ION. ANT.－6

IONOSPHERIC DATA AT SYOWA BASE (ANTARCTICA)

August 1961－January 1962

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Prepared by

THE RADIO RESEARCH LABORATORIES
MINISTRY OF POSTS AND TELECOMMUNICATIONS

NUKUI-KITAMACHI, KOGANEI-SHI, TOKYO, JAPAN.

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CONTENTS

MAIN CHARACTERISTICS OF THE IONOSONDE USED AT SYOWA BASE

Item	Specification
Frequency Range	1-20 Mc/s
Transmitting Power	10kW(peak value)
Duration of Sweep	30sec
Transmitted Pulse width	100 μsec(variable)
Recurrence Frequency of Transmitted Pulse	50 c/s(by power frequency)
Frequency Scale	Every 1 Mc/s
Height Range	1100 km
Height Scale	Every 100 km
Total Receiver Gain	140 dB
Noise Figure	About 9 (at 5 Mc/s)
Time Constant of Differential Circuit	50 μsec
Recording Method	35 mm film running and 16 mm movie picture
Power Supply	100 V AC, 3 kVA
Transmitting Antenna	20 m high vertical delta terminated by 600 Ω
Receiving Antenna	15 m high vertical delta terminated by 600 Ω

SYMBOLS AND TERMINOLOGY

All symbols and terminology in the table of ionospheric data are used in accordance with the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, September 2, 1956, and the Secnd Report of the Committee, May, 1957, supplementary to the First Report.

Terminology

f_0F2, f_0F1, f_0E — The ordinary-wave critical frequency for the $F2$, $F1$ and E layers respectively.

f_0Es — The ordinary wave top frequency corresponding to highest frequency at which a mainly continuous trace is observed.

f-min — That frequency below which no echoes are observed.

$M(3000)F2$ — The maximum usable frequency factor for a path of 3000 km for transmission by $F2$ layer.

$h'F2$ — The minimum virtual height of the ordinary wave trace for the highest stable stratification in the F region.

$h'F$ — The natural and most significant F region virtual height parameter is that for lowest F region stratification. This will be denoted by $h'F$. Thus $h'F$ is identical with the current $h'F2$ when F region stratification is absent, e. g., at night, and with the current $h'F1$ when $F1$ stratification is present.

$h'Es$ — The lowest virtual height of the trace used to give the f_0Es.

a. Descriptive Symbols

Used following the numerical value on monthly tabulation sheets.

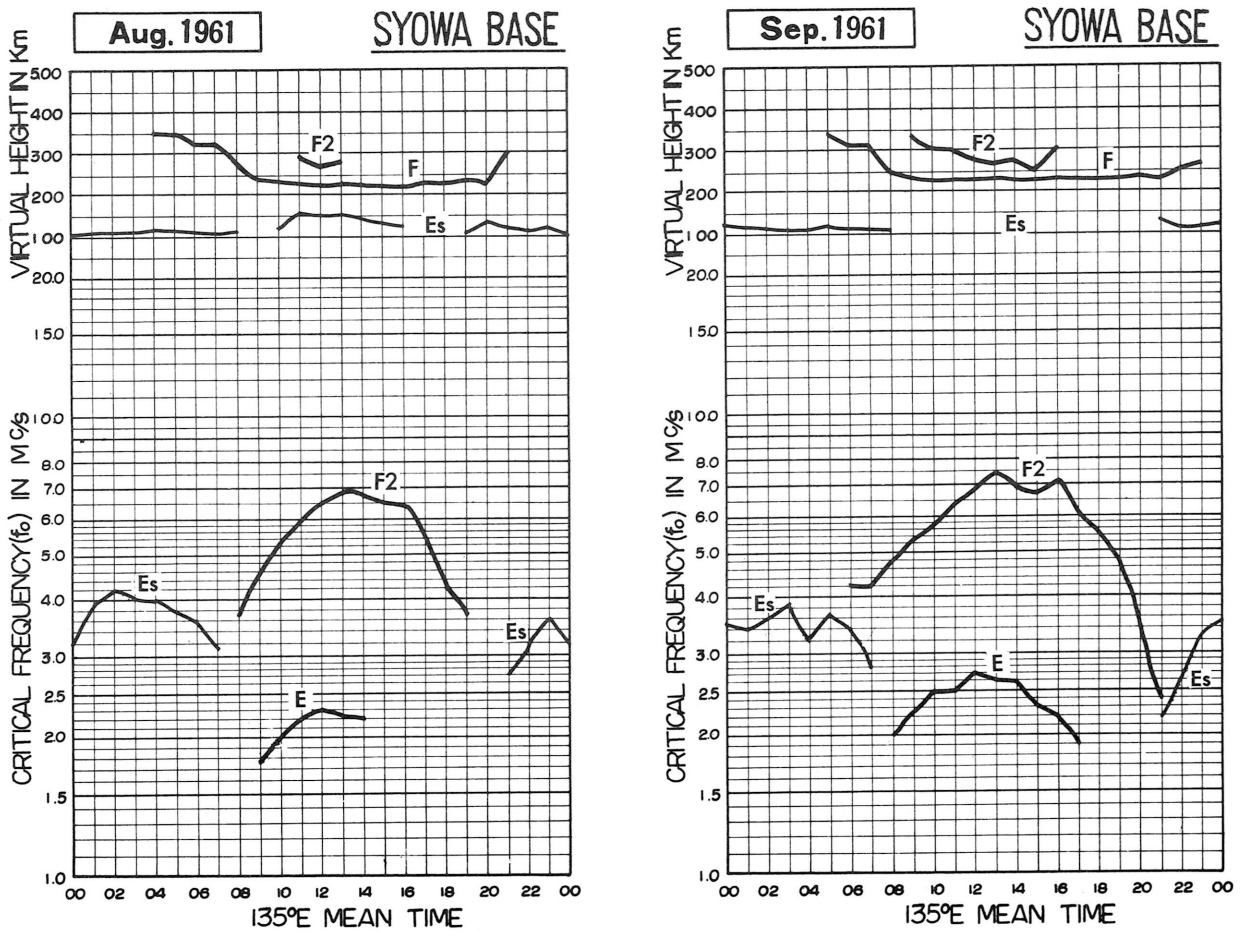
A	Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.
B	Measurement influenced by, or impossible because of, absorption in the vicinity of *f*-min.
C	Measurement influenced by, or impossible because of, any non-ionospheric reason.
D	Measurement influenced by, or impossible because of, the upper limit of the normal frequency range. Used in a qualifying sense, see below.
E	Measurement influenced by, or impossible because of, the lower limit of the normal frequency range. Used in a qualifying sense, see below.
F	Measurement influenced by, or impossible because of, the presence of spread echoes.
G	Measurement influenced or impossible because the ionization density is too small compared with that of a lower thick layer.
H	Measurement influenced by, or impossible because of, the presence of a stratification.
L	Measurement influenced by or impossible because the trace has no sufficiently definite cusp between layers.
M	Measurement questionable because the ordinary and extraordinary components are not distinguishable.
N	Conditions are such that the measurement cannot readily be interpreted, for example, in the presence of oblique echoes.
O	Measurement refers to the ordinary component.
R	Measurement influenced by, or impossible because of, absorption in the vicinity of a critical frequency.
S	Measurement influenced by, or impossible because of, interference or atmospherics.
V	Forked trace which may influence the measurement.
W	Measurement influenced or impossible because the echo lies outside the height range recorded.
X	Measurement refers to the extraordinary component.
Y	Intermittent trace.
Z	Third magneto-ionic component present.

b. Qualifying Symbols

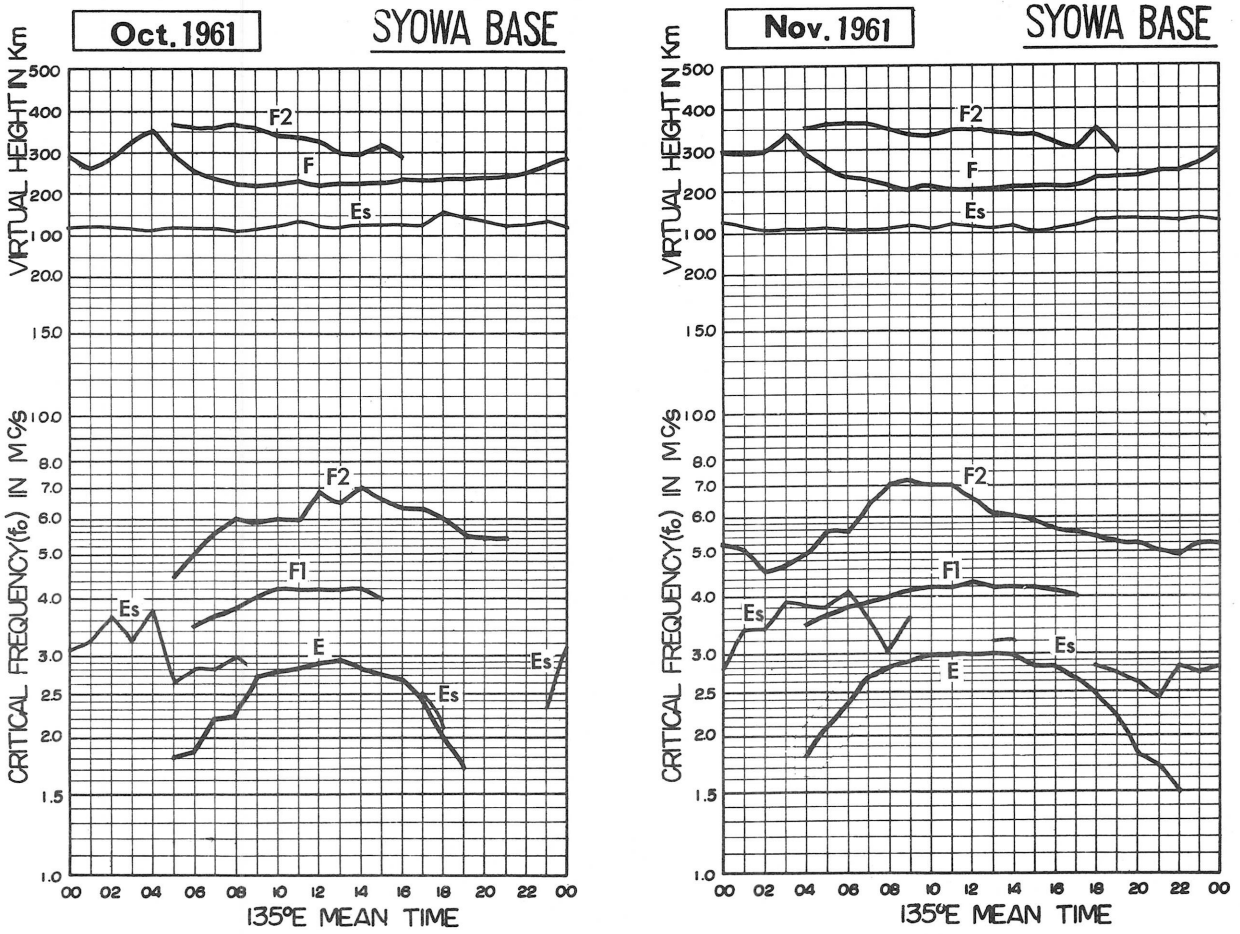
Used as a preceeding symbol on monthly tabulation sheets.

