

# Kodaikanal Observatory

Bulletin No. CLIX

Published on 14 SEP 1963 . . . .

## INTRODUCTION

This Bulletin for the second half of 1959 contains apart from the usual summary of prominence and calcium flocculus observations, other additional data, specially collected for the I G C, in respect of surges and active prominence regions as well as information concerning the hours of late patrol and the times at which spectroheliograms were secured at this observatory

### PART I

#### SUMMARY OF PROMINENCE AND CALCIUM FLOCCULUS OBSERVATIONS FOR THE SECOND HALF OF 1959

The results of observations of prominences and calcium flocculi made at Kodaikanal Observatory during the second half of 1959 supplemented by data computed from photographs supplied by Mount Wilson and Meudon Observatories for those days on which Kodaikanal had imperfect or no observations are summarised in Part I of this Bulletin

*Calcium Prominences on the limb* —During the half-year under review, photographs of calcium prominences on the limb were obtained at Kodaikanal on 89 days which were counted as  $87\frac{1}{2}$  effective days after giving due weightage to the photographs according to their quality Spectroheliograms were obtained for 77 days from the Mount Wilson Observatory and for 70 days from the Meudon Observatory In all complete observations were available for  $170\frac{1}{2}$  effective days

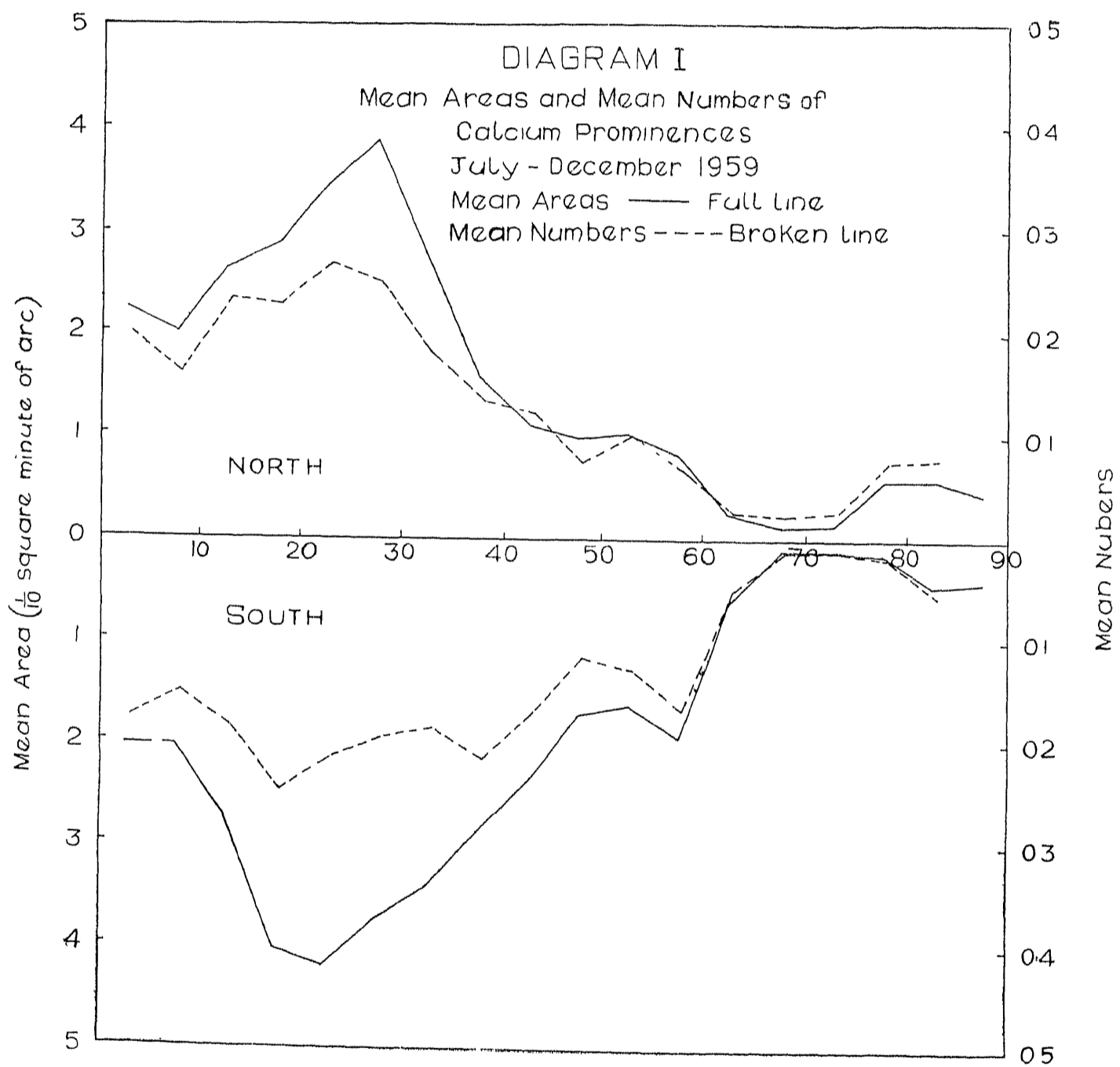
The mean daily areas (in square minutes of arc) and the mean daily numbers of prominences derived from all the above records are given below —

	Combined data	
	Mean daily areas (Sq minutes)	Mean daily numbers
North	2.71	1.33
South	3.47	4.62
	6.21	9.15

The above figures show that compared to the previous half-year there has been a slight increase in areas amounting to 10.4% whereas the numbers show a decrease of 13.3%

For comparison with data published in Bulletins prior to 1923, i.e. before the cooperation of the other observatories came into force, the following table gives the values based on Kodaikanal observations, alone.

	Kodaikanal data only	
	Mean daily areas (Sq minutes)	Mean daily numbers
North	1.74	3.35
South	2.13	3.37
TOTAL	3.87	6.72



The distribution of areas and numbers in five-degree ranges of latitude as obtained from the combined data is presented in diagram 1. The peaks of activity in the northern hemisphere is in the latitude belt  $25^{\circ}$ - $30^{\circ}$  and in the southern hemisphere in the region  $20^{\circ}$ - $25^{\circ}$ . There is evidence of polar activity indicated by secondary maxima in both the hemispheres in the region  $80^{\circ}$ - $85^{\circ}$ .

The monthly, quarterly and half-yearly areas, numbers, heights and extents of prominences derived from all the photographs are given in Table I.

TABLE I

1959 Months	No. of effective days	Area in sq. minutes	Number	Daily means		Mean height "	Mean extent "
				Area (sq. minutes)	Number		
1	2	3	4	5	6	7	8
July	30½	216.53	321	7.10	10.52	59.78	1.48
August	30½	169.23	339	5.53	10.81	51.50	3.87
September	28	159.80	295	5.71	10.53	51.70	3.72
October	26½	225.90	231	8.35	8.64	58.91	1.39
November	28	190.63	216	6.81	7.71	56.52	1.10
December	26½	95.86	166	3.58	6.21	51.02	3.83
3rd quarter	89	515.63	916	6.12	10.10	51.33	1.62
1st quarter	8½	512.33	613	6.28	7.52	55.48	1.11
2nd half-year	17½	1057.95	1559	6.30	8.96	51.91	4.07

The distribution of prominences about the sun's axis of rotation is as follows --

	East	West	Percentage East
1959 July - December			
Area (sq. minutes)	520.83	137.10	49.3
Total number	761	798	48.8

#### Observations with the Hale Spectroheliograph

Details of Doppler displacements in prominences and dark markings observed with the H-alpha line are summarized below

	North	South	East	West	Displacements			Total
					To red	To violet	Both ways	
1	2	3	4	5	6	7	8	9
Displacements in prominences	18	8	14	12		2	24	26
Displacements in dark markings	2	2	2	2			4	4

The following table gives details of solar flares observed during the period

TABLE II

Date 1959	Time in I S T			Coordinates		Inten- sity	Maximum width of H $\alpha$ line observed
	Be- g h m	Max h m	End h m	Mean latitude	Mean longitude from Central Meridian		
July 14	10 53*			15°N	05°E	3	
August 11	07 10	07 15	07 50	12°N	27°E	1	1.6
October 7	10 30†		10 40	30°N	55°E	Probably 2	2.2
December 4	11 15	11 25	11 50	07°N	36°W	2	1.9

\* Time when first photographed and not beginning of flare  
† First observation of flare and not beginning

*Sudden disappearances of Prominences and H-alpha darkmarkings*

Details of sudden disappearance of one darkmarking observed during the period are given in the following table

Nature of phenomenon	Date and time of phenomenon when last seen		Coordinates of phenomenon		Remarks
	Date	Time (I S T) h m	Mean Lati- tude	Mean Longi- tude	
Darkmarking	19-9-59	10 30	21°S	15°E	The darkmarking was not seen on the 20th

*Prominences projected on the disc as absorption markings*

During the period under review photographs of the sun's disc in H-alpha line were obtained at Kodaikanal on 102 days. Spectroheliograms were also received for 47 days from the Mount Wilson Observatory and for 61 days from the Meudon Observatory. On the whole records were available for 167½ effective days after giving due weightage to the quality of the photographs.

The mean daily areas in millionths of the sun's visible hemisphere (uncorrected for foreshortening) and the mean daily numbers of H-alpha darkmarkings as derived from the combined data are as follows —

	Combined data	
	Mean daily areas (mil- lionths of the sun's visible hemisphere)	Mean daily number
North	3422	20.3
South	2409	15.9
TOTAL	5891	36.2

On comparing with the previous half-year's values these figures show an increase in activity, the areas showing an increase of 28.6% and the numbers 22.3%. The figures based solely on Kodaikanal photographs are also given for purposes of comparison with similar data.

		Kodaikanal data only	
		Mean daily areas (mil- lionths of the sun's visible hemisphere)	Mean daily number
North		3038	17.4
South		2069	13.1
Total		5107	30.5

The distribution of the areas of the markings in five-degree ranges of latitude as obtained from the combined data is shown in diagram II. There is a well-marked peak of activity in both the hemispheres in the latitude belt 20°-25°.

The distribution of total areas and numbers of the dark markings east and west of the sun's axis is as follows:—

Combined data			
	East	West	Percentage East
Total area (millionths of the sun's visible hemisphere)	182,359	510,808	18.6
Total Number	2971	3079	49.1

#### Calcium flocculus

During the half-year under review, calcium flocculus spectroheliograms were secured on 93 days at Kodaikanal. Calcium spectroheliograms for 78 days were received from the Mount Wilson observatory and for 70 days from the Meudon observatory. In all observations were available for 173½ effective days.

The mean daily areas (in millionths of the sun's visible hemisphere uncorrected for foreshortening) computed from the combined data are given below:

		Combined data
		Mean daily area (millionths of the sun's visible he- misphere)
North		18673
South		7510
Total		26213

Compared to the previous half-year's value there is no significant variation in areas. The distribution of flocculi east and west of the sun's axis of rotation is as follows:

	East	West	Percentage East
Total area (millionths of the sun's visible hemisphere)	2,219,125	2,931,750	18.7

The western excess observed during the previous half-year is maintained.

Our thanks are due to the cooperating observatories for the photographs supplied by them.

Special I G C data are given in Tables IV to VI.

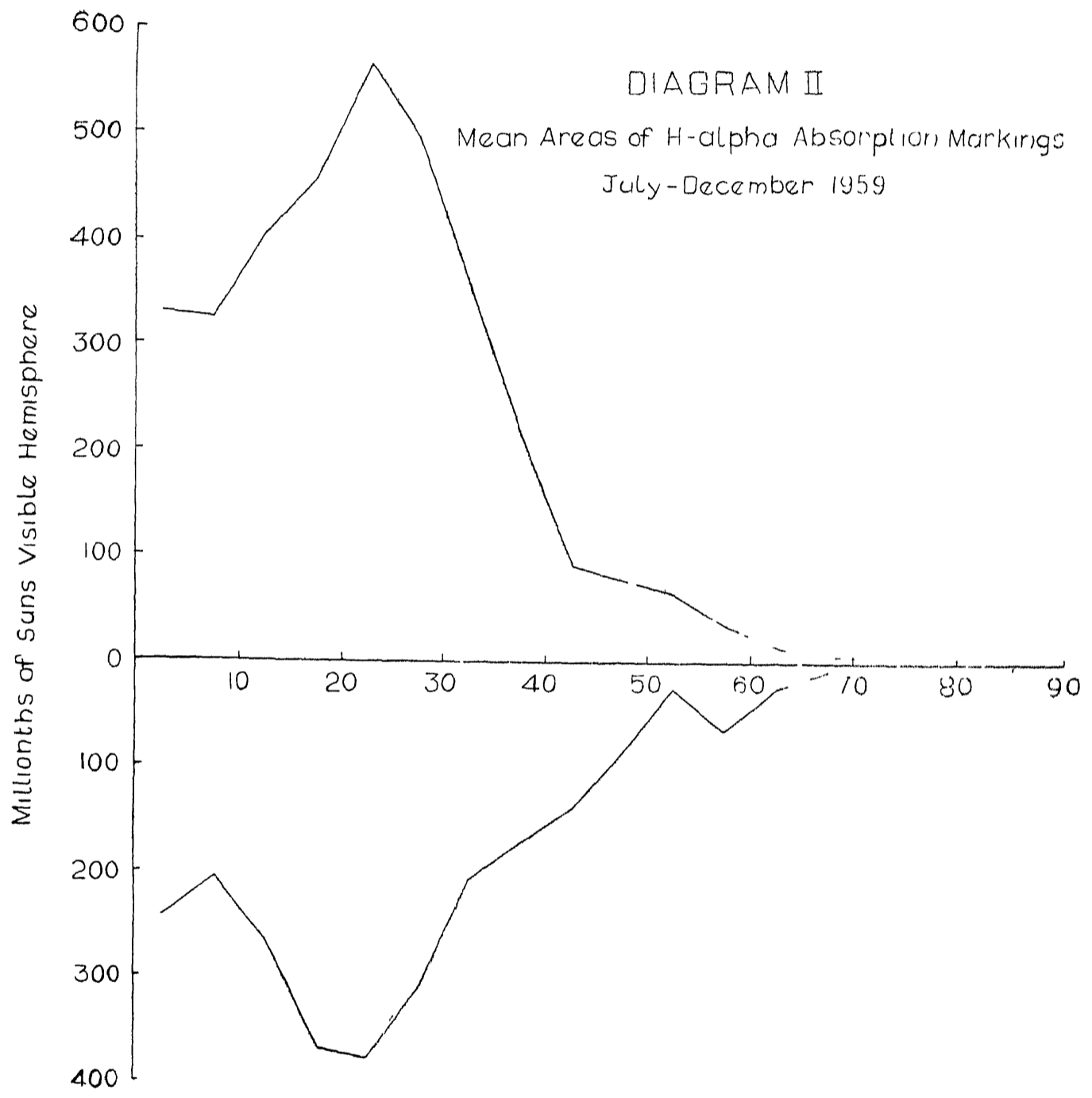


TABLE IV

*Surges, eruptive prominence and active prominence regions*

Date	Phenomenon	Importance	Position		Time ISI		Direction of outflow	Remarks
			Latitude	Longitude difference from Central meridian	Beginning	End		
			°	°	h m	h m		
1959 28th August	BSI	1	21 N	90 E	09 50	10 00	rn	V 1A to red and 1A <sup>o</sup> to violet
29th August	BSI	1	01 N	90 W	10 00	10 10	rs	V 1.2A <sup>o</sup> to red and 1.3A <sup>o</sup> to violet
9th October	APR	1	05 S	90 E	07 50			J
13th October	APR	1	10 S	90 E	07 50			J
14th October	BSI	2	10 N	90 E	07 30	08 00	rn	V 2.8A <sup>o</sup> to red and 1.6A <sup>o</sup> to violet at 0730 hrs
14th November	DSD	1	11 S	90 W	07 30			G Displaced to red and to violet at 08A at 0740 hrs
19th December	APR	1	10 N	90 E	09 55	10 00	r	

*\*Coded*

*\*Code* DSD Dark surge on disk  
 BSI Bright surge at limb  
 APR Active prominence region  
 BSD Bright surge on disk

TABLE V

Flare Patrol Hours (Spectroheliograph)

Month and Date	Periods of watch (IST)	Month and date	Periods of watch (IST)
1959		1959	
July 2	0830-0930	August 20	1030-1100.
11	1030-1040	25	1045-1100, 1110-1115
14	0930-1000, 1030-1100, 1130-1200	27	0330-0300, 0330-1000
15	0825-0900, 0930-1000,	28	0730-0830, 0330-1000
16	0900-0900, 0930-0945, 1030-1100	29	0730-0830; 0930-1000 1050-1100, 1130-1135
21	1015-1100, 1130-1145	Sept 1	0800-0830
26	1430-1530	2	0830-0840, 0300-0330, 1030-1040
27	0845-0900	3	0320-0810, 0957-1015, 1420-1428
28	0745-0815, 0930-0945, 1115-1130	6	0800-0840, 0315-1000; 1030-1100, 1130-1140
29	0730-0830, 0330-1000, 1030-1100	7	0735-0830
30	0820-0830, 0930-1000	8	0730-0830.
August 31	0710-0830	9	0900-0900, 1030-1100,
1	0830-0900, 1030-1100	10	0730-0830, 0930-1000, 1030-1100, 1130-1200
2	0730-0830, 0930-1000, 1030-1100, 1130-1200	14	0745-0830, 0915-1000; 1040-1100
3	0900-0930, 1040-1100	15	0735-0830, 0915-1000
5	0745-0815, 0835-0930, 1030-1100, 1130-1200	16	0730-0830
6	0925-0940, 0950-1020, 1130-1200	18	0735-0740, 1030-1035, 1115-1130, 1140-1150
7	0810-0815, 0930-1000, 1030-1040	19	0745-0810, 1135-1155
8	0730-0830, 0930-1000	20	0730-0755, 0815-0820.
10	0930-1000	21	0730-0830
11	0930-0945	22	0745-0830, 0925-0935,
12	1030-1100	23	0800-0830
14	0730-0830, 0930-1000, 1050-1100, 1130-1150	24	0730-0830, 0930-1000, 1030-1045
15	0745-0800, 0930-0945, 0950-1000, 1130-1140	26	0815-0845, 0915-0930, 1015-1020
16	0730-0830, 0930-1000, 1030-1100, 1130-1200, 1420-1435	Oct 1	0820-0830, 1030-1100, 1130-1145
18	1000-1030	2	0730-0830



Month and Date	Periods of watch (IST)	Month and Date	Periods of watch (IST)
1959		1959	
October 3	0730-0830, 0930-1000, 1030-1045	November 20	0730-0830, 0930-1000, 1030-1100, 1130-1200, 1400-1430
6	0730-0830	22	0845-0850
7	0730-0830, 0930-1000, 1030-1035	23	0730-0830, 0930-1000, 1030-1100
8	0730-0810, 0825-0830, 0915-1000, 1030-1040	24	0850-0950, 1030-1100
10	0730-0810, 0815-0830, 0945-1030, 1045-1100	26	0910-0935, 1420-1430
12	0730-0830, 0930-0915, 1130-1200	27	1005-1025, 1030-1100, 1130-1200, 1405-1430
13	0730-0830, 0930-1000, 1030-1100, 1110-1115	December 3	0915-1000, 1030-1100, 1130-1200
14	0730-0830	4	0740-0800, 0825-0855, 0930-0950, 1030-1100, 1130-1200, 1400-1455, 1530-1600
15	0730-0830, 0930-0945, 1115-1145	5	0730-0830
16	1100-1430	6	0735-0810, 0818-0852, 0930-1015, 1030-1055, 1130-1200, 1400-1430, 1530-1600
17	0830-0840, 1050-1055, 1130-1200	7	0730-0800, 0830-0900, 0930-1000, 1030-1100, 1130-1200, 1400-1430, 1530-1600
18	1005-1100, 1115-1445	8	0711-1000, 1030-1100, 1130-1215
22	0820-0830	9	0740-0830, 0930-1000, 1030-1100, 1130-1200, 1410-1430
November 1	0800-0820, 1040-1100	11	0930-1015, 1030-1100, 1130-1200
3	0730-0830, 0930-1000, 1030-1100, 1130-1230	12	0745-0830, 0930-1000, 1030-1100, 1140-1150
7	0745-0830	13	0730-0830, 0930-1000, 1030-1200, 1400-1430, 1530-1600
10	0730-0820	14	0730-0830, 0930-1000, 1030-1100, 1130-1200, 1400-1430, 1530-1600
12	0730-0830, 1040-1100	15	0735-0830, 0930-1000, 1030-1100, 1130-1200, 1405-1430, 1530-1600
14	0730-0830	16	0730-0830, 1130-1200, 1400-1430, 1530-1600
15	0730-0830, 0930-1000, 1030-1100, 1130-1230		
16	0835-0900, 0930-1000, 1030-1100		
17	0740-0830, 0930-1000, 1030-1100		
18	0800-0830, 0930-1000, 1035-1100, 1130-1200, 1410-1430		
19	0730-0830, 0930-1000, 1030-1100, 1130-1200, 1400-1430		

Month and Date	Periods of watch (IST)	Month and Date	Periods of watch (IST)
1959		1959	
December 17	0730-0830, 0930-1000, 1030-1045, 1400-1430, 1530-1545	December 24	0730-0830, 0830-0900, 0930-1000, 1030-1100, 1130-1200
18	0730-0830, 0930-1000, 1030-1100, 1130-1200	25	0800-0900, 1100-1145, 1145-1230
21	0730-0830, 0930-1000	26	0750-0830, 0930-1000, 1030-1100, 1130-1200
22	0730-0830, 0930-1000, 1030-1100, 1130-1200, 1400-1430, 1530-1600	30	1040-1050
23	0735-0810, 0830-0900, 0930-1000, 1030-1100, 1130-1200, 1400-1430, 1530-1600	31	1015-1045, 1115-1200, 1400-1430

TABLE VI  
List of Spectroheliogram.

Month and Date	H-alpha h m (IST)	K. Flocculus h m (IST)	K. Prominences h m (IST)	Month and Date	H-alpha h m (IST)	K. Flocculus h m (IST)	K. Prominences h m (IST)
1959				1959			
July 1	12 00	— —	— —	August 12	10 13	10 53	11 06
2	08 22 08 28	08 37 08 39	— — — —	13	08 27	— —	— —
11	12 04	10 49	11 51	14	07 43 07 47	08 04 08 12	08 19 08 22
14	10 53 10 57	11 03 11 06	11 11 11 16	15	07 42 07 45	07 51 07 53	07 56 08 00
15	08 21 08 28	08 35 08 36	08 41 08 45	16	07 29 07 33 11 16 14 37	07 37 07 42 11 22 11 57	07 45 07 49 11 26 15 01
16	08 28	08 38	08 46	18	10 01 10 16	10 21 10 36	10 29 10 33
21	10 18 10 21 14 53	10 27 10 29 14 59	10 35 10 41 15 03	19	07 26	— —	— —
26	14 56	15 02	15 10	20	10 50 10 54 12 02 14 38	11 13 11 58 14 49	11 51 11 55 14 16
27	08 56	— —	— —	24	07 38	— —	— —
28	08 04 11 06	08 15 08 19	08 31 — —	25	10 52 11 10	— —	— —
29	07 46 07 50 09 42	07 57 07 59 — —	08 03 08 12 09 13	27	08 38 09 09	08 45	08 53 08 57
30	08 21 09 05	08 37 08 41	08 48 08 55	28	07 41 08 09 10 10	08 22 09 40 — —	08 26 08 30 09 56
31	07 38 07 42 — —	07 48 07 51 08 35	07 54 07 59 — —	29	07 44 07 47	07 53 07 55	07 59 08 02
August 1	08 11 09 18	08 51 08 53	08 58 09 11	September 1	09 57	— —	— —
2	08 06 08 13 09 32 11 26	08 22 08 25 11 31	08 30 09 25 11 37	2	08 31 08 36	08 42 09 08	09 01 09 16
3	— —	10 32	10 43	3	08 44	— —	— —
4	12 11 12 17 14 10	— —	14 11	6	08 08 08 12	08 18 08 20	08 21 08 34
5	09 16 10 00	09 31 09 54	09 39 09 51	7	07 37 07 43	08 01 08 12	08 04 08 09
6	11 41 12 00	11 46 11 55	11 49 11 53	8	07 35 07 43	07 55 07 58	08 02 08 05
7	08 22 08 29	08 52 08 56	09 00 09 08	9	08 51 08 54	09 02 09 05	09 10 09 11
8	07 39 08 03	08 29 08 32	08 37 08 51	10	07 33 07 57 09 51 11 43	07 39 07 41	07 48 07 52 11 48
10	10 06	— —	— —				

Month and Date	H-alpha h m (IST)	K Floc- culus h m (IST)	K Pro- minence h m (IST)	Month and Date	H-alpha h m (IST)	K Floc- culus h m (IST)	K Pro- minence h m (IST)
1959				1959			
September 14	07 50 08 08	08 14 08 10	08 20 08 27	October 14	07 55 07 58	08 06 08 16	08 09 08 13
15	07 41 07 45	07 59 08 04	08 16 08 23	15	07 41 07 45	07 57 08 01	08 05 08 09
16	07 42 07 46	07 56	08 03 08 08	17	10 41 11 30 12 09	11 45 11 48	12 00 12 04
18	07 31 07 39			18	10 37	10 44	10 59
19	10 30	10 59	11 13 15 26	22	09 10		
20	08 22	08 48	08 57	November 1	07 57 08 01	08 11 08 26	08 13 08 21
21	07 39 07 42	07 18 07 50	07 53 08 00	3	08 03 08 08 11 37	08 15 08 18 11 49	08 23 08 27
22	07 49 07 53	07 57 08 07	08 01 08 05	4	09 05		
23	08 22 09 05	08 32 08 57	08 40 08 50	7	08 57	09 13	09 18
24	07 46 08 21	07 57 07 59	08 04 08 10	10	07 46 07 51	07 57 08 00	08 04 08 06
26	08 27 08 31			12	07 35 07 46 11 20	07 56 07 59 11 44	08 06 08 11 —
October 1	08 38 11 25	11 36	11 45	11	07 42 07 47	07 57 08 12	08 03 08 08
2	07 43 07 48	07 57 08 00	08 01 08 12	15	07 46 07 51 10 38	07 58 08 00 10 57	08 06 08 11 11 02
3	07 43 07 48	08 01 08 06	08 14 08 21	16	09 57 10 10	10 33	10 54
4	14 27 14 32	14 39		17	07 41 07 46 08 31 10 24	07 55 07 57 10 36	08 02 08 07 10 48
5	07 37 07 42	07 50 08 02	08 10 08 18	18	07 48 07 53 08 17	08 58 08 00 11 56	08 04 08 08 10 07
7	07 43 07 49	07 59 08 01	08 04 08 09	18	09 53 09 58 11 46		12 04
8	07 34 07 47	07 54 07 56	08 01 08 12	19	07 52 07 56 11 52	08 02 08 01 12 03 14 39	08 08 08 12 12 06 14 07 14 26
10	07 40 07 44	07 50 07 51	07 58 08 01	20	07 35 07 43 14 33	09 40 09 43 14 42	09 46 09 50 14 55
12	07 42 07 47 11 34	07 54 07 55 11 32	08 00 08 05 08 41 11 49				
13	07 36 07 41	07 50 07 53	07 59 08 05				

Month and Date	H-alpha h m (IST)	K Flo- cculus h m (IST)	K Pro- minences h m (IST)	Month and Date	H-alpha h m (IST)	K Flo- cculus h m (IST)	K Pro- minences h m (IST)
1959							
November 23	07 10 08 01	08 09 08 12	08 16 08 20	December 14	08 25 08 29 11 48 15 39	08 42 08 53 11 58	09 12 09 19 12 11 15 56
24	08 50 08 55 08 59 09 23	09 05 09 07	09 11 09 15	15	07 37 07 41 11 25 14 05	07 50 07 54 11 32 14 12	08 00 08 04 11 41 14 35
27	10 12 10 24 11 21	10 31 10 31 11 37	10 38 10 42 11 30	16	07 13 07 50 11 33 14 17	08 01 08 05 11 12 14 27	08 10 08 17 11 49 14 34
December 3	09 23 09 29 11 17	09 50 10 05 11 30	09 55 10 01 11 35	17	07 43 07 49 14 06 14 12	08 03 08 08 14 20	08 14 08 25 14 32 14 35
4	07 33 07 39 10 16 11 15 11 10 14 17 11 31 11 17 11 51	07 18 07 52 10 48 11 22 11 25	07 59 08 06 10 37 11 28	18	07 39 07 45 07 51	08 00 08 03	08 08 08 14
5	07 15 11 31 11 36	11 43 11 16	11 52 11 36	21	07 48 08 31 11 37	08 01 08 19 11 44	08 08 08 16 11 50
6	07 39 07 45 10 55 11 02 11 28	07 59 08 06 11 09	08 10 08 22 11 26 11 30 15 02	22	07 44 07 50 11 38	07 59 08 03 11 51	08 14 08 24 11 54
7	07 31 07 40 10 48 10 53 11 22	07 50 07 53 11 00 11 29	07 17 08 23 11 08 14 47	23	08 49 08 56 11 29 14 17	09 08 09 11 11 15 11 26	09 24 09 30 11 03 11 10 14 42
8	11 27 11 35			24	07 51 11 27	08 09 08 15	08 22 08 29
9	07 52 08 02 11 02	08 21 11 12	08 27 08 31 11 16 11 40	25	08 01 08 08	11 10 11 13	11 24
11	08 53 10 15	10 57	11 01 11 09	26	07 50 07 57 08 39 11 36	08 08 08 13 11 45	08 20 08 27 11 52
12	07 15 07 50 11 27 11 35	08 01 08 03 11 12 11 19	08 15 08 19	31	10 21 10 56 14 39	10 28 10 49 14 44	10 32 10 44 14 56
13	07 57 08 01 11 43 14 15	08 09 08 11 11 57 14 23	08 14 08 20 11 53 14 26				

—No observation due to cloudy sky

## PART II

## MAGNETIC OBSERVATIONS FOR THE SECOND HALF OF 1959

Brief descriptions of the absolute instruments, the variometers and the system of observations are available in Bulletin Nos. CXXXII and CXXXVI of this observatory. The data given in this Bulletin are derived mainly from the records of La Cour instruments, but in case of failure of La Cour records, Watson magnetograms have been used.

The adopted values of the scale coefficients for the Horizontal Force, Vertical Force and Declination magnetographs for the second half of 1959 were 29 $\gamma$ /cm, 120 $\gamma$ /cm and 14'/cm respectively.

## PART III

## IONOSPHERIC OBSERVATIONS FOR THE SECOND HALF OF 1959

A description of the system of ionospheric observations at Kodaikanal with a brief description of the Ionosphere Recorder has been given in Bulletin No. 146 of this observatory. The present Bulletin contains half-hourly values of eleven ionospheric parameters viz.  $f_oF_2$ ,  $f_oF_1$ ,  $f_oE$ ,  $f_oE_s$ ,  $f_bE_s$ ,  $f_{min}$ ,  $h'F_2$ ,  $h'F$ ,  $h'E$ ,  $h'E_s$  and  $(M3000)F_2$  with symbols and terminology as recommended by the Special Committee on Worldwide Ionospheric Soundings to the URSI/AGI in its First Report (Brussels, September 2, 1956). The f-plots of the ionospheric parameters for Regular World Day and Special World Intervals during the second half of 1959, prepared under the I.G.C. programme, are also included in this Bulletin.

KODAIKANAL OBSERVATORY,  
July, 1961.

(M. K. VAINU BAPPU)  
Director.

TABLE 1  
 Hourly Values of Declination (Westerly), 1959  
 (Average for sixty minutes centered at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

July

Date	Hour, GMT														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1†	36 2	35 5	35 3	35 8	36 5	37 8	39 3	40 0	41 5	40 0	38 5	37 9	36 5	36 1	36 6
2	36 5	35 8	34 7	34 6	35 4	36 5	37 7	38 6	39 2	38 8	38 4	38 4	37 9	37 2	37 1
3†	36 4	35 4	34 3	34 2	35 6	37 1	38 4	39 9	40 1	39 1	39 0	38 5	38 1	37 1	37 3
4	36 7	36 3	36 1	37 2	37 9	38 1	39 1	40 5	40 5	39 1	37 9	37 2	37 2	36 9	37 5
5	Δ	Δ	Δ	Δ	37 0	38 0	39 6	41 1	41 1	39 6	38 0	37 7	36 9	36 3	36 6
6	36 2	35 2	34 8	35 1	36 1	37 9	38 8	39 2	39 5	39 6	37 5	37 1	36 7	36 4	36 2
7	36 8	36 0	35 8	35 0	37 1	37 7	38 0	40 2	40 2	39 8	38 0	37 1	36 8	36 4	36 6
8	36 1	35 6	35 3	35 6	36 0	37 3	38 8	39 1	39 1	37 4	36 0	35 1	35 1	35 6	36 2
9	35 9	35 1	34 6	34 8	35 8	37 3	38 7	38 6	38 2	37 5	37 2	36 5	35 7	35 2	36 1
10	36 9	36 1	35 7	36 1	37 6	37 8	38 2	39 7	39 3	38 9	37 9	36 8	36 5	35 9	35 8
11	36 8	35 8	35 5	34 7	35 3	37 1	38 8	39 5	40 6	40 6	39 9	39 1	38 9	36 7	36 8
12	34 9	34 0	33 6	34 1	36 1	38 0	39 1	39 5	39 8	39 1	38 0	37 1	36 9	36 6	36 0
13†	36 6	35 0	34 3	35 0	36 6	37 4	39 8	40 8	41 1	40 6	39 9	38 4	37 3	36 6	36 6
14	35 9	34 8	34 0	34 2	34 1	35 5	37 2	38 7	39 6	38 9	36 9	36 9	36 8	36 1	35 5
15††	35 6	34 5	33 8	34 0	34 5	36 5	38 0	39 0	40 5	40 8	39 6	40 3	38 0	36 6	38 2
16††	30 3	28 1	29 9	32 3	33 7	35 3	36 8	37 9	38 2	38 2	37 5	36 4	35 0	35 3	34 0
17††	33 9	32 6	32 6	31 0	36 3	36 7	39 1	39 4	38 7	37 8	37 0	36 3	35 7	35 0	35 0
18††	32 1	31 5	31 2	30 7	31 0	32 6	34 5	33 5	33 5	35 3	35 3	33 9	31 7	34 3	34 5
19	31 0	32 5	31 9	32 3	33 5	35 9	37 2	37 3	37 6	37 3	36 3	35 6	35 1	35 1	34 9
20	34 9	33 7	32 1	32 8	34 4	35 9	37 1	38 0	38 1	38 1	38 1	37 0	35 8	35 8	36 0
21	34 6	33 7	32 5	32 8	34 4	35 6	37 7	38 0	39 0	38 7	38 1	37 0	35 2	35 3	36 2
22	35 1	33 8	33 4	35 1	37 2	38 8	39 7	39 4	38 4	38 0	38 0	37 2	36 2	36 2	36 2
23	35 3	34 4	33 8	34 8	36 5	38 0	39 0	38 7	38 9	38 2	37 5	36 9	35 1	36 2	36 6
24	35 1	34 3	34 1	34 8	35 8	36 8	38 0	39 3	39 6	39 4	38 0	36 6	35 5	36 4	36 6
25††	35 1	33 6	33 3	34 1	35 2	37 1	37 8	36 3	38 6	37 5	36 8	35 5	35 1	35 1	35 7
26	35 1	33 6	32 7	33 4	35 2	36 8	38 5	39 2	39 0	39 0	37 8	36 5	35 9	35 8	36 1
27	35 2	33 7	32 1	33 0	34 7	36 2	38 0	38 5	38 3	37 6	36 8	36 1	35 2	35 0	35 4
28	35 2	34 1	33 4	33 7	34 4	35 3	37 0	38 1	38 1	38 1	38 0	36 7	35 8	35 6	35 6
29†	35 3	34 4	33 8	34 3	35 0	35 3	37 7	37 5	37 8	37 7	37 1	37 0	36 6	36 3	36 1
30†	35 6	35 0	35 2	35 7	36 4	38 2	40 6	41 5	41 5	40 6	39 4	38 0	37 0	36 3	36 3
31	35 9	35 0	34 0	34 6	35 5	36 1	37 1	37 9	37 8	37 1	36 1	35 1	34 1	35 4	36 1
Mean	35 3	34 5	33 9	34 3	35 5	36 3	38 2	39 3	39 1	38 7	37 7	37 1	36 1	36 0	36 2
Mean †	36 0	35 1	34 6	35 0	36 0	37 2	39 2	39 5	40 2	39 6	39 0	38 0	37 1	36 5	36 6
Mean ††	34 2	33 2	32 7	33 0	34 2	35 7	36 9	37 6	38 3	38 1	36 8	37 2	35 9	35 2	35 8

† Five international quiet day  
 †† Five international disturbed day  
 Δ Loss of record, day omitted for mean

TABLE 1  
Hourly Values of Declination (Westerly), 1959  
(Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
2° plus tabular quantities

July

Hours G M T										Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23	Time		Mag	Time	Mag			
									H M		'	H M	'			
35 8	36 8	36 6	35 6	36 6	35 6	36 5	36 6	36 5	17 2	07 35	40 7	02 00	35 2	5 5	1†	
37 0	37 0	37 0	37 0	36 8	36 5	36 5	36 5	36 5	17 0	07 40	39 5	02 30	34 5	5 0	2	
37 6	37 3	37 3	37 3	37 1	37 0	37 0	37 1	37 0	17 3	07 13	40 5	02 30	34 0	6 5	3†	
37 7	37 6	37 6	△	△	△	△	△	△	△	△	△	△	△	△	4	
37 3	37 6	37 6	37 6	37 5	37 6	37 5	37 5	36 8	△	△	△	△	△	△	5	
37 1	37 5	37 6	37 5	37 5	37 0	37 1	37 1	36 5	37 2	07 18	39 7	01 35	34 7	5 0	6	
37 0	37 1	37 3	37 1	37 1	37 4	37 3	36 8	36 7	37 4	07 15	40 3	01 25	35 7	4 6	7	
36 6	37 0	37 3	37 2	37 0	37 2	37 2	36 9	36 9	36 8	07 45	39 8	11 10	34 9	4 9	8	
37 2	37 3	37 1	37 1	37 0	37 3	37 3	37 1	37 1	36 8	05 40	39 2	02 00	34 5	4 7	9	
37 1	37 1	37 1	37 1	37 1	37 1	37 1	37 2	36 8	36 2	07 00	40 0	02 15	35 1	4 9	10	
37 4	37 7	39 8	39 2	38 5	37 7	37 2	37 0	36 1	37 8	08 44	41 0	02 42	34 7	6 3	11	
36 0	37 0	37 0	36 7	36 4	36 3	36 2	36 2	35 6	36 7	07 52	40 1	02 00	33 3	6 8	12	
37 0	36 6	36 9	36 6	36 6	36 3	36 2	36 0	36 0	37 3	08 15	41 2	02 00	34 2	7 0	13†	
36 1	36 8	36 8	36 6	36 5	36 5	36 2	36 1	35 9	36 4	08 00	39 7	02 00	34 1	5 6	14	
35 1	34 1	30 5	31 3	26.4	27 9	29 8	29 9	30 0	34 9	08 41	43 9	19 14	25 0	18 9	15††	
34 0	△	△	35 0	35 1	35 0	34 7	35 0	34 6	△	08 00	38 2	00 52	27 1	11 1	16††	
35 4	35 4	37 1	36 8	34 3	34.5	33 8	32 4	32 1	35 5	06 35	39 6	23 45	31 7	7 9	17††	
35 2	36 3	35 9	35 0	34 9	34 9	33 3	33 8	34 2	33 8	16 00	37 5	03 15	30 1	7 4	18††	
35 3	35 3	35 3	35 6	35 6	35 6	35 5	35 2	35 2	35 2	08 00	38 0	01 36	31 4	6 6	19	
36 3	36 5	36 3	36 2	36 2	35 8	35 6	35 3	35 2	35 9	08 30	38 6	02 40	32 3	6 3	20	
36 3	36 3	36 6	36 3	36 0	36 0	36 3	36 0	35 8	36 0	08 00	39 1	02 20	32 4	6 7	21	
36 2	36 2	36 3	36 5	36 5	36 5	36 2	36 2	35 8	36 6	06 05	40 2	01 50	33 2	7 0	22	
36 6	36 6	36 5	36 1	36 1	35 8	35 8	35 5	35 5	36 5	05 00	39 4	02 00	33 8	5 6	23	
36 8	36 6	36 6	36 4	35 9	35 7	35 5	35 1	35 1	36 5	08 25	40 1	01 30	33 8	6 3	24	
35 9	36 1	36 2	36.2	35 9	36 1	35 5	35 1	35 1	36 0	07 50	38 9	01 30	33 1	5 8	25††	
36 5	36.5	36 4	36 2	36 1	36 4	36 2	36 1	35 5	36 3	07 25	39 3	01 56	32 6	6 7	26	
36 4	36 2	36 1	36 1	35 9	35 9	35 5	35 9	35 5	35 8	07 15	38 9	02 26	32 3	6 6	27	
36 2	36 5	36 5	36 5	36 2	36 2	35 9	35 6	35 8	36 0	08 30	38 6	02 40	33 3	5 3	28	
36 6	36 6	36 6	36 4	36 3	36 1	36 1	36 0	36 0	36 2	07 15	38 0	02 00	33 8	4 2	29†	
36 3	36 4	36 3	36 3	36 0	36 0	36 0	36 0	36 0	37 2	07 10	41 9	01 30	34 9	7 0	30†	
36.7	36.8	36 7	38 5	36 4	36 5	36 1	36 5	36 1	36 3	06 45	38 1	02 14	34 0	4 1	31	
36 5	36 6	36.6	36 5	36 0	36 0	35 9	35 8	35 6	36 4					6 4	Mean	
36 9	36 7	36 7	36 6	36 5	36 4	36 4	36 3	36 3							Mean†	
35 5	35.5	34 9	34 8	32 9	33 4	33 1	32 8	32 8							Mean††	

†Five international quiet days  
††Five international disturbed days  
△Loss of record; day omitted for means.



TABLE 2  
Hourly Values of Declination (Westerly), 1959  
(Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
2° plus tabular quantities

August

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1	35 7	36 0	33 7	33 6	34 7	36 3	37 8	39 1	37 4	36 7	37 3	36 7	36 3	35 2	35 6
2	35 6	34 9	33 9	31 6	36 4	38 0	39 5	38 7	37 7	37 3	36 8	36 6	36 6	36 4	36 4
3	35 3	34 0	34 0	34 8	35 8	35 2	37 7	38 1	37 9	37 6	36 9	36 2	35 1	34 8	35 2
4	35 1	33 9	33 7	31 2	36 6	38 8	39 8	40 1	39 7	38 0	36 5	35 2	31 5	34 2	35 1
5	35 3	33 8	32 5	33 0	34 8	37 1	39 2	39 3	39 2	36 6	35 1	31 3	31 1	34 7	35 2
6	37 1	33 7	33 4	31 5	36 8	38 5	39 3	40 1	39 6	38 5	37 9	36 1	36 1	34 5	35 2
7	31 8	33 4	32 0	32 6	34 6	37 1	38 4	38 8	38 4	38 1	37 0	35 4	31 7	35 0	35 3
8	31 9	33 5	33 2	31 2	36 0	37 7	38 9	39 1	38 8	37 8	37 2	36 0	35 0	34 9	35 4
9	35 0	33 7	32 3	32 8	34 9	37 0	37 8	38 5	37 8	36 6	36 0	35 0	31 5	34 6	31 2
10	34 6	33 5	32 8	32 8	33 8	36 3	37 7	39 0	39 1	38 9	37 7	36 3	36 0	35 5	35 5
11	34 9	33.4	32 1	32 8	34 5	36 2	36 8	37 5	37 2	37 0	36 3	36 2	35 4	35 8	35.8
12†	35 1	34 5	33 7	34 2	34 7	36 5	38 6	39 0	39 3	38 2	37 5	36 3	35 8	35 5	35 9
13†	34 8	34 1	33 5	33 9	35 3	37.2	38 2	38 1	38 1	37 6	37 5	36 8	36 1	36 0	36 1
14†	34 8	34 0	33.2	33 7	33 7	37.2	38 9	39 0	38 8	38 5	36 8	36 0	35 4	35 7	36 1
15	34 7	33 2	32 5	33 2	36 1	38 3	39 6	40 4	40 0	38 8	37 2	36 5	36 1	35 8	36 1
16††	33 2	32 0	31 9	33 8	36 0	38 2	40 1	40 2	38 1	35 2	33 2	33 2	31 8	30 5	30 4
17††	31 1	29 7	29 0	29 6	31 4	33 8	36 3	37 0	37 5	37 1	35 0	33 3	33 5	31 8	31 8
18	33 2	32 4	32 4	33 0	33 7	35 8	37 2	38 1	37 3	36 2	35 2	33 4	33 0	34 2	34 5
19	33 2	31 8	31 1	32 3	34 6	37 2	38 7	38 8	38 4	37 4	35 5	34 2	33 9	34 4	34 8
20††	33 2	32 7	31 7	32 1	33 9	37 0	38 6	38 7	39 0	38 1	37 4	36 2	36 0	36 0	35 6
21††	33 8	33 7	33 0	33 8	34 8	36 2	39 0	38 7	38 4	38 3	36 7	35 8	35 5	35 1	35 9
22	33 8	32 1	32 0	33 0	34 8	36 0	38 4	38 8	37 7	37 2	35 6	34 5	34 1	34 5	35 1
23††	34 4	33 1	32 8	34 0	35 5	36 8	38 7	39 4	38 9	38 5	37 3	36 4	35 4	34 7	34 1
24	33 3	32 9	31 5	32 2	34 8	37 3	37 9	39 0	39 3	38 3	36 9	35 7	34 4	34 1	31 5
25	31 4	33 1	32 6	32 7	31 4	36 9	38 3	39 0	38 7	38 2	36 5	35 1	34 4	31 4	35 0
26	34 5	33 4	32 4	32 6	34 5	36 9	38 7	39 3	38 7	38 7	38 5	37 1	35 5	34 7	34 8
27†	34 1	33 0	32 0	32 5	31 2	35 9	37 3	38 4	38 8	38 6	36 9	35 1	34 4	34 5	34 9
28†	34 8	33 5	32 7	33 2	35 3	37 0	38 0	39 1	39 9	39 9	37 7	35 6	34 2	34 5	35 7
29	34 6	33 9	33 2	33 8	34 6	36 1	37 8	40 1	39 1	38 2	36 1	34 2	33 2	33 6	33 8
30	35 2	34 2	33 3	34 1	35 8	37 8	39 5	40 0	39 3	37 4	35 5	34 4	33 0	33 2	34 4
31	34 6	32 9	32 2	33 4	34 9	37 2	38 3	38 3	37 6	36 1	34 5	34 1	33 8	33 0	34 9
Mean	34 6	33 4	32 6	33 3	34 9	36 9	38 4	39 0	38 6	37 7	36 5	35 4	34 8	34 6	34 9
Mean†	34 8	33 8	33 0	33 5	34 6	36 8	38 2	38 7	39 0	38 6	37 3	36 0	35 2	35 2	35 7
Mean††	33 1	32 2	31 7	32 7	34 3	36 4	38 5	38 8	38 4	37 4	35 9	35.0	34 4	33 6	33 1

†Five international quiet days

††Five international disturbed days

△Loss of record; day omitted for means.

TABLE 2  
Hourly Values of Declination (Westerly), 1959  
(Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
2° plus tabular quantities

August

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Lim	Mag	Time	Mag		
										H M		H M			
36.4	36.1	36.6	36.4	36.6	36.3	36.1	36.3	36.0	36.2	06 15	39.1	02 35	33.6	5.8	1
36.1	36.3	36.3	36.1	36.3	36.3	36.1	36.1	35.7	36.5	05 48	39.0	01 53	33.8	5.8	2
35.8	36.0	36.2	36.0	36.1	36.1	35.8	35.5	35.3	35.3	05 00	38.3	01 30	33.9	4.1	3
35.2	35.8	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	07 00	40.1	01 21	33.5	6.6	4
35.1	35.7	36.1	36.1	36.1	36.2	36.1	36.1	35.7	35.7	07 00	39.3	01 00	32.5	6.8	5
36.1	36.2	35.8	35.2	35.2	35.8	36.1	35.8	35.1	36.3	07 00	40.3	01 30	33.3	7.0	6
35.7	35.7	35.8	36.0	36.0	36.1	36.1	36.1	35.6	35.8	05 19	39.2	02 02	31.9	7.3	7
37.0	36.0	36.0	36.1	36.1	36.0	35.6	35.6	35.3	36.1	05 02	39.2	01 50	32.9	6.3	8
31.2	35.9	35.0	31.7	35.5	35.3	35.2	35.2	34.9	35.2	07 00	38.8	02 15	32.2	6.6	9
35.7	35.9	35.6	35.9	35.6	35.5	35.6	35.5	35.5	35.8	07 30	39.2	01 30	32.4	6.8	10
35.9	35.6	35.6	35.9	35.8	35.5	35.1	35.1	35.4	35.5	05 30	37.6	02 00	32.1	5.5	11
36.1	35.9	36.1	35.9	35.8	35.5	35.2	35.2	35.1	36.1	08 00	39.6	02 00	33.5	6.1	12†
36.0	36.0	36.1	36.1	36.0	35.5	35.1	35.0	35.0	36.0	06 00	38.2	02 00	31.5	4.7	13†
36.4	36.2	36.1	36.0	35.5	35.4	35.3	35.1	35.0	35.9	07 02	39.2	02 29	33.0	6.2	14†
35.8	36.1	36.0	35.8	35.4	34.7	34.3	33.9	34.4	36.0	06 50	40.6	02 00	32.5	8.1	15
33.1	33.5	33.8	33.2	33.2	34.0	33.2	32.5	33.1	34.1	06 10	41.5	13 25	29.8	11.7	16††
32.2	32.6	33.1	34.5	34.5	34.3	34.6	33.8	33.8	33.4	07 20	37.7	02 32	28.4	9.3	17††
34.5	34.5	31.8	34.6	34.9	34.5	34.2	33.8	33.4	34.5	06 58	38.3	01 00	32.2	6.1	18
35.3	35.2	35.2	34.9	34.9	31.9	31.6	34.4	33.8	35.0	06 47	39.1	02 20	30.9	8.2	19
35.9	35.8	35.5	35.2	34.9	34.5	34.6	34.5	34.1	35.5	07 30	40.5	02 00	31.7	8.8	20††
35.2	35.2	31.9	35.5	35.6	35.3	31.9	34.6	34.4	35.6	05 52	39.5	01 45	31.8	7.7	21††
35.5	35.5	35.1	34.9	34.9	35.1	31.6	31.6	34.5	36.1	07 05	39.1	02 00	32.0	7.1	22
31.5	35.2	35.4	35.1	35.0	35.2	31.1	34.5	34.4	35.6	07 30	40.0	02 00	32.8	7.2	23††
34.5	31.7	35.0	35.0	35.0	35.0	34.8	31.5	34.7	35.2	07 35	40.0	02 00	31.3	8.7	24
34.5	34.5	34.7	35.2	35.1	35.1	35.1	35.1	35.0	35.3	07 38	39.4	02 00	32.6	6.8	25
35.4	35.4	35.4	35.4	35.4	35.2	35.4	35.1	34.8	35.7	06 55	39.1	02 00	32.4	7.0	26
35.6	35.8	35.8	35.6	35.5	35.5	35.5	35.5	35.3	35.5	08 00	38.8	02 15	31.9	6.9	27†
36.0	36.0	36.0	36.0	35.9	35.6	35.7	35.6	35.3	36.0	08 40	40.2	02 00	32.7	7.5	28†
34.3	35.7	35.9	36.0	36.0	36.3	36.8	36.7	36.3	35.7	06 55	40.2	02 03	32.9	7.3	29
35.0	35.1	35.3	35.4	35.7	35.8	35.7	35.4	35.0	35.6	07 00	40.0	02 00	33.3	6.7	30
35.6	35.6	35.6	36.1	35.9	35.8	36.1	35.9	35.9	35.3	06 00	38.3	01 45	32.0	6.3	31
35.3	35.5	35.5	35.5	35.5	35.4	35.3	35.1	35.0	35.6	.	.	.	.	7.0	Mean
36.0	36.0	36.0	35.9	35.7	35.5	35.4	35.3	35.1	.	.	.	.	.	.	Mean†
34.2	34.5	34.5	34.7	34.6	34.7	34.5	34.0	34.0	.	.	.	.	.	.	Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means.

TABLE 3  
 Hourly Values of Declination (Westerly), 1959  
 (Average for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantile.

September

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1	35 2	33 8	33 1	34 0	35 1	36 3	36 6	37 3	36 5	34 8	34 8	33 4	33 3	31 8	34.7
2	34 9	33 4	32 1	33 4	35 7	37 8	39 0	40 1	39 2	37 4	36 0	35 2	35 6	35 9	36 2
3	34 6	33 5	32 5	33 5	35 0	36 3	37 0	35 9	35 9	31 6	33 5	33 5	33 8	34 9	35 2
4††	34 9	33 5	32 2	31 8	33 8	35 4	37 7	37 8	37 7	35 9	34 9	34 8	34 2	34 8	35 2
5	33 5	31 8	30 8	32 4	34 5	36 3	38 0	39 1	38 4	37 3	36 2	35 6	34 8	34 2	34.6
6	34 8	33 5	32 1	33 3	34 9	36 4	37 9	38 1	38 1	37 9	36 4	35 3	34 6	34 9	35 0
7†	34 9	33 5	32 2	33 2	35 0	37 7	39 3	40 5	40 5	39 3	37 5	35 7	35 0	35 3	35 3
8†	35 0	33 5	32 5	33 6	34 9	36 4	37 8	37 5	37 7	36 5	35 3	34 1	33 7	34 3	34.9
9†	34 3	32 9	32 2	33 8	35 1	36 6	38 0	39 0	38 0	37 8	36 5	35 2	35 1	35 8	36.2
10†	35 2	33 8	32 7	33 6	35 2	38 0	39 7	40 6	39 3	37 9	36 5	35 2	35 4	36 4	36 5
11	35 1	34 1	33 6	35 1	36 7	37 9	39 3	39 3	39 0	37 6	36 5	35 2	35 2	35 3	36 2
12	34 5	33 5	32 5	35 1	36 6	39 4	41 8	42 1	41 1	40 1	38 1	36 7	36 5	35 6	35 9
13	35 1	33 7	33 4	33 8	34 9	36 6	38 0	39 3	39 4	38 0	36 3	35 1	35 2	35 9	35 6
14	34 8	33 8	32 5	33 8	35 7	36 8	36 6	37 8	36 0	35 3	35 0	33 9	33 8	35 2	35 4
15	34 5	33 9	33 9	35 2	37 5	39 5	39 6	39 2	38 0	36 6	35 4	35 0	35 2	35 6	36 3
16	34 9	33 2	32 2	34 0	36 7	38 2	38 9	39 5	38 2	37 1	36 7	35 5	35 4	35 5	35 7
17	35 3	34 1	34 0	34 4	36 0	38 1	39 6	39 9	39 5	38 1	36 8	36 2	36 2	36 4	36 4
18	34 8	33 7	32 9	34 7	36 8	38 2	39 5	39 5	38 9	37 9	35 7	35 1	35 4	35 8	35 4
19	34 3	33 4	32 7	34 8	36 9	37 9	39 7	39 8	39 7	39 1	37 7	36 2	36 6	36 2	35 9
20††	35 6	34 4	34 0	35 2	36 9	38 0	39 6	40 0	39 1	38 0	35 5	34 8	33 5	33 0	32 4
21††	36 1	34 4	34 1	34 5	36 9	38 4	38 0	38 4	37 3	37 0	36 7	35 7	35 3	34 5	34 9
22††	35 6	34 9	33 9	34 3	35 3	37 0	37 3	38 4	38 1	36 9	35 6	34 8	34 5	34 8	34 9
23	35 0	34 3	34 2	34 9	36 9	38 3	39 2	39 8	38 4	37 3	36 6	35 6	35 3	35 5	35 3
24	35 5	34 1	32 9	33 8	34 9	35 8	37 2	38 0	37 7	36 8	36 9	36 9	35 9	31 4	34 1
25††	35 9	35 4	34 2	34 2	34 8	35 5	37 0	37 5	37 2	36 3	35 5	34 8	35 4	35 4	34 2
26	35 4	34 8	34 2	35 1	36 8	37 2	38 3	38 3	38 2	37 0	36 3	35 9	35 4	35 1	35 5
27	35 5	34 7	34 2	35 2	37 0	38 2	38 2	38 0	37 6	36 2	35 6	35 1	35 5	35 4	34 8
28	35 5	34 4	34 1	34 1	36 0	35 8	38 2	38 2	37 8	36 2	35 4	35 4	36 5	36 4	36 1
29†	35 5	35 1	35 0	35 3	36 5	38 1	38 3	38 9	38 2	36 9	35 5	35 4	35 4	36 0	35 4
30	36 1	35 4	35 0	36 0	37 5	39 2	39 5	39 0	37 8	36 9	35 8	35 4	36 4	36 4	35 4
Mean	35 1	33 9	33 2	34 2	35 9	37 4	38 5	38 9	38 3	37 2	36 0	35 2	35 2	35 3	35 3
Mean†	35 0	33 8	32 9	33 9	35 3	37 3	38 6	39 3	38 7	37 7	36 3	35 2	35 0	35 6	35 7
Mean††	35 6	34 5	33 7	34 0	35 5	37 1	37 9	38 3	37 9	36 8	35 6	35 0	34 6	34 5	34 3

†Five international quiet days  
 ††Five international disturbed days  
 ΔLoss of record, day omitted for means.

TABLE 3  
Hourly Values of Declination (Westerly), 1959  
(Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
2° plus tabular quantities

September

Hours G M T.									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
									H M		H M				
34 9	34 7	34 9	35 5	35 5	35 1	36 2	35 9	35 1	35 0	07 00	37 3	01 52	33 0	4 3	1
36 2	35 9	35 6	35 3	36 0	35 5	35 3	35 6	35 0	35 9	08 00	40 5	02 00	32 1	8 4	2
35 5	35 3	35 2	35 5	36 0	36 2	36 2	36 2	34 9	35 0	06 00	37 4	02 00	32 5	4 9	3
33 8	33 5	33 8	34 8	34 9	34 5	33 9	34 8	34 9	34 8	08 23	38 5	02 32	31 7	6 8	4††
35 0	35 2	35 3	35 9	35 9	35 2	35 2	36 0	35 2	35 3	06 25	39 4	02 00	30 7	8 7	5
35 3	36 0	36 0	36 0	36 0	35 7	35 4	35 3	35 1	35 6	06 32	38 5	02 00	32 1	6 4	6
35 7	35 7	35 6	36 0	35 4	35 7	35 7	35 3	35 1	36 0	07 25	40 7	02 00	32 2	8 5	7†
35 0	35 1	36 3	36 1	35 7	35 4	35 1	35 1	34 9	35 3	06 20	37 9	01 45	32 3	5 6	8†
36 2	36 1	36 2	36 2	35 7	35 4	35 4	35 4	35 2	35 8	06 30	39 2	02 00	32 2	7 0	9†
36 5	36 5	36 4	36 1	35 2	35 4	35 2	35 1	35 1	36 1	07 00	40 6	01 54	32 6	8 0	10†
36 3	35 9	36 2	35 9	35 9	35 5	35 5	35 3	35 3	36 2	06 30	39 8	01 56	33 4	6 4	11
35 5	35 3	35 3	35 5	35 3	35 3	35 3	35 2	35 2	36 6	06 12	42 3	02 00	32 5	9 8	12
36 2	36 2	36 2	35 5	35 3	35 3	35 3	35 1	35 1	35 9	08 00	39 5	01 56	33 1	6 4	13
35 3	35 4	35 6	35 4	35 4	35 3	35 3	35 3	35 3	35 2	06 40	38 1	02 10	32 4	5 7	14
36 3	35 9	35 6	35 4	35 3	35 3	35 4	35 4	35 2	36 1	05 36	39 8	01 23	33 8	6 0	15
35 4	35 4	35 5	35 4	35 4	35 4	35 4	35 3	35 4	35 8	07 00	39 5	02 22	32 1	7 4	16
35 7	35 7	35 7	35 7	35 7	35 3	35 4	35 3	35 1	36 3	06 35	40 7	02 00	34 0	6 7	17
35 4	35 7	35 5	35 4	35 8	35 4	35 4	35 3	35 1	36 0	06 45	39 6	01 35	33 0	6 6	18
35 8	35 8	35 5	35 5	35 4	35 4	35 4	35 6	35 8	36 3	06 22	40 5	02 05	32 6	7 9	19
34 0	34 0	34 4	34 4	35 1	35 8	35 1	36 2	36 8	35 7	06 42	41 1	13 43	31 2	9 9	20††
34 9	34 9	35 2	35 3	35 6	35 5	35 5	35 6	35 5	35 8	05 10	39 1	02 00	34 1	5 0	21††
35 2	35 3	35 5	35 7	35 6	35 6	35 5	35 5	35 5	35 7	07 13	39 7	02 17	33 1	6 6	22††
35 5	35 5	35 6	35 7	35 2	35 3	35 0	35 5	35 5	36 1	06 39	39 9	01 25	34 1	5 8	23
34 9	34 9	35 5	35 5	35 4	35 5	35 8	35 8	35 9	35 6	07 25	38 3	02 10	32 8	5 5	24
34 1	34 1	34 9	34 7	34 4	35 1	35 1	35 5	35 5	35 3	07 25	37 9	15 40	33 8	4 1	25††
35 6	35 6	35 5	35 6	35 5	35 5	35 5	35 5	35 5	36 0	06 40	38 4	01 52	34 1	4 3	26
34 7	34 8	35 6	35 6	35 5	35 5	35 5	35 5	35 5	35 8	06 10	38 3	01 30	34 1	4 2	27
35 7	35 7	36 0	35 5	35 5	35 4	35 7	35 7	35 5	35 9	06 25	38 3	02 00	33 8	4 5	28
35 4	35 7	36 1	36 2	36 0	36 0	36 2	36 4	36 4	36 3	06 40	39 5	01 25	34 7	4 8	29†
35 3	35 3	35 4	35 5	35 8	35 4	35 5	36 0	36 1	36 3	06 00	39 6	01 50	34 7	4 9	30
35 4	35 4	35 5	35 6	35 5	35 4	35 4	35 5	35 4	35 8					6 4	Mean
35 8	35 8	36 1	36 1	35 6	35 6	35 5	35 5	35 3							Mean†
34 4	34 4	34 8	35 0	35 1	35 3	35 0	35 5	35 6							Mean††

†Five international quiet days

†† Five international disturbed days

△Loss of record, day omitted for means

TABLE 4  
 Hourly Values of Declination (Westerly), 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

October

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1††	35 5	34 6	34 3	35 3	36 5	37 5	37 9	38 1	36 8	36 0	35 4	34 0	34 1	34 1	34 1
2	35 5	35 3	35 3	36 2	37 2	36 9	36 5	37 8	36 7	36 2	36 4	35 8	35 8	36 1	36 1
3††	36 1	36 0	35 4	35 3	36 0	38 1	38 7	38 1	37 7	36 1	35 3	35 2	35 4	35 7	35 3
4††	34 5	33 5	33 5	33 8	35 0	35 2	35 2	36 4	35 6	34 7	34 6	34 2	33 8	33 9	34 5
5	35 0	34 0	33 9	34 6	35 1	36 7	37 8	38 1	38 1	36 7	35 3	34 6	34 6	34 5	34 2
6††	35 7	34 0	33 9	35 0	36 4	35 4	36 8	35 6	34 6	34 2	32 9	33 8	34 2	34 0	33 9
7	35 4	34 9	34 2	34 2	35 1	35 9	36 6	38 0	38 1	37 0	35 9	35 2	35 2	35 3	35 3
8	35 6	35 3	35 2	35 9	36 6	37 2	37 6	37 9	37 3	36 7	36 0	35 5	35 8	35 9	35 5
9	35 6	35 2	35 1	34 9	35 2	36 6	37 0	37 4	37 2	36 7	35 9	35 3	36 0	35 9	35 8
10†	36 2	35 9	35 3	35 8	36 6	37 3	38 0	38 6	38 1	38 0	37 2	36 6	36 6	36 5	36 2
11†	36 2	35 8	35 6	35 5	36 3	37 6	38 7	39 4	39 8	38 0	36 7	36 6	36 6	36 6	36 3
12	36 2	35 9	36 2	36 8	37 8	37 9	38 6	38 7	38 0	36 8	36 2	35 4	35 8	36 4	36 4
13†	36 4	36 2	36 2	36 4	36 8	37 9	39 2	39 2	38 2	37 3	36 4	35 8	36 4	36 5	36 4
14	36 1	35 4	35 0	35 1	36 9	37 9	38 5	38 6	38 0	36 9	35 7	35 2	35 5	36 1	35 8
15	35 2	35 0	35 1	36 2	37 6	38 3	38 8	38 8	37 8	36 0	35 2	35 2	35 2	35 5	35 5
16†	35 5	34 9	34 8	35 1	36 2	37 5	38 9	37 7	36 6	35 9	34 9	34 8	34 9	35 4	35 5
17	36 2	35 9	35 8	36 0	36 8	38 8	40 1	39 4	38 0	36 8	35 4	35 7	35 3	35 6	35 6
18	35 0	34 2	34 0	34 0	35 4	37 2	38 6	38 5	37 2	35 0	34 4	33 1	34 7	35 1	34 7
19	34 4	34 7	34 8	35 7	37 1	37 2	38 1	37 9	37 0	36 1	35 6	35 0	35 0	34 7	34 7
20	34 6	34 6	34 3	34 3	34 6	35 7	36 2	36 2	35 5	34 8	34 5	34 5	34 9	35 0	34 6
21	35 5	35 5	35 5	35 4	36 1	37 8	38 5	37 9	36 7	35 7	35 4	35 0	35 1	35 1	34 8
22	△	△	△	△	34 5	36 0	36 8	36 7	35 3	34 2	33 6	32 8	33 5	32 8	32 6
23	34 3	34 2	34 2	33 8	34 9	35 8	37 0	37 0	35 3	34 2	33 8	33 7	33 9	34 1	33 9
24	34 6	34 1	33 8	33 7	33 7	35 1	37 1	37 2	36 5	35 9	35 4	35 1	35 0	33 8	33 7
25	35 1	35 1	35 1	35 0	34 9	35 0	36 3	35 8	35 3	36 0	35 4	34 7	33 7	33 6	33 6
26	35 1	35 0	35 0	33 9	34 0	34 3	35 1	35 0	35 0	35 0	34 4	34 3	34 3	33 9	33 6
27	34 9	34 3	34 4	34 6	34 3	34 9	35 0	34 9	33 6	33 2	33 2	33 5	33 6	33 9	33 6
28†	34 8	34 9	34 8	34 0	34 5	34 9	35 5	34 9	34 1	33 5	33 4	33 4	34 0	34 7	34 5
29	34 7	35 1	35 1	34 3	33 6	33 3	33 7	33 4	33 6	33 7	33 6	33 9	34 4	34 4	34 0
30	36 1	37 1	37 2	36 4	34 6	35 0	36 3	35 7	34 7	34 9	34 7	34 6	34 7	34 6	34 2
31††	35 0	35 9	35 7	34 7	34 0	34 2	34 6	34 5	33 2	32 5	32 5	32 9	32 4	32 6	32 4
Mean	35 4	35 1	34 9	35 1	35 7	36 4	37 2	37 2	36 5	35 7	35 0	34 7	34 9	35 0	34 8
Mean†	35 8	35 5	35 1	35 4	36 1	37 0	38 1	38 0	37 4	37 6	35 7	35 4	35 7	35 9	35 8
Mean††	35 4	34 8	34 6	34 8	35 6	36 1	36 6	36 5	35 6	34 7	34 1	34 0	34 0	34 1	34 0

†Five international quiet days  
 ††Five international disturbed days  
 △Loss of record, day omitted for means

TABLE 4  
 Hourly Values of Declination (Westerly), 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

October

Hours G M T									Mean	Maximum		Minimum		Range	Date	
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag			
'	'	'	'	'	'	'	'	'	'	H	M	H	M	'	'	
34 0	34 8	35 4	35 4	35 7	35 3	35 7	36 4	35 7	35 5	07	00	38 2	11 00	34 0	4 2	1††
36 4	36 4	36 2	36 0	35 7	35 7	35 7	35 7	36 0	36 1	06	46	38 3	01 00	35 3	3 0	2
35 2	34 6	34 0	34 6	34 5	34 6	34 3	34 6	34 7	35 6	05	45	38 8	17 23	33 9	4 9	3††
34 6	34 9	35 0	35 2	35 2	35 4	35 4	35 4	35 3	34 8	07	00	36 8	00 46	33 2	3 6	4††
34 6	34 6	34 7	34 5	35 2	35 0	35 4	35 3	35 4	35 3	07	30	38 4	02 00	33 8	4 6	5
34 0	34 2	35 4	35 3	35 3	35 4	35 7	35 4	35 4	34 9	05	50	37 5	10 10	32 5	5 0	6††
35 6	35 9	36 2	36 0	35 8	35 6	35 6	35 6	35 8	35 8	08	00	38 1	02 00	34 2	3 9	7
35 3	35 5	35 8	35 9	35 8	35 9	35 8	35 9	35 9	36 1	07	00	37 9	02 00	35 2	2 7	8
35 8	35 6	35 8	35 8	35 8	35 9	35 9	35 9	35 9	35 9	07	15	37 6	03 00	34 9	2 7	9
36 0	36 2	36 3	36 5	35 8	35 8	35 8	36 0	36 0	36 6	06	45	38 7	02 15	35 2	3 5	10†
36 2	36 3	36 2	35 9	35 6	35 5	35 8	35 9	35 9	36 6	07	00	39 4	03 02	35 3	4 1	11†
36 2	36 1	35 8	35 7	35 4	35 2	35 5	36 1	36 4	36 5	06	35	39 0	20 00	35 2	3 8	12
36 4	36 4	36 4	36 1	35 7	35 8	35 8	36 4	36 4	36 7	06	05	39 3	19 00	35 7	3 6	13†
36 1	35 8	35 7	35 4	35 2	35 2	35 2	35 2	35 5	36 1	06	15	39 3	02 52	34 7	4 6	14
35 6	36 0	36 2	35 6	35 3	35 3	35 2	35 6	35 3	36 1	05	30	39 1	01 00	35 0	4 1	15
35 6	35 6	35 8	35 6	35 4	35 6	35 8	36 1	35 9	35 8	06	15	39 0	02 00	34 8	4 2	16†
35 7	35 6	35 3	35 0	35 7	35 0	34 9	35 2	35 3	36 2	06	43	40 2	10 10	34 6	5 6	17
34 5	34 8	35 0	34 8	34 8	34 8	34 5	34 5	34 5	35 1	06	30	39 7	10 41	33 0	6 7	18
34 9	35 0	35 1	35 0	35 3	34 7	34 7	34 9	34 9	35 5	06	32	38 4	00 01	34 4	4 0	19
34 6	34 5	34 9	35 0	34 9	34 9	35 0	35 2	35 3	34 9	06	35	36 7	02 08	34 2	2 5	20
35 1	35 3	35 1	35 1	35 0	35 0	35 3	35 3	△	△	06	00	38 5	13 42	34 7	3 8	21
32 6	33 2	33 9	34 0	34 0	34 3	34 3	34 5	34 6	△	△	△	△	△	△	△	22
34 1	34 2	34 2	34 2	34 2	34 4	34 5	34 8	34 8	34 6	06	25	37 3	10 25	33 5	3 8	23
33 7	34 3	34 5	34 7	34 7	34 7	35 0	35 0	35 1	34 9	06	25	37 8	02 30	33 7	4 1	24
33 6	33 5	33 6	33 7	33 9	34 2	34 4	35 0	35 3	34 7	05	46	36 4	16 28	33 2	3 2	25
32 9	33 3	33 2	33 3	33 5	33 6	33 9	34 6	34 9	34 2	06	25	35 6	14 45	32 6	3 0	26
33 5	33 9	34 1	34 1	33 9	34 2	34 3	34 6	34 8	34 1	06	35	35 6	08 52	33 1	2 5	27
34 5	34 7	34 7	34 4	34 1	34 2	34 5	34 8	34 8	34 4	06	00	35 5	10 30	33 3	2 2	28†
34 3	34 4	34 7	34 7	34 6	34 6	34 7	34 7	35 1	34 3	23	54	36 5	05 00	33 3	3 2	29
34 2	34 5	34 7	34 5	33 9	33 5	34 0	34 2	34 7	35 0	01	20	37 5	20 15	33 2	5 3	30
31 9	31 8	32 4	32 6	32 4	32 8	32 5	33 3	34 2	33 4	01	10	36 0	16 20	31 7	4 3	31††
34 8	34 9	35 1	35 0	34 9	34 9	35 0	35 3	35 4	35 4						3 9	Mean
35 7	35 8	35 9	35 7	35 3	35 4	35 5	35 8	35 8								Mean†
33 9	34 0	34 4	34 6	34 6	34 7	34 7	35 0	35 1								Mean††

† Five international quiet days.  
 †† Five international disturbed days.  
 △ Loss of record; day omitted for means.

TABLE 5  
Hourly Values of Declination (Westerly), 1959  
(Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
2° plus tabular quantities

November

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1††	34 5	34 6	34 6	34 2	34 5	34 5	34 5	33 6	32 2	31 4	31 8	31 5	31 0	30 5	31 7
2††	33 0	32 8	31 8	31 5	31 7	32 1	33 1	33 3	31 7	31 2	31 9	32 6	32 5	31 8	31 0
3††	33 5	33 6	33 3	33 1	33 1	34 5	35 2	34 6	34 1	33 9	33 1	33 1	33 2	33 1	33 1
4	31 1	34 5	34 6	34 8	34 9	36 0	36 2	35 8	34 5	33 9	33 1	32 7	32 7	33 1	33 1
5	31 5	34 2	34 1	33 1	33 8	35 2	35 3	34 8	34 1	33 4	33 4	33 4	33 9	33 5	33 8
6	34 9	35 1	34 5	33 8	33 6	34 9	35 8	34 9	34 5	34 2	34 1	33 2	33 8	34 1	33 5
7	34 3	35 2	35 6	35 6	35 8	34 5	36 3	36 0	35 2	34 5	34 5	34 5	31 2	34 2	34 1
8	34 3	34 9	34 8	34 5	31 8	36 0	36 9	36 2	35 1	31 5	31 1	31 5	31 6	34 5	33 9
9	34 9	34 9	34 9	34 6	35 6	35 8	35 8	34 8	34 4	31 2	34 5	34 5	31 5	34 5	31 5
10	34 5	34 6	35 2	35 5	35 7	35 9	37 2	36 4	35 8	35 5	34 8	34 7	35 0	34 7	34 1
11†	34 1	34 4	34 7	34 5	34 5	35 5	35 9	35 5	34 4	31 0	33 8	34 0	31 5	34 7	34 1
12†	34 0	35 5	35 7	35 7	35 5	36 2	37 5	36 8	35 1	34 4	34 4	34 1	34 5	34 7	31 4
13	34 7	35 5	35 9	35 5	34 6	35 3	36 0	35 3	34 5	34 1	33 4	33 7	34 6	34 8	34 5
14	34 6	34 9	35 8	35 9	36 0	37 1	36 6	36 0	35 4	34 0	33 3	34 0	34 0	34 6	34 3
15†	34 6	34 6	35 0	35 1	34 7	34 8	35 7	36 1	36 1	35 3	34 7	34 7	34 7	34 6	34 3
16	34 8	35 5	36 0	35 2	34 8	34 9	35 5	35 9	34 8	33 5	33 0	32 6	31 3	33 4	33 4
17	34 0	34 8	35 4	34 9	34 8	34 7	35 2	35 8	35 4	34 7	33 8	33 4	31 5	33 8	33 7
18	34 9	35 2	35 2	35 0	35 0	35 9	37 0	36 6	34 9	33 5	32 8	32 9	33 8	34 3	33 8
19	34 8	34 9	35 2	35 3	35 1	35 3	36 0	36 0	35 1	34 3	34 4	34 7	34 2	33 7	33 7
20†	35 0	35 0	34 9	34 7	35 1	35 5	36 2	35 8	35 7	35 0	34 4	34 5	35 0	34 8	34 5
21	35 2	35 1	35 5	35 5	35 2	35 1	35 9	36 0	35 9	35 1	34 5	34 2	31 2	33 7	32 5
22	35 2	35 6	36 0	35 8	35 9	36 6	36 6	36 5	36 0	35 2	34 6	34 5	31 4	31 1	31 4
23	35 5	35 2	35 3	33 8	33 8	34 0	34 2	31 6	33 8	31 0	33 9	33 9	31 3	33 9	33 0
24†	35 3	35 4	35 3	35 1	35 8	36 4	36 7	36 5	36 1	36 1	35 5	35 4	31 1	34 7	34 0
25	35 8	35 7	35 5	35 3	35 3	35 3	36 2	37 1	36 8	35 3	34 1	34 0	34 0	33 9	33 6
26	35 8	35 8	35 8	35 4	34 7	34 2	34 9	36 1	36 3	36 3	35 6	31 0	31 8	31 0	31 4
27	35 5	35 4	35 6	35 5	35 6	35 8	35 8	35 5	34 8	34 4	36 1	35 8	35 1	31 3	31 5
28††	35 9	36 6	37 7	38 7	35 8	32 3	30 2	31 0	33 7	33 1	34 1	32 4	31 0	32 0	32 7
29	35 2	35 9	35 6	34 9	34 1	33 8	34 0	34 0	34 1	34 0	33 9	33 4	31 3	32 3	32 7
30††	35 4	35 8	35 9	35 5	35 4	36 1	36 5	35 8	34 2	32 6	33 1	33 7	31 7	32 1	31 6
Mean	34 9	35 1	35 2	34 9	34 8	35 1	35 6	35 4	34 8	34 2	34 0	33 8	33 9	33 3	33 6
Mean†	34 8	35 0	35 1	35 1	35 1	35 7	36 4	35 1	35 5	35 0	34 6	34 5	34 8	34 7	34 3
Mean††	34 5	36 7	34 7	34 6	34 1	33 9	33 9	33 7	33 2	32 4	32 9	32 7	32 3	31 9	32 2

† Five International quiet days  
†† Five International disturbed days.  
Δ Loss of records; day omitted for means.

TABLE 5  
 Hourly Values of Declination (Westerly), 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

November

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
										H	M	H	M		
31 0	31 8	31 8	31 7	31 8	31 8	32 6	32 9	33 2	32 7	04 10	35 0	13 05	30 4	4 6	1††
33 1	32 6	31 8	31 9	32 9	33 3	33 2	33 8	31 2	32 5	23 19	34 5	02 45	30 5	4 0	2††
33 1	32 4	33 1	33 1	33 2	33 8	34 1	34 1	34 4	33 6	05 45	35 8	16 05	32 3	3 5	3††
33 2	33 4	32 8	33 1	33 9	33 8	33 5	34 1	34 4	34 0	06 22	36 6	11 00	32 7	3 0	4
33 7	33 7	34 1	31 1	34 2	31 5	34 5	34 5	31 8	31 1	05 24	35 9	03 00	33 1	2 8	5
33 9	34 2	34 2	33 9	34 4	34 5	34 5	31 8	31 5	34 3	05 55	35 9	10 55	33 1	2 8	6
33 9	33 9	34 2	34 2	31 2	31 5	34 5	34 6	31 6	31 7	06 25	36 6	15 00	33 9	2 7	7
34 2	34 4	34 5	34 2	34 2	34 5	31 5	31 8	31 0	34 8	05 42	37 0	14 02	33 7	3 3	8
34 5	34 5	34 5	34 2	34 2	34 5	34 6	34 5	31 6	34 7	01 35	35 9	09 00	34 2	1 7	9
34 4	34 4	31 5	34 3	34 1	34 4	34 4	34 1	31 4	35 0	06 07	37 5	21 35	33 8	3 7	10
34 4	34 4	34 4	34 4	34 4	34 4	31 3	34 3	34 4	31 5	05 28	36 2	10 00	33 8	2 4	11†
34 4	34 4	34 4	34 3	31 0	34 3	34 4	34 5	34 4	34 9	05 35	37 6	18 54	33 8	3 8	12†
34 5	34 5	34 5	34 2	34 1	34 4	33 9	33 8	34 2	34 6	06 00	36 0	10 20	33 1	2 9	13
33 9	33 9	33 9	33 8	33 8	33 8	33 8	33 6	34 7	31 6	01 45	37 4	09 50	33 2	4 2	14
34 3	34 3	34 3	34 1	31 1	34 1	31 3	34 4	33 7	31 7	07 00	36 1	18 00	31 1	2 0	15†
32 8	33 0	33 1	32 4	32 6	32 6	32 6	33 1	34 8	33 9	01 25	36 1	18 00	32 4	3 7	16
34 0	34 1	34 1	34 1	31 4	31 4	34 5	34 8	31 5	34 5	06 50	35 9	11 00	33 4	2 5	17
33 5	34 1	34 5	33 8	33 5	33 9	34 2	34 5	35 0	31 5	05 30	37 3	09 42	32 7	4 6	18
33 6	34 2	34 2	31 2	34 3	31 4	34 4	34 7	35 2	31 7	06 25	36 3	15 00	33 6	2 7	19
34 5	34 8	35 0	31 8	35 0	35 0	35 0	35 1	34 6	35 0	06 00	36 4	10 00	31 4	2 0	20†
32 1	32 5	33 1	33 8	33 9	34 2	34 1	34 4	35 5	31 4	07 25	36 5	14 56	32 0	4 5	21
34 6	34 6	35 1	34 6	34 4	34 8	35 2	35 2	31 9	35 2	05 00	36 6	13 00	31 1	2 5	22
33 1	33 5	33 2	33 5	33 9	34 5	34 6	34 6	35 1	34 1	00 33	35 6	14 03	32 9	2 7	23
34 1	34 4	34 6	35 0	34 8	34 8	35 1	35 3	35 4	35 3	05 50	36 8	14 01	31 0	2 8	24†
33 9	34 0	34 1	34 1	34 3	34 6	31 7	35 1	35 4	31 9	07 00	37 2	11 05	33 4	3 8	25
34 4	34 7	34 7	34 7	35 1	35 5	35 9	35 6	35 4	35 1	08 05	36 6	12 00	33 8	2 8	26
34 2	34 4	34 4	34 4	34 2	34 2	34 1	34 5	31 8	35 0	05 22	36 2	21 00	34 1	2 1	27
33 0	33 8	34 0	34 1	34 4	34 2	34 7	31 9	35 2	31 0	02 55	39 7	05 48	29 5	10 2	28††
33 5	33 5	33 7	33 7	33 8	34 0	34 1	34 2	31 5	34 0	01 10	36 3	14 00	32 7	3 6	29
32 0	31 9	31 7	33 1	33 0	33 3	33 3	33 7	31 1	33 9	06 05	36 9	16 30	31 4	5 5	30††
33 7	33 8	33 9	33 9	34 0	34 2	34 3	34 4	34 7	34 4					3 5	Mean
34 3	34 5	34 5	34 5	34 5	34 5	34 6	34 7	34 8							Mean†
32 4	32 5	32 5	32 8	33 1	33 2	33 6	33 9	34 2							Mean††

† Five international quiet days  
 †† Five international disturbed days.  
 Δ Loss of record, day omitted for means.



TABLE 6  
 Hourly Values of Declination (Westerly), 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

December

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1	34.2	35.2	36.5	35.4	34.8	34.8	35.1	34.9	34.4	34.0	32.7	31.9	32.0	31.6	31.6
2	33.3	33.3	33.8	33.8	34.5	34.9	34.5	35.2	34.8	33.8	32.8	31.7	32.6	32.4	31.6
3††	34.1	34.2	34.8	35.2	34.6	34.3	35.0	36.0	35.0	34.2	33.5	33.5	33.6	33.5	33.4
4	35.9	36.6	38.0	38.4	38.0	37.7	38.1	37.3	36.3	34.9	34.9	34.9	34.9	34.9	34.8
5††	36.2	36.2	36.2	36.7	37.0	38.0	38.5	38.4	37.9	35.0	34.2	34.3	34.8	33.9	32.7
6	36.2	36.9	37.6	38.1	38.5	38.4	37.6	37.8	37.4	36.7	35.9	35.6	35.6	35.3	35.2
7†	36.2	36.0	36.4	37.1	37.4	37.7	37.8	37.8	37.7	37.0	36.2	35.7	35.7	35.7	35.7
8	36.3	36.7	37.0	37.0	36.9	37.4	37.8	37.6	37.7	36.9	35.7	35.7	35.9	36.0	35.9
9	36.7	37.1	38.0	38.5	38.8	38.7	38.1	37.6	36.2	36.2	36.2	36.2	36.6	36.7	36.0
10†	36.6	37.0	37.6	38.2	38.3	38.0	38.4	38.6	38.0	37.5	36.9	36.9	36.9	36.9	36.5
11†	36.9	36.9	37.2	37.3	37.7	37.0	37.0	37.2	37.2	37.0	36.8	36.6	36.8	36.9	36.3
12	37.2	37.3	37.7	37.2	36.5	36.9	36.7	36.0	35.4	35.1	35.4	36.5	37.1	36.8	36.0
13	36.4	36.8	38.2	38.1	37.2	36.9	36.8	37.1	36.5	35.5	35.4	35.5	36.4	36.4	36.0
14††	Δ	Δ	Δ	Δ	38.1	37.7	36.8	36.7	35.2	34.0	34.3	33.9	34.3	35.0	34.3
15	36.7	37.8	38.4	38.1	37.4	37.0	37.0	36.7	35.6	34.8	34.8	34.6	35.2	35.3	Δ
16	Δ	Δ	Δ	Δ	37.7	37.6	37.3	37.6	36.7	35.2	34.1	34.1	35.2	35.8	35.1
17	36.7	37.4	36.9	38.3	37.9	37.8	37.9	37.3	36.5	36.1	35.1	35.0	35.4	35.7	35.7
18	36.6	36.6	36.5	36.5	36.4	36.4	36.7	37.1	37.4	36.7	35.1	34.7	34.9	35.0	35.0
19	37.0	36.8	37.5	37.5	37.5	37.4	37.4	37.4	36.4	35.1	34.4	33.9	34.2	34.6	34.6
20	Δ	Δ	Δ	Δ	36.8	36.7	37.7	37.8	37.4	36.3	35.1	35.1	36.0	36.1	35.7
21†	36.8	37.2	37.4	37.0	36.5	37.1	38.2	38.8	37.2	36.3	35.7	35.1	35.6	36.0	36.0
22†	36.5	36.4	36.5	36.5	36.0	36.3	37.1	37.4	36.1	35.7	36.5	36.4	36.3	36.3	36.0
23	36.5	37.0	37.8	37.8	37.8	38.4	37.8	37.5	37.7	35.8	35.6	35.7	36.3	36.3	36.1
24	36.1	36.4	37.5	37.8	37.8	37.9	37.8	38.4	37.9	36.5	35.0	34.7	36.1	35.3	35.0
25	37.8	37.8	37.9	37.2	36.8	36.5	35.8	36.0	35.6	34.9	34.7	35.1	35.7	36.1	36.0
26	37.5	37.8	38.2	37.7	36.8	36.5	36.4	35.8	37.7	37.0	37.0	36.5	35.3	35.3	35.0
27††	37.7	37.7	37.7	37.0	36.0	35.1	35.1	35.6	35.3	34.4	34.6	34.7	35.1	35.3	34.7
28††	37.2	37.5	37.7	37.7	37.1	36.7	36.5	36.4	35.0	34.9	35.0	35.3	35.3	35.4	35.4
29	36.4	36.5	37.1	36.4	35.1	34.7	35.1	36.0	34.7	34.2	34.7	35.4	35.1	35.4	35.0
30	36.8	37.2	37.8	38.1	37.7	36.5	36.4	36.4	35.8	35.0	35.1	35.8	35.7	35.3	35.0
31	36.8	37.7	37.9	37.1	35.8	35.1	36.3	36.0	34.7	34.2	34.3	34.9	35.8	35.7	35.6
Mean	36.4	36.7	37.1	37.1	36.8	36.8	36.9	36.9	36.4	35.6	35.2	35.2	35.4	35.3	35.0
Mean†	36.6	36.7	37.0	37.2	37.2	37.2	37.7	38.0	37.2	36.7	36.4	36.1	36.3	36.4	36.1
Mean††	36.3	36.4	36.6	36.6	36.2	36.0	36.3	36.6	35.8	34.6	34.3	34.4	34.7	34.5	34.0

†Five international quiet days  
 ††Five international disturbed days  
 Δ Loss of record, day omitted for means.

TABLE 6  
 Hourly Values of Declination (Westerly), 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2° plus tabular quantities

December

									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
										H M	'	H M	'		
32 1	32 6	32 6	32 8	32 8	32 7	32 6	32 7	32 8	33 1	02 08	36 8	13 00	31 4	5 4	1
31 3	31 9	32 1	32 4	32 7	32 4	32 6	32 8	33 7	33 1	07 11	35 5	15 00	31 7	4 2	2
33 8	34 6	34 2	34 9	34 9	34 8	34 7	34 9	35 5	34 5	06 30	36 4	11 02	33 2	3 2	3††
34 9	35 0	35 0	35 2	35 3	35 6	36 2	36 0	36 0	36 0	03 00	38 4	13 15	34 2	4 2	4
33 5	33 4	33 2	32 5	32 5	33 5	34 3	35 3	35 7	35 1	07 00	39 1	19 12	32 1	7 0	5††
35 5	35 6	35 6	35 9	35 9	36 3	36 6	36 6	36 6	36 6	04 13	39 4	13 35	35 0	4 4	6
35 9	35 9	36 2	36 3	36 2	36 7	36 6	36 3	36 4	36 5	07 00	38 0	11 10	35 6	2 4	7†
36 0	36 6	36 6	36 6	36 3	36 4	36 2	35 7	35 9	36 5	05 25	38 0	10 00	35 6	2 4	8
36 3	36 4	36 3	36 6	36 6	36 6	36 3	36 3	36 7	36 9	04 25	39 1	13 30	35 9	3 2	9
36 5	36 6	36 6	36 5	36 5	36 3	36 3	36 3	36 5	37 1	07 00	38 6	21 00	36 2	2 4	10†
36 5	36 5	36 5	36 6	36 3	36 5	36 5	36 6	36 8	36 8	03 46	37 9	14 00	36 3	1 6	11†
36 1	36 2	36 5	36 4	36 4	36 2	35 8	36 1	35 8	36 4	02 00	37 6	09 03	34 8	2 8	12
36 1	36 1	36 2	36 0	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	13
34 6	34 6	35 0	35 2	35 3	35 3	35 6	36 0	36 3	Δ	Δ	Δ	Δ	Δ	Δ	14††
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	15
35 2	35 5	36 0	35 9	36 0	36 0	36 2	36 2	36 7	Δ	Δ	Δ	Δ	Δ	Δ	16
36 1	36 2	36 4	36 5	36 5	36 2	36 2	36 4	36 5	36 5	03 00	38 3	10 35	34 8	3 5	17
35 1	37 2	36 1	36 4	36 4	36 3	36 4	36 4	36 5	36 2	06 38	37 5	11 00	34 7	2 8	18
34 7	35 0	35 3	35 7	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	19
36 0	36 3	36 3	36 0	36 0	36 4	36 4	36 4	36 7	Δ	Δ	Δ	Δ	Δ	Δ	20
36 1	36 4	36 4	36 5	36 5	36 5	36 7	36 4	36 5	36 6	06 27	38 9	11 00	35 1	3 8	21†
36 0	36 3	36 3	36 4	36 8	36 7	36 5	36 5	36 7	36 4	06 30	37 5	03 00	35 7	1 8	22†
36 3	36 3	36 4	35 7	35 6	36 3	36 4	36 0	35 4	36 6	01 45	38 8	22 45	35 3	3 5	23
35 3	35 4	36 0	36 1	36 3	36 4	36 5	36 8	37 5	36 5	06 28	38 8	10 52	34 4	4 4	24
35 8	36 0	36 4	36 3	36 3	36 4	36 5	36 8	37 1	36 3	04 00	37 5	09 45	34 6	2 9	25
35 0	35 1	35 1	35 4	35 6	36 0	36 3	37 1	37 2	36 4	02 02	38 8	14 12	34 9	3 9	26
35 0	35 0	35 3	35 1	35 1	35 7	35 7	36 3	36 5	35 7	00 20	37 8	09 00	34 4	3 4	27††
34 6	34 9	34 9	35 0	34 4	34 4	35 1	35 6	35 8	35 7	02 22	38 1	14 56	34 4	3 7	28††
34 9	35 4	36 0	35 6	35 6	35 7	36 0	36 4	36 4	35 6	01 47	37 2	09 30	34 0	3 2	29
35 0	35 3	35 1	35 1	35 1	35 7	35 7	36 0	36 4	36 0	03 00	38 1	09 04	34 9	3 2	30
35 7	36 0	35 8	35 8	36 0	36 0	36 0	36 3	36 5	35 9	01 13	37 9	09 06	33 9	4 0	31
35 2	35 5	35 5	35 5	35 5	35 7	35 8	35 9	36 1	36 0	.	.	.	.	3 5	Mean
36 2	36 3	36 2	36 5	36 5	36 5	36 5	36 4	36 6	.	.	.	.	.	.	Mean†
34 2	34 5	34 4	34 4	34 2	34 6	34 8	35 5	35 9	.	.	.	.	.	.	Mean††

† Five international quiet days.  
 †† Five international disturbed days.  
 Δ Loss of record; day omitted for means

TABLE 7  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes, centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

July

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1†	481	487	494	513	550	578	589	593	591	569	537	519	513	506	504
2	501	498	510	535	570	590	577	583	563	544	529	519	508	498	494
3†	504	507	513	532	561	588	612	636	640	626	596	564	539	532	535
4	527	533	554	588	614	623	618	615	△	△	△	539	531	529	529
5	△	△	△	△	601	609	560	558	545	536	531	521	512	511	514
6	523	535	552	580	602	617	606	607	576	553	533	524	523	519	505
7	525	534	548	562	594	614	624	626	620	587	552	524	507	511	509
8	522	534	544	565	584	590	600	583	571	502	472	470	493	506	504
9	516	526	542	568	588	596	619	594	549	543	528	522	510	499	507
10	508	515	533	569	639	626	641	631	579	556	539	521	519	521	518
11	516	510	508	514	526	569	581	596	613	602	583	551	527	515	519
12	508	471	477	503	555	590	613	613	693	570	558	536	520	495	494
13†	491	491	496	521	560	591	616	629	628	613	588	556	527	508	504
14	505	507	511	526	570	578	595	653	650	598	553	514	485	490	489
15††	506	500	507	504	499	516	541	562	617	601	461	423	362	353	344
16††	216	243	295	324	336	363	388	416	422	429	429	420	409	403	396
17††	419	431	452	495	550	551	532	505	498	492	468	450	449	447	452
18††	399	419	437	411	371	404	360	334	374	424	421	434	425	416	421
19	435	430	437	451	488	540	551	544	534	514	478	454	456	467	468
20	462	459	474	496	534	554	560	572	552	536	520	507	499	494	485
21	484	490	502	530	561	570	583	570	567	569	544	508	489	490	487
22	490	494	507	531	553	557	582	571	567	559	546	523	512	507	499
23	495	484	492	533	587	616	597	574	561	540	508	495	494	492	496
24	468	494	509	538	570	603	628	627	620	599	570	526	502	504	503
25††	490	495	502	514	547	592	564	567	558	523	478	481	486	486	484
26	486	492	500	524	548	569	591	597	595	557	531	513	497	495	490
27	469	472	476	506	539	557	578	572	550	532	502	484	485	486	482
28	480	479	494	516	536	565	595	572	569	561	545	519	499	493	482
29†	489	494	507	536	558	586	592	591	597	590	563	536	510	504	500
30†	493	488	489	507	531	571	596	607	607	591	559	530	522	516	507
31	513	518	534	573	601	615	635	632	611	584	541	509	509	497	492
Mean	480	483	495	516	545	567	577	578	571	554	525	505	492	488	485
Mean†	492	493	500	522	552	583	601	611	613	598	569	541	522	513	510
Mean††	406	418	439	450	456	470	477	477	494	494	451	442	426	421	419

†Five international quiet days

††Five international disturbed days.

