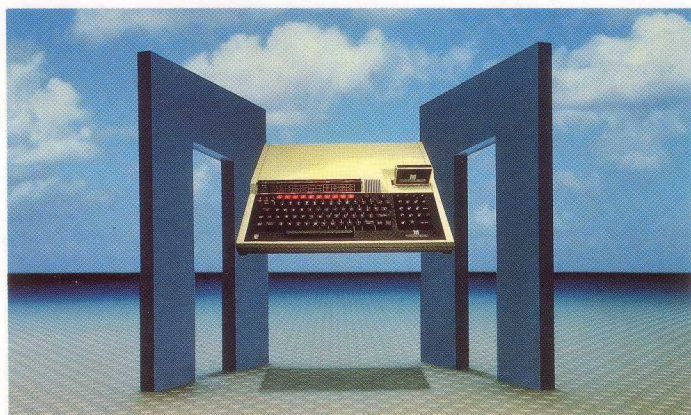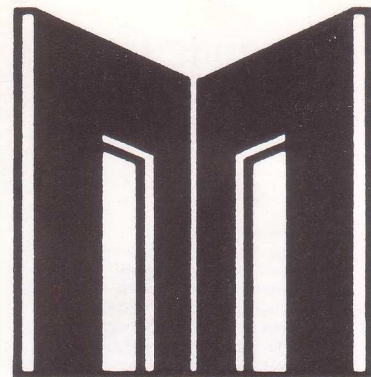# THE MASTER SERIES

MASTER 128

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

For a start, it is a word processor. The 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 sophisticated graphics facilities 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 version 4.0 of BBC BASIC, widely regarded as the best BASIC in the world.

MASTER TURBO

By the addition of an easy-to-fit plug-in card the Master 128 can be upgraded at any time to the Master Turbo.

In the Turbo version, the Master Series achieves speeds of execution which are faster than virtually any other microcomputer in its class.

THE MASTER COMPACT

The Master Compact is the low cost entry point into the highly sophisticated Master Series technology, and another member of the range. Complete with monitor, disc drive and keyboard, it's a neat, stylish system, that can be set up in moments. It's exceptionally easy to use, even for computing novices. It comes complete with an impressive array of software that includes the entertaining, the effective and the educational.

NETWORKING

Econet – Acorn's low cost local area network – has proved a significant advantage in terms of communication. Ten years of experience and sales of more than 12,000 installations throughout Europe have ensured a well supported, reliable and versatile network. In general, linking individual microcomputers means three things – sharing hardware and peripherals, sharing information and fast communication between users.

COMPATIBILITY

The Master Series represents a continuous evolutionary development of the British Broadcasting Corporation microcomputer, upwardly compatible with previous micros, unlike some other computer families where each 'new generation' leaves you looking for a missing link.

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.

THE CHOICE OF EXPERIENCE

The Master Series incorporates the experience gained by Acorn Computers over ten years of operation with more than 1,250,000 microcomputers sold. The series is supported by many thousands of software titles to suit an immense range of applications and new ones are still being added.

Acorn's design skills and production expertise ensure that the Master Series maintains the British Broadcasting Corporation micro's tradition of high engineering standards and its reputation of reliability. If you want advice or assistance, it is readily available from a wide network of dealers throughout the UK.

Acorn
The choice of experience.

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 British Broadcasting Corporation 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, British Broadcasting Corporation 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' uprated 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 6 mS 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 IV peak to peak, monochrome
6 *pin DIN select*
RGB TTL level/+5v/+ve or −ve sync.
Sound
4 channels full software control
Internal speaker 5.0 cm
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, 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)
198 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 – British Broadcasting Corporation 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

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 v 4, PCW benchmarks)
Operating system support for parallel processing (eg. 'GOIO')
HI-BASIC, HI-EDIT and Printer-Buffer extender supplied on disc

