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PB 151377-4



# Technical Note

No. 18-4

Boulder Laboratories

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QUARTERLY RADIO NOISE DATA -  
SEPTEMBER, OCTOBER, NOVEMBER 1959

BY W. Q. CRICHLow, R. D. DISNEY, AND M. A. JENKINS



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U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS

## THE NATIONAL BUREAU OF STANDARDS

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# NATIONAL BUREAU OF STANDARDS

## Technical Note

No. 18-4

September 28, 1960

QUARTERLY RADIO NOISE DATA -  
SEPTEMBER, OCTOBER, NOVEMBER 1959

by

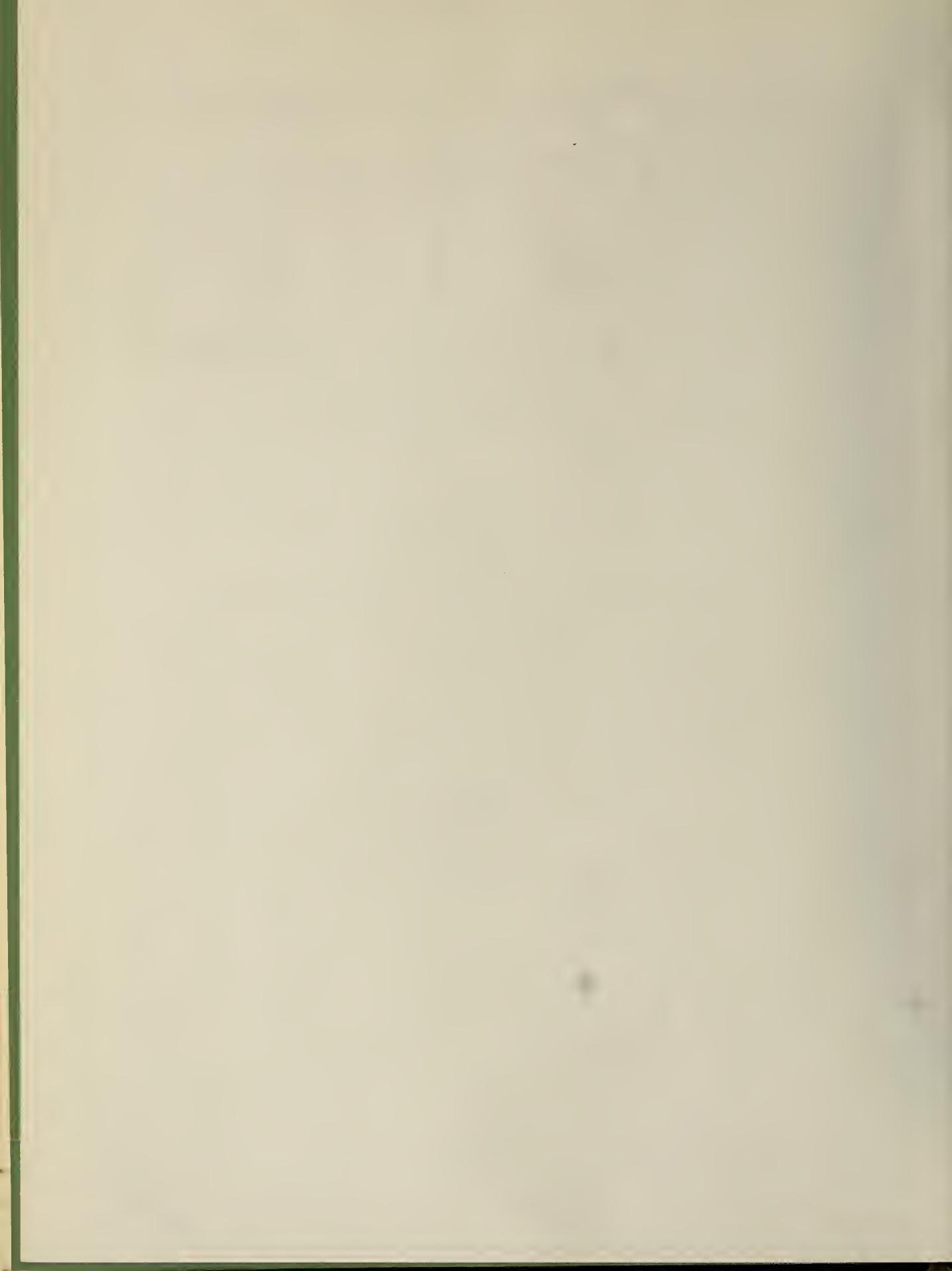
W. Q. Crichlow, R. T. Disney, and M. A. Jenkins

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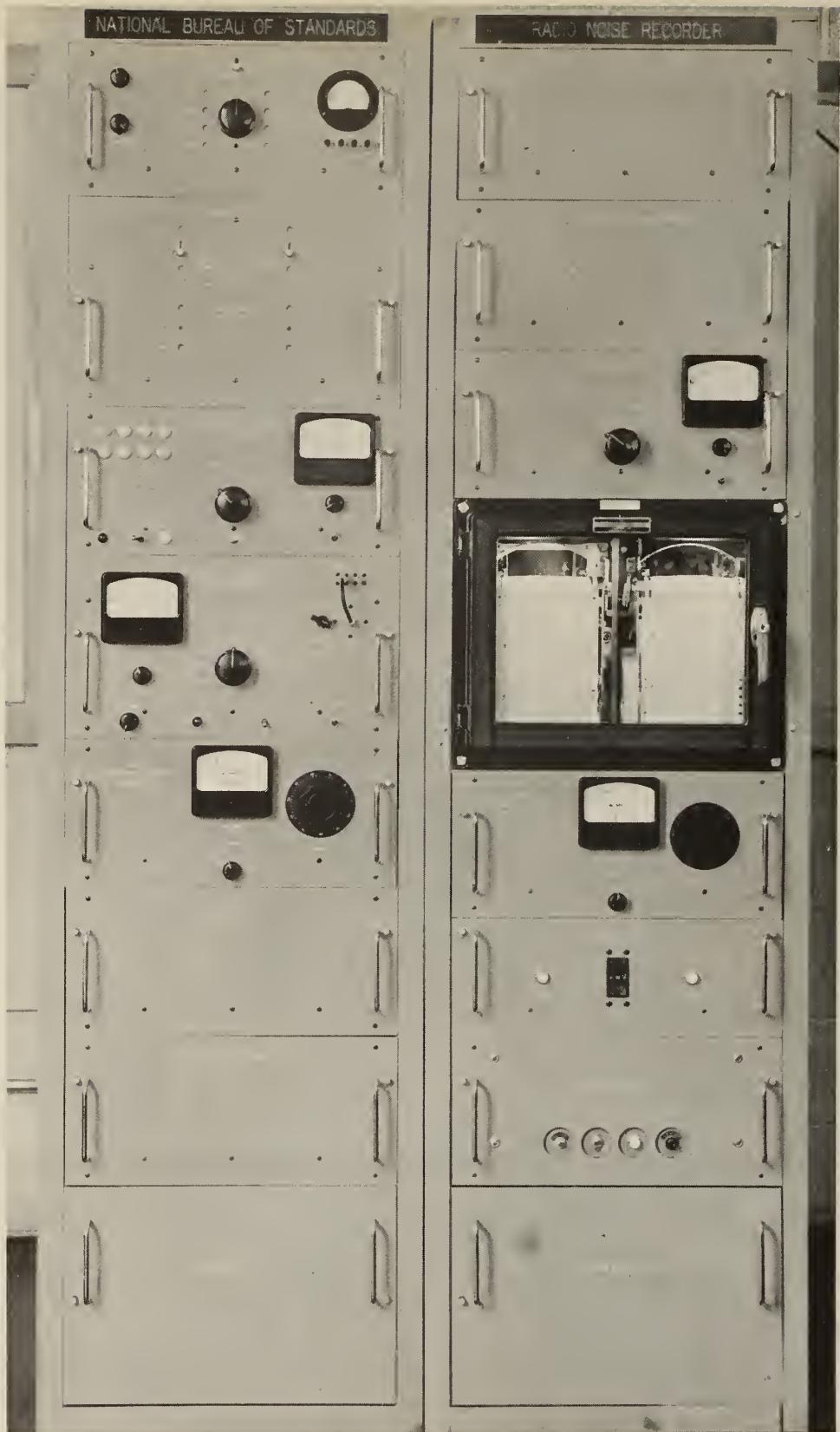
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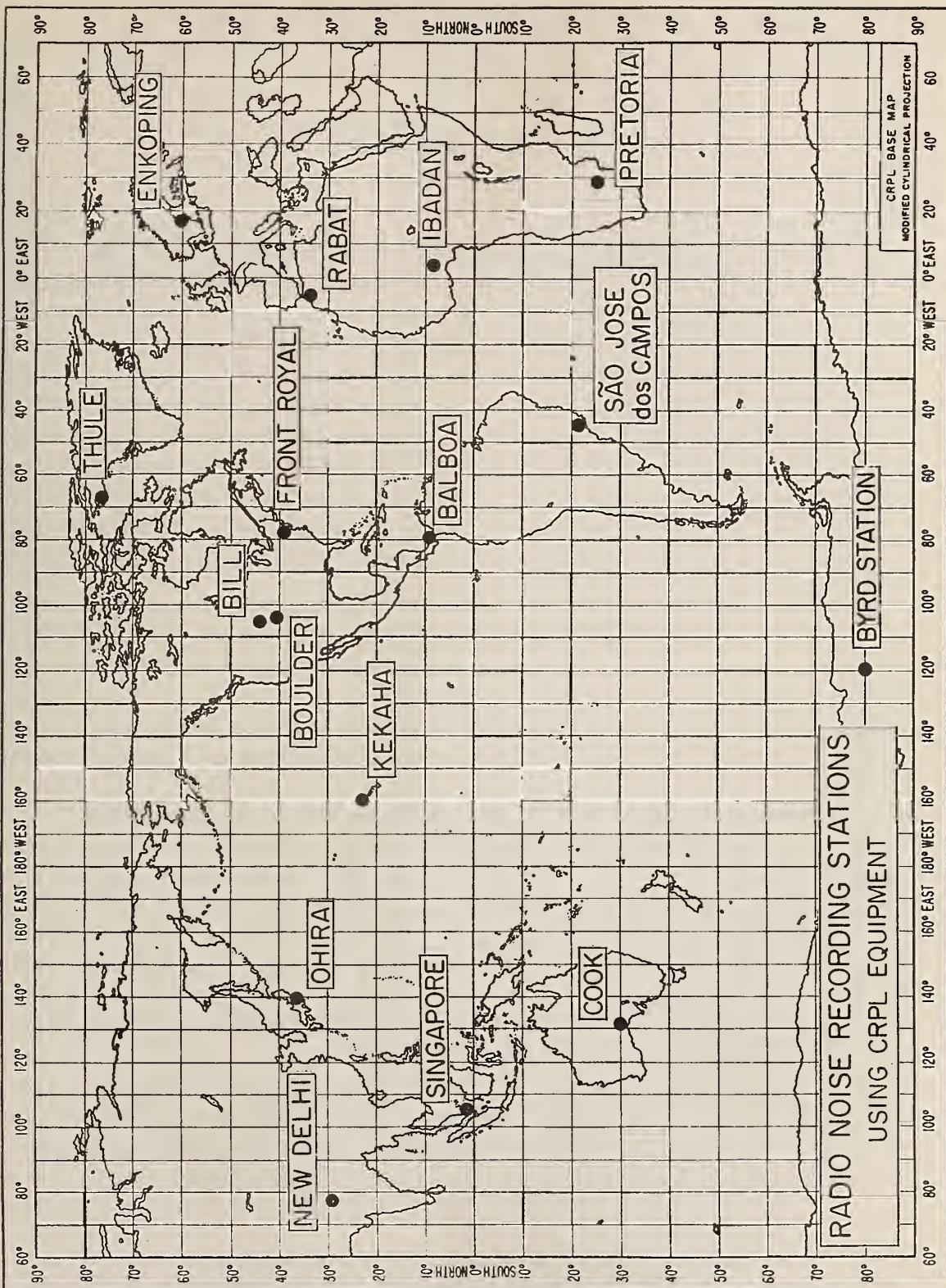




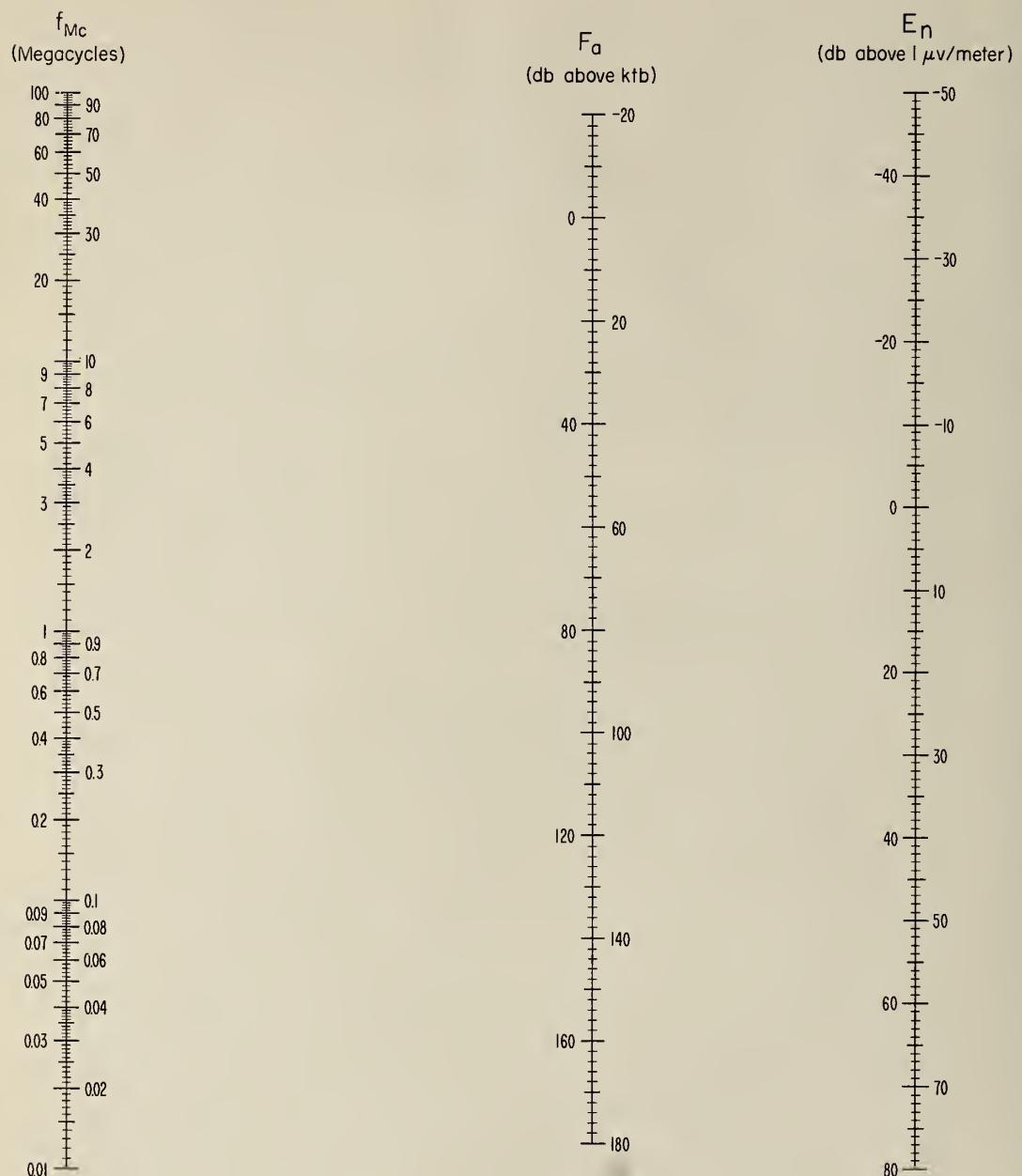
Radio Noise Recording Station



ARN-2 Atmospheric Radio Noise Recorder



NOMOGRAM FOR TRANSFORMING EFFECTIVE ANTENNA NOISE FIGURE  
TO NOISE FIELD STRENGTH AS A FUNCTION OF FREQUENCY



$$E_n = F_a + 20 \log_{10} f_{Mc} - 65.5$$

$F_a$  = Effective Antenna Noise Figure = External Noise Power Available from an Equivalent Short, Lossless, Vertical Antenna in db Above ktb.

$E_n$  = Equivalent Vertically Polarized Ground Wave R.M.S. Noise Field Strength in db Above  $1 \mu\text{v}/\text{meter}$  for a 1kc Bandwidth.

$f_{Mc}$  = Frequency in Megacycles.

Radio Noise Data for the Season September, October, November 1959

Radio noise measurements are being made at sixteen stations in a world-wide network supervised by the National Bureau of Standards (see map). The results of these measurements for the period September, October, November 1959 are presented in the attached tables. These are based on three parameters of the noise: (1) the mean power, (2) the mean envelope voltage, and (3) the mean logarithm of the envelope voltage. The mean power averaged over a period of several minutes is the basic parameter and is expressed as an effective antenna noise figure,  $F_a$ .  $F_a$  is defined as the noise power available from an equivalent lossless antenna in db above ktb (the thermal noise power available from a passive resistance) where

$k$  = Boltzman's constant ( $1.38 \times 10^{-23}$  joules per degree Kelvin)

$t$  = Absolute room temperature (taken as  $288^{\circ}$  K)

$b$  = Bandwidth in cycles per second.

The mean voltage and mean logarithm are expressed as deviations,  $V_d$  and  $L_d$ , respectively, in db below the mean power.

Measurements of these parameters were made with the National Bureau of Standards Radio Noise Recorder, Model ARN-2, which has an effective noise bandwidth of about 200 cycles per second and uses a standard 21.75' vertical antenna. A fifteen-minute recording is made on each of eight frequencies two at a time during each hour, and these fifteen-minute samples are taken as representing the noise conditions for the full hour. The month-hour medians,  $F_{am}$ ,  $V_{dm}$ , and  $L_{dm}$  are determined from these hourly values for each of the corresponding parameters. Normally from twenty-five to thirty observations of the mean power are obtained monthly for each hour of the day, and from ten to fifteen observations of the voltage and logarithm deviations. When there are fewer than fifteen observations of the mean power, or seven observations of the voltage and logarithm deviations, the tabulated values are identified by an asterisk.

The upper and lower decile values of  $F_a$  are also reported in the following tabulation to give an indication of the extent of the variation of the noise power from day to day at a given time of day. These are expressed in db above and below the month-hour median,  $F_{am}$ , and designated by  $D_u$  and  $D_d$ , respectively.

Time-block median values of noise are tabulated on a seasonal basis, and are obtained by averaging all month-hour medians for the season within a particular four-hour period of the day. The time-block values conform to the seasonal-time-block values used in C.C.I.R. Report No. 65 (see attached references).

$F_a$  in db is related to the rms field strength at the antenna by the following equation:

$$E_n = F_a + 20 \log_{10} f_{Mc} - 65.5$$

where

$E_n$  = the equivalent vertically polarized ground wave rms noise field strength in db above 1  $\mu$ v/meter for a 1 kc bandwidth.

$f_{Mc}$  = the frequency in megacycles/second.

The nomogram given may be used for this conversion.

The values presented in the tables reflect the actual measured radio noise; in some instances the atmospheric noise level may be contaminated by man-made noise or station interference. The parameter that will first reflect any such contamination will be the logarithmic parameter,  $L_d$ . This contamination generally will cause the value of  $L_d$  to be less than it would have been, had the recorded value been only atmospheric noise. In determining the amplitude-probability distribution from the three measured moments [10], contaminated values of  $L_d$  may be found that will not give a solution of the amplitude-probability distribution. When this occurs, it is suggested that the measured value of  $L_d$  be ignored and the most probable value of  $L_d$  from the curve on the graph of  $L_d$  vs.  $V_d$  be used. The most probable value has been determined as the best fit for the integrated moments from over sixty measured amplitude-probability distributions of uncontaminated atmospheric radio noise. The second curve on the graph indicates the minimum value of  $L_d$  that will give an amplitude-probability distribution by the method in reference 10, and

can therefore be used to determine whether the measured value or the most probable value of  $L_d$  for any value of  $V_d$  should be used.

Station clocks are set to a local standard time (LST) which is taken from the time zone in which the station is located and is always an integral number of hours different than universal or Greenwich time (see table on page 5).

These preliminary data values are presented in order to expedite dissemination of the data. Additional analyses, in which an attempt is made to eliminate contaminated data, are presented in other publications.

Stations in the recording network were operated by the following agencies:

NBS - Bill, Wyoming; Boulder, Colorado; Byrd Station;  
Front Royal, Virginia; Kekaha, Hawaii

Signal Corps, U. S. Army - Balboa, C. Z.; Thule, Greenland

Postmaster General's Department (Australia) - Cook

Board of Telecommunications (Sweden) - Enkoping

DSIR (Great Britain) and University College Department of  
Physics (Nigeria) - Ibadan

Ministry of Communications, Wireless Planning and  
Co-ordination Organisation - New Delhi

Radio Research Laboratories (Japan) - Ohira

Telecommunications Research Laboratory (South Africa) -  
Pretoria

Institut Scientifique Chérifien (Morocco) - Rabat

Instituto Tecnologico de Aeronautica (Brazil) - São José dos  
Campos

Department of Scientific and Industrial Research (Great Britain)  
- Singapore, Malaya

The assistance of the station operators and other personnel of these agencies in obtaining the data contained in this report is gratefully acknowledged.

The following publications contain additional information on radio noise:

1. W. Q. Crichlow, D. F. Smith, R. N. Morton, and W. R. Corliss, "Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles," NBS Circular 557, August 25, 1955.
2. "Report on Revision of Atmospheric Radio Noise Data," C. C. I. R. Report No. 65, VIIIth Plenary Assembly, Warsaw, 1956 (International Radio Consultative Committee, Secretariat, Geneva, Switzerland).
3. A. D. Watt and E. L. Maxwell, "Measured Statistical Characteristics of VLF Atmospheric Radio Noise," Proc. IRE, 45, 1, 55 (1957).
4. W. Q. Crichlow, "Noise Investigation at VLF by the National Bureau of Standards," Proc. IRE, 45, 6, 778 (1957).
5. A. D. Watt and E. L. Maxwell, "Characteristics of Atmospheric Noise from 1 to 100 kc," Proc. IRE, 45, 6, 787 (1957).
6. F. F. Fulton, Jr., "The Effect of Receiver Bandwidth on Amplitude Distribution of V. L. F. Atmospheric Noise," National Bureau of Standards, VLF Symposium Paper 37, Boulder, Colorado, 1957.
7. H. E. Dinger, "Report on URSI Commission IV - Radio Noise of Terrestrial Origin," Proc. IRE, 46, 7, 1366 (1958).
8. A. D. Watt, R. M. Coon, E. L. Maxwell, and R. W. Plush, "Performance of Some Radio Systems in the Presence of Thermal and Atmospheric Noise," Proc. IRE, 46, 12, 1914 (1958).
9. W. L. Taylor and A. G. Jean, "Very-Low-Frequency Radiation Spectra of Lightning Discharges," NBS J. of Research-D. Radio Propagation, 63D, 2, 199 (1959).
10. W. Q. Crichlow, C. J. Roubique, A. D. Spaulding, and W. M. Beery, "Determination of the Amplitude-Probability Distribution of Atmospheric Radio Noise from Statistical Moments," NBS J. Research-D. Radio Propagation, 64D, 1, 49 (1960).
11. Tatsuzo Obayashi, "Measured Frequency Spectra of Very-Low-Frequency Atmospherics," NBS J. of Research-D. Radio Propagation, 64D, 1, 41 (1960).

