CRPL-F 200 PART A

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PART A
IONOSPHERIC DATA

ISSUED
APRIL 1961

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
- (2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, I, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of f_oF_2 (and f_oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of $h'F$ (and $h'E$ near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For f_oF_2 , as equal to or less than f_oF_1 .
2. For $h'F_2$, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median f_oE , or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of $h'Es$ missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for f_oF_2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1960.

Smoothed Observed Sunspot Number

[illegible]

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:

Buenos Aires, Argentina
Decepcion I.
Trelew, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:

Brisbane, Australia
Canberra, Australia
Mawson
Townsville, Australia
Wilkes Station, Antarctica

University of Graz:

Graz, Austria

Escola Politecnica, University of Sao Paulo:

Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:

Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Port Lockroy
Singapore, British Malaya

Defence Research Board, Canada:

Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada
St. John's, Newfoundland
Winnipeg, Canada

General Direction of Posts and Telegraphs, Helsinki, Finland:

Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:

Sodankyla, Finland

French National Center for Telecommunications Studies:

Bangui, French Equatorial Africa
 Dakar, French West Africa
 Djibouti, French Somaliland
 Poitiers, France
 Rabat, Morocco
 Tahiti, Society Is.
 Tananarive, Madagascar

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:

Lindau/Harz, Germany
 Tsumeb, South West Africa

Ionospheric Institute, Breisach, Germany:
 Freiburg, Germany

The Royal Netherlands Meteorological Institute:

De Bilt, Holland
 Hollandia, Netherlands New Guinea
 Paramaribo, Surinam

National Institute of Geophysics, City University, Rome, Italy:
 Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:

Akita, Japan
 Tokyo (Kokubunji), Japan
 Wakkanai, Japan
 Yamagawa, Japan

General Directorate of Telecommunications, Mexico:
 El Cerillo, Mexico

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
 Tromso, Norway

South African Council for Scientific and Industrial Research:
 Capetown, Union of South Africa
 Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
 Kiruna, Sweden
 Lycksele, Sweden
 Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
 Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

National Bureau of Standards (Central Radio Propagation Laboratory):
Byrd Station, Antarctica
Huancayo, Peru (Instituto Geofisico de Huancayo)
Talara, Peru (Instituto Geofisico de Huancayo)

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65, pp.185-191.

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 1 NOV 1960

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q+KP	1	A1	A3	A3	A3	A4	4	A4	4	4	4	3
HMIN	106				107		200	200	219	228	241	231
SCAT	52.4				51.2		52.4	47.1	54.4	41.5	38.3	44.5
HMAXF	289				291		307	284	327	321	330	321
SHMAX	1514				1262		1067	515	385	292	248	263
KM												
340										454		
330									540	508	454	446
320									538	508	446	446
310							1555		527	499	421	446
300					1555		1548		507	475	383	421
290	1786				1555		1514	875	481	438	330	393
280	1772				1537		1451	873	443	383	268	357
270	1726				1489		1357	856	389	314	201	295
260	1644				1407		1240	816	327	243	125	227
250	1533				1305		1091	761	252	151	63.6	156
240	1390				1169		890	682	174	80.8		78.6
230	1225				1027		641	575	98.2	22.4		
220	1022				878		399	429	12.4			
210	842				710		179	222				
200	679				539		12.4	12.4				
190	538				392							
180	426				284							
170	353				216							
160	300				176							
150	258				136							
140	222				116							
130	191				108							
120	171				102							
110	139				90.8							

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

[illegible]

RAMEY AFB, PUERTO RICO

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

0, KP	A2	2	A3	3	3	A5	A5	A5	A6	6	6	6
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RAMEY AFB, PUERTO RICO 60 W 4 NOV 1960

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

RAMEY AFB, PUERTO RICO

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

О.КР	5	А5	4	4	А4	А5	А5	5	4	А4	4	4
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ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W		5 NOV 1960	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100				
Q _o KP	4	4	2	2	2	2	2	2	3	3	3	A1				
HMIN	199	219	249	229	239	237	245	211	110	109	105	106				
SCAT	33.9	39.3	56.6	52.1	60.6	52.0	42.1	43.7	41.1	53.0	43.9	48.7				
HMAX	285	307	356	331	364	344	320	285	271	285	283	284				
SHMAX	230	182	284	217	239	237	181	432	987	1547	1734	1701				
KM																
370																
360																
350																
340																
330																
320																
310																
300																
290	477	320	252	261	181	245	294	834		2016	2413	2161				
280	474	297	198	234	154	209	263	832	1555	2011	2410	2156				
270	454	264	140	202	127	169	215	811	1555	1974	2360	2113				
260	412	216	79.8	166	97.9	126	155	769	1530	1901	2243	2024				
250	352	161	12.4	126	67.0	77.1	78.0	706	1459	1800	2076	1891				
240	272	106		81.7	12.4	32.2		605	1337	1659	1833	1710				
230	182	58.6		12.4				449	1172	1454	1544	1493				
220	102	4.5						176	954	1184	1214	1254				
210	55.9							703	868	937	990					
200	4.9							494	620	710	779					
190								343	447	536	602					
180								252	338	422	462					
170								191	272	344	370					
160								150	221	287	311					
150								120	183	243	265					
140								102	156	205	228					
130								93.1	140	173	197					
120								87.1	131	155	175					
110								12.4	84.4	144	162					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO								60 W			5 NOV 1960		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
Q _o KP	81	A1	0	80	A0	A0	A0	0	0	0	0	1	
HMIN			106					200	199	208	239	247	259
SCAT			48.6				65.0	44.5	64.3	44.4	43.2	42.8	
HMAXF			307				318	314	338	331	344	346	
SHMAX			2043				1161	548	551	300	253	255	
KM													
350									679	508	416	446	
340										678	508	407	430
330											500	385	403
320							1433	834	666		480	353	367
310			2571				1427	832	647				
300			2560				1405	814	619		448	311	313
290			2497				1366	773	586		400	260	245
280			2375				1306	712	541		338	204	174
270			2209				1238	637	474		262	146	96.8
260			1983				1150	548	392		171	79.7	12.4
250			1751				1025	452	303		87.5	29.1	
240			1428				869	347	206		12.4		
230			1157				688	234	116				
220			893				459	148	62.1				
210			671				209	79.7	12.4				
200			511				12.4	12.4					
190			404										
180			333										
170			281										
160			237										
150			193										
140			168										
130			157										
120			150										
110			141										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W		6 NOV 1960	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100				
O _o KP	1	1	2	2	2	2	2	2	2	2	2	A0				
HMIN	219	230	217	208	240	262	229	199	109	110	107					
SCAT	47.9	40.0	45.2	40.6	70.1	43.8	48.8	40.7	47.3	39.1	39.5					
HMAXF	321	326	310	284	388	352	316	283	277	269	276					
SHMAX	283	220	231	149	216	133	143	392	1021	1157	1483					
KM																
390																
380																
370																
360																
350																
340																
330	446	389				219										
320	446	387				167	189	229								
310	441	373	389				150	169	228							
300	426	347	384				133	142	223							
290	401	310	370	286	116	114	212	754								
280	367	258	347	285	98.2	83.1	201	753	1433							
270	321	200	315	278	81.9	61.9	181	735	1426	1786	2282					
260	257	140	267	262	65.5				151	695	1388	1762	2203			
250	190	85.1	208	239	48.0				115	631	1316	1680	2063			
240	108	49.1	134	204				72.0	520	1220	1542	1830				
230	57.7	.7	70.0	155				12.4	378	1082	1341	1483				
220	4.5	20.3			85.3				99.7	685	1081	1135				
210					22.3				22.0	668	820	815				
200								12.4			407	162	163			
190											351	454	460			
180											262	357	377			
170											208	291	321			
160											168	241	277			
150											139	196	235			
140											120	162	194			
130											107	142	163			
120											98.9	132	151			
110											61.5	12.4	130			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	3	3	3	2	2	2	1	1	1	0
HMIN	242	209	208	209	319	263	239	219	108	107	109	108
SCAT	40.6	26.9	26.0	74.4	56.2	50.6	54.5	30.7	50.9	41.2	44.5	47.4
HMAXF	323	273	263	329	620	373	348	277	285	285	290	290
SHMAX	311	227	142	181	146	142	176	274	94.9	1311	1672	1692
KM												
430					198							
420					198							
410					197							
400					192							
390					184							
380					173	198						
370					160	198						
360					141	195						
350					120	188	240					
340					95.4	177	239					
330	608			198	68.2	163	234					
320	607			198	12.4	145	224					
310	593			195		123	211					
300	560			191		100	195					
290	514			185		78.9	173	1240	1907	2260	2243	
280	428	599		177		58.5	146	679	1237	1900	2233	2220
270	310	597	410	167		40.3	116	669	1213	1844	2146	2144
260	167	562	408	156			85.7	624	1165	1728	2016	2029
250	63.7	487	382	143			54.3	544	1097	1564	1809	1851
240		382	327	128			6.1	427	995	1342	1545	1623
230		236	236	105				270	855	1059	1273	1341
220		95.2	107	71.8				49.0	691	810	1020	1016
210		12.4	26.9	12.4					534	617	775	774
200									397	472	588	590
190									299	374	465	464
180									226	304	382	382
170									172	250	319	325
160									136	205	267	278
150									116	167	222	236
140									108	145	190	198
130									102	136	164	176
120									95.7	129	150	165
110									64.8	95.2	115	95.3

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	0	0	0	A0	0	0	A0	A0	0	0	A0	0
HMIN	109	107	106		110	108	209	208	219	261	269	228
SCAT	51.8	65.1	58.2		49.7	58.1	43.1	38.6	41.8	47.3	46.4	39.9
HMAXF	301	317	309		304	307	308	302	314	356	357	306
SHMAX	1890	2123	1991		1569	1506	870	501	382	406	432	359
KM												
360										643	716	
350										640	712	
340										625	691	
330										594	654	
320		2144								550	601	
310	2277	2138	2161			1907	1771	1446	917	641	492	716
300	2277	2107	2147			1904	1764	1433	916	624	423	438
290	2252	2051	2103			1869	1731	1380	895	587	335	330
280	2184	1971	2025			1796	1672	1285	841	533	233	180
270	2073	1876	1919			1682	1586	1156	758	465	110	12.4
260	1925	1734	1776			1531	1477	993	646	388		458
250	1725	1568	1601			1350	1338	806	514	300		294
240	1623	1375	1401			1168	1161	595	358	203		123
230	1246	1153	1175			977	980	360	220	111		28.3
220	941	948	961			783	781	164	108	12.4		
210	748	760	778			626	585	38.9	26.9			
200	594	615	631			495	406					
190	478	500	510			390	284					
180	399	413	420			311	207					
170	342	348	351			248	155					
160	295	297	299			200	122					
150	251	253	256			166	102					
140	207	212	218			141	89.6					
130	178	179	187			125	81.2					
120	167	168	169			116	75.9					
110	105	141	120			12.4	58.7					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	0	A0	2	2	2	2	2	B2	1	1	1	1
HMIN	212	220	211	200	231	246	248		108	110	109	107
SCAT	30.6	30.6	27.3	31.5	70.8	81.5	46.2		39.1	47.7	46.2	47.5
HMAXF	283	287	273	251	352	389	340		266	280	283	285
SHMAX	262	184	168	93	122	133	118		767	1245	1450	1547
KM												
390							127					
380							127					
370							125					
360						135	123					
350						135	120	189				
340						134	116	189				
330						132	111	186				
320						128	104	179				
310						122	98.3	168				
300						116	90.5	154				
290	643	446				110	81.7	133				
280	641	441	461			101	70.7	107				
270	613	411	460			90.0	59.0	80.2	1240	1741	1966	1901
260	550	361	432	240	76.9	46.6	52.1		1232	1667	1841	1773
250	446	281	377	240	62.4	16.9	12.4		1186	1580	1720	1646
240	284	173	274	233	46.1				1103	1451	1530	1479
230	131	73.5	134	213					969	1260	1273	1287
220	58.5	2.0	61.6	183					771	976	1060	1112
210				136					577	718	796	919
200				12.4					424	523	599	733
190									300	391	456	576
180									213	305	362	456
170									156	244	297	376
160									122	199	246	317
150									109	164	202	273
140									105	144	171	238
130									101	136	157	209
120									97.3	128	149	190
110									61.2	12.4	101	156

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	1	1	1	0	0	0	1	1	2	2	2	2
HMIN	107	109	107	110	113	110	209	209	234	269	259	239
SCAT	52.8	65.0	56.6	57.8	67.9	48.5	45.2	46.4	48.4	42.8	45.4	33.0
HMAXF	292	321	306	302	324	305	301	307	347	359	355	318
SHMAX	1475	2013	1737	1587	1601	1214	803	449	372	297	329	252
KM												
360										508	540	
350									540	502	539	
340									538	483	526	
330		2032			1555				524	449	500	
320		2032			1554				498	403	463	540
310		2017	1907	1771	1539	1555	1341	716	462	343	409	532
300	1640	1979	1901	1770	1507	1552	1341	712	415	272	337	499
290	1639	1917	1867	1751	1458	1519	1321	692	358	195	257	442
280	1618	1827	1804	1705	1388	1454	1269	656	296	107	171	362
270	1568	1721	1709	1628	1307	1356	1182	604	234	12.4	91.1	268
260	1481	1586	1590	1530	1207	1233	1065	530	170		12.4	165
250	1372	1400	1436	1407	1094	1069	911	445	93.8			75.2
240	1240	1197	1256	1258	966	897	717	345	46.2			12.4
230	1108	986	1050	1095	830	720	489	232				
220	965	796	869	914	690	562	233	116				
210	823	642	709	723	556	438	12.4					
200	684	526	576	559	452	323						
190	560	446	473	437	368	246						
180	456	382	394	346	300	188						
170	377	332	330	284	239	148						
160	319	289	282	238	192	121						
150	273	243	242	205	160	102						
140	233	209	204	177	136	88.0						
130	200	183	177	156	122	80.0						
120	187	169	165	139	113	74.2						
110	161	124	124	12.4		12.4						

ELECTRON DENSITY

9 NOV 1960

9 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	0	AO	AO	AO	AO	1	1	0	0	0	0	0
HMIN	108			106		110	209	200	209	249	258	270
SCAT	49.2			60.8		45.1	56.9	56.7	36.8	49.1	62.8	49.7
HMAXF	286			323		300	310	304	292	354	381	356
SHMAXF	1357			1629		1202	1013	546	277	275	313	251
KM												
390											382	
380											382	
370											379	
360												403
350										410	371	403
340										409	357	401
330										402	341	392
320				1640						385	320	376
310				1639						362	291	355
300				1622		1669	1446	754		329	253	318
290	1640			1582		1669	1436	754	540	286	210	267
280	1633			1517		1648	1403	743	540	234	163	203
270	1596			1440		1587	1348	721	527	179	114	132
260	1519			1334		1476	1273	686	492	126	64.2	12.4
250	1416			1207		1336	1177	641	440	69.3		
240	1277			1072		1141	1035	584	367	12.4		
230	1133			911		951	832	508	280			
220	942			761		754	587	417	183			
210	754			634		569	322	301	101			
200	566			531		411	53.1	186	12.4			
190	482			448				295				
180	402			379			221					
170	343			320			172					
160	297			268			138					
150	256			225			115					
140	223			190			98.7					
130	202			169			87.4					
120	190			157			80.1					
110	177			149			74.5					
				129			12.4					

ELECTRON DENSITY

10 NOV 1960

10 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ HP	2	2	1	1	A1	51				2	2	3
WMIN	107	105	107	104	107		208	208	229	203	249	259
SCAT	42.1	61.7	57.1	58.2	62.7		45.7	42.9	38.0	49.1	57.7	45.1
HMAX	281	267	257	217	294	322	318	322	311	317	364	352
SHMAX	1110	1304	1453	1147	1191		733	578	397	369	322	254
KM												
370											417	
360											417	417
350											411	417
340											399	409
330					1131			917			380	391
320			1446		1131		1143	917	754	540	357	362
310			1441		1120		1135	901	754	537	325	325
300		1341	1415	1240	1095		1100	858	738	523	288	275
290	1446	1338	1367	1238	1052		1038	795	694	498	245	215
280	1446	1318	1293	1221	999		949	702	627	462	195	153
270	1423	1281	1203	1186	936		830	597	538	415	138	90.5
260	1359	1235	1089	1132	865		699	482	429	359	78.8	12.4
250	1257	1160	967	1061	788		541	357	298	295	12.4	
240	1107	1066	838	970	705		383	244	62	219		
230	950	945	720	865	619		219	147	12.4	139		
220	795	816	619	758	536		105	79.3		80.8		
210	651	685	534	641	457		25.6	24.6		43.5		
200	531	569	466	519	388							
190	438	469	412	414	326							
180	365	395	368	327	268							
170	306	338	327	270	218							
160	254	294	288	225	178							
150	207	254	253	188	146							
140	186	218	218	158	120							
130	174	196	184	142	108							
120	167	186	168	135	103							
110	150	162	136	128	87.2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	4	4	5	5	5	3	3	3	2	
HMIN	249	239	208	200	314	278	258	228	109	108	107	105
SCAT	54.3	43.4	34.4	114	63.4	59.3	53.1	40.9	43.4	44.5	57.9	
HMAXF	356	329	269	391	454	401	366	319	282	296	296	297
SHMAX	286	253	199	257	146	139	159	430	791	1163	1786	1873
KM												
460					161							
450					161							
440					159							
430					155							
420					149							
410					141	170						
400				179	131	170						
390				179	119	168						
380				179	105	164						
370				178	90.7	157	219					
360	403			176	77.3	148	218					
350	401			173	64.8	137	214					
340	394			170	53.7	124	206					
330	378	439		166	43.4	108	193					
320	362	435		162	18.7	91.4	179	679				
310	332	419		156		74.1	159	674				
300	292	393		151		57.7	135	658	1460	2430	2144	
290	244	353		145		43.1	110	631	1061	1453	2419	2137
280	189	296		138		8.4	84.2	600	1060	1391	2351	2098
270	127	228	477	130				57.5	536	1034	1311	2217
260	75.0	151	469	120				12.4	440	981	1203	2031
250	12.4	79.2	441	111					318	901	1066	1782
240		12.4	395	98.9					159	805	922	1467
230			309	84.7					28.3	697	775	1173
220			165	67.8						581	639	900
210			30.0	48.3						467	521	666
200										368	425	509
190										289	350	403
180										230	292	336
170										186	245	286
160										152	207	245
150										129	176	211
140										115	154	183
130										106	141	160
120										99.9	133	151
110										43.8	102	127

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	2	2	A3					A3	A2	2	2	1
HMIN	106	111	109					212	229	280	259	250
SCAT	62.2	61.2	57.6					43.4	44.8	50.0	39.5	61.3
HMAXF	305	314	312					302	327	369	353	353
SHMAX	1696	1444	1394					688	405	388	345	531
KM												
370										608		
360										603	608	716
350										586	607	716
340										555	592	708
330										514	555	691
320			1446	1446					643	514	555	691
310	1771	1445	1446						639	460	502	662
300	1768	1428	1431				1215		619	388	433	626
290	1746	1391	1394				1214		583	305	352	582
280	1701	1395	1334				1191		531	205	264	518
270	1632	1262	1246				1134		467	12.4	172	431
260	1556	1164	1151				1046		393	92.8	318	
250	1437	1055	1029				922		307	12.4	172	
240	1289	931	895				760		223		12.4	
230	1108	798	767				549		119			
220	916	674	653				299		12.4			
210	741	566	555				85.1					
200	599	471	472									
190	489	398	401									
180	407	347	342									
170	348	310	292									
160	303	270	242									
150	265	222	199									
140	227	187	171									
130	195	172	156									
120	173	160	147									
110	155		64.6									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	1	1	2	2	2	2	2	A2	5	5	85	86
HMIN	209	210	218	219	280	278	249		108	106		
SCAT	28.3	35.2	34.3	42.0	96.6	52.9	46.2		33.1	48.7		
HMAXF	275	278	291	297	449	380	337		271	295		
SHMAX	258	180	156	130	288	148	160		691	1321		
KM												
450					235							
440					234							
430					232							
420					229							
410					225							
400					220							
390					213	208						
380					205	208						
370					198	206						
360					187	201						
350					175	190						
340					160	178	262					
330					143	161	261					
320					124	141	253					
310					102	117	239					
300				335	240	79.2	92.6	220		1669		
290				335	218	55.3	66.3	194		1663		
280	679	403	326	230	1.7	24.6	161		1096	1627		
270	673	398	30.4	215			121		1096	1555		
260	628	377	268	195			76.2		1067	1451		
250	543	345	214	165			12.4		984	1306		
240	395	279	147	120					864	1105		
230	215	190	75.0	69.9					723	908		
220	87.1	86.4	21.2	12.4					576	724		
210	12.4								452	569		
200									352	451		
190									274	364		
180									214	300		
170									169	247		
160									135	203		
150									113	167		
140									107	145		
130									102	137		
120									97.0	130		
110									66.8	104		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	86	86	88	8	8	88	A8	A8	9	9	9	9
HMIN				109	112		210		299	289	299	280
SCAT				80.8	78.7		67.3		67.1	60.1	51.1	35.0
HMAXF				353	372		348		432	408	413	346
SHMAX				1696	1616		1695		833	683	618	320
KM												
440									949			
430									949			
420									942		875	
410									924	875	874	
400									894	871	860	
390									858	855	829	
380					1240				808	825	782	
370					1240				746	786	719	
360					1341	1232			669	734	638	
350					1341	1215		1861	577	666	545	688
340					1332	1187		1854	477	580	441	684
330					1314	1150		1828	369	476	321	650
320					1285	1102		1779	253	365	204	594
310					1245	1044		1707	148	261	104	517
300					1195	978		1621	12.4	129	12.4	410

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										
60 W 13 NOV 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900
Q _z FP	9	9	9	59	59	E9	A9	A9	H9	9
HMIN	349	211	206				350	109	109	108
SCAT	54.6	44.1	37.9				63.5	51.0	61.6	62.3
HMAXF	468	297	264				449	279	262	329
SHMAX	596	661	185				125	490	406	1179
KM										
470	794									
460	790									
450	773						161			
440	741						160			
430	697						157			
420	643						152			
410	574						146			
400	493						137			
390	404						128			
380	305						115			
370	203						98.9			
360	112						73.6			
350	12.4									
330									1096	
320									1090	
310									1071	
300	1215								1035	
290	1207								989	
280	1169								927	
270	1103	389							565	
260	996	398							561	432
250	826	376							546	431
240	601	350							520	427
230	318	313							485	417
220	92.3	253							435	401
210		172							375	382
200		12.4							318	354
190									268	319
180									225	278
170									190	237
160									161	199
150									139	163
140									123	138
130									111	125
120									104	119
110									97.5	113
									41.5	55.6
									68.6	146

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										
60 W 13 NOV 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
Q _z FP	8	8	A8	A8	8	56	6	6	A7	A7
HMIN	107	109			110		230	208	200	239
SCAT	44.1	60.2			61.4		50.3	58.9	48.3	46.2
HMAXF	221	324			346		320	324	324	321
SHMAX	367	1193			1116		764	881	543	531
KM										
430										477
420										475
410										470
400										459
390										444
380										500
370										498
360										492
350						794				482
340						793				465
330	1050					787	1228	1191	698	949
320	1048					778	1228	1190	696	949
310	1036					764	1215	1175	682	937
300	1008					742	1178	1143	647	900
290	964					717	1117	1094	604	845
280	908					688	1033	1028	555	761
270	843					658	906	935	500	632
260	776					626	741	806	440	454
250	709					592	519	649	380	215
240	641					555	268	466	319	12.4
230	577					515	12.4	295	262	
220	508	519				475		160	206	
210	500	470				433		32.2	149	
200	478	428				388			12.4	
190	441	388				339				
180	396	347				282				
170	345	305				219				
160	294	267				177				
150	245	230				146				
140	203	191				122				
130	176	164				109				
120	167	151				102				
110	140	124				12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										
60 W 14 NOV 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900
Q _z FP	5	5	5	5	4	4	4	3	3	3
HMIN	240	230	218	200	268	268	260	209	110	109
SCAT	43.5	44.2	35.1	35.5	73.0	59.6	48.0	27.4	42.2	41.7
HMAXF	322	318	283	263	397	379	333	262	261	266
SHMAX	381	304	232	119	120	127	123	273	907	1111
KM										
400					127					
390					127					
380					125	161				
370					123	160				
360					119	157				
350					114	151				
340					107	144	214			
330	679				100	134	213			
320	679	508			91.6	124	210			
310	667	504			81.7	108	201			
300	636	488			71.1	89.5	189			
290	589	457	508		59.1	71.3	175			
280	521	415	507		46.3	52.0	150			
270	427	363	490	262	12.4	12.4	109	794	1433	1669
260	313	299	452	262				793	1433	1659
250	180	223	395	254				756	1409	1605
240	12.4	132	315	236				667	1344	1503
230		12.4	207	210				501	1252	1361
220			68.2	165				241	1094	1132
210				101				88.2	867	931
200				12.4				38.9	882	867
190								610	640	693
180								418	475	523
170								296	368	413
160								223	298	341
150								177	248	287
140								144	209	246
130								122	177	210
120								108	151	178
110								98.6	134	155
								12.4	65.5	119
										161

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										
60 W 14 NOV 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
Q _z FP	B4	4	5	A5	A5	A4	4	4	5	5
HMIN	107	103	105	110	110		218	200	230	208
SCAT	51.7	43.3	51.7	56.5	57.4		50.1	51.0	38.5	50.2
HMAXF	288	283	300	298	294		310	306	318	318
SHMAX	1602	1586	1625	1540	1302		796	626	364	340
KM										
340										382
330										380
320										369
310										375
300			1876	1786	1500		1240	917	672	505
290	1876	2161	1860	1777	1499		1189	894	590	469
280	1863	2158	1809	1742	1479		1126	853	514	438
270	1816	2111	1716	1678	1432		1040	801	411	394
260	1726	2004	1595	1585	1359		923	726	298	336
250	1610	1843	1446	1467	1269		769	632	197	263
240	1462	1627	1268	1319	1166		594	518	105	184
230	1284	1380	1111	1154	1037		366	397		105
220	1107	1085	922	945	884		78.1	275		59.7
210	910	827	749	725	718		131			12.4
200	737	631	612	542	563					
190	595	501	496	419	429					
180	478	411	405	336	326					
170	391	349	329	280	251					
160	330	303	269	237	202					
150	289	263	218	198	169					
140	251	230	175	170	143					
130	215	203	159	155	125					
120	190	178	151	145	115					
110	156	164	136	12.4	12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	4	4	4	4	A4	3	3	3	6	6	6	6
HMIN	250	225	209	208		284	246	210	110	108	109	107
SCAT	52.4	29.8	31.1	28.2		59.4	57.2	43.0	35.6	45.9	44.4	57.4
HMAXF	350	283	267	256		389	344	279	271	274	287	307
SHMAX	197	114	104	40		85	101	284	759	1293	1617	1769
KM												
390						112						1096
380						111						1088
370						109						834 1064
360						105						832 1020
350	284					99.6	139					817 965
340	283					92.5	139					783 893
330	275					84.9	137					716 734 801
320	263					74.5	133					713 674 692
310	244					62.3	127					698 603 575 960
300	221					48.2	118					671 520 455 956
290	192	286				23.7	109					633 427 333 935
280	156	285						56.5	1143	1891	2294	1902
270	113	272	262			80.4	559	1143	1887	2214	1812	
260	70.0	242	259	112		59.8	538	1116	1845	2089	1688	
250		198	242	110		28.3	505	1041	1755	1914	1506	
240		138	214	103			451	929	1631	1653	1292	
230		64.7	165	88.7			361	795	1449	1340	1035	
220			85.3	67.8			199	654	1147	1016	808	
210			12.4	25.6			12.4	515	822	708	628	
200								405	583	520	492	
190								323	413	410	407	
180								258	321	338	345	
170								207	264	289	294	
160								168	219	252	246	
150								139	188	220	199	
140								119	163	191	180	
130								107	144	166	172	
120								99.4	133	151	165	
110								12.4	83.8	105	134	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	6	6	A6	A6	A6	A8	A8	A8	8	8	8	A8
HMIN	105	106	103		108		209	232	281	329	348	269
SCAT	55.7	55.3	55.7		59.0		57.4	44.6	56.0	50.9	58.1	55.2
HMAXF	321	324	327		304		336	338	408	445	470	388
SHMAX	1683	2027	1927		1569		1043	633	567	602	868	728
KM												
470												1096
460												1088
450												834 1064
440												832 1020
430												817 965
420												783 893
410												716 734 801
400												713 674 692
390												698 603 575 960
380												671 520 455 956
370												633 427 333 935
360												585 326 200 897
350												528 217 81.3 846
340												460 103 780
330	1669	2128	2016				1341	960	388	12.4		700
320	1668	2126	2008				1337	952	388			609
310	1653	2095	1969				1786	1270	861	230		503
300	1610	2030	1896				1784	1203	785	159		384
290	1537	1929	1792				1762	1123	694	87.0		263
280	1436	1792	1654				1714	1015	593			121
270	1313	1628	1494				1635	884	481			12.4
260	1188	1444	1314				1535	736	371			
250	1058	1249	1141				1411	584	248			
240	924	1072	955				1272	400	128			
230	803	889	785				1095	239				
220	692	736	649				922	114				
210	499	612	544				731	12.4				
200	521	516	468				528					
190	456	443	411				366					
180	401	384	362				263					
170	351	335	316				206					
160	306	291	269				168					
150	264	253	226				138					
140	225	221	189				119					
130	198	198	164				109					
120	187	186	152				103					
110	162	155	139				84.9					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	8	8	6	6	5	5	5	6	6	A6	5	
HMIN	270	220	332	319	310	284	330	258	109	106		110
SCAT	44.8	72.5	68.6	46.4	59.6	77.5	60.7	37.7	33.5	43.9		57.1
HMAXF	362	343	485	413	423	435	438	326	258	269		300
SHMAX	557	484	257	210	266	248	127	324	989	1288		1655
KM												
490												262
480												262
470												259
460												254
450												246
440												234
430												220
420												203
410												184
400												164
390												142
380												121
370	917											100
360	917											82.0
350	900	540										63.8
340	858	540	43.5									130
330	795	536										82.5
320	717	526										12.4
310	610	512										83.5
300	483	491										61.5
290	334	468										38.8
280	182	438										407
270	12.4	400										258
260		353										58.7
250		295										1907
240		226										1879
230		131										1765
220		12.4										1574
210												1289
200												874
190												580
180												353
170												241
160												179
150												142
140												120
130												109
120												103
110												97.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	5	A5	A3	A3	3	A3	3	3	4	4	4	3
HMIN	107				109	107	200	200	199	242	230	228
SCAT	56.1				54.8	52.2	45.8	51.2	52.9	44.5	35.1	44.5
HMAXF	314				304	300	296	310	304	321	293	309
SHMAX	2065				1778	1574	1095	871	533	388	283	275
KM												
330												707
320	2794											707
310	2291											2794
300	2258											2142
290	2189											2032
280	2077											1771
270	1939											1764
260	1764											1718
250	1560											1627
240	1322											15

ELECTRON DENSITY

RAYME AFB, PUERTO RICO					60 W					17 NOV 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q _o KP	4	4	A4	A4	A4	3	3	3	A3	3	3	2		
HMIN	105	106			108	205	195	187	269	251	242	218		
SCAT	56.6	49.7			49.3	38.4	40.0	55.3	50.8	32.6	37.6	36.9		
HMAX	277	296			294	286	266	311	351	319	316	294		
SHMAX	1230	1469			1458	991	621	451	309	239	273	233		
KM									432					
370														
360														
350														
340														
330														
320														
310														
300		1771			1907			567	298	493	515	477		
290		1763			1904	1907		552	230	433	474	475		
280	1446	1722			1869	1896		527	143	346	414	460		
270	1441	1642			1794	1826	1215	495	124	240	335	427		
260	1614	1523			1679	1684	1208	450		115	242	379		
250	1365	1383			1528	1488	1164	397			132	303		
240	1289	1181			1344	1240	1082	339				211		
230	1198	968			1104	907	963	275				108		
220	1080	783			871	563	802	215				28.3		
210	924	634			654	151	608	163						
200	758	517			474		250	114						
190	594	433						68.1						
180	453	369			273									
170	351	320			218									
160	287	279			177									
150	237	243			147									
140	194	202			124									
130	167	178			110									
120	154	168			103									
110	145	145			69.6									