△Loss of record, day omitted for means

TABLE 7  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

July

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H. M	γ	H. M	γ	γ	
497	496	500	502	501	502	504	503	501	522	07 22	597	00 01	473	119	1†
484	481	489	495	497	501	501	503	505	520	06 40	604	16 26	479	125	2
531	527	527	525	528	529	530	531	529	532	07 13	612	00 10	503	129	3†
530	519	519	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	4
517	522	516	511	511	525	521	520	520	Δ	01 42	645	13 10	508	137	5
507	516	519	518	518	519	517	514	518	542	05 00	626	14 26	500	126	6
503	501	501	504	513	515	514	515	517	513	05 36	616	16 18	498	148	7
503	508	512	509	513	515	515	510	510	547	05 44	611	10 24	462	149	8
511	513	505	505	506	509	515	513	511	533	05 19	630	13 10	497	133	9
516	516	519	519	521	521	521	520	522	515	03 58	661	03 22	501	160	10
524	526	590	571	555	544	549	538	511	548	08 07	627	23 59	468	159	11
489	486	488	491	491	493	495	495	492	521	06 44	625	00 50	157	168	12
502	501	500	502	503	503	504	500	503	535	07 31	636	01 36	487	119	13†
490	496	498	492	494	500	502	501	505	529	07 15	672	12 30	480	192	14
220	187	42	-11	-153	61	125	139	205	338	08 13	709	19 01	-186	895	15††
405	407	410	413	423	421	419	425	424	385	06 36	446	00 10	205	241	16††
453	465	589	520	468	444	444	409	407	474	17 08	633	23 10	354	279	17††
428	471	426	416	417	419	413	422	421	412	15 58	518	06 40	306	212	18††
466	456	456	462	459	460	459	403	464	475	05 08	562	00 51	422	140	19
481	482	449	480	479	476	479	473	475	499	07 03	585	00 36	455	130	20
496	492	493	487	481	490	499	495	490	515	06 05	593	19 24	479	114	21
495	497	497	499	499	499	498	498	498	520	06 00	602	00 01	487	115	22
494	493	490	489	488	485	493	491	490	516	04 35	625	00 48	479	146	23
503	499	501	494	479	479	485	488	492	529	06 35	639	19 08	473	166	24
486	480	478	478	475	477	470	473	478	503	05 17	605	18 45	454	151	25††
484	487	488	483	473	494	487	473	471	513	07 15	618	18 56	467	151	26
488	490	486	481	485	484	486	486	484	503	07 15	591	01 30	466	128	27
483	483	485	490	493	490	489	485	489	512	06 03	615	01 10	475	140	28
497	496	496	496	494	493	494	493	194	525	05 39	611	00 30	488	123	29†
507	509	509	507	506	508	514	515	514	529	07 50	611	01 50	483	128	30†
497	495	491	481	481	486	494	492	494	532	06 15	649	18 10	478	171	31
481	481	480	476	469	477	479	479	480	507					177	Mean
507	501	506	506	506	507	509	510	503							Mean†
393	402	389	363	326	364	370	374	387							Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 8  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

August

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	492	500	507	526	549	565	580	591	591	524	525	521	506	500	488
2	495	498	506	494	541	558	574	546	510	507	511	510	509	507	499
3	495	504	520	536	533	535	577	583	566	557	555	534	504	483	473
4	489	501	515	534	548	565	577	565	557	539	499	481	485	481	480
5	487	494	507	541	581	618	630	598	572	536	516	491	496	506	501
6	499	506	522	556	593	593	561	571	591	576	547	525	493	501	495
7	479	491	498	533	589	606	613	572	550	533	517	495	493	507	500
8	491	504	521	552	599	603	617	596	572	554	545	512	499	484	504
9	490	491	503	552	601	623	621	607	559	524	516	491	478	474	454
10	466	477	503	507	542	585	578	591	593	578	554	526	512	507	498
11	490	497	508	518	526	553	560	580	573	562	548	534	519	516	509
12†	510	512	518	549	585	612	635	662	630	591	563	542	527	523	520
13†	511	516	527	543	582	591	605	607	600	580	556	538	529	528	522
14†	513	522	549	590	608	608	618	615	604	595	565	543	537	535	528
15	511	514	522	553	586	617	611	625	619	617	566	557	546	535	528
16††	492	504	528	568	640	677	698	657	497	362	347	380	318	289	283
17††	392	394	388	407	388	389	428	421	435	425	411	363	350	376	368
18	432	437	461	494	519	541	528	508	494	473	475	472	471	474	449
19	464	468	478	518	567	567	565	546	519	510	488	485	484	484	472
20††	477	493	504	536	581	665	673	634	605	569	574	527	511	511	501
21††	486	487	483	523	568	587	625	578	566	554	522	504	504	505	493
22	474	477	487	512	550	586	610	580	527	525	522	520	505	502	497
23††	490	487	499	546	595	616	640	609	578	560	528	521	504	489	478
24	479	489	480	509	565	608	574	609	577	542	508	502	499	500	493
25	493	492	510	544	598	625	623	630	612	589	553	528	508	502	500
26	493	493	502	549	603	623	614	610	586	576	571	559	540	527	517
27†	498	513	512	550	583	625	640	634	615	563	563	539	529	526	517
28†	500	498	503	529	574	604	623	635	642	636	603	562	535	530	525
29	521	522	523	518	569	608	629	625	602	608	581	548	534	520	508
30	503	508	520	557	602	633	649	635	612	579	546	522	505	500	497
31	503	512	536	570	610	648	651	625	584	538	501	489	493	496	492
Mean	488	494	505	533	570	595	605	595	570	548	528	510	498	494	487
Mean†	506	512	522	552	586	608	628	631	618	593	570	545	531	528	522
Mean††	467	473	480	516	554	587	613	580	536	494	476	459	437	434	425

†Five international quiet days

††Five international disturbed days

△Loss of record, day omitted for means

TABLE 8  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

August

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H M	γ	H M	γ	γ	
495	495	490	491	501	502	503	501	499	516	05 40	518	13 52	486	112	1
481	484	480	480	496	499	497	495	497	507	05 47	506	17 55	475	121	2
471	475	480	485	485	480	482	486	486	512	06 08	607	14 35	499	138	3
475	481	483	487	488	485	485	487	493	517	05 45	590	10 33	470	120	4
494	486	491	497	500	499	494	499	499	522	05 57	644	15 52	486	158	5
502	501	479	449	446	469	481	480	479	517	04 37	616	18 33	446	170	6
494	493	489	479	480	498	501	498	492	517	04 35	640	17 57	477	163	7
497	497	498	500	498	499	497	494	492	526	05 53	690	23 50	488	142	8
452	457	461	448	451	448	457	461	466	503	05 45	630	18 20	441	189	9
486	487	483	488	481	486	489	492	491	517	05 07	604	00 15	494	140	10
503	500	503	504	502	502	502	501	506	521	06 48	583	00 12	488	115	11
517	513	511	510	511	509	508	508	511	546	07 10	668	23 32	506	162	12†
517	513	515	516	516	511	511	511	510	540	06 05	616	20 31	508	108	13†
520	518	519	519	516	512	513	517	516	549	06 58	628	23 58	510	118	14†
507	498	501	501	506	494	489	489	497	541	06 48	628	22 20	481	144	15
296	317	345	332	339	356	353	393	406	432	06 10	662	09 13	206	456	16††
361	413	379	411	416	417	441	435	435	406	05 54	461	11 58	339	122	17††
433	433	450	453	461	454	451	454	459	470	04 26	556	15 28	429	127	18
473	474	477	471	473	489	478	478	478	456	04 58	587	00 09	403	114	19
495	497	495	495	497	496	507	498	490	535	07 28	625	23 50	477	148	20††
485	484	473	485	482	482	490	481	476	514	05 51	653	17 23	467	186	21††
495	494	485	484	488	493	491	500	493	512	05 55	626	00 33	469	157	22
478	475	486	484	479	484	485	491	492	521	05 46	609	15 08	465	204	23††
487	492	493	493	494	493	493	499	496	516	07 11	633	01 52	467	166	24
495	493	487	492	492	489	489	492	496	531	06 36	655	16 50	486	169	25
511	509	506	503	500	502	504	504	501	538	04 26	634	01 38	479	155	26
512	510	509	507	505	504	503	505	503	540	06 00	644	00 45	495	149	27†
521	519	517	517	517	517	517	518	518	548	08 30	647	01 01	497	150	28†
512	519	515	515	512	513	506	507	506	543	06 48	651	23 59	501	150	29
496	494	488	487	490	497	499	499	501	534	05 45	661	18 00	486	175	30
493	492	494	499	490	484	495	487	482	528	05 30	657	19 53	480	177	31
482	484	483	483	484	486	487	489	493	516					158	Mean
517	515	514	514	513	511	510	512	512							Mean†
423	437	426	441	443	447	455	460	478							Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 9  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

September

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	487	488	519	548	568	587	593	581	528	512	493	494	498	493	486
2	487	487	516	558	612	616	590	586	562	494	434	452	483	484	476
3	464	477	506	538	579	560	562	491	495	473	475	492	503	503	496
4††	420	435	443	494	484	498	447	434	436	408	396	421	429	435	429
5	409	407	453	488	519	554	536	531	503	474	455	470	478	465	452
6	470	460	493	551	597	624	616	595	565	533	502	495	493	493	487
7†	478	477	500	519	599	626	637	616	594	565	528	512	513	514	507
8†	495	499	515	558	594	621	637	592	573	551	519	508	507	499	489
9†	498	502	539	565	596	629	637	623	597	567	542	530	530	530	518
10†	510	509	519	564	613	659	652	641	629	603	576	559	554	551	538
11	520	517	533	579	609	603	626	599	590	581	571	545	522	511	505
12	500	505	525	545	594	632	656	640	606	581	552	532	531	528	517
13	507	513	534	563	599	632	644	637	615	588	561	559	556	547	533
14	512	505	525	563	632	636	603	621	565	526	524	512	509	511	493
15	506	510	534	571	613	645	653	633	583	560	559	545	535	530	520
16	508	499	507	539	575	598	591	581	562	551	533	526	530	527	514
17	519	524	543	580	633	665	652	635	609	582	551	543	532	530	522
18	507	516	545	579	609	630	636	621	597	572	532	527	530	517	503
19	499	493	483	530	603	600	602	599	585	560	542	536	536	519	512
20††	523	516	522	572	609	628	625	596	554	525	513	487	458	429	413
21††	468	470	504	506	568	624	554	502	487	483	480	472	466	451	446
22††	472	493	492	528	542	605	580	573	541	495	460	449	440	436	438
23	467	468	482	524	587	616	632	624	623	567	543	516	503	488	478
24	478	464	476	506	545	574	566	539	533	515	524	526	503	453	425
25††	469	466	484	527	560	589	613	602	565	527	500	475	457	454	433
26	469	472	484	527	555	570	589	578	556	532	515	499	480	477	474
27	490	493	521	548	589	631	604	553	529	491	505	495	489	469	445
28	489	488	502	523	569	596	594	566	541	519	522	524	523	506	492
29†	491	492	508	549	596	630	639	617	579	559	525	530	524	510	500
30	506	505	524	573	601	624	608	590	548	545	519	510	518	513	481
Mean	487	488	508	545	585	610	606	587	562	534	515	508	504	496	484
Mean†	494	496	516	557	600	633	640	618	594	569	538	526	526	521	510
Mean††	470	476	489	525	553	589	564	541	517	488	470	461	450	441	432

†Five international quiet days

††Five international disturbed days

△Loss of record, day omitted for means

TABLE 9  
Hourly Values of Horizontal Force, 1959  
(Averages for sixty minutes centered at the full hour, of Greenwich Mean Time)  
39,000γ plus tabular quantities

September

Hour, G M T									Mean	Maximum		Minimum		Range	Date		
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag				
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H	M	γ	H	M	γ	γ	
475	165	460	458	456	454	487	482	485	501	05	03	611	20	12	444	167	1
471	470	165	461	460	446	451	462	466	500	04	20	635	10	16	421	214	2
493	477	466	473	162	470	177	181	435	191	01	23	623	23	25	402	221	3
389	368	365	386	403	391	391	417	100	120	03	51	522	16	20	350	172	4
460	160	163	176	171	460	172	478	482	176	01	58	597	01	10	431	163	5
488	485	483	487	185	185	181	183	182	514	01	51	635	01	07	479	156	6
505	500	190	488	490	193	195	193	193	528	05	40	611	00	50	173	168	7†
487	480	505	503	498	191	492	496	193	525	06	18	617	14	31	181	166	8†
510	504	505	507	505	501	506	505	507	510	05	30	610	00	01	196	144	9†
536	531	529	521	517	519	517	511	508	557	06	18	675	22	58	505	170	10†
507	501	504	507	508	512	514	514	510	511	06	29	615	23	41	496	149	11
513	513	512	512	504	507	512	512	510	513	06	11	676	00	14	499	177	12
524	526	524	521	523	525	523	517	517	551	06	25	652	00	27	499	153	13
488	494	495	496	505	505	505	517	510	531	01	33	669	11	26	483	183	14
514	509	502	501	500	502	516	518	512	515	05	31	611	18	42	498	113	15
408	497	493	191	493	508	519	516	516	528	05	30	621	17	58	490	131	16
503	508	510	512	512	503	501	193	504	519	05	02	681	21	36	187	107	17
496	490	197	192	492	487	495	502	504	537	06	40	657	10	30	483	174	18
506	490	496	498	501	504	508	522	526	532	01	00	630	02	00	467	163	19
426	420	425	420	123	479	178	178	191	501	01	58	616	15	35	404	202	20††
455	420	463	452	463	455	473	475	172	484	05	10	658	15	38	406	252	21††
452	447	449	460	477	178	169	165	167	183	05	05	652	12	00	125	27	22††
467	455	463	476	158	447	118	161	464	511	06	00	611	20	10	441	200	23
442	451	463	463	161	162	171	176	175	191	05	51	535	14	03	117	168	24
138	415	442	135	437	113	115	161	171	188	06	14	625	15	13	400	225	25††
480	178	480	480	477	193	483	485	184	505	06	10	608	00	18	165	143	26
438	451	471	476	477	480	482	483	195	505	04	58	649	14	45	431	215	27
483	488	490	481	182	183	493	199	192	515	05	22	601	19	26	476	128	28
494	196	497	199	505	504	502	503	512	532	06	40	636	00	56	480	156	29†
467	168	171	172	501	491	491	499	501	522	05	10	641	15	14	464	177	30
480	476	479	480	482	483	487	490	490	515						177	Mean	
506	505	503	504	503	502	502	502	503								Mean†	
132	414	429	431	411	450	451	460	463								Mean††	

†Five international quiet days  
††Five international disturbed days  
Δ Loss of record, day omitted for means



TABLE 10  
Hourly Values of Horizontal Force, 1959  
(Averages for sixty minutes, centred at the full hours of Greenwich Mean Time)  
39,000γ plus tabular quantities

October

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1††	495	499	525	570	609	624	607	572	514	509	494	477	432	420	415
2	486	480	510	551	581	581	520	544	489	491	527	527	517	509	503
3††	514	515	526	561	615	652	654	641	560	509	511	507	499	479	454
4††	464	461	475	496	531	524	522	556	532	502	484	474	444	449	440
5	474	469	482	522	514	557	575	578	560	535	516	504	484	448	467
6††	475	481	510	540	576	587	557	490	442	438	414	420	441	458	428
7	477	476	501	533	564	596	612	613	595	567	541	525	519	499	497
8	503	498	515	553	595	620	612	602	572	555	538	534	528	515	506
9	505	508	526	550	576	611	628	606	573	550	540	534	530	518	512
10†	512	512	525	517	581	611	622	613	585	569	556	550	545	533	527
11†	519	526	543	581	622	640	637	615	598	568	557	556	552	541	532
12	528	531	548	596	641	681	685	656	614	584	561	554	559	554	543
13†	525	526	510	560	612	614	619	629	608	590	583	579	574	560	546
14	526	533	548	590	632	653	670	612	620	595	563	535	535	529	523
15	519	525	538	595	601	629	626	609	591	563	551	545	533	519	517
16†	515	509	528	582	628	664	669	642	608	576	557	551	552	541	534
17	536	540	560	604	666	718	719	699	642	611	565	553	548	531	527
18	512	504	519	513	628	641	653	630	600	531	494	485	502	499	484
19	496	503	522	518	587	591	591	586	570	555	540	533	527	514	512
20	514	521	541	576	614	648	649	626	577	542	534	531	529	521	512
21	518	521	536	571	611	619	659	642	608	581	562	560	553	535	531
22	△	△	△	575	625	666	642	633	574	535	506	489	469	449	441
23	492	486	509	525	557	587	606	610	573	537	506	493	505	503	499
24	505	508	526	561	600	645	657	650	609	577	562	545	532	516	499
25	511	509	514	551	550	563	600	577	555	558	544	511	491	479	478
26	514	510	521	538	591	602	612	577	559	536	525	529	520	487	473
27	505	509	533	563	603	615	599	591	560	523	518	517	509	493	490
28†	510	518	539	580	632	643	649	624	591	568	561	561	551	539	533
29	528	537	560	587	622	647	657	645	627	632	581	563	517	529	528
30	562	569	586	572	586	647	659	627	611	604	590	574	560	547	530
31††	509	512	535	552	584	607	590	573	556	528	515	491	443	428	429
Mean	508	510	528	559	598	622	625	609	580	553	536	527	518	506	499
Mean†	516	518	535	559	615	634	645	625	598	574	563	559	555	543	534
Mean††	491	494	514	545	583	599	586	566	521	497	484	474	452	447	433

†Five international quiet days  
 ††Five international disturbed days  
 △Loss of record, day omitted for means

TABLE 10  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centered at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

October

Hour G M T									Mean	Maximum		Minimum		Range	Date			
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag					
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H	M	γ	H	M	γ	γ		
120	439	447	467	477	462	468	491	486	197	05	20	648	13	52	110	238	1	
502	502	505	505	503	505	505	509	513	516	05	00	604	07	51	171	133	2	
425	405	402	426	438	441	411	411	459	508	05	26	661	16	50	391	273	3	
435	443	443	456	461	482	480	473	470	470	06	52	572	12	43	421	118	4	
469	435	420	414	443	443	414	414	467	480	06	15	591	17	47	395	196	5	
429	449	456	458	465	479	499	482	471	477	01	50	606	10	31	100	206	6	
196	504	503	501	496	498	500	508	506	526	06	30	625	01	16	472	153	7	
500	503	501	503	508	509	508	508	506	533	05	18	638	00	58	195	143	8	
508	510	508	506	505	522	521	518	517	537	05	58	637	19	22	502	135	9	
522	517	525	528	518	518	519	521	520	515	06	35	628	00	42	509	119	10†	
526	524	521	520	518	513	528	530	531	551	01	46	618	20	20	512	136	11†	
533	521	507	511	515	515	521	524	526	563	05	26	689	17	23	502	187	12	
540	535	532	531	532	532	533	536	532	562	05	58	656	00	25	523	133	13†	
520	511	514	512	501	505	512	525	526	555	06	12	690	19	58	500	190	14	
513	523	521	518	518	513	519	529	521	546	05	33	658	14	52	507	151	15	
531	522	518	521	536	528	533	531	532	551	01	51	675	01	00	506	169	16†	
524	519	509	502	508	516	520	527	522	569	05	02	732	17	50	498	234	17	
474	492	504	497	503	510	513	507	503	530	06	27	679	10	35	463	216	18	
511	510	508	513	520	514	513	512	508	533	05	10	609	00	27	494	115	19	
511	510	511	511	510	512	517	520	521	544	05	26	666	15	56	508	158	20	
530	526	519	518	519	519	521	519	512	555	06	00	663	23	30	507	156	21	
428	452	471	473	483	488	489	492	499	Δ	05	04	607	14	02	126	271	22	
498	496	496	497	501	506	506	508	507	521	06	53	621	01	35	476	115	23	
503	506	507	510	511	514	511	511	509	515	06	20	668	14	20	491	171	24	
180	474	485	494	498	498	501	511	521	519	05	42	610	16	10	467	143	25	
447	445	446	463	469	478	481	499	504	514	05	37	631	16	10	438	193	26	
486	488	498	503	502	503	506	508	509	526	01	26	629	15	20	181	148	27	
530	522	520	520	521	524	526	529	528	555	05	57	662	00	01	509	153	28†	
529	528	529	528	529	527	528	530	536	563	06	14	660	13	21	525	135	29	
524	525	525	515	494	479	482	475	497	556	06	30	671	20	30	457	217	30	
414	395	416	430	440	450	448	475	468	491	05	00	624	16	30	386	238	31††	
494	493	493	496	499	501	503	508	508	532							174	Mean	
530	524	523	524	525	523	528	529	529										Mean†
425	426	433	447	456	463	467	471	471										Mean

| Five international quiet days  
 || Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE II  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centered at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantity

November

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1††	469	487	513	532	587	575	547	514	505	484	460	435	407	387	390
2††	457	464	471	470	508	520	478	514	471	457	470	471	467	415	410
3††	459	471	476	491	530	579	585	582	549	530	502	500	488	472	456
4	473	473	497	528	556	589	589	587	509	539	519	501	451	451	448
5	469	470	480	504	547	572	572	501	524	487	486	480	471	475	491
6	502	503	503	532	579	611	605	573	550	538	519	507	512	498	491
7	502	506	526	556	589	610	618	602	581	562	557	532	520	513	506
8	514	523	516	579	605	627	613	593	587	572	550	531	509	499	506
9	508	513	528	559	606	619	624	606	600	593	584	566	552	539	535
10	511	523	544	564	593	619	621	593	586	586	566	548	535	519	512
11†	522	516	530	556	594	626	622	602	571	547	535	538	538	530	523
12†	517	529	553	600	647	673	662	630	598	567	543	511	541	538	531
13	520	525	548	577	617	657	655	625	622	570	546	544	555	556	541
14	525	529	553	576	608	637	648	624	601	559	537	525	508	502	473
15†	502	510	532	550	582	602	611	605	583	557	532	524	524	515	512
16	522	539	564	600	640	677	690	673	630	580	552	538	538	535	523
17	497	508	533	573	599	593	586	581	578	565	548	526	505	499	496
18	511	517	533	564	595	616	645	621	568	528	503	507	523	524	508
19	508	516	539	567	605	633	642	638	601	553	534	534	518	502	502
20†	514	510	518	538	584	605	617	606	592	567	550	552	550	542	537
21	534	536	553	575	597	616	643	639	625	594	566	543	512	465	411
22	483	497	518	533	573	609	625	626	607	576	559	541	523	512	517
23	495	500	508	487	492	513	489	512	479	492	483	460	412	431	441
24†	505	511	519	540	562	581	596	601	601	589	574	559	544	526	510
25	515	519	541	569	597	630	641	615	628	586	551	529	497	470	470
26	514	523	545	566	586	596	618	637	632	612	583	523	503	516	520
27	513	518	527	545	558	576	584	568	553	563	571	561	538	516	509
28†	537	538	564	599	532	408	347	309	468	491	535	427	442	420	425
29	458	462	470	483	501	512	535	534	538	529	513	477	470	456	459
30††	483	487	492	516	556	585	616	637	610	564	537	507	465	426	420
Mean	501	508	524	548	577	596	597	589	573	551	536	518	505	493	486
Mean†	512	516	530	557	594	617	622	609	589	565	547	539	540	530	523
Mean††	481	489	514	526	543	533	515	517	521	505	501	468	454	430	420

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 11  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes centered at the full hours of Greenwich Mean Time)  
 39,006γ plus tabular quantities

November

Hours G M T									Mean	Maximum		Minimum		Range	Date		
15	16	17	18	19	20	21	22	23		I mc	Mag	I mc	Mag				
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H	M	γ	H	M	γ	γ	
404	412	421	412	413	450	452	452	468	469	05	10	606	13	10	384	222	1 ††
459	432	408	421	401	405	474	474	470	465	04	42	541	14	00	397	141	2 ††
481	450	458	480	466	459	484	478	477	496	05	10	604	16	15	437	167	3 ††
444	442	431	444	473	480	467	467	470	496	06	15	606	17	10	425	181	4
477	477	488	489	490	503	500	504	506	501	05	20	595	00	15	461	134	5
499	491	478	474	489	492	503	510	503	519	01	58	622	17	38	472	150	6
499	497	500	508	503	517	513	515	516	535	05	30	623	15	42	494	129	7
491	491	490	482	482	489	503	506	507	533	06	02	637	18	00	480	157	8
529	511	499	488	491	507	522	515	516	547	06	02	630	18	35	485	115	9
511	509	507	507	518	513	515	512	523	543	05	12	633	21	47	505	128	10
521	519	517	512	513	516	516	513	508	511	05	22	643	22	52	506	137	11 †
528	526	521	515	506	517	519	519	516	556	05	05	675	18	55	500	175	12 †
526	525	523	515	517	523	518	521	526	556	05	10	670	18	12	512	158	13
457	466	492	482	486	496	504	496	496	533	05	58	654	15	10	452	202	14
510	509	508	510	509	509	509	510	512	535	06	08	624	00	04	500	121	15 †
505	505	500	485	483	481	481	486	495	551	05	45	692	20	06	479	213	16
503	505	505	503	510	516	516	515	510	532	04	08	594	13	50	492	102	17
506	517	520	497	497	507	508	510	507	534	06	34	648	18	26	481	164	18
503	497	499	508	513	513	513	514	517	540	06	23	650	16	06	494	156	19
534	533	531	530	529	528	526	528	532	548	05	54	623	00	47	508	115	20 †
393	412	433	459	485	485	478	480	480	521	05	53	651	14	48	388	263	21
520	521	524	506	501	508	518	516	513	539	06	37	644	00	01	481	163	22
434	436	445	457	478	513	510	505	506	479	06	50	543	15	22	423	120	23
498	495	505	516	515	511	512	513	515	537	07	15	610	15	59	492	118	24 †
479	485	484	485	485	491	494	498	503	533	07	13	648	13	25	465	183	25
519	517	516	517	525	531	531	516	508	548	07	00	641	11	45	498	146	26
507	511	512	505	511	522	518	516	516	534	06	30	595	17	56	503	92	27
431	440	417	448	440	445	453	457	456	461	03	15	666	06	43	256	410	28 ††
463	453	454	463	473	481	489	483	483	485	07	48	550	13	46	451	98	29
395	378	387	450	460	461	459	459	472	493	07	02	660	16	30	373	287	30 ††
484	482	483	486	491	498	500	500	501	522							166	Mean
518	516	516	517	514	516	516	517	517									Mean †
434	422	424	446	451	456	464	464	469									Mean ††

† Five international quiet days  
 †† Five international disturbed days  
 ^ Loss of record, day omitted for means

TABLE 12  
 Hourly Values of Horizontal Force, 1959  
 (Averages for sixty minutes, centred at the full hours of Greenwich Mean Time)  
 39,000γ plus tabular quantities

December

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	484	491	500	514	523	535	556	554	558	550	501	468	456	442	443
2	482	485	499	517	553	578	564	585	590	565	533	494	485	468	440
3††	498	507	533	554	555	574	573	548	527	513	479	451	437	429	430
4	476	482	505	529	562	554	557	556	546	539	542	539	531	518	513
5††	504	508	522	545	597	594	615	639	616	569	549	527	493	416	370
6	437	446	468	480	498	514	500	506	512	518	514	516	501	488	479
7†	475	468	480	511	538	555	581	589	582	576	544	526	516	507	498
8	500	504	517	537	560	582	604	604	602	582	560	546	530	522	518
9	513	522	537	560	585	605	614	609	590	590	587	566	560	534	524
10†	527	534	546	568	590	611	621	610	599	577	564	556	551	514	539
11†	530	534	546	571	571	612	608	607	611	589	570	555	551	545	542
12	543	554	568	581	575	607	600	588	578	550	570	548	545	532	527
13	510	513	533	551	547	584	589	592	584	564	552	545	535	532	528
14††	518	515	524	548	582	570	582	577	553	511	489	468	471	469	443
15	496	507	531	551	569	586	585	564	551	537	526	520	509	500	498
16	511	513	518	534	563	591	598	584	578	546	558	522	521	512	496
17	506	515	537	562	587	605	624	612	590	559	540	535	533	524	523
18	521	522	529	568	611	620	632	640	622	600	560	536	519	504	510
19	524	530	539	554	578	596	611	603	576	544	512	488	478	475	466
20	512	510	513	534	562	578	603	603	591	578	558	550	543	536	531
21†	521	528	543	577	607	623	629	623	614	600	579	565	557	547	543
22†	536	531	539	555	577	595	611	619	619	613	604	589	577	570	562
23	546	544	558	581	609	642	648	574	601	578	564	557	546	535	527
24	506	504	508	525	557	583	596	608	596	572	526	507	504	490	480
25	529	527	535	545	574	591	597	595	587	569	544	541	536	517	527
26	534	544	565	573	592	607	597	576	578	572	570	546	517	519	502
27††	523	528	519	512	545	547	522	554	579	559	547	502	496	477	481
28††	498	515	532	539	568	596	576	542	514	5 4	515	504	495	487	472
29	480	493	511	546	540	550	551	563	551	532	513	520	506	498	492
30	511	519	538	565	587	598	598	591	566	567	545	543	507	485	491
31	514	532	557	575	585	597	603	595	567	516	534	531	531	528	523
<b>Mean</b>	509	514	527	547	569	586	592	587	578	561	543	528	517	506	498
<b>Mean†</b>	518	519	531	556	577	599	610	610	605	591	572	558	550	541	537
<b>Mean††</b>	508	515	526	540	569	576	573	572	558	533	516	490	478	462	439

† Five international quiet days.  
 †† Five international disturbed days.  
 Δ Loss of record, day omitted for means

TABLE 12  
 Hourly Values of Horizontal Force, 1959  
 (Average for sixty minutes centred at the full hours of Greenwich Mean Time)  
 3),000γ plus tabular quantities

December

Hours G M T									Mean	Maximum		Minimum		Range	Date		
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag				
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H	M	γ	H	M	γ	γ	
454	465	465	486	491	490	487	485	484	495	05	30	575	12	51	436	139	1
444	468	471	481	488	473	481	492	495	506	07	50	607	14	55	496	171	2
435	454	447	476	481	475	469	484	472	492	06	30	575	13	32	414	161	3††
514	503	499	501	501	503	513	507	504	521	05	22	575	00	10	475	100	4
356	325	297	317	308	391	438	439	441	475	07	00	690	17	35	282	408	5††
478	476	472	478	493	497	497	498	488	490	05	18	564	00	16	432	132	6
492	486	497	499	500	502	503	503	505	518	06	54	594	01	10	465	129	7†
517	517	514	514	515	511	507	501	504	536	08	00	620	22	18	496	124	8
524	525	523	527	530	531	528	521	526	551	05	58	624	00	02	511	123	9
537	532	526	531	527	521	529	531	530	554	06	45	627	19	42	520	107	10†
542	533	533	533	533	534	533	533	536	556	04	58	623	00	01	529	94	11†
533	532	530	525	526	527	522	512	506	549	05	45	621	22	57	504	117	12
524	522	515	507	524	528	512	503	520	538	05	45	602	21	57	493	109	13
444	442	455	481	486	479	485	488	493	503	05	27	610	15	54	428	182	14††
493	492	484	490	501	503	506	505	515	522	05	48	605	16	42	481	124	15
493	492	502	496	495	497	496	506	510	526	05	45	607	15	40	482	125	16
524	525	523	530	528	522	519	521	523	544	05	45	632	00	04	505	127	17
514	517	521	525	530	529	524	522	523	550	06	37	658	13	00	500	158	18
462	474	472	493	498	502	507	510	510	521	06	15	631	15	10	461	170	19
531	530	519	506	504	516	516	522	522	540	06	52	610	19	43	500	110	20
544	545	544	543	543	542	542	540	540	564	06	10	632	00	01	520	112	21†
553	552	541	545	553	553	549	549	549	568	07	10	621	00	48	531	90	22†
517	500	495	491	486	498	510	509	504	547	05	36	663	17	48	468	175	23
498	506	511	518	524	527	532	537	537	532	06	25	636	13	55	485	151	24
524	529	524	519	527	521	526	529	530	544	06	25	604	18	06	517	87	25
488	468	464	499	514	520	520	527	528	538	05	06	617	16	38	461	156	26
477	486	497	486	485	500	496	498	496	513	07	55	593	15	30	468	125	27††
465	460	460	474	462	460	473	479	482	503	05	07	626	16	52	439	187	28††
497	510	513	508	508	511	509	509	505	517	07	18	582	00	02	480	102	29
490	487	489	494	508	509	505	509	511	530	06	30	624	12	50	480	144	30
526	526	523	522	520	526	531	525	525	544	06	24	607	00	01	514	93	31
496	496	494	500	503	506	509	509	510	529							140	Mean
534	530	526	530	531	530	531	531	532									Mean†
435	433	431	447	444	461	470	478	477									Mean††

†Five international quiet days  
 ††Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 13  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

July

Date	HOURS GMT														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1†	332	336	342	340	336	324	315	304	292	307	304	321	324	311	310
2	331	337	339	347	352	345	307	304	310	317	325	332	328	315	311
3†	332	334	333	331	320	321	313	299	285	286	276	275	317	315	311
4	323	332	328	327	323	320	315	315	320	Δ	Δ	312	311	321	320
5	^	Δ	Δ	Δ	311	308	310	311	315	332	318	323	316	301	311
6	333	335	331	336	331	324	318	306	299	311	311	311	315	316	310
7	331	335	335	335	330	323	305	290	283	283	298	311	311	316	316
8	333	336	334	334	327	325	324	324	324	311	311	311	318	331	311
9	330	335	336	336	330	311	300	297	283	314	311	313	314	311	311
10	331	334	331	336	329	320	328	321	327	322	321	313	323	321	315
11	324	321	327	335	331	323	316	313	311	313	306	311	318	319	321
12	330	330	336	331	325	324	319	317	300	315	310	309	310	311	319
13†	329	335	336	337	335	329	327	331	317	321	310	317	316	317	318
14	329	335	335	333	323	305	310	290	279	287	297	315	311	318	319
15††	331	333	333	323	321	319	331	321	325	219	207	207	293	305	316
16††	318	316	335	330	320	313	311	330	331	329	325	327	325	325	327
17††	335	334	331	310	288	286	288	295	309	310	310	316	321	321	327
18††	328	340	348	339	333	313	305	307	317	316	323	321	322	322	325
19	331	335	337	335	330	315	311	313	221	229	333	335	335	323	323
20	334	334	334	338	321	322	315	321	312	315	317	303	323	321	319
21	335	336	334	327	319	318	309	293	305	313	309	313	322	321	317
22	328	333	330	329	325	322	321	319	310	312	313	315	317	315	315
23	327	327	329	320	310	312	309	321	326	310	313	315	320	320	317
24	321	332	329	318	314	324	299	291	283	308	313	322	314	318	314
25††	225	329	333	329	322	311	311	315	310	307	316	310	312	317	315
26	330	330	324	310	300	298	288	294	290	298	310	315	317	317	315
27	326	328	327	320	316	310	317	322	315	315	321	321	323	321	314
28	324	332	330	320	323	316	311	299	291	299	300	302	310	311	311
29†	321	328	323	320	306	298	290	297	297	291	291	292	298	300	311
30†	314	327	333	314	311	323	315	313	206	293	296	311	310	314	312
31	324	326	324	310	296	287	286	273	270	275	280	294	308	303	310
Mean	330	333	333	330	323	315	312	307	306	311	315	318	318	318	318
Mean†	328	332	333	335	330	319	311	306	299	310	298	305	319	315	316
Mean††	332	336	334	327	321	315	316	316	318	300	312	317	317	319	322

†Five international quiet days  
 ††Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 13  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities.

July

Hours. G.M.T.									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H M	γ	H M	γ	γ	
320	322	324	326	326	326	327	326	330	323	02 00	343	07 22	301	42	1†
321	322	323	329	329	329	327	328	327	325	01 15	340	07 05	302	38	2
321	321	322	322	323	325	325	327	327	316	01 00	334	08 00	285	49	3†
322	321	322	Δ	Δ	Δ	Δ	Δ	Δ	Δ	01 00	332	11 30	311	21	4
324	326	323	323	323	329	326	326	327	Δ	Δ	Δ	01 18	298	Δ	5
317	323	324	326	326	327	326	326	328	322	03 00	338	07 15	305	33	6
317	321	323	324	329	328	327	327	329	318	01 00	335	09 05	279	56	7
323	327	327	325	327	327	325	328	329	332	10 30	357	14 00	322	35	8
324	327	323	325	325	328	331	327	329	323	02 45	341	06 45	293	48	9
319	322	323	324	325	325	324	324	325	325	03 00	336	04 35	313	23	10
323	323	349	327	330	329	334	327	325	323	16 31	369	08 30	301	68	11
318	323	324	327	327	329	329	328	327	321	02 00	337	08 00	299	38	12
323	323	324	327	327	328	327	328	325	325	03 00	339	09 25	307	32	13†
322	324	325	324	325	327	328	329	329	317	01 00	335	08 15	277	58	14
282	279	273	282	270	360	359	352	360	313	23 03	401	09 00	215	186	15††
333	329	331	333	336	333	329	330	335	332	00 50	363	12 15	324	39	16††
327	331	375	342	328	329	331	324	328	321	16 48	421	05 00	286	135	17††
327	343	327	322	324	324	323	329	331	326	01 32	383	05 45	303	80	18††
323	323	323	324	324	324	324	327	328	326	02 00	337	05 50	310	27	19
319	323	323	325	325	323	325	327	328	323	01 00	335	07 48	311	24	20
325	323	325	324	324	325	329	325	324	321	01 00	337	06 54	289	48	21
318	322	322	323	324	324	324	327	327	322	01 10	335	09 52	311	24	22
318	321	322	323	323	323	326	322	321	321	07 30	330	05 25	300	30	23
320	320	323	324	316	321	324	328	328	318	01 30	334	07 13	290	44	24
318	318	321	323	324	322	321	323	327	320	01 52	334	09 15	290	44	25††
316	322	323	320	318	328	323	318	322	314	00 52	334	08 15	288	46	26
317	321	321	320	323	322	326	324	323	321	01 00	330	04 59	308	22	27
314	320	322	324	323	322	322	322	324	315	00 50	334	07 12	288	46	28
312	315	318	321	321	320	321	321	322	311	00 45	330	09 28	287	43	29†
314	320	320	321	321	322	324	324	323	318	03 12	347	09 15	292	55	30†
314	316	316	315	316	321	322	321	322	306	01 00	326	08 00	270	56	31
319	322	324	324	323	327	327	327	328	321					51	Mean
318	320	322	323	324	324	325	325	325							Mean†
313	320	325	320	336	334	333	332	338							Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means.



TABLE 14  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

August

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	323	335	335	336	320	311	300	296	297	311	310	311	311	312	310
2	322	332	333	320	303	298	296	297	304	312	310	310	311	310	310
3	324	326	320	318	311	315	312	297	293	304	302	299	298	303	305
4	323	326	323	322	322	316	317	316	321	318	310	328	322	315	311
5	303	329	328	324	311	298	286	277	294	310	322	325	322	312	310
6	323	325	317	312	300	288	307	316	323	313	328	329	321	318	310
7	327	310	346	343	325	309	307	304	318	329	330	325	318	312	311
8	321	327	316	305	297	287	287	289	295	304	305	306	312	316	316
9	321	330	331	325	303	297	299	303	300	312	313	311	301	302	303
10	329	334	335	323	313	298	287	287	283	277	292	300	310	313	311
11	325	331	329	309	311	312	315	313	321	321	318	315	310	310	312
12†	324	327	327	319	305	289	291	282	281	288	305	307	305	305	309
13†	323	324	325	324	323	311	312	312	307	306	303	310	312	311	311
14†	323	331	331	322	310	312	312	310	310	310	310	313	312	310	311
15	322	325	324	316	310	308	311	301	294	287	297	301	307	310	311
16††	324	335	329	317	310	294	277	252	250	286	313	315	287	288	300
17††	330	334	323	293	285	267	265	279	293	298	305	311	324	334	322
18	323	324	325	318	300	285	276	274	287	301	305	321	327	316	310
19	329	334	324	315	298	293	303	292	312	318	317	323	313	306	304
20††	324	327	322	319	309	333	309	289	288	287	298	298	298	299	305
21††	323	328	334	331	324	323	312	309	319	313	312	316	312	311	311
22	323	324	323	318	311	307	289	281	298	315	317	321	312	310	311
23††	321	324	323	313	300	277	266	275	280	284	300	306	304	310	311
24	325	331	325	320	311	294	301	305	293	296	307	316	320	314	312
25	323	326	328	320	299	276	269	269	278	286	288	300	304	311	312
26	323	329	331	328	302	278	268	268	269	280	286	296	307	312	310
27†	322	328	332	326	316	300	284	278	276	284	296	305	306	304	305
28†	322	325	329	320	311	301	293	287	281	284	290	310	312	311	311
29	325	330	335	332	329	321	311	299	287	289	289	300	305	305	305
30	323	325	324	318	300	297	278	277	281	302	317	320	317	311	311
31	327	335	329	318	313	295	279	283	295	302	309	312	308	302	305
Mean	323	329	327	320	309	300	294	291	294	301	307	312	311	310	310
Mean†	323	327	323	322	313	303	298	294	291	294	301	309	309	308	309
Mean††	324	330	326	315	306	299	286	281	286	294	305	309	305	308	310

†Five international quiet days

††Five international disturbed days

Δ Loss of record, day omitted for means

TABLE 14  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minute, centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

August

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H M	γ	H M	γ	γ	
316	317	318	320	322	321	322	322	322	317	02 35	341	07 35	287	54	1
311	311	312	314	324	322	322	322	322	314	01 52	334	06 25	288	46	2
309	314	318	322	321	321	321	322	322	312	00 33	329	07 25	284	45	3
311	318	321	322	321	320	320	321	323	319	11 00	333	10 00	304	29	4
310	310	313	317	319	318	317	322	322	312	01 10	330	06 40	274	56	5
315	317	311	303	309	322	324	323	323	316	10 15	333	05 02	286	47	6
311	312	313	313	317	321	323	324	323	321	02 05	347	06 35	300	47	7
313	315	321	322	322	323	324	323	323	311	00 52	328	04 52	286	42	8
309	312	318	313	317	316	321	323	324	313	02 00	331	05 30	294	37	9
310	313	313	321	318	319	321	323	323	311	02 00	335	08 15	275	60	10
312	313	316	319	321	322	322	322	323	317	01 00	331	03 00	309	22	11
311	312	313	318	321	321	321	321	323	309	01 00	327	07 35	275	52	12†
312	313	317	318	319	319	319	320	323	316	02 00	325	09 35	301	24	13†
311	313	317	319	318	317	321	323	323	316	01 15	333	03 58	306	27	14†
309	310	315	322	323	319	322	324	323	312	01 30	329	09 20	285	44	15
311	324	325	317	323	323	323	340	339	308	22 22	351	07 37	239	112	16††
318	317	325	335	329	328	335	327	323	313	17 25	347	06 22	262	85	17††
309	312	322	323	325	323	322	323	324	311	18 25	333	06 54	273	60	18
311	315	319	318	319	325	318	322	323	315	00 45	335	04 45	288	47	19
310	313	315	319	322	321	323	319	317	311	04 40	341	07 36	275	66	20††
311	312	312	323	319	321	323	318	319	318	02 00	334	06 38	300	34	21††
312	313	313	315	321	324	323	325	319	314	22 12	327	06 30	275	52	22
310	316	323	318	318	322	322	323	325	307	01 00	324	06 08	262	62	23††
312	314	318	319	320	320	320	324	322	314	00 35	332	05 24	289	43	24
312	313	312	316	318	318	318	320	322	306	02 00	328	05 44	266	62	25
311	312	313	314	316	318	319	320	320	305	01 25	334	06 30	266	68	26
308	311	312	314	316	316	317	318	318	308	02 05	334	08 00	276	58	27†
311	312	312	316	318	318	318	320	323	310	01 50	331	08 23	278	53	28†
312	313	313	314	315	314	313	315	317	312	02 26	336	08 15	283	53	29
312	313	313	314	317	321	323	323	325	311	00 45	329	07 00	276	53	30
311	313	314	318	315	315	319	315	319	310	00 45	336	06 15	277	59	31
311	314	316	317	319	320	321	322	322	313					52	Mean
311	312	314	317	318	318	319	320	322							Mean†
312	316	320	322	322	323	325	325	325							Mean††

† Five international quiet days  
 †† Five international disturbed days.  
 Δ Loss of record, day omitted for means

TABLE 15  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hour of Greenwich Mean Time)  
 2,000γ plus tabular quantities.

September

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	323	327	330	313	299	285	284	277	279	289	297	308	311	308	307
2	325	331	325	309	284	255	263	277	278	277	289	314	313	306	309
3	324	338	337	325	311	303	309	331	349	341	337	326	314	313	313
4††	314	321	312	297	255	267	260	256	266	266	295	309	314	321	320
5	336	331	327	318	314	308	312	295	302	308	324	327	315	306	309
6	325	326	325	307	290	276	266	266	259	290	303	314	314	308	312
7†	325	330	326	316	302	288	279	278	280	290	297	308	312	310	310
8†	325	330	325	314	296	279	278	276	290	294	306	313	310	303	309
9†	328	333	327	310	296	286	274	266	270	290	303	310	313	306	306
10†	322	327	325	319	304	291	286	280	289	302	304	307	305	305	307
11	323	327	321	313	293	287	280	286	290	296	296	302	296	304	307
12	322	328	321	307	293	284	280	280	273	284	297	304	308	313	311
13	325	327	323	320	304	292	277	266	267	285	303	305	305	309	311
14	317	321	322	311	292	279	278	279	284	310	315	307	304	304	305
15	322	326	326	317	303	287	276	271	285	303	309	310	304	308	311
16	320	327	322	300	292	292	298	303	309	315	316	316	316	315	312
17	324	328	322	311	292	276	269	272	285	293	298	303	297	306	309
18	322	328	323	309	292	282	279	275	281	292	303	308	306	306	308
19	326	324	315	303	290	282	280	282	285	297	309	315	316	312	316
20††	328	330	321	310	291	271	262	258	279	293	304	304	298	297	301
21††	318	319	317	295	299	291	269	281	294	304	307	315	316	310	317
22††	321	334	317	316	305	291	274	276	274	282	285	297	305	313	316
23	327	334	336	325	319	305	299	294	288	287	295	301	306	313	311
24	330	328	323	311	300	292	294	306	305	306	310	307	306	299	296
25††	323	329	329	314	296	296	284	278	271	278	290	304	300	312	307
26	324	326	322	323	310	307	304	296	294	295	296	295	299	311	314
27	321	329	323	314	306	301	286	289	306	316	314	306	306	307	306
28	322	328	325	319	309	306	296	296	305	318	317	305	303	308	311
29†	323	330	323	324	313	303	295	293	295	300	299	306	297	307	309
30	320	326	318	312	296	293	296	306	308	315	306	299	302	312	306
Mean	324	328	324	313	298	289	283	283	288	297	304	308	307	308	310
Mean†	325	330	325	317	302	289	282	279	285	295	302	309	307	306	308
Mean††	321	327	319	306	289	283	270	270	277	285	296	306	307	311	312

†Five international quiet days  
 ††Five international disturbed days.  
 Δ Loss of record, day omitted for means

TABLE 15  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

September

Hours G M T									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H M	γ	H M	γ	γ	
309	311	311	313	314	315	329	321	323	308	01 45	335	07 45	275	60	1
313	314	313	313	313	312	314	325	330	304	01 00	331	05 15	253	78	2
313	308	309	314	311	317	324	330	314	321	08 00	349	04 42	300	49	3
306	303	313	326	327	325	322	332	337	303	22 24	312	04 04	253	89	4††
315	315	316	322	321	320	325	327	328	317	00 14	338	06 44	291	47	5
314	314	315	318	319	318	320	321	322	306	00 45	328	06 15	264	64	6
312	313	310	314	315	318	320	320	321	308	01 00	330	07 30	277	53	7†
312	314	324	321	320	320	319	325	325	309	01 00	336	06 58	267	63	8†
308	309	314	315	316	316	318	320	320	306	00 45	334	07 30	265	69	9†
313	315	315	316	316	317	319	319	320	309	00 52	328	07 00	280	48	10†
314	315	316	317	321	321	320	321	321	308	01 00	327	06 08	279	48	11
313	315	314	316	315	317	320	321	320	307	00 56	331	07 35	271	60	12
314	315	317	319	322	323	323	323	326	308	00 46	328	07 30	261	67	13
309	315	316	319	326	323	323	326	319	309	21 46	327	05 35	273	54	14
314	316	315	317	317	321	328	311	316	310	01 05	327	06 00	269	58	15
310	315	316	318	322	327	328	323	323	314	20 40	329	04 46	290	39	16
305	315	317	318	320	317	320	314	318	305	00 45	329	05 44	268	61	17
308	315	316	316	318	316	320	323	328	307	00 46	330	07 10	272	58	18
316	316	317	321	326	324	323	328	328	310	22 25	332	06 02	272	60	19
312	313	317	313	316	326	325	319	328	305	20 07	348	05 52	261	87	20††
323	311	330	319	325	321	328	324	319	311	16 56	341	05 45	268	73	21††
323	319	322	329	331	329	321	319	324	309	18 25	340	07 28	269	71	22††
311	301	318	323	317	313	317	324	322	312	02 00	336	08 15	285	51	23
312	318	323	322	322	319	320	320	320	312	00 01	330	05 10	287	43	24
306	310	320	318	319	319	319	328	326	307	01 15	330	07 45	270	60	25††
318	318	319	318	318	328	319	319	319	312	19 40	331	08 00	294	37	26
307	318	326	325	323	326	322	322	326	314	00 45	330	07 00	283	47	27
311	318	319	319	319	320	321	326	321	314	01 08	329	06 32	293	36	28
309	317	318	319	321	320	319	319	323	312	00 42	331	07 00	293	38	29†
306	309	318	321	329	321	320	320	320	312	19 18	331	04 51	289	42	30
312	314	317	319	319	321	322	323	323	310					57	Mean
311	314	316	317	318	318	319	321	322							Mean†
314	311	320	321	324	326	323	324	327							Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means.

TABLE 16  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes Centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

October

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1††	320	330	325	313	289	269	253	255	276	295	289	283	288	299	305
2	321	324	326	324	318	311	313	320	331	329	331	319	307	313	315
3††	321	327	327	319	308	291	275	270	271	287	303	305	302	303	303
4††	327	327	325	325	318	325	331	319	307	296	305	317	307	317	312
5	323	330	321	317	308	307	305	303	307	308	308	309	307	302	307
6††	331	331	321	314	307	300	285	297	314	318	309	314	318	327	313
7	320	329	325	319	303	299	289	284	290	293	295	300	307	307	312
8	320	325	325	323	319	307	299	302	302	307	308	309	311	315	315
9	320	326	331	327	320	319	311	308	313	312	308	306	306	309	314
10†	319	321	320	319	318	309	297	296	297	301	306	308	311	318	318
11†	321	330	327	320	307	294	287	303	295	301	307	309	311	317	317
12	320	324	319	313	303	293	283	279	281	289	295	306	308	312	313
13†	320	326	330	325	325	297	295	295	307	307	314	312	311	312	312
14	319	330	327	318	308	307	297	295	297	301	301	296	305	309	314
15	319	325	323	314	303	296	291	290	291	301	305	306	306	308	314
16†	319	321	319	314	297	283	285	283	285	291	296	303	306	308	311
17	323	329	325	318	308	289	278	286	294	302	290	292	301	306	308
18	316	320	317	319	307	293	284	288	290	282	283	298	301	307	307
19	316	318	320	318	310	306	306	306	302	298	301	306	311	313	316
20	325	330	335	332	330	319	305	300	296	298	298	298	305	310	310
21	319	325	330	326	318	307	301	304	306	304	306	308	307	308	312
22	△	△	△	△	313	294	278	276	286	293	292	293	286	298	302
23	318	318	325	322	306	292	285	293	292	293	295	303	303	317	316
24	319	324	321	316	295	275	262	264	267	270	281	287	295	304	303
25	317	319	327	323	321	321	311	304	304	301	294	295	300	306	310
26	318	317	321	327	322	315	310	305	307	309	310	305	309	304	306
27	318	317	317	316	307	294	293	293	291	291	293	299	300	306	310
28†	317	319	323	324	317	309	308	309	304	305	304	303	300	309	312
29	317	318	320	321	316	300	288	282	276	278	281	288	294	303	308
30	323	316	317	321	329	320	314	305	300	294	294	294	298	306	305
31††	316	314	323	326	320	316	317	318	315	304	304	292	280	293	304
Mean	320	324	324	320	312	302	295	295	297	299	300	302	304	309	311
Mean†	319	323	324	320	313	298	296	297	298	301	305	307	308	313	314
Mean††	323	326	324	319	308	300	293	292	297	300	302	302	299	308	307

†Five international quiet days  
 ††Five international disturbed days  
 △Loss of record, day omitted for means

TABLE 16  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

October

Hours G M T									Mean]	Maximum		Minimum		Range	Date	
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag			
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	H M	Y	H M	Y	Y		
311	319	321	329	330	319	319	329	319	304	21 55	337	06 25	248	89	1††	
319	319	321	323	321	321	320	320	321	320	08 07	333	04 30	305	28	2	
301	302	309	321	325	323	323	320	330	307	23 10	331	07 19	267	64	3††	
318	321	320	329	329	331	325	319	319	320	05 30	333	08 43	294	39	4††	
314	313	311	314	325	329	319	331	327	314	22 00	331	13 22	299	32	5	
319	323	323	324	327	330	333	320	320	317	20 30	337	06 05	283	54	6††	
317	319	319	319	319	320	320	324	321	310	00 45	330	06 46	283	47	7	
314	319	319	321	323	324	321	320	320	315	01 30	327	06 25	297	30	8	
314	318	318	319	319	329	323	320	319	317	02 00	331	11 15	305	26	9	
317	317	320	323	319	320	319	321	321	314	01 30	323	07 00	296	27	10†	
317	318	319	320	320	320	327	323	321	314	02 00	331	05 35	285	46	11†	
312	311	311	318	319	320	319	319	319	308	00 45	325	07 30	277	48	12	
313	315	319	320	319	319	319	320	319	315	02 00	331	06 35	294	37	13†	
314	318	319	319	319	317	320	324	320	312	01 23	331	06 30	293	38	14	
314	319	319	320	320	319	320	324	319	311	21 38	326	06 25	285	41	15	
313	311	313	319	319	320	321	320	320	307	00 41	323	05 45	279	44	16†	
310	312	312	312	318	319	318	319	314	308	00 38	331	06 09	274	57	17	
307	319	322	318	322	324	323	318	318	308	16 20	329	10 22	275	54	18	
317	317	317	320	324	318	319	318	319	313	18 35	325	09 00	298	27	19	
312	314	316	318	318	319	319	319	319	314	01 50	317	10 15	295	42	20	
314	314	312	317	318	318	318	317	318	314	02 00	330	06 20	298	32	21	
301	316	320	319	320	319	318	318	319	318	Δ	Δ	Δ	Δ	Δ	22	22
316	316	316	317	318	321	319	317	319	310	02 06	328	05 50	283	45	23	
309	313	315	317	318	318	317	317	317	301	00 45	327	06 00	261	66	24	
313	311	318	322	322	319	318	321	323	313	02 25	328	10 15	293	35	25	
299	304	311	322	321	321	317	323	322	314	02 45	329	14 45	295	34	26	
311	313	318	321	318	318	317	317	318	308	17 30	328	08 00	291	37	27	
311	310	312	315	315	315	316	315	316	312	02 38	328	12 00	300	28	28†	
310	310	312	315	316	315	316	315	316	305	23 56	333	08 00	274	59	29	
308	310	310	309	303	300	306	305	306	308	00 01	332	10 32	292	40	30	
304	302	316	316	317	321	316	326	315	311	21 46	333	11 28	308	25	31††	
312	314	316	319	320	320	320	320	319	311					42	Mean	
314	314	317	319	318	319	320	320	319							Mean†	
311	313	318	324	326	325	323	323	321							Mean††	

†Five international quiet days  
 ††Five international disturbed days  
 Δ Loss of record day omitted for means

TABLE 17  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

November

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1††	314	318	320	321	316	298	296	296	290	280	280	280	285	294	303
2††	324	329	333	345	341	327	329	310	290	294	299	296	290	286	287
3††	299	309	302	299	305	297	281	250	274	264	272	286	292	294	303
4	299	300	302	304	298	288	281	280	285	285	286	285	273	291	298
5	302	308	317	311	298	287	279	275	274	278	275	275	277	299	308
6	305	310	311	312	294	284	278	280	288	288	288	291	297	297	298
7	304	305	304	310	302	290	287	286	287	290	288	292	298	302	302
8	309	316	316	304	291	286	292	300	297	290	284	284	286	294	298
9	310	311	314	315	314	311	314	305	303	297	293	292	292	297	302
10	302	309	303	296	288	278	274	274	273	280	286	288	290	294	208
11†	304	303	305	306	300	286	282	286	284	282	286	290	291	298	301
12†	304	304	304	311	298	275	274	279	285	286	290	294	292	298	299
13	304	302	306	306	294	274	262	268	274	279	284	286	291	298	296
14	300	299	302	300	297	296	287	274	276	281	287	284	279	288	285
15†	305	305	304	308	309	298	287	280	280	286	287	292	296	298	299
16	306	310	315	320	315	300	275	264	269	275	281	288	290	297	297
17	305	309	310	309	310	290	296	290	290	294	294	284	284	293	296
18	306	307	306	306	298	280	271	269	276	288	294	294	292	298	294
19	302	305	306	311	306	295	288	280	269	265	272	284	287	292	298
20†	305	305	304	304	295	289	284	281	274	278	284	292	294	296	296
21	305	305	304	304	300	289	278	274	268	268	276	280	275	271	265
22	300	306	301	304	307	306	298	283	280	280	281	282	286	292	300
23	298	307	301	298	299	300	300	301	299	295	283	282	284	290	300
24†	306	307	305	305	294	287	287	287	282	278	280	287	294	296	294
25	304	307	307	306	302	294	282	276	275	269	275	277	275	282	292
26	311	308	311	313	305	295	283	269	264	260	253	265	278	298	301
27	300	301	300	302	295	299	294	287	289	284	287	288	294	296	300
28††	305	301	296	296	271	283	325	347	337	315	307	260	293	291	295
29	297	294	297	315	325	319	308	297	288	△	△	△	293	△	306
30††	313	313	314	322	313	302	303	295	283	273	289	285	282	286	296
Mean	305	308	308	309	302	293	289	284	283	282	284	285	288	293	297
Mean†	305	305	304	307	299	287	283	283	281	282	285	291	293	297	298
Mean††	311	314	313	317	309	301	307	300	295	285	289	281	288	290	297

† Five international quiet days  
 †† Five international disturbed days  
 △ Loss of record, day omitted for means.

TABLE 17  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

November

Hours G M T									Mean	Maximum		Minimum			Range	Date	
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag	γ			
312	315	316	328	327	327	324	322	328	308	20	10	329	09	14	270	50	1††
314	299	297	308	321	309	311	308	302	310	18	48	332	13	35	284	48	2††
302	291	302	314	299	299	311	302	302	294	20	54	321	09	15	263	58	3††
298	299	298	308	314	314	309	300	303	296	19	11	322	11	52	270	52	4
298	299	309	306	306	311	308	308	308	297	02	10	320	08	25	268	52	5
302	297	294	298	306	306	308	309	304	298	21	25	316	05	10	275	41	6
300	300	304	309	306	310	309	308	309	300	20	02	315	06	50	282	33	7
298	299	302	300	300	305	310	309	308	299	01	00	317	10	15	280	37	8
300	296	293	297	302	305	312	302	301	303	03	26	320	10	25	291	29	9
300	302	302	305	305	306	306	304	308	295	22	30	310	08	20	272	38	10
302	303	303	304	304	304	304	303	302	297	03	02	308	08	45	280	28	11†
300	302	302	304	298	293	304	303	302	296	02	45	314	05	20	268	46	12†
293	297	298	299	300	304	302	303	303	293	02	00	310	06	00	262	48	13
288	299	311	305	308	310	310	305	300	295	17	07	318	06	58	273	45	14
300	302	304	308	305	304	304	303	304	299	03	30	310	07	25	276	34	15†
292	297	299	297	299	300	300	302	305	297	03	00	320	06	45	263	57	16
301	304	306	306	306	307	306	306	305	301	03	15	311	11	05	282	29	17
296	304	304	294	299	304	304	304	302	295	00	30	308	06	52	268	40	18
295	296	301	305	305	304	304	304	305	295	02	46	314	09	14	264	50	19
298	299	300	301	301	302	301	301	304	295	00	45	306	08	00	274	32	20†
274	290	300	306	311	305	300	300	300	290	19	07	318	13	55	263	55	21
301	300	301	298	298	300	305	301	301	296	00	45	307	07	30	275	32	22
299	301	305	306	312	323	312	306	306	300	19	47	328	10	45	280	48	23
292	294	302	307	304	302	304	302	304	296	00	50	310	09	00	277	33	24†
299	300	301	302	302	302	302	304	304	293	02	03	310	08	50	268	42	25
300	300	300	300	302	301	299	293	293	292	02	50	314	10	00	251	63	26
301	304	304	300	304	296	304	300	300	297	23	57	316	07	08	283	33	27
300	301	303	303	301	301	302	302	297	301	07	15	351	11	10	252	99	28†
308	305	311	314	317	317	320	314	313	Δ	04	00	325	Δ	Δ	Δ	Δ	29
292	291	303	330	326	318	315	312	314	303	17	50	338	03	05	271	67	30††
298	299	302	305	306	306	307	304	304	298							46	Mean
298	300	302	305	302	301	303	302	303									Mean†
304	299	304	317	315	311	313	309	309									Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Less of record, day omitted for means.



TABLE 18  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,00G plus tabular quantities

December

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
1	316	313	314	320	314	312	306	295	286	274	279	289	296	300	306
2	312	302	308	309	309	304	307	313	299	293	295	287	301	303	303
3†	317	317	313	309	304	303	304	301	303	297	297	298	303	307	314
4	315	315	317	320	323	317	320	326	318	322	314	311	312	315	316
5††	317	320	317	316	310	306	296	308	306	306	312	303	291	381	368
6	312	315	316	318	328	327	319	318	315	318	318	317	310	311	310
7†	309	317	316	310	306	305	305	299	293	293	295	303	305	309	309
8	315	313	309	310	305	305	301	299	299	300	301	304	302	308	310
9	314	314	311	308	304	301	298	290	292	288	293	294	298	299	305
10†	311	312	301	300	300	293	286	280	282	286	294	299	306	310	310
11†	313	314	308	308	301	294	293	292	289	289	295	299	304	307	311
12	313	311	305	300	306	304	304	302	301	298	304	305	301	306	308
13	306	306	312	322	329	324	318	312	311	310	310	306	306	312	313
14††	306	302	306	314	305	310	308	296	292	283	284	293	298	370	298
15	312	308	308	318	324	319	310	307	309	300	297	303	301	303	306
16	316	316	316	316	317	316	309	303	300	297	293	289	293	299	299
17	311	310	312	321	323	318	310	306	306	305	307	309	305	310	319
18	311	317	315	312	310	309	304	295	291	293	291	295	294	301	304
19	311	316	313	307	307	311	305	293	293	292	292	291	291	300	300
20	316	316	313	306	306	307	305	305	307	305	301	301	297	306	306
21†	311	311	306	306	297	289	281	273	273	280	292	299	299	301	304
22†	309	307	306	315	319	312	303	301	292	297	291	297	305	307	307
23	309	309	312	306	297	293	281	287	290	296	302	303	300	301	305
24	308	304	304	309	304	299	300	291	282	282	288	300	300	301	304
25	305	305	305	318	324	314	299	293	296	294	294	303	300	306	306
26	311	310	309	308	303	303	313	305	303	295	290	289	290	303	303
27††	307	313	315	323	327	327	327	321	309	305	291	279	293	305	305
28††	310	313	309	309	315	314	304	304	315	314	314	298	302	303	303
29	309	310	314	315	311	316	307	299	292	291	291	292	292	304	304
30	314	314	309	312	304	302	313	295	297	290	294	294	286	306	306
31	313	312	314	322	321	324	324	325	310	302	298	294	294	306	306
Mean	312	312	311	312	311	309	305	301	299	297	297	298	299	30	305
Mean†	311	312	308	308	305	299	294	289	286	289	293	299	304	308	308
Mean††	311	313	312	314	312	312	308	311	305	301	300	294	297	398	398

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 18  
 Hourly Values of Vertical Force, 1959  
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)  
 2,000γ plus tabular quantities

December

Hours GMT									Mean	Maximum		Minimum		Range	Date
15	16	17	18	19	20	21	22	23		Time	Mag	Time	Mag		
γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	H M	γ	H M	γ	γ	
310	315	313	320	320	316	314	314	313	306	03 06	322	09 18	272	50	1
303	316	317	321	320	311	315	321	317	308	18 10	322	11 05	285	37	2
316	326	316	327	326	319	316	323	326	312	15 32	340	08 40	292	48	3†
316	314	311	316	316	317	320	318	318	317	03 30	324	10 08	310	14	4
281	280	282	300	297	327	332	320	316	301	21 07	311	14 20	258	86	5††
311	311	310	315	318	318	316	313	311	316	01 15	330	08 08	307	23	6
306	307	315	317	315	316	316	316	315	308	01 00	317	08 00	293	24	7†
310	310	310	311	316	313	312	310	312	308	00 01	315	07 00	299	16	8
308	310	313	313	311	316	312	310	311	305	20 00	316	08 25	286	30	9
310	310	308	311	312	310	314	313	313	303	21 00	316	07 00	277	39	10†
311	307	310	310	312	311	311	311	313	305	00 50	316	06 30	278	38	11†
311	311	311	310	311	310	311	306	301	306	00 01	313	08 35	296	17	12
312	312	311	310	317	318	308	307	307	312	03 50	330	23 10	305	25	13
305	306	312	322	318	313	313	313	313	305	18 00	330	09 14	280	50	14††
305	306	304	310	315	313	312	310	317	309	03 47	325	09 52	295	30	15
303	305	309	307	309	309	307	312	312	306	04 00	317	10 52	288	29	16
311	311	311	313	312	310	310	311	312	311	03 40	324	12 25	303	21	17
307	306	309	312	313	312	311	309	310	305	01 03	317	09 28	285	32	18
301	307	312	313	315	317	317	317	316	305	21 30	318	12 15	289	29	19
307	306	305	301	305	310	309	311	311	307	00 01	316	12 00	297	19	20
307	307	307	309	310	310	309	310	311	300	00 01	313	08 05	271	12	21†
306	306	305	309	313	311	311	310	309	306	03 30	324	09 45	288	36	22†
304	302	304	304	305	309	312	311	310	302	17 07	317	06 15	273	44	23
308	310	310	311	312	311	311	311	310	303	19 00	312	03 00	281	31	24
306	311	308	305	312	308	308	309	310	306	04 00	329	07 00	292	37	25
301	293	302	317	316	314	311	311	310	305	18 15	322	11 30	285	37	26
304	311	315	305	307	313	307	307	307	309	04 38	331	11 05	275	56	27††
304	304	309	315	307	307	314	313	313	309	03 40	316	11 24	291	25	28††
310	315	314	314	314	314	311	314	311	308	16 16	317	09 30	284	33	29
306	306	312	314	316	313	310	313	313	305	19 09	318	11 56	282	36	30
306	306	308	309	308	312	313	309	312	310	06 25	326	10 30	291	35	31
307	308	309	312	313	313	313	312	312	307					34	Mean
308	307	309	311	312	312	312	312	312							Mean†
302	305	307	314	311	316	316	315	315							Mean††

† Five international quiet days  
 †† Five international disturbed days  
 Δ Loss of record, day omitted for means

TABLE 19  
PRINCIPAL MAGNETIC STORMS  
July to December, 1959

Observatory	Greenwich date, 1959	Storm Time		Sudden commencement			Class	Maximum activity on K Scale 0 to 9			Ranges				
		G M T of beginning	G M T of ending (1)	Type (2)	Amplitude (3)			Degree of activity (4)	Greenwich day	Greenwich night index	K-index	D	H	Z	
					D	H									Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Astrophysical Observatory Kodaikanal		H M	D H		'	γ	γ					'	γ	γ	
	July 11	16 28	12 14	c	2	38	45	m	11			7	168	92	
	July 15	08 02	16 23	c	3	118	29	s	15			18	735	184	
	July 17	16 38	19 11	c	4	150	69	ms	18			10	327	121	
	August 16	04 01	17 20	c	1	30	12	s	16			13	539	109	
	August 20	01 10	01 20	c	2	130	35	ms	20			6	274	67	
	September 3	22 00	5 10	sc	1	34	20	m	4			8	226	86	
	September 20	11 52	22 18	sc	1	19	9	ms	21			8	252	76	
	October 3	07 22	4 14					m	4			3	197	66	
	October 5	12 11	6 22					m	6			4	206	50	
	October 29	23 49	31 23	sc	1	29	15	ms	31			5	282	55	
	November 1	03 21	3 22					m	2			5	220	69	
	November 27	23 52	28 21	sc	1	28	16	s	28			10	402	92	
November 30	05 31	D <sup>ist</sup> 19					ms	30			6	298	63		
December 5	06 57	7 05	sc	2	80	26	ms	5			8	398	81		

The following symbols and conventions have been used according to recognised practice  
 Approximate time of ending constructed as the time of cessation of reasonable marked disturbance movements in the trace  
 S C = Sudden commencement, ( ) = Gradual commencement  
 Signs of amplitudes of "D" and "Z" taken algebraically (D reckoned negative being westerly)  
 (Z reckoned positive being vertically downwards)  
 Storm described by three degrees of activity (m) — for moderate (when range is less than 250γ)  
 (ms) — for moderately severe (when range is between 251 and 400γ)  
 (s) — for severe (when range is above 400γ)

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**IONOSPHERIC DATA**

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Characteristic fo F2  
Unit Mc  
Month July 1959

TABLE 1  
Ionospheric Data  
75 0° E Mean 1 m

Latitude 10 2°  
Longitude 77 5°

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	11.4	9.5	9.1	8.5	7.4	6.5	8.4	11.0	11.8	12.0	12.2	11.8
2	F	8.4	8.6	8.5	7.1	4.2I	7.5	C	C	C	C	C
3	F	F	F	7.2R	F	7.5R	9.6	11.5	12.4	C	11.8	11.4
4	F	F	F	F	F	F	8.4	10.4	10.9	10.1	10.1	C
5	F	F	F	F	F	F	8.7	11.1	11.8	11.5	11.1	10.6
6	U7.4F	F	F	F	F	F	7.2I	9.6	10.8	10.9	10.7	10.9
7	F	U9.1I	8.7	3.5	7.7	6.9	8.1	10.5	11.7	12.0	11.8	10.9
8	7.2F	U7.2R	U6.4I	F	F	5.4	7.1	9.6	10.1	10.7	10.7	10.7
9	5.9	5.3	4.6	1.3R	U3.7I	1	6.8R	9.2	10.2	10.5	1.2	10.2
10	7.0	U7.2S	6.6H	5.4H	1.5	1.0	U7.1S	9.6	11.7	12.2	12.2	12.2
11	8.6	7.1	7.6	1	8.2	7.7	8.6	10.1	11.2	11.7	11.7	11.3
12	F	F	F	F	C	C	C	C	C	C	C	11.2.3R
13	8.7	8.4	7.8	6.7	5.9	3.6	7.1	10.0	11.5	C	C	C
14	9.1	8.5	8.3	8.3	6.9H	5.1	7.9	10.3	11.9	11.6	12.5	12.3
15	8.5	9.1	8.5	8.1	U7.0S	4.7	7.7	10.3	11.0	11.6	11.4	11.5
16	6.5	5.5V	F	3.8	F	3.0	6.4	8.8	9.1	11.0	11.1	11.8
17	F	F	F	F	U8.3R	5.2	8.1	10.9	C	C	C	C
18	F	F	8.5	6.4	J3.5S	U5.2S	U7.2S	10.2	11.2	12.2	C	12.5
19	F	F	F	F	F	6.7	8.8	11.6	12.8	12.8	12.5	11.2
20	F	F	F	F	F	F	9.2R	11.0	11.9	12.2	11.9	12.0
21	F	F	F	F	F	U4.9R	U3.4I	10.8	U11.8S	12.0	11.8	11.6
22	U9.2S	8.3	U7.2S	6.5	7.1	6.2	7.5	10.0	10.8	12.2	12.2	12.4
23	F	F	F	F	F	U5.3S	7.6	10.0	10.9	11.6	10.0	9.5
24	8.3	7.8	6.8	U6.5S	J6.4R	6.0	8.1	10.6	J11.2R	11.4	10.8	10.0
25	U8.2S	U7.6S	F	U6.6R	U5.8S	5.4	7.8	U7.8S	11.0	12.1	11.6	11.2
26	F	U7.9R	U7.6I	U5.2S	4.4	4.0	7.5	9.8	10.7	10.3	10.6	11.1
27	10.1	9.2	9.1S	8.2	8.0	7.6	8.0	11.0	12.4	C	11.8	11.7
28	F	8.4	8.3	7.2	U6.2S	5.5	7.8	10.3	11.5	12.4	C	12.0
29	10.4	10.5	U9.6S	8.1	7.4	6.7	8.1	10.1	11.3	11.0	10.3	10.8
30	F	F	F	F	9.7	U9.0S	8.4	10.5	10.8	1.3	12.6	12.3
31	F	8.9	9.3	9.1	9.1	6.3	U7.3S	10.1	10.8	9.8	9.7	9.7
Mean	8.4	8.1	7.9	7.0	6.9	5.7	7.9	10.3	11.2	11.5	11.1	11.3
Median	8.5	8.1	8.3	7.2	7.0	5.4	7.8	10.3	11.2	11.6	11.6	11.1
Count	15	19	18	19	20	25	30	29	28	25	25	27

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fo F2  
Unit Mc  
Month July 1959

TABLE 1  
Ionospheric Data  
75 °E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
11 2	11 0	10 8	11 1	11 5	12 2	11 9	11 2	U9 61	8 8r	F	F	1
C	C	C	C	11 1	12 1	13 0	C	10 8	9 2	F	F	2
10 4	9 6	9 4	9 4	9 8	10 6	11 0	F	F	F	F	F	3
10 6	10 4	10 6	10 9	11 7	12 9	12 7	11 1	10 7	U0 8s	F	F	4
11 2	12 3	12 7	12 7	12 9	12 9	U13 4s	13 2	U11 9s	11 0r	9 3	3 4	5
11 4	12 0	12 2	12 8	13 3	13 6	13 4	11 8	F	F	F	F	6
11 2	10 7	10 4	10 1	10 9	11 8	U11 7s	10 7	9 6r	9 0r	F	F	7
11 2	11 7	11 8	12 1	13 0	U13 1s	13 7	12 0	U10 61	U9 2r	U3 2s	7 9	8
10 4	10 7	11 3	11 9	12 0	U12 2s	13 0	12 4	12 8	12 5	10 6	8 2	9
11 9	12 1	13 0	13 0	13 2	13 1	13 2U	12 4U	U11 11	F	F	9 5	10
10 5	10 7	10 7	10 6	10 7	11 0	11 3	U11 3s	9 7	U9 11	F	F	11
11 2	10 7	10 6	10 6	10 8	10 9	10 2	9 5	8 9	U9 1s	U3 7s	U9 5s	12
C	C	C	9 7	9 8	10 6	10 8	10 3	9 3	9 2	9 0	U0 3s	13
11 7	11 1	9 5	9 8	10 7	10 7	10 7	10 2	9 2	9 4	9 5	9 3	14
11 6	11 9	11 1	8 8	10 7	11 1	11 1	10 6	10 6	9 4	U10 3s	8 3	15
11 8	11 6H	11 7	11 0	11 0	11 0	U10 1s	U9 4s	8 8	7 91	F	F	16
C	11 8	10 2	12 5	12 6	13 0	12 6	10 9	9 81	9 2F	F	F	17
11 7	11 8	11 2	11 0	10 9	10 6	10 6	10 0	9 1	8 21	C	F	18
11 0	11 2	11 6	11 6	12 1	13 2	12 9	11 6	F	F	F	C	19
12 0	11 8	11 8	12 2	12 2	12 0	11 1	1S	F	F	F	F	20
11 4	11 8	11 8	12 1	12 6	13 8	U13 8s	U13 5s	U12 0s	U12 0s	11 6	U11 2r	21
11 8	11 4	11 6	11 4	11 2	U11 4s	U12 0s	U11 8s	10 8	F	F	F	22
9 8	10 8	10 8	11 1	U12 0s	13 6	U13 6H	13 1	F	10 8	U9 6s	U0 2s	23
9 8	9 6	10 1	10 2	11 0	U12 3R	12 4	10 6	U10 4s	U10 3s	9 4	U0 3s	24
11 2	11 3	12 0	12 8	U14 0s	U11 2s	U13 2s	12 4	F	F	F	F	25
10 5	9 9	9 9	10 5	11 1	12 1	U11 6s	11 1	U10 71	10 6s	11 0	11 1	26
11 9	12 1	12 6	12 8	U13 4s	14 0	U11 5s	13 2	F	F	F	F	27
11 4	10 9	11 9	12 0	11 6	11 6s	U12 0s	U11 4s	F	10 1	10 6	10 7	28
11 1	10 1	10 5	10 2	9 9	10 0	10 6	S	F	F	U3 5F	F	29
12 0	U 0 6W	10 7	10 6	11 0	U11 6s	U11 7s	10 7	F	F	F	F	30
9 8	6 6	9 6	10 0	U10 4s	10 8	U10 8s	U9 9s	U8 8F	8 7	9 1	11 4	31
11 1	11 1	11 2	11 2	11 6	13 0	12 1	11 3	10 3	9 7	9 8	9 5	Mean
11 2	11 1	11 2	11 0	11 4	12 1	12 0	11 3	10 4	9 4	9 6	9 3	Median
18	29	29	30	31	31	31	27	21	21	14	14	Count

Sweep 1 Mc to 25 Mc, in 7 seconds.

Characteristic fo F<sub>2</sub>  
Unit - Mc  
Month - July 1959

TABLE I (Contd)  
Ionospheric Data  
75 °E Mean Time

Latitude - 10 2° N  
Longitude 77° 5 E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	10 2	9 3	8 7	8 1	7 1	7 4	9 5	11 4	12 1	12 0	12 1	11 4
2	U8 4r	8 5	8 7	8 2	U5 2r	5 3	9 4	C	C	C	C	C
3	F	F	6 9r	7 8r	C	8 3	10 8	11 7	C	12 1	11 7	11 0
4	F	F	F	F	F	U6 9r	9 6	10 9	10 6	9 9	C	10 6
5	F	F	F	F	F	7 1r	9 9	11 1	12 0	11 6	10 5	10 9
6	U6 5i	U5 9F	F	F	F	5 9	8 7	10 1	11 2	10 6	10 7	11 2
7	F	U9 0r	8 8	8 3	7 2	6 9	9 7	11 0	11 7	12 3	11 6	11 0
8	U7 4r	U7 0r	F	F	U6 0i	5 8	8 7	10 1	10 8	10 9	10 6	11 0
9	5 3	4 9	4 1	U3 9r	F	U5 4r	8 2	9 6	10 3	10 4	10 4	10 2
10	U7 1s	6 6	5 6	5 0H	4 1	U5 2s	8 7	B	12 2	12 3	12 3	11 9
11	8 1	7 5	U7 9i	U8 0r	U8 0s	7 6	9 3	11 0	11 5	11 6	11 6	11 0
12	F	F	F	F	C	C	C	C	C	C	C	11 7
13	8 4	7 9	7 3	6 5	4 8	U5 2s	8 7	11 3	C	C	C	C
14	8 6	8 3	8 5	8 0	5 4	6 1	9 3	10 5	11 3	12 4	12 5	12 0
15	8 8	8 9	8 1	7 5	5 8	5 7	9 1	10 5	11 2	11 5	11 3	11 6
16	5 6	4 9	3 7	3 9	F	4 6	8 0	8 6	10 6	11 2	11 6	11 7
17	F	F	F	F	7 0	6 3H	9 8	C	C	10 9	C	11 2
18	F	9 2	5	U6 4s	U5 3s	6 4H	8 8	11 0	11 9	13 0	12 6H	12 0
19	F	F	F	F	F	7 1	10 4	12 5	S	12 6	12 1	11 0
20	F	F	F	F	F	F	10 1	11 3	C	12 2	12 2	12 0
21	F	F	F	F	F	U6 0r	U10 0rs	U11 6s	U11 8s	11 8	11 6	11 4
22	8 2	8 0	6 8	6 5	7 6	5 6	U9 0s	10 7	U11 6s	12 2	12 5	12 0
23	F	F	F	F	U6 4s	5 6	8 6	10 0	11 4	11 0	9 4	9 7
24	U7 9s	U7 3s	6 1	6 3	C	6 9	U9 8s	10 9	11 2	11 2	10 4	9 8
25	U7 4s	U7 5rs	F	6 9	6 4	U6 2s	9 0	10 0	11 8	12 0	11 2	11 0
26	F	F	U6 2s	4 6	4 2	5 5	8 8	10 6	10 7H	10 4	10 8	10 9
27	9 8s	8 9	8 9	8 0	7 8	6 8	9 5	12 1	C	11 8H	11 5	11 8
28	U8 6r	8 7	U7 7s	6 4	5 6	6 2	U9 6s	10 8	12 0	12 1	12 2	11 6
29	10 1	10 4	8 8	8 0	6 9	6 3	9 3	10 8	11 7	10 3	10 7	10 4
30	F	F	U9 8r	9 6	10 0	6 6	9 5	10 7	11 8	12 4	12 3	12 3
31	9 1	9 3	9 3	9 3	8 1	5 7	8 8	10 5	10 2	9 7	9 7	9 8
Mean	8 1	7 9	7 5	7 0	6 4	6 2	9 3	10 8	11 4	11 5	11 4	11 2
Median	8 3	8 2	7 9	7 5	6 4	6 2	9 3	10 8	11 5	11 7	11 6	11 2
Count	18	20	19	21	20	29	30	27	23	28	26	19

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fo F<sub>2</sub>  
Unit Mc  
Month July 1959

TABLE 1 (Contd)  
Ionospheric Data  
75°E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date	
11 2	10 8	10 8	11 4	11 7	12 3	11 5	10 5	U9 2F	U9 2F	F	F	1	
C	C	11 2	11 1	11 7	12 9	C	11 5	U10 2I	F	F	F	2	
9 9	9 1	9 2	9 5	10 4	U11 0S	10 9	U9 5I	F	F	F	F	3	
10 7	10 5	10 9	10 9	12 7	11 8	11 8	11 1	10 3	9 2F	F	F	4	
11 8	12 1	12 7	12 7	12 8	13 0	13 6	12 5	F	10 2I	9 0	7 8F	5	
11 5	12 0	12 6	12 9	13 4	13 6H	12 6	U10 8I	F	F	F	F	6	
11 3	10 5	10 1	10 4	11 2	12 2	11 2	10 0I	U9 2I	F	F	7 6F	7	
11 5	11 6	12 2	12 9	13 4	13 0	13 0	11 3I	U10 0I	U7 1S	U9 2S	U6 9S	8	
10 7H	10 9	11 7	12 0	12 0	12 4	12 8	12 4	12 6	11 6	9 5	7 2	9	
11 9	12 6	13 2	13 3	13 1	13 1	12 5H	U11 5I	U10 9I	F	U9 9F	9 1	10	
10 4	10 8	10 7	10 7	10 6	U11 2S	U11 5S	10 6	9 3	U9 2F	F	F	11	
10 9	10 7	10 5	10 7	10 9	U10 5S	U10 0S	9 0	U8 9S	9 9	9 5	9 0	12	
C	C	9 8	9 6	10 3	10 3	10 8	10 7	U9 7S	9 3	9 1	9 2	U9 6S	13
11 5	10 5	9 5	10 3	10 7	10 7	U10 6S	9 5	9 2	9 7	9 6	8 8	8 8	14
11 7	11 8	U9 3W	9 7	10 7	11 0	10 9	10 4	U7 6S	9 3	8 8	7 9	7 9	15
11 6	11 7	11 1	10 8	11 2	11 2	U9 8S	U9 2S	8 5I	F	F	F	16	
C	11 9	12 1	12 5	12 7	12 8	U11 6S	10 3	F	F	F	F	17	
11 7	11 6	11 0	10 7	10 7	10 7	10 3	U9 8S	8 8	7 9	C	F	18	
11 0	11 4	11 6	11 7	12 9	13 4	12 4	9 9	F	F	C	F	19	
11 8	11 8	11 7	12 4	12 0	U11 7S	10 8	U9 0S	F	F	F	F	20	
11 6	11 7	12 3	12 6	12 6	U13 6S	13 8	U12 6R	U11 6S	U11 8S	U11 8S	10 8	21	
11 6	11 5	11 8	11 3	11 4	11 8	J12 2S	11 0	U10 6S	F	F	F	22	
10 3	10 8	11 0	11 2	12 6	13 8H	U13 5H	12 6	11 4I	10 6	U9 6S	8 7	23	
9 8	9 8	10 1	10 6	11 6	U12 8S	U11 6S	10 2	U10 5S	10 2	U9 5S	9 0	24	
11 1	11 7	12 4	U13 6S	U14 6S	U14 2S	12 8	U11 6F	F	F	F	F	25	
10 2	9 9	10 2	10 8	11 8	U11 6S	U11 6S	10 9V	10 6	10 9	10 8	10 8	26	
11 9	12 4	12 9	13 0	13 8	14 2S	13 7	F	F	F	F	F	27	
10 9	11 5	11 8	11 6	11 8	U11 8S	U11 7S	11 0	10 2	U10 2S	10 7	10 8	28	
C	10 1	10 5	10 0	9 9	10 2	10 7	F	F	U8 2I	F	F	29	
11 7	U10 3W	10 8	10 7	U11 2S	U11 7S	U11 3S	F	F	F	U9 2S	F	30	
9 5	9 5	9 8	10 2	10 8	U10 8S	U10 2S	9 3	U3 7I	8 7	10 1	11 4	31	
11 1	11 1	11 2	11 1	11 8	12 2	11 7	10 6	U10 0	9 7	9 8	9 0	Mean	
11 3	11 4	11 0	11 1	11 7	12 2	11 6	10 6	U10 0	9 5	9 5	9 0	Median	
27	29	31	31	31	31	30	28	21	18	15	15	Count	

See 11 Mc to 25 Mc in 27 seconds



Characteristic · foF1  
 Unit Mc  
 Month · July 1959

TABLE 2  
 Ionospheric Data  
 75 °E Mean Time

Latitude · 10 2°N  
 Longitude 77 5°E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								L	L	L	L	L
2								GL	GL	GL	GL	GL
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	LH
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	LH
27								L	L	L	LH	LH
28								L	L	L	LH	U <sub>5</sub> 4L
29								L	L	L	LH	L
30								L	L	L	LH	L
31								L	L	L	L	L
Mean												
Median												
Count												1

Sweep 1 Mc. to 25 Mc in 27 seconds.

Characteristic fo F1  
 Unit Mc  
 Month July 1959

TABLE 2  
 Ionospheric Data  
 75 °E Mean Time

Latitude 10 2°N  
 Longitude . 77 5°E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
C	C	C	C	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	LH	L	L	L							11
LH	L	L	L	L	L							12
C	C	C	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	LH	L	L							21
L	L	L	L	5 8	L							22
L	L	L	L	LH	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
v6.3uL	LH	L	L	L	L							27
u5.5L	L	L	L	L	L							28
LH	LH	L	L	L	L							29
L	LH	LH	L	L	L							30
L	L	L	L	L	L							31
				A	A							Mean
												Median
2												Count

Sweep 1 Mc. to 25 Mc in 27 seconds.

Characteristic fo F1  
Unit Mc  
Month July 1959

TABLE 2 (Contd)  
Ionospheric Data  
75 0°E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count												2

Swe p 1 Mc to 25 Mc in 27 seconds

Characteristic fo F1  
 Unit Mc.  
 Month . July 1959

TABLE 2 (Contd)  
 Ionospheric Data  
 75 °E Mean Time

Latitude 10 2°N  
 Longitude 77 5°E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
C	C	L	L	L								2
L	L	L	L	L								3
L	L	L	L	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
C	C	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
C	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
C	L	L	L	L								29
L	L	L	L	L								30
L	L	L	A	A								31
												Mean
												Median
												Count

Sweep 1 Mc. to 25 Mc in 27 Seconds

Characteristic foE  
Unit Mc  
Month July 1959

TABLE 3  
Ionospheric Data  
75°E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2							2 2	C	C	C	C	C
3								3 0	A	A	A	A
4								A	A	A	A	A
5								R	A	A	A	A
6								A	A	A	A	A
7							2 3	3 0	A	A	A	A
8							2 2H	A	A	A	A	A
9								A	A	A	A	A
10								U3 0A	B	B	B	B
11								3 4	A	A	A	A
12								C	C	C	C	C
13								2 9H	A	A	A	A
14							2 1	3 2H	A	B	B	B
15								A	A	A	A	A
16							R	A	A	A	A	A
17								A	A	A	C	A
18								A	3 6	3 9	C	A
19								F	A	A	A	A
20								A	A	A	A	A
21								A	A	A	A	A
22								2 8	A	A	A	A
23								U2 8R	A	A	A	A
24							R	A	A	A	A	A
25							U2 1RH	U3 0A	A	A	A	A
26								A	A	A	A	A
27							1 8	2 7A	A	C	A	A
28								A	A	A	C	A
29							R	A	A	U3 8A	A	A
30								2 9H	3 3	A	A	A
31								A	A	A	A	A
Mean							2 1	3 0				
Median							2 2	3 0				
Count							6	11	2	2		

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month July 1959

TABLE 3  
Ionospheric Data  
75 °E Mean Time

Latitude : 10 2° N  
Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	A	A	A							1
C	C	C	C	A	3 0							2
A	A	A	A	A	A							3
A	A	A	A	A	3 0							4
A	4 0	A	A	A	A							5
A	A	A	U3 9A	A	A							6
A	A	A	A	A	A							7
A	A	A	3 8	3 4	2 8							8
A	A	A	A	A	A							9
B	A	A	A	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
C	C	C	A	A	A							13
B	B	A	A	A	3 0							14
A	A	A	A	A	2 9							15
B	A	A	A	A	A	A						16
C	A	A	A	A	A							17
A	A	A	A	A	A							18
A	A	A	A	A	A							19
A	A	A	A	A	A							20
A	A	A	A	A	2 8							21
A	A	A	A	A	A							22
A	A	A	A	A	A							23
A	A	A	A	A	A							24
A	A	A	U3 7R	A	A							25
A	A	A	A	A								26
A	A	A	3 7	A	2 9							27
A	A	A	A	A	A							28
A	A	A	U3 9A	A	A							29
A	A	A	A	A	A							30
A	A	A	A	A	A							31
			3 8		2 9							Mean
			3.8		2 9							Median
	1		5	1	7							Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic · foE  
 Unit Mc  
 Month July 1959

TABLE 3 (Contd.)  
 Ionospheric Data  
 75 °E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							A	A	A	A	A	A
2							2 7	C	C	C	C	C
3							2 7	A	A	A	A	A
4								A	A	A	A	A
5							2 6	A	A	A	A	A
6							2 6	A	A	A	A	A
7							2 5	A	A	A	A	A
8							A	A	A	A	A	A
9							A	A	A	A	A	A
10							U2 6A	B	B	B	B	B
11							2 5	A	A	A	A	A
12							C	C	C	C	C	C
13							2 5H	A	A	A	A	A
14							2 7H	A	A	B	B	B
15							2 6	A	A	A	A	A
16							A	A	A	A	A	A
17							2 7	C	C	A	A	A
18							A	A	3 7	U3 9R	A	A
19							2 6H	A	A	A	A	A
20								A	C	A	A	A
21							2 4	A	A	A	A	A
22							A	A	A	A	A	A
23							2 6	A	A	A	A	A
24							R	A	A	A	A	A
25							2 6H	A	A	A	A	A
26								A	A	A	A	A
27							2 5H	A	C	A	A	A
28							U2 5A	A	A	A	A	A
29							A	A	A	A	A	A
30							2 6H	3 0	3 4	A	A	A
31							A	A	A	A	A	A
Count							18	1	2	1		
Mean							2 6					
Median							2 6					

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month July 1959

TABLE 3 (Contd )  
Ionospheric Data  
75 °E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A	A							1
C	C	A	A	3 1	R							2
A	A	A	A	A	A							3
A	A	A	A	3 2	2 4							4
A	A	A	A	B	A							5
A	A	U4 0A	3 7	3 1								6
A	A	A	A	A								7
A	A	A	3 6	3 2								8
A	A	A	A	A								9
A	A	A	A	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
C	C	A	A	A								13
B	A	A	A	U3 3A	A							14
A	A	A	U3 6R	U3 3R								15
B	A	A	A	A	A							16
C	A	A	A	3 2	2 5							17
A	A	A	A	A	A							18
A	A	A	A	3 2	A							19
A	A	A	A	A	A							20
B	A	A	A	U3 1A	2 3							21
A	A	A	A	A								22
A	A	A	A	A	U2 4R							23
A	A	A	A	A								24
A	A	U3 8R	3 6	A								25
A	A	A	A	A								26
A	A	U3 8A	A	3 1	3 0F							27
B	A	A	A	A								28
C	A	A	A	A								29
A	A	A	A	A	A							30
A	A	A	A	A								31
		3	4	10	5							Count
				3 2	2 4							Median
				3 2	2.3							Mean

Sweep 1 Mc to 25 Mc in 27 seconds.



Characteristic : foEs  
 Unit Mc  
 Month July 1959

TABLE 4  
 Ionospheric Data  
 75.0°E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1			3 0	u6 os	S		8 0	8 0	12 0	12 8	13 8	13 4
2							G	C	C	C	C	C
3	4 3	2 4	C					G	8 0	C	13 0	13 8
4	3 6	6 6	7 0	2 6				9 6	12 0	12 6	14 0	C
5			3 4					G	11 0	12 4	13 0	6 0
6								11 0	12 0	12 4	13 8	13 0
7							G	G	10 8	12 0	12 4	14 8
8							G	12 8	14 0	12 6	13 4	13 8
9	3 6			2 0	10 4		6 6	9 2	12 2	12 6	14 4	13 4
10	8 8							10 8	B	B	12 6	13 4
11	3 4	u5 4s	u7 8s					G	8 8	11 3	13 4	18 4
12					C	C	C	C	C	C	C	15 6
13	6 6	6 2						7 3	10 8	C	C	C
14						3 6	G	5 7	8 8	B	B	11 4
15								10 4	11 2	10 8	11 9	13 3
16							G					
17	3 2		2 6	3 2				10 2	11 6	12 2	12 7	10 8
18								9 4	C	C	C	C
19	2 4							u7 os	4 6	8 4	C	11 8
20								G	14 6	12 6	13 8	13 7
21								9 0	11 4	12 2	13 5	12 6
22			4 6					11 6	12 0	13 0	14 0	16 4
23	2.6	3 4						6 4	11 2	14 6	13 4	17 0
24		3 9	7 2					G	12 4	13 0	16 4	17 0
25		3 4					G	7 8	11 2	14 0	18 4	14 0
26							G	3 8	8 0	10 0	17 0	14 0
27	u7 os			2 2			3 3	13 0	12 0	12 2	16 0	14 6
28	3 0	2 8					5 8	5 8	12 4	C	13 6	13 2
29	6 0	u7 os	u6 os	u6 os	u6 2s	3 8		16 2	18 0	13 0	C	14 4
30	u6 os	4 2					5 os	11 0	11 4	12 0	13 2	15 0
31	6 3	5 2						4 1	6 3	10 6	11 8	13 2
Mean	4 9	4 6	5 4	3 7		--	6 6	9 2	11 2	12 2	13 9	13 8
Median	4 3	4 2	6.0	2 9		-	G	8 0	11 4	12 4	13 6	13 7
Count	15	12	9	6	2	2	13	29	27	23	24	27

Sweep 1 Mc to 25 Mc, in 27 seconds

Characteristic foEs  
Unit Mc  
Month July 1959

TABLE 4  
Ionospheric Data  
75 °E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
14 0	14 0	13 8	11 6	8 8	8 0	U5 0s				4 6	3 4	1
C	C	C	C	10 6	7 0	8 8	C			4 0	3 2	2
13 0	13 0	12 8	12 0	11 0	13 0	17 0		7 4	2 8		4 0	3
13 0	12 4	12 4	11 0	8 2	G					3 0		4
11 0	G	11 0	12 0	11 0	7 0	7 0	3 6			2 9	5 0	5
14 6	11 8	12 2	11 0	7 8	7 0				2 5	3 2		6
12 8	12 8	16 6	12 0	10 6	10 6	10 0						7
16 2	12 8	21 2	10 0	G	G	4 7				U5 6s	5 0	8
14 4	19 4	12 4	12 0	14 2	21 5	U11 0s	2 8	4 0	8 8	5 4	4 8	9
13 1	16 0	11 2	16 6	21 6	11 2	8 8		5 4	8 8	7 0	4 6	10
17 2	17 1	15 3	12 7	11 8	7 8	U8 4s						11
18 4	16 8	19 8	12 3	11 6	10 2	2 1		8 0	7 8	U4 2s	3 9	12
G	C	C	12 4	12 1	10 5	U5 4s				3 8	3 8	13
16 6	14 6	14 8	13 8	10 8	3 6	2 9						14
11 4	12 8	13 6	8 7	U10 2s	G	3 5						15
11 4	12 2	11 8	11 4	10 2	9 0	U4 6s				3 0		16
C	13 8	13 8	11 6	9 1	8 4	6 8					S	17
12 3	11 4	13 6	11 8	10 5	9 0					C	3 6	18
12 6	21 0	18 0	9 4	9 4	9 4	5 0					C	19
12 6	12 2	12 6	11 4	11 4	9 4	U5 8s						20
14 0	14 0	15 0	14 0	10 0	3 5	3 0	5 6	2 4	2 0	U6 8s	4 0	21
12 6	13 4	12 0	11 2	11 0	11 0	U7 0s	4 6		1 9	2 1	3 8	22
18 4	14 2	14 2	8 6	14 4	7 4			2 6	2 4	U4 6s	3 0	23
17 0	16 0	14 0	11 4	10 4	9 6	U12 0s	3 2	2 3	2 8			24
13 2	16 2	17 4	G	6 2	11 0	U7 0s	2 8	1 8				25
13 8	17 0s	15 0	13 2	18 0	14 0s	15 0s	5 0s	3 4	3 2	4 0		26
13 0	12 6	11 6	9 2	10 0	G	2 7			2 8	U9 8s	U6 0s	27
17 0	13 0	13 2	12 5	11 2	9 0	12 0s	4 0		2 5	3 4	U5 0s	28
14 4	13 6	14 0	11 0	11 4	8 8	S	6 0s				U5 0s	29
13 1	14 7	15 3	12 6	12 6	8 4	2 9			2 2	2 0	U10 6s	30
15 0	13 7	14 3	13 8	U19 0s	U17 8s	U10 4s			4 6	3 6		31
14 1	14 4	14 1	11 8	11 5	9 4	7 3	4 2	4 1	3 9	4 4	4 6	Mean
13 5	13 7	13 8	11 7	10 8	9 0	6 9	4 0	3 4	2 8	4 0	4 0	Median
28	29	29	30	31	31	26	9	9	14	19	17	Count

Sweep 1 Mc. to 25 Mc. in 27 seconds.

Characteristic foEs  
Unit Mc  
Month July 1959

TABLE 4 (Contd )  
Ionospheric Data  
75 °E Mean Time

Latitude 10 2°N  
Longitude 77 5°E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1			3 4	10 0		4 0	11 6	10 6	13 6	12 2	13 0	13 8
2	2 0				3 8		G	C	C	C	C	C
3	2 5	1 8			C		G	9 0	C	12 6	13 6	12 8
4	4 6	6 2	4 0					10 8	12 4	13 4	C	12 8
5		3 2					G	6 2	12 0	12 6	12 4	11 0
6			3 8				7 0	11 2	12 6	15 6	16 6	12 8
7							G	11 0	12 2	12 4	13 6	14 0
8							6 6	13 4	12 6	14 0	14 0	13 0
9	4 6	4 6		8 0			7 6	12 0	12 6	13 8	17 2	14 0
10	6 8						7 8	B	B	12 8	14 4	14 0
11	3 2	U5 29				C	7 6	8 5	8 2	10 8	14 6	17 6
12					C	C	C	C	C	C	C	18 2
13	6 8						G	7 5	C	C	C	C
14							G	4 2	6 7	B	B	12 6
15							G	12 4	12 1	13 8	13 6	12 2
16							7 0	11 4	11 8	11 8	12 6	11 6
17							G	C	C	13 0	C	14 2
18	S							10 4	7 0	G	12 0	8 4
19	4 8			4 8			G	10 8	23 0	14 0	16 8	14 6
20							6 8	11 0	C	13 4	13 3	12 4
21							G	10 6	15 6	16 4	16 4	16 0
22							7 0	11 6	11 0	16 2	14 6	13 8
23	2 2						G	9 4	13 2	17 0	17 0	18 0
24		8 2	5 0		C		G	10 2	11 4	19 0	17 2	17 2
25	7 0						G	10 0	8 2	14 0	14 4	13 4
26							8 2	12 8	13 0	13 0	14 0	14 0
27		3 4					7 0	4 3	C	14 0	13 2	14 6
28	U7 08	4 0	5 0	10 0			7 0	15 0	12 3	14 0	14 0	14 2
29	5 0	4 4			3 4		7 08	11 0	13 0	14 4	14 0	14 0
30	5 7	9 4					G	G	G	11 8	12 7	12 7
31	U6 98	4 3	3 7			4 1	12 2	12 6	13 2	13 7	13 4	14 4
Mean	4 9	5 0	4 2				7 9	10 3	12 2	13 8	14 3	13 9
Median	4 9	4 4	3 9				G	10 8	12 3	13 7	14 0	14 0
Count	14	11	6	4	2	2	28	27	23	27	25	29

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foEs  
Unit Mc  
Month July 1959

TABLE 4 (Contd )  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
14 4	13 8	13 0	9 0	8 6	S				U5 OS			1
C	C	12 0	12 0	8 0	4 0	C			3 2			2
13 2	14 0	12 6	12 0	9 4	13 8	U5 OS		4 8	2 7	U3 OR	3 0	3
12 4	12 4	12 0	9 0	G	G					3 2	5 2	4
10 8	13 8	6 6	9 0	8 0	7 8	4 0			2 8	3 8		5
12 2	14 0	11 0	9 1	G	10 4				3 6			6
16 0	16 2	12 0	9 8	9 8	11 0	5 4						7
12 6	12 6	8 6	G	8 8	5 2	6 8				4 2	7 8	8
12 6	20 5	11 2	16 8	14 0	13 0	U8 OS	2 2	U7 6s	U7 OS	5 4	10 4	9
16 2	12 6	14 4	15 8	14 8	10 0		4 0	5 6	9 8	5 0	4 2	10
16 8	16 4	13 6	12 2	10 1	6 5	3 8						11
15 7	16 6	14 4	12 3	9 8	8 8		2 2	7 2	8 3	2 7		12
C	C	12 0	12 8	11 2	U7 8s				2 8	3 0		13
15 8	14 7	13 3	12 3	8 6	3 4							14
13 6	14 7	12 8	13 8	G	3 4							15
12 0	12 6	11 8	11 0	10 6	6 8	3 0					2 6	16
C	14 0	12 2	10 8	8 7	U7 OS				6 4			17
9 8	13 4	11 6	11 0	9 5	8 2					C	4 0	18
13 2	21 0	13 6	9 4	6 2	8 2				2 6	C		19
12 6	12 4	11 3	11 2	10 6	U9 6s				2 2			20
14 2	13 8	13 8	12 0	3 6	3 0	U5 4s		3 0	2 0	5 4		21
13 0	12 7	11 4	11 4	8 0	8 0	11 0				3 9	2 8	22
18 0	13 6	12 0	19 0	9 6	G			2 8	3 5	4 6	5 8	23
15 4	15 0	12 0	11 0	8 4	13 0	U10 OS	2 0	2 2		4 0		24
15 6	18 0	G	5 2	7 2	11 0	2 2	3 0					25
14 8	13 5	12 2	19 0	11 6	13 4s	9 OS	6 OS	3 0				26
13 0	12 4	11 0	15 0	G	G	3 8		2 1	U3 2s	U5 OS	U7 OS	27
14 0	13 2	12 0	12 0	9 0	11 OS	U5 OS		5 OS	4 0	U5 OS	4 0	28
C	15 0	12 6	12 0	10 8	8 8	U5 OS					U7 8s	29
13 5	13 2	13 1	13 4	U10 6s	U7 3s				2 8	4 6	U6 OS	30
14 2	14 1	U14 4s	U17 1s	18 8	S	5 6		3 6	2 8		U5 8s	31
13 9	14 5	12 2	12 2	9 8	8 5	5 8	3 2	4 3	4 2	4 1	5 5	Mean
13 6	13 8	12 0	12 0	9 0	8 0	5 2	2 6	3 6	3 2	4 1	5 5	Median
27	29	31	31	31	29	16	6	11	18	16	14	Count

Sweep 1 Mc to 25 Mc. in 27 seconds.

