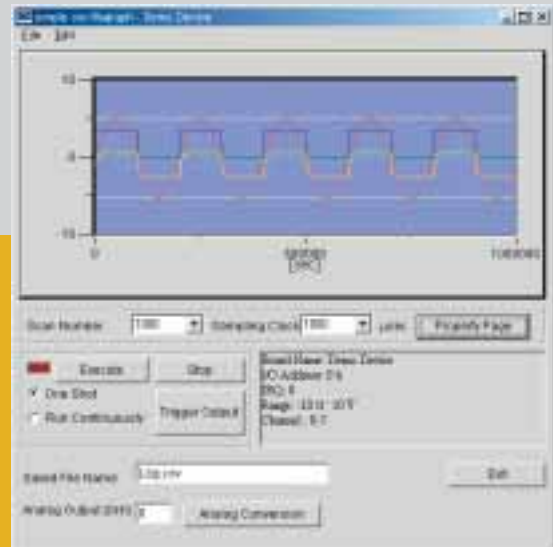


Software



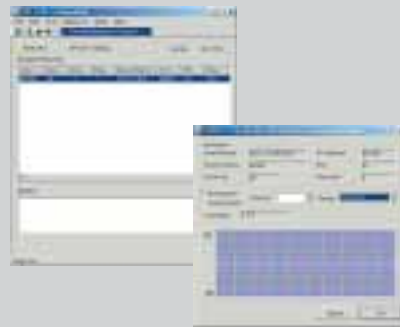
G-02 API Function Library

G-06 ActiveX Component Base Package

G-07 GPIB Driver Software for LabVIEW

■ API Function Library API-PAC(W32)

CONTEC interface boards consist of various groups, including Analog I/O, Digital I/O, Counter, Serial Communication, GPIB, etc. For each group, API-TOOL software can be interfaced through various popular programming languages with conveniently and uniformly integrated functions.



■ ActiveX Component Base Package ACX-PAC(W32)BP Ver. 2.0

The ActiveX Component is an easy to use visual user interface. It works seamlessly with third party software. ActiveX Components are easily imported into Windows OLE-enabled development applications, such as Excel, etc.



■ GPIB Driver Software for LabVIEW API-GPLV(W32) Ver. 1.2

The functions that comprise the driver software package are of same style as National Instruments GPIB functions and is meant to be used with Windows Me/ Windows98SE/ Windows98/ Windows95/ Windows XP/Windows2000/ Windows NT to control GPIB boards manufactured by our company.



API Function Library

API-PAC(W32)



Free from our website

CONTEC interface boards consist of various groups, including Analog I/O, Digital I/O, Counter, Serial Communication, GPIB, etc. For each group, API-TOOL software can be interfaced through various popular programming languages with conveniently and uniformly integrated functions.

Any of these API-PAC(W32) drivers is provided in the Win32 API function format.

Supports CONTEC's PC-HELPER (PCI bus, ISA bus-compatible, PCMCIA Card products).

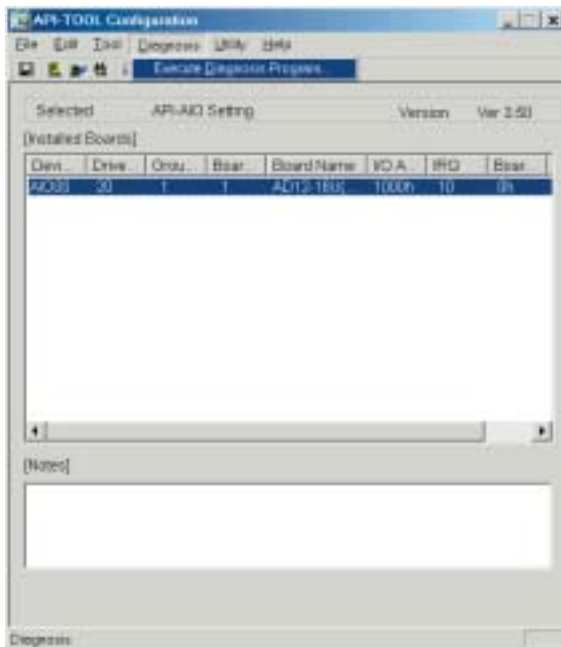
The help file enables the user to view the descriptions of functions on the screen he or she will be using while developing a program.

Abilities to find information on using functions and to check board operations from the sample program in each supported language helps maximize development efficiency.