Data included in this report and the standard time for each station are as follows:

Station	Data	Time Zone	To Convert LST to GMT (hours)
Balboa	Sept. Oct. Nov. 1959	75 W	+05
Bill	Sept. Oct. Nov. 1959	105 W	+07
Boulder	Sept. Oct. Nov. 1959	105 W	+07
Byrd Station	Sept. Nov. 1959	120 W	+08
Cook	Sept. Oct. Nov. 1959	135 E	-09
Enkoping	Sept. Oct. Nov. 1959	15 E	-01
Front Royal	Sept. Oct. Nov. 1959	75 W	+05
Kekaha	Sept. Oct. Nov. 1959	150 W	+10
Ohira	Sept. Oct. Nov. 1959	135 E	-09
Pretoria	Sept. Oct. Nov. 1959	30 E	-02
Rabat	Oct. Nov. 1959	GMT	0
São José dos Campos	Sept. Oct. Nov. 1959	45 W	+03
Singapore	Sept. Oct. Nov. 1959	105 E	-07
Thule	Sept. 1959	75 W	+05

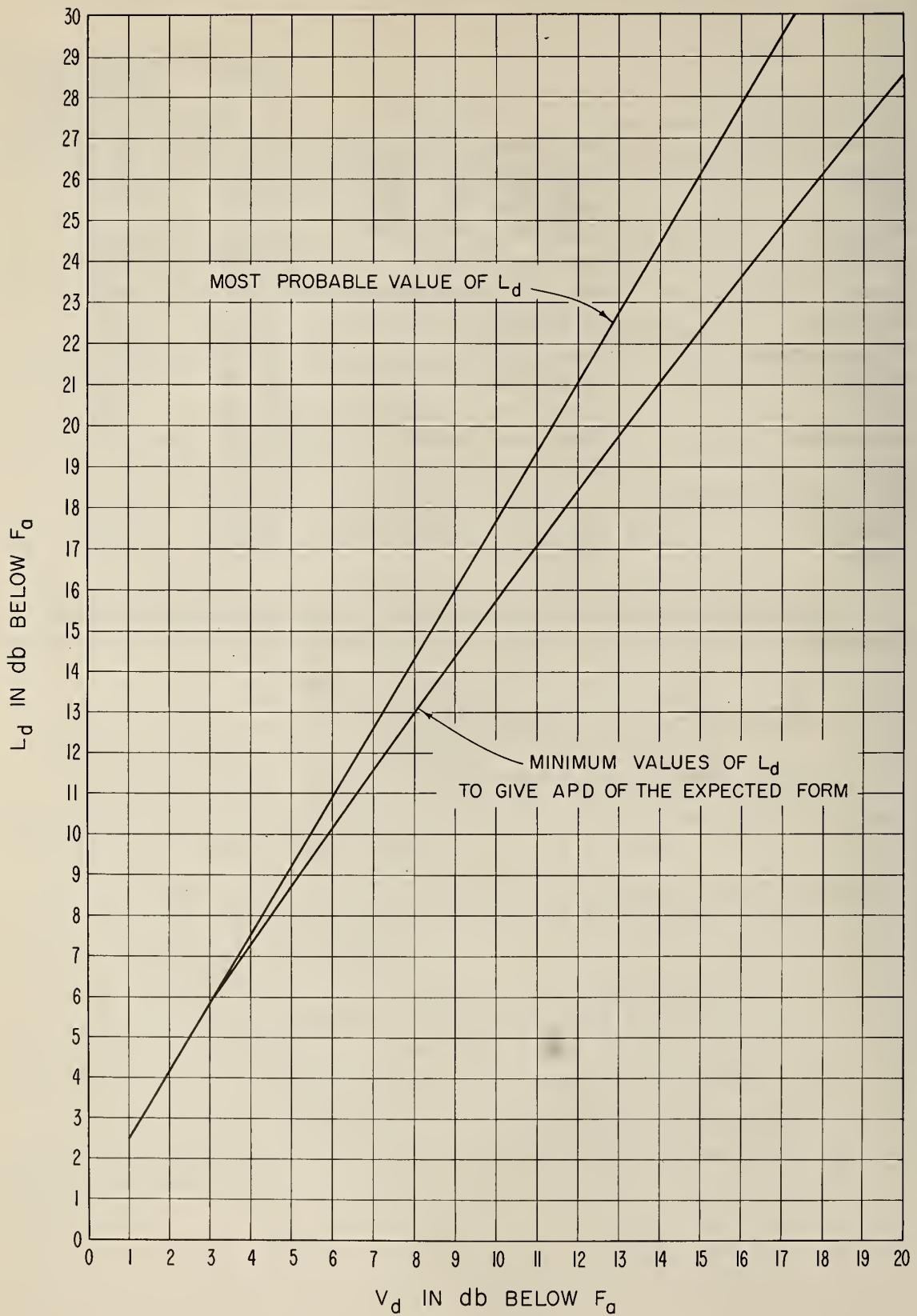
Previous data from the NBS World Wide Network have been published in the following Technical Note 18 series:

18-1 July 1, 1957 - December 31, 1958

18-2 March, April, May 1959

18-3 June, July, August 1959

MOST PROBABLE AND MINIMUM VALUES OF  $L_d$  VERSUS  $V_d$   
FOR ATMOSPHERIC RADIO NOISE



## MONTH-HOUR VALUES OF RADIO NOISE

Station Balboa, Canal Zone Lat. 9.0 N Long. 79.5 W Month September 1959

$F_{\text{eff}} = \text{median value of effective antenna noise in dB above kTB}$

$D_U$  = ratio of upper decile to median in db

$D_f^2$  = ratio of median to lower decile in db

$V_m = \text{median deviation of average voltage in db below mean power}$

MONTH-HOUR VALUES OF RADIO NOISE      Station Balboa, Canal Zone Lat. 9.0 N. Long. 79.5 W. Month October 1959

[S]	Frequency (Mc)												.051			.113			.246		
	.051			.113			.246			.2.5			5			10					
Fam	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	Fam	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	Fam	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	Fam	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	Fam	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
00 143 4 11.5 20.0 129 6 2 8.0 13.0 115 3 4 8.0 15.0													6.9 4	5	6.0 12.0	6.1	3	4 5.5 10.0	4.6	2	4 6.5 10.5
01 143 4 10.0 18.0 131 4 4 8.5 14.0 113 6 2 7.5 14.0													7.1 3	6	6.0 12.0	6.3	2	4 6.0 10.5	4.4	4	4 5.0 9.0
02 143 7 4 12.0 20.0 131 6 5 9.0 15.0 113 8 4 7.5 14.0													7.1 4	4	6.5 12.0	6.1	4	2 6.0 10.5	4.2	4	5 6.0 9.5
03 143 4 11.0 18.0 131 6 6 9.0 15.0 111 7 4 8.0 14.5													7.3 2	5	6.0 12.0	6.1	2	4 6.5 12.0	4.0	3	5 4.5 8.0
04 143 7 5 13.0 20.5 129 8 5 9.0 16.0 111 7 5 10.5 18.0													7.1 4	4	6.0 13.0	5.9	6	4 7.0 12.0	3.8	6	8 3.5 7.0
05 141 7 5 13.5 22.0 129 7 9 10.0 16.0 109 10 10 14.0 24.0													7.1 4	5	7.0 15.0	5.9	4	3 7.0 11.0	3.6	6	6 5.0 8.0
06 136 9 8 14.0 23.0 123 14 13 12.0 22.0 105 13 20 17.0 24.0													6.1 6	7	10.0 19.0	5.5	4	7 8.0 13.5	4.2	4	2 4.5 9.0
07 137 10 10 15.0 24.0 123 12 18 * 18.5 * 9.0 105 12 24 * 17.0 24.0													5.1 12	13	13.0 21.0	4.5	8	6 12.0 20.0	4.0	4	4 8.0 12.0
08 134 15 11 16.0 26.0 121 12 16 * 17.5 * 28.0 102 17 19 14.5 26.0													4.3 16	16	12.0 20.0	3.9	11	10 11.5 19.0	3.4	7	6 11.0 18.0
09 133 14 9 17.0 28.0 119 17 15 * 15.5 * 26.0 9.8 21 14 * 15.0 * 25.0													3.4 26	11	10.5 20.0	3.5	13	12 12.0 20.0	3.2	6	8 9.0 15.0
10 133 15 7 16.5 26.5 118 18 14 * 17.5 * 29.0 9.7 25 12 17.0 26.0													3.2 29	9	10 14.5 23.5	2.9	19	10 10.0 14.5	2.9	13	9 9.5 15.5
11 135 10 6 14.0 24.0 123 15 16 * 16.5 * 27.0 10.0 22 15 * 16.0 23.5													3.3 32	10	10.0 14.0	3.1	23	14 8.0 16.0	3.0	10	10 12.5 18.5
12 139 12 8 14.5 22.5 123 19 13 * 16.5 * 26.0 10.9 18 24 13.0 22.5													3.8 33	15	14.0 21.0	3.1	32	10 11.0 14.0	3.2	16	8 9.5 14.5
13 139 16 6 13.5 21.0 127 16 16 * 14.5 * 24.0 114 15 22 13.5 24.0													5.1 28	24	8.5 15.0	4.3	25	18 13.0 23.0	3.5	17	7 7.0 15.0
14 142 12 6 11.0 18.0 129 14 15 15 3.0 22.0 109 18 14 * 14.0 * 23.0													5.4 25	25	7.4 14.0 21.5	4.4	21	13 10.0 22.0	3.8	10	8 9.0 14.0
15 141 12 4 12.0 20.0 127 12 9 13.5 22.5 109 16 12 * 13.0 21.5													5.1 24	20	10.0 17.0	4.3	19	9 8.5 13.0	3.8	9	3 6.5 11.5
16 141 6 6 11.0 18.0 127 10 9 15.0 24.0 105 14 9 * 13.5 * 24.0													4.7 20	16	10.5 19.0	4.7	10	8 7.5 13.0	4.2	5	4 5.5 9.0
17 139 6 5 11.5 19.0 125 6 9 * 15.0 * 24.5 103 14 10 13.0 21.0													5.3 13	10	8.5 13.0	5.5	4	6 6.0 10.0	4.4	2	6.5 10.0
18 137 8 4 11.0 19.0 125 7 6 10.0 16.5 107 7 4 8.0 14.5													6.5 3	8	7.0 11.5	6.1	2	5 5.5 10.5	4.5	2	5.0 8.5
19 141 4 4 10.5 17.5 127 4 5 8.0 14.0 111 4 5 6.5 12.5													6.7 4	5	6.0 11.0	6.1	2	4 5.0 9.0	4.6	2	6.0 9.0
20 141 4 4 9.5 17.0 128 4 6 7.0 12.0 112 3 4 6.5 11.5													6.9 2	9	5.5 10.5	6.1	3	4 4.0 7.5	4.6	2	4 5.0 9.0
21 143 2 6 9.0 16.0 129 4 5 7.5 13.5 113 4 4 7.0 12.5													6.9 2	6	5.5 10.0	6.1	4	3 5.0 8.0	4.6	0	3 6.0 10.0
22 143 3 5 10.5 17.5 129 4 4 9.0 16.0 113 4 2 7.5 14.5													6.9 2	6	5.5 10.5	6.1	2	4 6.0 10.0	4.6	2	4 6.0 9.5
23 143 4 5 11.0 19.0 129 4 2 9.0 16.0 113 3 2 8.0 14.5													6.9 4	5	6.5 12.0	6.1	4	3 6.5 11.5	4.0	4	4 5.5 9.0

Fam = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station Balboa, Canal Zone Lat. 9°.0' N Long. 79.5' W Month November 1959

$F_{\text{min}} = \text{median value of effective antenna noise in dB above kTB}$

Do = ratio of upper decile to median in dB

D<sub>4</sub> = Punto de la parte media de la base.

$D_f$  = ratio of median to lower decile in db

$V_{dm}$  = median deviation of overge voltage in db below mean power

$L_{dm}$  = median deviation of overage logarithm in db below mean power

EDUCATIONAL MATERIALS FOR INDEPENDENT STUDY IN LANGUAGE INSTRUCTION 111

MONTH-HOUR VALUES OF RADIO NOISE      Station Bill, Wyoming — Lat. 43.2N Long. 105.2W Month September 1959

No.	Frequency (Mc)																												
	0.51			11.3			24.6			49.5			2.5			5			10			20							
F <sub>am</sub>	D <sub>u</sub>	D <sub>x</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>x</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>x</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>x</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>x</sub>	V <sub>dm</sub>	L <sub>dm</sub>					
00 *34					117	8	2			101	8	4			89	6	4			65					57		38		
01 134	6	2			119	8	2			103	8	6			91	4	4			68					57		37		
02 136	6	6			121	8	6			103	10	6			91	10	6			69					57		38		
03 134	8	4			121	10	8			103	14	6			89	14	2			68					57		36		
04 132	8	6			119	10	6			103	10	8			85	8	6			66					55		35		
05 130	6	8			111	12	6			87	18	8			69	10	12			59					51		33		
06 *28					*	107				*	84				*	69					37					37		32	
07 +26					*	105				*	85				*	68					27					37		32	
08 *24					*	105				*	82				*	68					25					24		26	
09 128					*	101				*	80				*	62					25					21		21	
10 *29					*	103				*	81				*	69					23					18		21	
11 *28					*	10				*	71				*	69					21					19		21	
12 *31					*	10				*	87				*	71					23					19		23	
13 *32					*	109				*	90				*	71					21					21		22	
14 *32					*	110				*	91				*	71					21					25		26	
15 *32					*	113				*	94				*	73					21					25		30	
16 *32					*	114				*	97				*	73					21					31		32	
17 *33					*	113				*	97				*	72					32					37		36	
18 *34					*	113				*	95				*	73					47					49		40	
19 *34					*	117				*	102				*	82					63					55		40	
20 *36					*	119				*	101				*	86					63					55		40	
21 *36					*	117				*	101				*	86					64					54		38	
22 *35					*	118				*	101				*	88					65					55		38	
23 *36					*	118				*	103				*	89					63					55		38	

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>x</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE Station Bill, Wyoming Lat. 43.2 N Long. 105.2 W Month October 19 59

EST	Frequency (Mc)																					
	.051	.113	.246	.495	.945	2.5	5	10	20	20	20	20										
	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
00 /30	101	115	115	101	101	89	87	63	57	57	36	36	36	36	36	36	36	36	36	36	36	36
01 /30	99	99	99	81	81	59	57	59	57	57	36	36	36	36	36	36	36	36	36	36	36	36
02 /30	97	97	97	83	83	61	53	53	53	53	36	36	36	36	36	36	36	36	36	36	36	36
03 /28	93	93	93	77	77	61	53	53	53	53	36	36	36	36	36	36	36	36	36	36	36	36
04 /28	85	85	85	61	61	63	53	53	53	53	36	36	36	36	36	36	36	36	36	36	36	36
05 /24	97	97	97	77	77	57	49	49	49	49	36	36	36	36	36	36	36	36	36	36	36	36
06 /24	95	95	95	77	77	61	53	53	53	53	36	36	36	36	36	36	36	36	36	36	36	36
07 /18	94	94	94	82	82	49	57	57	57	57	36	36	36	36	36	36	36	36	36	36	36	36
08 /14	89	89	89	81	81	55	49	49	49	49	36	36	36	36	36	36	36	36	36	36	36	36
09 /14	93	93	93	77	77	51	41	41	41	41	36	36	36	36	36	36	36	36	36	36	36	36
10 /16	87	87	87	77	77	51	49	49	49	49	36	36	36	36	36	36	36	36	36	36	36	36
11 /16	89	89	89	79	79	53	47	47	47	47	36	36	36	36	36	36	36	36	36	36	36	36
12 /16	89	89	89	85	85	59	59	59	59	59	36	36	36	36	36	36	36	36	36	36	36	36
13 /20	86	86	86	86	86	59	59	59	59	59	36	36	36	36	36	36	36	36	36	36	36	36
14 /22	102	102	102	86	86	59	48	48	48	48	36	36	36	36	36	36	36	36	36	36	36	36
15 /22	107	107	107	89	89	65	59	59	59	59	36	36	36	36	36	36	36	36	36	36	36	36
16 /20	107	107	107	87	87	69	55	55	55	55	36	36	36	36	36	36	36	36	36	36	36	36
17 /23	107	107	107	92	92	75	45	45	45	45	36	36	36	36	36	36	36	36	36	36	36	36
18 /26	114	114	114	97	97	79	51	51	51	51	36	36	36	36	36	36	36	36	36	36	36	36
19 /27	114	114	114	96	96	83	55	55	55	55	36	36	36	36	36	36	36	36	36	36	36	36
20 /20	115	115	115	99	99	85	55	55	55	55	36	36	36	36	36	36	36	36	36	36	36	36
21 /28	115	115	115	99	99	85	55	55	55	55	36	36	36	36	36	36	36	36	36	36	36	36
22 /28	115	115	115	99	99	85	56	56	56	56	36	36	36	36	36	36	36	36	36	36	36	36
23 /30	115	115	115	101	101	85	54	54	54	54	36	36	36	36	36	36	36	36	36	36	36	36

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>z</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE      Station Bill, Wyoming      Lat. 43.2 N Long. 105.2 W Month November 1959

LST	Frequency (Mc)																			
	.051	.113	.246	.495	.95	2.5	5	10	20	40	80									
F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00 126	114				96				55-		57					34				25
01 124	112				93				53		52					36				24
02 126	112				92				53		55-					34				24
03 124	109				88				53		53					33				24
04 122	110				86				51		51					30				24
05 122	103				82				49		49					32				26
06 118	98				82				47		47					32				28
07 112	92				78				33		41					30				30
08 108	92				78				31		31					28				32
09 109	90				78				29		29					26				32
10 114	92				80				32		29					24				32
11 134	132				82				35-		35-					32				34
12 107	90				80				51		33					30				33
13 106	93				76				35		31					30				32
14 106	92				78				34		31					32				32
15 106	96				76				56		31					32				34
16 108	96				80				56		38					37				34
17 118	106				80				59		45					36				33
18 122	110				87				65		49					38				31
19 122	112				88				70		51					40				26
20 123	110				90				75		53					36				26
21 124	110				90				79		55-					34				25
22 123	110				94				82		54					31				25
23 126					92				82		55-					36				24

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of overage logarithm ln db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Boulder, Colorado Lat. 40.1 N Long. 105.1 W Month September 19 59

		Frequency (Mc)																																									
		.013						.051						.160						.495						2.5						5						10					
Hour	Min	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>										
00	163	3	2	10.5	17.5	138	6	4	7.5	13.5	116	7	8	6.5	11.0	94	7	7	5.5	10.5	67	8	4	4.0	8.0	4.8	2	4	2.5	5.0	30	4	2	*1.5	4	3.0							
01	162	3	1	9.0	16.0	138	4	4	7.5	13.0	114	10	6	6.5	12.5	94	7	7	5.5	11.0	69	6	4	4.0	8.0	4.8	4	4	4.5	5.0	30	4	4	*3.0	4	3.0							
02	161	4	2	10.0	17.5	139	4	5	7.5	14.0	116	8	6	7.0	13.0	93	8	5	6.5	12.5	68	5	0	10.5	5.0	8.0	4	4	4.5	7.0	30	4	4	*4.0	6.5	4.5							
03	161	4	2	10.5	18.0	136	6	3	9.0	15.0	115	8	5	7.0	14.0	94	7	6	6.0	13.0	69	10	4	6.0	5.5	8.0	4	2	4.0	8.5	4.6	4	2	2	4.5	3.5	3.5						
04	161	2	3	10.5	18.0	132	5	4	9.5	16.5	112	8	5	8.0	16.5	87	8	6	9.0	14.5	69	8	4	5.5	12.0	56	6	2	5.5	12.0	4.4	2	4	4.0	2.5	2.5							
05	159	4	3	10.5	18.0	132	4	6	10.0	18.0	103	12	17	11.5	22.0	67	17	7	3.0	7.0	61	8	6	5.5	5.4	6	4	2	5.0	6.0	4.2	2	4	4.0	3.0	3.0							
06	159	4	2	11.0	19.0	129	5	5	11.5	19.5	100	13	21	10.0	15.5	65	17	4	3.0	6.0	49	8	6	2.0	5.0	44	6	2	4.0	8.0	3.2	4	2	3.0	5.0	5.0							
07	159	3	4	12.0	20.0	128	5	8	11.0	20.0	100	12	21	9.5	17.0	65	18	6	2.5	5.0	49	2	6	1.5	3.5	40	4	6	2.0	4.0	3.7	4	2	4.0	4.0	4.0							
08	157	5	2	13.5	21.0	124	8	5	12.5	21.5	92	21	15	9.5	16.0	65	20	6	9.5	17.0	45	2	5	4.0	3.8	4.0	2	6	1.5	3.0	3.3	2	4	3.0	3.5	3.5							
09	159	5	2	13.0	20.0	129	5	7	12.0	21.0	102	10	19	11.0	19.0	63	18	4	2.5	5.0	79	1	5	3.0	4.0	2.0	2	6	1.0	3.0	3.4	3	3.0	3.0	3.0								
10	161	2	4	13.0	20.0	130	4	8	12.5	20.5	98	12	16	11.0	18.5	65	19	6	3.0	5.0	97	1	0	2.5	4.0	2.0	2	6	2.5	4.5	3.4	3	3.0	4.5	4.5								
11	161	4	4	11.0	17.5	130	6	9	10.0	17.5	98	15	11	10.0	17.0	65	22	6	4.5	6.5	69	1	5	3.0	4.0	2.0	2	6	2.0	3.5	3.2	3	3.0	4.0	4.0								
12	162	5	4	11.5	15.0	132	5	6	7.5	13.0	104	10	12	8.0	14.0	71	21	10	3.5	6.0	49	2	8	1.0	1.5	3.5	3.5	2	5.0	6.0	3.8	8	6	3.0	5.5	5.5							
13	163	4	2	8.0	14.0	134	4	8	7.0	13.0	104	12	11	7.0	13.0	71	21	10	4.0	6.0	49	1	0	2.0	4.0	1.0	2.0	3	1.0	2.0	1.0	3.0	4.0	4.0									
14	163	4	2	8.0	14.5	134	4	6	6.0	12.0	105	14	11	7.5	14.0	72	16	8	4.5	7.5	49	4	10	1.5	3.0	40	4	6	2.0	3.5	3.8	6	4	3.0	4.0	4.0							
15	164	3	3	8.0	14.0	134	4	4	6.0	11.0	110	9	9	6.0	12.0	77	20	13	4.0	8.0	49	12	8	2.0	3.5	41	9	7	2.5	5.0	4.0	4	4	4.5	5.0	5.0							
16	165	2	4	7.0	13.0	126	6	6	6.0	11.0	110	13	19	8.0	13.0	79	22	16	3.0	5.0	99	14	4	2.0	4.0	4	4	3.0	5.0	7.0	4.0	8	6	3.0	5.0	5.0							
17	163	6	4	7.5	13.0	136	5	7	7.0	12.0	110	12	21	5.0	10.0	76	21	13	3.0	5.5	51	8	4	2.0	3.5	48	8	2	3.5	6.5	5.0	2	4	4.0	4.0	4.0							
18	163	6	4	9.0	15.0	136	8	6	6.0	11.0	114	10	11	6.5	12.0	89	9	13	7.0	11.0	61	8	8	3.5	7.5	58	4	4	3.0	5.0	5.0	2	4	4.5	5.0	5.0							
19	163	5	2	8.0	14.0	138	8	6	7.0	12.0	114	11	5	7.0	11.5	91	6	8	6.0	11.0	69	2	6	3.0	5.0	50	4	4	3.5	5.5	54	4	4	4.0	4.0	4.0							
20	163	5	2	9.5	16.0	138	7	5	6.5	11.5	114	11	4	5.5	10.5	93	6	6	5.5	10.5	67	6	4	5.0	9.0	60	4	4	5.0	6.0	6.0	2	4	4.0	4.0	4.0							
21	163	4	2	9.5	16.0	136	7	2	7.0	13.0	114	8	6	6.5	12.0	93	6	6	5.5	10.5	69	2	6	4.5	8.0	48	4	2	3.0	6.5	32	2	4	4.0	3.0	3.0							
22	163	4	2	9.5	16.5	138	6	4	7.5	13.0	115	7	7	6.5	12.0	94	7	6	6.0	11.0	67	4	4	3.5	7.5	50	4	4	4.0	8.0	30	4	2	4.5	3.0	3.0							
23	163	2	2	9.0	16.0	139	4	6	7.5	14.0	116	7	8	6.5	16.5	95	6	7	6.0	11.0	67	4	4	3.5	7.5	60	2	2	3.0	6.0	48	2	4	4.0	3.0	3.0							

