PART A

IONOSPHERIC DATA

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

CRPL-F 208
PART A

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
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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	59							

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 66 and figures 1 to 132 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
Buenos Aires, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
Brisbane, Australia
Hobart, Tasmania
Townsville, Australia

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

Universidad Mayor de San Andres:
La Paz, Bolivia

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

British Department of Scientific and Industrial Research, Radio Research Board:
Ibadan, Nigeria (University College of Ibadan)
Singapore, British Malaya
Slough, England

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

Universidad de Concepcion:
Concepcion, Chile

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

Czechoslovak Academy of Sciences:
Pruhonice, Czechoslovakia

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

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

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

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

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

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:
Christchurch, New Zealand

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

Telecommunication Administration, Oslo, Norway:
Svalbard, Norway

Manila Observatory:
Baguio, P. I.

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

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

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

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

United States Army Signal Corps:
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Byrd Station, Antarctica
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
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 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	A3	A3	A1	A1	A1	1	B1	1	1	A1	A1	A1
HMIN	259	244	212	220		229		115	108			
SCAT	39.5	31.2	36.7	30.9		45.6		59.9	55.0			
HMAXF	360	322	288	286		314		308	291			
SHMAX	369	360	297	250		114		360	550			
KM												
370	666											
360	666											
350	655											
340	620											
330	569	846										
320	499	845				192						
310	408	816				192		334				
300	282	739				187		332	567			
290	176	634	621	607		177		324	567			
280	93.7	469	614	602		165		315	561			
270	43.5	232	585	566		148		298	546			
260	12.4	99.8	533	503		124		280	522			
250		33.3	450	406		93.2		261	487			
240			346	261		55.6		241	448			
230			193	98.0		12.4		222	405			
220			68.3	12.4				204	359			
210								190	313			
200								174	270			
190								150	234			
180								117	205			
170								85.5	176			
160								72.0	144			
150								67.2	120			
140								64.5	109			
130								62.9	103			
120								32.8	100			
110									62.1			

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 1 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A1	A1	A2	A2	A2	A3	A3	A3	5	5	5	6
HMIN									228	249	259	300
SCAT									47.1	54.0	46.4	50.6
HMAXF									322	353	361	399
SHMAX									471	490	415	385
KM												
400												591
390												586
380												571
370											651	543
360										714	651	504
350										713	642	449
340										704	618	379
330									782	682	578	294
320									782	647	526	196
310									770	602	462	94.9
300									741	538	388	12.4
290									694	455	299	
280									628	359	179	
270									538	251	69.1	
260									426	109	12.4	
250									272	12.4		
240									103			
230									20.6			

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 2 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	6	A6	A6	A6	A6	4	B4	A4	A4	A4	A4	A4
HMIN	276	270	216	279	257	329		108				
SCAT	43.3	41.8	35.6	42.3	45.6	51.1		37.5				
HMAXF	370	348	286	372	369	448		258				
SHMAX	354	366	243	208	256	247		312				
KM												
450						342						
440						340						
430						331						
420						316						
410						294						
400						268						
390						237						
380					366	199						
370	621				366	383	157					
360	614				359	380	112					
350	590	714			340	367	73.8					
340	550	707			314	344	41.8					
330	489	681			274	316	12.4					
320	405	634			224	280						
310	309	567			160	238						
300	191	454			95.6	192						
290	86.4	288	567		49.0	144						
280	27.8	127	563		12.4	94.3						
270		12.4	539			53.3						
260			497			19.3		471				
250			410					466				
240			267					445				
230			100					406				
220			29.4					353				
210								279				
200								206				
190								160				
180								134				
170								116				
160								101				
150								87.7				
140								76.1				
130								67.0				
120								62.6				
110								28.9				

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 2 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	A4	A4	A3	A3	3	3	3	A3	3	3	A3	4
HMIN				109	108	109	108		252	229	229	279
SCAT				68.1	47.0	55.1	48.3		50.7	39.8	49.2	49.9
HMAXF				306	286	304	296		364	322	334	385
SHMAX				784	535	522	449		429	316	251	227
KM												
390												337
380												336
370									621			329
360									620			316
350									609			295
340									586		392	269
330									548	577	392	237
320									504	577	384	197
310					740		494		442	565	369	150
300					739		493	524	370	533	346	93.3
290					731	564	485	522	290	486	314	44.9
280					714	562	469	510	208	417	268	12.4
270					690	548	445	484	114	335	212	
260					665	521	413	451	49.1	235	143	
250					615	481	374	407		138	83.1	
240					544	426	333	356		63.0	42.2	
230					454	367	295	295		12.4	12.4	
220					371	314	263	238				
210					315	274	237	197				
200					281	249	220	170				
190					264	234	206	150				
180					254	223	190	131				
170					242	215	172	113				
160					222	204	152	94.2				
150					196	187	135	79.6				
140					168	166	120	71.8				
130					151	144	107	67.9				
120					144	131	99.7	65.8				
110					33.0	38.1	39.4	30.1				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	F4	A4	A4	A4	A4	A3	A3	A3	A3	A3	A3	A3
HMIN	299	270	291	259	259	227				105		
SCAT	35.1	47.8	39.6	45.8	33.4	56.0				62.4		
HMAXF	388	363	362	373	335	324				246		
SHMAX	223	296	204	242	161	267				309		
KM												
390	426											
380	421			349								
370	400	465	430	349								
360	360	465	430	342								
350	315	457	420	325								
340	260	439	398	303	349							
330	193	409	361	276	348	411						
320	114	375	309	245	332	410						
310	52.5	334	199	210	301	404						
300	12.4	281	61.6	171	259	392						
290		205		132	199	372						
280		95.4		83.7	120	347						
270		12.4		41.8	55.5	305						
260				12.4	12.4	245						
250						153				300		
240						69.5				300		
230						23.7				295		
220										287		
210										272		
200										260		
190										247		
180										235		
170										223		
160										212		
150										199		
140										180		
130										157		
120										140		
110										61.0		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A3	A3	3	3	3	A4	A4	A4	5	A5	A5	F4
HMIN			108	108	107				208	239	248	279
SCAT			74.7	66.9	69.5				53.0	46.6	51.2	55.2
HMAXF			311	308	320				315	349	354	390
SHMAX			679	628	624				422	305	323	366
KM												
390												517
380												513
370												500
360											491	479
350										463	491	449
340										458	482	413
330				471						443	465	367
320			531		471				613	416	436	303
310			531	515	469				612	382	400	208
300			529	513	461				601	338	347	115
290			521	505	449				579	285	282	53.5
280			509	492	430				546	226	205	12.4
270			492	474	409				502	163	112	
260			474	451	384				444	92.0	54.6	
250			441	418	358				373	44.0	17.2	
240			402	380	333				286	12.4		
230			363	344	310				179			
220			327	311	290				80.6			
210			301	284	274				20.5			
200			282	267	261							
190			269	255	249							
180			261	246	237							
170			253	237	223							
160			244	227	206							
150			224	204	182							
140			196	172	155							
130			175	153	135							
120			164	145	126							
110			53.6	54.3	52.0							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A4	A4	A4	A4	A4	A3	A3	A3	A3	A3	A3	A3
HMIN	259	264	220	219	264	230						
SCAT	47.9	51.0	44.9	51.8	48.4	66.6						
HMAXF	368	367	323	337	350	356						
SHMAX	308	356	316	302	274	303						
KM												
370	471	539										
360	468	537			471	368						
350	455	525			471	367						
340	430	502		422	466	362						
330	397	468	529	420	451	353						
320	352	427	528	411	425	338						
310	298	375	518	392	390	322						
300	237	306	492	368	339	300						
290	158	203	456	335	260	268						
280	92.6	103	401	294	129	227						
270	44.9	35.1	333	248	38.1	180						
260	12.4		248	199		130						
250			154	141		82.1						
240			80.8	82.3		40.3						
230			40.2	41.8		3.9						
220			3.1	12.4								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A3	B3	3	A3	A3	A2	2	B2	1	1	A1	A2
HMIN			108				107	109	200	198	233	254
SCAT			41.8				40.7	42.6	63.6	52.2	44.4	39.3
HMAXF			313				291	277	342	329	344	338
SHMAX			1577				833	672	598	401	295	214
KM												
350									645		471	
340									645		470	411
330									639	559	460	406
320			2155						625	555	437	388
310			2152						603	541	402	358
300			2104				1298		570	515	357	312
290			1993				1298		536	481	298	249
280			1820				1275	1070	499	433	233	172
270			1576				1213	1063	456	372	161	80.9
260			1274				1112	1028	407	304	99.1	32.9
250			965				962	932	353	229	56.4	
240			711				756	869	298	157	25.6	
230			535				556	748	236	101		
220			423				375	594	169	63.1		
210			356				248	420	96.4	36.7		
200			319				190	260	12.4	12.4		
190			297				160	163				
180			283				141	104				
170			276				123	75.1				
160			265				107	58.7				
150			243				93.3	49.0				
140			224				82.8	43.1				
130			177				73.9	40.1				
120			160				69.3	37.9				
110			81.6				43.2	12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	2	2	2	3	S3	3	A3	A3	A3	A2
HMIN	230	239	218	285	280	269		104				107
SCAT	61.2	38.5	56.0	41.5	48.6	43.4		30.1				64.4
HMAXF	344	320	334	369	371	352		228				310
SHMAX KM	272	179	179	122	144	151		197				903
380					232							
370				222	232							
360				219	229	271						
350	371			211	221	271						
340	371		236	195	207	266						
330	366	351	236	173	189	253						
320	357	351	232	143	163	234						819
310	342	345	225	109	132	205						819
300	325	325	214	68.8	94.3	165						814
290	294	296	200	28.1	44.9	115						799
280	250	252	179		3.1	59.7						774
270	198	195	155			12.4						735
260	136	122	129									693
250	78.5	55.9	103									640
240	38.6	12.4	76.2									575
230	3.9		46.6					403				495
220			16.8					395				423
210								368				363
200								300				322
190								189				296
180								135				279
170								101				268
160								71.5				261
150								62.7				248
140								58.9				231
130								56.5				182
120								55.1				158
110								48.8				43.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 5 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A1
HMIN									199			268
SCAT									43.8			39.8
HMAXF									300			360
SHMAX KM									392			177
360												319
350												314
340												299
330												274
320												242
310												198
300									675			150
290									667			91.7
280									642			45.1
270									598			16.5
260									538			
250									457			
240									336			
230									206			
220									110			
210									51.8			
200									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F1	F1	1	1	1	2	B2	2	2	A2	A2	B2
HMIN	279	249	220	199	210	198		107	107			106
SCAT	37.3	51.0	35.1	36.1	40.0	45.5		39.3	34.0			67.6
HMAXF	365	353	297	280	283	292		254	257			320
SHMAX KM	172	263	190	146	104	80		247	412			1070
370	325											
360	323	392										
350	311	392										
340	287	385										
330	252	372										
320	211	347										936
310	161	322										931
300	101	290	411			130						916
290	53.2	246	407		206	130						891
280	12.4	180	387	297	205	128						856
270		101	351	292	200	123						808
260		51.3	301	275	188	114		342	594			751
250		12.4	226	246	170	103		341	587			680
240			112	207	144	87.3		331	556			603
230			44.1	151	108	69.1		311	499			523
220			3.1	88.0	55.5	50.3		278	423			446
210				45.4	1.7	32.8		238	339			384
200				12.4		12.4		200	275			344
190								166	236			317
180								139	211			298
170								115	189			285
160								94.3	167			271
150								77.5	144			255
140								66.1	123			239
130								60.3	103			205
120								58.0	95.8			169
110								43.2	46.3			75.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 6 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	2	A2	2	A2	2	2	2	B2	0	0	0	1
HMIN	107		107		104	104	103		200	200	250	269
SCAT	65.6		53.6		54.6	52.6	45.5		38.7	48.1	42.1	37.1
HMAXF	331		328		322	321	302		276	313	338	354
SHMAX KM	1129		1184		1165	1141	961		427	323	219	170
360												317
350												316
340	941										380	306
330	941		1157		1298	1353					376	283
320	933		1150		1298	1353				450	362	255
310	915		1123		1283	1340	1353			450	336	217
300	887		1079		1246	1301	1353			441	303	169
290	843		1008		1188	1236	1332			424	257	116
280	794		918		1110	1150	1277		827	394	203	62.4
270	738		820		989	1029	1186		822	361	139	12.4
260	677		721		839	871	1071		793	319	76.2	
250	612		623		683	707	919		732	274	12.4	
240	546		525		541	546	698		655	225		
230	482		440		423	406	497		549	176		
220	423		374		343	305	358		413	130		
210	375		338		301	251	264		228	86.4		
200	341		320		277	224	247		19.7	12.4		
190	318		303		260	208	176					
180	303		287		240	195	150					
170	292		271		216	181	128					
160	280		256		191	166	109					
150	261		239		167	144	92.7					
140	230		212		141	121	80.7					
130	202		190		120	105	72.7					
120	171		164		112	100	69.2					
110	56.6		124		104	67.0	43.9					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A1	A1	A0	A0	0	A1	C1	A1	A2	A2	A2	1
HMIN	279	280	229	239	200	228				110	103	105
SCAT	41.3	40.4	52.0	31.6	47.1	36.6				50.5	57.4	48.4
HMAXF	371	358	327	301	279	313				246	270	301
SHMAX	174	178	255	134	114	79				397	537	697
KM												
380	311											
370	311											
360	306	340										
350	292	337										
340	269	324										
330	237	301	292									
320	192	263	390			149						
310	137	213	381	335		149						651
300	83.8	154	365	335		145						651
290	43.9	90.5	342	325		134						642
280	12.4	12.4	311	297	196	120					507	619
270			270	254	194	100					507	581
260			212	174	188	77.1					503	531
250			125	71.2	176	54.9				471	492	475
240			55.0	12.4	162	33.5				470	470	422
230			12.4		142	12.4				459	445	377
220					112					440	412	344
210					71.2					411	375	322
200					12.4					373	340	308
190										330	314	297
180										286	296	286
170										254	282	274
160										229	267	258
150										206	247	229
140										172	222	188
130										142	190	162
120										130	163	152
110										12.4	76.3	94.5

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	1	1	A2	2	A2	2	A2	B2	A1	1	1	2
HMIN	109	110		104		108			199	199	249	259
SCAT	69.1	47.6		41.1		53.6			42.9	50.8	39.0	45.2
HMAXF	345	325		305		311			307	318	345	353
SHMAX	1149	1120		1029		1031			573	442	292	265
KM												
360												446
350	894										529	446
340	893										527	437
330	884	1184									510	417
320	865	1181				1121				616	474	386
310	837	1154		1360		1120			941	612	423	343
300	797	1101		1355		1108			934	596	354	286
290	752	1020		1317		1076			902	566	277	214
280	703	925		1239		1022			842	529	192	138
270	650	805		1118		953			763	480	109	57.4
260	592	678		952		865			661	420	49.7	12.4
250	532	561		753		767			541	351	12.4	
240	476	462		551		663			399	277		
230	425	387		387		557			252	204		
220	381	339		309		454			142	126		
210	346	311		281		364			62.3	60.7		
200	322	295		267		294			12.4	12.4		
190	304	284		257		251						
180	291	278		249		225						
170	281	273		244		206						
160	274	262		239		188						
150	260	247		230		168						
140	234	221		204		146						
130	199	198		173		125						
120	180	184		154		116						
110	27.2	12.4		67.2		43.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	2	2	4	4	4	4	A4	A4	3	3	3	2
HMIN	275	259	239	260	288	249			108	107	109	107
SCAT	49.6	42.4	37.0	41.4	37.2	36.2			39.1	61.9	50.4	59.7
HMAXF	364	344	331	339	387	333			275	322	311	323
SHMAX	262	209	177	147	136	132			635	1007	1088	1297
KM												
390					238							
380					236							
370	430				224							
360	429				207							
350	422	374			185							
340	405	374	331	271	155	259				898		1229
330	381	365	331	268	121	259				898	1131	1228
320	344	345	324	258	88.4	251				890	1131	1214
310	293	315	303	240	58.8	233				871	1116	1183
300	230	276	274	211	34.0	204				840	1080	1135
290	139	222	233	174	12.4	167			898	795	1016	1070
280	38.7	160	184	130		126			895	742	940	988
270		78.0	134	82.1		82.5			867	682	851	891
260		12.4	85.4	12.4		42.6			807	621	755	785
250			45.8			12.4			721	558	656	680
240			12.4						607	497	561	581
230									482	438	475	490
220									364	385	402	416
210									293	341	349	367
200									250	307	317	336
190									218	279	295	316
180									190	254	279	300
170									163	227	261	280
160									144	202	235	261
150									125	175	199	237
140									107	148	164	210
130									100	139	151	174
120									65.3	106	39.4	97.7
110												

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	5	5	5	B1	1	B1	2	2	2	B2
HMIN	110	108	109	109	107	106	107		190	218	289	227
SCAT	51.7	46.9	53.7	48.2	50.2	51.3	50.2		63.6	66.5	44.0	57.1
HMAXF	331	310	328	345	327	322	308		306	375	385	374
SHMAX	1392	1377	1296	1304	1406	1383	1123		828	400	245	316
KM												
390											411	
380										426	409	392
370										425	398	392
360										421	377	386
350				1298						411	345	374
340	1457			1295						397	304	357
330	1457		1240	1269	1620	1704				377	250	334
320	1439	1561	1234	1214	1612	1703				354	184	302
310	1395	1561	1207	1129	1573	1681	1464		1031	324	112	263
300	1317	1542	1159	1027	1502	1626	1455		1029	290	49.3	219
290	1224	1487	1086	912	1400	1538	1417		1016	252	12.4	175
280	1101	1394	1001	793	1260	1420	1347		989	215		134
270	958	1272	907	681	1096	1252	1255		950	180		99.1
260	811	1121	808	580	913	1051	1129		897	144		70.2
250	673	955	707	495	729	831	975		833	105		47.5
240	554	795	615	427	567	619	783		753	67.7		29.6
230	460	661	533	374	438	450	590		656	37.7		12.4
220	398	556	463	336	350	341	428		533	12.4		
210	359	474	407	311	302	285	297		378			
200	336	412	368	296	275	251	221		151			
190	317	366	339	285	259	227	177		12.4			
180	298	334	318	279	248	206	150					
170	279	313	301	273	232	184	129					
160	265	295	283	263	214	163	110					
150	250	276	260	250	196	145	94.5					
140	226	235	227	224	179	121	82.5					
130	186	208	198	182	161	108	75.3					
120	146	175	180	164	138	103	71.5					
110	12.4	54.3	39.4	33.3	114	55.3	41.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	2	2	1	A1	A1	A0	A0	A0	A1	A1	1	1
HMIN	269	289	269	227	225	225				107	108	107
SCAT	33.3	47.7	48.0	46.7	45.5	39.4				47.4	59.7	77.4
HMAXF	355	383	368	325	322	291				275	292	317
SHMAX	183	220	230	228	187	137				573	736	997
KM												
390		358										
380		357										
370		351	354									
360	374	336	352									
350	372	314	342									
340	354	283	323									
330	319	239	298	374	307							782
320	269	188	266	373	307							781
310	213	126	227	364	302							773
300	145	62.4	182	347	290	293					678	758
290	85.9	12.4	126	320	270	293					678	737
280	44.0		60.4	285	244	288				616	672	709
270	12.4		12.4	233	210	273				614	656	674
260				173	164	249				600	630	633
250				104	107	207				573	597	584
240				54.6	55.8	142				533	550	533
230				20.6	24.6	42.1				478	497	481
220										420	444	438
210										368	397	386
200										329	359	353
190										300	331	330
180										277	309	311
170										255	291	293
160										232	272	273
150										208	251	252
140										180	218	218
130										153	184	187
120										134	163	163
110										89.6	94.8	90.3

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	H1	1	0	0	0	0	0	B0	A2	A2	A2	3
HMIN	104	107	109	108	107	107	108		200	210	229	248
SCAT	74.9	57.0	58.6	55.6	52.8	46.5	45.7		58.3	46.8	43.9	49.4
HMAXF	345	337	340	339	331	330	317		303	300	343	371
SHMAX	1200	1355	1440	1427	1338	1203	1177		785	482	273	260
KM												
380												373
370												373
360												368
350	932		1347								416	356
340	931	1240	1347	1411	1411	1424					416	336
330	922	1235	1337	1401	1411	1424					408	309
320	906	1212	1307	1369	1396	1407	1635				385	272
310	880	1170	1258	1314	1357	1356	1624		1075	819	358	228
300	847	1106	1188	1236	1291	1269	1576		1074	819	321	183
290	803	1028	1098	1137	1201	1158	1485		1062	809	275	138
280	696	930	993	1019	1088	1017	1362		1033	780	227	95.0
270	636	829	875	887	956	865	1191		989	732	176	59.5
260	576	727	752	759	818	697	964		929	665	127	34.0
250	520	627	644	641	690	557	734		855	566	80.8	12.4
240	469	538	548	534	567	448	524		762	445	42.2	
230	427	467	469	448	461	363	361		634	265	12.4	
220	392	416	408	385	385	307	267		466	97.1		
210	366	380	372	345	337	271	215		239	12.4		
200	346	354	346	323	305	247	185		12.4			
190	332	336	327	306	283	230	163					
180	320	320	309	289	263	211	143					
170	307	304	291	268	243	189	125					
160	292	286	272	246	223	165	107					
150	274	267	251	219	201	141	91.3					
140	248	247	230	189	173	123	81.5					
130	213	209	207	170	152	113	75.6					
120	183	185	175	160	143	109	72.2					
110	74.6	153	41.7	49.0	52.2	47.0	33.8					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O*KP	A3	53	3	3	3	2	A2	A2	A4	A4	A4	A2
HMIN	259	268	276	269	269	244						
SCAT	47.3	51.6	37.0	38.7	45.8	46.2						
HMAXF	374	385	357	355	366	346						
SHMAX	243	297	172	169	189	211						
KM												
390		403										
380	371	402										
370	370	395				311						
360	363	380	334	311	310							
350	346	357	331	310	302	334						
340	323	329	316	300	286	332						
330	286	297	288	278	267	324						
320	239	257	252	250	230	306						
310	191	214	206	214	185	284						
300	144	168	153	168	139	248						
290	96.8	117	83.9	113	83.3	208						
280	59.5	58.8	27.8	58.2	42.2	166						
270	33.0	16.8		12.4	12.4	122						
260	5.4					67.5						
250						29.3						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O*KP	B2	2	B2	2	2	2	2	B2	4	A4	4	4
HMIN	102	106	107	109	108	109	110		215	278	299	289
SCAT	98.4	51.9	63.4	59.3	45.3	56.5	44.5		49.5	53.0	51.2	46.9
HMAXF	367	324	340	337	299	305	277		340	382	419	400
SHMAX	1438	1150	1313	1213	864	868	549		377	333	319	307
KM												
420											448	
410											444	
400											432	471
390										471	410	466
380										471	382	450
370	928									466	344	422
360	927									452	298	386
350	921		1184						517	428	244	340
340	911		1184						517	398	185	283
330	896	1131	1176	1229					511	358	128	215
320	876	1129	1154	1224					495	310	82.0	141
310	854	1110	1117	1204		980			467	254	41.8	81.5
300	826	1070	1065	1165	1031	979			432	195	12.4	42.3
290	788	1005	998	1113	1022	963			390	126		12.4
280	738	927	906	1037	988	933	775		340	28.0		
270	683	834	802	934	929	887	770		284			
260	627	729	688	808	845	826	745		225			
250	569	615	580	672	734	732	702		163			
240	515	515	488	529	614	606	637		106			
230	466	436	423	424	479	486	551		58.4			
220	427	380	380	361	384	385	430		25.0			
210	395	348	351	326	330	309	320					
200	371	331	332	308	297	264	238					
190	350	320	317	295	276	236	187					
180	332	312	304	280	257	213	154					
170	316	299	288	260	239	187	129					
160	299	283	268	232	218	160	106					
150	279	260	240	199	192	141	88.9					
140	251	225	207	170	161	126	79.4					
130	224	195	176	153	143	114	74.4					
120	200	182	160	145	136	108	71.8					
110	176	165	130	41.7	39.4	27.2	12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	4	4	3	3	3	3	B3	B3	A5	A5	5	3
HMIN	289	281	250	239	264	262			105		107	109
SCAT	54.0	52.3	47.3	51.0	52.3	45.6			63.6		108	82.0
HMAXF	408	394	357	341	374	348			324		304	319
SHMAX	355	346	343	317	303	233			536		582	698
KM												
410	489											
400	487	491										
390	474	491										
380	457	483			442							
370	428	467			441							
360	394	443	541		434							
350	349	406	538	494	418	409						
340	296	360	524	494	394	406						
330	233	306	497	488	362	393			416			
320	157	246	458	473	316	373			416			471
310	89.3	180	403	449	261	339			411		381	470
300	44.4	105	336	415	201	290			401		381	465
290	12.4	45.4	259	357	132	223			383		380	456
280			169	293	69.2	139			364		377	444
270			90.6	217	30.0	57.8			342		372	426
260			42.5	128					318		366	408
250			1.7	55.6					294		350	388
240				12.4					271		340	367
230									250		333	345
220									234		325	328
210									222		321	314
200									212		316	303
190									203		311	295
180									192		298	290
170									180		282	284
160									166		262	275
150									149		234	257
140									120		189	232
130									106		172	199
120									100		165	180
110									51.5		135	41.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	3	B3	4	4	4	4	A4	A4	A2	2	2	2
HMIN	104		110	107	106	107			232	231	259	259
SCAT	54.4		83.8	63.7	57.2	58.4			55.1	55.2	40.5	50.7
HMAXF	311		356	318	320	312			357	368	363	361
SHMAX	747		1260	1030	889	845			534	480	354	358
KM												
370										621	588	541
360			941						714	618	588	541
350			940						711	605	574	535
340			933						696	581	543	518
330			919		819				670	547	493	489
320	621		898	941	819	923			632	504	436	452
310	621		871	937	813	923			583	450	366	399
300	615		836	923	794	914			520	387	285	332
290	598		797	896	763	891			443	315	207	255
280	571		747	858	717	855			360	240	129	172
270	533		687	803	661	806			266	168	60.1	87.9
260	488		620	742	594	725			174	105	12.4	12.4
250	439		542	662	522	611			90.1	59.9		
240	387		469	580	451	482			36.9	30.4		
230	364		407	497	393	380						
220	340		362	426	351	309						
210	323		337	374	321	269						
200	313		325	340	301	244						
190	307		317	318	285	226						
180	301		306	301	266	208						
170	293		274	280	244	190						
160	281		246	251	220	171						
150	262		217	235	201	149						
140	226		187	213	183	128						
130	189		176	183	165	116						
120	174		132	166	153	109						
110	77.4		12.4	56.1	75.2	43.2						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	2	2	2	2	2	0	B0	A0	A1	A1	A1	2
HMIN	249	264	281	279	269	229		138		106		107
SCAT	48.2	45.5	50.8	50.9	58.1	39.1		28.9		64.4		70.7
HMAXF	352	363	375	377	378	325		250		307		321
SHMAX	283	256	259	252	299	231		318		1056		1307
KM												
380			405	392	407							
370		411	404	390	405							
360	444	410	396	381	397							
350	444	402	380	365	384							
340	437	385	357	342	364							
330	421	359	324	307	337	430						1131
320	394	318	276	258	301	428						1131
310	359	272	219	200	256	413				1017		1124
300	311	219	156	131	206	385				1014		1106
290	251	158	75.9	63.8	142	340				999		1077
280	179	87.2		12.4	72.2	281				971		1037
270	106	32.9			12.4	208				931		983
260	48.4					125				882		921
250	12.4					70.8		594		809		847
240						36.4		576		721		765
230						4.7		523		626		675
220								435		533		583
210								327		455		497
200								229		394		421
190								175		348		373
180								138		312		341
170								108		281		320
160								83.5		243		303
150								71.3		219		286
140								65.4		192		265
130								62.1		158		212
120								60.5		141		177
110								30.1		95.9		147

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	2	52	2	2	3	3	A3	2	2	2	1
HMIN	106	109	108	110	108	109	109		220	200	208	268
SCAT	66.3	57.4	58.1	58.5	56.5	51.8	68.9		35.6	36.5	73.3	50.6
HMAXF	344	339	342	333	322	320	344		292	272	384	388
SHMAX	1350	1292	1426	1475	1246	1056	1130		522	312	401	243
KM												
390											389	342
380											388	339
370											385	330
360											378	314
350	1121		1335				1075				368	291
340	1120	1184	1334	1491			1074				353	264
330	1109	1177	1321	1490	1298		1064				337	229
320	1085	1153	1287	1471	1298	1131	1043				314	188
310	1049	1110	1231	1431	1285	1120	1010				287	143
300	1001	1047	1158	1369	1251	1089	963		1184		254	100
290	938	971	1065	1284	1197	1036	910		1184		221	63.3
280	862	875	956	1173	1128	961	845		1153	669	190	35.8
270	781	776	832	1032	1024	874	764		1070	669	161	12.4
260	697	676	710	881	902	775	673		947	652	133	
250	615	578	601	727	771	663	575		721	610	106	
240	541	493	512	587	635	553	478		412	541	81.0	
230	480	431	445	473	510	453	385		125	434	57.2	
220	433	388	397	403	417	375	303		12.4	296	34.0	
210	399	362	364	359	356	322	246			131	12.4	
200	376	345	341	333	319	287	204			12.4		
190	359	336	326	316	296	260	173					
180	339	328	312	301	278	236	146					
170	311	312	295	285	260	212	123					
160	268	279	275	263	238	189	103					
150	223	232	247	232	210	165	89.7					
140	205	213	217	203	183	142	81.0					
130	195	203	197	181	161	127	75.6					
120	189	187	187	166	151	120	72.5					
110	102	25.9	49.0	12.4	41.8	39.4	25.1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	1	1	0	0	0	0	B0	0	A0	A0	A0	A0
HMIN	294	267	219	209	237	259		107				110
SCAT	49.4	51.7	30.5	39.7	62.7	48.3		45.4				79.8
HMAXF	408	374	297	291	366	350		287				320
SHMAX	241	284	206	156	184	132		365				882
KM												
410	358											
400	355											
390	346											
380	329	420										
370	305	419			224							
360	271	412			223	215						
350	229	397			220	215						
340	183	375			214	213						
330	132	341			205	206						651
320	84.0	294			194	195						651
310	47.0	242			178	178						648
300	22.3	187	465	296	158	151						640
290		121	459	296	134	121		442				628
280		58.0	428	290	108	84.0		439				610
270		19.9	374	275	83.2	44.9		427				587
260			302	250	56.5	12.4		402				558
250			210	216	34.1			369				525
240			117	173	15.6			324				489
230			56.5	108				275				450
220			12.4	47.8				232				415
210				12.4				198				384
200								171				360
190								146				341
180								123				325
170								101				309
160								79.0				292
150								68.3				272
140								62.9				245
130								59.6				202
120								57.8				182
110								39.4				12.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A0	0	0	0	A0	A0	A0	A0	A0	0	0	0
HMIN		109	105	109	106	109			204	239	249	259
SCAT		63.5	62.7	75.7	65.5	53.6			51.2	55.7	49.6	49.3
HMAXF		336	337	346	351	332			321	368	368	373
SHMAX		1041	1222	1344	1262	1074			562	519	443	372
KM												
380												562
370										675	648	561
360					1065					672	643	551
350			1075	1065						658	626	530
340		858	1031	1073	1057	1105				634	596	498
330		856	1028	1063	1037	1105			782	598	552	452
320		843	1012	1043	1004	1092			782	552	494	390
310		821	982	1014	955	1060			773	493	421	317
300		787	940	981	901	1005			749	424	334	234
290		743	882	928	837	939			709	347	250	151
280		687	817	870	761	850			657	269	166	87.1
270		611	742	804	676	753			591	192	89.5	42.5
260		541	660	723	588	645			514	112	43.6	12.4
250		478	578	637	507	542			431	54.5	12.4	
240		424	502	551	443	451			340	12.4		
230		383	439	472	392	373			237			
220		354	393	410	356	322			112			
210		337	360	366	330	287			38.1			
200		324	339	336	311	262						
190		314	325	313	295	244						
180		308	316	296	277	226						
170		302	306	279	256	202						
160		296	292	263	226	177						
150		273	272	245	190	155						
140		234	246	221	169	138						
130		204	216	194	157	127						
120		159	195	176	151	121						
110		22.5	162	59.7	72.1	41.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	0	0	1	1	1	1	S1	1	A3	A3	A3	A4
HMIN	269	250	231	221	209	220		108				
SCAT	48.4	43.3	37.3	49.6	42.5	38.9		34.2				
HMAXF	365	336	327	330	305	315		273				
SHMAX	333	313	261	287	230	189		372				
KM												
370	539											
360	537											
350	526											
340	503	562										
330	468	559	478	430								
320	420	542	473	426		335						
310	355	509	449	413	390	334						
300	272	463	414	390	389	322						
290	168	394	365	361	377	298						
280	69.8	305	305	322	357	267		607				
270	12.4	194	233	277	322	225		606				
260		85.5	144	219	276	177		585				
250		12.4	76.9	140	223	125		539				
240			37.1	73.2	168	78.5		462				
230				35.5	103	40.0		360				
220					52.2	3.1		270				
210					12.4			211				
200								168				
190								133				
180								103				
170								75.9				
160								65.4				
150								60.7				
140								57.8				
130								56.0				
120								54.7				
110								39.6				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A4	4	3	A3	A3	A1	A1	A1	A1	A1	A1	A1
HMIN		107	108				108		220	200	236	272
SCAT		62.4	62.0				61.1		36.6	60.2	45.4	46.5
HMAXF		341	351				355		289	346	363	384
SHMAX		1698	1658				1409		651	699	470	471
KM												
390												747
380												746
370											730	730
360			1477				1424				729	697
350		1561	1477				1421			782	715	647
340		1561	1466				1402			780	680	579
330		1549	1435				1363			769	633	492
320		1516	1385				1305			746	565	377
310		1464	1315				1229			709	478	248
300		1388	1228				1133			667	374	147
290		1299	1128				1019		1491	617	265	82.2
280		1189	1014				888		1470	557	176	36.2
270		1060	889				754		1394	493	111	
260		929	770				626		1261	424	68.5	
250		800	658				514		1022	351	41.0	
240		678	558				415		584	285	18.1	
230		571	484				335		205	225		
220		478	430				279		12.4	169		
210		413	390				237			107		
200		372	358				204			12.4		
190		346	334				178					
180		328	315				154					
170		316	300				132					
160		302	287				113					
150		280	266				96.6					
140		248	233				84.0					
130		218	205				75.1					
120		200	189				70.1					
110		91.4	65.3				38.6					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	F1	A1	A4	4	4	2	B2	2	2	A2	S2	A2
HMIN	273	256	221	229	259	261		108	109	108	108	108
SCAT	46.2	47.5	39.7	49.0	51.2	41.8		39.2	43.2	46.9	66.1	72.0
HMAXF	391	365	313	326	371	361		247	250	268	306	349
SHMAX	403	433	345	291	229	218		418	450	530	876	1285
KM												
400	621											
390	621											
380	612				335							
370	589	669			335	371						
360	550	667			331	371						
350	498	651			321	365						985
340	433	621			305	348						981
330	356	575		471	281	320						967
320	266	519	633	470	249	283						944
310	168	446	632	459	207	235					747	912
300	95.9	354	616	439	162	182					746	867
290	53.9	248	578	411	115	126					737	818
280	25.4	132	524	363	72.8	72.0					719	763
270		65.2	449	301	40.4	34.9				630	693	702
260		24.1	350	227	12.4					625	657	637
250			245	137				734	621	607	616	577
240			119	59.4				728	613	571	568	518
230			46.4	12.4				701	589	526	519	466
220								652	547	467	473	424
210								562	490	407	430	390
200								437	418	353	393	363
190								272	340	301	362	340
180								171	276	256	334	321
170								128	227	208	311	301
160								101	188	176	285	272
150								83.1	151	156	258	232
140								72.0	126	143	228	200
130								67.0	116	135	190	180
120								60.9	98.9	130	162	169
110								27.3	24.1	43.7	43.7	81.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A2	A2	A1	A1	A1	A2	A2	S2	A3	3	A3	2
HMIN									208	202	240	251
SCAT									39.1	59.8	49.0	36.4
HMAXF									307	349	363	353
SHMAX									660	769	525	378
KM												
370											772	
360											771	701
350										898	758	699
340										894	730	675
330										876	685	619
320										847	625	545
310									1173	803	547	457
300									1164	750	448	361
290									1118	683	346	260
280									1032	608	239	165
270									918	526	145	79.2
260									778	445	80.3	38.7
250									610	359	39.7	
240									424	266	3.9	
230									223	174		
220									86.9	91.8		
210									20.5	36.9		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	2	2	A1	1	A1	A0	S0	0	0	0	0	1
HMIN	259	248	245	222	213	210		110	109	107	108	109
SCAT	43.7	45.6	49.1	35.1	37.8	39.6		34.5	30.5	52.3	70.1	73.3
HMAXF	358	362	349	315	307	296		257	243	268	307	344
SHMAX	404	404	420	304	295	252		422	460	578	877	1331
KM												
370		621										
360	675	621										
350	669	611	651									1031
340	646	586	645									1030
330	604	545	627									1021
320	547	492	593	607								1003
310	471	425	548	605	562						720	975
300	376	345	483	581	557	494					718	934
290	272	262	404	533	533	490					709	889
280	156	182	314	461	490	473					693	834
270	69.0	103	200	373	426	440				613	664	772
260	12.4	52.0	100	255	347	387		758		610	636	702
250		17.2	32.9	144	250	307		749	782	595	603	633
240				74.7	133	205		736	780	566	568	566
230				34.9	65.9	102		638	745	532	529	505
220					31.8	42.2		527	668	490	490	454
210						3.1		377	550	447	449	416
200								251	427	406	409	388
190								179	341	368	371	366
180								134	278	330	337	345
170								103	227	290	306	323
160								84.0	188	251	275	300
150								74.9	153	213	248	272
140								69.7	125	163	206	233
130								66.7	112	137	172	189
120								60.8	106	128	160	167
110								12.4	33.0	109	55.6	39.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	1	1	1	1	1	A1	A1	A1	A1	1	1	1
HMIN	107	107	107	107	106				200	199	238	279
SCAT	67.9	58.3	50.7	58.0	59.2				42.7	61.9	42.9	45.4
HMAXF	337	350	332	350	357				277	341	366	386
SHMAX	1471	1589	1508	1582	1575				576	566	362	335
KM												
390												531
380												529
370											541	516
360					1491						539	487
350		1398		1424	1485					651	523	450
340	1240	1388	1561	1414	1458					651	492	394
330	1236	1358	1561	1383	1411					646	448	328
320	1220	1307	1540	1331	1338					633	395	256
310	1190	1235	1490	1254	1251					611	337	185
300	1146	1147	1404	1165	1133					577	275	111
290	1088	1051	1297	1065	1006					542	213	49.7
280	1019	947	1167	957	877				1075	496	155	12.4
270	938	836	1017	846	744				1068	444	103	
260	853	728	869	741	625				1033	384	62.7	
250	765	632	732	647	526				967	324	35.7	
240	672	547	612	561	448				873	260	12.4	
230	584	481	513	492	392				736	188		
220	505	430	440	438	353				557	117		
210	444	397	391	397	323				302	61.5		
200	398	373	360	366	301				12.4	12.4		
190	366	357	338	341	283							
180	343	343	319	318	265							
170	325	327	302	295	241							
160	306	308	283	269	208							
150	286	283	263	239	183							
140	254	245	235	211	163							
130	207	217	208	188	152							
120	185	207	189	175	145							
110	97.7	97.7	61.4	71.6	72.1							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	1	1	1	A1	1	2	S2	2	1	1	1	1
HMIN	275	260	230	220	254	240		113	105	107	110	105
SCAT	47.6	32.3	51.5	52.1	41.8	40.2		38.7	42.4	85.3	48.2	59.0
HMAXF	372	326	330	332	340	325		260	267	308	278	310
SHMAX	342	245	302	321	205	185		339	593	848	761	1099
KM												
380	556											
370	556											
360	548											
350	528				371							
340	497		465	467	371							
330	446	556	465	467	366	342						
320	378	551	460	461	349	340						
310	299	521	447	446	322	329				669		1027
300	211	465	426	422	284	307				667		1020
290	111	390	395	390	231	277				661		998
280	32.8	285	349	346	173	235				651	894	962
270		152	290	291	97.3	183		529	850	635	887	907
260		12.4	217	226	35.3	121		529	844	615	861	845
250			132	150		51.3		520	816	589	816	773
240			56.3	84.5		3.1		491	762	562	752	689
230			.4	42.3				448	685	532	649	599
220				3.1				383	575	502	518	516
210								301	432	471	410	448
200								220	317	439	363	399
190								164	254	403	336	365
180								130	217	366	315	341
170								109	183	284	295	321
160								94.1	151	237	275	299
150								79.0	127	195	258	275
140								67.1	114	161	215	248
130								63.1	106	141	172	210
120								49.1	101	126	153	185
110									87.2	44.5	12.4	133

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	1	1	2	2	A2	1	1	S1	1	A1	1	0
HMIN	107	108	106	108		109	108		200	227	230	249
SCAT	58.1	62.5	63.5	62.4		51.3	51.2		55.9	41.8	54.7	43.8
HMAXF	317	324	347	341		318	312		337	331	360	366
SHMAX	1127	1260	1449	1433		1276	1257		795	523	449	331
KM												
370											583	517
360											583	515
350			1229	1281							578	501
340			1225	1281					1031	882	563	473
330		1131	1206	1271					1027	882	535	432
320	1031	1130	1172	1244		1484	1635		1007	868	502	380
310	1028	1117	1120	1202		1476	1634		970	828	462	320
300	1010	1090	1059	1139		1441	1612		917	763	410	251
290	978	1049	980	1068		1377	1558		846	676	351	178
280	926	992	886	988		1284	1471		758	575	286	116
270	865	923	787	892		1164	1358		660	451	217	71.0
260	793	842	691	787		1022	1196		551	305	146	39.2
250	714	753	608	685		860	1007		417	172	84.5	12.4
240	633	657	538	590		691	774		276	77.7	42.2	
230	557	571	484	504		545	558		156	24.0	3.1	
220	488	493	441	434		425	392		80.8			
210	433	431	407	383		343	283		40.2			
200	396	387	379	348		292	220		3.1			
190	369	356	354	323		258	182					
180	349	335	332	307		234	155					
170	328	317	311	292		210	134					
160	302	297	288	266		186	117					
150	269	273	262	231		165	104					
140	217	242	227	201		139	92.4					
130	193	215	198	179		122	82.2					
120	181	200	181	166		114	76.5					
110	90.3	81.6	98.0	80.8		33.1	38.1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	0	0	1	1	1	2	S2	2	2	2	2	2
HMIN	262	259	240	219	257	270		108	108	108	107	109
SCAT	37.0	41.4	36.7	53.2	40.3	46.0		42.9	40.5	61.1	87.7	68.7
HMAXF	363	367	311	321	352	363		279	254	289	326	334
SHMAX	261	304	264	266	182	178		545	585	752	1208	1427
KM												
370	463	505				295						
360	462	501			309	294						
350	449	484			309	289						
340	416	450			302	276						1184
330	374	405		392	287	257					919	1183
320	323	351	567	392	261	230					918	1172
310	266	284	567	388	230	194					912	1148
300	189	202	555	377	193	149					899	1111
290	122	130	522	360	153	97.0				714	881	1056
280	71.1	79.9	467	336	110	48.0		854		710	852	998
270	34.0	41.8	382	301	66.9	3.1		845		696	822	934
260		12.4	261	257	24.0			813	882	673	789	862
250			118	204				757	879	638	750	787
240			12.4	139				671	854	598	708	705
230				67.2				538	807	553	662	617
220				12.4				370	717	507	606	535
210								254	576	461	538	465
200								189	444	417	462	410
190								150	339	375	395	373
180								115	275	332	341	345
170								82.1	231	291	306	323
160								71.0	196	252	277	302
150								66.0	164	217	245	282
140								63.0	142	178	214	259
130								61.2	123	148	185	228
120								59.8	112	138	168	196
110								27.3	38.6	39.4	117	59.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	1	A1	A1	A1	A1	A1	A2	A2	A2	3
HMIN	109	109	110						200	199	218	270
SCAT	53.7	49.2	57.2						42.7	40.2	45.4	45.0
HMAXF	320	327	332						281	313	359	378
SHMAX	1348	1461	1494						673	466	481	380
KM												
380												613
370												608
360											669	587
350											662	550
340			1491								639	501
330		1561	1490								596	432
320	1360	1554	1473							782	547	353
310	1368	1517	1433							781	490	256
300	1313	1448	1371							761	423	161
290	1254	1345	1282						1240	717	348	92.0
280	1169	1219	1180						1240	648	270	42.2
270	1068	1073	1062						1219	566	201	3.1
260	959	912	929						1164	461	142	
250	842	750	787						1076	339	95.5	
240	717	609	656						955	229	59.5	
230	592	502	538						778	150	34.0	
220	488	431	445						537	88.2	12.4	
210	418	386	382						240	44.0		
200	375	360	346						12.4	12.4		
190	348	347	320									
180	330	334	298									
170	317	320	279									
160	302	300	258									
150	281	274	221									
140	255	239	191									
130	210	205	178									
120	191	192	173									
110	41.7	41.7	12.4									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	3	A3	3	A3	3	3	S3	A3	2	A2	2	A1
HMIN	269	279	238	236	254	269		110	108	109	109	
SCAT	42.7	47.9	42.1	43.7	52.1	55.5		25.7	37.8	78.8	69.3	
HMAXF	380	382	335	324	376	384		249	247	298	319	
SHMAX	413	453	393	336	342	408		545	547	784	968	
KM												
390		704				562						
380	651	703			471	561						
370	643	692			470	552						
360	617	666			460	534						
350	571	623			442	507						
340	516	570	681		415	471						
330	450	504	679	594	378	426						
320	375	415	661	592	334	368					782	
310	296	302	623	578	283	298					779	
300	204	170	567	549	224	211				666	767	
290	110	75.4	498	503	163	117				664	747	
280	50.1	12.4	407	445	107	53.6				657	719	
270	12.4		288	364	62.9	12.4				645	681	
260			157	255	29.0					627	640	
250			64.9	113				1360	941	601	595	
240			20.5	29.4				1315	932	575	550	
230								1168	892	542	506	
220								867	822	501	465	
210								482	690	456	427.	
200								251	492	412	392.	
190								168	331	370	360	
180								136	245	331	333	
170								110	203	292	308	
160								90.3	169	254	279	
150								77.1	134	217	243	
140								68.5	115	180	205	
130								62.9	104	152	171	
120								59.9	99.7	140	156	
110								12.4	39.4	33.1	27.2	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	1	S1	S0	A0	A0	A1	A1	S1	A1	1	1	F1
HMIN	108	109	108	108	109				219	200	229	257
SCAT	57.1	52.4	50.4	59.6	47.7				44.0	54.9	46.9	43.7
HMAXF	352	327	318	320	310				317	322	346	350
SHMAX	1444	1506	1384	1341	1132				711	649	460	387
KM												
360	1206											651
350	1206										701	651
340	1193										698	641
330	1162	1561		1353						850	680	615
320	1105	1554	1519	1353	1335				1229	850	643	571
310	1043	1519	1510	1343	1335				1222	839	596	514
300	970	1455	1472	1314	1320				1184	815	535	445
290	890	1365	1399	1265	1275				1111	772	456	357
280	809	1243	1307	1198	1195				1015	723	360	244
270	726	1088	1183	1109	1098				872	663	259	102
260	648	922	1035	1001	970				689	589	156	25.5
250	576	775	880	875	808				473	502	90.4	
240	516	650	727	743	658				243	402	42.2	
230	468	549	590	606	523				84.8	297	12.4	
220	429	470	479	483	414				12.4	186		
210	399	417	404	397	352					83.7		
200	374	380	359	347	313					12.4		
190	356	354	331	316	288							
180	338	336	310	306	267							
170	321	319	291	297	245							
160	301	298	271	255	219							
150	279	277	246	225	191							
140	249	248	203	197	162							
130	226	215	180	176	143							
120	193	195	170	162	134							
110	49.0	64.5	163	115	89.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	F1	F1	F0	F0	F0	2	S2	2	2	A2	A2	A3
HMIN	252	231	218	217	219	207		110	110			
SCAT	44.5	42.2	30.7	45.0	42.6	35.6		38.3	44.4			
HMAXF	355	335	296	306	319	280		244	250			
SHMAX	417	447	287	263	246	141		274	395			
KM												
360	710											
350	708											
340	691	737										
330	656	734										
320	603	714			401							
310	524	669		450	397							
300	416	612	681	448	381							
290	296	544	675	437	354							
280	179	463	636	414	321	309						
270	87.9	364	561	379	282	303						
260	37.2	221	458	337	235	285			515			
250		106	292	283	177	255		463	515			
240		41.1	126	197	104	207		461	508			
230			51.3	88.1	45.1	136		446	488			
220			17.2	25.1	12.4	61.4		417	456			
210						20.7		364	409			
200								284	352			
190								199	300			
180								140	259			
170								108	225			
160								80.4	192			
150								68.1	156			
140								63.7	121			
130								61.2	108			
120								59.4	99.0			
110								12.4	12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A3	A3	A2	A2	2	1	A1	S1	2	2	2	2
HMIN	108	109		110	109	109	108		200	219	242	259
SCAT	71.0	88.2		59.6	63.2	49.5	49.4		43.7	60.4	44.0	43.1
HMAXF	330	369		372	356	328	310		298	368	355	367
SHMAX	1055	1409		1370	1484	1339	1217		457	540	400	344
KM												
380				1131								
370		963		1131						648		549
360		960		1120	1360					645	627	545
350		951		1093	1356					633	625	528
340		937		1051	1338					613	608	494
330	842	916		992	1302	1561				581	572	452
320	838	889		919	1249	1551	1680			545	529	396
310	826	857		839	1175	1511	1680			496	475	330
300	805	815		758	1096	1438	1663		747	439	402	262
290	777	769		678	999	1335	1611		741	373	320	182
280	739	715		599	873	1200	1523		715	302	225	102
270	693	659		524	750	1052	1402		665	225	133	44.5
260	643	601		460	636	877	1223		606	152	70.7	12.4
250	585	544		410	534	706	1007		529	96.0	34.2	
240	525	490		374	444	560	736		442	57.7		
230	467	441		349	376	434	503		336	32.0		
220	415	399		330	329	345	338		203	5.9		
210	375	367		316	298	291	243		79.9			
200	346	342		304	276	258	190		12.4			
190	325	323		292	261	236	162					
180	308	308		278	247	216	141					
170	290	291		261	231	196	124					
160	270	273		240	213	176	108					
150	246	250		215	191	157	93.0					
140	218	219		191	170	137	80.8					
130	195	194		169	151	122	71.8					
120	181	180		157	138	112	67.0					
110	65.3	33.3		12.4	65.6	41.7	38.6					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	A2	A2	1	1	1	A1	A1	A1	1	1	A1	A1
HMIN	283	248	234	217	259	234		111	109	107		107
SCAT	44.8	34.3	41.4	43.8	46.1	36.4		32.2	38.0	42.5		73.9
HMAXF	389	325	321	315	355	315		257	251	252		329
SHMAX	350	289	314	257	237	190		321	423	474		1102
KM												
390	559											
380	553											
370	534											
360	499				390							
350	452				389							
340	396				380							
330	328	621	594		361							890
320	246	618	593	430	333	380						887
310	153	592	583	429	295	378						875
300	76.5	541	555	418	244	363						856
290	34.7	460	509	396	185	335						828
280		359	441	362	112	292						795
270		219	343	319	47.9	239						748
260		94.3	211	264	12.4	169		588	621	610		690
250		20.6	103	199		88.4		581	621	610		624
240			33.1	120		32.2		547	609	598		551
230				57.1				434	576	566		482
220				20.6				393	521	523		422
210								293	445	459		380
200								207	361	384		352
190								149	292	324		331
180								109	241	284		315
170								70.5	202	257		299
160								57.6	169	231		282
150								52.1	140	201		262
140								48.8	114	160		234
130								46.7	95.3	134		196
120								45.4	84.8	125		174
110									37.2	68.5		91.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	1	A1	A1	A1	A1	A1	A1	A1	A1	A1	1	0
HMIN	109								200	199	235	259
SCAT	54.1								55.6	50.8	38.4	51.7
HMAXF	321								298	329	337	376
SHMAX	1167								630	477	326	377
KM												
380												539
370												537
360												526
350												505
340											591	473
330	1179									648	586	432
320	1179									643	562	377
310	1166									626	516	316
300	1133								967	596	454	246
290	1079								962	553	381	170
280	1008								941	500	293	93.4
270	915								905	437	178	42.5
260	807								855	366	100	12.4
250	691								785	293	51.6	
240	579								673	216	21.3	
230	480								514	148		
220	410								261	93.1		
210	366								91.3	47.8		
200	336								12.4	12.4		
190	315											
180	300											
170	283											
160	262											
150	229											
140	203											
130	185											
120	167											
110	25.1											