The configuration program (CONFIG.EXE) prevents I/O address and IRQ conflicts on a board used with the API-TOOL.

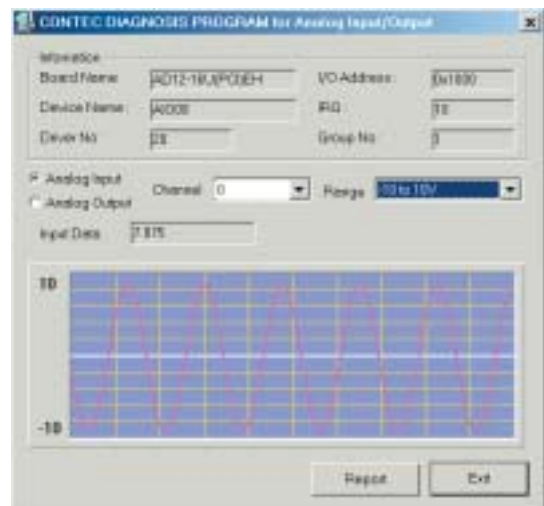
Configuration Program

The program which diagnoses the state of an add-on board / card, and driver software is attached to each API function library. It can check whether setup and driver software of an add-on board / card are simply normal by using a diagnostic program. A diagnostic program can be executed from "API-TOOL configuration."



In the case of the API function library for analog input and output

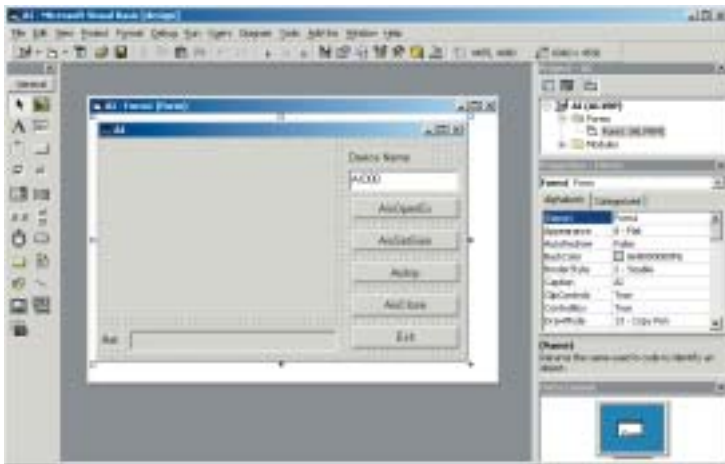
The board/card which is diagnosed from an "API-TOOL configuration" in the case of the API function library for analog input and output are chosen.



A diagnostic program is performed and a result is displayed. Moreover, a diagnostic report can also be outputted to a text file.

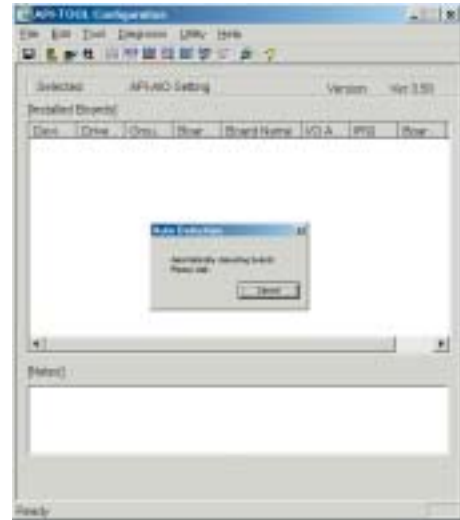
The substantial sample program

Much sample programs corresponding to each software programming language to support are attached to sample programs each API function library of fullness. It not only checks how to use a function, but since operation of a board/card can be checked, the development efficiency of the application which used the API function library improves.



Board Auto Detect

With "API-TOOL Configuration Ver.4.10" or later, can automatically recognize PCI/ISA/PC card boards. The CONTEC boards that have been installed to device manager are detected.



■ Features of API-PAC(W32)

■ Support OS

Library name										
	Windows XP	Windows 2000 Professional	Windows NT Server ^{※1}		Windows NT Workstation		Windows Me	Windows 98	Windows 95	
			4.0	3.51	4.0	3.51				
Serial Communication	API-SIO(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	API-SIO(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-FSIO(PCI)NT			<input type="radio"/>		<input type="radio"/>				
	API-FSIO(PCI)	<input type="radio"/>	<input type="radio"/>					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GPIB	COM-DRV(W32)	<input type="radio"/>	<input type="radio"/>					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-GPIB(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Analog I/O	API-GPIB(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-AIO(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Digital I/O	API-AIO(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-DIO(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Counter	API-DIO(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-CNT(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Motion Control	API-CNT(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-SMC(98/PC)NT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Timer	API-SMC(98/PC)W95							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	API-TIMER(W32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

※1: Only execution of a program is possible ※2: ActiveX control cannot be used. ※3: PC card product cannot be used.

