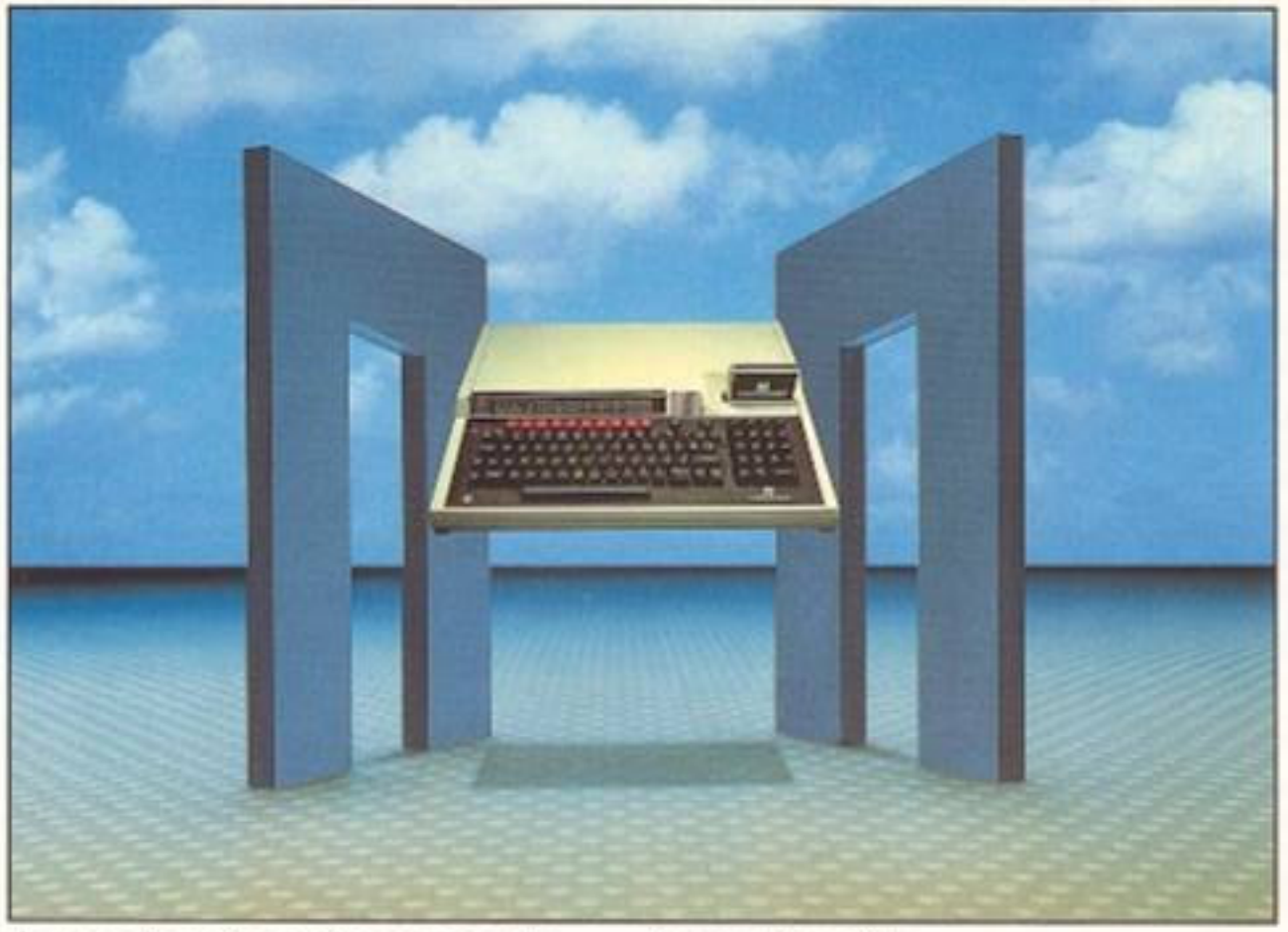
IN 1981 a good-looking newcomer arrived on the microcomputer scene. Its impressive pedigree and range of connections aroused interest. Its performance caused a sensation.

