PART A

IONOSPHERIC DATA

ISSUED
NOVEMBER 1961

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

CRPL-F 207
PART A

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Issued
22 Nov. 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	68	63								

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

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

Escola Politecnica, University of Sao Paulo:
Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:
Falkland Is.
Inverness, Scotland
Port Lockroy
Singapore, British Malaya
Slough, England

Defence Research Board, Canada:
Churchill, Canada
Ottawa, 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
Narssarssuaq, Greenland

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodanklya, Finland

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

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover Germany:
Lindau/Harz, Germany
Tsumeb, South West Africa

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:
Calcutta (Institute of Radio Physics and Electronics)

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

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
Campbell I.
Christchurch, New Zealand
Rarotonga, Cook Is.

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

Manila Observatory:
Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:
Moscow

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

United States Army Signal Corps:
Grand Bahama I.

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

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 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F3	F3	F3	F3	F3	F3	B3	A3	A2	A2	A2	A3
HMIN	262	251	209	269	260	249						
SCAT	39.9	42.4	37.3	44.6	44.0	37.5						
HMAXF	368	344	287	354	341	325						
SHMAX	357	295	198	143	176	106						
KM												
370	430											
360	425			247								
350	407	515		247	311							
340	374	513		242	311							
330	335	500		230	307	214						
320	288	471		212	295	213						
310	230	431		188	273	205						
300	165	382		158	246	189						
290	103	316	392	114	211	167						
280	59.9	218	389	62.8	165	136						
270	31.0	110	372	12.4	84.8	89.0						
260		47.0	341		12.4	46.9						
250			298			12.4						
240			239									
230			152									
220			77.5									
210			33.3									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A3	A3	A0	A0	A0	A1	A1	A1	A1	A1	1	F2
HMIN									199	209	229	
SCAT									52.3	39.5	35.4	
HMAXF									311	311	325	
SHMAX									594	377	255	
KM												
330											469	
320									898	651	467	
310									898	651	448	
300									889	637	409	
290									863	603	362	
280									820	548	310	
270									762	482	240	
260									680	405	158	
250									561	318	91.5	
240									405	203	45.5	
230									240	106	12.4	
220									123	47.7		
210									57.5	12.4		
200									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F2	F2	F3	3	3	2	A2	2	2	2	2	A3
HMIN	252	210	200	241	252	266		110	111	109	108	
SCAT	41.6	33.3	40.8	52.2	42.6	40.4		55.8	45.2	46.6	51.1	
HMAXF	354	281	282	338	345	353		336	314	297	280	
SHMAX	571	405	287	269	201	187		813	927	1069	892	
KM												
360	1022					338						
350	1020				351	338						
340	995			409	350	329		793				
330	935			407	341	309		791				
320	856			397	321	281		778	1110			
310	752			380	293	241		744	1108			
300	594			357	254	193		709	1084	1424		
290	378	985	539	323	207	137		665	1028	1415		
280	198	985	538	278	141	74.5		616	953	1375	1115	
270	94.7	957	527	225	78.1	26.3		561	858	1303	1105	
260	38.3	884	498	151	36.4			502	734	1197	1074	
250		766	454	83.1				436	607	1054	1018	
240		528	393					375	489	859	947	
230		231	310					322	391	638	847	
220		64.5	196					273	323	439	709	
210			87.7					233	280	322	526	
200			12.4					200	251	273	370	
190								173	230	252	301	
180								149	211	235	268	
170								128	193	214	251	
160								108	173	195	238	
150								89.6	150	172	222	
140								78.2	119	147	174	
130								72.0	106	135	151	
120								68.9	99.8	130	146	
110								12.4		29.7	53.9	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	3	A4	A4	A4	A3	A3	A3	A2	A2	2	2
HMIN	110	109							229		250	261
SCAT	48.2	41.1							43.1		37.3	33.0
HMAXF	341	331							347		334	349
SHMAX	1204	1205							470		338	340
KM												
350	1147								710			685
340	1146	1246							706		639	673
330	1130	1245							684		637	624
320	1090	1222							640		616	564
310	1020	1152							583		572	482
300	939	1067							514		507	372
290	850	963							437		427	250
280	757	851							361		332	128
270	661	741							280		226	46.2
260	569	638							198		109	
250	489	547							119		12.4	
240	425	473							58.2			
230	378	415							12.4			
220	343	371										
210	317	339										
200	300	318										
190	292	304										
180	286	293										
170	279	290										
160	272	285										
150	258	273										
140	235	252										
130	199	217										
120	169	176										
110	13.4	130										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	2	A2	A3	3	3	4	B4	A4	A4	A4	A4	4
HMIN	250	210		235	280	300			110	108		106
SCAT	41.9	27.0		46.9	48.0	42.8			29.8	40.9		69.8
HMAXF	343	260		337	366	376			261	266		321
SHMAX	300	329		251	204	175			582	556		862
KM												
380						332						
370					338	331						
360					337	321						
350	669				329	301						
340	668			407	313	274						
330	652			404	290	234						681
320	616			393	257	163						681
310	563			372	212	82.7						677
300	495			343	152	12.4						666
290	416			302	84.9							648
280	311			249	12.4							623
270	192	994		176					1022	740		592
260	83.1	994		102					1022	736		552
250	12.4	957		55.8					987	711		508
240		851		25.5					897	663		461
230		650							739	594		413
220		255							560	499		369
210		12.4							400	386		336
200									289	308		313
190									238	268		296
180									214	244		285
170									194	221		277
160									168	194		268
150									140	170		254
140									121	152		218
130									111	139		186
120									105	132		166
110									62.1	43.7		156

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	A4	A4	A2	A2	A2	A1	A1	A1	A2	A2	A2	1
HMIN										249	259	289
SCAT										47.1	35.4	44.4
HMAXF										354	341	377
SHMAX										405	270	348
KM												
380												594
370												590
360										630		571
350										629	594	535
340										617	593	490
330										587	579	437
320										550	538	368
310										498	478	260
300										430	363	86.8
290										349	213	12.4
280										255	112	
270										144	50.3	
260										66.0	12.4	
250										12.4		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	F1	F1	F2	F2	2	2	B2	A2	A3	A3	A3	3
HMIN	250	230			226	213						111
SCAT	40.5	44.9			35.8	28.5						63.9
HMAXF	327	306			307	274						325
SHMAX	327	290			184	134						834
KM												
330	648											654
320	643											653
310	621	564			381							644
300	575	561			378							620
290	515	546			360							597
280	417	516			327	351						570
270	262	472			277	350						537
260	117	397			210	331						503
250	12.4	236			126	291						466
240		85.7			61.1	235						429
230		12.4			23.1	137						392
220						51.5						358
210												330
200												309
190												294
180												282
170												272
160												259
150												239
140												213
130												178
120												158

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	3	3	A3	A3	A3	A5	A5	A5	6	6	6	6
HMIN	109	110							251	223	239	252
SCAT	44.9	45.0							44.7	39.1	43.5	45.5
HMAXF	323	313							360	308	343	364
SHMAX	940	1071							869	756	688	672
KM												
370												1041
360									1411			1039
350									1394		1121	1017
340									1342		1119	964
330	915								1253		1095	897
320	914	1195							1134		1041	808
310	895	1193							996	1379	955	698
300	847	1169							808	1364	849	569
290	788	1106							563	1297	719	409
280	716	1031							332	1198	577	261
270	638	936							143	1070	386	129
260	556	815							58.2	907	216	56.1
250	480	685								697	104	
240	416	557								425	22.3	
230	366	450								184		
220	334	375										
210	312	326										
200	298	298										
190	290	282										
180	282	271										
170	275	266										
160	265	260										
150	250	243										
140	223	217										
130	188	193										
120	171	173										
110	33.5	19.7										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	6	6	4	F4	A4	F4	F4	F4	F5	A5	5	5
HMIN	239	239	250		292	249			109	107	108	108
SCAT	33,9	52,0	36,5		44,1	44,3			41,2	80,4	83,0	81,6
HMAXF	311	383	341		393	337			292	333	325	338
SHMAX	568	590	489		463	443			469	531	589	671
KM												
400					744							
390		707			749							
380		706			727							
370		696			692							
360		672			635							
350		631	915		574							
340		587	915		503	754				329		420
330		541	896		406	749				329	390	419
320	1329	489	840		274	726				327	390	415
310	1328	428	756		153	679				322	387	408
300	1293	367	654		49,9	625			594	311	382	398
290	1196	308	533			558			593	301	373	382
280	1045	249	376			458			580	291	362	367
270	794	190	213			297			550	280	347	350
260	416	115	94,0			159			502	270	331	333
250	118	52,2	12,4			23,8			437	261	314	317
240	22,5	12,4							346	254	296	302
230									254	247	279	289
220									203	243	264	278
210									187	239	253	269
200									184	234	246	263
190									180	229	243	257
180									169	221	240	253
170									145	208	237	249
160									119	189	227	241
150									104	165	208	228
140									94,9	142	182	201
130									89,7	126	157	168
120									86,9	117	144	143
110									27,2	93,7	53,6	90,7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	5	A5	A3	A3	A3	A4	A4	A4	A3	A3	3	4
HMIN	109									237	239	279
SCAT	51,1									49,2	47,0	41,4
HMAXF	317									348	350	370
SHMAX	631									377	278	220
KM												
370												390
360											420	385
350										567	420	368
340										563	415	340
330										549	400	301
320	519									522	376	250
310	517									484	343	188
300	504									431	301	114
290	477									363	249	58,0
280	450									292	197	12,4
270	416									209	141	
260	381									126	83,0	
250	345									62,2	42,6	
240	316									19,9	12,4	
230	294											
220	279											
210	269											
200	265											
190	260											
180	244											
170	224											
160	204											
150	187											
140	179											
130	169											
120	158											
110	48,7											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	F4	F4	3	F3	3	2	B2	2	A2	A2	A2	A5
HMIN	272	299	250	240	259	251		112	109			
SCAT	43,3	36,1	48,4	39,4	42,0	40,8		44,0	45,6			
HMAXF	396	392	349	317	356	344		299	282			
SHMAX	315	279	329	202	246	255		488	594			
KM												
400	465	510										
390	463	509										
380	460	495										
370	421	458										
360	387	411			412							
350	348	358	512		410	440						
340	304	298	508		397	439						
330	254	212	492		369	427						
320	195	115	463	387	338	400						
310	133	54,4	429	384	300	364						
300	82,4	12,4	385	368	251	319		602				
290	50,4		325	340	178	265		595	779			
280	25,9		248	303	105	202		574	778			
270			151	250	53,3	115		535	765			
260			67,8	176	12,4	52,0		490	733			
250			12,4	94,8				437	680			
240				12,4				369	613			
230								294	526			
220								235	423			
210								197	311			
200								171	242			
190								149	208			
180								127	190			
170								106	167			
160								88,0	132			
150								75,2	104			
140								68,1	89,4			
130								64,6	81,6			
120								62,4	77,3			
110									71,2			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	A5	A5	A3	A3	A3	2	A2	B2	4	4	4	3
HMIN						108			251	268	288	298
SCAT						43,6			37,0	39,9	41,2	41,9
HMAXF						302			354	365	368	383
SHMAX						961			336	363	379	355
KM												
390												610
380												609
370										639	678	595
360									577	636	672	560
350									576	617	645	514
340									558	575	596	452
330									516	518	532	375
320									463	445	448	294
310						1195			400	353	354	201
300						1195			331	251	240	75,2
290						1173			258	160	102	
280						1110			182	68,3		
270						1036			106	17,8		
260						940			45,4			
250						834						
240						713						
230						581						
220						449						
210						336						
200						262						
190						224						
180						208						
170						196						
160						178						
150						155						
140						131						
130						114						
120						106						
110						70,9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	A3	3	3	A3	B3	A3	A3	A3	A3	A3
HMIN	261	209		242	221	255		110				
SCAT	44.1	23.0		36.0	32.3	35.2		25.5				
HMAXF	356	259		306	284	348		244				
SHMAX	394	224		156	106	88		307				
KM												
360	685											
350	682					158						
340	663					156						
330	627					146						
320	570					134						
310	494			348		119						
300	396			346		98.1						
290	277			331	250	75.8						
280	135			303	249	53.5						
270	47.7			259	238	34.9						
260		772		192	215	19.0						
250		744		98.3	180			619				
240		643			138			615				
230		402			59.3			572				
220		142						479				
210		24.5						339				
200								232				
190								182				
180								154				
170								132				
160								111				
150								90.1				
140								74.0				
130								64.9				
120								60.7				
110								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A3	A3	A2	A2	A2	A1	A1	B1	B2	2	2	S2
HMIN									229	242	259	
SCAT									42.7	34.8	41.0	
HMAXF									325	336	338	
SHMAX									461	429	442	
KM												
340										790	815	
330									744	783	807	
320									741	739	774	
310									721	677	717	
300									677	595	639	
290									618	505	540	
280									545	402	406	
270									462	279	227	
260									373	154	29.7	
250									276	52.0		
240									158			
230									33.0			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	E2	2	3	3	3	3	B3	A3	C3	A3	A3	A2
HMIN	271	266	241	209	214	238						
SCAT	35.2	36.3	31.3	32.4	33.5	37.5						
HMAXF	365	350	309	273	286	323						
SHMAX	442	416	374	296	168	119						
KM												
370	827											
360	822											
350	780	808										
340	719	793										
330	636	743				224						
320	537	672				223						
310	422	582	866			217						
300	283	464	849			202						
290	154	332	785		369	180						
280	51.1	157	692	688	366	151						
270		32.7	564	686	348	118						
260			383	661	314	82.4						
250			148	602	262	50.7						
240				511	194	16.8						
230				381	117							
220				228	49.1							
210				58.5								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	A2	A2	A2	A2	A3	A3	B3	2	2	2	2
HMIN									208	228	273	255
SCAT									51.9	36.0	37.3	27.1
HMAXF									318	351	362	322
SHMAX									610	461	410	304
KM												
370											761	
360										761	761	
350										761	742	
340										744	692	
330										692	626	761
320									850	627	534	760
310									845	548	430	722
300									824	462	315	634
290									787	373	193	516
280									734	283	55.9	361
270									669	195		201
260									592	119		60.4
250									502	70.6		
240									400	37.7		
230									285	12.4		
220									152			
210									33.5			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	2	2	4	4	4	2	B2	C2	C1	A1	A1	A3
HMIN	240	219	282	253	250	265						
SCAT	27.3	30.4	31.7	33.5	55.9	43.8						
HMAXF	302	283	354	331	361	364						
5HMAX	278	250	181	185	267	183						
KM												
370					373	295						
360			387		373	294						
350			385		369	288						
340			368	396	359	273						
330			331	396	343	251						
320			285	386	321	223						
310	704		229	358	294	190						
300	703		163	313	254	153						
290	669	610	89.4	251	204	112						
280	589	609		180	147	66.2						
270	483	583		102	91.9	26.1						
260	352	524		39.9	46.0							
250	186	431			1.7							
240	12.4	311										
230		153										
220		29.9										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A3	A3	1	A1	A1	A1	A1	B1	3	3	3	4
HMIN			109						202	289	271	251
SCAT			52.6						47.1	37.0	32.9	29.8
HMAXF			328						307	355	346	341
5HMAX			1161						634	401	353	388
KM												
360										808		
350										804	775	831
340										773	769	831
330			1152							711	731	805
320			1146							629	657	731
310			1120						980	528	553	633
300			1071						976	397	421	512
290			1003						950	209	260	367
280			919						903		80.8	220
270			827						832			111
260			725						743			46.6
250			620						631			
240			521						508			
230			436						366			
220			373						212			
210			333						67.8			
200			308									
190			291									
180			277									
170			263									
160			249									
150			229									
140			199									
130			178									
120			167									
110			41.7									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	4	4	4	4	4	3	B3	B3	B3	B3	B3	A3
HMIN	262	227	269	210	263	214						
SCAT	34.3	42.4	40.9	36.4	36.0	43.3						
HMAXF	337	326	341	334	351	310						
5HMAX	414	474	399	463	316	327						
KM												
360					602							
350			740		602							
340	870		740	723	588							
330	860	812	727	722	548							
320	815	808	691	698	491	564						
310	733	784	633	645	417	564						
300	625	735	555	581	331	556						
290	498	667	462	516	234	533						
280	317	576	349	447	138	495						
270	96.5	470	169	372	47.3	438						
260		344		293		362						
250		189		212		278						
240		81.6		134		177						
230		26.5		75.4		92.5						
220				38.4		34.3						
210				3.9								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A3	A3	A2	A2	A2	A2	B2	B2	3	3	3	2
HMIN									213	248	236	252
SCAT									43.2	37.5	38.0	38.5
HMAXF									341	346	333	341
5HMAX									595	488	433	372
KM												
350									870	890		675
340									870	883	779	675
330									855	847	778	660
320									811	777	757	620
310									754	683	706	562
300									683	574	637	487
290									599	442	549	403
280									507	304	445	306
270									414	160	333	178
260									323	66.8	198	64.2
250									223	18.4	95.1	
240									135		28.3	
230									69.7			
220									31.8			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	2	1	1	1	1	81	A1	1	1	81	83
HMIN	285	288	228	224	203	201	100		112	108		112
SCAT	31.7	36.2	37.0	27.2	24.5	52.5	39.9		49.9	36.2		59.3
HMAXF	366	358	328	305	252	305	262		246	256		325
SHMAX	316	371	430	328	332	172	169		334	452		838
KM												
370	660											
360	654	772										
350	614	762										
340	551	723										
330	467	655	783									672
320	374	558	783									671
310	265	434	742	801		231						661
300	134	265	677	795		230						642
290	37.5	87.4	590	740		226						610
280			478	639		218						574
270			358	496		204	224					534
260			223	332	1100	189	223			549		493
250			115	185	1098	172	218		394	545		449
240			55.6	84.8	1034	151	205		392	522		408
230			17.2	33.1	864	131	188		383	477		373
220					547	110	167		362	427		343
210					118	85.1	142		342	374		323
200							118		318	330		309
190							95.7		288	297		298
180							77.6		253	273		291
170							63.1		220	252		284
160							52.7		190	230		272
150							45.0		162	208		250
140							39.0		136	181		218
130							37.2		114	149		182
120							35.8		106	134		155
110							32.1			101		
100							21.5					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	83	83	83	83	83	82	A2	82	2	2	C2	C1
HMIN									218	259		
SCAT									39.5	39.7		
HMAXF									327	354		
SHMAX									647	503		
KM												
360										894		
350										891		
340										865		
330									1126	807		
320									1116	725		
310									1072	620		
300									991	498		
290									878	357		
280									743	220		
270									582	86.6		
260									405	12.4		
250									241			
240									124			
230									57.9			
220									17.2			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	C1	C1	C3	C3	C3	C1	C1	C1	C1	81	81	A0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	80	80	81	81	1	0	A0	90	0	0	0	1
HMIN					111	110			203	249	262	288
SCAT					52.7	50.0			44.9	38.1	37.0	41.0
HMAXF					347	348			325	339	358	378
SHMAX					1164	1161			563	417	341	366
KM												
380												648
370												642
360											619	618
350					1100	1234					611	573
340					1095	1227				754	581	512
330					1070	1196			779	744	527	434
320					1018	1141			777	703	463	346
310					958	1058			759	647	388	240
300					887	961			721	573	300	110
290					805	852			662	480	196	20.7
280					720	737			600	367	104	
270					631	615			531	234	37.8	
260					543	503			459	125		
250					459	402			387	23.2		
240					390	328			315			
230					334	281			237			
220					298	254			161			
210					278	237			64.2			
200					267	226						
190					260	214						
180					251	196						
170					236	172						
160					208	150						
150					180	135						
140					162	125						
130					151	119						
120					145	115						
110						49.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	1	1	1	1	6	B6	B6	88	8	88	88
HMIN	291	259	202	216	221	248				112		
SCAT	35.3	32.5	29.1	33.8	39.0	35.9				46.9		
HMAXF	361	334	268	284	324	329				264		
SHMAX	308	324	233	170	168	136				441		
KM												
370	636											
360	636											
350	621											
340	579	707										
330	517	704			292	274						
320	447	673			291	270						
310	397	606			283	254						
300	217	521			265	229						
290		412		364	237	195						
280		254		363	200	151						
270		103	599	348	161	93.6				452		
260		22.0	587	316	122	47.8				452		
250			540	275	81.9	16.8				443		
240			461	220	50.9					419		
230			342	145	27.0					394		
220			159	58.7						367		
210			52.8							342		
200										320		
190										302		
180										283		
170										259		
160										234		
150										208		
140										180		
130										148		
120										131		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	B8	B8	88	B8	88	A6	B6	B6	5	5	5	3
HMIN				108	111				210	246	279	248
SCAT				58.1	38.6				42.4	38.0	33.4	31.9
HMAXF				404	364				342	363	377	338
SHMAX				1764	1533				753	674	569	575
KM												
410				1411								
400				1409								
390				1391								
380				1352							1041	
370				1286	1768					1121	1028	
360				1209	1762					1119	959	
350				1128	1707				1100	1087	871	
340				1035	1583				1100	1011	764	1229
330				936	1431				1080	910	635	1210
320				838	1268				1019	792	495	1127
310				746	1095				947	656	350	997
300				661	923				858	520	211	821
290				583	765				761	380	100	604
280				513	625				654	243	22.1	371
270				454	508				534	135		177
260				408	421				388	66.4		73.8
250				371	359				258	26.0		20.5
240				342	319				170			
230				321	294				96.9			
220				309	277				43.7			
210				302	267				3.1			
200				296	258							
190				290	249							
180				284	237							
170				273	223							
160				255	208							
150				227	190							
140				195	167							
130				168	147							
120				155	138							
110				137								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	7	7	7	8	B8	B8	7	7	A7	B7
HMIN	201	200	251	303	258	201			111	104		
SCAT	28.7	33.8	54.8	41.6	43.5	32.5			70.8	50.9		
HMAXF	280	271	368	379	348	273			346	294		
SHMAX	439	207	207	143	151	105			472	414		
KM												
380				268								
370			270	265								
360			269	254								
350			263	236	258				300			
340			252	209	256				300			
330			236	173	246				296			
320			218	130	230				290			
310			197	65.7	207				278			
300			170		176				267	314		
290	1027		142		140				255	314		
280	1027	456	111		100	243			242	308		
270	993	456	79.0		57.7	242			229	293		
260	896	443	41.4		17.8	233			218	277		
250	753	409				213			208	261		
240	575	361				176			202	246		
230	373	291				121			198	233		
220	181	192				69.6			194	223		
210	59.4	79.3				34.8			191	216		
200									188	214		
190									184	211		
180									179	209		
170									167	207		
160									149	203		
150									129	191		
140									111	168		
130									101	142		
120									95.8	129		
110										117		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	B7	B7	86	6	A6	A4	A4	B4	A3	A3	A3	A5
HMIN				100					321	278	300	282
SCAT				46.0					39.8	34.4	35.4	38.9
HMAXF				287					409	377	377	391
SHMAX				490					160	191	165	181
KM												
410									281			
400									278			295
390									266			295
380									244	343	328	289
370									217	340	324	273
360									186	318	306	247
350									149	291	280	218
340									104	257	243	186
330									47.9	216	199	149
320										168	143	112
310										122	79.6	78.1
300										77.9	12.4	48.6
290				426						43.0		25.5
280				424						16.5		
270				412								
260				389								
250				358								
240				326								
230				298								
220				277								
210				262								
200				254								
190				247								
180				242								
170				238								
160				223								
150				200								
140				179								
130				163								
120				154								
110				147								
100				12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	A5	A5	A3	3	3	3	B3	A3	4	A4	A4	B2
HMIN	268	258	232	280	264	302			107			
SCAT	43.9	44.6	36.4	37.1	38.8	41.7			52.2			
HMAXF	388	389	370	362	362	391			315			
SHMAX	217	310	203	216	252	249			545			
KM												
400						426						
390	331	446				426						
380	328	442				419						
370	317	427			414	438	399					
360	297	398			414	438	367					
350	270	363			404	428	326					
340	235	320			376	401	276					
330	196	274	407	339	365	220						
320	154	225	407	289	318	157			489			
310	115	175	399	225	264	80.7			488			
300	80.1	128	375	153	203				479			
290	52.1	87.3	336	75.9	140				462			
280	31.8	56.5	280	12.4	73.0				432			
270	12.4	33.1	199		30.0				402			
260		12.4	122						369			
250			67.6						333			
240			32.7						298			
230									266			
220									242			
210									224			
200									213			
190									202			
180									189			
170									173			
160									155			
150									137			
140									122			
130									110			
120									102			
110									97.0			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	B2	B2	B5	5	A5	A5	5	B5	6	6	6	4
HMIN				105			113		245	231	252	296
SCAT				51.4			51.5		45.4	48.6	53.1	41.0
HMAXF				320			329		363	358	361	375
SHMAX				982			763		581	648	630	493
KM												
380												902
370									894		915	899
360									893	932	915	871
350									875	926	905	815
340									835	900	879	734
330							761		770	856	833	624
320				1017			755		690	790	777	496
310				1008			735		588	708	699	332
300				979			697		475	610	596	153
290				930			652		362	500	471	
280				864			599		238	388	319	
270				775			542		135	253	182	
260				670			484		68.2	146	81.0	
250				562			427		28.1	80.9		
240				454			373			38.3		
230				370			325					
220				319			282					
210				295			245					
200				282			214					
190				274			188					
180				263			166					
170				247			146					
160				222			127					
150				199			110					
140				183			95.0					
130				172			86.3					
120				166			80.7					
110				101								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	4	F3	3	F3	2	A2	A2	A3	B3	3	B3
HMIN	311	261	251	249	242	280					110	109
SCAT	32.4	37.7	42.1	34.8	43.9	47.4					62.0	55.2
HMAXF	395	359	371	349	356	366					291	303
SHMAX	360	473	460	443	454	331					570	727
KM												
400	698											
390	683											
380	661		727									
370	585		727			539						
360	514	842	715		707	537						
350	430	831	677	870	703	523						
340	335	790	628	854	682	498						
330	232	719	564	800	639	460						
320	132	625	487	716	587	413						
310		518	400	596	524	348						616
300		403	315	456	451	271					452	615
290		288	226	303	354	182					452	608
280		167	137	180	241	12.4					449	590
270		63.1	73.9	94.6	144						439	558
260			36.9	45.5	77.0						421	522
250				12.4	35.1						401	483
240											380	442
230											359	406
220											341	375
210											325	352
200											314	335
190											307	322
180											301	307
170											292	291
160											276	273
150											249	253
140											210	225
130											166	191
120											151	171
110											19.7	145

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	A3	A4	A4	A4	A3	A3	A3	A3	A3	3	A3
HMIN	109								239	250	248	320
SCAT	66.9								47.0	48.8	46.7	43.4
HMAXF	329								351	354	369	411
SHMAX	981								449	407	362	338
KM												
420												546
410												546
400												538
390												509
380												476
370											524	435
360									648	616	519	384
350									648	615	503	317
340									639	603	473	232
330	761								615	578	435	150
320	757								576	540	389	12.4
310	745								524	489	332	
300	724								464	421	270	
290	692								395	348	209	
280	656								326	265	147	
270	612								254	167	87.4	
260	564								186	76.2	45.1	
250	514								100	12.4	16.5	
240	467								22.0			
230	424											
220	392											
210	366											
200	346											
190	331											
180	319											
170	309											
160	294											
150	272											
140	236											
130	198											
120	184											
110	59.7											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	F3	3	2	2	2	4	B4	A4	4	A4	B4	B2
HMIN	298	241	237	239	268	224			111			
SCAT	38.3	39.0	29.1	37.8	43.3	33.7			47.7			
HMAXF	381	329	310	316	360	307			279			
SHMAX	306	280	179	161	173	137			471			
KM												
390	536											
380	536											
370	525				296							
360	493				296							
350	449				292							
340	395				280							
330	337	527			260							
320	270	520		309	231							
310	195	497	436	307	192	283						
300	82.6	456	424	295	149	279						
290		397	385	272	105	264						
280		317	321	238	56.4	236			501			
270		232	238	198	16.8	199			496			
260		146	133	150		152			481			
250		55.3	62.9	93.5		95.8			452			
240			21.5	22.5		53.3			419			
230						26.4			381			
220									341			
210									304			
200									273			
190									244			
180									217			
170									196			
160									177			
150									155			
140									136			
130									117			
120									109			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	B2	B2	B6	A6	B6	A6	A6	A6	A5	5	5	6
HMIN					111	109			225	239	251	219
SCAT					55.9	55.3			35.2	37.0	40.4	40.4
HMAXF					339	395			313	334	354	335
SHMAX					1234	1329			717	639	624	578
KM												
400						1051						
390						1048						
380						1031						
370						997						
360						938					1075	
350						881					1073	
340					1168	821				1152	1044	963
330					1160	759				1148	979	959
320					1133	698			1417	1110	887	930
310					1087	637			1414	1025	766	869
300					1019	578			1366	914	621	787
290					944	522			1255	774	471	682
280					861	471			1107	624	315	562
270					768	424			917	463	158	417
260					672	383			702	299	56.5	279
250					578	348			441	131		168
240					492	319			163	22.1		91.2
230					417	296			41.0			44.9
220					363	275						12.4
210					326	257						
200					300	240						
190					282	224						
180					267	208						
170					250	193						
160					224	177						
150					195	155						
140					168	133						
130					152	119						
120					143	111						
110						56.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	6	6	A6	6	6	E5	A5	B5	B8	B8	B8	B7
HMIN	317	270	210	267	264	247						
SCAT	34.7	34.8	35.8	37.5	39.5	31.5						
HMAXF	384	339	272	363	374	329						
SHMAX	528	651	487	372	397	324						
KM												
390	1095											
380	1092				675							
370	1052			654	674							
360	962			653	655							
350	856			634	613							
340	714	1470		589	554							
330	535	1448		535	477	660						
320	268	1365		463	390	646						
310		1221		380	292	596						
300		1006		292	201	522						
290		649		194	124	428						
280		267	1173	97.5	65.4	335						
270		12.4	1172	26.0	28.3	239						
260			1141			151						
250			1066			56.5						
240			922									
230			647									
220			272									
210			12.4									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	B7	B7	B6	B6	B6	A6	B6	A6	6	6	6	5
HMIN			111						221	270	271	269
SCAT			67.7						57.5	41.7	46.5	38.4
HMAXF			349						366	382	394	356
SHMAX			1186						703	575	679	555
KM												
400											1008	
390										894	1006	
380										894	985	
370									854	875	939	
360									851	831	872	1008
350			932						836	760	783	1002
340			928						809	674	677	965
330			914						765	582	559	889
320			890						714	481	425	793
310			857						650	373	303	666
300			812						575	262	191	531
290			757						492	167	100	383
280			694						406	88.9	42.8	202
270			626						316	12.4		29.7
260			559						230			
250			495						145			
240			441						79.1			
230			399						37.2			
220			369									
210			349									
200			335									
190			323									
180			311									
170			295									
160			273									
150			247									
140			222									
130			199									
120			184									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	A5	B5	1	1	1	0	A0	A0	B2	B2	A2	A1
HMIN	269		211	280	243	221			107			
SCAT	41.0		34.0	43.8	33.2	20.5			29.5			
HMAXF	376		305	366	313	251			259			
SHMAX	565		405	434	380	144			408			
KM												
380	928											
370	923			775								
360	894			773								
350	835			750								
340	761			708								
330	654			646								
320	565			559	854							
310	435		740	439	853							
300	298		736	285	823							
290	162		703	122	754							
280	63.5		637	12.4	646							
270	12.4		560		492							
260			474		317	591			648			
250			376		114	590			634			
240			282			546			585			
230			187			430			494			
220			77.4						372			
210									267			
200									232			
190									217			
180									200			
170									173			
160									150			
150									131			
140									118			
130									108			
120									102			
110									96.9			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	A1	A1	B1	A1	A1	A1	A1	A1	2	A2	B2	F3
HMIN					111				207	233		242
SCAT					40.4				37.8	37.9		32.1
HMAXF					295				313	332		337
SHMAX					606				437	347		241
KM												
340										624		454
330										624		449
320									768	607		418
310									747	568		379
300					654				745	512		336
290					651				693	441		282
280					631				624	359		209
270					588				535	257		136
260					536				431	155		76.9
250					473				320	77.5		35.0
240					404				210	33.3		
230					343				117			
220					298				56.5			
210					272				19.9			
200					259							
190					250							
180					242							
170					233							
160					218							
150					194							
140					167							
130					148							
120					138							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	F3	F3	F3	F3	F3	F2	A2	2	2	A2	A2	A3
HMIN	269		240			242		103	100			
SCAT	41.4		39.1			43.3		25.9	40.2			
HMAXF	373		343			328		228	240			
SHMAX	275		315			219		227	369			
KM												
380	444											
370	444											
360	434											
350	408		527									
340	375		526									
330	330		513			383						
320	286		478			380						
310	230		437			366						
300	166		384			341						
290	107		323			310						
280	55.3		258			268						
270	12.4		192			213						
260			117			140						
250			50.8			56.3			478			
240			1.7						478			
230								398	470			
220								388	444			
210								349	411			
200								285	367			
190								234	321			
180								194	281			
170								161	245			
160								132	211			
150								105	177			
140								83.7	145			
130								73.7	122			
120								68.2	109			
110								65.7	102			
100									31.1			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	B3	B3	B4	B4	B4	B5	B5	B5	5	5	S5	6
HMIN									238	219	240	238
SCAT									38.4	36.5	34.8	35.7
HMAXF									346	332	330	342
SHMAX									642	641	530	663
KM												
350									1075			1179
340									1069	1173		1178
330									1030	1173	1022	1145
320									952	1144	1002	1058
310									851	1067	937	945
300									737	954	840	812
290									605	811	732	678
280									470	643	590	521
270									335	450	405	348
260									201	272	226	187
250									85.9	155	81.3	76.2
240									19.3	83.8		19.3
230										41.8		
220										12.4		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	6	6	6	6	A6	3	A3	A3	A3	B3	B3	B4
HMIN	288	272	260	258	286	280						
SCAT	38.1	48.2	38.3	49.2	43.4	48.9						
HMAXF	381	374	347	364	359	375						
SHMAX	735	821	607	588	408	322						
KM												
390	1251											
380	1251	1292				501						
370	1227	1290		870		499						
360	1151	1265		869	779	489						
350	1050	1211	1179	853	771	467						
340	926	1131	1169	818	742	437						
330	788	1019	1122	766	692	396						
320	641	866	1035	700	621	344						
310	489	681	902	610	514	282						
300	310	476	727	508	359	205						
290	65.3	276	505	403	75.2	104						
280		98.2	283	294		12.4						
270			101	151								
260			12.4	30.1								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	B4	A4	A4	A4	A4	A3	A3	A3	3	3	3	3
HMIN									257	266	251	259
SCAT									35.3	43.6	35.1	31.9
HMAXF									353	376	361	329
SHMAX									429	541	460	332
KM												
380										874		
370										870	831	
360									804	845	831	
350									802	794	812	
340									775	726	756	
330									715	638	678	744
320									627	530	579	728
310									527	399	462	672
300									410	276	345	589
290									293	162	239	482
280									175	74.8	146	344
270									76.9	26.3	79.2	159
260									25.1		38.7	28.5

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	3	3	4	R4	F4	F3	R3	3	A3	B3	B3	C3
HMIN	250	207	220			284		127				
SCAT	25.8	38.0	41.6			41.4		34.3				
HMAXF	315	312	326			375		290				
SHMAX	253	300	284			255		603				
KM												
380						446						
370						444						
360						432						
350						404						
340						366						
330			498			314						
320	657	546	496			256						
310	651	546	480			194						
300	599	532	452			108		990				
290	512	497	401			35.5		989				
280	399	445	336					966				
270	259	373	254					900				
260	105	290	173					797				
250	12.4	201	107					653				
240		128	62.4					491				
230		76.3	32.3					362				
220		40.8						269				
210		16.2						213				
200								178				
190								150				
180								126				
170								103				
160								86.9				
150								78.2				
140								73.6				
130								65.7				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	C3	C3	C1	C1	C1	A1	A1	B1	1	1	1	1
HMIN									227	226	227	256
SCAT									31.9	38.8	41.0	38.8
HMAXF									313	310	343	349
SHMAX									667	625	686	575
KM												
350											1126	1070
340											1124	1056
330											1095	1006
320									1417	1179	1028	919
310									1414	1179	939	804
300									1358	1159	826	644
290									1226	1100	686	471
280									1055	1000	535	278
270									834	871	374	112
260									586	713	233	30.2
250									339	511	124	
240									111	254	59.4	
230									27.3	62.5	20.6	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	1	1	2	2	2	3	B3	B3	C4	4	C4	B5
HMIN	245	224	229	209	244	253				108		110
SCAT	36,8	27,0	29,7	34,3	40,0	30,3				51,1		53,4
HMAXF	336	297	287	292	327	326				295		349
SHMAX	602	443	362	269	213	160				609		1241
KM												
350												1036
340	1147											1029
330	1138				389	363						1004
320	1091				385	359						952
310	999				370	337						899
300	877	1173		569	343	299				562		839
290	724	1153	923	569	304	246				560		773
280	536	1054	911	553	252	181				549		703
270	322	871	846	511	193	109				528		634
260	158	605	738	446	131	44,5				494		570
250	45,8	326	574	345	61,3					454		510
240		127	320	242						411		457
230		39,6	80,9	144						371		413
220				61,1						337		379
210				12,4						312		354
200										295		336
190										283		323
180										272		314
170										258		301
160										238		283
150										210		261
140										176		235
130										141		205
120										132		176
110										99,9		78,2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	B5	B5	B4	B4	B4	3	3	B3	2	2	2	B3
HMIN					114	110	118	100	237	236	246	249
SCAT					34,4	33,5	35,0	38,3	32,5	40,1	39,3	40,9
HMAXF					313	284	288	333	334	346	343	356
SHMAX					1301	1102	796	888	591	630	558	514
KM												
360												886
350										1075	994	881
340								1110	1136	1069	993	851
330								1109	1132	1032	968	794
320					1929			1079	1076	960	908	707
310					1925			1011	981	856	823	601
300					1856			893	861	728	710	473
290					1697	1929	1304	852	722	590	585	341
280					1492	1922	1286	801	562	433	428	207
270					1249	1844	1204	713	383	282	259	110
260					992	1678	1095	613	198	147	113	50,3
250					724	1431	954	513	88,7	67,8	31,1	12,4
240					509	1117	778	403	24,0	25,0		
230					384	796	581	295				
220					324	509	411	208				
210					299	338	284	141				
200					282	272	207	95,0				
190					267	238	165	67,5				
180					253	215	133	52,8				
170					237	194	101	44,6				
160					214	164	80,6	40,4				
150					188	136	71,7	37,9				
140					163	118	67,0	36,7				
130					144	109	64,2	35,5				
120					133	104	62,2	33,6				
110						12,4		30,1				
100								19,7				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	3	3	3	3	3	3	B3	A3	A3	B3	B3	B2
HMIN	263	252	226	251	243	255	100	110				
SCAT	40,2	34,0	39,3	33,2	32,0	31,8	42,5	50,4				
HMAXF	354	324	322	340	330	319	286	260				
SHMAX	478	447	384	312	280	259	417	288				
KM												
360	866											
350	863			636								
340	839			636								
330	786	980	694	631	605							
320	711	976	694	575	591	616						
310	609	937	678	508	547	604						
300	476	854	637	421	478	561						
290	331	726	579	314	383	488	672					
280	180	551	496	206	262	387	669					
270	57,6	337	396	103	152	240	649	381				
260		143	291	43,5	76,4	75,9	609	381				
250			178		33,3		553	378				
240			79,2				468	366				
230			26,9				347	347				
220							235	321				
210							144	289				
200							97,5	249				
190							70,0	181				
180							52,6	124				
170							41,8	94,2				
160							36,4	79,2				
150							33,2	71,2				
140							31,3	66,7				
130							30,2	64,0				
120							28,8	60,1				
110							26,5					
100							17,1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	B2	B2	B1	B1	1	A2	A2	B2	4	4	4	3
HMIN		110			112				219	249	281	268
SCAT		64,8			45,1				47,0	43,6	39,1	43,2
HMAXF		318			295				343	365	383	389
SHMAX		839			773				634	506	443	598
KM												
390											779	954
380											778	944
370										779	759	909
360										776	712	846
350									936	755	644	767
340									935	712	558	663
330									918	652	450	534
320		707							880	574	331	393
310		704							821	488	214	264
300		694			886				737	398	116	159
290		674			884				641	307	54,5	88,7
280		650			862				539	206		46,6
270		613			820				423	114		16,5
260		560			754				292	57,6		
250		499			670				181	12,4		
240		436			572				101			
230		382			473				46,1			
220		345			389				12,4			
210		323			329							
200		309			296							
190		299			278							
180		292			265							
170		286			249							
160		273			227							
150		250			202							
140		217			177							
130		187			159							
120		172			150							
110		12,4										

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 25 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	3	3	3	3	3	3	B3	C3	C2	B2	A2	A2
HMIN	244	288	213	211	218	220						
SCAT	35.2	27.3	35.2	42.0	41.5	39.9						
HMAXE	338	344	303	330	319	299						
SHMAX	506	423	443	518	401	371						
KM												
350		1085										
340	1008	1079		834								
330	994	1004		834								
320	932	887		822	704							
310	844	730	902	786	695							
300	716	499	901	726	667	737						
290	559	123	873	642	617	727						
280	366		805	546	545	695						
270	191		713	431	455	642						
260	88.2		588	317	347	550						
250	33.1		397	211	218	421						
240			221	133	113	248						
230			102	75.0	52.1	103						
220			37.8	37.1	16.8	12.4						

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 25 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A2	A2	A2	A2	A2	B2	2	B2	A4	4	4	4
HMIN						110	109		208	211	235	302
SCAT						49.3	40.0		37.2	50.2	32.6	38.8
HMAXE						309	298		307	341	331	339
SHMAX						1180	956		550	668	387	381
KM												
400												688
390												679
380												644
370												593
360												523
350										936		433
340										936	751	320
330										925	750	204
320										895	728	109
310						1477			990	843	668	40.7
300						1465	1379		982	780	590	
290						1422	1364		930	699	496	
280						1348	1308		862	602	394	
270						1246	1205		767	492	279	
260						1118	1081		653	373	148	
250						952	936		527	246	73.3	
240						766	760		375	141	28.6	
230						587	573		172	74.7		
220						420	416		69.5	35.7		
210						314	291		17.8			
200						258	222					
190						232	184					
180						213	159					
170						191	138					
160						166	120					
150						145	104					
140						126	89.8					
130						112	78.8					
120						105	72.9					
110						12.4	35.7					

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 26 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	4	4	2	2	2	2	B2	B2	B2	A2	A2	B1
HMIN	259	263	252	258	250	216						
SCAT	33.8	43.6	44.0	34.3	34.1	24.3						
HMAXE	353	348	347	331	326	275						
SHMAX	419	470	493	369	360	216						
KM												
360	815											
350	814	838	854									
340	785	831	849	754								
330	718	803	823	754	779							
320	629	755	774	736	774							
310	522	675	705	684	738							
300	399	568	605	609	670							
290	272	440	474	513	566							
280	147	270	321	397	422	654						
270	58.2	117	174	257	257	647						
260	12.4		59.6	92.2	107	592						
250					12.4	479						
240						299						
230						132						
220						30.0						

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 26 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A1	A1	A5	A5	A5	A5	A5	B5	4	4	4	4
HMIN						109			299	292	257	272
SCAT						48.7			43.6	33.3	46.9	34.8
HMAXE						301			396	370	363	348
SHMAX						776			527	500	615	457
KM												
400									858			
390									854			
380									830			
370									782	1003	976	
360									714	981	975	
350									630	908	958	954
340									532	810	918	941
330									416	688	858	885
320									293	546	771	801
310						923			138	380	652	682
300						923			22.3	192	510	530
290						912					366	307
280						881					232	134
270						828					99.2	
260						761					25.5	
250						676						
240						572						
230						463						
220						358						
210						286						
200						244						
190						221						
180						202						
170						181						
160						153						
150						130						
140						118						
130						112						
120						106						
110						22.3						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	4	4	8	F8	8	8	A8	B8	B6	B6	R6	R5
HMIN	218	203	268	331	240	227						
SCAT	37,6	43,8	37,9	38,4	34,9	35,5						
HMAXF	309	329	373	420	335	312						
SHMAX	450	393	273	285	259	170						
KM												
430				501								
420				501								
410				492								
400				469								
390				425								
380			478	379								
370			477	323								
360			464	256								
350			433	173								
340			391	82,5	496							
330		580	330		494							
320		574	278		474	325						
310	866	554	204		434	324						
300	834	517	130		379	316						
290	792	470	76,0		312	293						
280	730	413	38,6		234	260						
270	638	353	17,4		149	219						
260	517	288			84,3	173						
250	375	222			41,2	125						
240	207	154			3,9	70,2						
230	78,5	94,4				23,7						
220	19,3	52,0										
210		24,6										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	R5	R5	R6	Y6	B6	B7	A7	B7	A4	4	54	3
HMIN							109			283	325	274
SCAT							72,1			44,8	40,3	39,7
HMAXF							266			383	384	370
SHMAX							202			260	180	228
KM												
390										424	396	
380										424	395	387
370										415	384	387
360										396	360	380
350										366	324	362
340										327	264	330
330										276	126	295
320										222		251
310										153		200
300										78,3		144
290										34,1		85,4
280												31,4
270							196					
260							195					
250							193					
240							189					
230							184					
220							177					
210							167					
200							152					
190							135					
180							123					
170							109					
160							91,2					
150							75,3					
140							65,4					
130							60,1					
120							57,8					
110							27,2					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	M3	3	3	3	3	3	B3	B3	A2	A2	B2	B4
HMIN	252	224	252	220	251	226					109	
SCAT	36,4	30,3	31,8	41,0	28,4	37,8					45,3	
HMAXF	333	314	324	328	324	307					269	
SHMAX	213	184	143	158	100	80					574	
KM												
340	438											
330	437			325	267	230						
320	424	378	323	265	229							
310	394	376	308	245	214	154						
300	349	355	278	227	189	153						
290	284	319	231	203	155	146						
280	197	274	169	173	115	134						
270	98,1	223	101	141	69,6	116					688	
260	40,2	156	42,5	110	34,8	93,1					682	
250		95,8		75,1		67,2					659	
240		53,4		47,4		41,9					621	
230		23,8		27,2		18,4					558	
220				7,4							472	
210											381	
200											314	
190											282	
180											264	
170											251	
160											237	
150											216	
140											185	
130											156	
120											142	
110											135	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	C4	C4	4	4	A4	A2	A2	B2	2	2	2	3
HMIN			107	108	103				244	211	249	269
SCAT			40,2	42,7	40,3				48,7	44,4	37,7	39,2
HMAXF			323	316	303				337	322	348	366
SHMAX			1095	1063	1015				577	479	377	436
KM												
370												768
360												764
350											688	736
340									866		681	682
330			1190						861	761	646	612
320			1188	1251					840	761	595	529
310			1161	1245	1335				794	748	521	425
300			1087	1206	1334				742	713	430	299
290			990	1129	1303				671	663	332	168
280			891	1026	1226				587	594	211	63,1
270			779	897	1117				496	507	114	12,4
260			665	761	967				394	407	50,3	
250			556	624	802				252	303	12,4	
240			462	500	637					196		
230			393	404	486					99,0		
220			350	343	373					41,8		
210			332	306	310							
200			306	286	275							
190			295	277	255							
180			287	268	239							
170			276	248	224							
160			263	211	210							
150			243	183	185							
140			219	167	161							
130			200	158	147							
120			187	153	140							
110			170	73,8	99,2							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	3	3	2	2	2	1	B1	1	H2	2	B2	1
HMIN	252	259	237	220	229	230		112	109	107		107
SCAT	36.1	34.4	35.1	36.3	34.8	39.6		37.7	37.3	41.1		64.8
HMAXF	340	339	313	306	329	318		243	240	263		305
SHMAX	436	429	372	341	305	272		325	320	512		783
KM												
350	823											
340	823	862										
330	807	848			675							
320	751	795	768		566	494						
310	689	713	767	663	529	489						675
300	611	616	743	658	478	469						674
290	501	501	686	631	407	433						666
280	348	322	605	577	330	382						650
270	179	148	502	500	240	318				607		625
260	67.7	25.9	359	409	151	247				607		594
250			203	306	82.4	165		583	471	593		552
240			46.3	182	41.8	68.4		582	471	559		504
230				71.3	12.4	4.4		565	462	512		454
220								527	436	455		402
210								464	393	392		357
200								347	336	335		322
190								225	274	298		300
180								153	225	274		284
170								122	193	256		270
160								98.8	165	237		255
150								77.9	136	214		240
140								67.0	111	191		222
130								63.7	98.2	144		183
120								58.5	89.6	123		155
110									29.7	107		135

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KR	B1	B1	B2	B2	A2	A2	A2	A2	2	2	2	2
HMIN						109			239	232	272	260
SCAT						46.7			26.6	38.9	30.5	33.6
HMAXF						305			310	319	355	357
SHMAX						748			311	342	274	266
KM												
360											569	501
350											566	495
340											530	467
330											477	422
320										619	409	364
310						866			751	611	327	298
300						863			724	583	236	224
290						843			646	533	146	155
280						803			547	468	52.8	93.3
270						744			410	389		42.2
260						669			264	297		3.1
250						584			128	197		
240						494			22.8	97.7		
230						405						
220						325						
210						276						
200						244						
190						221						
180						199						
170						177						
160						151						
150						128						
140						112						
130						104						
120						99.9						
110						27.2						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	2	2	3	3	3	2	B2	A2	A1	A1	A1	A1
HMIN	287	269	229	206	240	238						
SCAT	27.0	38.4	27.7	25.5	50.1	43.7						
HMAXF	348	355	292	245	328	327						
SHMAX	182	245	211	130	122	99						
KM												
360		469										
350	456	467										
340	448	451										
330	407	419				197	170					
320	348	369				195	169					
310	275	300				190	164					
300	177	221	556			181	154					
290	49.0	138	556			170	140					
280		63.9	530			150	121					
270		12.4	467			126	95.7					
260			364			91.8	67.6					
250			235		452	49.0	38.9					
240			97.8		448	3.1	12.4					
230			22.1		416							
220					378							
210					116							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	B1	B1	H2	H2	A2	A2	2	12	A1	A1	A1	1
HMIN	109	108	106	107			106	100	203	241	259	219
SCAT	51.7	41.3	40.2	34.5			41.7	53.0	51.8	44.1	44.9	34.5
HMAXF	341	334	325	301			292	290	324	350	351	307
SHMAX	1162	1287	1334	1200			1000	919	629	488	466	326
KM												
360										775	819	
350	1060									775	819	
340	1060	1450								765	808	
330	1048	1446	1657						858	735	777	
320	1017	1407	1651						856	684	723	
310	961	1321	1599	1784					842	617	652	651
300	893	1203	1489	1784			1477		811	536	559	645
290	808	1058	1342	1741			1476	1298	764	445	419	613
280	726	899	1159	1623			1446	1287	701	335	189	553
270	646	747	960	1435			1374	1253	623	211	76.2	475
260	568	621	760	1207			1257	1196	537	106	12.4	380
250	494	517	594	954			1110	1120	443	42.8		267
240	429	438	472	702			922	1003	350			147
230	380	382	393	504			711	845	253			59.0
220	344	342	347	384			515	659	123			12.4
210	324	318	320	319			355	437	43.9			
200	310	300	303	289			253	253				
190	301	287	290	273			197	146				
180	288	279	280	259			166	85.0				
170	272	272	272	245			143	59.1				
160	256	262	251	228			123	45.8				
150	245	248	223	212			105	39.7				
140	238	226	202	192			95.2	36.7				
130	216	202	178	176			77.2	35.1				
120	174	175	162	155			69.2	33.5				
110	41.7	42.4	99.7	92.8			52.0	30.2				
100								19.7				

