

# Watford Electronics

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All prices exclusive of VAT; subject to change without notice & available on request.



Credit Card Orders (ACCESS & VISA) Tel: (0923) 33383 or 50234 (24 Hours)

|                               |             |
|-------------------------------|-------------|
| <b>BBC MASTER 128K Micro</b>  | <b>£395</b> |
| <b>BBC MASTER TURBO 4MHz</b>  | <b>£493</b> |
| 512K Processor Add on Board   | <b>£335</b> |
| Turbo 65C102 Add-on Module    | <b>£99</b>  |
| <b>BBC MASTER ET</b>          |             |
| (Econet Terminal)             | <b>£320</b> |
| Econet Module for the Master  | <b>£43</b>  |
| ROM Cartridges for Master     | <b>£13</b>  |
| Reference Manual I (No VAT)   | <b>£15</b>  |
| Reference Manual II (No VAT)  | <b>£15</b>  |
| Advance Ref. Manual (No VAT)  | <b>£19</b>  |
| 64K Upgrade Kit for B+        | <b>£32</b>  |
| Acorn 1770 DFS Upgrade Kit    | <b>£42</b>  |
| ECONET Upgrade Kit for BBC    | <b>£42</b>  |
| ALL ECONET UPGRADES Available |             |

## SPECIAL OFFER

**FREE** with every BBC Master purchased from us, Software Packages worth

**£80**

Comprising of: *Computer Concepts* New **INTERWORD**, wordprocessor Rom, **OFFICE MATE & OFFICE MASTER** Softwares on Disc consisting of *Database, Spreadsheet, Beebplot Graphics, Wordprocessor, Accounts Packs: (Cashbook, Final Accounts, Mailist, Easiledger, Invoice & Statements, Stock Control.*

|                                  |              |
|----------------------------------|--------------|
| 6502 Acorn 2nd Processor package | <b>£172</b>  |
| Z80 Acorn 2nd Processor package  | <b>£319</b>  |
| 32016 Co-Processor               | <b>£999</b>  |
| Cambridge Workstation            | <b>£3450</b> |
| ARI&S IEEE Interface             | <b>£238</b>  |
| Acorn IEEE Interface Complete    | <b>£280</b>  |
| Acorn Teletext Adaptor           | <b>£125</b>  |
| Acorn Prestel Receiver           | <b>£115</b>  |
| Acorn Bitstick I                 | <b>£299</b>  |
| Robocom Bitstick II              | <b>£759</b>  |
| Upgrade for Bitstick I to II     | <b>£450</b>  |
| Bitstick Multiplotter Driver     | <b>£65</b>   |

(Securicor carriage £7)

**By popular demand our retail shop is now open until 8.00pm. every Thursday.**

## VARIOUS PRINTERS

|   |             |
|---|-------------|
| ● EPSON FX85 Printer  | <b>£315</b> |
| ● EPSON FX105 Printer   | <b>£435</b> |
| ● EPSON JX-80 Colour Printer  | <b>£420</b> |
| ● EPSON Hi-80 Printer Plotter   | <b>£319</b> |
| ● EPSON Paper Roll Holder   | <b>£17</b>  |
| ● EPSON LX86 Printer  | <b>£229</b> |
| ● BROTHER M1409 Printer   | <b>£285</b> |
| ● SEIKOSHA GP50A & GP50S  | <b>£49</b>  |
| ● Centronics Printer Cable to interface all the above Printers to BBC | <b>£6</b>   |
| (Securicor carriage charge on printers £7)                            |             |

## RX & FX PRINTER INTERFACES

Epson interfaces fit inside the printer to allow connection using techniques other than Centronics.

|          |            |                   |            |
|----------|------------|-------------------|------------|
| RS232    | <b>£27</b> | RS232 + 2K Buffer | <b>£55</b> |
| IEEE 488 | <b>£65</b> | RS232 + 8K Buffer | <b>£75</b> |



|                             |             |
|-----------------------------|-------------|
| COMPACT without monitor     | <b>£385</b> |
| COMPACT with green monitor  | <b>£489</b> |
| COMPACT with colour monitor | <b>£599</b> |

### INTRODUCTORY OFFER

As an introductory offer, we are offering the Computer Concept's INTERWORD ROM and Gemini's OFFICE MATE and OFFICE MASTER software packages (worth £80) ABSOLUTELY FREE with every COMPACT bought from us in November.

Securicor £7

## WHY SHOULD I BUY A MASTER COMPACT?

Acorn Computers have sold over 1,000,000 computers to the home, education, business and research markets over the last six years, and so are a well established contender in the market. Originating, and still very compatible with, the original BBC design from over 5 years ago, the Master Compact features many enhancements to the specifications of a Model B. The Operating System has doubled in size, the amount of memory installed has quadrupled, an advanced disc filing system is included as standard, and an even faster and more expanded version of the famous BBC Basic is installed.

Using a special 'front panel' program, you can configure the Compact to power up according to your requirements. The disc drives for the Compact are housed in a separate box, which contains the power supply and doubles as a monitor stand. Thanks to this box, the Compact normally only requires one mains socket.

RGB (colour) and composite video (monochrome) connections are provided as standard, along with a phono socket to permit external amplification of the 4 voice sound synthesis system. An 'Atari' style digital joystick port permits a wide range of joysticks to be used.

The Compact is supplied with a massive amount of bundled software, making it ideal for home, business and educational use. A single 3.5" disc drive is supplied as standard, with a second drive optionally available later. You can purchase the Compact with either a bundled colour or monochrome monitor, or choose from one of our popular range of colour and monochrome monitors. A UHF modulator will be available shortly for use with TVs. An Econet kit will soon be released, as will an RS232 kit.

There is already a lot of software available on 3.5" disc format (with much more to follow), but we can supply converted 5.25" disc drives, should these be required. A 50 way expansion bus guarantees future expansion.

Bundled software includes: Basic 4 (1986), View 3 (latest version), Printer drivers for View, Logotron Logo, ABC Word Processor, ADFS (latest version), Disc Utilities, Arcade style game, Adventure game, Range of tutorial programs, Desktop environment software, Notepad, calculator and clock for desktop, TimPaint drawing package, Card Index System, Character Definer.



Official ACORN Distributor

## CENTRONICS GLP & Brother M1009 (NLQ) Printers

A major price break-through in NLQ Printers from Watford.

At last, a full feature NLQ printer at a price that everyone can afford. Due to Watford's bulk purchasing power and low margins we can now offer this incredible printer deal direct from the manufacturers to our customers.

The Centronics GLP printer which is manufactured by BROTHER (and also marketed by them under their own brand name M1009), features a Near Letter Quality (NLQ) mode using a 23 by 18 dot matrix for each NLQ character (this is the same as is used by the very popular Kaga Taxan printers). The NLQ Font Rom supplied is Watford's own Professional NLQ ROM for the GLP/M1009.

Single, double and quadruple density graphics modes as well as four character widths and super/sub script printing are also supported, along with many other facilities normally found on printers costing twice as much.

Handles upto 9" wide paper. Friction feed standard, tractor feed optional extra.

GLP is bidirectional logic seeking. Has a 9 needle print head. 50 CPS. Parallel interface only.

Special Offer **£95** (carr £5)

Tractor Feed Attachment **£7**

## Centronics GLP Mk2 (Brother M1109) NLQ Printer

100 CPS, (25 in NLQ mode), Bi-directional, logic seeking, Friction feed, tractor feed optional extra, 2K Buffer. Has both Centronics parallel and RS232 both as standard. Simply at the flick of a DIP switch, the Mk2 printer swaps between full IBM or Epson compatibility.

Launch Price: **£139** (carr. £5)

Tractor Feed Attachment **£5**

## BROTHER HR-15XL

(NEW IMPROVED FAST HR-15XL)

The new improved Brother HR15XL is a very high quality and very fast daisy-wheel printer for serious use. Notable features of this printer include a 3k buffer, 20cps, bi-directional proportional spacing, Centronics interface standard, (RS232 optional).

ONLY **£295** (carr. £7)

TRACTOR FEED Attachment **£84**

Ribbon Cartridges:

Fabric **£3**; Carbon **£3**; Multistrike **£5**  
DAISYWHEELS (various typefaces) **£18**

## PRINTER SHARERS

(Ideal for School environment)

Connect 3 BBC Micros to 1 Printer **£60**

Connect 6 BBC Micros to 1 Printer **£129**

PRINTER CHANGER

Connects 3 Printers to 1 Micro **£65**  
(Cables extra)

**HITACHI 672 PLOTTER**  
Only: £450 (Carr £6)

**SPECIAL OFFER**

EPROMs for BBC's Sideways ROMs.

**2764-250ns £2.00**

**27128-250ns £2.40**

RAMs (Low power) for ATPL, WATFORD, etc.,  
Sideways ROM Boards

**6264LP (8K) £3.00**

**2 x 6264LP (16K) £5.90**

**KAGA KP810  
NLQ PRINTER**

This rugged printer is made by Canon of Japan and is the same as Canon PW1080. It is fully Epson FX80 compatible and offers superb NLQ printing.

Our Price: ONLY **£215** (£7 carr.)

|                                   |            |
|-----------------------------------|------------|
| Kaga RS232 Interface              | <b>£49</b> |
| Kaga RS232 Interface + 2K Buffer  | <b>£69</b> |
| Kaga RS232 Interface + 16K Buffer | <b>£95</b> |

**KAGA KP910 Printer**

Similar to the KP810 but has 17" wide carriage for wide print. Gives 156 columns of normal print or 256 columns in condensed mode. Ideal for printing out spreadsheets.

ONLY **£375** (£7 carr.)

**PRINTER LEAD**

Centronics lead to connect BBC micro to EPSON, KAGA, SEIKOSHA, NEC, STAR, JUKI, BROTHER, SHINWA etc. printers.

|                                   |               |
|-----------------------------------|---------------|
| Standard length (4 feet long)     | <b>£6</b>     |
| Extra long (6 feet long)          | <b>£8</b>     |
| Compact's Special Centronics Lead | <b>£9</b>     |
| RS232 Cable                       | <b>P.O.A.</b> |
| IBM Parallel 1 meter Cable        | <b>£12</b>    |

**PRINTER RIBBONS &  
VARIOUS DUST COVERS**

| Type                      | Ribbons      | Dust Covers  |
|---------------------------|--------------|--------------|
| BBC Micro                 | -            | <b>£3.50</b> |
| BBC Master                | -            | <b>£4.00</b> |
| FX100                     | <b>£7.00</b> | <b>£5.25</b> |
| FX80/MX80/FX85            | <b>£4.50</b> | <b>£4.95</b> |
| RX80                      | <b>£4.50</b> | <b>£4.50</b> |
| LX80                      | <b>£4.00</b> | <b>£4.50</b> |
| GP80                      | <b>£4.50</b> | <b>£4.00</b> |
| GP100/GP250               | <b>£5.95</b> | <b>£3.95</b> |
| Centronics GLP            | <b>£4.00</b> | <b>£3.75</b> |
| KAGA KP810                | <b>£5.25</b> | <b>£4.75</b> |
| CANON PW1080              | <b>£5.25</b> | <b>£4.75</b> |
| Panasonic KX1080          | <b>£7.75</b> | <b>£4.75</b> |
| Microvitec Metal Monitors | -            | <b>£5.50</b> |

Our attractive Dust Covers are manufactured from translucent PVC. The seams are stitched and edges are taped to prevent splitting due to continuous use.

**Listing Paper (Perforated)**

|                                      |            |
|--------------------------------------|------------|
| 1,000 Sheets 9½" x 11" Fanfold Paper | <b>£7</b>  |
| 2,000 Sheets 9½" x 11" Fanfold Paper | <b>£12</b> |
| 1,000 Sheets 15" x 11" Fanfold Paper | <b>£9</b>  |
| Teleprinter Roll (Econo paper)       | <b>£4</b>  |

Carriage on 1,000 Sheets £1.50

**PRINTER LABELS**

(On continuous fanfold backing sheet)

|                            |              |
|----------------------------|--------------|
| 1,000 90x36mm (Single Row) | <b>£5.00</b> |
| 1,000 90x36mm (Twin Row)   | <b>£4.90</b> |
| 1,000 90x49mm (Twin Row)   | <b>£7.50</b> |
| 1,000 102x36mm (Twin Row)  | <b>£6.25</b> |

Carriage on 1,000 Labels £1.00

**Acorn/Olivetti JP101  
Spark Jet Printer**

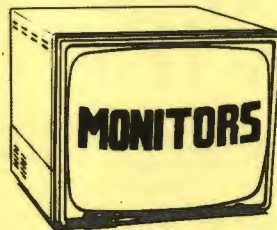
One of the main problems with most printers is that they are hopelessly noisy. How often have you wanted to print something late at night but not done so for fear of waking the children? Also ideal for those working in quiet environments such as libraries, etc. Silence the complaints with the serious solution from Watford at the amazing cost of only

**£65**

Pack of 4 refills **£10**

**FREE Spark Dump ROM WORTH £15 for each JP101 purchased this month**

**JP101 Sparkjet Dump Rom £15**



We stock a range of monitors to suit all needs. Choice of a monitor is a matter of personal taste so we recommend that whenever possible, you ask for a demonstration at our shop. All Monitors are supplied complete with connecting lead.

**MICROVITEC 14"**

- 1431 - Medium resolution as used on the BBC television computer programme ..... **£172**
- 1451 - High resolution, suitable for word processing in mode 0 ..... **£225**
- 1441 - High res, exceeds the capabilities of the BBC micro ..... **£365**
- 1431AP RGB + PAL and AUDIO ..... **£199**
- 1451AP RGB + PAL and AUDIO ..... **£259**
- TOUCHTEC Touch Screen Pack ..... **£250**
- Dust Cover for Microvitecs ..... **£5.50**

**KAGA/TAXAN 12"**

- KAGA KX1201G Hi-res Green Monitor ..... **£90**
- KAGA KX1202G Long persistence Hi-Res Green Monitor ..... **£98**
- KAGA KX1203A Ultra-Hi-Res Amber Monitor ..... **£98**
- KAGA Super Vision 3, Ultra Hi-res, RGB Colour; Text mode switch allows monochrome text display in Green, Amber, White reverse or White on Blue ..... **£320**

**STAR BUY**

- PHILIPS 14" Hi-Res, dark-glass, attractively finished Colour Monitor - supplied complete with RGB, SKART and Audio/Phono connectors. A push-button switch toggles between Hi-Res monochrome green text mode and full colour display.

**ONLY £199**

**ZENITH**

12" high resolution monochrome monitor. Ideal for word processing as its green or amber screen is very restful to read. (These are the same professional quality, stylishly finished monitors as used in the larger Zenith Micro Systems.)

|                           |            |
|---------------------------|------------|
| Green (New Design) Hi-res | <b>£69</b> |
| Amber (New Design) Hi-res | <b>£76</b> |

**LEADS**

|                                |           |
|--------------------------------|-----------|
| BNC Lead for Zenith or Philips | <b>£3</b> |
| Skart Monitor Lead             | <b>£5</b> |
| RGB lead for KAGA              | <b>£3</b> |

**N.B. Carriage on Monitors £7 (securicor)**

**SWIVEL BASES  
for Video Monitors**

By placing your monitor on one of our superb swivel bases, you gain the freedom to adjust the monitor viewing angle to suit your needs. By doing this, you alleviate eye strain and reduce back stress.

for 12" Monitors **£12** (carr. £2.50)  
for 14" Monitors **£16** (carr. £2.50)

**Panasonic  
KX-P1080**

**FREE BBC Micro Cable**



From the prodigious Japanese Stable of Panasonic comes this fabulous new NLQ Dot Matrix Printer

Available NOW at a superbly realistic price, the KX-P1080 perfectly balances features, quality of construction and Value for Money to produce the printer of tomorrow, here today, ready to sweep the current generation of machines away.

Ingenious innovation in terms of software control codes permits great flexibility when it comes to defining the print style. A nippy 100 cps of clear Draft text backs up the crisp 20 cps Near Letter Quality text mode, with upto 40 superbly useful downloadable characters. A delightful range of assorted character widths is efficiently supported, with sizes ranging from a broad 5 cpi to petite 17 cpi, EVEN in NLQ mode. Some of the extensive support for serious use includes specialised functions to perform justification, centering and even left and right ranging. Proportional spacing permit even greater freedom when it comes to advanced use. Not only is the full Epson RX control code set implemented, but extra codes have also been added to cater for the NLQ options, etc.

A full 96 ASCII character set is supported, with an extended set of 32 international characters A 1K Print Buffer alleviates much of the wait time normally associated with printing, whilst the bi-directional logic seeking print head takes the quickest route to print as required.

The draft text is implemented with a 9 x 9 matrix, with Near Letter Quality effected by means of an 18 x 18 matrix.

**FREE with every KX-P1080 printer purchased this month, 1000 sheets of fanfold paper, printer cable for a BBC micro and our sophisticated Dump Out 3 screen dump ROM.**

Introductory Price: **£155** (carr. £7)

**NEW LAUNCH KX-P3131  
Daisywheel Printer**

A few months ago, we introduced the KX-P1080 to our large and discerning customer base. As a result of the enthusiastic and overwhelming reaction to this versatile dot matrix printer (see above for details), we are now extremely pleased to be able to bring you details of the fabulous KX-P3131 Daisywheel Printer, also from Panasonic. The KX-P3131 printer is the ideal printer for the home user wishing to produce clear, immaculate letters or reports.

Ideally suited to the pocket of the home user, costing not much more than a pair of disc drives, this daisywheel printer delivers flawless text at 10, 12 or 15 characters per inch. It also supports proportional print mode.

Printing at a respectable 17 characters per second, the KX-P3131 features a capacious 6 kilobytes printer buffer to swallow most printing requirements with ease. For the more demanding user, there is a 32 kilobytes printer buffer option available. Taking paper up to 13.5" wide, the KX-P3131 prints with bidirectional logic seeking, ensuring the minimum time to print your text.

Price Only **£225** (Carriage £7)

Continued

## MARK 2 LIGHT PEN

You no longer have to fiddle with the brilliance control or work in the shade as this NEW Mark II Light Pen is totally insensitive to local lighting conditions. It only operates on high frequency light from the TV or Monitor. The red LED Indicator on the Mk II pen, lights up when valid video data is available. Your program can have access to this signal allowing computer verification of target for high res drawing. The conveniently located switch on the pen body allows the computer to ignore any stray signals. Supplied complete with the sophisticated PEN-PAL Software on Cassette or Disc. Please specify.

**Special Offer Price: £15**

## THE EPSON RX/FX/KAGA PRINTER COMMANDS REVEALED (BOOK)

So you bought yourself a new printer, because the salesman in the shop showed you how clever it is and impressed you with all sorts of printouts to show its capabilities – he may even have offered you a special price.

However, now that you have got it home and connected it to your BBC microcomputer, you are wondering how to make it perform these magical tasks. The manual seems to give no clues, and when you type in the example programs, the computer throws the LPRINT statements back in your face.

Now what do you do, when this £400 piece of high technology refuses even to move its head, and you have stayed up until 2 in the morning with copious supplies of coffee, desperately trying to print something out. Once again, Watford Electronics comes to your help with our new book entitled 'THE EPSON FX/KAGA PRINTER COMMANDS REVEALED'.

This book describes in plain, easy to understand English, how to use and make the most of your KP810, Canon PW1080A or any Epson FX80 compatible Printer with the BBC Micro, both from Basic and Wordwise.

It describes in detail how to obtain the maximum in graphics capability from your printer and includes full indexes allowing you to cross index the numerous commands. Every command is explained in detail, with an accompanying BBC Basic program and an example of its use with Wordwise.

Superb Value at **£5.95** (No VAT)

## WATFORD TOPS THE DFS CHART

*Watford's Ultimate DFS has scored highest points in ACORN USER's unbiased DFS's Review of July 1985.*

*In concluding, the reviewer writes "It must be said that Watford's DFS certainly offers a comprehensive range of facilities at a very attractive price". (Please write in for comprehensive details.)*

## WATFORD'S & ACORN'S SINGLE DENSITY DFS

*Watford's popular and widely acclaimed DFS has now been available for three years, and has gained a large following amongst serious users of the BBC Micro. Owners of Acorn or any other standard DFS can upgrade to our "Ultimate" DFS merely by replacing their DFS ROM. See below for this upgrade. (P.S. Watford's highly sophisticated DFS is fully compatible with Acorn DFS).*

### PRICES

- Complete Disc Interface Kit incl. DFS ROM & fitting instructions **£68**
- Acorn's 0.90 DFS Kit complete **£52**
- DFS Manual (Comprehensive) (no VAT) **£8.95**  
(P.S. Our comprehensive DFS Manual covers both Acorn & Watford DFSs)
- Watford's sophisticated DFS ROM only **£16**
- We will exchange your existing DFS ROM for Watford's Ultimate DFS ROM for only **£12**
- DNFS ROM only **£17** ● ADFS ROM only **£25**
- Watford's DFS is exclusively available from Watford Electronics. Every ROM carries a special label with our LOGO and serial number.

## WATFORD'S DOUBLE DENSITY DFS INTERFACE

*The DDFS from Watford Electronics represents a new standard in DFSs for the BBC micro. This is a double density version of our popular single density DFS, and combines all the features of this powerful DFS with the advantages of a system that gives 80% more storage per disc in double density mode. P.S. – Please note that not all DDFSs are capable of providing either the full 80% storage increase, or of allowing a file the full size of the disc – Ours allows both of these! Operates both in Single & Double Density modes.*

*The typical piece of games software these days is provided upon a protected disc. In order to work on any double density system (including the others on the market) a protected piece of software needs to make calls through the OSWORD & F routines. To ensure compatibility, the Watford DDFS features probably the most comprehensive and powerful 8271 emulation ever written for a double density system.*

### PRICES

- Complete DDFS Kit incl. fitting instructions **£46**
- DDFS Manual (no VAT) **£6.95**
- We will exchange your existing Single Density DFS Kit for our DDFS Unit at **£35**



## CHRISTMAS GIFT VOUCHERS

Following numerous requests from you the customers, we have at last introduced our GIFT VOUCHER service. The Vouchers are available in £5; £10 & £15 denominations and are an ideal answer when faced with that problem of what to give for that special Birthday/Christmas gift. Simply send your credit card number or your cheque for the amount of Vouchers you require and we shall send you these attractive Vouchers. (There is a 50p handling charge on any amount.)



## MYSTERIES OF DISC DRIVES & DFS REVEALED (BOOK)

Are you tired of faulty cassettes, and lengthy loading times? Do you want to upgrade your BBC micro to take discs but you get tied up in the plethora of jargon surrounding the choice and use of these systems.

For instance, what is the difference between single and double density formats, how can you use a 40 track disc on an 80 track disc drive? What is the difference between a DFS and disc interface kit? Should you acquire a single Disc drive or twin? What does 48 TPI and 96 TPI discs mean? These are just a few of the questions you may have asked yourself and never found the answer or maybe you have yet to encounter these questions.

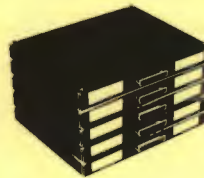
Now the mystery of buying a suitable interface and disc drive for your BBC micro is revealed in Watford's new book entitled 'MYSTERIES OF DISC DRIVES & DFS REVEALED'. It describes in fine detail, yet remaining very readable to the beginner, how disc drives operate, the type of interfaces available, which type of discs to use on a disc drive and how data is stored on the discs.

**£5.95** (Book No VAT)

## DISC ALBUMS

**£4**

Attractively finished in antique brown leather look vinyl. Stores upto 20 Discs. Each disc can be seen through the clear view pocket.



## STAK-PAK

The unique computer program filing and storage system. Made of tough black plastic, these compact drawer sections hold two cassettes each and lock together vertically to form miniature cabinets of any height. Each drawer section has two C12 Data Cassettes with labels plus external index card.

Five twin Packs incl.  
10 Cassettes Only: **£5**

## FLOPPY HEAD CLEANER KIT

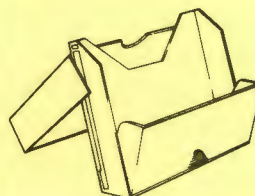
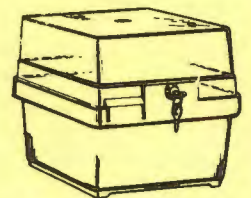
The heads in floppy drives are precision made and very sensitive to dirt. The use of a cleaner Kit is a sensible precaution against losing valuable data. It is recommended to clean the drive head once a week. It is very simple to use.

**£8**

## LOCKABLE DISC STORAGE UNITS

Strong plastic case that afford real protection to your discs. The smoked top locks down. Dividers and adhesive title strips are supplied for efficient filing of discs.

- M35 - holds upto 50 discs **£8**
- M85 - holds upto 95 discs **£11**



## PLASTIC LIBRARY CASES

FOR 5 1/4" DISC STORAGE  
holds 10 Discs.

