COLOUR CAPTION SYNTHESISER EP1/506

Introduction

This unit accepts video signals (composite or non-composite) from a monochrome caption scanner and feeds of mixed-synchronising and mixed-blanking pulses. It generates three non-composite video signals; these form the primary-colour components of a colour caption and can be used to drive a colour coder. If the video input signal to the unit is non-composite, the synchronising pulses may be replaced by line-drive pulses.

The unit can operate on the 405, 525 or 625 line-standards without adjustment. Both the colour of the letters that form the caption and the colour of the background are remotely controlled.

The unit consists of three Caption Effects Mixers MX1/506, one Caption Effects Unit UN4/503, a printed-wiring rear panel into which the sub-units are plugged and two printed-wiring cards. The complete assembly is suitable for mounting on a PN3/23 chassis. The circuit of the EP1/506 is given in Fig. 1 and a block diagram which shows the signal paths through the sub-units in Fig. 2.

The two printed-wiring cards carry diode-resistor networks which ensure that all chrominance signals generated by the unit fall within the chrominance limits of 95 per-cent colour bars; i.e. between 0·3 and 1·175 volts. The networks do this by causing the red and blue *letters* and *background* control signals to be desaturated, hence the red and blue output signals are desaturated also. Note that 100 per-cent saturated green falls within the limits laid down for 95 per-cent colour bars, therefore the green signal is not desaturated.

General Specification

Inputs

Video (composite or non-composite)	500 to 700 mV p-p
Mixed Syncs	2 V p-p ±3 dB
Line Drive (for non-composite inputs only)	2 V p-p ±3 dB
Mixed Blanking	2 V p-p ±3 dB