That newcomer was the British Broadcasting Corporation Microcomputer, one of the great success stories of the computer industry. A key feature of the BBC's Computer Literacy Project, it was chosen for seven out of every ten micros bought for UK schools and five out of ten used for medical applications. In homes and factories, offices and laboratories, the BBC Micro's user friendliness and ability to solve problems has won it countless friends and admirers.

Now, the concepts that were the key to that success have been incorporated in a new range of advanced microcomputers – the BBC Master Series.



The BBC Master 128

The Master 128 is the foundation stone of the BBC Master Series.

For a start, it is a word processor. The Master 128's professional typewriter keyboard and powerful word-processing software enable you to prepare reports, essays and letters which are word perfect.

It is also a spreadsheet calculator. The popular and easy-to-learn spreadsheet program is ideally suited to applications involving budgeting, planning, estimating or any repetitive calculations.

The Series

The Master series provides all the features for which BBC Micros have become renowned. The ability to link many computers together in a network enabling them to share data and resources, the highly regarded BBC BASIC programming language, and the flexibility that has led to BBC Micros being chosen for applications as diverse as electronic funds transfer and satellite communications.

The sophisticated graphics facilities of the Master Series are ideally suited to computer-aided drawing and design or for the computer generation of graphs, charts and diagrams.

If your interest is in creating your own programs, the Master Series provides you with the latest version of BBC BASIC, widely regarded as the best BASIC.

These proven capabilities are combined with the best of modern technological developments. By the addition of an easy-to-fit plug-in card the Master 128 can be upgraded at any time to the Master Turbo, Master 512 or the Master Scientific.

The Master Scientific brings the power of 32-bit processing to a microcomputer. The Master 512 offers a 16-bit processor with 512 Kbyte of random access memory. And in the Turbo version, the Master Series achieves speeds of execution which are faster than virtually any other personal computer.

Compatibility

The Master Series represents a continuous evolutionary development of the BBC Micro; unlike some other computer families where each 'new generation' leaves you looking for the missing link.

The Master Series is generally upwardly compatible with previous BBC Micros. In other words, new features have been added without losing existing ones.

This means that an enormous range of add-ons and peripheral devices, plus a vast software library with many thousands of titles, are available for use with the Master Series – now.

The Master 512, through its DOS+ operating system, can be compatible with software written for MS-DOS, CP/M-86 or GEM, the most popular operating systems for the business environment.

The Reliability of Experience

The Master Series incorporates the experience gained by Acorn Computers on more than 700,000 microcomputers over five years of operation. Acorn's design skills and production expertise ensure that the Master Series maintains the BBC Micro's tradition of high engineering standards and its reputation for reliability. And if you want advice or assistance, it is readily available from an existing network of dealers throughout the UK.

Mastering The Future

Above all, the Master Series has inherited and developed the BBC Micro's unique ability to bridge the gaps between home and scientific use, between education, business and industry. No other micro has demonstrated this versatility in the past; no other micro looks like doing so in the future.

The Master Series brings together hardware and software excellence, professionalism and experience. It is a combination that will make the Master Series the yardstick by which all microcomputers are judged throughout the second half of the 1980s.

