

## SECTION 9

### SYNCHRONISING PULSE MIXER UN1/509 AND UN1/509A

#### Introduction

The UN1/509 accepts one input of non-composite video signals and two inputs of mixed synchronising pulses. One of the sync inputs may, in practice, be a regenerated version of the other. A relay incorporated in the unit can be switched so that either of the mixed-sync input signals is combined with the non-composite video signal in a simple resistive network to produce a composite video output signal. Part of the mixing network is formed by a variable resistor which enables the level of the sync pulse component in the combined output to be controlled by a limited amount.

The unit is constructed on a CH1/12A chassis, with index peg positions 2 and 7.

#### General Specification

##### Signal Input Impedance

(Composite video output unterminated)

Mixed sync pulses (both inputs)	75 ohms
Non-composite video	75 ohms

Signal Output Impedance

37.5 ohms

Mixed Sync Pulse Output-level Variation

about 12 dB

Relay Supply

—12 volts

#### Circuit Description

Fig. 9.1 shows the circuit of the UN1/509 and UN1/509A. In a typical application a feed of mixed sync pulses, which may be subject to timing variation, is applied to pins 5, 6 or 7 of the unit input socket; one of these pins is connected also to sync-pulse regenerating apparatus (e.g. UN1/506).

A non-composite video signal, from which the above syncs were separated, is applied to pins 11 and 12, and mixed with the sync pulses appearing on relay contacts A2. Depending on the position of switch SA, the relay contacts A2 will connect either the original sync-pulse feed or the output of the sync-pulse regenerating equipment. Relay

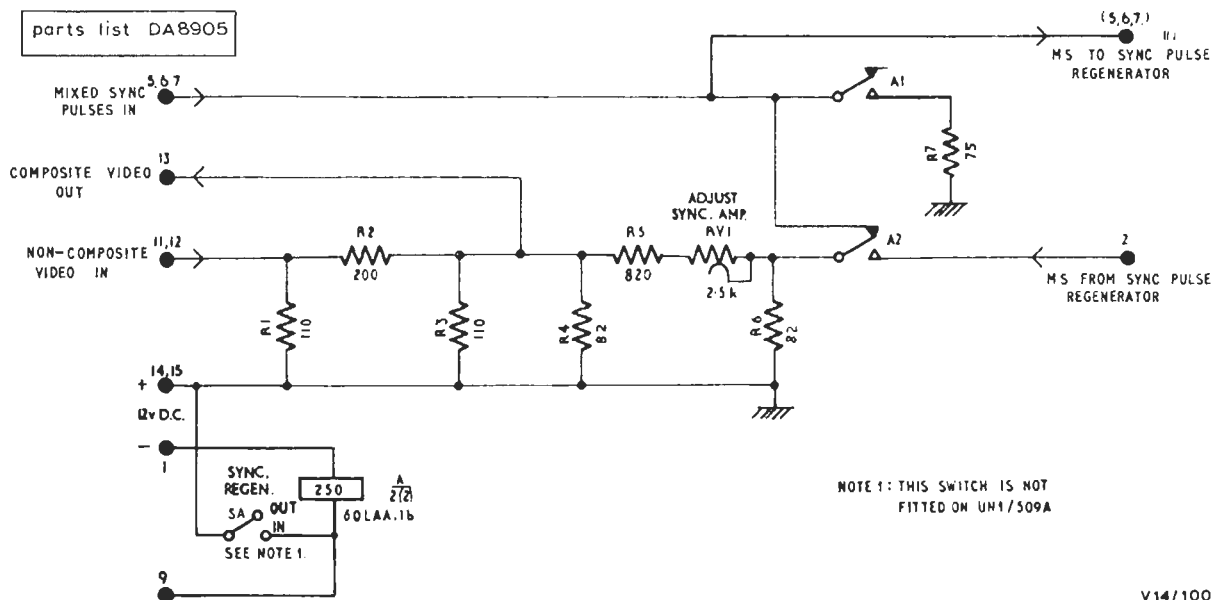


Fig. 9.1 Circuit of the UN1/509 and UN1/509A

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contacts A1 are arranged to connect a resistor in place of the mixing network so that the incoming mixed sync pulse input is terminated when the relay has selected the regenerated pulse feed.

The section of the mixing network between pins 11 and 13 attenuates the non-composite video signal by about 15 dB, whereas the sync-pulse signal attenuation is from 26.5 to 38 dB, depending

on the value of RV1 (the *Adjust Sync Amp* control).

A modification of the UN1/509 is designated UN1/509A. It is identical to the UN1/509, except that the switch SA is not mounted on the unit escutcheon plate, but can be located at some remote point.

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