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>l</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Boulder, Colorado Lat. 40.1 N Long. 105.1 W Month October 19 59

		Frequency (Mc)																																							
		.013				.051				.160				.495				.2,5				5				10															
		Fam	D <sub>u</sub>	Vdm	Ldm	Fam	D <sub>u</sub>	Vdm	Ldm	Fam	D <sub>u</sub>	Vdm	Ldm	Fam	D <sub>u</sub>	Vdm	Ldm	Fam	D <sub>u</sub>	Vdm	Ldm	Fam	D <sub>u</sub>	Vdm	Ldm																
00	157	8	4	12.0	19.5	13.2	8	6	11.0	17.5	10.9	9	8	9.0	17.0	8.8	12	8	7.0	13.0	6.0	4	6	5.0	9.5	5.7	7	4	4.5	9.0	4.7	4	4	3.0	2.0	0.4	0	2	1.5	3.5	
01	157	8	2	11.0	18.0	13.0	9	7	10.5	16.0	10.8	8	7	9.5	17.0	8.6	10	6	8.0	15.0	6.0	4	6	5.0	9.0	5.7	8	5	5.0	9.0	4.7	4	4	4.0	2.5	2.4	0	2	2.0	3.5	
02	157	5	4	11.5	18.5	13.0	8	6	11.0	18.5	10.6	9	6	9.0	17.0	8.3	11	6	9.0	16.0	5.8	6	5	5.0	9.0	5.5	8	4	5.0	10.0	4.7	3	4	5.0	10.0	2.2	2	2.0	3.5		
03	157	6	4	13.5	20.0	13.0	7	6	11.0	18.5	10.4	10	4	10.5	19.0	8.0	13	6	10.0	17.5	5.8	5	6	5.0	10.0	5.5	9	4	4.5	9.0	4.7	2	4	5.0	9.0	2.2	2	0	*1.5	*3.5	
04	157	6	4	12.0	20.0	12.6	11	5	11.0	19.0	10.2	10	12	14.0	22.0	7.6	14	10	9.0	14.5	5.6	6	5	5.0	10.5	5.5	9	6	5.0	10.0	4.5	4	6	3.5	6.5	2.4	0	2	1.5	3.5	
05	155	7	4	13.0	19.5	12.2	10	6	11.0	18.0	8.6	6	9	10.0	15.5	6.4	9	6	3.5	6.5	5.2	7	4	5.5	11.0	5.1	10	3	4.5	8.0	4.3	7	4	5.0	8.0	2.4	2	0	1.5	3.5	
06	155	7	4	12.0	19.0	12.0	10	7	10.5	18.5	7.6	8	6	7.0	10.0	6.2	6	4	3.0	5.0	4.8	8	2	2.5	5.0	4.7	8	4	3.5	7.5	4.3	5	4	3.0	7.0	2.8	2	2	3.0	5.0	
07	153	7	3	13.0	20.0	11.8	12	7	13.0	20.5	7.4	12	8	4	14.0	18.0	4.0	8.0	6	3.0	6.0	4.6	6	3	3.0	5.5	4.1	4	4	2.5	6.0	3.9	6	4	3.0	6.0	2.8	3	1	2.0	4.5
08	153	7	5	13.0	19.5	11.8	12	10	12.5	20.5	7.6	23	6	3.5	6.5	6.2	7	5	3.5	6.0	4.6	4	4	*2.0	4.0	4.1	2	6	2.0	5.0	3.5	7	6	2.5	5.5	2.8	3	2	2.5	9.5	
09	155	7	5	13.0	19.5	11.6	11	11.5	22.0	7.6	22	6	7.0	12.5	6.2	5	6	4.5	8.5	4.6	4	4	1.5	3.5	4.1	2	2.0	5.0	3.1	8	4	2.5	5.0	2.9	2	4	2.0	4.0			
10	155	5	4	12.0	19.0	12.1	7	11	12.0	20.0	8.2	16	10	5.5	9.0	6.2	6	6	3.0	7.0	4.6	4	9	1.0	3.0	4.0	3	2	2.5	5.0	3.0	6	6	2.5	4.5	2.8	4	2	2.0	4.0	
11	155	4	4	11.0	18.0	12.1	9	9	11.0	18.5	8.4	18	12	7.5	14.0	6.3	9	5	4.0	10	7.0	4.6	2	10	1.5	4.0	3.9	4	12	1.5	4.5	2.9	10	6	3.0	5.0	3.0	2	3	2.0	4.0
12	155	6	4	9.5	16.0	12.0	10	8	10.0	17.0	8.2	20	11	8.0	15.0	6.2	6	8	2.5	6.0	4.6	4	12	1.5	4.0	3.7	6	10	2.5	5.0	2.9	10	8	3.0	5.0	3.0	1	3	2.0	4.0	
13	155	8	4	10.0	16.5	12.2	9	10	9.0	16.5	8.4	20	12	9.5	19.5	6.2	4	6	3.5	7.0	4.6	4	8	1.5	3.5	3.7	6	12	2.0	5.5	3.1	10	8	4.5	8.0	3.0	4	2	2.0	4.5	
14	159	3	8	10.0	17.0	12.4	8	12	9.5	17.5	8.9	19	19	8.0	14.5	6.3	12	6	3.0	7.0	4.4	6	7	1.5	3.5	3.9	6	11	2.5	5.0	3.5	8	10	3.0	6.0	3.2	2	4	2.5	5.0	
15	157	5	6	11.0	17.5	12.2	12	8	11.0	17.5	8.5	24	14	11.0	17.5	6.3	14	3	3.5	7.0	4.6	4	6	1.5	3.5	4.0	8	6	2.5	5.0	4.1	9	13	5.0	8.0	3.2	4	2.0	4.5		
16	157	4	8	11.0	18.5	12.4	9	9	11.0	19.0	8.8	22	15	9.0	15.0	6.4	12	5	3.0	7.0	4.8	6	5	2.0	4.0	4.3	10	4	2.0	5.0	4.5	9	4	4.0	8.0	3.2	4	2	2.5	5.0	
17	156	6	5	12.0	19.0	12.4	10	8	10.0	17.5	10.0	10	7	8.0	14.0	7.3	12	6	4.5	8.5	5.2	7	5	3.0	5.5	4.9	9	5	3.0	5.0	4.7	6	4	4.5	8.5	3.2	4	2	2.0	4.5	
18	157	4	5	12.0	20.0	12.6	11	2	9.0	17.0	10.6	9	8	8.0	16.0	8.0	14	6	5.5	10.0	5.8	11	7	4.5	9.0	5.1	10	4	3.5	7.0	4.7	6	4	4.0	8.0	2.8	5	2	2.5	4.5	
19	157	6	4	12.0	19.5	13.0	10	4	8.5	16.0	10.6	10	7	7.0	15.0	8.4	12	9	6.0	11.0	6.0	11	6	4.0	9.0	5.3	9	4	5.5	10.0	4.9	2	4	4.5	8.5	2.6	2	2	1.5	3.5	
20	157	6	4	12.5	20.5	13.0	9	4	9.0	15.0	10.6	9	6	7.5	15.0	8.5	11	6	5.0	10.0	6.0	11	6	5.0	9.0	5.3	9	5	4.0	8.0	4.7	4	3	4.0	8.0	2.4	2	0	1.0	3.0	
21	157	5	3	12.0	20.0	13.0	10	4	9.0	16.0	10.8	10	7	7.5	14.5	8.6	12	7	6.0	11.0	6.0	10	6	4.0	8.5	5.3	11	4	4.5	9.0	4.7	4	3	5.0	9.0	2.4	1	0	1.0	3.0	
22	157	6	4	12.0	19.0	13.2	8	6	9.0	15.0	10.8	10	8	8.0	15.5	8.8	12	6	6.0	11.0	6.0	11	6	3.5	7.0	5.5	8	4	4.0	9.0	4.7	2	4	5.0	9.0	2.4	0	2	1.5	3.5	
23	157	7	4	11.5	19.0	13.1	10	5	9.0	17.0	10.9	8	7	8.0	15.5	8.9	11	7	6.5	13.0	6.0	12	6	4.5	9.0	5.5	7	3	4.5	9.0	4.7	4	3	5.0	9.0	2.4	0	2	1.5	3.5	

Fam = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

Vdm = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Boulder, Colorado Lat. 40.1 N Long. 105.1 W Month November 19 59

(EST)	Frequency (Mc)																				
	.013	.051	.160	.495	.2.5	5	1.0	2.0													
F <sub>m</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
00	151	5	2	9.0	445	2	24	8	6	10.0	17.0	100	10	6	7.5	14.5	80	15	4	6.5	12.0
01	151	6	2	9.0	16.0	2	24	8	6	9.5	17.0	100	10	6	10.0	12.0	54	10	4	4.5	7.0
02	151	6	2	9.5	16.0	2	24	8	4	9.0	17.0	98	10	7	10.0	17.5	76	14	3	8.0	14.5
03	151	4	2	10.5	17.5	2	24	8	4	9.5	14	6	11.0	18.0	74	14	6	7.5	14.0	52	
04	151	4	3	11.5	19.0	2	22	10	6	10.0	16.0	92	16	9	11.0	20.0	72	17	6	12.0	13.0
05	151	4	3	10.5	17.5	2	22	5	8	10.0	18.0	87	19	11	10.0	15.5	68	18	5	6.0	10.0
06	151	2	5	11.0	17.5	2	22	4	6	11.0	19.0	78	17	6	11.0	19.0	62	10	2	2.5	5.5
07	149	4	2	10.5	17.0	1	2	11.5	2	11.5	18.5	74	16	6	8.5	13.0	62	4	3	3.0	5.5
08	147	4	2	11.0	18.0	1	2	6	12.5	20.0	72	14	4	9.0	13.5	64	4	6	3.0	5.5	
09	147	4	4	11.5	18.0	1	2	7	8	12.0	19.5	71	14	5	10.0	20.0	62	6	5	3.0	5.5
10	147	5	4	10.0	17.0	10	9	13.0	20.0	70	27	3	8.0	10.0	62	2	2	0.0	5.5		
11	147	4	6	10.0	16.0	10	9	10.9	8	11.0	17.5	70	18	4	8.0	12.0	62	6	2	0.0	4.0
12	149	4	8	10.0	16.5	11	12	9	9	12.0	20.5	71	15	3	6.0	14.0	62	4	6	1.0	3.0
13	149	6	8	9.5	16.0	11	10	9	11.0	19.0	72	10	6	5.0	7.5	62	6	2.5	5.0	4.5	
14	149	5	5	10.5	17.5	11	0	7	12	10.0	19.0	74	17	10	10.5	62	6	6	2.5	5.5	
15	147	5	6	11.0	18.5	11	11	13	10	19.0	19.0	88	10	17	10.0	14.5	71	13	9	13.0	17.0
16	147	4	6	12.0	18.5	11	2	10	9	10.5	19.0	88	14	10	14.0	18.0	62	20	3.0	1.0	3.5
17	148	7	5	11.0	18.5	12	0	11	9	10.0	18.5	86	6	5	12.5	15.0	47	10	3	12.5	17.5
18	149	6	6	12.0	19.5	12	2	7	8	8.5	16.5	96	12	10	11.0	17.5	71	14	5	10.5	15.5
19	151	4	7	12.0	19.0	12	4	5	9	8.5	16.5	97	9	10	8.0	15.0	74	11	6	2.5	6.5
20	151	4	6	11.5	19.5	12	4	7	9	9.5	17.0	98	12	10	9.5	17.0	77	10	5	2.0	5.0
21	151	4	6	10.5	18.0	12	3	8	6	10.0	18.0	98	14	8	8.0	15.0	78	13	4	2.0	5.0
22	151	4	4	10.0	17.5	12	3	9	6	10.0	18.0	98	8	8	8.5	16.0	54	8	6	2.0	5.0
23	151	5	4	9.5	15.0	12	4	8	7	10.0	19.0	100	12	9	8.0	15.0	80	13	5	6.5	12.5

F<sub>m</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>x</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station	Byrd Station, Ant.	Lat.	80.0 S	Long.	120.0 W	Month	September	1959
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Frequency (Mc)																																			
.051				.113				.246				.545				2.5				5				10				20							
Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm						
00	103	3	2		76	8	2			61	4	4			52	4	4			24	2	2			30	13	11		25	6	8		d1	0	2
01	103	4	2		76	10	2			61	4	6			51	4	2			22	4	0			26	12	8		23	8	8		19	2	0
02	103	4	4		78	4	5			61	4	6			50	4	2			24	0	3			26	8	8		23	11	7		19	2	0
03	103	2	2		76	4	4			59					50					22	2	2			24	9	6		21	10	3		19	2	0
04	101	2	3		78					57					51					24					22	11	4		23	7	8		19	1	2
05	101	2	15		76	2	4			59	8				50	2	2			22	6	2			20	16	4		21	7	8		19	1	2
06	101	4	3		76	6	4			63	2	6			50	5	2			22	1	2			18	18	2		19	6	9		19	1	2
07	101	3	3		78	4	4			63	2	5			52	3	2			22	3	2			16	9	0		19	6	8		19	1	2
08	101	0	2		76	4	4			63	2	7			52	4	3			22	4	2			18	2	2		13	9	5		19	1	2
09	99	1	2		74	5	4			63	2	6			52	2	4			22	3	2			16	2	0		14	5	4		19	1	2
10	99	2	2		76	4	3			63	2	6			52	2	4			22	1	2			18	4	2		17	3	6		19	2	0
11	99	2	2		76	6	4			63	3	6			52	4	3			22	2	2			20	4	4		17	4	2		19	0	2
12	99	1	2		78	5	6			62	3	5			53	3	3			22	4	2			22	6	6		19	2	4		19	2	0
13	99	2	3		76					62	3				52	4	2			22	3	2			24	4	4		21	3	4		19	2	0
14	99	2	2		78					63					52					22	2	2			26	7	8		23	2	3		d1	2	2
15	99	3	2		68					59	5				53	3	3			22	4	2			26	8	8		d3	4	2		21	4	2
16	99	4	2		78					62	3	5			52	4	4			24	2	2			28	13	10		21	4	6		21	2	2
17	101	2	3		76	2	4			62	3	6			52	4	4			24	4	4			32	8	12		d7	6	4		d1	0	2
18	101	2	2		76	4	4			63	2	6			52	4	2			22	6	2			29	15	9		27	4	6		d1	2	2
19	101	4	2		78	4	8			61	4	4			54	2	4			24	2	4			33	9	11		29	6	4		d1	0	2
20	101	4	2		76	6	2			63	4	4			52	2	2			24	4	2			34	10	15		27	14	13		21	0	2
21	103	2	2		76	5	4			61	4	4			52	2	3			24	4	2			33	13	10		27	6	10		21	0	2
22	103	4	2		76	5	4			63	4	5			52	4	2			22	8	2			36	8	14		28	7	9		21	0	2
23	103	3	2		76	6	2			63	2				52	3	2			23	5	3			34	8	10		26	9	5		d1	0	2

$F_{\text{eff}} = \text{median value of effective antenna noise in dB above kTB}$

$$P_{11} = \text{ratio of upper decile to median in } \bar{g}_{11}$$

D<sub>2</sub> = ratio of median to lower decile in db

Yi median population of 2,400,000 in 1950.

$V_{dm}$  = median deviation of average voltage in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Byrd Station, Ant. Lat. 80.0 S Long. 120.0 W Month November 19 59

Month-Hour	Frequency (Mc)												.051			.113			.246			.545			2.5			5			10			20		
	F <sub>om</sub>			D <sub>u</sub>			V <sub>dm</sub>			L <sub>dm</sub>			F <sub>om</sub>			D <sub>u</sub>			V <sub>dm</sub>			L <sub>dm</sub>			F <sub>om</sub>			D <sub>u</sub>			V <sub>dm</sub>			L <sub>dm</sub>		
Month-Hour	FS	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>							
00/103	2	4				72	10	2		66	2	8		60	7	5		20	4	2		21	6	6		20	6	4		19	2	2				
01/103	1	4				74	4	4		64	4	8		59	7	9		18	6	0		19	6	6		20	6	9		19	0	2				
02/103	2	4				74	4	6		64	2	8		60	7	11		20	4	2		19	6	4		18	6	4		17	2	2				
03/103	2	4				75	9	5		64	2	5		60	8	8		20	2	2		17	8	2		16	8	8		17	2	2				
04/103	2	4				76	10	8		61				64	4	9		18				17	6	3		14	8	4		17	2	2				
05/103	2	4				76	4	6		64				61	8	15		20				17	4	2		16	6	6		17	2	2				
06/103	2	4				75	6	7		65	5	5		60	7	12		20	2	2		15	4	0		16	8	10		17	4	2				
07/103	0	6				72	7	4		66	1	8		60	9	10		19	5	1		15	4	2		16	4	10		17	2	2				
08/101	3	4				74	7	4		64	4	4		62	6	13		20	4	2		15	2	2		13	5	5		17	2	2				
09/101	2	0				74	7	6		64	4	6		63	5	13		18	6	0		15	3	6		15	3	6		17	2	2				
10/103	3	4				74	6	4		66	2	7		60	9	12		20	7	3		17	4	4		14	4	3		18	1	2				
11/103	1	4				72	6	2		66	0	6		58	11	8		18	6	0		15	2	2		14	2	4		17	2	1				
12/103	2	4				74	6	4		62	4	4		60	8	10		20	4	2		15	2	2		16	2	6		19	0	2				
13/103	2	4				74	10	4		63	4	2		60	6	6		20	4	2		15	4	2		18	4	6		19	1	2				
14/103	2	4				72	7	3		62	4	3		62	5	8		20	6	2		15	6	2		16	2	6		19	4	2				
15/103	2	4				74				63				64	4	6		24				19	0	4		16	4	2		19	4	0				
16/103	0	4				78				60	6	2		60	10	6		22				17	0			17	9	5		19	4	0				
17/103	2	2				73	7	5		64	4	7		60	6	4		20	1	2		17	2	2		22	2	12		19	2	2				
18/103	2	2				74	6	4		64	4	6		60	6	8		22	3	4		17	7	2		22	4	11		19	2	2				
19/103	2	2				74	8	4		66	2	7		58	9	3		20	4	2		17	9	2		22	4	6		19	2	2				
20/103	2	2				74	9	4		64	4	6		58	5	8		20	4	2		21	6	4		22	6	8		19	2	2				
21/103	2	2				74	5	3		66	1	8		58	8	6		20	4	2		23	4	8		22	4	6		19	0	2				
22/103	5	2				74	4	4		66	2	6		62	5	9		20	4	2		23	6	6		24	2	6		19	2	2				
23/103	2	2				15	4	5		64	4	4		60	6	10		20	4	2		23	7	5		22	5	7		19	0	2				

F<sub>om</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of overage logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station Cook, Australia Lat. 30.6 S Long. 130.4 E Month September 1959