■ Support Language

Microsoft

Visual Basic 6.0 / 5.0 / 4.0
Visual C++ 6.0 / 5.0 / 4.x / 2.0

Analog I/O

API-AIO(98/PC)NT/API-AIO(98/PC)W95

- Up to 4 boards can be set per group and up to 16 groups can be use.
- Analog input/output can be performed from specified channels.
- Analog input can be performed at arbitrary fixed intervals using the internal sampling clock on the board or an external sampling clock signal.
- In addition to control by software commands, starting and stopping analog input sampling can be controlled by the analog signal level or by an external TTL level signal.
- Multiple interrupt conditions; including completion of analog input sampling, buffer memory usage status and error detection; can be monitored simultaneously.
- TTL level digital input/output can be performed.

Boards Supported

● PCI Bus

AD12-16(PCI)E	AD12-16U(PCI)E	AD16-16(PCI)E
AD12-16U(PCI)EH	AD16-16U(PCI)EH	
AD12-16(PCI)	AD12-64(PCI)	AD12-16(PCI)
AD16-4C(PCI)	AD16-4L(PCI)	DA12-16(PCI)
DA12-4(PCI)	DA12-8(PCI)	DA16-4C(PCI)

● ISA Bus

AD12-16(PC)EH	AD12-16U(PC)EH	AD16-16(PC)EH
AD16-16U(PC)EH	AD12-16(PC)E	AD12-16U(PC)E
AD16-16(PC)E	AD16-16U(PC)E	AD12-16(PC)
AD12-8LT(PC)	AD12-16LG(PC)	AD12-16(PC)
AD12-8CL(PC)H	DA12-8L(PC)	DA12-4(PC)
DA12-6LC(PC)	DA12-8C(PC)	DA12-4C(PC)

● PC Card

AD12-8(PM)

Digital I/O

API-DIO(98/PC)NT/API-DIO(98/PC)W95

- Up to four boards can be set per group.
- Digital input/output can be performed from specified ports.
- Digital input/output of specified bits can be achieved by using the hardware function.
- Chattering can be prevented with the digital filter by using the hardware function.

Boards Supported

● Compact PCI Bus

PI-64L(CPCI)	PO-64L(CPCI)	PIO-32/32L(CPCI)
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● PCI Bus

PI-128L(PCI)	PO-128L(PCI)	PIO-64/64L(PCI)
PI-64L(PCI)	PO-64L(PCI)	PI-32L(PCI)
PI-32B(PCI)	PO-32L(PCI)	PO-32B(PCI)
PIO-16/16L(PCI)	PIO-16/16T(PCI)	PIO-16/16TB(PCI)
PIO-16/16B(PCI)	PIO-32/32B(PCI)	PIO-32/32B(PCI)H
PIO-32/32L(PCI)	PIO-32/32T(PCI)	PIO-32/32F(PCI)
RRY-16C(PCI)	RRY-32(PCI)	PIO-48D(PCI)
PIO-32DM(PCI)		

● PC Card

PIO-24W(PM)	PIO-32D(PM)	PIO-16/16L(PM)
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● ISA Bus

PI-64L(PC)	PI-64T(PC)	PO-64L(PC)
PO-64T(PC)	PIO-32/32L(PC)	PIO-32/32RL(PC)
PIO-32/32T(PC)	PI-32L(PC)H	PI-32L(PC)V
PI-32B(PC)	PI-32B(PC)H	PI-32TB(PC)
PI-32T(PC)H	PI-32RL(PC)	PO-32L(PC)H
PO-32L(PC)V	PO-32B(PC)	PO-32B(PC)H
PO-32TB(PC)	PO-32T(PC)H	PO-32RL(PC)
RRY-32(PC)	PRY-32(PC)	PIO-16/16TB(PC)
PIO-16/16T(PC)H	PIO-16/16RL(PC)	PIO-16/16L(PC)H
PIO-16/16L(PC)V	PIO-16/16B(PC)	PIO-16/16B(PC)H
PIO-48W(PC)	PIO-48D(PC)	PIO-48C(PC)
PIO-96W(PC)	PIO-144W(PC)	PIO-120D(PC)

Serial Communication

API-SIO(98/PC)NT/API-SIO(98/PC)W95

- A maximum of 256 channels are controllable.
- The Timer surveillance of the completion of transmitting and the completion of reception can be performed.
- Setup of receiving buffer size can be performed each channel individually (256-65535 byte)
- The flow control of XON/XOFF signals can be performed.

