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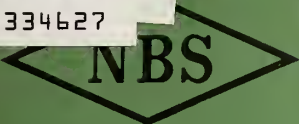
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# Technical Note

No.18-25

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## QUARTERLY RADIO NOISE DATA December, January, February 1964-65

W. Q. CRICLOW, R. T. DISNEY,  
AND M. A. JENKINS



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U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS

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\* Located at Boulder, Colorado 80301.

\*\* Located at 5285 Port Royal Road, Springfield, Virginia 22171.

# NATIONAL BUREAU OF STANDARDS

## *Technical Note 18-25*

ISSUED March 14, 1966

QUARTERLY RADIO NOISE DATA  
December, January, February 1964-65

W. Q. Crichlow, R. T. Disney, and M. A. Jenkins  
Institute for Telecommunication Sciences and Aeronomy\*  
Environmental Science Services Administration  
Boulder, Colorado

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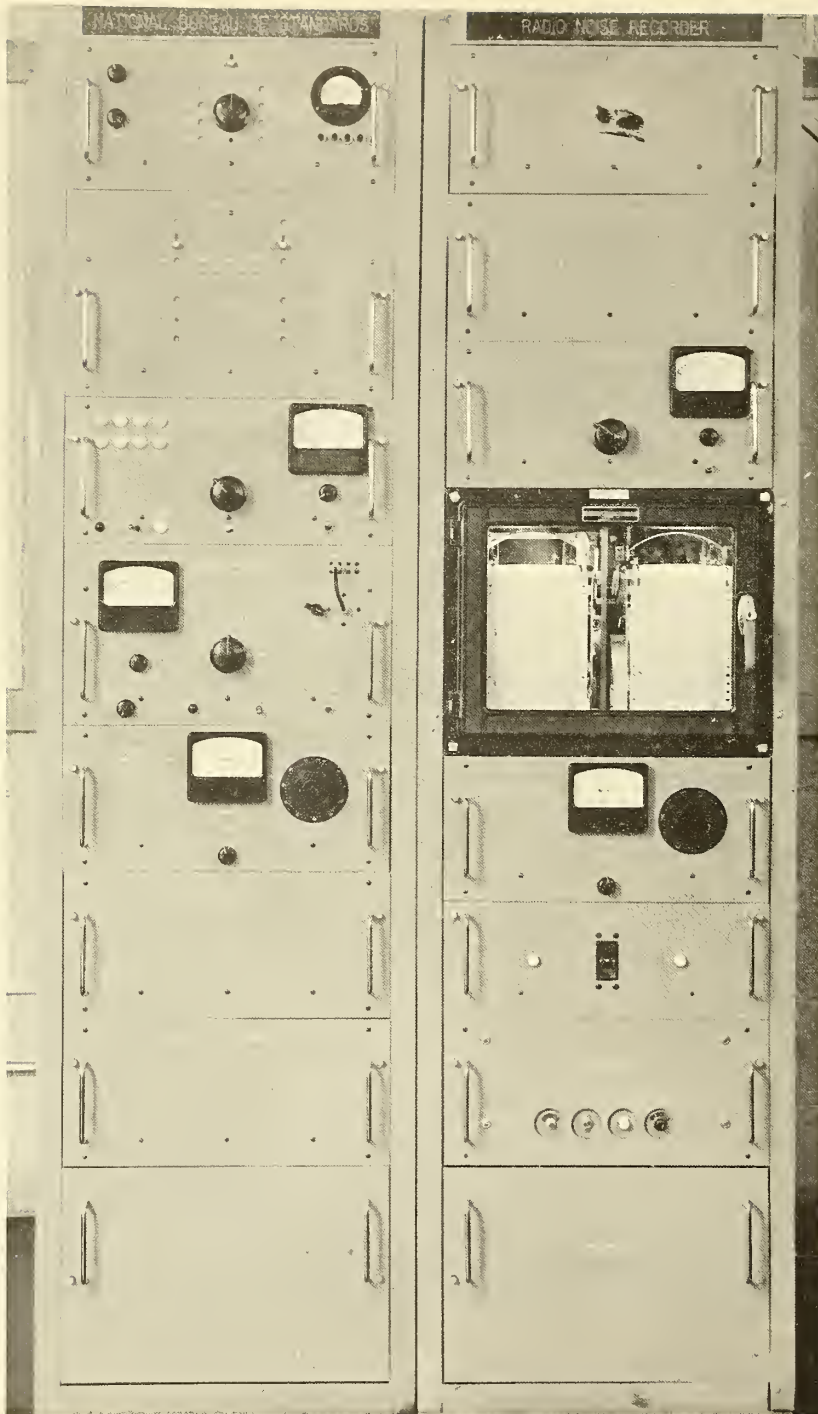
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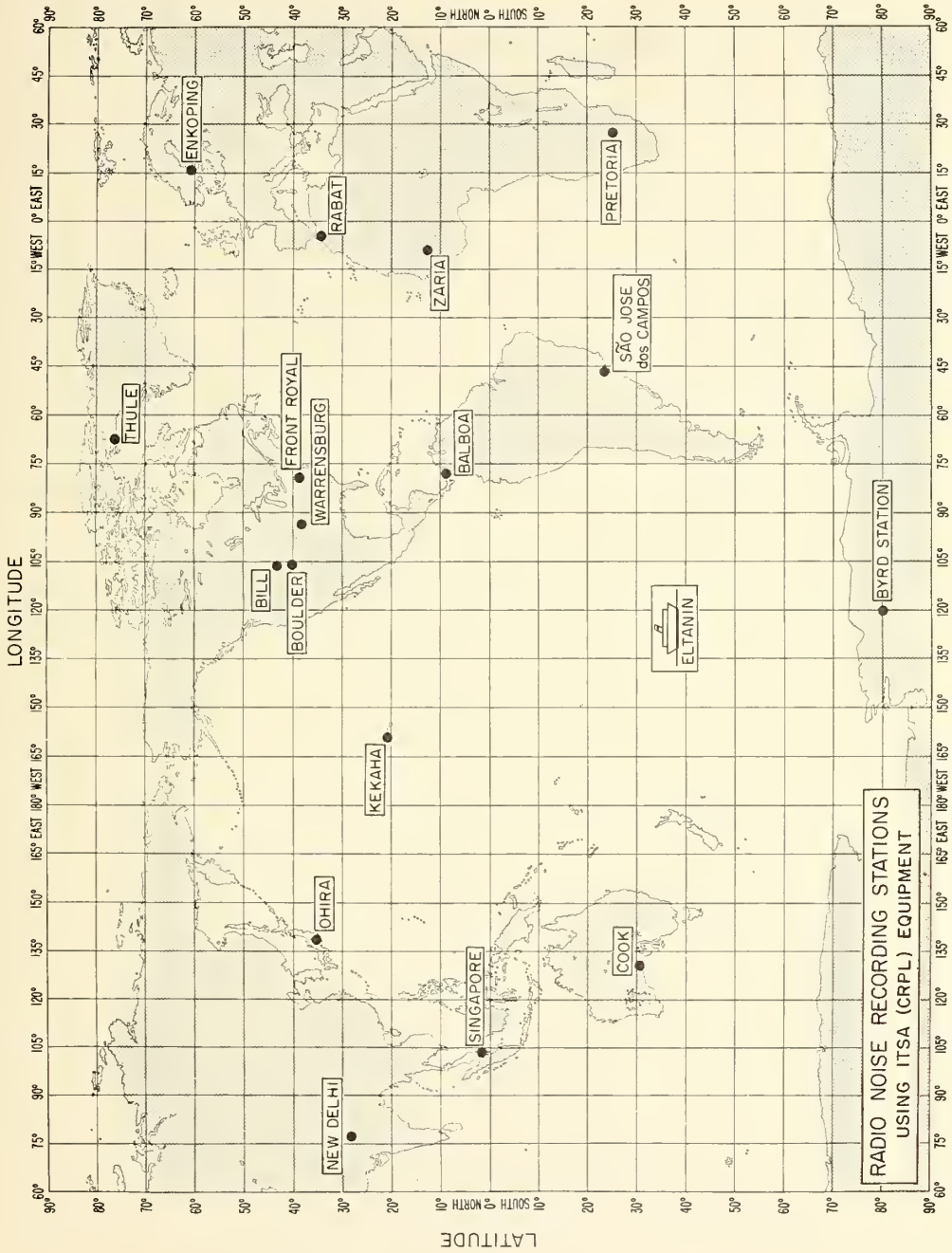




