

## SERVICE DATA

Modification of earplug: Connect a 330 ohm resistor between signal and earth leads of earplug to allow earplug to be left in place while saving a programme.

Inserting or removing such items as joysticks, especially via a Kempston interface, while the computer is switched on will damage the power resistors and regulator.

Modification to voltage generator circuit: Where not fitted already, insert a 22uf capacitor between the TR4 and D15 as shown in the circuit diagram, this will ensure the correct 12v supply. On early models replace R60 by a 270 ohm resistor and fit C74 if missing. Ensure that the 12v supply is 12v.

Manufacturer's advised modifications: In early versions replace all ceramic capacitors by axial ones and replace C46 by a high-temperature 1uf type. All resistors to be changed to show the second value show in centre pages circuit diagram herein; same applies to capacitors.

Weak sound: Only if particularly noticeable should the sound section be changed to same as shown herein.

Tape and Sound Circuits: 5Vp-p at ear socket for 2Vp-p at IC1 verifies IC1.

Alignment: Only needed for early models. Place meter on pin 4 of IC4 and adjust VR1 to obtain 130mV; adjust VR2 to obtain -75mV at pin 2 with a 20mV allowable error either way. Use TC2 to set colour subcarrier frequency to 4.433619MHz to 50Hz either way. TC1 only helpful to improve screen colour pattern.

Alignment: All models. Run the programme to display the eight colours in sequence from black to white. This is normally given as:-

```
10 FOR A=0 TO 7
20 FOR B=0 TO 3
30 PAPER A: PRINT " ";
40 NEXT B
50 NEXT A
60 GOTO 10
```

If this shows incorrect or missing colours then align as stated for early models. See repair data for later models.

