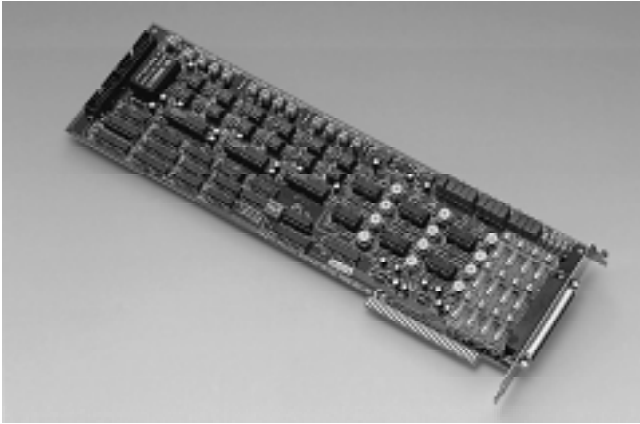


# PCL-727

## 12-channel D/A Output Card



### Features

- Twelve independent D/A output channels
- 12-bit resolution double-buffered D/A converter
- Multiple output ranges:  $\pm 5$  V, 0 ~ +5 V, 0 ~ +10 V and 4 ~ 20 mA current loop (sink)
- 16 digital input and 16 digital output channels
- Easily replaceable fuse on each analog output channel for surge protection
- Female DB-37 connector

### Introduction

The PCL-727 provides twelve 12-bit D/A channels on a full-size add-on card. You can configure each channel individually to any of the following ranges: 0 to +5 V, 0 to +10 V,  $\pm 5$  V or 4 to 20 mA current loop (sink). The card's on-board DC/DC converter ensures that full 10 V D/A output is always available.

Each analog output channel has an easily accessible built-in fuse socket to protect the card, PC and current-controlled devices from damage due to surges. The PCL-727 is an ideal, economical solution for applications which require multiple PID control loops.

In addition to its analog outputs, the PCL-727 provides 16 digital output channels and 16 digital input channels. Its TTL compatible D/I and D/O ports easily interface with our line of daughterboards for industrial On/Off control and sensing applications.

The PCL-727's utility software diskette includes a calibration program and programming examples.

### Applications

- Multiple loop PID control
- Process control
- Programmable voltage source
- Servo control

### Specifications

#### Analog Output (D/A Converter)

- **Channels:** 12
- **Resolution:** 12 bits, double buffered
- **Output ranges:**  
Unipolar: 0 ~ +5 V, 0 ~ +10 V,  
Bipolar:  $\pm 5$  V  
Current loop (sink): 4 ~ 20 mA
- **Throughput:** 15 kHz
- **Settling time:**  $\leq 70$  msec.
- **Accuracy:**  $\pm 0.012\%$  full scale range
- **Offset error:** 0 ~ 5 V:  $\pm 1$  LSB  
 $\pm 5$  V, 0 ~ 10 V:  $\pm 2$  LSB
- **Temperature drift:** 5 PPM/ $^{\circ}$ C (0 ~ 50 $^{\circ}$  C)
- **Fuse on each channel:** 0.1 A
- **Output current:**  $\pm 5$  mA max.

- **Current loop excitation voltage:** Minimum +8 V, maximum +36 V for 4 ~ 20 mA current loop
- **Reset (power-on) status:** All D/A channels will be at 0 V output after reset or power-on (both bipolar and unipolar modes)

#### Digital Input

- **Channels:** 16
- **Levels:** TTL compatible
- **Logic level 0:** 0.8 V max.
- **Logic level 1:** 2.0 V min.
- **Input loading:** 0.5 V @ 0.4 mA max. (low)  
2.7 V @ 50 mA max. (high)

#### Digital Output

- **Channels:** 16
- **Levels:** TTL compatible
- **Logic level 0:** 0.5 V @ 8.0 mA (sink)
- **Logic level 1:** 2.4 V @ 0.4 mA (source)

#### General

- **Power consumption:**  
+5 V @ 250 mA typical, 500 mA max.  
+12 V @ 150 mA typical, 300 mA max.  
-12 V @ 100 mA typical, 130 mA max.
- **Operating temperature:** 0 ~ 50 $^{\circ}$  C (32 ~ 122 $^{\circ}$  F)
- **Storage temperature:** 0 ~ 65 $^{\circ}$  C (32 ~ 149 $^{\circ}$  F)
- **Operating humidity:** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Connectors:** One 37-pin D-type female connector  
Two 20-pin male ribbon-cable connectors
- **Dimensions:** 340 mm (L) x 100 mm (H) (13.4" x 3.9")

### Ordering Information

- **PCL-727:** 12-channel D/A output and DIO Card, user's manual and utility software diskette
- **PCLS-OCX:** ActiveX Control for data acquisition and control
- **PCL-10120-1:** 20-pin flat cable, 1 m
- **PCL-10120-2:** 20-pin flat cable, 2 m
- **PCL-10137:** DB-37 cable assembly, 1 m
- **PCLD-780:** Screw terminal board
- **ADAM-3937:** DB-37 Wiring terminal for DIN-rail mounting
- **PCLD-880:** Screw terminal board