Frequency (Mc)																																									
ES <sub>T</sub>		.013			.051			.160			.545			2.5			5			10			20																		
Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm	Fam	Du	D <sub>f</sub>	Vdm	Ldm																	
00	155	1	2	7.0	11.5	12.8	2	2.5	13.5	10.1	7	4	7.0	13.5	8.1	8	5	7.0	13.5	5.3	10	3	6.0	10.0	5.0	7	4	4.5	7.5	2	2										
01	155	2	2	6.5	11.0	12.8	3	2	7.5	13.5	10.0	7	2	7.0	13.0	8.1	8	4	9.0	16.0	5.5	6	7.0	10.5	5.2	4	5	6.0	10.0	4.2	5	3	0	2.5	4.0						
02	155	2	1	7.0	12.0	12.8	3	2	8.0	13.0	10.0	9	4	15.5	14.0	8.0	10	5	7.5	13.0	5.5	7	6	6.0	11.5	5.2	4	4	5.0	8.5	2	2	3.0	4.0							
03	155	2	2	7.5	12.5	12.8	2	2	7.0	13.0	10.0	6	4	7.0	13.0	19	6	6	6.5	12.5	5.3	6	4	5.0	8.5	5.2	4	4	5.0	8.0	2	2	4.0	7.0							
04	155	2	2	7.5	13.0	12.5	3	2	8.0	13.5	9.8	6	2	7.0	13.0	8.1	6	8	7.5	13.5	5.1	7	4	6.0	10.0	5.2	4	4	5.0	8.5	40	2	4.5	7.0							
05	155	2	2	9.0	15.0	12.6	3	2	8.0	13.0	9.6	7	3	7.5	13.5	6.9	10	8	12.0	16.0	4.9	9	2	6.0	10.0	5.2	4	3	4.5	9.0	40	1	3.5	5.0							
06	155	2	2	8.5	14.5	12.2	4	2	8.0	13.0	8.3	12	9	9.0	15.0	4.9	11	1	*3.0	5.5	4.7	6	7	5.0	8.5	4.8	5	4	4.5	8.0	38	3	2	3.5	7.0						
07	153	2	2	9.0	14.5	11.6	6	5	8.0	13.0	6.4	25	4	*7.0	10.0	4.9	11	2	*7.5	10.5	2.9	11	5	+6.0	8.5	30	8	5	3.5	6.0	32	7	2	2.5	4.0						
08	151	3	2	8.5	14.5	11.1	10	3	9.0	15.0	6.4	20	8	*5.5	13.5	4.9	6	3	3.0	5.0	2.5	8	4	+4.0	5.5	28	6	8	2.5	4.0	24	10	1	1.0	4.0	50	0	3.0	5.0		
09	151	2	2	9.0	15.0	11.2	10	6	10.5	18.0	6.6	32	10	13.0	19.0	4.9	11	2	3.0	6.0	2.3	4	1	*3.5	5.0	28	4	6	3.0	4.5	22	11	4	3.5	5.5	21	4	2	2.5	4.0	
10	151	3	2	11.0	18.0	11.2	10	3	13.5	22.0	6.8	30	12	14.5	24.0	4.9	6	4	2.5	5.0	2.3	5	2	*3.5	4.5	28	5	5	*5.5	4.0	22	9	4	*5.5	4.5	21	3	2	2.5	4.0	
11	151	2	2	11.5	18.0	11.4	8	4	13.0	22.0	6.6	30	10	*1.0	16.0	4.9	8	4	*4.0	6.0	2.3	6	4	3.0	4.5	48	4	8	8.5	4.0	22	8	4	3.0	5.0	21	2	2	3.5	5.0	
12	149	4	2	12.0	19.5	11.4	8	4	12.0	20.5	6.9	27	9	14.0	21.0	4.9	11	2	*3.0	4.5	2.3	6	4	*3.5	5.0	28	4	10	*3.5	6.0	22	10	2	*3.0	5.0	21	4	2	3.5	5.5	
13	151	2	4	12.5	20.0	11.6	7	6	12.0	21.0	7.2	22	12	16.5	25.5	4.9	8	4	*4.5	7.5	2.1	10	2	*2.5	3.5	30	3	8	*3.0	4.5	24	6	4	*3.5	5.0	23	4	3	3.0	4.5	40
14	151	3	2	11.5	19.0	11.6	10	4	10.5	19.5	7.8	24	14	*6.5	21.5	4.9	19	6	*3.5	5.5	2.3	9	4	*4.0	6.0	3.0	8	6	*7.0	15.5	26	10	6	5.0	7.0	20	4	4	4.5	5.0	
15	152	3	1	10.5	17.0	11.8	6	5	12.0	21.0	7.0	24	8	*16.0	21.5	4.7	24	0	*4.5	6.5	2.3	10	4	*3.0	5.0	29	6	12	*5.5	4.0	29	6	6.0	*9.0	25	2	2	4.5	7.0		
16	153	2	2	9.0	16.0	11.4	10	4	*6.0	16.0	7.4	35	14	*8.5	15.0	4.9	26	2	*7.5	13.5	*2.5	26	3	*3.0	4.0	27	11	8	*3.0	5.0	34	8	2	*4.0	7.0	27	2	2	3.0	5.0	
17	153	2	2	8.5	14.0	11.6	9	6	8.0	15.0	8.4	16	19	*15.5	24.0	5.9	13	7	*5.5	10.0	31	13	5	*8.0	10.5	36	13	4	*5.0	8.0	40	4	2	5.5	7.5	4	2	3.0	5.0		
18	151	4	2	8.0	14.0	11.6	16	4	12.0	17.0	9.4	17	11	11.5	22.5	7.4	13	9	*5.0	6.0	4.4	10	6	7.5	12.0	4.9	7	6	6.0	10.0	4.2	5	2	5.0	8.0	27	3	2	3.5	5.0	
19	153	2	3	8.5	14.0	12.2	7	3	9.5	15.5	9.6	10	3	9.0	19.5	7.9	9	5	*5.0	6.0	*5.0	5.4	9	8	*6.0	1.5	5.6	4	5	*5.5	7.0	10	3	3	5.0	8.0	27	4	2	3.5	5.5
20	153	4	1	8.0	14.0	12.6	4	5	8.5	16.0	9.9	8	6	8.0	15.5	8.1	9	4	*5.5	11.0	5.3	8	6	*7.0	11.0	5.6	4	5	6.0	9.0	44	4	3	4.5	7.5	25	4	1	2.5	4.0	
21	155	2	3	8.0	13.0	12.6	4	2	8.0	15.0	10.0	7	5	8.0	16.0	8.3	7	5	*6.0	13.0	5.5	9	6	10.5	5.6	4	4	6.0	9.5	44	4	3	5.0	8.0	27	2	2	3.5	6.0		
22	153	4	1	7.5	11.5	12.6	4	2	8.0	14.0	10.0	9	3	6.5	13.0	8.1	10	5	8.5	16.0	5.6	8	7	6.5	12.5	5.6	6	6	4.5	9.0	42	2	2.5	5.0	8.0	2	3.0	4.0			
23	153	4	1	7.5	12.5	12.8	2	2	8.5	14.5	10.0	7	4	7.0	13.0	8.1	8	4	8.0	15.5	5.5	10	6	6.0	9.0	5.4	6	8.5	16.5	42	2	3.0	5.0	8.0	2	2.5	4.0				

$F_{\text{med}} = \text{median value of effective antenna pulse length above } k_{\text{th}}$

D - *Entire age never decline to median* | *dB*

**U<sub>U</sub>** = Panel at upper decile of median in ab

$D_f$  = ratio of median to lower decile in db

$V_{dm}$  = median deviation of average voltage in db below mean power

$L_{\text{SD}} = \text{median deviation of average gear ratio} \ln \text{db below mean power}$

# MONTH-HOUR VALUES OF RADIO NOISE

Station Cooch, Australia      Lat. 30.6S Long. 130.4E Month October 1959

No	ESW	Frequency (Mc)												
		.013	.051	.160	.545	2.5	5	10	20					
00	1/57	2	3	7.0	12.5	12.0	4	5	9.5	17.0	10.5	6	9	1.5
01	1/57	2	4	2.0	12.0	3.0	4	4	8.5	14.5	10.5	6	6	1.5
02	1/57	2	3	7.0	11.5	13.0	4	2	8.5	14.5	10.5	4	7	6.5
03	1/57	2	2	7.5	13.0	12.0	4	4	8.5	15.0	10.5	6	6	8.0
04	1/57	2	2	8.5	14.5	12.8	4	3	9.0	15.0	9.1	9	4	1.5
05	1/57	2	4	8.5	15.0	12.6	6	2	9.0	15.0	9.5	10	7	1.5
06	1/54	3	3	9.0	15.5	12.1	3	6	8.0	15.5	8.3	14	11	1.5
07	1/53	0	2	9.5	16.0	11.6	6	5	10.0	16.0	7.7	21	16	1.5
08	1/51	3	2	10.0	17.0	11.3	1	3	13.0	21.0	7.7	24	13	3.0
09	1/51	4	2	12.0	19.0	11.6	10	6	13.0	22.0	7.5	21	12	1.0
10	1/51	4	3	12.0	19.5	11.6	10	2	13.0	23.0	9.5	30	11	1.5
11	1/51	8	2	12.5	20.0	12.0	6	6	14.0	21.5	8.2	24	19	1.5
12	1/53	4	4	11.5	19.0	12.0	6	8	8.5	16.5	8.4	21	18	1.8
13	1/53	6	4	11.5	20.0	12.9	6	6	9.5	16.5	8.5	20	11	7.0
14	1/55	5	2	9.0	17.0	12.5	8	6	2.0	13.0	9.1	16	18	1.5
15	1/55	6	2	9.5	16.0	12.6	7	6	8.0	16.0	8.4	20	15	1.5
16	1/55	6	4	10.0	17.0	12.3	10	9	7.5	15.0	9.2	18	17	1.5
17	1/56	3	4	9.0	15.5	12.2	10	6	8.0	15.5	9.3	15	17	8.5
18	1/55	2	2	9.0	15.0	12.4	7	7	7.0	14.5	10.3	10	13	7.0
19	1/55	3	4	9.0	16.0	13.0	4	6	9.0	16.5	10.5	9	9	7.5
20	1/57	2	4	9.0	15.5	13.0	4	6	8.0	16.0	10.5	8	10	7.5
21	1/57	2	4	9.0	14.5	13.0	4	4	9.0	16.0	10.3	6	8	7.0
22	1/57	2	4	8.0	13.5	13.0	4	4	9.0	16.0	10.3	8	6	7.5
23	1/57	2	4	7.5	12.5	13.0	4	4	9.5	16.5	10.3	8	5	8.0

F<sub>om</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>l</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

$F_{\text{eff}}$  = median value of effective antenna noise in dB above kTB

$D_{10}$  = ratio of higher decile to median in dB

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$D_2$  = ratio of median to lower decile in db

MONTH-HOUR VALUES OF RADIO NOISE

Station Enkoping, Sweden Lat. 59.5 N Long. 17.3 E Month September 19 59

Frequency (Mc)											
Hour	051	051	246 *+	545	2.5	5	10	20	F <sub>dm</sub>	D <sub>U</sub>	V <sub>dm</sub> * L <sub>dm</sub> *
	F <sub>am</sub>	D <sub>U</sub>	V <sub>dm</sub> * L <sub>dm</sub> *	F <sub>am</sub>	D <sub>U</sub>	V <sub>dm</sub> * L <sub>dm</sub> *	F <sub>am</sub>	D <sub>U</sub>	V <sub>dm</sub> * L <sub>dm</sub> *	F <sub>am</sub>	D <sub>U</sub>
00 12/1	3.0	5.0		81			50		40	60	40
01 12/1	8.0	12.0		65			25	6.0	52		40
02 11/9	11.0	13.5		81	7.0	10.0	5.0	8.5	52	3.0	6.5
03 11/8	2.0	11.0		82	6.5	10.5	7.2	8.0	54	3.0	7.0
04 11/7	8.5	13.5		79	9.0	14.0	6.1	5.5	8.0	8.0	55
05 11/4	6.5	11.0		68	8.0	9.5	5.3	3.5	6.5	4.5	4.8
06 11/2	8.0	12.5		94	7.0	13.0	5.5	2.8		3.0	5.0
07 11/1	8.0	12.0		91			5.0	9.5	32	3.0	6.5
08 10/9	13.0	18.0			56		3.1	7.0	10.0	3.4	4.0
09 10/9					56		3.0			3.2	4.0
10 11/1					55		2.5			3.0	4.0
11 11/1					57		3.0			2.8	3.5
12 11/2					54		2.6			2.8	3.4
13 11/5					54		3.0	6.0	2.6	8.0	11.5
14 11/3					54	4.0	6.5	3.6	7.0	10.5	2.8
15 11/3					54	0.5	3.4	1.90	2.40	2.8	3.4
16 11/5					57		4.0			3.6	2.6
17 11/5					57	3.5	5.5	4.0	3.6	11.5	16.5
18 11/6					65		4.4			4.2	10.0
19 11/7					61		4.7			4.6	6.0
20 11/7					72	4.0	8.0	5.2		4.4	9.0
21 11/9					83		4.9			4.4	5.5
22 11/9					79		4.7	2.0	5.0	9.2	12.0
23 11/9					92		4.9		5.2	4.2	7.5
					80		5.1	7.5	9.0	5.0	7.2
										11.0	13.0

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* + Interference Kalungborg Broadcast station from 0800 through 2300.



**MONTH-HOUR VALUES OF RADIO NOISE**

Station Enkoping, Sweden Lat. 59.5N Long. 17.3E Month November 19 59

ES	Frequency (Mc)												.051			.246 + *			.545			2.5			5			10			20		
	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>									
00 117 4 8 8.0 13.0	78	7	1	6.5 11.5	77	6	8	3.0	6.5	5.0	4.9	6.0 9.0	4.9	5.5	9.0	3.7	5.5	8.5	2.1	0	2	0.5	2.5										
01 117 4 6 1.0 16.0	77	7	6	6.0 11.5	68	6	4	5.0	9.0	4.9	4.9	7.5 12.5	4.9	4.5	10.0	3.9	0.5	3.5	1.9	2	0	0.5	3.0										
02 117 4 6 9.0 15.0	79	4	9	8.0 13.0	68	4	7	4.5	9.5	4.9	10.0	14.0	4.7	6.0	9.0	5.3	4.5	6.5	1.9	2	0	0.5	3.0										
03 117 4 6 8.5 15.0	79	2	10	5.0 12.5	66	6	4	3.0	7.0	4.8	4.9	7.0	10	6	2.5	4.5	1.9	2	0	0.5	3.0												
04 117 4 6 10.0 15.5	75	6	9	6.0 10.0	74	8	9	4.7	7.5	3.7	7.0 12.5	3.1	2.0	4.0	2.1	0	2	0.5	3.0														
05 117 4 7 11.5 17.0	76	5	7	9.0 13.5	76	8	7	15.0	4.4	4.7	5.5	9.0	3.1	4.0	6.5	2.1	0	2	1.0	3.5													
06 115 6 6 11.5 18.0	99	14	31	7.5 12.0	70	8	10	7.0	14.5	4.3	5.5	9.0	4.5	3.5	9.0	3.3	6	6	4.5	6.5	2.1	0	2	0.5	3.0								
07 111 3 6 10.0 17.0	95	4	24	66	9	7	2.5	6.0	3.6	6.0	9.5	4.5	3.5	9.0	3.4	3.0	7.0	2.3	2	4	1.0	3.5											
08 107 4 8 12.0 18.0	66			66			34	3.5	5.0	3.7	6.0	10.0	3.4	2.0	3.0	2.3	1.5	4.0	4.9	3.0	5.0												
09 103				63			4.5	11.0	3.8	2.0	4.0	2.5		37																			
10 102				63	7	5	4.0	11.5	3.4	2.3	6.5	7.0	3.3	3.0	5.5	2.5	2																
11 103 14 8 11.0 20.5	62	8	6	4.0	9.0	3.8	5.0	7.0	2.1	3.5	6.0	1.7	3.7	5.0	9.0	2.7	6	4	5.5	8.5													
12 103 12 10 11.0 15.0	65	11	9	3.5	8.5	4.0	2.0	4.0	2.4	7.0	9.5	3.5					2.7	2	4	1.5	4.5												
13 101 12 9 13.0 17.5	62	12	8	4.0	8.0	4.2	6	4	2.0	4.0	2.5	4	3.0	5.5	3.5	4	4	5.5	9.0	2.7	3	2	2.0	4.0									
14 103 10 10 11.0 16.0	65	18	6	7.0	12.0	4.4	4	4	0.5	3.0	2.7			3.0	5.5	3.5	4	4	4	4	4	3.5	6.0										
15 105 8 8 9.0 13.5	71	15	9	4.8	3	2	2.0	4.0	3.7	3.0	5.5	4.1	6	4	4.5	6.5	2.9	4	4	6.5	9.5												
16 107 8 8 8.5 13.0	73	7	8	0.5	1.0	4.4	3.0	5.5	4.1	6	2	7.0	13.0	4.3	2	4	4	4	4	2.7	3	4	3.0	5.0									
17 110 7 7 8.0 15.0	26	10	6	4.5	7.5	4.6	5.5	8.0	4.5					4.3	8	4	6.0	9.5	2.3	6	2	3.0	4.0										
18 115 6 7 8.0 12.0	62	10	7	5.0	10.0	4.7	5.0						4.3	8	4	2.0	5.0	2.1	6	2	3.0	5.0											
19 116 7 6 10.0 14.0	81	8	6	8.5	15.0	4.8	5.5	1					5.5	9.0	4.7	4.5	9.0	2.1	2	1.0	3.5												
20 117 6 7 9.0 14.5	84	8	10	6.0	10.0	4.9	4.5	6.5	5.1				2.0	5.5	3.9	2.0	4.0	2.1	0	2	0.5	3.0											
21 117 8 8 8.0 13.0	82	10	6	5.1	10.0	4.7	3.5	7.0	5.7				3.0	5.5	2.1	0	2	1.0	3.5														
22 115 8 4 10.0 14.5	84			5.1			4.0	8.5	5.1				5.0	7.0	4.4	2.0	1.35	1.9	2														
23 117 6 6 9.0 14.0	78	6	6	5.2	10.0	5.0	5.5	10.0	5.2				3.0	7.0	3.9	3.0	6.0	2.1	0	2	1.0	3.5											

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* \* Interference Kalungborg Broadcast station from 0800 through 2300.

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Front Royal, Virginia Lat. 38.8 N Long. 78.2 W Month September 19 59

Hour (LST)	Frequency (Mc)												10			20					
	1.35			500			2.5			5			10			20					
	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00 1/2 11 4	64	9	5	68	10	6	61	6	4	47	4	4	47	3	1	24	3	1			
01 1/3 7 6	83	7	4	68	8	4	62	3	4	47	3	6	47	1	1	24	1	1			
02 1/2 7 4	83	7	3	69	5	4	62	2	5	47	3	6	47	2	0	23	2	0			
03 1/3 4 5	83	7	5	69	4	4	62	2	4	45	4	5	45	2	0	23	2	0			
04 1/6 5 5	80	8	6	68	4	4	61	3	3	45	3	6	45	1	0	23	1	0			
05 1/4 5 6	74	10	6	64	8	6	59	3	3	44	3	5	44	1	1	23	1	1			
06 102 10 6	60	9	6	41	6	5	59	7	5	43	3	4	43	2	1	23	2	1			
07 99 10 7	58	10	4	35	5	7	38	4	3	41	5	2	41	3	2	25	3	2			
08 100 12 7	58	12	2	30	4	6	31	5	2	37	4	1	37	3	3	26	3	3			
09 101 12 7	59	11	2	30	2	6	29	5	3	35	4	2	35	2	2	25	2	2			
10 102 12 8	59	10	2	29	3	3	27	4	2	34	3	1	34	4	2	24	4	2			
11 103 12 6	60	10	2	30	2	5	27	3	2	33	3	1	33	1	1	24	3	1			
12 102 13 8	59	12	2	30	5	3	27	5	2	33	6	1	33	1	1	24	3	1			
13 106 11 12	62	22	5	31	16	3	27	11	1	36	5	2	36	4	2	25	4	2			
14 106 14 11	62	22	5	30	15	1	29	11	3	36	7	2	36	7	2	27	4	3			
15 104 16 9	62	24	5	31	19	2	31	13	3	40	8	4	40	5	3	24	5	3			
16 109 10 15	63	21	5	31	22	2	38	12	5	42	6	3	42	5	3	30	5	3			
17 103 13 9	62	21	4	34	16	2	46	9	4	46	5	4	46	5	3	31	5	3			
18 109 13 13	65	21	8	45	12	6	56	4	3	48	5	4	48	4	4	31	4	4			
19 113 11 9	74	13	10	64	6	6	61	5	3	49	6	4	49	4	3	30	4	3			
20 115 10 9	78	14	7	66	7	7	62	5	3	49	5	3	49	5	3	28	3	3			
21 113 10 6	82	8	9	67	8	7	62	4	3	49	3	4	49	3	4	26	3	1			
22 113 10 7	82	9	8	66	9	6	62	3	3	47	3	2	47	3	1	25	3	1			
23 112 12 5	83	10	5	68	7	6	61	4	2	47	3	4	47	3	4	25	2	1			

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>z</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE

Station Front Royal, Virginia Lat. 38.8 N Long. 78.2 W Month October 1959

E.S.T.	135				500				2,5				5				10				20				Frequency (Mc)			
	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>			
00 11/4 5 6	86	4	5	4	61	10	6		59	8	4		44	2			23	1										
01 11/4 6 7	86	4	5	5	61	10	6		58	8	5		43	3	3		23	1	1									
02 11/4 5 7	85	5	6		63	8	8		58	7	5		43	3	3		23	0	1									
03 11/7 5 7	85	4	8		61	10	6		59	5	6		41	5	2		23	0	1									
04 11/2 6 5	79	6	8		62	7	8		57	7	5		40	6	2		23	0	1									
05 11/0 6 5	76	5	7		61	6	8		56	7	6		39	5	2		23	0	1									
06 10/1 8 6	57	10	4		47	7	9		53	4	8		39	5	3		23	1	1									
07 9/5 12 4	55	8	3		35	6	4		40	5	3		39	3	2		25	2	2									
08 9/4 14 5	56	9	3		32	3	5		33	4	3		36	2	3		26	1	3									
09 9/7 11 7	57	6	3		30	2	4		31	3	4		33	4	2		26	1	2									
10 9/6 12 6	57	6	2		29	1	4		29	2	2		32	5	2		25	2	1									
11 9/5 10 4	58	4	3		28	3	2		27	2	1		31	3	1		25	3	1									
12 9/6 13 4	57	7	3		28	3	2		27	3	1		33	4	1		25	3	1									
13 9/9 12 6	57	9	3		28	4	2		28	4	2		34	6	2		26	2	1									
14 9/9 16 5	58	12	3		29	10	2		31	6	4		37	5	3		27	2	1									
15 9/9 17 7	58	20	4		30	16	3		35	8	5		39	6	2		28	3	1									
16 9/9 18 8	60	17	5		35	15	4		44	7	7		43	4	3		29	2	1									
17 10/0 17 7	60	19	4		45	14	7		50	8	5		46	3	3		29	3	1									
18 10/7 11 5	70	15	7		55	11	7		56	5	6		48	3	3		29	3	1									
19 11/2 9 8	77	14	6		57	10	7		57	6	6		47	3	2		27	2	1									
20 11/3 10 6	61	14	6		60	8	10		59	5	7		46	4	2		26	1	1									
21 11/3 10 5	84	11	6		60	7	8		59	6	6		45	3	2		25	1	1									
22 11/4 5 6	85	7	7		60	7	8'		59	5	7		45	2	3		24	1	1									
23 11/3 6 4	86	6	5		61	8	8		58	8	6		44	4	2		24	0	1									

F<sub>am</sub> = median value of effective antenna noise in db above kib

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE      Station Front Royal, Virginia Lat. 38.8 N Long. 78.2 W      Month November 19 59

