

FAULT INDICATOR UNIT IN5/501

Introduction

The IN5/501 accepts three alarm signals at low level which, after amplification, operate relays. The outputs operate indicating lamps and open a normally-closed relay-contact circuit. The unit forms part of the Television Automatic Monitor (Transmitter) MN2M/505.

General Specification

Alarm Sensitivity

| | |
|-------------------------------|----------------------------|
| Input 1 (main) | 10.7 volts p-p at 1 kHz |
| Input 2 (reserve) | +5.5 volts |
| Input 3 (low-frequency error) | 30 mV p-p at 100 Hz |

Construction CH1/12A

Index Pegs 16 and 24

Power Supplies +24 volts

Circuit Description

The circuit diagram is given in Fig. 1. The main alarm signals at input 1 consist of random signal-level changes and impulse noise; these are always positive. The combinations of D1, C2, R1

and D2, C3, R3 increase the duration of impulsive noise signals. When the amplitude across C3 rises sufficiently to offset the bias developed across zener diode D3, transistors TR2 and TR3 conduct and relay RLA operates. This gives a local alarm signal, by extinguishing the normally-lit lamp LP1, and a remote alarm signal by the opening of a second set of contacts.

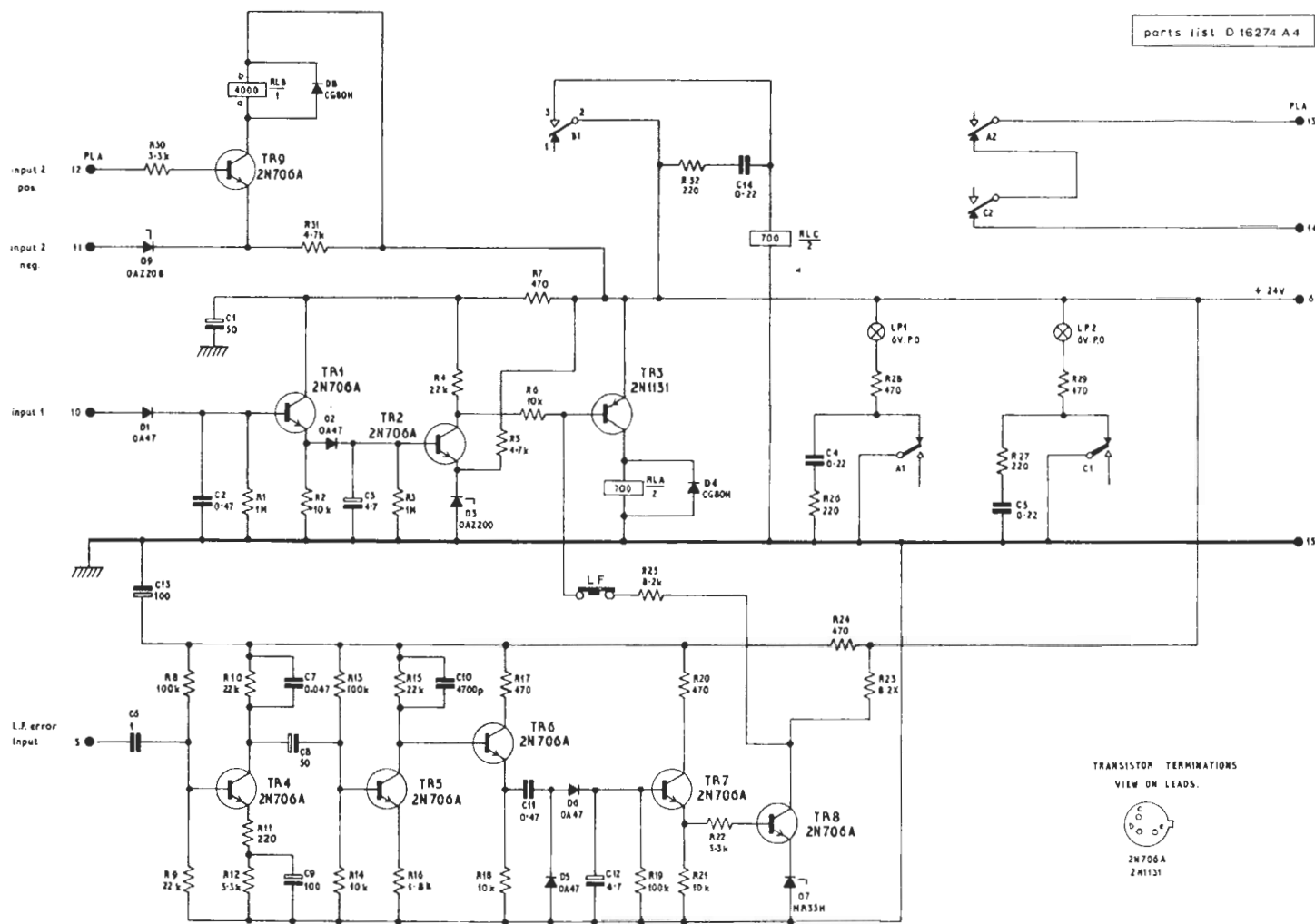
The signals at the reserve input always drive the base of TR9 positively. When the amplitude of the signals exceeds the bias from the zener diode D9, transistor TR9 conducts and relay RLB operates followed by relay RLC. This gives a local alarm by extinguishing normally-lit lamp LP2 and a remote alarm by opening a second set of contacts.

The signals at input 3 are at low frequency. After amplification by TR4 and TR5 they are rectified by a voltage doubler circuit. If the amplitude across C12 rises sufficiently then TR8 conducts and drives TR3 into conduction; relay RLA then operates as already described.

A pushbutton switch is fitted in the output of the l.f. error circuit. If a fault is indicated by the main alarm lamp LP1 only, and if operation of the pushbutton clears the indication, then there is an l.f. alarm signal incoming to input 3.

AIB 7/67

See overleaf for Fig. 1



parts list D 16274 A 4

Fig. 1 Circuit of the INS/501