Advantech Device Specific Help

Advantech PCL-722/724/731 I/O Cards, V 3.0

The Advantech DLL driver supports the operation of   ADVANTECH data acquisition cards and signal conditioning boards. The following table lists   the cards and functions supported:

TABLE 1: Advantech DLL Driver Software Support

Hardware Type	DLL Driver	A/D	D/A	DIO	TEMP	COUNTER	ALARM
PCL-722	adPCL722.drv	NO	NO	YES	NO	NO	NO
PCL-724	adPCL722.drv	NO	NO	YES	NO	NO	NO
PCL-731	adPCL722.drv	NO	NO	YES	NO	NO	NO

A/D=ANALOG INPUT, D/A=ANALOG OUTPUT,   DIO=DIGITAL I/O, TEMP=TEMPERATURE MEASUREMENT

All cards listed can be used in an IBM PC or compatible.   A series of wiring terminal boards and signal conditioning boards, listed below, are also available for making your applications easier to implement:

*   PCLD-7216 SSR I/O Module Carrier Board
*   PCLD-7224 SSR I/O Module Carrier Board
*   PCLD-885   Power Relay Output Board
*   Any Opto-22 compatible expansion board

I/O CARD FUNCTIONAL DESCRIPTION

PCL-722
6   channels (channels 0 - 5), each with:

Port A   8 digital inputs or 8 digital outputs
Port B   8 digital inputs or 8 digital outputs
Port C   8 digital inputs or 8 digital outputs

PCL-731
2   channels (channels 0 - 1), each with:

Port A   8 digital inputs or 8 digital outputs
Port B   8 digital inputs or 8 digital outputs
Port C   8 digital inputs or 8 digital outputs

PCL-724
1 channel (channel 0) with:

Port A   8 digital inputs or 8 digital outputs
Port B   8 digital inputs or 8 digital outputs
Port C   8 digital inputs or 8 digital outputs

HARDWARE CONFIGURATION
Before an acquisition board can work properly with the DLL driver software, it must be configured correctly.   You must determine the hardware options (input range(s), I/O address, etc.) which suit your particular requirements.   On all ADVANTECH boards, configuration is a matter of setting jumpers and switches. Read the manual that comes with your ADVANTECH board in conjunction with this help to determine how to configure the hardware.   All ADVANTECH boards are shipped with factory default settings.   If the default configuration is appropriate for your system, no additional set-up is required.

Configuring the PCL-722, PCL-731 or PCL-724
The 144-bit DIO of the **PCL-722** is grouped into six channels (CH0, CH1, ...,CH5), and each group has three I/O ports (port A, port B, and port C).   Each 8-bit port may be configured as input or output in the DEVICE configuration dialog box, and outputs may be initialized low or high. The card is OPTO-22 compatible. OPTO-22 solid state relays are active low -- ie. a zero volt signal (low) turns them on and +5 volts (high) turns them off.

When you turn on or reset   the PC all ports are configured as inputs.   Therefore, if any of the ports need to be configured as digital outputs, the control configuration of the ports must be reset.   You accomplish this by running the application program. When an application is run, all ports are configured automatically during the RUNTIME bootup.

The **PCL-724** is software compatible with the PCL-722. The Advantech DLL driver for the PCL-722 may be used for this card, with only the first three 8-bit ports in the configuration menu valid.

The **PCL-731** is also software compatible with the PCL-722. The Advantech DLL driver for the PCL-722 may be used for this card, with only the first six 8-bit ports in the configuration menu valid.

Base Address Switch
The base address switch must be set to an address between 200 and 3F0 Hex in the computer's I/O space.   The address selected should not conflict with addresses used by other peripheral cards.   This switch should match the BASE ADDRESS parameter in the PCL-722 Device Configuration dialog box Menu.