

Chapter VI

**CONCLUSION**

The results of measurements at 9 and 13 Mc/s appear to confirm the theoretical technique developed for noise estimations (AIYA). They are of distinct value inasmuch as they show how the differences in the propagation characteristics come into prominence as the frequency is varied. Thus at 3 and 5 Mc/s, all the sources of noise contributed to noise at Poona. At 9 Mc/s, one source appeared to go into skip and this has already been discussed in detail in Chapter IV. At 13 Mc/s this source does not figure at all as it is mostly in skip. This approach to the problem gives a satisfactory explanation of measured values also. Further, all these facts bring out very clearly, that the power radiated by the noise sources as calculated by AIYA (1955) seems to be essentially correct and that any differences that arise are due to variation of propagation characteristics with frequency.

The ratio of noise as computed by taking five, fifteen or twenty highest impulses per minute in terms of the ten highest impulses per minute are available at 2.9, 4.7, 9 and 13 Mc/s. These data are reproduced in Table 1 below. It will be seen from the table that the ratios practically remain the same at all frequencies mentioned.

The conversion factors for converting the value of 30 per cent modulation to 15 or 50 per cent modulation

Table 1.

DATA OF THE RATIO FOR CONVERTING TEN  
IMPULSES/MIN TYPE B NOISE VALUE TO FIVE  
FIFTEEN OR TWENTY IMPULSES/MIN VALUE.

Frequency in Mc/s.	Ratio for average of 5 highest peaks per min.	Ratio for ave- -rage of 15 highest peaks per min.	Ratio for average of 20 highest peaks per min.	Refer- ence.
2.9	1.14 $\pm$ 0.03	9.912 $\pm$ 0.013	0.843 $\pm$ 0.020	AIYA and PHADKE
4.7	1.14 $\pm$ 0.05	0.93 $\pm$ 0.025	0.87 $\pm$ 0.05	PHADKE
9	1.13 $\pm$ 0.04	0.91 $\pm$ 0.05	0.84 $\pm$ 0.07	Chapter IV
13	1.09 $\pm$ 0.06	0.940 $\pm$ 0.040	0.893 $\pm$ 0.046	Chapter V

Table 2.

CONVERSION FACTORS FOR CONVERTING 30 PERCENT  
MODULATION CALIBRATION DATA TO 15 AND 50 %  
MODULATION.

Frequency in Mc/s	15 per cent modulation.	50 per cent modulation	Reference
2.9	2.5	0.58	AIYA and PHADKE
4.7	2.5	0.58	PHADKE
9	2.3	0.62	Chapter IV
13	2.2	0.63	Chapter V

at 2.9, 4.7, 9 and 13 Mc/s are given in Table 2. It will be seen that the conversion factors remain about the same.

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REFERENCES

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| Aiya, S.V.C.                  | 1955 | Proc. Inst. Radio Engrs., <u>43</u> , 966          |
| Aiya, S.V.C. and Phadke, K.R. | 1955 | J. Atmosph. Terr. Phys., <u>7</u> , 230.254        |
| Phadke, K.R.                  | 1955 | J. Inst. Tele Comm. Engrs.(India), <u>1</u> , 136. |

NOTE :- A REPRINT of the Paper published by the Author in collaboration with S.V.C. Aiya, C.G.Khot and K.R.Phadke on "TROPICAL THUNDERSTORM AS NOISE RADIATORS" is inserted in the inside of the Back cover.

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