INTRODUCTION

1. The Reception sets AR88D and AR88LF are high grade, superheterodyne, general purpose communication receivers. They are designed for C.W., M.C.W. and R.T. reception and will withstand wide climatic and line voltage variations without appreciable loss of performance.

2. Both receivers incorporate temperature-compensated oscillator circuits fed with a stabilized voltage supply; a selectivity control; optional A.V.C. and noise limitation, and a variable pitch B.F.O. The receivers are basically similar but have different frequency ranges and output impedances.

BRIEF DESCRIPTION

Electrical

3. Fig 1 gives the block diagram applicable to both receivers. The frequency range of each is covered in six bands as follows:-

Range	Model AR88D (I.F. = 455kc/s)	Model AR88LF (I.F. = 735kc/s)
1	535 - 1,600kc/s	73 - 205kc/s
2	1.57 - 4.55Mc/s	195 - 550kc/s
3	4.45 - 12.15Mc/s	1.48 - 4.40Mc/s
4	11.90 - 16.60Mc/s	4.25 - 12.15Mc/s
5	16.10 - 22.70Mc/s	11.90 - 19.50Mc/s
6	22.00 - 32.00Mc/s	19.00 - 30.50Mc/s

4. The receiver sensitivities over most of the bands are as follows:-

C.W. - Less than 3.0μV input for 20db signal-to-noise ratio at 500mW to loudspeaker.

M.C.W. - Less than 10μV input for 20db signal-to-noise ratio at 500mW to loudspeaker.

5. Headphone, loudspeaker and line outputs are available from both receivers at the following impedances.

AR88D	2.5Ω to speaker
	600Ω to balanced line
	20,000Ω to headphones
AR88LF	2.5Ω to speaker
	20Ω to unbalanced line
	20Ω to headphones

6. The maximum indistorted output from each set is 2.5W to loudspeaker or line.

7. A 5-position SELECTIVITY control is incorporated which varies the band-width of the I.F. channel. A crystal filter is employed in three positions for narrow band-widths. The approximate band-widths are as follows.

Position	Band-width at -6db		Operation
	AR88D	AR88LF	
1	13kc/s	16kc/s	For wide band-pass Rec. Mod.
2	7kc/s	8kc/s	For normal Rec. Mod.
3	3kc/s	4kc/s	For C.W. or Rec. Mod.
4	1.5kc/s	2kc/s	For sharper C.W.
5	0.4kc/s	0.5kc/s	For sharpest C.W.

8. Both receivers carry an A.C. mains power supply system; but a removable plug on the rear of the chassis permits D.C. supplies to be used. The power requirements are as follows.

A.C.	AR88D :	100-165V or 190-260V, 50-60c/s at 100VA
	AR88LF :	115 or 230V, 25-60c/s at 100VA
D.C.	Both sets:	L.T. 6V at 4A
		H.T. 250-300V at 90mA

9. The aerial input circuits are designed for coupling to a 200Ω balanced transmission line except on the low frequency broadcast bands, ie band 1 on the AR88D and and bands 1 and 2 on the AR88LF. On these bands one side of the aerial input coil is connected to chassis and a normal single wire aerial, 25-50 ft long, and earth should be used. On all bands a single wire aerial and earth connection may be used without appreciable loss in performance.

10. A terminal marked DIVERSITY is provided on the rear of the chassis for diversity reception when required. A wire joining these terminals of two or more receivers having spaced aerials will tend to reduce selective fading (see Tels A 017, A 172). Figs 2 and 3 show the rear chassis views of the AR88D and the AR88LF respectively.

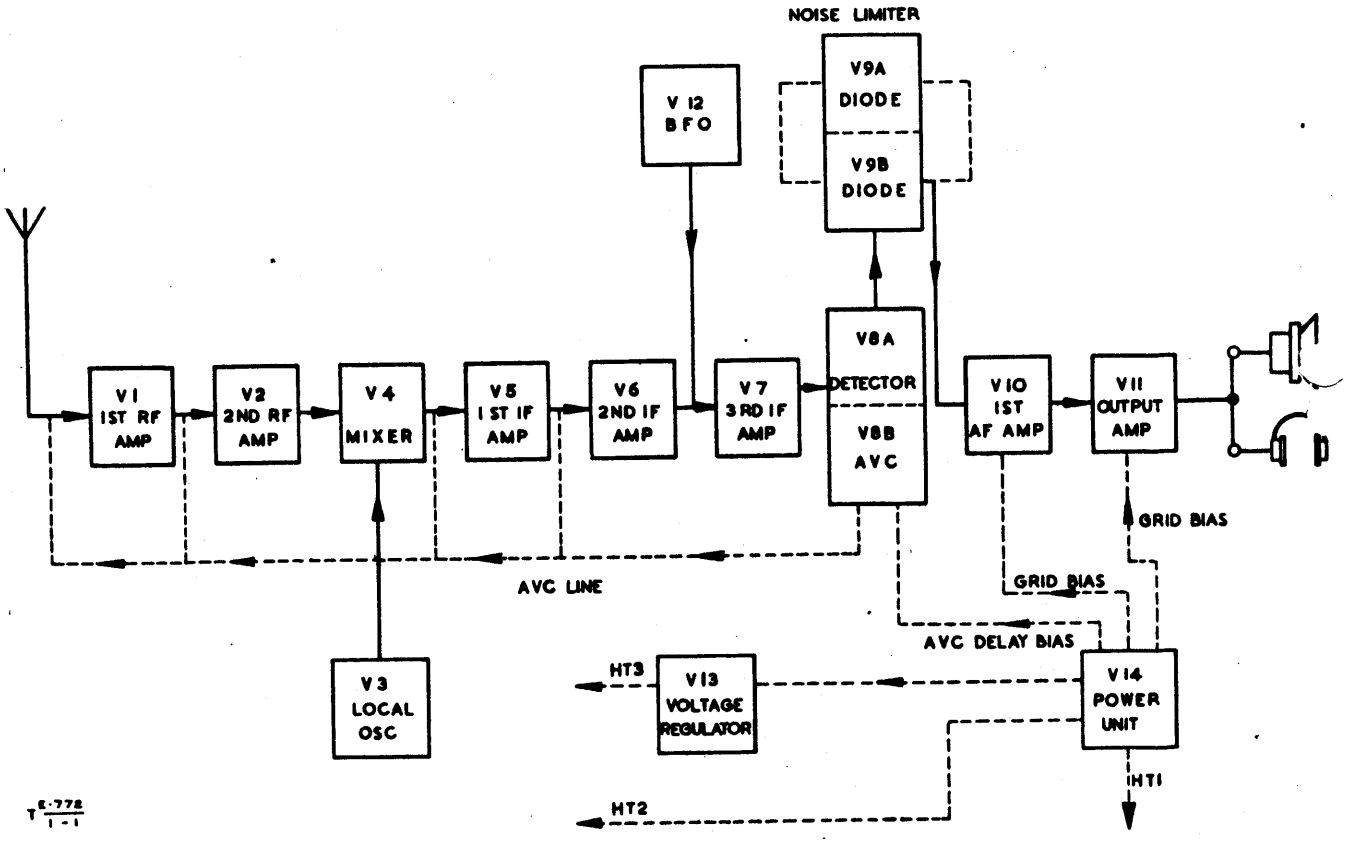

Fig 1 - AR88D and AR88LF - block diagram