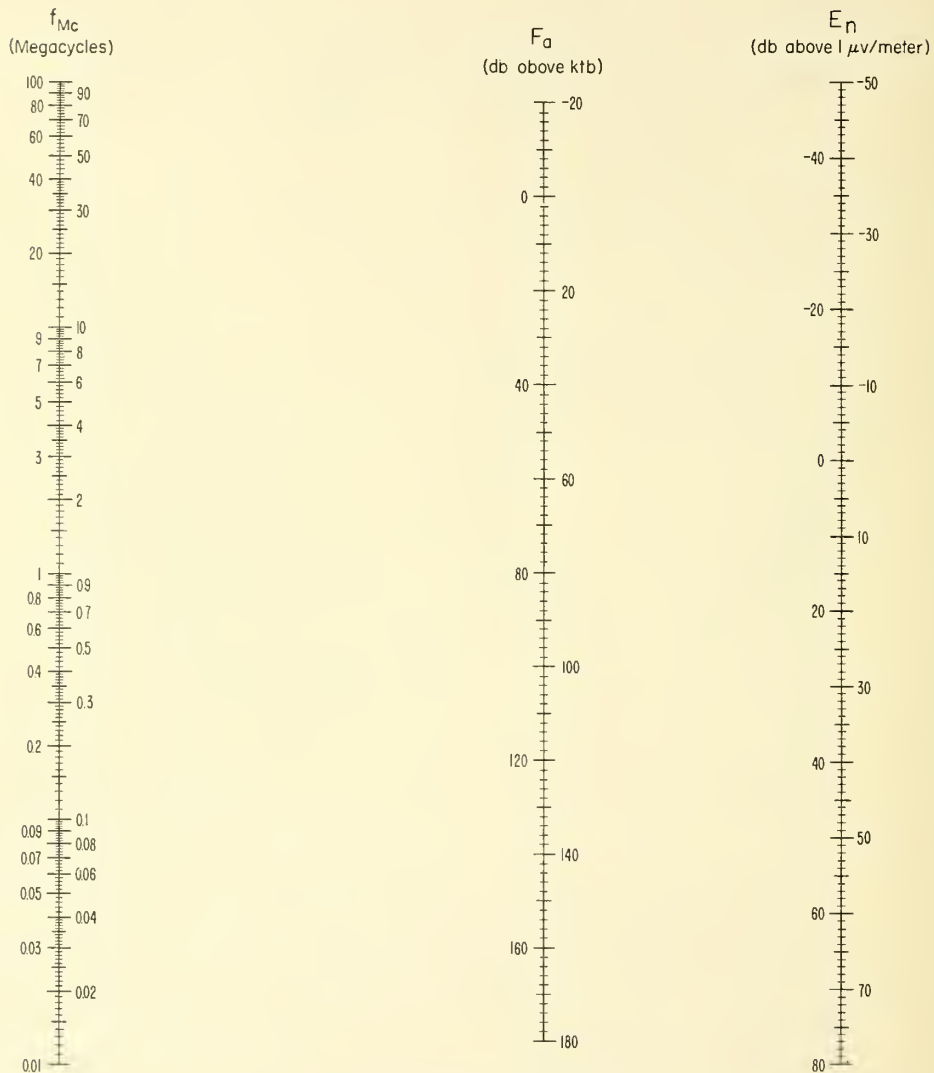
Radio Noise Recording Station



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  $1 \mu v/meter$  for a 1 kc Bandwidth.

$f_{Mc}$  = Frequency in Megacycles.



Quarterly Radio Noise Data  
December, January, February 1964-65

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

Radio noise measurements are being made at eighteen stations in a world-wide network operated in a co-operative program co-ordinated by the Environmental Science Services Administration. The locations of these stations are shown on the map. The results of these measurements for the months of December, January, and February are given in this report. Where the results for these months are not presently available, the data will be published in subsequent reports, and the data for previous months, which are now available but have not been published previously, are included. The tabulated values are based on three basic parameters of the noise; these are the mean power, the mean envelope voltage, and the mean logarithm of the envelope voltage.

The noise power received from sources external to the antenna averaged over a period of several minutes is the basic parameter and can be conveniently expressed in terms of an effective antenna noise factor,  $f_a$ , which is defined by:

$$f_a = p_n / k T_o b = T_a / T_o$$

where

$p_n$  = noise power available from an equivalent loss-free antenna (watts)

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

$T_o$  = reference temperature, taken as  $288^\circ$  K

$b$  = effective receiver noise bandwidth (Hz)

$T_a$  = effective antenna temperature in the presence of external noise.

The antenna noise factors in this report are for a short vertical antenna over a perfectly conducting ground plane and are expressed in decibels,  $F_a (= 10 \log_{10} f_a)$ . This parameter is simply related to the rms noise field strength along the antenna by:

$$E_n = F_a - 95.5 + 10 \log_{10} b + 20 \log_{10} f_{\text{MHz}}$$

where:

$E_n$  = rms noise field strength for bandwidth  $b$  in db above  
 $1 \mu\text{V/m}$

$b$  = effective receiver noise bandwidth in Hz

$f_{\text{MHz}}$  = frequency in MHz.

The value of  $E_n$  for a 1 kHz bandwidth can be found from the attached nomogram. It should be noted that  $E_n$  is the vertical component of the field at the antenna. It should also be noted that the rms envelope voltage is 3 db higher than the rms voltage.

The other two noise parameters tabulated are given relative to the mean power. Thus, the mean voltage and mean logarithm expressed as deviations,  $V_d$  and  $L_d$ , respectively, are in db below the mean power.

Measurements of the three parameters reported were made with the Environmental Science Services Administration's Radio Noise Recorder, Model ARN-2, which has an effective noise bandwidth of about 200 Hz and uses a standard 6.6294 meter (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 during which they were recorded. 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  $D_l$ , respectively.

In addition to these month-hour values, corresponding values are tabulated for the time blocks as defined by CCIR Report 322. All recorded values for the four hours of the day and the three-month period are used to determine the median and decile values. When no data were available for one or two months of the season, it is so indicated and should be noted when considering seasonal trends.

The values presented in the tables reflect the actual measured values of radio noise. The only editing for man-made noise or station contamination of the records has been done by the station operators, and no additional attempt has been made to identify these values by systematic statistical means. These preliminary data values are presented in order to expedite dissemination of the data, and additional analyses, in which an attempt is made to eliminate contaminated data, are presented in other publications. 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 [Crichlow et al., 1960b] 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 with a form factor described in the above reference 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 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). The data from the Floating Antarctic Research Vessel, USNS Eltanin, are grouped so that a block  $10^\circ$  in latitude by  $15^\circ$  in longitude is treated as a separate station. The station clock in this case is

corrected to the LST at the center of the block. Because of this grouping, very few readings may be used to obtain the median values tabulated in some cases. If, during the month, fewer than ten readings are obtained for any one block, the decile values are not given. If data for less than three months are used in the time block summaries, this fact is noted on the summary sheet. Because of the small sample size, some caution should be exercised when using these values.

The assistance of the station operators and other personnel of the operating agencies in obtaining the data contained in this report is gratefully acknowledged. Stations in the recording network were operated by the following agencies:

ESSA - Bill, Wyoming; Boulder, Colorado; Byrd Station;  
Front Royal, Virginia; Kekaha, Hawaii;  
Warrensburg, Missouri; USNS Eltanin

U.S. Army Strategic Communications Command - Balboa, C.Z.;  
Thule, Greenland

Postmaster General's Department (Australia) - Cook

Board of Telecommunications (Sweden) - Enköping

DSIR (Great Britain) and Ahmadu Bello University, Electrical  
Engineering Department, Zaria, Northern Nigeria

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

Radio Research Laboratories (Japan) - Ohira

Telecommunications Research Laboratory (South Africa) - Pretoria

Institut Scientifique Cherifien (Morocco) - Rabat

Comissão Nacional das Atividades Espaciais (Brazil) - São José  
dos Campos

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

The following publications contain additional information on radio noise:

- Clark, C., "Atmospheric Radio-Noise Studies Based on Amplitude-Probability Measurements at Slough, England, during the International Geophysical Year," Proc. Inst. Elec. Eng., Pt. B, 109, 47, 393 (September, 1962).
- Crichlow, W. Q., A. D. Spaulding, C. J. Roubique, and R. T. Disney, "Amplitude-Probability Distributions for Atmospheric Radio Noise," NBS Monograph 23 (November, 1960b).
- Crichlow, W. Q., C. J. Roubique, A. D. Spaulding, and W. M. Beery, (January-February, 1960) "Determination of the Amplitude-Probability Distribution of Atmospheric Radio Noise from Statistical Moments," J. Res. NBS 64D (Radio Propagation) No. 1, 49-56.
- Crichlow, W. Q., "Noise Investigation at VLF by the National Bureau of Standards," Proc. IRE, 45, 6 778 (1957).
- Crichlow, W. Q., 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.
- "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).
- "World Distribution and Characteristics of Atmospheric Radio Noise," C. C. I. R. Report No. 322, Xth Plenary Assembly, Geneva, 1963, (International Radio Consultative Committee, Secretariat, Geneva, Switzerland).
- Fulton, F. F. (Jr.) (May-June, 1961), "Effect of Receiver Bandwidth on the Amplitude Distribution of VLF Atmospheric Noise," J. Res. NBS 65D (Radio Propagation) No. 3, 299-304.
- Horner, F., "An Investigation of Atmospheric Radio Noise at Very Low Frequencies," Proc. Inst. Elec. Eng., Pt. B, 103, 743 (1956).