Characteristic fbEs  
Unit - Mc  
Month : July 1959

TABLE 5  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2°N  
Longitude 77 5°E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1			1 6	1 8	1 9		2 8	3 0	3 2	3 9	4 0	4 3
2								C	C	C	C	C
3	1 8	1 7	C	2 1				3 0	3 4	3 9	4 2	4 1
4	2 0	3 0	2 2						3 5	3 8	4 1	C
5								3 0	3 4	3 8	4 0	4 2
6								3 0	3 5	3 9	4 2	4 2
7								3 0	3 5	4 0	4 0	4 2
8								3 0	3 6	3 9	4 0	4 2
9	1 6			1 6	2 2		2 2	3 0	3 5	3 8	4 0	1 3
10	2 2							3 1	B	B		5 1
11	2 2		2 2		C	C	C	C	3 7	3 8	4 2	4 5
12		2 3						3 0	3 5	C	C	1 4
13								3 0	3 6	B	B	C
14								3 0	3 6	4 0	4 7	4 5
15								3 0	3 5	4 2	6 3	4 5
16			1 4	1 5				3 2	3 8	4 1	C	4 4
17	2 0							3 0	3 7	4 0	4 2	4 4
18								3 0	5 1	4 0	4 3	4 6
19								3 0	3 6	4 0	4 3	4 6
20								3 0	3 5	3 8	4 0	4 2
21								3 0	3 4	4 0	4 0	4 2
22								2 8	3 4	3 8	4 1	4 2
23	1 8	1 7						3 0	3 4	4 1	4 2	4 2
24								3 0	3 4	4 0	4 2	4 6
25							2 1	3 2	3 4	3 8	4 2	4 2
26				1 5			2 0	3 0	3 5	C	4 0	4 2
27	2 0	2 2				1 9		3 0	4 6	4 0	4 0	4 2
28		2 6	1 5					2 9	3 4	3 8	4 0	4 1
29	2 2	1 6						3 0	3 7	4 3	4 0	4 0
30	2 3	1 9									4 2	4 2
31	1 8	1 9	2 1					3 2	3 3	3 4	3 9	4 2
Mean	2 0	2 1	1 8	1 7				2 5	3 0	3 6	3 9	4 3
Median	2 0	1 9	1 8	1 6				2 2	3 0	3 5	3 9	4 1
Count	11	9	6	5	3			5	23	28	23	27

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fb Es  
Unit Mc  
Month July 1959

TABLE 5  
Ionospheric Data  
75 0' E Mean Time

Latitude 10 2°N  
Longitude . 77 5°E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4 3	4 1	1 0	3 7	3 4	3 0	2 6				1 8	2 3	1
C	C	C	C	3 5	3 2	2 1	C			1 8	2 0	2
4 2	4 1	4 0	3 8	3 4	5 0	3 2		1 3	1 7		2 2	3
4 2	4 2	4 0	3 7	3 3								4
4 4		4 0	3 8	3 4	3 1	2 5	2 0					5
4 2	4 1	4 2	4 0	3 8	3 0				1 6			6
4 3	4 2	4 0	3 7	3 4	3 4	3 2						7
4 2	4 4	7 0	4 0			2 5				1 5	2 0	8
4 3	4 7	4 3	1 3	4 2	9 5	2 6	1 2	2 5	2 4	2 0	2 1	9
5 0	4 7	4 4	4 0	5 4	6 2	2 1		1 6	1 7	2 1	2 2	10
5 2	4 5	4 1	3 9	3 6	3 1	2 5						11
4 5	4 3	4 1	4 2	3 5	3 1	2 0		1 8	1 9	1 7	1 6	12
C	C	C	3 9	3 6	3 1	2 0				1 9	2 0	13
4 8	4 8	4 5	4 1	3 6	3 0	2 2						14
4 3	4 4	4 2	4 0	3 5		2 1						15
	4 5	4 2	4 0	3 6	3 0	2 2				1 9		16
	4 4	4 2	3 9	3 4	2 9							17
4 4	4 3	1 2	4 0	3 5	3 0					C	1 9	18
4 6	4 6	5 2	5 2	4 1	4 5	2 8						19
4 4	4 4	4 2	3 8	3 5	3 0	2 1					C	20
4 6	4 6	4 6	4 0	3 8	3 4	2 0		1 5		2 0		21
4 2	4 2	4 2	3 7	3 4	4 0	2 0	1 5			1 3	1 7	22
4 4	4 2	4 1	4 0	4 0	3 0			1 3	1 7	1 6	2 0	23
4 3	1 2	4 2	3 8	3 6	7 4	4 0	1 5	1 5	1 6			24
4 8	5 0	4 6		4 6	5 0	2 2	2 4					25
4 4	4 1	4 3	1 3	4 4	4 4	4 2	1 8		1 7	2 2		26
4 2	4 2	4 0	4 0	3 0		2 0				2 2	1 5	27
4 2	4 2	4 0	3 8	3 4	3 0	2 6	1 3		1 2	1 9	2 0	28
4 2	4 3	4 2	3 8	3 4	2 8	2 1	1 4					29
4 3	1 0	3 8	3 7	3 6	1 1	2 0			1 1	1 3	2 2	30
4 3	4 2	4 0	3 7	6 4	5 3	2 2			2 0	1 7		31
4 4	4 4	4 3	4 0	3 8	4 0	2 5	1 6	1 6	1 7	1 8	2 0	Mean
4 3	4 3	4 2	3 9	3 6	3 1	2 2	1 5	1 5	1 7	1 8	2 0	Median
27	28	29	29	30	27	26	8	7	11	16	14	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fb Es  
Unit Mc  
Month July 1959

TABLE 5 (Contd)  
Ionospheric Data  
75° E Mean Time

Latitude 10 2°N  
Longitude 77 5°E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1				1 9		1 6	3 8	3 2	4 0	4 0	4 1	4 3
2	1 7							C	C	C	C	C
3	1 8	1 8			C			3 2	C	4 2	4 2	4 3
4	2 0	2 6	2 1					3 2	3 6	3 9	C	4 1
5		1 6						3 1	3 5	4 0	4 0	4 2
6			1 6				2 6	3 3	3 6	4 0	4 1	4 2
7								3 0	3 8	4 2	4 2	4 2
8							2 6	3 3	3 6	4 0	4 3	4 3
9	1 7	1 7		1 4			2 7	3 2	3 6	4 0	4 2	4 1
10	2 2						2 8	B	B			4 0
11	2 2	2 4					2 6	3 3	6 1	4 0	4 3	4 8
12					C	C	C	C	C	C	C	4 4
13	2 3							3 3	C	C	C	C
14								3 3	4 0	B	B	
15								3 3	3 8	4 6	4 3	4 2
16							2 7	3 2	3 8	4 2	4 2	4 6
17								C	C	4 3	4 2	4 6
18	3 0							3 4			4 4	4 5
19	2 0							3 2	9 7	4 0	4 3	4 4
20							2 8	3 2	C	4 3	4 6	4 6
21								3 5	3 6	4 0	4 2	4 3
22							2 6	3 2	3 6	4 0	4 2	4 2
23								3 2	3 6	4 0	4 2	4 2
24					C			3 2	3 7	4 4	4 3	4 3
25	2 0							3 2	4 0	4 0	4 4	4 6
26							3 6	3 2	3 6	4 0	4 2	4 2
27		2 6						3 2	C	4 0	4 2	4 2
28	3 0	1 4	1 6	1 6			2 5	5 0	3 8	4 0	4 1	4 2
29	1 9	1 5					2 5	3 2	3 6	4 0	4 1	4 2
30	2 1									4 5	4 0	4 2
31	2 6						2 5	3 2	3 6	4 0	4 2	4 3
Mean	2 2	2 0					2 8	3 3	4 1	4 1	4 2	4 4
Median	2 0	1 8					2 6	3 2	3 6	4 0	4 2	4 3
Count	14	8	3	3		1	13	26	21	25	24	28

Sweep 1 Mc to 25 Mc. in 27 seconds

Characteristic fb E.  
Unit Mc  
Month July 1959

TABLE 5 (Contd.)  
Ionospheric Data  
75 0' E Mean Time

Latitude 10 2°N  
Longitude 77 5°E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 3	4 1	3 8	3 5	3 2	2 8				2 2			1
C	C		3 5	3 2	2 6	C			1 8			2
1 2	1 0	3 9	3 6	3 1	6 0	1 8		2 2	2 0	1 8	2 0	3
1 1	4 0	1 0	3 1									4
4 1	1 2	3 9	3 6	3 4	5 8	1 7				2 0		5
4 2	4 2	1 0	3 6		2 6							6
4 2	1 0	3 8	3 6	3 2	3 4	2 1						7
4 2	4 7	4 3		3 5	3 1	2 2				1 8	1 7	8
4 4	4 5	1 3	1 8	3 7	1 1	' 1	1 4	1 6	1 8	2 4	2 6	9
4 6	5 0	1 2	3 8	5 0	2 7		1 5	1 5	1 5	2 0	1 9	10
1 7	1 3	1 0	3 8	3 1	2 7	1 9						11
1 1	1 3	1 1	3 8	3 3	2 6		1 8	2 1	2 1	1 5		12
C	C	1 1	3 7	3 1	2 5					1 8		13
5 0	1 7	1 2	3 7	3 1	2 8							14
1 3	4 5	4 2	3 8		2 6							15
	4 3	1 0	3 6	3 3	2 6	1 1					1 8	16
C	1 2	1 0	3 6	3 2	2 5				2 4			17
4 4	1 4	1 2	3 7	3 4	2 6					C		18
4 3	5 6	6 1	4 7	5 1	3 6				1 9			19
1 4	1 4	4 1	3 6	3 2	2 6				1 7			20
1 7	4 8	1 0	3 8	3 6	2 9	2 3		1 8		2 1		21
1 2	1 3	4 0	3 6	3 1	2 5	1 8				1 8	1 5	22
4 2	1 0	4 0	5 4	3 8				1 5	1 6	1 7		23
1 2	1 4	1 0	3 6	3 5	1 0	2 8	1 2	1 5		1 7		24
4 6	6 0		1 6	5 6	4 0	1 5	1 4					25
4 3	1 2	4 0	1 3	3 4	4 2	3 6	1 6	1 7				26
1 3	4 2	4 0	5 0						1 5	1 7	1 4	27
4 1	4 2	1 0	3 6	3 0	2 6	1 9		1 8	1 6	2 4	2 2	28
C	1 1	1 0	3 6	3 1		1 5					2 2	29
4 0	4 0	3 8	3 6	3 3	2 7				1 2	1 8	1 7	30
4 2	4 2	3 8	5 0	5 9	2 5	2 0					2 5	31
4 3	4 1	4 1	3 9	3 6	3 0	2 1	1 5	1 7	1 8	1 9	2 0	Mean
4 3	4 3	4 0	3 6	3 4	2 7	1 9	1 4	1 7	1 8	1 8	2 0	Median
26	29	29	30	27	27	15	6	9	13	15	12	Count

Sweep 1 Mc to 25 Mc in 27 seconds



Characteristic f min  
Unit Mc  
Month July 1959

TABLE 6  
Ionospheric Data  
75° E Mean Time

Latitude 10 2°N  
Longitude 77 5°E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	1 2	1 1	1 2	1 1	1 3	1 6	1 5	1 6	2 0	2 1	2 1	2 3
2	1 8	1 4	1 3	1 5	1 3	1 3	1 8	C	C	C	C	C
3	1 1	1 3	C	1 7	2 0	1 6	2 2	1 6	2 1	C	2 5	2 6
4	1 4	1 1	1 4	1 5	2 2	2 1	2 3	1 6	1 9	2 2	2 3	C
5	1 5	1 5	1 4	1 4	1 5	1 4	2 2	1 8	2 0	2 2	2 4	2 5
6	1 3	1 2	1 4	1 9	1 5	1 3	2 2	1 7	1 8	2 2	2 2	2 7
7	1 6	1 5	2 2	2 1	1 6	1 4	1 8	1 4	1 8	2 1	2 3	2 4
8	1 8	1 8	1 6	1 7	1 5	1 5	1 8	1 5	1 8	2 2	2 2	2 6
9	1 1	1 7	1 0	1 3	1 7	1 8	1 8	1 6	2 0	2 4	2 3	2 5
10	1 8	2 3	1 8	1 5	1 6	1 6	2 2	1 7	7 3	6 1	5 4	5 0
11	E	2 2	1 8	2 3	2 0	1 6	2 2	1 8	2 1	2 3	2 5	2 6
12	2 2	2 0	1 8	1 6	C	C	C	C	C	C	C	2 8
13	1 8	2 4	2 3	2 2	2 0	1 6	2 3	1 9	2 3	C	C	C
14	1 8	1 2	1 4	1 3	1 4	1 3	1 9	1 6	1 9	10 0	6 6	U5 4 <sup>s</sup>
15	1 5	1 7	1 4	1 3	1 3	1 5	2 1	1 8	2 2	2 5	2 6	2 8
16	1 4	1 8	1 3	1 5	1 8	1 5	1 4	1 1	2 0	2 2	2 6	3 0
17	1 4	1 5	1 2	1 3	1 5	1 6	2 4	2 2	2 6	3 2	C	3 4
18	3 0	2 8	2 0	1 6	1 7	1 8	2 2	1 7	2 2	2 6	C	2 8
19	1 7	2 4	2 0	2 0	1 6	1 4	2 4	1 7	2 5	2 4	2 7	3 0
20	1 4	1 5	1 6	1 8	1 7	2 0	2 4	2 0	2 1	2 3	2 4	2 7
21	1 2	1 2	1 4	1 5	1 4	1 4	2 2	1 5	2 0	2 2	2 4	2 8
22	2 0	1 8	1 8	1 4	1 7	1 5	2 1	1 8	1 9	2 3	2 4	2 4
23	1 5	1 4	1 7	1 0	1 4	1 4	2 2	1 3	1 6	2 2	2 0	2 6
24	2 7	2 6	1 9	1 8	1 7	1 6	1 7	1 7	1 8	2 2	2 5	2 5
25	1 8	1 6	1 3	1 7	1 5	1 3	1 3	1 4	1 9	2 0	2 2	2 8
26	2 1	2 3	1 8	1 3	1 6	1 4	1 5	1 6	1 9	2 2	2 4	2 6
27	1 2	1 7	1 9	1 5	1 3	1 3	1 5	1 3	1 7	C	2 3	2 6
28	E	1 2	1 2	1 6	1 3	1 4	2 2	1 7	2 0	2 5	C	2 6
29	1 4	1 3	1 3	1 2	1 3	1 3	1 4	1 5	1 5	2 3	2 4	2 4
30	1 6	1 8	1 6	1 3	1 3	1 6	2 1	1 3	2 1	2 5	2 2	2 5
31	1 4	1 8	1 8	2 0	1 8	1 3	1 4	1 4	1 7	2 5	2 5	2 8
Mean	1 6	1 7	1 6	1 6	1 6	1 5	2 0	1 6	2 2	2 8	2 6	2 8
Median	1 5	1 7	1 6	1 5	1 6	1 5	2 1	1 6	2 0	2 3	2 4	2 6
Count	31	31	30	31	30	30	30	29	29	26	25	28

Sweep 1 Mc to 25 Mc. in 27 seconds.

Characteristic f min  
Unit Mc  
Month July 1959

TABLE 6  
Ionospheric Data  
75° E Mean Time

Latitude . 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 3	2 4	2 2	2 1	2 0	1 8	1 3	1 2	1 2	1 6	1 3	2 2	1
C	C	C	C	2 2	1 9	1 8	C	1 4	1 4	1 4	1 2	2
2 7	2 4	2 4	2 3	2 3	1 8	1 4	1 4	1 3	1 3	2 0	1 2	3
2 4	2 6	2 5	2 3	2 3	2 0	2 0	1 4	1 8	1 7	1 6	1 5	4
2 8	2 0	2 6	2 5	2 6	2 2	1 4	1 2	1 5	1 4	1 5	1 5	5
2 7	2 8	2 6	2 1	2 3	2 0	2 0	1 3	1 3	1 1	1 4	1 5	6
2 4	2 5	2 4	2 2	2 1	1 9	1 6	1 2	1 6	1 7	1 8	2 2	7
2 8	2 6	3 5	3 1	2 6	2 3	1 6	1 5	1 3	1 6	1 3	1 4	8
2 3	3 0	3 1	2 6	2 2	1 8	1 3	1 0	1 2	1 0	1 5	2 0	9
4 2	4 0	3 3	2 6	2 6	1 8	1 1	1 2	1 3	1 0	1 3	1 4	10
2 7	2 5	2 4	2 3	2 1	1 8	1 4	1 4	1 8	1 9	1 4	1 9	11
3 0	2 8	2 8	3 0	2 5	1 9	1 8	1 3	E	1 4	1 4	1 4	12
C	C	C	2 9	2 8	1 5	1 0	1 3	1 2	1 4	1 2	1 3	13
4 5	4 0	3 2	3 0	2 8	2 3	1 7	1 1	1 2	1 6	1 5	2 1	14
3 2	2 8	2 8	2 6	2 5	2 4	1 6	1 4	1 3	1 1	1 6	1 8	15
4 8	3 4	2 6	2 5	2 4	1 7	1 2	1 2	1 8	1 6	1 6	1 8	16
C	3 0	2 8	2 6	2 2	2 0	1 7	1 3	1 6	1 8	2 2	2 8	17
3 0	2 7	2 6	2 8	2 6	2 4	2 2	1 5	1 6	1 7	C	1 4	18
2 9	3 0	2 6	2 4	1 9	2 4	1 7	1 9	1 7	1 8	1 5	C	19
2 6	2 8	2 6	2 4	2 2	2 2	1 4	1 2	1 5	1 7	1 6	1 3	20
4.4	3 2	3 0	2 6	2 3	2 0	1 7	1 4	E	1 2	1 5	2 0	21
2 6	2 6	2 3	2 2	2.1	1 7	1 3	E	1 2	1 4	1 1	1 7	22
2 6	2 5	2 6	2 7	2 0	1 9	2 2	1 5	E	1 3	1 3	1 9	23
2 8	2 6	2 5	2 4	1 7	1 7	1 3	1.2	E	1 2	1 4	1 7	24
3 0	2 6	2 4	2.4	2 4	1 7	1 2	1 1	1 5	1 4	1 7	2.0	25
2 6	2 5	3 4	2 6	2 2	1 4	1 2	1 1	1 5	1 6	1 4	1 8	26
2 7	2.6	2 6	2 2	1 9	2 0	1 7	1 28	1 08	1 0	E	E	27
2 8	3 0	2 8	2 4	2 0	1 6	1 3	1 0	1 3	1 1	1 1	1 6	28
2 6	3 0	2 6	2 5	2.0	1 6	1 5	1 0	1 3	1 3	1 1	1 0	29
2 5	2 5	2 4	2 6	2 0	1 7	1 5	1 2	E	E	1 1	1 1	30
2 6	2 6	2.6	2 3	1 9	1 5	1 1	1 1	1 1	1 9	1 6	1 9	31
2 9	2 8	2 7	2 5	2 2	1 9	1 5	1 3	1 4	1 4	1 5	1 7	Mean
2 7	2 6	2 6	2 5	2 2	1 9	1 5	1 2	1 3	1 4	1 4	1 6	Median
2 8	2 9	2 9	3 0	3 1	3 1	3 1	3 0	3 1	3 1	3 0	3 0	Count

Sweep 1 Mc to 25 Mc. in 27 seconds

Characteristic f min  
Unit Mc  
Month July 1959

TABLE 6 (Contd)  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	1 1	1 2	1 3	1 2	1 8	1 6	1 6	1 7	1 9	2 0	2 3	2 6
2	1 1	1 3	1 5	1 5	1 3	1 6	2 0	C	C	C	C	C
3	1 3	1 6	1 8	1 9	C	1 8	1 9	1 9	C	2 1	2 6	2 7
4	1 1	1 1	1 2	2 0	2 1	2 1	2 6	1 6	2 1	2 0	C	2 3
5	1 4	1 5	1 6	1 7	1 5	1 7	1 7	2 2	2 0	2 2	2 6	2 6
6	1 4	1 2	1 2	1 6	1 6	1 8	1 9	1 7	2 1	2 2	2 4	2 6
7	1 9	2 0	1 9	1 8	1 5	1 6	1 9	1 5	2 1	2 2	2 2	2 5
8	1 6	1 7	1 8	1 8	1 5	1 6	1 7	1 5	2 0	2 2	2 4	2 7
9	1 2	1 0	1 2	1 0	1 7	1 7	1 8	1 7	2 2	2 3	2 4	2 7
10	1 8	2 2	1 7	1 7	1 7	1 6	1 9	B	6 2	5 1	5 3	1 2
11	1 4	1 5	2 3	2 1	1 5	2 1	1 8	1 9	2 3	2 2	2 6	2 7
12	2 1	1 9	1 7	1 7	C	C	C	C	C	C	C	2 9
13	2 2	2 4	2 0	1 9	1 9	1 6	1 9	1 8	C	C	C	C
14	1 6	1 3	1 4	1 2	1 2	1 6	1 9	1 6	2 1	7 0	6 1	5 0
15	1 6	1 7	1 5	1 3	1 3	1 9	2 1	2 0	2 3	2 6	2 7	2 9
16	1 4	1 7	1 8	1 4	1 8	1 5	1 7	1 8	2 2	2 1	2 8	3 2
17	1 8	1 8	1 6	1 5	1 5	1 6	2 4	C	C	3 2	C	3 4
18	2 7	2 4	1 7	1 7	1 6	1 6	2 6	2 0	2 3	2 8	2 6	3 0
19	1 5	2 2	1 8	1 9	1 6	1 7	1 8	1 8	2 1	2 6	2 8	3 0
20	1 4	1 5	1 6	1 5	1 7	2 0	2 2	2 0	C	2 1	2 6	3 0
21	E	1 3	1 5	1 4	1 5	1 6	1 9	1 7	2 3	2 2	2 6	2 8
22	1 9	1 7	1 6	1 6	1 7	1 7	1 8	1 8	2 0	2 1	2 5	2 4
23	1 6	1 9	1 6	1 4	1 3	1 5	1 5	1 7	2 0	2 0	2 1	2 6
24	2 4	2 3	1 8	1 7	C	1 8	1 8	1 6	2 0	2 0	2 6	2 7
25	1 6	1 5	1 7	1 8	1 5	1 5	1 5	1 5	2 6	2 0	2 5	2 8
26	2 3	2 0	1 8	1 3	1 6	1 6	1 9	1 5	2 0	2 5	2 6	2 6
27	2 0	1 2	1 6	1 6	1 5	1 5	1 3	1 7	C	2 0	2 4	2 6
28	1 0	1 3	1 3	1 4	1 5	1 6	1 7	1 9	2 2	2 1	2 6	2 8
29	1 5	1 5	1 4	1 3	1 2	1 3	1 5	1 5	2 2	2 1	2 6	2 6
30	1 6	1 4	1 4	1 6	1 4	1 4	1 6	1 6	2 3	2 1	2 4	2 4
31	1 2	1 9	1 6	1 6	1 3	1 1	1 7	1 6	2 1	2 2	2 8	3 0
Mean	1 6	1 6	1 6	1 6	1 6	1 6	1 8	1 7	2 3	2 6	2 8	2 9
Median	1 6	1 6	1 6	1 6	1 5	1 6	1 8	1 7	2 2	2 1	2 6	2 7
Count	31	31	31	31	28	30	30	27	21	28	26	29

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f min  
 Unit Mc  
 Month July 1959

TABLE 6 (Contd)  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° N  
 Longitude 77° 5' E

1230	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Date
2.4	2.3	2.1	2.1	1.8	1.6	1.5	1.3	1.3	1.3	1.6	1.7	1
C	C	2.2	2.2	2.2	1.8	C	1.4	1.4	1.3	1.6	1.6	2
2.7	2.3	2.1	2.5	2.3	1.5	1.1	1.2	1.4	1.2	1.2	1.5	3
2.5	2.6	2.6	2.1	2.3	2.4	1.7	1.7	1.7	1.5	1.6	1.3	4
3.0	2.0	2.6	2.6	3.1	1.9	1.5	1.2	1.5	1.6	1.7	1.5	5
2.6	2.6	2.1	2.1	2.1	1.7	1.1	1.5	1.5	1.9	1.6	1.4	6
2.6	2.1	2.2	2.1	2.1	1.6	1.1	1.8	1.6	2.0	2.2	1.9	7
2.6	3.5	3.2	2.9	2.8	2.0	1.0	1.1	1.6	1.5	1.6	1.7	8
2.7	3.5	3.1	2.1	2.0	1.7	1.0	1.0	1.0	1.0	1.3	1.8	9
4.0	3.7	3.0	3.0	2.3	1.5	1.5	1.1	1.2	1.2	1.2	1.2	10
2.6	2.6	2.6	2.1	1.9	1.7	1.2	1.6	1.9	1.6	2.1	1.9	11
2.8	2.6	3.0	2.6	2.3	1.8	1.4	1.0	1.3	1.3	1.3	1.8	12
C	C	3.0	2.5	1.8	1.3	1.3	1.2	1.6	1.3	1.2	1.8	13
4.1	3.6	3.2	3.0	2.1	2.1	1.1	1.0	1.3	1.3	1.1	1.3	14
3.0	2.7	2.7	2.8	2.5	2.1	1.6	1.4	1.2	1.7	1.6	1.8	15
1.8	2.7	2.6	2.4	2.1	1.5	1.1	1.1	1.8	1.6	1.8	1.7	16
C	2.8	2.8	2.5	2.3	1.9	1.4	1.6	1.4	1.5	2.5	2.9	17
3.2	2.7	2.8	2.7	2.5	2.2	1.4	1.4	1.6	1.9	C	1.6	18
2.8	2.8	2.6	2.2	2.3	2.1	1.7	2.0	1.9	1.1	C	1.6	19
2.8	2.8	2.1	2.1	2.3	1.6	1.4	1.5	1.4	1.4	1.7	1.4	20
3.7	3.0	2.8	2.6	2.2	1.7	E	1.4	1.1	1.3	2.0	2.2	21
2.1	2.4	2.2	2.3	2.1	1.4	E	1.5	1.4	1.5	1.2	1.2	22
2.6	2.1	2.6	2.2	2.1	2.0	1.6	1.3	1.1	1.3	1.6	1.9	23
2.7	2.6	2.6	2.2	1.7	1.5	E	E	1.2	1.5	1.5	2.0	24
2.8	2.6	2.6	2.4	2.1	1.7	1.2	1.2	1.2	1.6	1.7	2.2	25
2.5	2.6	2.8	2.1	1.7	1.3	1.2	1.1	1.3	1.7	1.8	1.8	26
2.6	2.5	2.1	2.2	2.2	1.9	1.4	1.2	E	E	1.1	E	27
3.6	3.0	3.0	2.2	1.8	1.6	1.0	1.3	1.2	1.3	1.2	1.6	28
C	2.6	2.6	2.2	1.8	2.8	1.1	1.3	1.2	1.2	1.1	1.4	29
2.6	2.5	2.3	2.1	1.8	1.5	1.3	1.0	E	E	E	1.2	30
2.9	2.7	2.3	2.0	1.8	1.0	E	1.2	1.8	1.6	1.6	2.1	31
2.9	2.7	2.6	2.4	2.2	1.8	1.3	1.3	1.4	1.4	1.6	1.7	Mean
2.7	2.6	2.6	2.4	2.2	1.7	1.4	1.3	1.4	1.4	1.6	1.7	Median
27	29	31	31	31	31	30	31	31	31	29	31	Count

Sweep 1 Mc. to 25 Mc. in 27 seconds.

Characteristic . h'F<sub>2</sub>  
 Units Km  
 Month July 1959

TABLE 7  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude 10° 2' N  
 Longitude . 77° 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								L	L	L	L	L
2								C	C	C	C	C
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	B	L	L	L
11								L	L	L	L	L
12								C	C	C	C	C
13								L	L	L	L	L
14								L	L	B	B	L
15								L	L	L	L	L
16									L	L	L	L
17								L	L	L	C	L
18								L	L	L	C	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	u28oL	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	LH	LH
28								L	L	L	C	u32oL
29								L	L	L	L	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count									1			1

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F2  
Unit Km  
Month July 1959

TABLE 7  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
C	C	C	C	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L	L						8
L	L	L	L	L	L	L						9
L	L	L	L	L	L	L						10
L	L	LH	LH	L	L							11
L	L	L	L	L	L							12
C	C	C	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
L	L	L	L	L	L							16
C	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	380	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
U390LII	LH	L	L	L	L							26
v320L	L	L	L	L	L							27
LH	LH	L	L	L	L							28
L	LH	LH	L	L	L							29
L	L	L	L	L	L							30
L	L	L	L	A	L							31
												Mean
												Median
2				1								Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic · h'F<sub>2</sub>  
 Unit Km ·  
 Month July 1959

TABLE 7—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2							L	C	C	C	C	C
3							L	L	L	L	L	L
4								L	LH	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8								L	L	L	L	L
9							L	L	L	L	L	L
10							L	B	L	L	L	L
11								L	L	L	L	L
12							C	C	C	C	C	C
13								L	L	L	L	L
14							L	L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								C	C	L	L	L
18								L	L	L	L	L
19								L	A	L	L	L
20							L	L	C	L	L	L
21								U280L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	C	L	L	L
28								L	L	L	L	U320L
29								L	L	L	L	L
30								L	L	L	L	U360L
31								L	L	L	L	L
Mean												
Median												
Count								1				2

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F2  
Unit Km  
Month July 1959

TABLE 7—Contd  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
C	G	L	L	L								2
L	L	L	L	L								3
L	L	L	L	L								4
L	L	L	L	L <sup>100</sup>								5
L	L	L	L	L <sup>2</sup>								6
L	L	L	L	L	L	L						7
L	L	L	L	L	L	L						8
L	L	L	L	L	L	L						9
L	L	L	L	L	L	L						10
L	L <sub>IR</sub>	L <sub>IR</sub>	L	L								11
L	L	L	L	L								12
C	C	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
C	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L <sub>IR</sub>	L <sub>IR</sub>	L	L	L								26
L	L	L <sub>IR</sub>	L	L								27
L	L	L	L	L								28
C	L <sub>IR</sub>	L	L	L								29
L	L	L	L	L								30
L	L	L	L	A								31
												Mean
												Median
				1								Count

Sweep 1.0 Mc to 25.0 in 27 seconds



Characteristic h'F  
Unit Km  
Month July 1959

TABLE 8  
Ionospheric Data  
75 0' E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	265	275	275	255	270	260	260	240	220	205	200	205
2	280	280	275	235	200	210	260	C	C	C	C	C
3	F	330	C	320	295	240	265	240	210H	C	220	200
4	380	360	300	295	300	240	270	240	220	215H	215H	C
5	345	375	380	390	340	260	270	245	230	225	205	205
6	U370F	U400F	U400F	U360F	U320F	265	270	245	220H	210H	200H	205H
7	U270F	265	260	240	240	230	270	245	235	225	215	205H
8	360F	U320F	310	U300F	245	230	265	245	220	210	210H	205H
9	350	380	370	400	U400F	U320F	260	240	230	220H	205	200H
10	320	320	310	320	300	245	270	245	B	B	B	B
11	360	380	360	305	260	240	270	255	230	220	210	240
12	390	U360F	F	F	C	C	C	C	C	C	C	220
13	280	280	300	290	240	240	280	245	240H	C	C	C
14	290	280	260	255	220	260	275	255	235	B	B	B
15	265	260	245	240	230	245	275	240	230	215	U240A	205
16	255	300	320	380	F	490H	295	265	240	235	A	225
17	350	280	260	260	230	205	270	215	230	230	C	215
18	345	260	260	280	290	300	280	250	240	230	C	225
19	440	400	350	290	250	240	270	250	A	225	215H	205H
20	435	U440F	460	U440F	385	265	265	250	230	220	200H	200H
21	360	U400F	U380F	270F	240	220	260	240	230	220	210	205
22	320	320	330	320	280	220	260	235	210H	220	215	210
23	U400F	395F	U360F	260	210	205	260	240	235	195H	200	210
24	340	330	330	350	365	290	265	240	235	220	220	210
25	340	310	U345F	280	220	220	260	240	240	230	210	220
26	340	310	380	450	360	260	270	U250F	230	220	215	205H
27	310	300	280	250	250	225	265	240	225	C	210	220
28	350	370F	325	290	300	280	275	265	A	220	C	220
29	285	270	260	265	245	240	270	245	230	220	210	200
30	F	300	275	260	230	215	260	250	240	230	200H	190
31	U300F	295	290	260	240	220	U280A	260	230	220	205	215
Mean	335	325	320	305	275	255	270	245	230	220	210	210
Median	340	320	310	290	250	240	270	245	230	220	210	205
Count	29	31	29	30	29	30	30	29	26	24	22	26

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month July 1959

TABLE 8  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
200	200	200H	220H	220	245	275	335	430	400	340	280	1
G	G	C	C	240	250	270	C	F	400	F	F	2
220	200	205H	200H	240	A	A	340	F	440	400	440	3
205H	205H	215H	220	220	245	280	340	F	400	400	F	4
200	200H	220	225	240	265	295	360	F	F	400	380	5
200	190H	220	225	240	250	275	365	F	F	F	U300F	6
200	210	205H	220	240	260	290	340	F	F	U420F	U380F	7
200	200H	A	230	235	255	280	U300F	F	U340F	315	320F	8
190H	230	230	240	U250A	A	280	310F	330	305I	270	320F	9
B	240H	240	240	A	A	290	U320I	U360I	U400F	F	360	10
A	230	220H	220	235	260	280	360	400	U395I	440	395	11
215H	215	220	260	240H	275	300	360	U105F	370	340	320	12
C	C	C	230	250	265	290	345	U405F	390	370	325	13
B	B	240	230	240	260	295	360	U135F	F	340	300	14
200	220	220	225	240	260	320	380	380	U395F	110	380	15
220	215	225	210	220	255	280	360	390	380	180	F	16
G	210	220	215	225	245H	280	385	415	U125I	185	460	17
220	220	220	240	240	260	285	345	400	U400I	C	U420F	18
215	225	A	A	U250A	A	290	395	F	F	440	C	19
200	210	220	225	235	255	280	375	395	F	380	280	20
220	220	A	220H	240	260	275	320	U300F	320F	320	320	21
200H	200H	200	200	225	A	270	320	320	U340I	305F	370F	22
200	210	200	220	U250A	255	280	310	300F	310	360	365	23
200	195	200	230	240	A	A	330	360	340	360	340	24
A	A	U240A	230	A	A	280	U385I	U420F	U340I	U380F	U380I	25
220	210	220	240A	A	A	300A	350	F	365	350	335	26
220	210H	220	225	240A	260	280	340	340F	370	370I	360	27
210	210	220	220	220	255	280	330	320F	300I	315	300	28
210	210	220	220	220	250	280	340F	F	F	340I	380F	29
200	200	200	210	240	A	280	325	F	F	F	F	30
200H	200	210	225	A	A	290	370	F	400	360	285	31
205	210	215	225	235	255	285	345	375	370	375	350	Mean
200	210	220	225	240	255	280	340	390	380	365	350	Median
24	27	26	29	27	21	29	30	19	23	26	26	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F  
Unit - Km  
Month July 1959

TABLE 8—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	265	280	270	260	260	295	255	230	220	200	200	205
2	275	280	250	220	200	240	240	C	C	C	C	C
3	320	320	340	305	C	260	260	240	C	220	200H	220
4	360	320	300	280	F	260	260	235	220	200	C	205H
5	340	380	380	390	310	275	260	240	225	220	210	205
6	U380F	U400F	U400I	U340I	U290F	300	250	240	200H	200H	205H	200
7	U275F	260	250	230	240	260	260	240	225	225	205H	210H
8	340F	315	U305F	U270F	225	280	260	230	220	220	210H	200H
9	370	380	390	390F	U360F	300	260	230	220H	210	200	200H
10	325	310	310	315	270	265	270	B	B	B	B	B
11	380	380	330	285	240	250	260	240	A	215	225	200H
12	U375F	380	F	F	C	C	C	C	C	C	C	225
13	270	290	295	270	230	270	260	230H	C	C	C	C
14	280	270	265	225	240	295	260	240	225	B	B	B
15	265	250	250	235	220	280	260	235	220	U235A	200	195H
16	310	300	370	370	F	365	280	250	240	230	220	220
17	300	275	255	250	205	250	260	C	C	225	C	210
18	300	265	270	300	345	325	255	245	240	230	230	225
19	420	380	320	260	240	270	255	240	A	205H	205	200H
20	450	460	U445I	425	340	250	250	235	C	210H	220H	205H
21	400	U380F	U310I	240	220	260	250	240	220	210	200	180H
22	310	320	320	300	225	240	240	230	200H	220	210	200H
23	400F	370F	320F	220	210	230	240	230	220	200	200	205
24	320	320	330	360	C	265	260	235	220	220A	210	200
25	340	340	335F	240	220	260	250	240	235	220	220	220
26	320	320	420	420	300	280	250	240	235	225	205H	220
27	300	295	270	260	245	250	250	235	C	210	200H	215
28	F	340	300	295	295	285	265	A	230	220	220	220
29	275	260	265	260	240	250	260	240	230	220	200	200
30	315	280	270	250	225	220	260	200H	225	220	195	205
31	310	290	270	245	220	260	A	240	220	200	220	200
Mean	330	325	315	290	255	270	255	235	225	215	210	205
Median	320	320	310	270	240	260	260	240	220	220	205	205
Count	30	31	30	30	26	30	29	26	21	26	21	27

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month July 1959

TABLE 8—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
200	200	200II	215II	240	260	295	400	400	380	300	270	1
C	C	200II	205II	250	260	C	350	F	F	F	F	2
210	205	200II	200	250	A	300	F	F	440	420	400	3
200II	200II	200II	220	230II	260	300	F	F	400	F	360	4
200II	220	220	240	260	A	300	370	F	380	400	U380F	5
200II	195II	220	230	245	260	305	F	F	F	F	U300F	6
200	200	220	225	240	270	305	U380I	F	U420F	U400F	U370F	7
200	A	235	235	245	270	285	F	F	320	320F	320	8
195II	230	235	A	260	A	300	320	320	280	300	330	9
240	A	240	240	A	270	310	U320F	F	F	F	360	10
U230A	220II	220	215	250	265	300	380	430	U405F	F	380	11
215	200	235	240	245II	280	320	U390F	400	360	330	300	12
C	C	235	215	260	270	300	395	410	380	340	300	13
B	240	235	240	245	270	320	415	405	360	320	270	14
205	220	220	240	250	280	340	360	U430F	430	440	300	15
220	220	220	215	250	265	300	400	U345F	U420F	F	380	16
C	210	225	225	240	270	320	405	430	460	480	430	17
220	225	230	240	245	270	300	380	U405F	U420F	C	445	18
205	A	A	A	A	A	310	F	F	F	C	420	19
205II	220	220	230	240	270	310	400	340	390	F	310	20
U225L	A	220II	230	U250A	270	290	U320F	U340F	320	330	320	21
200II	200	200	220	230	260	300	320	300F	280F	340F	U400F	22
210	200	205	A	U260A	260	300	U280F	U265F	340	380	360	23
200	U200L	220	240	240	A	300	360	325	340	340	325	24
U230A	A	205II	A	A	U300A	305	U400F	U430F	U300F	U420F	360	25
210II	220	230	A	245	260A	300A	380	380	350	325	325	26
220	220	220	A	240	275	300	320F	F	365	360	360	27
215	220	215	210II	240	270	300	330F	320	310	320	300	28
C	210	225	230	240	270	300	400F	F	F	360	F	29
200	200	200	225	240	270	300	F	F	F	F	U340F	30
200	215	225	A1	A	270	320	410	420	380	315	280	31
210	210	220	225	245	270	305	365	375	370	360	345	Mean
205	210	220	230	245	270	300	380	400	380	340	340	Median
26	24	30	24	27	26	30	25	19	25	21	29	Count

Sweep 1.0 Mc to 25 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month July 1959

TABLE 9  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2							120	C	C	C	C	C
3								105	105	C	A	A
4								A	A	A	A	A
5								110	A	A	A	A
6								A	A	A	A	110
7							150	110	105	105	A	A
8							140	A	A	A	A	A
9								105	A	A	A	A
10								105	B	B	B	B
11								115	115	A	A	A
12								C	C	C	C	A
13								115	A	C	C	C
14							120	115	105	B	B	B
15								105	A	A	A	A
16							115	A	A	A	A	A
17								110	A	A	C	A
18								110	110	110	C	A
19								110	A	A	A	A
20								110	A	A	A	A
21								A	A	A	A	A
22								110	105	A	A	A
23								110	110	A	A	A
24							130	120	105	A	A	A
25							120	105	A	A	A	A
26								A	A	A	A	A
27							130	105	A	C	110	110
28								A	A	110	C	A
29							120	110	110	110	A	A
30								110	110	A	A	A
31								A	A	A	A	A
Mean							125	110	110			
Median							120	110	110			
Count							9	20	10	4	1	2

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month July 1959

TABLE 9  
Ionospheric Data  
75 0' E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
Λ	Λ	Λ	Λ	Λ	105							1
C	C	C	C	Λ	115							2
Λ	Λ	Λ	Λ	Λ	110							3
Λ	Λ	Λ	Λ	Λ	Λ							4
Λ	115	Λ	Λ	Λ	120II							5
Λ	Λ	115	110	115	120							6
105	105	Λ	Λ	Λ	Λ							7
Λ	Λ	B	120	120	120							8
Λ	Λ	Λ	Λ	Λ	Λ							9
B	Λ	Λ	Λ	Λ	Λ							10
Λ	Λ	Λ	Λ	Λ	Λ							11
Λ	Λ	Λ	Λ	Λ	Λ							12
C	C	C	Λ	Λ	Λ							13
B	B	Λ	Λ	Λ	120							14
Λ	Λ	Λ	Λ	120	130							15
B	Λ	Λ	Λ	Λ	Λ	Λ						16
C	Λ	Λ	Λ	115	120		Λ					17
Λ	Λ	Λ	Λ	Λ	120							18
Λ	Λ	Λ	Λ	Λ	Λ							19
Λ'	Λ	Λ	Λ	Λ	115		Λ					20
B	Λ	Λ	Λ	120	120							21
Λ	Λ	Λ	Λ	110	Λ							22
Λ	Λ	Λ	Λ	Λ	Λ							23
Λ	Λ	Λ	Λ	Λ	Λ							24
Λ	Λ	110	115	120	Λ							25
Λ	Λ	Λ	110	Λ								26
115	120	120	120	Λ	120							27
115	Λ	120	115	Λ	Λ							28
Λ	Λ	Λ	U120A	110	120							29
Λ	Λ	Λ	Λ	Λ	Λ							30
Λ	Λ	Λ	Λ	Λ	Λ							31
			115	115	120							Mean
			115	115	120							Median
3	3	4	7	9	13							Count

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic h'E  
 Unit Km  
 Month July 1959

TABLE 9—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							A	A	A	A	A	A
2							115	C	C	C	C	C
3							120H	105	C	A	A	A
4								A	A	A	C	A
5							115	A	A	A	A	A
6							120	110	A	A	A	105
7							120	110	105	A	A	A
8							115	A	A	A	A	A
9							115	105	A	A	A	A
10							110	B	B	B	B	B
11							120	110	120	A	A	A
12							C	C	C	C	C	C
13							120	115	C	C	C	C
14							120	110	105	B	B	B
15							130	A	A	A	A	A
16							A	A	A	A	A	A
17							120	C	C	A	C	A
18								105	110	110	A	A
19							120	A	A	A	A	A
20								105	C	A	A	A
21							120	A	A	A	A	A
22							115	105	A	A	A	A
23							110	105	A	A	A	A
24							120	110	A	A	A	A
25							110	A	A	A	A	A
26								A	A	A	A	A
27							110	A	C	A	110	110
28							120	A	115	110	A	A
29							120	110	110	A	A	A
30							115	105	105	A	A	A
31							A	A	A	A	A	A
Mean							115	110	110			
Median							120	110	110			
Count							23	14	7	2	1	2

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'E  
Unit . Km  
Month July 1959

TABLE 9—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	105	A							1
C	C	A	A	105	125							2
A	A	A	A	115	A							3
A	A	A	A	120 <sup>H</sup>	135							4
A	A	A	A	B	A							5
105	A	110	115	120								6
105	105	105	A	120								7
A	B	A	120	125								8
A	A	A	A	A								9
A	A	A	115	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
C	C	A	A	A								13
B	A	A	A	120	125							14
A	A	A	120	120								15
B	A	A	A	A	A							16
C	A	A	110	120	125 <sup>H</sup>							17
A	A	A	A	120	120							18
A	A	A	A	120	A							19
A	A	A	A	A	A							20
B	A	A	120	120	120							21
A	A	A	110	110								22
A	A	110	A	A	130							23
A	A	A	A	A								24
A	A	110	110	110								25
A	A	115	A	A								26
A	115	120	A	120	130							27
B	120	120	A	115								28
C	A	A	115	A								29
A	A	A	A	A	A							30
A	A	A	A	A								31
.		115	115	115	125							Mean
		110	115	120	125							Median
2	3	7	9	17	8							Count

Sweep 1 Mc to 25 Mc. in 27 seconds.



Characteristic : h'Es  
 Unit : Km  
 Month . July 1959

TABLE 10  
 Ionospheric Data  
 75 ° E Mean Time

Latitude : 10 ° N  
 Longitude : 77 ° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1			110	105	100		100	100	100	100	100	100
2							G	C	C	C	C	C
3	100	100	C					G	100	C	100	100
4	100	100	100	100				100	100	100	100	C
5			125					G	110	100	100	100
6								100	100	100	100	100
7								G	G	100	100	100
8							G	100	100	100	100	100
9	125			120	120		120	100	100	100	100	100
10	110							100	B	B	100	100
11	115	140	105					G	100	100	100	100
12					C	C	C	C	C	C	C	100
13	125	125						110	100	C	C	C
14						120	G	120	100	B	B	100
15								100	100	100	100	100
16							G					
17	120		115	110				100	100	100	100	100
18								100	100	100	C	100
19	130							105	105	115	C	100
20								G	100	100	100	100
21								100	100	100	100	100
22			120					110	100	100	100	100
23	100	120						G	100	100	100	100
24		140	120				G	100	100	100	100	100
25		120					G	105	100	100	100	100
26	120			120			115	100	100	100	100	100
27	100	100					120	110	100	C	100	100
28	120	120	120	120	120	110		110	105	100	C	100
29	100	100						100	100	100	100	100
30	100	100						140	140	100	100	100
31	120	120	120				115	100	100	100	100	100
Mean	110	115	115	110			115	105	100	100	100	100
Median	115	120	120	115			115	100	100	100	100	100
Count	15	12	9	6	3	2	6	23	27	24	24	28

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month July 1959

TABLE 10  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	100	100	100	100	100				100	115	1
C	C	C	C <sub>1</sub>	100	100	120	C			120	100	2
100	100	100	100	100	105	100		120	105		100	3
100	100	100	100	105	G					120		4
100	G	100	100	100	100	100	190			120	120	5
100	100	100	100	105	105				125	125		6
100	100	100	100	100	105	105						7
100	100	100	100	G	G	125				120	120	8
100	100	100	100	100	100	100	120	130	100	100	125	9
100	100	100	100	105	100	105		130	120	110	110	10
100	100	100	100	100	100	100						11
100	100	100	100	100	100	160		130	120	130	120	12
C	C	C	100	100	100	100				120	105	13
100	100	100	100	100	140	130						14
100	100	100	100	100	G	130						15
100	100	100	100	100	100	100				120		16
C	100	100	100	100	105	160					100	17
100	100	100	100	100	100					C	120	18
100	100	100	100	100	100	120					C	19
100	100	100	100	100	100	100						20
100	100	100	100	100	135	135	130	140	130	120	100	21
100	100	100	100	100	100	100	100		120	120	120	22
100	100	100	120	100	100			120	135	120	115	23
100	100	100	100	100	100	100	100	140	130			24
100	100	100	G	120	100	100	205	280				25
100	100	100	100	100	100	100	100	105	115	120		26
100	100	100	110	105	G	140			120	120	120	27
100	100	100	100	100	110	105	115		135	110	120	28
100	100	100	100	100	105	120	120				100	29
100	100	100	100	100	100	140			130	120	120	30
100	100	100	100	100	100	100			100	120		31
100	100	100	100	100	105	115	130	145	120	120	115	Mean
100	100	100	100	100	100	105	120	130	120	120	120	Median
28	28	29	29	30	27	27	9	9	14	19	18	Count

Sweep 1 Mc. to 25 Mc. in 27 seconds.

Characteristic : h'Es  
 Unit Km  
 Month July 1959

TABLE 10—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude . 10 2° N  
 Longitude . 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1			105	105		110	100	100	100	100	100	100
2	95				120		G	C	C	C	C	C
3	100	100			C		G	105	C	100	100	100
4	100	100	100					100	100	100	C	100
5		120					G	110	100	100	100	100
6			125				110	100	100	100	100	100
7							G	100	100	100	100	100
8							105	100	100	100	100	100
9	120	120		110			105	100	100	100	100	100
10	115						105	B	B	100	100	100
11	125	105					120	160	100	100	100	100
12					C	C	C	C	C	C	C	100
13	120						G	105	C	C	C	C
14							G	130	100	B	B	100
15							G	100	100	100	100	100
16							105	100	100	100	100	100
17							G	C	C	100	C	100
18	100							100	110	G	100	100
19	120			120			G	100	100	100	100	100
20							110	100	C	100	100	100
21							G	100	100	100	100	100
22							100	100	100	100	100	100
23	100						G	100	100	100	100	100
24		120	120		C		G	100	100	100	100	100
25	120						G	100	100	100	100	100
26							100	100	100	100	100	100
27		100					120	110	C	100	100	100
28	115	120	120	120			115	110	100	100	100	100
29	110	110			120		110	100	100	100	100	100
30	100	100					G	G	G	100	100	100
31	100	120	135			120	115	100	100	100	100	100
Mean	110	110	120				110	105	100	100	100	100
Median	110	110	120				110	100	100	100	100	100
Count	15	11	6	4	2	2	14	26	22	26	25	20

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic : h'Es  
 Unit : Km  
 Month July 1959

TABLE 10—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77.5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date	
100	100	100	100	100	100				100			1	
C	C	100	100	105	140	C			120	120	100	2	
100	100	100	100	105	100	100		105	100	100	120	3	
100	100	100	100	G	G					120		4	
100	100	105	100	100	100	100			120	120		5	
100	100	100	105	G	110				120			6	
100	100	100	100	100	105	110						7	
100	100	100	G	100	125	120				120	120	8	
100	100	100	100	100	100	100				125	105	9	
100	100	100	105	100	105		140	130	120	110	120	10	
100	100	100	100	100	100	100						11	
100	100	100	100	100	100		140	120	120	120		12	
C	C	100	100	100	100				130	130		13	
100	100	100	100	100	135							14	
100	100	100	100	G	140							15	
100	100	100	100	100	100	120					120	16	
C	100	100	100	105	105				100			17	
100	100	100	100	100	100					C	135	18	
100	100	100	100	120	110				120	C		19	
100	100	100	100	100	100				100			20	
100	100	100	100	140	130	100		130	170	120		21	
100	100	100	100	100	100	100				100	120	22	
100	100	100	100	100	G			120	120	120	120	23	
100	100	100	100	100	100	100	140	140		120		24	
100	100	G	140	120	100	180	240					25	
100	100	100	100	100	100	100	100	100				26	
100	100	100	100	G	G	175		145	125	120	115	27	
100	100	100	110	105	110	110		100	115	110	110	28	
C	100	100	100	100	110	110	120				100	29	
100	100	100	100	100	100				125	120	120	30	
100	100	100	100	100	100	100		100	100		120	31	
100	100	100	100	105	110	115	145	120	115	115	115	Mean	
100	100	100	100	100	100	100	140	120	120	120	120	Median	
27	29	30	30	27	28	16	7	11	18	16	14	Count	

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F2  
Unit  
Month July 1959

TABLE II  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 70	2 70	2 70	2 60	2 70	2 85	2 80	2 80	2 65	2 40	2 20	2 05
2	F	2 60	2 80	3 10	3 45	3 40F	3 10	C	C	C	C	C
3	F	F	C	2 45F	F	2 80F	2 90	2 80	2 70	C	2 15	2 10
4	F	F	F	F	F	F	2 95	2 75	2 35	2 30	2 20	C
5	F	F	F	F	F	F	2 90	2 85	2 55	2 20	2 00H	2 30
6	U2 40F	F	F	F	F	F	2 60F	2 70	2 40	2 40	2 20	2 0
7	F	U2 85F	2 95	3 00	3 10	3 10	3 00	2 80	2 50	2 30	2 20	2 10
8	2 45F	U2 60F	U2 65F	F	F	3 20	2 85	2 75	2 40	2 30	2 30	2 15
9	2 45	2 40	2 45	2 40F	U2 45F	F	2 70F	2 80	2 45	2 20	2 5	2 20
10	2 60	U2 60S	2 40H	2 50H	2 75	3 10	U2 90S	2 85	2 60	2 30	2 10	2 10
11	2 35	2 45	2 50	F	2 90	3 10	3 10	3 00	2 80	2 55	2 35	2 0
12	F	F	F	F	C	C	C	C	C	C	C	U2 10R
13	2 80	2 80	2 80	2 90	3 30	3 30	3 00	3 00	2 80	C	C	C
14	2 80	2 75	2 80	3 15	3 20	3 15	3 00	2 95	2 60	2 40	2 30	2 25
15	2 80	2 95	3 05	3 10	3 25	2 95	3 00	2 90	2 60	2 40	2 40	2 30
16	2 70	2 40V	F	2 35	F	2 00H	2 40	2 25	2 50	2 30	2 10	2 15
17	F	F	F	F	U3 15F	3 35	2 95	2 70	C	C	C	C
18	F	F	2 65	2 90	J2 45S	U2 35S	U2 40S	2 55	2 40	2 10	C	2 00
19	F	F	F	F	F	2 95	2 95	2 75	2 50	2 30	2 05	2 10
20	F	F	F	F	F	F	2 85F	2 70	2 45	2 20	2 20	2 20
21	F	F	F	F	F	U3 45F	U3 05F	3 05	U2 75S	2 30	2 10	2 35
22	U2 75S	2 75	U2 65	2 70	2 95	3 30	3 10	2 95	2 80	2 50	2 10	2 30
23	F	F	F	F	F	U3 40S	3 30	3 10	2 75	2 30	2 10	2 30
24	2 55	2 65	2 70	U2 60S	J2 50R	2 80	3 15	3 00	J2 70R	2 30	2 30	2 25
25	U2 60S	U2 70S	F	U2 80F	U3 25S	3 30	3 05	U3 00S	2 80	2 55	2 20	2 20
26	F	U2 65F	U2 50S	U2 30S	2 55	3 00	2 85	2 85	2 50	2 50	2 10	2 30
27	2 70	2 80	2 80	2 90	2 90	3 20	3 05	3 00	2 90	C	2 15	2 30
28	F	2 50	2 65	2 80	U2 75S	2 90	3 10	3 00	2 75	2 45	C	2 25
29	2 90	2 90	U2 90	2 90	3 10	3 20	3 05	2 80	2 50	2 35	2 35	2 30
30	F	F	F	F	3 30	3 50	3 20	3 15	2 90	2 75	2 55	2 30
31	F	2 70	2 80	3 00	3 25	3 40	U3 10S	2 80	2 50	2 40	2 35	2 35
Mean	2.65	2 65	2 70	2 75	2 95	3 10	2 95	2 85	2 60	2 35	2 25	2 20
Median	2 70	2 70	2 70	2 80	3 00	3 15	3 00	2 85	2 60	2 35	2 20	2 20
Count	15	19	18	19	20	25	30	29	28	25	25	27

Sweep 1 Mc to 25 Mc. in 27 seconds

Characteristic (M3000)F2  
 Unit  
 Month : July 1959

TABLE II  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 10	2 10	2 10	2 20	2 30	2 40	2 40	2 30	U2 15F	2 20F	F	F	1
C	C	C	C	2 30	2 35	2 40	C	2 25	2 15	F	F	2
2 10	1 95	2 00	2 10	2 15	2 30	2 35	F	F	F	F	F	3
2 20	2 10	2 10	2 20	2 30	2 45	2 50	2 40	2 30	U2 30S	F	F	4
2 30	2 35	2 30	2 30	2 30	2 30	U2 35S	2 35	U2 30S	2 35F	2 35	2 40	5
2 20	2 25	2 20	2 30	2 35	2 40	2 40	2 20	F	F	F	F	6
2 10	2 10	2 00	2 15	2 20	2 40	2 45	2 30	2 25F	2 20F	F	F	7
2 20	2 25	2 30	2 45	2 60	U2 70S	2 70	2 55	U2 50F	U2 50F	U2 55S	2 60	8
2 10	2 20	2 25	2 30	2 35	U2 45S	2 40	2 45	2 50	2 70	2 80	2 60	9
2 10	2 10	2 20	2 30	2 30	2 40	2 10H	2 30H	U2 25F	F	F	2 10	10
2 15	2 15	2 15	2 10	2 10	2 25	2 35	2 30	2 25	U2 40F	F	F	11
2 20	2 10	2 10	2 05	2 10	2 15	2 20	2 20	2 20	U2 30S	2 45	2 65	12
C	C	C	2 10	2 20	2 35	2 40	2 35	2 20	2 30	2 45	U2 65S	13
2 20	2 00	1 95	2 05	2 20	2 35	2 35	3 30	2 20	2 30	2 45	2 70	14
2 25	2 20	2 00	2 15	2 25	2 35	2 35	2 35	2 30	2 30	2 05	2 40	15
2 10	2 05	2 10	2 05	2 05	2 05	U2 15S	U2 10S	2 00	2 05F	F	F	16
C	2 10	2 10	2 10	2 10	2 15	2 10	2 00	2 00F	2 05F	F	F	17
2 00	2 05	2 00	1 90	2 00	2 00	2 10	2 05	2 00	2 00F	C	F	18
2 10	2 10	2 10	2 10	2 20	2 40	2 45	2 15	F	F	F	C	19
2 15	2 05	2 00	2 05	2 10	2 20	2 10	Fs	F	F	F	F	20
2 20	2 30	2 25	2 25	2 30	2 40	U2 50S	U2 50S	U2 70S	U2 60S	2 65	U2 70R	21
2 20	2 20	2 20	2 20	2 25	U2 40S	U2 40S	U2 40S	2 30	F	F	F	22
2 20	2 30	2 30	2 35	U2 40S	2 55	U2 70Hs	2 65	F	2 60	U2 50S	U2 50S	23
2 30	2 20	2 20	2 20	2 30	U2 45R	2 60	2 50	U2 40S	U2 50S	2 50	U2 60S	24
2 35	2 30	2 20	2 35	U2 60S	U2 70S	U2 60S	2 40	F	F	F	F	25
2 30	2 15	2 30	2 25	2 30	2 50	U2 40S	2 30	U2 10F	2 0	2 50	2 65	26
2 30	2 25	2 25	2 35	U2 40S	2 50	U2 65S	2 40	F	F	F	F	27
2 10	2 20	2 30	2 25	2 20	U2 25S	U2 35S	U2 30S	F	2 40	2 50	2 65	28
2 25	2 20	2 05	2 10	2 20	2 30	2 40	2 40	F	F	U2 30I	F	29
2 10	U2 10W	2 05	2 15	2 30	2 40	U2 45S	2 30	F	F	F	F	30
2 15	2 10	2 10	2 10	2 25	2 40	2 35	U2 25S	U2 10F	2 20	U2 35F	2 75	31
2 20	2 15	2 15	2 20	2 25	2 35	2 40	2 30	2 25	2 30	2 45	2 60	Mean
2 20	2 15	2 10	2 20	2 25	2 40	2 40	2 30	2 25	2 30	2 50	2 60	Median
28	29	29	30	31	31	31	27	21	21	14	14	Count

Sweep 1 Mc to 25 Mc. in 27 seconds

Characteristic (M<sub>3000</sub>)F<sub>2</sub>  
Unit  
Month July 1959

TABLE II—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude . 77.5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	2 70	2 65	2 65	2 65	2 70	2 85	2 75	2 70	2 55	2 25	2 10	2 10
2	U2 60r	2 75	2 95	3 25	U3 35r	2 90	3 10	C	C	C	C	C
3	F	F	2 40r	2 55r	F	2 90	2 90	2 75	C	2 30	2 05	2 10
4	F	F	F	F	F	U3 10r	2 90	2 60	2 20	2 30	C	2 20
5	F	F	F	F	F	2 90r	2 90	2 65	2 40	2 10	2 20	2 30
6	U2 35r	U2 30r	F	F	F	2 80	2 70	2 60	2 35	2 30	2 20	2 20
7	F	2 90	3 00	3 10	3 10	3 00	2 90	2 65	2 45	2 25	2 10	2 10
8	U2 45r	U2 60r	F	F	U3 15r	2 90	2 80	2 60	2 35	2 30	2 25	2 20
9	2 45	2 40	2 35	U2 45r	F	U2 80r	2 85	2 60	2 30	2 25	2 25	2 10
10	U2 60s	2 55	2 55	2 60II	2 90	U2 90s	2 95	B	2 50	2 20	2 05	2 10
11	2 40	2 45	U2 60r	U2 80I	3 00	3 15	3 00	2 90	2 60	2 40	2 25	2 10
12	F	F	F	F	C	C	C	C	C	C	C	2.15
13	2 75	2 75	2 90	3 15	3 45	2 90	3 10	2 90	C	C	C	C
14	2 75	2 80	3 05	3 25	3 25	3 00	2 95	2 80	2 50	2 35	2 35	2 25
15	2 80	3 00	3 00	3 10	3 30	2 95	3 05	2 75	2 50	2 45	2 35	2 25
16	2 40	2 50	2 40	2 25	F	2 00	2 35	2 50	2 30	2 25	2 20	2 10
17	F	F	F	F	3 30	2 80II	2 90	C	C	2 20	C	2 20
18	F	2 70	S	U2 70s	U2 10s	2.35II	2 60	2 55	2 40	2 35	2 10II	2 90
19	F	F	F	F	F	2 90	2 90	2 65	S	2 20	2 00	1 10
20	F	F	F	F	F	F	2 80	2 60	C	2 10	2 10	2 20
21	F	F	F	F	F	U3 20rs	U3 10rs	U2 85s	U2 55s	2 15	2 30	2 20
22	2 80	2 70	2 70	2 80	3 20	3 15	U3 10s	2 90	U2 65s	2 45	2 30	2 25
23	F	F	F	F	U3 35s	3 30	3 10	2 85	2 50	2 15	2 25	2 25
24	U2 60s	U2 70s	2 70	2 50	C	3 10	U3 10s	2 80	2 45	2 25	2 20	2 25
25	U2 65s	U2 65rs	F	3 00	3 40	U3 05s	3 00	2 90	2 70	2 35	2.10	2 30
26	F	F	U2 30s	2 35	2 75	2 90	2 85	2 75	2 30II	2 45	2 45	2 25
27	2 75s	2 80	2 90	2 85	3 05	3 30	3 00	2 95	C	2 20II	2 25	2 25
28	U2 65r	2 60	U2 80s	2 85	2 70	3 20	U3 10s	2 85	2 60	2 35	2 20	2 05
29	2 80	2 95	2 70	3 10	3 15	3 20	2 95	2 70	2 35	2 40	3 25	2 45
30	F	F	U3 00r	3 10	3 30	3 10	3 20	3 10	2 85	2 60	2 40	2 20
31	2 65	2 75	2 85	3 10	3 35	3 20	3 00	2 70	2 40	2 30	2 40	2 15
Mean	2 60	2 70	2 75	2 85	3 10	2 95	2 95	2 75	2 45	2 30	2 20	2 20
Median	2 65	2 70	2 70	2 85	3 20	2 95	2 95	2 75	2 45	2 30	2 20	2.20
Count	18	20	19	21	20	29	30	27	23	28	26	29

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000) F2  
 Unit  
 Month : July 1959

TABLE II—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude , 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 05	2 10	2 10	2 25	2 35	2 40	2 35	2 20	U2 15F	U2 30F	F	F	1
G	C	2 15	2 20	2 40	2 45	C	2 30	U2 20F	F	F	F	2
2 05	2 00	2 00	2 10	2 20	U2 35s	2 35	U2 10F	F	F	F	F	3
2 20	2 15	2 15	2 20	2 40	2 50	2 45	2 30	2 30	2 25F	F	F	4
2 35	2 35	2 35	2 30	2 30	2 30	2 35	2 30	F	2 35I	2 35	2 40F	5
2 10	2 20	2 30	2 30	2 40	2 40II	2 30	U2 10F	F	F	F	F	6
2 20	2 05	2 10	2 15	2 30	2 40	2 40	2 25F	U2 20F	F	F	2 40	7
2 20	2 20	2 40	2 55	2 65	2 70	2 65	2 50F	U2 50F	U2 55s	U2 55s	U2 45s	8
2 10H	2 25	2 30	2 35	2 35	2 35	2 40	2 15	2 60	2 80	2 70	2 60	9
2 10	2 10	2 25	2 30	2 35	2 45	2 35II	U2 25I	U2 25F	F	U2 40I	2 45	10
2 10	2 15	2 10	2 10	2 20	U2 35s	2 40	2 25	2 25	U2 40F	F	F	11
2 15	2 10	2 10	2 05	2 10	2 15	U2 25s	2 10	U2 25s	2 45	2 55	2 80	12
C	C	2 10	2 20	2 25	2 40	2 40	U2 30s	2 25	U2 35s	2 60	2 65	13
2 05	2 00	1 95	2 15	2 30	2 40	U2 30s	2 20	2 25	2 35	2 55	2 85	14
2 20	2 15	W	2 25	2 30	2 40	2 40	2 35	U2 25s	2 25	2 10	2 70	15
2 10	2 00	2 10	2 10	2 05	2 05	U2 15s	U2 00s	2 05F	F	F	F	16
C	2 10	2 10	2 10	2 15	2 15	U2 05s	2 00	FS	F	F	F	17
2 05	2 05	1 95	1 90	2 05	2 00	2 10	U2 00s	2 00	2 00	C	F	18
2 10	2 05	2 10	2 15	2 35	2 45	2 35	2 05	F	F	C	F	19
2 05	2 00	2 05	2 05	2 15	U2 15s	2 05	U2 00s	F	F	F	F	20
2 25	2 25	2 25	2 30	2 35	U2 45s	2 50	U2 55R	U2 90s	U2 60s	U2 65s	2 75	21
2 20	2 20	2 30	2 20	2 30	2 40	J2 50s	2 35	U2 30s	F	F	F	22
2 30	2 25	2 30	2 35	2 50	2 65II	U2 65sII	2 60	2 60I	2 55	U2 50s	2 55	23
2 35	2 10	2 20	2 25	2 40	U2 50	U2 60s	2 40	U2 45s	2 50	U2 50s	2 65	24
2 30	2 30	2 35	U2 10s	U2 65s	U2 70s	2 60	U2 30F	F	F	F	F	25
2 15	2 15	2 30	2 30	2 40	2 50s	U2 45s	2 20V	2 35	2 50	2 65	2 70	26
2 30	2 25	2 30	2 30	2 50	2 60	2 55	FS	F	F	F	F	27
2 20	2 25	2 30	2 25	2 20	U2 35s	U2 40s	2 30	2 35	U2 45s	2 60	2 80	28
G	2 10	2 10	2 15	2 20	2 30	2 40	2 40	F	U2 30F	F	F	29
2 10	U2 05W	2 10	2 25	2 35	2 45	U2 40s	F	F	F	U2 40s	F	30
2 10	2 15	2 10	2 20	2 30	2 40	U2 35s	2 15	U2 10F	2 25	2 55	2 90	31
2 15	2 15	2 20	2 20	2 30	2 40	2 40	2 25	U2 30	2 40	2 50	2 65	Mean
2 15	2 15	2 10	2 20	2 30	2 40	2 40	2 25	U2 25	2 40	2 55	2 65	Median
27	29	31	31	31	31	30	28	21	18	15	15	Count

Sweep 1 Mc to 25 Mc in 27 seconds



Characteristic foF2  
Unit - Mc  
Month - August 1959

TABLE 12  
Ionospheric Data  
75° E Mean Time

Latitude - 10 2° N  
Longitude - 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	10.9	U9.8s	9.0	9.3	8.3	6.0	7.9	10.7	11.5	12.1	13.1	11.9
2	F	F	F	F	F	F	F	U11.9s	13.0	12.4	12.1	11.2
3	F	F	F	F	F	F	U5.9r	9.8r	11.1	11.7	12.1	12.5
4	9.4	10.1	9.2	9.1	8.0	6.2	7.6	10.0	11.5	11.6	11.8	12.5
5	10.7	9.1	7.9	6.7	5.3F	4.5	7.3	10.5	11.5	12.0	12.0	11.3
6	F	F	F	F	F	F	8.4	10.3	10.7	10.7	10.3	10.0
7	11.1	10.4	U7.7s	6.8	16.5	5.4	17.2s	10.2	11.8	12.4	11.4	11.6
8	F	F	U8.8r	F	F	U7.4r	7.6	9.9	10.4	10.4	10.4	11.0
9	11.0	F	F	F	F	U2.5R	17.1s	10.3	11.1	11.6	10.5	10.7
10	F	F	U3.1s	F	F	F	F	11.2r	12.2	U12.2R	11.5	U11.4s
11	10.5	U8.8r	F	F	6.8r	6.7	7.9	10.5	11.5	11.8	12.4	12.0
12	F	F	U3.8s	F	8.2r	F	F	10.7	11.6	11.0	9.9	10.1
13	F	F	F	F	F	U7.2r	F	F	11.2	12.0	10.9	10.8
14	F	F	F	F	F	F	8.6r	10.5	11.2	10.9	11.0	11.0
15	U9.7s	F	U3.6i	8.1	6.5	4.8	6.9	10.2	11.0	12.0	11.6	11.5
16	F	F	F	F	9.6	F	7.3	9.6	11.8	11.8	10.0	10.0
17	9.3	7.7	6.7	6.4	6.4	4.0	7.8	11.3	11.6	11.5	13.0	12.5
18	U9.5s	10.0	9.2	7.2	6.6	U5.6r	7.5	10.1	12.5	11.9	C	C
19	11.0	U9.7s	U7.3s	5.4	4.5	3.7	6.8	10.4	11.6	11.5	11.3	11.5
20	11.0	U9.8s	8.9	U3.9r	F	U7.7r	8.0	10.8	11.6	11.3	11.2	11.7
21	F	F	F	F	S	FS	7.1	9.8	11.7	12.7	12.7	11.9
22	F	F	F	F	F	F	U8.3r	10.4	12.6	13.2	12.4	11.7
23	U12.4s	U13.0rs	12.0	11.0	U10.2s	U9.4s	9.8	11.6	12.5	13.0	11.3	10.7
24	11.2	U10.7s	10.4	U10.8s	10.6	8.8	7.8	10.5	12.3	13.6	13.5	12.6
25	F	F	F	F	F	F	F	U11.6r	12.8	12.8	11.8	11.0
26	F	F	F	9.4	U9.6s	F	8.6	11.0	11.8	12.4	11.4	11.2
27	F	U9.6s	F	U3.5s	U8.1r	5.9	7.3	10.9	12.1	13.0	12.7	11.5
28	F	U9.2rs	F	F	F	F	U7.6r	10.7	12.3	13.6	13.4	13.1
29	F	FS	F	8.2	F	F	U7.2	10.6	12.4	13.3	13.8	13.5
30	F	9.1	9.6	10.2	10.4	9.2	10.2	12.4	13.1	13.0	11.6	10.6
31	U11.6s	10.5	9.9	F	8.8	4.8	U7.7r	10.8	12.1	12.3	11.8	11.3
Mean	10.7	U9.3	9.0	8.1	7.9	6.1	7.8	10.7	11.8	12.2	11.8	11.5
Median	11.0	U9.3	9.0	8.4	8.1	6.0	7.6	10.5	11.7	12.1	11.7	11.4
Count	14	13	16	15	17	13	26	30	31	31	30	30

Sweep 1 Mc, to 25 Mc, in 27 seconds.

Characteristic foF2  
Unit Mc  
Month August 1959

TABLE 12  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
11 9	12 0	12 6	12 3	12 7	13 4	13 1H	11 3	F	F	F	F	1
11 3	11 7	12 4	13 0	13 2	12 8	13 4	12 6	F	F	F	F	2
12 4	12 0	11 7	11 5	11 1	11 4	U11 4S	F	F	F	U10 0S	9 5	3
12 3	12 2	12 6	13 0	14 1	14 4	13 5	12 9I	F	F	F	11 6	4
11 3	12 2	13 4	13 4	13 8	14 3	14 0	F	F	F	F	F	5
11 8	12 1	12 0	11 8	11 9	12 6	12 8	13 0	13 0	12 3	12 2	11 4	6
11 8	12 9	13 3	13 4	11 0	14 1	13 5	U11 6I	F	F	F	F	7
10 6	11 0	11 2	11 5	11 5	U11 7S	U11 7S	10 8I	1S	F	F	F	8
11 0	11 8	12 7	13 2	13 3	13 8	13 3II	U11 5S	F	F	F	F	9
11 4	11 4I	U11 6S	11 0	10 8	11 0	11 0	U10 2S	U9 4S	F	F	F	10
11 8	12 1	12 2	12 1	12 4	12 8	13 0	11 6	11 2	F	F	F	11
9 4	9 9	10 8	11 0	11 2	12 0	12 6	11 6	U10 6I	F	F	F	12
C	11 6	11 1	11 6	J12 0R	U11 8S	12 8	U11 8S	F	F	F	F	13
11 3	11 2	11 6	11 5	U11 6S	12 0	12 2	11 0	F	F	U9 6I	I	14
11 6	11 4	11 0	11 8	11 6	J12 2S	12 8	11 2	10 1	F	F	F	15
9 5	9 4	10 8	12 0	13 0	U12 2II	U11 6II	11 1II	10 6	U12 0S	11 2	U9 8S	16
11 8	11 0	11 3	10 8	10 5	11 1	11 6	11 7	11 6	11 2	10 6	10 2	17
12 3	12 7	12 9	12 6	13 3	A	14 4	13 0	F	F	U13 2I	11 7	18
11 5	11 5	C	13 1	13 5	13 6	13 7	12 5	F	U10 8F	U11 1S	11 4I	19
12 2	12 8	13 2	12 7	12 8	13 3	13 0	12 4	U11 7SR	11 6	F	I	20
11 8	11 9	12 5	12 6	13 0	13 6	U12 8R	12 3	U11 5PS	F	F	F	21
10 6	C	11 8	12 4	U12 6S	12 8	J12 2S	U11 0R	11 2	FS	F	F	22
10 8	11 3	11 6	C	11 8	11 8	U11 5S	10 1	F	F	F	F	23
12 7	12 7	12 8	13 2	13 4	U14 2S	14 2	J12 0S	F	F	F	F	24
11 2	11 1	10 8	C	10 6	10 8	11 3	10 1	F	F	F	F	25
11.6	11 5	11 4	11 4	U11 5S	U11 4S	11 2	U10 2S	F	F	F	F	26
11 1	11 4	11 7	11 8	12 4	12 8	12 6	U10 5I	F	F	F	F	27
12 4	11 8	11 4	11 0	11 3	U11 8S	12 1	10 8	F	F	F	F	28
13 0	12 2	11 5	10 9	10 8	11 2	11 0	S	F	U9 8FS	F	F	29
C	10 7	10 8	11 0	11 1	U11 8S	11 2	U11 6S	11 5	11 0F	11 4	U12 0S	30
11 2	11 4	11 8	12 4	13 2	13 2	13 1	11 4	F	F	F	F	31
11 5	11 6	11 9	12 1	12 3	12 5	12 6	11 5	11 1	U11 2	U11 2	U11 0	Mean
11 6	11 6	11 7	12 0	12 1	12 4	12 8	11 6	11 5	U11 2	U11 2	U11 4	Median
29	30	30	29	31	30	31	28	11	7	8	8	Count

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month August 1959

TABLE 12--Contd  
Ionospheric Data  
75° E Mean Time

Latitude : 10.2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	10 4	9 1	9 0	8 6	7 6	6 1	9 2	11 2	11 7	12 9	12 9	11 5
2	F	F	F	F	F	F	U10 4 <sup>r</sup>	12 1	12 6	12 4	11 2	11 4
3	F	F	F	F	F	F	8 4	10 7	11 1	11 7	12 3	12 5
4	10 1	9 9	9 2	8 8	7 4	5 7	8 7	10 8	11 3	11 8	12 1	11 9
5	9 7	8 5	7 1	6 3	4 7	5 3	9 3	11 1	11 8	12.2	U11 6 <sup>R</sup>	11 0
6	F	F	F	F	F	U7 2 <sup>S</sup>	9 5	10 6	10 8	10.4	C	11.5
7	11 1	U8 6 <sup>S</sup>	U7 1 <sup>S</sup>	6 8 <sup>H</sup>	5 8	5 0	8 8	11 1	12 4	11.8	11.4	11 8
8	F	F	U8 3 <sup>r</sup>	F	F	6 2	9 1	10.2	10 6	10.4	10 6	10 8
9	F	F	F	F	3 2	4 5	9 0	10 7	11 7	10 8	10 5	10 8
10	F	U10 0	F	F	F	F	F	J12 0 <sup>S</sup>	12 0	11 8	11 5	11 5
11	F	8 3 <sup>F</sup>	7 8 <sup>r</sup>	7 0 <sup>F</sup>	6 8	6 6	9.2	11.2	11 6	12 3	12 2	12 0
12	F	F	U9 2 <sup>S</sup>	F	U7 0 <sup>r</sup>	F	9 2 <sup>II</sup>	11 3	11 5	10 2	10 0	9 5
13	F	F	F	F	8 7	F	F	11 3	12 0	11 6	10 6	10 8
14	F	F	F	8 7 <sup>r</sup>	F	F	9 7 <sup>r</sup>	10 8	11 4	10 8	10 9	11 1
15	9 4	F	8 4	7 7	5 6	5 1	8 6	10 6	11 4	11 8	11 4	11 6
16	F	9 4	F	9 2	9 0	5 9	8 6	10 9	11 8	10 8	10 0	9 9
17	8 8	6 8	6 5	6 9	5 2	5 0	10 6	11 1	12 7	14 4	12 2	12 4
18	9 4	U9 8 <sup>S</sup>	8 6	U6 7 <sup>S</sup>	U6 5 <sup>r</sup>	F	8 7	11.5	12 6	11 9	C	C
19	10 6	8 4	6 4	4 8	4 2	4 6	9 0	U10 8 <sup>R</sup>	11 7	11 1	11 3	11 5
20	10 4	9 5	8 4	U8 3 <sup>FS</sup>	F	6 8	9 8	11 5	11 6	10 8	11 7	11.8
21	F	F	F	9 7	U7 6 <sup>S</sup>	U5 7 <sup>F</sup>	8 7	11 0	13 0	12 8	12 4	11.7
22	F	U12 2 <sup>S</sup>	F	F	F	F	U9 2 <sup>F</sup>	11 4	12 8	J13 2 <sup>R</sup>	12 0	11.0
23	U12 7 <sup>FS</sup>	12 6	11 4	10 8	U9 8 <sup>S</sup>	8 9	11 0	U12 2 <sup>S</sup>	13 2	12 4	11 0	10 6
24	U11 2 <sup>R</sup>	U10 6 <sup>S</sup>	10 4	10 4	9 8	6 6	U9 2 <sup>S</sup>	11 5	13 0	13 6	13 0	12 8
25	F	F	10 2	F	F	F	U10 6 <sup>r</sup>	12 3	12 8	12 7	11.0	11.0
26	F	U9 8 <sup>FS</sup>	U9 6 <sup>S</sup>	F	F	U6 8 <sup>FS</sup>	10 0	U11 8 <sup>S</sup>	12 2	12 5	11.1	11.3
27	9 5	U9 6 <sup>S</sup>	10 0	8 8	U7 2 <sup>S</sup>	5 3 <sup>II</sup>	9 3	11 5	12 6	13 0	11.8	11.3
28	F	F	8 0 <sup>r</sup>	7 5 <sup>r</sup>	F	U5 8 <sup>F</sup>	9 4 <sup>V</sup>	11 3	12 8 <sup>R</sup>	13 5	13 3	12 9
29	F	F	9 0	F	F	F	9 2	11 6	12 8	13 5	13 9	13 3
30	F	9 0	10 1	10 4	9 8	9 8	11 1	13 2	13 3	12 7 <sup>V</sup>	10 9	C
31	U11 2 <sup>S</sup>	F	F	9 5	6 4	5 0	9 3	U11 8 <sup>S</sup>	12 3	11 8	11 5	11 1
Mean	10 3	9 5	8 7	8 3	7 0	6 1	9 4	11 3	12 1	12 0	11 6	11 5
Median	10 4	9 5	8 8	8 6	7 0	5 8	9 2	11 3	12 0	11 9	11.5	11 5
Count	13	17	20	19	19	21	29	31	31	31	29	29

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic : foF2  
 Unit : Mc  
 Month August 1959

TABLE 12--Contd  
 Ionospheric Data  
 75.0° E Mean Time

Latitude : 10.2° N  
 Longitude : 77.5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
12 2	U12 7R	12 0	12 3	12 8	13 5	12 4	11 0	U10 9F	F	F	F	1
11 6	12 1	12 9	13 0	U12 9S	13 4	13 1	U11 4F	F	F	F	F	2
12 3	12 2	11 7	11 2	11 1	U11 5HS	U10 5S	F	F	F	9 6	9 3	3
12 2	12 5	12 8	13 3	14 5	13 7	13 8	12 2F	F	11 4F	11 6	11 2	4
11 8	12 8	13 2	13 6	13 7	14 7	13 2F	F	F	F	F	F	5
12 0	12 1	11 6	11 8	12 6	12 8	12 8	13 1	12 6	12 0	U11 7S	11 0	6
12 3	13 0	13 4	13 6	14 2	13 8	12 8H	F	U11 0F	F	F	F	7
10 8	11 4	11 2	11 4	11 7	U11 6S	11 6	F	F	F	F	F	8
11 4	12 0	13 0	13 5	13 7	13 6H	12 9H	U10 7F	F	F	F	F	9
11 3	11 6	U11 2S	10 8	11 0	11 1	U10 6S	F	F	F	F	F	10
12 2	12 0	12 3	12 4	12 8	13 0	12 2	11 1	10 6	F	F	F	11
9 4	10 2	10 9	11 2	11 4	12 4	12 4	11 2	F	F	10 2F	F	12
11 2	11 5	11 5	11 8	U11 8S	U12 4S	12 6	10 9F	F	F	F	F	13
11 3	11 6	11 4	11 6	U11 7S	U12 4S	S	U10 4F	F	F	10 4	10 4F	14
11 4	11 2	11 2	11 7	11 7	12 8	12 4	10 8	F	F	F	F	15
9 4	10 0	11 6	12 6	12 7	U11 7SH	U11 6SH	10 5	11 4	U11 7S	9 8	9 8	16
11 4	11 1	11 1	10 5	10 7	11 5	11 8	11 7	11 4	10 7	10 5	9 9	17
12 7	12 7	12 8	12 7	13 3	14 4S	13 8	12 7	F	F	12 7	11 4	18
11 4	11 8	C	13 3	13 5	13 8	13 4	F	F	10 7F	Fs	11 3	19
12 7	12 8	12 8	12 9	U12 9S	13 5	12 7	11 9	11 5	11 5	F	F	20
11 9	12 2	12 5	12 7	13 5	U13 9S	U12 9S	U11 6S	F	F	F	F	21
G	11 4	12 0	12 4	12 6	12 6	U11 6S	10 9	U11 6S	U11 6F	F	F	22
11 0	11 5	11 7	11 8	U11 6S	U11 6S	11 0	9 7	F	F	F	11 0	23
12 6	12 7	13 0	13 4	13 8	14 8	U13 2S	F	F	F	F	F	24
U11 2R	10 8	10 7	10 8	10 6	U11 1S	U11 0S	F	F	U10 8F	F	F	25
11 7	11 2	11 4	11 6	11 4	11 4	U11 0S	F	F	F	F	F	26
11 4	11 6	11 8	12 1	12 7	12 7	U11 8S	U10 1F	F	F	F	F	27
12 0	11 5	11 2	11 0	11 6	12 3	U11 7S	F	F	F	F	F	28
12 7	11 8	11 1	10 9	11 1	U11 2RS	10 6	Fs	F	F	U8 8F	U8 8F	29
10 8	10 7	11 0	11 2	11 4	U11 7S	U12 0S	11 2	11 2F	F	Fs	11 8	30
11 4	11 6	12 1	12 6	13 2	13 2	12 3	11 1	F	F	F	F	31
11 6	11 8	11 9	12 1	12 4	12 7	12 2	11 2	11 4	U11 3	10 6	10 6	Mean
11 5	11 6	11 7	12 1	12 6	12 7	12 4	11 1	11 4	U11 4	10 4	11 1	Median
30	31	30	31	31	31	30	20	9	8	9	12	Count

Sweep 10 Mc to 250 Mc in 27 seconds.

Characteristic : foF1  
 Unit Mc  
 Month August 1959

TABLE 13  
 Ionospheric Data  
 75 ° E Mean Time

Latitude : 10.2° N  
 Longitude : 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L <sup>u5 6L</sup>	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	LH
29								L	L	L	L	LH
30								L	L	L	L	LH
31								L	L	L	L	LH
Mean												
Median												
Count											1	

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic , foF<sub>1</sub>  
 Unit Mc  
 Month August 1959

TABLE 13  
 Ionospheric Data  
 75 ° E Mean Time

Latitude : 10.2° N  
 Longitude : 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L	L						7
L	L	L	L	L	L	L						8
L	L	L	L	L	L	L						9
L	L	L	L	L	L	L						10
L	L	L	L	L	L	L						11
L	L	L	L	L	L	L						12
L	L	L	L	L	L	L						13
L	L	L	L	L	L	L						14
L	L	L	L	L	L	L						15
L	L	L	L	L	L	L						16
L	L	L	L	L	L	L						17
L	L	L	L	L	L	L						18
L	L	L	L	L	L	L						19
L	L	L	L	L	L	L						20
L	L	L	L	L	L	L						21
L	L	L	L	L	L	L						22
L	L	L	L	L	L	L						23
L	L	L	L	L	L	L						24
L	L	L	L	L	L	L						25
L	L	L	L	L	L	L						26
L	L	L	L	L	L	L						27
L	L	L	L	L	L	L						28
L	L	L	L	L	L	L						29
L	L	L	L	L	L	L						30
L	L	L	L	L	L	L						31
												Mean
												Median
												Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

Characteristic foF<sub>1</sub>  
 Unit: Mc  
 Month August 1959

TABLE 13—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1									L	L	L	L
2								L	L	L	L	L
3							L	L	L	L	L	L
4							L	L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	C	L
7								L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10								L	L	L	L	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	C	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	LH	L
28								L	L	L	LH	LH
29								L	L	L	LH	LH
30								L	L	L	LH	C
31								L	L	L	L	LH
Mean												..
Median												
Count												

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foF1  
Unit Mc  
Month August 1959

TABLE 13—Contd  
Ionospheric Data  
75° E Mean Time

Latitude : 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
LH	L	L	L	L	L							27
LH	L	L	L	L	L							28
LH	LH	L	L	L	L							29
L	L	L	L	L	L							30
L	L	L	L	L	L							31
												Mean
												Median
												Count

Sweep 1.0 Mc. to 25.0 Mc in 27 seconds.



Characteristic foE  
Unit Mc  
Month August 1959

TABLE 14  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	Λ
2								2 8	A	A	A	Λ
3								A	A	3 8	B	Λ
4								A	A	A	A	Λ
5							2 2	3 0	A	A	A	Λ
6								A	A	A	A	Λ
7								2 9H	A	A	A	Λ
8								A	A	A	B	Λ
9							A	A	A	A	A	Λ
10								A	A	A	A	Λ
11								A	A	A	A	Λ
12								A	A	A	A	Λ
13							1 8	2 8	A	A	A	Λ
14								B	A	A	A	Λ
15								A	A	A	A	Λ
16								A	A	Λ	A	Λ
17								A	A	3 6	A	Λ
18								A	A	A	C	C
19								A	A	A	A	Λ
20								A	A	A	A	Λ
21								2 9	u3.5A	A	A	Λ
22								A	A	A	A	Λ
23								A	A	A	A	Λ
24								u3 0RH	A	A	A	Λ
25								A	A	A	A	Λ
26								A	A	A	A	Λ
27								u3 0R	A	u3 8A	A	Λ
28							R	R	A	A	A	Λ
29								3 1	3 5	4 0	A	Λ
30								A	A	A	A	Λ
31								A	A	A	A	Λ
Mean								2 9				
Median								3 0				
Count							2	8	2	4		

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic foE  
Unit Mc  
Month August 1959

TABLE 14  
Ionospheric Data  
75.0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	A	A	A							1
A	A	A	A	A	A							2
A	A	A	A	A	A	R						3
A	A	A	A	A	3 I							4
A	A	4 I	4 0	3 6	3 I							5
B	A	A	A	A	<sup>U3</sup> 0A							6
A	A	A	A	3 6	F	A						7
A	A	A	A	A	A	A						8
A	A	A	R	A	A							9
A	A	A	A	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
C	A	A	A	A	A							13
A	A	A	A	A	A							14
B	A	A	A	A	A	A						15
A	B	A	B	3 5	A							16
A	A	A	A	A	A							17
A	A	A	A	B	B	A						18
A	A	C	A	A	A							19
A	<sup>U4</sup> IR	A	A	A	A							20
A	A	A	A	A	A							21
A	C	A	A	A	A							22
A	A	A	C	A	A							23
A	A	A	A	A	A							24
A	A	A	C	A	A							25
A	A	A	A	A	A							26
A	A	A	A	A								27
A	A	A	A	A								28
A	A	A	A	A								29
C	A	A	A	A								30
A	A	A	A	3 5								31
												Mean
												Median
	1	1	1	1	3							Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic . foE  
Unit Mc  
Month August 1959

TABLE 14—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude : 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							R	A	A	A	A	A
2							2.4	A	A	A	A	A
3							R	A	A	A	B	A
4							2.7	A	A	A	A	A
5							2.7	A	A	A	A	A
6							A	A	A	A	C	A
7							2.6H	R	A	A	A	A
8							F	A	A	A	A	A
9							R	A	A	A	A	A
10							A	A	A	A	A	A
11							2.7	A	A	A	A	A
12							2.5	A	A	A	A	A
13							2.5	A	A	A	A	A
14							2.7	B	A	A	1	A
15							R	A	A	A	A	B
16							2.6	A	A	A	A	A
17							R	3.2	3.7	A	A	A
18							U2 3R	A	A	A	C	C
19							2.4	A	A	A	A	A
20							A	A	A	A	A	A
21							2.5	3.2	A	A	A	A
22							2.6	A	A	A	A	A
23							A	A	A	A	A	A
24							2.2	3.4H	A	A	A	A
25							U2 6R	A	A	A	A	A
26							2.5	A	A	A	A	A
27							2.9	U3 3R	A	A	A	A
28							R	A	A	A	A	A
29							A	3.5	3.8	A	A	A
30							A	A	A	A	A	C
31							R	A	A	A	A	B
Mean							2.6	3.3				
Median							2.6	3.3				
Count							17	5	2			

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month August 1959

TABLE 14—*Contd*  
Ionospheric Data  
75 0' E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
Λ	Λ	Λ	Λ	Λ	Λ							1
Λ	Λ	Λ	Λ	Λ	Λ							2
Λ	Λ	Λ	Λ	Λ	Λ							3
Λ	Λ	Λ	Λ	3 3	2 4							4
Λ	B	B	3 8	3 3	R							5
Λ	Λ	Λ	Λ	U3.2A								6
Λ	Λ	Λ	Λ	3 3	Λ							7
B	Λ	Λ	Λ	Λ	Λ							8
Λ	Λ	Λ	3 7	3 3 <sup>II</sup>	Λ							9
Λ	Λ	Λ	Λ	Λ	Λ							10
Λ	Λ	3 9	Λ	Λ	Λ							11
Λ	Λ	Λ	Λ	Λ	Λ							12
Λ	Λ	Λ	Λ	Λ	2 4							13
Λ	Λ	Λ	Λ	Λ	Λ							14
Λ	Λ	Λ	Λ	Λ	Λ							15
Λ	B	B	3 7	B								16
B	Λ	Λ	Λ	Λ	Λ							17
Λ	Λ	Λ	B	B	Λ							18
Λ	Λ	C	Λ	Λ	Λ							19
Λ	Λ	Λ	Λ	Λ	Λ							20
Λ	Λ	Λ	Λ	Λ	Λ							21
C	Λ	Λ	Λ	Λ	Λ							22
Λ	Λ	Λ	Λ	Λ	Λ							23
Λ	Λ	Λ	Λ	Λ	Λ							24
Λ	Λ	Λ	Λ	Λ	Λ							25
Λ	Λ	Λ	Λ	Λ	Λ							26
Λ	Λ	Λ	Λ	Λ	Λ							27
Λ	Λ	Λ	Λ	U3.2A	Λ							28
Λ	Λ	Λ	U3.8A	Λ	Λ							29
Λ	Λ	Λ	Λ	Λ	Λ							30
B	Λ	Λ	3 8	Λ								31
			3 8	3 3								Mean
			3 8	3 3								Median
			5	6	2							Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic foEs  
Unit Mc  
Month August 1959

TABLE 15  
Ionospheric Data  
75° E Mean Time

Latitude 10°2' N  
Longitude 77°5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	3 6						4 2	10 6	12 6	12 0	13 2	12 8
2	4 4		2 4		2 8			5 4	11 0	11 8	12 8	13 0
3		3 6						9 4	11 0	9 8	11 2	13 0
4								13 0	13 0	12 4	12 6	12 6
5							G	7 0	10 2	11 4	12 0	12 8
6		1 7	2 6			10 1		10 5	9 5	11 7	12 5	13 2
7	3 8							G	9 4	10 4	11 7	12 1
8		2 5	5 6	9 4	3 3			8 8	9 2	11 8	12 2	12 8
9	6 9						8 8	8 3	10 8	12 4	13 2	12 4
10	5 8	2 8			8 0	13 0	12 0	11 2	11 2	13 0	13 4	13 1
11								10 3	9 3	9 6	11 6	10 4
12	U7 0s	6 6	5 8					7 6	11 0	11 8	12 6	12 4
13	2 6	3 8	3 7				G	4 8	8 8	11 3	12 5	12 4
14								10 8	11 6	11 6	12 7	12 1
15	4 4							8 6	9 4	11 8	12 6	12 0
16	2 2				4 6			8 8	10 8	10 8	12 4	12 2
17								3 6	11 2	7 3	11 6	13 0
18								U9 8s	11 6	11 6	C	C
19								8 2	11 7	11 4	12 8	12 8
20								11 1	11 8	12 4	12 6	11 6
21								G	8 1	11 4	13 1	13 1
22	U8 0s	7 6						10 0	11 4	11 2	13 0	16 0
23								11 2	12 4	12 8	13 8	13 4
24	6 0							6 0	9 8	11 4	13 0	12 6
25	4 2	2 5						8 2	12 4	14 2	14 2	17 0
26			3 6					6 0	12 0	13 0	18 6	14 4
27	U4 6s			U9 0s				G	11 0	11 4	15 0	14 0
28							G	G	10 4	11 4	12 5	12 0
29								G	5 4	G	12 6	13 0
30					4 0			8 4	11 4	11 4	13 4	12 2
31	4 0							9 4	11 0	12 0	12 2	12 8
Mean	4 8	3 9	4 0		4 5			8 7	10 7	11 6	12 9	12 9
Median	4 4	3 2	3 6		4 0			8 4	11 0	11 6	12 6	12 8
Count	14	8	6	2	5	2	6	31	31	31	30	30

Sweep 1.0 Mc to 25.0 Mc. in 27 seconds

Characteristic foEs  
Unit Mc  
Month August 1959

TABLE 15  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude : 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
13 4	12 2	11 8	9 4	10 4	9 0				3 0	5 0	4 6	1
11 6	12 6	13 4	23 0	19 0	22 0	8 0					3 1	2
13 4	12 8	12 0	11 4	10 6	9 0	G					5 8	3
14 0	14 0	13 6	12 0	8 0	7 6	6 4						4
12 4	11 4	G	G	G	G							5
12 2	13 0	12 8	10 2	7 8	7 4	U7 0s		3 0	4 4	U6 0s		6
11 6	18 2	12 4	7 0	G	G	8 5						7
12 2	12 0	12 0	11 2	9 2	9 6	U5 8s					5 2	8
13 0	13 4	8 4	8 6	7 9	8 2							9
12 8	13 0	12 8	12 0	11 4	10 6	10 0		4 0	1 7	4 8	3 6	10
11 8	12 0	11 8	9 8	11 4	8 8	U7 0s					3 8	11
12 6	12 4	12 4	18 0	12 7	10 8	12 6	6 5		3 6	3 6	4 3	12
C	13 4	12 4	11 2	10 0	7 8							13
12 4	12 7	13 0	11 2	9 2	7 8				2 0	6 8	7 8	14
12 0	13 2	12 2	17 2	14 0	7 6	7 8	4 6				2 1	15
12 6	11 3	12 6	8 3	G	5 4	4 2					6 8	16
12 6	12 4	12 8	12 0	12 0	8 3		3 7	3 8				17
14 8	12 4	10 5	10 7	14 6	16 4	20 6	4 0			6 8		18
12 7	12 4	C	18 2	14 8	8 6	4 7		2 3	4 4	6 9		19
11 8	G	19 3	19 4	21 5	12 4	14 2	U5 1s	4 6	4 3	2 7		20
12 3	12 3	12 1	11 0	13 4	18 3	9 5				4 1	U10 2s	21
14 2	C	14 0	12 0	11 0	U9 0s	S		3 0	8 8	9 0	7 0	22
13 4	17 8	13 2	C	13 8	10 6	S	1 8		7 0	8 4	U7 0s	23
14 0	13 6	13 2	13 0	14 6	8 0	4 4						24
18 2	18 4	13 6	C	13 0	U9 0s	U4 0s						25
16 8	15 0	14 4	11 6	11 8	10 2	U5 6s						26
13 4	14 0	13 4	12 0	13 0	U13 0s	S		2 6		1 8	3 0	27
13 0	14 0	12 4	12 0	11 0	8 0	U6 0s					6 0	28
13 0	14 0	13 0	12 2	11 3	10 0					4 4	7 2	29
C	14 0	13 0	11 0	U11 6s	9 4	4 4						30
12 4	12 6	12 0	12 0	G	8 0	4 0						31
13 1	13 5	12 8	12 4	12 2	10 0	7 7	4 3	3 3	4 4	5 4	5 5	Mean
12 7	12 9	12 7	11 6	11 4	9 0	6 4	4 3	3 0	4 3	5 0	5 5	Median
29	30	30	29	31	31	21	6	7	9	13	16	Count

Scale 1.0 Mc to 25.0 Mc in 27 second.

Characteristic foEs  
Unit Mc  
Month August 1959

TABLE 15—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1		3 6					G	12 0	12 0	12 6	13 8	13 4
2	4 2						G	11 0	11 6	13 0	12 8	12 2
3							G	10 0	11 8	11 0	12 0	12 8
4		5 4					6 0	11 2	22 0	13 0	13 0	12 8
5							G	8 8	10 6	12 0	12 6	12 8
6	2 0	2 6		U5 OS			6 2	9 8	10 0	12 2	C	12 8
7	3 2					4 4	G	7 8	10 5	12 3	14 2	12 0
8		2 8	6 6	4 8			6 6	9 4	11 8	12 8	12 4	12 3
9	U6 8s						G	9 8	12 1	13 8	12 8	13 1
10	4 0	3.2		1 7	9 0	10 6	9 6	11 2	14 4	13 2	12 1	13 6
11		2 2					G	9 8	9 2	10 8	10 7	11 6
12	9.2	6 8	6 8				G	9 2	11 3	12 8	12 2	12 8
13	3 8		6 6				G	7 8	10 8	12 6	12 6	13 2
14							G	11 0	11 4	12 4	12 5	12 2
15	3 0						G	9 4	11 2	12 4	11.4	11 4
16	6 6				4 2		8 3	9 0	10 4	12 6	12 6	12 6
17			3 5				G	G	8 1	12 2	12 6	13 2
18							G	10 4	12 2	11 8	C	C
19							G	9 8	12 1	12 6	12 6	12 8
20							6 4	12 2	12 6	12 8	14 0	13 0
21							G	G	10 2	12 6	13 8	14 5
22	U9 2s						G	10 4	12 0	13 6	12 6	14 0
23								12 0	12 8	13 2	14 4	15 3
24	3 4						G	G	10 0	12 6	12 8	12 8
25	2 4	2 3					G	11 0	12 4	13 6	13 8	18 0
26	7 0	6 8	5 0				G	11 2	13 0	14 0	14 0	18 0
27				U9 OS			G	G	12 2	13 8	14 0	15 0
28		1 7	U7 OS				6 8	8 4	11 0	12 2	13 0	12 6
29								4 5	5 4	12 4	13 0	13 0
30					5 4			9 2	12 0	13 0	12 8	C
31							G	10 6	11 6	12 0	12 2	13 0
Mean	5 0	3 7	5 9				7 1	9 9	11 6	12 6	12 9	13 3
Median	4 0	3 0	6 6				G	9 8	11 6	12 6	12 8	12 8
Count	13	10	6	4	3	2	28	31	31	31	29	29

Sweep 1.0 Mc to 25.0 in Mc in 27 seconds.

Characteristic foEs  
Unit Mc  
Month August 1959

TABLE 15—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
13 0	10 4	14 0	10 0	10 4	10 0				4 6	4 4	3 6	1
13 0	24 0	17 0	17 0	17 0	11 0	6 6				2 6	3 8	2
13 0	12 6	11 0	10 8	10 4	7 0					4 4	5 0	3
17 6	15 6	14 4	16 0	G	6 6	4 6						4
12 4	8 0	G	G	G	4 0							5
13 1	13 0	11 6	9 0	6 6	U7 0s	U7 5s		2 7	4 8			6
18 2	17 2	10 4	7 7	G	6 4	1 9						7
12 0	11 8	10 7	11 6	9 8	U9 0s	3 0					4 0	8
12 4	12 4	7 5	G	7 6	U3 8s						8	9
12 8	13.8	12 0	11 2	10 2	12 6	4 2		1 8	2 4	2 7	4 5	10
13 0	11 2	10 8	9 8	8 8	8 5					3 2	3 0	11
12 6	12 8	13 6	14 2	12 8	11 2	U11 2s	1 7		3 4	2 8	5 4	12
13 6	13 0	11 6	10 8	8 7	6 8							13
11 8	11 8	10 8	9 4	8 2					3 0	7 8	5 6	14
12 8	12 5	12 0	17 6	7 6	9 5	U7 0s	4 6					15
12 7	11 6	7 6	G	7 6	4 3							16
13 6	13 8	11 8	12 1	9 6								17
13 0	11 6	11 0	B	16 8	20 2	U10 6s				4 6		18
11 8	12 5	C	20 0	9 9	7 2			U5 6s	5 3	8 4		19
13 6	13 4	15 4	19 4	19 3	10 4	U8 8s	4 4	4 5	5 8			20
12 5	11 6	8 6	11 6	12 6	12 7	S				10 9	10 2	21
C	13 0	13 0	11 6	9 8	U8 6s	3 8		5 8	12 6	U6 0s	6 4	22
14 2	13 8	13 0	14 0	11 2	8 0	2.8	3 0	4 0	4 6	4 6	5 1	23
14 0	13 0	12 0	10 8	8 7	U8 0s						3 8	24
18 6	16 2	13 4	12 1	11 0	U9 8s	2 6			3 8	4 0		25
16 8	15 6	13 0	12 4	12 0	U9 4s						5 0s	26
14 2	14.0	12 8	12 0	17 0	U10 0s					2 6	5 0s	27
13 0	13 0	12 6	12 0	8 0		3 4				3 0	4 6	28
13 0	13 0	12 6	11 0	10 6	6 4					2 8	7 0s	29
14 0	13 0	13 0	12 6	8 0	9 0							30
13 0	12 2	10 4	G	8 0	7 0s			2 0			3 8	31
13 6	13 3	12 0	12 6	10 6	8 7	5 6		3 8	5 0	4 7	5 0	Mean
13 0	13 0	12 0	11 6	9 8	8 6	4 4		4 0	4 6	4 2	4 8	Median
30	31	30	30	31	28	14	4	7	10	16	18	Count

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds.



