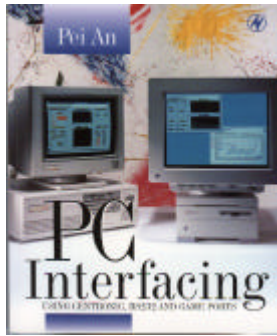


**PC Interfacing - Book (O-01)**

- ♣ A hands-on guide to exploring your PC's Centronic, RS232 and game ports
- ♣ Covers the hardware and software aspects of interfacing to these ports
- ♣ An exciting project-based approach to an important subject areas of data acquisition and control

The main links with your PC and the outside world are the Centronic port, used for connecting printers, the RS232 port, used for the mouse and the game port for joysticks. this book explores how these input/output I/O ports can be put to use through a range of other interfacing applications. This is especially useful for laptop and palmtop PCs which cannot be fitted with internal I/O cards.

A novel approach is taken by this book, combining the hardware through which the ports can be explored and the software programming needed to carry out a range of experiments. Turbo Pascal 6 for DOS, Visual Basic, Turbo Pascal for Windows are the main programming language used.

A huge range of applications is considered, turning your PC into a flexible core of a variety of systems.

**Topics covered**

Preparing your tools: power supply for digital experiments, digital voltage detectors, signal generators.

Basic I/O expansion using logic chips, UARTs and peripheral programmable interfaces, etc.. Implementing I2C and serial peripheral interface (SPI) buses on Centronic and RS232 ports.

PC controls: opto-isolators, transistor drivers, LED drivers, relay drivers, special drivers, solid state relays, stepper motors, sound generating devices and displays.

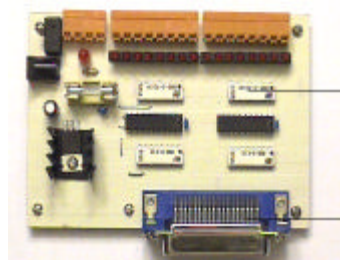
PC data acquisition: Flash converters, successive approximation converters, dual integrating converters, DVM meters, digital temperature, humidity, light, flow, magnetic field detectors, radio time base, etc..

PC remote control and networking: radio, infra-red and mains link for PCs.

Other topics: interfacing EEPROM, signal generator ICs, clock chips, etc to a PC.

Software programming: How to use Turbo Pascal for DOS and Windows and Visual Basic programs for I/O control applications.

A book published in January, 1998. Imprint of newnes, Butterworth-Heinemann. ISBN: 0750636378. 320 pages with 200 line illustrations

**Centronic Explorer card (KC-01)**

- Left Explorer card
- Bottom left DOS program
- Bottom right Windows program



- ♣ An I/O card as described in the book "PC interfacing"
- ♣ Designed for any desktop, notebook which have a printer port
- ♣ Connected to a printer (Centronic) port on PCs
- ♣ 12 output lines from the Data and Control ports of the Centronic port with LED logic indicators
- ♣ 4 input lines from the Statues port of the Centronic port with LED logic indicators
- ♣ Screwed terminals provided for connecting experimental circuits
- ♣ Requiring an external 8-15V DC 1A power supply
- ♣ On-board fuse (1A) provided
- ♣ Physical size of the card: 95 mm by 88 mm by 35 mm
- ♣ Visual Basic demo program for Windows 3.1 and Windows 95/98 environments with DLLs (written in Turbo Pascal for Windows)
- ♣ Turbo Pascal 6 demo program for DOS
- ♣ Programming resource libraries for DOS and Windows

**Together with the book, you can**

- ♣ Understand PC's Centronic port
- ♣ Carry out various experiments described in the book
- ♣ Write DOS-based control programs
- ♣ Write Windows-based control programs
- ♣ Write Windows DLLs

**PC interfacing experiments**

- ♣ Basic digital input and output
- ♣ A/D converters
- ♣ Sensors with digital outputs
- ♣ D/A converters
- ♣ Stepper motors
- ♣ Various power drivers
- ♣ Various ICs

**RS232 Explorer card (KC-02)**

Screwed terminals - connecting experimental circuits



RS232 port

Left  
Explorer card

Bottom left  
DOS program

Bottom right  
Windows program



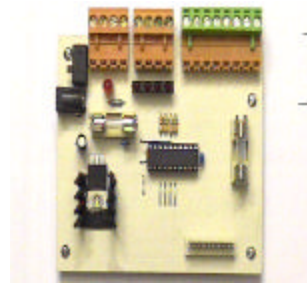
- ♣ Designed for any desktop and notebook PCs which have a RS232 port
- ♣ Connected to a RS232 (serial) port on PCs
- ♣ 7 output lines representing all lines of the RS232 port
- ♣ I/O lines are available from screwed terminals
- ♣ All I/O are buffered before entering the computer
- ♣ Logic indicators (LED) are provided for all I/O lines
- ♣ Requiring an external 8-15V DC 1A power supply
- ♣ On-board fuse provided
- ♣ Physical size of the card: 88 mm by 88 mm by 35 mm
- ♣ Visual Basic demo program for Windows 3.1 and Windows 95 environments with DLLs (written in Turbo Pascal for Windows)
- ♣ Turbo Pascal 6 demo program for DOS

**Together with the book, you can**

- ♣ Understand PC's RS232 port
- ♣ Carry out various experiments described in the book
- ♣ Write DOS-based control programs
- ♣ Write Windows-based control programs
- ♣ Write Windows DLLs

**PC interfacing experiments**

- ♣ Basic digital input and output
- ♣ A/D converters
- ♣ Sensors with digital outputs
- ♣ D/A converters
- ♣ Stepper motors
- ♣ Various power drivers
- ♣ Various ICs

**Game Port Explorer card (KC-03)**

Left  
Explorer card

Bottom left  
DOS program

Bottom right  
Windows program



- ♣ Details described in the book "PC interfacing"
- ♣ Designed for any desktop PCs which have a game port
- ♣ Connected to a game port on PCs
- ♣ 8 lines for connecting resistance
- ♣ 4 input lines representing the button input lines
- ♣ I/O lines are available from screwed terminals
- ♣ All input are buffered before entering the computer
- ♣ Logic indicators (LED) are provided for all input lines
- ♣ Requiring an external 8-15V DC 1A power supply
- ♣ On-board fuse provided
- ♣ Physical size of the card: 88 mm by 88 mm by 35 mm
- ♣ Visual Basic demo program for Windows 3.1 and Windows 95 environments with DLLs (written in Turbo Pascal for Windows)
- ♣ Turbo Pascal 6 demo program for DOS

**Together with the book, you can**

- ♣ Understand PC's game port
- ♣ Carry out various experiments described in the book
- ♣ Write DOS-based control programs
- ♣ Write Windows-based control programs
- ♣ Write Windows DLLs

**PC interfacing experiments**

- ♣ Basic digital input and output
- ♣ Sensors with digital output
- ♣ Sensors with resistive output