- Horner, F., "Radio Noise of Terrestrial Origin," Proc. of Commission IV on Radio Noise of Terrestrial Origin during the XIIIth General Assembly of URSI, " London, September, 1960.
- Spaulding, A. D., C. J. Roubique, and W. Q. Crichlow (November-December, 1962) "Conversion of the Amplitude-Probability Distribution Function for Atmospheric Radio Noise from One Bandwidth to Another," J. Res. NBS 66D (Radio Propagation) No. 6, 713-720.
- Obayashi, T. (January-February, 1960), "Measured Frequency Spectra of Very-Low-Frequency Atmospherics," J. Res. NBS 64D (Radio Propagation) No. 1, 41-48.
- Taylor, W. L. (September-October, 1963), "Radiation Field Characteristics of Lightning Discharges in the Band 1 kc/s to 100 kc/s," J. Res. NBS 67D (Radio Propagation) No. 5, 539-550.
- Taylor, W. L. and A. G. Jean (September-October, 1959), "Very-Low-Frequency Radiation Spectra of Lightning Discharges," J. Res. NBS 63D (Radio Propagation) No. 2, 199-204.
- URSI Special Report No. 7, "The Measurement of Characteristics of Terrestrial Radio Noise," Elsevier Publishing Co. (1962).
- Watt, A. D. and E. L. Maxwell, "Characteristics of Atmospheric Noise from 1 to 100 kc," Proc. IRE, 45, 6, 787 (1957).
- Watt, A. D. (September-October, 1960), "ELF Electric Fields from Thunderstorms," J. Res. NBS 64D (Radio Propagation) No. 5, 425-433.
- Watt, A. D. and E. L. Maxwell, "Measured Statistical Characteristics of VLF Atmospheric Radio Noise," Proc. IRE, 45, 1, 55 (1957).
- Watt, A. D., 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).

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

Station	Data			To Convert LST to GMT (hours)
Balboa	January, February	1965	75W	+05
Bill	December, January, February	1964-65	105W	+07
Boulder	December, January, February	1964-65	105W	+07
Cook	December, January, February	1964-65	135E	-09
Enköping	December, January, February	1964-65	15E	-01
Front Royal	December, January, February	1964-65	75W	+05
Kekaha	December, January, February	1964-65	150W	+10
New Delhi	December, January, February	1964-65	75E	-05
Ohira	December, January, February	1964-65	135E	-09
Pretoria	December, January, February	1964-65	30E	-02
São Jose	December, January, February	1964-65	45W	+03
Warrensburg	February	1965	90W	+06

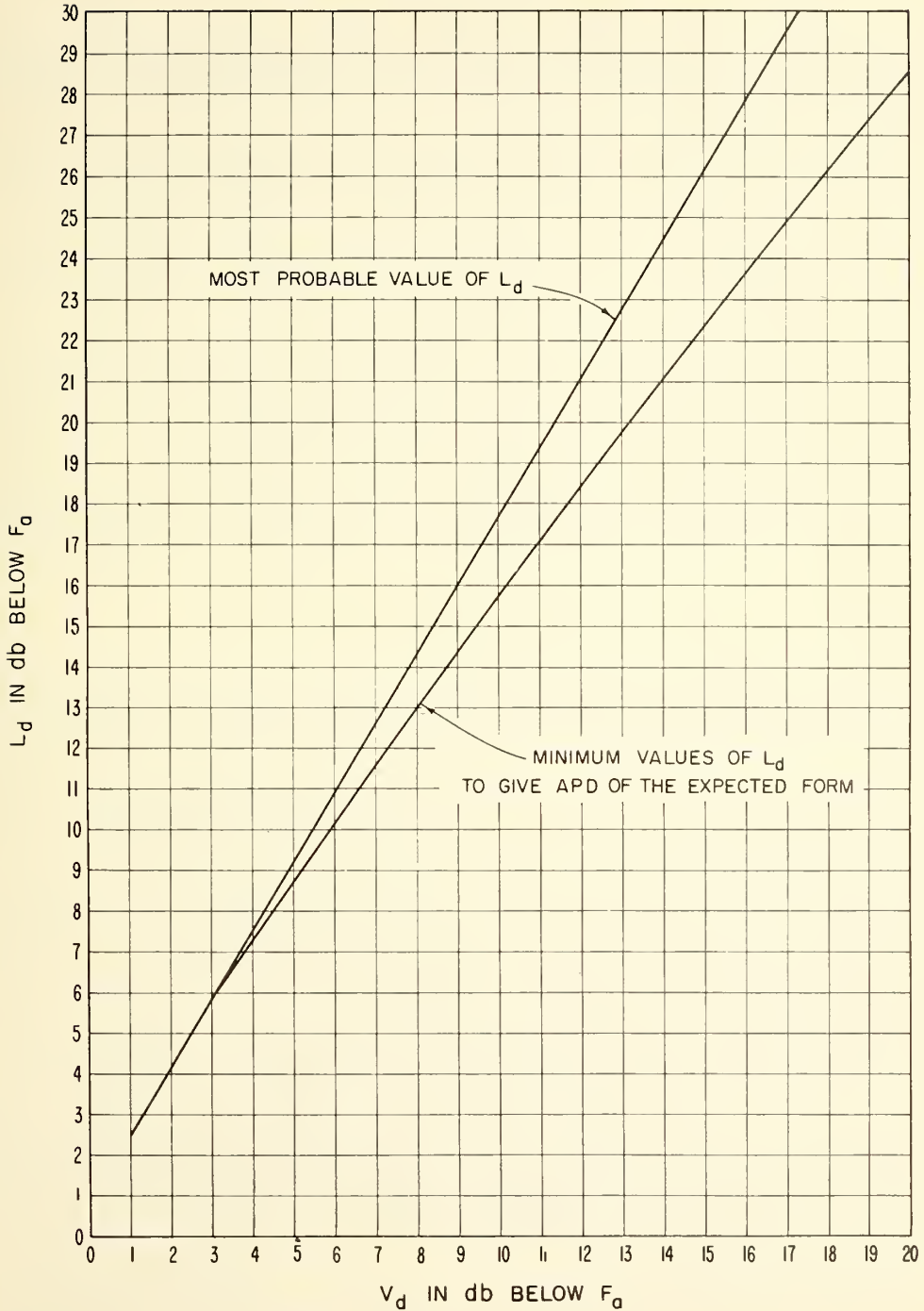
Previous data from the World-Wide Network have been published in the following technical note 18 series:

- 18-1 July 1, 1957-December 31, 1958
- 18-2 March, April, May 1959
- 18-3 June, July, August 1959
- 18-4 September, October, November 1959
- 18-5 December, January, February 1959-60
- 18-6 March, April, May 1960
- 18-7 June, July, August 1960
- 18-8 September, October, November 1960
- 18-9 December, January, February 1960-61
- 18-10 March, April, May 1961
- 18-11 June, July, August 1961
- 18-12 September, October, November 1961
- 18-13 December, January, February 1961-62
- 18-14 March, April, May 1962
- 18-15 June, July, August 1962
- 18-16 September, October, November 1962
- 18-17 December, January, February 1962-63
- 18-18 March, April, May 1963
- 18-19 June, July, August 1963
- 18-20 September, October, November 1963

- 18-21 December, January, February 1963-64
- 18-22 March, April, May 1964
- 18-23 June, July, August 1964
- 18-24 September, October, November 1964



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

































# MONTH-HOUR VALUES OF RADIO NOISE

STATION FRONT ROYAL, VA.

