

E.H.T. POWER SUPPLIER PS1/14

Introduction

This unit supplies the main operating voltages for cathode ray tubes such as the M.O. 1374Q. It accepts a d.c. feed of between 17 and 21 volts and generates a positive e.h.t. supply, a negative h.t. supply, and a positive supply for use with neon indicators. When the unit is driven from a 20-volt supply the output voltages provided are:

- +7.5 kV at 100 μ A
- 920 V at 3 mA
- +125 V at 2 mA

When the unit is driven from a lower voltage the outputs obtained are less by an amount proportional to the change in input voltage.

The unit is constructed on three printed-wiring boards and these are housed in a metal box fitted with a detachable cover. The dimensions of the

unit are $4\frac{1}{4}$ in. \times 3 in. \times $2\frac{3}{8}$ in. and its weight is about 1 lb.

Circuit Description

The circuit diagram is shown in Fig. 1. The input voltage powers a free-running multivibrator (operating frequency about 17.5 kHz) comprising transistors TR1 and TR2. The multivibrator output is applied, via transformer T2, to a pair of transistor switches, TR3—TR4, and these drive current through the primary winding of transformer T1. The voltage developed across the secondary winding of T1 is applied to a voltage-multiplying rectifier circuit to produce the e.h.t. supply. Voltages taken from tapping points on the transformer secondary are separately rectified to produce the -920 volt and +125 volt supplies.

TES 6/68

See overleaf for Fig. 1

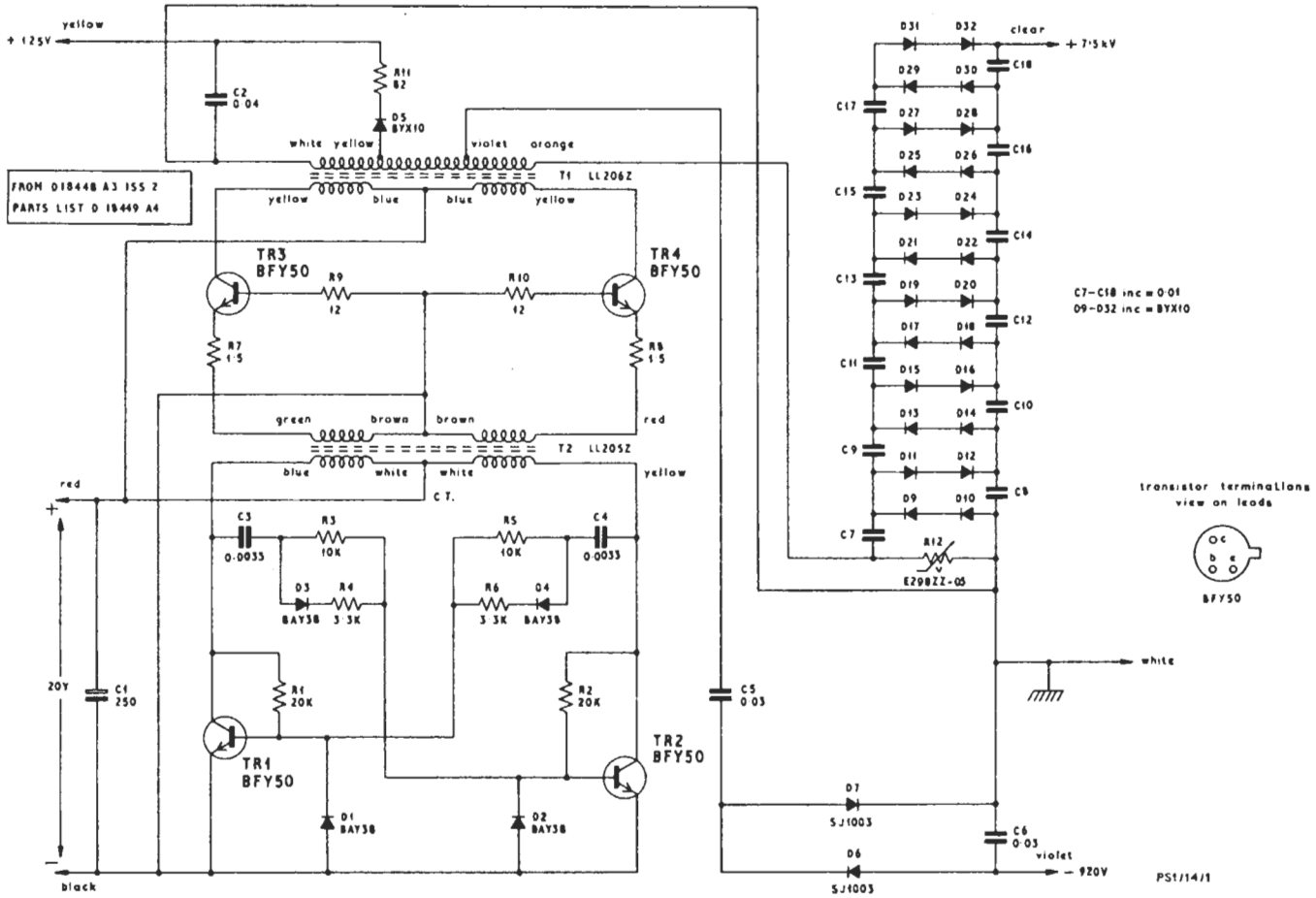


Fig. 1. Circuit of the PS1/14