**£2.00**

## DUST COVERS (For our Disc Drives)

Single CLS (without PSU) **£3.20** Twin CLD (without PSU) **£3.85**  
Single CS (with PSU) **£3.95** Twin CD (with PSU) **£3.90**

## Quality Disc Drives from Watford

To help you decide which drive is the most suitable for your needs (and your pocket!), we have produced the table below.

The first capacity given in the first column indicates the single density capacity. The double density storage capacity is second one, (that within the brackets). All disc Drive type numbers start with the prefix "C".

The tinting on some of the boxes is used to indicate which Drives are 40 track (non-tinted) and which are 80 track (tinted). All our drives are of Japanese manufacture. All our 80 track drives are already fitted with a 40-80 select switch.

All our Disc Drives are Double Sided and will operate in both Single and Double Density modes. Extensive experience of the usage of disc drives suggests that the JAPANESE drives currently represent about the best in terms of speed, reliability and overall "elegance" available for the BBC Micro.

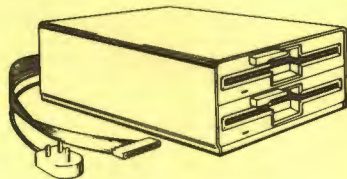
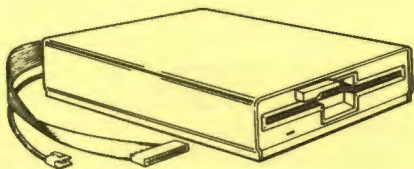
Various other "manufacturers" of disc drives for the BBC micro (more accurately, "packages" label other manufacturers drives with their own name). We buy the high quality JVC and Mitsubishi drives in large quantities directly from the manufacturers, package them and sell them at "dealer" prices direct to the public.

If you look around the popular BBC micro press, you will find that the prices we quote for the top quality, new slimline disc drives are, virtually without exception, some of the best around. These prices, coupled with the backup of one of the country's largest distributors of BBC peripherals provides a superb deal.

Unless you anticipate using dual drives in a fully expanded BBC system for long periods of time with little ventilation, then we suggest that our range of "CL" disc drives without the PSU (Power Supply Unit) would be quite adequate: extensive tests within our workshops have confirmed this. All drives are supplied complete with a SPECIAL UTILITIES Disc, Cables and Plugs. The Drives with power supply have a mains moulded plug for safety purposes. (Ideal for Schools & Colleges. We are now able to supply all single disc drives in Power Supply, in either single or dual case. (Dual case has a twin data cable and a power supply capable of driving two disc drives; allows easy expansion to a dual drive unit, at a later date. Prices stated in the pricing boxes below for single drives is for a single drive in a standard single case. Single drive in a dual case cost an extra £5. (At Watford we anticipate your needs of tomorrow, not just today!)

When using a BBC Micro, most people find themselves short of space. The Watford's BBC Micro plinths form an ideal way of recovering some of this precious space; your BBC, Disc Drive and Monitor can all occupy the same vertical footprint and still be comfortably situated. With the Watford Double plinth, your Disc Drive is mounted vertically at one side, leaving a very valuable area directly in front of you for such useful items as spare discs, pen, paper, reference manuals, etc. Follow the trend with Watford plinth. (Turn to the 10th page of our advert for the Plinths).

P.S. All our 5 $\frac{1}{4}$ " Disc Drives are compatible with the Compact Micro. All you require is the special Compact Disc Drive Cables designed by us.



| Capacity        | Drives without P.S.U. |                  | Drives with P.S.U. |                 |
|-----------------|-----------------------|------------------|--------------------|-----------------|
|                 | Single                | Twin             | Single             | Twin            |
| 200K<br>(360K)  | CLS 200<br>£89        |                  | CS 200<br>£99      |                 |
| 400K<br>(720K)  | CLS400S<br>£97        | CLD 400<br>£165  | CS 400S<br>£110    | CD400<br>£189   |
| 800K<br>(1.44M) |                       | CLD 800S<br>£183 |                    | CD 800S<br>£205 |

● TWIN Disc Drive Case, complete with Power Supply & Cables £35  
Securicor carriage on Disc Drives £5 to £6

Prefix C = Cased Drive  
L = Less PSU  
S = Single  
D = Double

Suffix S = 40/80 Switchable

e.g. CLS400S = Cased drive, Less power supply unit, Single 400K, Switchable (40/80 track).

## 3M - DISKETTES

Top quality 3M - SCOTCH Diskettes from Watford Electronics (Your 3M Appointed Distributors). All our discs carry a lifetime warranty. These discs are quiet in operation and insert positively with their reinforced hub rings. Boxes of 10 supplied complete with self stick disc labels and write protect tabs.

- 10 x 5 $\frac{1}{4}$ " S/S D/D 40 Track Diskettes £10
  - 10 x 5 $\frac{1}{4}$ " D/S D/D 40 Track Diskettes £12
  - 10 x 5 $\frac{1}{4}$ " S/S D/D 80 Track Diskettes £17
  - 10 x 5 $\frac{1}{4}$ " D/S D/D 80 Track Diskettes £17
  - Hi-Density 1.6M D/S D/D for IBM £32
- 
- 10 x 3 $\frac{1}{2}$ " S/S D/D 40/80 track Discs £20
  - 10 x 3 $\frac{1}{2}$ " D/D D/D 40/80 track Discs £27

## TOP QUALITY 5 $\frac{1}{4}$ " DISKETTES

To complement the range of quality discs and disc drives that WE already sell, WE are now supplying some special offer packs of 10 high quality discs. Each Disc has a reinforced hub ring and carries a lifetime guarantee. These are supplied complete with selfstick labels and packaged in an attractive plastic library disc box to protect them from damage. We strongly recommend these Discs.

### DON'T SETTLE FOR LESS, BUY THE BEST

- 10 x M4 S-S D/D 40 Track Discs £9
- 10 x M5 D/S D/D 40 Track Discs £11
- 10 x M7 D/S D/D 80 Track Discs £15

- 3" Double Sided Discs £4 each

## Special BULK OFFER on 5 $\frac{1}{4}$ " DISCS

(Supplied packed in plastic storage Units)  
(Lifetime warranty on Discs)

### BULK PACK DISCS in lots of 100

| Type              | S/S 80T | D/S 80T |
|-------------------|---------|---------|
| ● Without Sleeves | £49     | £74     |
| ● With Sleeves    | £60     | £75     |

## ACORN WINCHESTER DRIVES

Suitable for direct connection, via the 1MHz bus, to any BBC running ADFS. These Acorn Winchester disc drives are fast and extremely reliable. Each Winchester comes complete with the Level III Econet File Server software.

10 Megabytes £1050; 30 Megabytes £1549

## WATFORD'S WINCHESTER DRIVES

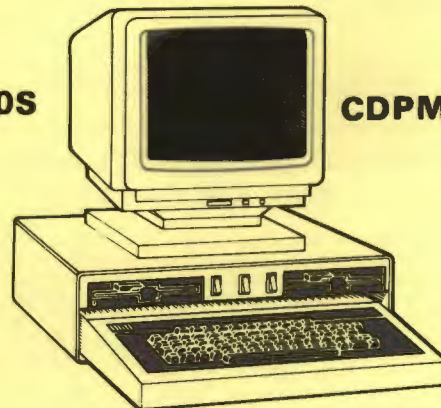
- 20 Megabytes with ADFS £635
- 40 Megabytes with ADFS £999

## WINCHESTER WORKSTATION

20 Megabyte Winchester, plus a Tape Streamer and a 400K Floppy Drive all housed in a plinth with cooling fan £1499

## CDP 800S

## CDPM 800S



Twin 800K Double sided 40/80 track switchable disc drives mounted in an attractively finished Beige colour plinth for the BBC Micro. Supplied complete with integral power supply, cables and Utilities disc. The switches are mounted on the front panel for ease of use.

CDP 800S for BBC Micro £235

CDPM 800S for Master £245  
(Securicor Carr. £7)

## EPSON NLQ ROM for the BBC Micro



Harness the full potentials of your Epson RX & FX Printers. Impress your friends and business colleagues with the quality of your letters and printed material with Watford's very simple to use EPSON NLQ! (Near Letter Quality) ROM. Suitable for FX80, RX80, RX80F/T, FX100.

Look at the features:

- Simply type \*NLQ80/100 and a single VDU code to use NLQ print.
- NLQ is then available without any modifications from BASIC, WORDWISE, VIEW (with NLQ DRIVER) or virtually any other program or language.
- Single codes select PROPORTIONAL type (yes even on the RX80); ENLARGED type; UNDERLINED type. These features can be used separately or in any combination.
- Full UK character set; Standard 'pica size'; Proportional spacing; Enlarged; Underlined; Normal type.

The NLQ ROM is supplied complete with comprehensive manual.

P.S. NLQ ROM is compatible with the Torch Z80 system and can be used from within the Perfect Writer software.

**Only: £25**

## VIEW PRINTER DRIVER for NLQ ROM

This specially written printer driver has been designed to allow View access to the full features of our NLQ ROM.

A must for all VIEW and NLQ ROM users.

**£7.00**

(HI-View compatible)

## THE NLQ DESIGNER

(The First & still the Best)

KAGA KP810/910 and Canon PW1080 are two superb printers, as our many thousands of satisfied customers would surely attest to. One of its particularly strong points is the NLQ option that it offers; perhaps one of the more weaker points is the effort required to design your own custom NLQ font.

Well the solution is here NOW in the shape of Watford's NLQ DESIGNER ROM! For the BBC Micro. This powerful piece of software allows easy design and entry of a full NLQ font, with further fonts recallable from disc. Once a font has been programmed with the versatile NLQ DESIGNER, it can be saved to disc, downloaded to your Kaga (or Canon) printer, or even programmed into an EPROM (given the appropriate hardware) and then plugged directly into your printer so that it is available immediately when you turn it on. Downloadable Fonts require 6264 RAM chip fitted. Now BBC Master compatible.

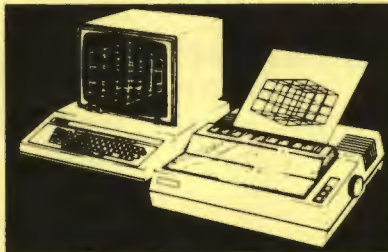
*A 40 or 80 track (please specify) FONT Disc containing 9 Fonts, (Italic, Courier, Courier Italic, Script, Copper Plate, Shadow, Bold, Double Print, Gothic and Greek is now supplied FREE with every package.*

(P.S. This ROM is not suitable for Epson printers.)

- NLQ Designer ROM & FONT Disc **£25**
- Kaga Individual FONT ROMs **£15**

(Write in for further details).

## DUMPOUT 3



A highly sophisticated screen dump ROM. This has to be the most flexible and powerful screen dump ROM yet produced for the BBC micro. It will put on paper anything you see on the screen, including all Mode 7 facilities etc. We have to admit that there is one facility that we cannot replicate - if anyone can supply flashing ink we would like to know!

The ROM also provides window setting utilities and two new OSWORD calls that allow mode 7 graphics pixels to be read and plotted using the standard graphic co-ordinate system. The latest version includes a graphic dump trigger for dumping screens from games whilst they are running.

Two commands are used to operate the dump routines:

\*GIMAGE - This provides a full graphics dump of any graphics mode, plus modes 7 and 8. There are many optional parameters but you need only specify the parameters you wish to change.

Features available include:

- Vertical and horizontal scaling through all the graphic modes and mode 7
- Rotation of the image produced through 90, 180 and 270 degrees
- Left hand indentation setting
- Screen dump window definition
- Colour grey scaling
- Two tone fast dump
- Special colour mask
- Mode 7 contrast expansion
- Mode 7 contiguous dump
- Key triggered dumps
- User port switched dumps

What does the independent press say!

*Practical Electronics, May 1985*

"The Dump Out 3 ROM from Watford Electronics represents one of the most sophisticated types of printer dump utilities available for the BBC Micro . . ."

"an extremely sophisticated and powerful dump utility".

"VERDICT - Dump Out 3 ROM has all the facilities which you are ever likely to need for producing printer dumps. The facilities available work extremely well and if printer dumps are something which you require, then this ROM can be recommended to help you to get the best out of your dot matrix printer".

*The Micro User Feb. 1985.*

"Well, here is that winner!"

"provide(s) some rather sophisticated screen dumps. Producing high resolution paper copies of graphic screens in any (graphics) mode will be the major reason for buying this ROM, and this is where Dump Out 3 performs PAR EXCELLENCE". (Our capitals for their italics.)

