

## Low Cost Analog Input ISA Board

### PC 27E

Registered  
**ISO 9001**  
Company

- **Ideal for education projects**
- **Full function 16 channel 12 bit A/D converter**
- **Very economic price includes Windows 3.1, Windows 95/8 & NT DLL's**
- **Typical conversion time 10 micro seconds**
- **Provision for input signal attenuation**
- **On-board 4 MHz oscillator**
- **Two configurable 16 bit counters**
- **Three conversion trigger options**
- **Price sensitive analog data acquisition and data logging**

PC 27E is a very low cost A/D board that incorporates features only found on more expensive boards.

#### Analog to digital conversion

The A/D is a high speed device with a typical conversion time of 10 micro seconds, it has 12 bit resolution and linearity figures better than  $\pm 1$  least significant bit. The conversion is of the successive approximation type and has the choice of three trigger modes, external, on-board timer or software. There is an input multiplexer to give 16 input channels, the input impedance is 100Mohms.

The PC 27E input ranges are  $\pm 2V$ ,  $\pm 4V$  or 0 to 4V and all input connections are made via a 37-way female D connector which provides individual ground pins for each channel. There is an area on the board laid out for input attenuation circuits where resistors can be added to modify each individual input channel.

#### On-board oscillator & counter circuit

The PC 27E has a 4 MHz on-board reference running one 16 bit counter. This can be used to generate interrupts or to 'gate' external pulse streams, these can be connected to two additional 16 bit counters that are also available via the edge connector. This combination of features means the board can count external signals, measure frequency, output accurate frequencies and generate time delays.

#### Compatibility

PC 27E is IBM PC/XT/AT compatible and will



function correctly in any true ISA compatible.

#### Software included

Windows 95/8 & NT drivers allow software control of the PC 27E under Visual C++, Visual Basic v5, Delphi and HPVEE. There is also an example program showing the board operating as a simple oscilloscope or 16 channel volt meter.

The 32 bit support allows the board to be fully integrated into the operating system giving a 'device manager' entry and isolating the user's program from the registered address and IRQ.

The PC27E is also supplied with Windows 3.1 DLLs allowing programmers to use the A/D and counter/timer functions of the board from their own programs. Visual BASIC examples and an on disc manual is included.

Specific commands in the DLL for the PC 27E

make programming easy and self-explanatory with calls such as PC27Set Multiplexer; PC27StartConversion and PC27getData.

The modular nature of the 32 bit drivers allows up to eight Amplicon supported ISA cards to be used in the same software program allowing extensive versatility. Identical functions on the cards share the same software, so techniques used for one card can be applied to other cards.

#### SPECIFICATION

##### ANALOG INPUT

Input channels	16
Input voltage range	$\pm 2V$ , $\pm 4V$ , 0 to 4V
Conversion type	Successive approximation
Resolution	12 bit
Conversion time	10 $\mu$ seconds
Input impedance	>100 M $\Omega$
Linearity	$\pm 1$ lsb (maximum)
On-board F ref	4 MHz
Counter timers	2 x 16 bit
Base address range	H000 to HFFF
Sample rate	25KS/s

##### ENVIRONMENTAL

Operating range	0°C to 50°C,
Storage range	- 20°C to 70°C,
Humidity	5 to 90% R.H.

##### PHYSICAL

Size	98 x 157mm
Compliance	CE EMC

DESCRIPTION	PRODUCT CODE
PC 27E Low cost, 16 channel 12bit A/D with counter/timer and software	909 561 13
37-way screw terminal connector adaptor assembly, female	908 919 50
37-way screened cable connecting board to terminal assembly 1m	909 561 09