

VIDEO SWITCH NE1/524

Introduction

The NE1/524 is a replacement for the NE1/514 and forms part of a stabilising amplifier¹; it selects one of two video input signals by means of a circuit which ensures that the changeover takes place during the field-blanking period. The unit also routes a burst-error signal to the appropriate section of the parent stabilising amplifier.

The NE1/524 is constructed on a printed-wiring card. The card is supported by two brackets which can be mounted on the same fixing holes as a Painton 15-way connector.

General Specification

Inputs

Video B (Fade)	output from cut/fade amplifiers, amplitude 0.8V p-p
Video A (Wipe)	output from split-screen effects unit, amplitude 0.8V p-p
Field Phasing	mixed-syncs or syncs-and-burst from sync-switch unit
Burst Error	low-level colour-burst correction signal from AM1/558

Outputs

Video	either Video A or Video B, as selected
Burst Error	burst-error input signal (except when RLC is energised)

Switch 'On' Resistance less than 30 ohms

Switch 'Off' Capacitance less than 3 pF

Power Supply Requirements +12 V, -14 V relay operating supply 24 V.

Circuit Description

A circuit diagram of the NE1/524 is given in Fig. 1.

Video Switch

A feed of mixed syncs, or syncs-and-burst, is applied to the inverter stage TR1. The broad-pulse component of the inverted signal is integrated by C2 and fed to TR2. Transistor TR2 drives a bistable multivibrator comprising transistors TR3 and TR4; when TR2 conducts TR3 conducts also and the change in its collector potential drives TR5 into conduction. When TR5 conducts, the field-effect transistor TR7 is driven into conduction and the video B (Fade) signal is routed through TR7 to the output of the unit.

In the absence of a mixed-sync input signal the switch conditions are reversed; i.e. TR7 is cut off and TR8 conducts to route the Video A signal to the output of the unit.

Note that, if the unit loses its power supplies, both switches are turned on and the A and B inputs are bridged.

Burst Error Circuit

When relay RLC is not energised (i.e. under normal conditions) contact RLC-1 routes the burst-error signal to the appropriate section of the stabilising amplifier. For test purposes, the route can be interrupted by energising relay RLC.

Maintenance

The operation of the switch circuit can be checked by connecting a toggle switch between points Q2 and Q3 on the printed-wiring card. With the toggle switch open the video B signal appears at the output of the unit. With the toggle switch closed, the video A signal appears at the output of the unit.