"The versatility of \*GIMAGE (the graphics dump command) when using these parameters is amazing. Pictures of almost any size, shape, contrast or distortion may be produced without the need for a reducing photocopier or trick photography".

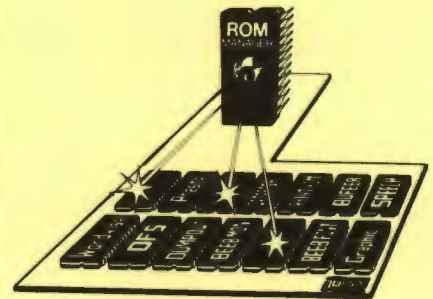
"Without reservation I wholeheartedly recommend the Dump Out 3 ROM as the ultimate screen dump facility for the BBC micro. It is easy to use yet highly versatile, and caters for all BBC screen modes in multitone high resolution printing. Whole, partial, rotated and scaled screens may be dumped to almost any BBC compatible dot matrix printer (see our list at the end of this advert). At £25 it must represent excellent value for money and surely cannot be beaten".

Designed for use with the following printers:

GLP, GP80/100/250, CANNON, STAR, KAGA/TAXAN, NEC, SHINWA CP80, GEMINI, EPSON MX/RX/FX, M1009, NEC PC8023, DMP100/200/400, Mannesman Tally etc. Price including comprehensive manual

**£25**

## ROM MANAGER



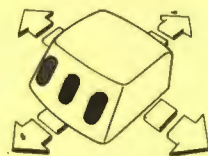
Probably the most powerful way of expanding the BBC micro is from the use of Sideways ROMs. One problem faced by the avid ROM collector is that of ROM command clashes. The solution is very simple in the form of the ROM that "Provides comprehensive management of all your installed ROMs". (Quote from 8EEBUG November '84.)

Basically, ROM Manager offers you the ability to turn off any installed ROM, or to send any \* command to any specific installed ROM. It is said that imitation is the sincerest form of flattery - Acorn's BBC Plus features many of the abilities of this powerful ROM.

Many more facilities available.

**SPECIAL OFFER £18**

# THE AMX MOUSE



Now supplied with the NEW SUPERART Software ROM & Disc at no extra cost.

**ONLY: £65** (carr £1.50)

We are giving away, absolutely FREE, our popular Colour Art software package worth £15 with every AMX Mouse package purchased from us.

|   |               |
|---|---------------|
| AMX DESK Package                            | <b>£19.00</b> |
| AMX UTILITY Package                         | <b>£11.00</b> |
| AMX SUPERART Package                        | <b>£42</b>    |
| AMX PAGE-MAKER Pack                         |               |
| Best desk-top publishing software.          |               |
| Works with keyboard, joystick and AMX Mouse | <b>£39</b>    |
| AMX 3D ZICON Disc                           | <b>£20</b>    |
| AMX Database Disc                           | <b>£20</b>    |
| AMX XAM Educational                         | <b>£20</b>    |
| AMX MAX: A gem of desktop (ROM)             | <b>£17</b>    |

## RB2 MARCONI TRACKER BALL

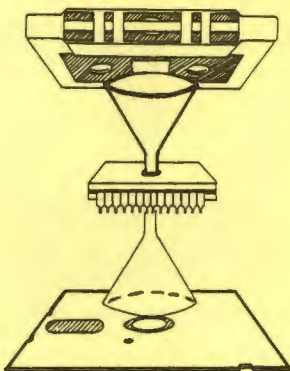
This popular unit is supplied complete with software. Price: **£50**

## FLEET STREET EDITOR

Software pack **£35**

## TRANSFEROM

(Tape to Disc Utility)



Not compatible with 1770 DFS.

This advanced and sophisticated utility ROM for the BBC Micro has the following features:

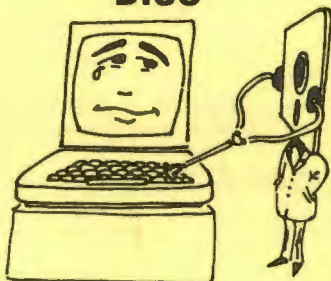
- Fully menu driven for ease of use
- Copes with locked programs
- A very comprehensive built in copying features
- Copies very long adventure games
- Supplied with comprehensive manual

TRANSFEROM is now available in BOTH single and double density versions. The single density version works with both the Acorn and Watford single density DFSs. The double density version works with the Watford DDFS system only.

TRANSFEROM takes your software on tape and saves them onto disc. TRANSFEROM does not stop when one disc is full; you just insert another disc in and carry on with that one! Surely this is the most valuable investment you could make if you have tape software that you wish to transfer to disc! Please specify version required - Single or Double Density.

£25.00

## DIAGNOSTICS DISC



The BBC micro is a very complex machine and thus diagnosing a fault can be very difficult. Until now, the only way to discover the nature of a fault was either to find a competent friend with a large degree of patience or to find your nearest dealer and pay him to find out what is wrong.

At Watford Electronics, we realise how difficult it can be when faced with a problem, finding yourself a long way from your nearest dealer, or even just uncertain about your Beeb's health, but not wanting to waste time and money taking it to be looked at.

The solution to these problems is here now, in the form of the Watford's Diagnostics Disc. This excellent utility is specially designed to test out the following areas of your Beeb:

RAMs, ROMs, ULAs, Sound, Keyboard, Disc, RS423, ADC, User Port, Printer Port, Cassette, Joysticks, Speech, Disc Drives, 6502 and Z80, 2nd Processors.

This utility is an invaluable aid for all those who take the reliability of their system seriously. A comprehensive manual provides full operating details and a list of possible causes and remedies for any faults that you may find along the way. The package also enables a permanent equipment and service record to be maintained.

Only £20.00

**NEW LAUNCH**

## THE BBC PLUS ROM BOARD

Specially designed for all BBC Plus users, this board sits in an external box, and will accept either 10 off 16k EPROMs, OR 10 off 32k EPROMs.

With the 32k EPROMs, only 5 can be 'online' at once (that's all the B+ can address, as each chip 'holds' two normal sockets worth), but you can swap between the two banks if necessary. With the 16k EPROMs, you can obviously address them all at once. An extra card can be added to permit 2 banks of 10 EPROMs to be used (again with only one bank available at once).

The ROM box, which has its own mains power supply, and connects to the BBC Plus via a specially designed card (which is a buffered card for your peace of mind) permits easy access to the EPROMs via the hinged lid. NO soldering is required for this board.

Price £79 (Carriage £3)

## ROMAS

### THE CROSS ASSEMBLER AND MACRO EDITOR FOR SERIOUS PROGRAMMERS!

ROMAS is a carefully designed, sophisticated yet simple to use, development system for serious assembly language programmers. Using the BBC as the development system, you can choose your target system from the following processors:

6502, 65C02, Z80, 8085, 8041, 6809 and Z8 P.S. This includes the Acorn 6502 & Z80.

A give away at... **Only £29**

Please specify 40 or 80 track disc when ordering.

## ROM-SPELL

"way ahead of any competition"



ROM-SPELL is probably THE most advanced and fastest spelling checker available for the BBC Micro. Printed below are some extracts from a recent independent review (A&B Computing Nov. '85), which we feel sure will convince you that this is THE only spelling checker worth considering.

"The editing system is very neat and simple, instead of replying to queries and beeps all of the time..."

"The other feature which places ROM-SPELL way in front of any competition is the ability to examine the user dictionary, so any spelling mistakes that have found themselves on the disc can be examined and taken out if necessary".

"... that it is compatible with many of the popular word processors on the market is a good indication that ROM-SPELL is going to be a very popular product indeed".

"... ROM-SPELL is by far the best spelling checker for the unexpanded BBC B (with or without word processor). It boasts features which are hard to find on conventional spellcheckers on CP/M and MSDOS, namely Spellstar and has a speed/performance ratio of roughly the same as its CP/M cousin. The difference is that the CP/M version would cost the best part of £500".

"... and with such vital house keeping features as an ambiguous word checker, the ability to edit the user dictionary, a comprehensive manual that is both easy to read and actually ENJOYABLE to learn from, ... I feel confident that ROM-SPELL will woo the word processing public with no problems at all".

Compatible with: View, Wordwise & Wordwise +.

Don't settle for less, Buy the best.

£25

(Not compatible with 1770 DFS)  
(Please state 40 or 80 track disc)

## BBC MICRO BUSINESS/WORD-PROCESSING PACKAGE

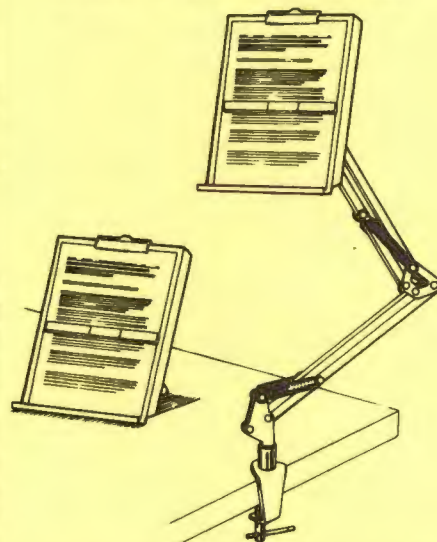
A complete word-processing package (which can be heavily modified to your requirements, maintaining the large discount). We supply everything you need to get a BBC micro running as a word-processor. Please call in at our retail shop to discuss your particular requirement and a demonstration.

### EXAMPLE PACKAGE

BBC Master 128K Micro, View wordprocessor, Viewsheet, Basic Editor, Terminal Emulator, Twin 800K 40/80 track double sided Disc Drives, Zenith Hi-Res green monitor, Brother HR15XL professional quality Daisy Wheel printer, Gemini Database, Spreadsheet, Beebplot Graphics, Cashbook, Final Accounts, Mailist, Easiledger, Invoice & Statements, and Stock Control packages on disc with manuals.

Only £949

## COPY HOLDERS



How often have you been about to type hand written notes into your computer when you find that there's nowhere to rest the paper or that your notes are resting at the wrong angle to read the type? Whether the notes be your latest program or the draft of a new trilogy, the new Manuscript Holders from Watford are superb for holding your paper at the ideal height and angle to allow you read and type in ease and comfort.

Available in desk resting and shelf clamping versions, these two units hold your paper firmly by means of a magnetic ruler and a clip grip.

Mounting to a convenient flat surface, the two joint anglepoise Manuscript Holder allows the paper to be positioned at virtually any convenient angle whilst only taking up a fraction of the surface area that the paper being held does.

The smaller desk resting Manuscript Holder is useful for the more organised desk where the problem is simply holding the paper at the right angle.

Whatever desk arrangement you use, surely you deserve a Watford Manuscript Holder!

Amazing value at only  
Desk Top £10 (carr. £2)  
Angle poise £14 (carr. £3)

All prices in this advert are exclusive of VAT.

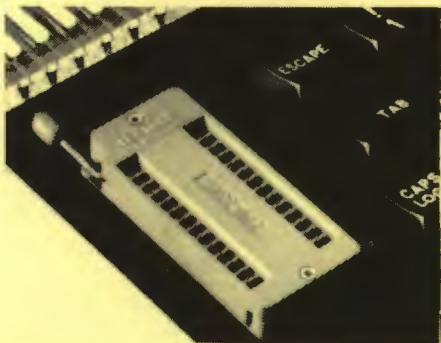
## REPLICA 3

This new improved REPLICA 3 from Clares is a very powerful disc based TAPE to DISC Utility. It now transfers even more programs than ever before. Replica 3 will not work with all programs but then neither will anything else. 30,000 Replicas have been sold to date. It has to be good.

£13 (40 or 80 track)

Continued

## SIDEWAYS ZIF SOCKET



Allows you to change your ROMs quickly and efficiently, without opening the lid. The ZERO INSERTION FORCE (ZIF) socket is located into the ROM Cartridge's position.

- Very simple to install. NO SOLDERING required. The ZIF (Zero Insertion Force) eliminates the possibility of damage to your ROM pins when inserting & extracting.
- The low profile of the socket allows unrestricted access to the Keyboard.
- All data and address lines are correctly terminated to ensure correct operation of suitable ROMs with the BBC micro. We also supply a purpose designed see-through storage container with anti-static lining, allowing you to store up to 12 ROMs, protecting them from mechanical and static damage.
- This versatile hardware solves the problem of running out of socket space. Simply lift the ROM from the ZIF & insert a different one (No pulling or pushing of Cartridges. It is a must for all professionals and Hobbyists alike.)

● BBC, B+ and Master compatible.

