

CRPL-F 217 PART A

OCT 1 - 1962

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PART A

IONOSPHERIC DATA

ISSUED
SEPTEMBER 1962

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

CRPL-F 217
PART A

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
24 Sept. 1962

IONOSPHERIC DATA

CONTENTS

	<u>Page</u>
Ionospheric Data (revised text)	ii
Table of Smoothed Observed Zurich Sunspot Numbers	iii
World-Wide Sources of Ionospheric Data.	iv
Tabulations of Electron Density Data -- Special Notice follows p.v.	
Tables of Ionospheric Data	1
Graphs of Ionospheric Data	26
Index of Tables and Graphs of Ionospheric Data in CRPL-F217 (Part A)	51

IONOSPHERIC DATA

The CRPL-F series bulletins are issued as part of the responsibility of the Central Radio Propagation Laboratory for the exchange and dissemination of ionospheric and related geophysical data. While originally a by-product of the collection of data by the CRPL for use in radio propagation studies, the CRPL-F series bulletins, Part A, "Ionospheric Data," and Part B, "Solar-Geophysical Data," have provided useful service by collecting and making available a wide variety of data in convenient form for use in research, not only on radio propagation and the ionosphere, but also on a wide variety of geophysical problems. Beginning with CRPL-F 211, Part A, "Ionospheric Data," a number of changes have been made in the tables of ionospheric data which, by providing more information, should increase their usefulness.

The current form of the tables of ionospheric data provides the monthly medians and, in addition, the number of values entering into median determination (count) for all ionospheric characteristics listed. Also, the upper and lower quartile values, indicated by UQ and LQ in the tables, are listed for foF₂, h'F₂, h'F, and (M3000)F₂. Quartile values are not listed for the other characteristics because of space limitations. The tables are prepared by IBM machine methods, which, by improving the speed and efficiency of preparation, permit earlier publication of the data.

Graphs of critical frequencies and (M3000)F₂ will continue to appear. Graphs of percentage of time of occurrence for fEs and virtual heights of the regular ionospheric layers are no longer included. This change was necessary to provide space for the enlarged tables. Data on percentage of time of occurrence of fEs above 3, 5, and 7 Mc are still available from the CRPL and the IGY World Data Center A for Airglow and Ionosphere.

For many years, the tables of ionospheric data appearing in the F-series, Part A, listed values of medians recomputed at CRPL. While this practice enforced a certain uniformity, it was subject to some valid criticism for tampering with original data. The tables and graphs now show the ionospheric data just as they are provided by the originating laboratory. Responsibility for the accuracy and reliability of the data now rests entirely with the originator.

Gaps in the tables when data normally might be expected indicate the data were not provided by the originator. Following the recommendation of the World-Wide Soundings Committee, only values of median foEs are listed. In the few cases where fEs is still reported instead of foEs, the data will not be printed. Data will appear in the F-series, Part A, only when the complete daily-hourly tabulations have been received by the CRPL or the IGY World Data Center A for Airglow and Ionosphere.

Information on symbols, terminology, and conventions may be found in the "URSI Handbook of Ionogram Interpretation and Reduction, of the World-Wide Soundings Committee," edited by W. R. Piggott and K. Rawer (Elsevier, 1961), which supersedes previous documents. A list of symbols is available from CRPL on request.

The following table contains the latest available information on smoothed observed Zurich sunspot numbers, beginning with the minimum of April 1954. Final numbers are listed through June 1961, the succeeding values being based on provisional data.

Smoothed Observed Zurich Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	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	109	102	98	93	88	84
1961	80	75	69	64	60	56	53	52	52	51	50	48
1962	44	41										

Units of Ionospheric Data Tables

foF2, foEs - - - Tenth of a megacycle
 foF1, FOE - - - Hundredths of a megacycle
 h'F2, h'F, h'E - Kilometers
 (M3000)F2 - - - Hundredths

NOTE: Occasionally, when the median falls between two of the observed values, the median is carried an extra decimal place beyond these units. Those cases are easily identifiable by the extra digit appearing to the right of the number, in a column usually left blank.

MED - Median
 CNT - Count
 UQ - Upper Quartile
 LQ - Lower Quartile

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 100 and figures 1 to 100 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:

Deception I.

Trelew, Argentina

Tucuman, Argentina

Meteorological Service, Province of Macau, Asia:

Macau

Commonwealth of Australia, Department of the Interior:

Macquarie I.

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

Mawson

Townsville, Australia

Australian Department of National Development, Bureau of Mineral Resources, Geology and Geophysics:

Mundaring, Western Australia

Universidad Mayor de San Andres:

La Paz, Bolivia

Electronics Directorate of the Brazilian Navy:

Natal, Brazil

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

Halley Bay

Defence Research Board, Canada:

Eureka, Canada

Ottawa, Canada

Resolute Bay, Canada

St. John's, Newfoundland

Universidad de Concepcion:

Concepcion, Chile

Instituto Geofisico de Los Andes Colombianos:

Bogota, Colombia

Czechoslovak Academy of Sciences:
Pruhonice, Czechoslovakia

Danish National Committee of URSI:
Godhavn, Greenland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

Ionospheric Research Group (GRI), France:
Kerguelen I.
Terre Adelie

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

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

Geophysical and Geodetic Institute, Genoa, Italy:
Genoa (Monte Capellino), Italy

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

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

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

South African Council for Scientific and Industrial Research:
Salisbury, Southern Rhodesia (University College of Rhodesia and Nyasaland)

United States Army Signal Corps:
Ft. Monmouth, New Jersey

National Bureau of Standards (Central Radio Propagation Laboratory):
Anchorage, Alaska
Boulder, Colorado
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

SPECIAL NOTICE

Termination of Hourly Electron Density Profile Tabulations

Hourly N(h) profiles for the Puerto Rico station have been published in the CRPL-F Reports, Part A, since May 1959, starting with the data for February 1959. This program terminated with the publication in CRPL-F215 of the data for March 1962. It is believed that this program has satisfied the objective of making available a large volume of profiles produced by methods of conventional accuracy. However, in anticipation of the increasing precision required by modern applications, we intend to concentrate further work on the calculation of more accurate profiles, inevitably in smaller volume.

TABLES OF IONOSPHERIC DATA

MONTEVIDEO 1961 - JANUARY 1958

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DWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

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OCTOBER • 1961

TABLE 5
TALARA, PERU (4°45'S., 81°3'W.)

HOUR	TIME 75.0W											
	00	01	02	03	04	05	06	07	08	09	10	11
fo F2	MEO	95	83	65	58	50	41	35	28	21	15	10
	CNT	95	83	65	58	50	41	35	28	21	15	10
	LQ	110	92	77	66	54	46	39	32	25	18	10
	fo F2	12	71	63	50	44	33	33	33	33	33	33
h' F	MEO	1	3	7	11	15	19	23	27	31	35	39
	CNT	370	370	370	370	370	370	370	370	370	370	370
h' F	MEO	210	210	220	220	220	220	220	220	220	220	220
	CNT	320	320	320	320	320	320	320	320	320	320	320
(M3000)F2	MEO	335	335	340	345	350	355	360	365	370	375	380
	CNT	335	340	345	350	355	360	365	370	375	380	385
fo F1	MEO	29	30	29	29	29	29	29	29	29	29	29
	CNT	320	320	320	320	320	320	320	320	320	320	320
fo E	MEO	225	225	230	235	240	245	250	255	260	265	270
	CNT	225	225	230	235	240	245	250	255	260	265	270
h' E	MEO	123	115	111	109	109	109	109	109	109	109	109
	CNT	29	30	30	29	29	29	29	29	29	29	29
fo E*	MEO	29	30	29	29	29	29	29	29	29	29	29
	CNT	320	320	320	320	320	320	320	320	320	320	320
fo F1	MEO	1	3	6	9	12	15	18	21	24	27	30
	CNT	320	320	320	320	320	320	320	320	320	320	320
fo E	MEO	225	225	230	235	240	245	250	255	260	265	270
	CNT	225	225	230	235	240	245	250	255	260	265	270
h' E	MEO	123	115	111	109	109	109	109	109	109	109	109
	CNT	29	30	30	29	29	29	29	29	29	29	29
fo E*	MEO	29	30	29	29	29	29	29	29	29	29	29
	CNT	320	320	320	320	320	320	320	320	320	320	320
fo F2	MEO	113	109	109	105	103	103	103	103	103	103	103
	CNT	21	21	21	21	21	21	21	21	21	21	21
h' F	MEO	1	4	7	10	13	16	19	22	25	28	31
	CNT	320	320	320	320	320	320	320	320	320	320	320
(M3000)F2	MEO	3275	330	330	330	330	330	330	330	330	330	330
	CNT	335	340	345	350	355	360	365	370	375	380	385
fo F1	MEO	20	21	20	21	20	21	20	21	20	21	20
	CNT	315	320	325	330	335	340	345	350	355	360	365
fo E	MEO	225	225	230	235	240	245	250	255	260	265	270
	CNT	225	225	230	235	240	245	250	255	260	265	270
h' E	MEO	113	109	109	105	103	103	103	103	103	103	103
	CNT	21	21	21	21	21	21	21	21	21	21	21
fo E*	MEO	29	29	28	28	28	28	28	28	28	28	28
	CNT	320	320	320	320	320	320	320	320	320	320	320

AUGUST 1, 1961

TIME 13.5 SECONDS*

TIME 25.0 MC

TO 25.0 MC IN 13.5 SECONDS*

TIME 75.0W

TIME 75.0W</

TABLE 9

TABLE 10

TAJARA, PERU (4°45' S., 81°3' W.)																												
TIME 45.0*																												
HOUR	00	01	02	03	04	05	06	07	08	09	10																	
16 F2	MED	68	62	565	555	485	445	37	50	63	70	73	775	805	81	87	90	95	925	90	87	82	80	77	77			
	CNT	29	28	26	24	22	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1		
	LO	77	72	70	68	62	54	42	37	30	27	26	23	20	19	18	17	16	15	14	13	12	11	10	9	8		
		54	52	50	44	42	30	27	47	60	66	70	74	76	79	82	85	88	90	92	95	96	98	99	97	98		
16 F2	MED	1	1	3	455	465	450	430	420	410	400	395	390	385	370	365	360	355	350	345	340	335	330	325	320	315	310	
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	
16 F2	MED	1	1	3	420	395	375	355	335	315	295	275	255	235	215	200	195	190	185	180	175	170	165	160	155	150	145	140
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	

JULY 1, 1961

SWEEP 1.6 MC TO 20.0 MC IN 18 SECONDS.

JUNE 4, 1961

GOODHORN, GREENLAND (69°3' N., 53°5' W.)																												
TIME 45.0*																												
HOUR	00	01	02	03	04	05	06	07	08	09	10																	
16 F2	MED	425	400	385	370	355	340	325	310	305	295	285	275	265	255	245	235	225	215	205	195	185	175	165	155	145		
	CNT	425	405	385	370	355	340	325	310	305	295	285	275	265	255	245	235	225	215	205	195	185	175	165	155	145		
	LO	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
16 F2	MED	1	1	4	475	460	440	420	400	380	360	340	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40	
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280	275	270	265	260	255	250	245	240	235	230	225	220	215	210	205	200	195	190
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
16 F2	MED	1	1	3	305	300	295	290	285	280																		

TABLE 13

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TABLE

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TABLE 22

1.6 MC TO 20.0 MC IN 18 SECONDS.

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JANUARY, 1961

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JANUARY 1961

10

L, BOLIVIA (16.5S. 68.1W)

TIME 60.00M

	TIME: 75.0W		
	20	21	22
U ₂₀	260	260	257.5
U ₂₁	262	271	278
U ₂₂	265	272	280
U ₂₃	262	270	278
U ₂₄	260	265	260
U ₂₅	260	265	260
U ₂₆	260	265	260
U ₂₇	260	265	260
U ₂₈	280	285	297.5
U ₂₉	285	290	300
U ₃₀	280	290	300
U ₃₁	275	275	280

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TABLE 25

LA PAZ, BOLIVIA 116°55' W 16°11' S												
TIME 60.0W												
HOUR	00	01	02	03	04	05	06	07	08	09	10	11
16 F2	MEO	81	70	58	52	42	42	58	52	50	49	40
	CNT	86	71	58	52	42	42	58	52	50	49	40
	LQ	93	77	64	57	48	48	58	52	50	49	40
	16 F2	80	72	65	54	42	32	30	55	49	40	31
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50	49	40
	MED											
	CNT											
	LQ											
	16 F2	81	70	58	52	42	42	58	52	50</td		

•BLUE 29

WEED 1.0 MC TO 25.0 MC IN 30 SECONDS.

1.0 MC TO 25.0 MC IN 35 SECONDS.

ARCH. 196

31

TABLE 32

LEP 1.0 MC TO 25.0 MC IN 30 SECONDS.

SWEEP 1.0 MC TO 25.0 MC IN 30 SECONDS.

JANUARY • 1981

3

TABLE 34

NOVEMBER 1954

OPERATION

TABLE I

TIME 1545

MASON 16745-62481												TIME 1545												
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
fo F2	MED	5	70	75	80	82	2	4	80	85	80	80	80	70	72	65	70	5	6	4	4	65	50	64
	CNT	9	8	6	5	6	4	4	8	8	6	5	5	6	8	12	5	5	4	3	4	4	4	4
	LQ	10	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h F2	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	CNT	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	LQ	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h F	MED	240	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160	180	200	220
	CNT	240	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160	180	200	220
	LQ	240	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160	180	200	220
(M3000)F2	MED	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160
	CNT	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160
	LQ	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160
fo F1	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	CNT	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	LQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo E	MED	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
h E	MED	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
fo Es	MED	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	40	30	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SLEEP 140 MC TO 220 MC IN 15 SECONDS*

NOVEMBER 1059

OCTOBER 1559

TABLE 39
SUDANIA & FINLAND 16748-E

SUDANIA & FINLAND 16748-E												TIME 1045												
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
fo F2	MED	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
h F2	MED	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
h F	MED	320	310	292	275	255	230	210	190	170	150	130	110	90	70	50	30	10	0	0	0	0	0	0
	CNT	320	310	292	275	255	230	210	190	170	150	130	110	90	70	50	30	10	0	0	0	0	0	0
	LQ	320	310	292	275	255	230	210	190	170	150	130	110	90	70	50	30	10	0	0	0	0	0	0
(M3000)F2	MED	255	247	238	225	210	195	180	165	150	135	120	105	90	75	60	45	30	15	0	0	0	0	0
	CNT	255	247	238	225	210	195	180	165	150	135	120	105	90	75	60	45	30	15	0	0	0	0	0
	LQ	255	247	238	225	210	195	180	165	150	135	120	105	90	75	60	45	30	15	0	0	0	0	0
fo F1	MED	265	273	278	285	292	298	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385
	CNT	265	273	278	285	292	298	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385
	LQ	265	273	278	285	292	298	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385
fo E	MED	272	278	285	292	298	305	312	318	324	330	336	342	348	354	360	366	372	378	384	390	396	402	408
	CNT	272	278	285	292	298	305	312	318	324	330	336	342	348	354	360	366	372	378	384	390	396	402	408
	LQ	272	278	285	292	298	305	312	318	324	330	336	342	348	354	360	366	372	378	384	390	396	402	408
h E	MED	140	130	123	115	109	102	95	88	80	73	66	59	52	45	38	31	24	17	10	0	0	0	0
	CNT	140	130	123	115	109	102	95	88	80	73	66	59	52	45	38	31	24	17	10	0	0	0	0
	LQ	140	130	123	115	109	102	95	88	80	73	66	59	52	45	38	31	24	17	10	0	0	0	0
fo Es	MED	39	37	35	33	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1	0	0	0
	CNT	39	37	35	33	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1	0	0	0
	LQ	39	37	35	33	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1	0	0	0

SLEEP 140 MC TO 220 MC IN 8 MINUTES, AUTOMATIC OPERATION.

OCTOBER 14 MC TO 18 MC

TABLE 40
SUDANIA & FINLAND 16748-E

SUDANIA & FINLAND 16748-E												TIME 0400												
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
fo F2	MED	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
h F2	MED	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CNT	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LQ	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
fo E	MED	240	230	220	210	200	190	180	170	160	150	140	130	1										

TABLE 42

RÜME • ITALY 141°N, 12°E

OPERATION AUTOMATIC

10

TABLE I

1

1

TABLE I

TABLE 50

TESTS • AUTOMATIC OPERATION.

JGDS • 1984

AUGUST • 195

CHICAGO AND THE GREAT DEPRESSION

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SUGGESTED TIME IN 6 MINUTES: MANUFACTURER'S PRESENTATION

TABLE 53
MADRAS, INDIA (13.1N, 80.3E)

HOUR	TIME: 75°E											TIME: 75°E													
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
to F2	MED	20	112	99	76	72	89	113	120	117	114	118	110	123	125	128	130	129	118	123	122	124	110	117	
	CNT	12	21	16	19	24	28	31	30	33	29	28	20	30	31	31	30	27	31	29	23	25	24	29	29
	UD																								
	LO																								
h F	MED																								
	CNT																								
	UD																								
	LO																								
(M3000)F2	MED																								
	CNT																								
	UD																								
	LO																								
to F1	MED																								
	CNT																								
	UD																								
	LO																								
to E	MED																								
	CNT																								
	UD																								
	LO																								
to E*	MED																								
	CNT																								

SWEEP 1.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

AUGUST 1959

TABLE 54

HOUR	TIME: 75°E											TIME: 75°E												
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
to F2	MED	110	98	90	86	81	60	70	105	117	121	116	116	116	117	120	126	126	126	126	126	126	126	126
	CNT	14	15	16	15	17	18	20	30	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31
	UD																							
	LO																							
h F	MED																							
	CNT																							
	UD																							
	LO																							
(M3000)F2	MED	265	280	270	285	305	310	300	290	280	230	215	215	210	210	215	225	230	230	230	230	230	230	230
	CNT	14	15	16	15	17	17	17	20	30	31	31	31	30	30	30	30	31	31	31	31	31	31	31
	UD																							
	LO																							
to F1	MED																							
	CNT																							
	UD																							
	LO																							
to E	MED																							
	CNT																							
	UD																							
	LO																							
h E	MED																							
	CNT																							
	UD																							
	LO																							
to E*	MED																							
	CNT																							
	UD																							
	LO																							

SWEEP 2.5 MC TO 25.0 MC IN 5 MINUTES, MANUAL OPERATION.

AUGUST 1959

HOUR	TIME: 75°E											TIME: 75°E												
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
to F2	MED	110	98	90	86	81	60	70	105	117	121	116	116	116	117	120	126	126	126	126	126	126	126	126
	CNT	12	15	16	15	17	18	20	30	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31
	UD																							
	LO																							
h F	MED																							
	CNT																							
	UD																							
	LO																							
(M3000)F2	MED	265	280	270	285	305	310	300	290	280	230	215	215	210	210	215	225	230	230	230	230	230	230	230
	CNT	14	15	16	15	17	17	17	20	30	31	31	31	30	30	30	30	31	31	31	31	31	31	31
	UD																							
	LO																							
to F1	MED																							
	CNT																							
	UD																							
	LO																							
to E	MED																							
	CNT																							
	UD																							
	LO																							
h E	MED																							
	CNT																							
	UD																							
	LO																							
to E*	MED																							
	CNT																							
	UD																							
	LO																							

SWEEP 1.5 MC TO 25.0 MC IN 5 MINUTES, MANUAL OPERATION.

AUGUST 1959

TABLE 57

MUNDARING • W. AUSTRALIA 132°45• 116°20•E TIME 0400																		TIME 0400						
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
fo F2	MED	41	41	40	40	38	34	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CNT	13	16	17	18	18	15	16	14	10	15	6	2	6	5	5	5	5	5	5	5	5	5	5	5
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h' F2	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	15	13	17	15	13	14	10	15	16	17	15	18	14	15	16	15	16	15	16	17	15	16	15	16
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
(W3000)F2	MED	30	31	31	32	30	30	31	32	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
CNT	10	15	17	16	13	12	4	-	1	1	1	1	3	4	1	2	2	4	3	2	3	2	1	1
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo F1	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo E4	MED	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo E5	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

SWEEP 1.0 MC TO 10.0 MC IN 1 MINUTE 45 SECONDS.

AUGUST 1959

TABLE 58

RESOLUTE BAY • CANADA 174°71N 94°45W TIME 0400																								
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
fo F2	MED	57	56	56	57	56	57	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
CNT	21	21	21	21	21	21	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h' F2	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo F1	MED	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h' F1	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo E4	MED	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
CNT	18	15	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h' E5	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
fo E5	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h' E5	MED	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
CNT	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
UQ	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
LO	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

SWEEP 1.0 MC TO 25.0 MC IN 27 SEC. ON 5.

AUGUST 1959

TABLE 59

SWEEP 1.0 MC TO 25.0 MC IN 1 SEC. ON 5 TIME 0400																								
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23

<tbl_r cells="24" ix="4" maxcspan="

TABLE 6₁
STATION: JOHNSTON, NEWFOUNDLAND (LAT. 47° 45' N., LONG. 52° 25' W.)