ELECTRON DENSITY

RAMEY AER. PUERTO RICO 60 W 31 JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	1	F1	1	1	1	2	B2	2	3	A3	3	2
HMIN	234	255	217	229	216	237		110	109	113	111	107
SCAT	36.0	29.2	35.8	36.7	40.4	41.6		28.2	38.6	48.1	64.7	59.2
HMAXF	311	331	280	307	312	318		231	242	253	280	299
SHMAX	244	257	282	236	179	151		217	329	405	527	706
KM												
340		627										
330		627										
320	517	606			310	284						
310	517	547		467	310	282						
300	504	468		463	303	271						645
290	471	326	639	443	287	253						641
280	418	165	628	406	262	226					503	628
270	337	73.5	593	353	231	186					500	606
260	231	29.4	532	288	194	132				465	491	573
250	117		428	208	149	70.1			467	464	476	533
240	36.4		258	104	90.2	24.0		440	467	456	459	482
230			96.3	25.9	46.4			440	456	438	428	432
220			25.6		18.8			424	429	408	386	382
210								381	387	373	342	340
200								306	330	338	308	309
190								220	272	307	284	289
180								146	228	278	267	275
170								107	199	251	249	262
160								82.2	176	224	226	247
150								70.7	155	196	181	224
140								64.4	120	175	155	178
130								61.3	99.8	116	146	163
120								57.3	90.4	108	130	156
110									27.2			91.7

ELECTRON DENSITY

RAMEY AER. PUERTO RICO 60 W 31 JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	B2	2	2	A2	A2	A2	A2	A3	A3	A3	A3
HMIN	109	110	111	110					200	219	268	299
SCAT	59.9	56.1	57.0	59.3					48.5	56.0	58.5	46.2
HMAXF	311	319	325	336					308	341	383	399
SHMAX	863	964	1036	1082					465	413	399	354
KM												
400												583
390											541	577
380											541	559
370											535	526
360											521	480
350										562	499	417
340				980						562	468	335
330			985	978						556	430	231
320	779	941	983	963						541	385	131
310	779	935	969	934					672	518	327	59.0
300	772	914	939	891					668	486	236	12.4
290	754	878	895	833					649	442	118	
280	726	827	834	764					613	385	40.6	
270	684	761	759	688					569	318	12.4	
260	637	682	672	607					516	240		
250	587	593	581	526					451	159		
240	522	500	499	455					375	86.9		
230	459	415	428	395					293	41.8		
220	402	356	370	348					208	12.4		
210	353	318	330	313					97.9			
200	320	296	305	290					12.4			
190	296	283	289	275								
180	280	276	275	266								
170	267	264	260	259								
160	256	238	251	239								
150	244	208	233	213								
140	224	185	198	183								
130	174	174	172	159								
120	162	153	156	149								
110	33.1	12.4		12.4								

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — JUL 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	25	24	23	22	24	26	2	8	10	6	4	6
KP	2.6	2.6	2.7	2.5	2.6	2.5	2.0	2.3	2.6	2.7	2.5	2.7
HMIN	259	242	234	236	244	247	100	112	109	109	110	109
RATIO	6.6	7.1	6.7	6.6	6.4	6.6	5.1	5.5	4.7	4.4	4.0	3.4
SCAT	36.0	35.0	36.3	37.2	39.1	38.9	41.2	37.7	41.6	44.0	55.8	62.0
NMAX	715	726	641	535	484	405	448	601	636	724	690	657
HMAXE	346	323	318	320	331	328	274	266	268	272	280	313
SHMAX	367	342	325	275	252	210	293	409	488	601	641	792
SHINE	2385	2389	2132	1784	1616	1353	1557	2103	2282	2644	2586	2646
KM												
950	57.1	52.2	45.2	38.4	36.2	30.0	25.9	34.3	35.8	41.4	39.6	44.9
900	73.3	67.0	57.9	49.3	46.4	38.5	33.2	44.0	45.9	53.2	50.9	57.6
850	94.0	86.0	74.3	63.2	59.5	49.4	42.6	56.5	58.9	68.2	65.3	73.9
800	120	110	95.3	81.0	76.3	63.3	54.7	72.5	75.6	87.5	83.7	94.8
750	154	141	122	104	97.7	81.0	70.1	92.9	96.9	112	107	121
700	197	180	156	133	125	103	89.7	119	124	144	137	155
650	250	230	199	169	159	132	115	152	159	183	176	198
600	316	291	252	214	201	167	146	193	202	234	224	251
550	395	365	317	269	252	209	185	245	256	296	283	317
500	486	452	393	333	311	258	232	307	321	372	356	394
490	504	471	410	347	323	269	243	321	336	389	372	411
480	524	490	427	361	336	279	254	335	351	406	389	428
470	543	509	443	375	349	290	265	349	366	424	406	446
460	562	528	461	390	362	300	276	364	382	442	423	464
450	580	547	478	404	374	311	288	379	398	461	441	481
440	598	566	495	418	387	321	300	395	414	480	460	499
430	616	585	512	432	399	332	312	410	431	499	478	517
420	633	603	528	446	411	342	324	426	448	518	497	535
410	648	621	544	459	422	351	336	441	465	538	516	552
400	662	638	560	471	432	360	348	457	482	558	534	569
390	675	653	574	483	442	368	360	472	499	577	553	585
380	683	667	588	494	450	375	372	488	515	596	571	600
370	688	678	600	503	456	381	384	502	531	615	589	614
360	689	687	610	511	460	384	395	516	547	633	606	626
350	681	693	617	517	461	383	405	529	562	650	623	636
340	663	692	621	518	457	380	415	542	575	665	638	645
330	631	679	618	513	447	371	424	552	588	680	652	651
320	584	653	607	499	430	357	431	561	599	692	664	654
310	521	612	587	473	403	336	438	565	608	703	674	653
300	443	556	555	436	366	307	443	569	613	711	682	644
290	349	480	506	386	318	275	446	568	612	715	687	628
280	260	398	439	330	262	234	445	562	607	711	688	606
270	174	323	359	271	203	194	436	546	596	698	683	575
260	108	255	271	210	150	151	416	523	578	675	667	539
250	61.9	193	185	149	104	108	386	492	550	637	639	499
240	33.2	138	112	98.5	72.0	72.1	336	454	511	578	602	455
230	18.1	83.4	59.5	63.4	50.1	41.2	267	412	457	505	548	412
220	8.0	32.2	24.9	34.3	26.3	9.2	196	365	393	427	477	372
210	2.4	6.5	7.6	8.7	4.9	3.3	143	308	332	360	394	339
200			.5				108	245	285	313	327	316
190							82.9	189	249	284	293	300
180							65.1	147	221	263	275	288
170							52.5	119	195	242	261	276
160							44.6	98.3	170	220	244	262
150							39.1	82.3	145	195	217	243
140							35.6	72.0	122	170	181	212
130							33.7	66.2	107	137	155	180
120							32.3	54.5	99.0	127	142	160
110							29.3	11.3	48.6	63.6	52.1	88.0
100							19.3		3.1			

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — JUL 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	5	5	4	3	5	5	3	2	22	24	23	23
KP	2.4	2.2	2.3	2.7	2.2	1.8	2.3	2.5	2.4	2.5	2.5	2.7
HMIN	109	109	108	108	110	109	111	100	230	246	260	270
RATIO	3.5	3.9	4.0	4.4	4.4	4.6	5.3	4.8	5.7	5.8	6.1	6.3
SCAT	54.3	49.7	47.5	45.5	42.6	44.6	38.9	45.6	42.3	41.6	39.6	37.7
NMAX	932	1108	1246	1339	1181	1340	1387	1204	842	748	690	718
HMAXE	329	323	325	318	311	310	293	311	334	348	354	360
SHMAX	1030	1073	1157	1115	972	1030	917	904	515	442	386	383
SHINE	3660	4198	4672	4891	4303	4812	4829	4301	2890	2553	2332	2408
KM												
950	69.6	80.0	90.2	92.0	80.6	89.3	85.5	81.2	63.1	60.5	57.5	61.9
900	89.3	103	116	118	103	115	110	104	81.0	77.6	73.8	79.5
850	114	132	148	151	133	147	141	134	104	99.6	94.6	102
800	147	169	190	194	170	188	181	171	133	128	121	130
750	188	216	244	249	218	241	231	219	170	163	155	167
700	240	276	311	318	279	309	296	281	218	208	198	213
650	306	352	397	405	355	394	378	358	277	265	251	270
600	387	446	503	515	451	500	481	454	351	335	317	340
550	486	561	633	648	568	630	609	573	440	418	396	424
500	602	696	785	807	707	785	762	713	544	514	486	517
490	627	725	818	841	737	819	796	744	566	534	505	536
480	652	755	851	876	768	853	831	775	588	555	523	555
470	677	785	885	912	799	888	866	806	611	575	542	574
460	702	815	919	948	831	924	903	838	633	595	560	593
450	728	845	953	984	862	960	940	871	656	614	578	611
440	753	875	987	1020	894	996	977	903	678	634	596	628
430	777	905	1020	1057	926	1032	1015	935	699	652	612	644
420	801	934	1053	1092	957	1067	1053	967	720	670	628	659
410	824	962	1084	1127	988	1102	1090	999	740	686	642	673
400	846	989	1115	1161	1018	1137	1128	1029	759	701	655	684
390	866	1014	1143	1193	1046	1169	1164	1058	776	714	666	692
380	884	1037	1169	1223	1073	1200	1200	1086	790	725	675	696
370	899	1058	1192	1251	1097	1229	1234	1111	800	733	680	694
360	912	1075	1212	1276	1119	1255	1266	1134	808	735	679	683
350	922	1090	1228	1296	1138	1278	1295	1153	811	730	670	661
340	928	1099	1239	1313	1152	1296	1322	1170	809	713	648	626
330	925	1104	1245	1324	1159	1306	1345	1181	797	681	608	574
320	911	1094	1242	1327	1158	1307	1363	1176	773	633	549	503
310	880	1061	1212	1320	1149	1299	1377	1148	738	569	478	421
300	835	1009	1146	1294	1123	1280	1384	1094	688	491	390	323
290	778	936	1060	1234	1068	1244	1382	1075	622	402	293	227
280	716	851	951	1138	986	1184	1346	1044	545	312	192	146
270	648	759	831	1006	881	1097	1261	983	455	227	115	77.2
260	579	663	706	858	758	982	1144	904	359	152	54.6	35.4
250	512	568	588	701	626	841	1000	817	262	91.0	21.7	14.6
240	452	481	488	552	502	683	820	703	168	45.6	7.6	6.4
230	402	409	413	434	404	530	622	570	100	16.5	1.4	2.6
220	363	358	360	358	337	392	447	434	53.0	5.7		.5
210	334	324	326	313	298	300	310	239	18.3	.5		
200	315	304	305	289	276	252	227	174	1.1			
190	302	291	291	275	262	226	182	107				
180	291	283	279	264	250	206	153	68.9				
170	280	276	268	251	236	186	127	51.9				
160	269	264	253	226	215	162	108	43.1				
150	254	244	232	203	190	140	93.5	38.8				
140	231	219	205	181	166	123	84.0	36.7				
130	195	195	182	164	150	112	73.4	35.3				
120	172	170	168	152	141	106	68.1	33.6				
110	36.1	43.4	80.2	59.7	19.8	34.5	29.2	30.2				
100								19.7				

TABLES OF IONOSPHERIC DATA

MAY 1961 - MARCH 1959

Table 1

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.65	28	275					2.90
01		4.5	27	270					2.90
02		4.1	28	275					2.85
03		3.8	30	275					2.85
04		3.35	30	280					2.90
05	---	3.6	29	270	---	---	----		3.10
06	(260)	4.4	31	240	---	111	2.15	>2.3	3.20
07	320	5.15	30	225	3.8	105	2.60	2.9	3.20
08	340	5.5	29	215	4.2	103	3.00	3.4	3.10
09	350	5.55	28	210	4.4	103	3.20	3.6	3.00
10	380	5.6	29	200	4.6	105	3.30	3.9	2.90
11	<375	6.0	31	200	4.6	103	3.48	3.9	2.90
12	380	6.0	31	205	4.7	103	(3.50)	4.0	2.90
13	360	6.1	31	210	4.7	103	3.50	3.8	2.90
14	350	6.2	31	210	4.6	105	3.40	3.6	2.90
15	350	6.2	31	220	4.5	105	3.30	3.7	2.90
16	325	6.2	31	<230	4.4	105	3.10	3.6	3.00
17	305	6.4	29	230	4.0	109	2.75	3.1	3.00
18	270	6.65	30	245		113	2.30	2.8	3.05
19	(270)	6.7	31	250				2.5	3.05
20		6.6	31	240				2.9	3.00
21		6.0	31	255				2.6	2.95
22		5.6	29	265					2.90
23		5.25	28	270					2.90

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

Table 2

Talara, Peru (4.6° S, 81.3° W) — May 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.0	26	220					3.15
01		6.8	30	230					3.20
02		6.4	30	240					3.20
03		5.3	31	230					3.30
04		4.25	30	230					3.20
05		3.3	28	255					3.15
06		3.2	28	(270)					3.00
07		5.8	30	250		121	2.15		3.15
08		7.5	31	225		115	2.80		2.90
09		8.4	30	215		109	3.15	3.4	2.55
10	---	8.65	30	200	(4.8)	109	3.42	3.7	2.40
11	360	9.0	29	200	4.8	109	3.55	3.8	2.30
12	375	9.25	30	200	4.9	109	3.65	3.8	2.25
13	370	9.2	30	200	4.8	109	3.60	3.8	2.25
14	(375)	9.25	30	200	4.8	109	3.50	3 9	2.25
15	---	9.4	30	200	4.7	109	3.30	3.7	2.40
16		9.5	30	200		109	3.00		2.50
17		9.6	30	230		(117)	2.60		2.50
18		(9.45)	30	260		<142	1.90	2.2	(2.50)
19		9.25	30	300					2.52
20		>8.65	30	310				1.8	2.60
21		8.9	27	290					2.75
22		9.3	26	250					3.08
23		8.9	25	220					3.35

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

Table 3

Huancayo, Peru (12.0° S, 75.3° W) — May 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4	29	225					3.35
01		5.7	29	230					3.30
02		5.4	29	230					3.30
03		4.2	29	235					3.25
04		3.7	26	245					3.30
05		3.1	24	245					3.35
06		3.6	30	270					3.05
07		6.9	31	245		121	2.25		3.25
08		8.5	31	230		116	(2.85)	5.7	3.00
09	---	9.0	31	215	---	111	(3.20)	7.2	2.70
10	(300)	8.6	31	205	4.6	111	(3.45)	7.6	2.60
11	(330)	8.2	31	200	4.7	---	(3.68)	7.5	2.55
12	(340)	8.0	31	200	4.7	---	(3.65)	7.6	2.50
13	---	8.0	31	195	---	109	(3.60)	7.4	2.50
14	---	8.1	31	195	---	---	(3.40)	7.4	2.50
15	---	8.5	29	200		110	(3.20)	7.0	2.55
16		8.6	29	220		113	(2.80)	6.0	2.60
17		8.5	30	250		119	(2.25)	5.4	2.62
18		8.25	30	275		---	----		2.60
19		7.7	30	295					2.60
20		8.0	28	280					2.75
21		7.9	28	240					3.05
22		7.1	29	225					3.20
23		6.4	28	230					3.25

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

Table 4

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.8)	5	(325)				3.7	
01		(3.9)	4	(310)				3.3	
02		(3.2)	3	---				4.3	----
03		(3.8)	7	(305)		---	----	4.0	----
04		4.0	12	(270)		115	----	2.2	(2.80)
05	---	4.4	15	275	----	115	2.10		----
06	---	4.8	19	255	----	110	2.30		(2.90)
07	---	5.0	20	250	----	110	2.50		2.70
08	390	5.4	22	245	4.05	110	2.75		2.75
09	370	5.6	21	235	4.15	110	2.90		2.90
10	350	5.7	23	230	4.20	110	3.00		2.90
11	360	5.9	25	220	4.25	110	3.00		2.90
12	340	6.0	24	215	4.30	110	3.00		2.90
13	345	6.0	24	215	4.25	110	3.00		2.90
14	(350)	5.9	22	230	4.25	110	2.95		2.90
15	---	5.9	27	230	----	110	2.80		2.90
16	---	5.6	25	240	----	110	2.70		2.95
17	---	5.6	24	250	----	115	2.40	2.9	3.05
18	---	5.5	23	250		115	2.20	2.8	3.00
19	(260)	5.2	22	(260)		115	1.90	3.6	2.95
20		(5.1)	14	(270)		---	----	3.9	----
21		(4.5)	7	(290)		---	----	3.5	
22		(4.2)	4	---		---	----	3.0	----
23		(4.2)	1	---				3.9	

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) — April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.8)	2	325				3.4	---
01		(3.2)	3	315				3.2	---
02		(3.2)	9	310		---	---	3.0	(2.5)
03		3.0	13	310		---	1.4	3.2	2.6
04		3.5	16	295		---	1.4	2.6	2.6
05	---	4.3	23	260	---	---	1.8	3.2	2.7
06	(410)	4.6	26	245	3.4	110	2.2	2.5	2.7
07	370	5.0	27	235	3.8	110	2.4		2.7
08	370	5.2	26	230	4.0	110	2.6		2.7
09	340	5.7	27	225	4.1	110	2.7		2.7
10	340	5.7	29	215	4.2	110	2.8		2.7
11	345	5.8	30	220	4.2	110	2.8		(2.8)
12	325	6.0	28	215	4.3	110	2.9		2.8
13	330	5.8	28	215	4.2	110	2.8		2.8
14	330	5.9	29	225	4.2	110	2.8		2.8
15	310	5.9	29	225	3.9	110	2.6		2.8
16	285	5.7	29	240	3.5	110	2.4		(2.8)
17	(270)	(5.5)	28	245	3.2	110	2.3		(2.9)
18	---	(5.2)	24	255	---	110	2.1	3.4	2.9
19		5.0	18	260		---	1.4	3.2	2.85
20		5.4	12	265		---	---	3.0	2.8
21		(4.8)	4	265		---	---	3.1	---
22		(4.2)	3	300				3.8	---
23		(3.3)	3	300				4.0	---

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) — April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.6)	4	300				3.3	----
01		(4.5)	7	310				2.4	(2.70)
02		(4.3)	5	320				2.6	----
03		(4.7)	4	310		---	----	2.4	----
04		(3.8)	8	305		---	E	2.3	(2.75)
05		4.2	11	275	---	150	1.70	2.2	2.90
06		4.5	23	260	---	120	2.00		2.90
07		4.8	24	240	---	120	2.40		2.90
08		5.2	23	230	4.0	115	2.50		2.80
09		5.6	24	220	4.2	115	2.75		2.85
10		5.8	27	225	4.4	115	2.90		2.90
11		6.0	28	215	4.3	115	3.00		2.90
12		6.0	28	215	4.4	115	3.00		2.90
13		6.1	25	210	4.4	115	3.00		2.90
14		6.0	29	225	4.2	115	2.90		2.90
15		6.0	27	225	---	120	2.80		2.95
16		6.0	26	230	---	115	2.75		3.00
17		5.8	27	240		120	2.55		2.95
18		5.7	25	250		120	2.25		3.00
19		5.3	20	255		125	2.00	2.8	3.00
20		5.0	17	260		---	E	2.8	2.95
21		5.1	16	275		---	E	2.5	2.90
22		5.0	11	290		---	----	2.4	2.85
23		(4.9)	7	290				3.2	(2.80)

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) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.6)	16	340					(2.9)
01		(3.6)	14	325					(2.9)
02		>3.5	12	315					---
03		(3.0)	13	300					(2.8)
04		3.4	17	280		---	---		2.95
05		4.2	21	250		125	2.0		3.1
06		4.6	20	250	---	125	2.3		3.1
07	(375)	5.0	19	235	3.9	120	2.6		2.9
08	360	5.3	25	230	4.1	120	2.8		3.0
09	360	5.7	26	230	4.2	120	3.0		3.0
10	335	5.8	26	225	4.3	120	3.1		3.0
11	325	6.1	26	225	4.4	120	3.2		3.0
12	330	6.2	26	225	4.3	120	3.2		3.0
13	340	6.1	27	225	4.3	115	3.1		3.0
14	310	6.2	26	225	4.1	115	3.0		3.0
15	(330)	6.2	29	230	3.9	120	2.8		3.0
16		6.0	27	240	---	125	2.6		3.0
17		6.1	23	250		130	2.4		3.0
18		5.8	28	255		140	2.0		3.1
19		5.4	23	250		150	1.8		3.1
20		5.3	17	260					3.0
21		4.8	14	280					3.0
22		(4.6)	20	285					2.9
23		(4.2)	14	300					(2.9)

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) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.9	29	290				2.4	2.7
01		3.6	29	290				2.2	2.6
02		3.4	27	285				2.2	2.7
03		3.2	29	280		---	---	2.1	2.7
04		3.5	26	280		110	1.5	3.0	2.7
05	---	(4.0)	27	250	---	110	1.8	3.0	(2.9)
06	---	(4.5)	27	240	(3.7)	110	2.1	3.4	(2.9)
07	350	4.9	29	220	(3.9)	105	2.4	3.4	2.8
08	355	5.2	29	210	4.0	100	2.6	3.6	2.8
09	340	5.6	29	205	4.2	100	2.8	3.8	2.8
10	320	(5.8)	29	205	4.2	100	2.9	4.8	(2.85)
11	330	(5.8)	30	210	4.3	100	3.0	3.6	(2.8)
12	330	(6.0)	30	210	4.3	100	3.0	3.7	(2.8)
13	330	(6.0)	30	205	4.2	100	2.9	3.4	(2.85)
14	305	(6.0)	30	210	4.2	100	2.8	2.8	(2.9)
15	310	(6.1)	30	220	4.0	105	2.7	3.4	(3.0)
16	310	(6.0)	30	230	3.9	105	2.5	3.2	(2.95)
17	---	(5.9)	29	235	---	105	2.3	3.0	(3.0)
18		6.0	28	240		110	2.0	3.0	3.0
19		5.6	29	240		110	1.7	2.9	3.0
20		5.0	29	245		---	1.4	2.3	2.9
21		4.2	28	260		---	---	2.5	2.8
22		4.0	28	270				2.2	2.7
23		4.1	29	285				3.0	2.7

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) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.2)	5	300					(3.00)
01		(4.0)	3	300					----
02		(3.5)	3	300					----
03		(2.6)	2	300					----
04		(3.0)	3	300					----
05		(2.8)	9	280					(3.10)
06		4.2	19	240			2.00		3.20
07		4.7	21	230	---		2.40		3.10
08		5.1	18	220	4.1		2.50		3.10
09		5.6	18	210	4.2		2.70		3.10
10		6.0	25	210	4.3		2.90		3.10
11		6.1	20	210	4.4		2.90		3.10
12		6.2	24	205	4.4		3.00		3.10
13		6.4	28	210	4.4		3.00		3.10
14		6.4	30	220	4.5		----		3.20
15		6.4	30	210	4.3		----		3.20
16		6.4	30	210	---		2.55		3.15
17		6.4	30	230			2.60		3.20
18		6.1	25	240			2.30		3.20
19		6.2	16	250			1.90		3.20
20		6.2	15	240					3.20
21		(5.9)	6	245					(3.20)
22		(4.8)	6	270					(3.10)
23		(3.7)	3	285					----

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) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.8	26	270		---	----	2.3	2.75
01		3.6	25	275		130	0.95	2.3	2.7
02		3.1	25	275		135	0.90	2.3	2.7
03		2.9	27	275		120	0.90	2.3	2.7
04		2.9	28	265		120	1.30	3.0	2.85
05		3.9	29	245		110	1.70	3.0	3.0
06	---	4.6	30	235	---	105	2.20	3.4	3.0
07	(360)	5.0	30	215	4.1	100	2.45	3.7	3.0
08	325	5.4	30	210	4.2	100	2.65	4.2	3.0
09	335	5.8	29	205	4.3	100	2.90	4.0	3.0
10	320	6.2	30	205	4.4	100	3.10	4.4	3.1
11	315	6.3	30	200	4.4	100	3.20	4.6	3.0
12	310	6.4	30	200	4.5	100	3.20	4.4	3.0
13	300	6.6	30	205	4.4	100	3.20	4.7	3.0
14	310	6.5	30	210	4.4	100	3.05	4.3	3.1
15	300	6.7	30	210	4.4	100	2.85	4.0	3.1
16	290	6.6	30	215	4.0	100	2.60	3.5	3.1
17	---	6.8	30	230	---	105	2.40	3.2	3.1
18		6.6	30	240		110	2.00	2.4	3.1
19		6.4	30	240		120	1.60	2.2	3.1
20		6.0	28	240		125	1.20	1.5	3.0
21		5.3	30	240		---	0.90	1.6	3.0
22		4.8	28	250		---	----	2.2	2.9
23		4.4	25	260				2.2	2.8

Time: 15.0°E.
Sweep: 0.3 Mc to 20.0 Mc in 3 minutes.

Table 11

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.7	27	280			---	4.8	(3.0)
01		4.0	28	300			---	4.3	---
02		3.6	26	300			---	4.0	---
03		3.4	26	310			1.8	3.4	(2.9)
04		3.4	27	330			1.8	3.0	(2.8)
05		3.2	25	320			2.0	2.8	(2.95)
06	---	4.0	21	310	---		2.5	3.6	2.95
07	520	<4.3	24	330	3.8		2.8	4.1	2.7
08	450	4.8	25	260	4.1		3.2	4.0	2.8
09	430	4.8	24	240	4.2		3.2	4.2	2.7
10	420	5.0	25	240	4.3		3.2		2.7
11	435	5.2	28	230	4.3		3.2		2.65
12	430	5.4	28	230	4.4		3.2		2.7
13	400	5.6	29	230	4.4		3.3		2.8
14	390	5.8	28	230	4.4		3.2		2.8
15	370	6.0	27	235	4.2		3.0		2.8
16	360	5.8	28	235	4.0		2.9		2.8
17	335	5.6	30	245	3.9		2.6		2.9
18	(330)	5.4	30	280	3.7		2.4		3.0
19		4.8	30	290			2.6		3.0
20		4.5	30	300			2.5	3.9	2.9
21		4.2	29	290			2.1	4.6	2.9
22		4.0	28	295			---	6.0	(2.8)
23		4.0	27	280			---	5.5	(2.8)

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) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>4.0	28						2.75
01		(3.6)	27						2.70
02		(3.2)	26						2.75
03		(3.0)	26						2.70
04		(2.8)	27						2.70
05		3.4	28						2.85
06		4.1	28						3.00
07		4.8	28						3.00
08		5.3	29						2.90
09		>5.5	29						2.90
10		5.9	29						2.90
11		6.0	28						2.90
12		6.3	27						2.95
13		6.4	27						2.95
14		6.5	29						2.95
15		6.5	29						2.95
16		6.5	29						2.95
17		6.8	29						2.95
18		>6.7	29						2.95
19		6.7	29						3.00
20		(5.8)	29						(3.00)
21		>5.6	28						(2.85)
22		(4.9)	28						<2.85
23		>4.2	27						2.70

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

Table 13

De Bilt, Holland (52.1° N, 5.2° E) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.3	25	300					2.75
01		4.1	26	300					2.70
02		3.7	26	(300)					2.70
03		3.6	27	(300)					2.75
04		3.3	27	<300					2.85
05	---	3.9	28	290	---	---	1.9		3.10
06	---	5.1	27	250	---	134	2.1		3.15
07	310	5.2	27	230	3.8	120	2.5		3.10
08	340	5.8	28	220	4.3	118	2.8		3.00
09	320	6.0	29	215	4.5	116	3.1	3.2	3.00
10	315	6.4	30	215	4.7	116	3.2	3.5	3.10
11	300	6.7	22	210	4.7	115	3.4	3.6	3.05
12	300	6.6	24	210	4.8	116	3.4		3.00
13	300	6.8	29	215	4.8	116	3.3	3.3	3.05
14	300	7.0	29	220	4.7	115	3.2		3.10
15	295	7.0	30	225	4.6	118	3.0		3.10
16	275	7.1	29	230	---	120	2.8		3.10
17	265	7.1	29	245	---	125	2.3		3.10
18	---	7.1	29	255		---	1.9		3.10
19		7.1	28	250					3.05
20		6.3	27	260					2.95
21		5.7	28	260					2.95
22		4.9	27	290					2.80
23		4.4	27	300					2.75

Time: 0.0°.
Sweep: 1.8 Mc to 18.0 Mc in 4 minutes.

Table 14

Pruhonice, Czechoslovakia (50.0° N, 14.6° E) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	27	290					
01		4.4	27	280					
02		4.3	27	260					
03		4.0	27	255					
04		4.0	27	255		120	1.8		
05		4.6	26	235		105	2.0		
06		5.5	27	230		100	2.6		
07		5.6	27	215		100	2.8		
08		6.4	29	200		100	3.1		
09		6.8	29	200		100	3.2	3.2	
10		6.9	29	200		100	3.4		
11		7.2	27	200		100	3.4		
12		7.4	25	205		100	3.4	3.4	
13		7.4	28	210		100	3.2		
14		7.3	28	215		100	3.1		
15		7.3	28	220		100	3.0		
16		7.3	29	230		100	2.6		
17		7.3	29	240		105	2.2		
18		7.6	28	240					
19		7.0	28	230					
20		6.2	28	240					
21		5.5	28	250					
22		5.0	28	260					
23		4.9	28	290					

Time: 0.0°.
Sweep: 1.0 Mc to 18.0 Mc.

Table 15

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.0	27	300					2.9
01		2.8	27	325					2.8
02		2.5	27	310					2.9
03		2.5	27	320			---		(2.9)
04	---	2.4	26	<330	---		---		2.9
05	---	2.7	27	300	---		---		3.0
06	---	3.5	28	265	---		2.0		3.1
07	(430)	4.2	28	230	3.8		2.3		3.1
08	400	4.7	25	220	4.0		2.8		3.05
09	395	5.0	28	210	4.2		3.0		2.95
10	395	5.4	28	200	4.4		3.2		2.9
11	400	5.6	28	200	4.4		3.4		2.9
12	370	6.0	26	200	4.5		3.4		2.9
13	370	6.2	26	205	4.6		3.3		2.9
14	360	6.2	27	210	4.5		3.3		2.9
15	330	6.2	29	215	4.4		3.2		3.0
16	310	6.2	29	220	4.3		3.0		3.0
17	295	6.2	28	230	4.0		2.7		3.0
18	290	6.0	29	240	---		2.3		3.0
19	---	6.1	29	250			1.9		3.1
20		5.9	29	250			---		3.0
21		5.2	29	250					3.0
22		4.2	28	260					3.0
23		3.3	27	290					3.0

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

Table 16

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.5	27	300					2.7
01		3.2	28	(290)					2.7
02		3.0	25	290					2.8
03		2.9	25	<275					2.8
04		2.4	25	295					2.8
05		3.4	30	260			2.00		3.0
06	(300)	4.3	30	240	---		2.20		3.1
07	350	4.6	30	230	4.0		2.70		3.0
08	370	5.0	29	210	4.2		3.00		2.9
09	350	5.4	29	200	4.3		3.10		2.9
10	365	5.6	30	200	4.4		3.20		2.9
11	380	5.8	29	205	4.4		3.30		2.9
12	355	6.2	30	205	4.5		3.30		2.9
13	350	6.4	30	220	4.5		3.20		2.8
14	315	6.6	30	220	4.4		3.00		2.9
15	300	6.4	30	220	4.2		2.95		2.9
16	300	6.4	30	225	---		2.70		2.9
17	(295)	6.6	29	250			2.25		2.9
18		7.0	28	260			----		2.9
19		6.8	27	250					2.8
20		6.0	26	250					2.8
21		5.2	27	270					2.7
22		4.6	24	295					2.7
23		3.9	25	300					2.7

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

Table 17

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9)	23	330					
01		(4.6)	26	320					
02		(4.8)	24	320					
03		(4.4)	28	300					
04		(4.0)	27	290					
05		>3.8	27	(290)					
06		5.0	28	(250)					
07		5.6	28	250					
08	350	>5.7	27	235	(4.3)				
09	310	>6.5	24	235	4.5				
10	300	7.2	25	<235	4.6				
11	305	(7.3)	29	<240	4.8				
12	320	7.4	28	<245	4.8				
13	305	7.9	28	<255	4.8				
14	310	(7.6)	28	<265	(4.6)				
15	300	(7.6)	27	<250	(4.6)				
16	300	(7.6)	27	240	(4.4)				
17		7.6	26	250					
18		7.8	28	260					
19		(7.6)	26	250					
20		>5.6	27	260					
21		>5.6	26	270					
22		>5.5	27	290					
23		>5.0	23	310					

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

Table 18

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.6	26	300					2.8
01		4.6	29	300					2.8
02		4.5	29	300					2.8
03		4.3	29	285					2.8
04		4.1	29	275					2.8
05		3.8	28	270					2.9
06		4.2	29	260		---	----		3.1
07	---	5.0	29	240	---	120	2.30		3.2
08	300	5.6	28	230	4.0	110	2.70		3.2
09	300	5.9	27	220	4.2	100	3.00		3.1
10	300	6.7	28	200	4.6	100	3.10		3.1
11	300	6.8	30	200	4.6	100	3.30		3.1
12	300	7.0	29	200	4.7	100	3.30		3.1
13	300	7.4	30	200	4.7	100	3.30		3.0
14	300	7.4	29	220	4.7	100	3.30		3.1
15	290	7.4	29	220	4.5	100	3.20		3.1
16	280	7.4	30	230	4.3	100	3.00		3.1
17	280	7.2	28	240	4.1	110	2.70		3.2
18	---	7.3	27	250	---	120	2.30		3.2
19		7.0	28	245		---	----		3.3
20		6.7	27	240					3.2
21		6.4	28	250					3.0
22		5.7	25	250					3.0
23		4.8	25	280					2.8

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

Table 19

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.6	28	300					---
01		3.2	29	300					---
02		3.0	29	315					---
03		2.8	27	305					---
04		2.2	28	320					---
05		3.0	30	280			---		(3.2)
06	---	4.0	30	250			2.0		3.2
07	320	4.8	30	235	(4.0)		2.6		3.2
08	335	5.2	30	220	(4.2)		2.9		3.1
09	350	5.7	30	210	4.4		3.0		3.2
10	350	6.0	30	200	4.5		3.2		3.1
11	350	6.5	30	200	4.6		3.3		3.0
12	350	6.5	30	200	4.7		3.4		3.0
13	335	6.8	30	200	4.7		3.4		3.0
14	330	6.9	29	210	4.6		3.3		3.0
15	320	7.0	30	220	4.5		3.1		3.0
16	300	7.0	30	220	(4.2)		2.9		3.0
17	290	6.9	29	235	(4.0)		2.6		3.1
18	(290)	7.0	29	250			2.0		3.1
19		6.8	29	250			1.5		3.1
20		6.2	29	250					3.0
21		5.3	29	250					3.0
22		4.7	29	275					2.9
23		4.0	29	290					(2.8)

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

Table 20

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	27	300					(2.65)
01		5.3	29	300					2.70
02		5.2	29	300					2.70
03		5.0	28	280					2.70
04		4.4	29	260					2.80
05		4.0	28	270					2.80
06		5.0	28	250		140	1.9		3.15
07	---	5.8	28	240	---	120	2.4		3.15
08	---	6.5	29	230	---	110	2.8		3.10
09	---	6.7	28	220	---	110	3.1		3.05
10	(310)	7.7	29	210	(4.6)	110	3.3		3.00
11	(290)	8.0	27	210	(4.9)	110	3.4		3.00
12	(310)	8.2	29	210	4.9	110	3.4		2.90
13	(310)	8.4	28	210	(5.0)	110	3.4		3.00
14	(310)	8.6	28	220	4.6	110	3.4		3.00
15	---	8.6	29	240	---	110	3.3		3.00
16	---	8.3	30	240	---	110	3.0		3.05
17		8.3	30	240		120	2.6	3.1	3.05
18		8.4	30	250		130	2.0	2.8	3.10
19		(8.3)	25	240				2.6	(3.05)
20		(6.8)	19	240					(2.95)
21		(6.1)	21	250					(2.75)
22		5.7	23	280					2.70
23		(5.6)	19	300					2.60

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

Table 21

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.9	27	280					(2.90)
01		>9.0	30	265					2.90
02		>9.0	29	235					3.10
03		7.0	28	215					3.30
04		5.4	29	230					3.00
05		4.7	28	<270					2.90
06		6.2	30	240		---	----		3.30
07	---	7.3	30	240		---	----		3.30
08	---	8.4	30	230		(113)	----	3.5	3.20
09	---	8.9	30	220	---	(111)	----	3.8	2.95
10	(310)	>10.0	29	210	---	<111	----	3.9	2.80
11	(340)	(11.7)	29	(210)	(5.1)	<111	----		(2.75)
12	330	13.6	30	<225	(5.2)	(112)	----	3.9	2.85
13	315	>14.6	30	(230)	(5.2)	---	----	4.4	2.90
14	310	14.9	29	(230)	(5.0)	---	----	4.0	2.95
15	295	>15.0	29	225	---	<119	----	3.9	(3.00)
16	280	>15.0	29	230		<121	----	3.2	(3.05)
17	260	>14.6	30	250				3.1	3.00
18		>14.0	30	240				3.0	(3.05)
19		>9.8	28	240				(2.6)	(3.00)
20		>9.0	28	245					----
21		>9.0	28	260					(2.70)
22		>9.0	29	295					(2.65)
23		>9.0	30	285					(2.80)

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

Table 22

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.6	24	220		---			3.10
01		8.9	27	220		---			3.30
02		6.9	27	225		120	----		3.30
03		6.1	28	240		---	----	1.5	3.20
04		5.1	29	235		---	----	2.3	3.35
05		4.0	24	225		---	----	1.6	3.40
06	---	4.8	25	255	---	130	----	2.6	3.20
07	---	8.2	28	245	---	115	2.20	2.9	3.20
08	---	10.2	30	230	---	110	3.00	3.4	3.00
09	300	11.0	29	215	---	110	3.40	3.4	2.75
10	305	11.1	27	210	4.9	105	3.60		2.40
11	335	12.0	25	200	4.9	105	3.75		2.20
12	335	11.2	26	200	4.9	105	3.80		2.25
13	315	11.4	28	200	4.9	105	3.80		2.40
14	305	11.3	30	200	4.9	105	3.65		2.35
15	300	11.6	30	205	---	110	3.40		2.35
16	230	11.8	30	220	---	110	3.05	3.0	2.40
17	250	12.2	29	240	---	115	2.45	2.7	2.50
18	---	12.4	29	260	---	---	----	2.5	2.60
19		12.7	27	300				2.3	2.65
20		12.6	24	280					2.65
21		12.7	21	240					2.90
22		11.5	22	215					3.15
23		10.7	22	215					3.05

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

Table 23

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.3	25	---				<1.5	2.85
01		3.3	25	---				1.4	2.90
02		3.5	25	---				1.1	2.90
03		3.6	25	---				<1.2	3.10
04		3.2	25	---				1.4	3.10
05		3.0	25	---				<1.3	3.10
06		3.2	25	250			<1.1	<1.1	3.00
07		6.6	25	230			2.2		3.40
08	230	8.0	25	225			2.8		3.35
09	250	8.8	24	220			3.1	3.2	3.25
10	260	9.8	24	210	---		3.3	3.6	3.20
11	260	9.9	24	200	---		3.5	3.7	3.05
12	260	10.1	25	200	---		3.6	3.7	2.95
13	285	10.0	26	210	---		3.6	3.8	2.95
14	270	10.3	26	220	---		3.4	3.7	2.95
15	265	10.6	26	220	---		3.2	3.6	3.00
16	250	10.3	26	230			2.9	3.1	3.05
17	---	9.8	25	230			2.2	2.2	3.20
18		8.7	25	220			(1.5)	<1.7	3.25
19		6.2	25	210				<1.7	3.25
20		4.5	25	(225)				1.4	3.10
21		4.1	25	---				1.6	3.10
22		(3.8)	25	---				<1.7	3.10
23		3.3	25	---				<1.5	3.00

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

Table 24

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7	25	<270					3.00
01		3.9	26	<265					3.00
02		4.0	26	260					3.05
03		4.0	25	260					3.10
04		3.8	25	230					3.20
05		3.6	26	240					3.15
06		3.4	26	240					3.10
07		5.7	22	225			1.90		3.40
08		7.2	24	225			2.40	2.5	3.40
09		8.0	22	215	---		2.80	3.0	3.30
10		9.2	20	200	4.5		3.00	3.4	3.30
11		9.0	20	200	4.6		3.15	3.7	3.20
12		9.3	23	200	4.7		3.30	3.6	3.20
13		9.4	25	200	4.6		3.25	3.6	3.10
14		10.0	24	215	4.5		3.25	3.4	3.10
15		10.0	24	220	4.5		3.00	3.3	3.20
16		9.8	27	225	4.0		2.70	2.9	3.25
17		9.1	27	225			2.30		3.40
18		7.5	25	<210					3.35
19		5.2	28	210					3.20
20		4.7	27	(230)					3.15
21		4.2	25	<240					3.10
22		4.0	27	(255)					3.00
23		3.8	26	<270					3.00

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

Table 25

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.0	30	---				<1.6	2.90
01		3.0	30	---				<1.6	2.85
02		3.1	29	---				<1.6	2.85
03		3.2	29	---				<1.5	2.90
04		3.4	29	---				<1.4	3.05
05		3.3	30	---				<1.4	3.20
06		3.1	29	---				<1.4	3.05
07		4.2	30	240			<1.4	<1.4	3.20
08		6.7	30	230			2.2		3.45
09	240	8.0	30	230			2.8		3.40
10	250	8.8	30	220	---		3.1		3.25
11	260	9.6	30	210	---		3.3		3.10
12	270	10.2	30	205	---		(3.4)		3.05
13	280	10.7	30	200	---		3.4		3.00
14	280	10.7	30	210	---		3.4		2.95
15	270	10.8	30	225	---		3.2		3.05
16	255	10.6	30	230			3.0		3.05
17	250	10.3	30	240			2.5		3.20
18		9.0	30	220			1.8		3.30
19		6.6	30	210			<1.4	<1.5	3.30
20		4.8	30	(220)				<1.5	3.20
21		4.2	30	(225)				<1.5	3.25
22		3.4	30	---				<1.6	3.20
23		3.0	30	---				<1.5	3.10

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

Table 26

Falkland Is. (51.7° S, 57.8° W) April 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	16	310					----
01		3.8	21	330					2.60
02		3.7	22	310					(2.60)
03		3.7	23	300					2.70
04		3.8	24	290					2.80
05		3.7	28	245					2.90
06		3.8	26	220		---	E		(3.35)
07		5.4	13	210		155	1.80		----
08	250	7.3	19	210		120	----		(3.75)
09	225	8.2	20	220		110	----	2.8	3.50
10	240	9.4	29	220		110	----	(3.3)	3.50
11	240	10.4	24	215		105	----	(3.6)	3.50
12	240	10.4	26	215		105	----	3.2	3.50
13	230	8.9	29	220		105	2.95		3.70
14	230	7.9	30	220		105	2.80		3.65
15	230	7.6	27	225		110	----	2.4	3.50
16		7.2	28	225		125	----	(2.3)	3.60
17		6.7	11	215		---	E	2.3	
18		6.6	14	220				(2.3)	(3.35)
19		4.8	20	230				(2.2)	(3.20)
20		3.8	18	240					----
21		3.6	15	250					----
22		3.6	21	290					----
23		3.6	19	310					----

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

Table 27

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	28	300				<1.3	2.70
01		3.6	29	300				<1.0	2.70
02		3.5	27	300				<0.9	2.70
03		3.3	29	280				<0.9	2.70
04		3.0	27	275				(1.0)	2.80
05		2.4	31	260		---	----	<1.1	2.90
06		3.2	29	260		---	(1.40)		3.00
07		4.8	30	230	---	110	1.90		3.25
08	---	5.9	29	220	---	110	2.30		3.25
09	330	6.4	30	210	4.0	105	2.75		3.20
10	295	7.0	28	210	4.2	105	2.95		3.25
11	285	7.4	28	205	4.4	105	3.05		3.20
12	290	7.7	30	205	4.4	105	3.15		3.20
13	290	7.3	31	210	4.3	105	3.15		3.20
14	290	7.4	31	220	---	105	3.05		3.20
15	275	7.5	31	220	---	105	2.85		3.20
16		7.7	31	230		110	2.60	2.6	3.20
17		7.5	30	240		110	2.20	2.3	3.20
18		(7.2)	29	235		---	1.70	1.9	3.20
19		7.0	31	225				<1.6	3.15
20		5.9	31	225				<1.6	3.05
21		4.8	30	<235				<1.6	2.95
22		4.2	31	250				<1.6	2.85
23		3.7	29	<280				<1.6	2.80

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

Table 28

Dourbes, Belgium (50.1° N, 4.6° E) March 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	29	295					2.80
01		3.6	29	295				1.2	2.75
02		3.5	29	285					2.80
03		3.5	29	280					2.85
04		3.1	29	270					2.90
05		2.5	29	255					2.95
06		3.7	28	250		(129)	1.35		3.30
07	(300)	5.3	27	230	----	119	2.00		3.40
08	(265)	5.9	27	220	3.60	113	2.40		3.35
09	285	6.7	26	215	4.00	111	2.70		3.30
10	280	7.4	25	210	4.10	111	2.95		3.25
11	270	7.6	28	210	4.20	111	3.10		3.30
12	270	7.8	29	215	4.25	109	3.10		3.25
13	270	7.8	27	220	4.30	111	3.10		3.20
14	275	7.5	25	225	----	111	2.95		3.25
15	(280)	7.7	25	230	----	(113)	2.70		3.30
16	---	7.8	26	235		<119	2.35	2.4	3.30
17		7.4	27	240		(125)	1.90	1.9	3.25
18		7.1	26	230		---	<1.35	<1.5	3.30
19		6.4	26	230				<1.3	3.25
20		5.5	27	235				1.3	3.10
21		4.4	29	240				<1.2	3.00
22		3.9	29	265				<1.5	2.90
23		3.8	29	290				<1.1	2.85

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 3 minutes.

Table 29

Falkland Is. (51.7° S, 57.8° W) March 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9	11	310					----
01		5.0	18	305					----
02		4.9	18	310					(2.60)
03		4.9	16	295				1.2	(2.60)
04		4.6	15	280					(2.80)
05		4.4	15	270		---	E		(2.70)
06	---	5.0	16	240		160	1.70		----
07	425	6.7	16	225		120	2.20	(2.5)	----
08	475	7.7	20	220	---	115		3.2	3.45
09	265	8.9	21	225	---	110	----	(4.2)	3.30
10	255	9.5	23	220	---	110		(4.5)	3.30
11	260	10.3	28	215	---	105	(3.10)	(4.7)	3.20
12	260	10.8	26	210	---	105		(4.7)	3.30
13	250	9.9	26	220	---	105		(4.3)	3.50
14	250	8.8	26	220		105	3.20	(3.6)	3.60
15	215	8.1	27	230		110	2.95	3.5	3.40
16	240	7.8	26	240		110	2.65	(3.2)	3.55
17	255	7.7	23	240		115	E	(3.2)	----
18	---	7.7	27	235		---	E	(2.7)	3.30
19		7.3	13	240		---	E	(2.6)	(3.30)
20		6.5	12	240				(2.7)	----
21		(6.1)	7	240				(3.0)	----
22		5.2	10	290				2.4	----
23		(4.9)	9	305					

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

Table 30

Graz, Austria (47.1° N, 15.5° E) July 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.6	21	310					(2.6)
01		>6.6	22	310					(2.6)
02		(6.4)	20	305					(2.7)
03		(5.7)	19	310					(2.6)
04		(5.4)	16	320					(2.7)
05	(385)	6.0	19	290					(2.7)
06	(385)	6.6	20	235	4.2				2.8
*07	340	(6.8)	21	<260	4.4				2.9
08	320	7.2	20	<255	(4.8)				2.8
09	330	7.5	19	<260	5.2				2.8
10	350	7.8	21	<250	5.4				2.8
11	340	8.2	20	<260	5.3				2.8
12	330	8.2	19	<265	5.4				2.8
13	355	7.9	20	<260	5.3				2.8
14	350	7.8	19	<240	5.3				2.8
15	330	8.0	21	<260	5.1				2.9
16	330	7.8	20	<260	(5.0)				2.9
17	300	(7.4)	21	(235)	(4.6)				(2.8)
18		(7.5)	22	(260)					2.9
19		(8.2)	21	270					2.9
20		(7.6)	22	260					3.0
21		>6.6	22	270					(2.8)
22		>6.6	25	(290)					(2.9)
23		>6.6	20	290					---

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

Table 31

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.5)	15						(2.70)
01		(3.9)	14						(2.75)
02		(3.9)	11						(2.75)
03		(3.65)	8						----
04		(3.8)	4						----
05		(3.7)	7		---				----
06		(4.0)	5		---	~125	----		----
07		(5.25)	6		---	(113)	----		----
08		(5.75)	8		---	<111	----		----
09		(5.9)	5		---	<111	3.00		----
10		(6.1)	10		---	109	3.05		(2.80)
11		(6.7)	9		---	<116	----		(2.88)
12		(8.5)	5		---	(109)	3.18		----
13		(6.6)	10		---	109	3.00		----
14		(5.8)	11		(4.3)	109	----		G
15		(6.15)	14		(4.2)	109	----		(2.85)
16		(5.9)	15		---	(109)	----		(2.85)
17		(6.2)	16		---	---	----		(2.80)
18		(5.9)	23		---	---	----		(2.85)
19		(6.15)	20						(2.85)
20		(5.8)	17						(2.88)
21		(5.0)	15						(2.80)
22		(4.5)	16						(2.80)
23		(5.5)	14						----

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

Table 32

Narssarssuaq, Greenland (61.2° N, 45.4° W) April 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.3)	15			---	----	3.2	(2.65)
01		(3.9)	13					3.1	(2.60)
02		(4.0)	11					3.5	(2.50)
03		(3.6)	11					3.5	(2.55)
04		(4.6)	5			---	----	4.2	----
05		4.6	11			---	----	4.4	(2.90)
06		5.05	16		---	109	(2.35)	3.1	2.90
07		5.3	19		---	113	2.80		2.95
08		5.65	22		4.2	111	3.00		2.75
09		5.6	24		4.3	109	3.25		2.75
10		5.75	24		4.5	109	3.32		2.60
11		6.15	24		4.6	109	3.40		2.58
12		6.25	24		4.7	109	3.42		2.65
13		6.65	22		4.7	105	3.40		2.60
14		6.9	21		4.6	105	3.30		2.70
15		6.5	23		4.5	105	3.10		2.70
16		6.6	23		---	107	2.98		2.75
17		6.35	20		---	107	2.75		2.80
18		(6.0)	23			112	2.75	3.5	2.85
19		(5.6)	24			125	(2.45)	2.3	(2.80)
20		(5.6)	20			---	----	3.4	(2.70)
21		(5.2)	14			---	----	5.2	(2.58)
22		(4.7)	15					5.0	(2.60)
23		(4.9)	12					4.5	(2.65)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

Lindau/Harz, Germany (51.6° N, 10.1° E) April 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.39	28	307					2.46
01		5.16	27	308					2.48
02		4.98	26	310					2.51
03		4.86	24	318					2.52
04		4.40	24	305		---	----		2.53
05	---	3.98	26	296	----	---	E		2.70
06	G	4.73	29	270	----	---	2.00		2.86
07	G	5.10	29	252	3.60	110	2.56		2.86
08	(612)	5.89	30	236	4.12	106	2.92		2.80
09	480	6.65	29	234	4.52	104	3.21		2.76
10	490	7.30	29	223	4.70	102	3.39		2.81
11	371	8.50	29	224	4.92	102	3.50		2.77
12	390	8.75	29	233	5.10	103	3.53	4.0	2.78
13	358	8.95	29	220	4.98	103	3.57	3.8	2.78
14	(370)	9.10	30	228	4.95	103	3.53	3.8	2.80
15	(395)	8.78	30	229	4.72	105	3.41	3.6	2.82
16	---	8.54	29	236	----	105	3.20	3.3	2.84
17	---	8.90	28	240		107	2.87	3.1	2.87
18	---	9.00	29	254		---	2.38	2.8	2.88
19		8.68	28	250		---	1.80	2.7	2.90
20		7.69	26	245		---	E		2.85
21		6.80	27	248					2.73
22		6.02	28	258					2.66
23		5.82	28	293					2.53

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

Table 34

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	25	300					
01		5.2	24	300					
02		4.9	25	290					
03		4.4	26	290			---		
04		4.4	26	280		120	2.0		
05		5.1	26	250		110	2.1		
06	---	5.5	23	240	---	100	2.7		
07	295	6.6	21	225	4.6	100	3.1		
08	320	7.2	26	220	4.9	100	3.3		
09	305	8.0	25	215	4.8	100	3.5	3.6	
10	305	8.9	25	205	5.0	100	3.5	3.7	
11	350	9.3	24	215	5.0	100	3.6	3.7	
12	300	9.6	24	220	5.1	100	3.6		
13	310	9.3	25	220	5.0	100	3.6		
14	300	8.8	27	225	5.0	100	3.4		
15	345	8.8	27	230	4.6	100	3.1		
16	---	9.1	24	240	---	100	2.8		
17		9.0	25	250		105	2.2	2.2	
18		9.0	25	245		---	---	2.0	
19		8.0	26	240		---	---		
20		6.9	26	<245					
21		6.3	25	260					
22		5.9	25	290					
23		5.8	25	300					

Time: 0.0°.
Sweep: 1.0 Mc to 18.0 Mc.

