

BODE EQUALISER EQ5/513

TABLE 1

Section	Half-loss frequency f_h	Correction	
		Amplitude	Characteristic
A	0.5, 1, 2 or 3 kHz	$\pm 1.1\text{dB}$ in 0.1dB steps at each frequency	non-resonant (Fig. 2)
B	5, 7, 10 or 15 kHz		
C	25 kHz		
D	40 kHz		
E	69 kHz		
F	138 kHz		
G	250 kHz		
H	420 kHz		
J	650 kHz		
K	1 MHz		
L	2 MHz		
M	3 MHz		
N	4 MHz		
P	5 MHz		
Q	attenuator	$\pm 2.2\text{dB}$ in 0.2dB steps	flat

Introduction

The EQ5/513 is a switched variable equaliser which provides positive or negative amplitude correction in a video route at fourteen frequencies in the band 0.5 kHz to 5 MHz. The equaliser requires 45 dB of video gain which is provided in the parent unit^{1,2}.

The correction available in the fourteen Bode sections is given in Table 1.

General Specification

<i>Input and Output Impedance</i>	75 ohms
<i>Return Loss</i>	
all controls at 0 dB	greater than 28 dB
all controls fully positive	greater than 28 dB
all controls fully negative	greater than 24 dB
<i>k-rating (2T-pulse)</i>	better than 1% with all controls at 0 dB

<i>Pulse to Bar Ratio (T-pulse)</i>	100% \pm 3% with all controls at 0 dB
<i>L. F. Insertion Loss</i>	45 dB C20 dB in part 1 and 25 dB in part 2
<i>Connectors</i>	PO No. 1 plugs (musa)
<i>Size</i>	10½ inches high in 19 inch bay
<i>Weight</i>	9.1 kg (20 lb)

General Description

A block diagram of the EQ5/513 is given in Fig. 1. The equaliser comprises fourteen Bode³ sections which have individual loss characteristics as shown in

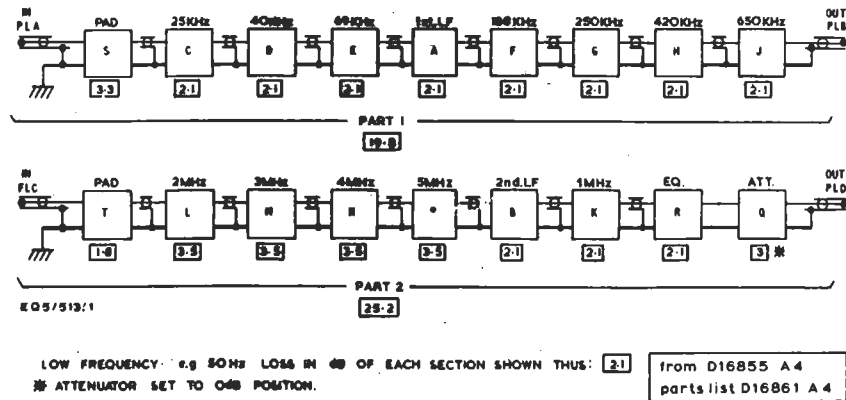


Fig. 1 Block Diagram of the Bode Equaliser EQ5/513

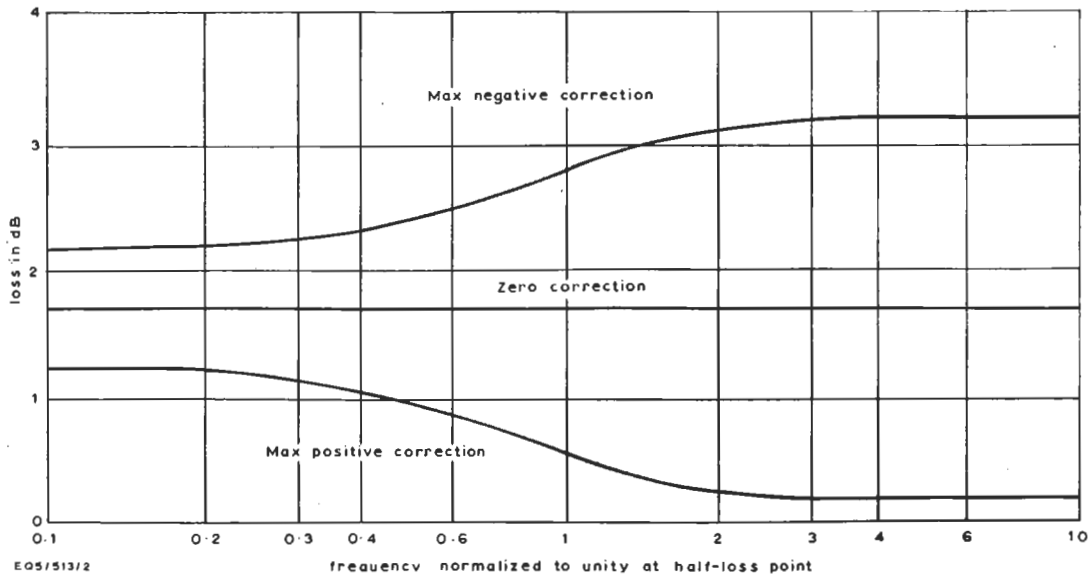


Fig. 2 Loss of Section A to K (1st L.F. to 1 MHz) Excluding that of Associated Compensating Attenuators

