VOLTMACE JOYSTICK LEAFLET

With thanks to Chris Richardson at 8bs.com, 8-bit software,
The BBC and Master Computer Public Domain Library,

for allowing me to copy this from his website.

Also to Michael Foot for providing these scans.

DELTA 3B TWIN

All Voltmace joysticks are built into the same sleek black 6" × 3" polystyrene case. Their light weight and light action make them ideal hand held, not needing support from a table. The strong steel-cored nylon encased lever, runs in a ball and socket joint. This light stick action makes it easy to use and quick to spring back to the centre. Analogue joysticks use special, custom made, potentiometers matched to the joystick span to give long-life, smooth control over the full A/D range. Switched joysticks use rotary slide switches, designed to take none of the strain of the joystick lever. The spring returns the potentiometers or switches to the zero position independently of any play or wear in the joints. The type of fire buttons used have been tested for millions of operations and are particularly tolerant of excited games players. The Delta range of joysticks was developed from our DATABASE video game and hence have had extensive field testing over many years. Each joystick (except DELTA 14s) has three fire buttons to suit different hand grips. All our joysticks are made at our own factory in Baldock and carry a full twelve month guarantee.

JOYSTICKS FOR THE BBC OR ELECTRON (with PLUS 1 interface)

DELTA 3B TWIN JOYSTICKS

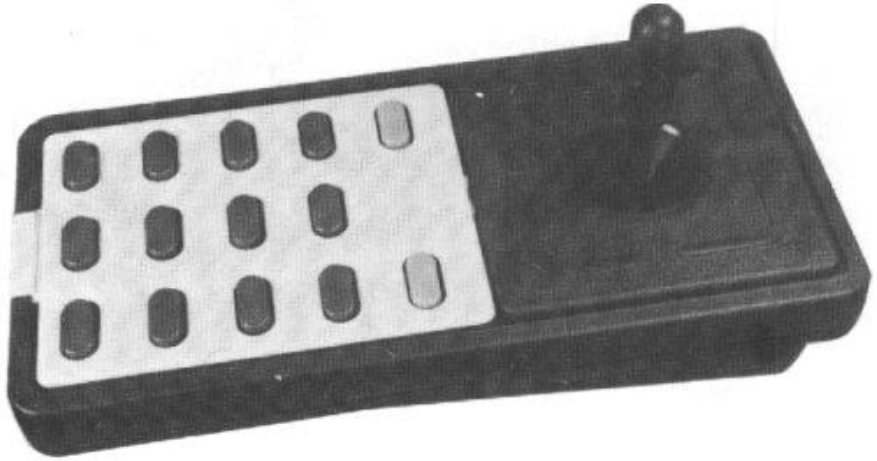
These are a direct replacement for the original ACORN joysticks with two joysticks, each with a metre and a half of lead, fitted to a single plug.

DELTA 3B SINGLE

The plug fits into the "analogue in" port on the rear of a BBC Model B or a Model A fitted with an A/D interface, or an ELECTRON with a PLUS 1 interface added.
For easy identification the three fire buttons are red on one joystick and green on the other. The function of the three buttons is the same, they are there for you to choose which one is most comfortable. The DELTA 3B TWINS are analogue joysticks with smooth control over the full A/D range to get right into the corners of graphics programs.
Analogue joysticks are essential to properly run the joystick versions of programs like SNOOKER, ELITE, REVS or AVIATOR. They can also be read in BBC BASIC using the ADVAL command.

DELTA 3B SINGLE JOYSTICK

Although the DELTA 3B SINGLE is only one joystick it is in some ways a double joystick. For instance, the three fire buttons are coloured two red and one green. The red ones are on one input channel and the green one is on the other input channel, so that you have the fire buttons from both twin joysticks on the one stick. The 3B SINGLE's potentiometers are connected to all four A/D input channels, so that if a program is written either for a Left hand or a Right hand joystick it will work on this joystick. Better than that, some programs that are written for two joysticks but that do not use them both at the same time can be run by passing the joystick from one player to the other. An example of this is ACORNSOFT SNOOKER. The first player uses the joystick and the green fire button then passes it to the other player who uses the joystick and the red fire buttons.



