PART A

IONOSPHERIC DATA

ISSUED
SEPTEMBER 1961

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

CRPL-F 205
PART A

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CENTRAL RADIO PROPAGATION LABORATORY
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Issued
22 Sept. 1961

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CONTENTS

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, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE 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 foF2, as equal to or less than foF1.
2. For h'F2, 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 foE, 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 foF2 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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	108	102	97	93	87	83
1961	79	74										

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 143 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:

Meteorological Service, Province of Macau, Asia:
- Macau

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Townsville, Australia
- Wilkes Station, Antarctica

Australian Department of National Development, Bureau of Mineral Resources, Geology and Geophysics:
- Mundaring, Western Australia

University of Graz:
- Graz, Austria

Belgian Royal Meteorological Institute:
- Dourbes, Belgium
- Lwiro (Central African Institute for Scientific Research)

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
- Slough, England

Defence Research Board, Canada:
- Churchill, Canada
- Ottawa, Canada
- Resolute Bay, Canada
- St. John's, Newfoundland
- Winnipeg, Canada

Universidad de Concepcion:
Concepcion, Chile

Radio Wave Research Laboratories, National Taiwan University, Taipeh, Formosa, China:
Formosa, China

Czechoslovak Academy of Sciences:
Pruhonice, Czechoslovakia

Danish National Committee of URSI:
Godhavn, Greenland

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:
Dakar, French West Africa
Djibouti, French Somaliland
Kerguelen I.
Tananarive, Madagascar
Terre Adelie

Heinrich Hertz Institute, German Academy of Sciences, Berlin:
Juliusruh/Rügen, Germany

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

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:
Ahmedabad (Physical Research Laboratory)
Bombay (All India Radio)
Calcutta (Institute of Radio Physics and Electronics)
Delhi (All India Radio)
Kodaikanal (India Meteorological Department)
Madras (All India Radio)
Tiruchy (All India Radio)
Trivandrum (All India Radio)

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

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
Christchurch, New Zealand

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

Manila Observatory:
Baguio, P. I.

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):
Washington, D. C.

ERRATUM

F204(A), p. 39, Fig. 105: The graph of (M3000)F2 should be plotted 0.5 units higher at 00, 01, 22 and 23 hours local time.

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:

Quantity	Units	Remarks
Electron Density (N)	$x10^3$ = electrons/cm^3	Body of table; given at each 10 km of height.
NMAX	$x10^3$ = 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	$x10^{10}$ = 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 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	4	1	1	1	3	B2	3	3	A3	3	A3
HMIN	249	255	251	224	200	200	99	110	109		109	
SCAT	36.6	41.4	42.9	42.0	36.3	37.5	48.8	38.4	55.4		104	
HMAXF	350	356	354	311	260	263	265	256	285		344	
SHMAX	390	394	363	380	164	79	164	291	552		1276	
KM												
260	710	681	607									
350	710	678	606								898	
340	697	656	592								898	
330	657	614	561								894	
320	591	552	514	714							887	
310	512	471	450	714							875	
300	419	373	372	702							859	
290	306	266	288	671						594		838
280	194	162	188	620						592		808
270	103	73.8	94.7	539	374	178	193			582		781
260	49.3	29.4	41.1	423	374	178	192	392		563		751
250	12.4			277	367	173	188	390		533		714
240				132	345	162	180	375		495		663
230				41.2	308	143	168	346		444		597
220					248	109	153	307		389		526
210					142	57.3	136	266		337		457
200					12.4	4.4	117	227		288		396
190							98.7	192		245		345
180							81.5	161		209		306
170							67.4	136		172		274
160							56.3	117		164		246
150							43.0	101		140		224
140							41.9	86.3		110		192
130							38.0	71.0		100		150
120							34.4	63.6		96.2		140
110							28.5	19.7		75.2		86.7
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	3	1	1	1	A3	B3	3	6	6	6	5
HMIN	110	109	109	109	109			100	200	281	281	273
SCAT	38.0	54.2	48.4	60.3	44.4			35.2	56.5	41.7	35.3	39.3
HMAXF	286	303	287	315	309			261	364	394	386	373
SHMAX	1011	1114	851	1003	891			651	535	413	389	408
KM												
400										675		
390										673	714	
380										655	709	747
370									588	614	678	746
360									587	560	616	727
350									579	488	539	684
340									562	406	445	615
330									532	312	345	519
320				976					499	215	238	398
310		1212		974	1031				460	134	141	274
300		1211		960	1020				416	74.8	78.7	158
290	1360	1194	985	933	982				370	36.9	38.1	79.6
280	1350	1157	980	898	914				322			34.1
270	1298	1106	954	840	831			1240	271			
260	1193	1019	908	765	728			1240	225			
250	1057	907	842	676	613			1212	182			
240	895	784	747	583	508			1135	144			
230	719	657	634	496	424			1003	111			
220	566	546	521	422	361			805	83.5			
210	449	455	428	368	317			564	59.7			
200	377	388	364	328	284			360	12.4			
190	335	339	324	298	256			220				
180	308	305	299	272	230			140				
170	289	277	274	247	205			97.1				
160	270	247	245	222	180			72.1				
150	244	213	208	191	159			57.0				
140	215	191	183	168	141			46.9				
130	197	178	170	156	131			40.0				
120	159	168	164	150	126			35.8				
110	12.4	37.2	55.6	55.6	55.6			30.5				
100								19.7				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	5	5	3	3	S3	S3	3	3	A1	A1	A1	A2
HMIN	278	224	199	200			207	110				
SCAT	41.5	31.6	32.2	28.8			65.7	39.4				
HMAXF	390	296	267	245			347	269				
SHMAX	426	412	270	81			112	279				
KM												
390	701											
380	691											
370	660											
360	608											
350	545						124					
340	462						124					
330	371						122					
320	269						119					
310	167						114					
300	86.2	1031					108					
290	45.4	1021					101					
280	16.5	962					92.4					
270		851	666				82.9	342				
260		651	658				71.3	337				
250		336	619	247			58.3	321				
240		118	548	245			45.2	294				
230		39.6	427	230			33.4	261				
220			235	198			22.9	227				
210			78.0	106			9.3	199				
200			12.4	12.4				177				
190								156				
180								137				
170								119				
160								101				
150								86.9				
140								77.5				
130								73.1				
120								66.5				
110								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	A2	1	A1	1	A1	C1	C1	0	0	0	1
HMIN		109	110		109	108			218	238	263	247
SCAT		48.3	54.1		49.7	46.3			52.6	44.0	47.9	42.3
HMAXF		304	310		289	283			348	361	382	355
SHMAX		1112	1200		1113	784			398	322	317	290
KM												
390											471	
380											471	
370										491	464	
360										491	446	467
350									539	484	418	465
340									536	464	379	452
330									523	431	330	424
320			1298						501	386	273	386
310		1292	1298						470	334	211	340
300		1291	1287						427	272	145	285
290		1267	1253		1477	1008			375	206	90.0	221
280		1216	1197		1466	1007			317	148	51.0	157
270		1139	1120		1425	989			251	97.6	25.0	95.0
260		1030	1013		1355	948			181	59.9		49.7
250		890	889		1255	882			122	34.1		19.9
240		730	746		1094	796			74.8	12.4		
230		588	613		908	686			39.5			
220		472	495		658	565			12.4			
210		388	410		465	449						
200		341	356		349	355						
190		312	323		289	280						
180		293	300		253	232						
170		278	277		228	199						
160		259	255		203	172						
150		232	225		180	145						
140		199	187		156	122						
130		173	167		134	111						
120		163	158		126	105						
110		41.7	12.4		41.7	63.3						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	1	1	A1	A1	F1	1	B1	1	A1	A1	1	1
HMIN	238	210	217	211	231	226	93	108			109	108
SCAT	41.2	38.8	34.7	42.2	42.4	47.1	49.2	38.1			68.4	46.1
HMAXF	334	319	283	314	329	320	284	247			332	322
SHMAX	269	257	163	194	163	130	216	291			1021	1099
KM												
340	467										854	
330	466				271						854	1136
320	453	450		319	268	214					847	1135
310	425	445		318	258	212					831	1116
300	387	424		310	238	205					806	1062
290	338	388	374	291	215	194	284				768	995
280	274	340	374	266	184	176	284				727	911
270	199	279	362	235	148	150	278				675	817
260	117	216	334	198	107	118	267				617	714
250	56.0	142	290	154	64.7	83.8	250	448			552	609
240	16.5	86.9	216	101	34.6	48.3	224	444			487	516
230		52.5	104	58.2		21.8	188	426			432	440
220		28.7	32.2	29.9			150	393			386	386
210		1.1					115	338			349	347
200							85.6	273			321	322
190							64.9	214			298	304
180							51.7	163			276	288
170							42.6	129			255	271
160							36.8	106			232	249
150							33.4	91.2			213	225
140							30.2	81.1			179	204
130							26.8	71.6			149	170
120							23.4	63.8			134	152
110							19.3	47.5			38.1	88.0
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	1	1	1	1	1	0	80	80	0	0	0	0
HMIN	109	109	109	108	108	108		99	219	234	242	239
SCAT	48.7	49.0	58.9	43.0	51.0	50.7		49.7	43.9	37.3	35.5	46.0
HMAXF	321	317	323	297	300	300		304	339	342	341	352
SHMAX	1317	1435	1508	1162	1134	907		666	529	427	373	407
KM												
360												636
350										747	714	635
340									819	747	713	624
330	1484		1561						810	729	697	598
320	1484	1696	1560						779	684	650	556
310	1466	1687	1541					850	724	612	579	498
300	1418	1645	1500	1533	1398	1075		848	655	528	484	423
290	1340	1567	1437	1524	1386	1065		832	566	431	375	341
280	1225	1453	1350	1476	1346	1035		799	470	332	262	250
270	1070	1298	1243	1383	1279	980		747	367	226	153	160
260	902	1108	1101	1255	1187	909		680	256	128	76.5	88.2
250	748	904	948	1068	1062	821		598	159	65.1	35.7	46.4
240	615	711	783	860	894	709		505	84.3	30.0		12.4
230	502	553	630	669	689	587		408	43.0			
220	419	432	506	517	525	453		320	12.4			
210	364	369	409	399	406	363		238				
200	328	332	353	340	328	295		171				
190	307	309	319	306	280	246		125				
180	291	294	298	281	247	214		94.5				
170	275	278	280	260	223	188		73.9				
160	253	258	260	241	202	165		60.3				
150	223	230	234	222	181	145		50.9				
140	194	195	206	202	156	127		44.1				
130	171	171	177	168	138	111		39.6				
120	160	165	165	153	132	102		35.1				
110	59.7	49.2	56.4	93.7	51.4	59.0		28.5				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	0	0	1	1	1	1	B1	A1	A1	A1	A1	A2
HMIN	243	238	232	215	199	199	99	110		109		108
SCAT	42.9	37.4	35.4	29.1	41.2	50.1	40.8	46.6		39.9		63.6
HMAXF	348	326	314	276	274	309	261	256		244		332
SHMAX	364	284	260	183	166	115	154	329		399		979
KM												
350	610											
340	604											808
330	582	564										808
320	543	561	539									801
310	489	539	537				162					785
300	422	497	518				161					758
290	333	432	478				156					718
280	227	341	415	494	326	149						675
270	132	230	331	488	325	138	197					623
260	69.8	128	222	454	317	124	196	448				565
250	32.5	59.2	118	390	298	107	193	446		529		507
240		17.2	43.6	273	270	88.1	183	435		528		449
230				124	224	70.2	167	414		513		397
220				35.4	165	52.9	149	382		481		356
210					74.3	34.7	130	336		434		327
200					12.4	12.4	110	280		376		309
190							91.3	217		318		296
180							75.9	167		277		286
170							63.6	133		246		276
160							54.1	111		217		263
150							46.8	98.0		190		242
140							41.1	82.7		167		214
130							37.6	65.0		141		174
120							34.3	57.4		122		159
110							28.5	45.0		41.7		106
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A2	A2	3	3	3	4	84	84	2	2	2	3
HMIN	108		108	108	108	109		99	212	210	240	246
SCAT	46.0		48.4	52.2	43.1	43.9		38.9	35.2	44.0	40.6	35.9
HMAXF	335		326	313	306	313		321	299	331	353	359
SHMAX	1152		1428	1404	1108	1030		838	582	583	434	384
KM												
360											714	657
350											713	647
340	1179									911	696	604
330	1176		1696					1298		911	657	553
320	1149		1690	1712		1298		1298		895	596	490
310	1093		1652	1710	1424	1297		1271		850	520	416
300	1007		1577	1684	1417	1271		1200	1184	792	428	327
290	914		1463	1627	1376	1211		1086	1163	715	338	238
280	811		1309	1539	1293	1114		936	1094	618	248	156
270	704		1116	1417	1179	998		775	976	507	160	90.5
260	607		909	1239	1035	862		614	822	374	85.8	49.7
250	522		716	1009	868	715		456	624	243	41.1	22.0
240	445		550	760	695	568		317	382	137	3.1	
230	380		429	569	549	446		218	173	74.8		
220	340		363	428	426	353		151	52.1	37.7		
210	315		322	346	340	290		108		3.9		
200	298		297	307	290	248		81.4				
190	285		281	282	258	219		63.2				
180	272		267	265	236	195		51.4				
170	256		252	246	215	171		43.3				
160	226		231	219	193	150		37.4				
150	197		201	186	163	132		33.3				
140	180		174	165	141	116		30.5				
130	170		162	155	131	104		28.2				
120	165		153	146	125	99.3		25.7				
110	43.7		49.0	64.7	43.7	37.2		22.9				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0.KP	3	3	4	4	4	2	82	82	2	A2	A2	A5
HMIN	248	248	209	199	248	287			113			
SCAT	40.4	32.8	30.8	50.9	45.1	44.0			67.4			
HMAXF	348	322	269	297	365	388			305			
SHMAX	402	320	287	218	163	156			692			
KM												
390						259						
380						257						
370					247	248						
360					247	232						
350	707				240	210						
340	700				228	180						
330	672	710			210	142						
320	621	710			184	101						
310	551	686			153	63.2			648			
300	460	629		338	123	36.7			647			
290	358	541		337	94.4	16.0			640			
280	248	419		329	67.7				625			
270	127	272	765	314	44.7				604			
260	60.8	130	749	292	27.3				570			
250	17.2	28.9	693	265	7.7				539			
240			589	227					509			
230			391	172					477			
220			132	104					440			
210			24.1	48.4					389			
200				12.4					294			
190									248			
180									208			
170									173			
160									145			
150									124			
140									107			
130									99.2			
120									57.6			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0.KP	A5	A5	A4	A4	A4	A4	A4	A4	3	3	3	5
HMIN	111								200	288	277	249
SCAT	56.2								58.6	47.3	49.2	46.9
HMAXF	347								361	407	393	343
SHMAX	1409								300	220	232	236
KM												
410										326		
400										324	340	
390										315	340	
380										299	334	
370									342	275	321	
360									342	244	301	
350	1417								339	205	273	383
340	1412								331	161	238	383
330	1386								318	121	197	376
320	1337								300	84.8	151	360
310	1262								278	55.1	107	335
300	1172								253	32.2	69.1	303
290	1055								224	12.4	40.5	257
280	917								192		16.2	201
270	772								158			142
260	636								126			69.8
250	513								96.4			12.4
240	417								73.1			
230	355								53.7			
220	320								37.1			
210	301								23.3			
200	289											
190	277											
180	265											
170	244											
160	217											
150	193											
140	178											
130	170											
120	164											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0.KP	5	5	5	5	5	5	85	A5	5	5	5	2
HMIN	233	245	227	316	267	254	99	110	109	109	109	108
SCAT	39.7	35.4	38.8	43.1	49.6	43.1	23.8	37.4	44.8	80.1	72.5	49.1
HMAXF	333	341	320	414	386	357	241	235	247	292	329	318
SHMAX	179	155	120	106	133	118	164	194	297	500	738	880
KM												
420				179								
410				179								
400				174								
390				165	188							
380				151	187							
370				128	183							
360				103	175	192						
350		289		74.6	163	191						
340	309	289		51.1	148	184						
330	308	283		33.6	128	172					539	
320	300	265	215	17.2	106	156					537	858
310	281	236	212		82.6	134					529	852
300	255	200	202		60.2	108				392	517	828
290	221	157	184		41.8	80.5				392	499	786
280	179	114	160		27.2	56.4				390	478	726
270	136	74.2	132		12.4	37.3				385	449	652
260	88.4	43.8	99.4			21.0				377	416	551
250	51.0	20.7	63.5				354		374	365	382	484
240	25.0		37.1				354	326	372	350	352	433
230			16.2				335	325	361	333	326	374
220							285	314	340	316	307	335
210							212	291	310	301	293	310
200							143	254	271	288	283	294
190							96.8	197	234	273	275	281
180							77.6	122	203	256	265	268
170							54.6	88.2	176	233	251	254
160							45.1	75.2	149	207	233	238
150							39.2	68.8	125	179	209	216
140							35.6	65.3	110	156	183	190
130							33.2	63.5	102	141	161	174
120							30.4	60.9	98.6	131	151	165
110							26.6	31.1	37.2	55.6	41.7	134
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0.KP	A2	A2	A4	A4	A4	4	84	84	4	4	4	3
HMIN						109		99	239	219	219	261
SCAT						49.8	62.3	55.4	38.9	38.5	37.0	44.9
HMAXF						276	338	328	337	320	315	371
SHMAX						475	453	553	395	386	326	343
KM												
380												539
370												539
360												531
350												509
340							539		714			475
330							536	651	707			426
320							527	648	678	710	621	368
310							511	634	626	698	618	300
300							490	610	550	663	595	218
290							458	574	462	602	549	148
280						529	417	529	358	517	482	86.5
270						527	368	474	219	409	395	38.3
260						515	311	409	115	297	293	
250						491	252	336	50.1	176	176	
240						458	197	264	12.4	89.4	86.2	
230						418	143	195		43.0	43.0	
220						370	89.4	145		12.4	12.4	
210						323	45.5	109				
200						286	12.4	83.3				
190						251		64.6				
180						219		51.2				
170						188		41.9				
160						158		35.7				
150						130		32.0				
140						112		29.9				
130						101		27.8				
120						96.4		25.6				
110						41.7		22.9				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.KP	3	3	5	5	5	4	84	4	3	3	3	4
HMIN	241	236	233	209	207	240	99	110	108	112	112	107
SCAT	40.1	45.2	37.1	40.6	50.3	41.1	47.5	60.6	35.8	39.0	80.8	62.3
HMAXF	334	339	316	291	322	340	283	270	258	263	321	357
SHMAX	302	313	256	217	164	117	184	339	488	474	781	1201
KM												
360												985
350						195						982
340	541	510				195						967
330	540	505			235	192					591	940
320	525	487	515		235	183					591	897
310	493	457	511		232	169					588	846
300	444	415	489	409	224	149					581	785
290	383	359	449	409	212	125	226				569	716
280	310	288	389	401	194	98.0	225				553	641
270	220	207	317	381	169	71.1	221	356		583	531	564
260	118	129	192	349	143	47.3	212	354	740	582	506	495
250	42.4	62.4	98.9	300	115	28.2	198	347	732	567	479	435
240		23.1	36.1	240	85.4	1.1	178	334	694	531	450	387
230				160	56.4		156	317	630	481	420	353
220				71.7	34.4		132	296	524	419	390	329
210				12.4	15.8		108	272	409	360	361	314
200							86.1	247	319	319	330	304
190							69.0	218	259	291	301	293
180							55.7	186	221	267	275	277
170							45.4	153	194	242	249	261
160							38.0	127	168	216	216	244
150							32.9	105	140	179	181	221
140							29.7	91.3	119	150	159	183
130							27.1	82.3	108	130	149	166
120							24.9	69.0	104	123	144	158
110							22.5	12.4	74.1			120
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.KP	4	4	2	A2	A2	A3	A3	A3	A2	2	2	2
HMIN	108	108	109						236	254	271	238
SCAT	49.6	37.5	43.9						34.1	40.1	41.5	38.9
HMAXF	316	287	279						345	368	365	341
SHMAX	1335	1111	915						364	366	365	353
KM												
370										613	639	
360										607	637	
350									630	582	619	621
340									627	539	581	621
330									592	476	529	609
320	1547								544	404	456	576
310	1542								486	321	369	522
300	1508								420	235	269	454
290	1443	1704							342	156	158	373
280	1349	1687	1229						260	92.7	58.1	275
270	1219	1612	1215						179	50.3		179
260	1058	1479	1169						104	23.6		102
250	873	1276	1091						56.1			53.8
240	696	979	976						22.2			16.8
230	545	694	830									
220	427	488	645									
210	353	355	469									
200	318	310	359									
190	298	290	303									
180	286	274	278									
170	265	251	260									
160	239	200	235									
150	212	187	206									
140	191	178	183									
130	175	173	167									
120	167	167	160									
110	125	126	85.0									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.KP	2	2	3	3	3	2	B2	B2	A2	2	B2	B2
HMIN	230	238	251	252	228	221	99			108	108	108
SCAT	36.0	37.7	40.0	40.2	43.8	40.2	40.9			74.2	89.3	53.3
HMAXF	322	324	341	335	321	300	263			297	339	317
SHMAX	308	272	258	254	273	221	273			685	1003	958
KM												
350			481									
340			461	471							747	
330	594	510	453	470	471						745	
320	593	508	429	456	471						739	941
310	576	491	393	426	463	426					727	937
300	535	456	346	384	443	426				594	711	918
290	475	403	290	323	411	419				592	691	882
280	399	339	223	249	363	399				585	661	828
270	309	265	131	169	301	365	424			573	633	760
260	205	184	54.3	75.3	226	316	424			556	600	679
250	107	84.5			139	251	414			529	563	590
240	44.3	20.5			65.9	161	391			503	523	492
230	3.1				19.3	59.8	355			473	471	427
220							297			435	407	388
210							229			398	342	358
200							167			359	300	333
190							124			317	271	310
180							93.4			278	251	287
170							72.1			245	234	263
160							57.4			217	203	233
150							47.5			189	163	194
140							40.5			159	149	169
130							36.7			127	141	157
120							33.9			117	137	151
110							28.5			73.8	59.9	92.8
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.KP	2	B2	4	A4	4	3	B3	A3	1	A1	1	3
HMIN	108		108	108	109	110			248	253	248	251
SCAT	48.5		39.5	43.4	36.5	46.3			43.4	44.9	41.8	38.4
HMAXF	319		294	290	281	277			349	346	346	347
SHMAX	1107		1198	1214	939	805			467	440	408	431
KM												
350									779	772	710	779
340									770	768	707	772
330									740	748	685	740
320	1100								690	706	641	678
310	1090								618	649	581	602
300	1057		1712						528	548	494	509
290	992		1708	1673	1424				414	429	390	391
280	921		1661	1651	1424	1121			298	297	279	258
270	835		1551	1584	1393	1113			177	145	164	136
260	740		1400	1466	1310	1081			77.1	47.8	72.6	53.7
250	646		1184	1321	1173	1016			19.3		20.5	
240	559		928	1111	997	938						
230	485		698	849	791	824						
220	424		504	631	593	684						
210	375		382	462	444	513						
200	340		328	363	340	358						
190	315		296	309	282	263						
180	297		277	282	249	212						
170	284		265	266	228	181						
160	276		252	244	192	157						
150	263		227	213	157	132						
140	237		194	190	139	108						
130	207		168	168	127	95.7						
120	180		157	152	121	91.3						
110	127		45.8	61.1	59.7	12.4						

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 9 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	4	4	4	5	B5	A5	A3	A3	3	3
HMIN	238	232	219	210	204	197	99				108	109
SCAT	35.8	46.3	37.3	37.6	43.0	55.9	57.7				49.8	52.8
HMAXF	334	336	303	290	288	325	298				296	322
SHMAX	450	512	426	274	213	106	205				648	1079
KM												
340	858	846										
330	856	842				130						1126
320	827	819				130						1125
310	763	777	870			127						1111
300	673	715	868	559		123	226				616	1077
290	562	625	844	559	392	116	224				614	1019
280	428	514	787	549	388	109	220				601	947
270	289	363	695	519	374	98.7	212				575	851
260	150	205	557	469	349	87.5	200				535	734
250	62.5	92.6	390	389	313	76.2	186				492	612
240	17.2	38.5	204	287	257	64.5	166				443	505
230			88.7	167	181	52.9	140				398	410
220			22.0	65.0	98.4	39.9	115				358	347
210				.4	36.2	27.1	90.4				325	312
200						12.4	74.0				301	290
190							61.7				282	277
180							51.5				268	266
170							42.8				253	255
160							33.1				235	236
150							31.7				210	211
140							29.3				178	184
130							28.1				159	165
120							26.7				147	157
110							24.9				73.8	41.7
100							12.4					

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 9 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A3	3	1	A1	A1	2	B2	B2	2	2	2	1
HMIN		110	108		108	109		99	238	264	256	256
SCAT		51.7	46.3		46.7	43.1		42.8	49.0	40.4	34.0	34.6
HMAXF		315	306		287	278		298	350	360	341	349
SHMAX		1267	1282		854	618		459	397	293	231	248
KM												
360										517		
350									585	509	471	471
340									579	485	471	464
330									561	445	460	436
320		1424							530	389	427	389
310		1420	1635						488	321	375	333
300		1392	1629					675	435	243	311	268
290		1338	1589		1131			669	367	163	233	196
280		1258	1511		1125	831		645	293	90.9	145	124
270		1148	1400		1095	824		601	218	33.1	71.7	65.0
260		1003	1224		1038	795		541	132		26.3	24.8
250		827	1006		955	740		463	65.0			
240		670	785		841	676		377	19.3			
230		538	596		692	589		283				
220		423	450		530	486		196				
210		354	357		391	374		138				
200		317	308		300	285		100				
190		294	282		248	233		73.6				
180		279	267		221	198		55.5				
170		266	255		198	168		44.5				
160		252	242		167	142		37.0				
150		233	226		142	119		32.3				
140		208	199		128	102		29.1				
130		186	177		119	90.1		27.3				
120		174	167		115	84.3		25.5				
110		12.4	73.8		39.4	33.0		22.9				
100								12.4				

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 10 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	1	A2	2	2	2	B2	B2	2	A2	2	1
HMIN	249	208	218	220	228	250			108	108	114	109
SCAT	38.0	27.2	31.4	36.5	58.4	39.0			49.0	61.0	56.0	47.9
HMAXF	333	274	283	294	334	327			267	292	328	334
SHMAX	252	171	126	120	116	72			462	569	832	1136
KM												
340	494				160							1168
330	493				160	138					775	1166
320	478				158	137					771	1142
310	446				154	132					755	1092
300	398			259	146	122				529	726	1014
290	330		307	258	137	107				529	681	924
280	244	450	307	250	124	88.3				523	632	818
270	132	448	295	232	106	64.1			588	511	573	706
260	61.1	420	267	204	84.4	37.2			585	489	504	601
250	12.4	359	225	155	58.7	3.9			570	464	434	503
240		270	153	90.6	34.5				543	434	371	428
230		166	68.6	42.3	12.4				504	398	327	370
220		70.1	18.4	3.1					438	358	297	331
210		18.4							359	322	279	306
200									282	293	267	288
190									237	266	256	275
180									204	240	242	262
170									174	211	220	246
160									142	174	175	228
150									120	150	158	207
140									110	137	149	177
130									105	130	144	158
120									92.8	126	119	150
110									36.0	88.9		41.7

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 10 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	A2	A2	A2	A3	B3	B3	A4	A4	4	3
HMIN	110	108	109							271	268	278
SCAT	50.9	39.1	42.8							42.8	37.7	41.4
HMAXF	333	303	296							375	361	372
SHMAX	1341	1211	1267							485	460	476
KM												
380										819		858
370										816	858	857
360										794	858	841
350										749	840	799
340	1470									682	792	731
330	1469									598	714	632
320	1446									486	608	508
310	1395	1712								353	493	364
300	1312	1709	1792							214	350	204
290	1206	1665	1785							109	202	88.2
280	1058	1564	1732							42.8	82.6	20.5
270	885	1406	1630								20.5	
260	723	1184	1479									
250	579	925	1230									
240	470	691	945									
230	397	501	706									
220	348	379	514									
210	318	321	386									
200	298	295	319									
190	283	280	284									
180	269	268	267									
170	253	252	255									
160	231	226	239									
150	200	201	206									
140	178	182	181									
130	165	171	165									
120	157	164	157									
110	31.1	73.8	91.4									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	3	3	3	3	3	3	B3	B3	4	A4	A4	A4
HMIN	239	210	208	200	221	277			110	110		
SCAT	49.4	43.6	32.5	56.1	41.8	50.4			52.1	69.0		
HMAXF	340	297	276	313	315	366			293	329		
SHMAX	629	477	319	249	148	131			608	1047		
KM												
370						204						
360						203						
350						199						
340	1027					190						
330	1017					178				898		
320	986			326	259	161				894		
310	935			326	258	138				881		
300	862	890		322	251	112			710	858		
290	752	884		312	236	81.8			710	826		
280	599	856	747	298	213	35.0			699	785		
270	393	807	741	278	180				675	734		
260	194	729	702	254	143				638	677		
250	72.6	611	627	225	101				588	619		
240	12.4	438	515	190	62.3				523	560		
230		202	345	154	31.0				446	501		
220		63.8	152	115					366	440		
210			35.4	64.4					299	386		
200				12.4					250	339		
190									208	298		
180									165	262		
170									134	232		
160									111	206		
150									102	180		
140									95.6	151		
130									88.2	131		
120									81.2	120		
110									12.4	12.4		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A4	4	4	A4	4	A3	B3	B3	4	A4	A4	A4
HMIN	109	109	109		109			99	199		261	245
SCAT	40.3	57.3	49.9		53.4			41.1	47.4		45.0	41.0
HMAXF	306	321	308		321			293	314		371	327
SHMAX	1158	1262	1165		1055			815	563		561	513
KM												
380											923	
370											923	
360											911	
350											875	
340											813	
330		1317			1126						736	985
320		1316			1126				819		627	978
310	1417	1305	1298		1115				818		485	943
300	1408	1273	1290		1084			1298	801		313	875
290	1358	1212	1256		1033			1297	766		192	787
280	1259	1147	1197		965			1266	711		103	659
270	1133	1042	1110		868			1197	645		42.3	468
260	975	913	999		757			1089	567			189
250	810	776	863		639			942	476			43.9
240	658	644	721		527			768	382			
230	534	519	599		431			565	283			
220	440	423	496		361			381	173			
210	379	358	408		312			250	71.7			
200	340	320	349		280			161	12.4			
190	315	300	312		257			109				
180	299	286	287		237			79.7				
170	286	271	268		218			61.7				
160	269	251	252		198			50.3				
150	247	226	237		175			42.8				
140	221	203	214		152			38.2				
130	198	183	181		137			35.4				
120	176	170	167		127			33.2				
110	59.7	33.3	57.6		41.7			28.5				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KR	4	F4	3	3	3	F3	B3	3	2	2	2	3
HMIN	236	232	222	214	228	250		109	110	109	108	108
SCAT	61.3	36.0	48.5	55.4	39.2	50.0		61.4	39.6	46.5	56.4	54.2
HMAXF	352	303	320	332	330	353		297	260	258	298	306
SHMAX	625	288	300	289	194	235		385	380	400	629	843
KM												
360	838					349						
350	838					349						
340	831			371		343						
330	812			371	337	330						
320	777		480	366	332	311						
310	739	621	475	356	316	284						819
300	686	620	460	337	289	250		373			567	817
290	614	600	434	316	252	213		372			564	802
280	511	555	399	290	208	166		366			553	774
270	379	487	349	261	162	105		355	494		532	731
260	227	395	287	227	114	48.7		337	494	446	504	674
250	88.2	249	209	188	70.5	1.7		318	486	442	465	602
240	28.7	74.3	112	144	38.2			291	462	429	423	522
230			42.3	90.6	12.4			262	422	403	380	446
220				34.3				236	370	370	341	379
210								214	310	333	311	336
200								193	262	299	290	309
190								170	231	272	274	293
180								143	206	253	262	281
170								119	181	234	251	272
160								97.1	156	209	234	259
150								81.7	136	171	208	239
140								72.5	117	140	176	214
130								67.9	105	129	154	186
120								65.6	82.8	124	145	168
110								25.9	12.4	33.3	65.3	95.3

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	3	A3	A3	A3	A3	A3	A3	A3	A5	A5	F5	F5
HMIN	110								219	282	298	244
SCAT	52.2								45.2	39.2	41.4	42.2
HMAXF	309								344	371	390	336
SHMAX	1060								479	348	423	631
KM												
390											744	
380										602	733	
370										602	701	
360										591	643	
350									691	555	575	
340									690	510	495	1121
330									674	452	378	1114
320									635	391	232	1079
310	1115								593	324	97.0	1008
300	1107								545	230	27.3	914
290	1077								491	86.2		788
280	1023								417			624
270	956								326			414
260	869								223			182
250	762								136			46.1
240	646								79.0			
230	537								41.5			
220	446								12.4			
210	376											
200	330											
190	305											
180	290											
170	277											
160	263											
150	242											
140	211											
130	181											
120	168											
110	31.1											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	A5	A5	A3	F3	3	A3	B3	A3	A4	A4	A4	2
HMIN	163	239	227	207	240	209			110			107
SCAT	47.4	36.0	38.5	47.8	45.4	39.2			44.8			53.3
HMAXF	338	327	312	302	322	279			270			303
SHMAX	792	476	464	300	195	114			495			725
KM												
340	941											
330	934	941			342							
320	908	932	936		341							
310	855	889	936	450	336							660
300	790	806	914	450	322							659
290	707	703	861	443	299							649
280	617	576	774	427	271	242						628
270	530	410	631	399	228	239			645			590
260	444	192	462	366	174	228			637			552
250	372	67.7	241	330	86.1	209			613			510
240	313	12.4	93.6	290		178			573			465
230	266		26.0	240		121			517			420
220	229			164		58.5			440			376
210	201			42.2		12.4			361			340
200	179								287			314
190	156								239			295
180	122								207			278
170	39.4								176			261
160									156			239
150									125			214
140									102			191
130									93.8			162
120									88.7			151
110									12.4			80.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A2	A2	A2	A2	A2	A2	A2	A2	F3	A3	A3	4
HMIN	108							207	261	219	231	246
SCAT	58.4							39.4	40.8	36.7	49.8	49.4
HMAXF	330							326	337	321	346	360
SHMAX	1137							680	609	585	601	526
KM												
370												801
360												801
350											894	792
340	1080								1131		891	767
330	1080							1110	1122	1080	870	721
320	1072							1104	1080	1080	832	665
310	1048							1065	998	1056	775	578
300	1008							987	902	992	700	476
290	948							892	763	889	602	365
280	880							789	560	770	487	245
270	793							662	310	627	356	136
260	695							501	92.0	452	220	67.0
250	593							331		241	113	26.3
240	497							192		121	43.4	
230	414							109		54.9		
220	355							56.7		12.4		
210	322							19.9				
200	301											
190	289											
180	278											
170	265											
160	241											
150	206											
140	185											
130	172											
120	165											
110	126											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	F4	A4	3	3	A3	A3	B3	B3	A2	A2	A2	1
HMIN	263	249	229	216								110
SCAT	45.0	36.2	58.0	35.4								48.3
HMAXF	364	345	361	283								338
SHMAX	442	441	619	299								1216
KM												
370	714		782									
360	712		782									
350	696	858	776									
340	662	854	758									1234
330	610	822	728									1226
320	547	757	685									1191
310	474	661	634									1128
300	375	541	575									1041
290	246	386	507	651								931
280	119	227	419	650								819
270	39.6	118	309	630								710
260		55.1	199	583								609
250		12.4	105	512								512
240			46.2	415								432
230			12.4	277								379
220				84.9								345
210												323
200												307
190												292
180												275
170												258
160												241
150												221
140												197
130												167
120												146
110												12.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	1	A1	A1	1	1	A1	A1	B1	A0	0	0	0
HMIN	108		109	109	107			115	215	229	239	254
SCAT	50.3		46.3	46.1	38.8			42.8	44.0	41.3	38.5	48.8
HMAXF	315		319	304	284			284	326	340	346	374
SHMAX	1269		1413	1352	1059			532	380	306	271	290
KM												
380												430
370												429
360												422
350											461	405
340										494	458	378
330									616	487	441	343
320	1411		1712						613	466	406	296
310	1406		1697	1792					595	429	364	240
300	1377		1643	1789					560	383	310	179
290	1320		1543	1751	1635			815	511	329	249	121
280	1236		1414	1671	1630			814	446	265	185	78.6
270	1121		1253	1549	1581			793	362	199	125	46.3
260	981		1035	1370	1479			751	267	140	72.9	22.2
250	829		824	1120	1318			686	179	81.6	40.2	
240	682		647	856	1056			600	107	40.9	12.4	
230	551		504	630	776			500	57.5	12.4		
220	445		402	462	559			384	26.1			
210	374		343	365	392			258				
200	331		310	311	305			173				
190	304		290	282	261			117				
180	287		274	263	240			81.5				
170	275		262	252	225			60.0				
160	258		249	240	209			47.3				
150	231		227	224	192			38.7				
140	200		196	193	173			33.7				
130	176		171	168	141			30.7				
120	166		160	151	129			28.7				
110	81.4		59.7	39.4	107							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	0	0	0	0	0	1	B1	B1	1	A1	A1	A1
HMIN	266	248	219	229	228	199			108			
SCAT	40.1	42.3	33.4	36.0	35.4	30.5			48.5			
HMAXF	362	340	296	318	305	264			249			
SHMAX	239	258	179	167	142	111			328			
KM												
370	414											
360	414											
350	405	450										
340	379	450										
330	348	444										
320	305	425		297								
310	251	394		294	296							
300	190	349	392	278	294							
290	124	290	389	251	282							
280	61.2	222	370	216	258							
270	23.8	145	333	176	223	281						
260		67.1	276	129	174	280						
250		18.4	205	82.0	111	266			405			
240			115	41.8	54.7	237			401			
230			54.3	12.4	17.2	182			389			
220			12.4			108			368			
210						53.7			339			
200						12.4			302			
190									263			
180									227			
170									196			
160									167			
150									133			
140									102			
130									87.9			
120									81.4			
110									75.3			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	2	A2	A2	A2	A2	B2	A4	4	4	5
HMIN	108	109	108						219	227	217	260
SCAT	66.8	49.5	49.6						33.0	41.3	46.2	36.2
HMAXF	348	342	337						317	334	339	364
SHMAX	1186	1259	1456						615	656	635	478
KM												
370												850
360												847
350	976	1234										817
340	973	1234	1605							1126	941	751
330	959	1215	1596							1123	932	669
320	934	1172	1557						1201	1092	902	571
310	898	1101	1483						1189	1024	846	461
300	852	1011	1379						1114	931	776	337
290	792	907	1238						1010	804	688	219
280	725	798	1069						880	650	580	119
270	651	692	890						709	477	465	50.9
260	574	596	726						516	302	353	1.7
250	505	508	586						314	150	239	
240	443	436	476						153	69.5	138	
230	390	384	398						60.7	23.7	64.7	
220	351	347	346						12.4		20.7	
210	323	320	313									
200	304	300	290									
190	292	288	272									
180	281	277	262									
170	268	265	252									
160	252	251	243									
150	229	234	231									
140	196	205	205									
130	173	183	178									
120	162	173	162									
110	73.8	38.1	59.9									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	5	5	5	5	5	3	B3	3	4	A4	A4	4
HMIN	256	232	200	248	271	227	114	109	108	110	108	109
SCAT	41.2	40.4	24.6	60.7	50.3	44.6	131	40.6	51.5	88.6	103	83.7
HMAXF	369	315	243	388	383	342	394	256	242	315	321	345
SHMAX	479	517	225	238	186	129	296	249	250	450	655	786
KM												
400							169					
390				278	269		169					
380				276	269		168					
370	782			272	264		167					
360	773			263	255		166					
350	740			249	239	196	164					515
340	683			235	220	196	162					514
330	609			217	195	192	159			426	510	
320	520	1022		195	164	184	156		288	426	503	
310	413	1018		169	129	171	152		288	425	491	
300	305	986		141	93.0	153	148		286	422	477	
290	213	921		111	57.0	130	143		282	416	456	
280	124	826		78.6	29.9	106	137		277	409	435	
270	66.1	669		51.3		82.5	131		268	400	409	
260	25.6	445		31.0		60.2	125	346	258	378	381	
250		228	779	12.4		42.0	117	344	296	249	368	353
240		66.7	777			27.2	108	333	296	242	359	330
230			728			12.4	98.6	311	292	236	347	312
220			610				88.4	274	282	234	332	296
210			309				77.6	222	267	231	314	286
200			12.4				66.7	175	246	228	295	280
190							56.5	147	219	225	279	274
180							47.4	129	194	217	265	267
170							39.2	112	172	207	251	260
160							33.1	97.0	147	195	237	247
150							29.0	83.9	121	179	220	221
140							26.6	73.9	103	146	198	171
130							25.2	67.9	95.7	121	169	156
120							22.6	64.7	91.9	113	142	150
110								25.1	71.2	12.4	119	57.6

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	4	4	3	3	3	A3	3	B3	A3	3	3	2
HMIN	106	107	108	109	108	110	108		210	228	253	272
SCAT	99.3	53.5	42.2	40.2	41.1	52.6	52.2		46.3	42.1	49.5	38.5
HMAXF	389	338	309	284	267	291	296		329	341	375	368
SHMAX	1468	1267	1141	985	702	567	593		432	344	353	264
KM												
390	941											
380	939										512	
370	932										511	471
360	920										500	466
350	904									554	479	445
340	883	1281								554	446	408
330	855	1273							651	545	405	357
320	825	1243							645	521	349	297
310	790	1190	1470						624	480	286	229
300	747	1116	1453			610	681		585	425	220	158
290	696	1015	1394	1491		610	679		537	358	153	92.0
280	638	902	1294	1487		604	665		472	290	94.4	38.5
270	576	769	1152	1444	1022	586	638		398	221	52.1	
260	511	633	972	1359	1016	556	598		315	147	25.8	
250	449	513	765	1215	981	518	548		229	86.7		
240	396	427	585	977	916	469	492		144	45.3		
230	356	365	437	707	815	411	422		80.3	16.8		
220	326	324	354	476	662	353	351		39.7			
210	306	297	307	341	499	301	285		3.9			
200	290	282	281	287	362	258	228					
190	280	274	267	263	285	227	185					
180	272	266	257	249	245	203	154					
170	264	259	249	238	226	182	130					
160	252	246	239	223	206	160	111					
150	231	223	219	196	184	139	94.4					
140	199	193	188	164	155	122	81.2					
130	177	170	162	149	134	107	72.1					
120	167	160	152	143	126	99.9	67.2					
110	132	118	66.6	39.4	61.1	12.4	48.0					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	2	2	1	1	1	2	B2	2	A3	3	A3	A2
HMIN	250	230	211	228	202	229	114	109	108	107		
SCAT	38.7	36.9	40.3	42.3	39.6	45.5	33.9	34.0	47.4	50.3		
HMAXF	344	319	305	318	280	322	260	245	264	268		
SHMAX	263	253	237	214	153	114	153	257	366	457		
KM												
350	485											
340	483											
330	468					186						
320	435	491		374		186						
310	390	485	426	371		183						
300	329	460	424	357		175						
290	255	417	411	332	303	163						
280	162	353	383	299	303	145						
270	89.3	277	346	254	298	123	266		428	512		
260	40.5	195	293	199	281	97.7	266		427	509		
250	9.1	108	230	130	258	69.8	260	392	419	496		
240		44.7	154	65.2	224	41.5	241	390	400	473		
230		9.1	78.0	18.4	169	12.4	214	373	373	440		
220			37.2		97.0		165	338	337	390		
210					39.5		121	292	301	334		
200							83.0	245	265	287		
190							62.4	203	233	256		
180							48.6	166	201	231		
170							39.6	134	168	204		
160							34.1	113	132	174		
150							30.9	92.0	114	152		
140							29.2	74.3	106	139		
130							27.8	67.3	101	131		
120							24.2	59.6	92.4	126		
110								22.0	38.1	113		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A2	A2	A0	A0	A0	A1	A1	B1	A1	1	1	1
HMIN									199	246	259	237
SCAT									52.2	49.5	41.3	39.2
HMAXF									328	371	369	342
SHMAX									518	429	373	350
KM												
380										613		
370										613	610	
360										606	602	
350										586	577	619
340										552	532	618
330									669	509	473	604
320									665	453	402	569
310									650	384	331	515
300									618	310	250	443
290									580	229	159	359
280									533	153	90.3	260
270									482	90.7	42.3	160
260									420	49.7	12.4	92.0
250									354	21.9		44.1
240									286			16.2
230									209			
220									128			
210									59.1			
200									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	1	1	1	1	1	1	B1	1	1	A1	1	0
HMIN	253	239	212	209	219	211	114	105	109	108	107	109
SCAT	52.5	46.6	40.2	38.6	37.7	37.3	38.8	41.5	59.2	43.5	50.4	45.6
HMAXF	367	348	311	300	306	289	246	217	250	277	285	286
SHMAX	447	411	338	255	198	171	193	198	334	479	569	636
KM												
370	648											
360	645											
350	631	645										
340	605	640										
330	568	621										
320	519	586	607									
310	453	538	607		392							
300	371	474	596	471	389							
290	271	398	565	464	374	358					539	675
280	166	313	517	440	344	353				478	538	672
270	81.8	199	445	401	297	335				475	528	655
260	34.7	102	358	345	233	305			358	460	507	619
250		44.5	259	271	153	254	374		358	429	475	571
240		12.4	161	199	84.6	183	372		355	394	434	503
230			78.8	129	43.6	96.0	358		347	356	391	435
220			35.8	63.1	12.4	42.3	333	319	334	324	355	375
210				12.4			287	317	314	298	325	329
200							211	306	293	280	303	303
190							112	286	270	267	287	285
180							57.7	255	246	255	272	275
170							38.7	205	222	239	258	262
160							29.6	150	200	222	241	240
150							25.5	116	177	202	222	209
140							23.4	89.9	140	170	202	183
130							22.0	77.8	112	135	158	170
120							20.1	72.1	103	126	145	162
110								53.2	33.3	80.1	89.2	59.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	0	0	0	0	0	0	A0	B0	2	2	2	2
HMIN	110	108	109	108	106	108	109		210	238	249	263
SCAT	62.3	65.4	51.1	50.5	53.3	45.0	36.5		59.0	46.2	40.4	35.6
HMAXF	322	337	314	314	328	320	294		339	361	357	360
SHMAX	882	1186	1079	969	1102	1062	882		521	414	383	358
KM												
370										621		681
360										621	651	681
350										612	646	667
340		1027							648	588	623	626
330	747	1024			1126				644	548	577	558
320	747	1009	1157	1027	1120	1335			631	498	518	474
310	740	983	1156	1025	1094	1319			609	434	439	365
300	724	945	1136	1007	1049	1269	1561		576	358	351	255
290	698	895	1095	969	983	1183	1556		537	276	254	160
280	659	831	1032	907	901	1079	1502		486	187	162	77.6
270	617	758	946	835	803	934	1384		426	116	90.4	34.8
260	563	676	836	740	695	775	1222		356	70.3	44.9	
250	504	592	713	627	586	618	781		284	39.3	12.4	
240	446	512	588	525	477	479	698		212	12.4		
230	395	442	472	434	388	363	444		135			
220	356	385	390	365	330	290	252		65.6			
210	327	342	337	317	293	246	179		.4			
200	310	314	304	288	270	222	146					
190	297	296	285	272	255	205	120					
180	291	283	274	261	245	189	85.9					
170	284	275	264	247	238	173	69.4					
160	268	263	251	228	226	154	62.3					
150	236	241	234	204	202	129	58.4					
140	202	203	215	178	175	110	55.6					
130	180	175	183	155	147	99.6	53.7					
120	169	165	165	146	135	94.9	52.5					
110	12.4	59.0	56.4	99.6	122	35.4	30.3					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	2	2	2	2	2	2	B2	A2	2	C2	A2	A2
HMIN	249	219	215	226	229	229			110			
SCAT	39.2	40.7	35.2	46.7	33.7	41.5			75.0			
HMAXF	347	321	301	330	310	319			282			
SHMAX	417	372	307	283	206	204			552			
KM												
350	744											
340	737											
330	708	681		469								
320	652	681		464	440	373						
310	579	670	621	449	440	368						
300	486	638	621	424	430	352						
290	379	586	606	384	399	325			534			
280	257	507	565	322	352	286			534			
270	134	401	501	249	284	235			531			
260	61.3	259	408	169	201	164			523			
250	12.4	150	302	97.5	109	93.3			510			
240		82.4	194	45.3	45.5	43.0			492			
230		41.8	89.7	18.8	17.4	12.4			471			
220		12.4	31.7						442			
210									401			
200									347			
190									290			
180									246			
170									210			
160									180			
150									152			
140									128			
130									114			
120									105			
110									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A2	A2	S2	A2	A2	3	B3	B3	3	3	3	4
HMIN					108	108	108	112	202	208	247	291
SCAT					51.2	55.1	46.6	48.8	42.0	43.9	52.5	42.7
HMAXF					328	334	327	328	302	306	375	402
SHMAX					1209	1241	1050	996	761	516	472	340
KM												
410												559
400												559
390												548
380											648	522
370											646	480
360											635	421
350											611	353
340						1275					574	278
330					1287	1273	1360	1417			529	188
320					1279	1254	1353	1407			473	116
310					1247	1214	1316	1368	1391	858	400	69.4
300					1190	1149	1248	1293	1391	854	317	34.9
290					1108	1071	1148	1199	1365	831	233	
280					1009	978	1023	1067	1296	785	154	
270					895	876	877	885	1195	717	90.9	
260					763	767	701	682	1034	629	47.1	
250					635	658	540	495	824	525	19.3	
240					525	551	406	332	547	406		
230					433	456	305	205	282	248		
220					365	375	235	132	117	97.2		
210					321	313	193	90.9	40.2	26.7		
200					292	270	167	67.2				
190					270	239	144	53.1				
180					251	214	124	43.8				
170					229	191	106	37.1				
160					204	166	90.8	33.0				
150					179	141	77.4	30.9				
140					160	120	67.7	29.6				
130					147	107	62.8	28.8				
120					139	101	60.3	26.5				
110					73.8	59.0	31.6					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	4	4	4	4	4	2	B2	2	2	2	2	2
HMIN	246	230	232	280	248	199		109	108	109	106	107
SCAT	36.2	37.3	43.2	37.9	38.9	31.0		50.3	52.7	66.8	63.7	70.0
HMAXF	335	318	349	373	341	274		259	261	290	307	354
SHMAX	372	346	360	290	342	264		313	433	624	867	1253
KM												
380				541								
370				541								
360				526								980
350			567	492	633							979
340	747		561	440	633							970
330	744		539	369	619							951
320	717	681	502	288	581							921
310	659	674	451	201	529						779	879
300	574	644	385	112	449						776	832
290	455	587	317	50.9	359					577	765	775
280	324	505	248	1.7	252	633				574	744	709
270	171	402	173		139	631			510	565	711	639
260	77.1	273	106		64.2	602		409	510	548	673	570
250	28.7	134	60.8		18.4	540		406	504	524	623	504
240		54.3	31.5			438		395	489	496	566	446
230		1.7				302		375	465	469	506	402
220						149		348	431	441	447	368
210						58.7		308	381	387	394	342
200						12.4		252	320	324	352	323
190								202	268	293	320	307
180								165	231	265	295	295
170								134	202	237	275	283
160								107	179	207	253	267
150								82.0	155	179	223	243
140								67.5	126	152	197	206
130								61.0	104	138	163	169
120								57.9	97.1	131	149	158
110								23.7	66.6	33.1	83.7	51.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	2	2	2	A1	B1	B1	A1	A1	A1	1
HMIN	106	108	107	107	107				241	223	260	252
SCAT	50.8	37.6	53.9	53.8	50.9				43.0	49.0	50.4	43.1
HMAXF	329	317	330	312	311				348	357	365	358
SHMAX	1240	1175	1398	1390	1232				728	790	677	569
KM												
370										1022		
360										1121	1019	971
350									1157	1114	1000	963
340									1147	1085	959	930
330	1240		1464						1107	1028	898	869
320	1230	1444	1452	1620	1464				1031	957	821	785
310	1197	1431	1416	1619	1463				941	865	718	671
300	1139	1357	1349	1598	1446				831	758	586	524
290	1054	1254	1267	1550	1399				699	623	437	346
280	965	1114	1150	1474	1324				547	466	245	197
270	864	958	1015	1368	1220				372	320	87.0	89.9
260	758	793	868	1218	1070				202	201		38.5
250	656	638	715	1024	888				67.6	124		
240	563	517	583	807	718					66.6		
230	480	426	473	616	559					30.5		
220	415	373	398	463	422							
210	368	344	348	371	346							
200	335	325	319	325	301							
190	312	310	300	297	274							
180	296	293	285	280	254							
170	275	270	272	262	236							
160	246	238	257	243	219							
150	214	207	229	225	198							
140	161	189	195	203	169							
130	147	178	169	170	144							
120	141	172	160	153	134							
110	137	69.4	130	82.7	104							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	1	1	1	1	1	1	B1	A1	A1	1	1	1
HMIN	239	210	209	223	218	209	114	108		108	107	109
SCAT	40.8	32.1	40.9	43.9	30.7	35.5	36.4	32.1		52.3	58.3	56.2
HMAXF	338	287	291	331	298	287	264	257		266	294	318
SHMAX	598	432	315	310	214	179	212	319		518	733	1022
KM												
340	1075			494								
330	1065			494								
320	1023			485								936
310	947			464								931
300	846		580	431	491						710	912
290	706	1022	580	383	483	371					709	877
280	523	1011	569	330	447	367					700	824
270	332	954	537	267	387	349	392			577	680	765
260	156	846	495	197	302	316	391	517		575	648	697
250	60.4	688	436	123	204	268	378	511		564	609	623
240	12.4	427	354	67.8	103	202	350	480		538	558	551
230		160	259	31.1	47.2	125	306	425		508	497	486
220		57.9	120		16.8	59.8	232	351		463	429	429
210		1.7	23.7			12.4	154	276		409	371	383
200							89.0	219		355	332	348
190							58.3	177		311	306	322
180							43.2	143		274	289	305
170							35.1	111		244	273	290
160							30.8	86.2		219	252	274
150							27.9	74.3		195	219	254
140							26.4	67.2		154	176	226
130							25.0	63.1		125	143	191
120							21.9	60.9		117	134	163
110								48.3		90.5	122	83.5

