoint state, USER: 4-26
 - conditional, GS: 4-3, USER: 4-27
 - definition, GS: 4-3
 - Edit Breakpoint dialog box, USER: 4-30 to 4-31
 - invoking, GS: 4-3
 - manual, GS: 4-3, 4-5
 - programmatic, GS: 4-3 to 4-4
 - purpose and use, USER: 4-25 to 4-26
 - resuming execution, USER: 4-26
 - setting and clearing, USER: 4-26
- Breakpoints command, Run menu, USER: 3-28, 4-26, 4-30 to 4-31
- Breakpoints dialog box. *See also* Edit Breakpoint dialog box.
 - Add/Edit Item button, USER: 4-30
 - Delete Item button, USER: 4-31
 - Disable All button, USER: 4-31
 - Enable All button, USER: 4-31
 - Go to Line button, USER: 4-31
 - illustration, USER: 4-30
 - OK button, USER: 4-31
- Bring Panel to Front command, View menu, USRINT: 2-19
- Bring Standard Input/Output window to front option, USER: 3-52
- BroadcastDDEDataReady function, STDLIB: 6-8 to 6-9
- buffer retention by DLL glue code, PRGREF: 4-11 to 4-12
- Build Error window, GS: 2-6, PRGREF: 1-4, USER: 3-48

- build errors
 - Build Errors in Next File command, USER: 4-24
 - Next Build Error command, USER: 4-24
 - Previous Build Error command, USER: 4-24
- Build Errors command, Window menu, GS: 2-6, USER: 3-43
- Build Errors in Next File command, View menu, USER: 4-24
- Build menu
 - Project window
 - Build Project command, USER: 3-11
 - Compile File command, USER: 3-11
 - Compiler Defines command, PRGREF: 1-4
 - Create Distribution Kit command, PRGREF: 7-1, 7-8, USER: 3-21 to 3-27
 - Create Dynamic Link Library command, USER: 3-15 to 3-18
 - Create Standalone Executable command, USER: 3-14 to 3-15
 - Create Static Library command, USER: 3-18 to 3-19
 - External Compiler Support command, PRGREF: 3-10, USER: 3-19 to 3-20
 - illustration, USER: 3-10
 - Instrument Driver Support Only command, USER: 3-12 to 3-13
 - Link Project command, USER: 3-11
 - Mark All for Compilation command, USER: 3-12
 - Mark File for Compilation command, USER: 3-11
 - overview, GS: 2-4
 - Target command, PRGREF: 3-16, 3-17, 3-21, USER: 3-12
 - Update Program Files from Disk command, USER: 3-11
 - Source, Interactive Execution, and Standard Input/Output windows
 - Add Missing Includes command, USER: 4-24
 - Build Project command, USER: 4-23
 - Clear Interactive Declarations command, USER: 4-4, 4-23 to 4-24
 - Compile File command, USER: 4-23
 - Generate Prototypes command, USER: 4-24
 - illustration, USER: 4-22
 - Insert Include Statements command, USER: 4-24
 - Link Project command, USER: 4-23
 - Mark File for Compilation command, USER: 4-23
 - Next Build Error command, USER: 4-24
 - Previous Build Error command, USER: 4-24
 - Build Project command, Build menu
 - Project window, USER: 3-11
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-23
 - building graphical user interface. *See* graphical user interface (GUI), building.
 - building platform-independent applications. *See* multiplatform applications, building.
 - bulletin board support, GS: A-1, INST: B-1, PRGREF: C-1, USER: B-1, USRINT: B-1
 - bus control functions, GPIB Library, STDLIB: 4-3
 - Button Bar option, Find command
 - Array and String Display windows, USER: 7-6 to 7-7
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-15 to 4-16
 - Variable Display window, USER: 6-7
 - buttons, adding and positioning on toolbar, USER: 4-2
 - Bw_BPF function, ANLS: 2-38
 - Bw_BSF function, ANLS: 2-39
 - BW_CascadeCoef function, ANLS: 2-40 to 2-41
 - Bw_Coef function, ANLS: 2-41 to 2-42
 - Bw_HPF function, ANLS: 2-42 to 2-43
 - Bw_LPF function, ANLS: 2-43 to 2-44
 - byte count variable (ibcntl), STDLIB: 4-6

C

.c files. *See* source files.

C language extensions

calling conventions (Windows 95/NT),

PRGREF: 1-6 to 1-7

import and export qualifiers,

PRGREF: 1-6 to 1-7

C++-style comment markers,

PRGREF: 1-7

duplicate typedefs, PRGREF: 1-7

non-ANSI C standard keywords,

PRGREF: 1-5

program entry points (Windows),

PRGREF: 1-8

structure packing pragma (Windows),

PRGREF: 1-7 to 1-8

C library, PRGREF: 1-8

C locale, STDLIB: 1-2 to 1-5

information values (table), STDLIB: 1-3

LC_COLLATE, STDLIB: 1-5

LC_CTYPE, STDLIB: 1-4 to 1-5

LC_MONETARY, STDLIB: 1-4

LC_NUMERIC, STDLIB: 1-4

LC_TIME, STDLIB: 1-5

C++ style comment markers, PRGREF: 1-7

cables. *See* RS-232 cables.

Callback Function field

Edit Control dialog box, USRINT: 2-11

Edit Menu Bar dialog box, USRINT: 2-9

Edit Panel dialog box, USRINT: 2-10

callback functions

adding to Save button, GS: 9-6

adding with CodeBuilder, GS: 7-3 to 7-4

assigning

controls, USRINT: 1-3

User Interface Editor vs.

programmatic method,

USRINT: 3-2

associated with close controls (note),

USRINT: 2-25

avoiding longjmp function (note),

USRINT: 3-7

compiled modules using asynchronous

callbacks, PRGREF: 2-5

connecting source code with Command
button, GS: 5-6

DDE Library functions, STDLIB: 6-2
to 6-4

DDE transaction types (table),

STDLIB: 6-4

example using Excel, STDLIB: 6-5

to 6-6

parameter prototypes (table),

STDLIB: 6-3

diagram of callback function concept,

USRINT: 3-5

direct callback by DLLs, PRGREF: 4-12

to 4-14

example program, USRINT: 5-3

function reference

function tree, USRINT: 4-6 to 4-7

InstallCtrlCallback, USRINT: 4-133

to 4-134

InstallMainCallback, USRINT: 3-92

to 3-93, 4-135 to 4-136

InstallMenuCallback, USRINT:

4-136 to 4-137

InstallMenuDimmerCallback,

USRINT: 4-137 to 4-138

InstallPanelCallback, USRINT:

4-138 to 4-139

PostDeferredCall, USRINT: 3-94,

4-189 to 4-190

generating code for

All Callbacks command,

USRINT: 2-27

Control Callbacks command,

USRINT: 2-28

Main Function command, USRINT:

2-26 to 2-27

Menu Callbacks command,

USRINT: 2-28

Panel Callbacks command,

USRINT: 2-28

GPIO/GPIB-488.2 Libraries

function tree, STDLIB: 4-3

ibInstallCallback, STDLIB: 4-12,

4-14 to 4-17

- ibNotify, STDLIB: 4-12, 4-17 to 4-20
- Windows NT and Windows 95
 - asynchronous callbacks, STDLIB: 4-12
 - driver version requirements, STDLIB: 4-12
 - ibInstallCallback, STDLIB: 4-14 to 4-17
 - ibNotify function, STDLIB: 4-17 to 4-20
 - synchronous callbacks, STDLIB: 4-12
- locating with CodeBuilder, GS: 7-5 to 7-6
- precedence of callback functions, USRINT: 3-91 to 3-92
- processing events
 - control events, USRINT: 3-31
 - example, GS: 9-6 to 9-7
 - menu bar events, USRINT: 3-23
 - panel events, USRINT: 3-11
- pseudocode example, USRINT: 3-6 to 3-7
- purpose and use, USRINT: 1-2
- responding to user interface events, USRINT: 3-5 to 3-7
- RS-232 Library
 - function tree, STDLIB: 5-2
 - InstallComCallback, STDLIB: 5-22 to 5-25
- specifying location for CodeBuilder generation, GS: 7-2
- status change notification for compiled modules, PRGREF: 2-4 to 2-5
- swallowing events, USRINT: 3-92
- TCP Library functions
 - overview, STDLIB: 7-2 to 7-3
 - TCP transaction types (table), STDLIB: 7-3
- timer callbacks, USRINT: 3-64
- using InstallMainCallback, USRINT: 3-92 to 3-93
- windows interrupt support functions
 - function tree, USRINT: 4-7
 - GetCVITaskHandle, USRINT: 4-98
 - GetCVIWindowHandle, USRINT: 4-98 to 4-99
 - RegisterWinMsgCallback, USRINT: 4-210 to 4-212
 - UnRegisterWinMsgCallback, USRINT: 4-229
 - writing, GS: 7-5 to 7-8
- X Property Library functions
 - InstallXPropertyCallback, STDLIB: 9-4, 9-25 to 9-27
 - overview, STDLIB: 9-4
 - UninstallXPropertyCallback, STDLIB: 9-4, 9-33
- callback references, resolving (Windows 95/NT)
 - from modules loaded at run-time, PRGREF: 3-11 to 3-12
 - references to non-LabWindows/CVI symbols, PRGREF: 3-11
 - run-time module references to symbols not exported from DLL, PRGREF: 3-12
 - from .uir files, PRGREF: 3-9 to 3-10
 - linking to callback functions not exported from DLL, PRGREF: 3-10
- calling conventions (Windows 95/NT), PRGREF: 1-6 to 1-7
 - for exported functions, PRGREF: 3-17 to 3-18
 - import and export qualifiers, PRGREF: 1-6 to 1-7
- canvas controls, USRINT: 3-53 to 3-59
 - attributes, USRINT: 3-56 to 3-59
 - ATTR_DRAW_POLICY values (table), USRINT: 3-57
 - ATTR_OVERLAPPED_POLICY values (table), USRINT: 3-58
 - ATTR_PEN_MODE values (table), USRINT: 3-58
 - list of attributes (table), USRINT: 3-56 to 3-57
 - pixel values for
 - ATTR_PEN_PATTERN, USRINT: 3-58 to 3-59
 - background color, USRINT: 3-55

- batch drawing, USRINT: 3-54
- canvas coordinate system, USRINT: 3-54
- clipping, USRINT: 3-55
- example programs
 - canvas benchmark program, USRINT: 5-6
 - drawing on canvas control, USRINT: 5-6
 - pie chart, USRINT: 5-6
 - using canvas control as drawing port for mouse, USRINT: 5-6
- functions for drawing on canvas, USRINT: 3-53 to 3-54
- offscreen bitmap, USRINT: 3-55
- pens, USRINT: 3-55
- pixel values, USRINT: 3-56
- purpose and use, USRINT: 1-21
- canvas functions
 - CanvasClear, USRINT: 4-15 to 4-16
 - CanvasDefaultPen, USRINT: 4-16 to 4-17
 - CanvasDimRect, USRINT: 4-17 to 4-18
 - CanvasDrawArc, USRINT: 4-18 to 4-19
 - CanvasDrawBitmap, USRINT: 4-20 to 4-21
 - CanvasDrawLine, USRINT: 4-21 to 4-22
 - CanvasDrawLineTo, USRINT: 4-23
 - CanvasDrawOval, USRINT: 4-24 to 4-25
 - CanvasDrawPoint, USRINT: 4-25
 - CanvasDrawPoly, USRINT: 4-26 to 4-27
 - CanvasDrawRectangle, USRINT: 4-27 to 4-28
 - CanvasDrawRoundedRectangle, USRINT: 4-28 to 4-29
 - CanvasDrawText, USRINT: 4-30 to 4-31
 - CanvasDrawTextAtPoint, USRINT: 4-32 to 4-33
 - CanvasEndBatchDrawing, USRINT: 4-34
 - CanvasGetClipRect, USRINT: 4-35
 - CanvasGetPenPosition, USRINT: 4-35 to 4-36
 - CanvasGetPixel, USRINT: 4-36 to 4-37
 - CanvasGetPixels, USRINT: 4-37 to 4-39
 - CanvasInvertRect, USRINT: 4-39
 - CanvasScroll, USRINT: 4-40 to 4-41
 - CanvasSetClipRect, USRINT: 4-41 to 4-42
 - CanvasSetPenPosition, USRINT: 4-42
 - CanvasStartBatchDraw, USRINT: 4-43 to 4-44
 - CanvasUpdate, USRINT: 4-44 to 4-45
- function tree, USRINT: 4-5 to 4-6
- Cascade Windows command, Window menu, USER: 3-42
- CascadeToDirectCoef function, ANLS: 2-44 to 2-45
- Case Sensitive option, Find command Array and String Display windows, USER: 7-6
- Source, Interactive Execution, and Standard Input/Output windows, USER: 4-13
- Variable Display window, USER: 6-7
- Case Sensitive option, Find UIR Objects dialog box, USRINT: 2-18
- casting. *See* pointer casting.
- CatchProtectionFaults option, USER: 1-6
- cdecl calling convention, PRGREF: 1-6
- _cdecl calling convention qualifier, PRGREF: 1-6
- __cdecl calling convention qualifier, PRGREF: 1-6
- Center Label command, Arrange menu, USRINT: 2-22
- cfgdir configuration option, USER: 1-3 to 1-4
- Ch_BPF function, ANLS: 2-45 to 2-46
- Ch_BSF function, ANLS: 2-46 to 2-47
- Ch_CascadeCoef function, ANLS: 2-47 to 2-49
- Ch_Coef function, ANLS: 2-49 to 2-50
- Ch_HPF function, ANLS: 2-50 to 2-51
- Ch_LPF function, ANLS: 2-51 to 2-52
- Change Control Type command, Edit menu, INST: 4-5

- Change Format command, Options menu, USER: 5-21
- Change Input Control Type dialog box, INST: 4-28
- channel selection control, adding to project, GS: 9-2 to 9-3
- character processing, ANSI C, STDLIB: 1-5
- Character Select mode, USER: 4-6
- Chart Control Instrument Driver, DAQ, GS: 11-5
- Check Disk Dates Before Each Run option, PRGREF: 4-4, USER: 3-51
- Check for Valid ViBoolean Parameter utility function, INST: 6-3
- Check for Valid ViInt16 Parameter utility function, INST: 6-3
- Check for Valid ViInt32 Parameter utility function, INST: 6-3
- Check for Valid ViReal64 Parameter utility function, INST: 6-3
- Checked field, Edit Menu Bar dialog box, USRINT: 2-9
- CheckListItem function, USRINT: 4-45 to 4-46
- child panel
 - example program, USRINT: 5-4
 - purpose and use, USRINT: 3-11
- child structure, USER: 6-2
- child structure pointer in chain (figure), USER: 6-11
- Chirp function, ANLS: 2-52 to 2-53
- chi-square tests, ANLS: 2-55 to 2-56
- Class command, Create menu, INST: 3-5
- classes
 - ANSI C Library, STDLIB: 1-1 to 1-2
 - function trees
 - adding new classes, INST: 3-5
 - creating multiple classes (example), INST: 3-12 to 3-13
 - help information, INST: 5-4 to 5-5, 6-14
 - inserting into existing tree, INST: 3-5
 - number of functions and classes allowed (note), INST: 3-5
- clear functions, GPIB-488.2 Library, STDLIB: 4-3
- Clear Interactive Declarations command
 - Build menu, USER: 4-4, 4-23 to 4-24
 - Code menu, USER: 5-10
- Clear Tags command, View menu, USER: 4-19
- Clear Window command, Edit menu, USER: 4-4, 4-11
- ClearID function, ANLS: 2-53, STDLIB: 3-6 to 3-7
- ClearAxisItems function, USRINT: 4-46 to 4-47
- ClearListCtrl function, USRINT: 4-47
- ClearStripChart function, USRINT: 4-47 to 4-48
- ClientDDEExecute function, STDLIB: 6-10
- ClientDDERead function, STDLIB: 6-10 to 6-11
- ClientDDEWrite function, STDLIB: 6-12 to 6-13
- clients and servers
 - DDE Library functions, STDLIB: 6-2
 - TCP Library functions, STDLIB: 7-2
- ClientTCPRead function, STDLIB: 7-3 to 7-4
- ClientTCPWrite function, STDLIB: 7-4 to 7-5
- Clip function, ANLS: 2-54
- clipboard functions
 - ClipboardGetBitmap, USRINT: 4-48 to 4-49
 - ClipboardGetText, USRINT: 4-49
 - ClipboardPutBitmap, USRINT: 4-49 to 4-50
 - ClipboardPutText, USRINT: 4-50
 - example program, USRINT: 5-6
 - function tree, USRINT: 4-8
- clipping, canvas controls, USRINT: 3-55
- Close All command, Window menu, USER: 3-43
- Close command, File menu
 - Array and String Display windows, USER: 7-5
 - closing files in Source window, GS: 2-8

- Function Panel windows, USER: 5-7
- User Interface Editor, USRINT: 2-4
- close function for instrument drivers
 - definition, INST: 1-9
 - PREFIX_close, INST: 7-4
 - RS-232 instruments, INST: 6-17
- close functions
 - GPIO and GPIO-488.2 Libraries, STDLIB: 4-2
 - RS-232 Library, STDLIB: 5-1
- Close Libraries command
 - Code menu, USER: 5-10
 - Run menu, USER: 4-29
- Close Variable command, View menu, USER: 6-2, 6-10
- CloseCom function, STDLIB: 5-8 to 5-9
- CloseCVIRTE function, PRGREF: 3-13 to 3-14, STDLIB: 8-6
- Closed Array, Variable Display window (figure), USER: 6-10
- CloseDev function, STDLIB: 4-6 to 4-7, 4-13
- CloseFile function, STDLIB: 2-7
- CloseInstrDevs function, STDLIB: 4-13
- Cls function, STDLIB: 8-7
- code. *See* source files.
- code generation
 - automatic. *See* CodeBuilder.
 - interactive. *See* interactive code generation tools.
- Code menu
 - Function Panel windows
 - Clear Interactive Declarations command, USER: 5-10
 - Close Libraries command, USER: 5-10
 - Declare Variable command, GS: 7-7, 8-8, USER: 5-4, 5-6, 5-9 to 5-10
 - Expression Value command, USER: 5-6, 5-17
 - illustration, USER: 5-8
 - Insert Function Call command, GS: 3-7, 6-8, 8-5, 8-6, 8-9, USER: 5-16 to 5-17
 - Run Function Panel command, GS: 8-5, 8-6, 8-9, USER: 5-8 to 5-9

- Select UI Constant command, GS: 6-6, USER: 5-10 to 5-14
- Select Variable command, USER: 5-14 to 5-16
- Set Target File command, GS: 3-7, 6-8, USER: 5-17
- Variable Value command, USER: 5-6, 5-17, 6-1, 7-3
- User Interface Editor
 - Generate submenu, USRINT: 2-24 to 2-28
 - All Callbacks command, USRINT: 2-27
 - All Code command, GS: 5-10, USRINT: 2-25 to 2-26
 - Control Callbacks command, USRINT: 2-28
 - enabled commands (note), USRINT: 2-24
 - Generate Code dialog box, USRINT: 2-24
 - illustration, USRINT: 2-24
 - Main Function command, USRINT: 2-26 to 2-27
 - Menu Callbacks command, USRINT: 2-28
 - Panel Callback command, USRINT: 2-28
 - illustration, USRINT: 2-23
 - Preferences command, USRINT: 2-20 to 2-30
 - Always Append Code to End option, USRINT: 2-30
 - Default Control Events option, USRINT: 2-30
 - Default Panel Events option, USRINT: 2-30
 - Set Target File command, USRINT: 2-23 to 2-24
 - View command, USRINT: 2-28 to 2-29
- code modules
 - adding to projects, USER: 3-8
 - listing in Project window, USER: 2-5
- CodeBuilder
 - adding control callback function, GS: 7-3 to 7-4
 - creating source code for GUI, USRINT: 1-4 to 1-5

- generating program shell, GS: 5-10 to 5-12
- locating FindMaxMin callback function, GS: 7-5 to 7-6
- overview, GS: 1-6, USRINT: 2-2 to 2-3
- color coding tokens in source and include files, USER: 4-36
- Color Preferences section, User Interface Editor Preferences dialog box, USRINT: 2-32
- Coloring tool, USRINT: 2-2
- colors
 - background color for canvas controls, USRINT: 3-55
 - common color values for panel attributes (table), USRINT: 3-17 to 3-18
 - example program
 - changing image colors, USRINT: 5-6
 - colors in list boxes, USRINT: 5-5
 - functions accepting RGB color values, USRINT: 4-10
 - generating with MakeColor function, USRINT: 4-146 to 4-147
 - multiplatform application
 - considerations, PRGREF: 6-3
 - RGB color values for drawing three-dimensional objects, USRINT: 4-79
- Colors command, Options menu
 - Project window, USER: 3-55 to 3-56
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-36
- Column Select mode, USER: 4-6
- ComBreak function, STDLIB: 5-9
- ComFromFile function, STDLIB: 5-3, 5-9 to 5-10
- Command button
 - adding for numeric control, GS: 7-3 to 7-5
 - adding to user interface, GS: 5-5 to 5-7
 - connecting with source code, GS: 5-6 to 5-7
- command button controls
 - definition, USRINT: 1-11
 - illustration, USRINT: 1-11
 - operating, USRINT: 1-11
- comment markers, C++ style, PRGREF: 1-7
- commit events
 - control modes for generating, USRINT: 1-3 to 1-4
 - hot, USRINT: 1-4
 - indicator, USRINT: 1-3
 - normal, USRINT: 1-3
 - validate, USRINT: 1-4
 - definition, USRINT: 1-2
 - placed in GetUserEvent queue after being sent to callbacks, USRINT: 3-92
 - tutorial exercises, GS: 7-8, 9-7
- common control panel, INST: 4-6, USER: 5-6
- communications functions. *See* RS-232 Library functions.
- CompareBytes function, STDLIB: 2-7 to 2-8
- CompareStrings function, STDLIB: 2-8 to 2-9
- comparing source files. *See* Diff command, Edit menu.
- Compatibility with option, PRGREF: 1-2
- compile errors, maximum number of, USER: 3-46
- Compile File command, Build menu
 - Project window, USER: 3-11
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-23
- compiled files, USER: 2-5
- compiled modules. *See* loadable compiled modules.
- compiler. *See also* compiler options.
 - C library issues, using low-level I/O functions, PRGREF: 1-8
- compiler defines, PRGREF: 1-4 to 1-5
- data types
 - allowable data types (table), PRGREF: 1-9
 - converting 16-bit code to 32-bit code, PRGREF: 1-9 to 1-10
- debugging levels, PRGREF: 1-10 to 1-11
- error messages, PRGREF: A-1 to A-58

- limits (table), PRGREF: 1-1
- non-ANSI C keywords, PRGREF: 1-5
- overview, PRGREF: 1-1
- user protection errors
 - general protection errors, PRGREF: 1-15
 - library protection errors, PRGREF: 1-15 to 1-16
 - memory corruption (fatal), PRGREF: 1-15
 - memory deallocation (non-fatal), PRGREF: 1-14
 - pointer arithmetic (non-fatal), PRGREF: 1-12
 - pointer assignment (non-fatal), PRGREF: 1-12
 - pointer casting (non-fatal), PRGREF: 1-14
 - pointer comparison (non-fatal), PRGREF: 1-13
 - pointer dereference errors (fatal), PRGREF: 1-13
 - pointer subtraction (non-fatal), PRGREF: 1-14
- compiler defines
 - predefined macros, USER: 3-48 to 3-49
 - for platform-dependent code, PRGREF: 1-4
 - for Windows 95 and NT, PRGREF: 1-4 to 1-5
 - syntax, PRGREF: 1-4, USER: 3-48
- Compiler Defines command
 - Build menu, PRGREF: 1-4
 - Options menu, PRGREF: 3-22
- compiler error messages, GS: 2-6
- compiler options
 - Compatibility with, PRGREF: 1-2
- compiled object modules
 - Borland C 4.x, PRGREF: 4-3
 - Symantec C++ 6.0, PRGREF: 4-2 to 4-3
 - Watcom, PRGREF: 4-2
- Default calling convention option, PRGREF: 1-2
- Display status dialog during build, PRGREF: 1-4, USER: 3-48
- Enable signed/unsigned pointer mismatch warning, PRGREF: 1-3, USER: 3-47
- Enable unreachable code warning, PRGREF: 1-3, USER: 3-47
- Maximum number of compile errors, PRGREF: 1-2, USER: 3-46
- Prompt for include file paths, PRGREF: 1-3 to 1-4, USER: 3-47
- Require function prototypes, PRGREF: 1-2, 2-2, 2-3, USER: 3-46 to 3-47, 4-4
- Require return values for non-void functions, PRGREF: 1-2 to 1-3, USER: 3-47
- Show Build Error window for warnings, PRGREF: 1-4, USER: 3-48
- Stop on first file with errors, PRGREF: 1-4, USER: 3-48
- Track include file dependencies, PRGREF: 1-3
- Compiler Options command, Options menu, PRGREF: 3-4, USER: 3-46
- Compiler Preferences command, Options menu, PRGREF: 1-2, 2-2, 2-3
- compiler support, external. *See* External Compiler Support dialog box.
- compiler/linker issues. *See* specific operating system, e.g., UNIX operating system.
- compiling files. *See* Build menu; compiler.
- complex operation functions
 - CxAdd, ANLS: 2-63 to 2-64, STDCALL: 3-7 to 3-8
 - CxAdd1D, ANLS: 2-64 to 2-65, STDCALL: 3-8 to 3-9
 - CxDiv, ANLS: 2-65, STDCALL: 3-9
 - CxDiv1D, ANLS: 2-66, STDCALL: 3-10
 - CxExp, ANLS: 2-66 to 2-67
 - CxLinEv1D, ANLS: 2-67 to 2-68, STDCALL: 3-11
 - CxLn, ANLS: 2-68
 - CxLog, ANLS: 2-68 to 2-69
 - CxMul, ANLS: 2-69, STDCALL: 3-12
 - CxMul1D, ANLS: 2-70, STDCALL: 3-12 to 3-13
 - CxPow, ANLS: 2-70 to 2-71

- CxRecip, ANLS: 2-71, STDLIB: 3-13 to 3-14
- CxSqrt, ANLS: 2-72
- CxSub, ANLS: 2-72 to 2-73, STDLIB: 3-14
- CxSub1D, ANLS: 2-73 to 2-74, STDLIB: 3-15
- definition, ANLS: 1-7
- function tree, ANLS: 1-3
- ToPolar, ANLS: 2-201, STDLIB: 3-32 to 3-33
- ToPolar1D, ANLS: 2-202, STDLIB: 3-33 to 3-34
- ToRect, ANLS: 2-203, STDLIB: 3-34 to 3-35
- ToRect1D, ANLS: 2-203 to 2-204, STDLIB: 3-35
- ComRd function, STDLIB: 5-11
- ComRdByte function, STDLIB: 5-12
- ComRdTerm function, STDLIB: 5-12 to 5-13
- ComSetEscape function, STDLIB: 5-14 to 5-15
- ComToFile function, STDLIB: 5-3, 5-15 to 5-16
- ComWrt function, STDLIB: 5-16 to 5-17
- ComWrtByte function, STDLIB: 5-17 to 5-18
- conditional breakpoints, GS: 4-3, USER: 4-27
- configuration
 - data acquisition boards, GS: 11-2 to 11-3 testing, GS: 11-3 to 11-4
 - GPIB driver software, GS: 10-2
 - instrument drivers, GS: 8-5 to 8-7
 - NI-DAQ driver software, GS: 11-2 to 11-3
 - Run-time Engine
 - cvidir option, PRGREF: 7-6 to 7-7
 - cvirtx option, PRGREF: 7-6
 - translating message file, PRGREF: 7-5
 - VXI driver software, GS: 10-5
- configuration functions
 - GPIB Library, STDLIB: 4-2
 - instrument drivers, INST: 1-8
 - configuration options
 - cfgdir, USER: 1-3 to 1-4
 - cvidir, USER: 1-4
 - resdir, USER: 1-4
 - tmpdir, USER: 1-5
 - UNIX, USER: 1-3
 - Windows 3.1, USER: 1-2
 - Windows 95/NT, USER: 1-2
- Configure function example
 - creating function panel window, INST: 8-4 to 8-10
 - writing, INST: 8-17 to 8-18
- ConfigurePrinter function, USRINT: 4-51
- confirm pop-up panel, USRINT: 1-23
- ConfirmPopup function, USRINT: 4-51 to 4-52
- ConnectToDDEServer function, STDLIB: 6-2, 6-13 to 6-15
- ConnectToTCPserver function, STDLIB: 7-5 to 7-7
- ConnectToXDisplay function, STDLIB: 9-3, 9-7 to 9-9
- Constant Name Assignment section, User Interface Editor Preferences dialog box, USRINT: 2-32 to 2-33
- Constant Name field
 - Edit Control dialog box, USRINT: 2-11
 - Edit Menu Bar dialog box, USRINT: 2-8 to 2-9
 - Edit Panel dialog box, USRINT: 2-9
- constant names, assigning
 - Assign Missing Constants command, Options menu, USRINT: 2-33
 - constant name separator (_), USRINT: 3-3
 - constant prefixes, USRINT: 3-2 to 3-3
 - controls, USRINT: 1-3, 3-3
 - menu bars, USRINT: 3-3
 - menu items, USRINT: 3-3
 - menus, USRINT: 3-3
 - rules for User Interface Editor, USRINT: 3-2 to 3-3
 - User Interface Editor method, USRINT: 3-2 to 3-3

- constant prefix, assigning
 - menus, USRINT: 3-3
 - panels, USRINT: 3-2 to 3-3
- constants
 - displaying in .uir file, GS: 6-6 to 6-7
 - user interface. *See* user interface constants, selecting.
- Contents command, Help menu, USER: 4-39
- context menus, Source window, USER: 4-43
- Contingency_Table function, ANLS: 2-54 to 2-57
- Continue command, Run menu
 - Project window, USER: 3-28
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-28
 - step mode execution, GS: 4-2
- Continue Execution command, Run menu, GS: 4-12
- ContinuousPulseGenConfig, STDLIB: 10-24 to 10-26
- Control Appearance section, Edit Label/Value Pairs dialog box, USRINT: 2-13
- control attributes. *See* attributes.
- Control Callback Events dialog box, GS: 5-10
- Control Callbacks command, Generate menu, USRINT: 2-28
- Control command
 - Edit menu, USRINT: 2-11 to 2-14. *See also* Edit Control dialog box.
 - Help menu, USER: 5-22
- Control Coordinates command, Arrange menu, USRINT: 2-23
- control functions. *See also* specific types of control functions.
 - ANSI C library, STDLIB: 1-7 to 1-9
 - error codes, STDLIB: 1-8
 - function reference
 - DefaultCtrl, USRINT: 4-54
 - DiscardCtrl, USRINT: 4-61 to 4-62
 - DuplicateCtrl, USRINT: 4-69 to 4-70
 - GetActiveCtrl, USRINT: 4-80
 - GetCtrlAttribute, USRINT: 4-91 to 4-92
 - GetCtrlBoundingRect, USRINT: 4-93 to 4-94
 - GetCtrlVal, USRINT: 4-96 to 4-97
 - NewCtrl, USRINT: 4-153 to 4-154
 - SetActiveCtrl, USRINT: 4-221
 - SetCtrlAttribute, USRINT: 4-226 to 4-227
 - SetCtrlVal, USRINT: 4-229 to 4-230
- programming overview
 - control attributes. *See* attributes.
 - functions applicable to all controls, USRINT: 3-28 to 3-29
 - list box and ring control functions, USRINT: 3-29 to 3-30
 - processing control events, USRINT: 3-31 to 3-32
 - text box functions, USRINT: 3-30 to 3-31
- RS-232 Library
 - ComBreak, STDLIB: 5-9
 - ComSetEscape, STDLIB: 5-14 to 5-15
 - FlushInQ, STDLIB: 5-18
 - SetComTime, STDLIB: 5-29
 - SetCTSMODE, STDLIB: 5-7, 5-30
 - SetXMode, STDLIB: 5-6, 5-31
- Control Help command, Edit menu, INST: 4-6
- <Control> key (SPARCstation), USER: 3-52
- Control Settings section, Edit Control dialog box, USRINT: 2-12
- Control Style command, Edit menu, USRINT: 2-16
- Control ZPlane Order command, Arrange menu, USRINT: 2-22
- controls, USRINT: 1-7 to 1-21. *See also* control functions.
 - activating, USRINT: 1-8
 - assigning callback functions, USRINT: 1-3
 - assigning constant names, USRINT: 1-3, 3-3
 - attributes. *See* attributes.

- binary switch, USRINT: 1-12
- canvas. *See* canvas controls.
- command button, USRINT: 1-11
- data types, USRINT: 1-8
 - for ATTR_DATA_TYPE, USRINT: 3-50
- decorations, USRINT: 1-16
- definition, USRINT: 1-7
- graph. *See* graph controls.
- LED, USRINT: 1-12
- list box, USRINT: 1-14 to 1-16
- numeric, USRINT: 1-8 to 1-9
- picture. *See* picture controls.
- processing control events, USRINT: 3-31 to 3-32
- ring, USRINT: 1-13 to 1-14
- string, USRINT: 1-9 to 1-10
- strip chart. *See* strip chart controls.
- text box, USRINT: 1-10 to 1-11
- text messages, USRINT: 1-10
- timer. *See* timer controls.
- toggle button, USRINT: 1-11 to 1-12
- types of controls, USRINT: 1-7 to 1-8
- converting 16-bit source code to 32-bit source code, PRGREF: 1-9 to 1-10
- converting LabWindows for DOS applications
 - conversion tools, GS: 12-1
 - functions with new behaviors, GS: 12-2 to 12-3
 - User Interface Library, GS: 12-2 to 12-3
 - Utility Library, GS: 12-3
- instrument drivers, GS: 12-6 to 12-8
 - function panels, GS: 12-7
 - header file, GS: 12-7
 - source code, GS: 12-8
- loadable compiled modules or external modules, GS: 12-8
- source code, GS: 12-4 to 12-6
- unsupported features, GS: 12-1 to 12-2
- user interface resource (.uir) files, GS: 12-3 to 12-4
- Convolve function, ANLS: 2-58 to 2-59
- Copy command, Edit menu, INST: 3-3, USER: 4-10, USRINT: 2-6
- Copy Controls command, Edit menu, INST: 4-4
- Copy Panel command, Edit menu, INST: 4-4, USRINT: 2-6
- Copy1D function, ANLS: 2-59, STDLIB: 3-7
- CopyBytes function, STDLIB: 2-9 to 2-10
- CopyFile function, STDLIB: 8-7 to 8-8
- copying and pasting
 - help text, INST: 5-9 to 5-10
 - utility routines, INST: 6-5 to 6-6
- CopyString function, STDLIB: 2-10
- core instrument driver. *See* instrument drivers, programming.
- Correlate function, ANLS: 2-59 to 2-60
- CosTaperedWin function, ANLS: 2-60 to 2-61
- Count control, GPIB, STDLIB: 4-6
- Count Variables (ibcnt, ibcntl), STDLIB: 4-6, 4-10
- CounterEventOrTimeConfig function, STDLIB: 10-26 to 10-29
- CounterMeasureFrequency function, STDLIB: 10-29 to 10-32
- CounterRead function, STDLIB: 10-32 to 10-33
- CounterStart function, STDLIB: 10-33
- CounterStop function, STDLIB: 10-34
- counter/timer functions. *See also* Easy I/O for DAQ Library.
 - ContinuousPulseGenConfig, STDLIB: 10-24 to 10-26
 - CounterEventOrTimeConfig, STDLIB: 10-26 to 10-29
 - CounterMeasureFrequency, STDLIB: 10-29 to 10-32
 - CounterRead, STDLIB: 10-32 to 10-33
 - CounterStart, STDLIB: 10-33
 - CounterStop, STDLIB: 10-34
 - DelayedPulseGenConfig, STDLIB: 10-34 to 10-36
 - FrequencyDividerConfig, STDLIB: 10-37 to 10-39
- ICounterControl, STDLIB: 10-45 to 10-47

- PulseWidthOrPeriodMeasConfig,
 - STDLIB: 10-48 to 10-49
 - valid counters (table), STDLIB: 10-7
- Create Binary Control dialog box
 - available options, INST: 4-11
 - creating function window (example),
 - INST: 4-24, 4-26
 - Edit On/Off Settings dialog box,
 - INST: 4-12
 - illustration, INST: 4-12
- Create Distribution Kit command, Build menu, PRGREF: 7-1, 7-8, USER: 3-21 to 3-27
- Create Distribution Kit dialog box, USER: 3-22 to 3-27
 - Build Information section, USER: 3-22 to 3-23
 - File Groups section, USER: 3-23 to 3-25
 - illustration, USER: 3-22
 - Installation Script File section, USER: 3-26 to 3-27
 - Main section, USER: 3-25
 - settings for VXIplug&playStyle command, USER: 3-22 to 3-27
- Create Dynamic Link Library command, PRGREF: 3-20, 7-16
- Create Dynamic Link Library command, Build menu, USER: 3-15
- Create Dynamic Link Library dialog box, USER: 3-16 to 3-18
 - Cancel button, USER: 3-18
 - DLL file field, USER: 3-16
 - Exports
 - Change button, USER: 3-17
 - Export What field, USER: 3-17
 - Include File Symbols option,
 - USER: 3-17
 - Symbols Marked for Export option,
 - USER: 3-17
 - Import Library Base Name field,
 - USER: 3-16
 - Import Library Choices button, USER: 3-16 to 3-17
 - OK button, USER: 3-18
 - Prompt before overwriting file checkbox, USER: 3-16
 - settings for VXIplug&playStyle command, INST: 3-10 to 3-11
 - Type Library button, USER: 3-17
 - Using LoadExternalModule
 - Add Files to DLL button,
 - USER: 3-17
 - Help button, USER: 3-17
- Create Global Variable Control dialog box, INST: 4-18 to 4-19
- Create Input Control dialog box
 - available options, INST: 4-7 to 4-8
 - creating function window (example),
 - INST: 4-25
 - illustration, INST: 4-7
- Create menu
 - Command button, GS: 7-3
 - Function Panel Editor, INST: 4-6 to 4-19. *See also* function panel controls.
 - available controls (figure), INST: 4-7
 - Binary command, INST: 4-11 to 4-12
 - Global Variable command, INST: 4-18 to 4-19
 - Input command, INST: 4-7 to 4-8
 - Message command, INST: 4-19
 - Numeric command, GS: 7-4, INST: 4-15 to 4-16
 - Output command, INST: 4-17
 - Return Value command, INST: 4-18
 - Ring command, INST: 4-12 to 4-14
 - Slide command, INST: 4-8 to 4-10
 - Function Tree Editor
 - available options, INST: 3-4
 - Class command, INST: 3-5
 - Function Panel Window command,
 - INST: 3-5 to 3-6
 - Instrument command, INST: 3-4
 - User Interface Editor
 - illustration, USER: 2-16
 - Menu Bars command,
 - USER: 2-16
 - Panel command, USER: 2-16
- Create Numeric Control dialog box, INST: 4-15 to 4-16

- Create Object File command, Options menu, PRGREF: 3-21, USER: 4-38 to 4-39
- Create Output Control dialog box, INST: 4-17
- Create Return Value Control dialog box, INST: 4-18
- Create Ring Control dialog box, INST: 4-12 to 4-13
- Create Slide Control dialog box
 - available options, INST: 4-8 to 4-9
 - creating function window example, INST: 4-25
 - Edit Label/Value Pairs dialog box, INST: 4-9 to 4-10
 - illustration, INST: 4-8
- Create Standalone Executable command, Build menu, USER: 3-14 to 3-15
- Create Standalone Executable dialog box, USER: 3-14 to 3-15
 - Application Executable File field, USER: 3-14
 - Application Icon File field, USER: 3-14
 - Application Title field, USER: 3-14
 - Cancel button, USER: 3-15
 - Icon control, USER: 3-14
 - OK button, USER: 3-15
 - Prompt before overriding executable file checkbox, USER: 3-15
 - Using LoadExternalModule item, USER: 3-15
 - Version Info button, USER: 3-15
- Create Standalone Executable File command, PRGREF: 3-16, 7-13 to 7-15
- Create Static Library command, PRGREF: 3-17, 3-21, USER: 3-18 to 3-19
- Create Static Library dialog box, USER: 3-18 to 3-19
 - Cancel button, USER: 3-19
 - Library File field, USER: 3-18
 - Library Generation Choices button, USER: 3-18
 - OK button, USER: 3-19
 - Prompt before overwriting file checkbox, USER: 3-18
- CreateMetaFont function, USRINT: 4-52 to 4-53
- CreateXProperty function, STDLIB: 9-3, 9-9 to 9-10
- CreateXPropType function, STDLIB: 9-3, 9-10 to 9-12
- creating
 - applications, USER: 2-5 to 2-6
 - loadable compiled modules. *See* loadable compiled modules.
 - object files, USER: 4-38 to 4-39
 - platform-independent applications. *See* multiplatform applications, building.
 - standalone executables. *See* standalone executables, creating and distributing.
 - user interface, USER: 2-6
 - Windows DLLs. *See* Microsoft Windows 16-bit DLLs; Microsoft Windows 32-bit DLLs.
- CrossPowerSpectrum function, ANLS: 2-61 to 2-62
- CrossSpectrum function, ANLS: 2-62 to 2-63
- curly braces
 - finding pairs of, USER: 4-12
 - setting location for, USER: 4-35
- Current Tree command, View menu, USER: 5-18
- cursor and mouse functions
 - function tree, USRINT: 4-4
 - GetActiveGraphCursor, USRINT: 4-80 to 4-81
 - GetCursorAttribute, USRINT: 4-97
 - GetGlobalMouseState, USRINT: 4-99 to 4-100
 - GetGraphCursor, USRINT: 4-100 to 4-101
 - GetGraphCursorIndex, USRINT: 4-101
 - GetMouseCursor, USRINT: 4-110
 - GetRelativeMouseState, USRINT: 4-118 to 4-119
 - GetWaitCursorState, USRINT: 4-127
 - SetActiveGraphCursor, USRINT: 4-221 to 4-222
 - SetCursorAttribute, USRINT: 4-230 to 4-231
 - SetGraphCursor, USRINT: 4-233
 - SetGraphCursorIndex, USRINT: 4-234