DELTA 14B HANDSET

The DELTA 14B has the same sensitive analogue joystick mechanism as the 3B range but, in addition it has 11 more buttons forming a keypad. As a single joystick it can be plugged straight into the "analogue in" port of a BBC or PLUS 1. The joystick part will work as normal, the top 5 buttons will all act as one fire button and the next row down will act as the second fire button similar to a 3B single. The buttons are red and olive to match the BBC and each keypad is fitted with a clip-on cream overlay to write on. One spare keypad overlay is provided with each joystick and extra overlays can be bought.

DELTA 14B/1 A/D/USER PORT INTERFACE

To use the keypad on a BBC you must have an A/D/USER PORT interface. This plugs onto the "analogue in" port of the BBC. A ribbon cable connects to the user port of the BBC, and the 14B handset now plugs into one of the two 15 way sockets on the interface box.

This gives the handset access to both the analogue port, for the joystick, and the user port, for the keypad, simultaneously. The keypad cannot be used on an ELECTRON as the ELECTRON is not fitted with a user port.

You can now include more complex remote operations in your programs all controlled by the neat hand held unit. The joystick is read normally using the ADVAL function in BASIC. The keypad can be read by accessing the user port. Instructions are provided including listings of sections of programs which show how to read the keypad and assign values to each key.

However for the non-programmer and to use the joystick or keypad on programs that were not written for it, it is best to have a DELTA DRIVER program.

DELTA DRIVER PROGRAM available on cassette or disc

Two user friendly programs let you define the keypad and then install a conversion routine in the computer to run it. One program diverts INKEY(-ve)'s from the keyboard to the joystick and keypad. INKEY(-ve) routines see if a particular key is being pressed, rather than performing a whole keyboard scan and would normally be used in machine code games. Once the routine has been installed nothing will appear to happen until a program is run that looks for the chosen keys, at which time the program will respond to the keypad not the keyboard.

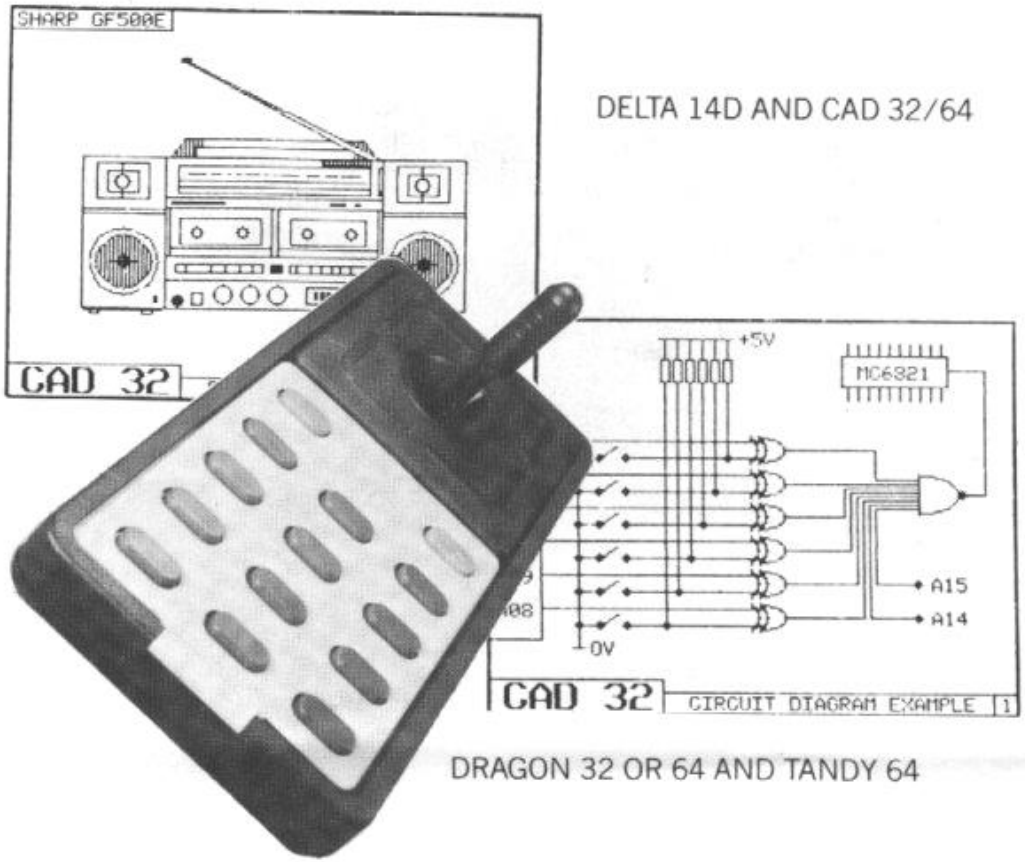
The second program runs the keypad under EVENT 4 interrupt. If a key is pressed on the keypad then the chosen ASCII value will be passed to the keyboard buffer. This means that the keypad works in the operating system such as when you are writing programs or whilst a BASIC program is running. It will allow the keypad to be used with spreadsheet programs or word processors.