Month-Hour	Frequency (Mc)																								
	1.35			.500			2.5			5			10			20									
1	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>
00 107 6 5	84	5	8	58	6	8	57	3	5	40	5	5	22	1	1										
01 107 7 4	84	6	7	57	7	9	55	4	4	34	6	6	22	1	1										
02 107 8 5	83	8	6	57	7	9	55	4	5	34	5	5	22	2	1										
03 106 8 5	81	8	5	56	6	8	54	5	5	38	3	6	22	2	1										
04 107 6 7	76	6	9	57	4	8	53	4	4	36	3	4	22	2	0										
05 105 6 7	73	5	10	55	4	7	61	5	4	35	5	6	22	2	0										
06 97 6 4	62	6	7	49	6	6	47	5	3	35	4	6	22	2	0										
07 94 2 3	58	5	4	37	5	4	41	5	3	36	4	3	23	1	1										
08 95 3 3	57	3	4	31	2	3	33	3	2	37	2	5	26	2	3										
09 95 3 3	56	4	3	28	3	1	30	3	3	34	2	6	26	2	1										
10 95 3 3	56	4	2	28	3	2	28	3	2	33	2	4	26	2	1										
11 95 3 3	57	3	4	28	3	3	28	2	3	32	2	3	26	2	1										
12 95 3 3	56	4	2	28	3	2	27	3	1	32	2	5	26	2	1										
13 96 2 3	56	3	2	29	2	3	27	4	1	33	2	4	27	1	2										
14 96 3 3	56	3	2	29	3	3	30	3	3	35	3	5	27	2	1										
15 95 5 3	56	4	3	30	4	3	33	4	3	37	3	5	29	2	1										
16 96 5 4	56	5	3	33	5	4	39	4	5	41	4	4	29	2	2										
17 99 6 5	60	5	6	45	5	9	47	4	6	44	3	4	29	1	2										
18 106 6 8	69	7	9	51	8	8	51	4	5	45	3	5	26	1	1										
19 107 6 7	74	6	10	53	7	7	52	4	5	44	5	4	26	3	1										
20 107 4 9	79	6	6	55	4	6	55	3	5	44	2	6	24	1	1										
21 107 8 10	80	9	6	56	8	6	55	4	5	42	4	5	23	1	1										
22 105 9 6	83	6	8	56	8	5	56	4	6	41	4	5	23	1	1										
23 107 8 6	83	6	8	58	6	9	55	5	4	40	4	6	22	2	1										

F<sub>om</sub> = median value of effective antenna noise in db above k1b

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>z</sub> = ratio of lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Kekaha(Kauai), T. H. Lat. 22.0 N Long. 159.7 W Month September 1959

Hour	Frequency (Mc)												.013			.051			.160			.495			2.5			5			10			20											
	.013			.051			.160			.495			D <sub>u</sub>			D <sub>r</sub>			V <sub>dm</sub>			L <sub>dm</sub>			F <sub>am</sub>			D <sub>u</sub>			D <sub>r</sub>			V <sub>dm</sub>			L <sub>dm</sub>								
	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>															
00	154	2	2	9.5	150	129	6	4	120	160	103	9	4	100	155	87	7	10	145	230	57	8	6	25	120	60	7	4	45	25	46	2	20	50	24	2	2	20	40						
01	156	0	3	9.5	155	131	4	4	11.0	16.5	106	6	6	10.0	17.5	87	8	11	12.5	23.5	57	3	6	8.5	13.0	62	5	5	45	8.5	46	2	1	3.0	5.0	24	2	2	2.5	40					
02	154	2	1	10.5	17.0	131	3	4	11.0	18.0	107	6	7	12.0	21.0	57	6	4	9.0	15.5	66	3	7	5.5	10.0	44	4	3	3.0	5.0	22	3	0	2.0	40										
03	156	2	3	11.5	17.5	133	4	6	12.0	19.5	109	4	10	11.5	20.0	89	4	15	15.0	24.0	57	7	7	9.0	15.5	64	9	5	3.5	8.0	44	2	4	2.5	45	22	2	0	1.0	2.5					
04	156	2	4	12.0	19.0	133	4	4	12.5	20.0	109	4	9	12.0	20.0	87	6	12	12.5	22.5	57	7	7	9.0	15.5	54	12	4	5.0	9.0	42	2	6	3.0	6.0	22	2	0	1.0	30					
05	156	3	4	12.5	19.5	133	4	4	12.0	19.5	107	5	7	13.0	20.0	85	6	14	11.0	18.5	57	6	9	8.0	13.0	52	6	6	6.5	10.5	40	2	6	4.0	7.0	22	0	0	1.5	30					
06	156	4	2	13.0	20.0	129	4	2	13.0	21.0	97	7	5	13.0	20.0	65	16	8	11.0	16.0	55	8	7	8.0	14.5	52	4	2	4.0	7.0	40	3	5	5.0	8.0	22	0	0	1.5	30					
07	154	4	2	12.5	19.5	123	4	4	12.5	20.5	81	15	10	6.5	8.5	57	16	4	3.5	6.0	42	5	2	7.5	12.5	38	4	2	4.0	7.0	24	2	4	2.5	40										
08	152	4	2	12.0	18.0	115	6	4	14.0	20.0	81	16	12	7.0	25.0	55	18	4	4.0	6.0	35	4	4	2.5	4.5	36	4	6	4.0	6.0	32	2	4	4.5	9.5	22	2	2	3.0	50					
09	152	3	4	11.0	17.0	115	6	11	16.5	22.0	81	16	13	14.0	20.0	59	14	6	3.5	5.5	35	4	6	2.5	4.0	26	6	6	2.5	4.5	26	4	4	4.0	6.0	22	2	4	3.0	60					
10	152	4	3	11.0	17.0	115	8	9	15.0	22.5	81	11	16	13.0	17.5	59	10	7	8.0	11.5	33	4	4	3.0	5.0	26	6	2	2.5	7.0	24	4	4	4.5	5.5	20	2	4	3.5	5.5					
11	152	2	4	11.0	17.0	113	9	8	13.5	19.5	75	14	12	13.0	17.0	55	8	4	7.5	10.0	32	5	3	3.0	5.0	26	2	4	3.5	5.5	22	6	6	9.0	12.5	18	2	3	3.0	5.0					
12	152	3	4	9.5	15.0	113	8	7	14.0	21.0	77	13	15	11.0	16.5	57	16	6	3.0	6.0	31	4	2	2.5	4.5	25	5	3	4.0	6.0	22	6	6	6.0	9.5	18	2	2	4.0	6.5					
13	152	2	2	11.0	17.0	113	6	6	15.5	20.5	77	15	14	11.5	19.0	55	12	4	9.0	11.5	31	2	2	3.0	5.0	26	2	4	3.5	5.5	22	5	6	6.5	10.0	20	2	2	3.0	4.5					
14	152	3	4	11.5	17.5	115	6	8	17.0	23.0	79	12	12	13.0	17.5	59	8	6	9.0	11.0	31	6	2	3.0	5.0	26	2	4	4.0	6.0	24	3	6	24	0	4	3.0	5.0							
15	150	4	2	11.0	16.5	113	6	4	16.5	21.0	79	14	12	5.5	8.5	57	12	4	3.0	5.0	31	5	4	3.0	5.0	28	4	2	2.5	5.5	26	4	4	4.0	6.5	24	4	2	3.0	5.5					
16	152	2	4	11.0	16.5	113	6	8	15.0	20.0	77	12	16	12.5	15.0	55	18	2	4.5	6.5	32	6	5	3.5	5.5	34	4	8	6.5	10.0	32	4	2	5.0	9.0	26	4	2	3.0	6.0					
17	150	4	3	11.0	17.0	110	8	5	11.5	15.5	74	19	8	5.5	9.0	55	15	4	8.0	11.0	33	4	4	2.0	3.5	38	6	8	3.5	5.5	38	6	8	3.5	5.5	39	3	1	5.0	8.0	28	2	6	4.0	6.5
18	150	4	2	12.0	18.0	113	6	2	9.0	14.0	87	9	6	5.5	9.0	60	15	6	4.5	6.0	37	4	6	3.5	5.5	46	4	4	2.5	4.5	42	3	2	4.5	8.0	26	3	3	4.0	6.0					
19	150	2	2	9.5	16.0	119	7	4	12.5	13.0	94	9	6	9.0	13.5	69	16	8	9.0	15.5	47	9	8	6.5	10.5	50	5	5	6.0	10.0	44	2	3	5.0	9.0	26	2	3	3.5	6.0					
20	152	2	2	9.0	15.0	121	9	2	8.0	13.0	98	8	11	9.5	16.0	76	12	9	9.0	15.0	52	7	9	9.5	16.0	53	3	3	7.5	11.0	44	2	2	5.0	8.5	26	4	2	3.5	6.0					
21	153	4	3	9.0	15.0	124	8	3	8.0	13.0	101	10	6	11.0	17.0	81	13	9	9.0	14.0	55	10	7	10.0	15.0	34	4	1	4.5	9.0	44	2	2	4.0	7.0	25	3	3	3.0	5.0					
22	151	3	2	8.5	14.0	126	6	3	9.0	14.0	101	11	6	9.0	15.0	85	10	13	14.0	23.0	57	7	6	8.0	14.0	58	5	4	5.5	10.0	44	2	2	3.0	5.0	24	4	2	2.0	4.0					
23	155	3	3	9.5	15.0	127	8	3	11.0	17.0	103	9	4	12.5	19.0	83	14	6	13.0	21.0	57	6	5	9.0	13.5	58	2	4	5.0	9.5	46	2	2	2.5	5.0	26	0	4	3.0	5.0					

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>r</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE Station Kekaha (Kauai), T.H. Lat. 22.0 N Long. 159.7 W Month October 19<sup>59</sup>

No.	F <sub>dm</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	Frequency (Mc)						F <sub>dm</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>dm</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>dm</sub>	D <sub>u</sub>	D <sub>z</sub>	V <sub>dm</sub>	L <sub>dm</sub>														
						.013	.051	.160	.495	.95	2.5																													
00	157	3	2	100	170	129	6	3	110	165	106	9	8	110	170	83	13	8	*1.0	170	57	8	5	85	35	60	7	4	40	80	42	4	2	30	55	24	0	2	20	40
01	152	6	0	105	175	131	6	2	110	175	106	10	4	110	170	85	12	10	11.5	17.5	57	6	6	85	3.0	60	6	5	6.0	11.5	40	6	2	3.5	60	22	2	0	20	40
02	152	6	1	100	170	131	5	2	110	170	106	10	5	115	175	85	10	9	105	125	57	6	6	80	130	62	6	6	6.0	11.0	40	6	6	25	55	22	2	0	1.5	30
03	154	4	4	11.0	17.5	133	2	4	11.5	18.5	106	10	4	11.5	19.0	63	13	5	11.0	18.5	57	6	7	80	135	62	9	6	*6.5	17.5	38	4	4	35	60	22	2	0	1.0	30
04	154	2	3	11.5	18.0	133	2	4	12.0	19.0	106	10	4	12.0	19.0	82	14	7	12.0	17.0	57	6	9	12.0	15.4	8	8	5.0	9.0	36	5	4	3.5	55	22	2	0	1.0	30	
05	154	4	2	11.5	17.5	131	4	2	12.0	19.0	104	10	4	11.0	18.0	81	14	9	10.5	17.5	55	10	6	80	125	48	6	3	6.0	11.0	36	5	4	3.0	60	22	2	0	1.5	30
06	154	4	2	10.5	16.0	131	3	4	11.0	18.0	100	10	8	11.5	19.0	69	11	7	13.5	19.0	53	9	4	10	105	50	4	4	4.5	7.5	38	4	4	3.0	60	22	2	0	1.5	30
07	154	2	2	10.5	17.0	121	4	2	11.0	17.0	84	13	9	15.0	16.1	13	10	13.0	17.7	47	6	8	15.5	9.0	44	3	4	*5.0	7.5	40	4	2	3.5	65	23	3	1	3.0	50	
08	152	3	3	11.0	17.0	113	6	3	11.0	16.5	75	16	15	*10.5	16.5	55	14	4	8.0	12.0	39	11	6	4.0	7.5	40	3	10	6.0	11.0	34	2	2	5.0	8.5	22	2	0	4.0	6.0
09	151	3	3	11.0	17.0	109	8	6	11.0	16.0	78	11	7	14.0	23.5	55	7	6	4.5	8.0	41	7	9	3.5	6.5	24	6	6	3.5	6.0	28	4	5	5.0	8.5	22	2	2	4.0	7.0
10	150	4	2	10.5	16.5	107	14	5	14.0	19.5	78	13	16	13.5	24.0	55	8	7	5.5	10.5	31	6	2	3.0	5.0	28	4	4	4.5	8.0	24	4	4	6.0	8.0	20	2	2	3.0	5.5
11	149	5	3	11.0	17.0	111	8	9	14.5	21.0	74	15	11	*10.5	19.0	53	10	5	4.0	6.0	31	2	2	3.0	5.0	26	6	4	*4.0	6.5	23	5	5	*5.5	9.0	19	1	3	2.0	4.0
12	150	4	4	11.0	18.0	108	12	6	12.5	17.5	69	20	7	13.0	17.0	53	8	6	3.0	6.5	31	2	2	2.5	4.5	26	4	4	*5.0	7.0	22	3	3	*6.0	10	20	0	3	3.0	5.0
13	150	4	6	13.0	19.0	111	8	8	15.0	19.5	73	13	11	*12.0	19.5	53	12	4	*5.0	11.0	31	4	2	2.0	4.0	26	6	2	*3.5	6.0	22	4	4	*7.0	11.0	20	2	2	2.5	4.0
14	149	6	2	13.0	19.0	108	15	3	12.5	18.0	69	22	6	*11.0	17.0	51	16	4	4.5	7.5	33	4	4	3.0	4.5	28	6	6	*2.5	5.0	22	6	4	*3.0	5.5	22	2	1	2.5	4.5
15	148	4	2	13.5	20.0	107	8	5	11.5	17.0	69	22	8	9.0	14.0	53	12	6	4.5	11.0	31	6	2	3.5	6.0	29	8	6	*6.0	9.5	28	4	6	*5.5	9.0	24	4	2	3.0	5.0
16	148	4	4	14.0	20.5	107	12	6	11.0	15.5	70	20	11	*10.0	15.5	55	13	7	14.0	8.0	31	8	2	2.5	4.0	31	9	5	*6.0	9.5	34	4	2	*7.0	10	26	2	4	2.5	5.0
17	148	5	3	12.5	19.0	107	12	6	11.0	14.0	74	22	10	6.5	12.0	57	11	8	3.5	8.0	33	12	4	3.5	6.5	39	8	7	*9.5	13.5	40	2	4	4.0	7.0	26	2	3	3.0	5.0
18	148	5	3	11.5	18.0	109	12	2	8.0	13.0	85	15	7	8.5	13.5	67	11	10	5.0	9.0	40	8	6	2.0	4.0	48	2	10	*4.0	8.0	42	2	4	4.0	7.5	26	2	2	3.0	5.0
19	150	2	4	11.0	16.5	115	14	5	11.0	15.5	88	15	4	11.0	17.0	73	14	8	6.5	9.0	47	8	5	4.0	8.0	50	4	5	5.0	9.0	42	3	2	4.0	7.0	26	2	2	3.0	5.5
20	152	2	5	14.0	16.0	118	10	5	11.5	16.5	93	14	4	12.0	17.5	75	14	10	*11.0	16.5	53	6	8	8.0	11.5	52	5	3	5.0	10.0	42	4	0	3.5	6.5	26	2	2	2.5	5.0
21	152	4	3	12.0	16.0	121	11	8	12.0	19.0	98	10	11.5	18.5	77	16	8	9.0	14.0	55	8	6	6.0	10.0	56	4	5	5.0	10.0	44	2	4	3.0	5.5	26	2	2	2.0	4.0	
22	153	3	100	16.0	127	4	6	11.0	16.5	100	10	6	10.5	17.0	79	16	6	9.0	14.0	55	10	6	7.0	11.5	58	4	6	5.0	9.0	46	2	4	2.5	5.0	26	2	2	2.5	5.0	
23	152	6	0	14.0	17.0	128	8	4	10.5	17.0	104	10	8	10.0	16.0	82	13	6	12.0	18.0	57	6	6	5.5	9.0	56	4	2	4.0	7.5	46	2	4	2.5	5.0	24	2	0	2.5	4.0

F<sub>dm</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>z</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Kekaha (Kauai), T.H. Lat. 22.0 N Long. 159.7 W Month November 19 59

EST	Frequency (Mc)											
	.013	.051	.160	.495	2.5	5	10	20	.013	.051	.160	
00	154	2	2.90	15.0	129	4	4	9.0	145	102	6	9
01	154	4	2	9.0	15.5	129	6	2	9.0	145	102	8
02	154	2	2	10.0	16.0	131	2	4	9.5	16.5	102	8
03	154	2	2	9.5	15.0	131	4	4	10.0	15.5	104	6
04	154	2	2	9.5	15.0	131	6	4	11.0	18.0	104	6
05	156	2	4	10.0	16.5	131	6	4	11.5	17.0	104	4
06	156	2	2	10.0	16.5	131	4	4	11.0	16.5	100	8
07	156	2	2	10.5	16.5	123	4	2	9.5	16.0	80	10
08	152	2	4	10.5	16.0	115	4	4	10.5	17.5	81	10
09	150	4	2	11.5	17.5	107	10	6	10.0	16.0	70	22
10	150	2	4	10.0	15.5	106	15	7	11.0	16.0	66	24
11	149	3	3	11.0	17.0	109	12	8	11.5	21.5	67	23
12	148	4	2	12.5	18.5	107	10	9	13.0	21.0	66	10
13	148	4	2	13.0	19.0	105	10	4	14.5	17.5	64	18
14	148	2	2	14.5	21.5	107	8	6	15.5	21.0	66	10
15	148	2	2	13.0	20.0	107	6	6	13.0	18.0	64	18
16	148	2	4	13.0	20.0	103	8	2	13.0	18.0	64	18
17	148	2	4	11.0	18.0	103	8	4	11.0	17.0	72	10
18	148	2	2	9.0	15.0	109	8	6	9.0	14.0	82	14
19	150	0	4	8.0	13.5	113	8	6	8.5	14.0	90	10
20	152	2	4	7.5	12.5	117	8	9	10.5	16.0	88	14
21	152	2	2	7.0	12.0	119	8	6	12.0	18.0	94	10
22	154	2	2	7.5	12.5	123	6	2	10.0	15.5	96	10
23	154	2	2	8.0	14.0	127	4	2	8.0	13.0	98	10

F<sub>om</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>x</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of logarithm in db below mean power

UCCOM-NES-1-N

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Ohira, Japan

Lat. 35.6 N Long. 140.5 E Month September 19 59

Frequency (Mc)												
013												
Mo	Y <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	
00	158	11.0	17.5	3	132	6	4	11.0	18.5	111	7	9
01	158											
02	158	11.0	16.5	1	134	3	7	9.5	16.5	111	6	9
03	156	12.0	18.5	3	132	7	3	11.0	17.5	112	8	8
04	156	12.5	19.0	4	132	9	4	10.0	16.5	111	7	9
05	159	11.0	18.0	4	128	13	4	10.5	16.5	100	11	7
06	154	11.5	18.5	5	123	14	5	11.0	18.5	123	11	11
07	154	10.5	17.0	4	118	16	4	11.5	20.0	120	6	9
08	153	12.5	19.0	5	119	16	5	12.5	22.5	180	111	9
09	154	11.0	18.0	4	122	13	4	11.5	19.0	101	23	11
10	153	11.5	18.5	5	122	6	1	11.0	18.5	88	18	15
11	154	13.5	21.0	6	122	9	6	11.5	23.0	89	12	10
12	154	13.5	21.5	6	122	13	6	12.0	22.0	87	28	8
13	155	11.5	19.0	6	122	12	6	11.0	21.5	86	26	7
14	156				122	13	4	12.5	20.5	85	29	6
15	157	8.5	15.0	6	122	8	4	8.0	14.5	83	18	6
16	158	12.2	16.2	6	122	8	8	9.5	16.0	85	13	10
17	158	5.0	8.0	8	123	8	8	9.5	16.5	89	16	12
18	156	7.5	13.0	14	123	14	6	9.5	16.5	101	10	7
19	156	8.5	15.0	7	122	6	4	10.0	17.5	105	9	5
20	150	13.0	16.0	6	123	5	5	9.5	16.0	106	5	9
21	158	11.5	18.0	6	132	6	4	9.5	15.0	109	4	9
22	158				132	5	4	11.0	19.0	109	6	5
23	159	11.5	18.0	5	134	5	7	10.0	16.5	110	7	9

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station Ohira, Japan Lat. 35.6 N Long. 140.5 E Month October 19 59

$F_{\text{eff}} = \text{median value of effective antenna noise in dB above kTB}$

$D_{10}$  = ratio of upper decile to median in db

$D_E$  = ratio of median to lower decile in  $d_E$

$\bar{x}$  = sum of mean of lower decile in  $\mu$       mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Ohira, Japan      Lat. 35.6 N Long. 140.5 E Month November 19 59

[SST]	Frequency (Mc)												
	.013			.051			.160			.545			
Fam	Du	Vdm	Ldm	Fam	Du	Vdm	Ldm	Fam	Du	Vdm	Ldm	Fam	
00	152	4	2	7.5	12.5	12.9	5	5	10.0	16.5	8.2	10	7
01	152	2	2	6.5	11.0	13.0	6	6	9.5	18.0	10.1	9	6
02	154	2	4	8.5	13.0	13.0	6	6	10.0	16.0	10.1	10	4
03	152	4	2	8.5	14.0	13.0	6	4	10.0	16.0	8.0	9	4
04	154	0	4	8.5	14.0	13.0	4	6	10.0	17.5	10.1	5	2
05	154	0	4	*	11.0	12.9	3	6	*	12.0	19.0	11	6
06	152	2	4	9.5	16.0	12.0	4	6	10.0	16.5	8.1	20	10
07	150	0	4	*	10.0	15.5	11.4	8	*	11.0	14.5	6.6	7
08	150	2	4	*	11.5	18.0	10.8	8	*	11.5	18.5	7.9	14
09	150	3	2	*	12.5	11.1	*	*	*	12.0	26.0	8.4	*
10	150	4	4	*	14.0	14.5	11.6	6	*	14.0	23.5	8.1	*
11	150	2	4	*	13.5	20.0	11.4	9	*	13.0	20.0	7.7	26
12	150	4	4	2.5	20.0	11.5	9	5	12.0	18.0	18.0	21	9
13	150	2	2	10.0	16.0	11.4	7	6	10.0	15.5	17.9	16	10
14	152	0	2	8.0	13.5	11.2	6	2	9.0	14.0	11.0	18	11
15	152	2	2	2.0	11.5	11.0	4	6	*	10.0	15.0	15	12
16	152	0	2	8.0	*	10.0	4	8	*	9.0	13.0	7.7	22
17	150	2	3	8.5	13.5	11.2	12	6	*	7.0	15.5	15.5	15
18	152	2	2	8.0	13.0	12.2	4	4	5.5	9.5	9.5	9	5
19	154	2	4	8.0	13.5	12.4	6	2	7.0	11.5	9.7	10	4
20	152	2	2	*	9.5	14.5	12.8	6	4	7.5	12.0	8.4	15
21	152	2	2	8.5	13.5	12.8	4	4	9.0	15.5	10.3	6	6
22	152	2	2	7.5	12.0	12.8	4	6	6.0	10.0	13.0	9.2	8
23	152	2	3	*	8.5	13.0	12.8	4	4	7.0	13.5	10.5	6

