

Figure 10. The mains-on delay ensures that the switch-on current remains within certain limit. Two of these delays are required for each Titan 2000.

The delay arranges for the load, that is, the Titan 2000, to be switched on in two stages. In the first of these, the switch-on current is limited by series network R₄-R₇. After the delay determined by capacitors C₂ and C₃, the series network is shorted by a relay contact, whereupon the full current flows between K₁ and K₂.

Relay Re₁ can switch up to 2000 VA. Its supply voltage is obtained from the mains with the aid of rectifier B₁, capacitor C₁ and resistor R₃.

Since the amplifier power supply uses two mains transformers, two mains-on delay circuits are needed.

Fuse F₁ functions as a primary mains fuse for the amplifier.

Capacitor C₁ is a metallized paper type intended especially for use with mains voltage applications.

Bear in mind that the circuit is linked directly to the mains supply and thus carries lethal voltages.

Next month's third instalment of this article deals with the construction of the amplifier, a few other practical matters, and some measurements.

[990001-2]

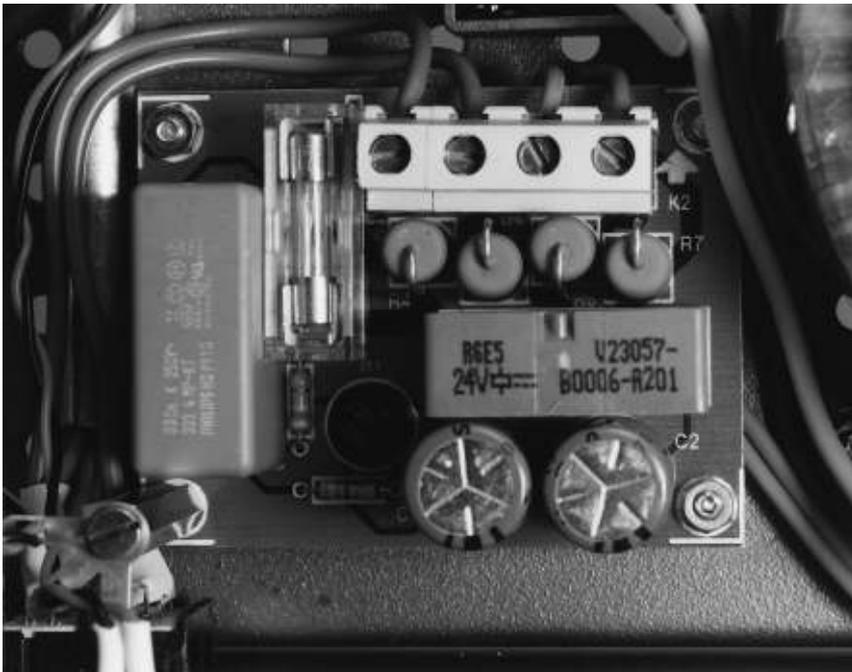


Figure 11. Printed-circuit board for the mains-on delay circuit, which is not available ready made.

Parts lists

Mains-on delay circuit

Resistors:

- R₁, R₂ = 470 kΩ
- R₃ = 220 Ω
- R₄-R₇ = 10 Ω, 5 W

Capacitors:

- C₁ = 0.33 μF, 300 V a.c.
- C₂, C₃ = 470 μF, 40 V

Miscellaneous:

- K₁, K₂ = 2-way terminal block, pitch 7.5 mm
- B₁ = bridge rectifier, round, Type B250C1500
- Re₁ = relay, coil 12 V, 1200Ω; contact rating 250 V, 8 A
- F₁ = see text