- SetMouseCursor, USRINT: 4-241 to 4-242
- SetWaitCursor, USRINT: 4-248 to 4-249
- cursors
 - cursor styles for
 - ATTR_CROSSHAIR_STYLE (table), USRINT: 3-78
 - example program, USRINT: 5-3
 - keyboard operation
 - cursor selection (table), USRINT: 1-17 to 1-18
 - free-form cursors (table), USRINT: 1-17 to 1-18
 - snap-to-point cursors (table), USRINT: 1-17 to 1-18
 - mouse operation, USRINT: 1-18
 - styles for
 - ATTR_CURSOR_POINT_STYLE and ATTR_TRACE_POINT_STYLE (table), USRINT: 3-78 to 3-79
 - values and cursor styles for
 - ATTR_MOUSE-CURSOR (table), USRINT: 3-19
- curve fitting, ANLS: 1-18
- curve fitting functions
 - definition, ANLS: 1-8
 - ExpFit, ANLS: 2-94 to 2-95
 - function tree, ANLS: 1-6
 - GenLSFit, ANLS: 2-105 to 2-111
 - GenLSFitCoef, ANLS: 2-112 to 2-113
 - LinFit, ANLS: 2-143 to 2-144
 - NonLinearFit, ANLS: 2-156 to 2-157
 - PolyFit, ANLS: 2-162 to 2-163
- customer communication, ANLS: B-1 to B-2, GS: A-1 to A-2, INST: B-1 to B-2, PRGREF: C-1 to C-2, STDLIB: Appendix-1, USER: B-1 to B-2, USRINT: B-1 to B-2
- customizing
 - bracket styles, USER: 4-35
 - colors, USER: 3-55 to 3-56
 - fonts, USER: 1-5 to 1-6, 3-55, 4-35
 - toolbars, GS: 2-7, USER: 4-2 to 4-3
- Cut command, Edit menu, INST: 3-3, USER: 4-10, USRINT: 2-6
- Cut Controls command, Edit menu, INST: 4-4
- Cut Panel command, Edit menu, INST: 4-4, USRINT: 2-6
- cutting and pasting
 - controls (example), INST: 4-29 to 4-30
 - functions and panels (example), INST: 3-13 to 3-14
- _CVI_ macro, PRGREF: 1-4, USER: 3-48
- CVICALLBACK macro, USRINT: 3-7
- _CVI_DEBUG macro, PRGREF: 1-4, USER: 3-48
- cvidir configuration option (Windows 95/NT), PRGREF: 7-6 to 7-7
- _CVI_DLL_ macro, PRGREF: 1-5, USER: 3-49
- _CVI_EXE_ macro, PRGREF: 1-4, USER: 3-49
- _CVI_LIB_ macro, PRGREF: 1-5, USER: 3-49
- CVILowLevelSupportDriverLoaded function, STDLIB: 8-8 to 8-9
- cvirtx configuration option (Windows 3.1), PRGREF: 7-6
- CVIXDisplay global variable, STDLIB: 9-3
- CVIXHiddenWindow global variable, STDLIB: 9-4
- CVIXRootWindow variable, STDLIB: 9-3
- cvidir configuration option, USER: 1-4
- CxAdd function, ANLS: 2-63 to 2-64, STDLIB: 3-7 to 3-8
- CxAdd1D function, ANLS: 2-64 to 2-65, STDLIB: 3-8 to 3-9
- CxDiv function, ANLS: 2-65, STDLIB: 3-9
- CxDiv1D function, ANLS: 2-66, STDLIB: 3-10
- CxExp function, ANLS: 2-66 to 2-67
- CxLinEv1D function, ANLS: 2-67 to 2-68, STDLIB: 3-11
- CxLn function, ANLS: 2-68
- CxLog function, ANLS: 2-68 to 2-69
- CxMul function, ANLS: 2-69, STDLIB: 3-12
- CxMul1D function, ANLS: 2-70, STDLIB: 3-12 to 3-13
- CxPow function, ANLS: 2-70 to 2-71

CxRecip function, ANLS: 2-71, STDLIB:
3-13 to 3-14
CxSqrt function, ANLS: 2-72
CxSub function, ANLS: 2-72 to 2-73,
STDLIB: 3-14
CxSub1D function, ANLS: 2-73 to 2-74,
STDLIB: 3-15

D

DAQ boards. *See* data acquisition boards.
DAQ Chart Control Instrument Driver,
GS: 11-5
DAQ Control Instrument drivers, GS: 11-5
DAQ Numeric Control Instrument Driver,
GS: 11-5
DAQ_Op example program, GS: 11-4
DAQ_START example program, GS: 11-4
data
 displaying and editing
 arrays, GS: 4-8 to 4-9
 strings, GS: 4-10 to 4-11
 variables, GS: 4-5 to 4-8
 generating random array of data, GS: 6-3
 to 6-4
 reading with instrument driver, GS: 8-7
data acquisition
 DAQ Control Instrument drivers,
 GS: 11-5
 developing applications, GS: 11-4
 to 11-5
 Data Acquisition Library sample
 programs, GS: 11-4 to 11-5
 Easy I/O for DAQ Library sample
 programs, GS: 11-4
 event function parameter data type
 changes, GS: 11-6 to 11-7
 overview, GS: 1-6 to 1-7, 11-1
 Windows 3.1 source code changes
 required, GS: 11-7
data acquisition boards
 hardware configuration, GS: 11-1
 to 11-2
 installation, GS: 11-1 to 11-2

 hardware installation, GS: 11-1
 to 11-2
 software installation, GS: 11-2
 overview, GS: 11-1
 related documentation, GS: 11-7
 software configuration, GS: 11-2 to 11-3
 testing operation and configuration, GS:
 11-3 to 11-4
Data Acquisition command, Library menu,
USER: 3-39
data acquisition functions. *See* Easy I/O for
DAQ Library.
Data Acquisition Library
 definition, USER: 3-39
 LabWindows for DOS, GS: 12-2
 purpose and use, USER: 2-3
 sample programs, GS: 11-4 to 11-5
 status reporting by, PRGREF: B-3
data analysis
 generating a call to Mean function, GS:
 3-8 to 3-9
 programming overview, GS: 1-6 to 1-7
data files, functions for reading and writing,
GS: 9-4
data formatting functions. *See* formatting
functions; scanning functions; status
functions.
data functions, instrument drivers,
INST: 1-9
data types, INST: 2-4 to 2-12
 allowable data types for compiler (table),
 PRGREF: 1-9
 compatibility for function panel
 variables, USER: 5-15 to 5-16
 controls
 valid data types, USRINT: 1-8
 values for ATTR_DATA_TYPE
 attribute (table), USRINT: 3-50
 converting 16-bit source code to 32-bit
 source code, PRGREF: 1-9 to 1-10
 defining in header files (note),
 INST: 4-20
 instrument driver data types
 overview, INST: 6-7
 table, INST: 6-8
 intrinsic C data types, INST: 2-5

- meta data types, INST: 2-5 to 2-7
 - Any Array, INST: 2-6
 - Any Type, INST: 2-6
 - definition, INST: 2-5
 - Numeric Array, INST: 2-6
 - Var Args, INST: 2-7
- plot arrays, USRINT: 4-11 to 4-12
- predefined data types, INST: 2-4 to 2-7
- purpose and use, INST: 2-4
- user-defined, INST: 2-7 to 2-8
 - array data types, INST: 2-8
 - creating, INST: 2-7 to 2-8
- VISA data types
 - how to use, INST: 2-9
 - list of types (table), INST: 2-9, 6-8
 - purpose and use, INST: 1-3, 2-8 to 2-9, 6-7
- Data Types command, Options menu, INST: 4-20 to 4-21
- date/time functions
 - ANSI C Library, STDLIB: 1-6 to 1-7
 - DateStr, STDLIB: 8-9
 - GetSystemDate, STDLIB: 8-38
 - GetSystemTime, STDLIB: 8-39
 - SetSystemDate, STDLIB: 8-76
 - SetSystemTime, STDLIB: 8-77
 - TimeStr, STDLIB: 8-83
- dates
 - Check Disk Dates Before Each Run option, USER: 3-51
 - displaying files in chronological order, USER: 3-9
 - displaying for project list files, USER: 3-9
- DateStr function, STDLIB: 8-9
- DBLBUFFER example program, GS: 11-5
- DCE device, STDLIB: 5-5
- DDE command, Library menu, USER: 3-40
- DDE Library
 - definition, USER: 3-40
 - status reporting by, PRGREF: B-5
- DDE Library functions
 - callback function, STDLIB: 6-2 to 6-4
 - functions capable of trigger callback function (table), STDLIB: 6-4
 - parameter prototypes (table), STDLIB: 6-3
 - clients and servers, STDLIB: 6-2
 - connecting to DDE server, STDLIB: 6-2
 - DDE data links, STDLIB: 6-4
 - error conditions, STDLIB: 6-23 to 6-24
 - function reference
 - AdviseDDEDataReady, STDLIB: 6-6 to 6-8
 - BroadcastDDEDataReady, STDLIB: 6-8 to 6-9
 - ClientDDEExecute, STDLIB: 6-10
 - ClientDDERead, STDLIB: 6-10 to 6-11
 - ClientDDEWrite, STDLIB: 6-12 to 6-13
 - ConnectToDDEServer, STDLIB: 6-2, 6-13 to 6-15
 - DisconnectFromDDEServer, STDLIB: 6-15
 - GetDDEErrorString, STDLIB: 6-15 to 6-16
 - RegisterDDEServer, STDLIB: 6-2, 6-16 to 6-18
 - ServerDDEWrite, STDLIB: 6-19 to 6-20
 - SetUpDDEHotLink, STDLIB: 6-2, 6-4, 6-20 to 6-21
 - SetUpDDEWarmLink, STDLIB: 6-2, 6-4, 6-21 to 6-22
 - TerminateDDELink, STDLIB: 6-22
 - UnregisterDDEServer, STDLIB: 6-23
 - function tree (table), STDLIB: 6-1
 - Microsoft Excel example, STDLIB: 6-5 to 6-6
- DDE transaction types (table), STDLIB: 6-4
- debug options
 - CatchProtectionFaults, USER: 1-6
 - DisplayCVIDebugVxDMissingMessage, USER: 1-6
 - LoadCVIDebugVxD, USER: 1-7
- debugging levels
 - Extended, PRGREF: 1-11, USER: 3-51
 - None, PRGREF: 1-11, USER: 3-51
 - Standard, PRGREF: 1-11, USER: 3-51

- debugging programs
 - breakpoints, GS: 4-3 to 4-5
 - invoking, GS: 4-3
 - manual, GS: 4-5
 - programmatic, GS: 4-3 to 4-4
 - displaying and editing data
 - Array Display, GS: 4-8 to 4-9
 - String Display, GS: 4-10 to 4-11
 - Variable Display, GS: 4-5 to 4-8
 - Watch window, GS: 4-11 to 4-12
 - step mode execution, GS: 4-2 to 4-3
- Decimate function, ANLS: 2-74
- Declare Variable command, Code menu, USER: 5-9 to 5-10
 - declaring arrays (example), GS: 8-8
 - declaring variables (example), GS: 7-6 to 7-7
 - reading waveform (example), GS: 8-9
 - specifying input control parameter, USER: 5-4
 - specifying output control parameter, USER: 5-6
- Declare Variable dialog box, USER: 5-9 to 5-10
 - Add declaration to current block in target file checkbox, USER: 5-9
 - Add declaration to top of target file checkbox, USER: 5-9
 - Cancel button, USER: 5-10
 - Execute declaration checkbox, USER: 5-9
 - illustration, USER: 5-9
 - Number of Elements box, USER: 5-9
 - OK button, USER: 5-10
 - Variable Name text box, USER: 5-9
 - Variable Type message, USER: 5-9
- __declspec(dllexport) calling convention qualifier, PRGREF: 1-6, 3-18
- __declspec(dllimport) calling convention qualifier, PRGREF: 1-6
- Deconvolve function, ANLS: 2-75
- decorations, USRINT: 1-16
- __DEFALIGN_ macro, PRGREF: 1-5, USER: 3-49
- Default All command, Options menu, USER: 5-21
- Default calling convention option, PRGREF: 1-2
- Default Control command, Options menu, USER: 5-20
- Default Control Events option, Preferences command, USRINT: 2-30
- Default Panel Events option, Preferences command, USRINT: 2-30
- Default Panel Size command, Options menu, INST: 4-21
- DefaultCtrl function, USRINT: 4-54
- DefaultPanel function, USRINT: 4-54 to 4-55
- Delay function, STDLIB: 8-9 to 8-10
- DelayedPulseGenConfig function, STDLIB: 10-34 to 10-36
- Delete command, Edit menu, USER: 4-11, USRINT: 2-6
- Delete Watch Point command, Edit menu, USER: 6-9
- DeleteAxisItem function, USRINT: 4-44 to 4-56
- DeleteDir function, STDLIB: 8-10
- DeleteFile function, STDLIB: 8-10 to 8-11
- DeleteGraphPlot function, USRINT: 4-56 to 4-57
- DeleteImage function, USRINT: 4-58
- DeleteListItem function, USRINT: 4-58 to 4-59
- DeleteTextBoxLine function, USRINT: 4-59
- DestroyXProperty function, STDLIB: 9-12 to 9-13
- DestroyXPropType function, STDLIB: 9-13 to 9-14
- Detach Program command, Edit Instrument dialog box, INST: 3-8, USER: 3-36
- Determinant function, ANLS: 2-76, STDLIB: 3-16
- developing graphical user interfaces (GUI). *See* graphical user interface (GUI), building.
- developing instrument drivers. *See* instrument drivers, programming.
- device control functions, GPIB Library, STDLIB: 4-2, 4-6
- device drivers, GPIB, STDLIB: 4-5

- device I/O functions, GPIB-488.2 Library, STDLIB: 4-3
- Device Manager functions, GPIB
 - CloseDev, STDLIB: 4-6 to 4-7, 4-13
 - CloseInstrDevs, STDLIB: 4-14
 - ibInstallCallback, STDLIB: 4-12, 4-14 to 4-17
 - ibNotify, STDLIB: 4-12
 - ibNotify function, STDLIB: 4-17 to 4-20
 - OpenDev, STDLIB: 4-6, 4-21
 - ThreadIbcnt, STDLIB: 4-22
 - ThreadIbcntl, STDLIB: 4-22, 4-23
 - ThreadIberr, STDLIB: 4-23 to 4-25
 - ThreadIbsta, STDLIB: 4-25 to 4-26
 - writing instrument modules (note), STDLIB: 4-7
- device numbers, Easy I/O for DAQ Library, STDLIB: 10-4
- dialogFont option, USER: 1-6
- DialogFontBold option, USER: 1-5
- DialogFontName option, USER: 1-5
- DialogFontSize option, USER: 1-5
- Diff command, Edit menu, USER: 4-12 to 4-13
 - Diff With, USER: 4-12
 - Find Next Difference, USER: 4-12
 - Ignore White Space, USER: 4-12
 - Match Criteria, USER: 4-12
 - Recompare Selections Ignoring White Space, USER: 4-13
 - Synchronize at Top, USER: 4-12
 - Synchronize Selections, USER: 4-12
- Difference function, ANLS: 2-76 to 2-77
- DIGITAL example program, GS: 11-5
- digital filters. *See* FIR filters; IIR filters.
- digital input/output functions
 - ReadFromDigitalLine, STDLIB: 10-49 to 10-51
 - ReadFromDigitalPort, STDLIB: 10-51 to 10-52
 - WriteToDigitalLine, STDLIB: 10-53 to 10-55
 - WriteToDigitalPort, STDLIB: 10-55 to 10-56
- Dimmed field, Edit Menu Bar dialog box, USRINT: 2-9
- direct memory access (DMA) channel for data acquisition boards, GS: 11-2
- directory utility functions
 - DeleteDir, STDLIB: 8-10
 - GetDir, STDLIB: 8-20
 - GetDrive, STDLIB: 8-20 to 8-21
 - GetFullPathFromProject, STDLIB: 8-29 to 8-30
 - GetModuleDir, STDLIB: 8-31 to 8-32
 - GetProjectDir, STDLIB: 8-34
 - MakeDir, STDLIB: 8-54 to 8-55
 - MakePathname, STDLIB: 8-55
 - SetDir, STDLIB: 8-66
 - SetDrive, STDLIB: 8-66 to 8-67
 - SplitPath, STDLIB: 8-77 to 8-78
- DirSelectPopup function, USRINT: 4-60
- DisableBreakOnLibraryErrors function, STDLIB: 8-11 to 8-12
- DisableInterrupts function, STDLIB: 8-12
- DisableTaskSwitching function, STDLIB: 8-12 to 8-15
- DiscardBitmap function, USRINT: 4-61
- DiscardCtrl function, USRINT: 4-61 to 4-62
- DiscardMenu function, USRINT: 4-62
- DiscardMenuBar function, USRINT: 4-63
- DiscardMenuItem function, USRINT: 4-63
- DiscardPanel function, USRINT: 4-64
- DiscardSubMenu function, USRINT: 4-64
- DisconnectFromDDEServer function, STDLIB: 6-15
- DisconnectFromTCPSTCServer function, STDLIB: 7-7 to 7-8
- DisconnectFromXDisplay function, STDLIB: 9-14 to 9-15
- DisconnectTCPClient function, STDLIB: 7-7
- Discrete Fourier Transform (DFT), ANLS: 1-9 to 1-10
- Display Entire Buffer command, Options menu, USER: 7-9
- Display status dialog during build option, PRGREF: 1-4, USER: 3-48
- DisplayCVIDebugVxDMissingMessage option, USER: 1-6
- DisplayImageFile function, USRINT: 4-65

- displaying and editing data
 - arrays, GS: 4-8 to 4-9
 - strings, GS: 4-10 to 4-11
 - variables, GS: 4-5 to 4-8
- DisplayPanel function, USRINT: 4-66 to 4-67
- DisplayPanel sample function, GS: 6-2
- DisplayPCXFile function, USRINT: 4-66
- Distribute Vertical Centers command
 - Arrange menu, USRINT: 2-22
 - Edit menu, INST: 4-5 to 4-6
- distributing libraries, PRGREF: 8-1 to 8-3
 - adding to user's Library menu, PRGREF: 8-1 to 8-2
 - specifying library dependencies, PRGREF: 8-2 to 8-3
- distributing standalone executables. *See* standalone executables, creating and distributing.
- Distribution command
 - Arrange menu, USRINT: 2-21 to 2-22
 - Edit menu, INST: 4-5
- Distribution Kit. *See* Create Distribution Kit dialog box.
- Div1D function, ANLS: 2-77 to 2-78, STDLIB: 3-16 to 3-17
- Div2D function, ANLS: 2-78, STDLIB: 3-17 to 3-18
- DLLEXPORT macro, PRGREF: 1-7, 3-18
- DLLIMPORT macro, PRGREF: 1-7
- DLLs. *See* Microsoft Windows 16-bit DLLs; Microsoft Windows 32-bit DLLs.
- DLLSTDCALL macro, PRGREF: 3-18, 3-20
- DMA channel for data acquisition boards, GS: 11-2
- documentation
 - conventions used in manual, ANLS: *xi-xii*, GS: *xiii*, INST: *xiv-xv*, PRGREF: *x*, STDLIB: *xix*, USER: *xx-xxi*, USRINT: *xx*
 - data acquisition boards, GS: 11-7
 - LabWindows/CVI documentation set, INST: *xv*, STDLIB: *xx*, USER: *xxi-xxii*
 - manuals for VXI controller boards, GS: 10-5
 - optional manuals, GS: *xiv-xv*
 - organization of manual, ANLS: *xi*, GS: *xi-xii*, INST: *xiii-xiv*, PRGREF: *ix-x*, STDLIB: *xvii-xviii*, USER: *xix-xx*, USRINT: *xix-xx*
 - related documentation, ANLS: *xii-xiii*, PRGREF: *xi*, STDLIB: *xx*
 - standard LabWindows/CVI documentation set, GS: *xiv*
 - documentation for instrument driver writing, INST: 2-12, 6-13 to 6-17
 - .doc file, INST: 6-16 to 6-17
 - online help examples, INST: 6-13 to 6-16
- Done command, Edit Instrument Dialog box, INST: 3-8
- DOSColorToRGB function, USRINT: 4-67 to 4-68
- DOSCompatWindow function, USRINT: 4-68
- DotProduct function, ANLS: 2-79, STDLIB: 3-18
- doubles, returning, PRGREF: 3-5
- Down Call Stack command, Run menu, USER: 4-32
- drawing. *See* canvas controls; canvas functions.
- DTE device, STDLIB: 5-5
- duplicate typedefs, PRGREF: 1-7
- DuplicateCtrl function, USRINT: 4-69 to 4-70
- DuplicatePanel function, USRINT: 4-70 to 4-71
- Dynamic Data Exchange (DDE). *See* DDE Library functions.
- dynamic link library, GPIB, STDLIB: 4-5 to 4-6
- Dynamic Memory command, Run menu, USER: 4-32
- dynamic memory protection, PRGREF: 1-19
- dynamic memory protection errors
 - memory corruption (fatal), PRGREF: 1-15

memory deallocation (non-fatal),
PRGREF: 1-14
dynamic-link library files, required in
project file list, USER: 3-1

E

Easy I/O for DAQ command, Library menu,
USER: 3-39

Easy I/O for DAQ Library

advantages, STDLIB: 10-1 to 10-2
calls to Data Acquisition Library (note),
STDLIB: 10-1

Channel String

analog input functions, STDLIB:
10-4 to 10-5

analog output functions,
STDLIB: 10-7

classes, STDLIB: 10-3

command strings, STDLIB: 10-6

definition, USER: 3-39

device numbers, STDLIB: 10-4

error conditions (table), STDLIB: 10-57
to 10-66

function reference

AIAcquireTriggeredWaveforms,
STDLIB: 10-8 to 10-13

AIAcquireWaveforms, STDLIB:
10-33 to 10-34

AICheckAcquisition,
STDLIB: 10-15

AIClearAcquisition, STDLIB: 10-15

AIReadAcquisition, STDLIB: 10-16
to 10-17

AISampleChannel, STDLIB: 10-17
to 10-18

AISampleChannels, STDLIB: 10-18

AISampleChannels, STDLIB: 10-18

AISampleChannels, STDLIB: 10-18

AISampleChannels, STDLIB: 10-18

AISampleChannels, STDLIB: 10-18

AISampleChannels, STDLIB: 10-18

AOUpdateChannel, STDLIB: 10-22
to 10-23

AOUpdateChannels, STDLIB: 10-23
to 10-24

ContinuousPulseGenConfig,
STDLIB: 10-24 to 10-26

CounterEventOrTimeConfig,
STDLIB: 10-26 to 10-29

CounterMeasureFrequency,
STDLIB: 10-29 to 10-32

CounterRead, STDLIB: 10-32
to 10-33

CounterStart, STDLIB: 10-33

CounterStop, STDLIB: 10-34

DelayedPulseGenConfig, STDLIB:
10-34 to 10-36

FrequencyDividerConfig, STDLIB:
10-37 to 10-39

GetAILimitsOfChannel, STDLIB:
10-40 to 10-41

GetChannelIndices, STDLIB: 10-41
to 10-42

GetChannelNameFromIndex,
STDLIB: 10-42 to 10-43

GetDAQErrorString, STDLIB:
10-43 to 10-44

GetNumChannels, STDLIB: 10-44

GroupByChannel, STDLIB: 10-44
to 10-45

ICounterControl, STDLIB: 10-45
to 10-47

PlotLastAIWaveformsPopup,
STDLIB: 10-47

PulseWidthOrPeriodMeasConfig,
STDLIB: 10-48 to 10-49

ReadFromDigitalLine, STDLIB:
10-49 to 10-51

ReadFromDigitalPort, STDLIB:
10-51 to 10-52

SetEasyIOMultitaskingMode,
STDLIB: 10-53

WriteToDigitalLine, STDLIB: 10-53
to 10-55

WriteToDigitalPort, STDLIB: 10-55
to 10-56

- function tree, STDLIB: 10-2 to 10-3
- limitations, STDLIB: 10-2
- overview, STDLIB: 10-1
- sample programs for DAQ boards, GS: 11-4
- valid counters for counter/timer functions (table), STDLIB: 10-7
- Edit Binary Control dialog box, INST: 8-5
- Edit Breakpoint dialog box, USER: 4-30 to 4-31
- Edit button, Find UIR Objects dialog box, USRINT: 2-18
- Edit Character command, Edit menu, USER: 7-7
- Edit command, Instrument menu, INST: 3-8, USER: 3-34. *See also* Edit Instrument dialog box.
- Edit Control command, Edit menu, INST: 4-4
- Edit Control dialog box
 - Control Settings section, USRINT: 2-12
 - Edit Label/Value Pairs dialog box, USRINT: 2-12 to 2-13
 - Quick Edit Window, USRINT: 2-14
 - Source Code Connection, USRINT: 2-11
- Edit Function command, Edit menu, INST: 4-5
- Edit Function Panel Window command
 - Edit menu, INST: 3-3, 4-1
 - Options menu, INST: 4-1, USER: 5-21
- Edit Function Tree command
 - Edit Instrument dialog box, INST: 3-8, USER: 3-36
 - Options menu, INST: 4-21
- Edit Help command, Edit menu, INST: 3-3
- Edit Instrument dialog box
 - Attach and Edit Source command, USER: 3-35
 - available options, INST: 3-8
 - Detach Program command, USER: 3-36
 - Edit Function Tree command, USER: 3-36
 - illustration, INST: 3-8, USER: 3-35
 - Reattach Program command, USER: 3-36
 - Show Info command, USER: 3-35
- Edit Label/Value Pairs dialog box
 - adding label and value
 - ring control list, INST: 4-14
 - slide control list, INST: 4-10
 - available options, INST: 4-9
 - changing control type (example), INST: 4-28
 - command buttons
 - ring controls, INST: 4-14
 - slide controls, INST: 4-10
- Control Appearance section, USRINT: 2-13
- illustration, USRINT: 2-12
 - ring controls, INST: 4-13
 - slide controls, INST: 4-9
- instrument driver example, INST: 8-7
- Label Appearance section, USRINT: 2-13
- positioning control (example), INST: 4-26
- purpose and use, USRINT: 2-13
- Edit menu
 - Array Display window
 - Edit Value command, USER: 7-5
 - Find command, USER: 7-6 to 7-7
 - Goto command, USER: 7-7
 - illustration, USER: 7-5
 - Function Panel Editor, INST: 4-3 to 4-6
 - Align Horizontal Centers command, INST: 4-5
 - Alignment command, INST: 4-5
 - available options, INST: 4-3
 - Change Control Type command, INST: 4-5
 - Control Help command, INST: 4-6
 - Copy Controls command, INST: 4-4
 - Copy Panel command, INST: 4-4
 - Cut Controls command, INST: 4-4
 - Cut Panel command, INST: 4-4
 - Distribute Vertical Centers command, INST: 4-5 to 4-6
 - Distribution command, INST: 4-5
 - Edit Control command, INST: 4-4
 - Edit Function command, INST: 4-5
 - Function Help command, INST: 4-6

- Paste command, INST: 4-4
- Window Help command, INST: 4-6
- Function Tree Editor, INST: 3-3 to 3-4, PRGREF: 8-2
- Help Editor dialog box, INST: 5-3
- Project window, USER: 3-7 to 3-9
 - Add File to Project command, GS: 2-4 to 2-5, 6-9, 8-12
 - Add Files to Project command, USER: 3-7 to 3-8
 - Exclude File from Build command, USER: 3-8
 - illustration, USER: 3-7
 - Include File in Build command, USER: 3-8
 - Move Item Down command, USER: 3-9
 - Move Item Up command, USER: 3-8
 - overview, GS: 2-4
 - Remove File command, USER: 3-8
- Source, Interactive Execution, and Standard Input/Output windows
 - Balance command, USER: 4-12
 - Clear Window command, USER: 4-4, 4-11
 - Copy command, USER: 4-10
 - Cut command, USER: 4-10
 - Delete command, USER: 4-11
 - Diff command, USER: 4-12 to 4-13
 - disabled commands (note), USER: 4-10
 - editing tools, GS: 2-8 to 2-9
 - Find command, USER: 4-13 to 4-16
 - Go To Definition command, USER: 4-13
 - illustration, USER: 4-9
 - Insert Construct command, USER: 4-11 to 4-12
 - Next File command, USER: 4-17
 - Paste command, USER: 4-10
 - Redo command, USER: 4-10
 - Replace command, USER: 4-16 to 4-17
 - Resolve All Excluded Lines command, USER: 4-11
 - Select All command, USER: 4-11
 - Toggle Exclusion command, USER: 4-4, 4-11
 - Undo command, GS: 2-9, USER: 4-10
- String Display window
 - Edit Character command, USER: 7-7
 - Edit Mode command, USER: 7-7
 - Find command, USER: 7-8
 - Goto command, USER: 7-8
 - Overwrite command, USER: 7-7
- User Interface Editor
 - Apply Default Font command, USRINT: 2-15
 - Control command, USRINT: 2-11 to 2-14
 - Control Style command, USRINT: 2-16
 - Copy command, USRINT: 2-6
 - Copy Panel command, USRINT: 2-6
 - Cut command, USRINT: 2-6
 - Cut Panel command, USRINT: 2-6
 - Delete command, USRINT: 2-6
 - illustration, USRINT: 2-5
 - Menu Bars command, USRINT: 2-7 to 2-9
 - Panel command, USRINT: 2-9 to 2-11
 - Paste command, USRINT: 2-6
 - Redo command, USRINT: 2-5
 - Set Default Font command, USRINT: 2-15
 - Tab Order command, USRINT: 2-14 to 2-15
 - Undo command, USRINT: 2-5
 - when commands are enabled (note), USRINT: 2-5
- Variable Display window
 - Edit Value command, USER: 6-6
 - Find command, USER: 6-6 to 6-7
 - illustration, USER: 6-6
 - Next Scope command, USER: 6-8
 - Previous Scope command, USER: 6-8

- Watch window
 - Add Watch Expression command, USER: 6-8
 - Delete Watch Point command, USER: 6-9
 - Edit Value command, USER: 6-8
 - Edit Watch Expression command, USER: 6-8
 - Find command, USER: 6-9
 - illustration, USER: 6-8
- Edit Menu Bar dialog box
 - available options, USRINT: 2-8 to 2-9
 - illustration, USRINT: 2-8
- Edit Mode command, Edit menu, USER: 7-7
- Edit Node command, Edit menu, INST: 3-3
- Edit On/Off Settings dialog box
 - available settings for binary controls, INST: 4-12
 - creating function window (example), INST: 4-24, 4-27
 - instrument driver programming example, INST: 8-5
- Edit Panel dialog box
 - Panel Attributes section, USRINT: 2-10
 - Quick Edit Window section, USRINT: 2-10 to 2-11
 - Source Code Connection section, USRINT: 2-9
- Edit Ring Control dialog box, INST: 8-6, 8-8
- Edit Tab Order dialog box, USRINT: 2-15
- Edit Value command, Edit menu
 - Array Display window, USER: 7-5
 - Variable Display window, USER: 6-6
 - Watch window, USER: 6-8
- Edit Value Set dialog box, INST: 4-16
- Edit Watch Expression command, Edit menu, USER: 6-8
- editing data
 - arrays, GS: 4-10
 - strings, GS: 4-10 to 4-11
 - variables, GS: 4-7 to 4-8
- editing help information, INST: 5-2 to 5-4
- Editing tool, USRINT: 2-1
- editing tools in Source window, GS: 2-8 to 2-9
- Editor Preferences command, Options menu dialog box, USER: 4-34 to 4-35
 - Line Terminator option, USER: 4-35
 - Paste option, USER: 4-34
 - Tabs option, USER: 4-35
 - Undo option, USER: 4-10, 4-34
- editorFont option, USER: 1-6
- electronic support services, ANLS: B-1 to B-2, GS: A-1 to A-2, INST: B- to B-2, PRGREF: C-1 to C-2, USER: B-1 to B-2, USRINT: B-1 to B-2
- Elp_BPF function, ANLS: 2-79 to 2-80
- Elp_BSF function, ANLS: 2-80 to 2-81
- Elp_CascadeCoef function, ANLS: 2-81 to 2-83
- Elp_Coef function, ANLS: 2-83 to 2-84
- Elp_HPF function, ANLS: 2-84 to 2-85
- Elp_LPF function, ANLS: 2-85 to 2-86
- e-mail support, ANLS: B-2, GS: A-2, INST: B-2, PRGREF: C-2, USER: B-2, USRINT: B-2
- EmptyMenu function, USRINT: 4-71
- EmptyMenuBar function, USRINT: 4-71 to 4-72
- Enable signed/unsigned pointer mismatch warning option, PRGREF: 1-3, USER: 3-47
- Enable unreachable code warning option, PRGREF: 1-3, USER: 3-47
- EnableBreakOnLibraryErrors function, STDLIB: 8-15
- EnableInterrupts function, STDLIB: 8-15 to 8-16
- EnableTaskSwitching function, STDLIB: 8-16
- END message, GPIB, STDLIB: 4-9
- End of Selection command, View menu, USER: 4-19
- end-of-string (EOS) character, GPIB, STDLIB: 4-9
- end-or-identify (EOI) signal, GPIB, STDLIB: 4-9
- enum sizes, Windows 32-bit DLLs, PRGREF: 3-5
- Environment command, Options menu, USER: 3-37, 3-52

environment options

- Bring Standard Input/Output window to front whenever modified, USER: 3-52
- Maximum number of lines in Standard Input/Output window, USER: 3-52
- Sleep policy when not running program, USER: 3-52
- Use host's system standard I/O, USER: 3-52
- Use only one function panel window, USER: 3-37, 3-52
- Warp mouse over dialog boxes, USER: 3-52

Equi_Ripple function

- description, ANLS: 2-86 to 2-89
- designing FIR filters, ANLS: 1-14
- examples, ANLS: 2-87 to 2-89
- problems with convergence (caution), ANLS: 1-14

EquiRpl_BPF function, ANLS: 2-89 to 2-90

EquiRpl_BSF function, ANLS: 2-91

EquiRpl_HPF function, ANLS: 2-92

EquiRpl_LPF function, ANLS: 2-93

errno global variable, set by file I/O functions, STDLIB: 1-6

error checking, PRGREF: B-1 to B-6

- enabling runtime error checking (caution), PRGREF: 1-2
- overview, PRGREF: B-1
- standalone executables, PRGREF: 7-16
- status codes
 - checking function call status codes, B-2
 - returned by LabWindows/CVI functions, PRGREF: B-2

error codes

- alphabetical list, ANLS: A-1 to A-3
- control functions, STDLIB: 1-8
- numeric list, ANLS: A-4 to A-6
- X Property Library, STDLIB: 9-4 to 9-6

Error command, View menu, USER: 5-18

error conditions

- Analysis Library functions, STDLIB: 3-37
- DDE Library functions, STDLIB: 6-23 to 6-24

Easy I/O for DAQ Library, STDLIB: 10-57 to 10-66

RS-232 Library functions, STDLIB: 5-36 to 5-37

TCP Library functions, STDLIB: 7-12

User Interface Library, USRINT: A-1 to A-6

Error control, GPIB, STDLIB: 4-6

Error control example, INST: 8-9, 8-13 to 8-14

Error (iberr) global variable, STDLIB: 4-6, 4-11

error help for instrument drivers, INST: 6-16, 8-9

error message function

- definition, INST: 1-9
- PREFIX_error_message, INST: 7-9

error messages

- compiler-related error messages, PRGREF: A-1 to A-58
- during compiling and linking, GS: 2-6
- removing from screen, GS: 2-6

error query function

- definition, INST: 1-9
- PREFIX_error_query, INST: 7-7 to 7-8

error-related functions. *See also* status functions.

DisableBreakOnLibraryErrors, STDLIB: 8-11 to 8-12

EnableBreakOnLibraryErrors, STDLIB: 8-15

GetAnalysisErrorString, STDLIB: 3-19

GetBreakOnLibraryErrors, STDLIB: 8-17

GetBreakOnProtectionErrors, STDLIB: 8-18

GetDDEErrorString, STDLIB: 6-15 to 6-16

GetFmtErrNdx, STDLIB: 2-18

GetRS232ErrorString, STDLIB: 5-22

GetTCPErrString, STDLIB: 7-8

GetXPropErrorString, STDLIB: 9-15

ReturnRS232Err, STDLIB: 5-28

- SetBreakOnLibraryErrors, STDLIB: 8-63 to 8-64
- SetBreakOnProtectionErrors, STDLIB: 8-64 to 8-65
- error-related options
 - Break on Library Errors option, PRGREF: 1-15 to 1-16, 7-16, B-1
 - Break on library errors option, USER: 3-51
 - Display status dialog during build option, USER: 3-48
 - enabling Require Function Prototypes option (caution), PRGREF: 1-2
 - Maximum number of compile errors option, PRGREF: 1-2, USER: 3-46
 - Show Build Error window for warnings option, USER: 3-48
 - Stop on first file with errors option, USER: 3-48
- error reporting
 - analysis errors, ANLS: 1-9
 - Analysis Library functions, STDLIB: 3-4
 - instrument drivers, INST: 6-10 to 6-12
 - completion and warning codes (table), INST: 6-11
 - error codes (table), INST: 6-11
 - error values (table), INST: 6-10
 - RS-232 Library functions, STDLIB: 5-3
 - run-time error reporting, USER: 3-28, 4-28
 - status reporting by libraries and instrument drivers, PRGREF: B-3 to B-6
 - User Interface Library, USRINT: 4-12
- Error window, GS: 2-6. *See also* Build Error window.
- errors. *See also* user protection errors.
 - build errors, USER: 4-24
 - converting error number with GetAnalysisErrorString function, ANLS: 2-113
 - missing prototype errors, PRGREF: 1-2
 - terminating compilation for file errors, PRGREF: 1-4, USER: 3-48
- Estimate Number of Elements command, Options menu, USER: 6-15
- event functions
 - GetUserEvent, USRINT: 3-8 to 3-9, 4-125
 - ProcessDrawEvents, USRINT: 3-93, 4-195
 - ProcessSystemEvents, USRINT: 3-93 to 3-94, 4-195 to 4-196
 - QueueUserEvent, USRINT: 4-197
 - SetIdleEventRate, USRINT: 3-92 to 3-93, 4-235
- event loops
 - definition, USRINT: 1-2
 - example program, USRINT: 5-4 to 5-5
 - GetUserEvent function for responding to events, USRINT: 3-8 to 3-9
 - processing events
 - control events, USRINT: 3-31 to 3-32
 - menu bar events, USRINT: 3-23
- event-blocking conditions, USRINT: 3-86
- EVENTCNT example program, GS: 11-5
- EVENT_COMMIT, GS: 7-8, 9-7
- EVENT_GOT_FOCUS, GS: 7-8, 9-7
- EVENT_LEFT_CLICK, GS: 7-8, 9-7
- EVENT_RIGHT_CLICK, GS: 5-10
- events
 - callback functions for responding to events, USRINT: 3-5 to 3-7
 - avoiding longjmp function (note), USRINT: 3-7
 - diagram of callback function concept, USRINT: 3-5
 - pseudocode example, USRINT: 3-6 to 3-7
 - commit events
 - control modes for generating, USRINT: 1-3 to 1-4
 - definition, USRINT: 1-2
 - placed in GetUserEvent queue after being sent to callbacks, USRINT: 3-92
 - designing, USRINT: 1-2

- event function parameter data type changes, GS: 11-6 to 11-7
 - Windows 3.1 source code changes required, GS: 11-7
- event functions. *See* event functions.
- event types and information passed to program (table), USRINT: 3-4
- example program, USRINT: 5-3
- GetUserEvent function (event loop) for responding to events, USRINT: 3-8 to 3-9
 - diagram of event loop concept, USRINT: 3-8
 - pseudocode example, USRINT: 3-8 to 3-9
- GOT_FOCUS event, USRINT: 1-2
- LEFT_CLICK event, USRINT: 1-2
- loops. *See* event loops.
- multiplatform application
 - considerations, PRGREF: 6-3
- precedence of callback functions, USRINT: 3-91 to 3-92
- processing
 - control events, USRINT: 3-31 to 3-32
 - graph and strip chart events, USRINT: 3-67 to 3-68
 - menu bar events, USRINT: 3-22 to 3-23
 - panel events, USRINT: 3-11
 - ProcessSystemEvents function, USRINT: 3-93 to 3-94, 4-195 to 4-196
- setting idle event rates, USRINT: 3-92 to 3-93
- swallowing events, USRINT: 3-92
- timed events, GS: 9-8
- types of events, GS: 9-7
- unsafe timer events, USRINT: 3-86 to 3-87
- example programs
 - Data Acquisition Library sample programs, GS: 11-4 to 11-5
 - events, USRINT: 5-3
 - formatting functions. *See* formatting function programming examples.
 - graphical user interface (GUI), USRINT: 5-1 to 5-6
 - instrument drivers. *See* instrument driver programming example.
 - NI-DAQ for Windows software, GS: 11-4 to 11-5
 - scanning functions. *See* scanning function programming examples.
 - Tektronix 2430A sample code, INST: A-1 to A-9
 - User Interface Library
 - descriptions, USRINT: 5-2 to 5-6
 - filenames (table), USRINT: 5-1 to 5-2
 - ExBkmanWin function, ANLS: 2-94
 - Exclude File from Build command, Edit menu, USER: 3-8
 - Exclude Function command, Options menu, USER: 5-21
 - excluding lines of code, USER: 4-4, 4-11
 - executable file, required for standalone executables, PRGREF: 7-7
 - ExecutableHasTerminated function, STDLIB: 8-16 to 8-17
 - executables, creating and distributing. *See* standalone executables, creating and distributing.
 - executables, launching. *See* standalone executables, launching.
 - Execute command, Run menu, USER: 3-28
 - Exit LabWindows/CVI command, File menu
 - Array and String Display windows, USER: 7-5
 - Function Panel windows, USER: 5-8
 - Project window, USER: 3-7
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-9
 - User Interface Editor, USRINT: 2-4
 - Variable Display and Watch windows, USER: 6-5
 - Expand Variable command, View menu, USER: 6-2, 6-9 to 6-10
 - Expanded Array, Variable Display window (figure), USER: 6-10

- ExpFit function, ANLS: 2-94 to 2-95
 - _export calling convention qualifier, PRGREF: 1-7
 - __export calling convention qualifier, PRGREF: 1-7
 - export qualifiers
 - calling conventions (Windows 95/NT), PRGREF: 1-6 to 1-7
 - exporting DLL functions and variables, PRGREF: 3-18 to 3-19
 - Expression Value command
 - Code menu, USER: 5-6, 5-17
 - Run menu, USER: 4-32
 - expressions. *See also* watch variables/expressions.
 - regular expressions (table), USER: 4-14 to 4-15
 - ExpWin function, ANLS: 2-96
 - extended character sets, STDLIB: 1-2
 - External Compiler Support command, PRGREF: 3-10, USER: 3-19
 - External Compiler Support dialog box, USER: 3-19 to 3-21
 - ANSI C Library field, USER: 3-20
 - CVI Libraries field, USER: 3-20
 - illustration, USER: 3-19
 - Other Symbols checkmark, USER: 3-21
 - Header File field, USER: 3-21
 - Object File field, USER: 3-21
 - UIR Callbacks Object File option, USER: 3-20
 - Using LoadExternalModule to Load Object and Static Library Files optimization, USER: 3-20
 - external interface model. *See under* instrument driver architecture.
 - external module utility functions
 - GetExternalModuleAddr, STDLIB: 8-21 to 8-22
 - LoadExternalModule, STDLIB: 8-49 to 8-52
 - LoadExternalModuleEx, STDLIB: 8-52 to 8-54
 - ReleaseExternalModule, STDLIB: 8-59
 - RunExternalModule, STDLIB: 8-62 to 8-63
 - UnloadExternalModule, STDLIB: 8-84 to 8-85
 - external modules. *See also* loadable compiled modules.
 - converting from LabWindows for DOS, GS: 12-8
 - definition, PRGREF: 2-3
 - forcing referenced modules into executable or DLL, PRGREF: 7-12
 - multiplatform application considerations, PRGREF: 6-3
 - under UNIX
 - compiling with external compilers, PRGREF: 5-3 to 5-4
 - restrictions, PRGREF: 5-3
 - using loadable compiled module as, PRGREF: 2-3
- ## F
- FakeKeystroke function, USRINT: 3-94, 4-72
 - Fast Fourier Transform (FFT), ANLS: 1-9 to 1-10. *See also* frequency domain functions.
 - fax and telephone support, ANLS: B-2, GS: A-2, INST: B-2, PRGREF: C-2, STDLIB: Appendix-1, USER: B-2, USRINT: B-2
 - F_Dist function, ANLS: 2-96 to 2-97
 - fdopen function, ANSI C Library, STDLIB: 1-9 to 1-10
 - FFT function, ANLS: 2-97 to 2-98
 - FHT function, ANLS: 2-98 to 2-99
 - file extensions, displaying project files in order of, USER: 3-10
 - file I/O functions
 - ANSI C library, GS: 9-4
 - CloseFile, STDLIB: 2-7
 - errno global variable, STDLIB: 1-6
 - GetFileInfo, STDLIB: 2-17
 - OpenFile, STDLIB: 2-20 to 2-22
 - ReadFile, STDLIB: 2-22 to 2-23
 - SetFilePtr, STDLIB: 2-26 to 2-28
 - WriteFile, STDLIB: 2-29 to 2-30

