



# LCD and Keypad Interface for PC/104 MPC201



## Features

- ✓ Alphanumeric and sub-VGA graphic LCD display interface
- ✓ Pinout for popular LCD panels
- ✓ Space for reverse pinout LCD connector for cable design flexibility
- ✓ Keypad scanner, up to 40 keys in row-column matrix, on-board debounce
- ✓ Beeper for audible feedback
- ✓ 5V only operation
- ✓ PC/104 format

The MPC201 LCD and keypad interface allows direct connection to alphanumeric LCD displays (i.e. 2 line by 40 character, etc.). In addition, sub-VGA graphic LCD displays can also be driven if they employ an 8-bit parallel interface.

Two LCD connectors are supplied, one normal and one with mirror image pinout. This provides the option of cabling into the top or bottom of the LCD units in tight places, for instance against front panels. Component locations are provided

for user-supplied negative voltage generators if the target LCD unit requires a negative bias voltage.

The keypad scanner drives rows of switches and senses inputs from columns. Key codes reflect the intersection of row and column. Debounce is provided on-board, so any type of switch can be used in connecting a row line to a column line. Two connectors are provided, each for up to a 4 x 5 matrix of 20 keys.

### Software Support

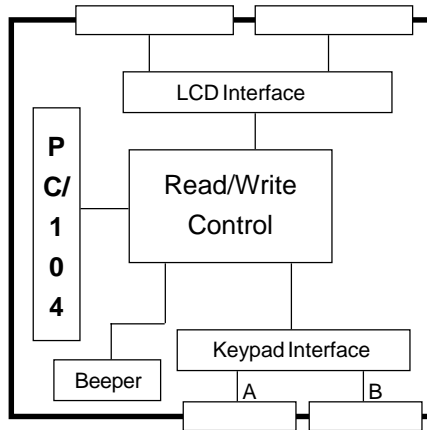
*Linkable drivers included*

### Compatible Hardware

*Any Micro/sys CPU with  
PC/104 expansion connector  
[See Section 1]  
LCD Displays, LCD0240  
Keypads, KEYPAD16/20  
[See section 4]  
LCD displays with 8-bit I/O  
Matrix keypads  
Custom interfacing*

### Mounting/Packaging

*PC/104 standard*



## Specifications:

### Mechanical:

- PC/104 standard
- 3.55" (plus I/O region) x 3.775" x .6"

### Power Requirements:

- +5V  $\pm$  5% at 90mA max

### Environmental:

- 0° - +70°C operating
- 25° - +85°C storage
- 5%-95% relative humidity, non-condensing

### PC/104 Interface:

- 8-bit PC/104 module
- 4 sequential I/O ports, jumper settable
- IRQ jumpers for key down interrupt

### LCD Interface:

- 8 data lines, 4 enable strobes, reg sel, contrast voltage, R/W, Vcc, gnd
- 20-pin header, can route to 14, 16, or 20-pin LCD connectors
- Pin-swap hole array for changing ribbon cable pinout to match LCD
- Space for reverse pinout connector
- Space for LM337 -Vo regulator

### Beeper:

- Audible feedback for keypad
- Single bit output to turn on/off

### Interrupts:

- Keyboard down interrupt
- Jumpers to IRQ2 - IRQ7, (IRQ10 - IRQ15 if PC/104 J2 is installed)
- Support for PC/104 shared interrupts

### External Connections:

- 20-pin header for LCD, pinout configurable for 14, 16, 20-pin LCDs
- Space for user-installed reverse pinout 20-pin LCD connector
- Two 1 x 9 headers for keypads

## Ordering Information:

MPC201            LCD and keypad interface

### Related Products:

CA5053	Cable to LC0240
KEYPAD16	4 x 4 keypad, cable, legends
KEYPAD20	4 x 5 keypad, cable, legends
LC0240	2 line by 40 character LCD