ELECTRON DENSITY

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	2	2	1	1	1	3	3	3	A3	A3	3	1
HMIN	200	218	208	201	251	279	300	218	109	108	107	109
SCAT	61.3	31.0	23.9	22.1	87.8	58.2	37.5	37.2	44.2	37.9	38.7	50.5
HMAXF	312	281	254	243	403	378	356	286	266	281	269	295
SHMAX	262	118	69	47	126	83	65	243	705	1110	1253	1555
KM												
410					112							
400					112							
390					111							
380					110	112						
370					108	111						
360					105	109	143					
350					101	105	142					
340					97.1	95.6	137					
330					92.1	92.5	126					
320	335				86.5	85.0	112					
310	335				80.0	74.4	89.1					
300	332				73.2	61.3	12.4					
290	324	286			65.4	46.7		532	1683		1891	
280	312	286			56.8	7.0		529	1683		1886	
270	295	277			47.1			508	1050	1638	1969	1772
260	275	254	219		29.3			471	1045	1552	1942	1673
250	249	218	217	161				408	1016	1406	1846	1515
240	216	155	199	160				303	963	1194	1696	1327
230	173	91.3	162	146				141	876	943	1469	1142
220	119	26.9	103	115				28.3	754	720	1182	934
210	65.0		26.9	68.7				601	548	877	746	
200	2.6							439	428	600	570	
190								305	344	444	440	
180								219	284	351	355	
170								167	238	293	299	
160								135	201	249	252	
150								113	171	213	209	
140								105	150	180	174	
130								97.7	137	160	157	
120								86.6	128	151	149	
110								44.7	92.5	132	110	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	1	A1	A0	A0	A0	A1	1	1	2	2	A2	2
HMIN	109	109	110	109			208	212	223	250	259	265
SCAT	45.7	50.6	58.1	51.4			41.8	42.9	48.6	39.7	44.5	34.9
HMAXF	276	284	292	288			295	300	304	332	343	330
SHMAX	1265	1346	1225		953		515	422	252	210	218	165
KM												
350											375	
340											382	375
330											382	367
320											374	350
310											352	327
300			1393				917	754	417	352	327	333
290			1669	1393			914	744	408	276	232	245
280	1669	1666	1379		1096		887	712	391	224	174	178
270	1661	1636	1344		1063		835	665	368	165	116	88.2
260	1616	1574	1283		1014		756	586	334	103	12.4	
250	1527	1480	1213		948		648	485	281	12.4		
240	1402	1354	1117		860		514	350	212			
230	1241	1175	987		764		369	204	136			
220	1053	981	839		666		201	75.3				
210	849	797	680		573		32.2					
200	662	630	533		488							
190	514	488	400		414							
180	404	385	325		342							
170	333	321	267		261							
160	282	274	218		194							
150	239	232	185		154							
140	206	196	166		127							
130	190	175	155		111							
120	178	165	147		103							
110	119	84.9	12.4		76.2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	2	2	2	2	2	3	A3	3	3	3	3	3
HMIN	224	220	221	201	230	225	291	206	108	108	108	110
SCAT	44.3	41.0	31.5	39.8	54.7	77.1	49.8	45.3	50.3	43.0	48.1	42.5
HMAXF	310	291	282	276	333	369	379	297	299	284	289	285
SHMAX	219	177	120	129	104	146	92	280	1014	1360	1821	1582
KM												
380												143
370												142
360												143
350												141
340												131
330												138
320	389											134
310	389											129
300	383	348										93.1
290	368	348	286									122
280	345	342	285	251	109	96.4						74.7
270	312	324	275	250	95.2	84.6						52.7
260	254	299	248	241	79.1	72.1						477
250	175	259	210	224	61.4	59.4						1240
240	98.0	197	158	201	44.4	46.3						474
230	48.9	109	91.6	164	1.9	20.1						1231
220		12.4		112								1965
210				59.6								1965
200												2407
190												2331
180												2154
170												2154
160												2027
150												2025
140												1860
130												1777
120												1622
110												1475
												1353
												1064
												783
												577
												438
												355
												301
												263
												206
												232
												206
												173
												151
												60.1
												99.8
												119
												60.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	3	3	1	1	81	82	2	2	1	1	1	4
HMIN	108	106	107	110	109		200	200	210	259	219	269
SCAT	43.1	46.2	52.7	45.7	47.6		48.3	56.5	42.0	48.3	56.5	45.7
HMAXF	293	291	312	284	276		301	317	282	346	322	365
SHMAX	1640	1588	1759	1372	1110		562	417	233	227	193	208
KM												
370												335
360												334
350										362		326
340												311
330												288
320												255
310				2015			875	538				213
300	2161	2048	1989				875	528				159
290	2158	2047	1926	1907			863	509	446			113
280	2113	2008	1825	1902	1500		833	480	446	190	226	67.1
270	2005	1935	1697	1859	1494		783	445	438	132	207	12.4
260	1839	1816	1517	1768	1456		716	401	417	51.4	185	
250	1632	1638	1303	1631	1379		631	348	385		158	
240	1400	1432	1113	1456	1279		521	288	338		125	
230	1135	1198	905	1241	1144		391	229	269		83.9	
220	914	936	730	956	971		229	171	173		12.4	
210	734	724	594	722	779		99.4	101	12.4			
200	550	566	400	526	596							
190	476	450	409	383	434							
180	393	371	342	305	312							
170	328	316	287	253	239							
160	278	276	242	212	196							
150	234	243	202	177	167							
140	198	214	171	153	144							
130	177	188	157	139	127							
120	168	170	149	130	117							
110	148	145	127	12.4	76.1							

ELECTRON DENSITY

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{AP}	5	5	6	6	6	5	5	5	6	6	6	A5
HMIN	107	109	111	110	108	115	200	200	289	299	259	237
SCAT	54.4	46.4	58.4	57.4	56.9	53.1	54.7	57.0	50.7	48.8	40.0	44.5
HMAXF	313	290	326	320	306	293	297	320	393	405	343	33
SHMAX	2009	1699	1924	1823	1788	1426	733	331	231	277	257	290
KM												
400										417		
390										335	416	
380										335	407	
370										330	390	
360										318	366	
350										298	331	
340										273	283	477
330			2032							243	228	476 477
320	2294		2027	2032						205	167	464 475
310	2201	151	1994	2015	2032				417	162	108	435 461
300	2260		1936	1964	2025	1786	1050		414	118	66.9	394 435
290	2190	2227	1844	1875	1990	1784	1046	389	405	76.6	12.4	337 398
280	2081	2201	1731	1757	1923	1758	1025	365				179 289
270	1941	2117	1577	1604	1820	1700	985	337				94.3 214
260	1748	1993	1397	1431	1689	1606	930	303				12.4 137
250	1514	1814	1208	1248	1535	1488	857	265				69.3 137
240	1261	1599	1019	1045	1359	1304	762	223				20.3
230	998	1368	817	859	1153	1176	648	175				
220	798	1075	648	688	969	1005	513	143				
210	631	812	532	555	783	816	342	88.0				
200	514	604	448	448	607	628	12.4					
190	427	465	382	359	454	432						
180	362	380	331	294	327	275						
170	315	325	286	247	237	168						
160	277	284	246	210	186	109						
150	240	248	209	182	151	84.1						
140	205	211	178	161	126	71.2						
130	178	180	157	142	111	66.1						
120	165	164	146	130	103	61.0						
110	119	55.6		12.4	84.8							

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO					60 W					22 NOV 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q,KP	3	3	2	2	2	4	4	4	A3	A3	A3			
HMIN	109	108	108	108	107	115	198	229	227	279		209		
SCAT	41.3	44.5	49.1	54.0	54.4	38.9	51.9	43.7	53.3	40.3		49.2		
HMM	290	280	284	287	294	261	283	307	357	355		299		
SHMAX	1446	1264	1250	1243	1211	652	461	212	223	181		222		
KM														
360									286	348				
350									284	347				
340									278	336				
330									267	312				
320									249	281				
310									228	236				
300	2032				1446			389	202	169		362		
290	2032	1669	1542	1555	1445		716	373	174	96.8		359		
280	2000	1669	1539	1549	1424		716	351	144	12.4		348		
270	1909	1647	1509	1518	1378	1143	705	320	116			330		
260	1760	1583	1448	1460	1307	1142	681	270	91.4			306		
250	1547	1470	1352	1372	1221	1118	643	196	68.4			273		
240	1263	1324	1222	1258	1095	956	593	104	47.7			225		
230	1044	1127	1071	1124	953	956	528	12.4	12.4			152		
220	755	935	856	936	802	799	445					74.6		
210	581	736	725	698	638	600	334					12.4		
200	474	587	579	476	482	404	145							
190	400	474	461	363	366	262								
180	343	389	372	296	278	160								
170	298	327	311	249	215	109								
160	256	279	271	212	178.1									
150	217	242	239	181	142	70.4								
140	187	209	209	152	121	64.1								
130	164	182	176	129	108	57.6								
120	152	168	155	119	99.7	51.0								
110	76.1	136	131	101	72.9									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	A3	A3	4	4	4	2	2	2	52	A2	2	1
HMIN	213	213	209	219	247	226	207	128	109		108	108
SCAT	39.6	39.0	41.8	49.9	71.3	50.7	73.4	43.9	42.2		36.2	52.2
HMAXF	291	292	280	308	379	341	346	276	271		274	288
SHMAX	144	114	92	115	145	111	156	323	753		1143	1500
KM												
380					156							
370					156							
360					154							
350					150	152	161					
340					145	152	160					
330					138	150	159					
320					130	145	156					
310				179	121	136	151					
300	274	219			178	110	126	145				
290	274	219			173	95.7	112	138			1891	
280	269	214	174		165	79.2	96.2	130	461	1143	1727	1880
270	254	202	172	153	61.7	79.7	120	460	1143	1721	1834	
260	231	184	165	139	45.3	64.9	107	447	1124	1657	1751	
250	201	158	153	119	12.4	51.6	91.7	422	1071	1527	1647	
240	161	119	138	90.9		40.6	75.2	385	989	1341	1491	
230	110	78.0	113	60.8		12.4	59.2	339	870	1104	1271	
220	53.4	43.7	74.6	12.4			44.6	284	708	879	1033	
210			12.4				12.4	226	544	685	779	
200								170	389	541	576	
190								126	276	426	433	
180								95.2	207	348	351	
170								75.0	161	295	294	
160								61.5	128	254	249	
150								54.9	107	220	213	
140								48.2	94.2	192	181	
130								12.4	87.4	161	161	
120									78.0	139	151	
110									54.0	115	132	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	A1	R1	2	2	2	2	A2	2	4	4	4	2
HMIN	106	108	107	110	110	112	200	200	218	268	262	227
SCAT	39.1	47.2	46.2	38.4	41.1	47.2	43.7	38.4	42.0	65.4	60.0	56.1
HMAXF	268	282	274	263	270	273	283	260	304	415	406	361
SHMAX	1172	1268	1153	934	864	733	416	133	121	277	265	242
KM												
420										298		
410										297	310	
400										294	309	
390										287	304	
380										275	295	
370										261	281	304
360										243	263	304
350										224	241	301
340										204	215	293
330										181	185	279
320										155	151	262
310										214	127	120
300										213	99.6	92.3
290		1654					716			208	72.8	70.3
280		1653	1555			1050	715			196	49.2	52.0
270	1786	1626	1552	1446	1240	1048	700			179	12.4	32.2
260	1765	1561	1518	1444	1223	1028	664	286	155			83.1
250	1686	1459	1448	1405	1170	983	614	281	125			61.1
240	1547	1320	1347	1314	1079	919	537	266	90.1			44.5
230	1354	1135	1197	1178	957	824	443	244	56.7			12.4
220	1095	930	1001	994	811	705	338	210	12.4			
210	820	725	786	779	659	565	221	151				
200	597	553	599	582	514	426	12.4	12.4				
190	442	435	462	434	399	293						
180	358	356	366	329	305	192						
170	305	302	302	270	237	130						
160	265	256	257	228	190	95.4						
150	229	212	220	192	158	78.2						
140	197	179	189	163	133	69.4						
130	177	167	164	142	112	64.9						
120	166	152	150	131	102	60.4						
110	110	98.9	115	124	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	2	2	3	3	A3	1	1	1	52	2	2	2
HMIN	218	205	216	229	199	252	268	128	110	108	108	107
SCAT	52.7	40.9	32.9	37.7	75.2	58.4	44.2	29.4	35.6	43.3	46.7	40.7
HMAXF	324	282	272	300	350	361	357	260	251	260	273	274
SHMAX	284	193	75	100	197	132	118	308	599	745	966	1127
KM												
370						170						
360						193	170	198				
350						193	168	197				
340						193	164	191				
330	417					190	157	180				
320	416					186	148	164				
310	409					180	137	142				
300	395			203	171	123	116					
290	372	375		200	162	106	84.7					
280	344	375	179	188	150	87.5	54.7					
270	305	368	179	172	138	68.8	12.4					
260	251	348	173	147	124	49.2		608	1050	1050	1215	1509
250	183	321	158	111	108			590	1049	1036	1163	1417
240	114	275	137	66.7	91.4			537	1024	994	1085	1285
230	60.9	206	104	12.4	74.7			448	961	926	974	1106
220	12.4	122	56.8		58.9			342	847	825	831	914
210		45.6			43.3			244	683	699	680	724
200					3.1			167	503	562	544	564
190								117	350	438	439	452
180								87.9	240	339	361	374
170								69.8	180	268	305	322
160								59.0	143	218	262	283
150								53.3	120	180	221	247
140								45.5	105	150	188	213
130								12.4	91.8	128	160	184
120									77.4	117	140	169
110									12.4	97.8	115	142

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	2	2	3	A3	A3	A5	A5	5	4	4	4	5
HMIN	109	109	106	108		209	199	199	239	259	277	268
SCAT	49.9	42.3	51.0	52.6		31.2	55.1	39.9	52.7	49.9	52.6	40.6
HMAXF	286	284	291	293		264	316	276	347	352	400	358
SHMAX	1179	1210	1319	1438		454	704	276	190	166	181	174
KM												
400											240	
390											238	
380											232	
370											221	
360											257	205
350										262	257	186
340										261	253	163
330										255	244	136
320							939			245	229	109
310							936			229	211	85.2
300			1583	1786			918			210	186	63.5
290	1446	1669	1583	1784			880			185	151	45.6
280	1441	1664	1566	1758			832	540		154	112	12.4
270	1410	1621	1508	1699		1143	776	537		123	67.7	12.4
260	1350	1528	1437	1602		1137	704	519	92.4	12.4		
250	1261	1393	1338	1480		1079	613	482	61.4			
240	1141	1216	1193	1331		967	502	431	12.4			
230	993	1041	1027	1119		970	370	354				
220	810	785	844	891		541	241	245				
210	638	587	674	680		97.2	140	126				
200	504	459	537	519			12.4	12.4				
190	411	376	437	395								
180	348	317	365	313								
170	298	272	308	253								
160	257	235	262	209								
150	219	201	222	177								
140	183	174	186	155								
130	169	158	159	140								
120	156	149	147	131								
110	127	68.6	122	92.6								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q>KP	5			5			5		S5	A5		A4
HMIN	211	200	278	309	259	197	264	199		104	104	
SCAT	27*2	30*8	54*6	54*8	46*8	57*6	63*9	51*4		44*0	37*3	
HMAXF	261	247	377	410	346	297	376	286		291	276	
SHMAX	202	54	69	102	111	77	79	246		943	1373	
KM												
410				143								
400				142								
390				139								
380			97*2	133			97*2					
370			96*9	124			97*0					
360			95*0	115			95*6					
350			91*4	102	179		93*1					
340			86*3	85*1	178		89*4					
330			79*0	66*3	174		84*4					
320			70*8	43*4	165		77*5					
310			60*6	3*6	152		70*3					
300			49*4		136	104	61*6			1191		
290			35*9		115	104	52*4	403		1191		
280			6*5		91*5	102	42*6	401		1173	2161	
270	608				65*2	98*4	18*2	393		1122	2143	
260	607				12*6	92*9		377		1044	2064	
250	583	143				87*0		359		939	1906	
240	521	142				79*4		325		822	1665	
230	377	133				69*5		267		1088	1352	
220	161	117				57*2		181		576	1010	
210		94*8				43*9		89*8		471	724	
200		12*4				12*4		12*4		389	531	
190										323	416	
180										264	344	
170										212	294	
160										172	256	
150										140	225	
140										112	197	
130										96*3	172	
120										90*9	148	
110										85*6	129	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₄ KP	A4	4	4	4	4	A4	4	4	3	3	3	4
HMIN		108	109	107	110	200	190	200	220	227	198	200
SCAT		70.0	52.3	41.7	46.6	41.3	51.2	45.0	48.8	43.3	34.0	51.7
HMAX		322	308	292	281	282	300	283	340	330	280	285
SHMM		1755	1537	1435	1337	892	762	348	246	258	174	183
KM												
350									335			
340									335	417		
330		1669							332	417		
320		1668							321	411		
310		1656	1776				1050		302	394		
300		1661	1774	2032					276	365		
290		1581	1730	2030	1907	1626	1039	608	246	326	362	286
280		1514	1655	1986	1906	1624	1009	607	213	275	362	285
270		1441	1540	1880	1878	1589	957	595	179	217	353	280
260		1364	1399	1718	1807	1498	887	567	146	161	328	269
250		1221	1239	1500	1692	1371	801	521	117	111	289	252
240		1007	1035	1269	1537	1198	702	467	88.4	69.3	233	232
230		909	846	1019	1319	973	601	386	58.1	30.0	170	204
220		751	675	772	1020	699	489	279	4.1		102	167
210		610	540	571	744	371	362	140			57.1	114
200		494	441	432	543	12.4	215	12.4			12.4	12.4
190		407	365	342	391		12.4					
180		343	310	287	293							
170		298	266	237	230							
160		262	230	205	185							
150		228	201	173	154							
140		191	174	140	130							
130		173	145	125	111							
120		162	134	118	100							
110		127	70.2	105	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP		4	A4		4	4	F3	53		4		1
Hmin	202	218	229	200	201	200	247	208	110	109	109	108
SCAT	53.4	43.3	35.6	44.8	41.5	73.4	64.9	38.3	45.8	47.1	48.8	44.0
HMAXF	318	319	305	270	283	333	374	281	274	277	275	286
SHMAX	163	159	150	116	110	121	166	192	673	1106	1208	1341
KM												
380								193				
370								193				
360								191				
350								187				
340							127	180				
330							127	171				
320	219	257					126	161				
310	217	254	310				124	147				
300	212	245	308				120	131				
290	204	229	296		198	116	111	389				
280	190	208	270		198	110	86.7	389	960	1514	1640	1786
270	174	176	234	214	194	103	66.7	381	958	1505	1636	1729
260	154	141	182	211	184	95	47.2	360	937	1463	1602	1630
250	130	106	118	203	168	85.9	12.4	328	895	1386	1534	1489
240	106	74.1	67.4	190	147	75.6		277	828	1279	1450	1303
230	80.8	48.9	12.4	173	117	62.3		210	732	1132	1303	1087
220	57.9	12.4		148	81.0	49.4		120	610	925	1080	855
210	37.2			107	53.1	33.1		26.9	348	532	717	841
200				12.4					348	532	621	751
190									251	399	463	425
180									185	314	359	359
170									137	253	287	311
160									108	210	237	273
150									91.9	175	197	238
140									82.4	148	166	203
130									77.8	128	145	175
120									73.2	117	134	158
110									12.4	49.0	87.9	137

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	1	A1	A3	3	A3	3	3	A3	A3	3	3	3
H _{min} T	109	107	106	109		206	189	202	218	248	227	210
SCAT	48.3	54.9	45.7	41.0		50.6	44.2	54.2	51.4	60.7	45.7	39.9
HMAXF	284	293	277	274		293	270	310	316	369	318	290
SHMAX	1496	1620	1320	1158		977	484	322	186	248	201	127
370										310		
360										308		
350										303		
340										293		
330										278		
320									280	261	335	
310								446	279	239	333	
300		1907				1555		443	273	209	323	240
290	2080	1905				1554		432	261	173	305	240
280	2074	1879	1786	1669		1530		413	245	132	281	236
270	2022	1822	1775	1664		1476	875	388	223	91.7	245	225
260	1924	1731	1721	1618		1391	864	353	196	57.4	195	205
250	1772	1617	1625	1518		1322	831	310	157	12.4	135	180
240	1546	1459	1490	1376		1129	782	257	111		81.2	144
230	1266	1259	1311	1176		921	695	198	62.4		36.8	98.6
220	1011	1028	1094	956		627	573	137	12.4			54.8
210	759	808	847	761		174	405	82.4				
200	559	625	647	589				293				
190	430	488	487	445				230				
180	352	396	384	354								
170	300	330	316	286								
160	259	282	269	239								
150	222	245	231	202								
140	191	212	198	172								
130	168	185	172	148								
120	154	169	154	132								
110	114	146	133	65.5								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	3	3	A3	A3	A3	3	3	3	A3	4
HMIN	210	214	217	208	239	240	218	211	109	108	108	110
SCAT	52.5	39.6	49.2	50.1	59.8	56.7	61.5	36.9	42.7	41.3	38.3	38.6
HMAXF	320	300	311	311	347	355	329	277	271	280	265	265
SHMAX	187	141	182	177	232	135	142	229	678	1114	1028	983
KM						174						
360						304	174					
350						303	171					
340						298	166	179				
330	262					289	157	178				
320	262		286	262		289	157	178				
310	260		286	262	275	146	175					
300	253	262	282	259	259	133	169					
290	241	258	272	251	237	117	161					
280	224	246	256	237	208	97.7	151	508	982	1640		
270	203	225	235	220	173	79.0	139	503	982	1616	1555	1446
260	176	196	208	196	129	61.1	124	481	967	1542	1549	1441
250	143	157	170	165	80.9	42.6	103	445	926	1437	1497	1393
240	108	106	124	129	12.4		77.2	378	857	1256	1392	1289
230	75.6	67.4	68.9	91.4			50.8	269	752	1047	1249	1150
220	48.0	37.7	20.3	57.8			12.4	108	625	811	1028	963
210									500	596	807	756
200									383	442	623	589
190									290	339	483	459
180									222	269	372	374
170									171	215	298	317
160									135	171	248	275
150									108	139	212	239
140									92.4	125	179	205
130									83.0	120	156	178
120									76.6	114	139	155
110									60.5	89.8	98.4	60.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	4	4	A5	A5	A5	A4	4	A4	A5	F5	5	5
HMIN	107	108					208	207	208	287	239	219
SCAT	56.3	51.1					42.7	40.2	47.8	49.6	59.5	51.6
HMAXF	276	288					291	284	297	387	352	322
SHMAX	1102	1152					634	389	187	208	315	276
KM												
390										310		
380										308		
370										300		
360										286	403	
350										265	403	
340										239	398	
330										207	388	417
320										170	371	417
310										127	350	411
300							1096		298	74.0	323	398
290		1341					1095	754	296	29.1	292	376
280	1290	1334					1077	752	288		257	347
270	1287	1301					1026	731	272		211	311
260	1266	1243					949	689	251		150	257
250	1221	1161					865	620	225		86.7	188
240	1164	1050					721	516	194		12.4	108
230	1083	914					570	378	155		57.8	
220	963	764					376	227	99.4		4.9	
210	821	622					116	47.6	26.9			
200	667	508										
190	528	430										
180	418	374										
170	344	327										
160	290	286										
150	249	247										
140	212	209										
130	178	169										
120	157	150										
110	143	88.1										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	5	5	A4	4	4	3	3	3	4	4	4	2
HMIN	219	199	199	283	299	228	202	210	110	108	109	108
SCAT	32.0	31.8	38.2	53.7	46.4	54.5	32.3	40.0	40.3	46.6	43.8	51.0
HMAXF	280	256	260	388	384	336	261	273	254	275	276	286
SHMAX	148	115	69	117	98	145	81	223	601	855	1165	1362
KM												
390				161	161							
380				160	160							
370				156	157							
360				150	150							
350				140	138							
340				128	123	198						
330				114	105	198						
320				96.2	84.9	194						
310				78.2	61.7	187						
300				59.6	12.4	177						
290	362			38.8		164						
280	362					147						
270	352		148			126	193	476		1084	1669	1634
260	324	292	148			101	193	465	1004	1055	1615	1529
250	280	289	145			76.5	188	438	1002	1004	1522	1442
240	205	272	137			52.2	172	400	975	929	1390	1302
230	103	245	128			12.4	149	335	922	831	1206	1155
220	12.4	194	109				114	205	828	716	962	979
210		110	81.1				64.4	12.4	678	599	720	807
200		12.4	12.4						495	486	538	647
190									334	392	407	503
180									223	319	325	393
170									165	264	271	321
160									128	217	230	269
150									104	178	195	232
140									92.3	151	164	198
130									85.1	127	143	169
120									76.0	117	133	152
110									12.4	91.4	80.1	119

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A2	82	1	1	A1	A1	1	1	3	F3	F3	F2
HMIN	106	106	110	110			202	199	200	206	228	
SCAT	41.7	49.7	57.5	45.1			35.9	38.7	58.7	49.2	48.2	
HMAXF	271	287	309	286			278	281	295	316	340	
SHMAX	1156	1183	1387	1175			481	388	224	227	233	
KM												
350										335		
340										335		
330										332		
320										335	321	
310				1473						334	302	
300				1444						310	326	277
290				1341	1426	1555				754	309	311
280	1654	1335	1368	1550			1094	754	305	291	208	
270	1654	1304	1293	1510			993	740	296	261	172	
260	1624	1245	1198	1430			942	699	282	225	135	
250	1547	1151	1088	1320			855	635	265	179	94.9	
240	1432	1047	956	1161			725	546	243	131	57.0	
230	1251	934	813	983			556	425	214	90.0	12.4	
220	1063	818	678	797			338	268	174	59.6		
210	838	707	558	625			122	124	121	26.8		
200	618	603	460	489				12.4	12.4			
190	458	508	390	388								
180	359	423	337	310								
170	298	351	290	247								
160	251	289	250	215								
150	205	247	212	180								
140	174	208	172	155								
130	159	177	153	139								
120	151	164	137	128								
110	137	128	12.4	12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

29 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	F2	F2	F2	A2	2	3	3	3	2	A2	2	1
HMIN	239		208	216	238	248	224	209	108	109	108	110
SCAT	41.3		26.6	84.3	56.3	50.5	42.0	32.5	42.3	33.4	40.5	46.6
HMAXF	319		263	372	348	349	316	263	263	255	269	280
SHMAX	167		113	221	135	162	177	214	635	810	971	1162
KM												
380				198								
370				198								
360				197								
350				195	179	240						
340				191	178	238						
330				186	175	232						
320	310			179	168	220	304					
310	306			173	158	204	302					
300	293			166	146	184	292					
290	270			156	131	158	274					
280	240			142	114	126	247				1514	
270	199	310		125	93.1	90.0	212	560	960		1420	1497
260	144	309	109	70.7	57.4	169	539	959	1446	1403	1444	
250	72.8	291	92.9	49.0	12.4	122	519	939	1440	1343	1363	
240	12.4	250	75.2	12.4		76.2	474	892	1377	1243	1234	
230		189	56.2			40.6	399	819	1245	1093	1071	
220		113	24.1				275	705	1055	894	873	
210		30.0					570	785	685	688		
200							427	555	518	536		
190							302	389	411	426		
180							227	295	338	354		
170							178	237	286	306		
160							142	196	243	269		
150							118	165	202	236		
140							101	141	165	198		
130							91.8	125	144	165		
120							84.6	115	133	149		
110							32.2	55.6	67.3	12.4		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

29 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	A1	A1	B2	2	2	A3	3	3	2	2	2	A3
HMIN	106	109	107	109	109	209	200	204	221	204	200	207
SCAT	45.3	62.1	53.1	54.7	50.0	42.5	37.4	37.3	51.6	33.8	49.5	35.7
HMAXF	278	294	283	298	290	292	275	292	322	297	298	281
SHMAX	1113	1240	976	1159	956	625	401	332	351	228	258	140
KM												
330										524		
320										524		
310										516		
300		1328		1290		1143		634	498	446	403	
290		1327	1096	1283	1191	1142		633	473	442	400	286
280	1446	1312	1095	1255	1180	1121	794	616	435	419	390	286
270	1435	1279	1079	1199	1145	1065	790	579	389	375	370	279
260	1389	1228	1042	1133	1091	982	761	514	327	315	344	261
250	1301	1169	985	1042	1004	860	700	427	249	248	308	233
240	1186	1084	914	928	895	712	621	326	160	179	260	192
230	1037	956	828	804	768	502	521	223	71.1	120	196	143
220	857	801	731	676	632	197	385	115		70.8	120	90.2
210	682	648	634	556	500	12.4	208	50.9		38.8	61.2	38.7
200	541	523	541	457	389		12.4			4.1		
190	441	430	451	377	305							
180	366	366	368	314	242							
170	313	320	297	264	193							
160	272	279	244	227	159							
150	240	238	201	196	134							
140	201	199	172	173	118							
130	167	163	153	151	108							
120	152	149	135	130	100							
110	131	65.5	112	49.0	49.0							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 NOV 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	3	3	2	2	2	1	1	1	A2	2	2	2
HMIN	219	230	200	200	266	268	228	219	109	109	108	107
SCAT	37.0	41.3	42.8	40.6	67.9	49.8	47.8	38.5	41.2	41.8	30.6	41.5
HMAXF	297	312	277	282	404	369	327	288	271	274	260	278
SHMAX	141	166	155	97	145	131	137	250	793	915	909	1177
KM												
410					156							
400					156							
390					155							
380					151							
370					146	193						
360					139	192						
350					131	186						
340					122	177						
330					110	165	208					
320		304			95.7	148	207					
310		304			81.1	126	202					
300	280	298			66.8	99.8	191					
290	277	282		174	53.8	72.7	178	532				
280	264	259	286	174	41.6	49.5	159	526	1240	1328	1669	
270	241	226	284	170	12.4	12.4	133	502	1240	1326	1655	
260	208	181	274	161			106	465	1220	1293	1669	1594
250	166	127	257	145			79.9	307	1163	1221	1628	1488
240	112	69.5	233	126			54.5	285	1069	1119	1492	1334
230	64.6	1.2	199	102			12.4	138	936	958	1277	1135
220	12.4		148	74.8				750	770	960	892	
210			82.2	50.2				546	583	672	686	
200								376	439	494	522	
190								273	346	372	411	
180								208	284	303	334	
170								165	235	254	281	
160								135	195	215	240	
150								111	160	180	205	
140								86.5	133	155	177	
130								89.7	121	140	157	
120								80.4	114	132	147	
110								38.9	55.6	97.9	106	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 NOV 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	2	2	4	4	4	6	6	6	6	6	6	8
HMIN	108	108	108	108	109	209	218	209	200	208	231	200
SCAT	42.2	58.6	53.3	50.3	44.0	34.8	39.3	38.8	52.4	44.9	49.0	50.9
HMAX	264	273	281	292	289	289	308	291	314	312	327	292
SHMAX	908	903	941	1023	990	577	615	553	429	285	305	154
KM												
330										492		
320										490		
310										607	446	478
300				1143			1143		1132	1096	597	438
290			1050	1142	1341	1215	1083	1096	577	419	427	235
280		993	1049	1125	1328	1197	1000	1074	544	389	377	232
270	1240	992	1036	1085	1280	1128	881	1017	502	347	303	224
260	1237	980	1005	1024	1193	1011	731	921	448	295	217	211
250	1205	953	956	940	1080	835	549	772	378	241	139	196
240	1138	918	887	841	937	633	320	572	299	184	72.8	175
230	1039	880	799	732	768	385	123	359	213	121	147	
220	897	782	699	623	603	136	26.9	139	130	72.6		115
210	736	690	597	531	473	12.4		12.4	64.8	24.6		76.0
200	583	591	505	460	369				3.7			1.2
190	461	494	428	400	292							
180	384	406	362	346	234							
170	329	337	312	296	188							
160	285	290	272	247	152							
150	246	250	235	205	129							
140	209	210	199	175	116							
130	185	185	178	165	108							
120	168	166	156	135	01							
110	116	134	114	78.1	155							