Boards Supported

● PCI Bus

COM-2(PCI)H	COM-4(PCI)H	COM-8(PCI)H
COM-2PD(PCI)H	COM-4PD(PCI)H	
COM-2(PCI)	COM-4(PCI)	COM-8(PCI)
COM-2PD(PCI)		

● ISA Bus

COM-2(PC)F	COM-4M(PC)
COM-2PD(PC)H	COM-2S(PC)

● PC Card

COM-1(PM)	COM-1D(PM)	COM-2(PM)
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GPIB

API-GPIB(98/PC)NT/API-GPIB(98/PC)W95

- API-GPIB(98/PC)W95(32 Bit version), API-GPIB(98/PC)NT is provided in the form of Win32 API functions.
- Supports the IEEE-488.2 standard and IEEE-488 standard.
- Allows easy software setting of master mode, slave mode, and interrupt level.
- 3-line handshaking allowing reliable data transfer between devices with different rates.
- GP-IB(PCI) and GP-IB(PC)F can read lines such as IFC and SQR. (Note GP-IB(PC) cannot do this.)

Boards Supported

- **PCI Bus**
GP-IB(PCI) GP-IB(PCI)L
- **PC Card**
GP-IB(PM)
- **ISA Bus**
GP-IB(PC) GP-IB(PC)F GP-IB(PC)L

Counter

API-CNT(98/PC)NT/API-CNT(98/PC)W95

- The current count can be read for a specified channel.
 - The current value of the status register can be read for a specified channel.
 - A preset value can be set to a specified channel.
 - An event message can be generated when a time-up, timer halt, or count match occurs.
 - Output of a one-shot pulse of specified width when a counter match occurs.
 - Counter preset or counter zero clear at the rise or fall of the control input signal. *1
 - Output of a one-shot pulse for the control output signal when a counter match or an error event occurs. *1
 - The bus master transfer function can sample the count value in synchronization with a specified external clock or internal clock signal. *1
- *1: For CNT32-8M(PCI).

Boards Supported

- **PCI Bus**
CNT24-4(PCI) CNT24-4D(PCI)
CNT32-8M(PCI)
- **ISA Bus**
CNT24-4(PC)

Motion Control

API-SMC(98/PC)NT/API-SMC(98/PC)W95

- The positioning of the stepping motor and servomotor can easily be set/controlled with Windows.
- The initial setup utility allows cumbersome initial board values to be set easily with wizard.
- The diagnostic utility distinguishes between software and hardware problems to help achieve smooth development of applications.
- A customer who uses SMC-3(PC), does not need to modify the program when switching to SMC-2/4P(PCI).
- Basic motor operations, such as PTP motion and JOGGING, can easily be set/performed.
- A variety of modes are provided for move to origin.
- Bank Motion allows easy setting and high-speed control when controlling the motor with an already designed operating pattern.
- A variety of event functions are available.
- The ability to synchronous control multiple axes allows continuous interpolation along the N axis.

Boards Supported

- **PCI Bus**
SMC-2P(PCI)
SMC-4P(PCI)
- **ISA Bus**
SMC-3(PC)

Timer

API-TIMER(W32)

API-TIMER (W32) is the device driver (API function) which provides more accurate time on Windows.

- It can be used as high precision more than Timer control on Visual Basic.
- Measuring the executive time in precision of microseconds.
- It looks like the Sleep function of Win32 API.
- It recommend that use Active Control named of 'CONTEC ACX Timer Control' when use Visual Basic.

