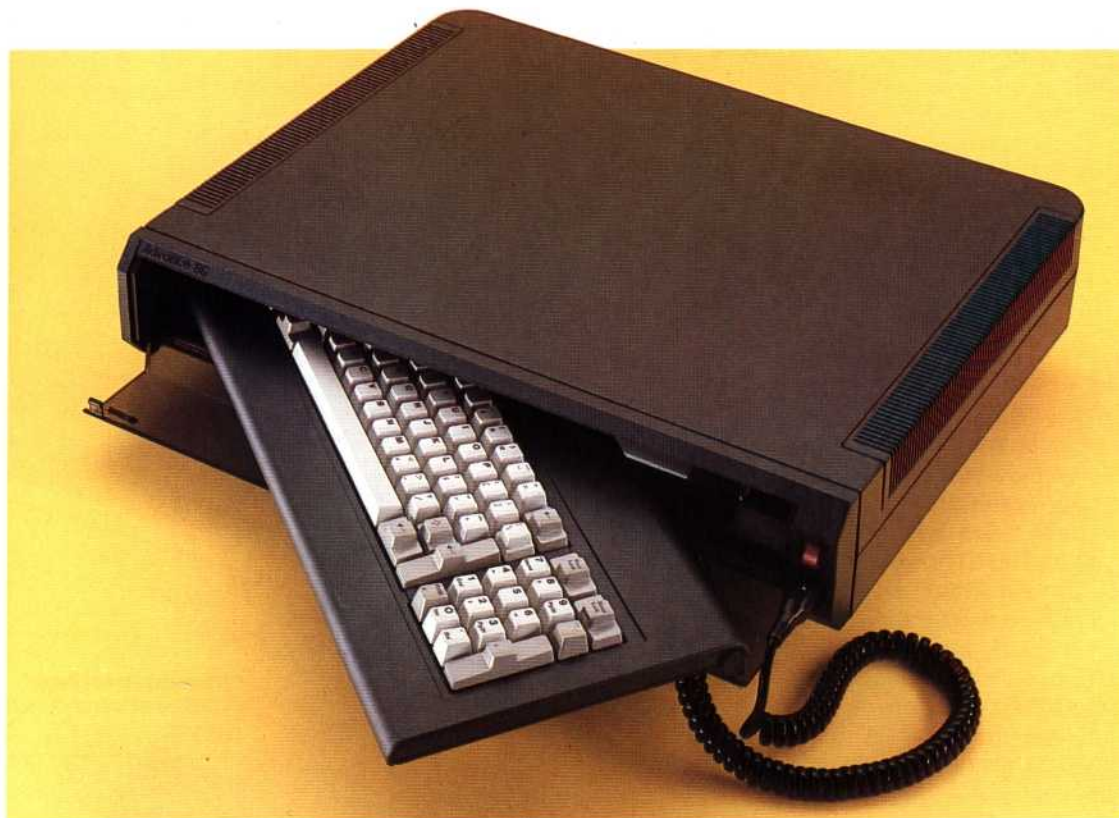# ADVANCED STUDIES

Advance 86a
The Advance 86 is sold in two versions — the £399 Advance 86a, pictured here, which is marketed as a home computer, and the £1,499 Advance 86b, an IBM-compatible business micro

Microcomputer manufacturers have for years advertised their wares with claims that cheap home machines may — once their owners have familiarised themselves with their operation — be upgraded to full business machines. Advance Technology is one of the first companies to fulfil that promise with the Advance 86 micro.

The Advance 86 is supplied in two configurations: the 86a is a cassette-based home microcomputer that is priced at BBC Micro level but boasts a full 128 Kbytes of RAM; while the 86b is a similar machine augmented by twin $5\frac{1}{4}$ inch disk drives and a more extensive BASIC. 86a owners may upgrade to the 86b by simply clipping on an 'extension package' containing the drives. The result is a fast IBM-compatible business machine at half the price of the IBM PC.

The 86b is manufactured in two parts — the keyboard and the microprocessor box. The latter is considerably larger than it needs to be, measuring 520mm × 400mm × 95mm (21 × 16 × 4 inches), and is cased in black plastic with a hi-fi-style smoked perspex door that allows the keyboard to be stored inside. All sockets are mounted in this unit, and the power transformer is located inside it.

The keyboard is connected to the processor unit by means of a coaxial cable and five-pin DIN socket, above which is the on/off switch with an LED indicator. The keyboard is certainly the best available on any home micro and is considerably better than those on most business machines. It has 84 keys arranged in three groups: the main alphanumeric keys, a set of 10 function keys, and a numeric keypad that doubles as a very comprehensive set of cursor controls.

The function keys are set up to provide some of the more commonly used functions — RUN, LIST, SAVE, LOAD, etc. These functions may easily be altered; each key may be allocated a string of up to 15 characters to identify the command and the bottom line of the screen displays a six-letter label for each one. The numeric keypad is controlled by a toggle switch marked 'Num Lock'. In normal use the pad acts like a calculator, but pressing Num Lock gives an entirely different effect — the keys then control the cursor, allowing it to be moved around the screen with precision and speed.

Inside the microprocessor box is a relatively small circuit board containing the Intel 8086 16-bit microprocessor (compatible with, but faster than, the IBM's 8088) and 128 Kbytes of RAM. Also fitted are sockets that allow the RAM to be doubled, although memory available to BASIC is limited to 62 Kbytes. This is hardly a drawback, as