D	*greater than.....*
E	*less than.....*
I	Missing value has been replaced by an interpolated value.
J	Ordinary component characteristic deduced from the extraordinary component.
T	Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.
U	Uncertain or doubtful numerical value.
Z	Measurement deduced from the third magnetoionic component.

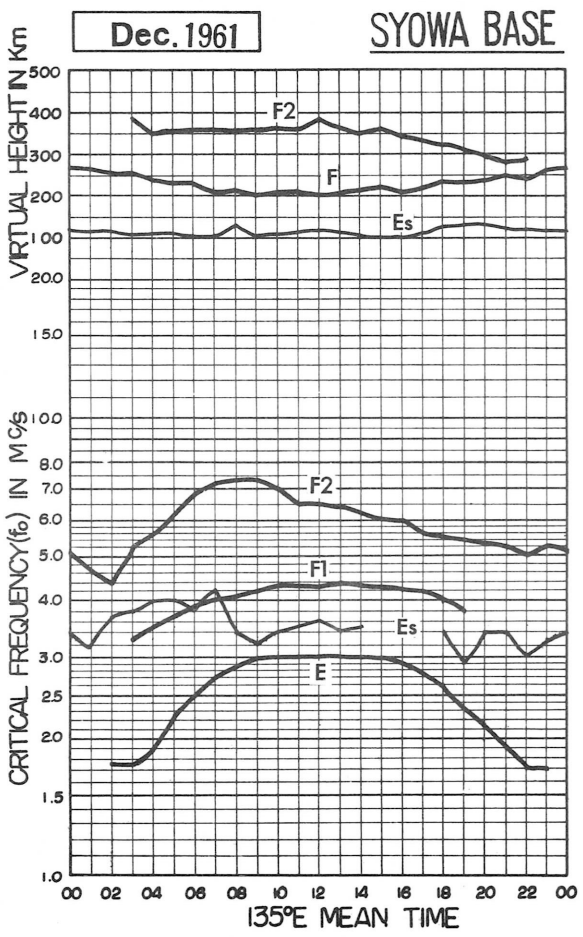
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

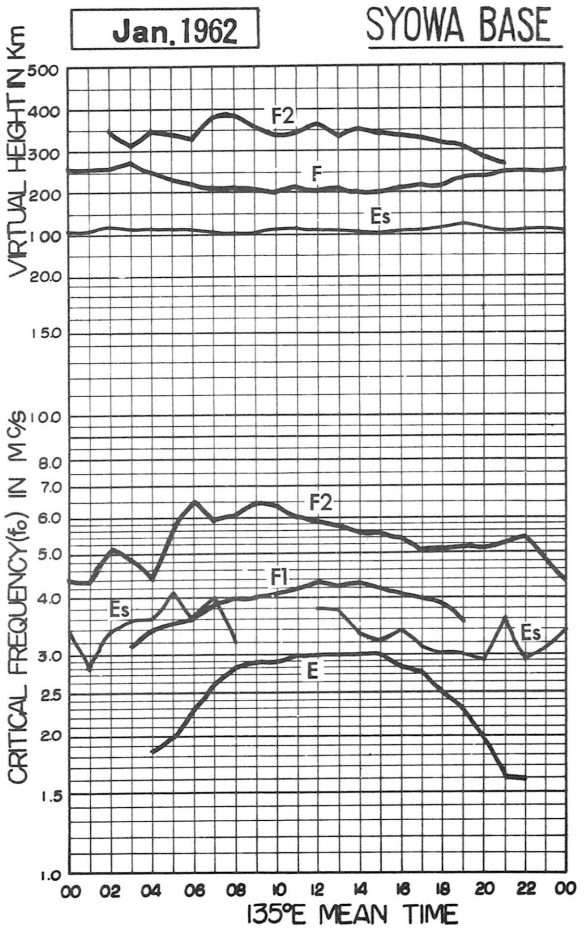


IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Aug. 1961

45° E Mean Time (G.M.T. +3h)

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED			34	30F	26	28	26	28F	37F	45F	53	60	66	69	67	65	64F	54F	42	37F	24F	18	19	
	CNT			2	1	2	4	3	3	7	16	17	17	19	18	21	21	13	13	12	5	4	2	2	
	Q R																								
foF1	MED																								
	CNT																								
foE	MED									140	175	200	220	230	220	220	208	180							
	CNT									2	7	6	9	8	5	6	2	1							
foEs	MED	J32X	J39X	J42X	J40X	J40X	J38X	36	J31X	E21E	E18G	E24B	E22B	E24B	E26B	E28B	E23B	E23B	E19B	E20B	E18B	E15E	27	32	J36X
	CNT	30	31	29	26	29	28	29	24	22	21	22	24	26	26	26	28	27	27	27	25	20	17	20	26
	Q R																								
f-min	MED	13	15	16	18	18	17	18	18	20	22	25	21	23	31	30	22	20	20	19	17	15	29	18	15
	CNT	31	31	30	31	31	31	31	31	30	30	31	31	31	31	30	31	30	30	30	31	30	31	31	31
M (3000) F2	MED			282	275F	265	275	270	290F	300F	335F	335	335	345	345	340	338	350F	335F	340	332	332F	322	250	
	CNT			2	1	2	4	3	3	7	16	17	17	18	18	20	20	12	13	11	4	4	2	2	
M (3000) F1	MED																								
	CNT																								
h'F2	MED											270	290	270	275	310	305								
	CNT											1	4	5	4	3	3								
h'F	MED	300	355	315	290	350	350	320	325	274	238	230	230	225	225	225	222	218	225	225	230	225	295	E278E	270
	CNT	3	1	2	4	7	9	11	13	16	18	21	21	24	22	23	26	26	26	25	21	13	7	2	3
h'Es	MED	115	115	110	110	115	112	110	110	110	105	120	160	150	150	140	130	125	130	110	110	138	118	120	122
	CNT	30	31	29	26	27	26	25	20	9	3	6	6	8	6	7	6	5	3	3	6	8	10	18	24
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Sep. 1961

45° E Mean Time (G.M.T. +3h)

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED			28	25F	26	36F	42F	42F	48F	53F	57F	64	68	74	68F	67F	71	61F	55F	47F	35F	24F	20F	17
	CNT			2	3	1	3	7	9	12	13	21	20	22	20	19	23	21	17	13	5	8	8	3	1
	Q R																								
foF1	MED										360	390L	400L	425L	U400L	U370F									
	CNT										2	2	5	2	3	1									
foE	MED							170	190	205	225	250	250	270	260	260	230	220	188	160	140				
	CNT							1	1	6	8	9	8	11	7	7	11	5	4	1	1				
foEs	MED	J35X	J34X	J36X	39	J32X	J37X	34	U28	E23G	E25G	E30G	E30G	E30B	E28B	E26B	E25G	E25B	E24B	E24B	E22B	E21B	22	26	33
	CNT	25	27	26	23	21	24	22	21	19	17	22	22	26	23	23	24	25	26	26	28	25	24	23	25
	Q R																								
f-min	MED	15	18	18	21	20	25	30	32	31	37	32	32	32	32	27	23	32	28	26	20	20	17	16	16
	CNT	29	30	30	29	29	30	30	30	29	29	29	30	30	30	29	30	29	30	30	30	30	30	30	30
M (3000) F2	MED			272	280F	275	285F	285F	305F	315F	310F	310F	305	310	312	320F	315F	338	340F	325F	340F	340F	310F	298F	325
	CNT			2	3	1	3	7	9	12	13	21	20	21	20	17	21	20	17	13	5	7	8	2	1
M (3000) F1	MED																								
	CNT																								
h'F2	MED								402	395	330	300	298	275	270	275	250	300	272	260					
	CNT								2	3	7	13	16	17	15	13	11	6	4	3					
h'F	MED	350A	308	270	350	370	333	315	308	250	238	231	232	230	230	225	230	230	230	230	230	240	230	255	270
	CNT	1	2	3	1	4	6	11	12	13	14	16	20	20	20	20	22	20	22	23	24	21	13	7	5
h'Es	MED	125	120	120	118	115	120	115	112	115	145	130	135	135	115	140	115	112	148	130	130	120	130	120	120
	CNT	25	27	26	22	21	22	16	16	8	4	5	4	6	1	3	5	2	4	3	3	7	15	17	22
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Oct. 1961