Fam = median value of effective antenna noise in db above kitb

Du = ratio of upper decile to median in db

Dx = ratio of median to lower decile in db

Vdm = median deviation of average voltage in db below mean power

Ldm = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Pretoria, S. Africa Lat. 25.8 S Long. 28.3 E Month September 1959

LST (UT)	Frequency (Mc)															
	.051			.113			.246			.545						
	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00 126 6	107	9	7	95	9	7	86	5	7	61	4	6	52	6	4	40 5 - 4
01 126 6	107	8	6	96	8	8	85	8	6	59	5	6	52	4	6	40 2 - 4
02 127 6	108	7	7	94	10	8	86	9	7	58	8	5	54	4	6	40 2 - 6
03 126 8	107	13	7	94	16	14	85	13	10	61	2	10	54	4	8	40 4 - 6
04 124 12	107	13	9	92	14	12	82	16	11	59	8	8	52	7	4	38 4 - 6
05 123 12	105	8	8	87	9	9	73	15	10	53	14	4	52	8	6	36 6 - 6
06 118 12	91	19	10	66	21	6	57	4	2	45	8	4	46	8	10	38 6 - 4
07 117 9	82	24	12	64	20	4	57	4	2	43	2	2	32	8	4	34 6 - 4
08 114 12	82	21	13	66	18	4	59	10	2	43	2	2	28	5	3	36 5 - 4
09 108	*85			65	24	3				41			*26			22 12 0
10 113 13	83	26	10	64	17	2	57	6	0	43	2	4	26	8	2	22 10 2
11 116 9	87	8	12	66	16	4	59	6	2	41	6	0	24	8	2	20 6 0
12 118 6	89	20	10	66	19	4	57	6	0	43	4	2	24	9	1	20 11 2
13 120 4	89	18	8	66	26	4	59	16	2	41	4	2	24	9	2	22 12 2
14 122 5	93	18	8	68	28	4	57	22	2	43	5	3	25	9	3	24 13 4
15 123 7	93	19	6	72	28	8	57	26	2	43	4	3	26	5	2	30 10 8
16 122 8	93	23	10	72	32	10	59	28	4	42	7	3	30	6	5	38 6 - 8
17 122 4	92	23	11	68	24	8	59	16	4	43	6	2	38	12	6	42 6 - 4
18 124 6	97	20	10	84	8	14	79	10	10	40	13	5	48	12	4	42 8 - 2
19 126 6	106	9	7	92	6	6	85	6	6	57	8	6	50	12	4	44 6 - 4
20 128 4	106	8	4	92	6	4	85	6	4	59	8	4	52	8	6	44 6 - 6
21 126 6	109	6	6	94	6	6	87	6	6	59	9	5	51	9	5	42 8 - 4
22 127 5	109	6	6	96	4	6	87	6	6	61	6	6	50	10	4	42 6 - 4
23 126 6	108	9	5	94	8	4	85	8	8	59	9	5	52	6	6	40 4 - 4

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station Pretoria, S. Africa Lat. 25.8 S Long. 28.3 E Month October 1959

$F_{\text{eff}} = \text{median value of effective antenna noise in dB above kit}$

$D_{90}$  = ratio of upper decile to median [n.s.]

D<sub>1</sub> = ratio of dividends to lower basic D<sub>0</sub>

$D_f$  = ratio of median to lower decile in db  
 $V_m$  = median deviation of average voltage in db below mean power  
 $L_{cm}$  = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Pretoria, S. Africa Lat. 25.8 S Long. 28.3 E Month November 19 59

E.S. =	Frequency (Mc)																							
	.051	.113	.246	.545	.2.5	5	10	20																
F <sub>m</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>					
00	134	8	8	10	10	106	8	13	97	4	15	64	7	11	54	*44					25	2	2	
01	134	10	10	12	104	11	14	95	8	14	63	7	25	52	*42					25	4	2		
02	134	10	11	11	102	16	13	93	13	13	63	8	15	52	*40					24	4	1		
03	134	9	10	10	102	12	12	91	12	13	63			50	*40					23	5	0		
04	132	7	9	10	14	99	13	11	83	15	9	59	12	10	50		39	7	11		23	2	0	
05	125	10	9	105	17	8	10	57	24	6	47	17	10	50	6	12	40	7	9		23	4	0	
06	122	9	9	103	18	27	70	28	13	57	26	8	39	8	14	32	17	8			25	5	2	
07	118	10	8	101	18	25	70	28	12	59	26	10	33	11	8	24	17	4			24	4	1	
08	118			96	21	24	72	18	14	59			*29		22	8	2				23	2	2	
09	*			+97			+72			59	10	7	*29		*22			*24			23	4	2	
10	122	6	11	103	14	16	76	25	18	61	30	9	33		22	7	2				22	3	1	
11	126	13	7	112	11	20	92	19	32	69	28	16	35	10	8	22	2				25	8	2	
12	130	12	8	116	11	19	100	18	34	79	27	24	39	26	10	22	4				25	6	2	
13	135	10	10	121	8	24	106	14	36	93	14	36	46	21	15	*25	17	3			29	9	4	
14	139	8	13	125	8	27	111	8	29	100	8	47	52		*33		*40				29	7	3	
15	143	7	18	129	6	26	112	6	42	97	12	40	61		*34		*43				31	9	3	
16	142	5	17	127	7	23	112	6	42	95	12	35	57	20	26	*44	*48				33	6	6	
17	140	6	16	122	6	25	114	5	44	99	12	44	55	16	28	51	13	9			33	7	7	
18	140	8	14	122	6	25	112	8	32	97	12	31	63			*55					33	11	4	
19	142	6	15	129	4	21	109	3	28	95	14	12	67	8	11	*59	*50				31	7	2	
20	140	7	10	122	4	17	110	8	22	97	10	12	69	6	12	*54	*49	5	7		30	8	3	
21	138	6	12	125	8	16	108	10	16	97	8	12	65	11	10	*56	*44				29	14	4	
22	134	9	7	123	5	14	+107			95	8	10	64	13	10	*54	*48				27	5	3	
23	134	9	8	119	9	10	106	7	14	95	6	10	63	6	7	52	*43				25	4	0	

F<sub>m</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE												Station Rabat, Morocco													
Lat. 33.9 N						Long. 6.8 W						Month October						Month October							
Frequency (Mc)												Vdm Ldm													
ES	0.51	D <sub>u</sub>	Vdm	Ldm	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	Vdm	Ldm	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	Vdm	Ldm	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	Vdm	Ldm	F <sub>om</sub>	D <sub>u</sub>	D <sub>z</sub>	Vdm		
00	130	2				103	4	6		89	6	4		61	7	5		59	4	6		48	4	5	
01	130	4	2			101	6	4		89	4	4		61	8	6		59	5	4		48	4	3	
02	132	2	4			101	6	4		87	6	6		63	7	7		59	6	6		48	2	4	
03	130	4	4			99	8	4		87	8	8		63	4	9		59	4	4		48	3	8	
04	130	4	4			99	6	8		89	2	8		63	6	10		59	5	5		46	6	5	
05	130	4	4			92	12	4		81	10	4		63	5	12		57	4	3		44	4	7	
06	128	6	2			85	12	6		75	4	8		55	12	8		55	5	3		46	2	4	
07	122	6	4			80	11	5		71	11	13		43	4	6		43	9	7		42	5	2	
08	117	9	6			79	8	2		75	6	22		35	12	4		31	16	2		38	6	4	
09	113					79	16	4		75	8	16		33	15	5		26	10	3		34	10	6	
10	116	6	9			79	12	2		69	13	10		31	14	2		23	11	4		33	9	6	
11	114	7	6			79	8	4		75	6	18		31	14	4		23	14	4		38	8	12	
12	118	8	8			79	14	4		77	6	20		32	11	3		25	11	6		34	8	8	
13	120	10	4			77	23	4		74	6	17		31	11	3		23	15	4		34	12	8	
14	121	11	5			79	21	4		75	8	15		31	10	4		25	19	6		40	8	10	
15	122	9	4			79	18	4		67	15	14		33	7	6		32	14	7		44	6	10	
16	122	9	4			81	13	6		69	18	10		35	13	6		39	14	8		47	5	7	
17	122	8	4			86	9	7		77	8	6		43	11	6		49	9	7		50	5	6	
18	122	8	4			94	5	7		83	8	4		57	8	7		57	6	5		50	8	4	
19	128	2	4			95	8	4		87	6	2		61	7	5		57	7	6		48	5	4	
20	128	4	2			97	6	4		89	6	4		63	5	8		57	7	6		50	3	5	
21	128	4	2			99	6	4		91	4	4		61	6	6		57	6	5		50	3	5	
22	130	4	4			101	6	6		89	6	2		61	6	6		52	6	4		48	4	4	
23	130	2	2			101	4	4		89	6	4		61	7	5		52	6	5		30	7	4	

$F_{\text{am}} = \text{median value of effective antenna noise in dB above kTB}$

$D_u$  = ratio of upper decile to median in db

$D_{\text{L}}$  = ratio of median to lower decile in db

$V_{12}$  = median deviation of average voltage in dB below mean power

MANAGING INTEGRATION IN THE BOUNDARY SPANNING

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Rabat, Morocco Lat. 33.9 N Long. 6.8 W Month November 19 59

Hour	Frequency (Mc)												.051			.246			.545			2.5			5			10													
	.051			.246			.545			2.5			F <sub>am</sub>			D <sub>u</sub>			D <sub>f</sub>			V <sub>dm</sub>			L <sub>dm</sub>			F <sub>am</sub>			D <sub>u</sub>			D <sub>f</sub>			V <sub>dm</sub>			L <sub>dm</sub>	
	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>											
00	131	5	6			83	10	10			84	13	2			62	4	9			60	4	6			48	2	8			39	4	8								
01	131	4	6			103	8	8			88	5	8			61	5	9			59	3	7			46	2	6			35	8	4								
02	131	4	4			103	8	8			86	12	10			60	6	8			58	4	6			44	4	8			35	6	6								
03	131	6	6			103	8	11			86	9	6			60	8	10			60	4	6			44	4	6			33	8	4								
04	131	5	1			101	7	12			84	11	8			60	8	10			56	6	4			42	8	4			31	4	2								
05	131	4	8			99	7	6			80	16	6			60	10	11			56	6	4			42	4	8			31	2	2								
06	129	6	6			95	11	12			83	5	18			56	12	6			58	4	10			44	2	6			37	7	6								
07	123	7	6			91	10	14			81	9	23			56	3	18			52	4	8			42	4	4			47	5	10								
08	119	6	9			88	12	11			76	13	21			34	13	3			49	5	15			40	4	7			45	10	8								
09	115	14	9			86	13	7			80	8	20			32	12	3			40	9	12			38	5	9			49	6	12								
10	117	7				84	10	5			72	13	16			32					*28					38	4	10			45	10	0								
11	117	9	10			83	18	8			82	6	18			32	12	4			24	14	4			40	8	10			51	4	14								
12	117	13	9			83	17	6			78	12	24			34	10	6			30	10	8			38	6	12			45	10	10								
13	117	11	4			91	10	16			84	6	25			32	6	2			26	12	4			34	12	6			49	8	12								
14	117	10	6			89	12	16			78	12	18			34	8	4			24	16	2			42	6	10			49	8	8								
15	117	10	8			83	14	12			74	14	18			34	10	4			40	10	10			42	8	6			49	8	10								
16	117	10	6			91	8	14			84	4	22			38	7	6			40	14	8			48	6	4			51	6	14								
17	117	15	8			93	10	11			86	5	4			48	13	12			50	8	6			50	6	6			57	4	14								
18	123	9	8			95	12	10			86	8	2			56	11	9			59	11	5			48	6	6			45	12	6								
19	125	10	6			97	12	12			88	6	2			58	8	6			56	10	6			48	6	6			43	6	6								
20	127	6	8			99	12	8			90	10	4			58	10	6			60	6	10			50	4	6			43	4	8								
21	127	10	4			99	14	6			92	8	2			58	12	6			60	6	8			50	6	4			43	4	6								
22	129	6	4			103	8	8			90	8	6			60	10	8			58	4	6			48	4	6			37	12	6								
23	129	5	4			101	8	6			88	7	5			62	4	6			58	4	8			46	4	6			33	12	2								

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>u</sub> = ratio of upper deciles to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of logarithm in db below mean power

## MONTH-HOUR VALUES OF RADIO NOISE

Station São José, Brazil Lat. 23.3 S Long. 45.8 W Month September 1959

Frequency (Mc)	EST												EST																																			
	.051				.113				.246				.545				2.5				5				10																							
	F <sub>m</sub>	D <sub>u</sub>	D <sub>c</sub>	V <sub>dmm</sub>	L <sub>dmm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>c</sub>	V <sub>dmm</sub>	L <sub>dmm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>c</sub>	V <sub>dmm</sub>	L <sub>dmm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>c</sub>	V <sub>dmm</sub>	L <sub>dmm</sub>	F <sub>m</sub>	D <sub>u</sub>	D <sub>c</sub>	V <sub>dmm</sub>	L <sub>dmm</sub>																							
00	132	7	8.0	12.5	12.0	7	12	20	12.5	10.3	8	7	6.5	11.0	8.9	10	6	5.5	10.0	5.0	10.0	5.7	8	8	5.0	10.0	4.8	5	8	6.0	11.0	29	6	4	3.0	6.0												
01	134	5	9	8.0	13.5	12.2	8	12	7.5	11.5	10.1	5	11	7.0	14.5	9.1	8	8	6.0	11.5	5.8	6	11	5.0	10.0	4.8	5	8	5.5	10.0	27	8	4	3.5	7.0													
02	133	5	9	7.5	13.5	13.1	8	12	6.0	11.0	10.5	11	9	6.5	12.2	9.1	8	8	5.5	11.0	6.6	6	13	6.5	11.5	5.7	8	9	5.0	10.0	4.6	8	5	5.0	10.0	25	8	4	2.0	5.0								
03	133	6	9	7.0	12.5	11.8	11	10	7.5	13.0	10.1	13	7	6.0	12.5	8.9	9	6	5.5	10.0	6.5	7	14	6.5	11.5	5.9	8	10	5.0	11.0	4.4	7	4	5.5	9.5	23	10	2	1.5	4.5								
04	132	7	8	7.5	12.5	12.0	8	12	5.5	10.0	10.3	10	11	7.0	13.0	8.9	7	9	6.5	11.5	6.5	7	15	6.5	12.5	5.9	7	10	6.5	11.5	4.2	11	4	4.5	8.5	23	14	2	1.5	3.0								
05	132	7	8	7.0	13.5	12.0	11	12	7.0	12.5	9.7	13	11	8.0	14.0	8.1	10	9	7.0	11.5	6.4	7	14	6.0	11.0	5.9	7	10	5.5	10.0	4.2	10	6	5.0	8.5	23	7	2	1.5	3.0								
06	125	9	9	8.0	13.0	10.6	15	12	9.5	9.5	9	11	8.5	16.0	8.1	4	7	6.0	12.5	5.4	13	13	6.5	11.5	5.3	8	7	4.5	8.0	4.4	8	5	5.0	9.0	27	34	4	3.0	5.5									
07	124	9	14	10.0	16.0	10.4	17	10	6.0	12.0	8.0	19	15	* 6.0	12.5	15	11	3	4.0	* 10.0	4.4	11	12	6.0	10.0	4.5	8	8	4.0	7.5	4.4	8	8	4.5	8.0	31	22	6	3.0	5.5								
08	120	13	14	10.5	17.5	10.5	15	11	9.5	14.5	8.3	14	4	9.5	14.5	8.3	14	4	5.0	* 6.0	12.0	12	2	9.5	14.0	3.8	8	7	* 10.0	10.5	29	20	8	5.0	9.0	24	19	2	4.5	7.5								
09	122	14	16	12.0	22.0	10.3	18	8	4.0	10.0	8.5	10	6	* 8.0	15.0	19	5	5	* 4.5	* 10.0	4.0	10	9	* 8.5	12.5	3.5	11	4	* 9.5	* 15	36	9	6	* 4.5	* 5	25	14	6	5.0	7.5								
10	124	8	16	11.5	17.5	10.6	16	10	6.5	11.5	8.5	12	8	11.5	20.0	7.9	8	4	* 7.5	* 12.5	38	15	6	* 6.5	9.0	35	10	4	5.0	7.5	34	10	4	5.0	8.5	26	23	7	5.0	8.5								
11	124	8	14	9.0	16.0	10.4	13	8	5.5	12.0	8.5	14	11	7.5	12.0	7.5	8	3	5.0	* 9.0	3.8	8	8	4.0	9.0	35	4	6	* 5.0	* 6.5	32	9	6	4.5	7.5	24	19	10	4.5	7.5								
12	124	9	19	10.0	16.0	10.3	15	10	6.5	11.0	7.9	17	5	* 8.0	14.0	7.5	11	3	6.5	11.5	3.6	6	6	4.0	6.5	33	4	6	6.0	11.5	33	5	5	4.0	8.5	23	30	2	4.5	7.5								
13	124	6	10	9.5	15.0	10.2	14	8	6.0	11.0	8.3	13	9	7	12.5	7.7	9	6	* 5.0	* 9.0	3.6	7	6	* 5.5	9.0	31	9	6	* 5.5	10.0	34	8	10	6.0	7.5	25	16	2	3.0	5.5								
14	126	7	8	9.5	13.0	10.2	16	7	6.5	10.5	8.3	16	10	8.5	13.5	7.9	2	5	10.0	* 15.0	39	8	8	10.5	16.0	33	9	6	5.0	9.0	34	9	6	4.0	7.5	29	5	3.0	5.5									
15	128	7	4	6.5	12.5	10.6	12	10	6.0	11.5	8.5	20	11	7.0	12.0	7.8	12	5	7.5	* 8.5	14.5	39	11	7	* 4.5	* 7.0	37	10	9	7.5	11.0	38	9	8	4.5	8.5	30	35	3	3.0	5.5							
16	127	11	9	6.0	10.0	10.8	16	13	4.0	6.0	6.0	6.7	23	12	6.0	12.0	7.9	9	7	* 7.0	* 13.0	40	16	7	6.0	10.0	4.1	9	9	4.0	7.5	42	6	7	3.5	4.5	25	16	2	3.0	5.5							
17	127	12	6	2.5	12.5	10.7	18	12	6.0	10.0	8.5	20	11	7.0	12.5	7.9	15	7	8.0	* 13.5	40	19	7	7.0	9.0	4.9	7	10	5.0	10.0	4.6	4	6	3.5	7.5	31	10	2	3.5	6.0								
18	126	13	5	6.5	11.5	10.8	19	9	4.0	7.5	9.3	17	9	6.0	10.0	8.5	13	7	5.0	9.5	5.7	12	3.5	8.0	6.1	5	7	4.0	7.5	31	8	4	3.5	7.5														
19	130	10	5	7.5	13.0	11.5	13	12	6.0	10.5	9.7	13	8	5.5	10.5	8.7	11	3	4.0	8.5	6.4	10	9	5.0	10.0	6.1	6	6	3.0	6.5	50	7	4	4.0	8.0	31	6	6	* 3.0	6.5								
20	132	8	4	6.0	10.0	11.7	11	9	5.5	10.0	9.9	14	8	5.0	11.0	8.9	7	6	5.0	7.5	6.6	7	8	3.5	7.5	6.3	5	6	5.5	7.5	50	4	4	4.0	7.5	31	4	5	3.5	6.5								
21	132	8	6	6.5	11.0	11.6	13	8	5.0	9.5	9.9	13	10	6.0	11.5	8.9	9	4	5.0	6.5	6.5	7	7	5.0	9.0	6.1	8	6	4.5	8.0	31	4	4	4.0	7.5	31	4	5	4.0	8.0	31	4	5	4.0	8.0			
22	130	10	6	7.0	11.0	11.6	13	7	11.6	13	7	12.5	13.0	10.1	12	8	6.0	11.0	8.9	9	6	5.0	9.0	6.6	6	10	5.0	9.5	6.1	7	7	5.0	9.0	48	1	4	4.5	9.0	31	4	5	4.0	8.0	31	4	5	4.0	8.0
23	132	8	7	7.0	11.5	11.9	12	10	7.0	12.5	10.5	7	10	6.5	12.5	10.5	9	7	6.0	12.5	6.1	6	6	6.0	12.5	6.1	6	6	5.5	9.0	46	8	4	5.5	10.0	31	4	5	4.0	8.0	31	4	5	4.0	8.0			

$F_{\text{eff}} = \text{median value of effective antenna noise in dB above kTB}$

$R_{10}$  = ratio of higher decile to median In g

Debt ratio of median to lower decile is 6.5

$U_f = 16\%$  of median to lower decile in dB

$V_{dm}$  = median deviation of average voltage in db below mean power

$L_{dm}$  = median deviation of average logarithm in db below mean power

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**MONTH-HOUR VALUES OF RADIO NOISE**      Station São José, Brazil      Lat. 23.3 S Long. 45.8 W Month October 1959