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	1	1	A2	A2	A2	A2	A2	B2	3	3	3	2
HMIN	106	109			106				207	219	239	231
SCAT	59.0	53.6			47.9				49.8	39.3	38.6	41.8
HMAXF	335	327			322				331	336	339	338
SHMAX	1245	1340			1414				882	673	565	545
KM												
340	1121								1298	1131	1031	941
330	1118	1360			1776				1298	1124	1016	931
320	1102	1355			1775				1283	1084	966	895
310	1069	1327			1746				1241	1004	880	829
300	1015	1276			1678				1170	899	772	742
290	953	1197			1564				1079	765	628	623
280	880	1104			1426				951	621	456	482
270	798	990			1231				804	476	278	329
260	707	863			1004				641	313	130	173
250	620	738			802				427	188	57.6	82.9
240	543	620			588				248	92.5	12.4	39.1
230	473	517			430				128	46.8		
220	414	434			341				64.2	12.4		
210	370	378			300				20.7			
200	337	340			274							
190	315	318			250							
180	300	302			231							
170	286	291			213							
160	265	279			182							
150	231	248			140							
140	191	204			123							
130	169	175			114							
120	154	161			108							
110	137	65.6			99.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	2	2	2	2	2	B2	A2	A2	A2	2	3
HMIN	237	239	227	209	209	239	114				118	115
SCAT	41.4	44.7	40.6	26.5	46.2	37.9	35.3				61.4	46.9
HMAXF	337	347	319	284	307	329	272				319	329
SHMAX	446	437	368	262	265	213	226				916	1144
KM												
350		714										
340	782	710										
330	777	689				392						115
320	750	650	681			386					782	1141
310	699	595	674		428	366					778	1103
300	629	518	646		425	333					764	1032
290	539	425	597	657	413	288					739	957
280	420	315	523	653	389	236	411				699	867
270	280	196	427	607	358	178	410				658	769
260	146	104	303	531	317	108	399				613	670
250	64.7	48.2	170	421	264	50.1	370				566	576
240	20.7	12.4	72.2	277	201	12.4	329				516	495
230			25.1	136	125		273				468	430
220				60.7	55.2		198				425	380
210				12.4	12.4		117				387	344
200							68.9				355	321
190							47.6				328	303
180							35.9				308	290
170							27.1				290	278
160							25.4				268	262
150							23.7				234	239
140							22.7				203	202
130							21.7				174	179
120							20.4				128	151

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	3	3	A4	A4	A4	A2	A2	B2	2	2	2	4
HMIN	109	109							211	222	249	251
SCAT	50.2	50.3							49.0	47.2	41.4	46.8
HMAXF	340	343							335	345	345	364
SHMAX	1442	1600							823	703	601	601
KM												
370												932
360												930
350		1712								1080	1080	911
340	1424	1710							1131	1077	1075	870
330	1410	1682							1128	1053	1043	809
320	1369	1620							1104	1005	976	722
310	1294	1521							1057	932	883	611
300	1200	1394							986	829	761	491
290	1085	1234							896	699	593	356
280	962	1048							794	557	371	232
270	839	863							678	395	182	116
260	727	706							555	243	74.3	51.3
250	627	579							431	139	12.4	
240	540	480							312	74.7		
230	471	409							198	34.9		
220	418	363							89.9			
210	377	334										
200	348	315										
190	325	302										
180	307	291										
170	289	281										
160	269	268										
150	246	243										
140	216	212										
130	192	190										
120	180	176										
110	59.7	77.2										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	4	4	2	2	2	3	B3	3	A4	A4	R4	4
HMIN	259	229	222	248	240	199	115	108		109	106	107
SCAT	39.9	29.8	41.8	48.6	41.8	49.4	46.0	39.0		46.0	55.4	67.8
HMAXF	357	304	325	364	324	394	281	273		284	319	348
SHMAX	567	503	444	496	437	426	374	526		657	992	1339
KM												
370				747								
360	1031			746								
350	1023			732								1080
340	984			702								1076
330	912		772	655	782							1061
320	808		769	597	781						941	1034
310	670	1184	746	516	762						935	996
300	501	1157	699	416	721	666					914	941
290	323	1062	635	312	657	665	591			779	877	885
280	162	902	543	201	566	652	591	768		777	822	823
270	61.7	693	430	102	450	626	583	767		761	759	752
260	12.4	452	304	50.6	320	584	561	747		726	679	674
250		197	179	17.2	164	535	527	700		674	587	591
240		67.9	85.5		61.1	473	473	631		596	505	513
230		21.7	36.6			384	399	539		505	434	454
220						263	300	419		408	382	409
210						112	185	316		336	347	378
200						24.1	102	246		295	322	353
190							58.4	205		267	306	332
180							40.9	175		247	292	312
170							33.9	150		228	276	292
160							30.5	128		204	257	271
150							28.5	110		172	234	248
140							27.5	94.5		151	202	225
130							26.5	81.0		137	179	197
120							25.0	74.4		131	166	177
110								38.6		36.1	113	113

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A4	A4	A3	A3	A3	A1	A1	A1	A3	A3	3	2
HMIN					110	106			250	269	270	241
SCAT					39.2	58.0			50.5	37.9	47.9	44.1
HMAXF					288	315			356	360	369	359
SHMAX					982	985			661	543	618	656
KM												
370										999	985	
360									976	999	977	1031
350									972	980	948	1022
340									950	920	897	986
330									909	839	826	922
320						1031			847	735	719	834
310						1030			774	610	592	722
300						1015			678	448	455	592
290					1417	984			557	255	283	447
280					1401	936			410	82.7	114	315
270					1340	877			254	12.4	12.4	201
260					1231	805			102			102
250					1083	723			12.4			40.7
240					870	622						
230					655	506						
220					485	402						
210					355	328						
200					295	274						
190					262	239						
180					245	214						
170					232	192						
160					218	171						
150					189	150						
140					162	127						
130					147	110						
120					136	102						
110					19.7	78.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	2	2	2	2	1	B1	1	2	2	2	A2
HMIN	236	212	216	232	247	227		109	109	109	108	
SCAT	43.4	32.2	50.2	35.1	46.9	44.1		67.8	49.8	54.5	44.3	
HMAXF	346	294	322	312	344	313		288	284	277	278	
SHMAX	592	383	385	223	224	222		510	632	611	673	
KM												
350	976				358							
340	972				357							
330	945		594		350							
320	888		593	471	334	407						
310	812		585	471	311	406						
300	709	858	566	458	278	398						
290	583	854	534	425	236	379		529	714			
280	435	816	490	374	187	350		527	713	651	779	
270	276	734	422	303	132	304		519	700	648	773	
260	154	620	342	204	69.5	233		506	674	634	747	
250	69.9	452	255	104	24.0	142		486	630	610	700	
240	26.3	260	155	39.1		68.7		461	577	572	637	
230		115	74.5			23.7		431	510	529	552	
220		43.6	27.8					394	439	480	467	
210								346	371	425	390	
200								284	314	363	341	
190								215	271	312	310	
180								163	239	276	289	
170								134	214	245	271	
160								112	190	215	251	
150								93.6	166	188	223	
140								80.7	143	166	189	
130								73.1	122	137	162	
120								68.8	111	125	151	
110								24.5	39.4	29.7	59.9	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A2	A2	1	1	1	A2	A2	B2	A4	4	4	6
HMIN			110	109	108				229	260	244	253
SCAT			51.4	50.3	50.6				50.8	45.2	46.7	48.7
HMAXF			320	313	314				352	374	357	370
SHMAX			1163	1042	993				708	626	658	732
KM												
380										985		1080
370										983		1080
360									1008	960	1022	1067
350									1007	913	1017	1032
340									993	841	989	971
330			1212						959	751	932	894
320			1212	1126	1121				902	637	863	793
310			1199	1124	1119				831	503	779	676
300			1164	1106	1099				733	354	664	541
290			1101	1065	1057				618	213	516	380
280			1024	1002	992				503	109	343	226
270			919	916	906				370	44.4	185	106
260			806	809	787				237	3.1	83.0	38.7
250			689	687	643				129		33.9	
240			578	562	515				60.1			
230			481	462	406				12.4			
220			402	385	334							
210			353	332	290							
200			322	301	266							
190			304	283	250							
180			292	271	237							
170			283	258	223							
160			262	246	209							
150			232	224	195							
140			198	198	175							
130			175	172	151							
120			164	158	138							
110			12.4	39.4	40.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	6	6	A6	6	6	4	B4	4	4	A4	4	4
HMIN	234	219	199	247	269	251	98	110	109		109	108
SCAT	35.9	49.8	34.6	48.8	49.8	34.7	38.5	37.1	43.0		66.6	75.7
HMAXF	324	329	277	371	385	342	306	271	275		346	388
SHMAX	507	572	353	351	361	283	448	513	497		967	1314
KM												
390					534							886
380				491	532							884
370				491	521							874
360				486	500							856
350				469	466	567					772	831
340				441	423	566					770	795
330	1031	858		406	363	551					761	756
320	1028	851		364	296	511					742	712
310	993	827		317	223	448	714				713	663
300	915	785		261	144	367	709				680	612
290	802	726		202	81.1	280	682				634	560
280	649	655	801	143	41.8	163	631	858	619		582	507
270	430	568	793	86.9	12.4	83.2	553	858	617		520	458
260	239	453	754	46.5		38.7	459	840	601		453	413
250	101	297	682	19.3			334	792	566		395	377
240	34.8	155	558				231	712	518		352	349
230		61.4	368				160	593	446		323	330
220		12.4	170				117	437	376		304	318
210			66.0				90.1	294	313		290	308
200			12.4				71.7	203	269		281	300
190							58.5	156	236		274	294
180							49.2	126	211		263	289
170							42.5	102	186		247	283
160							38.2	87.1	156		229	268
150							35.8	78.7	132		208	244
140							33.6	73.7	115		183	208
130							31.7	68.9	105		163	177
120							30.1	64.5	101		153	167
110							27.2	12.4	57.6		83.5	69.4
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	4	4	4	A4	A4	2	2	B2	A4	4	4	1
HMIN	107	107	108		106	107	109		229	249	240	242
SCAT	50.4	49.4	48.2		49.5	54.3	52.6		56.1	37.6	41.3	46.5
HMAXF	354	332	331		332	325	335		364	350	346	353
SHMAX	1335	1410	1325		1098	1091	955		617	422	459	482
KM												
370									775			
360	1263								774			744
350	1261								763	747	782	743
340	1240	1477	1491		1147		1080		740	735	778	730
330	1194	1477	1490		1146	1173	1077		700	696	751	700
320	1120	1456	1470		1128	1171	1057		656	630	701	652
310	1035	1405	1417		1088	1152	1017		597	549	631	591
300	939	1318	1326		1022	1113	953		531	462	543	515
290	827	1214	1216		941	1052	880		458	360	425	421
280	712	1089	1080		850	975	792		375	236	308	315
270	604	949	916		748	883	695		284	127	196	201
260	502	807	740		639	775	587		198	59.2	101	99.4
250	425	673	583		517	653	473		117	12.4	41.8	39.1
240	374	557	450		421	535	366		54.1		3.1	
230	339	463	360		350	426	285		12.4			
220	316	397	318		303	342	228					
210	300	351	296		277	285	190					
200	290	322	284		262	248	163					
190	282	306	278		249	223	141					
180	278	295	273		236	205	121					
170	273	281	255		220	188	104					
160	264	261	229		202	168	89.8					
150	248	249	201		179	147	77.5					
140	230	225	180		155	127	66.9					
130	202	193	167		137	112	60.6					
120	184	177	160		128	105	57.4					
110	137	140	123		114	87.3	35.1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	1	2	2	2	1	B1	A1	2	A2	A2	A1
HMIN	257	220	220	199	249	259	95	109	109			
SCAT	41.0	43.8	62.5	58.6	32.3	46.8	32.7	40.8	31.7			
HMAXF	353	308	351	321	327	359	275	254	232			
SHMAX	476	448	448	280	114	128	178	300	312			
KM												
360	842		539			204						
350	841		539			202						
340	821		535			195						
330	772		524	356	238	184						
320	705		506	356	235	168						
310	612	819	482	353	220	147						
300	501	812	450	345	197	119						
290	363	784	412	332	167	87.9						
280	206	731	365	312	129	56.4	297					
270	82.2	661	312	290	84.2	31.1	296					
260	25.1	552	252	264	43.1	6.4	282	467				
250		408	179	232	12.4		254	466				
240		195	99.9	191			214	454	494			
230		65.0	42.2	143			167	430	493			
220		.4	3.1	85.7			123	387	476			
210				43.6			90.2	315	434			
200				12.4			67.5	233	367			
190							51.8	180	294			
180							40.5	139	246			
170							32.8	93.0	216			
160							29.0	79.1	189			
150							26.8	71.3	158			
140							25.7	66.6	130			
130							25.0	63.7	111			
120							23.8	61.0	97.1			
110							20.9	40.5	73.1			
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A1	A1	A1	A1	A1	A1	A1	B1	2	2	2	2
HMIN		108	106	108			108	96	235	230	243	259
SCAT		52.3	45.1	45.6			53.4	61.0	54.2	55.8	46.2	51.2
HMAXF		332	321	302			309	331	361	354	343	372
SHMAX		1106	1072	972			990	851	679	651	475	533
KM												
380												779
370									941			779
360									941	894		768
350									932	893	779	743
340		1055						936	907	880	778	702
330		1055	1157					936	866	853	763	648
320		1042	1157					928	809	810	731	576
310		1009	1141	1179			1229	907	733	756	680	491
300		952	1096	1178			1220	874	634	679	609	388
290		886	1021	1157			1189	827	520	586	509	271
280		810	930	1107			1137	770	388	472	392	135
270		719	828	1029			1064	701	251	338	265	55.1
260		621	719	925			963	623	137	194	131	12.4
250		526	609	799			840	538	70.2	95.1	46.3	
240		443	503	649			701	449	28.6	40.2		
230		382	412	502			545	352		3.1		
220		344	356	391			388	260				
210		318	321	325			274	184				
200		302	298	288			206	125				
190		291	284	267			166	83.6				
180		282	269	252			140	55.2				
170		272	251	236			119	40.7				
160		256	227	217			101	35.2				
150		233	203	193			86.9	33.0				
140		199	181	164			77.9	31.6				
130		180	166	150			72.0	29.8				
120		171	158	143			68.6	27.3				
110		134	119	51.0			43.7	23.0				
100								12.4				

ELECTRON DENSITY

PAMEY AFB, PUERTO PICO 60 W 27 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	2	2	2	2	1	A1	A1	1	1	A1	A1
HMIN	232	222	208	218	222	231	94	109	108	109		
SCAT	39.3	42.3	44.2	37.3	35.2	43.7	42.3	49.9	57.6	48.9		
HMAXF	326	317	321	305	309	331	298	283	271	302		
SHMAX	418	351	341	261	197	199	295	568	604	769		
KM												
340						338						
330	779		536			338						
320	774	619	536			333						
310	747	615	528	489	392	319				808		
300	693	595	506	487	385	296	467			808		
290	617	555	469	468	362	261	463	765		796		
280	520	503	419	431	324	217	446	764	710	768		
270	385	432	361	383	269	164	416	753	710	722		
260	216	337	293	321	209	103	371	726	704	662		
250	108	218	217	249	138	61.1	305	685	687	593		
240	40.2	110	147	159	75.2	33.3	216	624	659	521		
230		42.2	85.1	72.0	34.2		135	537	622	455		
220			44.6	20.5			89.9	428	570	397		
210			16.5				65.6	307	505	353		
200							47.8	228	426	319		
190							36.5	181	335	292		
180							31.9	147	252	266		
170							28.9	116	203	238		
160							26.9	86.1	167	204		
150							25.7	72.6	128	156		
140							25.1	66.1	111	129		
130							24.2	62.2	103	121		
120							22.4	60.1	99.6	113		
110							20.1	41.7	71.6	41.7		
100							12.4					

ELECTRON DENSITY

PAMEY AFB, PUERTO PICO 60 W 27 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A1	A1	0	A0	A0	A1	A1	A1	A1	A1	A1	A1
HMIN		109	108	108					221	239	254	237
SCAT		44.6	50.4	40.3					42.4	37.4	39.8	40.7
HMAXF		322	320	306					331	324	340	330
SHMAX		1411	1565	1246					692	586	609	616
KM												
340									1184		1173	
330		1712	1851						1184	1179	1156	1126
320		1711	1851						1163	1175	1102	1110
310		1682	1831	1712					1110	1136	1012	1059
300		1610	1775	1701					1024	1054	870	974
290		1494	1681	1642					902	928	690	861
280		1340	1553	1526					753	760	458	710
270		1143	1374	1367					568	518	215	520
260		930	1165	1159					342	257	50.1	268
250		729	938	924					182	92.9		103
240		570	725	690					85.8	22.0		25.5
230		456	555	512					38.3			
220		380	431	392								
210		339	361	334								
200		314	322	301								
190		296	298	278								
180		287	282	259								
170		275	269	241								
160		261	260	205								
150		239	234	176								
140		214	200	159								
130		185	176	150								
120		167	164	145								
110		41.7	59.0	81.2								

ELECTPON DENSITY

PAMEY AFB, PUERTO RICO 60 W 28 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	A1	A1	1	A1	1	2	B2	2	A3	A3	A3	3
HMIN			216	202	220	224	94	109	107	107		108
SCAT			32.7	31.4	49.8	33.7	35.8	47.4	58.7	62.6		51.7
HMAXF			279	267	339	301	268	261	291	277		342
SHMAX			381	238	246	159	218	377	678	568		1169
KM												
350												1080
340					356							1080
330					353							1066
320					343							1033
310					326	342						975
300					302	341			744			905
290					270	332			744			821
280			941		230	307			737	580		732
270			922	588	187	267	409	515	719	578		648
260			856	581	138	215	404	515	690	570		569
250			747	546	91.2	147	383	508	652	554		495
240			552	480	55.1	74.7	347	490	600	526		436
230			280	377	29.5	32.9	288	459	532	498		391
220			66.7	216	.4		201	420	449	458		357
210				64.1			120	369	368	406		332
200							69.0	298	297	350		313
190							44.2	224	246	305		300
180							31.9	169	213	271		286
170							27.0	127	181	240		271
160							24.5	95.3	145	206		252
150							23.1	79.8	117	174		225
140							22.2	72.2	105	139		195
130							21.4	67.6	98.5	123		169
120							20.4	64.8	95.1	116		155
110							18.6	25.1	67.1	99.6		57.7
100							12.4					

ELECTRON DENSITY

PAMEY AFB, PUERTO PICO 60 W 28 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A3	3	A3	A3	A3	A3	A3	A3	1	A1	A1	3
HMIN		106	108		109			97	199	209	254	258
SCAT		46.6	46.8		40.7			48.0	47.5	46.6	47.9	48.1
HMAXF		323	329		310			287	332	337	366	366
SHMAX		1419	1465		1418			906	630	517	472	458
KM												
370											714	701
360											711	698
350											695	681
340									898	779	663	646
330		1635	1712						898	774	616	604
320		1633	1695						885	752	552	547
310		1601	1640		2116				852	709	473	469
300		1532	1541		2084				796	654	385	380
290		1427	1413		1989			1411	728	582	284	268
280		1286	1246		1826			1404	643	487	177	147
270		1125	1052		1606			1369	549	374	86.4	64.7
260		951	860		1274			1303	448	260	32.9	18.4
250		776	676		941			1206	328	175		
240		622	533		651			1064	215	112		
230		498	430		444			847	140	68.2		
220		409	365		333			621	81.1	38.8		
210		357	325		282			409	41.8	12.4		
200		324	300		256			228	12.4			
190		303	283		238			115				
180		286	271		224			47.7				
170		268	261		208			38.0				
160		248	250		187			35.6				
150		222	225		160			34.3				
140		189	187		140			32.8				
130		168	163		127			31.1				
120		159	153		119			28.1				
110		81.6	82.3		81.7			24.1				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 29 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A3	3	2	2	2	0	F0	0	A0	A0	A0	A1
HMIN	258	230	219	241	216	204	96	106	108			
SCAT	51.2	39.3	33.5	37.5	44.0	37.6	44.4	31.7	45.7			
HMAXF	370	325	305	335	323	291	289	235	254			
SHMAX	449	452	336	318	390	335	484	285	394			
KM												
370	672											
360	666											
350	648											
340	615			591								
330	572	854		588	651							
320	510	850		568	650							
310	428	823	707	524	636							
300	334	767	703	466	606	651						
290	217	685	670	389	560	651	685					
280	118	565	606	304	495	637	678					
270	57.9	412	519	203	411	600	642					
260	17.2	251	398	106	306	541	607		494			
250		115	248	41.1	188	463	570		493			
240		46.4	127		105	364	537	541	483			
230		3.1	57.1		55.1	223	506	538	460			
220			12.4		22.8	103	395	512	425			
210						34.2	228	459	378			
200							116	370	327			
190							61.9	249	276			
180							41.5	171	236			
170							33.3	133	204			
160							29.7	106	178			
150							28.3	88.2	154			
140							27.5	74.2	132			
130							26.5	64.2	107			
120							24.7	59.0	93.7			
110							21.3	54.9	83.4			
100							12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 29 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A1	A1	1	1	A1	A1	1	B1	A1	1	1	1
HMIN			107	109		109			219	249	250	231
SCAT			37.8	60.8		55.1			41.3	35.8	34.7	35.7
HMAXF			287	316		328			321	338	337	325
SHMAX			921	945		978			489	424	393	357
KM												
340										819	786	
330						1031			819	809	779	681
320				882		1026			819	769	734	678
310				880		1005			805	693	672	651
300				867		966			767	603	586	594
290			1190	862		910			704	492	463	521
280			1181	804		838			627	349	320	429
270			1120	757		746			533	194	174	324
260			1041	695		638			425	83.9	68.4	212
250			934	624		530			295	22.0		110
240			806	551		433			173			44.6
230			665	480		355			70.8			
220			535	418		300			12.4			
210			427	370		261						
200			351	332		234						
190			312	302		217						
180			289	276		202						
170			273	252		184						
160			254	229		162						
150			227	199		138						
140			204	165		119						
130			179	150		106						
120			159	143		99.7						
110			82.7	39.4		33.0						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 30 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A1	1	2	2	2	3	A3	3	A3	A3	A3	A3
HMIN	285	239	215	213	220	224		110				109
SCAT	35.3	37.3	32.0	37.5	31.4	36.5		42.4				76.7
HMAXF	367	319	293	310	298	302		240				347
SHMAX	332	308	254	206	165	170		224				1005
KM												
370	669											
360	663											
350	631											755
340	571											756
330	493											748
320	394	621										733
310	268	613		390		366						710
300	142	582	567	384	366	366						686
290	39.1	528	565	364	360	356						651
280		449	543	329	336	332						610
270		344	492	281	295	291						559
260		221	414	222	239	218						504
250		93.6	313	157	175	136						449
240		22.0	194	89.3	96.8	72.5		326				401
230			92.5	47.2	44.4	31.4		322				359
220			31.7	16.8	3.1			308				328
210								286				305
200								254				288
190								215				275
180								170				263
170								134				250
160								105				232
150								81.9				205
140								67.2				180
130								59.3				162
120								56.0				153
110								12.4				59.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 30 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A3	3	1	A1	1	2	B2	B2	4	4	4	3
HMIN		108	109		109	109	110	97	199	239	264	261
SCAT		53.4	53.4		38.7	40.7	38.3	46.0	56.8	46.9	41.6	46.8
HMAXF		327	323		318	310	293	286	341	353	368	380
SHMAX		1281	1310		1155	1207	1013	973	854	580	479	588
KM												
380												894
370											815	884
360										894	809	854
350									1027	893	779	801
340									1027	876	723	733
330		1353	1398						1018	839	646	642
320		1347	1397		1561	1735			993	782	551	537
310		1319	1377		1543	1735			952	705	439	416
300		1266	1334		1473	1707	1776		894	610	310	283
290		1190	1260		1351	1605	1773	1627	826	495	194	172
280		1086	1172		1180	1491	1722	1620	749	359	92.0	87.5
270		960	1057		983	1311	1601	1577	664	215	34.0	38.3
260		817	922		779	1077	1434	1496	568	115		
250		685	772		603	828	1175	1377	461	53.8		
240		559	637		463	605	856	1195	347	12.4		
230		442	525		361	431	538	896	246			
220		364	428		302	326	300	575	157			
210		322	355		270	263	199	305	73.6			
200		297	311		250	230	158	153	12.4			
190		281	286		235	210	133	81.3				
180		269	270		223	195	108	54.0				
170		255	258		212	179	85.2	39.9				
160		239	244		196	162	73.3	33.5				
150		219	222		168	141	67.2	30.6				
140		193	192		145	122	63.5	29.2				
130		168	169		131	110	61.1	28.1				
120		160	153		124	104	58.8	26.5				
110		132	64.5		36.6	33.0	12.4	23.0				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*F2	A3	3	A4	F4	4	4	B4	4	4	A4	4	B4
HMIN	253	231	248	268	264	272		108	109		107	108
SCAT	37.0	44.0	42.0	44.4	53.2	41.1		55.4	28.9		62.0	42.7
HMAXF	346	324	347	372	390	373		322	223		339	295
SHMAX	468	572	487	440	523	318		429	226		1029	915
KM												
390					707							
380				714	701	541						
370				713	683	541						
360				700	647	529						
350	941		838	668	606	500						
340	935		832	616	555	456					941	
330	899	1027	804	551	495	401		426			935	
320	834	1024	748	472	423	331		426			918	
310	731	1000	675	373	330	252		421			888	
300	569	950	586	252	224	166		410			845	1184
290	359	871	477	156	132	94.2		390			792	1181
280	193	755	323	69.0	69.8	39.1		366			722	1149
270	90.2	590	170	20.5	30.0			331			634	1086
260	34.9	387	70.9					288			542	990
250		180	20.5					245			449	839
240		58.2						204			374	654
230								177	358		321	480
220								161	357		285	369
210								150	340		263	312
200								141	302		252	285
190								128	244		245	271
180								111	205		240	264
170								91.1	185		235	256
160								80.1	167		223	241
150								73.4	147		204	222
140								69.2	129		167	199
130								66.7	114		139	165
120								64.1	106		129	152
110								38.1	55.6		116	115

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*F2	A4	A4	A3	A3	A3	A4	A4	A4	A3	A3	A3	A3
HMIN										290	270	300
SCAT										43.7	49.5	47.1
HMAXF										377	371	386
SHMAX										361	413	350
KM												
390												591
380										621	651	589
370										618	651	574
360										599	642	546
350										563	620	506
340										513	585	449
330										444	536	371
320										364	464	265
310										265	379	134
300										135	265	12.4
290										12.4	158	
280											57.6	
270											.4	

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — MAY 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	25	25	27	27	25	27	17	20	20	15	16	20
KP	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.2	2.5	2.3	2.5	2.5
HMIN	248	230	221	222	226	229	109	109	109	109	109	109
RATIO	6.0	6.5	6.5	6.3	6.2	6.3	5.2	4.9	4.4	3.9	3.5	3.6
SCAT	41.7	38.9	39.8	40.9	41.3	41.1	47.5	44.7	49.7	56.2	66.8	57.4
NMAX	735	710	626	476	401	342	366	477	554	589	732	949
HMAXF	346	321	311	312	318	318	286	263	266	283	317	330
SHMAX	421	370	335	262	224	185	246	349	464	580	849	1035
SHINF	2493	2374	2101	1605	1354	1150	1278	1694	2027	2241	2915	3712
KM												
950	59.2	50.3	42.7	33.1	28.6	23.9	21.6	25.7	30.5	35.0	51.6	71.0
900	75.9	64.6	54.7	42.5	36.7	30.6	27.8	32.9	39.2	44.9	66.2	91.1
850	97.3	82.8	70.2	54.5	47.0	39.3	35.6	42.3	50.3	57.7	84.9	117
800	125	106	90.0	69.9	60.3	50.4	45.7	54.2	64.5	73.9	109	150
750	160	136	115	89.5	77.2	64.5	58.5	69.5	82.7	94.8	139	194
700	204	174	147	114	98.6	82.4	74.9	89.0	106	121	178	245
650	259	221	188	146	126	105	95.6	114	135	155	227	312
600	327	281	238	185	159	133	122	145	172	197	288	395
550	410	353	300	233	200	167	154	184	219	249	362	496
500	504	439	374	289	248	208	193	232	275	313	450	613
490	524	457	389	301	258	216	201	242	288	327	469	638
480	544	476	405	313	269	225	210	253	301	341	488	663
470	564	495	422	325	279	234	219	265	314	356	507	688
460	584	514	438	338	290	243	229	276	328	371	527	714
450	603	533	455	351	300	252	238	288	342	386	547	739
440	622	552	472	363	311	261	248	300	356	402	567	764
430	641	571	488	376	321	270	257	313	371	417	586	789
420	658	590	505	388	332	279	267	325	385	433	605	813
410	675	608	521	400	342	287	277	338	400	449	624	835
400	690	625	536	411	351	295	286	351	415	465	642	857
390	703	641	551	422	360	303	296	364	430	480	659	877
380	714	656	565	432	368	310	305	376	445	495	674	894
370	723	670	577	441	374	316	314	389	459	510	688	909
360	728	682	589	448	380	321	323	401	473	524	701	921
350	728	691	598	452	383	324	331	413	487	536	711	930
340	718	697	605	453	385	325	338	424	500	548	718	933
330	694	697	606	451	384	322	345	435	511	559	722	931
320	650	690	603	444	379	316	350	444	522	567	722	920
310	586	670	593	432	368	306	355	453	531	574	717	897
300	501	633	575	412	350	292	358	459	539	578	705	860
290	397	576	545	387	323	273	358	464	544	578	686	813
280	284	498	499	353	288	248	354	467	547	574	658	755
270	175	400	435	312	243	218	345	467	545	565	623	687
260	89.0	291	359	263	192	184	329	461	537	548	579	613
250	34.0	182	272	207	137	145	304	449	521	523	529	537
240	8.7	94.4	184	150	88.5	108	272	426	496	490	479	465
230	.1	34.9	102	95.6	54.6	68.6	234	393	460	451	429	405
220		11.1	37.6	48.0	28.8	35.0	185	347	413	407	383	360
210		.8	6.6	14.6	12.2	13.9	133	294	359	361	344	330
200			.5	1.8	1.0	2.3	91.9	243	303	319	315	309
190							64.5	197	256	286	293	294
180							48.6	159	218	259	275	281
170							39.5	128	188	233	257	267
160							33.8	105	162	206	235	249
150							30.2	88.1	137	177	209	225
140							27.8	76.4	117	150	181	196
130							26.1	68.7	104	130	156	171
120							23.9	63.7	93.9	122	141	157
110							13.8	31.2	48.4	52.4	69.4	73.9
100							7.3					

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — MAY 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	17	18	21	12	18	13	7	12	27	28	29	26
KP	2.2	2.3	1.8	1.5	2.1	2.0	2.1	2.3	2.2	2.3	2.3	2.2
HMIN	108	108	108	108	108	108	93	110	221	240	251	25[illegible]
RATIO	3.9	4.2	4.3	4.4	4.6	4.4	4.8	5.2	5.3	5.7	5.7	5.8
SCAT	54.2	49.6	48.0	48.9	45.9	49.3	48.8	45.8	46.7	43.0	43.3	42.7
NMAX	1228	1425	1458	1393	1371	1081	1175	1111	886	804	759	729
HMAXF	329	322	313	306	305	304	313	304	337	350	356	358
SHMAX	1217	1276	1244	1140	1081	904	848	743	578	487	456	436
SHINF	4680	5295	5358	5071	4949	3953	4163	3877	3078	2754	2598	2493
KM												
950	90.3	101	100	91.2	90.3	71.8	79.2	72.3	67.6	65.2	63.8	62.0
900	116	130	128	117	116	92.2	102	92.8	86.7	83.6	81.9	79.6
850	149	167	165	150	149	118	130	119	111	107	105	102
800	191	214	211	192	191	152	167	153	142	137	134	131
750	244	274	270	247	244	194	214	196	182	176	172	167
700	312	350	346	315	312	248	274	250	233	224	219	213
650	397	446	441	402	398	317	349	319	297	285	279	271
600	503	566	560	511	506	402	444	405	375	360	352	342
550	632	712	705	646	639	507	559	512	471	450	439	426
500	782	884	878	806	797	633	697	638	582	553	538	521
490	814	921	915	841	831	660	726	666	605	575	559	541
480	847	958	953	877	866	688	757	694	629	597	579	561
470	879	997	992	913	902	716	788	723	653	618	600	580
460	912	1035	1031	950	938	745	819	752	677	640	620	599
450	945	1074	1070	988	975	774	851	782	701	661	640	618
440	978	1112	1110	1026	1012	803	883	812	724	681	659	636
430	1010	1150	1149	1064	1049	832	914	842	747	701	677	653
420	1041	1188	1188	1101	1086	861	946	872	769	720	694	669
410	1072	1224	1226	1139	1122	890	976	901	790	737	710	684
400	1100	1259	1263	1175	1158	917	1006	930	810	753	723	697
390	1126	1292	1298	1211	1192	944	1035	957	828	767	735	707
380	1150	1322	1331	1244	1225	969	1062	984	844	778	744	714
370	1171	1349	1361	1276	1255	993	1087	1008	858	786	750	718
360	1189	1373	1388	1305	1283	1014	1109	1031	869	789	751	715
350	1202	1392	1411	1331	1307	1033	1129	1051	875	784	742	703
340	1210	1406	1429	1353	1328	1048	1145	1068	876	768	721	676
330	1210	1412	1442	1370	1344	1060	1156	1082	866	739	683	634
320	1199	1406	1445	1382	1354	1067	1160	1090	841	693	625	575
310	1173	1382	1433	1388	1352	1065	1152	1086	801	628	549	498
300	1128	1333	1398	1381	1334	1048	1132	1068	742	545	455	408
290	1063	1259	1339	1352	1292	1013	1097	1037	666	448	348	314
280	980	1160	1253	1295	1227	964	1037	989	571	348	235	221
270	880	1038	1136	1207	1134	896	947	918	459	247	137	136
260	770	896	995	1083	1008	808	831	827	342	159	69.0	66.0
250	659	748	837	925	865	707	687	720	236	91.6	30.7	24.3
240	557	608	681	744	709	603	531	600	149	49.4	10.3	5.9
230	469	491	545	577	561	500	383	465	83.8	23.5	3.7	
220	400	405	439	446	438	407	263	336	40.0	7.5	1.1	
210	353	350	365	361	350	331	195	223	12.4	1.5		
200	322	319	320	314	295	274	154	142	1.8			
190	302	299	294	287	261	235	127	92.1				
180	288	285	278	268	239	207	105	62.9				
170	274	270	264	250	221	183	87.7	48.2				
160	255	250	246	230	200	160	75.4	39.8				
150	229	227	222	204	175	137	66.0	34.7				
140	200	199	193	179	152	118	59.0	31.3				
130	180	178	171	159	135	105	54.6	28.9				
120	166	167	160	149	127	98.8	52.1	26.5				
110	81.5	73.9	68.7	62.3	66.3	45.0	28.7	18.9				
100								9.9				

TABLES OF IONOSPHERIC DATA

APRIL 1961 - JANUARY 1955

Table 1

Washington, D. C. (38.7° N, 77.1° W) — April 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.35	28	290					2.82
01		4.2	29	285					2.85
02		3.8	29	285					2.85
03		3.6	28	275					2.85
04		3.2	27	280					2.90
05		3.0	29	275					3.00
06	---	4.4	30	250	---	(125)	1.80		3.20
07	320	5.55	30	235	---	115	2.40	2.5	3.20
08	300	6.0	29	220	4.3	111	2.80	2.9	3.20
09	330	6.2	29	210	4.4	109	3.08	>3.1	3.05
10	320	6.6	28	205	4.6	109	3.25	3.4	3.00
11	330	6.95	28	200	4.7	109	3.35		2.95
12	335	7.05	28	200	4.8	109	3.35		2.85
13	325	7.3	29	210	4.8	107	3.38		2.95
14	320	7.3	29	220	4.7	107	3.35		2.95
15	310	7.45	30	220	4.5	109	3.20		3.00
16	300	7.25	30	230	4.3	111	2.98		3.00
17	290	7.25	30	235	---	111	2.55		3.10
18	260	7.3	30	250		125	1.95	>1.9	3.08
19		6.95	30	240					3.05
20		6.5	28	240					3.00
21		5.65	28	250					2.95
22		5.0	27	270					2.85
23		4.6	25	285					2.80

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Washington, D. C. (38.7° N, 77.1° W) — March 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	31	275					2.85
01		4.2	30	275					2.85
02		3.8	29	275					2.85
03		3.45	30	270					2.90
04		3.2	29	270					2.90
05		3.05	30	270					2.90
06		3.1	30	260					3.08
07	(250)	5.2	31	240	---	119	2.00		3.30
08	245	6.3	31	225	---	109	2.50	2.5	3.25
09	270	6.7	31	215	---	109	2.85	2.9	3.22
10	280	7.5	31	205	4.3	105	3.10		3.12
11	295	7.9	31	205	4.5	105	3.25		3.10
12	295	8.2	31	210	4.6	105	3.30		3.05
13	290	8.6	31	205	4.5	105	3.30		3.10
14	290	8.3	31	215	4.4	107	3.20		3.10
15	275	7.8	31	220	---	109	3.10		3.10
16	265	7.9	31	225	---	109	2.80		3.10
17	250	7.55	30	235		115	2.30		3.18
18		7.2	30	240		129	1.75	>1.7	3.12
19		6.7	30	230					3.05
20		6.15	30	240					3.00
21		5.5	30	260					2.90
22		5.1	28	265					2.90
23		4.8	27	270					2.88

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Resolute Bay, Canada (74.7° N, 94.9° W) — February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.5	22	275					----
01		3.4	24	<280					----
02		3.5	23	280					----
03		3.2	20	280					----
04		3.5	24	260					
05		3.3	19	270					
06		3.6	20	<275					----
07		3.3	18	270					----
08		3.8	24	260					----
09		4.2	25	270			---		----
10		4.5	25	270			---		----
11		4.6	23	250			2.1		----
12		5.0	25	250			---		(3.1)
13		5.3	23	250			---		----
14		5.2	24	260			2.0		----
15		4.8	24	255			---		----
16		4.8	22	250			---		----
17		4.3	22	260			---	2.3	----
18		4.6	24	260					----
19		4.2	20	255				2.1	
20		3.5	21	280				3.2	----
21		3.4	21	280					
22		3.9	25	280			---		----
23		3.4	20	270			---		----

Time: 90.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 4

Tromso, Norway (69.7° N, 19.0° E) — February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.7)	1	---				3.6	----
01		(2.6)	2	---				3.7	----
02		(3.0)	3	(305)				4.0	----
03		(2.6)	5	(295)		---	----	4.0	----
04		(2.5)	7	(295)		---	----	3.0	----
05		(2.3)	9	295		---	----	2.6	(2.70)
06		(2.4)	13	270		---	----	1.8	(2.75)
07		2.8	18	255		---	----	1.5	2.90
08		4.0	19	250		120	1.35		3.05
09	---	5.1	20	245		110	1.70		3.10
10	(240)	5.8	20	245		130	1.85		3.10
11	245	6.2	21	(240)		120	2.10		3.10
12	245	6.4	25	(245)		110	2.05		3.10
13	240	6.3	25	(250)		115	2.10		3.20
14	(245)	6.2	19	240		140	2.00		3.10
15	---	5.8	21	245		---	1.65	2.3	3.30
16		4.6	19	240		---	----	2.1	3.10
17		(4.8)	15	240		---	----	2.8	(3.10)
18		(4.0)	10	260		---	----	3.0	----
19		(3.7)	5	---				3.2	----
20		(3.4)	4	---				3.5	----
21		(3.0)	2	---				4.2	
22		(2.6)	2	---				4.2	----
23		---	0	---				4.4	

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

Table 5

Kiruna, Sweden (67.8° N, 20.3° E) — February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.2)	4	335				3.4	----
01		(2.0)	2	300				3.6	----
02		(2.8)	4	310				4.0	----
03		(2.2)	7	310				3.0	(2.75)
04		2.3	14	290				2.3	2.75
05		2.1	11	290					2.8
06		2.2	12	275					2.8
07		2.8	21	260		---	----		3.0
08		4.0	22	250		---	1.40		3.1
09		5.3	24	245		---	1.60		3.1
10	---	5.8	26	240	---	---	2.00		3.15
11	---	6.2	26	235	---	---	2.10		3.1
12	---	6.3	27	240	---	---	2.10		3.1
13	---	6.4	27	240	---	---	2.15		3.2
14	---	6.2	25	235	---	---	1.85		3.2
15		6.0	20	240		---	1.70		3.2
16		4.4	15	230		---	----		3.2
17		5.1	11	240		---	----		3.0
18		(4.0)	8	240					(3.0)
19		(2.6)	4	255				2.5	---
20		(2.8)	4	290				2.8	---
21		(2.6)	3	290				3.0	---
22		(2.6)	6	320				3.3	---
23		(2.4)	4	330				3.2	---

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

Table 6

Sodankyla, Finland (67.4° N, 26.6° E) — February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.6)	2	345				2.5	----
01		(3.3)	1	350				2.4	----
02		(4.7)	1	340				2.3	----
03		(4.1)	1	330				3.0	----
04		---	0	320				2.2	
05		---	0	310				2.2	
06		---	0	305					
07		(3.0)	3	295		---	E		----
08		3.6	12	260		---	E		3.00
09		4.7	21	250		---	1.60		3.20
10		5.7	27	245		125	2.05		3.20
11		6.4	24	240		130	2.10		3.20
12		6.8	24	240		130	2.20		3.20
13		7.0	24	240		135	2.20		3.20
14		6.8	24	235		(140)	2.15		3.20
15		6.6	20	230		135	2.10		3.15
16		6.4	13	240		160	1.70		3.20
17		5.8	10	230		---	E		(3.20)
18		(5.2)	6	240		---	E	2.2	(3.10)
19		(4.8)	5	250		---	----	2.2	(3.00)
20		(4.0)	1	260				2.4	----
21		(3.2)	2	300				2.3	----
22		(3.5)	2	315				2.3	----
23		(3.4)	2	350				2.9	----

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

Table 7

Lulea, Sweden (65.6° N, 22.1° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.8)	9	300					(2.7)
01		(2.7)	9	330					(2.75)
02		(2.8)	9	305					(2.8)
03		2.2	10	300					(2.8)
04		2.1	11	290					(2.8)
05		(2.4)	11	(270)					(2.95)
06		(2.6)	8	(270)					(2.95)
07		2.9	17	255		---	---		3.05
08		4.4	18	240		140	2.0		3.2
09		5.8	17	245		138	2.0		3.2
10		6.7	19	240		---	2.2		3.2
11		6.9	20	240		138	2.3		3.3
12		7.0	18	240		140	2.4		3.3
13		6.9	20	235		140	2.3		3.3
14		7.0	19	240		140	2.0		3.25
15		6.5	20	235		---	1.8		3.2
16		5.7	19	230		---	---		3.2
17		5.0	17	235					3.2
18		3.8	18	240					3.15
19		3.4	18	240					3.2
20		3.0	15	260					2.9
21		2.5	13	280					(2.9)
22		(2.3)	7	300					(2.8)
23		(2.5)	11	(300)					(2.8)

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 8

Lycksele, Sweden (64.6° N, 18.8° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		2.5	26	310				2.5	2.6
01		2.4	25	300				3.0	2.6
02		2.4	26	300				2.2	2.6
03		2.2	26	285				2.2	2.6
04		(2.2)	26	280				2.2	(2.6)
05		2.0	24	265				2.2	2.7
06		2.1	23	260				2.2	2.7
07		2.6	27	260		---	1.40	2.6	2.8
08		4.1	27	240		105	1.60	3.1	3.1
09	---	5.2	28	230	---	110	1.90	3.0	3.1
10	---	6.0	28	230	3.3	110	2.10	3.0	3.2
11	---	6.1	28	230	---	105	2.20	2.9	3.1
12	---	6.6	27	220	---	105	2.30	3.0	3.2
13	---	6.8	27	230	---	105	2.20	3.0	3.1
14	---	6.5	27	230	---	115	2.00	2.8	3.2
15		6.4	28	230		---	1.90	3.0	3.2
16		5.7	26	220		115	1.70	3.0	3.2
17		4.8	25	225		---	1.35	2.3	3.1
18		4.3	24	230		---	----	2.4	3.0
19		3.8	23	235				2.4	2.8
20		3.0	26	245				2.6	2.8
21		2.9	23	260				2.4	2.7
22		(2.5)	25	290				2.4	(2.6)
23		(2.6)	27	290				2.6	2.6

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 9

Nurmijarvi, Finland (60.5° N, 24.6° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---	0						
01		(2.5)	1						----
02		---	0						
03		---	0						
04		(2.5)	2						----
05		(1.9)	2						----
06		(1.8)	2						----
07		(2.9)	3						----
08		3.6	10						3.20
09		5.4	20				2.00		3.40
10		6.0	24		---		2.30		3.40
11		6.7	23		---		2.50		3.40
12		7.0	21		---		----		3.40
13		7.5	21		---		2.45		3.40
14		7.7	23				----		3.40
15		7.3	19				----		3.40
16		7.0	21				2.10		3.40
17		6.3	16				----		3.40
18		(5.2)	7						(3.25)
19		(5.1)	9						(3.20)
20		(3.3)	5						(3.10)
21		(2.6)	2						----
22		(2.5)	2						----
23		---	0						

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

Table 10

Upsala, Sweden (59.8° N, 17.6° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		2.1	21	275				2.3	2.80
01		2.0	20	280				3.0	2.70
02		1.6	24	280				2.4	2.70
03		1.6	27	265				3.0	2.70
04		1.6	27	275				2.4	2.80
05		1.7	27	260				3.2	2.90
06		1.8	26	250		---	----	2.3	2.90
07		3.0	28	245		(110)	1.40	3.0	2.90
08		4.8	28	230		110	1.75	3.1	3.30
09	---	5.8	28	230	---	(110)	2.10	4.0	3.30
10	---	6.3	28	215	---	105	2.35	3.5	3.30
11	---	7.0	28	215	---	105	2.45	4.0	3.30
12	---	7.5	28	215	---	(105)	2.50	4.3	3.30
13	---	7.5	28	215	---	(105)	2.50	4.0	3.30
14	---	7.7	28	220		<120	2.40	4.4	3.30
15		7.4	28	220		<120	2.20	3.5	3.30
16		6.8	28	210		<125	1.80	3.2	3.30
17		5.8	28	210		(115)	1.40	2.4	3.30
18		5.0	27	215		---	----	2.3	3.20
19		4.0	26	230		---	----	2.1	3.10
20		3.4	23	240				2.2	3.00
21		2.9	23	245				2.2	2.90
22		2.5	21	260				2.2	2.80
23		2.3	21	280				2.2	2.70

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 11

Churchill, Canada (58.8° N, 94.2° W) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		2.9	13	(310)			---	5.0	
01		3.0	16	310			---	4.6	----
02		3.1	15	350			---	4.5	----
03		3.0	16	330			---	4.0	
04		2.9	12	---			---	4.1	----
05		3.1	11	---			---	4.0	
06		3.3	10	(325)			---	4.2	----
07		3.3	13	(300)			---	3.7	(3.1)
08		4.3	18	270			2.2	3.2	3.15
09	---	5.1	21	280	---		2.3		3.2
10	---	5.5	21	265	---		2.6		3.2
11	(315)	6.0	24	270	---		2.7		3.1
12	305	6.0	26	230	3.8		2.8		3.1
13	300	6.6	27	230	3.7		2.8		3.1
14	290	6.9	27	240	3.7		2.6		3.1
15	280	7.2	25	250	---		2.5		3.1
16	---	6.6	26	250			2.3		3.15
17		6.3	25	250			1.8		3.2
18		4.6	25	270			---	2.3	(3.1)
19		4.3	23	325			---	3.6	(2.95)
20		3.8	23	310			---	4.0	(3.0)
21		3.7	20	300			---	4.4	----
22		3.4	18	330			---	4.6	----
23		3.2	16	300			---	5.2	----

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 12

Inverness, Scotland (57.4° N, 4.2° W) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.4	20						(2.70)
01		>2.2	22						(2.70)
02		(2.0)	20						(2.60)
03		(1.8)	21						(2.70)
04		>1.7	19						(2.70)
05		1.8	17						(2.85)
06		1.9	16						(2.90)
07		2.1	23						(2.90)
08		4.2	24						3.10
09		5.6	24						3.20
10		6.6	24						3.20
11		>6.8	22						3.20
12		7.2	24						3.20
13		7.6	24						3.20
14		7.6	25						3.20
15		7.5	26						3.20
16		6.8	26						3.20
17		6.6	26						3.20
18		(5.5)	26						3.10
19		(4.9)	25						3.05
20		(4.0)	22						3.00
21		(3.0)	22						(2.90)
22		(2.6)	20						(2.80)
23		>2.3	20						(2.75)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 13

Slough, England (51.5° N, 0.6° W) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.3	27	280				<1.2	2.80
01		3.3	28	275				<0.9	2.75
02		3.2	26	275				<0.8	2.75
03		3.0	27	280				<0.9	2.85
04		2.5	28	275				<0.9	2.80
05		2.4	26	250				<1.1	2.90
06		2.4	27	<255				<1.6	3.00
07		3.4	26	240		---	1.50	<1.6	3.20
08		5.6	27	225		110	1.90		3.40
09		6.6	26	215		110	2.35	2.4	3.45
10		7.2	28	220		110	2.65	2.8	3.40
11		7.7	27	210		105	2.80		3.40
12		8.2	26	215		110	2.90		3.45
13		7.9	27	210		110	2.90		3.40
14		8.0	28	210		110	2.75		3.40
15		7.9	27	225		115	2.55		3.40
16		7.4	27	230		<120	2.20		3.45
17		6.8	26	225		---	1.80		3.40
18		6.0	28	220				<1.6	3.20
19		5.3	28	220				<1.6	3.20
20		4.5	27	245				<1.6	3.05
21		3.8	27	250				<1.6	2.95
22		3.6	27	<265				<1.6	2.90
23		3.6	28	<270				<1.6	2.90

Time: 0.0°.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 14

Winnipeg, Canada (49.9° N, 97.4° W) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		2.4	24	300					(3.1)
01		2.2	25	(310)					(3.0)
02		2.1	20	325					(3.0)
03		2.6	18	<320					---
04		2.6	17	305					---
05		2.5	13	(315)					---
06		2.6	10	(295)					---
07		2.6	15	290					---
08		4.1	19	250			2.0		3.3
09	---	5.2	26	235	---		2.3		3.2
10	(280)	5.8	25	220	---		2.6		3.2
11	290	6.6	25	220	4.0		2.8		3.1
12	300	7.0	28	220	4.1		2.9		3.1
13	290	7.0	28	220	4.1		2.9		3.1
14	275	7.6	28	220	4.0		2.9		3.1
15	270	7.5	28	230	4.0		2.8		3.15
16	245	7.4	28	230	---		2.5		3.2
17	---	7.1	27	235	---		2.2		3.2
18		6.6	26	230			---		3.2
19		5.6	26	225					3.1
20		4.3	26	240					3.15
21		3.4	28	250					3.15
22		2.8	26	270					3.05
23		2.6	24	270					3.05

Time: 90.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 15

St. John's, Newfoundland (47.6° N, 52.7° W) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.6	19	<300					2.8
01		2.4	22	300					2.9
02		2.4	20	300					2.9
03		2.2	24	300					2.9
04		2.2	22	<300					3.0
05		2.1	22	290					3.0
06		2.2	22	<280					3.1
07		4.3	27	235			----		3.3
08	---	5.8	28	230			2.50		3.3
09	---	6.4	28	215	---		2.70		3.3
10	(285)	6.7	28	215	---		3.00		3.2
11	(280)	7.6	28	210	---		3.05		3.2
12	(280)	7.5	28	220	---		3.00		3.2
13	(290)	7.6	28	220	---		3.00		3.2
14	(300)	7.8	28	225			2.70		3.2
15		7.6	28	240			2.60		3.2
16		7.0	28	230			----		3.1
17		6.4	18	230					3.1
18		5.9	24	235					3.0
19		5.0	21	245					3.0
20		4.2	20	260					3.0
21		3.6	18	275					2.9
22		3.2	19	290					2.9
23		3.0	20	<290					(2.8)

Time: 60.0°W.
Sweep: 1.6 Mc to 20.0 Mc io 15 seconds.