File menu

Array and String Display windows

- Close command, USER: 7-5
- Exit LabWindows/CVI command, USER: 7-5
- illustration, USER: 7-4
- Input command, USER: 7-5
- New command, USER: 7-4
- Open command, USER: 7-4
- Output command, USER: 7-5
- Save All command, USER: 7-5

Function Panel Editor, INST: 4-3

Function Panel windows

- Add .FP File to Project command, USER: 5-7
- Add Program File to Project command, USER: 5-8
- Close command, USER: 5-7
- Exit LabWindows/CVI command, USER: 5-8
- illustration, USER: 5-7
- New command, USER: 5-7
- Open command, USER: 5-7
- Save All command, USER: 5-7

Function Tree Editor, INST: 3-3

Help Editor dialog box, INST: 5-3

Project window, USER: 3-3 to 3-7

- Auto Save Project command, USER: 3-6
 - Close command, GS: 2-8
 - Exit LabWindows/CVI command, USER: 3-7
 - illustration, USER: 3-3
 - most recently closed files list, USER: 3-6
 - New command, USER: 3-4
 - Open command, GS: 2-2, USER: 3-5
 - overview, GS: 2-4
 - Print command, USER: 3-6
 - Save command, USER: 3-5
 - Save All command, USER: 3-6
 - Save As command, USER: 3-6
- Source, Interactive Execution, and Standard Input/Output windows
- Add File to Project command, USER: 4-8

Close command, USER: 4-8

- Exit LabWindows/CVI command, USER: 4-9
- Hide command, GS: 2-6
- Hide command (note), USER: 4-8
- illustration, USER: 4-7
- New command, USER: 4-7
- Open command, USER: 4-7
- Open Quoted Text command, GS: 2-8, USER: 4-7
- Print command, USER: 4-9
- Read Only command, USER: 4-8
- Save command, USER: 4-8
- Save All command, USER: 4-8
- Save As command, USER: 4-8
- Save Copy As command, USER: 4-8

User Interface Editor

- Add File to Project command, USRINT: 2-4
- Close command, USRINT: 2-4
- Exit LabWindows/CVI command, USRINT: 2-4
- illustration, USRINT: 2-3
- New command, USRINT: 2-4
- Open command, USRINT: 2-4
- Open User Interface command, GS: 5-3
- Print command, USRINT: 2-4
- Read Only command, USRINT: 2-4
- Save command, USRINT: 2-4
- Save All command, USRINT: 2-4
- Save As command, USRINT: 2-4
- Save Copy As command, USRINT: 2-4

Variable Display and Watch windows

- Exit LabWindows/CVI command, USER: 6-5
- Hide command, USER: 6-5
- illustration, USER: 6-4
- New command, USER: 6-5
- Open command, USER: 6-5
- Output command, USER: 6-5
- Save All command, USER: 6-5

File Select Popup, GS: 9-5

- file select pop-up panel, USRINT: 1-23 to 1-24

- file utility functions
 - CopyFile, STDLIB: 8-7 to 8-8
 - DeleteFile, STDLIB: 8-10 to 8-11
 - GetFileAttrs, STDLIB: 8-23 to 8-24
 - GetFileDate, STDLIB: 8-24 to 8-25
 - GetFileSize, STDLIB: 8-25 to 8-26
 - GetFileTime, STDLIB: 8-26 to 8-27
 - GetFirstFile, STDLIB: 8-27 to 8-29
 - GetNextFile, STDLIB: 8-33
 - RenameFile, STDLIB: 8-60 to 8-61
 - SetFileAttrs, STDLIB: 8-67 to 8-68
 - SetFileDate, STDLIB: 8-68 to 8-69
 - SetFileTime, STDLIB: 8-70
 - SplitPath, STDLIB: 8-77 to 8-78
- <filename> startup option (table),
USER: 1-1
- files. *See also* project files.
 - adding to project list, USER: 3-7 to 3-8
 - Check Disk Dates Before Each Run
option, USER: 3-51
 - format conversion when loading,
USER: 3-34
 - instrument driver files, USER: 3-29
to 3-30
- files for running standalone executables
 - accessing UIR, image, and panel state
files, PRGREF: 7-9
 - DLL files, PRGREF: 7-8
 - loading files using LoadExternalModule,
PRGREF: 7-11 to 7-16
 - DLL files (Windows 95/NT),
PRGREF: 7-14
 - DLL files and DLL path files
(Windows 3.1), PRGREF: 7-14
to 7-15
 - files in project, PRGREF: 7-12
to 7-13
 - forcing referenced modules into
executable or DLL, PRGREF: 7-12
 - library files not in project,
PRGREF: 7-13
 - object files not in project,
PRGREF: 7-13
 - other types of files, PRGREF: 7-16
 - source files, PRGREF: 7-15 to 7-16
 - location of files on target machine,
PRGREF: 7-8 to 7-16
 - relative pathnames for accessing files,
PRGREF: 7-16
 - required files, PRGREF: 7-7 to 7-8
- FileSelectPopup function, USRINT: 4-72
to 4-74
- FileToArray function, STDLIB: 2-11
to 2-12
- FillBytes function, STDLIB: 2-13
- Find button, Find UIR Objects dialog box,
USRINT: 2-18
- Find command, Edit menu
 - Array Display window, USER: 7-6
to 7-7
 - Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-13 to 4-16
 - String Display window, USER: 7-8
 - Variable Display window, USER: 6-6
to 6-7
 - Watch window, USER: 6-9
- Find dialog box
 - Array Display window, USER: 7-6
to 7-7
 - Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-13 to 4-16
 - Variable Display window, USER: 6-6
to 6-7
- Find Function Panel command, View menu,
GS: 3-8
 - Function Panel windows, USER: 5-18
to 5-19
 - Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-21 to 4-22
- Find Next button, Find UIR Objects dialog
box, USRINT: 2-19
- Find Next option, Find command
 - Array Display window, USER: 7-6
 - Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-16
 - Variable Display and Watch Windows,
USER: 6-7

- Find Prev button, Find UIR Objects dialog box, USRINT: 2-18
- Find Prev option, Find command
 - Array Display window, USER: 7-6
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-16
 - Variable Display and Watch Windows, USER: 6-7
- Find UIR Objects command, View menu, USER: 4-22, USRINT: 2-17 to 2-18
- Find UIR Objects dialog box
 - Case Sensitive option, USRINT: 2-18
 - Edit button, USRINT: 2-18
 - Find button, USRINT: 2-18
 - Find Next button, USRINT: 2-18
 - Find Prev button, USRINT: 2-18
 - illustration, USRINT: 2-17
 - Regular Expression option, USRINT: 2-18
 - search criteria in Search By ring control, USRINT: 2-17 to 2-18
 - Stop button, USRINT: 2-18
 - Wrap option, USRINT: 2-18
- Find What text box option, Find command, USER: 4-13
- finding functions, GS: 3-8 to 3-9
 - function definitions, GS: 4-2 to 4-3
 - using CodeBuilder, GS: 7-5 to 7-6
- FindMaxMin function, compiling in source file, GS: 7-5 to 7-8
- FindPattern function, STDLIB: 2-13 to 2-14
- Finish Function command, Run menu, USER: 4-29
- finite impulse response functions. *See* FIR digital filter functions; FIR filters.
- FIR digital filter functions
 - definition, ANLS: 1-7
 - FIR_Coef, ANLS: 2-99 to 2-100
 - function tree, ANLS: 1-4 to 1-5
 - Ksr_BPF, ANLS: 2-134 to 2-135
 - Ksr_BSF, ANLS: 2-136 to 2-137
 - Ksr_HPF, ANLS: 2-137 to 2-138
 - Ksr_LPF, ANLS: 2-138 to 2-139
 - Wind_BPF, ANLS: 2-212 to 2-213
 - Wind_BSF, ANLS: 2-213 to 2-215
 - Wind_HPF, ANLS: 2-215 to 2-216
 - Wind_LPF, ANLS: 2-216 to 2-217
- FIR filters
 - compared with IIR filters, ANLS: 1-13
 - definition, ANLS: 1-13
 - designing, ANLS: 1-14
- FIR_Coef function, ANLS: 2-99 to 2-100
- First Function Panel Window command, View menu, USER: 5-19
- First Panel command, View menu, USER: 5-2
- Fixup pathnames when project is moved option, USER: 3-55
- `__FLAT__` macro, PRGREF: 1-5, USER: 3-49
- Flatten option, Select Function Panel dialog box, USER: 3-36, 5-2
- FlatTopWin function, ANLS: 2-100
- floating-point modifiers (%f)
 - formatting functions, STDLIB: 2-37 to 2-38
 - scanning functions, STDLIB: 2-45 to 2-46
- floats, returning, PRGREF: 3-5
- Fluke 8840a Digital Multimeter utility functions (note), INST: 6-3
- FlushInQ function, STDLIB: 5-18
- FlushOutQ function, STDLIB: 5-19
- Fmt, FmtFile, and FmtOut functions. *See* formatting function programming examples; formatting functions.
- Follow Pointer Chain command, View menu, USER: 6-2, 6-10 to 6-11
- Font command, Options menu
 - Project window, USER: 3-55
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-35
- font directory (table), USER: 1-4
- font options
 - appFont, USER: 1-6
 - dialogFont, USER: 1-6
 - DialogFontBold, USER: 1-5
 - DialogFontName, USER: 1-5

- DialogFontSize, USER: 1-5
- editorFont, USER: 1-6
- menuFont, USER: 1-6
- fonts
 - CreateMetaFont function, USRINT: 4-52 to 4-53
 - FontSelectPopup function, USRINT: 4-74 to 4-77
 - functions using fonts as input parameters, USRINT: 4-10
 - metafonts
 - included with LabWindows/CVI, USRINT: 1-25
 - typefaces native to each platform, USRINT: 1-25
 - multiplatform application
 - considerations, PRGREF: 6-3
 - panel attributes
 - host fonts, USRINT: 3-21
 - metafonts included with LabWindows/CVI, USRINT: 3-21
 - platform independent fonts on PCs and UNIX, USRINT: 3-20
 - platform independent metafonts on PCs and UNIX, USRINT: 3-20 to 3-21
 - user defined metafonts, USRINT: 3-21
 - valid font values (table), USRINT: 3-20
 - setting and applying default fonts, USRINT: 2-15
 - typefaces native to each platform, USRINT: 1-25
 - FontSelectPopup function, USRINT: 4-74 to 4-77
 - For Loop dialog box, GS: 6-3
 - ForceWin function, ANLS: 2-101
 - format codes
 - formatting functions, STDLIB: 2-34 to 2-35
 - scanning functions, STDLIB: 2-42 to 2-43
 - format conversion of files during loading, USER: 3-34
 - Format menu
 - Array and String Display windows, USER: 7-8
 - Variable Display and Watch windows, USER: 6-13
 - format string
 - formatting functions, STDLIB: 2-33 to 2-35
 - examples, STDLIB: 2-33 to 2-34
 - form of, STDLIB: 2-34
 - format codes, STDLIB: 2-34 to 2-35
 - using literals, STDLIB: 2-40
 - scanning functions, STDLIB: 2-41 to 2-43
 - examples, STDLIB: 2-41
 - form of, STDLIB: 2-41
 - format codes, STDLIB: 2-42 to 2-43
 - using literals, STDLIB: 2-48 to 2-49
 - Formatting and I/O command, Library menu, USER: 3-40
 - Formatting and I/O Library
 - definition, USER: 3-40
 - status reporting by, PRGREF: B-5 to B-6
 - Formatting and I/O Library functions
 - function panels
 - classes and subclasses, STDLIB: 2-2 to 2-3
 - function tree (table), STDLIB: 2-2
 - function reference
 - ArrayToFile, STDLIB: 2-4 to 2-6
 - CloseFile, STDLIB: 2-7
 - CompareBytes, STDLIB: 2-7 to 2-8
 - CompareStrings, STDLIB: 2-8 to 2-9
 - CopyBytes, STDLIB: 2-9 to 2-10
 - CopyString, STDLIB: 2-10
 - FileToArray, STDLIB: 2-11 to 2-12
 - FillBytes, STDLIB: 2-13
 - FindPattern, STDLIB: 2-13 to 2-14
 - Fmt, INST: 6-9, STDLIB: 2-14 to 2-15, 2-32
 - FmtFile, STDLIB: 2-15 to 2-16, 2-32
 - FmtOut, STDLIB: 2-16 to 2-17, 2-32
 - GetFileInfo, STDLIB: 2-17
 - GetFmtErrNdx, STDLIB: 2-18

- GetFmtIOError, STDLIB: 2-18 to 2-19
- GetFmtIOErrorString, STDLIB: 2-19
- NumFmtdBytes, STDLIB: 2-20
- OpenFile, STDLIB: 2-20 to 2-22
- ReadFile, STDLIB: 2-22 to 2-23
- ReadLine, STDLIB: 2-23 to 2-24
- Scan, INST: 6-9 to 6-10, STDLIB: 2-24, 2-40
- ScanFile, STDLIB: 2-25, 2-40
- ScanIn, STDLIB: 2-25 to 2-26, 2-40
- SetFilePtr, STDLIB: 2-26 to 2-28
- StringLength, STDLIB: 2-28
- StringLowerCase, STDLIB: 2-28 to 2-29
- StringUpperCase, STDLIB: 2-29
- WriteFile, STDLIB: 2-29 to 2-30
- WriteLine, STDLIB: 2-30 to 2-31
- formatting function programming examples
 - appending to a string, STDLIB: 2-56 to 2-57
 - concatenating two strings, STDLIB: 2-56
 - creating array of file names, STDLIB: 2-47
 - integer and real to string with literals, STDLIB: 2-53
 - integer array to binary file, assuming fixed number of elements, STDLIB: 2-54
 - integer to string, STDLIB: 2-50 to 2-51
 - list of examples, STDLIB: 2-49 to 2-50
 - long integer to string, STDLIB: 2-51
 - real array to ASCII file in columns with comma separators, STDLIB: 2-53 to 2-54
 - real array to binary file
 - assuming fixed number of elements, STDLIB: 2-54
 - assuming variable number of elements, STDLIB: 2-55
 - real to string
 - in floating-point notation, STDLIB: 2-51 to 2-52
 - in scientific notation, STDLIB: 2-52
 - two integers to ASCII file with error-checking, STDLIB: 2-53
 - variable portion of real array to binary file, STDLIB: 2-55
 - writing line containing integer with literals to standard output, STDLIB: 2-58
 - writing to standard output without linefeed/carriage return, STDLIB: 2-58
- formatting functions. *See also* scanning functions; string manipulation functions.
 - asterisks (*) instead of constants in format specifiers, STDLIB: 2-39
- Fmt
 - description, STDLIB: 2-14 to 2-15
 - examples, STDLIB: 2-32
 - in portable instrument drivers, INST: 6-9
- FmtFile
 - description, STDLIB: 2-15 to 2-16
 - examples, STDLIB: 2-32
- FmtOut
 - description, STDLIB: 2-16 to 2-17
 - examples, STDLIB: 2-32
- format string, STDLIB: 2-33 to 2-35
- introductory examples, STDLIB: 2-31 to 2-32
- literals in format string, STDLIB: 2-40
- purpose and use, STDLIB: 2-31
- Scan function, in portable instrument drivers, INST: 6-9 to 6-10
- special nature of, STDLIB: 2-3 to 2-4
- formatting modifiers, STDLIB: 2-35 to 2-39. *See also* scanning modifiers.
 - floating-point modifiers (%f), STDLIB: 2-37 to 2-38
 - integer modifiers (%i, %d, %x, %o, %c), STDLIB: 2-35 to 2-37
 - string modifiers (%s), STDLIB: 2-38 to 2-39
- <FORWARD DELETE> key, multiplatform application considerations, PRGREF: 6-3
- ForwSub function, ANLS: 2-101 to 2-102
- Fourier Transform integral, ANLS: 1-9
- FP Auto-Load List command, Edit menu, INST: 3-3 to 3-4

- .fp files. *See* instrument driver function panel (.fp) files.
- FPT support, ANLS: B-2
- FreeIIRFilterPtr function, ANLS: 2-102 to 2-104
- FREQMEAS example program, GS: 11-5
- frequency domain functions
 - conventions and restrictions related to
 - Fast Fourier Transform, ANLS: 1-10
 - CrossSpectrum, ANLS: 2-62 to 2-63
 - definition, ANLS: 1-7
 - FFT, ANLS: 2-97 to 2-98
 - FHT, ANLS: 2-98 to 2-99
 - function tree, ANLS: 1-3
 - InvFFT, ANLS: 2-129 to 2-130
 - InvFHT, ANLS: 2-130 to 2-131
 - notation for describing Fast Fourier Transform operations, ANLS: 1-10
 - ReFFT, ANLS: 2-174
 - ReInvFFT, ANLS: 2-175
 - Spectrum, ANLS: 2-188
- FrequencyDividerConfig function, STDLIB: 10-37 to 10-39
- FTP support, GS: A-2, INST: B-2, PRGREF: C-2, USER: B-2, USRINT: B-2
- full prototype, PRGREF: 1-2
- function classes. *See* classes.
- Function command, Help menu, GS: 3-5, USER: 5-22
- function definition
 - new style, PRGREF: 1-2
 - old style, PRGREF: 1-2
- Function Help command, Edit menu, INST: 4-6
- function panel controls
 - adding help, INST: 4-6
 - alignment commands
 - Align Horizontal Centers command, INST: 4-5
 - Alignment command, INST: 4-5
 - binary, INST: 4-11 to 4-12, 4-24
 - binary control parameter, USER: 5-5
 - changing control type
 - Change Control Type command, INST: 4-5
 - Change Input Control Type dialog box, INST: 4-28
 - example, INST: 4-27 to 4-29
 - common control panel, INST: 4-6, USER: 5-6
 - copying, INST: 4-4
 - cutting and pasting (example), INST: 4-29 to 4-30
 - distribution commands
 - Distribute Vertical Centers command, INST: 4-5 to 4-6
 - Distribution command, INST: 4-5
 - example instrument driver
 - Error control, INST: 8-9, 8-13 to 8-14
 - Instrument Handle control, INST: 8-4 to 8-5
 - return value control, INST: 8-9, 8-13
 - ring control, INST: 8-6 to 8-9
 - Sample Period control, INST: 8-12
 - Trigger Offset control, INST: 8-13
 - Waveform Array control, INST: 8-11 to 8-12
 - generating events, GS: 9-6 to 9-7
 - global control, USER: 5-6
 - global variable, INST: 4-18 to 4-19
 - help information, INST: 5-6, 6-15
 - illustration, USER: 5-4
 - input, GS: 3-4, INST: 4-7 to 4-8, 4-25
 - input control parameter, USER: 5-4
 - message, INST: 4-19
 - moving, INST: 4-22
 - numeric, INST: 4-15 to 4-16
 - numeric control parameter, USER: 5-5
 - output, GS: 3-9 to 3-10, INST: 4-17
 - output control parameter, USER: 5-6
 - overriding with Toggle Control Style command, USER: 5-21
 - removing (cutting), INST: 4-4
 - restoring default value, USER: 5-20
 - return value, INST: 4-18
 - return value control parameter, USER: 5-4
 - ring, INST: 4-12 to 4-14
 - ring control parameter, USER: 5-5 to 5-6

- slide, INST: 4-8 to 4-10, 4-25
- slide control parameter, USER: 5-5
- types of controls (figure), INST: 4-7, USER: 5-3
- viewing arrays, structures, and variables, USER: 5-6
- Function Panel Editor
 - available menus, INST: 4-2 to 4-3
 - Create menu, INST: 4-6 to 4-19
 - Edit menu, INST: 4-3 to 4-6
 - examples
 - changing control type, INST: 4-27 to 4-29
 - creating function window, INST: 4-23 to 4-27
 - cutting and pasting controls, INST: 4-29 to 4-30
 - File menu, INST: 4-3
 - illustration, INST: 4-2
 - Instrument menu, INST: 4-19
 - invoking, INST: 4-1
 - items in Function Panel Editor, INST: 4-2
 - Options menu, INST: 4-20 to 4-22
 - View menu, INST: 4-19
 - Window menu, INST: 4-20
- Function Panel Editor window, USER: 2-5
- Function Panel Help Editor window, USER: 2-5
- Function Panel History command, View menu
 - Function Panel windows, USER: 5-18
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-20
- Function Panel Tree command, View menu, USER: 4-20
- Function Panel Window command, Create menu, INST: 3-5 to 3-6
- Function Panel windows
 - Code menu, USER: 5-8 to 5-17
 - creating (example), INST: 4-23 to 4-27
 - definition, INST: 4-6
 - displayed in Window menu, USER: 3-44
 - File menu, USER: 5-7 to 5-8
 - Generated Code Box, USER: 5-3
 - Help menu, USER: 5-22
 - illustration, INST: 4-27, USER: 5-2
 - Instrument menu, USER: 5-20
 - Library menu, USER: 5-20
 - multiple function panels per window, USER: 5-2 to 5-3
 - Options menu, USER: 5-20 to 5-21
 - purpose and use, USER: 2-4
 - View menu, USER: 5-2, 5-17 to 5-19
 - Window menu, USER: 5-20
- function panels. *See also* function panel controls; interactive developer interface.
 - accessing, USER: 5-1 to 5-2
 - from Instrument menu, USER: 3-36 to 3-37
 - adding YGraphPopup function to sample program, GS: 3-4 to 3-8
 - analyzing data, GS: 3-8 to 3-9
 - building for instrument drivers, INST: 2-11
 - common control panel, INST: 4-6
 - controls, GS: 3-4
 - converting instrument driver function panels, GS: 12-7
 - copying, INST: 4-4
 - creating function window (example), INST: 4-23 to 4-27
 - cutting and pasting (example), INST: 3-13 to 3-14
 - declaring arrays, GS: 8-8
 - definition, GS: 3-4, INST: 4-6, USER: 2-3, 5-1
 - determining movability, INST: 4-21
 - drawing a graph, GS: 3-5 to 3-6
 - executing functions interactively, GS: 8-4
 - executing in Interactive Execution window, USER: 5-1
 - finding functions, GS: 3-8 to 3-9, USER: 4-21 to 4-22
 - function definitions, GS: 4-2 to 4-3
 - using CodeBuilder, GS: 7-5 to 7-6
 - Generated Code box, GS: 3-7

- help information, GS: 3-4 to 3-5, INST: 6-15
 - adding, INST: 4-6
 - example, INST: 5-8 to 5-9
 - converting old style help to new style, INST: 3-9
 - new style help only, INST: 5-5
 - old style help only, INST: 5-5
- input control, GS: 3-4
- inserting code from function panels, GS: 3-7 to 3-8
- instrument driver example
 - Configure function panel window, INST: 8-4 to 8-10
 - Read Waveform function panel, INST: 8-10 to 8-14
- instrument driver programming
 - considerations, INST: 6-12
- invoking Function Panel Editor, INST: 4-1
- locating PlotY function in User Interface Library, GS: 6-4 to 6-5
- moving controls, INST: 4-22
- multiple function panels per window, USER: 5-2 to 5-3
- operating, INST: 4-22
- output control, GS: 3-9 to 3-10
- purpose and use, GS: 3-4
- recalling. *See* Recall Function Panel command, View menu.
- removing (cutting), INST: 4-4
- selecting, GS: 6-4 to 6-5, USER: 5-1 to 5-2
- setting default size, INST: 4-21
- testing operation of DAQ device and configuration, GS: 11-3 to 11-4
- toggling scroll bars, INST: 4-21
- function prototypes
 - enabling, USER: 3-46 to 3-47
 - occurrence of missing prototype errors, PRGREF: 1-2
 - requiring, PRGREF: 1-2
- Function subwindow, Variable Display window, USER: 6-2
- Function Tree command, USER: 3-8
- Function Tree Editor
 - available menus, INST: 3-2
 - Create menu, INST: 3-4 to 3-6
 - Edit menu, INST: 3-3 to 3-4
 - examples
 - cutting and pasting functions and panels, INST: 3-13 to 3-14
 - editing items in function tree, INST: 3-14 to 3-15
 - multiple classes in function tree, INST: 3-12 to 3-13
 - File menu, INST: 3-3
 - Instrument menu, INST: 3-6 to 3-8
 - invoking, INST: 3-1
 - invoking Function Panel Editor, INST: 4-1
 - Options menu, INST: 3-9 to 3-11
 - Window menu, INST: 3-9
- Function Tree Editor window
 - illustration, INST: 3-2
 - opening
 - with New command, USER: 3-4
 - with Open command, USER: 3-5
 - purpose and use, USER: 2-4
- Function Tree (*.fp) option, INST: 3-12
- Function Tree option, New command or Open command, INST: 3-1
- Function Tree/Help Editor window, USER: 2-5
- function trees
 - adding help information (example), INST: 5-6 to 5-8
 - adding new functions, INST: 3-5 to 3-6
 - building for instrument drivers, INST: 2-11, 3-4
 - classes
 - adding new classes, INST: 3-5
 - creating multiple classes (example), INST: 3-12 to 3-13
 - help information, INST: 5-4 to 5-5, 6-14
 - inserting into existing tree, INST: 3-5
 - number of functions and classes allowed (note), INST: 3-5

- cutting and pasting functions and panels (example), INST: 3-13 to 3-14
- definition, INST: 3-1, USER: 5-1
- files displayed in Window menu, USER: 3-44
- grouping functions hierarchically, INST: 6-12 to 6-13
- illustration, GS: 3-2, INST: 6-12
- instrument driver example
 - adding new functions, INST: 8-3 to 8-4
 - Configure function panel window, creating, INST: 8-4 to 8-10
 - creating function tree, INST: 8-2 to 8-4
 - modifying instrument name, INST: 8-2 to 8-3
 - Read Waveform function panel, creating, INST: 8-10 to 8-14
- number of functions and classes allowed (note), INST: 3-5
- functional body
 - definition, INST: 1-4
 - purpose and use, INST: 1-5
- functions exported by ordinal value only, PRGREF: 4-18

G

- GaussNoise function, ANLS: 2-103 to 2-104
- GenCosWin function, ANLS: 2-104
- gender changer, STDLIB: 5-6
- general protection errors, PRGREF: 1-15
- General Purpose Interface Bus (GPIB). *See* GPIB boards.
- Generate All Code command, Code menu, GS: 5-10
- Generate All Code dialog box, GS: 5-11, USRINT: 2-25
- Generate Code dialog box, USRINT: 2-24
- Generate Control Callback command, GS: 7-3
- Generate DLL Glue Object command, Options menu, PRGREF: 7-14, USER: 4-38

- Generate DLL Glue Source command, Options menu, PRGREF: 4-8, 4-9, USER: 4-38
- Generate DLL Import Library command, Options menu, PRGREF: 3-4, USER: 4-37
- Generate DLL Import Source command, Options menu, PRGREF: 3-16, USER: 4-37
- Generate DLL Make File command, Options menu, INST: 3-9
- Generate Documentation command, Options menu, INST: 3-9
- Generate Function Prototypes command, Options menu, INST: 3-9
- Generate Main Function dialog box, USRINT: 2-26
- Generate menu, USRINT: 2-24 to 2-28
 - All Callbacks command, USRINT: 2-27
 - All Code command, USRINT: 2-25 to 2-26
 - Control Callbacks command, USRINT: 2-28
 - enabled commands (note), USRINT: 2-24
 - Generate Code dialog box, USRINT: 2-24
 - illustration, USRINT: 2-24
 - Main Function command, USRINT: 2-26 to 2-27
 - Menu Callbacks command, USRINT: 2-28
 - Panel Callback command, USRINT: 2-28
- Generate ODL File command, Options menu, INST: 3-10
- Generate Prototypes command, Build menu, USER: 4-24
- Generate Visual Basic Include command, Options menu, USER: 4-38
- Generate Windows Help command, Options menu, INST: 3-9, PRGREF: 3-20
- Generated Code Box, GS: 3-7 to 3-8, USER: 5-3
- generated code stored in Interactive window, ANLS: 1-9

- generating code automatically. *See* CodeBuilder.
- generic message pop-up panel,
USRINT: 1-22
- GenericMessagePopup function, USRINT:
4-77 to 4-79
- GenLSFit function, ANLS: 2-105 to 2-111
- GenLSFitCoef function, ANLS: 2-112
to 2-113
- geometric panel attributes, USRINT: 3-18
- Get3dBorderColors function, USRINT: 4-79
to 4-80
- GetActiveCtrl function, USRINT: 4-80
- GetActiveGraphCursor function, USRINT:
4-80 to 4-81
- GetActivePanel function, USRINT: 4-81
- GetAILimitsOfChannel function, STDLIB:
10-40 to 10-41
- GetAnalysisErrorString function, ANLS:
2-113, STDLIB: 3-19
- GetAxisItem function, USRINT: 4-82
to 4-83
- GetAxisItemLabelLength function,
USRINT: 4-83 to 4-84
- GetAxisRange function, USRINT: 4-84
to 4-85
- GetAxisScalingMode function, USRINT:
4-86 to 4-87
- GetBimapData function, USRINT: 4-87
to 4-89
- GetBitmapFromFile function, USRINT:
4-89 to 4-90
- GetBitmapInfo function, USRINT: 4-90
to 4-91
- GetBreakOnLibraryErrors function,
STDLIB: 8-17
- GetBreakOnProtectionErrors function,
STDLIB: 8-18
- GetChannelIndices function, STDLIB:
10-41 to 10-42
- GetChannelNameFromIndex function,
STDLIB: 10-42 to 10-43
- GetComStat function, STDLIB: 5-19 to 5-20
- GetCtrlAttribute function, GS: 9-3 to 9-4,
USRINT: 4-91 to 4-92
- GetCtrlBitmap function, USRINT: 4-92
to 4-93
- GetCtrlBoundingRect function, USRINT:
4-93 to 4-94
- GetCtrlDisplayBitmap function, USRINT:
4-94 to 4-95
- GetCtrlIndex function, USRINT: 4-95
to 4-96
- GetCtrlVal function, GS: 9-2 to 9-3,
USRINT: 4-96 to 4-97
- GetCurrentPlatform function, STDLIB: 8-19
- GetCursorAttribute function, USRINT: 4-97
- GetCVITaskHandle function,
USRINT: 4-98
- GetCVIVersion function, STDLIB: 8-18
to 8-19
- GetCVIWindowHandle function, PRGREF:
4-20, USRINT: 4-98 to 4-99
- GetDAQErrorString function, STDLIB:
10-43 to 10-44
- GetDDEErrorString function, STDLIB: 6-15
to 6-16
- GetDir function, STDLIB: 8-20
- GetDrive function, STDLIB: 8-20 to 8-21
- GetExternalModuleAddr function, STDLIB:
8-21 to 8-22
- GetFileAttrs function, STDLIB: 8-23
to 8-24
- GetFileDate function, STDLIB: 8-24 to 8-25
- GetFileInfo function, STDLIB: 2-17
- GetFileSize function, STDLIB: 8-25 to 8-26
- GetFileTime function, STDLIB: 8-26
to 8-27
- GetFirstFile function, STDLIB: 8-27 to 8-29
- GetFmtErrNdx function, STDLIB: 2-18
- GetFmtIOError function, STDLIB: 2-18
to 2-19
- GetFmtIOErrorString function,
STDLIB: 2-19
- GetFullPathFromProject function, STDLIB:
8-29 to 8-30
- GetGlobalMouseState function, USRINT:
4-99 to 4-100
- GetGraphCursor function, USRINT: 4-100
to 4-101

- GetGraphCursorIndex function,
 USRINT: 4-101
- GetImageBits function, USRINT: 4-102
 to 4-104
- GetImageInfo function, USRINT: 4-105
 to 4-106
- GetIndexFromValue function, USRINT:
 4-106 to 4-107
- GetInQLen function, STDLIB: 5-20 to 5-21
- GetInterruptState function, STDLIB: 8-30
- GetKey function, STDLIB: 8-30 to 8-31
- GetLabelFromIndex function,
 USRINT: 4-107
- GetLabelLengthFromIndex function,
 USRINT: 4-108
- GetListItemImage function, USRINT: 4-108
 to 4-109
- GetMenuBarAttribute function, USRINT:
 4-109 to 4-110
- GetModuleDir function, STDLIB: 8-31
 to 8-32
- GetMouseCursor function, USRINT: 4-110
- GetNextFile function, STDLIB: 8-33
- GetNumAxisItems function,
 USRINT: 4-111
- GetNumChannels function, STDLIB: 10-44
- GetNumCheckedItems function,
 USRINT: 4-112
- GetNumListItems function, USRINT: 4-112
 to 4-113
- GetNumTextBoxLines function, USRINT:
 4-113 to 4-114
- GetOutQLen function, STDLIB: 5-4, 5-21
- GetPanelAttribute function, USRINT: 4-114
- GetPanelDisplayBitmap function, USRINT:
 4-114 to 4-116
- GetPanelMenuBar function, USRINT: 4-116
- GetPersistentVariable function,
 STDLIB: 8-33
- GetPlotAttribute function, USRINT: 4-116
 to 4-117
- GetPrintAttribute function, USRINT: 4-117
 to 4-118
- GetProjectDir function, STDLIB: 8-34
- GetRelativeMouseState function, USRINT:
 4-118 to 4-119
- GetRS232ErrorString function,
 STDLIB: 5-22
- GetScreenSize function, USRINT: 4-119
- GetSharedMenuBarEventPanel function,
 USRINT: 4-119 to 4-120
- GetSleepPolicy function, USRINT: 4-120
- GetStdioPort function, STDLIB: 8-35
- GetStdioWindowOptions function,
 STDLIB: 8-35 to 8-36
- GetStdioWindowPosition function,
 STDLIB: 8-36 to 8-37
- GetStdioWindowSize function,
 STDLIB: 8-37
- GetStdioWindowVisibility function,
 STDLIB: 8-37 to 8-38
- GetSystemAttribute function, USRINT:
 4-120 to 4-121
- GetSystemDate function, STDLIB: 8-38
- GetSystemPopupsAttribute function,
 USRINT: 4-121
- GetSystemTime function, STDLIB: 8-39
- GetTCPErrrorString function, STDLIB: 7-8
- GetTextBoxLine function, USRINT: 4-121
 to 4-122
- GetTextBoxLineLength function, USRINT:
 4-122 to 4-123
- GetTextDisplaySize function,
 USRINT: 4-123
- GetTraceAttribute function, USRINT: 4-123
 to 4-124
- GetUILErrorString function,
 USRINT: 4-124
- GetUserEvent function. *See also* event
 loops.
 - description, USRINT: 4-125
 - purpose, USRINT: 3-92
 - responding to events, USRINT: 3-8
 to 3-9
 - diagram of event loop concept,
 USRINT: 3-8
 - pseudocode example, USRINT: 3-8
 to 3-9
- GetValueFromIndex function,
 USRINT: 4-126
- GetValueLengthFromIndex function,
 USRINT: 4-126 to 4-127

- GetWaitCursorState function,
 - USRINT: 4-127
- GetWindowDisplaySetting function,
 - STDLIB: 8-39 to 8-40
- GetXPropErrorString function,
 - STDLIB: 9-15
- GetXPropertyName function, STDLIB: 9-15 to 9-16
- GetXPropertyType function, STDLIB: 9-16 to 9-17
- GetXPropTypeName function, STDLIB: 9-17 to 9-18
- GetXPropTypeSize function, STDLIB: 9-18
- GetXPropTypeUnit function, STDLIB: 9-19
- GetXWindowPropertyItem function,
 - STDLIB: 9-20 to 9-22
- GetXWindowPropertyValue function,
 - STDLIB: 9-22 to 9-25
- global control, USER: 5-6
- Global subwindow, Variable Display window, USER: 6-2
- Global Variable command, Create menu,
 - INST: 4-18 to 4-19
- global variable controls, INST: 4-18 to 4-19
 - control label, INST: 4-19
 - control width, INST: 4-19
 - Create Global Variable Control dialog box, INST: 4-18 to 4-19
 - data type, INST: 4-19
 - definition, INST: 4-18
 - display format, INST: 4-19
 - global variable name, INST: 4-19
- global variables. *See also* status functions.
 - CVIXDisplay, STDLIB: 9-3
 - CVIXHiddenWindow, STDLIB: 9-4
 - Error (iberr), STDLIB: 4-6, 4-11
 - GPIB/GPIB-488.2 libraries,
 - STDLIB: 4-10
 - rs232err, STDLIB: 5-3
 - Status Word (ibsta), STDLIB: 4-6, 4-10
- glue code. *See* Microsoft Windows 16-bit DLLs; Microsoft Windows 32-bit DLLs.
- glue object, generating, USER: 4-38
- Go to Cursor command, Run menu,
 - USER: 4-28
- Go To Definition command
 - Edit menu, USER: 4-13
 - View menu, USER: 6-12
- Go To Definition toolbar icon, GS: 4-2 to 4-3
- Go To Execution Position command, View menu, USER: 6-12
- GOT_FOCUS event, USRINT: 1-2
- Goto command, Edit menu
 - Array Display window, USER: 7-7
 - String Display window, USER: 7-8
- GPIB and GPIB-488.2 Libraries
 - automatic serial polling, STDLIB: 4-7 to 4-8
 - board functions, STDLIB: 4-7
 - definition, USER: 3-39
 - device functions, STDLIB: 4-7
 - function panels
 - classes and subclasses, STDLIB: 4-4 to 4-5
 - function tree (table), STDLIB: 4-2 to 4-4
 - functions. *See* Device Manager functions, GPIB.
 - global variables, STDLIB: 4-10
 - GPIB dynamic link library/device driver, STDLIB: 4-5 to 4-6
 - guidelines and restrictions, STDLIB: 4-6 to 4-7
 - hardware interrupts and autopolling, STDLIB: 4-8 to 4-9
 - overview, STDLIB: 4-1
 - platform and board considerations, STDLIB: 4-10 to 4-11
 - read and write termination, STDLIB: 4-9
 - status and error controls, STDLIB: 4-6
 - status reporting by, PRGREF: B-4
 - timeouts, STDLIB: 4-9
 - Windows 95 support, STDLIB: 4-10 to 4-11
 - compatibility driver, STDLIB: 4-11
 - native 32-bit driver, STDLIB: 4-10
- Windows NT and GPIB driver,
 - STDLIB: 4-11
 - limitations on transfer size, STDLIB: 4-11

- multithreading, STDLIB: 4-11
 - notification of SRQ and other GPIB events, STDLIB: 4-12
 - writing instrument modules (note), STDLIB: 4-7
- GPIB boards
 - compatible LabWindows/CVI interfaces, GS: 10-1
 - configuration
 - GPIB driver software, GS: 10-2
 - LabWindows/CVI for GPIB, GS: 10-2 to 10-3
 - developing applications, GS: 10-3
 - installation, GS: 10-1 to 10-2
 - overview, GS: 10-1
- GPIB device drivers, STDLIB: 4-5 to 4-6
- GPIB instruments
 - core instrument driver files (table), INST: 6-4
 - programming example, INST: 8-1 to 8-20
 - Configure function, writing, INST: 8-17 to 8-18
 - Configure Function Panel window, creating, INST: 8-4 to 8-10
 - creating the program, INST: 8-15 to 8-20
 - function tree, creating, INST: 8-2 to 8-4
 - include statements, adding, INST: 8-20
 - modifying CORE_GPB.C source file, INST: 8-15 to 8-16
 - modifying CORE_GPB.H include file, INST: 8-16 to 8-17
 - Read Waveform function, writing, INST: 8-18 to 8-19
 - Read Waveform function panel, creating, INST: 8-10 to 8-14
 - testing the driver, INST: 8-20
 - variable declarations, adding, INST: 8-20
 - writing new functions, INST: 8-17
- GPIB.DLL, STDLIB: 4-5
- GPIB/GPIB 488.2 command, Library menu, USER: 3-39
- graph control functions
 - AllocImageBits, USRINT: 4-14 to 4-15
 - ClearStripChart, USRINT: 4-47 to 4-48
 - DeleteGraphPlot function, USRINT: 4-56 to 4-57
 - DeleteImage, USRINT: 4-58
 - DisplayImageFile, USRINT: 4-65
 - DisplayPCXFile, USRINT: 4-66
 - function tree, USRINT: 4-4
 - GetActiveGraphCursor, USRINT: 4-80 to 4-81
 - GetAxisRange, USRINT: 4-84 to 4-85
 - GetCursorAttribute, USRINT: 4-97
 - GetGraphCursor, USRINT: 4-100 to 4-101
 - GetGraphCursorIndex, USRINT: 4-101
 - GetImageBits, USRINT: 4-102 to 4-104
 - GetImageInfo, USRINT: 4-105 to 4-106
 - GetPlotAttribute, USRINT: 4-116 to 4-117
 - GetTraceAttribute, USRINT: 4-123 to 4-124
 - graph and strip chart controls, USRINT: 3-66 to 3-67
 - PlotArc, USRINT: 4-160 to 4-162
 - PlotBitMap, USRINT: 4-162 to 4-163
 - PlotIntensity, USRINT: 4-163 to 4-166
 - PlotLine, USRINT: 4-166 to 4-167
 - PlotOval, USRINT: 4-167 to 4-168
 - PlotPoint, USRINT: 4-169
 - PlotPolygon, USRINT: 4-170 to 4-171
 - PlotRectangle, USRINT: 4-171 to 4-172
 - PlotScaledIntensity, USRINT: 4-173 to 4-176
 - PlotStripChart, USRINT: 4-176 to 4-178
 - PlotStripChartPoint, USRINT: 4-178 to 4-179
 - PlotText, USRINT: 4-179 to 4-180
 - PlotWaveform, USRINT: 4-181 to 4-182
 - PlotX, USRINT: 4-183 to 4-184
 - PlotXY, USRINT: 4-184 to 4-185
 - PlotY, USRINT: 4-185 to 4-187
 - RefreshGraph, USRINT: 4-210
 - ResetTimer, USRINT: 4-216 to 4-217
 - ResumeTimerCallbacks, USRINT: 4-217