HOUR	TIME LOCAL																									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
16 F2	MED	54	47	42	45	50	54	53	63	68	70	72	70	74	75	79	74	77	74	67	76	79	87	86	89	
CNT	11	11	14	19	23	22	25	22	24	25	28	25	28	23	18	17	19	17	19	12	11	11	10	9	88	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
h F2	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
CNT	27	26	25	26	26	25	25	26	27	26	27	25	25	24	25	24	25	24	25	24	25	24	25	24	25	
LO	1	4	5	4	3	5	4	3	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
h F	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
CNT	27	26	25	26	26	25	25	26	27	26	27	25	25	24	25	24	25	24	25	24	25	24	25	24	25	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
(M3000)F2	MED	260	260	255	275	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285	
CNT	11	10	11	14	18	18	22	23	22	25	24	25	23	25	28	28	29	28	27	23	18	17	18	18	18	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
16 F1	MED	1	4	4	10	11	14	14	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
CNT	1	4	4	10	11	14	14	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
16 E1	MED	310	320	300	360	340	390	340	360	340	360	340	360	340	360	340	360	340	360	340	360	340	360	340	360	
CNT	1	5	5	8	5	2	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
16 E2	MED	111	107	108	105	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	
CNT	15	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
16 E3	MED	19	18	17	18	23	28	26	28	28	26	28	26	28	26	28	26	28	26	28	26	28	26	28	26	28
CNT	29	27	26	28	28	26	28	28	26	28	28	26	28	28	26	28	26	28	26	28	26	28	26	28	26	28
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65	
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
SLEEP 1.0 MC TO 25.0 MC IN 1 SECONDUS*																										

JULY 7, 1959

TABLE 6₂

HOUR	TIME LOCAL																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
16 F2	MED	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
CNT	11	11	14	13	13	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
h F2	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
CNT	27	26	25	26	26	25	25	26	27	26	27	25	25	24	25	24	25	24	25	24	25	24	25	24	25
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
16 F1	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
CNT	1	1	3	4	2	4	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
h F2	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
CNT	27	26	25	26	26	25	25	26	27	26	27	25	25	24	25	24	25	24	25	24	25	24	25	24	25
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
16 E1	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
CNT	1	1	3	4	2	4	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
h E2	MED	300	310	315	300	260	250	240	225	215	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
CNT	3	6	2	1	1	2	2	2	1	1	2	2	2	1	1	2	2	2	1	1	1	1	1	1	
UD	86	65	64	47	54	58	66	59	70	71	65	68	69	67	64	62	67	64	69	63	61	61	60	60	65
LO	86	47	43	30	41	53	50	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
h E3	MED	300	310	315	300	260	250	240	225	215	210	210</td													

TABLE 65

TIME 90.00												TIME 90.00													
HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
to F2	MED	50	60	50	42	60	50	50	55	50	57	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	CNT	20	26	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	UQ	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
	LO	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
h F2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
		6	12	18	17	21	20	21	19	20	20	20	19	20	21	20	20	20	20	20	20	20	20	20	
		12	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	
		18	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	22	21	
		17	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	
		21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	20	21	
		19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	
		18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	
		17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	
		16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	
		14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	
		13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	
		12	11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	
		11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	
		10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	
		9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	
		8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
		7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
		4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
		1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	

MAY * 1959

TIME 10.00

MAY * 1959

TIME 12.00

TIME 14.00

TIME 16.00

TIME 18.00

TIME 20.00

TIME 22.00

TIME 24.00

TIME 26.00

TIME 28.00

TIME 30.00

TIME 32.00

TIME 34.00

TIME 36.00

TIME 38.00

TIME 40.00

TIME 42.00

TIME 44.00

TIME 46.00

TIME 48.00

TIME 50.00

TIME 52.00

TIME 54.00

TIME 56.00

TIME 58.00

TIME 60.00

TIME 62.00

TIME 64.00

TIME 66.00

TIME 68.00

TIME 70.00

TIME 72.00

TIME 74.00

TIME 76.00

TIME 78.00

TIME 80.00

TIME 82.00

TIME 84.00

TIME 86.00

TIME 88.00

TIME 90.00

TIME 92.00

TIME 94.00

TIME 96.00

TIME 98.00

TIME 100.00

TIME 102.00

TIME 104.00

TIME 106.00

TIME 108.00

TIME 110.00

TIME 112.00

TIME 114.00

TIME 116.00

TIME 118.00

TIME 120.00

TIME 122.00

TIME 124.00

TIME 126.00

TIME 128.00

TIME 130.00

TIME 132.00

TIME 134.00

TIME 136.00

TIME 138.00

TIME 140.00

TIME 142.00

TIME 144.00

TIME 146.00

TIME 148.00

TIME 150.00

TIME 152.00

TIME 154.00

TIME 156.00

TIME 158.00

TIME 160.00

TIME 162.00

TIME 164.00

TIME 166.00

TIME 168.00

TIME 170.00

TIME 172.00

TIME 174.00

TIME 176.00

TIME 178.00

TIME 180.00

TIME 182.00

TIME 184.00

TIME 186.00

TIME 188.00

TIME 190.00

TIME 192.00

TIME 194.00

TIME 196.00

TIME 198.00

TIME 200.00

TIME 202.00

TIME 204.00

TIME 206.00

TIME 208.00

TIME 210.00

TIME 212.00

TIME 214.00

TIME 216.00

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TIME 220.00

TIME 222.00

TIME 224.00

TIME 226.00

TIME 228.00

TIME 230.00

TIME 232.00

TIME 234.00

TIME 236.00

TIME 238.00

TIME 240.00

TIME 242.00

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TIME 268.00

TIME 270.00

TIME 272.00

TIME 274.00

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TIME 280.00

TIME 282.00

TIME 284.00

TIME 286.00

TIME 288.00

TIME 290.00

TIME 292.00

TIME 294.00

TIME 296.00

TIME 298.00

TIME 300.00

TIME 302.00

TIME 304.00

TIME 306.00

TIME 308.00

TIME 310.00

TIME 312.00

TIME 314.00

TIME 316.00

TIME 318.00

TIME 320.00

TIME 322.00

TIME 324.00

TIME 326.00

TIME 328.00

TIME 330.00

TIME 332.00

TIME 334.00

TIME 336.00

TIME 338.00

TIME 340

TABLE III

TABLE b

EEB 101 MC TO 200 MC IN 16 SEC QM

JANUARY • 1959

۱۹۵۶۰ * ۷۱۸۴۷

JANUARY • 1959

JANUARY • 1959

JANUARY • 1959

73

TABLE 73
PERCENTION 1, 163.05, 60.1W
TIME 60.0W

75

TERRE AOELEIE 166.75. 140.00

TIME 135.0

DECEMBER • 1958

SWEET 1•2 MC TO 17•0 MC IN 1 MINUTE.

DECEMBER, 1951

TABLE 76

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卷之三

卷之三

卷之三

200

78

NOVEMBER • 1958

TABLE 81

TABLE 82

OCTOBER 1958

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YAO

KEEP 1.0 MC TO 13.0 MC IN 1 MINUTE 55 SECONDS.

TIME 75 • 30

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THE JOURNAL OF CLIMATE

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TABLE 9C

TABLE V

AUGUST • 1958

SWEET 1.0 MC TO 15.0 MC IN 5 MINUTES, MANUAL OPERATION.

SWEET 0.8A MC TO 14+14 MC IN 10 MINUTES. AUTOMATIC OPERATION.
JULY 1 1958

2

MINISTERIUM FÜR

JULY, 1938

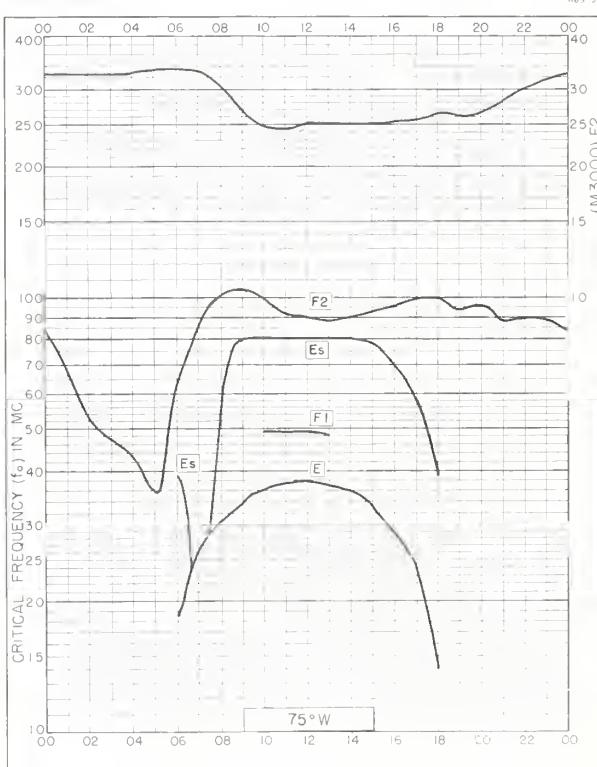
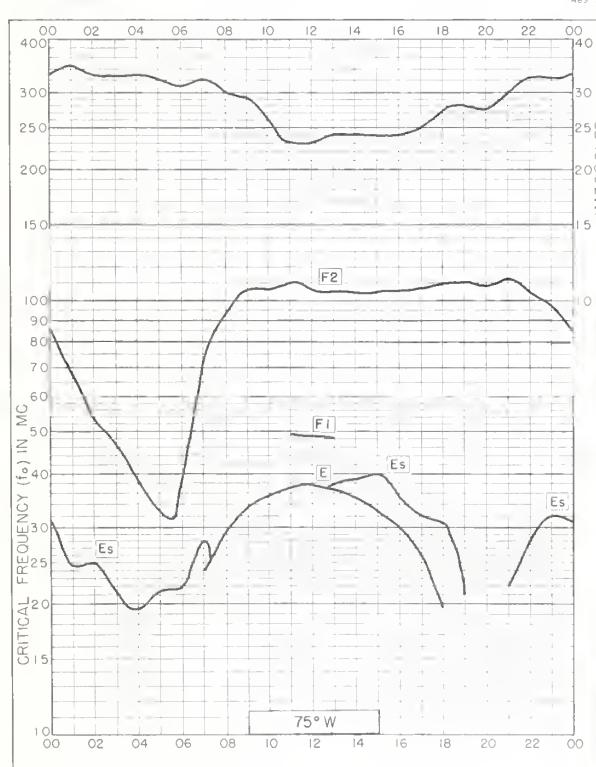
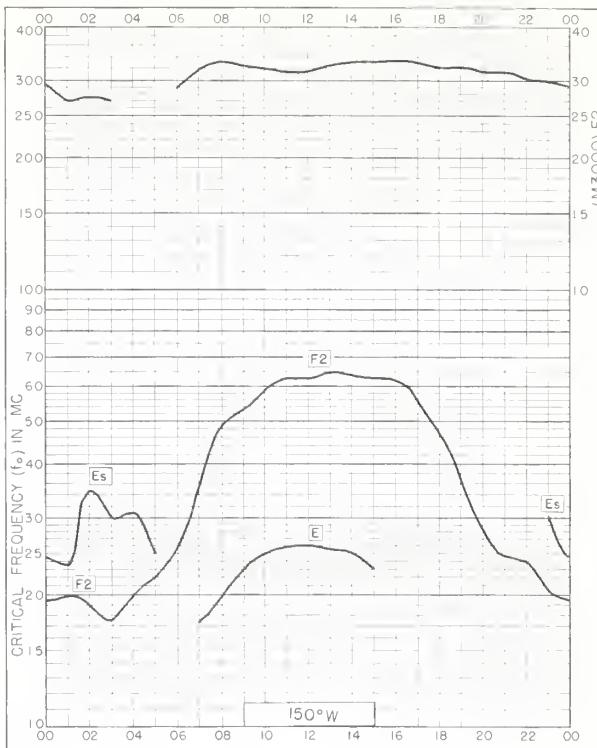
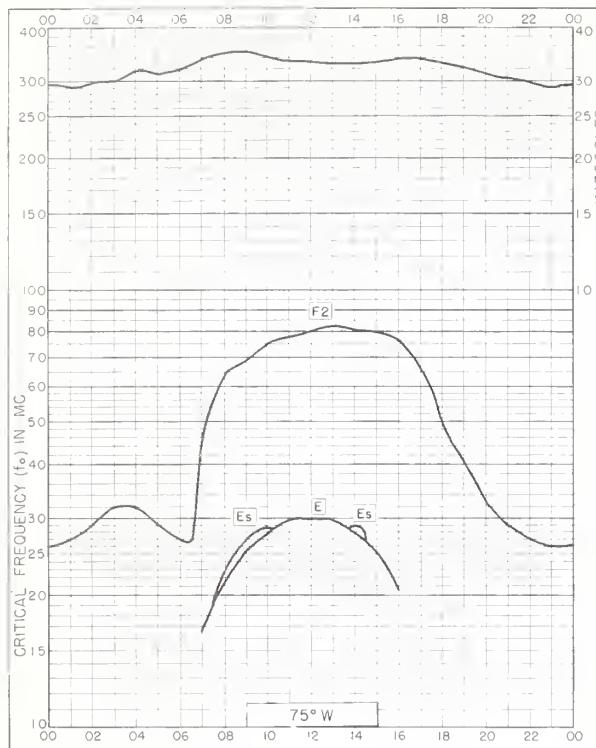
TABLE 9

SWEET 140 MC TO 25.0 MC IN 25 SECONDS.