MASTER COMPACT

CPU
65C12
2 MHz clock frequency
RAM
64 Kbytes main
64 Kbytes sideways, four 16 Kbyte pages
EEPROM retains user's start-up configuration whilst power off
User RAM is not affected by filing system workspace
Character set (ASCII 32–255) can be redefined with no loss of user RAM
ROM
64 Kbytes
CONTENTS:
32 Kbytes operating system
16 Kbytes British Broadcasting Corporation BASIC version 4 (1986)
16 Kbytes ADFS, Advanced Disc Filing System
Internal ROM Sockets
1 × 32 Kbyte capacity
3 × 16 Kbyte capacity
Disc Interface
Shugart standard
SUPPORTS:
MRM, double data density
FM, single data density (with optional software)
12 mS step-rate or faster drives
25 way D-type connector
Network Interface (optional)
Acorn ECONET
16 Kbytes ANFS ROM
Parallel Printer Interface
8 bit Centronics compatible
24 way Delta ribbon connector
Serial Interface (optional)
RS232, 75–9600 baud software selectable
Independent Rx/Tx baud rate selection
5 pin DIN socket
Expansion Port
50-way edge connector
Display
MODES:
as Master 128
OUTPUTS:
Phono socket
Composite Video IV peak to peak, monochrome
6 pin DIN socket
RGB TTL level, selectable +ve or −ve sync.
TV modulator (optional – plugs into RGB socket)
UHF channel 36, full colour
Sound
4 channels full software control
Internal 16 ohm speaker 40 mm diameter
Joystick/Mouse Port
9 pin D-type connector
Suitable for Atari-compatible digital joystick; various modes of operation supported by operating system software
Almost any mouse with suitably wired connections can be used.
Keyboard
64 key QWERTY keyboard with 2 key rollover and auto repeat
10 function keys
19 key numeric pad
Screwdriver operated BREAK key lock
· Direct keyboard access to ASCII
128 or 255 possible

Power Input
5 V DC – provided from disc drive/monitor stand
Dimensions
Width: 426 mm
Depth: 219 mm
Height: 75 mm
Disc Drive/Monitor Stand
Disc Drive
Single 3.5" MFM drive
Second drive available as dealer-fitted option
Formatted capacity: 640 Kbytes per disc
Power Input
230±15% V AC (50 Hz)
IEC320 mains inlet socket complete with appropriate mains lead
Power Consumption
150 Watts (maximum), including monitor, computer and disc unit
Power Outlets
Mains for monitor
5 V DC for computer
Dimensions
Width: 351 mm
Depth: 333 mm
Height: 95 mm
Colour Monitor where purchased
Medium Resolution
0.42 mm dot pitch
Power Input
230±15% V AC (50 Hz) provided from disc drive/monitor stand
Dimensions
Width: 320 mm
Depth: 350 mm
Height: 387 mm
(Monitor specifications may vary)
Software
DISC CONTAINING:
VIEW series 3 word processor
VIEW printer drivers for Epson and other popular printers
ABC word processing for beginners
Logotron LOGO
TimPaint graphics painting program
Welcome suite:
Card index
Calculator
Note pad
Clock
Adventure game
Arcade game
Five demonstration graphics programs
Four tutorials and demonstrations covering ADFS, keyboard skills, screen modes and text facilities
Welcome utilities
Pull-down menu start-up system
Control Panel for setting restart parameters
Character redefinition
Sound generation
Pattern editor
Foreground/background colour selection
Alternative character fonts
Additional ADFS utilities:
Catalogue directory
Examine directory
Copy directory
Copy file between filing systems
BAS 128 – British Broadcasting Corporation BASIC for sideways RAM use, 64 K free RAM
IN FIRMWARE:
Operating system
British Broadcasting Corporation BASIC version 4 (1986)
ADFS including Format, Verify and Backup utilities
Documentation
Welcome Guide, providing an introduction to the Master Compact's facilities and applications
VIEW reference card
VIEW and ABC function key strips
Logotron LOGO user guide
Separately available:
VIEW Guide