- SetActiveGraphCursor, USRINT: 4-221 to 4-222
- SetAxisRange, USRINT: 4-224 to 4-226
- SetCursorAttribute, USRINT: 4-230 to 4-231
- SetGraphCursor, USRINT: 4-233
- SetGraphCursorIndex, USRINT: 4-234
- SetImageBits, USRINT: 4-236 to 4-238
- SetPlotAttribute, USRINT: 4-244 to 4-245
- SetTraceAttribute, USRINT: 4-247 to 4-248
- SuspendTimerCallbacks, USRINT: 4-249
- graph controls. *See also* graph control functions.
 - adding to user interface, GS: 5-7 to 5-8
 - attributes
 - cursor styles for
 - ATTR_CROSSHAIR_STYLE (table), USRINT: 3-78
 - discussion of specific attributes, USRINT: 3-77 to 3-80
 - line styles for ATTR_LINE_STYLE (table), USRINT: 3-80
 - list of attributes (table), USRINT: 3-68 to 3-77
 - plot origin, USRINT: 3-80 to 3-81
 - plot styles for ATTR_PLOT_STYLE (table), USRINT: 3-80
 - styles for
 - ATTR_CURSOR_POINT_STYLE and ATTR_TRACE_POINT_STYLE (table), USRINT: 3-78 to 3-79
 - two Y axes, USRINT: 3-81
 - values for ATTR_PLOT_ORIGIN (table), USRINT: 3-81
 - definition, USRINT: 1-16
 - example program, USRINT: 5-3
 - illustration, USRINT: 1-16
 - locating PlotY function, GS: 6-4 to 6-5
 - operating, USRINT: 1-16 to 1-19
 - optimizing, USRINT: 3-82 to 3-85
 - controlling refresh, USRINT: 3-83 to 3-84
 - example canvas benchmark program, USRINT: 5-6
 - memory usage, USRINT: 3-84 to 3-85
 - speed, USRINT: 3-82 to 3-84
 - processing events, USRINT: 3-67 to 3-68
 - zooming and panning on graphs, USRINT: 1-19
 - graph cursor functions. *See* cursor and mouse functions.
 - graph cursors. *See* cursors.
 - graph plotting and deleting functions
 - DeleteGraphPlot function, USRINT: 4-56 to 4-57
 - GetPlotAttribute, USRINT: 4-116 to 4-117
 - PlotArc, USRINT: 4-160 to 4-162
 - PlotBitMap, USRINT: 4-162 to 4-163
 - PlotIntensity, USRINT: 4-163 to 4-166
 - PlotLine, USRINT: 4-166 to 4-167
 - PlotOval, USRINT: 4-167 to 4-168
 - PlotPoint, USRINT: 4-169
 - PlotPolygon, USRINT: 4-170 to 4-171
 - PlotRectangle, USRINT: 4-171 to 4-172
 - PlotText, USRINT: 4-179 to 4-180
 - PlotWaveform, USRINT: 4-181 to 4-182
 - PlotX, USRINT: 4-183 to 4-184
 - PlotXY, USRINT: 4-184 to 4-185
 - PlotY, USRINT: 4-185 to 4-187
 - RefreshGraph, USRINT: 4-210
 - SetPlotAttribute, USRINT: 4-244 to 4-245
 - graph pop-up panel, USRINT: 1-24
 - graphical user interface (GUI)
 - building. *See* graphical user interface (GUI), building.
 - components, GS: 1-5, USRINT: 1-1
 - decorations, USRINT: 1-16
 - definition, GS: 1-5
 - example of GUI, GS: 2-10 to 2-11
 - fonts, USRINT: 1-25
 - illustration, GS: 2-10, USRINT: 1-1
 - multiplatform application
 - considerations, PRGREF: 6-3
 - pop-up panels, USRINT: 1-21 to 1-24

graphical user interface (GUI), building. *See also* User Interface Editor.

accessing User Interface Library, GS:
3-2 to 3-3

AcquireData function, GS: 6-2

adding Command Button, GS: 5-5 to 5-7

adding graph control, GS: 5-7 to 5-8

adding Save button, GS: 9-6

assigning constant names in User

Interface Editor, USRINT: 3-2 to 3-3

bitmap objects, USRINT: 3-62 to 3-63

creating, extracting, or discarding,
USRINT: 3-62

displaying or copying,
USRINT: 3-63

retrieving image data, USRINT: 3-63

Windows metafiles, USRINT: 3-62
to 3-63

building PlotY function call syntax, GS:
6-6 to 6-9

building user interface resource (.uir)
file, GS: 5-3 to 5-12

canvas controls, USRINT: 3-53 to 3-59

attributes, USRINT: 3-56 to 3-59

background color, USRINT: 3-55

batch drawing, USRINT: 3-54

canvas coordinate system,
USRINT: 3-54

clipping, USRINT: 3-55

functions for drawing on canvas,
USRINT: 3-53 to 3-54

offscreen bitmap, USRINT: 3-55

pens, USRINT: 3-55

pixel values, USRINT: 3-56

constructing the project, GS: 6-9 to 6-10

control functions

for all controls, USRINT: 3-28
to 3-29

list boxes and rings, USRINT: 3-29
to 3-30

text boxes, USRINT: 3-30 to 3-31

controlling the interface

basic methods, USRINT: 1-2

callback functions, USRINT: 3-5
to 3-7

GetUserEvent function (event loop),
USRINT: 3-8 to 3-9

User Interface Editor vs.
programmatic method,
USRINT: 3-2

user interface events, USRINT: 3-3
to 3-9

controls

attributes, USRINT: 3-32 to 3-33

callback functions, USRINT: 3-31

event loops, USRINT: 3-31 to 3-32

processing events, USRINT: 3-31
to 3-32

development procedure, USRINT: 3-1
events, USRINT: 1-2

callback functions for responding to
events, USRINT: 3-5 to 3-7

control modes for generating commit
events, USRINT: 1-3 to 1-4

event types and information passed
to program (table), USRINT: 3-4

GetUserEvent function (event loop)
for responding to events, USRINT:
3-8 to 3-9

example program, USRINT: 5-4

finding PlotY function, GS: 6-4 to 6-5

general guidelines, USRINT: 3-1

generating hard copy output

functions, USRINT: 3-88

hard copy attributes, USRINT: 3-89
to 3-91

graph and strip chart controls

attributes, USRINT: 3-68 to 3-80

functions, USRINT: 3-65 to 3-67

processing events, USRINT: 3-67
to 3-68

main function, GS: 6-1 to 6-2

menu bars, USRINT: 1-6 to 1-7

attributes, USRINT: 3-24 to 3-25

functions, USRINT: 3-21 to 3-22

processing events, USRINT: 3-22
to 3-23

modifying, GS: 7-2 to 7-5

- panels
 - attributes (table), USRINT: 3-12 to 3-16
 - functions, USRINT: 3-9 to 3-10
 - processing events, USRINT: 3-11
 - picture controls, USRINT: 3-51 to 3-53
 - attributes, USRINT: 3-52 to 3-53
 - image formats (table), USRINT: 3-52
 - simple picture control, USRINT: 3-52
 - pop-up panels, USRINT: 3-85 to 3-86
 - recompiling program after saving .uir file, USRINT: 3-1
 - rect and point structures, USRINT: 3-59 to 3-61
 - comparing or obtaining values, USRINT: 3-61
 - functions and macros for creating, USRINT: 3-60
 - modifying, USRINT: 3-60 to 3-61
 - running the program, GS: 6-10 to 6-11, 7-8
 - saving uir files, GS: 5-8 to 5-9
 - setting attributes programmatically, GS: 9-3 to 9-4
 - Shutdown function, GS: 6-2 to 6-3
 - source code connection, USRINT: 1-3
 - source code requirements, GS: 5-2
 - special functions
 - FakeKeystroke, USRINT: 3-94
 - InstallMainCallback, USRINT: 3-92 to 3-93
 - PostDeferredCall, USRINT: 3-94
 - precedence of callback functions, USRINT: 3-91 to 3-92
 - ProcessSystemEvents, USRINT: 3-93 to 3-94, 4-195 to 4-196
 - QueueUserEvent, USRINT: 3-94
 - QuitUserInterface, USRINT: 3-94
 - RunUserInterface, USRINT: 3-91
 - SetIdleEventRate, USRINT: 3-92 to 3-93
 - swallowing events, USRINT: 3-92
 - system attributes, USRINT: 3-86 to 3-88
 - list of attributes (table), USRINT: 3-86
 - reporting load failures, USRINT: 3-87 to 3-88
 - unsafe timer events, USRINT: 3-86 to 3-87
 - timer controls, USRINT: 3-63 to 3-65
 - attributes, USRINT: 3-64 to 3-65
 - operations, USRINT: 3-65
 - timer callbacks, USRINT: 3-64
 - timer control functions, USRINT: 3-63 to 3-65
 - using instrument driver, GS: 8-3 to 8-10
 - waveform generation project (illustration), GS: 9-2
 - writing callback function, GS: 7-5 to 7-8
 - Graphics Library (LabWindows for DOS), GS: 12-2
 - graphs, drawing with function panels, GS: 3-5 to 3-6
 - GroupByChannel function, STDLIB: 10-44 to 10-45
 - GUI. *See* graphical user interface (GUI).
- ## H
- HamWin function, ANLS: 2-114
 - handshaking for RS-232 communications, STDLIB: 5-6 to 5-8
 - hardware handshaking, STDLIB: 5-7 to 5-8
 - software handshaking, STDLIB: 5-6
 - HanWin function, ANLS: 2-114 to 2-115
 - hard copy. *See also* printing functions.
 - attributes (table), USRINT: 3-89
 - compatible printers, USRINT: 4-9
 - configuring devices, USRINT: 4-9 to 4-10
 - discussion of specific attributes, USRINT: 3-90 to 3-91
 - functions for generating, USRINT: 3-88
 - limitations with UNIX (note), USRINT: 3-90

- obtaining output, USRINT: 4-9
- values for ATTR_COLOR_MODE (table), USRINT: 3-91
- hardware handshaking, STDLIB: 5-7 to 5-8
- hardware interrupts and autopolling, STDLIB: 4-8 to 4-9
- hardware interrupts under Windows 95/NT, PRGREF: 3-24 to 3-25
- header files
 - created by saving .uir file in User Interface Editor, USRINT: 1-3
 - including, USER: 3-8
 - instrument drivers, converting from LabWindows for DOS, GS: 12-7
 - optional in project file list, USER: 3-1
 - previewing, USRINT: 2-19
- help, starting. *See* SystemHelp function.
- Help dialog box
 - for functions and classes, USER: 3-37
 - illustration, USER: 3-37
- Help Editor dialog box, INST: 5-3 to 5-4
 - Edit menu, INST: 5-4
 - File menu, INST: 5-3
 - illustration, INST: 5-3
 - Window menu, INST: 5-4
- Help Editor windows, displayed in Window menu, USER: 3-44
- help information, INST: 5-1 to 5-10
 - adding to command buttons, GS: 9-7 to 9-8
 - controls, INST: 4-6, 5-6, 6-15
 - editing, INST: 5-2 to 5-4
 - error help, INST: 6-16
 - examples
 - adding help in Function Panel Editor, INST: 5-8 to 5-9
 - adding help in Function Tree Editor, INST: 5-6 to 5-8
 - copying and pasting help text, INST: 5-9 to 5-10
 - instrument drivers, INST: 6-13 to 6-14, 8-4
 - function classes, INST: 5-4 to 5-5, 6-14
 - function panels
 - converting old style help to new style, INST: 3-9
 - example, INST: 6-15
 - new style help only, INST: 5-5
 - old style help only, INST: 5-5
 - selecting old style or new style help, INST: 4-6
 - generating files for Windows Help Compiler, INST: 3-9
 - Help Editor dialog box, INST: 5-3
 - instrument drivers
 - adding, INST: 5-4
 - example, INST: 6-13 to 6-14, 8-4
 - new style vs. old style help, INST: 3-9, 5-1
 - status help, INST: 6-16
 - types of help (table), INST: 5-2
- Help menu
 - Function Panel windows
 - Control command, USER: 5-22
 - Function command, USER: 5-22
 - illustration, USER: 5-22
 - Function Panel windows, GS: 3-5
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-39 to 4-40
 - About LabWindows/CVI command, USER: 4-39
 - Contents command, USER: 4-39
 - Keyboard Help command, USER: 4-39 to 4-40
 - Search for Help On command, USER: 4-39
- Help Style command, Options menu, INST: 3-9
- hidden window for providing X window IDs, STDLIB: 9-3 to 9-4
- Hide command, File menu
 - closing Standard Input/Output window, GS: 2-6
 - Interactive Execution and Standard Input/Output windows (note), USER: 4-8
 - Variable Display and Watch windows, USER: 6-5
- Hide Windows option, USER: 3-51
- HidePanel function, USRINT: 4-128

hierarchy buttons, Edit Menu Bar dialog box, USRINT: 2-9

Histogram function, ANLS: 2-115 to 2-116, STDLIB: 3-19 to 3-20

Horizontal Centers option
 Alignment command, USRINT: 2-20
 Distribution command, USRINT: 2-22

Horizontal Compress option, Distribution command, USRINT: 2-22

Horizontal Gap option, Distribution command, USRINT: 2-22

host fonts, USRINT: 3-21

host Standard I/O, selecting, USER: 3-52

hot control mode for commit events
 definition, USRINT: 1-4
 rules for generation of commit events, USRINT: 1-4

hot keys. *See* shortcut keys.

hyperhelp directory (table), USER: 1-4

I

I/O functions. *See also* Easy I/O for DAQ Library; Formatting and I/O Library functions; Standard Input/Output window functions.

 GPIB Library, STDLIB: 4-2

 low-level GPIB/GPIB-488.2 I/O functions, STDLIB: 4-4

 port I/O utility functions
 inp, STDLIB: 8-42
 inpw, STDLIB: 8-42 to 8-43
 outp, STDLIB: 8-56
 outpw, STDLIB: 8-56

 RS-232 Library
 ComFromFile, STDLIB: 5-3, 5-9 to 5-10
 ComRd, STDLIB: 5-11
 ComRdByte, STDLIB: 5-12
 ComRdTerm, STDLIB: 5-12 to 5-13
 ComToFile, STDLIB: 5-3, 5-15 to 5-16
 ComWrt, STDLIB: 5-16 to 5-17
 ComWrtByte, STDLIB: 5-17 to 5-18

 IBCONF utility, STDLIB: 4-6

 ibdev function, STDLIB: 4-6

 ibfind function, STDLIB: 4-6

 ibInstallCallback function, STDLIB: 4-14 to 4-17
 callback function, STDLIB: 4-17
 driver version requirements, STDLIB: 4-12
 purpose and use, STDLIB: 4-14 to 4-17
 SRQI, RQS, and auto serial polling, STDLIB: 4-16
 synchronous callbacks, STDLIB: 4-12

 ibNotify function, STDLIB: 4-17 to 4-20
 asynchronous callbacks, STDLIB: 4-12
 callback function, STDLIB: 4-19 to 4-20
 driver version requirements, STDLIB: 4-12
 purpose and use, STDLIB: 4-17 to 4-20
 rearming error (warning), STDLIB: 4-19
 restrictions in asynchronous callbacks, STDLIB: 4-20
 SRQI, RQS, and auto serial polling, STDLIB: 4-19

 icons
 associated with variables, USER: 6-2
 Project window, USER: 3-2 to 3-3

 ICounterControl function, STDLIB: 10-45 to 10-47

 IDs for interface objects. *See* constant names, assigning.

 IEEE-488 standard (GPIB), GS: 10-1

 IEW. *See* Interactive Execution window.

 IIR digital filter functions
 AllocIIRFilterPtr, ANLS: 2-5 to 2-6
 Bessel_CascadeCoef, ANLS: 2-33 to 2-35
 Bessel_Coef, ANLS: 2-36 to 2-37
 Bw_BPF, ANLS: 2-38
 Bw_BSF, ANLS: 2-39
 BW_CascadeCoef, ANLS: 2-40 to 2-41
 Bw_Coef, ANLS: 2-41 to 2-42
 Bw_HPF, ANLS: 2-42 to 2-43
 Bw_LPF, ANLS: 2-43 to 2-44
 CascadeToDirectCoef, ANLS: 2-44 to 2-45
 Ch_BPF, ANLS: 2-45 to 2-46

- Ch_BSF, ANLS: 2-46 to 2-47
- Ch_CascadeCoef, ANLS: 2-47 to 2-49
- Ch_Coef, ANLS: 2-49 to 2-50
- Ch_HPF, ANLS: 2-50 to 2-51
- Ch_LPF, ANLS: 2-51 to 2-52
- definition, ANLS: 1-7
- Elp_BPF, ANLS: 2-79 to 2-80
- Elp_BSF, ANLS: 2-80 to 2-81
- Elp_CascadeCoef, ANLS: 2-81 to 2-83
- Elp_Coef, ANLS: 2-83 to 2-84
- Elp_HPF, ANLS: 2-84 to 2-85
- Elp_LPF, ANLS: 2-85 to 2-86
- Equi_Ripple, ANLS: 2-86 to 2-89
- EquiRpl_BPF, ANLS: 2-89 to 2-90
- EquiRpl_BSF, ANLS: 2-91
- EquiRpl_HPF, ANLS: 2-92
- EquiRpl_LPF, ANLS: 2-93
- FreeIIRFilterPtr, ANLS: 2-102 to 2-104
- function tree, ANLS: 1-4
- IIRCascadeFiltering, ANLS: 2-116 to 2-117
- IIRFiltering, ANLS: 2-118 to 2-119
- InvCh_BPF, ANLS: 2-122
- InvCh_BSF, ANLS: 2-123
- InvCh_CascadeCoef, ANLS: 2-124 to 2-125
- InvCh_Coef, ANLS: 2-125 to 2-126
- InvCh_HFP, ANLS: 2-126 to 2-127
- InvCh_LPF, ANLS: 2-127 to 2-128
- ResetIIRFilter, ANLS: 2-176
- IIR filters, ANLS: 1-14 to 1-16
 - cascaded filter stages, ANLS: 1-15
 - compared with FIR filters, ANLS: 1-13
 - direct form, ANLS: 1-14 to 1-15
 - fourth order, ANLS: 1-16
 - mathematical form, ANLS: 1-14
 - second order, ANLS: 1-15
 - types, ANLS: 1-16
- IIRCascadeFiltering function, ANLS: 2-116 to 2-117
- IIRFiltering function, ANLS: 2-118 to 2-119
- image files
 - accessing from standalone executables, PRGREF: 7-9
 - multiplatform application considerations, PRGREF: 6-3
 - using with standalone executables, PRGREF: 7-8
- images. *See* picture control functions; picture controls.
- immediate action menus, USRINT: 1-6
- _import calling convention qualifier, PRGREF: 1-7
- __import calling convention qualifier, PRGREF: 1-7
- import libraries (Windows 95/NT)
 - automatic loading of SDK import libraries, PRGREF: 3-23
 - compatibility with external compilers, PRGREF: 3-4
 - customizing DLL import libraries, PRGREF: 3-16 to 3-17
 - generating DLL import library, PRGREF: 3-3
 - link errors when using DLL import libraries, PRGREF: 3-2
- import qualifiers. *See also* export qualifiers.
 - calling conventions (Windows 95/NT), PRGREF: 1-6 to 1-7
 - marking imported symbols in include file, PRGREF: 3-19
- Impulse function, ANLS: 2-119 to 2-120
- ImpulseResponse function, ANLS: 2-120
- include directory (table), USER: 1-4
- Include File command, View menu, USER: 5-18
- include file dependencies
 - prompting for paths, PRGREF: 1-3 to 1-4
 - tracking, PRGREF: 1-3
- Include File in Build command, Edit menu, USER: 3-8
- include files
 - adding missing files, USER: 4-24
 - ANSI C library and LabWindows/CVI libraries, PRGREF: 3-9
 - generating for Visual Basic, USER: 4-38
 - generating glue code, PRGREF: 4-9

- include file for User Interface Library (userint.h), USRINT: 4-12
- prompting for path, USER: 3-47
- required for referencing resource IDs and callback functions, USRINT: 3-2
- tracking dependencies, USER: 3-47
- updating by recompiling programs, USRINT: 3-1
- Windows 32-bit DLLs
 - exporting DLL functions and variables, PRGREF: 3-18
 - marking imported symbols in include file, PRGREF: 3-19
- Windows SDK functions, PRGREF: 3-22
- Include option, Add Files to Project command, USER: 3-8
- include paths, setting up for LabWindows/CVI, ANSI C, and SDK libraries, PRGREF: 3-23 to 3-24
- Include Paths command, Options menu, PRGREF: 1-20, USER: 3-49 to 3-50
- indicator control mode for commit events, USRINT: 1-3
- infinite impulse response functions. *See* IIR digital filter functions; IIR filters.
- InitCVIRTE function
 - calling
 - UNIX executables, PRGREF: 5-2 to 5-3
 - Windows 95/NT executables, PRGREF: 3-13 to 3-14
 - description, STDLIB: 8-40 to 8-42
- initialization routine, RS-232 instruments, INST: 6-17
- initialize function for instrument drivers
 - definition, INST: 1-8
 - generic nature of, INST: 1-3
 - PREFIX_init, INST: 7-2 to 7-4
- initializing instruments, GS: 8-4 to 8-5
- inp function, STDLIB: 8-42
- input and output parameters for instrument drivers, INST: 2-9 to 2-10
- Input command
 - Create menu, INST: 4-7 to 4-8
 - File menu, USER: 7-5
- input control parameters, specifying, USER: 5-4
- input controls
 - adding to function panel, GS: 3-4
 - control label, INST: 4-7
 - control width, INST: 4-8
 - Create Input Control dialog box, INST: 4-7 to 4-8, 4-25
 - creating, INST: 4-7 to 4-8, 4-25
 - data type, INST: 4-8
 - default value, INST: 4-8
 - definition, INST: 4-7
 - parameter position, INST: 4-7 to 4-8
- input/output facilities, ANSI C, STDLIB: 1-6
- inpw function, STDLIB: 8-42 to 8-43
- Insert Construct command, Edit menu, USER: 4-11 to 4-12
- Insert Function Call command, Code menu
 - copying instrument driver code, GS: 8-5, 8-6, 8-9
 - description, USER: 5-16 to 5-17
 - inserting code from function panel, GS: 3-7
 - PlotY function panel example, GS: 6-8
- Insert Include Statements command, Build menu, USER: 4-24
- Insert New Item field, Edit Menu Bar dialog box, USRINT: 2-9
- Insert Separator field, Edit Menu Bar dialog box, USRINT: 2-9
- InsertAxisItem function, USRINT: 4-128 to 4-129
- InsertListItem function, USRINT: 4-130 to 4-131
- InsertSeparator function, USRINT: 4-132
- InsertTextBoxLine function, USRINT: 4-132 to 4-133
- installation
 - data acquisition boards, GS: 11-1 to 11-2
 - general instructions, GS: 1-1 to 1-2
 - GPIB boards, GS: 10-1 to 10-2
 - LabWindows/CVI subdirectories (table), GS: 1-1
 - NI-DAQ driver software, GS: 11-2
 - VXI controllers, GS: 10-4 to 10-5

InstallComCallback function, STDLIB: 5-22 to 5-25

InstallCtrlCallback function, USRINT: 4-133 to 4-134

InstallMainCallback function, USRINT: 3-92 to 3-93, 4-135 to 4-136

InstallMenuCallback function, USRINT: 4-136 to 4-137

InstallMenuDimmerCallback function, USRINT: 4-137 to 4-138

InstallPanelCallback function, USRINT: 4-138 to 4-139

InstallPopup function, USRINT: 4-139

InstallXPropertyCallback function, STDLIB: 9-4, 9-25 to 9-27

InStandaloneExecutable function, STDLIB: 8-43

instrsup.dll

- functions from selected libraries, USER: 3-12
- linking project to selected libraries, USER: 3-13
- multi-threaded safe functions, USER: 3-13
- Standard Input/Output Window not supported, USER: 3-13
- Utility Library functions in, USER: 3-13

Instrument command, Create menu, INST: 3-4

Instrument Directories command, Options menu, PRGREF: 8-2, USER: 3-50

instrument driver architecture, INST: 1-3 to 1-10

- external interface model, INST: 1-4 to 1-6
 - functional body, INST: 1-5
 - general model (illustration), INST: 1-4
- interactive developer interface, INST: 1-7
- programmatic developer interface, INST: 1-6
- subroutine interface, INST: 1-5
- VISA I/O interface, INST: 1-5

- internal design model, INST: 1-7 to 1-9
 - action/status functions, INST: 1-9
 - application functions, INST: 1-9 to 1-10
 - close function, INST: 1-9
 - component functions, INST: 1-7 to 1-8
 - configuration functions, INST: 1-8
 - data functions, INST: 1-9
 - illustration, INST: 1-7
 - initialize function, INST: 1-8
 - utility functions, INST: 1-9

instrument driver function panel (.fp) files

- adding to project list, USER: 5-7
- dummy .fp files for support libraries, USER: 3-41, 3-54
- purpose and use, USER: 3-1

instrument driver functions, INST: 1-7 to 1-10

- action/status, INST: 1-9
- adding to function tree, INST: 3-5 to 3-6
 - creating multiple classes (example), INST: 3-12 to 3-13
 - empty tree or class, INST: 3-6
 - existing tree, INST: 3-6
- application functions, INST: 1-9 to 1-10
- close, INST: 1-9
- configuration, INST: 1-8
- cutting and pasting functions and panels (example), INST: 3-13 to 3-14
- data, INST: 1-9
- developer-specified, INST: 1-7, 1-8
- grouping hierarchically, INST: 6-12 to 6-13
- initialize, INST: 1-8
- naming, INST: 3-5 to 3-6
- required. *See* required functions for instrument drivers.
- user-callable functions, INST: 6-4 to 6-5
 - macros for prototyping, INST: 6-8 to 6-9
- utility, INST: 1-9

- instrument driver programming example, GS: 8-1 to 8-12, INST: 8-1 to 8-20. *See also* instrument drivers, programming.
 - adding include statements, INST: 8-20
 - adding sample program to project files, GS: 8-12
 - appearance of Sample Oscilloscope program on Instruments menu, GS: 8-2
 - closing instrument drivers, GS: 8-9 to 8-10
 - configuring instrument drivers, GS: 8-5 to 8-7
 - creating function tree, INST: 8-2 to 8-15
 - adding new functions, INST: 8-3 to 8-4
 - binary channel control, adding, INST: 8-5 to 8-6
 - creating Configure Function Panel window, INST: 8-4 to 8-10
 - Error control, adding, INST: 8-9, 8-13 to 8-14
 - horizontal timebase control, adding, INST: 8-7 to 8-8
 - Instrument Handle control, adding, INST: 8-4 to 8-5
 - modifying instrument name, INST: 8-2 to 8-3
 - Read Waveform function panel, creating, INST: 8-10 to 8-14
 - return value control, adding, INST: 8-9, 8-13
 - ring control, adding, INST: 8-6 to 8-9
 - Sample Period control, adding, INST: 8-12
 - Trigger Offset control, adding, INST: 8-13
 - Waveform Array control, adding, INST: 8-11 to 8-12
 - creating the instrument program, INST: 8-15 to 8-20
 - declaring arrays from function panels, GS: 8-8
 - functions in Sample Oscilloscope instrument, GS: 8-3
 - initializing instrument drivers, GS: 8-4 to 8-5
 - interactive function panel execution, GS: 8-4
 - interactive use, GS: 8-3
 - loading, GS: 8-1 to 8-2
 - modifying CORE_GPB.C source file, INST: 8-15 to 8-16
 - modifying CORE_GPB.H include file, INST: 8-16 to 8-17
 - overview, INST: 8-1
 - reading data, GS: 8-7
 - reading waveform, GS: 8-8 to 8-9
 - running the sample program, GS: 8-10 to 8-11
 - Tektronix 2430A sample code, INST: A-1 to A-9
 - include file, INST: A-1
 - source file, INST: A-2 to A-9
 - testing the driver, INST: 8-20
 - variable declarations, adding, INST: 8-20
 - writing Configure function, INST: 8-17 to 8-18
 - writing new functions, INST: 8-17
 - writing Read Waveform function, INST: 8-18 to 8-19
- Instrument Driver Support Only command, Build menu
 - description, USER: 3-12 to 3-13
 - enabled by VXIplug&playStyle command, INST: 3-10
- instrument drivers
 - available drivers, GS: 10-6 to 10-7
 - converting from LabWindows for DOS function panels, GS: 12-7
 - header files, GS: 12-7
 - source code, GS: 12-8
- DAQ Control Instrument drivers, GS: 11-5
 - DAQ Chart Control Instrument Driver, GS: 11-5
 - DAQ Numeric Control Instrument Driver, GS: 11-5
- definition, GS: 10-6, PRGREF: 2-2, USER: 3-29

- Easy I/O for DAQ instrument driver, GS: 11-4
- files for instrument drivers, INST: 1-1, USER: 3-29 to 3-30
- help information, INST: 5-4, 6-13 to 6-14
- historical evolution, INST: 1-3
- loading/unloading, USER: 3-31 to 3-32
 - instruments without instrument program, USER: 3-32
 - precedence rules, USER: 3-31 to 3-32
- modifying, USER: 3-33
- modules containing non-instrument functions, USER: 3-32
- operation, INST: 1-2, 2-11 to 2-12
- program files, USER: 3-1
- programming. *See* instrument drivers, programming.
- purpose and use, INST: 1-1, 1-2
- replacing SCXI Analog Input instrument driver (note), GS: 11-4
- status reporting, PRGREF: B-6
- using loadable compiled modules as program files, PRGREF: 2-2
- VXI*plug&play* instrument driver files, USER: 3-30
- instrument drivers, programming. *See also* data types; function panels; instrument driver programming example.
 - building function panels, INST: 2-11
 - checklist, INST: 6-18 to 6-19
 - core instrument driver
 - files for instrument drivers, INST: 6-2
 - table, INST: 6-4
 - modifying, INST: 6-3 to 6-4
 - utility functions, INST: 6-2 to 6-3
 - documentation guidelines, INST: 6-13 to 6-17
 - .doc file, INST: 6-16 to 6-17
 - online help, INST: 6-13 to 6-16
 - writing, INST: 2-12
 - error reporting guidelines, INST: 6-10 to 6-12
 - function parameters
 - defining, INST: 2-4
 - input and output parameters, INST: 2-9 to 2-10
 - function tree
 - adding new classes, INST: 3-5
 - adding new functions, INST: 3-5 to 3-6
 - building, INST: 2-11, 3-4
 - grouping functions hierarchically, INST: 2-4, 6-12 to 6-13
 - functions
 - adding user-callable functions, INST: 6-5 to 6-6
 - defining, INST: 2-2 to 2-4
 - grouping hierarchically, INST: 2-4, 6-12 to 6-13
 - return values, INST: 2-10
 - structuring, INST: 2-3 to 2-4
 - writing function code, INST: 2-11
 - general guidelines, INST: 2-1, 6-1 to 6-2
 - naming drivers, INST: 2-2, 3-5 to 3-6
 - portable instrument drivers, INST: 6-7 to 6-10
 - data types, INST: 6-7 to 6-8
 - declaring array and output parameters, INST: 6-8 to 6-9
 - Scan and Fmt functions, INST: 6-9 to 6-10
 - prefixes, INST: 6-3 to 6-4
 - RS-232 instruments, INST: 6-17
 - steps for programming, INST: 2-1 to 2-2
 - testing instrument drivers, INST: 2-12
 - tips for creating, INST: 6-6 to 6-7
 - user-callable functions, INST: 6-5 to 6-6
 - utility functions
 - copying and pasting, INST: 6-5 to 6-6
 - list of functions for core instrument drivers, INST: 6-3
 - VXI instruments, INST: 6-18
- Instrument Handle control example, INST: 8-4 to 8-5
- Instrument Library
 - contents, GS: 1-4

- definition, INST: 1-1
- purpose, USER: 2-3
- Instrument menu
 - accessing function panels, USER: 5-1
 - appearance of loaded instrument on menu, GS: 8-2
 - Function Panel Editor, INST: 4-19
 - Function Panel windows, USER: 5-20
 - Function Tree Editor, INST: 3-6 to 3-8
 - available options, INST: 3-7
 - Edit command, INST: 3-8
 - Load command, INST: 3-7
 - Unload command, INST: 3-7
 - illustration, USER: 3-29
 - loading external modules, PRGREF: 2-2, 7-12
 - Project window
 - accessing function panels, USER: 3-36 to 3-37
 - Edit command, USER: 3-34
 - illustration, USER: 3-33
 - Load command, USER: 3-34
 - loading user libraries, USER: 3-41
 - Unload command, USER: 3-34
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-33
- integer modifiers (%i, %d, %x, %o, %c)
 - formatting functions, STDLIB: 2-35 to 2-37
 - scanning functions, STDLIB: 2-43 to 2-45
- Integrate function, ANLS: 2-121
- intensity plot sample program, USRINT: 5-5
- interactive code generation tools. *See also* CodeBuilder.
 - accessing User Interface Library, GS: 3-2 to 3-3
 - analyzing data, GS: 3-8 to 3-9
 - drawing graphs using function panels, GS: 3-5 to 3-6
 - executing function panels interactively, GS: 3-12
 - finishing the sample program, GS: 3-11 to 3-12
 - function panel controls, GS: 3-4
 - function panel help, GS: 3-4 to 3-5
 - inserting code from function panel, GS: 3-7 to 3-8
 - Library menu, GS: 3-1 to 3-2
 - output values on function panels, GS: 3-9 to 3-10
 - recalling function panels, GS: 3-10 to 3-11
- interactive developer interface
 - definition, INST: 1-4
 - purpose and use, INST: 1-6
- Interactive Execution command, Window menu, USER: 3-45
- Interactive Execution window, USER: 4-3 to 4-4
 - Build menu, USER: 4-22 to 4-24
 - Edit menu, USER: 4-9 to 4-17
 - excluding lines, USER: 4-11
 - executing code, USER: 4-4
 - rules for, USER: 4-4
 - executing function panels, USER: 5-1
 - File menu, USER: 4-7 to 4-9
 - Instrument menu, USER: 4-33
 - Library menu, USER: 4-33
 - Options menu, USER: 4-33 to 4-39
 - purpose and use, USER: 2-4
 - rules for executing code, USER: 4-4
 - Run menu, USER: 4-25 to 4-32
 - selecting text, USER: 4-5 to 4-7
 - storage of generated code, ANLS: 1-9
 - subwindows, USER: 4-5
 - View menu, USER: 4-17 to 4-22
 - Window menu, USER: 4-33
- internal design model. *See under* instrument driver architecture.
- interpolation functions
 - definition, ANLS: 1-8
 - function tree, ANLS: 1-6
 - PolyInterp, ANLS: 2-163 to 2-164
 - RatInterp, ANLS: 2-172 to 2-173
 - SpInterp, ANLS: 2-192 to 2-193
 - Spline, ANLS: 2-193 to 2-194
- Interpret As command, Options menu, USER: 6-15
- interrupt channel for data acquisition boards, GS: 11-2

interrupts

- DisableInterrupts function,
STDLIB: 8-12
- EnableInterrupts function, STDLIB:
8-15 to 8-16
- GetInterruptState function,
STDLIB: 8-30
- hardware, under Windows 95/NT,
PRGREF: 3-24 to 3-25
- hardware interrupts and autopolling,
STDLIB: 4-8 to 4-9
- intrinsic C data types, INST: 2-5
- InvCh_BPF function, ANLS: 2-122
- InvCh_BSF function, ANLS: 2-123
- InvCh_CascadeCoef function, ANLS: 2-124
to 2-125
- InvCh_Coef function, ANLS: 2-125
to 2-126
- InvCh_HFP function, ANLS: 2-126 to 2-127
- InvCh_LPF function, ANLS: 2-127 to 2-128
- InvF_Dist function, ANLS: 2-128 to 2-129
- InvFFT function, ANLS: 2-129 to 2-130
- InvFHT function, ANLS: 2-130 to 2-131
- InvMatrix function, ANLS: 2-131 to 2-132,
STDLIB: 3-20 to 3-21
- InvN_Dist function, ANLS: 2-132
- InvT_Dist function, ANLS: 2-133
- InvXX_Dist function, ANLS: 2-133
to 2-134
- IsListItemChecked function,
USRINT: 4-140
- Item field, Edit Menu Bar dialog box,
USRINT: 2-8

J

- jumpers and switches for data acquisition
boards, GS: 11-1 to 11-2

K

- key modifiers. *See* modifier key.
- keyboard commands
 - bypassing Find dialog box, USER: 4-16
 - bypassing Replace dialog box,
USER: 4-16
 - Source window (figure), USER: A-1
- Keyboard Help command, Options menu,
USER: 4-39 to 4-40
- keyboard input, example program,
USRINT: 5-5
- Keyboard Options command, Options menu,
USER: 3-52
- keyboard utility functions
 - GetKey, STDLIB: 8-30 to 8-31
 - KeyHit, STDLIB: 8-43 to 8-44
- keywords. *See also* **Numbers/Symbols**.
 - non-ANSI LabWindows/CVI compiler
keywords, PRGREF: 1-5
 - void keyword, PRGREF: 1-2
- Ksr_BPF function, ANLS: 2-134 to 2-135
- Ksr_BSF function, ANLS: 2-136 to 2-137
- Ksr_HPF function, ANLS: 2-137 to 2-138
- Ksr_LPF function, ANLS: 2-138 to 2-139
- Ksr_Win function, ANLS: 2-139 to 2-140

L

- Label Appearance section, Edit Label/Value
Pairs dialog box, USRINT: 2-13
- label for Command button, changing,
GS: 5-7
- Label/Value Pairs button, USRINT: 2-12.
See also Edit Label/Value Pairs dialog
box.
- Labeling tool, USRINT: 2-2
- LabWindows for DOS applications,
converting. *See* converting LabWindows
for DOS applications.
- LabWindows for DOS compatibility
functions. *See* LW DOS compatibility
functions.

LabWindows/CVI. *See also* specific windows.

- components, USER: 2-1 to 2-5
 - Data Acquisition Library, USER: 2-3
 - Instrument Library, USER: 2-3
 - LabWindows/CVI environment, USER: 2-3 to 2-5
 - standard libraries, USER: 2-2
 - User Interface Library, USER: 2-2 to 2-3
 - VISA Library, USER: 2-3
- creating applications, USER: 2-5 to 2-6
- definition, GS: 1-3
- environment, USER: 2-3 to 2-5
- features, GS: 1-3 to 1-4
- learning to use, GS: 1-2 to 1-3
- setting up the tutorial, GS: 2-2 to 2-7
- starting, GS: 2-2
- VXI development system (VXS), GS: 10-4

LabWindows/CVI compiler. *See* compiler.

LabWindows/CVI Run-time Engine. *See* Run-time Engine.

Last Function Panel Window command, View menu, USER: 5-19

Last Panel command, View menu, USER: 5-2

LaunchExecutable function, STDLIB: 8-44 to 8-46

LaunchExecutableEx function, STDLIB: 8-47 to 8-48

launching executables. *See* standalone executables, launching.

LC_COLLATE locale, STDLIB: 1-5

LC_CTYPE locale, STDLIB: 1-4 to 1-5

LC_MONETARY locale, STDLIB: 1-4

LC_NUMERIC locale, STDLIB: 1-4

LC_TIME locale, STDLIB: 1-5

LED controls, USRINT: 1-12

Left Edges option

- Alignment command, USRINT: 2-20

- Distribution command, USRINT: 2-22

LEFT_CLICK event, USRINT: 1-2

.lib files. *See* library files.

libraries. *See also* specific library names; standard libraries; user libraries.