**ONLY £15 (carr £2)**

## Low Profile CARTRIDGE SYSTEM

Complete System consists of: Low profile ROM Cartridge, Socket housing, Cable assembly, 5 labels and a library storage rack.

Complete System **£12**  
Spare Cartridges **£2.50**  
Spare Rack **£1.50**

## 16K Sideways RAM Modules

This is it! The revolutionary design RAM Module you've been waiting for. Complete with such features as read and write protection, these new modules from Watford Electronics are ideal for the hobbyist, software developer and ROM collector.

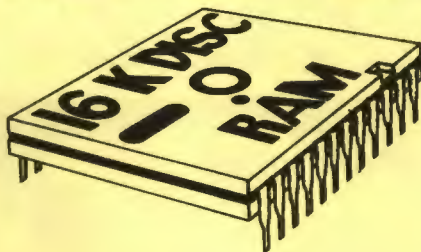
Key points to note about this new addition to the Watford range of products are:

- Write protection (useful in a variety of circumstances).
- Read protection (allows recovery from ROM crashes).
- Compact construction.
- May be fitted in systems even with a ROM board.
- Multiple units may be fitted, even with a ROM board.
- No overheating or overloading problems.
- Free utilities disc supplied.
- Can be used as a 16K PRINTER BUFFER.
- Ideal for professional software development.
- Supplied with utilities software disc.

Only: **£29 (carr £2)**

### Optional extras

READ and WRITE protect Switches **£2 each**  
Battery for Battery Backup **£3**



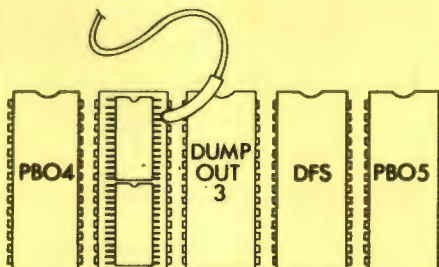
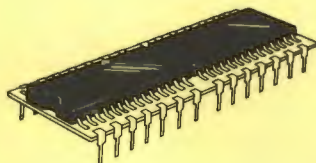
This is the RAM you've been waiting for!! This battery backed up, write protectable 16K sideways RAM board allows you to run from disk every sideways ROM available. Beware of other sideways RAM boards which are not backed up as certain ROMs will not run in these boards even though the RAM can be write protected. The Battery Backup facility allows retention of DATA after power off. On switch on the Micro will think the WATFORD DISC RAM is a ROM. Features available are:

- No soldering or modifications to BBC micro necessary.
- Plugs into normal ROM socket fitting neatly under the keyboard allowing room for other add-ons.
- Easy to use. Comes with disk based software to SAVE and LOAD ROMs. Allows you to make backup copies of your ROMs.
- Disk software can be copied onto other discs when disc is full.
- No messy plugging and unplugging of your ROMs. Simply Load the one you want into DISC RAM.
- Ideal for Professional users to develop ROMs. Backup facility allows testing of final versions without using EPROMs.
- The switch provided allows backup and write protection to be switched off externally.
- Can also be used as 16K printer buffer RAM in conjunction with our Buffer & Backup ROM.

**New Low Price: £32 (carr £2)**

P.S. 16K DISC RAM Board is not designed to work in conjunction with a Sideways ROM Board.

## SOLID STATE 16K SIDEWAYS RAM



This new unit from Watford, which utilises the latest in Static RAM technology, offers 16k of easy-fit sideways RAM in a very compact unit with a footprint no larger than a standard 28pin EPROM. With only a single flying lead terminating in a mini hook-on probe, to fit, (no soldering required) this compact unit works with any BBC Micro with or without a ROM board. **Compatible with BBC B Plus.** Like our other 16K RAM Modules, this unit is very simple to fit.

Only **£28 (carr 2)**

Supplied complete with comprehensive software on Disc, Operating and fitting instructions.

Do you find the 16K Sideways RAM Units confusing? If so, we have compiled this quick questionnaire to help YOU decide which is the best one for you. If the answer to any of the questions is yes, then use the index number to select from the boards below. Options in brackets indicate possible secondary choices.

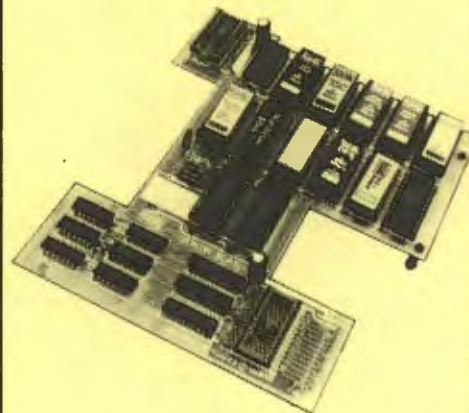
Do you require:

- Sideways RAM for a BBC B? Choose 1, 2 or 3.
- Sideways RAM for the B+? Choose 3.
- A small, basic module? Choose 3.
- A sideways RAM module for a ROM board? Choose 1 or 3.
- An easy to use utilities disc? Choose 1, 2 or 3.
- More than one module installed at once? Choose 1 or 3.
- To use sideways RAM as a printer buffer? Choose 1 or 3.
- Battery Backup? Choose (1) or 2.
- Write protect for RAM (makes ROM look like RAM)? Choose (1) or 2.
- Read protect (allows recovery from crashes)? Choose 1.

Key:

- 1) 16k Sideways RAM Module
- 2) 16k Disc RAM
- 3) Solid State 16k Sideways RAM

## SOLDERLESS SIDEWAYS ROM SOCKET BOARD



In the May 1986 Micro User's independent review, the writer concludes, "The board has been well laid out. Its position is much better than others - not over the HOT RAM chips and further away from the disc controller area". "I give the solderless ROM board the thumbs up and wish it success".

This brand new board from Watford Electronics is designed specifically for those wishing to add a ROM board to their own BBC without the need to perform any soldering.

This new board expands the total possible number of ROMs in a BBC from 4 to 16.

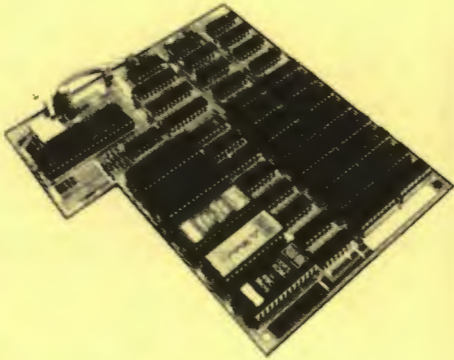
Unlike our competitors inferior boards, the ONLY upgrade required for fitting battery backup to the Watford Solderless ROM board (all Watford ROM boards, actually) is the fitting of the battery itself. (No other expensive components are required.)

- The key features of this new, no fuss, easy to install quality product from BBC leaders Watford Electronics are as follows:
- Increase your BBCs capacity for ROMs from 4 to 16.
- **No soldering required.**
- Very low power consumption.
- Minimal space required.
- Compatible with Torch, DDFS, RAM Card, 2nd Processor, etc.
- Socket 14 takes two 6264 RAM chips.
- Read protect to make RAM "Vanish"; allows recovery from ROM crashes.
- Battery backup option for RAM chips.
- Supplied ready to fit with comprehensive instructions.

**Price: Only £34**  
**Battery backup fitted £36**  
(carriage £2)

## Watford ROM/RAM CARD

A must for all serious users



Watford Electronics announced the first ever commercial ROM board for the BBC micro, the Watford Electronics 13 ROM Socket Board 3 years ago. Following the success of this board, we have designed what probably represents the ultimate in expansion boards, the new Watford Electronics ROM/RAM board. This highly versatile and sophisticated board represents the latest in "2nd generation" sideways ROM technology for the BBC micro, designed to satisfy the serious BBC user.

- NO SOLDERING required to fit the board.
- NO overheating problems.
- No User Port corruption (avoids problems with the mouse, modems, Eprom Programmers, etc.)
- Fully buffered for peace of mind.
- Firm mounting in BBC micro.
- Compatible with all BBC micros (not BBC+ or Master).
- Total number of ROMs increased from 4 to 8.
- Up to 8 banks of sideways RAM (dynamic).
- Option for 16k of Battery backed CMOS RAM (CMOS RAM needs one ROM socket).
- Software Write protect for ALL RAM.
- Read protect for CMOS RAM (ALLEVIATES crashes during ROM development).
- Separate RAM write register (&FF30 to &FF3F).
- Automatic write to currently selected RAM socket for convenience.
- Accepts any ROM.
- FREE utilities disc packed with software.
- Compatible with our DDFS board, 32k RAM Card, Delta Card, sideways ZIF, etc.
- Large printer buffer.
- UNIQUE Fully implemented RAM FILING SYSTEM (similar to the popular Watford DFS).
- ROM to RAM load and save facilities.

The SFS (Silicon Filing System) can utilise up to the full 128k of RAM (with the SFS in any paged RAM) as a SILICON DISC. This behaves as a disc drive, with all the normal Watford DFS features (including OSWORD &7F for ROM-SPELL, etc.) to provide an environment that looks like a disc but loads and saves MUCH faster.

The ROM/RAM Board plugs into the 6502 CPU socket. This leaves free all the existing ROM sockets, which can still be used normally.

Any ROM that can be plugged into the BBC micro's own ROM sockets may be used in the ROM/RAM Board.

The ROM/RAM Board is supplied with all ordered options fitted as standard. Upgrade kits (with full instructions) are available for all of the options, for later.

Please write in for further details.

### INTRODUCTORY PRICES:

- ROM/RAM card with 32k dynamic RAM .... **£43**
- ROM/RAM card with 64k dynamic RAM .... **£59**
- ROM/RAM card with a massive 128k dynamic RAM ..... **£89**  
(carriage on ROM/RAM Card £3)

### OPTIONAL EXTRAS:

- 16k plug-in Static RAM kit ..... **£6**
- 16k Dynamic RAM for Upgrade ..... **£7.50**
- Battery backup ..... **£3**
- Read and Write protect switches ..... **£2 each**
- Complete ROM/RAM board  
(all options installed) ..... **£99**

## Le Modem



### The MODEM from Watford

At last a professional MODEM for the BBC Micro. Unlike other 'Modem packages' this is a complete package there are no extra software costs to get 'up and running'. Of course Le MODEM is multi-standard, i.e. 300/300, 1200/75 & 75/1200 UK and BELL (USA) are all supported.

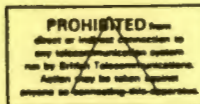
The features that make Le MODEM such good value are:

- A complete communications terminal that transforms your BBC Micro into a very powerful World/wide data transfer system.
- Auto Dials, Auto answers, and is completely controlled by your micro. There are no external controls!
- Allows you to access PRESTEL, B.T. GOLD, THE SOURCE, MICROLINK, MICRONET, MICROWEB, THE TIMES NETWORK, MICRO LIVE (BBC TV database), CITY BB and more.
- Designed to be SIMPLE but SOPHISTICATED. To LOGON to a data base all you have to know is its TELEPHONE NUMBER, Le MODEM does the rest.
- Supplied with a comprehensive telecomms package in a 16K sideways ROM which includes a FULL PRESTEL terminal allowing TELESOFTWARE to be downloaded.
- A comprehensive 80 column terminal. This includes XMODEM error checked transfer protocol, to allow error free data transfer anywhere in the world!
- FULLY controlled by simple \*COMMANDS allowing you to control it from your own BASIC programs. To get you started we supply a FREE disc of bundled software!
- Connects to the 1MHz bus. A \*AUDIO ON/OFF command allows you to actually hear the telephone line through your BBC micro loudspeaker.
- Completely self contained with internal mains power supply. (Even a free mains plug is fitted!) A \*TEST facility gives ON SCREEN indication that Le MODEM is working correctly.
- Packaged in such a way that you need nothing else except a BBC Micro to communicate with computers all over the world.
- FREE 3 months subscription to MicroLink.

● BT Approval applied for.

### SPECIAL OFFER

Price: **£79**  
(carr £3)

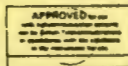


(Price includes, Le Modem, Software ROM, Cables & Comprehensive Manual)  
(Write in for further details)

## Nightingale Modem

SPECIAL PRICE to our Customers

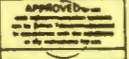
**£99**  
(carr £3)



(Price includes: Nightingale Modem, Commstar ROM pack, Cables & Comprehensive manual)

- Nightingale Modem without software **Only £87**
- COMMSTAR ROM package only **£29**  
(P&P on modem £2.00)
- Auto Dial/Auto Answer Board (non BAPT) **£48**
- Auto Dial Utilities Disc **£9.50**
- OBBS Bulletin Software **£20.00**

## APOLLO



### The NEW Modem from Watford

Following numerous requests from you, our discerning customers for an APPROVED, Low Cost - High Performance modem with Auto Dial & Auto Answer facilities as standard; we bring you the versatile APOLLO Modem. Just compare the features and look at the price (which incidentally includes the cost of the Software, manual and BBC connecting cable). We are sure you will agree that Watford Electronics in their traditional way are giving you a super 'value for money' deal.