Table 16

Graz, Austria (47.1° N, 15.5° E) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.5)	20	305					
01		(3.4)	21	300					
02		3.6	20	305					
03		3.5	19	300					
04		3.5	19	300					
05		>3.1	18	270					
06		3.2	19	(275)					
07		>4.7	22	240					
08		>6.5	20	240					
09		7.8	20	230					
10		7.8	19	230			(2.8)		
11		8.2	20	230			3.0		
12		8.3	20	230			(3.0)		
13		8.4	21	230			3.0		
14		8.2	20	220			(2.9)		
15		8.1	19	230					
16		>8.0	18	240					
17		>6.6	18	230					
18		(5.8)	20	240					
19		5.0	19	240					
20		(4.5)	13	265					
21		>3.2	18	275					
22		>3.1	18	(290)					
23		(3.3)	19	<310					

Time: Local.
Sweep: 2.0 Mc to 18.0 Mc in 50 seconds.

Table 17

Sottens, Switzerland (46.6° N, 6.7° E) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.8	26	270					2.85
01		3.8	26	270					2.85
02		3.8	26	280					2.8
03		3.6	24	280					2.8
04		3.6	25	280					2.8
05		3.5	25	270					2.95
06		3.1	23	250					3.0
07		3.2	24	240					3.0
08	(230)	5.1	25	230	2.0	135	2.00		3.4
09	230	6.8	25	220	2.7	110	2.30		3.4
10	240	7.0	25	220	3.2	110	2.70		3.45
11	240	7.4	26	220	3.5	110	2.90		3.4
12	240	8.0	26	220	3.9	100	3.00		3.35
13	240	7.9	25	210	3.8	110	3.00		3.35
14	240	7.7	26	210	3.9	110	2.95		3.4
15	240	7.9	24	200	3.3	110	2.80		3.3
16	240	7.8	26	230	3.0	110	2.60		3.4
17	---	7.0	25	220	---	130	2.10		3.5
18		6.0	26	220		---	----		3.3
19		5.4	26	230					3.2
20		4.9	25	240					3.1
21		4.4	26	250					3.1
22		3.8	26	260					3.0
23		3.9	25	270					2.9

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 18

Ottawa, Canada (45.4° N, 75.9° W) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.0	26	290					----
01		2.8	26	300					(2.95)
02		2.5	26	300					----
03		2.5	26	320					(3.0)
04		2.4	22	315					----
05		2.4	22	300					(3.1)
06		2.2	21	315					----
07		3.4	27	270			1.6		(3.1)
08		5.2	28	240			2.0		3.3
09	260	6.0	28	220	(3.7)		2.7		3.3
10	280	7.0	28	210	(4.0)		2.9		3.3
11	270	7.5	28	210	4.2		3.0		3.25
12	270	7.6	28	210	4.3		3.0		3.2
13	275	8.0	28	210	4.1		3.0		3.2
14	270	8.2	28	215	4.0		3.0		3.2
15	260	8.0	28	220	---		2.8		3.2
16	250	7.7	27	240	---		2.5		3.2
17		7.4	28	240			2.0		3.2
18		6.8	27	230			---		3.2
19		5.8	27	230					3.2
20		5.0	27	240					3.1
21		4.2	27	260					(3.1)
22		3.7	27	270					(3.0)
23		3.2	26	280					----

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 19

Wakkanai, Japan (45.4° N, 141.7° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	26	310			----		2.80
01		3.8	26	300			----		2.85
02		3.8	25	300			----		2.90
03		3.8	24	270					2.90
04		3.7	24	260					3.00
05		3.3	25	265					2.95
06		3.2	25	260					3.10
07	---	5.4	27	230	---		----		3.35
08	---	7.2	26	225	---		2.30		3.35
09	---	7.6	25	230	---		2.65		3.30
10	---	8.5	25	225	---		2.95		3.30
11	(265)	9.2	25	235	(4.2)		3.00		3.30
12	(255)	8.9	25	230	(4.2)		3.10		3.30
13	(245)	7.8	25	225	---		3.00		3.35
14	---	0.0	25	230	---		2.85		3.35
15		7.6	25	235			2.50		3.40
16		7.0	25	230			2.10		3.40
17		6.2	26	225					3.35
18		5.4	26	230					3.25
19		4.5	26	250					3.20
20		4.0	26	270					3.00
21		4.0	26	300					2.90
22		3.7	27	310					2.85
23		3.9	27	315					2.85

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 1 minute.

Table 20

Rome, Italy (41.8° N, 12.5° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0	26	270					2.90
01		4.1	26	280					2.90
02		4.0	25	260					2.90
03		4.0	26	280					2.90
04		3.9	26	270					2.95
05		3.7	25	260					3.05
06		3.3	25	240					3.15
07		(4.6)	25	240		---	1.6		(3.25)
08	---	(6.6)	23	220	---	120	2.1		3.40
09	---	(8.0)	25	220	---	110	2.6		(3.40)
10	---	8.2	23	220	---	110	2.9		3.35
11	---	(8.4)	26	210	---	110	3.0		(3.35)
12	---	8.7	25	200	---	110	3.2		3.40
13	---	8.6	27	210	---	110	3.2		3.35
14	---	8.3	25	210	---	110	3.0		3.35
15	---	8.6	26	210	---	110	2.8		3.35
16		8.2	25	220		110	2.5		3.35
17		(7.0)	17	220		130	2.1		3.40
18		5.7	19	210					3.15
19		5.4	26	230					3.10
20		4.8	27	240					3.10
21		4.3	27	250					3.00
22		4.3	23	260					3.00
23		3.9	23	270					2.90

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

Table 21

Akita, Japan (39.7° N, 140.1° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	23	290					2.75
01		3.9	24	290					2.85
02		3.8	24	290					2.90
03		3.8	24	280					2.90
04		3.6	26	250					3.00
05		3.3	27	260					2.85
06		3.5	28	260					3.00
07		5.8	28	245			1.95		3.40
08	---	7.4	28	240	---		2.45		3.45
09	245	8.3	28	240	---		2.90		3.40
10	250	8.8	28	225	4.1		3.10		3.35
11	255	9.1	28	225	---		3.20		3.30
12	255	9.2	28	230	---		3.25		3.30
13	250	8.6	28	220	---		3.20		3.40
14	250	8.0	28	220	---		3.05		3.40
15	245	7.8	28	240	---		2.80		3.40
16	---	7.4	28	240			2.30		3.40
17		6.3	27	220					3.35
18		5.1	27	230					3.20
19		4.8	24	245					3.10
20		4.4	20	245					3.00
21		4.0	18	260					3.00
22		3.9	21	295					2.80
23		3.9	22	295					2.80

Time: 135.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 22

Tokyo, Japan (35.7° N, 139.5° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7	25	305					2.75
01		3.7	26	300					2.80
02		3.7	26	290					2.80
03		3.6	26	270					2.90
04		3.3	26	255					2.90
05		3.2	26	300					2.80
06		3.2	26	<295					2.85
07		(6.0)	26	240			(2.15)		(3.25)
08	---	7.6	26	235			2.50		3.35
09	250	9.0	28	230	---		2.90		3.35
10	255	9.0	28	230	---		3.15		3.25
11	255	9.6	28	230	---		(3.25)		3.25
12	260	9.6	27	225	---		(3.30)		3.25
13	255	9.2	27	220	(4.4)		3.25		3.25
14	255	8.2	27	225	---		(3.10)		3.25
15	250	7.9	27	235			2.90		3.25
16	(250)	7.4	27	240			(2.35)		3.30
17		6.8	28	225					3.30
18		5.0	27	230					3.15
19		4.9	27	250					3.00
20		4.5	27	250					3.05
21		3.9	27	265					2.90
22		3.8	25	305					2.80
23		3.8	25	305					2.80

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 23

Yamagawa, Japan (31.2° N, 130.6° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	27	300					2.80
01		3.8	27	295					2.85
02		3.7	27	270					2.90
03		3.5	27	260					2.95
04		3.5	26	250					3.05
05		3.1	26	290					2.90
06		2.8	26	300					2.75
07		4.3	27	250					3.20
08		(7.6)	26	240			2.30		(3.45)
09		8.5	27	235			2.80		3.40
10	(260)	9.4	28	230			3.15	3.4	3.30
11	260	10.2	28	230	4.8		3.30	3.5	3.25
12	270	10.6	28	225	4.8		3.45		3.20
13	270	10.8	28	220	(4.9)		3.45		3.20
14	270	10.5	27	230	---		3.40		3.15
15	(250)	9.7	27	225	---		3.20		3.25
16	---	(8.9)	26	230			2.90		(3.20)
17		8.6	27	240			2.30		3.30
18		7.5	26	230					3.30
19		6.0	27	240					3.10
20		5.6	27	250					3.05
21		(5.1)	27	250					(3.00)
22		(4.2)	26	260					(2.85)
23		4.1	27	295					2.75

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 24

Formosa, China (25.0° N, 121.5° E) February 1961

Time	h'F2	foF2--Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	27	275					2.85
01		4.8	27	265					2.95
02		4.3	26	265					3.00
03		4.0	26	245					3.20
04		3.2	25	240					3.25
05		2.7	24	(280)					2.90
06		(3.0)	25	<310					(2.80)
07		6.4	28	240					3.35
08	---	8.4	28	240		(117)	----		3.30
09	260	9.5	28	230	----	115	(3.05)	3.2	3.30
10	275	11.2	27	230	----	113	(3.35)	3.6	3.15
11	275	11.7	27	220	(4.80)	(113)	----	3.8	3.10
12	290	13.0	27	210	----	(113)	----	3.6	3.05
13	290	14.0	28	210	----	(115)	----	3.6	3.00
14	275	14.0	28	215	----	(113)	(3.40)	3.4	3.05
15	270	14.2	28	220		115	(3.20)	3.2	3.10
16	260	14.8	28	230		115	(2.80)		3.10
17		14.2	28	235					3.20
18		12.5	28	215					3.20
19		>10.0	28	220					(3.10)
20		>9.7	28	220					(3.05)
21		>9.0	28	230					3.15
22		7.7	27	230					3.10
23		6.3	27	255					2.90

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 25

El Cerillo, Mexico (19.3° N, 99.5° W) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.4	25	260					3.05
01		3.4	27	250				2.0	3.10
02		3.3	27	240				1.8	3.10
03		3.4	26	235					3.30
04		2.9	23	220					3.30
05		2.8	25	270				1.7	3.00
06		2.7	25	300					2.80
07		3.8	24	265		---	----	1.8	3.05
08	(220)	6.8	25	220	2.4	111	2.25		3.40
09	---	7.8	28	220	---	101	2.80		3.30
10	---	9.0	28	215	---	101	3.20	3.6	3.10
11	---	10.3	28	210	---	101	3.40	3.8	3.20
12	---	10.9	28	210	---	101	3.60	4.0	3.20
13	---	10.7	28	205	---	101	3.60	3.8	3.10
14	---	11.0	28	210	---	101	3.50	3.9	3.10
15		11.4	28	215		101	3.40	3.7	3.20
16		11.0	28	220		101	3.20	3.6	3.20
17		10.1	28	230		101	2.70	3.3	3.30
18		8.9	28	220		111	2.00	2.8	3.40
19		6.8	28	200				2.6	3.40
20		5.0	28	210				2.4	3.30
21		3.8	28	230				2.8	3.10
22		3.6	28	250				2.2	3.05
23		3.5	26	260				2.1	3.00

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 26

Baguio, P. I. (16.4° N, 120.6° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(8.0)	24	250					(3.10)
01		7.7	26	250					3.20
02		>6.6	27	245					3.30
03		5.0	26	240					3.20
04		3.7	25	255					3.10
05		3.2	24	280					3.05
06		(3.3)	25	300					(2.90)
07		6.6	27	265		129	2.20		3.15
08	---	9.0	27	255		125	(2.80)	3.0	3.10
09	---	(10.2)	27	245		(124)	(3.20)	3.6	(2.90)
10	(310)	10.8	27	(240)	---	(125)	(3.45)	4.0	(2.80)
11	(335)	11.4	26	(230)	---	123	(3.65)	4.2	2.60
12	(340)	10.6	26	<235	---	(124)	(3.70)	4.3	(2.40)
13	(345)	10.6	26	(220)		124	(3.60)	4.0	(2.40)
14	---	(10.4)	26	225		(125)	(3.40)	4.0	(2.55)
15	---	10.9	27	(240)		121	(3.15)	3.6	(2.60)
16	---	>11.0	25	<250		121	(2.90)	3.4	(2.70)
17	---	>11.0	27	260		127	(2.40)	3.0	(2.80)
18		(10.8)	27	270				2.7	(2.90)
19		>10.5	27	270					(2.85)
20		(10.2)	24	270					(2.90)
21		(10.1)	24	250					(3.00)
22		(9.9)	25	250					(3.05)
23		9.1	25	245					3.05

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 27

Singapore, British Malaya (1.3° N, 103.8° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	23	210		---			3.00
01		5.6	20	230		120	----		2.80
02		5.4	24	250		---	----		2.85
03		5.1	21	250		115	----		3.00
04		4.7	25	245		---	----		3.05
05		4.2	23	240		---	----		3.20
06	---	3.8	26	245	---	---	----		3.05
07	---	7.0	24	245	---	120	2.15	2.5	3.20
08	---	8.2	26	230	---	110	2.85	3.1	3.10
09	500	9.0	27	220	---	110	3.30	3.5	2.65
10	630	9.7	27	210	4.9	110	3.60		2.35
11	345	10.0	24	205	4.9	105	3.80		2.15
12	360	10.2	19	200	5.0	110	3.85		2.05
13	350	10.2	23	200	5.0	105	3.80	3.8	2.15
14	375	10.2	27	200	5.0	105	3.65	4.0	2.20
15	325	10.4	27	200	---	110	3.50	3.6	2.25
16	---	10.8	25	210	---	110	3.05	3.2	2.35
17	245	10.8	25	240		110	2.60	2.9	2.40
18	---	11.0	24	265		130	1.60	2.6	2.40
19		10.7	24	310		---		2.5	2.40
20		10.5	19	340		---			2.45
21		10.3	17	290		---		2.2	2.70
22		11.0	18	240		---			3.05
23		9.2	23	210		---			3.20

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 28

Townsville, Australia (19.3° S, 146.7° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	5	280				2.4	----
01		>6.5	8	250				2.4	
02		>6.0	14	230				1.9	(3.10)
03		>4.5	16	250					3.05
04		>4.3	19	250					3.00
05		4.0	18	260					2.95
06		4.0	13	260			<1.70		3.05
07		6.0	15	240			2.40		(3.30)
08		6.8	15	225	---		2.90	3.5	3.20
09		7.4	20	210	4.6		3.20	3.9	3.00
10		8.0	15	200	4.8		3.50	3.9	3.00
11		>8.4	13	200	4.9		3.65	3.8	(2.85)
12		>9.0	13	200	4.9		3.70	3.8	(3.00)
13		>10.4	15	205	4.9		3.75	4.1	(3.00)
14		>10.5	12	210	4.8		3.60	4.1	(3.00)
15		>10.5	8	210	4.7		3.50	3.8	----
16		>8.4	6	(200)	4.5		3.20	3.7	----
17		>8.0	8	230	---		2.80	3.6	----
18		>7.1	8	240			2.20	3.4	----
19		>6.7	12	240			----	3.3	----
20		>6.9	6	300				3.9	
21		>6.5	3	300				3.0	
22		>6.4	4	300				2.0	
23		>6.2	8	300					

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

Table 29

Johannesburg, Union of S. Africa (26.1° S, 28.1° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	28	---				<1.4	2.85
01		4.6	28	---				<1.6	2.80
02		4.2	28	---				<1.4	2.90
03		4.0	28	310				<1.1	2.85
04		3.6	28	---					2.85
05		3.4	28	260				<1.1	2.80
06		4.7	28	255			1.6		3.05
07	---	6.1	28	240			2.4	2.5	3.15
08	280	7.2	28	225	4.4		2.9	3.2	3.10
09	300	8.0	28	220	4.9		3.3	3.6	2.90
10	310	8.8	28	210	5.0		3.5	3.8	2.85
11	315	9.3	28	205	5.0		3.7	4.0	2.80
12	320	9.9	28	200	5.0		3.8	4.2	2.80
13	310	10.0	27	200	5.0		3.7	4.1	2.80
14	305	10.1	27	210	5.0		3.7	4.1	2.80
15	300	9.8	27	(200)	4.8		3.5	4.0	2.85
16	285	9.4	28	220	---		3.2	3.8	2.90
17	270	8.9	28	230			2.8	3.4	2.95
18	---	8.8	28	250			---	2.8	3.00
19		(8.2)	28	240			<1.6	1.9	(3.00)
20		7.2	28	230				<1.8	2.95
21		6.3	28	(240)				<1.6	2.90
22		5.4	28	---				<1.6	2.90
23		5.0	28	---				<1.5	2.85

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

Table 30

Mundaring, W. Australia (32.0° S, 116.2° E) February 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	19	270				2.6	3.00
01		4.2	16	<270				2.8	3.00
02		4.1	21	<260				3.6	3.00
03		4.0	20	<250				3.5	3.00
04		3.7	19	<260				2.8	3.00
05		3.6	20	250					3.10
06		4.0	20	260			----		3.30
07		5.0	17	230	---		2.30	3.1	3.30
08		5.8	18	225	4.1		2.80	3.4	3.30
09		6.4	19	210	4.6		3.20		3.10
10		6.9	22	210	4.8		3.45	3.6	3.10
11		7.0	20	200	4.8		3.50	4.0	3.00
12		7.0	21	200	4.9		3.50	3.9	3.00
13		7.8	19	200	5.0		3.60	3.8	3.00
14		7.8	21	210	4.9		3.50	3.8	3.00
15		7.8	22	210	4.8		3.40	3.6	3.05
16		7.6	25	220	4.5		3.20	3.4	3.10
17		7.4	24	220	4.2		2.80		3.10
18		7.1	23	240			2.30		3.15
19		6.6	18	240					3.10
20		6.0	16	(230)					3.05
21		5.7	17	<250					3.00
22		4.9	16	270					2.95
23		4.8	17	<270					3.00

Time: 120.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 18 seconds.

Table 31

Capetown, Union of S. Africa (34.1° S, 18.3° E) February 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	28	---				<1.6	2.80
01		4.0	28	---				<1.6	2.80
02		3.9	28	---				<1.5	2.80
03		3.8	28	---				<1.5	2.80
04		3.8	28	---				<1.5	2.85
05		3.6	28	---				<1.4	2.90
06		3.6	28	285			<1.4	<1.4	2.90
07		5.2	28	245			2.0		3.15
08	(270)	6.2	28	235	---		2.6		3.00
09	305	7.2	28	225	4.7		3.0	3.1	2.95
10	335	7.7	28	215	4.9		3.3	3.6	2.85
11	320	8.6	28	(210)	4.9		3.5	3.9	2.80
12	320	9.1	28	(210)	5.0		3.7	3.9	2.80
13	325	9.6	28	(205)	5.0		3.7	4.0	2.80
14	330	9.6	28	200	4.9		3.6	3.9	2.80
15	310	9.4	28	220	4.9		3.6	3.8	2.85
16	300	9.1	28	220	4.7		3.3	3.5	2.90
17	295	8.4	28	230	4.4		3.1	3.4	2.95
18	270	8.5	28	230	---		2.7	2.8	3.00
19	(250)	8.0	28	245			2.0	2.4	3.15
20		7.2	28	235			<1.6	<1.8	3.10
21		6.5	28	(220)				<1.5	3.10
22		5.2	28	---				<1.6	3.00
23		4.4	28	---				<1.6	2.95

Time: 30.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 32

Christchurch, New Zealand (43.6° S, 172.8° E) January 1961

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	25	260				2.5	2.65
01		5.9	30	260				2.1	2.70
02		5.4	27	260				<1.7	2.70
03		5.0	28	260				<1.6	2.70
04		4.8	26	260		---	---	<1.7	2.70
05		4.0	25	260		110	1.7	2.0	2.80
06		4.8	24	250		110	2.2	2.7	3.00
07	---	5.4	24	230	---	105	2.8	3.3	2.85
08	340	6.1	27	230	4.2	105	(3.0)	3.8	3.00
09	320	6.7	27	210	4.6	100	3.3	3.9	3.00
10	340	7.0	25	210	4.8	100	3.6	4.2	2.90
11	340	6.8	26	200	4.9	100	3.8	4.1	2.85
12	340	7.1	27	200	4.9	100	3.9	4.2	2.80
13	350	7.0	28	210	4.9	100	3.8	4.1	2.85
14	360	6.8	27	210	4.9	100	3.7	4.3	2.80
15	350	7.0	27	220	4.8	105	3.6	4.0	2.80
16	340	7.0	29	220	4.7	105	3.4	3.9	2.85
17	310	7.2	29	220	4.3	105	3.2	3.7	2.90
18	(300)	7.3	29	230	---	105	2.9	3.6	2.90
19	---	7.2	27	250		110	2.3	2.7	2.85
20		(7.4)	29	260		---	(1.7)	2.1	(2.75)
21		(7.3)	27	260				2.2	(2.70)
22		(7.2)	25	270				<1.8	(2.60)
23		6.9	23	280				<1.8	2.60

Time: 180.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 33

Godhavn, Greenland (69.3° N, 53.5° W) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.35)	18						(2.78)
01		(3.7)	17						(2.75)
02		(3.7)	18						(2.85)
03		(3.45)	16						(2.80)
04		(3.2)	14					2.7	----
05		(3.25)	10					3.1	----
06		(3.3)	7					4.0	----
07		(4.0)	7					3.9	----
08		(5.0)	7			---	----		----
09		(5.2)	9			---	----		----
10		(6.3)	13			(123)	----		(3.10)
11		(7.6)	15			(122)	2.45		(3.05)
12		(7.7)	19			<127	----		(3.00)
13		(7.2)	18			<125	----		(2.95)
14		(7.0)	20			(125)	2.40		(3.08)
15		(6.5)	14			<127	2.10		(3.02)
16		(6.8)	19			<135	----	2.4	(3.00)
17		(6.1)	18			---	----	2.6	(2.85)
18		(6.6)	16					2.8	(2.80)
19		(6.2)	21						(2.70)
20		(5.5)	18						(2.80)
21		(5.5)	15						(2.62)
22		(5.0)	21						(2.70)
23		(5.15)	14						(2.85)

Time: 45.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 18 seconds.

Table 34

Juliusruh/Rügen, Germany (54.6° N, 13.4° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	26	300					2.50
01		4.2	26	<300			----		2.55
02		4.1	25	300			----		2.50
03		3.9	27	300			----		2.50
04		3.7	26	300					2.55
05		3.6	25	290					2.70
06		3.3	27	280					2.70
07		4.3	23	270			(1.60)		2.90
08		7.0	27	240			2.10		3.15
09		9.0	28	235			2.60		3.10
10		10.4	26	235			2.95		3.10
11		11.5	26	235			3.10		3.05
12		12.1	25	230			3.30		3.00
13		12.1	28	230			3.20		2.95
14		12.3	27	235			3.15		3.00
15		11.9	27	235			2.90		3.00
16		11.3	27	230			2.40		3.10
17		10.0	24	230			2.10		3.00
18		9.4	24	230					3.05
19		7.8	25	230					3.00
20		6.5	24	240					2.85
21		5.5	25	270					2.75
22		5.0	27	280					2.70
23		4.5	27	300					2.60

Time: 15.0°E.
Sweep: 0.5 Mc to 20.0 Mc in 20 seconds.

Table 35

Dourbes, Belgium (50.1° N, 4.6° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	27	270				<1.2	2.70
01		4.4	26	280					2.60
02		4.4	27	290					2.60
03		4.3	27	300					2.60
04		3.9	27	280				<1.2	2.80
05		3.5	27	<260				<1.5	2.90
06		3.6	27	260				<1.5	2.90
07		5.0	26	230		121	<1.50		3.10
08		8.2	26	230		116	2.20		3.30
09		9.8	28	225		113	2.65		3.20
10	---	10.9	29	225		111	2.90		3.15
11	---	11.4	28	220		113	3.00		3.15
12	---	11.8	29	220		115	3.10		3.10
13		11.6	26	225		115	3.00		3.05
14		11.9	26	235		115	2.90		3.10
15		11.0	25	235		117	2.60		3.10
16		10.4	28	230		121	2.10	2.3	3.10
17		9.6	25	220		---	<1.50	1.8	3.10
18		8.4	26	220				<1.6	3.10
19		7.3	24	220				<1.6	3.05
20		5.9	26	240				<1.6	3.00
21		5.4	22	250				<1.6	2.90
22		4.7	23	270				<1.6	2.80
23		4.9	27	200				<1.6	2.70

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 36

Pruhonice, Czechoslovakia (50.0° N, 14.6° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9	23	215					
01		4.4	23	285					
02		4.4	23	295					
03		4.3	23	275					
04		4.1	23	270					
05		3.8	23	250					
06		4.6	23	240		---	---		
07		8.2	21	220		115	2.1		
08		10.2	18	220		100	2.6		
09		11.4	20	210		100	2.9	4.4	
10		11.6	20	215		100	3.1		
11		12.0	21	210		100	3.2		
12		12.2	20	210		100	3.2		
13		12.2	22	215		100	3.1		
14		12.0	22	225		100	2.9		
15		11.2	22	225		100	2.5		
16		10.5	23	210		115	2.2		
17		9.4	22	210		---	---		
18		8.3	23	210					
19		7.0	23	215					
20		5.8	23	230					
21		5.3	23	250					
22		5.0	23	275					
23		4.9	23	280					

Time: 0.0°.
Sweep: 1.0 Mc to 18.0 Mc.

Table 37

St. John's, Newfoundland (47.6° N, 52.7° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	22	285					2.70
01		5.2	26	295					2.65
02		5.0	25	300					2.60
03		4.5	26	294					2.75
04		4.3	27	272					2.75
05		4.3	29	258					2.75
06		4.4	29	258					2.80
07		6.8	29	237		122	2.00		3.15
08		8.8	29	230		120	2.60		3.15
09	---	10.0	29	230	---	115	3.00		3.15
10	---	11.2	29	228		116	3.20		3.10
11	---	11.6	28	228		113	3.30		3.05
12	---	11.8	29	230	---	112	3.40		3.00
13	---	11.8	29	228		111	3.30		3.00
14		11.9	29	230		112	3.00		2.95
15		11.9	29	238		118	2.80		2.95
16		11.4	29	235		121	2.35		3.00
17		10.9	29	234		---	----		3.00
18		9.7	29	230					2.95
19		8.4	28	230					2.90
20		7.0	29	240					2.80
21		6.2	26	265					2.70
22		6.0	26	276					2.70
23		5.9	23	285					2.70

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

Table 38

Macau (22.2° N, 113.6° E) February 1960

Time	h'F2	foF2	Count	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	380	9.0	21						2.70
01	400	9.0	19						2.60
02	390	9.0	23						2.50
03	380	8.9	22						2.70
04	360	6.4	25						2.65
05	395	4.3	16						2.40
06	440	3.7	13						2.30
07	460	5.7	14						2.30
08	440	8.6	20			---	---		2.40
09	440	9.8	22	400	---	---	---		2.45
10	---	11.0	16	400	---	---	---		2.35
11	---	13.0	17	420	---	---	---		2.20
12	(600)	13.0	19	425	8.0	---	---		2.20
13	(600)	13.1	19	420	8.4	---	---		2.15
14	(640)	12.0	15	410	8.0	---	---		2.20
15	(660)	12.2	17	400	8.0	---	---		2.20
16	(575)	12.6	14	420	---	---	---	3.2	2.25
17	410	(9.7)	8	405	---				(2.30)
18	445	(9.4)	4						----
19	---	(9.0)	1						----
20	---	----	0						
21	---	----	0						
22	400	(9.0)	2						----
23	385	9.0	10						2.70

Time: 120.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 39

Dakar, French W. Africa (14.8° N, 17.4° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		D	11	250		---	----	2.6	
01		D	11	235		---	----	2.6	----
02		D	11	230		---	----	2.1	----
03		(13.5)	9	220		---	E	2.0	----
04		(12.7)	5	200		---	E	2.0	----
05		(6.7)	9	210		---	E	2.2	----
06		5.4	10	225		---	E	2.4	(3.15)
07		4.4	13	230		---	E	2.6	(3.10)
08		8.2	16	240		120	2.00	3.8	3.20
09		>11.5	19	235		105	2.90	4.5	3.25
10		13.5	20	220		100	3.40	4.8	3.20
11		15.4	18	200		100	3.70	4.8	3.05
12		15.8	17	200		100	3.90		2.80
13	---	15.6	17	200		100	(4.00)		2.60
14	---	15.9	16	200		100	(3.90)		2.40
15	---	15.9	19	200		100	3.80		2.40
16	---	15.6	20	215		100	3.60		2.35
17	---	>15.1	16	230		100	3.40	3.5	2.40
18		(15.0)	15	245		110	2.80	4.5	----
19		(14.4)	8	260		---	1.70	3.3	(2.30)
20		>14.5	11	345		---	E	2.6	----
21		>15.6	2	345		---	E	2.6	----
22		0	3	280				2.6	
23		D	3	250				2.6	----

Time: 0.0°.
Sweep: 1.2 Mc to 17.0 Mc.

Table 40

Djibouti, French Somaliland (11.6° N, 43.2° E) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(8.8)	2	250				3.2	----
01		---	0	240		---	----	2.2	
02		(8.3)	1	230		---	----	2.0	----
03		(6.5)	6	225		---	----	2.0	(3.10)
04		6.4	18	230		---	----	2.1	3.10
05		5.4	16	225		---	E	2.2	3.20
06	---	4.4	23	230	---	---	E	2.0	3.20
07		8.3	10	255		130	2.05	3.7	----
08		---	0	245		120	2.90	4.1	
09		(12.0)	2	235		---	3.35	6.5	----
10		(12.5)	3	230		---	3.70	7.0	----
11		(11.2)	4	225		---	3.80	7.6	----
12		(11.4)	6	220		---	3.90	8.6	(2.30)
13		(11.5)	5	210		---	----	9.0	(2.35)
14		(11.5)	4	220		---	----	8.6	----
15		(11.4)	3	230		---	3.60	6.9	----
16		----	0	235		---	3.30	6.5	
17		----	0	250		125	2.75	4.3	
18		----	0	275		---	1.70	4.0	
19		(10.0)	1	350		---	E	3.2	----
20		----	0	---		---	----	1.8	
21		----	0	---				2.0	
22		(9.0)	1	280				3.1	----
23		----	0	250				3.2	

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

Table 41

Ibadan, Nigeria (7.4° N, 3.9° E) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.2	26	250					(2.75)
01		9.0	25	250					2.85
02		9.3	26	250				1.0	2.90
03		9.1	25	245				1.3	3.20
04		8.2	25	225					3.30
05		>5.7	23	220					3.35
06		5.5	23	250			(1.50)		(3.10)
07		>9.2	21	250			2.60		3.20
08		11.1	26	240			3.20	5.6	3.00
09		12.4	26	225			3.65	6.1	2.60
10		12.3	27	210			3.90	6.4	2.45
11		12.0	27	205			(4.10)	8.2	2.40
12		12.1	27	205			4.10	8.4	2.35
13		11.9	27	205			(4.05)	8.5	2.30
14		12.1	27	205			(3.90)	8.4	2.30
15		>12.2	27	220			3.60	6.3	2.30
16		11.6	27	240			3.20	8.5	2.35
17		>11.6	24	250			2.60	5.9	(2.30)
18		>10.5	24	300			1.60		(2.25)
19		9.2	26	400					2.10
20		8.8	26	385					2.20
21		9.0	26	305					(2.35)
22		9.0	26	260					(2.60)
23		>9.1	26	250					(2.70)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 42

Lwiro, Belgian Congo (2.3° S, 28.8° E) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.5	19	200					2.99
01		9.6	15	240					2.84
02		9.4	18	250					2.87
03		9.0	18	250				(1.5)	2.96
04		8.0	20	230					3.13
05		7.3	20	220					3.20
06		6.6	19	225		---	E	(1.5)	3.21
07	250	9.0	21	240		119	2.50		3.33
08	250	10.1	22	225		111	3.15		3.17
09	(260)	10.6	25	215	---	111	3.60		2.92
10	(275)	11.5	25	210	(5.0)	111	3.90		2.70
11	---	12.0	24	205	---	109	4.05		2.62
12	(345)	12.6	25	205	---	109	4.10		2.58
13	345	>13.3	24	200	---	109	4.05		2.60
14	390	13.6	22	210	---	111	3.95		2.55
15	(415)	13.9	23	210	---	111	3.75		2.56
16	(410)	14.0	23	220		111	3.40		2.56
17	---	13.8	24	240		112	2.90		2.58
18	---	13.9	23	260		120	2.00	(2.2)	2.53
19		14.1	23	315				(1.8)	2.50
20		>13.3	21	325				(1.8)	(2.53)
21		>14.0	21	270				(1.6)	(2.78)
22		>14.0	21	225					(3.04)
23		>14.0	20	200					3.12

Time: 30.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 43

Tananarive, Madagascar (18.8° S, 47.5° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	28	270		---	----	2.8	2.80
01		7.9	29	250		---	E	3.1	2.80
02		6.7	28	250		---	E	3.1	2.70
03		6.1	29	<270		---	E	3.0	2.65
04		6.0	29	275		---	E	3.0	2.75
05		5.2	28	270		---	E	2.8	2.70
06		6.6	28	265		---	1.80	3.1	2.95
07		8.2	28	250		115	2.70		3.00
08		9.5	28	250		110	3.20		2.85
09	---	10.5	29	240	---	110	3.60		2.70
10	---	11.2	29	230	---	110	3.80		2.60
11	---	11.7	29	230	---	110	4.00		2.60
12	350	12.0	29	230	5.6	105	(4.00)		2.60
13	350	12.5	27	240	---	110	(4.00)		2.60
14	385	12.5	29	230	---	115	3.80		2.65
15	---	12.2	29	240	---	115	3.65	3.9	2.65
16	---	11.9	29	250		120	3.30	3.5	2.60
17		11.6	29	255		120	2.80	3.1	2.65
18		11.4	29	270		---	2.05	3.0	2.70
19		11.0	28	260		---	E	3.0	2.75
20		10.5	29	270		---	E	2.8	2.70
21		10.1	28	270		---	----	2.7	2.70
22		9.1	29	280		---	----	2.8	2.70
23		8.6	29	280		---	----	2.8	2.75

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 44

Townsville, Australia (19.3° S, 146.7° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.5	1	285					
01		---	0	255				2.2	
02		>6.5	1	250				3.0	
03		>6.2	2	260				3.1	
04		>6.2	4	280				2.8	----
05		>6.0	6	290				2.6	
06		>5.6	2	280			<1.70		----
07		>6.7	2	250			2.55		
08		>9.0	2	240			3.15	3.4	
09		(11.0)	11	230			3.50	4.0	(2.90)
10		>11.0	12	220			3.70	4.4	(2.85)
11		12.0	16	(220)			3.90	4.3	2.80
12		12.5	17	<230	6.2		3.95	5.0	2.80
13		13.1	15	(230)			4.00	4.7	2.80
14		(12.5)	17	<240			3.90	4.3	2.80
15		(12.4)	15	220			3.70	4.2	(2.80)
16		>11.5	10	230			3.50	4.0	----
17		>11.5	4	250			3.05	3.3	----
18		>11.8	1	250			2.30	3.3	
19		>11.0	1	260				3.0	
20		----	0	300				3.1	
21		----	0	310				2.7	
22		----	0	300					
23		----	0	300				1.8	

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

Table 45

Sao Paulo, Brazil (23.5° S, 46.5° W) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	12	240					(3.10)
01		>14.0	15	230					----
02		>14.0	17	210					3.20
03		10.6	17	210					3.10
04		8.9	23	215					3.00
05		7.3	26	240					2.90
06		7.4	27	245			----		2.90
07		9.0	26	225			----		3.00
08		>10.0	25	220			(3.45)		2.95
09		10.7	23	(220)			----		2.65
10	---	11.4	18	<230	---		----		2.65
11	---	(12.5)	19	---	---				2.65
12	---	13.0	21	---	---				2.70
13	(350)	(13.6)	20	---	---				(2.70)
14	---	13.7	21	---					2.70
15	(440)	>13.8	20	(220)					2.70
16	(340)	(14.0)	23	(235)					(2.85)
17	---	>14.0	22	230					(2.95)
18		>14.0	21	245				2.6	(3.00)
19		(14.0)	23	270					(2.80)
20		>13.8	14	340					(2.65)
21		(14.0)	9	275					----
22		>14.0	8	245					----
23		>14.0	11	240					----

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

Table 46

Brisbane, Australia (27.5° S, 152.9° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	23	300				3.2	2.75
01		7.9	22	270				3.1	2.70
02		7.4	22	270				2.9	2.65
03		6.9	21	290				2.7	2.65
04		6.8	22	290					2.65
05		6.6	22	280			----		2.65
06		>7.5	22	250			2.35		2.90
07		8.3	22	240	---		2.80	3.2	3.00
08		8.8	22	230	---		3.30	4.0	2.85
09		10.2	22	230	---		3.55	4.2	2.80
10		11.0	21	220	---		3.75	4.4	2.80
11		11.0	20	220	---		3.80	4.4	2.75
12		11.6	22	220	5.8		3.90	4.2	2.70
13		11.2	22	230	6.2		3.80	>4.2	2.70
14		10.9	23	220	5.6		3.80	4.0	2.75
15		10.2	23	230	5.9		3.60	3.8	2.75
16		10.0	22	235			3.30	3.4	2.80
17		10.0	23	250			2.80	3.3	2.85
18		9.6	23	250			2.40	2.5	2.85
19		8.9	23	250			----	2.5	2.75
20		8.5	22	280					2.60
21		8.4	22	300					2.60
22		>8.4	20	310					2.60
23		8.3	23	300				2.9	2.65

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

Table 47

Concepcion, Chile (36.6° S, 73.0° W) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.8	26	310				3.6	2.70
01		9.7	26	<305				4.0	2.75
02		9.75	24	280				3.6	2.90
03		8.6	25	260				3.2	2.85
04		8.0	24	260				3.0	2.68
05		7.8	24	295		---	(1.65)	2.5	2.62
06		>9.05	24	240		114	2.35	2.6	2.85
07		10.3	25	230		105	2.85	3.5	2.90
08		11.0	27	230		101	3.32	4.2	2.95
09	---	11.4	29	(220)		102	3.65	4.2	2.90
10	---	11.7	27	(220)		103	3.90	4.6	2.80
11	330	12.2	29	(215)	---	105	3.90	4.3	2.80
12	320	12.8	29	(220)	---	104	(4.00)	4.6	2.80
13	330	13.0	29	(230)	6.7	107	3.98	4.8	2.80
14	<330	13.1	28	<230	6.0	107	3.92	4.6	2.85
15	310	13.0	29	(240)		107	3.75	5.0	2.90
16	(300)	12.7	27	(240)		105	3.40	5.3	2.90
17	<300	12.2	28	245		107	2.90	4.4	2.90
18		11.4	29	(260)		<113	2.15	3.6	2.90
19		11.0	28	280				3.6	2.82
20		>10.0	27	<320				3.4	2.68
21		>9.85	26	340				3.8	2.58
22		10.0	26	330				4.7	2.65
23		>10.0	25	325				4.5	2.62

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 48

Port Lockroy (64.8° S, 63.5° W) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	19	305			----	1.8	2.55
01		8.2	20	310			----	1.4	2.60
02		7.9	22	320			----	1.4	2.50
03		8.5	16	330			----	1.3	2.55
04		7.7	21	315			1.50		2.50
05		7.6	23	290			1.85	2.0	2.60
06		8.4	25	260			(2.40)	2.8	2.60
07		8.4	24	250			(2.55)	3.2	2.70
08		8.2	24	245			3.30	3.6	2.80
09		7.9	23	240			3.35	3.9	2.80
10		8.4	24	(235)			----	4.6	3.00
11		8.3	26	230			----	4.7	2.90
12		8.2	23	230			----	4.7	3.00
13		8.2	25	235			----	4.9	3.05
14		8.2	27	240			3.50	4.8	3.05
15		7.9	27	235			3.20	4.3	3.05
16		7.8	29	240			(3.20)	3.8	3.00
17		7.8	28	250			(2.85)	3.1	3.10
18		8.0	29	250			(2.50)	3.3	3.00
19		8.1	28	260			(2.30)	3.2	3.00
20		8.6	26	265			1.80	3.0	2.85
21		8.4	23	270			1.50	2.0	2.80
22		8.6	22	280			----	1.6	2.65
23		8.6	20	300				1.4	2.60

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 49

Wilkes Station (66.3° S, 110.5° E) February 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	24	230	4.2	100	2.80	3.0	2.55
01		5.8	24	220	4.4	100	3.00	3.2	2.50
02		6.0	24	220	4.5	100	<3.20	3.3	2.45
03		(6.2)	19	220	4.5	100	3.30	3.5	2.40
04		(6.2)	20	<215	(4.6)	100	(3.30)	3.4	(2.50)
05		(6.8)	18	220	4.7	100	3.40		(2.40)
06		(7.0)	13	(210)	(4.8)	100	(3.35)	3.5	(2.40)
07		>6.2	16	220	4.3	100	<3.35	3.4	(2.30)
08		5.8	19	<220	4.3	100	>3.20		(2.30)
09		(5.8)	18	220	(4.2)	100	3.05		(2.30)
10		5.5	15	235	(3.8)	110	(2.70)		2.25
11		(5.7)	18	<245	(3.6)	110	2.50		(2.35)
12		(5.8)	15	270	>3.0	110	2.00	2.0	(2.50)
13		(6.0)	13	285	---	110	(1.60)	1.9	2.65
14		5.2	14	270	---	---	<1.30	2.0	2.60
15		(4.7)	14	280		---	E		(2.60)
16		(4.3)	15	280		---	E		(2.55)
17		(4.6)	14	<260		---	E		(2.70)
18		4.3	11	<260		---	E		(2.55)
19		4.2	18	270	---	---	E		2.65
20		(4.8)	15	260	---	---	1.20	2.2	(2.80)
21		4.8	17	250	---	105	(1.70)	2.2	2.75
22		(5.4)	16	250	(3.6)	>105	(2.10)	2.4	(2.80)
23		5.2	13	240	(4.0)	110	(2.65)	3.2	2.55

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 50

Concepcion, Chile (36.6° S, 73.0° W) January 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.75	30	315				4.1	2.70
01		9.6	30	290				3.9	2.75
02		9.15	28	280				3.8	2.75
03		8.7	29	280				2.8	2.65
04		8.45	28	310				2.6	2.55
05		8.8	29	270		119	1.85	2.4	2.52
06		9.8	28	240		109	2.65	3.3	2.70
07	---	10.6	30	230	---	101	3.20	4.0	2.65
08	<330	11.05	30	225	---	101	(3.60)	4.2	2.60
09	365	11.6	30	220	5.7	101	(3.85)	4.2	2.58
10	360	11.8	29	(220)	6.0	103	4.00	4.8	2.60
11	360	12.1	29	<220	6.0	107	(4.10)	4.7	2.65
12	360	12.4	29	(215)	6.2	109	(4.22)		2.65
13	370	12.05	30	(220)	5.9	109	4.15	4.6	2.65
14	360	11.95	30	220	5.8	108	4.05	4.4	2.70
15	360	11.6	31	(230)	5.8	105	3.90	4.7	2.70
16	340	10.95	30	(230)	5.6	103	3.60	5.0	2.80
17	325	10.2	29	(240)	---	107	(3.20)	4.6	2.80
18	<350	9.35	30	260		110	2.62	4.0	2.70
19		8.8	29	290		---	----	3.6	2.55
20		9.05	30	360				3.2	2.40
21		9.5	30	370				3.8	2.40
22		>9.7	30	350				3.4	2.50
23		9.7	30	330				4.4	2.60

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 51

Churchill, Canada (58.8° N, 94.2° W) December 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)	25	300		---	----	4.7	
01		4.0	20	300		---	----	4.2	
02		(4.1)	23	330		---	----	4.0	----
03		4.0	20	310		---	----	3.5	
04		4.4	17	330		---	----	3.5	
05		4.3	17	<330		---	----	3.3	
06		4.2	15	325		---	----	3.3	----
07		4.3	17	330		---	----	3.0	----
08		4.5	19	300		---	----	3.0	----
09		5.8	22	280		---	1.90		3.15
10		7.2	25	260		---	2.35		3.15
11		9.0	25	260		---	2.50		3.15
12		9.7	26	250		---	(2.60)		(3.20)
13		11.0	29	250		---	2.50		3.05
14		11.0	29	250		---	2.50		(3.10)
15		10.5	28	250		120	2.00		3.00
16		9.1	28	260		130	1.85		(3.00)
17		7.4	22	280		---	----	2.6	----
18		5.0	26	320		---	----	3.0	----
19		4.6	24	305		---	----	3.0	
20		4.9	26	300		---	----	3.1	----
21		4.5	24	300		---	----	3.1	
22		4.1	21	300		---	----	5.0	----
23		4.0	20	285		---	----	5.0	----

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 52

Wakkanai, Japan (45.4° N, 141.7° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	28	320					2.60
01		4.3	29	310					2.60
02		4.0	30	305				2.5	2.60
03		4.2	30	300				3.0	2.60
04		4.1	30	300				2.5	2.70
05		4.0	30	285					2.70
06		4.5	29	260					2.85
07		8.0	29	230			2.10		3.20
08		10.7	29	225			2.60	2.8	3.25
09		12.0	30	230			2.90	3.5	3.15
10		12.6	28	230			3.05	3.6	3.20
11		12.7	28	225			3.20	3.4	3.15
12		12.7	27	230			3.15	3.2	3.10
13		12.0	28	230			3.05	3.3	3.05
14		11.8	28	235			2.75		3.10
15		11.2	28	230			2.30	3.6	3.15
16		9.7	29	220					3.10
17		7.8	30	220					3.00
18		6.2	30	240					3.00
19		5.3	30	250					3.00
20		4.6	30	270					2.85
21		4.5	30	300				3.0	2.75
22		4.5	29	300					2.65
23		4.3	28	310					2.65

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 53

Akita, Japan (39.7° N, 140.1° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	29	300					2.65
01		4.4	29	300					2.65
02		4.4	28	305					2.70
03		4.4	28	300					2.70
04		4.2	30	300					2.70
05		4.0	30	300					2.65
06		4.8	30	260					2.90
07		8.6	30	240			----		3.30
08	---	11.2	30	240			2.70	3.1	3.25
09	---	12.2	30	240			3.05	3.5	3.25
10	(245)	13.1	30	235			3.25	3.7	3.20
11	240	12.8	30	225			3.40		3.10
12	240	12.4	30	230			3.40		3.05
13	---	12.4	30	245			3.30		3.10
14	---	11.9	30	245			3.05		3.10
15		11.3	29	240			2.60		3.15
16		10.5	29	230			----		3.15
17		8.2	30	210					3.10
18		6.6	30	240					3.10
19		5.9	30	240					3.05
20		5.2	30	245					2.90
21		5.0	30	260					2.80
22		4.6	30	280					2.80
23		4.5	30	300					2.70

Time: 135.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 54

Tokyo, Japan (35.7° N, 139.5° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	30	300					2.70
01		4.1	30	300					2.70
02		4.0	30	305					2.70
03		4.0	30	300					2.70
04		4.0	30	300					2.75
05		3.8	30	305					2.65
06		5.0	30	270					2.90
07		9.1	30	240			(2.40)		3.30
08		11.4	30	240			2.85		3.20
09		12.5	27	240			3.20	3.5	3.20
10		13.3	27	<240			(3.40)	3.6	3.20
11		13.2	28	230			3.50		3.10
12	---	12.6	28	240			(3.50)	3.6	2.95
13		12.8	28	245			3.45	3.5	3.00
14		12.3	29	245			3.25	3.3	3.05
15		11.4	29	240			2.80	2.9	3.05
16		11.0	29	230			(2.25)		3.10
17		9.0	29	220					3.10
18		7.4	30	245					3.00
19		6.4	30	250					3.00
20		5.9	30	250					2.85
21		5.3	30	260					2.90
22		4.8	30	280					2.80
23		4.5	30	300					2.70

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 55

Yamagawa, Japan (31.2° N, 130.6° E) November 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	25	270					2.75
01		4.9	25	285					2.75
02		4.4	23	280					2.70
03		4.3	25	275					2.80
04		4.0	24	250					2.90
05		3.5	24	270					2.60
06		3.6	24	300					2.65
07		(7.0)	22	250			2.00		(3.05)
08		10.8	23	245			2.70		3.25
09		12.5	25	245			3.10		3.20
10		13.3	25	240			3.40	3.7	3.15
11		13.8	26	240			3.50	3.8	3.05
12	---	13.6	25	225			3.60	3.8	2.90
13	---	14.0	23	240			3.55	3.6	2.85
14	---	13.8	22	245			3.40	3.6	2.90
15		13.4	23	245			3.20	3.5	2.90
16		12.6	23	245			2.70	3.0	2.95
17		11.7	23	240			----	2.5	2.95
18		10.5	23	225				2.6	2.95
19		9.1	24	245				2.1	2.80
20		(9.0)	23	245					(2.85)
21		(8.5)	24	245				2.4	(2.90)
22		(7.4)	24	250				2.0	(2.90)
23		5.7	25	255					2.75

Time: 135.0°E.
Sweep: 1.0 Mc to 20.3 Mc in 30 seconds.