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q.KP	A0	0	1	1	1	0	S0	0	A0	A0	A0	0
HMIN	269	230	211	209	203	200		109	109	109		109
SCAT	40.4	32.5	43.4	36.2	29.1	42.1		41.5	42.1	50.3		75.2
HMAXF	365	307	297	290	270	274		249	252	260		337
SHMAX	302	260	279	189	139	102		278	432	540		1058
KM												
370	541											
360	539											
350	523											
340	490											790
330	438											788
320	368											779
310	290	594										764
300	203	587	512									741
290	109	553	509	392								714
280	49.6	492	493	385	358	197						676
270	12.4	398	463	363	358	196						633
260		267	418	326	346	191			610	645		586
250		130	348	269	314	181		411	610	639		534
240		49.8	255	198	257	165		406	598	620		485
230		1.7	144	105	166	140		389	569	587		439
220			54.6	45.5	78.1	102		361	522	544		403
210				12.4	35.3	61.5		318	448	484		374
200						12.4		263	354	412		354
190								204	284	347		336
180								157	235	298		318
170								125	201	261		300
160								103	174	232		280
150								85.0	152	205		260
140								71.1	130	170		237
130								62.6	109	139		196
120								58.5	95.3	125		168
110								22.0	24.5	33.0		41.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q.KP	0	80	0	0	0	1	1	S1	0	0	0	0
HMIN	107	108	109	109	109	108	108		188	259	249	256
SCAT	58.1	59.0	51.3	47.2	43.0	44.9	42.6		61.2	43.3	55.9	52.0
HMAXF	327	331	334	329	320	311	298		318	362	364	368
SHMAX	1188	1320	1273	1268	1232	1220	1118		556	330	382	340
KM												
370										541	534	491
360										541	533	488
350										531	526	476
340		1234	1263							506	510	455
330	1090	1234	1261	1372	1554					466	484	425
320	1086	1224	1238	1360	1554	1635			648	414	452	384
310	1067	1197	1183	1317	1532	1634			645	349	402	331
300	1031	1151	1117	1237	1468	1611	1712		634	276	342	268
290	977	1084	1032	1144	1364	1547	1695		614	194	275	204
280	913	1008	927	1030	1215	1440	1632		582	121	195	124
270	839	924	819	902	1038	1301	1521		547	58.2	110	61.0
260	754	830	706	763	936	1121	1361		508	12.4	51.3	23.6
250	660	729	599	632	655	900	1143		459		12.4	
240	567	622	502	518	506	674	842		400			
230	484	524	427	422	398	502	618		337			
220	417	441	372	361	335	367	417		276			
210	369	384	342	323	301	289	280		211			
200	340	348	324	300	280	248	210		124			
190	321	323	310	282	263	224	170		41.2			
180	308	305	296	269	246	203	144					
170	298	288	280	258	227	179	123					
160	285	269	262	243	204	154	104					
150	268	244	237	219	183	133	88.0					
140	238	210	202	188	161	113	74.0					
130	204	180	175	162	140	101	65.8					
120	173	167	162	151	131	96.4	62.9					
110	92.8	53.6	33.1	41.7	33.0	63.3	28.9					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	0	0	1	1	1	0	50	0	1	1	1	1
HMIN	261	252	251	228	212	246		109	109	107	106	107
SCAT	37.8	44.2	39.0	36.7	41.0	38.1		45.7	50.7	48.8	65.8	71.5
HMAXF	355	347	332	313	297	335		276	270	267	300	351
SHMAX	257	266	246	227	205	160		438	589	562	799	1290
KM												
360	471											999
350	469	450										999
340	452	447	491			297						992
330	417	433	491			296						976
320	372	407	479	454		286						950
310	314	371	451	454		265					710	910
300	245	320	407	441	380	235					710	868
290	160	255	342	408	377	196					706	815
280	85.4	183	249	365	363	152		619	710		694	758
270	38.3	107	127	301	338	99.0		616	710	630	673	696
260		42.3	47.5	218	302	53.2		601	703	627	645	630
250				122	251	22.7		570	682	610	609	566
240				54.9	190			526	645	578	559	503
230				17.2	106			448	599	538	505	447
220					41.0			350	538	488	448	402
210								265	467	434	396	365
200								205	391	383	355	338
190								162	323	338	326	318
180								131	268	298	305	301
170								106	222	262	284	284
160								87.1	183	230	261	266
150								73.9	150	200	234	246
140								65.7	122	168	204	221
130								61.5	105	136	174	187
120								57.2	98.8	127	154	167
110								12.4	37.2	81.5	122	56.6

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A1	A1	1	1	1	1	1	S1	0	0	B0	0
HMIN	109	110	110	108	107	107	109		200	199	231	270
SCAT	59.6	47.7	42.4	53.5	42.5	40.1	40.8		41.7	33.5	45.9	39.5
HMAXF	336	336	316	321	307	301	293		283	286	340	359
SHMAX	1415	1492	1463	1614	1374	1128	1139		430	295	261	205
KM												
360												374
350												370
340	1287	1665									411	353
330	1283	1659		1860							406	324
320	1262	1620	1921	1860							392	283
310	1224	1535	1909	1841	1860	1712					368	231
300	1163	1431	1848	1789	1848	1712	1860				334	170
290	1090	1279	1728	1702	1787	1681	1857		801	607	290	112
280	1005	1085	1561	1589	1670	1597	1812		800	603	236	53.5
270	911	903	1325	1431	1513	1459	1704		782	574	176	1.7
260	811	741	1059	1237	1292	1256	1554		737	517	117	
250	711	603	828	1017	1039	976	1334		677	442	66.0	
240	618	498	635	796	787	716	1010		588	344	31.5	
230	533	428	490	609	597	513	705		459	229		
220	458	382	397	468	450	369	454		285	125		
210	396	351	348	377	360	288	297		134	62.9		
200	353	329	320	325	309	247	206		19.7	12.4		
190	326	312	303	297	278	222	162					
180	308	300	291	278	258	201	136					
170	294	287	277	264	244	176	114					
160	279	271	259	251	230	146	96.2					
150	260	249	230	229	210	114	81.3					
140	233	212	203	200	178	101	71.8					
130	202	179	179	167	153	95.1	68.1					
120	177	136	153	151	136	91.7	55.6					
110	59.7	12.4	12.4	45.8	83.6	61.6	24.1					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	0	0	0	0	0	1	S1	1	1	A1	A1	A2
HMIN	246	269	234	207	227	236		108	109	107	110	
SCAT	45.2	37.8	31.7	45.1	41.7	34.7		26.4	46.9	37.4	61.7	
HMAXF	363	348	310	300	316	306		241	228	224	280	
SHMAX	241	178	166	176	148	98		313	333	312	528	
KM												
370	369											
360	369											
350	361	358										
340	344	354										
330	318	337										
320	284	309	374		271							
310	238	264	374	296	270	215						
300	190	205	365	296	261	214						
290	145	130	336	292	246	204						
280	102	61.1	290	281	220	185					461	
270	65.7	12.4	227	263	185	157					458	
260	39.4		149	237	140	117					449	
250	18.4		73.4	202	82.8	65.8		681			434	
240			31.4	158	47.9	24.1		681			411	
230				107	16.2			653	531	448	387	
220				53.4				576	527	447	364	
210				19.9				433	511	432	346	
200								267	483	402	334	
190								182	438	357	324	
180								143	333	309	312	
170								120	221	270	292	
160								98.1	179	244	262	
150								77.0	141	215	230	
140								63.2	109	172	187	
130								58.5	98.1	137	150	
120								53.8	90.9	128	130	
110								20.5	22.3	59.5	12.4	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A2	A2	2	2	A2	A2	2	S2	2	2	2	2
HMIN			108	108			109		199	214	255	269
SCAT			47.3	49.6			35.3		50.9	47.0	45.2	41.8
HMAXF			310	325			277		298	341	363	368
SHMAX			1150	1178			810		441	324	277	239
KM												
370											446	411
360											446	407
350										448	437	391
340										448	417	363
330				1275						442	386	324
320			1257	1271						425	344	271
310			1257	1244						396	290	213
300			1242	1192					651	363	222	145
290			1199	1112					647	325	154	85.3
280			1120	1011			1417		631	281	92.0	44.0
270			1037	890			1402		603	235	48.1	12.4
260			932	755			1332		560	187	20.7	
250			811	624			1204		512	136		
240			688	512			1026		450	90.3		
230			578	418			802		367	53.3		
220			476	354			552		277	23.8		
210			399	317			352		168			
200			349	295			237		29.7			
190			317	280			179					
180			296	264			147					
170			282	242			126					
160			261	217			108					
150			243	193			91.2					
140			217	173			75.1					
130			184	159			64.9					
120			165	150			61.4					
110			40.4	109			27.2					

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 25 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	S2	2	2	2	2	2	S2	2	A3	A3	A3	2
HMIN	254	265	228	209	220	214		112	110			110
SCAT	36.8	44.1	35.6	39.7	37.6	47.4		34.3	38.8			55.2
HMAXF	358	360	310	298	307	308		255	247			317
SHMAX	225	265	236	202	163	154		264	384			1017
KM												
360	401	448										
350	396	443										
340	377	425										
330	343	397										
320	300	356	480									980
310	245	301	480		311	247						977
300	187	236	470	374	309	245						958
290	128	159	438	371	296	238						923
280	80.9	85.3	394	356	272	225						869
270	47.0	29.4	329	328	235	207						806
260	22.3		250	290	192	180		442				733
250			150	239	141	148		440	567			654
240			63.1	178	80.9	112		421	563			569
230			17.8	102	40.2	69.9		383	541			490
220				44.9	3.1	32.1		322	500			421
210				12.4				245	440			365
200								186	368			327
190								144	290			302
180								111	233			284
170								85.1	194			270
160								66.8	164			255
150								61.3	139			238
140								58.9	115			214
130								57.6	100			177
120								49.9	82.1			151
110									12.4			12.4

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 25 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	2	2	2	3	3	S3	2	2	2	2
HMIN	109	109	109	109	109	109	107		200	199	239	251
SCAT	58.8	51.0	42.7	41.0	42.5	50.0	49.9		41.9	61.4	47.3	38.0
HMAXF	335	339	308	291	279	297	308		291	342	352	355
SHMAX	1164	1362	1370	1673	891	817	742		471	518	330	264
KM												
360											494	461
350										594	493	459
340	985	1411								593	486	444
330	983	1398								588	467	411
320	969	1359								575	436	369
310	940	1296	1861				1022			554	397	315
300	890	1199	1833	1627		949	1016		858	525	348	254
290	837	1081	1766	1627		945	990		858	489	292	184
280	779	944	1645	1599	1234	923	944		843	445	228	118
270	717	805	1481	1523	1219	873	877		804	396	156	68.5
260	650	670	1252	1399	1171	821	791		739	346	92.7	35.9
250	585	553	976	1201	1088	751	669		648	291	46.5	
240	524	460	713	912	969	666	498		522	232	12.4	
230	468	394	524	627	826	572	342		395	171		
220	419	350	399	404	672	471	224		195	113		
210	377	322	335	317	493	380	164		77.8	57.5		
200	345	304	304	286	352	303	131		12.4	12.4		
190	321	292	285	264	288	249	103					
180	303	282	273	252	255	216	80.0					
170	288	273	268	197	227	192	61.0					
160	273	253	241	176	201	168	54.8					
150	255	213	217	164	170	141	51.0					
140	233	177	192	157	144	119	48.4					
130	208	161	174	153	131	103	46.7					
120	174	152	164	147	125	95.3	45.6					
110	131	41.7	42.6	39.4	41.7	27.2	25.5					

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 26 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A2	2	2	A2	A2	A3	S3	3	A2	3	2	A1
HMIN	266	269	249	219	229	229		111	109	107	107	
SCAT	40.8	41.8	35.5	43.0	38.8	37.6		30.3	23.6	42.5	91.1	
HMAXF	371	365	320	314	311	315		250	227	249	315	
SHMAX	264	255	224	221	193	178		286	278	443	785	
KM												
380	450											
370	450	448										
360	441	447										
350	419	434										
340	383	407										
330	336	369	494									
320	278	316	494	385	381	358					567	
310	211	250	484	384	381	356					566	
300	141	174	454	374	373	344					563	
290	81.9	98.3	404	353	354	319					556	
280	44.3	43.0	325	323	319	277					546	
270	18.4	12.4	203	280	265	214					533	
260			98.7	224	195	145					515	
250			22.3	159	118	82.3		583		546	494	
240				88.2	53.6	41.8		567		541	471	
230				41.8	12.4	12.4		523	575	520	447	
220				12.4				419	564	486	419	
210								276	502	438	391	
200								186	399	386	362	
190								139	274	335	334	
180								110	211	293	307	
170								87.3	179	258	282	
160								65.5	146	232	260	
150								54.3	113	206	241	
140								49.5	96.8	178	201	
130								46.9	88.2	148	161	
120								45.4	83.8	133	146	
110									41.7	63.5	90.3	

ELECTRON DENSITY

RAMEY AFB. PUERTO RICO 60 W 26 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A1	A1	A3	A3	A3	A3	A3	A3	A3	A3	3	2
HMIN						109			200	199	239	249
SCAT						36.1			50.9	50.3	41.2	50.1
HMAXF						293			306	323	336	353
SHMAX						862			552	416	287	272
KM												
360												407
350												406
340											494	400
330										588	491	385
320										587	476	361
310									819	578	444	330
300						1360			817	556	401	289
290						1357			800	523	346	237
280						1314			768	478	279	184
270						1220			718	424	201	131
260						1074			657	358	126	60.9
250						880			583	285	57.2	12.4
240						654			491	207	12.4	
230						452			360	135		
220						328			193	80.0		
210						256			75.9	41.8		
200						222			12.4	12.4		
190						201						
180						181						
170						160						
160						137						
150						117						
140						101						
130						89.9						
120						84.2						
110						79.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	2	2	3	3	3	1	S1	1	A1	A1	1	1
HMIN	252	242	231	237	271	261		108	106		109	109
SCAT	40.5	38.0	54.3	32.1	42.5	37.1		29.2	31.8		68.8	63.2
HMAXF	342	331	344	308	362	351		245	237		321	334
SHMAX	218	227	310	134	164	153		331	379		874	1244
KM												
370					284							
360					284	292						
350	407		446		278	292						
340	407	430	446		265	285						1080
330	397	430	439		244	267					710	1079
320	376	421	425		213	240					710	1066
310	342	397	402	306	176	203					706	1040
300	291	358	374	301	131	156					694	1000
290	224	307	334	280	82.0	106					675	947
280	141	242	279	247	41.6	57.7					647	881
270	73.8	167	212	198		29.5					615	809
260	34.9	83.3	137	135							573	734
250		35.8	74.7	66.7				651			527	654
240			35.7	31.7				646	701		482	577
230								607	692		439	509
220								591	651		401	447
210								422	572		368	393
200								292	435		341	350
190								193	299		318	319
180								142	227		298	296
170								114	184		276	280
160								90.9	149		253	263
150								69.8	117		231	244
140								61.5	104		197	219
130								57.3	97.9		154	187
120								55.3	94.9		133	158
110								28.9	34.2		24.1	41.7

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A1	B1	1	1	A1	1	1	S1	A2	2	2	F2
HMIN	106		109	108	109	108	107		200	218	223	260
SCAT	49.8		44.1	40.2	40.0	43.1	38.6		36.2	35.1	42.8	41.9
HMAXF	328		318	300	297	306	294		288	310	329	355
SHMAX	1339		1468	1247	1139	1136	1070		405	304	285	266
KM												
360												471
350												470
340												456
330	1353										471	426
320	1344		1851								466	388
310	1308		1834	1784		1561				580	448	330
300	1245		1770	1784	1635	1553	1784			569	416	255
290	1153		1658	1756	1623	1505	1780		782	531	374	173
280	1047		1500	1673	1564	1412	1729		772	479	320	95.5
270	930		1302	1534	1451	1284	1614		732	408	258	44.3
260	809		1078	1339	1292	1114	1448		662	325	183	3.1
250	694		845	1080	1071	911	1227		562	239	107	
240	594		652	805	836	700	915		441	143	55.3	
230	506		492	580	619	528	626		311	68.3	25.4	
220	433		396	474	442	391	402		190	20.5		
210	381		341	338	340	301	257		93.6			
200	344		309	300	291	248	188		12.4			
190	317		291	278	262	216	152					
180	297		275	262	243	193	127					
170	282		259	244	226	174	107					
160	270		242	232	206	156	91.1					
150	260		222	193	181	133	78.4					
140	246		198	169	155	108	68.0					
130	220		174	154	135	93.3	61.2					
120	179		159	145	123	88.4	57.9					
110	106		41.7	80.7	59.7	54.3	33.6					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	2	F2	F1	F1	F1	F1	S1	1	A1	A1	A1	A1
HMIN	231		221	200	245	238		107				
SCAT	40.5		33.8	27.2	41.5	39.1		48.3				
HMAXF	324		308	246	315	308		242				
SHMAX	252		360	168	146	119		254				
KM												
330	463											
320	462				284							
310	450		734		283	247						
300	423		723		275	245						
290	383		677		257	235						
280	328		608		233	216						
270	263		524		203	190						
260	163		415		159	146						
250	81.7		258	507	47.2	75.4		387				
240	38.9		116	500		19.3		387				
230			45.4	460				381				
220				391				368				
210				336				348				
200				19.7				311				
190								244				
180								165				
170								115				
160								86.7				
150								69.7				
140								62.0				
130								58.9				
120								57.3				
110								26.0				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A1	A1	A1	A1	A1	A1	A1	A1	A2	A2	2	1
HMIN									199		238	267
SCAT									32.1		41.3	40.9
HMAXF									267		343	367
SHMAX									281		165	144
KM												
370												247
360												245
350											266	236
340											266	220
330											260	196
320											245	165
310											225	126
300											198	88.6
290											167	59.0
280											133	35.1
270									688		99.9	15.8
260									680		66.5	
250									636		37.3	
240									568		12.4	
230									445			
220									273			
210									86.8			
200									12.4			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A1	1	0	A0	A0	1	S1	1	1	1	A1	A4
HMIN	268	272	231	199	259	230		113	108	110	109	
SCAT	43.8	36.8	38.7	43.3	36.4	39.1		49.1	58.3	35.4	43.4	
HMAXF	364	357	297	278	327	304		249	231	233	240	
SHMAX	145	133	146	83	67	73		328	280	354	397	
KM												
370	247											
360	247	253										
350	241	251										
340	229	240										
330	211	219			140							
320	182	193			139							
310	147	159			132	148						
300	108	116	320		121	148						
290	67.7	69.3	317		102	144						
280	37.7	33.6	304	149	78.6	135						
270	12.4		280	148	49.5	120						
260			244	142	12.4	97.8						
250			174	132		67.0		507			482	
240			63.7	120		33.2		534	359	522	482	
230				102				489	359	520	475	
220				77.4				467	356	503	456	
210				43.6				429	348	465	423	
200				12.4				344	332	399	379	
190								245	315	325	335	
180								167	289	275	301	
170								120	253	246	277	
160								90.5	200	228	255	
150								73.5	150	217	236	
140								66.8	117	170	215	
130								63.6	102	135	176	
120								43.9	95.5	122	149	
110									42.3	12.4	33.1	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 29 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	A4	4	A5	A5	A5	A5	A5	A5	A5	A5	F5	A4
HMIN		109									272	301
SCAT		61.0									43.2	41.6
HMAXF		307									369	404
SHMAX		772									304	304
KM												
410												512
400												511
390												498
380												468
370											515	428
360											509	381
350											490	318
340											456	240
330											413	143
320											360	78.7
310		669									292	38.1
300		667									190	
290		657									92.8	
280		637									36.7	
270		606										
260		571										
250		526										
240		475										
230		423										
220		378										
210		345										
200		321										
190		305										
180		291										
170		277										
160		262										
150		246										
140		225										
130		190										
120		174										
110		41.7										

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	A4	4	2	2	2	4	S4	A4	A6	6	6	B5
HMIN	249	227	200	206	207	210				109	109	109
SCAT	33.1	41.3	34.6	51.7	46.8	32.8				32.0	40.8	66.1
HMAXF	340	305	263	324	306	273				263	277	325
SHMAX	352	335	158	147	97	66				711	673	945
KM												
360	529											
350	529											
340	517				184							779
330	478				184							778
320	418	648			181	156						769
310	335	646			174	155						752
300	232	628			169	151						726
290	143	588			151	144	160				831	688
280	79.5	535	373		137	132	159			1234	825	647
270	42.0	453	372		121	117	153			1234	796	598
260	12.4	334	360		100	95.5	141			1194	739	542
250		164	331		74.8	71.1	114			1096	664	483
240		35.3	285		52.2	48.3	75.8			927	577	430
230			200		33.9	29.6	38.9			679	483	386
220			94.9		17.5	12.4	3.9			477	398	353
210			12.4							348	338	328
200										286	302	310
190										255	278	295
180										232	260	280
170										208	240	263
160										180	213	240
150										148	177	213
140										134	154	184
130										116	130	167
120										25.9	24.5	59.7
110												

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 30 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	5	5	4	4	A4	5	A5	S5	5	5	5	5
HMIN	110	109	105	109	109	109	110	97	199	229	228	265
SCAT	57.7	58.2	47.1	43.6	43.0	49.0	38.9	39.3	61.9	49.5	45.1	44.8
HMAXF	331	347	324	321	309	299	287	272	346	360	348	383
SHMAX	1193	1292	1221	1212	1279	1264	846	556	550	390	326	339
KM												
390												517
380												516
370										531		506
360										531		483
350		1141							648	526	494	448
340	1080	1137							646	510	489	398
330	1080	1117	1360	1519					637	481	473	339
320	1071	1078	1358	1518					619	444	444	277
310	1046	1024	1331	1496	1752				591	396	405	215
300	1004	959	1274	1434	1734	1712			558	342	356	151
290	944	882	1183	1332	1670	1697	1547		517	288	301	91.2
280	875	799	1069	1190	1562	1648	1533	985	461	231	239	50.0
270	801	712	922	998	1395	1559	1471	985	399	175	170	21.3
260	724	625	767	794	1182	1441	1362	963	334	117	106	
250	641	544	629	616	926	1280	1178	910	259	72.0	63.6	
240	561	472	509	468	696	1053	885	824	179	39.4	35.8	
230	491	413	419	366	513	801	578	694	117	12.4	12.4	
220	430	369	361	312	384	568	284	535	72.0			
210	383	338	326	284	315	384	172	359	39.4			
200	348	318	306	267	280	273	131	205	12.4			
190	323	300	294	256	259	224	109	121				
180	301	284	286	248	234	199	89.2	72.8				
170	281	267	274	239	209	180	67.4	48.5				
160	260	248	254	226	190	158	56.1	35.8				
150	237	226	230	207	171	138	50.4	28.8				
140	211	190	204	183	150	119	46.9	25.5				
130	188	167	180	160	135	106	44.8	24.1				
120	162	157	162	147	126	101	43.7	22.9				
110	19.7	33.3	59.7	41.7	41.7	38.1	12.4	20.4				
100								12.4				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	5	5	A5	5	A5	3	A3	A3	3	A3	3	B4
HMIN	276	254	280	253	218	212			112		111	109
SCAT	41.8	40.6	41.3	44.4	41.0	50.2			35.8		80.9	73.7
HMAXF	374	353	362	363	288	328			264		295	328
SHMAX KM	314	284	272	291	218	217			370		527	749
380	541											
370	540		498	456								
360	527	494	498	456								
350	499	493	487	447								
340	454	481	459	423								
330	397	453	422	394		309						575
320	327	411	369	354		307						573
310	243	357	298	302		299						566
300	141	291	210	241		284					405	555
290	67.9	214	99.5	180	430	265					405	537
280	25.3	133		118	425	240					402	518
270		69.2		64.7	408	209			494		395	485
260		30.0		31.1	378	174			492		386	446
250					335	134			474		373	400
240					269	91.5			435		358	356
230					177	52.3			384		340	323
220					48.7	26.4			323		323	298
210									271		306	281
200									238		291	270
190									218		277	266
180									200		262	261
170									179		247	248
160									151		231	230
150									117		211	205
140									96.0		177	181
130									88.7		150	161
120									73.4		138	150
110												33.0

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 31 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	4	4	3	A3	3	4	4	A4	A4	4	4	5
HMIN	108	109	108		108	108	108		198	218	255	277
SCAT	69.8	63.4	64.8		43.5	48.9	40.6		45.5	56.2	48.8	49.0
HMAXF	311	318	308		285	279	282		320	348	369	385
SHMAX KM	688	767	742		558	496	369		288	263	210	194
390												292
380												291
370											309	285
360											306	273
350										340	297	254
340										338	280	232
330									430	331	259	200
320	519	672							430	319	230	162
310	519	670	660						424	300	197	119
300	516	659	657						409	278	156	74.7
290	507	640	647		621		529		381	249	110	41.8
280	489	616	628		619	588	529		346	214	71.9	16.2
270	472	577	605		602	583	518		301	176	43.1	
260	449	521	568		569	566	491		248	135	20.6	
250	424	452	517		519	538	448		196	93.7		
240	396	384	456		461	496	385		147	59.4		
230	368	330	396		398	434	309		98.3	34.0		
220	341	299	343		341	364	233		60.2	12.4		
210	318	282	309		298	295	181		34.5			
200	299	272	288		269	246	147		12.4			
190	284	267	275		250	214	122					
180	274	262	263		233	194	102					
170	268	255	251		214	174	85.2					
160	262	235	237		192	154	72.2					
150	250	210	218		168	133	62.3					
140	216	189	182		146	112	55.0					
130	185	173	159		129	98.2	49.6					
120	166	164	150		120	91.5	46.4					
110	65.3	33.1	53.6		39.4	52.7	28.9					

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	29	28	29	29	28	31	0	22	18	16	14	18
KP	1.8	1.8	1.7	1.7	1.7	1.8		1.5	1.6	1.4	1.6	1.6
HMIN	265	258	236	228	242	238		109	109	108	108	108
RATIO	5.8	6.0	6.3	6.1	5.9	6.1		5.8	5.2	4.1	3.5	3.3
SCAT	43.4	42.9	41.0	42.5	43.8	43.0		37.8	40.7	54.3	65.7	68.7
NMAX	472	500	484	388	328	302		580	657	625	694	901
HMAXF	366	352	323	318	334	327		257	252	270	297	326
SHMAX	282	288	260	218	192	174		342	450	595	783	1081
SHINF	1613	1697	1624	1314	1117	1026		1978	2302	2357	2741	3621
KM												
950	42.1	41.2	34.8	27.3	25.3	23.0		29.9	33.3	35.6	44.7	65.9
900	54.0	52.8	44.6	35.0	32.5	29.5		38.4	42.8	45.8	57.3	84.6
850	69.2	67.8	57.2	44.9	41.6	37.8		49.3	54.9	58.7	73.5	109
800	88.7	86.8	73.4	57.5	53.3	48.4		63.2	70.5	75.3	94.3	139
750	113	111	93.9	73.6	68.2	62.0		81.1	90.3	96.5	121	178
700	145	142	120	94.1	87.1	79.1		104	116	124	155	228
650	183	180	153	120	111	101		133	148	158	197	290
600	231	227	194	152	140	127		169	189	201	251	367
550	287	284	244	191	175	159		215	240	255	316	462
500	349	348	302	237	216	196		271	303	320	395	572
490	362	361	315	247	225	204		284	317	334	412	596
480	375	375	327	257	233	212		297	332	349	430	620
470	387	388	340	268	242	219		310	347	364	448	644
460	399	401	353	278	251	227		324	362	380	466	669
450	411	414	366	288	259	235		339	378	396	485	693
440	422	427	379	299	268	243		353	395	412	503	717
430	433	439	392	309	276	250		368	411	428	522	741
420	442	450	404	319	284	257		383	429	445	541	765
410	450	461	416	329	291	263		399	446	461	559	787
400	457	470	427	338	298	269		414	464	478	577	808
390	462	478	438	347	304	274		430	481	494	595	828
380	464	484	448	355	309	278		446	499	511	612	847
370	463	488	456	362	313	281		461	517	526	627	862
360	456	488	464	368	315	283		477	534	541	642	876
350	440	482	468	372	314	284		492	551	556	655	886
340	414	470	470	374	310	283		506	568	569	666	893
330	376	449	467	373	302	278		520	584	581	675	895
320	327	418	459	369	289	271		532	599	591	682	891
310	268	374	442	361	271	259		544	612	600	686	879
300	203	318	414	345	247	240		554	624	606	684	859
290	138	252	377	322	215	215		563	635	608	678	828
280	82.0	179	328	291	177	185		569	643	607	663	789
270	43.2	112	268	253	141	151		572	648	601	643	739
260	19.5	58.3	203	206	109	116		570	648	591	615	683
250	7.0	27.1	132	152	78.1	82.2		562	641	573	582	621
240	2.7	9.5	72.4	103	52.8	51.4		538	621	547	542	556
230	.1	1.3	33.9	60.1	31.3	25.7		491	586	514	497	492
220			13.0	30.4	14.8	11.5		417	531	473	450	435
210			3.3	13.8	4.8	3.9		326	454	428	404	388
200			.4	1.5	.4	.8		243	369	381	366	353
190								178	298	336	336	329
180								134	246	296	310	311
170								104	205	262	288	294
160								83.3	171	232	265	277
150								70.9	140	205	240	255
140								63.8	117	171	206	230
130								60.0	104	144	171	195
120								54.5	95.1	132	152	170
110								19.6	36.7	59.6	53.5	66.2

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	18	17	20	18	17	17	16	1	27	25	26	28
Q.KP	1.7	1.8	1.8	1.7	1.8	1.9	1.8	B2.0	1.7	1.7	1.7	1.8
HMIN	107	108	108	108	108	108	108	109	205	214	242	263
RATIO	3.5	3.7	3.9	4.0	4.1	4.4	4.9	5.5	5.7	5.1	5.3	5.5
SCAT	63.2	57.6	56.0	55.7	51.3	49.6	47.1	42.6	47.2	50.4	46.6	45.3
NMAX	1055	1234	1356	1299	1224	1240	1324	1070	876	629	512	473
HMAXF	333	332	328	325	316	311	304	277	307	334	356	369
SHMAX	1212	1292	1314	1236	1093	1023	960	672	541	446	337	297
SHINF	4187	4774	5139	4901	4545	4522	4695	3691	3011	2220	1781	1632
KM												
950	79.8	92.8	99.7	94.3	85.9	84.6	87.3	60.9	57.5	47.7	43.6	42.9
900	102	119	128	121	110	109	112	78.2	73.8	61.2	55.9	55.0
850	131	153	164	155	141	139	144	100	94.7	78.5	71.7	70.5
800	168	196	210	199	181	179	184	129	121	101	91.8	90.3
750	215	251	269	255	232	229	236	165	155	129	117	115
700	275	320	344	326	297	293	302	211	199	164	150	147
650	350	408	438	415	378	373	385	270	254	209	190	187
600	443	516	555	526	479	474	489	344	322	265	240	235
550	557	648	698	661	603	597	617	436	406	332	299	292
500	688	802	864	819	749	743	769	548	507	410	366	355
490	716	834	900	853	781	775	803	573	529	427	380	368
480	744	868	936	887	813	807	837	598	551	443	393	380
470	773	901	973	922	845	840	871	625	574	460	407	393
460	802	934	1009	957	878	874	906	652	597	477	421	405
450	830	968	1046	992	911	907	942	679	620	494	434	416
440	858	1001	1083	1027	943	941	977	708	644	510	446	427
430	886	1033	1119	1061	976	974	1013	736	667	526	458	438
420	913	1065	1154	1095	1008	1008	1048	765	690	541	470	447
410	938	1095	1187	1127	1039	1040	1083	794	713	556	480	455
400	962	1123	1219	1158	1069	1072	1117	824	736	570	488	461
390	984	1149	1249	1186	1097	1102	1150	853	757	583	495	466
380	1004	1172	1276	1213	1123	1130	1181	881	778	594	500	467
370	1021	1192	1300	1236	1147	1156	1210	909	797	603	503	464
360	1034	1209	1320	1255	1167	1180	1236	936	815	610	502	456
350	1044	1220	1335	1270	1184	1200	1260	962	830	612	495	440
340	1049	1227	1344	1278	1195	1216	1278	986	842	611	481	413
330	1047	1225	1346	1279	1199	1228	1292	1008	850	604	456	373
320	1035	1210	1335	1270	1196	1232	1300	1027	854	591	422	324
310	1012	1177	1308	1247	1182	1226	1300	1044	851	568	376	266
300	973	1124	1259	1207	1154	1202	1289	1057	841	536	321	203
290	921	1051	1183	1148	1106	1156	1262	1066	821	493	262	142
280	854	961	1084	1069	1035	1084	1208	1070	786	440	199	86.8
270	781	858	963	966	941	988	1126	1063	732	383	136	40.9
260	702	749	828	848	827	866	1010	1028	661	319	84.2	15.2
250	623	643	692	717	701	724	864	962	568	252	44.7	3.0
240	547	547	570	585	577	580	678	869	451	188	19.8	1.1
230	478	469	473	471	469	455	502	748	323	126	6.0	.4
220	422	411	402	388	386	360	356	594	203	74.0	1.8	
210	380	371	358	339	330	296	255	420	102	34.8	.5	
200	350	344	330	311	294	256	197	260	18.8	6.0		
190	330	326	312	292	271	230	162	163	2.0			
180	313	312	297	276	252	209	138	104				
170	298	298	281	259	233	187	117	75.1				
160	282	281	263	239	211	165	100	58.7				
150	261	256	239	215	187	143	86.0	49.0				
140	232	225	210	189	162	123	75.6	43.1				
130	202	198	185	168	144	110	68.8	40.1				
120	178	179	168	156	134	104	64.7	37.9				
110	75.1	56.8	67.0	56.2	57.1	45.1	32.1	12.4				

TABLES OF IONOSPHERIC DATA

JULY 1961 - SEPTEMBER 1957

Table 1

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.8	28	300				2.9	2.85
01		4.45	28	290				2.8	2.90
02		3.9	26	280					2.85
03		3.5	27	280					2.90
04		3.2	25	305				2.6	2.90
05	---	3.35	30	285		---	----	1.7	3.00
06	415	4.25	30	245	3.4	115	2.25	2.5	2.90
07	410	4.85	30	230	4.0	111	2.70	3.0	2.90
08	420	4.95	30	220	4.2	107	3.05	3.8	2 82
09	375	5.45	30	215	4.5	105	3.30	4.0	2.92
10	460	5.55	30	205	4.6	105	3.40	3.7	2.68
11	445	5.5	29	200	4.7	109	3.50	4.0	2.75
12	430	5.5	29	200	4.7	105	3.62	4.1	2.75
13	445	5.4	29	210	4.7	109	3.60	4.7	2.65
14	400	5.6	30	(230)	4.7	109	3.50	4.2	2.80
15	405	5.7	31	230	4.6	109	3.40	4.0	2.75
16	375	5.9	31	225	4.4	109	3.25	3.7	2.80
17	355	6.1	30	240	4.2	111	2.95	3.3	2.80
18	310	6.6	31	240	(3.6)	115	2.45	3.2	2.92
19	270	6.7	29	<265	---	129	1.80	4.2	3.00
20		6.8	31	250				3.3	3.00
21		6.2	29	260				2.7	2.90
22		5.55	26	270				3.2	2.85
23		5.2	28	<280					2.88

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

Table 2

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.8	26	230				3.6	3.20
01		5.75	28	235				3.2	3.25
02		5.45	28	240				3.2	3.20
03		5 0	26	240				3.6	3.25
04		4.75	22	245				2.7	3.22
05		4.1	21	250				3.6	3.20
06		3.35	22	270				3.7	3.08
07		5.9	25	245		119	(2.10)	5.7	3.10
08		7.6	29	225		109	(2.72)	7 0	2.92
09	---	7.95	30	210		105	(3.10)	7.8	2.70
10	---	7.7	30	200	---	103	(3.38)	8.8	2.60
11	(360)	7.55	28	200	4.6	103	(3.50)	9.0	2.55
12	375	7.6	29	195	4.7	101	(3.60)	9.0	2.55
13	370	8.05	30	195	4.6	103	(3 52)	8.6	2.50
14	(350)	8.0	31	195	---	101	(3.40)	8.2	2.50
15	---	8.0	31	200	---	103	(3.20)	8.1	2.50
16		8.1	31	210		105	(2.80)	7.4	2.55
17		8.0	31	240		113	(2.30)	5.8	2.60
18		7.9	30	270		<156	1.40	4.3	2.60
19		7.2	30	290				3.2	2.60
20		7.15	28	280				3.4	2 75
21		7.2	29	255				3.5	2.90
22		6.6	27	230				3.2	3.10
23		6.2	27	230				3.0	3.20

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

Table 3

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9	29	280				2.8	2.85
01.		4.5	29	270				2.4	2.90
02		4.1	30	270					2.90
03		3.6	29	<280				2.7	2.95
04		3.3	29	280				3.2	2.90
05	---	3.6	29	270		---	----	2.0	3.10
06	345	4.4	29	240	3.6	111	2.30	2.8	3.00
07	350	5.1	30	225	4.0	108	2.75	3.8	3.00
08	340	5.5	29	220	4.3	105	3.10	4.2	3.00
09	360	5.7	29	(215)	4.5	103	3.30	4.6	2.92
10	360	6.0	29	(205)	4.7	101	3.45	5.6	2.95
11	380	5.9	29	200	4.8	102	(3.50)	5.7	2.90
12	400	6.0	28	200	4.8	101	3.55	4.6	2.85
13	380	5.95	30	210	4.8	105	(3.60)	4.3	2.90
14	380	5.95	30	210	4.8	105	3.50	4.6	2.85
15	370	6.2	30	220	4.7	105	3.40	4.2	2.85
16	350	6.4	30	220	4.4	105	3.20	4.0	2.90
17	330	6.5	30	230	4.3	109	2.90	4.2	2.95
18	300	6.7	30	245	---	111	2.45	4.2	2.98
19	265	6.8	30	<260		<127	----	4.7	3.10
20		6.9	29	250				4.5	3.02
21		6.4	29	260				4.5	2.95
22		5.9	29	<270				3.5	2.95
23		5.4	29	270				3.4	2.95

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

Table 4

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.0	24	230					3.10
01		5.6	27	240					3.25
02		4.6	27	250					3.10
03		5.0	25	265					3.10
04		4.6	25	250					3.20
05		4.05	24	240					3.25
06		3.6	23	260					3.02
07		5.0	25	250		<125	2.02		3.10
08		6.6	29	220		111	2.70	2.9	3.00
09	---	7.3	28	210		109	3.15	3.3	2.50
10	(365)	7.55	28	200	4.7	109	3.40	3.6	2.38
11	400	7.7	28	200	4.8	107	3.55	3.6	2.25
12	410	8.0	28	200	4.7	107	3.65		2.25
13	390	8.25	28	200	4.8	107	3.60		2.25
14	400	8.4	28	200	4.8	107	3.50		2.28
15	(375)	8.75	26	200	---	107	3.30	3.3	2.30
16	---	9.0	28	200	---	109	3.00	3.1	2.35
17		9.1	30	220		(113)	2.58	2.6	2.50
18		9.0	30	255		<145	1.90		2.60
19		8.5	30	280				2.4	2.60
20		8.0	29	300				2.2	2.65
21		7.7	27	300					2.75
22		8.5	25	255					3.10
23		>7.5	25	225					3.35

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

Table 5

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	25	230				3.2	3.30
01		5.0	27	240				3.2	3.30
02		5.0	27	240				3.6	3.35
03		4.55	28	245				3.2	3.25
04		4.0	27	250				3.5	3.20
05		3.6	27	250				3.6	3.25
06		3.3	27	285				4.2	3.90
07		5.9	30	245		119	(2.10)	5.9	3.15
08		7.45	30	225		111	(2.75)	6.8	2.95
09	(320)	7.9	30	210	---	109	(3.10)	8.1	2.80
10	(330)	7.6	30	200	4.6	107	(3.35)	9.0	2.60
11	380	7.65	30	200	4.7	107	(3.50)	9.1	2.52
12	(335)	7.5	29	195	4.6	107	(3.50)	9.1	2.55
13	340	7.5	29	195	4.6	107	(3.50)	9.0	2.60
14	---	7.8	29	195	4.5	107	(3.35)	9.0	2.55
15	---	7.8	29	200	---	105	(3.10)	8.1	2.55
16	---	8.1	29	210		109	(2.70)	7.3	2.60
17		8.3	29	245		117	(2.20)	5.8	2.65
18		7.9	30	270		---	1.25	4.0	2.65
19		7.05	30	285				3.2	2.65
20		7.2	28	270				3.4	2.70
21		7.35	26	245				3.4	3.00
22		6.75	26	230				3.2	3.20
23		6.0	26	235				3.4	3.30

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

Table 6

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	4.9	31	250			1.9		3.0
01	---	4.8	31	260			1.9		3.0
02	(300)	4.6	31	250	---		1.9		3.0
03	300	4.7	31	250	3.1		2.0		3.0
04	300	4.7	31	240	3.4		2.2		3.0
05	350	4.6	31	230	3.5		2.3		2.9
06	390	5.0	31	230	3.6		2.5		2.9
07	390	4.9	31	220	3.9		2.8		2.8
08	430	4.8	31	210	3.9		2.9		2.7
09	405	4.7	30	215	4.0		3.0		2.8
10	430	5.0	30	210	4.1		3.0		2.7
11	430	5.0	29	220	4.1		3.0		2.65
12	440	5.0	30	210	4.1		3.0		2.6
13	410	5.2	30	205	4.1		3.0		2.7
14	410	5.0	30	210	4.1		3.0		2.7
15	400	5.0	30	210	4.1		3.0		2.7
16	395	5.2	30	220	4.0		2.9		2.7
17	400	4.8	31	220	4.0		2.8		2.8
18	360	5.0	31	230	3.8		2.6		2.8
19	355	4.9	31	230	3.6		2.4		2.8
20	305	5.0	31	235	3.6		2.3		2.9
21	300	5.0	31	240	3.4		2.1		2.9
22	(290)	4.8	31	250	---		2.0		3.0
23	(310)	5.0	31	260	---		1.9		3.0

