

**dk'tronics Joystick Interface**

2004 OCR'd by Wilko Schröter

# Instructions for Joystick Interface



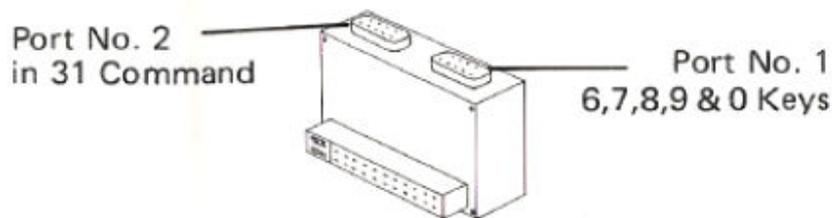
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## Instructions for using your DK'Tronics joystick and interface.

First, plug the joystick into the port required, i. e. Port No. 1 for software using 6, 7, 8, 9 or 0 keys, or any software with a key change option.

If your software is compatible with a kempston type joystick i.e. (IN 31) then, plug your joystick into port No. 2.

Having done this attach the interface to the expansion port at the rear of your Spectrum. Load your Software and enjoy the benefits of our superb joystick and advanced interface.



The joystick and interface can also be incorporated into your own programs. Listed below are two test routines and example programs.

Port No. 1 i. e. keys 6, 7, 8, 9 and 0.

Plug in joystick to port No. 1. Then, move the joystick left, right, up, down and fire. The numbers 6, 7, 8, 9 and 0 will be printed on the screen.

Port No. 2 i. e. IN 31 command.

Enter the short program listed below:

```
10 PRINT IN 31
15 INPUT INKEY$ = "Y"
20 GOTO 10
```

Then with movement of the joystick the numbers, scrolling on the left side of the screen will change value (no movement will return zero's).

Example program for port No. 2 (i. e. IN 31 command).

```
100 LET X = 11: LET X1 = 11: LET Y = 15: LET Y1 = 15
110 PRINT AT X, Y; "0"
120 LET Y1 = Y1+ (IN 31 = 1 AND Y<31)-(IN 31 = 2 AND Y>0)
130 LET X1 = X1+ (IN 31 = 4 AND X<21)-(IN 31 = 8 AND X>0)
140 PRINT AT X, Y; " "
150 LET X = X1: LET Y= Y1: GOTO 110
```

NOTE: Port 2 (IN 31 command) returns the following values with the joystick connected.

- 0 = NO PRESS
- 1 = RIGHT
- 2 = LEFT
- 4 = DOWN
- 8 = UP
- 16 = FIRE

The four directions and the fire button give combined readings, thus giving eight directions i.e., a port value of 26 = 16 (for fire) + 8 (for up) + 2 (for left) etc.

Using machine code

Port No. 2. (IN 31 command)

ld bc, 31

in a, (c)

bit 0, a

jr nz, RIGHT

E.T.C.

where bit 0 = RIGHT

bit 1 = LEFT

bit 2 = DOWN

bit 3 = UP

bit 4 = FIRE

Reading this port without a joystick interface connected may not return a constant value.

To test the joystick on keys 6, 7, 8, 9, and 0 change lines 120 and 130 of the previous program to:

```
120 LET Y1+ (INKEY$ = "7" AND Y<31)-(INKEY$ = "6" AND Y>0)
130 LET X1 = X1+ (INKEY$ = "9" AND X<21)-(INKEY$ = "8" AND X>0)
```

NOTE:

Only four directions and fire are available in this fashion, and they may not be combined.

## **SPECIAL FEATURE**

When writing your own programs you can incorporate both ports of the DK'Tronics joystick interface simultaneously.

Thus giving you the options of using two joysticks controlling two separate objects on the screen at the same time.