45° E Mean Time (G.M.T. +3h)

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED		24	39F	38F	52F	45F	50F	56F	60	59	60	60	68F	65	70	66F	63F	63	60	55F	54F	54F	U40F	32F
	CNT		1	3	5	3	7	9	15	18	19	20	22	17	22	21	21	18	17	20	23	12	6	4	4
	Q R																								
foF1	MED					270	335	350L	370	380	405	420	420	420	420	420	400L	370L	370						
	CNT					2	2	9	15	18	20	16	15	14	14	11	8	3	2						
foE	MED					165	180	185	222	250	270	280	280	290	295	280	272	265	240	200	170	170	170		
	CNT					3	7	10	14	16	15	14	13	15	14	12	18	19	16	18	12	5	1		
foEs	MED	31	J32X	J37X	J32X	38	26	28	28	30	E27G	E32G	E30G	G	E28G	E31G	E27G	E22G	25	21	E20G	E23G	U20	E18E	23
	CNT	30	28	27	29	28	26	26	28	29	29	28	27	25	28	29	28	30	29	29	30	30	30	29	28
	Q R																								
f-min	MED	11	14	15	18	16	17	17	17	17	20	22	23	20	23	21	20	17	16	15	16	17	13	12	E
	CNT	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
M (3000) F2	MED		260	310F	290F	260	270F	275F	270F	280	270	282	290	305F	305	305	315F	325F	330	338	330F	312F	325F	U310F	298F
	CNT		1	3	4	2	7	9	14	18	19	18	22	17	20	21	20	17	17	18	21	10	6	4	4
M (3000) F1	MED																								
	CNT																								
h'F2	MED					392	370	360	360	370	360	340	340	325	295	295	315	285	232	290	280	332			
	CNT					2	7	13	19	22	23	21	19	18	23	23	13	8	2	2	2	2			
h'F	MED	280	268	280	325	352	295	260	230	222	220	225	230	220	225	225	225	230	230	230	232	240	240	250	270
	CNT	13	8	11	11	15	15	18	21	22	23	21	23	24	23	25	25	27	28	26	28	27	23	20	18
h'Es	MED	120	122	120	120	118	120	115	120	112	120	125	130	125	120	125	125	125	125	160	145	130	122	128	130
	CNT	25	22	24	27	24	19	19	19	16	11	10	9	6	7	13	11	11	18	15	12	14	18	14	19
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Nov. 1961

45° E Mean Time (G.M.T. +3h)

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED	52	51F	46	47F	50F	56F	56F	64F	71F	72	70	70F	65	61	61	59F	56	55	54	52	52	50	49	52F
	CNT	5	3	4	5	5	7	10	10	15	18	17	20	18	22	21	21	24	22	21	22	20	13	6	5
	Q R																								
foF1	MED				320	350	370	380	390	400	410	420	420	430	420	420	420	410	400L	U370L					
	CNT				1	7	9	14	15	20	22	25	23	21	23	24	22	17	10	1					
foE	MED	170	170	178	160	180	210	230	270	280	290	300	302	300	300	298	280	280	265	250	220	180	170	150	130
	CNT	3	3	2	2	5	8	9	12	17	12	14	18	16	12	12	11	13	14	13	17	17	9	5	3
foEs	MED	28	J34X	34	J39X	J38X	J38X	41	U36	U30	36	E30G	E31G	E34G	U32	32	E32G	E30G	E28G	28	27	26	24	J28X	J27X
	CNT	28	28	29	27	30	28	29	28	30	28	28	25	22	25	27	30	29	30	29	30	30	30	28	29
	Q R																								
f-min	MED	13	13	15	20	16	18	16	15	16	16	17	20	19	20	19	18	17	16	15	14	14	14	13	12
	CNT	30	29	30	30	30	30	30	30	30	30	29	29	28	27	29	30	30	30	30	30	30	30	29	30
M (3000) F2	MED	312	295F	272	275F	280F	270F	258F	265F	272F	272	270	275F	280	285	292	300F	300	308	320	315	320	305	300	290
	CNT	4	3	2	5	3	7	8	9	14	18	16	19	17	21	20	21	24	22	21	22	19	13	5	3
M (3000) F1	MED																								
	CNT																								
h'F2	MED			340	350	355	370	372	370	350	338	340	350	350	340	330	330	320	300	350	290	300	320		
	CNT			3	4	10	15	18	20	21	23	23	25	22	24	24	27	21	16	4	7	2	3		
h'F	MED	295	300	300	335	292	260	235	225	212	205	212	205	205	210	215	214	220	220	230	235	235	250	250	270
	CNT	22	20	16	14	14	12	16	18	19	21	26	23	21	21	26	28	28	27	24	24	26	25	22	23
h'Es	MED	125	120	110	115	110	115	110	110	110	118	110	125	115	110	120	105	110	115	130	135	135	125	130	125
	CNT	23	27	24	25	27	27	22	19	16	18	14	12	10	13	15	13	12	10	15	21	23	22	23	25
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Dec. 1961

45° E Mean Time (G.M.T. +3h)

CHAR \ HR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED	51	46F	44	U52	56	62F	69F	72F	73F	73F	70	65	65	64	62	60	60	56	55	54	53	52	50	52
	CNT	5	9	8	7	12	10	13	11	13	15	20	23	27	24	28	28	24	23	23	20	15	18	21	13
	Q R																								
foF1	MED			335	330	348	370	390	400	410	420	430	430	430	440	430	430	420	420	400L	380L	350L	420	410	400
	CNT			2	7	12	16	18	18	23	23	27	29	24	24	27	30	24	22	13	5	3	2	1	1
foE	MED	170	180	175	175	188	225	250	270	288	300	300	300	305	300	300	300	290	275	260	235	215	190	170	170
	CNT	3	3	8	7	8	8	10	11	16	17	19	22	17	15	15	15	11	14	19	24	17	16	9	5
foEs	MED	J34X	J32X	J37X	J38X	40	J40X	38	J42X	34	32	34	35	36	34	J35X	E33G	U32	E30G	34	29	J34X	J34X	J30X	J33X
	CNT	29	29	30	30	28	28	28	28	28	26	28	30	28	27	29	30	30	30	29	29	29	29	30	30
	Q R																								
f-min	MED	12	12	13	14	15	15	15	14	15	15	15	15	18	16	17	15	16	16	15	13	13	12	12	12
	CNT	30	30	31	30	29	29	29	29	29	29	29	30	29	29	30	30	30	30	29	29	30	30	30	30
M (3000) F2	MED	290	295F	278	U260	260	258F	265F	260	260F	260F	265	262	265	270	275	270	280	285	288	298	300	300	300	305
	CNT	5	9	8	7	12	10	13	10	13	15	19	22	27	24	28	28	24	23	22	20	15	18	21	13
M (3000) F1	MED																								
	CNT																								
h'F2	MED	300	300	342	380	350	360	360	365	355	360	360	360	380	370	350	360	345	335	320	310	290	275	285	290
	CNT	3	3	4	10	18	19	21	21	24	24	27	29	27	27	29	30	26	26	17	9	7	6	10	1
h'F	MED	268	270	262	260	240	230	230	210	210	200	210	210	200	205	215	220	210	218	230	230	235	250	240	260
	CNT	18	16	12	14	13	15	18	16	21	24	27	30	23	23	27	29	27	28	24	23	21	20	18	23
h'Es	MED	120	115	120	110	110	110	102	105	128	102	110	110	118	108	105	100	102	115	130	130	128	125	120	120
	CNT	29	29	29	28	28	27	27	26	16	14	17	19	18	16	21	15	16	13	21	19	24	24	28	28
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA
LIST OF MEDIAN VALUES

OBSERVED AT: SYOWA BASE

Jan. 1962

45° E Mean Time (G.M.T. +3h)

CHAR \ HR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED	44	44	51F	49F	U44F	58F	65	59F	61F	65F	64F	60F	59F	57	55	55	54	50	51	51	51	52	54	48F
	CNT	6	4	3	5	5	8	4	8	9	7	10	11	11	12	11	14	12	12	12	13	11	10	5	7
	Q R																								
foF1	MED			300	315	340	350	365	390	400	400	410	420	430	420	430	420	410	400	390	U360L	350	U300L		
	CNT			1	4	4	9	10	10	13	12	12	11	12	11	11	10	10	11	8	5	1	1		
foE	MED	160	180	175	225	185	200	230	260	280	290	290	300	300	300	300	300	280	275	250	230	200	160	160	170
	CNT	2	3	3	1	4	5	6	5	7	6	6	7	5	9	7	5	4	8	10	10	6	4	5	3
foEs	MED	34	J28X	J34X	J36X	36	J41X	36	J40X	32	E29G	32	E35G	38	J38X	33	32	34	31	30	30	J29X	36	29	J31X
	CNT	15	15	14	15	14	15	14	14	14	12	13	13	12	12	13	14	13	14	14	14	13	13	14	13
	Q R																								
f-min	MED	E	11	12	15	14	15	15	15	15	15	17	19	18	18	15	18	18	18	15	12	14	13	11	12
	CNT	15	15	15	15	15	15	15	15	15	15	14	13	13	14	14	14	14	14	14	14	14	13	14	13
M (3000) F2	MED	302	285	265F	280F	U285F	260F	275	265F	265F	270F	272F	275F	280F	290	285	285	278	300	298	300	305	312	310	300F
	CNT	6	4	3	5	5	8	4	8	9	7	10	11	11	12	11	14	12	12	12	13	11	10	5	7
M (3000) F1	MED																								
	CNT																								
h'F2	MED	295	330	350	315	350	340	330	380	390	360	340	345	365	342	355	340	342	330	320	310	280	270	290	298
	CNT	2	3	5	7	9	9	11	11	13	11	13	12	12	12	12	13	12	13	10	7	4	5	2	2
h'F	MED	255	260	260	275	250	230	220	215	210	202	200	210	205	210	200	200	210	220	215	230	230	250	250	245
	CNT	10	8	6	6	7	7	8	10	13	12	11	11	11	11	11	11	11	12	14	11	11	9	11	8
h'Es	MED	110	110	120	115	110	110	110	110	105	105	115	118	110	110	110	100	108	115	118	125	120	110	115	110
	CNT	14	14	14	15	14	14	11	13	9	6	8	6	7	10	8	9	8	8	10	12	13	11	10	11
hpF2	MED																								
	CNT																								
ypF2	MED																								
	CNT																								