References to Typical Associated Equipment

1. Sync Pulse Stabilising Amplifier AM18/503A

TES 11/71

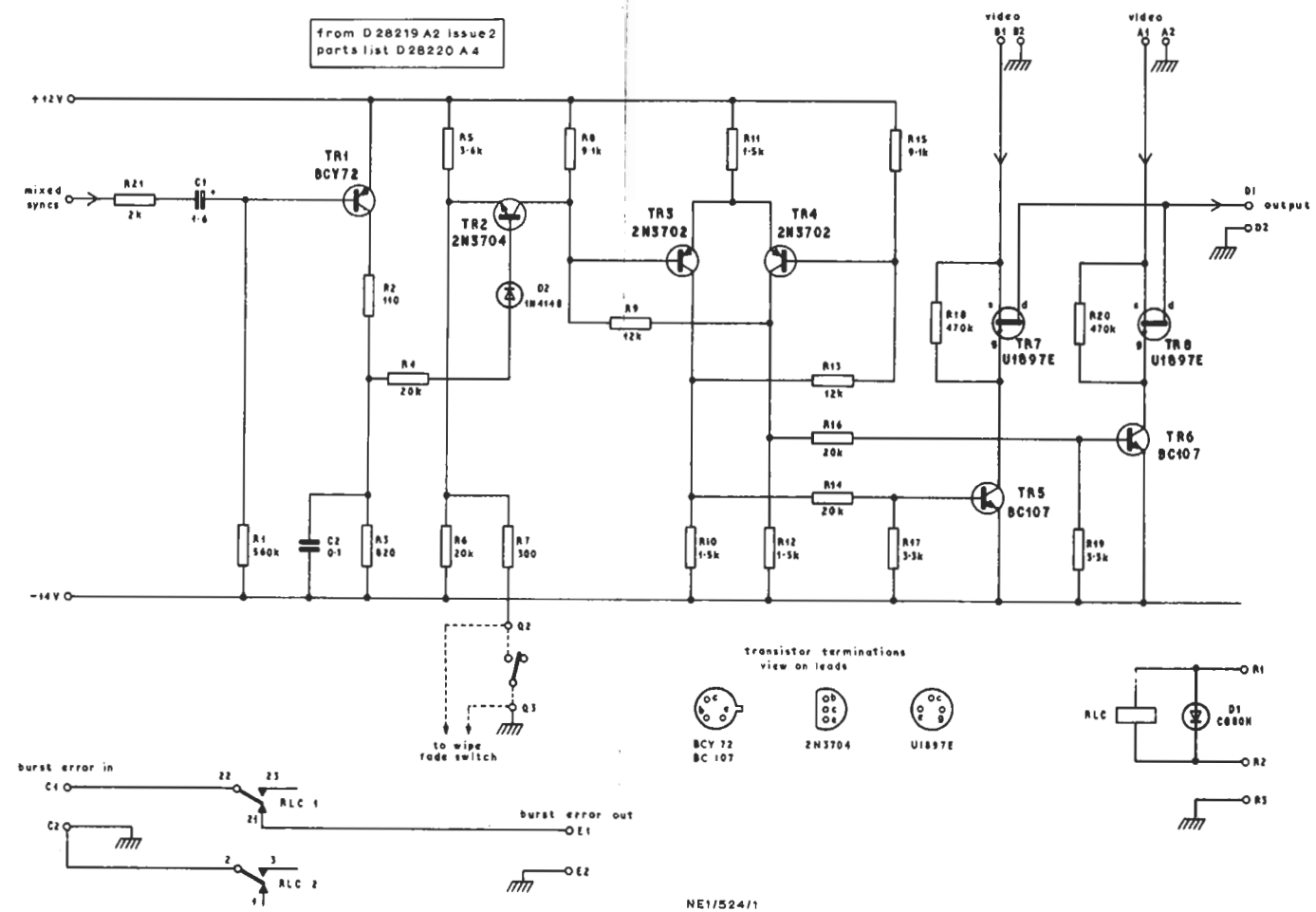


Fig. 1 Circuit of the Video Switch NE1/524

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General Specification

Inputs

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- Video A (Wipe) output from split-screen effects unit, amplitude 0.8V p-p
- Field Phasing mixed-syncs or syncs-and-burst from sync-switch unit
- Burst Error low-level colour-burst correction signal from AM1/558

Outputs

Video either Video A or Video B, as selected

Burst Error burst-error input signal (except when RLC is energised)

Switch 'On' Resistance less than 30 ohms

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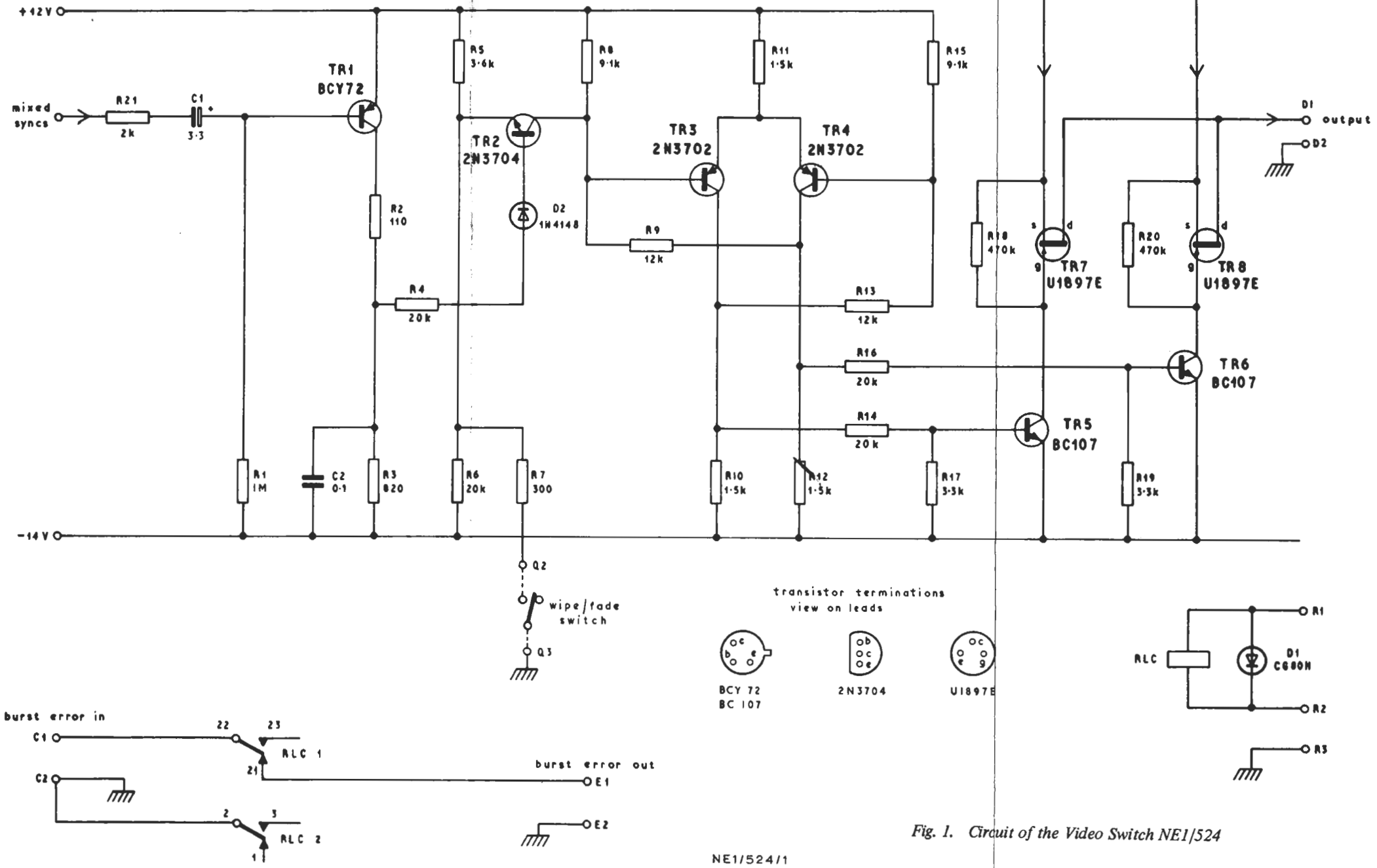


Fig. 1. Circuit of the Video Switch NE1/524

Video Switch

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route the video A Wipe signal to the output.

If the Fade/Wipe switch is set to Fade, the bistable changes state and the output conditions are reversed; i.e. TR8 is cut off and TR7 conducts to route the video B Fade signal to the output.

Note that, if the unit loses power, both F.E.T. switches are turned on and the A and B inputs are bridged. To guard against this an external relay is provided to interrupt one of the input signals in the event of power supply failure.

Burst Error Circuit

When relay RLC is not energised (i.e. under normal conditions) contact RLC-1 routes the burst-error signal to the appropriate section of the stabilising amplifier. For test purposes, the route can be interrupted by energising relay RLC.

Reference to Typical Associated Equipment

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