Table 56

Oe Bilt, Holland (52.1° N, 5.2° E) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.6	31	330					2.70
01		4.4	30	315					2.75
02		4.5	31	320					2.75
03		4.2	30	310					2.80
04		3.9	31	(295)					2.95
05		3.5	31	<300					3.00
06	---	4.5	31	250		---	1.9		3.10
07	(240)	6.8	31	230		130	2.3		3.20
08	250	8.2	29	230	4.3	120	2.8		3.25
09	245	9.4	30	230	4.3	115	3.0	3.4	3.15
10	250	10.6	30	230	4.4	110	3.2	3.4	3.15
11	250	11.2	30	230	4.6	115	3.4	3.4	3.10
12	250	11.2	31	230	---	110	3.4	3.4	3.05
13	250	11.1	31	230	---	110	3.3		3.10
14	250	11.2	31	240	---	110	3.0	3.1	3.05
15	250	10.8	30	235	---	110	2.8	2.6	3.10
16	(240)	10.5	31	230		130	2.4		3.15
17	---	9.4	31	230		---	1.8		3.20
18		8.2	30	230		---	---		3.15
19		7.3	30	240					3.15
20		6.1	30	245					3.05
21		5.4	28	260					2.90
22		5.1	28	300					2.85
23		4.7	31	320					2.75

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 57

Lwiro, Belgian Congo (2.3° S, 28.8° E) October 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>11.5	12	195					(2.89)
01		10.8	17	240					2.80
02		11.2	14	255					2.86
03		10.6	15	250					3.06
04		10.3	14	220					3.28
05		8.2	14	210				(1.6)	3.33
06		7.6	17	240		---	----	(2.1)	3.33
07	240	9.6	18	240		121	2.80	2.8	3.41
08	245	10.3	17	220		113	3.35	3.6	3.14
09	(260)	11.0	19	210		111	3.70	3.9	2.82
10	---	12.0	18	200	(5.0)	---	3.95		2.74
11	---	12.8	19	200	---	---	4.05		2.72
12	---	13.2	20	200	---	109	4.10		2.55
13	415	14.0	21	200	(5.0)	---	4.00		2.52
14	410	14.6	21	210		111	3.90		2.60
15	385	(14.9)	21	220		111	3.55		2.61
16	385	(14.7)	22	235		113	3.15		(2.59)
17	(380)	(14.5)	21	250		119	2.55	(2.8)	(2.55)
18		>14.0	21	290		---	----	(2.8)	(2.52)
19		>14.0	21	335				(2.1)	----
20		>13.4	18	290				(1.8)	
21		>14.0	18	240				(1.6)	----
22		>14.6	18	210				(1.7)	(3.16)
23		>14.1	20	200				(1.5)	(3.10)

Time: 30.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 58

Churchill, Canada (58.8° N, 94.2° W) July 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.3	25	300		---	---	5.0	
01		5.0	25	340		---	---	4.7	
02		4.5	24	320		---	1.9	4.9	
03		4.6	21	310		---	1.9	4.8	
04	---	4.6	21	300	---	---	2.0	3.2	
05	(440)	5.0	19	280	3.4	110	2.5	3.4	
06	500	4.8	18	240	4.0	110	3.0	4.5	----
07	G	4.8	18	260	4.5	110	3.2	4.5	G
08	G	5.4	16	240	4.6	105	3.6	4.3	G
09	510	5.9	15	240	4.8	105	3.8	4.3	(2.45)
10	550	5.8	19	230	5.0	100	3.9	4.6	G
11	500	6.0	20	220	5.0	100	3.8	4.5	(2.4)
12	500	6.1	20	220	5.0	105	3.8		(2.4)
13	460	6.1	19	220	5.0	105	3.8		(2.6)
14	470	6.5	21	210	5.0	105	3.8		(2.6)
15	460	6.7	21	220	5.0	110	3.5		----
16	450	6.6	21	230	4.9	110	3.5		(2.5)
17	410	6.5	21	240	4.8	105	3.2		(2.7)
18	390	6.1	21	(240)	4.5	110	3.1		----
19	(390)	6.0	21	280	---	110	3.0	3.5	----
20	---	5.7	21	300	---	120	3.0	4.2	----
21		5.8	21	320		120	2.3	4.8	----
22		5.2	21	310		---	2.0	5.6	
23		5.0	22	320		---	2.0	5.0	

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 59

Lwiro, Belgian Congo (2.3° S, 28.8° E) July 1959

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		12.9	23	220				(2.4)	3.00
01		11.4	26	220				(2.5)	3.04
02		9.4	21	220				(2.7)	2.86
03		8.6	26	235				(2.3)	2.87
04		8.0	24	230				(2.4)	3.00
05		>7.0	25	240				(2.4)	3.10
06		7.0	27	270		---	E	(2.6)	3.02
07	260	10.8	26	250		121	2.50	(3.1)	3.30
08	255	12.3	27	235		112	3.20	4.0	3.25
09	280	12.7	25	225		111	3.65	(4.6)	3.05
10	285	13.0	26	220		109	3.90	(5.4)	3.02
11	320	13.2	28	210		109	4.00	4.3	2.79
12	350	13.6	27	205		109	4.10	4.4	2.74
13	365	13.6	28	205	---	109	4.05	4.0	2.54
14	400	13.4	29	205	---	111	3.95	4.2	2.50
15	405	13.6	28	220		111	3.80	(4.2)	2.49
16	420	13.4	28	230		111	3.30	(4.3)	2.49
17	---	13.9	29	245		115	2.75	(3.7)	2.51
18		14.4	28	275		---	----	(3.3)	2.63
19		(15.1)	29	285				(3.3)	(2.72)
20		>13.4	29	275				(2.4)	(2.99)
21		>13.4	26	225				(2.6)	<2.89
22		>13.3	25	225				(2.6)	<2.87
23		>13.7	26	225				(2.6)	2.97

Time: 30.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 60

Oelhi, India (28.6° N, 77.2° E) January 1959

Time	*	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	(340)	>6.2	23						----
01	---	>5.7	25						----
02	---	(4.8)	6						----
03	---	(4.4)	6						----
04	---	>3.8	20						----
05	360	(3.6)	26						2.90
06	320	4.3	26						3.00
07	(280)	(8.8)	19						3.35
08	260	>11.6	26			120	2.8		3.45
09	280	12.6	30			100	3.2	4.0	3.25
10	320	13.4	24			100	3.7	4.3	3.00
11	360	>13.5	20			100	3.7		2.85
12	360	>13.5	21			120	3.8		2.80
13	380	14.0	22			---	---		2.80
14	380	14.1	19			---	---		2.70
15	(380)	(14.2)	28			100	3.6		(2.70)
16	(360)	>14.0	22			---	---		(2.80)
17	(340)	>13.3	25						(2.85)
18	---	>12.9	20						----
19	---	>13.0	23						----
20	---	>12.7	22						----
21	---	>10.2	20						----
22	---	>8.7	24						----
23	---	>7.2	15						----

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
* Height at 0.83 foF2.

Table 61

Ahmedabad, India (23.0° N, 72.6° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.5	29	250					2.75
01		10.4	29	250					2.95
02		9.4	29	240					3.05
03		7.4	26	230					3.05
04		5.8	24	220					2.70
05		4.2	26	270					2.65
06		4.7	21	300					2.80
07		8.4	23	265		---	E		3.05
08		12.4	26	250		110	2.6		3.10
09		13.7	29	250		110	3.2		3.05
10	250	13.4	29	230	---	110	3.7		2.75
11	300	14.2	29	222	---	110	3.9		2.55
12	350	15.2	29	222	5.2	110	4.0		2.45
13	350	>15.3	30	(250)	---	110	4.0		2.45
14	375	>15.3	27	(240)	6.8	110	4.0		2.40
15	375	(15.5)	27	(245)	6.7	110	3.7		2.40
16	350	>15.3	27	250	---	110	3.3		2.45
17	260	15.4	28	260		115	2.5		2.55
18		15.3	28	250				2.3	<2.60
19		>15.3	30	285				2.0	2.55
20		>15.3	30	260					<2.75
21		>15.3	30	230					(2.90)
22		>15.0	30	222					2.80
23		13.1	29	240					2.75

Time: 75.0°E.
Sweep: 0.6 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 62

Calcutta, India (23.0° N, 88.6° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		13.0	29	250					(3.8)
01		>11.0	28	250					3.65
02		>9.0	29	240					3.7
03		(7.0)	29	230					3.7
04		5.0	29	250					3.5
05		>4.5	29	270					<3.35
06		(5.5)	29	270					<3.4
07		10.0	29	250		115	2.8		3.5
08		D	28	250		<105	3.1		3.55
09	---	0	28	250	----	100	3.6		----
10	(350)	D	28	250	(10.0)	100	>3.8		----
11	(350)	D	28	250	(9.0)	100	>4.0		----
12	(400)	0	28	250	(8.0)	100	>4.0		
13	400	0	29	250	(8.0)	100	>4.0		
14	400	D	28	250	(8.0)	100	>4.0		
15	(400)	D	30	250	(7.5)	100	3.8		
16	---	D	27	240	----	100	3.5		
17		D	30	250		100	2.9		
18		D	30	260		---	---	>2.6	
19		D	30	270					
20		D	30	250					
21		0	30	230					----
22		D	30	220					----
23		0	29	240					----

Time: 90.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 63

Bombay, India (19.0° N, 72.8° E) January 1959

Time	*	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	>9.2	16						
01	---	>8.6	20						----
02	---	>8.0	22						----
03	---	>6.7	27						----
04	300	>5.4	28						<3.15
05	(280)	>4.4	28						(3.25)
06	(280)	>4.9	24						(3.3)
07	(280)	>5.8	29						(3.25)
08	---	>6.2	1						
09	280	(10.6)	27			120	3.2		3.25
10	(300)	>10.4	23			120	3.4		(3.1)
11	(380)	(10.9)	23			100	3.7		----
12	(400)	>11.1	26			120	3.2		(2.70)
13	---	>10.8	16			120	3.2		----
14	---	>10.8	25			120	3.4		----
15	---	>10.9	25			100	2.8		----
16	---	>10.7	25			---	---		----
17	---	>10.6	27			---	---		----
18	---	>10.4	28			---	---		----
19	---	>10.8	29						----
20	---	>10.6	4						
21	---	>10.7	13						
22	---	>10.0	11						
23	---	>9.5	16						

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
* Height at 0.83 foF2.

Table 64

Madras, India (13.1° N, 80.3° E) January 1959

Time	*	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	10.8	31						----
01	---	10.2	30						
02	---	9.0	25						----
03	---	8.4	24						
04	310	7.4	27						----
05	300	6.0	26						3.20
06	320	6.8	30						2.95
07	320	11.1	31						2.95
08	360	13.1	31					4.0	2.75
09	440	13.8	30					4.0	2.45
10	540	12.9	24						2.15
11	560	11.7	25						2.10
12	560	11.8	27						2.10
13	560	12.0	14						2.15
14	560	12.0	19						2.15
15	560	12.5	27						2.15
16	560	12.6	24					3.8	2.20
17	540	12.5	28						(2.15)
18	560	11.7	28						----
19	(620)	11.2	28						----
20	(560)	11.0	23						----
21	---	11.1	24						----
22	---	11.2	25						
23	(370)	10.9	31						----

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
* Height at 0.83 foF2.

Table 65

Tiruchy, India (10.8° N, 78.7° E) January 1959

Time	*	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	(10.9)	7						
01	---	>9.7	7						----
02	---	>9.6	6						----
03	---	>8.1	10						----
04	280	7.2	17						(3.25)
05	260	6.2	26						3.45
06	300	6.2	20						3.10
07	300	(10.2)	29					5.3	3.20
08	370	12.2	31					9.2	2.75
09	480	12.8	25					>12.0	2.40
10	520	11.8	30					>13.4	2.25
11	520	11.6	30					13.2	2.20
12	560	11.0	30					12.8	2.15
13	560	>11.0	25					>12.2	2.15
14	560	11.3	29					12.2	2.10
15	560	11.8	30					>11.5	2.20
16	---	>12.1	6						----
17	---	(11.2)	3						
18	(520)	>10.5	31						----
19	(560)	9.4	20						----
20	---	(10.4)	6						----
21	---	>10.6	5						
22	---	>11.4	4						
23	---	>11.4	6						----

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
* Height at 0.83 foF2.

Table 66

Kodaikanal, India (10.2° N, 77.5° E) January 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.3	15	260					2.70
01		9.1	16	260					2.80
02		8.5	23	260					2.80
03		8.4	22	250					2.90
04		7.6	26	230					3.05
05		6.5	28	220					3.20
06		5.8	29	250					2.85
07	---	9.7	28	255	---	115	2.6		2.90
08	---	11.7	30	240	---	110	3.3	8.5	2.70
09	---	12.3	27	230	---	110	---	10.6	2.35
10	---	11.7	27	220	---	---	---	11.6	2.20
11	---	11.1	27	210	---	---	---	11.8	2.20
12	---	10.8	29	200	---	---	---	12.2	2.10
13	---	10.8	28	205	---	---	---	12.0	2.10
14	---	11.2	29	220	---	110	---	11.6	2.10
15	---	11.4	30	235	---	110	---	10.6	2.10
16	---	11.4	30	250	---	110	---	8.8	2.15
17	---	11.2	31	270	---	120	---	7.2	2.15
18		(10.6)	30	310					2.05
19		9.6	23	400					2.05
20		9.1	15	360					2.15
21		(9.7)	14	320					(2.30)
22		10.1	13	295					2.60
23		(9.8)	15	260					(2.65)

Time: 75.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 67

Trivandrum, India (8.5° N, 77.0° E) — January 1959

Time	*	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	>9.7	8						
01	---	>9.3	8						----
02	---	(9.2)	11						----
03	(350)	>9.0	13						----
04	320	7.5	15						(3.10)
05	300	>6.2	24						3.20
06	340	>6.6	26						2.85
07	340	>9.4	31					>4.8	2.90
08	400	11.4	31					>9.0	2.60
09	480	>11.5	28					>11.4	2.35
10	500	11.4	28					>12.5	2.30
11	520	11.0	30					(12.9)	2.20
12	560	11.2	29					(13.0)	2.15
13	600	11.0	28					(13.0)	2.10
14	600	11.4	27					(12.6)	2.10
15	600	11.6	30					>12.0	2.10
16	580	11.5	31					>11.2	2.10
17	(560)	>10.9	28						(2.10)
18	---	>9.8	25						
19	---	>9.4	17						----
20	---	>9.5	7						
21	---	>9.5	6						
22	---	>9.4	11						
23	---	>9.5	8						

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
* Height at 0.83 foF2.

Table 68

Lindau/Harz, Germany (51.6° N, 10.1° E) — November 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.03	29	299					2.53
01		5.10	27	300					2.56
02		4.85	26	287				2.7	2.56
03		4.56	29	281					2.62
04		4.30	28	268					2.78
05		4.15	27	258					2.76
06		3.79	29	240					2.80
07		4.80	29	246		---	E		2.70
08		8.78	30	230		---	1.91	2.8	3.02
09		12.15	30	224		112	2.48	3.5	3.04
10		14.00	30	227		110	2.80	3.6	3.02
11		14.68	30	228		108	3.02	4.0	2.96
12		14.60	30	229		110	3.08	3.6	2.92
13		14.50	30	227		---	3.04	3.6	2.84
14		14.30	30	230		---	2.89	3.7	2.87
15		14.00	30	234		---	2.54	3.5	2.88
16		13.39	30	230		---	2.03	3.4	2.88
17		12.22	29	222		---	----	3.3	2.90
18		10.50	29	221				3.3	2.90
19		8.45	30	230				2.8	2.88
20		6.94	30	228					2.89
21		5.88	30	246					2.75
22		5.30	29	265					2.68
23		5.05	29	290					2.55

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

Table 69

Port Lockroy (64.8° S, 63.5° W) — October 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.2	31	305			---		2.40
01		8.8	30	320			---	1.0	2.35
02		8.1	30	345			---	1.1	2.30
03		8.1	31	350			---	1.1	2.25
04		8.0	31	340			---	1.3	2.35
05		8.8	31	295			2.0		2.35
06		9.6	30	255			2.4		2.50
07		10.0	31	245			2.9		2.55
08		10.4	31	240			(3.1)	3.1	2.60
09		10.7	31	235			(3.4)	3.5	2.70
10		11.4	30	240			(3.5)	3.6	2.60
11		12.3	31	235			3.6		2.70
12		12.4	31	240			3.6		2.70
13		12.2	30	240			3.6		2.70
14		11.9	31	240			3.6		2.70
15		11.5	31	245			3.4		2.70
16		11.0	31	245			3.2		2.75
17		10.9	31	245			2.9		2.75
18		10.8	31	255			2.5		2.80
19		10.6	31	260			2.1		2.80
20		10.6	31	270			1.7	1.6	2.65
21		10.1	30	275			---	1.1	2.55
22		9.9	30	290			---		2.45
23		9.8	30	305			---		2.40

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 70

Kerguelen I. (49.4° S, 70.3° E) — January 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.4	27	350		---	E	1.9	2.30
01		3.2	26	365		---	E	1.8	2.20
02		2.9	25	380		---	E	1.6	2.20
03		3.1	25	400		---	E	2.5	(2.15)
04	---	3.6	24	400		---	1.05	1.5	2.15
05	(600)	4.8	19	320	3.5	110	1.85	2.1	(2.15)
06	600	5.5	25	270	4.2	110	2.70		2.20
07	580	6.0	26	250	4.8	110	3.25		2.10
08	595	6.6	28	245	5.0	110	3.50		2.05
09	590	6.7	25	240	5.1	110	3.75		2.10
10	610	7.0	22	230	5.2	110	4.00	4.4	2.10
11	590	>7.2	18	235	5.5	110	4.10	4.4	2.10
12	590	>7.4	14	<240	5.5	110	4.05	4.5	2.15
13	570	7.3	17	235	5.6	110	4.00	4.4	2.20
14	610	6.8	24	240	5.5	110	3.90	4.3	2.10
15	580	7.2	25	240	5.4	110	3.80	4.0	2.15
16	555	7.0	26	240	5.3	110	3.65	3.9	2.20
17	540	6.8	30	245	5.1	110	3.40		2.25
18	460	6.6	30	255	5.0	110	3.00		2.40
19	---	6.3	30	270	---	115	2.50		2.55
20		5.9	27	295		110	1.40	2.3	2.60
21		5.0	29	310		---	E	1.7	2.55
22		4.8	28	305		---	E	2.5	2.40
23		4.2	29	310		---	E	1.6	2.30

Time: 75.0°E.
Sweep: 0.88 Mc to 14.14 Mc in 10 minutes, automatic operation.

Table 71

Terre Adelie (66.7° S, 140.0° E) — January 1958

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>5.5	19	320		---	(1.45)	3.1	(2.60)
01		5.5	17	305		---	1.50	3.6	(2.45)
02	---	5.4	14	300	---	110	(1.60)	3.4	(2.80)
03	<475	(5.4)	14	285	(3.5)	110	(2.20)	3.1	(2.40)
04	(510)	5.3	14	270	4.0	110	(2.45)	3.1	(2.50)
05	(525)	5.5	17	250	4.2	110	(2.90)	3.2	(2.40)
06	(540)	5.8	15	240	4.5	110	(3.15)	3.4	(2.30)
07	(570)	6.2	10	240	4.9	100	3.55		----
08	550	(6.5)	9	(240)	(5.0)	100	(3.55)		----
09	560	(6.2)	11	(225)	5.0	100	>3.70		----
10	540	>6.5	12	---	5.0	100	----		(2.25)
11	545	6.8	12	(220)	5.1	100	>3.75		(2.25)
12	560	6.8	13	(210)	5.0	100	(3.75)		(2.25)
13	560	(6.5)	14	210	5.0	100	(3.75)		(2.20)
14	570	6.5	19	210	5.0	100	(3.60)		2.20
15	565	6.3	20	210	5.0	100	(3.55)	3.8	2.25
16	530	6.5	20	230	4.9	105	(3.35)	3.6	(2.30)
17	510	6.6	22	235	4.7	110	3.15	3.3	2.30
18	455	6.4	18	245	4.5	110	(2.90)	3.1	2.45
19	460	6.5	19	260	4.2	110	(2.60)	3.1	2.45
20	(430)	(6.4)	18	275	(3.8)	110	2.25	3.2	(2.40)
21	---	6.0	17	300	---	---	(1.70)	3.1	2.50
22		(5.9)	16	300		---	<1.60	4.2	(2.50)
23		>5.5	14	310		---	1.40	3.9	(2.50)

Time: 135.0°E.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 72

Lwiro, Belgian Congo (2.3° S, 28.8° E) — January 1955

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	25	240					3.07
01		3.2	25	260				1.6	2.97
02		3.0	24	260				1.6	3.15
03		3.1	23	270				1.6	3.15
04		2.8	22	255				1.5	3.28
05		2.5	19	250				1.7	3.24
06		3.4	26	240		---	E	1.7	3.40
07	250	5.5	28	225	---	117	2.10	2.8	3.50
08	290	6.0	29	210	4.0	111	2.70	2.9	3.30
09	370	6.6	30	200	4.2	111	3.05		2.87
10	440	7.4	31	200	4.4	111	3.25		2.64
11	430	8.2	31	200	4.5	109	3.40		2.66
12	400	9.2	31	190	4.5	109	3.50		2.70
13	355	9.8	30	190	4.5	111	3.40		2.85
14	330	10.0	29	200	4.4	111	3.35		2.91
15	340	9.2	29	200	4.2	111	3.20		2.83
16	360	8.8	28	205	4.1	111	2.90	2.1	2.81
17	345	8.2	28	230	3.8	113	2.40	2.4	2.78
18	325	7.9	28	250		---	1.70	2.1	2.84
19		7.1	28	275				1.8	2.88
20		7.2	27	280				1.7	2.97
21		7.3	29	245				1.8	3.17
22		6.6	29	215					3.55
23		4.8	27	205					3.28