IONOSPHERIC DATA

AUG. 1961 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39° 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	R	A	A	R	B	S	F	42	47	50	52	47	50	39	32	30	B	B	B	B	A
2	A	A	A	A	A	A	A	A	B	B	B	B	B	B	47	F	F	F	B	F	R	R	A	A
3	A	A	R	B	A	A	A	B	B	B	B	B	B	B	B	F 62	B	B	B	B	B	R	A	A
4	A	A	A	B	B	B	R	A	B	B	B	B	B	R 71	B	B	B	B	43	B	B	B	B	R
5	R	R	R	A	A	R	B	R	B	B	B	49	60	B	B	B	B	B	B	B	B	B	R	A
6	A	A	A	A	A	A	A	F 26	F 27	35	47	50	61	67	F	F	F	F	F	F	B	B	R	R
7	A	A	F	R	25	23	25	F	F 27	40	50	49	Z 63	F 62	R 77	F	F	F 41	F	21	B	B	B	R
8	R	R	R	A	A	F 30	F	A	A	A	B	B	F 50	F 53	F 58	R 61	F	F	F	B	B	R	A	A
9	R	A	A	R	R	A	A	A	A	B	B	R	55	F	60	54	J F 54	F 53	41	F 37	B	R	B	B
10	R	A	A	A	R	A	A	A	A	C	A	F 48	B	B	F 58	60	F	F	F	R	R	A	A	A
11	A	A	A	F	A	A	R	A	B	37	F	55	51	65	67	F 63	F	F 63	U F 65	U F 69	F	F	R	A
12	A	A	A	A	A	A	A	A	A	B	F 47	F 73	F	F 76	F 67	F 63	R	J F 60	F 46	F	R	B	B	R
13	R	R	A	A	A	A	A	A	F	F 42	58	V 63	74	81	68	71	J R 60	R	F	F	B	B	B	B
14	R	R	A	R	F	F	F	F	F	U F 46	F 62	F 67	F 85	F	F	F 77	F 78	F	F	R	F	A	A	A
15	A	A	F	F	R	F	F	F	F	F 37	B	F 66	F	F	Z 73	F	F 64	F	F	F	A	A	A	F
16	A	A	A	B	B	B	A	B	B	47	F 61	F 68	V 77	81	78	73	R	60	28	F	F 27	B	B	B
17	B	A	A	A	F	F	F	F	F	F 47	F 59	70	77	F 82	82	F 70	F 64	F	F	F	F	F	R	A
18	A	B	A	A	R	A	F	F	F	F	F 63	F	F 83	F 82	F	Z 74	F	F	F	F	F	B	B	R
19	F	F	R 28	F 30	F	F 27	F	F	F 48	F 48	F 50	B	F	F 55	R 62	B	R	R	F	B	B	B	A	R
20	R	R	B	A	A	F	F	F	F 41	V 53	63	V 70	V 72	76	73	F 68	F 68	F	F	22	A	A	A	A
21	A	A	A	A	A	A	26	F	33	B	48	B	66	73	76	68	F 68	F 52	F	F	22	18	B	B
22	A	A	B	B	28	28	F	B	F	F 54	62	F	F	F	F 76	F 65	F 72	49	F 40	F	F 22	B	B	R
23	R	A	A	A	F	F	U F 35	F	F	F	F	F	F 83	F 72	S	F	F	F	49	F	F	R	R	A
24	A	A	A	A	F	F	F	U F 28	F	F	F 57	66	F 80	F	J F 74	F	F	F 54	J F 41	U F 38	F	F	16	A
25	A	A	A	A	A	A	A	F	F	45	F	F	F	F	F	J F 71	F 57	F 61	U R 67	R	R	B	R	R
26	R	A	R	A	A	F	A	B	B	B	F	F	F	U F 66	F	F	F	F	J F 44	F	F	F 18	22	A
27	R	R	A	B	A	A	A	F 34	F 37	F 40	B	F	F	F	F 64	62	J F 47	F	F	F	J F 34	F	A	A
28	A	A	A	A	A	A	B	R	F	F 45	F 51	F 57	65	61	60	72	F 57	52	40	F	R	B	B	B
29	B	A	J F 39	F	A	A	A	F	U F 40	F 45	53	60	68	F	65	F 61	J F 68	F 57	F	F	F	B	A	A
30	A	A	A	B	A	R	A	B	B	41	45	45	45	45	B	F 65	S	S	S	A	S	A	A	A
31	A	A	S	A	B	B	A	B	B	B	B	B	B	B	J R 54	60	F	F 62	B	F	R	R	R	A

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			2	1	2	4	3	3	7	16	17	17	19	18	21	21	13	13	12	5	4	2	2	
MED			34	F 30	26	28	26	F 28	F 37	F 45	53	60	66	69	67	65	F 64	F 54	42	F 37	F 24	18	19	
UQ						29	30	F 31	F 40	F 47	F 61	67	77	76	74	F 71	F 68	F 60	48	U F 38	F 30			
LQ						25	26	F 27	F 30	40	48	49	58	61	60	61	F 57	F 52	40	22	22			

IONOSPHERIC DATA

AUG. 1961 | foF1 (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	S															
2									B	B	B	B	B	B										
3										B	B	B	B	B										
4										B	B	B	B	B										
5										B	B	B	B	B	B	B								
6																								
7																								
8										A	B	B	L	B	L	B								
9										B	B	B	B											
10											A	B	B	B	B									
11																								
12										B														
13																L								
14																								
15											B													
16																								
17																								
18																								
19												B			B	B								
20																								
21												B		B										
22																								
23																								
24																								
25											L	L												
26													L	L										
27											B													
28																								
29													L											
30											L		L	B	B	B	S							
31									B	B	B	B	B	B	B									

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

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IONOSPHERIC DATA

AUG. 1961 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	S	B	235	B	B	B	B	B	R							
2									B	B	B	B	B	B	B									
3									B	B	B	B	B	B	B									
4									B	B	B	B	B	B	B									
5									B	B	B	B	B	B	B	B								
6										150	190	B	B	B	B									
7										B	B	B	250	R	B									
8										B	B	B	B	B	B	B								
9										B	B	B	B	B	B									
10										C	B	B	B	B	B									
11										B	R	B	B	B										
12										B	B	B	B	B	B	B								
13										R	R	230	B	R	220	B								
14										170	195	B	B	B	B	B								
15										B	B	B	B	B	B	B								
16										B	B	220	230	B	R	B								
17									135	175	205	230	250	B	B	B								
18										B	B	220	B	A	B	A								
19										B	B	B	B	B	B	B								
20									145	175	200	220	230	B	B									
21										B	B	B	B	B	B									
22										B	B	R 225	220	220	225	195								
23									B	180	B	B	B	B	S	B								
24										190	B	R	210	210	190	B								
25									B	B	B	B	B	210	B	A								
26										B	B	B	B	B	B	B								
27										B	B	B	B	B	230	R	180							
28										B	B	R 225	B	220	220	220								
29									B	200	200	220	220	220	220	R	A							
30									B	B	A	220	240	B	B	B	S							
31									B	B	B	B	B	B	B	B	B							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									2	7	6	9	8	5	6	2	1							
MED									140	175	200	220	230	220	220	208	180							
UQ										185	205	225	245	220	225									
LQ										172	195	220	220	210	220									