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

Table 7

Tromso, Norway (69.7° N, 19.0° E) May 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	(3.8)	6	---	----			3.8	----
01	---	(4.7)	8	(295)	----	---	----	3.4	----
02	---	4.9	11	(260)	----	---	1.85	4.0	----
03	(380)	4.7	14	(260)	3.25	110	----	4.0	2.70
04	(400)	4.9	19	260	3.40	110	2.25	3.0	2.70
05	380	5.0	20	245	3.75	110	2.40		2.70
06	400	5.0	23	245	3.85	110	2.65		2.70
07	400	5.4	22	240	4.10	110	2.75		2.70
08	380	5.5	25	225	4.15	105	2.85		2.70
09	360	5.8	24	220	4.30	105	3.00		2.85
10	360	5.7	27	215	4.40	105	3.00		2.90
11	360	5.8	26	210	4.40	105	3.10		2.90
12	375	5.7	27	215	4.40	105	3.10		2.90
13	390	5.5	30	210	4.35	105	3.00		2.90
14	355	5.7	26	215	4.30	105	3.00		2.95
15	345	5.4	30	210	4.10	110	3.00		2.95
16	(360)	5.4	30	220	4.10	105	2.85	3.2	2.90
17	---	5.5	27	245	----	110	2.60	3.4	3.05
18	---	5.4	26	245	----	110	2.45	3.0	3.05
19	---	5.2	25	250	----	110	2.40	3.3	2.90
20	---	5.1	25	---	----	110	----	3.8	2.90
21	---	(5.0)	15	---		---	----	4.0	(2.90)
22	---	5.0	10	---		---	----	4.0	(2.80)
23		(4.7)	9	295				3.8	(2.80)

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

Table 8

Kiruna, Sweden (67.8° N, 20.4° E) May 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.5)	6	300				4.6	(2.6)
01		(3.7)	8	325		---	---	4.4	(2.6)
02	---	4.2	14	310	---	---	---	4.0	2.6
03	(340)	4.0	17	280	3.0	---	1.8	3.6	2.6
04	375	4.3	25	250	3.3	110	2.0	3.4	2.6
05	405	4.4	28	240	3.5	110	2.2	3.9	2.6
06	390	4.8	26	235	3.8	110	2.4		2.6
07	400	5.0	27	220	4.0	110	2.6	4.0	2.6
08	380	5.4	27	215	4.2	105	2.8	4.0	2.7
09	365	5.6	28	220	4.3	105	2.9	3.4	2.7
10	350	5.7	28	220	4.4	105	3.0	5.5	2.75
11	355	5.8	29	210	4.4	105	3.0	3.6	2.7
12	370	5.7	30	210	4.4	110	3.0		2.8
13	335	5.6	30	210	4.4	105	3.0		2.8
14	345	5.6	29	215	4.3	110	2.9		2.8
15	335	5.4	31	215	4.2	110	2.8	3.6	2.8
16	325	5.4	30	225	4.1	110	2.7		2.8
17	310	5.5	27	235	3.7	110	2.4	4.6	2.8
18	290	5.3	29	240	3.5	110	2.3	3.5	2.8
19	---	5.4	26	250	3.2	110	2.0	3.2	2.85
20	---	5.1	20	265	---	---	1.7	3.0	2.9
21		4.9	14	270		---	1.4	3.8	2.75
22		(5.1)	7	280		---	---	3.8	(2.8)
23		(5.2)	5	300				3.0	(2.7)

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

Table 9

Sodankyla, Finland (67.4° N, 26.6° E) May 1961

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	9	300				3.0	(2.85)
01		(5.1)	9	320		---	----	3.2	(2.80)
02		(4.6)	5	310		---	E	3.5	----
03		4.8	10	300	---	---	1.60	3.0	2.80
04		5.0	13	265	---	135	2.00	3.3	2.90
05		4.4	18	250	3.4	120	2.25	(3.4)	2.70
06		5.1	23	230	3.8	120	2.50	3.6	2.80
07		5.3	25	230	3.9	115	2.60	3.7	2.75
08		5.5	26	220	4.2	115	2.75	3.6	2.80
09		5.5	24	220	4.2	115	2.90	4.2	2.80
10		5.8	26	220	4.3	110	3.00	4.0	2.85
11		5.9	24	215	4.5	110	3.10	4.2	2.90
12		5.8	28	215	4.5	115	3.20	3.6	2.90
13		5.8	29	210	4.5	115	3.10	3.7	2.90
14		5.7	28	215	4.4	115	3.10		2.90
15		5.8	28	215	4.4	115	3.00	4.1	2.95
16		5.6	27	220	4.3	115	2.90	4.2	3.00
17		5.6	30	230	---	115	2.70	4.0	2.95
18		5.6	28	240		115	2.50	3.4	3.00
19		5.6	26	250		120	2.30	3.4	3.00
20		5.4	23	260		125	2.05	3.3	3.00
21		5.3	17	265		145	1.80	3.2	2.95
22		5.0	14	275		---	E	2.3	2.90
23		5.0	13	290		---	E	3.2	2.80

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

Table 10

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.0)	7	300				(2.2)	(2.8)
01		4.6	12	300				(2.1)	2.9
02		4.4	16	300		---	---		2.8
03	---	4.2	18	270	---	140	1.9		2.9
04	390	4.8	21	250	3.4	130	2.2		2.8
05	400	4.9	21	240	3.7	120	2.4		2.9
06	385	5.0	20	230	4.0	120	2.7		2.8
07	400	5.4	21	225	4.0	115	2.8		2.8
08	370	5.6	21	210	4.3	110	3.0		2.8
09	355	5.8	22	215	4.4	110	3.1		2.8
10	355	5.8	26	225	4.4	110	3.1		2.9
11	345	6.0	23	215	4.5	110	3.2		2.9
12	350	5.9	23	215	4.5	110	3.2		2.9
13	350	5.8	25	225	4.5	110	3.2		2.9
14	345	5.8	24	220	4.4	110	3.1		2.9
15	340	5.8	23	225	4.2	110	3.0		2.9
16	330	5.8	26	230	4.0	115	2.8		3.0
17	---	5.8	25	240	---	120	2.6		3.0
18	---	5.8	24	250	---	125	2.4		3.0
19		5.6	22	250		---	2.1	2.4	3.0
20		5.6	18	260		150	1.8	2.2	3.0
21		4.7	19	275		---	1.5		3.0
22		4.4	13	280				1.3	2.9
23		(4.2)	10	280					---

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

Table 11

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.2	27	280				3.0	2.7
01		4.3	29	290				3.0	2.7
02	---	4.0	29	280	----	---	1.20	2.5	2.7
03	---	4.0	28	265	----	110	1.50	3.0	2.7
04	380	4.2	28	245	3.30	110	1.90	3.4	2.7
05	390	4.7	27	235	3.60	105	2.20	3.7	2.7
06	380	4.7	30	225	3.80	105	2.40	3.3	2.7
07	390	5.3	28	210	(4.00)	100	2.60	4.0	2.7
08	380	5.4	31	210	(4.20)	100	2.80	3.8	2.8
09	360	5.7	31	210	4.30	100	3.00	4.2	2.8
10	345	5.8	31	205	4.40	100	3.00	4.0	2.8
11	350	5.7	31	205	4.40	100	3.10	3.8	2.8
12	345	(5.7)	31	205	4.40	100	3.10	3.5	(2.9)
13	350	5.6	31	200	4.40	100	3.10	3.6	2.9
14	340	(5.7)	28	205	(4.30)	100	3.00	3.5	(2.9)
15	320	(5.7)	31	210	4.20	100	2.90	3.1	(2.9)
16	320	(5.7)	31	215	4.10	100	2.70	3.5	(2.9)
17	300	(5.7)	31	230	3.90	105	2.50	3.4	(2.9)
18	280	(5.6)	30	230	3.60	105	2.30	3.5	(3.0)
19		5.6	30	240	----	110	2.00	3.3	3.0
20		5.7	29	250		120	1.70	3.0	3.0
21		5.4	29	250		125	1.40	2.2	2.9
22		4.6	31	260		---	----	2.9	2.8
23		4.6	30	275		---	----	2.9	2.8

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

Table 12

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	1	290					----
01		(4.8)	4	295					----
02		(3.7)	4	290					----
03		(4.3)	5	295					(2.95)
04		(4.1)	8	280					(3.05)
05		4.6	16	240	---		----		3.00
06		5.2	15	230	3.7		2.10		3 00
07		5.2	22	210	4.0		2.55	2.7	2.95
08		5.6	22	220	4.1		2.80	2.9	3.00
09		6.2	24	210	4.3		2.90	3.4	3.10
10		6.1	23	210	4.4		3.10	3.6	3.10
11		6.2	24	205	4.5		3.10	3.5	3.10
12		6.2	26	205	4.5		3.10		3.15
13		6.2	28	210	4.5		3.10		3.15
14		6.0	29	205	4.5		----		3.15
15		5.9	31	205	4.4		3.10		3.15
16		6.0	30	220	4.2		3.00	3.0	3.15
17		5.9	29	220	4.1		2.80		3.20
18		6.0	25	230			2.50	2.9	3.20
19		6.0	26	250			2.10	2.6	3.20
20		6.0	18	260			----	2.4	3.20
21		(5.8)	6	270					(3.25)
22		(6.2)	5	250					(3.00)
23		(5.7)	3	280					----

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

Table 13

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.9	30	265		---	0.75	2.2	2.7
01		4.2	30	265		---	0.85	2.3	2.7
02		3.8	31	280		115	0.95	2.3	2.7
03		3.9	31	280		115	1.45	2.5	2.7
04	(345)	4.1	31	260	3.20	110	1.80	4.0	2.7
05	370	4.6	31	240	3.60	105	2.20	4.0	2.8
06	365	5.0	31	225	3.90	105	2.45	4.3	2.8
07	350	5.5	30	210	4.10	100	2.70	4.4	2.8
08	355	5.9	29	210	4.30	100	2.95	4.7	2.9
09	350	6.1	30	210	4.40	100	3.10	4.5	2.9
10	350	6.1	31	205	4.60	100	3.20	4.5	2.9
11	335	6.3	31	210	4.60	100	3.25	4.5	2.9
12	335	6.1	30	205	4.60	100	3.25	4.7	3.0
13	340	6.0	29	205	4.60	100	3.30	4.5	3.0
14	330	6.1	31	210	4.50	100	3.20	4.5	3.0
15	330	6.1	31	210	4.40	100	3.10	4.4	3.0
16	305	6.2	30	215	4.30	105	2.90	4.4	3.0
17	295	6.2	30	230	4.00	105	2.60	4.2	3.0
18	(305)	6.1	31	240	3.80	105	2.30	3.9	3.0
19	---	6.1	31	250		105	1.90	3.5	3.0
20		6.1	31	250		110	1.50	3.0	3.0
21		6.0	31	245		115	1.20	2.4	2.9
22		5.4	31	255		140	----	2.0	2.8
23		5.1	31	255		---	----	2.2	2.8

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

Table 14

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.0	24	280			---	6.3	(2.9)
01		4.0	29	290			---	4.8	---
02		3.8	30	275			---	3.4	---
03		3.6	29	300			---	4.0	(2.7)
04		3.7	29	300			2.0	2.4	---
05	400	4.1	28	280	3.3		2.4	3.2	(2.95)
06	440	4.3	25	245	3.6		2.6	3.5	2.6
07	540	4.4	24	240	4.0		3.0	3.7	2.5
08	455	4.7	25	240	4.2		3.3	4.1	2.65
09	450	5.0	25	225	4.3		3.3	3.4	2.7
10	440	5.0	28	215	4.3		3.3		2.75
11	430	5.2	28	210	4.4		3.3		2.65
12	400	5.5	27	205	4.4		3.3		2.7
13	400	5.4	28	210	4.4		3.3		2.8
14	400	5.7	29	210	4.4		3.2		2.7
15	375	5.7	29	220	4.3		3.2		2.8
16	380	5.8	30	230	4.2		3.1		2.8
17	360	5.7	31	230	4.1		3.0		2.85
18	340	5.7	30	250	3.9		2.7	3.2	2.9
19	310	5.3	31	280	---		2.7	3.4	3.0
20		4.8	31	300			2.5	3.3	3.0
21		4.5	29	300			2.4	5.0	2.9
22		4.5	29	285			---	6.0	2.9
23		4.2	26	270				5.0	---

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

Table 15

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.0	31	300					2.85
01		4.6	31	300					2.75
02		4.2	31	300					2.80
03		3.9	31	300				2.1	2.80
04	(335)	4.1	31	275	2.8	---	1.8	2.0	2.85
05	330	4.7	31	250	3.6	126	2.1	2.6	2.95
06	330	5.1	31	230	3.9	120	2.4	3.0	3.00
07	330	5.8	30	225	4.2	114	2.8	3.3	3.00
08	340	5.8	31	225	4.4	110	3.0	3.5	3.00
09	320	6.0	31	215	4.6	110	3.2	3.9	3.00
10	350	6.3	31	210	4.7	110	3.4	3.7	2.95
11	330	6.3	31	210	4.7	110	3.4	3.8	3.00
12	330	6.2	29	210	4.7	110	3.5	4.3	3.05
13	335	6.2	31	220	4.7	110	3.4	4.2	3.00
14	320	6.2	30	220	4.7	110	3.4	3.8	3.05
15	320	6.3	29	225	4.6	110	3.2	3.7	3.00
16	300	6.4	30	225	4.4	115	2.9	3.7	3.05
17	300	6.4	29	240	4.1	120	2.6	3.9	3.05
18	280	6.6	31	260		130	2.2	3.8	3.05
19	---	6.6	31	270		---	E	3.3	3.05
20		6.7	31	260				2.4	3.10
21		6.3	28	270				2.3	3.00
22		5.7	30	280					2.80
23		5.3	31	290					2.85

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

Table 16

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	27	280				1.2	2.85
01		4.8	27	295				1.2	2.80
02		4.4	27	285				1.2	2.80
03		4.2	27	280				1.1	2.85
04	---	4.2	26	270		121	1.40	1.5	2.90
05	340	4.7	26	245	3.40	113	1.95	2.2	3.00
06	320	5.4	26	235	3.80	111	2.40	2.9	3.05
07	320	5.9	25	(225)	4.05	109	2.75	3.2	3.10
08	330	5.8	27	(225)	4.40	107	3.00	3.5	3.00
09	315	6.0	26	(220)	4.50	107	3.20	3.7	3.10
10	350	6.2	28	(220)	4.50	107	3.30	3.7	3.05
11	335	6.5	27	(230)	4.70	107	3.40	3.8	3.10
12	330	6.4	26	(225)	4.70	107	3.45	3.6	3.05
13	340	6.4	28	(220)	4.70	109	3.40	3.7	3.10
14	340	6.4	29	(225)	4.50	109	3.30	3.6	3.05
15	330	6.4	28	<240	4.50	109	3.20	3.6	3.10
16	310	6.4	26	<250	4.15	109	2.95	3.7	3.10
17	300	6.6	26	<265	----	110	2.50	3.5	3.10
18	290	6.6	27	(265)		(119)	2.15	3.2	3.15
19	---	6.8	27	260		<131	1.50	2.7	3.15
20		6.9	27	255		---	----	2.2	3.10
21		6.4	27	250				1.5	3.00
22		5.9	27	265				<1.6	2.90
23		5.4	27	275				<1.1	2.85

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

Table 17

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	31	270					
01		4.8	31	265				1.2	
02		4.4	30	260				1.2	
03		4.3	30	275		---	---	1.4	
04	---	4.8	30	245	---	105	1.8	2.1	
05	330	5.4	28	230	3.9	100	2.3	2.5	
06	300	5.6	27	230	4.1	100	2.7	3.3	
07	320	6.0	26	215	4.4	100	3.0	3.6	
08	325	6.4	27	200	4.6	95	3.2	3.6	
09	300	6.6	30	205	4.7	95	3.3	4.0	
10	320	6.8	30	205	4.8	95	3.3	3.9	
11	330	6.9	27	200	4.8	95	3.4	4.0	
12	325	6.7	30	230	4.9	95	3.4	4.0	
13	310	6.8	30	215	4.7	95	3.4	3.8	
14	300	6.7	31	205	4.6	95	3.3	3.8	
15	300	6.8	28	215	4.3	100	3.0	3.6	
16	290	6.8	28	230	4.0	100	2.7	3.7	
17	(300)	6.8	28	240	---	100	2.4	3.4	
18		7.2	29	250		110	1.9	2.7	
19		7.0	30	240		---	---	2.5	
20		6.8	28	240				2.3	
21		6.3	29	<250				2.0	
22		5.9	31	260					
23		5.4	30	275					

Time: 0.0°.
Sweep: 1.0 Mc to 18.0 Mc.

Table 18

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.3	27	300					2.8
01		3.0	27	300				2.3	2.8
02		3.0	26	320				2.6	2.8
03		3.0	25	320				2.7	2.8
04		2.9	25	310				2.2	2.9
05		3.3	25	280			1.8		3.0
06	400	4.0	25	235	3.3		2.2		3.0
07	480	4.2	25	220	3.8		2.5		2.6
08	475	4.7	27	210	4.1		2.9		2.6
09	440	5.0	24	200	4.2		3.1		2.7
10	450	5.2	25	210	4.4		3.2		2.5
11	380	5.5	23	200	4.5		3.4		2.8
12	420	5.5	25	200	4.5		3.5		2.75
13	415	5.4	26	210	4.5		3.5		2.8
14	400	5.5	29	220	4.5		3.5		2.8
15	395	5.5	29	210	4.5		3.3		2.75
16	375	5.6	31	210	4.3		3.1		2.9
17	<335	5.8	31	220	4.1		2.9		2.9
18	310	5.8	31	230	3.9		2.6		2.95
19	290	6.0	30	240	---		2.2		3.0
20	---	5.9	30	250			1.8		3.0
21		5.4	30	260			---		3.0
22		4.4	30	280					2.9
23		3.9	29	300					2.9

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

Table 19

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	28	270					2.7
01		3.6	30	290					2.7
02		3.2	27	295					2.8
03		3.2	29	280					2.8
04		3.2	30	260					3.0
05	---	4.1	31	230	---		2.10		3.0
06	650	4.6	31	220	3.8		2.60		3.1
07	390	4.9	31	210	4.0		2.95		2.9
08	355	5.0	30	205	4.3		3.10		3.1
09	360	5.2	30	200	4.4		3.40		2.9
10	375	5.3	31	200	4.5		3.40		2.8
11	405	5.3	31	200	4.6		3.50		2.7
12	400	5.5	31	200	4.6		3.50		2.7
13	370	5.8	30	200	4.6		3.50		2.8
14	370	5.8	30	200	4.5		3.35		2.9
15	330	6.0	30	205	4.3		3.10		2.9
16	320	6.2	30	210	4.1		2.95		2.9
17	300	6.3	31	230			2.60	3.0	2.9
18	---	6.5	31	250			----	2.6	2.9
19		6.7	30	250					2.9
20		6.3	26	250					2.8
21		5.8	22	255					2.8
22		(5.0)	25	270					(2.7)
23		4.8	26	<280					2.7

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

Table 20

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.6)	29	300					
01		(5.2)	29	310					
02		(4.9)	27	300					
03		(4.6)	29	300					
04		4.4	28	310					
05		4.9	29	(265)					
06	340	5.6	28	240	3.7				
07	330	6.1	29	240	4.1		2.9	3.1	
08	340	6.2	28	(245)	4.4	120	3.0	3.4	
09	340	6.1	28	<250	4.6	120	3.1	3.6	
10	340	(6.8)	29	<245	4.6	---	---	3.4	
11	330	7.1	29	<240	4.8	---	---	3.3	
12	350	7.1	30	<270	4.8	---	---		
13	330	>6.9	28	<260	4.8	---	---		
14	330	7.0	29	<260	4.7	---	---		
15	325	7.0	29	<270	4.6	(120)	(3.2)		
16	300	7.0	27	250	4.4	130	3.1	3.5	
17	300	(7.1)	27	260			(2.8)	3.6	
18		(7.0)	28	260				3.4	
19		>6.8	29	265				3.2	
20		>6.7	30	260				2.8	
21		>5.6	28	270				2.6	
22		(5.9)	25	275					
23		>5.6	29	300					

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

Table 21

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.5	26	280					2.85
01		5.5	27	280					2.80
02		4.9	26	285					2.80
03		4.5	27	280					2.85
04		4.5	29	280					2.80
05	---	4.4	29	280	---	---	----		2.90
06	340	4.9	27	250	3.6	120	2.10		3.10
07	330	5.6	25	240	4.0	110	2.50	3.1	3.10
08	340	5.9	22	220	4.3	100	2.80		3.00
09	320	6.1	24	210	4.4	100	3.00	3.6	3.10
10	325	6.3	21	210	4.5	100	3.20	4.3	3.05
11	320	6.7	22	200	4.7	100	3.40	4.8	3.00
12	320	6.7	25	200	4.8	100	3.40		3.00
13	330	6.7	23	215	4.7	100	3.40		3.00
14	320	6.8	24	220	4.7	100	3.40		3.10
15	320	6.7	27	210	4.6	100	3.30	3.5	3.10
16	320	6.6	25	230	4.5	100	3.10	3.2	3.05
17	300	6.7	21	235	4.2	110	2.90	3.8	3.10
18	280	6.8	22	250	3.9	120	2.50	3.7	3.10
19	---	6.7	26	260		120	1.90	3.6	3.20
20		6.8	26	250				3.0	3.20
21		6.6	22	250				3.0	3.10
22		6.0	25	250				2.8	3.05
23		5.8	26	270					2.95

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

Table 22

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.0	31	295					----
01		3.6	29	300					----
02		3.2	29	290					
03		3.0	29	300					----
04		2.8	31	300					----
05		3.5	31	260			2.0		3.15
06	(330)	4.0	31	235	3.4		2.4		3.2
07	360	4.7	31	220	4.0		2.8	3.0	3.1
08	360	5.0	31	210	4.2		3.0	3.2	3.1
09	395	5.1	31	200	4.5		3.2	3.3	2.9
10	400	5.3	31	200	4.6		3.3	3.5	2.95
11	400	5.6	31	200	4.6		3.4	3.5	3.0
12	380	5.8	31	200	4.7		3.5		3.0
13	385	5.8	30	200	4.6		3.4	3.6	3.0
14	380	5.8	30	210	4.6		3.4		3.0
15	370	6.0	31	210	4.5		3.2		3.0
16	350	6.0	31	220	4.3		3.0		3.0
17	320	6.2	31	230	4.0		2.8	3.1	3.0
18	290	6.3	31	250	(3.5)		2.3	3.2	3.1
19	---	6.4	31	265			1.9		3.0
20		6.4	31	250					3.1
21		6.0	30	260					(3.0)
22		5.0	31	270					(2.9)
23		4.6	30	290					(2.9)

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

Table 23

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	24	300					2.80
01		5.4	24	300					2.80
02		5.3	25	295					2.85
03		5.0	25	280					2.95
04		4.8	26	285			----		2.90
05	(355)	5.3	27	260	3.3		2.00	2.6	3.05
06	320	6.3	27	250	3.8		2.50	3.3	3.10
07	320	6.3	25	250	4.2		2.90	3.7	3.10
08	320	6.3	23	240	4.3		3.10	4.0	3.05
09	335	6.3	21	(240)	(4.6)		3.25	5.0	3.00
10	360	6.2	22	230	4.7		3.30	4.1	3.00
11	360	6.1	23	220	4.7		3.30	4.0	2.95
12	360	6.3	25	230	4.8		3.30	4.2	2.95
13	360	6.5	26	230	4.8		3.25	4.7	2.95
14	350	6.3	27	230	4.6		3.20	4.5	3.00
15	330	6.6	26	235	4.4		3.10	3.5	3.00
16	315	6.6	26	240	4.2		2.90	3.5	3.10
17	320	6.8	26	260	4.0		2.40	3.8	3.05
18		7.0	27	265			----	4.0	3.05
19		7.5	27	265				(3.7)	3.00
20		7.5	27	265				(3.3)	2.95
21		7.0	27	270				(3.2)	2.95
22		6.4	26	270					2.90
23		6.0	26	290					2.80

Time: 135.0°E.
Sweep: 1.0 Mc to 18.0 Mc in 1 minute.

Table 24

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.7)	27	300				2.6	2.70
01		(5.7)	29	300				2.4	(2.70)
02		5.4	29	300					2.65
03		5.0	30	290					2.70
04		4.8	30	280					2.75
05		5.0	28	270		---	1.6		2.90
06	---	5.7	29	240	---	120	2.1	2.9	2.90
07	---	(6.3)	29	240	---	110	2.6	3.3	3.05
08	320	6.8	28	240	(4.4)	110	3.0	3.6	3.00
09	340	6.9	27	230	4.6	110	3.2		2.95
10	340	7.1	29	210	4.8	110	3.4		2.95
11	340	7.3	29	210	4.8	110	3.5		2.85
12	340	7.8	28	220	4.9	110	3.5		2.85
13	310	7.9	31	230	4.8	110	3.5		2.90
14	320	(7.8)	31	220	4.8	110	3.5		(2.95)
15	---	7.7	31	240	---	110	3.4		3.00
16	---	7.6	29	240	---	110	3.1	4.7	3.00
17		7.7	29	240		110	2.8	4.6	3.00
18		(7.6)	27	250		120	2.3	4.0	3.00
19		(7.9)	19	260		---	---	4.2	(2.95)
20		(7.9)	15	250				3.4	(3.00)
21		(6.8)	14	250				3.1	(2.85)
22		(6.2)	18	260				2.9	(2.80)
23		(5.9)	23	290				3.2	(2.75)

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

Table 25

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	23	295				(3.0)	2.80
01		5.5	24	295				(2.9)	2.80
02		5.2	22	295				(2.2)	2.85
03		5.0	24	270				(2.2)	2.90
04		4.8	26	280					2.90
05	(345)	5.5	29	250	---		E	2.4	3.10
06	290	6.5	31	245	3.7		2.45	3.1	3.15
07	280	6.7	30	240	4.0		3.00	3.9	3.20
08	300	6.6	28	235	4.4		----	4.9	3.20
09	325	6.3	25	230	4.6		----	4.6	3.05
10	355	6.6	26	220	4.8		----	4.6	2.90
11	350	6.8	28	220	4.8		----	4.5	2.90
12	345	7.0	28	220	4.7		----	4.2	2.90
13	340	7.4	29	230	4.7		----	4.2	3.00
14	345	7.4	29	225	4.6		----	4.0	2.95
15	320	7.3	29	235	4.5		3.25	4.0	3.00
16	300	7.5	29	245	4.2		2.95	3.5	3.10
17	295	7.5	30	250	4.0		2.50	3.9	3.10
18	(300)	7.6	31	260			E	(3.4)	3.05
19		7.8	31	255				(2.6)	3.05
20		7.5	31	250				(3.6)	3.00
21		6.6	29	260				(4.0)	2.90
22		6.0	26	290				(3.5)	2.90
23		5.8	24	295				(3.6)	2.80

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

Table 26

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1	31	310				4.1	2.70
01		6.0	31	305				3.8	2.75
02		5.4	31	295				(3.3)	2.80
03		5.1	30	290				2.2	2.80
04		4.8	30	285				2.0	2.75
05	---	5.5	31	255			(1.90)	2.1	3.05
06	280	6.5	31	250	---		(2.40)	3.3	3.10
07	280	6.7	29	245	---		(2.80)	4.0	3.05
08	(310)	7.1	26	(250)	---		3.15	4.8	3.00
09	<350	6.9	28	245	(4.8)		3.30	6.4	2.90
10	<345	6.8	29	230	4.9		3.50	5.8	2.85
11	350	7.2	30	230	5.1		(3.60)	4.6	2.80
12	345	7.9	31	245	5.0		(3.60)	4.4	2.80
13	345	8.2	31	245	4.8		(3.60)	4.5	2.85
14	325	8.4	31	250	4.7		3.40	4.4	2.85
15	315	8.5	31	245	4.6		3.20	4.3	2.90
16	305	8.5	31	250	4.3		(2.90)	4.6	2.95
17	290	8.5	31	250	---		(2.50)	4.4	3.00
18	280	8.3	31	260	---		----	4.1	3.00
19		8.3	31	250				(2.8)	3.05
20		7.4	31	255				(3.5)	3.00
21		6.3	31	260				(3.4)	2.75
22		6.1	31	305				(3.5)	2.65
23		6.0	31	310				(3.9)	2.65

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

Table 27

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.2)	16	305				(3.2)	(2.80)
01		6.3	18	300				3.6	2.80
02		(5.8)	19	285				(3.2)	(2.90)
03		5.8	21	270				(3.1)	3.00
04		5.2	23	270				(2.8)	3.00
05		4.8	26	260				(2.2)	3.00
06		5.9	29	250			2.00	2.5	3.30
07	(315)	6.9	29	245			2.60	3.7	3.25
08	(290)	7.0	29	240	---		3.00	5.2	3.20
09	335	7.0	28	230	4.8		3.30	5.5	3.05
10	340	7.5	27	225	(5.0)		3.40	5.4	2.95
11	355	7.9	29	240	5.2		3.60	5.2	2.80
12	350	9.0	31	220	5.0		3.60	5.4	2.80
13	350	9.7	30	230	5.0		3.65	4.8	2.80
14	340	10.2	30	240	5.0		3.60	4.6	2.90
15	320	10.4	31	230	4.8		3.40	4.1	2.90
16	305	10.2	31	<245	4.6		3.20	4.1	2.95
17	290	10.3	31	245	4.3		2.80	4.2	3.00
18	300	(10.1)	29	255	---		2.20	(4.7)	(3.05)
19		9.4	29	260				(4.4)	3.10
20		(8.1)	25	245				(3.2)	(3.10)
21		(7.2)	24	255				>3.6	(2.90)
22		(6.6)	21	300				(3.9)	(2.75)
23		(5.9)	18	315				(3.3)	(2.75)

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

Table 28

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.2	24	270				2.2	(2.85)
01		8.1	21	260				(2.7)	2.95
02		7.7	24	250				(2.8)	3.10
03		6.6	24	240				(2.6)	3.10
04		5.6	18	245				(2.6)	3.15
05		5.0	26	270				(2.6)	3.00
06		6.6	29	245				3.1	3.25
07	---	7.2	28	230		(115)	----	(3.6)	3.20
08	(305)	7.5	28	220	---	(111)	----	(4.2)	3.05
09	(330)	8.0	28	(220)	---	(109)	----	(4.4)	2.80
10	355	8.8	28	(210)	(5.0)	<110	----	(5.2)	2.75
11	370	>10.0	29	(225)	(5.0)	<113	----	(5.0)	2.70
12	360	(11.0)	29	(210)	(5.0)	(111)	----	(5.0)	2.75
13	340	12.6	29	220	(5.0)	<111	----	4.4	2.85
14	320	13.4	30	<230	(4.8)	<110	----	4.2	2.95
15	310	13.4	29	225	(4.7)	(111)	----	4.0	3.00
16	290	13.6	30	<230	(4.5)	<115	(3.00)	3.7	3.00
17	270	13.2	29	240		---	----	(3.5)	(3.15)
18	(260)	(12.5)	29	250				3.2	(3.15)
19		>9.0	30	240					(2.95)
20		>9.0	29	250					(2.90)
21		>8.8	29	270					2.80
22		8.4	26	300					2.75
23		8.4	26	295					(2.80)

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

Table 29

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	28	305					2.80
01		8.0	30	275					3.05
02		7.2	30	255					3.10
03		5.8	30	245					3.15
04		4.8	30	255				2.5	3.10
05		4.2	29	270				2.7	2.95
06		5.8	31	270			139 (2.00)	4.3	3.10
07	---	7.4	31	255			121 (2.60)	4.9	2.90
08	---	8.2	31	<250			121 (3.15)	5.6	2.60
09	---	8.8	31	(230)	---		121 (3.50)	5.6	2.35
10	(400)	9.4	31	(235)	---		121 (3.60)	5.0	2.25
11	395	9.8	31	(230)	(5.0)		122 (3.60)	4.0	2.25
12	405	10.1	31	(230)	(5.0)		(125) ----	4.4	2.30
13	405	10.4	31	(225)	(5.0)		<129 (3.70)	4.2	2.40
14	390	10.7	31	(240)	(4.9)		(124) (3.60)	4.2	2.55
15	370	11.2	31	(240)	---		(125) (3.35)	4.1	2.65
16	340	(11.5)	31	(245)			(125) (3.00)	3.5	(2.70)
17	---	(11.1)	31	(255)			125 (2.50)	3.7	(2.70)
18		(10.7)	31	280				3.8	(2.80)
19		(10.3)	31	290				2.8	(2.75)
20		(9.7)	31	315					(2.65)
21		9.5	29	325					2.60
22		(8.6)	29	345					(2.65)
23		(8.0)	29	345					(2.60)

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

Table 30

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>3.9	17	250					3.05
01		3.8	17	250					3.15
02		>3.6	23	250					3.10
03		3.7	20	250					3.30
04		3.3	19	250					3.10
05		3.1	25	250					3.10
06		3.3	29	250					3.15
07		>6.4	25	230			2.05		3.50
08		(7.3)	17	230			2.70		(3.60)
09		>7.6	18	220			3.00	3.3	(3.55)
10		8.1	20	210	4.3		3.20	3.7	3.50
11		8.0	24	200	4.4		3.40	3.9	3.35
12		8.0	27	200	4.5		3.50	4.0	3.35
13		8.1	20	210	4.5		3.40	4.0	3.40
14		>7.8	21	210	---		3.30	4.0	3.25
15		7.9	19	210	---		3.10	3.8	3.25
16		7.5	13	230			2.80	3.2	(3.40)
17		7.2	18	230			<2.20	3.5	(3.40)
18		6.8	24	220			<1.70	3.1	3.30
19		>5.3	27	220				2.5	3.20
20		4.3	29	240					3.05
21		4.2	25	260					3.05
22		4.0	21	<270					2.90
23		4.0	22	250					3.20

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

Table 31

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.0)	23	---				<1.5	2.90
01		3.0	24	---				<1.6	2.95
02		(3.1)	24	---				1.5	3.00
03		(3.3)	24	---				1.8	3.20
04		(3.0)	24	---				1.4	3.25
05		(2.9)	24	---				<1.2	3.00
06		(2.8)	24	---				<1.3	3.15
07		(5.6)	23	220			2.0		3.35
08	(230)	7.0	23	225			(2.6)		3.50
09	(245)	(7.9)	23	215			3.0	3.2	3.30
10	250	9.0	23	210	---		3.2	3.6	3.25
11	250	9.2	23	200	---		3.3	3.7	3.10
12	250	9.2	25	205	---		3.4	3.7	3.10
13	255	8.8	25	205	---		3.4	3.6	3.10
14	265	9.0	24	210	---		(3.3)	3.6	3.10
15	250	9.8	25	225			3.1	3.2	3.10
16	240	9.3	27	230			2.6	3.0	3.25
17	---	8.5	27	225			2.0	2.2	3.35
18		6.6	26	210			<1.6	<1.7	3.45
19		3.7	25	(210)				(1.7)	3.30
20		(3.6)	24	---				1.6	3.10
21		(3.6)	24	---				<1.6	3.30
22		(3.4)	23	---				(1.6)	(3.30)
23		(3.0)	24	---				<1.6	3.10

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

Table 32

Brisbane, Australia (27.5° S, 152.9° E) May 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	24					2.0	2.80
01		4.2	24					2.0	2.75
02		4.0	25						2.80
03		4.4	22						2.90
04		4.2	24						3.00
05		3.8	24						3.00
06		3.9	25						3.00
07		6.2	24						3.35
08		7.3	25						3.35
09		8.0	24					3.2	3.40
10		8.4	24					3.5	3.40
11		8.0	25				3.30	3.6	3.30
12		7.9	25				3.30	3.6	3.20
13		7.9	25				3.30	3.7	3.10
14		8.6	25					3.7	3.15
15		8.5	25					3.2	3.25
16		8.2	24					3.1	3.30
17		7.3	23					3.2	3.20
18		5.6	25					2.8	2.95
19		4.6	26					1.9	2.85
20		4.5	25						2.80
21		4.3	23						2.80
22		4.2	24						2.80
23		4.2	25						2.80

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

Table 33

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.4	28	<260					3.05
01		3.5	28	(250)					3.10
02		3.6	28	<250					3.10
03		3.8	28	(240)					3.20
04		3.8	27	240					3.20
05		3.5	28	<220					3.35
06		>3.1	29	(235)					3.25
07		4.5	29	225			1.70		3.40
08		6.6	29	220			2.40		3.50
09		7.4	29	215	---		2.75		3.40
10		8.0	27	220	---		3.05		3.45
11		8.5	26	210	4.3		<3.30		3.40
12		8.2	24	200	>4.2		3.30	3.4	3.35
13		8.6	26	200	(4.3)		3.30		3.20
14		8.4	26	<215	>4.2		3.20		3.30
15		8.8	24	220	---		<3.00		3.30
16		8.5	29	230	---		2.55		3.30
17		7.7	27	220			2.00		3.40
18		6.0	27	200					3.30
19		4.4	28	215					3.30
20		3.6	28	225					3.25
21		3.2	26	<240					3.20
22		3.3	27	(250)					3.00
23		3.3	26	<260					3.00

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

Table 34

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.8	30	---				<1.6	2.90
01		2.9	30	---				<1.6	2.90
02		3.0	30	---				<1.5	2.90
03		3.1	30	---				<1.5	2.95
04		3.2	30	---				<1.4	3.00
05		3.2	30	---				<1.4	3.20
06		3.0	30	---				<1.4	3.10
07		3.0	30	225			<1.4	<1.4	3.10
08		5.8	29	225			2.1		3.45
09	230	6.8	30	225	---		2.6		3.40
10	245	7.7	30	220	---		2.9		3.35
11	250	8.4	30	215	---		3.1		3.25
12	250	9.0	30	215	---		3.2		3.25
13	250	8.6	30	210	---		3.2	3.4	3.10
14	265	9.4	30	220	---		3.1	3.2	3.05
15	255	9.8	30	230			3.0	3.1	3.15
16	250	9.8	30	230			2.7		3.25
17	---	8.5	30	230			2.1		3.35
18		7.0	30	215			<1.6	<1.6	3.40
19		3.9	30	210				<1.5	3.30
20		3.6	30	(215)				<1.5	3.20
21		3.1	30	---				<1.6	3.30
22		2.8	30	---				<1.6	3.25
23		2.8	30	---				<1.5	3.00

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

Table 35

Hobart, Tasmania (42.9° S, 147.2° E) May 1961

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.4	24						(3.00)
01		2.3	24						(3.00)
02		2.2	26					3.0	3.00
03		2.1	27					3.1	3.00
04		2.2	26						3.05
05		2.2	25						3.15
06		2.0	28						(3.10)
07		3.0	26						3.10
08		5.2	25						3.60
09		6.4	26					2.8	3.60
10		6.8	27					3.2	3.50
11		(7.3)	29				2.90	3.5	3.50
12		>7.5	28				3.00	3.6	3.45
13		(7.8)	29				3.00	3.2	3.40
14		>7.5	29					3.0	(3.55)
15		7.5	27						(3.45)
16		>7.5	29						3.50
17		(6.9)	27						3.40
18		5.8	27						3.25
19		5.0	28						3.30
20		4.0	26						3.30
21		3.3	28						3.20
22		3.0	26						3.10
23		2.6	24						3.00

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

Table 36

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

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.9	19	280				<1.8	2.75
01		3.8	18	(280)				<1.7	2.70
02		3.6	18	280				<1.6	2.70
03		3.4	17	270				<1.4	2.75
04		3.4	18	260				1.6	2.85
05		3.3	19	250				<1.3	2.90
06		2.8	15	240				<1.5	3.05
07		2.9	13	250				<1.7	3.00
08		4.9	29	230		---	1.8		3.35
09	---	6.0	30	230		110	2.3	2.4	3.40
10	(240)	6.4	31	220		105	2.7	2.8	3.35
11	(240)	6.7	29	220	---	105	2.9	3.1	3.30
12	240	7.0	28	210	---	105	3.0	3.2	3.30
13	(240)	7.2	27	210		105	3.0	3.2	3.20
14	(260)	7.3	30	220		105	2.9	3.1	3.20
15	(250)	7.2	29	230		110	2.7		3.25
16	---	7.3	31	230		110	2.3	2.3	3.25
17		6.7	31	230		---	1.8		3.20
18		5.9	27	230				<1.4	3.05
19		(5.3)	27	240				<1.5	3.00
20		4.8	22	240				<1.7	2.95
21		4.3	18	260				<1.7	2.80
22		4.0	17	260				<1.7	2.75
23		4.1	19	(280)				<1.7	2.70

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

Table 37

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4	24	300					2.60
01		6.0	25	300			----	1.0	2.60
02		5.6	26	300			----	1.1	2.55
03		4.8	29	305			E	1.2	2.60
04	---	4.9	29	300	----		1.40		2.65
05	---	5.2	29	270	----		2.20	2.2	2.70
06	(470)	6.0	29	255	4.1		2.75	2.8	2.80
07	410	6.8	26	240	4.5		3.00	3.2	2.75
08	365	7.4	27	230	4.7		3.30	3.6	2.80
09	350	8.0	26	230	5.0		3.50	3.8	2.80
10	350	8.5	27	230	5.0		3.60	4.0	2.80
11	400	7.8	28	240	5.1		3.70	4.0	2.75
12	380	8.0	27	230	5.1		----	4.0	2.80
13	380	7.5	27	230	5.1		3.70	4.0	2.80
14	360	7.6	24	235	5.1		3.70	4.0	2.80
15	355	7.8	27	230	4.9		3.50	3.5	2.85
16	390	7.5	27	240	---		3.40	3.5	2.80
17	(340)	7.6	27	250			3.15	3.6	2.90
18	---	8.2	26	270			2.75	3.4	2.90
19		8.3	27	275			2.30	3.0	2.90
20		7.8	27	265			1.55	2.1	2.90
21		7.9	28	255				1.8	2.80
22		7.3	27	270					2.70
23		6.7	27	290					2.60

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

Table 38

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.60	29	293					2.58
01		6.25	29	295					2.53
02		5.85	30	294					2.52
03		5.74	29	300					2.54
04		5.20	30	312		---	E	2.0	2.64
05	396	5.30	31	272	----	112	1.92	2.9	2.70
06	418	6.00	31	246	3.85	110	2.45	3.5	2.80
07	376	6.64	30	236	4.40	105	2.86	4.0	2.78
08	372	7.50	31	230	4.70	103	3.14	4.4	2.81
09	371	8.30	30	224	4.92	101	3.35	4.8	2.84
10	399	8.58	28	216	5.11	102	3.50	4.7	2.81
11	373	8.75	30	220	5.20	102	3.58	4.8	2.76
12	360	8.39	31	220	5.13	101	3.60	4.9	2.78
13	385	8.16	31	222	5.26	102	3.68	4.8	2.79
14	360	8.30	31	222	5.18	103	3.58	4.5	2.79
15	382	8.05	31	224	5.12	103	3.54	4.3	2.77
16	362	8.05	31	232	4.85	105	3.34	3.9	2.84
17	332	8.18	30	236	(4.70)	107	3.07	4.0	2.83
18	---	8.42	30	250	----	109	2.67	4.0	2.88
19	---	8.58	30	259	----	112	2.22	3.6	2.93
20		8.34	30	252		---	----	2.9	2.94
21		8.07	30	250		---	E	2.5	2.84
22		7.38	30	264					2.68
23		6.95	31	278					2.60

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

Table 39

Dourbes, Belguim (50.1° N, 4.6° E) May 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.2	29	290				1.3	2.65
01		5.8	30	300				1.1	2.65
02		5.5	30	300				1.1	2.65
03		5.2	31	300				1.1	2.70
04	---	5.0	30	290		<118	<1.55	1.7	2.80
05	(370)	5.5	30	250	3.50	(113)	2.20	2.4	2.90
06	360	5.9	29	240	4.00	107	2.60	3.0	2.95
07	330	6.8	29	(235)	4.30	105	3.00	3.5	3.00
08	310	7.7	28	(225)	4.60	103	3.20	3.7	3.00
09	325	7.9	28	(220)	4.80	103	3.30	3.9	2.90
10	365	8.2	28	(220)	----	103	3.40	4.0	2.85
11	330	8.0	29	(220)	----	105	3.60	4.0	2.90
12	360	8.1	29	225	5.10	105	3.60	<4.2	2.85
13	340	8.0	28	(230)	5.00	105	3.50	4.2	2.90
14	340	8.2	23	(225)	4.95	105	3.50	3.7	2.90
15	330	7.9	27	(240)	4.60	<107	3.30	3.6	2.90
16	320	7.9	28	240	4.40	107	3.10	3.4	2.90
17	(300)	8.2	29	(250)	----	109	2.80	3.2	2.95
18	---	8.4	29	(260)		<112	2.30	2.9	3.00
19		8.4	30	255		<125	1.70	2.8	3.00
20		7.7	29	250		---	----	1.8	2.95
21		7.3	29	260				<1.7	2.90
22		6.8	29	270				<1.7	2.70
23		6.6	30	<300				<1.6	2.70

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

Table 40

White Sands, New Mexico (32.3° N, 106.5° W) May 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	27	<310				2.5	2.60
01		5.7	28	293					2.70
02		5.6	29	292				2.5	2.70
03		5.2	27	290				2.2	2.72
04		5.0	29	290				2.0	2.70
05	---	4.9	29	275		118	----	1.8	2.82
06	---	6.15	30	242	----	110	2.40	2.6	3.05
07	(402)	6.9	29	227	----	105	(2.90)	3.4	2.90
08	395	8.0	29	(215)	4.70	101	(3.30)	4.0	2.75
09	386	8.2	26	206	5.00	101	(3.50)	4.0	2.70
10	380	8.2	25	(200)	5.10	102	(3.70)	4.2	2.62
11	367	9.25	26	(205)	5.25	100	(3.90)	4.1	2.68
12	365	9.7	28	215	5.30	100	(3.90)	4.2	2.62
13	350	10.0	29	<221	5.25	100	(3.85)	4.2	2.70
14	335	10.05	28	220	5.15	100	(3.80)	4.1	2.70
15	325	9.9	29	225	5.00	100	3.60	4.1	2.80
16	314	9.45	30	225	4.70	102	3.32	3.9	2.90
17	300	9.4	28	(235)	----	105	(3.00)	3.5	2.90
18	---	8.9	28	245		114	>2.30	3.1	2.95
19		8.5	30	245				2.6	3.05
20		7.3	28	235				3.0	2.90
21		6.4	29	(250)				3.6	2.80
22		5.75	30	<288				2.5	2.72
23		5.7	29	<310					2.65

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 41

Maui, Hawaii (20.8° N, 156.5° W) May 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.3	29	<290				1.8	2.85
01		7.65	30	285				2.6	2.80
02		7.25	30	(265)				2.0	2.92
03		6.7	31	270					2.85
04		6.2	31	<285					2.80
05		5.75	30	(290)					2.70
06	---	5.95	30	260	---	125	----		2.75
07	(305)	7.05	30	235	---	115	(2.70)	2.9	2.92
08	395	8.5	31	220	5.3	109	3.15	3.8	2.60
09	(530)	9.5	31	<215	(5.4)	107	(3.50)	4.7	2.45
10	390	10.4	31	210	5.6	109	(3.75)	4.5	2.55
11	360	11.3	31	205	5.5	108	3.95	4.4	2.65
12	350	12.0	31	210	(5.6)	109	(4.00)	4.5	2.70
13	340	12.8	31	215	(5.5)	109	4.00	4.4	2.80
14	330	12.9	31	220	(5.4)	109	3.95	4.3	2.90
15	320	12.9	31	220	(5.2)	109	3.75	4.1	2.85
16	310	13.0	31	230	---	109	3.45	4.0	2.90
17	290	13.4	31	<240	---	109	3.00	3.9	3.00
18	270	13.0	31	250		<121	2.30	4.2	3.05
19	---	12.0	31	260		---	----	3.8	3.05
20		10.4	31	260				3.2	2.90
21		9.8	31	<275				2.9	2.75
22		9.0	31	<290				2.4	2.75
23		8.6	30	<300				2.3	2.75

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 42

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8	27	305					(2.70)
01		6.9	29	300					(3.00)
02		6.5	28	270					(3.20)
03		6.0	29	255					3.25
04		4.9	28	235					3.40
05		3.6	28	250					3.20
06		7.6	27	255			2.25		3.35
07		10.6	27	250			3.00		3.20
08		11.9	27	230			3.50	3.9	3.05
09		12.7	28	225			3.75	5.9	2.70
10		12.6	28	215			4.00	6.4	2.50
11		12.0	29	205			4.10		2.35
12		11.5	29	205			4.10	8.5	2.40
13		11.7	30	205			4.00	6.1	2.35
14		11.6	31	200			3.90	6.3	2.35
15		11.9	31	210			3.50	4.4	2.40
16		>11.7	31	240			3.20	5.9	(2.35)
17		(12.0)	31	250			2.60		2.40
18		>11.5	31	280			1.55		<2.45
19		(10.3)	29	350					(2.15)
20		9.1	31	355					(2.25)
21		9.0	30	350					----
22		8.6	30	330					----
23		8.7	28	305					----

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

Table 43

La Paz, Bolivia (16.5° S, 68.1° W) May 1960*

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	12	220				3.3	3.15
01		7.9	13	215					3.15
02		7.2	12	220					3.20
03		6.4	13	225					3.30
04		4.85	14	230					3.10
05		4.3	13	250					3.10
06		3.8	12	250				3.7	3.10
07		5.65	12	270		<151	1.70	2.8	2.98
08		9.0	14	240		113	(2.60)	4.2	3.10
09		10.8	13	225		109	(3.15)	5.0	2.90
10		11.25	14	220		---	(3.50)	6.0	2.75
11	---	11.1	13	210		---	(3.70)	7.0	2.65
12	---	>11.45	12	210	---	---	(3.70)	7.0	2.55
13	---	(11.0)	13	200		---	(3.70)	7.0	(2.55)
14		(10.7)	13	210		---	----	7.5	(2.50)
15		10.7	13	210		---	----	7.0	(2.48)
16		(10.3)	13	230		---	(3.10)	6.0	2.52
17		10.1	13	250		113	(2.50)	5.4	2.60
18		9.6	13	270		<155	1.80	4.5	(2.65)
19		9.1	12	280				2.8	(2.65)
20		9.0	13	265				3.2	(2.55)
21		(9.0)	13	250				2.5	(2.80)
22		8.9	13	230				2.5	3.00
23		8.6	14	225				3.5	3.10

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
* Observations taken 17 through 31 only.