Table 35

Grand Bahama I. (26.6° N, 78.2° W) April 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.5	28	280				2.1	2.75
01		7.1	28	265				2.0	2.80
02		6.7	28	270					2.70
03		6.15	26	265					2.70
04		6.0	27	280					2.70
05		5.75	30	275				1.3	2.70
06	---	6.7	27	260	---	120	1.88	2.2	3.00
07	---	7.9	28	240	---	109	2.55	2.9	3.12
08	(500)	9.3	27	225	4.1	108	3.12	3.3	3.00
09	(395)	9.6	27	220	4.6	105	3.50	3.7	2.90
10	315	10.15	28	(215)	4.7	105	3.70	4.0	2.80
11	340	11.0	29	(220)	5.0	105	3.90	4.2	2.80
12	330	11.6	29	220	4.8	108	4.00	4.1	2.80
13	310	11.6	29	220	5.1	107	3.98	4.0	2.75
14	330	11.7	29	225	4.5	107	3.80	4.0	2.75
15	320	11.4	28	230	---	107	3.65	3.9	2.80
16	(370)	11.1	27	235	---	106	3.35	3.6	2.85
17	(290)	10.7	28	240	---	110	2.90	3.2	2.85
18		10.5	29	250		116	2.20	3.0	2.90
19		9.5	29	235				2.7	2.92
20		8.1	30	<250				2.4	2.75
21		7.8	29	280				2.4	2.75
22		7.8	29	<300				2.2	2.70
23		7.6	29	<290				2.3	2.70

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

Table 36

Baguio, P. I. (16.4° N, 120.6° E) April 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.75	18	260					----
01		>10.0	20	240					(3.08)
02		8.9	24	240					(3.05)
03		(7.4)	23	260					(2.85)
04		(7.0)	21	275					(2.82)
05		(5.8)	23	260				2.0	(2.95)
06		7.1	27	280		---	----	2.4	3.00
07		9.45	30	260		121	(2.85)	3.3	2.90
08		(10.75)	30	255		121	----	3.8	(2.80)
09		>11.0	29	(250)		121	----	4.3	(2.65)
10		>11.2	27	(245)		---	----		(2.60)
11		>11.3	26	<240		---	----		(2.48)
12	---	>11.35	28	<250		---	----		(2.40)
13	---	(11.8)	29	<270		---	----		(2.40)
14	---	>12.0	28	<255		---	----		(2.30)
15	---	>12.0	27	<260		123	(3.70)		(2.38)
16	---	>11.0	25	(260)		(127)	(3.30)	3.6	----
17		>10.4	27	280		<128	----	3.2	----
18		>10.0	24	<300		---	----	3.0	----
19		>10.0	22	350					----
20		>10.0	16	355					----
21		>10.0	11	320					----
22		>10.0	15	290					
23		>10.5	15	270					

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

Table 37

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(12.5)	17	250					(3.30)
01		(12.6)	18	235					(3.35)
02		(10.6)	25	225					(3.40)
03		8.5	24	220					3.30
04		6.6	25	265					2.95
05		5.2	26	<295					2.90
06		5.3	24	300			---		2.80
07		9.2	27	250			---		3.15
08		(10.9)	24	245			---		(3.10)
09		(11.8)	12	245			---		(3.20)
10		>12.0	7	(250)			---		(3.05)
11		(12.2)	10	<255			---		(3.05)
12		>10.6	2	---			---		----
13		(13.6)	4	---			---		----
14		(13.5)	4	---			---		----
15		(13.8)	8	(250)			---		(3.10)
16		(14.0)	13	<255			---		(3.05)
17		>13.6	14	255			---		(3.20)
18		(14.0)	19	260			---	2.9	(3.10)
19		(13.6)	8	260				2.4	(2.90)
20		(13.0)	10	260					(3.10)
21		(13.6)	13	250					(3.15)
22		(13.0)	14	235					(3.30)
23		(13.6)	11	240					(3.25)

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

Table 38

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.2	27	320				2.4	2.62
01		7.0	27	300				2.1	2.70
02		7.1	28	280				2.4	2.85
03		6.6	28	240				2.0	3.05
04		5.4	25	230				2.4	2.65
05		4.75	26	285		---	----	1.9	2.65
06		5.1	27	280		---	1.10		2.80
07		8.85	28	230		(121)	2.30		3.30
08	---	11.5	27	230	---	111	2.85	3.0	3.35
09	---	12.4	28	230		109	3.20	3.5	3.25
10	---	13.05	30	230		109	3.40	3.9	3.15
11	(255)	14.2	30	220		109	(3.50)	4.0	3.15
12	---	14.8	30	220		110	(3.65)	4.2	3.10
13	(290)	14.9	30	<230	---	111	(3.50)	4.2	3.05
14	(270)	15.0	30	230	---	111	(3.40)	3.8	3.10
15	---	14.2	29	240		111	3.20	4.2	3.10
16	---	13.2	30	240		114	2.80	3.8	3.20
17		12.15	30	230		<139	(2.00)	3.8	3.20
18		10.65	30	230				4.0	3.10
19		9.85	30	250				3.6	2.90
20		9.0	30	240				2.7	2.90
21		8.1	29	260				2.5	2.75
22		7.8	29	290				2.0	2.70
23		7.45	28	300				2.1	2.65

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

Table 39

Byrd Station (80.0° S, 120.0° W) April 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	7	330		(137)	(2.70)	2.9	(2.58)
01		(4.95)	10	(350)		---	----	2.9	(2.60)
02		(4.85)	10	(345)		---	----	2.9	(2.60)
03		(4.8)	13	(335)		---	----	3.2	(2.70)
04		(4.5)	11	290		---	----	3.3	(2.78)
05		(4.2)	14	<320		---	----		(2.82)
06		(4.0)	16	(290)					(2.82)
07		(4.4)	19	(270)					(3.00)
08		(5.3)	21	(260)		---	----		(2.95)
09	---	(5.75)	24	260		---	----		(3.10)
10		6.7	25	250		---	----		3.12
11		7.2	23	245		---	----		3.10
12		(8.0)	19	(255)		---	----		(3.10)
13		(7.45)	14	255		---	----		(3.18)
14		(7.6)	13	(265)		---	----		(3.20)
15		(7.4)	7	<285		---	----		(3.10)
16		(6.0)	11	<315		---	----	3.2	(2.98)
17		(5.8)	6	270		---	----	2.6	(2.90)
18		(6.7)	7	320				2.6	(2.80)
19		(5.9)	5	320				3.3	----
20		(6.1)	5	315				3.6	----
21		(6.15)	8	300				3.8	(2.68)
22		(5.9)	6	315				3.9	----
23		(4.75)	8	340		---	----	2.0	----

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 40

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	22	310					2.50
01		4.7	23	300					2.50
02		4.4	25	300					2.50
03		4.3	27	(305)			E		2.50
04		3.8	23	300			----		2.50
05		3.5	26	295			----		2.60
06		4.0	26	280			----		2.75
07		5.8	29	260			2.00		3.00
08		7.0	30	245			2.55		2.95
09		8.2	30	240			2.95		2.90
10		8.4	28	230			3.10		2.95
11		9.4	28	230			3.25		2.90
12		9.6	28	225			3.30		2.95
13		10.2	28	235			3.30		2.90
14		10.0	27	240			3.25		2.90
15		9.9	28	245			3.10		2.90
16		9.7	28	250			2.80		2.95
17		9.4	28	250			2.45		2.95
18		8.8	28	245			1.80		2.95
19		8.4	28	250					2.90
20		7.4	30	245					2.85
21		6.2	30	250					2.75
22		5.6	25	280					2.60
23		5.2	25	295					2.60

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

Table 41

Macau (22.2° N, 113.6° E) March 1960

Time	h'F2	foF2	Count	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	400	(9.0)	7						(2.75)
01	400	(9.0)	8						(2.70)
02	400	9.0	16						2.70
03	360	9.0	13						2.70
04	350	6.6	15						2.45
05	400	4.8	16						2.40
06	465	(3.8)	5						(2.35)
07	450	7.0	21						2.40
08	430	9.0	21						2.45
09	435	9.8	21	400	---				2.40
10	(510)	11.0	22	400	6.0				2.30
11	---	11.4	22	470	---				2.20
12	---	13.0	21	450	---				2.20
13	(660)	13.2	26	440	8.5				2.10
14	(700)	13.3	17	445	8.0				2.05
15	---	13.2	17	400	8.0				2.20
16	---	13.0	12	430	---	---	---		2.20
17	440	(9.0)	6	440	---				(2.40)
18	445	(9.0)	3						----
19	---	---	0					(2.8)	
20	---	---	0						
21	---	(9.0)	1						----
22	(360)	---	0						
23	400	(8.3)	1						----

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

Table 42

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	12	240					----
01		>14.0	14	235					(3.20)
02		13.5	13	225					(3.20)
03		>12.1	16	220					(3.25)
04		7.4	19	230					3.00
05		6.2	17	255					2.90
06		6.5	18	270					2.95
07		9.1	18	240					3.10
08		10.4	15	250					(3.15)
09		10.6	14	240			---		(2.90)
10		11.7	17	(210)					(2.80)
11		12.5	16	---					(2.70)
12		13.8	13	---					(2.70)
13		(14.0)	14	---					(2.80)
14	---	(14.0)	13	---					(2.80)
15	---	(14.2)	11	---					(2.85)
16		>14.0	13	220					----
17		>14.0	15	240				3.2	----
18		>14.0	15	250					(2.95)
19		(14.0)	12	270					----
20		>14.0	15	(300)					(2.90)
21		(14.3)	11	265					<3.05
22		(14.2)	10	245					----
23		>14.0	13	240					----

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

Table 43

Lycksele, Sweden (64.6° N, 18.8° E) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(4.8)	27	330		---	----	3.0	(2.5)
01		(4.7)	27	320		---	(0.6)	2.5	(2.4)
02		(4.4)	28	310		---	----	2.3	(2.4)
03		4.4	27	310		---	----	3.1	2.5
04		(4.2)	28	295		---	----	2.6	(2.5)
05		(4.2)	29	280		---	----	2.3	(2.5)
06		3.6	27	270		---	----	2.4	2.5
07		4.2	28	250		120	1.20	2.6	2.65
08		5.8	28	250		120	1.65	3.5	2.8
09	---	7.2	29	240	---	125	2.10	3.8	3.0
10	(245)	8.4	29	240	3.3	125	2.30	4.5	3.0
11	(245)	9.5	29	235	3.8	110	2.45	4.8	3.0
12	(255)	10.4	28	235	3.9	110	2.50	5.0	3.0
13	---	11.0	28	235	---	120	2.40	5.0	3.0
14	---	10.8	28	230	---	120	2.25	5.0	3.0
15	---	10.2	28	230	---	130	2.10	3.8	3.0
16		9.1	29	230		135	1.80	3.4	3.0
17		8.6	29	230		---	1.35	2.4	3.0
18		5.8	28	230		---	----	2.3	2.8
19		(5.0)	28	260		---	----	2.2	(2.7)
20		4.2	27	270		---	----	2.4	2.6
21		4.9	24	320		---	----	2.4	2.5
22		(4.8)	24	300		---	----	2.9	2.55
23		(5.0)	27	330		---	----	2.3	(2.5)

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 44

Churchill, Canada (58.8° N, 94.2° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.5	27	275				3.7	----
01		4.6	24	295				4.8	
02		4.4	28	310				3.3	----
03		4.4	22	300				3.0	----
04		4.3	23	330				3.1	----
05		4.4	22	310				3.4	----
06		4.3	21	335				3.2	----
07		4.7	23	330		---	----	>3.4	----
08		5.5	25	300		120	2.65	>3.2	3.00
09		6.8	26	280		110	2.50	3.3	3.10
10		7.5	27	280	---	110	2.90		3.05
11	---	8.1	29	250	---	110	3.00		3.00
12	---	8.9	29	250	---	115	3.00		2.90
13	---	10.0	27	240	---	110	3.00		2.95
14	---	10.5	27	245	---	115	2.90		3.00
15	---	10.0	25	250	---	120	2.70		3.00
16		10.0	28	260		120	2.40		2.90
17		9.0	28	250		135	1.90		3.10
18		7.2	28	270		---	----	3.1	(3.10)
19		6.1	27	290				3.5	(3.00)
20		5.2	28	280				3.5	----
21		5.2	27	300				3.1	----
22		5.0	24	285				3.2	
23		4.6	26	290				3.8	----

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

Table 45

Inverness, Scotland (57.4° N, 4.2° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	28	300				<1.0	2.50
01		3.4	28	310				<1.0	2.50
02		3.1	27	310				<1.0	2.45
03		3.0	27	310				<1.0	2.50
04		3.4	29	300				<1.0	2.50
05		3.3	29	290				<1.1	2.55
06		3.1	29	285				(1.4)	2.60
07		3.7	29	270				<1.6	2.70
08		5.8	29	250		120	1.80		2.95
09		7.9	29	230		120	2.25		3.10
10		9.5	29	230		115	2.60		3.10
11		10.4	29	230		110	2.80		3.05
12		10.4	29	240		110	2.95		3.10
13		11.3	29	230		110	2.90		3.05
14		11.2	28	235		115	2.85		3.00
15		10.4	27	230		120	2.60		3.00
16		10.5	28	235		120	2.30		3.05
17		>6.3	29	230		130	1.85		(3.00)
18		>7.7	28	220				<1.6	(3.00)
19		>6.3	28	220				<1.6	2.85
20		>5.9	28	230				<1.6	2.80
21		5.5	25	230				<1.6	2.65
22		4.6	27	265				<1.6	2.65
23		(3.9)	28	300				<1.6	2.55

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

Table 46

Slough, England (51.5° N, 0.6° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	29	255				<1.3	2.60
01		4.7	27	295				<1.0	2.60
02		4.5	28	295				<0.8	2.65
03		4.4	26	<300				<0.9	2 60
04		3.9	27	275				>0.9	2.65
05		3.7	27	250				<1.6	2.70
06		3.4	28	230				<1.6	2.80
07		4.8	29	245		---	<1.60	<1.6	3.00
08		7.9	27	230		115	2.20		3.25
09		>9.6	28	225		110	2.60		3.15
10		11.1	29	220		105	2.90		3.15
11		11.8	29	220		105	3.10		3.10
12		11.7	29	220		105	3.15		3.10
13		11.8	28	225		105	3.15		3.10
14		11.8	29	225		110	3.05		3.05
15		11.6	28	230		110	2.80		3.05
16		10.8	28	230		115	2.45	2.5	3.10
17		10.4	28	225		---	1.80	1.9	3.10
18		9.4	28	215				<1.6	3.05
19		8.0	27	<220				<1.6	3.05
20		6.5	29	<230				<1.6	2.85
21		6.0	29	<240				<1.6	2.80
22		5.2	29	<250				<1.6	2.75
23		5.0	29	<250				<1.6	2.65

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

Table 47

Formosa, China (25.0° N, 121.5 E) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>11.2	26	250					2 90
01		10.3	27	240					2.95
02		9.4	27	240					3.00
03		7.8	27	240					3.00
04		>5.1	24	240					3.00
05		4.1	29	270					2.75
06		4 5	27	290					2.75
07		8.6	26	240					3.10
08		11.2	28	240					3.20
09		13.2	27	240			---		3.15
10		14.3	28	240					3.10
11		15.4	28	230					2.95
12		15.8	25	230					2 85
13		16.3	29	220					2.80
14		16.8	29	230					2.85
15		>17.0	29	230					2.90
16		>17.0	29	240			---		2.85
17		>16 7	27	230			---		2.85
18		>16.5	28	240					2.90
19		15.8	29	250					2 90
20		16.3	27	250					2.90
21		>16.0	25	240					2.95
22		14 4	23	240					3.00
23		12 3	23	240					2.90

Time: 120.0°E.
Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 48

Falkland Is. (51.7° S, 57.8° W) February 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	25	<310				2.4	2.55
01		8.2	23	<220				2.8	2.50
02		8.2	26	<310				2.4	2.45
03		7.6	22	300		---	E	2.5	2.40
04		7.8	22	315		---	E	2.6	2.45
05		8.3	20	280		120	E		(2.35)
06		8.6	22	250		120	----		(2.50)
07		9.4	24	245		110	----	3.8	2.60
08	275	10.0	25	240		105	----	4.4	2.60
09	315	10.4	24	240		105	----	5.1	2.80
10	300	11.2	25	250	---	105	----	5.2	2.60
11	345	11.6	26	240	---	105	3.60	5.3	2.75
12	320	11.3	23	230	---	105	3.75	5.6	2.70
13	315	11.3	27	230	---	105	3.60	5.5	2.80
14	310	11.0	26	230	---	105	3.60	4.8	2.85
15	300	10.4	25	240		105	3.40	4.5	2.90
16	300	9.6	27	245		105	3.30	4.6	2.95
17	265	9.5	25	250		110	2.80	4.1	3.00
18	250	9.0	24	255		115	----	3.6	3.05
19		8.8	26	260		---	E	3.3	2.90
20		8.5	21	265		---	----	4.0	2.75
21		8.2	20	270				6.1	2.50
22		8.3	21	<300				2.6	2.50
23		8.5	19	<310				3.0	(2.50)

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

Table 49

Tromso, Norway (69.7° N, 19.0° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEa	(M3000)F2
00		(3.9)	2	---				4.2	----
01		(5.6)	2	---				4.2	
02		(5.3)	5	---		---	----	4.2	----
03		(5.3)	3	340		---	----	4.1	
04		(5.3)	13	300		---	----	3.2	----
05		(5.0)	14	295		---	----	3.2	
06		(4.3)	13	275		---	----	2.7	----
07		(4.0)	19	265		---	----		(2.55)
08		4.0	20	275		---	----		2.65
09		5.2	26	260		---	----	1.4	2.70
10		7.0	28	250		---	1.40	1.6	2.90
11		8.9	28	245		---	1.70		2.95
12		9.2	27	245		---	----	1.7	3.00
13		9.5	27	245		---	1.70		2.95
14		8.8	24	240		---	----		3.05
15		7.0	19	240		---	----	1.8	3.00
16		5.2	18	250		---	----	2.5	3.00
17		3.8	18	250		---	----	2.8	(2.90)
18		3.0	16	(255)		---	----	3.0	(2.70)
19		(4.2)	9	(300)		---	----	3.8	----
20		(4.2)	6	(300)				4.2	
21		(4.5)	4	(290)				4.0	----
22		(4.9)	3	---				3.2	
23		(5.7)	2	---				4.1	

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

Table 50

Lycksele, Sweden (64.6° N, 18.8° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3 6	26	330		---	----	3.6	2.4
01		(3 6)	29	330		---	----	3.3	(2.4)
02		(4.2)	27	315		---	----	3 1	2.5
03		(4.0)	27	305		---	----	3.0	2.45
04		4.0	30	295		---	----	3.0	2.5
05		3.9	29	280		---	----	3.0	2.55
06		3.3	29	260		---	----	2.7	2.6
07		3.5	30	260		---	----	2.5	2.6
08		4.3	31	250		---	1.00	2.6	2.7
09		6.2	31	245		110	1.50	3.6	2.9
10		8.0	31	240		105	1.85	4.2	3.0
11		9.8	31	230		---	1.90	5.0	3.0
12		11.0	31	235		150	2.00	5.0	3.1
13		11.0	31	230		140	2.00	4 7	3.1
14		10.0	31	230		---	1.70	4.6	3.1
15		9.7	30	225		---	1.50	4.0	3.1
16		7.0	31	220		---	1.10	3.0	3.1
17		5.0	30	230		---	----	3.0	2.9
18		4 0	29	240		---	----	2.5	2.8
19		(3.5)	29	275		---	----	2.4	2.7
20		3.1	30	280				2.8	2.65
21		(3.4)	27	290				2.9	2.7
22		(3.0)	30	300				3.2	(2.6)
23		(3.4)	27	340				3.1	(2.4)

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

Table 51

Upsala, Sweden (59.8° N, 17.6° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEa	(M3000)F2
00		2.6	20	330		105	(0.95)	2.6	2.5
01		(2.4)	24	310		105	0.85	2.3	(2.6)
02		(2.2)	29	305		105	0.90	2.4	(2.6)
03		2.3	26	295		105	(0.90)	2.5	2.6
04		(2.5)	28	290		110	0.90	2.3	2.65
05		2.6	26	275		110	0.85	2.3	2.7
06		2.6	24	265		110	0.90	2.2	2.7
07		2.8	26	260		110	1.10	2.6	2.7
08		4.9	30	245		115	1.40	2.6	2.9
09		7.4	31	230		105	1.85	3.6	3.1
10		9.7	31	230		(110)	2.15	2.8	3.1
11		11.5	31	225		(110)	2.30	2.8	3.1
12		12.0	31	230		<115	2.40	2.8	3.2
13		12.8	31	225		<120	2.30	2.7	3.2
14		11.9	31	225		(105)	2.20	2.7	3.2
15		10.9	31	215		105	1.80	2.7	3.2
16		9.4	30	215		105	1.40	2.7	3.2
17		7.4	29	210		110	1.20	2.7	3.1
18		5.6	29	220		105	1.00	2.3	3.0
19		4.3	29	235		110	(1.10)	2.2	3.0
20		3.4	28	260		105	1.10	2.2	2.8
21		3.0	27	260		110	0.90	2.4	2.8
22		3.1	24	285		110	1.00	2.4	2.7
23		2.7	20	300		110	(0.85)	2.2	2.6

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

Table 52

De Bilt, Holland (52.1° N, 5.2° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3 2	29	<320					2.80
01		3.2	30	<330					2.75
02		3.1	31	<340					2.75
03		3.0	30	<320					2.85
04		>3.0	29	<300					2.90
05		3.0	31	<290					2.90
06		2.8	30	<300					2 90
07		3.7	31	(250)					3.05
08	---	7.1	31	215	---	---	2.0		3.35
09	---	9.7	31	220	---	145	2.6		3.35
10	---	11.6	31	220	---	125	2.8		3.35
11	(225)	12.4	31	220	---	120	3.0		3.30
12	---	>11.5	31	220	---	120	3.0		3.20
13	---	>11.6	31	220	---	125	3.0		3.25
14	---	>11.5	30	220	---	125	2.8		3.25
15		11.1	31	210		<150	2.6		3.25
16		10.5	31	210		---	E		3.30
17		8.7	31	210					3.30
18		6.2	31	220					3.25
19		5.1	31	240					3.20
20		>4.3	30	250					2.95
21		3.9	30	(275)					3.00
22		3.8	30	<300					2.95
23		3.5	30	<310					2.85

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

Table 53

Rome, Italy (41.8° N, 12.5° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.6)	29	300					(2.65)
01		(4.4)	30	300					(2.60)
02		(4.3)	29	310					(2.65)
03		(4.2)	28	290					(2.70)
04		(4.2)	25	290					(2.75)
05		4.2	25	260					2.95
06		(3.5)	20	270					(2.90)
07		4.2	18	250					2.80
08		(8.5)	17	230		150	2.2		(3.30)
09		(12.0)	18	230		130	2.7		(3.30)
10		(12.2)	19	240		120	3.0		(3.20)
11		12.8	24	230		120	3.3		3.20
12		(12.0)	27	230		120	3.4		(3.10)
13		(11.8)	28	230		120	3.3		(3.10)
14		(12.4)	18	240		120	3.2		(3.05)
15		(11.8)	24	240		120	2.9		(3.05)
16		(11.5)	20	230		120	2.5		(3.15)
17		(8.8)	11	230		140	2.0	2.7	(3.25)
18		(8.2)	15	230				2.6	(3.20)
19		(6.7)	18	230				3.1	(3.20)
20		(5.4)	24	240				2.9	(3.10)
21		(4.6)	24	270				3.1	(2.80)
22		4.7	24	270				2.8	2.80
23		(4.7)	28	290					(2.85)

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

Table 54

Formosa, China (25.0° N, 121.5° E) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	29	260					2.85
01		6.4	28	260					2.90
02		6.0	27	260					2.95
03		5.1	29	260					3.00
04		3.9	27	290					2.80
05		3.6	29	<310					2.70
06		4.0	30	300					2.65
07		8.8	30	260					3.00
08		11.4	26	240			---		3.30
09		13.2	29	240			---		3.15
10		14.4	29	240			---	4.0	3.00
11		15.3	31	230			---	4.1	2.80
12		>16.0	30	230			---	4.4	2.80
13		16.6	30	230			---	4.3	2 80
14	---	>16.5	30	240	---		---	4.1	2.75
15		16.8	29	240			---	3.9	2.75
16		16.6	30	240			---	3.7	2.80
17		15.2	30	240			---	(3.0)	2.85
18		14.3	29	240				(3.2)	2.85
19		14.2	31	240				2.5	2.90
20		14 8	31	240					2.90
21		>13.0	31	240					3.00
22		10.5	30	250					2.80
23		9.2	30	260					2.80

Time: 120.0°E.
Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 55

Falkland Is (51.7° S, 57.8° W) January 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.3	20	320					2.4
01		9.2	21	310				1 4	2.35
02		8.7	23	310				1.7	2.4
03		8.2	21	330		---	E	1.2	2.4
04		8 4	20	300		---	E		2.3
05	480	9.2	23	265	---	120	----	2.5	2.2
06	420	10.2	21	250	---	110	(2.90)	(3.7)	2.25
07	415	10.4	26	250	---	110	3.20	(4.3)	2.3
08	390	10.4	26	245	5.2	105	3.60	(5.0)	2.4
09	400	11.1	23	240	---	105	3.75	(4.8)	2.35
10	370	11.4	25	235	---	100	3.85	(5.5)	2.5
11	365	11.1	25	225	5.8	100	3.85	(4.8)	2.5
12	360	10.9	24	230	---	100	3.95	(5.0)	2.6
13	350	10.4	24	225	5.6	105	----	4.8	2.55
14	360	10.1	23	220	---	105	3.80	4.8	2.6
15	365	9.2	28	225	---	105	3.70	(4.5)	2.65
16	350	8.9	28	240	---	105	(3.50)	(4.5)	2.75
17	325	8.5	29	245		110	3.25	(4.3)	2.8
18	380	8.3	27	250		115	2.80	(4.5)	2.85
19	280	8.3	23	265		120	E	(4.3)	2.7
20		8.0	24	295		---	E	(2.5)	2.5
21		8.6	24	320		---	----	<1.5	2.35
22		9.0	22	320					2.3
23		9.5	17	340				1.8	(2.3)

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

Table 56

Inverness, Scotland (57.4° N, 4.2° W) October 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.5)	29	310				<1.3	2.45
01		(4.4)	30	310				<1.1	2.45
02		>3.7	31	300				<1.1	2.50
03		(3.6)	30	300				<1.2	2.50
04		(3.4)	30	300				<1.1	2.55
05		(3.3)	29	280				<1.6	2.65
06		3.6	31	260		---	----	<1.6	2.65
07		5.0	31	250		---	1.80		2.95
08	---	6.7	31	250	---	120	2.30		2.90
09	---	7.6	31	240	---	115	2.70		3.00
10	---	8.7	31	240	---	115	2.90	2.8	2.95
11	---	10.0	31	240	---	110	3.10		2.90
12	---	10.5	31	235	---	110	3.10		2.90
13	---	10.5	31	240	---	110	3.10		2.90
14	---	10.5	31	240		110	2.95		2.90
15		10.3	31	240		110	2.75		2.90
16		10.0	31	250		115	2.40		2.90
17		>8.8	30	240		120	1.90		2.95
18		8 5	31	240				<1.8	2.80
19		>7.5	31	240				<1.6	2.90
20		(6.5)	31	240				<1.6	2.85
21		5.6	30	250				<1.6	2.60
22		(5.0)	30	290				<1.6	2.60
23		>4.4	30	300				<1.6	2.55

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

Table 57

Inverness, Scotland (57.4° N, 4.2° W) September 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.7)	29	330				<1.3	2.40
01		>3.8	29	315				1.3	2.40
02		3.8	28	310				(1.4)	2.35
03		(3.8)	28	310				<1.4	2.40
04		3.6	27	305				(1.2)	2.40
05		3.6	28	300		120	1.70		2.55
06	---	4.4	30	280	---	115	1.90		2.75
07	---	5.4	27	255	---	115	2.45		2.95
08	---	6.1	30	250	---	115	2.80		2.90
09	---	6.5	29	250	---	110	3.15		2.80
10	(480)	6.7	27	225	4.8	110	3.30		2.80
11	(500)	6.8	30	230	---	110	3.50		2.70
12	(480)	7.2	29	230	5.0	105	3.50		2.70
13	(530)	7.3	29	230	5.3	105	3.50		2.75
14	---	7.3	30	240	---	110	3.50		2.75
15	---	7 6	30	240	---	110	3.30		2.75
16	---	7.6	30	250	---	110	3.00		2.80
17		7.9	28	250		115	2.65		2.85
18		7.8	30	250		120	2.15		2.90
19		8.0	30	250		---	1.90		2.80
20		7.2	28	250				<1.6	2.75
21		5.9	29	200				<1.6	2.60
22		4.9	30	295				<1.6	2.50
23		(4.7)	29	300				<1.6	2.40

Time: 0.0°.
Sweep: 0.67 Mc to 25 0 Mc in 5 minutes, automatic operation.

Table 58

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.6	26	300				3.3	2.50
01		7.3	26	305				3.5	2.50
02		7.2	26	295				3.4	2.55
03		6.7	26	300				3.4	2.60
04	---	6.6	27	300	---		1.65	3.4	2.60
05	(380)	7.3	28	260	4.0		2.40	3.5	2.55
06	370	8.0	28	255	4.4		2.90	5.0	2.70
07	370	8.3	28	260	4.8		3.25	5.5	2.60
08	370	7.9	28	250	(5.2)		3.50	6.5	2.70
09	410	7.4	26	225	5.4		3.65	6.7	2.60
10	430	7.8	25	245	5.4		3.70	7.3	2.60
11	430	7.7	26	250	5.5		3.70	6.2	2.60
12	430	7.8	27	250	5.5		3.70	6.0	2.60
13	420	7.8	25	250	5.6		3.70	5.8	2.60
14	425	7.6	26	250	5.5		3.60	5.8	2.60
15	420	7.6	28	250	5.4		3.60	5.6	2.60
16	405	7.5	29	250	5 0		3.50	5.9	2.65
17	370	7.5	29	260	---		3.05	5.8	2.70
18	---	7.6	30	270	---		2.50	4.4	2.70
19		7.6	30	280			----	4.6	2.70
20		(8.1)	29	290				4.0	(2.65)
21		(8.1)	27	300				4.2	(2.60)
22		(8.0)	27	300				3.5	(2.55)
23		(7.8)	27	300				3.5	(2.55)

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

Table 59

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.2	31	305				3.8	2.60
01		7.9	31	310				3.1	2.60
02		7 9	31	300				3.1	2.60
03		7.4	31	290				3.0	2.65
04		7.0	30	310				2.5	2.60
05	(420)	7.4	31	270	---		2.05	2.6	2.65
06	350	8.5	31	255	4.6		2.80	4.3	2.65
07	350	9.1	31	245	5.0		3.25	6.6	2.70
08	345	9.0	30	240	(5.3)		3.55	6.8	2.70
09	355	8.4	28	240	5.6		3.80	7.3	2.70
10	400	8.4	28	245	(5.7)		3.95	7.5	2.60
11	405	8.5	29	240	5.8		4.00	7.2	2.60
12	400	8.8	28	245	5.8		4.05	8.1	2.60
13	400	8.9	27	245	5.8		3.95	7.9	2.60
14	390	8 8	27	240	5.7		3.95	6.8	2.65
15	395	8 6	28	245	5.5		3.70	6.2	2.70
16	375	8 6	28	250	5.2		3.50	5.8	2.70
17	345	8 5	28	250	4.8		3.05	5.6	2.80
18	305	8 5	28	265	---		2.45	5.7	2.80
19		8 2	30	290				6.2	2.70
20		8 6	28	290				5.1	2.60
21		8 4	29	320				6 0	2.60
22		8.4	29	310				5.6	2.50
23		8 2	28	310				4.5	2.55

Time: 135.0°E.
Sweep: 1 0 Mc to 20.0 Mc in 20 seconds.

Table 60

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(8.6)	30	330				4.5	(2.60)
01		8.1	29	300				3.8	2.65
02		8.0	29	295				3.7	2.70
03		7.5	29	300				3.1	2.65
04		7.0	30	300					2.65
05	---	7.3	30	270			----		2.70
06	(350)	8.6	30	250	---		(2.75)	3.8	2.70
07	340	9.1	28	250	---		(3.25)	5.2	2.75
08	325	9.4	26	250	---		3.60	6.9	2.75
09	<355	8.9	24	250	---		(3.85)	6.5	2.70
10	390	8.8	25	(230)	---		(3.90)	6.6	2.55
11	<400	9.3	28	205	(5.8)		(4.00)	7.6	2.55
12	390	9.4	28	(245)	(5.8)		4.05	6.4	2.60
13	390	9.7	26	(240)	(5.8)		(4.00)	5.0	2.70
14	360	9.7	26	(245)	(5.6)		(4.00)	5.8	2.70
15	375	9.4	29	245	(5.3)		(3.85)	4.9	2.65
16	360	9.0	30	250	(5.0)		(3.55)	5.1	2.70
17	350	9.2	29	255	---		(3.10)	5.8	2.75
18	305	9.0	28	270			(2.40)	4.8	2.80
19		8.6	28	295				4.6	2.75
20		8.6	28	300				4.4	2.60
21		(8.4)	28	340				5.0	(2.50)
22		8.6	27	315				4.8	2.55
23		8.6	29	350				4.5	(2.55)

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

Table 61

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.4	26	345				3.5	2.50
01		9.4	29	300				3.2	2.60
02		9.0	30	300				3.7	2.60
03		8.4	28	290				3.2	2.70
04		7.5	30	290				3.1	2.60
05		7.2	29	310			----	3.0	2.55
06		8.0	30	265			2.20	2.8	2.75
07	---	9.0	30	250	---		3.00	3.8	2.85
08	---	9.2	29	250	---		3.40	6.0	2.85
09	(375)	9.0	28	250	(5.5)		3.75	6.3	2.65
10	400	9.2	30	250	6.0		3.95	7.3	2.45
11	410	9.6	29	250	6.2		4.10	6.6	2.50
12	400	9.9	29	235	6.0		4.15	5.7	2.50
13	400	10.0	28	230	6.0		4.20	6.0	2.55
14	400	10.4	29	240	5.9		4.10	5.6	2.50
15	400	10.5	30	250	5.8		4.00	5.4	2.55
16	370	10.4	30	250	5.6		3.75	6.1	2.55
17	350	10.4	30	250	5.3		3.40	5.8	2.65
18	325	10.4	30	270	---		2.80	5.8	2.70
19		9.6	29	290			----	4.7	2.70
20		8.8	29	300				4.8	2.55
21		8.9	30	325				3.6	2.40
22		9.2	30	340				3.7	2.45
23		9.1	29	335				3.1	2.45

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

Table 62

De Bilt, Holland (52.1° N, 5.2° E) June 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		7.4	30	300				2.6	2.55
01		7.1	30	300				2.8	2.55
02		7.0	30	300				2.7	2.50
03		6.6	30	300				3.0	2.55
04	---	6.9	30	280	---	120	2.0	3 9	2.65
05	(400)	7.4	30	250	4.0	100	2.5	3.8	2.65
06	430	7.6	30	240	4.7	100	3.0	4.0	2.65
07	375	8.0	28	230	5.0	100	3.3	4.4	2.70
08	370	7.9	28	220	5.3	100	3.5	5.0	2.70
09	425	>7.8	28	220	5.5	100	3.7	5.0	2.60
10	410	8.0	29	225	5.7	100	3.8	5.0	2.60
11	415	7.8	30	215	5.5	100	3.9	5.3	2.60
12	430	7.8	30	210	5.6	100	4.0	4.9	2.55
13	420	8.0	28	210	5.6	100	3.9	4.8	2.60
14	415	7.6	28	220	5.5	100	3.8	4.6	2.60
15	405	7.6	30	220	5.4	100	3.7	4.4	2.70
16	400	7.6	29	225	5.2	100	3.4	4.4	2.70
17	(400)	7.6	30	250	5.0	100	3.1	4.8	2.70
18	(340)	7.6	29	250	---	105	2.7	4.8	2.80
19	---	7.7	28	270		120	2 2	4.0	2.85
20		7.8	30	280		---	---	4.0	2.80
21		8.0	30	280				3.4	2.70
22		7.8	30	290				3.0	2.60
23		7.8	29	300				2.4	2.55

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

Table 63

Inverness, Scotland (57.4° N, 4.2° W) April 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.3	29	310				<1.4	2.35
01		6.0	29	320				1.1	2.35
02		5.5	29	340				1.1	2.3
03		5.0	29	330				<1.2	2.3
04		4.8	28	320		---	----	(1.0)	2.4
05		5.0	29	295		110	1.70		2.55
06		6.0	28	265		110	2.20		2.7
07		6.5	29	250	---	110	2.70		2.65
08		>7.0	27	245	---	110	3.10		2.7
09		7.2	29	240	---	110	3.35		2.65
10		7.8	30	235	5.1	110	3.55		2.65
11		8.2	30	235	(5.3)	110	3.70		2.6
12		8.6	29	235	5.3	110	3.70		2.6
13		8.6	29	240	5.4	110	3.70		2.6
14		8.8	30	240	5.4	105	3.65		2.6
15		8.8	29	240	---	110	3.45		2.6
16		8.8	30	245	---	110	3.20		2.6
17		8.8	29	250	---	110	2.95		2.65
18		8.8	28	255		115	2.50		2.7
19		8.4	29	260		<140	2.00		2.7
20		8.2	27	260		---	----	<1.6	2.65
21		7.3	28	265				<1.6	2.5
22		6.8	29	280				<1.6	2.45
23		5.7	29	<310				<1.6	2.45

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

Table 64

Moscow, U.S.S.R. (55.5° N, 37.3° E) April 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1	29	330				<1.2	2.40
01		5.6	30	300			E	<1.2	2.40
02		5.3	30	325			E		2.40
03		5.2	29	315			E		2.50
04		5.1	29	300			1.30		2.60
05		5 8	30	270			2.00		2.80
06		6.2	30	250			2.55		2.80
07	(485)	6.9	29	240	4.9		3.00		2.70
08	385	8.3	30	230	5.0		3.30		2.70
09	390	9.4	30	230	5.3		3.50		2.70
10	355	10.3	30	225	5.7		3.60	3.5	2.70
11	320	11.0	30	230	6.0		3.70		2.65
12	370	11.1	30	225	6.0		3.70		2.65
13	350	11.0	30	230	6.1		3.60		2.70
14	340	10.6	30	230	(5.8)		3.50		2.70
15	(330)	10.4	30	240			3.30		2.70
16		10.2	30	245			3.00		2.70
17		10.0	30	250			2.60		2.70
18		9.6	30	255			2.10		2.80
19		9.4	30	250			1.55		2.75
20		8.6	30	255			E	<1.3	2.70
21		7.5	30	270				<1.3	2.65
22		7.0	30	280				<1.3	2.60
23		6.5	30	300				<1.3	2.50

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 65

Concepcion, Chile (36.6° S, 73.0° W) April 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.8	24	280					2.80
01		8.6	25	280					2.78
02		8.4	25	270					2.90
03		7.2	25	265					2.90
04		6.3	25	245					2.72
05		6.0	25	290		---	E		2.55
06		6.8	25	290		---	1.50		2.75
07		10.8	25	240		119	2.40		3.20
08		12.9	23	230		109	3.00	3.0	3.20
09		13.9	22	230		108	3.40	3.6	3.15
10		14.3	23	220		107	(3.60)	4.0	3.00
11		14.6	24	220		109	3.70	4.0	2.90
12		14.85	24	220		109	3.80	3.9	2.85
13	---	15.6	25	220		111	3.75	4.2	2.80
14	---	15.75	24	230		111	3.60	4.2	2.80
15		15.6	26	240		113	3.35	4.0	2.85
16		15.4	27	250		111	2.80	4.0	2.90
17		14.6	27	250		---	----	4.4	2.95
18		14.0	27	245				4.4	2.95
19		12.7	27	255				3.6	2.85
20		11.9	25	250				2.7	2.90
21		>10.5	24	250				2.2	2.80
22		9.7	25	270					2.80
23		9.2	25	280					2.75

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

Table 66

Port Lockroy (64.8° S, 63.5° W) April 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	22	<350				1.0	2.20
01		4.9	22	360					2.30
02		4.2	20	350			----		2.20
03		3.9	15	355			----		2.15
04		3.8	20	370			----		2.20
05		3.8	19	355			----		2.25
06		3.8	18	325			----		2.35
07		5.6	20	<260			1.70		2.60
08		7.4	22	240			2.00		3.00
09		10.8	20	225			2.30	2.9	3.05
10		11.6	20	230			2.55		3.10
11		13.2	24	225			2.80		3.10
12		13.6	22	225			2.85		3.15
13		13.5	27	230			2.80		3.10
14		12.9	25	225			2.80		3.15
15		11.8	22	225			2.50		3.10
16		10.9	23	235			2.20		3.15
17		10.8	19	235			1.80		3.10
18		9.2	22	230			----	1.3	3.10
19		7.4	21	235			----	1.0	3.00
20		6.6	22	240			----	1.1	2.85
21		6.0	22	<260			----		2.65
22		5.6	21	300			----		2.30
23		5.3	21	350			----		<2.20

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

Table 67

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		D	23	250					(3.5)
01		>12.0	21	240					(3.8)
02		(11.4)	21	250					3.7
03		(10.3)	19	250					3.7
04		(7.0)	19	250					3.6
05		>7.0	20	260					3.5
06		>7.0	21	270		---	---		3.5
07		>11.0	23	250		100	2.8		3.5
08		D	24	250		100	3.4		(3.55)
09		D	23	<250	---	100	(3.7)		----
10	(350)	D	21	250	(9.2)	100	(3.8)		
11	(380)	D	21	250	(9.5)	100	>4.0		
12	(400)	D	19	250	(9.8)	100	>4.0		
13	(400)	D	19	250	(9.0)	100	>4.0		
14	(400)	D	19	250	(8.5)	100	>4.0		
15	(360)	D	18	250	(8.0)	100	3.9		
16	(350)	D	18	250	(8.0)	100	3.5		
17	---	D	24	250	---	100	3.0		
18		D	24	270		---	---	2.1	
19		D	24	300				2.2	
20		D	23	290				2.1	
21		D	23	250					
22		D	23	250					----
23		D	23	250					

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

Table 68

Tsumeb, South W. Africa (19.2° S, 17.7° E) March 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		7.80	30	240					2.85
01		6.70	29	245				1.8	2.85
02		5.76	28	235					2.78
03		5.30	28	240		---	----		2.82
04		4.77	29	250		---	----	1.7	2.90
05		4.46	28	247		---	----	1.6	2.85
06		6.94	30	250		140	1.74	1.8	2.96
07		10.02	31	233		110	2.74		3.16
08		11.31	31	225		105	3.38		3.00
09		12.10	31	220		---	3.72		2.84
10		12.80	27	215		---	3.98	4.0	2.70
11		13.30	30	215		---	4.14		2.65
12	---	13.58	31	220	---	---	4.19		2.60
13	---	13.70	31	222	---	---	4.18		2.56
14		13.61	31	226		---	4.04		2.54
15		13.50	30	232		---	3.75	3.9	2.55
16		13.31	30	240		---	3.40	4.2	2.59
17		12.92	29	247		115	2.76	3.5	2.65
18		12.72	31	250		---	----	2.5	2.72
19		12.13	27	242				1.8	2.75
20		11.22	30	240				2.3	2.79
21		10.60	29	235				1.8	2.83
22		9.82	30	239				1.7	2.85
23		8.88	30	238				1.6	2.90

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

Table 69

Rarotonga I. (21.2° S, 159.8° W) March 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(10.2)	12						(2.60)
01		(9.8)	16						(2.55)
02		9.0	24						2.45
03		8.9	26					1.2	2.45
04		9.0	26					1.1	2.50
05		8.8	28						2.60
06		(10.9)	21					1.3	(2.90)
07		12.4	28					3 0	3.00
08		12.9	28					3.7	2.80
09		13.3	30					4.0	2.70
10		14.4	29					4.3	2.60
11		15.4	30					4.7	2.60
12		15.8	28					4.7	2.55
13		16.0	25					4.6	2.50
14		(16.0)	24					4.3	(2.50)
15		(15.7)	23					4.0	(2.50)
16		(15.4)	23					3.8	2.50
17		(15.3)	23					3.5	2.50
18		(14.7)	21					3.1	(2.55)
19		(13.3)	13					2.8	(2.55)
20		(13.4)	9					3.0	(2.55)
21		(11.0)	6					1.6	(2.45)
22		(12.7)	10					<1.4	(2.60)
23		(11.3)	9						(2.55)

Time: 165.0°W.
Sweep: 1.0 Mc to 22.0 Mc in 7 seconds.

Table 70

Christchurch, New Zealand (43.6° S, 172.8° E) March 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.1)	15	<300				<1.7	(2.45)
01		(7.0)	17	300				2.6	(2.40)
02		(6.8)	21	<290				2.8	(2.35)
03		(6.8)	21	280				<1.6	(2.40)
04		(6.0)	23	270				<1.4	(2.40)
05		(5.6)	24	<280				<1.4	(2.40)
06		(5.2)	24	300		---	---	<1.7	(2.50)
07	---	5.6	16	260	---	110	2.3		2.60
08	---	6.3	16	250	---	110	2.9		2.70
09	(400)	7.5	16	230	4.8	105	3.4	3.5	2.65
10	(520)	(8.8)	20	220	4.9	100	3.6	3.8	2.70
11	(430)	9.3	24	220	5.4	100	(3.8)		2.60
12	(390)	10.0	23	220	6.0	100	3.9		2.60
13	(370)	(11.0)	26	230	5.6	100	4.0		(2.65)
14	(400)	(10.5)	26	230	5.6	100	3.9		(2.60)
15	---	10.6	28	230	---	105	3.8		2.60
16	---	(9.3)	14	240	---	105	3.5		(2.60)
17	---	9.0	10	250	---	105	3.1		(2.65)
18		(8.2)	6	250		110	2.5		(2.70)
19		(8.8)	6	250		100	(1.6)	<1.5	(2.65)
20		(8.2)	10	250				<1.8	(2.55)
21		(7.9)	11	250				1.8	(2.50)
22		(7.2)	8	260				<1.7	(2.40)
23		(7.0)	10	<300				<1.6	(2.45)

Time: 180.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 7 seconds.

Table 71

Campbell I. (52.5° S, 169.2° E) March 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.2	25					3.1	2.40
01		(6.0)	25					3.1	(2.35)
02		6.0	24					2.0	2.40
03		(5.2)	27					2.8	(2.40)
04		4.7	27					3.1	2.35
05		4.6	28					<2.2	2.50
06		6.0	25						2.80
07		7.0	29						2.85
08		7.6	27						2.85
09		8.5	27					3.4	2.80
10		8.5	25						2.70
11		9.3	28						2.70
12		10.1	29						2.60
13		10.4	30						2.60
14		9.9	29						2.60
15		9 7	28						2.55
16		9.8	26						2.65
17		9.0	25						2.60
18		(9.5)	25					1.7	(2.65)
19		(9.2)	30					1.7	(2.60)
20		(8.1)	25					1.9	2.45
21		(7.6)	28					1.6	(2.45)
22		6.8	27					2.6	(2.35)
23		6.2	26					2.5	2.40

Time: 165.0°E
Sweep: 1 0 Mc to 13.0 Mc in 2 minutes.