Boards Supported

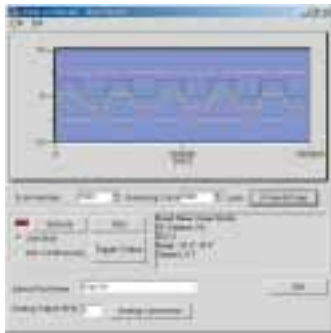
- **PCI Bus**
PIO-48D(PCI) PIO-16/16B(PCI) PI-32L(PCI) PI-32B(PCI)
PO-32L(PCI) PO-32B(PCI) PIO-32DM(PCI) AD12-64(PCI)
AD12-16(PCI) AD12-16U(PCI)EH AD16-16U(PCI)EH ADI16-4C(PCI)
ADI16-4L(PCI) DA12-16(PCI) DA12-4(PCI) DA12-8(PCI)
DAI16-4C(PCI) GP-IB(PCI)L CNT24-4D(PCI) CNT32-8M(PCI)
- **ISA Bus**
GP-IB(PC)L

ActiveX Component Base Package

ACX-PAC(W32)BP Ver.2.0



The ActiveX Component is an easy to use visual user interface. It works seamlessly with third party software. It links to Windows OLE development applications. It requires virtually no maintenance.



1. Visualized User Interface

ActiveX Components are easy to configure through simple property sheets. They are easy to program from Visual Basic/C++ using high-level properties and methods.

2. Windows Standardized Data

ActiveX Components are easily imported into Windows OLE-enabled development applications, such as Excel, etc. ActiveX Components can easily interface with third-party software which supports ActiveX controls. Perform system measurements, controls, monitoring, or other functions using ActiveX.

Boards Supported by ActiveX

ACX Analog Control

● PCI Bus

AD12-16(PCI)E, AD12-16U(PCI)E, AD16-16(PCI)E, AD12-4(PCI),
AD12-16(PCI), AD12-16(PCI), AD12-64(PCI), DA12-16(PCI)

● PC Card

AD12-8(PM)

● ISA Bus

AD12-16(PC)EH, AD12-16U(PC)EH, AD16-16(PC)EH, DA12-4C(PC),
AD16-16U(PC)EH, AD12-8LT(PC), AD12-16(PC),
AD12-16LG(PC), AD12-8CL(PC), AD12-16(PC),
DA12-4(PC), DA12-8L(PC), DA12-6LC(PC), DA12-8C(PC),
DA12-8C(PC)

ACX Digital Control

● PCI Bus

PIO-16/16L(PCI), PIO-16/16T(PCI), PIO-16/16TB(PCI), RRY-32(PCI),
PIO-32/32B(PCI), PIO-32/32B(PCI)H, PIO-32/32L(PCI),
PIO-32/32T(PCI), PIO-32/32F(PCI), PIO-48D(PCI),
RRY-16C(PCI), PI-64L(PCI), PO-64L(PCI)

● Compact PCI Bus

PI-64L(CPCI), PO-64L(CPCI), PIO-32/32L(CPCI)

● PC Card

PIO-24W(PM)

● ISA Bus

PI-32L(PC)H, PI-32L(PC)V, PI-32B(PC), PI-32B(PC)H,
PI-32TB(PC), PI-32T(PC)H, PI-32RL(PC), PI-64L(PC),
PI-64T(PC), PO-32L(PC)V, PO-32L(PC)V, PO-32B(PC),
PO-32B(PC)H, PO-32TB(PC), PO-32T(PC)H, PO-32RL(PC),
PO-64L(PC), PO-64T(PC), RRY-32(PC), PRY-32(PC),
PIO-16/16L(PC)H, PIO-16/16L(PC)V, PIO-16/16B(PC),
PIO-16/16B(PC)H, PIO-16/16TB(PC), PIO-16/16T(PC)H,
PIO-16/16RL(PC), PIO-32/32L(PC), PIO-32/32RL(PC),
PIO-32/32T(PC), PIO-48W(PC), PIO-48D(PC), PIO-48C(PC),
PIO-96W(PC), PIO-144W(PC), PIO-120D(PC)

ACX GPIB Control

● PCI Bus

GP-IB(PCI)

● PC Card

GP-IB(PM)

● ISA Bus

GP-IB(PC), GP-IB(PC)F



Support OS

Windows 2000 Professional
Windows NT Workstation 4.0 + Service Pack3 upper
Windows Me
Windows 98 Second Edition, Windows 98, Windows 95

Support Language

Microsoft Visual Basic 6.0 / 5.0 / 4.0,
Visual C++ 6.0 / 5.0 / 4.x / 2.0
Excel 2000, 97