FEBRUARY, 1958

107

GRAPHS OF IONOSPHERIC DATA



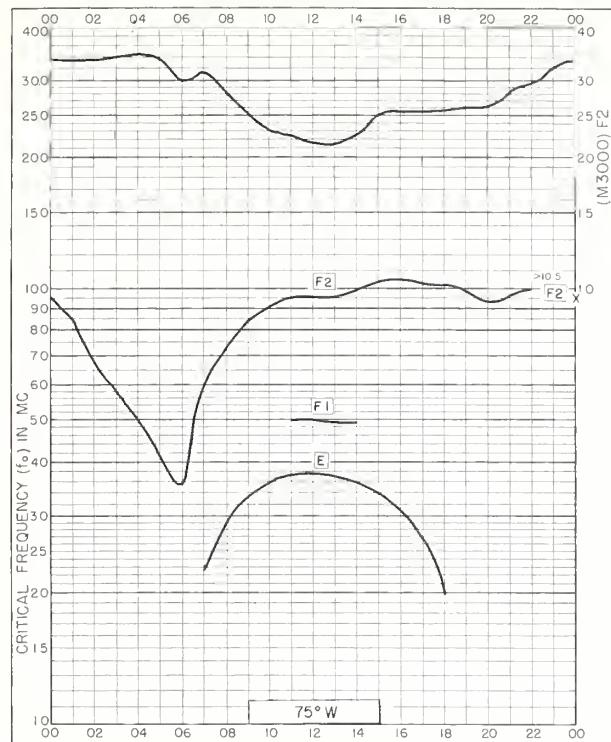


Fig. 5. TALARA, PERU
4.6°S, 81.3°W SEPTEMBER 1961

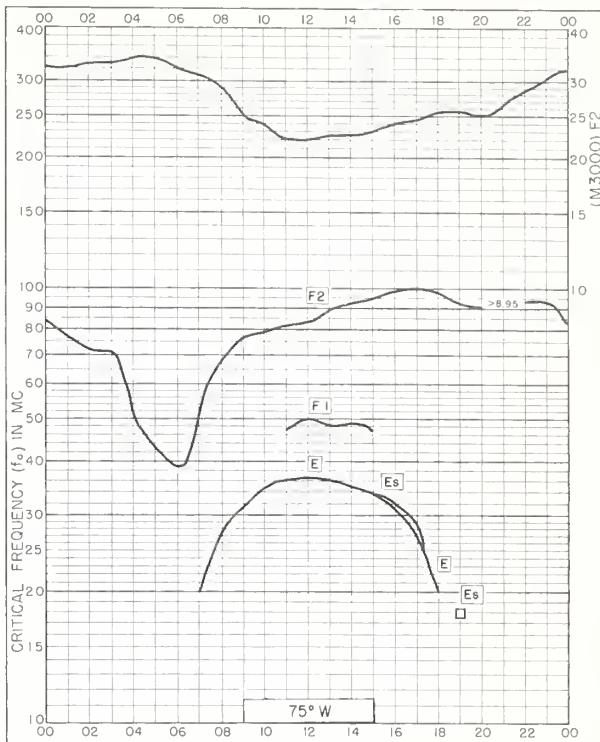


Fig. 6. TALARA, PERU
4.6°S, 81.3°W AUGUST 1961

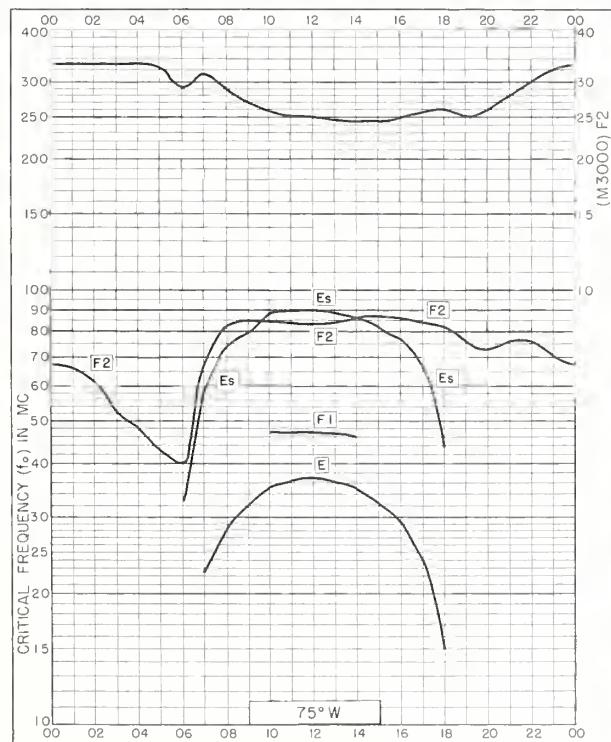


Fig. 7. HUANCAYO, PERU
12.0°S, 75.3°W AUGUST 1961

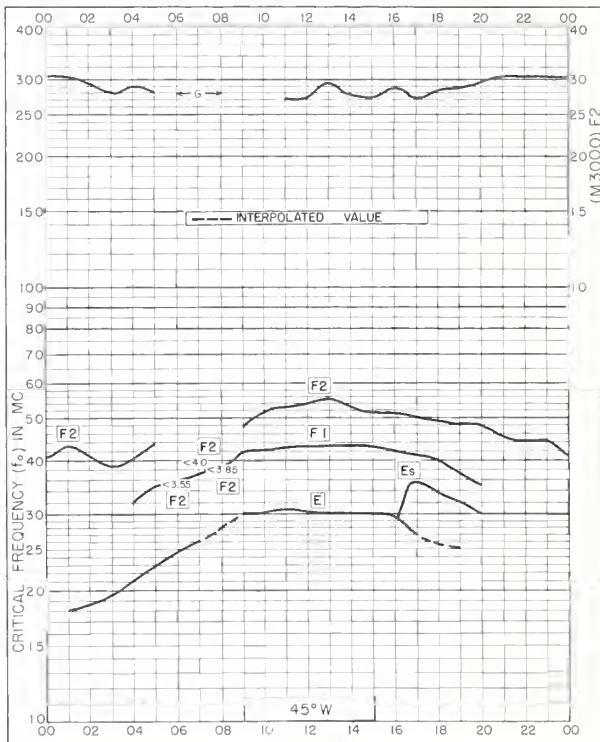


Fig. 8. GODHAVN, GREENLAND
69.3°N, 53.5°W JULY 1961

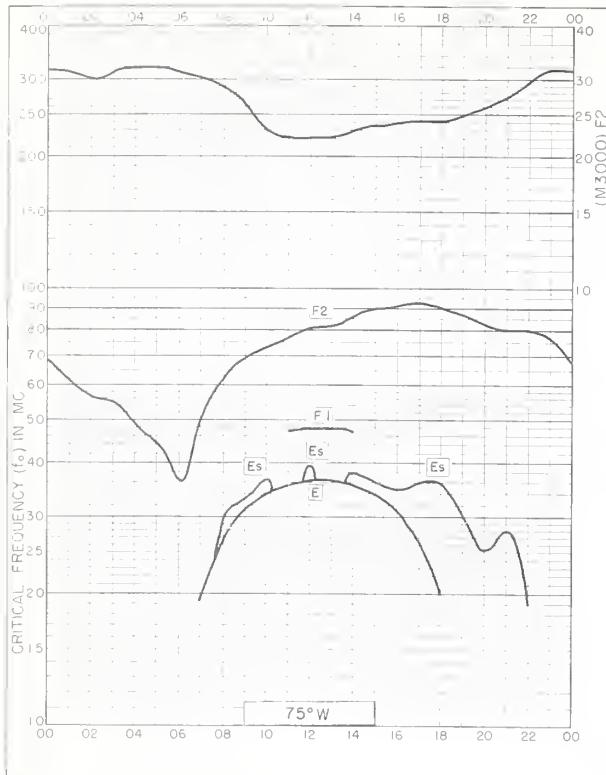


Fig 9. TALARA, PERU
46°S, 81.3°W JULY 1961

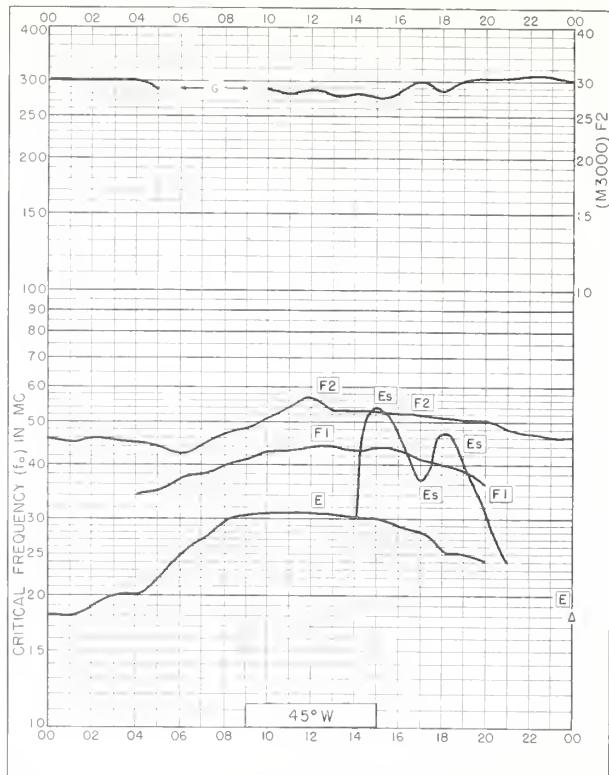


Fig 10. GODHAVN, GREENLAND
69.3°N, 53.5°W JUNE 1961

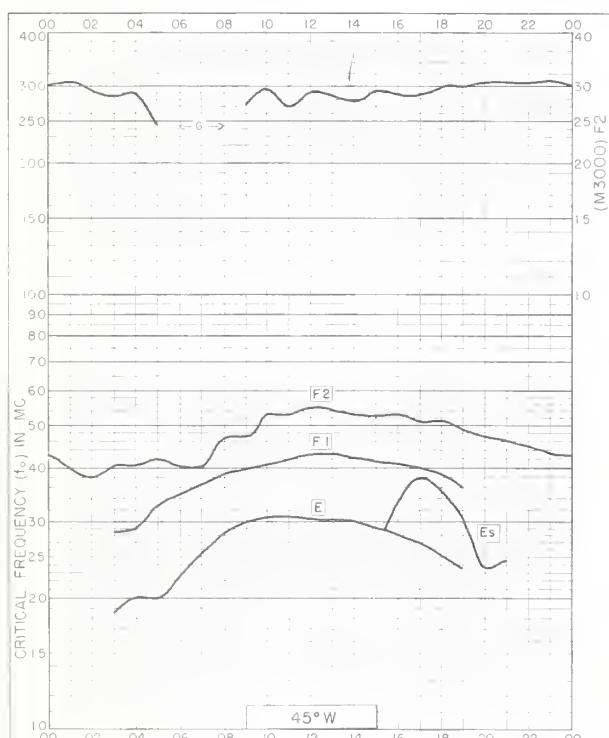


Fig 11. GODHAVN, GREENLAND
69.3°N, 53.5°W MAY 1961

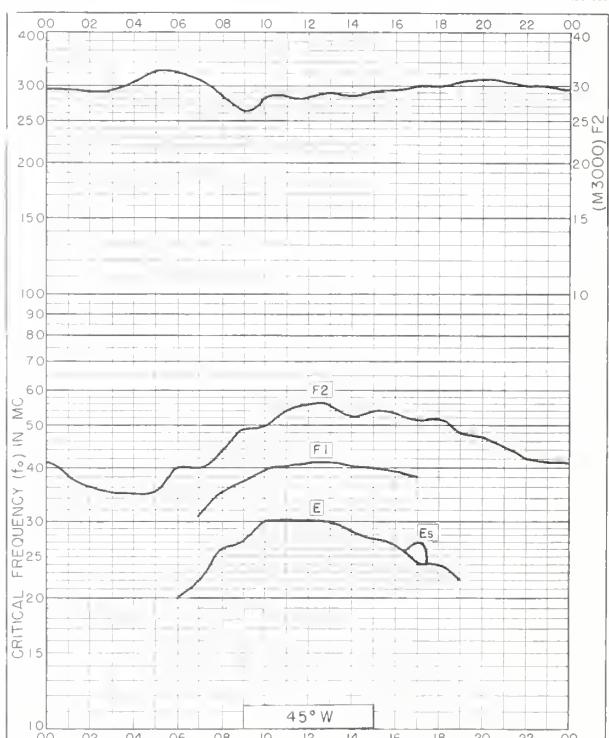


Fig 12. GODHAVN, GREENLAND
69.3°N, 53.5°W APRIL 1961

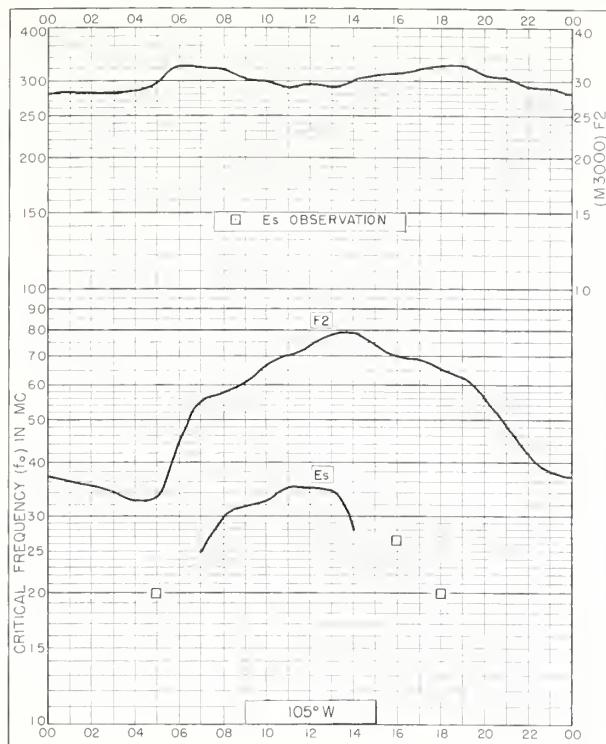


Fig. 13. BOULDER, COLORADO
40°N, 105.3°W APRIL 1961

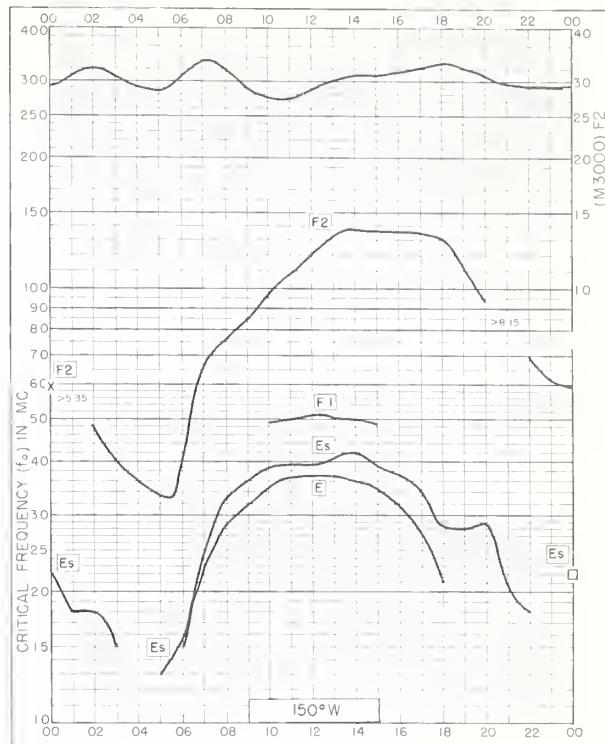


Fig. 14. MAUI, HAWAII
20.8°N, 156.5°W APRIL 1961



Fig. 15. CONCEPCION, CHILE
36.6°S, 73.0°W APRIL 1961

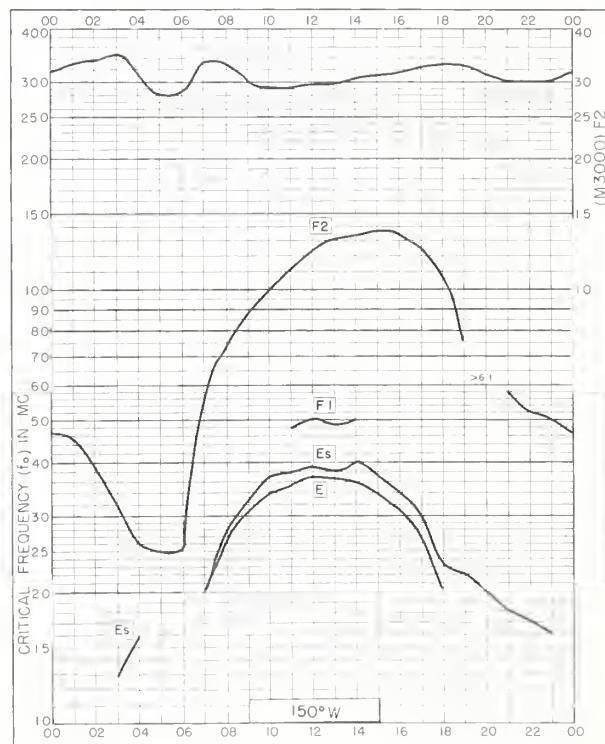


Fig. 16. MAUI, HAWAII
20.8°N, 156.5°W MARCH 1961

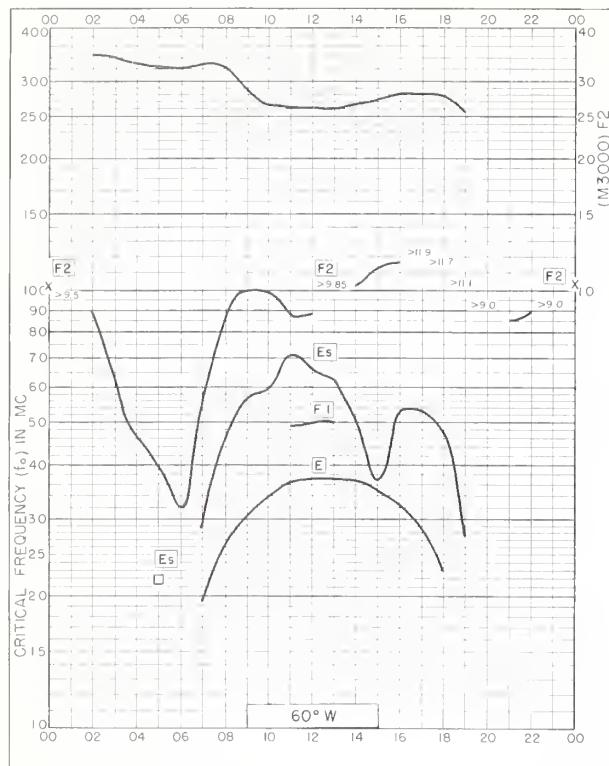


Fig. 17 La PAZ , BOLIVIA
16.5°S , 68.1°W MARCH 1961

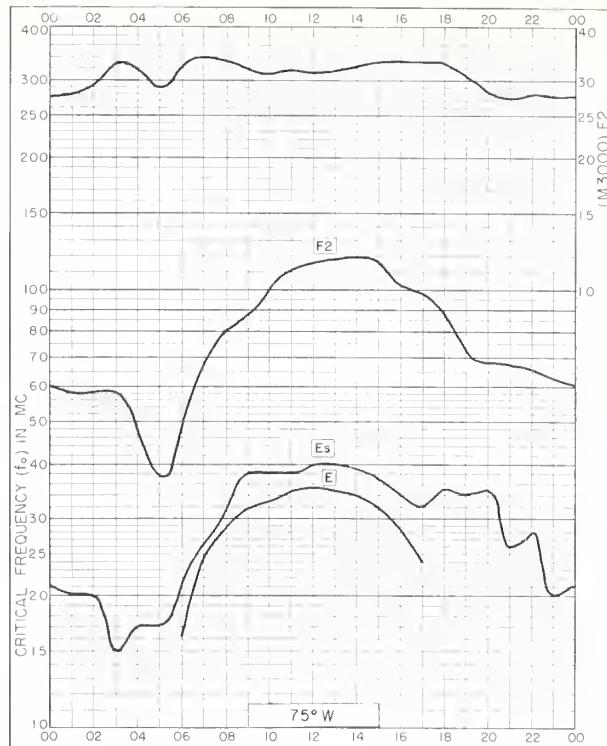


Fig. 18 CONCEPCION , CHILE
36.6°S , 73.0°W MARCH 1961

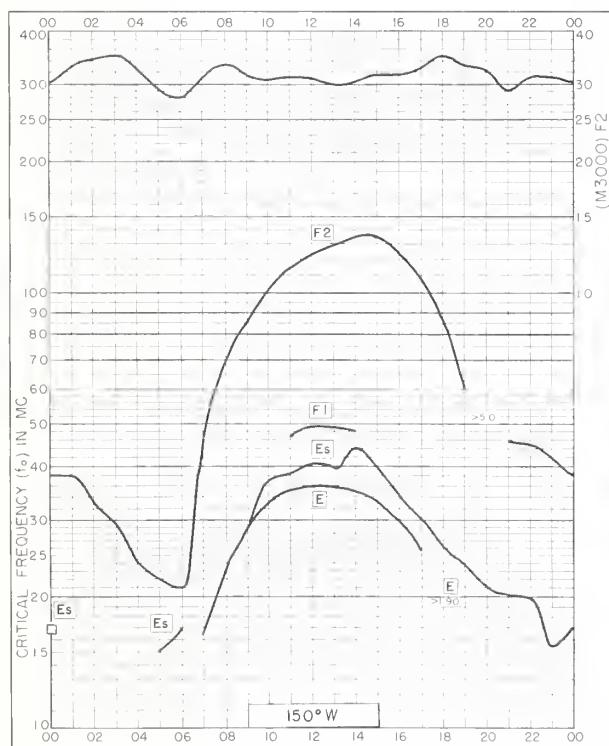


Fig. 19. MAUI , HAWAII
20.8°N , 156.5°W FEBRUARY 1961

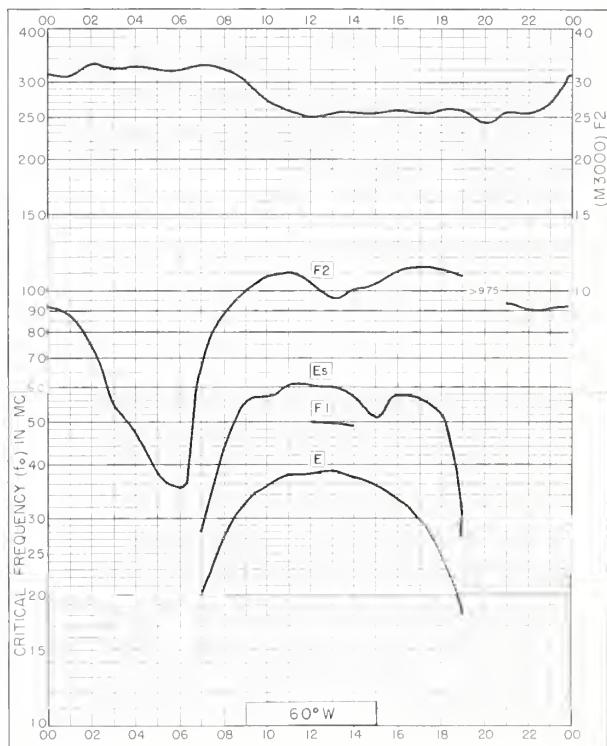


Fig. 20. La PAZ , BOLIVIA
16.5°S , 68.1°W FEBRUARY 1961

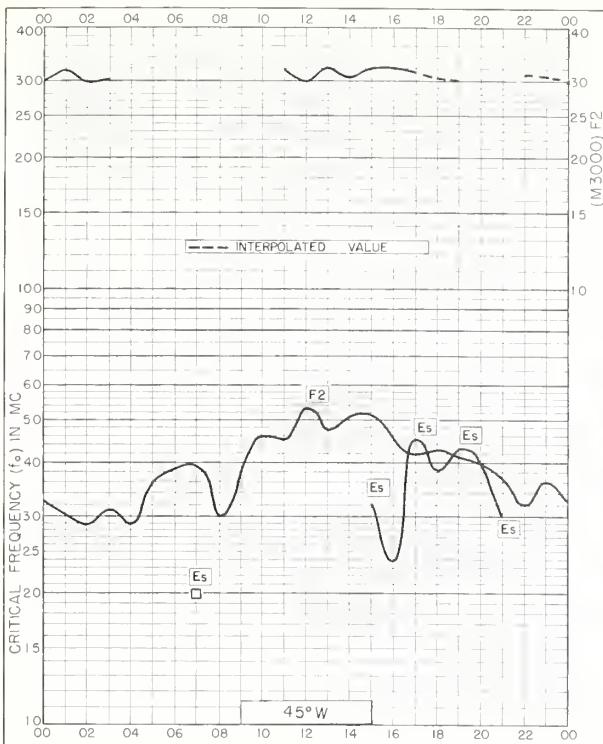


Fig. 21. GODHAVN, GREENLAND
69.3°N, 53.5°W JANUARY 1961

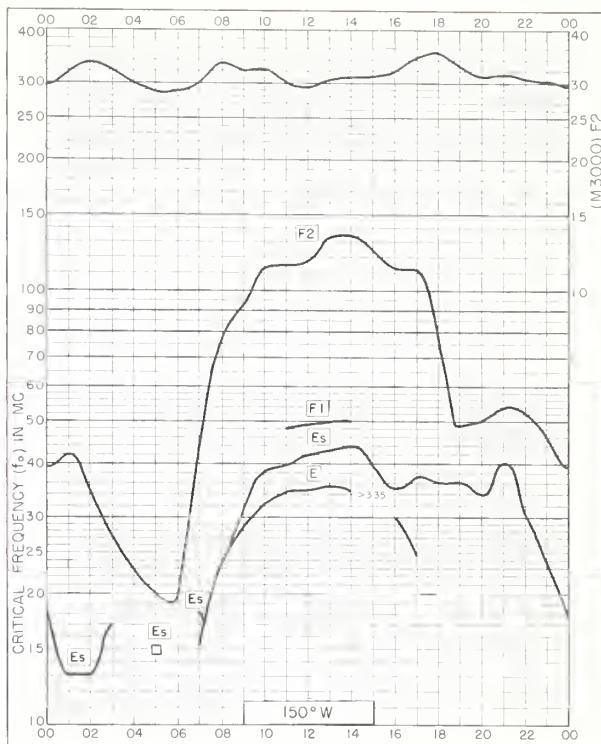