Table 72

Port Lockroy (64.8° S, 63.5° W) March 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.6	27	330				2.2	2.40
01		7.4	22	320				1.5	2.40
02		6.7	21	<340				>1.5	2.40
03		6.4	18	350			----	1.6	2.30
04		6.2	21	<370			----	2.3	2.35
05		6.1	25	345			----	1.9	2.40
06		6.8	28	300			1.65	1.9	2.55
07		7.6	30	255			2.10	2.5	<2.75
08		8.1	30	250			2.60	3.0	<2.85
09		9.3	29	240			2.85	3.6	2.85
10		10.9	30	240			(3.00)	4.2	2.85
11		11.1	31	240			3.20	3.7	2.90
12		12.0	30	235			3.30	3.6	2.90
13		11.7	31	235			3.25	3.4	2.95
14		11.1	31	235			3.20		2.95
15		10.4	28	240			3.00	3.0	2.95
16		10.3	27	240			2.80		3.00
17		10.4	27	245			2.50		2.95
18		10.3	23	250			2.00	2.0	3.00
19		9.2	23	250			1.50	1.9	2.90
20		8.9	23	250			----	1.6	2.80
21		8.5	27	265			----	1.6	2.60
22		8.2	25	285			----	1.3	2.50
23		7.8	22	315			----	1.2	2.45

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

US-COMM-NBS-BL

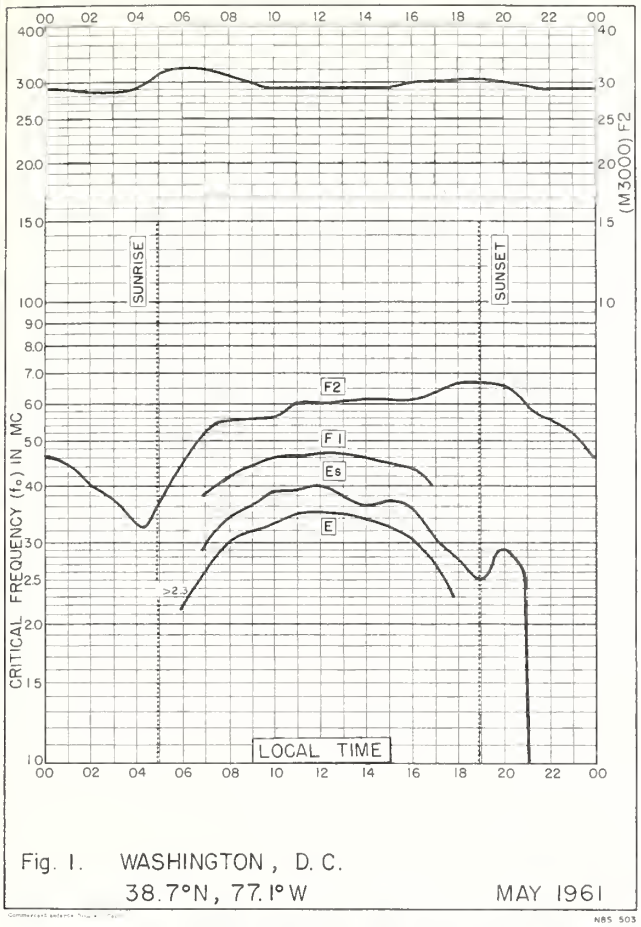

Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W MAY 1961

NBS 503

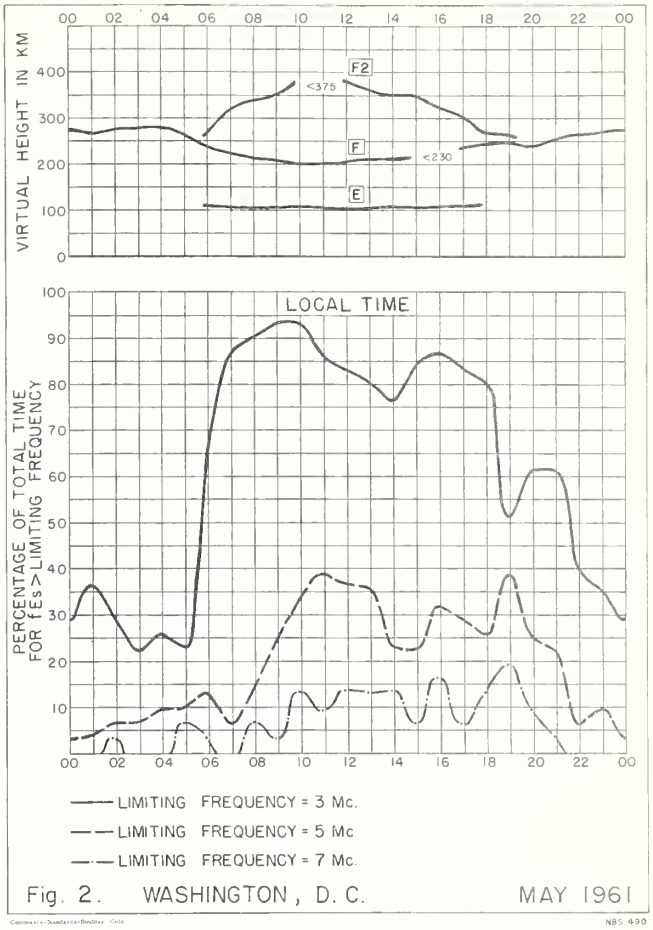

Fig. 2. WASHINGTON, D. C. MAY 1961

NBS 490

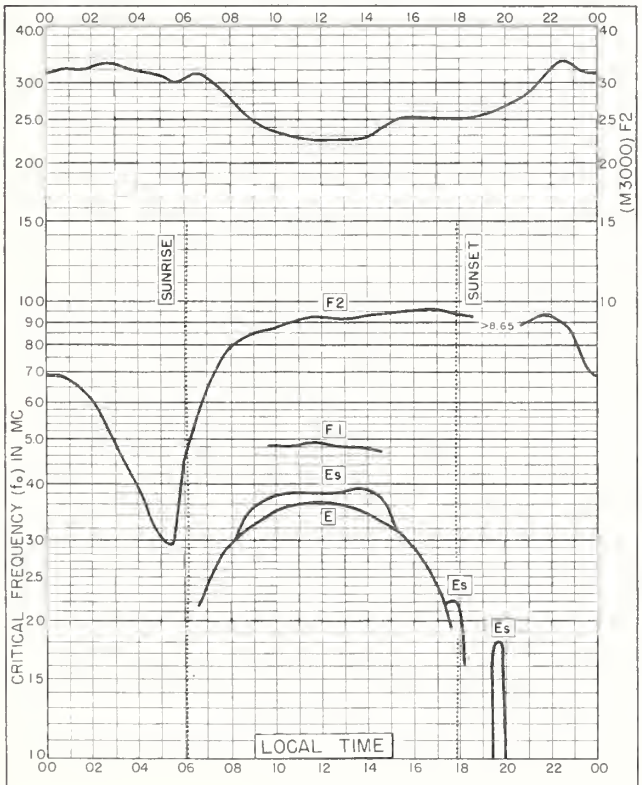

Fig. 3. TALARA, PERU
4.6°S, 81.3°W MAY 1961

NBS 503

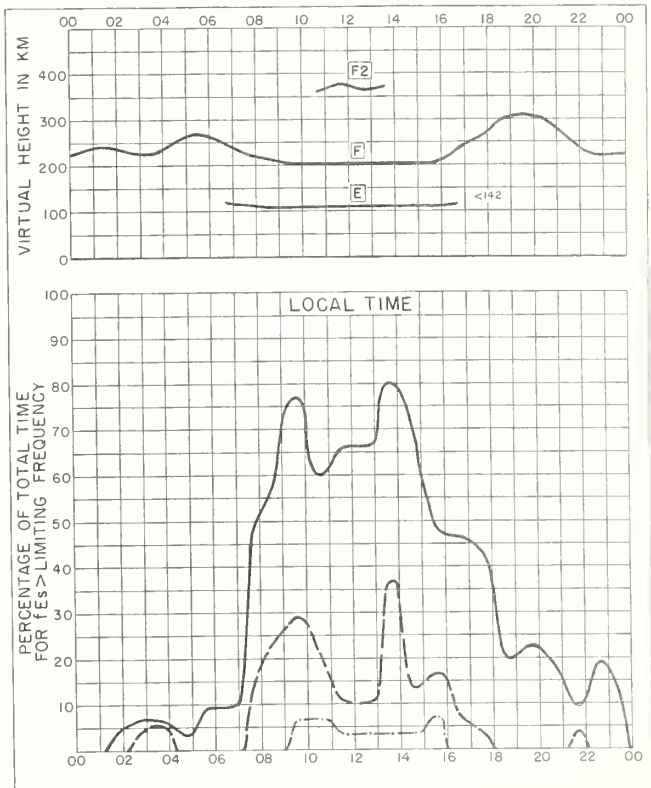

Fig. 4. TALARA, PERU MAY 1961

NBS 490

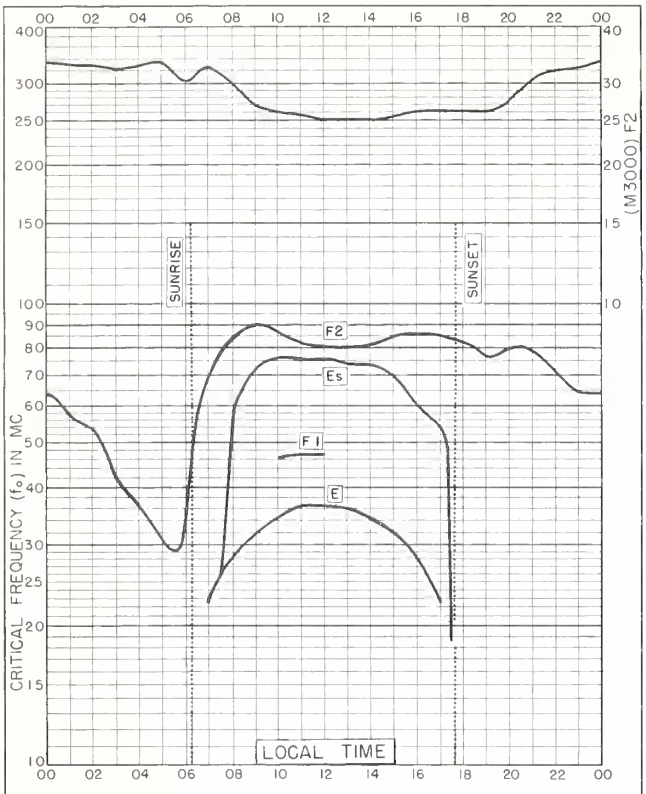

Fig. 5. HUANCAYO , PERU
12.0°S , 75.3° W MAY 1961

NBS 503

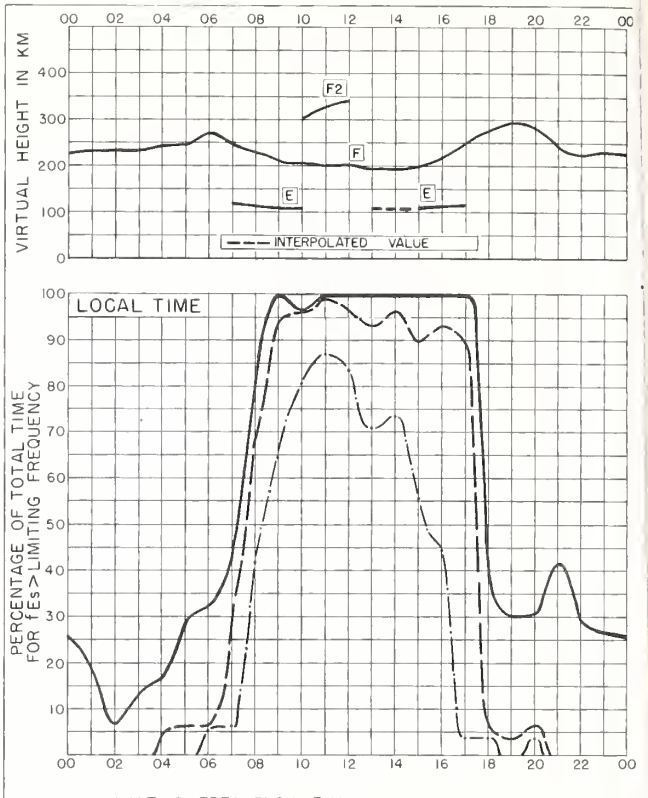

Fig. 6. HUANCAYO , PERU MAY 1961

NBS 490

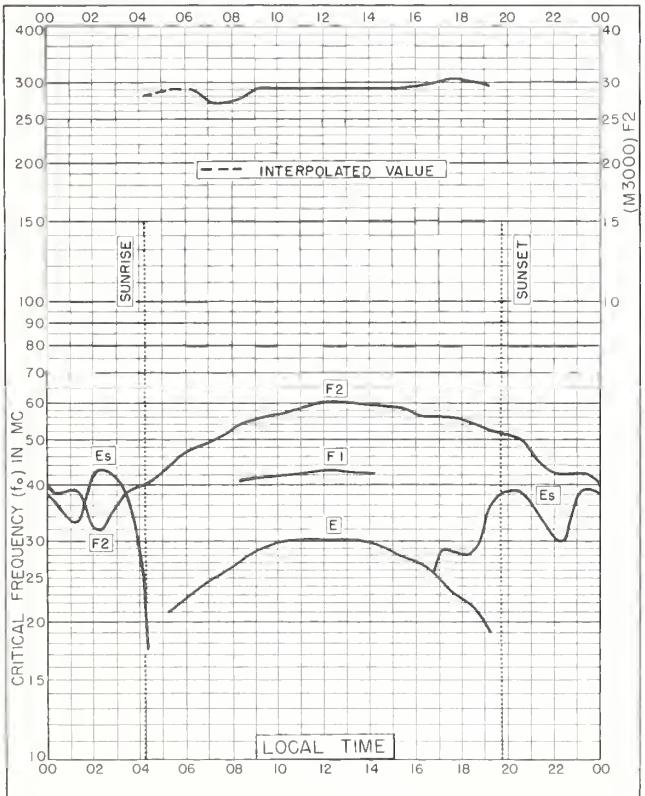

Fig. 7. TROMSO , NORWAY
69.7°N, 19.0°E APRIL 1961

NBS 503

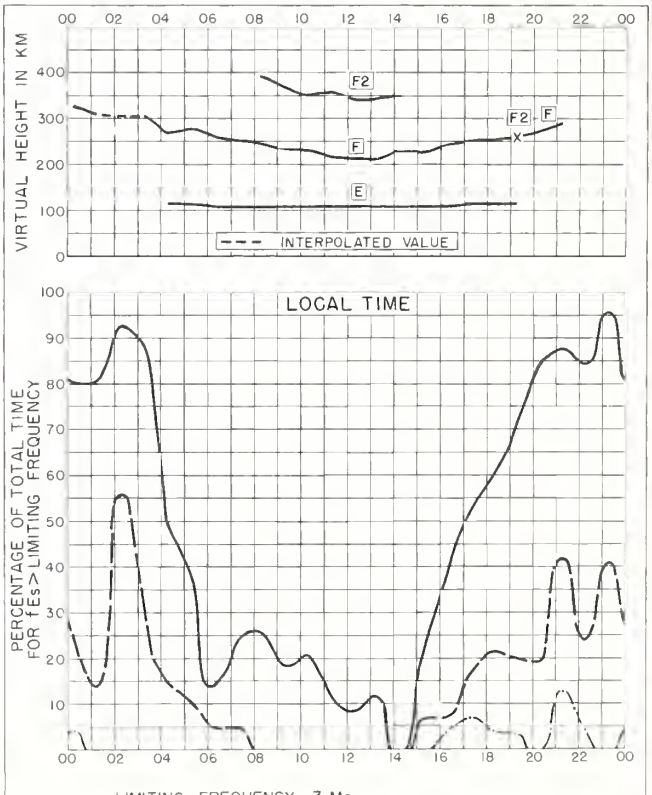

Fig. 8. TROMSO , NORWAY APRIL 1961

NBS 490

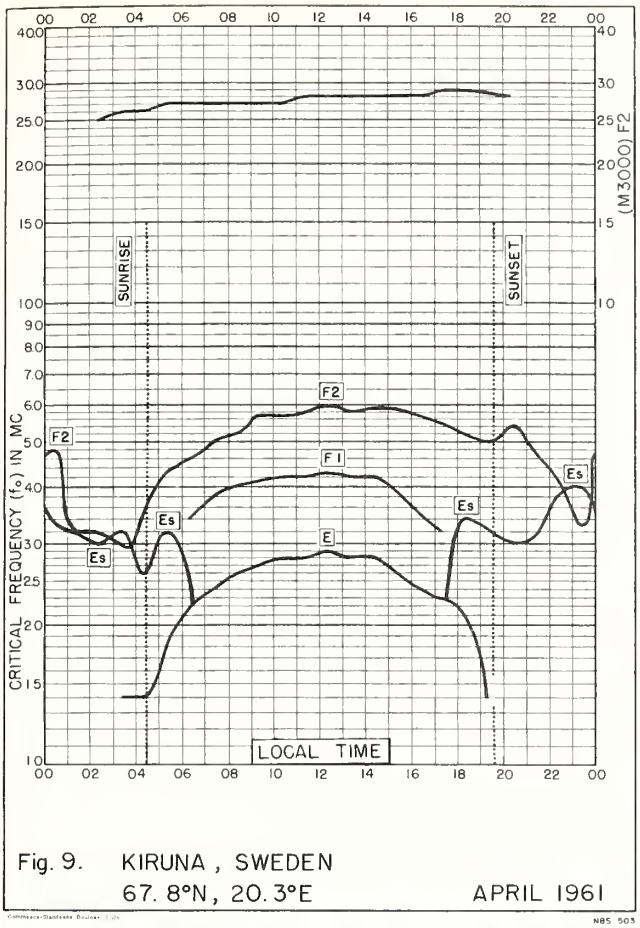

Fig. 9. KIRUNA , SWEDEN
67. 8°N, 20. 3°E APRIL 1961

NBS 503

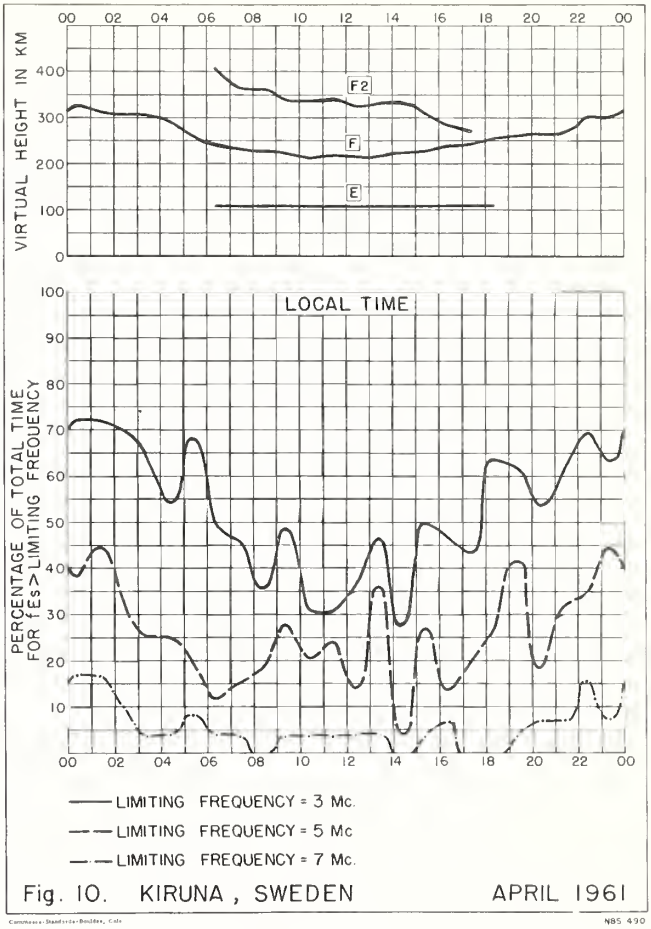

Fig. 10. KIRUNA , SWEDEN APRIL 1961

NBS 490

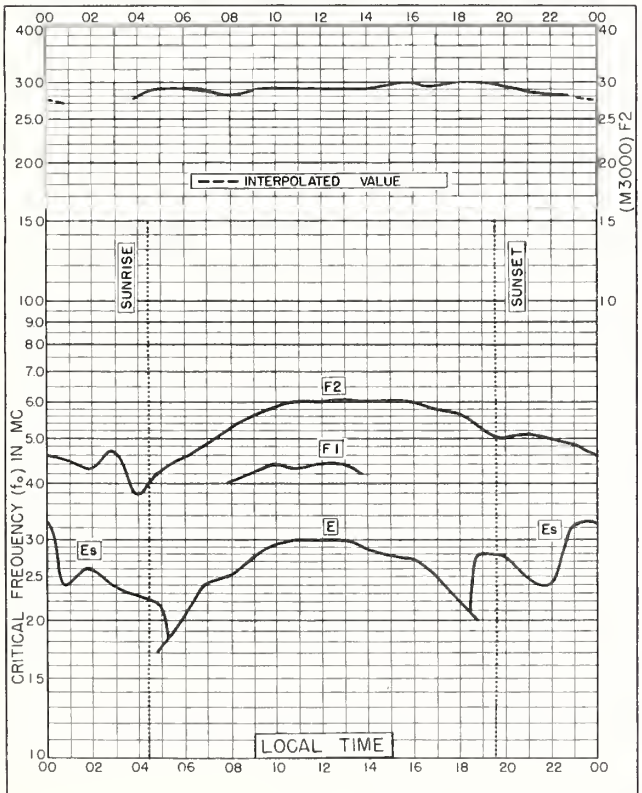

Fig. 11. SODANKYLA , FINLAND
67.4°N, 26.6°E APRIL 1961

NBS 503

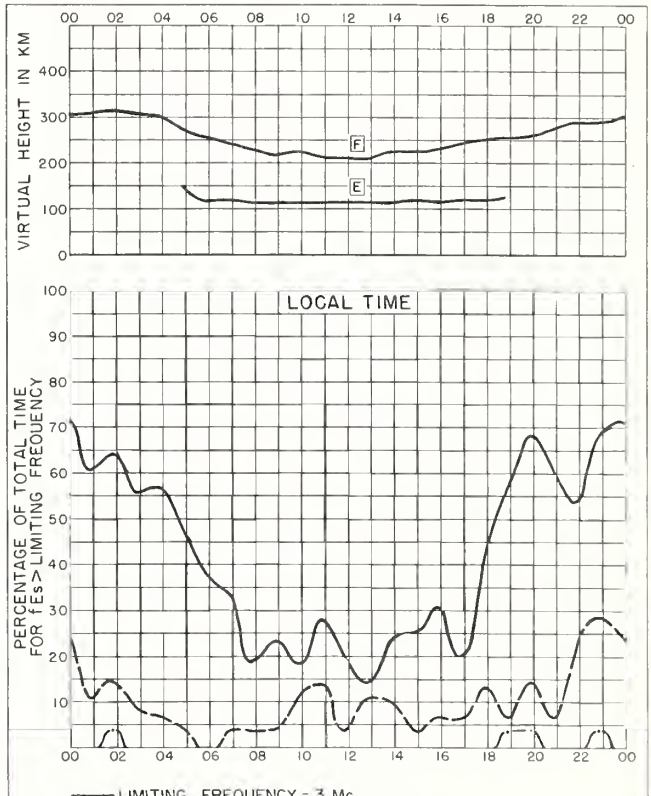

Fig. 12. SODANKYLA , FINLAND APRIL 1961

NBS 490

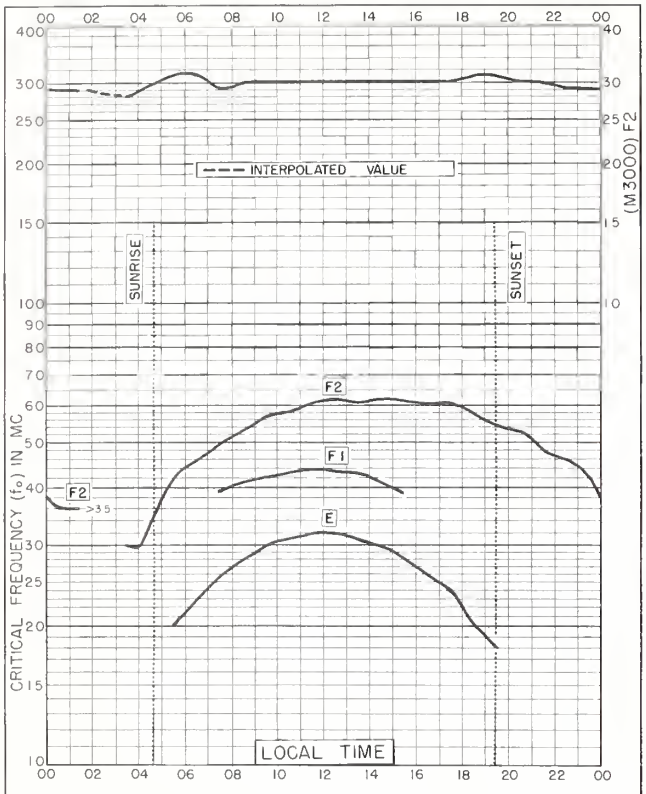

Fig. 13. LULEA, SWEDEN
65.6°N, 22.1°E APRIL 1961

NBS 503

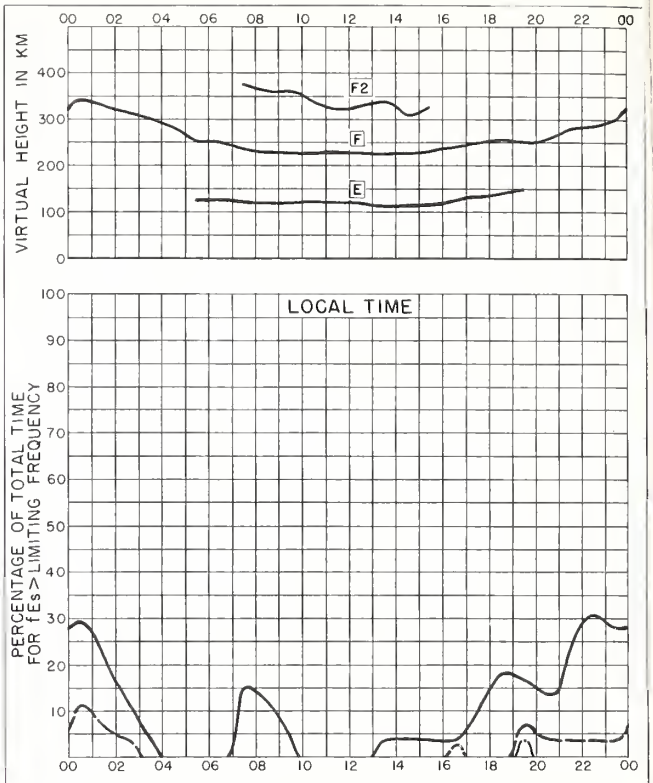

Fig. 14. LULEA, SWEDEN APRIL 1961

NBS 490

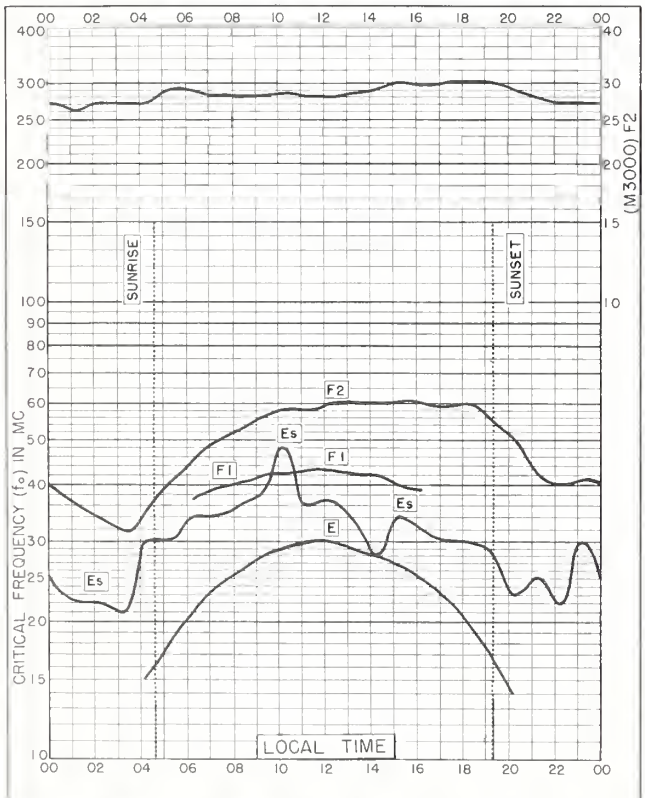

Fig. 15. LYCKSELE, SWEDEN
64.6°N, 18.8°E APRIL 1961

NBS 503

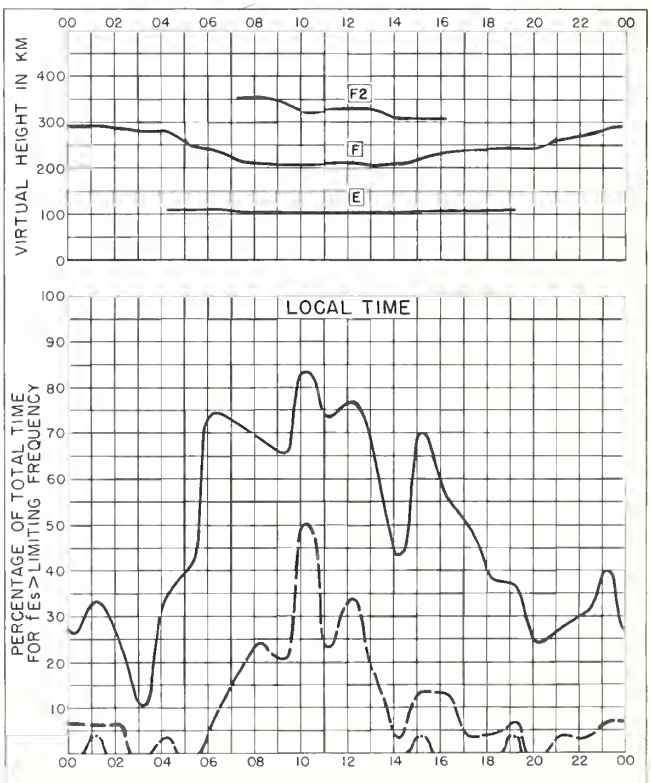

Fig. 16. LYCKSELE, SWEDEN APRIL 1961

NBS 490

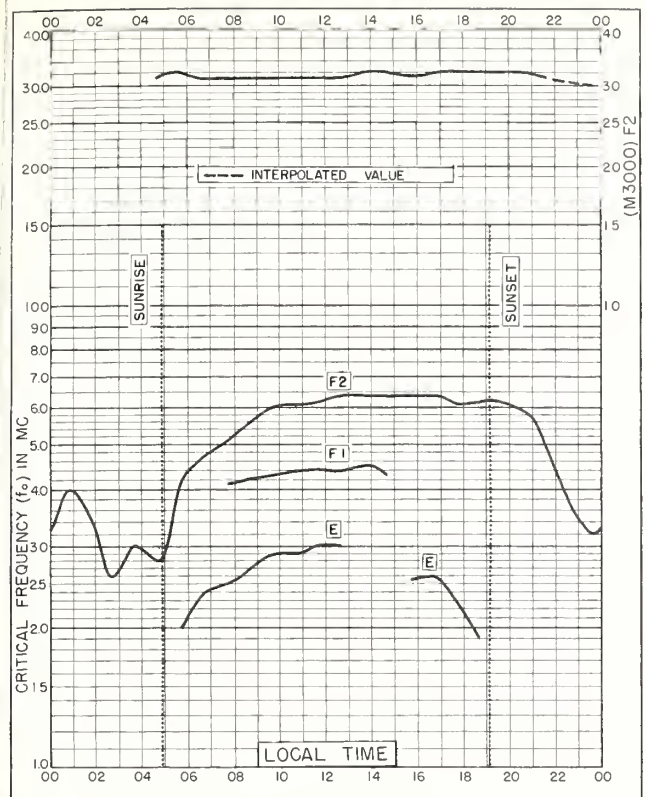

Fig. 17. NURMIJARVI, FINLAND
60.5°N, 24.6°E APRIL 1961

NBS 503

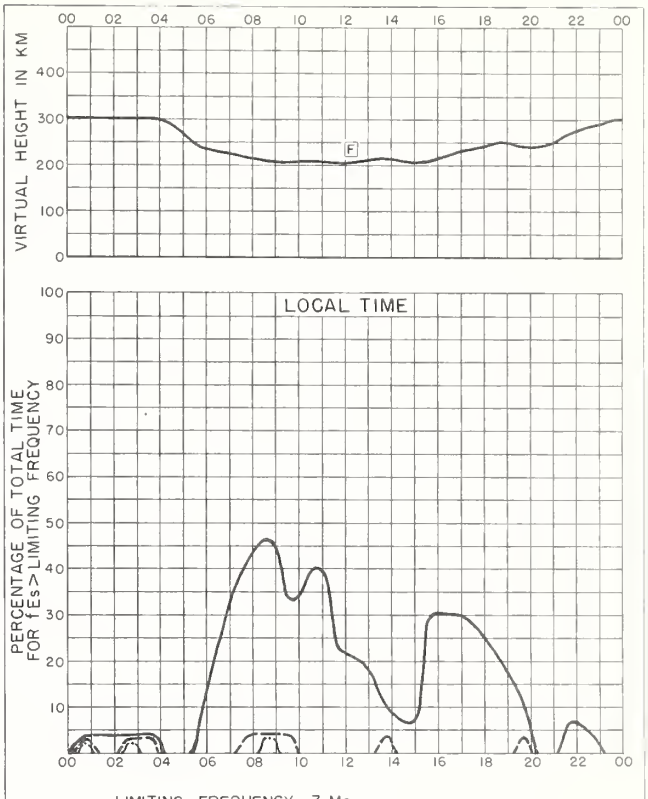

Fig. 18. NURMIJARVI, FINLAND APRIL 1961

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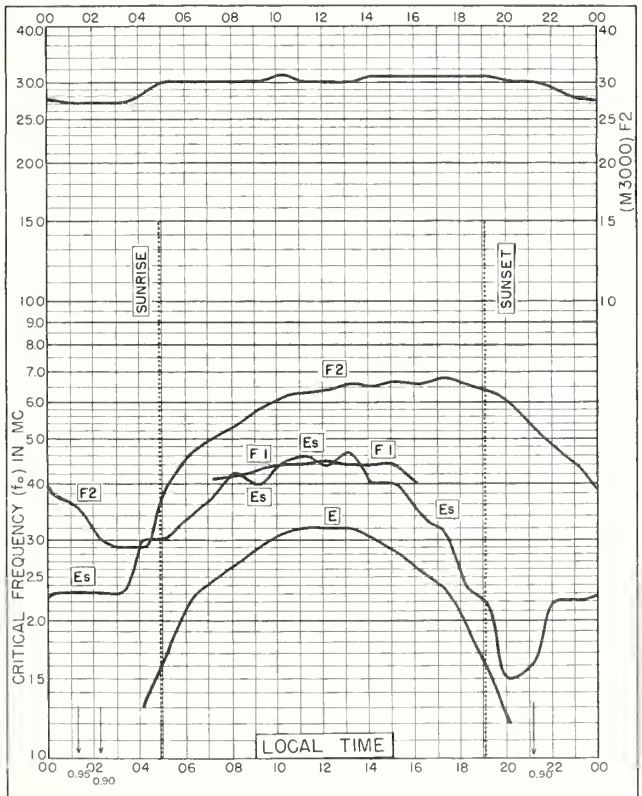

Fig. 19. UPSALA, SWEDEN
59.8°N, 17.6°E APRIL 1961

NBS 503

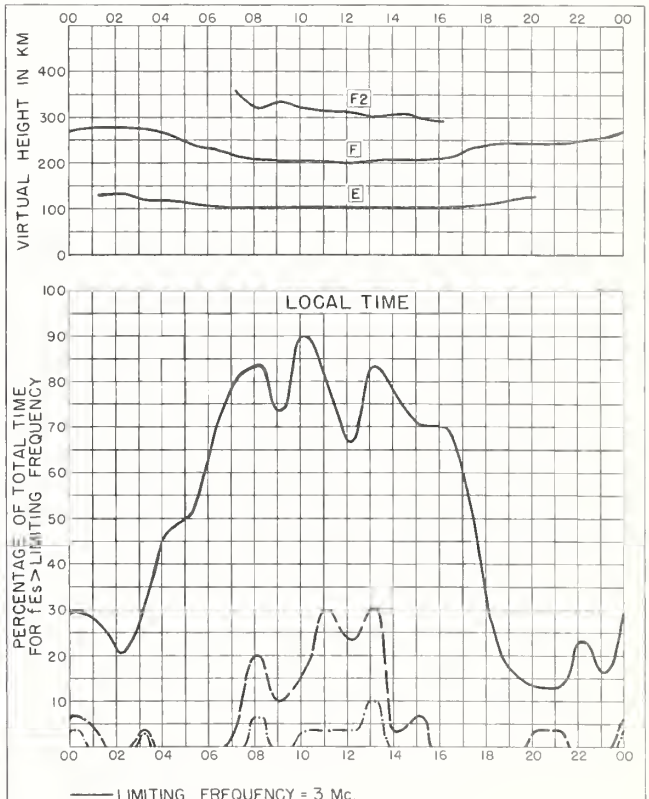

Fig. 20. UPSALA, SWEDEN APRIL 1961

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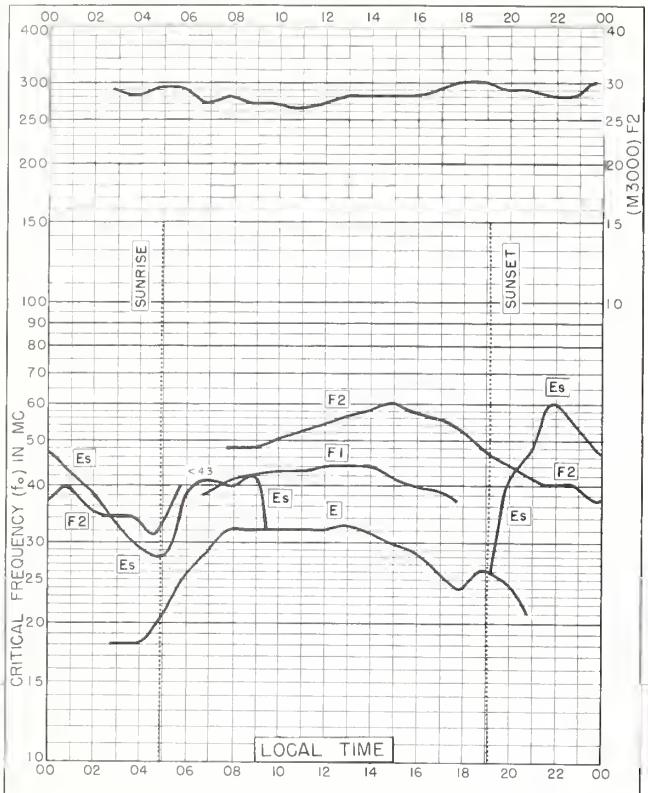