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

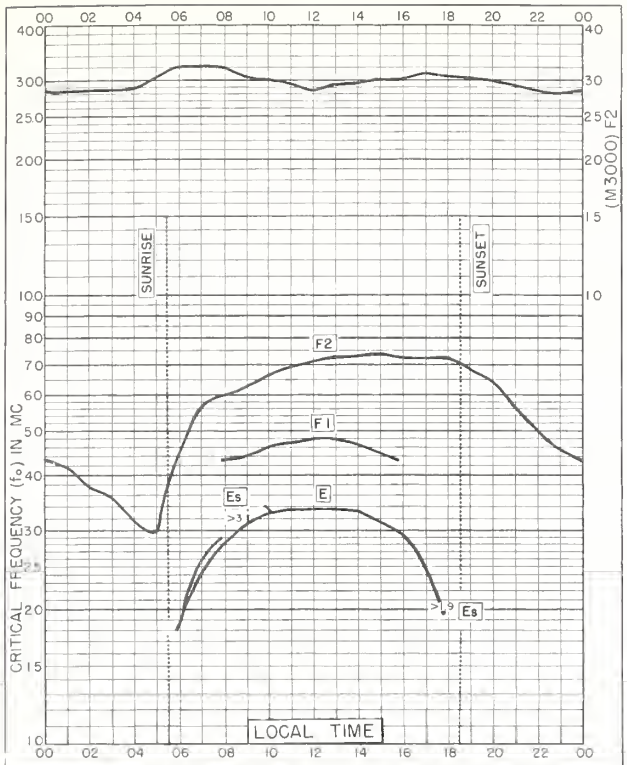


Fig. 1. WASHINGTON, D.C.
38.7°N, 77.1° W APRIL 1961

NBS 503

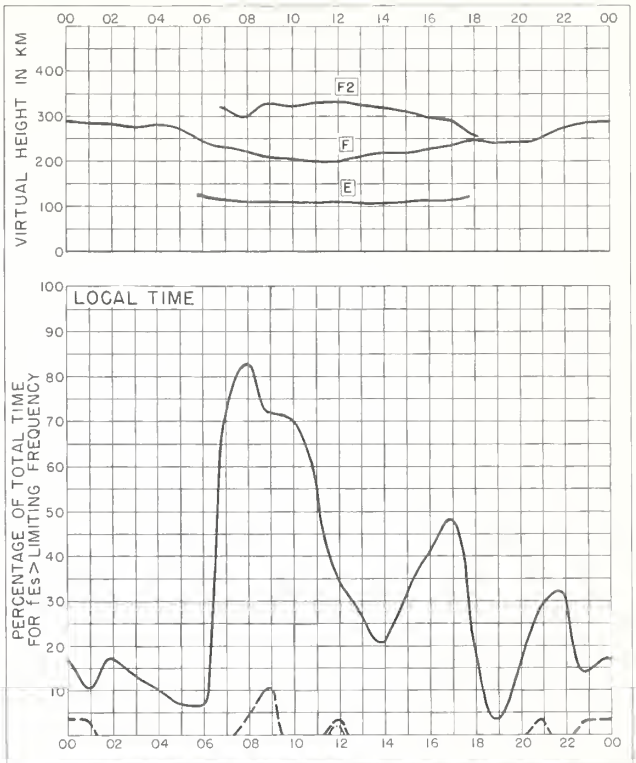


Fig. 2. WASHINGTON, D.C. APRIL 1961

NBS 490

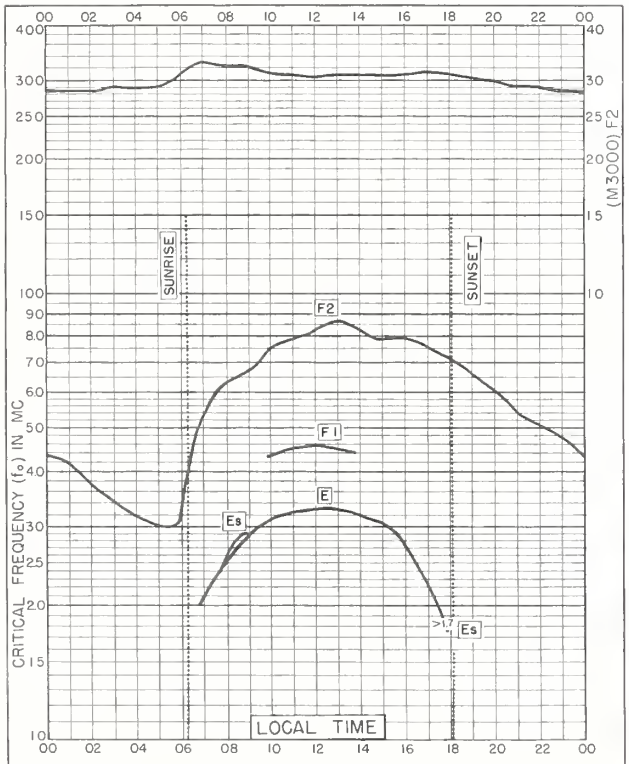


Fig. 3. WASHINGTON, D.C.
38.7°N, 77.1° W MARCH 1961

NBS 503

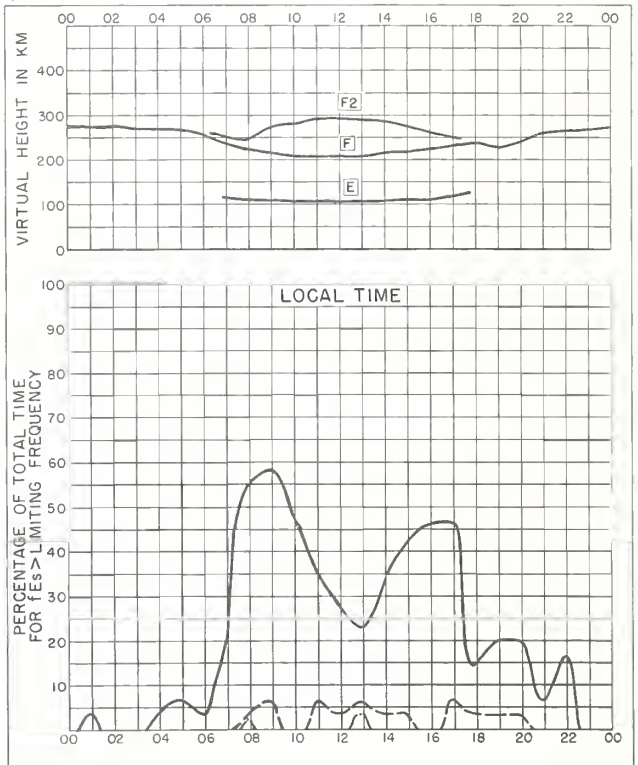


Fig. 4. WASHINGTON, D.C. MARCH 1961

NBS 490

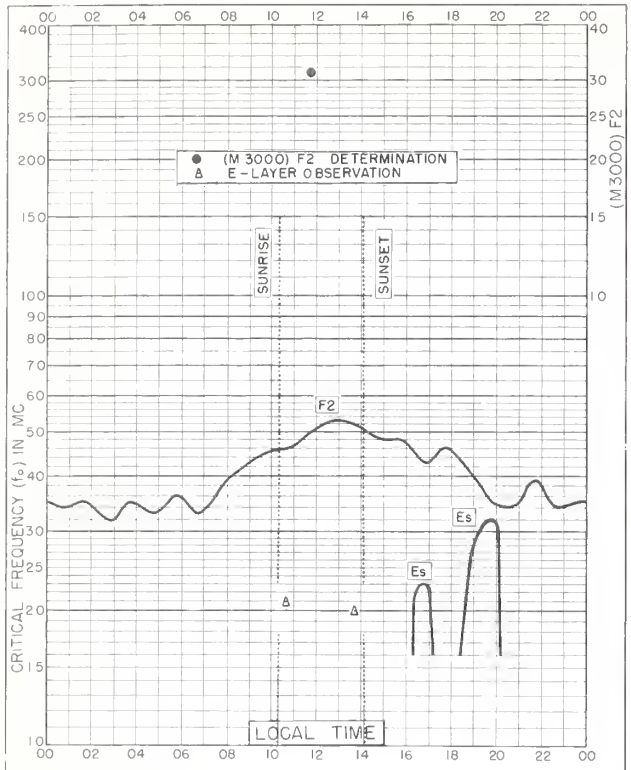


Fig. 5. RESOLUTE BAY, CANADA
74.7°N, 94.9°W FEBRUARY 1961

NBS 503

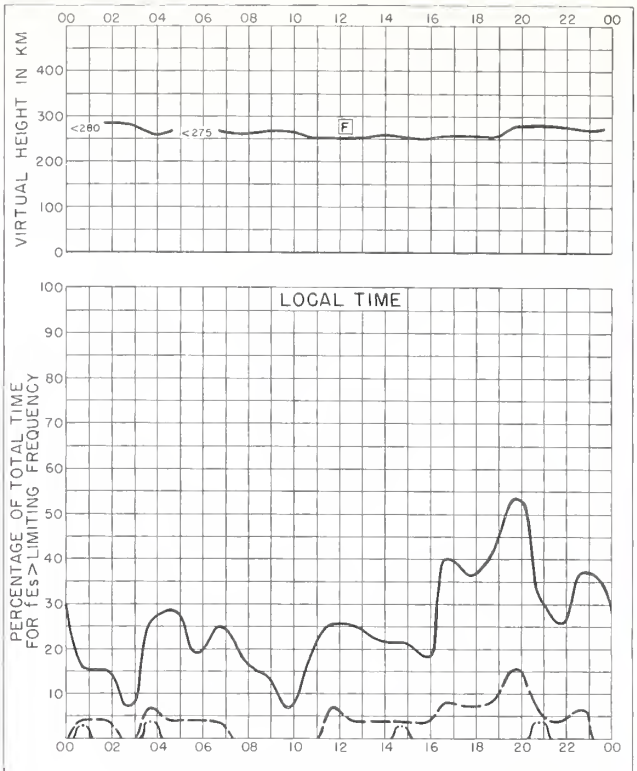


Fig. 6. RESOLUTE BAY, CANADA FEBRUARY 1961

NBS 490

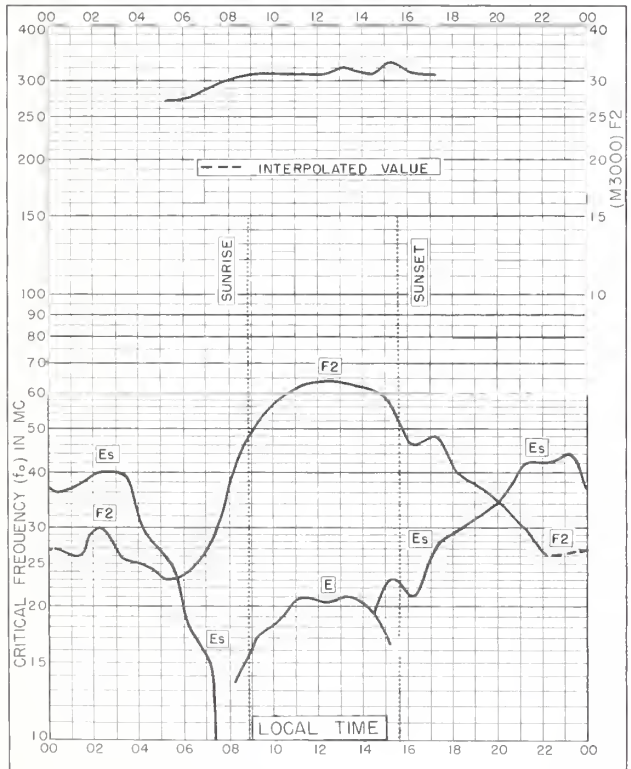


Fig. 7. TROMSO, NORWAY
69.7°N, 19.0°E FEBRUARY 1961

NBS 503

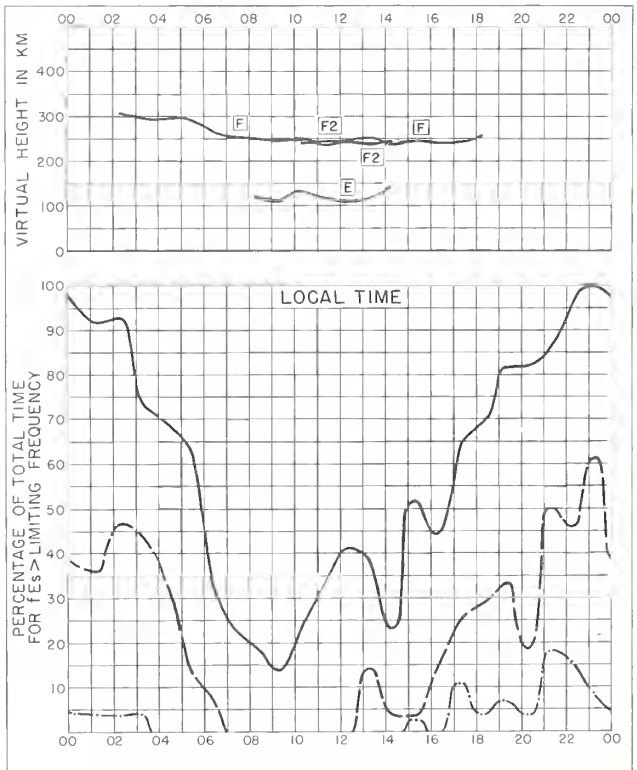


Fig. 8. TROMSO, NORWAY FEBRUARY 1961

NBS 490

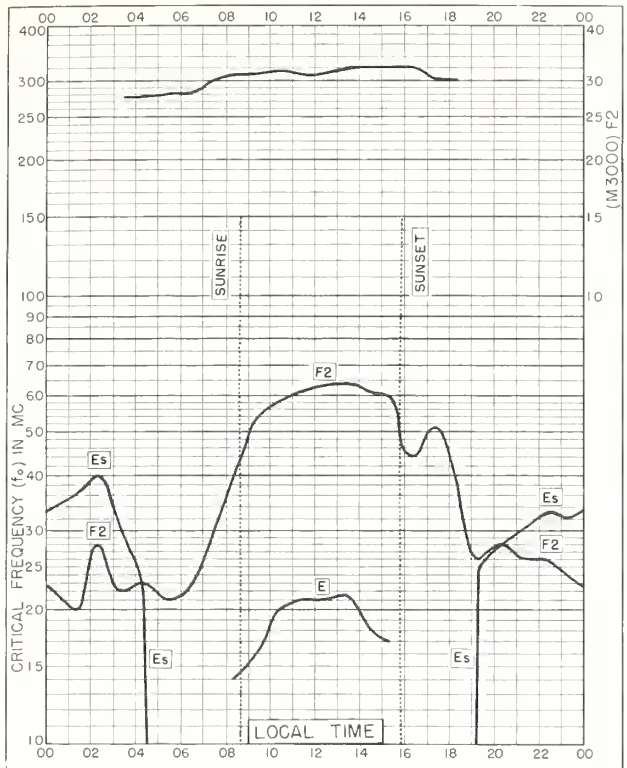


Fig. 9. KIRUNA, SWEDEN
67.8°N, 20.3°E FEBRUARY 1961

NBS 503

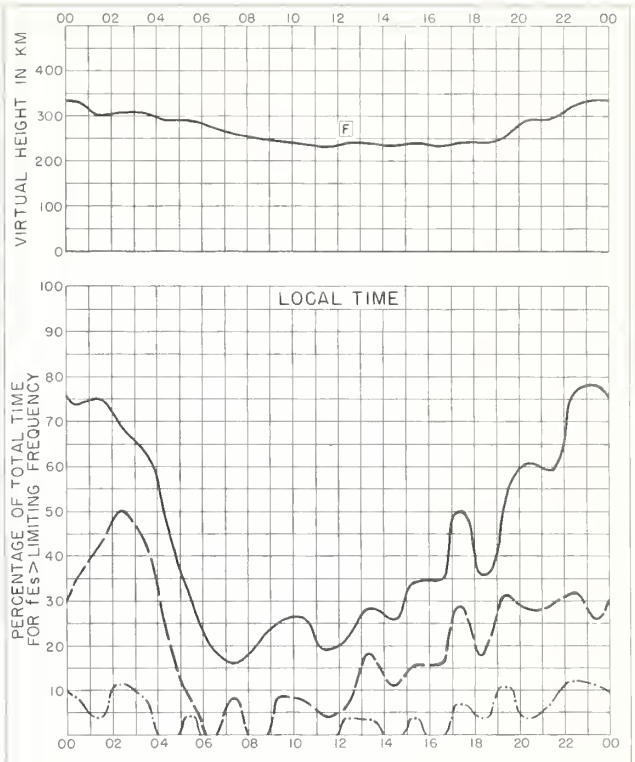


Fig. 10. KIRUNA, SWEDEN FEBRUARY 1961

NBS 490

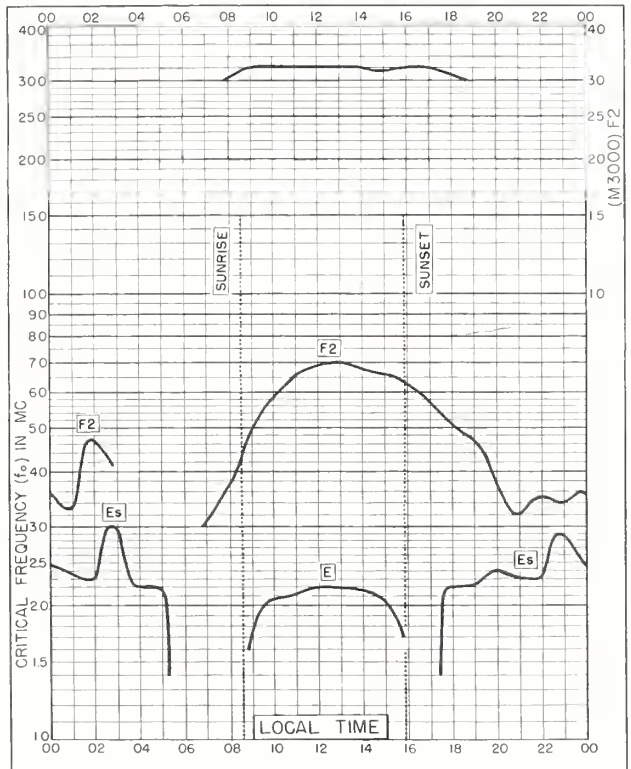


Fig. 11. SODANKYLA, FINLAND
67.4°N, 26.6°E FEBRUARY 1961

NBS 503

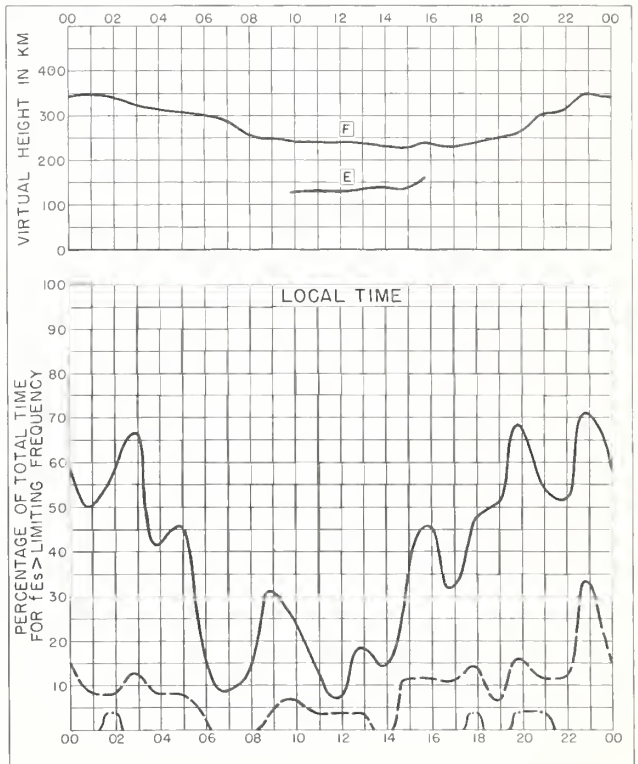


Fig. 12. SODANKYLA, FINLAND FEBRUARY 1961

NBS 490

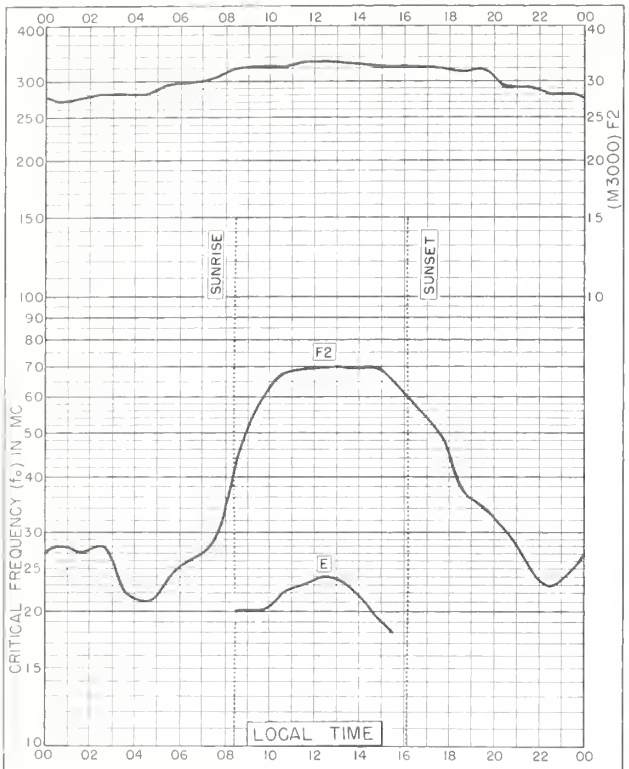


Fig. 13. LULEA, SWEDEN
65.6°N, 22.1°E FEBRUARY 1961

NBS 503

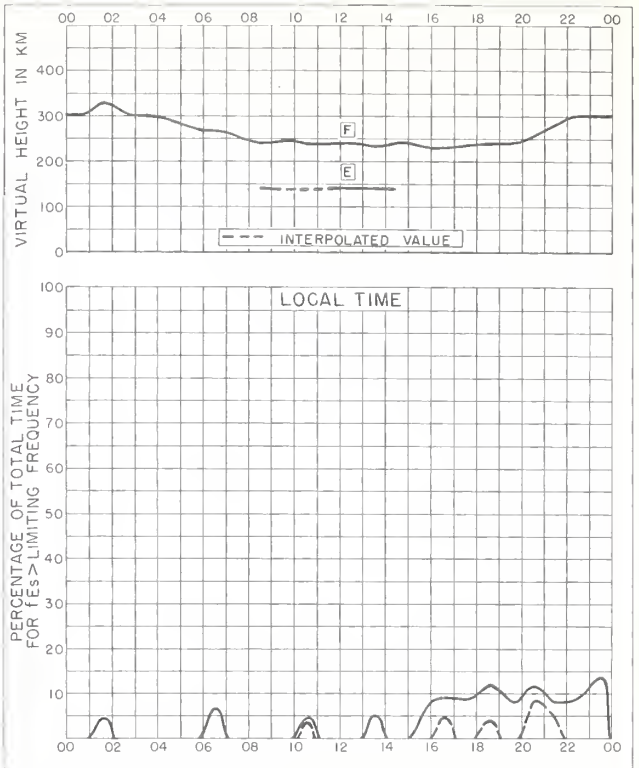


Fig. 14. LULEA, SWEDEN FEBRUARY 1961

NBS 490

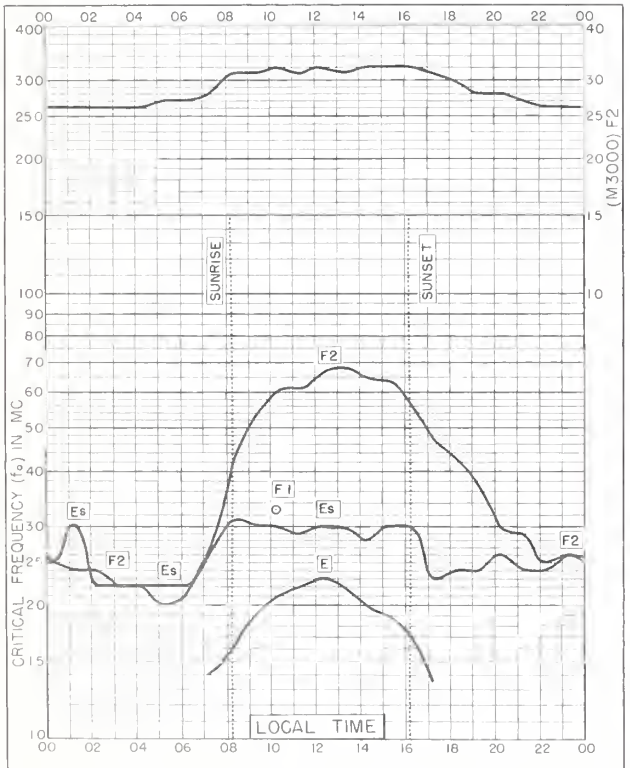


Fig. 15. LYCKSELE, SWEDEN
64.6°N, 18.8°E FEBRUARY 1961

NBS 503

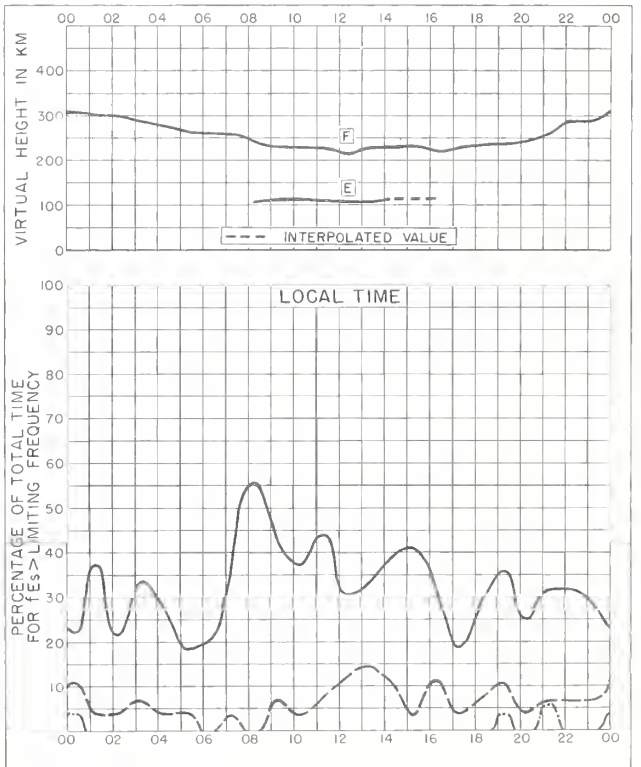


Fig. 16. LYCKSELE, SWEDEN FEBRUARY 1961

NBS 490

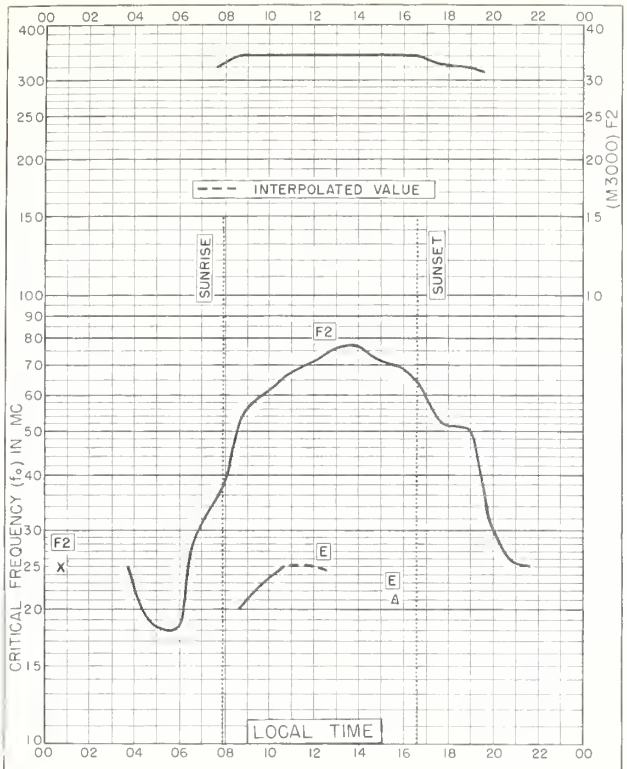


Fig. 17. NURMIJARVI, FINLAND
60.5°N, 24.6°E FEBRUARY 1961

NBS 503

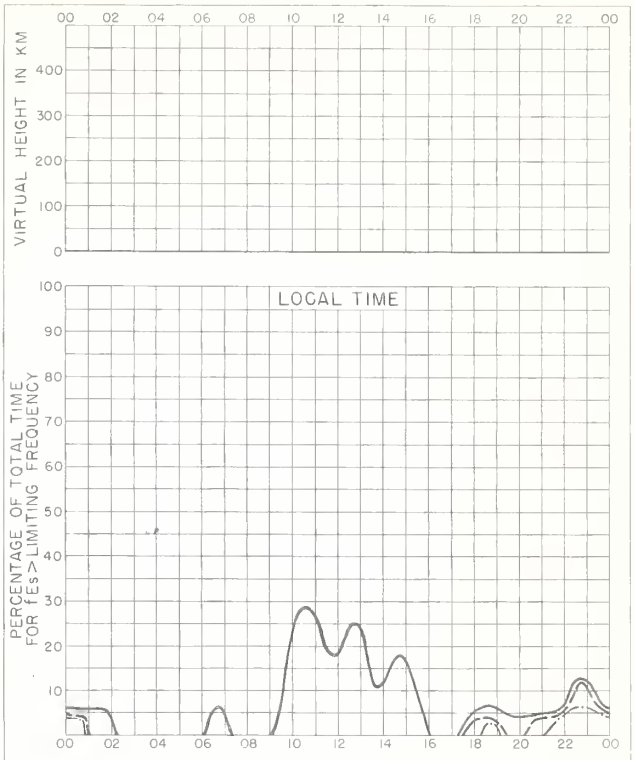


Fig. 18. NURMIJARVI, FINLAND FEBRUARY 1961

NBS 490

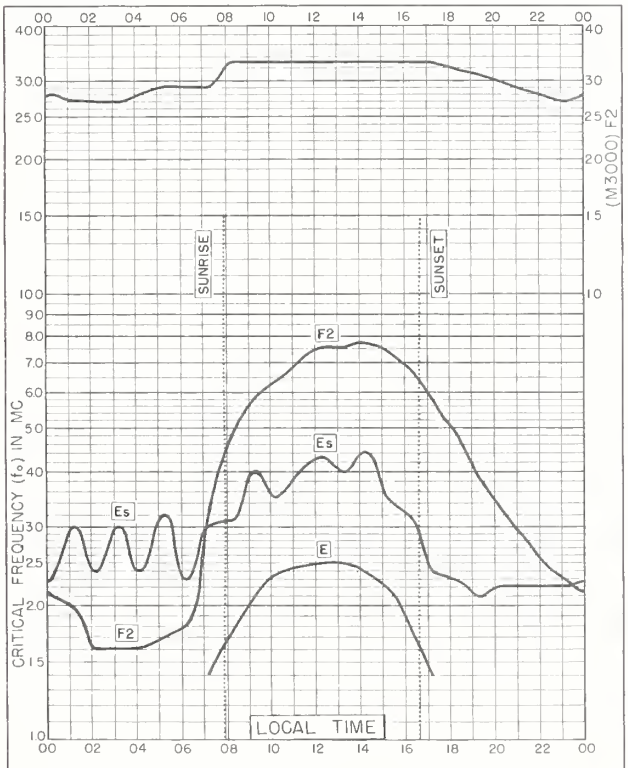


Fig. 19. UPSALA, SWEDEN
59.8°N, 17.6°E FEBRUARY 1961

NBS 503

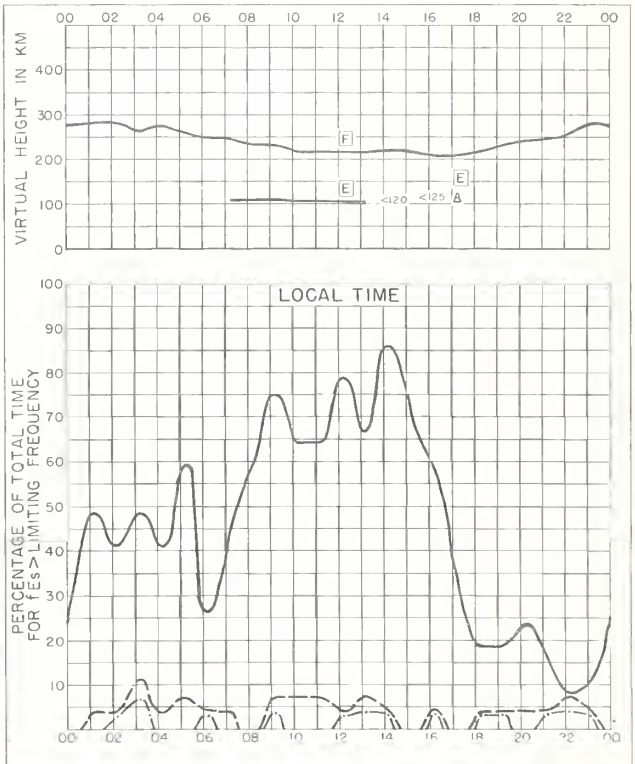


Fig. 20. UPSALA, SWEDEN FEBRUARY 1961

NBS 490

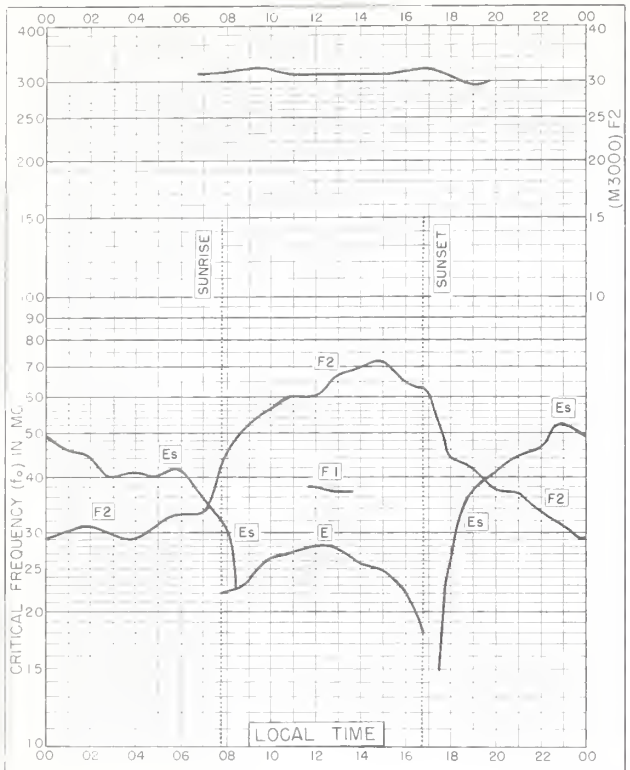


Fig. 21. CHURCHILL, CANADA
58.8°N, 94.2°W FEBRUARY 1961

NBS 503

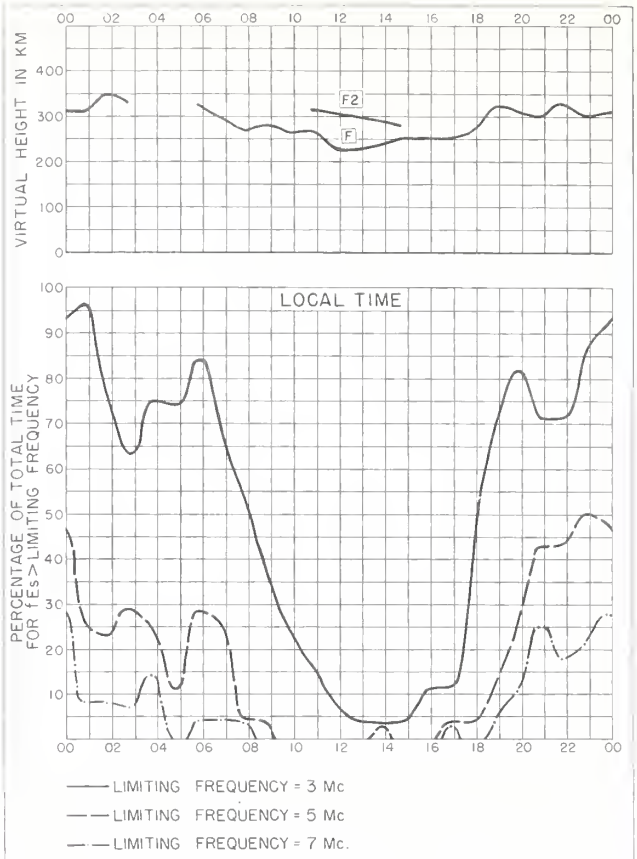


Fig. 22. CHURCHILL, CANADA FEBRUARY 1961

NBS 490

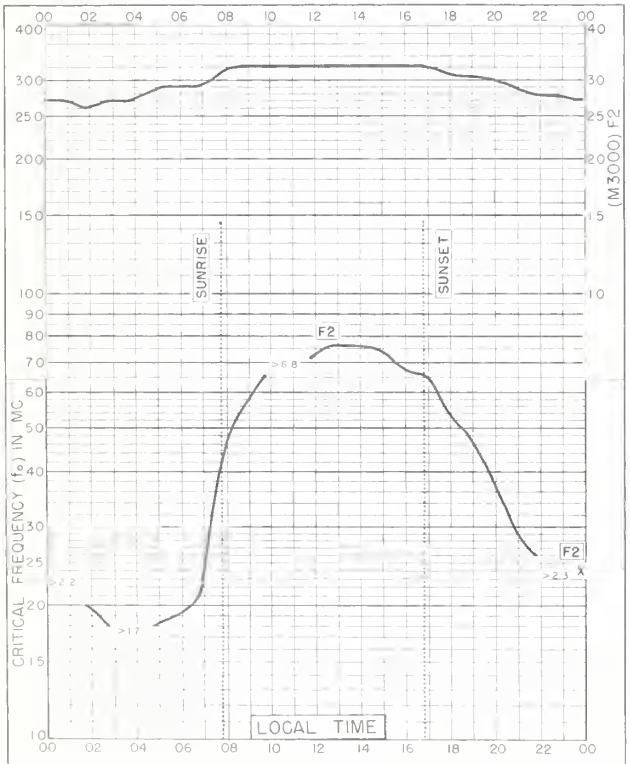


Fig. 23. INVERNESS, SCOTLAND
57.4°N, 4.2°W FEBRUARY 1961

NBS 503

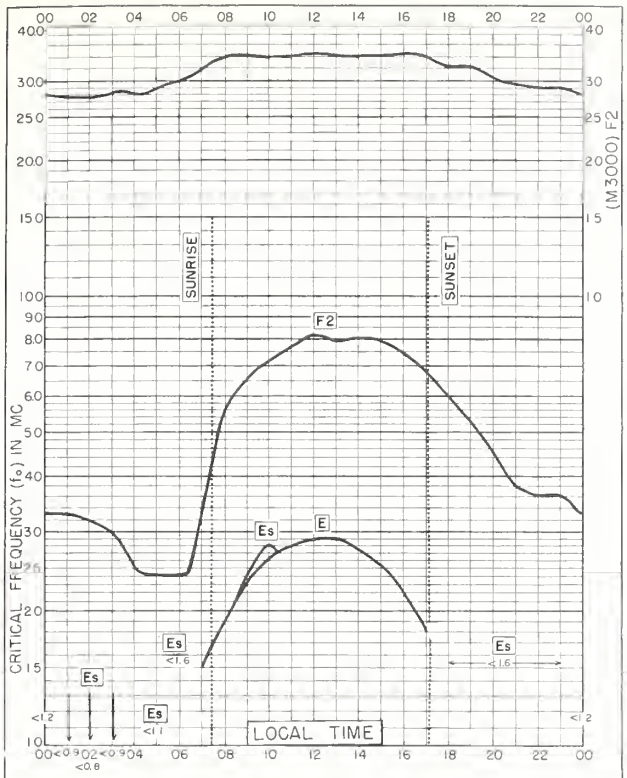


Fig. 24. SLOUGH, ENGLAND
51.5°N, 0.6°W FEBRUARY 1961

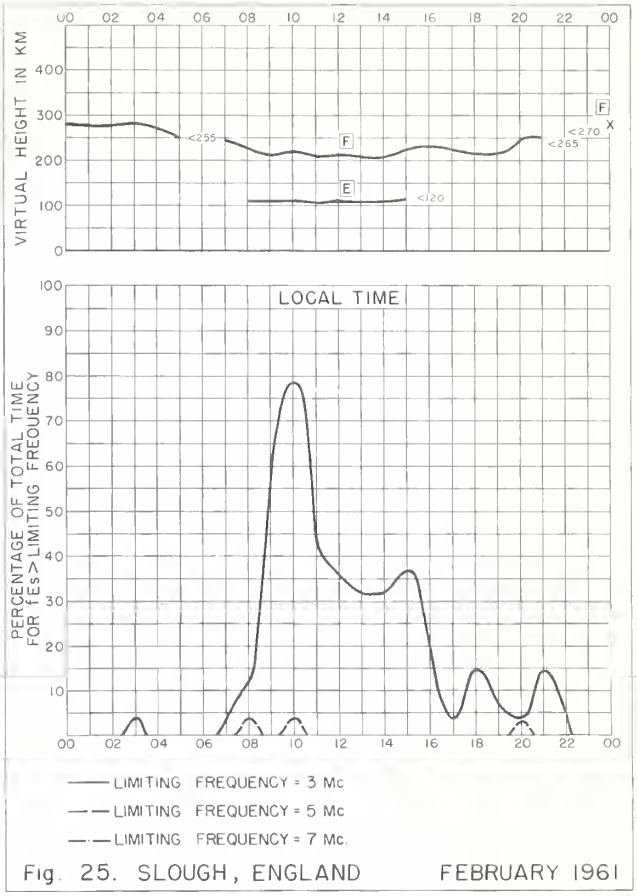


Fig. 25. SLOUGH, ENGLAND FEBRUARY 1961

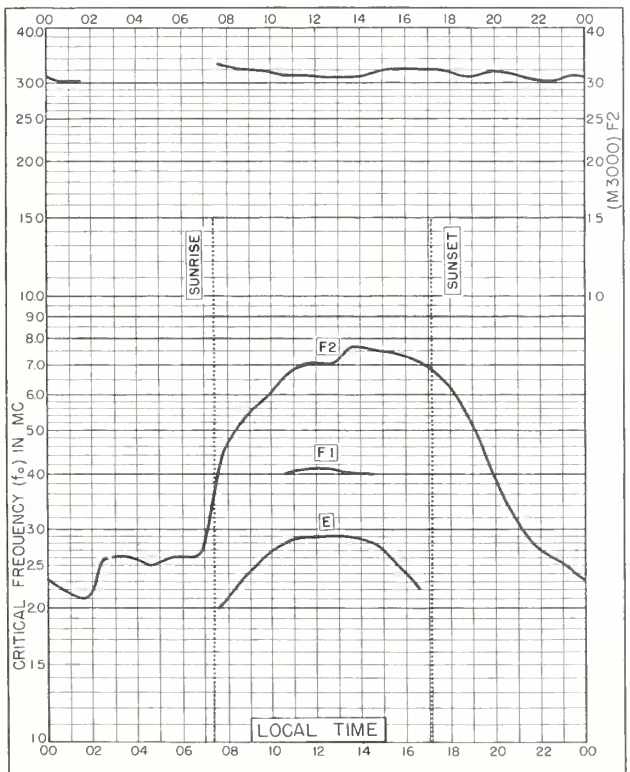


Fig. 26. WINNIPEG, CANADA
49.9°N, 97.4°W FEBRUARY 1961

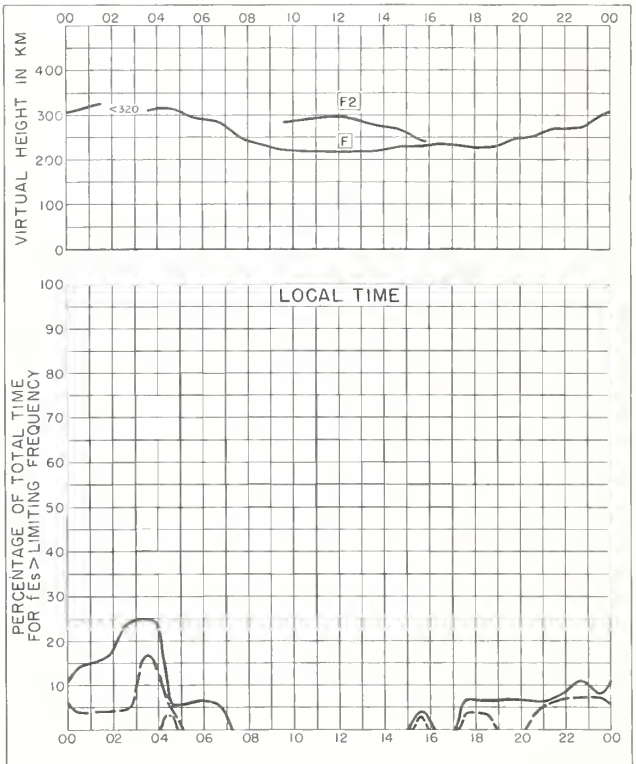


Fig. 27. WINNIPEG, CANADA FEBRUARY 1961

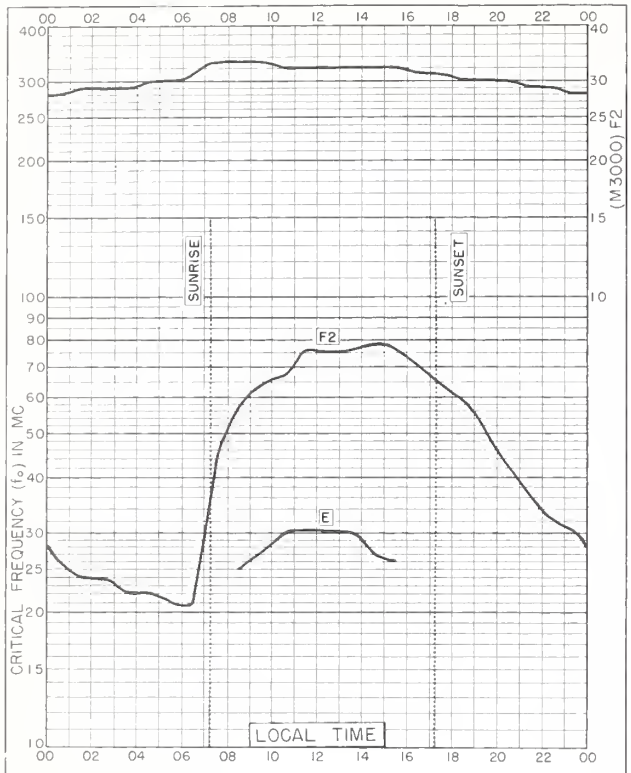


Fig. 28. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W FEBRUARY 1961

NBS 503

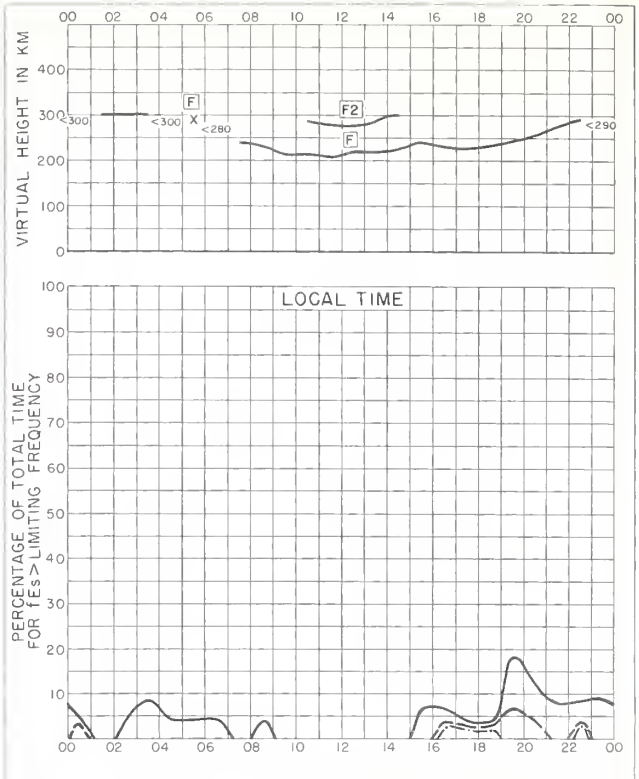


Fig. 29. ST. JOHN'S, NEWFOUNDLAND FEBRUARY 1961

NBS 490

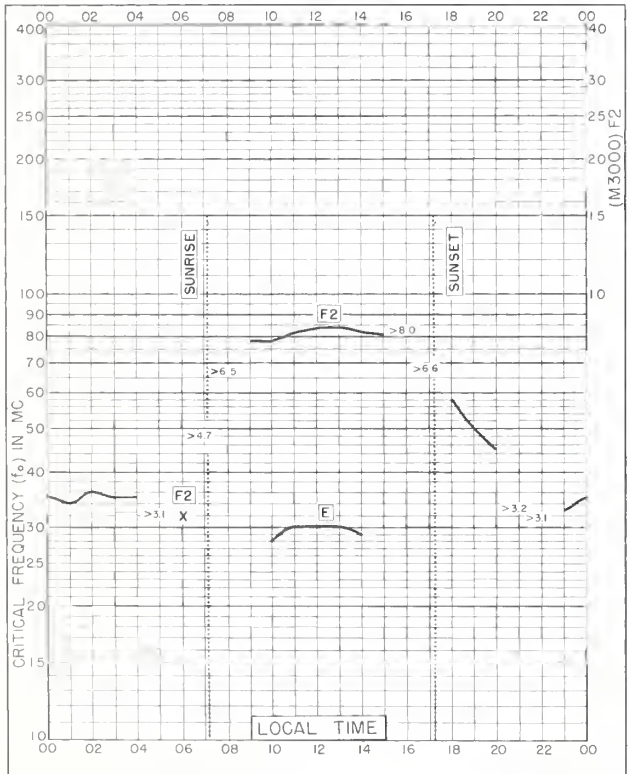


Fig. 30. GRAZ, AUSTRIA
47.1°N, 15.5°E FEBRUARY 1961

NBS 503

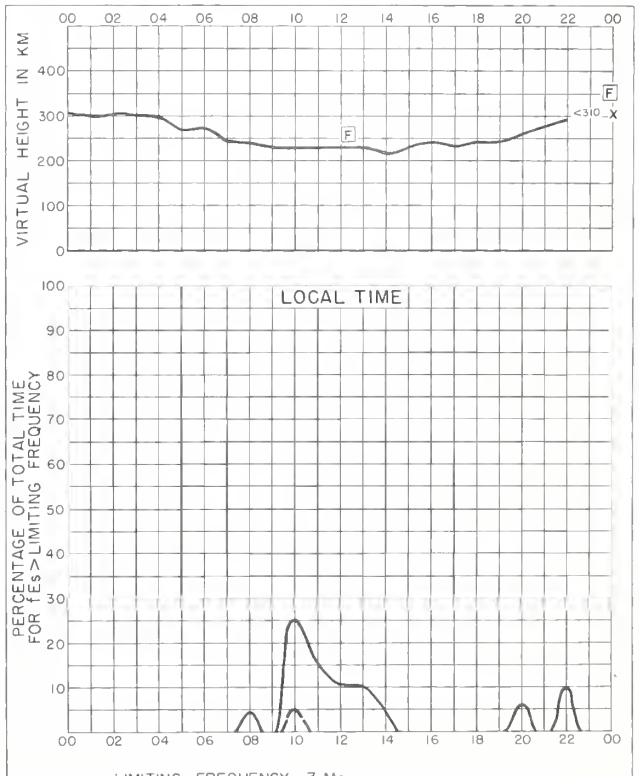


Fig. 31. GRAZ, AUSTRIA FEBRUARY 1961

NBS 490

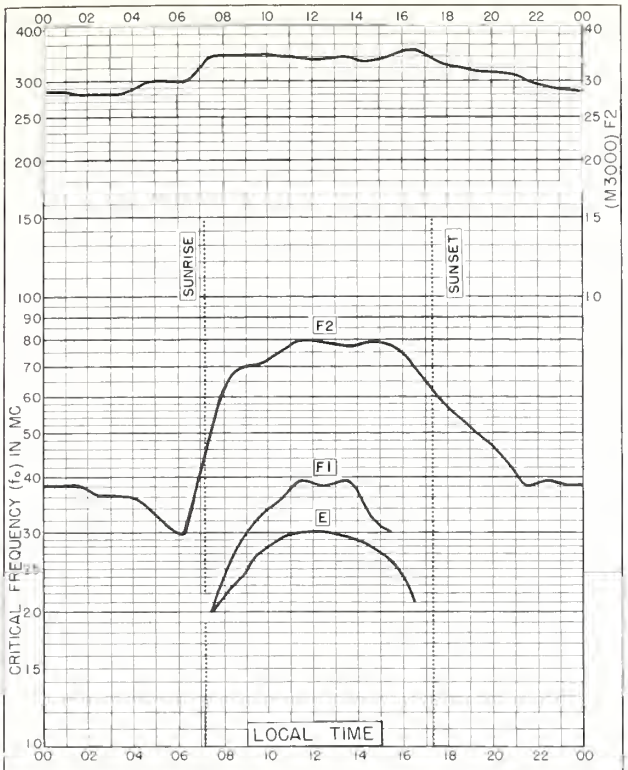


Fig. 32. SOTTENS, SWITZERLAND
46.6°N, 6.7°E FEBRUARY 1961

NBS 503

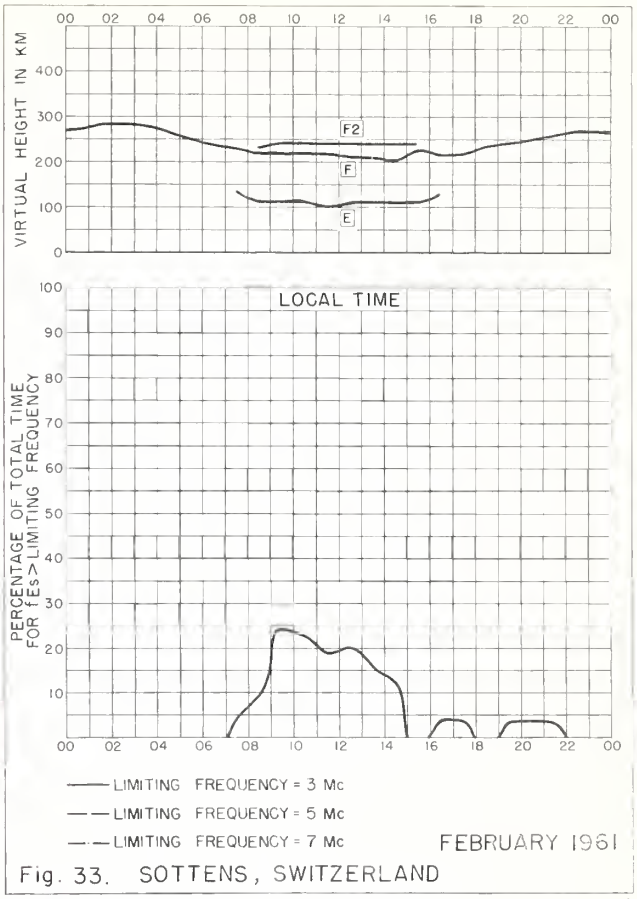


Fig. 33. SOTTENS, SWITZERLAND FEBRUARY 1961

NBS 490

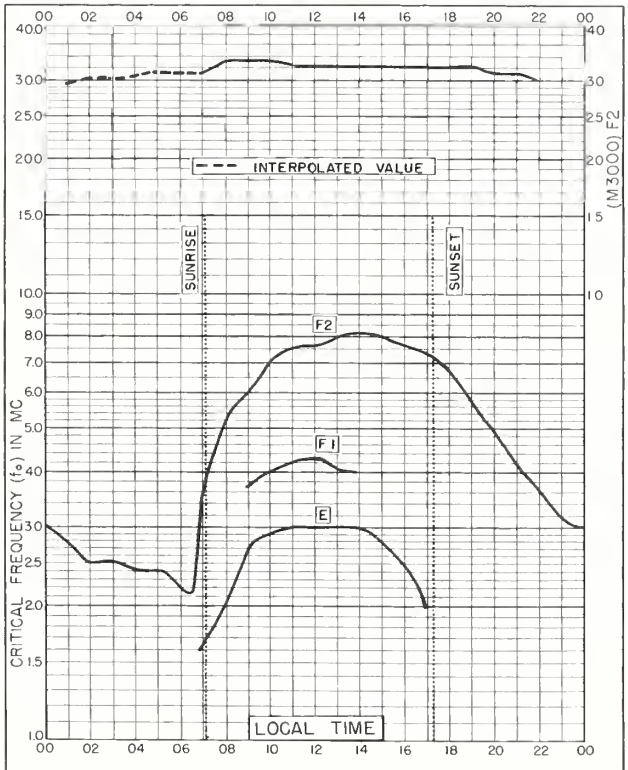


Fig. 34. OTTAWA, CANADA
45.4°N, 75.9°W FEBRUARY 1961

NBS 503

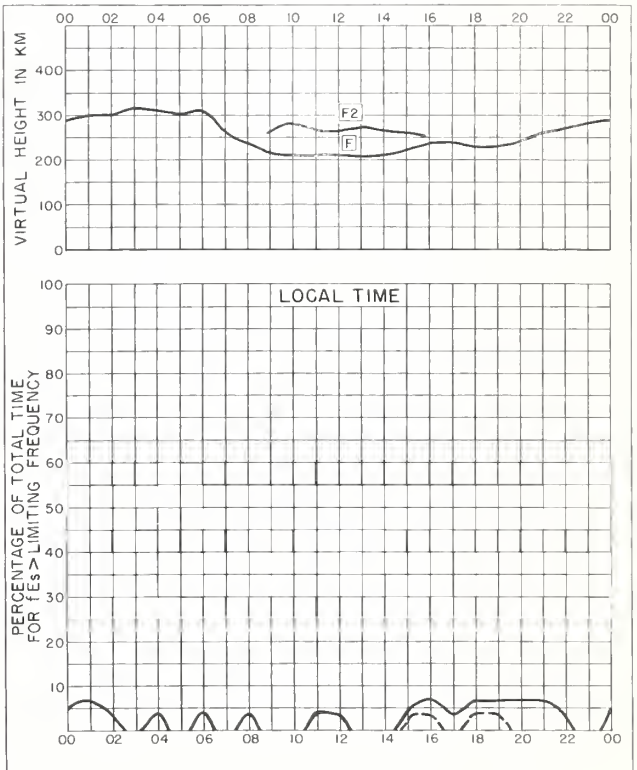


Fig. 35. OTTAWA, CANADA FEBRUARY 1961

NBS 490

Fig. 36. WAKKANAI, JAPAN
45.4°N, 141.7°E FEBRUARY 1961

NBS 503

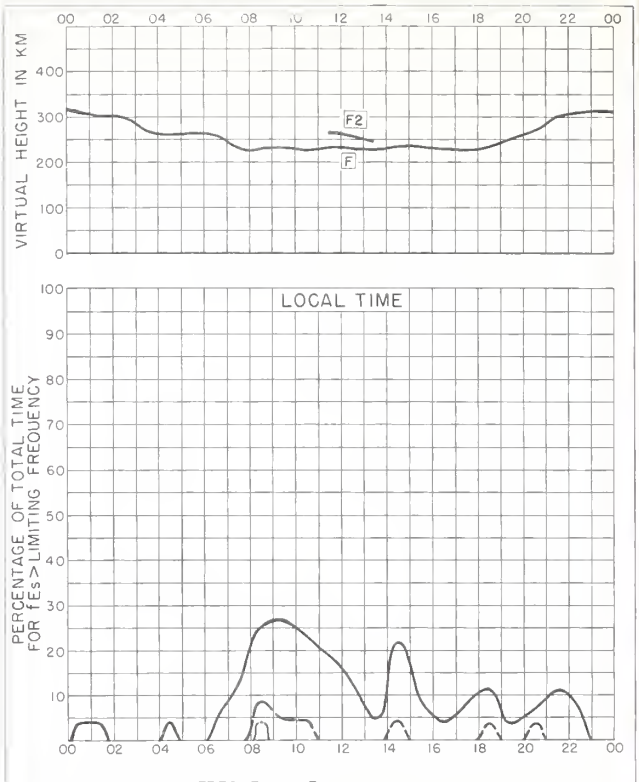


Fig. 37. WAKKANAI, JAPAN FEBRUARY 1961

NBS 490

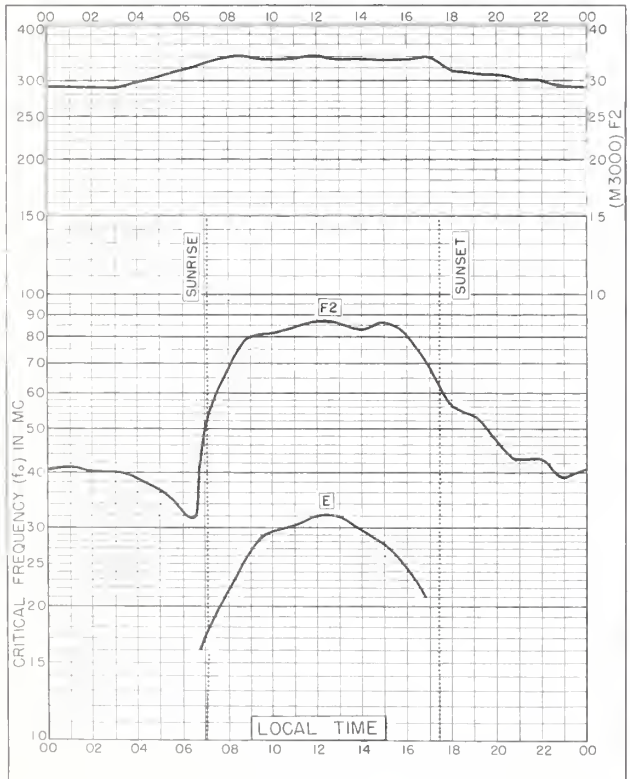


Fig. 38. ROME, ITALY
41.8°N, 12.5°E FEBRUARY 1961

NBS 503

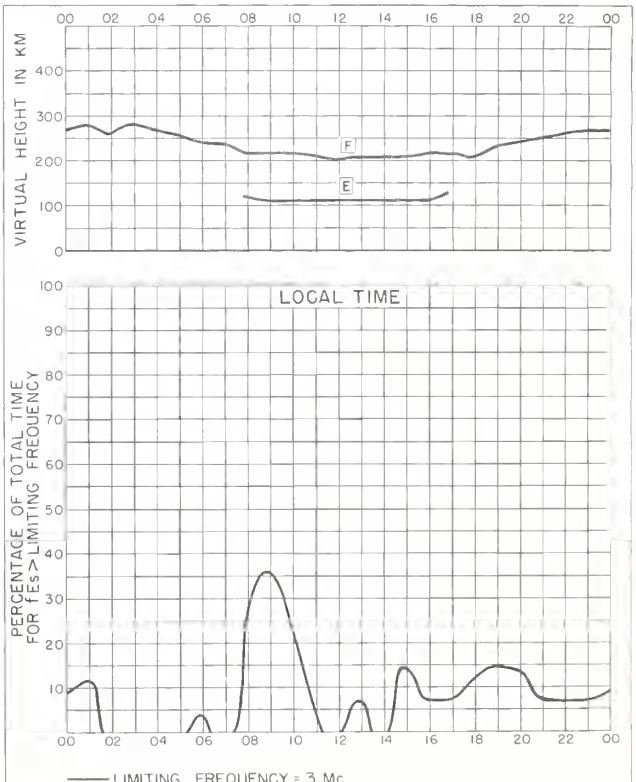


Fig. 39. ROME, ITALY FEBRUARY 1961

NBS 490

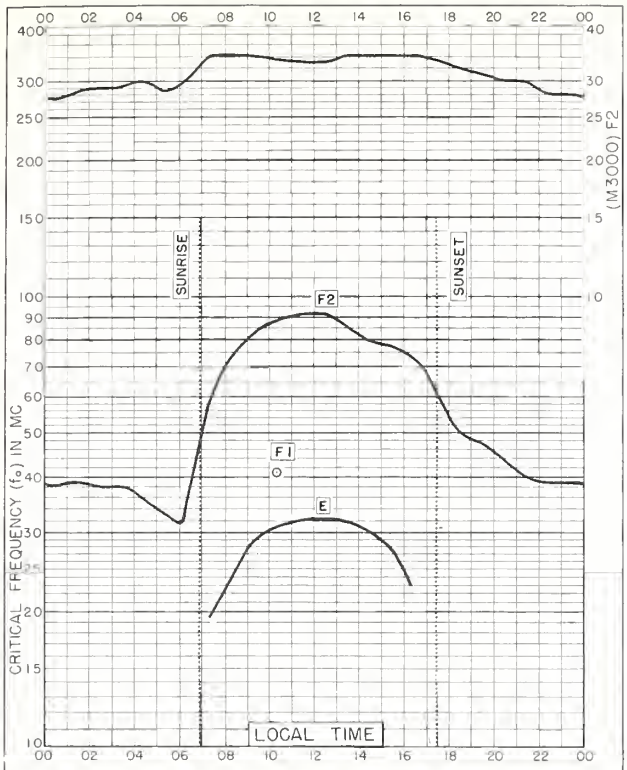


Fig. 40. AKITA, JAPAN