Table 44

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.8	22	250					3.10
01		9.6	23	255					3.10
02		7.3	25	245					3.15
03		6.6	23	250					3.10
04		4.2	23	275					3.00
05		3.4	24	325					2.80
06		3.2	23	<330			E		2.70
07		7.4	27	270			---		3.10
08		9.6	21	270			---		3.10
09	---	10.5	13	<270					(3.10)
10	(290)	(12.0)	12	---					(3.05)
11	(300)	(12.0)	13	---					(3.00)
12	---	>11.8	4	---					----
13	---	>11.0	3	---					----
14	---	(12.0)	5	---					----
15	(310)	(12.7)	9	---					(3.00)
16		(12.6)	12	280					(3.00)
17		(13.8)	14	270					(3.05)
18		(12.4)	14	250					(3.20)
19		(12.0)	17	240					(3.10)
20		(10.2)	18	255					(3.00)
21		10.5	17	260					(3.00)
22		(10.2)	19	250					(3.10)
23		>10.0	20	250					(3.00)

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

Table 45

Buenos Aires, Argentina (34.5° S, 58.5° W) May 1960

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.0	22	290					2.75
01		5.7	22	280					2.75
02		5.5	22	260					2.85
03		4.8	24	255					2.70
04		4.5	24	250					2.95
05		3.3	24	270					2.65
06		3.2	23	295					2.70
07		7.0	25	240		---	2.10		3.20
08		>8.8	24	230		115	2.70		3.20
09	(245)	10.2	22	230		111	3.10		3.25
10	245	11.0	23	225		109	----	3.8	3.20
11	250	11.8	25	225		109	----	4.0	3.20
12	240	11.6	20	220		110	----	4.0	3.00
13	(280)	>12.0	23	220		111	----		3.00
14	260	13.2	21	235		111	3.30	3.7	3.00
15	260	>14.0	20	240		113	2.90	3.4	3.10
16		>13.0	22	230		115	----		3.20
17		11.2	21	215		---	----		3.15
18		>9.0	21	210					3.05
19		>9.0	20	230					3.00
20		>9.0	17	220					(3.05)
21		8.6	17	230					(2.90)
22		7.5	19	245					2.85
23		5.9	23	280					2.70

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

Table 46

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	27	300				2.2	2.70
01		5.1	26	300				2.4	2.70
02		4.7	27	285					2.80
03		4.6	27	280				2.5	2.80
04		4.4	26	235				2.4	3.18
05		3.3	27	240		---	----	2.3	2.70
06		3.4	25	290		---	E		2.80
07		6.85	26	240		<159	2.05		3.30
08		9.3	26	230		115	2.65	2.7	3.55
09	---	9.9	26	230		109	3.00	3.0	3.50
10	---	10.85	26	230		109	3.25	3.5	3.38
11	235	11.2	26	220		109	3.40	4.0	3.40
12	(240)	11.15	26	210		110	3.45	3.9	3.20
13	---	12.6	25	220	---	111	3.40	3.7	3.25
14	---	13.0	25	230		111	3.20		3.30
15		12.1	25	230		112	2.85	2.8	3.35
16		10.85	26	230		(121)	2.28	2.8	3.30
17		9.6	27	220		---	----	1.9	3.40
18		7.8	27	215				2.0	3.18
19		7.4	25	235				2.3	3.00
20		7.0	26	235					3.05
21		6.5	27	250					2.90
22		5.5	27	280					2.72
23		5.4	27	315					2.65

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

Table 47

Tromso, Norway (69.7° N, 19.0° E) December 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.3)	1	---				4.5	
01		(4.0)	1	---		---	----	4.2	
02		(4.0)	4	(340)		---	----	4.1	----
03		(4.6)	7	(330)		---	----	4.1	----
04		(4.6)	11	300		---	----	4.2	----
05		(4.4)	16	300		---	----	3.2	----
06		(4.1)	17	295		---	----	2.7	----
07		(3.5)	17	295		---	----	2.3	(2.60)
08		3.2	18	290		---	----	1.6	(2.70)
09		4.8	24	270		---	----		2.70
10		6.1	27	250		140	1.45		2.90
11		7.4	27	250		---	----		2.95
12	---	7.7	26	245	---	---	----		2.90
13		(7.6)	22	240		---	----	1.9	2.90
14		6.7	18	245		---	----	1.8	(2.95)
15		(6.1)	7	250		---	----	3.1	(3.05)
16		3.3	10	240				3.1	(2.90)
17		(3.1)	8	(280)				3.4	----
18		(3.4)	8	---				3.5	----
19		(4.4)	4	---				3.8	----
20		(4.0)	1	---				4.7	
21		(5.3)	3	---				3.9	
22		(4.1)	2	---				4.1	
23		---	0	(355)		---	----	4.3	

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

Table 48

Winnipeg, Canada (49.9° N, 97.4° W) December 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	26	280					----
01		3.5	26	290					3.10
02		3.4	22	300					(2.90)
03		3.5	22	300					(2.95)
04		3.6	24	295					(2.95)
05		3.4	22	285					(3.00)
06		3.3	19	(280)					(3.10)
07		3.3	19	280					----
08		4.3	17	260					(3.15)
09		7.0	24	240		---	---		3.20
10		8.4	24	240		---	---		(3.20)
11		9.8	21	240		---	---		----
12		(10.5)	23	245		---	---		----
13		(10.2)	17	235		---	---		----
14		(10.5)	13	240		---	---		----
15		10.2	13	235		---	---		----
16		10.3	17	230		---	---		----
17		10.0	23	225					----
18		8.8	27	240					----
19		7.2	30	230					3.10
20		5.8	30	240					3.15
21		4.8	29	250					(3.15)
22		4.0	29	265					----
23		3.8	28	270					----

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

Table 49

Singapore, British Malaya (1.3° N, 103.8° E) December 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	30	260		---		<1.2	2.70
01		9.9	30	260		---		<1.1	2.75
02		8.8	30	270		---		<1.1	2.80
03		8.0	30	270		---		<1.1	2.75
04		7.5	30	250		---		<1.1	2.90
05		6.3	28	235		---		<1.1	3.00
06	---	6.4	29	270	---	115	1.25		2.85
07	---	8.6	30	250	---	120	2.65		2.80
08	---	10.0	29	240	---	115	3.25		2.65
09	---	10.4	31	225	---	110	3.65		2.40
10	655	10.8	31	220	---	110	3.90		2.10
11	---	11.3	30	215	---	110	4.05		2.10
12	---	11.8	30	215	(5.2)	105	4.10		2.15
13	---	12.0	30	210	---	110	4.00		2.15
14	610	12.0	30	210	---	110	3.85		2.10
15	235	12.1	30	215	---	105	3.55	3.9	2.10
16	---	12.6	30	245	---	110	3.20		2.20
17	---	12.5	28	260	---	120	2.60		2.20
18	---	11.9	29	295	---	---		2.8	2.20
19		11.8	27	370		---		2.4	2.20
20		11.8	30	360		---		<2.0	2.30
21		11.9	30	300		---		<1.6	2.50
22		11.2	30	255		---		(1.5)	2.65
23		10.2	30	250		---		<1.3	2.65

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

Table 50

Tromso, Norway (69.7° N, 19.0° E) November 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	6	---				4.0	----
01		(5.1)	5	---		---	---	4.2	
02		(4.7)	5	(310)		---	---	3.4	
03		(5.2)	3	(295)		---	---	4.2	----
04		(5.0)	11	300		---	---	4.1	----
05		4.6	14	295		---	---	3.2	(2.55)
06		(4.2)	15	290		---	---	2.9	----
07		(4.0)	15	265		---	---		(2.70)
08		4.5	19	280		---	---	2.2	2.70
09		6.0	22	255		---	---		2.90
10	---	7.2	25	255		---	---		3.05
11	250	8.6	30	(250)		---	---	2.0	3.00
12	245	9.0	27	(255)		---	---		3.00
13	(240)	8.0	27	245		---	---	2.1	3.00
14		6.6	22	245		---	---	2.0	2.95
15		6.6	13	250		---	---	3.0	(2.90)
16		4.6	10	(245)				3.2	(2.90)
17		4.7	11	(260)				4.0	(2.80)
18		4.5	10	(280)				4.0	----
19		(4.0)	8	---				4.2	----
20		(4.6)	7	(310)				4.3	----
21		(4.6)	3	---				4.2	----
22		(4.3)	3	(340)				3.2	----
23		(4.3)	5	(305)				4.0	----

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

Table 51

Slough, England (51.5° N, 0.6° W) November 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	27	280				<1.3	2.55
01		3.9	28	<300				<0.9	2.50
02		3.7	28	300				<0.9	2.50
03		3.5	27	300				<0.9	2.55
04		3.3	27	<285				<1.1	2.65
05		3.1	27	240				<1.6	2.70
06		2.9	28	<240				<1.6	2.70
07		4.6	30	<255		---	<1.60	<1.6	2.80
08		7.1	29	235		130	2.05	<2.2	3.25
09		(9.5)	30	230		115	2.50	2.6	(3.20)
10		(11.0)	25	230		115	2.75	2.9	3.20
11		11.9	29	230		110	2.90	3.0	3.10
12		12.0	30	230		110	3.00	3.0	3.10
13		11.7	28	230		110	2.95		3.05
14		11.9	30	235		120	2.75		3.10
15		11.6	30	235		<130	2.40		3.15
16		10.7	29	225		---	1.95		3.20
17		9.0	29	215			----	2.0	3.15
18		7.5	29	<220				<1.6	3.05
19		5.9	28	230				<1.6	3.00
20		5.0	28	<240				<1.6	2.85
21		4.7	29	<280				<1.6	2.65
22		4.3	29	<265				<1.6	2.60
23		4.1	29	<310				<1.6	2.55

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

Table 52

Singapore, British Malaya (1.3° N, 103.8° E) November 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.6	29	245				<1.1	2.70
01		10.4	30	260		---		<1.1	2.70
02		9.9	30	260				<1.1	2.85
03		8.8	30	250				<1.1	3.00
04		7.6	30	240				<1.1	2.95
05		6.9	30	240				<1.1	2.95
06	---	7.4	30	270	---		----		2.90
07	---	9.8	30	250	---	120	2.80		2.85
08	---	11.0	30	240	---	115	3.40		2.65
09	---	11.4	29	230	---	110	3.75	3.8	2.40
10	---	12.0	27	220	---	110	4.00		2.20
11	---	12.4	29	220	---	110	4.15		2.10
12	---	12.4	28	210	---	110	4.15		2.10
13	---	12.3	29	210	---	110	4.10		2.15
14	---	12.9	28	210	---	110	3.90		2.20
15	---	12.9	30	230	---	110	3.60		2.25
16	---	13.0	30	245	---	110	3.10		2.30
17	---	12.9	29	260	---	120	2.45		2.30
18	---	12.6	27	305	---	---	----		2.20
19		12.2	28	375				<1.4	2.10
20		12.4	28	360				(1.4)	2.35
21		12.9	22	310				<1.3	2.60
22		12.2	26	250				<1.3	2.70
23		11.2	29	235				<1.2	2.75

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

Table 53

Townsville, Australia (19.3° S, 146.7° E) November 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.5	3	280					
01		>5.7	4	275					
02		>6.0	2	280					----
03		>6.3	4	300					
04		>6.2	6	290					
05		>6.5	7	290					----
06		>6.0	3	250			2.30		----
07	---	>6.5	3	240	---		3.00	3.2	
08	---	(8.8)	6	230	---		3.35	3.6	(2.95)
09	---	>10.9	12	220	---		>3.60	4.2	(2.75)
10	---	(11.1)	15	(220)	---		3.80	4.2	2.75
11	(380)	>12.0	15	<250	---		3.90	(4.2)	2.70
12	340	13.0	16	<245	---		(3.95)		2.70
13	(330)	>12.9	12	---	---		(3.90)	(4.2)	(2.70)
14	(330)	>12.5	12	<250	---		3.85	4.3	(2.75)
15	(350)	(11.8)	9	(240)	---		3.60	4.2	(2.70)
16	---	>11.0	7	(240)	---		3.40	3.9	----
17	---	>10.0	5	(250)	---		2.90	3.5	----
18		>11.0	3	275			(2.00)	3.5	----
19		>6.1	2	280				2.8	
20		>6.0	1	300					
21		>6.0	1	320					
22		>5.8	1	310					
23		(6.1)	1	300					----

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

Table 54

Byrd Station (80.0° S, 120.0° W) November 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(380)	(5.65)	10	310	---	115	2.60		----
01	(420)	(5.0)	13	340	---	113	(3.00)		(2.55)
02	470	5.8	11	(275)	---	---	----	3.3	2.55
03	---	(6.0)	9	<290	---	---	----	3.7	(2.65)
04	---	5.1	12	<320	---	---	----		(2.70)
05	375	5.5	13	(310)	---	---	----		2.70
06	375	5.7	16	(270)	---	---	----		(2.78)
07	(530)	5.95	16	<270	4.4	109	----		2.88
08	(330)	(6.1)	21	(255)	---	109	3.00		2.80
09	405	6.1	21	(260)	4.5	109	3.12		2.78
10	510	6.4	21	(255)	(4.4)	109	3.05		2.62
11	420	>6.7	23	<250	4.4	109	(3.10)		2.60
12	430	7.0	24	<260	4.4	107	3.05		2.62
13	440	7.2	23	(260)	4.6	108	(3.15)		2.60
14	405	(7.2)	19	<275	(4.4)	107	(3.05)		(2.60)
15	380	7.2	19	<270	4.5	(111)	>3.00		2.65
16	420	6.65	20	<305	4.5	(111)	(3.00)		2.70
17	(400)	(6.1)	18	285	4.3	(110)	3.15		2.70
18	420	(6.3)	22	(280)	4.4	111	3.00		(2.60)
19	(410)	5.55	16	<275	---	111	>2.70		(2.65)
20	(480)	(5.85)	18	(290)	---	113	2 70		(2.48)
21	---	(5.8)	9	<300	---	113	(2.60)	3.4	(2.60)
22	(390)	(5.9)	13	<300	---	111	----		(2.55)
23	(385)	5.0	10	310	---	112	(2.85)		----

Time: Local.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 55

Slough, England (51.5° N, 0.6° W) October 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.1	29	<290				<1.5	2.55
01		5.1	29	295				1.3	2.55
02		5.0	29	290				1.2	2.60
03		4.6	29	295				<1.1	2.60
04		4.4	30	270				<1.2	2.70
05		3.8	29	<250				2.2	2.80
06		4.0	28	<260		---	<1.60	2.2	2.75
07		6.4	30	240		<130	2.05	2.1	3.10
08		8.1	29	235		115	2.60	2.7	3.20
09		9.3	29	235		105	2.90	3.1	3.10
10		10.6	30	230		105	3.10	3.4	3.00
11		11.3	31	225		105	3.25	3.4	3.05
12		11.7	31	230		105	3.25	3.4	3.00
13		11.5	30	230		105	3.20	3.3	3.00
14		11.2	29	235		105	3.05	3.4	3.00
15		11.0	30	240		105	2.85	3.1	3.00
16		10.9	30	240		---	2.40	2.7	3.05
17		10.0	30	235		---	1.80	2.4	3.05
18		9.0	30	230		---		2.3	3.00
19		8.2	30	<240				2.0	2.90
20		6.8	30	235				2.3	2.90
21		5.8	30	<245				1.9	2.75
22		5.4	30	<255				<1.7	2.55
23		5.2	30	<265				<1.6	2.50

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

Table 56

Singapore, British Malaya (1.3° N, 103.8° E) October 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.4	26	220		---		<1.1	2.75
01		9.7	27	250		---		<1.1	2.80
02		9.3	26	250		---	----	<1.1	2.90
03		8.5	28	235		---		<1.1	3.00
04		7.2	27	230		---		<1.1	3.05
05		>6.1	29	240		---		<1.1	3.15
06	---	7.4	28	260	---	---			3.05
07	---	10.4	28	250	---	120	2.80	3.0	3.10
08	---	11.4	30	240	---	115	3.40	3.6	2.85
09	---	12.3	30	225	---	110	3.70	4.1	2.50
10	---	12.7	29	210	---	110	4.00		2.20
11	---	12.9	27	205	---	110	4.10		2.05
12	---	>12.6	26	205	---	110	4.20		1.95
13	---	12.7	29	200	---	110	4.10		2.20
14	270	13.0	31	205	---	110	3.85		2.25
15	240	13.5	31	220	---	110	3.50		2.30
16	---	13.6	30	245	---	110	3.10		2.30
17	---	13.5	29	260	---	120	2.45		2.25
18	---	13.4	30	300	---	---			2.20
19		13.5	23	380		---		<1.5	2.20
20		(14.0)	17	340		---		<1.7	(2.50)
21		>14.0	15	280		---	----	<1.8	(2.65)
22		>14.4	18	240		---		<1.3	2.90
23		11.9	24	210		---		<1.2	2.80

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

Table 57

Slough, England (51.5° N, 0.6° W) September 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	26	305				2.0	2.45
01		5.4	25	315				1.3	2.40
02		5.0	24	<320				1.1	2.45
03		4.8	24	310				1.5	2.45
04		4.3	25	300				<1.4	2.50
05		4.0	25	300		---	1.40	2.1	2.60
06		4.9	26	260	---	---	2.00	2.3	2.90
07		6.1	25	250	---	115	2.55		3.00
08	---	6.3	25	235	---	110	3.00	3.2	2.90
09	---	6.9	29	230	4.7	105	3.30	3.2	2.80
10	505	7.4	29	220	5.2	105	3.50	3.5	2.80
11	425	8.2	30	215	5.6	105	3.60		2.80
12	440	8.4	30	220	5.4	105	3.70		2.85
13	---	8.6	30	225	---	105	3.70		2.85
14	---	8.4	29	225	---	105	3.50		2.85
15	---	8.6	30	235		105	3.35	3.3	2.85
16	---	8.5	29	245		105	2.95		2.85
17	---	8.9	29	250		115	2.50	2.6	2.90
18		8.8	29	250		---	<2.00	2.3	2.95
19		8.7	29	250			----	2.0	2.80
20		7.7	29	240				1.8	2.85
21		6.5	28	245				<1.6	2.70
22		6.0	27	255				<1.8	2.55
23		5.9	27	295				2.0	2.50

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

Table 58

Slough, England (51.5° N, 0.6° W) July 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.1	29	300				<1.2	2.55
01		6.5	29	300				<0.9	2.50
02		6.1	29	300				<1.0	2.45
03		5.7	29	300		---	1.00	1.2	2.50
04		5.7	29	300		110	1.70	1.8	2.60
05	---	6.1	29	260	---	110	2.20	2.6	2.70
06	435	6.3	29	250	---	110	2.80	3.2	2.70
07	455	6.7	29	<240	4.7	105	3.20	3.8	2.70
08	360	7.2	29	225	5.0	100	3.45	4.2	2.70
09	420	7.2	29	225	5.2	100	3.65	4.4	2.65
10	450	7.2	27	220	5.4	100	3.80	4.4	2.60
11	430	7.2	29	210	5.4	100	3.90	4.4	2.65
12	445	7.6	29	215	5.6	100	4.00	4.4	2.65
13	450	7.3	29	225	5.5	100	3.95	4.5	2.60
14	420	7.4	28	220	5.5	100	3.90	4.2	2.65
15	410	7.4	26	225	5.4	100	3.75	3.8	2.65
16	395	7.4	27	230	5.1	100	3.60		2.75
17	360	7.6	28	240	---	105	3.30	3.6	2.75
18	---	7.6	27	250	---	110	2.90	3.4	2.80
19	---	7.6	25	265		115	2.40	3.6	2.80
20		7.9	27	275			1.80	3.4	2.80
21		7.7	28	270			----	2.3	2.70
22		7.7	28	<270				<1.6	2.55
23		7.5	27	<290				<1.6	2.55

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

Table 59

Winnipeg, Canada (49.9° N, 97.4° W) July 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.8	25	300				3.5	
01		4.6	22	330				3.1	
02		4.7	23	350				3.5	---
03		4.6	24	310				3.5	
04	---	4.6	22	300	---	---	---	3.0	---
05	(470)	4.7	24	290	3.0	120	2.0		(2.8)
06	(500)	5.1	25	260	4.0	110	2.6		(2.5)
07	460	5.4	25	240	4.3	100	3.0		(2.6)
08	500	5.8	22	220	4.7	100	3.4		2.5
09	500	6.0	16	(210)	5.0	100	3.8		(2.5)
10	530	6.2	15	---	5.0	100	---		---
11	C	6.3	15	---	5.0	---	---		C
12	(600)	6.5	13	---	5.0	---	---		C
13	C	6.4	15	---	5.2	---	---		C
14	500	6.6	17	---	5.3	---	---		(2.4)
15	(490)	6.8	17	(220)	5.3	---	3.9		(2.5)
16	450	6.8	20	(220)	5.0	100	3.8		(2.6)
17	410	6.9	23	220	5.0	100	3.4		2.6
18	400	6.9	23	230	4.6	100	3.0		2.7
19	(350)	6.9	23	250	---	110	2.7		(2.7)
20		7.0	22	280		120	2.2		---
21		6.8	22	280					
22		5.9	21	290					---
23		5.0	22	320				3.3	

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 60

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

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.9	28	280					2.70
01		6.6	27	280					2.80
02		6.15	28	260					2.90
03		5.4	28	260					2.90
04		4.8	28	250					2.90
05		4.2	27	280					2.60
06		4.45	26	265					2.75
07		7.9	27	240		139	2.00		3.20
08		11.3	26	230		109	2.80		3.30
09		12.8	25	230		109	3.20		3.30
10	(230)	13.5	26	230		107	3.45	3.7	3.20
11	---	13.1	28	220		109	3.60	3.9	3.12
12	---	13.3	28	210		109	3.60	3.8	3.00
13	---	14.0	27	230		(111)	3.60		2.95
14	---	14.5	27	230		111	3.38		3.00
15	---	13.7	28	230		111	3.05		3.00
16		12.95	28	230		119	2.40	2.4	3.10
17		>12.0	27	225		---	----	2.2	3.10
18		10.6	29	220				2.5	3.00
19		10.0	29	230					3.00
20		9.1	28	230					3.00
21		8.0	28	240					2.90
22		7.35	28	260					2.70
23		6.9	28	305					2.60

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

Table 61

Slough, England (51.5° N, 0.6° W) April 1959

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.5	25	310				<1.1	2.40
01		6.4	28	310				0.9	2.40
02		6.2	28	310				1.0	2.40
03		5.6	29	315				<1.0	2.40
04		5.3	29	300		---	1.30		2.45
05		5.4	28	290		115	1.60	1.7	2.60
06		6.2	29	255	---	110	2.30		2.70
07	---	7.1	29	245	---	105	2.85		2.75
08	---	7.5	29	235	---	105	3.25		2.75
09	475	8.4	30	230	5.3	105	3.60		2.70
10	465	9.1	29	230	5.4	105	3.75		2.65
11	395	9.8	27	220	5.6	100	3.80	3.8	2.65
12	475	9.9	29	220	5.6	100	3.90	3.9	2.65
13	450	10.0	29	225	5.7	105	3.85		2.60
14	435	9.9	29	230	---	105	3.75		2.65
15	420	10.0	29	235	---	105	3.60		2.65
16	---	9.6	30	240	---	105	3.30		2.70
17		9.8	30	250		110	2.90		2.70
18		9.5	29	250		110	2.35		2.80
19		9.4	29	255		---	1.85	2.1	2.80
20		8.8	28	245				<1.6	2.65
21		7.9	30	260				<1.6	2.55
22		7.1	23	290				<1.6	2.40
23		6.9	27	300				<1.6	2.40

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

Table 62

Svalbard, Norway (78.2° N, 15.7° E) October 1958

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.3)	11	260		---	----	1.4	(2.60)
01		(4.0)	8	290		---	----	1.9	(2.30)
02		(4.4)	9	325		---	----	1.9	(2.40)
03		(4.6)	11	325		---	----	3.0	(2.20)
04		4.7	13	295		---	----	2.6	(2.40)
05		4.6	13	340		---	----	3.0	2.30
06		(4.1)	13	330		---	----	3.0	(2.50)
07		5.2	11	310		125	1.55	3.2	2.60
08		(6.5)	11	300		---	----	3.2	----
09	---	(10.4)	12	280		125	2.30	3.0	(2.80)
10	---	8.2	16	265		---	2.05	3.0	2.75
11	(325)	(7.8)	17	260		130	2.25	3.2	2.70
12	---	7.6	16	250		130	2.30	3.0	2.85
13	---	7.2	19	260	---	130	2.45	3.2	2.75
14	---	(8.1)	16	260		135	2.20	3.2	2.85
15	---	6.9	16	270		140	2.30	3.7	2.80
16	---	7.0	16	260		140	2.00	3.9	2.75
17		(7.0)	9	260		140	----	5.4	(2.85)
18		(6.7)	6	265		---	----	3.2	----
19		(6.6)	5	250		---	----	3.2	----
20		(7.4)	6	260		---	----	3.8	----
21		(7.2)	4	255		---	----	3.0	----
22		(5.7)	6	250		---	----	1.4	----
23		(5.1)	5	250		---	----	1.4	----

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 63

Ottawa, Canada (45.4° N, 75.9° W) April 1958

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.2	26	380					---
01		5.1	30	360					---
02		5.0	30	360					(2.5)
03		5.0	28	330					---
04		4.9	28	320					---
05		5.0	29	320		---	1.8		---
06		6.2	30	280		120	2.2		2.8
07	---	7.0	30	250	4.8	115	2.9		2.8
08	(570)	7.1	30	240	5.0	110	3.3		2.7
09	540	7.6	30	230	5.8	110	3.6		(2.6)
10	570	8.2	30	220	5.6	110	3.9		(2.5)
11	560	8.6	30	220	5.8	110	4.0		(2.5)
12	500	9.2	29	230	6.3	110	4.0		(2.4)
13	500	9.4	29	230	6.2	110	4.0		2.4
14	490	9.8	29	230	6.0	110	4.0		(2.45)
15	450	9.7	29	240	6.0	110	3.8		2.4
16	460	9.8	30	240	5.5	110	3.4		2.4
17	440	9.8	30	250	4.8	110	3.0		2.5
18	---	9.5	29	270	---	125	2.5		(2.5)
19		9.0	29	280		140	1.8		(2.5)
20		8.5	28	280					(2.5)
21		7.4	28	280					---
22		5.9	27	300					---
23		5.4	28	360					---

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

Table 64

Svalbard, Norway (78.2° N, 15.7° E) March 1958

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9)	11	290		---	---		----
01		(5.0)	13	295		---	---		(2.40)
02		4.4	18	310		---	---		2.40
03		4.1	16	360		---	---		(2.30)
04		(4.2)	10	330		---	---		(2.35)
05		(5.3)	5	(290)		---	---	(2.9)	----
06		(5.0)	4	---		---	---	(3.0)	----
07		(3.7)	5	(310)		---	---	(2.9)	
08	---	(4.1)	8	(310)	---	---	---	1.8	----
09	---	>7.0	10	(290)	---	---	---		(2.75)
10	---	7.8	12	(280)	---	---	---		(2.60)
11	---	7.8	10	(260)		---	---		----
12	---	(7.2)	11	(275)		---	---		----
13	---	(7.2)	9	(280)	---	---	---		----
14	---	(7.1)	11	(285)	---	---	---		(2.75)
15	---	(7.0)	13	280		---	---		----
16	---	(7.2)	10	(275)		---	---		----
17		(6.9)	5	(270)		---	---		----
18		(6.6)	6	(280)		---	---	(3.2)	----
19		(6.3)	7	285		---	---		----
20		(7.4)	8	270					----
21		(6.8)	11	260					----
22		(5.4)	10	280					----
23		(5.3)	9	280					----

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 65

Svalbard, Norway (78.2° N, 15.7° E) October 1957

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1	11	290		---	E	2.7	(2.30)
01		4.8	15	300		---	----	2.4	(2.35)
02		4.5	15	305		130	----	2.4	(2.35)
03		(4.5)	20	350		---	1.60	2.2	2.25
04		(4.8)	19	350		120	1.50	2.9	(2.25)
05		(5.1)	21	320		125	----	3.0	2.25
06		(5.4)	15	330		125	(1.60)	3.0	(2.45)
07	---	6.4	15	320		125	2.05	2.9	2.40
08	---	(6.8)	21	300		125	2.05	2.9	2.55
09	(290)	8.7	21	290		125	2.30	2.7	2.60
10	---	8.9	21	265		130	2.30	2.8	2.65
11	---	7.3	19	265		125	2.10	2.9	2.75
12	---	(7.2)	15	260		125	2.45	3.1	2.80
13	---	7.1	21	280		130	2.40	3.0	2.80
14	---	7.3	24	280		135	2.25	2.8	2.80
15	---	7.4	19	280		130	2.30	3.2	2.75
16	---	(7.1)	19	280		130	2.10	3.4	2.80
17	---	7.1	18	270		135	----	4.5	2.80
18		(7.3)	16	270		---	----	4.3	(2.70)
19		7.0	14	280		---	----	3.5	(2.60)
20		(7.6)	15	265		---	----	3.1	(2.65)
21		(7.2)	8	260		---	----	2.8	----
22		6.2	12	270		---	----	2.4	(2.50)
23		7.0	15	290		---	----	2.9	(2.50)

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 66

Svaldbard, Norway (78.2° N, 15.7° E) September 1957

Time	h'F2	foF2-Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	16	290				2.7	2.40
01		4.6	20	330		---	----	3.0	2.40
02		4.0	18	330		---	----	3.0	2.40
03		4.4	19	325		---	----	3.0	2.40
04	---	5.0	14	320		120	----	3.1	2.40
05	---	5.5	12	325		115	----	3.0	2.50
06	---	6.3	15	310	---	115	----	3.1	2.65
07	---	6.8	16	290	---	115	2.90	3.0	2.75
08	---	7.4	17	285	---	110	2.70	3.0	2.65
09	---	7.4	21	265	---	115	2.80	2.9	2.65
10	(360)	8.4	22	270	---	110	2.80	3.0	2.60
11	---	7.2	22	265	---	115	2.80	3.0	2.65
12	---	7.0	20	255	---	110	2.80	2.8	2.75
13	---	7.0	20	255	---	115	2.85	2.9	2.80
14	---	6.6	20	265	---	115	2.80	3.1	2.80
15	---	6.8	21	265	---	115	2.65	3.1	2.70
16	---	6.9	21	265	---	115	----	3.0	2 80
17	---	6.8	21	270		---	----	3.0	2.80
18		6.9	21	275		---	----	3.0	2.65
19		7.0	24	280		---	----	3.0	2.65
20		6.7	23	275		---	----	2.2	2.60
21		6.6	20	260		---	----	3.0	2.70
22		6.6	18	280		---	----	3.0	2.60
23		5.6	17	265				2.9	2.60

