VOLTMACE DELTA 14B HANDSETS

DELTA 14B HANDSET AND DELTA 14B/1 ADAPTOR BOX FOR THE BBC MICRO

The DELTA 14B handsets are lightweight easy to hold units with a sensitive sprung return to centre joystick combined with a 14 button keypad. Both the stick and the keypad were developed in a video game environment over a number of years to produce a tried and tested reliable unit. The versatility of the BBC machine means that the joystick system is programmable and programs written for the keyboard can be intercepted at the indirection point and diverted to include the keypad. You can even convert software written for keys only to be joystick controlled. Away from games the DELTA 14 can be used as a numeric keypad or to duplicate any other keyboard keys that have an ASCII value. The handset comes complete with suggested listings for inclusion in your own programs or to load and run before other programs to convert them to the keypad.

One handset will plug into the analogue 15 way 'D' socket on the rear of the micro and will run games written for joysticks. An adaptor box plugs between the handset and the micro and joins by cable to the user port and now you can use the full benefit of the keys and conversion programs. A second joystick can plug into the adaptor box. The second joystick socket also gives access to two A/D channels and some of the user port for external devices which may be required at the same time as a joystick.

For full specification see over

DELTA 14B HANDSET	£11.25	
DELTA 14B/1 ADAPTOR BOX	£12.15	
DELTA DRIVER CASSETTES	£5.15	
DELTA DRIVER DISC	£8.95	Please state 40 or 80 track

Please add 15% VAT and £0.75 for postage and packing

WATFORD ELECTRONICS

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SPECIFICATION

Black polystyrene case with a nylon encapsulated steel shafted joystick in a ball and socket joint. The joystick is returned to the centre position by springs acting directly on the gimbals and potentiometer shafts giving a centre position independent of play or wear in the ball and socket. The 1ØKohm potentiometers use graphite wipers for longer life without the "jitters". The potentiometers are set up to use close to the full range of the A/D converter and to give a half value at the centre , compatable with ACORN and similar software. Each handset has 14 pushbuttons arranged in 3 columns and four rows to give 12 buttons with two extra fire buttons common to the centre button of the top row. The push buttons are made of a silicon rubber pad operating onto a plated P.C.B. with separate rigid plastic caps for each button. A cream coloured overlay is supplied blank so that it can be written on or labelled to the users own requirements. Spare clip on overlays can be purchased.

DELTA 14 HANDSET SYSTEM LEVEL 1

One handset will plug into the 15 way A/D port of the computer. This gives analogue use of the joystick on channels Ø and 1 of the A/D which is available in BBC BASIC as the value of ADVAL(1) and ADVAL(2) . Two sets of fire buttons are available and their status is available in BASIC by ADVALØ AND 3 = X. For no buttons pushed X=Ø; for one of the top row pushed X=1; for one of the second row X=2 and for any of the top and second rows together X=3. This means that on it's own one handset will work for games that have been written for joysticks. The top 5 buttons will all work as one fire button and the next row of three buttons will work as if they were the fire button of a second joystick.

DELTA 14 HANDSET SYSTEM LEVEL 2

The DELTA 14B/1 adaptor box plugs onto the A/D 15 way "D" socket and a ribbon cable from the box fits into the user port giving access to the VIA 6522 port "B".

Software strobes the button columns with PB4,PB5 and PB6 and reads back four rows on PBØ,PB1,PB2 and PB3. The eigth line PB7 is used to switch a quadruple 2 to 1 data selector to read either the left or right handset. The adaptor box has two 15 way sockets on it for left and right handsets. Handsets are identical and can be used in either socket. The rear socket gives input on A/D channels Ø and 1 and fire button on Io Ø. The side socket gives input on channels 2 and 3 and fire button on Io 1. Existing software intended for simple joysticks will run as long as the column lines are grounded before starting. This is done by typing in *FX151,98,112 (RETURN) and *FX151,96,Ø (RETURN).See pages 435 & 468 of the BBC user guide.

ADAPTOR BOX AND ONE HANDSET

To use one handset whilst using the second part of the A/D and the user port as other input/output such as to control a robot or to keep a graphic plotter on line, plug the joystick into the rear socket. The second socket will give continuous input for A/D channels 2 and 3 and the software can stop the strobe and use PB4,PB5 and PB6 as input or output. PBØ,PB1,PB2,and PB3 can only be used as input as they are passed through the data selector.PB7 which switches the data selector can be used as a signal to a device in the second socket to tell it when data to or from it is valid.