39.7°N, 140.1°E FEBRUARY 1961

NBS 503

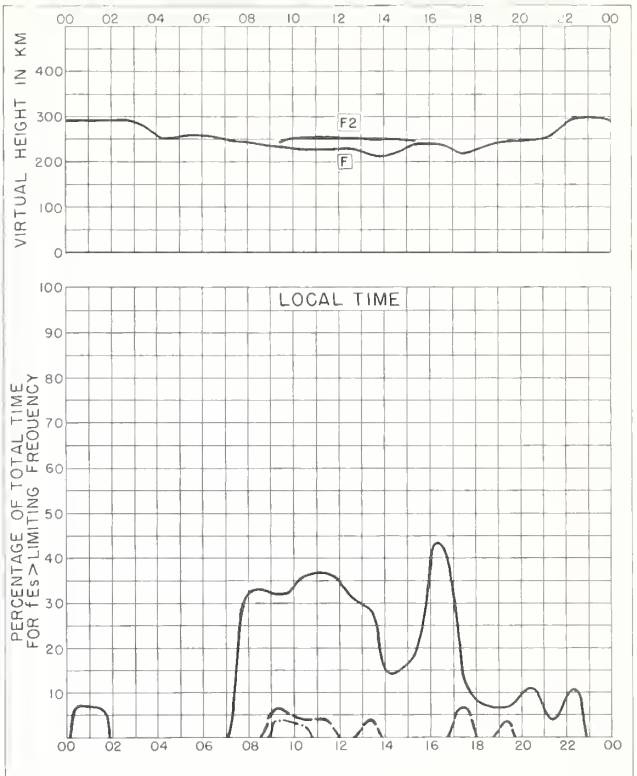


Fig. 41. AKITA, JAPAN FEBRUARY 1961

NBS 490

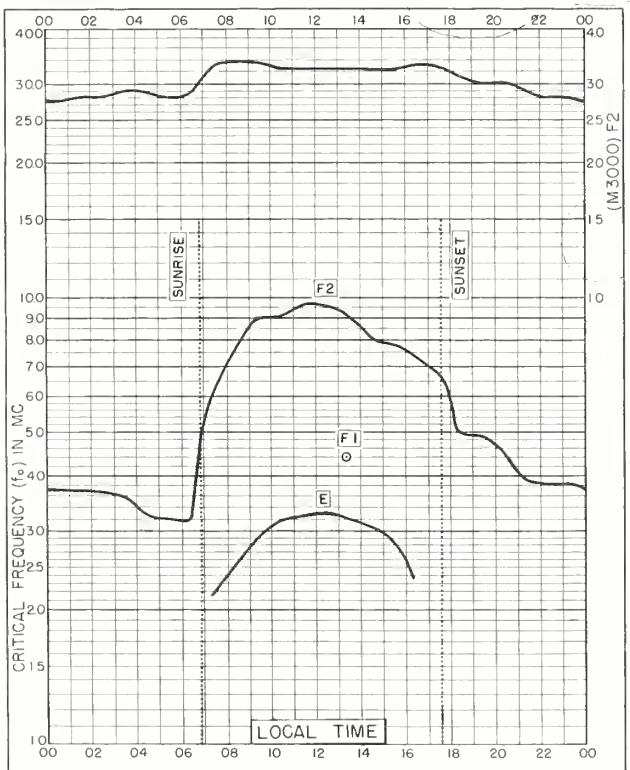


Fig. 42. TOKYO, JAPAN
35.7°N, 139.5°E FEBRUARY 1961

NBS 503

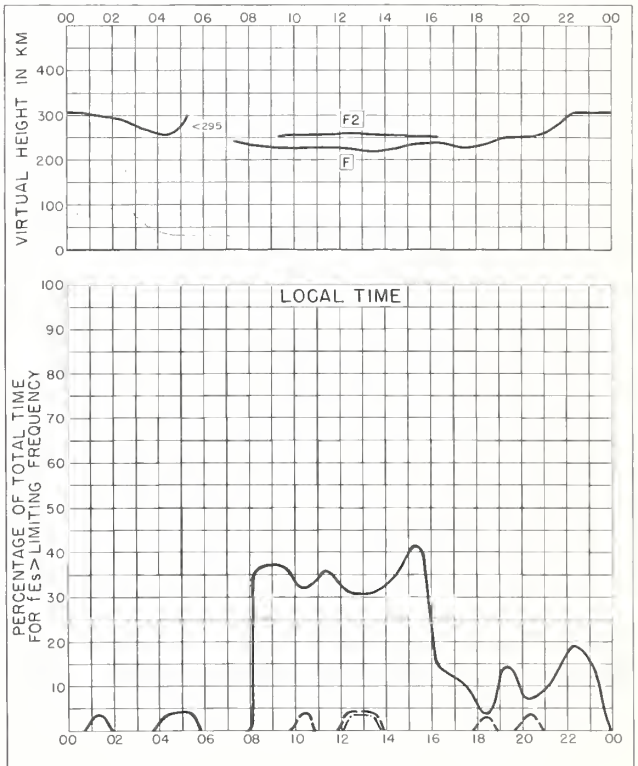


Fig. 43. TOKYO, JAPAN FEBRUARY 1961

NBS 490

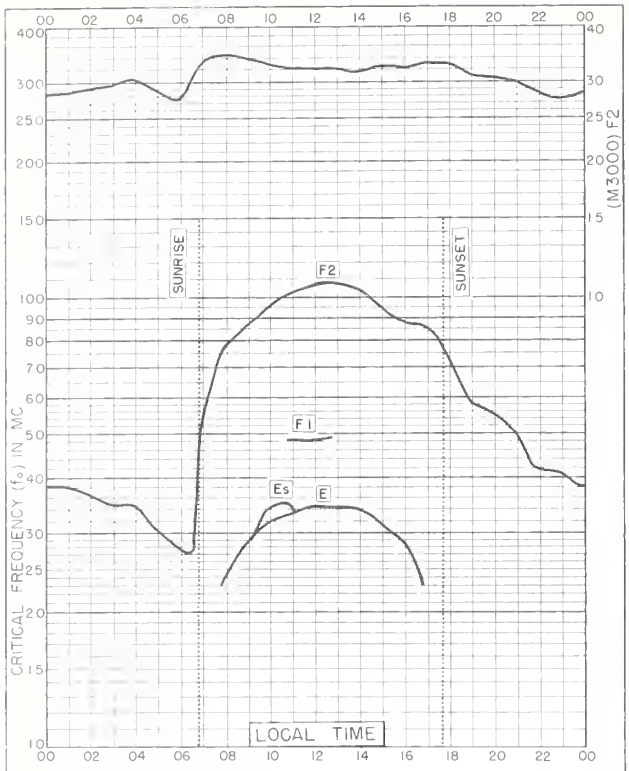


Fig. 44. YAMAGAWA, JAPAN
31.2°N, 130.6°E FEBRUARY 1961

NBS 503

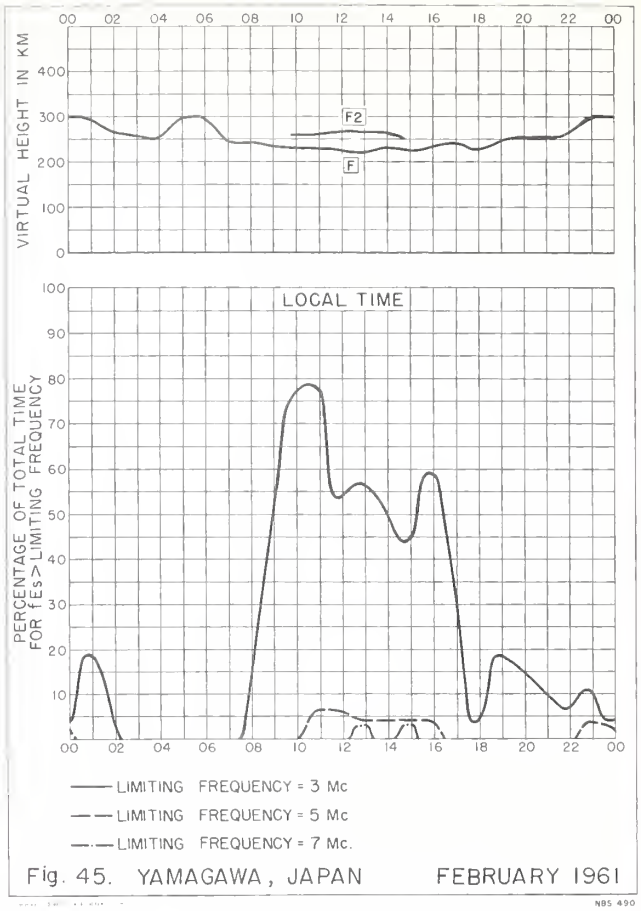


Fig. 45. YAMAGAWA, JAPAN FEBRUARY 1961

NBS 490

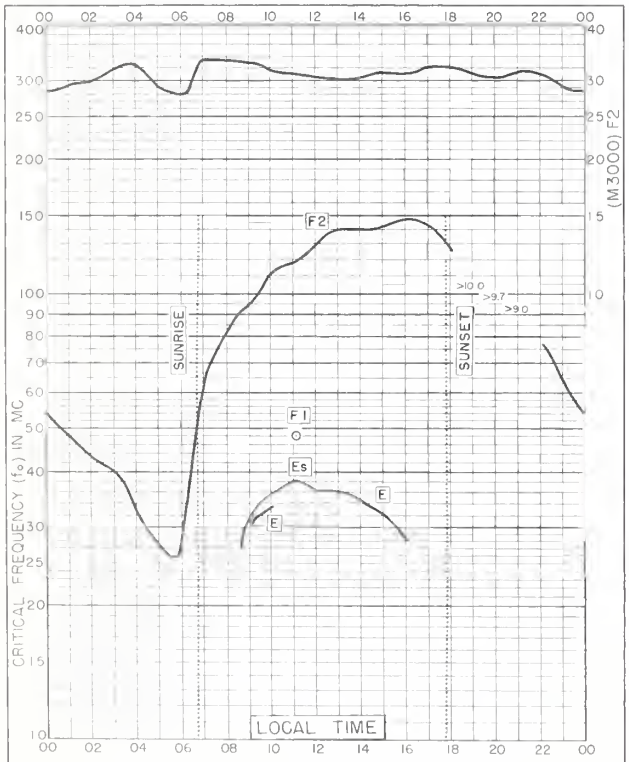


Fig. 46. FORMOSA, CHINA
25.0°N, 121.5°E FEBRUARY 1961

NBS 503

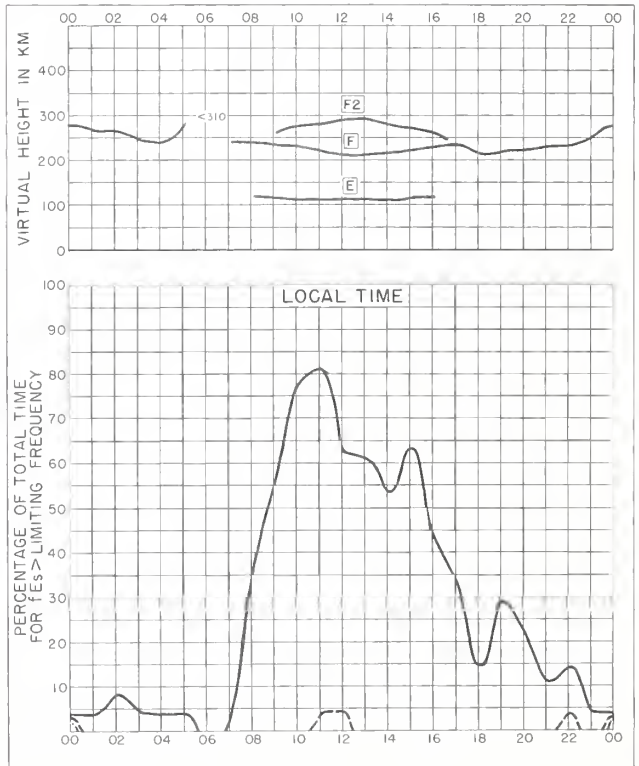


Fig. 47. FORMOSA, CHINA FEBRUARY 1961

NBS 490

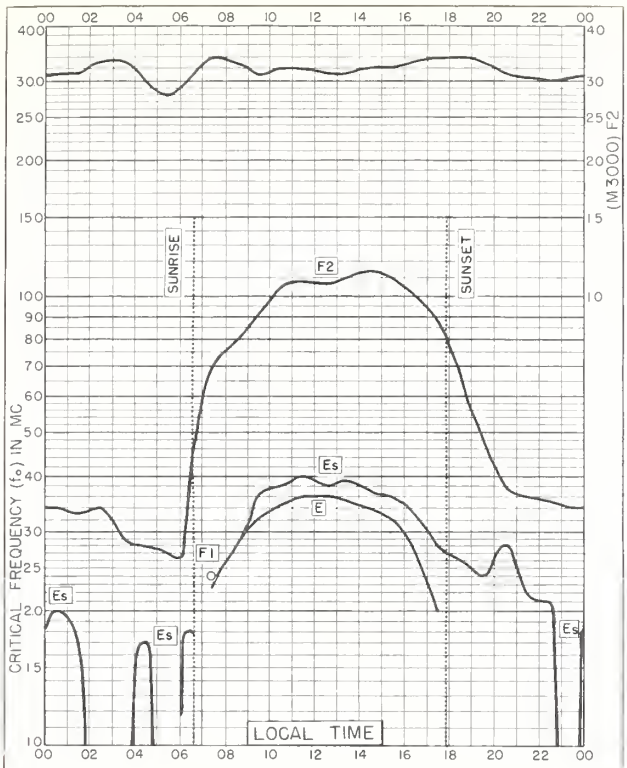


Fig. 48. EL CERILLO, MEXICO
19.3°N, 99.5° W FEBRUARY 1961

NBS 503

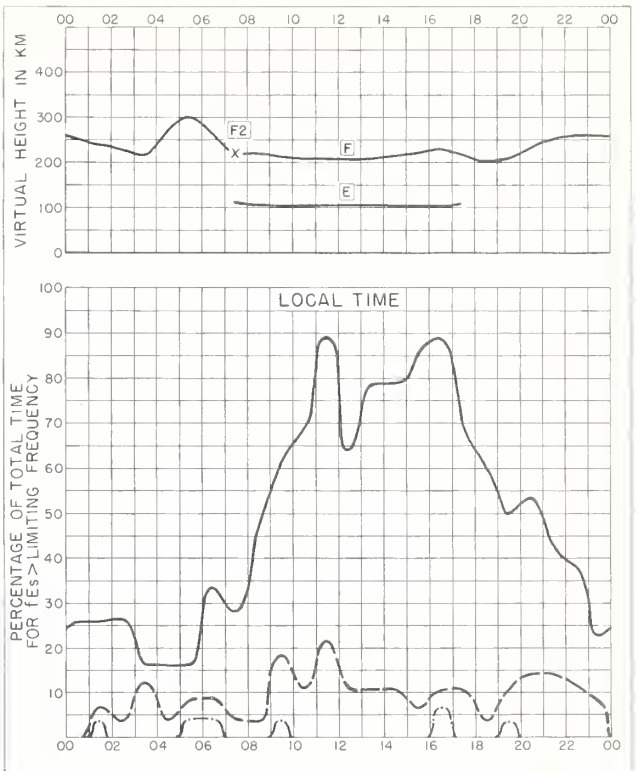


Fig. 49. EL CERILLO, MEXICO FEBRUARY 1961

NBS 490

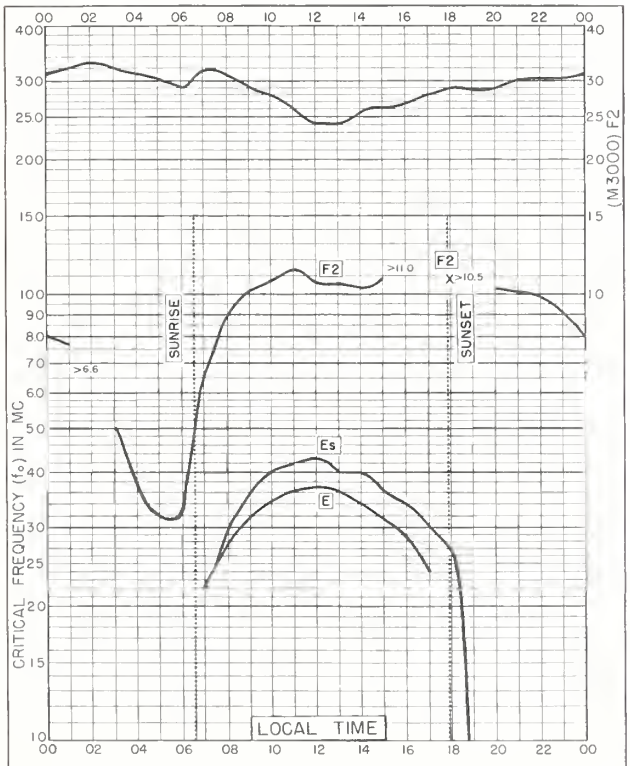


Fig. 50. BAGUIO, P. I.
16.4°N, 120.6°E FEBRUARY 1961

NBS 503

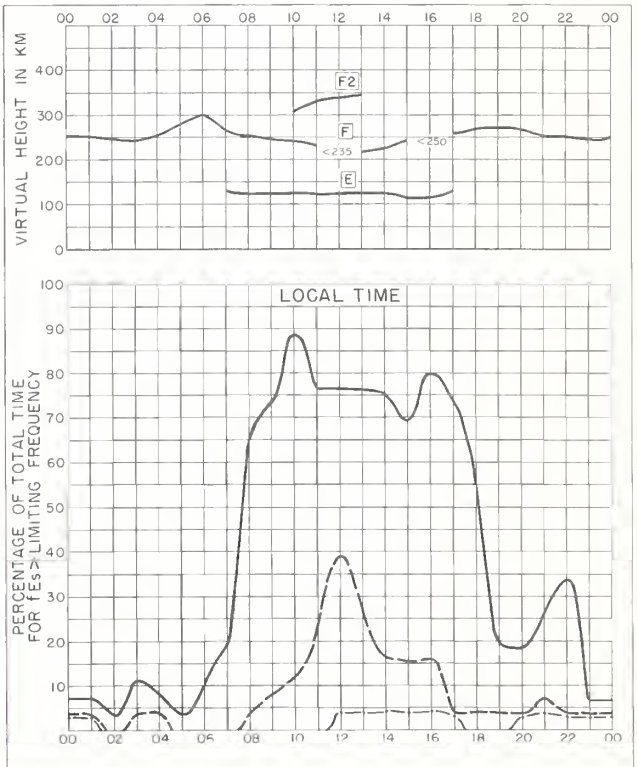


Fig. 51. BAGUIO, P. I. FEBRUARY 1961

NBS 490

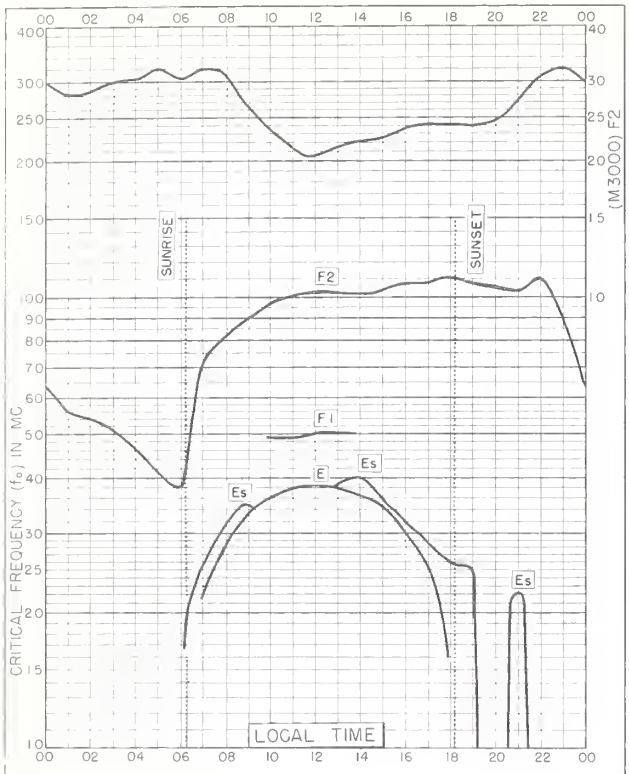


Fig. 52. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E FEBRUARY 1961

NBS 503

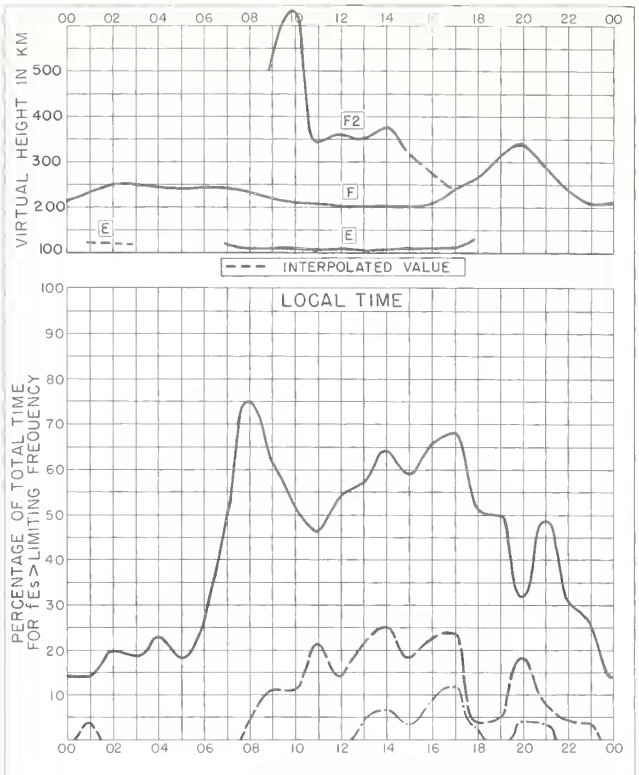


Fig. 53. SINGAPORE, BRITISH MALAYA FEBRUARY 1961

NBS 490

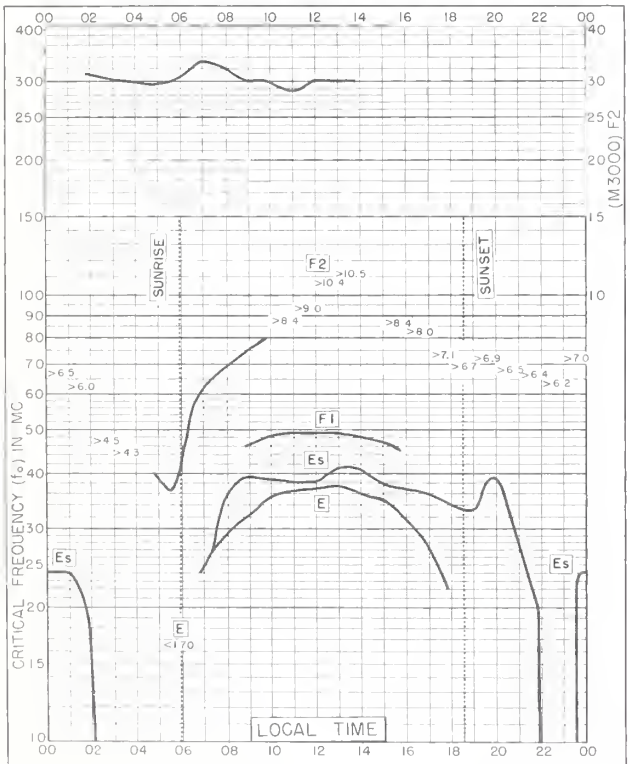


Fig. 54. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E FEBRUARY 1961

NBS 503

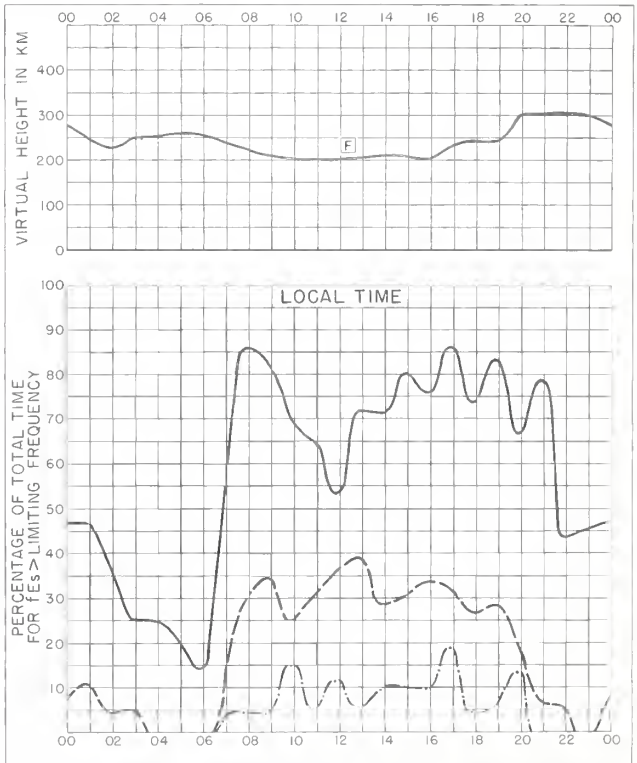


Fig. 55. TOWNSVILLE, AUSTRALIA FEBRUARY 1961

NBS 490

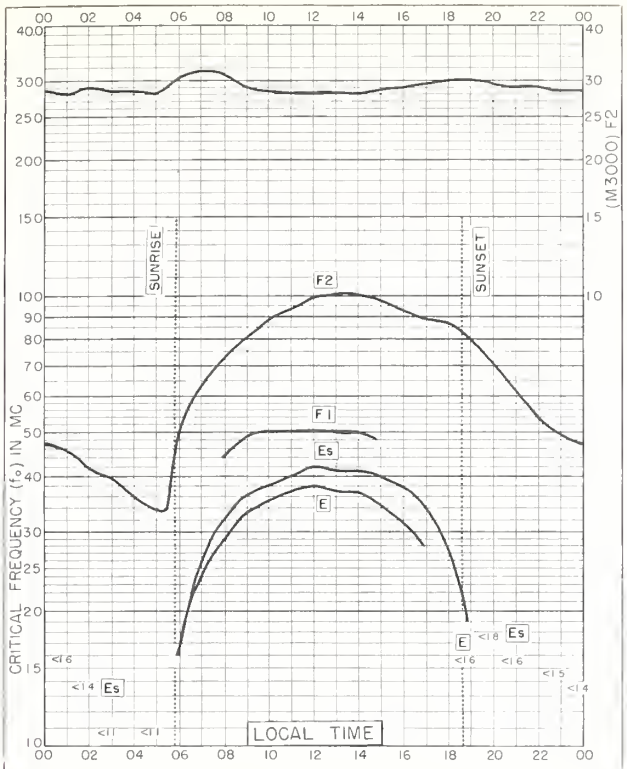
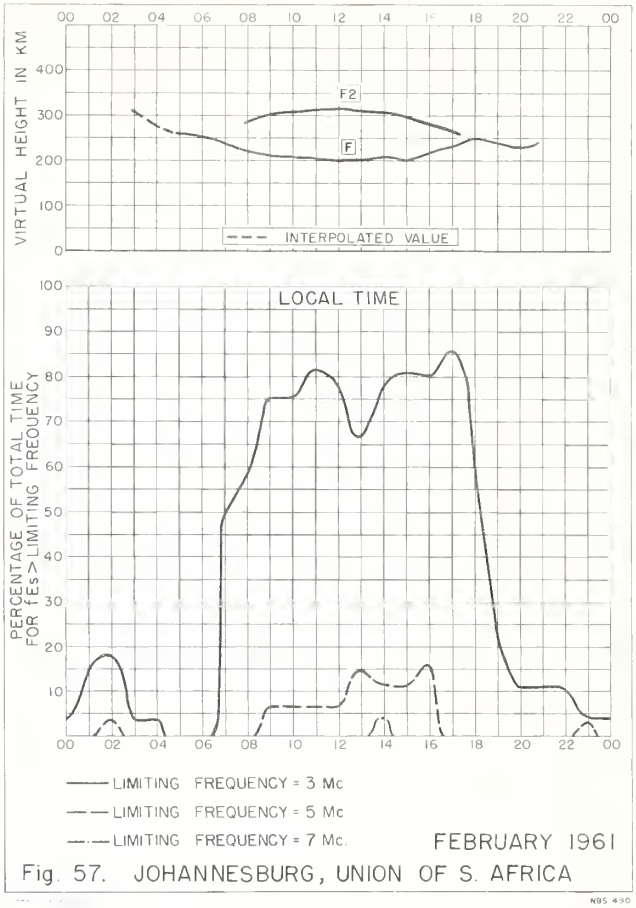


Fig. 56. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E FEBRUARY 1961

NBS 503



FEBRUARY 1961

Fig. 57. JOHANNESBURG, UNION OF S. AFRICA

NBS 490

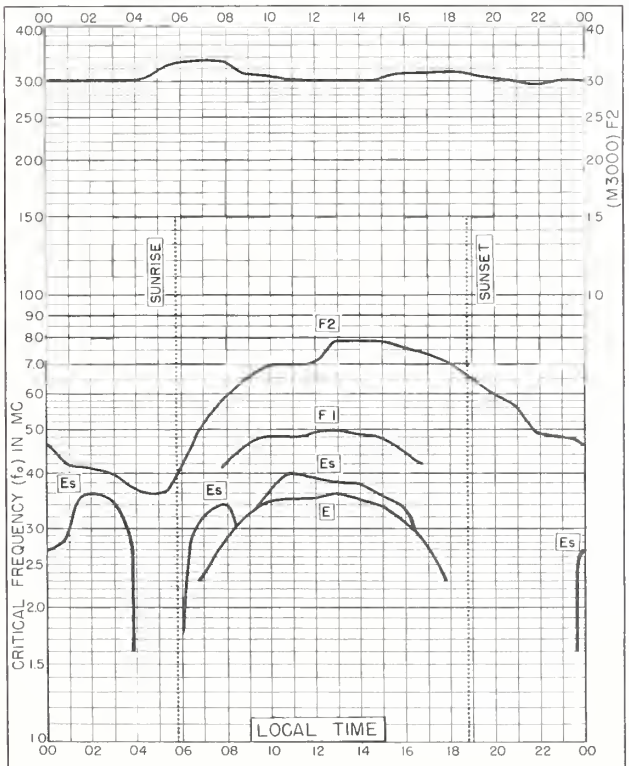
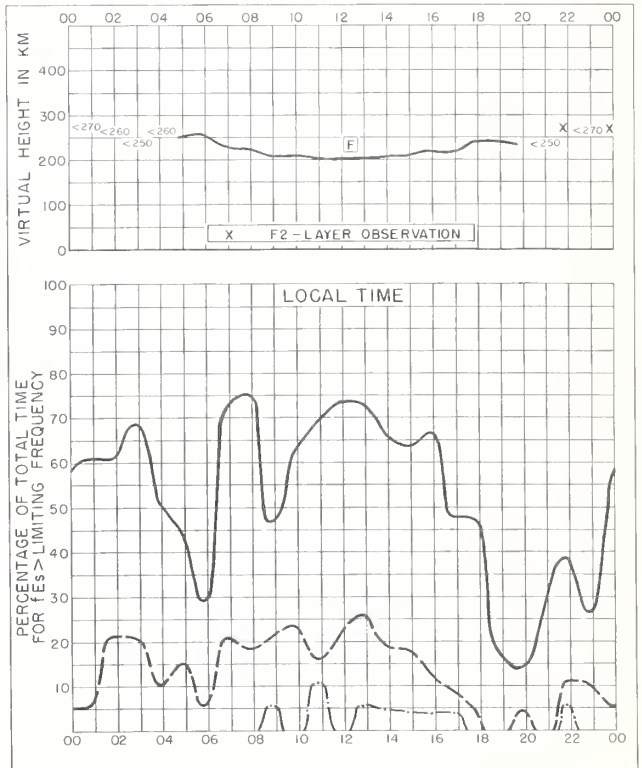


Fig. 58. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E FEBRUARY 1961

NBS 503



FEBRUARY 1961

Fig. 59. MUNDARING, W. AUSTRALIA

NBS 490

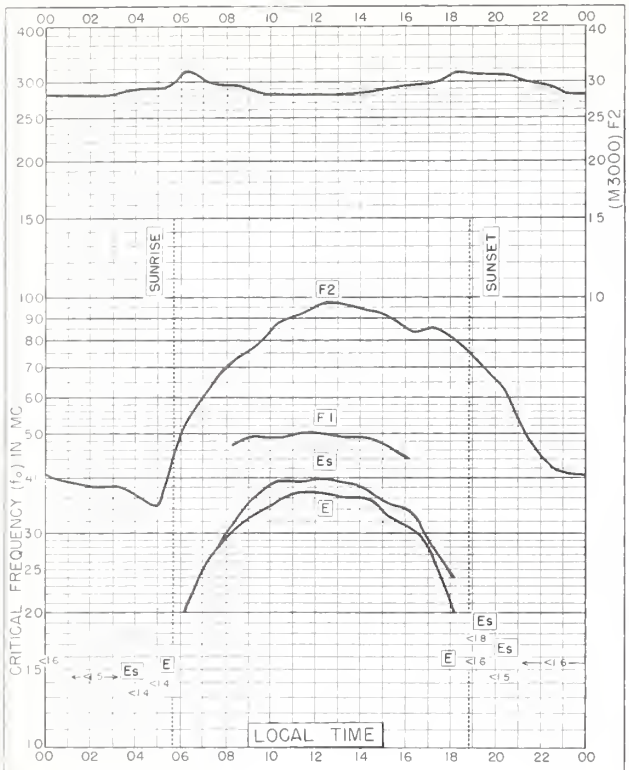
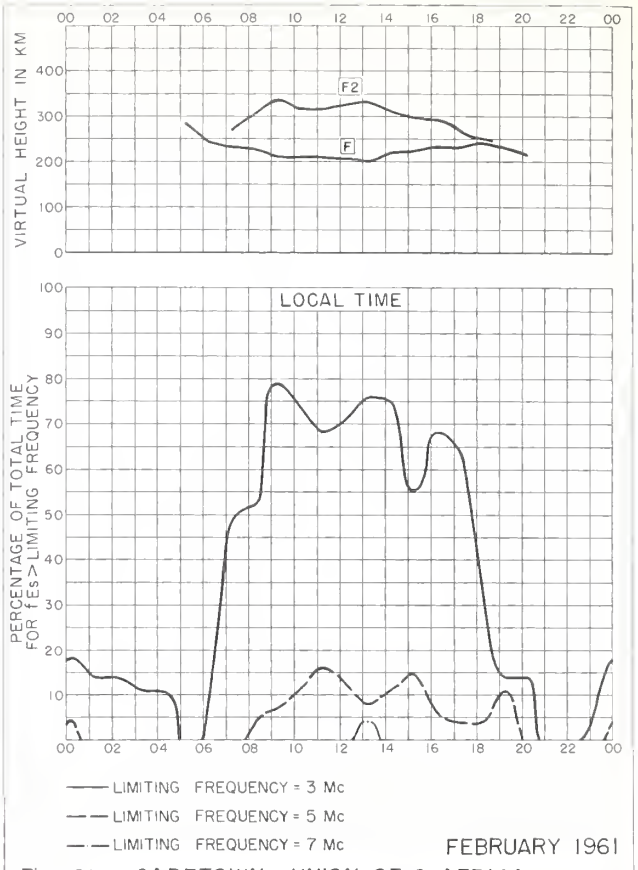


Fig. 60. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3° E FEBRUARY 1961



FEBRUARY 1961

Fig. 61. CAPETOWN, UNION OF S. AFRICA

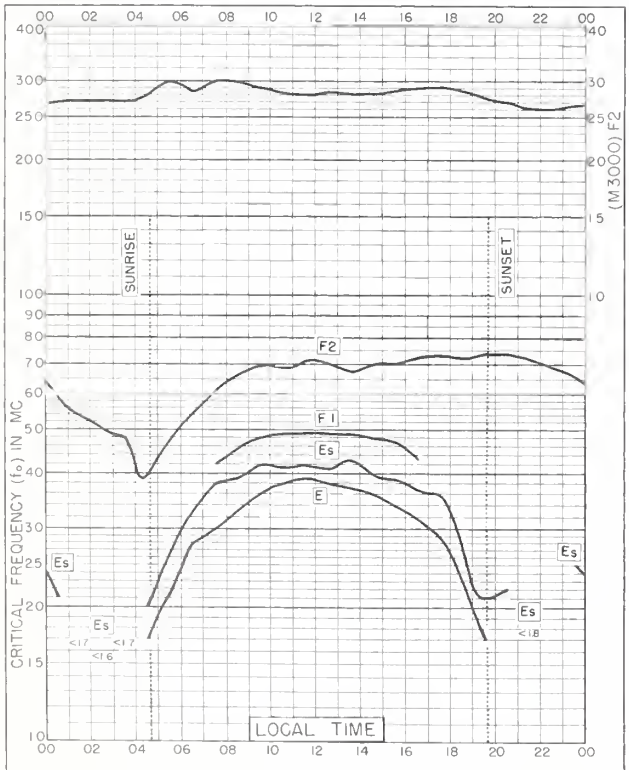
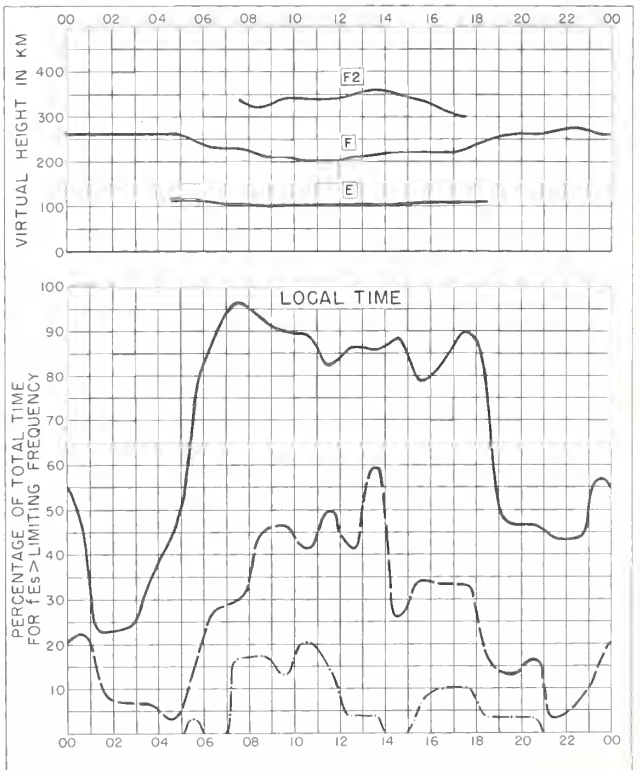


Fig. 62. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E JANUARY 1961



JANUARY 1961

Fig. 63. CHRISTCHURCH, NEW ZEALAND

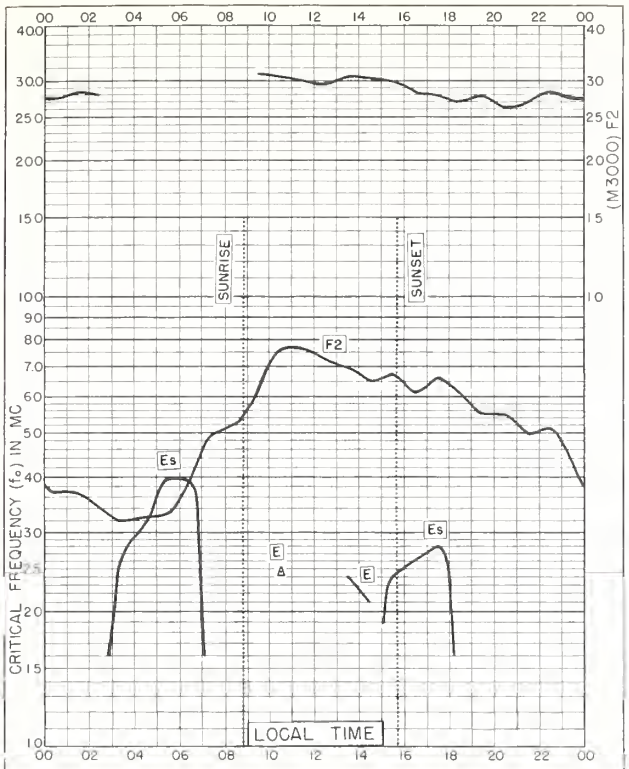


Fig. 64. GODHAVN, GREENLAND
69.3°N, 53.5°W FEBRUARY 1960

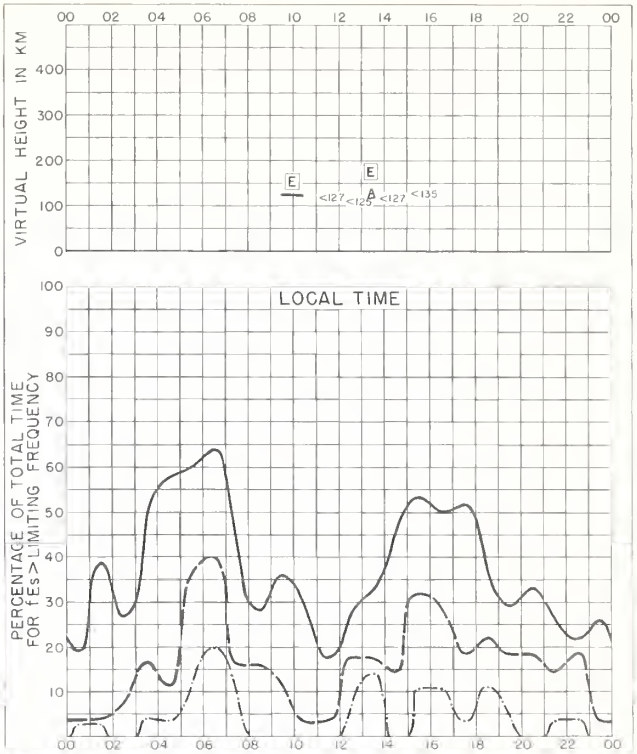


Fig. 65. GODHAVN, GREENLAND FEBRUARY 1960

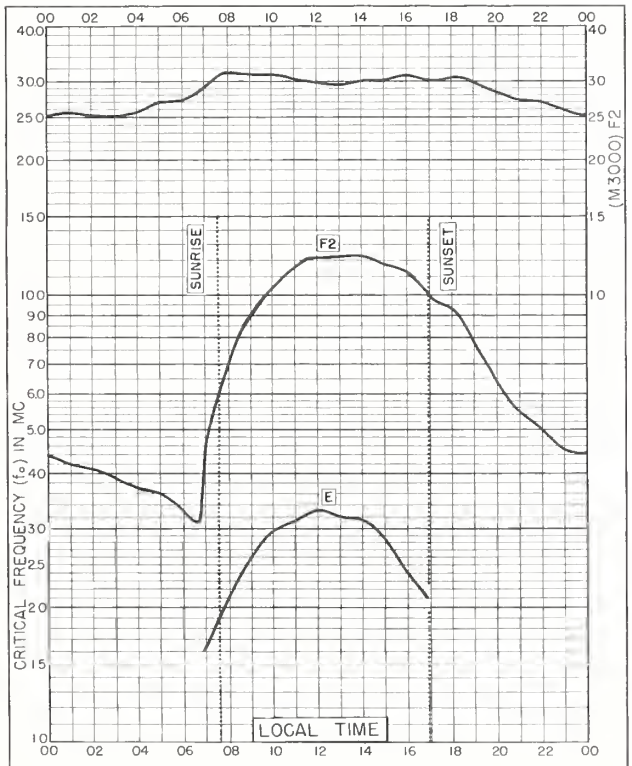
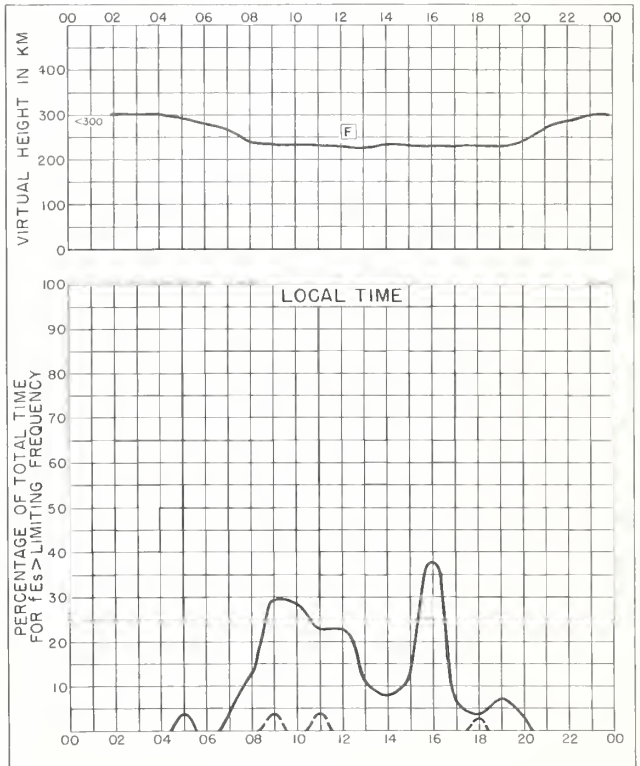


Fig. 66. JULIUSRUH/RÜGEN, GERMANY
54.6°N, 13.4°E FEBRUARY 1960



FEBRUARY 1960

Fig. 67. JULIUSRUH/RÜGEN, GERMANY

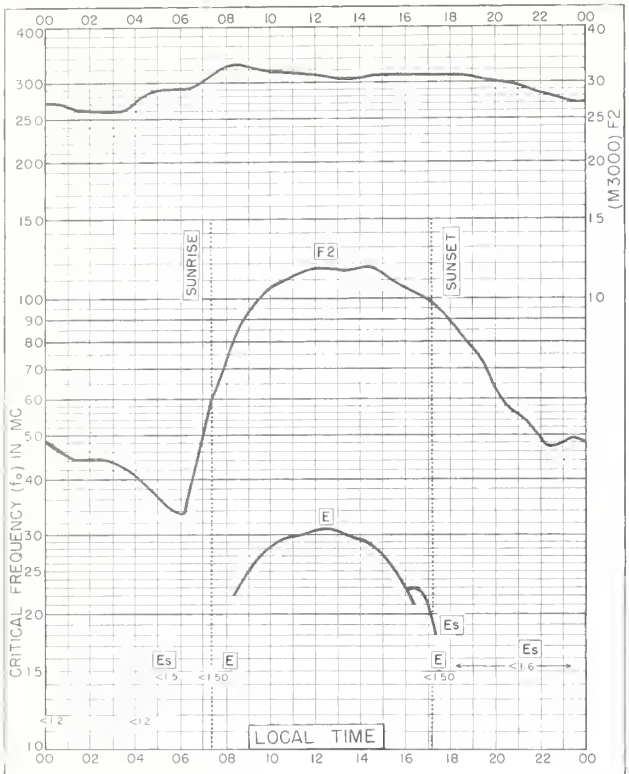


Fig. 68. DOURBES, BELGIUM
50.1°N, 4.6°E FEBRUARY 1960

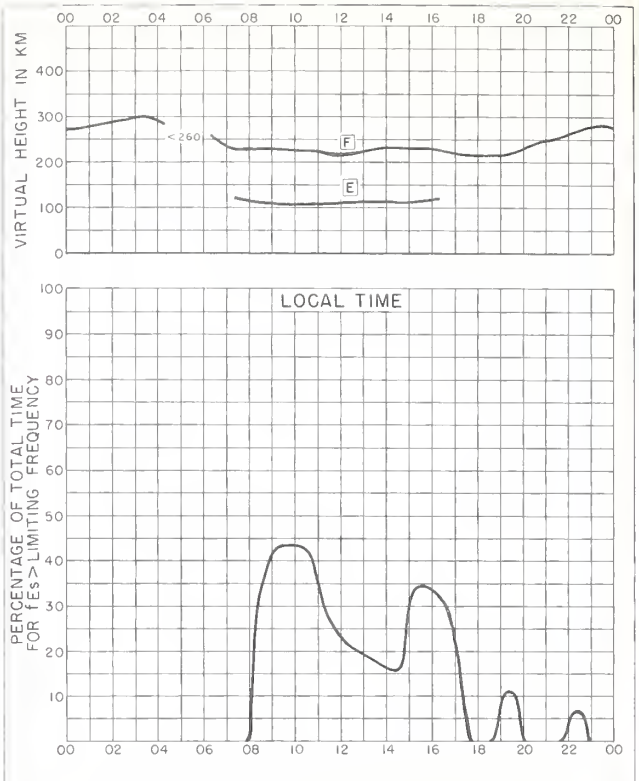


Fig. 69. DOURBES, BELGIUM FEBRUARY 1960

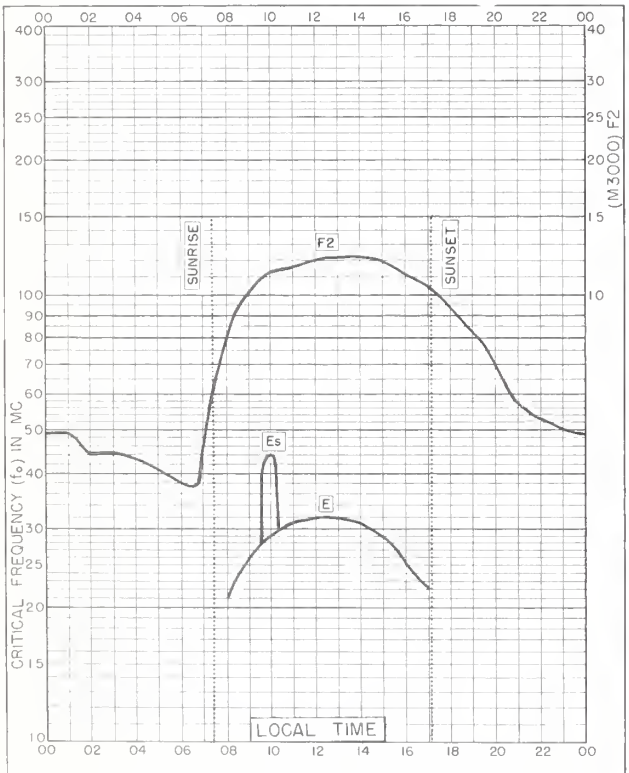


Fig. 70. PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E FEBRUARY 1960

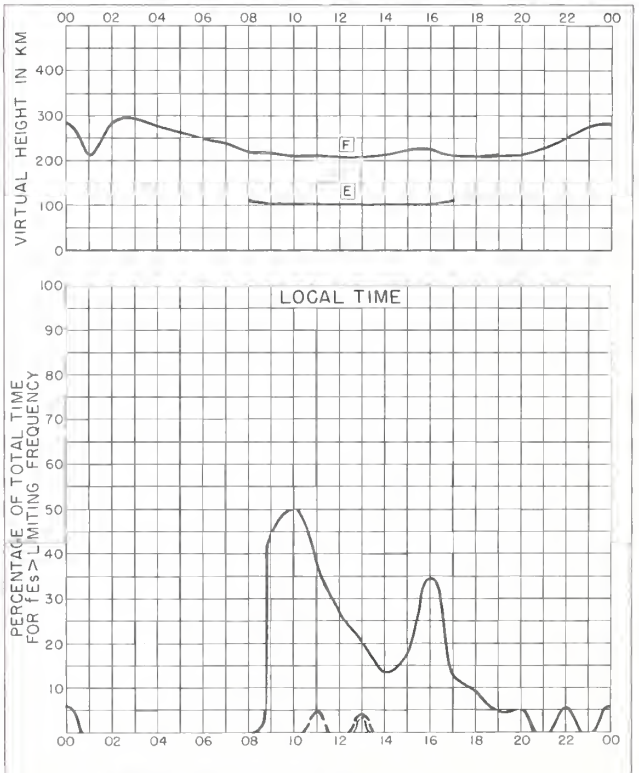


Fig. 71. PRUHONICE, CZECHOSLOVAKIA FEBRUARY 1960

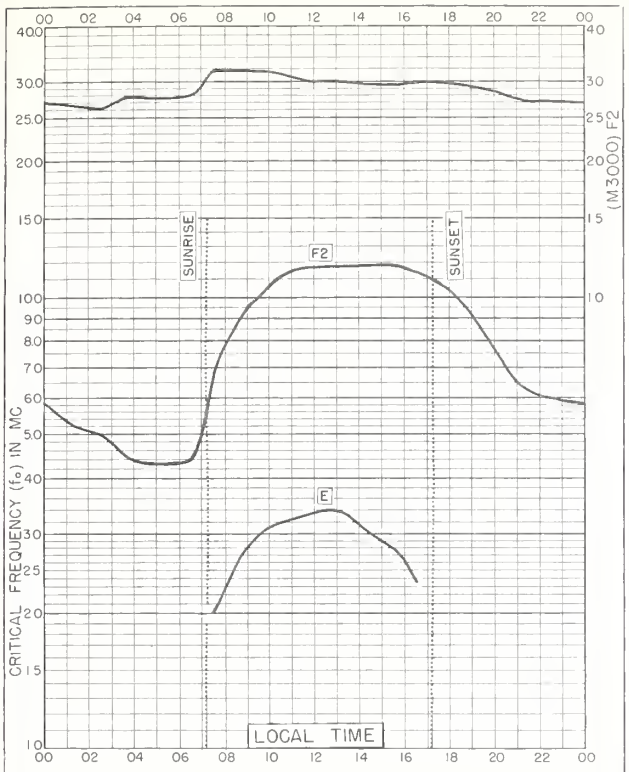


Fig. 72. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W FEBRUARY 1960

NBS 503

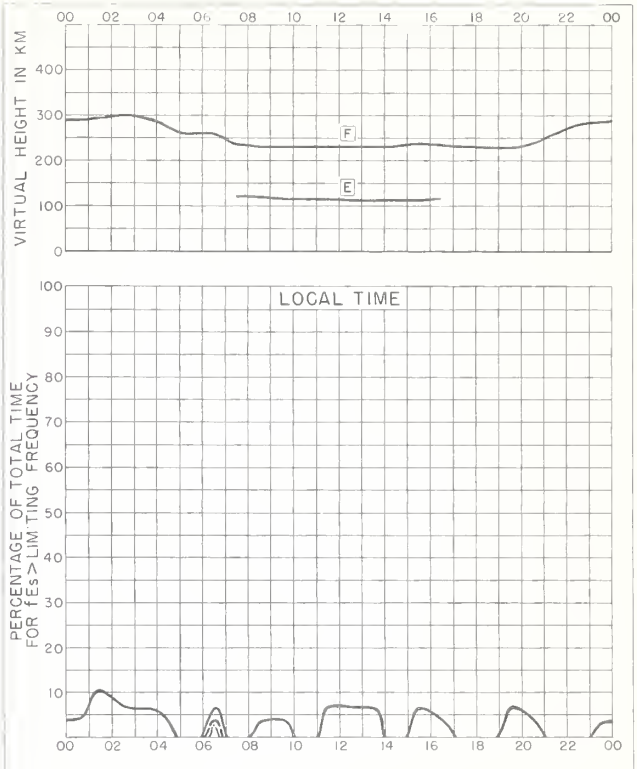


Fig. 73. ST. JOHN'S, NEWFOUNDLAND FEBRUARY 1960

NBS 490

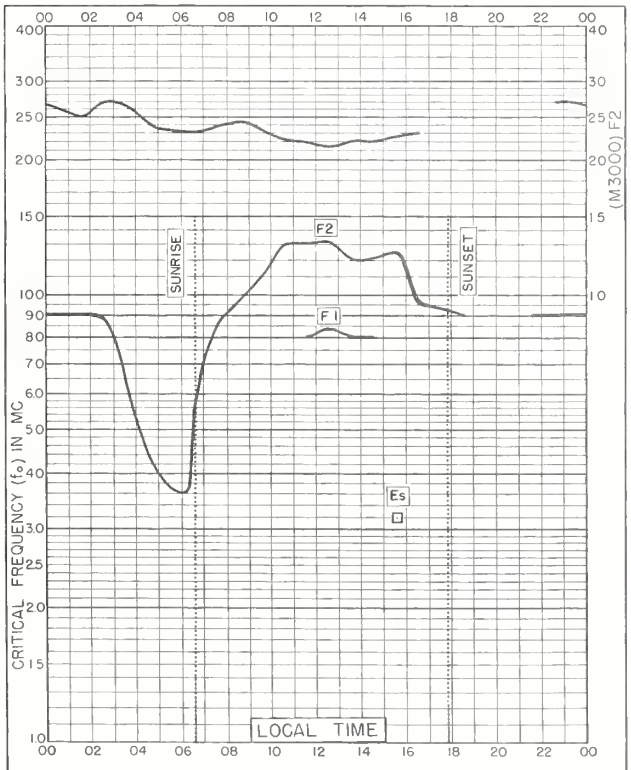


Fig. 74. MACAU
22.2°N, 113.6°E FEBRUARY 1960

NBS 503

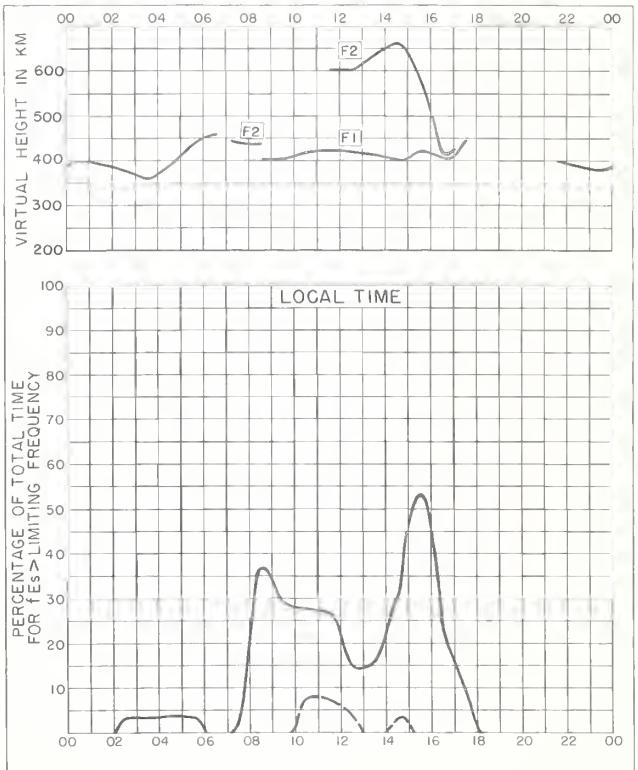


Fig. 75. MACAU FEBRUARY 1960

NBS 490

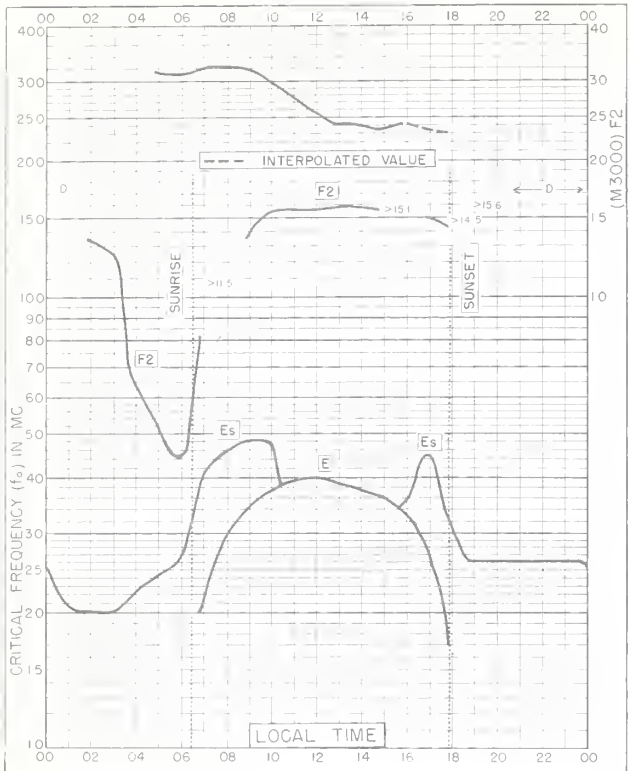
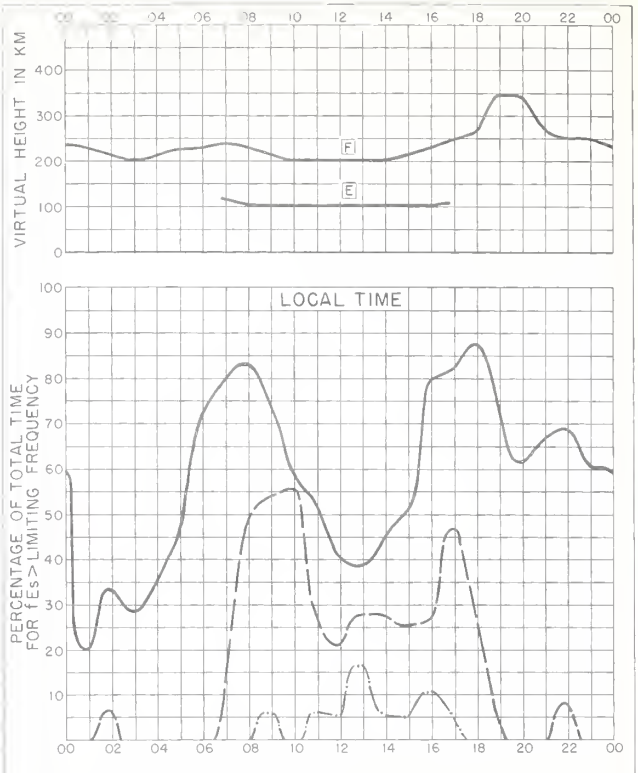


Fig. 76. DAKAR, FRENCH W. AFRICA
14.8°N, 17.4°W FEBRUARY 1960

NBS 503



FEBRUARY 1960

Fig. 77. DAKAR, FRENCH W. AFRICA

NBS 490

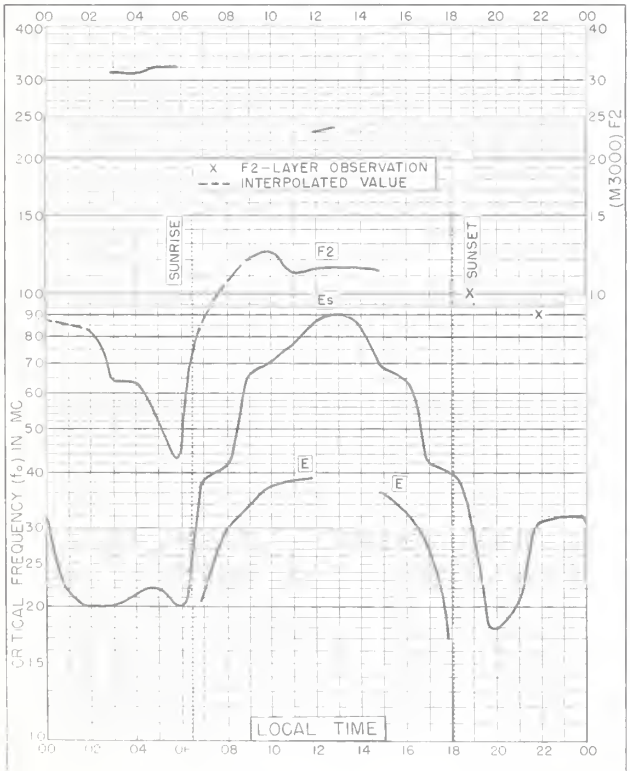
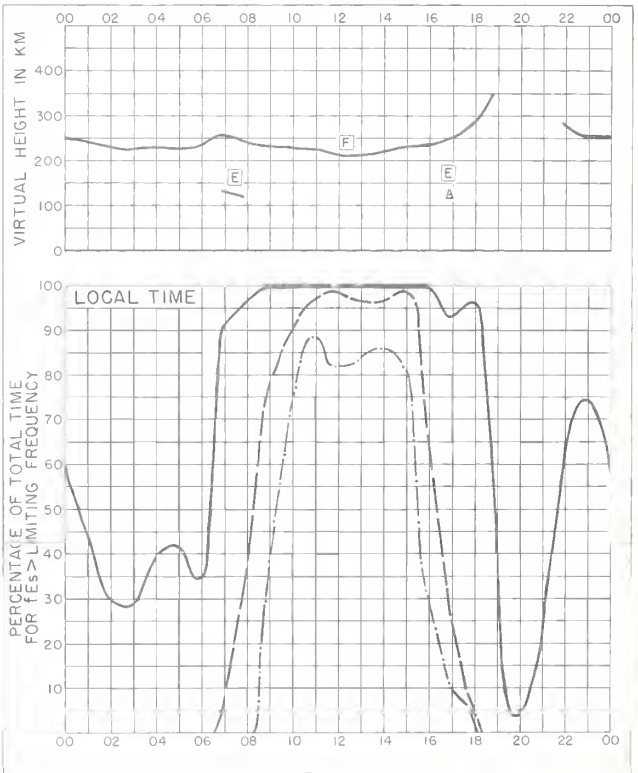


