

1. Breadboard system

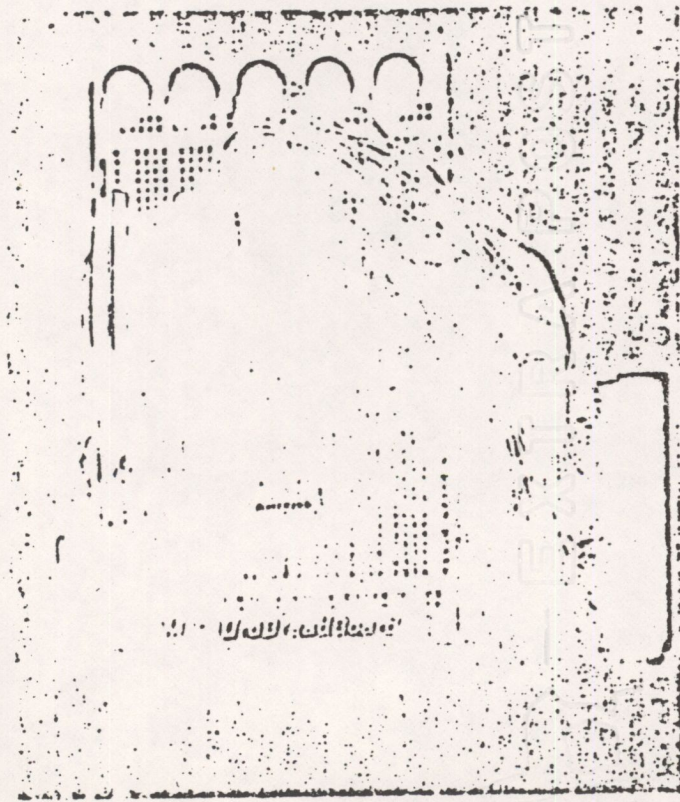


FIG 10h - BREADBOARD SYSTEM

Many different types of breadboards are available. Most modern ones have metal contact strips with about 5 contacts per strip. These strips are moulded into a plastic baseboard. The leads to components such as integrated circuits, resistors, capacitors etc can be pushed through holes in the plastic to make contact with the metal strips underneath. Connections between components can then be made with lengths of single core insulated wire. These pieces of wire have about 5mm of insulation stripped from each end. The wires then push into the relevant holes on the breadboard.

This type of construction for circuits is very quick and easy. Once you have finished with a circuit it can be unplugged and a new one can be constructed. A breadboarding system is illustrated in fig 10h. This shows the prototype P10 in addition, an extra power supply and the 128 I/O ports circuit. Single strand wires were soldered onto the Spectrum edge connector at one end. The other end is left free to connect to anywhere on the breadboard.

14. EXPERIMENTING WITH THE EDGE CONNECTOR

This chapter provides lots of practical information which will be required by those who want to connect their own circuits up to the Spectrum. It should be read in conjunction with chapter 12 which explains each of the edge connector signals a pin by pin basis. To illustrate how some of the signals can be used there are some small circuits and associated test programs.

WHAT YOU WILL NEED

The first piece of hardware which you must have is a suitable connector to plug into the back of your Spectrum. A connector will allow you to solder wires onto various contacts very easily.

The type of connector required is a 28 way double sided 0.1" pitch edge connector with a key in position 5. The key is there to locate the connector in the correct position. You should be able to purchase a connector like this from your local computer/electronics store or by mail order. If you have any difficulty getting one it is possible to use a standard 43 way 0.1" double sided connector with a key in any position from 5 - 20. The extra contacts can then be carefully cut off with a hacksaw to produce the correct size of connector.

Now that you have got your connector you will want to start connecting some circuits to it. Two simple options are available: