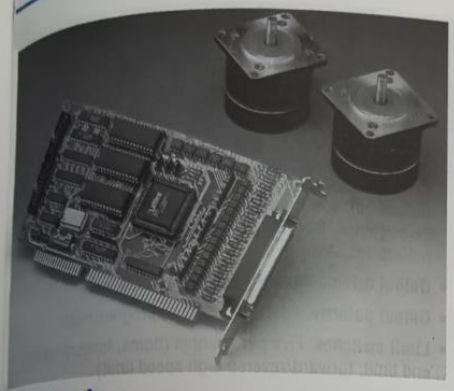
PCL-839

3-axis Stepping Motor Control Card



Introduction

The PCL-839 3-axis Intelligent Stepping Motor Control Card turns your IBM-compatible PC into a 3-axis motion-control station. The card's three PCL-AK intelligent controller chips can execute a variety of motion-control commands.

You can control each axis directly by programming the card's I/O registers or by sending high-level commands to the easy-to-use command interpreter software. For advanced applications we supply function call libraries which you can link to your C program.

Features

- Independent, simultaneous control of three stepping motors
- Direct access to the card's controller registers
- Linear and circular interpolation
- Optically-isolated outputs
- Five isolated digital inputs per axis for limit switches
- Half-size PC add-on card
- Up to 16 Kpps step rate
- 16 DI and 16 DO

Applications

- X-Y table control
- Rotary machine control
- Robotics control
- Precision position control using stepping motors

Programming the PCL-839

You can control each axis directly through the card's I/O registers, but we recommend the card's high-level interpreter. This interpreter reads high-level commands from a text file to perform specific tasks.

We also supply function libraries which you can call from your C program. The libraries come with 'Turbo C' source which you can recompile if you want to access the libraries from other C compilers.

The following list shows the commands the interpreter supports:

Immediate Commands

/* COMMENT */

BASE (port_address)
Set card base address

ECHO "string"
Display a string on the screen for the user

DEBUG ON
Activate Debug mode (syntax check)

DEBUG OFF
Clear Debug mode (default)

DISPLAY ON
Display commands on the screen as they are being executed

DISPLAY OFF
Stop display of commands (see above)

IN port#
Input and display the value from a digital input port

LOOP (count)
Repeat commands the specified number times

LOOPEND
Marks the end of a block of commands repeated by LOOP

MANUAL
Manually adjust each axis's parameters

OUT (port#, value)
Output the specified value to the specified digital output port

RUN
Execute "non-immediate" command (see commands 24-29, below)

SET (CH#[,CH#[,CH#]]),(FL,FH,AD)
Set a channel's speed parameters

SETMODE (CH#[,CH#[,CH#]]), mode
Set a channel's output mode to "DIRECTION" or "PULSE"

SLOWDOWN (CH#[,CH#[,CH#]])
Slow down a channel to FL speed

SLSTOP (CH#[,CH#[,CH#]])
Slow down a channel to FL speed then stop it

STOP (CH#[,CH#[,CH#]])
Stop and reset channel