

VIDEO BREAK DETECTOR UN20/532

Introduction

The UN20/532 is designed to give an indication if any breaks occur in a supply of 625-line mixed syncs. The indicators are a lamp and a relay the contacts of which are available for external use or for switching an internal 600-ohm attenuator. Breaks of less than one line period are ignored.

A printed circuit board is used.

General Specification

- Input (mixed syncs)* 2 V p-p
- Minimum Detectable Break of Signal* adjustable between 64 μ s and 20 ms
- Minimum duration of lamp and relay indication* 0.8 s
- Attenuator Loss* 15 dB or 30 dB
- Operating Temperature Range* 20°C to 45°C

Circuit Description

The circuit diagram is given in Fig. 1. The input mixed syncs are differentiated by C1, R1, the positive-going pulse is passed by TR1 and triggers IC1, a monostable multivibrator. As long as the triggering pulses persist, i.e. there are no breaks of duration equal to or more than one line, the multivibrator will be held in its unstable state with lamp LP1 out and the relay energised. If a break occurs having a duration of one line or more, the relay releases for a minimum period of 0.8 s, TR4 conducts and LP1 glows.

The minimum detectable break duration of the input signal is preset by adjustment of C2.

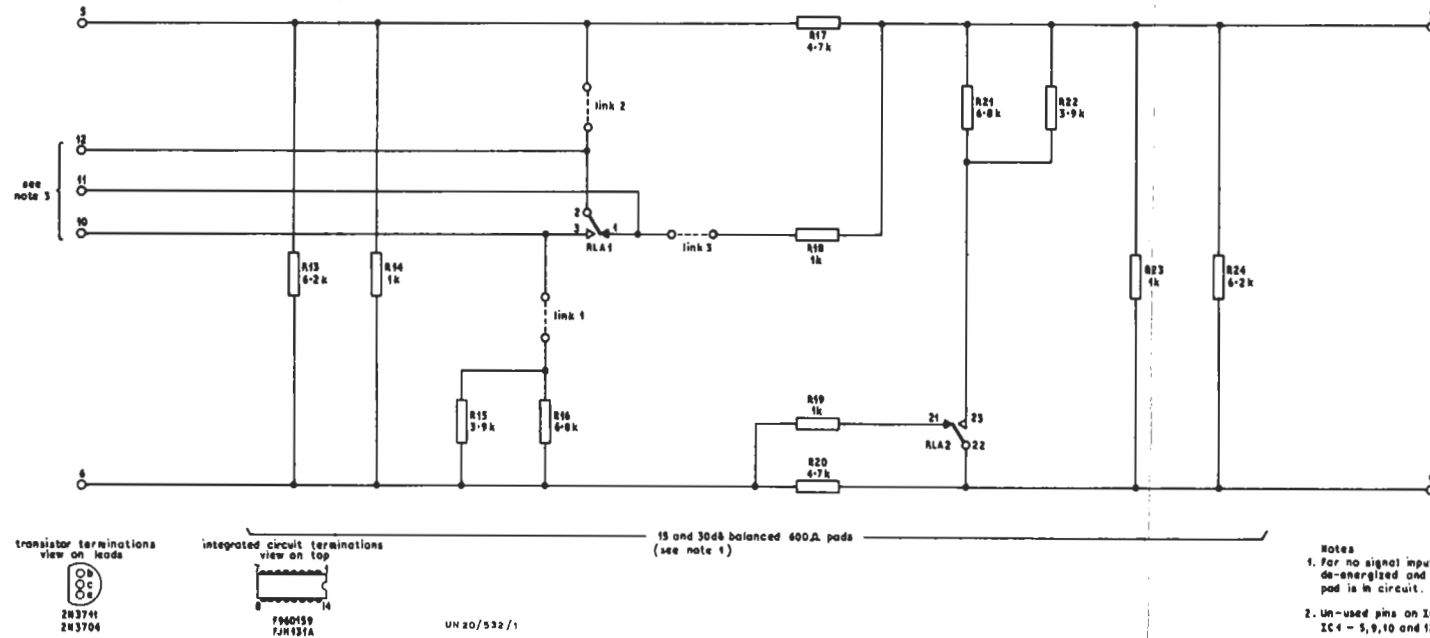
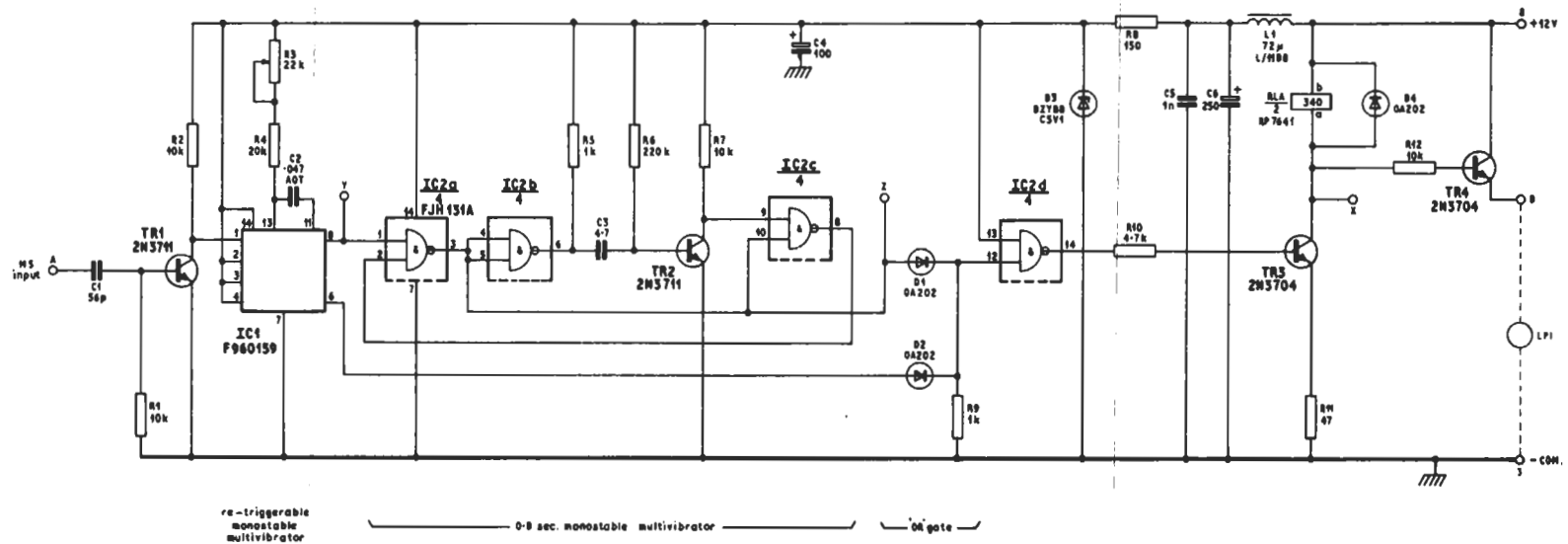
If links 1, 2 and 3 are in position, the relay switches the attenuator giving 15-dB or 30-dB loss. Thus, if an audio signal is provided, a change in level can supplement LP1 in calling attention to a break in the input signal. If the links are removed, the relay contacts can be used to control external apparatus.

The operation of the circuit is summarised in Table 1. Positive logic is used with logic 0 corresponding to 0 V approximately and logic 1 to levels between +2.4 volts and +5.4 volts.

Reference

1. Designs Department Specification No.11.81(69)

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- Notes**
1. For no signal input, RLA is de-energized and the 15dB pad is in circuit.
 2. Un-used pins on IC's IC1 - 5, 9, 10 and 12
 3. Contacts available when links 1, 2 and 3 are removed.

Circuit Point	Input Condition		
	signal continuous or break <1 line	break >1 line <0.8s	break >0.8s
IC1-1	-ve going pulses line rate	1	1
IC1-8	1	0	0
IC1-6	0	1	1
IC2-10	0	1	1 for 0.8s
D1	cut off	conducts	conducts for 0.8s
D2	cut off	conducts	conducts
IC2-12	0	1	1
TR3(b)	1	0	0
RLA	operated	released for 0.8s	released
LP1	out	glowing for 0.8s	glowing