- C library issues, PRGREF: 1-8

- creating static libraries, PRGREF: 3-21

- distributing, PRGREF: 8-1 to 8-3

- adding to user's Library menu,

- PRGREF: 8-1 to 8-2

- specifying library dependencies,

- PRGREF: 8-2 to 8-3

- files required in project file list,

- USER: 3-1

- loading library files for standalone

- executables, PRGREF: 7-13

- portability issues for multiplatform

- applications, PRGREF: 6-1 to 6-2

- selected libraries in instrsup.dll,

- USER: 3-12

- using loadable compiled modules as user

- libraries, PRGREF: 2-2 to 2-3

- Windows 95/NT compiler issues

- calling InitCVIRTE and

- CloseCVIRTE, PRGREF: 3-13

- to 3-14

- include files for ANSI C library and

- LabWindows/CVI libraries,

- PRGREF: 3-9

- multithreading and

- LabWindows/CVI libraries,

- PRGREF: 3-7 to 3-8

- resolving callback references from

- .uir files, PRGREF: 3-9 to 3-10

- resolving references from modules

- loaded at run-time, PRGREF: 3-11

- to 3-12

- run state change callbacks

- unavailable, PRGREF: 3-12

- standard input/output windows,

- PRGREF: 3-9

- using LabWindows/CVI libraries in

- external compilers, PRGREF: 3-8

- to 3-13

library files

- compatibility with external compilers

- (Windows 95/NT), PRGREF: 3-4

- creating in external compilers for use in LabWindows/CVI, PRGREF: 3-14 to 3-15
- loading with LoadExternalModule, PRGREF: 7-13
- using with standalone executables, PRGREF: 7-8
- library function user protection errors, PRGREF: 1-19
 - disabling, PRGREF: 1-17 to 1-18
- Library menu
 - accessing function panels, USER: 5-1
 - appearance of user libraries on, PRGREF: 2-3
 - Function Panel windows, USER: 5-20
 - function tree (illustration), GS: 3-2, 6-5, 6-6
 - installing user libraries, PRGREF: 2-2, 8-1 to 8-2
 - linking modules with external modules, PRGREF: 7-12
- Project window
 - Analysis command, USER: 3-38 to 3-39
 - ANSI C command, USER: 3-41
 - Data Acquisition command, USER: 3-39
 - DDE command, USER: 3-40
 - Easy I/O for DAQ command, USER: 3-39
 - Formatting and I/O command, USER: 3-40
 - GPIB/GPIB 488.2 command, USER: 3-39
 - illustration, USER: 3-38
 - installing user libraries, USER: 3-41
 - RS-232 command, USER: 3-40
 - TCP command, USER: 3-40
 - User Interface command, USER: 3-38
 - Utility command, USER: 3-40 to 3-41
 - VISA command, USER: 3-40
 - VXI command, USER: 3-39
 - X Property command, USER: 3-40
 - selecting libraries, GS: 3-2
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-33
 - User Interface command, GS: 6-4
 - User Interface Editor, USRINT: 2-30
- Library option, Add Files to Project command, USER: 3-8
- Library Options command, Options menu
 - installing user libraries, PRGREF: 2-2, 8-1, USER: 3-41, 3-53 to 3-54
 - loading data acquisition libraries, GS: 11-2
 - loading GPIB libraries, GS: 10-2
 - loading VXI libraries, GS: 10-5
- Library Options dialog box
 - illustration, USER: 3-53
 - National Instrument Libraries, USER: 3-54 to 3-55
 - User Libraries list, USER: 3-53 to 3-54
- library protection errors, PRGREF: 1-15 to 1-16
 - disabling
 - at run-time, PRGREF: 1-16
 - for functions, PRGREF: 1-17 to 1-18
 - errors involving library protection, PRGREF: 1-15
- Line command, View menu, GS: 2-9, USER: 4-19
- Line Icons command, View menu, USER: 4-18, 4-26
- Line Numbers command, View menu, GS: 2-8, USER: 4-18
- #line preprocessor directive, PRGREF: 1-5
- Line Select mode, USER: 4-6
- line styles for ATTR_LINE_STYLE (table), USRINT: 3-79
- Line Terminator option, Editor Preferences command, USER: 4-35
- LinEqs function, ANLS: 2-140 to 2-141
- lines of code
 - excluding, USER: 4-4, 4-11
 - Maximum number of lines in Standard Input/Output window option, USER: 3-52

- LinEv1D function, ANLS: 2-141 to 2-142, STDCALL: 3-21
- LinEv2D function, ANLS: 2-142 to 2-143, STDCALL: 3-22
- LinFit function, ANLS: 2-143 to 2-144
- Link Project command, Build menu
 - Project window, USER: 3-11
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-23
- linker error messages, GS: 2-6
- list box control functions
 - CheckListItem, USRINT: 4-45 to 4-46
 - ClearListCtrl, USRINT: 4-47
 - DeleteListItem, USRINT: 4-58 to 4-59
 - function tree, USRINT: 4-3
 - GetCtrlIndex, USRINT: 4-95 to 4-96
 - GetIndexFromValue, USRINT: 4-106 to 4-107
 - GetLabelFromIndex, USRINT: 4-107
 - GetLabelLengthFromIndex, USRINT: 4-108
 - GetListItemImage, USRINT: 4-108 to 4-109
 - GetNumCheckedItems, USRINT: 4-112
 - GetNumListItems, USRINT: 4-112 to 4-113
 - GetValueFromIndex, USRINT: 4-126
 - GetValueLengthFromIndex, USRINT: 4-126 to 4-127
 - InsertListItem, USRINT: 4-130 to 4-131
 - IsListItemChecked, USRINT: 4-140
 - list of functions, USRINT: 3-29 to 3-30
 - ReplaceListItem, USRINT: 4-214 to 4-215
 - SetCtrlIndex, USRINT: 4-229
 - SetListItemImage, USRINT: 4-240
- list box controls. *See also* Edit Label/Value Pairs dialog box.
 - definition, USRINT: 1-14
 - example program, USRINT: 5-4, 5-5
 - illustration, USRINT: 1-14
 - operating, USRINT: 1-15 to 1-16
- literals in format string
 - formatting functions, STDCALL: 2-40
 - scanning functions, STDCALL: 2-48 to 2-49
- Load button, GS: 3-1
- Load command, Instrument menu, INST: 3-7, USER: 3-34
- load failures, reporting, USRINT: 3-87 to 3-88
- Load From Text Format command, Options menu, USRINT: 2-34
- loadable compiled modules
 - 16-bit Windows DLLs
 - creating
 - with Borland C++, PRGREF: 4-21 to 4-22
 - with Microsoft Visual C++ 1.5, PRGREF: 4-21
 - glue code
 - DLLs unable to use glue code generated at load time, PRGREF: 4-8 to 4-19
 - DLLs using glue code generated at load time, PRGREF: 4-8
 - requirements, PRGREF: 4-7 to 4-8
 - helpful LabWindows/CVI options, PRGREF: 4-4
 - overview, PRGREF: 4-4
 - rules and restrictions, PRGREF: 4-5 to 4-7
 - search precedence, PRGREF: 4-22 to 4-23
 - 32-bit Borland or Symantec compiled modules under Windows, PRGREF: 4-2 to 4-3
 - 32-bit Watcom compiled modules under Windows 3.1, PRGREF: 4-1 to 4-2
 - advantages and disadvantages, PRGREF: 2-1 to 2-2
 - converting from LabWindows for DOS, GS: 12-8
 - external modules, PRGREF: 2-3
 - instrument driver program files, PRGREF: 2-2

- modules compiled by LabWindows/CVI, PRGREF: 4-1
- multiplatform application
 - considerations, PRGREF: 6-3
- overview, PRGREF: 2-1
- project list, PRGREF: 2-3
- requirements, PRGREF: 2-1
- special considerations, PRGREF: 2-4 to 2-5
- status changes
 - examples of program state changes, PRGREF: 2-4 to 2-5
 - modules using asynchronous callbacks, PRGREF: 2-5
 - notifying compiled modules of changes, PRGREF: 2-4 to 2-5
- user libraries, PRGREF: 2-2 to 2-3
- Windows messages passed from DLLs, PRGREF: 4-19 to 4-20
 - GetCVIWindowHandle function, PRGREF: 4-20
 - RegisterWinMsgCallback function, PRGREF: 4-19 to 4-20
 - UnRegisterWinMsgCallback function, PRGREF: 4-20
- LoadCVIDebugVxD option, USER: 1-7
- LoadExternal Module for loading files, PRGREF: 7-11 to 7-16
 - DLL files (Windows 95/NT), PRGREF: 3-2, 7-14
 - DLL files and DLL path files (Windows 3.1), PRGREF: 7-14 to 7-15
 - files listed in project, PRGREF: 7-12 to 7-13
 - forcing modules into executable or DLL, PRGREF: 7-12
 - library files not in project, PRGREF: 7-13
 - object files not in project, PRGREF: 7-13
 - other types of files, PRGREF: 7-16
 - source files, PRGREF: 7-15 to 7-16
- LoadExternalModule function, STDCALL: 8-49 to 8-52
- LoadExternalModuleEx function, STDCALL: 8-52 to 8-54
- loading projects, GS: 2-2 to 2-4
- loading/unloading instrument drivers, USER: 3-31 to 3-32
 - instruments without instrument program, USER: 3-32
 - precedence rules, USER: 3-31 to 3-32
- LoadMenuBar function, USRINT: 4-140 to 4-141
- LoadMenuBarEx function, USRINT: 4-142 to 4-143
- LoadPanel function, USRINT: 4-143 to 4-145
- LoadPanel sample function, GS: 6-2
- LoadPanelEx function, USRINT: 4-145 to 4-146
- local functions, GPIB-488.2 Library, STDCALL: 4-4
- locale. *See* C locale.
- locking process segments into memory using plock(), PRGREF: 5-4
- long doubles, Windows 32-bit DLLs, PRGREF: 3-6
- longjmp function, avoiding in callback functions (note), USRINT: 3-7
- low-level I/O functions
 - ANSI C Library, STDCALL: 1-2
 - GPIB-488.2 Library, STDCALL: 4-4 using, PRGREF: 1-8
- LU function, ANLS: 2-144 to 2-145
- LW DOS compatibility functions
 - ConfigurePrinter, USRINT: 4-51
 - DisplayPCXFile, USRINT: 4-66
 - DOSColorToRGB, USRINT: 4-67 to 4-68
 - DOSCompatWindow, USRINT: 4-68
 - function tree, USRINT: 4-9
 - GetUILErrorString, USRINT: 4-124

M

macros

predefined

Windows 95/NT, PRGREF: 1-4
to 1-5

writing platform-independent code,
PRGREF: 1-4, 6-1

prototyping user-callable functions,
INST: 6-8 to 6-9

writing platform-dependent code,
USER: 3-48

Main Function command, Generate menu,
USRINT: 2-26 to 2-27

MakeColor function, USRINT: 4-146
to 4-147

MakeDir function, STDLIB: 8-54 to 8-55

MakePathname function, STDLIB: 8-55

MakePoint function, USRINT: 4-148

MakeRect function, USRINT: 4-148
to 4-149

managing property information. *See*
property information, managing.
manual. *See* documentation.

manual breakpoints

invoking, GS: 4-3

performing, GS: 4-5

Mark All for Compilation command, Build
menu, USER: 3-12

Mark File for Compilation command, Build
menu

Project window, USER: 3-11

Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-23

math coprocessor software emulation for
Windows 3.1, PRGREF: 7-2

mathematical functions, ANSI C,
STDLIB: 1-6

matrix algebra functions. *See* vector and
matrix algebra functions.

MatrixMul function, ANLS: 2-145 to 2-146,
STDLIB: 3-23

Max & Min command button

adding to user interface, GS: 7-3 to 7-5

finding FindMaxMin callback function
with CodeBuilder, GS: 7-5 to 7-6

modifying with SetCtrlAttribute
function, GS: 9-4

Maximum Index control, GS: 7-7

Maximum number of compile errors option,
PRGREF: 1-2, USER: 3-46

Maximum number of lines in Standard
Input/Output window option, USER: 3-52

maximum stack size, setting, USER: 3-50

Maximum Value control, GS: 7-6 to 7-7

MaxMin1D function

adding to source code, GS: 7-6 to 7-8
description, ANLS: 2-146 to 2-147,
STDLIB: 3-24

MaxMin2D function, ANLS: 2-147
to 2-148, STDLIB: 3-24 to 3-25

Mean function

description, ANLS: 2-148, STDLIB:
3-25 to 3-26

generating call to, GS: 3-8 to 3-9

measurement functions

ACDCEstimator, ANLS: 2-1 to 2-2

AmpPhaseSpectrum, ANLS: 2-4 to 2-5

AutoPowerSpectrum, ANLS: 2-31
to 2-32

characteristics, ANLS: 1-17 to 1-18

CrossPowerSpectrum, ANLS: 2-61
to 2-62

definition, ANLS: 1-8

function tree, ANLS: 1-5

ImpulseResponse, ANLS: 2-120

NetworkFunctions, ANLS: 2-154
to 2-156

PowerFrequencyEstimate, ANLS: 2-164
to 2-166

purpose and use, ANLS: 1-17

ScaledWindow, ANLS: 2-181 to 2-182

SpectrumUnitConversion, ANLS: 2-188
to 2-191

TransferFunction, ANLS: 2-205
to 2-206

Median function, ANLS: 2-149

memory access. *See* physical memory access functions.

memory protection errors

memory corruption (fatal),

PRGREF: 1-15

memory deallocation (non-fatal),

PRGREF: 1-14

memory usage, optimizing, USRINT: 3-84 to 3-85

Menu Bar Constant Prefix field, Edit Menu Bar dialog box, USRINT: 2-8

menu bar functions. *See also* menu

functions; menu item functions.

DiscardMenuBar, USRINT: 4-63

EmptyMenuBar, USRINT: 4-71 to 4-72

function tree, USRINT: 4-2

GetMenuBarAttribute, USRINT: 4-109 to 4-110

GetPanelMenuBar, USRINT: 4-116

GetSharedMenuBarEventPanel,
USRINT: 4-119 to 4-120

LoadMenuBar, USRINT: 4-140 to 4-141

LoadMenuBarEx, USRINT: 4-142 to 4-143

NewMenuBar, USRINT: 4-155

programming graphical user interface (GUI), USRINT: 3-21 to 3-22

SetMenuBarAttribute, USRINT: 4-241 to 4-242

SetPanelMenuBar, USRINT: 4-243

menu bars, USRINT: 1-6 to 1-7

assigning constant names

constant prefix for menus,

USRINT: 3-3

menu items, USRINT: 3-3

requirements, USRINT: 3-3

submenus (note), USRINT: 3-3

attributes

constants for masking three bit fields (table), USRINT: 3-28

menu and menu item attributes (table), USRINT: 3-24 to 3-25

modifiers and virtual keys for shortcut keys (table), USRINT: 3-26 to 3-27

definition, USRINT: 1-6

illustration, USRINT: 1-6

immediate action menus, USRINT: 1-6

operating, USRINT: 1-6 to 1-7

processing menu bar events, USRINT: 3-22 to 3-23

pull-down menus, USRINT: 1-6

Menu Bars command

Create menu, USRINT: 2-16

Edit menu, USRINT: 2-7 to 2-9

Menu Bars List dialog box. *See also* Edit Menu Bar dialog box.

available command buttons,
USRINT: 2-7

illustration, USRINT: 2-7

Menu Callbacks command, Generate menu, USRINT: 2-28

menu functions. *See also* menu bar functions; menu item functions.

DiscardMenu, USRINT: 4-62

DiscardSubMenu, USRINT: 4-64

EmptyMenu, USRINT: 4-71

example program, USRINT: 5-3

NewMenu, USRINT: 4-154 to 4-155

NewSubMenu, USRINT: 4-160

RunPopupMenu, USRINT: 4-218 to 4-219

menu item functions. *See also* menu bar functions; menu functions.

DiscardMenuItem, USRINT: 4-63

InsertSeparator, USRINT: 4-132

NewMenuItem, USRINT: 4-156 to 4-158

menuFont option, USER: 1-6

Message command, Create menu, INST: 4-19

message controls, INST: 4-19

message file for Run-time Engine, translating, PRGREF: 7-5

message pop-up panel, USRINT: 1-22

MessagePopup function, GS: 9-8, USRINT: 4-149

messages passed from DLLs. *See* Microsoft Windows messages passed from DLLs.

- meta data types, INST: 2-5 to 2-7
 - Any Array, INST: 2-6
 - Any Type, INST: 2-6
 - definition, INST: 2-5
 - Numeric Array, INST: 2-6
 - Var Args, INST: 2-7
 - <Meta> key (SPARCstation), USER: 3-52
 - metafonts
 - included with LabWindows/CVI,
 - USRINT: 1-25, 3-21
 - platform independent fonts on PCs and UNIX, USRINT: 3-20
 - typefaces native to each platform,
 - USRINT: 1-25
 - user defined metafonts, USRINT: 3-21
 - Microsoft Visual Basic
 - automatic inclusion of Type Library
 - resource for, PRGREF: 3-20 to 3-21
 - generating include file for, USER: 4-38
 - Microsoft Visual C++
 - creating 16-bit Windows DLLs,
 - PRGREF: 4-21
 - creating object and library files for use in LabWindows/CVI, PRGREF: 3-14
 - Microsoft Windows 3.1
 - compiler/linker issues
 - 16-bit Windows DLLs. *See* Microsoft Windows 16-bit DLLs.
 - 32-bit Borland or Symantec
 - compiled modules, PRGREF: 4-2 to 4-3
 - 32-bit Watcom compiled modules,
 - PRGREF: 4-1 to 4-2
 - modules compiled by
 - LabWindows/CVI, PRGREF: 4-1
 - configuration options
 - cfgdir, USER: 1-3 to 1-4
 - cvidir, USER: 1-4
 - setting, USER: 1-2
 - tmpdir, USER: 1-5
 - cvirtx option for configuring Run-time Engine, PRGREF: 7-6
 - debug options
 - CatchProtectionFaults option,
 - USER: 1-6
 - DisplayCVIDebugVxDMissingMessage, USER: 1-6
 - LoadCVIDebugVxD, USER: 1-7
 - distributing standalone executables
 - math coprocessor software
 - emulation, PRGREF: 7-2
 - minimum system requirements,
 - PRGREF: 7-2
 - DLLs. *See* Microsoft Windows 16-bit DLLs.
 - event function parameter data type
 - changes, GS: 11-6 to 11-7
 - source code changes required,
 - GS: 11-7
 - font options
 - DialogFontBold, USER: 1-5
 - DialogFontName, USER: 1-5
 - DialogFontSize, USER: 1-5
 - installing system libraries, USER: 3-41
 - metafiles, USRINT: 3-62 to 3-63
 - program entry points, PRGREF: 1-8
 - structure packing pragmas, PRGREF: 1-7 to 1-8
- Microsoft Windows 16-bit DLLs. *See also* Create Dynamic Link Library dialog box.
 - creating
 - with Borland C++, PRGREF: 4-21 to 4-22
 - with Microsoft Visual C++ 1.5,
 - PRGREF: 4-21
 - DLL path option, Add Files to Project command, USER: 3-8
 - fixing linker error (note), PRGREF: 4-7
 - for standalone executables
 - definition, PRGREF: 7-8
 - loading with LoadExternalModule,
 - PRGREF: 7-14 to 7-15
 - rules for using, PRGREF: 7-10 to 7-11
 - Generate DLL Make Files command,
 - Options menu, INST: 3-9

- glue code
 - DLLs unable to use glue code
 - generated at load time, PRGREF: 4-8 to 4-19
 - arrays bigger than 64 K, PRGREF: 4-10
 - buffer retained after function returns (asynchronous function), PRGREF: 4-11 to 4-12
 - direct callbacks into 32-bit code, PRGREF: 4-12 to 4-14
 - functions exported by ordinal value only, PRGREF: 4-18
 - loading, PRGREF: 4-8 to 4-9
 - pointer that points to other pointers, PRGREF: 4-16 to 4-18
 - returning pointers, PRGREF: 4-14 to 4-16
 - rules for include file, PRGREF: 4-9
 - support module required outside of DLL, PRGREF: 4-9
 - DLLs using glue code generated at load time, PRGREF: 4-8
 - requirements, PRGREF: 4-4
 - unusable in specific situations, PRGREF: 4-7 to 4-8
 - glue code, generating, USER: 4-38
 - helpful LabWindows/CVI options, PRGREF: 4-4
 - not supported in Windows 95/NT, PRGREF: 3-2
 - overview, PRGREF: 4-4
 - Reload DLLs On Each Run option, USER: 3-51
 - rules and restrictions, PRGREF: 4-5 to 4-7
 - search precedence, PRGREF: 4-22 to 4-23
- Microsoft Windows 32-bit DLLs. *See also* Create Dynamic Link Library dialog box.
 - compatibility with external compilers, PRGREF: 3-4 to 3-6
 - bit fields, PRGREF: 3-5
 - enum sizes, PRGREF: 3-5
 - long doubles, PRGREF: 3-5
 - returning floats and doubles, PRGREF: 3-5
 - returning structures, PRGREF: 3-5
 - structure packing, PRGREF: 3-4 to 3-5
 - Create DLL Project command, Options menu, INST: 3-10
 - creating in LabWindows/CVI, PRGREF: 3-16 to 3-21
 - automatic inclusion of Type Library resource for Visual Basic, PRGREF: 3-20 to 3-21
 - calling conventions for exported functions, PRGREF: 3-17 to 3-18
 - customizing import library, PRGREF: 3-16 to 3-17
 - exporting DLL functions and variables, PRGREF: 3-18 to 3-19
 - export qualifier method, PRGREF: 3-18 to 3-19
 - include file method, PRGREF: 3-18
 - marking imported symbols in include file distributed with DLL, PRGREF: 3-19 to 3-20
 - preparing source code, PRGREF: 3-17 to 3-20
 - recommendations, PRGREF: 3-20
 - DLL import library, generating, USER: 4-37
 - DLL import library compatibility with external compilers, PRGREF: 3-4
 - DLL option, Add Files to Project command, USER: 3-8
 - DLL path option, Add Files to Project command, USER: 3-8
 - for standalone executables
 - distributing, PRGREF: 7-8
 - loading with LoadExternalModule, PRGREF: 7-14
 - location, PRGREF: 7-9
 - rules for using, PRGREF: 7-10
 - instrusup.dll, USER: 3-12 to 3-13

- loading, PRGREF: 3-1 to 3-3
 - 16-bit DLLs not supported, PRGREF: 3-2
 - default unloading/reloading policy, PRGREF: 3-3
 - DLL path (.pth) files not supported, PRGREF: 3-2
 - DLLs for instrument drivers and user libraries, PRGREF: 3-2
 - generating import library, PRGREF: 3-3
 - link errors when using DLL import libraries, PRGREF: 3-2
 - using LoadExternalModule function, PRGREF: 3-2
- source code for creating DLL import library, generating, USER: 4-37
- Unload DLLs After Each Run option, USER: 3-51
- VXIplug&playStyle command, Options menu, INST: 3-10 to 3-11
- Microsoft Windows 95/NT
 - calling convention qualifiers in function declarations, PRGREF: 1-6 to 1-7
 - calling Windows SDK functions in LabWindows/CVI, PRGREF: 3-22 to 3-23
 - automatic loading of SDK import libraries, PRGREF: 3-23
 - creating multiple threads using Windows SDK functions, PRGREF: 3-23
 - interface capabilities of Windows SDK functions, PRGREF: 3-22
 - Windows SDK include files, PRGREF: 3-22
- compatibility with external compilers, PRGREF: 3-3 to 3-6
 - choosing a compiler, PRGREF: 3-4
 - Compatibility with option, PRGREF: 1-2
 - Default calling convention option, PRGREF: 1-2
 - DLLs, PRGREF: 3-4 to 3-6
 - external compiler versions
 - supported, PRGREF: 3-6
 - LabWindows/CVI differences, PRGREF: 3-6
 - object files, library files, and DLL import libraries, PRGREF: 3-4
 - required preprocessor definitions, PRGREF: 3-6
- configuration options
 - cvidir, USER: 1-4
 - setting, USER: 1-2
 - tmpdir, USER: 1-5
- creating executables in LabWindows/CVI, PRGREF: 3-16
- creating object and library files in external compiler, PRGREF: 3-14 to 3-15
 - Borland C/C++ command line compiler, PRGREF: 3-14 to 3-15
 - Microsoft Visual C/C++, PRGREF: 3-14
 - Symantec C/C++, PRGREF: 3-15
 - Watcom C/C++, PRGREF: 3-15
- creating object files in LabWindows/CVI, PRGREF: 3-21
- creating static libraries in LabWindows/CVI, PRGREF: 3-21
- cvidir option for configuring Run-time Engine, PRGREF: 7-6 to 7-7
- distributing standalone executables
 - coprocessor not required, PRGREF: 7-2
 - location of files, PRGREF: 7-9
 - minimum system requirements, PRGREF: 7-1
- DLLs. *See* Microsoft Windows 32-bit DLLs.
- font options
 - DialogFontBold, USER: 1-5
 - DialogFontName, USER: 1-5
 - DialogFontSize, USER: 1-5
- GPIB and Windows 95, STDLIB: 4-10 to 4-11
 - compatibility driver, STDLIB: 4-11
 - native 32-bit driver, STDLIB: 4-10

- GPIB driver and Windows NT, STDLIB: 4-11
 - limitations on transfer size, STDLIB: 4-11
 - multithreading, STDLIB: 4-11
 - notification of SRQ and other GPIB events, STDLIB: 4-12
 - asynchronous callbacks, STDLIB: 4-12
 - driver version requirements, STDLIB: 4-12
 - synchronous callbacks, STDLIB: 4-12
- hardware interrupts, PRGREF: 3-24 to 3-25
- installing system libraries, USER: 3-41
- LabWindows/CVI libraries in external compilers, PRGREF: 3-8 to 3-14
 - calling InitCVRTE and CloseCVRTE, PRGREF: 3-13 to 3-14
- include files, PRGREF: 3-9
- resolving callback references from .uir files, PRGREF: 3-9 to 3-10
 - linking to callback functions not exported from DLL, PRGREF: 3-10
- resolving references from modules loaded at run-time, PRGREF: 3-11 to 3-12
 - references to non-LabWindows/CVI symbols, PRGREF: 3-11
 - references to symbols not exported from DLL, PRGREF: 3-12
- run state change callbacks unavailable, PRGREF: 3-12
- standard input/output window, PRGREF: 3-9
- multithreading and LabWindows/CVI libraries, PRGREF: 3-7
- predefined macros, PRGREF: 1-4 to 1-5
- program entry points, PRGREF: 1-8
- setting up include paths for LabWindows/CVI, ANSI C, and SDK libraries, PRGREF: 3-23 to 3-24
 - structure packing pragmas, PRGREF: 1-7 to 1-8
- Microsoft Windows messages passed from DLLs, PRGREF: 4-19 to 4-20
 - GetCVIWindowHandle function, PRGREF: 4-20
 - RegisterWinMsgCallback function, PRGREF: 4-19 to 4-20
 - UnRegisterWinMsgCallback function, PRGREF: 4-20
- Microsoft Windows SDK functions, PRGREF: 3-22 to 3-23
 - automatic loading of SDK import libraries, PRGREF: 3-23
 - calling in LabWindows/CVI, PRGREF: 3-22 to 3-23
 - creating multiple threads, PRGREF: 3-23
 - include files, PRGREF: 3-22
 - setting up include paths for SDK libraries, PRGREF: 3-23 to 3-24
 - user interface capabilities, PRGREF: 3-22
- Minimize All command, Window menu, USER: 3-42
- Minimum Index control, GS: 7-7
- minimum system requirements for standalone executables, PRGREF: 7-1 to 7-2
- miscellaneous Easy I/O for DAQ functions
 - GetAILimitsOfChannel, STDLIB: 10-40 to 10-41
 - GetChannelIndices, STDLIB: 10-41 to 10-42
 - GetChannelNameFromIndex, STDLIB: 10-42 to 10-43
 - GetDAQErrorString, STDLIB: 10-43 to 10-44
 - GetNumChannels, STDLIB: 10-44
 - GroupByChannel, STDLIB: 10-44 to 10-45
 - SetEasyIOMultitaskingMode, STDLIB: 10-53

miscellaneous functions

CreateMetaFont, USRINT: 4-52 to 4-53
 Get3dBorderColors, USRINT: 4-79 to 4-80
 GetMouseCursor, USRINT: 4-110
 GetScreenSize, USRINT: 4-119
 GetSystemAttribute, USRINT: 4-120 to 4-121
 GetTextDisplaySize, USRINT: 4-123
 GetWaitCursorState, USRINT: 4-127
 MakeColor, USRINT: 4-146 to 4-147
 SetMouseCursor, USRINT: 4-241 to 4-242
 SetSystemAttribute, USRINT: 4-226
 SetWaitCursor, USRINT: 4-248 to 4-249

miscellaneous utility functions

Beep, STDLIB: 8-5
 Breakpoint, STDLIB: 8-6
 CloseCVIRTE, STDLIB: 8-6
 Cls, STDLIB: 8-7
 CVILowLevelSupportDriverLoaded, STDLIB: 8-8 to 8-9
 DisableInterrupts, STDLIB: 8-12
 EnableInterrupts, STDLIB: 8-15 to 8-16
 GetCurrentPlatform, STDLIB: 8-19
 GetCVIVersion, STDLIB: 8-18 to 8-19
 GetInterruptState, STDLIB: 8-30
 GetWindowDisplaySetting, STDLIB: 8-39 to 8-40
 InitCVIRTE, STDLIB: 8-40 to 8-42
 InStandaloneExecutable, STDLIB: 8-43
 RoundRealToNearestInteger, STDLIB: 8-61 to 8-62
 SystemHelp, STDLIB: 8-79 to 8-81
 TruncateRealNumber, STDLIB: 8-84

missing return value (non-fatal) error, PRGREF: 1-15

_M_IX86_ macro, PRGREF: 1-5, USER: 3-49

Mode function, ANLS: 2-149 to 2-150

models for instrument drivers. *See* instrument driver architecture.

modifier key

attribute values, USRINT: 3-26, 4-157
 representation in source code, USRINT: 3-26

Modifier Key field, Edit Menu Bar dialog box, USRINT: 2-9

modini program (caution), PRGREF: 8-2, 8-3

modreg program (caution), PRGREF: 8-2, 8-3

Moment function, ANLS: 2-150 to 2-151

mouse, moving over new dialog boxes, USER: 3-52

mouse functions. *See* cursor and mouse functions.

mouse operation of cursors, USRINT: 1-18

mouse state, example program, USRINT: 5-5

Move Backward option, Control ZPlane Order command, USRINT: 2-22

Move Forward option, Control ZPlane Order command, USRINT: 2-22

Move Item Down command, Edit menu, USER: 3-9

Move Item Up command, Edit menu, USER: 3-8

Move to Back option, Control ZPlane Order command, USRINT: 2-22

Move to Front option, Control ZPlane Order command, USRINT: 2-22

moving controls, INST: 4-22

Mul1D function, ANLS: 2-151 to 2-152, STDLIB: 3-26 to 3-27

Mul2D function, ANLS: 2-152, STDLIB: 3-27

multi-dimensional arrays

illustration, USER: 7-2

Reset Indices dialog box, USER: 7-2 to 7-3

specifying dimensions, USER: 7-2

multi-dimensional strings, USER: 7-3 to 7-4

MultiFileSelectPopup function, USRINT: 4-150 to 4-151

- multiplatform applications, building
 - externally compiled module issues, PRGREF: 6-3
 - library portability issues, PRGREF: 6-1 to 6-2
 - predefined macros, PRGREF: 1-4 to 1-5, 6-1
 - programming guidelines, PRGREF: 6-1 to 6-3
 - user interface guidelines, PRGREF: 6-3
- Multiple Files option, Find command, USER: 4-15
- multithreading
 - creating multiple threads with Windows SDK functions, PRGREF: 3-23
 - using LabWindows/CVI libraries, PRGREF: 3-7 to 3-8
 - Windows NT and GPIB driver, STDLIB: 4-11

N

- Name option, Find command, USER: 6-7
- names
 - functions for instrument drivers, INST: 3-5 to 3-6
 - instrument drivers, INST: 2-2, 3-5 to 3-6
- National Instruments libraries. *See* specific libraries; standard libraries.
- N-Dist function, ANLS: 2-153
- Neg1D function, ANLS: 2-153 to 2-154, STDLIB: 3-28
- NetworkFunctions function, ANLS: 2-154 to 2-156
- New command, File menu
 - Array and String Display windows, USER: 7-4
 - Function Panel windows, USER: 5-7
 - Function Tree option, INST: 3-1
 - Project window, USER: 3-4
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-7

- User Interface Editor, USRINT: 2-4
- Variable Display and Watch windows, USER: 6-5
- New Window option, Select Function Panel dialog box, USER: 3-37
- NewBitmap function, USRINT: 4-151 to 4-153
- NewCtrl function, USRINT: 4-153 to 4-154
- NewMenu function, USRINT: 4-154 to 4-155
- NewMenuBar function, USRINT: 4-155
- NewMenuItem function, USRINT: 4-156 to 4-158
- NewPanel function, USRINT: 4-159 to 4-160
- NewSubMenu function, USRINT: 4-160
- Next Build Error command, View menu, USER: 4-24
- Next File command, Edit menu, USER: 4-17
- Next Function Panel command, View menu, USER: 5-19
- Next Function Panel Window command, View menu, USER: 5-19
- Next Panel command, View menu, USER: 5-2, USRINT: 2-19
- Next Scope command, Edit menu, USER: 6-8
- Next Tag command, View menu, GS: 2-9, USER: 4-19
- Next Tool command, Options menu, USRINT: 2-31
- NI-488.2 DLL device driver, GS: 10-2
- NI-488.2 Library, GS: 10-3
- NI-488.2M DLL device driver, GS: 10-2
- _NI_BC_ macro, PRGREF: 1-5, USER: 3-49
- NI-DAQ driver software
 - configuration
 - for data acquisition, GS: 11-2 to 11-3
 - NI-DAQ Configuration Utility, GS: 11-3
 - installation, GS: 11-2
 - _NI_i386_ macro, PRGREF: 1-4, USER: 3-48
 - _NI_mswin_ macro, PRGREF: 1-4, 6-1, USER: 3-48

_NI_mswin16_ macro, PRGREF: 1-4, 6-1,
 USER: 3-48
 _NI_mswin32_ macro, PRGREF: 1-4, 1-5,
 6-1, USER: 3-49
 _NI_SC_ macro, PRGREF: 1-5,
 USER: 3-49
 _NI_sparc_ macro, PRGREF: 1-4, 6-1,
 USER: 3-48
 _NI_unix_ macro, PRGREF: 1-4, 6-1
 _NI_VC_ macro, PRGREF: 1-5,
 USER: 3-49
 NI-VXI library, GS: 10-5
 _NI_WC_ macro, PRGREF: 1-5,
 USER: 3-49
 No Sorting command, View menu,
 USER: 3-10
 NonLinearFit function, ANLS: 2-156
 to 2-157
 nonparametric statistics function
 Contingency_Table, ANLS: 2-54 to 2-57
 definition, ANLS: 1-8
 function tree, ANLS: 1-6
 non-void functions, requiring return values
 for, PRGREF: 1-2, USER: 3-47
 normal control mode for commit events,
 USRINT: 1-3
 Normal1D function, ANLS: 2-157 to 2-158
 Normal2D function, ANLS: 2-158 to 2-159
 __NT__ macro, PRGREF: 1-5, USER: 3-49
 NUL byte, difference from space character
 (note), USER: 6-1, 7-1
 null modem cable, STDLIB: 5-5
 Numeric Array data type, INST: 2-6
 Numeric command, Create menu, GS: 7-4,
 INST: 4-15 to 4-16
 numeric control parameters, specifying,
 USER: 5-5
 numeric controls
 adding to user interface, GS: 7-4 to 7-5
 control label, INST: 4-15
 Create Numeric Control dialog box,
 INST: 4-15 to 4-16
 creating, INST: 4-15 to 4-16
 DAQ Numeric Control Instrument
 Driver, GS: 11-5
 data type, INST: 4-15

 default value, INST: 4-16
 definition, INST: 4-15, USRINT: 1-8
 display format, INST: 4-16
 Edit Value Set dialog box, INST: 4-16
 illustration, USRINT: 1-8
 increment and decrement values,
 INST: 4-16
 maximum value, INST: 4-16
 minimum value, INST: 4-16
 operating, USRINT: 1-8 to 1-9
 parameter position, INST: 4-15
 numeric formats for ATTR_FORMAT,
 USRINT: 3-51
 NumFmtdBytes function, STDLIB: 2-20

O

.o files
 loading with LoadExternalModule,
 PRGREF: 7-11
 using with standalone executables,
 PRGREF: 7-8
 Object Description Language (.odl) file,
 generating, INST: 3-10
 object files
 compatibility with external compilers
 (Windows 95/NT), PRGREF: 3-4
 creating, USER: 4-38 to 4-39
 in external compilers for use in
 LabWindows/CVI, PRGREF: 3-14
 to 3-15
 in LabWindows/CVI,
 PRGREF: 3-21
 loading with LoadExternalModule,
 PRGREF: 7-11
 required in project file list, USER: 3-1
 using with standalone executables,
 PRGREF: 7-8
 Object option, Add Files to Project
 command, USER: 3-8
 ODL file, generating, INST: 3-10
 offscreen bitmap, USRINT: 3-55
 one-dimensional array, displaying in Array
 Display window (figure), USER: 7-1

- one-dimensional array operation functions
 - Abs1D, ANLS: 2-1, STDLIB: 3-4 to 3-5
 - Add1D, ANLS: 2-2 to 2-3, STDLIB: 3-5
 - definition, ANLS: 1-7
 - Div1D, ANLS: 2-77 to 2-78, STDLIB: 3-16 to 3-17
 - function tree, ANLS: 1-2
 - LinEv1D, ANLS: 2-141 to 2-142, STDLIB: 3-21
 - MaxMin1D, ANLS: 2-146 to 2-147, STDLIB: 3-24
 - Mul1D, ANLS: 2-151 to 2-152, STDLIB: 3-26 to 3-27
 - Neg1D, ANLS: 2-153 to 2-154, STDLIB: 3-28
 - PolyEv1D, ANLS: 2-159 to 2-160
 - Prod1D, ANLS: 2-166 to 2-167
 - QScale1D, ANLS: 2-170
 - Scale1D, ANLS: 2-179
 - Sub1D, ANLS: 2-196 to 2-197, STDLIB: 3-30 to 3-31
 - Subset1D, ANLS: 2-198, STDLIB: 3-32
 - Sum1D, ANLS: 2-199
 - Sum2D, ANLS: 2-199 to 2-200
- one-dimensional complex operation functions
 - CxAdd1D, ANLS: 2-64 to 2-65, STDLIB: 3-8 to 3-9
 - CxDiv1D, ANLS: 2-66, STDLIB: 3-10
 - CxLinEv1D, ANLS: 2-67 to 2-68, STDLIB: 3-11
 - CxMul1D, ANLS: 2-70, STDLIB: 3-12 to 3-13
 - CxSub1D, ANLS: 2-73 to 2-74, STDLIB: 3-15
 - definition, ANLS: 1-7
 - function tree, ANLS: 1-3
 - ToPolar1D, ANLS: 2-202, STDLIB: 3-33 to 3-34
 - ToRect1D, ANLS: 2-203 to 2-204, STDLIB: 3-35
- online help. *See* help information.
- Open command, File menu
 - Array and String Display windows, USER: 7-4
 - Function Panel windows, USER: 5-7
 - Function Tree option, INST: 3-1
 - loading projects, GS: 2-2
 - Project window, USER: 3-5
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-7
 - User Interface Editor, USRINT: 2-4
 - Variable Display and Watch windows, USER: 6-5
- open functions
 - GPIO Library, STDLIB: 4-2
 - RS-232 Library, STDLIB: 5-1
- Open Quoted Text command, File menu, GS: 2-8, USER: 4-7
- Open User Interface command, File menu, GS: 5-3
- OpenCom function, STDLIB: 5-4, 5-25 to 5-26
- OpenComConfig function, STDLIB: 5-4, 5-26 to 5-28
- OpenDev function, STDLIB: 4-6, 4-20
- OpenFile function, STDLIB: 2-20 to 2-22
- Operate Function Panel command, Options menu, INST: 4-22
- Operate Visible Panels command, Options menu, USRINT: 2-31
- Operating tool, USRINT: 2-2
- optimizing graph controls, USRINT: 3-82 to 3-85
 - controlling refresh, USRINT: 3-83 to 3-84
 - example canvas benchmark program, USRINT: 5-6
 - memory usage, USRINT: 3-84 to 3-85
 - speed, USRINT: 3-82 to 3-84
- Options menu
 - Array and String Display windows
 - Display Entire Buffer command, USER: 7-9
 - illustration, USER: 7-9
 - Reset Indices command, USER: 7-2, 7-3, 7-9
 - Function Panel Editor, INST: 4-20 to 4-22
 - Data Types command, INST: 4-20 to 4-21

- Default Panel Size command,
 - INST: 4-21
- Edit Data Type List dialog box,
 - INST: 4-20 to 4-21
- Edit Function Tree command,
 - INST: 4-21
- Operate Function Panel command,
 - INST: 4-22
- Panels Movable command,
 - INST: 4-21
- Toggle Scroll Bars command,
 - INST: 4-21
- Toolbar command, INST: 4-21
- Function Panel windows
 - Change Format command,
 - USER: 5-21
 - Default All command, USER: 5-21
 - Default Control command,
 - USER: 5-20
 - Edit Function Panel Window
 - command, USER: 5-21
 - Exclude Function command,
 - USER: 5-21
 - illustration, USER: 5-20
 - Toggle Control Style command,
 - USER: 5-21
 - Toolbar command, USER: 5-21
- Function Tree Editor, INST: 3-9 to 3-11
 - Create DLL Project command,
 - INST: 3-10
 - Generate DLL Make File command,
 - INST: 3-9
 - Generate Documentation command,
 - INST: 3-9
 - Generate Function Prototypes
 - command, INST: 3-9
 - Generate ODL File command,
 - INST: 3-10
 - Generate Windows Help command,
 - INST: 3-9, PRGREF: 3-20
 - Help Style command, INST: 3-9
 - Transfer Window Help to Function
 - Help command, INST: 3-9
 - VXIplug&playStyle command,
 - INST: 3-10 to 3-11
- Project window
 - Colors command, USER: 3-55
 - to 3-56
 - Compiler Defines command,
 - PRGREF: 3-22
 - Compiler Options command,
 - PRGREF: 3-4, USER: 3-46
 - Compiler Preferences command,
 - PRGREF: 1-2, 2-2, 2-3
 - Environment command,
 - USER: 3-37, 3-52
 - Font command, USER: 3-55
 - illustration, USER: 3-46
 - Include Paths command, PRGREF:
 - 1-20, USER: 3-49 to 3-50
 - Instrument Directories command,
 - PRGREF: 8-2, USER: 3-50
 - Keyboard Options command,
 - USER: 3-52
 - Library Options command, GS: 10-2,
 - 10-5, 11-2, USER: 3-41, 3-53
 - to 3-55
 - overview, GS: 2-4
 - Project Move Options command,
 - USER: 3-55
 - Run Options command, PRGREF:
 - 1-10, 1-15, 1-20, USER: 3-50
 - to 3-51
 - Toolbar command, GS: 2-7
 - Track Include File Dependencies
 - command, USRINT: 3-1
 - Translate LW DOS Program
 - command, GS: 12-4
- Source, Interactive Execution, and
 - Standard Input/Output windows
 - Bracket Styles command,
 - USER: 4-35
 - Colors command, USER: 4-36
 - Create Object File command,
 - PRGREF: 3-21, USER: 4-38
 - to 4-39
 - Editor Preferences command, USER:
 - 4-10, 4-34 to 4-35
 - Font command, USER: 4-35

- Generate DLL Glue Object
command, PRGREF: 7-14,
USER: 4-38
 - Generate DLL Glue Source
command, PRGREF: 4-8, 4-9,
USER: 4-38
 - Generate DLL Import Library
command, PRGREF: 3-4,
USER: 4-37
 - Generate DLL Import Source
command, PRGREF: 3-16,
USER: 4-37
 - Generate Visual Basic Include
command, USER: 4-38
 - illustration, USER: 4-33
 - Keyboard Help command, USER:
4-39 to 4-40
 - Syntax Coloring option, USER: 4-36
 - Toolbar command, USER: 4-35
 - Translate DOS LW program
command, USER: 4-36
 - User Defined Tokens for Coloring
command, USER: 4-36
 - User Interface Editor
 - Assign Missing Constants command,
USRINT: 2-33
 - illustration, USRINT: 2-31
 - Load From Text Format command,
USRINT: 2-34
 - Next Tool command, USRINT: 2-31
 - Operate Visible Panels command,
USRINT: 2-31
 - Preferences command, USRINT:
2-32 to 2-33
 - Save in Text Format command,
USRINT: 2-33
 - Variable Display and Watch windows
 - Add Watch Expression command,
USER: 6-3, 6-15
 - Estimate Number of Elements
command, USER: 6-15
 - illustration, USER: 6-14
 - Interpret As command, USER: 6-15
 - Variable Size command,
USER: 6-14
 - ordinal value for exporting functions,
PRGREF: 4-18
 - Oscilloscope, sample. *See* instrument driver
programming example.
 - outp function, STDLIB: 8-56
 - Output command
 - Create menu, INST: 4-17
 - File menu
 - Array and String Display windows,
USER: 7-5
 - Variable Display and Watch
windows, USER: 6-5
 - output control parameters, specifying,
USER: 5-6
 - output controls, INST: 4-17
 - adding to function panel, GS: 3-9 to 3-10
 - control label, INST: 4-17
 - control width, INST: 4-17
 - Create Output Control dialog box,
INST: 4-17
 - data type, INST: 4-17
 - definition, INST: 4-17
 - display format, INST: 4-17
 - parameter position, INST: 4-17
 - outpw function, STDLIB: 8-56
 - Overwrite command, Edit menu, USER: 7-7
- P**
- pack pragma (Windows), PRGREF: 1-7 to
1-8, 3-4 to 3-5
 - Panel Attributes section, Edit Panel dialog
box, USRINT: 2-10
 - Panel Callback command, Generate menu,
USRINT: 2-28
 - Panel command
 - Create menu, USRINT: 2-16
 - Edit menu, USRINT: 2-9 to 2-11
 - panel functions. *See also* pop-up panel
functions.
 - DefaultPanel, USRINT: 4-54 to 4-55
 - DiscardPanel, USRINT: 4-64
 - DisplayPanel, USRINT: 4-66 to 4-67
 - DuplicatePanel, USRINT: 4-70 to 4-71
 - function tree, USRINT: 4-2

