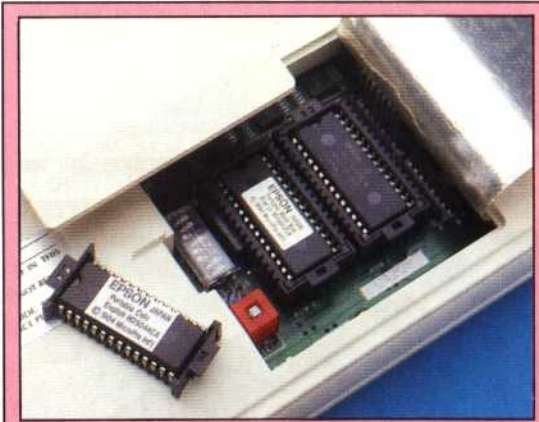**Big Screen**
The PX-8 has an 8-line by 80-character LCD screen that runs off the machine's battery. The screen provides 480 by 64 pixel resolution for graphics displays

ROM Exchange
Pulling back a small panel on the underside of the PX-8 reveals the slots that hold ROM-based software. Portable Wordstar is installed in the machine, along with the CP/M operating system. To switch from Wordstar to Calc, you simply exchange the ROM chips

Speaker Out
Provides the facility to boost sound output by connecting the PX-8 to an external speaker

A/D Socket
Used to connect exte electrical instruments voltmeters

Bar Code Reader Socket
Connection of a suitable bar code reader allows the PX-8 to be used for pricing and stock control

7508 Sub-CPU
This converts variable voltages received at the A/D socket into digital signals

RAM
The PX-8 contains the 64K of RAM needed to run CP/M. Battery back-up ensures that RAM contents are preserved when the machine is switched off

and loading the graphics screen from disk. The second volume is a superb BASIC programming reference guide, which is also several hundred pages long. This book begins by explaining how to instal and use BASIC (supplied, like the bundled software, on a ROM 'capsule'), before going on to a clear discussion of the nature of programming, an examination of the various PX-8 display modes, and a detailed breakdown of all BASIC commands available.

The PX-8 uses a Z80-compatible CMOS CPU. CMOS (Complementary Metal Oxide Semiconductor) chips require considerably less power than standard CPU chips, and this fact, together with the PX-8's use of a low-power LCD screen, enables the unit to be run entirely on battery power. Two battery units are supplied — one for main power use and the other as a back-up. The battery must first be charged before the computer can be used, so an eight-hour wait must be expected between first setting up the machine and actually using it. The main unit is rechargeable and gives up to 15 hours of continuous operation before charging is necessary. Epson claims a life expectancy of three to four years for this unit.

Once the PX-8 is ready to go, the operating system must be initialised. The steps needed to accomplish this are explained in detail in the manual; these involve entering the day, date and time, and taking care of a few 'housekeeping' tasks. One of these is the formatting of a RAM disk. The PX-8 has the ability to set aside a portion of RAM — user selectable between nine Kbytes (the default value) and 24 Kbytes — for use as a 'disk' storage device. The operating system treats this area of memory in exactly the same fashion as it would an external disk drive. Before use, the RAM disk must be formatted and the amount of RAM to be used specified. Epson also provides an add-on RAM disk unit, containing 120 Kbytes of extra RAM at a price of £270.

Once these details have been taken care of, the PX-8 loads the CP/M operating system from ROM and displays a CP/M utilities and ROM software directory in menu form on the LCD screen. Software in any of three formats may be used — cassette, disk or ROM. ROM software is held on EPROM chips that slide into a socket located underneath the machine. The software supplied with the PX-8 — Portable Wordstar, Portable Calc and Portable Scheduler — is supplied in this 'capsule' format, as is the BASIC interpreter. To select a particular application, the cursor keys are used to indicate the desired choice and Return is then pressed. The chosen program is loaded from ROM (addressed by the PX-8 as drives A and B) into RAM (addressed as drive A).

The LCD screen gives an eight line by 80-column display, with a graphics resolution of 480 by 64 pixels. The greatest drawback of this type of screen — and in fact the only major disadvantage of this excellent machine — is the slowness of the display. Characters appear quickly enough as they are typed in, but any erasures — especially those involving whole words or sentences — are slow.

The software supplied with the PX-8 is fairly comprehensive. In addition to the word processor, spreadsheet and database already mentioned, Epson provides a telecommunications program for use with a modem, and a program that allows files to be transferred from the PX-8 to larger machines, such as Epson's QX10. And, as the PX-8 is a CP/M machine, much existing CP/M software should also be usable.

PX-8 BASIC is Epson-enhanced Microsoft, including AUTO line numbering and renumbering, a full screen editor, graphics and sound commands, statements that support communications through the built-in RS232 interface, and commands that enable the microcassette recorder to be used as if it were a disk drive (for direct access storage).

All in all, the Epson PX-8 is a marvellous computer. It is ideal for business executives, for journalists, or for anyone who needs a small powerful computer that may be used on the move. With its excellent features and reasonable price, the PX-8 is in a class of its own among portables.