Characteristic fbEs  
Unit Mc  
Month August 1959

TABLE 16  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 2						2 1	3 6	3 4	4 0	4 1	4 3
2	1 7		1 3					3 0	3 4	4 0	4 0	4 5
3		1 8						3 0	3 5	4 0	4 4	4 4
4								3 5	4 6	4 8	4 4	4 4
5								3 0	3 6	3 9	4 1	4 3
6												
7			1 9					3 0	3 5	4 0	4 2	4 5
8												
9	2 4	1 7	2 3	2 6	2 6			3 0	3 5	4 0	4 2	4 4
10	2 6				2 2	3 4	2 8	4 2	3 0	3 5	4 0	4 3
11								3 4	3 5	4 4	4 3	4 2
12								3 0	3 5	4 0	4 2	4 3
13	3 0	2 6						2 8	3 3	3 8	4 0	4 4
14		2 4							3 5	3 9	4 2	4 4
15								3 2	3 9	4 0	4 2	4 3
16	1 7							3 0	3 4	3 8	4 2	4 3
17												
18	2 2				1 8			3 0	3 5	4 0	4 1	4 3
19								3 0	3 5	4 0	4 2	4 3
20								2 9	3 4	4 0	C	C
21								3 0	3 5	4 0	4 1	4 4
22								3 0	3 6	3 9	4 3	4 6
23												
24	2 2							3 0	3 6	3 9	4 1	4 4
25	2 2	2 5						3 1	3 6	4 0	4 2	4 3
26								3 0	3 6	4 2	4 3	4 4
27	1 7											
28				2 1				3 0	3 6	4 0	4 2	4 4
29												
30						2 0		3 7	3 8	4 0	4 2	4 4
31								3 2	3 8	4 3	4 3	4 6
Mean	2 2	2 2						3 1	3 6	4 0	4 2	4 4
Median	2 2	2 4						3 0	3 5	4 0	4 2	4 4
Count	10	5	3	2	4	1	3	25	31	29	29	30

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f<sub>o</sub>E<sub>s</sub>  
Unit Mc  
Month August 1959

TABLE 16—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4 3	4 1	1 0	3 8	3 4	2 8				1 3	1 6	1 8	1
4 2	4 8	1 4	10 0	7 6	8 4	2 6					2 0	2
4 4	4 4	1 0	1 0	3 5	3 0						1 5	3
4 5	4 7	4 6	5 1	3 6	3 0	2 2						4
4 5	4 4											5
	4 6	1 2	1 1	3 6	3 1	3 0			1 8	1 8		6
4 8	7 0	1 0	4 0			3 6						7
4 4	4 4	1 2	4 0	3 4	4 1	2 4					2 4	8
4 5	4 3	1 3		3 5	3 0							9
4 4	1 2	1 0	1 0	3 5	3 0	3 2				2 4	1 8	10
4 4	4 1	4 1	4 0	5 0	6 6	2 2					2 8	11
4 2	1 2	4 2	6 4	4 7	3 6	4 4	2 2		1 7	2 0	2 2	12
G	4 2	1 1	1 0	3 4	3 1							13
4 4	4 3	4 1	3 8	3 4	2 8				2 0	2 1	2 2	14
	4 3	4 0	5 1	3 9	1 0	2 6	2 6				2 0	15
4 4	4 6	1 6			3 5	2 4						16
4 4	4 3	4 2	3 9	3 1	3 0		2 0	2 1				17
4 4	4 2	1 0	3 8	7 0	A	4 5	1 8			2 0		18
4 5	4 1	G	1 9	4 3	3 0	4 2		1 6	2 2	2 2		19
4 4	1 3	1 3	7 6	9 9	4 2	2 7	2 3	2 5	2 6	2 5		20
4 6	4 3	4 4	1 1	5 1	5 0	3 2				2 3	2 6	21
4 6	G	4 2	1 2	3 5	3 0	2 0		2 0	1 5	1 8	2 6	22
4 4	4 1	4 3	G	1 0	3 0	2 0			2 3	2 0	2 0	23
4 1	1 4	1 2	1 6	5 4	3 0	2 0						24
4 8	4 1	4 2	G	3 7	2 8	1 9						25
4 6	4 3	1 2	1 2	3 4	3 0	2 0						26
4 4	4 4	1 2	1 0	4 1	5 0					1 3	1 3	27
4 6	4 6	4 2	4 2	3 6	3 0	2 5						28
4 6	4 6	1 1	1 0	3 6	3 0					1 8	2 6	29
G	4 6	4 2	4 0	4 0	3 2	2 2						30
4 8	4 8	4 5	4 8		3 1							31
4 5	4 5	4 2	4 6	4 4	3 6	2 8	2 2		1 9	2 0	2 1	Mean
4 4	4 4	4 2	4 0	3 6	3 0	2 5	2 2		1 9	2 0	2 1	Median
27	30	29	26	27	29	21	5	4	8	13	14	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fbEs  
Unit Mc  
Month August 1959

TABLE 16—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1		1 8						3 6	4 0	4 0	4 2	4 3
2	1 5							3 1	C	3 9	4 4	4 2
3								3 2	3 7	4 0	4 6	4 8
4							2 6	3 3	6 2	4 1	4 2	4 1
5								3 3	3 8	4 0	4 2	4 5
6		1 7		2 0			2 6	3 3	3 2	4 0	C	4 5
7	2 4								3 7	4 0	4 8	4 5
8		1 5	2 8	2 6				3 2	3 7	4 1	4 4	4 3
9								3 4	3 7	4 1	4 2	4 4
10	2 3	1 9			1 8	3 0	4 0	3 4	4 2	4 8	4 4	4 2
11		1 8						3 2	3 6	4 0	4 3	4 4
12	2 8	2 6						3 2	3 6	4 0	4 3	4 2
13	1 8							3 2	3 6	4 0	4 2	4 3
14									4 0	4 1	4 2	4 4
15	1 8							3 2	3 6	4 0	4 2	
16					2 4		2 6	3 2	3 6	4 0	4 2	4 3
17									4 0	4 0	4 2	4 4
18			2 2					3 2	3 7	4 3	C	C
19								3 2	3 7	4 1	4 2	4 5
20							2 6	3 2	3 7	4 0	4 5	4 7
21									3 7	4 0	4 4	4 5
22								3 4	3 8	4 2	4 2	4 6
23								3 3	4 0	4 0	4 3	4 5
24	1 6								4 0	4 2	4 3	4 4
25	2 2	2 0						3 4	3 8	4 0	4 4	4 6
26	2 2								4 0	4 0	4 3	4 4
27					2 4			3 3	3 8	4 0	4 3	4 4
28									4 0	4 2	4 5	4 6
29								3 5	3 9	4 4	4 7	4 8
30						1 7		4 0	4 8	4 4	4 7	4 8
31								3 6	4 0	4 2	4 5	C
								3 5	4 0	4 4	4 6	4 7
Count	9	7	2	3	3	1	5	25	29	31	29	28
Median	2 2	1 8					2 6	3 3	3 8	4 0	4 3	4 4
Mean	2 1	1 9					2 9	3 3	3 9	4 1	4 4	4 4

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds

Characteristic f<sub>o</sub>F<sub>2</sub>  
 Unit Mc  
 Month August 1959

TABLE 16—*Contd*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 2	4 0	3 9	3 6	3 1	2 1				1 6	1 7	1 6	1
4 2	8 2	6 2	6 2	9 0	5 0	2 0				1 5	1 7	2
4 4	4 4	1 0	3 8	3 2	2 5					1 3		3
4 7	5 0	5 1	5 2		2 6	1 7						4
4 5	4 5				2 6							5
4 6	4 4	4 2	3 8	3 4	2 7	2 8			2 6			6
6 8	7 2	4 1	1 0		2 5	1 4						7
4 6	4 3	4 0	3 6	3 1	3 6	1 5					2 3	8
4 4	4 3	1 2			2 6							9
4 2	4 2	4 0	3 6	3 2	3 0	1 5			1 4	1 8		10
4 5	4 2	4 0	5 0	3 8	3 7					2 0		11
4 2	4 3	4 8	7 8	1 3	4 2	3 2			1 6	1 8	2 2	12
4 2	4 2	4 0	3 6	3 2	2 6							13
4 4	4 2	1 0	3 6	3 1					2 0	2 0	1 7	14
4 4	4 1	4 0	6 0	3 5	3 3	3 0	2 3					15
4 3					2 9							16
4 8	4 2	4 0	3 7	3 1								17
4 3	4 2	4 0		9 2	5 2	2 5				2 1		18
4 4	4 3	C	5 6	3 3	3 0			1 9	2 5	2 2		19
4 4	4 2	5 3	7 1	7 7	3 6	2 3	2 6	2 6	2 1			20
4 5	4 2	4 2	4 5	6 0	3 8					3 2	3 0	21
C	4 2	4 2	4 0	3 4	2 6	1 5		2 2	2 7	1 8	1 7	22
4 5	4 4	4 2	4 2	3 6	2 6	1 8	1 2	1 7	2 2	1 8	2 0	23
4 4	4 2	4 0	3 8	3 3	2 4							24
4 5	4 4	1 2	3 7	3 2	2 1					1 5		25
4 4	4 4	4 2	3 8	3 2	2 5							26
4 6	4 3	4 0	3 8	7 0	2 8					1 1	1 6	27
4 6	4 4	4 3	3 8	3 3		2 2				2 0		28
4 6	4 5	4 1	3 8	3 3	2 8							29
4 6	4 5	4 2	4 1	3 7	3 1					1 7	2 2	30
5 0	4 8	4 6		3 6	2 5							31
30	30	28	26	26	28	13	3	4	9	16	10	Count
4 4	4 3	4 2	3 8	3 4	2 8	2 0			2 2	1 8	1 8	Median
4 5	4 6	1 3	4 5	4 2	3 1	2 1			2 1	1 9	2 0	Mean

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic  $f_{min}$   
Unit Mc  
Month August 1959

TABLE 17  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 0	1 7	1 7	1 7	1 3	1 4	1 7	2 0	2 1	2 4	2 5	2 6
2	E	1 2	E	1 3	1 2	1 5	2 0	1 8	2 0	2 4	2 4	3 0
3	1 5	1 5	2 0	1 9	2 0	2 0	2 1	1 8	2 1	2 6	4 2	3 0
4	2 0	1 5	1 6	1 6	1 8	1 6	2 2	1 8	2 0	2 5	3 2	3 0
5	1 8	2 2	2 5	2 3	2 0	1 8	2 1	1 6	2 0	2 6	3 0	3 0
6	1 5	1 2	E	1 7	1 4	1 4	2 2	1 6	2 3	2 5	2 7	3 2
7	1 7	2 2	1 7	1 6	1 7	1 8	2 2	2 1	2 5	2 7	2 8	3 0
8	1 8	1 2	1 4	1 1	1 9	2 4	2 4	1 9	2 2	2 3	4 8	2 8
9	1 9	2 9	2 0	2 2	1 8	1 7	1 7	1 9	2 4	2 6	2 4	3 1
10	1 8	1 9	1 5	1 6	E	1 7	2 8	1 7	2 2	2 5	2 5	3 0
11	1 7	1 3	1 2	1 7	1 7	1 6	2 2	1 8	2 1	2 4	3 0	3 1
12	1 4	2 0	2 4	2 2	1 5	1 8	2 2	1 7	2 0	2 2	2 4	2 6
13	1 3	1 7	1 5	1 4	1 2	1 2	1 5	1 7	2 1	2 3	2 7	2 8
14	1 8	1 7	1 6	1 3	1 5	1 8	2 2	3 0	3 2	3 0	2 7	3 0
15	1 2	1 3	1 1	1 5	1 4	1 3	2 2	1 6	2 1	2 6	2 9	2 7
16	E	1 7	1 7	1 6	1 2	1 8	2 2	1 9	2 1	2 4	2 3	2 8
17	2 2	2 5	2 2	2 0	2 3	1 6	2 3	1 9	2 3	3 2	3 0	3 1
18	2 6	2 2	1 8	1 6	1 4	1 7	2 1	1 7	2 3	2 9	C	3 1
19	2 2	2 4	2 4	1 8	1 4	1 3	2 1	2 1	2 2	2 3	3 6	3 0
20	2 1	1 4	1 9	1 6	1 6	1 5	2 1	1 6	2 2	2 5	2 9	4 0
21	2 2	2 0	1 9	1 7	1 4	1 7	2 1	1 7	2 1	2 3	2 6	3 0
22	3 0	2 4	2 2	2 0	1 7	1 7	2 6	2 0	2 2	2 4	2 6	2 9
23	1 7	1 7	2 2	1 8	1 9	1 7	2 2	2 1	2 0	2 4	2 6	2 6
24	1 1	1 5	1 4	1 6	1 4	1 6	2 1	2 1	2 2	2 8	2 6	3 0
25	2 0	E	2 0	1 7	1 8	1 6	2 4	1 8	2 2	2 7	2 6	3 4
26	1 6	2 0	2 0	2 0	2 2	2 0	2 2	2 0	2 1	2 4	2 4	2 7
27	1 4	1 8	1 9	1 7	2 2	2 2	2 3	2 0	2 2	2 6	2 6	3 7
28	1 6	1 6	2 0	1 7	1 7	1 5	1 6	2 0	2 6	2 6	3 0	3 4
29	2 0	2 2	2 4	2 0	2 0	1 7	2 3	2 5	2 8	3 0	3 0	3 2
30	2 2	1 7	1 5	1 5	1 5	2 0	2 8	2 2	2 4	2 8	2 8	3 0
31	2 4	2 2	1 9	1 7	1 8	1 6	2 2	1 9	2 2	3 0	3 4	3 6
Mean	1 8	1 8	1 8	1 7	1 7	1 7	2 2	1 9	2 2	2 6	2 9	3 0
Median	1 8	1 7	1 9	1 7	1 7	1 7	2 2	1 9	2 2	2 5	2 7	3 0
Count	31	31	31	31	31	31	31	31	31	31	30	3 0

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic f min  
Unit Mc  
Month August 1959

TABLE 17  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 6	2 6	2 6	2 4	2 1	2 0	1 9	1 2	1 1	1 1	E	1 2	1
2 7	2 6	2 6	2 2	2 2	1 3	E	1 7	1 2	1 5	1 6	1 4	2
3 0	3 4	2 8	2 6	2 2	2 0	1 6	1 1	1 3	1 4	1 1	1 1	3
2 9	3 0	3 0	2 6	3 0	1 8	1 5	1 1	1 3	1 3	1 6	1 6	4
3 2	3 6	3 5	3 3	3 0	2 5	2 0	1 3	1 3	1 6	1 4	1 5	5
5 0	2 9	2 6	2 5	2 4	1 6	1 5	1 8	1 6	1 5	1 7	1 6	6
3 1	3 2	3 0	2 9	2 8	2 2	1 8	1 6	1 6	1 6	1 5	1 4	7
3 0	3 0	2 9	2 7	2 2	1 7	1 2	1 3	1 6	1 4	1 6	2 2	8
3 1	3 2	3 0	3 2	2 3	2 2	2 1	1 4	1 3	1 4	1 6	1 4	9
3 0	3 0	2 7	2 6	2 4	1 8	1 4	1 3	1 1	1 4	1 3	1 4	10
3 2	3 1	2 8	2 6	1 8	1 6	1 4	1 2	1 5	1 3	1 6	1 6	11
2 7	3 0	2 6	2 3	1 9	1 7	1 5	1 2	1 5	L	1 0	1 2	12
C	2 8	2 5	2 8	2 2	2 2	1 8	1 4	1 3	1 5	1 5	1 1	13
2 9	3 0	2 8	2 8	2 4	1 9	2 0	1 5	1 5	1 1	1 2	1 1	14
4 8	3 2	2 6	2 6	2 0	1 6	1 4	1 4	1 5	1 7	1 5	1 1	15
3 0	4 6	3 8	4 6	3 2	2 1	2 1	3 0	2 2	2 4	2 9	2 6	16
3 0	2 9	3 0	2 8	2 4	2 4	2 3	1 8	2 3	2 3	2 0	2 0	17
2 8	2 7	2 5	2 5	5 2	4 1	1 8	1 4	1 4	1 9	1 4	2 2	18
3 1	2 8	C	2 3	2 3	1 9	2 1	1 4	1 1	1 3	1 8	2 1	19
3 0	3 0	2 7	2 4	2 2	2 2	1 3	1 2	1 8	1 9	1 4	2 2	20
3 1	3 0	2 5	2 7	2 1	2 1	1 4	2 0	2 2	1 9	2 0	2 3	21
3 2	C	2 2	2 2	2 2	2 0	1 4	1 3	1 1	E	1 6	1 3	22
3 0	2 8	3 0	C	2 8	1 8	1 1	1 3	1 3	1 3	1 5	1 7	23
3 0	2 8	2 8	2 4	2 0	2 2	1 6	1 4	1 7	1 5	1 6	1 5	24
3 4	2 8	2 6	C	2 0	1 6	1 2	1 1	1 3	1 2	1 5	1 6	25
3 2	2 8	2 8	2 8	2 2	1 8	1 2	1 3	1 5	1 5	1 3	1 8	26
3 0	3 2	3 0	2 7	2 0	1 7	2 0	1 2	1 2	1 2	E	1 0	27
3 4	3 4	3 0	2 8	2 4	1 9	1 4	1 5	1 5	1 6	1 7	1 9	28
3 0	3 0	3 0	3 0	2 6	2 0	1 9	1 7	1 8	2 2	1 5	2 0	29
C	3 2	2 6	2 6	2 2	1 7	1 4	1 7	1 7	2 0	1 8	1 7	30
3 6	3 8	3 0	2 8	2 7	1 9	2 0	1 5	1 7	2 0	2 0	1 8	31
3 2	3 1	2 8	2 7	2 4	2 0	1 6	1 5	1 5	1 6	1 6	1 6	Mean
3 1	3 0	2 8	2 6	2 2	1 9	1 5	1 4	1 5	1 5	1 6	1 6	Median
29	30	30	29	31	31	31	31	31	31	31	31	Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic  $f_{min}$   
 Unit . Mc  
 Month August 1959

TABLE 17 —Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude . 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	2 0	E	1 8	1 8	1 4	1 6	1 9	1 9	2 2	2 5	2 6	3 0
2	E	1 2	1 2	1 1	1 5	1 9	2 1	1 8	C	2 4	2 6	2 8
3	1 7	2 0	2 1	1 8	1 7	2 2	2 0	2 0	2 3	2 8	3 8	3 1
4	2 1	1 5	1 3	1 4	1 6	1 5	1 9	2 1	2 2	2 5	3 0	3 0
5	2 2	2 4	2 3	2 6	2 0	2 0	2 3	1 8	2 2	2 6	3 0	3 1
6	1 3	1 3	1 5	1 2	1 3	1 7	1 6	1 7	2 3	2 5	C	3 0
7	1 6	1 5	1 7	1 6	1 5	1 7	1 8	2 2	2 6	2 8	3 0	3 0
8	1 2	1 4	1 0	1 6	2 8	2 1	2 1	2 0	2 3	2 3	3 0	2 0
9	2 2	2 0	1 9	2 0	2 1	1 7	2 0	1 8	2 5	2 6	2 5	3 0
10	1 6	1 7	1 6	1 2	1 2	1 7	2 3	2 0	2 4	2 5	3 0	3 0
11	1 6	1 1	1 6	1 9	2 0	1 4	1 9	2 1	2 2	2 3	3 0	3 1
12	2 0	2 1	2 4	1 8	1 6	1 4	2 0	1 8	2 2	2 3	2 4	2 5
13	1 6	1 4	1 5	1 4	1 3	1 5	1 8	1 7	2 2	2 3	2 8	2 9
14	2 0	1 4	1 7	1 4	1 6	1 7	2 2	4 2	2 9	2 6	2 8	3 2
15	1 0	1 4	1 4	1 5	1 4	1 6	2 0	2 0	2 3	2 7	2 6	5 0
16	2 2	2 1	1 6	1 5	1 2	1 9	2 4	1 9	2 3	2 4	2 6	3 0
17	2 2	2 2	2 1	2 2	2 1	2 3	2 3	2 1	3 0	2 6	3 0	3 1
18	2 3	2 4	1 7	1 7	1 5	1 8	1 6	2 0	2 5	3 3	C	C
19	2 3	2 6	2 1	1 7	1 4	1 6	2 0	2 1	2 3	2 5	3 0	3 1
20	1 9	1 7	1 4	1 8	1 6	1 5	1 8	1 9	2 3	2 6	2 7	3 3
21	2 2	1 6	1 7	1 5	1 4	1 6	1 9	1 8	2 0	2 5	2 9	2 9
22	2 4	2 0	2 1	1 8	2 0	1 7	2 2	2 0	2 3	2 3	2 8	3 0
23	1 7	2 1	2 1	1 8	2 0	1 9	2 7	2 0	2 4	2 4	2 5	3 1
24	1 1	1 4	1 5	1 6	1 4	1 5	2 0	2 4	2 2	2 6	2 8	2 8
25	E	E	1 8	1 7	1 9	1 5	2 0	2 0	2 4	2 6	2 8	3 0
26	1 8	2 0	1 7	1 8	2 0	1 8	2 0	2 1	2 2	2 2	2 6	2 8
27	1 9	1 9	2 0	2 1	2 2	1 6	1 8	2 0	2 3	2 4	3 0	3 0
28	1 5	E	1 7	1 7	1 8	1 4	1 8	2 2	2 5	2 7	2 8	3 7
29	2 0	2 7	2 0	1 9	1 9	1 8	2 8	2 6	2 8	3 2	3 2	3 0
30	2 0	1 9	1 7	1 7	1 5	1 8	2 8	2 6	2 8	2 7	3 0	C
31	2 4	2 0	1 8	1 6	1 6	1 8	2 2	2 0	2 4	3 2	3 8	3 8
Count	31	31	31	31	31	31	31	31	30	31	29	29
Median	1 9	1 7	1 7	1 7	1 6	1 7	2 0	2 0	2 3	2 5	2 8	3 0
Mean	1 9	1 8	1 7	1 7	1 7	1 7	2 1	2 1	2 4	2 6	2 9	3 1

Sweep 1 0 Mc to 25 0 Mc in 27 seconds,

Characteristic f min  
Unit Mc  
Month August 1959

TABLE 17—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 9	2 5	2 5	2 4	1 9	1 7	1 3	1 3	1 3	E	E	E	1
2 6	2 7	2 4	2 4	1 6	1 1	E	1.3	1 2	1 3	1 4	1 5	2
3 0	3 0	3 0	2 4	2 0	1 6	1 3	1 3	1 3	1 9	E	1 6	3
3 0	3 0	3 0	2 4	2 5	1 6	1 2	1 4	1 3	1 6	1 5	1 4	4
3 4	4 5	4 3	3 0	2 4	2 0	1 5	1 5	1 5	1 8	1 6	1 3	5
3 0	2 7	2 6	2 4	1 8	1 5	1 3	1 8	1 8	1 7	1 7	1 6	6
3 2	3 1	3 0	3 4	2 3	1 8	1 3	1 5	1 6	1 4	1 7	1 3	7
3 8	3 2	2 9	2 3	2 1	1 5	1 3	1 5	1 2	1 3	2 2	1 8	8
3 0	3 3	3 1	2 9	2 3	2 0	1 4	1 3	U1 3s	U1 6s	1 2	2 0	9
2 8	3 0	2 8	2 6	2 0	1 6	1 1	1 4	1 1	1 1	1 5	2 2	10
3 0	3 0	2 9	2 2	2 0	1 6	1.4	1 5	1 3	1 3	1 9	E	11
2 5	2 8	2 6	2 2	1 9	1 7	1 1	1 6	1 2	1 1	E	1 0	12
2 8	2 6	2 6	2 5	2 2	1 7	1 2	1 1	1 3	1 4	1 6	1 1	13
3 2	3 0	3 0	2 7	2 1	2 4	1 4	1 8	1 7	1 1	1 3	1 1	14
3 4	2 8	2 6	2 3	1 8	1 6	1 3	1 3	1 4	1 5	1 6	1 7	15
3 1	4 8	5 0	3 4	3 5	2 0	2 2	2 3	2 4	2 5	3 0	2 4	16
4 8	3 0	3 0	2 5	2 3	2 9	2 1	2 0	2 1	2 3	2 2	2 2	17
2 7	2 6	2 5	7 4	4 2	3.7	1 4	1 4	1 4	1 7	1 8	2 4	18
3 0	2 8	C	2 3	2 2	1 8	1 5	1 3	1.3	1 6	1 7	2 0	19
2 8	2 9	3 8	2 5	2 2	2 2	1 1	2 2	2.2	1 3	2 3	2 3	20
3 2	2 8	2 4	2 3	2 0	1 6	U1 2s	1 8	1 8	1 9	2 2	2 6	21
C	2 8	2 2	2 2	2 0	1 7	E	1 3	E	1 7	1 4	1.4	22
2 7	2 7	3 0	3 0	2 3	1 3	1 1	E	1 2	1 4	1 6	1 4	23
3 0	2 8	2 8	2 2	2 4	1.9	1 2	1 5	1 5	1 6	1 6	2 0	24
3 0	2 7	2 8	2 2	2 0	1 4	1 2	1 4	1 2	1 2	1 1	1 9	25
3 0	2 6	3 2	2 4	2 0	1 5	1 5	1 5	1.5	1 7	1.7	1 6	26
3 4	3 0	3 0	2 4	2 1	1 8	1 5	1 2	1 3	1 0	E	1 3	27
3 4	3 0	3 0	2 6	2 5	2 6	1 5	1 3	1 5	1 5	1.3	1 7	28
3 4	3 2	3 2	2 8	2 6	1 8	1 4	2.0	1 7	1 7	2 0	2 2	29
3 2	3 0	2 3	2 2	1 9	1 6	1 5	1 7	2 0	2 0	1 6	1 7	30
4 4	3 3	2 8	3 2	2 3	1 7	1 5	1 5	1 6	2.0	2 2	1 7	31
3 0	3 1	3 0	3 1	3 1	3 1	3 1	3 1	3 1	3 1	3 1	3 1	Count
3 0	3 0	2 9	2 4	2 1	1 7	1.3	1 5	1 4	1 6	1 6	1 7	Median
3 2	3 0	2 9	2 7	2 2	1 8	1 4	1 5	1 5	1 6	1 7	1 7	Mean

Sweep 1 0 Mc to 25.0 Mc in 27 seconds



Characteristic . h'F<sub>2</sub>  
 Unit · Km  
 Month August 1959

TABLE 18  
 Ionospheric Data  
 75 ° E Mean Time

Latitude . 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	280	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	LH
30								L	L	L	L	LH
31								L	L	L	L	LH
Mean												
Median												
Count											1	

Sweep 1.0 Mc to 25.0 Mc, in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit - Km  
 Month August 1959

TABLE 18  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° N  
 Longitude 77° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	400	L	L							1
345	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	400	380	370							5
L	L	L	L	L	L							6
L	L	L	L	L	L	L						7
L	L	L	L	L	L	L						8
L	L	L	L	L	L	L						9
L	L	L	L	L	L	L						10
L	L	L	L	L	L	L						11
L	L	L	L	L	L	L						12
L	L	L	L	L	L	L						13
L	L	L	L	L	L	L						14
L	L	L	L	L	L	L						15
L	L	L	L	L	L	L						16
L	L	L	L	425	L	A						17
L	L	L	L	L	L	A						18
L	L	L	L	L	L	A						19
L	L	L	L	L	L	L						20
L	L	L	L	L	L	L						21
L	L	L	L	L	L	L						22
L	L	L	L	L	L	L						23
L	L	L	L	L	L	L						24
L	L	L	L	L	L	L						25
L	L	L	L	L	L	L						26
L <sub>H</sub>	L	L	L	L	L	L						27
L <sub>H</sub>	L <sub>H</sub>	L <sub>H</sub>	L	L	L	L						28
L	L	L	L	L	L	L						29
L	L	L	L	L	L	L						30
L	L	L	L	L	L	L						31
												Mean
												Median
1			2	2	1							Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month August 1959

TABLE 18—*Contd*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3							L	L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	C	L
7								L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10								L	L	L	E	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	C	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L <sub>H</sub>
29								L	L	L	L <sub>H</sub>	L <sub>H</sub>
30								L	L	L	L <sub>H</sub>	C
31								L	L	L	L	L <sub>H</sub>
Mean												
Median												
Count												

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic, h'F<sub>2</sub>  
 Unit Km  
 Month August 1959

TABLE 18—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
				380	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
L	L	L	L	L	L							16
L	L	L <sub>H</sub>	L <sub>H</sub>	L <sub>H</sub>	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L <sub>H</sub>	L	L	L	L	L							27
L <sub>H</sub>	L	L	L	L	L							28
L <sub>H</sub>	L	L	L	L	L							29
L	L	L	L	L	L							30
L	L	L	L	L	L							31
												Mean
												Median
			1	1								Count

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month August 1959

TABLE 19  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	250	255	300	260	230	220	265	U240A	225	210	200	200
2	300	320	340	335	275	215	260	240	220	215	200H	230
3	280	F	260	230	240	240	275	250	230	210	B	210H
4	300	240	240	235	220	220	280	260	A	A	210	215H
5	280	290	300	300	275	300	280	240	220	205H	200H	200
6	400F	400F	F	310	265	250	280	250	230	220	210	220
7	290	340	370	345	290	240	270	245	190H	220	200H	220
8	280	300	320	F	275	240	275	245	220H	225	B	210
9	260	260	250	230	220	270	270	250	240	220	220	220
10	300	300	310	360	360	300	300	260	240	U240A	210H	205
11	305	320	345F	340	305	220	270	240	225	220	215	210
12	325	300	275	260	235	220	270	235	220	205H	200	190H
13	320	270	265	260	235	230	270	240	225	215	200	210
14	330	280	260	250	235	225	270	255	250	225	215	220
15	310	270	235	230	215	225	270	245	225	205H	215	210
16	335	310	265	245	265	220	275	250	235	225	220	225
17	270	260	285	280	240	250	290	265	250	230	230	220H
18	385	285	240	220	250	260	280	250	240	225	C	C
19	320	275	255	290	280	240	280	240	230	200	195H	220
20	315	340	350	345	280	230	280	250	235	220	205	230
21	F	380	300	260	220	220	260	250	240	230	220	200
22	300	285	280	270	260	240	270	240	235	225	220	210
23	310	300	280	260	260	260	265	240	240	230	220	215
24	280	280	280	260	235	210	260	245	235	220	200	200H
25	300	280	240	240	240	240	260	245	230	210	200H	200H
26	280	280	260	240	240	220	260	240	220	210	215	220
27	255	235	240	250	245	220	270	245	230	210	210	200
28	240	230	240	240	230	220	270	240	230	220	200H	215
29	275	240	240	235	220	220	260	245	230	215H	200H	210
30	280	240	240	250	295	300	275	260	245	235	220	220
31	275	255	260	250	230	230	290	260	240	230	230	225
Mean	300	285	280	270	255	240	270	245	230	220	210	215
Median	300	280	265	260	240	230	270	245	230	220	210	210
Count	30	30	30	30	31	31	31	31	30	30	28	30

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit . Km  
Month August 1959

TABLE 19  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
200H	210	215H	220	225	250	280	340	F	F	F	320	1
220	A	A	A	A	A	295H	380	F	400	360	340	2
2.0H	200H	240	225	235	260	280	360	F	F	320	315	3
220	220H	240	A	250	260	280	320	310	305	310	300	4
220	220	220	220	235	260	280H	F	130	F	F	F	5
B	220	210	225	250	260	295	360	325	300	300	260	6
A	A	225	230	235	250	A	F	300	300	320	280	7
200	200H	225	220	235	A	285	340	U310r	360	300	305	8
205	210	235	240	235H	260	295	360	F	F	F	F	9
200	220H	210	220	240	260	280A	370	400	U310r	U340r	320r	10
205	215	210	225	A	A	280	360	U100r	U380i	U365r	380	11
185H	195	200H	A	A	U270A	320	310r	F	F	F	340	12
C	215	220	230	240	255	290	355	340	380	U320r	305	13
205H	210	215	225	230	255	280	355	F	305	F	U340r	14
U225B	200H	210	A	U235A	A	290	380	405	U400r	F	U315r	15
215	U215B	240	B	260	280	305	400	345	280	300	290	16
220	220	220	240	250	260	280	315	300	285	280	300	17
220	220H	220	225	A	A	A	340	F	355	F	340	18
200	220	C	A	A	260	300	U385r	F	F	F	300	19
220	210	225	A	A	A	A	380	420	385	F	F	20
200	215	220	225	A	A	315	400	F	F	F	U360r	21
210	C	220	240	245	270	300	380r	U320i	320	320	325r	22
215	230	235	C	U250A	270	300	440	410	U340i	320	260	23
200	215	220	A	A	260	300	400	370r	U300r	300r	280	24
220	220	220	C	240	260	285	380	F	U340r	380	300	25
200H	210	220	220	240	260	280	400	400r	320r	310	260	26
205	210	220	230	A	A	300	F	F	U380r	270r	260	27
210	210	215	230	240	260	295	400	440r	380r	F	270r	28
220	215	210	230	230	260	300	400	440i	360r	380	F	29
C	230	230	240	260	280	310	400	420r	F	310r	320	30
220	240	240	U260A	250	270	325	420r	400i	F	F	300r	31
210	215	220	220	240	260	295	375	380	340	325	305	Mean
210	215	220	225	240	260	295	380	400	340	320	305	Median
27	28	29	21	22	23	28	28	20	22	19	27	Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit : Km  
Month August 1959

TABLE 19—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	250	280	300	240	220	270	250	A	220	200H	200	200
2	300	310	335	310	235	240	260	220	235	210H	230	200
3	300	300	250	220	220	280	260	240	220	225H	225H	200H
4	265	235	235	235	220	255	260	240	A	215	200H	200H
5	290	305	300	300	295	320	260	240	220	200H	200H	220
6	400F	F	350	300	255	260	270	240	220	220	C	210
7	305	360	370	300	250	255	260	210	215H	200H	235	200H
8	295	305	U345A	305	250	250	260	230H	225	225	220	205
9	275	245	235	220	240	280	260	245	235	230	215	205
10	300	310	345	360	345	285	U280A	240	U235A	A	210	200
11	300	340F	350	340	265	230	255	230	220	225	210	205
12	320	300	280	245	220	245	245	225	215	205H	190H	190
13	300	265	265	255	225	270	250	235	220	210	200	210
14	305	240	260	260	230	245	260	U255B	230	220	205	210
15	300	240	240	230	220	250	255	235	210	225	200H	B
16	300	280	260	235	260	240	260	240	230	215	215	215
17	260	275	300	260	245	300	270	260	250	220	220	220
18	320	245	220	225	265	280	265	250	240	220	C	C
19	300	255	280	290	260	245	260	235	220	195H	180H	210
20	320	340	360	320	250	245	260	240	225	210	225	230
21	395	360	270	240	215	235	260	245	230	225	215	210
22	300	280	260	260	260	240	260	240	230	220	210	200
23	310	295	275	250	260	250	260	240	210	220	220	215
24	265	280	280	240	220	220	250	240	230	220	205	195H
25	290	260	240	240	235	250	260	240	220	200	200H	210
26	U300F	260	240	240	220	240	250	235	220	200H	215	210
27	250	240	240	250	230	250	255	230	225	210	210	210
28	240	250	240	240	230	240	255	240	220	200	220	210
29	240	260	240	220	215	240	250	240	A	210	200H	215
30	260	240	240	260	310	280	260	255	240	230	220	C
31	260	260	260	240	225	270	270	250	240	230	230	220
Count	31	30	31	31	31	31	31	30	29	30	29	28
Median	300	280	265	250	235	250	260	240	225	220	210	210
Mean	295	280	280	260	245	255	260	240	225	215	210	210

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month August 1959

TABLE 19—Contd  
Ionospheric Data  
75°0' E Merid Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
210	220H	220	220	245	260	300	F	300	F	F	310	1
215H	A	A	A	A	A	300H	440	360	F	375	300	2
200H	240H	220	225	250	280	300	F	F	330	320	300	3
220	A	A	A	240	270	300	F	320	300	300	280	4
230	220	220	235	240	275	300	400	F	F	F	U400F	5
200	220	220	240	240	275	315	350	330F	305	290	260	6
A	A	230	235	240	265	320	305	300	285	U340F	280	7
200H	215	220	220	240	U280A	310	330	U370F	F	295	295	8
220	215	230	240	255	280	325	U355F	F	F	F	300	9
205	210	220	240	240	280A	310	380	380	U320F	U280F	300	10
215	220	220	A	A	A	305	F	U105F	U335F	405	370F	11
190H	205	A	A	A	U290A	320	F	320	F	320	330	12
210	220	220	235	240H	270	300	350	U360F	U300F	F	345	13
205H	200H	220	230	240	275	310	F	F	F	U345F	325	14
205	210	225	A	245	275	315	400	U405F	330	320	305	15
210	B	B	250	270	290	345	400	290	300	300	280	16
230	220	210H	210	245	270	300	320	280	275	295	335	17
220	230	220	B	A	A	300	U360F	U290F	F	340	350	18
215	210	C	A	255	280	340	F	F	U360F	U335F	300	19
220	210	A	A	A	U295A	340	400	405	F	F	F	20
200H	200	220	U275A	A	300	360	F	F	F	U400F	U320F	21
C	210	220	240	250	280	340	360F	340	340	340	320	22
230	235	235	A	260	280	340	440	400	340	280	275	23
200	205	220	225	250	260	330	U350F	U340F	U320F	260	300	24
210	220	220	230	240	260	320	400	F	U300F	360	265	25
205H	220	220	235	240	280	340	U440F	320F	280	320	300	26
200H	215	220	235	A	280	355	F	460F	320F	300	260	27
210	210	220	225	250	270	340	440F	350F	330F	340F	260	28
215	215	220	225	240	280	360	F	400F	390	350	310	29
235	235	230	260A	260	300	350	420	400F	380F	320	300	30
240	240	240	250	260	295	385	380F	410F	F	320F	280	31
29	27	25	22	24	28	31	21	24	20	26	30	Count
210	215	220	235	245	280	320	380	355	320	320	300	Median
210	215	220	235	245	280	325	380	355	320	325	305	Mean

Sweep 10 Mc to 250 Mc in 27 seconds.



Characteristic h'E  
Unit Km  
Month . August 1959

TABLE 20  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2								105	A	A	A	A
3								A	A	110	B	A
4								A	A	A	A	A
5							145	105	A	A	A	A
6								110	A	A	A	A
7								115	110	A	A	A
8								A	A	A	B	A
9							A	A	A	A	A	A
10								A	A	A	A	A
11								A	A	A	A	A
12								110	A	A	A	A
13							120	105	105	A	A	A
14								B	B	A	A	A
15								110	105	A	A	A
16								105	A	A	A	A
17								115	A	120	A	C
18								115	A	A	C	C
19								120	A	A	A	A
20								115	A	A	A	B
21								120	110	100	A	A
22								115	105	A	A	A
23								110	105	110	A	A
24								120	110	A	A	A
25								115	110	A	A	A
26								115	A	A	A	A
27								115	110	105	A	A
28							120	115	110	105	A	A
29								120	115	115	A	A
30								120	120	A	A	A
31								120	120	120	A	A
Mean								115	110	110		
Median								115	110	110		
Count							3	23	13	8		

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic · h'E  
Unit . Km  
Month August 1959

TABLE 20  
Ionospheric Data  
75 ° E Mean Time

Latitude . 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	105	A	A							1
A	A	A	A	A	A							2
A	A	A	A	A	A	140						3
A	A	A	A	A	A							4
A	A	120	120	120	120H							5
B	A	A	A	A	125							6
A	A	A	A	120	120	A						7
A	A	A	A	A	A	A						8
A	A	120	120	120	A							9
A	A	A	110	120	120							10
A	A	A	115	A	A							11
A	A	A	A	A	A							12
C	A	A	115	115	120							13
A	A	A	A	120	105							14
B	A	A	A	A	A	A						15
A	B	B	B	125	A							16
A	A	A	A	115	A							17
A	A	A	A	B	B	A						18
A	A	C	A	A	A							19
A	115	A	A	A	A							20
A	A	A	A	A	A							21
A	C	A	A	A	A							22
A	A	A	C	110	110							23
A	A	A	A	A	A							24
A	A	A	C	110	110							25
A	A	A	110	A	A							26
A	A	A	120	110								27
A	A	A	A	115								28
A	A	A	A	120								29
C	A	110	110	110								30
B	120	115	A	125								31
			115	115	115							Mean
			115	120	120							Median
	2	4	9	15	9	1						Count

Sweep 10 Mc. to 250 Mc. in 27 seconds.

Characteristic h'E  
Unit Km  
Month August 1959

TABLE 20—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							110	A	A	A	A	A
2							120	A	A	A	A	A
3							120	A	A	A	B	A
4							110H	A	A	A	A	A
5							145	A	A	A	A	A
6							120	105	A	A	C	A
7							115	110	A	A	A	A
8							115	A	A	A	A	A
9							115	A	A	A	A	A
10							A	A	A	A	A	A
11							115	A	A	A	A	A
12							120	105	A	A	A	A
13							115	105	A	A	A	A
14							140	B	A	A	A	A
15							120	110	A	A	A	B
16							145	A	A	A	A	A
17							130	110	120	A	A	A
18							120	A	A	A	C	C
19							120	A	A	A	A	A
20							120	A	A	A	A	A
21							120	105	105	A	A	A
22							120	110	A	A	A	A
23								110	110	110	A	A
24							120	120	A	A	A	A
25							120	115	A	A	A	A
26							120	110	A	A	A	A
27							120	110	110	A	A	A
28							120	115	110	A	A	A
29								120	110	110	A	A
30								120	A	A	A	C
31							120	120	120	120	B	B
Count							27	17	7	3		
Median							120	110	110			
Mean							120	110	110			

Sweep 10 Mc. to 250 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month August 1959

TABLE 20—Contd  
Ionospheric Data  
75° E Mean Time

Latitude : 10 2° N  
Longitude : 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A	A							1
A	A	A	A	A	A							2
A	A	A	110	115	115							3
A	A	A	A	120	A							4
A	B	B	120	120	125							5
A	A	A	A	115								6
A	A	A	A	120	120							7
B	A	A	A	A	A							8
A	A	120	125	120	A							9
A	A	A	115	120								10
A	A	115	A	A	A							11
A	A	A	A	A	A							12
A	A	A	115	120	120							13
A	A	A	A	A	A							14
A	A	A	A	A	A							15
A	B	B	125	B								16
B	A	A	110	115								17
A	A	A	B	B	A							18
A	A	C	A	A								19
A	115	B	A	A	A							20
A	A	A	A	A								21
C	120	A	A	A								22
A	A	A	110	110								23
A	A	A	A	A	120							24
A	A	A	A	110								25
A	A	110	A	A								26
A	A	115	110	110								27
A	110	A	A	120								28
A	A	A	115	120								29
A	A	115	110									30
B	120	A	125	A								31
	4	5	12	14	5							Count
		115	115	120	120							Median
		115	115	115	120							Mean

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic · h'Es  
 Unit Km  
 Month August 1959

TABLE 21  
 Ionospheric Data  
 75° E Mean Time

Latitude · 10 2° N  
 Longitude · 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	120											
2	105											
3		120	105		110		110	105	100	100	100	100
4								105	100	100	100	100
5								100	100	105	105	100
6							G	100	100	100	100	100
7		120	115			120		100	100	100	100	100
8	135							G	100	100	100	100
9	120	110	105	110	100			100	100	100	100	100
10	120	120			110	100	110	100	100	100	100	100
11							100	100	100	100	100	100
12	110	120	100					100	100	100	100	100
13	120	120	110					100	100	100	100	100
14							G	135	100	100	100	100
15	110							100	100	100	100	100
16	100							100	100	100	100	100
17					110			100	100	100	100	100
18								115	100	100	100	100
19								105	100	100	C	C
20								110	100	100	100	100
21								100	100	100	100	100
22	120	110						G	100	100	100	100
23								100	100	100	100	100
24	120							100	100	100	100	100
25	120	100						140	100	100	100	100
26			105					120	100	100	100	100
27	120			120					100	100	100	100
28								130	100	100	100	100
29							G	G	100	100	100	100
30					110			G	140	G	100	100
31	125							115	110	100	100	100
Mean	120	115	105		110			110	100	100	100	100
Median	120	120	105		110			100	100	100	100	100
Count	14	8	6	2	5	2	3	26	31	30	30	30

Sweep 1.0 Mc to 25 Mc. in 2 50 seconds.

Characteristic . h'Es  
Unit Km  
Month August 1959

TABLE 21  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77° 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	100	100	100	100				140	105	105	1
100	100	105	100	100	100	100					120	2
100	100	100	100	100	120	G					120	3
100	100	100	100	120	100	100						4
100	100	G	G	G	G							5
100	100	100	100	100	100	100		135	120	125		6
100	100	105	105	G	G	120						7
100	100	100	100	100	100	100					120	8
100	100	100	110	100	100							9
100	100	100	100	100	110	105		100	135	120	120	10
100	100	100	100	100	100	100					100	11
100	100	100	100	100	100	100	100		130	125	115	12
C	100	100	100	105	110							13
100	100	100	100	100	105				120	115	110	14
100	100	100	100	100	100	100	100				100	15
100	100	105	100	G	100	100					110	16
100	100	100	100	100	100		115	135				17
100	100	100	100	105	100	100	100			120		18
100	100	C	100	100	100	105		135	130	130		19
100	G	100	100	100	100	100	100	100	100	100		20
100	100	100	100	100	100	100				130	120	21
100	C	100	100	100	100	100		120	120	120	120	22
100	100	100	C	100	100	100	100		120	120	120	23
100	100	100	100	100	100	100						24
100	100	100	C	100	100	100						25
100	100	100	100	100	100	100				130	120	26
100	100	100	100	100	100	100		110		130	120	27
100	100	100	100	100	100	100					120	28
100	100	100	100	100	100					120	120	29
C	100	100	100	100	100	105						30
100	100	100	110	G	105	115						31
100	100	100	100	100	100	100	100	120	125	120	115	Mean
100	100	100	100	100	100	100	100	120	120	120	120	Median
29	29	29	28	27	29	23	6	7	9	13	16	Count

Sweep 10 Mc to 25.0 Mc in 27 seconds

Characteristic . h'Es  
Unit . Km  
Month August 1959

TABLE 21—Contd  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude . 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1		100					G	105	100	100	100	100
2	105						G	100	100	100	100	100
3							G	100	100	100	100	100
4		120					105	100	100	100	100	100
5							G	100	100	100	100	100
6	130	120		100			115	100	100	100	C	100
7	125						G	150	100	100	100	100
8		115	110	105			105	100	100	100	100	100
9	130						G	100	100	100	100	100
10	120	120		120	105	100	105	100	100	100	100	100
11		105					G	100	100	100	100	100
12	110	115	100				G	100	100	100	100	100
13	115		115				G	100	100	100	100	100
14							G	100	100	100	100	100
15	110						G	100	100	100	100	100
16	150				105		105	100	100	100	100	100
17				100			G	G	100	100	100	100
18							G	100	100	100	C	C
19							G	100	100	100	100	100
20							125	100	100	100	100	100
21							G	G	100	100	100	100
22	100						G	100	100	100	100	100
23								100	100	100	100	100
24	120						G	G	100	100	100	100
25	100	100					G	100	100	100	100	100
26	120	110	100				G	100	100	100	100	100
27				115			G	G	100	100	100	100
28		95	110				120	110	100	100	100	100
29								150	140	100	100	100
30					110			110	100	100	100	C
31							G	110	105	100	100	100
Count	13	10	5	5	3	1	7	27	31	31	29	29
Median	120	110	110	115			105	100	100	100	100	100
Mean	120	110	105	110			110	105	100	100	100	100

Sweep 1.0 Mc to 2.50 Mc in 27 seconds.

Characteristic : h'Es  
 Unit Km  
 Month August 1959

TABLE 21—Contd  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude . 10 2' N  
 Longitude . 77 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
100	100	100	100	100	100				105	105	105	1
100	100	100	100	100	100	100				120	120	2
100	100	100	100	105	115					120	140	3
100	100	100	100	G	G	100						4
100	100	G	G	G	120							5
100	100	100	100	100	100	100		130	120			6
100	100	100	100	G	110	180						7
100	100	100	100	100	100	100					135	8
100	100	105	G	110	100						140	9
100	100	100	100	105	105	110		140	120	120	145	10
100	100	100	100	100	100					120	100	11
100	100	100	100	100	100	100	105		125	120	115	12
100	100	100	100	105	110							13
100	100	100	100	105					125	115	110	14
100	100	100	100	100	100	100	100					15
100	105	100	G	100	100							16
100	100	100	100	100								17
100	100	100	B	100	100	100						18
100	100	C	100	100	100			130	135	130		19
100	100	100	100	100	100	100	100	100	100			20
100	100	100	100	100	100	100				120	100	21
C	100	100	100	100	100	100		120	120	120	120	22
100	100	100	100	100	100	100	100	100	120	130	120	23
100	100	100	100	100	100						100	24
100	100	100	100	100	100	100			100	100		25
100	100	100	100	100	100						120	26
100	100	100	100	100	100					120	120	27
100	100	100	100	100	100	100				120	120	28
100	100	100	100	100	100							29
100	100	100	100	110	100					120	120	30
100	100	110	G	110	100			140			130	31
30	31	29	26	28	28	15	4	7	10	15	18	Count
100	100	100	100	100	100	100		130	120	120	120	Median
100	100	100	100	100	100	105		125	115	120	120	Mean

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds.



Characteristic (M3000)F<sub>2</sub>  
 Unit  
 Month August 1959

TABLE 22  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 95	U2 90S	2 70	2 75	3 10	3 20	2 95	2 85	2 65	2 40	2 20	2 15
2	F	F	F	F	F	F	F	U2 90S	2 60	2 30	2 05	2 05
3	F	F	F	F	F	F	U2 80R	2 70	2 60	2 35	2 30	2 25
4	2 60	2 90	2 95	3 00	3 00	3 30	2 90	2 70	2 55	2 35	2 20	2 20
5	2 80	2 60	2 75	2 60	2 55F	2 50	2 50	2 85	2 60	2 30	2 00	2 05
6	F	F	F	F	F	F	2 80	2 50	2 40	2 25	2 10	2 20
7	2 80	2 40	U2 30S	2 35	J2 60S	3 00	J3 05S	2 95	2 70	2 35	2 05	2 20
8	F	F	U2 50F	F	F	F	2 80	2 45	2 35	2 30	2 30	2 20
9	2 75	F	F	F	F	U3 00R	2 95	3 00	2 60	2 10	2 20	2 15
10	F	F	U2 55S	F	F	F	F	U2 70R	2 50	U2 25R	2 15	2 10
11	2 60	U2 50F	F	F	2 60F	3 10	3 00	2 80	2 50	2 35	2 30	2 15
12	F	F	U2 60S	F	3 10R	F	F	2 80	2 50	2 10	2 20	2 15
13	F	F	F	F	F	U3 10F	F	F	2 55	2 25	2 10	2 15
14	F	F	F	F	F	F	3 05F	2 80	2 40	2 20	2 30	2 20
15	U2 60S	F	U2 90R	3 10	3 25	3 20	3 00	2 90	2 50	2 30	2 20	2 15
16	F	F	F	F	3 05	F	2 90	2 80	2 45	2 10	2 20	2 10
17	2 85	2 85	2 60	2 75	3 10	3 00	2 65	2 95	2 75	2 40	2 35	2 15
18	2 65	2 80	3 05	3 15	3 00	U2 90F	28 5	2 75	2 55	2 45	C	C
19	2 55	U2 90S	3 00	2 80	2 90	3 20	3 05	2 95	2 75	2 25	2 15	2 0
20	2 55	U2 50S	2 45	U2 45F	F	U3 00F	2 90	2 75	2 65	2 25	2 20	2 25
21	F	F	F	F	S	FS	3 10	3 00	2.85	2 50	2 15	2 15
22	F	F	F	F	F	F	U2 90R	2 95	2 65	2 40	2 15	2 15
23	U2 60S	U2 70SR	2 85	3 10	U3 15S	U3 10S	3 10	2 90	2 60	2 20	2 20	2 05
24	2 65	U2 70S	2 65	U3 80S	3 10	3 35	3 00	2 90	2 75	2 60	2 20	2 20
25	F	F	F	F	F	F	F	U2 90SF	2 70	2.25	2 10	2 15
26	F	F	F	3 00	U3 10S	F	3 10	3 05	2 60	2 25	2 25	2 25
27	F	U2 90S	F	U3 05S	U3 30R	3 25	3 05	2 95	2 75	2 40	2 05	2 15
28	F	U3 00SF	F	F	F	F	U3 00F	3 10	2 80	2 60	2 25	2 15
29	F	FS	F	3 25	F	F	U3 10F	3 00	2 90	2 70	2 45	2 15
30	F	2.80	2 70	2 85	2 70	2 80	3 00	2 70	2 45	2 10	U1 90W	2 00
31	U2 80S	2 90	2 75	F	3 00	3 20	U2 85S	2 70	2 35	2 20	2 05	2 10
Mean	2 70	U2 75	2 70	2 85	3 00	3 05	2 95	2 85	2 60	2 30	2 20	2 15
Median	2 65	U2 80	2 70	2 85	3 05	3 10	3 00	2 90	2 60	2 30	2 20	2 15
Count	14	15	16	15	17	17	26	30	31	31	30	30

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F2  
Unit  
Month August 1959

TABLE 22  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N.  
Longitude 77.5° E.

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 10	2 05	2 05	2 20	2 30	2 25	2 25H	2 10	F	F	F	F	1
2 15	2 25	2 25	2 30	2 30	2 30	2 30	2 15	F	F	F	F	2
2 10	2 00	2 10	2 15	2 10	2 15	U2 00S	F	F	F	U2 20S	2 45	3
2 20	2 20	2 15	2 20	2 30	2 40	2 35	2 30F	F	F	F	2 70	4
2 10	2 25	2 40	2 50	2 60	2 65	2 60	F	F	F	F	F	5
2 20	2 20	2 05	2 10	2 30	2 35	2 35	2 35	2 35	2 50	2 65	2 90	6
2 20	2 30	2 30	2 35	2 40	2 50	2 40	U2 20F	F	F	F	F	7
2 10	2 15	2 10	2 15	2 20	U2 20S	U2 30S	2 15F	F	F	F	F	8
2 15	2 10	2 25	2 30	2 35	2 45	2 40	U2 10S	F	F	F	F	9
2 15	2 00	U2 05S	2 00	2 05	2 10	2 20	U2 10S	U2 10S	F	F	F	10
2 15	2 15	2 15	2 15	2 15	2 30	2 30	2 15	2 15	F	F	F	11
2 10	2 05	2 10	2 20	2 20	2 30	2 35	2 15	U2 10F	F	F	F	12
C	2 10	2 05	2 15	2 25	U2 25S	2 25	U2 10S	F	F	F	F	13
2 10	2 10	2 10	2 10	U2 20S	2 30	2 25	2 10	F	F	U2 25F	F	14
2 15	2 10	2 05	2 10	2 25	J2 35S	2 35	2 15	2 10	F	F	F	15
2 15	2 15	2 25	2 40	2 40	U2 35SH	U2 25SH	2 10H	2 15	U2 50S	2 70	U2 70S	16
2 00	2 15	2 05	2 05	2 15	2 35	2 45	2 40	2 55	2 55	2 55	2 55	17
2 25	2 20	2 30	2 30	2 25	A	2 35	2 30	F	F	F	2 55	18
2 20	2 20	C	2 40	2 45	2 50	2 45	2 30	F	F	U2 30S	2 40F	19
2 25	2 15	2 15	2 15	2 20	2 30	2 30	2 20	U2 25FS	2 30	F	F	20
2 15	2 20	2 15	2 20	2 25	2 30	2 35	2 15	U2 15FS	F	F	F	21
2 20	C	2 30	2 30	U2 30S	2 30	J2 20S	U2 10R	2 15	FS	F	F	22
2 15	2 05	2 10	C	2 15	2 15	U2 10S	2 00	F	F	F	F	23
2 30	2 20	2 15	2 20	2 30	U2 40S	2 40	J2 15S	F	F	F	F	24
2 10	2 10	2 05	C	2 10	2 20	2 20	2 10	F	F	F	F	25
2 15	2 10	2 10	2 05	U2 15S	U2 15S	2.20	U2 10S	F	F	F	F	26
2 15	2 10	2 10	2 15	2 20	2 35	2 25	U2 05HF	F	F	F	F	27
2 10	2 05	2 00	2 00	2 15	U2 25S	2 25	2 10	F	F	F	F	28
2 05	2 00	U1 90W	2 05	2 10	2 15	2 15	S	F	U2 10SF	F	F	29
C	1 95	2 00	2 05	2 10	U2 25S	2 20	U2 10S	2 10	2 20F	2 30	U2.60S	30
2 05	2 05	2 10	2 15	2 30	2 30	2 25	2 05	F	F	F	F	31
2 15	2 10	2 15	2 20	2 25	2 30	2 30	2 15	2 20	U2 35	U2 40	U2 60	Mean
2 15	2 10	2 10	2 15	2 25	2 30	2 30	2 10	2 15	U2 40	U2 30	U2 60	Median
29	30	30	29	31	30	31	28	11	6	7	8	Count

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic (M3000)F2  
 Unit  
 Month August 1959

TABLE 22—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2°N  
 Longitude , 77 5°E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	2 90	2 85	2 65	3 00	3 30	3 00	2 95	2 75	2 45	2 30	2 20	2' 20
2	F	F	F	F	F	F	U2 90F	2 75	2 45	2 10	2 10	2 10
3	F	F	F	F	F	F	2 75	2 70	2 40	2 30	2 25	2' 20
4	2 75	3 00	2 90	3 05	3 20	2 85	2 70	2 55	2 40	2 30	2' 25	2' 20
5	2 75	2 65	2 70	2 65	2 65	2 70	2 85	2 70	2 40	2 15	UI 95R	2 10
6	F	F	F	F	F	U2 90S	2 65	2 50	2 25	2 25	C	2 25
7	2 70	2 30	U2 35S	2 50H	2 70	3 00	3 10	2 80	2 60	2 10	2 15	2 20
8	F	F	U2 55R	F	F	3 10	2 60	2 70	2 20	2 20	2 25	2 20
9	F	F	F	F	J3 20R	2 60	3 05	2 70	2 40	2 20	2 20	2 20
10	F	U2 65R	F	F	F	F	F	U2 60S	2 25	2 20	2 20	2 15
11	F	2 40R	2 50R	2 55	2 80	J 20	2 95	2 65	2 40	2 30	2 20	2 15
12	F	F	U2 95S	F	U3 10F	F	2 75H	2 65	2 30	2 20	2 15	2 20
13	F	F	F	F	3 20R	F	F	2 65	2 45	2 10	2 10	2 10
14	F	F	F	2 95R	F	F	2 90R	2 55	2 20	2 20	2 30	2 10
15	2 70	F	3 00	3 20	3 20	3 10	2 95	2 65	2 40 <sup>2</sup>	2 20	2 15	2 20
16	F	2 65	F	3 00	3 20	2 95	2 85	2 60	2 30	2 10	2 15	2 10
17	2 90	2 65	2 65	3 00	2 95	2 65	2 95	2 75	2 45	2 30	2 20	2 00
18	2 60	2 85	3 10	U3 15S	U2 90R	F	2 90	2 65	2 35	2 35	C	C
19	2 80	3 00	2 85	2 90	3 00	2 80	3 05	U2 80R	2 45	2 20	2 40	2 30
20	2 50	2 50	2 35	U2 50R	F	3 15	2 85	2 60	2 25	2 20	2 25	2 25
21	F	F	F	3 00	U3 20S	U3 20F	3 10	2 90	2 65	2 35	2 15	2 10
22	F	U2 80R	F	F	F	F	U3 00R	2 75	2 55	J2 30R	2 20	2 20
23	U2 50RS	2 80	3 00	3 25	U3 05S	3 15	3 10	U2 85S	2 45	2 20	2 10	2 10
24	U2 70R	U2 70S	2 70	2 90	3 20	3 40	U3 10S	2 90	2 70	2 40	2 10	2 30
25	F	F	3 00	F	F	F	U3 10R	2 85	2 45	2 10	2 10	2 15
26	F	U2 80RS	U2 90S	F	F	U3 20RS	3 10	U2 90S	2 45	2 15	2 30	2 20
27	2 80	U3 00S	3 05	3 20	U3 30S	2 75H	3 05	2 90	2 60	2 30	2 10	2 15
28	F	F	3 10F	3 20R	F	U3 20R	3 05	2 90	2 70R	2 45	2 15	2 10
29	F	F	3 10	F	F	F	3 10	3 00	2 85	2 60	2 30	2 05
30	F	2 80	2 75	2 80	2 80	2 90	2 85	2 65	2 30	UI 95W	2 05	C
31	U2 85S	F	F	3 00	3 25	2 65	2 80	2 60	2 15	2 15	2 05	2 05
Count	13	17	20	19	19	21	29	31	31	31	29	29
Median	2 75	2 80	2 90	3 00	3 20	3 00	2 95	2 70	2 40	2 20	2 15	2 15
Mean	2 75	2 75	2 80	2 95	3 05	2 95	2 95	2 70	2 40	2 15	2 15	2 15

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic (M3000)F<sub>2</sub>  
 Unit  
 Month August 1959

TABLE 22—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	21 0	22 0	2330	Date
2 10	2 00	2 10	2 20	2 25	2 30	2 20	2 10	U2 10F	F	F	F	1
2 20	2 25	2 35	2 30	U2 35s	2 30	2 25	U2 05F	F	F	F	F	2
2 05	1 90	2 20	2 15	2 10	U2 05SH	U2 10s	F	F	F	2 40	2 50	3
2 20	2 20	2 20	2 25	2 40	2 35	2 35	2 25F	F	2 35F	2 55	2 75	4
2 20	2 30	2 45	2 50	2 60	2 70	2 50F	F	F	F	F	F	5
2 25	2 10	2 05	2 15	2 30	2 35	2 30	2 35	2 15	2 60	2 80	2 85	6
2 20	2 30	2 35	2 40	2 40	2 50	2 35II	F	U2 30F	F	F	F	7
2 10	2 15	2 10	2 15	2 20	U2 25s	2 20	F	F	F	F	F	8
2 15	2 20	2 40	2 35	2 40	2 45	2 20II	U2 00I	F	F	F	F	9
2 10	2 10	U2 00S	2 05	2 10	2 20	U2 20s	F	F	F	F	F	10
2 10	2 10	2 15	2 20	2 20	2 30	2 20	2 10	2 15	F	F	F	11
2 10	2 10	2 10	2 20	2 20	2 35	2 30	2 10	F	F	2 45F	F	12
2 10	2 10	2 10	2 20	U2 25s	U2 25s	2 20	2 05F	F	F	F	F	13
2 10	2 10	2 10	2 10	U2 25s	2 25	S	U2 10I	F	F	2 40	2 50F	14
2 10	2 10	2 05	2 20	2 30	2 30	2 25	2 15	F	F	F	F	15
2 05	2 30	2 35	2 45	2 40	U2 25SH	U2 15SH	2 05	2 35	U2 605s	2 70	2 90	16
2 10	2 05	2 05	2 05	2 25	2 40	2 50	2 45	2 50	2 60	2 45	2 55	17
2 25	2 25	2 30	2 30	2 30	2 40s	2 35	2 35	F	F	2 50	2 50	18
2 15	2 20	G	2 40	2 50	2 50	2 35	F	F	2 20F	FS	2 45	19
2 15	2 15	2 20	2 20	2 25	2 30	2 25	2 25	2 30	2 35	F	F	20
2 20	2 20	2 20	2 20	2 30	2 35	2 25	2 15	F	F	F	F	21
G	2 25	2 30	2 30	2 30	2 30	U2 15s	2 05	U2 25s	U2 40FS	F	F	22
2 10	2 10	2 15	2 15	U2 20s	U2 10s	2 00	1 95	F	F	F	2 65	23
2 20	2 20	2 20	2 25	2 30	2 40	U2 30s	F	F	F	F	F	24
J2 10R	2 10	2 05	2 10	2 15	U2 25s	2 20	F	F	U2 30I	F	F	25
2 10	2 10	2 10	2 10	2 15	2 20	U2 15s	F	F	F	F	F	26
2 15	2 15	2 10	2 20	2 25	2 35	U2 20s	U2 00F	F	F	F	F	27
2 05	2 00	2 00	2 05	2 25	2 25	U2 15s	F	F	F	F	U2 80s	28
2 05	1 95	1 95	2 10	2 10	2 10	U2 15RS	2 10	FS	F	U2 30F	U2 50F	29
2 00	1 95	2 00	2 05	2 15	U2 30s	U2 15s	2 00	2 10F	F	FS	2 65	30
2 05	2 05	2 15	2 20	2 30	2 30	2 10	2 05	F	F	F	F	31
30	31	30	31	31	31	30	20	9	8	9	12	Count
2 10	2 10	2 15	2 20	2 25	2 30	2 20	2 10	2 30	U2 40	2 45	2 60	Median
2 15	2 15	2 15	2 20	2 25	2 30	2 25	2 15	2 30	U2 40	2 50	2 65	Mean

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit : Mc.  
Month September 1959

TABLE 23  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	F	F	F	u8 8F	u8 8F	F	F	u11 9F	13 1	13 0	12 3	11 7
2	F	F	F	F	F	u8 9F	F	F	11 3	11 3	10 7	10 9
3	12 7	11 5	9 7	9 9	9 0	8 3	9 2	11 7	12 9	12 8	12 8	13 7
4	F	F	F	F	F	E	7 8	9 9	11 5	12 2	12 7	13 2
5	F	F	u9 5F	9 0	7 0	4 5	7 9	11 0	12 7	13 7	13 3	12 9
6	FS	12 6	FS	10 6	6 7	3 5	7 8	11 2	12 0	10 8	C	C
7	F	11 6	F	F	u9 6s	F	u7 2s	10 5	12 6	11 8	10 8	11 0
8	F	F	F	F	F	5 4	u7 1s	10 6	12 4	12 6	11 0	11 1
9	F	12 7F	F	10 0	7 0	5 5	J7 3F	10 3	12 0	11 6	11 3	11 3
10	F	F	u9 4s	u7 0s	u5 3s	3 8	u7 1s	10 2	12 1	12 7	11 9	11 5
11	IS	11 3	u10 6s	10 3	8 7	4 8	7 6	10 7	12 0	12 3	11 5	12 2
12	u14 1s	u13 5s	u10 0s	8 2	6 2	u3 9s	C	C	C	12 5	11 3	10 9
13	F	F	F	9 8	8 5	F	6 8	10 5	12 5	13 2	11 9	11 5
14	F	F	F	u8 3F	F	2 9	7 1	10 5	11 5	11 8	10 8	11 3
15	u12 2s	13 1	11 7	7 1	4 4	3 3	6 8	10 1	12 3	12 8	11 8	11 3
16	F	12 6	F	8 0	7 9	17 3F	7 5	10 4	12 4	13 2	12 8	12 0
17	13 6	F	7 9	5 9	5 3	4 4	7 0	10 6	12 2	11 8	11 2	10 6
18	F	F	F	F	F	F	F	11 0F	12 8	12 8	11 8	12 0
19	13 3	11 6	11 4	11 6	8 6	2 9	7 2	10 8	11 6	12 4H	11 6	12 4
20	u13 4s	13 2	11 2	9 0	7 3	5 4	7 6	11 0	12 7	C	C	C
21	9 6	8 5	6 9	5 9	5 8	5 6	7 9	11 8	12 5	12 4	12 5	10 9
22	12 5	u10 8s	u8 5s	7 0	6 4	6 4	8 5	11 6	13 9	14 8	14 6	12 8
23	u11 4F	10 8	10 9	10 6	9 9	8 8	u9 2s	11 6	13 6	13 8H	12 3	11 8
24	F	F	F	11 0	10 8	10 2	10 0	12 1	13 7	14 3	13 7	13 1
25	13 2	12 4	u9 6s	7 7	8 4	8 0	8 4	11 3	12 7	12 6	11 8	11 7
26	FS	FS	u10 0s	u10 4s	9 4	8 6	u10 2s	11 6	u13 2R	13 0	12 8	12 6
27	u11 0F	FS	u10 0sI	u9 2F	u9 0s	8 4	8 4	11 2	C	C	C	C
28	F	13 0	9 6	6 8	u6 2s	5 6	8 4	11 1	12 7	C	C	C
29	F	11 0	u10 8s	10 6	u10 0s	7 8	9 0	11 2	12 4	12 0	11 6	11 4
30	F	u9 4sF	F	u6 7sF	u6 2s	5 4	8 2	11 0	12 7	13 6	12 8	12 6
Mean	12 5	11 7	u9 9	8 8	7 7	6 0	8 0	11 0	12 5	12 7	12 1	11 9
Median	12 7	11 6	u10 0	9 0	7 9	5 4	7 8	11 0	12 5	12 6	11 8	11 7
Count	11	17	17	25	25	26	26	28	28	27	26	26

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic :foF<sub>2</sub>  
Unit : Mc  
Month September 1959

TABLE 23  
Ionospheric Data  
75 ° E Mean Time

Latitude : 10.2° N  
Longitude : 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
11 7	11 7	12 1	12 5	12 8	13 1	12 6	11 2	F	F	F	F	1
11 3	11 6	11 5	11 8	12 0	12 8	12 4	11 8	11 6	11 7	12 1	12 3	2
14 1	14 7	15 0	15 2	14 6	14 5	13 8	11 6 <sup>F</sup>	F	F	F	F	3
13 1	13 6	C	C	C	C	C	11 5 <sup>S</sup>	11 2 <sup>S</sup>	11 0 <sup>R</sup>	11 2 <sup>R</sup>	F	4
13 3	13 9	14 3	C	C	11 5 <sup>S</sup>	14 4	F	F	F	F	F	5
C	C	11 7	12 2	12 7	13 1	12 7	10 9	F	F	F	F	6
11 4	11 6	12 2	12 6	13 0	13 4	13 4	10 4 <sup>F</sup>	F	F	F	F	7
11 0	11 6	12 0	12 8	13 3	11 3 <sup>S</sup>	11 3 <sup>S</sup>	11 5 <sup>S</sup>	F	F	F	F	8
11 3	11 6	12 2	12 8	13 3	13 6	13 3	11 4	F	F	F	12 6	9
11 8	11 8	11 8	12 2	11 2 <sup>S</sup>	12 3	S	F	F	F	F	F	10
12 1	11 9	12 1	12 2	12 4	12 8	12 4	11 8 <sup>S</sup>	10 8	F <sup>S</sup>	11 2 <sup>F</sup>	13 6	11
C	11 2	11 7	11 8	12 7	13 1	13 0	10 8	F	F	F	11 3 <sup>S</sup>	12
11 1	11 0	11 6	12 1	12 7	13 3	12 7	11 0 <sup>F</sup>	F	F	F	F	13
11 7	11 4	11 8	13 0	13 4	13 3	13 1	11 6	F	F	F	F	14
11 0	11 5	12 2	12 7	13 1	13 3	11 2 <sup>S</sup>	10 5	F	F	F	F	15
C	C	13 2	13 6	13 8	14 2	14 2	11 6	F	F	F	F	16
11 2	11 4	12 1	12 8	13 0	13 2	12 6	11 2	11 0 <sup>F</sup>	F	F	F	17
11 8	12 2	12 6	12 8	12 7	13 2	12 9	11 7 <sup>S</sup>	11 0 <sup>F</sup>	C	11 7 <sup>S</sup>	12 8	18
13 0	12 8	12 6	12 6	13 2	13 2	12 8	12 4	11 2 <sup>S</sup>	11 2 <sup>S</sup>	13 0	11 2 <sup>F</sup>	19
C	C	12 8	13 2	13 6	13 0	S	11 4	12 6	13 2	11 3 <sup>S</sup>	11 4	20
C	12 4	13 3	13 8	11 3 <sup>S</sup>	11 3 <sup>S</sup>	11 3 <sup>S</sup>	11 2 <sup>F</sup>	RS	11 4 <sup>S</sup>	14 0	13 2	21
12 2	12 0	C	11 7	11 6	11 6	11 2	10 5	11 0 <sup>F</sup>	11 0 <sup>F</sup>	F	F	22
11 7	11 8	11 7	11 5	11 3	11 1	10 5	9 0	F	F	FS	F	23
13 8	14 8	15 2 <sup>F</sup>	15 2 <sup>S</sup>	14 6	14 6	11 2 <sup>S</sup>	F	F	F	F	F	24
11 2	11 3	11 3	11 3	11 6	11 6	10 8	10 8 <sup>F</sup>	F	11 3 <sup>F</sup>	F	F	25
11 8	11 8	12 2	12 4	11 2 <sup>S</sup>	11 8 <sup>S</sup>	11 4	9 4	11 4 <sup>F</sup>	F	F	F	26
C	C	C	C	C	C	12 6	F	F	F	F	F	27
C	C	C	C	C	C	C	C	C	F	F	F	28
11 6	12 4	12 8	11 3 <sup>S</sup>	13 4	13 2	11 8 <sup>S</sup>	F	F	F	F	F	29
13 2	13 7	15 0	15 6 <sup>S</sup>	15 6	15 0 <sup>S</sup>	14 4 <sup>S</sup>	F	F	F	F	F	30
12 0	12 2	12 6	12 8	13 0	13 2	12 7	11 1	11 0	11 8	11 2 <sup>F</sup>	11 5	Mean
11 7	11 8	12 2	12 6	13 0	13 2	12 7	11 4	11 0	11 7	11 2 <sup>F</sup>	11 6	Median
23	25	26	26	26	27	26	23	9	7	7	8	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc.  
Month September 1959

TABLE 23—*Conid*  
Ionospheric Data  
75° E Mean Time

Latitude · 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	F	F	F	8 8	F	F	F	13 1	13 0	12 8	12 0	11 6
2	F	10 5	F	9 4 <sup>r</sup>	F	F	F	U11 3s	11 4	11 1	10 6	11 0
3	12 6	10 4	9 6	9 8	8 6	7 8	10 8	12 5	13 2	12 7	13 3	13 5
4	11 1 <sup>F</sup>	F	F	F	3 2 <sup>r</sup>	5 0 <sup>r</sup>	9 2	10 7	12 2	12 1	13 0	13 2
5	F	F	9 4	8 4	5 3	5 3	10 0	12 0	13 5	13 0	13 1	12 9
6	FS	12 2	11 6	9 0	4 9	5 0	9 7	11 7	11 6	10 8	C	C
7	F	F	F	U10 1 <sup>F</sup>	F	F	9 2	11 8	12 6	11 0	10 8	11 4
8	F	F	F	F	F	F	8 9	U11 6s	12 6	11 6	11 0	11 2
9	F	12 2	10 8	8 2	6 2	F	9 1	11 4	12 1	11 2	11 2	11 1
10	U12 6 <sup>r</sup>	10 0	F	F	4 6	4 8 <sup>h</sup>	9 0	11 6	12 7	12 8	11 5	11 7
11	U11 3 <sup>F</sup>	10 6	U10 8s	9 3	6 6	5 2	9 6	11 6	J12 3 <sup>R</sup>	12 1 <sup>h</sup>	11 7	12 3
12	14 7	U11 8s	9 0	7 4	5 3	C	C	C	C	12 2	11 0	10 8
13	F	F	10 3	9 1	U7 3 <sup>F</sup>	F	8 9	11 6	13 0	12 8	11 7	11 3
14	U11 3 <sup>F</sup>	F	F	F	3 7	4 1	9 1	11 2	11 8	11 7	10 7	11 5
15	13 0	12 4	9 5	5 3	3 9	4 5	8 8	11 3	12 7	12 3	11 7	11 0
16	F	U11 4s	9 4	8 1	U8 6 <sup>r</sup>	5 9	9 1	12 1	13 5	14 0	12 7	12 4
17	F	10 0	6 9	5 6	5 0	4 9 <sup>H</sup>	9 2	11 6	12 2	11 4	10 8	11 0
18	11 6	9 2 <sup>F</sup>	F	F	F	F	U9 1 <sup>r</sup>	12 4	12 8	12 3	11 9	11 8
19	13 4	11 2	11 4	11 6	4 9	4 6 <sup>h</sup>	9 7	11 4	12 4	12 0 <sup>h</sup>	12 1	12 9
20	FS	12 4	10 0	8 2	6 6	4 9	9 6	12 0	13 2	C	C	C
21	9 2	7 9	6 4	5 7	5 8	5 8	U10 2 <sup>s</sup>	12 1	12 2	12 6	11 5	11 0
22	U12 0s	U9 8s	7 4	6 4	6 6	6 4	10 1	12 7	14 4	15 0	13 7	12 0
23	11 0	10 7	10 8	10 2	U9 6 <sup>s</sup>	8 1	10 6	13 0	14 0	13 6 <sup>h</sup>	11 9	11 8
24	F	F	F	10 8	10 8	U9 1 <sup>s</sup>	11 1	13 0	14 1	14 3	13 8	13 2
25	U13 3s	11 0	8 5	7 7	8 6	7 0	9 9	12 3	12 8	11 8	11 8	11 5
26	FS	FS	U10 2s	U10 1s	9 0	8 8	11 0	12 6	13 6	13 0	12 6	12 2
27	F	FS	U9 4 <sup>F</sup>	U9 4 <sup>s</sup>	8 9	6 8	9 8	J12 2 <sup>R</sup>	C	C	C	C
28	F	11 4	7 7	6 2	5 9	6 4	9 9	U11 8s	13 1	C	C	C
29	F	11 2	U10 6s	10 4	8 7	7 7	U10 5s	12 0	12 4	11 8	11 4	11 5
30	F	8 6	F	6 5	5 8	5 6	9 7	12 0	13 0	13 3	12 7	13 0
Mean	12 1	10 7	9 5	8 5	6 6	6 1	9 7	12 0	12 8	12 5	11 9	11
Median	12 0	10 8	9 6	8 8	6 2	5 7	9 7	12 0	12 8	12 3	11 8	1 96
Count	13	20	20	25	25	22	27	29	28	27	26	26

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF2  
Unit Mc  
Month September 1959

TABLE 23--Cont'd  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
11 6	11 9	12 3	12 6	13 0	13 2	12 1	F	F	F	F	F	1
11 2	11 4	11 7	11 9	12 4	12 5	12 0	11 7	11 6	U11 5s	12 3	12 3	2
14 8	15 1	15 1	14 8	14 6	14 2	12 9	F	F	F	F	F	3
13 4	C	C	C	C	C	U11 8s	U11 5s	10 9	U11 OR	F	F	4
13 3	11 2	14 3	C	C	14 5	U13 2s	F	F	F	F	S	5
C	11 4	11 9	12 7	12 9	U12 OR	J12 OS	10 1	F	F	F	F	6
11 6	11 8	12 4	12 6	13 2	13 4	12 0	F	F	F	F	F	7
11 2	11 6	12 3	13 0	13 5	13 6	12 6	F	F	F	F	F	8
11 2	11 8	12 6	13 2	13 3	13 6	12 4	F	F	F	F	12 9	9
11 8	11 6	11 9	12 3	U12 2s	12 4	11 4	F	F	F	F	F	10
12 0	11 8	12 0	12 3	12 5	12 6	U11 8s	11 4	U11 OF	U12 4F	13 3	13 8	11
11 0	11 4	11 7	12 4	12 8	U13 2s	U12 4s	F	F	F	F	F	12
11 3	11 4	11 7	12 3	13 1	12 8	12 1	F	F	F	F	F	13
11 4	11 5	12 8	13 4	13 0	U13 1s	12 7	U10 9F	F	F	F	F	14
11 2	11 7	12 4	12 8	13 0	13 2	11 4	F	F	F	F	F	15
C	13 4	13 8	C	13 8	14 3	13 2	F	F	F	F	14 0	16
11 4	11 7	12 6	12 9	13 2	12 8	U11 6s	10 4r	F	F	F	12 6	17
11 9	12 6	12 6	12 7	12 8	12 8	12 6	11 6	J10 6F	C	J12 4R	U13 2s	18
13 0	12 6	12 6	12 8	13 6	13 0	12 6	S	FS	12 8	F	13 2	19
C	C	12 9	13 4	13 4	12 8	U11 8s	11 8	U13 3s	13 2	12 6	U10 3s	20
11 6	13 0	13 5	13 5	U13 6s	U13 4s	U12 8s	12 6	U14 OS	14 6	14 0	12 4	21
12 2	11 6	11 7	11 6	U11 6s	11 4	10 8	10 4	U10 5F	U11 2F	U11 6s	FS	22
11 9	11 7	11 6	11 4	11 1	11 0	U9 6s	U8 6r	F	F	F	F	23
14 6	14 9II	15 0	U15 3s	14 7	S	S	F	F	F	F	12 8	24
11 2	11 4	11 3	11 5	11 5	U11 4s	S	F	F	U10 8Fs	F	F	25
11 8	12 0	12 3	12 2	12 0	U11 8s	U10 6s	F	F	F	F	F	26
C	C	C	C	C	12 8	U11 6s	F	F	F	F	F	27
C	C	C	C	C	C	C	C	F	F	C	U9 6s	28
11 9	12 6	13 0	13 0	13 2	12 8	10 6	F	F	F	F	F	29
13 4	14 2	U15 OR	U15 5s	U15 4s	14 8II	F	F	F	F	F	F	30
12 1	12 3	12 7	12 9	13 0	13 0	11 9	11 0	U11 7	12 2	12 7	12 5	Mean
11 8	11 8	12 4	12 7	13 0	12 9	12 0	11 4	U11 0	12 0	12 5	12 8	Median
25	26	27	25	26	27	26	11	7	8	6	11	Count

Sweep 1 Mc to 25 Mc in 27 seconds



Characteristic of  $f_oF_1$   
 Unit - Mc  
 Month September 1959

TABLE 24  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3									L	L	L	L
4									L	L	L	L
5									L	L	L	L
6									L	L	C	C
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	LH	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc.  
 Month September 1959

TABLE 24  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
C	C	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L <sup>6</sup>	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
C	C	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
C	C	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
												Mean
												Median
	1											Count

Sweep 1 Mc to 25 Mc. in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month September 1959

TABLE 24--Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1									L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	C	C
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit : Mc.  
 Month September 1959

TABLE 24--Contd.  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
C	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
C	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
												Mean
												Median
												Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
 Unit Mc  
 Month September 1959

TABLE 25  
 Ionospheric Data  
 75° E Mean Time

Latitude · 10 2°N  
 Longitude : 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2								A	A	A	A	B
3								3 0	A	A	A	A
4								R	A	A	A	B
5									A	A	A	A
6								A	A	A	C	C
7								A	A	A	A	A
8								A	A	A	A	A
9								A	A	A	A	A
10								2 8II	U3 4A	A	A	A
11								A	A	A	A	A
12								C	C	A	A	A
13								A	A	A	A	A
14								A	A	A	A	B
15								A	A	A	A	A
16								2 7	A	A	A	A
17								A	A	A	A	A
18								A	A	A	A	A
19								2 8II	A	A	A	A
20								U2 9R	A	C	C	C
21								A	A	A	A	A
22								A	U3 3R	A	A	A
23								2 8II	A	A	A	A
24								A	A	A	A	A
25								2 8	A	A	A	A
26								A	A	A	A	A
27								A	C	C	C	C
28								2 7	A	C	C	C
29								A	A	A	A	A
30								A	A	A	A	A
Mean								2 8				
Median								2 8				
Count								8	2			

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
 Unit Mc  
 Month September 1959

TABLE 25  
 Ionospheric Data  
 75 0' E Mean Time

Latitude . 10 2° N  
 Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A		Λ	Λ	Λ	Λ							1
A	4.6	Λ	Λ	Λ	Λ							2
B	B	Λ	Λ	3.4	Λ							3
A	R	3.9	3.8	R	Λ							4
A	Λ	C	C	C	C	C						5
C	Λ	Λ	Λ	Λ	Λ							6
A	Λ	Λ	2.7	Λ	2.6							7
A	Λ	Λ	Λ	Λ	Λ							8
B	Λ	Λ	Λ	Λ	Λ							9
A	Λ	Λ	∇ <sub>1</sub> ∞Λ	Λ	Λ							10
Λ	Λ	Λ	Λ	Λ	Λ							11
C	Λ	Λ	Λ	Λ	Λ							12
Λ	Λ	Λ	Λ	Λ	Λ							13
Λ	B	Λ	Λ	Λ	Λ							14
Λ	Λ	Λ	Λ	Λ	Λ							15
C	C	Λ	Λ	Λ	Λ	A						16
Λ	Λ	Λ	Λ	Λ	Λ	Λ						17
Λ	Λ	Λ	Λ	Λ	Λ	Λ						18
Λ	Λ	Λ	Λ	Λ	Λ	Λ						19
C	C	Λ	Λ	Λ	Λ	Λ						20
Λ	Λ	Λ	Λ	Λ	Λ	Λ						21
Λ	Λ	C	Λ	Λ	Λ	Λ						22
Λ	Λ	Λ	Λ	Λ	Λ	Λ						23
Λ	Λ	Λ	Λ	Λ	Λ	Λ						24
Λ	Λ	Λ	Λ	Λ	Λ	2.6r						25
Λ	Λ	Λ	Λ	Λ	Λ	Λ						26
C	C	C	C	C	C	C						27
C	C	C	C	C	C	C						28
Λ	Λ	Λ	Λ	Λ	Λ	Λ						29
Λ	Λ	Λ	Λ	Λ	Λ	Λ						30
												Mean
												Median
	1	1	3	1	2	.						Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
Unit : Mc  
Month September 1959

TABLE 25—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								A	A	A	A	A
2							2 5	A	A	A	A	A
3								A	A	B	A	R
4							R	A	A	A	A	A
5								A	A	A	A	A
6							R	A	A	A	C	C
7							2 6	A	A	A	A	A
8								A	A	A	A	A
9								A	A	A	A	A
10								A	A	A	A	A
11								A	A	A	A	A
12							C	C	C	A	A	A
13							R	A	A	A	A	A
14							R	A	A	A	A	A
15							2 5	A	A	A	A	A
16							4	A	A	A	A	A
17							2 4 <sup>H</sup>	A	A	A	A	A
18							R	A	A	A	A	A
19							2 3	3 1	A	A	A	A
20								A	A	C	C	C
21							U2 4A	A	A	A	A	A
22							U2 5A	A	A	A	A	A
23							2 5	3 1A	A	A	A	A
24							R	A	A	A	A	A
25								A	A	A	A	A
26							A	A	A	A	A	A
27								A	C	C	C	C
28								A	A	A	A	A
29								A	A	A	A	A
30							2 5	A	A	A	A	A
Mean							2 5					
Median							2 5					
Count							10	2				

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month September 1959

TABLE 25--Contd  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A								1
B	B	A	A	R								2
B	4 0	A	R	A								3
A	C	C	C	C								4
A	A	A	C	C								5
C	3 0	2 7	A	A	A							6
A	A	A	A	A								7
A	A	A	A	A								8
B	A	A	A	A								9
A	A	A	A	A								10
A	A	A	A	A								11
A	A	A	A	A								12
A	A	A	A	A								13
A	A	A	A	A								14
A	A	A	A	A								15
C	A	A	C	A	A							16
A	A	A	A	A								17
A	A	A	A	A								18
A	A	A	A	A								19
C	A	B	A	A								20
A	A	A	A	A								21
A	A	u <sub>4</sub> 0A	A	A								22
A	A	A	A	A								23
A	A	A	A	A								24
A	A	A	A	R								25
A	A	A	A	A								26
C	A	A	C	C								27
C	C	C	C	C								28
A	A	A	A	A								29
A	A	A	A	A								30
												Mean
												Median
	2	2										Count

Sweep 1 Mc to 25 Mc. in 27 seconds



Characteristic foEs  
 Unit Mc  
 Month September 1959

TABLE 26  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								9 0	11 0	12 0	13 0	12 6
2								9 4	11 4	12 0	13 0	13 0
3								8 4	11 0	11 4	12 0	12 8
4	4 6		2 7					G	11 8	11 0	12 6	10 0
5									9 8	11 0	12 0	12 6
6								9 0	11 4	11 6	C	C
7								8 4	10 4	11 4	12 2	13 4
8								9 0	11 0	11 4	12 4	14 2
9								8 8	11 6	11 3	12 8	13 0
10	06 08							G	11 2	11 4	12 0	13 4
11								8 6	12 2	11 8	12 8	13 6
12								C	C	12 3	14 8s	13 8
13						3 0		7 6	10 4	12 2	12 6	13 3
14								9 4	10 9	11 8	12 4	11 9
15								8 1	11 0	12 3	12 6	12 9
16			3 6					G	9 3	9 2	12 7	12 0
17								8 0	10 0	11 4	12 2	12 8
18								7 0	10 2	11 6	13 6	12 8
19	3 3							G	9 4	12 0	11 6	12 7
20	4 8							G	10 4	C	C	C
21	3 4							12 3	11 4	12 0	13 4	13 2
22	5 6				3 6			11 0	G	10 6	12 2	13 0
23	4 4				09 28			G	10 0	11 8	13 0	13 4
24								9 0	11 0	11 8	12 8	13 0
25					3 4		4 4	7 0	11 2	12 0	12 8	13 0
26						6 2		9 4	12 0	11 2	13 0	14 0
27	4 5							7 2	C	C	C	C
28						6 8		8 8	11 0	C	C	C
29					3 0			9 4	11 0	12 4	14 0	16 6
30								8 6	12 0	12 2	13 8	13 8
Mean	4 6							8 8	10 9	11 6	12 8	13 1
Median	4 6							8 5	11 0	11 8	12 8	13 0
Count	8	1	1		4	3	1	28	28	27	26	26

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foEs  
Unit Mc  
Month September 1959

TABLE 26  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
13 2	10 0	12 2	11 0	7 8	8 0	4 0				4 0		1
12 8	12 8	13 4	22 0	8 4	7 4	4 0		3 8	4 8	10 0		2
G	G	8 0	10 6	5 4	9 8						5 0	3
12 4	12 6	C	C	C	C	C						4
12 0	21 0	13 4	C	C	S					2 7		5
C	C	13 6	12 5	10 8	11 8	U4 6s						6
12 4	12 3	11 8	9 0	7 8	4 2					1 9	4 2	7
12 6	12 0	11 8	16 2	13 0	11 5			4 2	2 7	4 5	6 0	8
12 4	20 5	14 6	21 5	8 4	11 0	U5 0s		3 2		U4 0s	U6 0s	9
13 0	12 4	13 8	11 4	11 0	9 0							10
12 2	12 4	12 8	11 7	U10 6s	8 0							11
C	13 5	12 8	U11 6s	U13 8s	U10 8s	U1 8s					2 7	12
13 7	12 6	12 1	11 4	10 6	10 3						3 7	13
12 6	13 1	21 8	12 4	10 6	7 2				2 2			14
12 9	12 3	12 5	10 8	U9 8s	7 8					U4 6s	U5 6s	15
C	C	12 0	14 4	9 4	8 8	U1 7s					3 2	16
12 4	13 2	11 8	10 8	9 0	6 6				C	2 8	3 0	17
13 4	12 8	12 6	11 0	10 0	11 0	S				3 6		18
12 2	12 0	11 4	11 5	12 8	9 5	U4 6s						19
C	C	12 7	10 6	9 4	7 7							20
C	17 0	13 2	11 8	11 6	U7 0s							21
14 6	13 0	C	12 6	U12 0s	U9 0s						4 4	22
13 0	13 6	13 4	12 0	10 2	U8 0s					3 4		23
17 0	12 0	14 0	12 4	11 0	U6 8s						7 0	24
12 8	14 0	13 4	11 0	10 0	U7 0s					4 2		25
12 4	13 0	13 0	11 0	10 6	8 6							26
C	C	C	C	C	C		C	C		4 0	7 0	27
C	C	C	C	C	C					8 4	7 4	28
16 0	15 0	13 0	11 4	10 4	S				4 0			29
12 2	13 0	20 0	11 8	10 0	8 4							30
13 1	13 6	13 4	12 5	10 3	8 6	U4 5				4 5	5 0	Mean
12 6	12 8	13 0	11 6	10 3	8 6	U4 6				4 0	5 0	Median
23	25	26	26	26	25	7		3	4	13	13	Count

Sweep 1 Mc. to 25 Mc, in 27 seconds

Characteristic foEs  
Unit Mc  
Month September 1959

TABLE 26—Contd  
Ionospheric Data  
75° E Mean Time

Latitude · 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1				3 6			3 4 6 6	9 8 11 0	11 8 12 0	12 6 12 8	12 8 12 4	12 6 12 4
2								10 4	11 0	B	12 4	9 6
3				3 4			3 2	9 6	11 0	12 6	12 6	12 4
4								9 2	10 6	11 4	20 0	12 0
5												
6							G	9 8	11 3	11 8	C	C
7							G	9 4	11 4	11 6	13 2	12 8
8								10 8	12 2	12 6	13 4	12 6
9			3 8					10 4	11 6	12 0	12 6	12 4
10								10 0	11 0	12 4	12 2	13 8
11								10 4	12 0	12 8	12 6	13 0
12						C	C	C	C	13 8	16 0	14 2
13							G	8 3	11 6	13 7	12 6	13 2
14							6 6	10 8	12 1	12 7	11 8	12 4
15							G	11 8	11 8	13 1	12 7	13 1
16							G	7 0	8 8	12 6	12 6	12 2
17							G	9 4	10 4	11 8	12 8	12 7
18							G	10 6	11 2	12 8	12 8	12 6
19							G	G	11 6	11 8	13 2	13 2
20								8 0	11 0	C	C	C
21							7 0	11 8	12 0	12 0	13 6	14 0
22						3 4	6 6	7 6	11 4	13 0	13 2	14 0
23	u7 os						G	7 0	11 0	13 0	13 0	13 2
24		2 8					G	10 0	11 2	12 4	12 4	12 2
25								11 2	12 2	13 6	13 0	14 0
26							8 6	11 0	12 2	13 6	12 8	13 0
27								9 0	C	C	C	C
28					2 1		6 4	7 6	12 0	C	C	C
29								11 0	12 0	14 0	16 0	14 0
30							G	11 2	12 0	13 2	13 8	12 6
Mean							6 0	9 8	11 4	12 7	13 3	12 8
Median							G	10 0	11 6	12 6	12 8	12 8
Count	1	2		2	2		19	29	28	26	26	26

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic  $f_oE_s$   
 Unit Mc  
 Month September 1959

TABLE 26—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude : 16.2°N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
12 6	12 0	11 0	9 0	9 0	7 0				3 0	4 0		1
12 4	12 4	13 0	16 0	5 0	6 4				5 4	6 8		2
G	G	8 4	5 5	8 2							4 0	3
12 8	C	C	C	C	C							4
11 0	19 0	19 0	C	C	S							5
C	13 4	11 4	10 8	12 3	11 4					2 6		6
12 4	11 6	9 8	9 0	6 0	3 8				2 0		3 6	7
12 0	15 6	12 0	16 0	12 0	7 0			2 4		4 4	4 6	8
12 4	19 6	19 0	10 7	10 8	U10 0S	1 7				4 5	4 4	9
13 4	12 6	11 4	10 0	9 0						4 0		10
12 6	12 8	12 0	11 1	U10 3S								11
14 4	12 7	12 2	10 2	U11 3S	S					2 1	2 2	12
12 6	12 2	11 8	U10 1S	10 7	U7 6S					3 5	6 8	13
12 2	11 8	12 4	10 8	8 1	U6 4S				U4 6S			14
12 8	12 4	11 4	10 3	U9 5S						4 6		15
C	11 4	13 0	C <sub>1</sub>	9 4	7 0						1 5	16
12 4	12 4	10 8	9 2	9 4					2 6	2 5		17
11 8	12 4	11 4	9 4	9 7	8 2				C	3 1		18
12 7	12 6	10 4	12 8	10 4	U6 8S							19
C	C	10 8	8 5	8 2								20
8 8	12 4	13 0	10 3	8 8	4 0					6 0	S	21
13 0	14 0	12 4	12 2	U9 0S	S					U6 6S	U6 0S	22
13 6	13 2	12 0	12 6	9 0						U7 0S	4 0	23
13 4	13 0	12 4	10 2	8 0								24
13 2	13 0	11 0	11 4	9 0								25
13 0	13 0	13 4	11 0	8 4						2 6		26
C	C	C	C	C	S							27
C	C	C	C	C	C	C	C	C		C	U5 0S	28
14 0	12 8	12 0	10 6	9 2						6 0		29
12 0	12 2	20 0	11 0	9 3								30
12 6	13 2	12 5	10 7	9 2	7 1				3 5	4 4	4 2	Mean
12 6	12 6	12 0	10 6	9 1	7 0				3 0	4 2	4 2	Median
25	26	27	25	26	12	1		1	5	16	10	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fbEs  
 Unit Mc  
 Month September 1959

TABLE 27  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								3 0	3 7	4 2	4 3	4 6
2								3 0	3 6	4 2	4 5	4 8
3								3 0	3 6	4 0	4 4	4 6
4	1 6		1 8						3 6	4 0	4 2	4 6
5									3 8	4 2	4 3	4 5
6								3 0	3 5	4 1	C	C
7								3 0	3 5	4 0	4 2	4 3
8								3 0	3 6	4 0	4 2	4 4
9								3 1	3 6	4 0	4 0	4 4
10	2 4								3 6	4 2	4 4	4 4
11							C	3 0	3 5	3 9	4 0	4 3
12								C	C	3 8	4 0	4 2
13								3 0	3 5	3 8	4 0	4 2
14								2 8	3 4	3 9	4 1	4 4
15								3 0	3 5	4 0	4 1	4 3
16									3 5	4 2	4 0	4 3
17								2 9	3 4	4 1	4 2	4 2
18								3 0	3 4	4 0	4 2	4 3
19									3 4	3 8	4 0	4 3
20	2 4								3 7	C	C	C
21	2 2							3 1	3 5	4 0	4 0	4 2
22								3 0		4 0	4 2	4 4
23	2 8								3 6	4 0	4 2	4 4
24								3 1	3 6	4 0	4 0	4 2
25							3 4	3 0	3 6	4 0	4 0	4 3
26						2 1		3 4	3 4	3 9	4 2	1 3
27								3 0	C	C	C	C
28						2 0		3 0	3 4	C	C	C
29								2 9	3 4	3 8	4 0	4 2
30								2 9	3 4	4 0	4 2	4 2
Mean	2 2							3 0	3 5	4 0	4 2	4 4
Median	2 2							3 0	3 5	4 0	4 2	4 3
Count	5		1			2	1	22	27	27	26	26

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic fbEs  
Unit Mc  
Month September 1959

TABLE 27  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4 6	4 6	4 7	4 4	3 7	3 0	2 0				2 0		1
4 7		5 1	9 2	3 4	3 0	2 1		2 2	2 2	3 0		2
		4 4	4 0	4 2	3 7						2 0	3
4 6	1 7	C	C	C	C	C						4
4 6	6 1	4 6	C	C	3 0							5
C	C	4 1	4 0	3 6	5 0	2 1						6
4 5	1 3	1 1	4 0	3 4							2 4	7
4 4	1 3	4 2	6 6	4 0	4 4			2 0		1 8	1 7	8
4 8	6 4	6 0	10 0	4 2	4 0	2 2				1 6	2 1	9
4 4	4 4	4 1	4 0	3 4	2 7							10
4 2	1 2	4 1	3 7	3 3	2 7							11
C	4 1	4 0	3 7	3 3	3 0						1 8	12
4 3	1 2	4 0	3 5	3 1	3 0	2 3					2 2	13
4 4	4 8	9 6	5 3	3 4	2 7				1 5			14
4 3	4 3	4 2	1 0	3 4	2 8					1 8	2 5	15
C	C	4 0	5 8	3 7	3 2	2 2					2 0	16
4 3	4 2	1 0	3 6	3 3	2 6						1 7	17
4 2	1 2	4 2	3 8	3 5	4 5	2 0			C	2 4		18
4 2	4 0	1 0	4 0	4 6	3 0							19
C	C	4 0	3 7	3 2	2 6							20
C	4 4	4 3	3 7	3 2	2 8							21
4 4	4 4	C	3 9	3 3	2 6						2 1	22
4 2	4 3	4 0	4 0	3 3	2 6							23
5 0	4 4	5 0	3 8	3 2	2 6							24
4 4	1 3	1 0	3 8	3 2						2 2		25
4 2	4 2	4 0	3 6	3 1	2 5							26
C	C	C	C	C	C							27
C	C	C	C	C	C	C	C	C			1.5	28
4 2	4 0	3 9	3 6	3 1	2 5				1 8	2 1		29
4 2	4 2	5 4	4 0	3 4	2 5							30
4 4	4 5	4 5	4 5	3 5	3 1	2 1				2 1	2 0	Mean
4 4	4 3	4 1	4 0	3 4	2 8	2 1				2.0	2 0	Median
22	23	26	26	26	25	7	.	2	3	9	11	Count

Sweep 1 Mc. to 25 Mc in 27 seconds,

Characteristic .fbEs  
Unit . Mc  
Month September 1959

TABLE 27—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1				2 0			2 7	3 5	4 0	4 3	4 5	4 6
2							2 8	3 5	4 0	4 3	4 5	4 7
3				2 1				3 3	4 0		4 5	4 8
4							2 7	3 3	3 8	4 3	4 4	4 5
5								3 3	3 9	4 2	5 0	4 5
6								3 2	4 0	4 0	C	C
7								3 2	3 8	4 1	4 2	4 3
8								3 3	3 8	4 2	4 4	4 6
9								3 4	3 8	4 2	4 3	4 4
10								3 1	4 0	4 0	4 2	4 3
11								3 1	3 6	4 0	4 4	4 3
12						C	C	C	C	3 9	4 0	4 4
13								3 3	3 6	4 0	4 1	4 2
14							2 6	3 4	3 6	4 0	4 2	4 4
15								3 2	3 7	4 0	4 3	4 5
16								3 2	3 8	4 0	4 2	4 2
17								3 2	3 7	4 2	4 2	4 3
18								3 2	3 7	4 2	4 2	4 4
19									3 6	4 0	4 2	4 2
20								3 2	3 6	C	C	C
21							2 7	3 2	3 8	4 0	4 3	4 4
22							2 6	3 2	3 6	4 1	4 4	4 4
23		2 6						3 5	3 7	4 2	4 3	4 4
24								3 4	3 8	4 1	4 2	4 5
25								3 4	3 8	4 0	4 2	4 3
26							2 8	3 6	3 4	4 0	4 0	4 2
27								3 3	C	C	C	C
28					1 7			3 2	3 6	C	C	C
29								3 2	3 7	4 0	4 2	4 3
30								3 2	3 7	4 0	4 2	4 2
Mean							2 7	3 3	3 8	4 1	4 3	4 4
Median							2 7	3 2	3 8	4 0	4 2	4 4
Count	1			2	1		7	28	28	26	26	26

Sweep 1 Mc to 25 Mc, in 27 seconds

Characteristic fbEs  
 Unit Mc  
 Month September 1959

TABLE 27—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 6	4 5	4 3	4 0	3 5	2 7				2 0	2 2		1
4 9	4 8	5 6	5 0	3 1	2 5				2 0	2 2		2
4 6	C	4 0	4 8	4 0	C						1 8	3
4 6	5 5	7 4	C	C	2 5							4
C	4 2	4 1	3 8	5 0	3 5					2 2		5
4 3	4 2	4 0	3 6	3 0					1 6			6
4 4	4 2	4 2	5 4	5 0	2 8			1 7		2 0	2 3	7
5 0	5 4	6 2	5 0	4 0	3.3	1 7				2 2	2 1	8
4 4	4 2	4 0	3 6	3 0								9
4 3	4 2	3 9	3 5	3 0								10
4 2	4 0	4 0	3 5	3 3	2 3					1 7		11
4 2	4 1	3 9	3 6	3 4	2 9					2 4	2 0	12
4 3	4 3	5 7	4 4	3 2	2 4							13
4 3	4 3	4 2	3 5	3 0						2 1		14
C	4 0	4 2	C	4 0	3 0							15
4 3	4 3	4 2	3 5	3 0					1 8			16
4 2	4 2	4 0	3 5	3 6	3 4							17
4 2	4 0	3 8	5 2	3 6	2 4							18
4 2	C	4 0	3 4	3 0								19
C												20
4 2	4 2	4 0	3 5	3 0						2 5		21
4 4	4 2	4 0	3 6	3 0						2 1	2 4	22
4 4	4 2	4 0	3 6	3 0								23
4 6	4 2	4 4	3 5	3 0								24
4 3	4 0	4 0	3 5	3 0								25
4 2	4 2	4 0	3 4	2 8						1 8		26
C	C	C	C	C	C							27
C	C	C	C	C	C	C	C	C		C	1 6	28
4 2	4 0	3 8	3 4	2 8						2 2		29
4 2	4 4	7 0	3 9	2 9								30
4 4	4 3	4 5	3 9	3 4	2 8					2 1	2 0	Mean
4 3	4 2	4 0	3 6	3 0	2 8					2 2	2 0	Median
24	25	27	25	26	12	1		1	4	12	6	Count

Sweep 1 Mc to 25 Mc in 27 seconds.