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IONOSPHERIC DATA

AUG. 1961 | foEs (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	JX 46	JX 78	JX 41	35	JX 50	JX 67	JX 36	B	S	EB 18	G	EB 19	EB 20	EB 19	EB 19	EB 20	G	EB 12	EB 15	B	B	B	B	JX 33
2	JX 54	JX 47	JX 52	JX 89	JX 47	JX 50	JX 46	JX 40	B	B	B	B	B	B	EB 32	EB 34	EB 37	EB 27	B	39	M 27	M 26	JX 37	JX 100
3	JX 94	JX 65	M 47	B	JX 48	41	JX 39	B	B	B	B	B	B	B	B	EB 36	B	B	B	B	B	28	JX 37	JX 41
4	JX 74	JX 96	M 42	B	B	B	M 36	JX 59	B	B	B	B	B	EB 64	B	B	B	B	EB 37	B	B	B	B	36
5	36	JX 51	JX 35	JX 38	39	JX 47	B	JX 35	B	B	B	EB 42	EB 40	B	B	B	B	B	B	B	B	B	M 23	JX 37
6	JX 37	JX 39	JX 66	JX 51	JX 48	JX 39	26	21	EB 14	G	G	EB 21	EB 23	EB 22	EB 18	EB 19	EB 15	EB 13	EB 20	EB 15	B	B	M 20	JX 22
7	25	JX 44	JX 23	24	EB 16	EB 12	EB 15	EB 14	E	EB 15	EB 18	EB 20	22	22	EB 32	23	EB 23	EB 19	EB 15	EB 15	B	B	B	JX 46
8	JX 26	JX 26	34	38	42	22	EB 16	JX 48	JX 52	JX 56	B	B	EB 23	EB 40	EB 36	EB 46	EB 27	EB 23	JX 38	B	B	33	JX 120	JX 46
9	32	43	JX 39	JX 37	32	JX 46	42	JX 47	JX 46	B	B	EB 42	EB 35	EB 26	EB 20	EB 22	16	EB 17	EB 22	EB 20	B	29	B	B
10	JX 30	JX 45	JX 44	47	32	84	51	JX 53	JX 49	C	JX 54	39	B	B	EB 45	EB 37	EB 25	EB 23	JX 35	37	JX 38	JX 40	JX 53	JX 45
11	JX 34	JX 60	JX 60	JX 25	JX 82	JX 48	31	JX 46	B	JX 27	43	22	EB 22	EB 32	EB 38	EB 32	EB 30	EB 30	EB 36	EB 33	EB 20	EB 31	JX 34	JX 53
12	JX 69	JX 91	JX 41	JX 46	JX 43	JX 37	JX 37	JX 47	37	B	M 37	EB 31	EB 27	EB 33	EB 30	EB 24	EB 20	EB 18	EB 17	EB 14	M 23	B	B	38
13	JX 36	40	JX 50	JX 46	JX 37	58	JX 52	JX 48	M 27	G	22	G	22	G	M 24	M 22	EB 19	EB 15	EB 18	EB 15	B	B	B	B
14	M 14	M 13	28	JX 30	JX 26	JX 37	JX 28	M 23	EB 13	G	G	EB 18	EB 28	EB 36	M 28	EB 21	EB 21	EB 31	EB 28	EB 26	M 16	JX 42	33	37
15	JX 32	JX 36	38	31	JX 21	JX 32	23	JX 25	EB 14	EB 21	B	EB 40	EB 39	EB 32	EB 41	EB 25	EB 32	EB 39	EB 25	EB 17	28	29	JX 31	14
16	JX 29	30	JX 30	B	B	B	JX 50	B	B	EB 39	EB 22	G	G	EB 18	G	EB 22	EB 20	EB 12	EB 16	EB 24	EB 12	B	B	B
17	B	32	JX 44	42	33	JX 27	M 18	JX 23	26	G	G	G	G	EB 31	EB 59	EB 59	EB 39	EB 32	EB 21	EB 20	EB 15	EB 13	17	32
18	33	36	JX 47	JX 56	40	47	M 21	EB 14	EB 14	EB 17	EB 20	G	29	JX 33	JX 76	M 26	M 23	M 26	28	EB 14	E	B	B	EB 17
19	14	22	JX 42	JX 17	EB 17	JX 51	JX 48	38	EB 43	EB 35	EB 34	B	EB 36	EB 33	EB 48	B	EB 66	EB 55	EB 28	B	B	B	JX 53	JX 33
20	27	28	JX 90	41	37	JX 27	M 17	M 17	G	G	G	G	G	EB 23	EB 22	EB 20	EB 19	EB 17	EB 17	EB 18	32	38	37	36
21	JX 36	JX 39	35	JX 32	30	33	32	M 23	EB 25	B	EB 37	B	EB 42	EB 50	EB 30	EB 28	EB 32	EB 32	EB 21	EB 16	EB 14	EB 12	B	B
22	M 26	38	B	B	19	18	M 24	B	EB 20	EB 22	EB 23	G	G	G	G	22	23	EB 17	EB 17	EB 16	EB 14	B	B	EB 12
23	JX 27	JX 32	JX 41	JX 29	27	18	EB 16	EB 15	EB 15	G	EB 25	EB 32	25	EB 23	S	EB 23	EB 18	EB 28	EB 17	EB 15	EB 15	EB 13	E	18
24	JX 31	JX 27	25	25	17	EB 11	EB 11	E	EB 15	G	EB 25	23	24	26	26	26	28	13	E	EB 15	E	EB 11	JX 21	JX 24
25	44	121	JX 44	JX 95	JX 59	57	48	JX 29	36	EB 20	EB 20	EB 21	EB 25	24	23	22	EB 18	EB 15	EB 42	EB 22	27	B	22	JX 27
26	31	JX 43	43	JX 44	42	JX 36	JX 52	B	B	B	EB 28	EB 25	EB 23	EB 20	EB 28	EB 20	EB 25	EB 17	EB 16	EB 15	EB 12	EB 12	EB 12	JX 37
27	30	46	43	B	JX 78	43	46	33	M 22	JX 31	B	EB 32	EB 29	EB 32	G	G	G	JX 17	EB 15	22	EB 12	E	28	29
28	27	34	37	JX 40	JX 47	32	B	JX 29	EB 18	EB 20	EB 25	25	23	25	26	G	EB 18	EB 20	EB 20	EB 17	EB 15	B	B	B
29	JX 69	JX 38	JX 34	JX 46	JX 47	JX 44	52	JX 36	EB 20	G	25	23	25	26	24	G	22	EB 19	E	JX 26	E	B	JX 79	JX 87
30	JX 38	JX 39	JX 74	JX 49	JX 41	JX 34	JX 51	B	46	EB 25	27	23	G 23	EB 35	B	EB 40	S	S	S	JX 79	S	JX 35	36	JX 54
31	JX 60	JX 89	S	JX 72	JX 78	B	JX 70	B	B	B	B	B	B	B	EB 33	EB 35	EB 35	EB 33	EB 30	JX 31	23	JX 25	32	JX 37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	29	26	29	28	29	24	22	21	22	24	26	26	26	28	27	27	27	25	20	17	20	26
MED	JX 32	JX 39	JX 42	JX 40	JX 40	JX 38	36	JX 31	EE 21	EG 18	EB 24	EB 22	EB 24	EB 26	EB 28	EB 23	EB 23	EB 19	EB 20	EB 18	EE 15	27	32	JX 36
UQ	JX 44	JX 49	JX 47	JX 47	JX 47	JX 48	JX 48	JX 46	36	EB 25	EB 28	EB 32	EB 29	EB 33	EB 36	EB 33	EB 29	EB 29	EB 28	EB 26	25	33	JX 37	JX 45
LQ	27	33	JX 35	JX 31	30	30	23	22	EB 14	G	EG 18	EG 18	EG 22	EB 22	EG 22	EB 20	EB 18	EB 17	EB 16	EB 15	EB 12	EB 13	22	27

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IONOSPHERIC DATA

AUG. 1961 | f min (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	17	18	14	15	23	22	32	B	S	18	17	19	20	19	19	20	E	12	15	B	B	b	b	E
2	15	15	15	33	32	27	22	17	B	B	B	B	B	B	32	34	37	27	b	12	16	17	15	20
3	14	E	42	B	33	20	34	B	B	B	B	B	B	B	B	36	B	B	B	B	b	16	14	15
4	18	36	36	B	B	B	32	22	B	B	B	B	B	64	B	B	B	B	37	B	B	b	b	12
5	18	23	18	21	18	21	B	20	B	B	B	42	40	B	B	b	B	B	B	B	B	b	22	12
6	13	13	14	18	16	14	12	13	14	12	18	21	23	22	18	19	15	13	20	15	B	b	15	17
7	12	15	12	12	16	12	15	14	E	15	18	20	20	19	32	17	23	19	15	15	b	b	b	18
8	E	12	14	16	13	14	E	E 16	17	18	18	B	B	23	40	36	46	27	23	18	B	B	29	20	15
9	13	16	18	18	20	28	19	20	18	B	B	42	35	26	20	22	13	17	22	20	B	18	b	B
10	E	E	17	19	20	23	18	20	31	C	30	37	B	B	45	37	25	23	15	17	12	15	15	18
11	20	14	16	15	15	15	15	20	B	25	16	18	22	32	38	32	30	30	36	33	20	31	87	E
12	12	15	20	20	21	13	13	18	32	B	21	31	27	33	30	24	20	18	17	14	14	B	B	E
13	E	19	18	17	14	21	19	15	15	15	16	20	21	22	20	18	19	15	18	15	b	b	b	B
14	E	E	12	13	11	E	19	22	13	14	18	18	28	36	21	21	21	31	28	26	14	17	17	13
15	12	14	14	16	15	12	12	12	14	21	B	40	39	32	41	25	32	39	25	17	15	11	E	12
16	15	12	13	B	B	B	20	B	B	39	22	21	22	18	21	22	20	12	16	24	12	B	B	B
17	b	17	16	18	15	16	16	14	12	15	19	20	22	31	59	37	39	32	21	20	15	13	11	E
18	12	32	19	18	22	18	14	14	14	17	20	21	23	22	29	20	20	19	18	14	E	b	b	17
19	E	14	12	12	17	16	18	18	43	35	34	B	36	33	48	B	66	55	28	B	B	B	15	14
20	12	12	65	18	17	14	14	12	13	16	17	18	20	23	22	20	19	17	17	18	13	14	18	12
21	13	17	18	15	18	18	15	16	25	B	37	B	42	50	30	28	32	32	21	16	14	12	b	B
22	19	15	B	B	18	15	18	B	20	22	23	21	20	20	20	17	20	17	17	16	14	b	B	12
23	12	13	26	16	14	E	16	15	15	15	25	32	21	23	S	23	18	28	17	15	15	13	E	E
24	E	E	11	17	15	11	11	E	15	17	25	17	19	17	18	17	15	E	E	15	E	11	E	E
25	12	25	15	17	21	18	15	14	15	20	20	21	25	17	20	17	18	15	42	22	20	b	12	14
26	14	16	35	18	15	13	17	B	b	b	28	25	23	20	28	20	25	17	16	15	12	12	12	15
27	15	40	18	B	20	19	18	17	21	26	B	32	29	32	18	17	16	14	15	13	12	E	12	11
28	E	E	E	21	20	17	B	20	18	20	25	20	21	20	19	18	18	20	20	17	15	b	b	b
29	32	19	E	11	13	17	13	15	20	15	16	20	20	20	19	15	15	19	E	E	E	b	15	16
30	15	15	11	42	20	21	30	B	42	25	20	20	21	35	B	40	S	S	S	19	S	16	18	19
31	14	21	S	30	39	B	35	B	B	b	B	B	B	B	33	35	35	33	30	17	18	12	13	19
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	31	30	30	31	31	31	31	30	31	30	30	30	31	30	31	31	31
MED	13	15	16	18	18	17	18	18	20	22	25	21	23	31	30	22	20	20	19	17	15	29	18	15
UQ	15	18	19	26	21	21	21	22	B	b	B	42	38	38	41	36	32	32	28	25	b	b	b	18
LQ	12	12	13	16	15	14	14	14	15	16	18	20	21	20	20	18	18	17	16	15	13	14	14	12