Just look at these features:

- V21 for Bulletin boards, Microlink, Telecom Gold, etc.
- V23 for Prestel, Home Banking, and other Viewdata services.
- Reverse V23 allows User run Viewdata service.
- 1200/1200 half duplex for communications.
- XMODEM, HEX and ASCII file transmission.
- Auto Dial of given 'phone number.
- Auto Answer for User's Bulletin Board.
- 80 column terminal with split screen facility.
- Prestel text screen dump.
- Fully BAPT approved.

The Apollo is attractively finished in matt black. It opens the doors to world communication to both, the Hobbyist and the Professionals alike. With baud rates varying from 300/300 Originate and Answer, 1200/75 and 75/1200 full duplex and 1200/1200 half duplex, virtually all the popular tele-services can be accessed. A comprehensive Comms ROM oversees the use of the APOLLO, providing simple commands for all the software controlled facilities. APOLLO is an ideal modem for both the first time buyer and the seasoned user. Join the Telecommunications Revolution - Buy a Watford APOLLO!

Special Launch Price: **£75**  
(Carr £3)

(Write in for full specification)

### BT TELEPHONE CONNECTORS

|   |                              |
|---|------------------------------|
| LJU 1/4A Mini Line Master                 | <b>£4.50</b>                 |
| LJU 1/6A Mini Line Slave                  | <b>£3.00</b>                 |
| LJU 2/4A Line Master                      | <b>£4.00</b>                 |
| LJU 2/6A Line Slave                       | <b>£2.50</b>                 |
| LJU 3/4A Flush Master                     | <b>£3.95</b>                 |
| LJU 3/6A Flush Slave                      | <b>£2.75</b>                 |
| LJU 1/0/3A Dual Splitter<br>4 Way BT Plug | <b>£5.50</b><br><b>£0.75</b> |

### Versatile BEEP SPEECH SYNTHESISER Unit



The Watford Speech Synthesiser is a very flexible speech synthesis unit based upon the powerful phonemes system. This system stores the building blocks of speech (called phonemes) and allows you to combine them quickly and easily to form virtually any word imaginable.

Supplied with an advanced ROM, you are provided with a 500 word dictionary to get you started. These can easily be added to by following the notes given in the comprehensive manual.

SPECIAL PRICE **£32** (carr £2)

Continued



## COMPUTER CONCEPT'S ROMS

|                         |     |
|-------------------------|-----|
| ACCELERATOR             | £48 |
| CARETAKER Basic Utility | £27 |
| Graphics ROM            | £23 |
| Disc Doctor ROM         | £24 |
| TERMI                   | £27 |
| COMMUNICATOR            | £49 |
| SPEECH ROM              | £26 |
| Printmaster             | £24 |

## Wordwise

£25

## Wordwise plus

£40

We are giving away absolutely **FREE**, the superb Word-Aid ROM worth £24, with every WORDWISE PLUS package bought from us.

## Word-Aid

The most comprehensive utilities ROM for Wordwise-Plus

Extend the power of your Wordwise Plus word processor with this most advanced ROM from Watford. By utilising the powerful Wordwise Plus programming language, WordAid provides a whole host of extra features, all accessed via a special new menu option. This ROM has been personally approved by Mr Charles Moir, the author of WORDWISE PLUS.

- Alphabetical sorting of names and addresses.
- Text transfer options.
- Chapter marker.
- Epson printer codes function key option.
- Search and display in preview mode.
- Embedded command removal.
- Print Multiple copies of a document.
- Multiple file options for print and preview.
- Address finder.
- Label printer.
- Mail-merger.
- Number/delete/renumber.
- Clear text/segment area.
- BBC B, B+ and Master compatible.

Only £24

(N.B. Word Aid requires a Disc Interface in your Micro)

## HI-WORDWISE-PLUS

Supplied on disc. This version requires a WORDWISE-PLUS ROM to be present in the machine. It gives up to 44k of text space on the 6502 2nd processor.

£5

## Inter SHEET £40

## INTER-CHART

ONLY: £26

## Inter-WORD

Only: £46

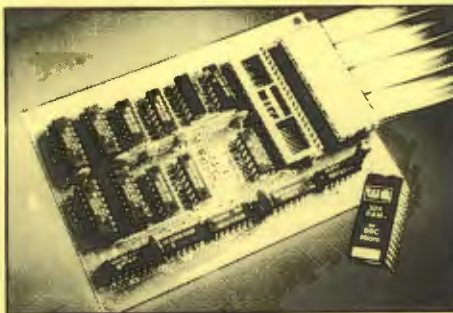
Special Discount price for the existing Wordwise Plus owners. Simply quote your reg. number and pay.

Only: £39

All Prices Exclusive of VAT

# 32K

## SHADOW RAM-Printer Buffer Expansion Board



A MUST FOR WORD PROCESSING

Watford Electronics now brings you the latest state-of-the-art MEMORY EXPANSION BOARD for your BBC microcomputer. Don't throw away your BBC B for a BBC B+ or BBC Master. Just plug the ribbon cable into the 6502 processor socket, and fit the compact board inside the computer. Immediately you will gain not 16K or even 20K, but a massive 32K of extra RAM!!!

• IMPROVE your WORD PROCESSING system, whether disc or cassette based. Don't wait for a slow printer - type in text while printing. TWO JOBS DONE SIMULTANEOUSLY and £100+ saved on a printer buffer.

• "VIEW" Wordprocessor users can now type in letters in 80 columns and have up to 28,000 bytes free - 5 times as much as normal.

• In WORDWISE (or WORDWISE-PLUS), preview in 80 columns with the full 24K of text in memory. This product is recommended as an ideal complement by Computer Concepts.

• Combine GOOD GRAPHICS and LONG PROGRAMS. Use the top 20K of the expansion RAM as the screen display memory, leaving all the standard BBC RAM free for programs. Benefit from MODE 0/1/2 graphics and 2BK of program space.

• Use the FULL 32K or the bottom 12K of the expansion RAM as a PRINTER buffer for PARALLEL or SERIAL printers, sound channels, RS423 etc. Print large text files while running long graphics programs, and have all your buffer options available as well (\*FX15,21,13B,145,ADVAL etc). Please note only a 12K printer buffer can be used with Wordwise or Wordwise-Plus, due to the way they are written.

• Ensure COMPATIBILITY with a vast range of hardware (including our ROM board, the ATPL ROM boards, double density boards, second processors), and software (including BASIC, TOOLKIT, VIEW, WORDWISE (1.20+), WORDWISE-PLUS, Music 500's AMPLE). This is because our board, unlike those of our competitors, is connected to the computer by a ribbon cable and has the power consumption of a couple of ROMs!

• Achieve EASY OPERATION with ROM based software. A large range of commands is available for machine code and BASIC users, including some useful \*HELP messages, and a comprehensive manual is supplied free.

• Unique facility to turn ROMs off and on again. Unlike all other ROM managers, this feature does not use 'unofficial' memory. Two bytes of normally user-inaccessible memory on the RAM card are used to ensure ROMs are disabled WHERE OTHER ROMS FAIL.

Only: £59 (carr £2)

(Price includes a comprehensive manual and the ROM)

## SPECIAL OFFER

### Acorn's Speech Synthesiser Package

Complete with manual in its original packaging

Clearance price Only: £19

## INCREDIBLE WORD PROCESSING DEAL!!!

Watford Electronics, already renowned for quality products at discount prices, are offering, the truly spectacular BARGAIN OF THE YEAR!

A Watford's 32K Shadow RAM Card - Printer Buffer and the much sought after, Computer Concepts' Inter-WORD, (a very powerful package) All this at an astounding price of:

Only £79 (carr £2)

## DATAGEM

Gemini's popular Database package

Only: £34

## VIEW

VIEW WORDPROCESSOR 2.1 ..... £37

## VIEW 3.0 ROM

Price: Only £56

## HI-VIEW

A special version of VIEW designed for use with 6502 2nd Processor. Available on disc, it offers 47K of text memory.

£36

IEWSHEET (Acornsoft) £37

VIEWSTORE £37

VIEWSPELL with 80 track disc £29

VIEWPLOT Disc £22

VIEW-INDEX £14

Watford's own Sophisticated VIEW PRINTER DRIVER for Epson FX80 & KAGA KP

Only £10

VIEW DRIVERS FOR JUKI & BROTHER HR15 PRINTERS

Only £10

VIEW/VIEW SHEET PRINTER DRIVER for SILVER REED (Officially approved by Silver Reed)

Only: £10

MINI OFFICE II (tape) £14.50



# ARIES CORNER

## Aries B-32 Shadow RAM Card

18 months of intensive research and development have produced a worthy successor to the widely acclaimed Aries-B20; the revolutionary Aries-B32. This 'second generation' expansion board features 32k of RAM and a 16k ROM socket.

Like the BBC B+, the B32 provides 20k of shadow screen RAM and 12k of sideways RAM. Unlike the B+, the B32 has simple software commands which allow the user to reconfigure the RAM as 16k of shadow RAM and 16k of sideways RAM, or all 32k as sideways RAM.

With the B32, the programmer gets up to 28k of RAM available for Basic, Logo, Comal, Forth, Lisp and BCPL programs in any screen mode. The business user gets extra memory for View, ViewSheet, Wordwise Plus and many other applications. For advanced applications, the scientific user gets access to a massive 47k of data storage using the Acorn approved \*FX call.

Sideways RAM enables you to load sideways ROM images from disc, allowing you to have a large library of sideways ROMs (subject to the copyright holder's permission) stored on disc. The B32's sideways RAM can also be used to extend any operating system buffer (such as the printer buffer) or to load tape programs into a disc system.

The B32 simply plugs into the processor socket on your BBC micro - no flying leads to connect and no soldering. Provision of the on-board ROM socket means that the Aries-B32 control ROM does not use up one of your existing ROM sockets.

Price: B-32 **£80** (carr. £2)

## Aries B-12 Sideways ROM Board

This board is extremely well made, simple to install, reliable when fully loaded and compatible with the Aries B-20 and the Aries B-32. For the business user or educationalist, the compact and secure internal fitting is ideal, with the ROM board tucked neatly inside the lid where it will not cause overheating problems. The serious software developer and the hobbyist may prefer to mount the board externally, giving instant access to the sockets for experimental purposes. A zero-insertion force (ZIF) socket may be fitted to the board to enhance this mode of operation.

The B12 provides a total of twelve sideways ROM sockets (the four in the original machine are replaced by the twelve on the board), all fully accessible by the MOS sideways ROM system. In addition, there are two sockets for sideways RAM, giving up to 16k of RAM using 6264 static RAM chips.

The B12 system consists of two parts: a large detachable 'mother board' which carries the extension ROM sockets and a small 'base board' on a short ribbon cable, which plugs into the existing sideways ROM sockets. This two-board design eliminates the reliability problems previously associated with some other ribbon-cable based systems.

If you do not have an B32 or B20, a small adaptor module (the Aries B-12C) is available at a nominal cost. The 6264 static RAM chips used to provide the sideways RAM are advertised elsewhere in our advert.

Price:  
Aries B-12 **£40**. Aries B-12C **£5**

## GRAPH PAD 2

Supplied complete with Software  
**£60** (Carr. £3)

## ARIES B-488 IEEE-488 INTERFACE UNIT

The Aries-B488 is an interface unit to enable the BBC micro to control and monitor IEEE-488 bus systems. The IEEE-488 bus (also known as the 'GPIB' or 'HP-IB') is the standard method of interconnecting programmable laboratory instruments and control equipment. Using the B488, up to 15 devices may be connected in a single high-speed data network.

Aries B-488 Unit: **£238** (Carr £3)

## THE ARIES RANGE HARDWARE REQUIREMENTS

Aries B-32 - BBCB, MOS 1.20, hardware plugs into CPU socket.

Aries B-12 - BBC B, MOS 1.20, hardware plugs into all four sideways ROM sockets and connects to the B32 or the B20. The adaptor Aries B-12C module is necessary where these are not fitted.

Aries B-488 BBC B, MOS 1.20, Hardware plugs into 1MHz Bus.

## BEEBMON

The most powerful machine code monitor for the BBC Micro **£24**.