LAT. 38.8 N

LONG. 78.2 W

DECEMBER 1964

H R.	FREQUENCY (Mc)														
						.135					.5				
	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						109	8.6	6.1			85	9.0	4.5		
01						109	7.1	5.5			85	9.6	5.5		
02						108	8.1	5.1			84	9.1	6.1		
03						109	7.0	5.5			83	9.5	7.6		
04						106	8.0	4.5			81	9.0	8.1		
05						104	8.5	3.0			76	12.7	6.5		
06						104	7.5	6.0			72	15.7	6.0		
07						98	9.2	5.0			62	8.5	3.0		
08						93	5.0	2.5			56	5.0	2.0		
09						92	6.0	2.5			56	4.0	2.0		
10						93	5.6	4.0			56	4.6	3.0		
11						92	9.0	3.0			56	5.0	2.0		
12						91	8.1	2.0			57	4.5	2.5		
13						92	8.6	3.0			57	4.7	2.7		
14						92	11.1	3.5			57	4.6	2.0		
15						92	11.5	3.0			58	4.0	2.0		
16						89	12.7	2.0			61	7.6	4.0		
17						92	15.1	3.0			68	12.0	7.0		
18						101	12.2	7.0			73	14.6	4.5		
19						103	11.2	5.0			77	12.5	4.0		
20						106	9.1	4.0			81	10.6	4.0		
21						106	8.5	4.0			84	6.6	5.1		
22						107	9.1	4.5			84	8.6	3.5		
23						106	11.5	3.5			84	9.5	3.5		

H R.	FREQUENCY (Mc)																			
	2.5					5					10					20				
	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	59	8.1	6.5			54	9.6	4.0			33	2.5	2.0			22	1.0	1.0		
01	59	8.5	7.5			54	9.2	4.5			32	4.1	1.5			22	1.0	1.0		
02	59	8.6	8.0			55	8.2	5.0			33	2.6	1.6			22	0.5	1.0		
03	58	10.0	6.5			56	6.5	5.0			34	2.0	2.7			22	1.0	1.0		
04	59	8.6	6.5			54	8.0	3.5			33	4.7	1.0			23	1.0	1.0		
05	58	8.2	6.0			53	8.5	3.0			33	3.8	1.5			23	1.0	0.0		
06	54	11.6	3.5			51	8.5	2.0			34	3.1	2.0			24	0.5	1.0		
07	53	5.0	5.5			50	7.0	2.0			35	7.5	3.3			24	1.0	1.0		
08	40	7.5	5.5			43	4.2	2.5			36	4.8	2.0			25	1.0	1.5		
09	36	6.1	6.0			39	3.5	3.5			34	3.1	2.0			24	2.0	0.5		
10	36	4.1	6.5			37	3.0	5.1			33	3.0	2.0			24	2.0	1.0		
11	34	6.1	6.0			35	4.0	4.0			33	2.5	2.0			24	2.0	1.0		
12	33	5.5	4.0			32	4.0	4.5			33	2.7	2.0			24	2.0	1.0		
13	36	7.0	5.0			33	3.5	4.0			34	2.7	3.0			25	1.5	1.5		
14	36	7.0	5.5			34	5.0	4.1			35	3.0	1.8			25	1.0	1.5		
15	36	13.2	5.0			39	3.0	5.5			36	2.9	1.1			25	1.0	1.5		
16	42	9.2	5.1			48	5.0	4.0			39	5.9	1.9			25	1.0	1.0		
17	50	10.0	6.5			52	8.0	2.5			39	4.3	3.0			24	1.0	1.0		
18	53	10.0	6.0			53	10.5	3.0			37	3.0	2.0			24	1.0	1.0		
19	54	9.5	5.0			54	8.5	4.0			36	3.0	2.0			24	1.0	1.0		
20	58	8.5	6.0			55	7.1	4.5			33	3.0	2.0			22	2.0	1.0		
21	59	7.6	7.0			55	6.0	5.0			33	2.0	2.0			22	1.5	1.0		
22	59	7.5	8.1			55	7.0	5.0			33	2.0	2.0			22	1.0	1.0		
23	59	8.1	8.5			54	10.0	3.0			33	2.0	2.0			22	1.0	1.0		

 \* Fewer than 15 days data on power measurements and no computations made for D<sub>u</sub> and D<sub>l</sub>.

\*\* Fewer than 7 days data on voltage and logarithmic measurements.

 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 FRONT ROYAL, VA.

LAT. 38.8 N

LONG. 78.2 W

JANUARY 1965

H R.	FREQUENCY (Mc)																				
											.135					.5					
	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00											106	4.6	7.0			84	6.0	6.1			
01											106	6.9	7.0			84	7.6	6.0			
02											106	6.2	6.6			84	8.1	6.1			
03											105	7.9	5.0			82	12.0	6.0			
04											105	8.9	6.6			78	13.5	5.6			
05											104	7.9	6.3			76	14.0	8.1			
06											103	7.5	6.5			73	17.5	9.5			
07											98	5.3	4.6			63	7.1	5.5			
08											90	2.7	2.0			57	4.0	5.0			
09											89	4.0	3.7			56	5.5	3.7			
10											88	8.7	2.7			56	4.7	4.0			
11											88	5.7	3.0			56	3.0	3.7			
12											87	6.3	2.0			55	3.5	2.5			
13											87	7.1	2.5			55	3.5	2.5			
14											89	9.6	3.0			56	3.1	3.5			
15											88	6.8	2.5			56	3.1	3.1			
16											90	7.0	2.0			59	2.0	3.7			
17											93	9.7	5.0			62	9.5	2.0			
18											97	9.8	6.1			72	10.5	5.0			
19											102	8.6	8.0			77	10.5	5.5			
20											104	6.6	8.6			82	8.5	6.0			
21											104	6.5	8.1			83	8.0	5.0			
22											104	8.8	7.8			84	6.0	5.0			
23											106	6.9	5.0			84	6.5	5.0			

H R.	FREQUENCY (Mc)																				
	2.5					5					10					20					
S T.	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	
00	68	7.0	7.6			53	5.0	4.5			33	2.5	2.5			22	1.5	1.0			
01	68	7.0	7.0			54	4.0	5.0			32	4.1	1.0			22	1.5	1.0			
02	67	6.6	6.3			54	5.0	4.5			33	3.1	2.0			22	1.5	1.0			
03	66	7.0	5.9			53	6.5	4.0			33	2.0	2.0			22	1.5	1.0			
04	66	7.5	5.1			53	6.5	3.0			33	4.6	1.0			23	1.5	0.0			
05	67	5.6	7.0			53	6.0	3.5			33	4.6	2.0			23	1.5	0.0			
06	61	5.0	5.0			52	7.0	3.0			34	4.5	2.5			24	1.5	1.0			
07	56	5.3	4.0			51	5.5	3.0			36	3.0	3.0			24	1.5	1.0			
08	42	6.2	3.7			41	5.3	1.0			38*	6.0	1.0			24	1.6	1.0			
09	39	5.9	4.6			38	4.6	2.6			37	4.9	2.0			24	3.7	1.0			
10	35	6.1	4.1			35	3.6	2.6			36	4.1	1.5			24	4.7	1.0			
11	33	6.3	3.0			33	3.1	3.1			35	6.0	1.0			24	4.0	1.0			
12	32	8.1	3.0			32	4.5	2.0			35	4.6	1.0			24	2.0	1.0			
13	33	5.5	3.0			34	3.5	4.0			36	3.6	2.0			24	2.0	1.0			
14	36	8.3	6.0			36	3.0	4.0			37	4.7	2.7			24	1.0	1.0			
15	38	6.5	5.0			37	4.0	1.5			39	7.2	3.0			24	1.0	1.0			
16	46	6.1	3.5			46	5.1	3.0			40	4.5	3.5			24	1.0	1.0			
17	57	5.5	6.5			52	5.5	4.0			40	6.3	3.6			24	1.0	1.5			
18	63	6.6	7.0			54	5.5	5.0			38	4.0	3.5			23	1.0	1.0			
19	66	5.0	7.6			54	7.6	4.5			36	5.0	2.5			23	1.0	1.0			
20	68	4.0	7.6			54	6.5	4.5			33	3.0	2.0			22	1.0	1.0			
21	69	4.0	8.6			54	4.5	4.5			33	1.5	2.0			22	1.0	1.0			
22	68	5.6	7.6			53	5.5	3.5			33	2.0	2.0			22	1.0	1.0			
23	68	6.0	7.6			53	5.0	4.0			32	3.0	1.0			22	1.0	1.0			

 \* Fewer than 15 days data on power measurements and no computations made for D<sub>u</sub> and D<sub>l</sub>.

\* Fewer than 7 days data on voltage and logarithmic measurements.

 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

STATION FRONT ROYAL, VA.