- GetActivePanel, USRINT: 4-81
- GetPanelAttribute, USRINT: 4-114
- HidePanel, USRINT: 4-128
- LoadPanel, USRINT: 4-143 to 4-145
- LoadPanelEx, USRINT: 4-145 to 4-146
- NewPanel, USRINT: 4-159 to 4-160
- programming graphical user interface (GUI), USRINT: 3-9 to 3-10
- RecallPanelState, USRINT: 4-198 to 4-199
- SavePanelState, USRINT: 4-220
- SetActivePanel, USRINT: 4-222
- SetPanelAttribute, USRINT: 4-242
- SetPanelPos, USRINT: 4-243 to 4-244
- ValidatePanel, USRINT: 4-250
- panel state files
 - accessing from standalone executables, PRGREF: 7-9
 - required for standalone executables, PRGREF: 7-8
- panels
 - assigning constant prefix, USRINT: 3-2 to 3-3
 - attributes, USRINT: 3-12 to 3-22
 - color values (table), USRINT: 3-17 to 3-18
 - fonts, USRINT: 3-20 to 3-21
 - frame style values, USRINT: 3-18
 - geometric attributes (table), USRINT: 3-18
 - list of attributes (table), USRINT: 3-12 to 3-16
 - programming considerations, USRINT: 3-17 to 3-20
 - values and cursor styles for ATTR_MOUSE-CURSOR (table), USRINT: 3-19
 - child panel role, USRINT: 3-11
 - copying or cutting, USRINT: 2-6
 - definition, USRINT: 1-5
 - Edit Panel dialog box, USRINT: 2-9 to 2-11
 - illustration, USRINT: 1-5
 - operating, USRINT: 1-5 to 1-6
 - processing panel events, USRINT: 3-11
 - Show/Hide Panels command, View menu, USRINT: 2-19
 - Panels Movable command, Options menu, INST: 4-21
 - panning on graphs
 - definition, USRINT: 1-19
 - enabling panning, USRINT: 1-19
 - parallel poll functions, GPIB-488.2 Library, STDLIB: 4-4
 - parameters for instrument drivers. *See also* data types.
 - defining, INST: 2-4
 - input and output parameters, INST: 2-9 to 2-10
 - parent structure, USER: 6-2
 - parent structure pointer in chain (figure), USER: 6-11
 - parentheses, finding pairs of, USER: 4-12
 - pascal, Pascal, and _pascal keywords, PRGREF: 1-5
 - Pascal DLL functions, PRGREF: 4-8, 4-9
 - Paste Above command, Edit menu, INST: 3-3
 - Paste Below command, Edit menu, INST: 3-3
 - Paste command, Edit menu, INST: 4-4, USER: 4-10, USRINT: 2-6
 - Paste option, Editor Preferences command, USER: 4-34
 - pasting
 - controls (example), INST: 4-29 to 4-30
 - functions and panels (example), INST: 3-13 to 3-14
 - help text, INST: 5-9 to 5-10
 - utility routines, INST: 6-5 to 6-6
 - path files. *See* .pth files.
 - path options
 - Always prompt before fixing pathnames, USER: 3-55
 - Fixup pathnames when project is moved, USER: 3-55
 - Prompt for include file paths, USER: 3-47

- pathnames
 - displaying project files by full pathname, USER: 3-10
 - sorting project files by pathname, USER: 3-10
- paths for compiler, listing, USER: 3-49 to 3-50
- PCX files, multiplatform application considerations, PRGREF: 6-3
- PCX images. *See* picture control functions.
- pen functions
 - CanvasDefaultPen, USRINT: 4-16 to 4-17
 - CanvasGetPenPosition, USRINT: 4-35 to 4-36
 - CanvasSetPenPosition, USRINT: 4-42
- pens for canvas controls, USRINT: 3-55
- performance considerations, analysis functions, ANLS: 1-9
- persistent variable functions
 - GetPersistentVariable, STDLIB: 8-33 to 8-34
 - SetPersistentVariable, STDLIB: 8-71
- physical memory access functions
 - ReadFromPhysicalMemory, STDLIB: 8-57
 - ReadFromPhysicalMemoryEx, STDLIB: 8-58
 - WriteToPhysicalMemory, STDLIB: 8-85 to 8-86
 - WriteToPhysicalMemoryEx, STDLIB: 8-86 to 8-87
- picture control functions
 - AllocImageBits, USRINT: 4-14 to 4-15
 - DeleteImage, USRINT: 4-58
 - DisplayImageFile, USRINT: 4-65
 - DisplayPCXFile, USRINT: 4-66
 - function tree, USRINT: 4-5
 - GetImageBits, USRINT: 4-102 to 4-104
 - GetImageInfo, USRINT: 4-105 to 4-106
 - SetImageBits, USRINT: 4-236 to 4-238
- picture controls, USRINT: 3-51 to 3-53
 - attributes, USRINT: 3-52 to 3-53
 - appearance, USRINT: 3-51
 - giving picture controls visual impact, USRINT: 3-51
 - definition, USRINT: 1-20
 - example program, USRINT: 5-4
 - image formats (table), USRINT: 1-20, 3-52
 - simple picture control, USRINT: 3-52
- pixel functions
 - CanvasGetPixel, USRINT: 4-36 to 4-37
 - CanvasGetPixels, USRINT: 4-37 to 4-39
- pixel values, canvas controls, USRINT: 3-56
- platform-independent applications, building. *See* multiplatform applications, building.
- plclock function, UNIX, PRGREF: 5-4
- plot array data types, USRINT: 4-11 to 4-12
- plot control functions. *See* graph control functions.
- plot origin, graph and strip chart controls, USRINT: 3-80 to 3-81
- plot styles for ATTR_PLOT_STYLE (table), USRINT: 3-80
- PlotArc function, USRINT: 4-160 to 4-162
- PlotBitMap function, USRINT: 4-162 to 4-163
- PlotIntensity function, USRINT: 4-163 to 4-166
- PlotLastAIWaveformsPopup function, STDLIB: 10-47
- PlotLine function, USRINT: 4-166 to 4-167
- PlotOval function, USRINT: 4-167 to 4-168
- PlotPoint function, USRINT: 4-169
- PlotPolygon function, USRINT: 4-170 to 4-171
- PlotRectangle function, USRINT: 4-171 to 4-172
- PlotScaledIntensity function, USRINT: 4-173 to 4-176
- PlotStripChart function, USRINT: 4-176 to 4-178
- PlotStripChartPoint function, USRINT: 4-178 to 4-179
- PlotText function, USRINT: 4-179 to 4-180
- PlotWaveform function, USRINT: 4-181 to 4-182
- PlotX function, USRINT: 4-183 to 4-184
- PlotXY function, USRINT: 4-184 to 4-185
- PlotY function, USRINT: 4-185 to 4-187
 - building call syntax, GS: 6-6

- function panel (illustration), GS: 6-6
- locating in User Interface Library, GS: 6-4 to 6-5
- point functions. *See* rect and point functions.
- point structures. *See* rect and point structures.
- PointEqual function, USRINT: 4-187
- pointer casting, PRGREF: 1-18 to 1-19
- pointer mismatch warning, enabling, PRGREF: 1-3, USER: 3-47
- pointer protection errors, PRGREF: 1-11 to 1-14
 - disabling for individual pointers, PRGREF: 1-16 to 1-17
 - dynamic memory protection errors, PRGREF: 1-14 to 1-15
 - pointer arithmetic (non-fatal), PRGREF: 1-12
 - pointer assignment (non-fatal), PRGREF: 1-12
 - pointer casting (non-fatal), PRGREF: 1-14
 - pointer comparison (non-fatal), PRGREF: 1-13
 - pointer dereference errors (fatal), PRGREF: 1-13
 - pointer subtraction (non-fatal), PRGREF: 1-14
- pointers
 - DLLs passing pointers that point to other pointers, PRGREF: 4-16 to 4-18
 - returned by DLLs, PRGREF: 4-14 to 4-16
- PointPinnedToRect function, USRINT: 4-188
- PointSet function, USRINT: 4-188 to 4-189
- PolyEv1D function, ANLS: 2-159 to 2-160
- PolyEv2D function, ANLS: 2-160 to 2-161
- PolyFit function, ANLS: 2-162 to 2-163
- PolyInterp function, ANLS: 2-163 to 2-164
- pop-up menus, User Interface Editor window, USRINT: 2-2
- pop-up panel functions
 - ConfirmPopup, USRINT: 4-51 to 4-52
 - DirSelectPopup, USRINT: 4-60
 - FileSelectPopup function, USRINT: 4-72 to 4-74
 - FontSelectPopup, USRINT: 4-74 to 4-77
 - function tree, USRINT: 4-6
 - GenericMessagePopup, USRINT: 4-77 to 4-79
 - GetSystemPopupsAttribute, USRINT: 4-121
 - InstallPopup, USRINT: 4-139
 - MessagePopup, USRINT: 4-149
 - MultiFileSelectPopup, USRINT: 4-150 to 4-151
 - PromptPopup, USRINT: 4-196
 - RemovePopup, USRINT: 4-212
 - SetFontPopupDefaults, USRINT: 4-231 to 4-233
 - SetSystemPopupsAttribute, USRINT: 4-247
 - WaveformGraphPopup, USRINT: 4-251
 - XGraphPopup, USRINT: 4-252
 - XYGraphPopup, USRINT: 4-252 to 4-253
 - YGraphPopup, USRINT: 4-253
- pop-up panels, GS: 9-5 to 9-6, USRINT: 1-21 to 1-24
 - adding to Command buttons, GS: 9-6
 - adding YGraphPopup to sample program, GS: 3-4 to 3-8
 - confirm pop-up panels, USRINT: 1-23
 - definition, USRINT: 1-21
 - example program, USRINT: 5-3
 - File Select Popup, GS: 9-5
 - file select pop-up panel, USRINT: 1-23 to 1-24
 - functions for accessing predefined pop-up panels, USRINT: 3-85 to 3-86
 - generic message pop-up panel, USRINT: 1-22
 - graph pop-up panel, USRINT: 1-24
 - message pop-up panel, USRINT: 1-22
 - programming overview, USRINT: 3-85 to 3-86
 - prompt pop-up panel, USRINT: 1-22
 - purpose and use, GS: 9-5

- port I/O utility functions
 - inp, STDLIB: 8-42
 - inpw, STDLIB: 8-42 to 8-43
 - outp, STDLIB: 8-56
 - outpw, STDLIB: 8-56
- PostDeferredCall function, USRINT: 4-189 to 4-190
- PowerFrequencyEstimate function, ANLS: 2-164 to 2-166
- pragmas
 - disabling or enabling library protection errors, PRGREF: 1-17 to 1-18
 - structure packing (Windows), PRGREF: 1-7 to 1-8, 3-4 to 3-5
- precedence of callback functions, USRINT: 3-91 to 3-92
- predefined macros
 - Windows 95/NT, PRGREF: 1-4 to 1-5
 - writing platform-dependent code, USER: 3-48
 - writing platform-independent code, PRGREF: 1-4 to 1-5, 6-1
- Preferences command
 - Code menu, USRINT: 2-29 to 2-30
 - Always Append Code to End option, USRINT: 2-30
 - Default Control Events option, USRINT: 2-30
 - Default Panel Events option, USRINT: 2-30
 - Preferences menu (illustration), USRINT: 2-29
 - Options menu, USRINT: 2-31 to 2-34.
See also User Interface Editor Preferences dialog box.
- prefix for instrument driver names, INST: 2-2
- PREFIX_close function
 - not called by instrument driver application functions (note), INST: 1-10
 - purpose and use, INST: 7-4
- PREFIX_error_message function, INST: 7-9
- PREFIX_error_query function, INST: 7-7 to 7-8
- PREFIX_init function
 - not called by instrument driver application functions, INST: 1-10
 - purpose and use, INST: 7-2 to 7-4
- PREFIX_reset function, INST: 7-5
- PREFIX_revision function, INST: 7-10 to 7-11
- PREFIX_self_test, INST: 7-6 to 7-7
- Preview User Interface Header File command, View menu, USRINT: 2-19
- Previous Build Error command, View menu, USER: 4-24
- Previous Function Panel command, View menu, USER: 5-19
- Previous Function Panel Window command, View menu, USER: 5-19
- Previous Panel command, View menu, USER: 5-2, USRINT: 2-19
- Previous Scope command, Edit menu, USER: 6-8
- Previous Tag command, View menu, USER: 4-19
- Print command, File menu, USRINT: 2-4
 - Project window, USER: 3-6
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-9
- PrintCtrl function, USRINT: 4-190 to 4-191
- printf function, using with external compiler, PRGREF: 3-9
- printing functions
 - GetPrintAttribute, USRINT: 4-117 to 4-118
 - PrintCtrl, USRINT: 4-190 to 4-191
 - PrintPanel, USRINT: 4-191 to 4-193
 - PrintTextBuffer, USRINT: 4-193 to 4-194
 - PrintTextFile, USRINT: 4-194 to 4-195
 - SetPrintAttribute, USRINT: 4-245
- printing hardcopy. *See* hard copy.
- PrintPanel function, USRINT: 4-191 to 4-193
- PrintTextBuffer function, USRINT: 4-193 to 4-194
- PrintTextFile function, USRINT: 4-194 to 4-195

- probability distribution functions
 - definition, ANLS: 1-8
 - F_Dist, ANLS: 2-96 to 2-97
 - function tree, ANLS: 1-6
 - InvF_Dist, ANLS: 2-128 to 2-129
 - InvN_Dist, ANLS: 2-132
 - InvT_Dist, ANLS: 2-133
 - InvXX_Dist, ANLS: 2-133 to 2-134
 - N-Dist, ANLS: 2-153
 - T_Dist, ANLS: 2-200 to 2-201
 - XX_Dist, ANLS: 2-218
- process segments, locking into memory
 - using plock(), PRGREF: 5-4
- ProcessDrawEvents function,
 - USRINT: 3-93, 4-195
- ProcessSystemEvents function, USRINT:
 - 3-93 to 3-94, 4-195 to 4-196
- Prod1D function, ANLS: 2-166 to 2-167
- program control
 - components (figure), GS: 1-5
 - overview, GS: 1-6
- program development overview, GS: 1-4 to 1-7. *See also* source files.
 - program structure for LabWindows/CVI, GS: 1-5 to 1-7
 - data acquisition, GS: 1-6 to 1-7
 - data analysis, GS: 1-7
 - program control, GS: 1-6
 - program shell generation with CodeBuilder, GS: 1-6
 - relationship between structures (figure), GS: 1-5
 - user interface, GS: 1-5
 - using C in LabWindows/CVI, GS: 1-4
- program entry points (Windows),
 - PRGREF: 1-8
- program shell, building. *See* CodeBuilder.
- programmatically breakpoints
 - invoking, GS: 4-3
 - performing, GS: 4-3 to 4-4
- programmatically developer interface
 - definition, INST: 1-4
 - purpose and use, INST: 1-6
- programming examples. *See* example programs.
- programming graphical user interfaces. *See* graphical user interface (GUI), building.
- programming instrument drivers. *See* instrument drivers, programming.
- programming tutorial. *See also* Project window; source files; Source window.
 - debugging programs
 - breakpoints, GS: 4-3 to 4-5
 - manual breakpoints, GS: 4-5
 - programmatically breakpoints, GS: 4-3 to 4-4
 - displaying and editing data
 - Array Display, GS: 4-8 to 4-9
 - String Display, GS: 4-10 to 4-11
 - Variable Display, GS: 4-5 to 4-8
 - Watch window, GS: 4-11 to 4-12
 - step mode execution, GS: 4-2 to 4-3
 - editing tools, GS: 2-8 to 2-9
 - function panels
 - adding YGraphPopup function to sample program, GS: 3-4 to 3-8
 - analyzing data, GS: 3-8 to 3-9
 - controls, GS: 3-4
 - declaring arrays, GS: 8-8
 - drawing a graph, GS: 3-5 to 3-6
 - executing functions interactively, GS: 8-4
 - finding functions, GS: 3-8 to 3-9
 - Generated Code box, GS: 3-7
 - help information, GS: 3-4 to 3-5
 - input control, GS: 3-4
 - inserting code from function panels, GS: 3-7 to 3-8
 - locating PlotY function in User Interface Library, GS: 6-4 to 6-5
 - output control, GS: 3-9 to 3-10
 - recalling, GS: 3-10 to 3-11
- graphical user interface (GUI)
 - accessing User Interface Library, GS: 3-2 to 3-3
 - AcquireData function, GS: 6-2
 - adding Command Button, GS: 5-5 to 5-7
 - adding graph control, GS: 5-7 to 5-8
 - adding Save button, GS: 9-6
 - analyzing source code, GS: 6-1 to 6-3

- building PlotY function call syntax, GS: 6-6
- building user interface resource (.uir) file, GS: 5-3 to 5-12
- constructing the project, GS: 6-9 to 6-10
- definition, GS: 1-6
- example of GUI, GS: 2-10 to 2-11
- finding PlotY function, GS: 6-4 to 6-5
- generating random array of data, GS: 6-3 to 6-4
- main function, GS: 6-1 to 6-2
- modifying, GS: 7-2 to 7-5
- running the program, GS: 6-10 to 6-11, 7-8
- saving .uir files, GS: 5-8 to 5-9
- setting attributes programmatically, GS: 9-3 to 9-4
- Shutdown function, GS: 6-2 to 6-3
- source code requirements, GS: 5-2
- waveform generation project (illustration), GS: 9-2
- writing callback function, GS: 7-5 to 7-8
- instrument driver example, GS: 8-1 to 8-12
 - adding sample program to project files, GS: 8-12
 - closing, GS: 8-9 to 8-10
 - configuring, GS: 8-5 to 8-7
 - declaring arrays from function panels, GS: 8-8
 - functions in Sample Oscilloscope instrument, GS: 8-3
 - initializing, GS: 8-4 to 8-5
 - interactive function panel execution, GS: 8-4
 - interactive use, GS: 8-3
 - loading, GS: 8-1 to 8-2
 - reading data, GS: 8-7
 - reading waveform, GS: 8-8 to 8-9
 - running the sample program, GS: 8-10 to 8-11
- Library menu, GS: 3-1 to 3-2
- loading projects, GS: 2-2 to 2-4
- running projects, GS: 2-5 to 2-6
- windows used for programming, GS: 2-1 to 2-2
- Project command, Window menu, USER: 3-43
- project files
 - optional files, USER: 3-1
 - options for displaying, USER: 3-9 to 3-10
 - required files, USER: 3-1
 - saving automatically, USER: 3-6
- Project Move Options command, Options menu
 - Always prompt before fixing pathnames, USER: 3-55
 - description, USER: 3-55
 - Fixup pathnames when project is moved, USER: 3-55
- Project window
 - adding files to projects, GS: 2-4 to 2-5
 - Build menu, GS: 2-4, USER: 3-10 to 3-27
 - Edit menu, GS: 2-4, USER: 3-7 to 3-9
 - File menu, GS: 2-4, USER: 3-3 to 3-7
 - icons, USER: 3-2 to 3-3
 - illustration, GS: 2-1, USER: 2-5, 3-2
 - information displayed about current project (figure), GS: 2-5
 - Instrument menu, USER: 3-33 to 3-37
 - Library menu, USER: 3-38 to 3-41
 - loading projects, GS: 2-2 to 2-4
 - opening
 - with New command, USER: 3-4
 - with Open command, USER: 3-5
 - optional files, USER: 3-1
 - Options menu, GS: 2-4, USER: 3-45 to 3-56
 - overview, USER: 3-1 to 3-3
 - purpose and use, USER: 2-4
 - required files, USER: 3-1
 - Run menu, GS: 2-4, 2-5, USER: 3-27 to 3-28
 - Run Options menu, PRGREF: 4-4
 - title determined by current project, GS: 2-1

- Transfer Project Options dialog box (illustration), GS: 5-2
 - View menu, USER: 3-9 to 3-10
 - Window menu, GS: 2-4, USER: 3-42 to 3-45
 - projects. *See also* source files.
 - adding files to projects, GS: 2-4 to 2-5, 6-9, 8-12
 - adding instruments, GS: 8-12
 - calling compiled modules in project list, PRGREF: 2-3
 - error messages, GS: 2-6
 - loading, GS: 2-2 to 2-4
 - loading project files with
 - LoadExternalModule, PRGREF: 7-12 to 7-13
 - running
 - instrument driver example, GS: 8-10 to 8-11
 - Max & Min command button sample, GS: 7-8
 - sample1 project, GS: 2-5 to 2-6
 - sample4.prj, GS: 6-10 to 6-11
 - Prompt for include file paths option, PRGREF: 1-3 to 1-4
 - prompt pop-up panel, USRINT: 1-22
 - PromptPopup function, USRINT: 4-196
 - properties. *See also* X Property Library functions.
 - definition, STDLIB: 9-2
 - handles and types, STDLIB: 9-3
 - property events, handling
 - GetXPropErrorString, STDLIB: 9-15
 - InstallXPropertyCallback, STDLIB: 9-4, 9-25 to 9-27
 - UninstallXPropertyCallback, STDLIB: 9-4, 9-33
 - property information, managing
 - CreateXProperty, STDLIB: 9-3, 9-9 to 9-10
 - DestroyXProperty, STDLIB: 9-12 to 9-13
 - GetXPropertyName, STDLIB: 9-15 to 9-16
 - GetXPropertyType, STDLIB: 9-16 to 9-17
 - property types, managing
 - CreateXPropType, STDLIB: 9-3, 9-10 to 9-12
 - DestroyXPropType, STDLIB: 9-13 to 9-14
 - GetXPropTypeName, STDLIB: 9-17 to 9-18
 - GetXPropTypeSize, STDLIB: 9-18
 - GetXPropTypeUnit, STDLIB: 9-19
 - .pth files
 - loading with LoadExternalModule, PRGREF: 7-11
 - not supported for Windows 95/NT, PRGREF: 3-2
 - using with standalone executables, PRGREF: 7-8, 7-10 to 7-11
 - pull-down menus, USRINT: 1-6
 - Pulse function, ANLS: 2-157 to 2-168
 - PulseParam function, ANLS: 2-168 to 2-169
 - PulseWidthOrPeriodMeasConfig function, STDLIB: 10-48 to 10-49
 - PULSWIDTH example program, GS: 11-5
 - push button controls. *See* command button controls.
 - PutXWindowPropertyItem function, STDLIB: 9-27 to 9-28
 - PutXWindowPropertyValue function, STDLIB: 9-29 to 9-31
- ## Q
- Q387 coprocessor emulation software (Quickware), PRGREF: 7-2
 - QScale1D function, ANLS: 2-170
 - QScale2D function, ANLS: 2-170 to 2-171
 - QueueUserEvent function, USRINT: 4-197
 - Quick Edit Window
 - Edit Control dialog box, USRINT: 2-14
 - Edit Panel dialog box, USRINT: 2-10 to 2-11
 - QuitUserInterface function
 - definition, USRINT: 3-94
 - description, USRINT: 4-197 to 4-198

R

- Radix-4 and Radix-8 algorithms, ANLS: 1-10
- Ramp function, ANLS: 2-171 to 2-172
- random array of data, generating, GS: 6-3 to 6-4
- RatInterp function, ANLS: 2-172 to 2-173
- Read Only command, File menu
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-8
 - User Interface Editor, USRINT: 2-4
- read termination, GPIB, STDLIB: 4-8
- Read Waveform function example
 - creating function panel, INST: 8-10 to 8-14
 - sample Oscilloscope instrument driver, GS: 8-8 to 8-9
 - writing, INST: 8-18 to 8-19
- ReadFile function, STDLIB: 2-22 to 2-23
- ReadFromDigitalLine function, STDLIB: 10-49 to 10-51
- ReadFromDigitalPort function, STDLIB: 10-51 to 10-52
- ReadFromPhysicalMemory function, STDLIB: 8-57
- ReadFromPhysicalMemoryEx function, STDLIB: 8-58
- reading data with instrument driver, GS: 8-7
- ReadLine function, STDLIB: 2-23 to 2-24
- Reattach Program command, Edit
 - Instrument dialog box, INST: 3-8, USER: 3-36
- Recall Function Panel command, View menu
 - example, GS: 3-10 to 3-11
 - invoking, USER: 4-20
 - multiple functions in one function panel window, USER: 4-21
 - multiple panels for one function, USER: 4-21
 - purpose, USER: 4-20
 - recalling from function name only, USER: 4-20 to 4-21
 - syntax requirements, USER: 4-21
- RecallPanelState function, USRINT: 4-198 to 4-199
- rect and point functions
 - function tree, USRINT: 4-7 to 4-8
 - MakePoint, USRINT: 4-148
 - MakeRect, USRINT: 4-148 to 4-149
 - PointEqual, USRINT: 4-187
 - PointPinnedToRect, USRINT: 4-188
 - PointSet, USRINT: 4-188 to 4-189
 - RectBottom, USRINT: 4-199
 - RectCenter, USRINT: 4-199 to 4-200
 - RectContainsRect, USRINT: 4-200
 - RectEmpty, USRINT: 4-201 to 4-203
 - RectEqual, USRINT: 4-202
 - RectGrow, USRINT: 4-202 to 4-203
 - RectIntersection, USRINT: 4-203 to 4-204
 - RectMove, USRINT: 4-204
 - RectOffset, USRINT: 4-204 to 4-205
 - RectRight, USRINT: 4-205
 - RectSameSize, USRINT: 4-206
 - RectSet, USRINT: 4-206 to 4-207
 - RectSetBottom, USRINT: 4-207
 - RectSetCenter, USRINT: 4-207 to 4-208
 - RectSetFromPoints, USRINT: 4-208
 - RectSetRight, USRINT: 4-208
 - RectUnion, USRINT: 4-209
- rect and point structures, USRINT: 3-59 to 3-61
 - comparing or obtaining values, USRINT: 3-61
 - functions and macros for creating, USRINT: 3-60
 - modifying, USRINT: 3-60 to 3-61
 - purpose and use, USRINT: 3-59
- Redo command, Edit menu, USER: 4-10, USRINT: 2-5
- references, resolving. *See* callback references, resolving (Windows 95/NT).
- ReFFT function, ANLS: 2-174
- refresh rate for graphs, USRINT: 3-83 to 3-84
- RefreshGraph function, USRINT: 4-210
- RegisterDDEServer function, STDLIB: 6-2, 6-16 to 6-18

- RegisterTCPSTServer function, STDLIB: 7-2, 7-8 to 7-10
- RegisterWinMsgCallback function, PRGREF: 4-19 to 4-20, USRINT: 4-210 to 4-212
- regular expression characters (table), USER: 4-14 to 4-15
- Regular Expression option, Find command Array and String Display windows, USER: 7-6
Source, Interactive Execution, and Standard Input/Output windows, USER: 4-13
- Regular Expression option, Find UIR Objects dialog box, USRINT: 2-18
- ReInvFFT function, ANLS: 2-175
- ReleaseExternalModule function, STDLIB: 8-59
- Reload DLLs Before Each Run option, PRGREF: 3-3, 4-4
- Reload DLLs On Each Run option, USER: 3-51
- remote functions, GPIB-488.2 Library, STDLIB: 4-4
- remote hosts
 - ConnectToXDisplay function, STDLIB: 9-3, 9-7 to 9-9
 - DisconnectFromXDisplay, STDLIB: 9-14 to 9-15
- Remove File command, Edit menu, USER: 3-8
- RemovePopup function, USRINT: 4-212
- RemoveXWindowProperty function, STDLIB: 9-31 to 9-32
- RenameFile function, STDLIB: 8-60 to 8-61
- Replace command, Edit menu
 - button bar, USER: 4-16 to 4-17
 - Find Next button, USER: 4-16
 - keyboard commands for bypassing dialog box (table), USER: 4-17
 - Replace button, USER: 4-16
 - Replace All button, USER: 4-17
 - Return button, USER: 4-17
 - Stop button, USER: 4-17
- ReplaceAxisItem function, USRINT: 4-213 to 4-214
- ReplaceListItem function, USRINT: 4-214 to 4-215
- ReplaceTextBoxLine function, USRINT: 4-215
- reporting load failures, USRINT: 3-87 to 3-88
- Require function prototypes option, PRGREF: 1-2, 2-2, 2-3, USER: 3-46 to 3-47, 4-4
- Require return values for non-void functions option, PRGREF: 1-2 to 1-3, USER: 3-47
- required functions for instrument drivers
 - list of functions, INST: 1-8, 2-10, 7-1
 - PREFIX_close, INST: 7-4
 - PREFIX_error_message, INST: 7-9
 - PREFIX_error_query, INST: 7-7 to 7-8
 - PREFIX_init, INST: 7-2 to 7-4
 - PREFIX_reset, INST: 7-5
 - PREFIX_revision, INST: 7-10 to 7-11
 - PREFIX_self_test, INST: 7-6 to 7-7
- resdir configuration option, USER: 1-4
- reset function
 - definition, INST: 1-9
 - PREFIX_reset, INST: 7-5
- Reset Indices command, Options menu
 - description, USER: 7-9
 - displaying single-dimensional arrays, USER: 7-2
 - specifying index for string array, USER: 7-3
 - specifying plane and dimensions for multi-dimensional arrays, USER: 7-2
- Reset Indices dialog box, USER: 7-2 to 7-3
- ResetDevs function no longer supported (note), STDLIB: 4-13
- ResetIIRFilter function, ANLS: 2-176
- ResetTextBox function, USRINT: 4-216
- ResetTimer function, USRINT: 4-216 to 4-217
- RESMAN utility, GS: 10-5
- Resolve All Excluded Lines command, Edit menu, USER: 4-11
- resolving references. *See* callback references, resolving (Windows 95/NT).

resource ID

- controls, USRINT: 2-11
- menu bar, USRINT: 2-8
- panels, USRINT: 2-9

ResumeTimerCallbacks function, USRINT: 4-217

RetireExecutableHandle function, STDLIB: 8-61

Retrace Pointer Chain command, View menu, USER: 6-11

Return Value command, Create menu, INST: 4-18

return value controls, INST: 4-18

- control label, INST: 4-18
- control width, INST: 4-18
- Create Return Value Control dialog box, INST: 4-18
- data type, INST: 4-18
- definition, INST: 4-18
- display format, INST: 4-18
- example instrument driver, INST: 8-9, 8-13
- specifying return value control parameter, USER: 5-4

return values

- instrument driver functions, INST: 2-10
- missing return value (non-fatal) error, PRGREF: 1-15
- requiring for non-void functions, PRGREF: 1-2 to 1-3, USER: 3-47

ReturnRS232Err function, STDLIB: 5-28

Reverse function, ANLS: 2-177

revision query function

- definition, INST: 1-9
- PREFIX_revision, INST: 7-10 to 7-11

RGB colors. *See* colors.

Right Edges option

- Alignment command, USRINT: 2-20
- Distribution command, USRINT: 2-22

right-clicking on GUI control, GS: 5-10

Ring command, Create menu, INST: 4-12 to 4-14

ring control parameters, specifying, USER: 5-5 to 5-6

ring controls. *See also* Edit Label/Value Pairs dialog box.

- adding label and value to ring control list, INST: 4-14
- control functions, USRINT: 3-29 to 3-30
- control label, INST: 4-13
- control width, INST: 4-13
- Create Ring Control dialog box, INST: 4-12 to 4-13
- creating, INST: 4-12 to 4-14
- data type, INST: 4-13
- default value, INST: 4-13
- definition, INST: 4-12, USRINT: 1-13
- Edit Label/Value Pairs dialog box, INST: 4-13 to 4-14, 8-7
- Edit Ring Control dialog box, INST: 8-6, 8-8
- example instrument driver, INST: 8-6 to 8-9
- operating, USRINT: 1-13 to 1-14
- parameter position, INST: 4-13
- pop-up format (illustration), USRINT: 1-13

RMS function, ANLS: 2-177 to 2-178

RoundRealToNearestInteger function, STDLIB: 8-61 to 8-62

RQS events, and auto serial polling

- ibInstallCallback function, STDLIB: 4-17
- ibNotify function, STDLIB: 4-19

RS-232 cables, STDLIB: 5-4 to 5-6

DTE to DCE cable configuration (table), STDLIB: 5-5

gender of connectors, STDLIB: 5-6

PC cable configuration (table), STDLIB: 5-4

PC to DTE cable configuration (table), STDLIB: 5-5

RS-232 command, Library menu, USER: 3-40

RS-232 instruments

- core instrument driver files (table), INST: 6-4
- programming guidelines
- close routine, INST: 6-17

- initialization routine, INST: 6-17
- utility routines, INST: 6-17
- RS-232 Library
 - definition, USER: 3-40
 - LabWindows for DOS, GS: 12-2
 - status reporting by, PRGREF: B-4
- RS-232 Library functions
 - error conditions, STDLIB: 5-36 to 5-37
 - function panels
 - classes and subclasses, STDLIB: 5-2
 - function tree (table), STDLIB: 5-1 to 5-2
 - function reference
 - CloseCom, STDLIB: 5-8 to 5-9
 - ComBreak, STDLIB: 5-9
 - ComFromFile, STDLIB: 5-3, 5-9 to 5-10
 - ComRd, STDLIB: 5-11
 - ComRdByte, STDLIB: 5-12
 - ComRdTerm, STDLIB: 5-12 to 5-13
 - ComSetEscape, STDLIB: 5-14 to 5-15
 - ComToFile, STDLIB: 5-3, 5-15 to 5-16
 - ComWrt, STDLIB: 5-16 to 5-17
 - ComWrtByte, STDLIB: 5-17 to 5-18
 - FlushInQ, STDLIB: 5-18
 - FlushOutQ, STDLIB: 5-19
 - GetComStat, STDLIB: 5-19 to 5-20
 - GetInQLen, STDLIB: 5-20 to 5-21
 - GetOutQLen, STDLIB: 5-4, 5-21
 - GetRS232ErrorString, STDLIB: 5-22
 - InstallComCallback, STDLIB: 5-22 to 5-25
 - OpenCom, STDLIB: 5-4, 5-25 to 5-26
 - OpenComConfig, STDLIB: 5-4, 5-26 to 5-28
 - ReturnRS232Err, STDLIB: 5-28
 - SetComTime, STDLIB: 5-29
 - SetCTSMODE, STDLIB: 5-7, 5-30
 - SetXMODEM, STDLIB: 5-31
 - XModemConfig, STDLIB: 5-4, 5-31 to 5-33
 - XModemReceive, STDLIB: 5-3, 5-4, 5-33 to 5-34
 - XModemSend, STDLIB: 5-34 to 5-35
 - handshaking, STDLIB: 5-6 to 5-8
 - reporting errors, STDLIB: 5-3
 - RS-232 cables, STDLIB: 5-4 to 5-6
 - troubleshooting, STDLIB: 5-3 to 5-4
 - XModem file transfer functions, STDLIB: 5-3
 - rs232err global variable, STDLIB: 5-3
 - RS-485 AT-Serial board, STDLIB: 5-3
 - Run Function Panel command, Code menu, GS: 8-5, 8-6, 8-9, USER: 5-8 to 5-9
 - Run Interactive Statements command, Run menu, USER: 4-27 to 4-28
 - Run menu
 - Array and String Display windows, USER: 7-9
 - Interactive Execution window
 - Continue command, GS: 4-2
 - Continue Execution command, GS: 4-12
 - Step Into command, GS: 4-2, 4-3
 - Step Over command, GS: 4-2
 - Terminate Execution command, GS: 4-2
 - Project window
 - Break at First Statement command, GS: 4-2, USER: 3-28
 - Breakpoints command, USER: 3-28
 - Continue command, USER: 3-28
 - Execute command, USER: 3-28
 - illustration, USER: 3-27
 - overview, GS: 2-4
 - Run Project command, GS: 2-5, 3-12, 4-2, 6-10, USER: 3-27
 - Terminate Execution command, USER: 3-28
 - Source, Interactive Execution, and Standard Input/Output windows
 - Activate Panels When Resuming option, USER: 4-31
 - Break at First Statement command, USER: 4-26, 4-29

- Breakpoints command, USER: 4-26, 4-30 to 4-31
- Close Libraries command, USER: 4-29
- Continue command, USER: 4-28
- Down Call Stack command, USER: 4-32
- Dynamic Memory command, USER: 4-32
- Expression Value command, USER: 4-32
- Finish Function command, USER: 4-29
- Go to Cursor command, USER: 4-28
- illustration, USER: 4-25
- Run Interactive Statements command, USER: 4-27 to 4-28
- Run Project command, USER: 4-27 to 4-28
- Stack Trace command, USER: 4-32
- Step Into command, USER: 4-29
- Step Over command, USER: 4-28
- Terminate Execution command, USER: 4-29
- Toggle Breakpoint command, USER: 4-26, 4-29
- Up Call Stack command, USER: 4-32
- Variable Value command, USER: 4-32, 6-1, 7-3
- User Interface Editor, USRINT: 2-30
- Variable Display and Watch windows, USER: 6-13
- Run Options command, Options menu, USER: 3-50 to 3-51
 - Break on library errors option, PRGREF: 1-15 to 1-16, 7-16, USER: 3-51
 - Check disk dates before each run, USER: 3-51
 - Debugging level, USER: 3-51
 - Hide windows, USER: 3-51
 - Maximum stack size (bytes), USER: 3-50
 - Reload DLLs Before Each Run option, PRGREF: 3-3
 - Reload DLLs on each run, USER: 3-51
 - Save changes before running, USER: 3-51
 - setting debugging levels, PRGREF: 1-10
 - setting maximum stack size, PRGREF: 1-20
 - Unload DLLs after each run, USER: 3-51
 - Unload DLLs After Each Run option, PRGREF: 3-3
- Run Options menu, Project window, PRGREF: 4-4
- Run Project command, Run menu
 - Project window
 - purpose and use, USER: 3-27
 - running completed project, GS: 3-12, 6-10
 - sample1 project, GS: 2-5
 - step mode execution, GS: 4-2 to 4-3
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-27 to 4-28
- run startup option (table), USER: 1-1
- run state change notification for compiled modules
 - asynchronous callbacks, PRGREF: 2-5
 - examples of program state changes, PRGREF: 2-4 to 2-5
 - prototype for callback, PRGREF: 2-4
 - requirements, PRGREF: 2-4
 - unavailable
 - for executables under UNIX, PRGREF: 5-2
 - for external compilers under Windows 95/NT, PRGREF: 3-12
- RunExternalModule function, STDCALLIB: 8-62 to 8-63
- running projects
 - instrument driver example, GS: 8-10 to 8-11
 - Max & Min command button sample, GS: 7-8
 - sample1 project, GS: 2-5 to 2-6
 - sample4.prj, GS: 6-10 to 6-11
- RunPopupMenu function, USRINT: 4-218 to 4-219

-run_then_exit startup option (table),
 USER: 1-1

Run-time Engine. *See also* standalone executables, creating and distributing.

- configuring, PRGREF: 7-5 to 7-7
 - cvidir option, PRGREF: 7-6 to 7-7
 - cvirtx option, PRGREF: 7-6
 - translating message file, PRGREF: 7-5
- files required for running executable programs, PRGREF: 7-7 to 7-8
- location and type of files
 - for Windows 3.1, PRGREF: 7-9
 - for Windows 95/NT, PRGREF: 7-9
- overview, PRGREF: 7-1
- system requirements, PRGREF: 7-1 to 7-2

runtime error checking, enabling (caution), PRGREF: 1-2

run-time error reporting

- Project window, USER: 3-28
- Source, Interactive Execution, and Standard Input/Output windows, USER: 4-28

Runtime Errors command, Window menu, GS: 2-6, USER: 3-43

RunUserInterface function

- description, USRINT: 4-219 to 4-220
- purpose, USRINT: 3-91

RunUserInterface sample function, GS: 6-2

S

Sample Oscilloscope program. *See* instrument driver programming example.

Sample Period control (example), INST: 8-12

sample programs. *See* example programs.

Save All command, File menu

- Array and String Display windows, USER: 7-5
- Function Panel windows, USER: 5-7
- Project window, USER: 3-6

Source, Interactive Execution, and Standard Input/Output windows, USER: 4-8

User Interface Editor, USRINT: 2-4

Variable Display and Watch windows, USER: 6-5

Save As command, File menu

- Project window, USER: 3-6
- Source, Interactive Execution, and Standard Input/Output windows, USER: 4-8
- User Interface Editor, USRINT: 2-4

Save button, adding to project, GS: 9-6

Save changes before running option, USER: 3-51

Save command, File menu

- Project window, USER: 3-5
- Source, Interactive Execution, and Standard Input/Output windows, USER: 4-8
- User Interface Editor, USRINT: 2-4

Save Copy As command, File menu, USER: 4-8, USRINT: 2-4

Save in Text Format command, Options menu, USRINT: 2-33

SavePanelState function, USRINT: 4-220

SawtoothWave function, ANLS: 2-178 to 2-179

scale functions. *See* axis scale functions.