Fig. 78. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E FEBRUARY 1960

NBS 503



FEBRUARY 1960

Fig. 79. DJIBOUTI, FRENCH SOMALILAND

NBS 490

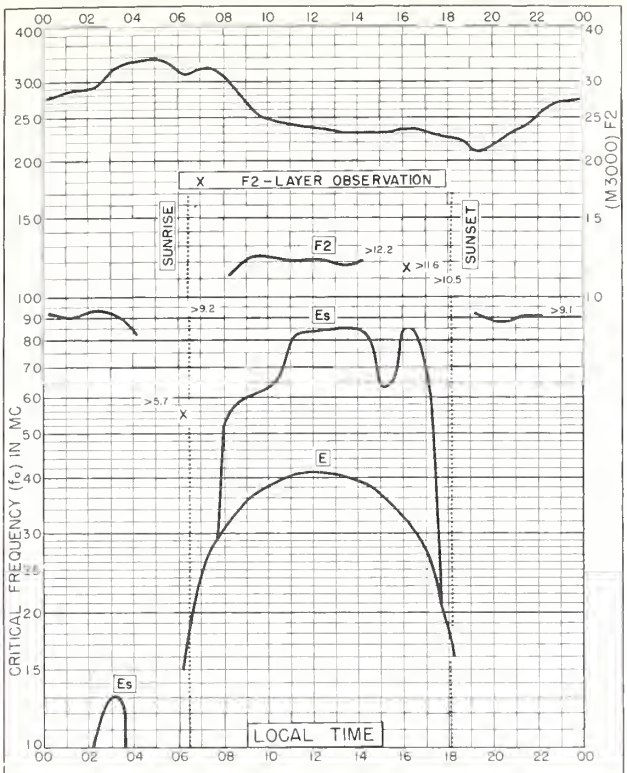


Fig. 80. IBADAN, NIGERIA
7.4°N, 3.9°E FEBRUARY 1960

NBS 503

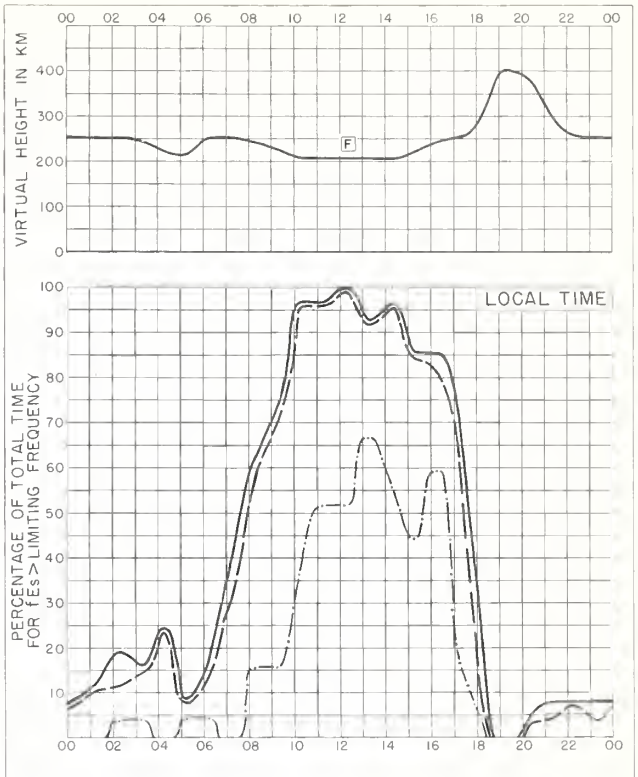


Fig. 81. IBADAN, NIGERIA FEBRUARY 1960

NBS 490

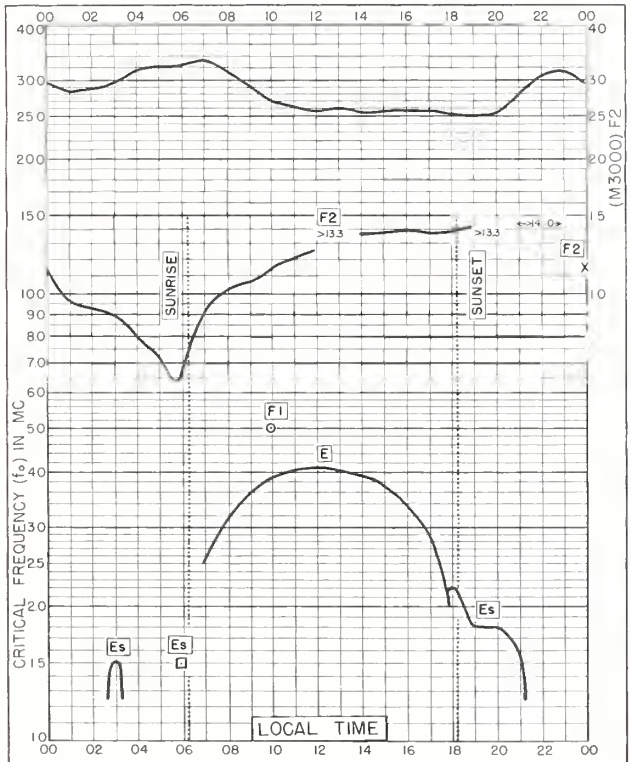


Fig. 82. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E FEBRUARY 1960

NBS 503

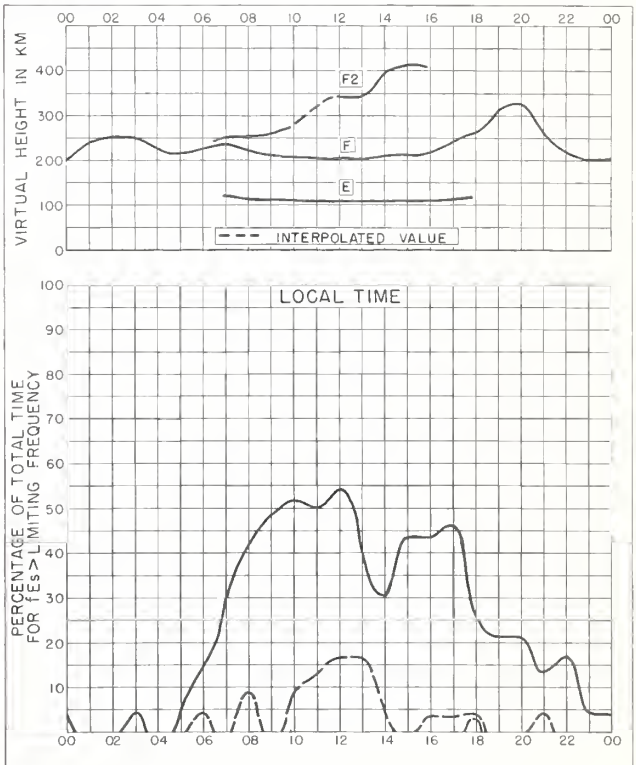


Fig. 83. LWIRO, BELGIAN CONGO FEBRUARY 1960

NBS 490

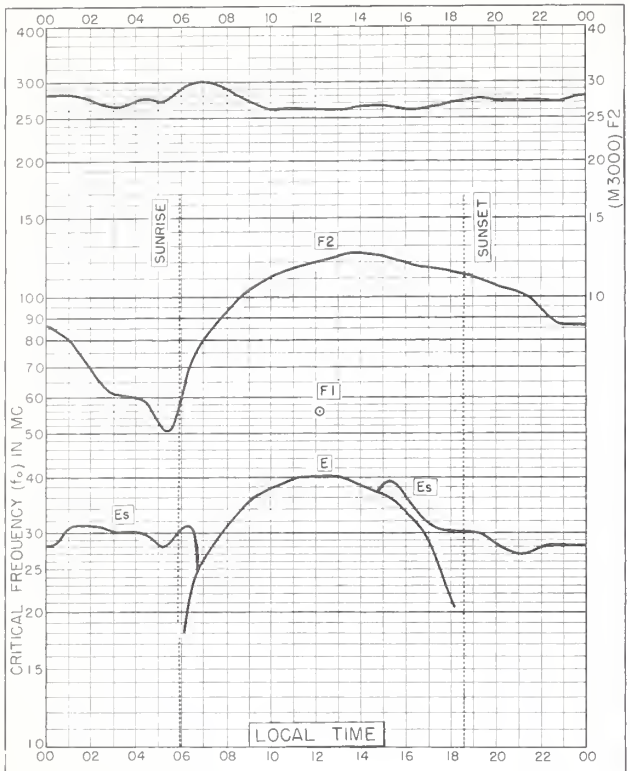


Fig. 84. TANANARIVE, MADAGASCAR
18.8°S, 47.5°E FEBRUARY 1960

NBS 503

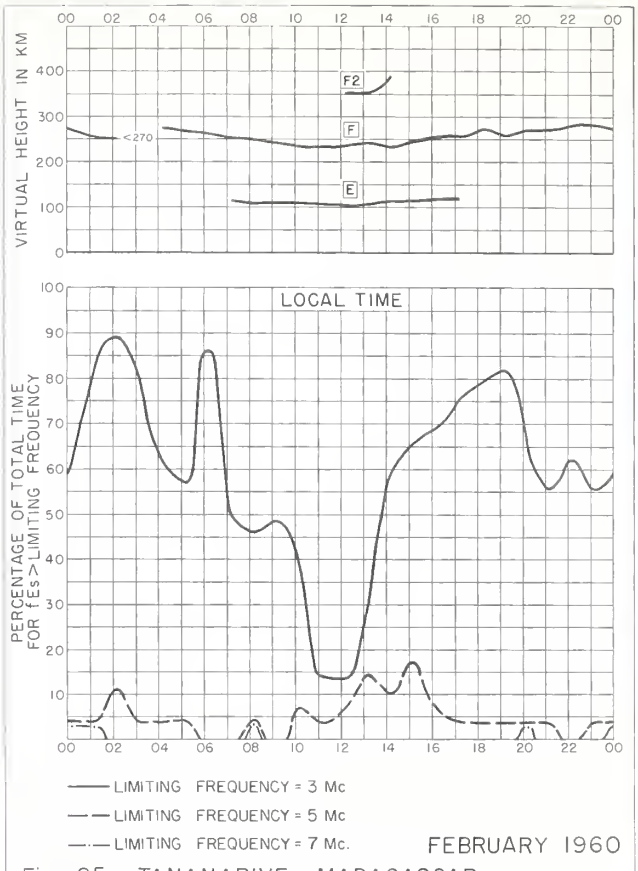


Fig. 85. TANANARIVE, MADAGASCAR FEBRUARY 1960

NBS 490

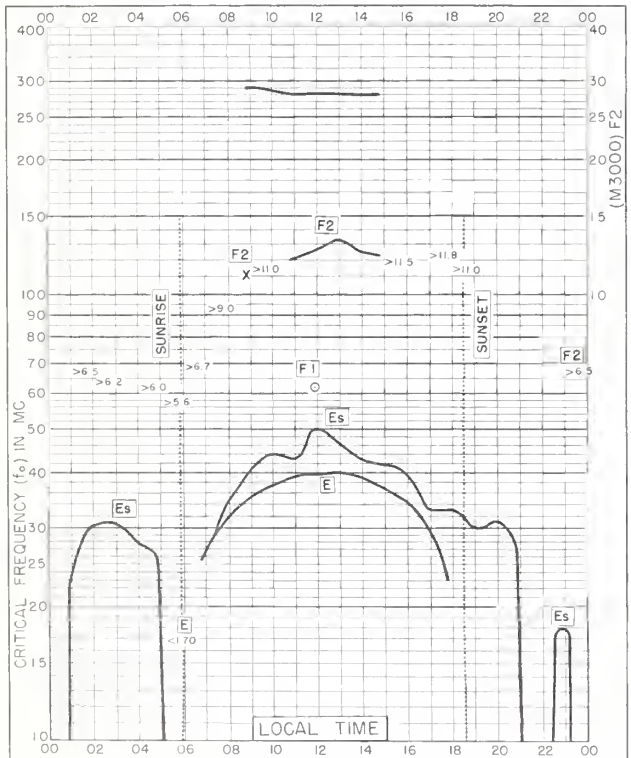


Fig. 86. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E FEBRUARY 1960

NBS 503

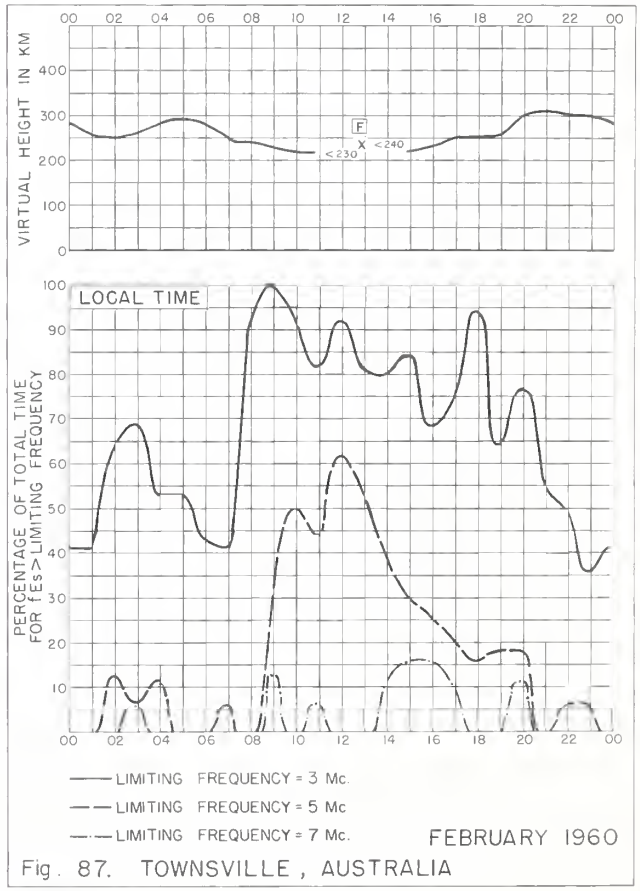


Fig. 87. TOWNSVILLE, AUSTRALIA FEBRUARY 1960

NBS 490

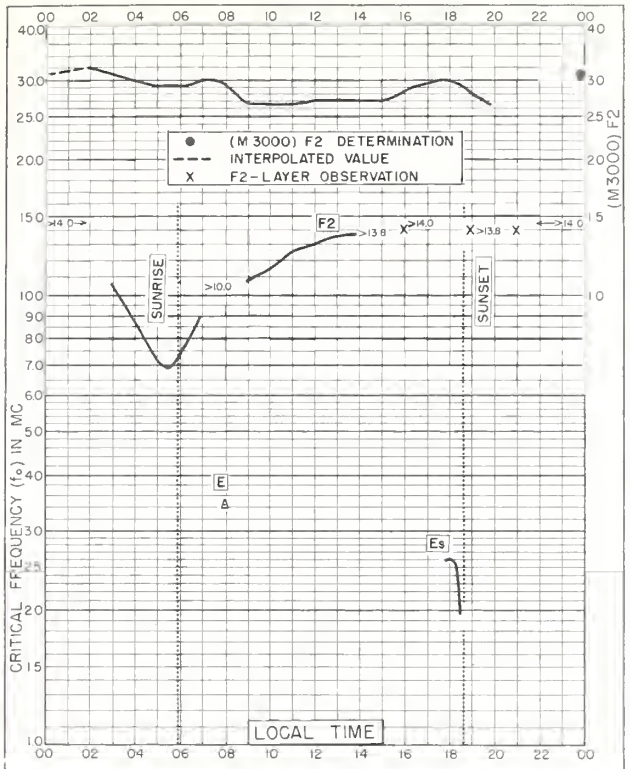


Fig. 88. SAO PAULO, BRAZIL
23.5°S, 46.5°W FEBRUARY 1960

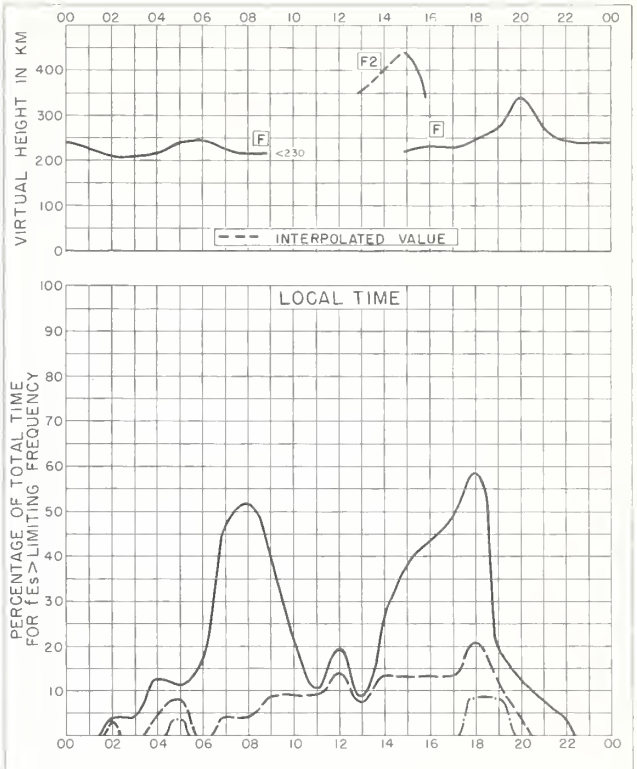


Fig. 89. SAO PAULO, BRAZIL FEBRUARY 1960

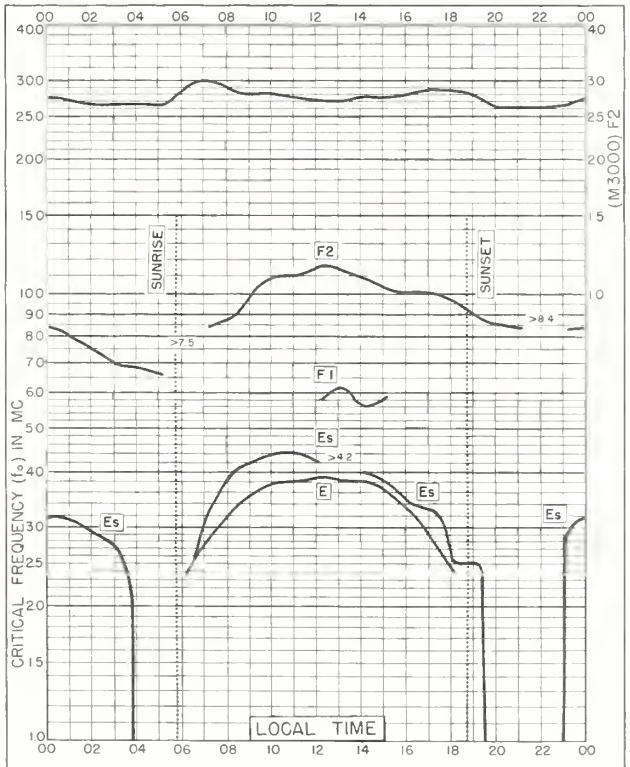


Fig. 90. BRISBANE, AUSTRALIA
27.5°S, 152.9°E FEBRUARY 1960

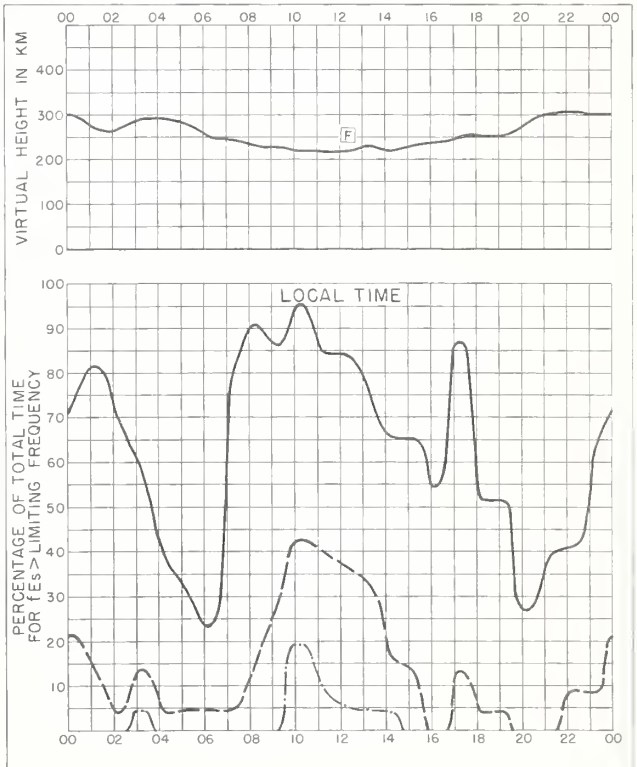


Fig. 91. BRISBANE, AUSTRALIA FEBRUARY 1960

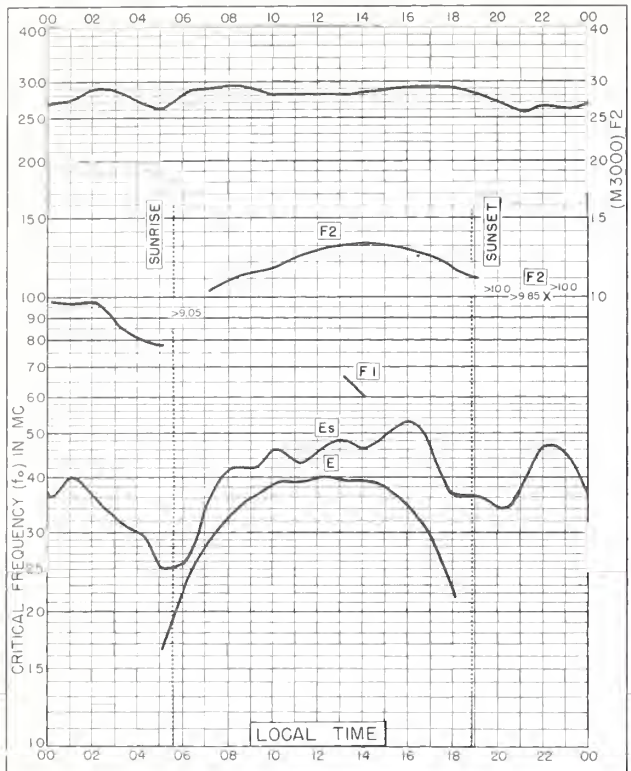


Fig. 92. CONCEPCION, CHILE
36.6°S, 73.0°W FEBRUARY 1960

NBS 503

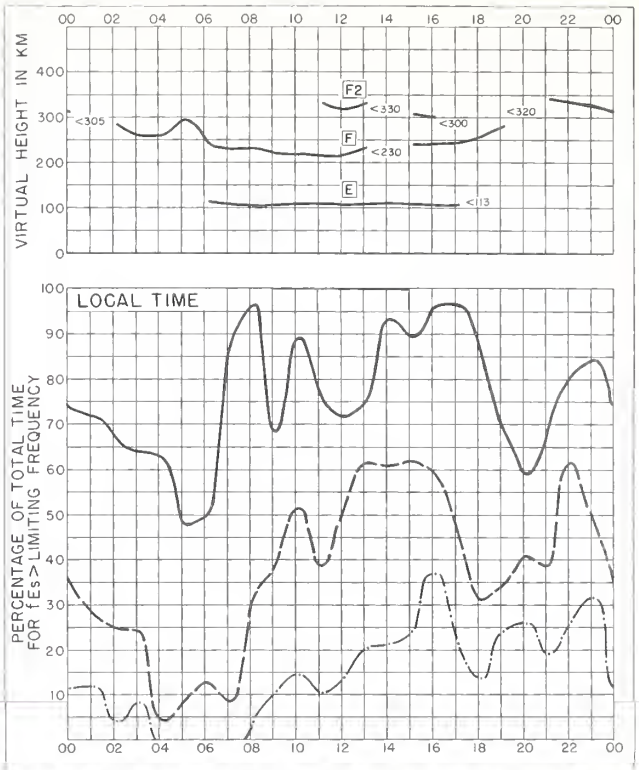


Fig. 93. CONCEPCION, CHILE FEBRUARY 1960

NBS 490

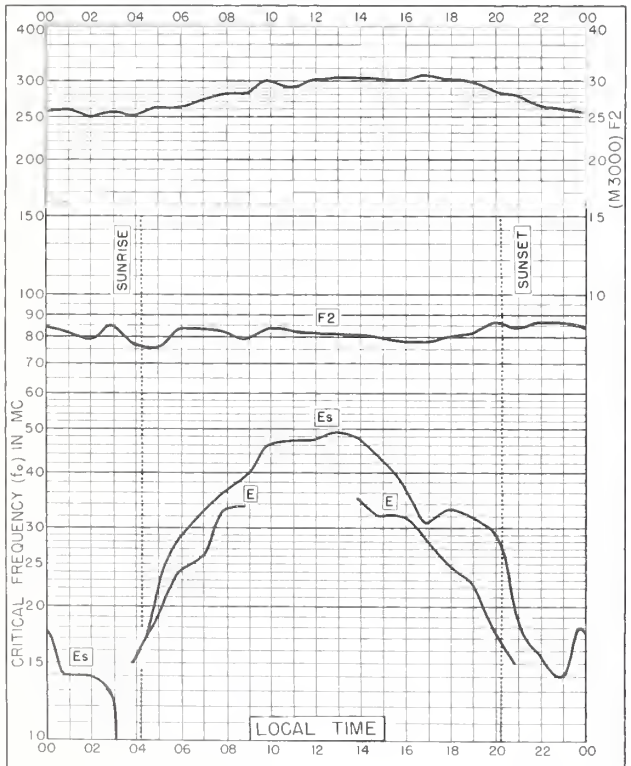


Fig. 94. PORT LOCKROY
64.8°S, 63.5°W FEBRUARY 1960

NBS 503

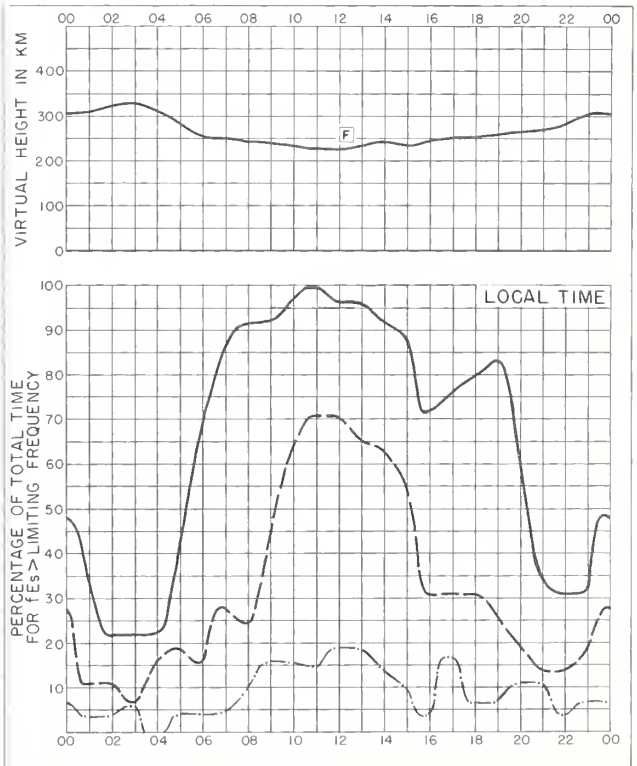


Fig. 95. PORT LOCKROY FEBRUARY 1960

NBS 490

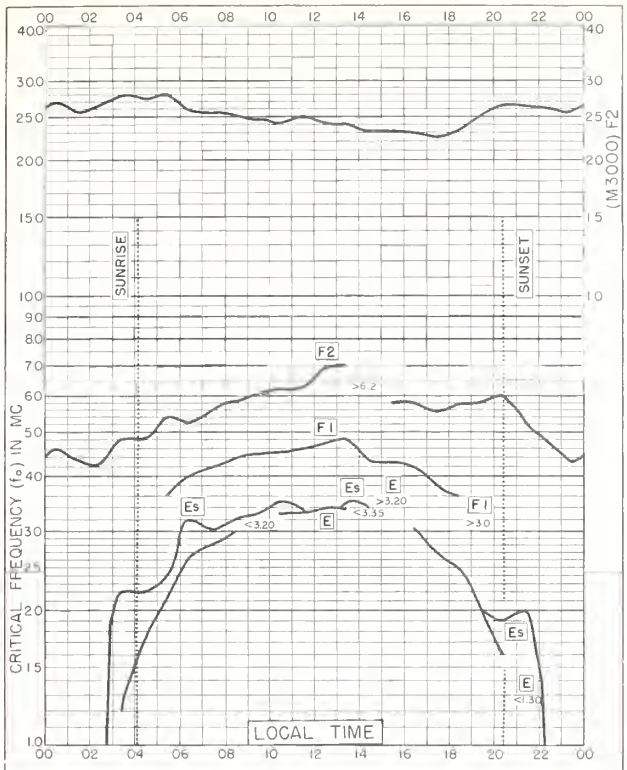


Fig. 96. WILKES STATION
66.3°S, 110.5°E FEBRUARY 1960

NBS 503

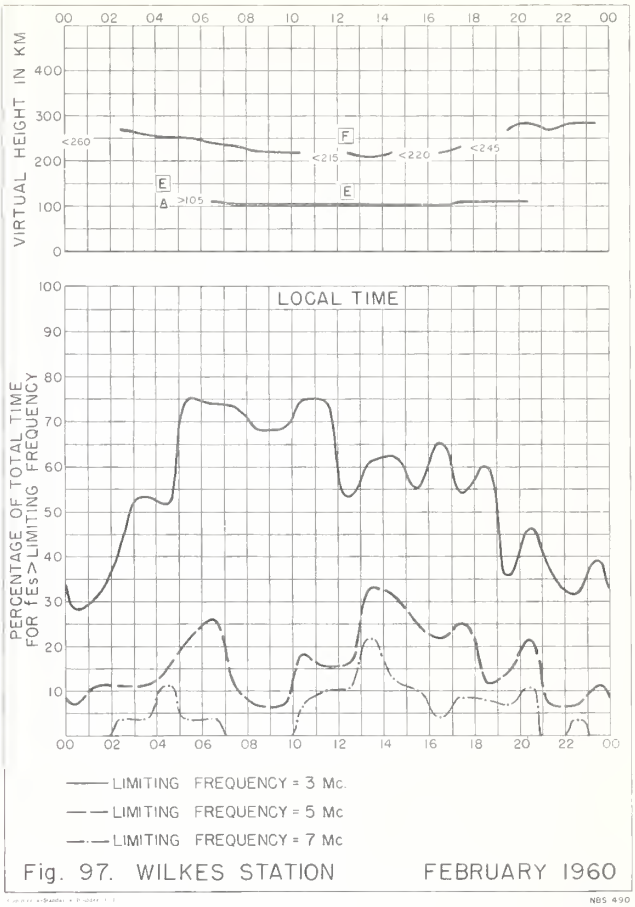


Fig. 97. WILKES STATION FEBRUARY 1960

NBS 490

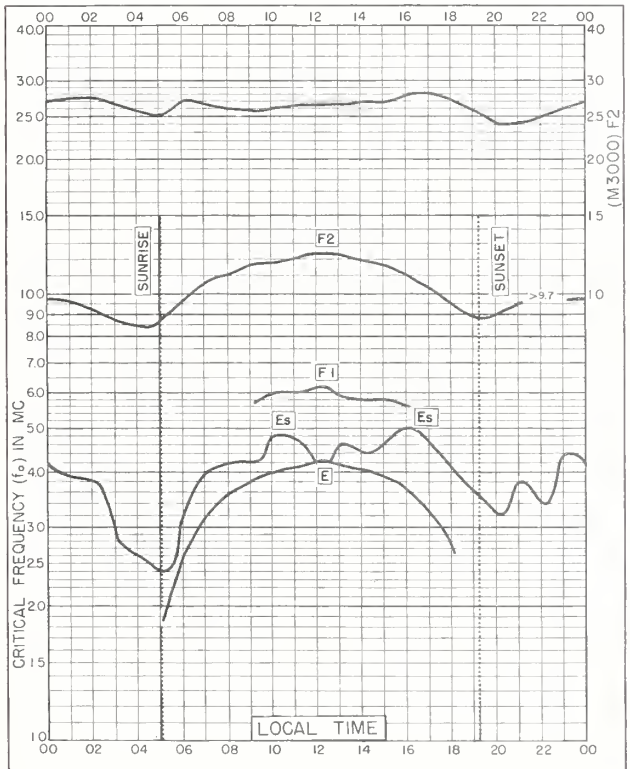


Fig. 98. CONCEPCION, CHILE
36.6°S, 73.0° W JANUARY 1960

NBS 503

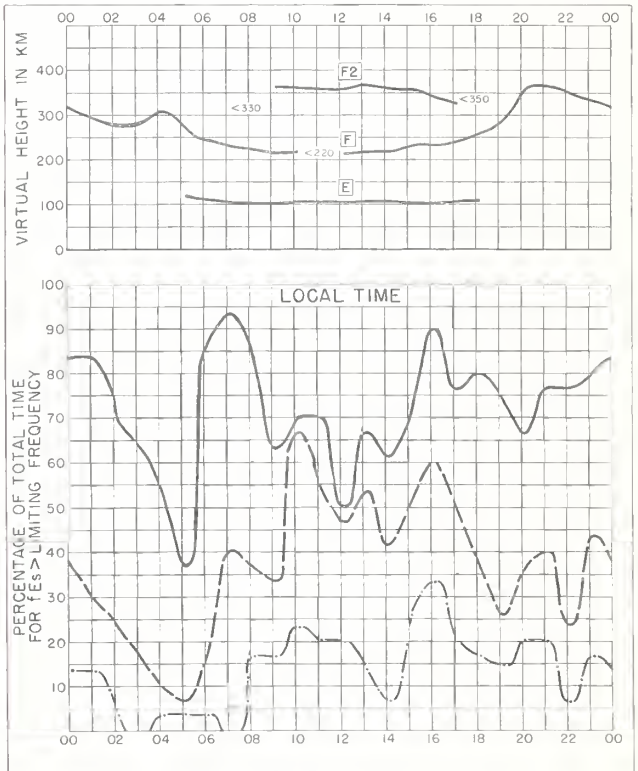


Fig. 99. CONCEPCION, CHILE JANUARY 1960

NBS 490

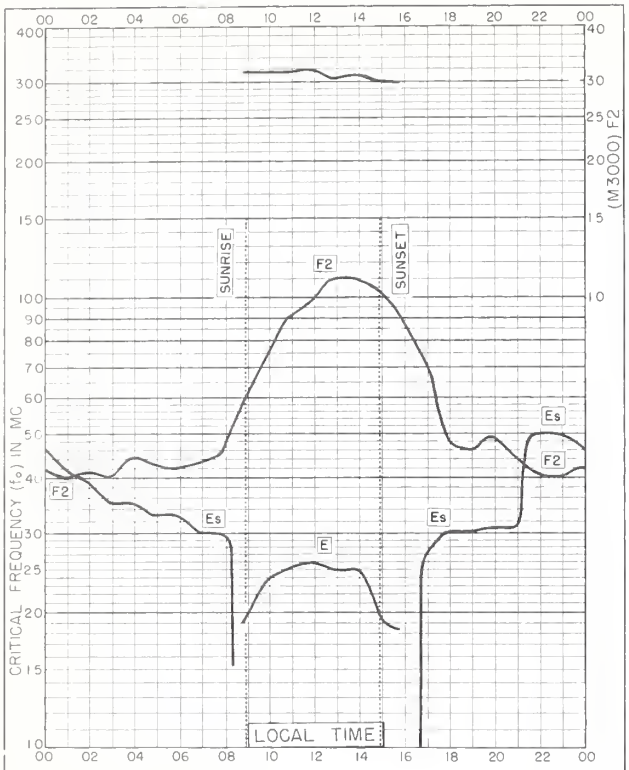


Fig. 100. CHURCHILL, CANADA
58.8°N, 94.2°W DECEMBER 1959

NBS 503

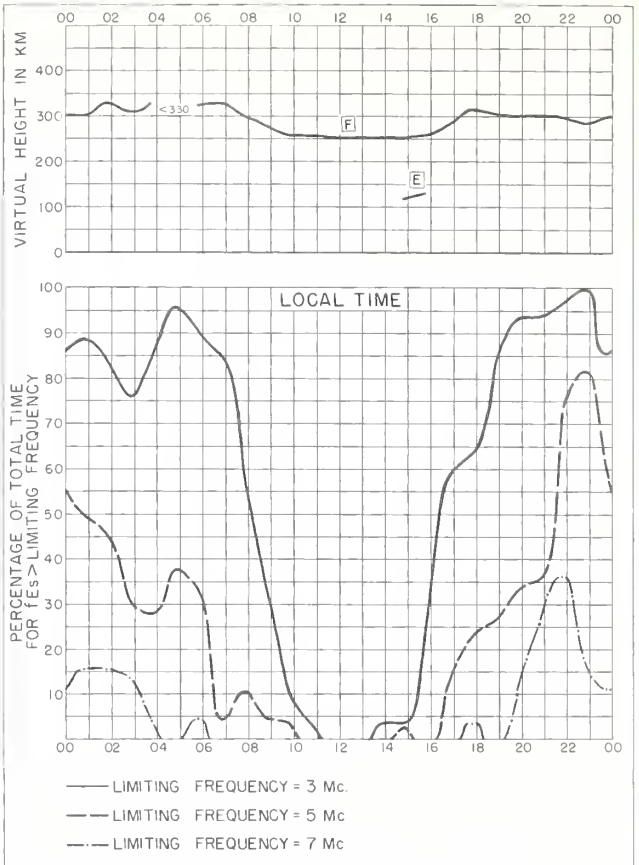


Fig. 101. CHURCHILL, CANADA DECEMBER 1959

NBS 490

Fig. 102. WAKKANAI, JAPAN
45.4°N, 141.7°E NOVEMBER 1959

NBS 503

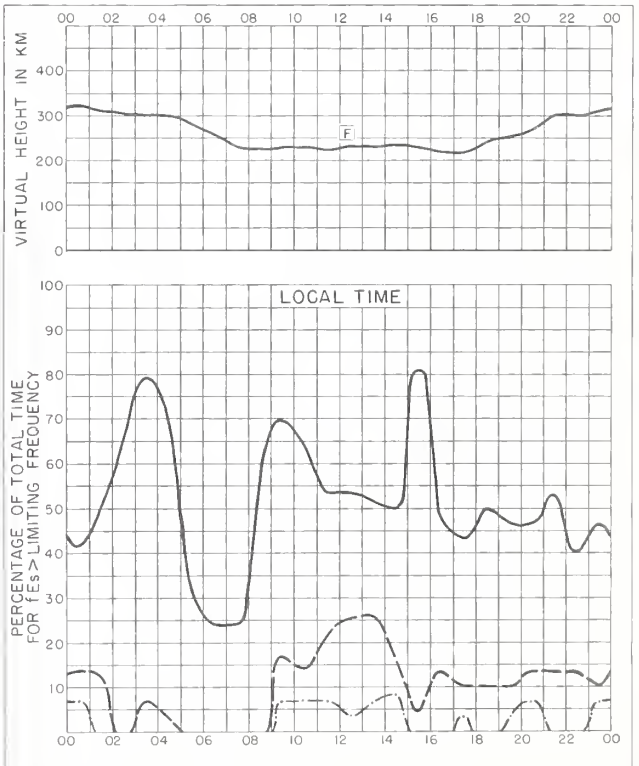


Fig. 103. WAKKANAI, JAPAN NOVEMBER 1959

NBS 490

Fig. 104. AKITA, JAPAN
39.7°N, 140.1°E NOVEMBER 1959

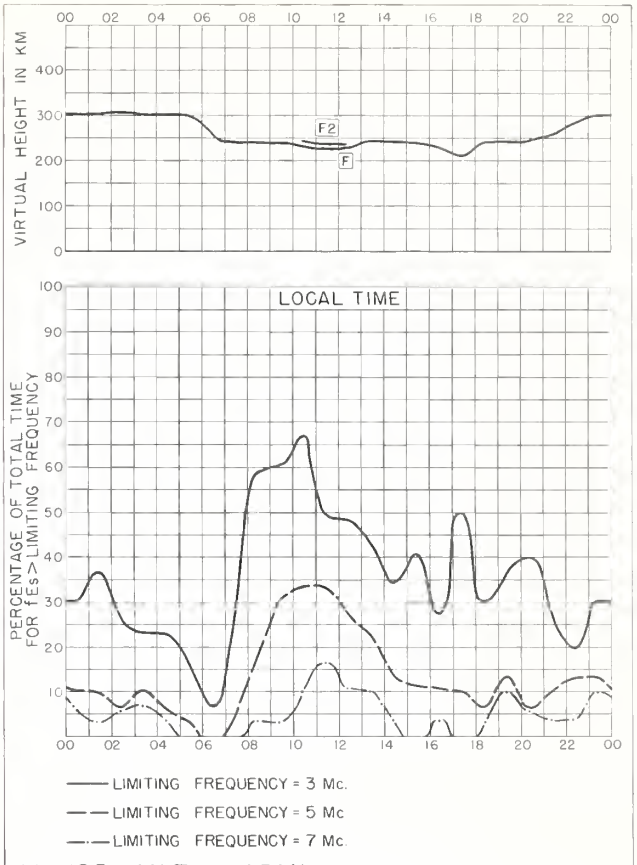


Fig. 105. AKITA, JAPAN NOVEMBER 1959

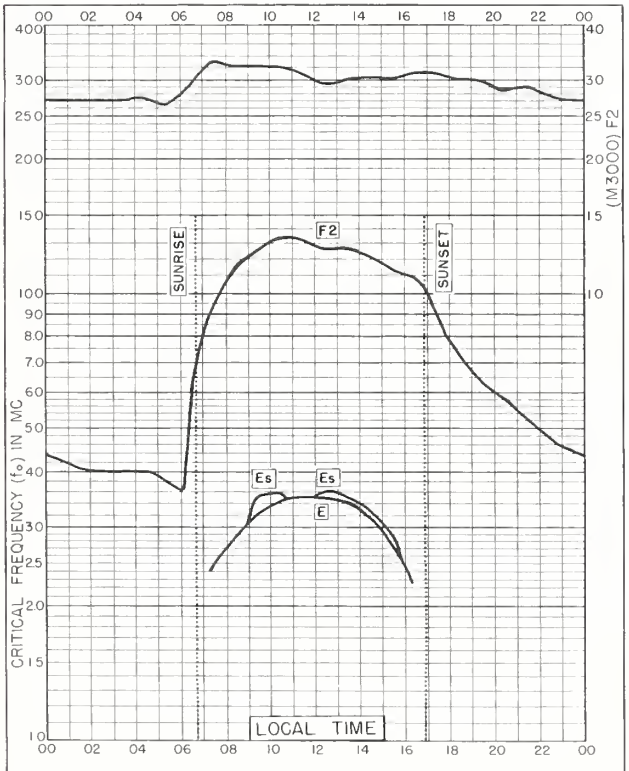


Fig. 106. TOKYO, JAPAN
35.7°N, 139.5°E NOVEMBER 1959

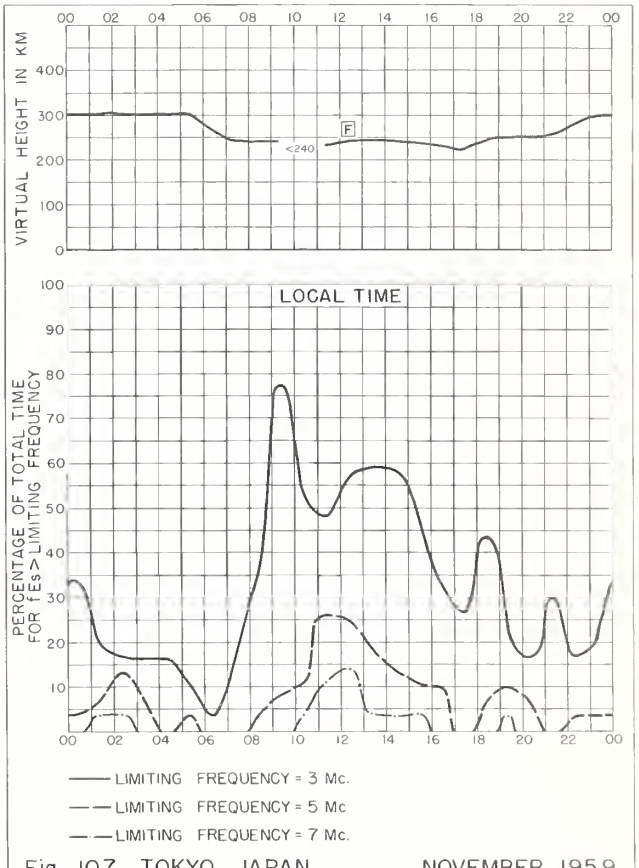


Fig. 107. TOKYO, JAPAN NOVEMBER 1959

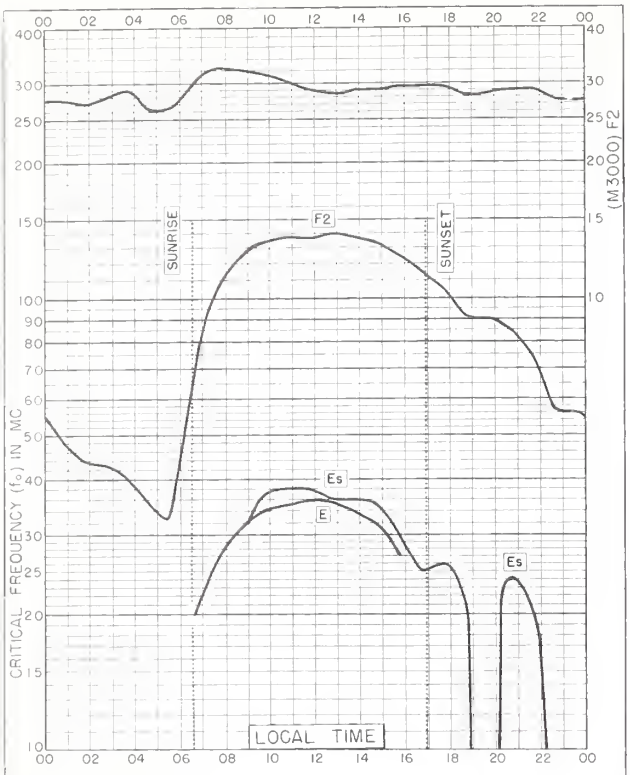


Fig. 108. YAMAGAWA, JAPAN
31.2°N, 130.6°E NOVEMBER 1959

NBS 503

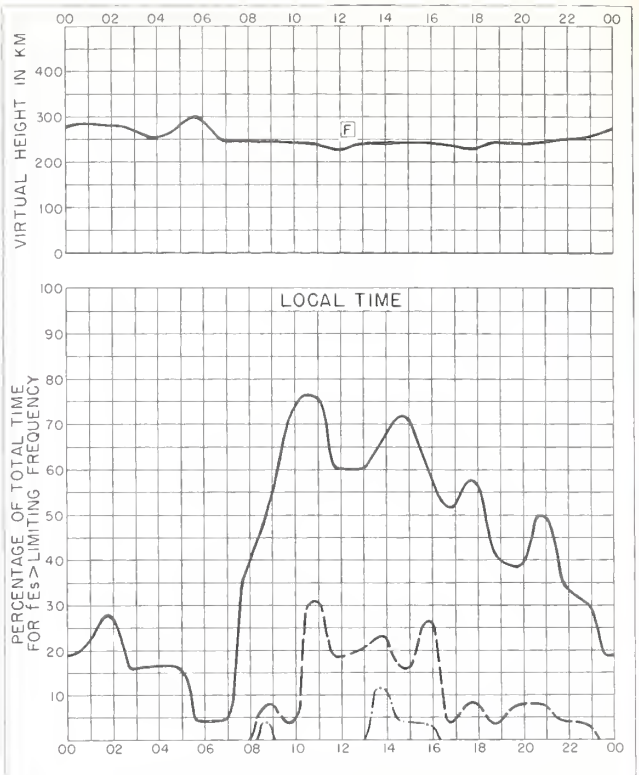


Fig. 109. YAMAGAWA, JAPAN NOVEMBER 1959

NBS 490

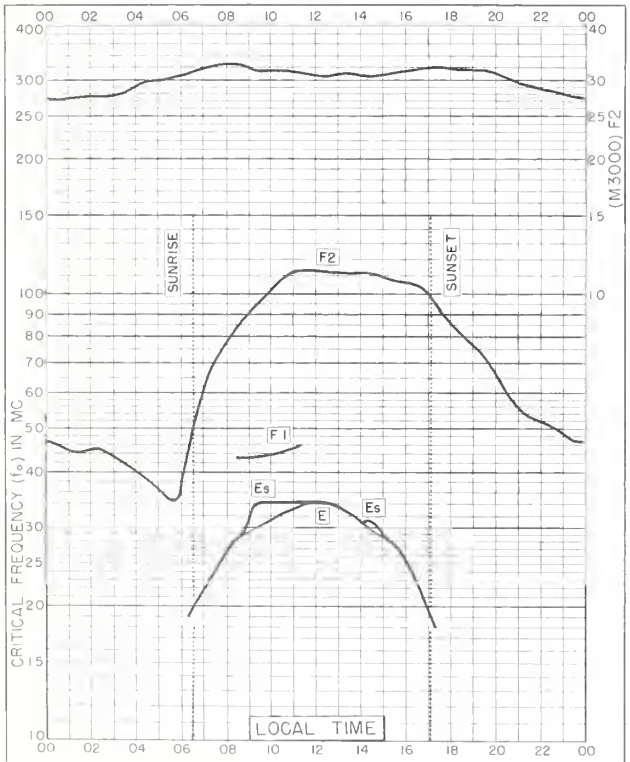


Fig. 110. De BILT, HOLLAND
52.1°N, 5.2°E OCTOBER 1959

NBS 503

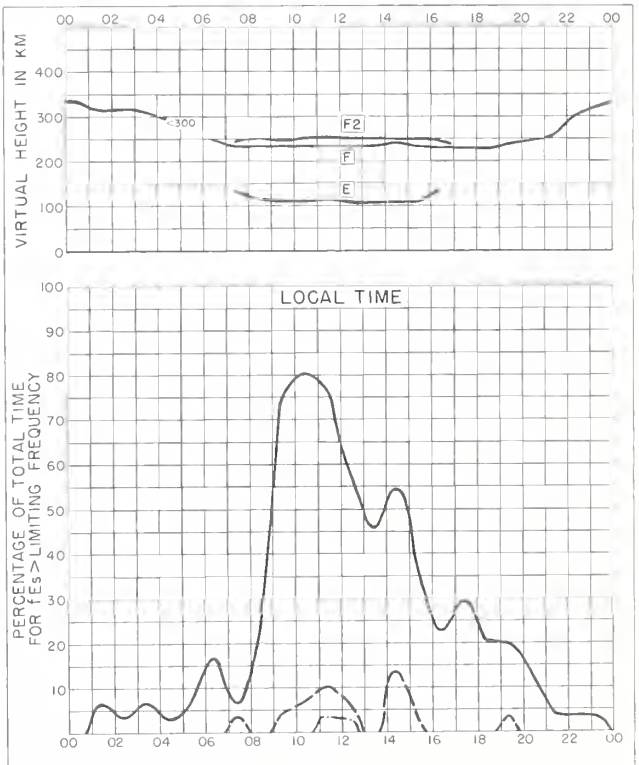


Fig. 111. De BILT, HOLLAND OCTOBER 1959

NBS 490

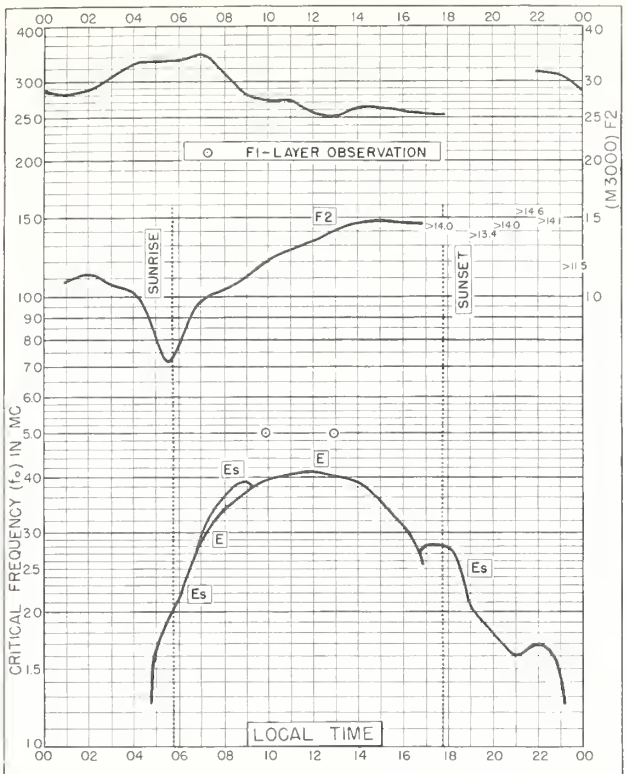


Fig. 112. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E OCTOBER 1959

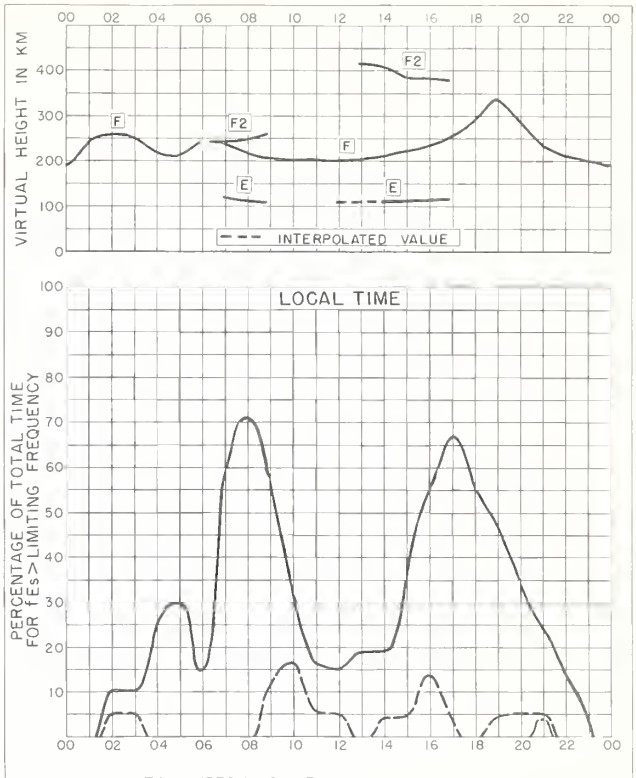


Fig. 113. LWIRO, BELGIAN CONGO OCTOBER 1959

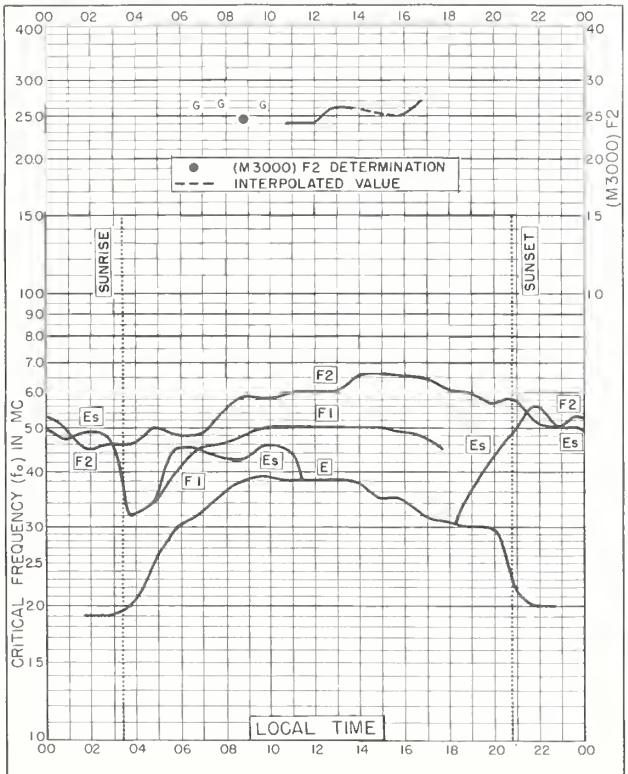


Fig. 114. CHURCHILL, CANADA
58.8°N, 94.2°W JULY 1959