LAT. 38.8 N

LONG. 78.2 W

FEBRUARY 1965

TIME M-H	FREQUENCY (Mc)																			
											.135				.5					
	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											105	9.8	5.0			83	8.5	5.3		
01											104	10.5	5.5			84	8.1	6.8		
02											105	8.1	8.0			82	8.5	6.5		
03											104	8.6	7.1			79	10.0	4.0		
04											102	6.1	8.3			79	8.6	6.8		
05											100	6.5	4.5			77	9.0	8.8		
06											99	9.1	5.2			68	14.9	5.0		
07											92	8.4	2.3			62	5.1	2.0		
08											90	4.9	2.5			59	2.0	3.8		
09											90	3.8	2.9			58	4.0	3.0		
10											90	2.6	2.5			58	4.0	2.8		
11											91	3.9	3.0			59	3.8	4.0		
12											91	5.2	3.0			59	3.9	2.1		
13											90	5.5	1.0			59	4.3	3.6		
14											90	8.1	2.8			59	3.8	2.9		
15											90	9.2	3.0			59	3.8	3.6		
16											90	7.1	1.5			62	3.0	3.8		
17											91	9.7	1.8			63	5.9	2.8		
18											95	9.9	4.1			72	9.2	4.0		
19											99	11.7	4.8			78	10.9	3.0		
20											101	12.7	3.8			81	10.1	4.5		
21											103	10.1	5.0			83	11.3	5.3		
22											105	7.8	6.1			84	10.8	4.0		
23											105	8.6	6.3			84	11.4	5.0		

TIME M-H	FREQUENCY (Mc)																			
	2.5					5					10				20					
	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	71	10.9	10.0			57	6.1	5.0			35	1.0	1.0			24	1.0	1.1		
01	69	12.6	9.4			57	6.6	5.0			35	2.1	1.0			24	1.0	1.1		
02	70	12.3	9.1			56	3.8	3.1			35	3.8	1.0			24	1.0	1.0		
03	72	10.1	12.0			55	5.8	3.9			35	3.0	1.0			24	1.0	1.0		
04	70	10.4	11.6			55	5.8	2.9			33	2.9	0.9			25				
05	71	6.0	12.0			54	5.1	4.3			34	2.0	1.2			25	0.8	1.8		
06	61	8.3	4.9			53	7.6	3.9			33	2.0	1.0			25	1.0	1.0		
07	53	5.5	3.8			52	5.0	5.0			35	4.0	3.0			25	0.8	1.0		
08	43	5.4	5.9			43	2.1	3.8			40	3.3	3.0			25	1.0	2.0		
09	41	4.1	5.3			40	3.0	3.8			39	2.1	2.0			25	0.1	1.9		
10	37	5.1	5.9			36	3.3	2.5			38	2.1	2.0			24	1.9	0.9		
11	36	4.1	4.9			35	2.9	2.0			37	3.0	1.0			25	1.0	1.0		
12	33	3.0	3.1			32	3.6	2.8			37	3.0	1.0			27	2.6	1.0		
13	33	3.1	2.9			33	2.8	2.8			37	4.5	1.5			27	1.5	1.0		
14	34	4.1	3.8			34	4.0	2.0			38	4.6	1.6			27	1.5	1.0		
15	37	3.9	5.9			37	3.8	3.8			40	5.5	1.6			27	1.5	1.0		
16	44	4.1	4.2			45	4.9	3.0			42	4.3	2.1			24	1.9	0.5		
17	51	4.8	5.0			53	5.8	3.8			44	3.1	3.1			24	2.3	1.0		
18	64	6.0	5.9			57	6.1	3.8			43	6.0	3.3			24	0.9	2.0		
19	69	5.1	7.0			57	7.9	4.1			41	8.1	4.0			23	1.9	1.0		
20	70	8.0	8.0			57	9.1	5.0			36	2.0	2.0			23	1.0	1.0		
21	70	7.3	9.0			58	10.5	5.0			35	2.0	1.0			23	1.8	1.0		
22	69	10.0	8.1			57	9.7	4.1			35	2.8	1.0			24	1.0	1.8		
23	72	8.1	10.3			57	7.3	5.0			36	1.8	2.0			24	0.8	1.8		

 \* Fewer than 15 days data on power measurements and no computations made for D<sub>u</sub> and D<sub>l</sub>.

\* Fewer than 7 days data on voltage and logarithmic measurements.

 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 at 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. AFR.

LAT. 25.8 S

LONG. 28.3 E

DECEMBER 1964

H R T Y P	FREQUENCY (Mc)																			
	.013					.051					.160					.495				
	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	*163					*139					*115					*100				
01	*162					*137					*113					*98				
02	*162					*137					*114					*98				
03	*163					*137					*114					*96				
04	*161					*135					*110					*90				
05	*159					*130					*98					*65				
06	*158					*129					*94					*69				
07	*157					*127					*94					*61				
08	*159					*126					*95					*63				
09	*161					*129					*96					*62				
10	*158					*128					*98					*70				
11	*159					*133					*110					*86				
12	*165					*140					*116					*96				
13	*169					*143					*120					*100				
14	*171					*145					*124					*104				
15	*171					*147					*122					*102				
16	*171					*145					*124					*104				
17	*171					*145					*126					*106				
18	*169					*142					*122					*98				
19	*165					*143					*122					*104				
20	*169					*147					*124					*103				
21	*167					*144					*122					*104				
22	*167					*143					*120					*102				
23	*165					*140					*116					*102				

H R T Y P	FREQUENCY (Mc)																			
	2.5					5					10					20				
	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	*76					*67					*45					*26				
01	*76					*67					*47					*25				
02	*66					*65					*46					*25				
03	*70					*65					*44					*25				
04	*75					*66					*40					*26				
05	*70					*70					*46					*25				
06	*68					*57					*44					*27				
07	*62					*60					*42					*27				
08	*50					*46					*36					*25				
09	*46					*46					*37					*27				
10	*48					*44					*40					*27				
11	*50					*46					*43					*29				
12	*51					*50					*44					*32				
13	*58					*54					*48					*33				
14	*67					*56					*50					*34				
15	*64					*58					*53					*33				
16	*72					*62					*54					*35				
17	*73					*66					*56					*33				
18	*73					*72					*57					*32				
19	*76					*72					*56					*30				
20	*79					*74					*56					*32				
21	*82					*72					*54					*29				
22	*80					*70					*53					*27				
23	*78					*72					*44					*27				

\* Fewer than 15 days data on power measurements and no computations made for D<sub>u</sub> and D<sub>l</sub>.

\* Fewer than 7 days data on voltage and logarithmic measurements.

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 PRETRDRIA, S. AFR.

LAT. 25.8 S

LONG. 28.3 E

FEBRUARY 1965

H. R. S. T.	FREQUENCY (Mc)																			
	.013					.051					.160					.495				
	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>
00	*158					*138					*120					*100				
01	*157					*138					*116					*98				
02	*156					*136					*116					*98				
03	*156					*136					*114					*96				
04	*155					*132					*112					*94				
05	*155					*130					*104					*78				
06	*153					*126					*90					*60				
07	*151					*122					*94					*60				
08	*152					*124					*91					*60				
09	*150					*122					*93					*60				
10	*152					*118					*88					*60				
11	*151					*124					*90					*60				
12	*154					*130					*100					*68				
13	*158					*136					*112					*88				
14	*162					*142					*122					*97				
15	*165					*142					*118					*98				
16	*164					*140					*120					*101				
17	*165					*138					*120					*98				
18	*165					*138					*118					*96				
19	*163					*138					*118					*100				
20	*160					*140					*120					*104				
21	*160					*138					*120					*104				
22	*159					*138					*118					*102				
23	*160					*138					*120					*103				

H. R. S. T.	FREQUENCY (Mc)																			
	2.5					5					10					20				
	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>ℓ</sub>	V <sub>dm</sub>	L <sub>dm</sub>
00	69	8.1	6.0			55	10.1	4.0			42	4.2	6.1			21	7.4	4.0		
01	68	8.7	6.6			57	3.9	6.4			42	2.1	5.6			21	2.1	3.7		
02	69	6.2	6.1			56	3.0	6.8			38	7.8	5.7			21	5.6	5.6		
03	69	6.1	8.1			55	5.9	6.0			36	6.1	5.6			21	3.7	2.0		
04	69	5.6	7.6			55	5.7	6.3			33	8.7	3.1			20	3.2	3.0		
05	67	5.7	6.1			55	3.9	9.6			34	5.7	4.0			19	5.7	2.0		
06	55	9.7	5.7			51	6.4	10.1			39	3.1	4.6			19	5.6	2.0		
07	45	10.4	4.1			42	9.3	9.0			37	5.2	3.2			20	3.4	3.0		
08	43	10.0	4.9			37	13.0	8.0			35	10.8	5.9			21	5.9	3.6		
09	39	7.5	4.3			33	15.5	8.0			30	8.9	6.0			21	6.5	2.0		
10	41	2.3	6.0			29	8.9	4.5			30	8.5	8.5			23	8.0	4.5		
11	41	8.0	2.3			29	13.8	4.0			30	10.8	6.0			27	12.3	6.3		
12	43	8.6	4.0			29	14.3	2.2			34	8.0	6.2			35	10.0	12.3		
13	47	20.3	6.1			37	16.9	10.0			38	6.3	4.0			27	10.0	4.0		
14	57	25.6	17.9			47	21.7	13.9			42	10.0	16.8			29	11.1	4.3		
15	61	27.3	18.0			50	20.4	15.0			45	14.4	7.5			31	14.0	6.2		
16	65	22.0	19.9			55	19.2	15.7			48	10.3	5.7			31	11.7	7.7		
17	69	11.9	16.0			57	6.3	13.6			48	6.1	4.0			31	7.7	6.0		
18	71	6.1	9.7			57	8.0	8.3			48	4.2	3.9			27	8.1	4.2		
19	73	10.0	4.3			60	8.0	8.0			48	6.1	3.9			25	5.1	4.3		
20	73	6.3	6.0			59	8.6	8.3			46	10.6	2.3			21	16.6	4.0		
21	71	6.3	4.1			58	13.2	7.1			44	15.6	4.0			21	29.0	4.0		
22	70	10.4	5.0			57	17.2	5.7			44	16.2	4.1			21	18.3	4.0		
23	69	9.7	4.1			55	7.7	3.6			42	5.7	6.0			21	7.6	3.7		

 \* Fewer than 15 days data on power measurements and no computations made for D<sub>u</sub> and D<sub>ℓ</sub>.