Fig. 21. CHURCHILL, CANADA
58.8°N, 94.2°W APRIL 1961

NBS 503

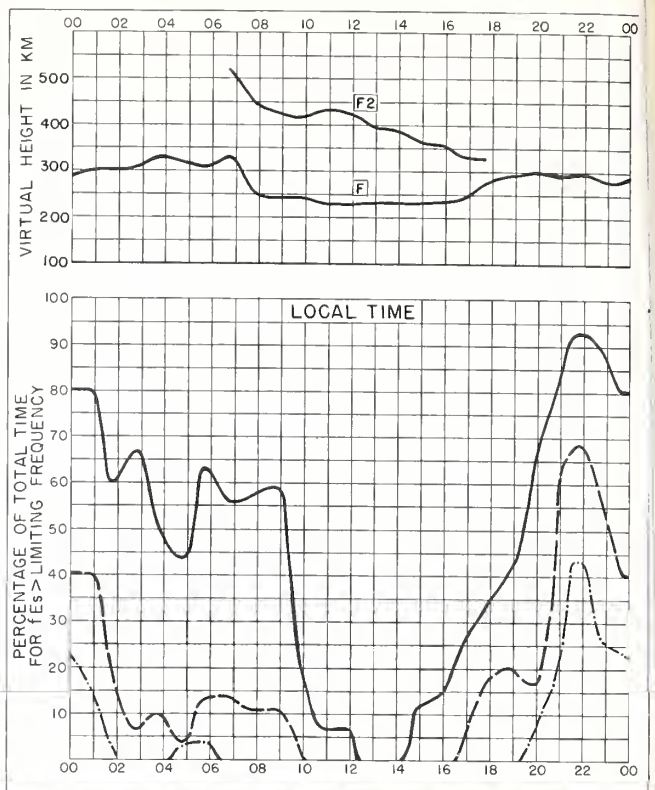


Fig. 22. CHURCHILL, CANADA APRIL 1961

NBS 490

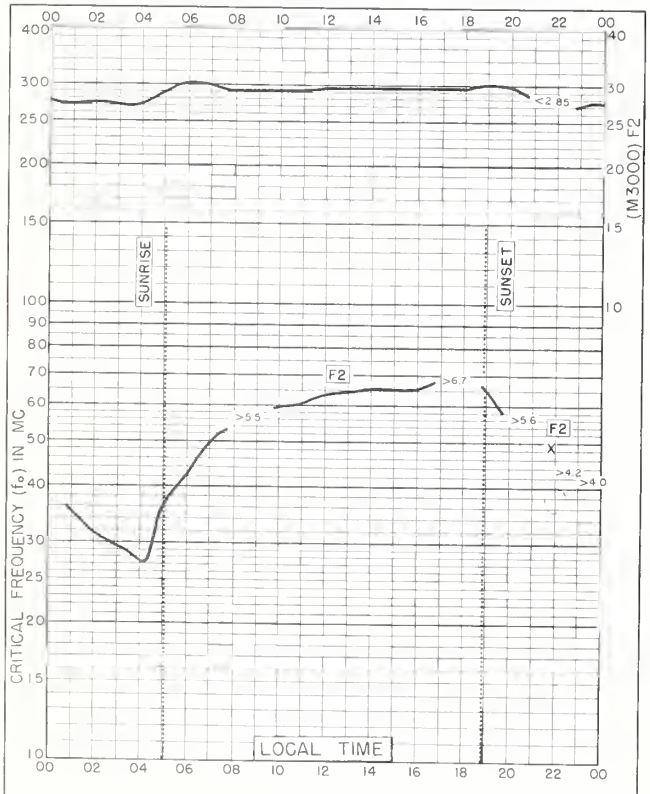


Fig. 23. INVERNESS, SCOTLAND
57.4°N, 4.2°W APRIL 1961

NBS 503

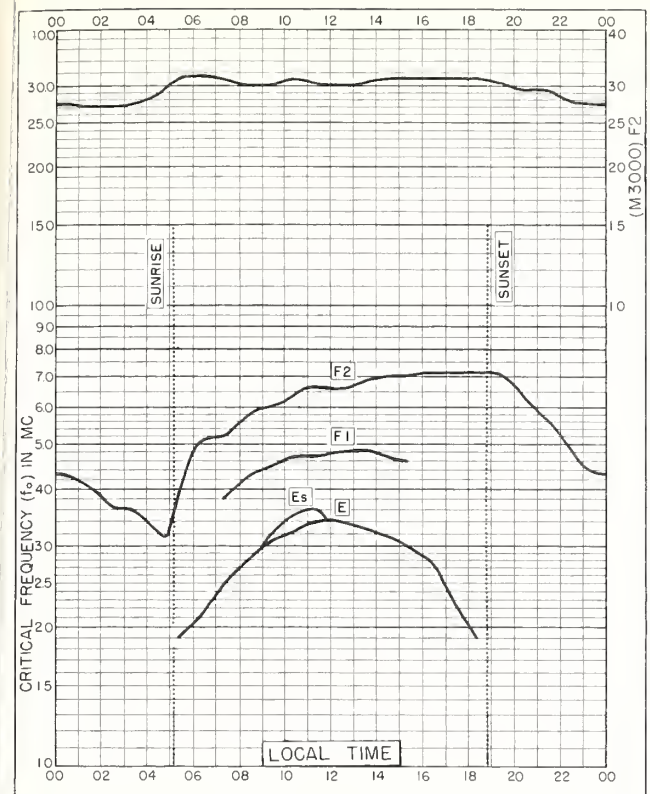


Fig. 24. De BILT, HOLLAND
52.1°N, 5.2°E APRIL 1961

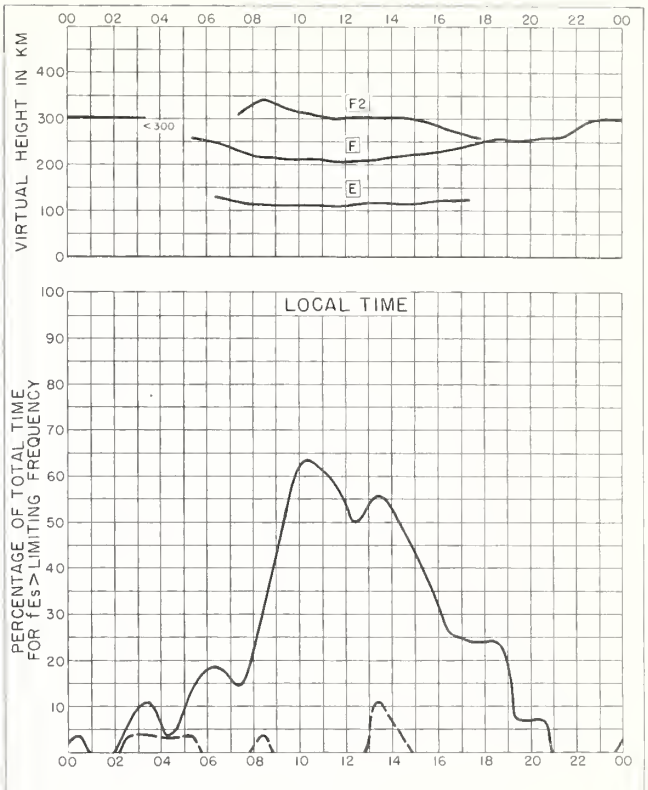


Fig. 25. De BILT, HOLLAND APRIL 1961

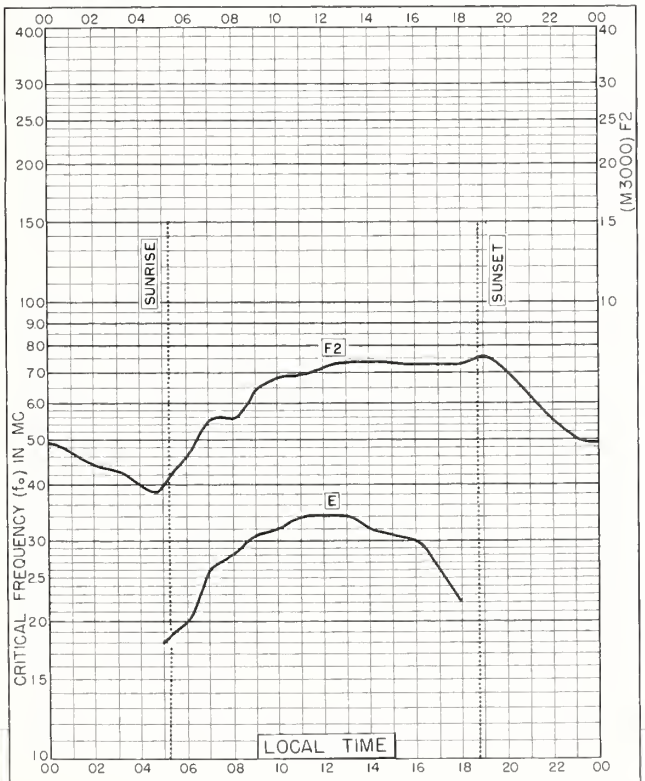


Fig. 26. PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E APRIL 1961

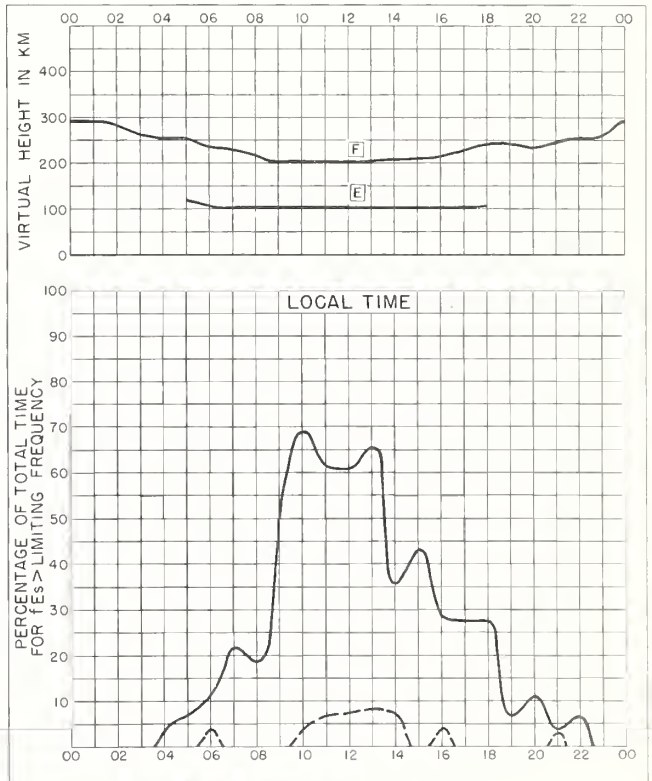


Fig. 27. PRUHONICE, CZECHOSLOVAKIA APRIL 1961

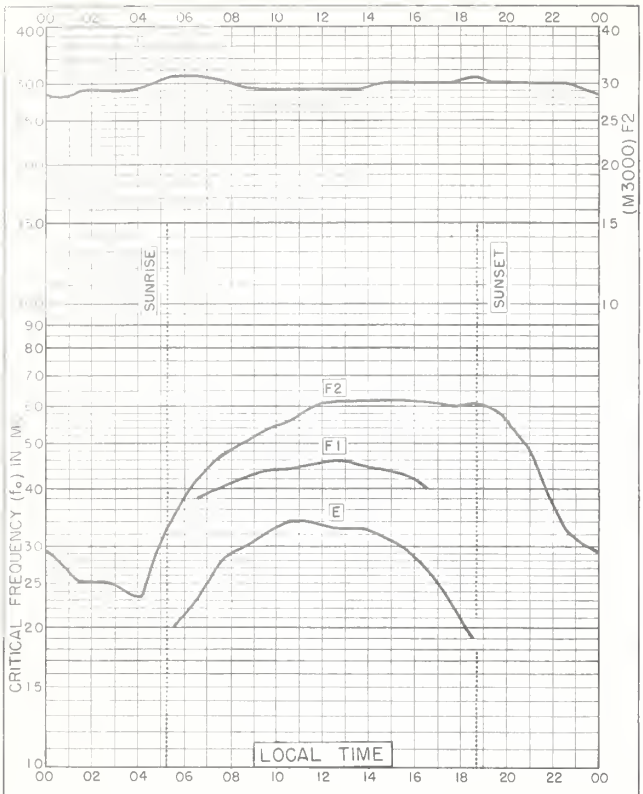


Fig. 28. WINNIPEG, CANADA
49.9°N, 97.4°W APRIL 1961

NBS 503

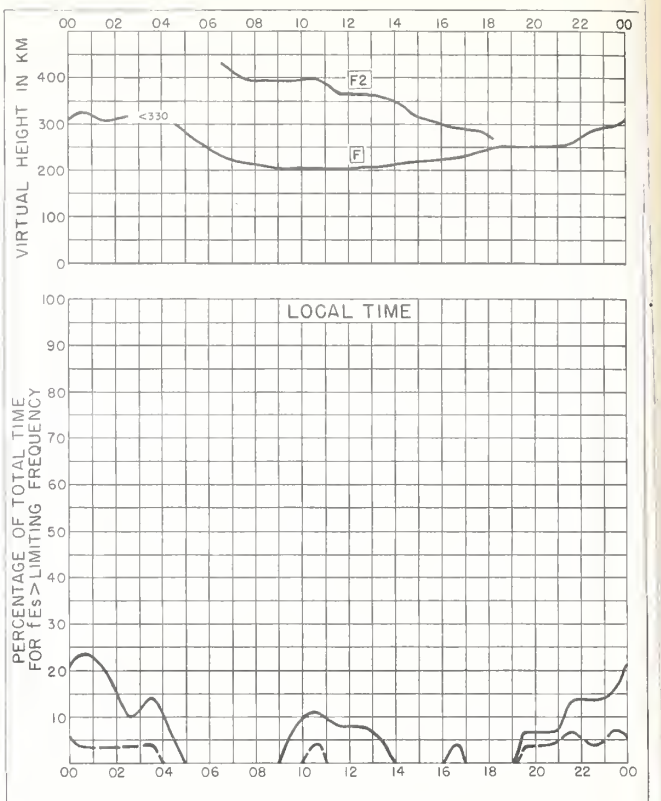


Fig. 29. WINNIPEG, CANADA APRIL 1961

NBS 490

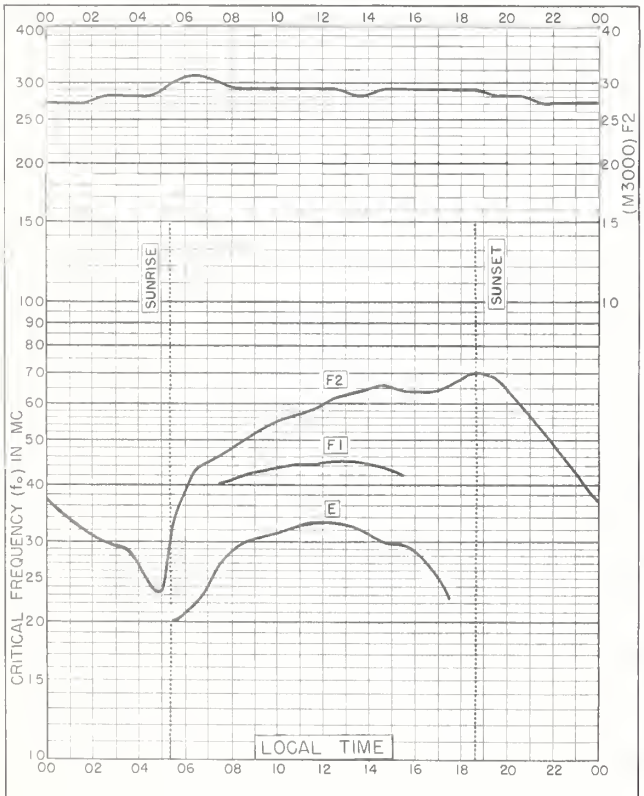


Fig. 30. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W APRIL 1961

NBS 503

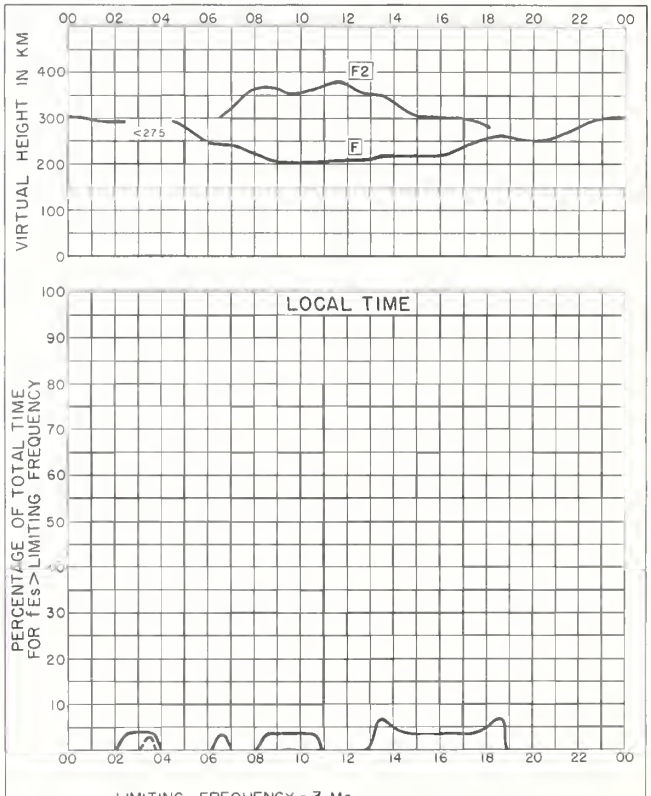


Fig. 31. ST. JOHN'S, NEWFOUNDLAND APRIL 1961

NBS 490

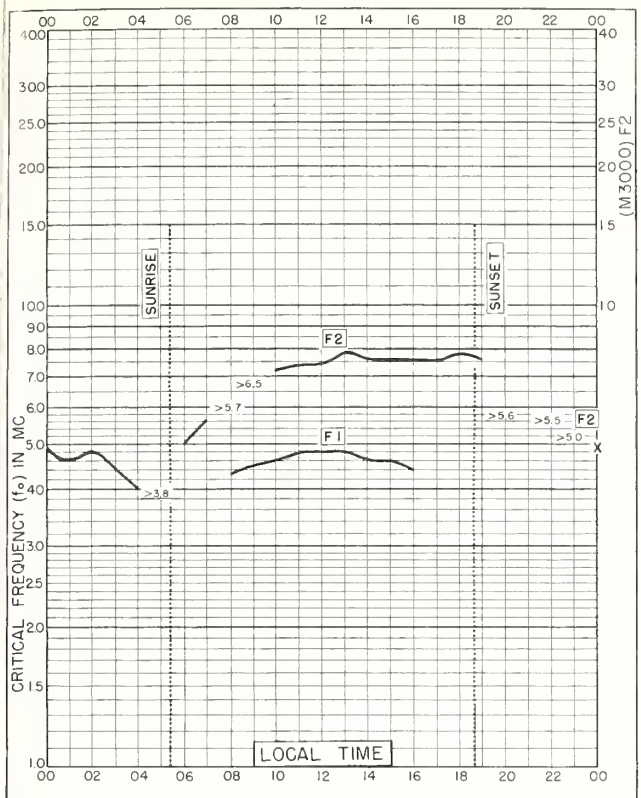


Fig. 32. GRAZ, AUSTRIA
47.1°N, 15.5°E APRIL 1961

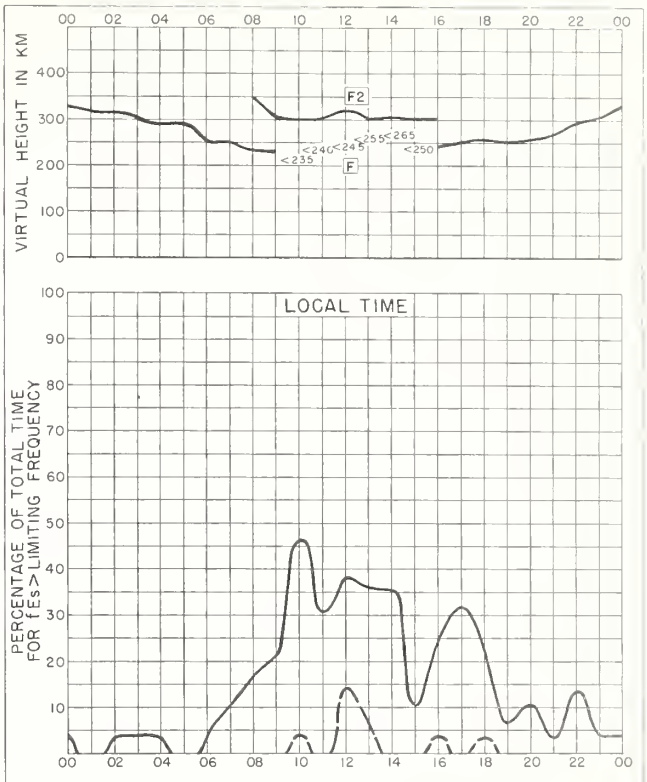


Fig. 33. GRAZ, AUSTRIA APRIL 1961

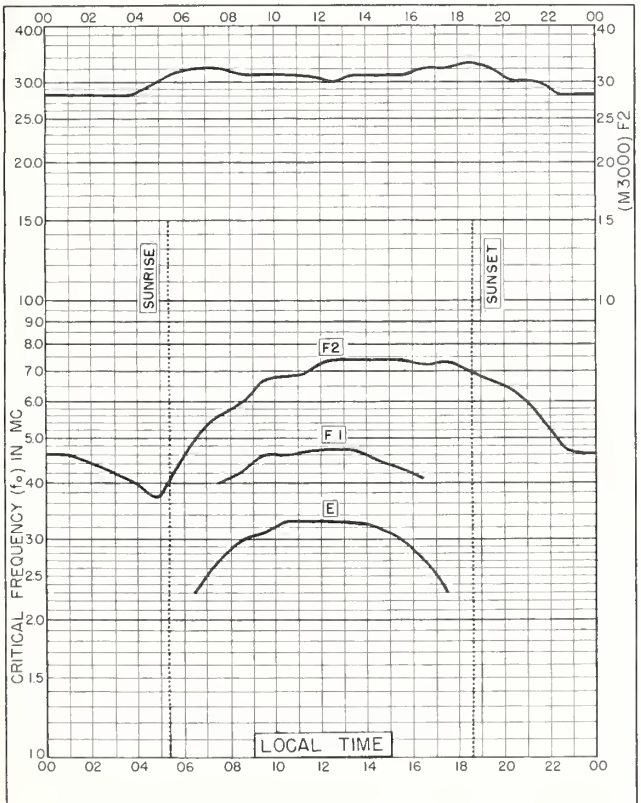


Fig. 34. SOTTENS, SWITZERLAND
46.6°N, 6.7°E APRIL 1961

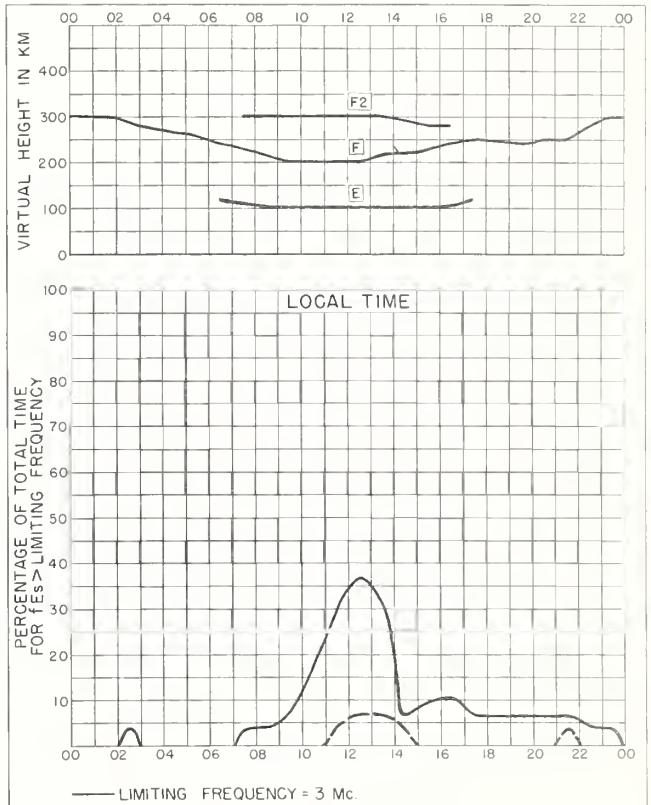


Fig. 35. SOTTENS, SWITZERLAND APRIL 1961

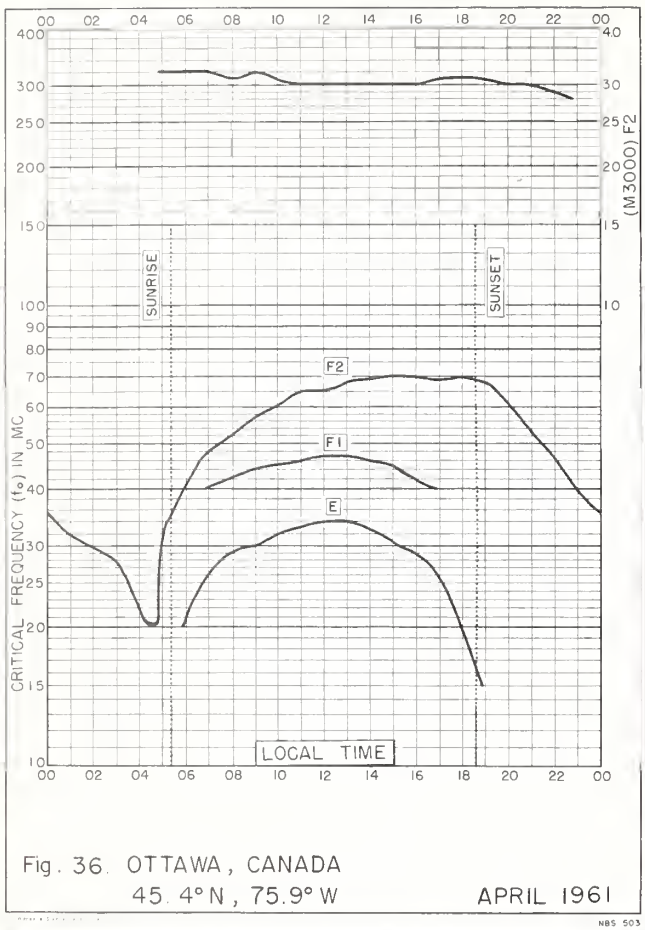


Fig. 36. OTTAWA, CANADA
45.4°N, 75.9°W APRIL 1961

NBS 503

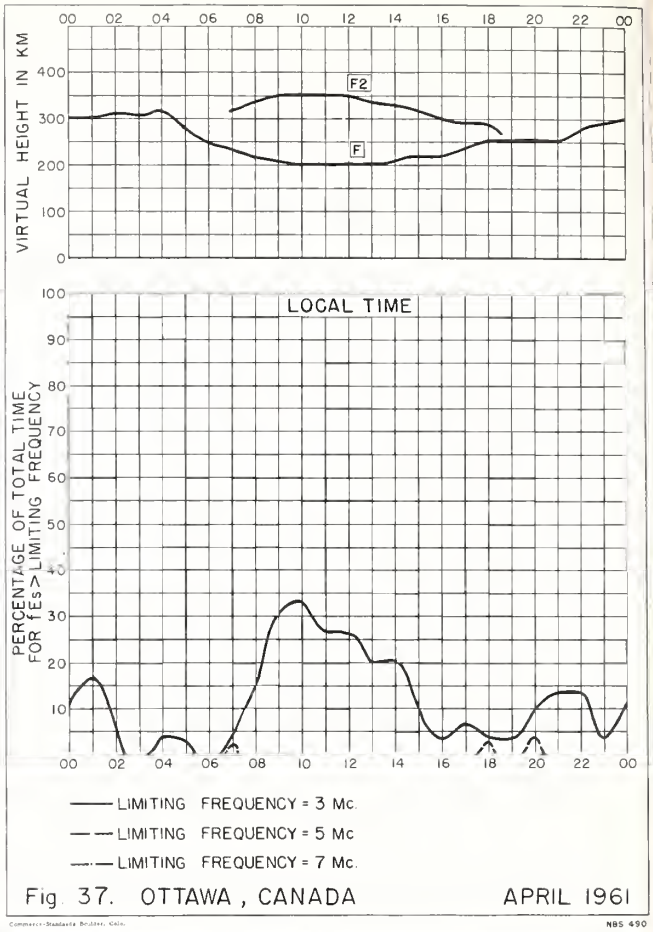


Fig. 37. OTTAWA, CANADA APRIL 1961

NBS 490

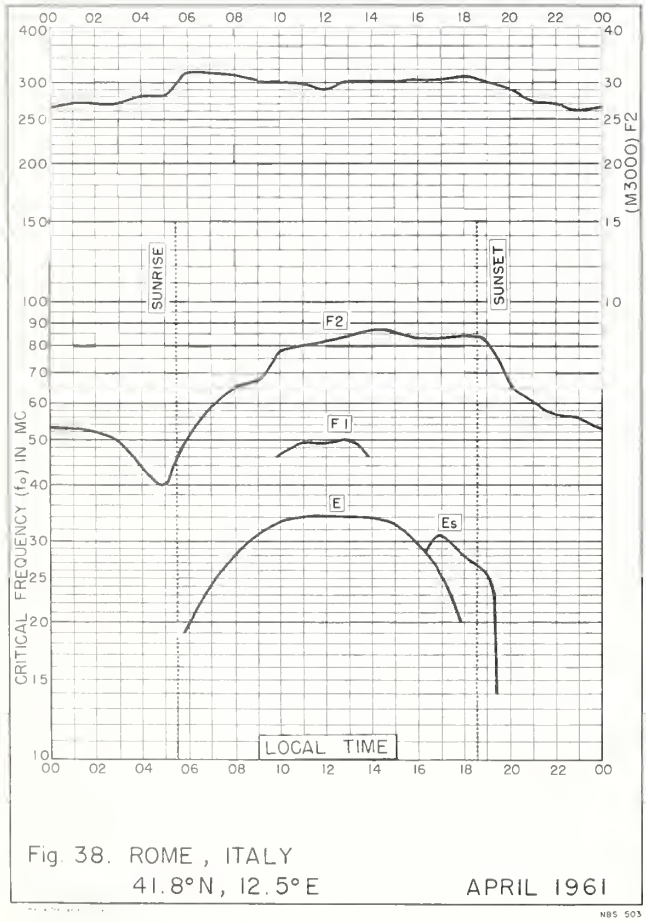


Fig. 38. ROME, ITALY
41.8°N, 12.5°E APRIL 1961

NBS 503

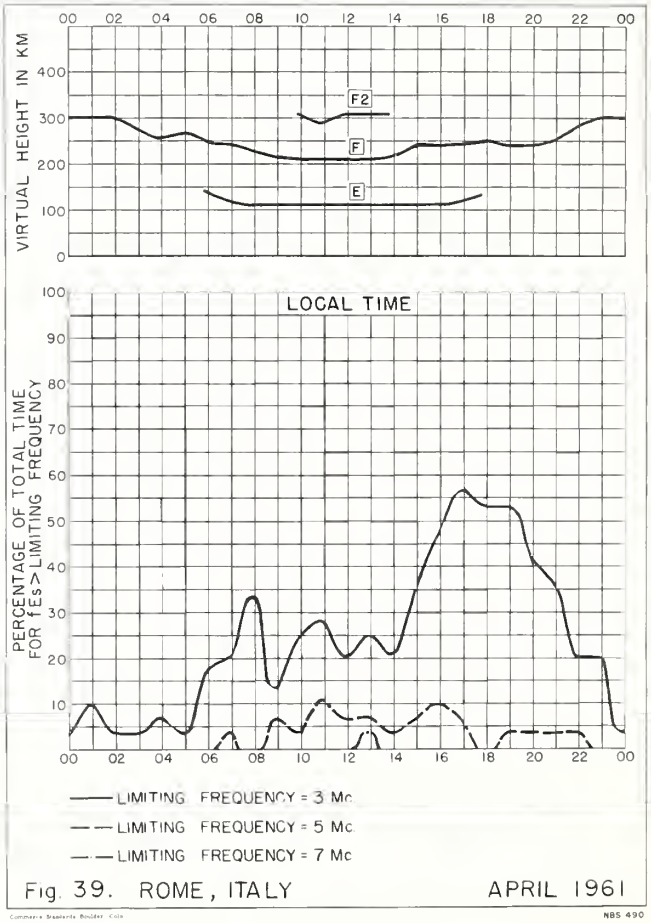


Fig. 39. ROME, ITALY APRIL 1961

NBS 490

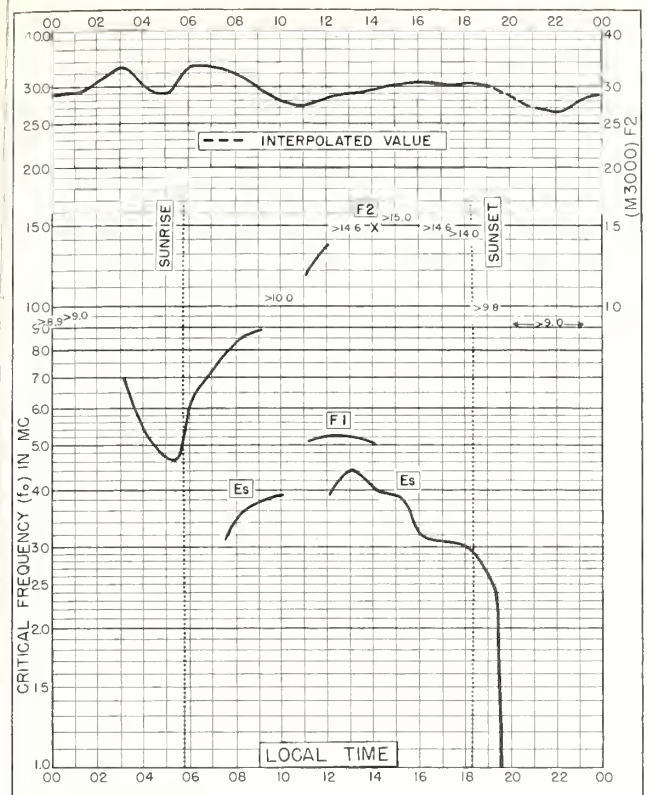


Fig. 40. FORMOSA, CHINA
25.0°N, 121.5°E APRIL 1961

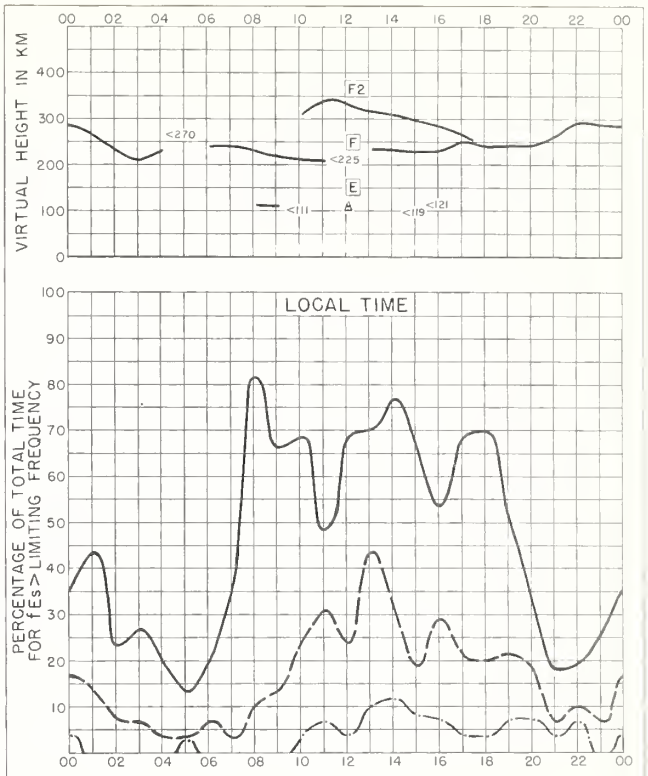


Fig. 41. FORMOSA, CHINA APRIL 1961

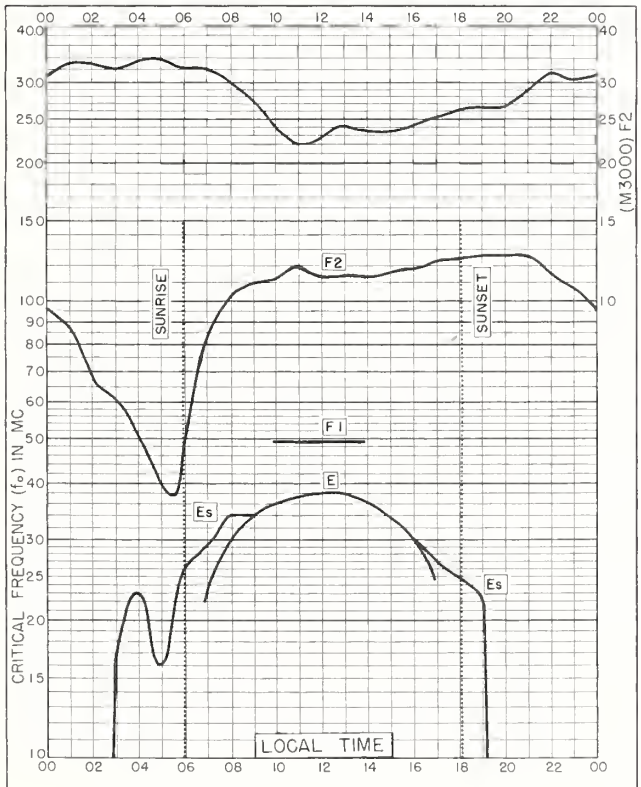


Fig. 42. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E APRIL 1961

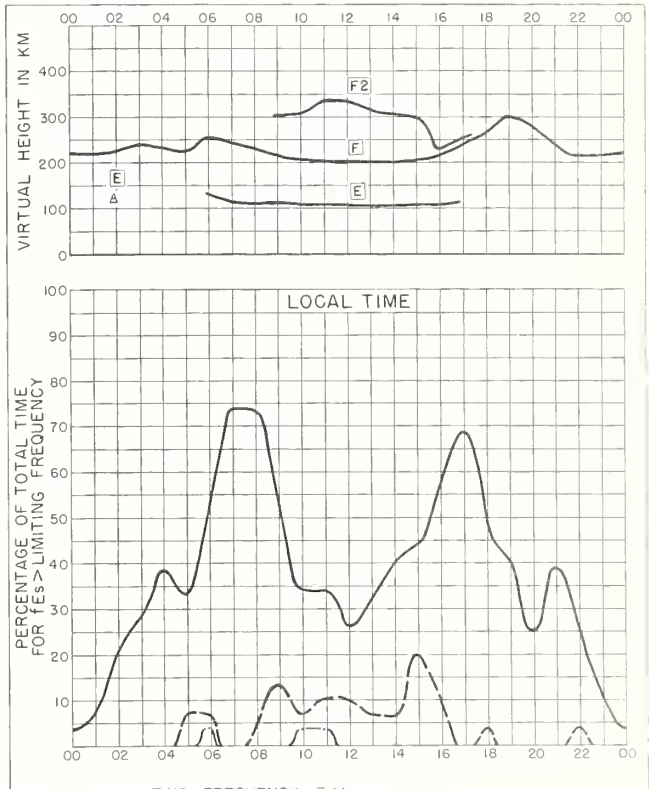


Fig. 43. SINGAPORE, BRITISH MALAYA APRIL 1961

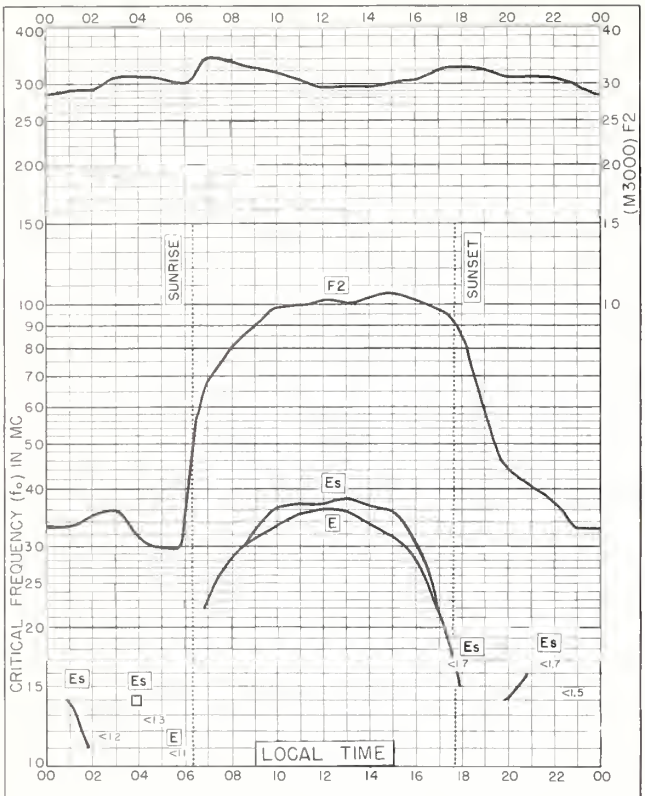


Fig. 44. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E APRIL 1961

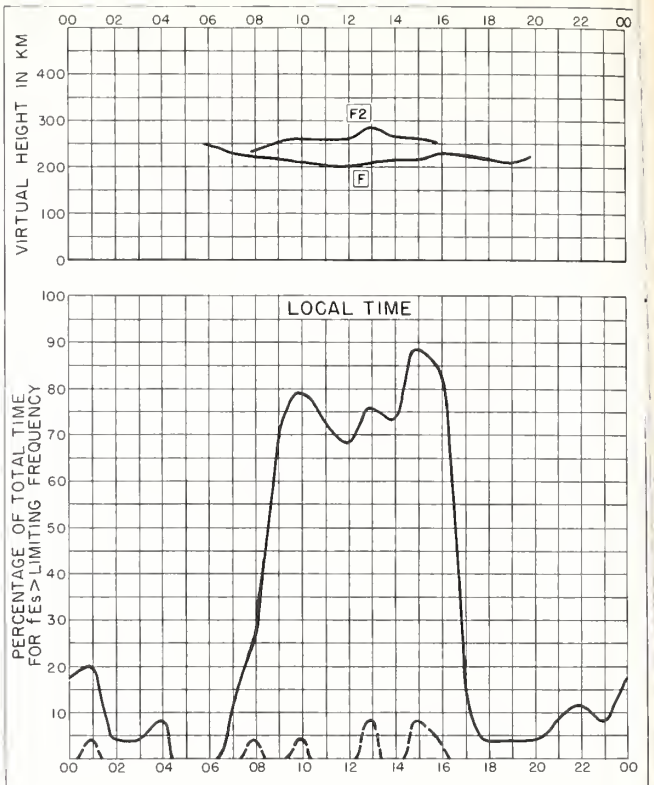


Fig. 45. JOHANNESBURG, UNION OF S. AFRICA APRIL 1961

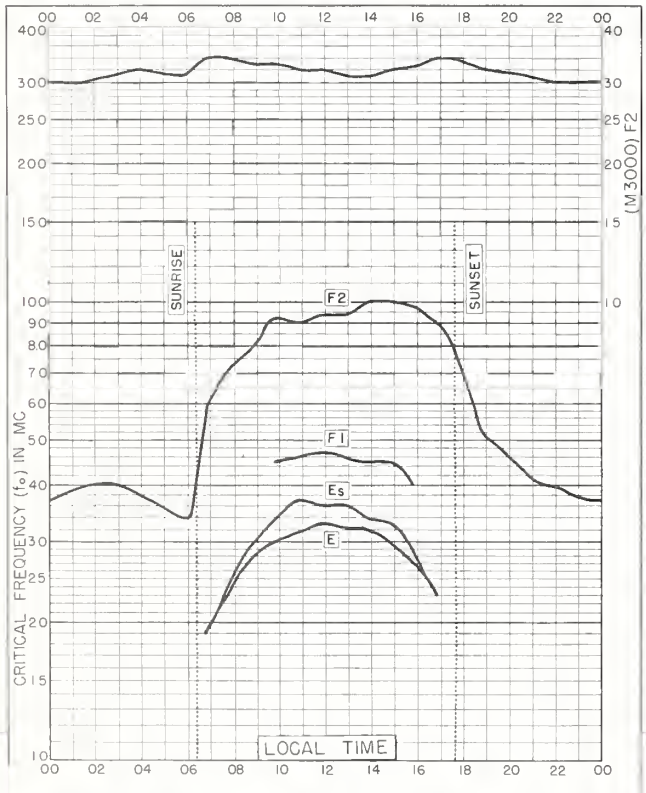


Fig. 46. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E APRIL 1961

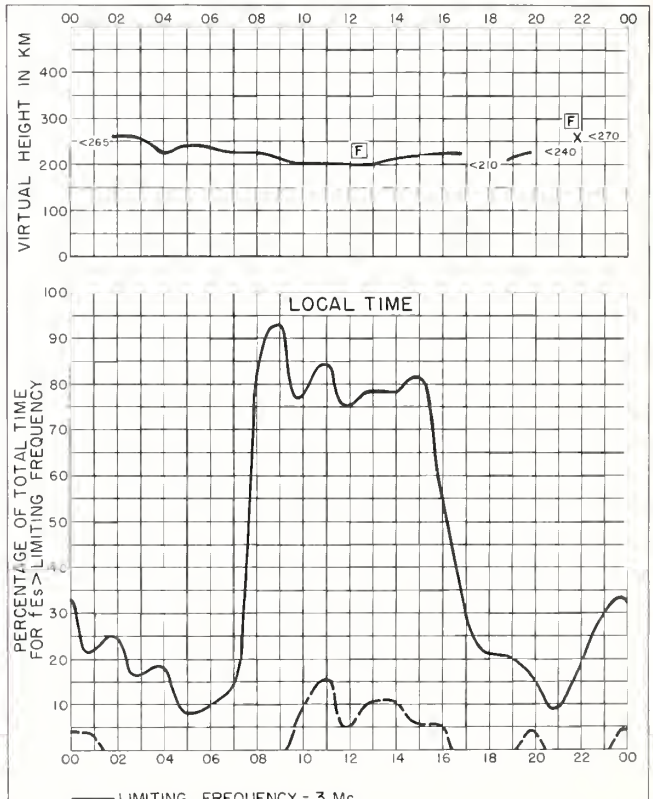


Fig. 47. MUNDARING, W. AUSTRALIA APRIL 1961

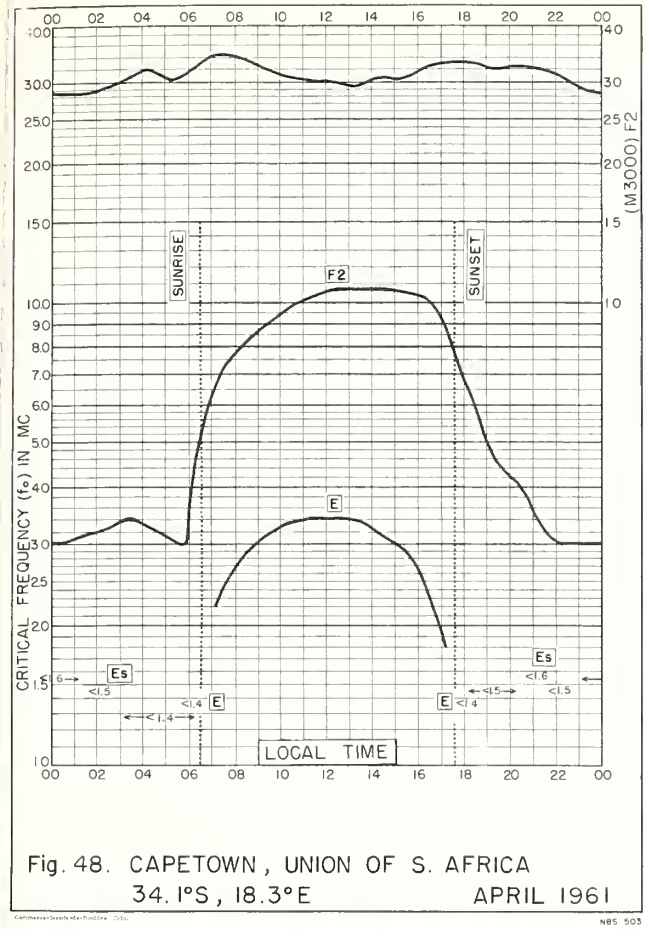
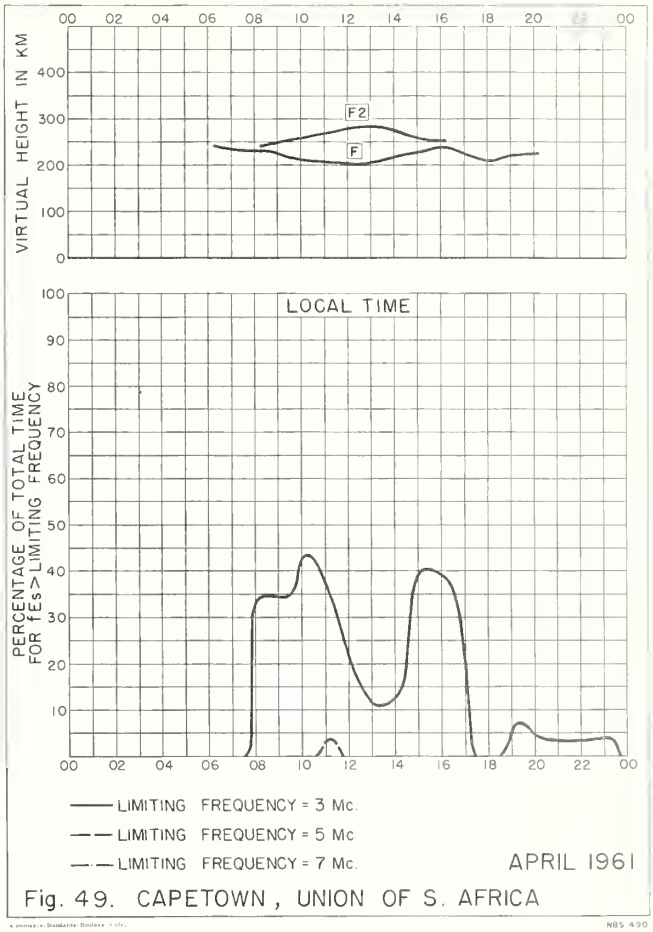