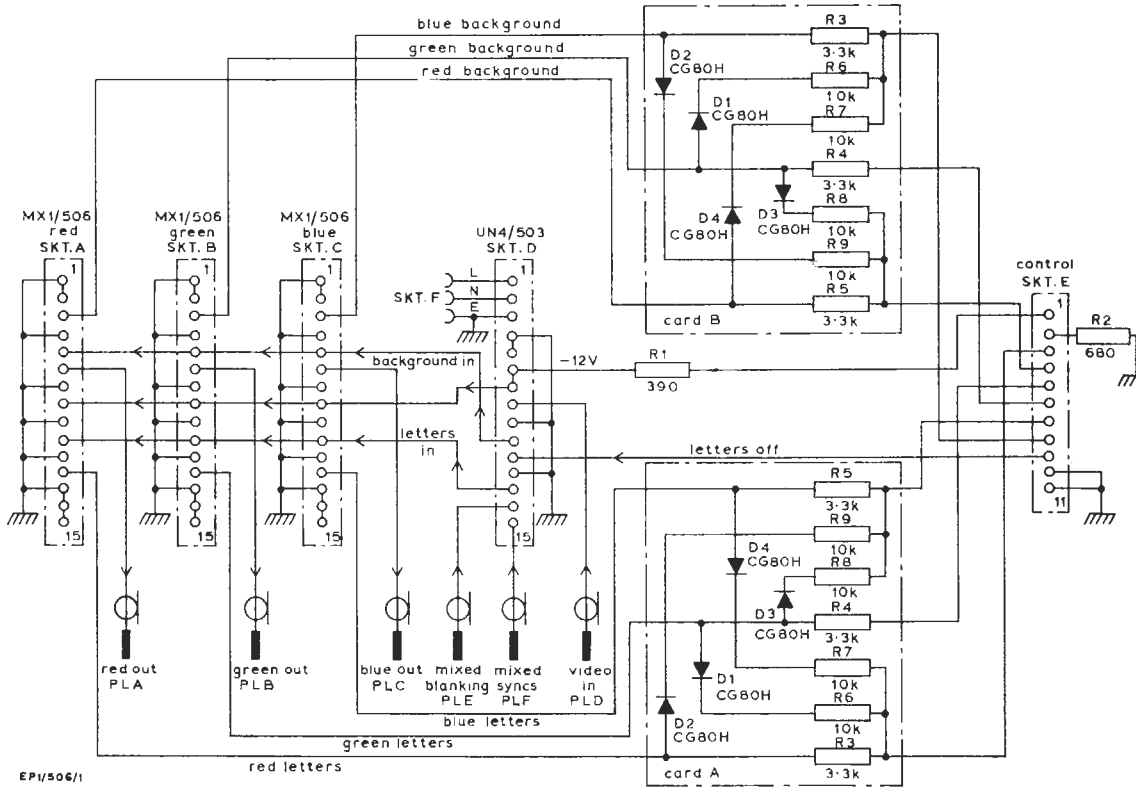

Fig. 1. Circuit of EP1/506

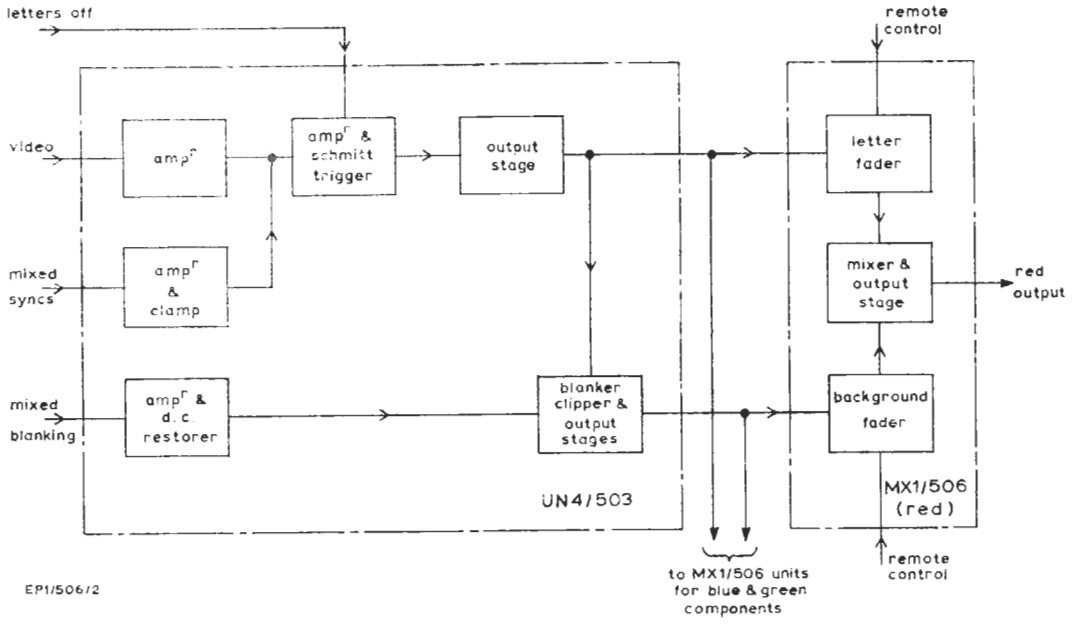

Fig. 2. Block Diagram of the EP1/506

Outputs
(when terminated in 75 ohms)

Red	non-composite video, 0·7 V p-p
Green	non-composite video, 0·7 V p-p
Blue	non-composite video, 0·7 V p-p

Impedances

Video Input	more than 2·8 kilohms
Pulse Inputs	more than 2·4 kilohms
Video Output	75 ohms

Mains Input 200 to 250 V, 50 to 60 Hz

Power Consumption 10 watts

Weight 6·5 lb.

Maintenance

To check the circuits of sub-units, and to adjust the preset controls mounted on them, a chassis extender CH1A/3 (or equivalent) must be used. Waveforms shown in the circuit diagrams of the sub-units represent conditions when all sub-units are inserted and the master unit is connected to a suitable control panel.

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