Time: 150.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

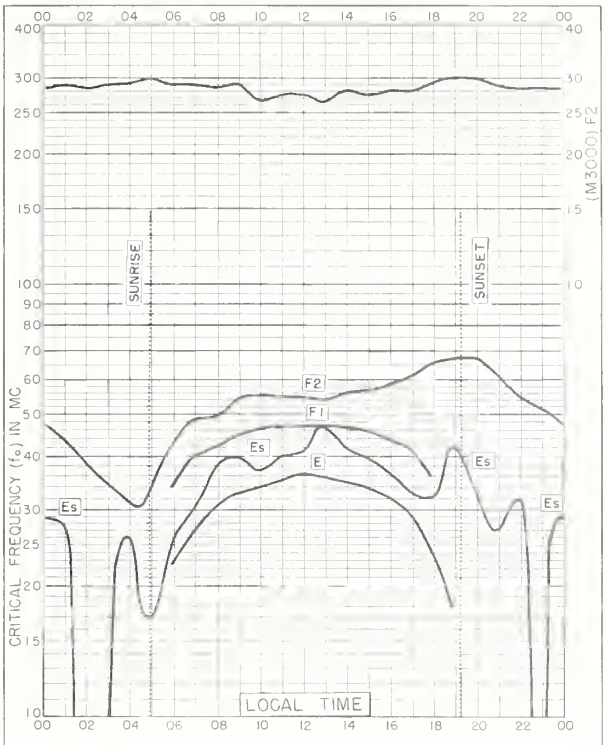

Fig. 1. WASHINGTON, D.C.
38.7°N, 77.1°W JULY 1961

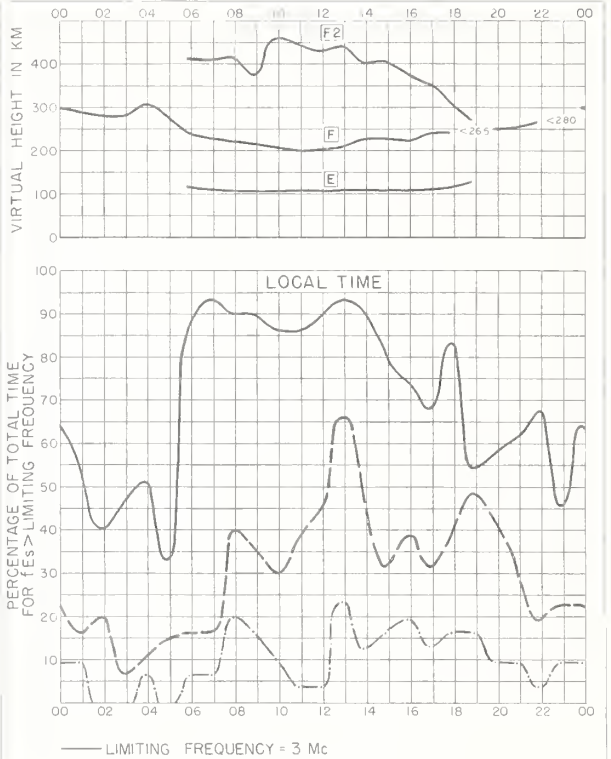

Fig 2. WASHINGTON, D.C. JULY 1961

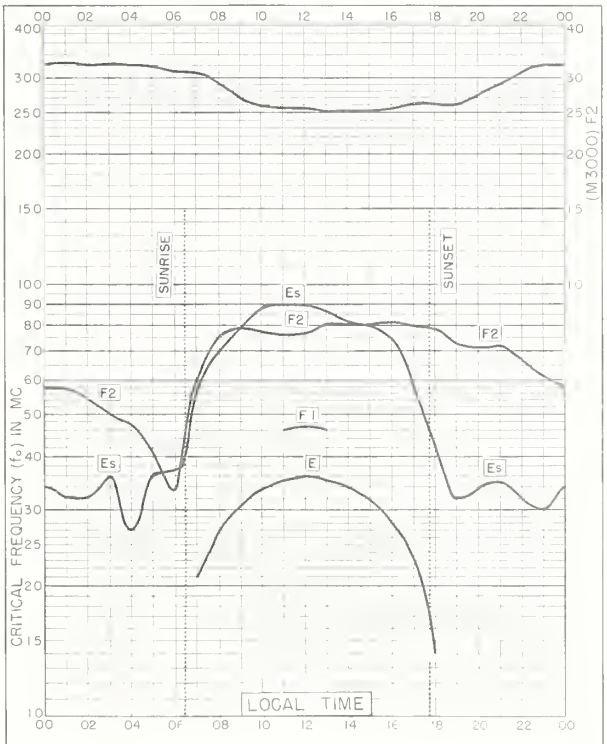

Fig. 3. HUANCAYO, PERU
12.0°S, 75.3°W JULY 1961

Fig. 4. HUANCAYO, PERU JULY 1961

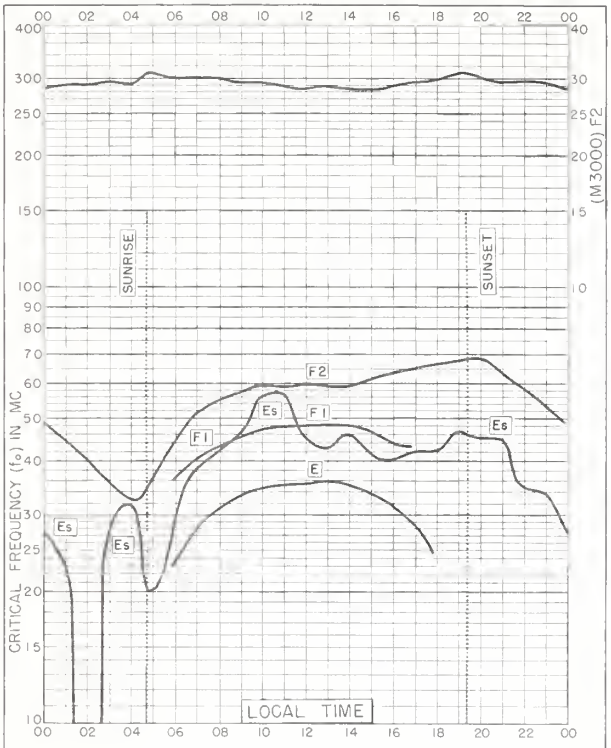

Fig. 5. WASHINGTON, D.C.
38.7°N, 77.1°W JUNE 1961

NBS 503

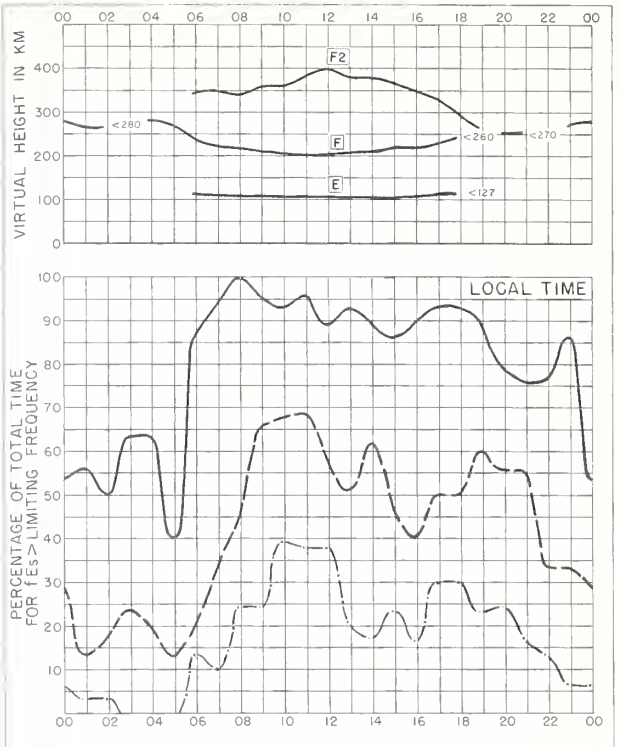

Fig. 6. WASHINGTON, D.C. JUNE 1961

NBS 490

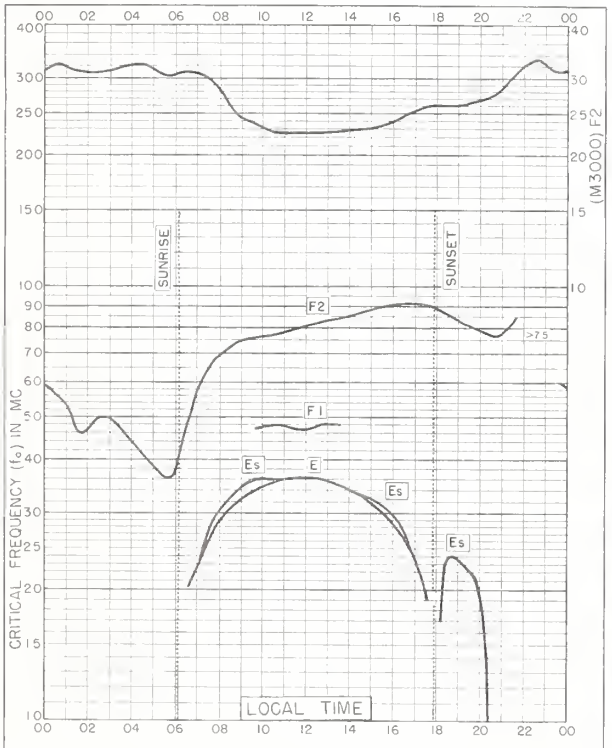

Fig 7. TALARA, PERU
4.6°S, 81.3°W JUNE 1961

NBS 503

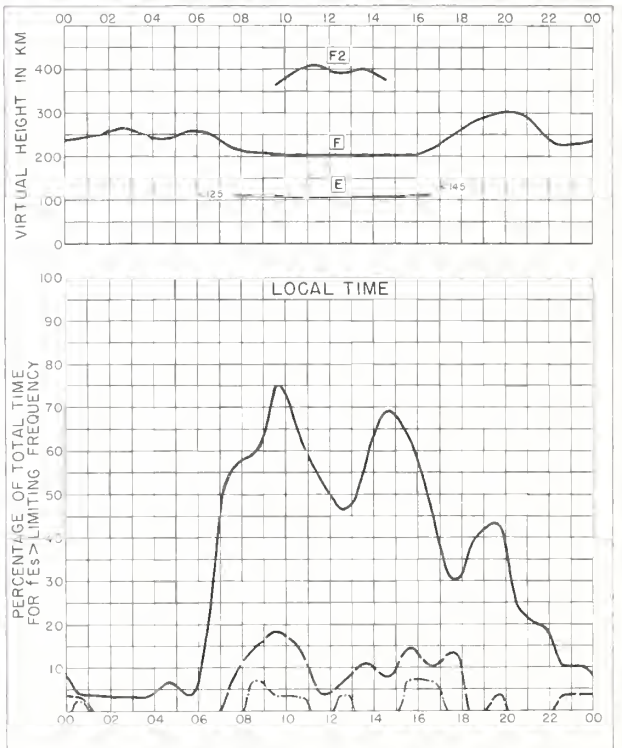

Fig 8. TALARA, PERU JUNE 1961

NBS 490

Fig. 9. HUANCAYO, PERU
12.0°S, 75.3°W JUNE 1961

NBS 503

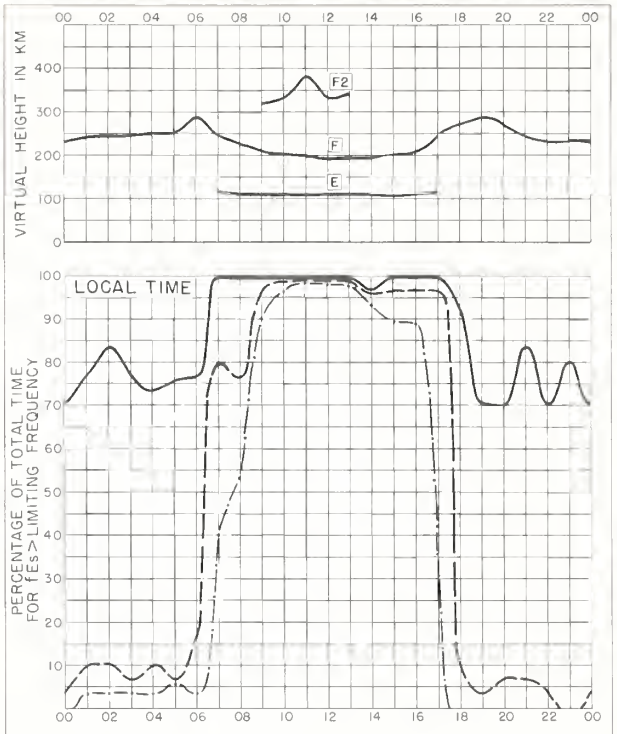

Fig. 10. HUANCAYO, PERU JUNE 1961

NBS 490

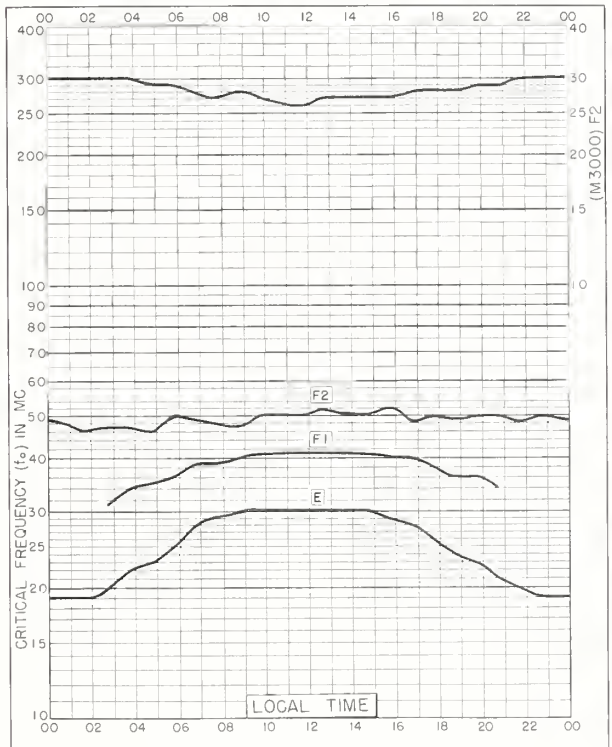

Fig. 11. RESOLUTE BAY, CANADA
74.7°N, 94.9°W MAY 1961

NBS 503

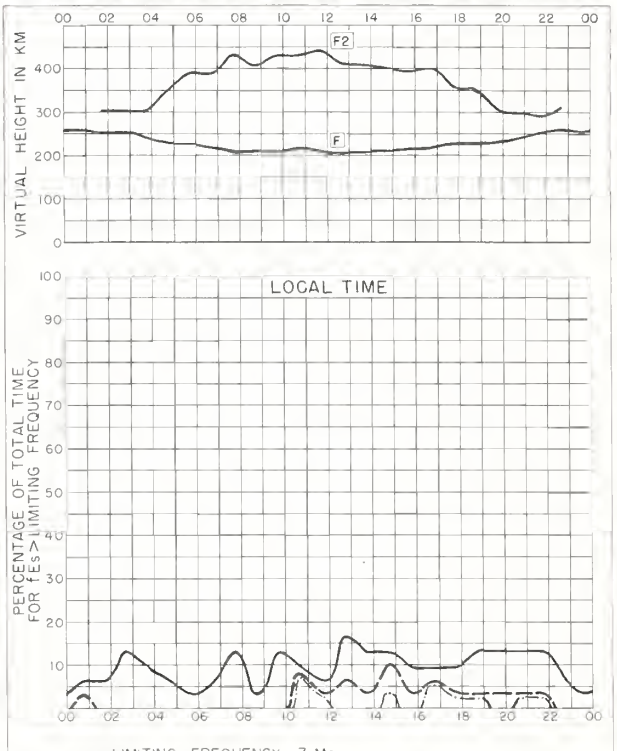

Fig 12. RESOLUTE BAY, CANADA MAY 1961

NBS 490

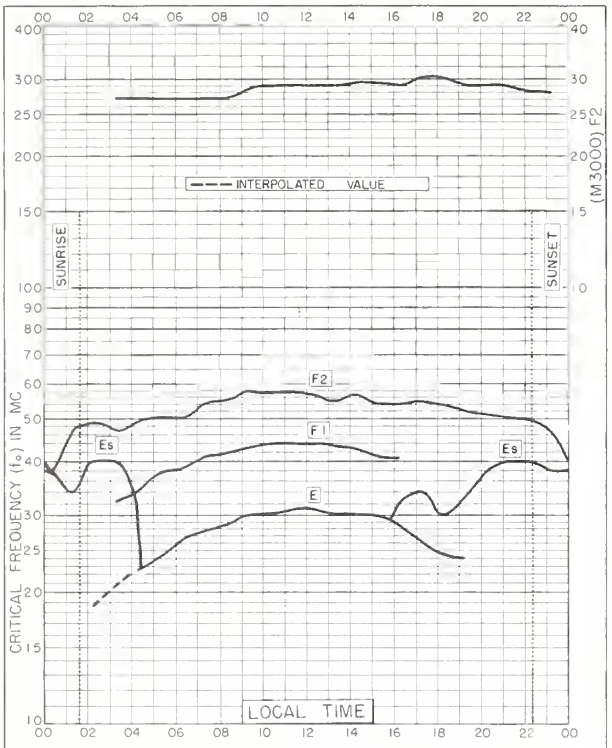

Fig. 13. TROMSO, NORWAY
69.7°N, 19.0°E MAY 1961

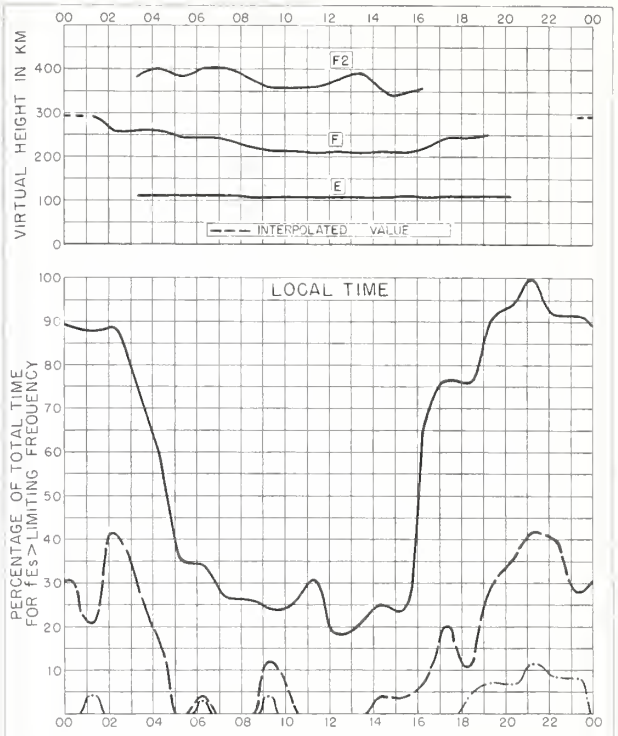

Fig. 14. TROMSO, NORWAY MAY 1961

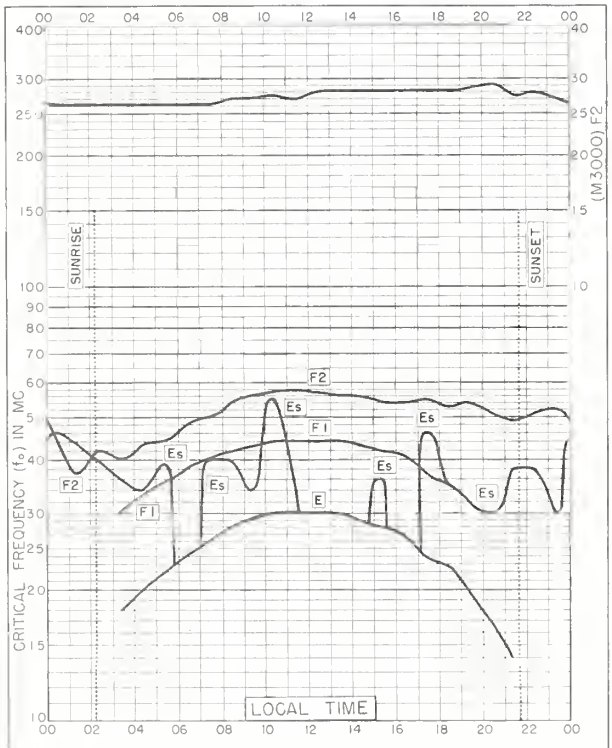

Fig. 15. KIRUNA, SWEDEN
67.8°N, 20.4°E MAY 1961

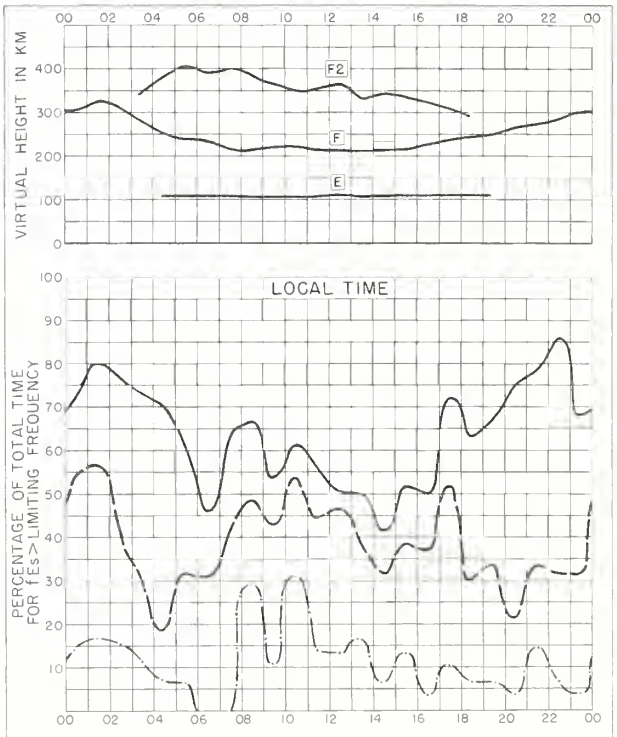

Fig. 16. KIRUNA, SWEDEN MAY 1961

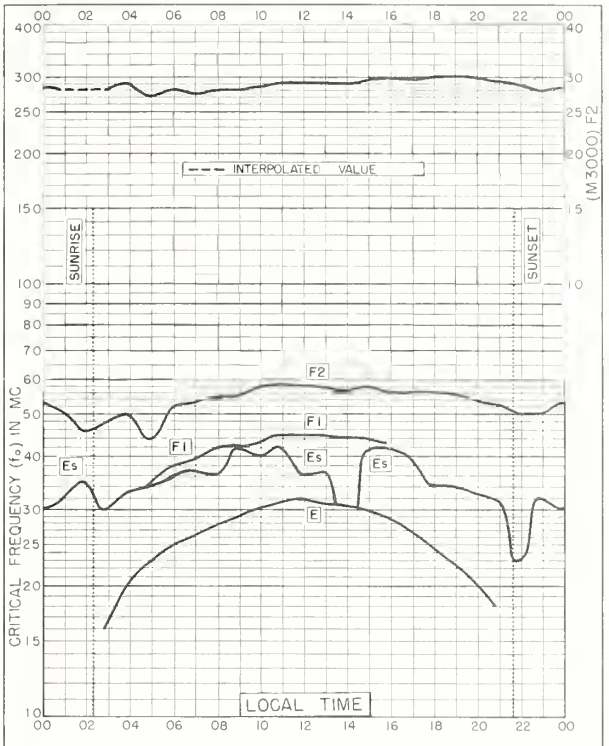

Fig. 17. SODANKYLA, FINLAND
67.4°N, 26.6°E MAY 1961

NBS 503

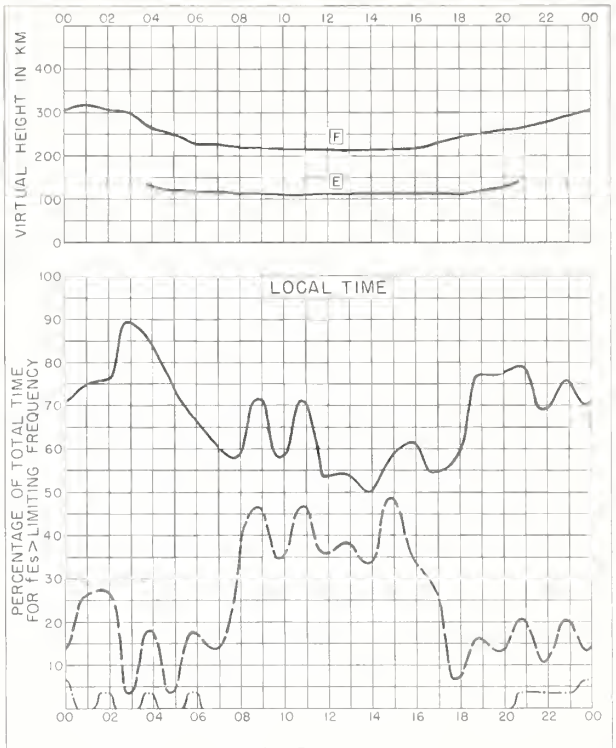

Fig. 18. SODANKYLA, FINLAND MAY 1961

NBS 490

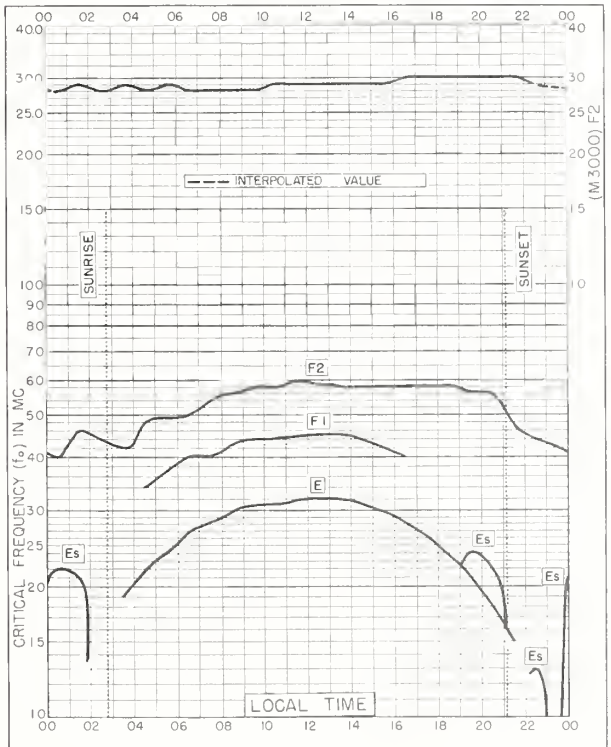

Fig. 19. LULEA, SWEDEN
65.6°N, 22.1°E MAY 1961

NBS 503

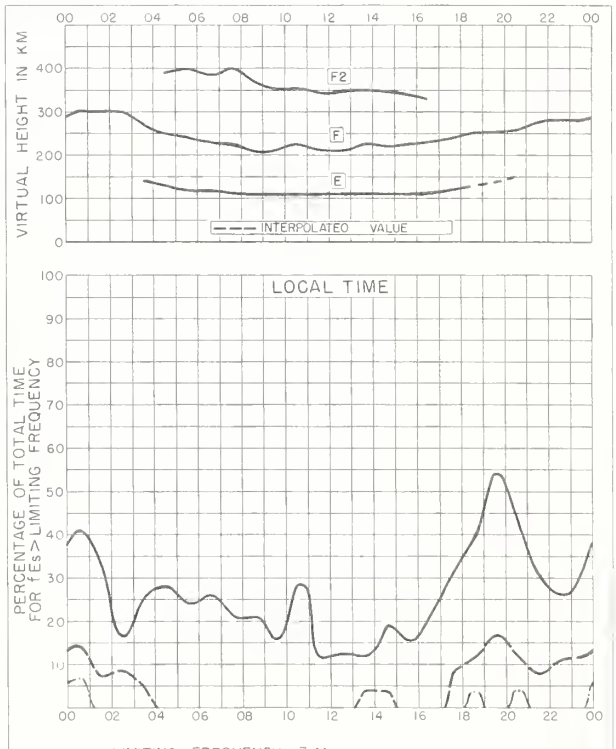

Fig. 20. LULEA, SWEDEN MAY 1961

NBS 490

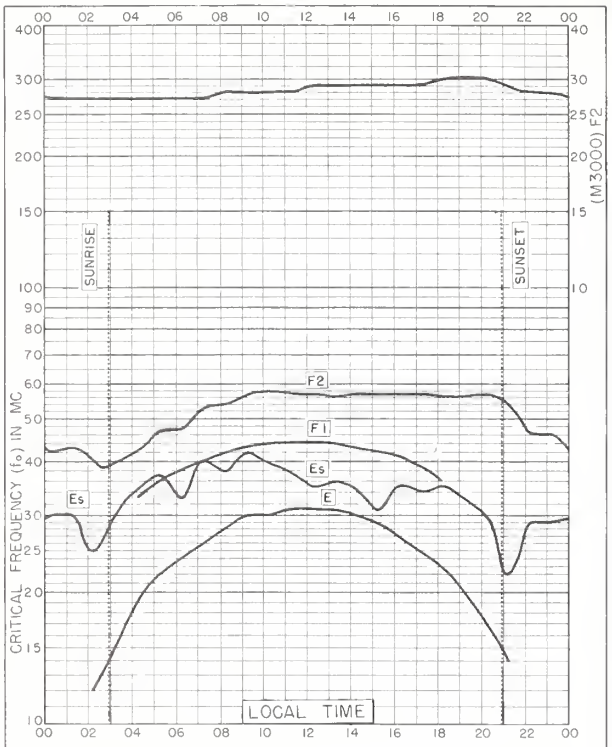

Fig. 21. LYCKSELE, SWEDEN
64.6°N, 18.8°E MAY 1961

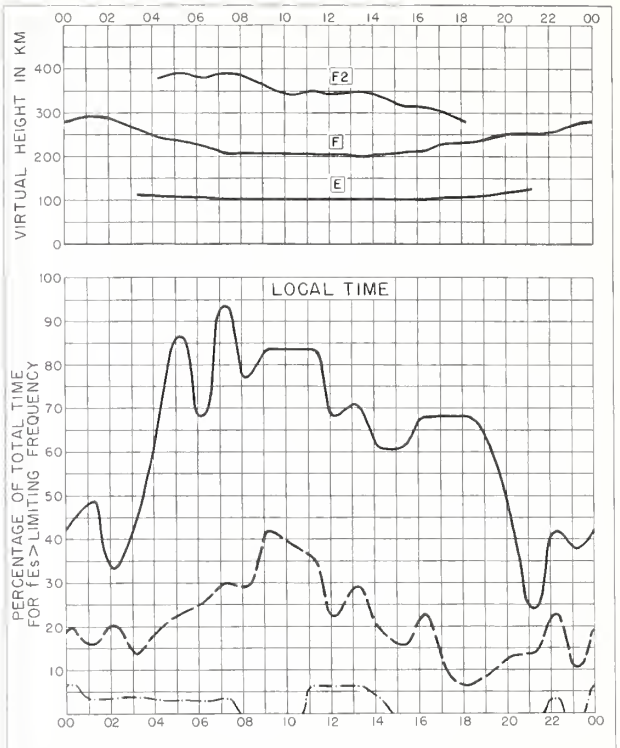

Fig. 22. LYCKSELE, SWEDEN MAY 1961

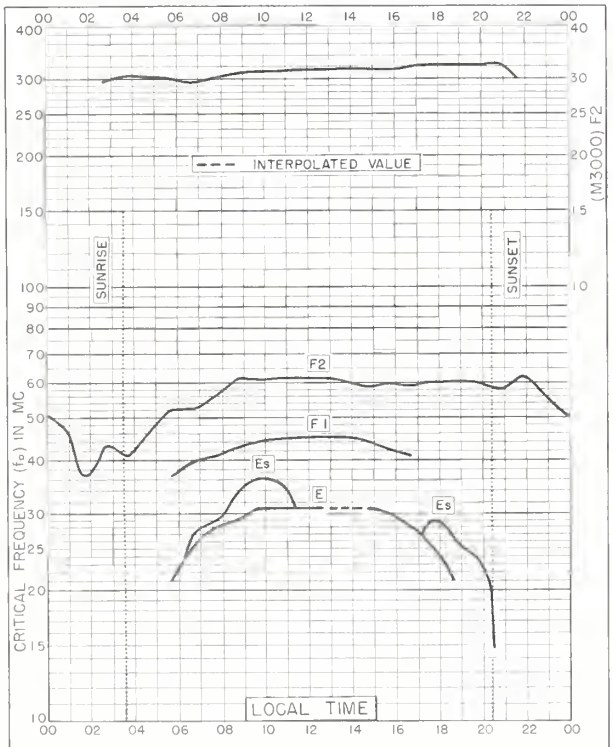

Fig. 23. NURMIJARVI, FINLAND
60.5°N, 24.6°E MAY 1961

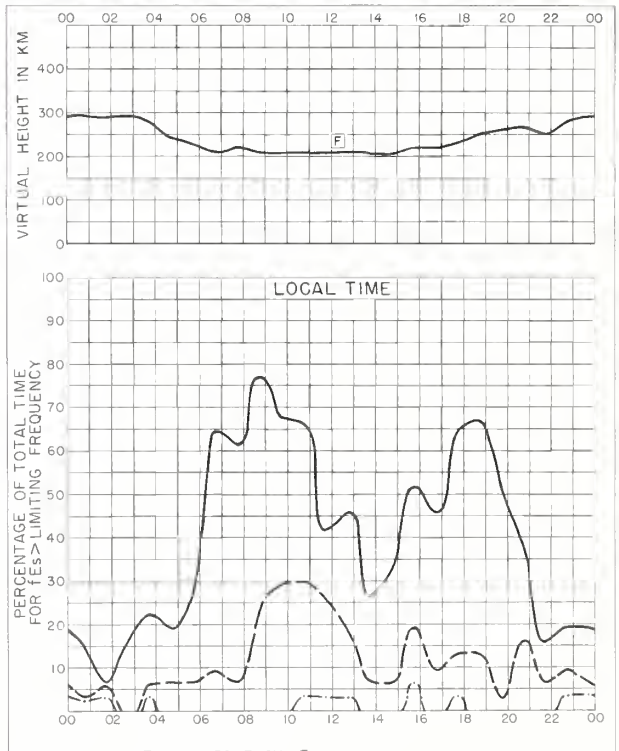

Fig. 24. NURMIJARVI, FINLAND MAY 1961

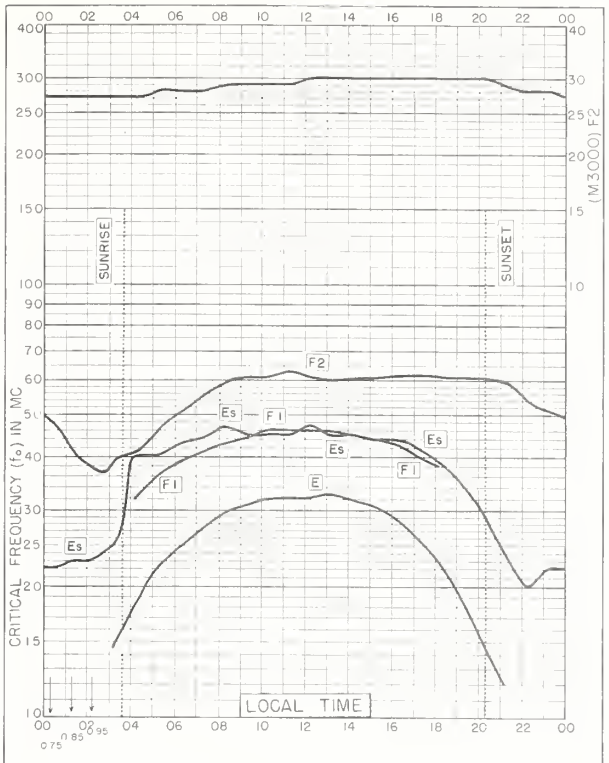

Fig. 25. UPSALA, SWEDEN
59.8°N, 17.6°E
MAY 1961

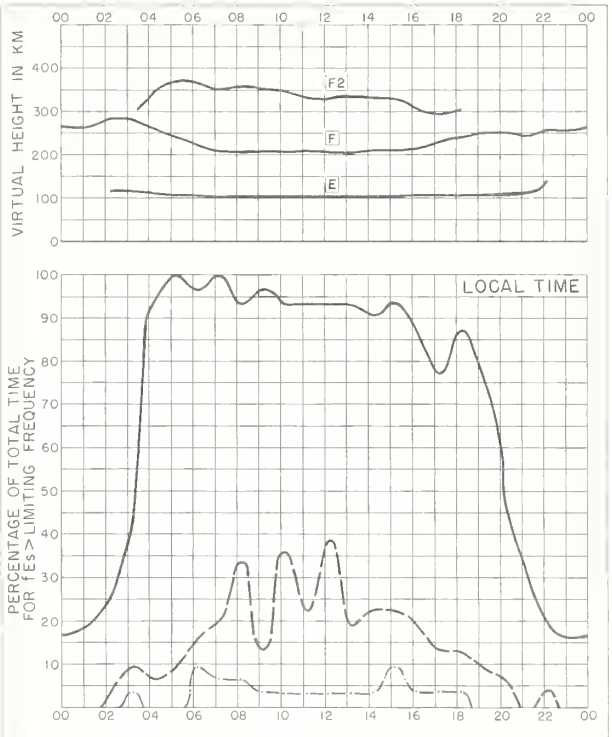

Fig 26. UPSALA, SWEDEN
MAY 1961

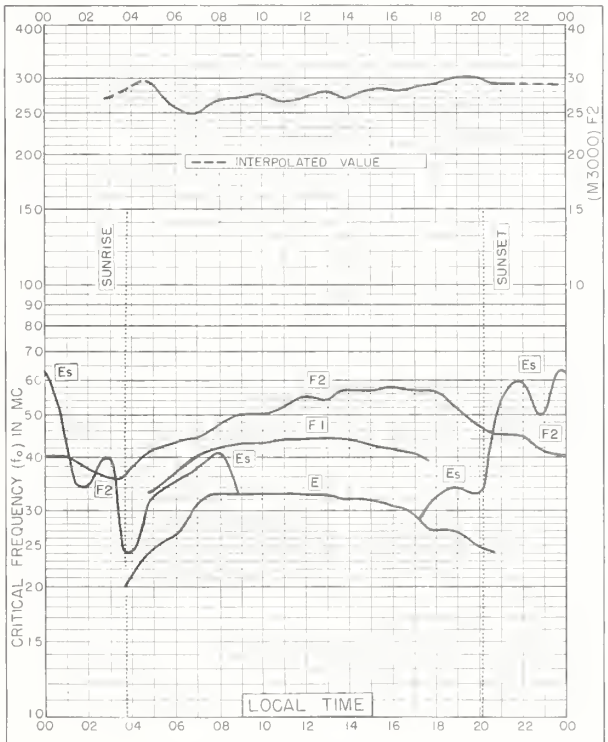

Fig. 27. CHURCHILL, CANADA
58.8°N, 94.2°W
MAY 1961

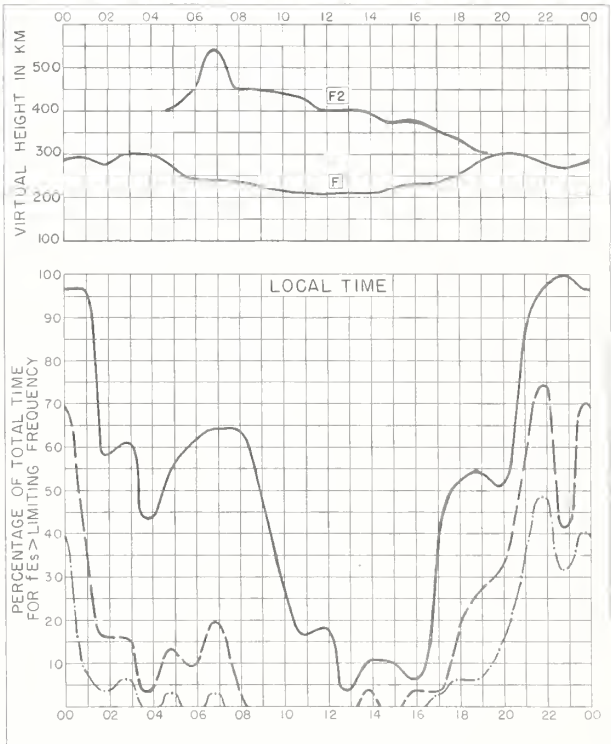

Fig. 28. CHURCHILL, CANADA
MAY 1961

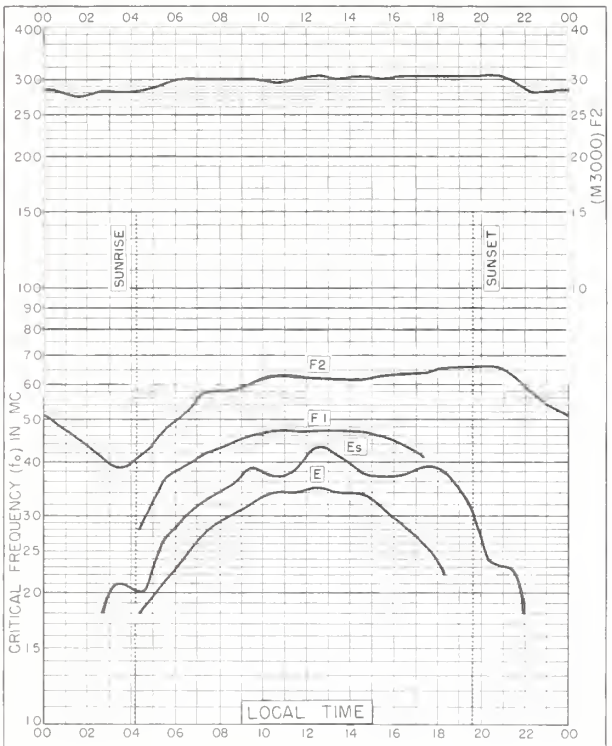

Fig. 29. De BILT, HOLLAND
52.1°N, 5.2°E MAY 1961

NBS 503

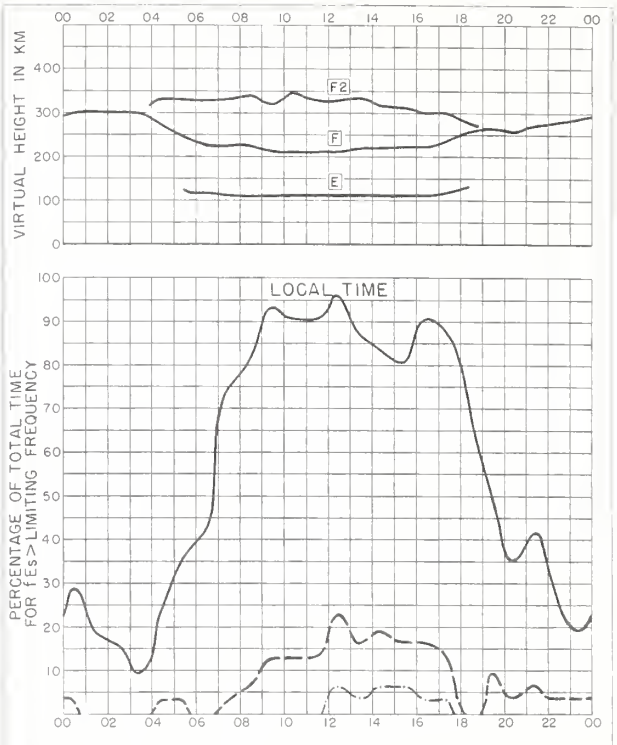

Fig. 30. De BILT, HOLLAND MAY 1961

NBS 490

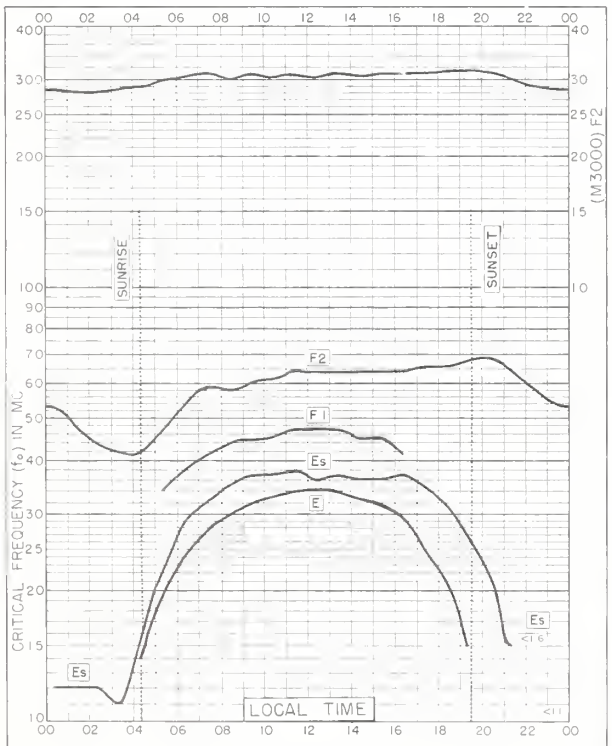

Fig. 31 DOURBES, BELGIUM
50.1°N, 4.6°E MAY 1961

NBS 503

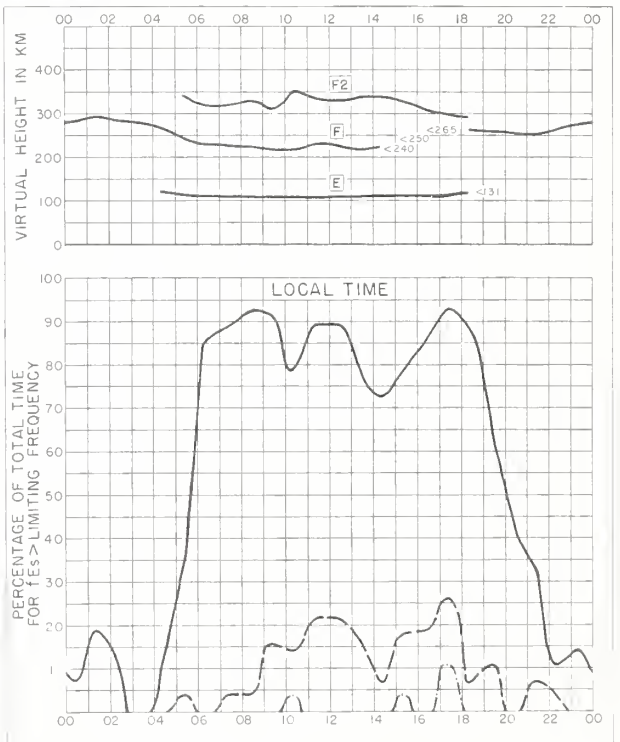

Fig. 32. DOURBES, BELGIUM MAY 1961

NBS 490

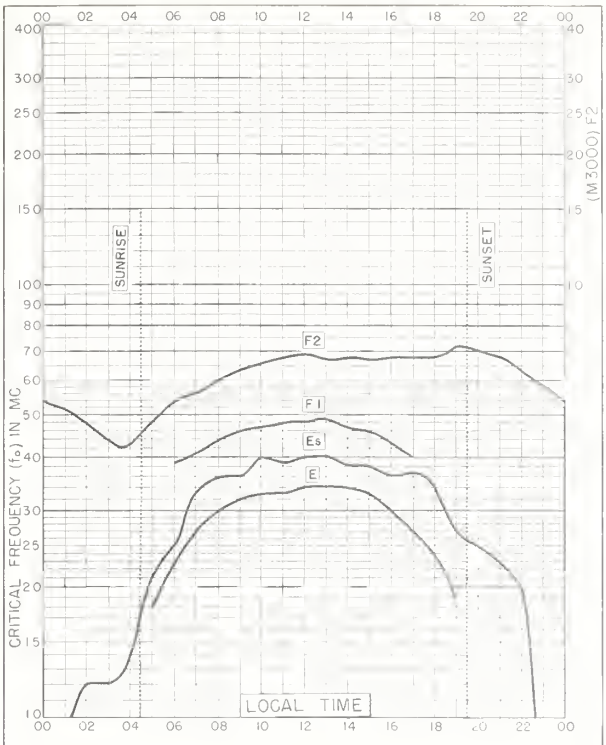

Fig. 33. PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E MAY 1961

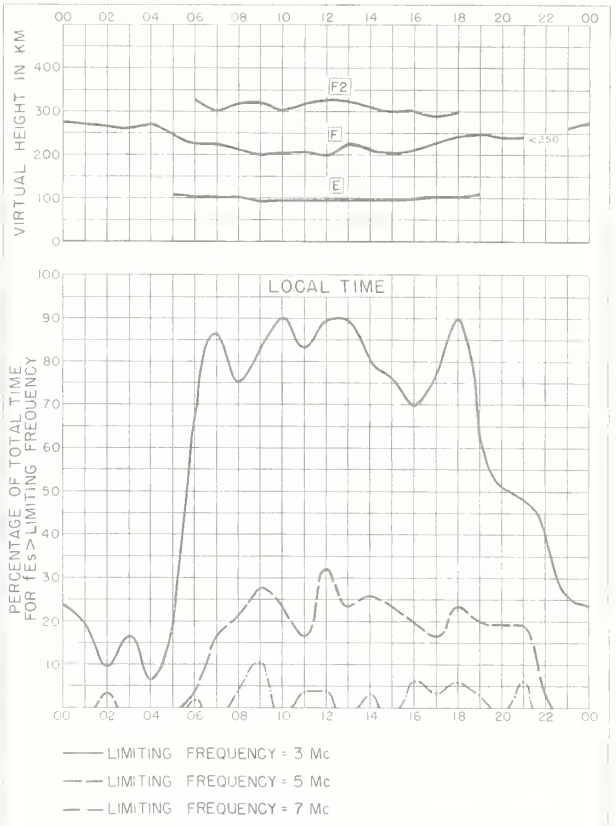

Fig. 34. PRUHONICE, CZECHOSLOVAKIA MAY 1961

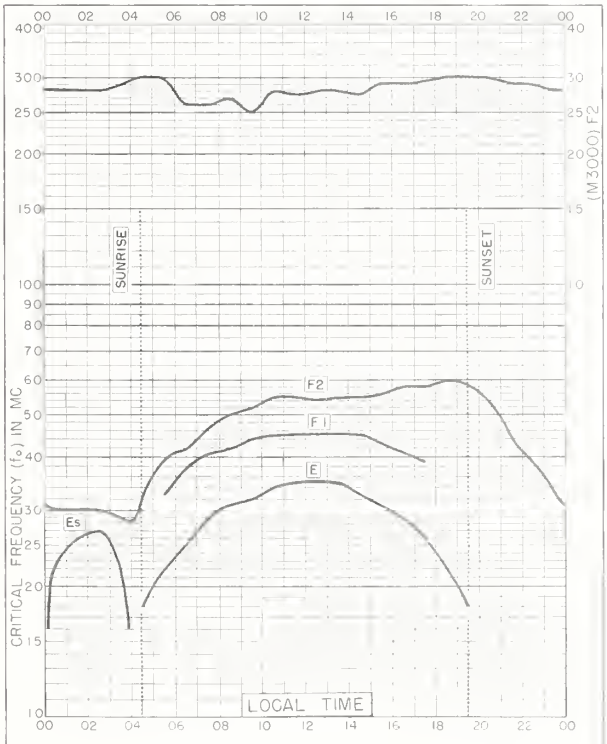

Fig. 35. WINNIPEG, CANADA
49.9°N, 97.4°W MAY 1961

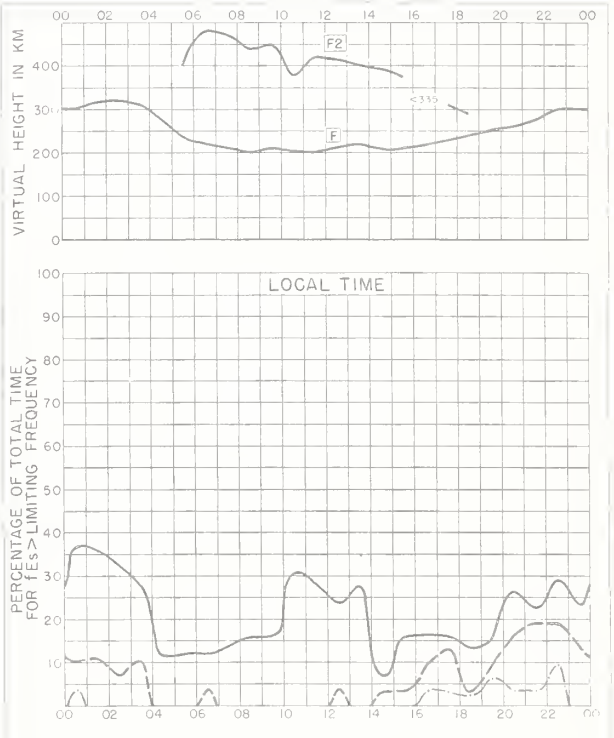

Fig. 36. WINNIPEG, CANADA MAY 1961

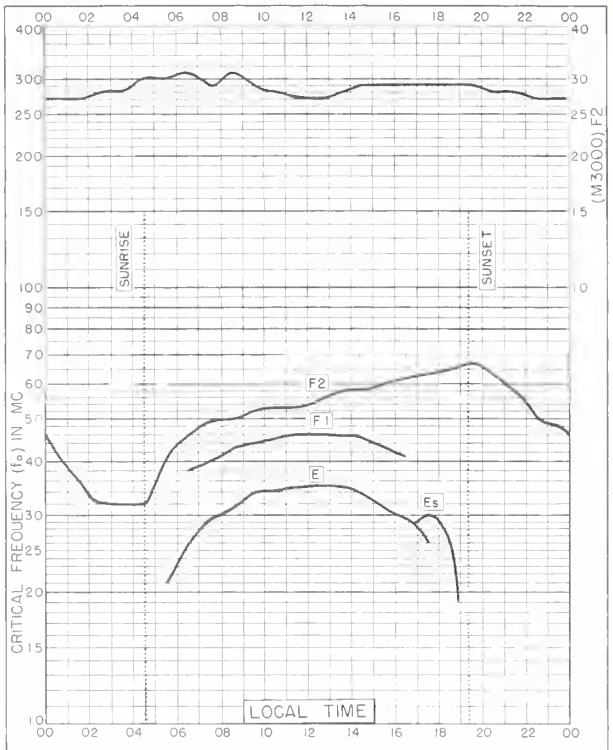

Fig. 37. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W MAY 1961

NBS 503

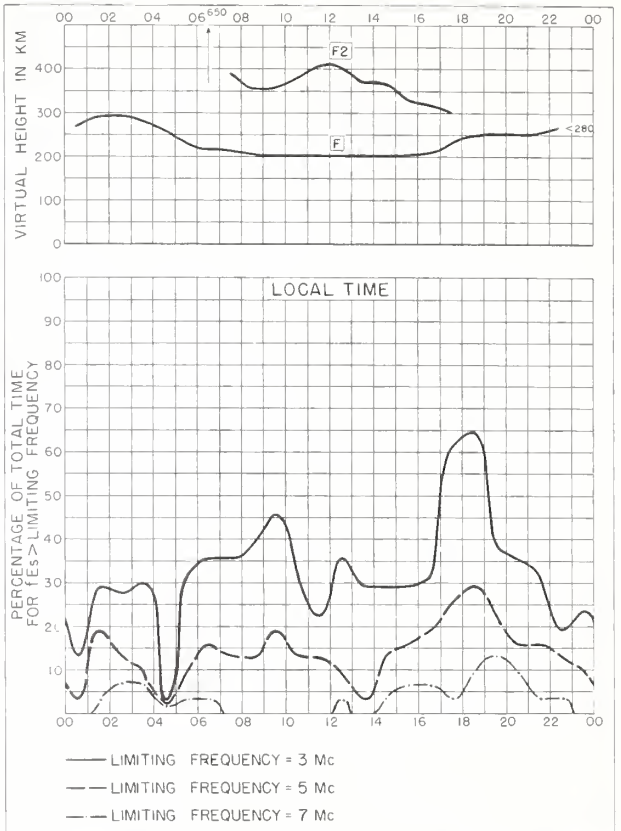

Fig. 38. ST. JOHN'S, NEWFOUNDLAND MAY 1961

NBS 490

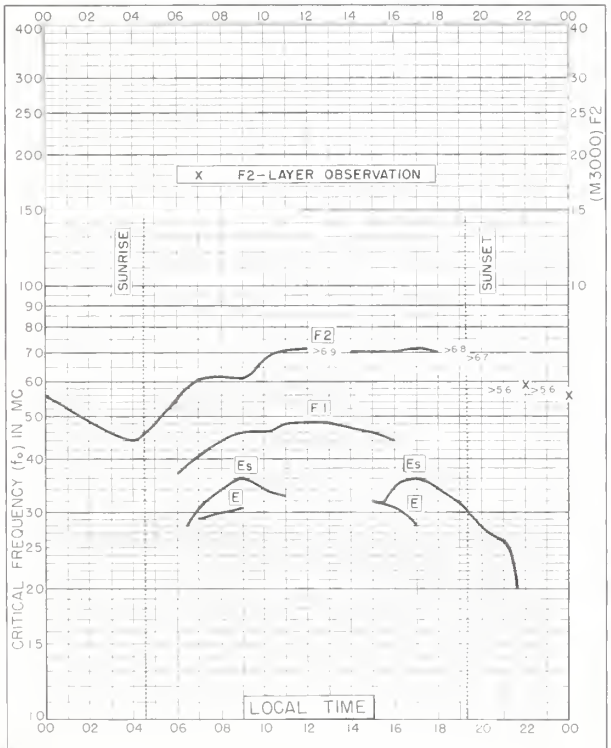

Fig. 39. GRAZ, AUSTRIA
47.1°N, 15.5°E MAY 1961

NBS 503

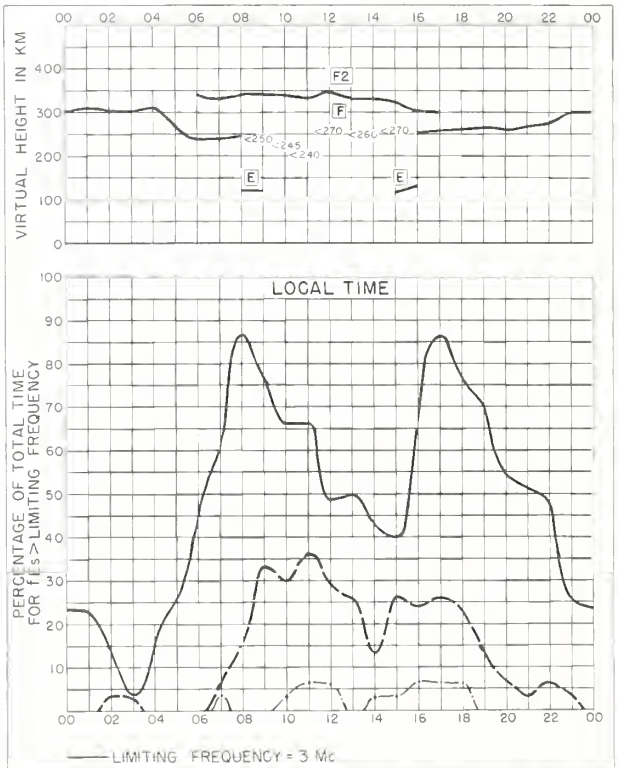

Fig 40. GRAZ, AUSTRIA MAY 1961

NBS 490