Fig. 48. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E APRIL 1961



APRIL 1961

Fig. 49. CAPETOWN, UNION OF S. AFRICA

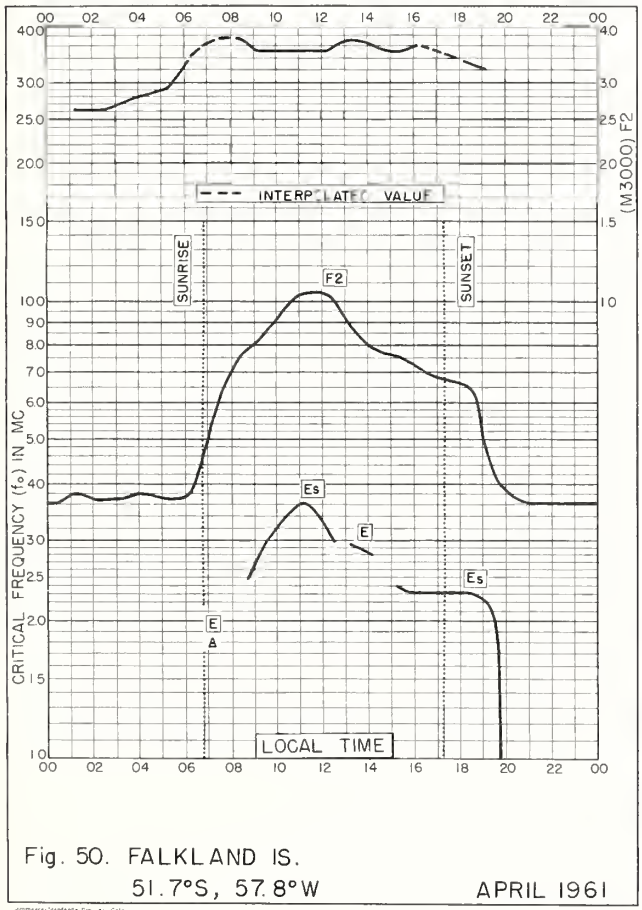


Fig. 50. FALKLAND IS.
51.7°S, 57.8°W APRIL 1961

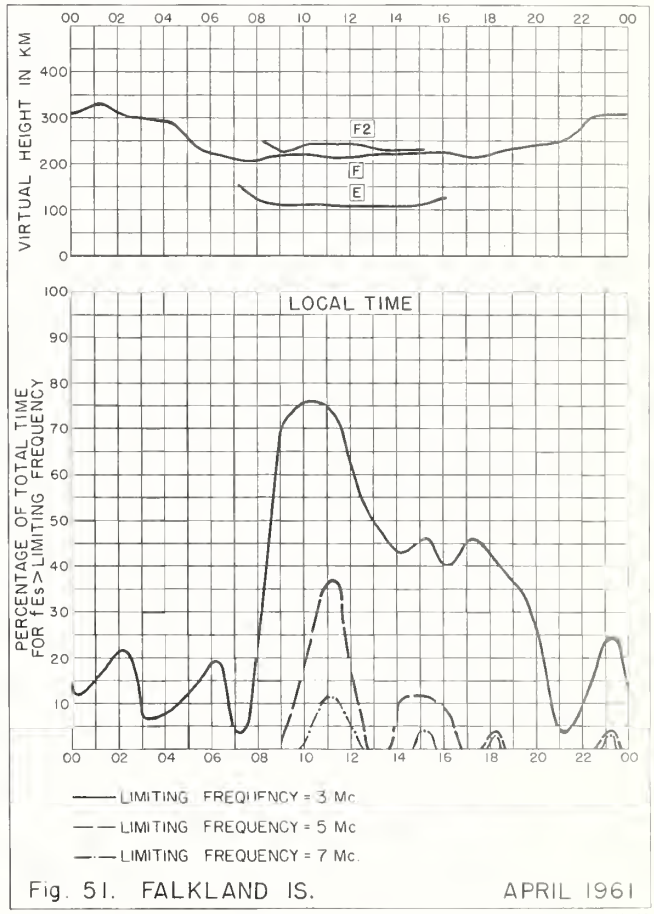


Fig. 51. FALKLAND IS. APRIL 1961

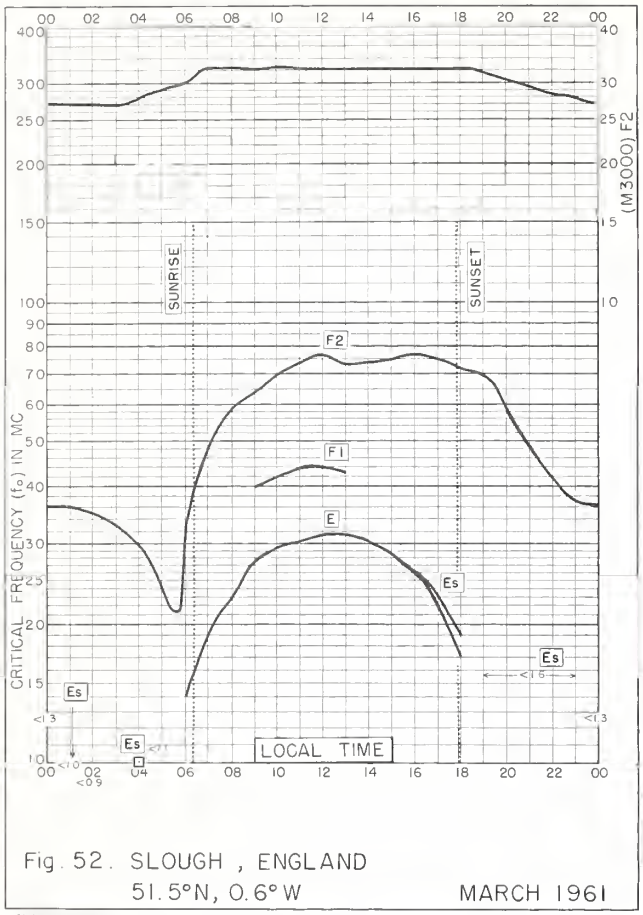


Fig. 52. SLOUGH, ENGLAND
51.5°N, 0.6°W MARCH 1961

NBS 503

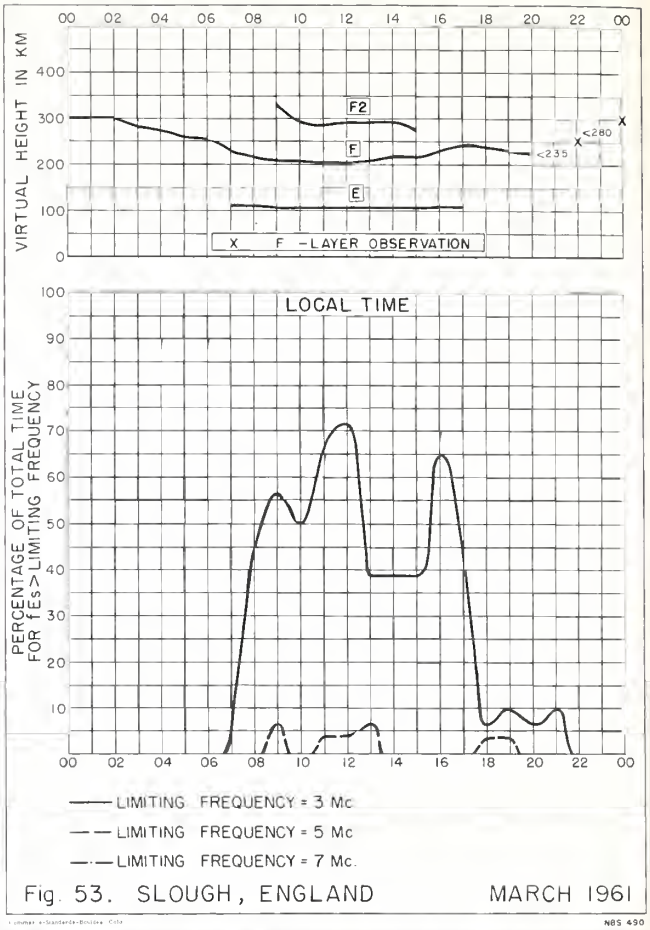


Fig. 53. SLOUGH, ENGLAND MARCH 1961

NBS 490

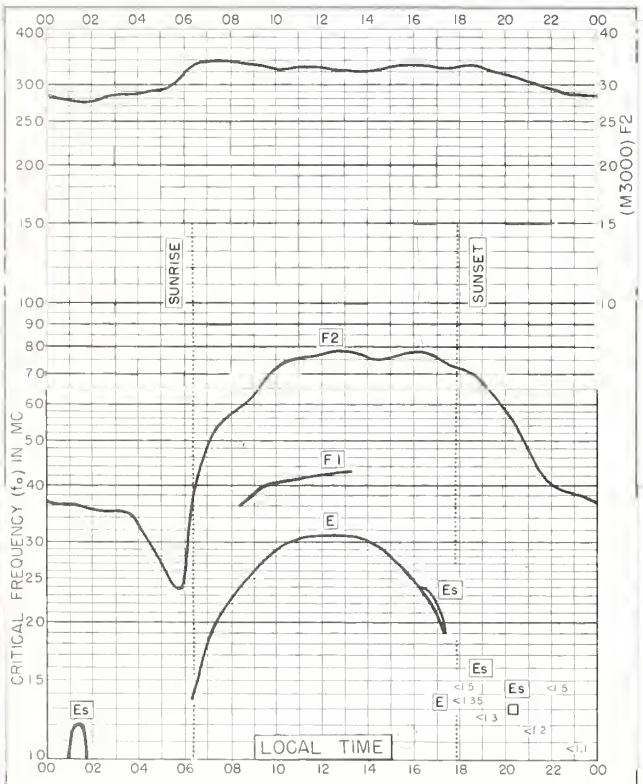


Fig. 54. DOURBES, BELGIUM
50.1°N, 4.6°E MARCH 1961

NBS 503

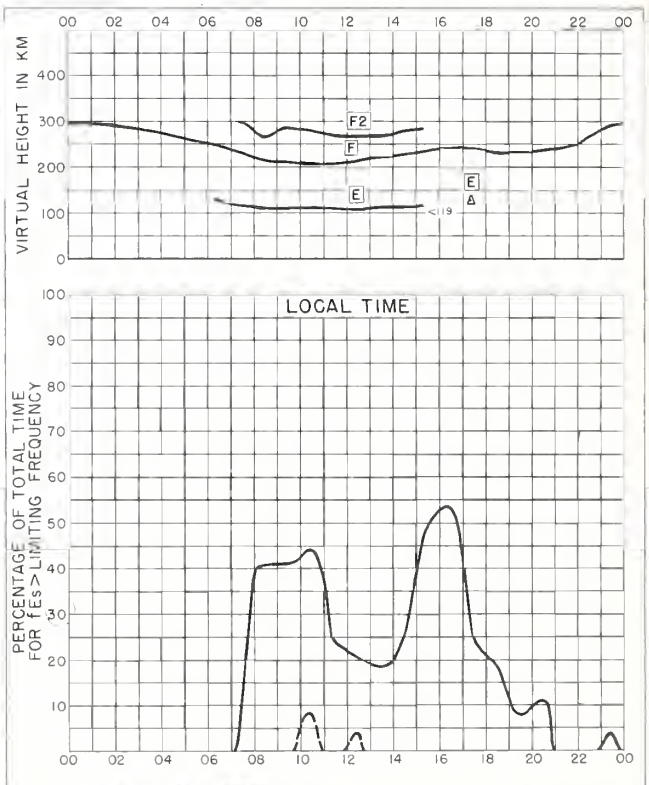


Fig. 55. DOURBES, BELGIUM MARCH 1961

NBS 490

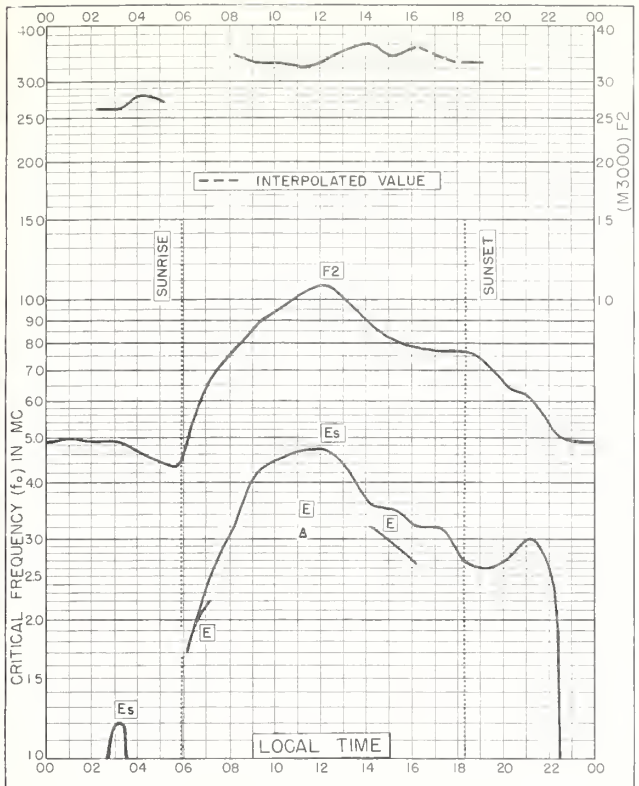


Fig. 56. FALKLAND IS.
51.7°S, 57.8°W MARCH 1961

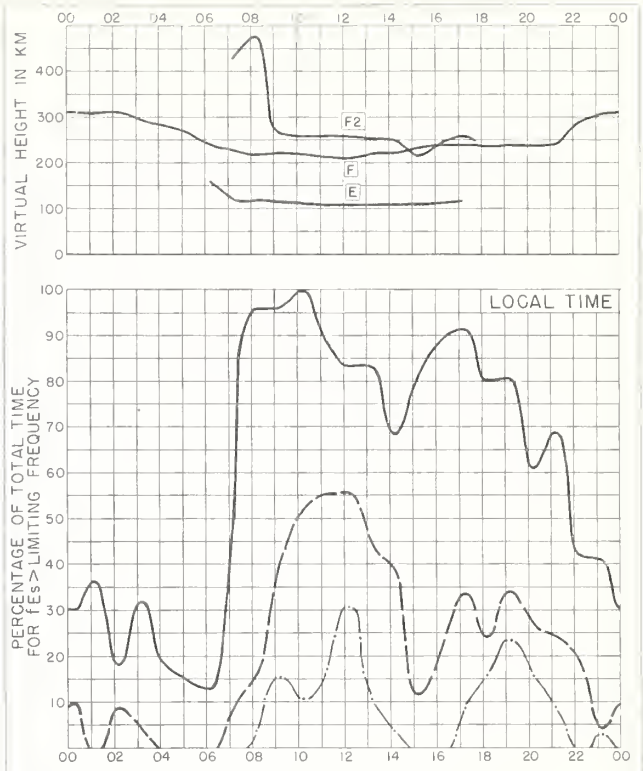


Fig. 57. FALKLAND IS. MARCH 1961

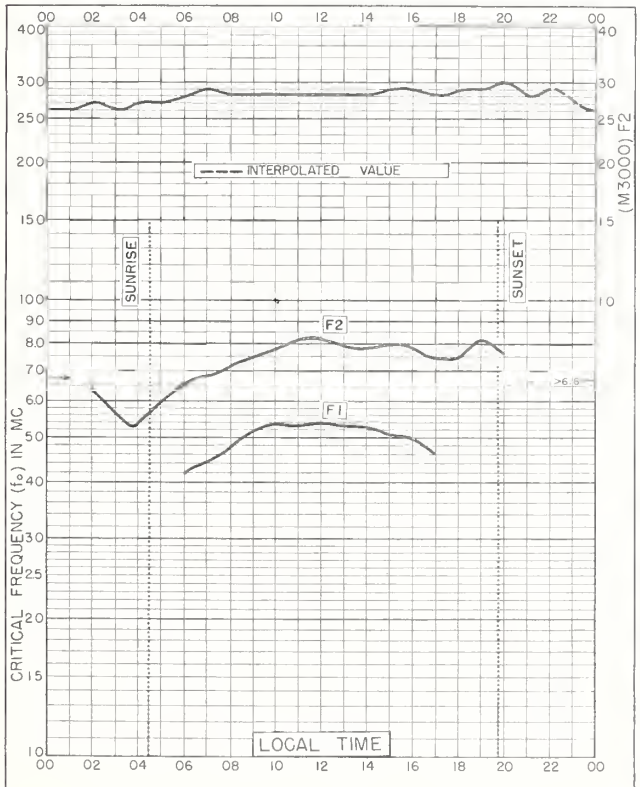


Fig. 58. GRAZ, AUSTRIA
47.1°N, 15.5°E JULY 1960

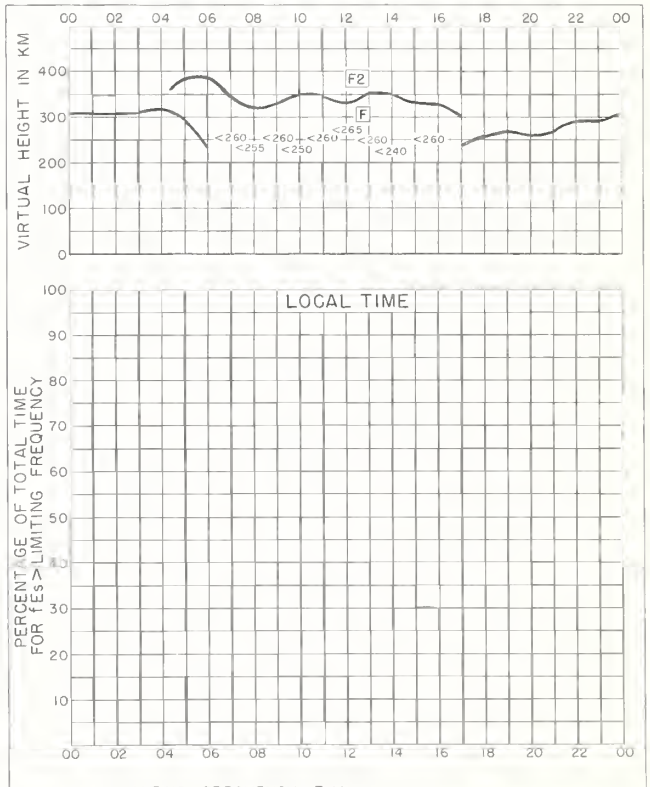


Fig. 59. GRAZ, AUSTRIA JULY 1960

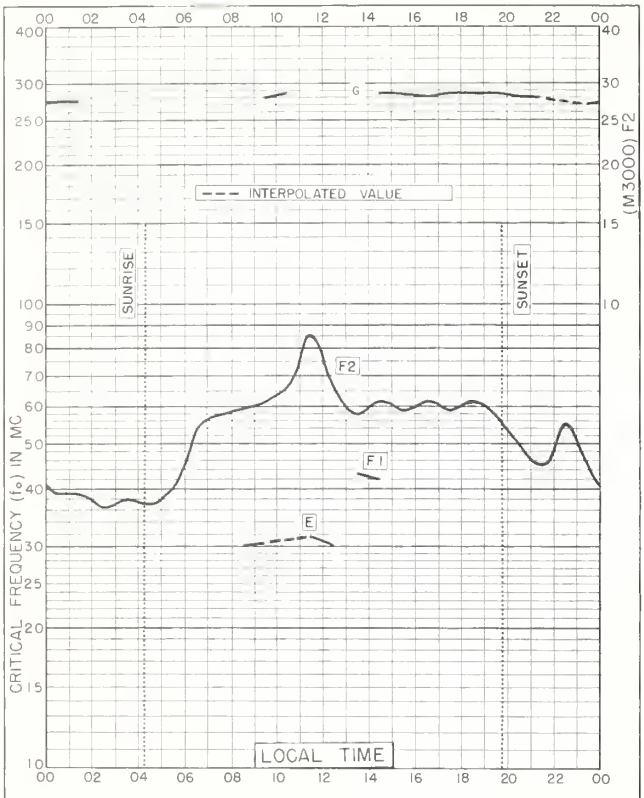


Fig. 60. GODHAVN, GREENLAND
69.3°N, 53.5°W APRIL 1960

NBS 503

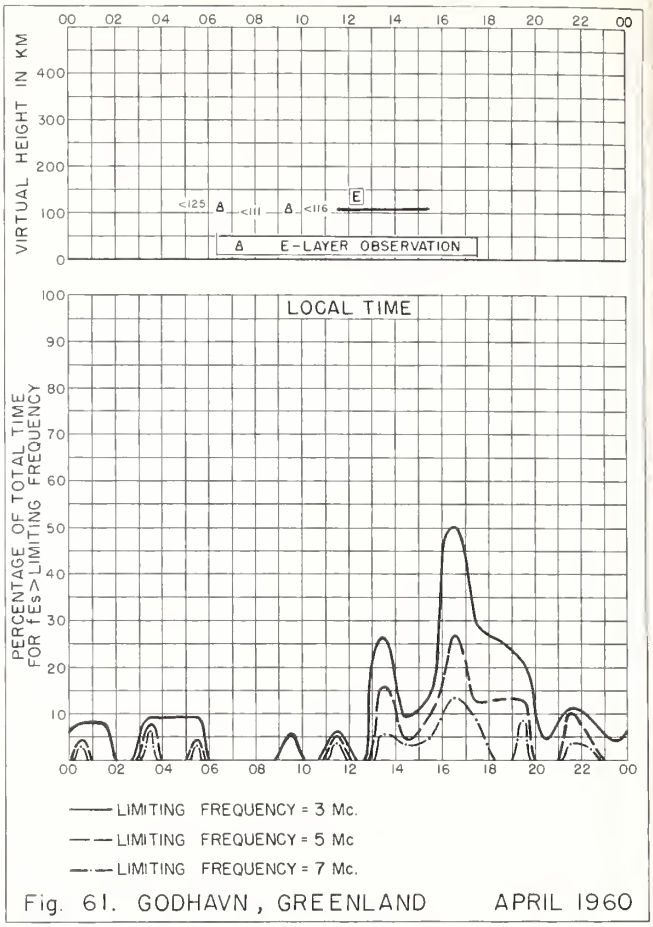


Fig. 61. GODHAVN, GREENLAND APRIL 1960

NBS 490

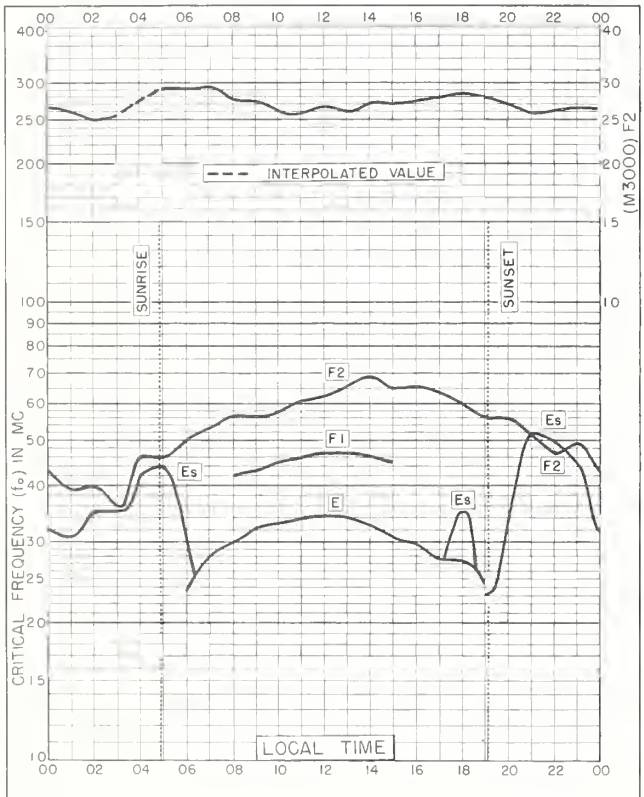


Fig. 62. NARSSARSSUAQ, GREENLAND
61.2°N, 45.4°W APRIL 1960

NBS 503

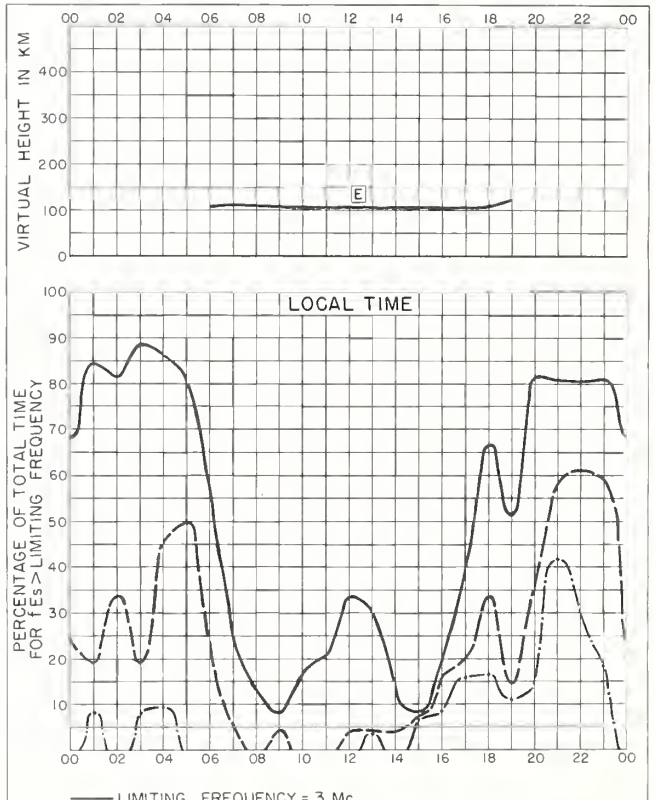


Fig. 63. NARSSARSSUAQ, GREENLAND APRIL 1960

NBS 490

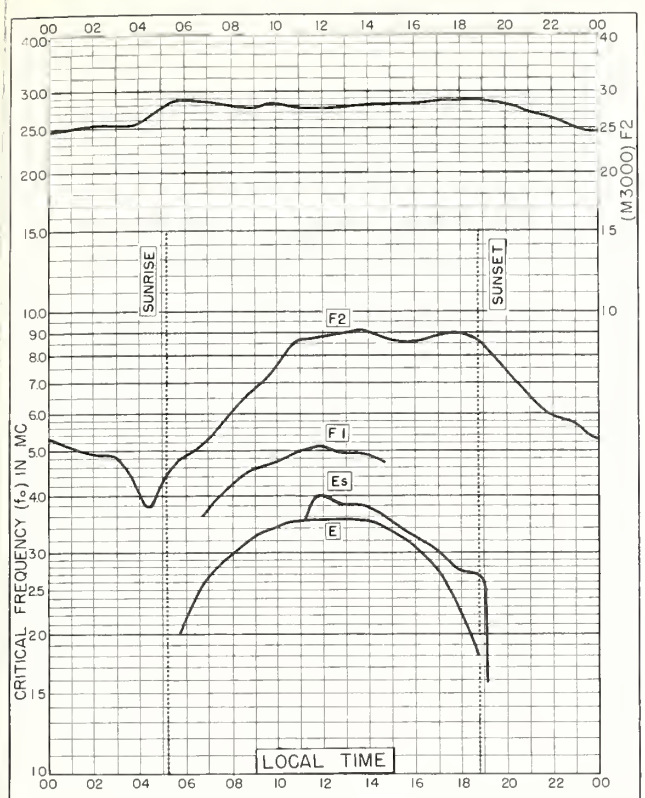


Fig. 64. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E APRIL 1960

NBS 503

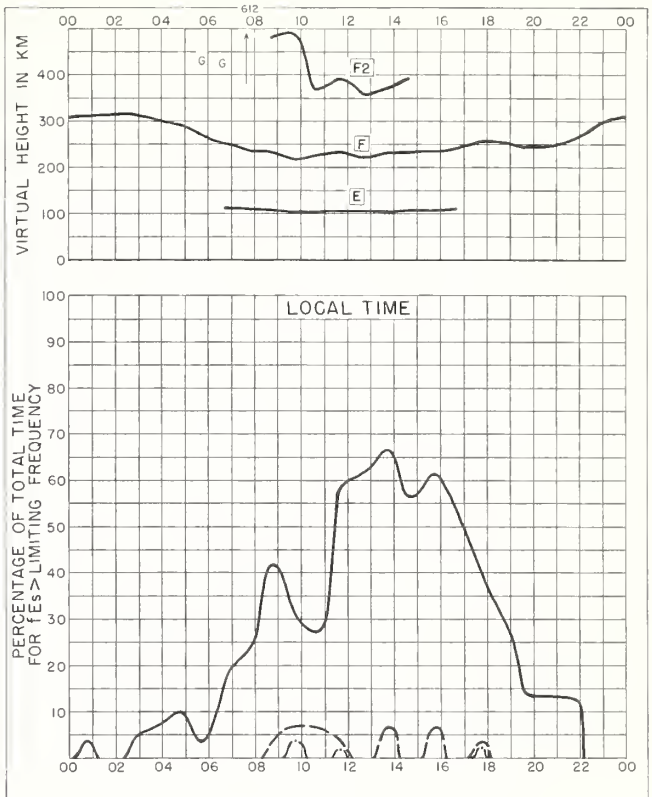


Fig. 65. LINDAU/HARZ, GERMANY APRIL 1960

NBS 490

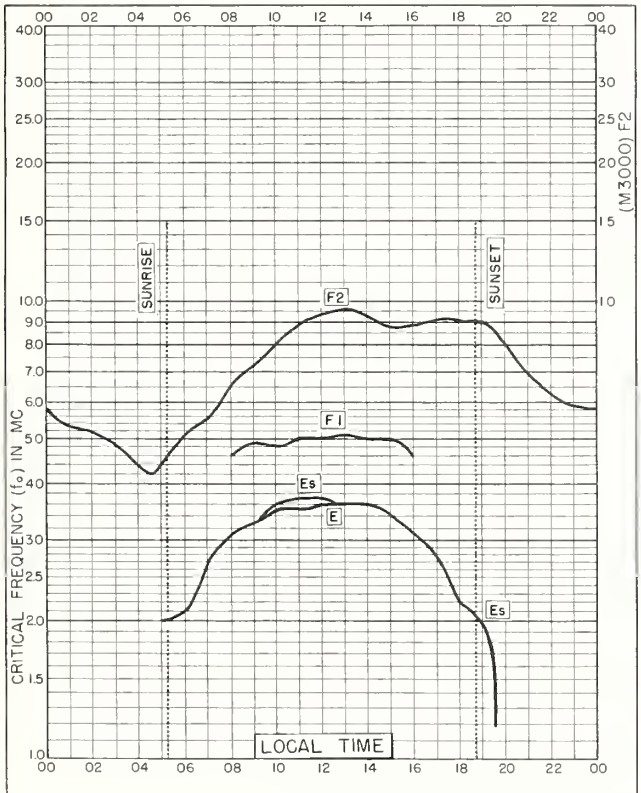


Fig. 66. PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E APRIL 1960

NBS 503

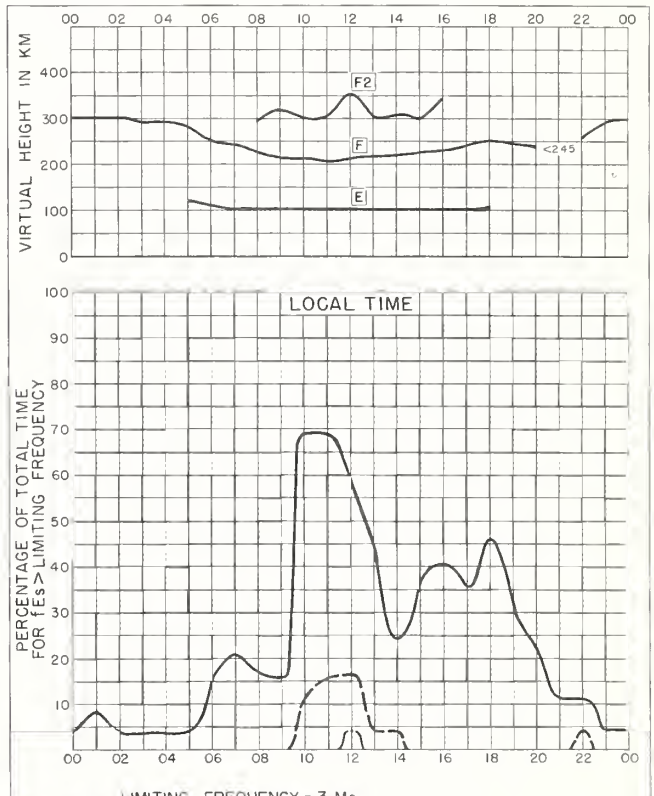


Fig. 67. PRUHONICE, CZECHOSLOVAKIA APRIL 1960

NBS 490

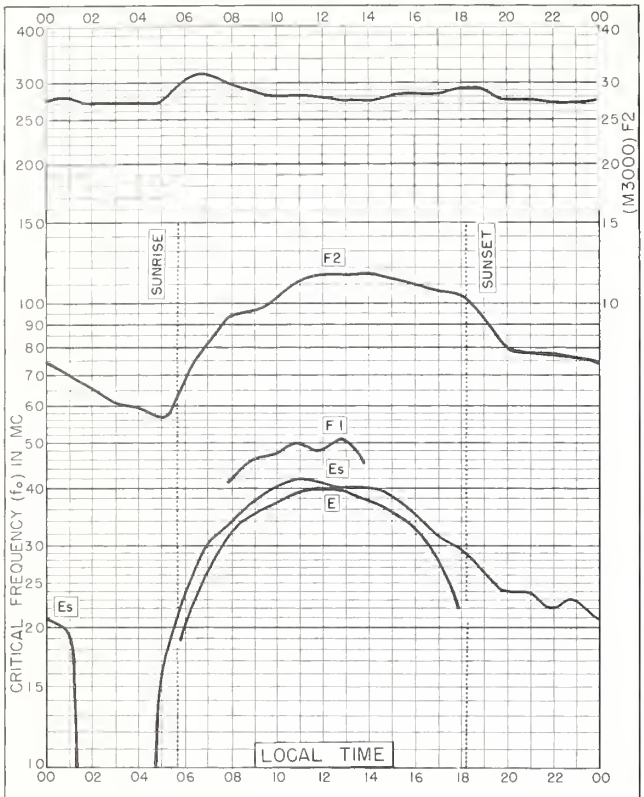


Fig. 68. GRAND BAHAMA I.
26.6°N, 78.2°W APRIL 1960

NBS 503

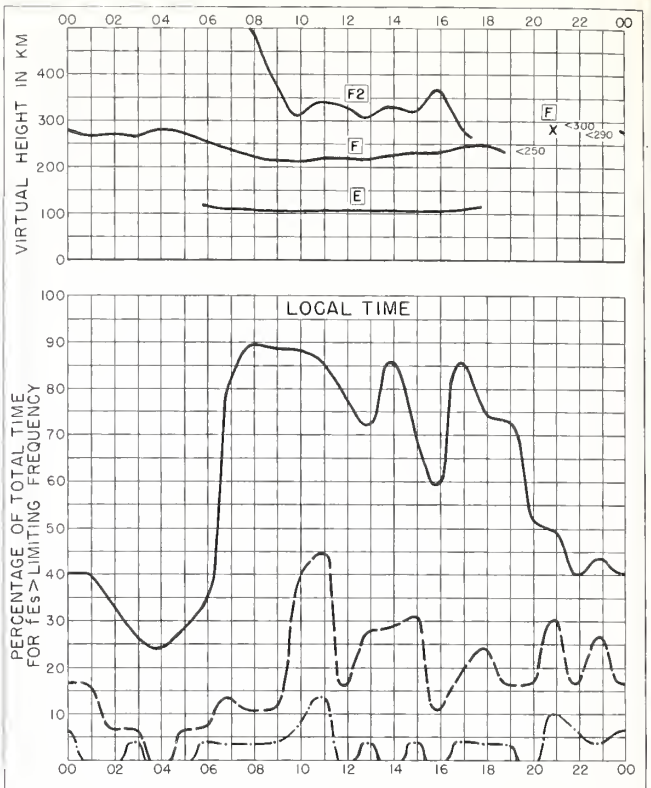


Fig. 69. GRAND BAHAMA I. APRIL 1960

NBS 490

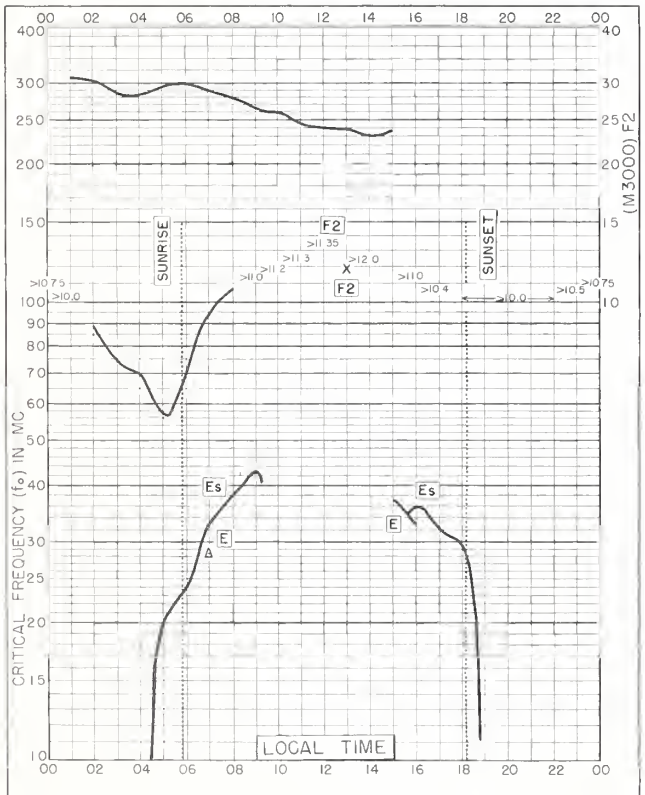


Fig. 70. BAGUIO, P. I.
16.4°N, 120.6°E APRIL 1960

NBS 503

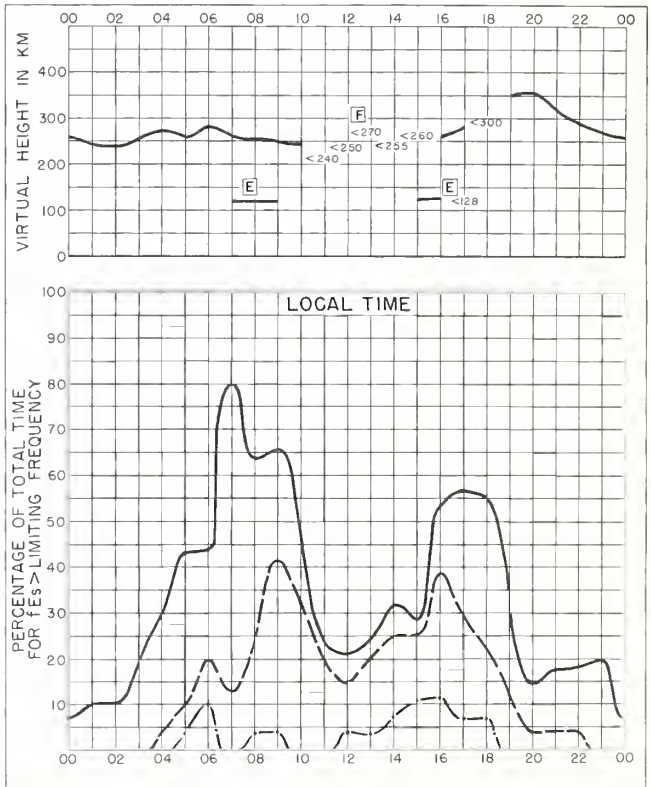


Fig. 71. BAGUIO, P. I. APRIL 1960

NBS 490

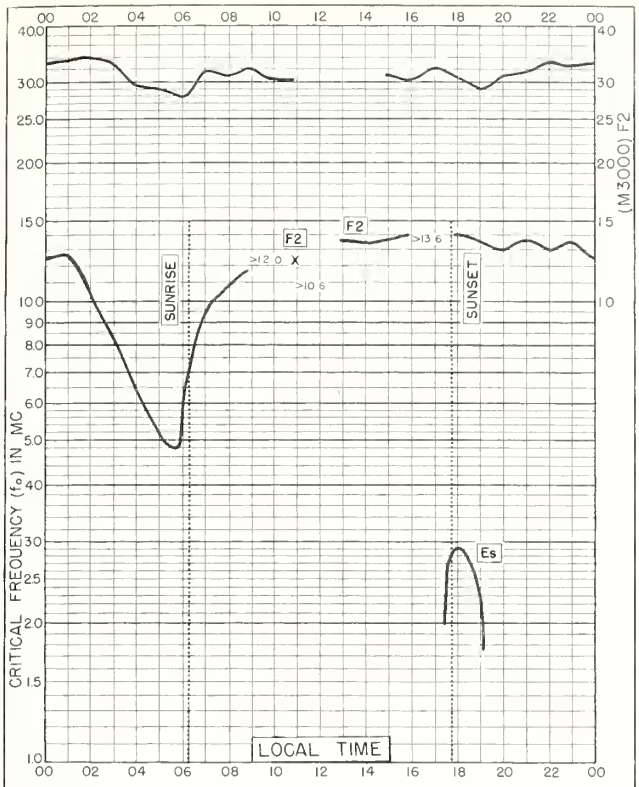


Fig. 72. SAO PAULO, BRAZIL
23.5°S, 46.5°W APRIL 1960

N8S 503

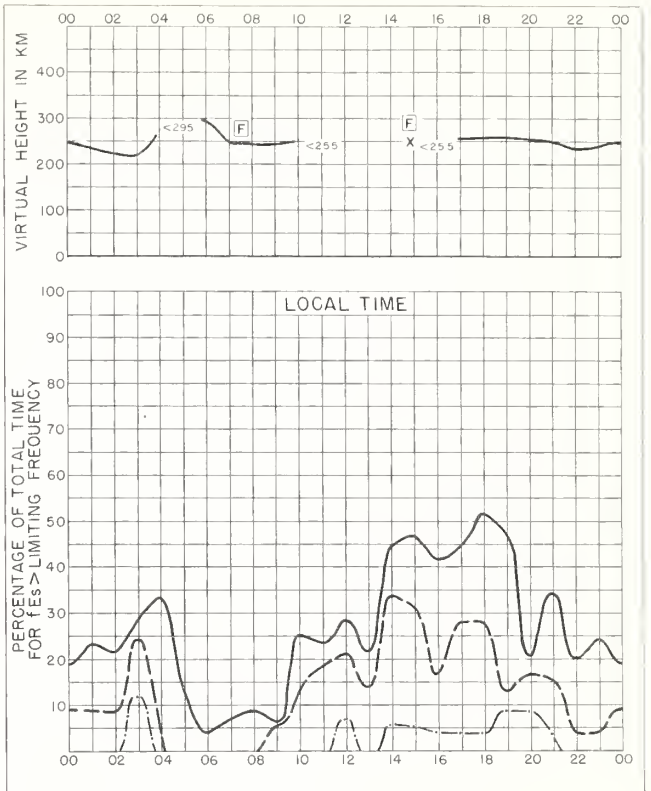


Fig. 73. SAO PAULO, BRAZIL APRIL 1960

N8S 490

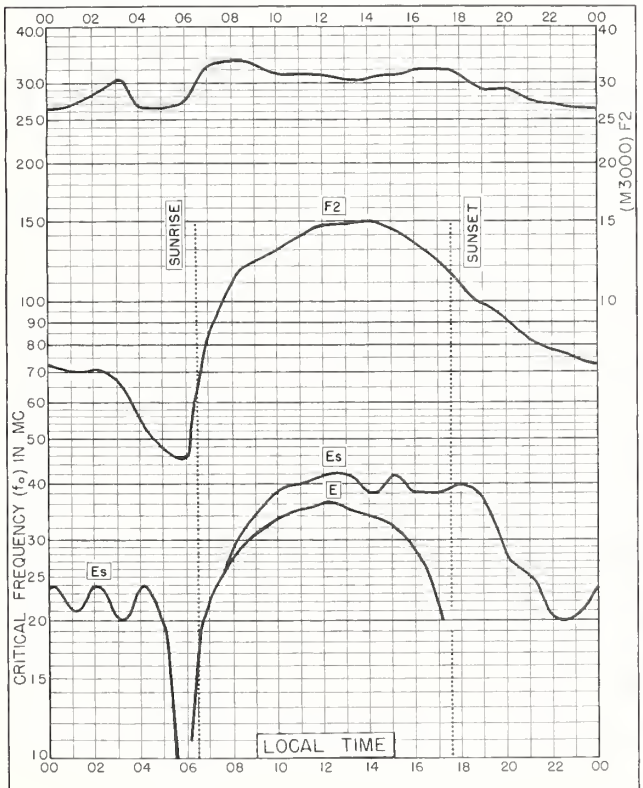


Fig. 74. CONCEPCION, CHILE
36.6°S, 73.0°W APRIL 1960

N8S 503

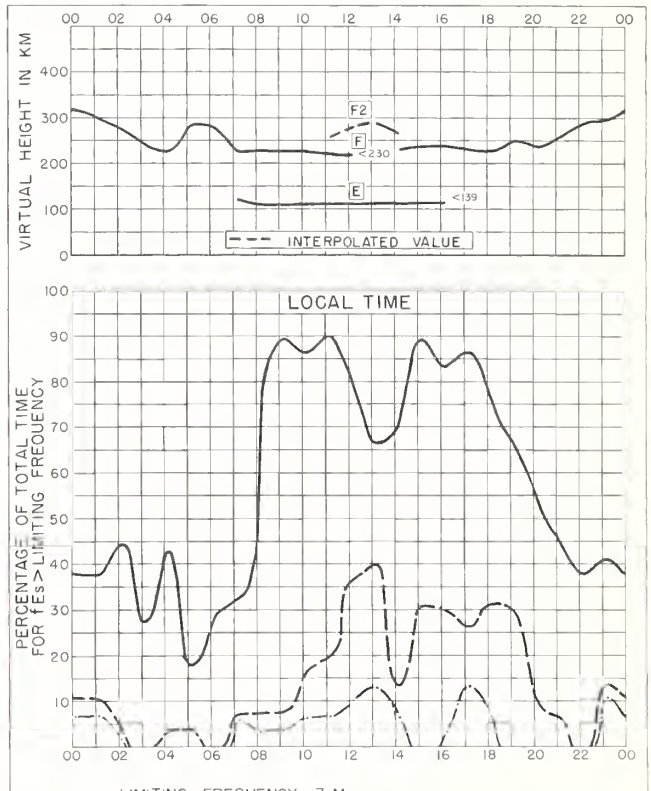


Fig. 75. CONCEPCION, CHILE APRIL 1960

N8S 490

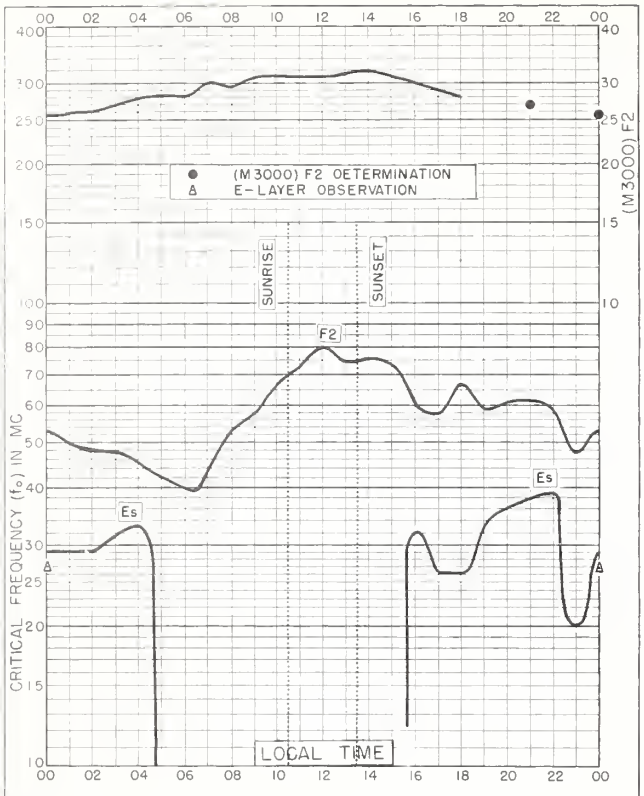


Fig. 76. BYRD STATION
80.0°S, 120.0°W APRIL 1960

NBS 503

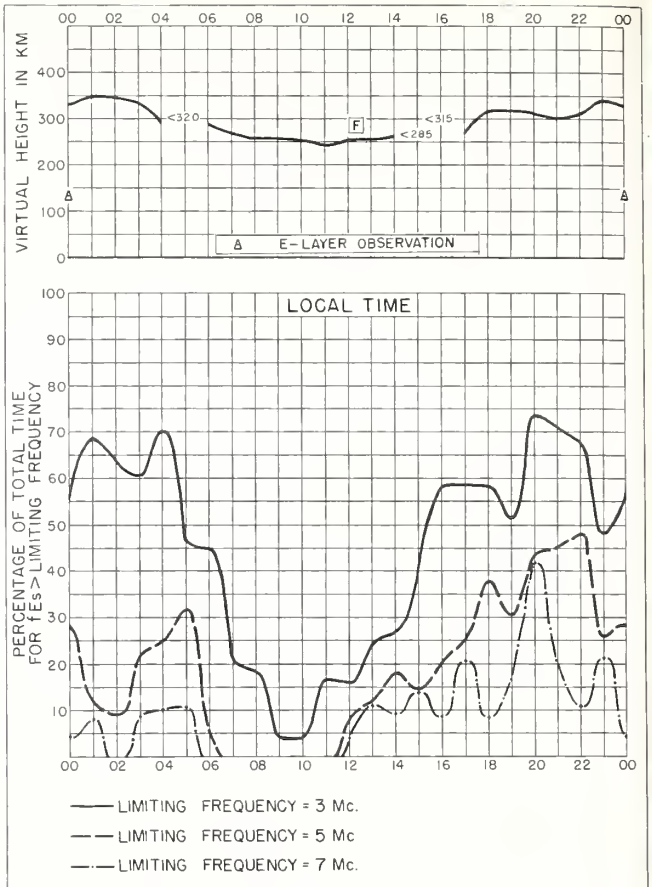


Fig. 77. BYRD STATION APRIL 1960

NBS 490

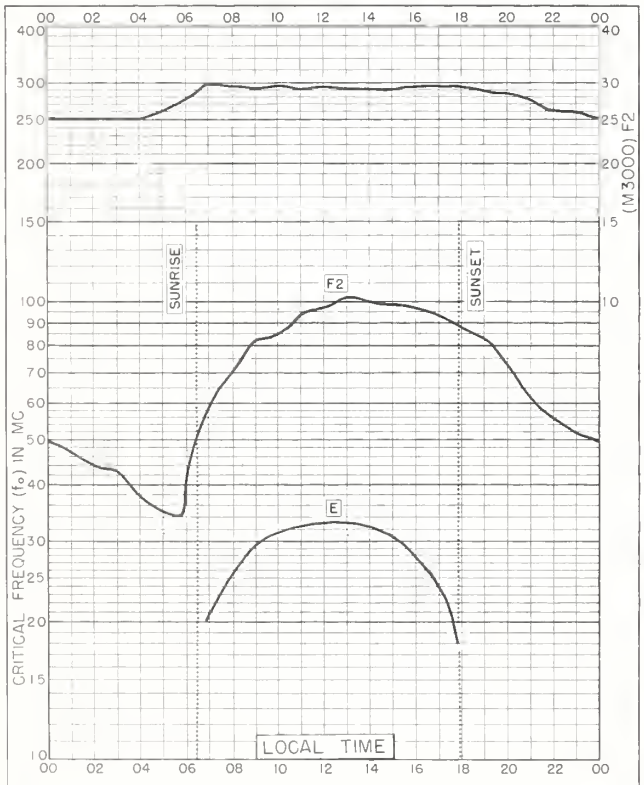


Fig. 78. JULIUSRUH/RÜGEN, GERMANY
54.6°N, 13.4°E MARCH 1960

NBS 503

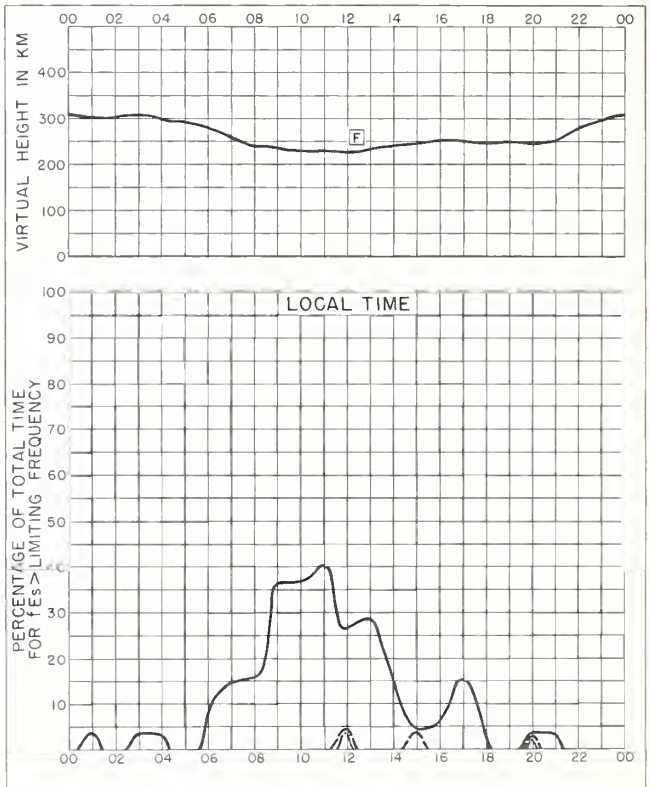


Fig. 79. JULIUSRUH/RÜGEN, GERMANY MARCH 1960

NBS 490

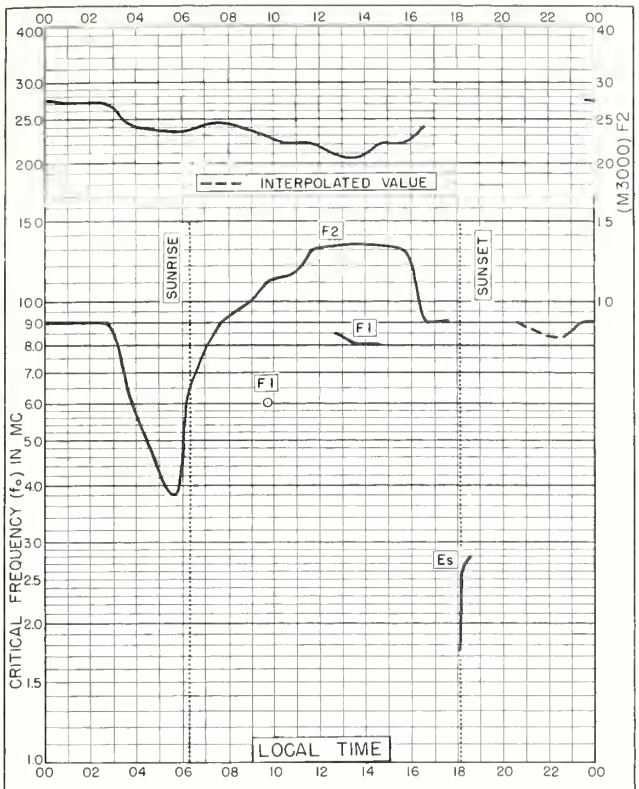


Fig. 80. MACAU
22.2°N, 113.6°E MARCH 1960

NBS 503

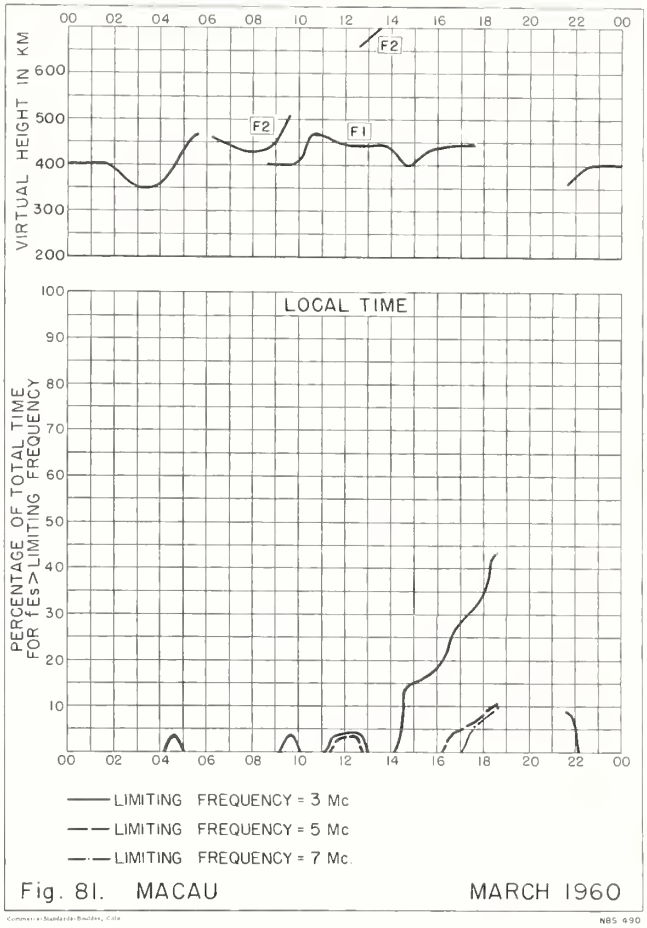


Fig. 81. MACAU MARCH 1960