Fig. 22. MAUI, HAWAII
20.8°N, 156.5°W JANUARY 1961

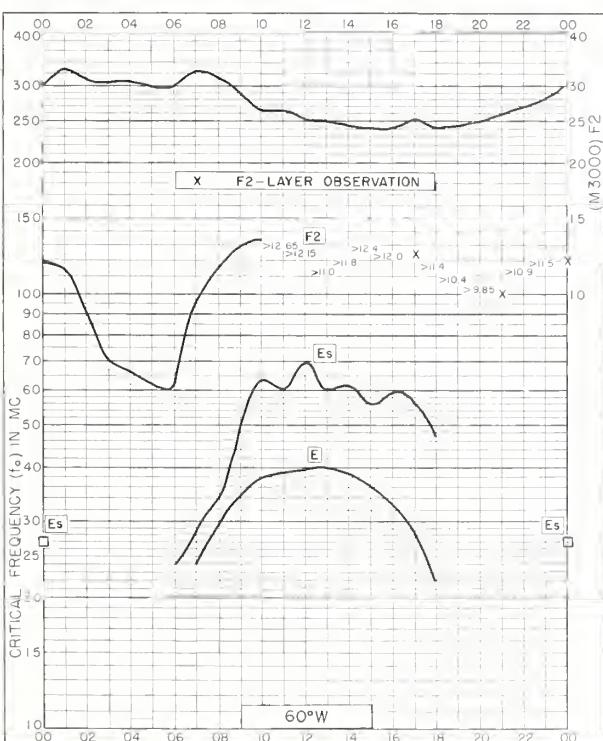


Fig. 23. LA PAZ, BOLIVIA
16.5°S, 68.1°W OCTOBER 1960

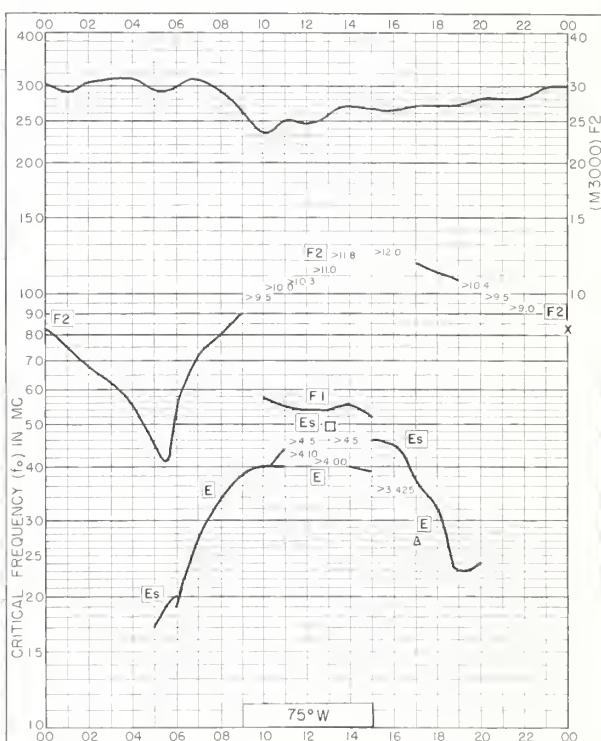


Fig. 24. BOGOTA, COLOMBIA
4.5°N, 74.2°W AUGUST 1960

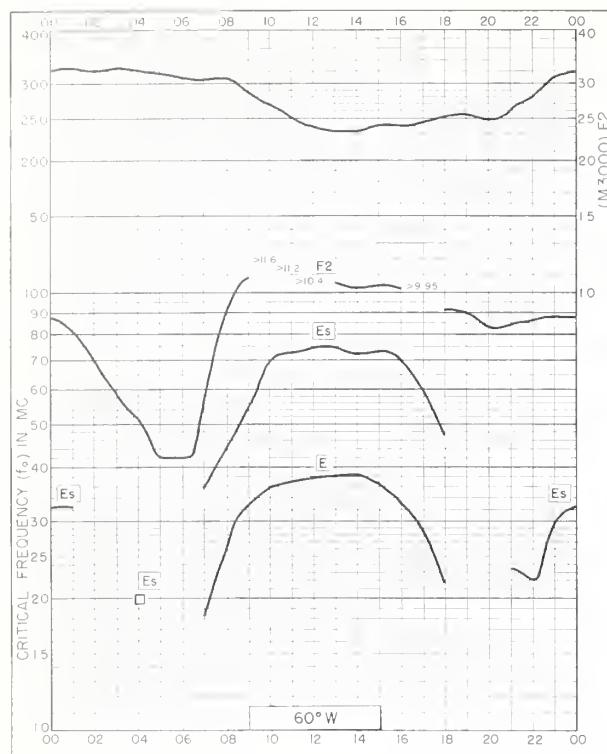


Fig. 25. LA PAZ, BOLIVIA
16.5°S, 68.1°W AUGUST 1960

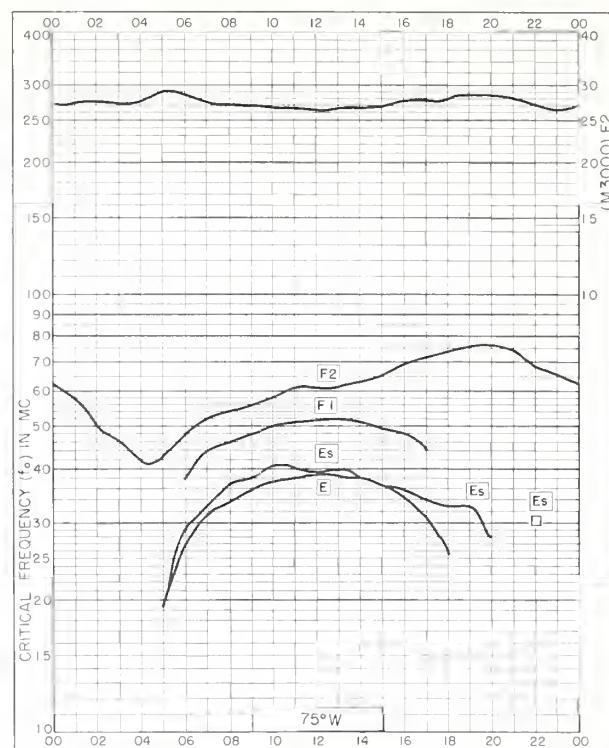


Fig. 26. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W JUNE 1960

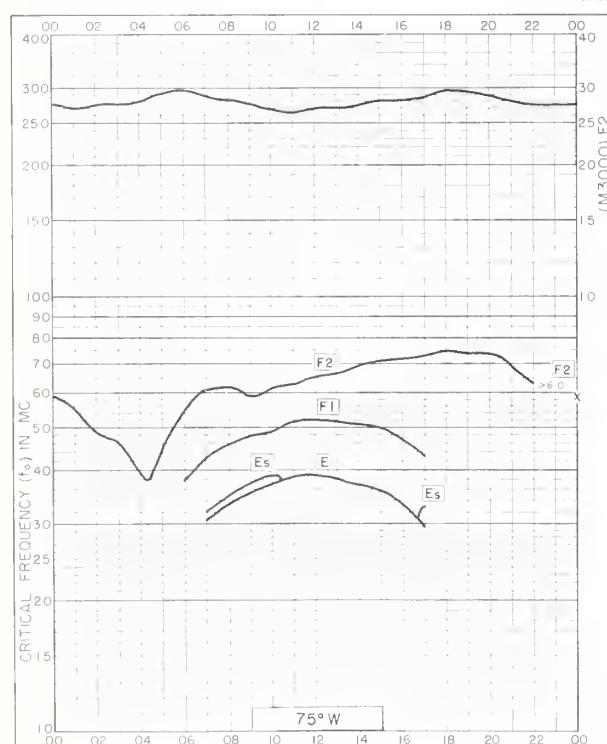


Fig. 27. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W MAY 1960



Fig. 28. NATAL, BRAZIL
5.7°S, 35.2°W MAY 1960

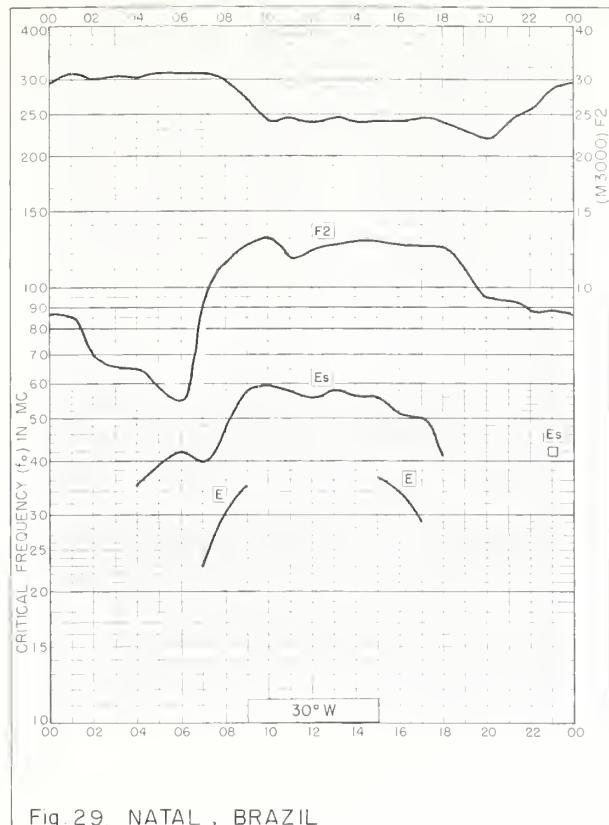


Fig. 29. NATAL, BRAZIL
5.7°S, 35.2°W APRIL 1960

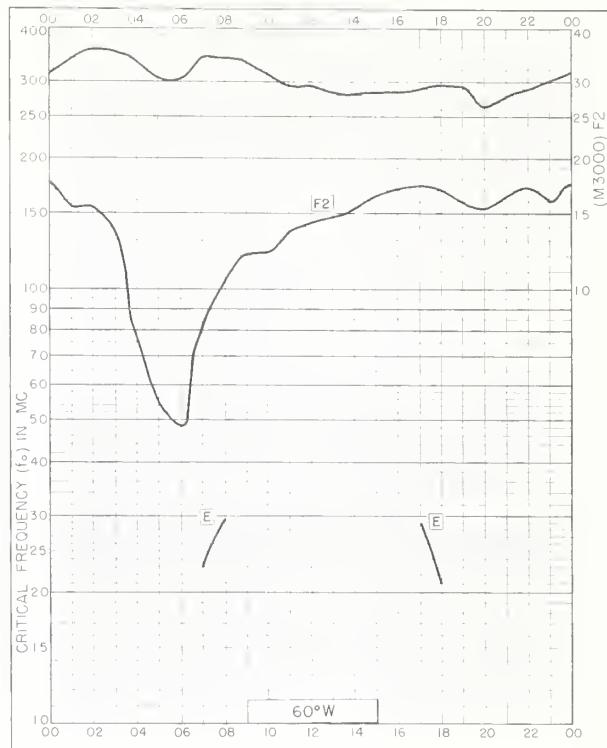


Fig. 30. TUCUMAN, ARGENTINA
26.9°S, 65.4°W MARCH 1960

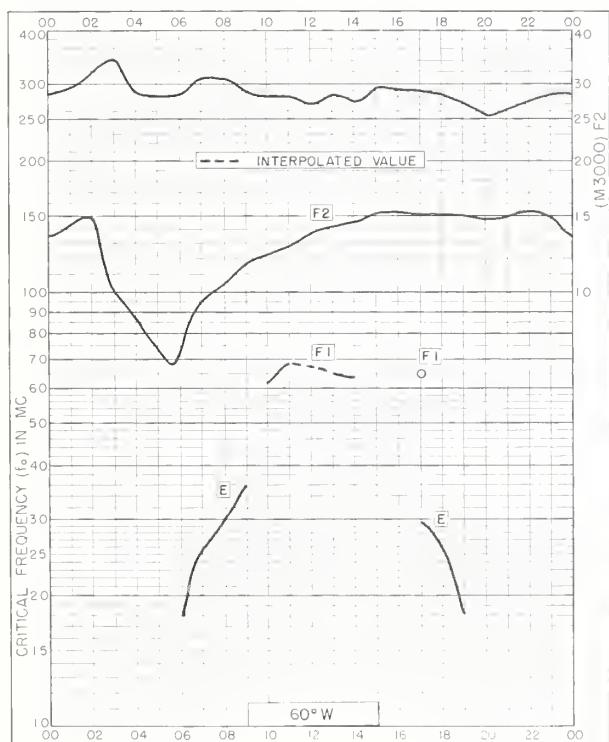


Fig. 31. TUCUMAN, ARGENTINA
26.9°S, 65.4°W FEBRUARY 1960

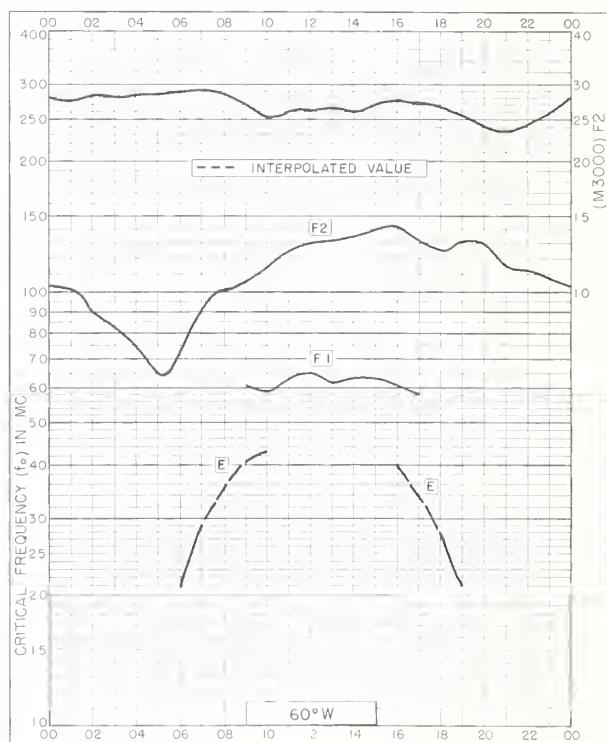


Fig. 32. TUCUMAN, ARGENTINA
26.9°S, 65.4°W JANUARY 1960

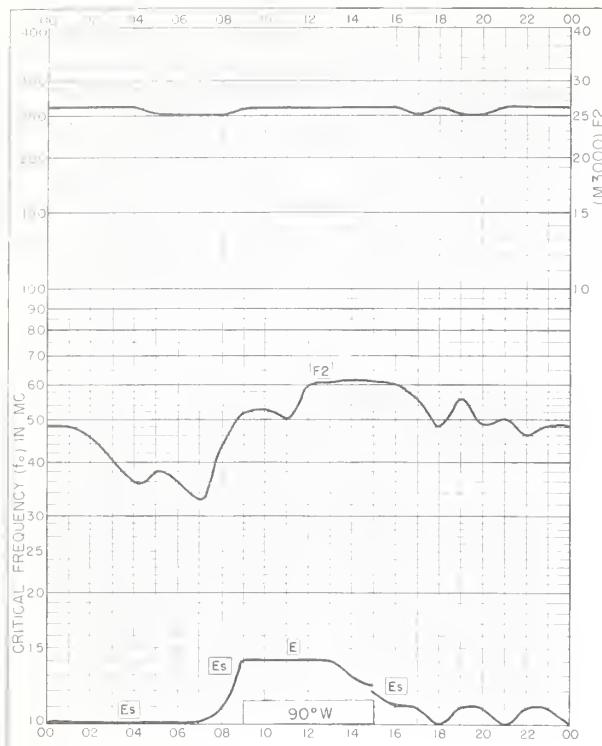


Fig. 33. RESOLUTE BAY, CANADA
74.7°N, 94.9°W NOVEMBER 1959

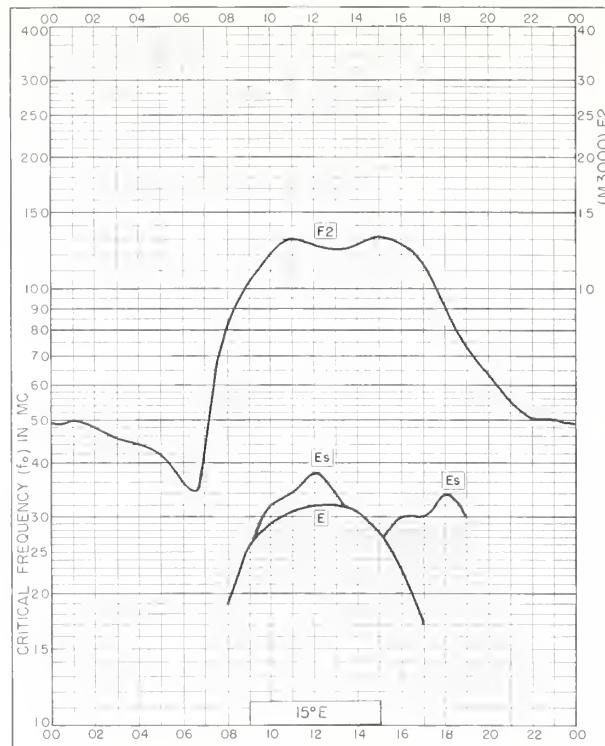


Fig. 34. GENOA(MONTE CAPELLINO), ITALY
44.6°N, 9.0°E NOVEMBER 1959

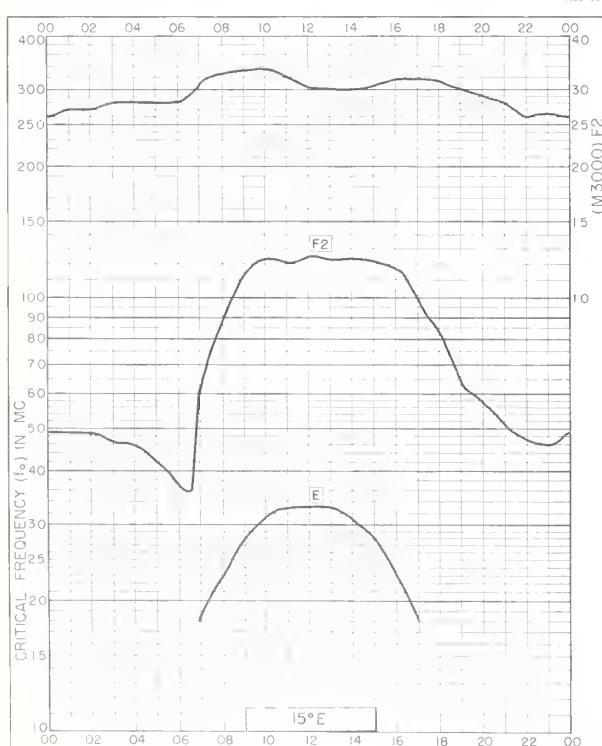


Fig. 35. ROME , ITALY
41.8°N, 12.5°E NOVEMBER 1959

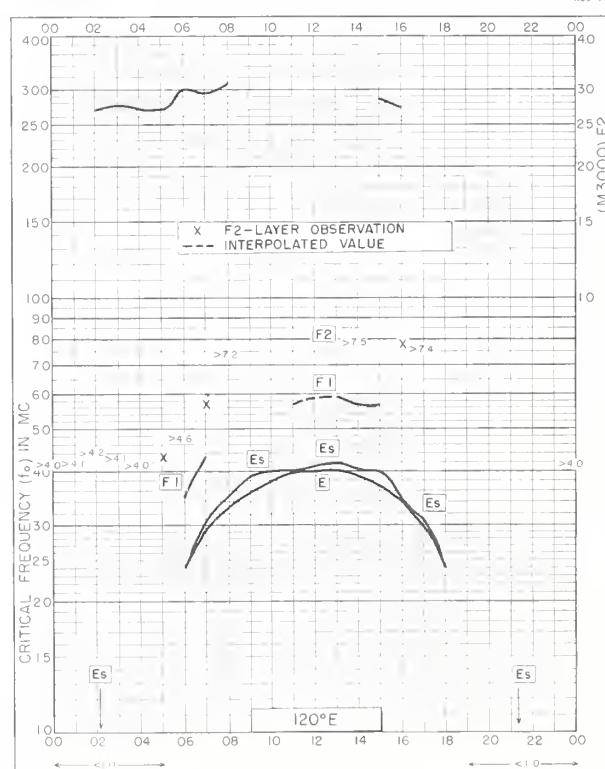


Fig. 36. MUNDARING , W. AUSTRALIA
32.0°S, 116.2°E NOVEMBER 1959

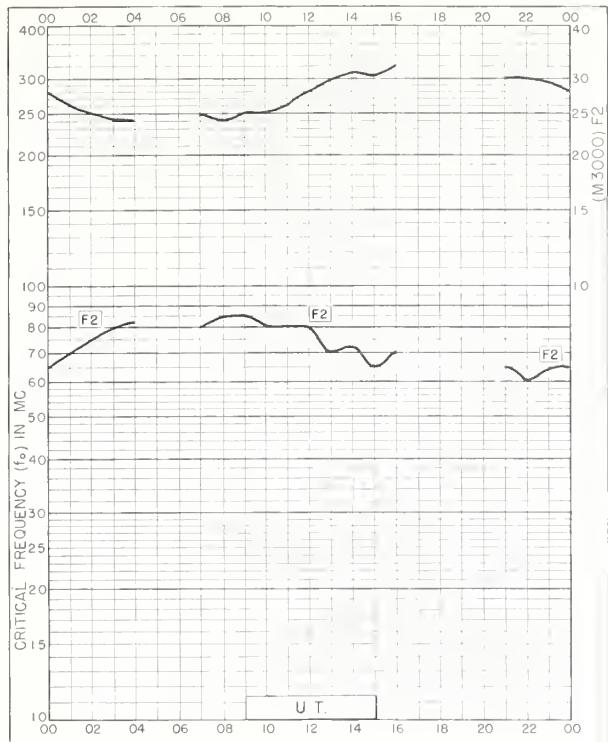


Fig. 37. MAWSON
 67.6°S, 62.9°E NOVEMBER 1959

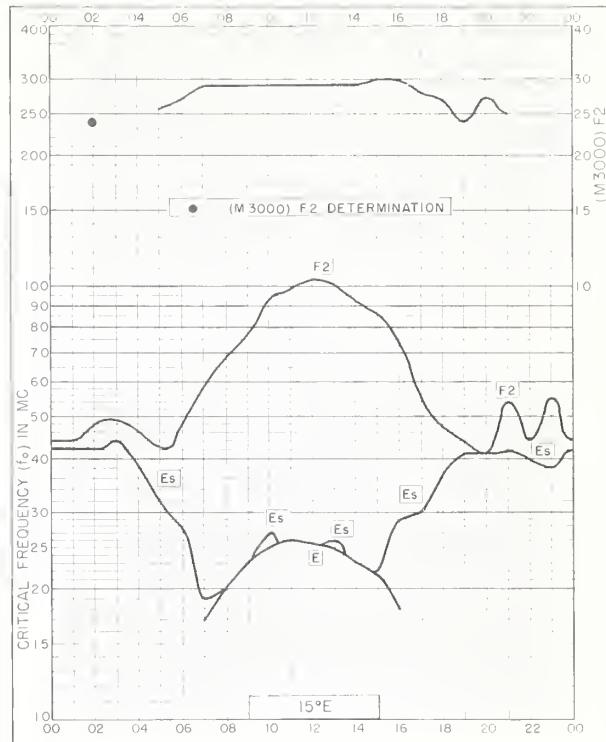


Fig. 38. TROMSO, NORWAY
 69.7°N, 19.0°E OCTOBER 1959