JOYSTICKS ON THE ELECTRON

Joysticks will not work on the ELECTRON without an interface of some kind. One interface is the ACORN PLUS 1, for joystick, printer and ROM cartridges. The PLUS 1 accepts analogue joysticks like DELTA 3B TWIN and DELTA 3B SINGLE joysticks or DELTA 14Bs (not the keypad section).

Other kinds of interfaces are switched joystick types like the "FIRST BYTE". These interfaces take the DELTA 3S joysticks.

Unfortunately the joystick version of games written for PLUS 1 interfaces usually do not work on switched joystick interfaces and vice versa.



DELTA 14D AND CAD 32/64

DRAGON 32 OR 64 AND TANDY 64

The DELTA 14D interface runs a DELTA 14B handset, with 14 button keypad, on a DRAGON 32 or 64 or a TANDY 64. The interface simply plugs into the ROM cartridge port and a lead goes from the interface to the joystick port. A 15 way "D" socket on the interface accepts a DELTA 14b joystick. Instructions are provided to enable you to read the keypad in BASIC and how to assign values to the keys.

C.A.D.32/64. A computer aided design program specially written for the DELTA 14b handset. It is a delight to use as almost everything is controlled from the remote handset enabling you to pay more attention to the screen than the keyboard. The joystick controls the cursor, draws freehand and scrolls pages up and down. The keypad inputs commands and data to draw LINEs, BOXes, CIRCLEs or ellipses or to FILL, REFLECT, GET shapes and PUT them down elsewhere. The computer keyboard handles inputs to SAVE to cassette or DUMP to printer and to enter text in two different sizes. A program that is really useful as well as entertaining. Once symbols have been drawn they can be saved on cassette, then loaded into an off-screen page from where they can be brought and placed in the drawing area.

ATARI, COMMODORE, ELECTRON (WITH SWITCHED JOYSTICK INTERFACE), SPECTRUM (WITH INTERFACE), MSX, MEMOTECH or any other computer that takes 9 way 'D' plug.

3S JOYSTICK

SWITCHED JOYSTICKS

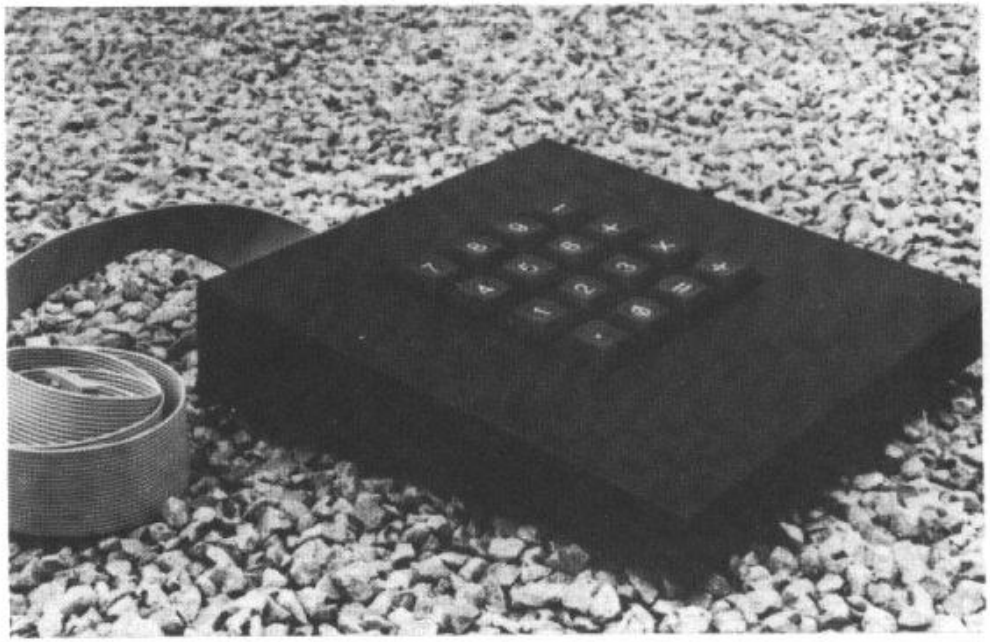
These lightweight, light action fast joysticks are fitted with a metre of lead usually terminating in a 9 way 'd' plug which suits many different computers. The rotary slide switches take no strain from the joystick because if the lever did not stop the switches could go right round. Because the switches require no pressure to operate them, the VOLTMACE DELTA 3S range has a unique fast light action. This means higher scores for a longer period.