Characteristic fmin  
Unit Mc  
Month September 1959

TABLE 28  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	17	18	18	16	18	14	22	19	24	33	30	33
2	20	19	22	20	19	16	23	19	22	27	31	40
3	24	21	20	17	18	20	24	19	24	26	31	36
4	12	17	13	19	20	E	22	21	24	26	28	47
5	16	20	17	20	17	18	22	30	22	30	32	32
6	18	17	16	16	16	17	23	20	24	28	C	C
7	20	21	20	19	19	21	22	19	22	27	26	28
8	16	17	17	18	17	17	24	22	24	28	30	32
9	21	22	19	22	25	23	27	23	28	29	30	30
10	17	19	16	18	20	17	22	22	25	28	30	30
11	16	24	16	17	21	20	26	20	23	27	30	31
12	16	16	16	18	17	19	C	C	C	23	24	28
13	18	18	17	18	17	18	21	19	21	22	25	30
14	18	20	17	23	21	17	21	19	23	26	28	39
15	16	16	16	18	13	14	24	19	24	27	26	31
16	15	17	17	17	13	14	20	20	24	32	26	28
17	17	16	14	15	16	17	22	20	24	26	28	30
18	20	16	17	14	17	17	22	19	22	26	28	28
19	24	18	18	18	18	17	21	18	22	22	25	30
20	15	18	18	15	14	20	23	18	21	C	C	C
21	20	15	13	15	12	16	22	19	23	24	26	26
22	14	20	17	13	15	14	22	18	24	26	28	30
23	20	20	17	14	15	17	22	20	22	24	30	30
24	21	17	18	16	18	22	20	20	23	26	30	30
25	15	20	17	16	15	22	26	22	22	28	28	28
26	17	17	19	17	17	15	24	18	22	26	26	28
27	16	15	15	14	20	18	21	18	C	C	C	C
28	18	18	20	17	15	12	28	23	23	C	C	C
29	12	11	14	12	20	16	24	21	22	24	24	26
30	15	16	14	18	14	15	22	18	24	24	26	30
Mean	17	18	17	17	17	17	23	20	23	26	28	30
Median	17	18	17	17	17	17	22	19	23	26	28	30
Count	30	30	30	30	30	30	29	29	28	27	26	26

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic : fmin  
 Unit Mc  
 Month September 1959

TABLE 28  
 Ionospheric Data  
 75° E Mean Time

Latitude : 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
3.4	3.1	3.0	2.4	2.3	1.8	1.2	1.5	1.6	1.8	2.0	2.6	1
3.6	3.2	3.5	3.0	2.2	2.7	1.3	1.9	1.4	1.4	1.7	2.0	2
4.8	3.5	3.1	2.8	3.5	2.0	2.0	1.9	1.8	1.9	1.7	1.3	3
3.6	3.3	C	C	C	C	C	1.5	1.2	1.5	1.6	1.8	4
3.7	3.2	3.0	C	C	2.2	U2 OS	1.5	1.7	2.0	2.0	2.2	5
C	C	2.8	2.0	1.8	1.8	1.4	2.0	2.0	1.6	1.6	2.3	6
3.1	3.0	3.0	2.6	2.2	2.1	1.8	1.4	1.6	1.4	1.3	1.4	7
3.1	3.0	2.8	2.4	1.9	1.6	1.7	1.6	1.4	1.6	1.5	2.2	8
4.8	3.6	2.8	2.5	2.2	1.7	1.3	1.5	1.5	1.3	1.1	1.4	9
3.2	3.2	3.0	2.8	2.1	2.2	1.6	1.8	1.5	1.6	2.0	2.2	10
3.0	3.0	2.7	2.6	2.4	2.6	1.8	1.8	1.9	1.7	1.9	1.8	11
C	2.8	2.8	2.9	2.2	1.9	1.9	1.6	1.7	1.4	1.4	1.6	12
3.0	2.9	2.9	2.2	2.2	1.9	1.5	1.8	1.9	1.8	2.0	1.6	13
3.0	1.6	2.7	2.1	2.3	2.3	1.8	1.7	1.6	1.3	1.9	1.9	14
3.1	3.0	2.5	2.2	2.0	1.8	1.8	1.3	1.6	1.8	1.6	1.8	15
C	C	2.6	2.2	1.7	1.7	1.3	1.5	1.8	2.0	1.6	1.9	16
3.0	3.0	2.1	2.1	2.0	2.3	1.6	1.6	1.7	2.0	1.8	1.3	17
3.0	2.8	2.7	2.2	1.8	1.7	1.3	1.8	2.0	C	1.7	2.4	18
3.0	3.0	2.5	2.1	2.1	1.9	2.0	1.6	1.6	1.9	1.6	1.4	19
C	C	2.1	2.3	2.3	2.4	1.6	1.6	2.6	2.4	1.9	1.6	20
C	2.8	2.6	2.2	1.8	1.8	1.8	1.5	1.8	2.0	2.4	2.6	21
3.2	3.0	C	2.5	2.2	1.8	1.5	1.4	1.6	1.8	2.0	1.8	22
3.0	3.0	2.6	2.6	2.3	2.0	1.8	1.3	1.5	1.8	1.8	1.9	23
2.8	2.6	2.5	2.6	2.4	2.8	1.5	1.6	2.0	2.6	1.4	1.5	24
2.8	2.8	2.3	2.3	2.4	2.2	1.5	1.6	2.0	1.7	1.6	2.0	25
3.0	2.8	2.2	2.2	2.2	2.0	1.8	1.3	2.0	2.0	1.6	1.7	26
C	C	C	C	C	C	1.6	1.8	1.8	1.8	1.6	1.7	27
C	C	C	C	C	C	C	C	C	1.5	1.1	E	28
2.8	2.8	2.1	2.2	2.0	1.9	1.5	1.5	1.2	1.3	E	1.5	29
2.8	2.8	2.2	2.0	2.0	1.6	1.5	1.8	1.5	1.7	1.4	1.6	30
3.2	3.2	2.7	2.1	2.2	2.0	1.6	1.6	1.7	1.7	1.7	1.8	Mean
3.0	3.0	2.7	2.4	2.2	1.9	1.6	1.6	1.7	1.8	1.6	1.8	Median
23	25	26	26	26	27	28	29	29	29	30	30	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f<sub>min</sub>  
Unit Mc  
Month September 1959

TABLE 28—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	1 8	2 1	1 6	1 5	1 8	1 7	1 9	2 4	2 8	3 0	3 2	3 6
2	2 0	2 0	2 0	1 9	1 6	2 0	1 9	2 2	2 5	2 8	3 0	3 7
3	2 2	1 9	1 8	1 5	2 0	2 2	2 7	2 2	2 4	6 0	3 3	3 7
4	1 6	1 8	2 0	2 1	2 1	1 6	2 0	2 1	2 5	2 7	3 0	3 6
5	2 0	2 0	1 7	1 7	2 1	2 0	2 5	2 2	2 4	2 8	3 3	3 6
6	1 8	1 6	1 6	1 8	1 6	1 7	2 0	2 2	2 5	2 6	C	C
7	2 1	2 1	1 8	1 8	2 0	2 0	2 2	2 0	2 3	2 7	2 7	2 8
8	1 6	1 9	1 9	1 4	1 8	1 8	2 8	2 3	2 6	2 9	3 0	3 0
9	1 8	2 2	2 4	2 2	2 3	2 2	2 8	2 6	3 0	2 8	2 9	3 0
10	1 9	2 0	1 7	2 4	2 0	2 0	3 0	2 4	2 7	2 7	3 0	3 2
11	2 2	1 7	1 7	2 1	2 3	2 1	2 6	2 2	2 6	2 5	3 0	3 0
12	1 8	1 7	1 7	1 5	1 7	C	C	C	C	2 4	2 6	3 0
13	1 6	1 8	1 6	1 9	1 7	1 8	2 3	2 1	2 2	2 4	2 9	2 9
14	1 7	1 9	2 0	2 3	1 8	1 5	2 1	2 1	2 4	2 7	2 9	3 2
15	1 8	1 8	1 7	1 6	1 5	1 7	2 2	2 0	2 4	2 5	2 9	3 0
16	1 5	1 4	1 7	1 4	1 4	1 6	1 8	2 0	2 6	2 4	2 8	2 8
17	1 7	1 5	1 7	1 6	1 7	2 0	1 9	2 0	2 4	2 7	3 0	3 1
18	2 1	1 7	1 5	1 6	2 0	1 8	2 0	2 0	2 3	2 7	2 8	3 0
19	2 4	1 5	1 6	1 9	1 7	1 6	1 9	2 2	2 2	2 4	2 7	2 8
20	1 9	1 7	1 4	1 4	1 6	1 7	2 6	2 1	2 3	C	C	C
21	1 3	1 4	1 4	1 4	1 3	1 6	1 7	2 2	2 4	2 6	2 8	3 0
22	2 4	1 7	1 5	1 3	1 3	1 5	1 8	2 2	2 2	2 6	3 0	3 4
23	2 0	2 0	1 6	1 6	1 7	1 8	1 9	1 8	2 3	3 6	2 8	2 8
24	1 8	1 6	1 5	1 7	2 0	1 9	2 4	2 2	2 6	2 4	2 8	2 9
25	1 8	1 8	1 8	1 8	1 6	2 4	2 8	2 2	2 4	2 6	2 8	3 0
26	1 6	1 7	1 6	1 9	1 6	1 8	2 0	2 0	2 3	2 4	2 6	2 8
27	1 4	1 4	1 8	1 6	2 0	1 8	2 6	2 0	C	C	C	C
28	1 9	2 0	2 0	1 7	1 3	1 3	2 8	2 0	2 4	C	C	C
29	1 1	1 1	1 3	1 5	1 7	1 8	2 6	2 2	2 3	2 6	2 8	3 0
30	1 3	1 5	1 5	1 6	1 3	1 6	2 0	1 8	2 6	2 5	2 4	3 0
Mean	1 8	1 8	1 7	1 7	1 8	1 8	2 3	2 1	2 4	2 8	2 9	3 1
Median	1 8	1 8	1 7	1 7	1 7	1 8	2 2	2 2	2 4	2 6	2 9	3 0
Count	30	30	30	30	30	29	29	29	28	27	26	26

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic f<sub>min</sub>  
Unit Mc  
Month September 1959

TABLE 28—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
3 6	3 2	2 5	2 2	2 2	1 4	1 4	1 9	1 8	1 5	1 8	2 2	1
4 5	4 0	3 4	2 7	2 4	2 6	1 4	1 5	1 7	1 8	1 8	1 9	2
4 6	3 6	3 8	3 6	2 6	2 4	2 0	2 0	1 8	1 7	1 8	1 4	3
3 6	C	C	C	C	C	1 4	1 5	1 7	1 7	2 4	1 8	4
3 4	3 3	3 0	C	C	2 2	S	1 6	1 9	2 0	2 2	1 8	5
C	3 0	2 7	1 9	2 0	1 5	1 6	2 0	1 8	1 6	1 8	2 0	6
3 1	3 2	2 9	2 3	2 3	2 3	1 5	1 5	1 6	1 5	1 4	1 8	7
3 2	2 9	2 4	2 2	2 0	1 4	1 5	1 5	1 2	1 7	1 7	1 5	8
5 0	3 0	2 8	2 3	2 0	1 4	1 2	1 5	1 3	1 5	1 1	1 5	9
3 4	3 0	3 2	2 4	2 4	2 4	1 4	1 8	1 6	1 5	1 5	1 8	10
3 2	3 0	2 8	2 7	2 4	2 3	1 6	2 2	2 0	1 8	2 1	1 6	11
2 8	2 9	2 8	2 6	2 0	2 0	1 6	1 8	1 7	1 4	1 3	1 6	12
3 0	2 9	2 5	2 4	2 0	1 3	1 8	1 9	1 9	1 8	1 5	1 8	13
3 1	3 0	2 5	2 2	3 1	2 3	1 7	1 8	1 8	1 3	2 1	2 0	14
2 9	3 0	2 4	2 0	1 8	2 3	1 4	UI 35	1 6	1 8	1 5	2 0	15
C	2 5	2 3	C	1 6	1 8	1 5	1 8	1 7	1 3	2 0	1 3	16
3 0	3 0	2 8	2 3	2 0	2 2	1 6	1 7	1 9	1 3	2 2	1 7	17
3 1	2 8	2 6	1 8	1 8	1 6	1 5	2 0	2 0	C	2 0	2 6	18
3 0	2 8	2 5	2 0	2 0	2 0	1 6	1 8	1 7	1 6	1 8	1 8	19
C	C	4 0	2 4	2 3	2 0	1 8	1 8	2 0	1 7	1 9	1 8	20
2 8	2 8	2 4	2 0	2 2	2 2	1 5	1 8	1 8	2 4	1 4	2 8	21
3 0	2 8	2 6	2 4	1 9	2 2	1 3	1 3	1 9	1 7	1 7	2 0	22
3 0	3 0	3 0	2 4	2 4	2 2	1 5	1 7	2 0	1 8	1 5	2 4	23
2 8	2 6	2 8	2 6	2 4	2 2	1 2	1 8	2 0	1 6	1 3	1 8	24
2 8	2 7	2 6	2 4	2 2	2 0	1 5	1 5	2 0	2 0	2 0	1 5	25
3 0	2 5	2 2	2 3	2 0	2 2	1 5	1 5	1 6	2 0	1 3	1 7	26
C	C	C	C	C	C	1 7	1 5	1 8	1 6	1 6	1 4	27
C	C	C	C	C	C	C	C	1 3	1 5	C	1 1	28
2 8	2 6	2 6	2 2	1 8	2 0	1 5	1 6	1 5	1 8	1 5	1 4	29
2 8	2 4	2 2	2 0	1 8	2 2	1 5	1 7	1 3	2 0	1 5	1 6	30
3 3	2 9	2 8	2 3	2 1	2 0	1 5	1 7	1 7	1 7	1 7	1 8	Mean
3 0	3 0	2 6	2 3	2 0	2 2	1 5	1 7	1 8	1 7	1 7	1 8	Median
25	26	27	25	26	27	28	29	30	29	29	30	Count

Sweep 1 0 Mc to 25.0 Mc in 27 seconds.

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month September 1959

TABLE 29  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3									L	L	L	L
4									L	L	L	L
5									L	L	L	L
6									L	L	C	C
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month September 1959

TABLE 29  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	500	500	L							1
L	L	L	L	L	L							2
L	445	460	455	450	470							3
L	L	C	C	C	C							4
L	L	L	C	C	L							5
C	C	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	505	L	A	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
C	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	A	L	L	L							14
L	L	L	L	L	L							15
C	C	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
C	L	L	L	L	L							19
L	L	L	L	L	L							20
C	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
C	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
												Mean
												Median
	2	1	2	2	1							Count

Sweep 10 Mc to 25.0 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month September 1959

TABLE 29—*Contd*  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1									L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	C	C
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	C	C	C
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1.0 Mc, to 25.0 Mc in 27 seconds

Characteristic · h'F<sub>2</sub>  
 Unit · Km  
 Month · September 1959

TABLE 29—*Cont'd*  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude . 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L	L							2
L	L	L	L	L								3
L	455	460	455	455	C							4
L	C	C	C	C	C							5
L	L	L	L	L								6
C	L	L	L	L	L							7
L	L	L	L	L								8
L	L	L	L	L	L							9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								Mean
L	L	L	L	L								Median
L	L	L	L	L								Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.



Characteristic  $f_h F$   
 Unit . Km  
 Month . September 1959

TABLE 30  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5°

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	275	250	260	270	280	275	290	270	240	225	220	215H
2	280	245	275	300	300	260	285	260	240	225	225	225
3	300	240	240	245	260	240	275	250	240	220	220	220H
4	315	340	340	280	215	E	280	260	250	240	230	225
5	320	265	260	240	230	240	280	260	240	220	225	220
6	275	255	255	230	220	240	270	260	245	225	C	C
7	285	275	255	250	230	230	270	255	230	230	220	215
8	280	300	265	240	220	225	270	250	220	220	200H	220
9	300	280	245	250	250	240	270	250	230	220	210	200H
10	270	240	240	240	245	250	270	245	220	220H	230	220
11	255	250	250	240	225	255	275	255	240	220	220	215
12	265	235	240	235	230	235	C	C	C	235	230	220
13	310	265r	235	240	230	220	280	255	240	235	225	215
14	280	265	240	225	230	270	280	255	235	220	210	220
15	280	240	220	220	240	240	270	250	210	225	215	200
16	275	235	220	230	240	225	260	240	220	225	200H	220
17	260	240	225	240	245	235	270	245	220	220	200H	210
18	270	235	225	265	300	320	275	240	220	205	205	220
19	265	245	250	240	210	240	260	250	235	225	220	215
20	265	250	230	230	230	225	260	250	230	C	C	C
21	260	245	260	320	360	275	290	260	220H	230	215	210
22	245	240	240	240	260	240	260	245	230	220	200H	205H
23	270	255	240	240	225	220	250	230	220	220	210	205
24	240	220	230	240	240	220	260	240	220	220	200	200
25	250	230	230	280	280	230	250	240	230	220	210	220
26	260	240	260	240	230	240	270	240	230	220	220	215
27	260	220	220	240	240	230	260	240	C	C	C	C
28	240	220	220	235	245	280	270	240	230	C	C	C
29	240	250	220	240	240	220	260	240	230	220	200H	220
30	220	220	220	220	225	240	260	240	220	220	220	205
Mean	270	250	245	245	245	245	270	250	230	225	215	215
Median	270	245	240	240	240	240	270	250	230	220	220	215
Count	30	30	30	30	30	30	29	29	28	27	26	26

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic h'F  
 Unit Km  
 Month September 1959

TABLE 30  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
220H	215H	240	240	250	280	320	460	F	F	F	F	1
230	B	A	A	245	270	330	430H	390	360	335	320	2
220	220H	220H	230	260	280	320H	F	F	300	F	320	3
220	230	C	C	C	C	C	390	370	370	380	350	4
215H	A	A	G	C	265	315H	400	380	F	300	300	5
C	C	240	245	250	A	310	F	U430F	340	270	280	6
200H	210H	210	240	250	270	305	420	370	300	260	290	7
210	200H	220	A	A	A	310	U440I	U380F	300	340	300	8
U230B	A	A	A	U270A	U290A	320	460I	360I	340F	270F	280	9
210	220	220	235	240	270	310	F	300	360F	340F	285	10
210	220	220	230	245H	270	300	380	410	380	350	295	11
C	210	220	230	250	280	320	435	U445F	U325F	F	340	12
210	215	210	220	255	270	320	U470F	F	F	F	U320F	13
215	B	A	A	250	270	300	420	F	U370F	370	320	14
215	215	230	245	250	280	320	465	F	F	330	310	15
C	C	225	A	U250A	U270A	310	460F	380	280	280	280	16
210	210	230	245	270	A	310	425	F	U280F	320	300	17
215	205H	230	235	245	A	305	380	F	C	U300F	280	18
220	220	230	240	A	270	305	390	400	F	305	275	19
C	C	230	240	250	275	330	405	300	270	245	250	20
C	230	240	240	260	270	315	380	280	260	275	265	21
200H	220	C	230	240	260	300	380	390	330	270	280	22
200	210	205	220	230	260	310	420	U420F	U400F	U260F	270	23
A	220	A	220	235	260	320	F	380F	280	250	255	24
210	210	230	220	230	270	330	460	U500F	U320F	305	300	25
210	210	220	220	240	260	320	440	400	340F	300	290	26
C	C	C	C	C	C	320	U360F	F	U320F	280	300	27
C	C	C	C	C	C	C	C	C	340F	300	260	28
210	210	220	220	240	260	320	U380F	U240F	U300F	U280F	240	29
210	200	A	A	240	260	320	U420F	320F	340F	280	255	30
215	215	225	230	245	270	315	420	375	325	300	290	Mean
210	215	220	230	250	270	320	420	380	330	300	290	Median
2	21	20	20	24	24	28	25	21	24	26	29	Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month September 1959

TABLE 30—Contd.  
Ionospheric Data  
75° E Mean Time

Latitude : 10.2° N  
Longitude . 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	255	260	260	280	280	290	270	255	235	230	220H	220H
2	260	260	300	300	300	250	275	250	240	240	220	235
3	270	240	240	275	260	245	270	250	240	B	220	220H
4	320	360	315	200	220	305	280	260	245	235	230	225
5	300	255	250	235	240	260	260	250	235	235	A	220H
6	260	255	245	220	225	260	265	240H	230	210	C	C
7	280	265	245	240	225	245	265	240	230	220	205H	210
8	300	U270F	255	230	220	240	260	240	220	210	225	220
9	290	260	250	245	240	245	260	240	225	210	210	200
10	245	240	240	240	255	260	270	230	220	200H	220	215
11	260	250	245	235	235	270	265	245	230	220	220	215
12	245	230	240	240	230	C	C	C	C	230	225	220
13	295	255	235	235	210	255	260	245	240	225	220	215
14	270	240	230	230	240	300	260	240	225H	210	210	200
15	250	240	220	225	250	275	260	240	235	220	205	220
16	260	220	225	235	235	225	250	230	215	200H	205	220
17	240	225	235	245	240	260	260	225H	210H	200H	210H	210H
18	255	220	235	290	305	290	260	240	215	205H	215	220
19	245	245	250	225	220	280	255	240	235	225	220	220
20	260	240	235	235	225	240	255	240	220	C	C	C
21	240	245	260	340	340	280	270	240	240	220	220	210
22	240	240	240	260	245	250	260	240	220	200H	220	200H
23	260	250	240	230	215	225	240	220	220	220	205	205
24	225	240	240	240	220	240	250	230	225	205	200	210
25	230	225	250	300	250	220	260	230	220	205	210	210
26	240	240	250	220	240	260	260	240	220	220	210	220
27	240	220	235	230	240	220	240	220	C	C	C	C
28	230	220	230	240	260	270	260	235	220	C	C	C
29	245	240	240	230	220	235	240	240	220	210	220	210
30	220	220	220	220	235	250	255	235	220	200	200	210
Mean	260	245	245	245	245	255	260	240	225	215	215	215
Median	255	240	240	235	240	255	260	240	225	215	220	215
Count	30	30	30	30	30	29	29	29	28	26	25	26

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic · h'F  
Unit : Km  
Month September 1959

TABLE 30—Contd  
Ionospheric Data  
75 ° E Mean Time

Latitude · 10 2° N  
Longitude · 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
215H	215H	240	240	265	300H	390	500	F	F	F	310	1
230	250	A	A	255	300	380H	400	360	320	320	305	2
2 OH	220	225	A	270	290H	400H	F	F	360	340	320	3
220	C	C	C	C	C	360	380	380	380	360	325	4
220	A	A	C	C	290H	375	F	F	F	350	300	5
C	230	240	240	A	300	360	F	400	275	320	280	6
215	220	220	240	260	280	365	380	300	280	290	280	7
200H	220	235	A	A	280	380	U360F	300F	320	300	305	8
B	A	A	A	U270A	300	390	370F	360F	300F	300	280	9
205	220	230	235	260	285	U340F	F	280F	280F	300F	265	10
215	215	230	235H	260	280	360	400	400	330	305	280	11
215	220	230	240	265	295	380	F	U360F	U305F	U320F	325	12
210	210	215	240	260	285	380	F	F	F	F	300	13
215	225	A	A	260	285	375	U445F	F	360	U365F	300	14
210	220	230	245	260	295	390	U465F	U440F	385F	300	285	15
C	225	U240A	C	U270A	295	370	U460F	360	260	320	270	16
220	215	225	240	260	285	380	F	F	U285F	280	280	17
215	205H	230	240	270	295	330	F	F	C	285	280	18
210	215	225	A	U265A	285	380	400	330	310	285	270	19
C	C	U240B	240	260	295	400	360	265	260	240	255	20
220	235	240	245	260	295	360	320	260	260	240	260	21
220	220	220	235	245	275	360	400	360F	300	280	290	22
200	200	220	220	240	280	380	440F	U360F	U380F	280	260	23
220	220	230	220	250	280	420	400	360F	270	260	260	24
210	210	250	225	260	290	410	480	F	300	300	265	25
215	220	220	220	240	280	400	440F	360	310	300	280	26
C	C	C	C	C	280	360F	400F	U320F	350	300	260	27
C	C	C	C	C	C	C	C	300F	260	C	260	28
210	220	220	225	240	280	U360F	F	U240F	U260F	240	220	29
200	A	A	240	240	280	U420F	U380F	340F	310F	260	240	30
215	220	230	235	260	290	380	410	340	310	300	280	Mean
215	220	230	240	260	285	380	400	360	300	300	280	Median
24	23	22	19	24	28	29	20	22	26	27	30	Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

Characteristic h'E  
Unit -Km  
Month September 1959

TABLE 31  
Ionospheric Data  
75° E Mean Time

Latitude : 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								115	A	A	A	A
2								A	A	A	A	B
3								115	105	A	A	A
4								115	A	A	A	B
5									A	A	A	A
6								110	110	A	C	C
7								A	A	A	A	A
8								120	110	1-0	115	A
9								120	115	110	A	A
10								120	120	120	115	A
11								120	A	A	A	A
12								C	C	A	A	A
13								120	115	A	A	A
14								A	A	A	A	B
15								A	A	A	A	A
16								115	A	B	A	A
17								115	110	A	A	A
18								115	A	A	A	A
19								120	110	A	A	A
20								120	A	C	C	C
21								120	110	110	A	A
22								120	120	120	A	A
23								110	110	110	A	A
24								110	A	110	A	A
25								110	110	A	A	A
26								A	A	A	A	A
27								110	C	C	C	C
28								110	110	C	C	C
29								110	110	105	A	A
30								110	110	A	A	A
Mean								115	110	115		
Median								115	110	110		
Count								23	15	8	2	

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic h'E  
 Unit Km  
 Month September 1959

TABLE 31  
 Ionospheric Data  
 75° E Meridian Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	115	A	A	A	A							1
A	B	A	A	105	A							2
B	115	120	110	B	A							3
A	A	C	C	C	C	C						4
A	A	A	C	C	A							5
C	C	A	A	A	A							6
A	A	A	120	A	125							7
A	A	120	110	110	A							8
B	A	A	A	A	A							9
A	A	120	120	130	125							10
A	A	A	A	A	A							11
C	A	A	A	A	A							12
A	A	A	A	A	A							13
A	B	A	A	A	A							14
A	A	A	A	A	A							15
C	C	A	A	A	A	A						16
A	A	A	A	A	A							17
A	A	A	A	A	A							18
A	A	A	A	A	A							19
C	C	A	A	A	A							20
C	120	120	120	105	A							21
A	A	C	110	110								22
A	A	A	110	A								23
A	A	A	A	120								24
115	A	A	110	A	120							25
A	A	A	A	A	120							26
C	C	C	C	C	C							27
C	C	C	C	C	C	C						28
A	110	A	110	120	120							29
A	110	A	A	A	A							30
	115		115	115	120							Mean
	115		110	110	120							Median
1	5	4	9	7	5							Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic . h'E  
Unit Km  
Month September 1959

TABLE 31—Contd  
Ionospheric Data  
75°0' E Mean Time

Latitude · 10 2° N  
Longitude · 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								A	A	A	A	A
2							120	A	A	A	A	A
3								110	A	B	A	105
4							120	A	A	A	A	A
5								A	A	A	A	A
6							125	110	A	A	C	C
7							140	115	A	A	A	A
8								120	120	115	115	A
9								115	110	A	A	A
10								120	115	120	A	A
11								120	A	A	A	A
12							C	C	C	A	A	A
13							130	115	A	A	A	A
14							125	A	A	A	A	A
15							125	A	A	A	A	A
16							115	110	A	A	A	A
17							120	115	110	A	A	A
18							120	A	A	A	A	A
19							120	120	A	A	A	A
20								115	A	C	C	C
21							120	120	110	A	A	A
22							120	120	110	110	A	B
23							120	110	A	B	A	A
24							120	110	A	A	A	A
25								120	A	115	A	A
26							A	A	A	A	A	A
27								A	C	C	C	C
28								110	110	C	C	C
29								110	110	A	A	A
30							120	A	A	A	A	A
Mean							120	115	110			
Median							120	115	110			
Count							16	19	8	4	1	1

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

Characteristic h'E  
 Unit Km  
 Month September 1959

TABLE 31—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	105	A	A	A								1
B	B	A	A	110								2
B	115	A	B	A								3
A	C	C	C	C								4
A	A	A	C	C								5
C	A	A	A	A	A							6
A	A	A	A	A								7
A	120	115	110	A								8
B	A	A	A	A								9
A	120	120	120	120								10
A	A	A	A	A								11
A	A	A	A	A								12
A	A	A	A	A								13
A	A	A	A	A								14
A	A	A	A	A								15
C	A	A	A	A	A							16
A	A	A	A	A								17
A	A	A	A	A								18
A	A	A	A	A								19
C	C	B	A	120								20
120	120	110	110	120								21
A	A	110	110	110								22
A	A	A	110	A								23
A	A	A	A	120								24
110	110	A	110	120								25
A	A	A	A	110								26
C	C	C	C	C								27
C	C	C	C	C								28
A	A	110	110	120								29
A	A	A	A	A								30
												Mean
	115	115	110	115								Median
	120	110	110	120								Count
2	6	5	7	9								

Sweep 1 0 Mc to 25 0 Mc in 27 seconds



Characteristic h'Es  
Unit Km  
Month : September 1959

TABLE 32  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								105	100	100	100	100
2								105	100	100	100	100
3								105	100	100	100	100
4	125		120					G	100	100	100	100
5									100	100	100	100
6								105	100	100	C	C
7								110	105	105	100	100
8								110	105	105	100	100
9								110	105	105	100	100
10	120							G	105	100	100	100
11							C	115	100	100	100	100
12								C	C	100	100	100
13						120		115	100	100	100	100
14								100	100	100	100	100
15								100	100	100	100	100
16		120						G	100	100	100	100
17								105	105	100	100	100
18								105	100	100	100	100
19	100							G	105	100	100	100
20	120							G	105	C	C	C
21	120							110	100	100	100	100
22	100				120			110	G	100	100	100
23	120				130			G	100	100	100	100
24							120	100	100	100	100	100
25					120			100	100	100	100	100
26						100		110	100	100	100	100
27	110							100	C	C	C	C
28						100		100	100	C	C	C
29					115			100	100	100	100	100
30								100	100	100	100	100
Mean	115							105	100	100	100	100
Median	120							105	100	100	100	100
Count	8	1	1		4	3	1	22	27	27	26	26

Sweep 1. Mc to 25 Mc in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month September 1959

TABLE 32  
 Ionospheric Data  
 75° E Mean Time

Latitude 10.2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	100	100	100	100	100				130		1
100	100	100	105	100	100	105		100	120	115		2
G	G	105	100	140	100						120	3
100	100	C	C	C	C	C						4
100	100	100	C	C	S					120		5
C	C	100	100	100	100	105						6
100	100	100	105	105	105					140	120	7
100	100	105	100	100	100			130	130	120	120	8
100	105	100	105	105	105	105		140		120	120	9
100	100	100	105	110	115							10
100	100	100	100	100	120							11
C	100	100	100	100	100						135	12
100	100	100	100	100	100	100					115	13
100	100	100	100	100	100				120			14
100	100	100	100	100	100					120	115	15
C	C	100	100	100	100	100					120	16
100	100	100	100	100	100					135	125	17
100	100	100	100	100	100	100			C	125		18
100	100	100	100	100	100	100						19
C	C	100	105	105	100							20
C	100	105	105	100	100							21
100	100	C	100	100	100						120	22
100	100	100	100	100	100					125		23
100	100	100	100	100	110						120	24
100	100	100	100	100	100					110		25
100	100	100	100	100	100							26
C	C	C	C	C	C							27
C	C	C	C	C	C	C	C	C		120	115	28
100	100	100	100	100	110				110	110	120	29
100	100	100	100	100	100							30
---	---	---	---	---	---	---	---	---	---	---	---	Mean
100	100	100	100	100	100	100				120	120	Median
100	100	100	100	100	100	100				120	120	Count
22	24	26	26	26	26	8		3	4	13	13	

Sweep 1. Mc. to 25 Mc in 27 seconds.

Characteristic h'Es  
Unit Km  
Month September 1959

TABLE 32—Contd  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1				115			115	100	100	100	100	100
2							115	100	100	100	100	100
3				105				100	100	B	100	105
4							120	100	100	100	100	100
5								100	100	100	100	100
6							G	105	100	100	C	C
7							G	105	105	100	100	100
8								110	105	100	100	100
9		120						105	105	100	100	100
10								110	100	100	100	100
11								115	100	100	100	100
12						C	C	C	C	100	100	100
13							G	115	100	100	100	100
14							115	100	100	100	100	100
15							G	100	100	100	100	100
16							G	100	100	100	100	100
17							G	105	100	100	100	100
18							G	100	100	100	100	100
19							G	G	100	100	100	100
20								105	105	C	C	C
21							110	105	100	100	100	100
22					120		110	110	100	100	100	100
23	115						G	100	100	100	100	100
24		110					G	100	100	100	100	100
25								100	100	100	100	100
26							110	100	100	100	100	100
27								100	C	C	C	C
28					100		110	100	100	C	C	C
29								100	100	100	100	100
30							G	100	100	100	100	100
Mean							110	105	100	100	100	100
Median							110	100	100	100	100	100
Count	1	2		2	2		8	28	28	26	26	26

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic h'Es  
 Unit Km  
 Month September 1959

TABLE 32—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 24'N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
100	100	100	100	100	100				135	120		1
100	100	105	105	100	100				120	120		2
G	G	100	140	100							120	3
100	C	C	C	C	C							4
100	100	105	C	C	100							5
C	100	100	100	100	100					140		6
100	100	100	105	105	105				135		160	7
100	105	105	100	110	105			130		120	120	8
105	100	105	105	105	105	280				120	120	9
100	100	100	105	115						120		10
100	100	100	100	100								11
100	100	100	100	100	100					135		12
100	100	100	100	100	100					120	120	13
100	100	100	100	100	100				120			14
100	100	100	100	100						115		15
C	100	100	C	100	100						105	16
100	100	100	100	100					130	145		17
100	100	100	100	100	100				C	120		18
100	100	100	100	100	100							19
C	C	105	105	105								20
100	100	100	100	100	100					100	100	21
100	100	100	100	100	100					115	115	22
100	100	100	100	100						120	120	23
100	100	100	100	110								24
100	100	100	100	100								25
100	100	100	100	100						110		26
C	C	C	C	C	100							27
C	C	C	C	C	C	C	C			C	110	28
100	100	100	100	100						105		29
100	100	100	100	100								30
100	100	100	105	100	100				130	120	120	Mean
100	100	100	100	100	100				130	120	120	Median
24	25	27	25	26	16	1		1	5	16	10	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F2  
Unit  
Month September 1959

TABLE 33  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	F	F	F	U2 70F	U2 85s	F	F	U2 65r	2 40	2 10	2 05	2 05
2	F	F	F	F	F	U3 10r	F	F	2 20	2 15	2 10	2 05
3	2 70	2 95	2 85	2 65	2 80	2 90	2 90	2 70	2 35	2 20	2 20	2 25
4	F	F	F	F	F	E	2 75	2 60	2 35	2 05	2 30	2 20
5	1	1	U2 70r	2 85	3 05	3 10	2 80	2 70	2 50	2 35	2 20	2 20
6	FS	2 85	FS	3 05	3 25	3 15	2 95	2 80	2 25	2 25	C	C
7	F	2 80	F	F	U3 10s	F	U2 95s	2 85	2 45	2 20	2 20	2 10
8	F	F	F	F	F	3 15	U2 95s	2 85	2 55	2 10	2 25	2 15
9	F	2 90r	F	3 15	3 15	3 20	J3 00r	2 80	2 45	2 20	2 20	2 15
10	F	F	U3 00s	U3 25s	3 10	3 25	U3 00s	2 95	2 75	2 30	2 20	2 25
11	FS	2 90	U3 00s	3 05	3 30	3 10	3 00	2 90	2 60	2 15II	2 35	2 25
12	U2 95s	U3 10s	U3 10s	3 10	3 10	U3 35s	C	C	2 20	2 20	2 25	2 20
13	F	F	F	3 10	3 30	F	3 00	2 95	2 60	2 30	2 15	2 20
14	F	F	F	U3 10r	F	3 10	2 95	2 80	2 50	2 10	2 20	2 40
15	U2 85s	3 10	3 15	3 30	3 15	3 20	2 95	2 95	2 60	2 25	2 20	2 10
16	F	3 00	F	3 05	3 00	J3 35i	3 10	2 95	2 75	2 40	2 20	2 30
17	3 05	F	3 20	3 10	3 05	3 20	2 90	2 80	2 50	2 20	2 15	2 25
18	F	F	F	F	F	F	F	2 90r	2 40	2 20	2 20	2 20
19	2 90	2 95	2 90	2 95	3 35	3 30	3 05	3 10	2 80	2 25II	2 30	2 30
20	U2 85s	2 90	3 05	3 10	3 15	3 30	3 00	2 95	2 70	C	C	C
21	3 00	3 00	3 10	2 50	2 30	2 70	2 80	2 60	2 35	2 40	2 20	2 35
22	3 05	U3 10s	U3 15s	3 00	2 85	3 10	3 10	2 95	2 70	2 40	2 20	2 10
23	U2 60i	2 90	2 90	2 95	3 00	3 15	3 20	3 05	2 80	2 40II	2 40	2 30
24	F	F	F	2 80	3 00	3 20	3 00	2 90	2 65	2 35	2 30	2 25
25	2 90	3 10	U3 10s	2 90	2 90	3 30	3 10	2 90	2 60	2 15	2 35	2 15
26	FS	FS	U2 90s	U3 00s	3 20	3 00	U2 95s	2 70	U2 50r	2 25	2 35	2 20
27	U2 70r	FS	U3 05rs	U2 90r	U3 10s	3 35	3 10	3 00	C	C	C	C
28	F	3 20	3 25	3 10	U3 05s	3 00	3 00	2 85	2 65	C	C	C
29	F	2 90	U2 95s	3 00	U3 25s	3 30	3 20	2 95	2 50	2 40	2 30	2 30
30	F	U3 20sF	F	U3 25s	U3 25s	3 20	3 10	3 00	2 65	2 30	2 30	2 40
Mean	2 80	3 00	U3 00	3 00	3 05	3 15	3 00	2 85	2 55	2 25	2 25	2 20
Median	2 90	2 95	U3 05	3 05	3 10	3 20	3 00	2 90	2 50	2 25	2 20	2 20
Count	11	17	17	25	25	25	26	28	28	27	26	26

Sweep 1 MC to 25 MC in 27 seconds

Characteristic (M3000) F<sub>2</sub>  
 Unit  
 Month September 1959

TABLE 33  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 05	2 05	2 10	2 20	2 20	2 20	2 10	1 90	F	F	F	F	1
2 00	2 00	2 00	2 10	2 15	2 25	2 15	2 10	2 20	2 25	2 35	2 40	2
2 20	2 35	2 40	2 45	2 40	2 35	2 20	U2 00F	F	F	F	F	3
2 10	2 10	C	C	C	C	C	U2 00S	U2 00S	U2 00R	U2 00R	F	4
2 20	2 20	2 30	C	C	U2 40S	2 20	F	F	F	F	F	5
C	C	2 05	2 10	2 20	2 25	2 20	2 00	F	F	F	F	6
2 10	2 10	2 05	2 10	2 20	2 25	2 20	2 00F	F	F	F	F	7
2 10	2 20	2 20	2 25	2 30	U2 35S	U2 25S	U2 05F	F	F	F	F	8
2 15	2 10	2 15	2 20	2 30	2 35	2 25	2 05	F	F	F	2 70	9
2 25	2 10	2 10	2 20	U2 25S	2 20	S	F	F	F	F	F	10
2 10	2 10	2 10	2 10	2 10	2 20	2 15	2 10	2 15	FS	U2 40F	2 65	11
C	2 20	2 20	2 25	2 30	2 35	2 20	2 10	F	F	F	U2 60S	12
2 15	2 10	2 15	2 30	2 30	2 30	2 20	U2 00F	F	F	F	F	13
2 10	2 10	2 20	2 40	2 40	2 35	2 25	2 10	F	F	F	F	14
2 15	2 10	2 25	2 25	2 25	2 20	U2 10S	1 95	F	F	F	F	15
C	C	2 20	2 30	2 35	2 40	2 25	2 00	F	F	F	F	16
2 20	2 10	2 20	2 20	2 30	2 30	2 10	2 00	2 05	F	F	F	17
2 15	2 15	2 10	2 15	2 20	2 30	2 15	U2 15S	U2 05F	C	U2 40S	2 60	18
2 20	2 10	2 10	2 15	2 25	2 25	2 20	2 10	J2 05S	U2 25F	2 45	U2 551	19
C	C	2 15	2 15	2 20	2 15	S	2 00	2 20	2 50	J2 90S	2 85	20
C	2 30	2 25	2 25	U2 25S	U2 20S	U2 10S	U2 05F	RS	U2 65S	2 80	3 00	21
2 20	2 00	C	2 20	U2 20S	2 25	2 20	2 10	U2 151	U2 25F	F	F	22
2 25	2 15	2 15	2 15	2 15	2 20	2 20	2 00	F	F	F	F	23
2 30	2 35	2 40H	2 40	2 30	2 15	W	F	F	F	F	F	24
2 20	2 10	2 15	2 10	2 15	2 15	2 10	U1 951	F	U2 40F	F	F	25
2 15	2 15	2 20	2 25	J2 25S	U2 20S	2 00	2 00	U1 951	F	F	F	26
C	C	C	C	C	C	2 00	F	F	F	F	F	27
C	C	C	C	C	C	C	C	C	F	F	F	28
2 30	2 35	2 35	J2 35S	2 30	2 25	U2 10S	F	F	F	F	F	29
2 40	2 45	2 50	U2 55S	2 65	U2 50S	U2 30H	F	F	F	F	F	30
2 15	2 15	2 20	2 25	2 25	2 25	2 15	2 05	U2 10	U2 35	U2 45	U2 65	Mean
2 15	2 10	2 20	2 20	2 25	2 25	2 20	2 00	U2 05	U2 25	U2 40	U2 60	Median
23	25	26	26	26	27	26	23	9	7	7	8	Count

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic (M3000)F2  
Unit .  
Month . September 1959

TABLE 33—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	F	F	F	2 70	F	F	F	2 55	2 20	2 10	2 05	2 05
2	F	2 80	F	2 70 <sup>F</sup>	F	F	F	U2 30 <sup>S</sup>	2 25	2 10	2 10	2 05
3	2 80	2 85	2 75	2 70	2 80	2 95	2 85	2 55	2 20	2 20	2 20	2 20
4	2 60 <sup>I</sup>	F	F	F	3 30 <sup>F</sup>	2 55 <sup>F</sup>	2 75	2 60	2 10	2 25	2 25	2 20
5	F	F	2 80	3 00	3 10	2 70	2 80	2 65	2 40	2 20	2 20	2 20
6	FS	2 90	2 95	3 20	3 30	2 60	2 95	2 55	2 15	2 25	C	C
7	F	F	F	U3 05 <sup>F</sup>	F	F	2 95	2 60	2 20	2 20	2 20	2 10
8	F	F	F	F	F	F	2 95	U2 75 <sup>S</sup>	2 30	2 20	2 20	2 15
9	F	2 95	3 10	3 15	3 15	F	2 95	2 60	2 25	2 25	2 20	2 20
10	U3 00 <sup>R</sup>	3 00	F	F	3 20	2 70 <sup>II</sup>	3 10	2 90	2 50	2 10	2 15	2 25
11	U3 05 <sup>F</sup>	2 85	U3 00 <sup>S</sup>	3 10	3 25	2 85	3 05	2 80	2 40	2 05 <sup>II</sup>	2 30	2 15
12	F	U2 95 <sup>S</sup>	3 10	3 20	3 25	C	C	C	C	2 00	2 20	2 15
13	F	F	3 00	3 15	F	F	2 95	2 80	2 50	2 10	2 15	2 20
14	U3 00 <sup>R</sup>	F	F	F	3 30	2 75	3 00	2 70	2 30	2 05	2 35	2 30
15	2 90	3 10	3 35	3 20	3 15	2 65	3 05	2 75	2 45	2 15	2 10	2 15
16	F	U3 10 <sup>S</sup>	3 05	3 10	3 10 <sup>F</sup>	3 25	3 10	2 85	2 60	2 20	2 20	2 25
17	F	3 25	3 10	3 05	3 20	2 75 <sup>II</sup>	2 95	2 70	2 30	2 20	2 20	2 20
18	3 05	3 30 <sup>F</sup>	F	F	F	F	U3 05 <sup>F</sup>	2 70	2 30	2 25	2 20	2 10
19	3 05	2 85	2 85	3 15	3 40	2 55 <sup>II</sup>	3 10	2 95	2 55	2 00 <sup>II</sup>	2 40	2 25
20	FS	3 05	3 10	3 10	3 15	2 95	3 00	2 85	2 50	C	C	C
21	2 90	3 10	2 80	2 40	2 40	2 80	U2 75 <sup>S</sup>	2 45	2 45	2 30	2 05	2 30
22	U3 10 <sup>S</sup>	U3 15 <sup>S</sup>	3 10	2 90	3 05	3 15	3 05	2 85	2 55	2 30	2 15	2 30
23	2 90	2 80	2 85	2 95	U3 10 <sup>S</sup>	3 20	3 20	2 95	2 60	2 10	2 35	2 30
24	F	F	F	2 90	3 10	U3 05 <sup>S</sup>	2 95	2 80	2 50	2 25	2 30	2 30
25	U3 10 <sup>S</sup>	3 10	3 00	2 80	3 05	3 30	3 05	2 80	2 35	2 40	2 25	2 20
26	FS	FS	U2 80 <sup>S</sup>	U3 10 <sup>S</sup>	3 05	2 95	2 80	2 60	2 35	2 30	2 30	2 20
27	F	FS	U3 00 <sup>R</sup>	U3 00 <sup>S</sup>	3 10	3 40	3 15	J2 75 <sup>R</sup>	C	C	C	C
28	F	3 20	3 20	3 05	3 10	3 00	2 95	U2 70 <sup>S</sup>	2 50	C	C	C
29	F	2 85	U2 95 <sup>S</sup>	3 10	3 25	3 30	U3 15 <sup>S</sup>	2 70	2 40	2 30	2 35	2 30
30	F	3 15	F	3 20	3 20	3 10	3 20	2 95	2 45	2 30	2 30	2 40
Count	12	20	20	25	24	22	27	29	28	27	26	26
Median	3 00	3 00	3 00	3 05	3 15	2 95	3 00	2 70	2 40	2 20	2 20	2 20
Mean	2 95	3 00	3 00	3 00	3 15	2 95	3 00	2 70	2 40	2 20	2 20	2 20

Sweep 1 Mc. to 25 Mc in 27 seconds.

Characteristic (M3000)F<sub>2</sub>  
 Unit  
 Month September 1959

TABLE 33—Contd  
 Ionospheric Data  
 75° E Mea T<sub>1</sub> e

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 00	2 10	2 15	2 20	2 20	2 15	2 05	F	F	F	F	F	1
2 00	2 00	2 05	2 15	2 20	2 20	2 10	2 15	2 30	U2 35S	2 35	2 55	2
2 35	2 35	2 40	2 15	2 10	2 30	2 10	F	F	F	F	F	3
2 10	C	C	C	C	C	U2 00S	U1 90S	2 00	U2 00R	F	F	4
2 20	2 25	2 30	C	C	2 30	U2 10S	F	F	F	F	S	5
C	2 05	2 10	2 15	2 25	U2 35R	J2 15S	1 90	F	F	F	F	6
2 10	2 10	2 10	2 20	2 25	2 25	2 15	F	F	F	F	F	7
2 20	2 20	2 20	2 30	2 35	2 35	2 15	F	F	F	F	F	8
2 15	2 15	2 20	2 30	2 35	2 30	2 10	F	F	F	F	2 95	9
2 15	2 05	2 15	2 25	U2 30S	2 20	2 05	F	F	F	F	F	10
2 10	2 10	2 15	2 10	2 20	2 15	U2 15S	2 10	U2 05F	U2 30R	2 55	2 70	11
2 15	2 15	2 25	2 30	2 30	2 30	U2 10S	F	F	F	F	F	12
2 15	2 15	2 20	2 25	2 35	2 25	2 05	F	F	F	F	F	13
2 05	2 15	2 30	2 10	2 35	2 30	2 15	U2 20R	F	F	F	F	14
2 15	2 25	2 25	2 25	2 25	2 20	2 00	F	F	F	F	F	15
C	2 20	2 25	C	2 10	2 35	2 10	F	F	F	F	2 90	16
2 10	2 15	2 20	2 30	2 30	2 30	U2 05S	1 95F	F	F	F	2 70	17
2 15	2 10	2 10	2 20	2 30	2 30	2 10	2 10	J2 15F	C	J2 55R	2 80	18
2 15	2 10	2 10	2 20	2 30	2 25	2 15	S	FS	2 30	F	2 70	19
C	C	2 20	2 20	2 20	2 10	U2 00S	2 05	U2 35S	2 70	2 90	U2 95S	20
2 25	2 30	2 25	2 25	U2 25S	U2 20S	U2 10S	2 20	U2 50S	2 75	2 95	3 00	21
2 15	2 10	2 15	2 20	U1 15S	2 25	2 10	2 10	U2 20R	U2 20F	U2 60S	FS	22
2 20	2 20	2 15	2 15	2 20	2 20	U2 15S	U1 95R	F	F	F	F	23
2 35	2 35H	2 40	U1 10S	2 20	S	S	F	F	F	F	2 85	24
2 10	2 10	2 10	2 15	2 15	U2 10S	S	F	F	U2 60FS	F	F	25
2 20	2 20	2 20	2 25	2 20	U1 10S	U2 00S	F	F	F	F	F	26
C	C	C	C	C	2 10	U2 00S	F	F	F	F	F	27
C	C	C	C	C	C	C	C	F	F	C	U3 00S	28
2 30	2 30	2 35	2 30	2 30	2 15	U2 00W	F	F	F	F	F	29
2 15	2 50	U2 55R	U1 60S	U2 60S	2 10H	F	F	F	F	F	F	30
25	26	27	25	26	27	26	11	7	8	6	11	Count
2 15	2 15	2 20	2 25	2 30	2 25	2 10	2 10	U2 20	U2 30	U2 60	2 85	Median
2 1	2 20	2 0	2 15	2 30	2 25	2 10	2 05	U2 20	U2 40	U2 65	2 85	Mean

Swap 1 Mc to 25, Mc in 27 seconds.



Characteristic foF2  
 Unit Mc  
 Month October 1959

TABLE 34  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	UI3 4r	F	F	9 1r	F	8 8	9 4	11 6	13 0	12 6	10 8	10 6
2	12 9	11 3	9 0	8 1	7 5	7 7	9 7	UI1 8s	13 0	12 5	11 4	11 7
3	13 2	F	10 6	8 1	6 0	4 2	6 9	10 6	12 5	13 3	11 4	11 0
4	13 2	12 2	11 5	9 7	8 4	7 0	8 6	11 9	13 9	12 7	11 9	12 7
5	13 0	10 7	8 6	7 1	6 0	4 3	7 2	11 7	13 4	14 1	14 5	14 5
6	12 5	12 6	UI1 2r	10 6	10 4	9 4	9 4	12 4	13 2	12 0	11 9	11 9
7	13 5	12 8	9 1	6 5	6 3	U5 8i	7 8	11 5	13 2	13 0	12 5	12 4
8	11 7	UI0 5F	8 6r	1	6 0r	5 9	8 8	11 0	12 7	13 2	11 7	11 7
9	F	F	F	F	U6 5r	U6 4r	F	10 8	12 6	13 1	12 4	11 8
10	UI1 4r	F	1	U7 3r	U7 2i	6 0	7 3	10 5	12 7	13 4	13 2	12 1
11	F	F	9 4	8 2	1	5 8	7 4	10 2	11 6	11 4	10 6	10 4
12	12 7r	11 6	F	8 0	5 8	3 9	7 0	10 0	11 3	10 7	10 4	10 1
13	F	U9 4rs	C	U6 4i	F	1	8 4	UI1 0s	12 6	13 2	11 2 OR	10 6
14	F	UI0 2s	F	7 9	7 3	4 9	U7 3s	10 2	12 0	12 1	11 6	11 3
15	10 8	UI0 4s	9 6	U8 7s	7 5	6 0	8 2	10 9	12 4	UI3 0s	12 3	11 7
16	9 8s	8 7	7 7	6 9	U6 3r	F	8 3	11 1	12 7	UI1 8s	10 8	10 6
17	U9 5s	U9 6s	F	7 6	F	6 5	7 4	10 7	12 5	11 9	10 3	9 8
18	11 0	UI1 7s	11 3	9 6	7 8	8 0	9 5	11 7	13 7	14 6	13 3H	11 7
19	11 7	11 5	10 1	9 1	7 9	6 3	7 8	11 3	13 3	13 8	13 2	12 5
20	F	UI0 6s	9 9	F	5 6	3 0	7 0	10 9	13 0	13 7	13 2	12 2
21	F	10 6	9 8	8 6	F	5 7	7 8	11 0	12 9	13 8	12 9	11 8
22	F	F	F	F	U6 0r	F	F	F	12 8	14 4	14 0H	12 2
23	UI1 6r	11 2	10 1	9 0	8 4	8 1	U9 8s	12 4	13 6	14 6	14 2	12 6
24	12 3	F	12 3	F	7 2	4 8	7 2	10 6	12 5	12 7	11 1	10 5
25	FS	UI1 7s	UI0 2s	8 7	U7 9i	7 6	U9 3s	UI1 7s	13 4	13 8	14 2	13 6
26	F	F	UI0 7s	8 4	6 2	3 8	U7 4s	10 8	12 5	13 4	12 8	12 9
27	UI1 0s	FS	FS	FS	F	U5 1s	U7 8s	10 5	11 0	11 3	10 8	10 2
28	F	1	7 8	U6 4i	F	F	F	11 0	12 6	12 8	11 8	11 5
29	11 0	C	F	6 8	U5 2r	3 8r	7 0	10 6	11 4	11 3	11 0	10 8
30	F	F	F	F	5 4	4 7	7 0	9 6	11 8	13 1	13 2	12 1R
31	F	UI1 1F	FS	F	7 6	7 1	9 3H	10 8	12 5	12 8	12 5	12 5
Mean	11 9	11 0	9 9	8 1	6 9	5 9	8 1	11 0	12 7	12 9	10 2	11 7
Median	11 7	11 1	9 9	8 1	6 8	5 9	7 8	11 0	12 7	13 0	12 0	11 7
Count	19	19	19	23	24	27	28	30	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic 10F2  
Unit Mc  
Month October 1959

TABLE 34  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
10 7	11 4	C	12 9	13 0	U12 8R	U12 8R	11 5	U11 8R	11 7	U12 0S	U12 2S	1
12 7	13 9	14 5	14 9	15 1	14 4H	HS	HS	12 0H	U12 1R	12 4	U12 9R	2
11 3	11 2	11 8	13 0	13 6	U13 0S	12 2	U12 2S	13 2	U13 9S	14 4	13 6	3
13 2	12 9	12 4	11 7	11 7	U11 6S	11 5	9 9	U9 7S	11 3	U11 7S	10 5	4
14 3	13 7	13 4	13 9	14 1	13 9	13 1	11 8	11 3	11 5	11 7	11 6	5
12 6	13 6	14 2	14 2	14 8H	14 8H	13 6H	12 7	U13 9R	14 5	11 0	13 0	6
12 0	12 0	12 4	12 0	U11 8S	11 1	10 2	U8 7I	F	F	F	F	7
12 0	12 6	12 9	13 0	13 1	C	10 6	F	F	F	F	F	8
11 4	12 2	13 0	13 8	13 8	13 3	U11 8S	F	F	F	C	F	9
11 5	11 9	12 6	12 7	12 4	U11 7S	10 5	F	F	F	F	F	10
10 5	11 4	12 4	12 6	12 8	12 1	U11 2S	F	F	F	F	F	11
10 4	11 0	11 6	12 5	13 0	U13 2S	12 7	U10 6I	F	F	F	F	12
C	11 4	12 2	12 6	13 1	U13 8S	13 0	U10 8I	F	F	F	F	13
11 4	12 0	12 6	13 0	13 0	13 0	12 2	U11 1I	F	12 8	FS	12 6	14
12 1	12 2	12 4	12 8	13 0	U12 6S	U11 1S	F	F	C	F	F	15
10 8	11 4	12 1	12 8	U12 7K	12 8	11 7	U8 6I	F	F	F	U10 0S	16
10 3	11 3	12 3	12 7	13 1	12 8	12 4	U10 1I	U10 3S	U10 5F	F	F	17
11 9	11 8	12 5	13 1	13 6	14 3	13 8	12 7	12 3	12 2	12 3	12 2	18
12 8	12 8	12 9	12 7	12 5	11 3	10 5	F	F	F	U8 2R	F	19
11 8	12 1	13 0	13 5	C	12 8	11 3	F	F	F	F	F	20
11 9	12 4	13 0	13 7	13 9	13 7	11 5	F	F	F	F	F	21
12 2	12 8	13 4	13 9	14 2	13 1	11 4H	F	F	FS	F	12 8	22
12 0	12 2	12 5	13 1	13 1	13 6	12 8	U11 5I	F	U11 7S	F	F	23
10 6	10 9	11 8	12 2	12 5	12 0	11 4	U9 8I	U9 5F	F	F	F	24
13 1	12 7	12 8	12 8	12 6	12 2	10 6	10 1	10 2	10 8S	U10 4I	F	25
12 0	12 7	13 2	13 2	13 2	112 0S	10 2H	8 6	F	F	F	F	26
11 3	11 7	12 0	12 8	13 2S	11 8S	10 0	F	F	F	F	11 1S	27
11 7	12 4	13 0	13 3	13 8	13 3	11 3H	F	F	F	F	F	28
10 7	11 3	12 0	12 0	11 6S	10 6S	9 4E	F	F	F	F	F	29
11 7	12 0	12 2	12 4	12 6	U12 8S	11 5S	9 7	F	F	F	F	30
13 1	11 0	14 1	14 3	14 0	U13 0S	11 5	U8 4I	F	F	F	U10 8R	31
11 8	12 2	12 7	13 0	13 2	12 8	11 6	U10 5	11 4	12 0	11 9	12 0	Mean
11 8	12 2	12 6	12 9	13 1	12 8	11 5	U10 5	11 6	11 7	12 0	12 2	Median
30	31	30	31	30	30	30	18	10	11	9	12	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
 Unit Mc  
 Month October 1959

TABLE 34—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	F	F	9 1	9 0	8 9	8 5	10 4	12 4	UI3 2R	11 4	10 7	10 5
2	UI3 0R	9 9	8 4	7 7	7 6	8 5	10 7	12 7	12 9	11 7	11 5	12 1
3	UI3 2R	12 4	F	6 9	5 1	4 7	9 0	11 5	13 0	12 5	11 1	10 9
4	12 8	12 0	10 5	9 2	7 4	7 2	10 1	12 9	13 2	12 3	11 8	13 0
5	12 0	9 3	7 9	6 5	5 2	4 6	9 5	12 8	13 7	14 4	11 5	14 3
6	12 6	11 6	10 01	10 4	9 9	8 4	10 8	13 2	12 6	11 8	11 9	12 2
7	13 7	10 4	7 9	U6 3R	6 4	5 6	10 0	12 4	13 2	12 8	12 5	12 4
8	11 2	9 6R	U7 61	6 3R	5 6	6 8	10 2	11 7	13 1	12 7	11 7	11 9
9	F	F	8 1	F	F	U6 4R	9 8	11 7	13 2	12 8	12 1	11 4
10	10 6R	F	F	F	6 9	5 7	9 1	11 7	13 2	13 6	12 8	11 8
11	11 6	1	U8 4S	F	6 7	5 5	9 0	10 9	11 9	11 0	10 4	10 4
12	J12 2R	F	8 6	7 0	4 6	4 6	8 3	10 7	11 2	10 6	10 2	10 0
13	UI1 0S	C	F	F	F	F	UI0 0S	UI2 0S	12 8	13 2	10 8	10 4
14	UI1 2R	9 8	F	7 7	6 4	4 8	U9 4S	11 2	12 5	11 7	11 4	11 0
15	10 5S	9 9	U9 0S	8 1	6 7	6 4	UI0 0S	UI1 6S	12 9	12 8	12 0	12 0
16	F	8 6	7 5	F	6 2	U7 2R	9 9	12 3	12 8	11 2	10 7	10 7
17	UI0 1S	U9 0R	U8 2S	7 6	7 4	5 4	9 3	11 6	12 8	10 8	9 8	10 0
18	11 4	UI1 7S	10 4	9 0	7 7	7 8	10 8	12 5	14 6	13 9	11 8	11 7
19	11 8	10 9	9 6	8 6	7 1	5 9	9 7	12 6	13 6	13 6	12 8	1 7
20	11 6	10 7	8 4	6 8	J1 1S	4 6	9 6	12 0	13 5	13 5	12 6	11 9
21	1'	F	9 2	F	6 7	5 7	U9 7S	12 1	13 5	13 5	12 1	11 8
22	UI0 6R	F	F	F	1	F	FS	UI2 6S	UI3 6S	14 2II	13 3II	12 3
23	11 2	11 1	9 2	8 6	8 3	8 3	11 2	13 4	14 1	14 6	12 9	12 3
24	J12 2R	F	11 0	8 6	5 8	5 0	9 2	11 8	12 9	11 8	10 9	10 5
25	11 8	11 1	9 0	8 2	7 6	7 9	10 3	12 7	13 7	14 2	13 8	13 2
26	UI1 8S	11 6	U9 6S	U7 2S	5 0	4 9	9 4	12 0	13 0	13 2	12 2	12 0
27	UI0 6S	9 1	FS	F	F	S	10 0S	10 8	11 3	11 1	10 7	11 3
28	10 9R	9 2	6 8	FS	F	F	9 2S	12 0	12 8	12 1	11 8	1 5
29	UI0 5R	F	7 6	6 4	F	4 5	8 9	11 0	11 5	11 3	10 9	10 7
30	F	F	F	F	5 4	5 2	8 5	10 5	12 7	13 6	13 0	11 6
31	F	F	F	FS	7 2	8 1	10 0II	11 4	12 7	12 5	12 6	12 9
Count	25	19	23	20	25	27	30	31	31	31	31	31
Mean	11 6	10 4	8 6	7 7	6 7	5 7	9 8	12 0	13 0	12 7	11 8	11 8
Mean	11 6	10 4	8 8	7 8	6 6	6 2	9 8	12 0	13 0	12 6	11 8	11 7

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month October 1959

TABLE 34—Contd  
Ionospheric Data  
75° 0' E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
10 9	11 9	12 8	12 9	12 9	12 9	U12 2S	11 7	12 3	U11 6S	12 2	12 7	1
13 3	14 0	14 8	14 9	14 6II	13 9II	SH	FH	12 5	12 4	12 6	13 2	2
11 2	11 4	12 5	13 4	13 4	12 6	U11 8S	12 8	13 5	14 3	U14 4S	13 5	3
13 1	12 8	12 4	11 8	11 7	U11 6S	10 6	10 2	U9 6S	11 7	12 3	12 7	4
13 9	13 6	13 5	14 0	14 1	U13 8S	12 5	11 5	11 3	11 6	11 3	11 7	5
13 1	13 9	14 2	11 2II	14 8II	14 1	U13 2SII	13 1	14 7	14 6	13 4	13 4	6
11 9	12 4	12 2	U11 8S	11 4	10 6	9 5	F	F	F	F	F	7
12 3	12 8	13 2	13 2	12 9	12 0	F	F	F	F	F	F	8
11 8	12 6	13 2	14 2	13 6	12 9	F	F	F	C	C	U11 11	9
11 8	12 0	12 6	12 5	11 7	11 4	U9 4F	F	F	F	F	F	10
10 8	11 6	12 6	12 8	12 8	S	U10 4F	F	F	F	F	12 6	11
10 7	11 2	11 9	12 8	U13 2S	U13 0S	U11 4S	F	F	F	F	J12 2RS	12
10 9	11 8	12 4	12 8	13 5	U13 8S	U11 6S	F	F	F	F	J12 3R	13
11 9	12 2	12 6	13 0	13 0	12 7	11 5	F	FS	FS	S	U11 2S	14
12 1	12 4	12 6	12 8	J13 0S	J12 0S	FS	F	F	F	F	10 3F	15
10 9	U11 8S	12 5	12 9	13 0	12 4	10 5	F	F	F	F	U9 7S	16
10 7	11 7	12 8	12 5	U12 9S	12 9	FS	U9 5S	10 8	F	F	F	17
11 8	12 0	12 8	13 6	14 0	14 2	12 7	12 5	12 3	12 1	12 3	12 5	18
12 8	12 9	12 8	12 7	U11 8S	11 0	U9 5S	F	F	F	F	F	19
12 1	12 7	13 1	13 5	13 3	12 3	F	F	F	F	F	F	20
12 0	12 8	13 4	13 9	14 0	12 9	U10 6W	F	F	F	F	F	21
12 6	13 0	13 8	14 3	13 8	13 6	U10 4SH	F	F	J12 3R	12 3	12 4	22
12 0	12 4	12 7	13 4	13 6	13 4	J12 0S	11 3F	F	F	F	F	23
10 7	11 2	11 8	12 3	J12 2S	11 8	10 1	F	F	F	F	F	24
12 8	12 8	12 9	12 7	12 4	10 8	10 2	J10 3S	J9 8R	10 1F	U10 F	F	25
12 4	12 9	13 0	13 4	12 7	11 4	F	F	F	F	F	S	26
11 3	11 8	12 6	13 1	12 8	11 4	8 4F	F	F	F	11 0	C	27
12 0	12 8	13 2	13 4	13 8	12 2R	FH	F	F	F	F	F	28
11 0	11 6	12 0	11 8S	11 1S	10 0S	8 6	F	F	F	F	F	29
11 8	12 3	12 3	12 6	U12 8S	12 4	10 7S	F	F	F	F	F	30
13 7	14 0	14 2	14 1	14 0	J12 3S	U10 3W	F	F	F	11 0	U11 2S	31
31	31	31	31	31	30	23	9	9	9	11	16	Co nt
11 9	12 4	12 8	13 0	13 0	12 4	10 6	11 5	12 3	12 1	12 3	12 4	Median
11 9	12 4	12 9	13 1	13 1	12 4	10 8	11 1	11 9	12 3	12 1	12 0	Mean

Step 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month October 1959

TABLE 35  
 Ionospheric Data  
 75°0' E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Daté	00	01	02	03	04	05	06	07	08	09	10	11
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	LH	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	LH	L	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month October 1959

TABLE 35—cont'd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10.2° N  
 Longitude 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	C	L	L								1
L	L	L	L	L								2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
												6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
C	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
												16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	C							20
												21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
												26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
L	L	L	L	L	L							31
												Mean
												Median
												Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
Unit Mc  
Month October 1959

TABLE 35—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9							L	L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18							L	L	LH	L	L	L
19								L	L	L	L	L
20								L	L	L	LH	L
21								L	L	L	L	L
22							L	L	L	L	L	L
23							A	L	L	L	L	L
24							L	L	L	L	L	L
25								L	L	L	L	L
26							L	L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
31							L	L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month October 1959

TABLE 35—Contd  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
L	L	L	L	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								31
												Mean
												Median
												Count

Sweep 1 Mc to 25 Mc in 27 seconds



Characteristic foE  
 Unit Mc  
 Month October 1959

TABLE 36  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								3 0	A	A	A	A
2								A	A	A	A	4
3								U2 8R	A	A	A	A
4								A	A	A	A	A
5								2 8	A	A	A	A
6								A	A	A	A	A
7								3 3	A	A	A	A
8								A	A	A	A	A
9								A	A	A	A	A
10								A	A	B	A	A
11								A	A	A	A	A
12								A	A	A	A	A
13							2 0	2 8H	A	A	A	A
14								A	A	A	A	A
15								A	A	A	A	A
16								U3 2A	A	A	A	A
17								2 8	A	A	A	A
18								A	A	A	A	A
19								2 9H	A	A	A	A
20								2 9H	A	A	A	A
21								2 8	A	A	A	A
22								2 5	A	A	A	A
23								A	A	A	A	A
24								2 9	A	A	A	A
25								2 8H	A	A	A	A
26								2 8	A	A	A	A
27								A	A	A	A	A
28								A	A	A	A	A
29								A	A	A	A	A
30								A	3 3H	A	A	A
31								A	A	A	A	A
Mean								2 9				
Median								2 8				
Count							1	14	1			1

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
 Unit Mc  
 Month October 1959

TABLE 36—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	C	A	A	A							1
A	A	A	A	A	A							2
A	A	A	A	A	A							3
A	A	A	A	A	A							4
A	A	A	A	A	A							5
												6
A	A	A	A	A	A							7
A	A	A	A	A	A		C					8
A	A	A	A	A	A		A					9
A	A	A	A	A	A		A					10
												11
A	A	A	A	A	A		A					12
A	A	A	A	A	A		A					13
C	A	A	A	A	A		A					14
A	A	A	A	A	A		A					15
												16
A	A	A	A	A	A		A					17
A	A	A	A	A	A		A					18
A	A	A	A	A	A		A					19
A	A	A	A	A	A		A					20
			3 6									21
A	A	A	A	A	A		A					22
A	A	A	A	A	A		A					23
A	A	A	A	A	A		A					24
A	A	A	A	A	A		A					25
												26
A	A	A	A	A	A		A					27
A	A	A	A	A	A		A					28
A	A	A	A	A	A		A					29
A	A	A	A	A	A		A					30
A	A	A	A	A	A		A					31
			U <sub>3</sub> 3A									Mean
												Median
		1	4	2								Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month October 1959

TABLE 36--Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								A	A	A	A	A
2							B	A	A	A	A	A
3							2 4	A	A	A	A	A
4								A	A	A	A	A
5								A	A	A	A	A
6							A	A	A	A	A	A
7							2 4	A	A	A	A	A
8								A	A	A	A	A
9							2 3	A	A	A	A	A
10								A	A	B	A	A
11								A	A	A	A	A
12								A	A	A	A	A
13							2 4	U3 0A	A	A	A	A
14							2 5H	A	A	A	A	A
15							2 5	A	A	A	A	A
16							2 4	A	A	A	A	A
17							U2 4R	A	A	A	A	A
18							2 5	3 2H	A	A	A	A
19							2 5H	3 1	A	A	A	A
20							2 4	A	A	A	A	A
21								A	A	A	A	A
22							2 1	A	A	A	A	A
23							2 2	A	A	A	A	A
24							2 5	A	A	A	A	A
25							2 3	3 1	A	3 8	A	A
26							R	A	A	A	A	A
27							F	A	A	A	A	A
28							2 4R	A	B	A	A	A
29							2 7	A	A	A	A	A
30							R	3 1	3 4H	A	A	A
31							U2 3R	A	A	A	A	A
Mean							2 4	3 1				
Median							2 4	3 1				
Count							18	5	1	1		

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic foE  
 Unit Mc  
 Month October 1959

TABLE 36—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude : 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	0	2030	2130	2230	2330	Date
A	A	A	A	A								1
A	A	B	A	A								2
A	A	A	A	A								3
A	A	A	A	A								4
A	A	A	A	A								5
A	A	A	A									6
A	A	A	A	A								7
A	A	A	A	A								8
A	A	A	A	A								9
A	A	A	A	A								10
A	A	A	A	A								11
A	A	A	A	A								12
A	A	A	A	A								13
A	A	A	A	A								14
A	A	A	A	A								15
A	A	A	A	A								16
A	A	A	A	A								17
A	A	U3 8R	3 3	R								18
A	A	A	A	A								19
A	A	3 9	A	A								20
A	A	A	A	A								21
A	A	A	A	A								22
A	A	A	3 3	A								23
A	A	A	A	A								24
A	A	A	A	A								25
A	A	A	A	A								26
A	A	A	A	A								27
A	A	A	A	A								28
A	A	A	A	A								29
A	A	A	A	A								30
A	A	U3 3R	A	A								31
												Mean
												Med an
		3	2									Conun

Sweep 1 Mc to 25 Mc in 27 seconds

Unit Mc  
Month October 1959

TABLE 37  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								8 0	12 2	12 2	14 0	13 4
2					3 8			7 6	11 2	12 0	13 2	G
3								G	12 0	12 4	12 6	13 6
4							3 8	8 4	11 0	12 0	11 8	12 0
5								G	12 0	12 0	14 0	13 8
6	5 0					6 6		8 8	11 0	12 0	13 6	12 8
7								7 0	11 6	11 8	14 0	13 0
8							3 5	7 0	10 5	11 6	12 4	13 6
9								7 4	10 2	12 2	13 2	12 8
10						6 0		8 0	10 2	11 8	12 6	12 7
11								8 8	12 0	12 0	13 6	14 0
12								8 2	10 6	12 0	12 2	13 0
13								G	10 4	12 0	13 6	13 6
14								7 0	11 0	12 2	13 2	13 4
15			5 0	S	3 0			8 8	12 1	13 0	14 0	14 2
16								8 3	12 8	12 8	13 3	12 9
17								7 7	12 1	13 0	13 6	13 8
18	4 0							7 1	10 2	11 6	13 7	13 6
19								G	9 4	12 4	12 8	13 0
20								G	12 3	12 8	14 4	14 6
21	7 0				4 8			G	10 7	12 4	12 7	13 8
22								4 6	10 0	11 2	12 2	12 8
23	3 9				2 6	09 08		11 2	7 6	10 6	11 7	12 7
24								5 8	11 3	11 6	12 4	12 6
25	4 9							G	10 8	11 2	12 3	13 2
26								S	8 4	11 6	14 4	12 8
27							5 0	9 0	11 0	11 2	12 8	13 2
28								7 0S	10 0	11 8	13 0	13 4
29								9 0	11 0	11 6	13 0	12 4
30								9 0	G	10 0	12 6	12 0
31						2 6		10 4	11 3	11 8	12 3	12 4
Mean	5 0							8 0	10 9	11 9	13 1	13 2
Median	4 9							7 5	11 0	12 0	13 0	13 0
Count	5		1		4	4	4	30	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 Seconds

Characteristic foEs  
 Unit - Mc  
 Month October 1959

TABLE 37  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
13 2	11 6	G	12 0	11 0	U 90s							1
12 0	8 0	7 4	6 0	10 0						6 0	3 1	2
13 0	13 0	9 2	9 4	10 0	U 8 0s							3
13 0	12 0	12 8	10 0	11 0	8 6			7 0	6 0			4
14 2	13 0	13 0	12 0	10 6	8 0				3 4	5 8		5
12 2	12 4	10 8	8 6	10 0	8 6					3 8	6 0	6
12 6	13 4	12 4	11 4	11 4	8 0							7
12 8	12 2	12 0	11 2	11 0	C						7 4	8
13 1	12 0	9 7	10 8	11 4	8 4			1 9	6 0	C	U 8 0s	9
13 2	12 4	12 8	12 4	10 8	8 8							10
14 0	13 0	13 0	12 0	10 0	7 8							11
13 6	13 0	11 6	11 0	10 0	7 0							12
C	13 0	12 0	11 4	9 4	S					4 4		13
14 0	13 0	12 0	11 0	8 6	S			2 2				14
14 6	14 4	11 9	10 8	U 10 0s	4 6				7 0			15
13 3	12 9	12 8	9 5	U 10 4s	S				1 8			16
13 4	12 5	12 4	10 7	C	U 8 2s			2 1	3 8		U 6 2s	17
14 1	13 4	11 8	11 6	G	U 6 8s							18
13 4	12 7	12 2	12 2	10 4	U 6 0s							19
14 2	12 8	10 8	7 8	C	S					U 4 2s	8 0	20
13 8	12 8	12 2	9 7	8 9	4 8							21
12 8	12 2	11 4	9 3	9 0	U 6 0s					3 6		22
12 6	12 2	11 2	8 4	9 4	S			2 0	3 8			23
12 7	13 4	11 6	11 0	9 0	S					4 3		24
12 8	12 8	12 6	11 2	U 9 2s	U 5 7s				2 6			25
12 8	11 5	11 6	11 4	9 4	S							26
12 6	13 0	12 0	11 0	9 0	7 0s							27
12 0	12 0	10 0	10 0	9 0	7 0s							28
12 8	12 8	12 0	10 2	9 0s	7 0s					3 0		29
11 0	11 0	11 0	9 2	9 0	S				3 7			30
11 8	11 9	10 4	9 6	U 9 3s	4 6					8 0		31
13 0	12 5	11 5	10 4	9 9	7 1			3 0	4 2	4 8	6 4	Mean
13 0	12 8	11 9	10 8	10 0	7 0			2 1	3 8	4 3	7 1	Median
30	31	30	31	29	21			5	9	9	6	Count

Sweep 1 Mc to 25 Mc in 27 Seconds

Characteristic foEs  
Unit Mc  
Month October 1959

TABLE 37—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								11 0	12 6	14 6	14 0	14 0
2					2 7		3 7	10 0	12 0	12 6	13 0	15 0
3							G	8 4	11 8	12 6	13 8	13 0
4								10 0	11 4	12 6	12 4	12 4
5								11 0	11 4	13 0	14 0	13 8
6					7 0		8 0	10 6	11 8	11 8	13 6	13 4
7							G	10 4	12 0	14 0	13 0	13 6
8								9 8	12 0	12 4	12 0	13 0
9							G	10 4	11 8	13 4	12 8	13 5
10								8 8	11 4	12 6	12 6	13 2
11								10 6	12 0	14 0	13 4	14 0
12								10 6	11 0	13 0	13 0	13 4
13		C					G	7 0	11 4	13 0	13 2	14 0
14							G	10 2	12 2	13 0	13 0	13 0
15		5 6	3 6				G	U10 0s	12 8	17 2	16 0	13 0
16							G	10 8	13 6	12 8	14 2	13 9
17							2 8	10 7	12 2	13 4	13 7	13 2
18							G	G	11 6	12 7	14 8	13 7
19							G	7 0	11 3	12 6	12 7	12 6
20							G	9 8	12 4	13 7	13 8	14 5
21								8 4	11 6	13 7	13 2	13 8
22							G	6 8	11 3	12 0	12 4	12 8
23	5 6			2 7	1 9	U7 0s	8 2	5 8	9 4	11 6	12 8	12 3
24							G	9 0	11 3	12 6	12 8	12 8
25	4 6						G	7 6	10 8	G	13 4	13 4
26							G	7 0	11 4	12 1	13 6	13 8
27							7 0s	10 0s	12 0	13 0	12 6	13 0
28							8 2	9 0	11 4	13 0	13 0	13 0
29							6 0s	10 0s	12 0	12 8	12 6	12 2
30							G	6 0s	3 4	13 0	13 0	12 8
31							G	11 0	11 4	13 3	11 8	12 3
Mean							6 3	9 3	11 4	13 1	13 2	13 3
Median							G	10 0	11 6	13 0	13 0	13 2
Count	2	1	1	1	4	1	23	31	31	31	31	31

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic foEs  
Unit - Mc  
Month October 1959

TABLE 37--Contd  
Ionospheric Data  
75° E Mc n Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
13 2	17 0	12 0	11 0	10 0								1
11 4	8 2	G	8 8	9 0					U4 8s	3 2		2
13 2	12 0	8 0	9 8	9 6								3
12 8	12 4	12 0	9 0	10 0	5 0			7 0	5 0			4
13 0	12 4	11 8	12 0	9 8					4 6	7 0	5 8	5
9 8	9 0	9 8	6 6	8 8						7 8		6
14 1	14 1	12 0	11 1	8 8								7
12 8	12 2	11 2	12 0	9 8						8 0		8
12 2	10 8	10 8	11 0	11 0					G	C		9
13 8	12 2	12 0	11 2	9 6								10
13 6	13 2	11 0	10 1	9 2								11
13 2	12 4	10 0	9 4	U9 6s	S							12
13 2	12 0	12 0	10 0	8 0					3 6	U8 0s		13
13 4	13 0	10 4	11 0	U6 0s				3 2	S	3 8		14
13 0	13 2	11 4	10 0	11 0								15
13 3	12 8	11 2	U9 8s	8 8								16
13 4	13 8	11 8	10 8	U8 6s				3 4			4 4	17
13 1	13 5	8 8	6 9	G								18
12 6	13 6	12 3	10 5	8 7								19
13 8	12 2	6 6	10 8	S						U6 1s	U5 1s	20
12 9	12 1	12 2	9 7	7 6								21
13 0	10 8	7 8	9 3	8 4								22
12 0	11 6	9 8	8 6	8 9	S			3 7	5 6			23
13 4	12 6	11 2	10 0	8 6							3 7	24
12 6	12 5	11 0	11 4	8 1					2 3			25
10 3	11 3	11 0	10 0	8 5					1 9			26
12 1	12 0	11 0	10 0s	7 6s							G	27
12 4	11 8	11 0	10 4	9 0						7 0		28
13 0	12 6	11 2	9 0	9 0s					2 0			29
11 0	11 0	10 0	9 0	S								30
12 3	11 5	G	11 3	8 8					3 5	3 1		31
12 7	12 3	10 7	10 0	8 9					3 7	6 0		Mean
13 0	12 2	11 0	10 0	8 8					3 6	7 0		Median
34	31	31	31	29	1			4	9	9	4	Count

Sweep 1 Mc. to 25 Mc in 27 seconds



Characteristic fbEs  
Unit Mc  
Month October 1959

TABLE 38  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Dat	00	01	02	03	04	05	06	07	08	09	10	11
1								3 0	3 4	4 0	4 1	4 2
2					2 2			3 0	3 4	4 0	4 0	
3									3 4	3 8	4 0	4 2
4							2 4	2 9	3 3	3 7	4 0	4 2
5									3 4	3 9	4 1	4 1
6	1 8					2 2		3 0	3 5	3 8	1 0	4 2
7								2 8	3 5	4 0	4 1	1 1
8							2 4	3 0	3 4	4 0	4 0	4 1
9								3 0	3 4	3 7	4 0	4 0
10						1 8		3 0	3 4		4 2	4 1
11								2 8	3 4	3 8	4 0	4 2
12								2 8	3 3	3 8	4 0	4 0
13			C						3 4	3 8	4 0	4 2
14								3 0	3 4	3 8	4 0	4 2
15			1 9					2 8	3 3	3 8	4 0	4 2
16								2 8	3 4	3 7	1 0	4 1
17								3 0	3 4	3 8	4 1	1 2
18	2 1							2 9	3 7	4 0	4 0	4 1
19									3 4	3 9	4 2	4 1
20									3 5	3 8	4 2	4 2
21	1 8								3 4	3 9	1 1	4 1
22								3 0	3 6	4 0	4 1	4 3
23	2 3				1 3	2 7		5 0	4 4	3 8	4 0	4 0
24									3 4	3 8	4 1	4 1
25	2 0								3 4	3 8	4 0	4 0
26									3 2	3 8	3 9	4 1
27							2 2	2 8	3 4	3 8	4 0	4 1
28								2 8	3 4	4 0	4 0	4 1
29								2 8	3 4	3 8	4 0	4 2
30								2 8		3 8	4 0	4 0
31						1 6		2 8	3 4	3 9	4 0	4 0
Mean	2 0							3 0	3 4	3 8	4 0	4 1
Median	2 0							2 9	3 4	3 8	4 0	4 1
Count	5		1		2	4	3	22	30	30	31	30

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fbE,  
Unit Mc  
Month October 1959

TABLE 38  
Ionospheric Data  
75° E Mean Time

Latitude 10°2' N  
Longitude 77°5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4.2	4.1	C	3.6	3.1	2.6							1
4.2	4.2	1.0	3.8	3.1	2.8					2.0	1.8	2
4.2	4.0	3.8	3.6	3.0	2.3							3
4.2	4.0	3.7	3.5	3.1	2.6			2.2	2.0			4
4.3	1.0	3.9	3.6	3.1	2.5				1.9	1.8		5
4.1	1.5	1.0	3.7	3.2	2.9						2.2	6
4.2	4.0	3.8	3.6	3.1	2.4							7
4.2	1.2	3.8	3.5	3.0	C						2.0	8
4.2	1.0	3.8	3.8	3.1	2.5			1.4	C		2.0	9
4.1	4.2	3.6	3.6	3.0	2.1							10
4.0	4.1	3.8	3.5	3.0								11
4.0	1.0	3.8	3.6	3.2	2.1							12
C	1.0	4.0	3.5	3.1	2.5					2.0		13
4.2	1.2	3.8	3.6	3.1	2.1				2.2			14
4.2	1.0	3.8	3.6	3.0	2.3				C			15
4.2	1.0	3.9	3.1	3.0	2.1							16
4.2	1.0	3.9	3.5	3.4	2.1			1.8	1.6		1.9	17
4.2	4.1	3.9	3.5	3.0								18
4.1	1.0	3.8	3.5	3.0	2.3							19
4.2	4.1	4.0	3.5	C	2.1					1.9	2.5	20
4.1	4.1	3.8	3.5	3.0	2.3							21
4.2	4.2	3.9	3.5	3.0	2.3							22
4.1	4.1	3.8	3.5	3.0	2.6			1.7	1.7			23
4.2	4.0	3.8	3.5	3.0	2.4					2.0		24
4.1	4.0	3.8	3.5	3.0					1.2			25
4.1	3.9	3.7	3.5	3.0	2.2							26
4.1	4.0	3.7	3.3	3.0	2.2							27
4.2	4.0	3.8	3.6	3.0	2.2							28
4.2	4.0	4.0	3.5	3.0	2.2							29
4.1	4.0	3.7	3.6	3.0								30
4.2	4.0	3.6	3.6	3.0	2.3					2.1		31
4.2	4.1	3.8	3.6	3.1	2.4				1.7	2.0	2.1	Mean
4.2	4.0	3.8	3.5	3.0	2.4				1.7	2.0	2.1	Median
30	31	30	30	29	26			3	7	6	6	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fbEs  
 Unit - Mc  
 Month October 1959

TABLE 38—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								3 1	3 6	4 1	4 2	4 2
2					1 6		3 0	3 2	3 6	4 0	4 1	6 9
3								3 1	3 5	4 0	4 1	4 2
4								3 1	3 5	3 9	4 1	4 0
5								3 2	3 6	4 1	4 2	4 2
6					2 1		2 6	3 2	3 6	4 0	4 2	4 3
7								3 2	3 7	3 9	4 1	4 3
8								3 1	3 6	4 0	4 0	4 2
9								3 1	3 6	3 8	4 0	4 0
10								3 1	3 5	4 3	4 3	4 2
11								3 1	3 6	3 9	4 0	4 0
12								3 1	3 6	3 8	4 2	4 2
13		G						3 2	3 6	4 0	4 2	4 2
14								3 2	3 6	3 9	4 2	4 2
15		2 6	1 7					3 2	3 6	3 8	4 0	4 2
16								3 1	3 5	3 9	4 2	4 2
17							2 7	3 2	3 6	4 0	4 2	4 2
18									3 6	4 0	4 2	4 3
19								3 2	3 6	4 0	4 1	4 2
20								3 2	3 7	4 2	4 3	4 3
21	1 7							3 1	3 6	3 9	4 0	4 2
22								3 2	3 6	3 9	4 2	4 2
23	2 3			2 0	2 4	2 7	7 6	3 6	3 8	3 8	4 0	4 2
24								3 2	3 6	3 9	4 1	4 2
25	2 0							3 2	3 6		4 1	4 1
26								3 1	3 6	3 8	4 0	4 0
27								3 2	3 6	3 9	4 0	4 0
28							2 4	3 2		4 0	4 1	4 2
29								3 1	3 6	4 0	4 0	4 0
30								3 1		3 8	4 0	4 0
31								3 1	3 5	4 0	4 0	4 1
Mean							3 7	3 2	3 6	4 0	4 1	4 2
Median							2 7	3 2	3 6	4 0	4 1	4 2
Count	3	1	1	1	3	1	5	30	29	30	31	31

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic f<sub>o</sub>E,  
Unit · Mc.  
Month · October 1959

TABLE 38—Contd  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 2	4 2	3 9	3 4	3 0								1
4 4	4 0		3 4	2 8					1 9	1 8		2
4 0	4 0	3 8	3 2	2 7								3
4 2	4 0	3 6	3 2	3 2	2 1			2 4	2 0			4
4 2	1 0	3 8	3 5	2 9					2 0	2 5	2 2	5
4 2	4 1	3 7	3 4	3 0						2 3		6
4 2	4 1	3 8	3 4	2 8								7
4 2	3 9	3 6	3 3	2 8						2 1		8
4 0	4 0	3 8	3 4	2 8					C	C		9
4 1	1 0	3 6	3 2	2 7								10
4 0	4 0	3 6	3 4	3 0								11
4 0	3 8	3 7	3 4	2 8	2 2							12
4 0	1 0	3 8	3 2	2 8					1 8	2 8		13
4 2	1 0	3 7	3 4	2 7				1 7	2 6			14
4 2	1 0	3 7	3 3	2 7								15
4 2	4 0	3 7	3 2	2 8								16
4 1	1 0	3 6	3 3	2 8				1 8			2 0	17
4 2	4 0	3 8	3 5									18
4 1	4 0	3 6	3 3	2 7								19
4 2	1 0		3 3	2 7						2 0	2 0	20
4 1	4 0	3 6	3 0	2 7								21
4 2	1 0	3 6	3 2	2 7								22
4 1	1 0	3 6	3 3	2 8				2 0	1 5			23
4 1	3 8	3 7	3 2	2 8	2 3						2 0	24
4 0	1 0	3 7	3 2	2 7					1 5			25
4 0	3 8	3 6	3 2	2 6								26
4 1	3 8	3 6	3 2	2 8							C	27
4 0	3 9	3 8	3 3	2 7						2 3		28
4 2	4 0	3 6	3 2	2 7					1 7			29
4 0	3 8	3 6	3 2	2 6								30
4 0	3 8		3 3	2 6					1 7			31
4 1	1 0	3 7	3 3	2 8					1 8	2 3		Mean
4 1	4 0	3 7	3 3	2 8					1 8	2 3		Median
31	31	28	31	30	3			4	9	7	4	Count

Sweep 1 Mc. to 25 Mc in 27 seconds.

Characteristic f min  
Unit Mc  
Month October 1959

TABLE 39  
Ionospheric Data  
75.0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	1 6	1 9	2 2	1 6	1 8	1 8	2 2	1 8	2 2	2 4	2 6	2 6
2	1 8	2 0	1 6	1 7	1 1	2 3	2 2	1 6	2 1	2 5	2 6	3 5
3	2 0	1 5	1 4	1 3	1 1	1 6	2 0	1 6	2 0	2 2	2 4	2 5
4	2 0	1 5	1 6	1 4	1 3	1 3	1 8	2 0	2 2	2 3	2 5	2 5
5	2 0	1 5	1 5	1 6	1 4	1 3	2 0	2 0	2 1	2 1	2 6	2 8
6	1 3	1 5	1 8	1 5	1 8	1 4	2 3	1 9	2 3	2 4	2 5	3 0
7	1 3	1 4	1 3	1 5	1 4	1 5	2 6	1 9	2 2	2 6	2 5	2 7
8	1 5	1 6	1 6	1 6	1 5	1 5	2 2	1 7	2 1	2 4	2 7	2 9
9	2 4	2 2	1 6	1 3	1 2	1 4	2 2	1 6	1 9	2 1	2 3	2 6
10	1 5	1 6	1 5	1 6	1 6	1 6	2 5	2 2	2 2	4 0	3 2	3 0
11	1 3	1 5	1 3	1 5	1 7	1 6	2 5	1 9	2 3	2 4	2 6	2 8
12	1 6	1 7	1 6	1 6	1 6	1 6	2 0	1 8	2 1	2 4	2 4	2 4
13	1 3	1 4	C	1 1	1 5	1 6	1 5	1 8	2 2	2 6	2 6	2 8
14	1 7	1 7	1 7	1 4	1 3	1 6	2 2	1 8	2 0	2 4	2 4	2 5
15	1 6	1 5	1 3	1 5	1 5	1 3	2 0	1 6	1 9	2 4	2 6	2 6
16	1 5	1 5	1 6	1 4	1 3	1 7	2 0	1 8	1 9	2 2	2 4	2 7
17	1 5	1 4	1 8	1 4	1 7	1 7	2 2	1 9	1 1	2 4	2 5	2 5
18	1 5	1 6	1 4	1 3	1 2	1 4	2 1	1 6	2 3	2 3	2 6	2 9
19	1 6	1 3	1 5	1 2	1 5	1 5	2 1	1 9	2 2	2 3	2 5	2 6
20	1 2	1 2	1 4	1 2	1 3	1 5	2 3	1 9	2 4	2 6	2 7	3 0
21	1 6	1 6	1 4	1 3	1 4	1 4	2 2	1 9	2 1	2 5	2 8	2 7
22	1 2	1 4	1 3	1 4	1 2	1 5	2 0	1 9	2 1	2 5	2 7	2 9
23	1 8	1 7	1 3	1 3	1 0	1 6	2 2	1 7	2 3	2 4	2 7	2 6
24	1 2	1 2	1 3	1 3	1 3	1 5	2 0	2 1	2 3	2 5	2 9	2 5
25	1 4	1 5	1 6	1 3	1 3	1 1	2 0	2 0	2 3	2 4	2 7	2 8
26	1 4	1 5	1 4	1 4	1 0	1 2	2 2	2 0	2 2	2 3	2 4	2 5
27	1 3	1 2	1 4	1 4	1 5	1 3	1 4	1 5	1 9	2 2	2 2	2 6
28	1 6	1 5	1 7	1 6	1 6	1 5	2 2	1 7	2 0	3 0	2 6	2 8
29	1 6	C	1 3	1 2	1 1	1 3	2 2	1 9	2 2	2 3	2 4	2 7
30	1 6	1 5	1 6	1 6	1 5	1 6	2 0	2 0	2 2	2 4	2 4	2 5
31	1 8	1 9	1 6	1 6	1 7	1 2	2 1	1 8	2 0	2 5	2 5	2 9
Mean	1 6	1 6	1 5	1 4	1 4	1 5	2 1	1 8	2 1	2 5	2 6	2 7
Median	1 6	1 5	1 5	1 4	1 4	1 5	2 2	1 9	2 2	2 4	2 6	2 7
Count	31	30	30	31	31	31	31	31	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f<sub>m</sub>in  
Unit Mc  
Month October 1959

TABLE 39  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 8	2 5	C	2 2	1 9	2 6	1 8	1 8	1 5	1 4	2 2	1 7	1
2 4	2 4	2 7	2 2	2 3	2 4	1 4	1 5	1 6	1 7	1 6	1 5	2
2 7	2 5	2 4	2 2	1 8	2 0	1 2	1 6	1 5	1 8	1 8	2 0	3
2 6	2 7	2 4	2 0	1 7	1 6	1 4	1 2	1 4	1 7	1 7	1 8	4
2 8	2 7	2 5	2 1	2 0	2 5	1 3	1 4	1 8	1 7	1 8	2 2	5
2 8	2 3	2 2	2 6	2 4	2 9	1 6	1 1	2 0	2 1	1 8	1 6	6
2 8	2 8	2 6	2 6	2 3	2 0	1 3	1 3	1 3	1 5	1 5	1 8	7
2 7	2 6	2 4	2 6	2 2	C	1 5	1 4	1 3	1 4	1 5	1 2	8
2 6	3 0	2 1	2 2	2 1	2 2	1 1	1 5	1 2	1 1	C	1 7	9
3 1	3 0	2 5	2 4	2 1	1 9	1 1	1 5	1 6	1 5	1 2	1 4	10
2 6	2 6	2 1	2 3	2 1	2 3	1 6	1 5	1 6	1 8	1 7	1 3	11
2 6	2 1	2 3	2 0	1 7	1 6	1 1	1 1	1 1	1 8	1 4	1 5	12
C	2 7	2 8	2 1	2 0	1 7	1 6	1 7	S	1 4	1 8	2 1	13
2 6	2 9	2 6	2 7	2 2	2 3	1 5	1 6	1 3	1 5	2 0	1 7	14
2 6	2 6	2 1	2 1	1 9	1 9	1 1	1 6	1 6	C	1 6	1 5	15
2 9	2 6	2 5	2 7	2 0	2 0	1 1	1 7	1 4	1 6	1 2	1 6	16
2 7	2 9	2 7	2 5	2 2	2 0	1 8	1 7	1 2	1 3	1 5	1 8	17
2 8	2 8	2 4	2 6	2 1	2 3	1 5	1 2	1 2	1 5	1 5	1 4	18
2 6	2 6	2 5	2 1	2 2	1 9	1 3	1 2	1 6	1 4	1 5	1 6	19
2 8	2 8	2 7	2 6	C	1 8	1 3	1 0	1 3	1 4	1 1	1 7	20
2 8	2 7	U2 5G	2 5	2 2	2 0	1 4	1 4	1 6	1 5	1 5	1 3	21
2 8	2 8	2 8	2 1	2 3	1 8	1 3	1 5	1 5	1 5	1 5	2 0	22
2 8	2 6	2 7	2 8	2 6	2 0	1 4	1 1	1 1	1 2	1 3	1 8	23
2 6	2 6	2 2	2 4	2 4	2 3	1 5	1 5	1 6	1 7	1 1	1 8	24
2 7	2 6	2 5	2 1	2 2	2 2	1 1	1 0	1 1	E	1 5	1 4	25
2 5	2 5	2 5	2 4	2 0	2 1	1 4	1 6	1 5	1 5	1 4	1 2	26
2 6	2 4	2 3	2 0	1 8	1 8	1 5	1 5	1 6	1 6	1 5	1 4	27
2 9	2 7	2 4	2 0	1 8	1 8	1 4	S	1 3	1 6	1 8	1 1	28
2 6	2 6	2 6	2 1	2 0	2 0	1 3	1 6	1 8	1 6	1 2	1 7	29
2 5	2 4	2 4	2 4	2 3	2 1	1 6	1 9	2 0	1 2	1 7	1 8	30
2 9	2 7	2 4	2 5	2 2	2 0	1 3	1 6	1 6	1 5	1 4	1 6	31
2 7	2 6	2 5	2 4	2 1	2 1	1 1	1 5	1 5	1 5	1 6	1 6	Mean
2 7	2 6	2 5	2 4	2 2	2 0	1 1	1 5	1 5	1 5	1 5	1 6	Median
30	31	30	31	30	30	31	30	30	30	30	31	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f min  
 Unit Mc  
 Month October 1959

TABLE 39—Contd  
 Ionospheric Data  
 75°0' E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	1.8	2.1	1.8	1.8	1.8	1.9	2.6	2.0	2.3	2.4	2.6	2.7
2	2.0	1.9	1.8	1.5	1.4	2.1	2.4	2.2	2.3	2.5	2.8	2.2
3	1.8	1.5	1.8	1.6	1.8	1.7	1.9	1.8	2.2	2.3	2.5	2.6
4	1.7	1.6	1.6	1.3	1.5	1.7	2.6	2.0	2.3	2.5	2.5	2.6
5	1.5	1.7	1.5	1.4	1.4	1.6	2.5	2.0	2.2	2.4	2.6	2.8
6	1.6	1.8	1.5	1.5	1.5	2.2	2.0	2.0	2.2	2.6	2.7	3.0
7	1.3	1.4	1.4	1.3	1.5	1.5	2.0	1.8	2.4	2.5	3.0	2.8
8	1.6	1.5	1.7	1.7	1.7	1.7	2.8	1.8	2.2	2.4	2.7	2.8
9	1.5	1.5	1.3	1.3	1.4	1.6	1.9	1.6	2.2	2.2	2.7	2.7
10	1.7	1.6	1.6	1.7	1.6	2.2	2.6	2.4	2.6	4.2	3.2	3.0
11	1.2	1.3	1.6	1.7	1.7	1.8	2.6	2.2	2.2	2.4	2.8	2.8
12	1.4	2.0	1.7	1.8	1.6	1.8	2.6	2.0	2.4	2.4	2.5	2.6
13	1.5	C	E	1.1	1.6	1.4	1.8	2.0	2.4	2.5	2.7	2.6
14	1.4	1.5	1.7	1.6	1.3	1.4	1.7	1.8	2.3	2.2	2.4	3.0
15	1.4	1.1	1.3	2.0	1.2	1.4	1.6	1.8	2.0	2.3	2.6	2.7
16	1.6	1.6	1.6	1.4	1.5	1.6	2.1	1.7	2.1	2.3	2.6	2.8
17	1.5	1.7	1.3	1.5	1.9	1.7	2.1	2.0	2.2	2.3	2.7	2.6
18	1.4	1.5	1.6	1.2	1.4	1.7	1.9	1.8	2.3	2.3	2.8	3.1
19	1.3	1.5	1.3	1.6	1.5	1.6	2.1	2.2	2.4	2.3	2.6	3.1
20	1.4	1.2	1.3	1.4	1.6	1.8	1.9	2.2	2.6	2.6	2.7	2.8
21	1.6	1.4	1.3	1.3	1.6	1.5	2.7	2.1	2.4	2.6	2.7	2.6
22	1.3	1.4	1.5	1.3	1.3	1.7	1.8	2.2	2.2	2.4	2.8	3.0
23	1.4	1.6	1.5	1.2	1.2	1.8	1.7	2.0	2.4	2.5	2.6	2.9
24	1.3	1.4	1.3	1.2	1.6	1.7	2.0	2.2	2.3	2.6	2.7	2.7
25	1.4	1.4	1.5	1.2	1.2	1.5	1.8	2.1	2.5	2.6	2.8	2.8
26	1.4	1.6	1.7	1.4	1.5	1.7	1.9	2.0	2.2	2.2	2.5	2.4
27	1.4	1.2	1.6	1.6	1.4	1.5	1.7	2.0	2.1	2.2	2.4	2.5
28	1.4	1.7	1.4	1.6	1.4	1.8	1.9	1.8	4.6	2.6	2.7	2.8
29	1.4	1.5	1.3	1.3	1.5	1.5	2.0	2.1	2.2	2.4	2.6	2.8
30	1.7	1.3	1.6	1.5	1.4	1.6	2.0	1.7	2.4	2.3	2.4	2.6
31	1.7	1.5	1.7	1.5	1.4	1.3	2.0	1.9	2.3	2.5	2.7	2.8
Mean	1.5	1.5	1.5	1.5	1.5	1.7	2.1	2.0	2.4	2.5	2.7	2.7
Median	1.4	1.5	1.5	1.5	1.5	1.7	2.0	2.0	2.3	2.4	2.7	2.8
Count	31	30	31	31	31	31	31	31	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic f min  
Unit Mc.  
Month October 1959

TABLE 39—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude : 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
27	23	23	20	22	23	15	18	14	16	20	17	1
24	23	43	24	23	20	13	17	17	11	12	20	2
27	24	24	20	22	18	12	13	17	16	19	17	3
28	25	24	18	16	16	14	17	18	16	17	20	4
30	27	25	25	23	20	15	16	17	16	20	16	5
28	25	25	27	30	23	15	16	21	20	16	19	6
26	26	27	24	22	20	14	13	15	15	16	15	7
27	27	28	24	23	18	13	13	13	13	11	20	8
28	22	22	21	23	21	14	15	13	C	C	16	9
30	28	26	23	21	18	UI 5s	16	16	16	14	12	10
28	26	24	22	20	21	15	15	16	15	14	15	11
26	26	22	18	17	11	14	15	15	17	13	15	12
26	26	26	24	20	20	17	S	UI 7s	11	19	18	13
28	28	26	24	22	20	15	16	12	19	21	18	14
26	26	29	22	19	18	13	15	15	UI 6c	18	15	15
29	25	26	23	21	19	14	16	17	16	14	14	16
27	28	27	26	23	19	14	16	14	18	16	16	17
30	26	26	24	23	24	12	16	17	17	17	15	18
25	25	23	24	21	19	11	16	16	16	17	12	19
29	29	28	23	20	16	11	12	13	13	14	12	20
28	27	24	21	20	19	14	16	14	13	15	12	21
28	28	24	22	20	18	13	15	15	16	17	20	22
30	26	27	27	27	23	18	16	11	13	18	15	23
26	24	26	22	22	17	14	15	17	14	19	15	24
27	25	26	23	23	16	12	13	15	15	13	12	25
26	24	23	24	18	17	14	16	15	15	15	14	26
26	23	22	19	18	16	13	15	16	16	14	C	27
28	26	22	18	20	16	15	S	15	18	18	15	28
26	24	25	23	22	16	14	17	18	15	16	20	29
26	26	26	24	22	22	16	18	20	18	16	16	30
29	26	29	25	22	18	13	17	15	17	17	17	31
27	26	26	23	21	19	14	15	15	16	16	16	Mean
27	26	26	23	22	19	14	16	15	16	1.6	1.6	Median
31	31	31	31	31	31	31	29	31	30	30	30	Count

Sweep 1Mc to 25 Mc in 27 seconds



Characteristic  $h'F_2$   
Unit: Km  
Month: October 1959

TABLE 40  
Ionospheric Data  
75° E Mean Time

Latitude: 10° 2' N  
Longitude: 77° 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								L	L	L <sub>1</sub>	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L <sub>11</sub>	L <sub>11</sub>	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic h'F2  
Unit Km  
Month October 1959

TABLE 40  
Ionospheric Data  
75 0 E Mean Time

Latitude 10 2' N  
Longitude 77 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	C	L	L								1
L	L	L	L	L								2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
L	L	L	L	L	L							31
												Mean
												Median
												Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month October 1959

TABLE 40—Cont'd  
 Ionospheric Data  
 75° E Meridian Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18							L	L	L	L	L	L
19							L	L	L	L	L	L
20							L	L	L	L	L	L
21								L	L	L	L	L
22							L	L	L	L	L	L
23							A	L	L	L	L	L
24							L	L	L	L	L	L
25							L	L	L	L	L	L
26							L	L	L	L	L	L
27							L	L	L	L	L	L
28							L	L	L	L	L	L
29							L	L	L	L	L	L
30							L	L	L	L	L	L
31							L	L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month October 1959

TABLE 40—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
L	L	L	L	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L <sub>h</sub>	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								31
												Mean
												Median
												Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic  $h'F$   
Unit - Km  
Month October 1959

TABLE 41  
Ionospheric Data  
75° 0' E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	240	220	240	260	260	255	255	240	240	220	215	210
2	250	220	235	260	260	275	270	245	235	220	215	205
3	260	230	220	215	220	220	255	240	220	215	200	200
4	265	260	220	235	230	240	270	240	230	220	200	205
5	220	220	220	220	220	230	255	240	220	215	210	200
6	260	245	225	240	260	220	260	245	230	220	200	200
7	255	225	220	230	265	235	260	240	225	215	205	200II
8	220	210	215	205	225	240	255	235	225	220	205	200
9	U235F	220	230	245F	240	230	270	250	235	220	205	200H
10	240	235	U230F	U250F	250	240	270	250	240	230	225	220
11	240	240	240	240	240	225	260	240	230	215	200	200
12	240	220	220	220	220	240	260	240	220	220	205	210
13	230	220	C	255	280	255	260	245	230	220	205	215
14	220	225	230	240	240	220	260	240	220	210	210	200
15	240	240	240	240	240	220	260	240	220H	220	210	205
16	240	255	235	245	250	255	270	255	245	220	215	200
17	240	245	230	240	240	225	260	245	235	220	220	215
18	260	260	250	235	250	215	260	215	240	230	200	210
19	265	265	230	220	225	230	275	245	235	225	225	220
20	245	230	220	230	220	240	260	240	225H	200H	220	205
21	270	245	230	225	225	230	265	245	235	230	220	220
22	225	225	230	225	250	240	250	230H	230H	210	200H	200H
23	275	260	240	240	250	U250A	260	U260A	U250A	220H	210	205
24	250	255	240	220	220	220	265	240	230	220	210	200
25	240	240	230	235	235	250	260	240	225	220	215	210
26	245	225	220	220	220	225	265	240	235	230	225	205
27	240	255	230	240	240	250	270	250	230	230	215	210
28	240	240	240	240	245	240	275	250	240	230	220	230
29	240	C	230	235	230	215	280	250	240	220	215	210
30	250	230	220	240	220	220	270	240	225	220	210	200H
31	F	230	220	270	270	280	270	250	235	220	215	210
Mean	245	235	230	235	240	240	265	245	230	220	210	205
Median	240	230	230	240	240	240	260	240	230	220	210	205
Count	30	30	30	31	31	31	31	31	31	31	31	31

Sweep 1 Mc to 25 Mc in 27.5 conds.