NBS 490

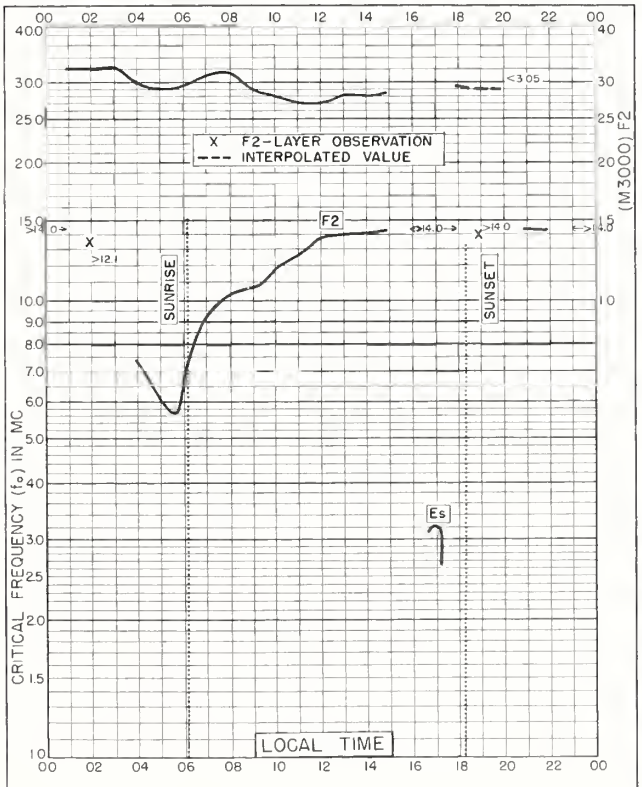


Fig. 82. SAO PAULO, BRAZIL
23.5°S, 46.5°W MARCH 1960

NBS 503

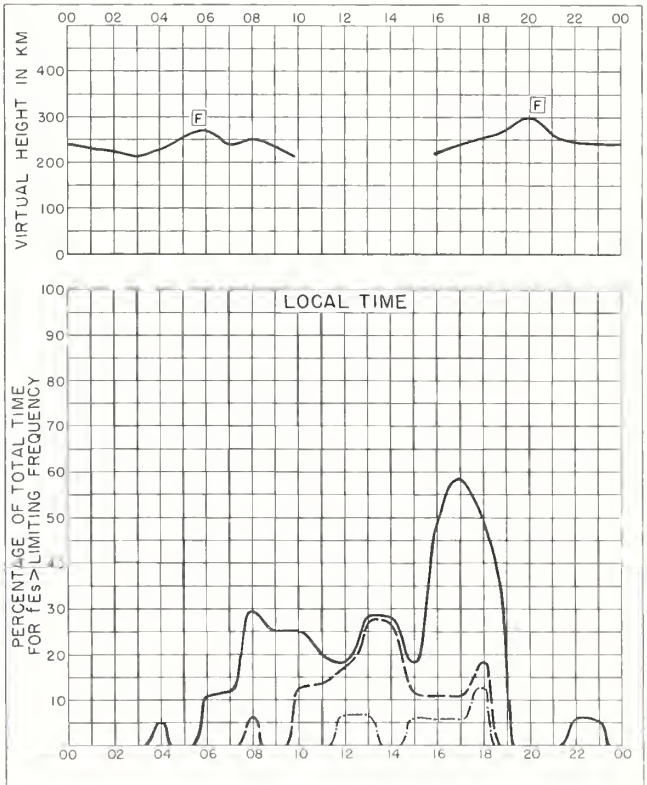


Fig. 83. SAO PAULO, BRAZIL MARCH 1960

NBS 490

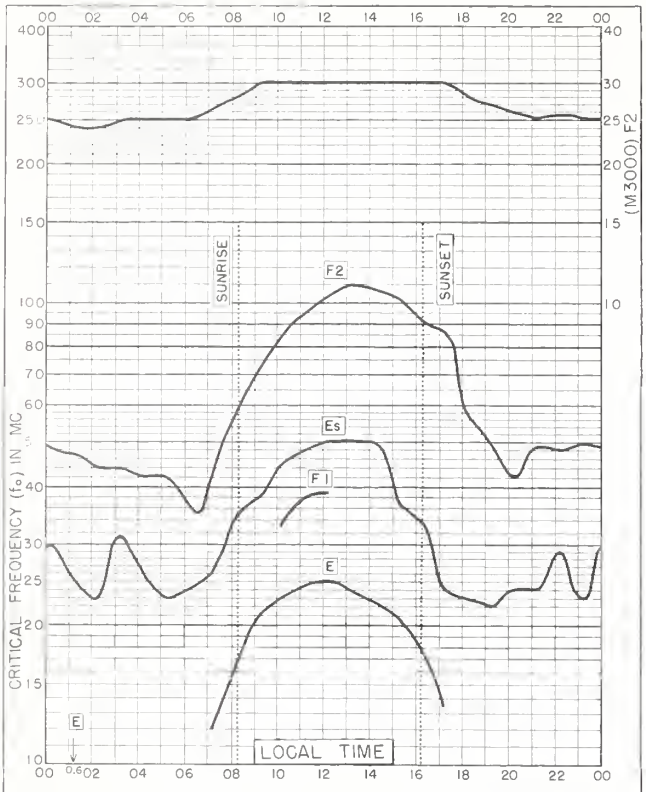


Fig. 84. LYCKSELE, SWEDEN
64.6°N, 18.8°E FEBRUARY 1960

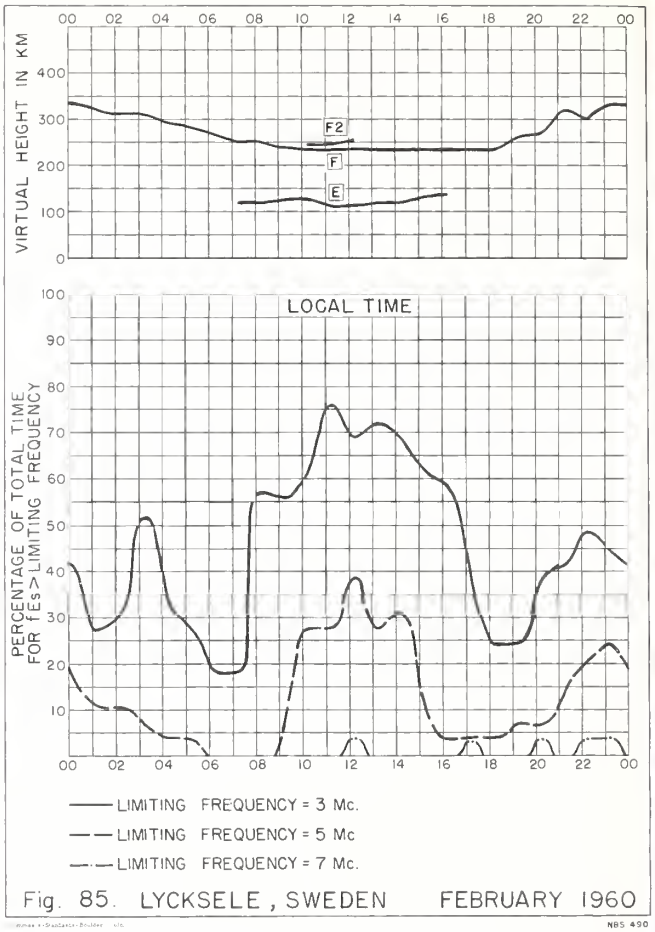


Fig. 85. LYCKSELE, SWEDEN FEBRUARY 1960

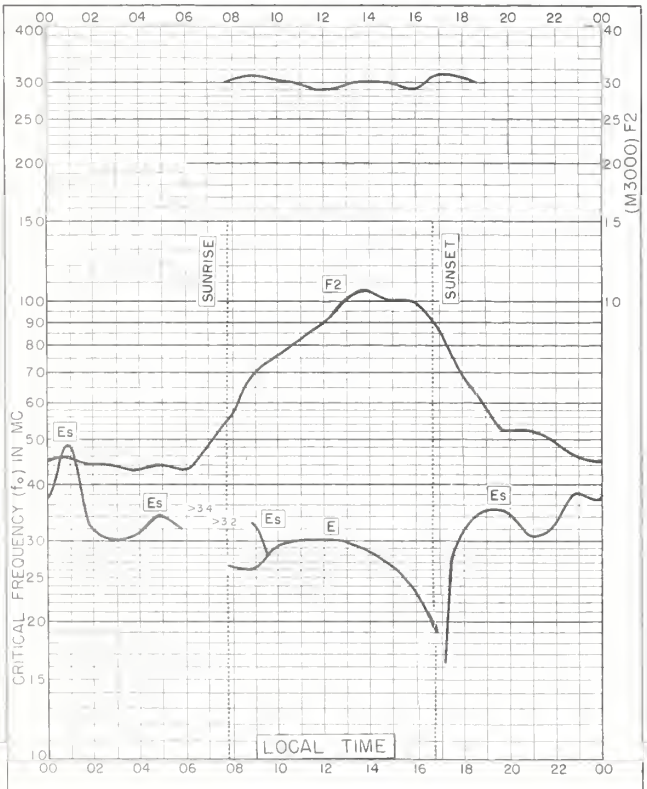


Fig. 86. CHURCHILL, CANADA
58.8°N, 94.2°W FEBRUARY 1960

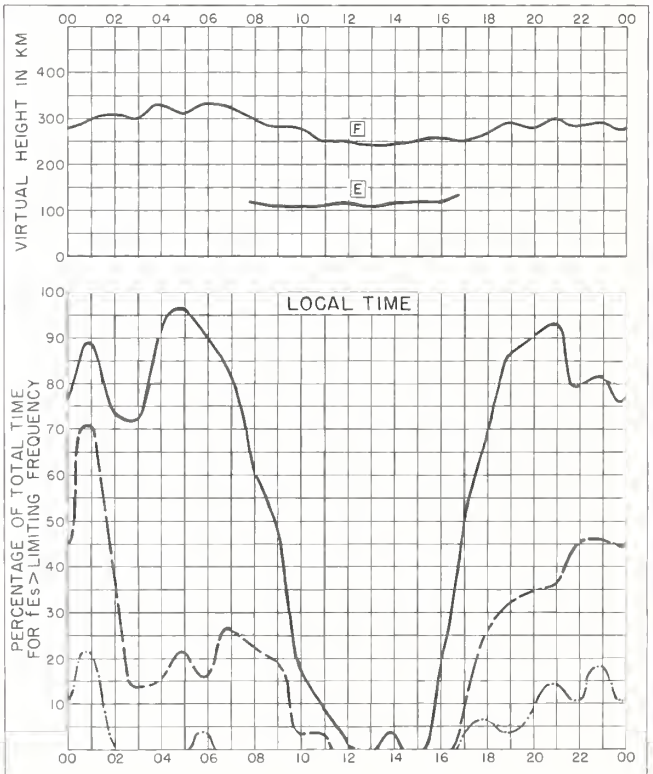


Fig. 87. CHURCHILL, CANADA FEBRUARY 1960

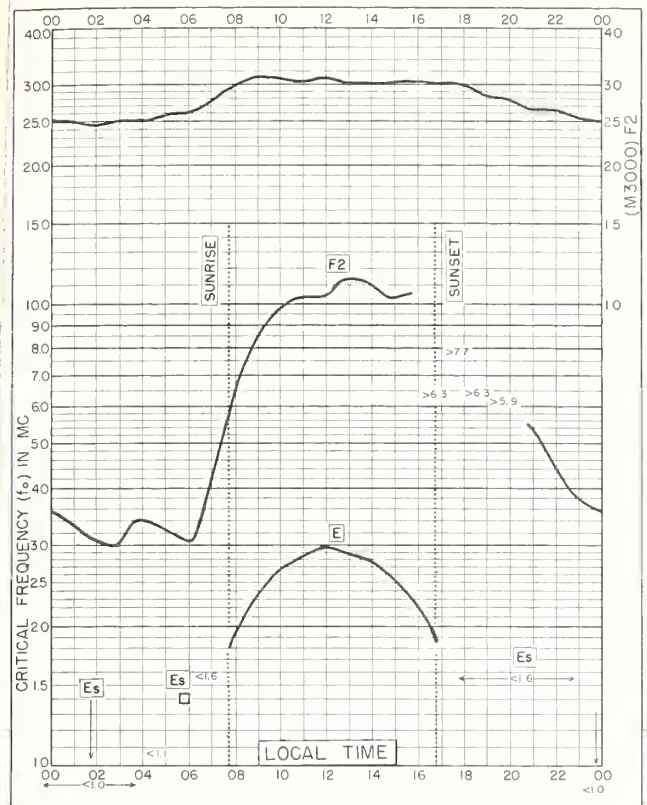


Fig. 88. INVERNESS, SCOTLAND
57.4°N, 4.2°W FEBRUARY 1960

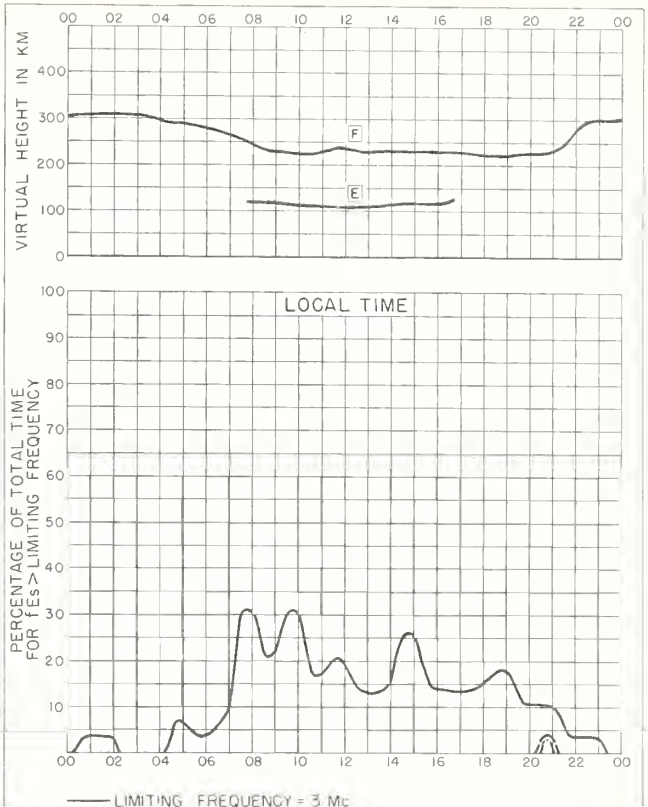


Fig. 89. INVERNESS, SCOTLAND FEBRUARY 1960

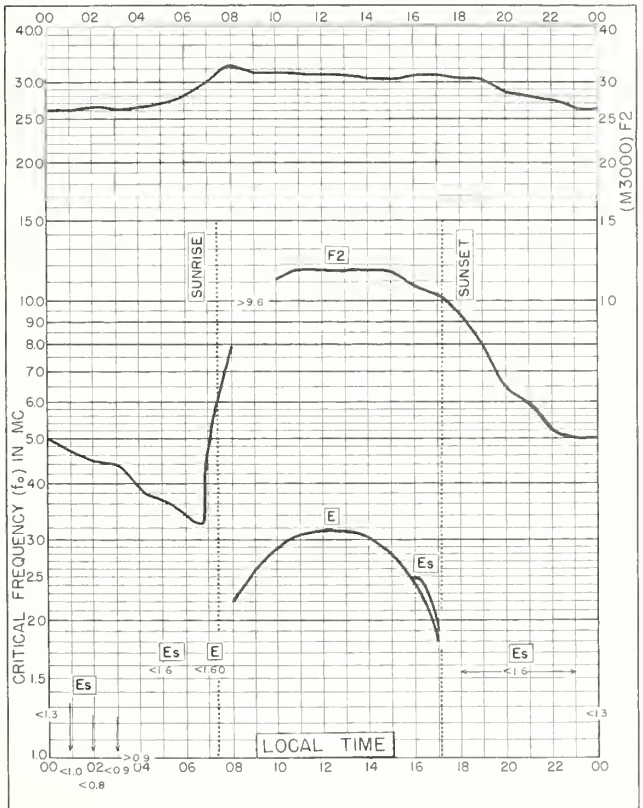


Fig. 90. SLOUGH, ENGLAND
51.5°N, 0.6°W FEBRUARY 1960

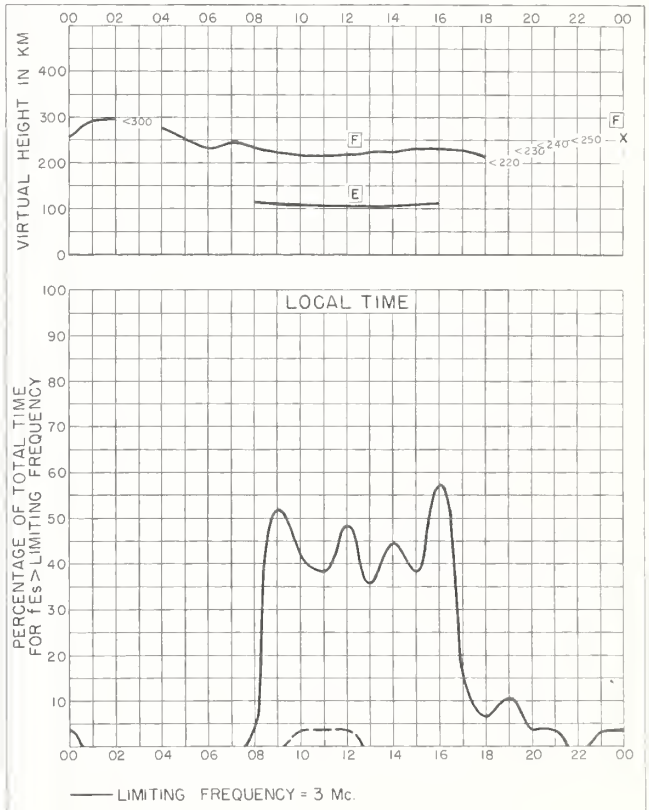


Fig. 91. SLOUGH, ENGLAND FEBRUARY 1960

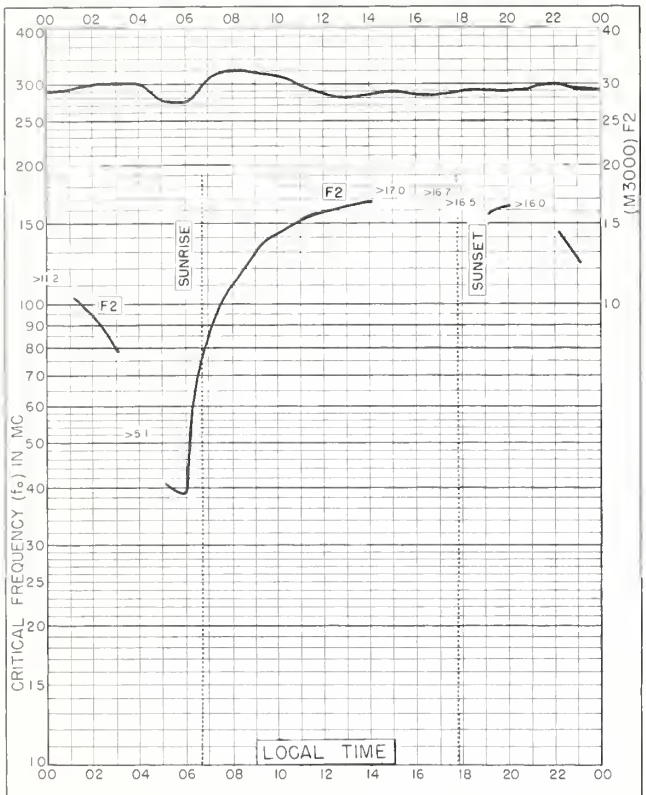


Fig. 92. FORMOSA , CHINA
25.0°N, 121.5°E FEBRUARY 1960

NBS 503

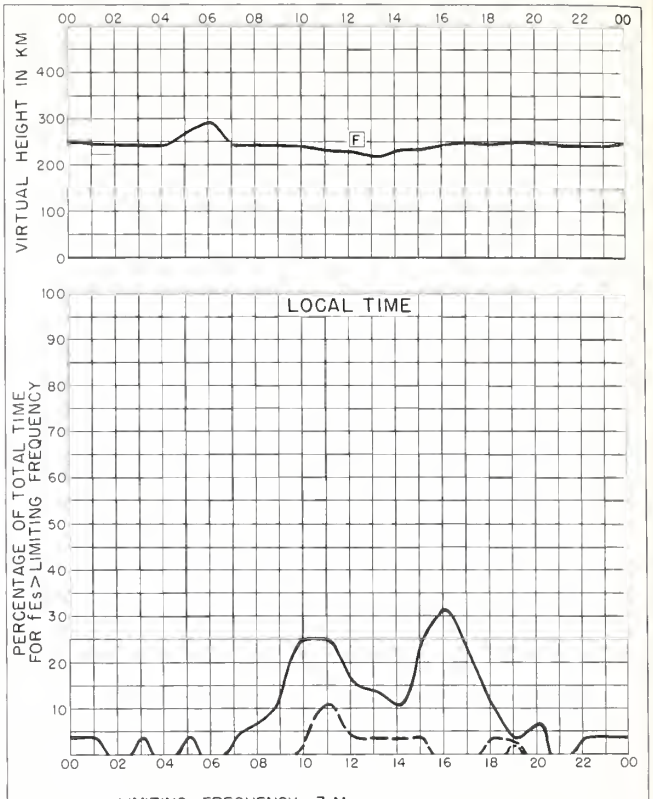


Fig. 93. FORMOSA , CHINA FEBRUARY 1960

NBS 490

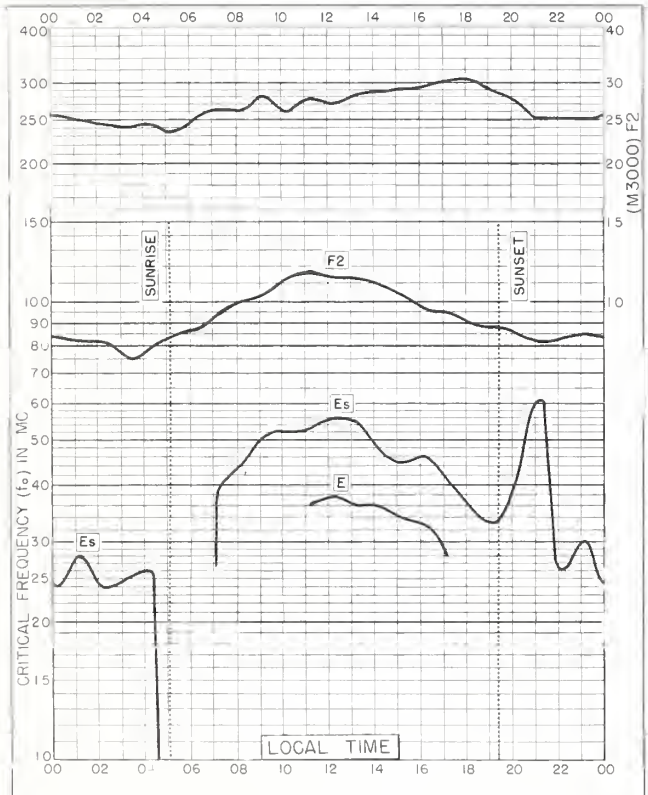


Fig. 94. FALKLAND IS.
51.7°S, 57.8°W FEBRUARY 1960

NBS 503

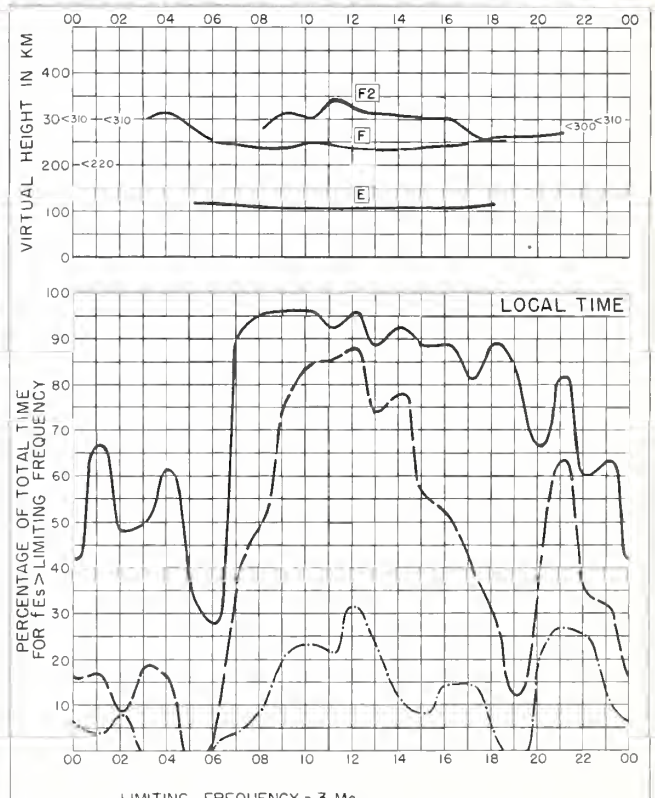


Fig. 95. FALKLAND IS. FEBRUARY 1960

NBS 490

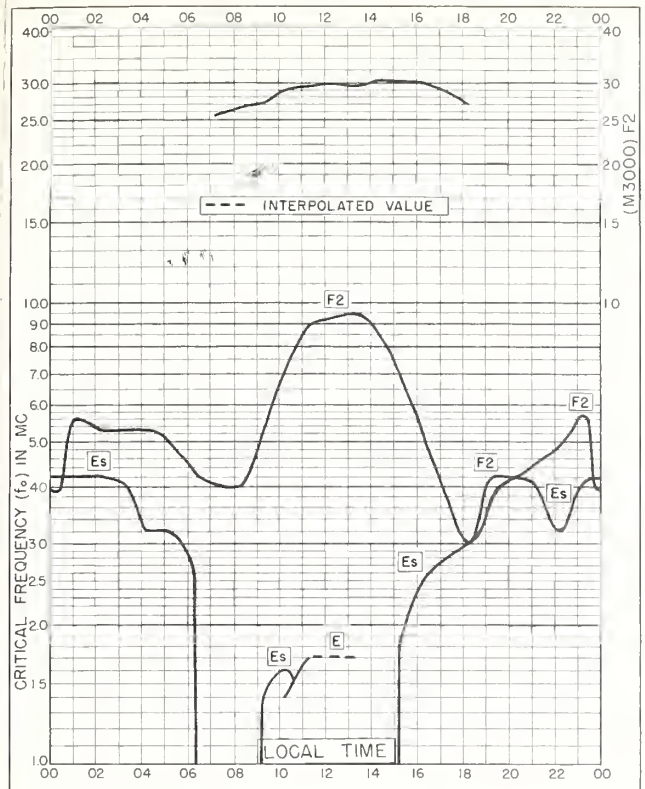


Fig. 96. TROMSO, NORWAY
69.7°N, 19.0°E JANUARY 1960

NBS 503

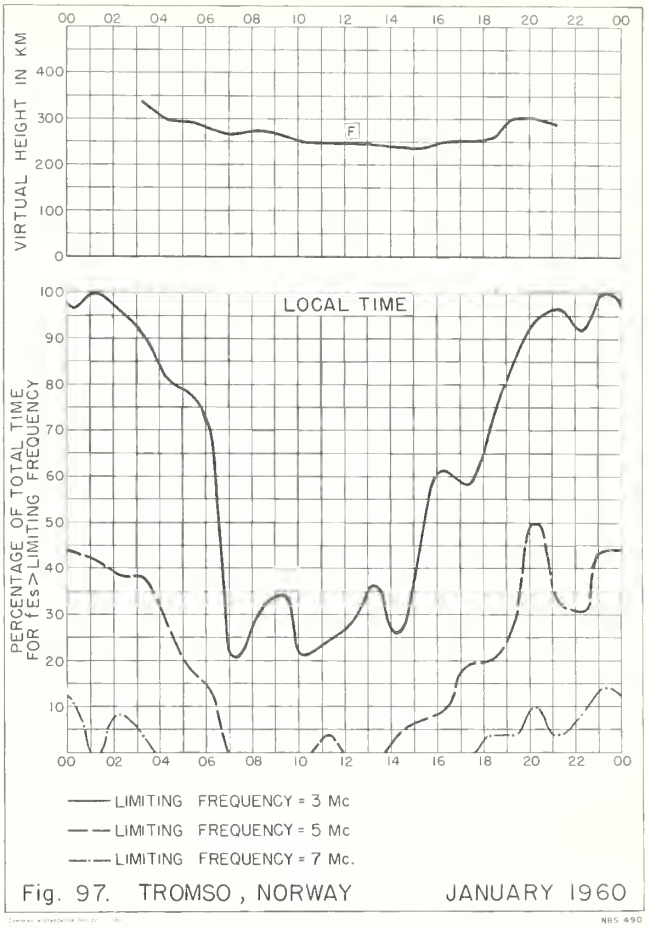


Fig. 97. TROMSO, NORWAY JANUARY 1960

NBS 490

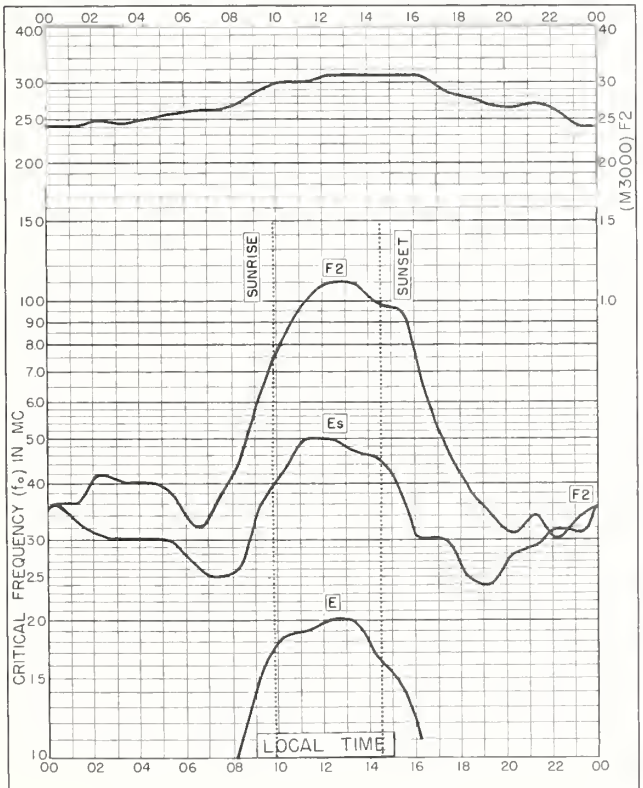


Fig. 98. LYCKSELE, SWEDEN
64.6°N, 18.8°E JANUARY 1960

NBS 503

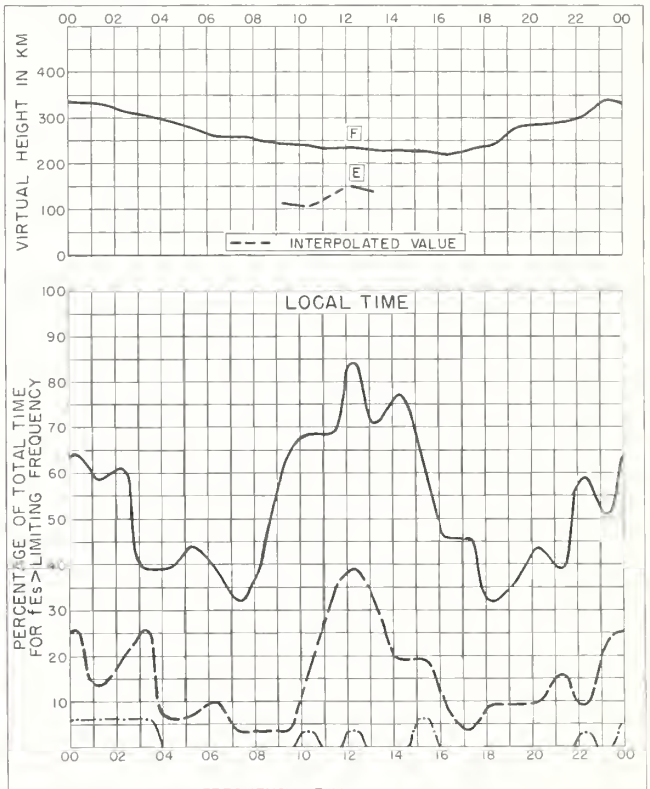


Fig 99. LYCKSELE, SWEDEN JANUARY 1960

NBS 490

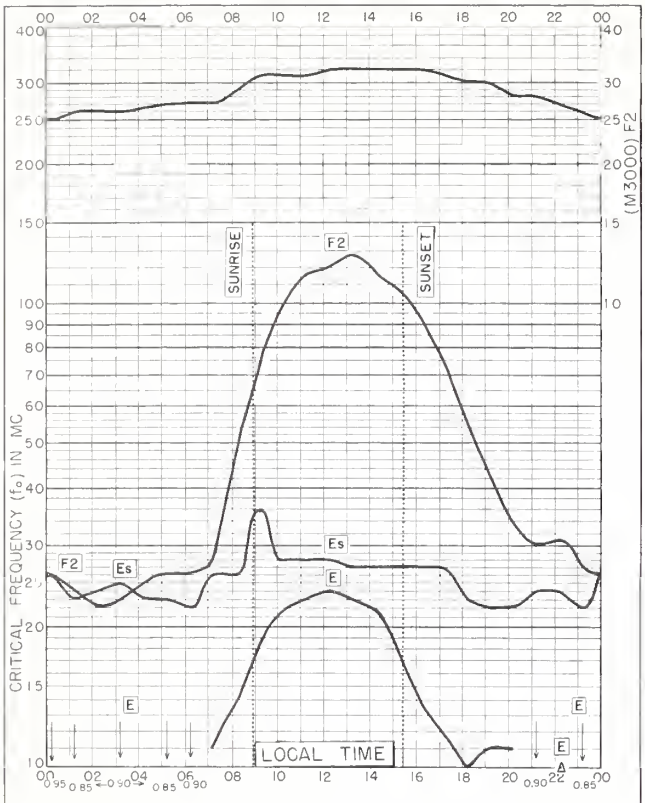


Fig. 100. UPSALA, SWEDEN
59.8°N, 17.6°E JANUARY 1960

NBS 503

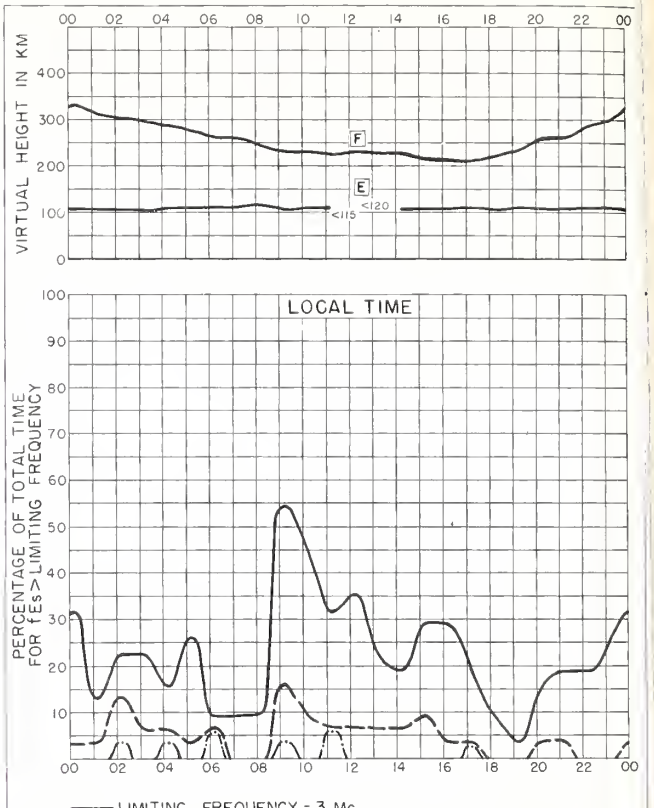


Fig. 101. UPSALA, SWEDEN JANUARY 1960

NBS 490

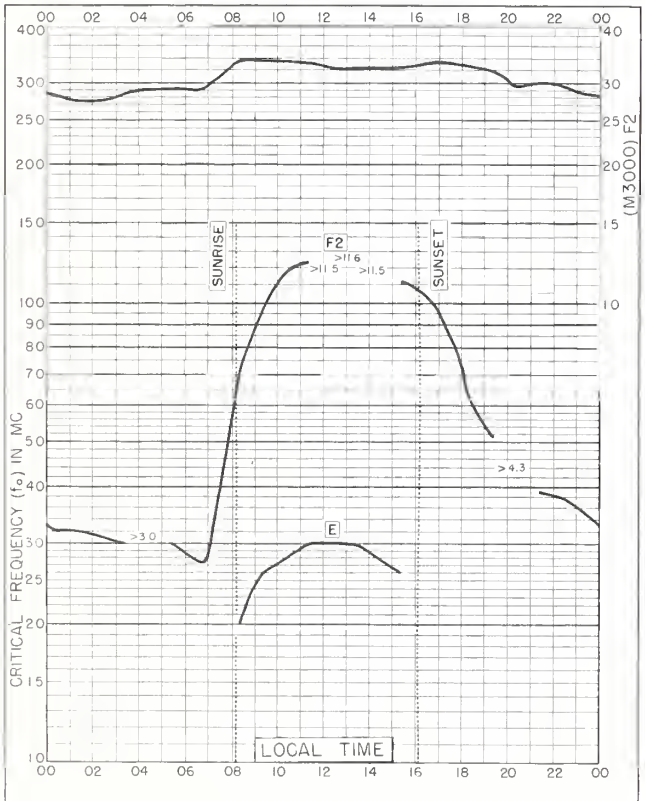


Fig. 102. De BILT, HOLLAND
52.1°N, 5.2°E JANUARY 1960

NBS 503

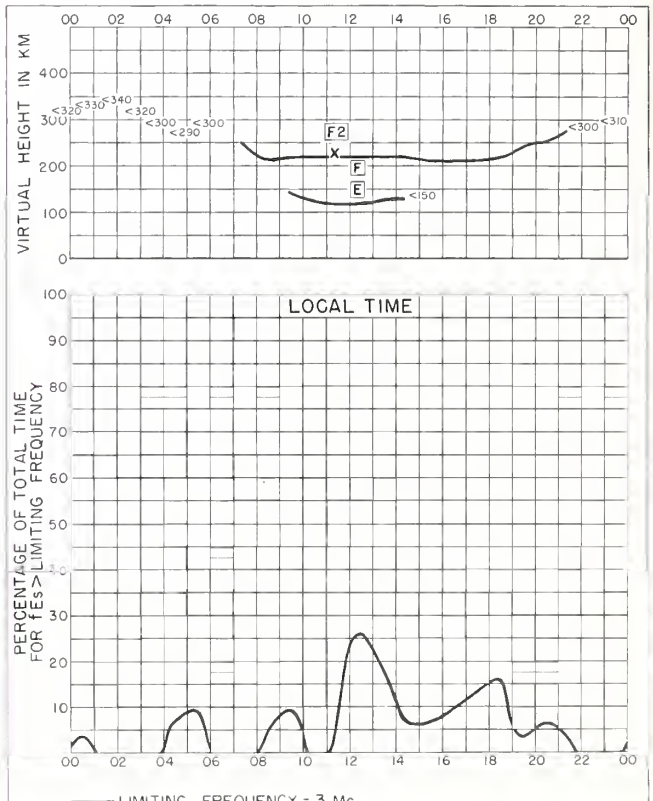


Fig. 103. De BILT, HOLLAND JANUARY 1960

NBS 490

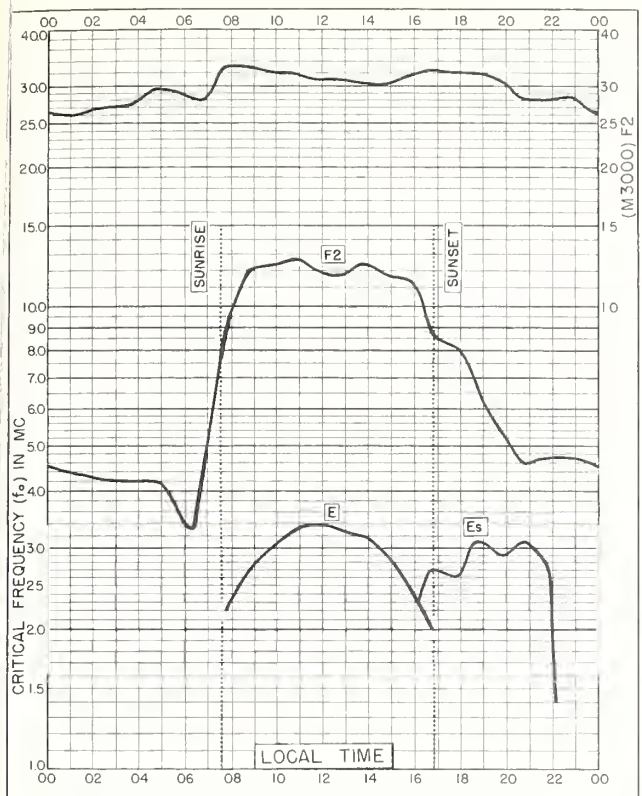


Fig. 104. ROME, ITALY
41.8°N, 12.5°E JANUARY 1960

NBS 503

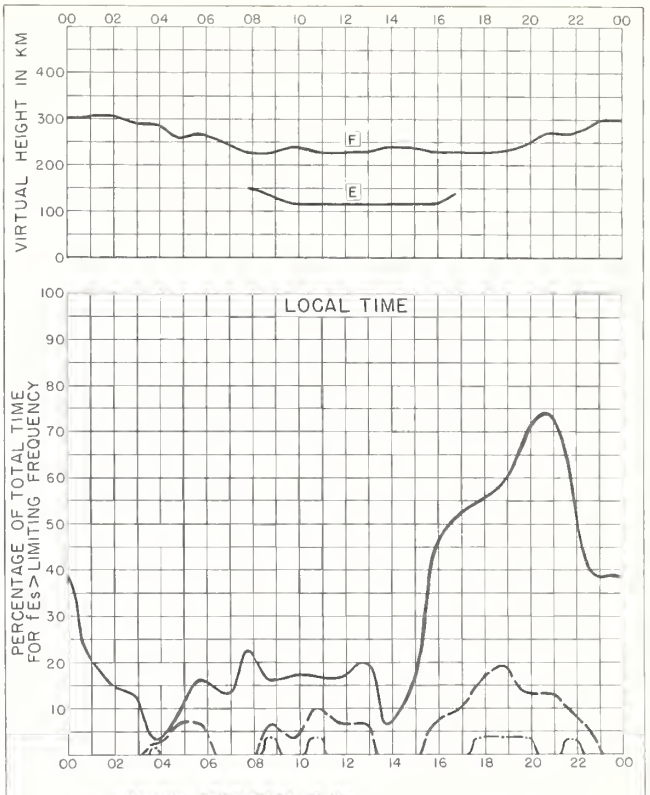


Fig. 105. ROME, ITALY JANUARY 1960

NBS 490

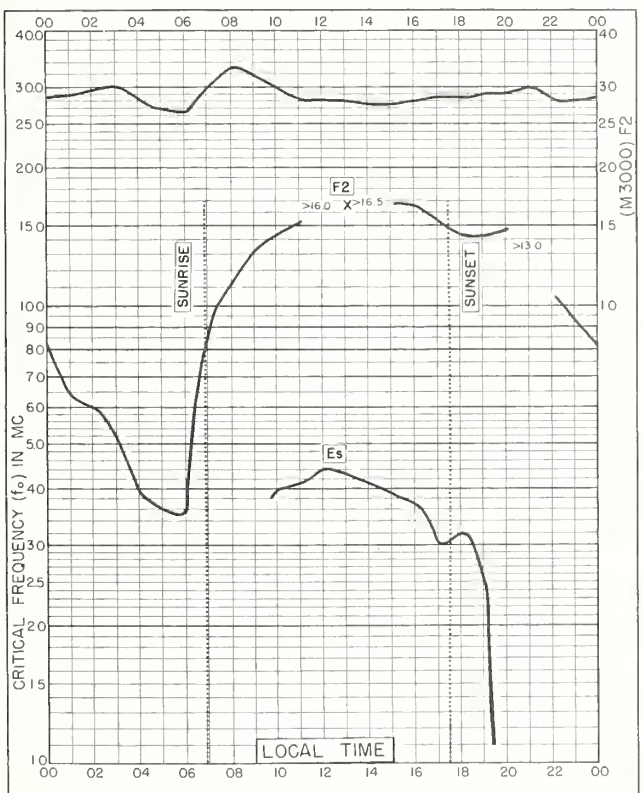


Fig. 106. FORMOSA, CHINA
25.0°N, 121.5°E JANUARY 1960

NBS 503

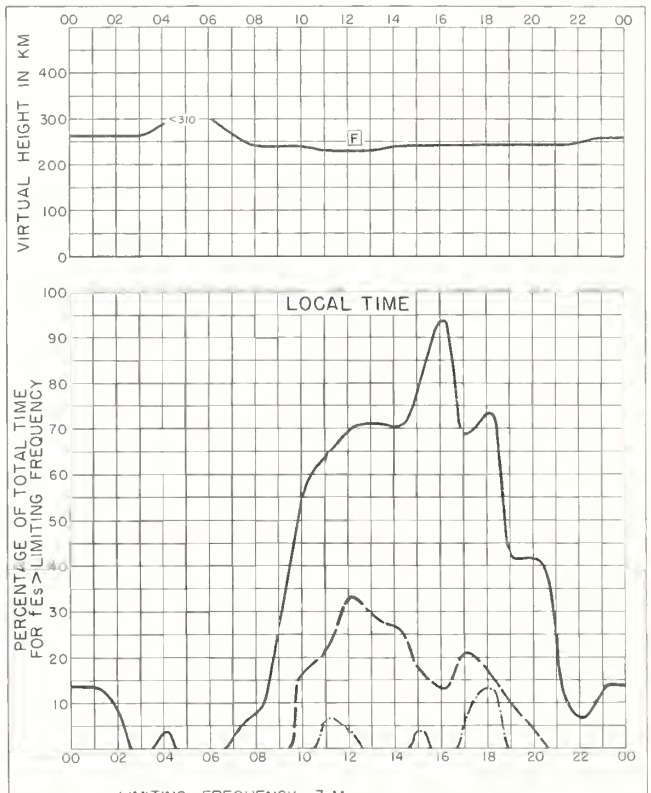


Fig 107. FORMOSA, CHINA JANUARY 1960

NBS 490

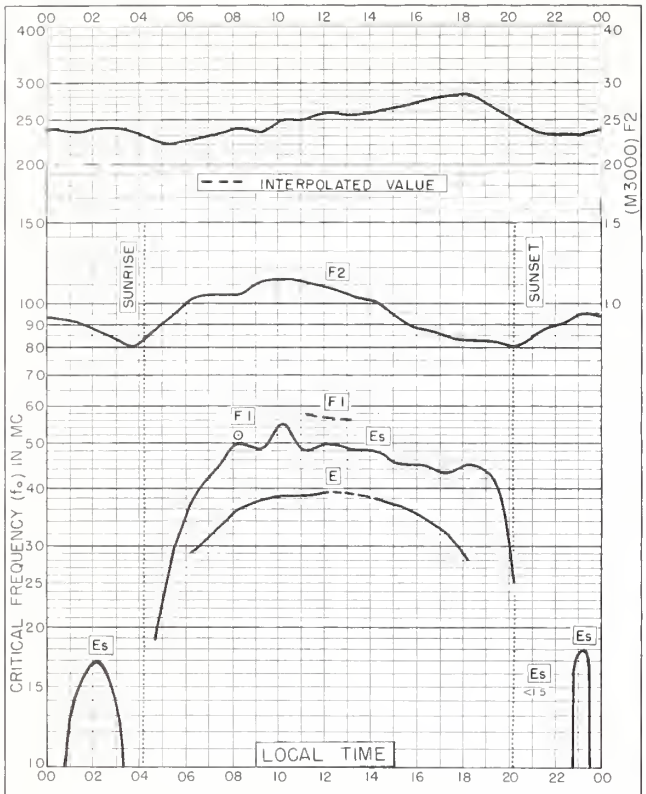


Fig. 108. FALKLAND IS.
51.7°S, 57.8°W JANUARY 1960

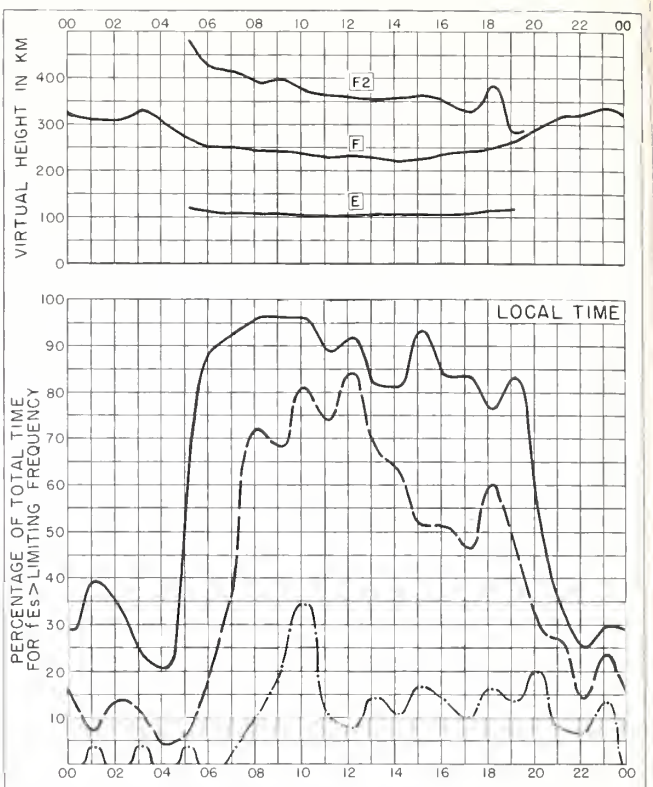


Fig. 109. FALKLAND IS. JANUARY 1960

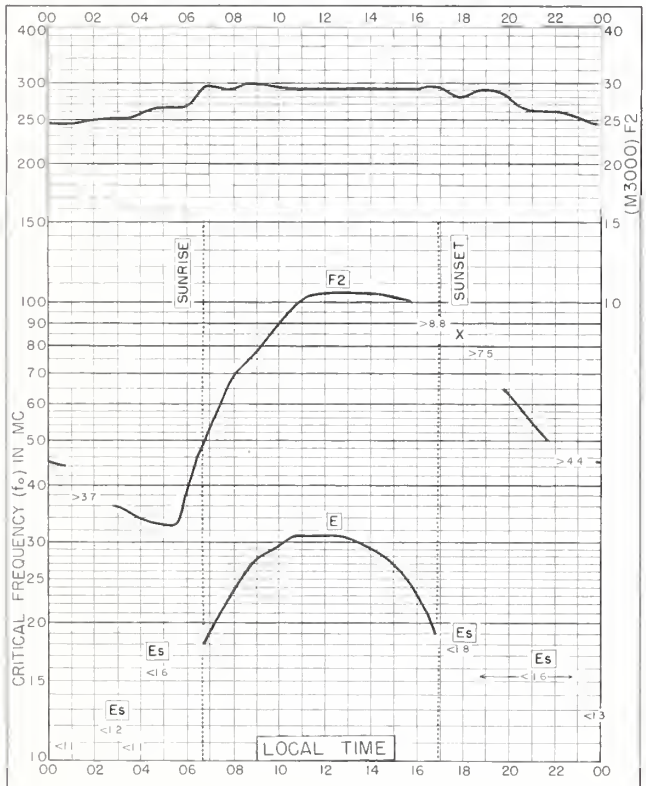


Fig. 110. INVERNESS, SCOTLAND
57.4°N, 4.2°W OCTOBER 1959

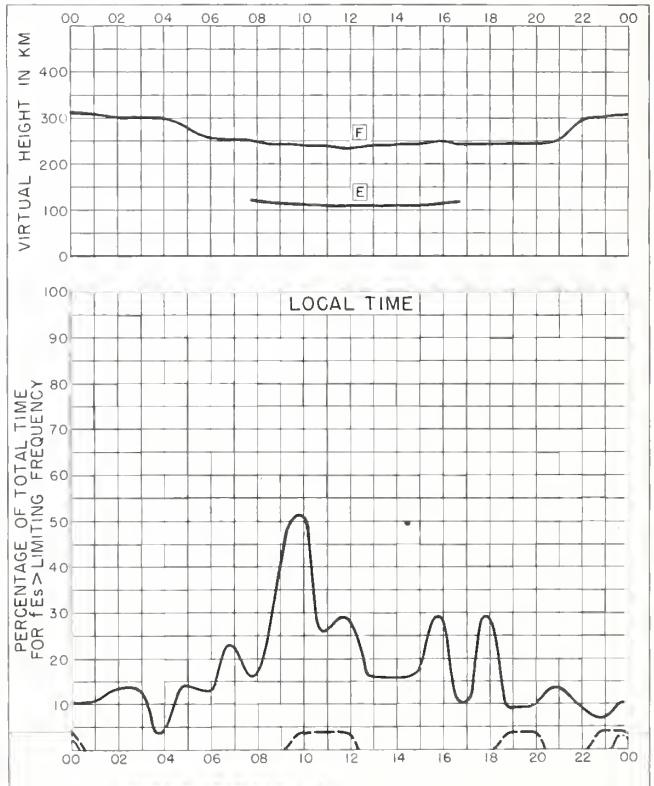


Fig. 111. INVERNESS, SCOTLAND OCTOBER 1959

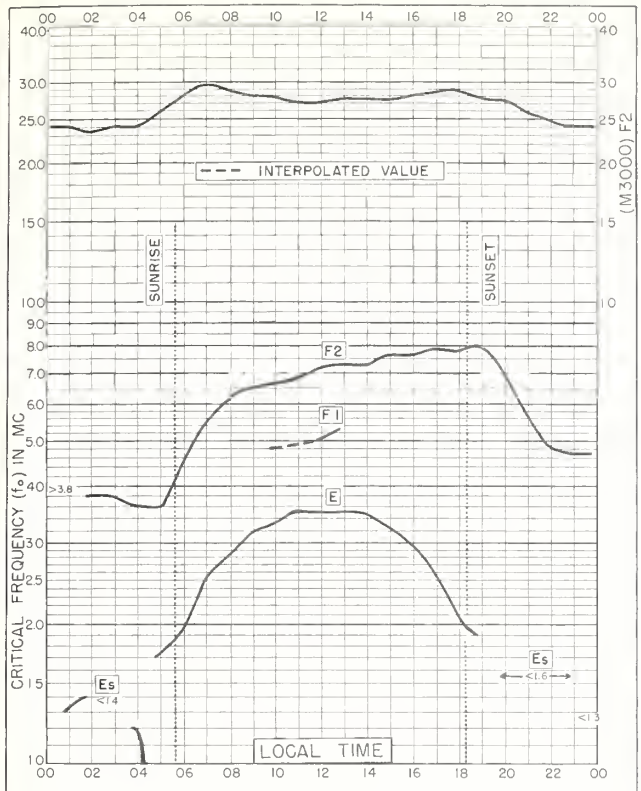


Fig. 112. INVERNESS, SCOTLAND
57.4°N, 4.2°W SEPTEMBER 1959

NBS 503

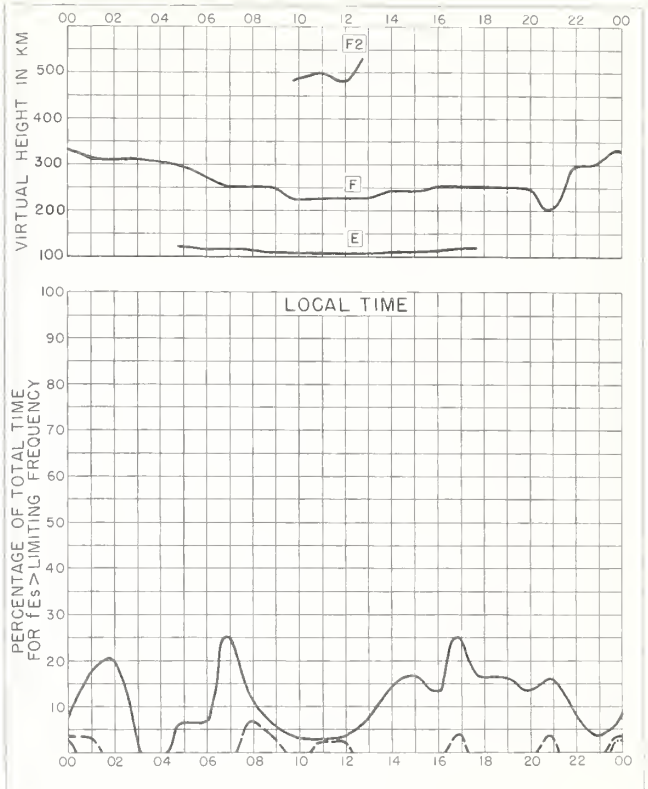


Fig. 113. INVERNESS, SCOTLAND SEPTEMBER 1959

NBS 490

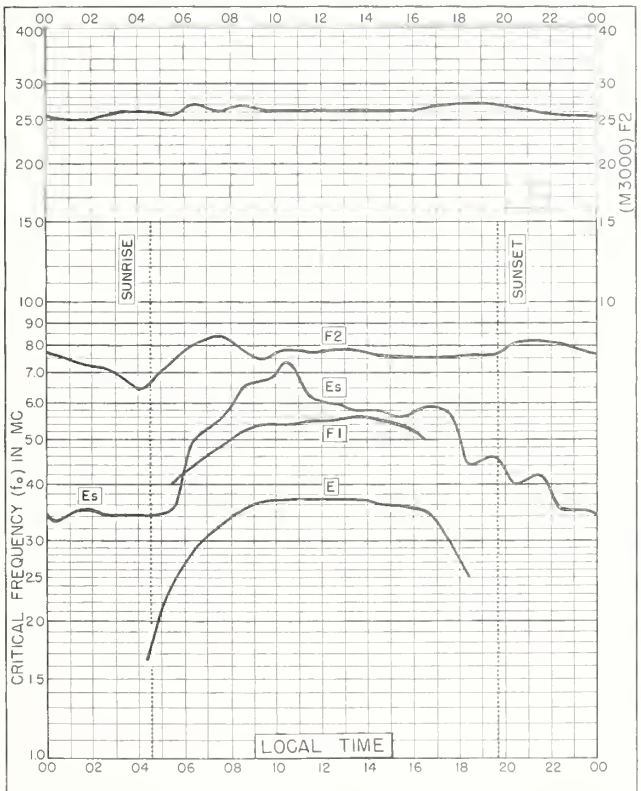


Fig. 114. WAKKANAI, JAPAN
45.4°N, 141.7°E JULY 1959

NBS 503

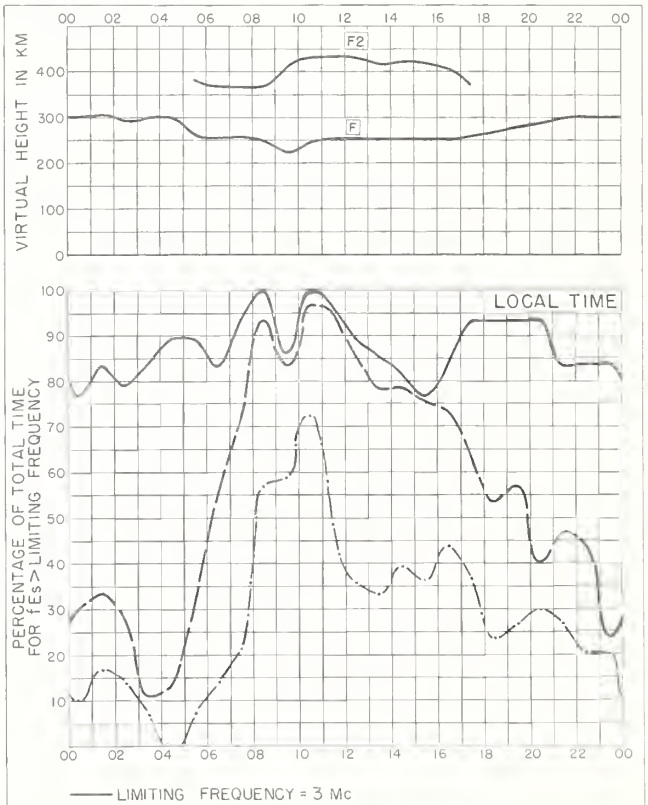