AMSTRAD

A special version of the DELTA 3S joystick is the 3SA for the AMSTRAD 464, 664 or 6128 computers. These computers only have one joystick socket. AMSTRAD's own joysticks have a socket for a second joystick on the first joystick. We have a splitter which converts it into two sockets. Extra components are needed in the joysticks so ordinary 9 way Atari type joysticks will not work with the splitter.

QL

Another special joystick is the DELTA 3SQ for the SINCLAIR QL computer. Here the difference is the lead. The DELTA 3SQ plugs straight into the QL without needing the adaptor which the standard 9 pin joysticks require.

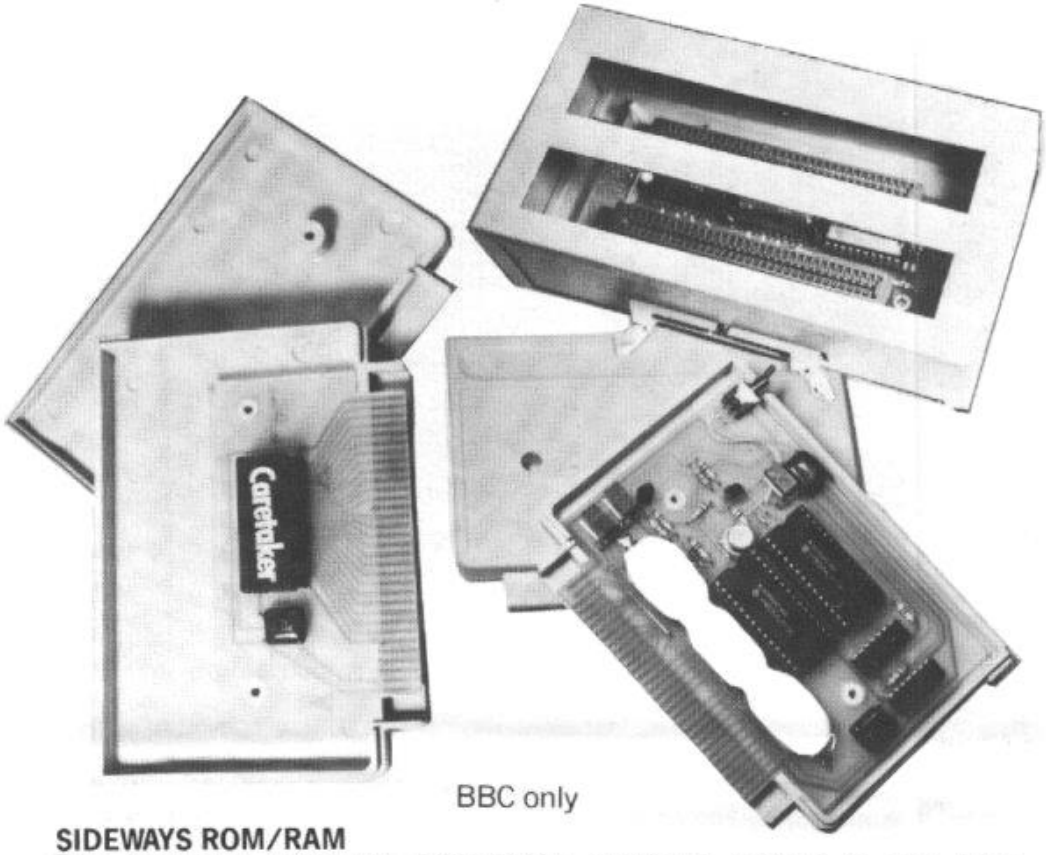


BBC and COMMODORE 64

DATAPAD 16B & 16C
This is the second model of DATAPAD that we have produced. The 16, full travel, keys are fitted into a plastic coated steel case 152 × 160 mm with a textured finish. The keys are full spec. commercial quality mechanical keys with sculptured, double shot moulded keycaps. This means that the cream legend on the keys cannot wear off as it goes right through the key. The keycaps are marked as a calculator with 4 extra keycaps provided, marked 00, ,, *, and %. Both the BBC and COMMODORE versions are programmable so the keys can be defined as any ASCII values.

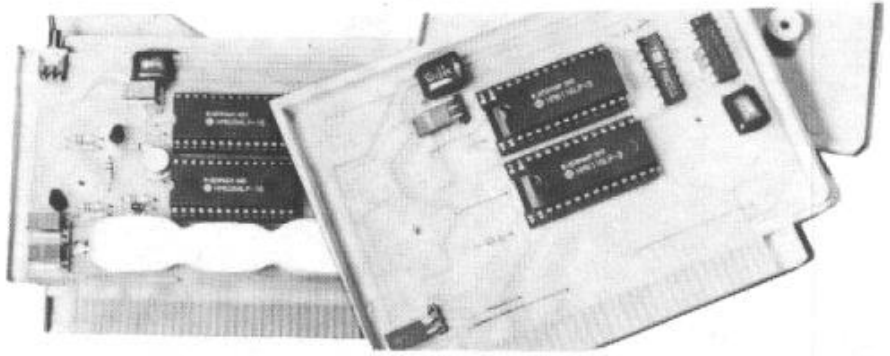
DATAPAD 16B for the BBC
The BBC version plugs into the user port via a ribbon cable. It comes complete with user friendly software to set up the keypad definitions, which can be any alphanumeric values, or function keys or any single byte VDU command. The keypad runs under interrupt and will work with word processor programs like WORDWISE or with spreadsheets like VIEW.

DATAPAD 16C for the COMMODORE 64
