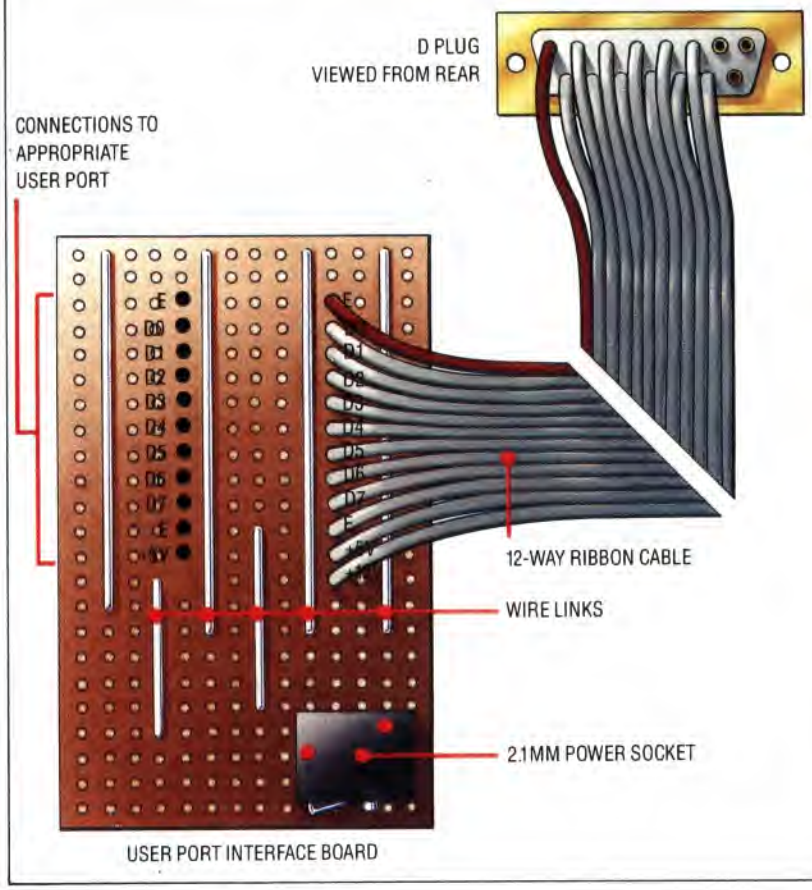


Parts List

MAPLIN

No	Item	Source
1	15-way D socket	BK59P
1	15-way D cover	BK60Q
1	2.1 mm power socket	RK37S
1	20-way IDC connector (BBC)	FG87U
1	24-way edge connector (C64)	BK74R
1	strip self-adhesive pads	HB22Y

MISCELLANEOUS

4m	12-way ribbon cable
1m	20-way ribbon cable (BBC)
1	12v 1 amp DC supply

Interfacing To The User Port

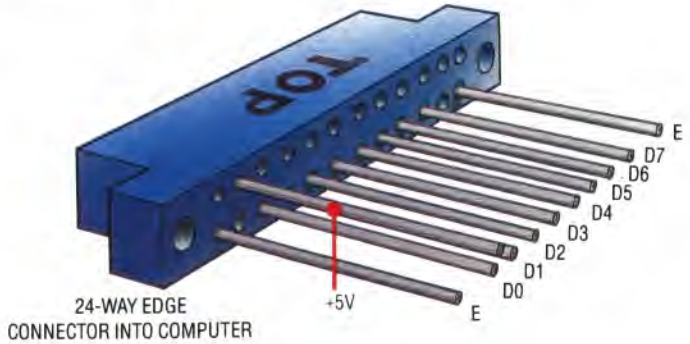
Having completed the internal connections for the Workshop robot we have to design a simple interface board to allow us to control the robot from the user port and to supply the 12v DC required by the stepper motors.

Cut a 24 strip by 14 hole piece of veroboard and connect three metres of 12-way ribbon cable to the board as shown. Using the red stripe down one edge of the ribbon cable as a guide, solder the 12 wires to the relevant pins of a D socket as shown and fit the D socket cover to secure the cable.

Mount the 2.1mm power socket on the board, noting the orientation of the pins. The central pole of this socket is negative. Then make the wire links as shown. The user port connections are also shown but here BBC Micro and Commodore 64 owners must part company as the user port plugs for each machine are different

BBC Micro

Commodore 64



Making Connections

Once the motor connections have been made it remains only to make the appropriate connections to the D plug, mounted on the lid of the robot body. The diagram shows the relevant pin connections for the D plug, viewed from the underside of the lid. Using a short length of 12-way ribbon cable, connect the data lines, D0 to D3, the +5v, the +12v and earth connections to the circuit board. Again, you must refer to the circuit board diagram given on page 837 for the correct wiring positions for these lines to the circuit board. Take special care to ensure that the +12v power line is connected to the correct point on the circuit board. Failure to do this could damage the internal circuits of your computer. Note that the data lines, D4 to D7, are *not* to be connected at this stage, as they are reserved for the input sensors we shall be adding to the robot in future instalments.

All the connections inside the robot are now complete. Find a suitable place inside the case for the circuit board to rest and secure it with self-adhesive pads. Close the lid and secure with the four corner screws supplied