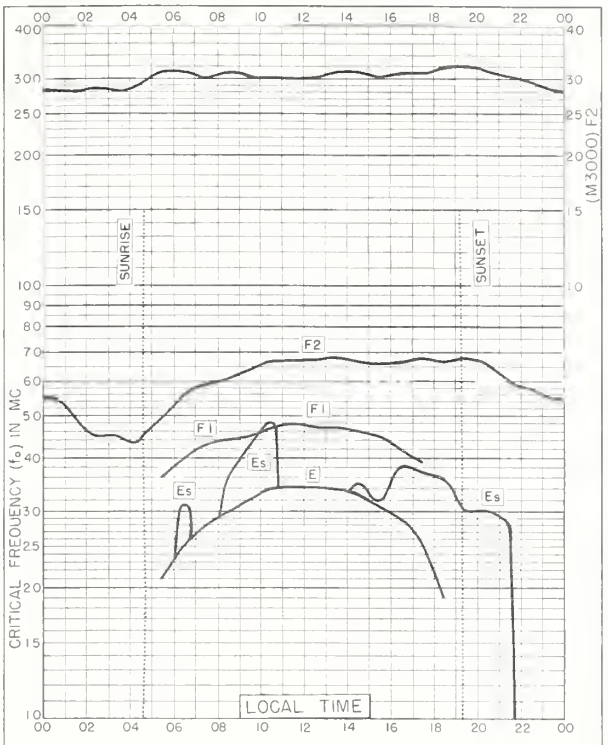

Fig. 41. SOTTENS, SWITZERLAND
46.6°N, 6.7°E MAY 1961

NBS 503

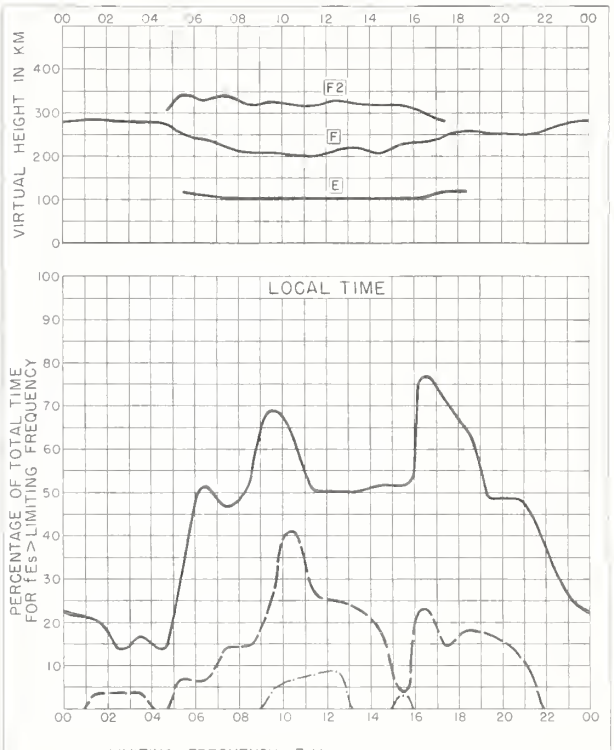

Fig. 42. SOTTENS, SWITZERLAND MAY 1961

NBS 490

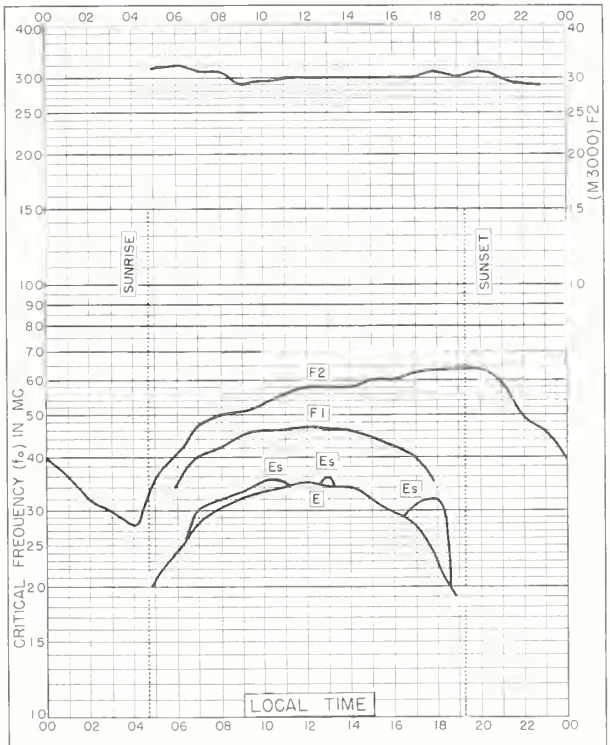

Fig. 43. OTTAWA, CANADA
45.4°N, 75.9°W MAY 1961

NBS 503

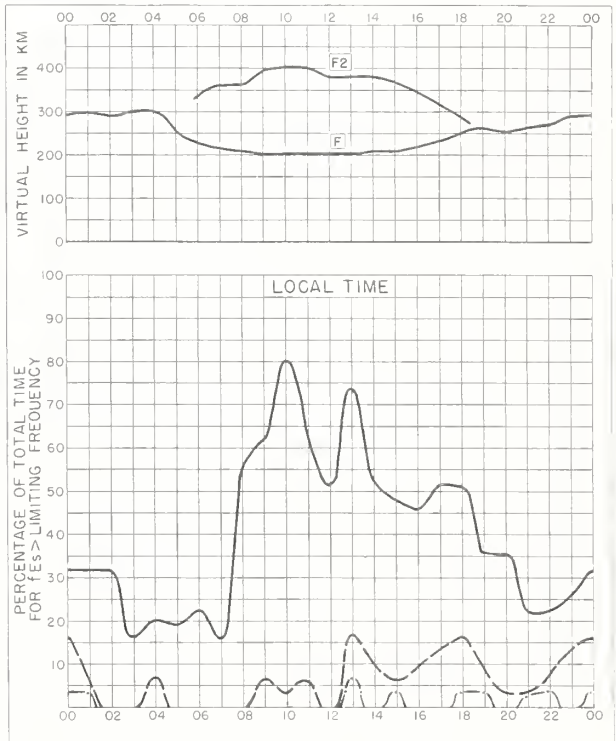

Fig. 44. OTTAWA, CANADA MAY 1961

NBS 490

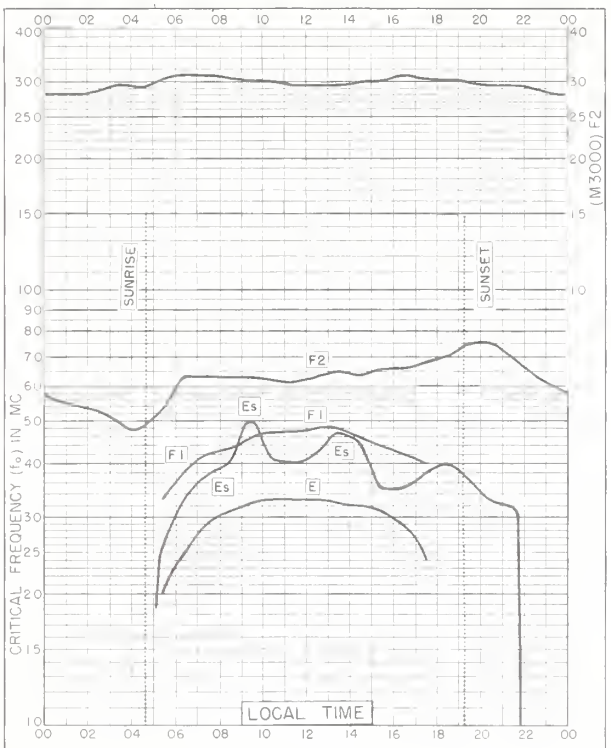

Fig. 45. WAKKANAI, JAPAN
45.4°N, 141.7°E MAY 1961

NBS 503

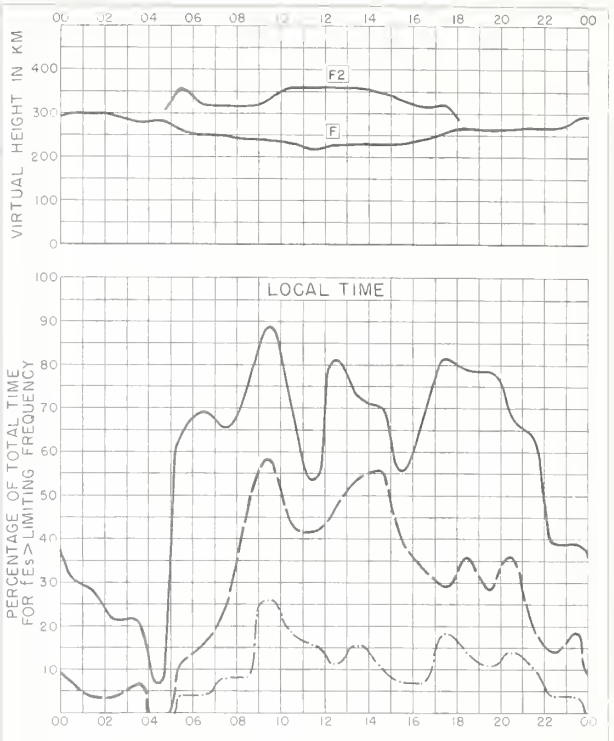

Fig. 46. WAKKANAI, JAPAN MAY 1961

NBS 490

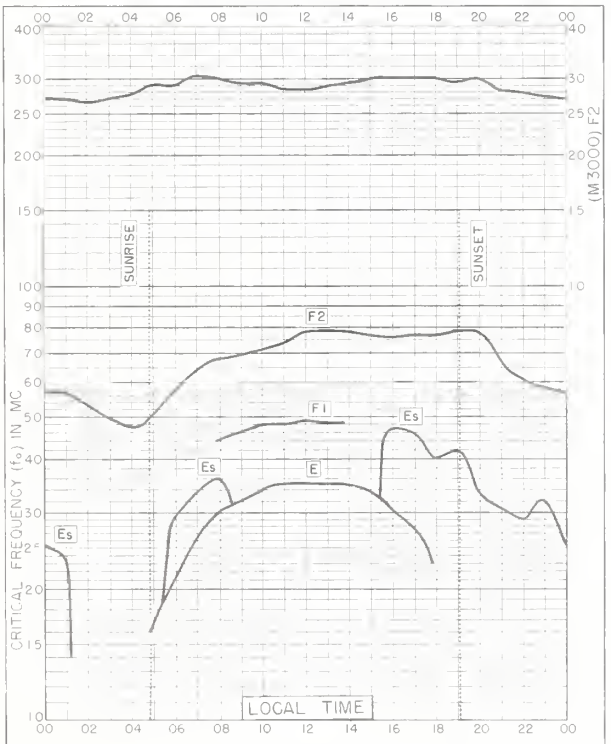

Fig 47. ROME, ITALY
41.8°N, 12.5°E MAY 1961

NBS 503

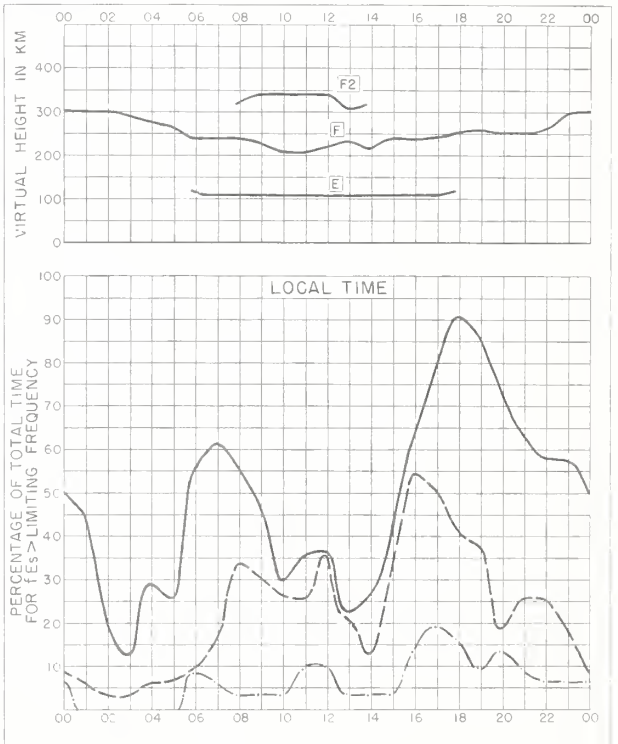

Fig. 48. ROME, ITALY MAY 1961

NBS 490

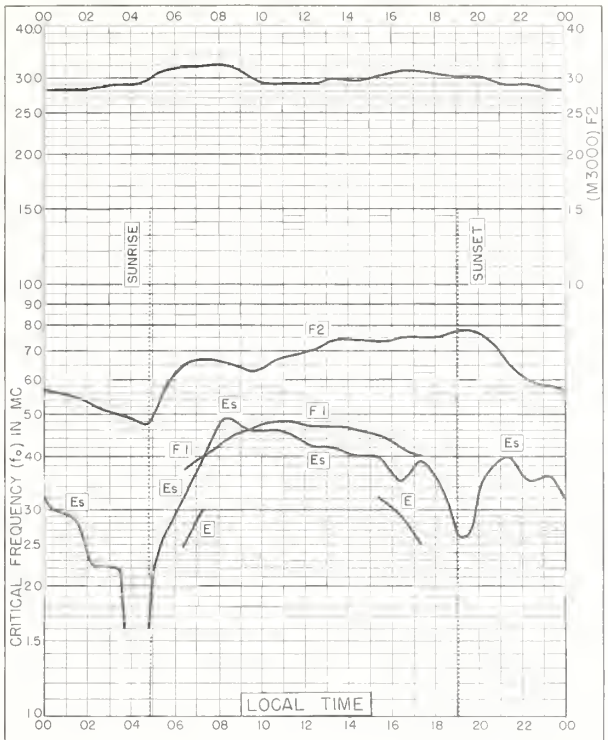

Fig. 49. AKITA, JAPAN
39.7°N, 140.1°E MAY 1961

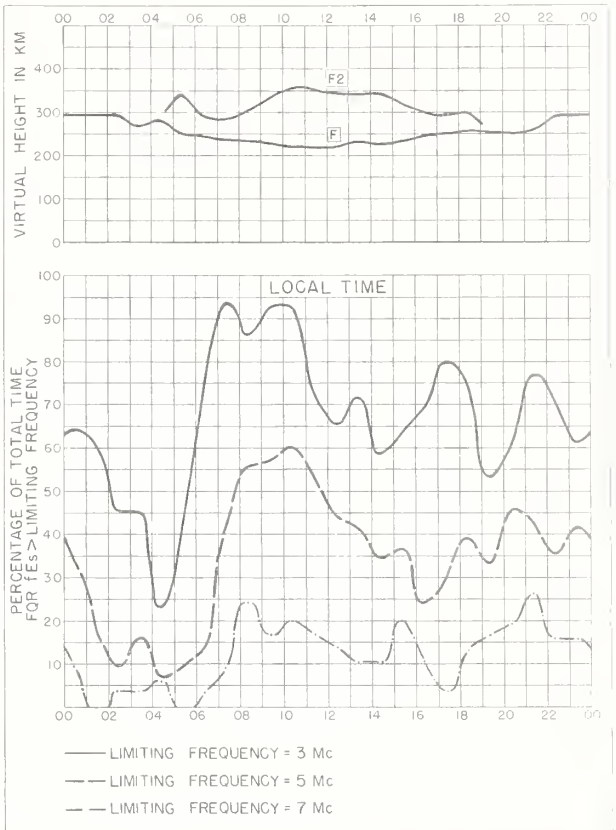

Fig. 50. AKITA, JAPAN MAY 1961

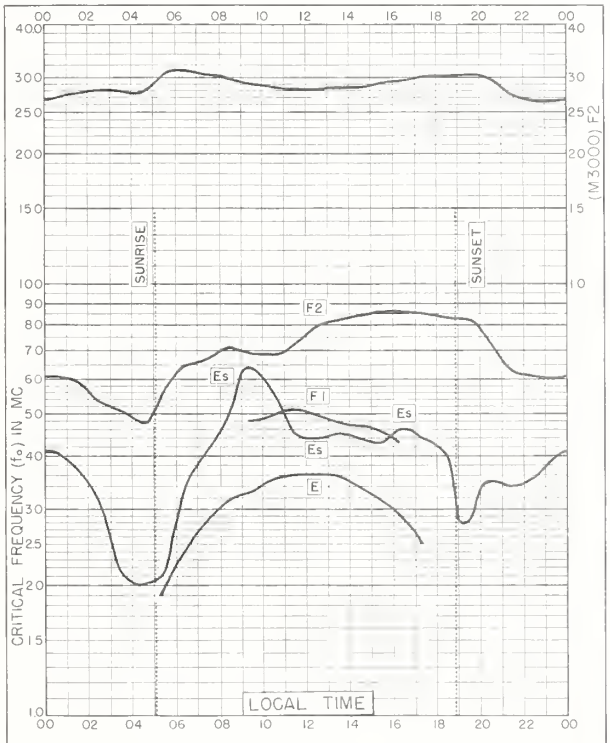

Fig. 51. TOKYO, JAPAN
35.7°N, 139.5°E MAY 1961

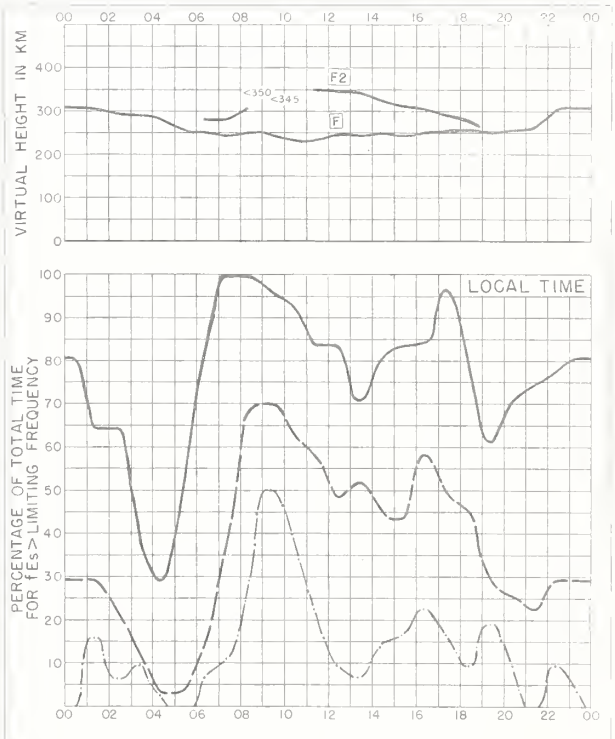

Fig. 52. TOKYO, JAPAN MAY 1961

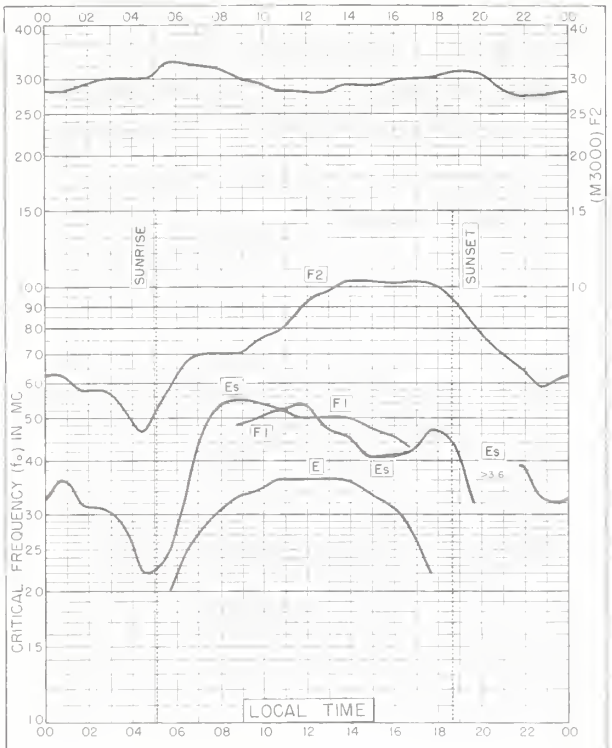

Fig. 53. YAMAGAWA, JAPAN
31.2°N, 130.6°E MAY 1961

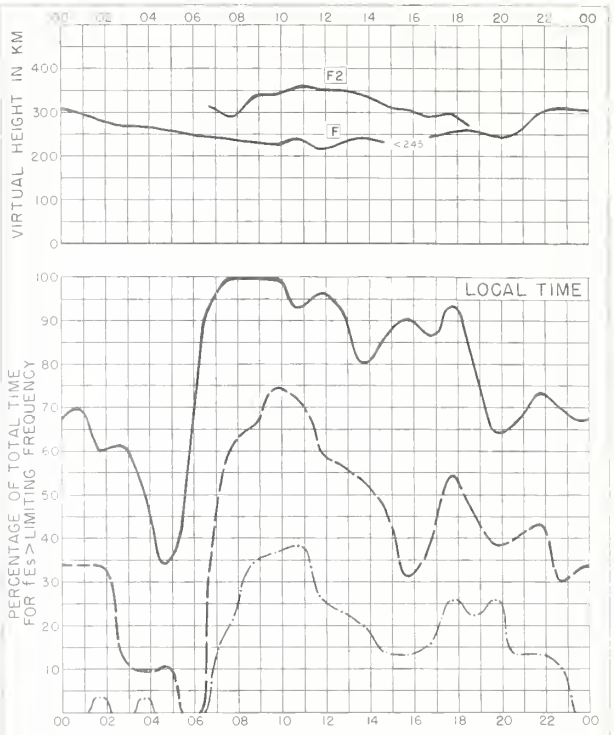

Fig. 54. YAMAGAWA, JAPAN MAY 1961

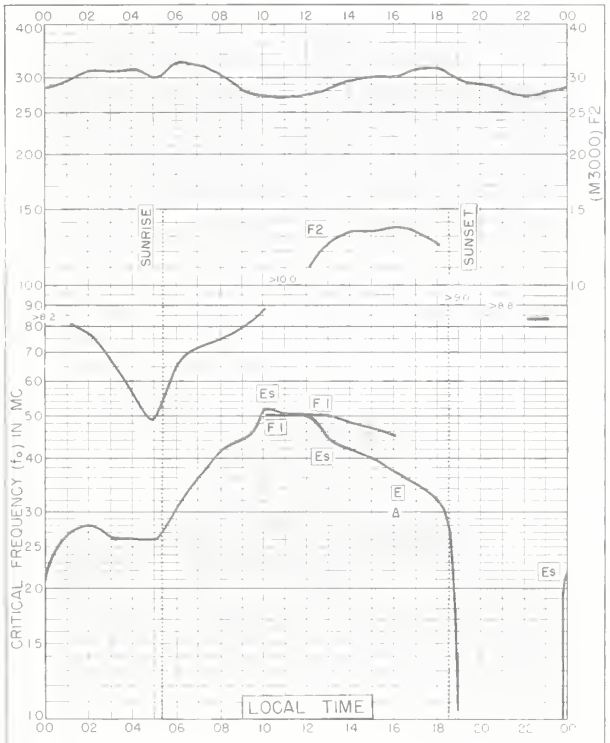

Fig 55 FORMOSA, CHINA
25.0°N, 121.5°E MAY 1961

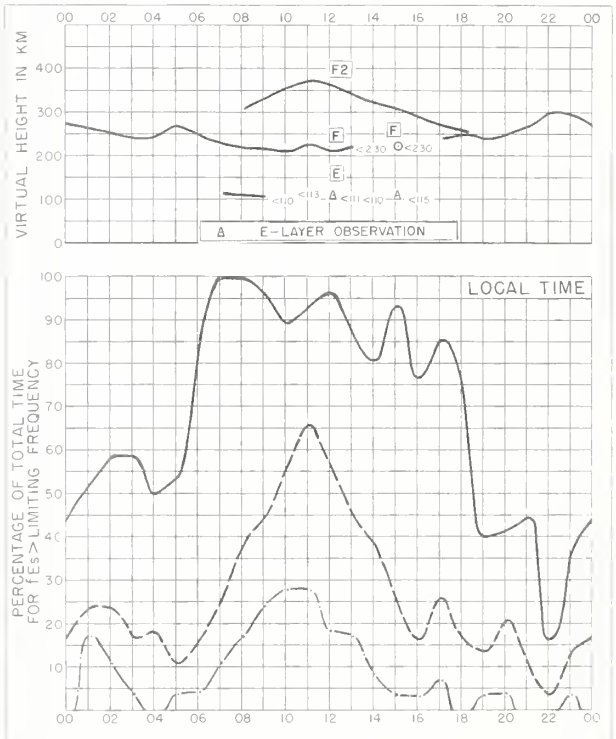

Fig. 56. FORMOSA, CHINA MAY 1961

Fig. 57. BAGUIO, P. I.
16.4°N, 120.6°E MAY 1961

NBS 503

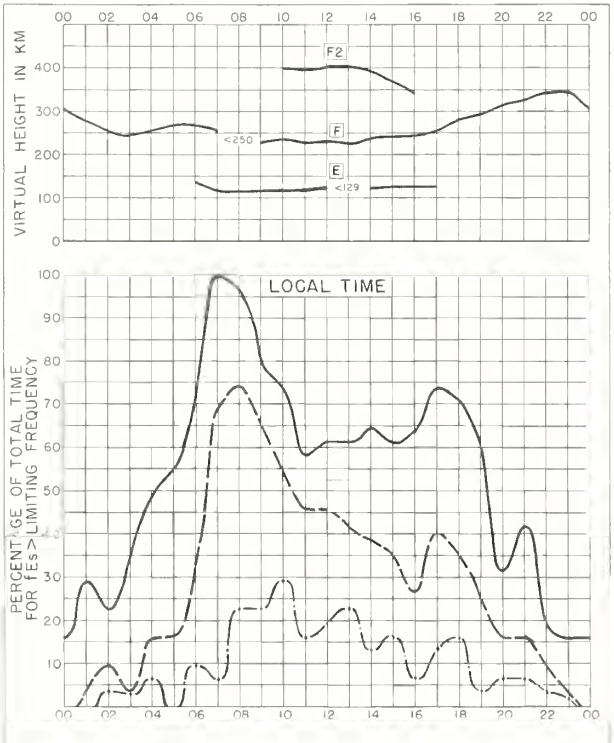

Fig. 58. BAGUIO, P. I. MAY 1961

NBS 490

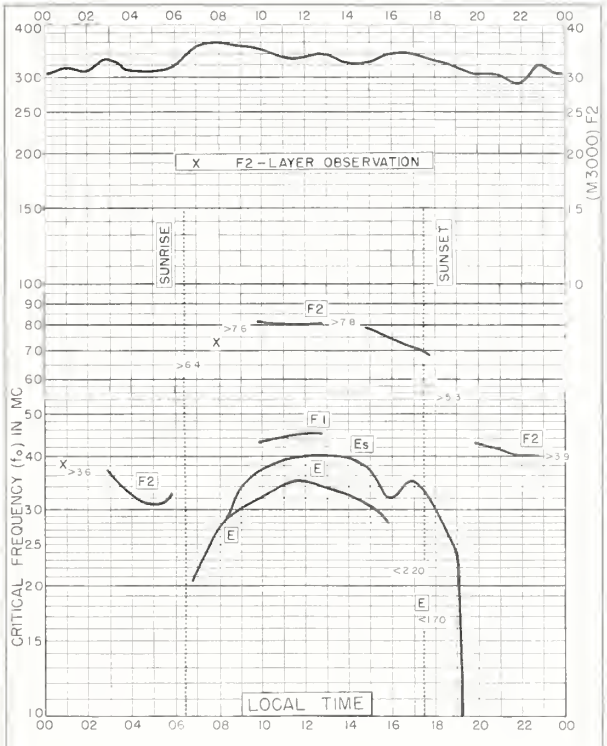

Fig 59. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E MAY 1961

NBS 503

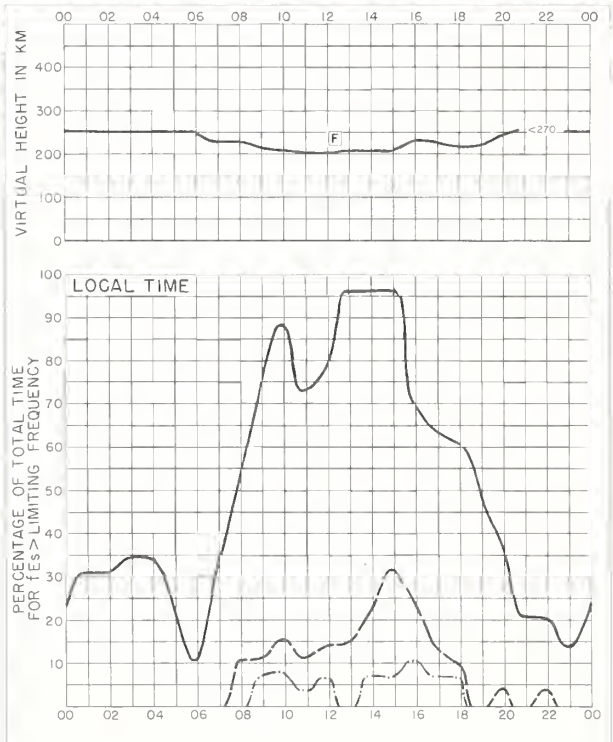

Fig. 60. TOWNSVILLE, AUSTRALIA MAY 1961

NBS 490

Fig. 61. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E MAY 1961

NBS 503

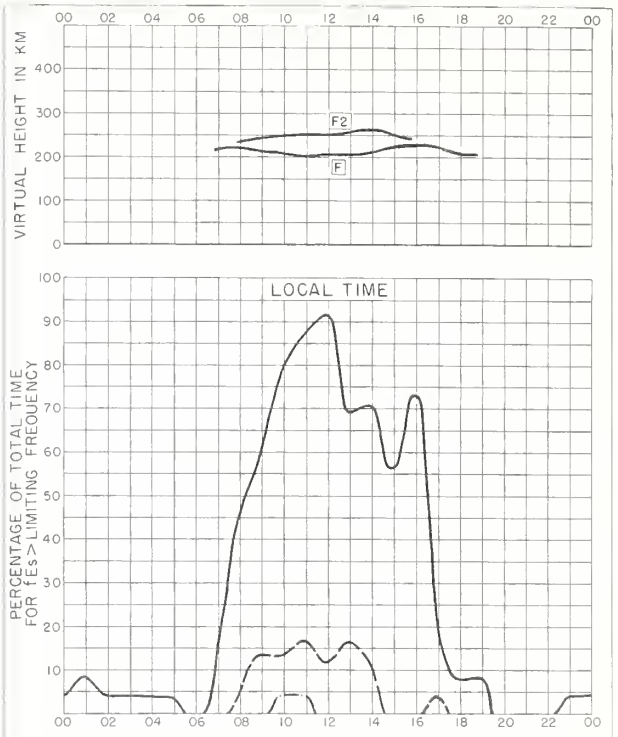

Fig. 62. JOHANNESBURG, UNION OF S. AFRICA MAY 1961

NBS 490

Fig. 63. BRISBANE, AUSTRALIA
27.5°S, 152.9°E MAY 1961

NBS 503

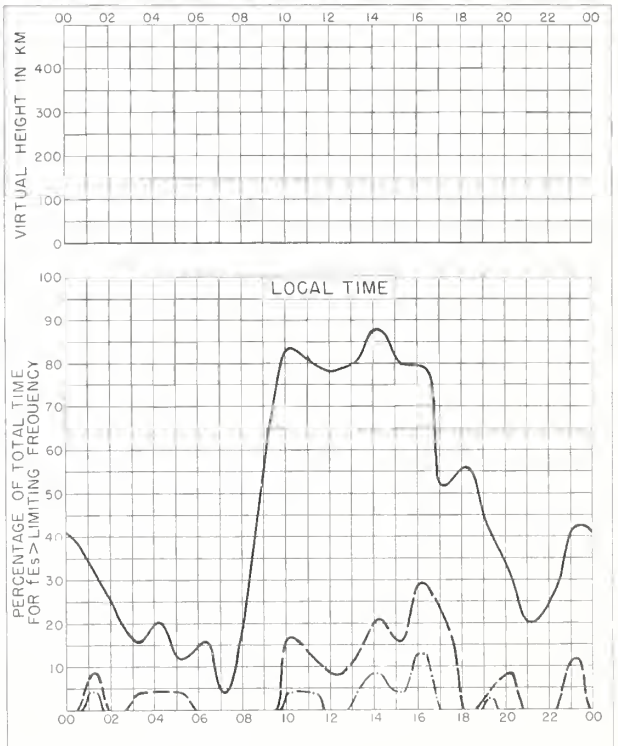

Fig. 64. BRISBANE, AUSTRALIA MAY 1961

NBS 490

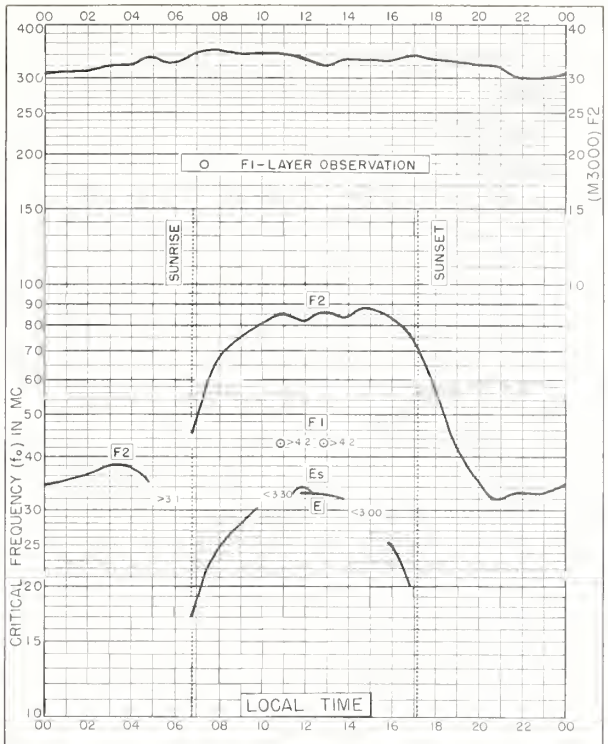

Fig. 65. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E MAY 1961

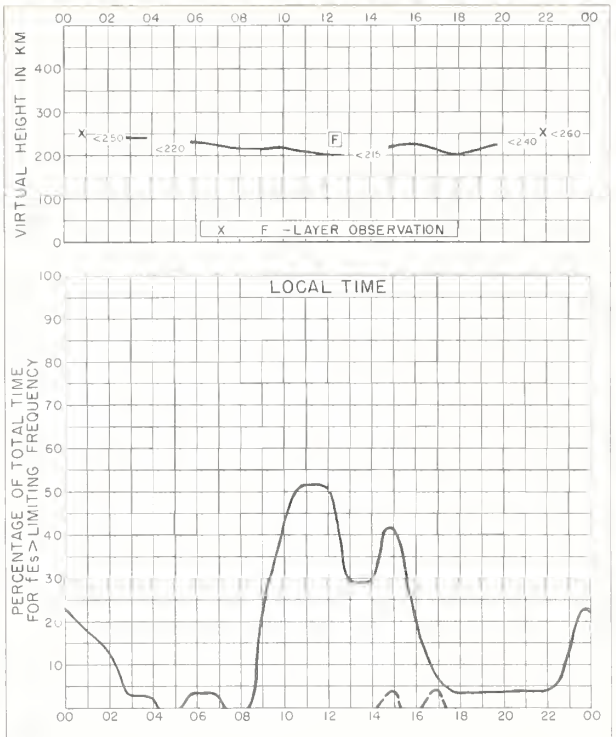

Fig. 66. MUNDARING, W. AUSTRALIA MAY 1961

Fig. 67. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3° E MAY 1961

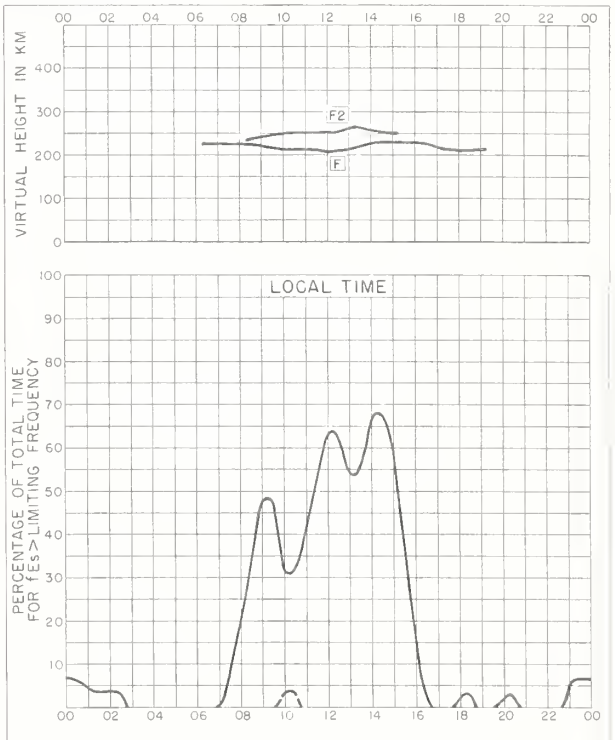

Fig. 68. CAPETOWN, UNION OF S. AFRICA MAY 1961

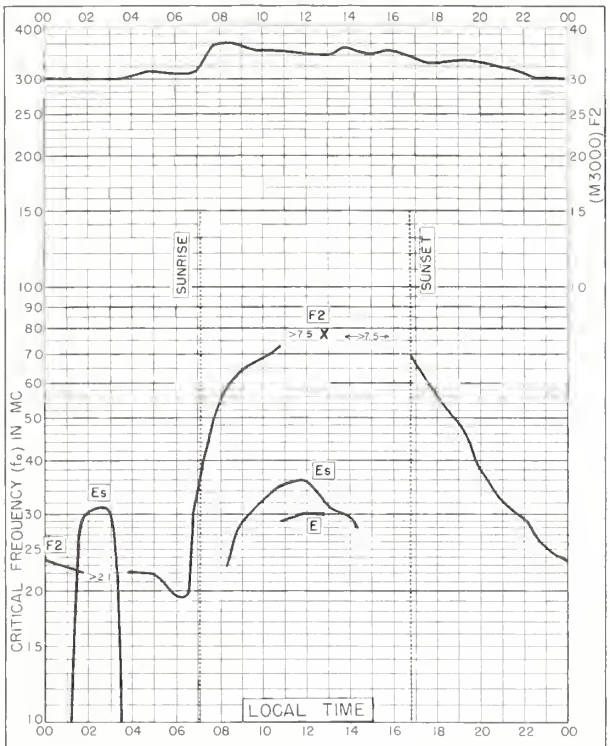

Fig. 69. HOBART, TASMANIA
42.9°S, 147.2°E MAY 1961

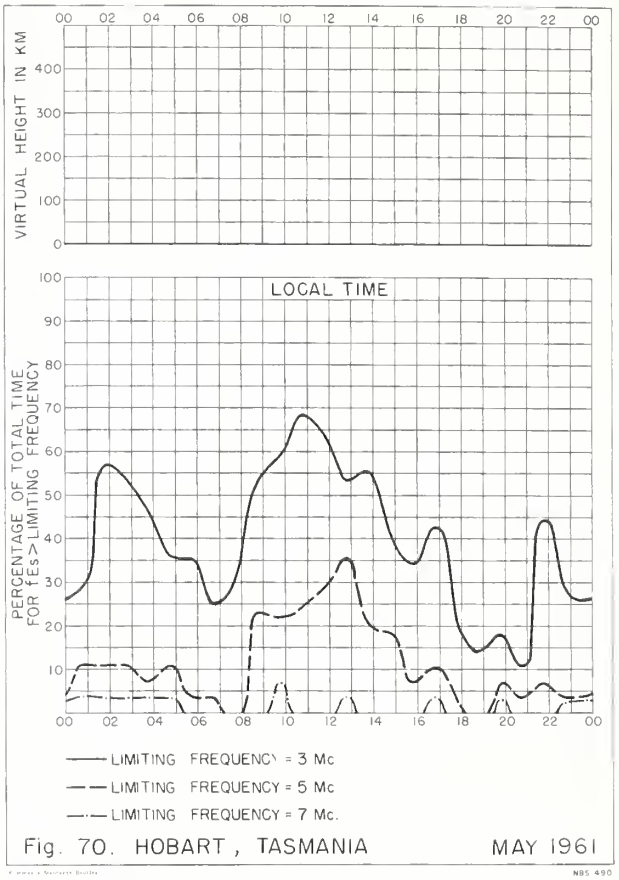

Fig. 70. HOBART, TASMANIA MAY 1961

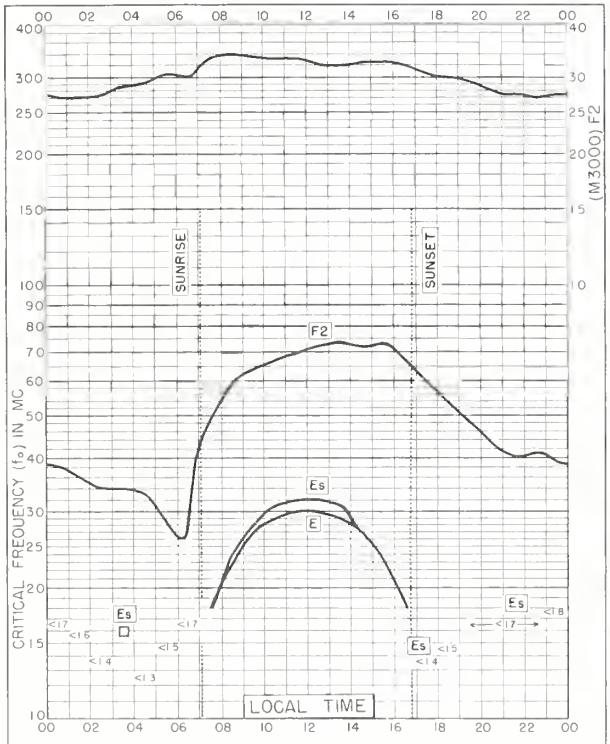

Fig. 71. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E MAY 1961

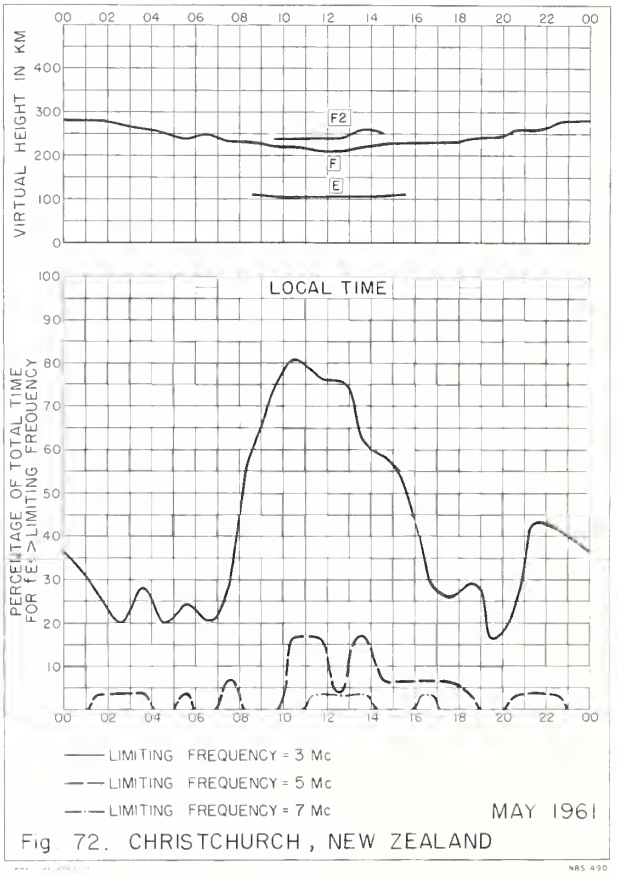

Fig. 72. CHRISTCHURCH, NEW ZEALAND MAY 1961

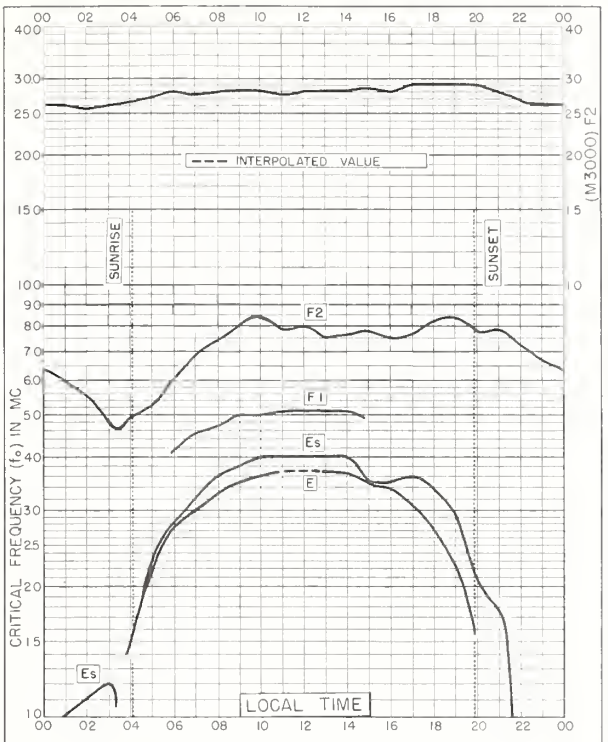

Fig. 73. JULIUSRUH/RÜGEN, GERMANY
54.6°N, 13.4°E MAY 1960

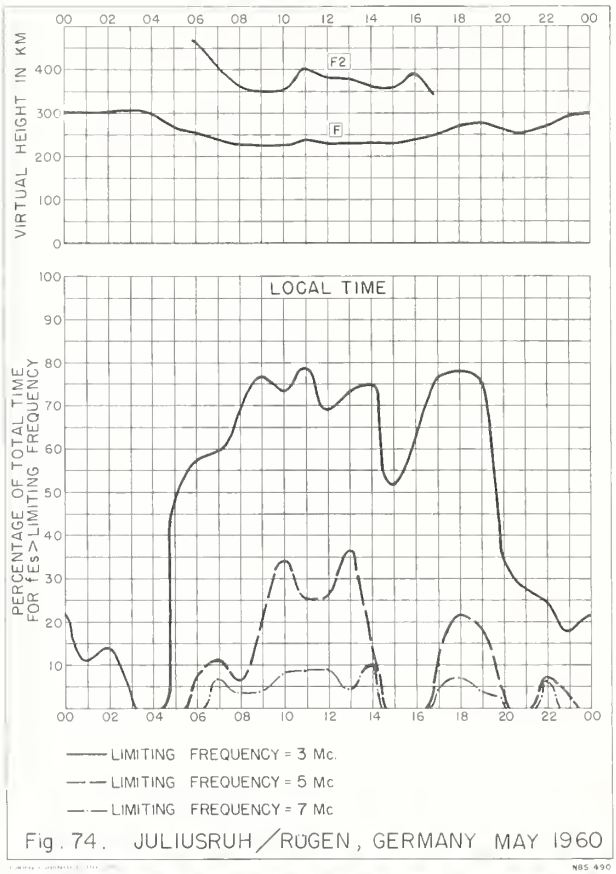

Fig. 74. JULIUSRUH/RÜGEN, GERMANY MAY 1960

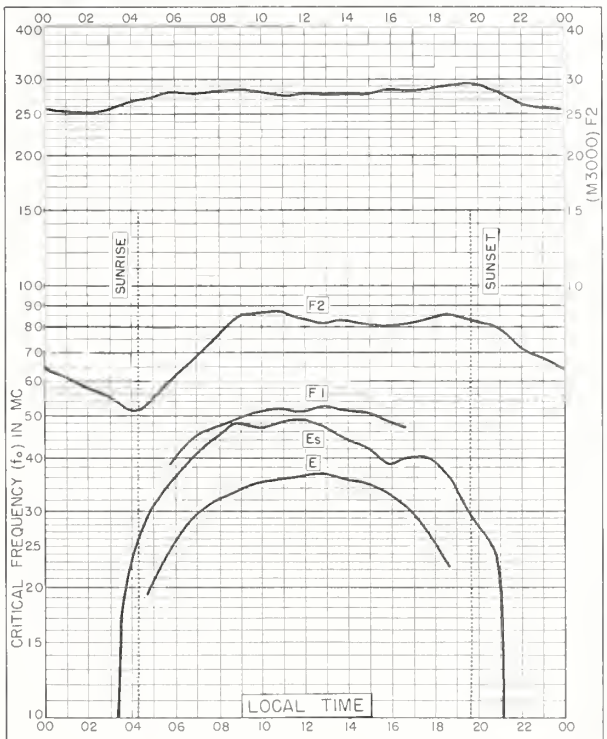

Fig. 75. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E MAY 1960

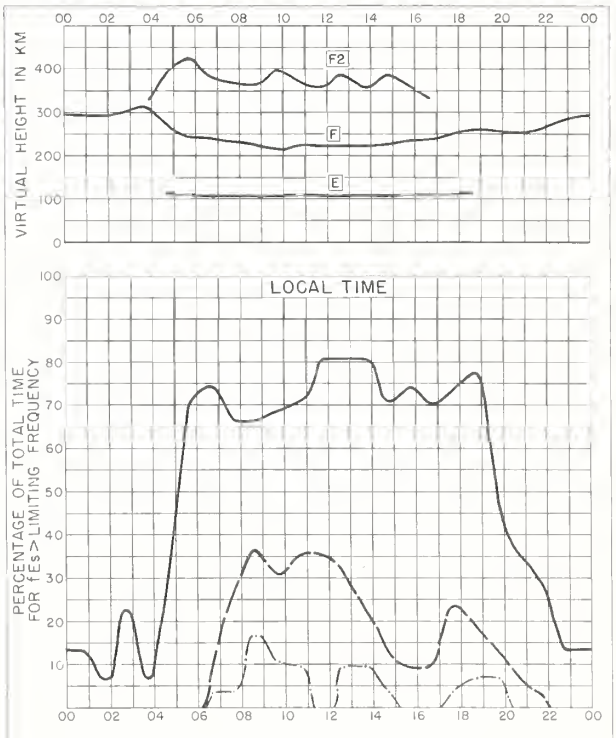

Fig. 76. LINDAU/HARZ, GERMANY MAY 1960

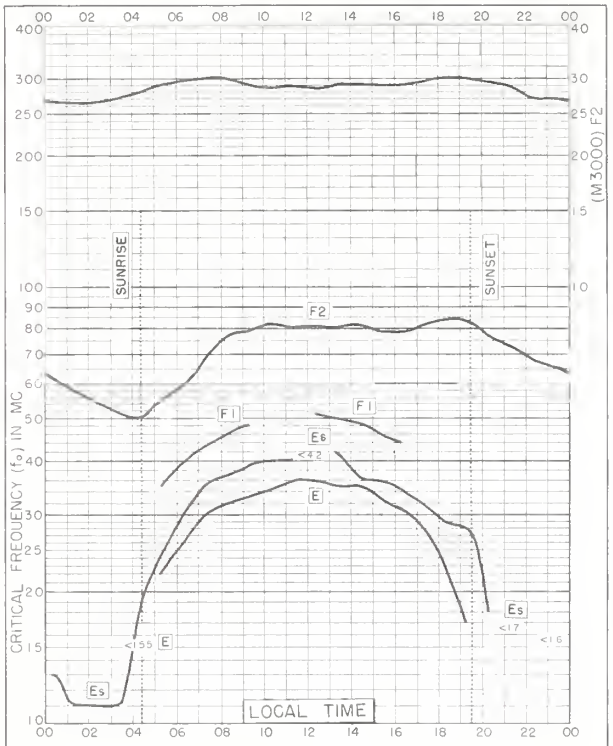

Fig. 77. DOURBES, BELGIUM
50.1°N, 4.6°E MAY 1960

NBS 503

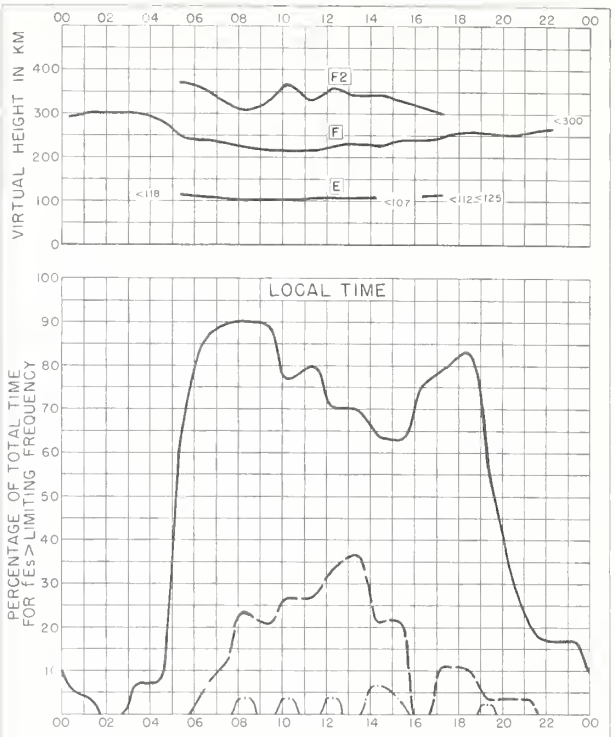

Fig. 78. DOURBES, BELGIUM MAY 1960

NBS 490

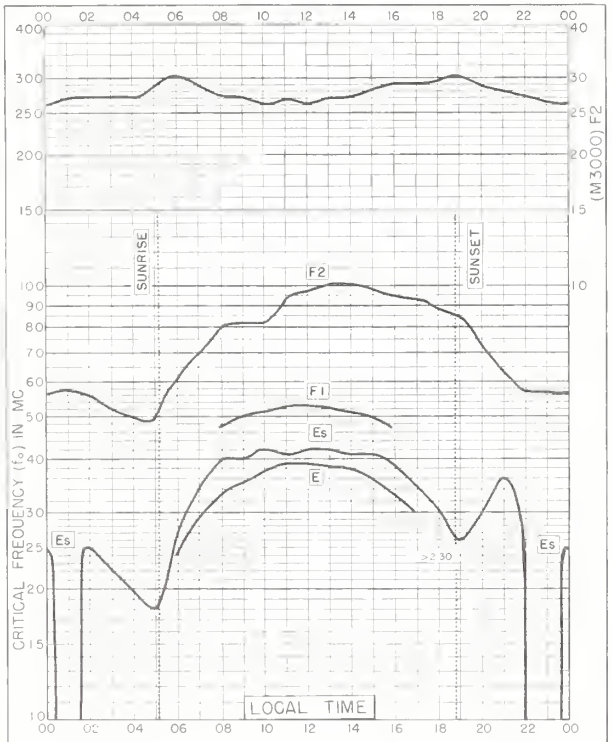

Fig. 79. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W MAY 1960

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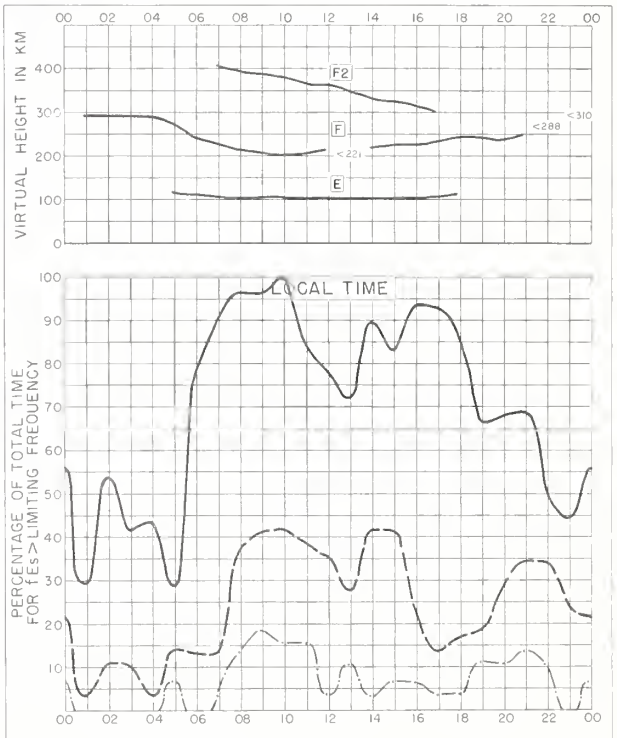