Characteristic h'F  
Unit, Km  
Month October 1959

TABLE 41—Contd  
Ionospheric Data  
75.0° E Mean Time

Latitude, 10.2° N  
Longitude 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
205	210	C	240	250	270	300	340	330	320	300	265	1
205	205	220	240	255	240II	305	360	280	290F	290	280	2
200	200	200	220	240	260	320	340	F	260	240	260	3
205	220	215	225	210	260	310	380	350	260	250	235	4
200	210	215	220	210	260	295	320	300	275	260	250	5
210	225	220	225	240	270	305	305	270	245	250	265	6
200	205	215	220	230	255	310	F	U38CF	U300F	U290F	U245F	7
210	215	210	220	235	C	U360I	U400F	F	U40CF	U280F	U28CF	8
220	215	220	235	240	270	310	F	F	U29CF	C	U245F	9
215	220II	220	230	250	270	310	F	F	F	F	U25CF	10
205	220	220	230	210	275	310	460I	46CF	36CF	32CF	280	11
220	220	220	225	255	270	320	U42CF	U30CF	U34CF	260	240	12
C	215	220	220	245	270	320	U440F	F	U32CF	F	210	13
210	220	220	225	240	260	325	39CF	315F	270	240	235	14
210	200II	220	220	240	270	330	100I	40CF	C	U260F	210	15
230	230	220	235	250	275	360	I	U320I	320	30F	245	16
200	220	220	235	255	280	365	F	F	330	320	295	17
225	220	230	235	250	270	325	360	320	270	250	255	18
220	225	230	235	255	285	360	F	F	F	U35F	U245F	19
215	225II	230	230	C	285	365	F	F	F	F	U300A	20
225	220	230	230	255	285	370	F	F	F	F	U265F	21
210	220	225	230	255	280	365	F	300	280	260	275	22
210	215	220	225	210	270	310	400I	380F	U28CF	245	265	23
200	210	215	225	240	270	310	F	44CF	400	315	260	24
210	210	200	220	210	270	325	310	F	320	310	275	25
200	210	210	220	250	275	370	U410F	F	U380I	290	240	26
220	220	225	220	250	280	380	F	400F	290I	280	250	27
220	230	220	230	260	280	380	F	320	340	280	260	28
220	210	215	220	210	270	350	460F	I	310F	300	290F	29
220	210	210	220	250	270	350	450F	F	320	370F	300	30
210	215	220	235	250	280	360	F	F	F	260	245	31
210	215	220	225	245	270	310	385	350	310	285	260	Mean
210	215	220	225	245	270	340	395	345	310	280	260	Median
30	31	30	31	30	30	31	18	17	25	26	31	Count

Swcp 1 Mc to 25 Mc, in 27 seconds

Characteristic h'F  
 Unit Km  
 Month October 1959

TABLE 41--Contd  
 Ionospheric Data  
 75° E Meridian Time

Latitude 10.2°  
 Longitude 77.5°

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	220	225	255	250	250	230	255	240	225	220	210	210
2	220	220	240	260	280	260	260	220	230	220	205	A
3	240	220	220	220	220	240	245	225	220	200	200	200
4	270	235	235	235	230	260	255	240	220	205	200	210
5	220	220	225	220	220	250	240	230	205	205	200	200
6	245	235	220	245	250	230	255	235	225	215	200	205
7	235	225	220	240	260	235	245	230	220	210	210	205
8	215	220	220	220	235	255	245	230	205H	210	200	205
9	230	220	230	U240F	U235F	245	260	240	225	205	205	200
10	235	U235F	U240F	U260F	245	250	260	240	235	230	220	220
11	240	240	240	240	220	240	250	240	220	200	200	200
12	225	220	220	220	230	255	255	240	220	205	200H	220
13	220	C	240	U280F	U280F	250	255	235	220	210	210H	220
14	220	225	225	240	220	245	240	230	210H	200	210	200
15	230	250	240	240	220	230	250	230H	220	210	205	205
16	260	240	235	245	260	260	260	250	225	215	200	205
17	240	235	240	240	230	235	260	240	230	220	210	200
18	265	250	240	230	260	235	260	235H	230H	215	220	215
19	270	250	230	220	235	250	255	240	230	230	220	220
20	240	220	220	225	220	260	255	245	210H	220	215H	215
21	260	230	230	230	230	245	260	240	230	225	215	215
22	225	230	230	230	270	235	240	230H	230	205H	200H	220
23	280	255	240	250	U250A	250	A	240	235	210	205	215
24	255	250	230	225	220	240	250	235	220	215	200H	205
25	240	240	235	240	245	255	245	230	220	215	210	215
26	230	220	225	220	220	270	250	240	225	220	210	200
27	240	255	230	240	250	290	260	240	230	225	210	200H
28	230	240	240	240	240	270	260	240	B	220	220	220
29	245	240	230	240	240	270	260	240	230	220	210	210
30	230	220	220	220	225	260	250	230	220	210	200	220
31	245	220	225	270	280	300	255	245	230	220	205	210
Mean	245	235	230	240	240	250	255	235	225	215	205	210
Median	240	230	230	240	235	250	255	240	225	215	205	210
Count	31	30	31	31	31	31	30	31	30	31	31	30

See p. 1 Mc to 25 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month October 1959

TABLE 41—Contd  
Ionospheric Data  
75° E Mean Time

Latitude : 10 2° N  
Longitude : 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
210	220H	225	240	260	280	340	340	340	300	280	260	1
215	215	B	240	255	280	340	F	F	285	280	265	2
205	200	220	235	250	280	360	I	250	240	240	270	3
205	215	225	235	250	275	360	380	295	250	240	225	4
210	200	220	220	250	280	315	350	280	260	260	260	5
220	220	220	235	255	280	320	280	250	250	270	265	6
205	210	220	225	245	275	U365F	U400F	F	U320F	U280F	230	7
210	210	215	225	240	280	F	F	F	U360F	U300F	U250F	8
220H	220H	225	230	255	290	F	F	U260F	C	C	240	9
220	220H	225	240	265	290	U420F	F	F	F	F	240	10
220	220	220	240	260	300	405	140F	440	F	305	245	11
220	220	225	240	260	280	380	U420F	U360F	280	245	240	12
220	220	220	235	260	290	380	F	U380F	300F	280F	235	13
220	210	220	240	255	280	380	370F	300F	260	240	240	14
210	220	220	240	260	290	360	U440F	380F	U300F	260	245	15
230	220	235	240	260	300	440	F	F	U320F	265	245	16
210	225	225	240	260	300	400	F	U330F	320	300	285	17
220	225	235	240	260	300	360	340	295	260	255	250	18
225	225	235	240	265	300	F	I	F	F	F	250	19
220H	225	230	240	270	310	F	F	F	F	F	295	20
220	215	225	240	270	305	U425F	F	F	U270F	U305F	230	21
220	225	225	240	265	305	400	F	305	260	270	265	22
210	220	220	235	250	290	400	F	360F	225	245	250	23
215	215	220	230	250	300	390	F	420	F	285	245	24
215	210	210	225	255	290	335	U310F	F	320	300	270	25
210	215	215	230	260	300	430	F	U380F	370	300	240	26
220	220	225	235	270	310	380F	390F	300F	300F	260	C	27
220	220	230	235	270	310	F	F	340	340	280	240	28
220	210	210	230	250	290	420	460F	310F	300	310	F	29
215	210	210	230	260	290	420	F	F	370F	310	280	30
215	215	220	240	265	300	430	F	F	245	250	240	31
215	215	220	235	260	290	385	380	330	290	275	250	Mean
220	220	220	235	260	290	380	380	320	300	280	245	Median
31	31	30	31	31	31	26	13	20	25	27	29	Count

Sweep 1 Mc to 25 Mc in 27 seconds



Characteristic h'E  
 Unit Km  
 Month · October 1959

TABLE 42  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77.5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								105	A	A	A	A
2								A	A	A	A	115
3								105	A	A	A	A
4								A	A	A	A	A
5								110	105	A	A	A
6								A	A	A	A	A
7								110	A	A	A	A
8								105	A	A	A	A
9								A	A	A	A	A
10								A	A	B	A	A
11								A	A	A	A	A
12								A	A	A	A	A
13							140	120	110	A	110	A
14								110	A	A	A	A
15								A	A	A	A	A
16								120	A	A	A	A
17								120	A	A	A	A
18								115	A	A	A	A
19								115	A	A	A	A
20								120	120	A	A	A
21								115	A	A	A	A
22								115	A	A	A	A
23								A	105	A	A	A
24								120	A	A	A	A
25								120	A	A	A	A
26								110	A	A	A	A
27								110	A	120	A	A
28								110	120	120	120	120
29								120	A	A	A	A
30								A	105	A	A	A
31								A	A	A	A	A
Mean								115	110			
Median								115	110			
Count							1	20	6	2	2	2

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'E  
 Unit Km  
 Month October 1959

TABLE 42—Contd  
 Ionospheric Data  
 75.0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	C	A	A	A							1
A	A	A	A	115	A							2
A	A	A	A	A	A							3
A	A	A	A	A	A							4
A	A	A	A	110	A							5
A	A	A	A	A	A							6
A	A	A	A	A	A							7
A	A	A	A	A	C							8
A	A	A	A	A	A							9
A	A	A	A	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
C	120	120	120	120	A							13
A	A	110	A	A	A							14
A	A	110	110	110	120							15
A	A	A	A	120	A							16
A	A	A	A	A	A							17
A	A	A	A	120	120							18
A	A	A	A	A	A							19
A	A	A	120	C	120							20
A	A	A	A	A	A							21
A	A	A	A	115	115							22
A	A	A	A	120	120							23
A	A	A	A	A	A							24
A	A	A	A	A	A							25
A	A	A	A	A	A							26
115	A	A	A	120	120							27
120	120	120	A	110	110							28
120	A	A	110	110	120							29
A	A	A	110	120								30
A	A	A	110	A								31
			115	115								Mean
			115	120								Median
3	2	4	9	12	3							Count

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic · h'E  
Unit Km  
Month October 1959

TABLE 42—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								105	A	A	A	A
2							B	A	A	A	A	A
3							110	100	A	A	A	A
4								A	A	A	A	A
5								A	A	A	A	A
6							A	105	A	A	A	A
7							120	A	A	A	A	A
8								A	A	A	A	A
9							125	A	A	A	A	A
10								A	A	B	A	A
11								110	115	115	A	A
12								110	105	A	A	A
13							120	115	A	A	110	A
14							120	A	A	A	A	A
15							120	A	A	A	A	A
16							130	A	A	A	A	A
17							125	115	A	A	A	A
18							120	120H	A	A	A	A
19							125	115	A	A	A	A
20							120	120	A	A	A	A
21								115	A	A	A	A
22							115	110	A	A	A	A
23							110	A	A	A	A	A
24							120	A	A	A	A	A
25							120	115	A	110	A	A
26							120	A	A	A	A	A
27							120	110	110	110	110	110
28							130	120	B	A	A	120
29							130	120	A	A	120	A
30							120	110	120	A	A	A
31							120	A	A	A	A	A
Mean							120	110				
Median							120	115				
Count							21	17	4	3	3	2

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month October 1959

TABLE 42—Contd  
Ionospheric Data  
75° E Mean Time

Latitude . 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A								1
A	A	B	A	A								2
A	A	A	A	A								3
A	A	A	A	A								4
A	A	A	A	A								5
A	A	A	A	A								6
A	A	A	A	A								7
A	A	A	A	A								8
A	A	A	A	A								9
A	A	A	A	A								10
A	115	120	120	A								11
A	A	A	A	A								12
A	120	115	120	120								13
A	A	110	A	A								14
A	A	A	110	115								15
A	A	A	A	A								16
A	A	A	A	A								17
A	A	120	120	120								18
A	A	A	A	A								19
A	A	120	A	A								20
A	A	A	A	A								21
A	A	115	115	120								22
A	A	A	120	A								23
A	A	A	A	A								24
A	A	A	A	A								25
A	A	A	A	A								26
110	110	120	120	120								27
A	120	110	110									28
120	120	110	110	120								29
A	A	110	110	120								30
A	A	110	A	A								31
	115	115	115	120								Mean
	120	115	120	120								Median
2	5	11	10	8								Count

Sweep 1 Mc to 25 Mc in 27 seconds.

Characteristic h'Es  
Unit Km  
Month October 1959

TABLE 43  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								100	100	100	100	100
2					105			100	100	100	100	G
3								G	100	100	100	100
4							100	100	100	100	100	100
5								G	100	100	100	100
6	115					100		100	100	100	100	100
7								100	100	100	100	100
8							145	100	100	100	100	100
9								100	100	100	100	100
10						110		105	105	100	100	100
11								100	100	100	100	100
12								100	100	100	100	100
13								G	100	100	100	100
14								G	100	100	100	100
15			105	100	120			100	100	100	100	100
16								105	100	100	100	100
17								100	100	100	100	100
18	110							100	100	100	100	100
19								G	100	100	100	100
20								G	100	100	100	100
21	115				120			G	100	100	100	100
22								105	100	100	100	100
23	105				130	100		100	100	100	100	100
24								100	100	100	100	100
25	105							G	100	100	100	100
26								100	100	100	100	100
27							100	100	100	100	100	100
28								105	105	100	100	100
29			G					110	105	100	100	100
30								100	G	100	100	100
31						105		100	100	100	100	100
Mean	110							100	100	100	100	100
Median	110							100	100	100	100	100
Count	5		1	1	4	4	3	23	30	31	31	30

Sweep 1 Mc. to 25 Mc in 27 seconds

Characteristic h'F,  
Unit : Km  
Month . October 1959

TABLE 43—Contd  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	C	100	100	100							1
100	100	100	100	100						110	110	2
100	100	100	100	100	100							3
100	100	100	100	100	100			110	110			4
100	100	100	100	100	110				120	125		5
100	100	100	100	100	100							6
100	100	100	100	100	105							7
100	100	100	100	100	C						110	8
100	100	100	100	100	120			120	115	C	110	9
100	100	100	105	105	110							10
100	100	100	100	100	120							11
100	100	100	100	100	100							12
C	100	100	100	105	100					115		13
100	100	100	100	100	100			140	110			14
100	100	100	100	100	110				C			15
100	100	100	100	100	115				120			16
100	100	100	100	100	100			140	110			17
100	100	100	100	100	G						115	18
100	100	100	100	100	120							19
100	100	100	115	C	120					115	115	20
100	100	100	100	100	120							21
100	100	100	100	100	105					110		22
100	100	100	100	100	100			130	120			23
100	100	100	100	100	100					105		24
100	100	100	100	100	110				120			25
100	100	100	100	100	105							26
100	100	100	100	110	130							27
100	100	100	100	100	120							28
100	100	100	100	100	110					110		29
100	100	100	100	100	115				110			30
100	100	100	100	100	125					105		31
100	100	100	100	100	110			130	120	110	110	Mean
100	100	100	100	100	110			130	120	110	110	Median
30	31	30	31	29	29			5	9	8	5	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'Es  
Unit Km  
Month October 1959

TABLE 43—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								100	100	100	100	100
2					105		160	100	100	100	100	100
3							G	100	100	100	100	100
4								100	100	100	100	100
5								100	100	100	100	100
6					115		105	100	100	100	100	100
7							G	100	100	100	100	100
8								100	100	100	100	100
9							G	100	100	100	100	100
10								105	105	100	100	100
11								100	100	100	100	100
12								100	100	100	100	100
13		C					G	100	100	100	100	100
14							G	100	100	100	100	100
15		110	105				G	100	100	100	100	100
16							G	100	100	100	100	100
17							125	100	100	100	100	100
18							G	L	100	100	100	100
19							G	100	100	100	100	100
20							G	100	100	100	100	100
21	115							100	100	100	100	100
22					110		G	100	100	100	100	100
23	100			130	105	100	115	120	100	100	100	100
24							G	100	100	100	100	100
25	105						G	100	100	G	100	100
26							G	100	100	100	100	100
27							110	100	100	100	100	100
28							110	110	100	100	100	100
29							120	105	100	100	100	100
30							G	100	100	100	100	100
31							G	100	100	100	100	100
Mean							120	100	100	100	100	100
Median							115	100	100	100	100	100
Count	3	1	1	1	4	1	7	30	31	30	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month October 1959

TABLE 43—Contd  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date <sup>1</sup>
100	100	100	100	100								1
100	100	G	100	100					110	110		2
100	100	100	100	100								3
100	100	100	100	100	100			110	110			4
100	100	100	100	105					125	110	120	5
100	100	100	100	100						110		6
100	100	100	100	105								7
100	100	100	100	100						110		8
100	100	100	100	110					G	C		9
100	100	100	105	110								10
100	100	100	100	100								11
100	100	100	100	100	100							12
100	100	100	100	105					115	110		13
100	100	100	100	100				120	110	120		14
100	100	100	100	100								15
100	100	100	100	110								16
100	100	100	100	100				140			120	17
100	100	100	100	G								18
100	100	100	100	100								19
100	100	100	110	110						115	120	20
100	100	100	100	100								21
100	100	100	100	105								22
100	100	100	100	100	100			125	130			23
100	100	100	100	100	100						100	24
100	100	100	100	105					135			25
100	100	100	100	105					130			26
100	100	100	105	110								27
100	100	100	100	130						120		28
100	100	100	100	100					110			29
100	100	100	100	110								30
100	100	G	100	100					105	105		31
100	100	100	100	105					120	110		Mean
100	100	100	100	100					110	110		Median
31	31	29	31	30	4			4	10	9	4	Count

Sweep 1 Mc to 25 Mc in 27 seconds.



Characteristic : (M3000)F2  
 Unit ·  
 Month October 1959

TABLE 44  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	U3 00F	F	F	2 90	F	3 10	3 05	2 80	2 55	2 10	2 30	2 20
2	2 90	3 10	2 90	2 90	2 75	2 80	2 95	U2 75s	2 45	2 20	2 35	2 35
3	2 85	F	3 15	3 25	3 30	3 40	3 00	3 05	2 70	2 30	2 20	2 30
4	2 95	2 95	2 95	3 00	3 25	3 05	2 90	2 80	2 50	2 30	2 30	2 35
5	3 05	3 10	3 15	3 20	3 10	3 25	3 15	3 00	2 80	2 50	2 25	2 25
6	2 75	2 85	U3 00F	2 90	2 85	3 20	3 05	2 85	2 40	2 40	2 40	2 30
7	2 95	3 20	3 25	3 00	2 90	U3 30F	3 00	2 95	2 60	2 40	2 35	2 25
8	3 10	U3 20F	3 20F	F	3 20F	3 05	3 05	3 05	2 70	2 25	2 45	2 30
9	F	F	F	F	U3 15F	U3 10F	F	2 90	2 65	2 40	2 30	2 30
10	U3 00F	F	F	U3 00F	U2 95F	3 25	3 05	2 90	2 70	2 40	2 20	2 30
11	F	F	3 10	3 15	F	3 40	3 20	2 90	2 55	2 30	2 40	2 35
12	3 00F	3 25	F	3 20	3 40	3 30	3 15	3 00	2 50	2 40	2 50	2 35
13	F	U3 25s	C	U3 10F	F	F	3 10	U3 15s	2 90	2 50	J2 30R	2 30
14	F	U3 15s	F	3 20	3 30	3 45	U3 30s	3 05	2 70	2 25	2 40	2 30
15	3 20	U3 25s	3 25	U3 10s	3 10	3 30	3 10	3 00	2 65	U2 30s	2 40	2 35
16	2 95s	3 05	3 10	3 15	U3 20F	F	3 10	2 90	2 50	2 25	2 30	2 30
17	U2 80s	U3 05s	F	3 15	F	3 30	3 10	2 95	2 65	2 30	2 30	2 25
18	2 60	U2 95s	3 05	3 10	2 95	3 00	3 10	2 90	2 75	2 50	2 05	2 15
19	2 90	2 90	3 10	3 15	3 20	3 25	3 05	2 85	2 65	2 35	2 15	2 30
20	F	U3 05s	3 15	F	3 35	3 20	2 90	3 10	2 80	2 45	2 15	2 15
21	F	3 00	3 05	3 15	F	3 30	2 95	2 95	2 65	2 30	2 20	2 20
22	F	F	F	F	U2 85F	F	F	F	2 85	2 50	2 10H	2 20
23	U2 70F	2 75	3 00	2 90	2 90	3 00	U2 95s	3 00	2 75	2 45	2 10	2 20
24	2 95	F	3 10	F	3 20	3 30	3 05	2 95	2 65	2 25	2 25	2 30
25	FS	U3 05s	U3 15s	3 10	U3 10F	3 00	U2 95s	U2 95s	2 75	2 40	2 35	2 30
26	F	F	U2 90s	3 10	3 25	3 30	J3 05s	2 90	2 70	2 40	2 15	2 25
27	U2 90s	FS	FS	FS	F	U2 90s	U3 00s	2 65	2 65	2 45	2 35	2 40
28	F	F	3 00	U3 00F	F	F	F	3 00	2 60	2 35	2 30	2 25
29	2 70	C	F	3 10	U3 30F	3 20F	2 95	2 80	2 50	2 35	2 35	2 30
30	F	F	F	F	3 25	3 30	2 80	2 90	2 80	2 70	2 45	2 15
31	F	U3 10F	FS	F	2 85	2 75	2 60H	2 50	2 50	2 35	2 30	2 25
Mean	2 90	3 05	3 10	3 10	3 10	3 20	3 00	2 90	2 65	2 35	2 30	2 25
Median	2 95	3 05	3 10	3 10	3 20	3 25	3 05	2 90	2 65	2 35	2 30	2 30
Count	19	19	19	23	24	27	28	30	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F2  
 Unit .  
 Month October 1959

TABLE 44  
 Ionospheric Data  
 75° E Mean Time

Latitude : 10 2° N  
 Longitude . 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 25	2 15	C	2 25	2 25	U2 20R	U2 10R	2 10	U2 20R	2 30	U2 50S	U2 65S	1
2 40	2 50	2 55	2 55	2 45	2 30H	HS	HS	2 15H	U2 40R	2 50	U2 75R	2
2 25	2 25	2 30	2 40	2 40	U2 30S	2 15	U2 15S	2 40	U2 70S	2 95	3 00	3
2 25	2 10	2 00	2 20	2 35	U2 35S	2 20	2 10	U2 20S	2 45	U2 70S	2 95	4
2 10	2 15	2 25	2 30	2 30	2 30	2 20	2 20	2 30	2 50	2 55	2 85	5
2 40	2 45	2 45	2 40	2 40H	2 35H	2 15H	2 20	U2 45R	2 60	2 75	2 85	6
2 10	2 15	2 20	2 20	U2 20S	2 25	2 20	U2 00F	F	F	F	F	7
2 35	2 30	2 35	2 35	2 30	C	2 10	F	F	F	F	F	8
2 30	2 40	2 40	2 45	2 40	2 30	U2 05S	F	F	F	C	F	9
2 25	2 30	2 25	2 25	2 20	U2 15S	2 05	F	F	F	F	F	10
2 40	2 30	2 40	2 40	2 30	2 20	U2 05S	F	F	F	F	F	11
2 35	2 40	2 30	2 40	2 50	U2 50S	2 30	U2 10F	F	F	F	F	12
C	2 35	2 40	2 40	2 40	U2 40S	2 25	U2 00F	F	F	F	F	13
2 25	2 35	2 35	2 40	2 30	2 35	2 25	U2 10F	F	2 65	FS	3 05	14
2 40	2 35	2 35	2 35	2 30	U2 20S	U2 05S	F	F	C	F	F	15
2 25	2 20	2 30	2 30	U2 30R	2 25	2 05	U2 00F	F	F	F	U2 60S	16
2 20	2 25	2 25	2 30	2 30	2 25	2 15	U2 00F	U2 10S	U2 25F	F	F	17
2 15	2 25	2 20	2 35	2 35	2 45	2 30	2 25	2 40	2 55	2 70	2 75	18
2 20	2 20	2 25	2 15	2 10	2 15	2 05	F	F	F	U2 70R	F	19
2 30	2 25	2 35	2 35	C	2 25	1 90	F	F	F	F	F	20
2 25	2 20	2 25	2 30	2 30	2 20	1 95	F	F	F	F	F	21
2 10	2 15	2 30	2 30	2 25	2 10	1 90H	F	F	FS	F	2 65	22
2 10	2 20	2 25	2 30	2 35	2 35	2 15	U2 10F	F	U2 55S	F	F	23
2 20	2 20	2 30	2 30	2 30	2 25	2 05	U1 90F	U2 00F	F	F	F	24
2 10	2 20	2 25	2 20	2 05	2 00	2 10	2 15	2 20	J2 35S	U2 30F	F	25
2 25	2 35	2 35	2 30	2 15	J2 00S	1 85H	2 00	F	F	F	F	26
2 35	2 30	2 35	2 35	2 30S	2 20S	1 90	F	F	F	F	2.50	27
2 35	2 35	2 35	2 40	2 35	2 20	1 90H	F	F	F	F	F	28
2 30	2 25	2 25	2 20	2 15S	2 25	2 15	F	F	F	F	F	29
2 35	2 35	2 30	2 30	2 35	2 30S	2 10S	1 95	F	F	F	F	30
2 40	2 40	2 35	2 35	2 25	2 05	1 90	U1 90F	F	F	F	U2 65F	31
2 25	2 30	2 30	2 30	2 30	2 25	2 10	U2 05	2 25	2 50	2 65	2 75	Mean
2 25	2 25	2 30	2 30	2 30	2 25	2 10	U2 10	2 20	2 50	2 70	2 75	Median
30	31	30	31	30	30	30	18	10	11	9	12	Count

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F<sub>2</sub>  
 Unit  
 Month October 1959

TABLE 44—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	F	F	2 90	2 95	3 00	3 15	3 00	2 70	2 25	2 15	2 20	2 30
2	U3 00F	3 05	2 95	2 80	2 75	2 80	2 90	2 65	2 35	2 30	2 30	2 45
3	U2 90F	3 10	F	3 20	3 30	2 75	3 10	2 90	2 55	2 10	2 30	2 20
4	3 00	3 10	2 95	3 10	3 20	2 95	2 90	2 60	2 40	2 15	2 40	2 35
5	3 20	3 10	3 20	3 10	3 30	2 85	3 05	2 95	2 60	2 40	2 30	2 20
6	2 85	2 90	3 00F	2 90	2 95	3 15	2 95	2 60	2 40	2 40	2 40	2 30
7	3 05	3 15	3 25	U2 90F	3 05	2 90	3 05	2 80	2 40	2 40	2 30	2 15
8	3 15	3 20F	U3 25F	3 20F	3 10	2 95	3 20	2 90	2 50	2 35	2 35	2 30
9	F	F	3 05	F	F	U3 15F	3 15	2 80	2 55	2 30	2 35	2 20
10	3 10F	F	F	F	3 10	3 00	3 00	2 80	2 60	2 30	2 15	2 20
11	3 10	F	U3 15s	F	3 30	3 20	3 10	2 75	2 30	2 35	2 35	2 35
12	J3 10R	F	3 25	3 40	3 30	3 00	3 15	2 75	2 35	2 45	2 40	2 30
13	U3 20s	C	F	F	F	F	U3 20s	U3 00s	2 70	2 30	2 30	2 30
14	U3 05FS	3 15	F	3 20	3 35	3 00	U3 20s	2 90	2 50	2 30	2 40	2 30
15	U3 25s	3 20	U3 00s	3 10	3 25	3 05	U3 20s	U2 80s	2 55	2 35	2 40	2 30
16	F	3 05	3 15	F	3 20	U3 10F	3 00	2 70	2 25	2 25	2 30	2 20
17	U2 90s	U2 90F	U3 05s	3 10	3 25	3 15	3 05	2 85	2 35	2 30	2 25	2 20
18	2 85	U3 05s	3 10	3 05	2 90	3 00	3 05	2 75	2 70	2 20	2 20	2 10
19	2 95	3 00	3 15	3 20	3 20	3 20	3 00	2 75	2 55	2 20	2 25	2 25
20	3 00	3 10	3 15	3 25	J3 30s	2 80	3 10	2 95	2 60	2 45	2 20	2 20
21	F	F	3 15	F	3 20	2 95	2 90	2 85	2 55	2 20	2 25	2 25
22	U3 10F	F	F	F	F	F	FS	U2 90s	U2 75s	2 30II	2 10II	2 20
23	2 75	2 80	2 95	2 90	2 90	3 00	3 00	2 90	2 60	2 30	2 20	2 15
24	J2 95F	F	3 05	3 15	3 35	2 85	3 05	2 85	2 40	2 30	2 30	2 20
25	3 05	3 10	3 05	3 00	3 00	2 95	2 95	2 90	2 55	2 30	2 40	2 20
26	U2 85s	3 00	U3 05s	U3 25s	3 30	2 85	3 05	2 80	2 60	2 20	2 30	2 25
27	U2 90s	2 95	FS	F	F	S	2 80	2 65	2 50	2 40	2 35	2 35
28	3 00F	3 10s	3 00	FS	F	F	3 00s	2 80	2 35	2 35	2 30	2 30
29	U2 80F	F	3 10	3 10	F	2 80	2 90	2 65	2 35	2 40	2 35	2 30
30	F	F	F	F	3 20	2 90	2 90	2 80	2 70	2 60	2 25	2 25
31	F	F	F	FS	2 80	2 70	2 45II	2 55	2 40	2 35	2 30	2 30
Mean	3 00	3 05	3 10	3 10	3 15	2 95	3 00	2 80	2 50	2 30	2 30	2 25
Median	3 00	3 10	3 05	3 10	3 20	2 95	3 00	2 80	2 50	2 30	2 30	2 25
Count	25	19	23	20	25	27	30	31	31	31	31	31

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic (M3000)F<sub>2</sub>  
 Unit  
 Month October 1959

TABLE 44--Contd  
 Ionospheric Data  
 7, 0° E Meridian

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 20	2 30	2 30	2 25	2 20	2 10	U2 15s	2 10	2 15	U2 35s	2 45	2 70	1
2 45	2 50	2 50	2 55	2 40H	2 20H	SH	1H	2 25	2 45	2 55	2 75	2
2 30	2 30	2 30	2 40	2 40	2 25	U2 05s	2 30	2 55	2 80	U3 05s	3 00	3
2 15	2 00	1 95	2 25	2 30	U2 35s	2 10	2 10	U2 15s	2 65	2 80	2 95	4
2 10	2 20	2 35	2 35	2 35	U2 20s	2 20	2 25	2 45	2 55	2 70	2 85	5
2 45	2 50	2 10	2 10H	2 10H	2 25	U2 20sH	2 30	2 55	2 70	2 85	2 85	6
2 15	2 15	2 20	U2 20s	2 25	2 25	2 10	F	F	F	F	F	7
2 30	2 35	2 40	2 30	2 20	2 10	F	F	F	F	F	F	8
2 30	2 10	2 45	2 40	2 35	2 20	I	F	F	C	C	U2 90F	9
2 25	2 25	2 25	2 20	2 20	2 10	U1 90I	F	F	F	F	F	10
2 35	2 10	2 15	2 10	2 30	2 15	U1 95I	F	F	F	F	3 00	11
2 35	2 30	2 40	2 45	U2 50s	U2 40s	U2 20s	F	F	F	F	U3 00F	12
2 40	2 40	2 10	2 40	2 40	U2 35s	U2 15s	F	F	F	F	U3 00F	13
2 30	2 35	2 35	2 35	2 35	2 30	2 10	F	FS	FS	S	U3 20s	14
2 30	2 35	2 35	2 40	J2 30s	J2 15s	FS	F	F	F	F	2 85	15
2 25	2 25	2 25	2 30	2 25	2 20	2 00	F	F	F	F	U2 70s	16
2 25	2 30	2 30	2 30	U2 30s	2 20	FS	U2 10s	2 30	F	F	F	17
2 15	2 20	2 30	2 30	2 40	2 35	2 20	2 30	2 50	2 65	2 65	2 85	18
2 20	2 25	2 15	2 15	U2 15s	2 15	U1 95s	F	F	F	F	F	19
2 25	2 25	2 40	2 35	2 40	2 10	F	F	F	F	F	F	20
2 20	2 20	2 25	2 35	2 25	2 10	U1 85W	F	F	F	F	F	21
2 10	2 30	2 30	2 30	2 20	2 00	U1 90sH	F	F	J2 30R	2 50	2 65	22
2 20	2 20	2 30	2 30	2 35	2 25	J2 10s	2 10R	F	F	F	F	23
2 25	2 30	2 35	2 30	J2 25s	2 20	F	F	F	F	F	F	24
2 15	2 25	2 35	2 10	2 00	2 20	2 20	J2 20s	J2 30R	2 35I	U2 30F	F	25
2 30	2 35	2 35	2 20	2 10	1 95	F	F	F	F	F	S	26
2 30	2 35	2 30	2 35	2 20	2 00	1 95I	F	F	F	2 50	C	27
2 35	2 35	2 10	2 40	2 30	2 10	F	F	F	F	F	F	28
2 25	2 20	2 25	2 20s	2 15s	2 25	2 00	F	F	F	F	F	29
2 35	2 35	2 30	2 30	2 35s	2 20	1 95	F	F	F	F	F	30
2 40	2 35	2 35	2 30	2 20	J2 00s	U1 85W	F	F	F	2 70	U2 80s	31
2 25	2 30	2 30	2 30	2 30	2 20	2 05	2 20	2 40	2 55	2 65	2 90	Mean
2 25	2 30	2 30	2 30	2 30	2 20	2 05	2 20	2 45	2 55	2 65	2 85	Median
31	31	31	31	31	31	23	9	9	9	11	16	Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month November 1959

TABLE 45  
Ionospheric Data  
75° E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	F	11 7	10 4	6 1	5 3	F	6 5	10 2	11 7	12 1	11 5	11 8
2	12 9	13 0	9 1	7 5	5 8	5 4	7 9	11 4	13 5	14 8	15 3	15 8
3	13 0	13 6	13 3	9 7	8 0	6 1	7 6	11 7	13 3	14 8	14 7	12 9
4	13 5	12 7	11 8	10 0	9 6	9 6	10 8	12 2	13 1	13 9	13 4	12 9
5	13 9	12 6	10 6	9 9	10 4	9 7	10 6	12 5	14 2	14 8	14 6	12 9
6	12 2	11 1	11 1	8 2	7 1	4 0	6 8	11 1	13 5	13 8	12 6	11 5
7	F	11 3 <sup>F</sup>	9 8	7 5	6 3	5 5	7 4	10 6	12 3	12 1	11 5	11 3
8	F	F	8 8	U7 3 <sup>S</sup>	F	6 9	8 0	11 1	12 0	10 8	C	10 7
9	U9 8 <sup>S</sup>	U9 6 <sup>S</sup>	F	U8 2 <sup>F</sup>	7 1	5 5	U7 4 <sup>S</sup>	10 7	12 8	12 9	11 9	12 4
10	F	F	U9 8 <sup>F</sup>	U8 1 <sup>F</sup>	7 8	7 3	8 4	U10 6 <sup>F</sup>	11 2	11 2	10 9	10 9
11	13 4	J12 1 <sup>S</sup>	11 0	8 4	6 0	6 0	8 6	11 4	12 8	13 6	12 4	12 2
12	F	10 2 <sup>F</sup>	J10 0 <sup>F</sup>	F	U6 2 <sup>F</sup>	4 6	F	U9 6 <sup>S</sup>	10 9	10 8	9 7	10 0
13	F	F	FS	9 2	8 4 <sup>F</sup>	6 9	7 8	11 0	12 2	11 4	10 4	10 2
14	11 1	J9 9 <sup>S</sup>	U9 2 <sup>S</sup>	8 2	6 6	6 9	8 5	U9 8 <sup>S</sup>	11 6	12 8	12 4	11 6
15	12 3	10 6	9 4	7 7	5 6	4 6	7 3	10 1	11 8	C	C	C
16	S	10 1	8 7	7 0	5 3	4 0	7 0	10 5	11 3	10 7	10 5	10 0
17	F	U9 3 <sup>S</sup>	F	F	7 9	F	U8 7 <sup>F</sup>	10 9	11 7	11 7	11 3	11 3
18	11 5	11 1	9 3	7 5	5 0	3 6	6 7	10 7	12 3	12 3	11 6	11 3
19	C	U9 0 <sup>F</sup>	F	F	F	8 3	9 0	11 6	12 8	12 4	10 9	10 7
20	9 6	9 0	8 1	6 7	5 5	3 2	6 4	10 0	12 1	13 0	13 3	12 4
21	F	U8 8 <sup>F</sup>	U8 6 <sup>F</sup>	U7 2 <sup>S</sup>	5 8	4 7	6 8	10 3	11 7	12 4	11 6	11 0
22	8 2	U8 2 <sup>S</sup>	J7 4 <sup>S</sup>	U7 4 <sup>S</sup>	7 8	7 2	7 9	10 7	J12 2 <sup>R</sup>	12 0	12 0	11 6
23	F	U10 8 <sup>SF</sup>	U10 5 <sup>S</sup>	U9 4 <sup>SF</sup>	8 4	5 6	6 8	10 4	12 8	13 6	13 8	C
24	U11 5 <sup>S</sup>	U9 8 <sup>S</sup>	8 0	6 8	5 8	4 3	6 9	10 8	12 7	12 7	12 6	12 0
25	F	F	7 9	6 8	6 0	4 1	6 6	U9 8 <sup>S</sup>	12 0	12 3	12 0	11 4
26	10 7	10 5	9 6	8 2	7 8	U7 0 <sup>S</sup>	7 6	10 6	12 5	12 7	12 5	11 9
27	8 4	8 2	6 9	U6 0 <sup>S</sup>	5 6	5 3	7 8	11 4	12 0	12 9	12 9	12 9
28	10 6	U9 6 <sup>S</sup>	8 7	8 6	7 6	7 0	U7 1 <sup>S</sup>	10 4	12 8	12 4 <sup>U</sup>	11 6	13 6
29	10 8	11 1	8 8	6 6	5 7	4 8	7 0	10 9	13 6	14 3	C	C
30	FS	U11 5 <sup>SF</sup>	11 0 <sup>F</sup>	U9 8 <sup>S</sup>	7 7	4 9	6 7	10 9	13 4	13 9	S	12 0
Mean	11 4	10 6	9 5	7 9	6 9	5 8	7 7	10 8	12 4	12 7	12 2	11 8
Median	11 5	10 6	9 5	7 7	6 4	5 5	7 4	10 7	12 3	12 7	12 0	11 6
Count	17	26	26	27	28	28	29	30	30	29	26	27

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month November 1959

TABLE 45  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
12 1	13 0	12 9	12 6	12 7	12 2	10 4	9 3	U10 4s	11 4	12 4	U11 9s	1
16 3	15 5	15 1	U15 4s	U15 0s	14 0	U12 9sH	9 3F	9 2F	U10 6s	12 6	12 8	2
12 0	12 5	12 3	11 9	11 7	U12 0s	U11 2s	10 3	U10 0s	U10 2s	U11 6s	12 7	3
12 1	C	C	C	U12 0s	U11 5s	10 7	9 6	10 2	U11 4s	11 6	11 9	4
12 1	12 7	12 9	13 2	13 2	12 8	12 5	11 5	11 9	11 6	11 9	12 4	5
11 7	12 7	13 1	13 8	13 6	13 4	12 4	U10 4F	F	F	F	F	6
11 4	11 4	11 5	11 6	11 8	11 4	10 2	8 9	U9 0F	F	F	F	7
11 6	11 7	11 8	11 7	11 4	10 7	U9 5s	9 0F	U9 4s	F	U9 8s	F	8
12 9	13 5	13 5	13 9	13 5	U11 8s	C	F	F	F	F	F	9
11 4	11 9	12 6	12 6	12 7	12 6	11 3	U9 8s	F	U11 2F	U12 0F	U13 4F	10
12 3	12 4	13 0	13 6	13 8	13 8	13 0	10 8H	F	F	F	F	11
10 4	11 0	11 6	12 4	13 1	13 0	U12 0s	10 6	F	F	F	F	12
10 6	11 2	U12 1R	12 5	13 1	13 2	U12 9R	11 4	10 8F	10 5	F	11 4	13
11 2	11 5	11 9	12 8	12 9	13 1	12 3	12 6	12 8	12 8	12 2	13 4	14
11 2	C	C	11 8	12 6	U12 7s	U11 6s	10 2	U10 2F	FS	U10 7s	10 2	15
9 7	10 3	11 0	11.7	U12 3s	12 6	U11 7s	F	F	F	F	F	16
11 8	12 3	12 8	12 8	12 7	U12 7s	12 7	U11 7s	11 1	11 1	11 6	U11 7s	17
11 4	11 8	12 4	13 6	14 5	14 6	13 7	U11 8s	F	F	F	F	18
10 7	10 6	10 7	11 3	11.6	U11 2s	J10 2s	F	F	U9 2s	9 3	F	19
11 8	12 4	12 7	13 0	13 4	U13 7s	12 4	U10 8s	F	F	F	F	20
10 9	10 8	10 6	10 9	U11 5s	U11 6s	10 6	9 0	F	9 0	U9 2sF	U9 4s	21
11 2	10 8	11 0	11 0	11 2	C	9 4	8 6	8 6	U9 6s	U9 4s	FS	22
C	C	C	C	C	C	U13 2s	U12 0s	U13 4s	13 0	U13 4s	U13 2s	23
11 8	11 6	U11 7s	11 6	U11 5s	11 0	U9 7s	U8 0F	F	F	F	F	24
10 8	11 0	11 0	U11 4s	U11 8s	U11 6s	U11 2s	U10 3s	U9 6.F	FS	F	10 6	25
11 7	11 6	U11 6s	11 4	10 8	10 8	10 5	U9 5s	8 6	9 0	UJ 1s	U9 3s	26
12 8	13 1	13 3	12 8	U12 2s	U10 6s	8 3	F	F	F	8 4	U9 8s	27
13 7	13 7	13 3	U13 3s	U12 2sH	U11 4s	12 6	U11 8s	13 0	U12 0s	11 3	10 9	28
13 7	C	12 8	12 3	U11 4s	U11 1s	10 5	9 0	9 2	8 9	10 3	U11 7s	29
11 7	10 8	10 9	11 4	12 2	12 7	12 0	U11 8s	11 6	12 6	12 7	U12 0F	30
11 8	12 0	12 2	12 4	12 5	12 3	11 4	10 3	10 5	10 8	11 0	11 6	Mean
11 7	11 8	12 3	12 4	12 3	12 4	11 6	10 3	10 2	11 1	11 6	11 8	Median
28	26	27	28	29	28	29	26	18	17	19	18	Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month November 1959

TABLE 45—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	U11 9F	11 3	8 5	5 1	5 3 <sup>1</sup>	F	8 8	11 2	12 2	11 9	11 6	12 1
2	13 0	11 5	8 0	6 7	5 6	5 8	10 0	12 8	14 0	U15 2s	15 8	16 2
3	13 4	13 8	11 1	8 5	7 0	5 4	9 7	12 6	13 5	U15 3s	U14 1R	11 9
4	13 2	12 6	10 9	9 6	9 6	9 7	11 5	12 7	13 3	13 7	13 1	12 5
5	13 3	12 1	9 9	10 3	10 3	9 8	11 2	13 7	14 6	15 1	13 9H	11 9
6	11 6	11 0	9 1	7 6	5 4	4 6	9 0	12 4	14 0	13 2	11 5	11 5
7	U11 9F	10 6	8 2	6 9	6 0	5 6	9 1	11 5	12 8	11 6	11 4	11 4
8	F	F	8 1	6 9	F	6 5	9 6	11 6	11 4	10 8	10 6	11 1
9	U9 8s	9 8	U9 3s	U7 7r	6 3	5 6	9 1	12 1	12 8	12 6	12 1	12 4
10	F	U9 4F	8 7r	8 1	7 6	7 2	F	11 1	11 3	10 9	10 9	11 2
11	U13 0s	U11 9s	10 0	6 7	5 5	6 9	10 2	12 2	13 4	12 9	12 1	12 2
12	F	10 4	8 8r	FS	4 9	15 1F	8 9b	10 6	11 0	10 0	9 8	10 2
13	F	F	1S	F	7 5	6 2	19 8s	12 0	11 7	10 8	10 3	10 2
14	10 4	U9 1s	8 7	7 5	6 4	J7 5s	9 0	10 8	12 6	12 8	12 2	11 4
15	U11 5s	10 2	8 1	6 7	5 1	5 0	8 9	11 2	C	C	C	C
16	U10 3s	9 5	U8 0s	6 4	4 9	4 5	8 8	11 1	11 1	10 7	10 2	9 8
17	U9 4s	9 0	U7 7s	8 1	8 1	F	10 1	11 5	11 8	11 4	11 0	11 6
18	11 2	10 5	8 2	6 3	4 1	4 2	8 9	11 7	12 4	11 8	11 5	11 3
19	C	U8 7r	F	F	F	7 9	10 6	12 3	12 8	11 8	10 7	10 7
20	U9 5s	8 6	7 0	6 7	4 1	4 3H	8 6	11 2	12 9	13 1	C	11 9
21	F	U8 7r	7 8	6 6	5 4	4 7	9 0	11 2	12 2	11 8	11 4	10 9
22	8 7	7 7	U7 4s	U7 4s	7 8	6 4	9 5	11 5	12 4	12 2	11 7	U11 4C
23	U10 7s	U11 0s	F	U9 2s	7 2	4 6	8.9	11 2	13 4	13 5	14 2	C
24	10 6	U9 6s	U7 2s	6 4	5 0	4 5	9 0	12 0	13 0	12 6	12 3	11 8
25	F	U8 0rs	U7 5s	6 5	5 4	4 4H	8 5	10 8	12 2	12 4	11 6	11 0
26	10 5	10 2	8 7	7 8	7 8	6 0s	U9 4s	11 4	12 8	12 5	12 1	11 8
27	8 2	7 6	6 4	5 9	5 1	5 7	9 9	11 8	12 4	12 7	12 7	12 8
28	10 1	U9 2s	8 4	8 2	6 9	5 6	8 8	11 3	12 9H	11 1	12 8	13 7
29	11 0	10 0	U7 6s	6 3	5 3	5 0	9 2	12 2	13 8	C	C	14 1
30	11 2r	11 4	10 7	8 9	U6 2s	4 4H	9 0	U11 8s	14 1	13 6	12 7	11 7
Count	23	28	27	27	28	28	29	30	29	28	27	28
Median	11 0	10 1	8 2	6 9	5 8	5 6	9 1	11 6	12 8	12 4	11 7	11 6
Mean	11 1	10 1	8 5	7 4	6 3	5 8	9 4	11 7	12 7	12 4	12 0	11 8

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic foF<sub>2</sub>  
Unit Mc  
Month November 1959

TABLE 45—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude : 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
12.8	13.2	12.7	12.7	12.7	11.3	9.1	9.5	10.9	U12.0S	U11.8S	12.6	1
13.9	15.0	U15.3S	U15.3S	U14.3S	U13.2S	U11.5SH	8.9F	U9.5F	U12.0SH	U13.0S	13.5F	-2
12.0	12.6	12.1	U11.8S	U12.2S	U11.7S	10.5	U9.9S	10.0S	11.0	12.4	13.4	3
C	C	C	C	11.8	11.2	9.7	9.6	10.9	11.5	11.6	13.0	4
12.0	12.9	13.1	13.5	12.9	12.7	U12.0	11.5	11.5	11.5	12.4	12.7	5
12.2	13.0	13.6	13.7	13.6	13.3	11.4	10.6F	F	F	F	F	6
11.6	11.5	11.8	11.8	11.8	10.9	9.2	8.8	F	F	F	F	7
11.6	11.7	11.8	11.7	10.9	10.3	9.3	9.1F	U9.6S	F	F	10.1F	8
13.2	13.4	13.9	13.8	12.7	U10.8S	9.4F	F	F	F	F	F	9
11.8	12.4	12.6	12.7	12.9	U11.9S	10.7	U9.0F	F	FS	U12.8F	13.3	10
12.3	12.6	13.4	13.7	C	13.6	11.4	F	F	F	F	F	11
10.6	11.4	12.0	C	13.0	12.8	11.0	F	F	F	F	F	12
10.8	11.5	12.4	12.8	13.2	U13.6S	J12.4R	U11.0F	10.6F	10.2	U10.4F	11.4	13
11.1	11.6	12.4	12.8	12.9	12.7	12.2	12.7	U12.9S	12.4	12.6	13.4	14
C	C	C	12.2	12.8	12.5	10.8	10.4	FS	10.2F	U10.3S	10.3	15
9.8	10.6	11.3	12.0	12.5	12.3	10.6	F	F	F	F	F	16
12.1	12.7	12.7	12.7	12.8	12.6	U12.2S	11.3	10.8	11.1	U11.7S	11.5	17
11.6	12.0	12.9	14.1	14.5	U14.3S	12.7	F	F	F	F	F	18
10.6	10.7	10.8	11.5	11.5	11.0	9.3	F	U9.0F	9.2	F	U9.1F	19
12.0	12.5	12.7	13.1	U13.5S	U13.1S	11.6	F	F	F	F	F	20
10.8	10.8	10.8	11.1	U11.8S	11.4	U9.6S	9.0	F	F	U9.6S	9.0	21
11.0	10.8	11.0	11.2	11.0	U9.4S	8.7	8.5	9.0	F	U9.2S	F	22
14.8	C	C	C	C	13.6	11.8	13.0	U13.2S	S	U13.8S	12.4	23
11.8	11.6	11.4	U11.5S	11.4	U10.4S	8.8F	F	F	F	F	F	24
10.8	11.0	11.4	U11.5S	11.8	U11.6S	10.8	U9.8FS	U9.8FS	U10.4FS	F	10.5	25
11.5	11.6	11.4	11.2	10.6	U10.5S	U9.8S	9.0	8.8	8.9	U9.4S	U9.0S	26
12.8	13.2	U13.2R	12.6	U11.6S	U9.3S	F	F	F	U7.8FS	9.0	10.6	27
13.7	13.8	13.5	12.8H	SH	U12.1S	12.2	12.5	12.8	11.8	10.9	10.5	28
13.1	C	12.6	U11.8S	11.3	10.9	U9.8S	9.0	8.9	9.3	11.4	11.5	29
11.4	10.9	11.0	U11.8S	12.6	12.4	11.6	U11.8S	12.0	12.7	U12.5S	U12.0S	30
28	26	27	27	27	30	29	21	17	16	18	20	Count
11.8	11.8	12.4	12.6	12.6	12.0	10.8	9.8	10.6	11.0	U11.6	11.5	Median
12.0	12.1	12.4	12.5	12.4	11.9	10.7	10.2	10.6	10.8	U11.4	11.5	Mean

Sweep 1.0 Mc to 25.0 Mc in 27 seconds



Characteristic , foF<sub>1</sub>  
 Unit Mc  
 Month November 1959

TABLE 46  
 Ionospheric Data  
 75 ° E Mean Time

Latitude , 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3									L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	B
6												
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	C	L
10								L	L	L	L	L
11												
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	C
15								L	L	C	L	C
16												
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	U <sub>4.9L</sub>	L	L	L
21												
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26												
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	B	L	C	L
Mean												
Median												
Quant												

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds.

Characteristic foF<sub>1</sub>  
 Unit . Mc  
 Month November 1959

TABLE 46  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	C	C	C	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
C	C	C	L	L	L							15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
												Mean
												Median
												Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
Unit . Mc  
Month November 1959

TABLE 46—Contd  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13							L	L	L	L	L	L
14							L	L	L	L	L	L
15							L	L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20							L	L <sub>u4</sub> 8L	L	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25							L	L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28							L	L	L	L	L	L
29							L	L	L	L	L	L
30							L	L	L	L	L	L
Count								1				
Median												
Mean												

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month November 1959

TABLE 46—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
G	G	G	G	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L	L							9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
G	G	G	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
												Count
												Median
												Mean

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic . foE  
 Unit - Mc  
 Month November 1959

TABLE 47  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2								2 8	A	A	A	A
3								2 8	A	A	A	A
4								A	A	A	A	A
5								2 9	A	A	A	B
6								2 8	A	A	A	A
7								A	A	A	A	A
8								A	A	A	C	A
9								2 9	A	A	A	A
10								A	A	A	A	A
11								A	A	A	A	A
12								A	A	A	A	A
13								A	A	A	A	A
14								A	A	A	A	A
15								A	A	C	C	C
16								A	A	A	A	A
17								A	A	A	A	A
18							2 4H	3 0	A	A	A	A
19								A	A	A	A	A
20								U2 7R	3 1	A	A	A
21								A	A	A	A	A
22								A	A	A	A	A
23								2 6	A	A	A	C
24								U2 7A	A	A	A	A
25								A	A	A	A	A
26								2 8	A	A	A	A
27								A	A	A	A	A
28								A	A	A	A	3 7
29								3 0	3 3	A	C	C
30								2 7F	B	A	A	A
Mean								2 8				
Median								2 8				
Count							1	12	2			1

Sweep 1 0 Mc in to 25 0 Mc in 27 seconds

Characteristic, foE  
 Unit Mc  
 Month November 1959

TABLE 47  
 Ionospheric Data  
 75° E Mean Time

Latitude 10.2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	A	A	A							1
A	A	R	A	A	A							2
A	A	A	A	A	A							3
A	A	C	A	A	A							4
A	A	3 7	A	A	A							5
A	A	A	A	2 9	.							6
A	A	A	A	A	A							7
A	A	A	A	A	A							8
A	A	A	A	A	A							9
A	A	A	A	A	A							10
A	A	A	A	A	A							11
A	A	A	A	A	A							12
A	A	A	A	2 9	.							13
A	A	A	A	A	A							14
C	C	C	A	2 9	A							15
A	A	A	A	U2 9A	A							16
A	A	A	A	A	A							17
A	A	A	A	2 9	A							18
A	A	A	A	A	A							19
A	A	A	A	A	A							20
A	A	A	A	A	A							21
A	A	A	A	A	A							22
C	C	C	C	C	C							23
A	A	A	A	A	A							24
A	A	A	A	A	A							25
A	A	A	B	A	.							26
A	A	A	A	A	F							27
3.8	3.6R	U3 4A	A	A								28
A	A	A	A	A								29
A	A	A	A	A								30
				2 9	..							Mean
				2.9	.							Median
1	1	2	.	5	..							Count

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds

Characteristic foE  
 Unit . Mc  
 Month November 1959

TABLE 47—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							A	A	A	A	A	A
2								3 0	3 5	A	A	A
3								A	A	A	A	A
4								A	A	A	A	A
5								3 1	A	A	A	A
6							2 5	3 0	A	A	A	A
7							A	A	A	A	A	A
8							2 4	A	A	A	A	A
9							2 4	A	A	A	A	A
10							2 4	A	A	A	A	A
11							R	A	A	A	A	A
12							A	A	A	A	A	A
13							2 3	A	A	A	A	A
14							2 2	A	A	A	A	A
15							2 3	A	C	C	C	C
16							U2 4R	A	A	A	A	A
17							R	A	A	A	A	A
18							2 5	A	A	A	A	A
19							A	A	A	A	A	A
20							U2 4R	A	A	A	A	A
21							2 3	A	A	A	A	A
22								A	A	A	A	A
23								2 9	A	A	A	A
24							2 2R	A	A	A	A	A
25							2 3R	A	A	A	A	A
26							2 4	A	A	A	A	A
27							2 4	A	A	A	A	A
28							2 3	A	A	A	3.6	R
29							2 3	3 1	A	C	C	A
30								A	A	A	A	A
Count							17	5	1		1	
Median							2 4	3 0				
Mean							2 4	3 0				

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foE  
 Unit · Mc  
 Month November 1959

TABLE 47—Contd  
 Ionospheric Data  
 75.0° E Mean Time

Latitude : 10.2° N  
 Longitude : 77.5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A								1
A	A	A	A	A								2
A	A	A	A	A								3
C	C	C	C	C								4
A	A	A	A	A								5
A <sup>1</sup>	A	A	A	A								6
A	A	A	A	A								7
A	A	A	A	A								8
A	A	A	A	A								9
A	A	A	A	A								10
A	A	3 4	3 2	C								11
A	A	A	C	A								12
A	A	A	3 1	A								13
A	A	3 4	A	A								14
C	C	C	A	A								15
A	A	A	A	A								16
A	A	A	A	A								17
A	A	A	3 1	2 6II								18
A	A	A	A	A								19
A	A	A	u3 0A	A								20
A	A	A	A	A								21
A	A	A	A	A								22
A	C	C	C	C								23
A	A	A	A	A								24
A	A	A	A	A								25
A	A	A	A	A								26
A	A	A	A	A								27
A	A	A	A	A								28
3 7	3 4 <sup>R</sup>	A	A	A								29
A	A	A	A	2 7II								30
1	1	2	4	2								Count
												Median
												Mean

Sweep 10 Mc to 250 Mc. in 27 seconds.



Characteristic foEs  
Unit, Mc  
Month November 1959

TABLE 48  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1							3 0	9 0	9 0	11 0	12 0	12 0
2	3 6							G	5 0	8 4	11 0	8 0
3								G	8 4	11 6	12 6	12 8
4								8 0	11 0	11 0	12 4	12 4
5								G	9 0	11 4	12 6	12 8
6								G	9 8	11 8	12 6	12 6
7								10 0	12 0	12 4	14 8	14 0
8					6 4			9 8	11 0	12 6	C	12 6
9	U6 0s	4 5						6 0	9 0	11 4	11 8	13 0
10	U7 4s							10 4	11 0	12 0	12 4	12 8
11	S							U6 6s	9 0	10 8	12 6	12 4
12								8 8	9 2	11 2	12 4	12 4
13								U8 8°	U9 4s	12 5	13 8	12 6
14								8 2	8 8	11 7	12 4	11 8
15								6 8	11 2	C	C	C
16	U4 3s							8 4	11 3	12 4	13 6	12 4
17								S	11 3	12 2	12 2	12 5
18								5 2	10 8	11 3	14 8	14 4
19								U7 6s	12 4	12 7	14 6	14 8
20	U4 1s	S	4 3	S		4 0	G	G	6 6	12 3	13 6	13 8
21	4 0	6 4	U5 0s					U7 0s	10 0	12 0	13 2	13 6
22		4 0	5 8					8 0	10 4	12 0	13 0	15 6
23			2 6			3 8		5 6	5 0	10 0	11 8	C
24								8 0	11 6	11 6	13 0	13 4
25								8 0	11 0	12 2	14 0	13 0
26	U6 8s		4 0	4 4	U6 0s			8 0	10 0	11 0	12 6	12 0
27								7 0	11 0	11 4	13 0	12 0
28	7 0	U7 0s	U7 0s					U7 0s	11 0	11 6	21 0	G
29							2 4	8 0	8 4	11 4	C	C
30								6 4	B	11 0	11 4	13 4
Mean	5 4		4 6					7 8	9 8	11 5	13 2	12 8
Median	5 2		4 3					7 6	10 0	11 6	12 6	12 8
Count	8	4	7	1	3	1	3	29	29	29	27	27

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foEs  
 Unit Mc  
 Month November 1959

TABLE 48  
 Ionospheric Data  
 75° E Mean Time

Latitude 10.2° N  
 Longitude 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
12 0	10 8	11 0	7 8	9 4								1
10 8	10 8	G	9 0	11 0	4 6					u8 os		2
12 8	12 6	12 6	10 0	9 4								3
12 0	C	C	C	u11 os								4
12 0	12 0	G	11 4	11 0	u5 os							5
12 8	12 2	12 0	9 2	u9 os	u9 os							6
13 0	13 6	11 8	10 8	9 4	u6 6s							7
12 4	13 8	12 8	12 0	10 4	u7 os					4 4	u9 4s	8
11 8	12 2	12 8	11 0	u10 8s	u8 os	C				u4 6s	u6 6s	9
12 0	12 2	12 0	10 6	u9 8s	u6 os					5 8	u6 os	10
12 4	11 8	9 8	6 5	8 5	S					2 8	S	11
12 4	12 6	10 6	8 8	10 8	5 7					S	6 8	12
12 6	12 6	11 5	7 8	G	S							13
12 4	12 6	8 8	6.7	8 3	S		1 8	2 6		4 6	4 6	14
C	C	C	9 2	6 0	3 8					u7 6s	u7 os	15
13 4	14 3	12 9	10 9	u7 os	S							16
12 5	11 8	10 2	9 5	11 9	6 9				4 4	4 6	4 5	17
14 7	13 5	11 2	9 6	G								18
14 2	12 6	u13 4s	11 7	10 3	S					2 8		19
13 8	13 9	u11 8s	u9 8s	u8 6s	S						u3.6s	20
14 0	13 4	13 2	12 0	u8 4s	S			2 4				21
13 2	14 0	14 0	11 0	9 0	C							22
C	C	C	C	C	C					3 2		23
13 3	13 4	13 0	12 0	10 0	4 0							24
12 4	13 0	13 0	11 0	9 0	u6 os							25
12 0	12 0	12 2	11.8	10 0						4 2		26
12 0	10 2	11 6	11 0	9 0	G					4 2	6 4	27
12 0	6 4	8 8	10 0	9 2								28
12 4	C	12 0	11 0	9 0								29
13 4	12 8	13 0	10 0	9 0							5 0	30
12 7	12 4	11 8	10 1	9 4	6 1					4 7	6 0	Mean
12 4	12 6	12 0	10 3	9 2	6 0					4 5	6 2	Median
28	26	27	28	29	13		1	2	1	12	10	Count

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds

Characteristic f<sub>o</sub>E  
Unit Mc  
Month: November 1959

TABLE 48—Contd  
Ionospheric Data  
75° 0' E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1					1 8	3 1	4 0	10 6	11 0	12 4	12 8	12 4
2	4 0						G	G	G	12 0	7 0	8 0
3								10 0	10 4	13 0	12 8	12 6
4								9 0	11 0	12 0	12 0	12 4
5								G	10 0	12 8	12 8	12 0
6							G	G	9 8	12 0	12 6	13 0
7							5 4	9 8	12 2	12 8	13 0	14 0
8				3 0			G	11 0	12 0	12 8	12 8	13 8
9	U6 8s	U4 0s	U4 4s				G	9 2	12 4	12 6	12 4	12 4
10							U7 8s	10 3	11 7	13 8	12 8	12 6
11	U3 8s						G	8 6	10 2	12 4	12 5	12 4
12					1 7		6 9	U9 8s	10 6	12 5	12 6	12 6
13							G	U9 2s	10 8	13 2	12 0	12 6
14							G	8 8	9 2	11 6	12 6	11 7
15							6 4	U9 4s	C	C	C	C
16	U4 7s						5 0	9 3	12 1	13 3	12 9	13 6
17			4 9	3 5			U6 9s	9 4	11 7	12 3	12 4	12 3
18	U4 3s						G	9 4	12 8	14 3	14 3	13 9
19	C	4 8	6 8	S			4 2	11 7	12 9	14 4	13 6	13 2
20	U4 8s						G	U7 2s	12 1	12 4	C	14 4
21	7 0	U6 0s					G	9 0	11 4	13 0	13 0	14 2
22	2 6	6 2	U6 0s					12 0	11 4	12 2	13 0	13 0
23		3 0	5 0					7 0	9 0	12 0	11 8	C
24							G	9 0	12 0	13 0	13 0	13 0
25							G	9 0	12 0	13 2	13 0	13 0
26	4 6		2 4				G	8 0	10 4	12 0	12 4	12 4
27							G	8 4	11 0	12 0	12 6	13 0
28	U7 0s	9 0					G	8 6	10 0	12 0	8 0	10 8
29							G	G	9 0	C	C	13 0
30							3 0	8 2	10 4	12 0	13 0	12 4
Count	10	6	6	2	2	1	24	30	29	28	27	28
Median	4 6	5 4	5 0				G	9 0	11 0	12 4	12 8	12 6
Mean	5 0	5 5	4 9				5 5	9 3	11 0	12 6	12 3	12 6

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foEs  
 Unit: Mc  
 Month: November 1959

TABLE 48—contd  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
11 4	12 0	10 0	9 0	8 0							5 0	1
12 0	9 4	9 6	11 0	9 0						U9 4s		2
12 8	12 4	11 4	10 0	8 8								3
12 0	C	C	C	U9 0s								4
12 8	11 4	11 0	11 0	8 6					3 2			5
12 8	11 6	11 8	8 8	8 8								6
13 4	12 4	12 0	10 8	8 6								7
12 8	14 2	12 0	11 2	8 8						12.4		8
11 6	11 2	9 8	U10 8s	10 5						U5 0s	8 2	9
12 0	12 2	10 4	11 0	U9 0s						U6 6s	S	10
11 8	11 6	7 5	6 3	C					3 8	4 2	S	11
12 3	11 6	9 8	C	8 3					3 5	S	3 2	12
12 6	11 6	10 6	G	6 4								13
12 0	12 2	6 7	8 4	S			2 2	U4 2s			U4 6s	14
C	C	C	7 7	S			1 7			U4 5s	U4 8s	15
14 8	U14 6s	12 4	U9 8s	S								16
11 7	11 2	10 2	12 4	9 9					4 6	4 5	3 4	17
13 8	12 3	9 8	7 8	G								18
13 9	13 8	12 7	U11 6s	7 8					2 5		S	19
14 6	14 8	U11 6s	8 4	S	U4 3s						3 4	20
14 0	14 0	12 0	10 0	8 0								21
14 0	12 8	12 0	10 0	8 0								22
11 8	C	C	C	C								23
13 0	12 2	12 0	10 8	8 0								24
12 4	13 4	12 4	10 6	8 8						8 4		25
12 0	12 0	11 8	11 0	9 0						3 3		26
10 2	10 0	12 0	9 0	U8 0s		U7 0s				4 4	U7 0s	27
G	8 2	9 0	9 4	8 0						8 0		28
12 0	C	11 0	10 0	8 0								29
13 0	12 6	11 0	9 2	6 0s							U6 0s	30
29	26	27	27	24	1	1	2	1	5	11	9	Count
12 4	12 2	11 0	10 0	8 4					3 5	5 0	4 8	Median
12 6	12 1	10 8	9 8	8 4					3 5	6 4	5 1	Mean

Sweep 1 0 Mc. to 25 0 Mc in 27 seconds

Characteristic f<sub>o</sub>F<sub>2</sub>  
 Unit Mc  
 Month November 1959

TABLE 49  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1							2 1	2 8	3 3	3 7	4 0	4 1
2									3 3	3 7	4 0	4 2
3									3 4	3 7	4 0	4 0
4								2 9	3 3	3 7	4 0	4 1
5									3 4	3 7	3 9	
6									3 4	3 7	4 1	4 1
7								2 8	3 4	3 7	4 0	4 2
8					1 6			2 8	3 2	3 8	C	4 1
9	2 0	1 9						2 9	3 3	3 6	4 0	4 0
10	1 9							2 8	3 4	3 7	4 0	4 1
11								3 0	3 2	4 0	4 0	4 0
12								2 9	3 3	3 7	3 9	4 1
13								2 8	3 2	3 6	4 0	4 2
14								2 8	3 3	3 8	4 2	4 0
15								2 7	3 3	C	C	C
16	1 7							2 8	3 3	3 6	3 9	4 1
17			1 9					2 8	3 2	3 7	3 8	4 2
18								2 7	3 3	3 7	3 9	4 0
19			1 6	1 9				2 7	3 3	3 6	4 0	4 0
20	1 9	1 8							3 2	3 7	4 0	4 0
21	1 9	2 5	2 4					2 7	3 2	3 6	3 8	4 0
22		2 2	2 6		1 8			2 7	3 2	3 6	3 8	4 0
23			1 9					2 8	3 4	3 6	3 9	C
24								2 7	3 3	3 8	4 0	4 0
25								2 8	3 4	3 7	4 2	4 0
26			1 4	1 8				2 8	3 4	3 7	4 0	4 0
27								2 8	3 3	3 8	4 0	4 0
28	2 4	2 0	2 2					2 7	3 4	3 6	8 4	4 2
29									3 3	3 7	C	C
30								2 8		3 8	4 0	4 0
Mean	2 0	2 1	2 0					2 8	3 3	3 7	4 1	4 1
Median	1 9	2 0	1 9					2 8	3 3	3 7	4 0	4 0
Count	6	5	7	2	2		1	24	29	29	27	26

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic fbEs  
Unit Mc  
Month November 1959

TABLE 49  
Ionospheric Data  
75° E Mean Time

Latitude . 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4 0	4 0	3 7	3 4	2 9								1
4 0	4 0		3 5	3 0	2 2					3 0		2
4 2	4 0	3 8	3 5	3 0								3
4 2	C	C	C	2 9								4
4 0	3 9		3 4	2 9	2 1							5
4 2	4 1	3 7	3 4	3 0	2 4							6
4 1	4 0	3 7	3 3	2 9	2 2							7
4 1	3 9	3 6	3 1	2 9	2 1						2 8	8
4 1	4 0	3 8	3 4	3 0	2 2	C				1 3	2 0	9
4 0	4 0	3 7	3 4	2 9	2 1					2 4	2 1	10
4 0	3 9	3 7	3 4	3 0	2 2						2 7	11
4 1	4 2	3 8	3 4	5 4	2 1					3 2	2 7	12
4 0	4 0	3 8	3 4									13
4 2	4 0	3 6	3 3	3 2				1 8		2 3		14
C	C	C	3 3	2 9	3 3					1 6	1 3	15
4 0	4 0	3 6	3 3	2 9	2 1							16
4 1	3 8	3 7	3 4	2 8	2 1				1 4	2 1	2 3	17
4 1	3 9	3 7	3 5									18
4 1	4 0	3 7	3 3	2 9	2 1					1 9		19
4 0	4 0	3 6	3 3	2 9	2 2						1 9	20
4 0	4 0	3 6	3 3	3 0	2 2			1 7				21
4 0	4 0	3 7	3 1	3 0	C							22
C	C	C	C	C	C							23
4 0	4 0	3 8	3 4	3 0	2 2							24
4 2	4 0	3 8	3 4	3 0	2 2							25
4 0	4 2	4 0	4 0	3 0								26
4 0	4 0	3 8	3 4	3 0						2 0	2 1	27
4 0	4 4	3 6	3 4	2 9								28
4 0	C	4 0	3 5	3 0								29
4 2	4 0	3 8	3 5	3 0							1 7	30
4 1	4 0	3 7	3 4	3 0	2 2					2 2	2 2	Mean
4 0	4 0	3 7	3 4	3 0	2 2					2 1	2 2	Median
28	26	25	28	27	17			2	1	9	10	Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic . fbEs  
Unit . Mc  
Month November 1959

TABLE 49-*cont'd*  
Ionospheric Data  
75.0° E Mean Time

Latitude : 10 2° N  
Longitude : 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1					2 0	1 8	2 5	3 1	3 6	4 0	4 1	4 0
2	2 2									3 9	4 0	4 2
3								3 1	3 6	3 8	4 0	4 1
4								3 1	3 6	4 0	4 1	4 2
5									3 5	3 8	4 0	4 0
6									3 6	3 8	1 2	4 0
7							2 6	3 1	3 6	4 0	4 0	4 1
8				1 3				3 1	3 5	3 8	4 0	4 2
9	2 9	1 8						3 1	3 6	3 7	1 1	4 1
10							2 5	3 1	3 5	3 8	4 1	4 1
11	1 8							3 0	3 5	4 0	4 1	4 0
12							2 5	3 1	3 5	3 8	4 0	4 2
13								3 1	3 4	3 9	4 1	4 3
14								3 0	3 6	3 8	4 1	4 1
15								3 0	C	C	C	C
16	2 2						2 5	3 0	3 5	3 8	4 1	4 0
17			2 0				2 5	3 0	3 5	3 8	4 0	4 1
18								3 0	3 5	3 8	4 0	4 1
19	C	1 4	1 8	2 6			2 5	2 9	3 4	3 8	4 0	4 0
20	1 8							3 1	3 5	3 7	C	4 1
21	2 2	2 2						3 0	3 6	3 8	4 2	4 0
22	1 7	2 2	1 8					3 0	3 4	3 8	4 0	4 0
23		1 7	2 2					3 0	3 4	3 6	4 0	C
24								3 1	3 6	3 8	4 2	4 0
25								3 1	3 6	3 9	4 0	4 2
26			1 5					3 0	3 5	3 8	4 0	4 0
27								3 0	3 5	3 9	4 0	4 1
28	2 1	2 8						3 0	3 5	4 0	4 0	4 2
29									3 6	C	C	4 0
30								3 0	4 0	4 0	4 0	4 0
Mean	2.1	2.0	1.9				2.5	3.0	3.5	3.8	4.0	4.1
Median	2.2	2.0	1.8				2.5	3.0	3.5	3.8	4.0	4.1
Count	8	6	5	2	1	1	7	26	28	28	27	28

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic f<sub>o</sub>F<sub>2</sub>  
 Unit Mc  
 Month November 1959

TABLE 49—*contd*  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude , 10 2° 1' N  
 Longitude , 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 0	3 8	3 6	3 1	2 5							2 1	1
4 0	3 8	3 5	3 2	2 7						3 0		2
4 1	4 0	3 6	3 1	2 6								3
C	C	C	C	2 6								4
4 0	3 7	3 6	3 1	2 6					1 7			5
1 2	5 9	3 6	3 2	2 7								6
4 1	3 8	3 5	3 1	2 6								7
4 0	3 8	3 5	3 2	2 6						2 2		8
1 1	3 9	3 5	3 2	2 6						1 5	2 1	9
4 1	3 8	3 5	3 2	2 6						2 4		10
1 2	3 8	3 5	3 2	C								11
	1 0	3 6	C	2 6					1 6	3 0	2 0	12
4 0	1 0	3 6		2 7								13
4 0	3 8	3 5	3 5	2 0			1 5	1 8			1 6	14
C	C	C	3 2	2 6			1 5			1 7		15
4 1	3 8	3 5	3 2	2 5								16
3 9	3 8	3 6	3 0	2 5					1 8	2 3		17
4 0	3 8	3 7	3 2									18
4 0	3 8	3 5	3 2	2 6					1 7			19
3 9	3 8	3 5	3 1	2 6	1 9						1 7	20
											1 8	
4 0	3 8	3 6	3 1	2 6								21
4 0	4 0	3 5	3 1	2 6								22
4 0	C	C	C	C								23
4 0	1 0	3 6	3 2	2 6								24
1 1	1 0	3 6	3 2	2 6						2 4		25
4 0	4 0	1 0	3 6	2 6								26
4 2	4 0	3 7	3 3	2 6							2 2	27
4 0	1 0	3 5	2 2	2 6		1 8			1 6			28
4 0	C	3 6	3 2	2 7								29
4 2	4 0	3 8	3 2								2 2	30
4 0	3 9	3 6	3 2	2 6					1 7	2 3	2 0	Mean
4 0	3 8	3 6	3 2	2 6					1 7	2 4	2 0	Mean
27	26	27	26	26	1	1	2	1	5	8	8	Count

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds.



Characteristic fmin  
Unit Mc  
Month November 1959

TABLE 50  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	1 7	1 6	1 4	1 5	1 2	1 6	1 6	1 6	2 0	2 4	2 5	2 8
2	2 5	1 9	1 9	2 0	1 8	1 7	2 2	2 1	2 2	2 7	2 8	2 8
3	2 2	1 7	1 5	1 6	2 0	1 7	2 1	1 8	2 1	2 4	3 0	2 9
4	1 5	1 4	1 5	1 4	1 7	1 6	2 1	2 0	2 2	2 5	2 8	2 8
5	1 7	1 8	1 6	1 5	1 3	1 6	2 2	2 0	2 2	2 6	2 6	4 4
6	1 8	1 0	1 1	1 1	1 3	1 3	2 0	2 2	2 2	2 4	3 0	2 7
7	1 2	1 3	1 2	1 2	1 1	1 2	2 0	1 8	2 4	2 4	2 7	2 7
8	1 4	1 0	1 1	1 0	1 2	1 2	2 0	1 6	1 8	2 2	C	2 5
9	1 4	1 1	2 0	1 6	1 5	1 3	2 0	1 6	2 1	2 4	2 6	2 8
10	1 4	1 5	1 2	1 3	1 0	1 1	2 0	1 4	1 8	2 3	2 6	2 7
11	1 7	1 6	1 5	1 4	1 1	1 1	2 0	1 6	2 0	3 2	2 5	2 6
12	2 2	1 6	1 7	1 7	1 6	1 3	2 0	1 8	2 0	2 3	2 4	2 7
13	1 8	1 3	1 3	1 4	1 3	1 4	2 0	1 7	2 0	2 4	2 5	2 7
14	1 4	1 1	1 3	1 2	1 1	1 3	2 0	1 8	2 1	2 5	3 6	2 8
15	1 3	1 3	1 3	1 2	1 3	1 2	2 2	1 8	2 1	C	C	C
16	1 3	1 6	1 1	1 2	1 4	1 6	1 9	1 7	1 9	2 2	2 4	2 6
17	1 6	1 6	1 8	1 3	1 2	1 3	2 0	1 3	2 1	2 3	2 5	2 5
18	1 4	1 2	1 3	1 3	1 2	1 2	1 4	1 6	1 8	2 2	2 2	2 4
19	C	1 3	1 2	1 0	2 1	1 4	2 0	1 5	1 7	2 3	2 5	2 6
20	1 8	1 4	1 9	1 4	1 4	1 4	1 9	1 8	2 3	2 7	2 5	2 8
21	1 6	1 7	2 2	2 0	1 2	1 5	2 0	2 0	2 0	2 4	2 5	3 0
22	2 0	1 3	1 4	1 8	1 6	1 6	2 4	2 0	2 2	2 4	2 4	2 6
23	1 5	1 5	1 6	1 7	1 5	1 8	2 4	1 8	2 0	2 2	2 3	C
24	1 4	1 5	1 2	1 3	1 3	1 4	1 9	1 8	2 1	2 4	2 6	2 6
25	1 6	1 6	1 6	1 2	1 2	1 3	1 9	1 8	2 2	2 6	2 9	2 6
26	2 2	1 6	1 2	1 6	1 3	1 4	1 8	1 8	2 1	2 5	2 6	2 8
27	1 6	1 3	1 4	1 2	1 2	1 4	1 9	1 6	1 8	2 2	2 6	2 6
28	1 9	1 5	1 6	1 5	1 5	1 3	1 9	1 5	1 7	2 2	2 4	2 8
29	1 4	1 0	1 1	1 3	1 2	1 3	1 6	1 9	2 2	2 3	C	C
30	1 1	1 2	1 2	1 2	1 2	1 4	2 2	1 8	7 6	2 4	S	2 6
Count	29	30	30	30	30	30	30	30	30	29	26	27
Mean	1 6	1 4	1 4	1 4	1 4	1 4	2 0	1 8	2 2	2 4	2 6	2 8
Median	1 6	1 4	1 4	1 4	1 3	1 4	2 0	1 8	2 1	2 4	2 6	2 7

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic fmin  
Unit Mc  
Month November 1959

TABLE 50  
Ionospheric Data  
75° E Mean Time

Latitude : 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 8	2 7	2 4	2 4	2 0	2 1	1 1	1 9	2 1	2 0	2 0	1 5	1
3 0	3 0	3 0	2 4	2 2	2 0	1 5	1 6	1 7	1 5	1 8	2 1	2
3 0	2 8	2 5	2 4	2 0	2 2	1 2	1 4	1 4	1 2	1 3	1 5	3
3 0	C	C	C	2 0	2 1	1 4	1 4	1 4	1 4	1 7	1 6	4
2 6	2 6	2 6	2 4	2 0	1 9	1 4	1 4	1 6	1 7	1 7	1 5	5
3 0	2 8	2 6	2 4	2 2	1 8	1 4	1 3	1 3	1 2	1 6	1 2	6
2 8	2 4	2 5	2 3	1 9	1 7	1 3	1 4	1 4	1 4	1 5	1 3	7
2 6	2 5	2 4	2 2	1 8	1 7	1 3	1 3	1 1	1 3	1 5	2 0	8
2 6	2 7	2 6	2 2	2 0	1 6	C	1 3	1 3	1 5	1 2	1 3	9
2 6	2 6	2 4	2 3	1 8	1 5	1 3	1 3	1 1	1 5	1 3	1 6	10
2 6	2 6	2 4	2 5	2 1	1 8	1 5	1 4	1 4	1 4	1 4	2 4	11
2 7	3 0	2 6	2 5	2 0	1 7	1 3	1 5	1 7	1 6	1 3	1 8	12
2 7	2 7	2 4	2 2	1 8	2 2	1 7	1 6	1 5	1 5	1 9	2 0	13
3 1	2 6	2 5	2 5	2 0	2 2	1 5	1 6	1 7	1 6	1 4	1 4	14
C	C	C	2 3	2 1	1 5	1 2	1 5	1 6	1 4	1 2	1 1	15
2 5	2 4	2 3	2 3	2 0	2 1	S	1 3	1 3	1 4	1 6	1 4	16
2 5	2 5	2 3	2 2	1 7	1 8	1 2	1 2	1 1	1 1	1 3	1 7	17
2 6	2 6	2 3	2 2	2 2	2 2	1 3	1 2	1 2	1 0	1 3	1 1	18
2 6	2 5	2 3	2 2	1 7	1 5	1 4	1 8	1 6	1 6	1 6	1 4	19
2 8	2 6	2 4	2 4	2 1	1 6	1 4	1 5	1 6	1 4	1 3	1 3	20
2 8	2 8	2 4	2 5	1 9	1 9	1 4	1 8	1 1	2 1	1 8	2 4	21
2 6	2 6	2 2	2 2	1 9	C	1 7	2 0	1 9	1 8	2 0	1 8	22
C	C	C	C	C	C	1 2	1 4	1 7	1 6	1 6	1 5	23
2 8	2 6	2 6	2 4	2 2	2 0	1 3	1 1	1 7	1 5	1 5	1 4	24
2 6	2 6	2 6	2 4	2 2	1 8	1 2	1 1	1 3	1 5	1 8	2 3	25
2 6	3 0	3 4	4 0	2 0	1 9	1 3	1 4	1 4	1 4	1 4	1 5	26
2 6	2 4	2 2	2 3	1 9	1 8	1 3	1 5	1 5	1 6	1 4	1 6	27
2 6	3 2	2 6	2 3	1 9	1 6	1 3	1 5	1 6	1 6	1 4	1 3	28
2 6	C	3 0	2 2	1 8	1 9	1 3	1 1	1 4	1 2	1 2	1 3	29
2 6	2 6	2 4	2 3	2 0	1 9	1 1	1 5	1 5	1 3	1 5	1 3	30
2 8	2 6	2 7	2 8	2 9	2 8	2 8	3 0	3 0	3 0	3 0	3 0	Count
2 7	2 7	2 5	2 4	2 0	1 8	1 4	1 5	1 5	1 5	1 5	1 6	Mean
2 6	2 6	2 4	2 3	2 0	1 8	1 3	1 4	1 4	1 5	1 5	1 5	Median

Sw: ep 1 Mc to 25 Mc in 27 seconds

Characteristic fmin  
 Unit Mc  
 Month November 1959

TABLE 50--cont'd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	17	18	18	14	11	12	17	18	22	24	27	28
2	22	17	17	18	17	17	24	20	23	26	30	30
3	17	14	20	18	17	20	21	20	23	25	30	30
4	13	14	14	16	15	23	25	22	21	26	26	30
5	16	13	15	15	15	18	25	23	23	24	26	28
6	11	10	12	12	14	13	23	21	24	25	26	29
7	12	10	10	14	12	16	20	20	23	26	26	27
8	12	12	10	11	16	11	18	17	21	22	21	26
9	12	11	19	16	16	16	19	20	24	25	27	26
10	18	11	13	11	12	14	15	16	22	21	26	26
11	14	14	14	12	12	14	19	16	21	26	26	25
12	19	17	17	18	13	16	20	19	22	23	26	28
13	14	13	13	15	14	14	20	20	23	21	25	27
14	13	14	12	14	12	16	17	20	23	24	30	29
15	12	14	11	13	12	13	20	18	C	C	C	
16	21	13	12	14	13	14	17	18	21	22	25	24
17	15	17	E	F	12	13	16	14	21	22	21	25
18	13	15	11	12	11	13	16	18	19	23	23	25
19	C	E	E	12	17	14	19	18	20	24	25	26
20	17	19	20	13	16	13	18	22	26	27	C	26
21	15	20	23	17	13	16	21	20	23	25	32	28
22	13	13	15	17	15	18	24	20	24	24	25	28
23	18	16	17	19	20	17	25	18	20	22	27	C
24	15	13	12	14	14	14	17	20	23	26	27	28
25	16	14	12	12	16	14	20	20	24	26	26	26
26	18	13	12	14	15	16	18	19	24	24	26	26
27	15	13	14	14	13	14	17	18	22	21	26	26
28	16	15	17	14	14	14	15	16	20	23	28	30
29	15	11	14	13	12	14	18	19	22	C	C	27
30	14	13	14	12	14	14	20	19	30	27	27	27
Count	29	30	30	30	30	30	30	30	29	28	27	28
Median	15	14	14	14	14	14	19	19	23	24	26	27
Mean	15	14	15	14	14	15	20	19	23	24	27	27

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristics of fmin  
 Unit Mc  
 Month November 1959

TABLE 50—contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
30	25	25	22	21	16	12	21	15	18	18	15	1
29	28	28	22	21	16	14	15	15	18	19	21	2
28	27	25	22	20	16	12	14	14	17	14	15	3
C	C	C	C	20	15	14	13	12	18	18	17	4
28	25	25	22	21	16	13	15	17	15	14	17	5
30	27	26	23	24	17	13	14	14	13	15	12	6
25	24	24	21	18	16	12	18	15	11	12	13	7
26	21	22	23	18	19	11	15	14	15	15	24	8
30	26	24	21	18	15	14	11	13	13	11	14	9
26	26	21	22	18	15	14	14	15	15	14	18	10
25	25	26	26	C	15	15	15	15	14	18	24	11
42	25	28	C	19	16	14	15	16	14	18	18	12
27	27	21	22	20	17	16	16	15	17	22	16	13
30	26	26	19	20	15	15	14	15	14	18	11	14
C	C	C	21	20	15	13	15	15	13	11	14	15
21	21	21	22	21	16	14	12	11	14	14	16	16
26	25	23	19	19	14	12	13	13	12	16	15	17
25	25	22	21	21	17	14	12	11	11	12	11	18
25	21	24	19	15	15	11	18	18	14	15	16	19
28	26	24	23	19	17	14	13	17	15	14	12	20
27	25	25	20	20	16	14	15	16	20	21	20	21
28	26	24	21	17	18	16	18	20	20	15	17	22
26	C	C	C	C	16	16	15	17	15	16	15	23
28	27	25	23	21	16	13	16	14	15	18	17	24
26	28	24	23	20	16	14	16	14	19	22	22	25
26	26	28	26	20	16	16	13	14	15	16	14	26
27	25	24	22	19	16	13	15	17	15	19	17	27
28	26	24	20	19	16	12	17	15	15	13	13	28
26	C	24	21	19	16	11	15	15	13	14	12	29
26	26	24	22	19	17	12	14	16	15	14	13	30
28	26	27	27	28	30	30	30	30	30	30	30	Count
27	26	24	22	20	16	14	15	15	15	15	16	Median
28	26	25	22	20	16	14	15	15	15	16	16	Mean

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month November 1959

TABLE 51  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8								L	L	L	L	L
9								L	L	L	L	L
10								L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	C	C	C
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	v26oL	L	L	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	B	L	L	L
Mean												
Median												
Count									1			

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month November 1959

TABLE 51  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L	L							1
L	L	L	L	L	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
L	L	L	L	L	L							5
L	L	L	L	L	L							6
L	L	L	L	L	L							7
L	L	L	L	L	L							8
L	L	L	L	L	L							9
L	L	L	L	L	L							10
L	L	L	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	L	L	L	L							15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
L	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
L	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
L	L	L	L	L	L							27
L	L	L	L	L	L							28
L	L	L	L	L	L							29
L	L	L	L	L	L							30
												Mean
												Median
												Count

Sweep 1 Mc. to 25 Mc. in 27 seconds.

Characteristic  $\cdot h'F_2$   
 Unit, Km  
 Month November 1959

TABLE 51—*contd*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10.2° N  
 Longitude 77.5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10								L	L	L	L	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13								L	L	L	L	L
14							L	L	C	C	C	C
15								L	C	C	C	C
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20							L	U260L	L	L	C	L
21								L	L	L	L	L
22								L	L	L	L	L
23								L	L	L	C	L
24								L	L	L	L	L
25							L	L	L	L	L	L
26								L	L	L	L	L
27							L	L	L	L	L	L
28							L	L	L	L	L	L
29							L	L	L	C	C	L
30								L	L	L	L	L
Count								1				
Median												
Mean												

Sweep 1.0 Mc to 25.0 Mc. in 27 seconds.

Characteristic h'F<sub>2</sub>  
 Unit Km  
 Month November 1959

TABLE 51—*contd*  
 Ionospheric Data  
 75° 0' E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
C	C	C	C	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L	L							8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	C								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
C	C	C	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
												Count
												Median
												Mean

Sweep 10 Mc to 25 Mc in 27 seconds,



Characteristic h'F  
Unit . Km  
Month November 1959

TABLE 52  
Ionospheric Data  
75 ° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	240	235	210	210	310	345	255	240	225	220	200	205
2	230	225	220	235	240	240	260	235	220	220	215	215
3	240	240	220	230	220	205	250	235	220	220	210	200
4	220	215	215	215	225	235	255	230	220	200	200	205
5	240	215	225	255	260	220	250	230	220	215	205	B
6	225	220	220	220	210	220	250	225	220	200H	200	100
7	230	225	215	215	220	215	260	230	220	200	200	200H
8	230	U225F	215	255	U270F	210	255	230	215	200	C	100
9	240	245	U245F	U230F	215	210	260	230	220	210	200H	195
10	U255F	U230F	220	235	235	230	260	235	225	210	200	200
11	240	240	220	210	225	260	260	240	210H	220	105	200
12	240	240	230	225	220	235	270	240	220	210	200H	100
13	225	240	250	250	220	210	260	240	225	210	200H	200H
14	230	240	220	220	245	270	265	235	220	200H	215	213
15	225	220	220	220	220	220	265	240	215	C	C	C
16	240	230	220	210	220	230	260H	245	225	200	200	100H
17	240	240	260	290	275	225	265	240	210	210	215	200
18	220	220	220	220	220	225	270	240	225	215	210	205
19	C	U280F	U290F	F	245	220	260	245	235	220	205	205
20	250	210	220	220	220	220	260	240	220	210	215	210
21	320	245	240	240	240	230	260	240	220	220	205	210
22	240	260	260	265	260	220	260	250	235	220	210	210
23	260	240	240	240	220	220	260	240	230	220	225	C
24	235	230	220	240	220	220	260	235	220	220	200H	200
25	240	220	220	220	220	220	260	240	220	220	220	100
26	240	245	260	280	260	220	270	240	230	225	210	200
27	220	220	230	255	220	240	270	240	230	220	210	210
28	240	240	250	250	220	210	245	240	230	240	A	230
29	240	230	220	230	235	250	285	250	240	230	C	C
30	250	240	235	220	220	220	280	250	B	230	220	220
Mean	210	235	230	235	235	230	260	240	225	215	210	205
Median	240	240	220	230	220	220	260	240	220	220	205	200
Count	29	30	30	29	30	30	30	30	29	29	26	26

Sweep 1 Mc to 25 Mc in 27 seconds

Characteristic · h'F  
Unit Km  
Month · November 1959

TABLE 52  
Ionospheric Data  
75 ° E Mean Time

Latitude · 10 2° N  
Longitude · 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
200	210	220	220	240	265	365	355	260	220	235	245	1
220	210	220	230	245	265	330	400	320	270	260	240	2
200	215	215	220	235	260	310	340	315	280	210	220	3
205	C	C	C	240	265	320	335	260	220	240	260	4
215	210	220	220	240	260	315	320	275	255	225	220	5
205	210	200H	215	230	260	335	U400F	U360F	U270F	U305F	U260F	6
220	215	215	220	210	265	345	F	U360F	U350F	U280F	U240F	7
205	200	210	215	240	270	325	U390F	U325F	U320F	U220F	U240F	8
210	205	210	220	230	265	C	F	F	F	F	U265F	9
200	200	215	230	245	265	340	U310F	U400F	U300F	270	255F	10
210	210	215	220	235	270	350	420	F	U320F	U280F	275	11
200	215	220	225	A	270	350	U450F	U390F	U370F	U350F	255	12
200	205	205	220	240	265	340	U380F	F	300	260	235	13
215	205	205	220	240	270	325	335	280	240	280	245	14
C	C	C	220	240	270	340	390F	F	F <sub>A</sub>	250#	240	15
200	200	215	240	245	280	350	F	F	F	240F	240	16
195	205	210	225	240	270	315	U330F	325	275	250	235	17
220	220	225	235	255	275	350	F	F	F	F	240	18
205	200	195	205H	245	280	360	400	F	280	295	260	19
215	210	220H	235	245	275	335	F	F	F	F	F	20
200	200	200H	230	240	265	340	U380F	F	U320F	240	230	21
205	200H	200H	230	245	C	360	C	360	320	300	260	22
C	C	C	C	C	C	320	340	280F	260	240	235	23
200	200	205	225	240	260	340	U400F	U420F	300F	320F	260	24
210	200	220	220	240	260	325	400	U365F	300	280	240	25
200H	220	230	250	245	265	330	380	380	300	250	240	26
200H	215	220	220	250	280	380	420F	380F	280	260	240	27
225	245	240	240	250	270	280	260	240	240	250	255	28
220	C	240	235	245	280	350	390	355	320	260	240	29
215	220	215	230	250	275	340	340	370	315	285	295	30
210	210	215	235	240	270	335	370	335	290	265	245	Mean
205	210	215	220	240	270	340	380	355	300	260	240	Median
28	26	27	28	28	28	29	25	21	25	27	29	Count

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic  $f^oF$   
 Unit Km  
 Month November 1959

TABLE 52—*contd*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	240	215	200	265	360	325	280	230	220	200	200	200
2	230	220	235	220	240	240	245	230	220	220	210	220
3	245	240	220	235	205	215	240	230	220	210	210	205
4	215	220	215	220	240	245	235	220	210	200	200	200
5	235	215	235	255	255	220	235	220	220	220	200	210
6	220	220	210	220	200	235	240	225	210	200	205	205H
7	225	220	220	210	220	235	240	230	210	205	205H	200H
8	225	220	240	265	235F	220	240	220	210	200	200	220
9	250	245	230F	U225Γ	210	225	240	230	210	200H	200	200
10	U240F	225	215	240	230	230	245	230	220	205	200	200
11	240	230	220	215	260	260	245	220H	215	205H	200	200
12	240	235	220	220	225	260	250	230	215	210	200H	195
13	225	250	250	240	215	230	245	235	220	205	200	200
14	230	235	220	215	285	265	240	235	200H	200	215	210
15	225	220	220	210	225	245	245	225	C	C	C	C
16	245	225	215	220	215	255	250	235	215	220	200	195
17	240	245	275	280	245	235	260	240	215	205	200	200
18	225	225	225	220	220	245	245	230	220	210	205	200
19	C	U290F	F	280	220	240	260	240	230	215	215	205
20	240	235	220	205	220	240	240	230	220	205	C	220
21	260	240	240	240	240	250	260	240	220	215	210	215
22	240	265	260	260	220	240	260	240	220	210	210	220
23	240	240	260	240	220	235	240	240	220	220	225	C
24	230	220	230	235	220	240	250	240	220	215	205	205
25	240	220	220	220	220	235	250	240	220H	210	220	200
26	240	255	270	275	220	230	250	235	230	220	200	210
27	220	220	230	230	220	245	250	230	220	220	210	205
28	240	245	240	240	225	220	250	235	240	230	230	230
29	230	220	220	240	245	270	255	240	235	C	C	220
30	240	235	220	225	215	240	260	240	240	220	220	215
Mean	235	235	230	235	230	240	250	230	220	210	205	205
Median	240	230	220	230	220	240	245	230	220	210	205	205
Count	29	30	29	30	30	30	30	30	29	28	27	28

Sweep 1.0 Mc to 2.5 Mc in 27 seconds.

Characteristic h'F  
Unit . Km  
Month November 1959

TABLE 52--Contd  
Ionospheric Data  
75° E Mean Time

Latitude · 10 2° N  
Longitude · 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
215	215	220	230	260	300	405	300	240	220	240	240	1
220	220	220	240	260	280	360	F	300	260	255	240	2
205	215	215	220	250	280	340	325	295	260	220	220	3
C	C	C	C	255	280	340	300	230	235	260	250	4
210	215	220	230	260	290	335	300	260	240	220	225	5
210	210	220	225	245	275	390F	U370F	F	U290F	U300F	U235F	6
205H	220	220	220	250	290	U355F	U400F	U340F	U280F	250F	U235F	7
205	205H	215H	220	255	290	U365F	U360F	U325F	U260F	U240F	U240F	8
210	215	215	220	245	280	U360F	F	F	F	U265F	U260F	9
200	205	220	230	255	295	380	F	U330F	270	260	235	10
215	220	220	230	C	300	400	U465F	U440F	280	315	245	11
215	210	215	C	255	295	405	U420F	U340F	U360F	280	235	12
200	210	220	220H	240	290	380	F	U315F	275	260	225	13
210	205	215	230	235	290	345	305	260	260	260	240	14
C	C	C	235	230	290	395	U365F	F	245	250	240	15
200	210	230	240	260	300	U405F	F	F	225F	250	240	16
200	210	220	230	255	285	335	U335F	305	255	240	220	17
215	220	230	240	260	310	F	F	F	F	F	240	18
200	205	200H	230	260	300	400	F	U310F	280	280	250	19
205	210	210H	240	260	295	380	F	F	F	F	340	20
200	200H	230	235	235	290	U380F	U380F	U320F	290	240	235	21
210	220	225	240	260	U300S	400	390	340	310	260	260	22
220	C	C	C	C	290	330	310F	260F	260	220	240	23
210	205	220	235	260	280	F	U420F	U340F	340F	U280F	240	24
200	200	220	220	230	280	370	U400F	U340F	295	260	245	25
200H	220	240	240	260	280	370	385	350	270	240	230	26
215	215	210	235	260	300	420	400F	320	270	250	240	27
230	245	240	250	260	280	280	240	240	250	250	240	28
220	C	230	240	260	300	380	375	340	280	260	250	29
220	220	230	240	260	290	370	340	320	290	280	295	30
210	215	220	230	255	290	370	360	310	270	255	245	Mean
210	210	220	230	260	290	375	370	320	270	260	240	Median
28	26	27	27	28	30	28	22	24	27	28	30	Count

Sweep 1.0 Mc. to 25.0 Mc in 27 seconds.

Characteristic h'E  
Unit Km  
Month November 1959

TABLE 53  
Ionospheric Data  
75° E Mean Time

Latitude : 10.2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								A	A	A	A	A
2								110H	A	A	A	A
3								105	A	A	A	A
4								A	A	A	A	A
5								105H	A	A	A	B
6								110	A	A	A	A
7								105	A	A	A	A
8								105	A	A	C	A
9								100	A	A	A	A
10								A	A	A	A	A
11								A	A	B	A	A
12								A	A	A	A	A
13								A	A	A	A	A
14								105	A	A	B	A
15								105	A	C	C	C
16								A	A	A	A	A
17								A	A	A	A	A
18							130	105	A	A	A	A
19								A	A	A	A	A
20								110	110	A	A	A
21								120	110	A	A	A
22								110	A	A	A	A
23								120	110	A	A	C
24								120	110	A	A	A
25								120	A	A	B	A
26								110	A	A	A	A
27								110	A	A	A	A
28								110	A	110	A	115
29								115	110	A	C	C
30								120	B	110	A	A
Mean								110	110			
Median								110	110			
Count							1	21	5	2		1

Sweep 10 Mc to 25 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month November 1959

TABLE 53  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	A	A	A							1
A	A	105	A	A	A							2
A	A	A	A	A	A							3
A	C	C	C	A	A							4
A	A	105	105	A	A							5
A	A	A	105	105								6
A	A	A	A	110	A							7
A	A	A	A	A	A							8
A	A	A	A	105								9
A	A	A	A	110								10
A	A	A	110	110	A							11
A	A	A	A	A	A							12
A	A	A	A	110								13
A	A	A	A	A	A							14
A	C	C	A	110	A							15
A	A	A	A	110	A							16
A	A	A	A	A	115							17
A	A	A	A	A	A							18
A	A	A	A	A	A							19
A	A	A	A	A	A							20
A	A	A	A	110	A							21
A	A	110	A	110	C							22
C	C	C	C	C	C							23
A	A	A	105	110	A							24
A	A	A	110	110	120							25
A	A	A	A	110								26
A	A	A	B	A	120							27
A	A	A	A	A								28
110	110	110	A	A								29
A	C	A	110	120								30
A	A	A	110	110								
			110	110								Mean
			110	110								Median
1	1	4	7	16	2							Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'E  
Unit Km  
Month November 1959

TABLE 53 —Contd.  
Ionospheric Data  
75.0° E Mean Time

Latitude 10.2° N  
Longitude 77.5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							A	A	A	A	A	A
2								100	100	A	A	A
3								A	A	A	A	A
4								A	A	A	A	A
5								105	A	A	A	A
6							165	110	A	A	A	A
7							115	A	A	A	A	A
8							110	A	A	A	A	A
9							115 <sup>H</sup>	A	A	A	A	A
10							105	A	A	A	A	A
11							115	A	A	A	A	A
12							A	A	A	A	A	A
13							120	A	A	A	A	A
14							115	A	A	A	A	A
15							120	A	C	C	C	C
16							115	A	A	A	A	A
17							115	A	A	A	A	A
18							120	A	A	A	A	A
19							A	A	A	A	A	A
20							130	A	A	A	C	A
21							120	115	A	A	A	A
22								110	A	A	A	A
23								110	A	A	C	C
24							120	110	A	A	A	A
25							120	110	A	A	A	A
26							125	110	A	A	A	A
27							120	110	A	A	A	A
28							120	110	A	A	110	110
29							120	120	A	C	C	A
30								110	120	A	A	A
Count							20	13	2		1	1
Median							120	110				
Mean							120	110				

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

Characteristic h'E  
Unit Km  
Month November 1959

TABLE 53—*Contd*  
Ionospheric Data  
75° E Mean Time

Latitude 10.2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A								1
A	100	A	A	A								2
A	A	A	A	A								3
C	C	C	C	A								4
A	105	105	A	A								5
A	A	105	A	A								6
A	A	105	105	A								7
A	A	A	A	A								8
A	A	A	A	110								9
A	A	A	105	A								10
A	A	105	120	C								11
A	A	A	C	A								12
A	A	A	110	115								13
A	A	105	A	A								14
C	C	C	105	A								15
A	A	A	110	A								16
A	A	A	A	A								17
A	A	A	100	130H								18
A	A	A	A	A								19
A	A	A	115	A								20
A	A	A	A	120								21
A	A	105	A	110								22
A	C	C	C	C								23
A	A	105	105	110								24
A	A	A	110	120								25
A	A	A	A	120								26
A	A	A	A	A								27
110	110	A	A	120								28
A	C	A	110	120								29
A	A	110	110	120								30
1	3	8	12	11								Count
		105	110	120								Median
		105	110	120								Mean

Sweep 10 Mc. to 250 Mc. in 27 seconds



Characteristic h'Es  
Unit Km  
Month November 1959

TABLE 54  
Ionospheric Data  
75.0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1							100	100	100	100	100	100
2	100							G	100	100	100	100
3								G	100	100	100	100
4								100	100	100	100	100
5								G	100	100	100	100
6								G	100	100	100	100
7								100	100	100	100	100
8					100			100	100	100	C	100
9	100	100						100	100	100	100	100
10	100							100	100	100	100	100
11	100							100	100	100	100	100
12								100	100	100	100	100
13								100	100	100	100	100
14								100	100	100	100	100
15								100	100	C	C	C
16	105							100	100	100	100	100
17			130					100	100	100	100	100
18							G	100	100	100	100	100
19			100	100				100	100	100	100	100
20	100	100				120		G	100	100	100	100
21	100	100	100					100	100	100	100	100
22		100	100		100			100	100	100	100	100
23			105					100	100	100	100	C
24								100	100	100	100	100
25								100	100	100	100	100
26	100		105	110	140			100	100	100	100	100
27								100	100	100	100	100
28	110	100	100					100	100	100	100	G
29							110	100	105	100	C	C
30								100	B	100	100	100
Mean	100	100	105					100	100	100	100	100
Median	100	100	100					100	100	100	100	100
Count	9	5	7	2	3	1	2	25	29	29	27	26

Sweep 10 Mc to 250 Mc in 27 seconds.