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IONOSPHERIC DATA

AUG. 1961

M(3000)F2(0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	R	A	A	R	B	S	F	335	335	360	365	360	360	365	335	365	B	B	B	B	A
2	A	A	A	A	A	A	A	A	B	B	B	B	B	B	300	F	F	F	B	F	R	R	A	A
3	A	A	R	B	A	A	A	B	B	B	B	B	B	B	B	F 355	B	B	B	B	B	R	A	A
4	A	A	A	B	B	B	R	A	B	B	B	B	B	R 365	B	B	B	B	360	B	B	B	B	R
5	R	R	R	A	A	R	B	R	B	B	B	365	370	B	B	B	B	B	B	B	B	B	R	A
6	A	A	A	A	A	A	A	F 290	F 280	315	360	365	350	360	F	F	F	F	F	F	B	B	R	R
7	A	A	F	R	255	275	280	F	F 300	350	360	345	Z 365	F 340	R 365	F	F	F 320	F	355	B	B	B	R
8	R	R	R	A	A	F 275	F	A	A	A	B	B	F 315	F 305	F 335	R 310	F	F	F	B	B	R	A	A
9	R	A	A	R	R	A	A	A	A	B	B	R	R	F	355	335	J F 320	F 360	315	F 325	B	R	B	B
10	R	A	A	A	R	A	A	A	A	C	A	F 315	B	B	F 310	315	F	F	F	R	R	A	A	A
11	A	A	A	F	A	A	R	A	B	295	F	340	345	340	330	F 330	F	F 285	U F 290	U F 290	F	F	R	A
12	A	A	A	A	A	A	A	A	A	B	F 355	F 330	F	F 345	F 350	F 360	R	J F 365	F 350	F	R	B	B	R
13	R	R	A	A	A	A	A	A	F	F 340	315	V 335	350	345	350	340	J R 355	R	F	F	B	B	B	B
14	R	R	A	R	F	F	F	F	F	U F 355	F 335	F 345	F 355	F	F	F 330	F 345	F	F	R	F	A	A	A
15	A	A	F	F	R	F	F	F	F	F 310	B	F 325	F	F	Z 315	F	F 335	F	F	F	A	A	A	F
16	A	A	A	B	B	B	A	B	B	335	F 355	F 340	V 340	345	390	340	R	380	320	F	F 310	B	B	B
17	B	A	A	A	F	F	F	F	F	F 355	F 355	350	345	F 335	F 355	F 330	F 350	F	F	F	F	F	R	A
18	A	B	A	A	R	A	F	F	F	F	F 350	F	F 335	F 345	F	Z 325	F	F	F	F	F	B	B	R
19	F	F	R 285	F 275	F	F 270	F	F	F 285	F 300	F 305	B	F	F 310	R 290	B	R	R	F	B	B	B	A	R
20	R	R	B	A	A	F	F	F	F 305	V 345	350	V 320	V 340	355	340	F 325	F 340	F	F	340	A	A	A	A
21	A	A	A	A	A	A	270	F	305	B	315	B	350	365	355	340	F 355	F 325	F	F	340	365	B	B
22	A	A	B	B	275	275	F	B	F	F 345	345	F	F	F	F 340	F 355	F 365	365	F 325	F	F 365	B	B	R
23	R	A	A	A	F	F	U F 255	F	F	F	F	F	F 335	F 300	S	F	F	F	355	F	F	R	R	A
24	A	A	A	A	F	F	F	U F 285	F	F	F 320	320	F 320	F	J F 340	F	F	F 350	J F 340	F	F	F	250	A
25	A	A	A	A	A	A	A	F	F	290	F	F	F	F	F	F	F 335	F 315	R	R	R	B	R	R
26	R	A	R	A	A	F	A	B	B	B	F	F	F	U F 320	F	F	F	F	J F 320	F	F	F 280	250	A
27	R	R	A	B	A	A	A	F 355	F 305	F 310	B	F	F	F	F 350	370	J F 355	F	F	F	J F 325	F	A	A
28	A	A	A	A	A	A	B	R	F	F 335	F 325	F 335	340	345	335	335	F 350	365	355	F	R	B	B	B
29	B	A	J F 280	F	A	A	A	F	U F 300	F 335	330	335	355	F	340	F 345	F	F 335	F	F	F	B	A	A
30	A	A	A	B	A	R	A	B	B	315	335	335	310	290	B	F 275	S	S	S	A	S	A	A	A
31	A	A	S	A	B	B	A	B	B	B	B	B	B	B	R	350	F	F 325	B	F	R	R	R	A

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			2	1	2	4	3	3	7	16	17	17	18	18	20	20	12	13	11	4	4	2	2	
MED			282	F 275	265	275	270	F 290	F 300	F 335	335	335	345	345	340	338	F 350	F 335	340	332	F 332	322	250	
UQ						275	275	F 322	F 305	F 345	355	345	355	355	355	352	F 355	365	355	348	352			
LQ						272	262	F 288	F 292	F 310	325	330	335	F 320	332	328	F 338	F 325	F 320	F 308	F 318			

IONOSPHERIC DATA

AUG. 1961 | h'F2 (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N, Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	S															
2									B	B	B	B	B	B										
3										B	B	B	B	B										
4										B	B	B	B	280										
5										B	B	280	235	B	B	B								
6																								
7																								
8										A	B	B	L	B 310	L	B 305								
9										B	B	300	250											
10											A	320	B	B	330									
11																								
12										B														
13																230								
14																								
15											B													
16																								
17																								
18																								
19												B			310	B								
20																								
21												B		270										
22																								
23																								
24																								
25												L 250												
26													270	240										
27												B												
28																								
29													280											
30											270		290	B	B	310		S						
31										B	B	B	B	B	B	240								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT											1	4	5	4	3	3								
MED											270	290	270	275	310	305								
UQ												310	280	295	320	308								
LQ												265	250	255	275	268								

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

AUG. 1961 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39° 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	A	A	A	E	S	275	245	210	215	210	205	200	205	225	205	B	B	B	B	A
2	A	A	A	A	B	B	B	A	B	B	B	B	B	B	315	305	B 300	325	B	F	A	A	A	A
3	A	A	B	B	B	A	E	B	B	B	B	B	B	B	B	235	B	B	B	B	B	A	A	A
4	A	B	A	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	270	B	B	B	B	A
5	A	R	A	A	A	R	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	A
6	A	A	A	A	A	A	250	320	305	250	225	210	225	205	200	225	200	240	230	260	B	B	A	A
7	A	A	A 280	A	375	350	345	325	E B 275	230	220	205	225	225	225	205	210	240	225	225	B	B	B	260
8	A	A	A	A	A	A 400	305	A	A	A	B	B	235	B	250	B	245	260	240	B	B	A	A	A
9	A	A	A	210	305	A	A	A	A	B	B	B	B	210	215	205	225	220	280	240	B	A	B	B
10	A	A	A	A	A	A	A	A	B	C	A	B	B	B	B	280	270	270	A	A	A	A	A	A
11	A	A	A	A	A	A	A	A	B	B	260	240	240	240	270	260	B 260	B 260	B 280	B 300	265	295	A	A
12	A	A	A	A	A	A	A	A	B	B	260	230	225	225	220	220	225	220	225	260	A	B	B	A
13	300	A	A	A	A	A	A	A	E A 325	230	235	215	220	225	210	210	245	210	200	245	B	B	B	B
14	275	A	A	250	A 380	340	320	310	275	235	230	240	225	215	230	245	215	260	245	270	F	A	A	A
15	A	A	A	A	A	A	A 380	A 360	275	280	B	B 265	B 275	225	230	220	205	B	225	240	325	A	A	A
16	A	A	A	B	B	B	A	B	B	B	225	230	210	215	210	200	200	200	220	240	225	B	B	B
17	B	A	A	A	A	A	340	330	265	230	225	230	230	235	B 250	225	225	250	260	220	275	315	A	A
18	A	B	A	A	A 225	A	320	285	250	225	215	205	225	235	220	205	220	200	230	220	220	B	B	270
19	A	355	350	410	375	A 325	A	A 375	B	330	300	B	275	280	B	B	B	B 270	270	B	B	B	A	A
20	A	A	B	A	A	A 425	340	300	270	225	225	200	225	225	240	215	220	225	215	B 300	A	A	A	A
21	A	A	A	A	A	205	A	340	325	B	315	B	255	B	225	230	215	220	230	210	250	250	B	B
22	A	A	B	B	350	360	370	B	275	240	230	225	210	200	220	215	205	225	220	220	220	B	B	305
23	300	A	A	A	270	380	315	300	260	230	240	250	230	215	S	210	210	B 200	215	210	B 250	B 250	270	A
24	A	A	A	B	F	340	315	300	250	220	210	210	200	220	215	215	220	200	190	230	200	340	E E 300	A
25	A	A	A	A	A	A	A	A 380	280	260	220	200	220	230	235	215	230	230	B	220	B	B	A	A
26	A	A	B	A	A	A	A	B	B	B	B 250	250	225	215	220	225	210	210	205	215	225	220	B	A
27	A	B	A	B	A	A	A	A 350	B 340	A 370	B	270	270	270	225	225	205	225	205	250	220	300	A	A
28	A	A	A	B	A	A	B	A	285	260	240	220	230	220	230	230	200	230	210	230	B 270	B	B	B
29	B	B	A	A 330	A	A	A	A	170	225	230	230	215	225	230	230	215	205	205	210	F 215	B	A	A
30	A	A	A	B	B	B	B	B	B	B 300	235	250	230	B	B	B	S	S	S	A	S	A	A	A
31	A	A	S	B	B	B	B	B	B	B	B	B	B	B	B	340	280	B 280	240	A	R	A	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	1	2	4	7	9	11	13	16	18	21	21	24	22	23	26	26	26	25	21	13	7	2	3
MED	300	355	315	290	350	350	320	325	274	238	230	230	225	225	225	222	218	225	225	230	225	295	E E 278	270
UQ	300			370	375	380	342	A 350	288	275	245	240	232	230	232	230	230	260	240	250	265	308		288
LQ	288			230	288	340	315	300	258	230	225	210	220	215	218	210	205	210	210	220	220	250		265