Hour	Frequency (Mc)																																								
	.051			.113			.246			.545			2.5			5			10			20																			
00	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>																	
01	134	8	3	6.0	11.5	10.9	5	8	6.0	12.5	10.8	4	8	5.6	16.0	9.1	5	7	2.5	6.5	6.6	6	5.0	10.0	6.0	4	2.0	4.0	7.5	4.8	6	4	4.5	8.0	3.2	6	6	3.0	6.0		
02	134	8	5	6.0	13.0	11.0	4	9	5.5	12.0	10.6	5	7	5.0	10.0	9.1	4	7	5.5	10.5	6.5	7	10	5.5	10.0	5.8	6	9	5.0	10.0	4.8	6	4	4.5	8.5	3.0	6	6	3.5	6.0	
03	136	6	6	7.5	13.5	10.8	6	9	5.5	12.5	10.6	4	9	6.0	10.5	8.9	6	7	5.5	11.0	6.4	7	9	5.0	10.0	5.8	5	10	4.5	10.5	4.8	7	2	4.5	9.0	2.6	6	4	4.5	5.0	
04	136	6	8	6.5	12.0	10.6	7	5	7.0	13.0	10.4	6	6	5.5	11.0	8.7	6	4	6.5	12.5	6.4	7	10	4.5	9.0	5.8	5	9	3.5	8.0	2.4	8	2	4.5	5.5	1.5	3.5	4	4.5	5.5	
05	134	7	9	7.5	14.0	10.0	13	15	4.0	9.5	8.8	16	12	6.5	16	8	4	7.0	3.0	6.0	6.3	6	1.2	4.5	8.0	5	11	4.0	9.0	4.6	8	3	4.0	8.0	1.6	2	4	4.5	4.0		
06	126	6	8	10.0	17.5	8.9	9	8	4.5	10.0	7.0	17	7	2.5	7.5	8.1	10	10	4.0	8.0	6	1.0	4.5	10.0	4.8	5	10	4.5	9.0	4.4	4	5	4.5	9.0	2.2	2	2.5	5.0			
07	124	6	10	8.5	17.5	8.7	9	8	4.5	9.5	18	15	6	3.0	8.6	7.3	10	9	6.0	4	6.5	16.5	4.0	7	8	5.5	9.0	4.0	6	5	5.0	8.5	2.7	4	2.5	5.5					
08	121	8	5	8.0	15.0	8.5	11	4	6.0	10.0	8.0	6	6	3.5	7.5	7.6	7	11	3.4	5	4	5.0	11.5	3.4	7	5	6.5	10.5	4.0	4	4	4.0	7.0	2.1	4	2.5	5.0				
09	121	9	6	7.0	19.5	8.7	8	9	5.0	10.0	8.0	5	5	4.0	8.0	7.7	8	6	3.2	5	4	8.0	10.0	3.2	5	5	5.5	8.0	3.4	8	6	5.0	8.0	4.3	4	4.0	5.5				
10	124	6	10	11.0	18.0	8.7	7	7	5.0	9.5	7.6	4	7	3.5	7.5	7.7	7	10	6.5	12.0	3.2	6	4	5.0	10.0	3.0	2	4	4.5	8.5	3.2	5	4	5.0	8.0	2.6	4	2.5	5.5		
11	126	4	10	10.0	17.0	8.5	4	4	6.0	10.0	7.6	18	6	3.5	8.0	7.5	8	8	5.5	12.5	3.0	5	2	3.0	5.0	2.6	6	2	5.0	7.5	3.0	6	4	4.0	6.0	2.3	4	2.5	5.0		
12	128	6	9	9.5	15.5	8.7	13	5	6.5	11.0	7.6	21	6	4.0	8.0	7.7	10	9	10.0	16.0	3.0	12	2	3.5	5.0	2.6	8	4	6.0	7.5	3.0	9	5	5.0	9.0	2.4	4	3.5	6.5		
13	128	9	6	7.5	13.5	8.5	1.9	2	6.0	10.0	8.0	21	9	8.0	8.0	7.5	17	6	10.5	7.0	3.2	1	4	7.0	9.0	2.8	8	4	7.5	10.0	3.4	10	6	5.5	8.0	2.7	18	3	30	6	6.0
14	132	9	4	7.0	12.0	9.1	18	6	6.0	10.0	8.4	32	8	2.5	12.0	8.1	20	6	7.0	12.0	3.6	29	6	6.5	9.0	3.2	14	6	6.5	8.0	3.6	10	6	4.5	7.5	3.0	12	4	35	6.0	
15	136	11	8	7.0	12.5	9.9	18	14	4.5	8.5	8.2	26	16	8.5	13.0	8.1	22	8	6.0	14.0	38	34	8	5.0	10.0	3.6	24	8	4.0	6.0	4.2	4	8	6.0	8.0	3.0	18	4	30	5.0	
16	134	13	6	6.0	16.0	9.5	16	12	10	2.0	12.0	8.8	29	9	9.5	17.5	8.5	15	14	9.0	14.0	40	29	10	6.5	9.0	44	1.0	11	5.5	8.0	4.6	2	6	4.5	7.5	3.2	10	2	35	5.5
17	134	12	10	7.0	12.0	9.5	16	14	5.5	10.0	8.8	28	11	2.0	12.5	8.5	16	12	8.0	16.0	46	25	12	7.0	8.5	50	7	7	5.0	8.0	4.8	6	4	3.5	6.5	3.2	4	4	3.5	6.0	
18	134	12	10	6.5	12.5	9.9	15	16	2.0	12.5	9.6	17	11	5.5	10.0	8.7	10	8	9.0	7.5	56	12	9	4.0	7.5	6.0	3	11	3.0	5.5	4.8	4	4	3.5	6.5	3.0	6	3	3.5	6.0	
19	136	11	6	6.5	11.0	10.3	12	7	4.5	10.0	10.4	10	9	5.5	10.0	8.9	8	7	4.5	9.0	66	6	10	4.0	7.5	6.2	4	4	3.5	7.0	2.0	40	7.5	3.0	6	6	35	5.5			
20	136	9	8	6.0	11.0	10.3	10	8	4.5	9.5	10.6	5	12	5.0	10.5	8.9	8	5	4.5	8.0	68	3	12	4.0	7.0	6.2	4	4	4.5	7.5	4.8	8	4	3.5	6.5	3.0	6	4	3.5	5.0	
21	136	9	6	6.0	11.5	10.3	10	4	5.0	10.5	10.6	10	9	5.0	10.0	9.1	6	6	4.5	9.0	68	4	9	4.0	7.5	6.0	7	2	4.0	6.5	4.8	30	8	3	25	5.0					
22	136	6	7	5.5	10.0	10.5	7	6	5.0	10.0	10.7	7	9	5.0	10.0	9.1	7	5	4.5	8.5	68	4	11	4.5	8.5	6.2	7	4	4.0	8.0	3.0	7	4	3.5	6.0	2	35	6.0			
23	136	6	6	6.0	10.0	10.7	6	11	9.0	8.0	10.8	6	6	5.5	11.0	9.1	6	4	4.5	8.5	68	5	9	5.0	10.0	6.2	4	1.3	3.5	7.5	1.5	40	6.5	3.0	5	4	3.5	6.5			

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>x</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Frequency (Mc)		.051												.051												2.5							
		.113						.246						.545						2.5						5							
Mc	Hz	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>r</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
00	130	11	6	116	9	8	99	9	2	86	7		55	8	2	45	120	50	8	2	50	100	44	5	3	40	90	28	8	3	30	70	
01	132	8	9	114	10	10	97	9	4	84	6	6	54	10	0	50	100	48	9	0	50	100	44	4	3	45	100	29	6	5	30	70	
02	132	8	8	112	12	5	97	10	8	80	9	4	54	4	1	4	115	48	11	0	4	100	44	3	3	50	100	29	5	5	25	65	
03	131	4	7	112	11	7	95	8	6	80	10	4	54	11	2	4	0	115	48	10	0	4	100	44	4	3	35	100	29	6	2	30	70
04	130	8	10	110	4	7	92	13	6	78	10	8	54	3	5	55	100	48	10	0	4	35	90	44	4	3	40	85	26	8	4	25	60
05	125	8	6	98	10	6	71	10	6	58			52	8	5	55	115	48	9	5	45	90	44	2	4	25	75	26	8	3	20	65	
06	119	11	8	94	13	5	73	13	8	76	10	10	39	9	8	55	100	40	7	7	50	110	42	3	7	40	90	24	6	2	25	70	
07	117	12	6	96	12	7	75	6	8	72	12		30	9	3	25	60	36	7	7	45	100	37	4	6	40	75	24	5	5	30	70	
08	114	14	2	96	12	6	78			73			36	4	6	55	80	32	6	5	50	115	33		*	50	100	34		*4	25	*75	
09	116			99			80			78			35	3	5	30	65	31		*	90	330	30		50	75	30	6	2	15	55		
10	*20			96	12	8	79			78	6	8	36	4	6	55	110	30	30	10	6	100	150	30	6	6	50	95	21	5	3	20	60
11	126	8	12	99	13	5	77	8	7	76	6	8	34	6	4	70	75	28	14	4	60	110	29	6	5	45	80	22	7	5	25	70	
12	128	8	9	106	12	8	80	16	8	80	6	14	34	6	6	55	85	28	13	6	75	120	32	5	4	40	75	24	6	5	25	60	
13	130	10	4	108	10	10	81	18	10	80	10		34	14	6	70	150	32	9	8	75	100	32	8	4	40	80	26	4	4	20	55	
14	130	11	1	110	11	9	82	32	3	80	22		36	14	6	65	145	30	14	6	65	65	36	7	4	35	80	28	8	4	25	70	
15	134	12	6	112	27	8	86	31	8	84	19	8	38	28	8	55	100	34	15	6	70	100	40	5	4	35	80	30	6	5	20	65	
16	134	10	4	110	18	10	86	18	10	86	23	7	36	30	7	60	100	40	10	7	50	105	43	5	4	35	85	30	7	3	25	70	
17	132	10	4	112	17	14	88	29	11	77	27	7	39	21	7	40	100	47	9	4	45	100	44	7	2	30	75	32	3	5	25	60	
18	134	8	8	111	20	12	89	21	7	80	9	1	52	14	8	45	110	52	6	6	30	80	46	13	2	25	75	30	7	2	35	65	
19	134	6	6	114	9	5	97	7	7	87	5	10	57	9	3	30	85	59	25	75	44	15	0	20	75	28	5	3	35	75			
20	133	5	5	115	8	5	97	7	5	86	7	5	64	2	8	25	75	62	2	12	25	75	46	4	2	15	70	29	5	3	25	70	
21	134	7	7	118	7	6	88	4	3	56	30	75	58	4	6	25	75	44	5	0	30	75	30	4	4	25	65	30	4	4	25	70	
22	134	7	4	118	7	5	90	3	6	58	6	4	40	100	58	2	10	30	85	16	2	25	80	30	4	4	25	70	30	5	30	65	
23	134	8	3	116	10	7	86	7	8	101	8	6	58	7	4	40	95	58	2	9	25	70	44	9	1	30	75	30	5	3	25	70	

From = median value of effective omnithro noise in dB above kib

$D_U$  = ratio of upper decile to median in db

$D_{\text{f}}$  = ratio of median to lower decile in db

$V_{dm}$  = median deviation of average voltage in db below mean power

$L_{dm}$  = median deviation of overage logarithm in db below mean power

# MONTH-HOUR VALUES OF RADIO NOISE

Station Singapore, Malaya      Lat. 1.3 N      Long. 103.8 E      Month September 1959

Hour	Frequency (Mc)																									
	0.13			0.51			1.60			5.45			2.5			5			10			20				
	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00/160	5	2		142	5	3	121	6	3	95	6	5	65	2	10	58	6	2	47	2	1	29	4	2		
01/160	5	2		142	4	4	121	4	4	93	7	4	63	4	6	58	4	2	47	4	2	69	2	2		
02/160	4	2		142	4	4	121	4	7	93	8	6	65	4	8	60	4	4	47	2	3	69	2	3		
03/162	4	4		142	5	4	121	7	6	93	8	6	65	6	7	60	3	9	45	4	2	27	2	2		
04/162	4	3		142	9	4	121	4	6	93	7	7	67	3	7	60	2	4	45	4	6	25	4	0		
05/162	4	4		142	4	4	119	5	8	87	10	8	66	4	10	58	4	4	45	6	6	25	5	0		
06/160	5	2		138	6	7	114	9	16	63	17	20	57	5	12	54	4	7	47	2	4	27	3	2		
07/160	4	4		136	8	10	110	15	13	77	23	15	45	9	12	44	8	12	41	4	4	27	4	2		
08/160	6	4		135	10	8	107	8	8	82	20	16	37	14	7	32	19	6	37	4	6	25	5	2		
09/158	8	3		132	10	5	103	17	6	71	21	10	31	15	6	32	12	6	34	5	7	25	10	2		
10/160	6	6		134	7	7	103	18	10	73	26	14	35	18	6	30	18	4	34	4	8	25	3	2		
11/158	6	5		134	8	6	107	20	12	83	26	16	33	25	6	29	17	5	31	12	4	25	8	2		
12/160	4	4		135	9	5	113	10	13	89	10	17	37	31	9	30	20	8	31	9	3	27	4	2		
13/162	4	3		138	8	5	119	8	14	93	16	13	43	20	14	42	14	18	35	9	4	29	9	3		
14/164	4	6		142	6	8	119	10	10	97	11	15	51	20	20	46	12	14	35	10	4	30	7	3		
15/164	4	4		144	4	8	121	4	11	97	8	14	55	16	20	46	12	7	41	5	3	30	7	3		
16/164	3	2		142	6	6	119	5	9	97	5	13	56	9	9	48	6	4	43	4	2	31	3	3		
17/162	4	2		140	6	6	115	7	5	91	9	6	57	6	8	52	4	4	49	4	4	69	4	1		
18/162	3	5		142	4	5	121	4	5	97	4	6	63	4	4	62	3	4	53	6	4	27	2	2		
19/162	4	4		142	3	4	121	4	3	95	7	4	67	4	4	62	3	3	53	8	4	27	2	2		
20/160	4	2		142	4	4	121	5	4	95	6	4	67	4	6	62	4	2	53	8	4	26	4	2		
21/160	4	2		142	5	4	121	7	4	97	5	8	65	6	6	62	4	2	53	6	4	31	8	2		
22/161	3	3		142	4	4	122	5	4	97	5	8	65	6	8	58	4	3	49	9	1	31	8	2		
23/162	2	4		142	4	3	121	6	4	95	7	5	64	4	5	58	4	2	49	2	2	33	4	4		

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**MONTH-HOUR VALUES OF RADIO NOISE**

Station Singapore, Malaya    Lat. 1.3 N    Long. 103.8 E    Month October 1959

Hour	Frequency (Mc)																									
	0.13			0.51			1.60			5.45			2.5			5			10			20				
	Fam	Du	Dx	Vdm	Ldm	Fam	Du	Dx	Vdm	Ldm	Fam	Du	Dx	Vdm	Ldm	Fam	Du	Dx	Vdm	Ldm	Fam	Du	Dx	Vdm	Ldm	
00 1/6.2	4	4	1/41	6	4	1/19	6	6	9/3	4	6	6/5	4	4	6/0	2	5	4/9	2	2	28	2	4			
01 1/6.3			1/41	4	2	1/19	8	8	9/4	5	7	6/7	4	4	6/1	3	3	4/9	2	4	28	2	3			
02 1/6.2	5	3	1/41	4	6	1/18	9	5	9/4	9	5	6/7	4	4	6/0	4	3	4/7	2	4	26	4	2			
03 1/6.2			1/41	6	4	1/21	4	8	9/5	6	6	6/7	4	4	6/2	2	2	4/7	2	4	26	4	3			
04 1/6.2	4	4	1/40	7	5	1/19	6	6	9/4	7	7	6/7	4	4	5/9	4	4	4/6	3	5	24	2	2			
05 1/6.2			1/39	6	6	1/15	8	10	8/5	13	11	6/5	4	6	5/9	3	4	4/4	3	5	24	2	1			
06 1/6.0	5	7	1/35	6	8	1/07	18	12	8/1	16	18	5/7	8	7	5/2	10	4	4/5	4	4	25	4	2			
07 1/5.8			1/29	14	5	1/03	21	14	7/7	26	14	4/7	12	8	4/6	6	8	4/1	4	4	26	12	2			
08 1/5.6			1/29	17	4	1/03	22	6	7/5	26	15	3/5	20	6	3/6	13	6	3/5	8	4	24	6	2			
09 1/5.8			1/29	16	2	1/05	25	12	7/9	26	22	3/3	24	8	3/6	10	10	3/6	18	8	24	6	2			
10 1/5.9			1/31	16	6	1/05	25	11	8/1	29	15	4/8	26	15	3/6	16	10	3/1	23	6	24	10	2			
11 1/5.8			1/34	18	9	1/13	22	14	9/0	22	20	3/3	32	6	3/0	21	8	3/1	16	3	24	11	2			
12 1/6.2	8	8	1/37	16	9	1/15	18	16	9/5	12	18	4/4	28	12	3/7	27	14	3/4	16	6	30	6	2			
13 1/6.3			1/40	11	11	1/20	13	15	1/01	11	19	4/9	30	20	4/1	24	13	3/7	16	6	28	10	4			
14 1/6.8	3	9	1/43	10	8	1/23	8	12	9/9	12	14	5/3	24	20	4/8	16	16	4/2	9	7	28	10	4			
15 1/6.6			1/42	7	7	1/22	7	11	9/7	6	12	5/5	16	16	4/5	11	7	4/3	4	4	28	6	2			
16 1/6.2	2	5	1/43	4	6	1/19	8	9	9/3	6	9	5/5	10	12	5/0	7	6	4/5	4	2	28	5	2			
17 1/6.4			1/42	3	7	1/19	2	9	9/3	6	6	5/5	6	6	5/4	4	5	4/9	2	4	28	6	2			
18 1/6.4	2	6	1/43	2	4	1/21	4	4	9/7	4	6	6/3	4	4	6/0	5	2	4/9	4	2	24	2	2			
19 1/6.2			1/41	4	2	1/21	4	4	9/5	6	4	6/5	4	4	6/2	4	4	4/9	4	4	26	4	2			
20 1/6.3	4	5	1/43	4	6	1/21	4	6	9/5	6	4	6/5	4	6	6/0	5	2	4/9	4	2	30	4	4			
21 1/6.3			1/43	4	6	1/19	6	6	9/5	6	6	6/5	4	4	6/2	2	4	5/1	6	4	31	8	3			
22 1/6.3	3	4		1/41	4	4	1/19	6	4	9/3	6	4	6/5	2	6	6/0	4	4	5/1	2	2	30	8	2		
23 1/6.2			1/41	4	4	1/19	4	4	9/3	4	6	6/5	1	4	6/0	3	4	4/9	5	4	26	8	2			

Fam = median value of effective antenna noise in db above ktb

Du = ratio of upper decile to median in db

Dx = ratio of median to lower decile in db

Vdm = median deviation of average voltage in db below mean power

Ldm = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE      Station Singapore, Malaya      Lat. 1.3 N      Long. 103.8 E      Month November 1959

Month-Hour (LST)	Frequency (Mc)												.013			.051			.160			.545			2.5			5			10			20		
	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	V <sub>dm</sub>	L <sub>dm</sub>								
00 1602 2 4	141	4	5		118	8	4		92	10	5		63	5	2		58	4	2		49	4	4		30	1	4									
01 1601 5 3	141	6	4		118	9	4		92	9	4		60	4	4		49	3	4		49	3	5													
02 1602 6 4	141	7	4		120	7	5		92	4	2		66	4	4		60	3	4		49	6	4		48	4	3									
03 1602 4 4	141	7	6		118	10	5		92	12	4		65	7	4		60	4	2		48	6	5		47	3	3									
04 1601 5 3	139	7	5		117	9	5		90	10	7		64	7	6		60	9	4		47	3	5		45	3	2									
05 1600 6 4	137	8	6		112	10	10		79	20	9		62	9	13		56	5	3		45	8	4		45	3	2									
06 1600 4 6	133	9	6		106	18	18		76	22	16		51	8	14		48	6	6		43	3	4		47	4	3									
07 1558 6 4	131	11	9		106	14	16		72	21	12		37	18	10		38	11	7		37	6	4		47	5	4									
08 1558 6 5	133	8	10		102	19	12		76	18	16		34	18	7		34	11	8		35	6	6		47	3	5									
09 1558 4 6	131	8	10		100	15	12		76	11	16		31	14	6		32	6	8		30	6	5		45	9	2									
10 *1556	130	6	4		104	16	15		70	23	12		35	11	6		30	10	7		29	8	6		23	6	1									
11 1558 5 5	133	8	6		110	12	16		83	18	15		31	21	4		28	17	8		29	8	7		25	7	1									
12 1600 5 4	137	8	8		116	11	14		92	10	16		40	20	12		34	14	14		33	9	6		28	9	4									
13 1602 8 4	139	10	8		119	10	12		90	21	10		43	24	13		40	22	14		35	4	6		27	14	3									
14 1604 6 4	139	17	4		120	16	12		98	18	14		51	20	14		92	29	14		39	13	6		30	15	4									
15 1604 12 4	141	16	7		118	17	12		94	17	13		53	32	20		44	26	10		41	17	2		29	9	2									
16 1602 8 4	143	6	6		118	8	10		93	12	7		51	24	14		46	12	4		45	4	4		30	6	4									
17 1602 4 4	143	4	6		118	8	8		94	8	7		53	16	6		54	13	4		49	1	4		30	3	4									
18 1600 6 2	141	5	4		118	6	3		96	5	6		61	4	6		62	10	6		47	2	2		46	3	2									
19 1602 4 6	141	6	4		118	6	3		94	6	6		63	4	5		62	6	4		47	2	2		46	3	2									
20 1602 2 4	141	6	5		118	5	4		94	4	6		63	4	6		62	7	5		48	3	3		28	4	2									
21 1600 6 2	141	3	5		118	4	4		94	5	4		63	2	5		62	12	4		49	4	2		30	9	2									
22 1600 4 2	141	3	6		118	4	4		94	5	7		63	4	7		58	4	4		49	7	2		31	4	3									
23 1600 6 2	139	5	2		120	4	6		94	4	6		63	4	8		59	4	3		49	3	3		30	2	4									

F<sub>om</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>l</sub> = ratio of lower decile to mean power

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

MONTH-HOUR VALUES OF RADIO NOISE Station Thule, Greenland Lat. 76.6 N Long. 68.7 W Month September 19 59

FS	Frequency (Mc)												
	.051			.113			.246			.545			
Fam	Du	D <sub>1</sub>	Vdm	Ldm*	Fam	Du	D <sub>1</sub>	Vdm	Ldm*	Fam	Du	D <sub>1</sub>	
00	121	3	3	3.5	3.5	103	0	2	5.0	10.5	84	11.0	12.0
01	120	4	0	2.5	3.0	103	0	2	11.0	13.0	83	5.0	5.0
02	120	4	2	3.0	3.5	103	2	4	8.5	10.5	83	11.0	15.0
03	120	4	0	4.5	4.5	103	2	4	7.0	12.0	19	4.5	5.0
04	120	4	0	101	4	2	11.0	13.0	80	11.0	12.0	69	7.0
05	121	3	3	101	4	2	17.5	18.0	79	5.0	6.0	69	6.5
06	121	3	3	103	4	4	11.0	13.0	81	69	5.0	5.5	
07	120	*	*	103	*	*	8.0	12.0	57	7.6	12.0	57	
08	120	*	*	103	*	*	7.6	11.0	57	7.6	11.0	57	
09	121	*	*	103	*	*	7.6	11.0	57	7.6	11.0	57	
10	120	4	2	101	2	2	19	21	67	7.4	6	4.5	
11	120	4	2	101	*	*	29	66	74	6	4.0	10.5	
12	120	*	*	101	*	*	80	66	76	4.5	10.5	57	
13	120	*	*	103	*	*	80	66	74	8	4	4.5	
14	120	*	*	101	*	*	79	35	75	4.0	10.0	57	
15	120	4	2	7.0	7.0	101	6	2	5.5	7.0	79	11.0	15.0
16	120	3	2	4.0	5.0	103	4	4	81	9.0	13.0	68	8.5
17	120	0	2	4.0	2.0	102	4.5	4.5	77	65	9.5	75	4.5
18	120	4	2	4.0	4.0	101	*	*	7.0	8.0	79	67	5.5
19	120	2	2	5.5	6.0	103	2	4	7.0	8.0	81	16.5	18.0
20	120	2	0	2.5	3.0	103	*	*	10.5	11.5	83	13.5	16.5
21	122	2	4	3.0	5.5	103	2	4	14.0	15.0	80	9.5	20.0
22	122	2	2	3.0	4.0	103	2	4	8.5	11.5	79	6.6	10.0
23	122	*	*	4.5	4.5	103	2	2	5.5	6.0	81	6.8	3.5

Fam = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>l</sub> = ratio of median to lower decile in db

Vdm = median deviation of average voltage in db below mean power

Ldm = median deviation of overage logarithm in db below mean power

**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Balboa, Canal Zone Lat. 9.0 N Long. 79.5 W Season Fall (Sept. Oct. Nov.) 1959

TIME BLOCKS (LST)																					
	0000-0400			0400-0800			0800-1200			1200-1600			1600-2000			2000-2400					
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
0.51	142	7	5	11.0	19.0	140	8	7	135	21.5	135	11	10	15.5	25.0	140	12	8	125	20.0	140
.113	130	7	6	9.0	14.5	126	9	11	13.0	21.0	119	14	16	15.5	24.5	126	14	14	15.0	22.0	125
.246	114	6	6	8.5	15.0	108	10	13	14.0	23.5	92	19	14	13.0	24.0	110	16	15	13.0	23.0	108
2.5	68	5	6	6.0	11.5	62	7	9	9.0	15.0	38	23	13	9.5	16.0	47	29	12	11.0	11.5	56
5	70	3	6	5.5	10.0	54	6	7	7.5	13.0	34	17	12	9.5	15.0	40	25	14	10.0	16.5	54
10	43	4	4	5.0	8.5	40	5	5	5.5	9.0	31	9	9	9.5	15.5	34	13	8	9.0	14.5	44
* 20	26			4.0	6.0	27			4.5	7.0	25			4.5	7.0	29	8	5	5.0	8.0	21

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* September and November data only.