GPIB Driver Software for LabVIEW

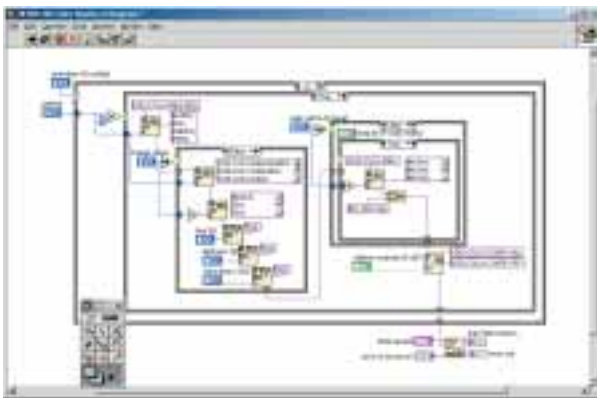
API-GPLV(W32) Ver. 1.2



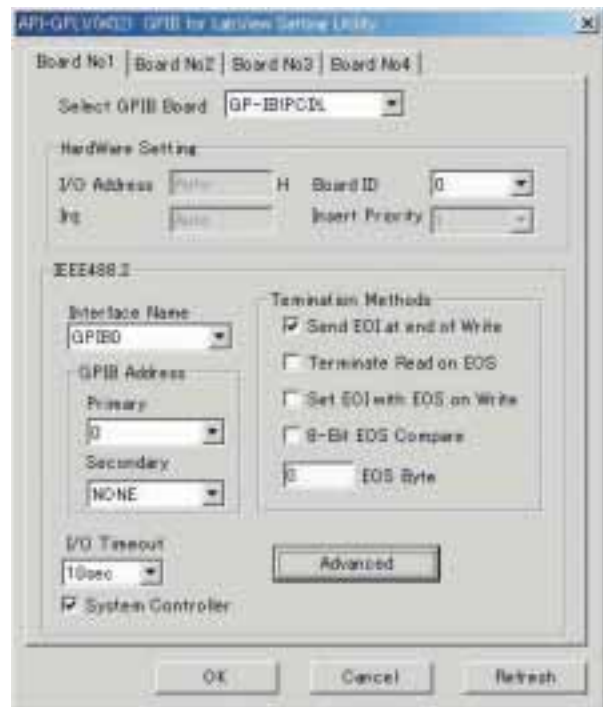
Free from our website

It is the driver software for using our GPIB communication board / card by LabVIEW of National Instruments Corporation. By installing this software, it is possible to operate the program development and the completed GPIB communication program in LabVIEW which used our GPIB communication board / card. Moreover, since it is created in the API function style of National Instruments Corporation., it can also be used by other software. Programming language including Microsoft Visual Basic.

The example which used the GPIB board of CONTEC in LabVIEW



Configuration Program



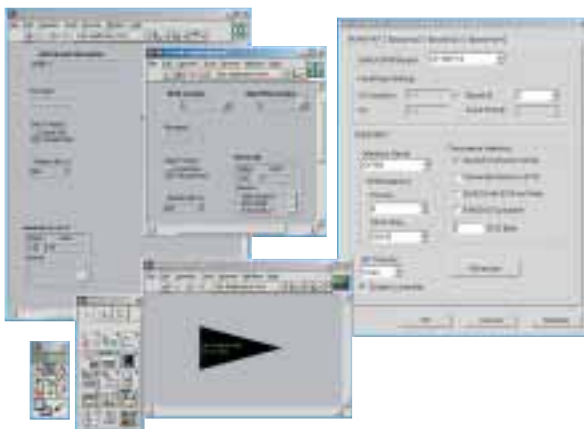
G-07

SOFTWARE

API
Function
Library

ActiveX
Component

GPIB
Driver
Software



Hardware and a parameter (IEEE488.2) can be easily set up using a utility. Moreover, the diagnostic utility for performing a simple operation check is attached after a setup. The GPIB apparatus library of LabVIEW offer can use it.

■ Support OS

Windows XP Professional / Home
Windows 2000 Professional
Windows NT Workstation 4.0 + Service Pack3 upper
Windows Me
Windows 98 Second Edition, Windows 98, Windows 95

■ Support Language

National Instruments

LabVIEW 6i / 5.1 / 5.0

Microsoft

Visual Basic 6.0 / 5.0 / 4.0
Visual C++ 6.0 / 5.0 / 4.x / 2.0

Borland

C++ Builder 5.0
Delphi 5.0 / 4.0

■ Boards Supported

PCI Bus GP-IB(PCI), GP-IB(PCI)L
ISA Bus GP-IB(PC)L
PCMCIA PC Card GP-IB(PM)