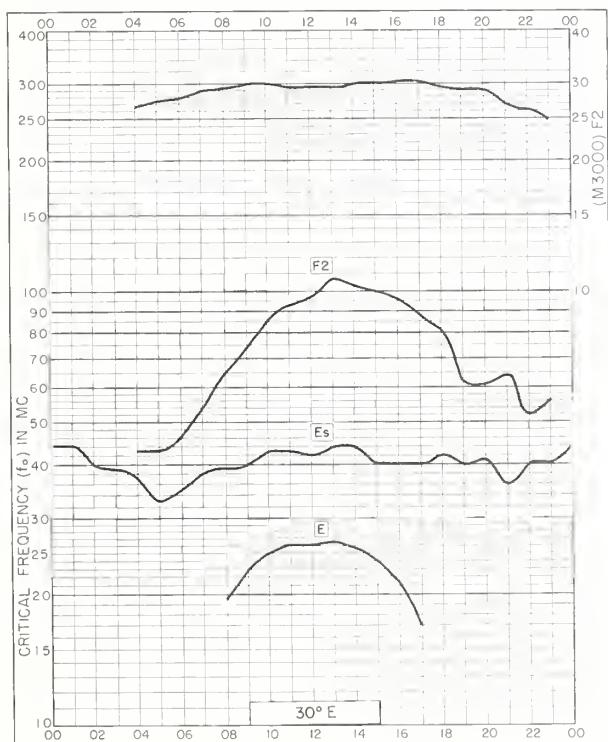


Fig. 39. SODANKYLA, FINLAND
67.4°N, 26.6°E OCTOBER 1959

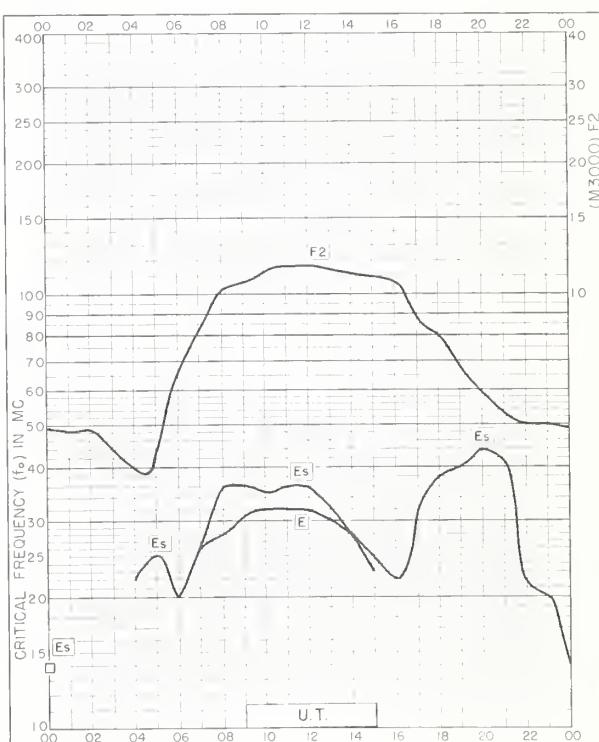


Fig. 40. PRUHONICE, CZECHOSLOVAKIA
 50.0°N., 14.6°F. OCTOBER 1959

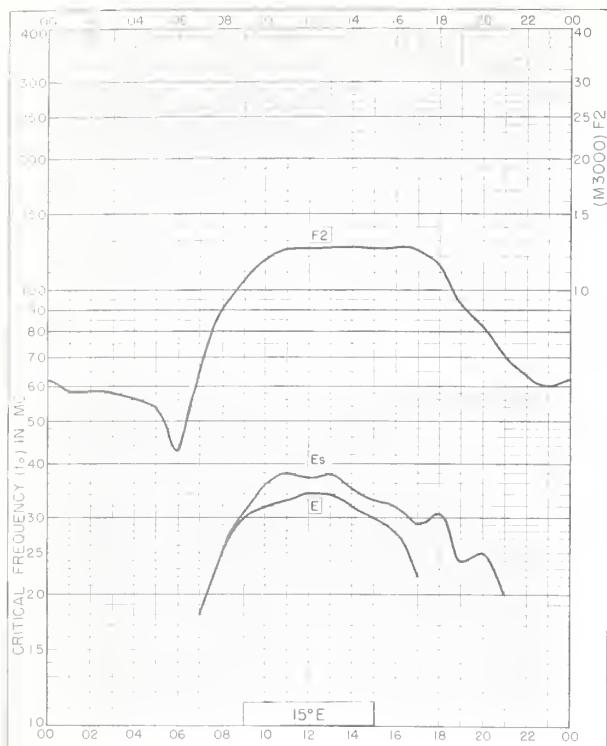


Fig. 41. GENOA (MONTE CAPELLINO), ITALY
44.6°N, 9.0°E OCTOBER 1959

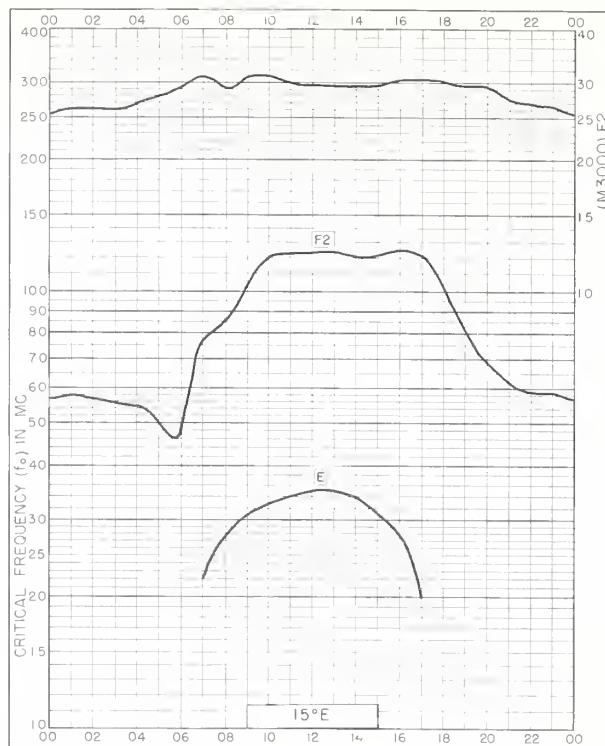


Fig. 42. ROME , ITALY
41.8°N, 12.5°E OCTOBER 1959

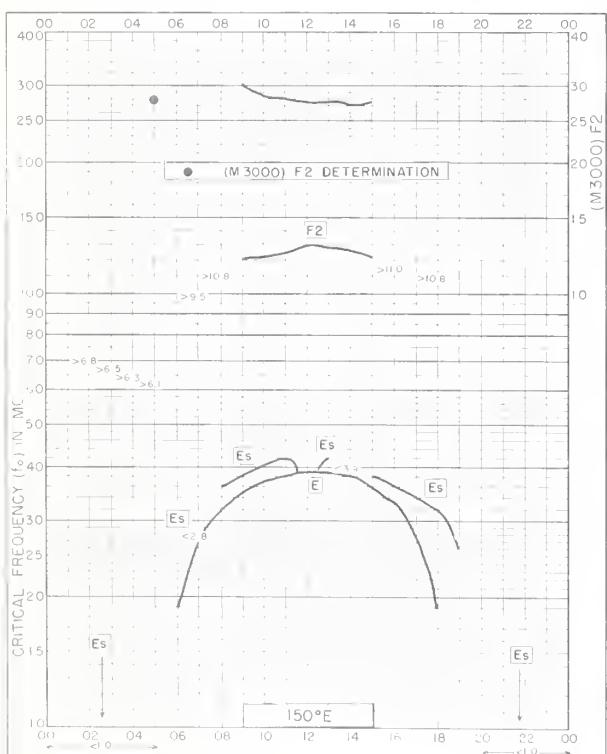


Fig. 43. TOWNSVILLE , AUSTRALIA
19.3°S, 146.7°E OCTOBER 1959

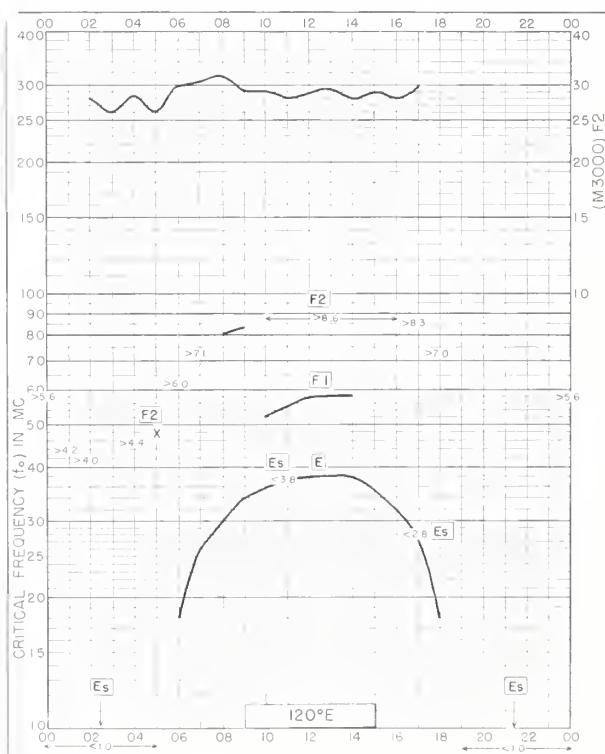


Fig. 44. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E OCTOBER 1959

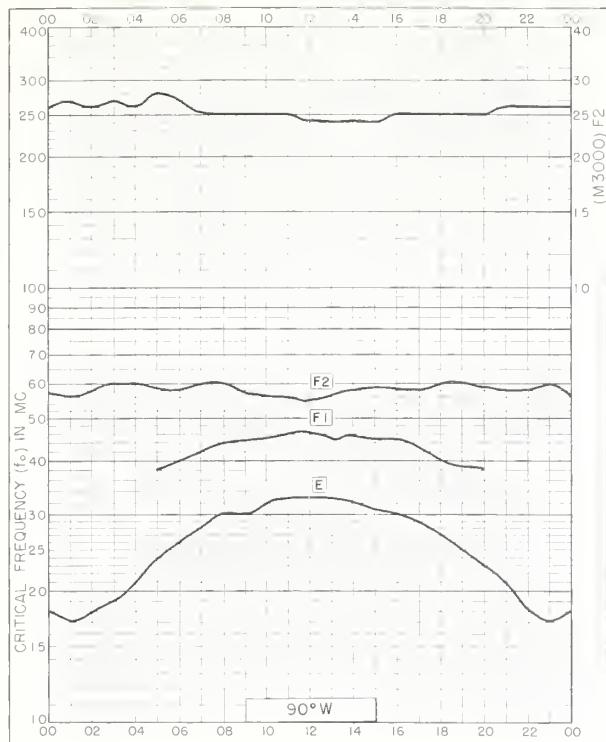


Fig. 45. RESOLUTE BAY, CANADA
74.7°N, 94.9°W AUGUST 1959

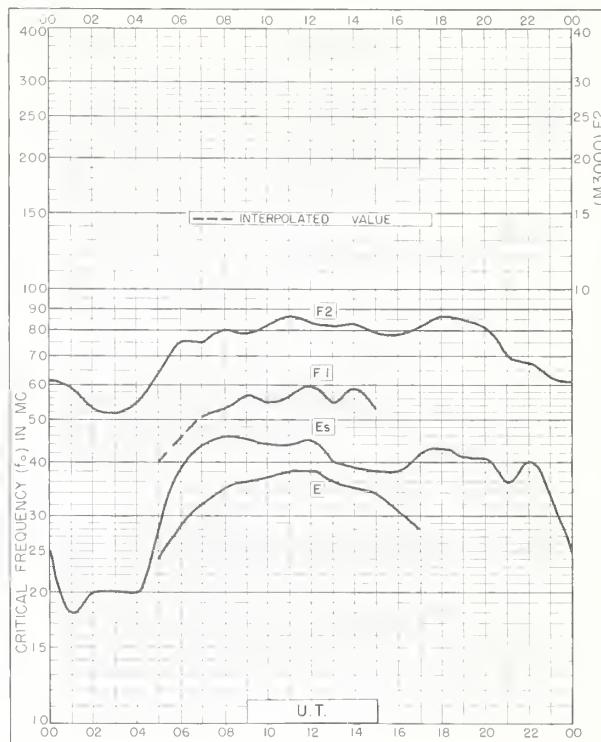


Fig. 46. PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E AUGUST 1959

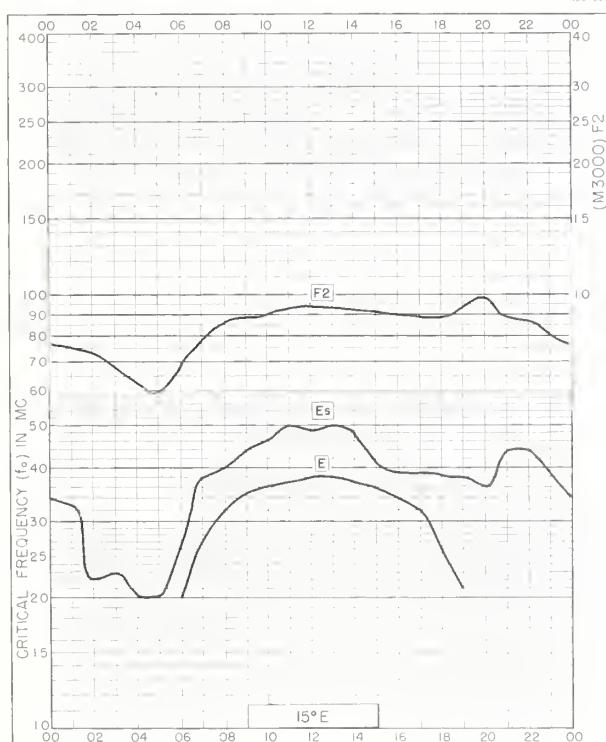


Fig. 47. GENOA (MONTE CAPELLINO), ITALY
44.6°N, 9.0°E AUGUST 1959

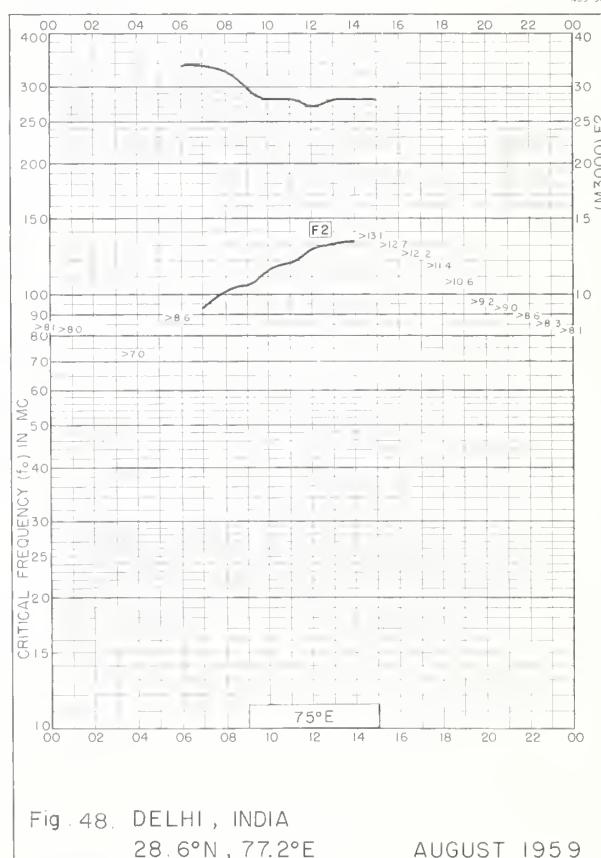


Fig. 48. DELHI, INDIA
28.6°N, 77.2°E AUGUST 1959

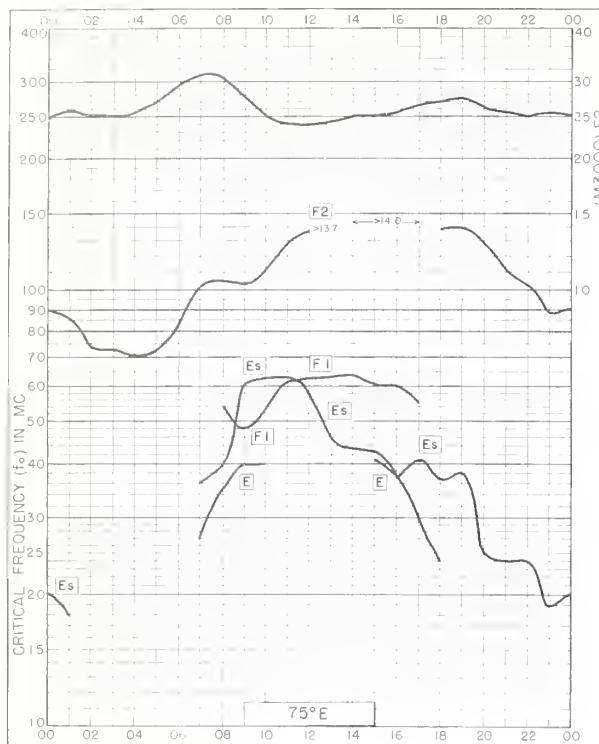


Fig. 49. AHMEDABAD, INDIA
23.0°N, 72.6°E AUGUST 1959

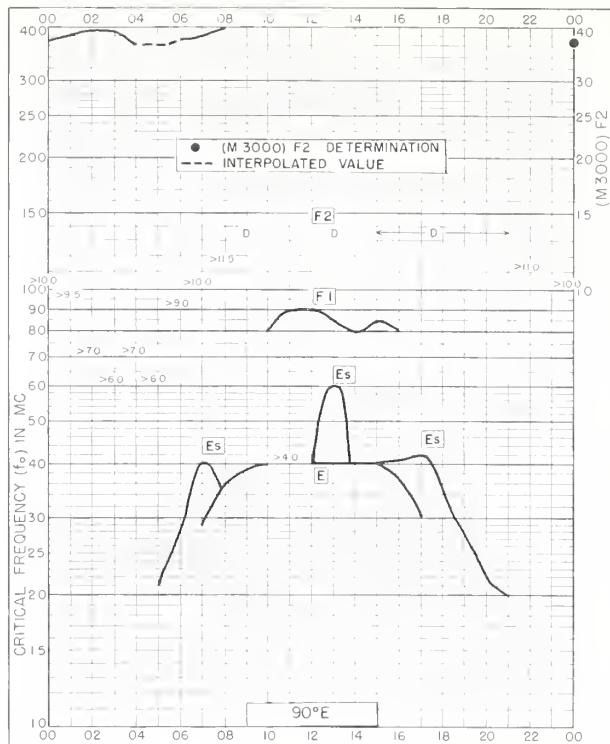


Fig. 50. CALCUTTA, INDIA
23.0°N, 88.6°E AUGUST 1959

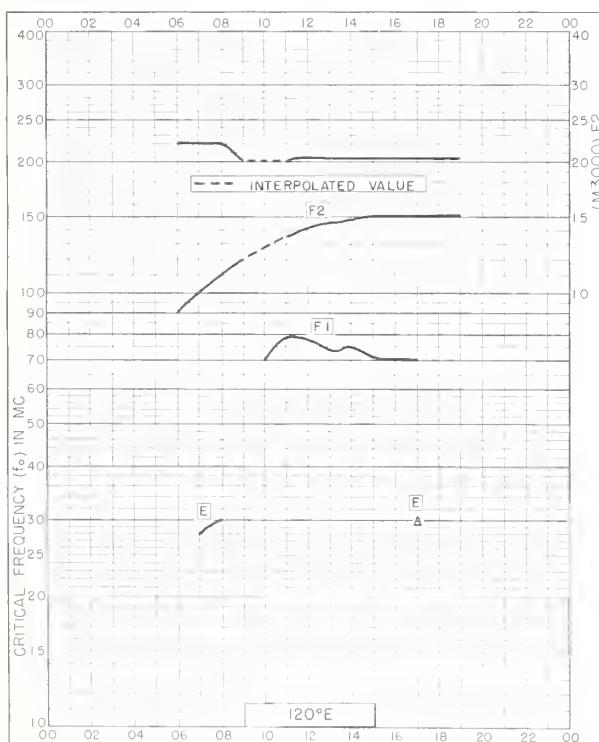


Fig. 51. MACAU
22.2°N, 113.6°E AUGUST 1959

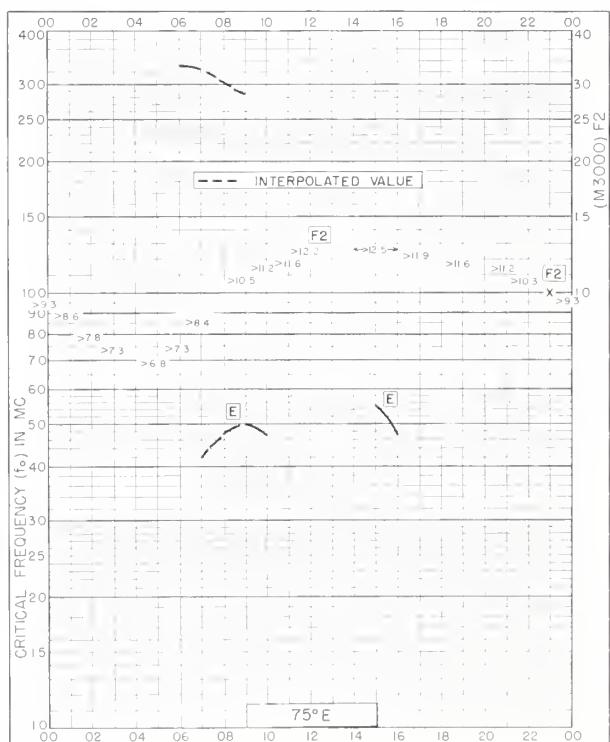
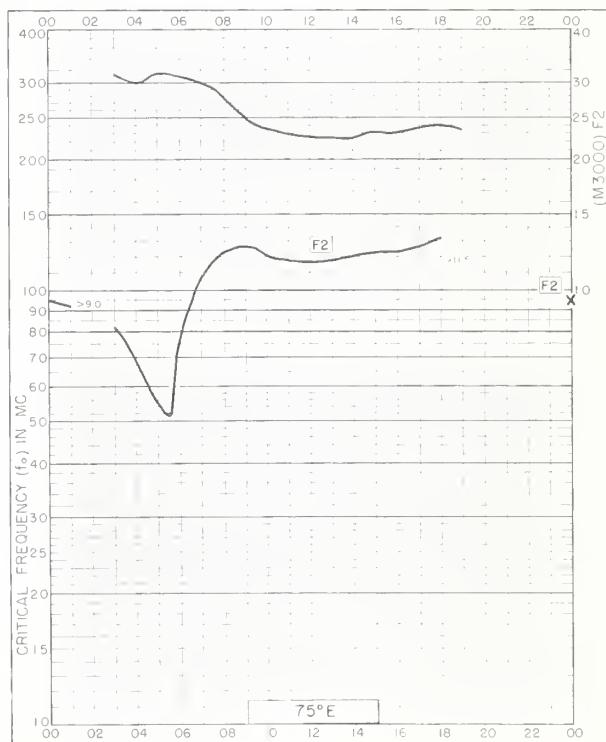
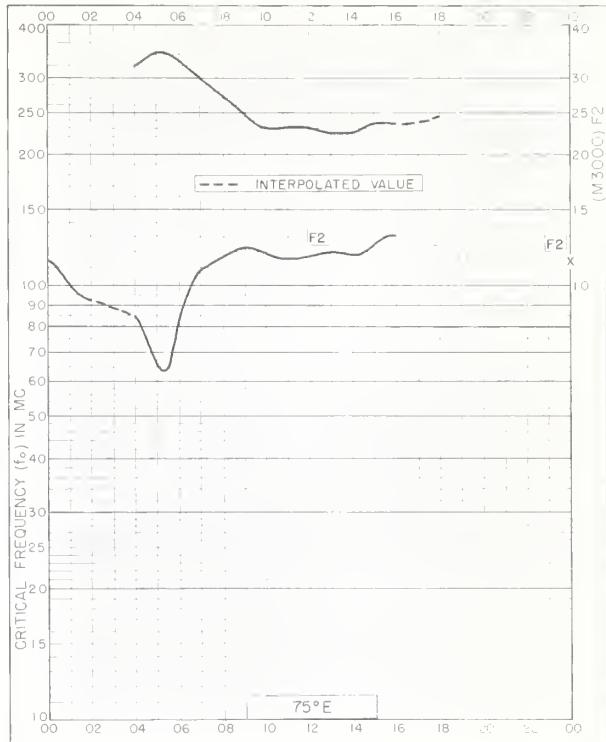
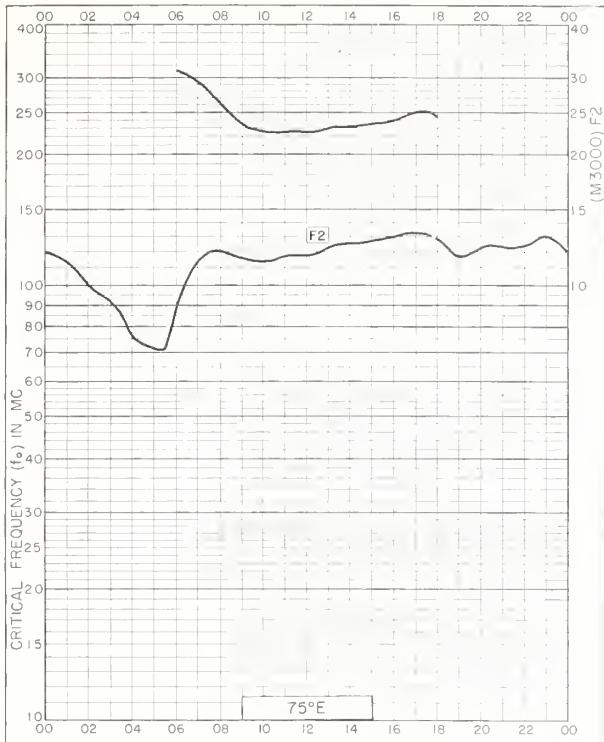
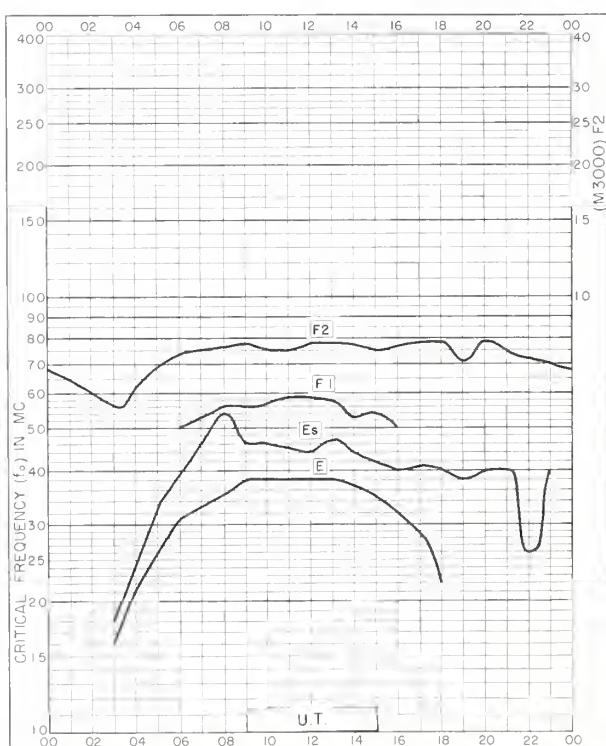
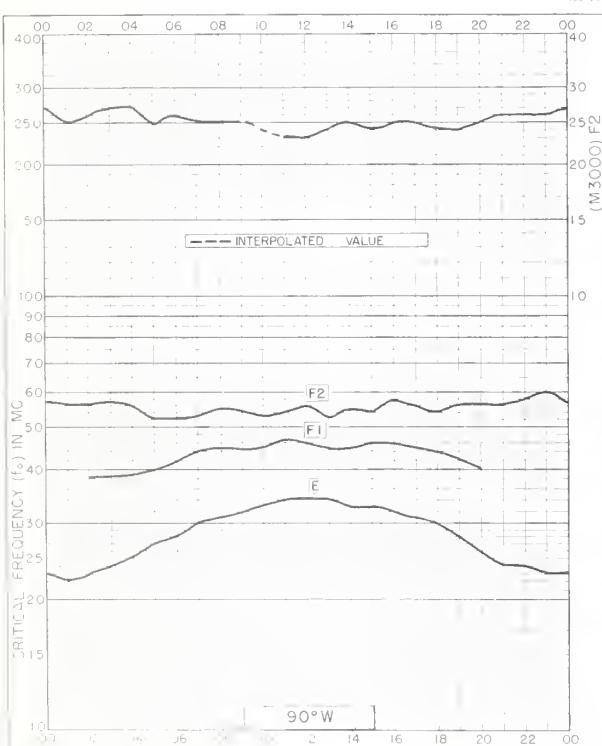
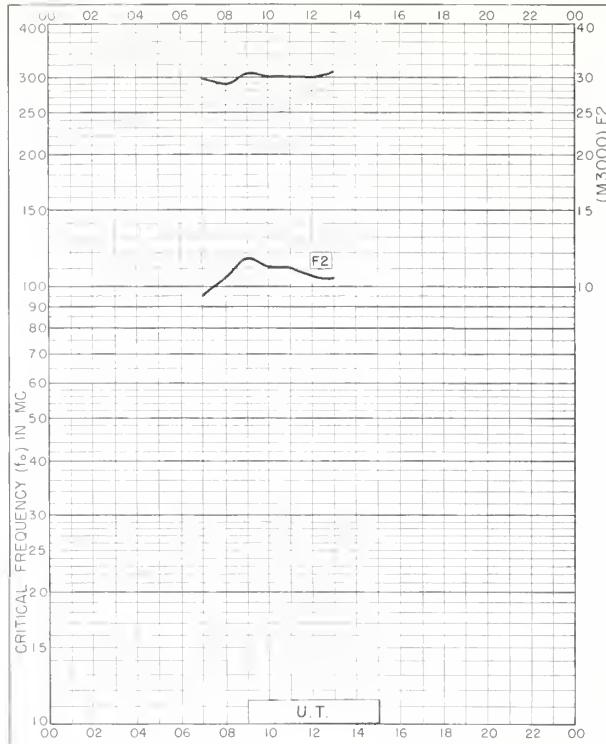
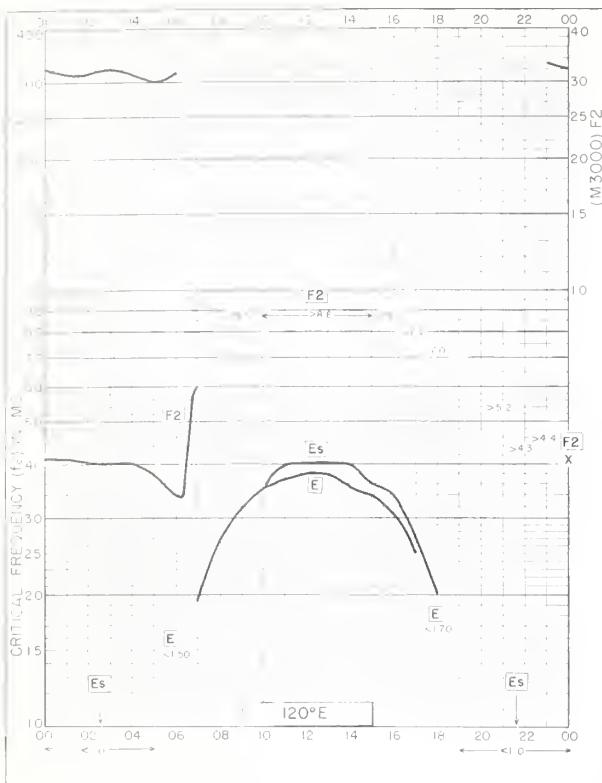