## DISASSEMBLER ROM

**ONLY £16**

## THE INVESTIGATOR

This sophisticated Utility program on disc, enables you to make security back-up copies of most of your valuable Disc Software. Makes full use of all 8271 (will not run with double density DFSs) facilities to discover the precise format of your protected disc so that an exact copy can be produced. Supplied with detailed instructions. Please specify 40 or 80 track disc when ordering.

Only **£20**



**CREDIT CARD 24 HOUR  
Ansaphone Hot Lines  
(0923) 50234/33383**



## النور ARABIC ROM for the BBC Micro

The ALNOOR ARABIC ROM converts your BBC into a bilingual computer. New keytops provide both English and Arabic symbols. Two sets of Arabic symbols are provided for use in either context sensitive or insensitive operation.

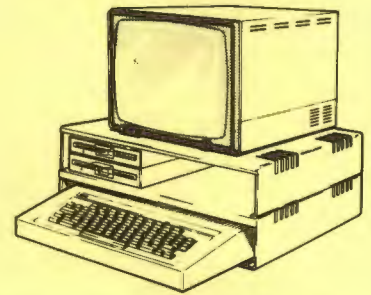
20, 40 and 80 column operation. Compatible with ASMO (449). English/Arabic printer interface software. Numeric entry from either left or right of number. Communications software to send or receive 7 or 8 bit data.

Different shapes of Vowels (e.g. Shadda, Fatha, etc). Different shapes of Hamza. Full English and Arabic character sets with all special characters.

**£85**

(Price includes Alnoor ROM, Operating Manuals & a full set of Arabic/English Keytops)

## PLINTHS FOR BBC MICRO, MASTER & PRINTERS



Protect your computer from the weight and heat of your monitor. The BBC micro plinths have slots for maximum ventilation. The single plinth is suitable for a BBC and monitor, whilst the double height version provides enough room for our stacked or side-by-side dual disc drives or TORCH Disc pack, to be placed in the centre section. If you use our stacked drives, the remaining space can be used for further peripherals e.g. Speech Synthesizer, EPROM programmer or simply stationery. The computer slides neatly in to the lower section allowing easy access to remove the lid. The printer plinth is equally sturdy but without the cooling slots. It allows for access to the paper from the front as well as from the rear, (a facility not often thought of in similar products) if the paper is located beneath the plinth. This is a very convenient way to work especially if your work area is not deep enough to take the printer and paper separately.

SINGLE BBC PLINTH ..... **£11** (carr. £1.50)  
DOUBLE BBC PLINTH ..... **£20** (carr. £2.00)  
PRINTER PLINTH ..... **£10** (carr. £1.50)  
SINGLE MASTER PLINTH ..... **£14** (carr. £1.50)  
DOUBLE MASTER PLINTH ..... **£25** (carr. £2.00)

## OFFICE MATE

The popular Database, Spreadsheet, Beebplot and Wordprocessor on Disc  
**£10**

## OFFICE MASTER

The popular Cashbook, Final Accounts, Mailist, Easiledger, Invoice & Statements and Stock Control  
**£21**

## Money Management

This disc based software allows individual transactions to be stored and retrieved for upto 5 Bank a/c and 5 Loan accounts.

Price: Only **£11**

## L.B.O. Rom Life & Business Organiser

Use LBO to organise your life from today until 1999! It can handle literally hundreds of multi-line messages, as many as you are ever likely to need. Despite the very wide range of facilities offered, this professional program is VERY easy to use and requires absolutely NO knowledge of computers. A vital aid to your everyday life, LBO is GREAT FUN TO USE!

Price only: **£17**

## DDD Suite Integrated Software System

-BASE **£12**

-CALC **£12**

-PLOT **£12**

COMBO PACK All 3 together **£26**

Continued

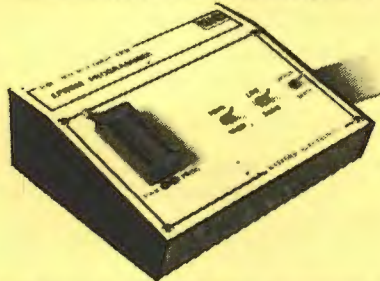


## BOOKS (No VAT on Books)

|  |        |
|--|--------|
| 30 Hour BASIC (BBC Micro) .....  | £7.95  |
| 40 Best machine Code Routines .....                                      | £7.95  |
| 6502 Assembly Language Program .....                                     | £19.95 |
| 6502 Application .....   | £11.95 |
| 6502 Assembly Lang. Subroutines .....                                    | £19.95 |
| 6502 Development System .....  | £7.50  |
| 6502 Machine Code for Humans .....                                       | £7.95  |
| 68000 Assembly Lang. Programming .....                                   | £19.95 |
| 68000 Machine Code Programming .....                                     | £13.00 |
| 68000 Programming the .....  | £22.95 |
| 6809, Programming the .....  | £16.95 |
| A User Guide to Wordwise Plus .....                                      | £9.95  |
| A Young persons Guide to<br>BBC Basic .....                              | £5.95  |
| Advanced Disc User Guide .....   | £16.95 |
| Advanced BASIC ROM User Guide .....                                      | £9.95  |
| Advanced Machine Code Technique<br>for BBC .....                         | £7.95  |
| Advanced Programming for BBC .....                                       | £6.95  |
| Advanced User Guide for BBC .....  | £15.95 |
| Advanced Graphics with BBC .....   | £9.95  |
| Assembly Language Programming on<br>BBC Micro .....                      | £11.50 |
| Advanced Programming Techniques<br>for the BBC Micro .....               | £8.95  |
| Adventure into BBC BASIC .....   | £6.95  |
| Applied Assembly Lang. for BBC .....                                     | £9.95  |
| Assembler Routines for the 6502 .....                                    | £7.95  |
| Assembly Language Programming FOR the<br>BBC Micro .....                 | £8.95  |
| Assembly Language Programming on the<br>BBC & Electron .....             | £8.95  |
| Basic Programming on the BBC Micro .....                                 | £6.95  |
| Basic ROM User Guide .....   | £11.95 |
| Basic User Guide for BBC Micro .....                                     | £10.00 |
| BBC B+ User Guide .....  | £14.95 |
| BBC BASIC .....  | £5.95  |
| BBC Forth .....  | £7.50  |
| BBC Hardware Projects .....  | £8.95  |
| BBC Machine Code Portfolio .....   | £7.95  |
| BBC MAster 128 High Flyer .....  | £10.95 |
| BBC Micro Advanced Ref. Guide .....                                      | £10.95 |
| BBC Micro Advanced Programming .....                                     | £10.00 |
| BBC Micro Book BASIC Sound &<br>Graphics .....                           | £7.95  |
| BBC Micro ROM Book .....   | £9.95  |
| BBC Micro Disc Companion .....   | £8.95  |
| BBC User Guide .....   | £10.00 |
| BCPL User Guide .....  | £14    |
| Complete FORTH .....   | £6.95  |
| CP/M - 86 User's Guide .....   | £19.95 |
| CP/M Bible .....   | £16.50 |
| CP/M Handbook with MPM .....   | £9.95  |
| CP/M Plus Handbook .....   | £13.95 |
| CP/M Soul of .....   | £16.50 |
| CP/M The software BUS .....  | £8.95  |
| Creative Animation & Graphics .....                                      | £7.95  |
| Creative graphics on BBC Micro .....                                     | £7.50  |
| Disc Drive Projects for Micros .....                                     | £5.45  |
| <b>DISC FILING SYSTEM (DFS)</b><br><b>Operating Manual for BBC</b> ..... | £6.95  |
| Disc Programming Techniques .....  | £9.95  |
| Discovering BBC Micro Machine Code .....                                 | £6.95  |
| Disc System for the BBC Micro .....                                      | £6.95  |
| Exploring FORTH .....  | £6.95  |
| FORTH on the BBC Micro .....   | £7.50  |
| Functional Forth for the BBC Micro .....                                 | £5.95  |
| Games BBC Micro Play .....   | £6.95  |
| Graphs & Charts on BBC Micro .....                                       | £7.50  |
| Hackers Handbook .....   | £4.95  |
| Hackers Handbook - New .....   | £6.95  |
| Handbook of Procedure & Functions for the<br>BBC Micro .....             | £6.95  |
| Interfacing & Robotics on BBC .....                                      | £15.95 |
| Interfacing Your BBC Micro .....   | £8.95  |
| Into View .....  | £4.50  |
| Introduction to COMAL .....  | £9.50  |
| Introduction to LOGO .....   | £6.95  |
| Introducing 'C' .....  | £9.95  |
| Introducing CP/M on the BBC Micro Z80<br>2nd Processor .....             | £9.95  |
| Introducing LOGO .....   | £5.95  |
| Introduction to FORTH .....  | £8.95  |
| Introduction to PASCAL .....   | £17.95 |
| ISO - PASCAL Reference Manual .....                                      | £9.95  |
| Let your BBC teach u to program .....                                    | £5.45  |
| LISP 2nd Edition .....   | £14.95 |
| LISP, A Beginners Guide to .....   | £10.95 |
| LISP the Language of<br>Artificial Intelligence .....                    | £9.95  |
| Logo Programming .....   | £9.95  |
| <b>Mysteries of DISC DRIVES and DFS<br/>REVEALED</b> .....               | £5.95  |

|  |        |
|--|--------|
| Mastering CP/M .....   | £17.95 |
| Mastering the Disc Drive .....                               | £7.95  |
| Master Advance Reference Manual ..                           | £19.95 |
| Master Reference Manual Part 1 .....                         | £14.95 |
| Master Reference Manual Part 2 .....                         | £14.95 |
| Micronet Handbook .....                                      | £6.95  |
| Programming the 6502 .....                                   | £16.95 |
| Programming the Z80 .....                                    | £19.95 |
| Sensing & Control Projects for BBC .....                     | £5.95  |
| S-PASCAL on BBC Micro .....                                  | £7.50  |
| Structured Basic .....                                       | £7.95  |
| Structured Prog. with BBC BASIC .....                        | £6.50  |
| Terminator Manual .....                                      | £4.95  |
| The Complete FORTH .....                                     | £6.95  |
| The Complete Programmer .....                                | £5.95  |
| <b>The Epson FX/KAGA PRINTER<br/>Commands REVEALED</b> ..... | £5.95  |
| Turtle Graphics on BBC Micro .....                           | £7.50  |
| Using Floppy Discs with BBC Micro .....                      | £5.95  |
| View 3.0 User Guide .....                                    | £10    |
| View Guide .....   | £4.50  |
| Viewsheet User Guide .....                                   | £10    |
| Viewstore User Guide .....                                   | £10    |
| Using BBC Basic .....  | £4.95  |
| Wordprocessing BBC Beginners Guide ...                       | £7.95  |
| Wordstar & CP/M made easy .....                              | £7.45  |
| Wordwise Plus Guide .....                                    | £9.95  |
| Z80 Applications .....                                       | £15.95 |
| Z80 Assembly Language<br>Programming .....                   | £19.95 |
| Z80 Reference Guide .....                                    | £9.95  |

## EPROM PROGRAMMER



The Watford Electronics' EPROM programmer for the BBC micro is a high quality self contained package. Programs all popular EPROMs from 2K to 16K: 2716, 2516, 2532, 2564, 2764 and 27128. All manufacturers' specifications have been followed to program EPROMs at the correct speed - wrong timings could destroy your EPROMs. The unit has its own power supply so does not put heavy loads on the BBC power supply as do some other units. Connects directly to the 1MHz bus following all Acorn recommendations on addressing and bus loadings.

### SOFTWARE PACKAGE

The software is supplied on an EPROM which plugs into the Micro and is instantly available with a single command (no time wasting as on Cassette/disc loading). It is a fully purpose designed and integrated package to simplify ROM development. The system is menu driven with many prompts to avoid any accidents.

### Software facilities include:

Load File - Save File - Down Load EPROM - Program EPROM - Verify - Blank Check - Editing of memory contents prior to programming.

Also included is an automatic system to allow Basic programs to be put in EPROM and accessed through the \*ROM filing system. More than one program may be put in an EPROM. All these facilities and more are explained in the comprehensive and clear 15 page manual.

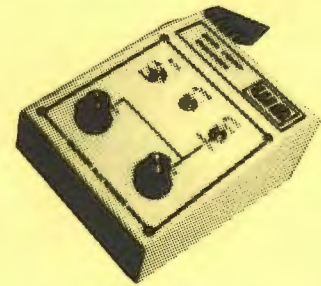
**SPECIAL OFFER £69 (£3 carr.)**

## TEX EPROM ERASERS

EPROMs need careful treatment if they are to survive their expected lifetime. Over erasure of EPROMs very rapidly turns them into ROMs! The TEX erasers operate following the manufacturers specifications to give the maximum possible working life by not erasing too fast. We use these erasers for all our own erasing work.