AVERAGE ELECTRON DENSITY

KP BELOW 4.5

RAMEY AFB, PUERTO RICO

60 W

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

COUNT 23 22 23 23 21 23 23 21 22 22 21 21

KP 2.5 2.5 2.7 2.7 2.6 2.4 2.4 2.4 2.5 2.5 2.5 2.1

HMIN 221 220 218 213 249 251 246 205 109 109 108 108

RATIO 6.1 6.9 7.2 6.3 4.4 4.8 5.5 7.3 5.3 5.2 5.1 4.7

SCAT 43.2 37.3 36.6 48.5 65.0 58.1 49.5 36.6 43.1 42.0 47.4 46.5

NMAX 403 352 307 212 183 176 205 625 1207 1659 1905 1826

HMAXF 310 296 288 300 372 360 338 278 270 274 277 282

SHMAX 223 172 146 131 157 133 130 286 808 1125 1335 1395

SHINE 1359 1165 1013 730 674 629 708 2049 4214 5805 6709 6547

KM 950 27.0 22.0 18.8 13.9 16.9 15.1 15.6 35.8 66.7 93.3 109 107

900 34.6 28.2 24.2 17.8 21.7 19.3 20.1 45.9 85.6 120 140 137

850 44.4 36.2 31.0 22.8 27.8 24.8 25.7 58.9 110 154 180 176

800 56.9 46.5 39.7 29.1 35.6 31.7 33.0 75.6 141 197 231 226

750 72.9 59.5 50.9 37.5 45.5 40.6 42.2 96.9 181 253 296 289

700 93.2 76.2 65.2 47.9 57.9 51.8 53.9 124 231 324 378 373

650 119.9 97.2 83.2 61.1 73.3 65.8 68.6 159 296 414 484 470

600 151 124 106 77.6 92.0 82.9 86.9 202 377 527 616 602

550 190 156 134 97.7 114 103 109 256 478 668 781 763

500 237 195 167 122 137 126 134 322 602 840 981 958

490 247 204 175 127 142 131 140 336 629 878 1026 1001

480 258 213 182 132 146 136 145 351 658 918 1071 1045

470 268 222 190 137 151 141 151 367 687 958 1118 1091

460 279 231 198 143 155 145 156 382 677 958 1118 1091

450 290 240 206 148 159 150 162 399 748 1043 1216 1185

440 301 250 214 154 163 154 167 415 779 1086 1266 1234

430 311 259 222 159 166 158 172 432 811 1130 1317 1283

420 322 268 230 165 169 162 177 449 843 1175 1369 1333

410 333 278 238 170 171 165 182 466 876 1220 1421 1382

400 343 287 246 175 173 169 187 483 909 1265 1472 1432

390 353 296 254 180 173 171 191 500 942 1310 1524 1481

380 362 305 261 185 173 173 194 516 974 1355 1574 1529

370 371 313 269 189 172 174 197 532 1006 1398 1624 1576

360 378 321 275 193 170 174 200 548 1037 1440 1621 1621

350 385 328 282 196 166 172 201 563 1066 1480 1717 1663

340 390 334 287 198 161 168 200 577 1094 1518 1759 1702

330 394 339 291 200 154 162 198 589 1120 1553 1797 1737

320 395 342 293 201 143 153 193 600 1144 1583 1831 1767

310 393 343 294 201 132 141 184 609 1164 1610 1859 1792

300 385 340 292 199 120 126 169 616 1181 1631 1880 1810

290 370 333 287 196 108 108 151 621 1193 1645 1894 1820

280 345 320 278 189 94.3 86.1 131 621 1199 1650 1895 1817

270 308 298 262 180 78.6 65.3 107 611 1195 1637 1870 1785

260 256 265 241 167 63.7 45.8 78.6 583 1173 1593 1806 1716

250 191 223 209 150 46.6 28.9 50.1 528 1124 1506 1691 1604

240 128 167 167 127 29.1 14.4 26.0 434 1045 1370 1520 1447

230 71.7 99.6 119 99.6 15.2 5.2 14.1 291 930 1183 1297 1255

220 31.1 39.9 64.5 68.5 10.1 2.1 7.4 134 777 953 1043 1031

210 10.2 8.9 19.7 37.4 7.0 1.4 3.3 38.1 608 725 797 816

200 .9 .5 1.6 1.6 1.6 1.6 1.6 16.6 449 540 598 632

190 180 180 180 180 180 180 180 11.5 321 411 458 490

180 180 180 180 180 180 180 180 8.7 233 324 366 391

170 160 160 160 160 160 160 160 6.9 178 263 302 327

160 150 150 150 150 150 150 150 5.7 141 216 255 279

150 140 140 140 140 140 140 140 5.2 117 180 216 239

140 130 130 130 130 130 130 130 4.5 103 153 184 205

130 120 120 120 120 120 120 120 1.2 94.6 136 160 178

120 110 110 110 110 110 110 110 87.0 126 146 163

110 41.1 72.1 102 118

AVERAGE ELECTRON DENSITY

KP BELOW 4.5

RAMEY AFB, PUERTO RICO

60 W

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

COUNT 21 21 19 15 15 10 20 21 22 22 21 21

KP 1.8 2.0 1.8 2.0 2.2 2.4 2.3 2.2 2.4 2.4 2.3 2.1

HMIN 107 108 108 108 109 148 203 205 221 245 240 232

RATIO 4.6 4.3 4.2 4.5 4.4 5.4 5.7 5.5 5.6 5.7 6.1

SCAT 48.6 54.1 53.8 50.8 52.7 46.3 46.5 46.5 48.4 46.3 46.0 43.1

NMAX 1744 1689 1691 1630 1581 1545 1165 731 504 464 445 430

HMAXF 284 294 299 292 297 290 296 300 321 342 337 319

SHMAX 1387 1456 1482 1334 1316 1077 721 451 322 287 270 245

SHINE 6307 6220 6251 5933 5775 5395 4007 2513 1745 1597 1524 1460

KM 950 104 105 108 101 100 94.9 73.8 46.9 35.6 36.5 34.2 30.7

900 133 135 139 129 128 122 94.7 60.3 45.6 46.9 43.9 39.4

850 171 173 178 166 165 156 122 77.3 58.6 60.1 56.2 50.5

800 219 222 229 212 211 200 156 99.1 75.1 77.0 72.1 64.7

750 281 284 293 272 271 257 200 127 96.1 98.6 92.2 82.8

700 359 364 375 348 346 329 255 162 123 126 118 106

650 459 465 478 445 442 420 326 207 157 160 150 135

600 584 591 608 565 562 534 415 264 199 202 189 171

550 740 747 768 715 710 675 524 333 250 253 237 215

500 928 935 960 895 888 846 655 416 310 312 292 267

490 970 976 1002 935 927 883 684 434 323 324 304 278

480 1013 1019 1045 975 967 922 713 453 336 337 316 289

470 1056 1062 1089 1017 1007 961 743 472 350 349 328 300

460 1101 1106 1133 1060 1049 1002 774 491 363 361 339 312

450 1147 1151 1179 1103 1091 1043 805 511 377 374 351 323

440 1194 1197 1224 1146 1134 1084 836 530 390 386 362 335

430 1241 1242 1270 1191 1177 1126 868 550 404 397 373 346

420 1288 1288 1316 1235 1219 1168 900 570 417 408 384 357

410 1336 1334 1361 1279 1262 1210 931 589 430 419 394 368

400 1383 1379 1406 1322 1304 1251 962 609 442 428 404 378

390 1429 1423 1449 1365 1344 1292 992 627 453 437 412 388

380 1475 1465 1491 1406 1383 1331 1021 645 464 444 419 397

370 1519 1506 1530 1446 1421 1369 1048 662 474 450 424 405

360 1561 1544 1566 1483 1455 1404 1074 678 482 453 427 411

350 1600 1579 1599 1517 1487 1437 1097 692 489 454 429 416

340 1636 1610 1628 1548 1514 1467 1117 704 493 450 426 419

330 1668 1636 1651 1574 1537 1492 1134 714 494 441 418 417

320 1695 1657 1668 1595 1555 1513 1147 721 490 424 404 412

310 1716 1671 1679 1609 1565 1528 1155 725 481 398 382 401

300 1731 1676 1676 1615 1566 1536 1155 722 463 361 352 381

290 1737 1670 1654 1610 1553 1530 1139 709 437 312 314 352

280 1726 1646 1609 1586 1520 1502 1103 682 400 249 266 312

270 1686 1596 1538 1534 1461 1442 1044 641 352 188 212 259

260 1613 1514 1439 1454 1374 1350 961 580 300 126 156 201

250 1500 1399 1313 1342 1259 1221 847 503 244 69.5 110 149

240 1348 1254 1165 1199 1120 1061 704 407 181 35.2 64.3 101

230 1169 1079 1003 1035 961 862 528 298 114 19.2 27.3 55.7

220 970 892 837 852 790 633 340 183 56.2 9.6 11.7 25.5

210 777 716 679 677 626 391 168 87.8 21.1 5.0 5.6 11.2

200 613 572 548 527 485 231 45.2 10.3 2.3

190 487 462 444 414 374 162 3.1

180 397 384 367 333 291 114

170 333 326 307 275 227 84.6

160 284 281 260 230 181 66.7

150 242 241 221 195 149 55.9

140 207 206 188 166 127 49.0

130 182 180 164 146 113 44.5

120 167 165 151 134 105 41.1

110 132 114 101 73.5 56.8 14.3

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO	60 W										1 DEC 1960			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		
Q _z KP	8	8	F7	F7	F7	5	F5	5	5	5	A5	6		
HMIN	307	338	347	238	225	255	337	218	110	110	107	108		
SCAT	44.4	60.2	53.1	50.1	61.0	47.5	64.4	93.2	56.2	34.8	43.5	44.1		
HMAXF	401	462	467	347	386	336	477	423	334	287	282	293		
SHMAX	122	233	225	194	239	143	175	420	1343	1754	1854	1801		
KM								193						
480		286	306					193						
470		286	305					190						
460		283	298					185						
450		277	286					177						
440		266	267					166	335					
430		250	244					154	335					
420	198	232	217					140	334					
410	198	211	184					125	330					
400	195	186	146		259			108	325					
390	187	157	104		258			91.3	318					
380	173	124	70.6		255			73.9	308					
370	155	85.2	47.2		248			57.6	295					
360	132	54.5	12.4	280	236			43.3	282					
350	105	12.4		278	221	240	12.4	267	1473					
340	79.3			272	203	239		251	1472					
330	54.7			259	184	233		234	1452					
320	18.1			240	162	222		215	1408					
310				217	140	206		194	1341			2361		
300				190	118	185		171	1262	3174	2865	2359		
290				158	98.3	156		145	1136	3139	2863	2313		
280				122	81.4	114		118	1008	2974	2810	2192		
270				85.2	66.4	55.2		83.9	869	2691	2677	2030		
260				54.3	51.5			51.6	720	2246	2479	1821		
250				12.4	39.7			12.4	583	1692	2186	1587		
240					12.4				471	1091	1790	1332		
230									382	686	1359	1094		
220									311	483	877	867		
210									254	369	596	670		
200									205	297	384	507		
190									164	242	282	388		
180									129	197	226	318		
170									108	161	190	267		
160									92.8	136	166	225		
150									82.2	117	149	189		
140									78.0	108	139	163		
130									73.7	101	133	152		
120									12.4	12.4	121	130		
110														

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO													60 W				1 DEC 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300								
Q _z KP	6	6	6	A6	6	B6	6	6	4	4	4	4								
HMIN	105	108	108	108	109		203	221	209	248	261	221								
SCAT	60.1	50.9	57.7	59.4	66.7		50.3	42.8	31.4	48.2	44.9	32.9								
HMAXF	314	310	321	331	321		304	322	307	358	348	292								
SHMAX	2127	1869	1931	1975	1942		741	428	255	279	247	275								
KM													417							
360													414							
350													403							
340													382							
330													360							
320	2243		2031	2013	2000		716				353									
310	2240	2161	2012	1966	1987		1119	701	477	314	346									
300	2212	2141	1961	1887	1951		1117	666	476	265	296	643								
290	2150	2081	1877	1783	1892		1096	613	458	211	237	642								
280	2056	1970	1768	1643	1817		1049	542	397	156	168	621								
270	1938	1828	1624	1494	1718		986	445	355	103	100	572								
260	1788	1648	1455	1328	1586		894	342	307	58.7	486									
250	1598	1464	1256	1136	1427		774	237	254	12.4	366									
240	1382	1214	1068	993	1252		641	139	196	184										
230	1148	1016	893	820	1037		477	63.0	138	70+2										
220	943	831	742	669	839		306	82.7												
210	771	679	615	545	653		135	12.4												
200	634	559	512	441	505															
190	524	464	431	359	382															
180	433	388	366	291	288															
170	358	326	314	240	220															
160	299	277	270	200	175															
150	257	235	232	168	145															
140	225	196	199	142	124															
130	195	168	171	126	110															
120	173	154	153	117	102															
110	149	129	109	94.3	54.0															

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	4	4	2	2	2	3	3	3	1	1	1	A2
HMIN	209	228	267	226	259	252	227	229	115	109	107	107
SCAT	28.3	52.4	58.0	62.8	60.9	44.1	52.2	39.0	41.7	41.6	36.6	41.5
HMAXF	259	319	380	355	370	330	332	311	275	270	268	277
SHMAX	83	90	112	118	149	100	123	317	960	1184	1281	1434
KM												
390			143									
380			143									
370			142		189							
360			139	161	187							
350			133	160	184							
340			126	158	177	174	174					
330			116	154	168	174	174					
320		135	104	148	159	172	172	608				
310		134	90.1	140	145	165	167	608				
300		131	75.0	130	127	153	158	596				
290		125	59.4	118	105	139	148	563				
280		116	43.2	103	80.9	118	134	513	1555	1786	2096	
270		107	12.4	86.6	52.9	91.9	113	436	1550	1786	1969	2080
260	235	93.3	70.7	6.1	62.3	90.2	318	1506	1759	1942	2000	
250	220	77.2	55.5			67.4	226	1413	1680	1833	1869	
240	210	54.8	41.8			47.2	117	1272	1558	1669	1677	
230	178	12.4	12.4			12.4	12.4	1097	1368	1439	1414	
220	116							826	1105	1185	1083	
210	12.4							545	839	940	823	
200								359	604	724	610	
190								247	450	553	464	
180								184	348	423	378	
170								143	278	335	320	
160								116	230	271	273	
150								100	193	223	234	
140								93.5	163	186	204	
130								88.7	142	163	182	
120								84.0	132	152	170	
110									73.0	132	153	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QzKP	2	A2	0		A0	A0	A1		1	1		0
HMIN	106		108				201	198	202	249	220	209
SCAT	53.0		61.2				44.4	46.6	92.9	48.7	55.2	44.5
HMAXF	289		308				292	274	365	355	338	295
SHMAX	1314		1427				716	437	494	276	327	244
KM												
370									417			
360									417	417		
350									414	416		
340									410	407	446	
330									402	389	444	
320									393	364	434	
310			1433						380	329	418	
300			1427				1215		366	281	391	432
290	1446		1402				1215		350	227	362	430
280	1436		1359				1193	784	333	166	322	419
270	1400		1289				1141	782	310	105	270	397
260	1337		1208				1058	767	283	57.8	208	366
250	1240		1112				946	730	254	4.9	144	318
240	1133		995				805	681	221		86.7	249
230	1012		872				620	608	182		49.1	159
220	886		748				410	496	136		3	81.7
210	763		635				136	341	85.3			12.4
200	649		539					92.9				
190	545		455									
180	455		385									
170	379		327									
160	316		278									
150	269		234									
140	228		191									
130	199		161									
120	183		150									
110	162		122									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	0	0	2	2	F2	2	2	2	2	2	A2	2
HMIN	205	210	208	203	259	248	221	210	109	108	110	107
SCAT	43.8	47.4	35.1	47.6	67.9	54.3	45.6	51.1	42.0	44.6	38.9	52.8
HMAXF	290	305	277	282	389	349	309	290	257	273	278	295
SHMAX	164	149	119	85	115	114	103	296	604	983	1325	1442
KM												
390					127							
380					126							
370					124							
360					121							
350					116	161						
340					110	160						
330					101	156						
320					92.3	150						
310		238			82.7	140	170					
300		237			72.0	129	168	492				
290	286	232			60.3	114	162	492				
280	282	221	260		142	48.5	96.7	151	487			
270	271	206	258	139	32.2	75.9	139	472				
260	252	186	245	134	3.9	51.8	120	451	939	1311	1950	1486
250	227	157	224	125		12.4	98.0	419	933	1250	1812	1371
240	193	117	190	115			72.3	367	899	1156	1556	1222
230	147	77.7	130	101			47.5	290	844	1024	1215	1071
220	91.6	48.3	73.3	80.5				179	757	843	905	884
210	44.9	27	21.2	49.4				12.4	621	680	612	698
200									471	523	475	552
190									342	407	401	452
180									243	326	343	379
170									181	269	295	323
160									142	223	256	277
150									118	188	222	235
140									107	161	192	198
130									100	142	168	170
120									88.5	132	152	153
110									43.8	91.9	49.6	114

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QzKP	2	2	2	2	A2	A1	A1	A1	1	A1	1	3
HMIN	108	110	108	109	109		202	206	202	257	231	209
SCAT	55.7	56.7	57.1	52.5	70.4		53.5	41.9	72.7	57.8	39.2	39.1
HMAXF	299	306	296	297	324		309	285	325	370	315	289
SHMAX	1415	1421	1335	1185	1474		871	405	429	341	234	204
KM												
370										446		
360										443		
350										433		
340										416		
330					1420				492	392		
320					1419				492	362	446	
310		1528			1406		1303		487	326	445	
300	1492	1523	1446	1341	1380		1293		477	285	430	
290	1482	1496	1442	1335	1338		1260	745	463	234	401	403
280	1448	1446	1416	1306	1277		1202	742	445	175	359	397
270	1383	1371	1369	1252	1211		1134	722	422	93.6	296	378
260	1306	1280	1297	1168	1134		1017	681	395	33.6	220	360
250	1202	1152	1210	1070	1019		845	617	360		123	299
240	1078	1019	1093	953	884		660	530	308	59.6	224	
230	950	868	963	819	744		420	415	232		136	
220	820	721	815	689	608		216	271	138		69.3	
210	700	588	674	573	490		80.0	99.1	62.6		12.4	
200	593	477	551	478	402							
190	502	393	454	399	333							
180	425	333	382	335	278							
170	364	289	324	280	234							
160	314	251	277	233	196							
150	270	216	238	193	165							
140	229	190	204	159	140							
130	193	175	178	141	123							
120	170	165	166	133	114							
110	132	40.2	127	65.5	49.0							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

5 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	3	1	A1	1	A3	A3	S3	3	3	A2	
HMIN	208	215	201	246	269	216	238	201	111	110	109	110
SCAT	51.4	34.8	35.3	66.7	62.7	56.0	53.8	38.1	37.6	45.4	39.5	46.7
HMAXF	306	286	263	387	407	350	347	295	275	290	295	298
SHMAX	192	121	73	149	162	155	155	283	763	1267	1670	1818
KM												
410						184						
400						183						
390					161	180						
380					160	174						
370					158	166						
360					154	158						
350					148	145	189	214				
340					140	131	187	213				
330					130	114	183	208				
320					119	95.8	174	200				
310	286				106	78.7	163	187				
300	285				92.7	62.6	150	173	532			
290	279	262			78.6	48.9	134	154	510	1669	2422	2397
280	267	261			65.0	32.6	117	130	511	1143	1649	2346
270	250	249	161	52.3	3.8	98.3	103	475	1137	1588	2193	2199
260	228	227	160	40.9		81.4	77.0	419	1096	1479	1962	2023
250	200	195	155	12.4		65.8	50.0	345	1013	1339	1657	1795
240	162	143	143			51.9	12.4	254	897	1154	1340	1502
230	118	83.0	127			40.4		154	757	964	1035	1165
220	76.6	43.9	100			12.4		87.4	608	774	772	894
210	24.6		63.7					47.9	470	604	594	679
200								359	474	663	511	
190								276	380	381	414	
180								218	310	323	343	
170								176	257	279	287	
160								145	215	241	239	
150								123	182	210	205	
140								109	157	182	184	
130								101	141	161	173	
120								90.5	131	149	164	
110									12.4	78.9	12.4	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

5 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A2	A2	A3	B3	3	A1	A1	1	A1	F1	F1	F3
HMIN					109	110	208	212	212	282	286	221
SCAT					51.7	51.8	48.3	47.8	61.4	57.4	48.2	31.6
HMAXF					304	288	319	317	332	399	393	303
SHMAX					1448	1012	726	487	357	368	315	278
KM												
400										474	477	
390										471	476	
380										460	467	
370										442	449	
360										417	417	
350										386	378	
340									443	349	333	
330									443	308	277	
320									439	259	209	
310								1072	754	430	201	128
300								1064	750	430	201	128
290								1088	729	413	122	69.5
280								1637	1240	692	392	57.5
270								1578	1233	900	642	364
260								1481	1203	802	564	331
250								1360	1150	680	474	291
240								1217	1072	553	367	240
230								1072	975	418	251	185
220								907	860	280	146	125
210								740	741	135	69.4	60.7
200								600	620	26.9		
190								477	494			
180								377	372			
170								306	270			
160								258	193			
150								222	147			
140								194	121			
130								173	105			
120								158	94.1			
110								147	86.7			
								55.6	12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	F3	2	F2	F2	A4	A4	4	S4	4	A4	A4
HMIN	205	207	217	246	257	257	247	239		108	109	109
SCAT	35.6	28.3	34.4	45.4	52.6	52.6	54.5	46.4	49.8	46.0	57.3	
HMAXF	288	268	281	352	382	365	359	329		298	292	318
SHMAX	265	136	101	120	163	127	143	308		1628	1596	2211
KM												
390						193						
380						192						
370						192	177					
360					198	188	177	193				
350					198	181	174	192				
340					195	171	168	187				
330					186	160	158	179	508			
320					173	146	146	168	503			
310					155	130	130	154	486			
300					132	112	110	136	457			
290	540		229	106	90.7	88.7	115	418		2019	2094	2286
280	533		229	80.5	69.3	67.6	90.6	363		1965	2058	2149
270	505	362	224	60.3	48.5	48.2	68.4	295		1869	1964	2000
260	457	354	207	43.5	12.4	12.4	47.7	208		1741	1835	1820
250	387	325	184	12.4		12.4		116		1561	1651	1604
240	293	274	167			12.4				1355	1418	1354
230	184	186	90.8							1132	1179	1139
220	93.7	87.3	35.0							911	933	899
210	43.8	35.0								714	703	693
200										538	551	544
190										408	443	446
180										325	368	376
170										264	308	317
160										218	257	265
150										182	216	219
140										154	181	178
130										137	158	158
120										125	147	149
110										58.7	55.6	55.6

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A4	A4							2	2	2	4
HMIN	106	109	A4	A4	A4	A4	A4	201	199	248	252	279
SCAT	50.9	59.9						44.6	53.2	55.0	42.6	43.9
HMAXF	308	322						314	306	299	391	364
SHMAX	1774	1958						770	619	291	333	292
KM												
400										410		
390										410		
380										406		
370										395	446	
360										376	446	
350										352	437	
340										321	416	
330		2000								286	380	
320		2000					1203			247	336	477
310	1969	1981					1200	1050		203	287	472
300	1956	1935					1173	1045	432	160	232	455
290	1906	1852					1115	1016	428	122	178	424
280	1809	1749					1028	958	418	90.6	133	383
270	1682	1623					904	874	397	65.7	84.3	329
260	1530	1474					772	754	372	45.4	45.6	262
250	1360	1313					628	604	339	7.9		187
240	1171	1130					486	430	294			122
230	995	958					325	237	234			71.7
220	837	797					154	122	157			40.0
210	699	654						58.0	77.0			
200	588	534							12.4			
190	498	439										
180	425	367										
170	364	314										
160	311	273										
150	264	238										
140	229	210										
130	200	185										
120	175	168										
110	161	55.6										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	4	4	2	A2	A2	A3	3	3	A4	4	S4	2
HMIN	218	204	211	215	237	237	248	209	109	110	110	111
SCAT	45.4	29.4	29.8	53.0	74.7	70.8	53.9	42.7	41.6	41.8	51.1	46.8
HMAXF	308	268	275	310	385	382	363	299	278	287	297	287
SHMAX	277	144	107	142	152	157	161	306	800	1439	1694	1478
KM												
300					149	161						
380					149	161						
370					148	160	216					
360					145	157	215					
350					140	152	213					
340					134	147	206					
330					128	138	195					
320				214	120	130	182					
310	477			214	111	119	164					
300	473			211	101	106	142	540		2128		
290	458			206	89.5	93.4	118	534		2144	2118	1953
280	431		262	196	78.1	80.9	90.9	514	1107	2129	2070	1942
270	395	362	261	184	66.9	68.2	68.0	481	1097	2054	1979	1880
260	340	356	246	168	55.6	55.5	48.4	430	1050	1923	1859	1778
250	263	320	218	144	43.8	43.2	12.4	358	979	1722	1682	1644
240	164	282	172	104	12.4	12.4		273	886	1454	1460	1465
230	82.7	211	114	63.5				166	773	1101	1197	1255
220	23.7	120	57.5	31.4				80.0	648	816	940	999
210		50.4						12.4	521	591	721	765
200									404	441	558	589
190									309	351	424	453
180									236	289	337	360
170									184	238	281	299
160									147	197	234	251
150									122	167	195	207
140									108	145	168	176
130									99.1	136	154	164
120									78.6	127	145	158
110									41.3	12.4	12.4	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	2	2	5	5	5	86	6	6	5	5	5	A5
HMIN	108	108	108	110	110		198	207	218	214	229	208
SCAT	57.0	56.7	55.1	61.8	69.3		52.5	52.1	60.0	46.5	51.1	46.7
HMAXF	293	316	317	312	333		330	308	362	323	352	320
SHMAX	1425	1611	1645	1617	1760		967	745	626	386	416	326
KM												
370										745		
360										745		573
350										737		573
340										720		565
330						1612				690	599	546
320						1611			1341	651	598	514
310						1654	1771	1669	1596	1294	1167	475
300	1569	1620	1729	1653	1597					605	587	475
290	1568	1565	1665	1617	1442					548	561	422
280	1548	1480	1568	1558	1362					482	525	359
270	1504	1375	1449	1474	1270					405	470	292
260	1434	1246	1301	1372	1175					325	398	224
250	1346	1102	1160	1251	1070					242	317	161
240	1232	955	994	1126	953					164	235	104
230	1094	813	828	986	832					157	61.4	166
220	958	684	683	832	711					92.0	12.4	104
210	810	577	564	674	691					58.3		
200	651	497	454	534	484					12.4		
190	509	432	382	422	386							
180	401	381	323	336	304							
170	328	335	275	279	241							
160	279	291	236	235	198							
150	239	248	203	199	165							
140	197	210	174	171	140							
130	175	181	157	154	124							
120	164	165	148	137	113							
110	129	127	88.8	12.4	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	5	5	4	4	4	4	4	4	53	3	3	2
HMIN	269	259	230	219	266	237	248	209	108	109	108	109
SCAT	48.5	45.3	40.6	44.1	74.4	60.5	42.8	43.0	53.4	44.5	59.0	48.6
HMAXF	373	354	292	302	432	372	362	300	301	289	304	293
SHMAX	275	299	332	149	250	232	160	340	1009	1490	1855	1661
KM												
440					240							
430					240							
420					238							
410					235							
400					229							
390					221							
380	413				210	274						
370	412				198	274						
360	405	500			183	271						
350	389	499			167	264	266					
340	364	488			148	253	266					
330	331	464			129	240	259					
320	289	430			108	222	245					
310	238	381			262	88.4	201	227	1215	2032		
300	182	313	716	262	71.1	176	201	608	1215	2029	2096	
290	126	235	716	258	55.0	149	169	600	1202	2096	2001	2094
280	73.9	137	700	247	41.7	120	132	576	1168	2072	1945	2060
270	12.4	71.4	660	228	12.4	91.3	95.0	539	1112	1991	1853	1974
260		12.4	603	204		67.2	59.2	479	1035	1872	1740	1859
250			511	171		47.0	12.4	389	937	1686	1599	1692
240			283	124				283	816	1443	1427	1470
230			49.6	65.7				164	677	1186	1231	1206
220				12.4				76.4	539	928	1037	943
210								12.4	416	685	837	745
200									322	492	664	593
190									246	364	519	486
180									192	284	401	406
170									151	227	319	346
160									123	182	263	297
150									104	149	222	257
140									94.6	128	189	222
130									89.9	121	164	189
120									85.2	115	150	170
110									48.9	55.6	90.0	120

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	2	2	A1	A1	A1	A2	A2	A2	A2	A2	2	F4
HMIN	109	105	109	110			200	207	207	228	249	229
SCAT	68.3	52.5	53.5	65.0			53.4	42.4	41.9	51.8	50.5	41.9
HMAXF	320	310	314	314			315	289	303	338	358	332
SHMAX	1887	1777	1824	1726			1066	537	315	292	294	196
KM												
360												417
350												415
340											417	405
330												415
320	1741	2032	2033	1771			1542			405	357	335
310	1733	2032	2029	1769			1538			386	323	332
300	1706	2013	1997	1751			1510		540	362	286	320
290	1657	1958	1930	1712			1456	1004	527	328	243	296
280	1588	1859	1819	1649			1369	993	409	286	194	265
270	1506	1728	1682	1570			1261	952	458	237	137	226
260	1407	1569	1515	1470			1129	888	398	181	73.2	183
250	1292	1379	1325	1345			954	782	326	117	12.4	134
240	1173	1128	1111	1188			689	637	239	63.2		123.0
230	1042	915	919	1021			424	449	158	12.4		83.4
220	901	749	750	857			201	201	90.3			
210	768	616	614	683			77.8	44.2	35.0			
200	649	511	510	537			2.0					
190	544	435	433	421								
180	453	373	369	334								
170	376	322	316	273								
160	313	276	272	228								
150	264	235	234	191								
140	223	200	202	163								
130	197	179	170	143								
120	185	169	168	134								
110	128	151	141	12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0+KP	F4	F3	3	A3	A4	A4	A4	4	4	4	3	3
HMIN	252	230	212	199	199	269	238	110	110	108	107	
SCAT	43.8	41.0	40.5	86.8	61.9	52.5	45.4	45.9	45.9	32.1	52.6	
HMAXF	338	316	290	378	319	365	325	284	298	275	286	
SHMAX	155	167	201	240	147	104	267	946	1565	1382	1685	
KM					193							
300					193		152					
370					191		152					
360					188		149					
350					184		143					
340	268				178		134	446				
330	266				170	176	125	445				
320	255		298		162	175	111	435				
310	240		296		152	172	93.2	412	2161			
300	218		286		142	167	72.5	379	1328	2144		2112
290	186		265	389	131	159	50.0	338	1326	2076	2294	2106
280	147		238	383	131	159	50.0	338	1326	2076	2294	2106
270	101		204	366	120	148	6.6	286	1299	1956	2281	2065
260	55.8		162	338	109	136		223	1240	1796	2174	1980
250			111	296	98.6	122		143	1152	1548	1942	1872
240			61.2	239	89.0	106		30.0	1027	1251	1651	1715
230			4.1	149	70.5	88.8		869	989	1334	1502	
220				63.6	60.7	71.2		690	726	1055	1264	
210					58.1	51.6		505	542	791	958	
200					12.4	5.3		363	413	589	725	
190								271	326	440	544	
180								205	259	347	425	
170								162	211	287	349	
160								133	172	242	291	
150								113	141	202	247	
140								102	126	173	209	
130								87.7	120	158	181	
120								76.6	114	149	169	
110								12.4	12.4	119	147	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0+KP	A3	A3	A4	A4	A4	3	3	3	3	3	3	3
HMIN	105					208	214	199	199	219	230	238
SCAT	59.8					61.0	44.5	35.2	44.1	52.5	51.5	46.2
HMAXF	308					338	313	295	304	328	333	344
SHMAX	1686					1270	925	604	428	338	292	250
KM												389
350						1528					432	388
340						1522				477	431	380
330						1496	1555			474	425	362
320						1449	1554		652	463	409	336
310	1741					1374	1522	1143	650	442	389	300
300	1733					1285	1452	1137	631	413	357	253
290	1701					1182	1339	1090	600	376	315	201
280	1640					1059	1192	997	552	331	264	146
270	1563					915	992	871	493	277	202	95.3
260	1457					744	748	713	427	216	130	57.1
250	1330					567	474	539	354	152	68.8	12.4
240	1181					391	210	361	278	75.1	3.2	
230	1032					246	71.4	212	202	12.4		
220	884					55.7		104	117			
210	743							17.4	12.4			
200	622											
190	513											
180	415											
170	328											
160	268											
150	227											
140	198											
130	179											
120	169											
110	149											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0+KP	3	3	1	F1	2	2	2	2	52	52	2	2
HMIN	271	248	218	200	346	260	236	219	110		110	109
SCAT	50.1	33.4	27.0	19.0	63.0	54.8	61.9	42.0	44.3		37.5	43.4
HMAXF	368	320	270	234	468	367	360	306	283		272	264
SHMAX	266	235	222	97	117	101	138	249	913		1261	1183
KM					139							
470					139							
460					136							
450					132							
440					127							
430					120							
420					112							
410					101							
400					86.6							
390					70.3							
380					55.3	137	163					
370	410				42.2	136	163					
360	408				12.4	133	162					
350	397					128	159					
340	178					120	154					
330	354	524				111	146					
320	318	524				98.6	136	446				
310	268	512				85.6	124	444				
300	208	476				71.5	110	431	1341			
290	149	417				55.9	94.9	404	1340			
280	69.8	325	679			40.9	78.5	366	1315			
270		214	679			62.1	312	1255	1860	1737		
260		116	654			46.9	241	1164	1741	1696		
250		26.9	584			16.8	163	1030	1558	1604		
240			416	420			83.0	845	1335	1477		
230			163	416			12.4	638	1080	1289		
220			30.0	367				461	848	1020		
210				219				330	655	739		
200				12.4				242	498	530		
190								187	390	403		
180								147	318	332		
170								119	267	286		
160								103	227	247		
150								94.3	196	211		
140								89.6	175	185		
130								84.9	161	169		
120								12.4	12.4	76.1		
110												

