entron
INCORPORATED

BLADENSBURG

MARYLAND

PRELIMINARY SPECIFICATIONS

ENTRON MODEL DBR BAND REJECTION FILTER

Description:

The ENTRON model DBR is a stable, variable 'notch' width, VHF broadband rejection filter designed to remove a complete adjacent channel or both a higher and lower channel simultaneously. It is especially useful in eliminating adjacent broadband interference, and is well suited for use in removing interference to color TV signals. Twelve separately tuneable notches afford the flexibility required to meet a wide variety of filter requirements. The DBR has a tuning range covering channels 2 to 6 with an insertion loss between 0.5db and 1.5db, depending on alignment. Typical adjustment provides two 40db reject bands 3.5mc wide on each side of a channel, with 60db attenuation to adjacent carriers.

Specifications:

	AS A DOUBLE REJECTION NOTCH	AS A SINGLE REJECTION NOTCH		
Insertion loss	0.5db	1.0db		
Bandwidth between notches	6mc	- - -		
Width of notches	3.5mc	600kc	1mc	6mc
Minimum attenuation	40db	90db	75db	25db
Adjacent carrier attenuation	60db	- - -		

Tuning range . . . 50mc to 100mc
Impedance . . . . 75 ohms
Fittings . . . . ER-100 (BNC)
Dimensions . . . 19" x 3" x 3"
Mounting . . . . 19" relay rack

ALIGNMENT PROCEDURE

The flexibility of the DBR makes a specific alignment procedure impractical. Alignment should be tailored to suit specific conditions which the filter is required to meet. The following method of alignment is suggested.

1. Use an alignment set-up similar to that diagrammed in fig.1.

2. Tune filter sections to the neighborhood of the desired rejection band, noting their shape and size (shape will vary slightly as each section tunes across the band, and will be similar to fig. 3 or 4). Sections 1 and 12 have the narrowest (sharpest) notch. The notches of each section change shape progressively toward the center of the filter where sections 6 and 7 are the widest and deepest. The general procedure is to combine the individual shapes, adjusting the frequency of each notch until the approximate desired response is obtained.

3. Variations in attenuation greater than about 25db will be difficult to read. Fine tuning adjustments should be made as follows. Tune the variable marker into the rejected band and increase its amplitude until visible on the scope. Tune the marker across the band. Variations in amplitude indicate corresponding variation of the (unobservable) sweep signal. Tuning to reduce marker at any point increases filter attenuation at that frequency.

4. Adjustment of peak attenuation points in the rejected band should be made using a set-up similar to fig. 2. This is also used to measure insertion loss and attenuation. The insertion loss will normally be between 0.5db and 1.5db (depending on alignment).

5. The DBR is adjusted to have rejection bands above and below a desired channel by adjusting sections 1 to 6 to the lower band and sections 7 to 12 to the upper band. Sections 1 and 2 are tuned adjacent to the lower side of the 'passband' (reject lower channel sound) and sections 11 and 12 are tuned adjacent to the higher side of the 'passband' (reject higher channel picture). Touch up all adjustments to obtain the desired notch width, attenuation and 'passband' flatness. The resulting response will be similar to fig. 5.

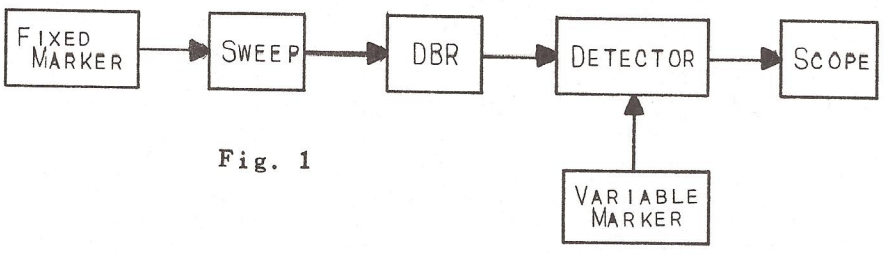

Fig. 1

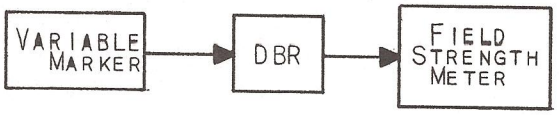

Fig. 2

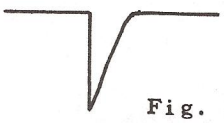

Fig. 3

Fig. 4

Fig. 5