Characteristic h'Es  
Unit Km  
Month November 1959

TABLE 54  
Ionospheric Data  
75-0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	100	100	100								1
100	100	G	100	100	100					100		2
100	100	100	100	100								3
100	C	C	C	100								4
100	100	G	100	100	100							5
100	100	100	100	100	100							6
100	100	100	100	100	105							7
100	100	100	100	100	105					130	100	8
100	100	100	100	100	100	C				105	100	9
100	100	100	100	100	100					105	100	10
100	100	100	100	100	110					105	105	11
100	100	100	100	100	100					100	100	12
100	100	100	100	100	G							13
100	100	100	95	100	100		90	120		115	105	14
C	C	C	100	100	100					100	100	15
100	100	100	100	100	100				R			16
100	100	100	100	100	100				100		100	17
100	100	100	100	100	G							18
100	100	100	100	100	100					110		19
100	100	100	100	100	100						110	20
100	100	100	100	100	100			110				21
100	100	100	100	100	C							22
C	C	C	C	C	C					120		23
100	100	100	100	100	110							24
100	100	100	100	100	105							25
100	100	100	100	100						140		26
100	100	100	100	100	G					100	110	27
110	130	100	100	100								28
100	C	100	100	100								29
100	100	100	100	100							115	30
100	100	100	100	100	100			.		110	105	Mean
100	100	100	100	100	100		.		..	105	100	Median
28	26	25	28	27	19		1	2	1	13	11	Count

Sweep 1.0 Mc to 25.0 Mc. in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month November 1959

TABLE 54—*contd.*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude : 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1					105	100	100	100	100	100	100	100
2	100							G	G	100	100	100
3								100	100	100	100	100
4								100	100	100	100	100
5								G	100	100	100	100
6							G	G	100	100	100	100
7							105	100	100	100	100	100
8				100			G	100	100	100	100	100
9	100	100	100				G	100	100	100	100	100
10							100	100	100	100	100	100
11	100				100		G	100	100	100	100	100
12							100	100	100	100	100	100
13							G	100	100	100	100	100
14							G	100	100	100	100	100
15							100	100	C	C	C	C
16	100						100	100	100	100	100	100
17			100	100			105	100	100	100	100	100
18	105						G	100	100	100	100	100
19	C	100	100	100			100	100	100	100	100	100
20	100						G	100	100	100	C	100
21	100	100					G	100	100	100	100	100
22	100	100	100					100	100	100	100	100
23		105	100					100	100	100	C	C
24							G	100	100	100	100	100
25							G	100	100	100	100	100
26	115		105				G	100	100	100	100	100
27							G	100	100	100	100	100
28	110	100					G	100	100	100	100	100
29							G	G	100	C	C	100
30							150	100	100	100	100	100
Mean	105	100	100				105	100	100	100	100	100
Median	100	100	100				100	100	100	100	100	100
Count	10	6	6	3	2	1	9	26	28	28	26	28

Sweep 10 Mc to 250 Mc in 27 seconds

Characteristic h'Es  
Unit Km  
Month November 1959

TABLE 54—contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
100	100	100	100	100								1
100	100	100	100	100						100		2
100	100	100	100	100								3
C	C	C	C	100								4
100	100	100	100	100					100			5
100	100	100	100	100								6
100	100	100	100	105								7
100	100	100	100	100						100		8
100	100	100	100	100						100	100	9
100	100	100	100	100						105	100	10
100	100	100	100	C					125	105	100	11
100	100	100	C	100					100	100	100	12
100	100	100	G	100								13
100	100	95	100	100			115	100			100	14
C	C	C	100	100			130				100	15
100	100	100	100	100								16
100	100	100	100	100					100	100	100	17
100	100	100	100	G								18
100	100	100	100	100					120		105	19
100	100	100	100	100	100						105	20
100	100	100	100	100								21
100	100	100	100	105								22
100	C	C	C	C								23
100	100	100	100	100								24
100	100	100	100	100						105		25
100	100	100	100	100						120		26
100	100	100	100	100						110	110	27
G	100	100	100	110		120			120			28
100	C	100	100	110								29
100	100	100	100	110							110	30
100	100	100	100	100					110	105	105	Mean
100	100	100	100	100					110	100	100	Median
27	26	27	26	27	1	1	2	1	6	11	12	Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic (M3000)F2  
Unit .  
Month November 1959

TABLE 55  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	F	3 05	3 20	3 25	2 60	F	2 75	2 70	2 60	2 40	2 35	2 45
2	3 10	3 15	3 15	3 20	3 10	3 15	3 05	3 05	2 85	2 70	2 45	2 50
3	2 80	3 00	3 20	3 15	3 20	3 40	3 15	3 10	2 90	2 70	2 30	2 15
4	3 05	3 10	3 20	3 15	3 10	3 15	2 95	2 80	2 70	2 50	2 30	2 25
5	2 90	3 15	3 15	3 00	2 90	3 00	3 00	3 00	2 95	2 65	2 25	2 15
6	3 05	3 10	3 20	3 15	3 40	3 45	3 15	3 05	2 90	2 45	2 15	2 35
7	F	3 00	3 20	3 30	3 20	3 35	3 00	2 95	2 60	2 50	2 40	2 30
8	F	F	3 25	U2 95S	F	3 20	3 15	3 00	2 50	2 45	C	2 15
9	U3 00S	U3 00S	F	U3 05F	3 25	3 25	U3 05S	2 95	2 75	2 40	2 45	2 10
10	F	F	U3 20F	U3 10F	3 05	3 10	3 00	U2 70I	2 55	2 50	2 45	2 35
11	3 00	J3 15S	3 30	3 30	3 20	3 00	3 00	2 90	2 65	2 30	2 30	2 30
12	F	3 00F	J3 05F	F	U3 30F	3 10	F	U2 75S	2 55	2 45	2 45	2 35
13	F	F	FS	2 95	3 20F	3 30	3 10	2 85	2 45	2 30	2 30	2 40
14	2 95	J3 05S	U3 10S	3 15	3 10	2 90	2 70	U2 90S	2 55	2 45	2 20	2 25
15	3 05	3 10	3 10	3 25	3 25	3 35	2 90	2 75	2 60	C	C	C
16	S	2 85	3 00	3 10	3 30	3 20	3 00	2 95	2 50	2 35	2 30	2 10
17	F	U3 05S	F	F	2 90	F	U2 95I	2 70	2 50	2 50	2 35	2 10
18	3 15	3 10	3 15	3 25	3 30	3 35	3 00	2 95	2 55	2 35	2 25	2 30
19	C	F	F	F	F	3 20	3 15	2 95	2 60	2 40	2 30	2 35
20	2 80	3 05	3 20	3 05	3 40	3 50	3 10	3 10	2 95	2 70	2 30	2 35
21	F	U2 80I	U3 10F	U3 15S	3 20	3 40	3 10	3 05	2 85	2 45	2 45	2 30
22	3 00	U3 10S	J3 00S	U2 95S	3 05	3 30	3 10	2 90	J2 60R	2 50	2 50	2 40
23	F	U2 90SF	U3 00S	U3 00SI	3 20	3 40	3 15	3 20	2 90	2 80	2 55	C
24	U3 00S	U3 10S	3 25	3 30	3 30	3 50	3 00	3 00	2 75	2 50	2 30	2 35
25	F	F	3 20	3 30	3 45	3 35	3 10	U3 10S	2 75	2 50	2 40	2 35
26	3 05	3 05	3 00	2 85	2 95	U3 30S	3 05	2 90	2 65	2 45	2 35	2 35
27	2 90	3 10	3 15	U2 95S	3 20	3 20	3 05	2 90	2 65	2 50	2 40	2 40
28	2 90	U2 90S	3 10	3 10	3 20	3 25	U3 10S	3 00	2 80	2 10II	2 55	2 65
29	3 05	3 20	3 25	3 05	3 15	3 15	2 95	2 90	2 80	2 65	C	C
30	FS	U2 75IS	2 90F	U3 10S	3 25	3 40	2 90	3 00	2 80	2 60	S	2 35
Mean	3 00	3 05	3 15	3 10	3 15	3 25	3 00	2 95	2 70	2 50	2 35	2 35
Median	3 00	3 05	3 15	3 10	3 20	3 30	3 05	2 95	2 65	2 50	2 35	2 35
Count	17	25	26	27	28	28	29	30	30	29	26	27

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds

Characteristic (M3000)F2  
 Unit  
 Month November 1959

TABLE 55  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 30	2 25	2 20	2 20	2 20	2 15	1 95	2 05	U2 35s	2 50	2 80	U2 90s	1
2 50	2 40	2 35	U2 35s	U2 25s	2 10	U1 95Hs	1 95I	2 05F	U2 25s	2 40	2 65	2
2 30	2 25	2 30	2 30	2 30	U2 35s	U2 20s	2 20	U2 30s	U2 45s	U2 65s	2 85	3
2 30	C'	C'	C'	U2 30s	U2 20s	2 10	2 25	2 50	U2 65s	2 70	2 75	4
2 35	2 25	2 10	2 35	2 30	2 15	2 10	2 10	2 25	2 50	2 85	2 90	5
2 35	2 40	2 10	" 45	2 10	2 35	2 10	U2 00I	F	F	F	F	6
2 30	2 30	2 30	2 35	2 25	2 20	2 10	2 10	U2 30I	F	F	F	7
2 40	2 35	2 25	2 15	2 20	2 25	U2 25s	2 10	U2 20s	I'	U2 80s	F	8
2 40	2 45	2 35	2 35	2 40	U2 10s	C	/F	F	F	F	F	9
2 35	2 35	2 30	2 20	2 20	2 20	2 10	U2 00s	F	U2 25F	U2 60F	U2 80F	10
2 30	2 25	2 30	2 35	2 10	2 35	2 10	2 05II	F	F	F	F	11
2 30	2 30	2 30	2 30	2 40	2 40	U2 15s	2 00	F	F	F	F	12
2 30	2 35	U2 35R	2 35	2 10	2 10	U2 30R	2 10	2 25I	2 35	F	2 70	13
2 20	2 20	2 20	2 35	2 40	2 35	2 40	2 20	2 40	2 60	2 65	2 85	14
C'	C'	C'	2 30	2 35	U2 35s	U2 15s	2 05	U2 10F	FS	U2 35s	2 60	15
2 35	2 25	2 25	2 30	2 30	2 10	U2 20s	F	F	F	F	F	16
2 35	2 25	2 30	2 30	2 30	U2 25s	2 20	U2 20s	2 15	2 15	2 60	U2 95s	17
2 25	2 30	2 35	2 50	2 65	2 70	2 40	U2 25s	F	F	F	F	18
2 25	2 20	2 30	2 35	2 40	2 25	2 10	F	F	U2 35s	2 45	F	19
2 35	2 25	2 25	2 30	2 35	U2 40s	2 25	U2 10s	F	F	F	F	20
2 20	2 25	2 30	2 35	U2 35s	U2 35s	2 20	2 05	F	2 40	U2 50SF	U2 95s	21
2 20	2 20	2 30	2 30	2 20	C'	2 25	2 15	2 25	U2 40s	U2 50s	FS	22
C'	C'	C'	C'	C'	C'	2 25	U2 20s	U2 35s	2 50	U2 80s	U2 95s	23
2 30	2 30	U2 30s	2 25	U2 30s	2 10	2 30	U2 10I	F	F	F	F	24
2 30	2 30	2 30	U2 10s	U2 10s	U2 35s	U2 25s	U2 10s	U2 20sI	FS	F	2 75	25
2 25	2 15	U2 20s	2 15	2 30	2 30	2 50	U2 15s	2 20	2 40	U2 75s	U2 90s	26
2 30	2 40	2 30	2 20	U2 10s	U2 10s	2 15	F	F	F	2 65	U2 80s	27
2 65	2 55	2 40	U2 31s	U2 00Hs	U2 40s	2 40	U2 61s	2 60	U2 75s	2 95	3.00	28
2 25	C'	2 25	2 25	U2 25s	U2 30s	2 15	2 15	2 20	2 30	2 50	U2 60s	29
2 30	2 35	2 30	2 35	2 35	2 35	2 30	U2 10s	2 20	2 40	2 50	U2 50I	30
2 30	2 30	2 30	2 30	2 30	2 30	2 20	2 15	2 25	2 45	2 65	2 80	Mean
2 30	2 30	2 30	2 30	2 30	2 35	2 20	2 10	2 25	2 40	2 65	2 80	Median
28	26	27	28	29	28	29	26	18	17	19	18	Count

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds.

Characteristic (M3000)F2  
Unit  
Month November 1959

TABLE 55—contd  
Ionospheric Data  
75 °E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	U3 10r	3 20	3 40	2 90	2 55F	F	2 85	2 60	2 50	2 25	2 40	2 40
2	3 10	3 20	3 00	3 20	3 05	2 95	3 05	2 90	2 75	U2 65s	2 40	2 50
3	2 95	3 10	3 25	3 15	3 30	3 10	3 15	3 00	2.75	U2.50s	U2 10r	2 40
4	3 10	3 05	3 10	3 10	3 10	3 05	2 85	2 75	2 60	2 40	2 20	2 30
5	2 90	3 20	3 10	2 95	2 90	3 05	3 00	3 00	2 75	2 50	2 10H	2 35
6	3 10	3 20	3 25	3 30	3 55	2 70	3 15	3 00	2 70	2 25	2 40	2 40
7	U2 95F	3 20	3 20	3 35	3.25	3 00	3 10	2.80	2 45	2 40	2 35	2 35
8	F	F	3 10	2 90	F	3 15	3 15	2 75	2 40	2 45	2 40	2 40
9	U3 00s	3 00	U3 15s	U3 20r	3 20	2 95	3 05	2 90	2 55	2 35	2 50	2 40
10	F	U3 05F	3 25r	3 05	3 00	3 10	F	2 60	2 50	2 40	2 30	2 30
11	U3 05s	J3 20s	3 35	3 30	3 05	3 00	2 95	2 80	2 50	2 30	2 30	2 30
12	F	3 10	3 10r	FS	3 20	J3 00r	2 65r	2 70	2 40	2 50	2 40	2 40
13	F	F	FS	F	3 20	3 25	J3 00s	2 65	2 40	2 30	2 30	2 35
14	3 10	U3 00s	3 10	3 30	2 90	J2 90s	2 80	2 70	2 50	2 35	2 20	2 20
15	U3 05s	3 10	3 10	3 10	3 30	2 75	2 90	2 70	C	C	C	C
16	U2 70s	2 95	U3 05s	3 20	3 25	2 95	2 95	2 65	2 40	2 30	2 35	2 30
17	U3 00s	3 10	U3 05s	2 90	3 10	F	2 85	2 55	2 60	2 30	2 45	2 40
18	3 00	3 15	3 10	3 30	3 35	2 90	3 10	2 80	2 50	2 30	2.25	2 30
19	C	U2 90r	F	F	F	3 25	3 05	2 80	2 45	2 25	2 40	2 30
20	U2 95s	3 10	3 20	3 25	3 45	2 60H	3 15	3 00	2 85	2 50	C	2 35
21	F	U3 00r	3 15	3 20	3 25	3 20	3 10	2 90	2 60	2 50	2 40	2 25
22	3 05	3 00	U3 10s	U2 90s	3 20	3.25	3 05	2 75	2 50	2 50	2 40	U2 25c
23	U2 90s	U2 95rs	F	U3 05s	3 35	3 20	3 25	3 00	2 90	2 70	2 40	C
24	3 15	U3 25s	U3 20s	3 30	3 30	2 80	3 00	2 90	2 60	2 10	2 35	2 30
25	F	U3 10rs	U3 30s	3 40	3 40	2 90H	3 15	2 90	2 60	2 40	2 35	2 40
26	3 05	3 05	2 90	2 85	3 20	U3 30s	U3 00s	2 80	2 55	2 40	2 40	2 30
27	3 05	3 10	3 05	3 10	3 15	3 00	3 00	2 75	2 55	2 45	2 40	2 35
28	3 00	U3 00s	3 10	3 10	3 20	3 25	3 10	2 90	2 30H	2 55	2 60	2 65
29	3 10	3 10	U3 30s	3 10	3 10	2 95	2 90	2.85	2 80	C	C	2 30
30	U2 60r	2 70	3 05	3 20	U3 35s	3 10H	2 95	U2 90s	2 75	2 40	2.20	2 30
Mean	3 00	3 05	3 15	3 15	3 20	3 00	3 00	2 80	2 60	2 40	2 35	2 35
Median	3.05	3 10	3 10	3 15	3 20	3.00	3 00	2 80	2 55	2 40	2.40	2 35
Count	23	28	27	27	28	28	29	30	29	28	27	28

Sweep 1 0 Mc. to 25 0 Mc in 27 seconds.

Characteristic (M3000)F<sub>2</sub>  
Unit  
Month November 1959

TABLE 55—*contd*  
Ionospheric Data  
75° E Meridian Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 30	2 25	2 20	2 0	2 20	2 05	1 95	2 35	2 15	U2 705	U2 855	2 95	1
2 45	2 35	U2 355	U2 255	U2 155	U2 055	U1 905II	1 905	U2 205	U2 255II	U2 505	2 70	2
2 30	2 25	2 25	2 35	U2 355	U2 305	2 20	U2 255	U2 355	2 50	2 70	2 95	3
C	C	C	C	2 30	2 10	2 10	2 10	2 35	2 65	2 70	2 75	4
2 30	2 30	2 10	2 10	2 20	2 10	U2 055	2 10	2 35	2 70	2 80	2 95	5
2 35	2 10	2 10	2 10	2 35	2 25	2 05	2 101	F	F	F	F	6
2 30	2 30	2 30	2 30	2 25	2 20	2 15	2 20	F	F	F	F	7
2 10	2 25	2 20	2 10	2 20	2 30	2 0	2 20	U2 155	F	F	2 905	8
2 10	2 10	2 10	2 30	2 10	U2 155	1 9 1	F	F	F	F	F	9
2 40	2 30	2 30	2 20	2 25	U2 305	2 00	U2 001	F	F5	U2 601	2 85	10
2 30	2 30	2 35	2 10	C	2 25	2 10	F	F	F	F	F	11
2 30	2 30	2 30	C	2 15	2 30	2 05	F	F	F	F	F	12
2 30	2 30	2 35	2 35	2 15	U2 105	U2 205	U2 151	2 25	2 45	U2 551	2 95	13
2 20	2 15	2 30	2 10	2 10	2 30	2 20	2 30	U2 505	2 70	2 75	2 90	14
C	C	C	2 30	2 10	2 25	2 05	2 05	F5	2 301	U2 505	2 55	15
2 35	2 20	23 0	2 35	2 10	2 30	2 10	F	F	F	F	F	16
2 30	2 30	23 0	2 30	2 25	2 30	U2 205	U2 155	2 30	U2 605	U2 855	3 05	17
2 25	2 10	25 0	2 60	2 65	U2 605	2 35	F	F	F	F	F	18
2 20	2 25	2 30	2 30	2 35	2 15	2 05	F	U2 251	2 30	F	U2 701	19
2 30	2 25	2 25	2 30	U2 355	U2 355	2 15	F	F	F	F	F	20
2 30	2 20	2 30	2 55	U2 105	2 30	U2 105	2 05	F	F	U2 855	3 00	21
2 20	2 25	2 30	2 30	2 20	U2 355	2 15	2 10	2 10	F	U2 555	F	22
2 30	C	C	C	C	2 30	2 15	2 30	U2 405	S	U2 805	3 00	23
2 30	2 30	2 30	U2 255	2 30	U2 105	2 101	F	F	F	F	F	24
2 25	2 30	2 35	U2 355	2 10	U2 355	2 20	U2 155	U2 301	U2 501	F	2 55	25
2 25	2 30	2 15	2 30	2 30	2 35	U2 205	2 20	2 30	2 55	U2 855	U2 905	26
2 30	2 35	U2 255R	2 15	U2 005	U2 505	F	F	F	U2 501	2 75	2 80	27
2 60	2 50	2 35	2 1011	SII	U2 105	2 50	2 60	2 70	2 35	3 00	3 05	28
2 30	C	2 0	U2 205	2 30	2 20	U2 155	2 20	2 30	2 40	2 55	2 65	29
2 20	2 35	2 30	U2 355	2 10	2 30	2 20	U2 305	2 35	2 10	U2 155	U2 155	30
2 30	2 30	2 30	2 30	2 30	2 25	2 15	2 20	2 10	2 50	U2 70	2 85	M n
2 30	2 30	2 30	2 30	2 30	2 30	2 15	2 20	2 35	2 0	U2 75	2 90	M n
28	6	27	27	27	30	20	21	17	16	18	20	Cont

5 v e p 1 0 M e to 25 0 M e in 27 s e c n d s



Characteristic foF<sub>2</sub>  
Unit Mc  
Month December 1959

TABLE 56  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	12 2	F	F	9 9	9 8	8 0	8 2	11 0	13 2	13 2	13 9	13 6
2	11 7	11 9	11 8	11 0	9 6	5 7	7 1	11 0	12 8	13 4	13 5	12 8
3	12 6	10 0	9 0	10 1	10 2	8 1	7 1	10 3	10 8	10 9	11 7	11 8
4	10 8	10 7	11 0	10 6	10 4	10 1	9 7	11 7	12 7	13 3	13 5	13 4
5	F	F	F	F	F	F	U8 2r	U10 5F	12 1	12 4	11 8	11 1
6	F	F	F	F	F	F	10 7	11 9	11 7	12 6	12 7	12 6
7	F	U9 2F	10 4	8 7	7 7	6 2	6 0	9 6	12 0	12 8	12 7	11 8
8	U7 8F	U8 0r	U7 8r	U7 5F	6 7	6 1	6 7	10 0	11 8	11 8	11 4	11 2
9	F	F	F	F	F	U6 0r	U8 1r	10 2	11 5	11 9	12 0	11 8
10	U9 3s	10 4	10 1	7 6	6 2	5 7	6 7	9 6	11 7	11 6	11 2	10 9
11	8 4F	U9 1F	8 9	8 0	6 4	U5 4r	6 3	10 2	11 8	12 0	11 4	10 5
12	F	U8 8F	Fs	7 4	4 8	3 7	5 6	8 9	10 2	10 6	11 7	12 2
13	F	8 9r	8 3	5 3	4 0	4 4	4 9	8 4	10 9	12 1	12 2	11 8
14	F	F	U9 2F <sub>s</sub>	6 2	4 1	F	4 5	8 4	11 0	11 7	11 2	11 2
15	12 2	11 0	10 3	8 6	6 8	5 2	6 0	9 2	10 6	11 4	C	C
16	9 4	U10 0s	8 6	7 5	4 9	2 8	5 3	9 6	11 4	12 6	12 5	11 9
17	F	F	U7 6r	U7 9r	F	6 0	U6 4F	U9 5s	11 2	10 8	10 8	10 9
18	F	U9 0F	F	F	U7 0s	5 6	5 8	U9 6s	11 6	12 6	12 2	10 6
19	9 0	8 1	6 7	5 6	4 6	3 8	5 2	9 0	11 1	11 7	11 6	10 9
20	U9 4s	U9 4s	8 8	U7 4s	4 4	2 8	U5 1s	9 4	11 4	C	C	C
21	8 8	8 6	F	C	C	C	C	C	C	10 6	10 3	10 4
22	F	F	U7 7s	6 6	5 9	4 1	5 1	9 0	11 6	11 8	C	C
23	F	F	F	F	F	F	F	9 6	10 7	11 5	10 8	9 6
24	10 5	S	9 5	9 1	8 3	3 7	5 3H	9 1	10 5	11 3	11 5	11 4
25	F	F	F	F	F	F	U5 1rH	8 6	11 3	11 8	11 7	11 6
26	F	F	F	F	F	F	U6 8s	9 1H	9 7	10 2	10 4	10 6
27	U7 5s	Fs	6 8F	16 2s	F	6 4	F	U10 0r	11 4	12 0	C	C
28	8 6	U9 2s	8 6	8 6	U7 1s	4 2	4 9	9 6	11 6	U11 7s	11 5	11 2
29	U11 0s	9 4	F	U7 8s	U8 0s	U6 2s	F	S	U12 0s	12 6	13 0	13 1
30	U9 0r	F	17 3s	U6 0s	5 0	3 3	4 8	U9 0s	11 2	10 8	10 8	10 8
31	10 6	8 2	Fs	6 4	U5 1s	3 4	4 3	7 6	9 7	11 0	11 3	12 0
Count	18	18	19	23	22	24	27	29	30	30	27	27
Median	9 4	9 2	8 8	7 6	6 6	5 5	6 0	9 6	11 4	11 8	11 7	11 4
Mean	9 9	9 4	8 9	7 8	6 7	5 3	6 3	9 6	11 4	11 8	11 8	11 5

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds.

Characteristic foF<sub>2</sub>  
 Unit Mc  
 Month December 1959

TABLE 56  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° 2' N  
 Longitude 77° 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
13 2	12 7	12 3	11 8	11 7	12 6	12 0	11 7	13 0	12 9	12 5	12 1	1
13 1	12 9	12 1	11 4	11 5	11 5	11 2	11 2 <sup>r</sup>	12 5	12 9	12 7	13 1	2
11 9	12 5	12 5	12 5	12 7	12 9	12 7	12 8	13 3	12 4	11 4	11 5	3
13 4	13 4	13 2	13 3	13 6	13 9	13 5	12 7	F	F	F	F	4
10 7	10 7	10 6	11 2	11 6	11 5	11 0	F	F	11 2	U11 0 <sup>r</sup>	F	5
12 7	12 7	12 5	12 7	12 6	11 6	11 2	10 4	U9 4 <sup>r</sup>	U8 8 <sup>i</sup>	F	9 0	6
11 6	11 4	11 1	11 4	11 5	11 6	10 8	9 7	9 2	U8 0 <sup>r</sup>	U7 6 <sup>r</sup>	U7 8 <sup>r</sup>	7
10 8	10 6	10 8	10 8	10 9	11 0	9 8	8 3 <sup>r</sup>	U7 2 <sup>r</sup>	F	8 0 <sup>r</sup>	F	8
11 8	11 7	11 8	11 8	11 6	11 1	10 2	9 2	U9 5 <sup>i</sup>	8 8	8 8	9 1	9
10 8	11 1	11 3	11 6	11 8	U12 0 <sup>s</sup>	11 2	10 7	10 3	U9 4 <sup>s</sup>	8 7 <sup>r</sup>	U8 3 <sup>r</sup>	10
10 8	11 0	11 1	11 0	11 2	11 3	10 7	9 2	9 0 <sup>r</sup>	8 8 <sup>r</sup>	8 9	U8 2 <sup>t</sup>	11
12 0	12 1	12 8	13 3	13 6	13 2	12 2	10 4	10 9	U10 2 <sup>i</sup>	F	F	12
11 6	11 5	11 8	12 2	12 6	U12 0 <sup>s</sup>	10 8	10 0	10 0	F <sup>s</sup>	F	F	13
11 0	U10 9 <sup>r</sup>	11 0	11 2	11 6	U11 7 <sup>s</sup>	U11 8 <sup>s</sup>	11 4	11 4	11 6	11 4	12 4	14
C	C	C	11 4	10 8	10 2	9 1	8 9	U9 5 <sup>s</sup>	9 4	9 2	9 4	15
12 0	12 4	12 8	12 8	13 2	13 4	12 2	10 6	8 6 <sup>r</sup>	F	F	F	16
11 0	11 4	11 8	12 6	12 5	S	U10 6 <sup>s</sup>	U9 2 <sup>r</sup>	F	F	F	U8 8 <sup>r</sup>	17
10 5	10 6	10 8	11 2	11 4	U11 7 <sup>s</sup>	U11 5 <sup>s</sup>	11 0	10 1 <sup>s</sup>	U9 0 <sup>r</sup>	U9 2 <sup>s</sup>	U9 2 <sup>s</sup>	18
10 8	11 2	11 4	U11 8 <sup>s</sup>	12 0	U11 8 <sup>s</sup>	U11 0 <sup>r</sup>	J10 4 <sup>r</sup>	F	U9 0 <sup>r</sup>	U8 7 <sup>s</sup>	U9 4 <sup>s</sup>	19
C	C	C	12 8	12 7	11 7	J10 0 <sup>s</sup>	U9 6 <sup>s</sup>	8 6	8 6	U8 0 <sup>r</sup>	C	20
10 5	10 6	10 5	10 1	10 8	10 2	U9 8 <sup>s</sup>	U9 1 <sup>s</sup>	U8 2 <sup>s</sup>	F	F	F	21
11 9	11 7	11 5	11 5	10 8	10 3	10 2	U9 7 <sup>s</sup>	8 8	8 0	U6 7 <sup>r</sup>	F	22
10 1	10 7	11 0	10 5	U10 7 <sup>s</sup>	10 8	U10 2 <sup>s</sup>	9 5	9 2	9 5	9 9	9 7	23
11 2	11 2	11 5	11 4	10 7	10 9	11 3	10 7	10 5	9 6	U8 8 <sup>r</sup>	U 1 <sup>s</sup>	24
11 6	11 5	11 8	12 2	12 2	12 3	11 5	9 6	8 3	F	F	F	25
11 5	11 7	12 1	12 0	11 0	9 0	8 8	8 3	F	U6 8 <sup>r</sup>	F	U6 9 <sup>r</sup>	26
C	C	C	C	C	9 4	U9 6 <sup>s</sup>	8 3	7 8	8 9	U9 2 <sup>s</sup>	8 4	27
11 9	12 8	13 3	13 6	13 2	13 0 <sup>h</sup>	S	U11 6 <sup>r</sup>	F	F	F	F	28
13 2	13 0	12 7	12 0	10 9	U10 5 <sup>s</sup>	U9 6 <sup>s</sup>	U9 2 <sup>s</sup>	8 1 <sup>r</sup>	F	F	U9 2 <sup>r</sup>	29
11 4	11 2	11 0	10 8	U10 4 <sup>s</sup>	U10 0 <sup>s</sup>	U9 2 <sup>s</sup>	8 7	F	F	F	F	30
12 3	12 9	13 2	13 3	12 8	U12 0 <sup>s</sup>	J11 9 <sup>s</sup>	U11 4 <sup>r</sup>	F	F	F	F	31
28	28	28	30	30	30	30	30	23	20	18	18	Count
11 6	11 5	11 8	11 8	11 6	11 6	10 9	9 8	9 4	9 2	9 0	9 2	Median
11 6	11 7	11 8	11 9	11 8	11 5	10 9	10 1	9 7	9 7	9 5	9 5	Mean

Sw. ep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>2</sub>  
Unit Mc  
Month December 1959

TABLE 56—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° N  
Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	U12 6F	F	F	9 9 <sup>r</sup>	9 4	7 1	9 4	12 2	13 3	13 4	13 8	13 4
2	12 3	11 9	11 3	10 2	7 4	4 6	9 1	12 1	13 3	13 7	12 8	13 2
3	11 2	9 7	9 4	10 4	9 4	6 2	8 9	10 9	10 6	11 3	11 6	11 7
4	10 6	11 0	11 3	10 4	10 4	9 5	10 7	12 3	12 8	13 4	13 4	13 4
5	F	F	F	F	F	F	U9 21	11 7	12 5	12 2	11 4	10 9
6	F	F	F	F	F	F	11 4	11 7	12 1	12 7	12 6	12 6
7	F	10 4	9 5	8 2	7 2	4 6 <sup>1</sup>	8 0	11 1	12 7	12 8	12 4	11 7
8	U8 0 <sup>r</sup>	U8 1 <sup>r</sup>	U7 6 <sup>r</sup>	U7 2 <sup>r</sup>	6 8	5 2	8 7	11 4	12 1	11 6	11 3	10 9
9	F	F	F	F	F	U6 7 <sup>1</sup>	9 1 <sup>r</sup>	11 0	11 7	11 8	12 0	11 7
10	9 6	10 7	8 8	6 7	6 2	5 1	8 5	10 8	11 8	11 4	11 3	11 0
11	9 0 <sup>r</sup>	U9 2 <sup>r</sup>	8 3	7 2	U5 8 <sup>r</sup>	5 0	8 4	11 0	12 2	11 7	10 8	10 5
12	U8 2 <sup>r</sup>	F <sub>s</sub>	8 7	6 5	4 2	3 7	U7 4 <sup>s</sup>	9 9	10 0	11 4	12 0	12 0
13	9 0 <sup>r</sup>	U9 0 <sup>r</sup>	U7 1 <sup>s</sup>	4 3	4 2	4 9	6 8	9 8	11 6	12 0	12 0	11 9
14	F	F <sub>s</sub>	8 0	4 7	4 1	F	6 8	9 8	11 7	11 7	11 4	11 2
15	11 4	10 7	U9 3 <sup>s</sup>	J7 3 <sup>s</sup>	6 1	4 4	U7 7 <sup>s</sup>	10 2	11 0	11 6	C	12 0
16	9 4	9 4	8 4	6 3	3 3	2 3 <sup>H</sup>	7 9	10 4	12 1	13 0	11 6	11 6
17	F	F	U7 8 <sup>r</sup>	U6 9 <sup>r</sup>	6 6 <sup>r</sup>	F	U3 4 <sup>r</sup>	10 6	11 0	10 6	11 0	10 8
18	F	U9 0 <sup>r</sup>	U8 2 <sup>r</sup>	U7 2 <sup>r</sup>	6 6	4 4	7 7	10 8	12 1	12 6	J12 0 <sup>r</sup>	10 4
19	8 4	U7 5 <sup>s</sup>	U6 2 <sup>r</sup>	F	4 2	U3 3 <sup>r</sup>	J7 4 <sup>s</sup>	10 3	11 6	U12 0 <sup>s</sup>	10 8	10 8
20	U9 7 <sup>s</sup>	9 0	U8 2 <sup>s</sup>	5 6	3 4	U2 4 <sup>r</sup>	U7 6 <sup>s</sup>	10 4	C	C	C	C
21	8 8	U8 4 <sup>r</sup>	F	C	C	C	C	C	11 0	10 4	10 6	10 6
22	F	F	U7 7 <sup>s</sup>	6 3	5 1	3 2	7 5	10 3	12 1	12 4	C	12 8
23	F	F	F	F	U5 4 <sup>r</sup>	F	U8 6 <sup>1</sup>	10 0	11 2	11 3	10 0	9 5
24	9 9	9 7	9 3	8 7	5 4	3 3	7 7	9 8	10 7	11 5	11 5	11 3
25	F	F	F	F	F	F	U7 1 <sup>r</sup>	10 1	11 8	11 7	11 7	11 6
26	F	F	F	F	F	F	U8 1 <sup>11</sup>	9 3	9 9	10 2	10 3	10 7
27	U7 0 <sup>s</sup>	6 9	6 3	6 0	6 6 <sup>1</sup>	U6 0 <sup>s</sup>	U8 4 <sup>r</sup>	11 0	11 6	13 0	C	C
28	U9 1 <sup>s</sup>	8 8	8 8	U7 7 <sup>s</sup>	6 2	2 9	U7 3 <sup>s</sup>	10 7	11 6	11 4	11 4	11 6
29	U9 8 <sup>s</sup>	F	8 0	8 0	7 0	F	F	11 3	11 9	12 8	12 8	13 0
30	8 6 <sup>r</sup>	U7 8 <sup>s</sup>	6 3	5 6	4 0	2 8	7 0	10 6	11 3	10 7	10 8	11 0
31	U9 2 <sup>r</sup>	U8 2 <sup>s</sup>	F <sub>s</sub>	U6 2 <sup>s</sup>	4 0	2 9	5 6	8 9	10 4	10 8	11 4	12 2
Count	20	19	22	23	25	22	29	30	30	30	27	29
Median	9 3	9 0	8 2	7 2	6 1	4 5	8 0	10 6	11 7	11 7	11 5	11 6
Mean	9 6	9 2	8 4	7 3	6 0	4 6	8 2	10 7	11 7	11 9	11 6	11 6

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic  $f_oF_2$   
Unit Mc  
Month December 1959

TABLE 56—Cont'd  
Ionospheric Data  
75° E Merid Time

Latitude 10° 2' N  
Longitude 77° 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
12 9	12 5	11 9	11 5	12 3	12 5	11 6	12 7	12 9	12 7	12 0	11 9	1
13 2	12 4	11 8	11 4	11 4	11 4	11 2	11 6	12 8	12 4	12 8	13 3	2
12 3	12 5	12 5	12 6	12 8	13 0	12 6	13 1	12 6	11 9	11 8	11 1	3
13 3	13 2	13 3	13 1	14 0	14 0	12 7	U12 2F11	F	F	F	F	4
10 7	10 7	10 7	11 4	11 7	11 4	10 7	F	U10 5I	U11 0I	U11 1I	F	5
12 6	12 7	12 6	12 7	12 4	11 6	10 8	U10 0F	9 4	U9 2F	9 0	U8 1F	6
11 6	11 2	11 2	11 1	11 4	11 5	10 5	9 5	8 6	U7 8F	U8 0I	U8 4F	7
10 6	10 7	10 8	11 1	10 8	10 7	9 1	8 0	F	U8 3F	F	F	8
11 8	11 6	11 8	11 6	11 6	10 8	9 5	9 8	U9 7	8 8	9 0	U7 2S	9
10 9	11 2	11 1	11 5	12 1	11 7	10 9	10 7	9 7	U9 2	8 3I	8 1F	10
10 8	11 0	11 0	11 2	11 1	10 8	U9 6S	9 1	18 7I	U9 1S	U8 5I	8 3F	11
12 5	12 5	13 1	13 1	13 3	12 7	11 2	10 5	11 0F	U9 8F	F	F	12
11 6	11 6	12 1	12 6	12 0	11 6	U10 2S	10 0	9 2	F	F	F	13
10 8	11 0	11 1	11 4	U11 5S	U11 8S	11 4	11 6	12 2	11 6	12 2	12 6	14
C	C	11 1	11 2	10 4	9 8	8 8	9 2	U9 5S	9 1	9 2	9 2	15
12 3	12 5	12 8	13 0	13 4	12 8	11 5	9 4	U8 3I	F	F	F	16
11 0	11 6	12 1	12 5	12 4	U11 6S	9 6	F	F	F	F	F	17
10 6	10 6	10 9	11 4	U11 5S	U11 8S	11 2	10 7	U9 11S	U9 2S	9 1	U7 2SI	18
11 0	11 2	11 5	U12 0S	U11 8S	U11 5S	U10 8S	U9 5S	F	U8 6	9 0	U9 7S	19
C	C	C	12 7	12 3	11 0	U9 6S	U9 5S	U8 5I	U8 2S	C	9 0	20
10 5	10 6	10 5	U10 5S	10 4	U10 2S	U9 8S	U8 6S	17 6R	F	F	F	21
11 8	11 6	11 7	11 2	10 6	10 3	10 1	9 4	8 2	U7 5S	F	F	22
10 5	11 1	10 8	10 6	10 6	10 6	U9 9S	9 1	9 3	10 0	9 7	9 7	23
11 0	11 3	11 4	10 9	10 9	11 3	11 1	10 7	U10 0S	9 3	F	F	24
11 5	11 7	11 9	12 3	12 3	12 3	10 7	9 0	7 7F	F	F	U5 4F	25
11 4	11 9	12 0	U11 5S	U9 8S	8 8	8 6	F	F	6 5	1	U7 2F	26
C	C	C	C	U9 4S	U9 5S	8 8	8 0F	8 0	U9 3S	9 0	8 6	27
12 2	13 3	13 6	13 4	13 0	U12 5R	U11 4S	F	F	F	F	U11 6I	28
13 2	12 9	12 3	11 4	10 8	S	U9 4S	8 1	F	9 0F	F	U9 2S	29
11 1	11 3	10 8	10 6	10 4	U9 6S	8 8	F	F	F	F	F	30
12 5	13 2	U13 2R	13 0	12 5	U11 8S	U11 5S	F	F	F	F	C	31
28	28	29	30	31	30	31	25	22	22	15	19	Count
11 6	11 6	11 8	11 5	11 6	11 5	10 7	9 5	9 1	9 2	9 2	9 2	Median
11 6	11 8	11 8	11 8	11 6	11 4	10 4	10 0	9 7	9 5	9 9	9 5	Mean

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit . Mc  
 Month December 1959

TABLE 57  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6								L	L	L	L	L
7								L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16								L	L	L	L	L
17								L	L	L	L	L
18								L	L	L	L	L
19								L	L	L	L	L
20								L	L	L	L	L
21							C	C	C	L	L	L
22								L	L	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26								L	L	L	L	L
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count												

Sweep 1 Mc to 25 Mc. in 27 seconds.

Characteristic foF1  
 Unit Mc.  
 Month December 1959

TABLE 57  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	I	L	L								1
L	L	I	L	L								2
L	L	L	L	L	L							3
L	B	B	I	L	L							4
L	I	I	L	L	L							5
L	L	L	I	L								6
L	L	L	L	L								7
L	B	L	I	L								8
L	L	L	I	L								9
L	I	L	L	L								10
L	L	I	I	L								11
L	L	L	I	L								12
L	L	I	I	L								13
L	I	I	I	L								14
C	C	C	I	L	L							15
L	L	L	L	L	L							16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
C	C	C	L	L								20
L	L	L	L	L								21
L	LH	L	L	L	L							22
I	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L								26
C	C	C	C	C	L							27
L	L	L	L	L								28
L	L	I	L	L								29
L	L	I	L	L								30
L	I	L	L	L								31
												Mean
												Median
												Count

Sweep 1 Mc. to 25 Mc. in 27 seconds

Characteristic : foF<sub>1</sub>  
 Unit Mc  
 Month : December 1959

TABLE 57—*cont'd*  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13							L	L	L	L	L	L
14							L	L	L	L	L	L
15							L	L	L	L	C	L
16							L	L	L	L	L	L
17							L	L	L	L	L	L
18							L	L	L	L	L	L
19							L	L	L	L	L	L
20							L	L	C	L	L	C
21							C	L	L	L	L	L
22							C	L	L	L	L	L
23							C	L	L	L	L	L
24							C	L	L	L	L	L
25							C	L	L	L	L	L
26							C	L	L	L	L	L
27							C	L	L	L	L	L
28							C	L	L	L	L	L
29							C	L	L	L	L	L
30							C	L	L	L	L	L
31							C	L	L	L	L	L
Count												
Median												
Mean												

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds

Characteristic foF<sub>1</sub>  
 Unit Mc  
 Month December 1959

TABLE 57—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
L	B	L	L	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
G	G	E	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
G	G	C	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
G	G	C	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								31
												Count
												Median
												Mean

Sweep 10 Mc to 250 Mc in 27 seconds



Characteristic foE  
 Unit ; Mc.  
 Month - December 1959

TABLE 58  
 Ionospheric Data  
 75.0° E Mean Time

Latitude 10 2° N  
 Longitude . 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								2 8	A	A	A	A
2								2 7	3 2	B	A	A
3								.	A	A	A	A
4								2 7	A	A	A	A
5								2 8	A	A	A	A
6								A	A	A	A	A
7								2 8H	A	A	A	A
8								2 7	A	A	A	A
9								A	A	A	A	A
10								A	A	A	A	A
11								A	A	A	A	A
12								A	A	A	A	A
13								A	A	A	A	A
14								A	A	A	A	A
15								A	A	A	A	C
16								R	A	A	A	A
17								A	A	A	A	A
18								U2 4R	A	A	A	A
19								U2 5R	A	A	A	A
20								A	A	C	C	C
21								C	C	A	A	A
22								2 5H	A	A	C	C
23								2 5	A	A	A	A
24								2 5	A	A	A	A
25								U2 5A	3 1	A	A	A
26								A	A	A	A	A
27								2 6H	3 1	3 5	C	C
28								A	A	A	A	A
29								A	A	3 6A	A	A
30								A	A	A	A	A
31								A	A	A	A	A
Mean								2 6				
Median								2 6				
Count								13	3	2		

Sweep 1 0 Mc. to 25 0 Mc. in 7 seconds

Characteristic, foE  
 Unit, Mc.  
 Month December 1959

TABLE 58  
 Ionospheric Data  
 75° E Mean Time

Latitude . 10 2°E  
 Longitude : 77 5°N

12	13	14	15	16	17	18	19	20	21	22	23	Date
A	A	A	A	A								1
A	B	A	A	A								2
A	A	A	A	A								3
A	B	B	A	A								4
A	A	A	3 5	A								5
												6
A	A	A	A	A								7
A	A	A	A	A								8
A	B	A	A	A								9
A	A	A	A	A	2 9							10
												11
A	A	A	A	A	A							12
A	A	A	A	A	R							13
A	A	A	A	A	R	A						14
A	C	C	A	A	A							15
												16
A	A	A	A	A	3 1							17
A	A	A	A	A	A							18
A	A	A	A	A	A							19
A	C	C	A	A	A							20
												21
A	A	A	A	A	A							22
A	A	A	A	A	A	2 4H						23
A	A	A	A	A	A	A						24
A	A	A	A	A	A	A						25
												26
A	A	A	A	A	A							27
C	C	C	C	C	A							28
A	3 8	3 6	3 3	A	A							29
A	A	A	A	A	A							30
A	A	3 8	3 8	A	F							31
												Mean
												Median
	1	2	3	1	2							Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic f<sub>o</sub>E  
 Unit: Mc.  
 Month December 1959

TABLE 58—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								3 2	3 4	R	A	A
2							2 5	A	A	A	B	A
3								A	A	A	A	A
4								3 0	A	A	A	A
5							2 4	A	A	A	A	A
6							A	A	A	A	A	A
7								A	A	A	A	A
8								2 9H	A	A	A	A
9							2 4H	A	A	A	A	A
10							2 2	A	A	A	A	A
							2 2H	A	A	A	A	A
11							R	A	A	A	A	A
12							2 2	A	A	A	A	A
13							2 2H	A	3 2	A	A	A
14							R	A	A	A	A	A
15								A	A	A	C	A
16							R	R	A	A	A	A
17							A	A	A	A	A	A
18							J2 IR	A	A	A	A	A
19							U2 OR	A	A	A	A	A
20								U2 8R	C	C	C	C
21							C	C	A	A	A	A
22							U2 OR	2 9H	A	A	C	A
23							U2 IR	A	A	A	A	A
24							2 1	A	A	A	A	A
25							U2 IR	A	A	A	A	A
26								A	A	A	A	A
27								2 9H	3 3	A	A	A
28								A	A	3 5	C	C
29								A	A	A	A	A
30							R	A	A	A	A	A
31								A	A	A	A	A
Count							13	6	3	1		
Median							2 2	2 9				
Mean							2 2	3 0				

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foE  
Unit Mc  
Month December 1959

TABLE 58—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	A	A	A								1
B	A	B	A	B								2
A	A	A	A	A								3
A	B	B	A	2 8								4
A	A	A	3 2	A								5
A	A	A	A	A								6
A	A	A	A	A								7
A	A	A	A	A								8
A	A	A	A	A								9
A	A	A	A	A								10
A	A	A	A	2 6								11
A	A	3 5	A	A								12
A	A	A	A	A								13
A	A	A	3 2	A	A							14
C	C	A	A	A	A							15
A	A	A	A	3 5								16
A	A	A	A	A								17
A	A	A	A	A								18
A	A	A	A	A								19
C	C	C	A	A								20
A	A	A	A	A								21
A	A	A	A	A								22
A	A	A	A	A								23
A	A	A	A	A								24
A	A	A	A	A								25
A	A	A	A	A								26
C	C	C	A	A								27
3 8	A	3 6	A	A								28
A	A	A	A	A								29
A	A	A	A	A								30
A	A	3 8	A	A								31
1		3	2	3								Count
												Median
												Mean

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic : foEs  
 Unit : Mc  
 Month December 1959

TABLE 59  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	4 2							G	9 8	8 0	10 8	11 8
2								G	G	10 0	11 4	11 4
3	6 0	4 2	6 0	2 0				8 6	10 6	11 6	12 6	12 4
4	12 2	9 0		4 0				G	11 0	14 8	11 8	10 0
5	7 4	3 8	4 0	4 0		6 4		G	11 0	11 8	12 6	12 0
6		U4 0s	2.4	U4 0s	7 8			12 0	11 0	12 0	18 0	13 0
7			4 0					G	10 0	12 0	12 6	13 2
8								U8 0s	11 8	12 0	14 4	U15 8s
9		5 8						8 8	10 8	12 0	12 4	12 2
10								8 2	10 8	12 0	12 4	13 2
11								6 8	8 8	11 2	11 6	12 2
12								6 6	U9 2s	10.5	12 0	11 6
13								7 0	9 0	9 1	11 4	12 2
14								U7 0s	8 8	11 8	11 3	11 2
15	U7 8s	3 8	3 2	4 8				6 5	C	11 4	C	C
16			6 7					G	8 8	9 2	11 8	12 0
17	5 0	7 0						9 0	11 0	11 0	11 0	12 0
18	6 8		4 6					G	9 2	12 6	12 6	13 0
19								G	10 0	11 6	13 0	12 2
20								5 0	7 8	C	C	C
21				C	C	C	C	C	C	11 0	12 6	12.6
22	6 9	10 4	3 8					G	10 7	11 8	C	C
23	6 6	3 8						U7 6s	U9 6s	11 3	13 6	13 2
24								8 0	10 8	12 4	12 4	13.1
25		3 8	2 6					4 6	5 7	11 2	12 4	12 6
26								9.3	10 8	11 6	12 1	13 0
27								G	G	7 0	C	C
28	3 0	3 8	4 2					8 0	10 8	12 0	13 0	12.6
29								9 0	10 0	9 0	11 0	10 6
30								U8 0s	12 0	13 0	14 0	13 0
31								8 0	10 0	12 0	12 0	11 0
Mean	6 6	5 4	5 0	3 8				7 8	10 0	11 2	12 5	12 3
Median	6 7	4 0	4 1	4 0				6 9	10 0	11 6	12 4	12 2
Count	10	11	10	5	1	1		30	29	30	27	27

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic .foEs  
 Unit . Mc  
 Month . December 1959

TABLE 59  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77.5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
12 0	12 4	11 8	10 0	9.6								1
11 0	11 8	12 6	10.8	9.4								2
12 6	12 2	12 6	11 0	9.2					8 0	10 0	13 6	3
9 8	B	B	12.0	9 2							6 0	4
12 8	13 0	12 0	G	110 0s						U4 6s	U4 0s	5
14 2	12 2	12 0	11 0	8 8								6
12 2	12 8	13 2	11.0	8 8					2 2		6 4	7
12 6	B	12 4	12.0	11.0	116 6s					6 0	4 4	8
12 0	12 2	12 7	11 0	8.0	6 1					8 2	7 6	9
13.0	12 8	12 2	11 0	11.0	7 8					7 6	8 2	10
11 6	11 7	11 2	10.4	8.6								11
9 6	8 8	5 8	7.8	8.2	1.3			2 6	3 8	4 4	5 6	12
11.8	11 6	11 2	8 8	8 3	5.6							13
10 4	11 4	10 8	9 2	7 6	5	6 6			3 6	6 6		14
C	C	C	9.6	8 5	7 6						4 0	15
11 2	11 4	10 4	9 4	8 5	5 6					3 6	3 2	16
13 0	12 0	12 2	12 6	11.2	7 2			3 8	4 6	6 0	4 4	17
12 4	13 0	12 0	14 0	114 0s	113 0s	4 0				4 6	4 6	18
12 2	12 0	10 8	9.0	10 0s	6 0				2 1	7 8	C	19
C	C	C	11.0	110 0s	7 0							20
12 4	13 0	12 6	11.4	10 2s	118 0s							21
13 0	13 4	12 6	12 1	10 7s	6 9					3 6		22
12 6	12 7	12 2	12.1	10 8s	6 4						3 7	23
12 8	13 2	13 1	12.4	8 6	8 1							24
12.4	12 4	10 8	12 4	9.4	8 0							25
9 7	13 8	13 4	12 6	12 4	8 2							26
C	C	C	C	C	8 0							27
9 0	8 0	3 8	G	11 0	8 0							28
12 0	12 2	11 6	10 4	10 0	7 0							29
12.6	13 6	12 0	10 2	9 2								30
11 0	8.8	G	9.0	9 0	G				2 0	U5 0s	4.0	31
11 9	12 0	11 5	10 9	9 6	7 3				3.8	6 0	5 7	Mean
12 2	12 2	12.0	11.0	9 2	7 0				3 8	6 0	5.1	Median
28	26	27	30	30	21	2		2	7	13	14	Count

Sweep 1 0 Mc. to 25.0 Mc in 27 seconds.

Characteristic foEs  
Unit Mc  
Month December 1959

TABLE 59—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							9.4	7.2	G	G	12.6	12.0
2							G	10.0	10.6	11.4	11.4	11.0
3		8.0	2.2					10.4	11.4	12.6	12.8	12.6
4	10.0			3.8	9.0			G	10.6	19.0	11.2	11.0
5	3.6	2.4	3.0	7.4	7.0		G	9.0	11.0	12.6	12.8	12.6
6			2.2	u6.0s	u6.8s		7.0	9.4	12.0	12.0	12.6	12.0
7								G	12.0	13.0	13.2	12.6
8							G	9.7	11.6	12.0	13.8	13.4
9							G	u9.6s	11.8	12.8	12.2	12.8
10							G	8.8	11.6	12.4	13.0	13.0
11							G	8.8	10.8	10.8	11.7	11.4
12							3.6	8.4	8.8	10.8	12.0	11.3
13							3.8	8.8	G	11.3	11.3	11.6
14							3.8	7.0	11.2	11.6	11.8	11.4
15	S		5.4					u7.8s	11.3	11.6	C	13.5
16	3.6	3.5	3.9				G	G	9.4	11.2	12.0	11.2
17	7.4		2.8	3.2			7.2	9.0	12.0	11.6	12.0	12.0
18	u6.0s						G	9.0	11.0	12.0	13.0	12.6
19							G	u7.0s	11.2	13.0	12.0	11.4
20	2.1							G	C	C	C	C
21				C	C	C	C	C	11.0	12.4	12.5	12.0
22	13.4	u8.1s					G	8.4	10.9	12.6	C	12.6
23	4.3	6.0		u7.6s			5.5	10.4	11.3	13.5	12.8	12.8
24					4.6		G	7.8	11.8	13.4	12.7	12.6
25	3.8	4.6					G	4.8	8.8	11.3	12.8	13.4
26	3.1	4.6	2.6					9.8	11.7	13.1	13.7	11.4
27							2.8	G	G	6.8	C	C
28	3.0	3.6	5.0					10.8	11.0	13.6	13.4	13.0
29							2.2	9.0	11.0	11.0	11.0	11.6
30							G	9.0	12.0	13.4	13.0	13.8
31								9.4	11.0	12.2	12.0	11.0
Count	11	9	8	5	4		22	30	30	30	27	29
Median	3.8	4.6	2.9	6.0			G	8.8	11.0	12.1	12.6	12.0
Mean	5.5	4.7	3.4	5.6			5.0	8.8	11.1	12.2	12.4	12.2

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic foEs  
Unit Mc  
Month December 1959

TABLE 59—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
12 2	12 6	11 1	10 0	8 0								1
11 0	11 8	10 8	9 4	8 0								2
12 4	12 6	11 8	10 0	8 0					9 0	11 0	18 0	3
9 8	B	G	11 0	G							7 4	4
13 8	12 6	8 0	G	8 0						3 4		5
14 0	14 4	11 0	10 2	7 4								6
12 6	13 0	11 0	11 0	8 4						5 4	U6 os	7
14 0	12 8	12 0	10 4	U7 4 <sup>b</sup>							3 8	8
12 6	12 0	12 0	8 8	8 0						7 8		9
13 4	12 4	10 8	11 8	7 0					4 0	6 4	4 4	10
11 8	11 4	10 2	9 2	6 8								11
12 4	8 6	7 8	6 8	8 2	3 6			4 6	2 8	6 8	5 6	12
12 4	11 4	9 2	8 4	6 8								13
11 7	10 6	10 3	G	8 4	5 8			5 8	7 0		S	14
C	C	10 8	9 2	7 8						4 0	4 6	15
11 7	11 6	10 6	9 0	6 8						3 6	4 6	16
12 0	12 2	10 4	11 0	9 6			1 9	4 0		4 4	5 8	17
12 6	11 8	11 6	18 6	S	S				7 8		5 8	18
12 0	12 0	10 0	10 8	7 6						2 8		19
C	C	C	10 4	9 0					3 8	C		20
13 0	13 0	12 0	10 0	8 6						3 8		21
13 4	13 6	11 7	11 8	8 6						5 0	8 8	22
12 7	13 6	12 3	10 7	7 8					2 1			23
12 6	14 0	12 6	12 4	9 0								24
12 4	12 4	11 0	8 8	8 5					5 3			25
12 4	13 6	12 4	12 6	10 3								26
C	C	C	C	8 2	1 8						2 4	27
7 0	10 0	7 0	11 0	8 8								28
12 0	12 0	10 6	9 6	8 0								29
12 8	12 0	10 2	9 2	9 0								30
10 6	9 4	G	8 6	8 0					2 8	4 4	C	31
28	28	29	30	30	3		1	3	9	13	12	Count
12 4	12 1	10 8	10 0	8 0					5 3	5 0	5 7	Median
12.2	12 1	10 7	10 4	8 1					5 0	5 3	6 4	Mean

Sweep 1 0 Mc. to 25 0 Mc in 27 seconds



Characteristic f<sub>h</sub>E<sub>s</sub>  
 Unit Mc  
 Month - December 1959

TABLE 60  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 0								3 4	4 0	4 1	4 2
2										4 2	4 2	4 1
3	2 2	1 6	1 6	1 4				2 7	3 1	3 7	4 1	4 2
4	7 0	4 0							3 3	5 0	4 0	1 0
5	2 0	2 0	1 6	1 9		1 6			3 2	3 6	4 0	4 2
6												
7		1 7	1 5	1 6	2 0			3 7	3 3	3 6	4 2	1 2
8			4 0						3 3	3 7	4 0	4 1
9								2 6	3 2	3 6	4 0	4 0
10								2 6	3 2	3 6	4 0	4 1
								2 7	3 2	3 7	4 0	4 0
11												
12								2 6	3 1	3 6	4 0	4 1
13								2 6	3 2	3 6	4 0	4 0
14								2 6	3 1	3 5	4 0	4 0
15								2 5	3 2	3 6	4 0	4 0
16	3 1	1 8		1 6				2 5	3 1	3 6	4 0	4 0
17			2 0									
18	1 5	2 1										
19	1 7		1 5									
20								2 6	3 1	3 6	4 0	4 0
21												
22												
23	1 7	2 3										
24								2 5	3 1	3 5	4 0	4 0
25		1 4	1 4					2 5	3 0	3 5	4 0	4 0
26								2 5	3 1	3 5	4 0	4 0
27			2 2									
28	1 9	1 6	1 6									
29								2 4	3 1	3 6	4 0	4 0
30								2 6	3 0	3 5	4 0	4 0
31								2 6	3 2	3 6	4 0	4 0
								2 5	3 2	3 6	4 0	4 0
Count	9	9	9	4	1	1		20	28	29	23	27
Median	2 0	1 8	1 6					2 6	3 2	3 6	3 8	4 0
Mean	2 6	2 1	1 9					2 6	3 2	3 6	3 9	4 0

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic f<sub>o</sub>F<sub>2</sub>  
 Unit Mc  
 Month December 1959

TABLE 60  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
1.3	1.2	1.9	1.4	3.0								1
1.1	1.3	1.8	1.6	3.0								2
1.2	1.1	1.9	1.4	3.0					2.5	3.8	6.8	3
1.2			3.0	1.2							2.1	4
1.2	1.8	1.6		3.0						2.0	1.7	5
1.2	1.1	1.7	1.1	3.0								6
1.2	1.2	3.7	3.5	3.0					1.1		1.1	7
1.0		1.7	1.1	3.7	2.2						1.5	8
1.2	1.0	4.0	3.1	2.0	2.2					1.6	1.7	9
1.0	1.0	3.8	1.1	3.0	2.1					1.3	1.9	10
1.1	1.0	5.8	3.1	3.0								11
1.2	1.8	3.7	3.0	3.1	2.6			2.0	1.8	1.8	1.8	12
1.1	1.8	1.7	1.3	2.9								13
1.0	1.0	3.7	1.1	3.0	2.3	1.9				1.6		14
G	G	G	1.1	3.0	2.3						1.5	15
1.1	1.8	3.6	3.1	2.9	2.2					1.5	1.3	16
1.0	1.0	1.7	1.1	3.6	2.1			1.6	1.5	1.8	1.6	17
1.2	1.8	3.6	1.0	4.6	3.0	2.0				2.0		18
1.1	1.2	3.6	3.1	3.0	2.1							19
G	G	G	3.1	3.0					1.6	3.0	G	20
1.2	1.0	1.0	3.6	3.0	2.5					1.6		21
1.1	1.9	1.8	3.5	3.0	2.1						1.6	22
3.9	1.1	3.7	3.3	2.9	2.3							23
1.7	1.8	1.7	3.5	3.0	2.1							24
1.0	1.2	1.9	1.1	3.0	2.5							25
1.0	1.0	3.8	1.5	3.0	2.1							26
G	G	G	G	G	2.3							27
1.0	1.0	1.7	1.1	3.1								28
1.2	1.2	3.8	1.5	3.0	2.1							29
1.1	1.1	1.8	1.6	3.1								30
1.0	1.0			3.0						1.4	2.0	31
28	26	26	27	30	18	2		2	5	12	13	Count
1.1	1.0	3.7	3.4	3.0	2.1				1.6	1.8	1.7	Median
4.1	1.0	3.6	3.5	3.1	2.1				1.8	2.0	2.1	Mean

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic fbEs  
Unit Mc  
Month December 1959

TABLE 60—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							2 5	3 1			4 1	4 2
2								3 0	3 6	4 2	4 4	4 2
3		2 0	1 5					3 0	3 5	4 1	4 2	4 3
4	3 2			1 7	2 4			3 0	3 6	4 1	4 1	4 2
5	1 6	1 5	1 8	2 4	2 1			3 1	3 5	3 9	4 1	4 1
6			1 2	1 8	1 7		3 0	3 0	3 5	3 7	4 2	4 5
7									3 5	3 9	4 1	4 0
8								3 0	3 5	3 8	4 1	4 2
9								3 0	3 4	3 8	4 1	4 1
10								3 0	3 4	3 8	4 2	4 0
11								3 0	3 4	3 8	4 1	4 2
12								3 0	3 4	3 6	4 0	4 1
13							2 2	2 8	3 6	3 6	3 9	4 0
14							2 2	2 8	3 3	3 6	4 0	4 0
15	2 3		2 6					2 9	3 4	3 6	C	3 9
16	1 4	1 6							3 2	3 6	4 0	4 0
17	2 0						2 5	3 0	3 2	3 6	4 0	4 0
18	1 9							2 8	3 3	3 6	3 8	4 2
19								2 8	3 4	3 6	3 9	4 0
20									C	C	C	C
21				C	C	C	C	C	3 5	4 0	4 0	4 1
22	1 7	2 0						2 9	3 2	3 6	C	4 1
23	1 8	1 6					2 1	2 8	3 4	3 7	4 0	4 1
24								2 8	3 3	3 5	3 9	3 8
25	1 4	1 5						2 9	3 3	3 7	3 8	4 0
26	1 8	1 4	1 8					2 9	3 4	3 7	3 9	4 1
27											C	C
28		1 7	1 6				2 2	2 8	3 4	3 7	4 0	4 0
29								2 8	3 4	3 6	3 9	4 0
30								3 0	3 4	3 8	4 0	4 0
31								3 0	3 4	3 8	4 0	4 0
Count	10	8	6	3	3		7	25	27	28	27	29
Median	1 8	1 6	1 7				2 2	3 0	3 4	3 7	4 0	4 1
Mean	1 9	1 7	1 8				2 4	2 9	3 4	3 8	4 0	4 1

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic fEs  
Unit Mc  
Month December 1959

TABLE 60—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2' N  
Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
4 3	4 1	3 6	3 3	2 7								1
	4 2	4 0	3 3	2 7								2
4 2	4 1	3 7	3 6	2 6					3 1	1 8	1 2	3
4 3			3 1								1 7	4
4 0	3 8	3 5		2 7								5
4 1	3 9	3 5	3 2	2 7								6
4 1	4 2	3 6	3 2	2 7								7
4 0	4 0	3 6	3 2	2 7								8
4 0	4 0	3 6	3 1	2 7						2 1		9
4 0	4 0	3 6	3 2	2 6					1 3	1 2	1 6	10
4 2	4 0	3 6	3 2									11
4 1	3 8	3 6	3 5	2 8	2 3			2 0		2 2	2 0	12
4 0	3 7	3 6	3 1	2 7								13
4 1	4 0	3 5		2 6	1 8			2 0	2 0			14
C	C	3 6	3 2	2 7							2 0	15
3 9	3 8	3 5	3 1	2 6								16
4 0	4 0	3 5	3 6	3 0				1 5		1 6	1 2	17
4 0	3 8	3 6	7 2	5 3	2 1			2 8				18
4 1	4 2	3 6	3 2	2 6								19
C	C	C	3 1	2 7				1 7	C			20
4 0	4 0	3 6	3 3	2 8						3 8		21
4 1	3 9	3 6	3 2	2 7						1 3	2 3	22
3 9	3 9	3 6	3 1	2 7								23
3 8	3 8	3 6	3 2	2 9								24
4 1	4 2	3 6	3 2	2 8				1 9				25
4 1	4 0	3 7	3 3	2 8								26
C	C	C	C	2 8								27
4 2	4 0	3 6	3 1	2 8								28
4 2	4 0	3 7	3 2	2 8								29
4 0	4 0	3 6	3 2	2 8								30
4 0			3 1	2 8						1 7	C	31
27	26	27	28	29	3			3	6	8	8	Count
4 1	4 0	3 6	3 2	2 7					2 0	1 9	1 8	Median
4 1	4 0	3 6	3 1	2 9					2 1	2 3	2 1	Mean

Sweep 1 0 Mc to 25 0 Mc, in 27 seconds

Characteristic fmin  
Unit Mc  
Month December 1959

TABLE 61  
Ionospheric Data  
75.0 E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	1.4	1.3	1.3	1.4	1.4	1.5	2.0	2.0	2.3	2.5	2.8	2.7
2	1.1	1.4	1.4	1.4	1.1	1.5	2.0	2.0	2.2	2.2	3.0	3.2
3	1.5	1.3	1.4	1.1	1.4	1.7	1.8	1.7	2.2	2.3	2.6	3.0
4	1.5	1.5	2.0	1.6	2.2	1.5	2.0	1.9	2.1	2.8	2.5	2.5
5	1.0	1.1	1.1	1.2	1.9	1.5	2.0	1.8	2.0	2.3	2.4	3.0
6	1.7	1.3	1.2	1.0	1.1	1.6	2.0	2.0	2.2	2.1	2.5	2.9
7	1.2	1.5	1.2	1.2	1.5	1.5	1.8	1.7	1.9	2.2	3.1	2.6
8	1.6	1.3	1.4	1.6	1.3	1.4	1.8	1.6	2.0	2.2	2.1	2.5
9	1.2	1.3	1.7	1.4	1.2	1.1	1.7	1.5	1.8	2.2	2.4	2.6
10	1.2	1.4	1.3	1.2	1.1	1.2	1.7	1.5	1.8	2.2	2.5	2.7
11	1.1	1.2	1.1	1.3	1.2	1.4	1.7	1.6	1.9	2.2	2.1	2.1
12	1.4	1.4	1.5	1.4	1.4	1.3	1.8	1.6	2.0	2.3	2.5	2.5
13	1.5	1.3	1.3	1.3	1.2	1.3	1.7	1.5	1.7	2.0	2.3	2.3
14	1.3	1.3	1.4	1.6	1.4	1.6	1.6	1.6	1.8	2.3	2.3	2.7
15	1.2	1.4	1.4	1.3	1.4	1.5	1.9	1.6	1.8	2.1	2.1	C
16	1.1	1.0	1.1	1.2	1.5	1.3	1.7	1.6	1.9	2.1	2.3	2.5
17	1.0	1.1	1.0	1.1	1.4	1.5	1.6	1.6	1.9	2.3	2.1	2.5
18	1.3	1.6	1.3	1.2	1.3	1.4	1.7	1.6	2.0	2.3	2.4	2.1
19	1.4	1.4	1.5	1.4	1.4	1.3	1.5	1.8	2.0	2.6	2.2	2.1
20	1.3	1.7	1.7	1.5	1.4	1.8	1.6	1.6	1.9	C	C	C
21	1.1	1.3	1.8	C	C	C	C	C	C	2.3	2.5	2.6
22	1.4	1.5	1.2	1.4	1.4	1.3	1.5	1.8	1.7	2.2	C	C
23	1.5	1.4	1.6	1.4	1.2	1.1	1.5	1.3	1.7	2.3	2.2	2.5
24	1.2	1.5	1.2	1.1	1.4	1.3	1.5	1.6	1.6	2.0	2.3	2.5
25	1.3	1.3	1.1	1.3	1.6	1.4	1.6	1.3	1.6	2.0	2.1	2.5
26	1.3	1.1	1.2	1.5	1.6	1.6	1.5	1.8	1.9	2.3	2.4	2.1
27	1.3	1.4	1.1	1.3	1.2	1.1	1.6	1.7	1.8	2.2	C	C
28	1.1	1.1	1.1	1.3	1.2	1.4	1.4	1.5	1.9	2.2	2.3	2.1
29	1.1	1.1	1.2	1.1	1.3	1.3	1.8	1.6	1.7	2.2	2.2	2.6
30	1.3	1.3	E	1.5	1.3	1.5	1.5	1.5	1.9	2.1	2.2	2.1
31	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.9	2.1	2.1	2.1
Count	31	31	31	30	30	30	30	30	30	30	28	27
Median	1.3	1.3	1.3	1.3	1.4	1.4	1.7	1.6	1.9	2.2	2.4	2.5
Mean	1.3	1.3	1.3	1.3	1.4	1.4	1.7	1.6	1.9	2.3	2.1	2.6

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic fmin  
Unit Mc  
Month December 1959

TABLE 6f  
Ionospheric Data  
75° E Mean Time

Latitude 10 2" N  
Longitude 77 5°E

12	13	14	15	16	17	18	19	20	21	22	23	Date
4.2	3.0	2.5	2.3	1.9	2.3	2.0	1.6	1.9	1.9	1.5	1.4	1
3.2	2.3	3.1	2.6	2.4	2.3	1.4	1.2	1.5	1.4	1.6	1.4	2
3.0	5.8	2.5	2.4	2.1	2.3	1.1	1.6	2.2	2.2	2.1	1.5	3
2.7	2.9	1.9	3.0	2.1	2.3	1.3	1.5	1.6	2.0	1.7	1.5	4
2.7	1	2.3	2.1	2.1	2.2	1.3	1.5	1.4	1.6	1.1	1.4	5
2.8	2.7	2.5	2.3	1.8	2.2	1.2	1.2	1.2	1.2	1.1	1.2	6
3.0	2.6	2.2	2.4	2.0	2.2	1.1	1.2	1.3	1.3	1.2	1.1	7
2.7	7.0	2.2	2.1	1.7	1.8	1.2	1.3	1.3	1.3	1.1	1.0	8
2.9	2.6	2.7	2.2	1.7	1.6	1.1	1.2	1.2	1.3	1.3	1.4	9
2.5	2.5	2.5	2.2	1.8	1.9	1.5	1.2	1.2	1.1	E	1.0	10
2.6	2.5	2.5	2.3	1.9	2.2	1.3	1.5	1.6	1.6	1.9	1.9	11
2.6	2.1	2.4	2.0	1.5	1.9	1.6	2.1	1.5	1.5	1.4	1.2	12
2.6	2.5	2.3	2.2	1.8	1.9	1.1	1.1	1.4	1.3	1.6	1.2	13
2.6	2.6	2.3	2.3	2.2	2.2	1.4	1.5	1.6	1.9	1.6	1.8	14
C	C	C	2.1	1.7	1.7	1.3	1.1	1.5	1.4	1.3	1.3	15
2.6	2.5	2.4	2.2	1.9	1.7	1.3	1.5	1.5	1.3	1.4	1.2	16
2.1	2.4	2.2	1.7	1.9	2.0	1.3	1.4	1.1	1.1	1.2	1.2	17
2.8	2.3	2.3	2.1	1.8	1.9	1.4	1.6	1.6	1.7	1.5	1.7	18
2.1	2.4	2.2	2.0	2.3	1.8	1.4	1.6	1.6	1.7	1.3	1.6	19
C	C	C	2.1	1.9	2.4	1.6	1.2	1.6	1.3	1.4	C	20
2.6	2.5	2.3	1.9	1.6	1.7	1.6	1.6	1.5	1.5	1.1	1.5	21
2.5	2.6	2.4	2.3	2.1	2.0	1.3	1.2	1.0	1.1	1.3	E	22
2.5	2.6	2.1	2.2	1.8	1.9	1.4	1.5	1.3	1.3	1.6	1.2	23
2.7	2.5	2.4	2.3	2.3	2.1	1.9	1.4	1.3	1.1	1.1	1.1	24
2.7	2.6	2.4	2.5	2.0	2.4	1.6	1.1	1.3	1.1	1.6	1.3	25
2.4	2.5	2.7	2.4	2.3	1.9	1.3	1.2	1.0	1.1	1.1	1.2	26
C	C	C	C	C	1.8	1.3	1.6	1.2	1.4	1.2	1.1	27
2.6	2.4	2.4	2.3	2.4	2.4	1.4	1.4	1.4	1.6	1.3	1.4	28
2.5	2.6	2.5	2.4	2.0	1.8	1.3	1.3	1.2	1.2	1.2	1.1	29
2.5	2.6	2.1	2.1	1.7	2.4	1.5	1.3	1.4	1.3	1.1	1.1	30
2.6	2.6	2.4	2.4	2.0	1.7	1.3	1.3	S	1.3	E	1.7	31
28	28	28	30	30	31	31	31	30	31	31	30	Count
2.6	2.6	2.4	2.3	1.9	2.0	1.3	1.4	1.4	1.3	1.3	1.2	Median
2.7	2.9	2.5	2.3	2.0	2.0	1.4	1.4	1.4	1.4	1.4	1.3	Mean

Sweep 1.0 Mc, to 25.0 Mc, in 27 seconds.

Characteristic  $f_{min}$   
Unit Mc  
Month December 1959

TABLE 61—Contd  
Ionospheric Data  
75° 0' E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	1.3	1.3	1.4	1.4	1.5	1.6	2.4	2.2	2.3	3.0	2.8	3.0
2	1.4	1.5	1.2	1.3	1.4	1.7	2.0	2.0	2.6	3.0	4.4	3.2
3	1.4	1.2	1.3	1.3	1.6	1.7	2.3	1.8	2.3	2.5	2.6	3.5
4	1.4	2.6	1.5	1.1	1.1	1.5	2.3	2.1	2.4	2.5	2.4	2.5
5	1.3	1.1	1.3	1.6	2.0	1.6	1.8	1.9	2.2	2.4	2.4	3.0
6	1.6	1.3	E	1.2	1.1	1.8	1.8	2.0	2.2	2.6	2.7	3.4
7	1.2	1.2	1.6	1.1	1.2	1.4	2.3	1.8	2.2	2.4	2.8	2.7
8	1.2	1.3	1.4	1.3	1.5	1.1	1.9	1.7	2.1	2.4	2.8	2.6
9	1.6	1.4	1.4	1.3	1.2	1.2	1.6	1.6	2.0	2.2	2.4	2.7
10	1.6	1.3	1.3	1.1	1.2	1.3	1.7	1.6	2.2	2.2	3.3	2.5
11	1.1	1.1	1.3	1.1	1.3	1.2	2.0	1.8	2.2	2.5	2.4	2.6
12	1.5	1.5	1.3	1.4	1.3	1.3	1.8	1.6	2.0	2.3	2.5	2.5
13	1.2	1.3	1.3	1.3	1.3	1.2	1.6	1.7	1.9	2.3	2.4	2.4
14	1.5	1.4	1.4	1.3	1.3	1.2	1.7	1.7	2.0	2.2	2.5	2.8
15	1.7	1.5	1.3	1.4	1.4	1.7	2.1	C	2.0	2.1	C	2.6
16	1.1	1.2	1.1	1.4	1.4	1.5	1.7	1.7	2.0	2.3	2.5	2.4
17	1.1	1.3	1.4	1.6	1.4	1.6	1.4	1.7	2.0	2.6	2.4	2.1
18	1.5	1.2	1.1	1.4	1.3	1.3	1.8	1.8	2.2	2.2	2.4	2.6
19	1.3	1.6	1.2	1.4	1.2	1.4	1.5	1.8	2.2	2.3	2.4	2.4
20	1.4	1.6	1.6	1.7	1.3	1.6	2.2	1.8	C	C	C	C
21	1.3	1.2	1.3	C	C	C	C	C	2.3	2.4	2.5	2.6
22	1.2	1.4	1.2	1.3	1.4	1.4	1.8	1.6	2.0	2.2	C	2.5
23	1.3	1.1	1.4	1.4	1.3	1.3	1.6	1.7	1.9	2.2	2.4	2.6
24	1.6	1.2	1.1	1.3	1.5	1.2	1.8	1.6	2.0	2.4	2.3	2.1
25	1.2	E	1.5	1.4	1.5	1.3	1.5	1.6	1.9	2.2	2.5	2.6
26	1.3	1.3	1.3	1.9	1.4	1.6	1.2	1.6	2.0	2.2	2.2	2.5
27	1.2	E	1.0	1.1	1.1	1.4	1.7	1.6	1.9	2.2	C	C
28	1.7	1.1	1.1	1.2	1.4	1.3	2.0	1.7	2.0	2.2	2.4	2.6
29	1.5	1.1	1.1	1.1	1.3	1.6	1.8	1.6	2.0	2.3	2.4	2.5
30	1.2	1.1	1.4	1.2	1.4	1.4	1.7	1.8	2.0	2.0	2.4	2.6
31	1.0	E	1.2	1.2	1.4	1.5	1.8	1.7	2.0	2.2	2.2	2.6
Count	31	31	31	30	30	30	30	29	30	30	27	29
Median	1.3	1.3	1.3	1.3	1.4	1.4	1.8	1.7	2.0	2.3	2.4	2.6
Mean	1.3	1.3	1.3	1.3	1.4	1.4	1.8	1.8	2.1	2.4	2.6	2.7

Sweep 1.0 Mc to 2.5 Mc in 27 seconds.

Characteristic fmin  
Unit Mc  
Month December 1959

TABLE 61—Contd  
Ionospheric Data  
75° E Mean Time

Latitude + 10 2° N  
Longitude : 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
3.4	2.8	2.4	2.2	1.9	1.8	1.4	1.8	2.2	1.6	1.3	1.3	1
4.7	3.4	3.8	2.4	2.8	1.7	1.8	1.4	1.6	1.3	1.8	1.5	2
3.3	2.7	2.6	3.6	2.2	1.9	1.3	1.8	2.2	2.2	2.0	1.6	3
3.0	5.3	4.3	2.5	2.3	1.7	1.4	1.5	1.5	2.5	1.7	1.0	4
2.6	3.0	2.2	2.4	2.2	1.8	1.6	1.5	1.3	1.4	1.4	1.5	5
2.7	2.6	2.5	2.0	2.1	1.7	1.2	1.2	1.2	1.6	1.3	1.5	6
2.9	2.5	2.4	2.0	2.2	1.7	1.3	1.5	1.5	1.5	1.3	1.5	7
2.5	2.5	2.2	1.9	1.7	1.6	1.3	1.4	1.3	1.3	1.2	1.1	8
2.6	2.4	2.4	1.8	1.7	1.7	1.0	1.1	1.1	1.2	1.3	1.7	9
2.6	2.5	2.4	1.9	2.2	1.8	1.1	1.3	1.3	1.0	E	1.3	10
2.6	2.5	2.5	2.4	2.3	1.7	1.3	1.6	1.7	1.7	1.7	1.5	11
2.6	2.5	2.8	1.7	2.1	1.5	1.5	2.2	1.8	1.8	1.5	1.2	12
2.4	2.3	2.3	2.0	1.9	1.7	1.7	1.5	1.3	1.3	1.3	1.4	13
2.8	2.6	2.5	2.1	2.0	1.6	1.7	2.0	1.9	1.4	2.2	1.7	14
C	C	2.3	1.8	1.7	1.7	1.3	1.2	1.6	1.3	1.4	1.1	15
2.6	2.3	2.4	2.2	1.8	1.6	1.2	1.5	1.5	1.5	1.3	1.3	16
2.4	2.4	2.2	1.7	2.2	1.9	1.4	1.7	1.2	1.3	1.1	1.1	17
2.4	2.3	2.4	2.1	1.7	1.6	1.4	1.6	1.6	1.3	1.9	1.5	18
2.6	2.4	2.3	1.9	2.0	1.8	1.2	1.6	1.6	1.6	1.3	1.3	19
C	C	C	2.1	2.1	2.0	1.5	1.4	1.4	1.6	C	1.5	20
2.6	2.4	2.2	1.8	2.0	1.9	1.4	1.5	1.5	1.3	1.3	1.4	21
2.6	2.5	2.3	2.2	2.1	1.9	1.2	1.1	1.0	1.1	E	1.3	22
2.6	2.3	2.3	1.8	1.9	1.9	1.3	1.2	1.3	1.3	E	1.3	23
2.5	2.3	2.3	2.2	2.7	2.1	1.6	1.3	1.2	1.2	1.2	1.1	24
2.6	2.6	2.6	2.3	2.3	1.9	1.3	1.1	1.3	E	1.5	1.4	25
2.7	2.6	2.7	2.4	2.3	1.9	1.1	1.2	1.4	1.3	1.2	1.2	26
C	C	C	C	1.8	1.6	1.2	1.3	1.4	1.3	1.2	1.1	27
2.8	2.4	2.4	2.2	2.2	2.0	1.4	1.3	1.3	1.4	1.4	1.3	28
2.6	2.6	2.5	2.3	2.0	1.9	1.7	1.2	1.3	1.1	E	1.2	29
2.6	2.6	2.3	1.8	1.7	1.7	1.5	1.3	1.3	1.3	1.2	E	30
2.6	2.5	2.6	2.2	2.2	1.5	1.3	1.2	1.3	1.1	E	C	31
28	28	29	30	31	31	31	31	31	31	30	30	Count
2.6	2.5	2.4	2.1	2.1	1.7	1.3	1.4	1.4	1.3	1.3	1.3	Median
2.7	2.6	2.6	2.1	2.1	1.8	1.4	1.4	1.4	1.4	1.4	1.3	Mean

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds.



Characteristic, h'F2  
 Unit, Km  
 Month December 1959

TABLE 62  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1									L	L	L	L
2									L	L	L	L
3									L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6												
7								L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11								L	L	L	L	L
12								L	L	L	L	L
13								L	L	L	L	L
14								L	L	L	L	L
15								L	L	L	L	L
16												
17								L	L	L	L	L
18												
19								L	L	L	L	L
20								L	L	L	L	L
21												
22							C	C	C	L	L	L
23								L	L	L	L	L
24								L	L	L	L	L
25								L	L	L	L	L
26												
27								L	L	L	L	L
28								L	L	L	L	L
29								L	L	L	L	L
30								L	L	L	L	L
31								L	L	L	L	L
Mean												
Median												
Count								..	..			

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds

Characteristic h'F2  
 Unit . Km  
 Month December 1959

TABLE 62  
 Ionospheric Data  
 75 0' E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
					L							5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
												10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
C	C	C	L	L	L				L			15
					L							16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
C	C	C	C	L								20
												21
L	L	L	L	L	L				L			22
L	L	L	L	L	L				L			23
L	L	L	L	L	L				L			24
L	L	L	L	L	L				L			25
												26
L	L	L	L	L	L				L			27
C	C	C	C	L								28
L	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								31
												Mean
												Median
												Count

Sweep 1 0 Mc. to 25 0 Mc in 27 seconds.

Characteristic, h'F<sub>2</sub>  
 Unit, Km.  
 Month, December 1959

TABLE 62—Contd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								L	L	L	L	L
2								L	L	L	L	L
3								L	L	L	L	L
4								L	L	L	L	L
5								L	L	L	L	L
6							L	L	L	L	L	L
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10							L	L	L	L	L	L
11							L	L	L	L	L	L
12							L	L	L	L	L	L
13							L	L	L	L	L	L
14							L	L	L	L	L	L
15							L	L	L	L	C	L
16							L	L	L	L	L	L
17							L	L	L	L	L	L
18							L	L	L	L	L	L
19							L	L	L	L	L	L
20							L	L	C	L	L	C
21							C	C	L	L	L	L
22							C	L	L	L	L	L
23							C	L	L	L	L	L
24							C	L	L	L	L	L
25							C	L	L	L	L	L
26							C	L	L	L	L	L
27							C	L	L	L	L	L
28							C	L	L	L	L	L
29							C	L	L	L	L	L
30							C	L	L	L	L	L
31							C	L	L	L	L	L
Mean												
Median												
Count												

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds.

Characteristic · h'F<sub>2</sub>  
 Unit Km  
 Month December 1959

TABLE 62—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude · 10 2° N  
 Longitude 77 5° E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
L	L	L	L	L								1
L	L	L	L	L								2
L	L	L	L	L								3
L	L	L	L	L								4
L	L	L	L	L								5
L	L	L	L	L								6
L	L	L	L	L								7
L	L	L	L	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	L	L	L								11
L	L	L	L	L								12
L	L	L	L	L								13
L	L	L	L	L								14
L	L	L	L	L								15
L	L	L	L	L								16
L	L	L	L	L								17
L	L	L	L	L								18
L	L	L	L	L								19
L	L	L	L	L								20
L	L	L	L	L								21
L	L	L	L	L								22
L	L	L	L	L								23
L	L	L	L	L								24
L	L	L	L	L								25
L	L	L	L	L								26
L	L	L	L	L								27
L	L	L	L	L								28
L	L	L	L	L								29
L	L	L	L	L								30
L	L	L	L	L								31
												Mean
												Median
												Count

Sweep 1 0 Mc. to 25 0 Mc in 27 seconds.

Characteristic h'F  
Unit Km.  
Month December 1959

TABLE 63  
Ionospheric Data  
75 ° E Mean Time

Latitude 10° 2' N  
Longitude . 77 5' E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	280	260	240	235	220	210	260	255	240	220	220	220
2	235	230	225	220	215	210	215	240	220	230	220	220
3	240	240	250	265	240	205	265	250	240	235	230	220
4	A	A	220	220	275	235	260	250	235	U245A	205	205
5	300	360	F	F	250	225	260	240	225	220	215	210
6	U285F	U275F	U275Γ	U320F	U320Γ	U270F	250	240	235	200H	225	225
7	270F	245	230	230	230	210	240	240	230	230	220	215
8	260	235	220	230	225	215	265	245	230	210	205	200
9	U300Γ	U280Γ	U255Γ	U250Γ	U250Γ	250	280	240	230	220	210	215
10	235	230	220	215	225	220	265	215	230	220	210	200
11	250	240	220	220	235	220	260	240	225	220	215	215 <sup>s</sup>
12	280	260	230	220	215	245	290	250	230	220	210	215
13	240	225	205	220	245	300	300	245	225	220	210	200 <sup>II</sup>
14	280	250	240	205	240	300	295	240	225	210	200 <sup>II</sup>	210
15	250	240	230	240	220	290	275	245	225	210	200	C
16	240	245	260	210	205	220	250	235	225	205	205	200
17	305	300	240	225	210	200	250	245	225	220	210	200
18	265	240	250	240	225	220	240	240	220	205	205	200
19	240	240	240	230	220	220	260	240	220	220	205	200
20	260	260	240	220	215	235	260	240	220	C	C	C
21	250	280	300	C	C	C	C	C	C	220	200	215
22	U300F	A	265	220	220	230	260	245	225	220	C	C
23	315	F	285	250	240	270	270	260	230	210	200 <sup>II</sup>	215
24	245	275	290	260	225	220	270	250	240	230	220	220
25	260	270	245	260	245	225	U270 <sup>I</sup>	250	230	220	215	215
26	F	U285Γ	F	F	290	245	280	245	220	220	220	220
27	260	260	245	265	250	220	255	245	235	220	C	C
28	245	240	270	260	240	215	280	250	235	220	220	205
29	240	260	265	255	220	230	280	245	230	220	215	210
30	230	230	220	220	215	230	275	250	230	210	210	205
31	240	225	250	230	220	235	320	260	240	230	220	200
Mean	260	255	245	235	235	235	265	245	230	220	210	210
Median	260	250	240	230	230	220	265	245	230	220	210	210
Count	29	28	29	28	30	30	30	30	30	30	23	27

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'F  
Unit Km  
Month December 1959

TABLE 63  
Ionospheric Data  
75° 0' E Mean Time

Latitude 10 2' N  
Longitude 77 5' E

'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	Date
220	215	220	235	240	260	300	305	270	245	240	240	1
215	220	220	240	250	270	320	300	280	250	210	250	2
215	210	235	240	250	265	310	280	250	240	275	A	3
215	B	B	240	255	270	320	300FII	FII	370	350	330	4
215	215	215	220	245	270	320	380	380	290	F	300	5
225	220	230II	235	240	265	380	375F	U360F	350	295	280	6
210II	205II	225	230	245	275	315	360	375	U370F	U340F	285	7
215	B	215	225	240	270	330	U415F	U400F	U300F	U245I	U290F	8
210	205II	210	220	240	265	325	350I	315	280	250	250	9
200II	200	215	225	240	255	305	340	320	280F	250F	270	10
215	200	220	220	230	265	320	F	U380F	320	300	300	11
210	210	215	U235A	210	270	325	405	U350F	320	280	260	12
210	205	200	220	230	255	310	365I	F	U340F	400	360	13
210	200	210	225	240	260	295	330	310	290	265	230	14
C	C	C	230	230	260	320	F	260	245	235	235	15
200	200	200	220	235	250	300	U365F	375	400	F	280	16
200	210	220	A	A	280	330	U360I	320	270I	U300F	280	17
220	200	200	A	A	U260A	300	360	U360F	340F	275	245	18
200	220	220	230	240	260	305	360	U360I	300F	275	260	19
C	C	C	240	240	260	305	315	320F	310	340	C	20
200	200	220	240	240	260	300	340	U360F	U400F	F	U360F	21
200	200II	220	230	240	265	300	360	F	370	370F	A	22
220	200	215	235	240II	270	315	310	360	285	265	265	23
210	200	200	230	240	270	300	360	360	340F	340I	270	24
200	200	215	225	220	270	300	370	F	U430F	365	340F	25
210	200	225	240	245	265	315	U400I	F	F	F	300	26
C	C	C	C	C	270	310	400	380	280	240	255	27
200	200	215	220	235	265	300	360	340F	315	310	240	28
200	200	210	220	235	270	300	340	340F	290	250	240	29
200	200	205	220	240	275	320	365	F	U380F	280	240	30
205	210	220	220	235	270	315	360F	340	F	260F	320F	31
210	205	215	230	240	265	315	355	340	315	290	280	Mean
210	200	215	230	240	265	310	360	350	310	275	270	Median
28	26	27	28	28	31	31	29	25	29	27	28	Count

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds.

Characteristic h'F  
Unit . Km.  
Month December 1959

TABLE 63—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1100
1	260	260	235	215	215	215	250	240	240	220	220	220
2	225	230	220	220	200	220	245	240	220	220	220	210
3	225	250	260	260	215	210	260	240	235	225	220	220
4	A	245	220	260	280	220	260	240	230	A	205	210
5	310	F	F	F	240	220	255	235	220	220	205	220
6	U295I	U260F	U305F	U325F	U295F	U265F	265	240	225	225	215	230
7	250	225	230	230	215	210	245	235	230	220	210II	210II
8	240	225	235	235	220	225	260	240	225	215	215	210
9	U310F	U250F	U280F	U260F	U260F	260	260	235	225	220	220	210II
10	230	230	210	220	220	220	250	235	230	210	210II	200
11	240	225	220	225	220	220	250	230	225	215	215	200
12	270	240	225	220	230	250	265	245	225	220	215	210II
13	225	220	205	230	295	380II	260	240	220	200	200	210
14	255	240	220	225	265	305	260	230	220	200	200	205
15	240	240	215	230	210	225	260	240	215	210	C	200
16	240	245	230	205	220	210	245	230	220	210	200	200
17	300	265	245	220	210	220	250	225	220	210	200	200
18	260	245	260	240	210	220	240	210	210	200	200	220
19	235	240	240	220	220	220	240	225	220	220	200	200
20	260	255	235	215	220	240	240	225	C	C	C	C
21	260	280	280	C	C	C	C	C	220	205	200	205
22	A	A	230	225	225	240	260	240	220	220	C	205
23	330	A	260	235	260	240	270	245	215	200II	220	210
24	265	275	280	245	210	240	260	240	230	230	220	215
25	265	260	250	245	235	230F	260	240	220	215	210	210
26	F	280F	F	U300F	250	210	260	240	220	220	220	215
27	260	255	260	260	210	225	260	230	220	220	C	C
28	240	260	260	230	220	210	265	240	225	220	210	210
29	250	260	250	240	230	210	270	240	210	210	215	205
30	230	220	220	215	220	240	260	240	220	210	200	205
31	240	245	240	220	230	260	280	245	230	225	210	200
Mean	260	245	245	240	235	240	255	235	225	210	210	209
Median	230	245	240	230	220	235	260	240	220	220	210	210
Count	28	28	29	29	30	30	30	30	30	29	27	210

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

Characteristic h'F  
Unit Km  
Month December 1959

TABLE 63—Contd  
Ionospheric Data  
75 °E Mean Time

Latitude 10°2' N  
Longitude 77 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
225	220	220	210	255	275	310	285	260	240	240	240	1
B	220	225	215	260	280	315	300	260	245	240	245	2
230	220	235	250	260	280	300	260	250	255	A	300	3
215	B	210	215	260	295	320H	300	380	F	350	300	4
215	215	215	230	260	290	375	380	310	F	F	315F	5
215	220H	225	235	250	285	365	U360R	U341R	300	295	275	6
205H	200H	205H	230	255	290	350	370	380R	365R	310	275F	7
210	215	220	230	250	285	330	U305I	F	U260I	U280R	U280F	8
205	200H	220	220	250	285	360	330I	305	260	255	240	9
200	210	220	220	215	275	330	335	300	260	255	265	10
210	220	220	225	250	280	365	F	F	300	300	285	11
215	210	210	225	255	285	330	390	U360F	290	270	260	12
200	200	200	220	240	280	360	355I	320R	U360I	355	310	13
210	205	220	225	250	270	320	335	300	280	250	230	14
G	C	225	230	250	280	350	280	265	240	230	250	15
200	200	205	225H	240	265	340	U400F	U370I	375	295	290	16
210	220	220	A	A	290	360I	360I	280	300	300F	260	17
200	200	220	A	A	275	340	U360I	U380F	320	260	240	18
200	230	225	235	250	275	340	U360I	320F	280	260	260	19
C	C	C	210	250	280	330	310	310	305	C	245	20
200	200H	230	210	215	280	320	310I	U380R	F	U380R	U340F	21
200	200H	235	235	255	285	330	U390I	U390R	355I	400	A	22
200	205	225	235	245	290	330	350	320E	265	275	265	23
205	200	235	230	210	280	330	360	360	320	F	270	24
200	200	230	220	245	280	315	F	F	395	360	325	25
205	215	225	210	265	290	360	F	F	400	U310I	265	26
C	C	C	C	260	285	390	390	320	245	240	245	27
200	205	230	225	255	280	310	360I	320I	320	270	230	28
200	200	220	220	245	280	330	330	320	270	250	210	29
200	200	205	230	260	290	360	300I	400I	320I	260	240	30
205	210	230	210	255	300	350I	360I	290	270I	300I	C	31
205	210	220	28	250	280	345	350	330	300	290	270	Mean
205	205	220	230	250	280	340	360	320	295	275	265	Median
27	27	29	230	29	31	31	28	27	28	27	29	Count

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds.



Characteristic h'E  
 Unit Km  
 Month December 1959

TABLE 64  
 Ionospheric Data  
 15 0 E Mean Time

Latitude 10 2' N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1								115H	105	A	A	A
2								100H	100	B	A	A
3								A	A	A	A	A
4								110	A	A	A	A
5								115	A	A	A	A
6								A	A	110	A	A
7								110	A	A	A	A
8								105	A	A	A	A
9								105	A	A	A	A
10								105	A	A	A	A
11								110	A	A	A	A
12								105	A	A	A	A
13								A	A	A	A	A
14								105	A	A	A	A
15								A	A	A	A	C
16								105	A	A	A	A
17								A	A	A	A	A
18								110	A	A	A	A
19								115	A	A	A	A
20								110	A	C	C	C
21								C	C	A	A	A
22								115	A	A	C	C
23								A	A	A	A	A
24								115	A	A	A	A
25								110	105	A	A	A
26								110	A	A	A	A
27								115	110	110	C	C
28								120	110	A	A	A
29								A	A	105	A	A
30								110	A	A	A	A
31								120	110	A	A	A
Mean								110	105			
Median								110	110			
Count								23	6	3		

Sweep 1 0 Mc to 25 0 Mc in 27 seconds.

Characteristic · h'F  
 Unit Km.  
 Month December 1959

TABLE 64  
 Ionospheric Data  
 75 0° E Mean Time

Latitude · 10 2' N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
B	Λ	Λ	Λ	Λ								1
Λ	Λ	Λ	Λ	Λ								2
Λ	Λ	Λ	Λ	110								3
Λ	B	B	Λ	A								4
Λ	Λ	Λ	105	Λ								5
105	Λ	Λ	Λ	Λ								6
Λ	Λ	Λ	Λ	Λ								7
Λ	B	Λ	Λ	Λ								8
Λ	Λ	Λ	Λ	100								9
Λ	Λ	Λ	Λ	Λ								10
Λ	Λ	Λ	Λ	Λ								11
Λ	Λ	105	Λ	Λ	Λ							12
Λ	Λ	Λ	Λ	Λ	140							13
Λ	Λ	Λ	Λ	Λ	115	Λ						14
C	C	C	Λ	Λ	115							15
Λ	Λ	Λ	Λ	Λ	120							16
Λ	Λ	Λ	Λ	Λ	Λ							17
Λ	Λ	Λ	Λ	110	Λ							18
Λ	Λ	Λ	Λ	110	120							19
C	C	C	Λ	100								20
A	Λ	Λ	Λ	Λ	Λ							21
Λ	Λ	Λ	Λ	Λ	130							22
Λ	Λ	Λ	Λ	Λ	Λ							23
Λ	Λ	Λ	Λ	115	Λ							24
Λ	Λ	Λ	Λ	Λ	Λ							25
Λ	Λ	Λ	Λ	Λ	Λ							26
C	C	C	C	C	A							27
Λ	110	100	110	120								28
Λ	Λ	Λ	Λ	Λ	120							29
Λ	Λ	Λ	Λ	Λ								30
110	110	110	110	110	120							31
				110	125							Mean
				110	120							Median
2	2	3	3	8	8							Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'E  
Unit Km.  
Month December 1959

TABLE 64—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1								105	105	110	A	A
2							120H	100	A	A	B	A
3								A	A	A	A	A
4								105	A	A	A	A
5							120H	A	A	A	A	A
6							A	A	A	A	A	A
7								105	A	A	A	A
8							120	105	A	A	A	A
9							110	A	A	A	A	A
10							120	A	A	A	A	A
11							145	A	A	A	A	A
12							120	A	A	A	A	A
13							115	A	105	A	A	A
14							120	105	A	A	A	A
15								A	A	A	C	A
16							115	105	A	A	A	A
17							A	A	A	A	A	A
18							120	110	A	A	A	A
19							120	110	A	A	A	A
20								105	C	C	C	C
21							C	C	A	A	A	A
22							130	115	A	A	C	A
23							130	A	A	A	A	A
24							140	105	A	A	A	A
25							130	105	A	A	A	A
26								A	A	A	A	A
27								110	105	105	C	C
28								A	A	A	A	A
29								A	A	A	A	A
30							130	A	A	A	A	A
31								110	A	A	A	A
Mean							125	105				
Median							120	105				
Count							17	15	3	2		

Sweep 1.0 Mc to 25.0 Mc. in 27 seconds

Characteristic h'E  
 Unit Km  
 Month December 1959

Table 64—Contd  
 Ionospheric Data  
 75 0 E Mean Time

Latitude 10 2' N  
 Longitude 77 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
A	A	λ	Λ	Λ								1
B	Λ	λ	Λ	Λ								2
Λ	λ	λ	B	Λ								3
A	B	B	Λ	115								4
Λ	λ	Λ	105	115								5
Λ	λ	λ	110	Λ								6
Λ	Λ	λ	105	Λ								7
Λ	Λ	λ	Λ	Λ								8
Λ	Λ	Λ	Λ	Λ								9
Λ	Λ	Λ	Λ	Λ								10
Λ	Λ	Λ	Λ	135								11
Λ	Λ	115	Λ	Λ								12
Λ	Λ	Λ	Λ	110								13
Λ	Λ	Λ	105	Λ	Λ							14
C	C	Λ	Λ	Λ	Λ							15
Λ	λ	λ	Λ	120								16
Λ	λ	λ	Λ	Λ								17
Λ	λ	λ	Λ	110								18
Λ	λ	λ	Λ	120								19
C	C	C	Λ	120								20
Λ	Λ	Λ	Λ	Λ								21
Λ	Λ	Λ	Λ	Λ								22
Λ	Λ	Λ	Λ	Λ								23
Λ	Λ	Λ	Λ	Λ								24
Λ	Λ	Λ	Λ	Λ								25
Λ	Λ	Λ	Λ	Λ								26
C	C	C	C	Λ								27
110	λ	110	Λ	120								28
Λ	λ	λ	Λ	120								29
Λ	λ	λ	Λ	Λ								30
Λ	115	110	110	120								31
1	1	3	5	11								Mean
			105	120								Median
			105	120								Count

Sweep 1 0 Mc to 25.0 Mc in 27 seconds

Characteristic  $f^oF_2$   
 Unit Km.  
 Month December 1959

Table 65  
 Ionospheric Data  
 75  $^{\circ}$  E Mean Time

Latitude  $10^{\circ}2' N$   
 Longitude  $77^{\circ}5' E$

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	105							G	100	100	100	100
2								G	G	100	100	100
3	105	115	110	105				100	100	100	100	100
4	100	100		100				G	100	100	100	100
5	100	100	100	100			100	G	100	100	100	100
6		105	105	110	100			100	100	100	100	100
7			100					G	100	100	100	100
8								100	100	100	100	100
9		110						100	100	100	100	100
10								100	100	100	100	100
11								100	100	100	100	100
12								105	100	100	100	100
13								100	100	100	100	100
14								100	100	100	100	100
15	100	100	110	100				100	100	100	100	G
16			100					G	100	100	100	100
17	105	100						100	100	100	100	100
18	120		115					G	100	100	100	100
19								G	100	100	100	100
20								110	100	G	G	G
21				G	G	G	G	G	G	100	100	100
22	110	100	120					G	100	100	G	G
23	120	120						100	100	100	100	100
24								100	100	100	100	100
25		105	105					100	100	100	100	100
26			100					100	100	100	100	100
27			100					G	G	150	G	G
28	110	110	110					100	100	100	100	100
29								100	100	100	100	100
30								100	100	100	100	100
31								100	100	100	100	100
Mean	110	110	105	105				100	100	100	100	100
Median	105	105	105	100				100	100	100	100	100
Count	10	11	12	5	1	1		20	28	30	28	27

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month December 1959

Table 65  
 Ionospheric Data  
 75 0 E Mean Time

Latitude 10 2' N  
 Longitude 77 5' E

12	13	14	15	16	17	18	19	20	21	22	23	Date
100	100	100	100	100								1
100	100	100	100	100								2
100	100	100	100	100					100	100	100	3
100	B	B	100	100							105	4
100	100	100	G	100						115	115	5
100	100	100	100	100								6
100	100	100	100	100					120		115	7
100	B	100	100	100	100					120	110	8
100	100	100	100	100	105					105	110	9
100	100	100	100	100	100					100	105	10
100	100	100	100	100				110	105	110	105	11
100	100	100	100	100	100							12
100	100	100	100	100	100				120	110		13
C	C	C	100	100	105	100					105	14
100	100	100	100	100	100					110	110	15
100	100	100	100	100	120			120	120	120	120	17
100	100	100	100	100	100	100			100	100	100	18
100	100	100	100	100	105							19
C	C	C	100	100	105				125	110	C	20
100	100	100	100	100	100					120		21
100	100	100	100	100	115						120	22
100	100	100	100	100	100							23
100	100	100	100	100	100							24
100	100	100	100	100	100							25
100	100	100	100	100	110							26
C	C	C	C	C	100							27
100	100	100	C	100	110							28
100	100	100	100	100	105							29
100	100	100	100	100								30
100	100	C	100	100	C				120	110	110	31
100	100	100	100	100	105				115	110	110	Mean
100	100	100	100	100	100				120	110	110	Median
28	26	26	28	29	21	2		2	7	13	14	Count

Sweep 10 Mc. to 25 0 Mc in 27 seconds.