\* Fewer than 7 days data on voltage and logarithmic measurements.

 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.











# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

BALBOA, CANAL ZONE    LAT. 9.0 N    LONG. 79.5 W    WINTER (\*\*\*, JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	153	4.0	4.0	12.3	14.0	153	4.1	4.0	13.0	16.0	151	4.0	4.0	10.5	12.8
.051	134	6.0	10.0	12.0	14.0	132	6.7	14.0	12.5	15.0	118	12.0	12.0	11.0	13.5
.160	114	6.0	8.0	10.5	13.5	110	10.0	20.0	12.8	16.0	90	22.0	16.9	9.5	11.0
.495	95	4.0	8.0	10.0	12.0	88	11.0	15.0	11.5	14.0	73	16.0	6.0	6.5	9.5
2.5	64	7.0	14.0	10.5	13.5	55	16.0	17.0	9.5	13.8	33	10.9	8.4	4.0	5.0
5	53	8.0	12.0	7.0	9.0	55	10.0	14.0	8.5	10.0	39	8.0	8.0	6.0	11.5
10	35	5.0	8.0	7.0	8.0	34	10.0	6.0	6.8	8.0	33	12.7	10.0	3.0	5.5
20	22	4.0	2.0	4.8	5.0	23	4.0	3.0	5.5	6.5	23	4.0	2.0	2.5	3.5

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	155	4.0	4.0	9.5	12.0	153	6.0	4.0	11.5	13.5	153	4.6	5.3	12.0	16.0
.051	126	8.0	14.0	9.5	11.3	128	8.0	10.0	11.0	14.0	132	6.0	10.0	11.5	15.0
.160	94	12.0	14.0	9.8	12.3	106	10.0	14.0	9.5	12.0	112	8.0	6.0	9.5	12.5
.495	73	10.0	6.0	5.5	5.5	87	8.0	14.0	8.0	10.0	93	6.0	6.0	8.8	11.0
2.5	31	12.9	8.0	2.8	4.5	49	16.1	14.1	7.0	10.5	62	7.0	13.0	7.0	9.8
5	37	10.0	8.0	3.5	4.0	53	16.0	12.0	5.3	8.8	59	7.7	20.0	7.0	8.8
10	31	7.3	7.3	4.5	6.5	39	13.0	7.0	5.0	6.5	34	5.7	5.5	5.0	7.0
20	23	6.0	2.0	2.5	3.5	23	5.0	2.0	4.0	5.0	22	2.9	2.0	4.0	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.

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

HILL, WYOMING

LAT. 43.2 N

LONG. 105.2 W

WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (MC)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	4.0	4.0	9.0	14.5	154	4.0	4.0	10.0	15.5	150	6.0	4.9	9.5	15.0
.051	130	4.5	5.0	3.0	7.0	129	5.0	6.6	2.8	7.0	119	7.0	9.0	2.5	6.5
.160	99	12.0	8.0	7.5	13.0	89	14.0	12.0	6.5	11.5	71	13.4	6.0	3.0	4.5
.495	82	10.0	8.0	6.5	11.5	68	14.0	14.0	5.0	9.0	54	10.0	4.0	2.0	4.0
2.5	55	8.0	6.0	4.0	7.0	51	8.0	6.0	3.5	6.5	27	10.0	6.0	2.0	3.5
5	52	6.0	4.0	4.0	7.5	50	6.0	4.0	4.0	7.0	32	10.0	6.0	2.0	3.5
10	33	9.0	3.0	2.0	4.0	36	6.0	5.0	2.5	5.0	36	5.3	4.0	2.5	4.5
20	26			1.0	2.5	26	1.0	1.0	1.0	2.0	27	2.0	1.0	1.5	3.0

FREQ. (MC)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	150	6.0	4.0	10.3	15.5	150	6.0	6.0	11.5	17.0	152	6.0	4.0	10.5	16.0
.051	119	8.0	9.0	3.0	7.0	124	8.0	6.0	3.0	7.0	128	6.0	3.0	3.0	7.5
.160	71	15.5	6.5	3.0	4.5	91	16.0	13.0	7.0	11.5	98	14.0	9.0	7.5	13.0
.495	54	12.0	4.0	2.0	4.0	74	15.1	15.1	4.5	8.5	82	12.0	6.0	5.5	10.5
2.5	25	8.1	4.0	2.0	3.5	49	10.1	14.0	3.0	5.0	55	8.0	4.0	4.0	7.0
5	30	11.0	4.0	2.0	3.0	51	6.0	7.0	3.0	6.0	54	5.0	5.0	3.5	7.0
10	37	6.0	5.0	3.0	5.5	36	10.0	6.0	2.5	4.5	32	6.0	3.0	1.5	3.0
20	27	3.0	2.0	2.0	3.0	25	1.0	1.0	1.0	2.0	25	1.0	1.0	1.0	2.5

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>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

BOULDER, COLORADO    LAT. 40.1 N    LONG. 105.1 W    WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	6.0	5.7	10.5	16.0	153	6.0	5.0	12.0	18.0	149	8.0	5.4	11.5	16.5
.051	136	6.6	6.0	4.5	9.5	134	6.0	7.0	3.5	8.3	127	7.0	10.0	3.5	8.0
.160	98	15.0	7.1	7.0	13.0	88	15.5	9.0	8.3	12.5	81	8.0	6.0	6.5	13.0
.495	82	11.0	8.0	7.5	14.0	69	15.1	7.0	5.5	9.5	63	6.0	4.0	3.0	6.0
2.5	55	8.0	4.0	4.0	6.5	52	8.6	6.0	3.5	6.0	43	4.0	4.0	2.5	4.0
5	54	6.0	5.1	4.8	8.0	52	7.0	8.0	4.0	6.5	39	6.0	7.0	2.5	4.5
10	35	8.0	7.0	2.8	4.5	37	7.0	7.0	2.3	4.0	36	7.0	7.7	3.0	4.8
20	23	2.0	2.0	1.5	2.5	23	2.0	1.0	1.8	3.0	25	3.0	2.0	2.0	3.5

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	150	6.5	6.0	12.0	17.0	151	6.0	8.9	13.0	19.0	152	7.4	6.0	12.5	18.0
.051	125	9.0	11.2	3.8	8.8	131	5.0	7.0	4.0	8.5	135	5.0	7.4	4.5	9.0
.160	81	9.0	4.0	8.5	12.0	92	15.0	11.0	8.8	13.8	99	12.0	9.0	8.5	14.0
.495	64	5.0	4.0	2.5	5.0	75	15.0	11.0	5.0	10.0	82	13.0	8.0	6.0	11.5
2.5	43	4.0	3.0	2.0	3.5	51	10.0	7.0	3.0	5.0	55	10.0	4.0	3.5	6.0
5	39	6.0	5.0	2.5	4.5	54	6.0	7.2	4.0	7.0	56	7.0	5.2	4.0	6.5
10	37	5.0	8.0	2.5	4.5	35	11.0	6.0	3.0	4.5	32	6.2	7.2	2.0	3.5
20	25	3.0	2.0	2.0	3.0	23	2.0	2.0	2.0	3.0	23	1.0	2.0	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>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

COOK, AUSTRALIA

LAT. 30.6 S

LONG. 130.4 E

SUMMER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	158	5.0	3.9	9.5	15.5	156	4.0	4.0	10.5	17.0	154	5.7	4.0	13.0	20.0
.051	135	4.0	4.0	9.5	16.0	127	8.0	8.0	10.5	17.5	121	8.0	4.0	11.5	20.0
.160	111	6.0	6.0	7.3	13.5	93	18.0	16.0	8.5	15.5	85	10.0	8.0	9.5	16.5
.495	91	7.0	7.0	6.5	12.5	62	27.9	18.0	6.3	13.0	47	18.6	8.7	4.0	7.0
2.5	65	6.0	6.9	5.5	10.0	54	11.5	20.5	7.0	12.8	22	11.0	3.0	6.5	9.0
5	58	5.0	4.0	4.5	8.0	53	7.0	18.0	6.0	9.5	24	11.0	7.0	8.0	11.5
10	42	5.0	4.0	5.5	8.5	37	5.1	4.0	5.0	7.5	28	5.0	3.0	4.0	5.5
20	22	0.0	2.0	2.5	3.5	22	1.0	0.0	2.5	4.0	22	2.0	0.0	2.8	4.3

