

AUTOMATIC CHROMINANCE EQUALISER EQ12/501

Introduction

The EQ12/501 accepts colour-video and trigger input signals. The level of chrominance in the output signal is automatically stabilised by varying the amplitude/frequency characteristic of the equaliser to ensure that the subcarrier amplitude on the chrominance bar in the Insertion Test Signal is correct. If the Insertion Test Signal is absent the equaliser is set to a flat position. The unit must be used in conjunction with a Stabilising Amplifier AM18/519.

The EQ12/501 comprises the following coded sub-units:

- Two Video Distribution Amplifiers AM4/517
- Amplifier AM5/513
- Chrominance Equaliser EQ5/517
- Power Supplier PS2/13F
- I.T.S. Chroma Detector Unit UN20/510

The six subunits are built on CH1/12A chassis which are mounted on a PN3/19 back panel.

General Specification

- | | |
|-------------------------|--|
| Inputs from
AM18/519 | Composite one-volt p-p
colour-video signal. |
| | Trigger pulses on lines 20
and 333. |

- | | |
|-----------------------------|---------------------|
| Differential-gain | 0.1% max. |
| Distortion | |
| Differential-phase | 0.1% degree max. |
| Distortion | |
| Operating Temperature Range | 10 to 40 degrees C. |
| Power Requirements | 240 volts 50 Hz. |

General Description (Fig. 1 and 2)

Fig. 1 is a block diagram of the unit showing the signal interconnections.

The signal input is fed to a 0-dB gain AM4/517 distribution amplifier. The following EQ5/517 equaliser can vary the amplitude/frequency characteristic of the signal chain without altering the group delay frequency characteristic. The equalisation is altered by means of a d.c. signal from the UN20/510. This signal is proportional to the amplitude of the chrominance component of the chrominance bar in the Insertion Test Signal. The AM5/513 has a gain of 15 dB. Four outputs are provided from another AM4/517.