Fig. 52. BOMBAY, INDIA
19.0°N, 72.8°E AUGUST 1959





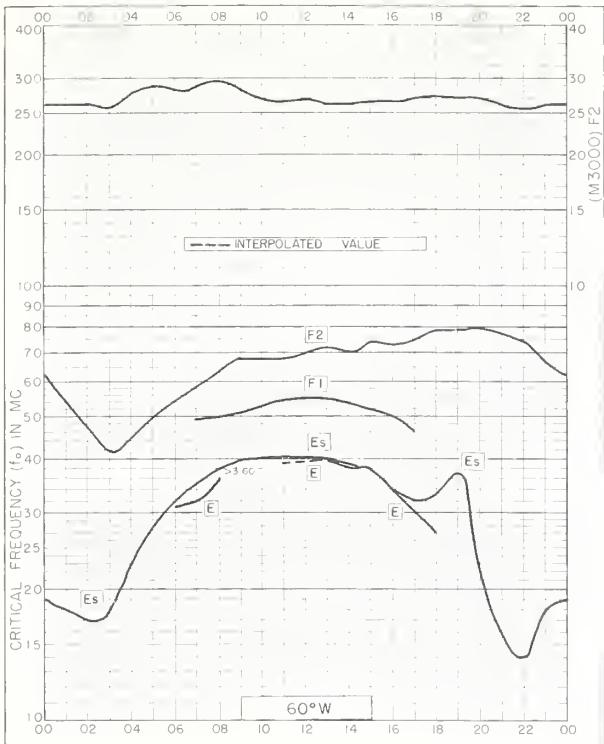


Fig. 61. ST. JOHN'S , NEWFOUNDLAND
47.6°N, 52.7°W JULY 1959

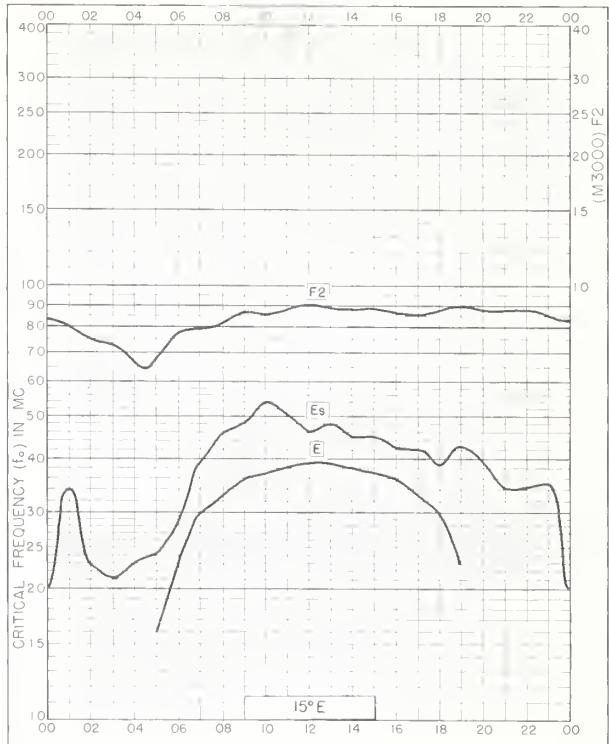


Fig. 62. GENOA (MONTE CAPELLINO), ITALY
44.6°N, 9.0°E JULY 1959

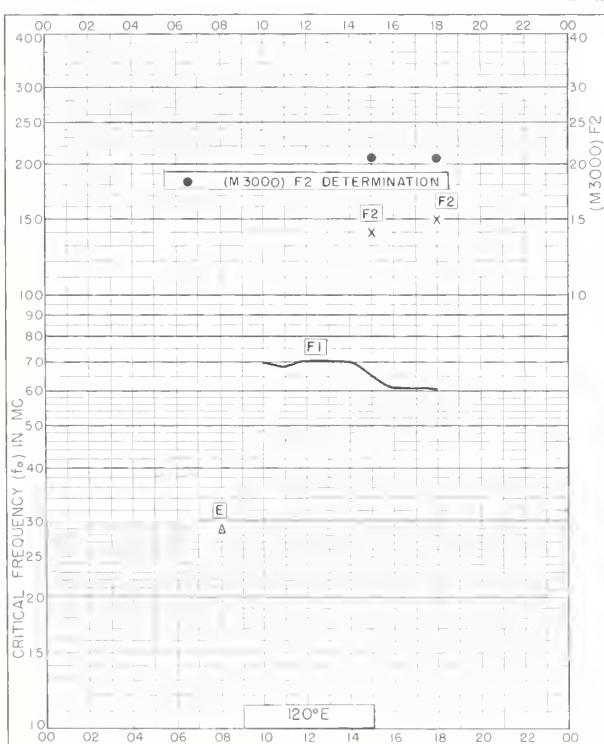


Fig. 63. MACAU
22.2°N, 113.6°E JULY 1959

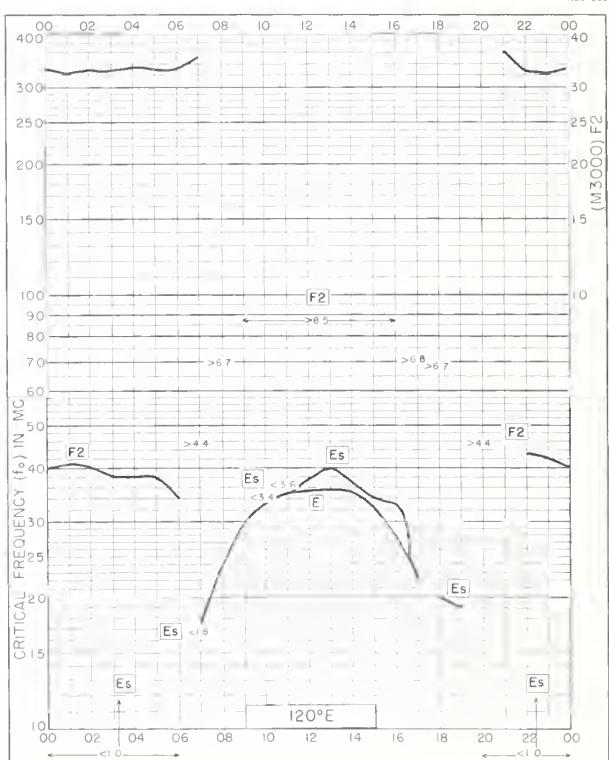


Fig. 64. MUNDARING , W AUSTRALIA
32.0°S, 116.2°E JULY 1959

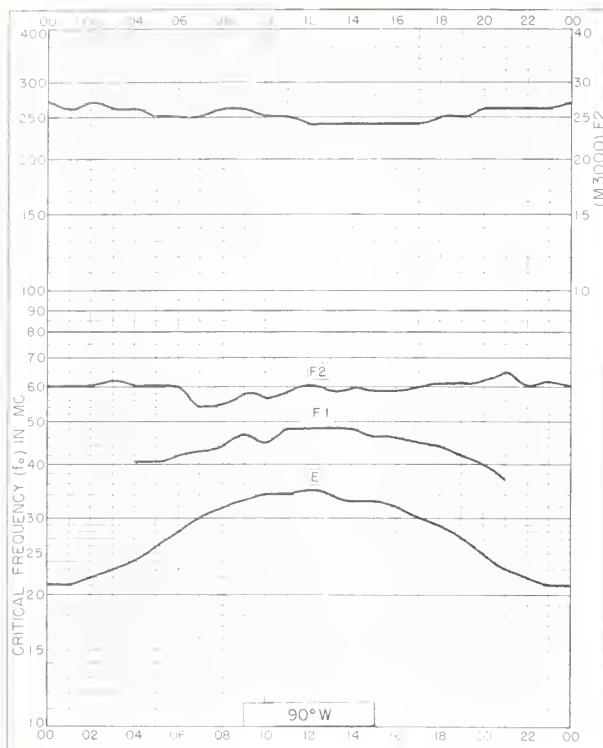


Fig. 65. RESOLUTE BAY, CANADA
74.7°N, 94.9°W MAY 1959

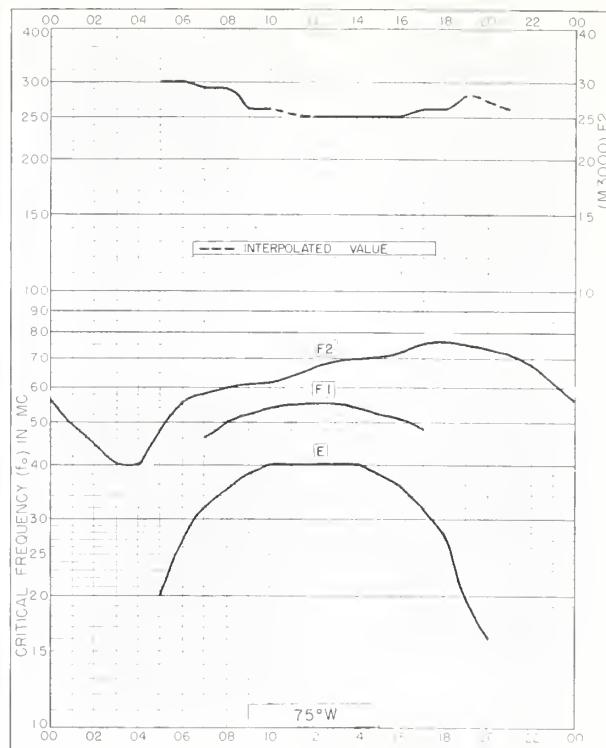


Fig. 66. OTTAWA, CANADA
45.4°N, 75.9°W MAY 1959

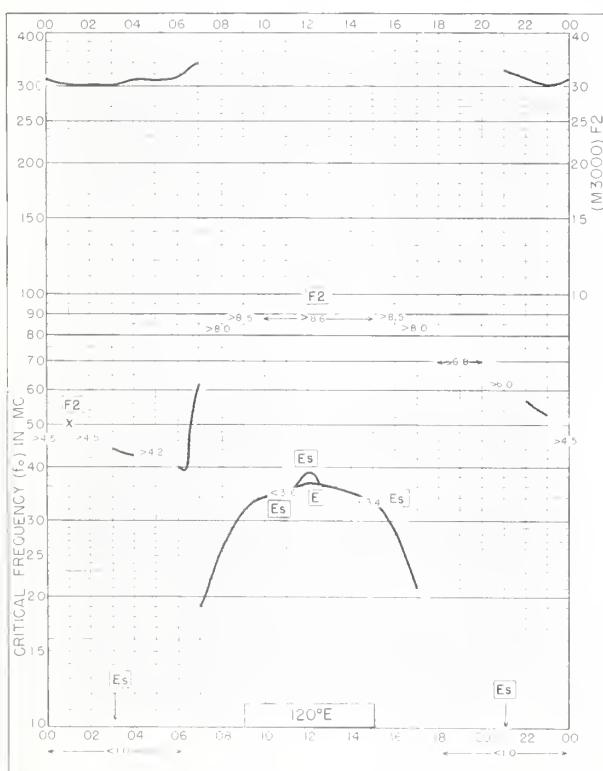


Fig. 67. MUNDARING, W. AUSTRALIA
32.0°S, 116.2°E MAY 1959

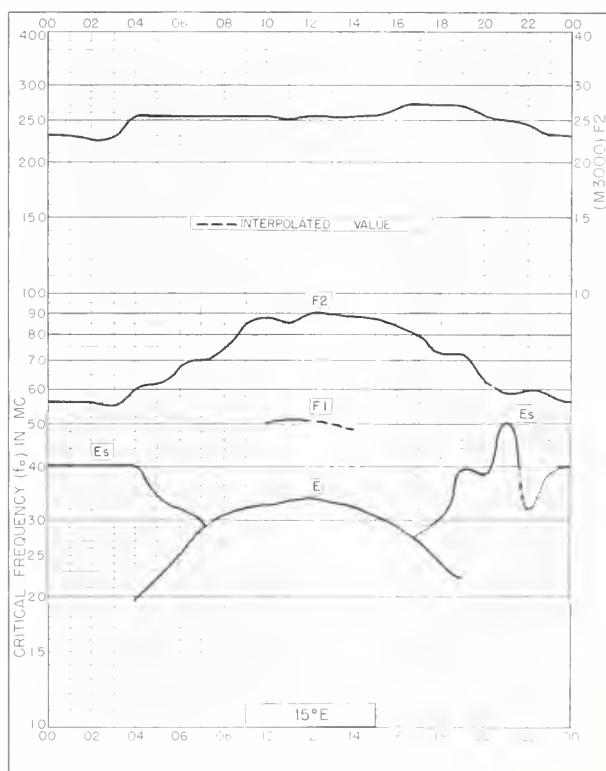


Fig. 68. TROMSO, NORWAY
69.7°N, 19.0°E APRIL 1959

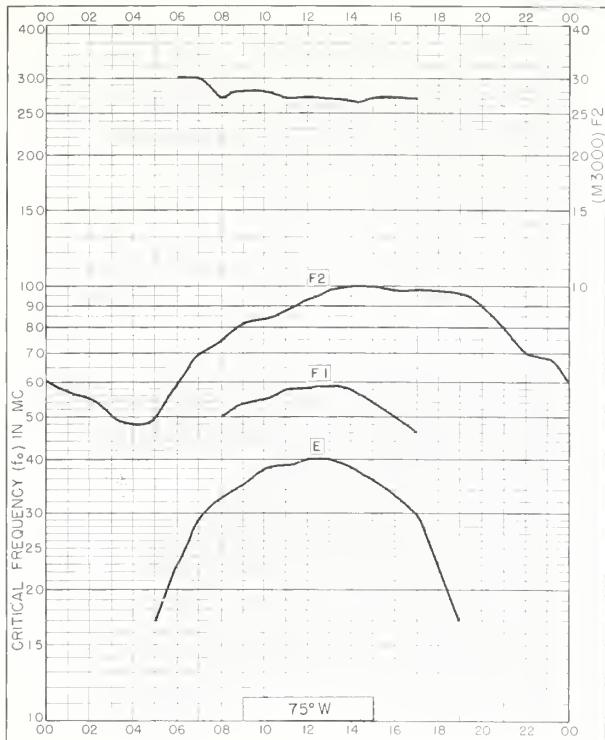


Fig. 69. OTTAWA, CANADA
45.4°N, 75.9°W APRIL 1959

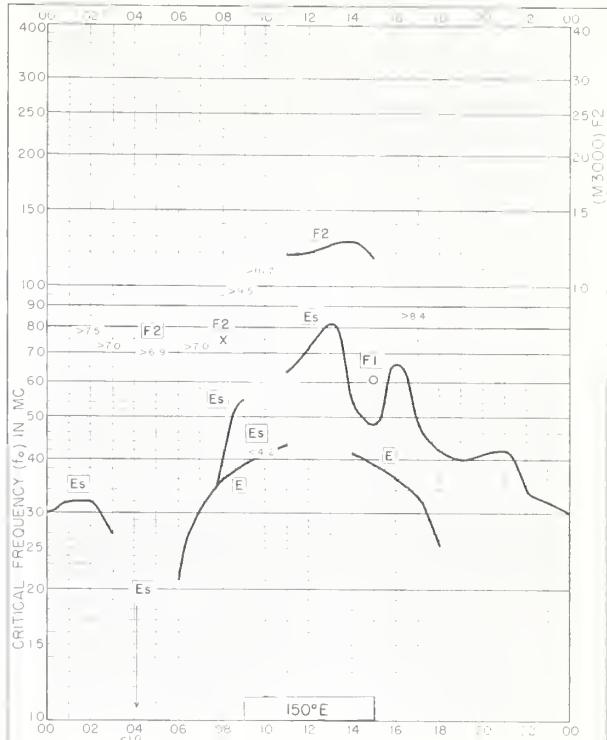


Fig. 70. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E JANUARY 1959

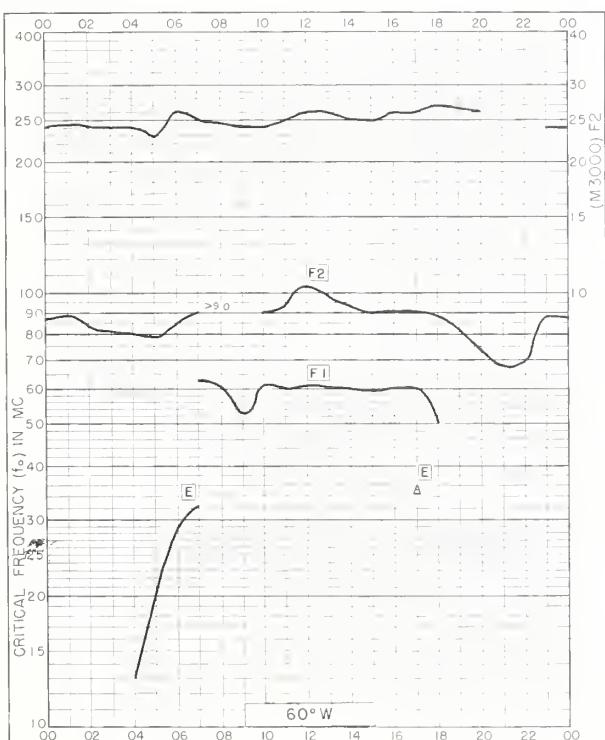


Fig. 71. TRELEW, ARGENTINA
43.2°S, 65.3°W JANUARY 1959

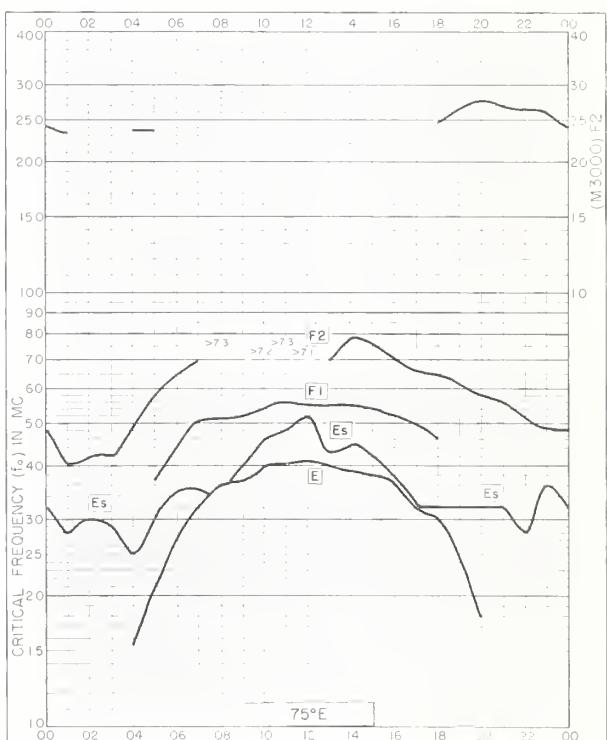


Fig. 72. KERGUELEN I.
49.4°S, 70.3°E DECEMBER 1958

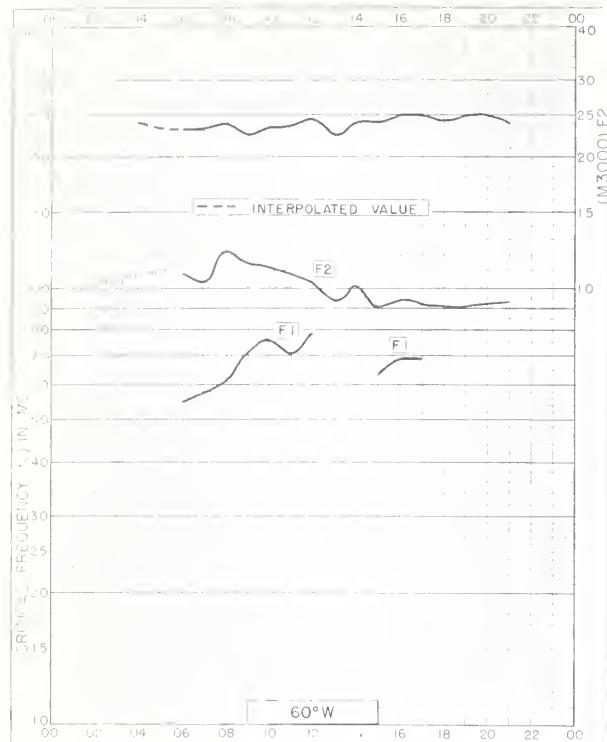


Fig. 73. DECEPTION I.
63.0°S, 60.1°W DECEMBER 1958

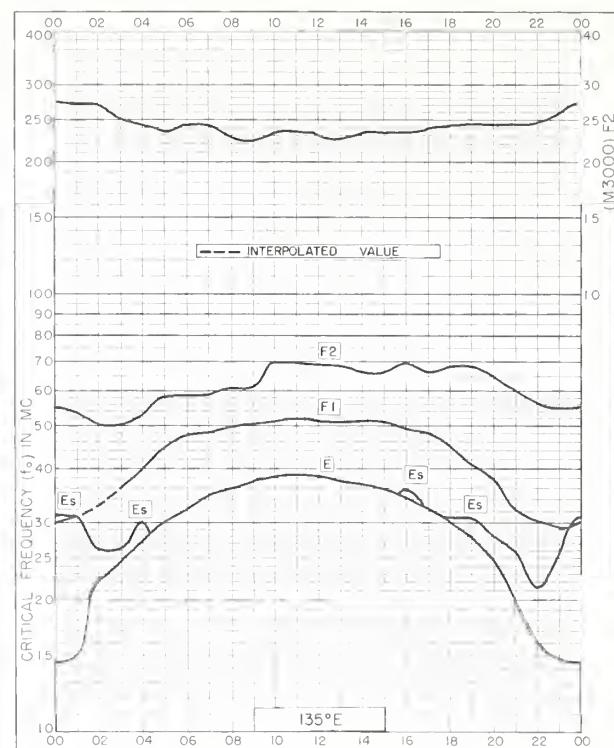


Fig. 74. TERRE ADELIE
66.7°S, 140.0°E DECEMBER 1958

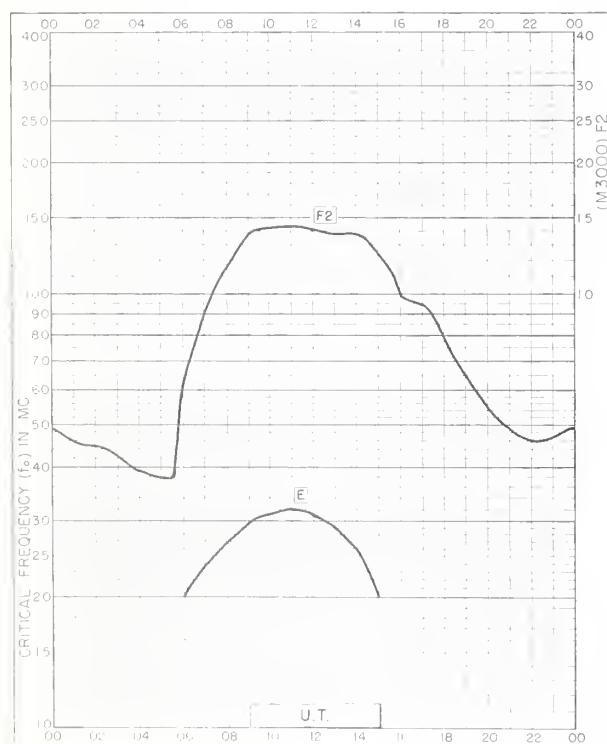


Fig. 75 PRUHONICE, CZECHOSLOVAKIA
50.0°N, 14.6°E NOVEMBER 1958

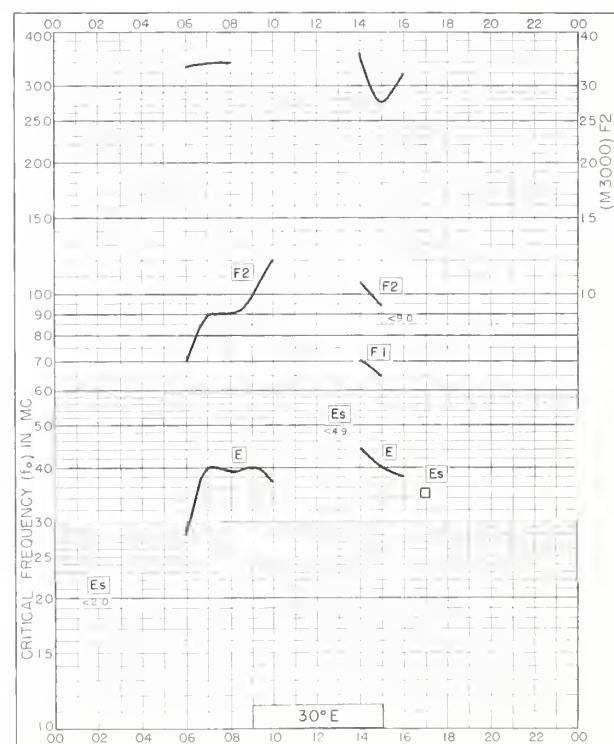


Fig. 76. SALISBURY, SOUTHERN RHODESIA
17.8°S, 31.0°E NOVEMBER 1958

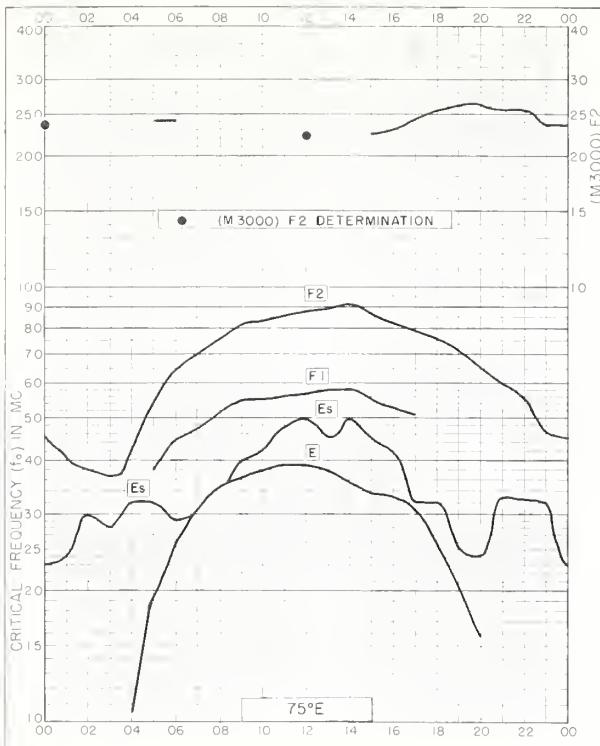


Fig. 77. KERGUELEN I.
49.4°S, 70.3°E NOVEMBER 1958

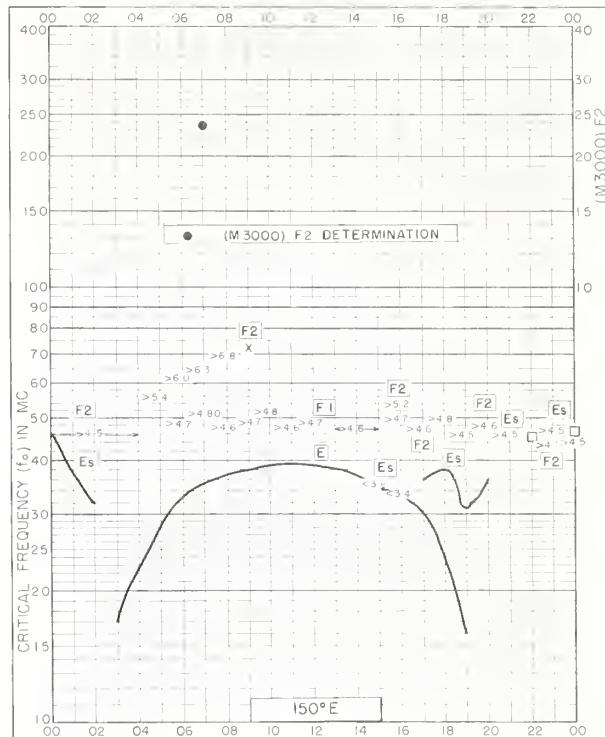


Fig. 78. MACQUARIE I.
54.5°S, 159.0°E NOVEMBER 1958

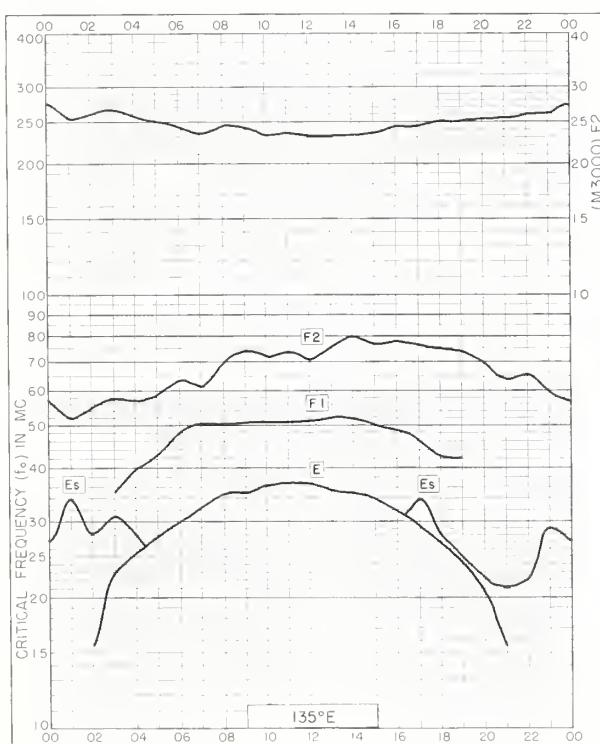


Fig. 79. TERRE ADELIE
66.7°S, 140.0°E NOVEMBER 1958

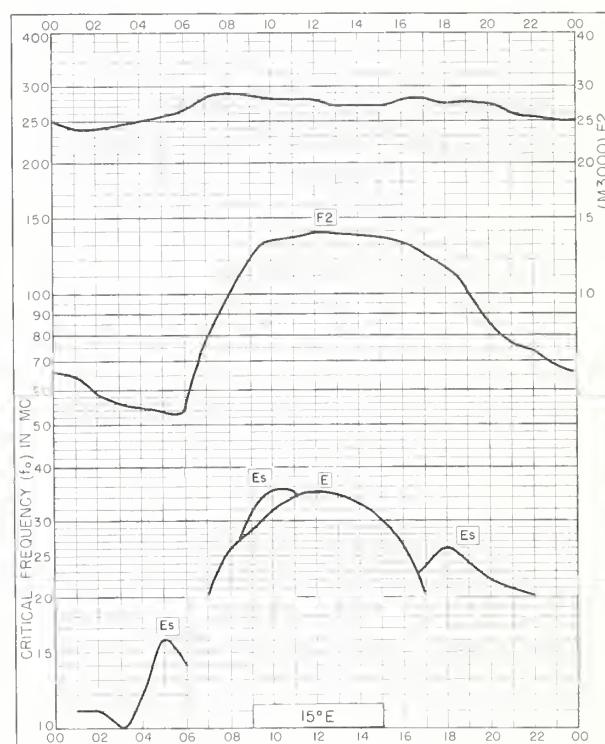


Fig. 80. JULIUSRUH/RUGEN, GERMANY
54.6°N, 13.4°E OCTOBER 1958

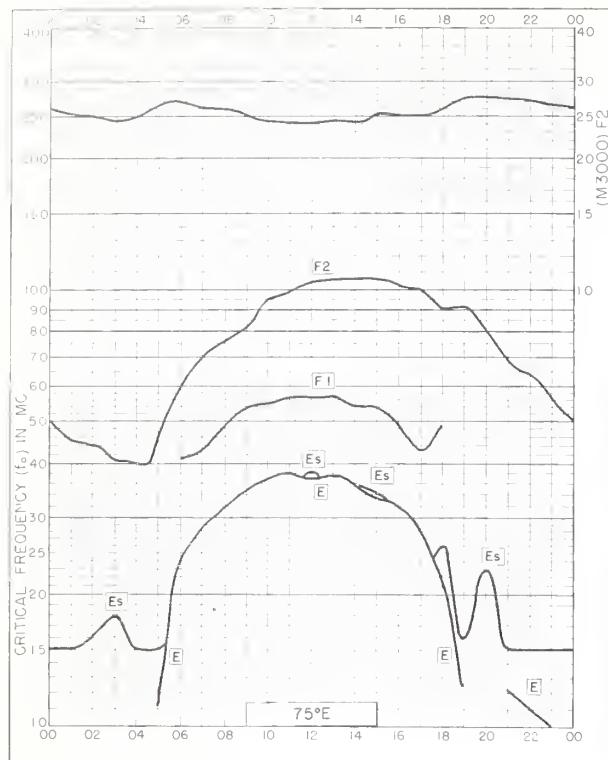


Fig. 81. KERGUELEN I.
49.4°S, 70.3°E OCTOBER 1958

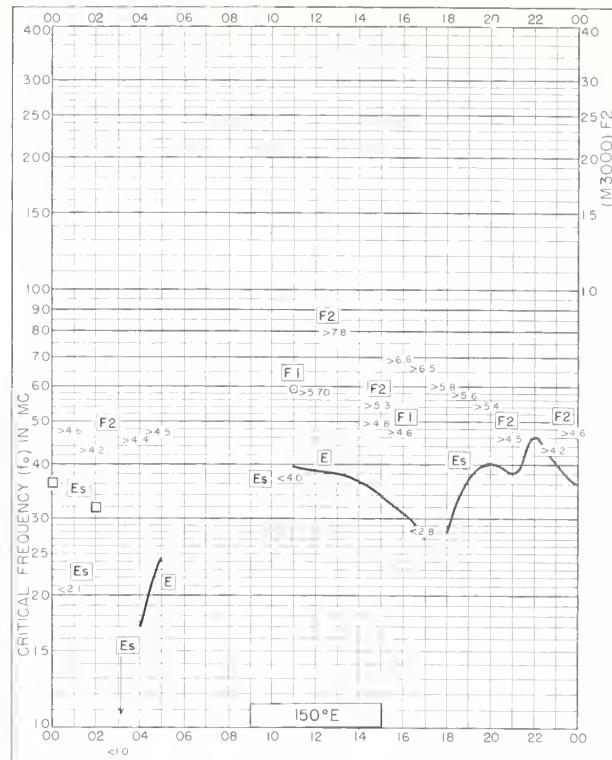


Fig. 82. MACQUARIE I.
54.5°S, 159.0°E OCTOBER 1958

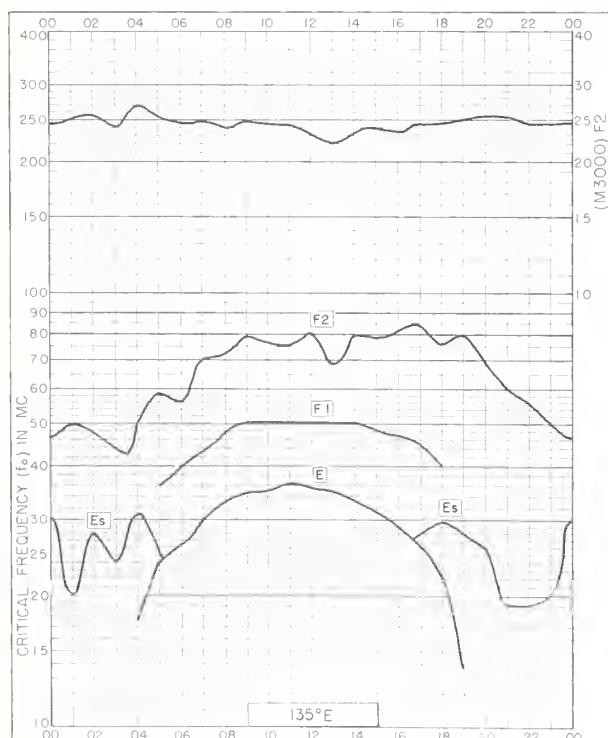