Scale1D function, ANLS: 2-179

Scale2D function, ANLS: 2-180

ScaledWindow function, ANLS: 2-181 to 2-182

scanning function programming examples

- ASCII file to two integers with error checking, STDLIB: 2-68
- ASCII file with comma separated numbers to real array, with number of elements at beginning of file, STDLIB: 2-68 to 2-69
- binary file to integer array, assuming fixed number of elements, STDLIB: 2-69

- binary file to real array
 - assuming fixed number of elements, STDLIB: 2-69
 - assuming variable number of elements, STDLIB: 2-69 to 2-70
- integer array containing 1-byte integers to real array, STDLIB: 2-66 to 2-67
- integer array to real array, STDLIB: 2-66
 - with byte swapping, STDLIB: 2-66
- list of examples, STDLIB: 2-49 to 2-50
- reading integer from standard input, STDLIB: 2-70
- reading line from standard input, STDLIB: 2-71
- reading string from standard input, STDLIB: 2-70 to 2-71
- scanning strings that are not NUL-terminated, STDLIB: 2-65 to 2-66
- string containing binary integers to integer array, STDLIB: 2-67
- string containing IEEE-format real number to real variable, STDLIB: 2-67 to 2-68
- string to integer, STDLIB: 2-59 to 2-60
- string to integer and real, STDLIB: 2-61
- string to integer and string, STDLIB: 2-63
- string to long integer, STDLIB: 2-60
- string to real, STDLIB: 2-60 to 2-61
 - after finding semicolon in string, STDLIB: 2-64
 - after finding substring in string, STDLIB: 2-64
 - skipping over non-numeric characters, STDLIB: 2-63
- string to string, STDLIB: 2-62
- string with comma-separated ASCII numbers to real array, STDLIB: 2-65
- scanning functions. *See also* Formatting and I/O Library functions; formatting functions; string manipulation functions.
 - asterisks (*) instead of constants in format specifiers, STDLIB: 2-48
 - format string, STDLIB: 2-41 to 2-43
 - introductory examples, STDLIB: 2-31 to 2-32
 - literals in format string, STDLIB: 2-48 to 2-49
 - purpose and use, STDLIB: 2-40
 - Scan, INST: 6-9 to 6-10, STDLIB: 2-24, 2-40
 - scanf function, PRGREF: 3-9
 - ScanFile, STDLIB: 2-25, 2-40
 - ScanIn, STDLIB: 2-25 to 2-26, 2-40
 - special nature of, STDLIB: 2-3 to 2-4
- scanning modifiers. *See also* formatting modifiers.
 - floating-point modifiers (%f), STDLIB: 2-45 to 2-46
 - integer modifiers (%i, %d, %x, %o, %c), STDLIB: 2-43 to 2-45
 - string modifiers (%s), STDLIB: 2-46 to 2-48
- scope.fp sample file, GS: 8-1
- SCXI Analog Input instrument driver, replacing (note), GS: 11-4
- sdk directory (table), USER: 1-4
- SDK functions. *See* Microsoft Windows SDK functions.
- Search for Help On command, Help menu, USER: 4-39
- search precedence of Windows DLLs, PRGREF: 4-22 to 4-23
- Select All command, Edit menu, USER: 4-11
- Select Attribute Constant Dialog Box, USER: 5-12 to 5-13
- Select Attribute Values Dialog Box, USER: 5-13
- Select Function Panel dialog box, USER: 3-36 to 3-37
 - Alphabetize command, USER: 3-36
 - Flatten checkbox, USER: 3-36, 5-2
 - Function Names command, USER: 3-36
 - Help button, USER: 3-37
 - illustration, USER: 3-36
 - New Window command, USER: 3-37
- Select UI Constant command, Code menu, USER: 5-10 to 5-14
 - attribute constants from userint.h, USER: 5-12 to 5-13
 - constants from .uir file, USER: 5-11

- example, GS: 6-6
- value constants from userint.h, USER: 5-13 to 5-14
- Select UIR Constant Dialog Box, USER: 5-11
- Select Variable command, Code menu, USER: 5-14 to 5-16
- Select Variable or Expression Dialog Box, USER: 5-14 to 5-15
 - data type compatibility, USER: 5-15 to 5-16
 - Data Type list box, USER: 5-14
 - Data Type of Control display, USER: 5-14
 - illustration, USER: 5-14
 - items included in list box, USER: 5-15
 - Show Project Variables option, USER: 5-14
 - sorting of list box entries, USER: 5-16
 - Variable or Expression list box, USER: 5-14
- Selected Text Only option, Find command, USER: 4-15
- self-test function. *See* PREFIX_self_test.
- separators, adding and positioning on toolbar, USER: 4-2 to 4-3
- serial communications functions. *See* RS-232 Library functions.
- serial poll functions, GPIB-488.2 Library, STDLIB: 4-4
- serial polling, automatic. *See* automatic serial polling.
- ServerDDEWrite function, STDLIB: 6-19 to 6-20
- ServerTCPRead function, STDLIB: 7-10
- ServerTCPWrite function, STDLIB: 7-11
- Set Default Font command, Edit menu, USRINT: 2-15
- Set Target File command, Code menu, GS: 3-7, 6-8, USER: 5-17, USRINT: 2-23 to 2-24
- Set Target File dialog box, USRINT: 2-23 to 2-24
- SetID function, ANLS: 2-182 to 2-183, STDLIB: 3-28
- SetActiveCtrl function, USRINT: 4-221
- SetActiveGraphCursor function, USRINT: 4-221 to 4-222
- SetActivePanel function, USRINT: 4-222
- SetAxisRange function, USRINT: 4-224 to 4-226
- SetAxisScalingMode function, USRINT: 4-223 to 4-224
- SetBreakOnLibraryErrors function, STDLIB: 8-63 to 8-64
- SetBreakOnProtectionErrors function, STDLIB: 8-64 to 8-65
- SetComTime function, STDLIB: 5-29
- SetCtrlAttribute function, GS: 9-3 to 9-4, USRINT: 4-226 to 4-227
- SetCtrlBitmap function, USRINT: 4-227 to 4-228
- SetCtrlIndex function, USRINT: 4-229
- SetCtrlVal function, GS: 7-7, 9-2, USRINT: 4-229 to 4-230
- SetCTSMODE function, STDLIB: 5-7, 5-30
- SetCursorAttribute function, USRINT: 4-230 to 4-231
- SetDir function, STDLIB: 8-66
- SetDrive function, STDLIB: 8-66 to 8-67
- SetEasyIOMultitaskingMode function, STDLIB: 10-53
- SetFileAttrs function, STDLIB: 8-67 to 8-68
- SetFileDate function, STDLIB: 8-68 to 8-69
- SetFilePtr function, STDLIB: 2-26 to 2-28
- SetFileTime function, STDLIB: 8-70
- SetFontPopupDefaults function, USRINT: 4-231 to 4-233
- SetGraphCursor function, USRINT: 4-233
- SetGraphCursorIndex function, USRINT: 4-234
- SetIdleEventRate function, USRINT: 3-92 to 3-93, 4-235
- SetImageBits function, USRINT: 4-236 to 4-238
- SetInputMode function, USRINT: 4-239
- SetListItemImage function, USRINT: 4-240
- SetMenuBarAttribute function, USRINT: 4-241 to 4-242
- SetMouseCursor function, USRINT: 4-241 to 4-242
- SetPanelAttribute function, USRINT: 4-242

- SetPanelMenuBar function, USRINT: 4-243
- SetPanelPos function, USRINT: 4-243 to 4-244
- SetPersistentVariable function, STDLIB: 8-71
- SetPlotAttribute function, USRINT: 4-244 to 4-245
- SetPrintAttribute function, USRINT: 4-245
- SetSleepPolicy function, USRINT: 4-245 to 4-246
- SetStdioPort function, STDLIB: 8-71 to 8-72
- SetStdioWindowOptions function, STDLIB: 8-72 to 8-74
- SetStdioWindowPosition function, STDLIB: 8-74 to 8-75
- SetStdioWindowSize function, STDLIB: 8-75
- SetStdioWindowVisibility function, STDLIB: 8-76
- SetSystemAttribute function, USRINT: 4-226
- SetSystemDate function, STDLIB: 8-76
- SetSystemPopupsAttribute function, USRINT: 4-247
- SetSystemTime function, STDLIB: 8-77
- SetTraceAttribute function, USRINT: 4-247 to 4-248
- SetUpDDEHotLink function, STDLIB: 6-2, 6-4, 6-20 to 6-21
- SetUpDDEWarmLink function, STDLIB: 6-2, 6-4, 6-21 to 6-22
- SetWaitCursor function, USRINT: 4-248 to 4-249
- SetXMode function, STDLIB: 5-6, 5-31
- shells, building. *See* CodeBuilder.
- Shift function, ANLS: 2-183 to 2-184
- Shortcut Key field, Edit Menu Bar dialog box, USRINT: 2-9
- shortcut keys
 - constant for masking three bit fields (table), USRINT: 3-28
 - functions using shortcut key values as input parameters, USRINT: 4-11
 - multiplatform application considerations, PRGREF: 6-3
 - producing (example), USRINT: 4-157
 - values for modifier keys and virtual keys, USRINT: 3-26 to 3-27, 4-157 to 4-158
- Show Build Error window for warnings option, PRGREF: 1-4, USER: 3-48
- Show Full Dates command, View menu, USER: 3-9
- Show Full Path Names command, View menu, USER: 3-9
- Show Info command, Edit Instrument dialog box, INST: 3-8, USER: 3-35
- Show/Hide Panels command, View menu, USRINT: 2-19
- Shutdown sample function, GS: 6-2 to 6-3
- signal generation functions
 - ArbitraryWave, ANLS: 2-30 to 2-31
 - Chirp, ANLS: 2-52 to 2-53
 - definition, ANLS: 1-7
 - function tree, ANLS: 1-1 to 1-2
 - GaussNoise, ANLS: 2-103 to 2-104
 - Impulse, ANLS: 2-119 to 2-120
 - Pulse, ANLS: 2-157 to 2-168
 - Ramp, ANLS: 2-171 to 2-172
 - SawtoothWave, ANLS: 2-178 to 2-179
 - Sinc, ANLS: 2-184
 - SinePattern, vi all;2-1
 - SineWave, ANLS: 2-186 to 2-187
 - SquareWave, ANLS: 2-194 to 2-195
 - Triangle, ANLS: 2-206 to 2-207
 - TriangleWave, ANLS: 2-207 to 2-208
 - Uniform, ANLS: 2-209
 - WhiteNoise, ANLS: 2-211 to 2-212
- signal processing functions. *See* FIR digital filter functions; frequency domain functions; IIR digital filter functions; time domain functions; windows functions.
- signed/unsigned pointer mismatch warning, enabling, USER: 3-47
- Sinc function, ANLS: 2-184
- SinePattern function, vi all;2-1
- SineWave function, ANLS: 2-186 to 2-187
- single-dimensional array, displaying in Array Display window (figure), USER: 7-1

- skeleton code
 - creating with CodeBuilder, USRINT: 1-4 to 1-5
 - definition, USER: 2-6, USRINT: 2-2
 - function skeletons, USRINT: 2-26
 - placement in target file, USRINT: 2-24, 2-26
- Sleep policy when not running program option, USER: 3-52
- Slide command, Create menu, INST: 4-8 to 4-10
- slide controls
 - adding labels and values to slide control list, INST: 4-10
 - control label, INST: 4-8
 - Create Slide Control dialog box, INST: 4-8 to 4-9, 4-25
 - creating, INST: 4-8 to 4-10, 4-25
 - data type, INST: 4-9
 - default value, INST: 4-9
 - definition, INST: 4-8, USER: 5-5
 - Edit Label/Value Pairs dialog box, INST: 4-9 to 4-10, 4-26, 4-28
 - parameter position, INST: 4-8 to 4-9
 - specifying parameters, USER: 5-5
- smoothing graph updating, USRINT: 3-82
- software handshaking, STDLIB: 5-6
- Solaris distribution of standalone executables
 - Solaris 1, PRGREF: 7-4 to 7-5
 - Solaris 2, PRGREF: 7-3 to 7-4
- SOLUTIONS subdirectory of TUTORIAL directory, GS: 9-1
- Sort By Date command, View menu, USER: 3-9
- Sort By File Extension command, View menu, USER: 3-10
- Sort By Name command, View menu, USER: 3-9
- Sort By Pathname command, View menu, USER: 3-10
- Sort function, ANLS: 2-187, STDLIB: 3-29
- Source Code Connection
 - Edit Control dialog box, USRINT: 2-11
 - Edit Panel dialog box, USRINT: 2-9
- source files. *See also* programming tutorial.
 - analyzing code, GS: 6-1 to 6-3
 - connecting code with graphical user interface, USRINT: 1-3
 - assigning function to Command button, GS: 5-6 to 5-7
 - requirements, GS: 5-2
 - converting 16-bit source code to 32-bit source code, PRGREF: 1-9 to 1-10
 - converting from LabWindows for DOS, GS: 12-4 to 12-6
 - instrument drivers, GS: 12-8
 - creating with CodeBuilder, USRINT: 1-4 to 1-5, 2-2 to 2-3
 - debugging, USER: 2-5
 - displaying in Source window, GS: 2-6 to 2-7
 - displaying referenced files, GS: 2-8
 - enabling unreachable code warning, PRGREF: 1-3
 - error messages, GS: 2-6
 - generated code stored in Interactive window, ANLS: 1-9
 - information displayed in Project window (figure), GS: 2-5
 - inserting code from function panels, GS: 3-7 to 3-8
 - listed in Window menu, USER: 3-45
 - loading, GS: 2-2 to 2-4
 - loading with LoadExternalModule, PRGREF: 7-11
 - moving to specific lines of code, GS: 2-9
 - opening subwindows for one source file, GS: 2-8
 - preparing for use in Windows 32-bit DLL, PRGREF: 3-17 to 3-20
 - calling conventions for exported functions, PRGREF: 3-17 to 3-18
 - exporting DLL functions and variables, PRGREF: 3-18 to 3-19
 - export qualifier method, PRGREF: 3-18 to 3-19
 - include file method, PRGREF: 3-18

- marking imported symbols in include file distributed with DLL, PRGREF: 3-19 to 3-20
- recommendations, PRGREF: 3-20
- recalling function panel for editing, GS: 3-10 to 3-11
- required in project file list, USER: 3-1
- Source option, Add Files to Project command, USER: 3-8
- Source window
 - available menus, GS: 2-7
 - Build menu, USER: 4-22 to 4-24
 - compatibility with ANSI C specifications, GS: 2-7
 - context menus, USER: 4-43
 - displaying generated code, GS: 5-11
 - displaying source code, GS: 2-6 to 2-7
 - Edit menu, USER: 4-9 to 4-17
 - editing tools, GS: 2-8 to 2-9
 - File menu, USER: 4-7 to 4-9
 - illustration, GS: 2-2, 2-7
 - Instrument menu, USER: 4-33
 - keyboard commands (figure), USER: A-1
 - Library menu, USER: 4-33
 - notification of external modification, USER: 4-43
 - opening
 - with New command, USER: 3-4
 - with Open command, USER: 3-5
 - opening subwindows, GS: 2-8
 - Options menu, USER: 4-33 to 4-39
 - purpose and use, USER: 2-4, 4-1
 - Run menu, USER: 4-25 to 4-32
 - sample3.c program (illustration), GS: 4-1
 - selecting text, USER: 4-5 to 4-7
 - subwindows, USER: 4-4
 - title determined by current source file, GS: 2-1
 - View menu, USER: 4-17 to 4-22
 - Window menu, USER: 4-33
- space character, difference from NUL byte (note), USER: 6-1, 7-1
- Spectrum function, ANLS: 2-188
- SpectrumUnitConversion function, ANLS: 2-188 to 2-191
- speed, optimizing
 - ATTR_SMOOTH_UPDATE, USRINT: 3-82
 - example canvas benchmark program, USRINT: 5-6
 - VAL_AUTO_SCALE, USRINT: 3-82 to 3-83
- SpInterp function, ANLS: 2-192 to 2-193
- Spline function, ANLS: 2-193 to 2-194
- SplitPath function, STDLIB: 8-77 to 8-78
- Split-Radix algorithm, ANLS: 1-10
- SquareWave function, ANLS: 2-194 to 2-195
- SRQ functions, GPIB-488.2 Library function tree, STDLIB: 4-4
 - Windows NT and Windows 95 asynchronous callbacks, STDLIB: 4-12
 - device version requirements, STDLIB: 4-12
 - synchronous callbacks, STDLIB: 4-12
- SRQI event, and auto serial polling
 - ibInstallCallback function, STDLIB: 4-17
 - ibNotify function, STDLIB: 4-19
- stack overflow error (fatal), PRGREF: 1-15
- stack size, PRGREF: 1-20, USER: 3-50
- Stack Trace command, Run menu, USER: 4-32
 - Down Call Stack, USER: 4-32
 - Up Call Stack, USER: 4-32
- standalone executables, creating and distributing
 - accessing UIR, image, and panel state files, PRGREF: 7-9
 - configuring Run-time Engine, PRGREF: 7-5 to 7-7
 - option descriptions, PRGREF: 7-6 to 7-7
 - translating message file, PRGREF: 7-5

- Create Distribution Kit command,
 - USER: 3-21 to 3-27
- Create Standalone Executable dialog box, USER: 3-14 to 3-15
- distributing
 - Solaris 1, PRGREF: 7-4 to 7-5
 - Solaris 2, PRGREF: 7-3 to 7-4
 - UNIX, PRGREF: 7-2 to 7-5
 - Windows 3.1, PRGREF: 7-2
 - Windows 95/NT, PRGREF: 7-1 to 7-2
- DLL files, PRGREF: 7-10 to 7-11
- error checking, PRGREF: 7-16
- loading files using LoadExternalModule, PRGREF: 7-11 to 7-16
 - DLL files and DLL path files (Windows 3.1), PRGREF: 7-14 to 7-15
 - DLL files for Windows 95/NT, PRGREF: 7-14
 - library files, PRGREF: 7-13
 - object modules, PRGREF: 7-13
 - source files, PRGREF: 7-15 to 7-16
- location of files on target machine, PRGREF: 7-8 to 7-16
 - DLL files
 - Windows 3.1, PRGREF: 7-10 to 7-11
 - Windows 95/NT, PRGREF: 7-10
- LabWindows/CVI Run-time Engine for Windows, PRGREF: 7-9
- loading files using
 - LoadExternalModule, PRGREF: 7-11 to 7-16
- UIR, image, and panel state files, PRGREF: 7-9
- math coprocessor software emulation for Windows 3.1, PRGREF: 7-2
- relative pathnames for accessing files, PRGREF: 7-16
- system requirements, PRGREF: 7-1 to 7-2
- UNIX compiler/linker issues, PRGREF: 5-1 to 5-3
 - InitCVIRTE called by main function, PRGREF: 5-2 to 5-3
 - run state change callbacks not available, PRGREF: 5-2
- Windows 95/NT, PRGREF: 3-16
 - necessary files, PRGREF: 7-8
- standalone executables, launching
 - ExecutableHasTerminated function, STDLIB: 8-16 to 8-17
 - LaunchExecutableEx function, STDLIB: 8-47 to 8-48
 - RetireExecutableHandle function, STDLIB: 8-61
 - TerminateExecutable function, STDLIB: 8-82
- standard I/O example program,
 - USRINT: 5-3
- Standard Input/Output command, Window menu, USER: 3-45
- Standard Input/Output window
 - bringing to front whenever modified, USER: 3-52
 - Build menu, USER: 4-22 to 4-24
 - clearing, USER: 4-5
 - Edit menu, USER: 4-9 to 4-17
 - external compiler considerations, PRGREF: 3-9
 - File menu, USER: 4-7 to 4-9
 - Instrument menu, USER: 4-33
 - Library menu, USER: 4-33
 - Options menu, USER: 4-33 to 4-39
 - overview, GS: 2-6
 - purpose and use, USER: 2-5, 4-5
 - Run menu, USER: 4-25 to 4-32
 - selecting text, USER: 4-5 to 4-7
 - specifying maximum number of lines for, USER: 3-52, 4-5
 - subwindows, USER: 4-5
 - View menu, USER: 4-17 to 4-22
 - Window menu, USER: 4-33
- Standard Input/Output window functions
 - GetStdioPort, STDLIB: 8-35
 - GetStdioWindowOptions, STDLIB: 8-35 to 8-36
 - GetStdioWindowPosition, STDLIB: 8-36 to 8-37
 - GetStdioWindowSize, STDLIB: 8-37

- GetStdioWindowVisibility, STDLIB: 8-37 to 8-38
- SetStdioPort, STDLIB: 8-71 to 8-72
- SetStdioWindowOptions, STDLIB: 8-72 to 8-74
- SetStdioWindowPosition, STDLIB: 8-74 to 8-75
- SetStdioWindowSize, STDLIB: 8-75
- SetStdioWindowVisibility, STDLIB: 8-76
- standard language additions, ANSI C, STDLIB: 1-2 to 1-5
- standard libraries. *See also* specific libraries.
 - libraries available in LabWindows/CVI, GS: 1-4
 - list of libraries, USER: 2-2
 - specifying optional libraries to be loaded, USER: 3-53 to 3-54
- starting LabWindows/CVI, GS: 2-2
- startup options for LabWindows/CVI (table), USER: 1-1
- state change notification for compiled modules. *See* run state change notification for compiled modules.
- state files. *See* panel state files.
- static libraries, creating, PRGREF: 3-21, USER: 3-18 to 3-19
- statistics functions
 - ANOVA1Way, ANLS: 2-3
 - ANOVA2Way, ANLS: 2-11 to 2-19
 - ANOVA3Way, ANLS: 2-19 to 2-29
 - Contingency_Table, ANLS: 2-54 to 2-57
 - definition, ANLS: 1-8
 - F_Dist, ANLS: 2-96 to 2-97
 - function tree, ANLS: 1-5 to 1-6
 - GenLSFit, ANLS: 2-105 to 2-111
 - Histogram, ANLS: 2-115 to 2-116, STDLIB: 3-19 to 3-20
 - InvF_Dist, ANLS: 2-128 to 2-129
 - InvN_Dist, ANLS: 2-132
 - InvT_Dist, ANLS: 2-133
 - InvXX_Dist, ANLS: 2-133 to 2-134
 - Mean, ANLS: 2-148, STDLIB: 3-25 to 3-26
 - Median, ANLS: 2-149
 - Mode, ANLS: 2-149 to 2-150
 - Moment, ANLS: 2-150 to 2-151
 - N-Dist, ANLS: 2-153
 - RMS, ANLS: 2-177 to 2-178
 - Sort, ANLS: 2-187, STDLIB: 3-29
 - StdDev, ANLS: 2-196, STDLIB: 3-29 to 3-30
 - T_Dist, ANLS: 2-200 to 2-201
 - Variance, ANLS: 2-210 to 2-211
 - XX_Dist, ANLS: 2-218
- status codes
 - checking function call status codes, B-2
 - definition, PRGREF: B-1
 - returned by LabWindows/CVI functions, PRGREF: B-2
- Status control, GPIB, STDLIB: 4-6
- status dialog, displaying, PRGREF: 1-4, USER: 3-48
- status functions. *See also* error-related functions.
 - Formatting and I/O Library functions
 - GetFmtErrNdx, STDLIB: 2-18
 - GetFmtIOError, STDLIB: 2-18 to 2-19
 - GetFmtIOErrorString, STDLIB: 2-19
 - NumFmtdBytes, STDLIB: 2-20
 - RS-232 library
 - GetComStat, STDLIB: 5-19 to 5-20
 - GetInQLen, STDLIB: 5-20 to 5-21
 - GetOutQLen, STDLIB: 5-4, 5-21
 - GetRS232ErrorString, STDLIB: 5-22
 - ReturnRS232Err, STDLIB: 5-28
 - thread-specific, GPIB Library
 - ThreadIbcnt, STDLIB: 4-22
 - ThreadIbcntl function, STDLIB: 4-22 to 4-23
 - ThreadIberr, STDLIB: 4-23 to 4-25
 - ThreadIbsta, STDLIB: 4-25 to 4-26
- status help for instrument drivers, INST: 6-16
- status reporting by libraries and instrument drivers, PRGREF: B-3 to B-6
 - Advanced Analysis Library, PRGREF: B-3
 - Analysis Library, PRGREF: B-3

- ANSI C Library, PRGREF: B-6
- Data Acquisition Library, PRGREF: B-3
- DDE Library, PRGREF: B-5
- Formatting and I/O Library, PRGREF: B-5 to B-6
- GPIB/GPIB 488.2 Library, PRGREF: B-4
- LabWindows/CVI instrument drivers, PRGREF: B-6
- RS-232 Library, PRGREF: B-4
- TCP Library, PRGREF: B-5
- User Interface Library, PRGREF: B-3
- Utility Library, PRGREF: B-6
- VXI Library, PRGREF: B-4
- X Property Library, PRGREF: B-5
- Status Word (ibsta) global variable, STDLIB: 4-6, 4-10
- stdcall calling convention, PRGREF: 1-6
- __stdcall calling convention qualifier, PRGREF: 1-6, 3-17
- __stdcall calling convention qualifier, PRGREF: 1-6, 3-17 to 3-18, 3-20
- StdDev function, ANLS: 2-196, STDLIB: 3-29 to 3-30
- Step Into command, Run menu, GS: 4-2, 4-3, USER: 4-29
- step mode execution, GS: 4-2 to 4-3
- Step Over command, Run menu, GS: 4-2, USER: 4-28
- Stop on first file with errors option, PRGREF: 1-4, USER: 3-48
- string controls
 - definition, USRINT: 1-9
 - illustration, USRINT: 1-9
 - operating, USRINT: 1-9 to 1-10
- String Display command, View menu, USER: 6-12, 7-3
- String Display window
 - displayed in View menu, USER: 3-44
 - displaying and editing string variables, GS: 4-10 to 4-11
 - Edit menu, USER: 7-7 to 7-8
 - File menu, USER: 7-4 to 7-5
 - Format menu, USER: 7-8
 - illustration, GS: 4-11, USER: 7-3
 - multi-dimensional strings, USER: 7-3 to 7-4
 - Options menu, USER: 7-9
 - purpose and use, USER: 2-4, 7-3
 - Run menu, USER: 7-9
 - Window menu, USER: 7-9
- string manipulation functions
 - CompareBytes, STDLIB: 2-7 to 2-8
 - CompareStrings, STDLIB: 2-8 to 2-9
 - CopyBytes, STDLIB: 2-9 to 2-10
 - CopyString, STDLIB: 2-10
 - definition, STDLIB: 2-3
 - FillBytes, STDLIB: 2-13
 - FindPattern, STDLIB: 2-13 to 2-14
 - ReadLine, STDLIB: 2-23 to 2-24
 - StringLength, STDLIB: 2-28
 - StringLowerCase, STDLIB: 2-28 to 2-29
 - StringUpperCase, STDLIB: 2-29
 - WriteLine, STDLIB: 2-30 to 2-31
- string modifiers (%s)
 - formatting functions, STDLIB: 2-38 to 2-39
 - scanning functions, STDLIB: 2-46 to 2-48
- string processing, ANSI C, STDLIB: 1-5
- strip chart controls
 - attributes
 - cursor styles for ATTR_CROSSHAIR_STYLE (table), USRINT: 3-78
 - discussion of specific attributes, USRINT: 3-77 to 3-80
 - line styles for ATTR_LINE_STYLE (table), USRINT: 3-79
 - list of attributes (table), USRINT: 3-68 to 3-77
 - plot styles for ATTR_PLOT_STYLE (table), USRINT: 3-80
 - styles for ATTR_CURSOR_POINT_STYLE and ATTR_TRACE_POINT_STYLE (table), USRINT: 3-78 to 3-79
 - values for ATTR_PLOT_STYLE (table), USRINT: 3-80
 - definition, USRINT: 1-20

- example program, USRINT: 5-3, 5-5
- illustration, USRINT: 1-20
- processing events, USRINT: 3-67 to 3-68
- strip chart trace functions
 - ClearStripChart, USRINT: 4-47 to 4-48
 - function tree, USRINT: 4-4 to 4-5
 - GetTraceAttribute, USRINT: 4-123 to 4-124
 - list of functions, USRINT: 3-67
 - PlotStripChart, USRINT: 4-176 to 4-178
 - PlotStripChartPoint, USRINT: 4-178 to 4-179
 - SetTraceAttribute, USRINT: 4-247 to 4-248
- structure packing pragmas (Windows), PRGREF: 1-7 to 1-8, 3-4 to 3-5
- structures
 - child structure, USER: 6-2
 - child structure pointer in chain (figure), USER: 6-11
 - Follow Pointer Chain command, USER: 6-10 to 6-11
 - parent pointer to structure, USER: 6-2
 - parent structure pointer in chain (figure), USER: 6-11
 - pointer-linked structures, USER: 6-10 to 6-11
 - replacing, USER: 6-10 to 6-11
 - Retrace Pointer Chain command, USER: 6-11
- Sub1D function, ANLS: 2-196 to 2-197, STDLIB: 3-30 to 3-31
- Sub2D function, ANLS: 2-197 to 2-198, STDLIB: 3-31
- subroutine interface
 - definition, INST: 1-4
 - purpose and use, INST: 1-5
- Subset1D function, ANLS: 2-198, STDLIB: 3-32
- subwindows
 - illustration, GS: 2-9
 - in Source, Interactive Execution, and Standard Input/Output windows, USER: 4-5
 - opening subwindows for one source file, GS: 2-8
- Sum1D function, ANLS: 2-199
- Sum2D function, ANLS: 2-199 to 2-200
- Sun C library. *See* UNIX C library.
- Sun systems, differences in
 - LabWindows/CVI documentation, GS: 1-2
- support modules for glue code, PRGREF: 4-9
- SuspendTimerCallbacks function, USRINT: 4-249
- swallowing events, USRINT: 3-92
- Symantec C/C++
 - creating object and library files for use in LabWindows/CVI, PRGREF: 3-15
 - Symantec or Borland 32-bit compiled modules under Windows, PRGREF: 4-2 to 4-3
- synchronous callbacks, STDLIB: 4-12
- SyncWait function, STDLIB: 8-79
- Syntax Coloring option, Options menu, USER: 4-36
- system attributes, USRINT: 3-86 to 3-88
 - list of attributes (table), USRINT: 3-86
 - reporting load failures, USRINT: 3-87 to 3-88
 - unsafe timer events, USRINT: 3-86 to 3-87
- system control functions, GPIB-488.2 Library, STDLIB: 4-4
- system libraries, installing
 - Microsoft Windows, USER: 3-41
 - UNIX, USER: 3-41
- system requirements for standalone executables, PRGREF: 7-1 to 7-2
- SystemHelp function, STDLIB: 8-79 to 8-81

T

- Tab Order command, Edit menu, USRINT: 2-14 to 2-15
- Tabs option, Editor Preferences command, USER: 4-35
- Tag Scope command, View menu, USER: 4-19
- tagged lines
 - Clear Tags command, USER: 4-19
 - moving to tagged lines of code, GS: 2-9
 - Next Tag command, USER: 4-19
 - Previous Tag command, USER: 4-19
 - Tag Scope command, USER: 4-19
 - Toggle Tag command, USER: 4-19
- Target command, Build menu, PRGREF: 3-16, 3-17, 3-21, USER: 3-12
- task switching functions
 - DisableTaskSwitching, STDLIB: 8-12 to 8-15
 - EnableTaskSwitching, STDLIB: 8-16
- TCP command, Library menu, USER: 3-40
- TCP Library
 - definition, USER: 3-40
 - status reporting by, PRGREF: B-5
- TCP Library functions
 - callback function, STDLIB: 7-2 to 7-3
 - clients and servers, STDLIB: 7-2
 - error conditions, STDLIB: 7-12
 - function reference
 - ClientTCPRead, STDLIB: 7-3 to 7-4
 - ClientTCPWrite, STDLIB: 7-4 to 7-5
 - ConnectToTCPSTerver, STDLIB: 7-5 to 7-7
 - DisconnectFromTCPSTerver, STDLIB: 7-7 to 7-8
 - DisconnectTCPClient, STDLIB: 7-7
 - GetTCPErrorString, STDLIB: 7-8
 - RegisterTCPSTerver, STDLIB: 7-2, 7-8 to 7-10
 - ServerTCPRead, STDLIB: 7-10
 - ServerTCPWrite, STDLIB: 7-11
 - UnregisterTCPSTerver, STDLIB: 7-11 to 7-12
 - function tree (table), STDLIB: 7-1
- T_Dist function, ANLS: 2-200 to 2-201
- technical support, ANLS: B-1 to B-2, GS: A-1 to A-2, INST: B-1 to B-2, PRGREF: C-1 to C-2, STDLIB: Appendix-1, USER: B-1 to B-2, USRINT: B-1 to B-2
- Tektronix 2430A sample code, INST: A-1 to A-9
 - include file, INST: A-1
 - source file, INST: A-2 to A-9
- Terminate Execution command, Run menu, GS: 4-2
 - Project window, USER: 3-28
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-29
- TerminateDDELink function, STDLIB: 6-22
- TerminateExecutable function, STDLIB: 8-82
- testing board configuration, GS: 11-3 to 11-4
 - using function panels, GS: 11-3 to 11-4
- testing instrument drivers, INST: 2-12, 8-20
- text, selecting
 - Character Select mode, USER: 4-6
 - Column Select mode, USER: 4-6
 - Line Select mode, USER: 4-6
- text box control functions
 - DeleteTextBoxLine, USRINT: 4-59
 - function tree, USRINT: 4-4
 - GetNumTextBoxLines, USRINT: 4-113 to 4-114
 - GetTextBoxLine, USRINT: 4-121 to 4-122
 - GetTextBoxLineLength, USRINT: 4-122 to 4-123
 - InsertTextBoxLine, USRINT: 4-132 to 4-133
 - list of functions, USRINT: 3-30 to 3-31
 - ReplaceTextBoxLine, USRINT: 4-215
 - ResetTextBox, USRINT: 4-216
- text box controls
 - definition, USRINT: 1-10
 - entering text, USRINT: 1-10 to 1-11
 - example program, USRINT: 5-4
 - illustration, USRINT: 1-10
- text format. *See* ASCII text format.

- text message controls
 - illustration, USRINT: 1-10
 - purpose and use, USRINT: 1-10
- thread-specific status functions
 - ThreadIbcnt, STDLIB: 4-22
 - ThreadIbcntl function, STDLIB: 4-22 to 4-23
 - ThreadIberr, STDLIB: 4-23 to 4-25
 - ThreadIbsta, STDLIB: 4-25
- Tile Windows command, Window menu, USER: 3-42
- time domain functions
 - Clip, ANLS: 2-54
 - Convolve, ANLS: 2-58 to 2-59
 - Correlate, ANLS: 2-59 to 2-60
 - Decimate, ANLS: 2-74
 - Deconvolve, ANLS: 2-75
 - definition, ANLS: 1-7
 - Difference, ANLS: 2-76 to 2-77
 - function tree, ANLS: 1-3 to 1-4
 - Integrate, ANLS: 2-121
 - PulseParam, ANLS: 2-168 to 2-169
 - Reverse, ANLS: 2-177
 - Shift, ANLS: 2-183 to 2-184
- time/date functions
 - ANSI C Library, STDLIB: 1-6 to 1-7
 - DateStr, STDLIB: 8-9
 - GetSystemDate, STDLIB: 8-38
 - GetSystemTime, STDLIB: 8-39
 - SetSystemDate, STDLIB: 8-76
 - SetSystemTime, STDLIB: 8-77
 - TimeStr, STDLIB: 8-83
- timed events, GS: 9-8
- timeouts, GPIB, STDLIB: 4-9
- timer control functions
 - function tree, USRINT: 4-6
 - programming with timer controls, USRINT: 3-63 to 3-65
 - ResetTimer, USRINT: 4-216 to 4-217
 - ResumeTimerCallbacks, USRINT: 4-217
 - SuspendTimerCallbacks, USRINT: 4-249
- timer controls
 - attributes, USRINT: 3-64 to 3-65
 - definition, USRINT: 1-21
 - example program, USRINT: 5-4
 - illustration, USRINT: 1-21
 - operations, USRINT: 3-65
 - timed event exercise, GS: 9-8
 - timer callbacks, USRINT: 3-64
- timer events, unsafe, USRINT: 3-86 to 3-87
- timer/wait utility functions
 - Delay, STDLIB: 8-9 to 8-10
 - SyncWait, STDLIB: 8-79
 - Timer, STDLIB: 8-83
- TimeStr function, STDLIB: 8-83
- tmpdir configuration option, USER: 1-5
- Toggle Breakpoint command, Run menu, USER: 4-26, 4-29
- toggle button controls
 - definition, USRINT: 1-11
 - illustration, USRINT: 1-11
 - operating, USRINT: 1-11 to 1-12
- Toggle Control Style command, Options menu, USER: 5-21
- Toggle Exclusion command, Edit menu, USER: 4-4, 4-11
- Toggle Scroll Bars command, Options menu, INST: 4-21
- Toggle Tag command, View menu, GS: 2-9, USER: 4-19
- tokens
 - Syntax Coloring option, Options menu, USER: 4-36
 - User Defined Tokens for Coloring command, Options menu, USER: 4-36
- Toolbar command
 - Options menu
 - customizing toolbar icons, GS: 2-7
 - Function Panel Editor, INST: 4-21
 - Function Panel windows, USER: 5-18
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-35
 - View menu
 - Function Panel windows, USER: 5-18
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-18

- toolbars, USER: 4-1 to 4-3
 - Customize Toolbar Dialog Box (illustration), USER: 4-2
 - customizing, GS: 2-7
 - displaying names of button or icons, GS: 2-7, USER: 4-1
 - function panels, USER: 5-3
 - modifying, USER: 4-2 to 4-3
 - positioning buttons and separators, USER: 4-2 to 4-3
 - removing items, USER: 4-3
 - Top Edges option
 - Alignment command, USRINT: 2-20
 - Distribution command, USRINT: 2-21
 - ToPolar function, ANLS: 2-201, STDLIB: 3-32 to 3-33
 - ToPolar1D function, ANLS: 2-202, STDLIB: 3-33 to 3-34
 - ToRect function, ANLS: 2-203, STDLIB: 3-34 to 3-35
 - ToRect1D function, ANLS: 2-203 to 2-204
 - Trace function, ANLS: 2-204
 - trace functions. *See* strip chart trace functions.
 - Track include file dependencies option, PRGREF: 1-3, USER: 3-47, USRINT: 3-1
 - Transfer Project Options dialog box (illustration), GS: 5-2
 - Transfer Window Help to Function Help command, Options menu, INST: 3-9
 - TransferFunction function, ANLS: 2-205 to 2-206
 - Translate LW DOS Program command, Options menu, GS: 12-4, USER: 4-36
 - Translate LW DOS Program dialog box, GS: 12-4 to 12-5
 - Transmission Control Protocol Library functions. *See* TCP Library functions.
 - Transpose function, ANLS: 2-206, STDLIB: 3-36
 - Triangle function, ANLS: 2-206 to 2-207
 - TriangleWave function, ANLS: 2-207 to 2-208
 - trigger functions, GPIB-488.2 Library, STDLIB: 4-3
 - Trigger Offset control example, INST: 8-13
 - TriWin function, ANLS: 2-208 to 2-209
 - troubleshooting RS-232 Library functions, STDLIB: 5-3 to 5-4
 - TruncateRealNumber function, STDLIB: 8-84
 - two-dimensional array operation functions
 - Add2D, ANLS: 2-3, STDLIB: 3-5 to 3-6
 - definition, ANLS: 1-7
 - Div2D, ANLS: 2-78, STDLIB: 3-17 to 3-18
 - function tree, ANLS: 1-2
 - LinEv2D, ANLS: 2-142 to 2-143, STDLIB: 3-22
 - MaxMin2D, ANLS: 2-147 to 2-148, STDLIB: 3-24 to 3-25
 - Mul2D, ANLS: 2-152, STDLIB: 3-27
 - PolyEv2D, ANLS: 2-160 to 2-161
 - QScale2D, ANLS: 2-170 to 2-171
 - Scale2D, ANLS: 2-180
 - Sub2D, ANLS: 2-197 to 2-198, STDLIB: 3-31
 - Type Library resource for Visual Basic, PRGREF: 3-20 to 3-21
 - Type option, Find command, USER: 6-7
 - typedefs, duplicate, PRGREF: 1-7
- ## U
- .uir files. *See* user interface resource (.uir) files.
 - Undo command, Edit menu, GS: 2-9, USER: 4-10, USRINT: 2-5
 - Undo option, Editor Preferences command, USER: 4-10, 4-34
 - Undo Preferences section, User Interface Editor Preferences dialog box, USRINT: 2-32
 - Uniform function, ANLS: 2-209
 - UninstallXPropertyCallback function, STDLIB: 9-4, 9-33
 - unions, PRGREF: 1-19
 - UNIX C library
 - calling Sun C library from source code, PRGREF: 5-1
 - restrictions, PRGREF: 5-1

- using low-level I/O functions,
 - PRGREF: 1-8
- UNIX operating system
 - compiler/linker issues, PRGREF: 5-1 to 5-4
 - calling Sun C library functions, PRGREF: 5-1
 - InitCVIRTE called by main function, PRGREF: 5-2 to 5-3
 - restrictions, PRGREF: 5-1
 - creating executables, PRGREF: 5-1 to 5-3
 - run state change callbacks not available, PRGREF: 5-2
 - InitCVIRTE called by main function, PRGREF: 5-2 to 5-3
 - locking process segments in memory
 - using plock(), PRGREF: 5-4
 - run state change callbacks not available, PRGREF: 5-2
 - using externally compiled modules, PRGREF: 5-3 to 5-4
 - compiling, PRGREF: 5-3 to 5-4
 - restrictions, PRGREF: 5-3
 - configuration options
 - activate, USER: 1-3
 - cfgdir, USER: 1-3 to 1-4
 - cvidir, USER: 1-4
 - setting, USER: 1-3
 - tmpdir, USER: 1-5
 - distribution of standalone executables, PRGREF: 7-2 to 7-5
 - minimum system requirements, PRGREF: 7-5
 - under Solaris 1, PRGREF: 7-4 to 7-5
 - under Solaris 2, PRGREF: 7-3 to 7-4
 - font options
 - appFont, USER: 1-6
 - dialogFont, USER: 1-6
 - editorFont, USER: 1-6
 - menuFont, USER: 1-6
 - installing system libraries, USER: 3-41
- Unload command, Instrument menu, INST: 3-7, PRGREF: 2-2, USER: 3-34, 3-41
- Unload DLLs after each run, USER: 3-51
- Unload DLLs After Each Run option, PRGREF: 3-3
- UnloadExternalModule function, STDLIB: 8-84 to 8-85
- unloading instrument drivers, USER: 3-31 to 3-32
- unreachable code warning, enabling, PRGREF: 1-3, USER: 3-47
- UnregisterDDEServer function, STDLIB: 6-23
- UnregisterTCPServer function, STDLIB: 7-11 to 7-12
- UnRegisterWinMsgCallback function, PRGREF: 4-20, USRINT: 4-229
- unsafe timer events, USRINT: 3-86 to 3-87
- UnWrap1D function, ANLS: 2-210
- Up Call Stack command, Run menu, USER: 4-32
- Update Program Files from Disk command, Build menu, USER: 3-11
- Use host's system standard I/O option, Environment command, USER: 3-52
- Use only one Function Panel option, Environment command, USER: 3-52
- Use only one Function Panel Window option, Environment command, USER: 3-37
- user-callable functions, INST: 6-5 to 6-6
 - macros for prototyping, INST: 6-8 to 6-9
- user-defined data types, INST: 2-7 to 2-8
 - array data types, INST: 2-8
 - creating, INST: 2-7 to 2-8
 - VISA data types, INST: 2-9
 - VISA data types (table), INST: 6-8
- User Defined Tokens for Coloring command, Options menu, USER: 4-36
- user interface. *See* graphical user interface (GUI).
- user interface, creating. *See* graphical user interface (GUI), building.
- User Interface command, Library menu, GS: 6-4, USER: 3-38
- user interface constants, selecting, USER: 5-10 to 5-14
 - attribute constants, USER: 5-12 to 5-13
 - from .uir files, USER: 5-11
 - value constants, USER: 5-13 to 5-14

- User Interface Editor
 - Arrange menu, USRINT: 2-20 to 2-23
 - Code menu, USRINT: 2-23 to 2-30
 - Create menu, USRINT: 2-16
 - Edit menu, USRINT: 2-5 to 2-16
 - File menu, USRINT: 2-3 to 2-4
 - Library menu, USRINT: 2-30
 - Options menu, USRINT: 2-31 to 2-34
 - Run menu, USRINT: 2-30
 - View menu, USRINT: 2-17 to 2-19
 - Window menu, USRINT: 2-31
- User Interface Editor Preferences dialog box
 - Color Preferences section, USRINT: 2-32
 - Constant Name Assignment section, USRINT: 2-32 to 2-33
 - illustration, USRINT: 2-32
 - Undo Preferences section, USRINT: 2-32
- User Interface Editor window, USRINT: 2-1 to 2-3
 - Coloring tool, USRINT: 2-2
 - Editing tool, USRINT: 2-1
 - illustration, GS: 2-2, USRINT: 2-1
 - Labeling tool, USRINT: 2-2
 - moving to using Find UI Object command, USER: 4-22
 - opening
 - with New command, USER: 3-4
 - with Open command, USER: 3-5
 - Operating tool, USRINT: 2-2
 - popup menus, USRINT: 2-2
 - purpose and use, GS: 5-2, USER: 2-4
 - title determined by current .uir file, GS: 2-1
 - tool bar, USRINT: 2-1 to 2-2
 - user interface events. *See* events.
- User Interface Library. *See also* User Interface Library functions.
 - accessing, GS: 3-2 to 3-3
 - color support, USRINT: 4-10
 - contents, GS: 1-4
 - definition, USER: 3-38
 - error conditions, USRINT: A-1 to A-6
 - font support, USRINT: 4-10
 - functions with new behavior, GS: 12-2 to 12-3
 - hardcopy output
 - compatible printers, USRINT: 4-9
 - configuring devices, USRINT: 4-9 to 4-10
 - obtaining output, USRINT: 4-9
 - illustration, GS: 3-3
 - include file, USRINT: 4-12
 - locating PlotY function, GS: 6-4 to 6-5
 - plot array data types, USRINT: 4-11 to 4-12
 - Pop-up Panels, GS: 3-3, 9-5 to 9-6
 - purpose and use, USER: 2-2 to 2-3
 - reporting errors, USRINT: 4-12
 - shortcut keys, USRINT: 4-11
 - status reporting by, PRGREF: B-3
 - support for LabWindows for DOS features, GS: 12-2
- User Interface Library functions
 - function panels
 - bitmap functions, USRINT: 4-8
 - callback functions, USRINT: 4-1, 4-6 to 4-7
 - canvas functions, USRINT: 4-5 to 4-6
 - clipboard functions, USRINT: 4-8
 - controls, graphs, and stripcharts, USRINT: 4-1, 4-3
 - function classes, USRINT: 4-1 to 4-2
 - LW DOS compatibility, USRINT: 4-2, 4-9
 - menu structures, USRINT: 4-1, 4-2 to 4-3
 - miscellaneous, USRINT: 4-2, 4-8
 - panel functions, USRINT: 4-1, 4-2
 - picture functions, USRINT: 4-5
 - pop-up panels, USRINT: 4-1, 4-6
 - printing, USRINT: 4-2, 4-7
 - rectangle and point functions, USRINT: 4-7 to 4-8
 - timer functions, USRINT: 4-6
 - user interface management, USRINT: 4-2, 4-7

function reference

- AllocBitmapData, USRINT: 4-12 to 4-13
- AllocImageBits, USRINT: 4-14 to 4-15
- CanvasClear, USRINT: 4-15 to 4-16
- CanvasDefaultPen, USRINT: 4-16 to 4-17
- CanvasDimRect, USRINT: 4-17 to 4-18
- CanvasDrawArc, USRINT: 4-18 to 4-19
- CanvasDrawBitmap, USRINT: 4-20 to 4-21
- CanvasDrawLine, USRINT: 4-21 to 4-22
- CanvasDrawLineTo, USRINT: 4-23
- CanvasDrawOval, USRINT: 4-24 to 4-25
- CanvasDrawPoint, USRINT: 4-25
- CanvasDrawPoly, USRINT: 4-26 to 4-27
- CanvasDrawRect, USRINT: 4-27 to 4-28
- CanvasDrawRoundedRect, USRINT: 4-28 to 4-29
- CanvasDrawText, USRINT: 4-30 to 4-31
- CanvasDrawTextAtPoint, USRINT: 4-32 to 4-33
- CanvasEndBatchDraw, USRINT: 4-34
- CanvasGetClipRect, USRINT: 4-35
- CanvasGetPenPosition, USRINT: 4-35 to 4-36
- CanvasGetPixel, USRINT: 4-36 to 4-37
- CanvasGetPixels, USRINT: 4-37 to 4-39
- CanvasInvertRect, USRINT: 4-39
- CanvasScroll, USRINT: 4-40 to 4-41
- CanvasSetClipRect, USRINT: 4-41 to 4-42
- CanvasStartBatchDraw, USRINT: 4-43 to 4-44
- CanvasUpdate, USRINT: 4-44 to 4-45
- CheckListItem, USRINT: 4-45 to 4-46
- ClearAxisItems, USRINT: 4-46 to 4-47
- ClearListCtrl, USRINT: 4-47
- ClearStripChart, USRINT: 4-47 to 4-48
- ClipboardGetBitmap, USRINT: 4-48 to 4-49
- ClipboardGetText, USRINT: 4-49
- ClipboardPutBitap, USRINT: 4-49 to 4-50
- ClipboardPutText, USRINT: 4-50
- ConfigurePrinter, USRINT: 4-51
- ConfirmPopup, USRINT: 4-51 to 4-52
- CreateMetaFont, USRINT: 4-52 to 4-53
- DefaultCtrl, USRINT: 4-54
- DefaultPanel, USRINT: 4-54 to 4-55
- DeleteAxisItem, USRINT: 4-55 to 4-56
- DeleteGraphPlot, USRINT: 4-56 to 4-57
- DeleteImage, USRINT: 4-58
- DeleteListItem, USRINT: 4-58 to 4-59
- DeleteTextBoxLine, USRINT: 4-59
- DirSelectPopup, USRINT: 4-60
- DiscardBitmap, USRINT: 4-61
- DiscardCtrl, USRINT: 4-61 to 4-62
- DiscardMenu, USRINT: 4-62
- DiscardMenuBar, USRINT: 4-63
- DiscardMenuItem, USRINT: 4-63
- DiscardPanel, USRINT: 4-64
- DiscardSubMenu, USRINT: 4-64
- DisplayImageFile, USRINT: 4-65
- DisplayPanel, USRINT: 4-66 to 4-67
- DisplayPCXFile, USRINT: 4-66
- DOSColorToRGB, USRINT: 4-67 to 4-68
- DOSCompatWindow, USRINT: 4-68