Fig. 80. WHITE SANDS, NEW MEXICO MAY 1960

NBS 490

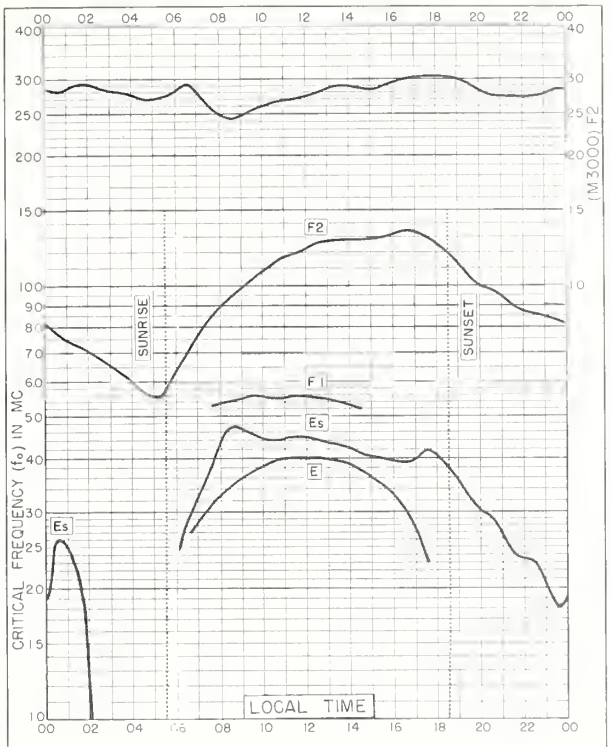


Fig. 81. MAUI, HAWAII
20.8°N, 156.5°W MAY 1960

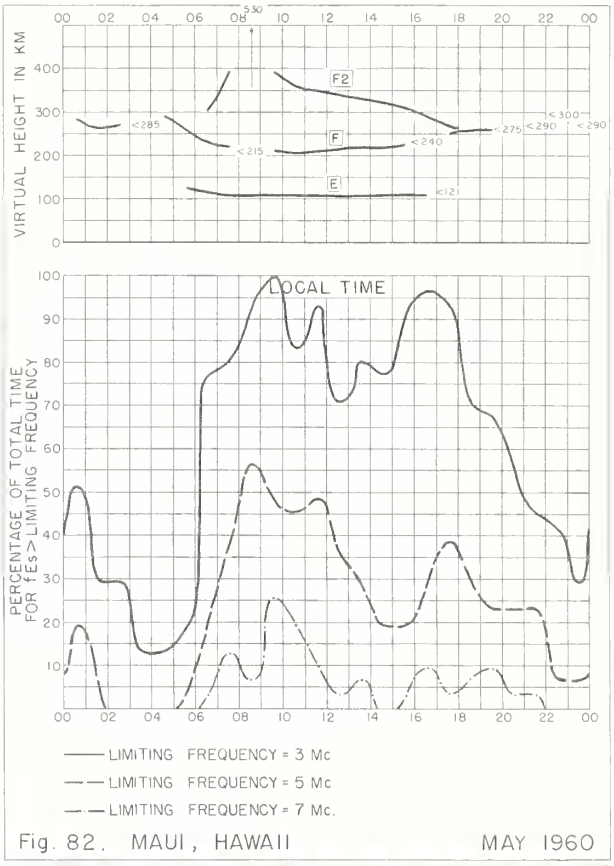


Fig. 82. MAUI, HAWAII MAY 1960

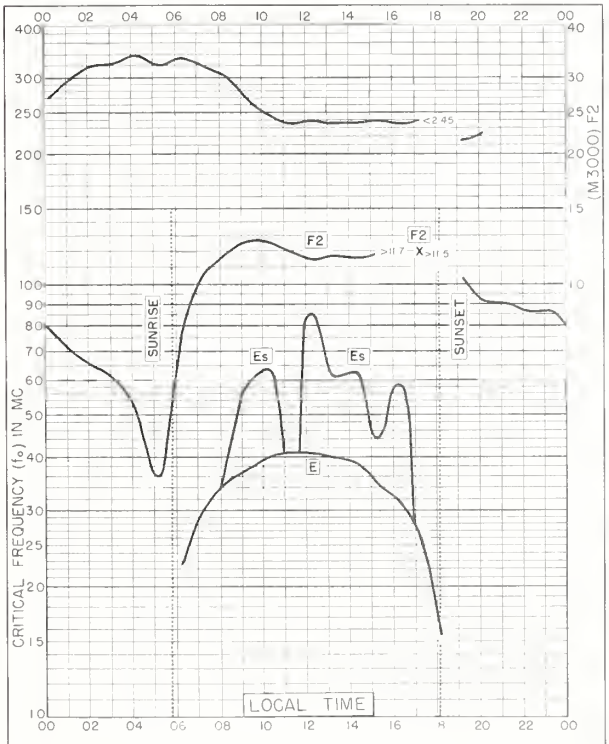


Fig. 83. IBADAN, NIGERIA
7.4°N, 3.9°E MAY 1960

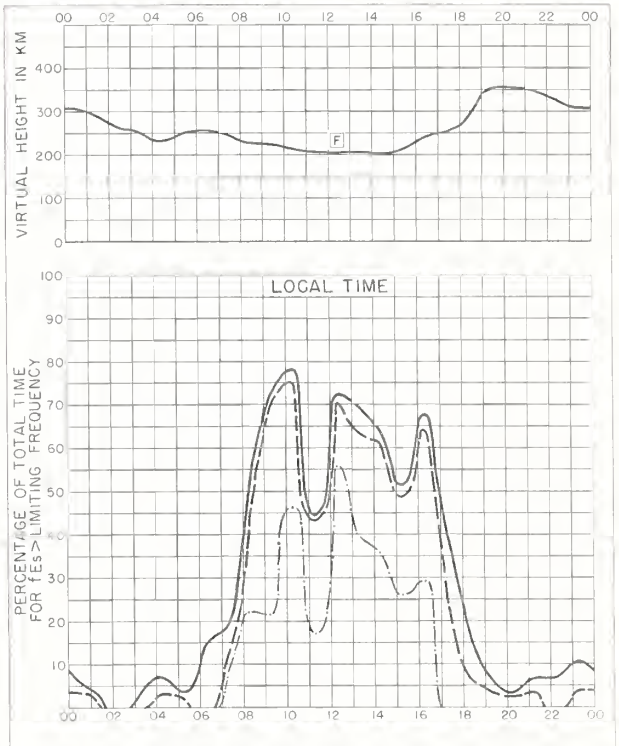


Fig. 84. IBADAN, NIGERIA MAY 1960

Fig. 85. LA PAZ, BOLIVIA
16.5°S, 68.1°W MAY 1960

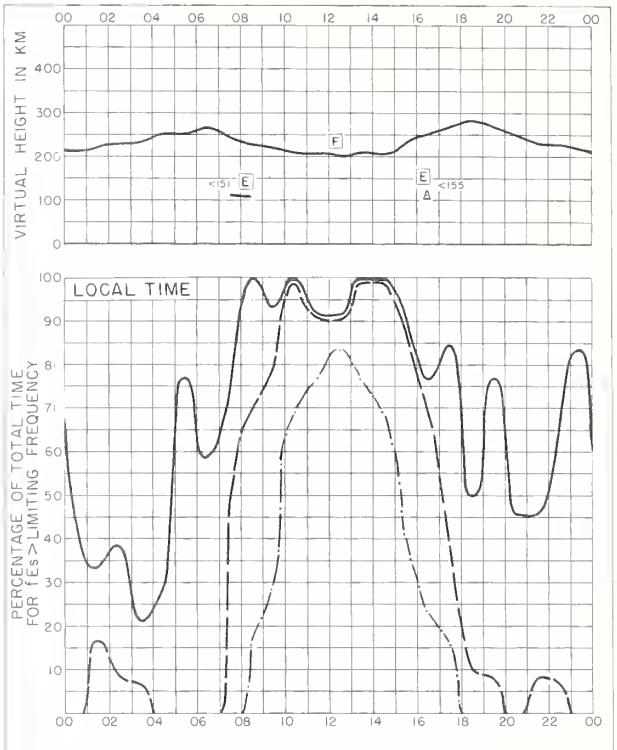


Fig. 86. LA PAZ, BOLIVIA MAY 1960

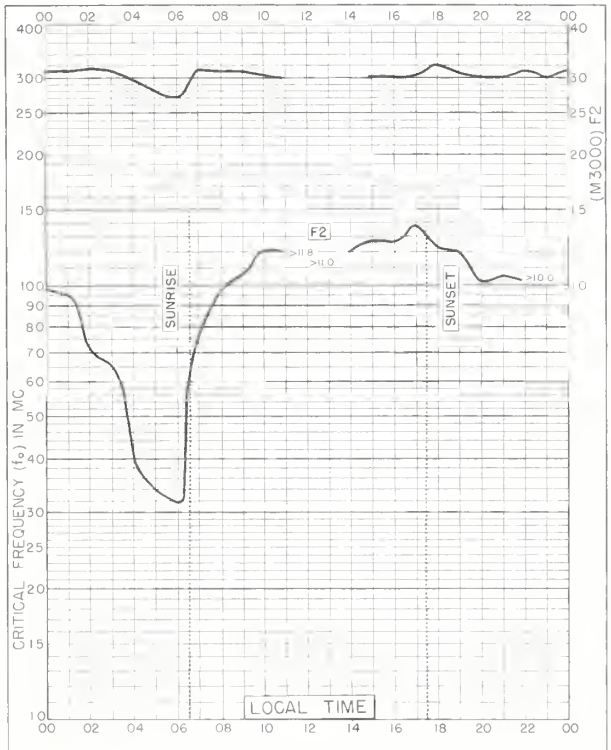


Fig. 87. SAO PAULO, BRAZIL
23.5°S, 46.5°W MAY 1960

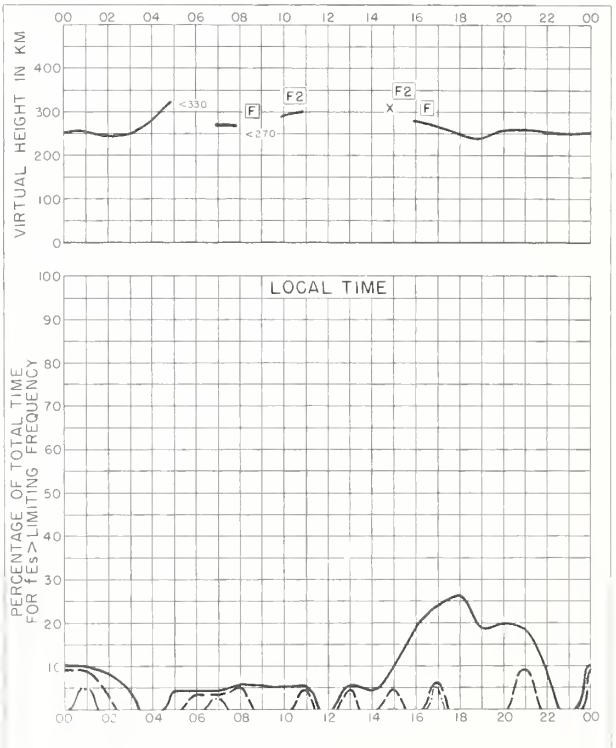


Fig. 88. SAO PAULO, BRAZIL MAY 1960

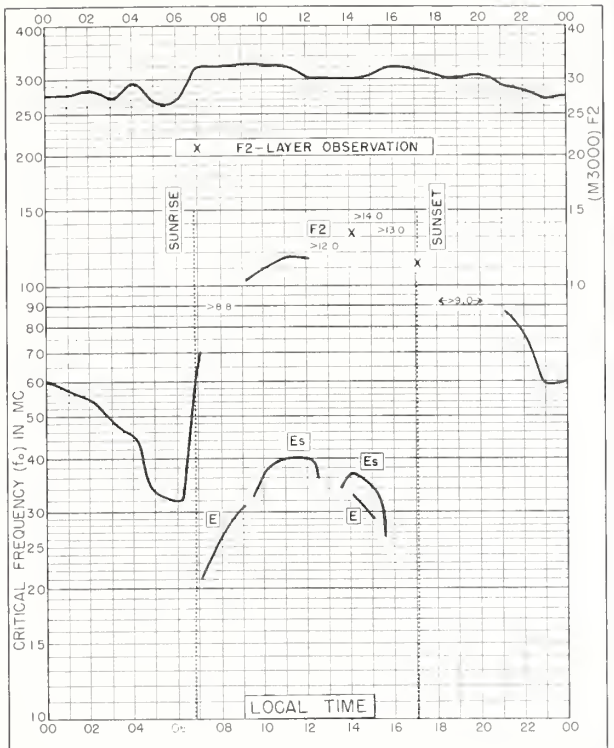


Fig. 89. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W MAY 1960

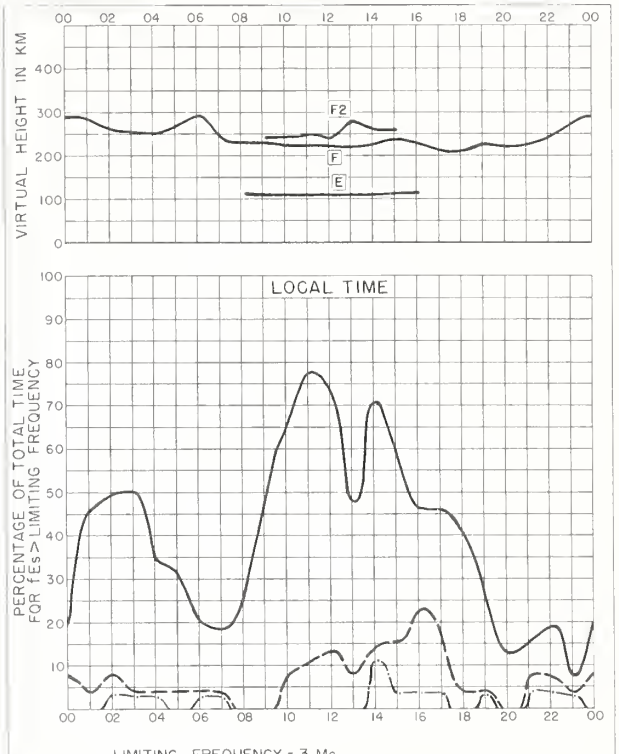


Fig. 90. BUENOS AIRES, ARGENTINA MAY 1960

Fig. 91. CONCEPCION, CHILE
36.6°S, 73.0°W MAY 1960

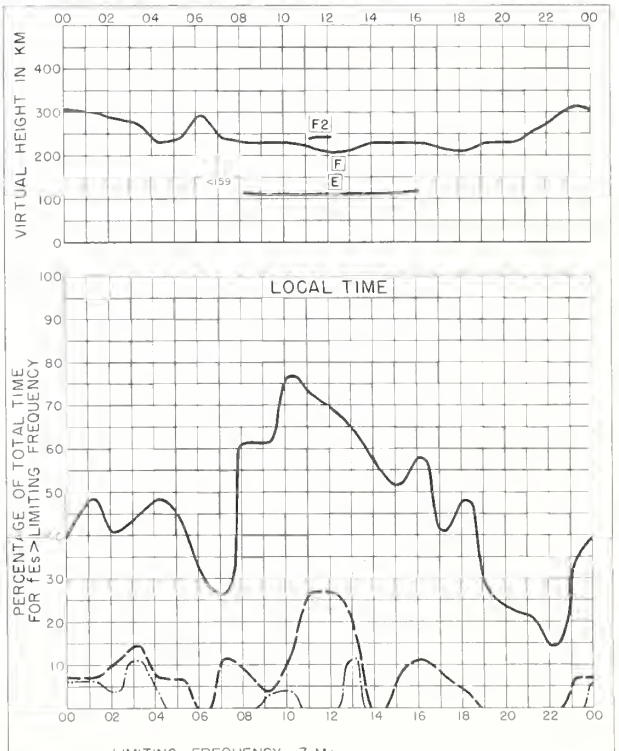


Fig 92. CONCEPCION, CHILE MAY 1960

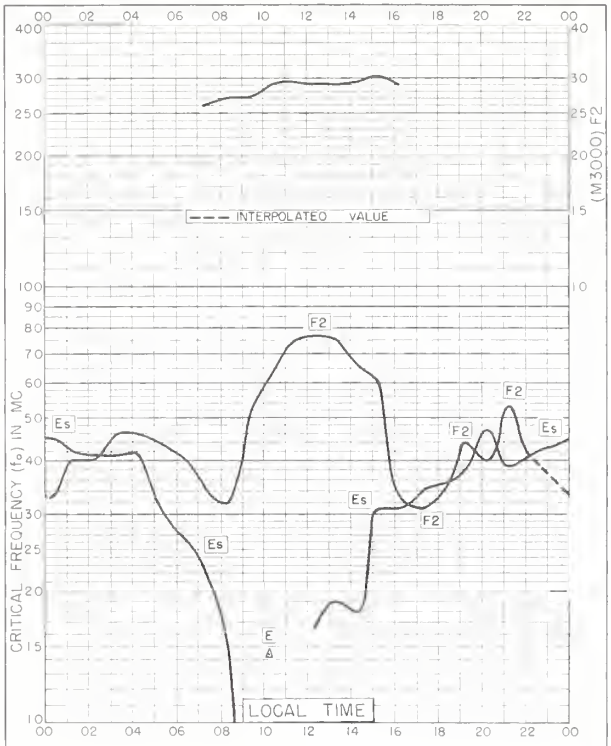


Fig. 93. TROMSO, NORWAY
69 7°N, 19.0°E DECEMBER 1959

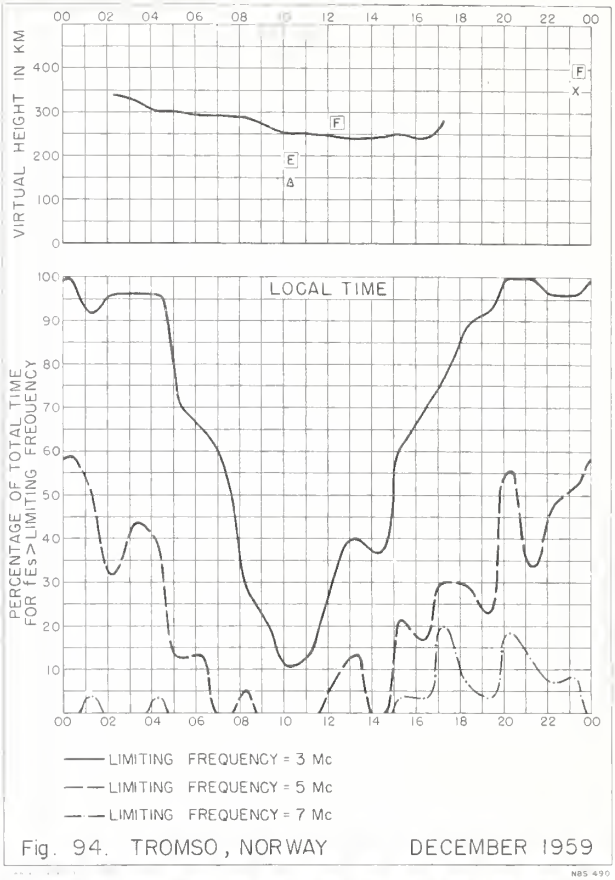


Fig. 94. TROMSO, NORWAY DECEMBER 1959

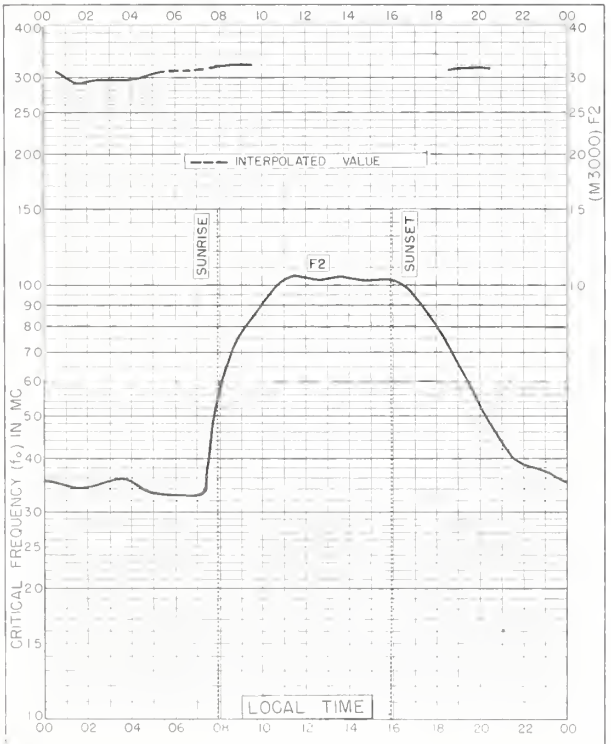


Fig. 95. WINNIPEG, CANADA
49.9°N, 97.4°W DECEMBER 1959

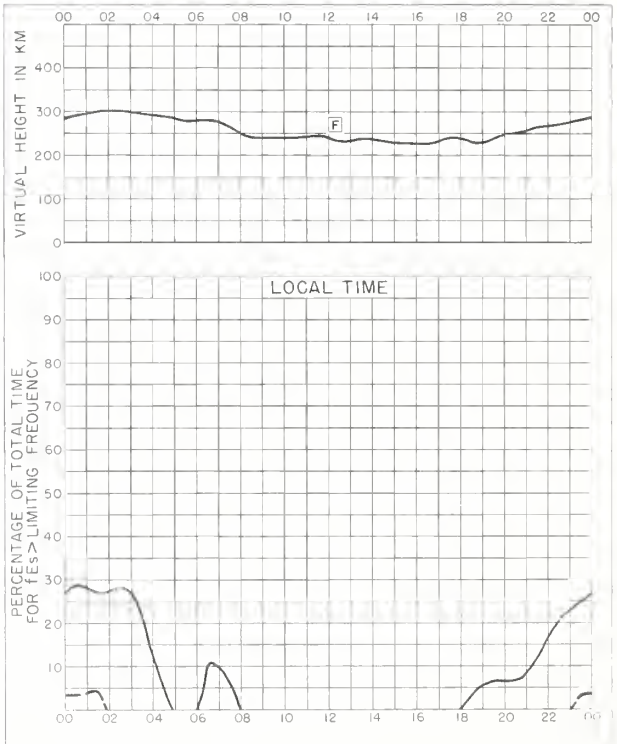


Fig. 96. WINNIPEG, CANADA DECEMBER 1959

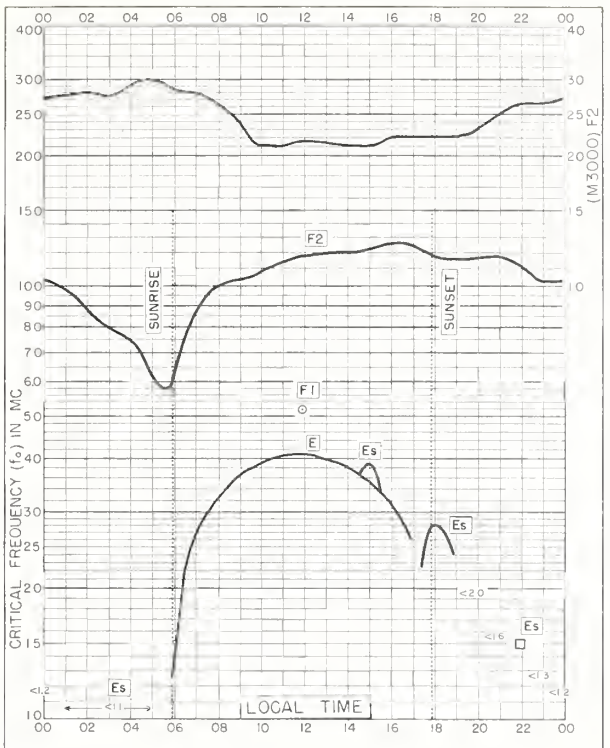
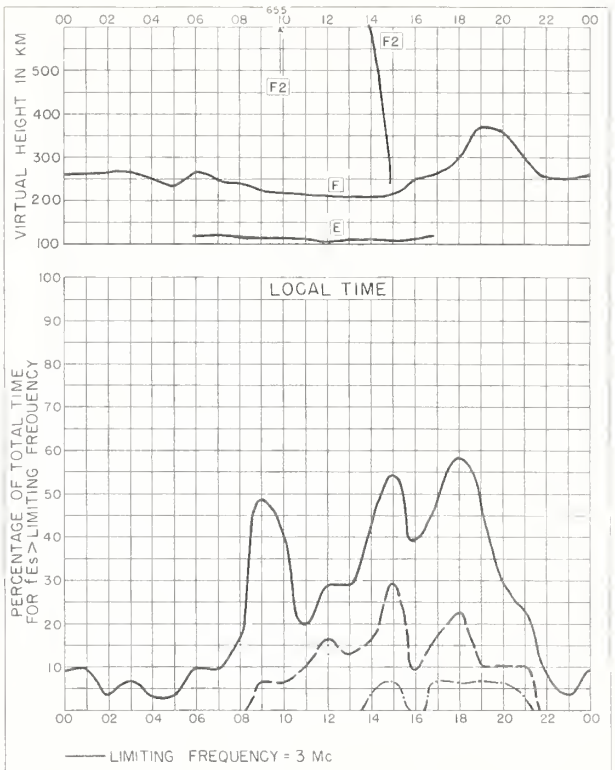