BRITISH BROADCASTING CORPORATION MASTER SERIES MICROCOMPUTER

THE MASTER SERIES

THE MASTER SERIES SPECIFICATIONS

THE MASTER 128

CPU
65C12
2 MHz clock frequency

RAM
64 Kbytes main
64 Kbytes sideways, four 16 Kbyte pages
- 50 bytes CMOS battery backed
- 20 bytes used by fitted firmware
- 10 bytes reserved for future Acorn use
- 10 bytes reserved for 3rd party applications
- 10 bytes available to user applications

User RAM is not affected by filing system workspace
Character set (ASCII 32–255) can be redefined with no loss of user RAM

ROM
128 Kbytes
CONTENTS:
35 Kbytes Operating System with extended graphics and Terminal software
16 Kbytes BBC BASIC v 4.0
16 Kbytes EDIT, program and text Editor
13 Kbytes VIEW v 3.0, wordprocessor
16 Kbytes VIEWSHEET, spreadsheet
16 Kbytes ADFS, Advanced disc filing system
16 Kbytes 1770 DFS, BBC model B+ compatible

Internal ROM sockets
2×128 or 256 Kbit capability
1×128 Kbit capability
Total sideways memory usable at any time (ROM or RAM) 256 Kbytes inc 96 Kbyte fitted firmware

Cartridge Sockets
2 Enhanced Acorn cartridge sockets
Internal "1 MHz bus" operated to 2 MHz bus speed
256 Kbyte ROM capacity, per socket
Sound input and output

Disc Interface
Shugart standard
SUPPORTS:
MFM, double data density
FM, single data density
40 or 80 track drives with a 6mS step rate or better
Formatted capacity, 320 Kbytes – MFM, 80 track, per surface – total 1.28 Mbyte on twin 80 track double-sided drives 34 way IDC connector

Optional Network Interface
Acorn ECONET
16 Kbytes ANFS ROM
5 pin DIN socket

Parallel Printer Interface
8 bit Centronics compatible
26 way IDC connector

Serial Interface
RS423 75–9600 baud software selectable
Independent Rx/Tx baud rate selection
5 pin DIN socket

Display
MODES:
8 standard modes + 8 'Shadow' modes
Mode 0 2 colour
80×32 text 640×256 graphics
Mode 1 4 colour
40×32 text 320×256 graphics
Mode 2 8 colour + 8 flash options
20×32 text 160×256 graphics
Mode 3 2 colour
80×25 text only
Mode 4 2 colour
40×32 text 320×256 graphics
Mode 5 4 colour
20×32 text 160×256 graphics
Mode 6 2 colour
40×25 text only
Mode 7 8 colour
40×24 'Teletext' text and graphics
8 Shadow modes provide the same displays without affecting user memory
Graphics commands extend colour range by colour mixing

OUTPUTS:
Phono socket
UHF channel 36, full colour
BNC connector
Composite Video: 1V peak to peak, monochrome
6 pin DIN socket
RGB TTL level/+5 V/+ve or −ve sync

Sound
4 channels full software control
Internal speaker 5.0cm
Phono socket output for 16 Ohm speaker or pre-amp

User Port
10 bit memory mapped bi-directional TTL compatible
+5 volts available
20 way IDC connector

1 MHz Bus
General purpose Bus extender
Audio output and input
Internal or external, software selectable
34 way IDC connector (external)

External TUBE
Custom interface for the connection of second processors
40 way IDC connector (external)

Internal TUBE
Custom interface for the connection of co-processors
2×12 way connectors
Internal or External TUBE selectable by software

Analogue Input
4 channel Analogue to Digital conversion
8 bit accuracy
1.8 volt reference voltage
Light pen strobe connection to CRTC
15 way D-type connector
Accepts external reference voltage for higher precision

Cassette Interface
300 – 1200 CUTS standard, speed is software selectable
Output 200 mV peak to peak
Input 50 mV to 5 V
Motor control relay, 1 Amp at 24 Volts DC
7 pin DIN connector

Real Time Clock
Battery back-up, Lithium cell, minimum 1 year life
Information can be called from MOS, BASIC and other languages
Time/Day/Date/Year

Keyboard
64 key QWERTY keyboard with 2 key rollover and auto repeat (rate and delay selectable by software)
10 function keys
19 key numeric pad
Screwdriver-operated BREAK key lock