- DuplicateCtrl, USRINT: 4-69
to 4-70
- DuplicatePanel, USRINT: 4-70
to 4-71
- EmptyMenu, USRINT: 4-71
- EmptyMenuBar, USRINT: 4-71
to 4-72
- FakeKeystroke, USRINT: 3-94, 4-72
- FileSelectPopup, USRINT: 4-72
to 4-74
- FontSelectPopup, USRINT: 4-74
to 4-77
- GenericMessagePopup, USRINT:
4-77 to 4-79
- Get3dBorderColors, USRINT: 4-79
to 4-80
- GetActiveCtrl, USRINT: 4-80
- GetActiveGraphCursor, USRINT:
4-80 to 4-81
- GetActivePanel, USRINT: 4-81
- GetAxisItem, USRINT: 4-82 to 4-83
- GetAxisItemLabelLength, USRINT:
4-83 to 4-84
- GetAxisRange, USRINT: 4-84
to 4-85
- GetAxisScalingMode, USRINT:
4-86 to 4-87
- GetBitInfo, USRINT: 4-90 to 4-91
- GetBitMapData, USRINT: 4-87
to 4-89
- GetBitMapFromFile, USRINT: 4-89
to 4-90
- GetCtrlAttribute, USRINT: 4-91
to 4-92
- GetCtrlBitmap, USRINT: 4-92
to 4-93
- GetCtrlBoundingRect, USRINT:
4-93 to 4-94
- GetCtrlDisplayBitmap, USRINT:
4-94 to 4-95
- GetCtrlIndex, USRINT: 4-95 to 4-96
- GetCtrlVal, USRINT: 4-96 to 4-97
- GetCursorAttribute, USRINT: 4-97
- GetCVITaskHandle, USRINT: 4-98
- GetCVIWindowHandle, USRINT:
4-98 to 4-99
- GetGlobalMouseState, USRINT:
4-99 to 4-100
- GetGraphCursor, USRINT: 4-100
to 4-101
- GetGraphCursorIndex,
USRINT: 4-101
- GetImageBits, USRINT: 4-102
to 4-104
- GetImageInfo, USRINT: 4-105
to 4-106
- GetIndexFromValue, USRINT:
4-106 to 4-107
- GetLabelFromIndex,
USRINT: 4-107
- GetLabelLengthFromIndex,
USRINT: 4-108
- GetListItemImage, USRINT: 4-108
to 4-109
- GetMenuBarAttribute, USRINT:
4-109 to 4-110
- GetMouseCursor, USRINT: 4-110
- GetNumAxisItems, USRINT: 4-111
- GetNumCheckedItems,
USRINT: 4-112
- GetNumListItems, USRINT: 4-112
to 4-113
- GetNumTextBoxLines, USRINT:
4-113 to 4-114
- GetPanelAttribute, USRINT: 4-114
- GetPanelDisplayBitmap, USRINT:
4-114 to 4-116
- GetPanelMenuBar, USRINT: 4-116
- GetPlotAttribute, USRINT: 4-116
to 4-117
- GetPrintAttribute, USRINT: 4-117
to 4-118
- GetRelativeMouseState, USRINT:
4-118 to 4-119
- GetScreenSize, USRINT: 4-119
- GetSharedMenuBarEventPanel,
USRINT: 4-119 to 4-120
- GetSleepPolicy, USRINT: 4-120
- GetSystemAttribute, USRINT: 4-120
to 4-121
- GetSystemPopupsAttribute,
USRINT: 4-121

- GetTextBoxLine, USRINT: 4-121
to 4-122
- GetTextBoxLineLength, USRINT:
4-122 to 4-123
- GetTextDisplaySize,
USRINT: 4-123
- GetTraceAttribute, USRINT: 4-123
to 4-124
- GetUIErrorString, USRINT: 4-124
- GetUserEvent, USRINT: 3-8
to 3-9, 3-92, 4-125
- GetValueFromIndex,
USRINT: 4-126
- GetValueLengthFromIndex,
USRINT: 4-126 to 4-127
- GetWaitCursorState,
USRINT: 4-127
- HidePanel, USRINT: 4-128
- InsertAxisItem, USRINT: 4-128
to 4-129
- InsertListItem, USRINT: 4-130
to 4-131
- InsertSeparator, USRINT: 4-132
- InsertTextBoxLine, USRINT: 4-132
to 4-133
- InstallCtrlCallback, USRINT: 4-133
to 4-134
- InstallMainCallback, USRINT: 3-92
to 3-93, 4-135 to 4-136
- InstallMenuCallback, USRINT:
4-136 to 4-137
- InstallMenuDimmerCallback,
USRINT: 4-137 to 4-138
- InstallPanelCallback, USRINT:
4-138 to 4-139
- InstallPopup, USRINT: 4-139
- IsListItemChecked, USRINT: 4-140
- LoadMenuBar, USRINT: 4-140
to 4-141
- LoadMenuBarEx, USRINT: 4-142
to 4-143
- LoadPanel, USRINT: 4-143 to 4-145
- LoadPanelEx, USRINT: 4-145
to 4-146
- MakeColor, USRINT: 4-146
to 4-147
- MakePoint, USRINT: 4-148
- MakeRect, USRINT: 4-148 to 4-149
- MessagePopup, USRINT: 4-149
- MultiFileSelectPopup, USRINT:
4-150 to 4-151
- NewBitmap, USRINT: 4-151
to 4-153
- NewCtrl, USRINT: 4-153 to 4-154
- NewMenu, USRINT: 4-154 to 4-155
- NewMenuBar, USRINT: 4-155
- NewMenuItem, USRINT: 4-156
to 4-158
- NewPanel, USRINT: 4-159 to 4-160
- NewSubMenu, USRINT: 4-160
- PlotArc, USRINT: 4-160 to 4-162
- PlotBitMap, USRINT: 4-162
to 4-163
- PlotIntensity, USRINT: 4-163
to 4-166
- PlotLine, USRINT: 4-166 to 4-167
- PlotOval, USRINT: 4-167 to 4-168
- PlotPoint, USRINT: 4-169
- PlotPolygon, USRINT: 4-170
to 4-171
- PlotRectangle, USRINT: 4-171
to 4-172
- PlotScaledIntensity, USRINT: 4-173
to 4-176
- PlotStripChart, USRINT: 4-176
to 4-178
- PlotStripChartPoint, USRINT: 4-178
to 4-179
- PlotText, USRINT: 4-179 to 4-180
- PlotWaveform, USRINT: 4-181
to 4-182
- PlotX, USRINT: 4-183 to 4-184
- PlotXY, USRINT: 4-184 to 4-185
- PlotY, USRINT: 4-185 to 4-187
- PointEqual, USRINT: 4-187
- PointPinnedToRect, USRINT: 4-188
- PointSet, USRINT: 4-188 to 4-189
- PostDeferredCall, USRINT: 3-94,
4-189 to 4-190
- PrintCtrl, USRINT: 4-190 to 4-191
- PrintPanel, USRINT: 4-191 to 4-193

- PrintTextBuffer, USRINT: 4-193
 to 4-194
 PrintTextFile, USRINT: 4-194
 to 4-195
 ProcessDrawEvents,
 USRINT: 3-93, 4-195
 ProcessSystemEvents, USRINT:
 3-93 to 3-94, 4-195 to 4-196
 PromptPopup, USRINT: 4-196
 QueueUserEvent,
 USRINT: 3-94, 4-197
 QuitUserInterface, USRINT: 3-94,
 4-197 to 4-198
 RecallPanelState, USRINT: 4-198
 to 4-199
 RectBottom, USRINT: 4-199
 RectCenter, USRINT: 4-199
 to 4-200
 RectContainsRect, USRINT: 4-200
 RectEmpty, USRINT: 4-201
 to 4-202
 RectEqual, USRINT: 4-202
 RectGrow, USRINT: 4-202 to 4-203
 RectIntersection, USRINT: 4-203
 to 4-204
 RectMove, USRINT: 4-204
 RectOffset, USRINT: 4-204 to 4-205
 RectRight, USRINT: 4-205
 RectSameSize, USRINT: 4-206
 RectSet, USRINT: 4-206 to 4-207
 RectSetBottom, USRINT: 4-207
 RectSetCenter, USRINT: 4-207
 to 4-208
 RectSetFromPoints, USRINT: 4-208
 RectSetRight, USRINT: 4-209
 RectUnion, USRINT: 4-209
 RefreshGraph, USRINT: 4-210
 RegisterWinMsgCallback, USRINT:
 4-210 to 4-212
 RemovePopup, USRINT: 4-212
 ReplaceAxisItem, USRINT: 4-213
 to 4-214
 ReplaceListItem, USRINT: 4-214
 to 4-215
 ReplaceTextBoxLine,
 USRINT: 4-215
 ResetTextBox, USRINT: 4-216
 ResetTimer, USRINT: 4-216
 to 4-217
 ResumeTimerCallbacks,
 USRINT: 4-217
 RunPopupMenu, USRINT: 4-218
 to 4-219
 RunUserInterface, USRINT: 3-01,
 4-219 to 4-220
 SavePanelState, USRINT: 4-220
 SetActiveCtrl, USRINT: 4-221
 SetActiveGraphCursor, USRINT:
 4-221 to 4-222
 SetActivePanel, USRINT: 4-222
 SetAxisRange, USRINT: 4-224
 to 4-226
 SetAxisScalingMode, USRINT:
 4-223 to 4-224
 SetCtrlAttribute, USRINT: 4-226
 to 4-227
 SetCtrlBitmap, USRINT: 4-227
 to 4-228
 SetCtrlIndex, USRINT: 4-229
 SetCtrlVal, USRINT: 4-229 to 4-230
 SetCursorAttribute, USRINT: 4-230
 to 4-231
 SetFontPopupDefaults, USRINT:
 4-231 to 4-233
 SetGraphCursor, USRINT: 4-233
 SetGraphCursorIndex,
 USRINT: 4-234
 SetIdleEventRate, USRINT: 3-92
 to 3-93, 4-235
 SetImageBits, USRINT: 4-236
 to 4-238
 SetInputMode, USRINT: 4-239
 SetListItemImage, USRINT: 4-240
 SetMenuBarAttribute, USRINT:
 4-241 to 4-242
 SetMouseCursor, USRINT: 4-241
 to 4-242
 SetPanelAttribute, USRINT: 4-242
 SetPanelMenuBar, USRINT: 4-243
 SetPanelPos, USRINT: 4-243
 to 4-244

- SetPlotAttribute, USRINT: 4-244 to 4-245
- SetPrintAttribute, USRINT: 4-245
- SetSleepPolicy, USRINT: 4-245 to 4-246
- SetSystemAttribute, USRINT: 4-246
- SetSystemPopupsAttribute, USRINT: 4-247
- SetTraceAttribute, USRINT: 4-247 to 4-248
- SetWaitCursor, USRINT: 4-248 to 4-249
- SuspendTimerCallbacks, USRINT: 4-249
- UnRegisterWinMsgCallback, USRINT: 4-229
- ValidatePanel, USRINT: 4-250
- WaveformGraphPopup, USRINT: 4-251
- XGraphPopup, USRINT: 4-252
- XYGraphPopup, USRINT: 4-252 to 4-253
- YGraphPopup, USRINT: 4-253
- user interface management functions
 - FakeKeystroke, USRINT: 3-94, 4-72
 - function tree, USRINT: 4-7
 - GetSleepPolicy, USRINT: 4-120
 - GetUserEvent, USRINT: 3-92, 4-125
 - ProcessDrawEvents, USRINT: 3-93, 4-195
 - ProcessSystemEvents, USRINT: 3-93 to 3-94, 4-195 to 4-196
 - QueueUserEvent, USRINT: 3-94, 4-197
 - QuitUserInterface, USRINT: 3-94, 4-197 to 4-198
 - RunUserInterface, USRINT: 3-01, 4-219 to 4-220
 - SetIdleEventRate, USRINT: 3-92 to 3-93, 4-235
 - SetInputMode, USRINT: 4-239
 - SetSleepPolicy, USRINT: 4-245 to 4-246
- user interface objects, finding, USER: 4-22, USRINT: 2-17 to 2-18
- User Interface option, Add Files to Project command, USER: 3-8
- user interface resource (.uir) files
 - accessing from running standalone executables, PRGREF: 7-9
 - building, GS: 5-3 to 5-12
 - adding Command Button, GS: 5-5 to 5-7
 - adding graph control, GS: 5-7 to 5-8
 - opening uir file, GS: 5-3 to 5-4
 - converting from LabWindows for DOS, GS: 12-3 to 12-4
 - displayed in Window menu, USER: 3-44
 - multiplatform application
 - considerations, PRGREF: 6-3
 - optional for project file list, USER: 3-1
 - recompiling after saving, USRINT: 3-1
 - required for running standalone executables, PRGREF: 7-8
 - resolving callback references from, PRGREF: 3-9 to 3-10
 - linking to callback functions not exported from DLL, PRGREF: 3-10
 - saving, GS: 5-8 to 5-9, USRINT: 3-1
- user libraries. *See also* libraries.
 - dummy .fp files for support libraries, USER: 3-41, 3-54
 - installing, PRGREF: 2-2
 - installing into Library menu, USER: 3-41
 - instrument drivers vs., USER: 3-54
 - similarity with instrument driver, PRGREF: 2-2
 - specifying in Library Options dialog box, USER: 3-53 to 3-54
 - using loadable compiled modules, PRGREF: 2-2 to 2-3
- user protection
 - dynamic memory, PRGREF: 1-19
 - library functions, PRGREF: 1-19
 - pointer casting, PRGREF: 1-18 to 1-19
 - stack size, PRGREF: 1-20
 - unions, PRGREF: 1-19

- user protection errors
 - disabling, PRGREF: 1-16 to 1-18
 - at run-time, PRGREF: 1-16
 - for individual pointer, PRGREF: 1-16 to 1-17
 - library errors
 - at run-time, PRGREF: 1-16
 - for functions, PRGREF: 1-17 to 1-18
 - error category, PRGREF: 1-11
 - general protection errors, PRGREF: 1-15
 - library protection errors, PRGREF: 1-15 to 1-16
 - memory corruption (fatal), PRGREF: 1-15
 - memory deallocation (non-fatal), PRGREF: 1-14
 - pointer arithmetic (non-fatal), PRGREF: 1-12
 - pointer assignment (non-fatal), PRGREF: 1-12
 - pointer casting (non-fatal), PRGREF: 1-14
 - pointer comparison (non-fatal), PRGREF: 1-13
 - pointer dereference errors (fatal), PRGREF: 1-13
 - pointer subtraction (non-fatal), PRGREF: 1-14
 - severity level, PRGREF: 1-11
- Utility command, Library menu, USER: 3-40 to 3-41
- utility functions for instrument drivers
 - copying and pasting, INST: 6-5 to 6-6
 - list of functions, INST: 6-3
 - RS-232 instruments, INST: 6-17
 - types of, INST: 1-9
- Utility Library
 - definition, USER: 3-40
 - functions in instrsup.dll, USER: 3-13
 - functions with new behavior, GS: 12-3
 - status reporting by, PRGREF: B-6
 - support for LabWindows for DOS features, GS: 12-2
- Utility Library functions
 - function panels
 - classes and subclasses, STDLIB: 8-4 to 8-5
 - function tree (table), STDLIB: 8-1 to 8-4
 - function reference
 - Beep, STDLIB: 8-5
 - Breakpoint, STDLIB: 8-6
 - CloseCVIRTE, STDLIB: 8-6
 - Cls, STDLIB: 8-7
 - CopyFile, STDLIB: 8-7 to 8-8
 - CVILowLevelSupportDriverLoaded, STDLIB: 8-8 to 8-9
 - DateStr, STDLIB: 8-9
 - Delay, STDLIB: 8-9 to 8-10
 - DeleteDir, STDLIB: 8-10
 - DeleteFile, STDLIB: 8-10 to 8-11
 - DisableBreakOnLibraryErrors, STDLIB: 8-11 to 8-12
 - DisableInterrupts, STDLIB: 8-12
 - DisableTaskSwitching, STDLIB: 8-12 to 8-15
 - EnableBreakOnLibraryErrors, STDLIB: 8-15
 - EnableInterrupts, STDLIB: 8-15 to 8-16
 - EnableTaskSwitching, STDLIB: 8-16
 - ExecutableHasTerminated, STDLIB: 8-16 to 8-17
 - GetBreakOnLibraryErrors, STDLIB: 8-17
 - GetBreakOnProtectionErrors, STDLIB: 8-18
 - GetCurrentPlatform, STDLIB: 8-19
 - GetCVIVersion, STDLIB: 8-18 to 8-19
 - GetDir, STDLIB: 8-20
 - GetDrive, STDLIB: 8-20 to 8-21
 - GetExternalModuleAddr, STDLIB: 8-21 to 8-22
 - GetFileAttrs, STDLIB: 8-23 to 8-24
 - GetFileDate, STDLIB: 8-24 to 8-25
 - GetFileSize, STDLIB: 8-25 to 8-26
 - GetFileTime, STDLIB: 8-26 to 8-27

- GetFirstFile, STDLIB: 8-27 to 8-29
- GetFullPathFromProject, STDLIB: 8-29 to 8-30
- GetInterruptState, STDLIB: 8-30
- GetKey, STDLIB: 8-30 to 8-31
- GetModuleDir, STDLIB: 8-31 to 8-32
- GetNextFile, STDLIB: 8-33
- GetPersistentVariable, STDLIB: 8-33 to 8-34
- GetProjectDir, STDLIB: 8-34
- GetStdioPort, STDLIB: 8-35
- GetStdioWindowOptions, STDLIB: 8-35 to 8-36
- GetStdioWindowPosition, STDLIB: 8-36 to 8-37
- GetStdioWindowSize, STDLIB: 8-37
- GetStdioWindowVisibility, STDLIB: 8-37 to 8-38
- GetSystemDate, STDLIB: 8-38
- GetSystemTime, STDLIB: 8-39
- GetWindowDisplaySetting, STDLIB: 8-39 to 8-40
- InitCVIRTE, STDLIB: 8-40 to 8-42
- inp, STDLIB: 8-42
- inpw, STDLIB: 8-42 to 8-43
- InStandaloneExecutable, STDLIB: 8-43
- KeyHit, STDLIB: 8-43 to 8-44
- LaunchExecutable, STDLIB: 8-44 to 8-46
- LaunchExecutableEx, STDLIB: 8-47 to 8-48
- LoadExternalModule, STDLIB: 8-49 to 8-52
- LoadExternalModuleEx, STDLIB: 8-52 to 8-54
- MakeDir, STDLIB: 8-54 to 8-55
- MakePathname, STDLIB: 8-55
- outp, STDLIB: 8-56
- outpw, STDLIB: 8-56
- ReadFromPhysicalMemory function, STDLIB: 8-57
- ReadFromPhysicalMemoryEx, STDLIB: 8-58
- ReleaseExternalModule, STDLIB: 8-59
- RenameFile, STDLIB: 8-60 to 8-61
- RetireExecutableHandle, STDLIB: 8-61
- RoundRealToNearestInteger, STDLIB: 8-61 to 8-62
- RunExternalModule, STDLIB: 8-62 to 8-63
- SetBreakOnLibraryErrors, STDLIB: 8-63 to 8-64
- SetBreakOnProtectionErrors, STDLIB: 8-64 to 8-65
- SetDir, STDLIB: 8-66
- SetDrive, STDLIB: 8-66 to 8-67
- SetFileAttrs, STDLIB: 8-67 to 8-68
- SetFileDate, STDLIB: 8-68 to 8-69
- SetFileTime, STDLIB: 8-70
- SetPersistentVariable, STDLIB: 8-71
- SetStdioPort, STDLIB: 8-71 to 8-72
- SetStdioWindowOptions, STDLIB: 8-72 to 8-74
- SetStdioWindowPosition, STDLIB: 8-74 to 8-75
- SetStdioWindowSize, STDLIB: 8-75
- SetStdioWindowVisibility, STDLIB: 8-76
- SetSystemDate, STDLIB: 8-76
- SetSystemTime, STDLIB: 8-77
- SplitPath, STDLIB: 8-77 to 8-78
- SyncWait, STDLIB: 8-79
- SystemHelp, STDLIB: 8-79 to 8-81
- TerminateExecutable, STDLIB: 8-82
- Timer, STDLIB: 8-83
- TimeStr, STDLIB: 8-83
- TruncateRealNumber, STDLIB: 8-84
- UnloadExternalModule, STDLIB: 8-84 to 8-85
- WriteToPhysicalMemory, STDLIB: 8-85 to 8-86
- WriteToPhysicalMemoryEx, STDLIB: 8-86 to 8-87

V

- va_arg (ap, type), PRGREF: 1-5
- va_arg() macro, STDLIB: 1-2
- VAL_AUTO_SCALE, USRINT: 3-82 to 3-83
- validate control mode for commit events
 - definition, USRINT: 1-4
 - requirements, USRINT: 1-4
- ValidatePanel function, USRINT: 4-250
- value constants, selecting, USER: 5-13 to 5-14
- Value option, Find command, USER: 6-7
- Var Args data type, INST: 2-7
- variable argument functions,
 - LabWindows/CVI support of, STDLIB: 1-2
- Variable Display window
 - Edit menu, USER: 6-5 to 6-8
 - File menu, USER: 6-4 to 6-5
 - Format menu, USER: 6-13
 - Function subwindow, USER: 6-2
 - Global subwindow, USER: 6-2
 - icons associated with variables, USER: 6-2
 - illustration, GS: 4-5, USER: 6-1
 - opening, GS: 4-5
 - Options menu, USER: 6-14 to 6-15
 - purpose and use, USER: 2-4, 6-1 to 6-2, 6-2
 - Run menu, USER: 6-13
 - stepping through programs, GS: 4-6 to 4-7
 - View menu, USER: 6-9 to 6-12
 - viewing, USER: 6-1
 - Window menu, USER: 6-14
- Variable Size command, Options menu, USER: 6-14
- Variable Value command
 - Code menu, USER: 5-6, 5-17, 6-1, 7-3
 - Run menu, USER: 4-32, 6-1, 7-3
- variables
 - displaying, GS: 4-5 to 4-8
 - editing, GS: 4-7 to 4-8
 - finding variable declarations, GS: 4-3
 - variables, selecting. *See* Select Variable or Expression Dialog Box.
- Variables command, Window menu
 - Project window, USER: 3-43
 - Variable Display window, USER: 6-1
- Variance function, ANLS: 2-210 to 2-211
- vector and matrix algebra functions
 - BackSub, ANLS: 2-32 to 2-33
 - definition, ANLS: 1-8
 - Determinant, ANLS: 2-76, STDLIB: 3-16
 - DotProduct, ANLS: 2-79, STDLIB: 3-18
 - ForwSub, ANLS: 2-101 to 2-102
 - function tree, ANLS: 1-6
 - InvMatrix, ANLS: 2-131 to 2-132, STDLIB: 3-20 to 3-21
 - LinEqs, ANLS: 2-140 to 2-141
 - LU, ANLS: 2-144 to 2-145
 - MatrixMul, ANLS: 2-145 to 2-146, STDLIB: 3-23
 - Normal1D, ANLS: 2-157 to 2-158
 - Normal2D, ANLS: 2-158 to 2-159
 - Trace, ANLS: 2-204
 - Transpose, ANLS: 2-206, STDLIB: 3-36
- Vertical Centers option
 - Alignment command, USRINT: 2-21
 - Distribution command, USRINT: 2-21
- Vertical Compress option, Distribution command, USRINT: 2-22
- Vertical Gap option, Distribution command, USRINT: 2-21
- VIBoolean[] data type (table), INST: 2-9, 6-8
- VIBoolean data type (table), INST: 2-9, 6-8
- VIC utility, GS: 10-5
- VIChar[] data type (table), INST: 2-9, 6-8
- VI_ERROR_INV_RESPONSE error code, INST: 6-11
- View button, Edit Menu Bar dialog box, USRINT: 2-9
- View command, Code menu, USRINT: 2-28 to 2-29
- View Control Callback command, GS: 7-5
- View menu
 - Function Panel Editor, INST: 4-19
 - Function Panel windows

- Current Tree command, USER: 5-18
- Error command, USER: 5-18
- Find Function Panel command, GS: 3-8, USER: 5-18 to 5-19
- First Function Panel Window command, USER: 5-19
- First Panel command, USER: 5-2
- Function Panel History command, USER: 5-18
- illustration, USER: 5-17
- Include File command, USER: 5-18
- Last Function Panel Window command, USER: 5-19
- Last Panel command, USER: 5-2
- Next Function Panel command, USER: 5-19
- Next Function Panel Window command, USER: 5-19
- Next Panel command, USER: 5-2
- Previous Function Panel command, USER: 5-19
- Previous Function Panel Window command, USER: 5-19
- Previous Panel command, USER: 5-2
- Toolbar command, USER: 5-18
- Project window, USER: 3-9 to 3-10
 - illustration, USER: 3-9
- No Sorting command, USER: 3-10
- Show Full Dates command, USER: 3-9
- Show Full Path Names command, USER: 3-9
- Sort By Date command, USER: 3-9
- Sort By File Extension command, USER: 3-10
- Sort By Name command, USER: 3-9
- Sort By Pathname command, USER: 3-10
- Recall Function Panel command, GS: 3-11
- Source, Interactive Execution, and Standard Input/Output windows Beginning/End of Selection command, USER: 4-19
- Build Errors in Next File command, USER: 4-24
- Clear Tags command, USER: 4-19
- Find Function Panel command, USER: 4-21 to 4-22
- Find UI Object command, USER: 4-22
- Function Panel History command, USER: 4-20
- Function Panel Tree command, USER: 4-20
- illustration, USER: 4-18
- Line command, GS: 2-9, USER: 4-19
- Line Icons command, USER: 4-18, 4-26
- Line Numbers command, USER: 4-18
- Next Tag command, GS: 2-9, USER: 4-19
- Previous Tag command, USER: 4-19
- Recall Function Panel command, USER: 4-20 to 4-21
- Tag Scope command, USER: 4-19
- Toggle Tag command, GS: 2-9, USER: 4-19
- Toolbar command, USER: 4-18
- User Interface Editor
 - Bring Panel to Front command, USRINT: 2-19
 - Find UIR Objects command, USRINT: 2-17 to 2-18
 - illustration, USRINT: 2-17
 - Next Panel command, USRINT: 2-19
 - Preview User Interface Header File command, USRINT: 2-19
 - Previous Panel command, USRINT: 2-19
 - Show/Hide Panels command, USRINT: 2-19
- Variable Display and Watch windows
 - Array Display command, USER: 6-12, 7-1
 - Close Variable command, USER: 6-2, 6-10

- Expand Variable command, USER: 6-2, 6-9 to 6-10
- Follow Pointer Chain command, USER: 6-2, 6-10 to 6-11
- Go To Definition command, USER: 6-12
- Go To Execution Position command, USER: 6-12
- illustration, USER: 6-9
- Retrace Pointer Chain command, USER: 6-11
- String Display command, USER: 6-12, 7-3
- _VI_FAR macro, INST: 6-8
- _VI_FUNC macro, INST: 6-8
- VIIInt16[] data type (table), INST: 2-9, 6-8
- VIIInt16 data type (table), INST: 2-9, 6-8
- VIIInt32[] data type (table), INST: 2-9, 6-8
- VIIInt32 data type (table), INST: 2-9, 6-8
- VIReal64[] data type (table), INST: 2-9, 6-8
- VIReal64 data type (table), INST: 2-9, 6-8
- VIRsrc data type (table), INST: 2-9, 6-8
- Virtual Instrumentation Software Architecture. *See* VISA I/O interface.
- virtual keys
 - representation in source code, USRINT: 3-26
 - values for shortcut keys, USRINT: 3-26 to 3-27, 4-157 to 4-158
- VISA command, USER: 3-40
- VISA data types
 - how to use, INST: 2-9
 - list of types (table), INST: 2-9, 6-8
 - purpose and use, INST: 1-3, 2-8 to 2-9, 6-7
- VISA I/O interface
 - data types, INST: 1-3
 - definition, INST: 1-4
 - purpose and use, INST: 1-5
- VISession data type (table), INST: 2-9, 6-8
- VIStatus data type (table), INST: 2-9, 6-8
- Visual Basic
 - automatic inclusion of Type Library resource for, PRGREF: 3-20 to 3-21
 - generating include file for, USER: 4-38
- Visual C++
 - creating 16-bit Windows DLLs, PRGREF: 4-21
 - creating object and library files for use in LabWindows/CVI, PRGREF: 3-14
- VME eXtensions for Instrumentation (VXI). *See* VXI controllers.
- void HandlePropertyNotifyEvent function, STDLIB: 9-7
- void keyword, PRGREF: 1-2
- void_InitXPropertyLib function, STDLIB: 9-7
- VXI command, Library menu, USER: 3-39
- VXI controllers
 - compatible controllers, GS: 10-4 to 10-5
 - configuration
 - configuring LabWindows/CVI for VXI, GS: 10-5 to 10-6
 - VXI driver software, GS: 10-5
 - developing applications, GS: 10-6
 - documentation for VXI controller boards, GS: 10-5
 - installation, GS: 10-4 to 10-5
 - LabWindows/CVI VXI development system (VXS), GS: 10-4
 - overview, GS: 10-3 to 10-4
- VXI instruments
 - core instrument driver files (table), INST: 6-4
 - programming guidelines, INST: 6-18
- VXI Library
 - definition, USER: 3-39
 - status reporting by, PRGREF: B-4
- VXIINIT utility, GS: 10-5
- VXIplug&play instrument driver, INST: 1-4
- VXIplug&play instrument driver files, USER: 3-30
- VXIplug&playStyle command, Options menu, INST: 3-10 to 3-11
 - default settings
 - Advanced dialog box, INST: 3-11
 - Create Distribution Kit dialog box, INST: 3-11
 - Create Dynamic Link Library dialog box, INST: 3-10 to 3-11

Instrument Driver Support Only
command, INST: 3-10
effects on DLL project, INST: 3-10
VXITEDIT utility, GS: 10-5

W

wait utility functions. *See* timer/wait utility functions.

Warp mouse over dialog boxes option,
USER: 3-52

Watch command, Window menu

Project window, USER: 3-43

Watch window, USER: 6-3

watch variables/expressions

Add/Edit Watch Expression dialog box,
USER: 6-3 to 6-4

applicable only in source code modules
(note), USER: 4-26

purpose and use, USER: 4-25 to 4-26

selecting, USER: 6-3 to 6-4

suspending program execution
conditionally, USER: 4-27

Watch window

activating, USER: 6-3

Add/Edit Watch Expression dialog box,
USER: 6-3 to 6-4

displaying variables during program
execution, GS: 4-11 to 4-12

Edit menu, USER: 6-8 to 6-9

File menu, USER: 6-4 to 6-5

Format menu, USER: 6-13

illustration, USER: 6-3

purpose and use, GS: 4-11, USER: 2-4,
6-1, 6-2 to 6-3

selecting variables and expressions,
USER: 6-3 to 6-4

View menu, USER: 6-9 to 6-12

Window menu, USER: 6-14

Watcom C/C++

32-bit compiled modules under

Windows 3.1, PRGREF: 4-1 to 4-2

creating object and library files for use in
LabWindows/CVI, PRGREF: 3-15

Watcom WEMU387.386 coprocessor
emulation software, PRGREF: 7-2

Waveform Array control example, INST:
8-11 to 8-12

waveform generation project. *See also*
instrument driver programming example.
adding channel selection control, GS:
9-2 to 9-3

Read Waveform sample function, GS:
8-8 to 8-9

storing waveform to disk, GS: 9-4 to 9-5
user interface (illustration), GS: 9-2

WaveformGraphPopup function,
USRINT: 4-251

WhiteNoise function, ANLS: 2-211 to 2-212

Whole Word option, Find command

Array and String Display windows,
USER: 7-6

Source, Interactive Execution, and
Standard Input/Output windows,
USER: 4-13

Variable Display window, USER: 6-7

_WIN32 macro, PRGREF: 1-5, USER: 3-49
__WIN32__ macro, PRGREF: 1-5,

USER: 3-49

WIN32 macro, USER: 3-49

Wind_BPF function, ANLS: 2-212 to 2-213

Wind_BSF function, ANLS: 2-213 to 2-215

Wind_HPF function, ANLS: 2-215 to 2-216

Wind_LPF function, ANLS: 2-216 to 2-217

window functions, standard input/output.

See Standard Input/Output window
functions.

Window Help command, Edit menu,
INST: 4-6

Window menu

Array/String Display windows,
USER: 3-44, 7-9

Function Panel Editor, INST: 4-20

Function Panel windows,
USER: 3-44, 5-20

Function Tree Editor, INST: 3-9

Help Editor dialog box, INST: 5-4

Help Editor windows, USER: 3-44

- Project window
 - Build Errors command, GS: 2-6, USER: 3-43
 - Cascade Windows command, USER: 3-42
 - Close All command, USER: 3-43
 - Function Tree files, USER: 3-44 illustration, USER: 3-42
 - Interactive Execution command, USER: 3-45
 - Minimize All command, USER: 3-42
 - open source files, USER: 3-45
 - overview, GS: 2-4
 - Project command, USER: 3-43
 - Runtime Errors command, GS: 2-6, USER: 3-43
 - Standard Input/Output command, USER: 3-45
 - Tile Windows command, USER: 3-42
 - User Interface Resource files, USER: 3-44
 - Variables command, USER: 3-43
 - Watch command, USER: 3-43
- Source, Interactive Execution, and Standard Input/Output windows, USER: 4-33
- User Interface Editor, USRINT: 2-31
- Variable Display and Watch windows, USER: 6-1, 6-3, 6-14
- window properties, accessing
 - GetXWindowPropertyItem, STDLIB: 9-20 to 9-22
 - GetXWindowPropertyValue, STDLIB: 9-22 to 9-25
 - PutXWindowPropertyItem, STDLIB: 9-27 to 9-28
 - PutXWindowPropertyValue, STDLIB: 9-29 to 9-31
 - RemoveXWindowProperty, STDLIB: 9-31 to 9-32
- windowing, ANLS: 1-11 to 1-13
- Windows. *See* Microsoft Windows 3.1; Microsoft Windows 95/NT.
- windows
 - hiding, USER: 3-51
 - managing windows (note), GS: 2-2
 - program development windows, GS: 2-1 to 2-2
 - windows functions
 - BkmanWin, ANLS: 2-37
 - BlkHarrisWin, ANLS: 2-36 to 2-37
 - CosTaperedWin, ANLS: 2-60 to 2-61
 - definition, ANLS: 1-7
 - ExBkmanWin, ANLS: 2-94
 - ExpWin, ANLS: 2-96
 - FlatTopWin, ANLS: 2-100
 - ForceWin, ANLS: 2-101
 - function tree, ANLS: 1-5
 - GenCosWin, ANLS: 2-104
 - HamWin, ANLS: 2-114
 - HanWin, ANLS: 2-114 to 2-115
 - Ksr_Win, ANLS: 2-139 to 2-140
 - TriWin, ANLS: 2-208 to 2-209
 - windows interrupt support functions
 - function tree, USRINT: 4-7
 - GetCVITaskHandle, USRINT: 4-98
 - GetCVIWindowHandle, USRINT: 4-98 to 4-99
 - RegisterWinMsgCallback, USRINT: 4-210 to 4-212
 - UnRegisterWinMsgCallback, USRINT: 4-229
 - _WINDOWS macro, PRGREF: 1-5, USER: 3-49
 - WindType parameter, ANLS: 1-13 to 1-14
 - Wrap option, Find command
 - Array and String Display windows, USER: 7-6
 - Source, Interactive Execution, and Standard Input/Output windows, USER: 4-15
 - Variable Display window, USER: 6-7
 - Wrap option, Find UIR Objects dialog box, USRINT: 2-18
 - write termination, GPIB, STDLIB: 4-9
 - WriteFile function, STDLIB: 2-29 to 2-30
 - WriteLine function, STDLIB: 2-30 to 2-31
 - WriteToDigitalLine function, STDLIB: 10-53 to 10-55

WriteToDigitalPort function, STDLIB: 10-55 to 10-56

WriteToPhysicalMemory function, STDLIB: 8-85 to 8-86

WriteToPhysicalMemoryEx function, STDLIB: 8-86 to 8-87

writing instrument drivers. *See* instrument drivers, programming.

WVFMDBL example program, GS: 11-5

WVFMOUT example program, GS: 11-5

X

X Client Property Library, USER: 3-40

X Property command, USER: 3-40

X Property Library, status reporting by, PRGREF: B-5

X Property Library functions

callback functions, STDLIB: 9-4

communicating with local applications, STDLIB: 9-3

ConnectToXDisplay function, STDLIB: 9-3

error codes, STDLIB: 9-4 to 9-6

function panels, STDLIB: 9-1

function reference

ConnectToXDisplay, STDLIB: 9-7 to 9-9

CreateXProperty, STDLIB: 9-3, 9-9 to 9-10

CreateXPropType, STDLIB: 9-3, 9-10 to 9-12

DestroyXProperty, STDLIB: 9-12 to 9-13

DestroyXPropType, STDLIB: 9-13 to 9-14

DisconnectFromXDisplay, STDLIB: 9-14 to 9-15

GetXPropErrorString, STDLIB: 9-15

GetXPropertyName, STDLIB: 9-15 to 9-16

GetXPropertyType, STDLIB: 9-16 to 9-17

GetXPropTypeName, STDLIB: 9-17 to 9-18

GetXPropTypeSize, STDLIB: 9-18

GetXPropTypeUnit, STDLIB: 9-19

GetXWindowPropertyItem, STDLIB: 9-20 to 9-22

GetXWindowPropertyValue, STDLIB: 9-22 to 9-25

InstallXPropertyCallback, STDLIB: 9-4, 9-25 to 9-27

PutXWindowPropertyItem, STDLIB: 9-27 to 9-28

PutXWindowPropertyValue, STDLIB: 9-29 to 9-31

RemoveXWindowProperty, STDLIB: 9-31 to 9-32

UninstallXPropertyCallback, STDLIB: 9-4, 9-33

void HandlePropertyNotifyEvent, STDLIB: 9-7

void_InitXPropertyLib, STDLIB: 9-7

function tree (table), STDLIB: 9-2

hidden window, STDLIB: 9-3

overview, STDLIB: 9-1

property handles and types, STDLIB: 9-3 to 9-4

predefined property types (table), STDLIB: 9-3

using outside of LabWindows/CVI, STDLIB: 9-7

X interclient communication, STDLIB: 9-2 to 9-3

.Xdefaults file, setting configuration options, USER: 1-3

XGraphPopup function, USRINT: 4-252

XModem file transfer functions

purpose and use, STDLIB: 5-3

XModemConfig, STDLIB: 5-4, 5-31 to 5-33

XModemReceive, STDLIB: 5-3, 5-4, 5-33 to 5-34

XModemSend, STDLIB: 5-3, 5-34 to 5-35

XX_Dist function, ANLS: 2-218

XYGraphPopup function, USRINT: 4-252 to 4-253

Y

Y Array control, GS: 3-5

Y axes

- autoscaling Y-axis on strip chart,

 - example, USRINT: 5-5

- example programs for left and right Y axes, USRINT: 5-5

- working with two Y axes,

 - USRINT: 3-81

YGraphPopup function, GS: 3-4 to 3-8,

USRINT: 4-253

Z

zooming on graphs

- definition, USRINT: 1-19

- enabling zooming, USRINT: 1-19

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



FaxBack Support

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

To access our FTP site, log on to our Internet host, `ftp.natinst.com`, as anonymous and use your Internet address, such as `joesmith@anywhere.com`, as your password. The support files and documents are located in the `/support` directories.



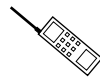
E-Mail Support (currently U.S. only)

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`
 VISA: `visa.support@natinst.com`

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 _____

NI-DAQ, LabVIEW, or
LabWindows Version _____

Other Products

Computer Make and Model _____

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.

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

Thank you for your help.

Name _____

Title _____

Company _____

Address _____

Fax (____) _____

Phone (____) _____

Mail to: Technical Publications
National Instruments Corporation
6504 Bridge Point Parkway
Austin, TX 78730-5039

Fax to: Technical Publications
National Instruments Corporation
(512) 794-5678