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	5.0	7.0	10.0	16.5	160	4.0	6.0	7.5	13.0	160	4.0	6.0	10.0	16.0
.051	129	6.0	8.0	7.5	14.0	131	6.0	8.0	6.5	11.0	136	5.0	5.0	8.0	14.5
.160	93	8.0	10.0	6.0	11.0	101	14.0	10.0	6.0	10.5	113	6.0	6.0	6.0	11.5
.495	47	16.1	7.0	4.3	7.0	70	19.0	22.1	5.0	8.8	93	6.1	7.0	6.0	12.0
2.5	20	7.4	1.5	6.0	9.0	49	16.1	23.0	4.0	7.5	67	6.0	6.0	5.0	9.0
5	28	10.0	11.0	5.0	8.0	51	9.0	13.0	4.5	7.5	59	4.0	5.0	4.5	8.0
10	32	7.0	7.0	4.0	6.5	45	4.0	4.0	4.5	7.0	47	18.0	5.0	5.5	9.0
20	24	6.0	2.0	3.0	5.0	26	6.0	4.0	3.5	5.3	22	2.0	2.0	2.5	3.5

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>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

ENKOPING, SWEDEN      LAT. 59.5 N      LONG. 17.3 E      WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (MC)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	149	3.0	3.0	11.0	16.5	149	3.0	4.0	12.0	18.5	143	6.5	4.5	12.0	18.5
.051	117	4.0	4.0	9.0	14.0	115	4.0	6.0	11.0	16.5	101	8.0	8.0	10.5	15.0
.160	103	6.0	8.0	5.0	9.0	104	9.0	8.0	4.5	9.0	92	6.9	9.1	5.0	9.0
.495	99	6.0	8.0	2.5	2.5	85	12.0	20.0	1.5	2.0	65	12.2	8.2	2.0	2.5
2.5	56	6.2	4.0	5.0	8.0	54	6.0	4.0	5.0	8.0	43	9.0	8.0	5.0	8.0
5	54	10.0	6.0	4.5	7.5	52	8.3	6.0	5.8	9.0	42	13.0	10.0	4.0	6.0
10	34	5.0	3.0	2.5	4.0	33	4.0	2.0	2.0	3.5	46	4.0	6.0	9.3	12.3
20	20	2.0	2.0	1.0	3.0	22	-0.0	4.0	1.0	2.5	22	6.0	4.0	2.3	4.0

FREQ. (MC)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	144	3.0	4.0	9.0	14.0	146	4.0	4.0	7.5	12.3	149	3.0	3.0	8.0	13.0
.051	97	10.0	6.0	10.0	13.5	111	6.0	10.0	8.5	13.0	115	6.0	4.0	8.0	12.5
.160	91	7.0	11.1	5.0	8.3	97	8.3	8.0	4.5	8.3	101	8.0	6.0	5.3	9.3
.495	71	16.0	14.0	1.5	2.0	90	9.0	23.0	2.5	4.0	99	6.0	6.0	2.0	2.0
2.5	41	8.2	6.0	4.0	6.5	51	9.0	7.0	4.0	7.0	55	6.0	4.0	4.5	8.0
5	37	25.3	7.0	3.5	5.5	57	8.5	9.5	7.0	10.0	55	9.0	6.0	5.5	8.0
10	44	6.0	5.0	7.0	9.5	37	9.0	6.0	3.0	5.0	33	5.0	2.0	2.0	3.8
20	22	2.0	4.0	1.5	3.5	20	2.0	2.0	1.0	2.5	20	2.0	2.0	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>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

FRONT ROYAL, VA.      LAT. 38.8 N      LONG. 78.2 W      WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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>
.135	106	8.9	6.0			102	8.0	8.0			91	5.0	4.0		
.5	84	8.0	7.0			73	13.0	12.0			57	4.0	4.0		
2.5	65	11.1	10.0			60	12.0	8.0			37	8.0	6.0		
5	55	6.0	5.0			53	6.0	4.0			38	5.0	5.0		
10	34	3.0	3.0			34	4.0	2.0			37	4.0	4.0		
20	22	2.0	1.0			24	1.0	1.0			24	2.0	1.0		

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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>
.135	90	8.9	3.1			95	12.0	6.0			105	9.0	6.0		
.5	58	4.0	4.0			70	13.0	10.1			83	8.0	5.0		
2.5	35	5.9	5.0			54	14.0	11.0			65	10.0	11.0		
5	34	5.0	3.6			53	7.0	7.7			55	8.0	5.0		
10	37	4.0	4.0			40	5.0	5.0			34	2.0	3.0		
20	25	2.0	2.0			24	1.0	1.0			22	2.0	1.0		

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



# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

KEKAHA, HAWAII

LAT. 22.0 N

LONG. 159.7 W

WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	153	6.0	3.0	10.0	16.0	154	5.0	3.0	10.5	17.0	150	5.0	3.1	11.5	18.0
.051	130	8.1	4.0	11.0	17.0	130	8.0	8.0	12.0	19.0	115	17.0	13.0	12.3	18.0
.160	108	13.0	6.0	10.0	16.5	105	16.0	13.0	11.0	18.5	82	29.9	14.0	12.0	21.0
.495	88	16.0	8.0	9.5	17.5	82	20.0	20.0	10.5	19.0	58	34.0	6.0	6.5	10.5
2.5	63	12.0	6.0	7.0	11.0	61	11.5	6.5	6.8	11.0	43	20.0	10.0	3.5	6.0
5	52	10.0	4.0	4.5	7.5	50	10.0	4.0	4.0	7.0	36	18.0	12.3	4.8	8.0
10	34	8.0	6.0	3.0	5.0	32	8.0	4.0	2.5	4.0	32	8.0	9.5	6.0	8.0
20	23	4.0	2.0	1.5	3.0	25	2.0	4.0	2.0	3.5	23	4.0	2.0	2.5	4.0

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	150	6.0	3.0	13.0	20.0	149	7.0	3.0	12.0	19.0	152	6.0	4.0	9.5	15.0
.051	112	17.7	8.0	14.5	20.5	114	16.5	12.0	12.5	17.5	124	12.0	8.0	12.0	18.0
.160	84	25.4	18.0	13.8	24.5	91	22.0	19.1	12.0	21.5	104	14.0	10.0	12.0	19.5
.495	58	32.0	8.0	6.5	10.0	72	24.3	18.0	9.3	16.5	86	16.0	8.0	11.5	19.5
2.5	36	17.0	6.0	3.0	4.5	49	20.0	14.0	5.5	10.5	61	12.0	7.0	8.0	13.0
5	26	19.5	6.0	4.0	6.8	45	11.0	13.0	6.0	10.0	50	8.0	4.0	5.5	9.0
10	28	14.0	8.0	6.5	9.5	34	8.0	4.0	4.5	7.0	34	8.0	4.0	3.5	5.8
20	23	4.0	2.0	2.5	4.5	23	2.0	2.0	1.5	3.5	23	4.0	2.0	2.0	3.5

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>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

NEW DELHI, INDIA      LAT. 28.8 N      LONG. 77.3 E      WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	4.0	2.9	6.5	9.0	156	4.0	3.0	6.5	9.5	153	3.0	3.0	5.5	8.0
.051	132	6.3	5.0	9.0	12.5	127	8.0	8.0	8.0	11.5	117	7.3	5.0	4.0	6.5
.160	108	10.1	7.0	8.0	12.5	102	13.6	12.0	8.0	12.0	92	11.0	8.0	5.8	10.0
.495	90	10.0	6.0	4.0	6.5	82	12.0	8.0	3.5	5.5	74	12.0	6.0	2.5	4.5
2.5	67	6.0	12.0	3.5	6.5	63	9.0	12.0	3.5	6.0	53	18.0	9.0	3.5	6.0
5	63	7.0	9.0	3.8	6.0	57	11.5	8.5	3.5	6.5	48	19.0	13.0	4.5	7.5
10	43	10.0	9.0	3.0	5.0	44	9.0	10.0	2.5	5.0	42	11.0	6.0	5.0	7.5
20	25	2.0	2.0	1.5	3.0	25	2.0	2.0	2.0	3.5	25	2.0	2.0	2.0	3.5

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	3.0	3.0	6.5	8.5	156	3.0	2.0	6.0	8.5	158	3.0	2.0	6.5	9.0
.051	118	10.5	6.5	6.0	8.8	121	16.0	7.0	8.5	11.5	131	8.0	8.0	8.0	11.0
.160	92	18.0	8.0	7.5	11.8	102	17.0	12.0	8.0	13.5	110	10.7	6.7	7.0	11.5
.495	74	14.0	6.0	4.0	5.5	84	18.0	10.0	6.0	8.5	88	14.0	4.0	5.0	7.5
2.5	53	17.0	11.0	4.0	6.5	61	11.0	13.6	3.5	6.0	65	8.0	10.0	3.5	6.0
5	46	20.5	12.5	5.0	7.5	57	11.0	11.0	3.8	6.0	63	7.0	10.1	3.5	5.5
10	41	12.0	9.0	4.0	6.0	48	13.0	7.9	4.5	6.5	46	9.0	10.0	3.0	5.0
20	27	10.0	3.0	3.0	4.5	25	8.0	2.0	2.5	4.0	23	2.0	0.0	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>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