Fig. 97. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E DECEMBER 1959



DECEMBER 1959

Fig. 98. SINGAPORE, BRITISH MALAYA

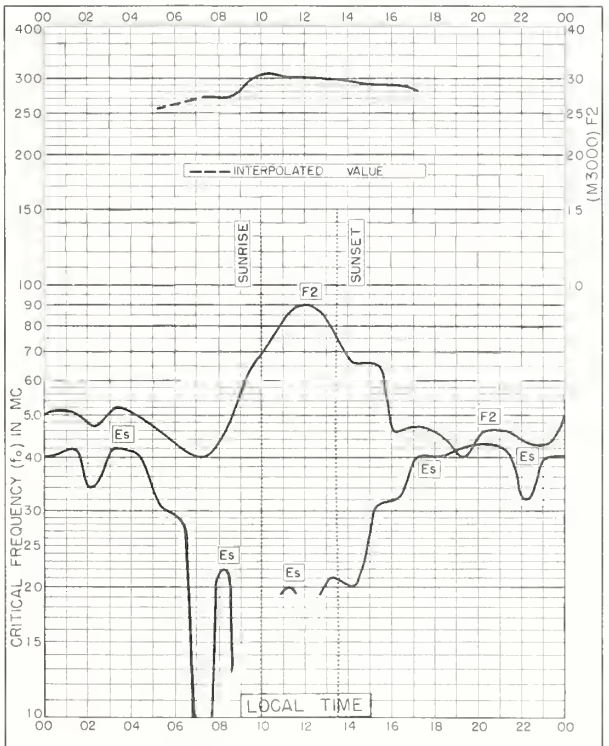


Fig. 99. TROMSO, NORWAY
69.7°N, 19.0°E NOVEMBER 1959

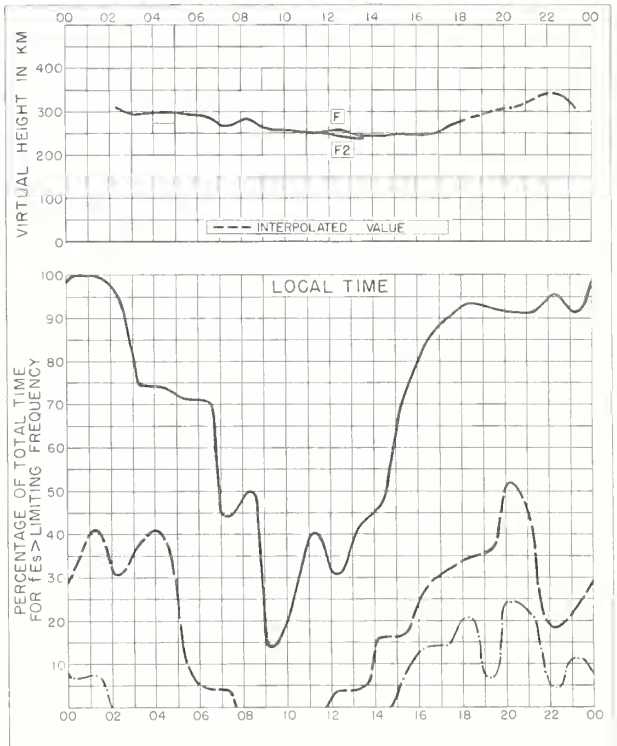


Fig. 100. TROMSO, NORWAY NOVEMBER 1959

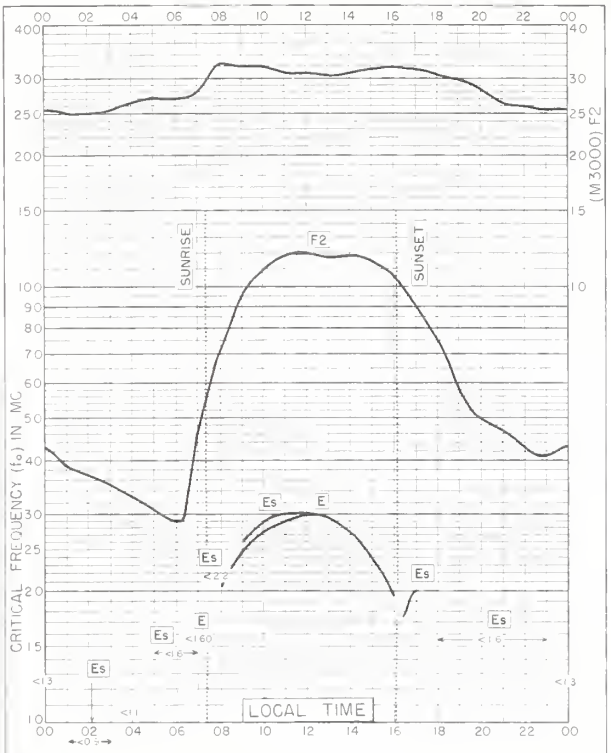


Fig. 101. SLOUGH, ENGLAND
51.5°N, 0.6°W NOVEMBER 1959

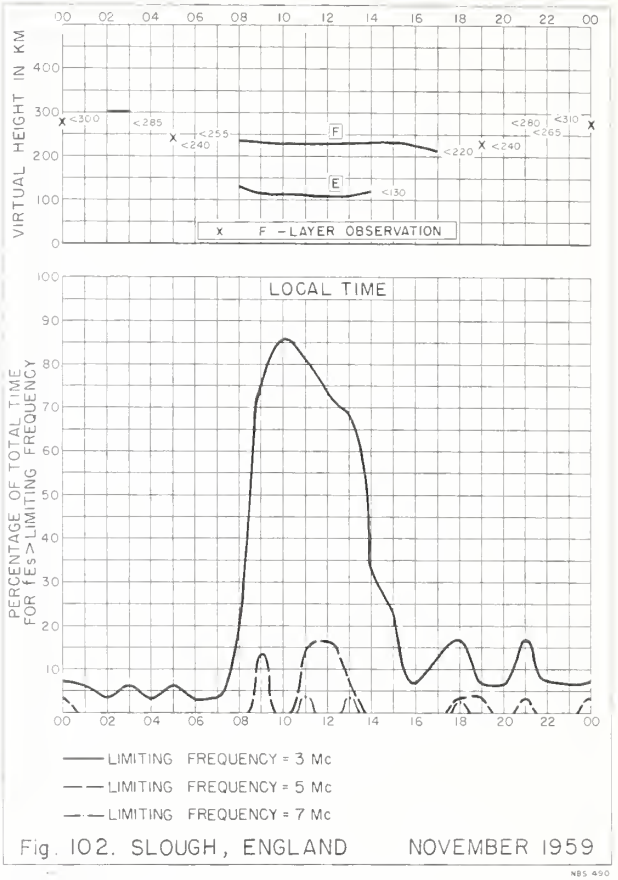


Fig. 102. SLOUGH, ENGLAND NOVEMBER 1959

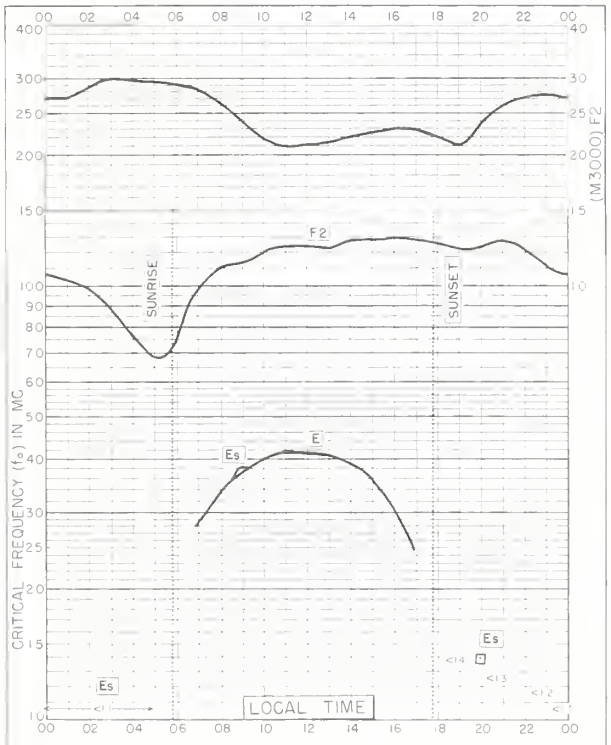


Fig 103. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E NOVEMBER 1959

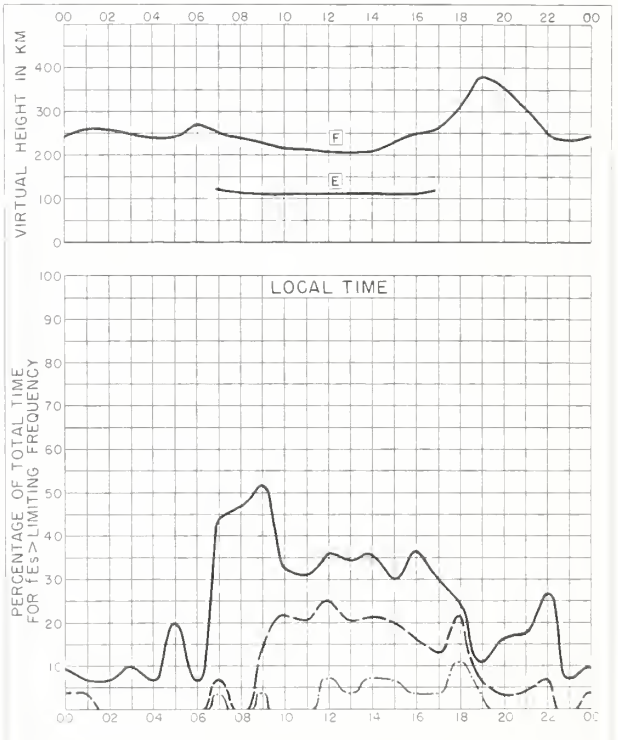


Fig. 104. SINGAPORE, BRITISH MALAYA NOVEMBER 1959

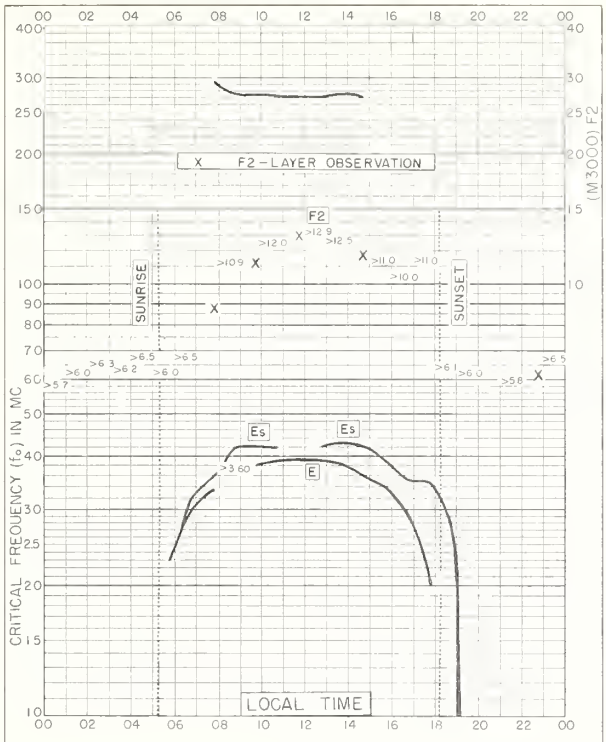


Fig. 105. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E NOVEMBER 1959

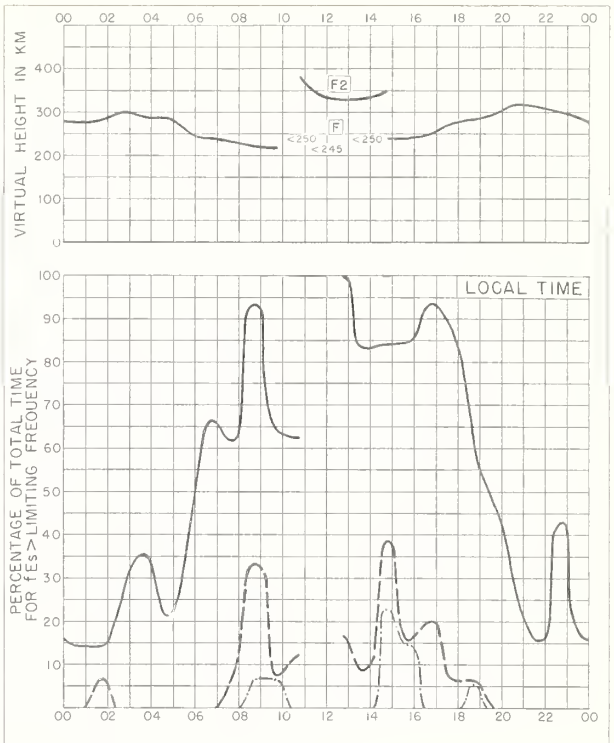


Fig. 106. TOWNSVILLE, AUSTRALIA NOVEMBER 1959

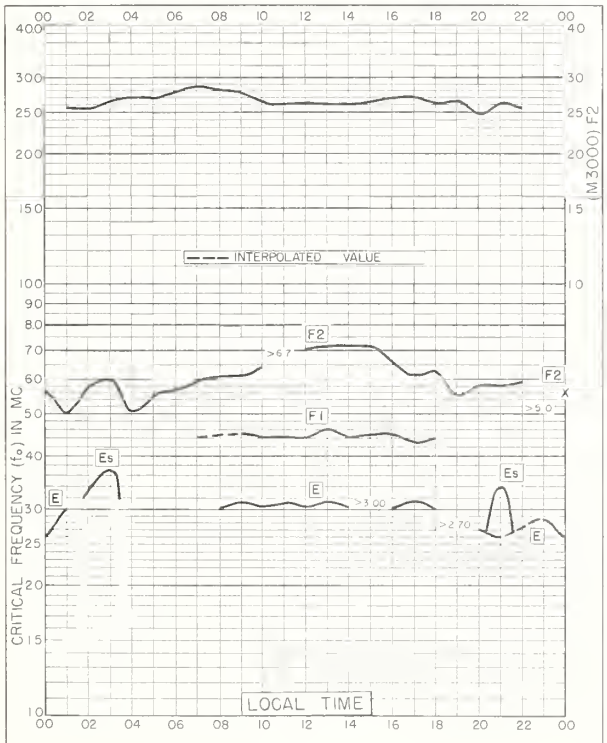


Fig. 107. BYRD STATION
80.0°S, 120.0°W NOVEMBER 1959

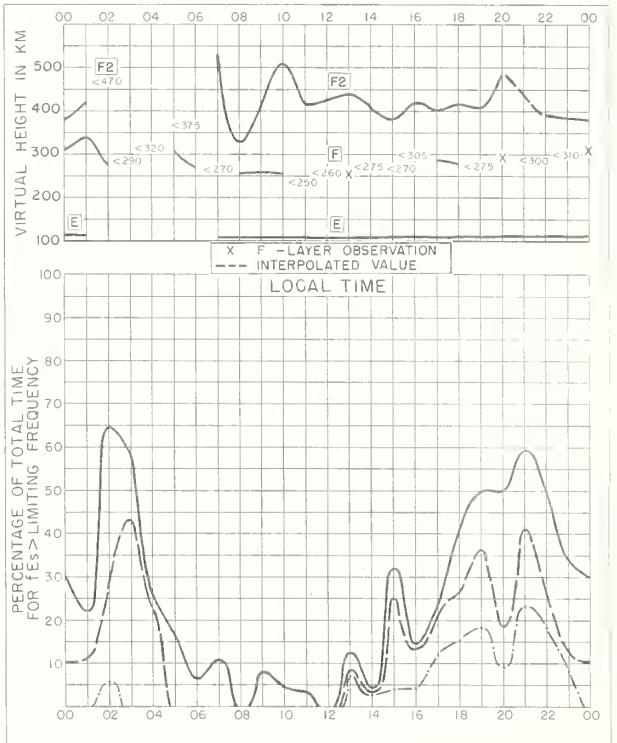


Fig. 108. BYRD STATION NOVEMBER 1959

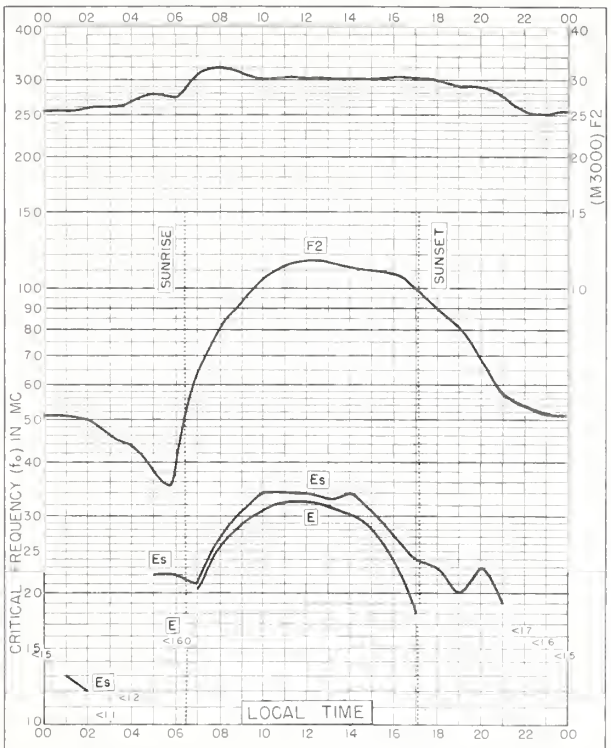


Fig. 109. SLOUGH, ENGLAND
51.5°N, 0.6°W OCTOBER 1959

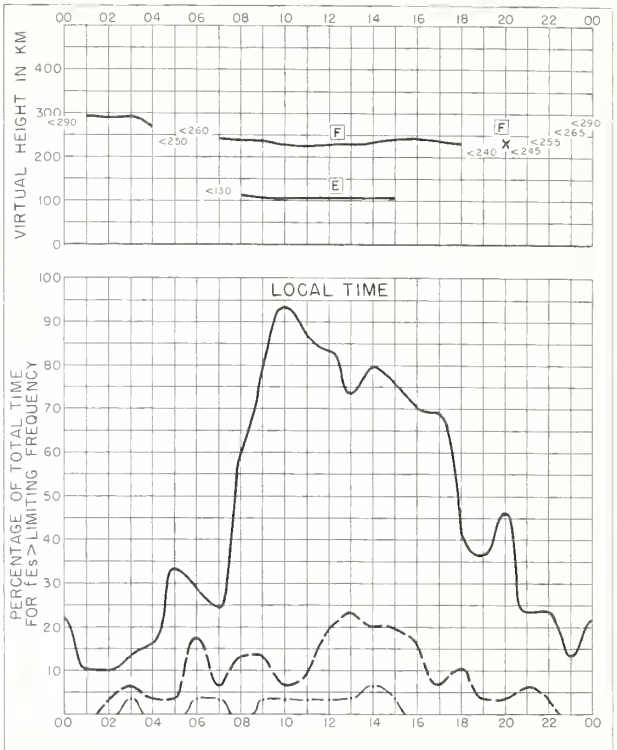


Fig. 110. SLOUGH, ENGLAND OCTOBER 1959

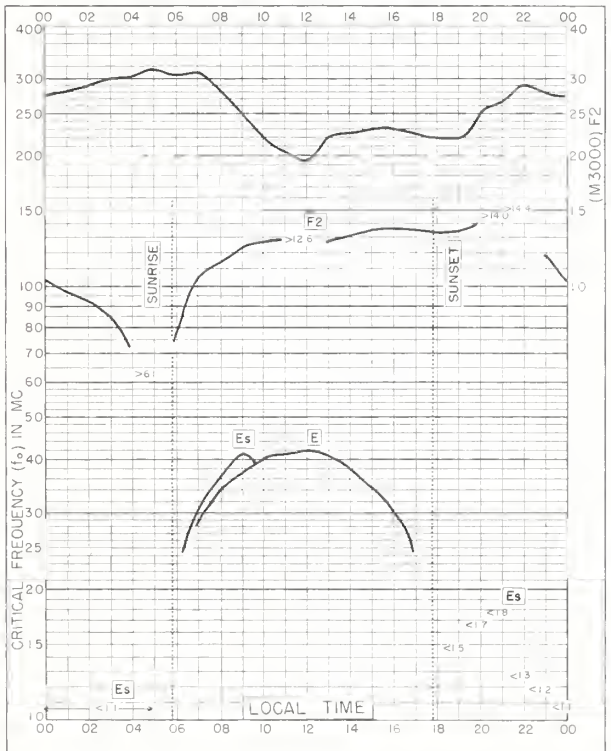


Fig. 111. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E OCTOBER 1959

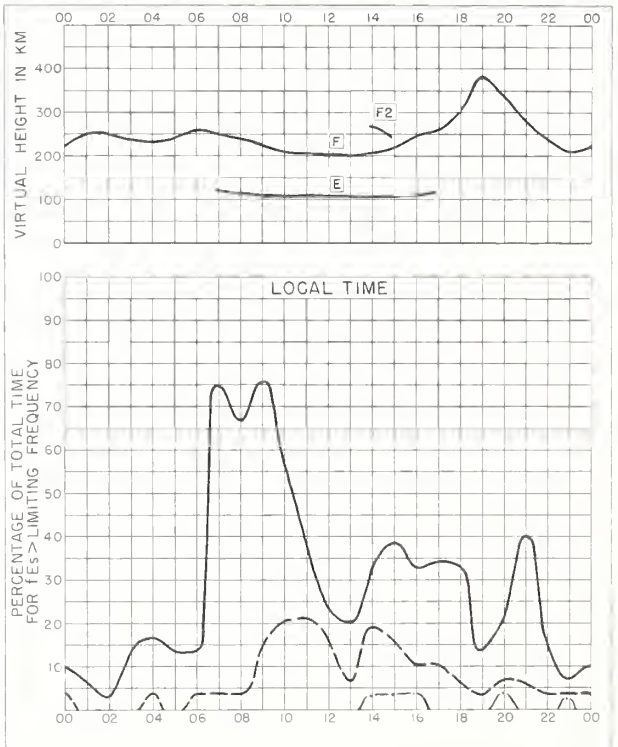


Fig. 112. SINGAPORE, BRITISH MALAYA OCTOBER 1959

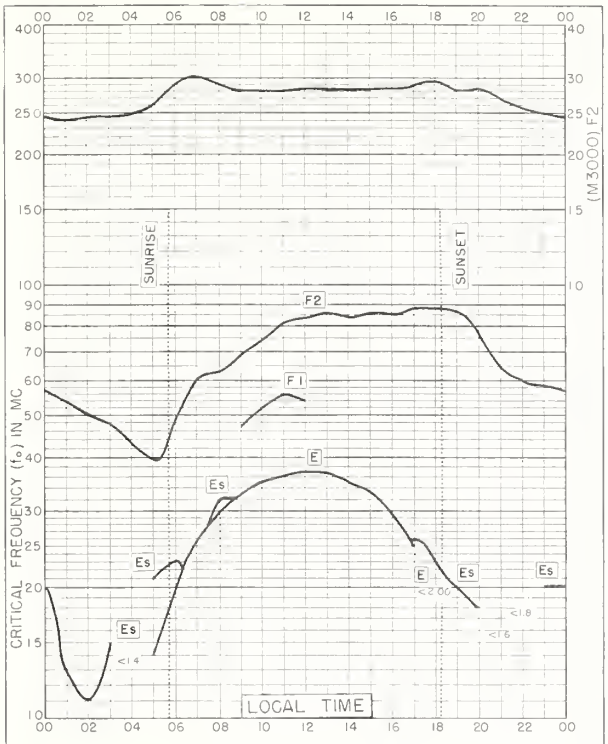


Fig. 113. SLOUGH, ENGLAND
51.5°N, 0.6°W SEPTEMBER 1959

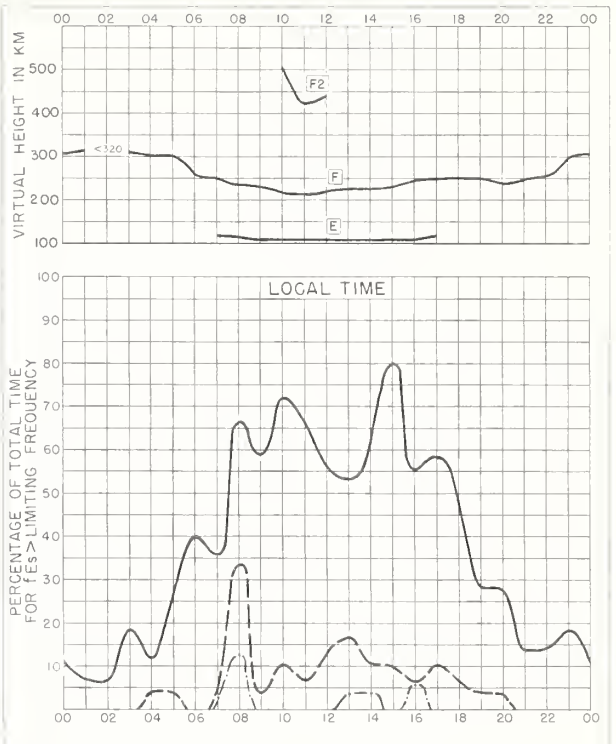


Fig. 114. SLOUGH, ENGLAND SEPTEMBER 1959

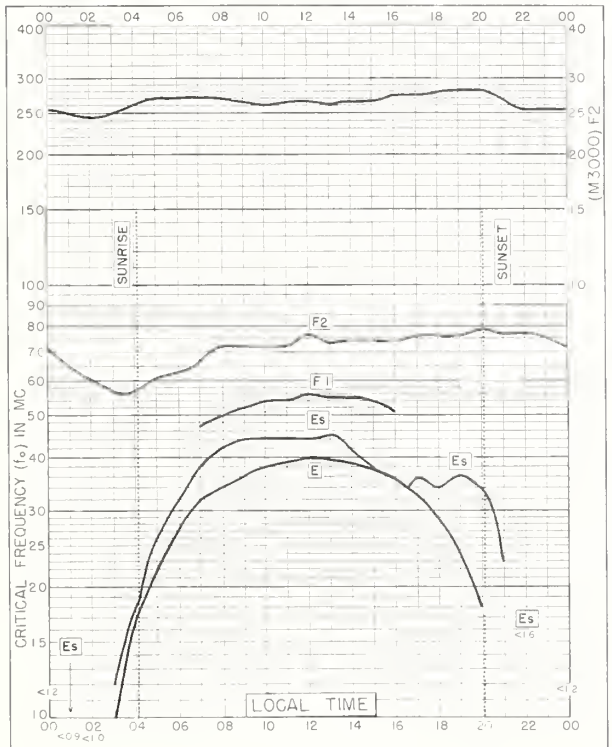


Fig. 115. SLOUGH, ENGLAND
51.5°N, 0.6°W JULY 1959

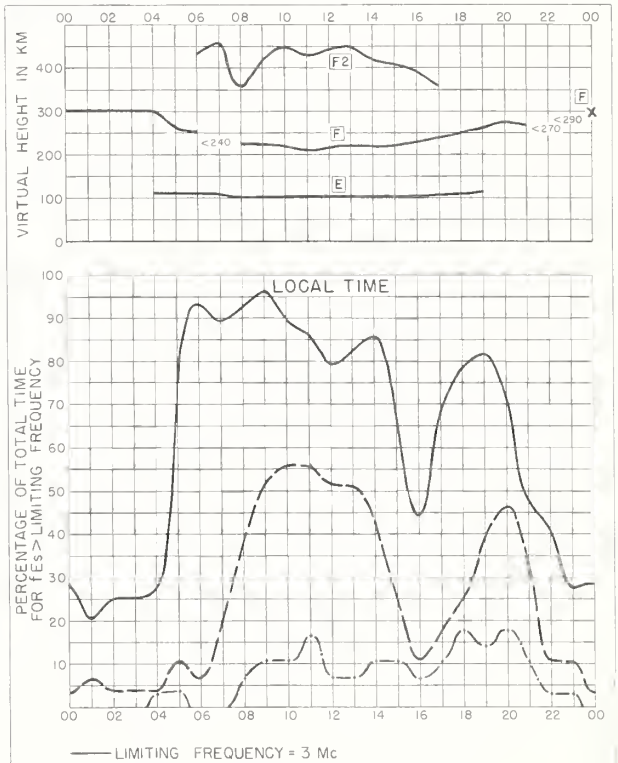


Fig. 116. SLOUGH, ENGLAND JULY 1959

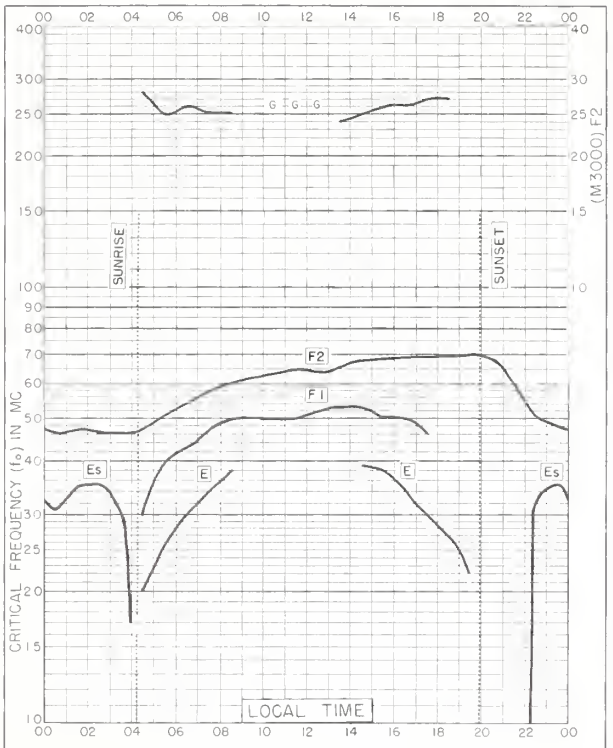


Fig. 117. WINNIPEG, CANADA
49.9°N, 97.4°W JULY 1959

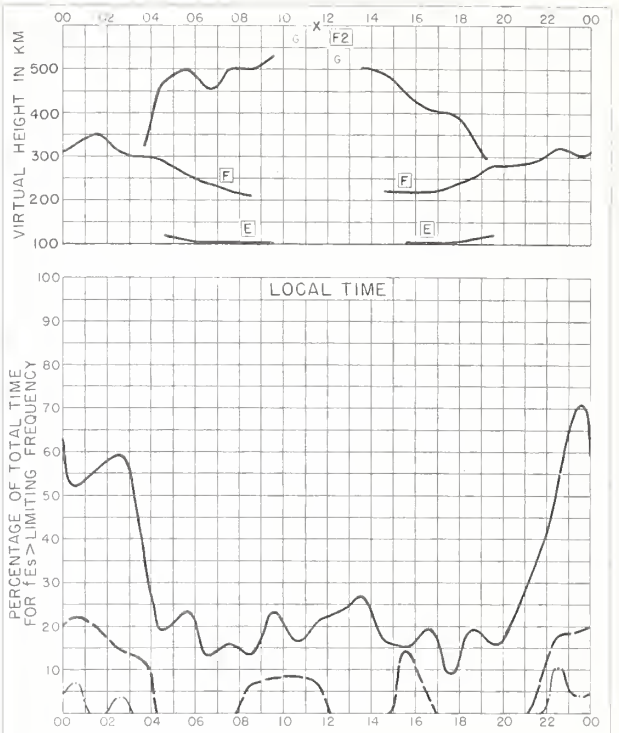


Fig. 118. WINNIPEG, CANADA JULY 1959

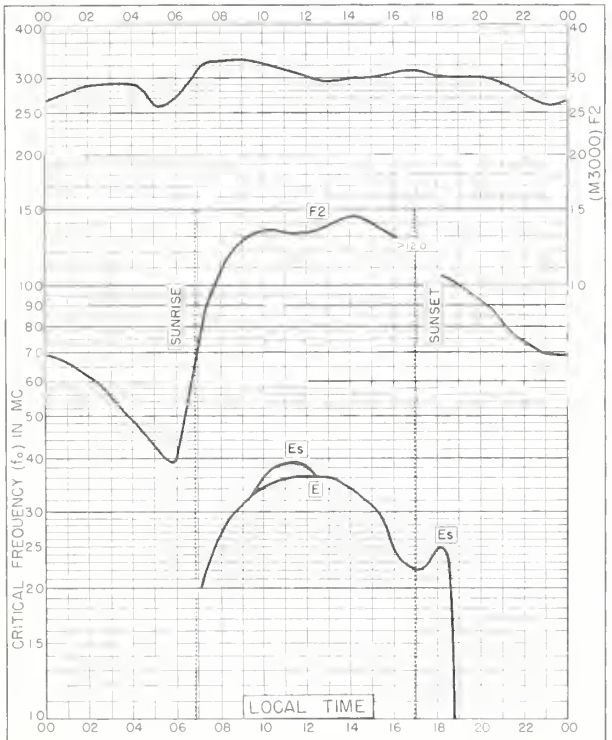


Fig. 119. CONCEPCION, CHILE
36.6°S, 73.0°W MAY 1959

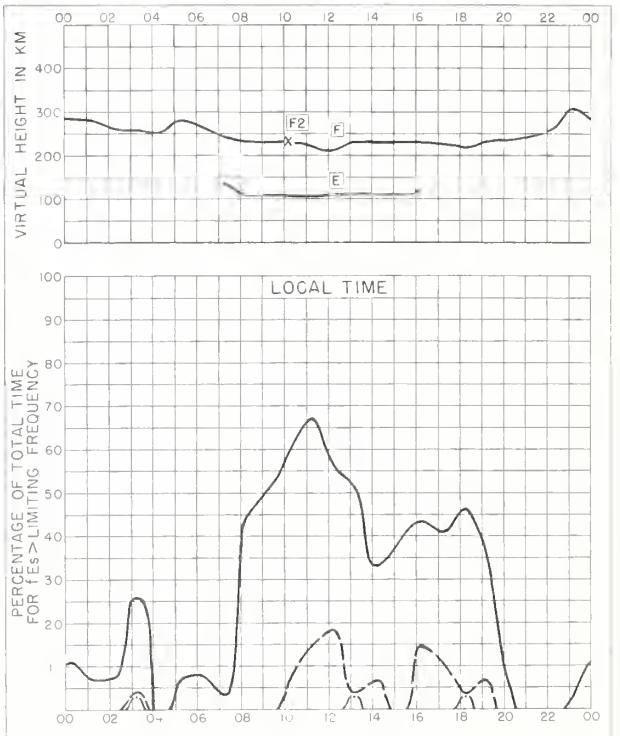


Fig. 120. CONCEPCION, CHILE MAY 1959

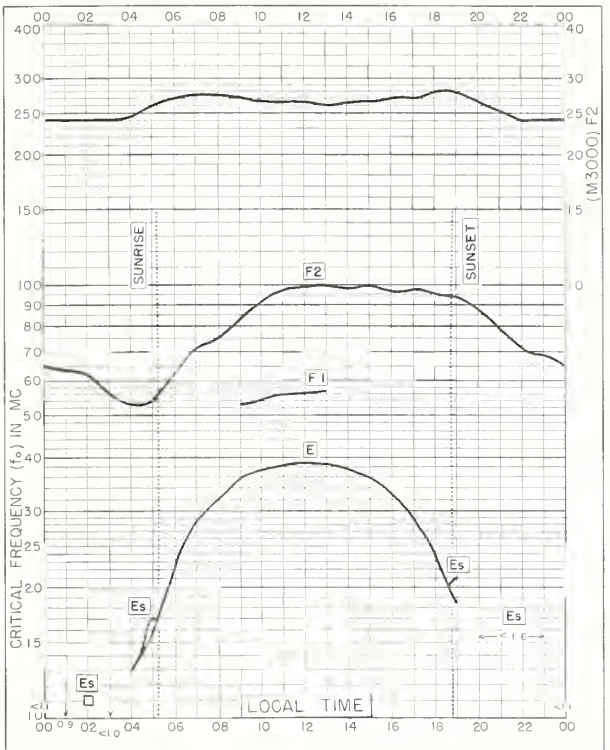


Fig. 121. SLOUGH, ENGLAND
51.5°N, 0.6°W APRIL 1959

NBS 503

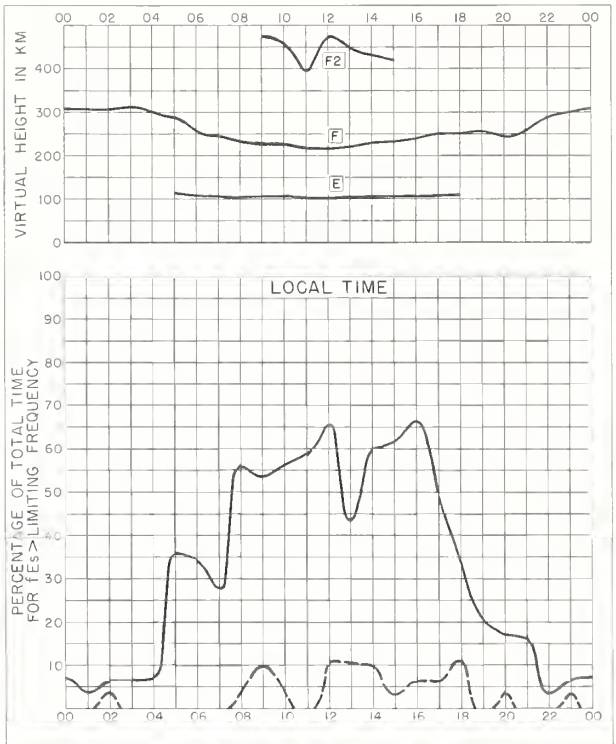


Fig. 122. SLOUGH, ENGLAND APRIL 1959

NBS 490

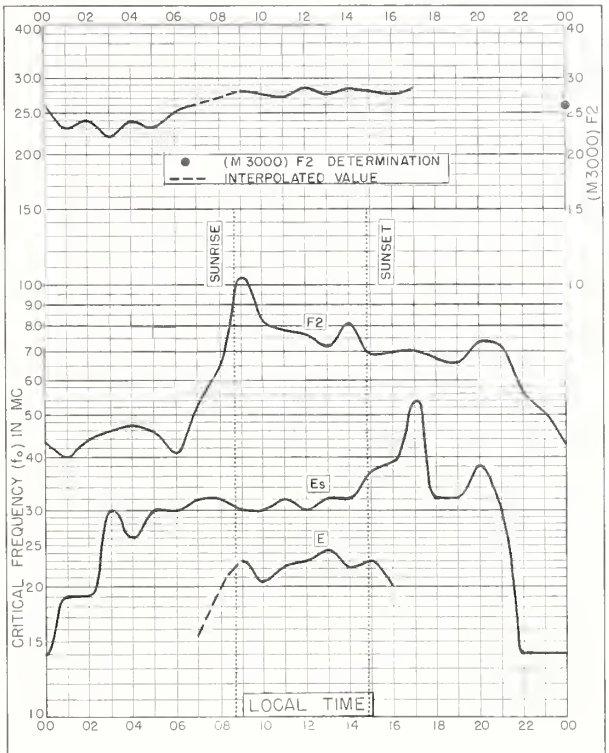


Fig. 123. SVALBARD, NORWAY
78.2°N, 15.7°E OCTOBER 1958

NBS 503

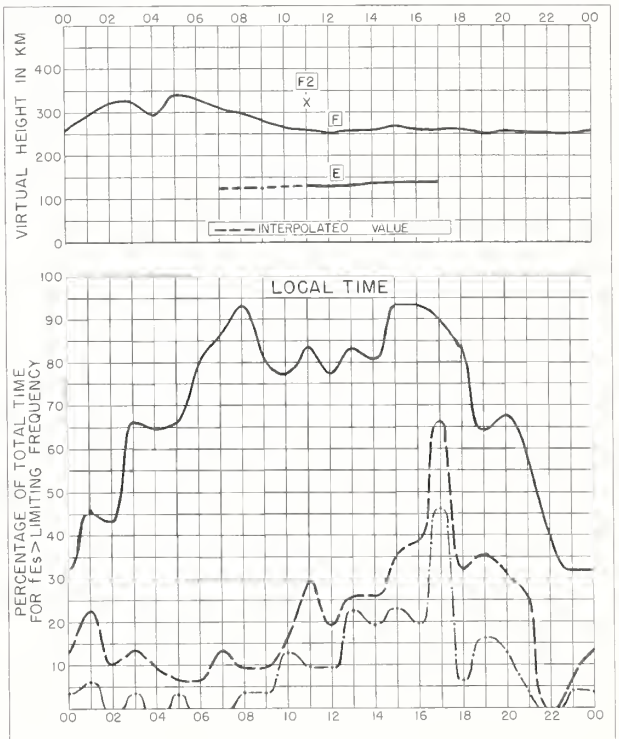


Fig. 124. SVALBARD, NORWAY OCTOBER 1958

NBS 490

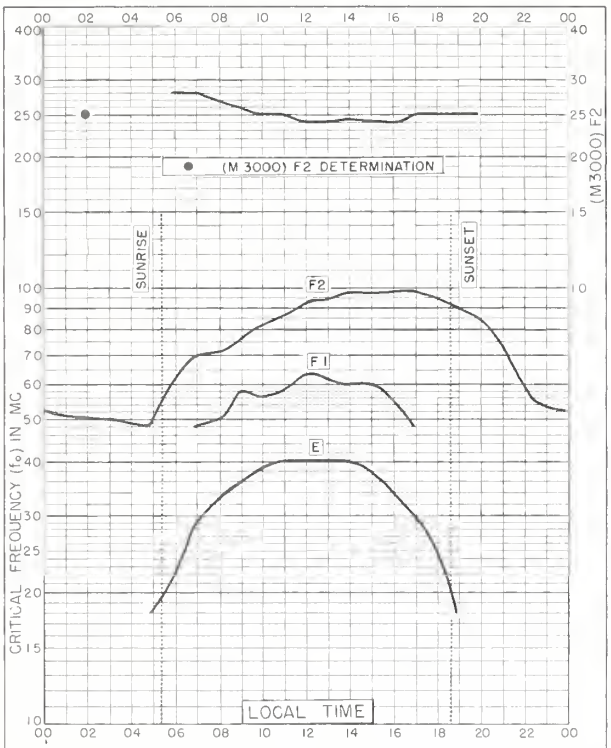


Fig. 125. OTTAWA, CANADA
45.4°N, 75.9°W APRIL 1958

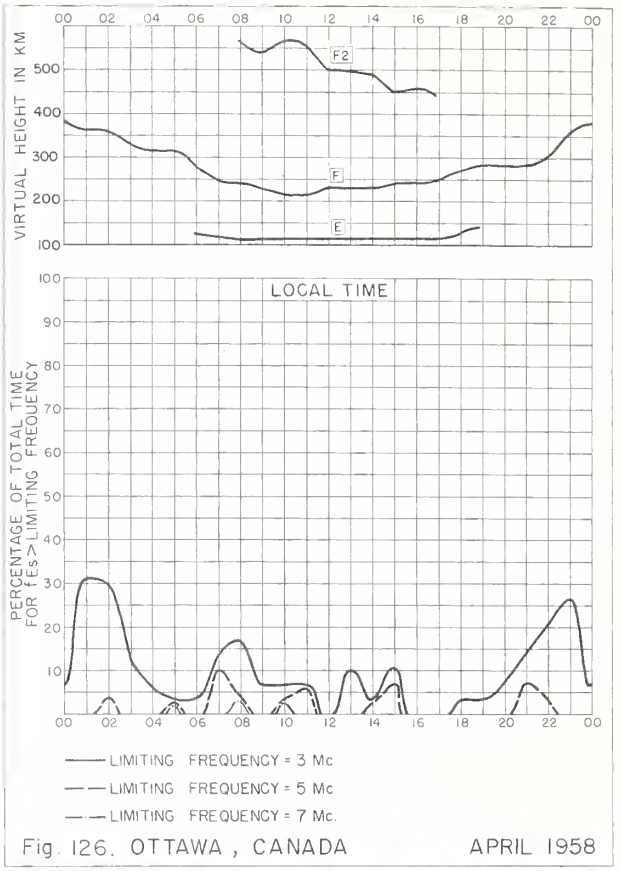


Fig. 126. OTTAWA, CANADA APRIL 1958

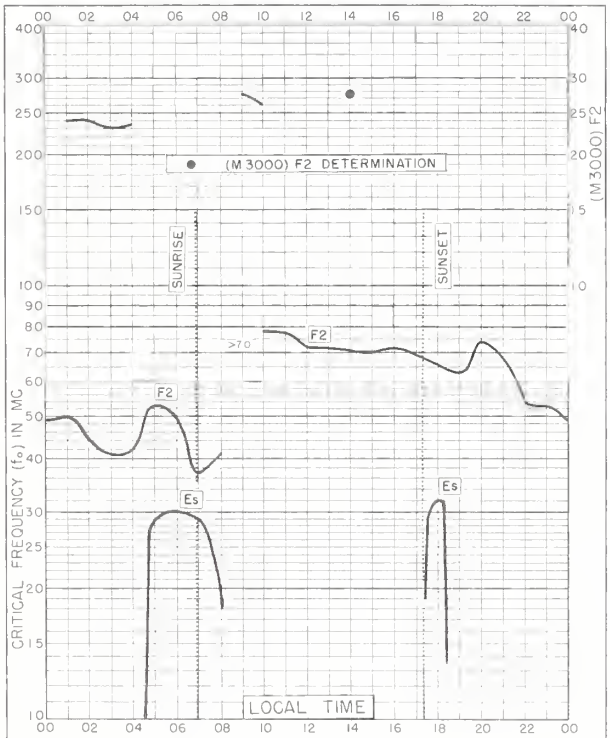


Fig. 127. SVALBARD, NORWAY
78.2°N, 15.7°E MARCH 1958

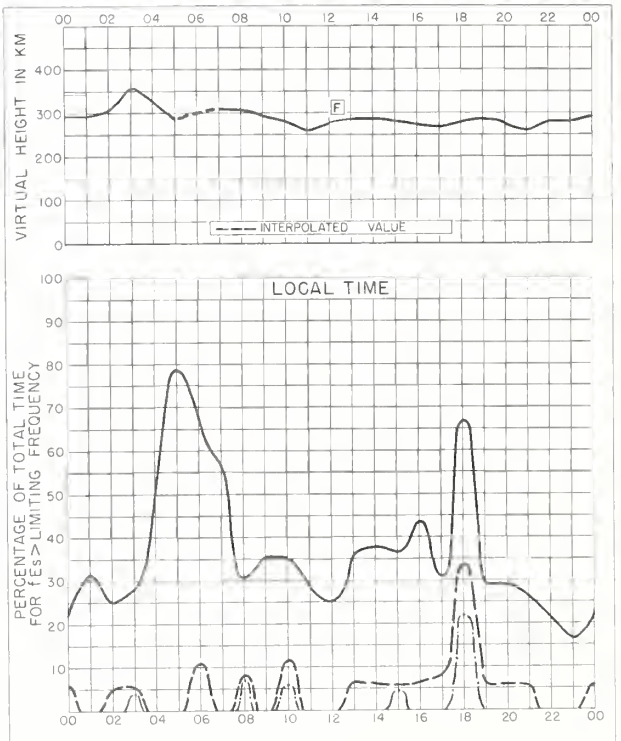


Fig. 128. SVALBARD, NORWAY MARCH 1958

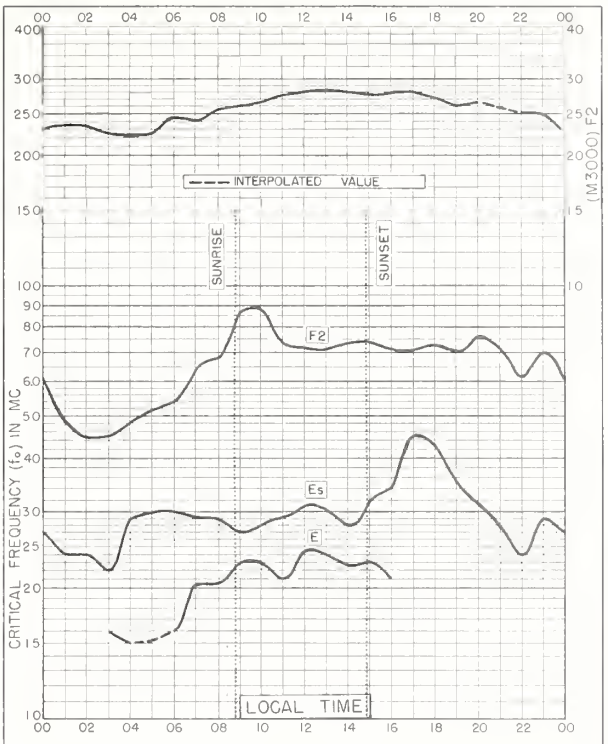


Fig. 129. SVALBARD, NORWAY
78.2°N, 15.7°E OCTOBER 1957

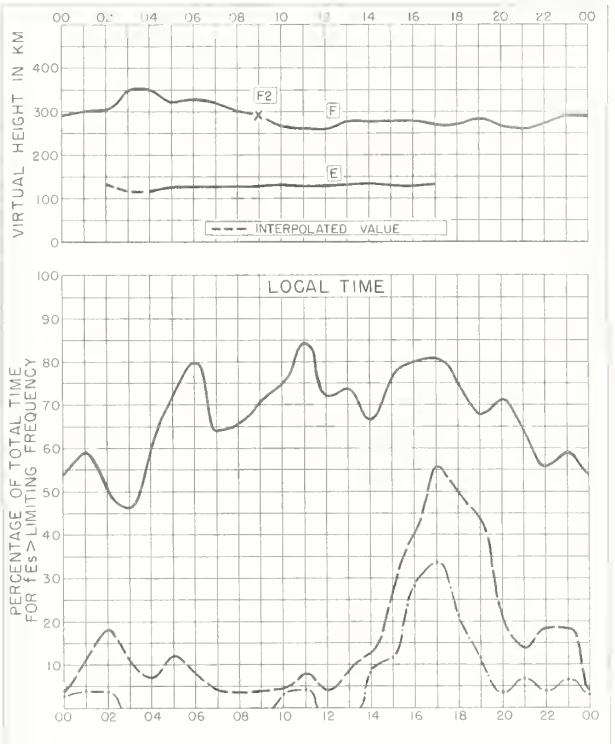


Fig. 130. SVALBARD, NORWAY OCTOBER 1957

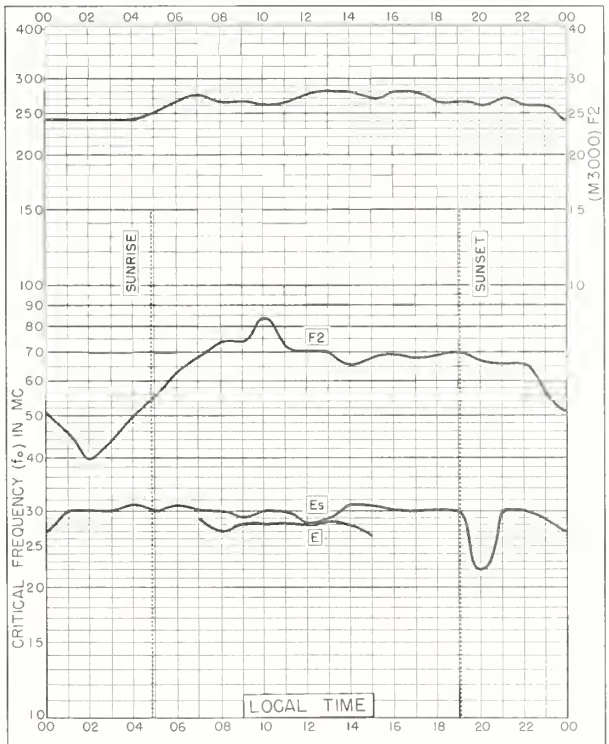


Fig. 131. SVALBARD, NORWAY
78.2°N, 15.7°E SEPTEMBER 1957

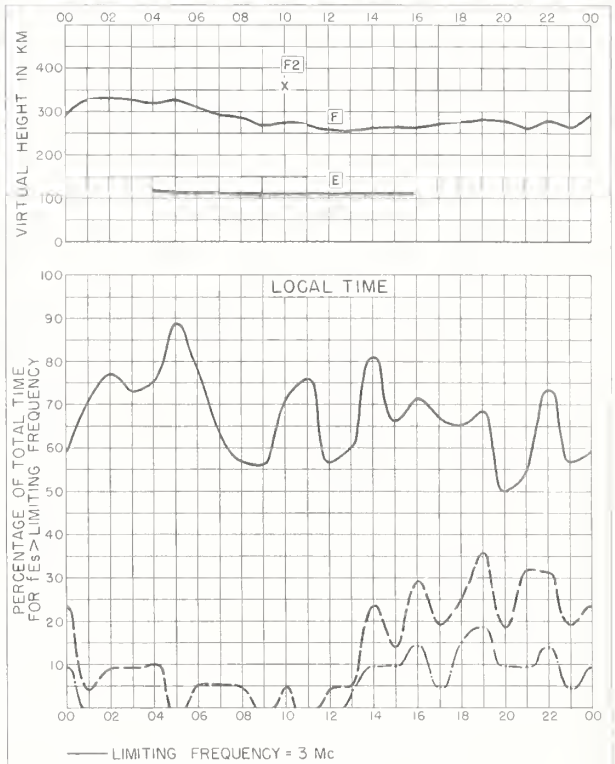


Fig. 132. SVALBARD, NORWAY SEPTEMBER 1957

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INDEX OF IONOSPHERIC DATA PUBLISHED IN 1961
(CRPL-F 197 (A) THROUGH F 208A))

The following index of tables and graphs of ionospheric data published in the CRPL-F(A) series in 1961 is divided into two parts. Part I is an index of data observed in 1960 and 1961. Part II is an index of data observed prior to 1960.

In general, both table and graphs for a given station for a given month appear in the same issue.

Annual indexes of ionospheric data published prior to 1961 are in IRPL-F17, CRPL-F28, -F40, -F52, -F64, -F76, -F88, -F100, -F112, -F124, -F136(A), -F148(A), -F160(A), -F172(A), -F184(A) and -F196(A).

PART I

Index of Tables and Graphs of Ionospheric Data Observed in 1960 and 1961

and Published in 1961 (CRPL-F197(A) through -F208(A))

Station	1960												1961											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	
Adak, Alaska											202	203												
Akita, Japan	206					198	199	199	200	201	202	203	204	205	206		208							
Anchorage, Alaska											203	203												
Baguio, P. I.				207										205	206		208							
Boulder, Colorado											202	203												
Brisbane, Australia	204	205	206			197		199	200	201							208							
Buenos Aires, Argentina					208																			
Byrd Station			206	207																				
Capetown, Union of S. Africa													204	205	206	207	208							
Christchurch, New Zealand													205	206	206		208							
Churchill, Canada		207				197	198	199	200	201	202	203	204	205	206	207	208							
Concepcion, Chile	205	205	206	207	208																			
Dakar, French W. Africa	204	205																						
De Bilt, Holland	207					197	198	199	200	201	202		204	206	206	207	208							
Djibouti, French Somaliland	204	205																						
Dourbes, Belgium	204	205	206		208									206	207		208							
El Cerillo, Mexico	199	199				197	198	199	200	201	202	203	206	205	206									
Fairbanks, Alaska								199	201		203	203												
Falkland Is.	207	207				197	198	199							207	207								
Formosa, China	207	207			197	197	198	199					204	205	206	207	208							
Genoa (Monte Capellino), Italy						197						203												
Godhavn, Greenland		205	206	207																				
Grand Bahama I.				207																				
Graz, Austria				198			207	199	200		202	203	204	205	206	207	208							
Hobart, Tasmania																	208							
Huancayo, Peru								199	200	201	202	203	204	204	206	206	207	208	208					
Ibadan, Nigeria	204	205	206		208																			
Inverness, Scotland		207				197	198	199	200	201		206		205	206	207								
Johannesburg, Union of S. Africa													204	205	206	207	208							
Juliusruh/Rügen, Germany	204	205	207		208																			
Kiruna, Sweden	198					198	198	199	200	201	202	203	204	205	206	207	208							
La Paz, Bolivia			206		208																			
Lindau/Harz, Germany	204	206	206	207	208																			
Lulea, Sweden						197	198			201	202	203	204	205	206	207	208							
Lwiro, Congo		205					198																203	
Lycksele, Sweden	207	207				197	198	199	200	201	202	203	204	205	206	207	208							
Macau	204	205	207																					
Maui, Hawaii					208																			
Mawson	204																							
Moscow, U.S.S.R.	204		206		197																			
Mundaring, W. Australia			206										204	205		207	208							
Narssarssuaq, Greenland				207																				
Nurmijarvi, Finland	203					197	198	199	200	201	202	203	204	205	206	207	208							
Ottawa, Canada						197	198	199	200	201	202	203	204	205	206	207	208							
Port Lockroy	204	205																						
Pruhonice, Czechoslovakia	204	205	206	207	197	197										207	208							
Resolute Bay, Canada						197	198	199	200	201	202	203	204	205	206		208							
Rome, Italy	207					197	198	199	200	201	202	203	204	205	206	207	208							
St. John's, Newfoundland		205				197	198	199	200	201	202	203	204	205	206	207	208							
Sao Paulo, Brazil	204	205	207	207	208																			

PART I (CONCLUDED)

Station	1960												1961											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	
Singapore, British Malaya						197	198	199	200	201				205	206	207								
Slough, England		207				197	198	199						205	207									
Sodankyla, Finland						197	198	199	200	201	202	203	204	205	206	207	208							
Sottens, Switzerland						198	198	199	200	201	202	203	204	205	206	207	208							
Tahiti, Society Is.	204	206																						
Talara, Peru							198	200	202	201	202	203	206	206	204	206	207	208						
Tananarive, Madagascar	204	205																						
Thule, Greenland									201	201	203													
Tokyo, Japan	206					198	199	199	200	201	202	203	204	205	206		208							
Townsville, Australia	204	205						199	200	201	202			205	206		208							
Tromso, Norway	207								200	201	202	203	204	205	206	207	208							
Upsala, Sweden	207					197	198	199	200	201	202	203	204	205	206	207	208							
Wakkanai, Japan	206					198	199	199	200	201	202	203	204	205	206		208							
Washington, D. C.								197	197	201	202	202	203	203	205	205	207	208	208					
White Sands, New Mexico					208				201	201	202	203												
Wilkes Station		205																						
Winnipeg, Canada						197	198	199	200	201	202	203	204	205	206	207	208							
Yamagawa, Japan	206					198	199	199	200	201	202	203	204	205	206		208							

Part II of this index is on following page.

PART II

Index of Tables and Graphs of Ionospheric Data Observed Prior to 1960 and Published in 1961 (CRPL-F197(A) through -F208(A))

Station	1959												1958											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Ahmedabad, India	205	206																						
Akita, Japan							207				205	204												
Bangui, French Equatorial Africa																197	197		199	200	201	202	202	203
Bombay, India	205	206																						
Brisbane, Australia							204			204	204													
Budapest, Hungary						198				201	204	203												
Buenos Aires, Argentina					197	198	198	199	200	201	202	204												
Bunia, Belgian Congo											204[a]	202												
Byrd Station						197	198	199	200		208													
Calcutta, India	205	206	207																					
Campbell I.	204	206	207																					204
Canberra, Australia						198		199	200	201	202	203												
Capetown, Union of S. Africa						198	199	199	200	201	202	203												
Christchurch, New Zealand		206	207																					
Churchill, Canada							205			201	201	205												
Concepcion, Chile				207	208																			
Dakar, French W. Africa				197	197	198		200	200			203				197	197		199	200	201	202	202	203
De Bilt, Holland						207				205	204													
Decepcion I.																			198	200	201	202	202	
Delhi, India	205	206																						
Djibouti, French Somaliland				197	197	198		200	200			203				197	197				201	202	202	203
Dourbes, Belgium						198				201	202	204	198						199				202	198
El Cerillo, Mexico					197			200			201													
Elisabethville, Belgian Congo											204	202												
Freiburg, Germany			198											198		198	198			198				
Garchy, France										201	202													
Halley Bay													204	206									202	203
Hollandia, Netherlands New Guinea																	197	198	199	199	200	202	202	203
Ibadan, Nigeria								199	200	201	202	203											204	
Inverness, Scotland				207					207	207	202					204		204		203				
Johannesburg, Union of S. Africa					197	198	199	200	200	202	202	203												
Juliusruh/Rügen, Germany						198	199	199										197		198				
Kerguelen I.													205											
Kiruna, Sweden									201		201													
Kodaikanal, India	205	206																						
Leopoldville, Belgian Congo											204	202												
Lindau/Harz, Germany					197	198	199	200	200		202	203									198	204	205	203
Lwiro, Belgian Congo							205			205	203	204												
Lycksele, Sweden						201																		
Macquarie I.																	198	197						
Madras, India	205	206																						
Mawson									200	202		203												
Moscow, U.S.S.R.				207						201														
Murmansk, U.S.S.R.																					201	202		
Nurmijarvi, Finland										201														
Ottawa, Canada									200	201						208								
Paramaribo, Surinam																	197	198	198	200	201[b]		202	203
Poitiers, France																197	197		199	200	201	202	202	203
Port Lockroy		206	207	207			199	200	200	201	202	203					197		199	200		205	203	
Pruhonice, Czechoslovakia					197							197												
Rabat, Morocco																197	197		199	200	201	202	203	203
Rarotonga I.		206	207																					
Resolute Bay, Canada									201	201														
St. John's, Newfoundland						198		199	200	201														
Sao Paulo, Brazil					197	198		199	200	201	202	203												
Scott Base																								204
Singapore, British Malaya										208	208	208												
Slough, England				208			208		208	208	208									203				
Sodankyla, Finland									201															
Svalbard, Norway		199				197	198	199						208								208	202	
Tahiti, Society Is.				197	197[c]	198		200	200							197	197		199	200	201	202	203	203
Tamanrasset, French W. Africa																197	197		199	201	201	202	203	
Tananarive, Madagascar				197	197	198		200	200			203				197	197		200	200	201	202	203	203
Terre Adelie													205											
Tiruchy, India	205	206																						

PART II (CONCLUDED)

Station	1959												1958											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Tokyo, Japan							207				205	204												
Townsville, Australia											208	203												
Trelew, Argentina						198	198	200	200			200												
Trivandrum, India	205	206																						
Tromso, Norway											208	208												
Tsumeb, South W. Africa	204	206	207										198			197	198	198	198	200	200	202	203	203
Upsala, Sweden											201													
Wakkanai, Japan							207				205	204												
Wilkes Station								199	200															
Winnipeg, Canada							208	199	200	201		208												
Yamagawa, Japan							207				205	204												

[a]See Erratum in CRPL-F205(A), p. vii, concerning the graph of (M3000)F2 for November 1959.

[b]See Erratum in CRPL-F202(A), p. vii, concerning the graph of foF2 at 08.3 for September 1958.

[c]See Erratum in CRPL-F198(A), p. vii, concerning the graph of (M3000)F2 at 23 for May 1959.

Station	1957												1956											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Dourbes, Belgium										198														
Halley Bay										202	202	204												
Kerguelen I.				199	199	198																	203	204
Lulea, Sweden					197																			
Lwiro, Belgian Congo					197																			
Murmansk, U.S.S.R.									201	202	202	204												
Soya (Japanese Ship)		206																						
Svalbard, Norway									208	208														
Terre Adelie				199	198	198																		

Station	1955												1954											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Freiburg, Germany	199	199	199	199	197	199	199	200									204			204				
Lulea, Sweden									201	197	198	201							200		201			
Lwiro, Belgian Congo	205	206								203	203	203												

Station	1953												1952											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Lulea, Sweden		197	197	197	199		200																200	199

CRPL Reports

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

Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:

CRPL—J. North Atlantic Radio Propagation Forecast.

CRPL—Jp. North Pacific Radio Propagation Forecast.

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

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

CRPL—F. (Part A). Ionospheric Data.
(Part B). Solar-Geophysical Data.
Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

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

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

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

NBS Circular 462. Ionospheric Radio Propagation. $1.25.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 megacycles. 30 cents.

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.

NBS Tech. Note 13. PB151372. Technical Considerations Leading to an Optimum Allocation of Radio Frequencies in the Band 25 to 60 Mc. $2.50.

NBS Tech. Note 18. PB151377. Radio Noise Data for the IGY. $2.50.

18–2. PB151377–2. Quarterly Radio Noise Data (Mar.-May 1959). $1.00.

18–3. PB151377–3. (June-Aug. 1959). $1.00.

18–4. PB151377–4, etc. (Sept.-Nov. 1959). $1.50.

NBS Tech. Note 31. PB151390. An Atlas of Oblique-Incidence Ionograms. $2.25.

NBS Tech. Note 40–1. PB151399–1. Mean Electron Density Variations of the Quiet Ionosphere, 1: March 1959. $1.25.

40–2. PB151399–2, etc. 2: April 1959. $1.25.

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