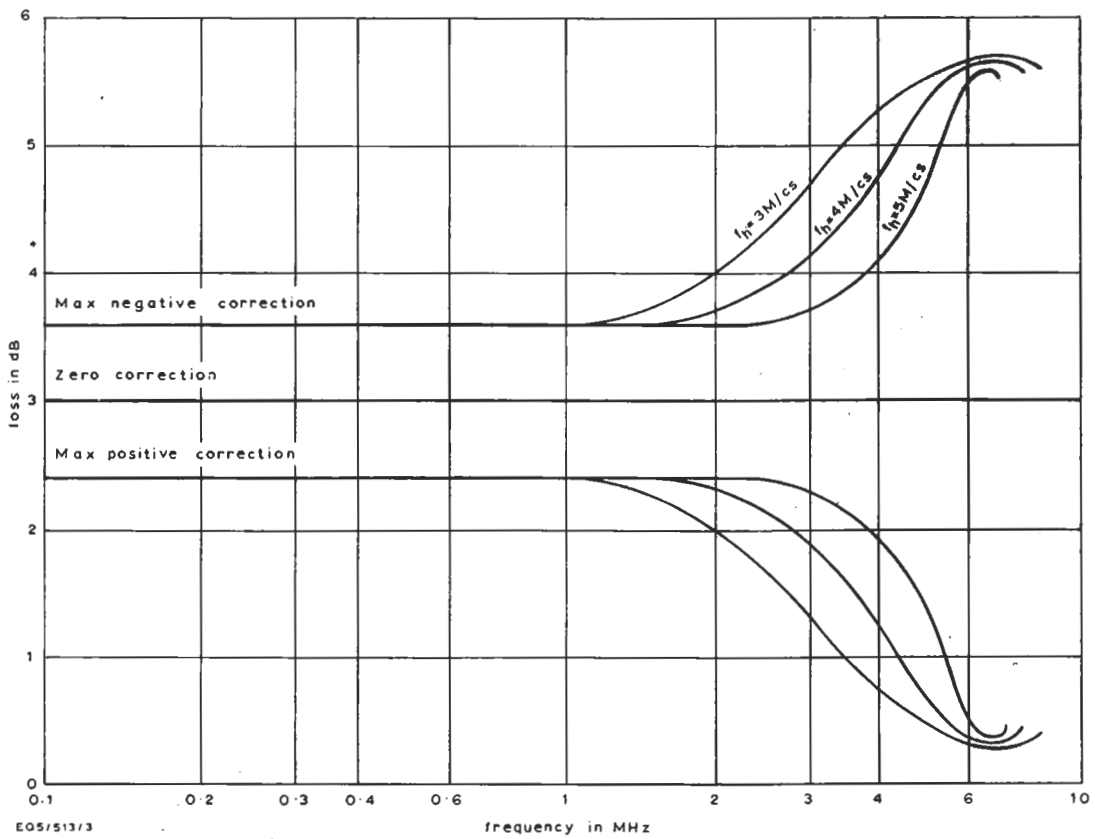


Fig. 3 Loss of Sections L to P (2 MHz to 5 MHz) Excluding that of Associated Compensating Attenuators

Figs. 2 and 3. The half-loss frequencies of sections A and B are selected on two push-button switches. The l.f. insertion losses of part 1 and part 2 are adjusted to be 20.0 dB and 25.0 dB by resistive pads S and T respectively. Cable losses in the equaliser are compensated by a fixed equaliser in section R.

Maintenance

Routine maintenance is not required and the adjustments of the networks must not be disturbed.

When a fault occurs it should be isolated to a specific section by checking insertion loss and pulse-to-bar ratio through the unit.

The l.f. insertion loss of each section when set to 0 dB is shown in the block diagram (Fig. 1). The

T-pulse to bar ratio should decrease cumulatively through the unit because of h.f. loss in the cable between sections. This loss is recovered in section R which has a pulse-to-bar ratio of 103%.

If a fault requires realignment of the section, the complete equaliser should be labelled and returned to Equipment Department for repair.

References to Typical Associated Equipment

1. O.B. Cable Equalisers EP8/501 and EP8/501A.
2. Trimming Equaliser Equipment EP8/502.

References

3. Bode Equaliser: *Television Engineering*, Vol. 4.

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