- ERASER EB - Standard version erases up to 16 chips. £28 (carr £2)
- ERASER GT - Deluxe version erases up to 18 chips. Has automatic safety cut-off to switch off the UV lamp when opened. £30 (carr £2)
- Spare UV tubes. £9

## BEEB VIDEO DIGITISER



Using any source of composite video (colour or monochrome) and the Watford Beeb Video Digitiser, you can convert an image from your camera into a graphics screen on the BBC Micro.

This uses the full graphics capacity of the BBC micro in modes 0, 1 or 2. The video source may be a camera, video recorder or television, and is connected via the video output socket.

Images produced can be compressed, stored to disc, printed on an Epson compatible printer, directly used to generate graphics, analysed for scientific and educational use or converted to other formats e.g. Slow Scan TV or receiving a picture from a remote camera using a modem.

The output from the digitiser exactly matches the graphics capability in each mode, with up to B levels of grey in mode 2. The unit connects into the User Port and automatically scans a complete picture in 1.6 seconds.

Both the black and white levels can be adjusted manually for the optimum picture, or switched to automatic for unattended use. The image produced can be reversed if necessary.

Full controlling software is supplied on a normal sideways ROM and this is easily accessed via additional \* commands. The package is designed to allow easy input of complex screens and give full access of the data to the user. Once on the screen, the image can be used as a normal graphics screen, allowing any of the usual graphics commands in BASIC or other ROM's to work on it.

A special print dump routine is included with the driver programs. This is specially designed to produce a fast, correctly proportioned picture, with reduced "contouring", resulting in an accurate reproduction of the original image.

Detailed examples of driving this unit from BASIC or other languages are all provided in the extensive manual supplied.

**£110 (Carr. £3)**

(Price includes: Digitiser Unit, Software in ROM & a Comprehensive Manual)

(BBC B+ and Master compatible, except Master with Econet)

## Magazine Maker

(As seen on TV)

A combination of the AMX Pagemaker and Watford's Beeb Video Digitiser.

Using any video that provides a composite signal and the digitiser, images from a camera or TV can be converted into a graphics screen on the BBC Micro.

They can then be used within AMX Pagemaker to illustrate magazines or newsletters - in fact anything that needs to be created on A4 size paper.

With Pagemaker's many features, a variety of pictures can be composed - the only limit being the imagination.

Pictures can be doctored using Pagemaker's graphics option to produce any number of effects.

Text can be formatted around the digitised photo on screen using the facilities available, which include 16 typefaces, character and pattern definer, text formatting and the ability to load in wordwise and viewfiles plus much more.

Once created the picture can be printed out.

The Magazine Maker is suitable for any use that requires illustrated documents.

**Complete Package £129.00 (carr. £3)**

## VOLTMACE JOYSTICKS

|                             |     |
|-----------------------------|-----|
| Delta 3B Single Joystick    | £10 |
| Delta 3B Twin Joysticks     | £16 |
| Delta 14B Single Joystick   | £12 |
| Delta 14B/1 Adaptor Module  | £12 |
| Transfer Software Disc/Tape | £7  |

## ROM EXTRACTION TOOL

This extremely useful tool allows you trouble free chip removal from your computer by distributing the removal force over the whole body of any 24 or 28 pin chip.

Price: £2

## SURGE PROTECTOR Plug

Fitted in place of your normal mains plug, this device protects your equipment against mains surges. Nearby lightning strikes, thermostats switching and many other sources which put high voltage transient spikes on to the mains. This can lead to data corruption in memory and on disc and can result in spuriously crashing machines. A must for every computer user.

Protection for only £6.99

## ATTACHE CARRYING CASE for BBC Micro

The Attache carrying case is attractively finished in mottled antique brown leatherette. The case is made of tough plywood, providing a very solid and safe way to carry your BBC micro. There is room provided to fit all the leads necessary behind the computer and manuals in the front.

Locks supplied with two keys. Price £13 (£2 carr.)

28 pin ZIF SOCKET (Textool) £6.95

28pin DIL HEADER PLUG  
SOLDER type £1.50  
IDC CRIMP type £1.95

## SPARES for BBC Micro

|               |     |           |       |
|---------------|-----|-----------|-------|
| Keyboard      | £46 | Keystrip  | £2    |
| UHF Modulator | £4  | Case      | £25   |
| Speaker Grill | £1  | Speaker   | £2    |
| Power Supply  | £59 | Keyswitch | £1.50 |

## Replacement FLEXIBLE KEYBOARD CONNECTOR

£3

8way DIP SWITCH £0.85

## CONNECTING LEADS

(All ready made and tested)

|   |       |
|---|-------|
| CASSETTE LEADS 7 pin DIN Plug to 5 pin DIN Plug + 1 Jack Plug | £2.00 |
| to 3 pin DIN Plug + 1 Jack Plug                               | £2.00 |
| to 7 pin DIN Plug   | £2.50 |
| to 3 Jack Plugs   | £2.00 |
| 6 pin DIN to 6 pin DIN Plug (RGB)                             | £2.50 |

## DISC DRIVE POWER LEADS

Supply from BBC power supply to standard Disc Drive connector.

Single £3.00 Dual £3.75

## DISC DRIVE INTERFACE LEADS

BBC to Disc Drives Ribbon Cable

Single £4 Twin £6

## MISCELLANEOUS CONNECTORS

|                       | Plugs | Sockets |
|-----------------------|-------|---------|
| RGB (6 PIN DIN)       | 30p   | 45p     |
| RS423 (5 pin Domino)  | 40p   | 50p     |
| Cassette (7 pin DIN)  | 25p   | 65p     |
| ECONET (5 pin DIN)    | 20p   | 30p     |
| Paddles (15 pin 'D')  | 80p   | 200p    |
| BBC Power Plug 6 way  | 80p   | -       |
| Disc Drive Plug 4 way | 75p   | -       |
| 6 way Power Connector | -     | 95p     |

# Watford Electronics' Dealer's List

## UNITED KINGDOM

AKHTER INSTRUMENTS LTD,  
Akhter House, Perry Road, HARLOW, Essex

Beebug Retail, Dolphin Place, Holywell Hill,  
St. Albans.

Cirkit Distribution Ltd,  
Park Lane, Broxbourne, Herts.

C.J.E. Micros, 78 Brighton Road, Worthing,  
West Sussex. Tel: 0903 213361.

Gemini Marketing Ltd,  
Exmouth, Devon

HCCS, 575/583 Durham Road, Low Fell,  
Gateshead, Nr. Newcastle Upon Tyne.  
Tel. 091 4870760.

Mancomp Ltd, Printworks Lane, Levenshulme,  
Manchester. Tel: 061-224 1888/9888.

Microman Computers, Rainford Industrial Estate,  
Mill Lane, Rainford, St. Helens

Peartree Computers Ltd, St. Georges Street,  
Huntingdon Cambs.

Verospeed Ltd, Boyatt Wood, Eastleigh, Hants.

## OVERSEAS DEALERS

Absolute Electronics, Rewal House, 208-210 La  
Trobe Street, Melbourne, 3000, Victoria,  
Australia. Tel: (03) 663 2411.

Alpha Computer Co, Shop 314 Chi Fu  
Commercial Centre, Chi Fu Fa Yuen, Hong Kong,  
Tel: 5-506592.

Computer Distribution Company, Parklaan, 47,  
B09300 Aalst, Belgium.

Lendac Data Systems, Unit 31, IDA Enterprise  
Centre, Pearce Street, Dublin 12. Tel: 710796.

Scientec P.V.B.S., Zilvermidstraat 2, B-2000  
Antwerpen, Belgium, Tel: 03 233 59 06

Techno-matic Data, Holbergsgade 19, 1057  
Kobenhavn K, Denmark

Velobyte, Scheaedysadyk 5a-6a, 3011 EB  
Rotterdam, Holland, Tel: (010) 413 8197/414  
5171.

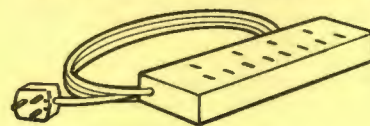
Viking Tecno, Vestergade 12.1, 9620  
Aalestrup, Denmark, Tel: 08 642522

## Viglen Console Unit

Enhance the appearance and convenience of  
your BBC Micro with the Viglen console unit.

£42 (carr. £4)

## 4 WAY MAINS DISTRIBUTION SOCKET



4 way top quality mains trailing sockets. Supplied wired up with mains plug ready for use. Can be screwed to floor or wall if required. Very useful for tidying up all the mains leads from your peripherals. Allows the whole system to be switched on from one plug. £9.50 (carr £1.50)

## ACORN MUSIC 500

BBC B, B+ & Master Compatible.

Now available, a limited number of Music 500s at give away prices. For under half the normal cost of the Music 5000 (which is, basically, the same hardware) you can receive the music package that has already thrilled thousands.

CHRISTMAS PRICE £66  
(carr £4)

Software Disc 'Mu-500'  
has 13 tunes Only: £6

## CHIP SHOP

|                  |        |                      |     |
|------------------|--------|----------------------|-----|
| 8271 .....       | £36    | Acorn BCPL .....     | £42 |
| DS3691 .....     | £3.50  | BCPL Calc Pack ....  | £15 |
| DS88LS120 .....  | £5.25  | BCPL Stand Alone     |     |
| LM324 .....      | £0.45  | Generator .....      | £36 |
| SN76489 .....    | £5.50  | Basic Editor .....   | £25 |
| SAA5050 .....    | £8.75  | BROM .....           | £28 |
| UPD7002 .....    | £4.40  | Buffer & Backup ...  | £20 |
| 2764-250nS ..... | £2.00  | Beebmon .....        | £22 |
| 27128-250nS ..   | £2.50  | Beebfont .....       | £25 |
| 27512 .....      | £18    | Acorn COMAL .....    | £36 |
| 4013 .....       | 60p    | Acorn FORTH .....    | £32 |
| 4020 .....       | £0.90  | Acorn Graphics ..... | £25 |
| 4464 .....       | £8     | Graphics Extension   |     |
| 4816 RAM .....   | £1.75  | Rom                  |     |
| 6264LP-8K        |        | GXR-B .....          | £21 |
| RAM .....        | £3.00  | GXR-B+ .....         | £22 |
| 6502A CPU .....  | £5     | Acorn LISP .....     | £35 |
| 65C02 3M .....   | £9.75  | Acorn LOGO .....     | £42 |
| 65C12 .....      | £9     | ISO Pascal .....     | £42 |
| 6512A .....      | £10.00 | ISO-Pascal Stand     |     |
| 6522 .....       | £3.40  | Alone Generator ...  | £30 |
| 6522A .....      | £5.00  | ICON Master .....    | £28 |
| 6845SP .....     | £6.00  | Logotron LOGO ...    | £52 |
| 7438 .....       | 40p    | Micro Prolog .....   | £62 |
| 74LS00 .....     | 25p    | ROMIT .....          | £29 |
| 74LS04 .....     | 25p    | Serial ULA .....     | £13 |
| 74LS10 .....     | 25p    | Video ULA .....      | £15 |
| 74LS123 .....    | 80p    | TERMULATOR .....     | £25 |
| 74LS163 .....    | 70p    | MUROM .....          | £21 |
| 74LS244 .....    | 80p    | SLEUTH ROM .....     | £24 |
| 74LS245 .....    | £1.00  | STUDIO 8 Disc .....  | £18 |
| 74LS373 .....    | £1.00  | Toolkit Plus .....   | £31 |
| 74LS393 .....    | £1.00  | Communicator .....   | £49 |
| 75453 .....      | £10p   | Disassembler .....   | £27 |
|                  |        | Help II .....        | £16 |
|                  |        | View 2.1 .....       | £37 |
|                  |        | View 3.0 .....       | £56 |
|                  |        | Hi-View .....        | £36 |
|                  |        | Viewsheet .....      | £37 |
|                  |        | Viewstore .....      | £37 |
|                  |        | Viewspell .....      | £29 |
|                  |        | Viewplot Disc .....  | £25 |
|                  |        | Datagem (Gemini) ..  | £34 |

## ASSORTED ROMS

ACORN BASIC 2 ... £19  
ACORN ADFS .....

ACORN DNFS .....

Acorn OS 1.2 .....

Acorn OS B+ .....

Prices subject to change without notice and available on request. ALL OFFERS subject to availability.

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