The CBM64 version is connected to the computer by two cables that plug into the joystick ports, so that it is not necessary to open up the computer to connect the keypad. A set up program is included which redefines characters in the shifted lower case character set for these keys. Thus in use the shiftlock is put on when moving from the keyboard to the keypad.



BBC only

SIDEWAYS ROM/RAM
The Voltmace sideways ROM/RAM cartridge system is the most straightforward answer to the complete sideways system. All your precious ROM's are stored in robust man-size (5" × 3.5") cartridges. Two cartridges can be plugged in at any one time. These cartridges plug into a buffer box which sits outside the computer and is connected via a cable assembly to the inside of the computer. Once the cable assembly has been plugged in then the computer lid can be fixed down again. The cartridges have a single sided edge connector so that even if you did manage to put the polarised moulding in at a crazy angle then no connections can be made. The buffer box provides buffering on both address and data lines and a unique feature of the system is that as you begin to unplug one of the cartridges the buffers are disabled to ensure that no data is lost or corrupted as the cartridge is removed or inserted. The system is ideal to run as an extra to other ROM/RAM boards such as an ATPL board. The most used ROMs can be fitted inside the machine and the least used, or any that give problems, like command or workspace overlaps, can be left out.
ROM CARTRIDGES are purchased as two case halves with screws and a PCB with a decoupled ROM socket on. Just plug in the ROM, screw up the cartridge and label it up.