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0+KP	2	A2	A3	A3	3	2	2	2	1	1	F1	1
HMIN	110	110			112	200	204	200	201	238	248	229
SCAT	56.2	58.3			54.6	69.6	59.5	44.7	59.3	51.0	54.0	50.6
HMAXF	282	303			300	341	326	273	314	350	360	326
SHMAX	1179	1343			1333	1410	1255	514	259	221	253	218
KM												
360										310	348	
350						1555				310	345	
340						1555				307	337	
330						1545	1669			298	320	329
320						1519	1664		333	282	300	328
310		1341				1476	1639		332	261	274	321
300		1340			1555	1413	1590		328	234	241	307
290	1277	1325			1544	1339	1516		319	202	201	287
280	1277	1290			1505	1247	1430	960	305	166	157	262
270	1262	1234			1440	1146	1310	959	288	129	108	227
260	1223	1156			1349	1020	1142	940	265	91.9	62.5	184
250	1165	1066			1226	859	922	897	236	58.7	12.4	135
240	1095	966			1095	676	642	834	201	12.4		83.6
230	1004	863			942	485	354	729	162			12.4
220	902	758			787	277	147	575	119			
210	798	657			626	94.9	55.3	360	65.5			
200	695	569			480			40.2				
190	599	490			370							
180	500	420			286							
170	396	362			231							
160	315	313			192							
150	262	271			163							
140	217	231			141							
130	183	186			113							
120	170	169										
110	83.8	12.4										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O ₄ KP	4	4	4	4	4	3	3	3	53	3	3	1
HMIN	218	211	207	216	226	226	236	217	108	108	108	107
SCAT	57.6	41.7	28.8	35.7	73.8	65.2	42.1	50.2	46.3	40.2	45.5	50.7
HMAXF	143	306	259	282	370	365	326	307	284	273	269	262
SHMAX	390	393	147	113	177	162	127	291	824	1198	1065	1012
KM												
370					179	179						
360					178	179						
350	508				176	177						
340	507				172	173						
330	501				166	166	219					
320	487				158	158	218					
310	444	716			149	147	211	477				
300	437	712			139	135	199	475				
290	399	690		249	127	120	181	464	1119			
280	349	647		249	113	104	155	443	1117	1907		
270	287	583		241	97.9	88.3	123	417	1091	1904	1446	1341
260	221	488	417	225	81.9	72.2	88.0	377	1037	1857	1431	1341
250	154	353	407	200	65.5	56.8	57.4	312	965	1749	1381	1322
240	102	212	374	155	49.0	42.6	23.7	218	869	1592	1290	1277
230	60.7	108	312	94.2	17.1	12.4		106	743	1355	1171	1205
220	12.4	56.6	166	43.6				36.8	598	1025	1023	1115
210			62.1						463	760	845	979
200									342	528	668	801
190									250	363	503	593
180									187	275	381	430
170									147	219	305	331
160									119	180	255	273
150									101	149	214	229
140									91.2	126	180	189
130									82.1	112	157	161
120									67.8	104	141	152
110									60.1	90.6	114	136

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O ₄ KP	1	1	1	1	A1	1	1	A1	0	0	0	1
HMIN	109	109	109	110	109	110	201	200	219	248	224	221
SCAT	56.6	58.7	46.3	59.3	55.7	57.2	40.8	37.5	54.1	39.9	43.7	53.6
HMAXF	292	307	298	306	298	299	293	272	316	334	310	323
SHMAX	1170	1380	1353	1493	1209	1033	663	351	247	157	191	162
KH												
340										286		
330										285		
320										362	276	
310			1433		1669					360	258	335
300	1240	1429	1669	1664	1420	1240	1191			353	232	331
290	1240	1405	1657	1639	1413	1232	1189			340	197	318
280	1226	1360	1609	1580	1383	1206	1160	716		320	154	296
270	1193	1288	1518	1513	1329	1161	1091	716		296	106	267
260	1141	1205	1394	1421	1256	1098	994	697	263	61.6	225	149
250	1070	1102	1229	1300	1156	1014	865	652	218	12.4	166	119
240	979	965	1013	1162	1036	902	693	583	158		101	88.6
230	876	829	836	987	890	779	480	480	93.2		48.4	57.2
220	766	702	678	783	728	637	261	353	12.4			
210	681	592	552	688	571	485	98.5	200				
200	569	502	458	436	442	356		12.4				
190	482	429	393	342	342	255						
180	403	367	345	280	266	177						
170	337	313	306	240	211	130						
160	286	267	271	213	171	106						
150	246	230	238	177	138	89.0						
140	207	202	204	152	116	73.4						
130	168	170	172	134	106	63.9						
120	152	153	150	120	98.3	55.8						
110	130	110	51.4	12.4	12.4	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O ₄ KP	1	1	2	2	2	3	3	3	2	2	2	2
HMIN	242	252	228	213	204	199	237	208	110	108	109	108
SCAT	61.8	47.7	43.2	31.3	21.0	95.1	57.5	30.5	31.1	36.2	43.8	29.2
HMAXF	379	348	319	281	242	354	342	265	245	249	257	236
SHMAX	200	167	154	130	59	128	101	170	513	715	784	739
KM												
380	229											
370	228											
360	224					108						
350	215	262				108	135					
340	204	261				107	135					
330	191	254				106	134					
320	175	241	262			105	130					
310	157	223	259			102	124					
300	136	199	249			99.4	117					
290	114	166	232	304		95.6	108					
280	92.9	127	209	304		91.1	97.1					
270	73.5	85.9	177	294		86.6	81.9	446				
260	55.9	47.7	136	269		81.6	65.1	443				
250	36.4		94.9	229	219	75.7	47.9	418	960	1191	1055	
240			60.2	167	218	69.4	12.4	371	954	1172	1027	1446
230			12.4	102	199	62.3		284	905	1108	966	1429
220				50.6	159	54.0		145	807	999	879	1332
210					68.6	44.1		30.0	651	834	766	1156
200						7.3			474	640	644	859
190									335	455	511	574
180									246	331	407	397
170									186	258	328	317
160									146	213	265	270
150									121	179	217	237
140									104	153	181	207
130									93.6	132	149	177
120									86.3	120	135	156
110									12.4	102	58.9	134

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O ₄ KP	2	2	A1	1	A1	A1	A1	1	3	3	A3	3
HMIN	106	108	100	110	109			200	201	220	239	319
SCAT	55.2	57.8	46.9	51.7	51.8			44.3	46.2	48.9	52.7	47.8
HMAXF	256	283	299	295	277			287	297	316	339	413
SHMAX	774	886	1032	1179	962			487	242	213	181	154
KM												
420												240
410												240
400												236
390												226
380												210
370												190
360												165
350												136
340											260	101
330											258	63.4
320										335	252	12.4
310										334	240	
300			1240	1446					389	326	223	
290		875	1229	1443				834	387	310	203	
280		874	1189	1417	1240			829	376	290	178	
270		864	1121	1364	1234			805	356	261	149	
260	896	841	1026	1287	1205			757	328	218	112	
250	893	802	898	1185	1153			691	290	164	67.3	
240	876	754	755	1033	1081			604	241	110	12.4	
230	842	693	612	850	977			492	183	59.4		
220	799	629	497	663	841			350	124	4.1		
210	716	570	412	510	674			189	69.5			
200	657	514	356	401	507			12.4				
190	573	463	314	331	382							
180	485	415	279	282	287							
170	402	370	245	243	228							
160	334	318	207	206	187							
150	282	264	177	171	156							
140	242	229	162	147	132							
130	201	192	153	137	120							
120	174	157	145	129	112							
110	154	137	49.0	12.4	62.8							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

15 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{VP}	3	3	3	3	F3		4	4	6	6	6	5
HMIN	305	242	199	200	277	257	280	249	108	119	109	
SCAT	57.3	39.6	38.4	57.4	76.2	59.1	61.0	38.9	40.5	44.9	44.7	54.9
HMAXF	424	322	275	289	414	368	388	318	933	285	275	933
SHMAX	225	209	222	89	152	111	141	215	962	1398	1441	1847

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

15 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.FD		5	A5		A5		A5	A6	S6	6	6	6
HMIN		108	109		109		219	201	212	239	231	212
SCAT		58.6	58.9		58.9		56.5	52.6	49.9	45.0	49.6	67.7
HMAXE		300	324		310		340	324	327	340	326	334
SCMAX		1619	1947		1812		1331	855	607	515	545	665

340			1727		824	565
330	1969		1713	1191	875	814
320	1966		1672	1189	871	783
310	1940	2016	1593	1170	850	734
300	1786	1879	1499	1128	809	665
290	1773	1799	1383	1068	753	581
280	1734	1689	1250	981	681	477
270	1669	1550	1105	870	592	352
260	1570	1388	902	734	487	230
250	1465	1220	672	593	370	114
240	1314	1076	440	427	261	124
230	1134	928	206	271	150	
220	916	788	124	162	74.6	
210	725	662		77.4		
200	583	545				
190	484	448				
180	416	363				
170	362	302				
160	302	259				
150	246	224				
140	203	194				
130	171	167				
120	152	152				
110	126	73.0				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

16 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
Q>KP	6	6	20	5	5	25	5	5	54	4	4		C2
HMIN	258	229	207	246	269	215	201	218	110	108	109		
SCAT	52.0	38.7	42.7	57.7	44.2	68.8	30.2	51.8	32.1	39.2	46.7		
HMAXF	375	308	294	360	368	301	248	328	266	275	274		
CHMAX	621	390	288	305	241	277	31	252	776	1147	1199		

[illegible]

ELECTRON DENSITY

RAMEY AFR. PUERTO RICO

16 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.FP	C2	C2	1	A1	1	A2	A2	2	A1	2	1	2
HMIN			107	110	108	205	200	205	219	226	220	219
SCAT			55.1	54.4	60.6	40.9	48.6	49.1	44.3	33.9	33.8	49.2
HMAXF			307	300	312	311	298	295	326	295	282	302
SHMAX			176.0	163.9	1515	1044	869	487	389	280	216	170

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W 17 DEC 1960												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	2	2	A3	A3	A3	2	2	F2	2	2	2	1
HMIN	226	228	237	230	274	228	221	209	110	110	109	108
SCAT	49.1	39.3	31.5	48.9	51.1	46.1	46.2	38.6	41.6	37.6	42.5	56.9
HMAXF	318	315	292	319	387	326	303	279	271	263	257	264
SHMAX	139	109	83	97	136	137	138	214	715	1002	986	905
KM												
390					189							
380					188							
370					183							
360					174							
350					162							
340					147							
330					129	214						
320	219	198			143	109	213					
310	217	198			142	87.0	207	242				
300	212	192	210		138	67.9	196	242				
290	201	179	210	131	50.4	180	236					
280	187	161	203	120	24.9	160	225	446	1143			
270	168	135	186	108		134	210	440	1143	1756		1096
260	143	103	158	90.7		107	190	420	1124	1753	1555	1094
250	112	72.7	108	71.0		80.1	160	386	1069	1703	1545	1078
240	69.4	47.0	38.7	48.0		50.4	105	333	988	1598	1494	1045
230	26.8	7.5				12.4	56.3	250	849	1435	1395	996
220								119	663	1110	1253	929
210								12.4	489	788	1074	834
200									348	504	840	721
190									242	336	564	604
180									167	251	335	470
170									124	201	256	328
160									98.2	162	210	263
150									85.0	132	172	220
140									79.6	115	138	175
130									74.9	107	123	143
120									68.0	101	115	135
110									12.4	40.2	86.6	116

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W 17 DEC 1960												
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A1	1	2	2	A2	A2	2	A2	A3	3	3	4
HMIN	110	109	108				201	208	240	241	219	217
SCAT	92.0	38.0	39.1				46.0	39.1	53.3	35.8	33.1	57.4
HMAXF	286	284	271				292	281	339	305	279	338
SHMAX	1060	1216	1064				511	293	264	179	121	143
KM												
340									389			179
330									386			178
320									376			174
310									360	403		168
300							875		339	401		159
290							874	608	308	385		146
280							1211	1782	1669			
270							1186	1731	1668			
260							1137	1615	1638			
250							1065	1454	1553			
240							978	1233	1410			
230							884	1018	1212			
220							779	770	962			
210							663	582	718			
200							548	442	511			
190							445	350	376			
180							360	296	286			
170							288	255	232			
160							232	220	185			
150							191	176	160			
140							157	158	143			
130							140	150	135			
120							132	138	128			
110							12.4	55.6	89.3			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W 18 DEC 1960												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	4	4	5	5	5	5	5	H3	3	A3	A4	
HMIN	276	255	218	212	210	277	205	249	109	110	110	109
SCAT	51.3	60.3	34.1	31.0	35.7	56.6	58.7	47.9	42.8	35.4	36.4	67.5
HMAXF	391	392	286	260	296	377	312	342	282	273	257	291
SHMAX	174	202	170	75	116	65	68	192	882	1230	1024	1218
KM												
400	240	240										
390	240	240										
380	237	238				90.4						
370	230	232				90.0						
360	218	223				88.3						
350	201	210				85.1		304				
340	181	195				79.9		304				
330	156	177				74.2		299				
320	130	155				67.1	90.4	288				
310	103	131				58.5	90.4	270				
300	76.4	103				224	48.3	89.5	247			1191
290	51.4	78.6	389			227	33.5	87.3	214	1341		1191
280	17.4	59.0	386			210	7.1	83.8	172	1340	2144	1182
270		43.6	368	189	193		77.2	125	1314	2141		1161
260		15.7	333	184	166		70.5	75.9	1251	2074	1786	1124
250			282	170	132		63.1	12.4	1154	1927	1769	1077
240			196	146	95.4		55.4		1011	1684	1687	1017
230			90.1	109	64.0		47.4		813	1307	1541	942
220			24.6	57.0	42.2		37.2		601	948	1320	858
210							12.4		425	652	1074	767
200									298	452	730	673
190									220	338	447	573
180									172	266	301	478
170									138	220	239	391
160									114	185	194	310
150									97.6	157	153	254
140									89.2	136	130	209
130									77.6	123	122	170
120									63.4	115	116	152
110									12.4	12.4	49.6	97.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO								60 W			18 DEC 1960		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QzKP	4	4	4	4	A4	A3	A3	A3	3	3	3	F3	
HMIN	109	112	110	110				228	254	229	203	208	
SCAT	41.5	60.4	42.0	49.3				52.6	34.7	38.2	51.4	45.3	
HMAXF	285	322	303	300				328	331	302	307	316	
SHMAX	1144	1559	1407	1605				382	318	399	322	225	
KM													
340										679			
330		1555						557	679				
320		1555						553	663			348	
310		1541	1792					539	617	834	477	347	
300		1505	1789	2096				513	546	833	474	338	
290		1555	1448	1746	2075			480	444	812	464	318	
280		1549	1370	1648	2005			439	300	760	443	292	
270		1503	1274	1494	1897			384	165	684	416	259	
260		1407	1149	1315	1754			316	59.7	568	377	221	
250		1269	1027	1136	1565			240		385	328	175	
240		1101	898	943	1344			149		148	266	123	
230		911	771	781	1057			32.2		12.4	192	78.5	
220		721	652	637	787						115	50.3	
210		565	548	522	571						54.4	12.4	
200		451	461	427	415								
190		372	385	361	322								
180		313	323	320	263								
170		262	271	283	218								
160		217	225	244	181								
150		194	195	204	156								
140		177	178	172	141								
130		167	168	154	134								
120		155	148	140	125								
110		100		12.4	12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	3	F3	A3	A3	3	4	4	4	53	3	3	3
HMIN	217	210	201	207	245	262	209	200	109	110	110	109
SCAT	40.2	41.4	23.1	76.1	57.6	58.8	44.4	35.7	35.2	42.9	41.8	50.9
HMAXF	309	294	243	365	381	390	297	269	259	265	259	276
SHMAX	255	304	105	225	148	154	142	181	564	929	856	1120
KM												
400						189						
390						177	189					
380						177	187					
370					216	176	183					
360					215	171	176					
350					213	164	167					
340					210	154	156					
330					204	142	140					
320					196	127	121					
310	477				186	110	99.3					
300	471	565			175	93.4	78.7	240				
290	450	564			162	77.4	60.3	239				
280	418	549			148	62.9	46.2	232				
270	365	517			132	50.1	24.6	218	392			
260	286	470			115	37.5		200	385	917	1415	1240
250	183	404	362	97.3	12.4			175	364	901	1377	1227
240	108	317	360	79.1				139	329	848	1300	1179
230	64.3	190	331	60.5				99.1	273	759	1195	1093
220	19.9	82.8	271	45.6				62.6	197	629	1018	976
210			144	12.4				12.4	95.7	494	783	831
200										379	553	660
190										289	381	512
180										220	287	390
170										174	232	295
160										139	192	243
150										115	162	208
140										98.1	140	177
130										90.0	124	152
120										80.4	115	134
110										49.0	12.4	103

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	53	H3	A3	A3	A3	A4	A4	A4	4	4	F4	F4
HMIN		109					202	202	201	207	235	269
SCAT		41.8					41.7	37.4	39.0	54.2	35.7	47.2
HMAXF		281					281	277	292	312	342	357
SHMAX		1232					699	328	329	260	211	188
KM												
360											304	
350											310	302
340											310	293
330											301	277
320											362	280
310											361	256
300											357	216
290	1669						1393				607	346
280	1668						1393	661	594	329	202	95.6
270	1639						1370	655	558	307	179	12.4
260	1562						1299	626	506	277	130	
250	1436						1201	578	432	242	78.1	
240	1253						1047	497	338	200	36.2	
230	1074						74.9	392	240	152		
220	869						384	281	136	96.2		
210	685						117	124	64.8	36.8		
200	538											
190	438											
180	368											
170	316											
160	277											
150	242											
140	213											
130	187											
120	150											
110	49.0											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z FP	F4	A4	A3	A3	3	A4	A4	4	53	3	3	A3
HMIN	236	220	229	210	221		257	238	109	108	108	109
SCAT	43.6	31.0	41.8	38.6	34.6		42.8	52.2	30.7	39.7	38.9	55.8
HMAXF	342	283	325	299	288		334	331	265	256	266	290
SHMAX	306	203	227	192	141		60	206	599	779	1076	1145
KM												
350	500											
340	500							109	310			
330	490							108	310			
320	467							106	306			
310	432							100	297			
300	383							91.6	281			
290	321	508	320	354	310			81.3	261			
280	246	507	277	337	306			66.6	235			
270	168	485	226	310	290			47.0	202	1096		
260	103	418	164	268	262			12.4	162	1089	1240	1657
250	64.1	356	101	213	221				97.8	1032	1234	1595
240	25.6	223	55.7	150	160				24.6	919	1192	1476
230		91.7	5.3	88.9	72.9				753	1110	1306	933
220				50.0					549	990	1108	783
210									387	832	844	639
200									283	633	605	513
190									218	437	442	411
180									174	298	329	330
170									143	232	270	263
160									118	192	231	218
150									100	157	194	181
140									89.9	128	155	156
130									77.9	111	125	142
120									65.7	104	119	134
110									44.7	94.0	112	114

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z FP	A3	A3	A5	A5	A5	A4	4	A4	5	55	5	3
HMIN							109	200	209	238	256	229
SCAT							58.4	48.1	40.7	47.1	48.0	44.2
HMAXF							299	290	296	345	357	324
SHMAX							1344	585	261	238	236	254
KM												
360											362	
350											362	359
340											360	350
330											352	331
320											335	305
310											310	272
300												
290							1555	960	477	278	234	407
280							1547	960	474	237	188	379
270							1516	949	457	192	135	331
260							1462	917	425	144	75.9	26.1
250							1378	866	381	91.3	28.1	179
240							1282	791	317	53.7		101
230							1162	683	242	12.4		56.0
220							1007	536	151			5.3
210							827	369	74.6			
200							624	194	12.4			
190							468	12.4				
180							348					
170							268					
160							220					
150							185					
140							159					
130							137					
120							122					
110							111					
							49.0					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	A3	A3	F2	F2	A2	F2	F2	2	S3	S3	A3	A4
HMIN	271	238	217		296		252	219	110	109		109
SCAT	47.8	46.2	34.6		61.7		50.7	33.8	32.2	31.3		49.9
HMAXF	368	337	284		403		353	302	254	252		270
SHMAX	247	287	384		76		93	156	593	643		831
KM												
410					97.2							
400					97.2							
390					96.2							
380					93.9							
370	389				90.4							
360	386				85.6		135					
350	375				79.3		135					
340	365	477			72.6		133					
330	328	474			63.9		128					
320	291	461			53.7		119					
310	239	436			42.1		110	362				
300	182	401			12.4		97.0	361				
290	123	354	85.4				82.9	350				
280	64.7	289	85.2				67.1	324				
270	191	818					51.2	283			1038	
260	105	753					30.8	214	1143	1240	1029	
250	58.3	656						119	1138	1238	996	
240	12.4	520						12.4	1086	1191	945	
230		310							981	1082	875	
220		70.4							805	890	779	
210									577	630	662	
200									389	430	536	
190									255	288	432	
180									182	225	347	
170									143	175	280	
160									117	137	229	
150									101	117	187	
140									91.1	108	164	
130									82.6	103	154	
120									65.1	98.1	146	
110									12.4	12.4	103	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	A4	A4	A4	A4	A4	A5	A5	A5	A	A	A	A
HMIN									219	255	231	208
SCAT									50.8	44.5	40.5	47.3
HMAXF									345	354	314	308
SHMAX									283	255	244	261
KM												
360										417		
350										389	416	
340										388	406	
330										381	386	
320										366	356	446
310										344	313	445
300										316	259	433
290										277	199	405
280										233	134	366
270										185	74.0	315
260										140	34.0	248
250										102		171
240										69.0		83.2
230										44.7		113
220										2.8		61.4
210												12.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	S4	4	4	4	F4	4	S4	4	S3	S3	3	3
HMIN	221	201	201	270		255	207	209		108	109	109
SCAT	45.7	30.9	21.6	50.1		52.7	41.3	41.0		31.1	40.6	43.1
HMAXF	323	265	242	352		369	292	287		261	274	270
SHMAX	254	202	61	66		129	112	206		724	1107	1066
KM												
370							174					
360							173					
350							169					
340							161					
330	410						149					
320	409						135					
310	401						119					
300	382						101	198				
290	353						82.7	198	389			
280	317						64.2	194	386			
270	269	508					47.1	185	372			
260	207	504					169	346		1341	1618	1481
250	139	477	219				148	311		1303	1520	1415
240	82.9	425	218				120	257		1187	1380	1320
230	47.5	339	203				89.4	187		1020	1174	1180
220		187	168				57.9	105		782	905	1004
210		72.9	85.8				19.3	12.4		538	667	806
200										362	498	618
190										274	371	471
180										219	297	355
170										179	252	292
160										145	215	250
150										123	183	214
140										110	161	183
130										105	135	154
120										99.3	120	136
110										75.0	92.6	99.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	A3	3	A3	3	A4	A4	4	A3	A3	3	3
HMIN	109	109	110	110	109			199		242	227	234
SCAT	43.1	58.1	48.6	47.6	50.3			60.5		44.1	39.8	40.2
HMAXF	280	311	288	270	279			309		330	322	317
SHMAX	1154	1417	1138	1071	891			212		207	176	192
KM												
330										362	310	
320		1555								357	310	362
310		1555							274	344	303	359
300		1543							273	321	285	345
290	1555	1507	1446						267	291	258	319
280	1555	1448	1437	1433	1143				258	246	222	285
270	1534	1365	1398	1420	1135				247	185	178	232
260	1471	1271	1327	1376	1104				233	105	127	165
250	1372	1132	1233	1300	1049				212	52.4	83.8	94.0
240	1238	960	1097	1201	974				184		53.1	45.7
230	1030	786	941	1051	877				151		17.5	
220	833	627	760	869	752				113			
210	658	497	589	665	607				69.8			
200	515	405	445	492	475				12.4			
190	412	342	349	375	358							
180	342	294	289	295	271							
170	292	253	249	244	214							
160	254	211	214	209	174							
150	222	171	178	181	144							
140	196	151	152	157	121							
130	162	139	139	140	109							
120	138	132	131	129	102							
110	121	70.2	12.4	12.4	55.6							

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60 W

23 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	3	A3	F3	F3	A3	3	3	54	4	4	A2
HMIN	210	215	200		268	238	233	212	108	108	109	110
SCAT	32.4	35.8	37.0		57.2	54.3	39.7	41.7	34.2	32.0	48.0	38.8
HMAXF	275	278	252		380	337	311	284	250	244	247	269
CHMAXF	153	183	72		108	96	86	203	433	596	617	762
FM												
390					139							
380					139							
370					138							
360					135							
350					129							
					121							
330					112	135						
					112	134						
320					99.3	132	161					
310					86.0	126	161					
300					72.4	118	158					
290					57.5	110	149	410				
280		362	417		43.0	97.2	135	409				
270		359	412		8.5	83.1	117	398				1061
260		342	392	170		66.9	93.9	377	774			1046
250		307	355	170		48.9	66.9	347	774	1096	906	995
240		254	300	165		12.4	41.7	284	754	1091	902	914
230		172	205	155				169	704	1040	878	802
220	82.1	58.9	140					68.5	619	938	836	662
210			116						488	771	772	524
200			12.4						346	560	678	408
190									242	381	530	339
180									173	281	346	297
170									130	226	252	267
160									102	190	204	240
150									88.1	160	158	206
140									81.1	134	135	167
130									76.8	118	124	143
120									72.5	104	117	134
110									53.6	76.9	78.9	71.4

ELECTRON SENSITIVITY

60 W

23 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	2		A2	2		A2	A2	2	2	2	F2	F3
HMIN	110	109		108			200	207	216	239	327	209
SCAT	34+6	54+4		40+4			40+3	36+4	37+4	38+5	40+9	41+9
HMAXF	278	293		259			268	280	299	318	327	326
SHMAX	979	1224		839			328	151	136	147	205	235
KM												
330											310	368
320										286	309	366
310										283	301	350
300		1420							262	271	287	326
290		1418						310	258	249	266	296
280	1528	1398						310	245	219	241	261
270	1505	1354					679	304	222	173	209	217
260	1414	1278		1740			673	286	190	120	170	166
250	1272	1190		1226			647	258	148	68+3	119	121
240	1059	1076		1174			602	214	103	12+4	65+9	86+3
230	812	921		1084			529	160	62+0		19+9	60+0
220	600	761		954			416	94+4	25+1			41+7
210	458	605		788			221	38+7				4+5
200	317	480		620			12+4					
190	317	389		473								
180	281	325		356								
170	253	279		284								
160	229	240		237								
150	190	197		205								
140	167	173		175								
130	144	158		148								
120	133	151		135								
110	12+4	117		114								

ELECTRON SENSITIVITY

60 W

24 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₄ KP	A3	F3	F1	1	1	2	2				A4	4
H _{max} F	221	203	215	209	230	227	234	222	111	109		109
SCAT	44 ₊ 3	32 ₊ 9	40 ₊ 4	40 ₊ 8	53 ₊ 3	46 ₊ 5	45 ₊ 8	28 ₊ 9	38 ₊ 3	34 ₊ 1		44 ₊ 7
H _{max} F	209	273	296	284	344	310	321	280	267	257		257
SCHMAX	209	160	200	137	143	77	87	119	499	778		895
km					193							
350					193							
340					190							
330							143					
320					184	127	143					
310	362				173	127	141					
300	358		375		160	125	135					
290	345		373	262	143	121	126					
280	323	362	360	262	123	113	114	310				
270	293	361	334	254	101	102	98.5	301	834			
260	252	347	300	239	79.7	89.3	78.5	272	827	1433		1341
250	193	318	252	216	59.7	73.5	56.2	227	794	1419		1332
240	124	273	187	185	41.1	55.3	27.3	161	730	1346		1225
230	60.3	198	117	139		19.0		74.6	638	1207		1215
220		120	47.7	75.3					494	1006		1115
210		59.3		12.4					354	717		948
200									249	449		722
190									175	306		480
180									129	240		335
170									97.3	197		276
160									81.3	159		238
150									71.6	131		204
140									67.8	111		172
130									64.0	96.8		139
120									60.3	89.8		121
110									74.8			68.4

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60 W

24 DEC 1960

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ELECTRON DENSITY

RAMEY AFB, PUERTO RICO														60 W 25 DEC 1960													
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100															
Q _z KP	F2	2	A2	A2		F2	2	2	2	2	2	A1															
HMIN	247	199	202	220		217	237	203	110	110	109																
SCAT	42.6	27.8	37.2	39.8		49.4	43.4	38.4	33.0	24.3	42.7																
HMAXF	331	262	270	299		315	317	273	244	221	252																
SHMAX	260	216	146	116		104	88	149	399	375	574																
KM																											
340	477																										
330	477																										
320	468																										
310	447																										
300	410																										
290	464																										
280	300																										
270	195	573	316	192		125	106	310																			
260	84.5	573	311	169		108	87.6	301			794																
250	29.1	547	293	137		88.6	66.7	282	754		793																
240		484	267	91.4		67.1	35.0	257	751		777																
230		383	224	50.9		47.3		211	718	875	736																
220		238	158			12.4		136	656	874	677																
210		97.1	64.8					59.3	538	828	601																
200		12.4						385	708	504																	
190								258	489	401																	
180								178	285	319																	
170								131	213	267																	
160								100	174	230																	
150								82.7	141	191																	
140								78.1	119	152																	
130								73.6	108	131																	
120								61.4	102	114																	
110								12.4	12.4	79.9																	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO														60 W 25 DEC 1960													
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300															
Q _z KP	1	A1	A3	3	A3	A2	A2	A2	4	A4	F4	F4															
HMIN	110	109		109		210	200	203	204	217	280	278															
SCAT	32.5	46.5		44.4		33.2	36.2	38.7	35.3	38.1	54.8	48.1															
HMAXF	251	294		262		276	255	262	268	282	378	373															
SHMAX	592	1096		760		420	285	112	122	102	137	153															
KM																											
380																											
370																											
360																											
350																											
340																											
330																											
320																											
310																											
300		1341																									
290		1338																									
280		1309																									
270		1249				1038																					
260		896	1160			1037																					
250		896	1034			1018																					
240		868	876			971																					
230		799	711			899																					
220		694	565			798																					
210		662	491			669																					
200		453	376			530																					
190		383	328			412																					
180		334	298			326																					
170		294	274			270																					
160		257	254			235																					
150		216	233			206																					
140		174	205			176																					
130		155	160			148																					
120		142	147			133																					
110		12.4	76.1			49.0																					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO														60 W														26 DEC 1960													
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100																													
Q _z KP	F4	F4		4	4	F4	F3	3	3	A3	3	A3	2																												
HMIN	245	221	199	258		199	229	207		110		111																													
SCAT	35.6	39.2	37.8	46.4		45.4	48.4	40.8		44.8		38.8																													
HMAXF	310	299	262	347		285	300	284		265		238																													
SHMAX	142	191	164	99		87	68	224		771		753																													
KM																																									
350				161																																					
340				160																																					
330				155																																					
320				147																																					
310		310		134				112																																	
300		303	382	118				111																																	
290		284	377	99.7		143	107	439																																	
280		253	358	78.5		143	101	438																																	
270		210	328	362	54.8	139	93.1	425		1131																															
260		140	286	361	12.4	132	84.0	401		1127																															
250		54.3	218	352		121	72.1	365		1098																															
240			121	330		107	51.7	299		1039																															
230			56.8	298		90.1	5.8	207		955																															
220				243		71.7		110		844																															
210				120		52.8		36.8		677																															
200				12.4		4.5				9837																															
190										345																															
180										253																															
170										202																															
160										162																															
150										127																															
140										110																															
130										105																															
120										99.5																															
110										12.4																															