Fig. 115. WAKKANAI, JAPAN JULY 1959

NBS 490

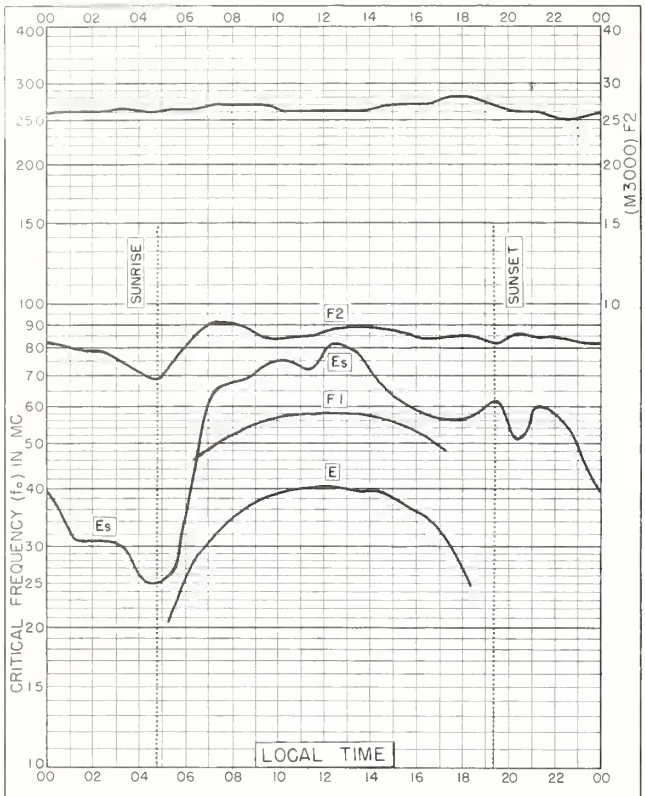


Fig 116. AKITA, JAPAN
39.7°N, 140.1°E JULY 1959

NBS 503

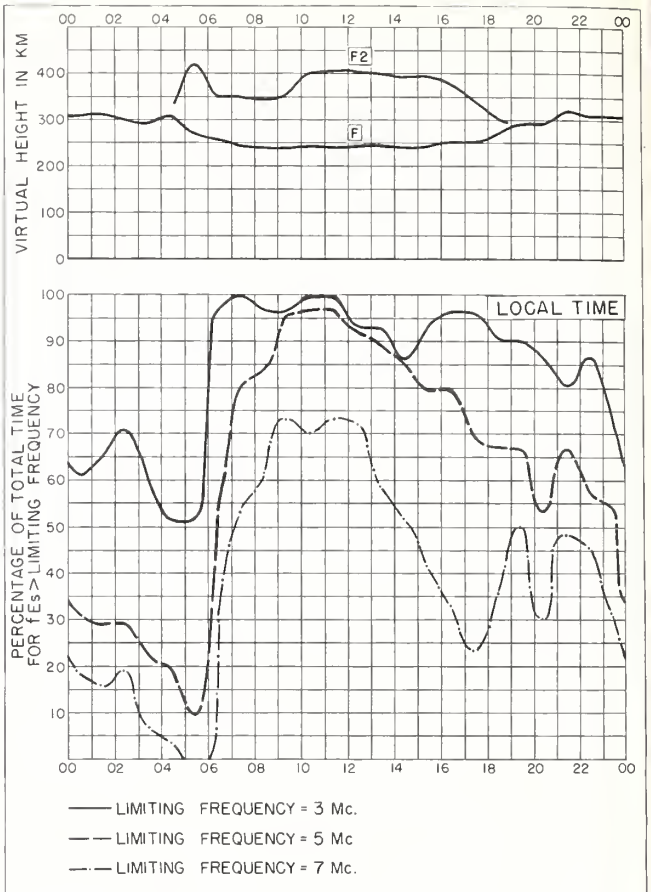


Fig. 117. AKITA, JAPAN JULY 1959

NBS 490

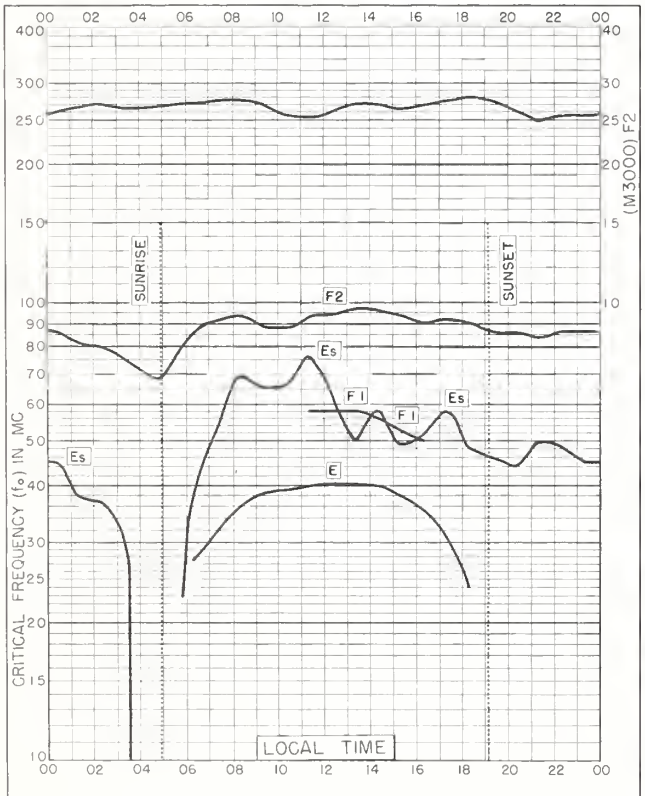


Fig. 118. TOKYO, JAPAN
35.7°N, 139.5°E JULY 1959

NBS 503

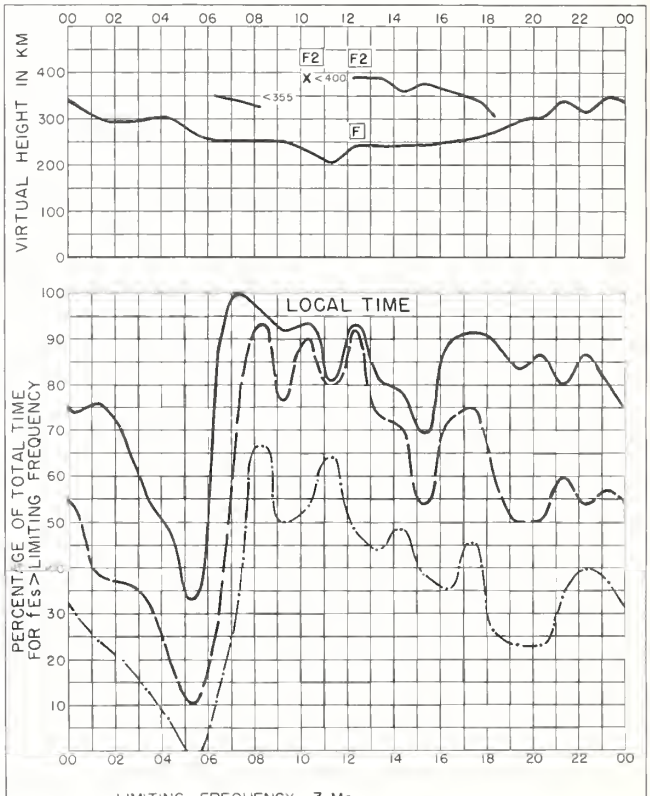


Fig. 119. TOKYO, JAPAN JULY 1959

NBS 490

Fig. 120. YAMAGAWA, JAPAN
31.2°N, 130.6°E JULY 1959

NBS 503

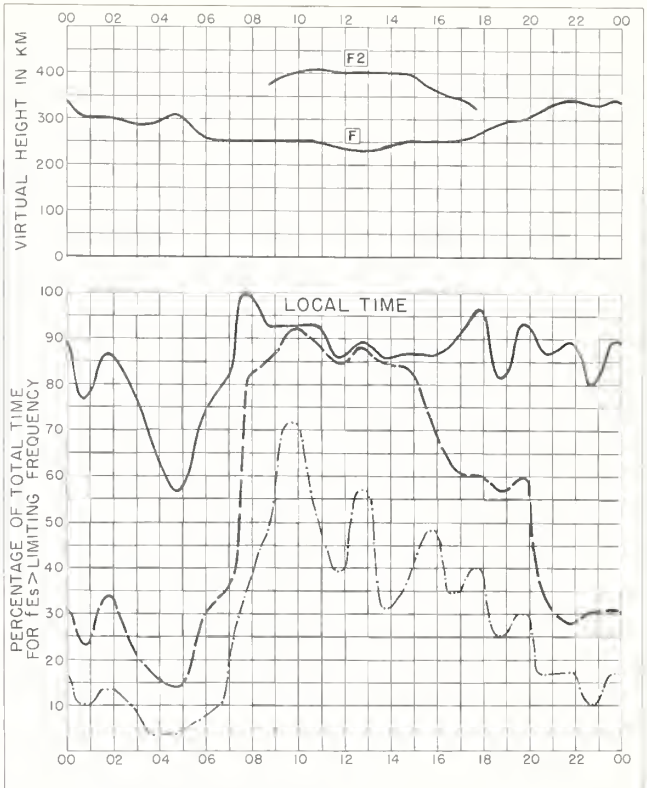


Fig. 121. YAMAGAWA, JAPAN JULY 1959

NBS 490

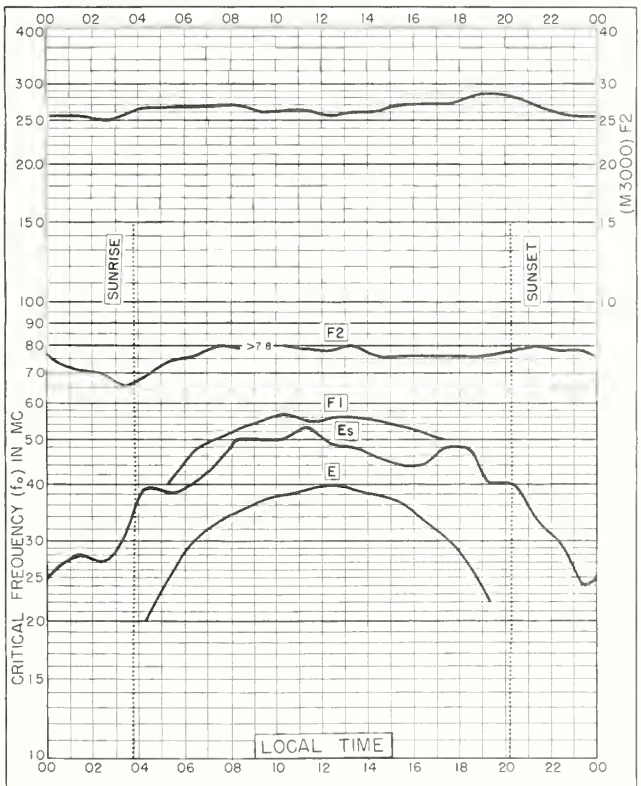


Fig. 122. De BILT, HOLLAND
52.1°N, 5.2°E JUNE 1959

NBS 503

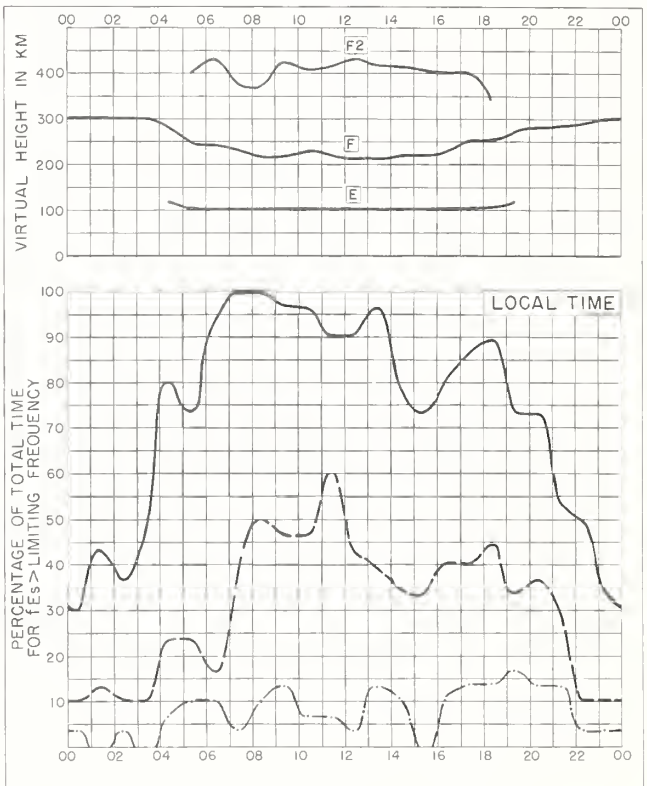


Fig. 123. De BILT, HOLLAND JUNE 1959

NBS 490

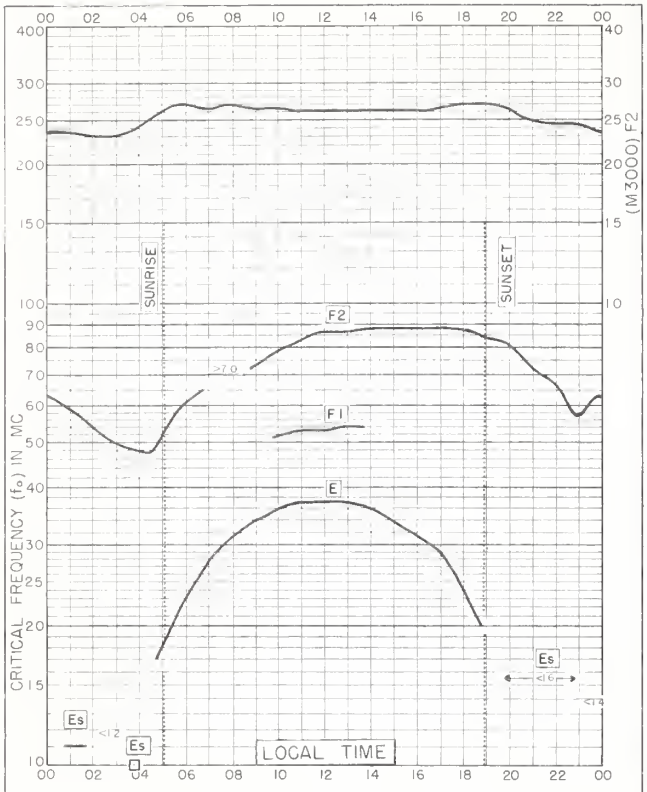


Fig. 124. INVERNESS, SCOTLAND
57.4°N, 4.2°W APRIL 1959

NBS 503

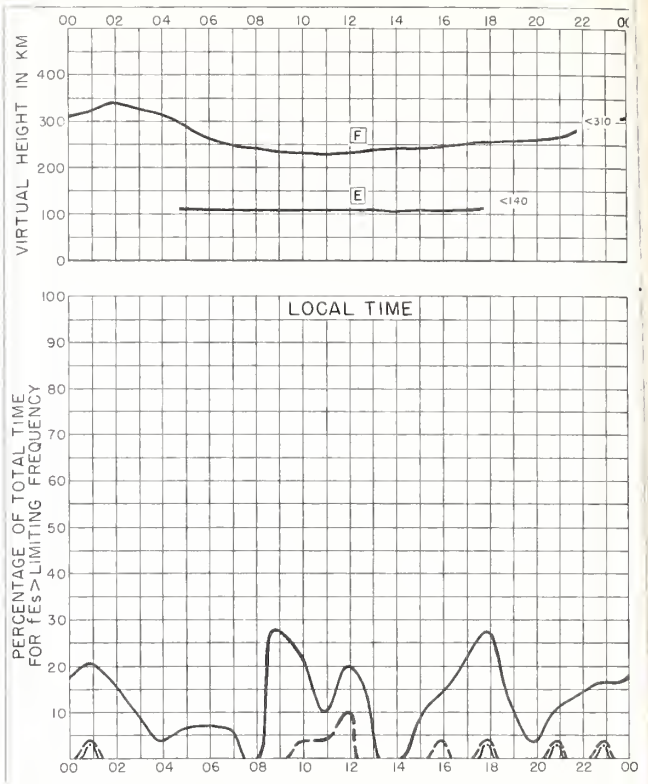


Fig. 125. INVERNESS, SCOTLAND APRIL 1959

NBS 490

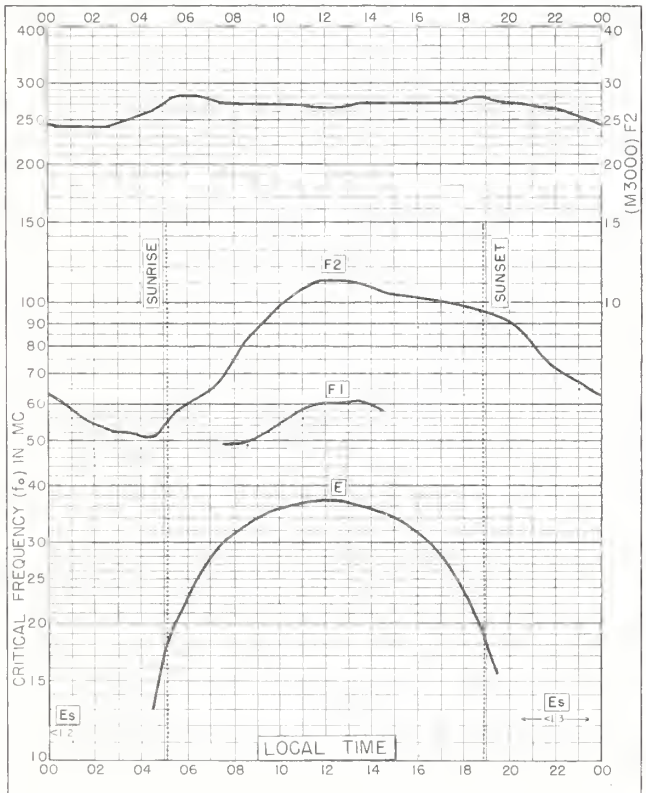


Fig. 126. MOSCOW, U.S.S.R.
55.5°N, 37.3°E APRIL 1959

NBS 503

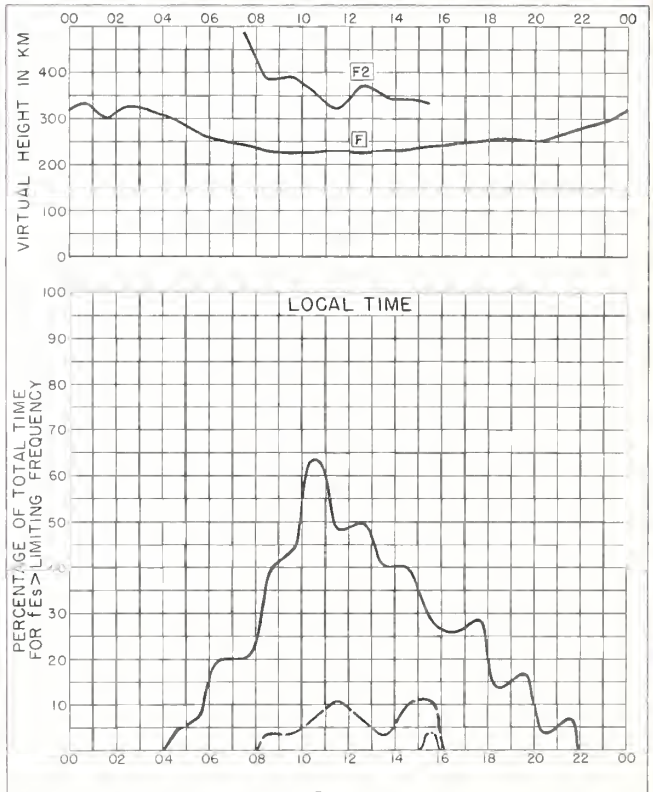


Fig. 127. MOSCOW, U.S.S.R. APRIL 1959

NBS 490

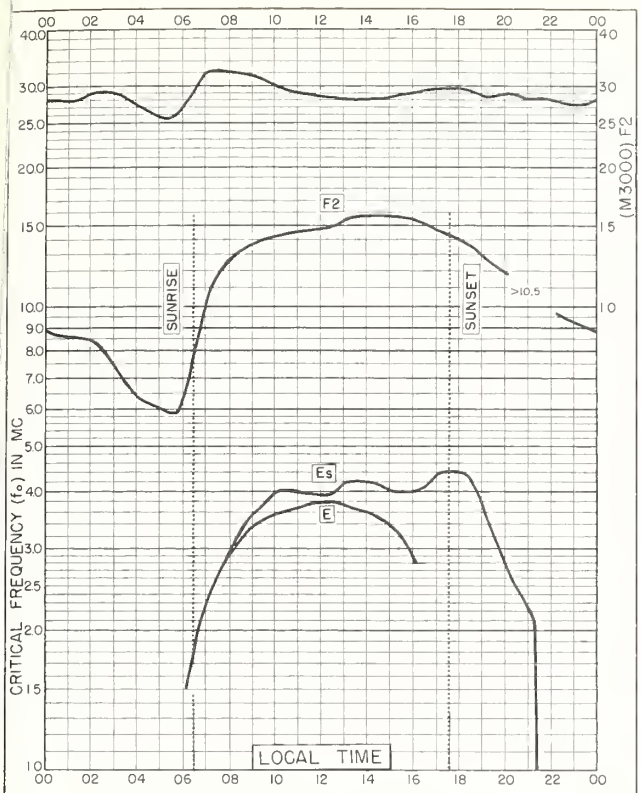


Fig. 128. CONCEPCION, CHILE
36.6°S, 73.0°W APRIL 1959

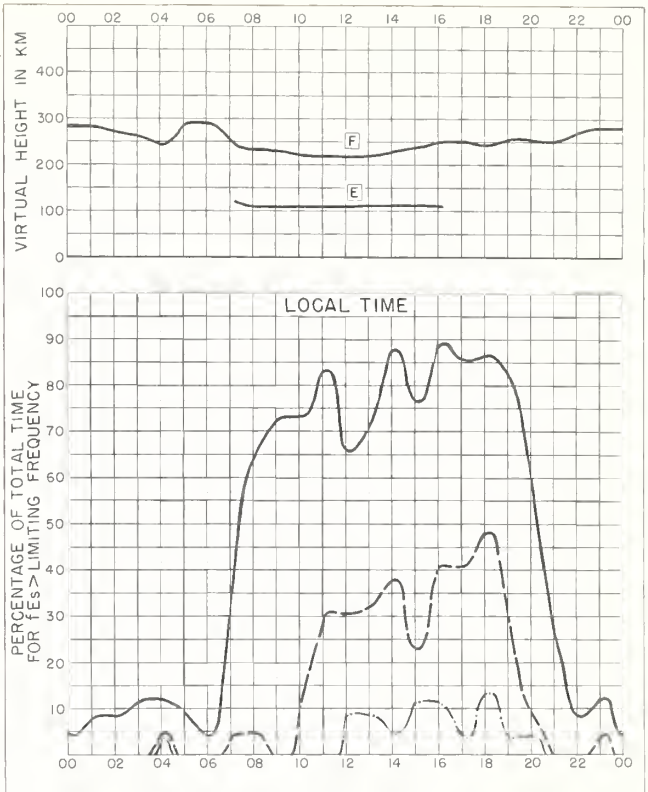


Fig. 129. CONCEPCION, CHILE APRIL 1959

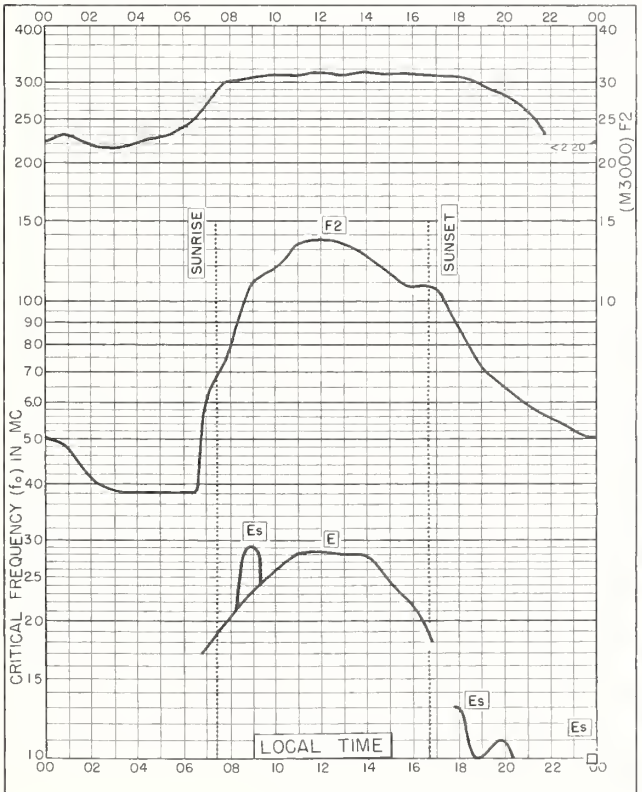


Fig. 130. PORT LOCKROY
64.8°S, 63.5°W APRIL 1959

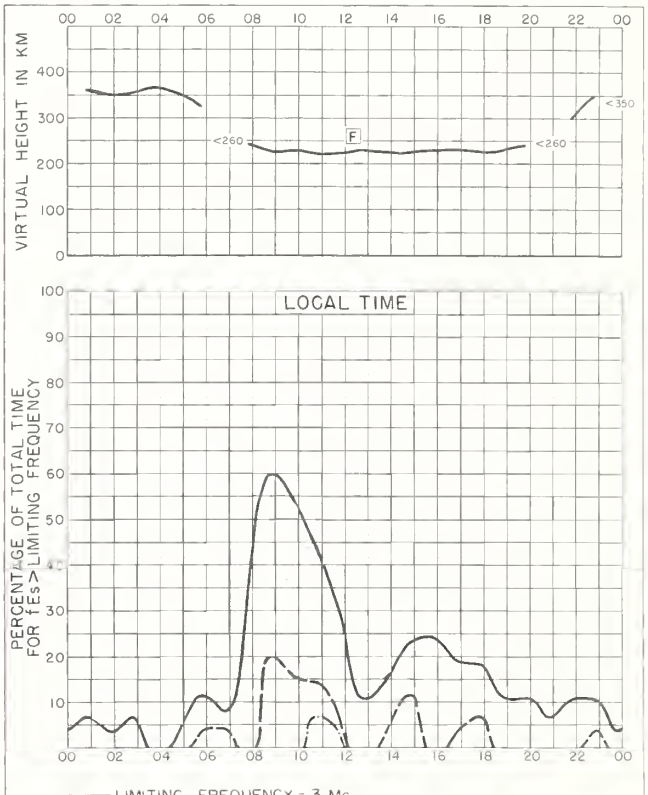


Fig. 131. PORT LOCKROY APRIL 1959

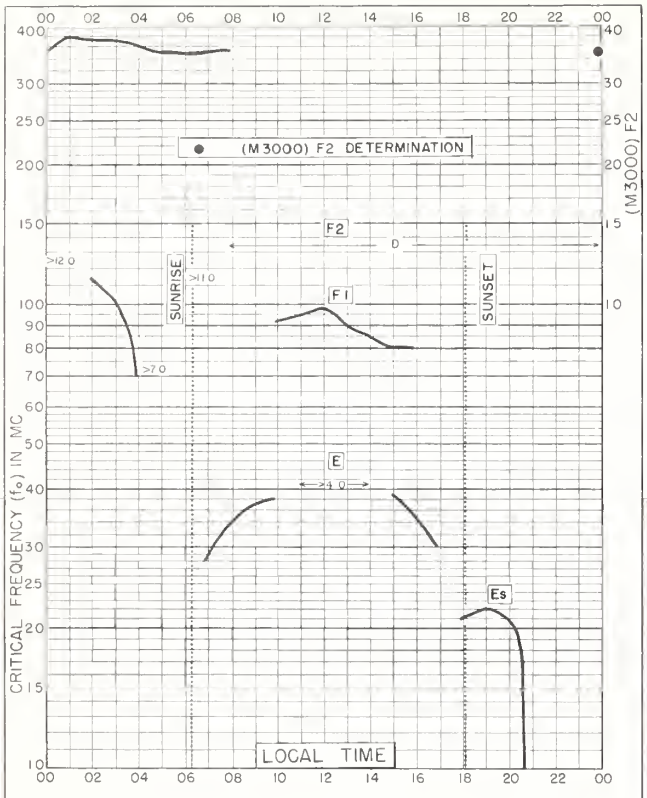


Fig. 132. CALCUTTA, INDIA
23.0°N, 88.6°E MARCH 1959

NBS 503

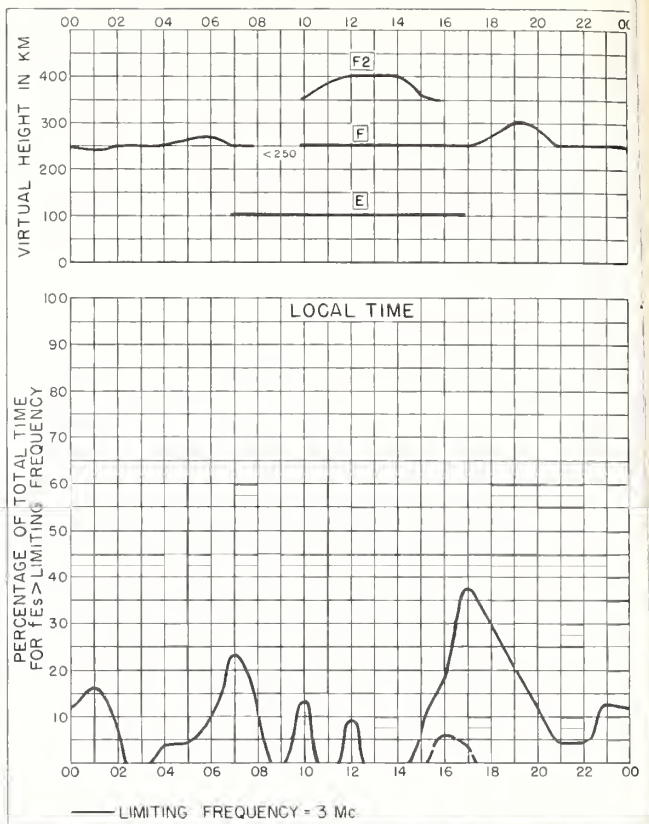


Fig. 133. CALCUTTA, INDIA MARCH 1959

NBS 490

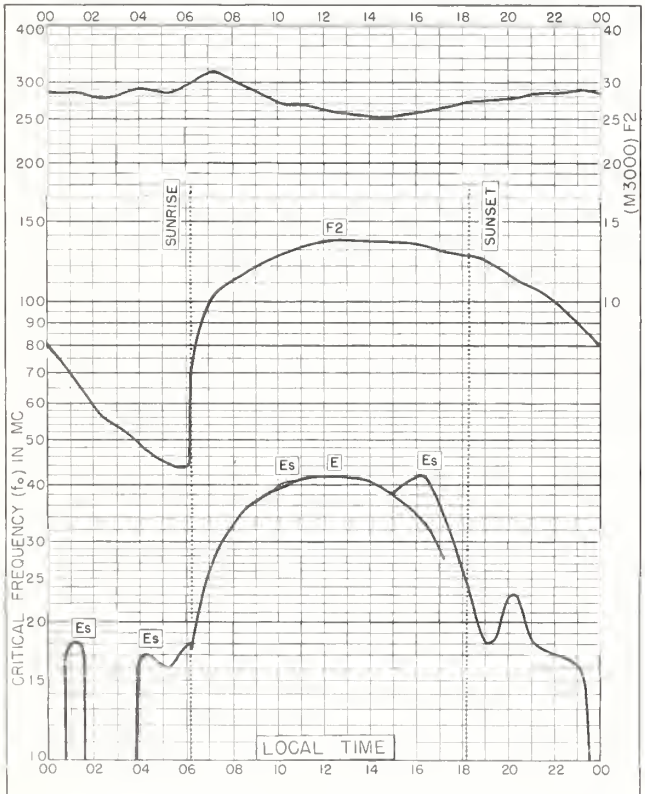
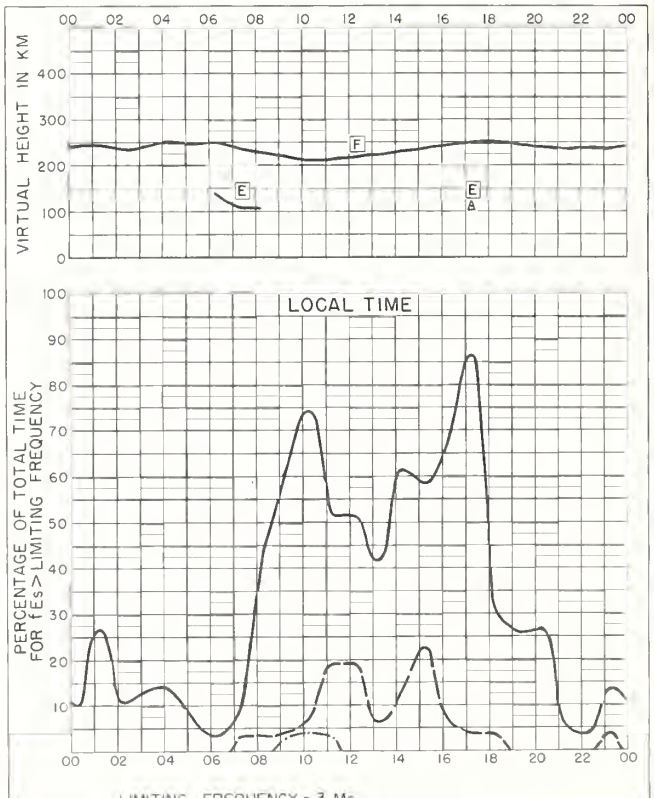


Fig. 134. TSUMEB, SOUTH W. AFRICA
19.2°S, 17.7°E MARCH 1959

NBS 503



MARCH 1959

Fig. 135. TSUMEB, SOUTH W. AFRICA

NBS 490

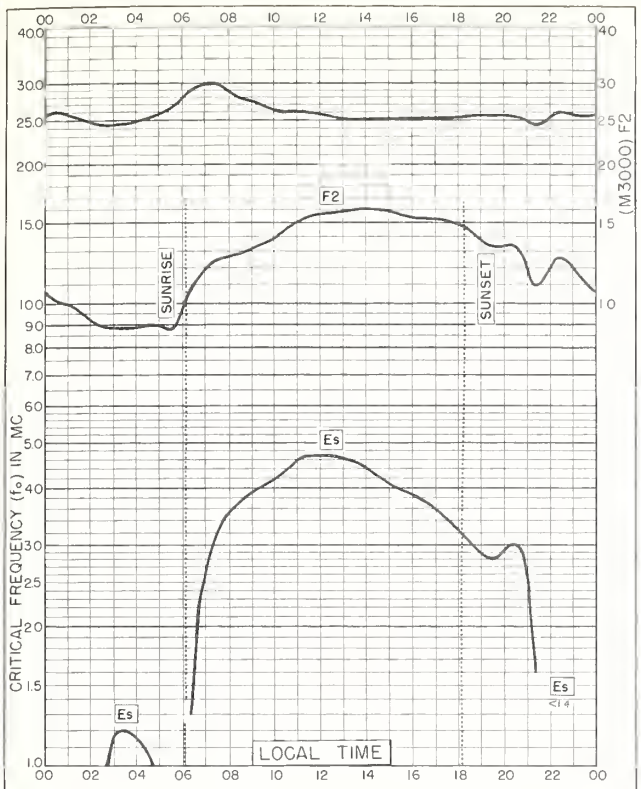


Fig. 136. RAROTONGA I.
21.2°S, 159.8°W MARCH 1959

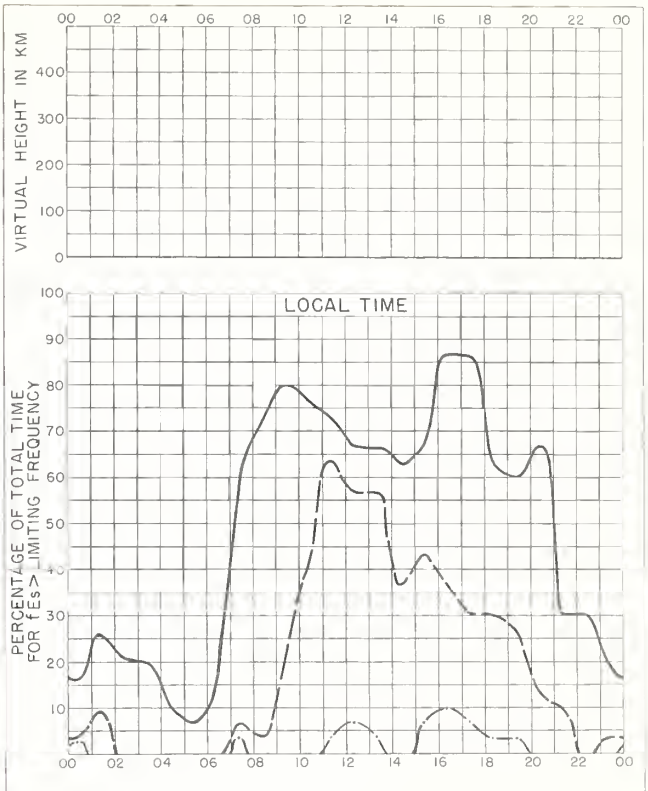


Fig. 137. RAROTONGA I. MARCH 1959

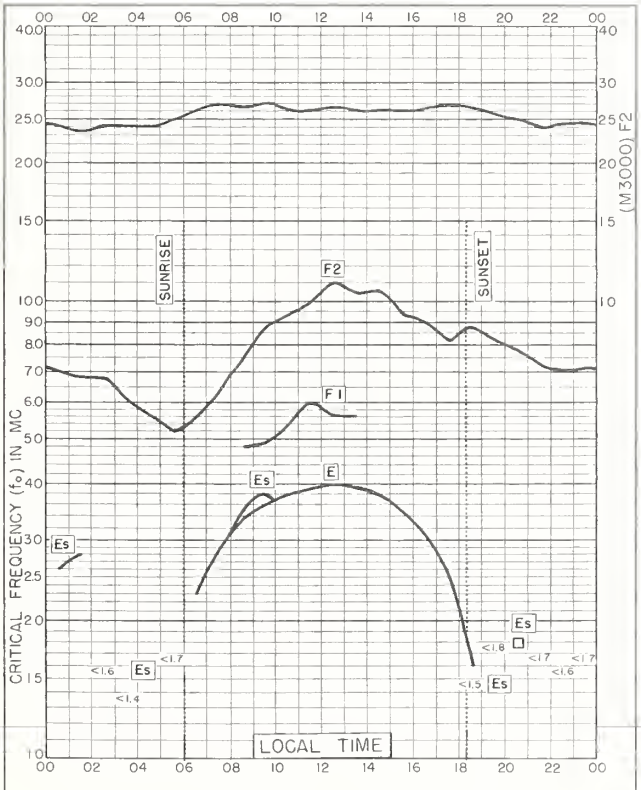


Fig. 138. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E MARCH 1959

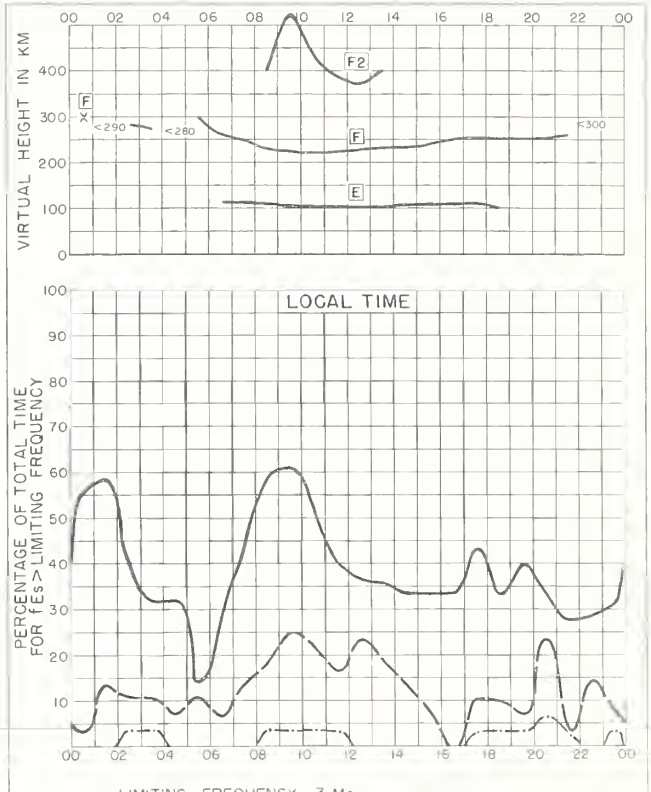


Fig. 139. CHRISTCHURCH, NEW ZEALAND MARCH 1959

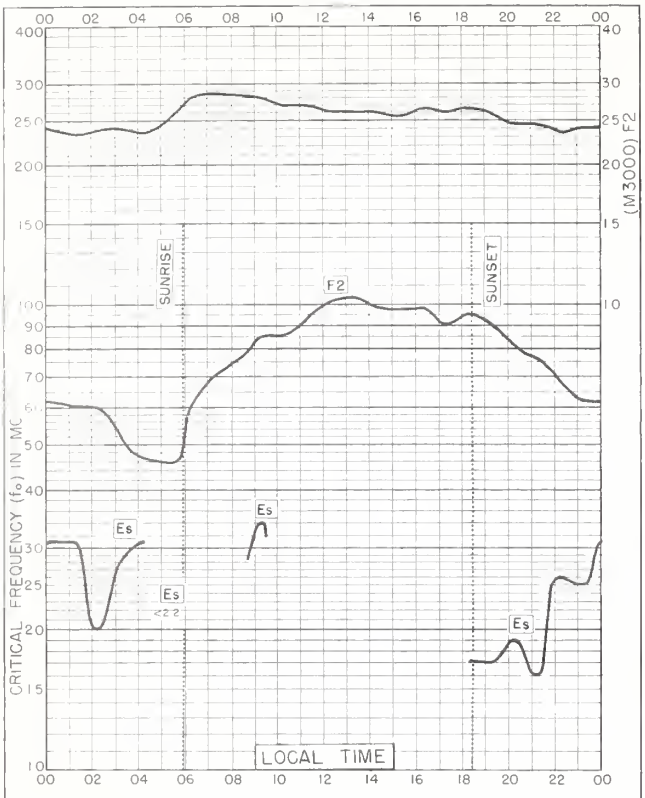


Fig. 140. CAMPBELL I.
52.5°S, 169.2°E MARCH 1959

NBS 503

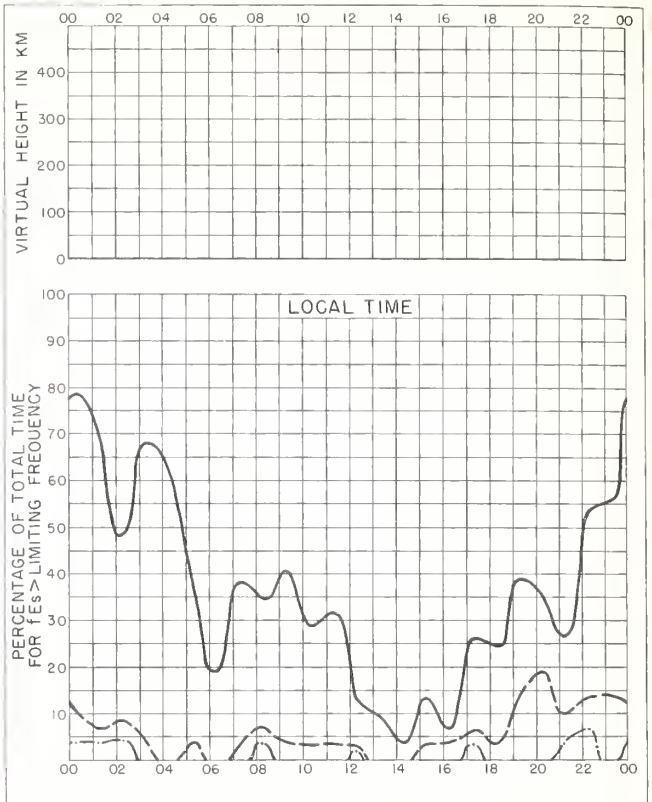


Fig. 141. CAMPBELL I. MARCH 1959

NBS 490

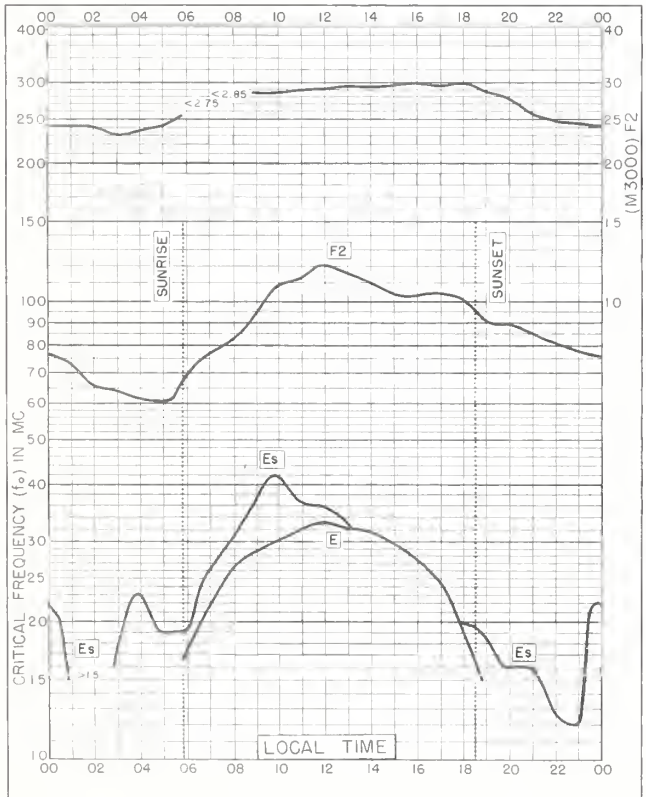


Fig. 142. PORT LOCKROY
64.8°S, 63.5°W MARCH 1959

NBS 503

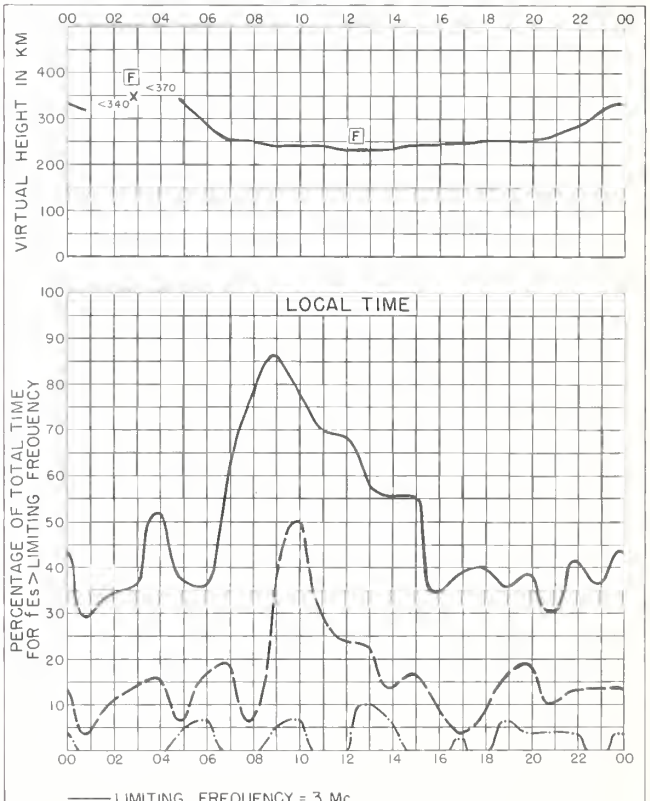


Fig. 143. PORT LOCKROY MARCH 1959

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Index of Tables and Graphs of Ionospheric Data in CRPL-F207 (Part A)

Index (CRPL-F207 (Part A), continued)

Index (CRPL-F207 (Part A), concluded)

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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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NBS Circular 582. Worldwide Occurrence of Sporadic *E*. $3.25.

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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