Auxiliary power socket
+ 12 Volts
+ 5 Volts
− 5 Volts
Power available is dependent on internal options

Power Input (UK)
216 to 264 V AC (50 Hz) Rating 100 Watts 0.5 Amps

Dimensions
Width: 476 mm
Depth: 346 mm
Height: 79 mm

Software
1 tape + 1 disc (40/80 format)
Welcome suite
Welcome utilities
ADFS utilities
BAS 128 – BBC BASIC for sideways RAM use, 64 K free RAM

Documentation
Welcome Guide, this provides an introduction to the Master 128's hardware and firmware
VIEW and ViewSheet reference cards
FUNCTION KEY STRIPS
VIEW/ViewSheet/EDIT/Terminal
OPTIONAL REFERENCE GUIDES:
Reference Guides 1 and 2
VIEW and ViewSheet Guides
Advanced Reference Guide

THE MASTER TURBO

I/O processor – uses the Master Series 128 CPU
All features of the Master 128 are provided as described above with the following additional features:

Language processor
65C102 8 bit CMOS
Clock frequency 4 MHz
MEMORY:
RAM 64 Kbytes
ROM 4 Kbytes – TUBE communications code
VIEW automatically relocated on transfer from I/O processor memory
Typical speed increase, 50% (HI-BASIC vs BASIC v4, PCW benchmarks)
Operating system support for parallel processing (eg "GOIO")
HI-BASIC, HI-EDIT and Printer-Buffer extender supplied on disc

THE MASTER 512

I/O processor – uses the Master Series 128 CPU
All features of the Master 128 are available as described above with the following additional features:

Language processor
80186 16 bit
Clock frequency 10 MHz
MEMORY:
RAM 512 Kbytes
ROM up to 256 Kbytes
A Mouse

Software: on disc
Digital Research DOS+
DOS+ provides compatibility with MSDOS version 2 and CPM 86
The GEM Collection from Digital Research:
GEM Desk Top
GEM Paint
GEM Write

Documentation:
1 manual

THE MASTER SCIENTIFIC

I/O processor – uses the Master Series 128 CPU
All features of the Master 128 are provided as described above with the following additional features:

Language processor:
National Semiconductor 32016 32 bit
Clock frequency 8 MHZ
Floating point processor NS 32081
MEMORY:
RAM 512 Kbytes
ROM 16 Kbytes
PANDORA operating system core
TUBE communications code
BBC BASIC equivalent to v 4.0

Optional software: on disc
PANOS operating system including: Editor, Linker and Utilities
FORTRAN 77 –
Conforms to ANSI X3.9–1978 and ISO 1539–1980
ISO PASCAL –
Conforms to BS 6192–1982
C – Conforms closely to the description in the book "The C Programming Language" by Kernighan & Ritchie
32000 series macro assembler
Library support, as appropriate, for FORTRAN, PASCAL and C

Documentation:
Master Scientific User Guide
PANOS Guide to Operations*
PANOS Programmer's Reference Manual*
BBC BASIC Reference Manual
FORTRAN 77 Reference Manual*
ISO PASCAL Reference Manual*
C Reference Manual*
Acorn 32000 ASSEMBLER Reference Manual*
Function key card booklet*
**available separately*

THE MASTER ECONET TERMINAL

Processor and RAM as Master Series 128

ROM
64 Kbytes
CONTENTS:
32 Kbytes Operating system
16 Kbytes BBC BASIC
16 Kbytes Advanced Network Filing System

Display
Composite video as Master 128
RGB as Master 128

Network Interface Card
Fitted standard

Cartridge sockets
as Master 128

Internal Tube connector
as Master 128

NB 6522 User VIA chip is not fitted but is available as an option.

BRITISH BROADCASTING CORPORATION MASTER SERIES MICROCOMPUTER

THE MASTER SERIES

In this brochure the initials BBC refer to the British Broadcasting Corporation.

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