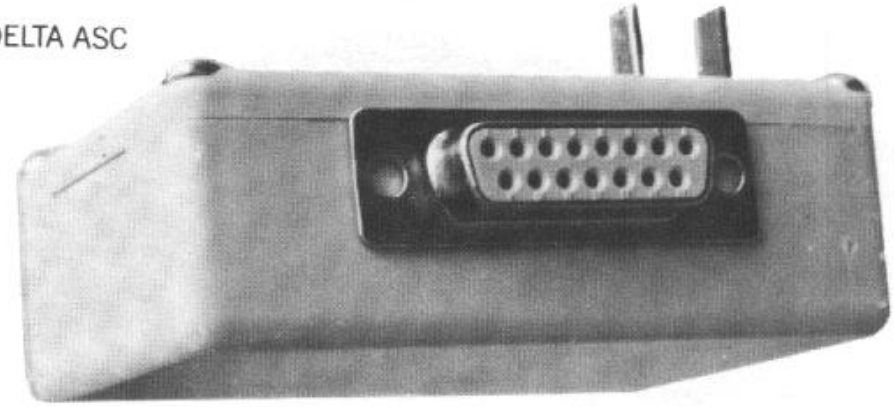


RAM CARTRIDGES are similar except that there are two sockets and a write disable switch fitted. The sockets each have a changeover plug for either fitting two 2K RAMs or two 8K RAMs.
One of the greatest advantages of the VOLTMACE system comes with its battery backed up RAM cartridges. The cartridges as before come with a PCB with two sockets on, to take either 4K or 16K of RAM with a write protect switch to prevent accidental erasure. However also on the board is a battery with on/off connecter and a shutdown circuit for when the machine is switched off or the cartridge is removed. Thus data or programs can be stored in cartridges then removed and read in other machines or used at a later date. A fully charged battery will last about a year unplugged, slightly less if left in an unused machine. Recharging takes place as soon as the cartridge is plugged in to a switched on machine. Another advantage is that if you are using one for program development and the program causes the computer to hang up when break is pressed then the cartridge can be removed; the computer soft reset; and the cartridge plugged back in to continue developing the program.
Two 16K RAM cartridges can be plugged in together, which with a sideways ROM/RAM board in the computer means 48K of RAM can be added with one buffer box. As the only sideways ROM/RAM fitted the sockets are the high priority sockets (any two of 13, 14 or 15). With another system fitted they become the low priority sockets (1, 2 and 3).
Used on its own the system is ideal for non-expert users of the computer as any language ROM plugged into the #1 socket of the box will immediately be operating at switch-on or hard reset.

DRAGON & EINSTIEN DELTA 3D & 3E

The DELTA 3D joysticks for the DRAGON are analogue joysticks the same as those described for BBC computer except that they are fitted with 1.5 metres of cable terminating in a 5 pin DIN plug to suit the DRAGON or TANDY computers. Because the two sockets on the DRAGON are close together on the side it is difficult to tell at a glance which one is plugged into which socket so we make them with red or green fire buttons for easy recognition. A very similar joystick to the DRAGON is produced for the TATUNG EINSTIEN computer and is fitted with the necessary 7 pin DIN plug.

DELTA ASC



The DELTA ASC means you can have the best of both worlds. ASC stands for analogue to switched converter. This means that you can have some external control over the way that a joystick operates a program. The ASC has two modes of operation.
In ASC mode an analogue joystick acts like a switched joystick. This means that if the software has been written with a/d values which are near the edges of its travel, you can make it operate with a very small deflection from the centre.
In "Reduced sensitivity" mode you can make the full span of the joystick run only the centre half of the a/d span. This means that you can make much finer adjustments to programs like flight simulators.
The ASC BOX fits in series with an analogue joystick and its operating modes are selected by switches on the unit.

PRICE LIST

DELTA 3B TWIN	£19.95	DELTA 3B SINGLE	£12.00
DELTA 14B	£14.95	DELTA 14B/1	£19.85
DELTA DRIVER CASSETTE	£5.95	DISC	£9.95
DELTA 14D INTFCE	£14.95	CAD 32/64	£4.95
DELTA 3D	£10.00	DELTA 3E	£12.00
DELTA 3S	£10.00	DELTA 3SA	£12.00
AMSTRAD SPLITTER	£6.95	DELTA 3SM	£12.00
DELTA 3SQ	£12.00	DATAPAD 16C	£34.95
DATAPAD 16B	£39.95	ASC	£9.95
SIDEWAYS SYSTEM	£39.95	ROM CARTRIDGE	£3.50
RAM CARTRIDGE	£9.95	RAM CARTRIDGE BATTERY BACK UP	£19.95

These suggested retail prices are correct at the time of printing this leaflet but are subject to change.

Available through dealers or direct from:
Voltmace Ltd., Park Drive, Baldock, Herts. Tel. 0462 894410