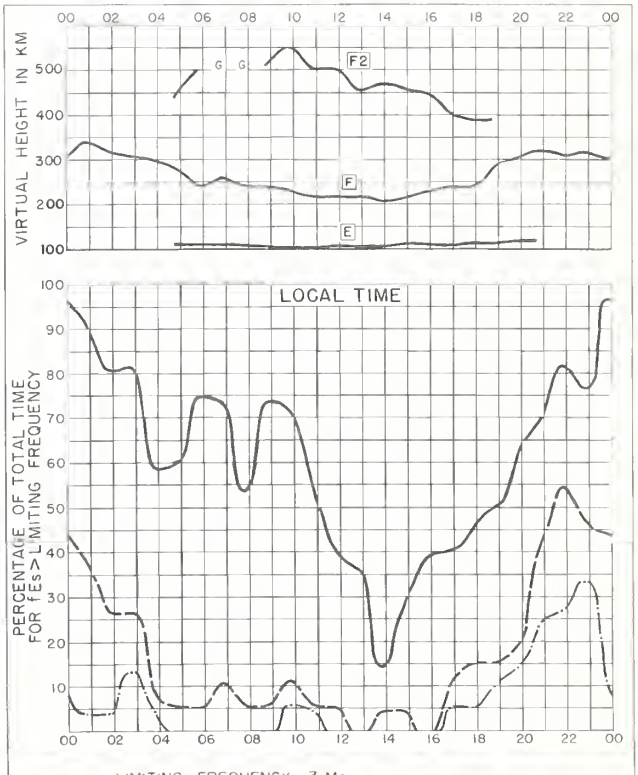


Fig. 115. CHURCHILL, CANADA JULY 1959

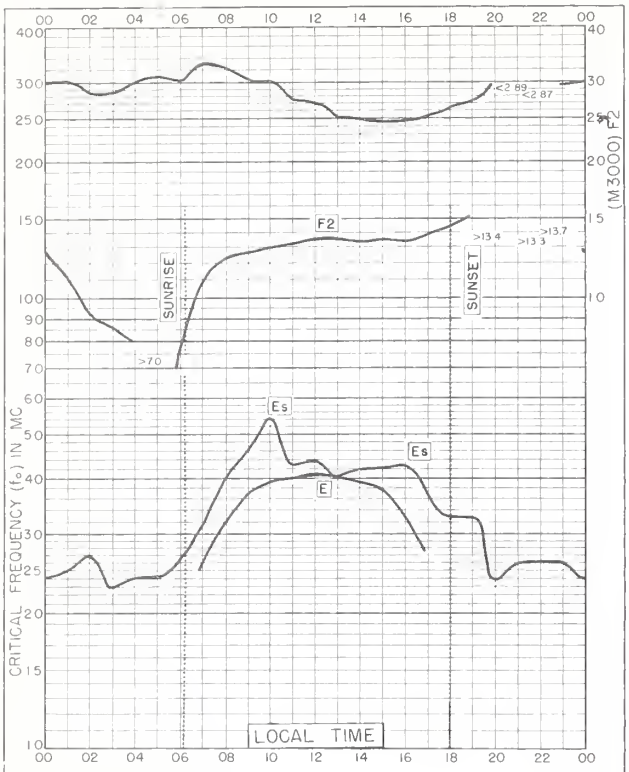


Fig. 116. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E JULY 1959

NBS 503

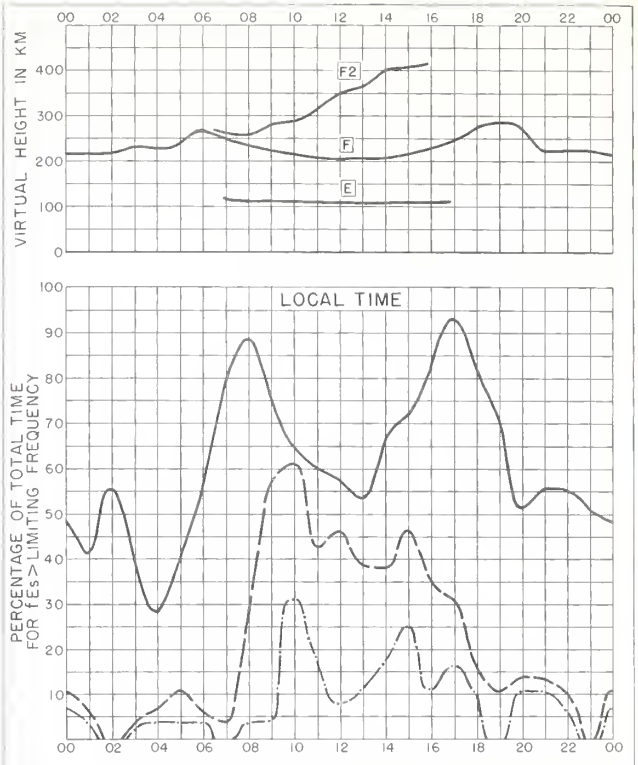


Fig. 117. LWIRO, BELGIAN CONGO JULY 1959

NBS 490

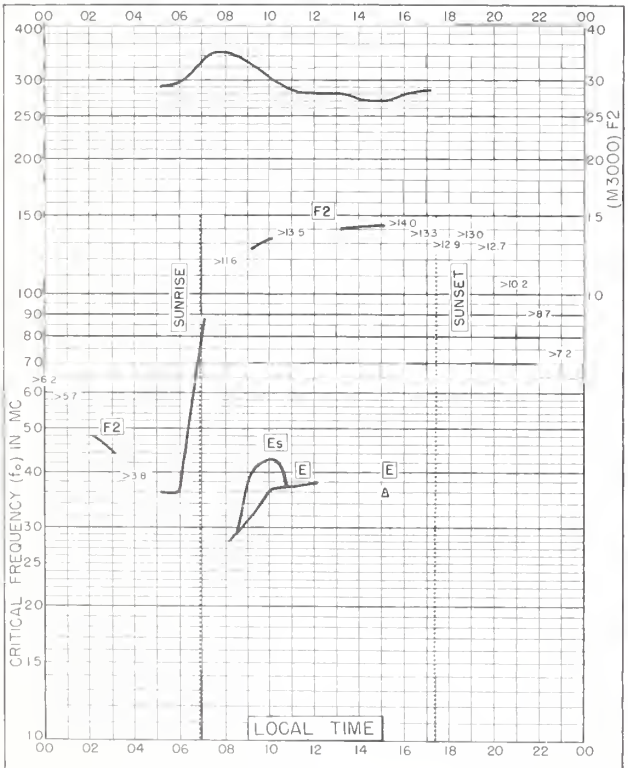


Fig. 118. DELHI, INDIA
28.6°N, 77.2°E JANUARY 1959

NBS 503

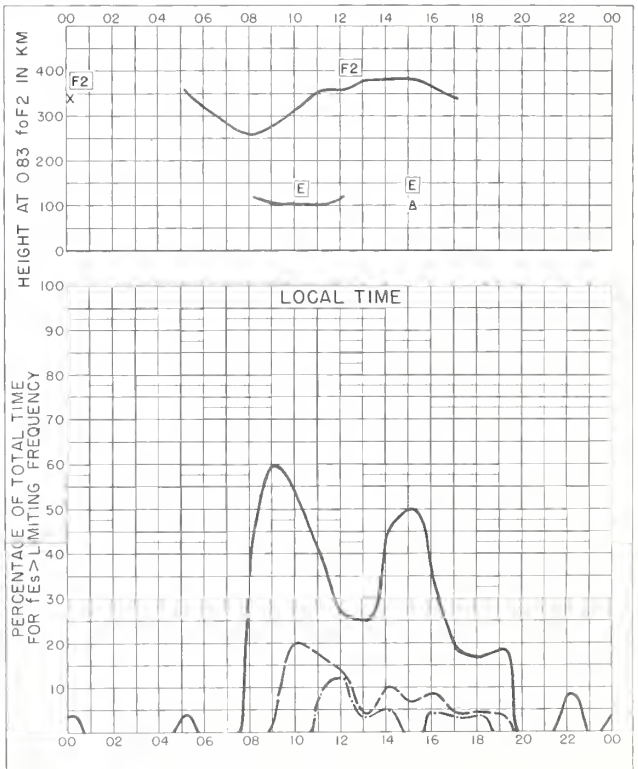


Fig. 119. DELHI, INDIA JANUARY 1959

NBS 490

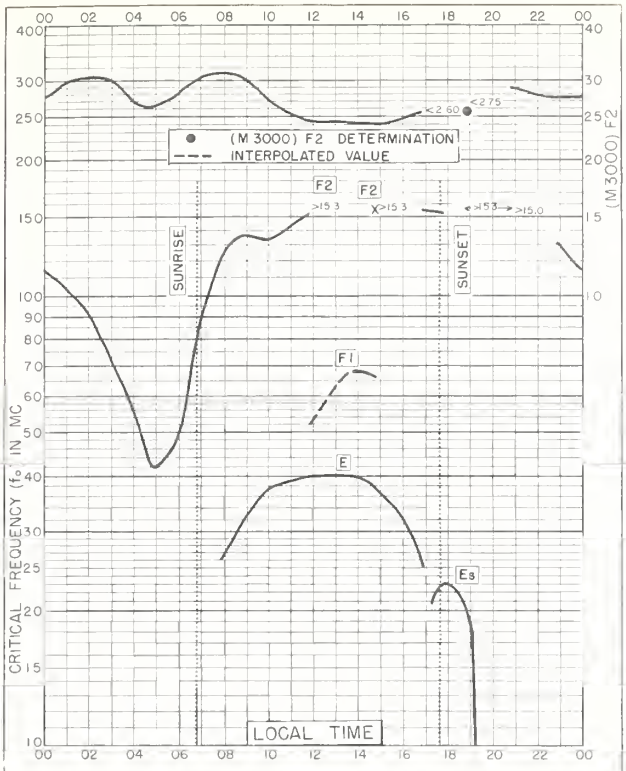


Fig. 120. AHMEDABAD, INDIA
23.0°N, 72.6°E JANUARY 1959

NBS 503

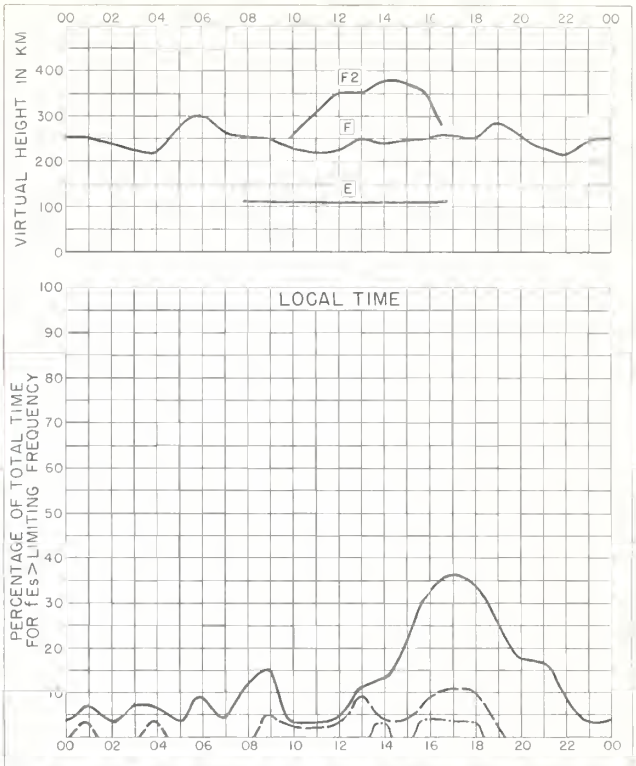


Fig. 121. AHMEDABAD, INDIA JANUARY 1959

NBS 490

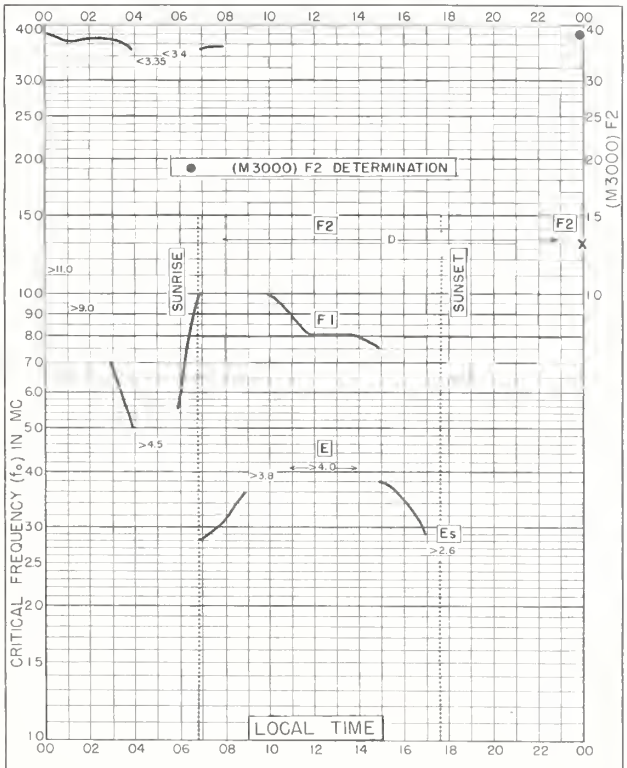


Fig. 122. CALCUTTA, INDIA
23.0°N, 88.6°E JANUARY 1959

NBS 503

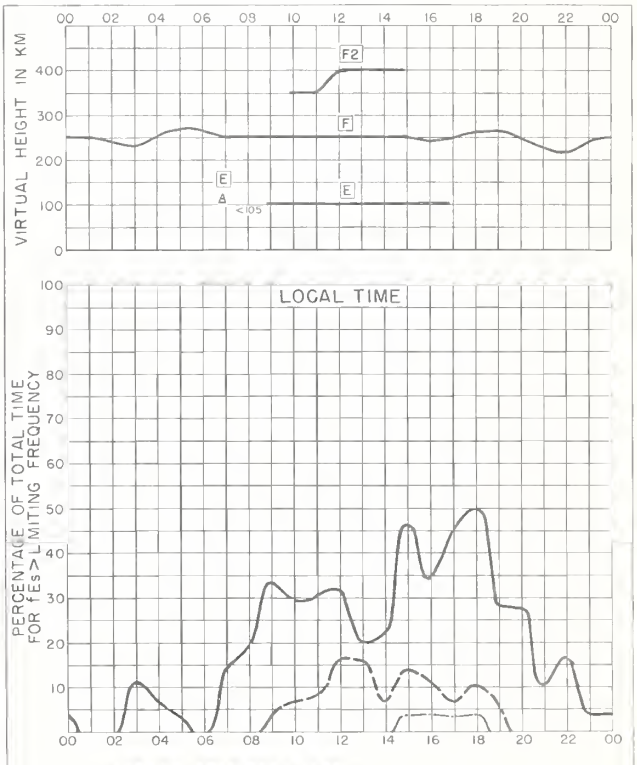


Fig. 123. CALCUTTA, INDIA JANUARY 1959

NBS 490

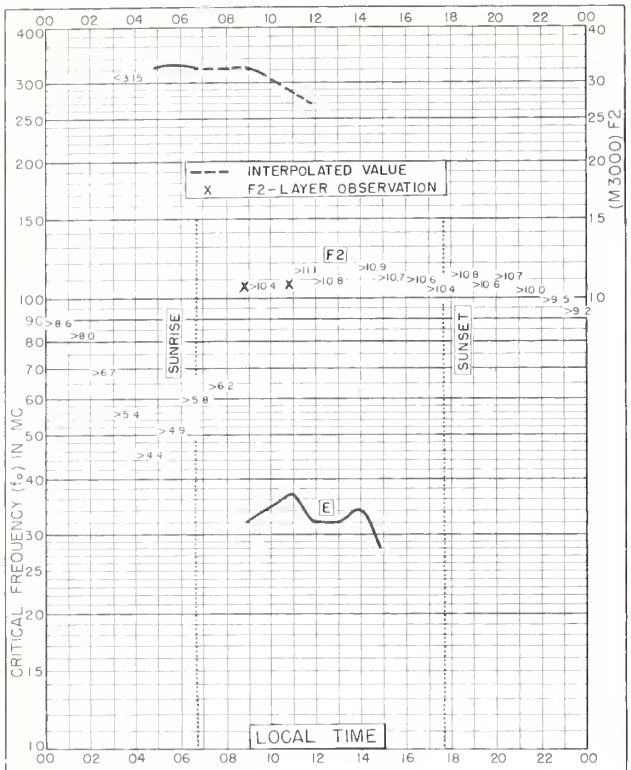


Fig. 124. BOMBAY, INDIA
19.0°N, 72.8°E JANUARY 1959

NBS 503

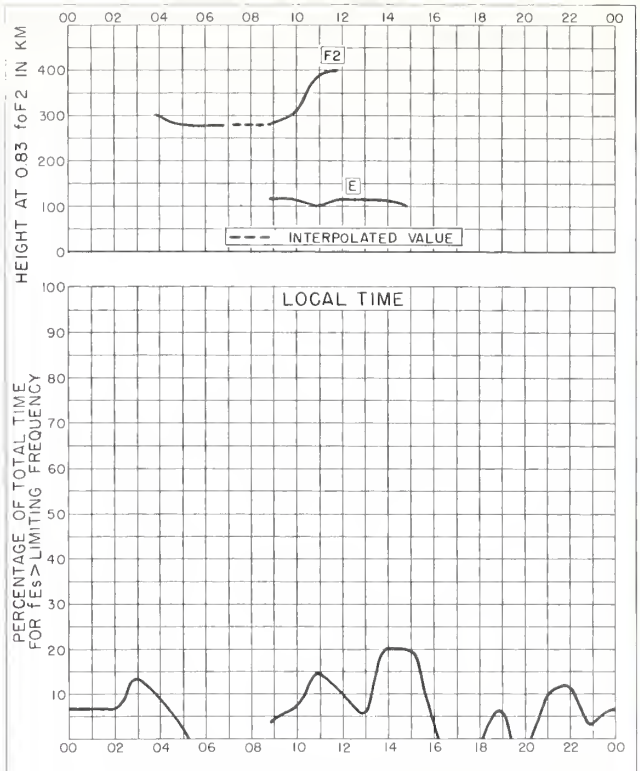


Fig. 125. BOMBAY, INDIA JANUARY 1959

NBS 490

Fig. 126. MADRAS, INDIA
13.1°N, 80.3°E JANUARY 1959

NBS 503

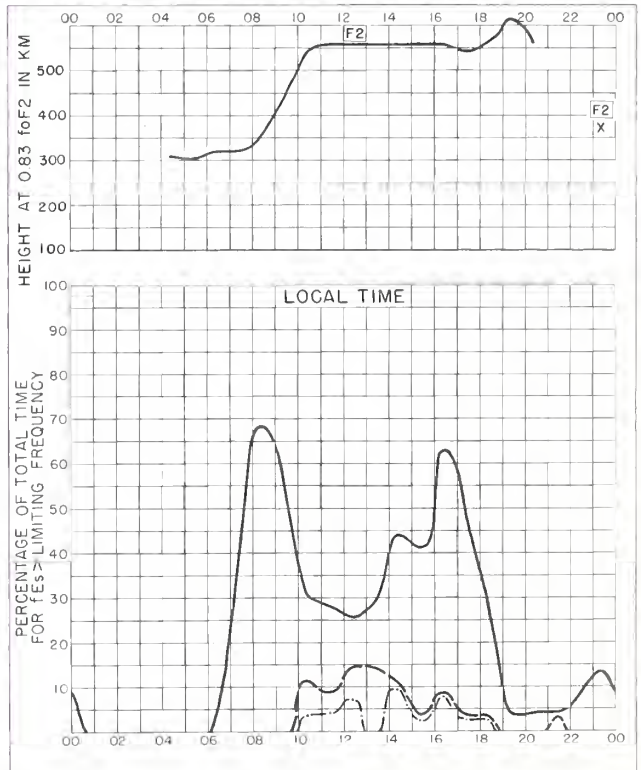


Fig. 127. MADRAS, INDIA JANUARY 1959

NBS 490

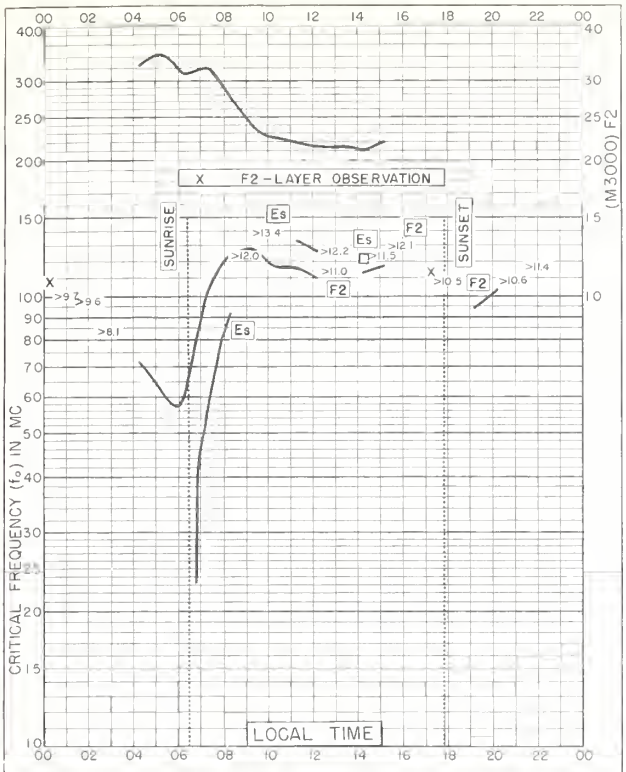


Fig. 128. TIRUCHY, INDIA
10.8°N, 78.7°E JANUARY 1959

NBS 503

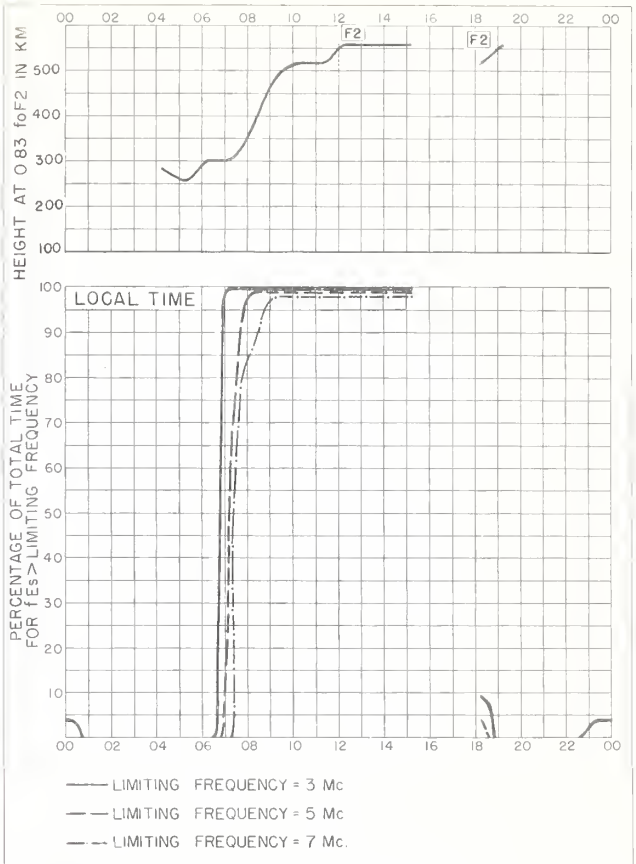


Fig. 129. TIRUCHY, INDIA JANUARY 1959

NBS 490

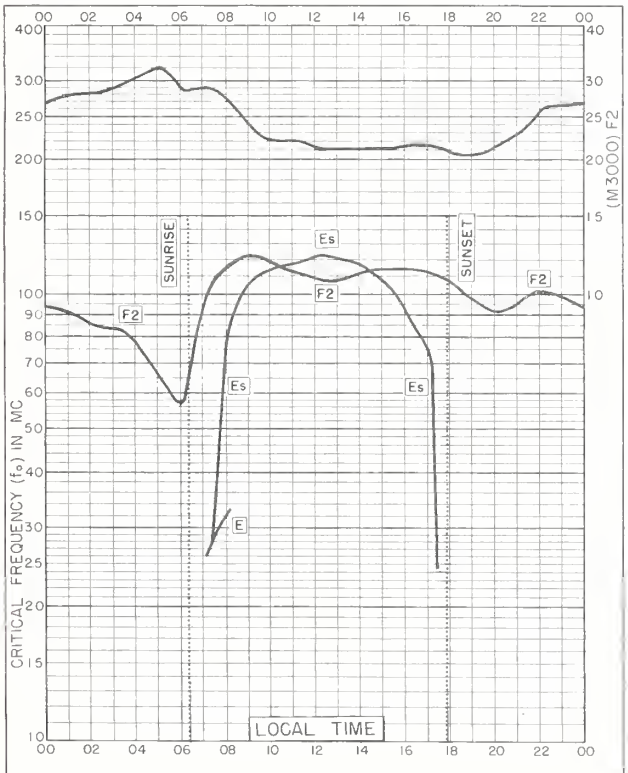


Fig. 130. KODAIKANAL, INDIA
10.2°N, 77.5°E JANUARY 1959

NBS 503

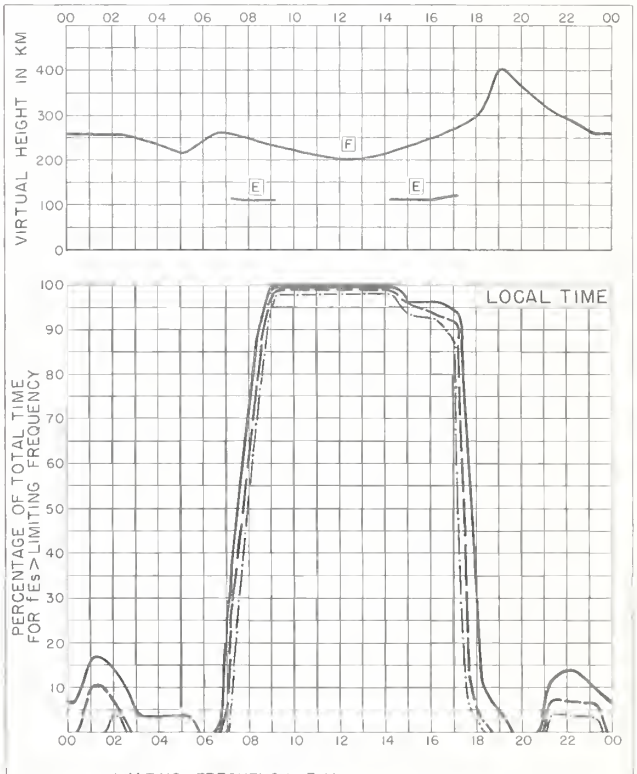


Fig. 131. KODAIKANAL, INDIA JANUARY 1959

NBS 490

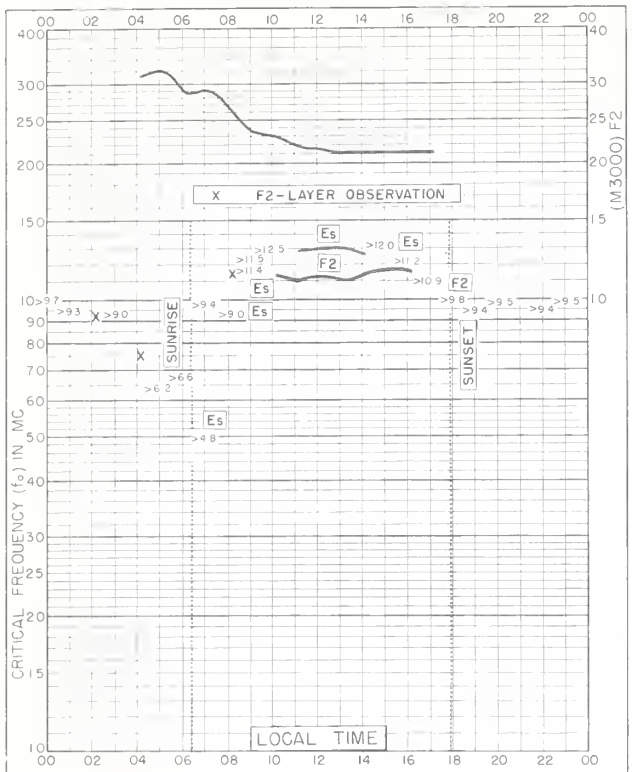


Fig. 132. TRIVANDRUM, INDIA
8.5°N, 77.0°E JANUARY 1959

NBS 503

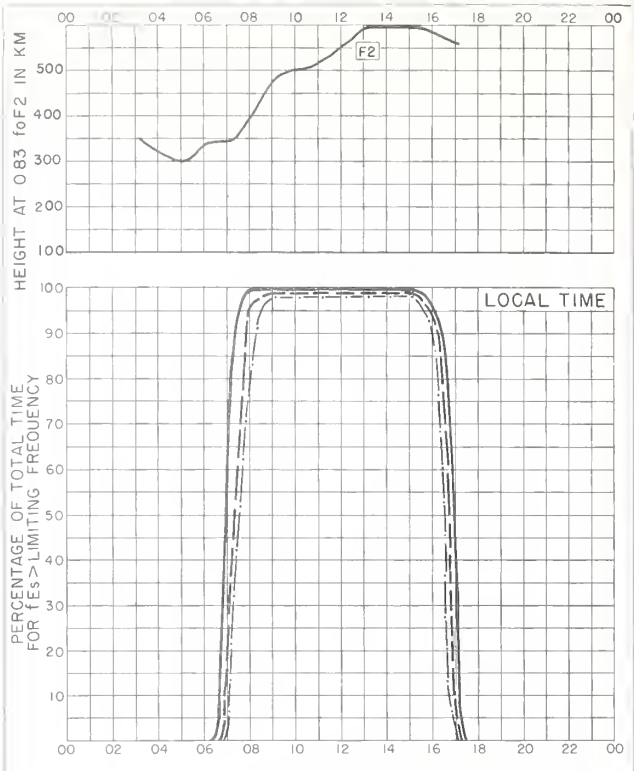


Fig. 133. TRIVANDRUM, INDIA JANUARY 1959

NBS 490

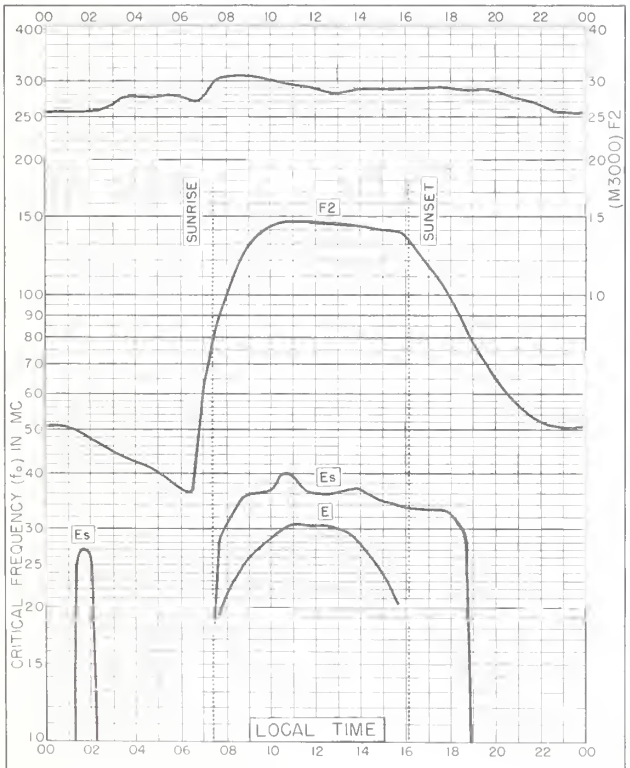


Fig. 134. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E NOVEMBER 1958

NBS 503

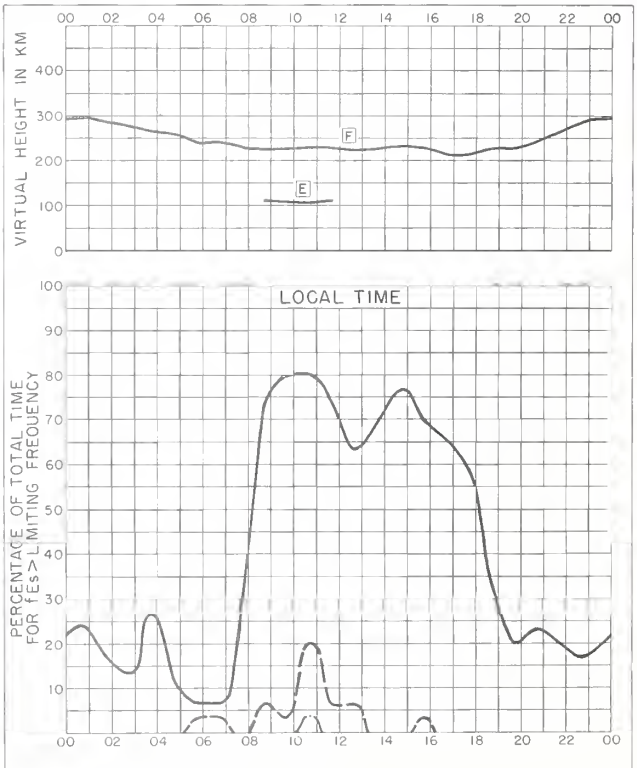


Fig. 135. LINDAU/HARZ, GERMANY NOVEMBER 1958

NBS 490

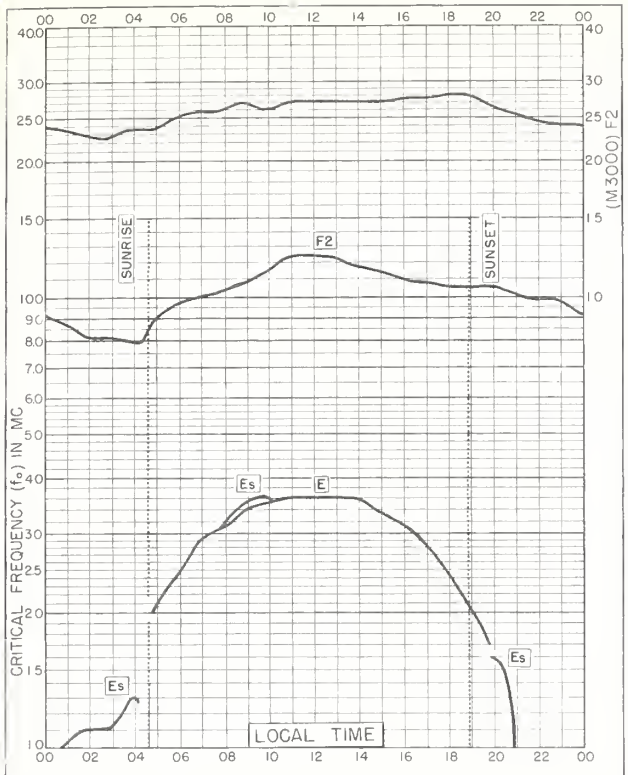


Fig. 136. PORT LOCKROY
64.8°S, 63.5°W OCTOBER 1958

NBS 503

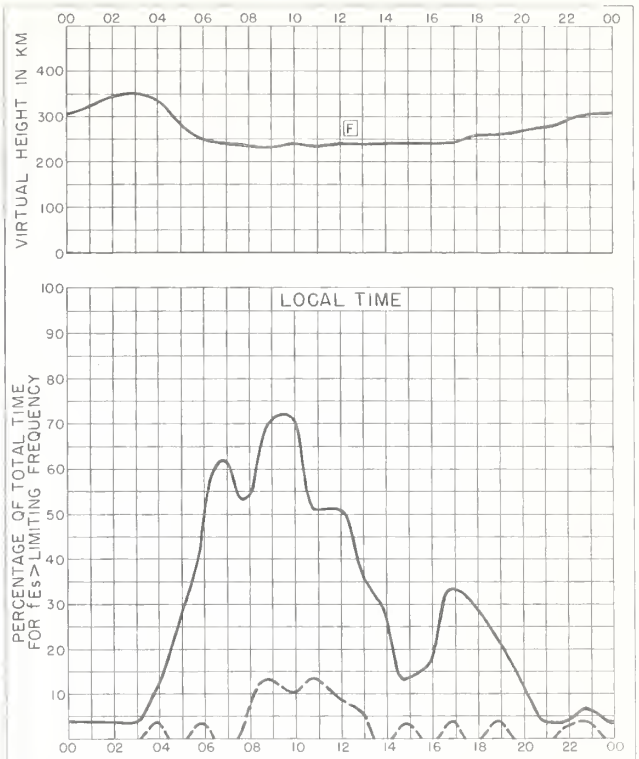


Fig. 137. PORT LOCKROY OCTOBER 1958

NBS 490

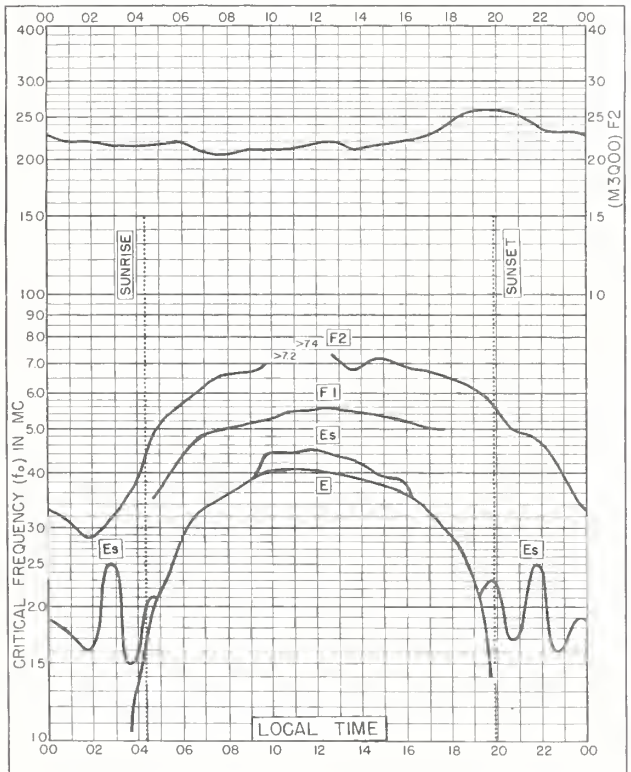


Fig. 138. KERGUELEN I.
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NBS 503

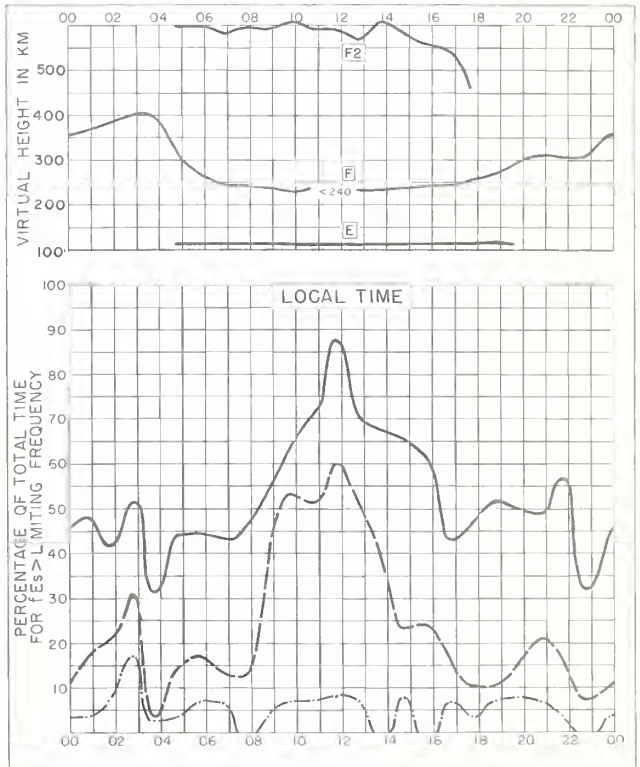

Fig. 139. KERGUELEN I. JANUARY 1958

NBS 490

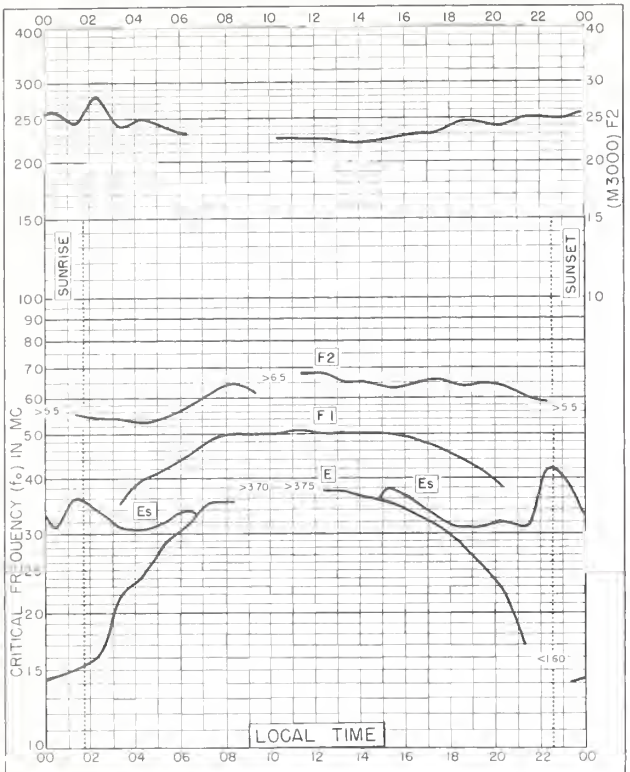

Fig. 140. TERRE ADELIE
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NBS 503

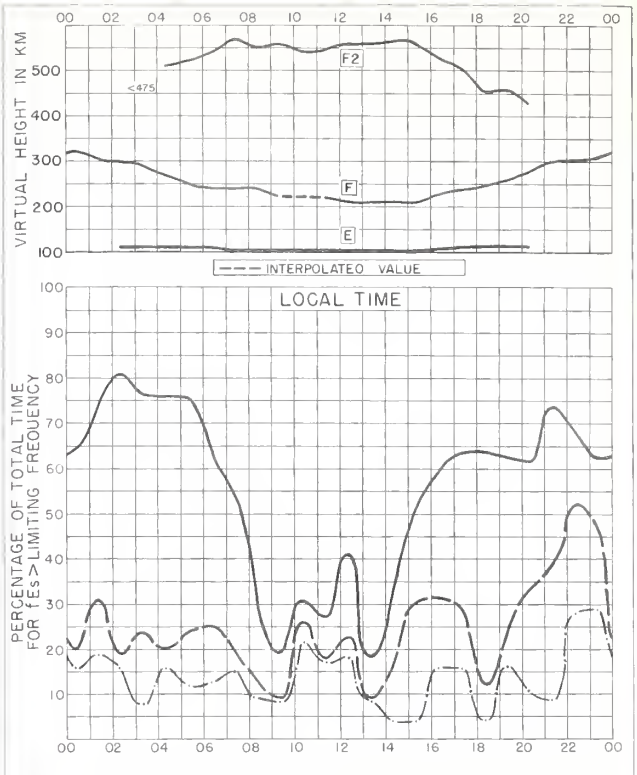

Fig. 141. TERRE ADELIE JANUARY 1958

NBS 490

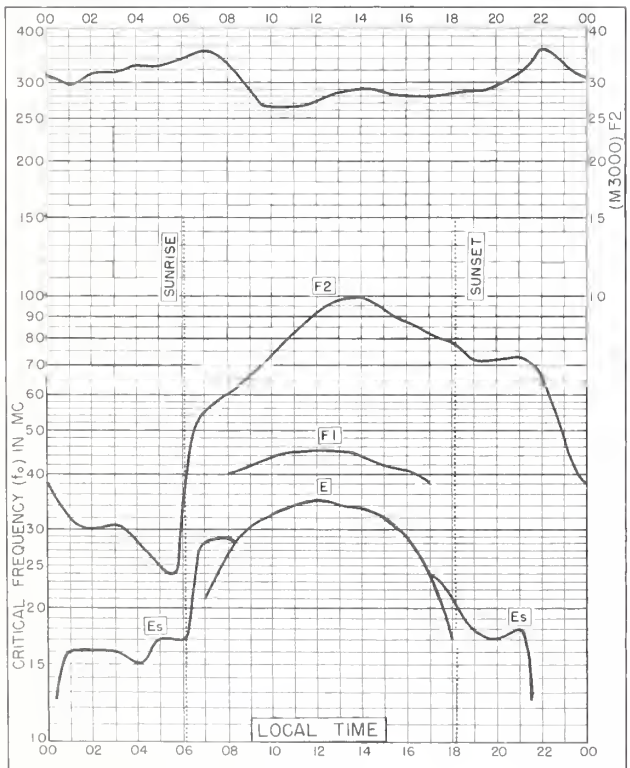

Fig. 142. LWIRO, BELGIAN CONGO
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NBS 503

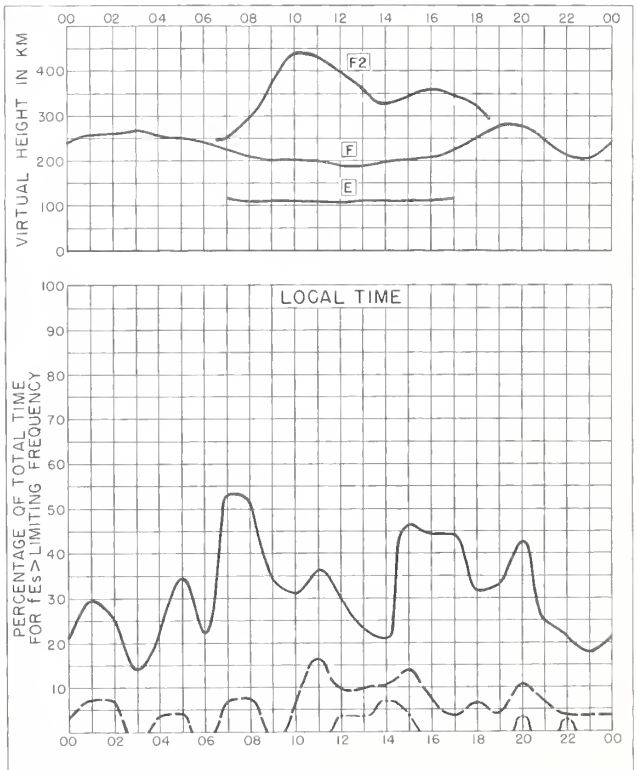

Fig. 143. LWIRO, BELGIAN CONGO JANUARY 1955

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[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

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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:

NBS Circular 462. Ionospheric Radio Propagation. $1.25.
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These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

Selected Technical Notes of the National Bureau of Standards:

NBS Tech. Note 2. PB151361. World Maps of F2 Critical Frequencies and Maximum Usable Frequency Factors. $3.50. PB151361-2. $3.50.
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