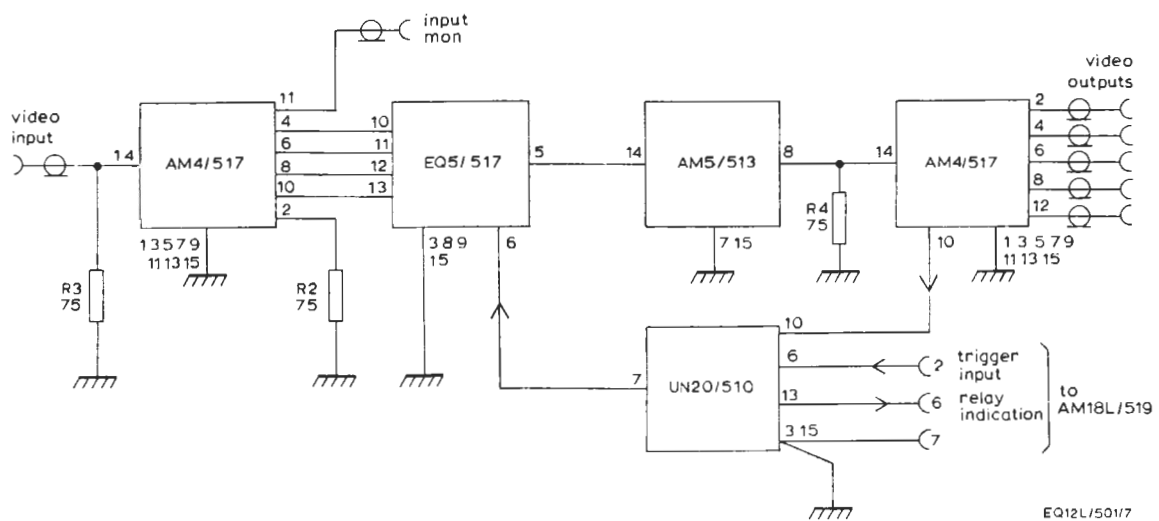


Fig. 1 Block Diagram of the EQ12/501

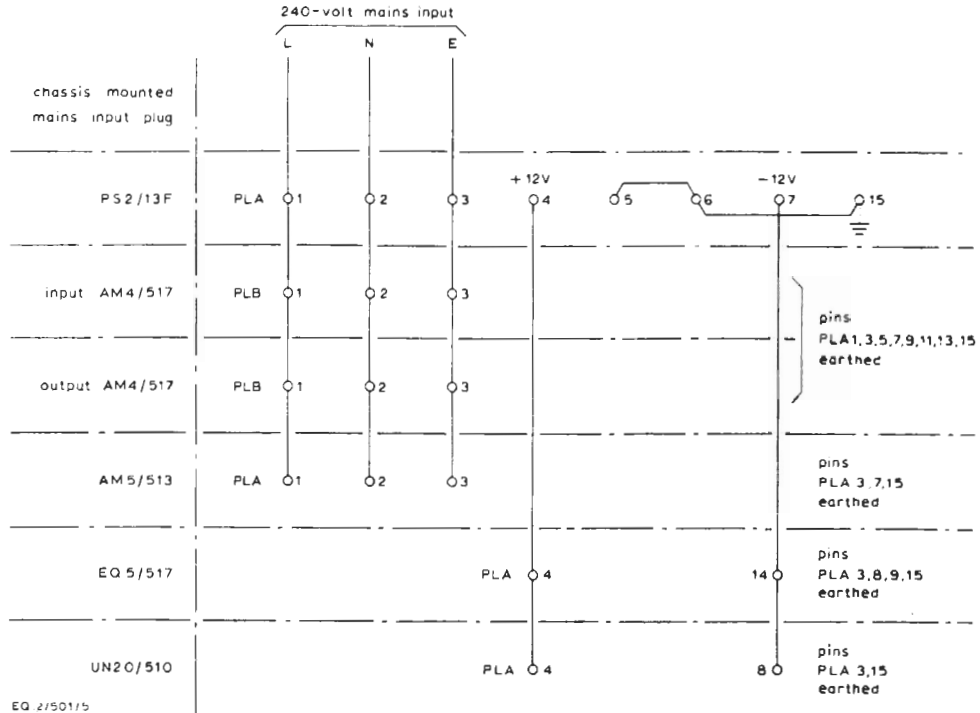


Fig. 2 Mains and 12-volt Wiring on the EQ12/501 Rear Panel

Fig. 2 shows the mains and 50-volt wiring arrangements on the rear panel.

Test Schedule (Fig. 3)

Apparatus Required

- Oscilloscope
- Stabilising Amplifier AM18/519
- 625-line colour-video signal with added Insertion Test Signal.

Test Procedure

1. Connect the colour-video signal to the input of the AM18/519.
2. Connect the video output of the AM18/519 to the video input of the EQ12/501.
3. Connect a suitable flexible lead between the seven-way output socket on the AM18/519 and the corresponding seven-way plug on the EQ12/501.
4. Check that the video input to the EQ12/501 has a peak luminance component of 0.7 volt.
5. Observe the waveform at the Mon. L.F. Bal. point of the EQ5/517.
6. Adjust the low-frequency balance control R4, in the EQ5/517, to remove any low-frequency components, see Fig. 3.
7. Observe the chrominance component of the Insertion Test Signal at the output of the EQ12/501.
8. Adjust variable resistor R67, in the UN20/510, so that the chrominance level is 0.7 volt p-p.
9. Remove the seven-way interconnecting lead between the AM18/519 and the EQ12/501.

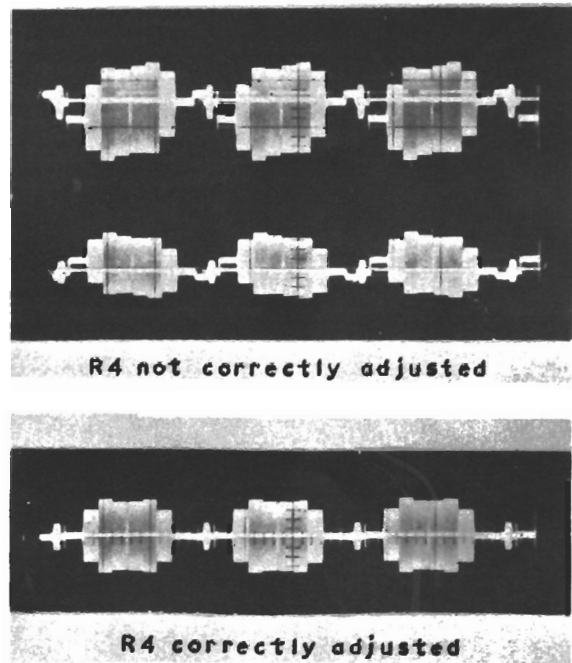


Fig. 3 Waveforms to Illustrate Correct Adjustment of 'L.F. Bal.' Control

10. When the meter on the EQ5/517 has a steady reading of between 30 and 40, adjust resistor R69, in the UN20/510, so that the level of the I.T.S. chrominance signal is the same at both the input and the output of the equaliser.

Reference to Typical Associated Equipment
Colour Signal Stabiliser Equipment EP1/513.