**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Bill, Wyoming Lat. 43.2 N Long. 105.2 W Season Fall ( Sept. Oct. Nov. ) 19 59

TIME BLOCKS (LST)																					
0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400						
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
.051	129	7	4			124	7	7			126					119				125	
.113	115	8	4			104	11	6			99					100				110	
.246	98	10	6			85	14	8			81					84				92	
.495	86	8	4			66					60					62				71	
.2.5	60					51					31					27				45	
5	55					47					28					26				43	
10	36					33					26					27				36	
20	24					25					28					31				31	
																			25		

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Boulder, Colorado Lat. 40.1 N Long. 105.1 W Season Fall (Sept. Oct. Nov.) 19 59

TIME BLOCKS (LST)																														
0000-0400			0400-0800			0800-1200			1200-1600			1600-2000																		
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>															
1.3	1.56	5	2	10.5	17.5	15.5	4	3	11.5	18.5	15.4	4	4	12.0	18.5	15.6	5	9.5	16.0	15.6	5	5	17.5	15.7	5	4	10.5	18.0		
0.51	1.31	7	5	9.5	17.0	12.4	8	6	11.0	18.5	11.8	8	8	12.0	20.0	12.2	8	9	9.0	16.5	12.7	8	7	8.5	15.5	13.1	8	5	8.5	15.5
1.60	1.07	10	6	8.5	15.5	9.0	15	11	9.0	15.5	8.2	18	9	8.0	13.5	8.8	15	10	7.5	13.5	10.1	11	11	7.5	14.0	10.7	10	7	7.5	14.5
4.95	8.5	11	6	7.5	13.5	6.8	12	5	4.5	8.0	6.3	10	5	4.0	7.0	6.6	12	7	3.0	6.0	7.6	13	9	4.5	9.5	8.6	10	6	6.0	11.0
2.5	6.0	8	5	4.5	8.5	5.2	6	5	4.0	7.5	4.7	3	7	2.0	4.0	6.2	5	9	1.5	3.5	5.4	8	5	3.0	6.0	5.4	8	5	3.5	7.5
5	5.6	6	5	4.0	8.0	4.8	6	5	4.0	7.5	3.9	3	7	2.0	4.0	3.8	5	10	2.0	4.0	5.0	7	4	3.0	6.0	5.5	6	4	4.0	7.5
10	4.5	5	5	4.0	7.0	4.1	6	4	3.5	6.0	3.2	7	5	2.5	5.0	3.5	7	8	3.0	6.0	4.7	4	4	3.5	6.5	4.7	3	5	3.5	7.0
20	2.6	2	2	2.0	3.5	2.8	2	2	2.0	3.5	3.0	3	3	2.0	4.0	3.3	4	3	2.0	4.5	3.2	4	3	2.0	4.5	2.6	2	3	1.5	3.0

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Byrd Station, Ant. Lat. 80.0 S Long. 120.0 W Season Spring ( Sept. \*\*\* Nov. ) 19 59

TIME BLOCKS (LST)																					
0000-0400			0400-0800			0800-1200			1200-1600			1600-2000			2000-2400						
Frequency (Mc)	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
0.051	103	2	3	102	2	5-			101	2	3	101	2	2	102	2	2	103	3	2	
0.113	75	7	4	76	6	5			74	6	4	76	7	4	76	5	5	75	6	4	
0.246	62	3	6	62	2	6			64	2	6	62	4	4	63	3	5	64	3	5	
0.545	55	6	6	56	5	7			56	5	8	57	5	6	56	6	4	56	4	5	
2.5	21	3	2	21	3	2			20	4	2	22	4	2	22	3	3	22	5	2	
5	23	8	8	18	9	2			17	3	2	20	5	4	24	8	6	28	7	9	
10	21	8	6	18	6	8			15	4	4	19	3	4	24	5	7	25	7	8	
20	19	2	1	18	2	2			18	1	2	20	2	1	20	2	2	20	0	2	

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* \* \* No October data.

USCOMM AAFS BL

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# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Cook, Australia      Lat. 30.6 S      Long. 130.4 E      Season Spring (Sept. Oct. Nov.) 19 59

TIME BLOCKS (LST)												2000 - 2400																		
	0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400														
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>										
.013	157	4	3	7.5	12.5	155	3	4	9.5	155	152	6	3	11.5	18.5	155	5	3	10.5	17.5	156	6	3	8.5	15.0	156	4	3	6.0	13.5
.051	130	6	4	8.5	14.5	12.3	8	4	9.0	15.0	11.6	10	5	12.5	21.0	12.2	13	6	9.5	16.5	12.4	13	6	8.0	14.5	13.0	5	5	8.5	16.5
.160	105	8	6	7.5	14.5	8.8	17	11	9.5	17.0	7.6	2.8	14	12.0	20.5	8.6	25	14	9.5	17.0	9.7	18	12	8.5	16.5	10.5	8	7	7.5	14.5
.545	84	9	7	7.5	14.5	6.0	18	7	7.0	10.5	4.8	20	5	4.5	8.0	51	26	6	8.5	9.0	7.6	23	9	5.5	10.5	8.6	9	7	6.5	13.0
2.5	58	8	7	6.0	10.5	4.4	11	7	6.5	10.5	2.4	15	4	4.5	6.5	23	19	4	4.5	7.0	4.2	18	12	6.0	9.5	6.0	9	8	6.0	11.5
5	54	6	4	5.0	9.0	4.6	7	5	5.0	8.5	28	11	7	3.5	5.0	28	14	8	4.0	7.5	45	11	6	6.0	10.5	5.7	5	6	5.0	9.0
10	43	4	3	4.0	7.5	3.8	4	3	4.0	7.0	24	10	5	5.0	6.5	28	10	7	4.5	7.5	43	6	4	4.5	8.0	4.5	4	4	4.5	7.5
20	23	3	3	3.0	5.0	2.2	3	3	3.0	5.0	20	4	2	3.0	4.5	23	5	3	4.0	6.5	26	6	4	3.5	6.0	2.5	4	4	3.0	5.0

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>ℓ</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

USCMM-NBS-B1.

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**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Enkoping, Sweden Lat. 59.5 N Long. 17.3 E Season Fall ( Sept. Oct. Nov. ) 19 59

TIME BLOCKS (LST)																					
0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400						
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
.051	1.28	4	6	8.0	12.5	1.14	4	6	9.5	14.5	1.05	8	7	11.5	17.5	1.06	8	7	10.0	15.0	1.12
* 246	79	5	6	6.5	11.5	84	7	17	7.5	12.0											
.545	71	6	6	5.0	9.0	64	8	8	4.5	9.5	59	5	5	3.5	9.0	59	11	6	4.0	7.5	73
2.5	50																				
5	52																				
10	38	10	6	4.0	6.5	36	6	6	3.5	6.5	34										
20	21	2	0	2.0	3.5	22	1	2	2.5	4.0	25	4	5	3.5	6.0	27	4	4	3.5	6.0	24

F<sub>am</sub> = median value of effective antenna noise in db above kitb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>ℓ</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* Interference Kalungborg Broadcast station from 0800 through 2300.

USCOMM-NBS-BL

RN-14

## SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Front Royal, Virginia Lat. 38.8 N Long. 78.2 W Season Fall ( Sept. Oct. Nov. ) 1959

$F_{\text{eff}} = \text{median value of effective antenna noise in db above ktb}$

$D_u$  = ratio of upper decile to median in db

$\bar{D}_2$  = ratio of median to lower decile in db

$V_{dm}$  = median deviation of average voltage in db below mean power  
 $L_{dm}$  = median deviation of average logarithm in db below mean power

USCOMM-NES-01

**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Kekaha (Kauai), T. H. Lat. 22.0 N Long. 159.7 W Season Fall ( Sept. Oct. Nov. ) 1959

TIME BLOCKS (LST)																
	0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			
Frequency (Mc)	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
.013	1.54	3	2	10.0	16.5	1.55	3	3	11.0	17.5	1.51	3	3	11.0	17.5	1.45
.051	1.31	4	4	10.5	16.5	1.29	4	3	11.5	18.5	1.11	9	7	13.0	19.0	1.10
.160	1.05	8	6	10.5	17.5	9.8	8	8	11.0	17.5	1.5	16	12	13.0	17.0	1.17.5
.495	.84	8	9	11.5	19.5	7.4	11	10	9.5	15.5	5.4	13	6	5.0	7.5	5.3
2.5	.56	6	7	7.5	12.5	5.3	7	7	6.5	11.0	3.4	6	5	3.5	5.5	3.1
5	6.2	6	6	5.5	10.0	6.0	6	4	5.0	8.5	2.9	5	4	4.5	7.0	4.2
10	4.1	4	4	3.0	5.5	3.8	4	4	3.0	6.0	2.8	4	5	3.5	9.0	3.9
20	2.3	2	1	1.5	3.5	2.2	2	1	1.5	3.5	2.1	2	2	3.0	5.0	2.6

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Ohira, Japan      Lat. 35.6 N      Long. 40.5 E      Season Fall ( Sept.    Oct.    Nov. ) 19 59

TIME BLOCKS (LST)																														
0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400															
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>										
. 013	154	3	2	9.5	150	153	3	4	10.5	17.0	151	4	3	14.0	20.0	152	3	3	11.0	18.0	153	2	9.0	14.5	156	2	3	9.5	15.0	
. 051	131	6	5	10.5	16.5	12.5	8	6	11.0	18.0	11.7	10	8	12.0	19.5	11.7	10	6	11.0	18.0	12.1	9	6	9.0	15.5	131	6	5	9.5	16.5
. 160	110	7	7	9.0	15.0	9.5	17	10	10.0	15.5	8.6	20	11	9.5	12.5	8.3	20	9	7.0	10.5	9.4	14	8	8.0	14.0	108	7	8	8.0	14.0
. 545	87	9	8	8.0	14.5	7.3	16	5	6.0	11.5	6.8	19	3	4.0	8.5	7.0	12	4	5.5	10.0	8.2	9	6	5.5	10.0	93	7	6	7.5	12.5
. 25-	56	10	7	6.5	11.5	4.7	11	5	7.0	11.5	3.2	13	3	4.5	7.0	3.1	11	3	4.5	7.5	4.6	10	5	6.0	10.0	55	10	6	6.5	11.0
. 5-	54	7	5	5.5	10.0	5.1	9	8	5.0	10.0	3.1	8	4	6.5	8.5	3.2	10	5	6.5	9.0	6.1	8	6.0	11.5	69	9	8	6.0	11.0	
. 10	46	10	6	4.5	8.5	3.9	7	4	4.5	7.5	3.0	9	6	6.0	9.5	3.3	8	5	4.5	8.0	5.8	9	5	4.0	7.0	50	10	5	3.5	7.5
. 20	23	3	1	1.5	3.0	2.4	3	2	2.0	4.5	2.4	7	3	3.0	6.0	2.7	5	3	3.0	5.0	2.8	6	3	3.0	5.0	25	3	1	1.5	3.5

F<sub>am</sub> = median value of effective antenna noise in db above 1kb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>ℓ</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Pretoria, S. Africa Lat. 25.8 S Long. 28.3 E Season Spring (Sept. Oct. Nov.) 1959

TIME BLOCKS (LST)																							
0000-0400			0400-0800			0800-1200			1200-1600			1600-2000			2000-2400								
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>			
0.51	130	8	8			123	9	7			118	10	10			129	9	9			135	7	12
1.13	114	10	9			102	16	14			93	19	13			109	13	18			117	10	19
2.46	100	11	10			78	19	10			72	22	10			90	18	22			101	10	26
5.45	90	9	9			65	16	6			60	16	4			76	18	20			87	13	20
2.5	62	6	11			48	10	7			38	6	4			46	14	5			57	11	13
5	54	4	8			43	8	6			44	8	2			28	12	5			49	10	9
1.0	42	4	5			37	6	7			24	11	4			31	10	7			49	7	5
2.0	24	3	1			24	4	2			23	6	2			27	5	3			31	7	3
																					28	6	3

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Rabat, Morocco Lat. 33.9 N Long. 6.8 W Season Fall ( \*\*\* Oct. Nov. ) 1959

TIME BLOCKS (LST)												2000 - 2400										
0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400							
Frequency (Mc)	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>d</sub> m	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>d</sub> m	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>d</sub> m	L <sub>dm</sub>	F <sub>am</sub>	D <sub>u</sub>	D <sub>f</sub>	V <sub>d</sub> m	L <sub>dm</sub>		
0.51	1.31	4	4	1.28	5	5	1.16	8	8	1.19	10	6	1.22	9	6	1.28	5	4	1.28	5	4	
2.46	1.01	7	7	9.3	10	8	8.2	12	5	8.2	16	8	9.2	10	9	10.0	8	6	10.0	8	6	
5.45	8.7	9	6	8.0	9	11	7.6	9	18	7.6	10	19	8.2	8	6	9.0	7	4	9.0	7	4	
2.5	6.1	6	8	5.7	9	10	3.2	1.3	4	3.3	9	8	5.0	10	7	6.0	8	7	6.0	8	7	
5	5.9	4	6	4.9	5	6	3.0	11	6	2.8	13	6	5.1	10	6	5.7	6	6	5.7	6	6	
1.0	4.7	3	6	4.4	4	5	3.7	7	8	3.8	8	9	4.9	6	5	4.9	4	5	4.9	4	5	
2.0	3.2	6	4	-	3.3	5	5	4.2	9	10	4.3	9	9	4.4	8	8	3.6	8	5	3.6	8	5

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>u</sub> = ratio of upper decile to median in db

D<sub>f</sub> = ratio of median to lower decile in db

V<sub>d</sub>m = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\*\*\* No data for September.

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station São José, Brazil      Lat. 23.3 S      Long. 45.8 W      Season Spring (Sept. Oct. Nov.) 1959

TIME BLOCKS (LST)														2000-2400								
	0000-0400			0400-0800			0800-1200			1200-1600			1600-2000			2000-2400						
Frequency (Mc)	F <sub>am</sub>	D <sub>U</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>2</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
.051	133	7	7	13.0	12.7	8	9	8.0	14.5	12.2	9	10	10.0	18.0	12.9	9	7	8.0	14.0	13.2	11	
.113	114	8	9	6.0	12.0	10.2	11	9	5.5	11.0	9.6	12	7	6.0	11.0	10.1	16	8	6.0	11.5	11.5	134
.246	103	11	11	6.0	11.5	8.4	12	9	6.0	12.0	8.0	10	9	6.0	11.0	8.2	16	8	7.5	11.5	9.2	21
.545	88	7	6	5.5	10.0	7.6	10	7	5.0	10.0	7.7	7	5.0	10.0	7.9	13	7	8.0	14.0	8.4	13	
2.5	61	7	7	5.0	10.5	5.1	8	10	5.0	10.0	3.5	7	6	6.0	8.5	3.6	15	6	6.0	9.5	4.9	17
5	55	7	6	4.5	9.5	5.0	7	8	4.5	9.0	3.2	8	4	7.0	10.0	3.2	11	6	6.5	10.0	5.2	7
10	43	6	5	4.5	9.5	4.3	6	5	4.5	8.5	3.3	7	6	5.0	8.5	3.5	7	6	4.5	8.0	4.6	7
20	28	7	4	2.5	6.0	2.5	1.5	3	2.0	5.0	2.4	17	5	3.5	7.0	2.7	17	4	3.0	6.0	3.1	7

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>2</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

Station Singapore, Malaya Lat. 1.3 N Long. 103.8 E Season Fall (Sept. Oct. Nov.) 1959

TIME BLOCKS (LST)												2000 - 2400									
	0000 - 0400			0400 - 0800			0800 - 1200			1200 - 1600			1600 - 2000			2000 - 2400					
Frequency (Mc)	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
013	16.2	4	3	16.0	5	4	15.8	6	5	16.3	6	5	16.3	4	4	16.1	4	3	16.1	4	3
.051	14.1	5	4	13.7	7	6	13.2	11	6	14.0	10	7	14.2	5	5	14.2	4	4	14.2	4	4
.160	12.0	7	5	11.2	11	11	10.5	18	11	11.9	11	12	11.9	6	6	12.0	5	4	12.0	5	4
.545	9.3	7	5	8.3	16	12	7.8	22	16	9.5	12	15	9.4	6	7	9.5	5	6	9.5	5	6
2.5	6.5	4	5	5.7	8	9	3.4	20	7	4.8	24	16	5.9	8	7	6.4	4	6	6.4	4	6
5	6.0	4	3	5.3	6	7	3.3	14	7	4.2	19	12	5.6	6	4	6.0	6	3	6.0	6	3
10	4.8	3	3	4.4	4	5	3.2	10	6	3.7	10	5	4.8	4	3	5.0	5	3	5.0	5	3
20	2.8	3	3	2.6	3	2	2.5	7	2	2.9	9	3	2.8	4	2	3.0	6	3	3.0	6	3

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

**SEASONAL TIME-BLOCK VALUES OF RADIO NOISE**

Station Thule, Greenland      Lat. 76.6 N      Long. 68.7 W      Season Fall ( Sept.    \*\*\*    \*\*\* ) 1959

TIME BLOCKS (LST)																											
0000-0400					0400-0800					0800-1200					1200-1600					1600-2000							
Frequency (Mc)	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>am</sub>	D <sub>U</sub>	D <sub>L</sub>	V <sub>dm</sub>	L <sub>dm</sub>		
.051	120	3	1	3.5	3.5	120	3	2			120	4	2			120	4	2	7.0	7.0	120	2	2	4.5	5.5	122	2
.113	103	1	3	8.0	11.5	102	4	3	13.0	14.5	102	2	2			102	6	2	5.5	7.0	102	3	4	6.0	7.0	103	2
.246	82			8.0	9.0	80			8.0	9.0	79					80			7.0	13.0	80			16.5	18.0	81	
.545	68			6.0	7.0	68			6.0	7.0	67					66					67			8.0	11.0	66	
.2.5	76	3	8	4.5	10.0	76	4	7	5.0	10.5	74	6	6	5.0	11.0	75	8	4	4.0	10.0	75	4	6	4.5	10.0	76	4
5	56	5	5	5.5	11.0	58	6	7	5.0	10.5	56	7	7	4.5	10.5	57	2	6	4.5	10.0	56	6	4	5.5	11.0	58	5
10	28	9	5	3.5	9.0	30	7	6	5.0	10.5	28	7	5	4.5	10.5	30	6	6	4.5	9.5	30	6	6	4.5	10.0	28	11
20	22			7.5	14.5	22			5.0	11.5	22			4.5	10.5	21			4.0	10.0	22			4.0	10.0	22	

F<sub>am</sub> = median value of effective antenna noise in db above ktb

D<sub>U</sub> = ratio of upper decile to median in db

D<sub>L</sub> = ratio of median to lower decile in db

V<sub>dm</sub> = median deviation of average voltage in db below mean power

L<sub>dm</sub> = median deviation of average logarithm in db below mean power

\* \* \* No data for October and November.

U.S. DEPARTMENT OF COMMERCE

Frederick H. Mueller, *Secretary*

NATIONAL BUREAU OF STANDARDS

A. V. Astin, *Director*



## THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

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**Optics and Metrology.** Photometry and Colorimetry. Photographic Technology. Length. Engineering Metrology.

**Heat.** Temperature Physics. Thermodynamics. Cryogenic Physics. Rheology. Molecular Kinetics. Free Radicals Research.

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**Chemistry.** Organic Coatings. Surface Chemistry. Organic Chemistry. Analytical Chemistry. Inorganic Chemistry. Electrodeposition. Molecular Structure and Properties of Gases. Physical Chemistry. Thermochemistry. Spectrochemistry. Pure Substances.

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**Metallurgy.** Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics.

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• Office of Basic Instrumentation.

• Office of Weights and Measures.

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**Radio Propagation Physics.** Upper Atmosphere Research. Ionospheric Research. Regular Propagation Services. Sun-Earth Relationships. VHF Research. Radio Warning Services. Airglow and Aurora. Radio Astronomy and Arctic Propagation.

**Radio Propagation Engineering.** Data Reduction Instrumentation. Modulation Research. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation Obstacles Engineering. Radio-Meteorology. Lower Atmosphere Physics.

**Radio Standards.** High Frequency Electrical Standards. Radio Broadcast Service. High Frequency Impedance Standards. Electronic Calibration Center. Microwave Physics. Microwave Circuit Standards.

**Radio Communication and Systems.** Low Frequency and Very Low Frequency Research. High Frequency and Very High Frequency Research. Ultra High Frequency and Super High Frequency Research. Modulation Research. Antenna Research. Navigation Systems. Systems Analysis. Field Operations.