Fig. 83. TERRE ADELIE
66.7°S, 140.0°E OCTOBER 1958

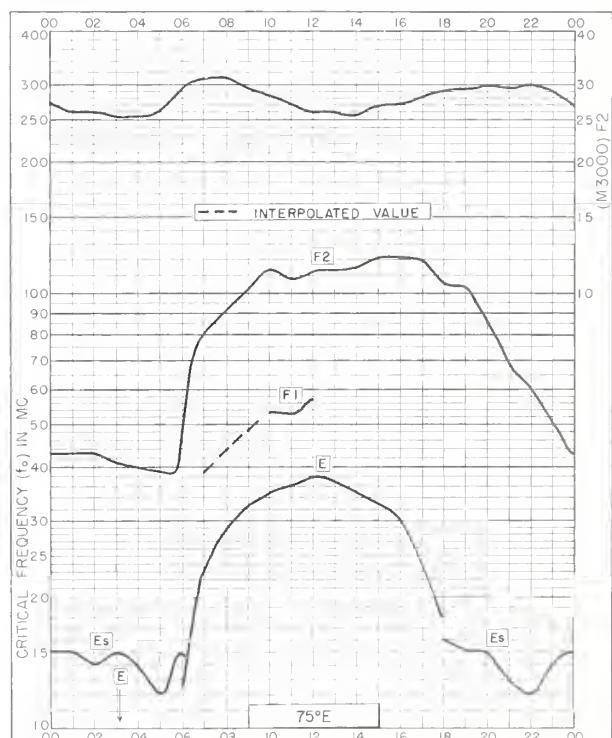


Fig. 84. KERGUELEN I.
49.4°S, 70.3°E SEPTEMBER 1958

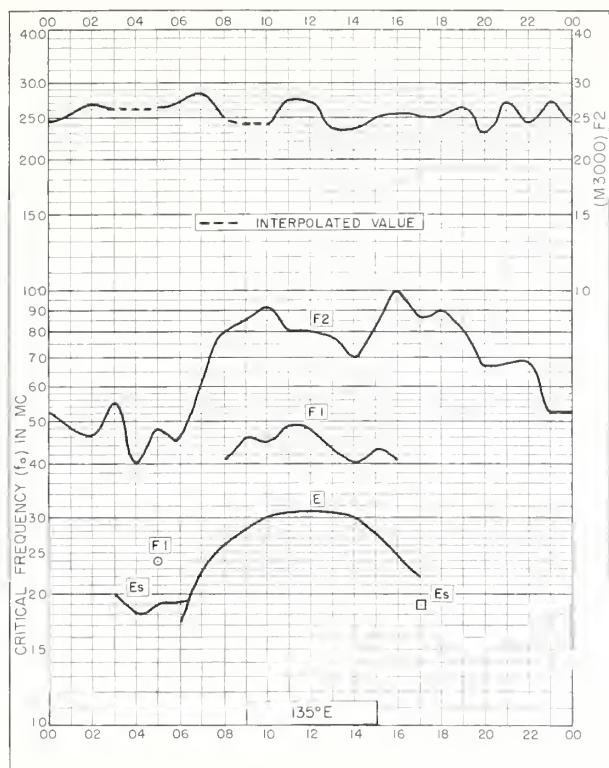


Fig. 85. TERRE ADELIE
 66.7°S , 140.0°E SEPTEMBER 1958

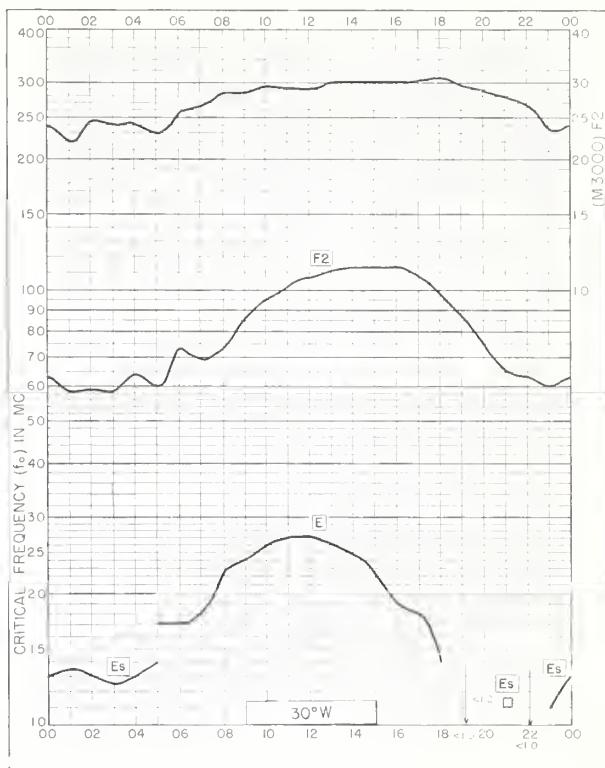


Fig. 86. HALLEY BAY
 75.5°S , 26.6°W SEPTEMBER 1958

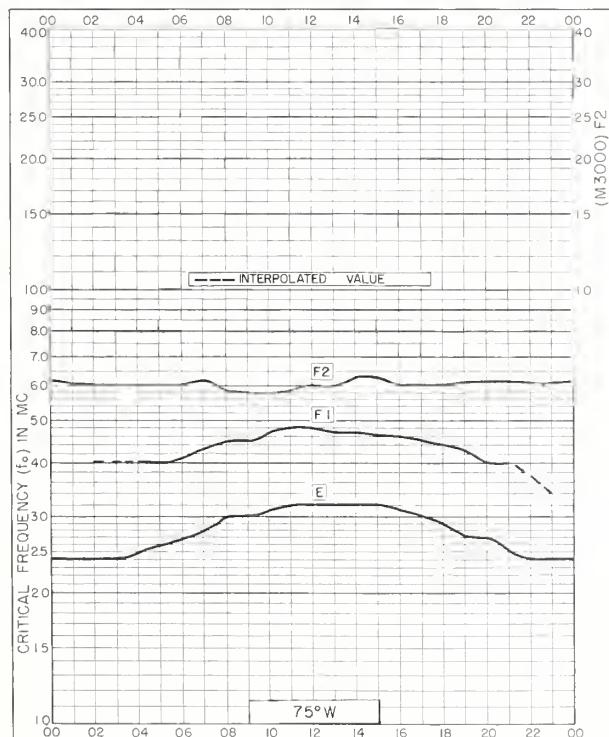


Fig. 87. EUREKA, CANADA
 80.0°N , 85.9°W AUGUST 1958

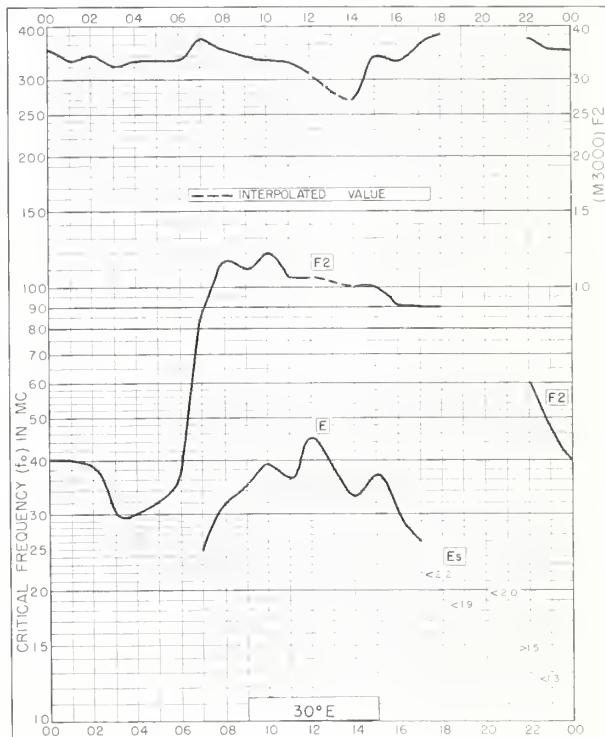


Fig. 88. SALISBURY, SOUTHERN RHODESIA
 17.8°S , 31.0°E AUGUST 1958

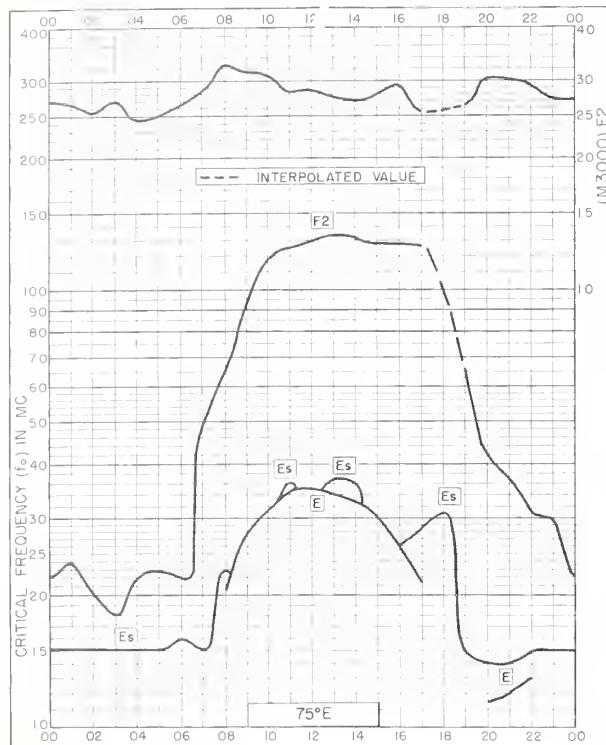


Fig. 89. KERGUELEN I.
49.4°S, 70.3°E AUGUST 1958

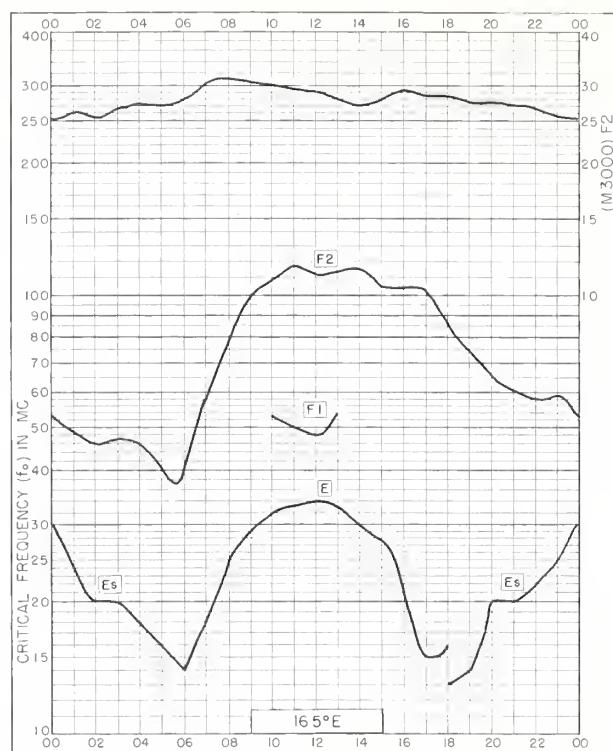


Fig. 90. CAMPBELL I.
52.5°S, 169.2°E AUGUST 1958

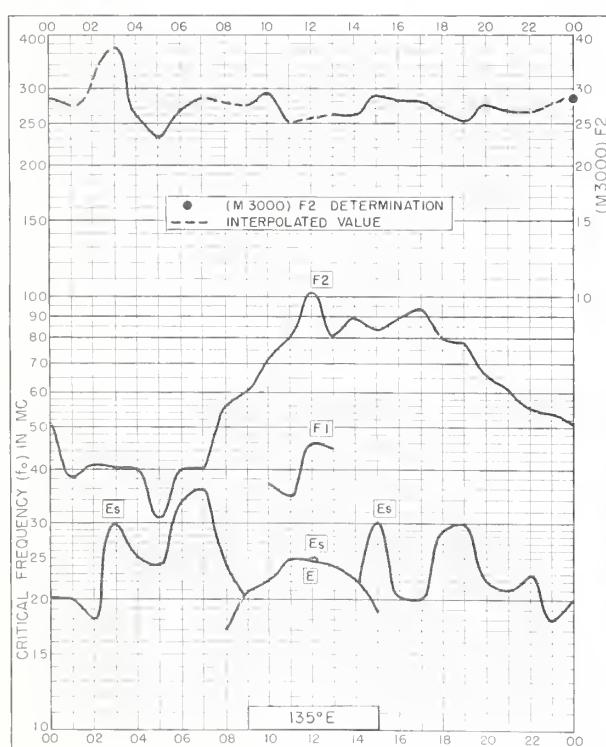


Fig. 91. TERRE ADELIE
66.7°S, 140.0°E AUGUST 1958

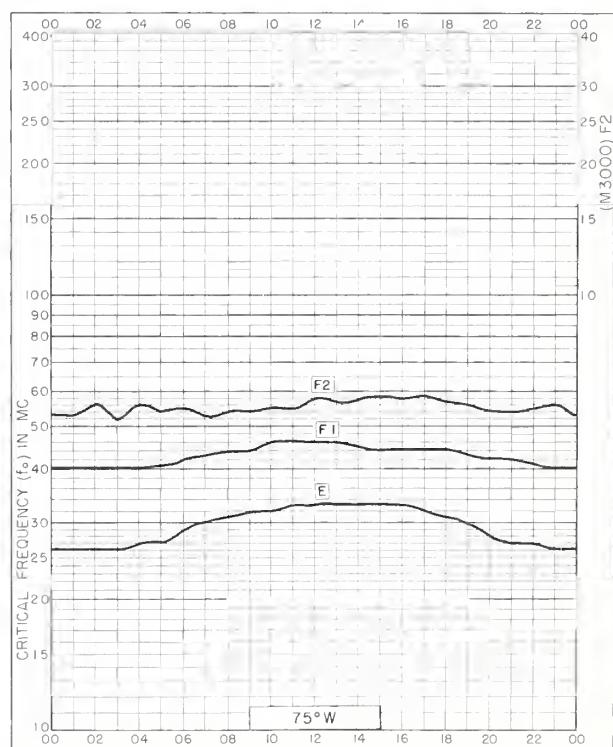
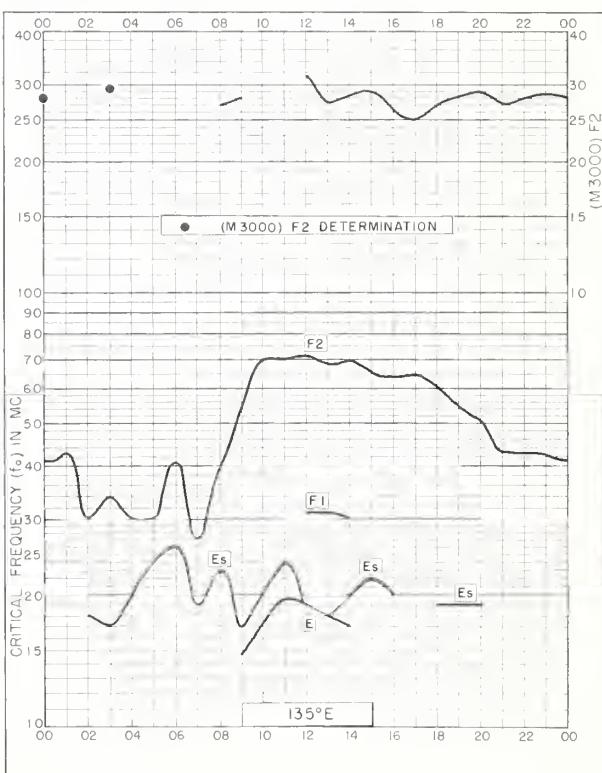
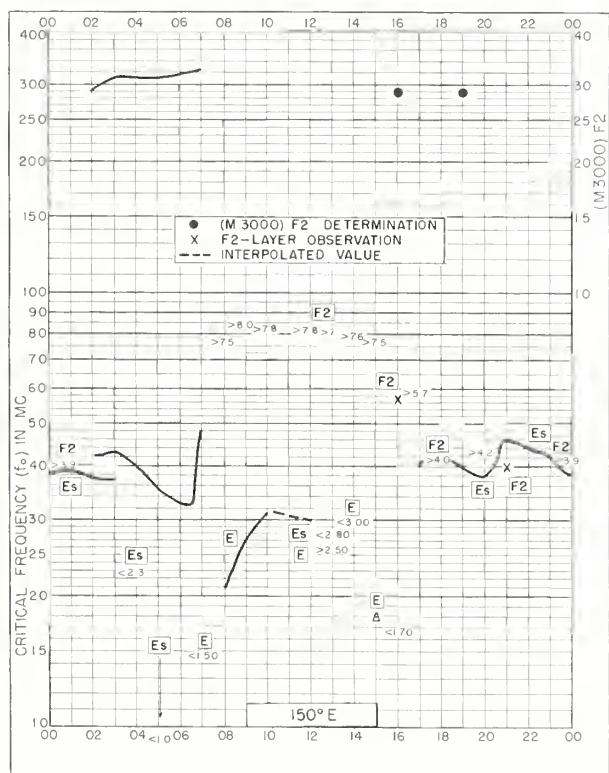
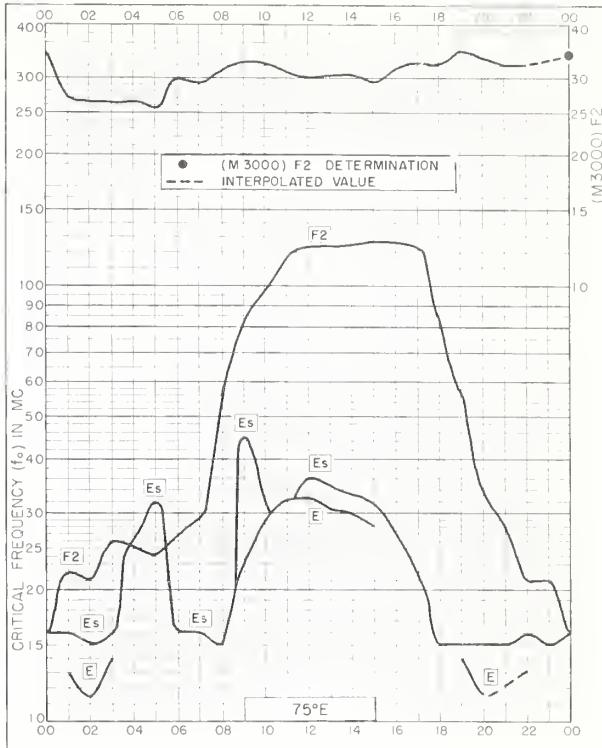
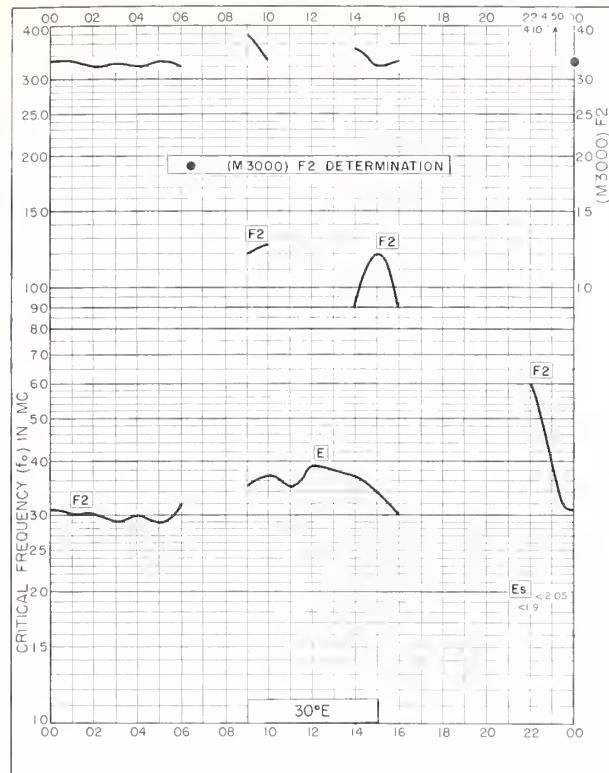


Fig. 92. EUREKA, CANADA
80.0°N, 85.9°W JULY 1958



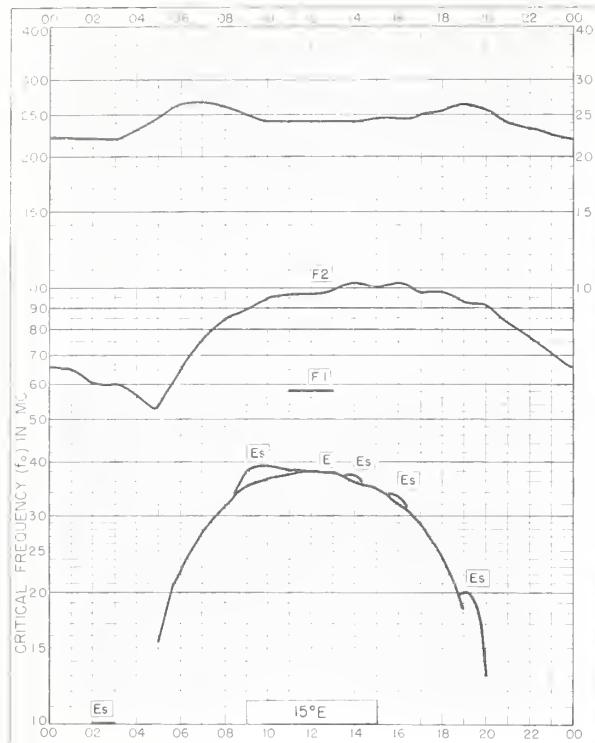


Fig. 97 JULIUSRUH / RUGEN, GERMANY
54.6°N, 13.4°E APRIL 1958

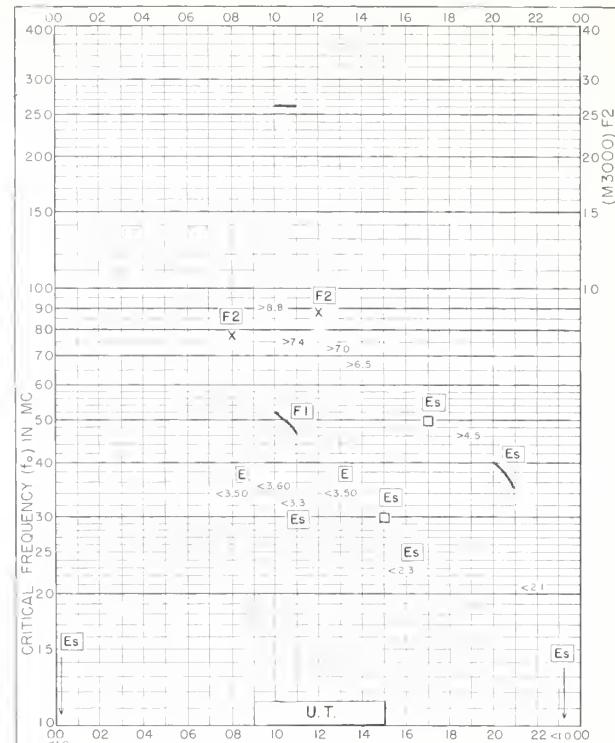


Fig. 98. MAWSON
67.6°S, 62.9°E FEBRUARY 1958

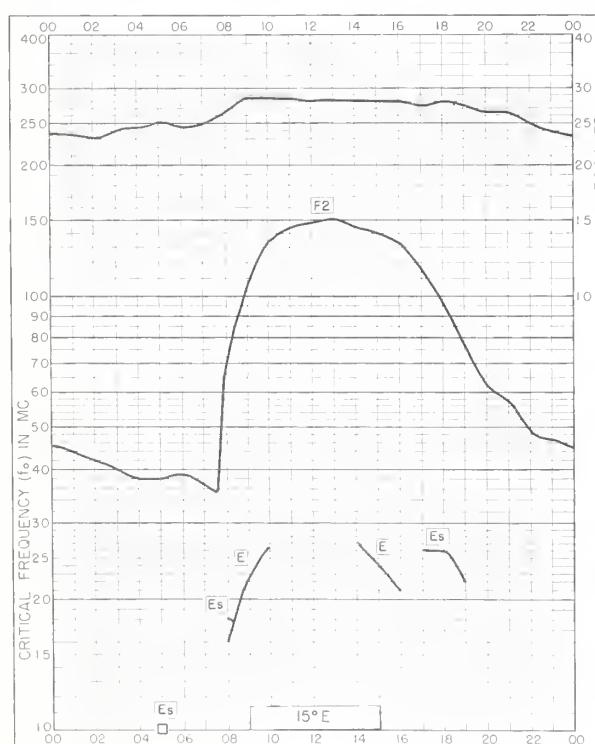


Fig. 99. JULIUSRUH / RUGEN, GERMANY
54.6°N, 13.4°E JANUARY 1958

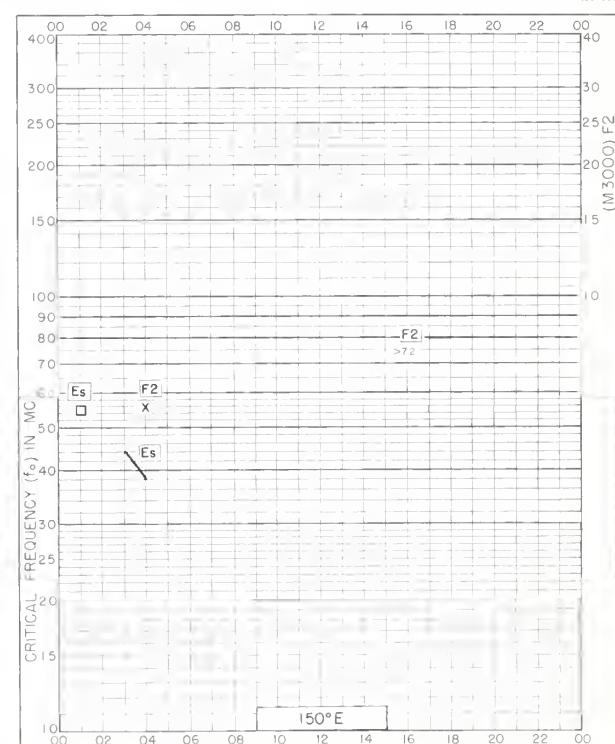


Fig. 100. MACQUARIE I.
54.5°S, 159.0°E JANUARY 1958

Index of Tables and Graphs of Ionospheric Data
in CRPL-F217 (Part A)

		<u>Table page</u>	<u>Figure page</u>
Ahmedad, India			
August 1959		13	38
Anchorage, Alaska			
October 1961		1	26
Bogota, Colombia			
August 1960		6	31
Bombay, India			
August 1959		13	38
Boulder, Colorado			
April 1961		4	29
Calcutta, India			
August 1959		13	38
Campbell I.			
August 1958		23	48
Concepcion, Chile			
April 1961		4	29
March 1961		5	30
Deception I.			
December 1958		19	44
Delhi, India			
August 1959		12	37
Eureka, Canada			
August 1958		22	47
July 1958		23	48
Ft. Monmouth, New Jersey			
June 1960		7	32
May 1960		7	32
Genoa (Monte Capellino), Italy			
November 1959		9	34
October 1959		11	36
August 1959		12	37
July 1959		16	41
Godhavn, Greenland			
July 1961		2	27
June 1961		3	28