IONOSPHERIC DATA

AUG. 1961 | h'Es (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	125	105	105	105	100	105	125	B	S	B	G	B	B	B	B	B	G	B	B	B	B	B	B	125
2	105	120	105	110	100	105	100	120	B	B	B	B	B	B	B	B	B	B	B	105	105	125	115	100
3	100	105	135	B	105	110	105	B	B	B	B	B	B	B	B	B	B	B	B	B	B	115	100	100
4	100	100	125	B	B	B	120	100	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	105
5	105	125	120	110	110	105	B	100	B	B	B	B	B	B	B	B	B	B	B	B	B	B	145	110
6	105	105	105	100	100	105	105	125	B	G	G	B	B	B	B	B	B	B	B	B	B	B	160	180
7	105	110	120	120	B	B	B	B	E	B	B	B	170	155	B	130	B	B	B	B	B	B	B	125
8	130	110	110	115	115	120	B	105	105	100	B	B	B	B	B	B	B	B	110	B	B	150	115	105
9	105	110	110	110	115	125	105	100	100	B	B	B	B	B	B	B	125	B	B	B	B	120	B	B
10	105	105	110	110	110	100	100	100	100	C	100	150	B	B	B	B	B	B	110	110	110	110	105	150
11	140	110	130	110	105	100	110	105	B	110	120	170	B	B	B	B	B	B	B	B	B	B	120	110
12	130	100	120	120	125	120	120	110	125	B	115	B	B	B	B	B	B	B	B	B	125	B	B	120
13	125	125	105	110	115	100	100	100	110	G	170	G	150	G	140	170	B	B	B	B	B	B	B	B
14	140	130	125	115	120	125	120	125	B	G	G	B	B	B	120	B	B	B	B	B	190	120	120	115
15	105	110	110	115	120	120	125	125	B	B	B	B	B	B	B	B	B	B	B	B	175	115	120	150
16	140	115	110	B	B	B	100	B	B	B	B	G	G	B	G	B	B	B	B	B	B	B	B	B
17	B	115	115	110	110	125	125	105	120	G	G	G	G	B	B	B	B	B	B	B	B	B	130	125
18	120	135	120	165	125	125	150	B	B	B	B	G	115	105	105	100	100	105	100	B	E	B	B	B
19	130	125	110	170	B	120	100	120	B	B	B	B	B	B	B	B	B	B	B	B	B	B	135	135
20	115	115	130	110	110	125	140	180	G	G	G	G	G	B	B	B	B	B	B	B	120	120	120	110
21	120	120	120	120	125	120	170	160	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
22	135	120	B	B	150	140	150	B	B	B	B	G	G	G	G	140	140	B	B	B	B	B	B	B
23	120	120	105	125	115	115	B	B	B	G	B	B	115	B	S	B	B	B	B	B	B	B	E	160
24	110	115	110	180	180	B	B	E	B	G	B	E G 180	170	150	150	120	120	130	E	B	E	B	140	140
25	115	110	110	115	105	100	110	110	190	B	B	B	B	160	150	130	B	B	B	B	190	B	130	130
26	110	110	130	105	110	110	110	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	130
27	105	105	110	B	170	105	105	115	120	105	B	B	B	B	G	G	G	130	B	130	B	E	170	110
28	105	110	110	105	100	110	B	105	B	B	B	180	150	150	150	G	B	B	B	B	B	B	B	B
29	170	115	120	120	125	105	110	110	B	G	160	160	150	150	130	G	130	B	E	110	E	B	110	110
30	100	150	120	110	115	125	170	B	110	B	120	140	130	B	B	B	S	S	S	110	S	110	110	140
31	130	150	S	110	100	B	130	B	B	B	B	B	B	B	B	B	B	B	B	110	150	105	105	110
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	29	26	27	26	25	20	9	3	6	6	8	6	7	6	5	3	3	6	8	10	18	24
MED	115	115	110	110	115	112	110	110	110	105	120	160	150	150	140	130	125	130	110	110	138	118	120	122
UQ	130	120	120	120	122	125	125	122	120	108	160	180	160	155	150	140	130	130	110	110	182	120	135	138
LQ	105	110	110	110	105	105	105	102	105	102	115	150	122	150	125	120	120	118	105	110	115	110	110	110

IONOSPHERIC DATA

SEP. 1961 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	A	A	B	S	S	R	B	S	S	S	B	F 45	B	B	B	B	U F 56	F	R	B	A	A	A
2	A	B	B	B	B	B	B	B	B	B	40	B	45	B	B	58	B	B	B	R	B	B	B	R
3	A	A	A	B	B	B	F 24	A	B	B	B	B	57	F 54	B	B	56	B	F	F	R	A	A	A
4	A	A	A	A	A	A	F 28	F	F 38	F 49	B	B	U F 69	F	U F 67	B	B	A	B	F	B	B	B	B
5	R	A	A	A	B	B	A	B	R	B	B	B	F	69	F 67	F 67	F 63	F	F	R	B	B	A	A
6	A	A	A	R	26	A	B	B	A	U F 45	U F 59	F	J F 67	78	71	F 70	71	U F 50	F 55	F	U F 30	F	F	17
7	A	A	A	35	A	A	F	F	U F 51	F 54	59	73	71	F 71	F 62	U F 67	F	58	F 47	F	F 35	F 26	F 20	B
8	B	R	R	F	F	F	F	F 33	F 45	58	61	F 73	U F 77	F 77	J F 71	F 66	J F 71	F 61	F 54	F 50	F 35	F 23	F 17	A
9	A	R	R	A	F	F	F	F	F	F	F 55	F	F	B	F	F	F	F	F	F	F	J F 25	A	A
10	A	A	32	A	A	F	B	F	F 41	F 48	F 52	F 57	65	76	R	72	65	61	F	F	J R 29	24	A	A
11	A	A	A	A	A	F	U F 48	F	B	B	F	U F 69	F	F	F 70	F 71	74	F 65	F 52	R	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	B	A
13	S	A	B	B	B	B	B	B	B	B	56	60	62	70	65	63	F 62	F 59	F	F	24	A	A	A
14	A	A	A	B	B	A	A	46	B	F 47	F 50	V 52	B	55	F 58	F 58	61	F 46	F	F	R	F	A	A
15	A	A	B	B	A	F 36	F	F 42	45	49	50	51	61	63	F 68	72	71	64	58	F	F	F	F	F
16	F	A	R	R	F	F 38	A	F 45	F 57	B	F 67	F 73	F 77	F 86	F	F 88	J F 88	F	F	F	F 37	A 20	A	A
17	F	A	F	F	F	B	B	B	R	B	B	55	F 55	J F 62	J F 63	F 64	68	62	R	R 47	F 38	R	R	R
18	R	R	R	A	R	A	B	R	47	53	V 54	57	61	65	F 65	72	F 67	F 57	59	F	F	F	F	F
19	B	A	U F 25	U F 23	B	J F 27	B	U F 41	F	F	F 65	J F 76	F	U F 85	F	F 76	F 72	77	F	F	F	F	B	A
20	A	A	A	F	A	A	F 44	A	F	F	U F 52	U F 57	F 60	U F 60	U F 65	F 63	C	F 62	F 57	F	F	A	A	A
21	A	A	A	A	F	F	J F 50	F	F 50	F 57	58	62	70	F 62	C	62	62	F 58	F 57	F 48	F 40	F 24	B	B
22	A	F	F	F 25	F	F	F	F 41	F 50	F 62	U F 70	F 83	80	77	F 76	80	F	F	F 60	F	F	F	F	A
23	A	A	A	A	A	F	F	F	F	F	F 62	F 70	75	82	77	64	66	65	62	F 43	F	F	F	F
24	F	F	F	F	F	F	F 35	U F 48	F 51	F 58	F 64	76	V 86	R 93	U R 95	J R 115	V 108	F	V 47	A	A	A	B	A
25	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	47	52	B	B	F	F	R 28	R	A
26	A	A	A	B	B	B	B	40	46	B	F 48	58	64	B	87	R	U F 82	F	F 48	R	A	F	A	B
27	B	A	B	B	B	B	B	B	B	B	B	B	B	R	F	B	F 84	U F 48	U F 48	B	F	R	A	A
28	A	A	R	R	R	B	B	42	F 51	F 58	60	65	75	77	67	U F 67	F	F	F	F	F	F	F	F
29	A	R	A	B	A	F	42	B	B	B	R 57	66	R 74	B	F 83	F 85	R 81	84	R	R	F	B	R	A
30	R	R	A	S	A	R	B	B	B	50	52	F 60	F 68	F 83	80	F 74	79	F	F	U F 37	F	U F 46	J F 28	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			2	3	1	3	7	9	12	13	21	20	22	20	19	23	21	17	13	5	8	8	3	1
MED			28	F 25	26	F 36	F 42	F 42	F 48	F 53	F 57	64	68	74	F 68	F 67	71	F 61	F 55	F 47	F 35	F 24	F 20	17
UQ				30		F 37	F 46	F 45	F 51	F 58	F 61	F 73	75	80	76	F 73	79	64	F 58	F 48	F 38	F 27	F 24	
LQ				F 24		F 32	F 32	F 41	45	F 49	52	57	61	62	F 65	F 64	63	F 57	F 48	F 43	30	24	F 18	