Characteristic h'Es  
Unit Km  
Month December 1959

Table 65—contd  
Ionospheric Data  
75 0° E Mean Time

Latitude 10 2° N  
Longitude 77 5° E

Date	0130	0135	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							100	100	G	G	100	100
2							G	100	100	100	100	100
3		100	115					100	G	100	100	100
4	100			100	100			G	100	100	100	100
5	105	135	120	100	100			G	100	100	100	100
6			115	105	100			100	100	100	100	100
7								G	100	100	100	100
8								G	100	100	100	100
9								G	100	100	100	100
10								G	100	100	100	100
11								G	100	100	100	100
12								100	100	100	100	100
13								100	100	G	100	100
14								105	100	100	100	100
15	100		100					100	100	100	C	100
16	105	10	100					G	G	100	100	100
17	100		105	105				100	100	100	100	100
18	120							G	100	100	100	100
19								G	100	100	100	100
20	110							G	C	C	C	C
21		110		C	C	C	C	C	100	100	100	100
22	105	100						G	100	100	C	100
23	115	115		120				100	100	100	100	100
24					100			G	100	100	100	100
25	115	105						G	100	100	100	100
26	100	110	100						100	100	100	100
27							130	G	G	150	C	C
28	120	115	110					100	100	100	100	100
29							155	100	100	100	100	100
30							G	100	100	100	100	100
31								100	100	100	100	100
Count	12	9	8	5	1			9	25	27	29	29
Median	105	110	110	105				100	100	100	100	100
Mean	110	110	110	105				110	100	100	100	100

Step 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic h'Es  
 Unit Km  
 Month December 1959

Table 65—cont'd  
 Ionospheric Data  
 75° E Mean Time

Latitude 10° N  
 Longitude 77° 5' E

1250	1300	1350	1400	1430	1450	1500	1530	1550	1600	1630	1650	Date
100	100	100	100	100								1
100	100	100	100	100								2
100	100	100	100	100								3
100	B	G	100	G					100	100	100	4
100	100	100	G	105						120	105	5
100	100	100	100	100								6
100	100	100	100	100						115	115	7
100	100	100	100	100							110	8
100	100	100	100	105						105		9
100	100	100	100	100					110	115	105	10
100	100	100	100	100								11
100	100	100	100	100	100			110	125	105	105	12
100	100	100	100	100								13
100	100	100	G	100	100			110	110		105	14
C	C	100	100	100						110	105	15
100	100	100	100	100						105	100	16
100	100	100	100	110			130	120		120	120	17
100	100	100	100	100	100				110		140	18
100	100	100	100	100						110		19
C	C	C	100	100					120	G		20
100	100	100	100	100						120		21
100	100	100	100	100						120	120	22
100	100	100	100	100					115			23
100	100	100	100	100								24
100	100	100	100	100					110			25
100	100	100	100	100								26
C	C	C	C	110	100						120	27
100	100	100	100	100								28
100	100	100	100	100								29
100	100	100	100	100								30
100	100	G	100	100					115	105	G	31
28	27	27	28	30	4		1	3	9	13	13	Count
100	100	100	100	100					110	115	105	Median
100	100	100	100	100					115	110	110	Mean

Sweep 10 Mc to 250 Mc in 27 seconds



Characteristic (M 3000) F2  
 Unit ·  
 Month December 1959

Table 66  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	2 50	F	F	2 95	3 10	3 30	2 90	2 90	2 65	2 50	2 55	2 30
2	2 85	2 90	3 05	3 05	3 35	3 40	3 00	3 10	2 80	2 50	2 30	2 25
3	2 95	3 00	3 00	2 85	3 10	3 35	2 90	2 60	2 55	2 50	2 40	2 25
4	2 75	2 90	3 00	3 10	2 85	3 00	3 05	2 90	2 75	2 60	2 55	2 40
5	F	F	F	F	F	F	U3 10r	U2 85r	2 65	2 50	2 35	2 20
6	F	F	F	F	F	F	2 80	2 50	2 60	2 40	2 35	2 35
7	F	U2 80r	3 00	3 00	3 15	3 35	3 15	3 20	2 95	2 55	2 25	2 25
8	U2 70r	U2 75r	U2 90r	U2 95r	3 00	3 30	3 00	2 80	2 65	2 35	2 30	2 35
9	F	F	F	F	F	U2 75r	U2 85r	2 75	2 65	2 50	2 35	2 35
10	U2 70s	2 95	3 20	3 30	3 15	3 20	2 85	2 90	2 65	2 45	2 35	2 30
11	2 60r	U2 70r	2 95	3 15	3 15	U3 20r	2 95	2 90	2 65	2 40	2 20	2 40
12	F	U2 70r	FS	3 20	3 30	3 15	2 80	2 70	2 45	2 80	2 50	2 30
13	F	2 90r	3 30	3 25	3 15	2 40	2 60	2 80	2 65	2 75	2 45	2 30
14	F	F	U3 05rs	3 40	3 15	F	2 75	2 80	2 85	2 45	2 50	2 40
15	2 90	2 95	3 10	3 20	3 25	3 35	2 85	2 75	2 60	2 55	C	C
16	2 80	2 80	2 90	3 25	3 50	3 30	2 90	3 10	2 90	2 60	2 40	2 30
17	F	F	U2 80r	U 300rs	F	3 50	U3 10rs	U2 90s	2 65	2 60	2 50	2 40
18	F	U2 80r	F	F	U3 00s	3 40	3 25	U3 30s	3 00	2 70	2 30	2 25
19	3 05	3 10	3 20	3 30	3 40	3 20	3 10	3 20	2 90	2 60	2 40	2 45
20	U2 90s	U2 90s	3 15	U3 35s	3 40	3 35	U3 10s	3 25	3 05	C	C	C
21	2 75	2 70	F	C	C	C	C	C	C	2 45	2 50	2 40
22	F	F	U2 90s	3 00	3 10	3 25	2 95	2 95	2 80	2 75	C	C
23	F	F	F	F	F	F	F	2 80	2 65	2 35	2 10	2 20
24	2 65	S	2 60	2 80	3 20	3 40	2 90II	2 85	2 65	2 45	2 30	2 35
25	F	F	F	F	F	F	U2 90II	2 85	2 80	2 60	2 35	2 30
26	F	F	F	F	F	F	U2 90s	2 50II	2 80	2 40	2 50	2 40
27	U2 65s	FS	2 70r	2 80	F	3 20	F	U3 15r	3 25	2 95	C	C
28	2 90	U2 70s	2 70	2 80	U3 05s	3 35	2 80	2 95	2 70	U2 50s	2 35	2 40
29	U3 00s	2 80	F	U2 75s	U3 20s	U3 30s	F	S	U2 85s	2 65	2 55	2 55
30	U2 60r	F	J3 00s	U3 20s	3 30	3 40	2 80	U3 05s	2 70	2 10	2 60	2 40
31	2 90	2 90	FS	3 10	U3 20s	3 30	2 70	2 80	2 70	2 65	2 50	2 45
Mean	2 80	2 85	2 95	3 10	3 15	3 25	2 90	2 90	2 75	2 55	2 40	2 35
Median	2 80	2 85	3 00	3 10	3 15	3 30	2 90	2 90	2 70	2 50	2 40	2 35
Count	18	18	19	23	22	24	27	29	30	30	27	27

Step 1.0 Mc to 2.5 Mc in 27 seconds

Characteristic : (M 3000) F2  
 Unit  
 Month December 1959

Table 66  
 Ionospheric Data  
 75 0° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

12	13	14	15	16	17	18	19	20	21	22	23	Date
2 20	2 20	2 10	2 25	2 35	2 35	2 45	2 40	2 55	2 75	2 80	2 80	1
2 35	2 25	2 10	2 10	2 20	2 30	2 30	2 25F	2 50	2 70	2 70	2 80	2
2 25	2 35	2 30	2 15	2 15	2 35	2 30	2 50	2 70	2 80	2 80	2 70	3
2 30	2 30	2 30	2 35	2 40	2 40	2 25	2 25	F	F	F	F	4
2 25	2 20	2 25	2 40	2 40	2 30	2 20	F	F	2 30	U2 40I	F	5
2 30	2 25	2 15	2 20	2 30	2 25	2 15	2 10	U2 10F	U2 30F	F	2 45	6
2 20	2 25	2 15	2 20	2 30	2 30	2 20	2 15	2 10	U2 10F	U2 20F	U2 45F	7
2 20	2 20	2 20	2 25	2 20	2 20	2 20I	2 10I	U2 05F	F	2 50I	F	8
2 25	2 25	2 30	2 20	2 15	2 25	2 20	2 20	U2 30S	2 40	2 40	2 55	9
2 25	2 25	2 20	2 25	2 35	U2 45S	2 25	2 10	2 30	U2 35S	2 50I	U2 50F	10
2 35	2 25	2 25	2 30	2 30	2 30	2 20	2 05	J2 05F	2 30F	2 40	2 35	11
2 30	2 30	2 35	2 40	2 40	2 40	2 20	2 10	2 20	U2 40F	F	F	12
2 30	2 30	2 35	2 40	2 35	U2 35S	2 20	2 20	2 20	FS	F	F	13
2 20	2 30	2 20	2 25	2 40	U2 45S	U2 50S	2 40	2 40	2 60	2 70	2 90	14
C	C	C	2 10	2 15	2 30	2 25	2 15	2 40	2 65	2 85	2 90	15
2 30	2 40	2 40	2 35	2 30	2 30	U2 30S	2 10	2 05	F	F	F	16
2 30	2 30	2 40	2 45	2 35	S	U2 20S	U2 15F	F	F	F	U2 40F	17
2 35	2 30	2 35	2 30	2 45	U2 55S	U2 50S	2 40	J2 30S	U2 40F	U2 70S	U2 95F	18
2 35	2 35	2 40	2 35	2 40	U2 45S	U2 30I	J2 20R	F	U2 25F	U2 50S	U2 70S	19
C	C	C	2 35	2 30	2 25	J2 30S	U2 25S	2 30	2 40	U2 45I	C	20
2 30	2 25	2 25	2 30	2 30	2 40	U2 35S	U2 30S	U2 20S	F	F	F	21
2 35	2 15	2 10	2 10	2 15	2 25	2 25	U2 25S	2 10	2 20	2 15	F	22
2 35	2 25	2 15	2 15	2 20	2 30	U2 20S	2 20	2 25	2 40	2 55	2 60	23
2 25	2 20	2 20	2 15	2 30	2 45	2 45	2 30	2 30	2 35	U2 45I	U2 45S	24
2 30	2 30	2 25	2 30	2 45	2 35	2 45	2 05	1 05	F	F	F	25
2 40	2 40	2 35	2 20	1 05	2 15	2 25	2 15	F	U2 05F	F	U2 45F	26
C	C	C	C	C	2 30	U2 30S	2 10	2 20	2 30	U2 70S	2 80	27
2 45	2 45	2 50	2 50	2 50	2 30II	S	U2 10FS	F	F	F	F	28
2 45	2 30	2 20	2 20	2 25	U2 10S	U2 25S	U2 25S	2 15I	F	F	U2 60FS	29
2 35	2 35	2 20	2 25	U2 25	U2 20S	U2 20S	2 10	F	F	F	F	30
2 35	2 35	2 30	2 35	2 30	U2 35S	J2 25S	U2 10I	F	F	F	F	31
2 30	2 30	2 25	2 25	2 30	2 30	2 30	2 20	2 25	2 40	2 55	2 65	Mea
2 30	2 30	2 25	2 25	2 30	2 30	2 25	2 20	2 20	2 40	2 50	2 60	Median
28	28	28	30	30	30	30	30	23	20	18	18	Count

Sweep 1 0 Mc to 25 0 Mc in 27 seconds

Characteristic (M 3000) F2  
 Unit :  
 Month . December 1959

Table 66—Contd  
 Ionospheric Data  
 75 ° E Mean Time

Latitude 10 2° N  
 Longitude 77 5° E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	U2 50F	F	F	3 15F	3 25	3 25	2 95	2 75	2 55	2 45	2 10	2 25
2	2 90	2 90	3 00	3 10	3 35	3 00	3 15	2 05	2 70	2 45	2 0	2 30
3	3 00	3 00	2 90	3 00	3 25	3 25	2 80	2 45	2 60	2 10	2 30	2 20
4	2 85	3 05	3 15	3 00	2 90	3 15	3 00	2 80	2 60	2 50	2 50	2 40
5	F	F	F	F	F	F	U3 00F	2 80	2 60	2 10	2 25	2 20
6	F	F	F	F	F	F	2 70	2 60	2 55	2 10	2 30	2 30
7	F	2 85	2 95	3.05	3 20	3 20F	3 20	3.05	2 80	2 40	2 25	2 20
8	U2 65F	U2 90F	U2 95F	U3 05F	3 25	3 25	2 95	2 80	2 50	2 30	2 35	2 5
9	F	F	F	F	F	U2 70F	2 75	2 70	2 55	2 40	2 40	2 30
10	2 85	3 10	3 25	3.20	3 10	3 20	2 90	2 80	2 50	2 40	2 35	2 30
11	2 60F	U2 85F	3 00	3 10	U3 30F	3 30	2 95	2 80	2.50	2 30	2 35	2 40
12	U2 60F	FS	3 15	3 40	3 25	3 05	U2 80S	2 65	2 75	2 65	2 40	2 30
13	2 85F	U3 00F	U3 10S	3 25	3 35	2 20H	2 85	2 70	2.65	2 60	2 30	2 30
14	F	FS	3 20	3 30	3 00	F	2 90	2 90	2 70	2 25	2 50	2 30
15	3 00	3 00	3 10	3 15	3 35	3 25	2 80	2 70	2 55	2 45	C	2 0
16	2 80	2 90	3 05	3 40	3 50	3 30H	3 15	3 00	2 75	2 45	2 35	2 40
17	F	F	U2 90F	U3 10F	3 25H	F	U3 00F	2 75	2 55	2 55	2 45	2 40
18	F	U2 90F	U2 90F	U2 90FS	3 30	3 35	3 30	3 40	2.90	2 55	3 10R	2 30
19	3 10	U3 20S	U3 30S	F	3 45	U3 35R	3 25S	3 10	2.80	U2 40S	2 45	2 30
20	U2 85S	3 00	U3 25S	3 40	3 40	U3 10RH	U3 25S	3 25	C	C	C	C
21	2 80	U2 70F	F	C	C	C	C	C	2 50	2.40	2.40	2 30
22	F	F	U3 10S	3 00	3 20	3.40	3 00	2 90	2 80	2.65	C	2 65
23	F	F	F	F	U3 00F	F	U2 90F	2 70	2.55	2.20	2 05	2 5
24	2 70	2 60	2 70	2 95	3 35	3 35	3 00	2 80	2 55	2 35	2 25	2 30
25	F	F	F	F	F	F	3 00	2 85	2.75	2 50	2 35	2 25
26	F	F	F	F	F	F	U2 75H	2.65	2.65	2 50	2.45	2 35
27	U2 80S	2 70	2 80	2 85	U3 00S	U3 10S	U3 10F	3 20	3 10	2 85	C	C
28	U2 80S	2 70	2 80	U3 00S	3 35	3 40	F	2 80	2 60	2 45	2.30	2 30
29	U2 90S	F	2 70	2 90	3 10	F	F	2 60	2 70	2 55	2 50	2 50
30	U2 80F	U3 00S	3 10	3 15	3 40	3 40	3 00	2 85	2.55	2.50	2 40	2 40
31	2 95	U3 00S	FS	U3 20S	3 25	3 10	2 80	2 65	2 60	2 65	2 45	2 45
Mean	2 80	2 90	3 05	3 10	3 25	3.15	2 95	2.85	2.65	2.45	2.35	2 30
Median	2 80	2 90	3 00	3 10	3 25	3 25	3 00	2 80	2.60	2.45	2.35	2 30
Count	20	19	22	23	25	22	29	30	30	30	27	- 9

SWEEP 1.0 Mc to 25.0 Mc in 27 seconds

Characteristic (M 3000) F<sub>2</sub>  
Unit  
Month December 1959

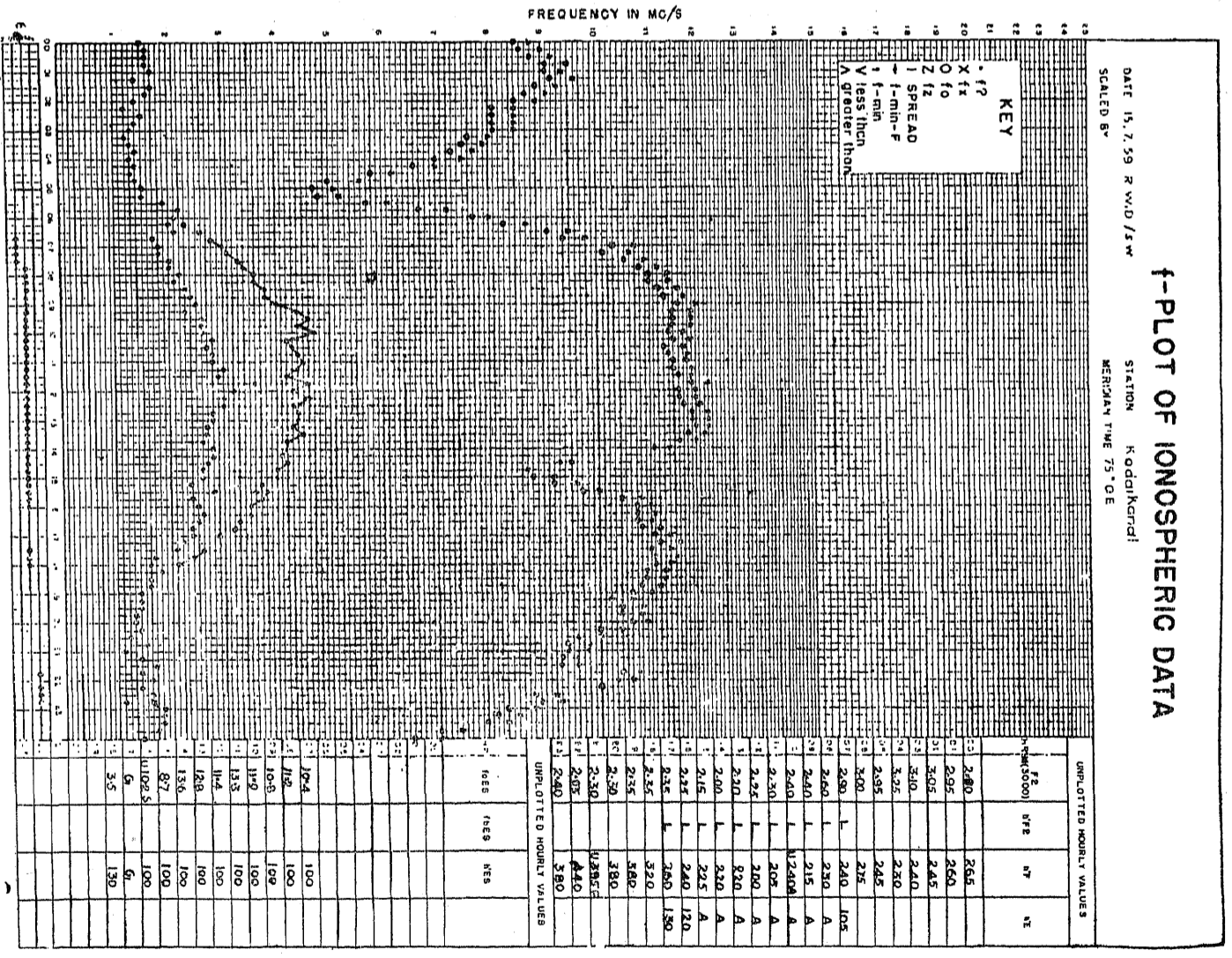
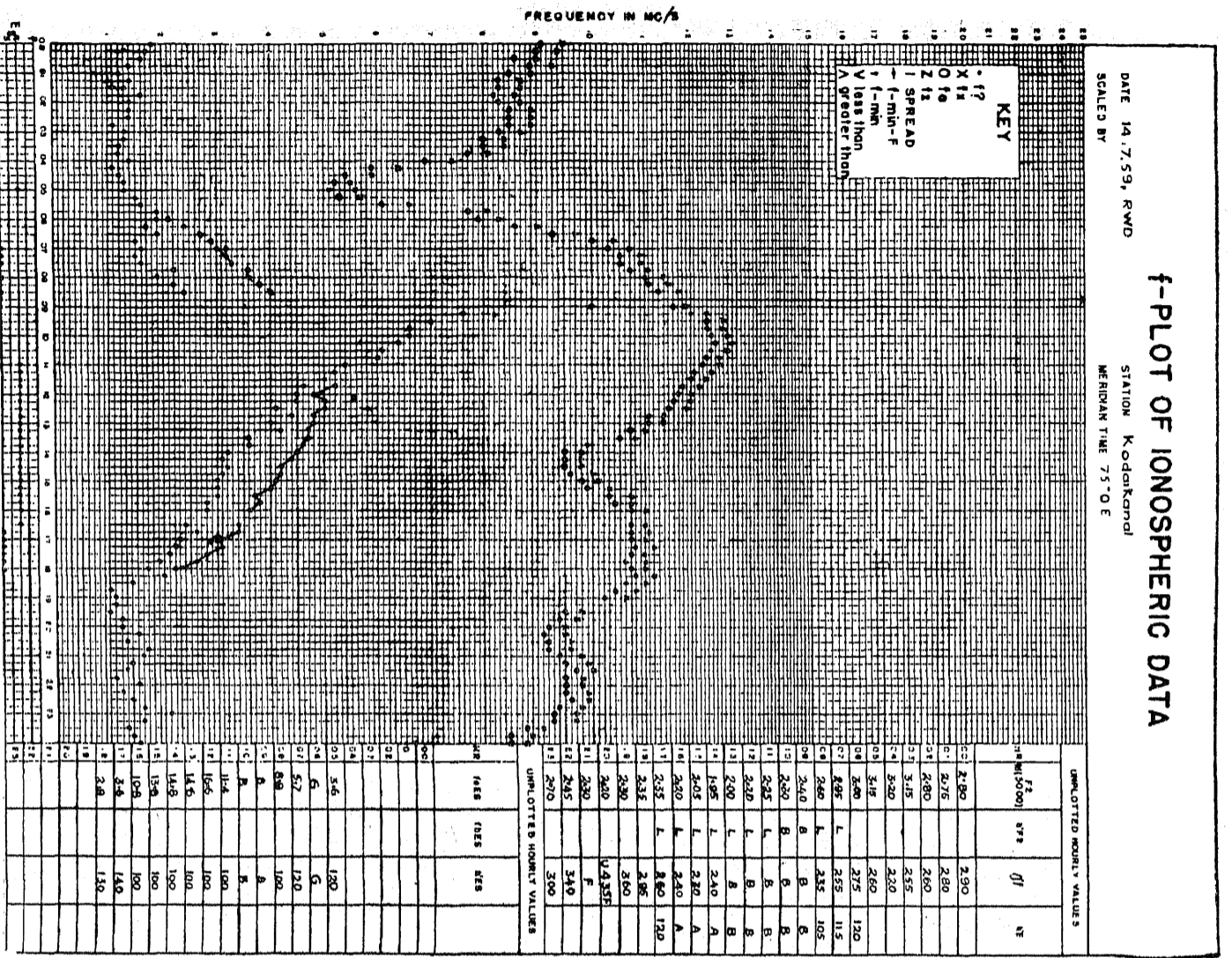
Table 66—Contd  
Ionospheric Data  
75° E Mean Time

Latitude 10° 2' N  
Longitude 77° 5' E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Date
2 20	2 15	2 20	2 30	2 30	2 40	2 40	2 50	2 70	2 80	2 80	2 90	1
2 35	2 15	2 05	2 20	2 30	2 30	2 20	2 40	2 60	2 70	2 80	2 80	2
2 30	2 30	2 20	2 10	2 30	2 40	2 40	2 65	2 70	2 90	2 75	2 75	3
2 30	2 30	2 35	2 35	2 45	2 35	2 45	U2 25H	F	F	F	F	4
2 20	2 25	2 30	2 40	2 35	2 25	2 15	F	U2 25F	U2 35F	U2 35F	F	5
2 30	2 20	2 15	2 20	2 25	2 20	2 10	U2 10I	2 10	U2 25I	2 50	U2 55F	6
2 25	2 20	2 15	2 25	2 30	2 30	2 15	2 10	2 10	U2 20F	U2 25I	U2 65I	7
2 20	2 25	2 25	2 20	2 20	2 25	2 10	2 05	F	U2 40I	F	F	8
2 20	2 30	2 30	2 20	2 20	2 25	2 10	U2 20S	U2 25S	2 35	2 60	U2 65S	9
2 25	2 25	2 25	2 30	2 40	2 40	2 20	2 20	2 40	U2 50S	2 55F	2 40I	10
2 30	2 20	2 20	2 30	2 30	2 30	U2 10S	2 05	J2 05I	U2 25S	U2 40I	2 55	11
2 35	2 30	2 10	2 40	2 40	2 35	2 05	2 10	J2 35I	U2 50F	F	F	12
2 30	2 25	2 10	2 35	2 40	2 30	U2 15S	2 15	2 20	F	F	F	13
2 25	2 20	2 25	2 30	U2 15S	U2 50S	2 15	2 35	2 50	2 65	2 85	2 90	14
C	C	2 20	2 10	2 15	2 30	2 10	2 30	2 50	2 85	2 85	2 80	15
2 40	2 40	2 10	2 35	2 30	2 30	2 15	2 05	U2 05I	F	F	F	16
2 35	2 40	2 10	2 40	2 30	U2 25S	2 00	F	F	F	F	F	17
2 30	2 30	2 35	2 10	U2 50S	U2 60S	2 15	2 35	U2 10I	U2 50S	2 85	U2 00IS	18
2 35	2 40	2 10	U2 10S	U2 50	U2 35	U2 15S	U2 20S	F	U2 15S	2 60	U2 85S	19
C	C	C	2 30	2 30	2 25	U2 25S	U2 30S	U2 35F	U2 40S	C	2 70	20
2 20	2 20	2 30	2 25	2 10	J2 30S	U2 35S	U2 25S	J2 15R	F	F	F	21
2 20	2 10	2 05	2 10	2 20	2 25	2 30	2 15	2 15	2 15	F	F	22
2 35	2 20	2 15	2 15	2 25	2 25	U2 25S	2 15	2 40	2 50	2 65	2 55	23
2 25	2 25	2 10	2 20	2 10	2 55	2 55	2 35	2 40	2 15	F	F	24
2 25	2 20	2 30	2 35	2 35	2 10	2 20	2 00	1 00R	F	F	U2 70F	25
2 40	2 35	2 25	U2 05S	U2 06S	2 20	2 20	F	F	2 15	F	U2 70F	26
C	C	C	C	U2 30S	U2 35S	2 20	2 10	2 30	U2 60S	2 70	2 80	27
2 45	2 50	2 55	2 50	2 40	U2 20R	U2 20S	F	F	F	F	U2 90IS	28
2 35	2 25	2 10	2 30	2 15	S	U2 25S	2 30	F	2 40F	F	U2 65SV	29
2 40	2 35	2 15	2 25	2 20	U2 25S	2 20	F	F	F	F	F	30
2 30	2 30	U2 35R	2 30	2 30	U2 35S	U2 20S	F	F	F	F	C	31
2 30	2 25	2 25	2 30	2 30	2 30	2 25	2 20	2 30	2 45	2 65	2 70	Mean
2 30	2 25	2 25	2 30	2 30	2 30	2 20	2 20	2 30	2 45	2 65	2 70	Median
28	28	29	30	31	30	31	25	22	22	15	19	Count

Sweep 1.0 Mc to 25.0 Mc in 27 seconds.

TABLE I



1-4 D. D. G. Kodakkanal/61

TABLE II

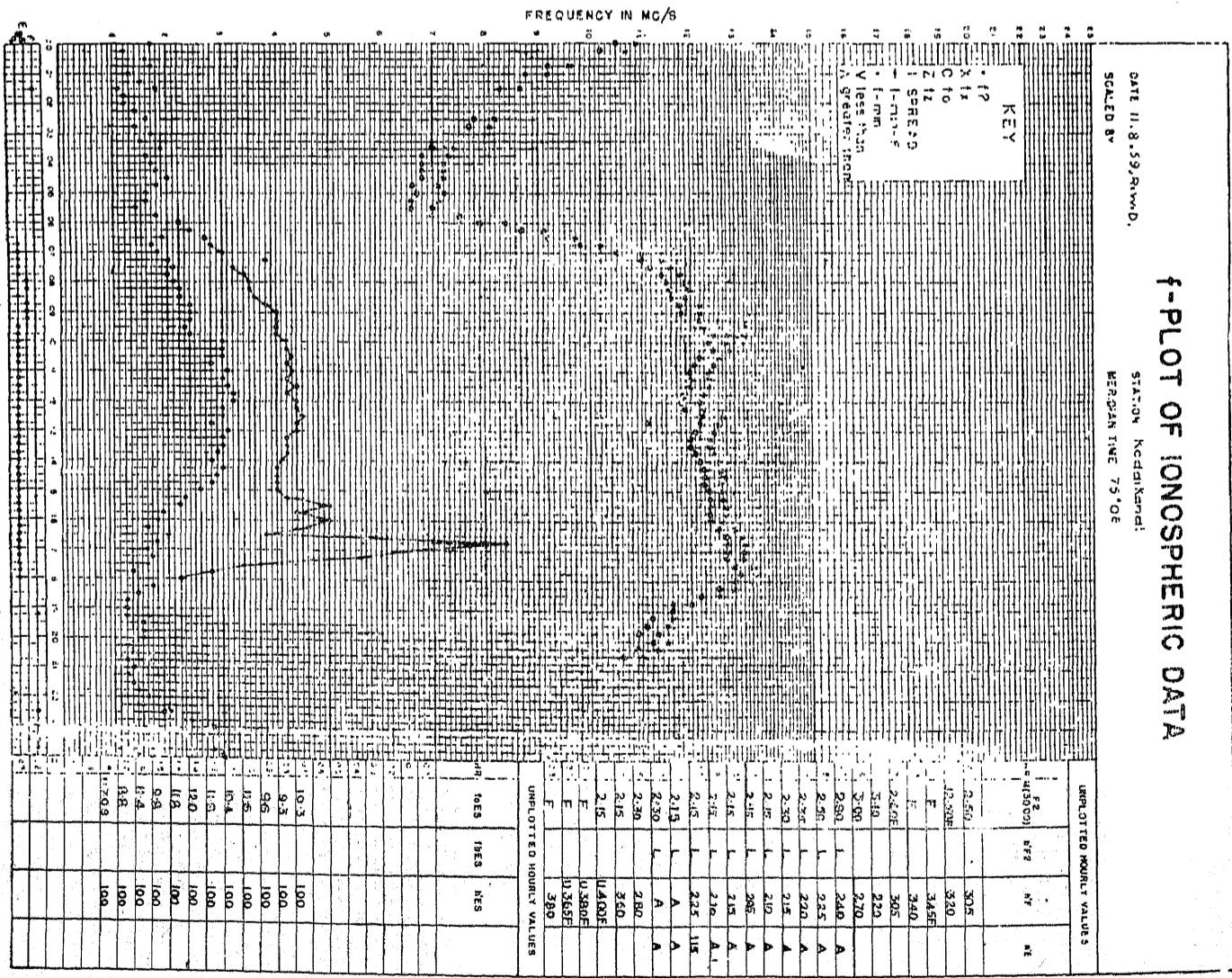
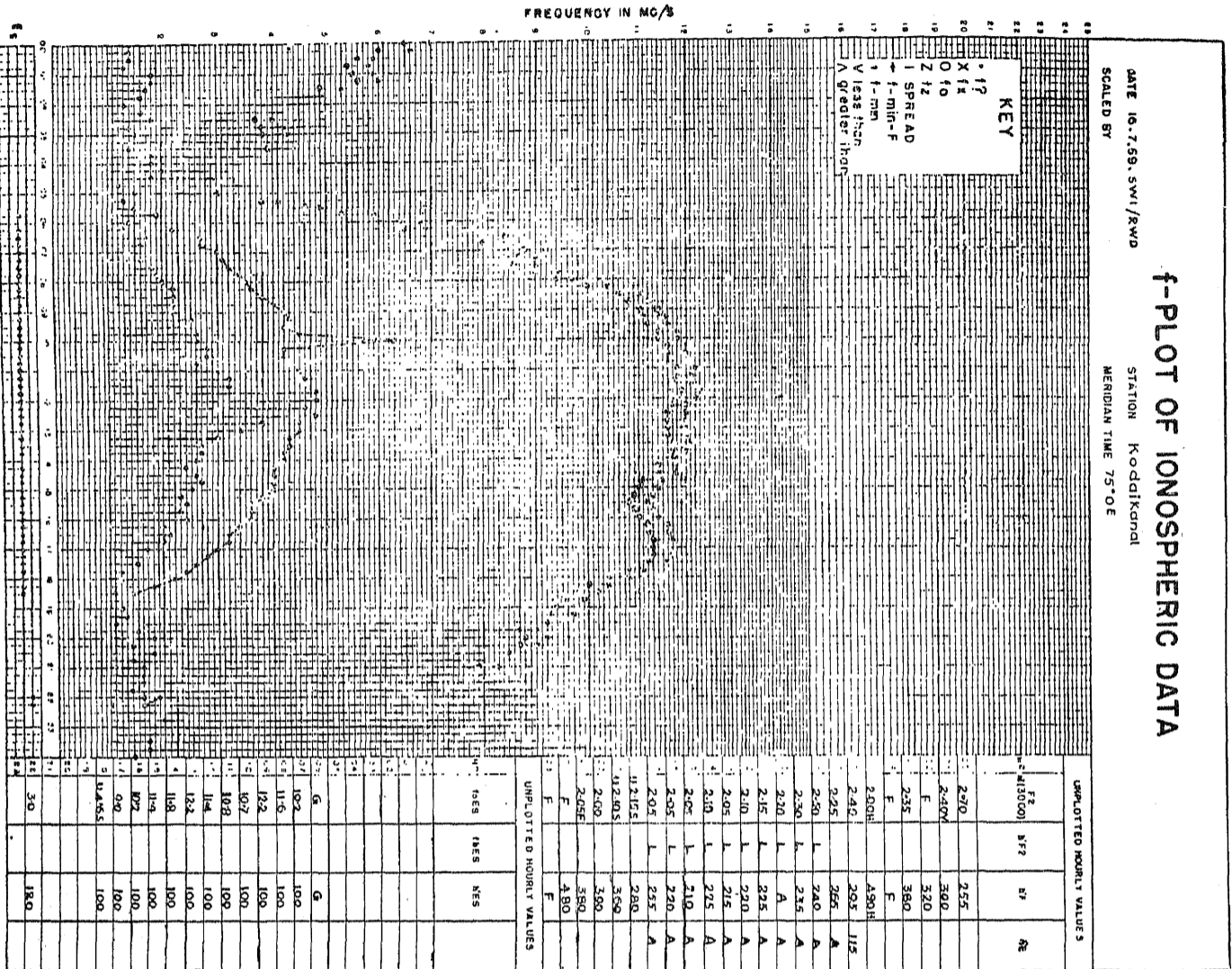


TABLE III

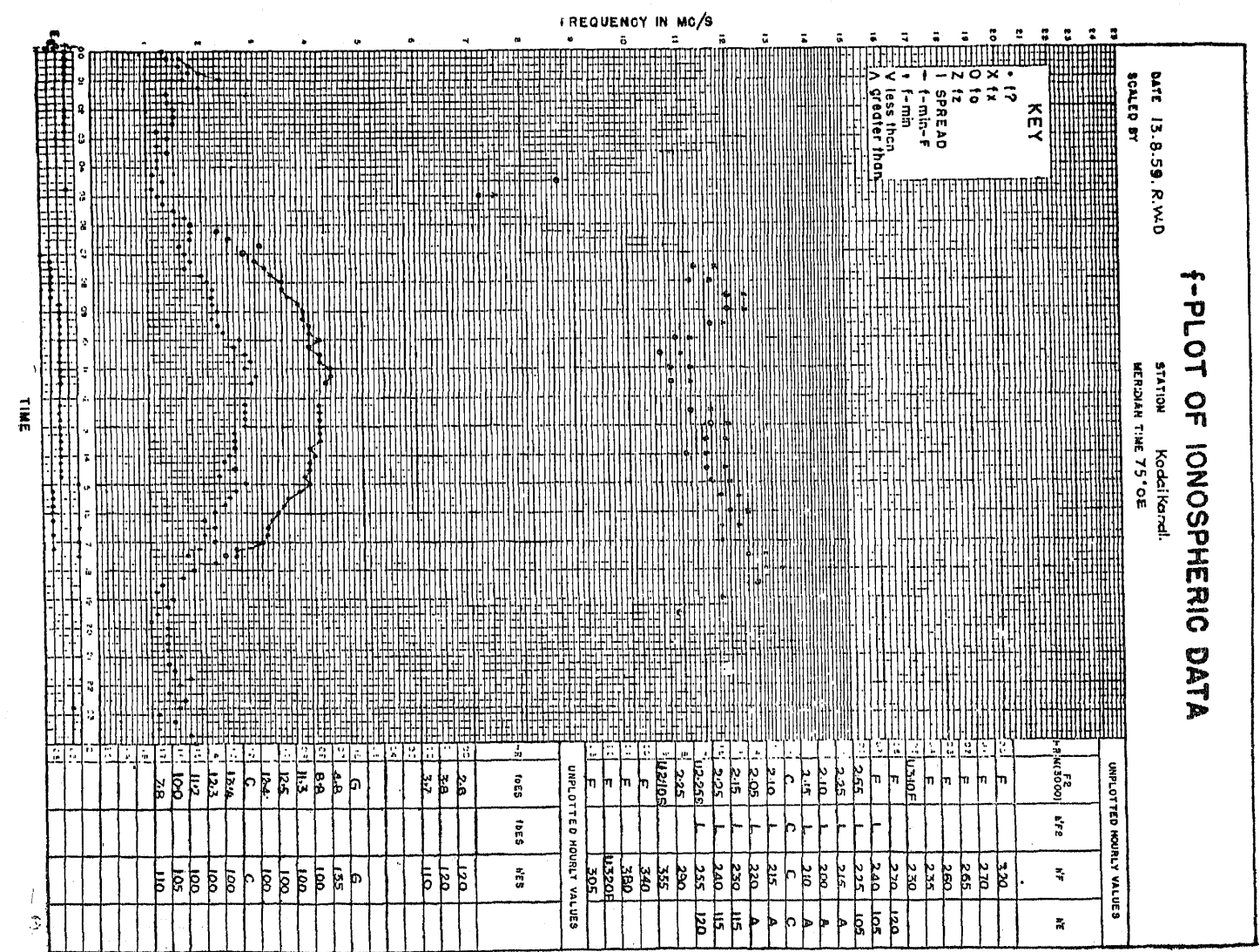
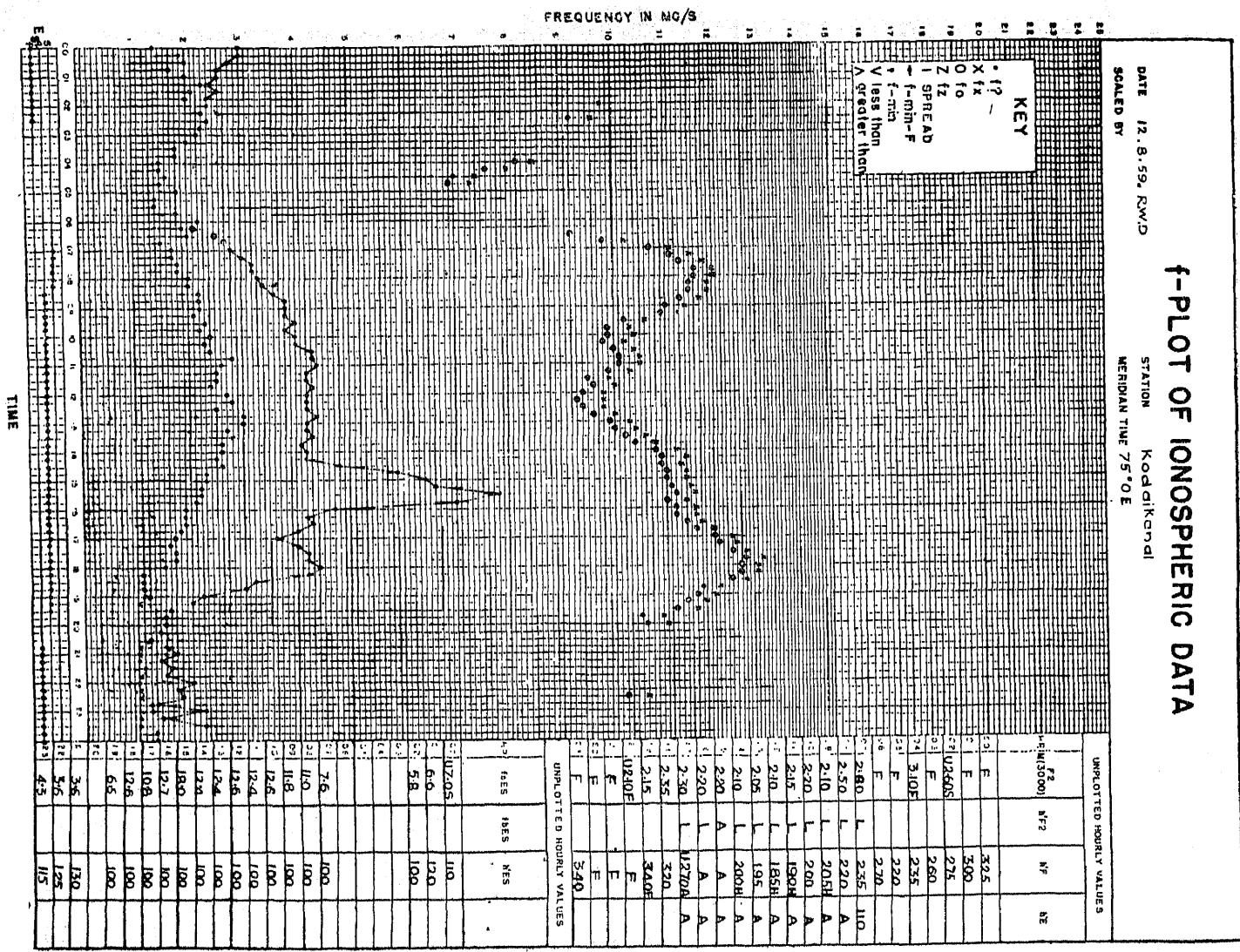








TABLE VI

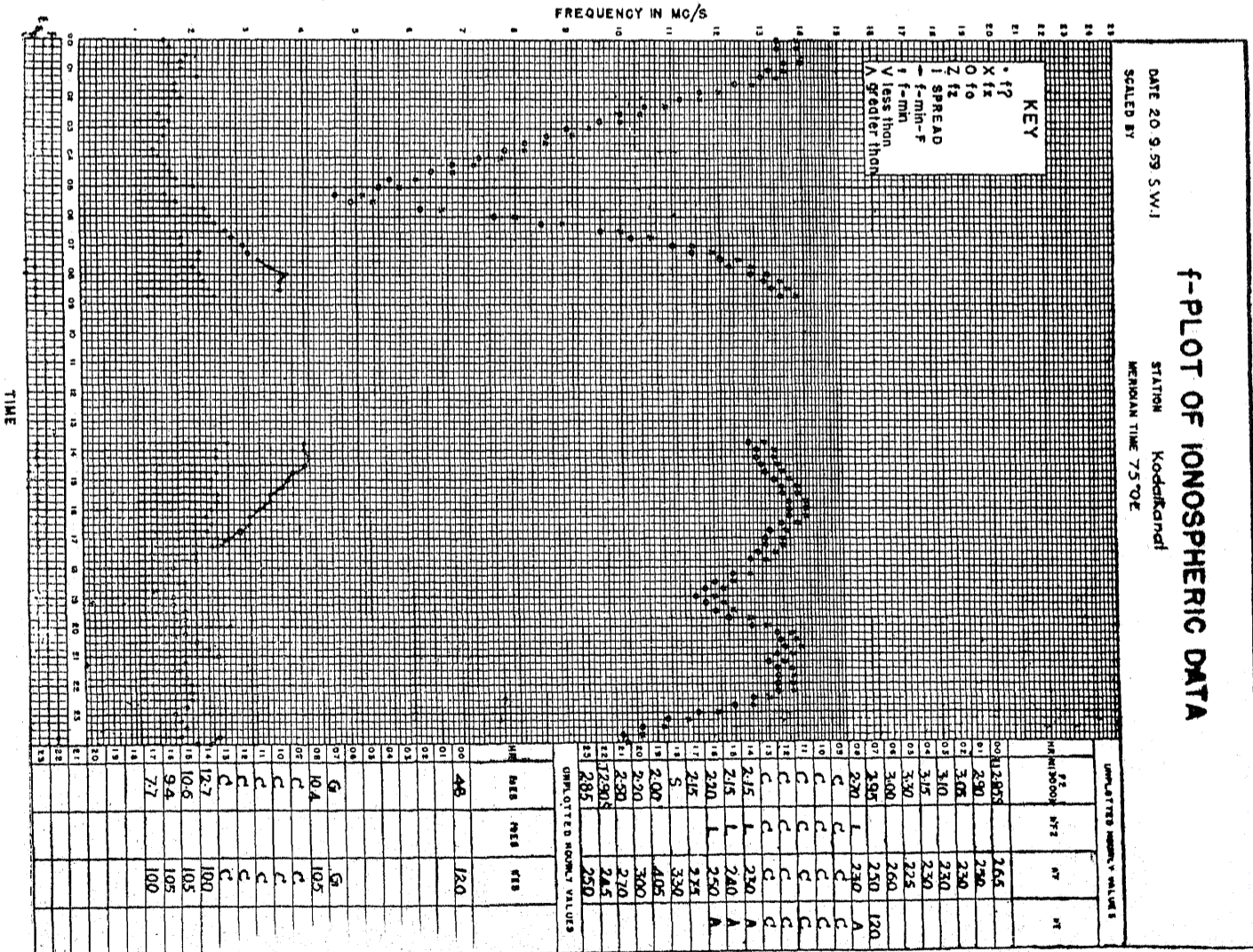
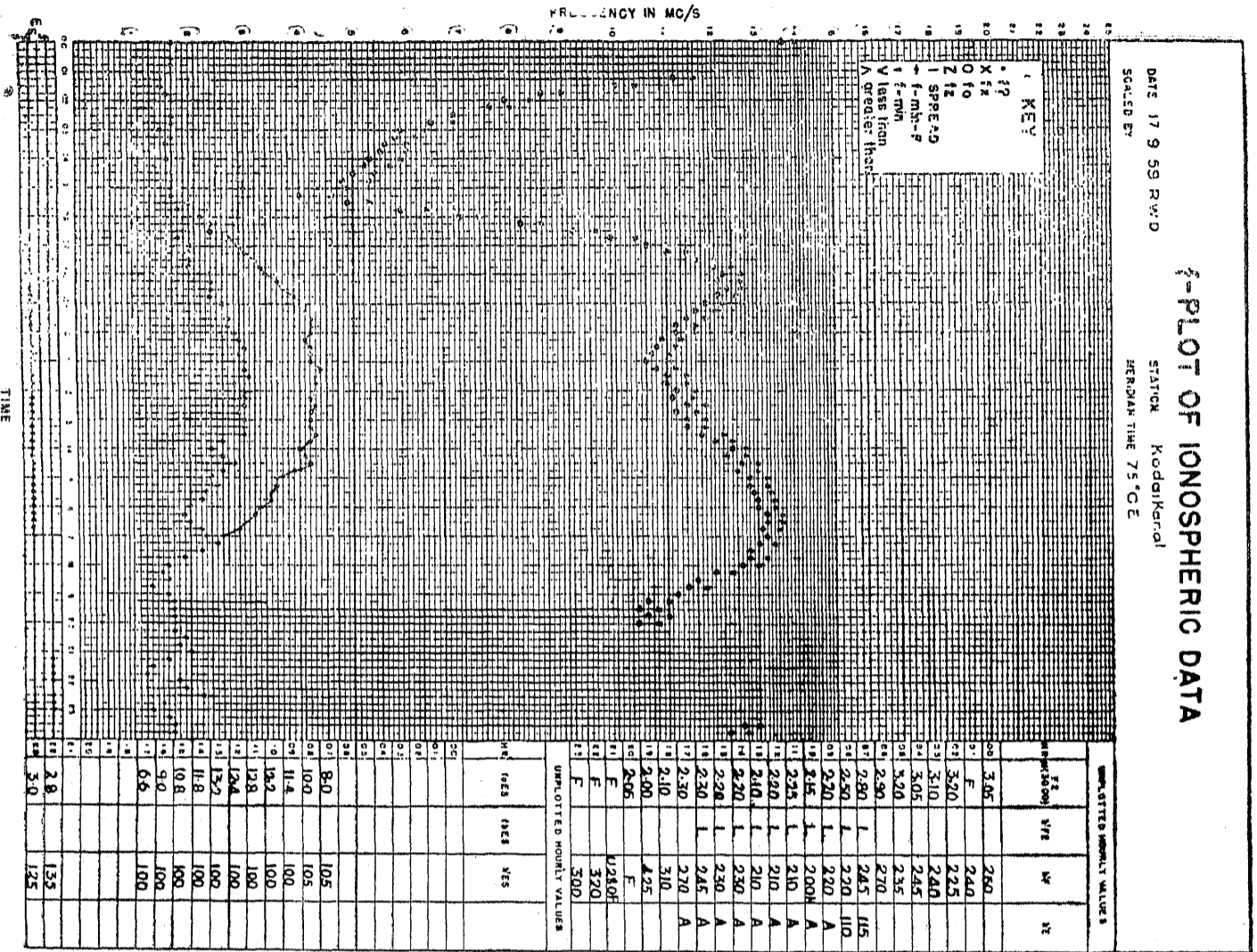


TABLE VII

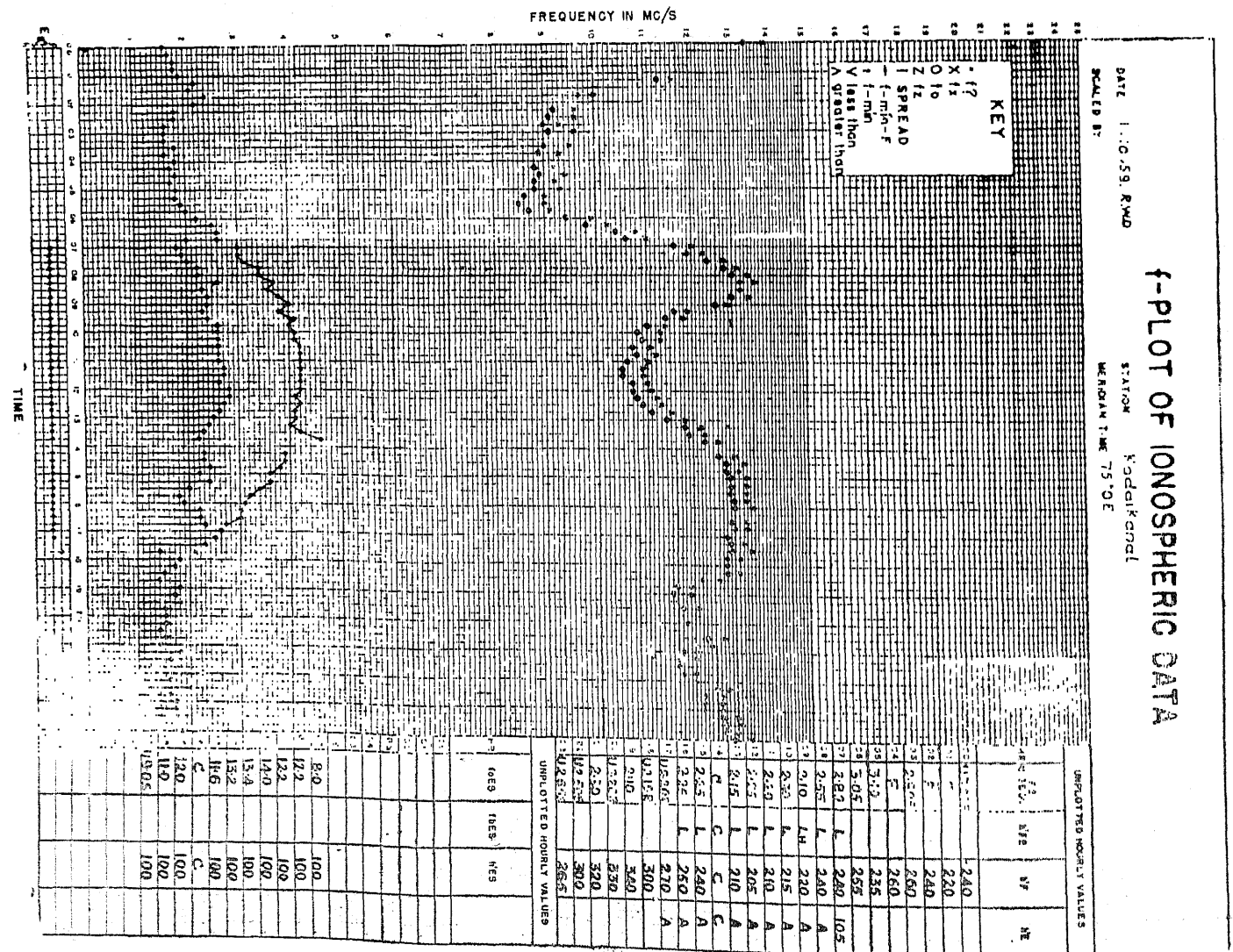
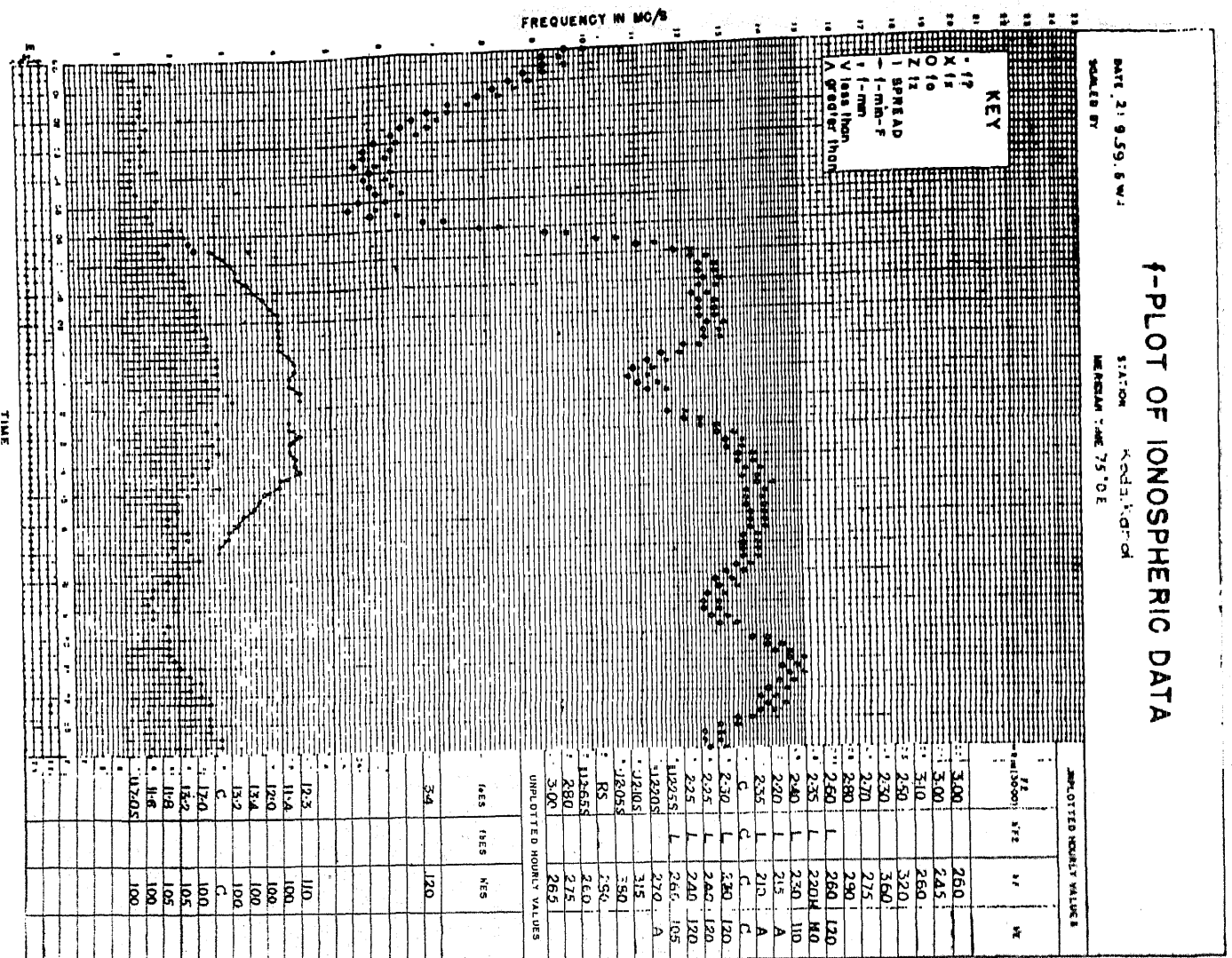


TABLE VIII

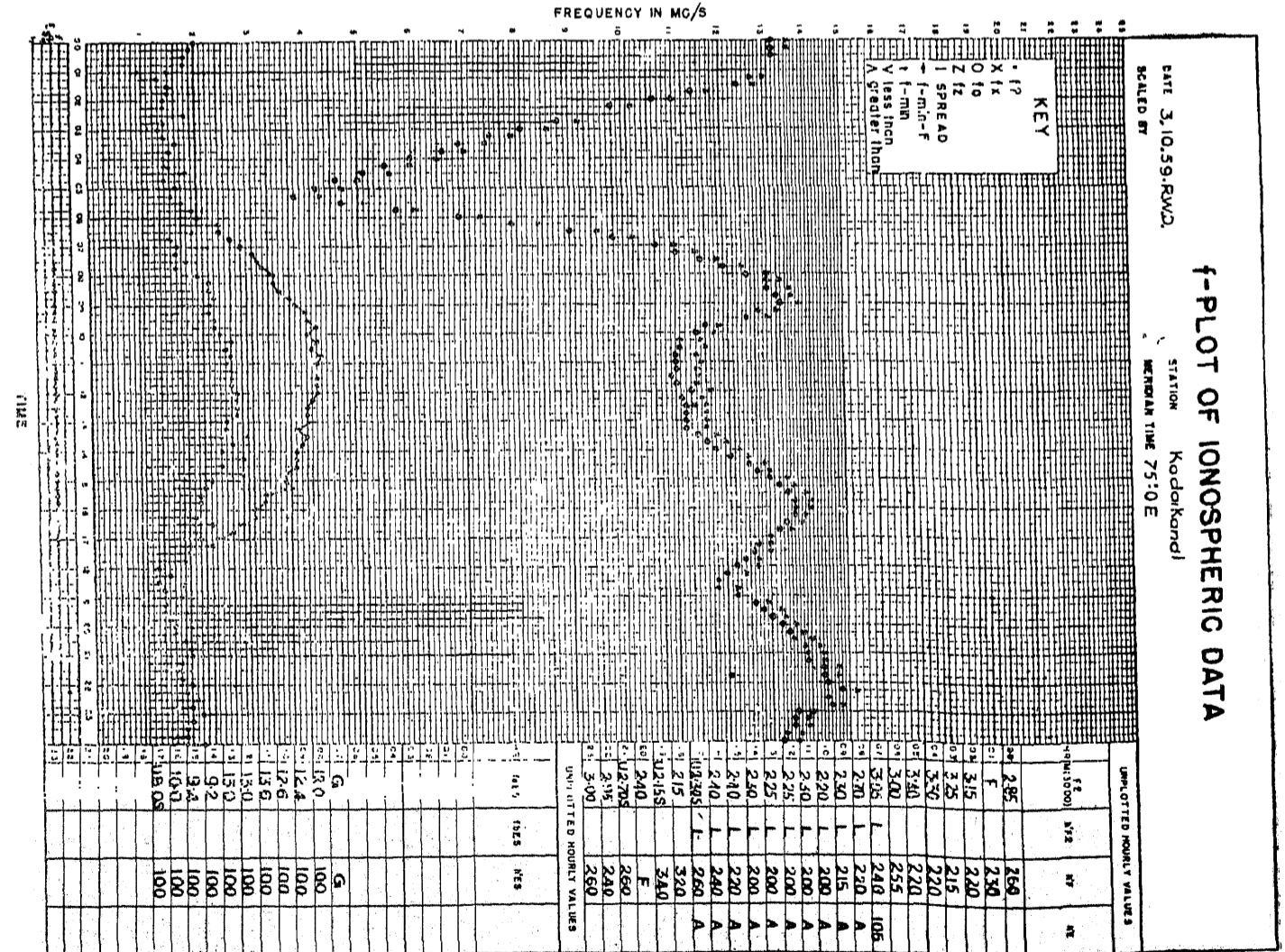
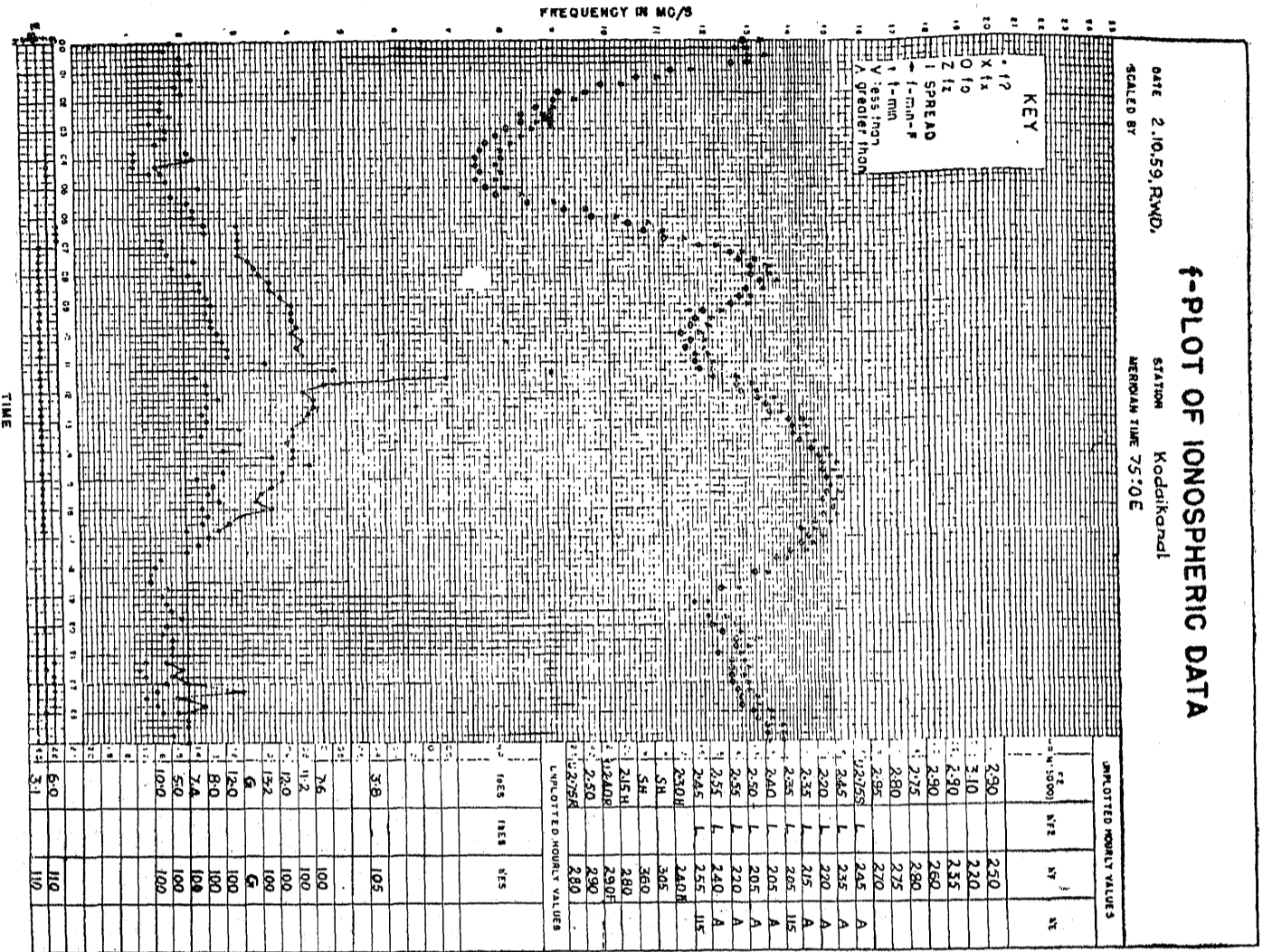
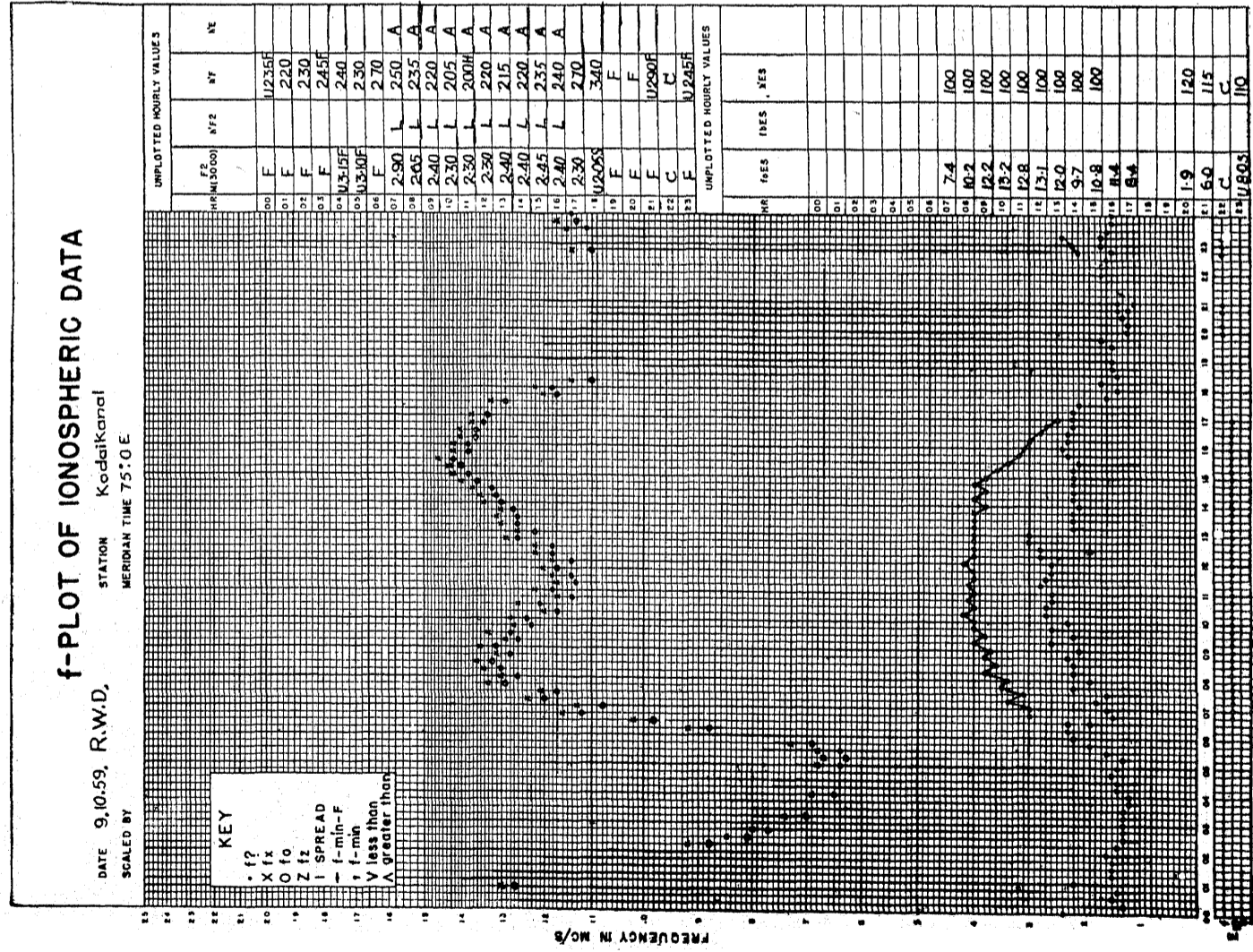


TABLE IX



3-4 D. D. G. Kodai/61

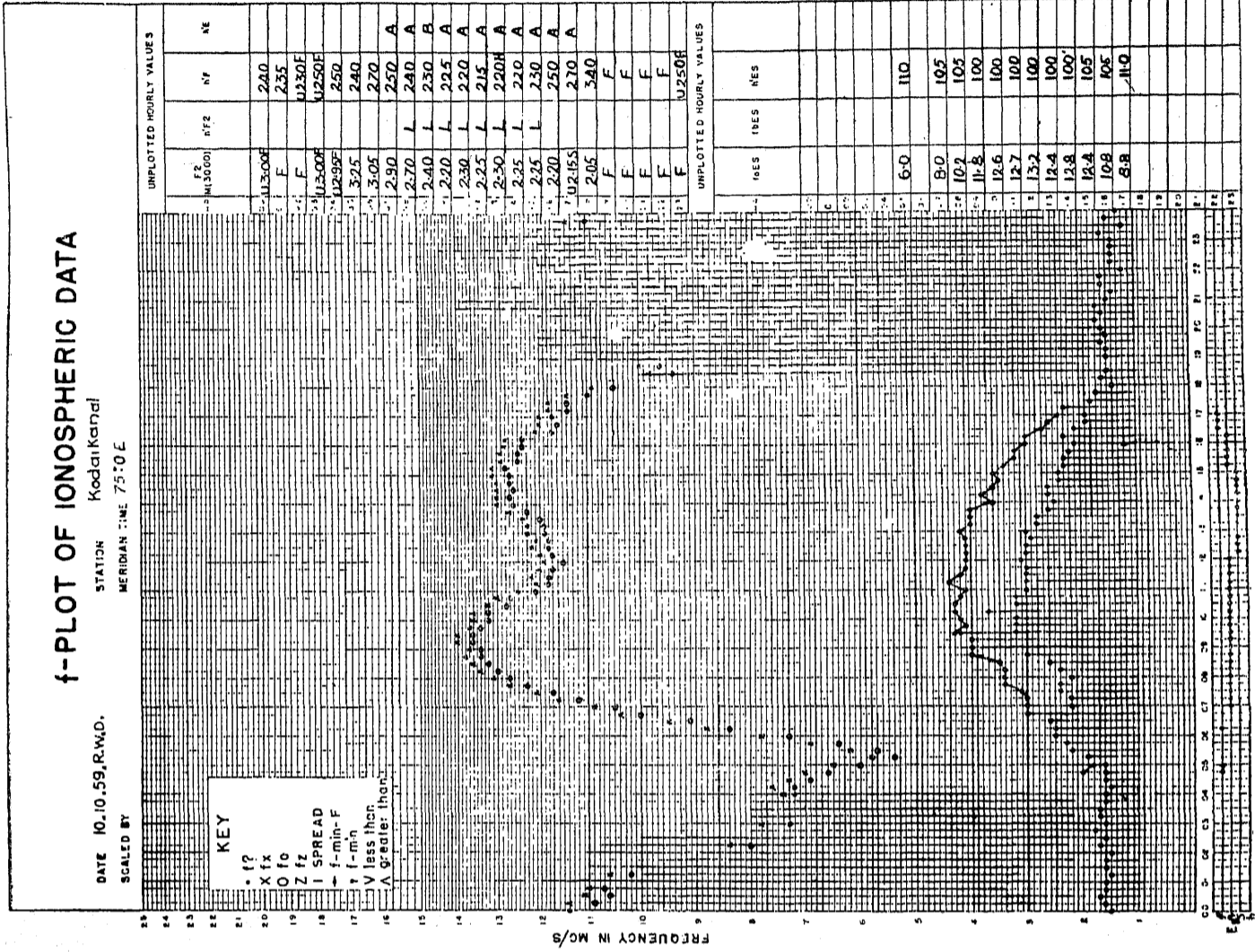






TABLE XII

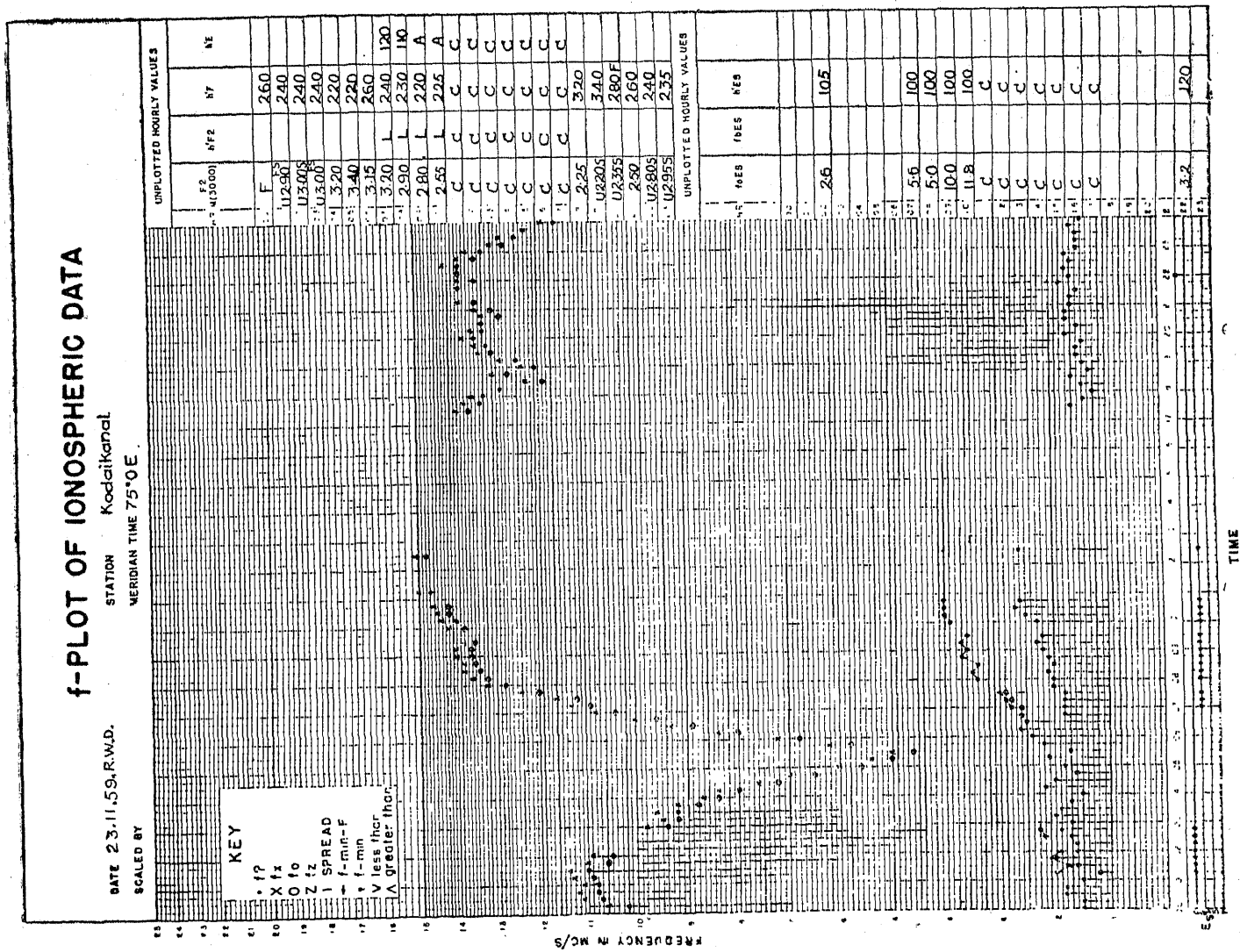
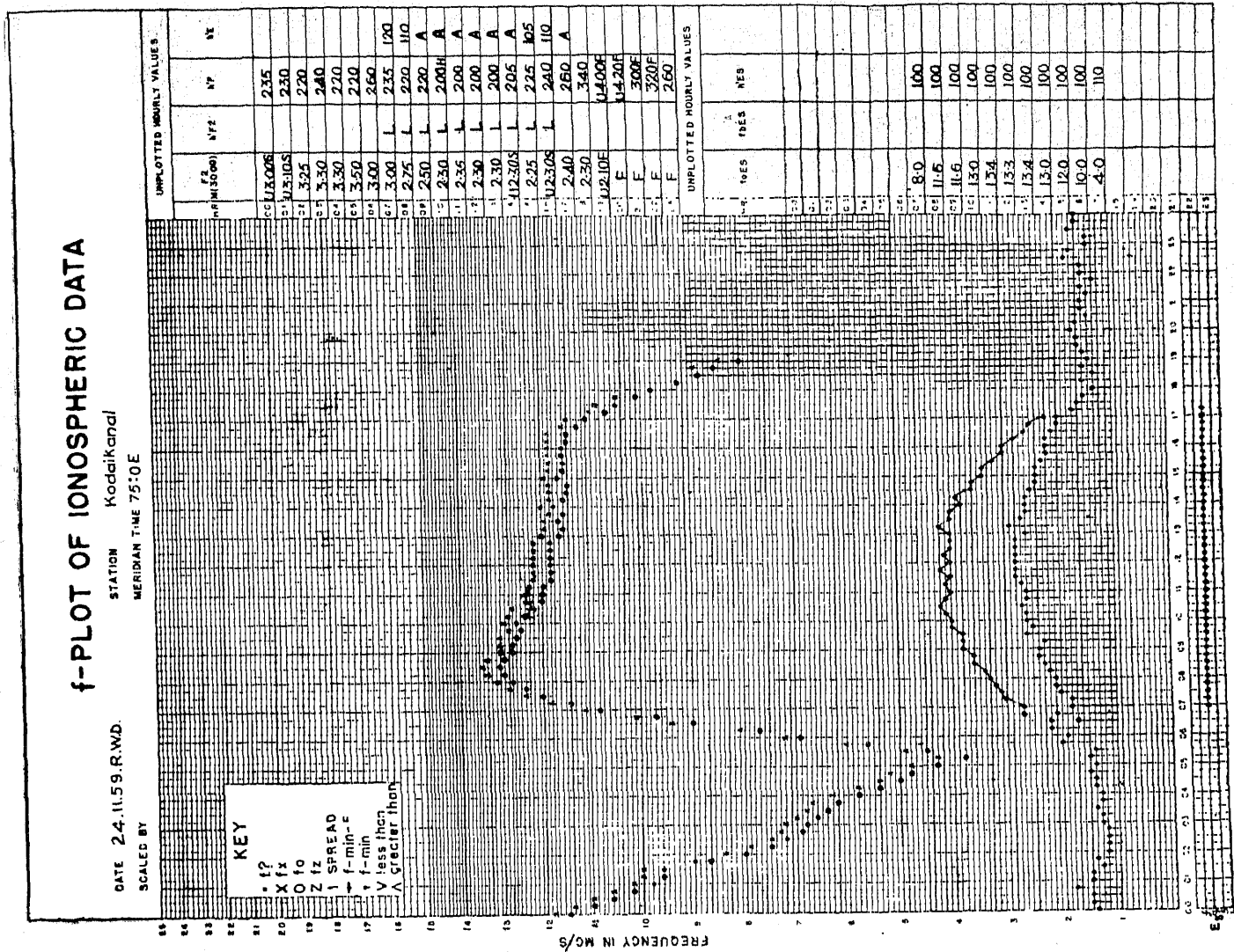
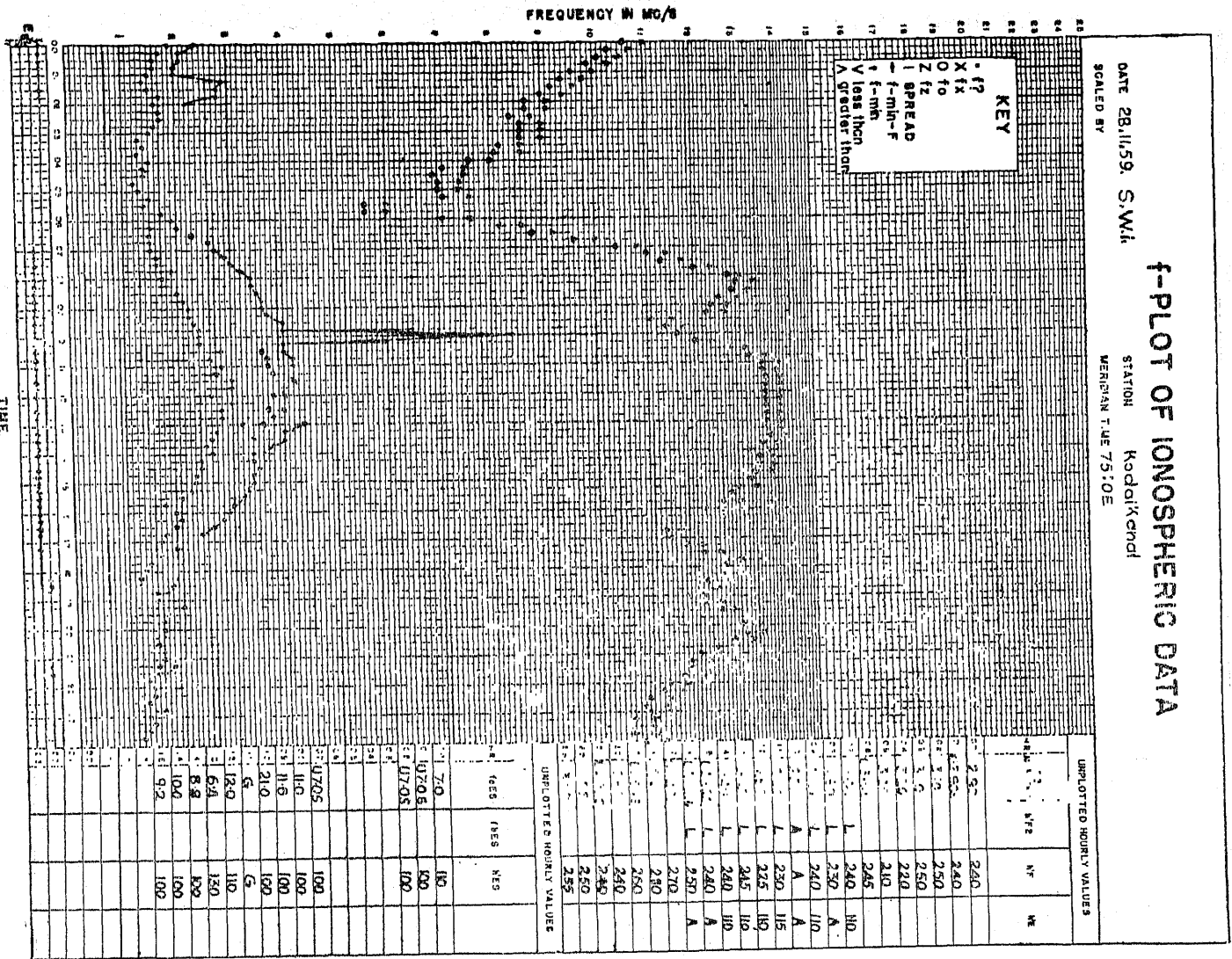




TABLE XIII



4-4 D. D. G. Kodai. P./61

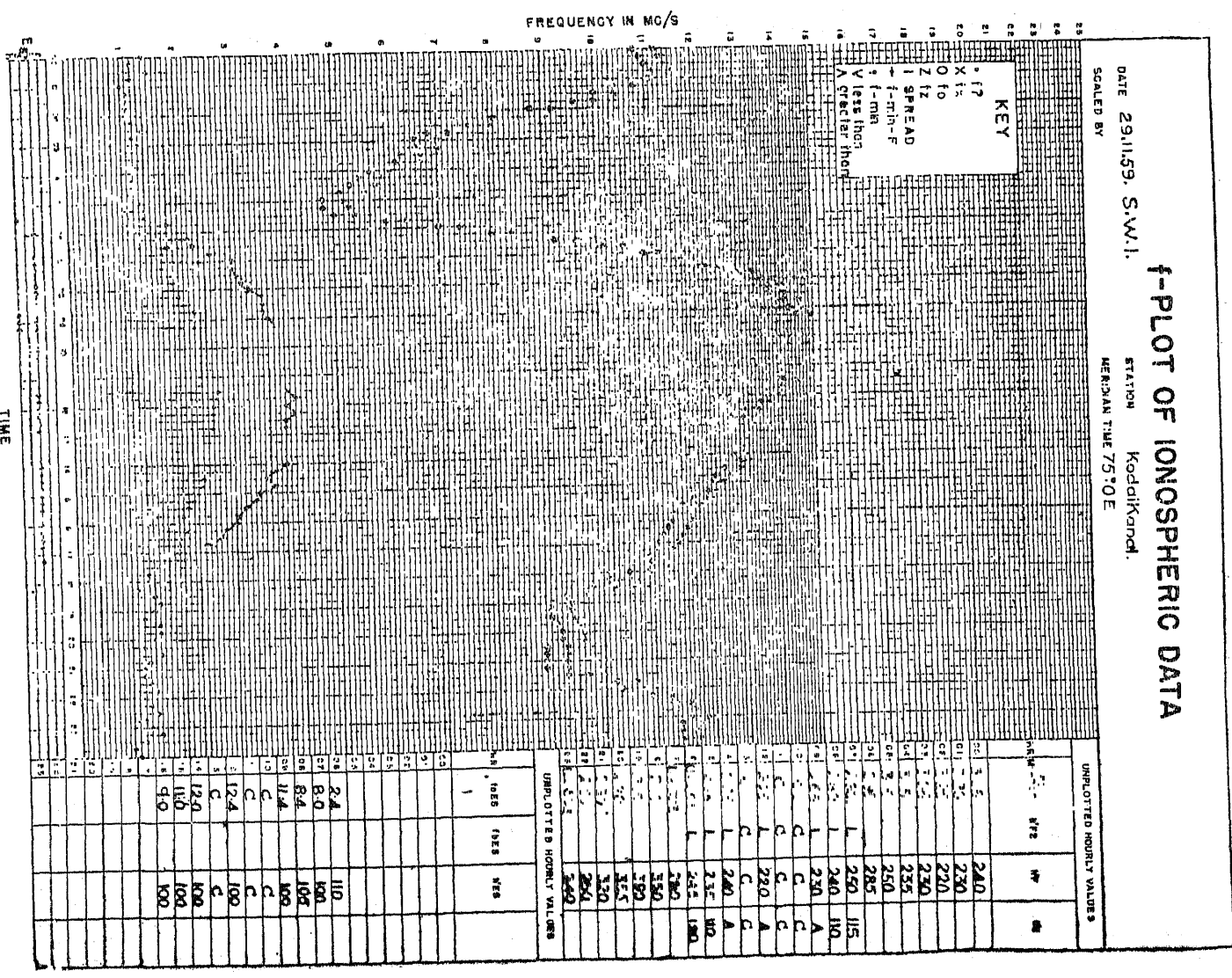
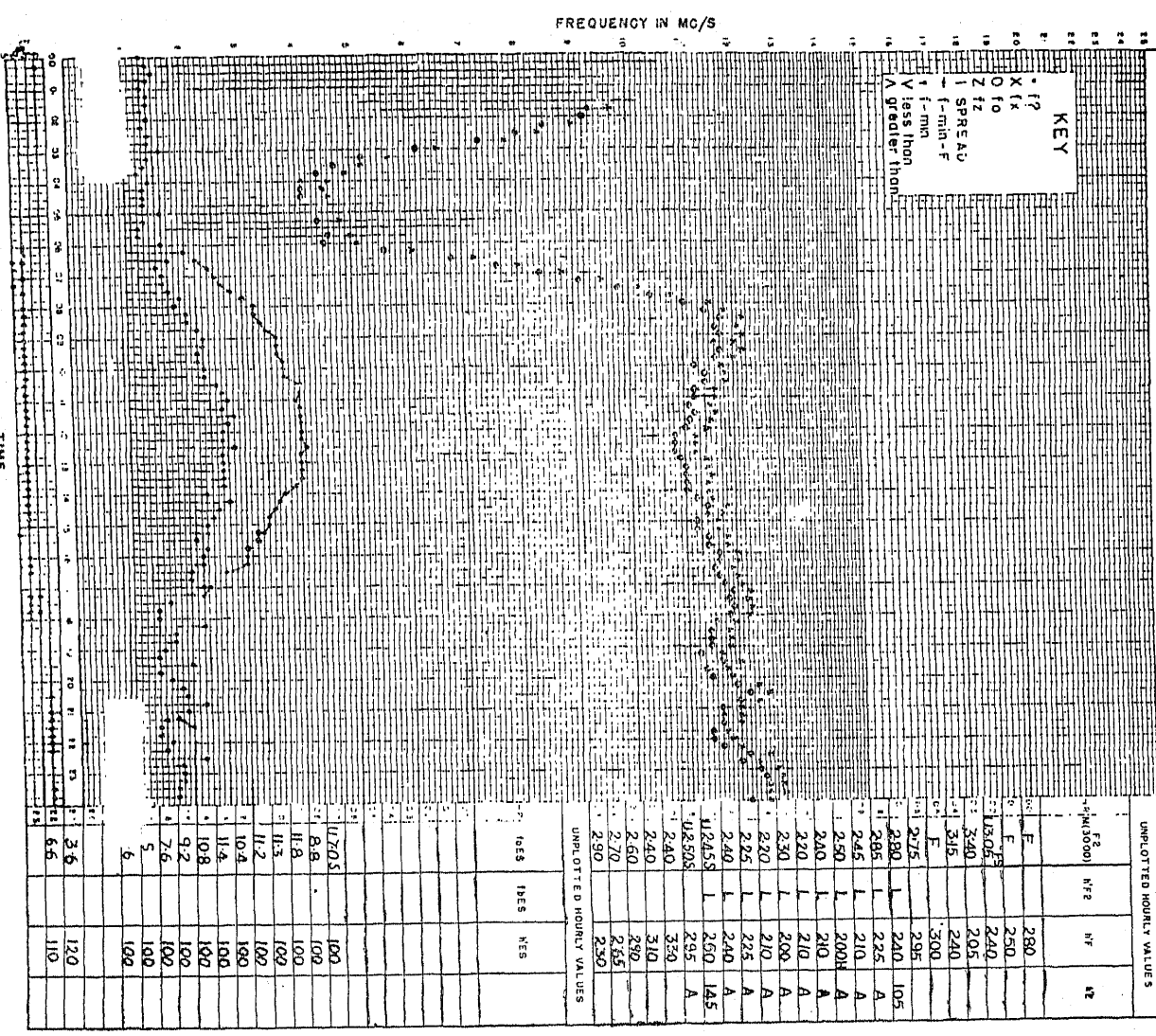




TABLE XV

f-PLOT OF IONOSPHERIC DATA

DATE 14.12.59.RYWD.  
 STATION KedaiKandi  
 MERIDIAN TIME 75:0E

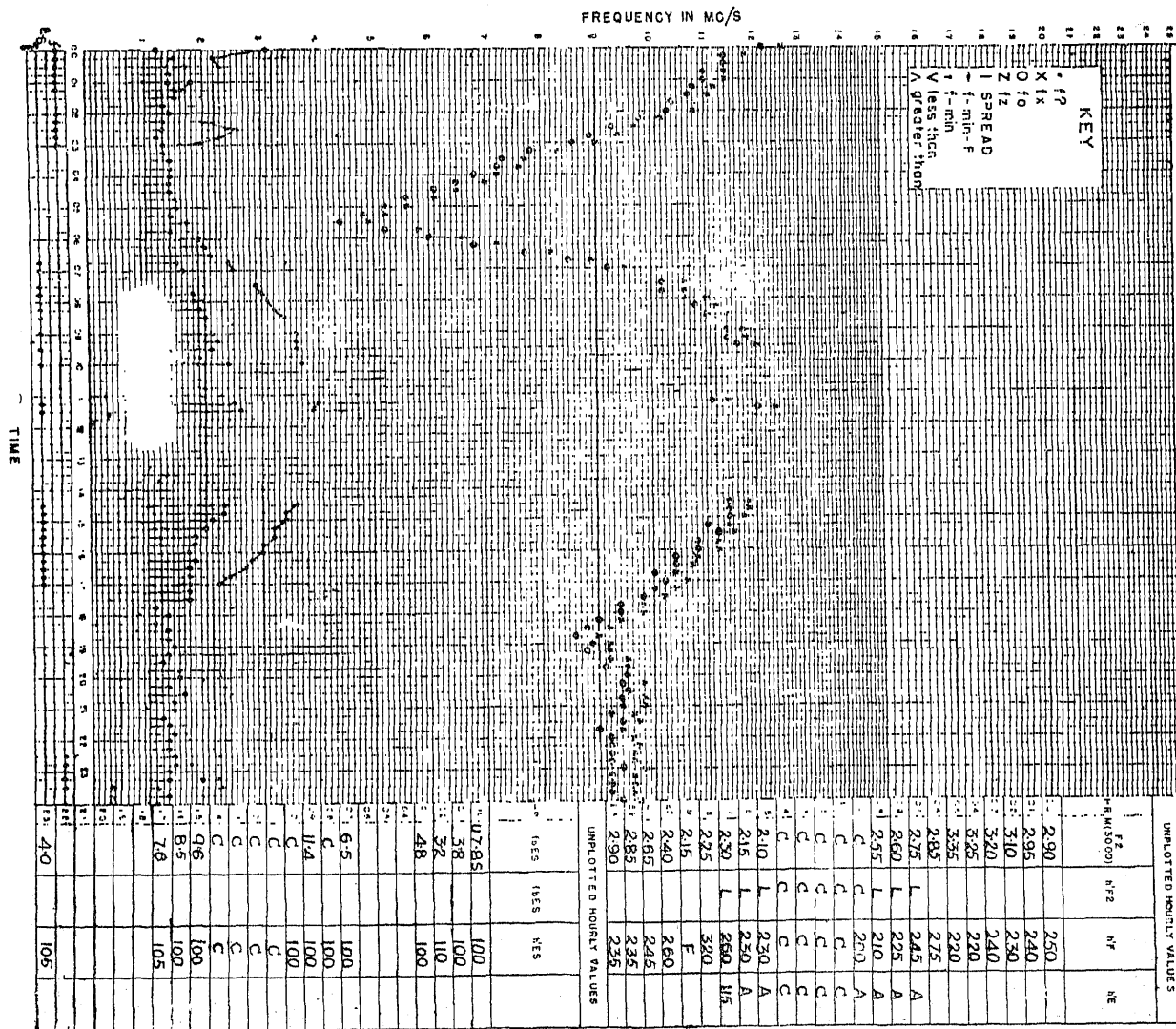


UNPLOTTED HOURLY VALUES			
f <sub>p</sub> (MHz)	f <sub>min</sub> (MHz)	f <sub>less</sub> (MHz)	A (MHz)
2.80			
2.50			
2.40			
2.05			
2.40			
3.00			
2.95			
2.40			
2.25			
2.10			
2.00			
2.10			
2.10			
2.20			
2.20			
2.25			
2.40			
2.40			
2.50			
2.60			
2.65			
2.50			
2.90			

GIPN-SI-4 D. D. G. Kandi Poona/61

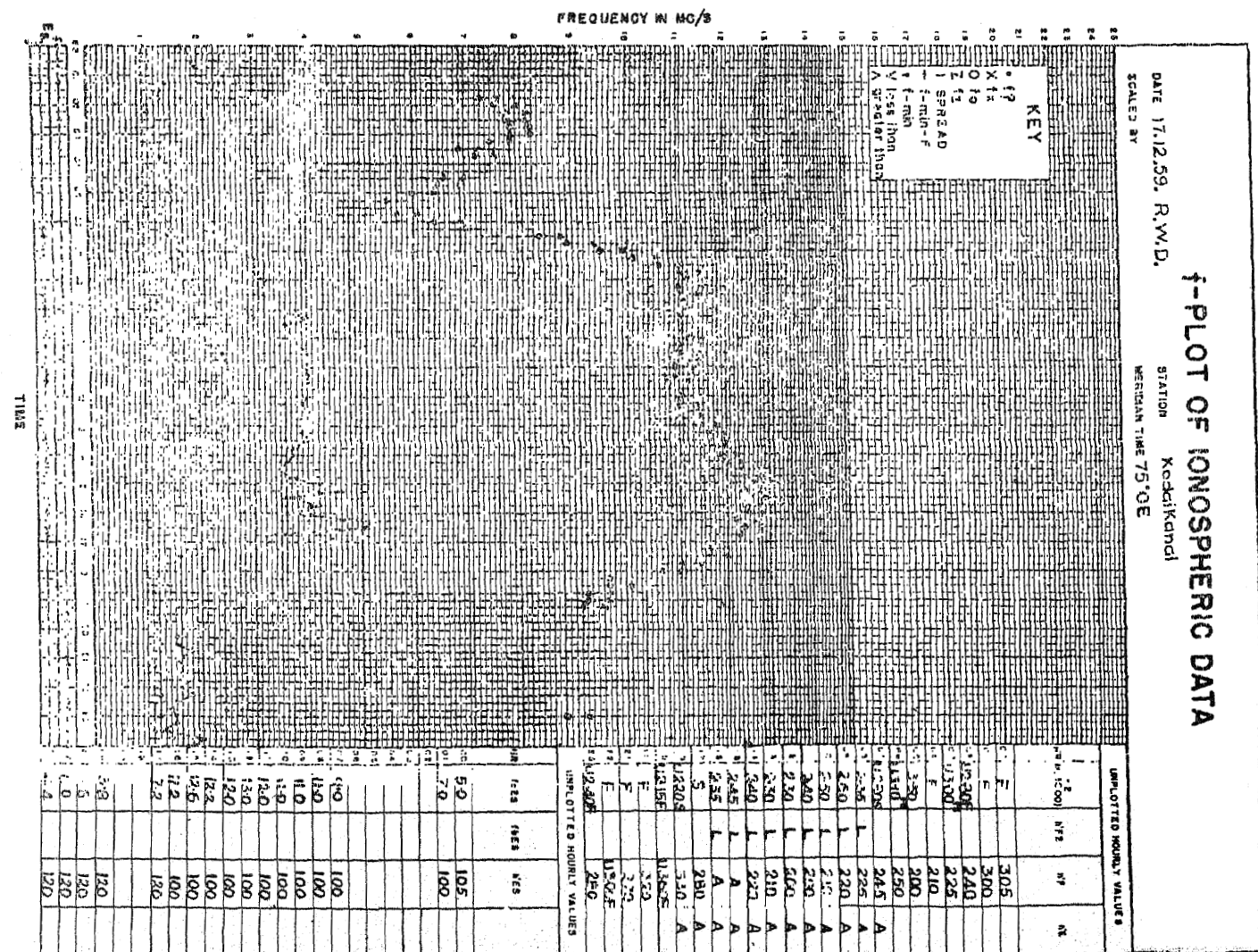
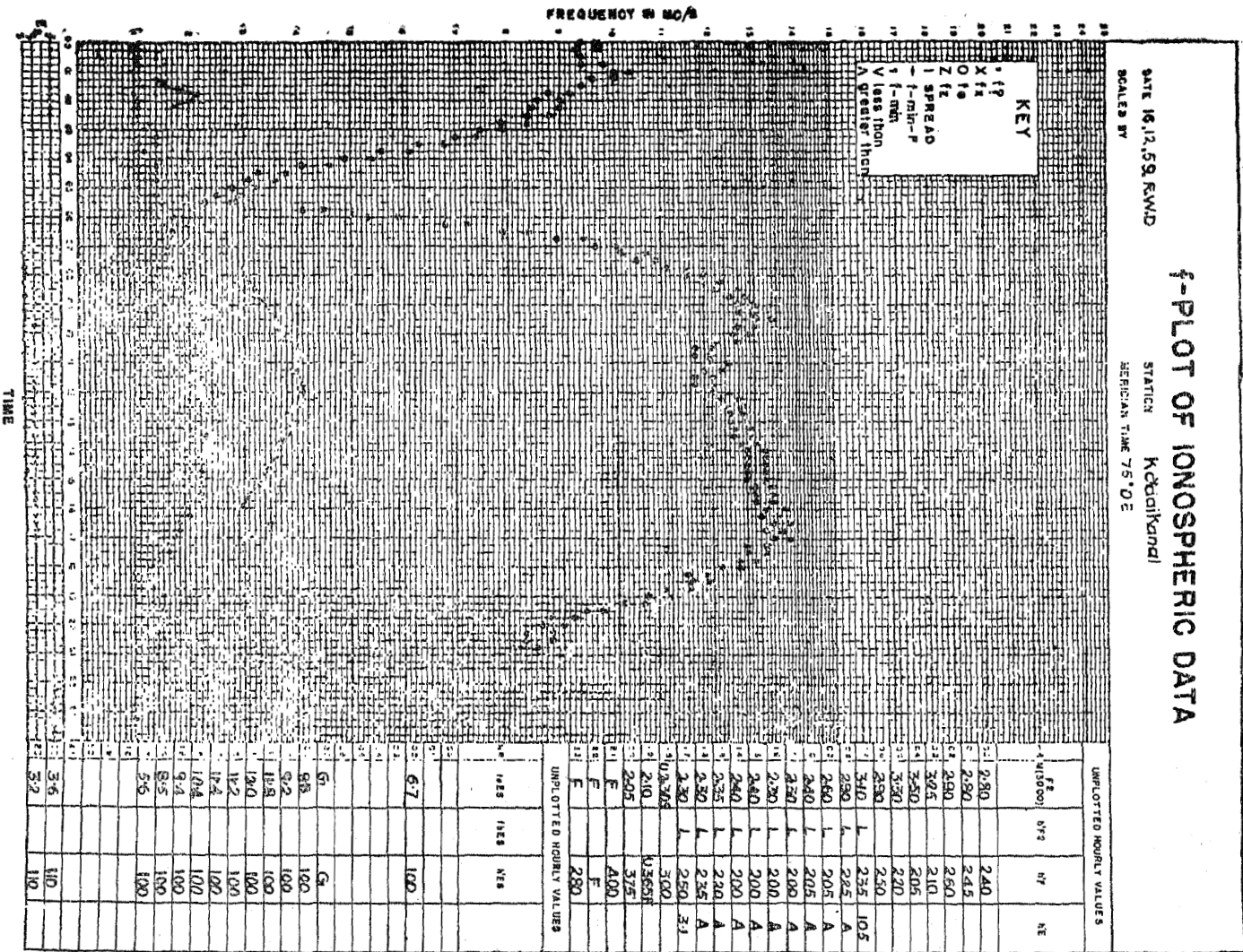
f-PLOT OF IONOSPHERIC DATA

DATE 15 12 59.RYWD  
 STATION KedaiKandi  
 MERIDIAN TIME 75:0E



UNPLOTTED HOURLY VALUES			
f <sub>p</sub> (MHz)	f <sub>min</sub> (MHz)	f <sub>less</sub> (MHz)	A (MHz)
2.90			
2.95			
3.10			
3.20			
3.25			
3.35			
2.85			
2.75			
2.45			
2.60			
2.55			
2.10			
2.50			
2.50			
2.50			
2.60			
2.65			
2.85			
2.35			
2.35			
2.90			

TABLE XVI



ERRATA.

BULLETIN NO. CLIX.

Part I.

Page	Line/Column	for	Read
1	1st sentence	fluccalurs	flocculus
3	Table-I.4th Quarter 2nd half year	{ 2nd column	81½ 170½
7	Table IV-14th November last column	to red and	to red 1.46
11	Table VI-August 28, 4th column.	not clear	08 50
12	Table VI-4th column-Heading	Prominencor	Prominences
12	Table VI-November 18, 3rd column	08 58	07 58
13			

Part II.

Date	Page	Hour	Read	For
13	25	23	34.9	34.2
14	25	23	34.2	34.7
15	25	23	34.7	33.7
16	25	23	33.7	34.8
17	25	23	34.8	34.5
18	25	23	34.5	35.0
19	25	23	35.0	35.2
20	25	23	35.2	34.6
21	25	23	34.6	35.5
22	25	23	35.5 35.5	34.9
23	25	23	34.9	35.4
Mean	26	9	35.6	...6
30	27	20	35.6	35.7
2	32	3	558 556	558
31	34	3	558	552
4	34	13	449	49
Mean +	35	22	530	529
Mean ++	35	22	473	471
3	35	Mean	503	508
28	38	9	514	54
31	38	14	528	523
10	48	14	298	208
11	48	14	300	301
5	50	13	281	381
13	50	13	312	3.2

Date	Page	Hour	Read	For
14	50	13	305	370
17	50	13	306	310
18	50	13	294	301
19	50	13	300-301	300
20	50	13	304 304	306
22	50	13	306	307
23	50	13	304	305
24	50	13	303	304
25	50	13	304	305
26	50	13	307	303
27	50 <del>0</del>	13	296	305
28	50	13	303	308
29	50	13	303	304
30	50	13	297	303
31	50	13	302	305
Mean	50	13	304	30
Mean†	50	13	307	308
Mean††	50	13	298	398
5	50	14	268	368
17	50	14	310	319
Mean††	50	14	298	398

Part III.

Page	Date	Column	For	Read
<u>JULY 1959</u>				
55	29	12	1.0	10.0
63	25	15	U7R	33.0
<u>AUGUST 1959</u>				
98	Mean	00	0.7	10.0
106	20	11	A	
118	20	11	0	
128	2	1130	20	
	12	1130	190	
<u>SEPTEMBER 1959</u>				
145	Median	2130	12.0	
	"	2230	12.5	
	Mean	2130	12.2	
	"	2230	12.7	
162	3	11	3.6	

U7 2.0  
U7 2.5  
U7 2.2  
U7 2.7  
3.5

Page	Date	Column	For	Used
172	4	11	4.7	4.6
	5	11	3.2	3.5
	7	11	4.8	4.7
171	Count	12	2	22
185	Mean	1270	2.1	2.15
186	26	12	12.9	12.2
187	27	12	10.2	10.0
187	2	19	HS	SH
188	11	20	HS	SH
	6	9	10.0F	11.0F
	15	1	10.5S	10.5S
	19	12	-	12.7
	23	2	9.2	9.2S
189	25	23	10.F	10.2F
202	28	12	4.1	4.2
	31	12	4.0	4.1
214	14	12	900	200
	30	12	200	200F
226	13	2	3.253F	3.253F
227	3	19	HS	SH
	8	20	HS	SH