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
Q4VR	F4	F4	5	5	5	5	5	5	5	5	5	5	A6
HMIN	279	252	207	185	268	215	249	200	110	109	108		
SCAT	58.2	48.2	32.0	32.1	47.9	44.2	50.4	38.8	42.3	41.5	40.5		
HMAXF	386	347	276	236	350	290	339	257	253	256	273		
SHMAX	283	258	239	125	95	70	129	152	512	687	783		
KM													
190	382												
180	381												
170	375												
160	363				156								
150	345	410			156								
140	323	408			155		198						
130	295	397			149		197						
120	257	375			141		191						
110	210	347			131		182						
100	153	311			116	125	169						
90	80.5	263			94.2	125	153						
80	12.4	198	565		65.7	124	130				1096		
70		123	460		21.7	119	100				1094		
60		57.0	530			111	64.2				1067		
50						101	12.4	335	824	1096			
40								323	823	1089	1080		
30								230	805	1053	913		
20								296	762	986	793		
10								263	700	881	642		
00								205	603	707	510		
190								12.4	456	502	408		
180									313	343	332		
170									210	260	276		
160									153	210	230		
150									120	171	189		
140									99.6	136	152		
130									89.7	115	131		
120									78.1	107	120		
110									65.5	101	111		
100									12.4	82.9	97.6		

ELECTRON DENSITY

RAMEY AFB, RUERTO RICO 60 W 27 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
24.8R	A6	A6	6	6	A6	A5	A5	5				F3
HM1N			110	110			208	196	229	228	249	
SCAT			494.1	409.1			43.8	47.7	44.4	48.9	52.5	
HMAXF			298	295			287	278	320	311	345	
SHMAX			1912	1493			915	404	396	246	227	
KM												
350											335	
340											335	
330									698		329	
320									697	410	316	
310									688	410	297	
300			2465	1831					659	405	273	
290			2449	1826			1669		616	392	243	
280			2362	1788			1657	679	552	370	205	
270			2243	1697			1604	675	460	341	161	
260			2088	1585			1504	656	337	298	95.9	
250			1876	1445			1371	620	182	243	12.4	
240			1590	1276			1176	571	84.6	156		
230			1274	1061			891	509	12.4	32.2		
220			977	871			489	419				
210			739	709			81.0	291				
200			567	575				131				
190			443	462								
180			367	372								
170			314	303								
160			273	252								
150			240	211								
140			209	175								
130			181	148								
120			166	135								
110			12.4	12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OXAP	F3	F3	3	3	F5	F5	5	4	4	4	A4	
HMW	229	213	199	201	269	239	199	200	110	108	108	107
SCAT	40.8	37.7	45.6	65.7	67.8	48.3	62.4	29.7	43.7	40.2	36.1	39.9
HMAX	26	274	275	308	307	328	313	257	260	249	255	260
SHMAX	265	296	262	117	166	140	185	155	504	702	879	985
KM												
400					193							
390					193							
380					180							
370					195							
360					177							
350					166							
340					153							
330	469				139	224						
320	467				123	222	229					
310	452			143	104	215	229					
423	423			143	87.5	203	227					
290	381			141	61.9	187	211					
280	320	670	477	137	42.7	167	211					
270	249	668	475	131	3.9	142	199					1446
260	165	645	463	124		107	185	417	764	1446	1446	
250	98.8	599	460	117		65.0	169	412	755	1096	1438	1423
240	55.2	529	406	108		12.4	150	384	725	1083	1374	1354
230	5.3	403	359	98.0			128	333	680	1035	1255	1235
220		145	286	75.6			97.1	240	593	956	1057	1080
210			162	50.2			58.2	97.8	979	829	831	879
200							4.5		364	669	623	686
190			12.4						274	507	465	523
180									203	373	365	417
170									152	280	301	343
160									114	222	254	287
150									91.7	183	218	247
140									81.3	154	187	215
130									76.2	133	158	178
120									70.8	120	139	149
110									12.4	97.6	127	130

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 DEC 1960

[illegible]

ELECTRON DENSITY

RAYMET AFB, PUERTO RICO					60 W					29 DEC 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
0, KP	5	5	3	3	3	A2	A2	2	2	2	2	4		
HMIN	109	109	109	109	107	108	190	199	208	228	263	250		
SCAT	58.1	58.9	54.9	49.0	47.5	43.9	40.2	43.5	52.2	48.8	52.0	49.7		
HMAX	203	202	313	300	289	272	254	294	310	329	357	351		
SHMAX	1226	1418	1693	1519	1425	1234	474	293	230	203	182	191		
KM														
360											274	286		
350											273	286		
340											267	282		
330											310	255		
320			1907								255	273		
310		1500	1905								308	241		
300		1500	1880	1907				500	335	299	220	236		
290	1446	1485	1823	1888	1907			499	323	261	150	176		
280	1445	1449	1729	1829	1891	2032		487	308	233	115	137		
270	1422	1387	1611	1728	1834	2031		460	288	198	59.3	96.7		
260	1369	1313	1463	1594	1733	1996	960	424	260	156		55.9		
250	1286	1206	1270	1415	1597	1909	958	368	225	109				
240	1178	1083	1070	1211	1404	1772	930	294	185	62.1				
230	161	46	85	974	1179	1577	873	212	131	12.4				
220	892	802	672	740	943	1305	787	133	71.5					
210	744	657	535	565	710	895	665	72.8	20.7					
200	611	536	460	445	520	503	495	12.4						
190	504	446	375	366	388	270	83.8							
180	423	380	328	310	298	177								
170	360	328	292	266	242	132								
160	309	282	260	228	205	108								
150	268	244	227	197	174	93.6								
140	234	207	194	173	147	83.6								
130	199	180	168	156	126	78.9								
120	171	155	152	142	117	74.1								
110	78.9	113	87.9	52.8	73.9	56.5								

ELECTRON DENSITY

RAYEY AFR, PUERTO RICO										60 W			30 DEC 1960		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300			
Q,K,P	4	A4	A4				A3	A3	2	2	2	F3			
HMIN	110	109		109	109			200	209	197	291	280			
SCAT	44.5	62.5		53.4	63.4			43.4	42.5	63.7	40.7	51.2			
HMAXF	278	312		289	303			283	284	323	368	378			
SHMAX	1139	1587		1165	1266			405	197	169	117	167			
360												251			
370												219			
360												217			
350												208			
340												192			
330												161			
320		1640									198	170			
310		1640			1341						198	142			
300		1625			1341						196	107			
290		1590									192	59.0			
280	1446	1530		1367	1288			716	375	185		54.8			
270	1436	1457		1314	1253			701	365	165					
260	1389	1361		1254	1191			666	346	151					
250	1302	1239		1178	1120			615	319	134					
240	1184	1074		1073	1008			541	271	113					
230	1034	901		928	878			444	202	90.2					
220	868	732		771	741			330	115	67.4					
210	716	587		631	602			177	12.4	47.7					
200	588	479		515	480			12.4		12.4					
190	488	404		419	382										
180	413	351		345	304										
170	352	309		289	246										
160	306	273		245	204										
150	268	239		209	171										
140	234	205		179	146										
130	196	178		159	128										
120	168	165		148	118										
110	49.6	65.5		55.6	55.6										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

31 DEC 1960

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	4	4	4	3	3	3	A3	A3	3	4
HMIN	215	216	211	230	218	221	249	229		110	109	109
SCAT	39.8	34.5	33.4	47.6	61.9	53.6	45.9	44.3		41.6	44.0	48.4
HMAXF	306	288	275	313	350	327	335	306		256	248	263
SHMAX	175	145	144	140	190	152	140	251		847	789	879
KM												
360					219							
350					219							
340					217		235					
330					213	212	234					
320				235	205	211	229					
310	316			234	195	206	217	469				
300	314			230	181	199	201	467				
290	301	310		221	165	186	180	454				
280	282	306	335	205	147	172	150	430				
270	250	289	333	186	128	153	111	396		1096		
260	208	262	317	161	108	130	66.9	337	1393	1094		
250	154	215	289	174	87.5	104	12.4	238	1385	1167	1074	
240	103	158	241	69.5	67.5	75.0		130	1340	1158	1029	
230	63.9	93.4	166	3.2	48.9	47.9		12.4	1250	1115	965	
220	30.7	41.6	70.6						1133	1048	872	
210					12.4				924	951	752	
200									639	814	633	
190									397	637	524	
180									283	455	434	
170									225	333	361	
160									180	269	308	
150									149	227	264	
140									128	192	227	
130									121	166	191	
120									114	150	169	
110									12.4	49.0	62.8	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

31 DEC 1960

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	4	A4	3	A3	A3	S2	A2	2	3	3	3	3
HMIN	107		108	108		110	202	200	237	254	209	256
SCAT	60.6		54.0	52.3		40.1	34.6	54.9	51.5	40.6	53.8	51.1
HMAXF	281		291	284		272	272	292	346	342	338	350
SHMAX	990		1398	1174		777	441	282	249	218	297	266
KM												
350									355	389		410
340									354	389	389	406
330									346	381	387	395
320									332	361	378	375
310									312	331	363	349
300			1640					414	285	286	339	313
290	1004		1640	1433				414	249	233	311	262
280	1004		1623	1431		1143	971	409	209	174	278	201
270	996		1579	1408		1142	971	397	165	103	239	129
260	974		1499	1359		1117	943	378	115	46.6	193	46.6
250	936		1398	1280		1053	876	354	63.7		144	
240	887		1273	1182		959	764	320	19.6		104	
230	826		1110	1052		838	601	273			73.0	
220	753		913	886		699	387	211			47.3	
210	675		716	694		559	172	140			7.3	
200	594		557	523		428			12.4			
190	511		442	407		319						
180	437		366	334		238						
170	371		318	290		181						
160	317		281	255		144						
150	275		251	224		119						
140	242		222	194		102						
130	210		194	168		91.9						
120	177		174	151		84.5						
110	160		122	112		12.4						

RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO									
AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY									
60 W										60 W										60 W										60 W									
TIME										TIME										TIME										TIME									
COUNT										COUNT										COUNT										COUNT									
KP										KP										KP										KP									
HMIN										HMIN										HMIN										HMIN									
RATIO										RATIO										RATIO										RATIO									
SCAT										SCAT										SCAT										SCAT									
NMAX										NMAX										NMAX										NMAX									
HMAXF										HMAXF										HMAXF										HMAXF									
SHMAX										SHMAX										SHMAX										SHMAX									
SHINF										SHINF										SHINF										SHINF									
KM										KM										KM										KM									
950	26.5	25.6	20.5	15.1	16.5	13.4	14.0	28.7	59.2	83.9	91.6	90.8	950	87.3	103	108	95.6	95.8	90.5	74.3	42.2	32.5	29.8	27.8	25.8	950	87.3	103	108	95.6	95.8	90.5	74.3	42.2	32.5	29.8	27.8	25.8	
900	34.0	32.8	26.3	19.4	21.2	17.8	17.9	36.8	75.9	108	118	117	900	112	132	139	123	123	116	95.4	54.2	41.7	38.3	35.7	33.0	900	112	132	139	123	123	116	95.4	54.2	41.7	38.3	35.7	33.0	
850	42.6	42.1	33.8	24.9	27.1	22.8	23.0	47.2	97.5	138	151	150	850	144	169	178	157	158	149	122	65.6	53.5	49.1	45.8	42.4	850	144	169	178	157	158	149	122	65.6	53.5	49.1	45.8	42.4	
800	55.8	54.0	43.5	32.0	34.7	29.2	28.5	60.5	125	177	194	182	800	184	217	228	202	202	191	157	89.2	68.5	62.9	58.7	54.3	800	184	217	228	202	202	191	157	89.2	68.5	62.9	58.7	54.3	
750	71.4	69.1	55.5	40.9	44.4	37.3	37.7	77.5	160	227	248	246	750	236	278	293	259	259	245	201	114	87.8	80.5	75.1	69.5	750	236	278	293	259	259	245	201	114	87.8	80.5	75.1	69.5	
700	91.2	88.4	71.0	52.3	56.5	47.5	46.2	99.2	205	291	318	313	700	302	356	374	331	332	313	237	146	112	103	95.9	88.8	700	302	356	374	331	332	313	237	146	112	103	95.9	88.8	
650	116	113	90.7	66.6	71.5	60.5	61.3	127	262	372	406	402	650	386	454	478	423	423	399	328	187	143	131	122	113	650	386	454	478	423	423	399	328	187	143	131	122	113	
600	147	143	115	84.5	89.8	76.3	77.6	161	334	474	517	512	600	461	577	607	538	538	507	418	237	181	166	154	143	600	461	577	607	538	538	507	418	237	181	166	154	143	
550	184	181	146	106	131	111	95.3	97.2	204	424	601	656	649	550	621	729	767	680	680	640	528	300	228	208	193	180	550	621	729	767	680	680	640	528	300	228	208	193	180
500	227	225	184	132	134	117	120	255	534	756	825	814	500	777	910	958	852	851	799	660	375	284	256	238	223	500	777	910	958	852	851	799	660	375	284	256	238	223	
490	236	235	192	137	138	121	125	266	558	790	862	851	490	812	949	1000	889	888	834	689	392	296	267	248	232	490	812	949	1000	889	888	834	689	392	296	267	248	232	
480	245	245	200	143	143	126	130	277	584	826	901	889	480	847	990	1043	928	926	869	719	408	308	277	258	241	480	847	990	1043	928	926	869	719	408	308	277	258	241	
470	254	255	209	149	147	130	134	289	609	863	941	927	470	883	1031	1087	968	966	905	749	426	321	288	267	250	470	883	1031	1087	968	966	905	749	426	321	288	267	250	
460	264	265	218	155	151	135	139	301	636	900	982	967	460	920	1073	1131	1008	1006	942	780	443	333	298	277	260	460	920	1073	1131	1008	1006	942	780	443	333	298	277	260	
450	273	275	227	160	155	139	144	313	663	939	1024	1008	450	958	1115	1176	1050	1046	979	812	461	346	308	286	269	450	958	1115	1176	1050	1046	979	812	461	346	308	286	269	
440	282	286	236	166	159	143	149	326	691	978	1066	1049	440	996	1158	1222	1091	1087	1016	844	479	358	319	296	278	440	996	1158	1222	1091	1087	1016	844	479	358	319	296	278	
430	291	296	245	172	162	147	154	338	720	1018	1110	1091	430	1034	1201	1267	1133	1128	1054	876	497	371	329	287	271	430	1034	1201	1267	1133	1128	1054	876	497	371	329	287	271	
420	309	306	255	178	165	151	158	350	749	1058	1154	1133	420	1073	1244	1313	1176	1169	1091	908	516	383	339	314	296	420	1073	1244	1313	1176	1169	1091	908	516	383	339	314	296	
410	307	317	264	183	167	154	162	363	778	1099	1198	1175	410	1111	1286	1358	1218	1210	1128	939	534	394	348	322	305	410	1111	1286	1358	1218	1210	1128	939	534	394	348	322	305	
400	314	326	274	188	169	157	166	375	807	1140	1242	1217	400	1149	1327	1402	1259	1251	1164	971	552	407	357	330	313	400	1149	1327	1402	1259	1251	1164	971	552	407	357	330	313	
390	321	336	283	193	169	160	170	387	836	1181	1287	1259	390	1187	1367	1446	1300	1290	1199	1001	569	418	364	337	320	390	1187	1367	1446	1300	1290	1199	1001	569	418	364	337	320	
380	327	345	292	198	169	162	173	398	865	1221	1330	1300	380	1223	1406	1486	1340	1328	1232	1031	586	428	371	342	326	380	1223	1406	1486	1340	1328	1232	1031	586	428	371	342	326	
370	331	354	301	202	167	165	175	409	894	1260	1373	1340	370	1257	1442	1525	1377	1364	1263	1059	602	437	377	347	332	370	1257	1442	1525	1377	1364	1263	1059	602	437	377	347	332	
360	341	361	310	206	165	164	177	419	922	1299	1451	1378	360	1290	1475	1561	1413	1397	1292	1085	616	445	380	349	336	360	1290	1475	1561	1413	1397	1292	1085	616	445	380	349	336	
350	356	368	317	209	159	162	178	428	948	1336	1454	1414	350	1320	1504	1593	1446	1428	1318	1109	630	452	382	350	338	350	1320	1504	1593	1446	1428	1318	1109	630	452	382	350	338	
340	333	373	325	211	154	160	178	437	973	1370	1491	1448	340	1347	1529	1621	1475	1455	1340	1130	642	457	381	347	338	340	1347	1529	1621	1475	1455	1340	1130	642	457	381	347	338	
330	329	376	331	211	147	155	175	444	997	1402	1526	1478	330	1370	1550	1644	1501	1477	1357	1148	652	460	376	339	336	330	1370	1550	1644	1501	1477	1357	1148	652	460	376	339	336	
320	307	377	337	210	138	149	171	449	1018	1431	1556	1504	320	1389	1564	1661	1522	1495	1367	1162	659	459	367	327	330	320	1389	1564	1661	1522	1495	1367	1162	659	459	367	327	330	
310	307	374	340	208	127	141	163	451	1037	1455	1582	1525	310	1402	1502	1670	1537	1506	1369	1170	663	453	353	310	320	310	1402	1502	1670	1537	1506	1369	1170	663	453	353	310	320	
300	288	367	342	204	115	130	153	450	1052	1475	1603	1539	300	1408	1563	1665	1544	1509	1360	1167	661	441	332	286	305	300	1408	1563	1665	1544	1509	1360	1167	661	441	332	286	305	
290	264	354	342	198	102	118	140	443	1063	1489	1617	1546	290	1404	1537	1640	1538	1498	1339	1150	654	420	305	257	283	290	1404	1537	1640	1538	1498	1339	1150	654	420	305	257	283	
280	232	334	338	190	86.6	104	121	428	1069	1491	1619	1539	280	1384	1489	1597	1511	1469	1301	1115	637	387	270	224	252	280	1384	1489	1597	1511	1469	1301	1115	637	387	270	224	252	
270	195	303	329	177	68.8	87.8	95.7	400	1066	1477	1604	1514	270	1344	1414	1504	1463	1416	1247	1059	605	346	230	187	216	270	1344	1414	1504	1463	1416	1247	1059	605	346	230	187	216	
260	157	265	311	161	55.0	69.1	78.6	356	1045	1451	1561	1467	260	1280	1313	1390	1390	1340	1167	979	555	298	185	141	175	260	1280	1313	1390	1390	1340	1167	979	555	298	185	141	175	
250	116	219	280	141	44.0	50.8	54.7	293	1002	1370	1478	1392	250	1191	1185	1252	1288	1235	1055	872	488	244	134	96.7	129	250	1191	1185	1252	1288	1235	1055	872	488	244	134	96.7	129	
240	81.4	167	231	116	34.4	36.8	33.3	215	929	1260	1353																												

RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO										RAMEY AFB, PUERTO RICO									
AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY										AVERAGE ELECTRON DENSITY									
60 W										60 W										60 W										60 W									
TIME										TIME										TIME										TIME									
COUNT										COUNT										COUNT										COUNT									
KP										KP										KP										KP									
HMIN										HMIN										HMIN										HMIN									
RATIO										RATIO										RATIO										RATIO									
SCAT										SCAT										SCAT										SCAT									
NMAX										NMAX										NMAX										NMAX									
HMAXF										HMAXF										HMAXF										HMAXF									
SHMAX										SHMAX										SHMAX										SHMAX									
SHINF										SHINF										SHINF										SHINF									
KM										KM										KM										KM									
950	26.5	25.6	20.5	15.1	16.5	13.4	14.0	28.7	59.2	83.9	91.6	90.8	950	87.3	103	108	95.6	95.8	90.5	74.3	42.2	32.5	29.8	27.8	25.8	950	87.3	103	108	95.6	95.8	90.5	74.3	42.2	32.5	29.8	27.8	25.8	
900	34.0	32.8	26.3	19.4	21.2	17.8	17.9	36.8	75.9	108	118	117	900	112	132	139	123	123	116	95.4	54.2	41.7	38.3	35.7	33.0	900	112	132	139	123	123	116	95.4	54.2	41.7	38.3	35.7	33.0	
850	42.6	42.1	33.8	24.9	27.1	22.8	23.0	47.2	97.5	138	151	150	850	144	169	178	157	158	149	122	65.6	53.5	49.1	45.8	42.4	850	144	169	178	157	158	149	122	65.6	53.5	49.1	45.8	42.4	
800	55.8	54.0	43.5	32.0	34.7	29.2	28.5	60.5	125	177	194	182	800	184	217	228	202	202	191	157	89.2	68.5	62.9	58.7	54.3	800	184	217	228	202	202	191	157	89.2	68.5	62.9	58.7	54.3	
750	71.4	69.1	55.5	40.9	44.4	37.3	37.7	77.5	160	227	248	246	750	236	278	293	259	259	245	201	114	87.8	80.5	75.1	69.5	750	236	278	293	259	259	245	201	114	87.8	80.5	75.1	69.5	
700	91.2	88.4	71.0	52.3	56.5	47.5	46.2	99.2	205	291	318	313	700	302	356	374	331	332	313	237	146	112	103	95.9	88.8	700	302	356	374	331	332	313	237	146	112	103	95.9	88.8	
650	116	113	90.7	66.6	71.5	60.5	61.3	127	262	372	406	402	650	386	454	478	423	423	399	328	187	143	131	122	113	650	386	454	478	423	423	399	328	187	143	131	122	113	
600	147	143	115	84.5	89.8	76.3	77.6	161	334	474	517	512	600	461	577	607	538	538	507	418	237	181	166	154	143	600	461	577	607	538	538	507	418	237	181	166	154	143	
550	184	181	146	106	131	111	95.3	97.2	204	424	601	656	649	550	621	729	767	680	680	640	528	300	228	208	193	180	550	621	729	767	680	680	640	528	300	228	208	193	180
500	227	225	184	132	134	117	120	255	534	756	825	814	500	777	910	958	852	851	799	660	375	284	256	238	223	500	777	910	958	852	851	799	660	375	284	256	238	223	
490	236	235	192	137	138	121	125	266	558	790	862	851	490	812	949	1000	889	888	834	689	392	296	267	248	232	490	812	949	1000	889	888	834	689	392	296	267	248	232	
480	245	245	200	143	143	126	130	277	584	826	901	889	480	847	990	1043	928	926	869	719	408	308	277	258	241	480	847	990	1043	928	926	869	719	408	308	277	258	241	
470	254	255	209	149	147	130	134	289	609	863	941	927	470	883	1031	1087	968	966	905	749	426	321	288	267	250	470	883	1031	1087	968	966	905	749	426	321	288	267	250	
460	264	265	218	155	151	135	139	301	636	900	982	967	460	920	1073	1131	1008	1006	942	780	443	333	298	277	260	460	920	1073	1131	1008	1006	942	780	443	333	298	277	260	
450	273	275	227	160	155	139	144	313	663	939	1024	1008	450	958	1115	1176	1050	1046	979	812	461	346	308	286	269	450	958	1115	1176	1050	1046	979	812	461	346	308	286	269	
440	282	286	236	166	159	143	149	326	691	978	1066	1049	440	996	1158	1222	1091	1087	1016	844	479	358	319	296	278	440	996	1158	1222	1091	1087	1016	844	479	358	319	296	278	
430	291	296	245	172	162	147	154	338	720	1018	1110	1091	430	1034	1201	1267	1133	1128	1054	876	497	371	329	287	271	430	1034	1201	1267	1133	1128	1054	876	497	371	329	287	271	
420	309	306	255	178	165	151	158	350	749	1058	1154	1133	420	1073	1244	1313	1176	1169	1091	908	516	383	339	314	296	420	1073	1244	1313	1176	1169	1091	908	516	383	339	314	296	
410	307	317	264	183	167	154	162	363	778	1099	1198	1175	410	1111	1286	1358	1218	1210	1128	939	534	394	348	322	305	410	1111	1286	1358	1218	1210	1128	939	534	394	348	322	305	
400	314	326	274	188	169	157	166	375	807	1140	1242	1217	400	1149	1327	1402	1259	1251	1164	971	552	407	357	330	313	400	1149	1327	1402	1259	1251	1164	971	552	407	357	330	313	
390	321	336	283	193	169	160	170	387	836	1181	1287	1259	390	1187	1367	1446	1300	1290	1199	1001	569	418	364	337	320	390	1187	1367	1446	1300	1290	1199	1001	569	418	364	337	320	
380	327	345	292	198	169	162	173	398	865	1221	1330	1300	380	1223	1406	1486	1340	1328	1232	1031	586	428	371	342	326	380	1223	1406	1486	1340	1328	1232	1031	586	428	371	342	326	
370	331	354	301	202	167	165	175	409	894	1260	1373	1340	370	1257	1442	1525	1377	1364	1263	1059	602	437	377	347	332	370	1257	1442	1525	1377	1364	1263	1059	602	437	377	347	332	
360	334	361	310	206	165	164	177	419	922	1299	1451	1378	360	1290	1475	1561	1413	1397	1292	1085	616	445	380	349	336	360	1290	1475	1561	1413	1397	1292	1085	616	445	380	349	336	
350	335	368	317	209	159	162	178	428	948	1336	1454	1414	350	1320	1504	1593	1446	1428	1318	1109	630	452	382	350	338	350	1320	1504	1593	1446	1428	1318	1109	630	452	382	350	338	
340	333	373	325	211	154	160	178	437	973	1370	1491	1448	340	1347	1529	1621	1475	1455	1340	1130	642	457	381	347	338	340	1347	1529	1621	1475	1455	1340	1130	642	457	381	347	338	
330	329	376	331	211	147	155	175	444	997	1402	1526	1478	330	1370	1550	1644	1501	1477	1357	1148	652	460	376	339	336	330	1370	1550	1644	1501	1477	1357	1148	652	460	376	339	336	
320	307	377	337	210	138	149	171	449	1018	1431	1556	1504	320	1389	1564	1661	1522	1495	1367	1162	659	459	367	327	330	320	1389	1564	1661	1522	1495	1367	1162	659	459	367	327	330	
310	307	374	340	208	127	141	163	451	1037	1455	1582	1525	310	1402	1502	1670	1537	1506	1369	1170	663	453	353	310	320	310	1402	1502	1670	1537	1506	1369	1170	663	453	353	310	320	
300	288	367	342	204	115	130	153	450	1052	1475	1603	1539	300	1408	1563	1665	1544	1509	1360	1167	661	441	332	286	305	300	1408	1563	1665	1544	1509	1360	1167	661	441	332	286	305	
290	264	354	342	198	102	118	140	443	1063	1489	1617	1546	290	1404	1537	1640	1538	1498	1339	1150	654	420	305	257	283	290	1404	1537	1640	1538	1498	1339	1150	654	420	305	257	283	
280	232	334	338	190	86.6	104	121	428	1069	1491	1619	1539	280	1384	1489	1597	1511	1469	1301	1115	637	387	270	224	252	280	1384	1489	1597	1511	1469	1301	1115	637	387	270	224	252	
270	195	303	329	177	68.8	87.8	95.7	400	1066	1477	1604	1514	270	1344	1414	1504	1463	1416	1247	1059	605	346	230	187	216	270	1344	1414	1504	1463	1416	1247	1059	605	346	230	187	216	
260	157	265	311	161	55.0	69.1	78.6	356	1045	1451	1561	1467	260	1280	1313	1390	1390	1340	1167	979	555	298	185	141	175	260	1280	1313	1390	1390	1340	1167	979	555	298	185	141	175	
250	116	219	280	141	44.0	50.8	54.7	293	1002	1370	1478	1392	250	1191	1185	1252	1288	1235	1055	872	488	244	134	96.7	129	250	1191	1185	1252	1288	1235	1055	872	488	244	134	96.7	129	
240	81.4	167	231	116	34.4	36.8	33.3	215	929	1260	1353																												

TABLES OF IONOSPHERIC DATA

SEPTEMBER 1960 - NOVEMBER 1952

Table 1

Resolute Bay, Canada (74.7° N, 94.9° W)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	5.6	27	290				2.80
01	5.9	28	280				2.80
02	6.0	30	275				2.80
03	5.6	30	290				2.80
04	5.6	24	290				2.90
05	5.8	25	270				2.90
06	5.9	25	280			1.80	2.90
07	5.8	25	280				2.95
08	5.8	25	270			2.30	2.95
09	380	6.2	26	240	4.0		2.80
10	370	6.0	25	240	4.0		2.80
11	410	5.8	28	240	4.1		2.70
12	400	6.4	26	230	4.4	100	2.75
13	355	6.4	27	230	4.3	100	2.80
14	400	6.2	25	240	4.3		2.70
15	400	6.2	27	240	4.0	100	2.70
16	(365)	6.2	27	250	4.0	120	2.75
17	---	6.2	26	250			2.75
18	6.0	27	280				2.80
19	6.4	29	280			1.85	2.80
20	6.0	29	285				2.80
21	5.8	30	280				2.70
22	5.6	30	280				2.80
23	5.8	29	285				2.75

Time: 90.0°W.
Sweep: 1.5 Mc to 20.0 Mc in 15 seconds.

Table 2

Tromsø, Norway (69.7° N, 19.0° E)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00							4.2
01	(4.8)	3	---				3.8
02	(4.4)	5	---				4.2
03	(3.7)	2	(345)				4.2
04	(4.6)	3	(300)				3.2
05	(4.4)	6	(300)				1.8
06	(5.1)	11	280				(2.70)
07	---	5.5	17	(260)		1.95	2.80
08	(255)	6.1	19	(250)	105	2.40	2.90
09	---	6.9	16	250	115	2.70	2.70
10	---	7.1	19	245	---	105	2.85
11	---	>7.5	22	240	---	105	2.80
12	---	8.0	24	245	---	110	2.80
13	---	7.9	28	240	---	110	2.75
14	---	7.7	28	240	---	105	2.90
15	---	7.4	25	245	---	110	2.85
16	(250)	7.7	21	250	---	110	2.90
17	---	7.2	25	(250)	120	2.50	2.90
18	250	6.6	25	(270)	120	2.25	2.90
19	---	5.8	18	260	120	1.90	3.0
20	---	5.6	11	270	---	---	3.1
21	(5.3)	6	290	---	---	---	3.9
22	(5.2)	2	290	---	---	---	4.7
23	(4.3)	7	(315)	---	---	---	4.0
	(4.1)	6	---	---	---	---	4.1

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Kiruna, Sweden (67.8° N, 20.3° E)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(5.0)	9	340				4.8
01	4.8	10	340				4.2
02	4.9	10	320				4.4
03	4.0	11	320				4.2
04	4.0	13	295				2.6
05	4.5	19	280				2.8
06	---	5.6	22	260	---	110	2.9
07	---	5.8	26	250	---	110	2.4
08	(320)	6.3	25	245	4.0	110	2.6
09	(300)	6.8	26	240	4.4	110	2.8
10	300	7.2	28	235	4.6	110	3.0
11	320	7.2	29	230	4.6	110	3.0
12	<340	7.4	28	230	---	110	3.0
13	(280)	7.6	27	235	4.4	110	3.0
14	(260)	7.3	26	235	---	115	2.9
15	---	7.4	27	245	---	115	2.7
16	---	7.2	28	250	---	120	2.4
17	---	6.7	25	255	---	130	2.0
18	---	6.7	23	255	---	1.9	2.4
19	6.0	22	285	---	---	---	2.6
20	5.5	19	310	---	---	---	3.5
21	5.0	12	365	---	---	---	4.0
22	(5.5)	8	345	---	---	---	4.9
23	(4.0)	7	350	---	---	---	4.4

Time: 15.0°E.
Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 4

Sodankylä, Finland (67.4° N, 26.6° E)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(5.1)	3	360				(3.8)
01	(4.3)	5	360				(3.5)
02	(4.3)	5	360				(3.6)
03	(4.3)	3	340				(3.3)
04	(3.9)	4	310				(3.4)
05	(4.5)	8	310				(2.5)
06	4.6	17	280		140	1.75	2.8
07	5.4	18	260	---	125	2.30	(3.3)
08	6.2	22	250	---	120	2.65	(3.3)
09	6.6	26	240	---	120	2.80	(3.5)
10	7.4	25	230	---	115	3.00	(3.8)
11	7.4	24	230	---	115	3.10	(4.5)
12	7.5	28	230	---	115	3.10	(4.0)
13	7.6	26	230	---	115	3.05	(3.8)
14	7.8	26	230	---	120	3.00	(3.8)
15	7.6	23	240	---	120	2.90	(3.7)
16	7.8	23	240	---	125	2.70	(3.5)
17	7.4	23	250	---	125	2.50	(3.3)
18	(7.4)	18	255	---	135	2.15	(3.2)
19	7.0	16	260	---	---	E	3.0
20	6.4	11	280	---	---	E	(2.9)
21	(6.0)	6	290	---	---	---	3.2
22	(4.7)	6	350	---	---	---	(3.7)
23	(4.9)	5	360	---	---	---	(4.1)

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 5

Lycksele, Sweden (64.6° N, 18.8° E)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.3	23	330				3.5
01	4.2	22	340				3.5
02	4.0	23	330				3.2
03	3.9	22	310				3.1
04	4.0	23	300				0.95
05	4.4	25	265				1.60
06	5.4	27	250			100	2.00
07	---	5.8	28	240	---	100	2.40
08	(360)	6.4	26	235	4.4	100	2.70
09	(370)	6.8	29	225	4.5	100	2.90
10	(390)	7.1	29	220	4.7	100	3.10
11	(370)	7.6	30	215	4.6	100	3.15
12	(330)	7.8	30	210	4.7	100	3.20
13	(340)	8.0	30	215	4.4	100	3.10
14	---	7.8	30	220	---	100	3.00
15	---	7.8	29	235	---	100	2.80
16	---	7.9	28	240	---	100	2.50
17	---	7.6	28	240	---	110	2.20
18	---	7.2	28	245	---	---	1.80
19	6.8	25	250	---	115	1.10	2.5
20	5.7	25	250	---	---	---	0.90
21	5.2	25	265	---	---	---	3.2
22	4.6	24	310	---	---	---	3.2
23	4.8	22	320	---	---	---	3.5

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 15.0 Mc in 6 minutes, automatic operation.