May 1961		3	28
April 1961		3	28
January 1961		6	31
Halley Bay			
September 1958		22	47
Huancayo, Peru			
October 1961		1	26
August 1961		2	27

Index (CRPL-F217 (Part A), continued)

	<u>Table page</u>	<u>Figure page</u>
Juliusruh/ Rugen, Germany		
October 1958	20	45
April 1958	25	50
January 1958	25	50
Kerguelen I.		
December 1958.	18	43
November 1958.	20	45
October 1958	21	46
September 1958	21	46
August 1958	23	48
July 1958	24	49
Kodaikanal, India		
August 1959.	14	39
La Paz, Bolivia		
March 1961	5	30
February 1961.	5	30
October 1960	6	31
August 1960	7	32
Macau		
August 1959	13	38
July 1959	16	41
Macquarie I.		
November 1958	20	45
October 1958	21	46
July 1958	24	49
January 1958	25	50
Madras, India		
August 1959	14	39
Maui, Hawaii		
April 1961	4	29
March 1961	4	29
February 1961	5	30
January 1961	6	31
Mawson		
November 1959.	10	35
August 1959.	15	40
February 1958.	25	50
Mundaring, W. Australia		
November 1959.	9	34
October 1959	11	36
August 1959	15	40
July 1959	16	41
May 1959.	17	42
Natal, Brazil		
May 1960	7	32
April 1960	8	33

Index (CRPL-F217 (Part A), continued)

	<u>Table page</u>	<u>Figure page</u>
Ottawa, Canada		
May 1959	17	42
April 1959	18	43
Pruhonice, Czechoslovakia		
October 1959	10	35
August 1959	12	37
July 1959	15	40
November 1958	19	44
Resolute Bay, Canada		
November 1959	9	34
August 1959	12	37
July 1959	15	40
May 1959.	17	42
Rome, Italy		
November 1959	9	34
October 1959.	11	36
St. John's, Newfoundland		
July 1959	16	41
Salisbury, Southern Rhodesia		
November 1958	19	44
August 1958	22	47
July 1958	24	49
Sodankyla, Finland		
October 1959.	10	35
Talara, Peru		
October 1961.	1	26
September 1961.	2	27
August 1961	2	27
July 1961	3	28
Terre Adelie		
December 1958	19	44
November 1958	20	45
October 1958.	21	46
September 1958.	22	47
August 1958	23	48
July 1958	24	49
Tiruchi, India		
August 1959	14	39
Townsville, Australia		
October 1959.	11	36
January 1959.	18	43
Trelew, Argentina		
January 1959.	18	43

Index (CRPL-F217 (Part A), concluded)

	<u>Table page</u>	<u>Figure page</u>
Trivandrum, India		
August 1959	14	39
Tromso, Norway		
October 1959.	10	35
April 1959.	17	42
Tucuman, Argentina		
March 1960.	8	33
February 1960	8	33
January 1960.	8	33
Washington, D. C.		
November 1961	1	26

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