OHIRA, JAPAN

LAT. 35.6 N

LONG. 140.5 E

WINTER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	156	4.0	3.0	10.5	16.0	156	4.0	4.0	12.0	17.5	155	3.2	4.0	13.5	20.0
.051	134	4.0	6.0	11.5	18.0	130	8.0	12.0	13.0	19.0	116	13.9	8.0	14.5	21.0
.160	111	8.0	6.0	10.0	16.5	103	12.0	17.5	9.5	15.0	85	20.0	8.0	11.0	16.8
.495	89	9.0	7.0	8.5	13.0	78	14.0	15.0	9.0	14.0	68	16.0	6.0	4.0	8.5
2.5	58	10.0	7.5	6.3	9.3	54	14.0	8.0	7.8	11.5	44	6.9	4.0	6.5	9.5
5	58	14.0	6.0	4.0	6.5	64	8.0	10.0	8.5	12.5	40	16.0	8.0	5.5	9.0
10	35	16.3	7.0	3.0	6.0	34	21.0	4.0	3.0	5.5	40	21.1	10.0	3.0	6.5
20	21	3.0	1.0	1.5	3.0	23	1.0	2.0	1.5	3.0	23	3.0	1.0	1.5	3.0

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	156	2.0	4.0	14.0	19.5	156	3.0	3.0	10.0	15.5	156	4.0	3.0	10.5	16.0
.051	118	10.0	8.0	12.3	18.3	124	8.0	14.0	11.5	17.3	132	6.0	4.0	11.0	17.0
.160	85	16.3	8.0	12.8	18.0	99	12.0	14.6	11.0	17.0	109	8.0	6.0	9.5	15.0
.495	68	14.0	6.0	8.0	10.5	82	10.0	10.6	9.0	14.5	88	10.0	4.0	7.5	12.5
2.5	42	6.0	4.0	6.5	9.5	52	11.9	10.0	5.5	9.5	60	8.0	8.0	7.0	10.5
5	38	18.0	6.0	5.0	9.0	63	6.0	8.0	7.5	12.0	59	10.0	9.0	6.0	9.5
10	46	11.0	14.0	3.5	6.0	51	13.0	17.1	3.5	7.0	38	16.9	8.0	2.5	5.5
20	23	3.0	1.0	2.0	3.5	22	2.0	1.0	1.5	3.0	21	2.0	1.0	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>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

PRETORIA, S. AFR.      LAT. 25.8 S      LONG. 28.3 E      SUMMER (DEC., JAN., FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>
.013	159	6.0	4.1			155	6.9	6.0			155	8.0	8.0		
.051	137	7.0	7.0			128	9.5	10.5			125	10.0	8.0		
.160	116	8.0	6.0			102	16.0	16.2			94	20.1	10.0		
.495	98	8.0	6.0			78	18.0	19.4			64	30.0	6.0		
2.5	71	7.0	8.0			63	10.0	19.0			44	8.2	6.0		
5	59	6.5	6.0			53	8.8	12.0			37	11.0	10.0		
10	40	8.0	6.0			38	7.1	6.0			34	8.0	6.0		
20	21	4.5	2.0			21	6.0	4.0			23	11.9	4.0		

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>	F <sub>om</sub>	D <sub>u</sub>	D <sub>l</sub>	V <sub>dm</sub>	L <sub>dm</sub>
.013	165	6.0	9.9			167	6.0	6.1			164	7.0	5.6		
.051	141	8.0	9.0			144	7.3	10.0			140	8.0	6.0		
.160	120	12.0	19.5			124	10.0	14.0			120	8.0	6.0		
.495	96	16.0	29.0			100	14.3	14.3			102	8.0	4.0		
2.5	57	20.1	14.3			73	10.0	14.7			74	8.0	7.0		
5	47	16.0	18.0			61	10.0	12.0			61	12.0	8.0		
10	44	10.0	10.0			52	4.0	6.0			46	10.0	6.0		
20	29	14.0	6.0			29	8.0	6.0			21	10.0	2.0		

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.

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

SAO JOSE, BRAZIL      LAT. 23.3 S      LONG. 45.8 W      SUMMER (DEC., JAN., FEB.)      1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	137	7.0	7.0	8.5	14.5	130	10.0	9.4	9.5	15.5	127	8.6	8.0	9.0	14.0
.113	118	7.2	6.0	7.5	13.0	106	12.6	12.0	8.8	14.5	101	10.0	8.6	9.3	14.5
.246	106	6.0	8.0	7.0	13.0	86	19.5	10.0	8.0	12.0	82	12.0	6.0	8.3	12.0
.545	89	4.0	6.0	5.0	9.0	85	6.0	9.0	5.8	10.5	87	6.0	8.1	5.5	10.3
2.5	70	7.0	8.0	6.5	10.5	63	11.0	17.0	6.5	11.0	43	10.0	9.0	6.0	9.0
5	57	12.0	10.0	5.5	9.5	53	12.0	12.0	6.0	10.5	39	10.0	8.0	6.0	10.5
10	43	8.0	8.0	5.5	8.5	41	8.0	7.8	5.0	7.5	37	6.0	8.0	6.5	10.5
20	25	4.0	2.0	2.0	4.0	25	4.0	2.0	2.0	3.5	26	5.0	3.0	3.0	4.8

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	138	11.0	10.0	10.0	15.0	142	7.0	9.0	9.3	15.0	139	5.0	5.6	8.5	14.0
.113	116	17.0	14.0	10.5	16.5	120	12.0	11.0	10.0	16.0	121	6.0	7.0	7.0	11.5
.246	100	22.0	20.0	11.5	17.5	106	12.0	16.0	10.0	16.5	108	6.0	8.0	7.5	14.0
.545	91	16.0	10.0	7.3	13.0	89	12.0	8.0	6.5	11.5	91	5.3	6.0	5.0	9.5
2.5	51	25.1	15.0	8.5	13.0	70	10.0	16.9	6.5	11.0	73	6.5	7.5	5.5	9.5
5	41	18.5	10.0	6.5	11.0	59	14.0	10.0	5.0	8.5	63	10.0	10.0	4.5	8.0
10	41	8.0	8.0	6.0	9.0	49	5.1	8.0	5.0	8.0	45	8.0	8.0	5.0	8.0
20	29	10.0	4.0	4.0	6.0	32	6.0	5.1	4.0	6.5	25	6.0	2.0	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.

# SEASONAL TIME-BLOCK VALUES OF RADIO NOISE

WARRENSBURG, MO.      LAT. 38.7 N      LONG. 93.8 W      WINTER (\*\*\*, \*\*\*, FEB.) 1964-65

FREQ. (Mc)	TIME BLOCKS (LST)														
	0000-0400					0400-0800					0800-1200				
	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	149	10.2	7.0			149	9.9	7.0			145	11.1	5.0		
.051	131	4.0	4.0			131	4.0	12.0			121	4.0	4.1		
.160	104	16.0	7.0			96	20.0	9.2			88	12.2	11.0		
.495	88	14.0	8.0			78	17.1	16.1			61	24.6	2.1		
2.5	62	8.0	4.0	4.5	8.0	60	6.0	10.0	4.5	9.0	48	6.0	5.5	1.0	3.5
5															
10	34	2.9	2.9	1.5	3.5	37	11.9	5.0	1.5	4.0	44	7.3	7.3	2.0	4.3
20	24	2.0	0.0	1.0	2.5	26			1.0	2.8	26	4.0	2.0	1.5	3.5

FREQ. (Mc)	TIME BLOCKS (LST)														
	1200-1600					1600-2000					2000-2400				
	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	147	10.0	5.0			145	12.0	5.0			147	10.0	5.0		
.051	123	6.0	0.0			125	10.9	6.0			130	22.0	7.2		
.160	90	18.0	11.3			97	21.0	12.7			107	13.1	13.0		
.495	63	21.0	4.0			82	17.6	17.1			90	13.5	9.5		
2.5	52	2.0	11.1	1.0	3.5	56	11.9	7.9	3.0	6.0	62	17.8	4.0	4.0	8.0
5															
10	44	4.9	4.0	2.3	5.0	46	7.9	8.0	2.3	5.0	36	5.9	4.0	1.0	3.5
20	28	4.0	4.0	1.5	3.5	25	5.0	1.2	1.0	3.0	24	4.1	0.0	1.0	2.5

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>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.













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