Table 6

Nurmijärvi, Finland (60.5° N, 24.6° E)							
September 1960							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(5.6)	3					---
01	(3.9)	2					---
02	(5.2)	1					---
03	(4.6)	4					---
04	(3.6)	2					---
05	(4.3)	3					---
06	(4.7)	9					(3.00)
07	5.7	14					3.10
08	6.6	18					3.00
09	6.7	22				2.60	2.90
10	7.4	22				---	3.00
11	8.3	24				3.00	3.00
12	8.2	25				---	2.95
13	8.2	25				---	2.95
14	8.8	24				---	2.90
15	8.2	26				---	3.00
16	7.9	24				---	3.00
17	8.1	22				---	3.00
18	8.0	16				---	3.10
19	(7.7)	9				---	(3.00)
20	(8.4)	6				---	(3.00)
21	(8.2)	5				---	(2.90)
22	(6.4)	4				---	---
23	(5.9)	2				---	---

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 7

Upsala, Sweden (59.8° N, 17.6° E)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		4.0 24 310					2.0 2.4
01		4.1 23 305			---	---	2.3 2.4
02		4.3 21 310			---	---	2.3 2.4
03		3.8 20 300			---	---	2.3 2.45
04		3.4 22 290			---	---	2.3 2.5
05	---	3.9 26 280	---	110	1.50	2.3	2.7
06	---	5.0 29 250	---	105	2.00	2.7	2.8
07	---	5.9 27 245	---	105	2.40	2.6	2.0
08	(415)	6.5 28 240	4.4	105	2.70		2.8
09	(340)	7.2 29 230	4.6	105	3.10		2.8
10	320	7.7 29 230	4.7	105	3.10		2.8
11	(340)	8.2 29 220	4.7	100	3.30		2.8
12	325	8.3 29 230	4.8	100	3.30		2.8
13	(315)	8.6 30 230	4.9	100	3.20	3.4	2.7
14	(380)	8.4 30 230	4.6	100	3.10		2.8
15	---	8.3 29 240	---	100	3.00		2.8
16	---	8.2 30 240	---	105	2.70		2.8
17		8.2 30 250		100	2.20	2.7	2.8
18		8.2 30 250		100	1.60	2.5	2.8
19		7.8 30 245		130	1.20	2.2	2.8
20		7.2 27 250	---	---	---	1.8	2.7
21		6.0 27 250	---	---	---	1.2	2.7
22		5.0 25 275	---	---	---	2.2	2.5
23		4.6 24 300	---	---	---	2.2	2.4

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Occasionally, 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 8

Churchill, Canada (58.8° N, 94.2° W)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		4.9 28 280					6.0 ---
01		5.0 26 310					5.6 ---
02		4.6 28 300					4.9 ---
03		4.3 27 300					3.8 ---
04		4.0 26 335			---	---	3.9 ---
05		4.2 27 340			---	---	3.3 ---
06		4.8 24 305			---	---	>3.1 ---
07	---	5.4 22 290	---	---	---	2.65	3.3 (3.00)
08	---	6.0 24 290	4.1	---	---	3.00	3.9 2.90
09	520	6.2 26 280	4.5	105		3.10	3.1 2.75
10	410	6.4 29 250	4.7	100		3.20	2.70
11	400	6.8 30 230	4.8	105		3.30	2.70
12	385	7.0 28 230	5.0	105		3.40	2.70
13	390	7.5 27 230	4.9	105		3.40	2.70
14	370	7.9 27 230	4.8	105		3.20	2.70
15	385	8.0 28 240	4.6	105		3.05	2.70
16	400	7.5 28 250	4.3	110		2.95	2.70
17	320	7.0 26 270	(3.9)	110		2.70	(2.75)
18	---	6.4 26 290	---	---	---	2.45	2.8 (2.80)
19		5.7 28 300			---	---	3.3 ---
20		5.6 29 315			---	---	3.2 ---
21		5.0 28 315			---	---	5.0 ---
22		5.0 28 320			---	---	6.2 ---
23		5.0 26 290			---	---	6.0 ---

Time: 90.0°W.

Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 9

Inverness, Scotland (57.4° N, 4.2° W)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		(4.4) 28 300					<1.3 2.45
01		(3.9) 27 310					<1.1 2.45
02		>3.0 24 315					<1.1 (2.50)
03		(3.2) 25 305					1.2 (2.50)
04		(3.1) 27 300					<1.3 2.55
05		3.1 29 300			---	---	<1.3 2.65
06	---	4.5 29 320	---	(130)	1.90		2.80
07	---	5.5 29 250	---	120	2.40		2.95
08	---	6.3 30 240	---	120	2.80		2.95
09	---	6.7 29 240	---	110	3.10		2.90
10	---	7.3 20 230	---	110	3.30		2.80
11	(420)	7.6 28 220	---	110	3.40		2.85
12	---	8.2 28 220	---	110	3.50		2.85
13	(450)	8.0 28 220	---	110	3.50		2.85
14	(440)	7.8 29 220	---	110	3.40		2.85
15	---	8.0 30 230	---	110	3.20		2.80
16	---	8.3 29 240	---	120	2.95		2.80
17		>8.0 29 250		120	2.50		2.85
18		8.6 29 250		(125)	2.10		2.85
19		8.1 29 250				(2.0)	2.85
20		7.5 29 245				<1.6	2.85
21		6.2 29 250				<1.6	2.70
22		>5.2 29 260				<1.6	2.55
23		>4.8 28 300				<1.6	2.50

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 10

De Bilt, Holland (52.1° N, 5.2° E)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		5.2 30 300					2.0 2.50
01		4.8 30 310					2.50
02		4.6 30 300					2.0 2.50
03		4.3 29 300					2.0 2.50
04		4.0 29 280					2.6 2.65
05	---	4.3 29 250	---	---	---	E	2.6 2.80
06	---	5.4 28 240	---	120	2.2		2.3 3.15
07	(390)	6.5 28 225	3.8	100	2.8		3.15
08	---	7.4 28 220	---	100	3.2		3.05
09	350	7.9 29 210	4.8	100	3.3	3.4	3.05
10	320	8.6 28 200	4.8	100	3.5	3.5	2.95
11	(300)	9.1 28 200	4.9	100	3.7	3.8	2.95
12	300	9.1 29 200	5.1	100	3.6	3.6	2.90
13	(300)	9.4 29 210	5.0	100	3.6		2.95
14	(300)	8.8 30 210	---	100	3.5		2.90
15	---	8.6 29 225	---	100	3.2		3.00
16		8.9 30 230		100	2.9	3.0	3.00
17		9.1 30 240		110	2.3	2.8	3.00
18		8.8 30 235		---	E	2.4	3.00
19		8.3 30 230				2.6	3.00
20		7.3 30 225				3.0	3.00
21		6.2 30 240				2.0	2.75
22		6.0 30 255				2.2	2.65
23		5.4 30 290				2.0	2.60

Time: 0.0°.

Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 11

Winnipeg, Canada (49.9° N, 97.4° W)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		4.0 22 300					2.65
01		4.2 22 305					2.70
02		4.0 22 320					2.70
03		3.9 23 320					2.70
04		4.0 24 330					2.65
05		3.7 25 320					2.65
06		4.2 27 <300			---	1.80	2.80
07	---	5.4 26 270	---	115	2.30		3.00
08	---	6.0 26 240	---	110	2.80		2.90
09	(460)	6.6 26 230	4.6	110	3.10		2.90
10	385	7.2 26 225	4.7	105	3.40		2.80
11	330	7.7 27 205	4.8	105	3.50		2.80
12	365	7.8 26 210	5.0	105	3.60		2.75
13	380	8.2 26 220	5.0	110	3.60		2.70
14	390	8.2 27 225	5.1	105	3.50		2.70
15	(340)	8.3 27 230	4.9	110	3.30		2.70
16	(325)	8.2 20 235	4.5	110	3.05		2.75
17	(300)	8.2 28 250	---	110	2.80		2.80
18		8.2 26 270		125	2.30		2.80
19		7.8 26 270		---	1.80		2.80
20		6.8 26 285					2.80
21		5.6 25 275					2.80
22		4.9 25 290					2.80
23		4.3 23 300					2.70

Time: 90.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 12

St. John's, Newfoundland (47.6° N, 52.7° W)							
September 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00		4.6 24 300					2.50
01		4.4 26 295					2.65
02		4.1 27 290					2.70
03		3.9 27 285					2.75
04		3.4 28 265					2.70
05	---	4.0 28 270	---	---	---		2.85
06	---	5.8 27 230	---	100	2.35		3.05
07	(800)	6.9 28 220	---	100	2.80		3.10
08	(325)	7.0 29 205	---	100	3.10		2.95
09	340	7.6 28 200	---	100	3.45		3.00
10	375	7.4 29 200	5.0	100	3.60		2.85
11	370	7.6 30 200	5.0	100	3.70		2.80
12	340	8.0 29 200	5.0	100	3.80		2.80
13	315	8.0 30 200	4.8	100	3.55		2.75
14	(400)	8.2 29 205	---	100	3.45		2.75
15	(410)	8.0 30 210	---	100	3.00		2.80
16	---	8.2 29 225	---	100	2.80		2.85
17		8.5 29 240		---	---		2.85
18		8.8 29 240					2.80
19		8.2 26 230					2.70
20		6.8 23 245					2.60
21		6.0 24 275					2.55
22		5.0 23 300					2.55
23		5.0 25 300					2.55

Time: 60.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 13

raz, Austria (47.1° N, 15.5° E) September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		>5.6	21	320				(2.6)	
01		5.6	22	330				2.6	
02		5.4	23	320				(2.6)	
03		5.3	20	320				2.6	
04		(4.8)	22	310				(2.6)	
05		4.4	20	290				(2.8)	
06		5.6	22	250				3.0	
07		6.5	22	230				3.0	
08		7.7	23	220			3.1	2.9	
09		8.4	25 (235)				3.3	3.0	
10	310	8.9	25	230				3.0	
11	310	>9.0	27	230	(5.3)		3.3	2.9	
12	(310)	>8.9	26 (230)		(5.3)			(2.9)	
13	300	>9.0	28	230	(5.1)			2.9	
14	---	>9.0	26 (235)					2.9	
15	(270)	>8.9	27	230				3.0	
16		>9.0	27	230				3.0	
17		>9.0	26	240				3.0	
18		>9.0	25	240				(3.0)	
19		>8.8	26	240				(3.0)	
20		>6.7	26	250				(2.9)	
21		>5.7	24	250				(2.8)	
22		>5.6	24	260				(2.6)	
23		>5.6	21	290				(2.6)	

Time: 15.0°E.

Sweep: 2.0 Mc to 18.0 Mc in 50 seconds.

Table 15

Ottawa, Canada (45.4° N, 75.9° N) September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.0	27	290				2.80	
01		4.7	28	295				(2.80)	
02		4.0	28	300				---	
03		4.0	28	300				---	
04		3.8	28	300				---	
05		3.6	28	295				---	
06		5.0	27	270		110	2.0	3.05	
07	---	6.4	28	240	---	115	2.7	3.15	
08	(550)	7.2	29	220	4.3	110	3.0	3.15	
09	300	7.4	30	220	(4.5)	110	3.4	3.05	
10	380	8.0	29	210	5.0	105	3.6	3.00	
11	345	8.2	29	205	5.0	105	3.7	2.95	
12	340	8.7	30	200	5.0	105	3.8	2.90	
13	355	9.0	30	215	4.9	110	3.7	2.90	
14	350	9.0	30	225	4.8	105	3.6	2.85	
15	(470)	9.0	29	230	4.8	110	3.3	2.90	
16	(330)	9.0	29	240	---	110	3.0	2.90	
17	---	9.0	29	250	---	115	2.6	2.90	
18	---	9.0	29	260	---	125	1.8	2.95	
19		8.6	29	250				(2.90)	
20		7.1	28	260				(2.90)	
21		6.0	27	270				(2.80)	
22		5.2	27	290				(2.80)	
23		5.0	27	300				(2.75)	

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 17

Rome, Italy (41.8° N, 12.5° E) September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(6.4)	21	300				(2.60)	
01		(6.2)	19	310				(2.55)	
02		(6.1)	18	320				(2.50)	
03		6.1	17	310				2.55	
04		(5.8)	18	300				(2.60)	
05		(5.0)	22	270				(2.65)	
06		(5.7)	16	250		140	1.9	(3.00)	
07	---	(6.9)	19	240	---	120	2.5	(3.00)	
08	---	7.9	13	240	---	110	3.0	3.7	
09	---	(9.2)	17	230	---	110	3.4	(3.05)	
10	---	9.8	20	220	---	110	3.6	2.90	
11	---	(8.9)	21	220	---	110	(3.7)	(2.90)	
12	---	(9.6)	19	220	---	110	3.8	(2.90)	
13	---	9.8	19	220	---	110	3.7	2.85	
14	---	(9.9)	21	230	---	110	3.7	(2.90)	
15	---	(9.7)	21	240	---	110	3.5	(2.85)	
16	---	9.4	16	240	---	110	3.2	2.90	
17		9.0	11	250		110	2.7	2.90	
18		(8.7)	6	260		130	2.0	(3.00)	
19		8.7	11	250				2.5	
20		(8.4)	21	250				2.3	
21		(8.0)	15	260				2.4	
22		(7.0)	17	260				(2.70)	
23		(6.4)	16	300				(2.60)	

Time: 15.0°E.

Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 14

Sottens, Switzerland (46.6° N, 6.7° E) September 1960									
Time	h'F2	foF2—Count	h'F1	foF1	h'E	foE	foEs	(M3000)F2	
00	300	5.7	29						2.8
01	310	5.3	29						2.8
02	320	5.2	30						2.7
03	320	5.0	30						2.7
04	300	4.7	29						2.8
05	290	4.3	27	---	---	---	---		2.8
06	260	4.7	27	---	---	---	---		3.0
07	240	5.8	28	230	3.8	120	2.2		3.2
08	240	7.5	27	230	4.3	110	2.7		3.2
09	250	7.8	29	220	4.6	100	3.1		3.2
10	260	8.5	27	230	5.0	100	3.3		3.3
11	260	9.0	29	220	5.2	100	3.5		3.2
12	280	9.0	29	220	5.2	100	3.6		3.1
13	300	9.2	30	220	5.5	100	3.5		3.1
14	300	9.1	30	220	5.5	100	3.4		3.1
15	270	9.0	30	230	5.3	100	3.4		3.2
16	260	8.9	29	230	4.8	100	3.1		3.2
17	240	8.8	29	230	4.5	110	2.7		3.1
18	250	8.9	23	---	---	120	2.2		3.2
19	240	8.6	26	---	---	---	---		3.2
20	240	7.7	27						3.1
21	240	7.0	28						3.0
22	260	6.2	28						2.9
23	270	5.9	28						2.8

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 16

Wakkanai, Japan (45.4° N, 141.7° E) September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.8	28	300					2.65
01		5.7	28	310			2.4		2.65
02		5.6	28	295			2.0		2.70
03		5.4	28	285			1.4		2.70
04		5.2	29	295					2.65
05		5.5	29	290					2.75
06		7.9	29	245	---	2.25	2.6		3.10
07	(495)	8.9	29	240	---	2.75	3.0		3.05
08	(310)	9.0	29	240	4.3	3.10	3.5		3.05
09	310	9.7	28	235	4.7	3.35	3.5		3.00
10	(340)	10.6	26	230	4.8	3.45	4.0		2.90
11	(345)	10.6	24	220	---	3.50	4.2		2.85
12	(340)	10.6	24	230	---	3.50	3.5		2.80
13	(340)	9.9	26	235	---	3.40	3.4		2.85
14	(315)	9.6	28	240	---	3.35	3.8		2.85
15	---	9.8	30	245	---	3.10			2.90
16	---	9.4	30	245	---	2.75	3.0		2.90
17		9.4	30	250	---	2.20	3.0		2.95
18		9.1	29	250			2.8		2.95
19		8.0	28	250			2.8		2.85
20		7.4	27	260			2.5		2.85
21		7.0	27	270			2.4		2.80
22		6.6	28	275					2.70
23		6.2	29	300			2.4		2.65

Time: 135.0°E.

Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 18

Akita, Japan (39.7° N, 140.1° E) September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		6.5	27	295			1.9		2.70
01		6.1	27	295					2.70
02		6.1	27	290					2.70
03		5.9	29	280			2.0		2.75
04		5.4	29	265			2.0		2.75
05		5.5	29	295					2.75
06	---	8.2	29	245	---	2.00	2.4		3.20
07	(270)	9.8	30	240	---	2.80	3.4		3.20
08	250	10.4	29	225	4.5	3.15	3.7		3.15
09	245	10.2	29	225	5.0	3.50	4.1		3.10
10	255	10.4	29	210	5.0	3.60	4.0		2.95
11	260	10.9	29	205	5.2	3.80	4.3		2.90
12	300	11.4	28	210	5.3	3.75	4.1		2.85
13	300	11.0	28	220	---	3.70	3.9		2.85
14	295	10.8	28	230	---	3.55			2.85
15	295	10.9	29	245	---	3.30	3.6		2.90
16	(295)	11.0	29	250	---	2.95	3.6		3.00
17	---	10.5	30	250	---	2.30	3.2		3.00
18		9.6	30	245			(2.8)		3.05
19		8.5	30	245			(2.8)		3.00
20		7.6	30	245			(2.8)		2.90
21		7.1	29	250			(2.1)		2.80
22		6.8	28	280			(2.3)		2.70
23		6.7	28	290			(2.3)		2.70

Time: 135.0°E.

Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 19

Tokyo, Japan (35.7° N, 139.5° E)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6 30	300					2.60
01		6.5 30	300					2.60
02		6.2 30	295					2.65
03		6.0 30	265					2.70
04		5.5 30	260					2.65
05		5.4 30	300					2.65
06	---	8.3 30	245	---		2.20		3.10
07	(320)	10.0 30	240	---		2.80	3.2	3.15
08	260	10.5 30	230	---		3.20	3.7	3.10
09	255	10.4 29	230	---		3.45	4.0	2.95
10	300	10.8 29	225	(5.3)		3.70	4.0	2.80
11	300	11.7 20	220	---		3.70	3.9	2.75
12	310	12.0 30	230	(5.9)		3.80		2.75
13	310	11.8 30	240	(5.8)		3.70	3.8	2.70
14	305	11.6 30	240	(5.3)		3.55	3.7	2.80
15	300	11.8 30	250	---		3.40	3.7	2.80
16	295	11.8 30	250			3.00	3.8	2.05
17	---	11.2 30	255			2.40	3.4	2.90
18	---	10.4 30	250				3.0	3.00
19		8.9 30	250				(3.0)	2.95
20		7.8 30	250				(3.2)	2.80
21		7.0 30	290				2.9	2.60
22		7.2 30	300				2.6	2.65
23		7.0 30	300				2.4	2.60

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 20

Yamagawa, Japan (31.2° N, 130.6° E)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.9 20	285					2.70
01		7.2 23	290					2.70
02		7.0 21	280					2.70
03		6.9 24	265					2.90
04		6.0 26	250					2.80
05		5.8 25	260					2.85
06		6.7 26	265					3.00
07		9.0 27	240				2.45 2.8	3.25
08		10.2 28	240				3.10 3.5	3.20
09	---	10.3 29	230	---			3.40 3.8	3.05
10	(320)	10.8 29	225	---			3.70 4.1	2.85
11	320	12.2 30	210	5.6			3.80 4.1	2.80
12	320	12.9 30	220	5.6			(3.85)	2.75
13	325	12.8 28	230	5.6			3.85	2.75
14	325	13.0 26	240	6.0			3.70	2.75
15	310	12.7 23	245	5.4			3.60 3.8	2.75
16	310	13.0 24	250	---			3.30 4.0	2.80
17	(300)	12.7 22	250				2.80 3.6	2.90
18		13.2 25	255				1.90 3.3	3.00
19	(11.9)	25	240					2.6 (3.00)
20		9.3 19	240					2.6
21		8.1 15	255					2.65
22	(8.0)	16	290					2.3 (2.60)
23	(7.7)	17	290					1.9 (2.75)

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 21

El Cerillo, Mexico (19.3° N, 99.5° W)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.0 30	280					2.80
01		6.6 29	280					2.80
02		6.2 28	260					2.90
03		5.8 20	250					2.90
04		5.1 28	255					2.00
05		4.8 28	280					2.80
06		4.8 28	285					2.80
07		7.4 28	250		121	2.10		3.20
08		9.3 28	225		103	2.90	3.0	3.20
09	---	10.2 27	215	---	109	3.35		3.00
10	---	11.0 30	210	---	105	3.70	4.0	2.90
11	(350)	11.4 30	200	5.7	109	3.90		2.80
12	(345)	12.0 30	210	5.5	105	4.00	4.0	2.80
13	(335)	12.0 29	210	5.6	107	4.00	4.3	2.80
14	(325)	13.0 29	215	5.6	103	3.90	4.3	2.80
15	---	13.0 28	230	---	103	3.00	4.2	2.70
16	---	13.0 28	240	---	103	3.50	4.4	2.80
17		12.0 29	240		103	2.95	4.1	2.90
18		11.4 29	240		110	2.20	4.0	3.00
19		10.2 29	230				3.1	3.00
20		9.0 28	240				3.4	2.80
21		8.2 29	260				2.2	2.00
22		7.8 30	280				3.1	2.80
23		7.6 30	270				2.2	2.00

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 22

Singapore, British Malaya (1.3° N, 103.8° E)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.9 23	210					2.90
01		9.0 20	240					2.95
02		8.2 25	250				1.2	3.00
03		7.5 26	240					3.00
04		6.8 23	240					3.15
05		5.6 26	230					3.30
06	---	6.5 28	265	---	125	---	1.6	3.05
07	---	10.4 28	250	---	120	2.75	3.1	3.10
08	---	12.4 29	235	---	115	3.40		2.90
09	---	13.1 29	220	---	110	3.80		2.60
10	280	13.1 28	210	5.3	110	4.00		2.30
11	400	12.7 28	205	---	110	4.20		2.10
12	---	12.2 26	205	5.3	110	4.30		2.10
13	335	12.0 27	210	---	110	(4.30)		2.10
14	---	12.0 27	205	---	110	4.00		2.10
15	---	12.2 26	205	---	110	3.75		2.15
16	---	>12.6 29	240	---	110	3.30		2.20
17	---	13.2 29	255	---	120	2.65		2.25
18	---	13.2 29	290	---	120	---		2.30
19		13.2 27	355					2.20
20		13.3 17	330					2.40
21	(13.0)	13	255					(2.70)
22		13.8 15	230					(3.00)
23		12.8 21	210					3.00

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 23

Huancayo, Peru (12.0° S, 75.3° W)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.2 23	225					3.00
01		7.4 23	235					3.10
02		6.6 22	230					3.15
03		5.6 23	240					3.15
04		5.1 22	245					3.20
05		4.5 22	245					3.18
06		6.0 24	275		<134	1.65		3.00
07		9.6 27	245		119	2.70	3.5	3.10
08		11.6 27	230		117	(3.30)	7.4	2.80
09		12.45 26	215	---	---	(3.70)	8.0	2.60
10	---	12.1 25	205	---	---	(4.00)	8.0	2.30
11	---	11.25 26	200	---	---	(4.05)	8.5	2.30
12	---	11.1 25	200	---	---	(4.10)	8.1	2.20
13	---	11.0 25	195	---	---	(4.10)	8.0	2.20
14	---	10.9 25	195	---	---	(3.92)	8.0	2.25
15		11.0 26	200		---	(3.65)	7.9	2.20
16		10.4 26	230		---	(3.28)	7.5	2.25
17		9.9 25	255		115	(2.65)	5.8	2.25
18		9.7 25	295		<159	1.60	4.0	2.25
19		8.7 23	400					2.10
20		8.9 11	335					2.30
21		9.2 14	275					2.58
22		9.0 15	230					2.90
23		9.05 20	220					3.00

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

Townsville, Australia (19.3° S, 146.7° E)								September 1960
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.0 3	250					---
01		(6.7) 2	240					---
02		>5.8 9	240					---
03		>5.0 11	250					(2.80)
04		>5.0 11	280					(2.75)
05		>4.3 11	<300					(2.90)
06		>4.7 10	285			<1.70		---
07		>7.0 5	250			2.65		---
08		>11.0 12	230			3.15	3.2	---
09		>11.1 16	230			3.50		(3.15)
10		12.3 15	220			3.70	3.7	3.05
11		12.3 16	220			(3.80)	(4.8)	3.00
12		11.8 18	200			3.80		2.90
13		11.8 19	205			3.75	3.8	2.80
14		>11.5 20	200			3.65	3.8	2.80
15		>11.0 16	220			3.50	3.9	(2.70)
16		>10.8 15	225			3.25	3.5	(2.80)
17		>10.5 3	250			2.75		---
18		>8.2 2	260			1.90		---
19		>6.7 2	275				1.9	---
20		>6.5 1	290					---
21		>6.5 1	280					---
22		>6.0 1	270					---
23		---	0	260				---

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 25

Brisbane, Australia (27.5° S, 152.9° E)									
September 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		7.6	29	250				2.80	
01		7.0	30	250				2.75	
02		6.2	30	250				2.70	
03		5.6	30	250				2.65	
04		5.4	30	290				2.55	
05		5.4	30	285				2.65	
06		7.5	30	250		1.75		3.05	
07		>8.5	30	240		2.40		3.15	
08		>8.5	29	240		3.20		(3.25)	
09		(9.8)	28	230		3.50		3.05	
10		(10.2)	28	220		3.80		2.95	
11		(10.0)	29	220		3.80		2.95	
12		(9.7)	27	210	5.0	3.80	4.0	2.80	
13		(10.1)	27	220	---	3.70		2.80	
14		(9.3)	29	220	4.6	3.60		2.75	
15		>8.5	28	220		3.40		2.85	
16		>8.5	28	240		2.90	3.1	2.85	
17		>8.5	30	250		2.30		2.85	
18		>8.5	30	250				2.80	
19		>8.5	30	250				2.75	
20		>8.5	29	260				2.75	
21		>8.5	29	280				2.75	
22		8.5	29	260				2.80	
23		7.8	29	260				2.75	

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 26

Talara, Peru (4.6° S, 81.3° W)									
August 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		9.45	26	220				3.00	
01		9.2	27	230				3.05	
02		9.05	28	240				3.15	
03		7.55	28	230				3.25	
04		5.5	27	230				3.30	
05		4.6	24	240				3.15	
06		3.3	23	250				3.00	
07		6.4	28	260				3.00	
08		8.2	31	235				2.75	
09	---	9.1	31	220				2.45	
10	---	9.7	31	215				2.30	
11	---	10.1	31	210				2.20	
12	(440)	10.2	30	205	5.3	109	3.90	2.20	
13	(400)	10.5	30	200	5.2	111	3.95	2.10	
14	(370)	10.4	29	200	5.2	111	3.85	2.10	
15	---	10.2	30	<205	(5.3)	111	3.70	2.22	
16	---	10.4	31	210	---	111	3.30	2.25	
17		>10.4	31	230		115	2.92	2.30	
18		(10.3)	31	265		<135	2.20	(2.40)	
19		(9.8)	31	315				(2.30)	
20		>9.6	29	355				(2.35)	
21		(9.9)	23	310				(2.52)	
22		(10.6)	24	250				(2.65)	
23		11.2	29	230				3.10	

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Trelew, Argentina (43.2° S, 65.3° W)									
December 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		10.3	18	380			5.0	2.35	
01		10.3	17	345			4.2	2.35	
02		10.1	19	320			3.9	2.40	
03		9.7	17	340			4.0	2.35	
04		9.4	15	360			3.9	2.30	
05	---	>9.3	14	310	---	113	2.60	(2.20)	
06	---	10.2	15	290	---	115	3.40	(2.40)	
07	---	>10.4	13	280	---	111	4.8	---	
08	---	>10.3	14	---	---	109	5.9	(2.35)	
09	485	>10.3	12	---	---	105	5.5	(2.30)	
10	420	>10.7	9	---	---	105	---	(5.3)	
11	420	>10.6	8	---	---	105	---	---	
12	---	(11.4)	2	---	---	---	---	---	
13	405	(11.0)	5	---	---	---	(4.9)	---	
14	400	>11.0	8	---	---	105	(6.0)	---	
15	380	>10.8	9	---	---	109	6.6	(2.70)	
16	390	(10.4)	13	---	---	111	6.5	(2.50)	
17	360	>10.4	16	---	---	115	6.6	2.65	
18	---	10.0	13	---	---	115	6.3	(2.60)	
19		9.4	12	(300)	---	---	5.8	(2.55)	
20		(9.0)	13	(340)	---	---	4.9	(2.35)	
21		(9.4)	11	---	---	---	5.9	(2.30)	
22		9.9	16	(410)	---	---	5.3	2.30	
23		>9.9	18	400	---	---	5.7	2.30	

Time: 60.0°W.

Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 29

Winnipeg, Canada (49.9° N, 97.4° W)									
September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		4.0	23	320			3.4	---	
01		3.8	24	350			3.2	---	
02		3.8	23	320			3.7	---	
03		3.8	23	340				---	
04		4.0	22	310			2.4	---	
05		3.9	23	330			2.8	---	
06		4.3	23	300				(2.8)	
07	---	5.0	24	260	---	110	2.4	3.1	
08	(450)	6.0	23	240	4.3	100	2.9	3.0	
09	(450)	6.4	24	220	4.8	100	3.2	2.9	
10	470	6.8	23	220	4.9	100	3.5	2.8	
11	430	7.0	23	210	5.0	100	3.6	2.9	
12	410	7.1	24	210	5.0	100	3.7	2.8	
13	420	7.1	25	220	5.1	100	3.7	2.7	
14	410	7.2	26	220	5.0	100	3.6	2.8	
15	410	7.3	25	220	5.0	100	3.4	(2.65)	
16	(380)	7.4	25	230	4.6	100	3.1	2.8	
17	---	7.3	25	250	---	105	2.8	(2.75)	
18	---	7.2	26	260	---	110	2.3	(2.9)	
19		7.0	27	260	---	1.8		---	
20		6.9	24	260				---	
21		(5.0)	24	260			2.3	---	
22		4.5	22	280			2.4	---	
23		4.6	21	300			3.0	---	

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 28

Lindau/Harz, Germany (51.6° N, 10.1° E)									
September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		5.62	30	326				2.44	
01		5.45	29	320				2.44	
02		5.02	30	318				2.44	
03		4.78	30	319				2.43	
04		4.64	28	322				2.48	
05		4.34	27	288				2.60	
06	---	4.64	28	279	---			2.76	
07	---	5.86	29	249	---	108	2.44	3.3	
08	---	6.40	30	232	---	106	2.84	3.6	
09	(388)	7.16	30	229	4.62	103	3.15	4.0	
10	(470)	7.80	30	220	5.13	102	3.38	4.0	
11	(462)	8.21	30	220	5.20	103	3.53	4.2	
12	---	8.50	30	222	---	102	3.57	4.2	
13	---	8.98	29	219	---	102	3.61	4.0	
14	---	8.98	29	226	---	103	3.50	4.1	
15	---	8.67	30	228	---	102	3.30	3.6	
16		8.62	30	235		104	3.07	3.8	
17		8.82	30	242		106	2.72	3.4	
18		8.79	30	248		---	2.06	2.9	
19		8.93	30	242		---	E	2.6	
20		8.29	30	248		---	E	2.81	
21		7.10	30	245				2.75	
22		6.29	30	267				2.57	
23		5.90	30	293				2.45	

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 30

St. John's, Newfoundland (47.6° N, 52.7° W)							September 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	26	310				2.55
01		3.9	26	300				2.60
02		4.2	25	300				2.60
03		3.8	23	300				2.60
04		3.1	26	300				2.55
05		4.0	28	295		108	1.80	2.75
06		5.9	30	250	---	110	2.50	3.10
07	(610)	7.0	29	245	4.6	110	3.00	3.10
08	G	7.5	30	230	4.5	105	3.20	3.00
09	440	8.1	30	215	4.8	105	3.60	2.90
10	(720)	8.5	29	<220	5.0	105	3.80	2.90
11	490	9.0	29	220	5.2	105	3.90	2.80
12	(620)	9.0	30	220	5.3	105	3.80	2.80
13	440	9.0	30	230	5.2	105	3.70	2.75
14	(580)	9.0	30	235	5.1	105	3.50	2.80
15	---	9.2	30	240	---	105	3.20	2.80
16	---	9.2	30	250	---	110	2.90	2.80
17	---	9.2	30	255	---	130	2.30	2.85
18		8.9	28	260		---	---	2.80
19		8.0	25	255				2.80
20		6.8	24	255				2.70
21		5.9	28	290				2.60
22		5.0	25	300				2.50
23		3.9	26	303				2.60

Table 31

Ottawa, Canada (45.4° N, 75.9° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		4.3	26	<300				---	
01		4.0	25	<310				---	
02		4.0	26	305				---	
03		3.9	25	310				---	
04		4.0	25	<320				---	
05		3.5	26	300				---	
06		4.6	30	280				---	
07	---	6.2	29	250	---	120	2.0	(3.0)	
08	(470)	7.0	29	235	---	110	2.6	3.1	
09	(470)	7.6	28	215	4.5	110	3.0	3.1	
10	(420)	8.1	29	210	4.9	110	3.3	2.9	
11	505	8.4	30	210	5.0	105	3.6	2.9	
12	400	8.6	29	220	5.1	110	3.8	2.8	
13	400	8.8	30	220	5.2	110	3.9	2.8	
14	420	9.0	30	230	5.2	110	3.6	2.8	
15	(430)	9.1	30	230	5.0	110	3.2	2.8	
16	(510)	9.1	30	250	4.9	110	3.0	2.8	
17	(410)	9.2	29	250	---	110	2.6	(2.9)	
18	---	9.0	27	260	---	135	2.0	(2.9)	
19		9.0	26	250				(2.8)	
20		7.2	28	255				(2.8)	
21		6.1	28	265				(2.7)	
22		5.2	28	<310				(2.7)	
23		5.0	27	295				---	

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 33

Ojibouti, French Somaliland (11.6° N, 43.2° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(9.0)	1	265	---	---	3.1	---	
01		(9.2)	1	250	---	---	1.7	---	
02		(7.5)	3	230	---	---	1.7	---	
03		(7.0)	2	235	---	---	1.7	---	
04		(7.0)	1	230	---	---	1.7	---	
05		(6.8)	4	220	---	---	1.7	---	
06		(6.4)	9	250	---	E	1.9	(3.00)	
07		(9.7)	5	240	110	2.70	3.6	(3.10)	
08		(11.6)	3	230	110	3.25	4.0	---	
09		(12.6)	2	225	---	3.70	6.6	---	
10		(12.6)	1	220	---	3.95	6.7	---	
11		(12.0)	3	220	---	4.10	6.7	---	
12		(11.6)	3	(230)	---	4.10	6.8	---	
13		(12.0)	2	220	---	4.10	6.7	---	
14	---	(11.6)	1	225	---	4.10	6.5	---	
15	---	---	0	230	---	3.80	4.4	---	
16	---	(12.4)	1	235	---	3.40	4.3	---	
17	---	---	0	250	---	---	4.4	---	
18	---	---	0	280	---	E	3.5	---	
19	---	0	2	370	---	E	1.7	---	
20	---	---	0	---	---	---	1.6	---	
21	---	---	0	(310)	---	---	1.6	---	
22	---	---	0	(260)	---	---	2.0	---	
23	---	---	0	270	---	---	3.2	---	

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc.

Table 35

Tahiti, Society Is. (17.7° S, 149.3° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		12.1	26	240	---	E	2.2	3.00	
01		10.0	23	230	---	E	2.4	2.80	
02		9.0	24	240	---	E	2.2	2.70	
03		>8.8	26	255	---	E	2.2	2.60	
04		7.9	27	265	---	E	2.4	2.80	
05		7.5	28	265	---	E	2.6	2.75	
06		9.0	28	275	---	1.70	3.0	2.85	
07		12.3	28	250	115	2.80		3.10	
08		13.5	27	235	110	(3.35)		3.15	
09	---	14.0	27	230	105	3.70		3.00	
10	---	14.0	25	220	105	4.00		2.90	
11	---	14.0	26	215	105	4.00		2.80	
12	---	13.6	28	210	---	105 (4.00)		2.65	
13	(380)	13.9	28	215	---	105 4.00		2.60	
14	400	14.4	29	215	---	105 3.75		2.50	
15	(410)	14.4	28	225	---	110 (3.50)	3.9	2.50	
16	---	14.7	24	240	---	110 (3.20)	4.0	2.45	
17	---	14.9	24	260	---	120 2.60	3.1	2.50	
18	0	21	300	---	---	---	3.1	2.50	
19	0	23	302	---	---	E	3.1	(2.55)	
20	0	23	260	---	---	E	2.8	(2.70)	
21	0	21	240	---	---	E	2.7	(2.80)	
22	0	23	240	---	---	E	2.9	2.90	
23		14.6	26	240	---	E	2.4	2.90	

Time: 150.0°W.

Sweep: 1.2 Mc to 17.0 Mc.

Table 32

Oakar, French W. Africa (14.8° N, 17.4° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(12.1)	4	325			2.8	---	
01		(12.9)	7	300			2.5	---	
02		(12.8)	9	270		E	2.4	---	
03		>8.7	12	235		E	2.6	---	
04		6.7	17	230		E	2.6	2.85	
05		6.8	20	240		E	2.6	2.80	
06		6.4	24	225		E	2.8	3.05	
07		6.7	23	245		E	3.1	3.05	
08		9.4	25	230		110 2.60	4.7	3.25	
09	---	11.2	26	<225	---	115 3.25	5.0	3.05	
10	---	12.9	27	<220	---	105 3.65	4.6	2.90	
11	---	13.7	27	210	---	100 3.95	4.6	2.80	
12	---	14.9	28	200	---	100 4.10	4.6	2.70	
13	---	15.2	30	200	---	100 4.10	4.6	2.60	
14	---	15.6	30	200	---	100 4.10	4.2	2.50	
15	---	16.0	29	210	---	100 4.00	4.0	2.45	
16	---	16.0	29	220	---	105 3.70	4.0	2.55	
17	---	(16.0)	22	230	---	100 3.30	3.8	(2.50)	
18		14.5	19	245		105 2.75	4.5	2.50	
19		14.4	16	270		---	1.85	3.0	(2.55)
20		(14.2)	15	350				3.0	(2.25)
21		(13.1)	4	375				2.8	
22		>12.2	2	360				2.4	---
23		(12.2)	6	350				2.8	---

Time: 0.0°.

Sweep: 1.2 Mc to 17.0 Mc.

Table 34

Ibadan, Nigeria (7.4° N, 3.9° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		9.8	30	270				---	
01		10.2	30	250				(2.80)	
02		9.8	29	250				---	
03		9.0	29	245				3.10	
04		7.9	29	235				3.15	
05		6.9	29	230				3.25	
06		8.6	28	255		2.20		3.10	
07		11.6	28	240		3.10		3.10	
08		13.3	29	230		3.55	6.8	2.80	
09		13.9	29	220		3.90	9.5	2.50	
10		13.8	29	215		4.10	9.5	2.25	
11		12.9	29	210		4.20	9.6	2.20	
12		12.7	27	205		4.25	9.2	2.25	
13		12.6	30	210		4.20	9.2	2.20	
14		12.6	29	210		4.00	7.8	2.15	
15		12.4	29	215		3.70	8.5	2.15	
16		12.5	29	235		3.25	6.4	2.20	
17		(11.9)	29	260		2.55		(2.15)	
18		>10.8	24	320		1.40		<2.15	
19		(8.9)	29	425		---		(2.00)	
20		9.5	29	420				---	
21		9.6	29	340				---	
22		9.5	28	300				---	
23		9.8	30	285				---	

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 36

Tanananive, Madagascar (18.8° S, 47.5° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		7.0	26	230	---	E	2.1	3.00	
01		5.9	25	225	---	E	1.7	2.90	
02		5.0	25	240	---	E	1.8	2.65	
03		4.8	26	265	---	E	1.7	2.70	
04		4.5	24	260	---	E	1.8	2.70	
05		4.2	26	260	---	E	1.8	2.75	
06		6.9	26	240	---	E	2.9	3.10	
07		10.2	23	225	100	2.80		3.20	
08		11.8	23	220	100	3.30		2.95	
09		12.8	22	230	100	3.70		2.90	
10		13.0	24	225	100	3.95		2.85	
11		12.8	25	220	100	4.00		2.85	
12		12.2	25	215	100	4.05		2.70	
13		12.4	25	220	100	4.00		2.65	
14	---	12.2	27	220	---	100 3.80		2.65	
15		12.0	26	230	---	110 3.55	3.8	2.65	
16		11.8	23	220	---	110 3.15	3.3	2.65	
17		11.8	22	240	---	110 2.50	2.7	2.75	
18		11.5	23	240	---	---	2.4	2.85	
19		11.0	22	230	---	---	2.2	2.90	
20		10.6	23	230	---	---	2.7	2.95	
21		9.4	22	230	---	---	2.3	3.00	
22		9.0	26	240	---	---	2.2	2.95	
23		8.2	24	230	---	---	2.0	3.00	

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc.

Table 37

Sao Paulo, Brazil (23.5° S, 46.5° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	14.0	19	225					(3.05)	
01	13.8	22	225					3.20	
02	11.4	21	210					2.95	
03	8.4	19	230					2.75	
04	7.6	21	255					2.75	
05	7.1	21	255					2.80	
06	7.4	20	260					2.70	
07	10.3	22	230			(2.70)		3.00	
08	12.0	21	230			(3.35)		2.80	
09	12.7	20	220			----		2.80	
10	13.7	19	215			----		2.60	
11	>14.0	20	<220			----		2.60	
12	----	14.0	20	<220	----	----		(2.60)	
13	----	14.0	19	<250	----	----		2.50	
14	(415)	14.0	20	230	----	----		2.55	
15	(390)	14.3	22	220	----	----		(2.65)	
16	(360)	>14.0	24	235	----	----		(2.65)	
17	----	14.0	24	250	----	----		(2.70)	
18	----	14.0	21	270	----	----		(2.80)	
19	----	13.9	20	300	----	----		(2.80)	
20	----	14.0	16	280	----	----		(3.00)	
21	>14.1	14	240	----	----	----		(3.00)	
22	(14.0)	17	230	----	----	----		(3.00)	
23	>14.0	18	230	----	----	----		(3.00)	

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 39

Capetown, Union of S. Africa (34.1° S, 18.3° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	4.6	30	----				<1.6	2.70	
01	4.2	30	----				<1.6	2.65	
02	4.0	30	----				<1.6	2.65	
03	4.1	29	----				<1.4	2.70	
04	3.9	29	----				<1.5	2.65	
05	3.6	29	----				<1.4	2.65	
06	3.4	28	----				<1.4	2.60	
07	6.5	29	250			2.0		3.05	
08	9.1	29	240			2.7		3.10	
09	10.9	29	240			3.2		3.05	
10	12.0	29	235			3.6		2.90	
11	12.6	29	225			3.8		2.80	
12	12.9	29	225			(3.9)		2.75	
13	12.9	29	220			4.0		2.70	
14	13.0	29	225			3.8		2.70	
15	12.8	29	240			3.7	4.0	2.65	
16	12.5	28	240			3.4	3.5	2.65	
17	>12.0	29	240			3.0	3.2	2.70	
18	11.9	29	250			2.2	2.3	2.80	
19	11.2	29	235			<1.6	<1.7	2.85	
20	9.8	28	225			<1.5	<1.5	2.95	
21	8.6	28	230			<1.5	<1.5	2.95	
22	6.8	29	235			<1.6	<1.6	3.00	
23	5.4	30	(235)			<1.6	<1.6	2.90	

Time: 30.0°E.
Sweep: 1.0 Mc to 18.0 Mc in 7 seconds.

Table 41

Canberra, Australia (35.3° S, 149.0° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	>7.0	25	260					2.65	
01	>6.5	28	270					(2.60)	
02	(6.2)	27	260					(2.60)	
03	>6.0	26	260					(2.60)	
04	>5.5	27	260					2.60	
05	(5.7)	25	260					2.60	
06	>6.0	22	260			<1.60		(2.70)	
07	>8.0	23	240			2.60		----	
08	>9.6	26	230			3.15		3.00	
09	(11.0)	26	220			3.50		(3.00)	
10	(11.3)	26	210			3.65		2.90	
11	11.7	25	210			3.80		2.75	
12	>12.0	25	200			3.85		2.75	
13	(11.7)	25	210			3.80		2.75	
14	11.7	25	210			3.75		2.70	
15	11.3	26	210			3.50		2.80	
16	>10.4	26	230			3.15	3.3	2.75	
17	>10.0	23	240			2.60		(2.80)	
18	>9.9	20	250			1.60		----	
19	>8.5	21	240			----		----	
20	(8.2)	15	250			----		----	
21	>7.5	17	250			----		----	
22	>7.0	19	250			----		(2.70)	
23	>7.0	19	260			----		----	

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 38

Johannesburg, Union of S. Africa (26.1° S, 28.1° E) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	5.5	27	235				<1.4	2.85	
01	5.0	27	250				1.5	2.70	
02	4.7	27	250				1.2	2.75	
03	4.4	26	270					2.70	
04	4.1	26	250				1.2	2.80	
05	4.0	25	250				<1.1	2.80	
06	5.4	26	265					2.90	
07	9.0	26	230			1.6		3.25	
08	----	10.6	26	225			3.2	3.5	
09	(260)	12.0	27	220			3.6	4.0	
10	260	12.7	27	215	----		3.9	4.1	
11	(260)	12.7	27	210	----		4.0	4.3	
12	(260)	12.7	27	200	----		4.1	4.4	
13	(305)	12.5	28	205	----		4.0	4.3	
14	----	12.6	28	210	----		3.9	4.2	
15	----	12.2	28	220	----		3.6	4.0	
16	----	12.0	28	225	----		3.3	3.7	
17	11.7	27	240			2.7	3.0	2.80	
18	11.5	27	240			1.9	2.2	2.85	
19	10.7	27	230				2.0	2.90	
20	(9.7)	27	220				<1.5	(2.95)	
21	8.6	27	225				1.8	3.00	
22	7.4	27	230				<1.6	3.05	
23	6.5	27	230				<1.4	3.00	

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 40

Buenos Aires, Argentina (34.5° S, 58.5° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	>11.0	23	280					2.70	
01	10.8	17	280					2.75	
02	9.7	17	250					3.05	
03	7.0	18	220			----	----	2.90	
04	6.2	20	250			----	----	2.45	
05	6.0	17	295			----	----	2.50	
06	7.8	22	260			159	2.10	2.80	
07	10.0	22	240			----	2.80	3.05	
08	10.9	25	235			105	----	3.00	
09	----	>12.1	22	230		109	----	2.95	
10	(280)	>12.8	21	230	----	109	----	2.80	
11	(270)	(13.5)	27	(245)	----	----	----	2.75	
12	(295)	14.0	24	(260)	----	----	----	2.70	
13	310	13.9	23	250	----	----	----	2.70	
14	(300)	14.0	23	240	----	----	----	2.65	
15	----	(13.9)	26	240	----	----	----	2.70	
16	----	13.0	22	240		110	----	2.75	
17	----	13.0	25	250		115	2.50	2.80	
18	>12.7	24	250			----	----	2.90	
19	>12.8	23	260			----	----	2.80	
20	>12.0	23	250			----	----	2.75	
21	>11.8	25	255			----	----	2.80	
22	11.0	21	260			----	----	2.70	
23	11.0	23	290			----	----	2.60	

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 42

Trelew, Argentina (43.2° S, 65.3° W) September 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	(6.6)	23	360					2.40	
01	(7.0)	23	360					2.35	
02	(7.3)	23	330					2.50	
03	7.0	23	300					2.60	
04	6.4	22	280					2.45	
05	>6.0	23	320					2.30	
06	>6.2	22	310			----	1.95	2.45	
07	>8.5	21	265			131	3.00	(3.00)	
08	(9.7)	19	260			111	3.55	(3.00)	
09	----	>9.7	16	255		109	----	----	
10	----	>10.0	14	250		109	----	----	
11	----	>10.0	15	(255)		109	----	----	
12	(320)	>10.0	11	----		109	----	----	
13	----	>9.8	8	----		109	----	4.6	
14	----	>9.5	9	----		109	----	----	
15	----	>9.8	13	(250)		109	----	4.5	
16	----	>9.8	21	270		109	----	----	
17	>9.6	24	270			115	3.20	3.6	
18	>9.2	24	260			----	2.30	2.7	
19	>7.5	24	260			----	----	----	
20	>7.2	23	295			----	----	(2.60)	
21	>7.5	22	300			----	----	(2.55)	
22	>6.3	21	325			----	----	(2.45)	
23	(6.5)	22	360			----	----	(2.40)	

Time: 60.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 15 seconds.

Table 43

Port Lockroy (64.8° S, 63.5° W)							
September 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		5.3 21	345				1.1 2.25
01		4.6 19	350			----	1.0 2.25
02		4.3 17	360				1.2 2.25
03		4.2 20	350				1.1 2.30
04		3.8 21	350			----	1.0 2.40
05		3.9 21	310			----	2.45
06		4.7 24	295			1.50	2.75
07		6.5 26	250			2.00	3.00
08		8.3 22	240			2.50	3.15
09		8.9 21	230			2.70	2.9 3.20
10		10.0 25	230			3.00	3.1 3.10
11		10.8 24	230			(3.10)	3.10
12		10.8 25	230			3.10	3.10
13		10.9 27	230			3.20	3.05
14		10.9 27	235			3.00	3.10
15		9.9 24	235			2.80	3.10
16		9.6 26	240			2.50	3.15
17		9.3 24	240			2.10	3.10
18		8.9 21	245			1.80	3.05
19		7.8 25	240			----	2.90
20		7.8 20	245			----	2.70
21		6.4 22	270			0.95	2.50
22		(5.8) 21	310			----	2.50
23		5.4 18	335			----	2.40

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 45

Mawson (67.6° S, 62.9° E)							
September 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		----	0 ---				
01		----	0 ---				
02		----	0 ---				
03		(6.5) 1	----				----
04		(7.0) 5	(270)				(3.00)
05		(8.2) 6	(225)				(3.00)
06		(8.0) 7	(270)				(2.50)
07		(9.5) 7	(250)				(2.80)
08		9.0 15	250			2.75	
09		10.0 15	240			2.60	
10		11.0 17	270			2.70	
11		11.2 20	220			3.00	
12		9.2 20	200			3.00	
13		8.0 18	200			3.00	
14		7.2 17	250			3.00	
15		(6.5) 8	(220)				(3.00)
16		----	0 ---				
17		----	0 ---				
18		----	0 ---				
19		----	0 ---				
20		----	0 ---				
21		----	0 ---				
22		----	0 ---				
23		----	0 ---				

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 15 seconds.

Table 47

Lindau/Harz, Germany (51.6° N, 10.1° E)							
August 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		6.40 30	298				2.4 2.47
01		5.96 30	319				2.5 2.41
02		5.74 30	319				2.1 2.40
03		5.40 30	311				2.2 2.45
04		5.06 30	308				2.2 2.53
05		5.23 31	300				2.6 2.66
06		6.05 31	259				2.82
07		6.65 31	240				2.82
08		(392) 7.26 30	233				2.75
09		364 7.68 31	239				2.74
10		400 7.65 31	223				2.68
11		410 8.15 30	230				2.65
12		405 8.38 30	231				2.64
13		420 7.95 31	225				2.65
14		407 8.05 31	228				2.63
15		390 8.17 30	229				2.68
16		8.11 30	234				2.67
17		7.78 30	246				2.73
18		8.02 31	254				2.74
19		8.61 30	268				2.79
20		8.55 31	263				2.77
21		8.15 30	263				2.72
22		7.65 31	266				2.64
23		7.09 30	286				2.54

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 44

Wilkes Station (66.9° S, 110.5° E)							
September 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		(5.2) 19	255				>3.4 125 >2.15 (2.70)
01		(5.8) 20	250				>3.8 120 <2.70 (2.70)
02		(6.0) 15	250				>3.8 120 >2.80 (2.55)
03		(6.0) 16	250				(4.2) 120 <3.00 (2.70)
04		(7.0) 10	235				>4.2 120 3.00 (2.50)
05		(7.0) 11	(240)				>4.2 120 (3.00) (2.40)
06		(6.5) 10	<245				>4.1 120 (2.90) (2.35)
07		(6.9) 9	245				>4.0 120 <2.90 (2.45)
08		(6.8) 10	(245)				>3.7 125 <2.70 (2.40)
09		(6.4) 9	260				>3.6 125 (2.35) (2.50)
10		(5.6) 16	270				--- 125 <1.80 (2.55)
11		(5.6) 9	300				--- E (2.60)
12		(5.5) 8	275				--- E (2.70)
13		(5.7) 8	<275				--- E (2.50)
14		>4.1 10	<260				--- E (2.80)
15		>4.5 9	<250				--- E (2.80)
16		(4.2) 10	<255				--- E (2.80)
17		(3.4) 10	<260				--- E (2.80)
18		(3.6) 9	<250				--- E (2.65)
19		(3.7) 9	<250				--- E (2.80)
20		(4.0) 9	<255				--- E (2.60)
21		(4.0) 8	270				--- E 1.3 (2.75)
22		(4.5) 16	<275				--- E (2.70)
23		(4.8) 14	275				125 (1.90) (2.70)

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 or 27 seconds.

Table 46

Byrd Station (80.0° S, 120.0° W)							
September 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		>5.4 9	(360)				----
01		>6.0 11	<300				----
02		>5.0 5	<365				----
03		(4.7) 5	<395				----
04		(4.5) 6	<340				>3.0 (2.70)
05		(4.7) 8	<370				----
06		(4.95) 10	<295				----
07		(5.7) 14	<300				(2.90)
08		6.0 13	(280)				----
09		>6.4 16	(275)				----
10		>6.85 22	275				(2.92)
11		>7.0 25	270				(3.00)
12		>6.9 20	265				----
13		>6.5 21	275				----
14		>6.0 19	<305				(2.90)
15		>6.2 17	320				----
16		>5.0 19	(325)				----
17		>5.0 17	330				----
18		>5.0 19	(310)				>2.0
19		>5.0 11	(335)				----
20		>5.0 15	<330				>1.9
21		>5.2 13	<360				----
22		>5.0 17	(360)				----
23		>5.0 16	(360)				----

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 48

El Cerillo, Mexico (19.3° N, 99.5° W)							
August 1959							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00		7.8 30					2.2 2.70
01		7.8 29					1.9 2.75
02		7.6 30					1.8 2.80
03		6.8 31					1.8 2.70
04		6.6 31					1.8 2.70
05		6.2 30					1.8 2.80
06		6.0 30					2.0 3.10
07		7.4 30					2.6 3.00
08		8.8 30					3.4 2.80
09		9.7 30					3.0 2.60
10		10.3 30					4.6 2.55
11		11.0 30					4.4 2.70
12		11.6 31					4.7 2.60
13		11.8 31					4.6 2.65
14		12.2 31					4.3 2.70
15		12.0 31					4.3 2.70
16		11.4 31					4.0 2.75
17		11.4 31					3.8 2.80
18		11.0 31					2.8 2.90
19		10.7 30					2.9 2.80
20		9.6 28					2.7 2.70
21		8.6 28					2.0 2.70
22		8.5 28					1.7 2.70
23		8.0 29					

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 49

Dakar, French W. Africa (14.8° N, 17.4° W)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	(6,4)	3	380	---	---	---	3,0	---	
01	(5,7)	5	340	---	---	---	2,8	---	
02	(6,6)	7	300	---	---	---	3,0	(2,70)	
03	(5,7)	9	280	---	---	---	2,5	(2,90)	
04	6,0	11	270	---	---	---	2,4	2,70	
05	6,0	17	(265)	---	---	E	2,5	2,75	
06	5,4	19	245	---	---	E	2,8	2,90	
07	6,8	26	250	---	---	1,65	3,6	3,05	
08	8,6	28	230	110	2,70	4,8	3,20		
09	9,2	29	225	110	3,40	5,0	3,00		
10	10,4	30	215	100	3,75	4,8	2,80		
11	11,8	29	210	100	4,00	4,5	2,65		
12	12,7	31	205	100	4,20	4,4	2,60		
13	13,6	31	200	100	4,30	4,5	2,50		
14	---	14,1	31	200	100	4,20	4,5	2,50	
15	---	14,7	28	210	100	4,10	4,6	2,45	
16	---	14,7	29	215	100	3,85	4,2	2,45	
17	---	14,7	27	230	100	3,55	4,5	2,50	
18	---	14,3	22	<250	105	3,05	3,7	2,50	
19	---	14,2	18	270	125	2,15	4,4	(2,50)	
20	---	(12,7)	4	330	---	---	3,0	---	
21	---	(10,0)	2	400	---	---	2,8	---	
22	---	(7,0)	3	410	---	---	2,6	---	
23	---	(6,3)	5	400	---	---	3,0	(2,30)	

Time: 0,0°.
Sweep: 1,2 Mc to 17,0 Mc.

Table 51

Tahiti, Society Is. (17.7° S, 149.3° W)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	8,3	16	235	---	---	---	2,3	2,95	
01	8,3	18	235	---	---	---	2,2	3,00	
02	7,9	19	230	---	---	E	2,0	3,10	
03	6,8	17	235	---	---	E	2,2	3,00	
04	5,5	17	240	---	---	E	2,2	2,90	
05	4,8	22	245	---	---	E	2,8	2,90	
06	5,9	19	300	---	---	E	2,7	2,85	
07	10,4	22	250	120	2,50	---	3,1	3,10	
08	12,7	22	245	110	3,30	---	---	3,15	
09	---	14,1	25	235	105	3,65	---	3,15	
10	(265)	13,8	26	230	105	3,90	---	2,90	
11	---	12,4	26	220	105	4,00	---	2,85	
12	---	13,0	25	210	105	4,00	---	2,70	
13	(360)	12,5	23	220	---	105	3,85	3,9	
14	(385)	12,1	27	230	---	105	3,75	2,65	
15	(365)	12,5	24	245	---	105	3,60	2,65	
16	---	13,1	25	245	115	3,30	---	2,65	
17	---	13,0	25	255	125	2,60	3,1	2,70	
18	---	13,5	25	275	---	E	3,1	2,75	
19	---	14,0	19	205	---	E	3,1	2,75	
20	---	15,0	13	250	---	E	2,9	(2,75)	
21	---	15,5	14	240	---	E	2,7	(2,90)	
22	---	14,0	20	230	---	---	2,8	3,00	
23	---	11,5	13	230	---	---	2,4	3,00	

Time: 150,0°W.
Sweep: 1,2 Mc to 17,0 Mc.

Table 53

Johannesburg, Union of S. Africa (26,1° S, 28,1° E)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	3,3	31	(260)	---	---	---	<1,8	2,80	
01	3,1	31	---	---	---	---	1,6	2,75	
02	3,1	31	---	---	---	---	1,7	2,75	
03	3,1	31	---	---	---	---	<1,3	2,90	
04	3,1	31	295	---	---	---	1,6	2,80	
05	2,9	31	---	---	---	---	<1,4	2,85	
06	3,4	30	270	---	---	---	<1,8	2,85	
07	7,2	31	230	---	---	2,1	---	3,30	
08	---	9,6	31	225	---	2,9	---	3,30	
09	(240)	10,7	31	220	---	3,4	---	3,10	
10	(255)	11,6	31	215	---	3,7	3,8	3,00	
11	(250)	11,9	31	210	---	3,9	4,0	2,95	
12	275	11,8	31	210	5,2	4,0	4,3	2,90	
13	(280)	11,7	31	210	---	3,9	4,2	2,00	
14	---	11,2	30	210	---	3,8	4,2	2,80	
15	---	11,1	30	225	---	3,6	4,1	2,75	
16	---	10,0	31	230	---	3,2	3,7	2,80	
17	---	11,0	31	240	---	2,7	3,1	2,90	
18	---	10,6	31	235	---	1,7	2,4	2,95	
19	---	8,0	31	220	---	---	2,1	3,10	
20	---	6,8	31	220	---	---	2,0	3,10	
21	---	5,3	31	230	---	---	1,8	3,10	
22	---	4,2	31	230	---	---	1,7	3,05	
23	---	3,7	31	(220)	---	---	<1,7	2,95	

Time: 30,0°E.
Sweep: 1,0 Mc to 16,0 Mc in 7 seconds.

Table 50

Djibouti, French Somaliland (11,6° N, 43,2° E)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	0	---	---	---	---	---	2,1	
01	(6,2)	1	(260)	---	---	---	---	1,9	
02	(5,9)	1	(270)	---	---	---	---	2,1	
03	(7,6)	2	(240)	---	---	---	---	1,8	
04	(6,2)	4	(230)	---	---	---	---	1,8	
05	(5,4)	8	(220)	---	---	---	---	1,8	(3,25)
06	6,4	11	250	---	---	1,40	1,9	3,05	
07	(9,7)	14	240	---	110	2,70	3,6	3,10	
08	11,2	13	230	---	110	3,35	3,9	2,75	
09	(11,6)	9	220	---	105	3,75	6,6	(2,55)	
10	(11,7)	7	220	---	100	4,10	6,7	(2,30)	
11	---	(11,6)	6	<220	---	100	4,20	6,7	(2,30)
12	---	(11,4)	6	220	---	---	4,30	6,7	(2,25)
13	---	(10,9)	6	215	---	---	(4,20)	6,7	(2,20)
14	---	(11,6)	6	220	---	---	(4,15)	6,6	(2,25)
15	---	(12,8)	2	220	---	105	3,90	6,3	---
16	---	(14,2)	2	230	---	105	3,60	5,2	---
17	---	(11,6)	5	245	---	105	(3,10)	4,3	---
18	---	(10,0)	1	270	---	110	(2,35)	3,7	---
19	---	(9,7)	4	330	---	---	E	---	---
20	---	(9,1)	4	---	---	---	---	---	(2,05)
21	---	(7,5)	1	---	---	---	---	---	---
22	---	---	0	---	---	---	---	1,7	---
23	---	---	0	---	---	---	---	1,8	---

Time: 45,0°E.
Sweep: 1,25 Mc to 20,0 Mc.

Table 52

Tananarive, Madagascar (18,0° S, 47,5° E)									
August 1959									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	3,5	26	250	---	---	2,0	2,90	
01	---	3,4	24	270	---	E	1,8	2,70	
02	---	3,3	25	<280	---	E	1,6	2,65	
03	---	3,0	26	(295)	---	E	1,7	2,65	
04	---	3,2	28	(300)	---	E	1,6	2,60	
05	---	3,0	26	(305)	---	E	1,6	2,60	
06	---	4,6	28	290	---	E	1,8	2,75	
07	---	9,4	22	265	120	2,60	---	3,05	
08	---	11,0	25	255	115	3,20	---	2,95	
09	---	11,7	28	250	115	3,60	---	2,90	
10	---	12,4	22	240	115	3,90	---	2,80	
11	---	12,1	23	250	110	4,00	---	2,70	
12	---	12,0	16	(250)	110	(4,10)	---	2,60	
13	---	11,5	21	(245)	---	115	(4,00)	4,0	2,55
14	---	11,2	17	245	---	115	3,80	4,0	2,50
15	---	11,0	18	250	---	115	3,50	4,0	2,45
16	---	10,7	23	260	120	3,15	3,6	2,50	
17	---	10,7	21	270	<130	2,50	3,4	2,60	
18	---	10,7	23	270	---	---	3,1	2,70	
19	---	(9,2)	25	255	---	---	3,0	2,80	
20	---	0,0	24	260	---	---	2,5	2,80	
21	---	7,1	23	260	---	---	2,3	2,80	
22	---	6,2	23	260	---	---	2,1	2,90	
23	---	5,3	25	250	---	---	2,0	2,90	

Time: 45,0°E.
Sweep: 1,25 Mc to 20,0 Mc.

Table 54

Trelew, Argentina (43,2° S, 65,3° W)								August 1959
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5,4	27	360				2,40
01		5,2	25	340				2,40
02		5,4	26	330				2,45
03		>5,5	27	315				2,50
04		5,2	27	305				2,45
05		4,8	24	295				2,35
06		4,9	26	320				2,50
07		5,8	25	290	181	2,10		2,80
08		>8,9	20	260	111	3,30	3,7	(3,05)
09	---	>9,3	18	255	---	107	3,50	4,0
10	---	(9,2)	15	245	---	105	----	----
11	(290)	>10,0	13	(250)	---	105	----	4,9
12	(290)	>9,8	15	(225)	---	105	----	4,8
13	---	>9,9	8	(250)	---	107	----	----
14	---	>9,9	9	(250)	---	105	----	----
15	---	>9,5	17	260	---	109	----	4,4
16		(9,0)	20	250		109	----	4,1
17		(8,9)	23	260	113	3,00	3,4	3,05
18		>7,6	24	240	---	2,10	3,1	3,00
19		>6,7	26	250			3,7	(2,90)
20		>6,3	27	260			3,0	2,85
21		(5,8)	28	260			3,4	2,80
22		>5,2	26	280				2,60
23		>5,2	23	340			2,3	2,40

Table 55

Port Lockroy (64.8° S, 63.5° W) August 1959									
Time	h°F2	foF2—Count	h°F	foF1	h°E	foE	foEs	(M3000)F2	
00		2,8	20	370	----	----	----	2,30	
01		2,8	18	370	----	----	----	2,30	
02		2,7	23	375	----	----	----	2,40	
03		2,8	22	370	----	----	----	2,40	
04		2,7	22	365	----	----	----	2,50	
05		2,5	24	345	----	----	----	2,30	
06		2,3	22	310	----	----	----	2,40	
07		>3,0	22	280		1,55		<2,70	
08		5,5	21	240		1,90		2,90	
09		7,4	23	230		2,45		3,20	
10		8,8	28	220		2,60	2,9	3,15	
11		9,8	26	220		2,80	2,8	3,30	
12		10,0	27	230		2,90		3,30	
13		9,4	27	225		2,65	2,7	3,35	
14		9,2	27	220		2,50		3,30	
15		8,8	26	230		2,30		3,30	
16		8,2	28	230		(2,00)		3,35	
17		7,6	24	225		1,65		3,30	
18		6,0	24	225		----	1,3	3,15	
19		4,1	25	235		----		3,00	
20		3,8	22	270		----		2,60	
21		3,4	21	315		----		<2,45	
22		3,0	22	350		----		2,40	
23		2,8	21	360		----		2,40	

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 57

Tsumeb, South W. Africa (19.2° S, 17.7° E) September 1958									
Time	h°F2	foF2—Count	h°F	foF1	h°E	foE	foEs	(M3000)F2	
00		7,70	27	230	---	----	----	2,81	
01		6,60	27	240	---	----	----	2,81	
02		5,62	28	245	---	----	----	2,77	
03		5,36	29	258	---	----	----	2,78	
04		5,00	29	245	---	----	----	2,93	
05		4,47	29	246	---	----	----	2,90	
06		7,85	28	240	128	1,81		3,09	
07		10,58	30	231	114	2,96		3,16	
08		11,67	30	225	109	3,51		2,95	
09		12,58	30	220	---	3,87		2,84	
10		12,86	30	215	---	4,10		2,70	
11		13,00	29	212	---	4,22		2,62	
12	---	12,92	30	210	---	4,22		2,52	
13	---	12,80	30	210	---	4,15		2,47	
14	---	12,78	30	220	---	3,94		2,47	
15		12,73	30	235	---	3,67	4,0	2,48	
16		12,59	29	242	110	3,22	4,0	2,51	
17		12,46	30	255	114	2,58	3,4	2,56	
18		12,45	30	260	---	----	2,5	2,70	
19		12,06	30	252	---	----	2,2	2,76	
20		11,68	30	240	---	----	1,7	2,78	
21		11,00	30	240	---	----	1,8	2,78	
22		10,50	29	245	---	----	1,8	2,88	
23		9,35	29	235	---	----		2,93	

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 59

Rabat, Morocco (30.9° N, 6.8° W) August 1958									
Time	h°F2	foF2—Count	h°F	foF1	h°E	foE	foEs	(M3000)F2	
00		>9,0	31	<320			3,2	(2,45)	
01		>9,0	31	<315			3,1	2,55	
02		(9,0)	29	<305			2,6	(2,55)	
03		(0,4)	31	<300			2,2	2,60	
04		7,6	31	<295			2,0	2,60	
05		7,2	30	<205			2,0	2,60	
06	---	8,0	30	255	130	1,90	2,1	2,85	
07	---	9,0	29	<240	100	2,80	3,2	3,15	
08	(250)	9,1	29	230	100	3,40	3,0	3,20	
09	(375)	9,2	20	(220)	100	3,70	4,4	2,90	
10	(370)	9,5	28	210	6,3	100	3,90	4,2	
11	370	10,1	30	210	6,3	100	4,00	2,60	
12	395	10,3	30	<230	6,3	100	----	2,60	
13	390	10,9	29	<230	6,3	100	----	2,55	
14	390	11,0	29	(220)	6,0	100	(4,20)	2,60	
15	370	11,0	30	230	6,0	100	4,00	2,60	
16	355	10,7	30	230	6,0	100	3,70	2,65	
17	335	10,2	30	240	---	100	3,30	4,0	
18		>10,0	30	<255	100	2,70	4,0	2,80	
19	(9,6)	30	<275		140	1,80	3,4	2,75	
20	9,1	31	<270		---	----	2,9	2,60	
21	9,0	30	<295		---	----	2,4	2,55	
22	9,1	31	<300		---	----	2,6	2,50	
23	(9,2)	31	<300		---	----	3,1	(2,50)	

Time: 0.0°.

Sweep: 1.5 Mc to 16.5 Mc.

Table 56

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E) September 1958									
Time	h°F2	foF2—Count	h°F	foF1	h°E	foE	foEs	(M3000)F2	
00	---	(12,5)	1	<250	---	----	----	<6,8	----
01	---	(12,5)	2	---	---	----	----	<9,5	----
02	(430)	(12,6)	3	---	---	----	----	<10,0	----
03	440	----	0	---	---	----	----	<10,3	----
04	450	(12,8)	1	---	---	----	----	<10,0	----
05	455	(13,0)	1	---	---	----	----	<10,0	----
06	450	(13,1)	1	---	---	----	----	<10,0	----
07	(445)	(12,4)	1	240	---	110	----	<3,8	----
08	---	(12,1)	1	250	---	----	----	3,0	----
09		(13,0)	2	330				2,3	----
10		(13,5)	2	355					----
11		(14,0)	1	300					----
12		----	0	250					----
13		(13,2)	2	210					----
14		(12,4)	8	200				(3,10)	
15		10,8	10	200				3,05	
16		9,6	11	220				2,80	
17		10,4	13	220				2,95	
18		9,8	16	220				3,05	
19		10,0	17	215				3,30	
20		8,5	16	210				3,40	
21		10,4	20	240		130	2,8	3,20	
22		12,8	16	225		110	3,2	3,05	
23		(13,3)	3	230		100	----	<4,8	----

Time: 0.0°.

Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 58

Poitiers, France (46.6° N, 0.3° E) August 1958									
Time	h°F2	foF2—Count	h°F	foF1	h°E	foE	foEs	(M3000)F2	
00		(7,6)	30	<320			2,6	(2,30)	
01		(7,4)	30	<335			2,8	(2,35)	
02		(7,0)	30	<315			2,4	(2,40)	
03		6,7	30	<315			2,4	2,40	
04		(6,2)	30	(320)			2,2	(2,40)	
05		6,4	30	300	---	E	2,6	2,55	
06	<345	7,3	30	<260	---	115	2,40	3,2	2,70
07	360	(7,6)	29	240	(4,9)	110	3,00	3,8	2,65
08	405	(8,4)	31	(235)	(5,6)	105	3,45	4,5	(2,65)
09	400	8,8	30	<245	(5,8)	105	3,70	4,8	2,60
10	385	>9,0	30	<235	6,0	105	3,90	4,8	(2,60)
11	415	>9,0	29	(235)	6,3	105	4,00	4,6	2,50
12	400	9,2	29	<235	6,5	105	4,00	4,5	2,50
13	410	(9,2)	31	230	(6,3)	105	4,00	4,2	(2,50)
14	395	9,0	31	235	(6,2)	105	4,00	4,2	2,50
15	385	(9,0)	29	235	6,1	105	3,90	4,2	(2,50)
16	380	(9,0)	30	245	(5,8)	110	3,55	4,3	(2,55)
17	350	9,0	30	(250)	(5,2)	110	3,10	3,8	(2,60)
18	---	>9,0	30	(270)		115	2,35	4,4	(2,55)
19	---	>9,0	31	275		---	E	3,4	----
20		>8,5	31	<270		---	E	3,6	(2,50)
21		>8,0	31	<290				3,6	(2,40)
22		>8,0	30	<300				3,1	(2,30)
23		(8,0)	30	<315				3,7	(2,30)

Time: 0.0°.

Sweep: 1.5 Mc to 16.5 Mc.

Table 60

Dakar, French W. Africa (14.7° N, 17.4° W)								August 1958	
Time	h°F2	foF2—Count	h°F	fof1	h°E	foE	foEs	(M3000)F2	
00		(7,9)	3	<360		---	----	2,7	----
01		(6,6)	2	330		---	----	2,3	----
02		(6,4)	7	300		---	----	2,5	(2,65)
03		6,7	12	270		---	----		(2,70)
04		6,7	18	245		---	----	3,3	2,95
05		6,5	21	220		---	----	3,0	2,95
06		5,9	16	230		---	E	2,8	3,00
07		7,3	17	235		---	(1,90)	3,3	3,05
08		9,4	18	215		105	2,90	3,3	3,20
09		>10,0	16	205		100	----	4,3	2,95
10		11,0	12	195		95	(3,85)	4,2	(2,70)
11	---	12,2	14	(190)		95	----	(4,9)	2,50
12	---	13,7	13	---		---	----	(4,8)	(2,55)
13	(390)	(14,0)	7	---	---	---	----		----
14	(435)	(14,0)	4	---	---	---	----		----
15	(440)	>14,0	4	(185)	---	100	----		----
16	---	>14,0	7	200		95	(3,95)		----
17	---	>14,0	11	205		100	(3,60)		----
18		>14,0	8	220		100	3,00		----
19		>13,8	6	250		115	2,00	3,2	----
20		(12,2)	3	340		---	E	3,1	----
21		(11,3)	4	415		---	----	2,0	----
22		>9,5	1	400		---	----		
23		----	0	380		---	----		

Table 61

Paramaribo, Surinam (5.8° N, 55.2° W) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	11.0	20 350					3.0	2.30	
01	>11.5	25 325					2.7	2.40	
02	11.8	26 300					2.8	2.50	
03	10.6	25 290					2.3	2.60	
04	9.6	27 270					2.0	2.60	
05	9.4	28 270					2.3	2.60	
06	9.3	29 275					2.4	2.75	
07	8.7	29 255					2.0	2.90	
08	7.8	29 250					2.2	2.00	
09	7.0	29 250			---	---	2.4	2.70	
10	8.2	29 250			100	2.2	3.00		
11	9.6	27 240			100	3.2	2.90		
12	---	10.3	20 230	---	100	3.7	2.70		
13	---	11.6	27 (240)	---	105	4.1	2.55		
14	375	12.4	27 (250)	6.4	105	4.3	2.55		
15	400	13.0	20 <275	(7.0)	105	4.4	2.50		
16	405	13.0	27 <280	7.0	110	4.4	2.45		
17	405	13.2	28 <260	6.4	105	4.4	2.40		
18	400	12.8	29 <250	6.6	110	4.2	2.45		
19	405	12.3	29 245	6.4	110	3.8	4.5	2.40	
20	400	11.7	29 <250	---	100	3.4	4.7	2.35	
21	---	11.4	20 260	---	100	2.8	4.7	2.35	
22	---	10.8	20 300	---	---	1.7	4.3	2.35	
23	---	10.4	25 350	---	---		4.0	2.30	

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 63

Tahiti, Society Is. (17.7° S, 149.3° W) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	12.0	16 220			---	---	2.2	3.00	
01	9.5	19 230			---	E	2.3	3.00	
02	8.8	14 230			---	---	2.2	3.10	
03	7.0	16 230			---	---	2.5	2.80	
04	6.4	17 250			---	(1.00)	2.8	2.80	
05	5.4	17 265			---	E	2.6	2.80	
06	5.9	19 310			---	1.10	3.1	2.65	
07	---	10.8	21 255		120	2.60	2.9	3.00	
08	---	13.6	22 245		110	3.30		3.00	
09	---	15.0	26 240		105	3.70		2.95	
10	(290)	15.0	24 230		105	4.00		2.90	
11	(305)	14.0	25 225		105	(4.10)		2.75	
12	360	13.6	22 240		105	4.15		2.65	
13	380	13.9	22 235	7.2	105	4.00	4.2	2.60	
14	400	13.4	21 220	6.8	105	3.80	4.4	2.55	
15	(370)	14.0	21 250		110	3.65	4.2	2.55	
16	---	14.0	22 250		110	3.20	3.5	2.55	
17	---	13.7	24 260		125	3.1	3.1	2.60	
18	---	14.2	16 290		---	E	3.1	2.60	
19	---	15.4	19 315		---	---	3.3	(2.60)	
20	0	22 275			---	---	3.1	(2.70)	
21	0	24 235			---	---	2.8	(2.80)	
22	0	21 235			---	---	2.2	(2.90)	
23	---	16.0	19 225		---	---	2.4	2.90	

Time: 150.0°W.
Sweep: 1.2 Mc to 17.0 Mc.

Table 65

Tsumeb, South W. Africa (19.2° S, 17.7° E) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	4.90	29 245			---	---	1.6	2.80	
01	4.20	31 247			---	---		2.85	
02	3.54	29 242			---	---		2.66	
03	3.22	28 252			---	---		2.84	
04	3.05	29 255			---	---		2.89	
05	2.90	30 260			---	---		2.83	
06	4.94	31 260			---	---		2.83	
07	9.10	31 235			117	2.57	1.9	3.24	
08	10.70	30 230			110	3.29		3.08	
09	12.06	20 225			109	3.75		2.92	
10	12.42	26 220			---	4.00		2.89	
11	---	12.05	29 215	---	---	4.17		2.75	
12	---	11.99	30 210	---	---	4.16		2.66	
13	---	11.62	29 220	---	---	4.08		2.61	
14	---	11.42	30 221	---	---	3.87	4.2	2.56	
15	---	11.46	30 230	---	---	3.61	4.3	2.55	
16	---	11.40	30 240	---	107	3.20	3.9	2.62	
17	---	11.50	31 255	---	120	2.42	3.7	2.71	
18	---	11.50	31 250	---	---	---	3.3	2.88	
19	---	10.24	31 222	---	---	---	2.6	2.95	
20	---	8.60	31 230	---	---	---	2.4	2.91	
21	---	7.66	31 240	---	---	---	1.9	2.89	
22	---	7.03	30 235	---	---	---	1.5	2.86	
23	---	5.58	29 234	---	---	---		2.82	

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 62

Bangui, French Equatorial Africa (4.6° N, 18.6° E) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	>9.0	1 290						2.0	
01	---	0 250						2.0	
02	(0.0)	6 240						2.2	
03	(7.6)	8 230						2.5	(2.05)
04	7.2	13 225			---	---		2.8	2.95
05	5.9	17 230			---	---		3.2	3.00
06	0.4	20 260			135	1.80		3.4	2.90
07	12.0	23 245			105	3.10		4.4	3.00
08	13.2	21 240			100	3.70		4.5	2.85
09	14.4	27 225			105	4.00		4.5	2.70
10	---	14.0	25 210		105	4.25			2.50
11	---	14.0	24 210		105	4.40		4.5	2.30
12	---	(13.7)	14 205		105	4.45			---
13	---	>13.2	9 205		100	4.40			---
14	---	>13.2	6 205		105	4.25			---
15	---	(12.6)	4 210		105	4.00			---
16	---	>11.5	5 230		105	3.50			---
17	---	>11.9	8 255		110	2.80	3.2		
18	---	>11.4	12 300		---	E	2.0	---	
19	---	>10.5	6 405		---	E			---
20	---	---	0		---				
21	---	---	0 (380)		---				
22	---	---	0		---				1.8
23	---	---	0		---				

Time: 15.0°E.
Sweep: 1.36 Mc to 17.2 Mc.

Table 64

Tananarive, Madagascar (18.8° S, 47.5° E) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	5.3	26 240			---	E	1.0	3.00	
01	4.7	25 <240			---	E	2.5	2.95	
02	4.0	27 230			---	E	2.5	2.90	
03	3.6	20 <245			---	E	2.6	2.90	
04	3.4	27 250			---	E	2.5	2.80	
05	3.3	27 260			---	E	2.2	2.90	
06	4.9	25 260			---	E	1.8	2.90	
07	>9.0	23 230			110	2.40		3.30	
08	11.2	24 225			105	3.25		3.10	
09	12.1	20 220			100	(3.65)		3.05	
10	12.4	22 215			100	(4.00)		3.00	
11	---	12.2	27 <210		100	---		2.80	
12	(400)	11.9	29 210	---	100	---	(3.9)	2.75	
13	(380)	11.6	23 210	---	100	---	(4.6)	2.70	
14	---	11.4	22 220	---	100	(3.90)	4.4	2.60	
15	---	(11.0)	19 225	---	105	3.60	4.0	(2.60)	
16	---	10.7	23 240		110	3.20	3.5	2.70	
17	---	10.4	24 245		120	2.35	2.9	2.75	
18	>10.3	24 240			---	---	2.8	2.85	
19	9.0	23 230			---	---	2.5	2.90	
20	8.5	21 240			---	E	1.8	2.90	
21	8.0	23 240			---	E	2.4	3.05	
22	>5.9	23 230			---	E	1.8	3.00	
23	5.6	25 240			---	E	2.5	3.00	

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc.

Table 66

Ocepcion I. (63.0° S, 60.7° W) August 1958									
Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	fEs	(M3000)F2	
00	4.0	24 350						2.40	
01	3.0	27 360						2.40	
02	3.8	20 <370						2.40	
03	3.8	27 (350)						2.40	
04	3.6	27 <340						2.45	
05	3.5	27 (325)						2.45	
06	3.4	26 <275						2.60	
07	3.4	26 <245						2.70	
08	---	4.5	31 <240					2.90	
09	---	7.6	30 200	(4.6)	---			3.25	
10	---	10.0	24 200		---			3.50	
11	---	10.7	19 200		---			3.40	
12	---	11.4	25 <200		---			3.40	
13	---	(11.1)	8 195		---			(3.45)	
14	(235)	11.0	23 200		---			3.30	
15	---	10.6	25 200		---			3.40	
16	---	10.2	26 200		---			3.40	
17	---	9.0	19 200		---			3.40	
18	---	8.1	21 200		---			3.30	
19	---	6.5	27 200		---			3.30	
20	---	5.1	25 <220		---			3.05	
21	---	4.3	24 (230)		---			2.80	
22	---	4.2	19 <285		---			2.60	
23	---	4.1	19 325		---			2.50	

Table 67

Port Lockroy (64.8° S, 63.5° W) August 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	3.0	24	360	---	---	1.3	2.30
01	3.0	26	370	---	---	1.1	2.30
02	3.0	26	375	---	---	---	2.30
03	2.8	21	365	---	---	---	2.40
04	2.7	23	345	---	---	---	2.35
05	2.5	23	330	---	---	---	2.50
06	2.5	27	300	---	---	1.2	2.55
07	>3.5	26	255	---	---	1.4	2.45
08	3.8	28	230	---	1.7	2.2	<3.10
09	3.5	28	215	---	(2.2)	2.6	3.20
10	10.2	20	215	---	(2.6)	3.2	3.20
11	10.5	29	220	---	(2.8)	4.1	3.15
12	11.0	30	225	---	(2.9)	3.2	3.25
13	10.3	29	220	---	(2.0)	3.0	3.10
14	10.2	27	220	---	2.6	3.0	3.20
15	9.3	31	225	---	(2.4)	2.6	3.15
16	8.8	29	225	---	2.2	2.3	3.20
17	7.4	30	220	---	---	1.8	3.10
18	6.2	29	215	---	---	2.2	3.15
19	4.9	29	225	---	---	1.7	2.90
20	(4.1)	28	255	---	---	>1.3	(2.70)
21	(3.0)	27	<300	---	---	1.5	2.50
22	3.7	26	335	---	---	1.1	2.40
23	3.3	27	355	---	---	1.6	2.35

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 69

Freiburg, Germany (48.1° N, 7.0° E) August 1955							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.5	30	275	---	---	2.3	2.92
01	4.1	30	280	---	---	2.0	2.86
02	3.8	29	270	---	---	2.0	2.86
03	3.6	30	200	---	---	2.2	2.86
04	3.3	31	280	---	---	2.2	2.90
05	(285)	3.6	29	265	---	2.0	3.03
06	300	4.5	29	230	---	118	2.05
07	310	5.0	27	225	---	3.90	111
08	310	5.8	28	220	---	4.05	109
09	300	5.9	29	215	---	4.30	109
10	320	5.7	30	205	---	4.45	107
11	330	6.0	30	210	---	4.50	105
12	330	5.8	31	210	---	4.50	107
13	325	5.9	31	210	---	4.55	107
14	340	5.6	30	210	---	4.40	107
15	330	5.6	30	220	---	4.40	109
16	320	5.5	30	225	---	4.20	109
17	315	5.5	30	230	---	3.90	112
18	290	6.2	31	250	---	---	118
19	(280)	7.0	26	265	---	---	---
20	---	7.1	31	250	---	---	---
21	---	6.6	30	240	---	---	---
22	---	5.7	29	245	---	---	---
23	---	4.9	30	250	---	---	---

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 71

Lulea, Sweden (65.6° N, 22.1° E) July 1953							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	---	3.7	19	260	---	---	2.6
01	---	3.7	15	250	---	---	E
02	---	3.7	15	250	---	---	2.5
03	---	3.7	15	250	---	---	2.5
04	400	3.7	17	240	---	3.1	120
05	---	3.7	17	240	---	3.1	120
06	400	4.4	13	205	---	3.7	110
07	---	4.4	13	205	---	3.7	110
08	465	(4.5)	9	200	---	3.8	---
09	---	(4.5)	9	200	---	3.8	---
10	400	4.6	12	200	---	4.0	---
11	---	4.6	12	200	---	4.0	---
12	410	4.6	15	200	---	4.0	110
13	---	4.6	15	200	---	4.0	110
14	400	4.5	17	200	---	4.0	110
15	---	4.5	17	200	---	4.0	110
16	360	4.5	14	210	---	3.8	110
17	---	4.5	14	210	---	3.8	110
18	360	4.5	20	225	---	3.5	<120
19	---	4.5	20	225	---	3.5	<120
20	(455)	4.2	25	245	---	3.5	---
21	---	4.2	25	245	---	3.5	---
22	---	4.0	18	250	---	---	---
23	---	4.0	18	250	---	---	---

Time: 15.0°E.

Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

Table 68

Tananarive, Madagascar (18.8° S, 47.5° E) July 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	---	3.4	26	250	---	E	2.6
01	---	3.1	27	250	---	E	2.7
02	---	3.0	25	250	---	E	2.8
03	---	2.7	26	255	---	E	2.7
04	---	2.6	27	<265	---	E	2.5
05	---	2.6	26	260	---	E	1.7
06	---	4.0	25	250	---	E	2.5
07	---	8.4	30	230	---	120	2.15
08	---	(11.0)	22	230	---	110	3.00
09	---	12.2	27	228	---	105	3.40
10	---	12.0	30	220	---	100	(3.65)
11	---	11.4	30	215	---	100	(3.75)
12	---	10.8	24	220	---	100	---
13	---	10.5	25	<225	---	100	(3.90)
14	---	(10.4)	23	230	---	105	(3.65)
15	---	10.4	26	225	---	110	3.40
16	---	10.0	30	235	---	115	2.95
17	---	9.9	30	240	---	---	2.25
18	---	9.1	26	230	---	---	3.4
19	---	7.1	25	225	---	---	3.1
20	---	>5.8	28	240	---	---	3.0
21	---	>5.9	26	235	---	---	2.8
22	---	4.5	26	225	---	---	2.6
23	---	3.5	25	230	---	---	2.8

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 70

Lulea, Sweden (65.6° N, 22.1° E) July 1954							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	---	(3.5)	21	250	---	---	2.3
01	---	(3.5)	21	250	---	---	2.3
02	---	3.3	23	250	---	---	2.9
03	---	3.3	23	250	---	---	2.9
04	355	3.7	15	210	---	3.0	125
05	---	3.7	15	210	---	3.0	125
06	385	4.2	13	200	---	3.4	105
07	---	4.2	13	200	---	3.4	105
08	300	4.3	16	200	---	3.7	100
09	---	4.3	16	200	---	3.7	100
10	380	4.4	19	200	---	3.9	---
11	---	4.4	19	200	---	3.9	---
12	400	4.4	14	200	---	4.0	---
13	---	4.4	14	200	---	4.0	---
14	375	4.3	20	200	---	3.9	100
15	---	4.3	20	200	---	3.9	100
16	360	4.3	22	200	---	3.7	100
17	---	4.3	22	200	---	3.7	100
18	(310)	4.2	22	210	---	3.3	110
19	---	4.2	22	210	---	3.3	110
20	---	3.8	22	220	---	---	1.8
21	---	3.8	22	220	---	---	1.8
22	---	3.7	21	245	---	---	---
23	---	3.7	21	245	---	---	---

Time: 15.0°E.

Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

Table 72

Lulea, Sweden (65.6° N, 22.1° E) November 1952							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	---	(2.0)	6	325	---	---	3.0
01	---	(2.0)	6	325	---	---	3.0
02	---	(2.5)	5	305	---	---	2.5
03	---	(2.5)	5	305	---	---	2.5
04	---	(2.8)	12	290	---	---	---
05	---	(2.8)	12	290	---	---	---
06	---	(2.0)	7	---	---	---	---
07	---	(2.0)	7	---	---	---	---
08	---	3.5	22	225	---	---	2.5
09	---	3.5	22	225	---	---	2.5
10	---	5.2	23	210	---	140	1.9
11	---	5.2	23	210	---	140	1.9
12	---	6.0	23	220	---	130	2.0
13	---	6.0	23	220	---	130	2.0
14	---	5.0	23	210	---	---	1.7
15	---	5.0	23	210	---	---	1.7
16	---	(3.9)	20	225	---	---	---
17	---	(3.9)	20	225	---	---	---
18	---	(2.3)	13	235	---	---	2.0
19	---	(2.3)	13	235	---	---	2.0
20	---	(2.0)	5	---	---	---	2.6
21	---	(2.0)	5	---	---	---	2.6
22	---	(2.5)	4	280	---	---	2.6
23	---	(2.5)	4	280	---	---	2.6

Time: 15.0°E.

Sweep: 1.5 Mc to 10.0 Mc in 9 minutes, automatic operation.

ISCOMM-NBS-BL

Fig. 1. RESOLUTE BAY, CANADA
74.7°N, 94.9°W SEPTEMBER 1960

Fig. 2. RESOLUTE BAY, CANADA
SEPTEMBER 1960

Fig. 3. TROMSØ, NORWAY
69.7°N, 19.0°E SEPTEMBER 1960

Fig. 4. TROMSØ, NORWAY
SEPTEMBER 1960

Fig. 5. KIRUNA, SWEDEN
67.8°N, 20.3°E SEPTEMBER 1960

Fig. 6. KIRUNA, SWEDEN SEPTEMBER 1960

Fig. 7. SODANKYLA, FINLAND
67.4°N, 26.6°E SEPTEMBER 1960

Fig. 8. SODANKYLA, FINLAND

Fig. 9. LYCKSELE, SWEDEN
64.6°N, 18.8°E SEPTEMBER 1960

Fig. 10. LYCKSELE, SWEDEN SEPTEMBER 1960

Fig. 11. NURMIJARVI, FINLAND
60.5°N, 24.6°E SEPTEMBER 1960

Fig. 12. NURMIJARVI, FINLAND SEPTEMBER 1960

Fig. 13. UPSALA, SWEDEN
59.8°N, 17.6°E SEPTEMBER 1960

Fig. 14. UPSALA, SWEDEN SEPTEMBER 1960

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Fig. 16. CHURCHILL, CANADA SEPTEMBER 1960

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Fig. 18. INVERNESS, SCOTLAND SEPTEMBER 1960

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SEPTEMBER 1960

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SEPTEMBER 1960

Fig. 22. WINNIPEG, CANADA

SEPTEMBER 1960

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SEPTEMBER 1960

Fig. 24. ST. JOHN'S, NEWFOUNDLAND

SEPTEMBER 1960

Fig. 25. GRAZ, AUSTRIA
47.1°N, 15.5°E

SEPTEMBER 1960

Fig. 26. GRAZ, AUSTRIA

SEPTEMBER 1960

Fig. 27. SOTTENS, SWITZERLAND
46.6°N, 6.7°E

SEPTEMBER 1960

Fig. 28. SOTTENS, SWITZERLAND

SEPTEMBER 1960

Fig. 29. OTTAWA, CANADA
45.4°N, 75.9°W SEPTEMBER 1960

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Fig. 30. OTTAWA, CANADA SEPTEMBER 1960

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Fig. 31. WAKKANAI, JAPAN
45.4°N, 141.7°E SEPTEMBER 1960

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Fig. 32. WAKKANAI, JAPAN SEPTEMBER 1960

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Fig. 33. ROME, ITALY
41.8°N, 12.5°E

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Fig. 34. ROME, ITALY

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Fig. 35. AKITA, JAPAN
39.7°N, 140.1°E

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Fig. 36. AKITA, JAPAN

SEPTEMBER 1960

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Fig. 37. TOKYO, JAPAN
35.7°N, 139.5°E SEPTEMBER 1960

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Fig. 38. TOKYO, JAPAN SEPTEMBER 1960

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Fig. 39. YAMAGAWA, JAPAN
31.2°N, 130.6°E SEPTEMBER 1960

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Fig. 40. YAMAGAWA, JAPAN SEPTEMBER 1960

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Fig. 41. EL CERILLO, MEXICO
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Fig. 42. EL CERILLO, MEXICO SEPTEMBER 1960

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Fig. 45. HUANCAYO, PERU
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Fig. 48. TOWNSVILLE, AUSTRALIA SEPTEMBER 1960

Fig. 53. TRELEW, ARGENTINA
43.2°S, 65.3°W DECEMBER 1959

Fig. 54. TRELEW, ARGENTINA DECEMBER 1959

Fig. 55. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E SEPTEMBER 1959

Fig. 56. LINDAU/HARZ, GERMANY SEPTEMBER 1959

Fig. 57. WINNIPEG, CANADA
49.9°N, 97.4°W SEPTEMBER 1959

Fig. 58. WINNIPEG, CANADA SEPTEMBER 1959

Fig. 59. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W SEPTEMBER 1959

Fig. 60. ST. JOHN'S, NEWFOUNDLAND

Fig. 61. OTTAWA, CANADA
45.4°N, 75.9°W

SEPTEMBER 1959

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Fig. 62. OTTAWA, CANADA

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14.8°N, 17.4°W

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Fig. 64. DAKAR, FRENCH W. AFRICA

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Fig. 65. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E SEPTEMBER 1959

Fig. 66. DJIBOUTI, FRENCH SOMALILAND

Fig. 67. IBADAN, NIGERIA
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Fig. 68. IBADAN, NIGERIA SEPTEMBER 1959

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17.7°S, 149.3°W SEPTEMBER 1959

Fig. 70. TAHITI, SOCIETY IS. SEPTEMBER 1959

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Fig. 72. TANANARIVE, MADAGASCAR
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Fig. 73. SAO PAULO, BRAZIL
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Fig. 74. SAO PAULO, BRAZIL SEPTEMBER 1959

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Fig. 76. JOHANNESBURG, UNION OF S. AFRICA

Fig. 77. CAPE TOWN, UNION OF S. AFRICA
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Fig. 140. LULEA, SWEDEN

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CRPL Reports

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CRPL—J. North Atlantic Radio Propagation Forecast.

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CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499—, monthly supplements to TM 11—499; Dept. of the Air Force, TO 31—3—28 series). On sale by Superintendent of Documents. Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.

(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

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