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

SEP. 1961 | foF1 (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									S	S	S	B	B	B	B	B	B							
2									B	B		B	B	B	B	B	B							
3									B	B	B	B			B	B	B							
4											B	B		B		B	B							
5										B	B	B	B			L								
6																								
7												L		L										
8												L		L										
9												L	L	B	B									
10									L	350	L	L		L										
11								B	B	B	B		L	L										
12								B	B	B	B	B	B	B	B	B								
13								B	B	B	B		B	L										
14									B		A	L 390	B	L 410	B	L	L	L						
15										370	L	L 410	L 450	L	L	L								
16										B	B	L	L	L										
17								B	B	B	B	B	B	L	L	L								
18										B	L	L 380	L	L										
19													L	L		L								
20										L	L 380	U L 400	L 400	L	L	L	C							
21										L	L	L	L		C									
22										L	L	L		U L 380	L	L								
23									L	L	U L 400	L	L	L	L									
24									L	L	L	U L 410	L	U L 400	L			L	A					
25							B	B	B	B	B	B	B	B	B	B	L	B	B					
26							B	B	B	B		L	L	B	B	B								
27							B	B	B	B	B	B	B	B	U F 370	B	B	B	B					
28							B	A	L	L	L	L	L	L	L	L								
29								B	B	B	B	B	B	B	B		B	B	B					
30							B	B	B	B	L	L	L		L	L	L							
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										2	2	5	2	3	1									
MED										360	L 390	L 400	L 425	U L 400	U F 370									
UQ												U L 410		L 405										
LQ												L 390		U L 390										

IONOSPHERIC DATA

SEP. 1961 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									S	S	S	B	B	B	B	B	B							
2									B	B	B	B	B	B	B	B	B							
3									B	B	B	B	B	B	B	B	B							
4								B	A	215	B	B	B	B	B	B	B							
5									B	B	B	B	B	B	B	B	B							
6									B	B	250	240	290	220	230	200	B							
7									B	B	240	240	240	B	R 230	R 230	B							
8									B	B	B	B	250	B	B	B	B							
9									B	220	B	B	B	B	B	230	B							
10								A	200	225	225	245	230	B	R	R	R	200						
11								B	B	B	B	B	B	B	B	B	B	B						
12								B	B	B	B	B	B	B	B	B	B	B						
13								B	B	B	B	B	B	B	B	B	B	B						
14								B	B	B	B	R	B	B	B	245	A	B						
15							R	B	220	R	R	A	R	B	B	B	B	B						
16								B	B	B	B	B	285	B	R 270	R 265	B	B						
17								B	B	B	B	B	B	B	R	220	B	B						
18								B	B	B	280	R	280	280	270	240	R 210	195						
19								B	B	230	R	250	270	270	260	A	210	170	B					
20							B	B	B	A	A 260	B	270	260	A	200	C	180	B	140				
21							B	A	200	H 230	230	H 260	250	240	A	A	220	B	160					
22							170	190	200	B	240	250	B	B	260	230	220	B						
23							A	A	210	225	250	270	270	260	270	240	230	B						
24								B	R	225	265	270	275	265	R	B	B	R						
25							B	B	B	B	B	B	B	B	B	B	B	B	B					
26							B	B	B	B	B	B	B	B	B	B	B	B	B					
27							B	B	B	B	B	B	B	B	B	B	B	B	B					
28							B	B	230	230	B	R	R	R	R	R	A	B	B					
29							B	B	B	B	B	B	B	B	B	B	B	B	B					
30							B	B	B	B	B	B	B	B	B	250	B	B	B					
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	1	6	8	9	8	11	7	7	11	5	4	1	1				
MED							170	190	205	225	250	250	270	260	260	230	220	188	160	140				
UQ									220	230	260	265	278	268	270	242	220	198						
LQ									200	222	240	242	250	250	245	225	210	175						

IONOSPHERIC DATA

SEP. 1961 | foEs (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	J X 51	43	43	S	J X 38	27	B	S	S	S	B	E B 36	B	B	B	B	E B 32	E B 27	J X 24	B	J X 37	35	J X 78
2	J X 53	B	B	B	B	62	J X 35	B	B	B	E B 32	B	E B 37	B	B	E B 45	B	B	B	E B 33	B	B	B	16
3	J X 36	34	J X 40	B	J X 44	37	J X 19	J X 22	B	B	B	B	E B 35	E B 32	B	B	E B 44	B	E B 32	E B 20	E B 22	33	33	34
4	35	J X 55	J X 39	J X 45	47	J X 29	G	34	22	G	B	B	E B 38	E B 51	E B 39	B	B	52	B	E B 23	B	B	B	B
5	27	J X 46	J X 77	33	B	B	J X 56	B	J X 37	B	B	B	E B 41	E B 38	E B 27	E B 23	E B 23	E B 35	E B 37	E B 35	B	B	32	37
6	J X 64	J X 42	37	26	J X 32	J X 53	J X 62	54	J X 44	E B 35	G	G	27	G	27	25	E B 22	E B 20	E B 20	E B 18	E B 12	E	23	J X 22
7	J X 24	33	J X 31	J X 31	J X 43	J X 49	43	J X 22	E B 20	E B 25	G	G	G	E B 25	G	G	E B 23	E B 20	E B 17	E B 15	E B 11	E	E B 12	B
8	B	23	26	E B 30	17	E B 20	E B 21	E B 21	E B 31	E B 31	E B 32	E B 30	G	E B 27	E B 26	E B 25	E B 25	E B 20	E B 20	E B 15	E B 15	E B 15	E	33
9	24	J X 25	J X 31	J X 50	32	J X 46	41	J X 46	M 30	G	E B 33	E B 32	E B 32	B	E B 45	28	E B 22	E B 25	E B 20	E B 12	E B 20	J X 23	30	32
10	J X 36	J X 63	J X 30	47	J X 49	35	42	J X 21	G	G	G	G	26	E B 28	G	G	G	G	15	E B 15	E B 20	J X 18	J X 24	31
11	J X 31	33	J X 92	49	48	J X 36	21	E B 40	B	B	E B 43	E B 33	E B 41	E B 28	E B 34	E B 33	E B 48	E B 32	E B 40	E B 37	B	B	B	B
12	B	B	B	B	B	J X 37	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E B 22	B	B	J X 31
13	S	30	J X 51	J X 39	40	42	B	B	B	B	E B 40	E B 35	E B 40	E B 32	E B 28	E B 32	E B 25	E B 23	E B 25	E B 25	E B 18	J X 34	J X 40	J X 39
14	J X 39	J X 80	J X 52	J X 74	B	52	46	J X 36	B	E B 37	40	G	B	E B 37	E B 37	G	J X 24	M 24	24	J X 23	J X 36	33	40	J X 62
15	J X 97	J X 40	B	B	41	30	G	E B 22	G	G	G	26	G	E B 28	E B 26	E B 26	E B 45	E B 22	E B 34	E B 24	E B 15	E B 15	E B 14	E B 18
16	27	34	M 27	37	27	J X 46	M 50	36	M 27	B	E B 39	E B 32	G	E B 34	B	B	E B 32	E B 41	E B 29	E B 22	E B 27	30	45	J X 41
17	J X 52	J X 44	J X 46	J X 53	J X 29	B	B	J X 44	E B 54	B	B	E B 42	E B 31	E B 32	G	G	E B 33	E B 52	E B 57	E B 33	E B 18	32	J X 26	24
18	M 18	J X 20	J X 26	J X 46	J X 30	J X 54	M 86	M 36	36	E B 38	G	G	30	G	G	G	G	G	E B 17	E B 16	E B 21	E B 17	E B 15	E B 16
19	B	J X 22	23	J X 30	B	E B 18	B	J X 41	23	26	29	30	32	G	G	27	G	22	E B 16	E	E	E B 11	B	26
20	A 34	J X 45	J X 37	J X 40	J X 56	J X 55	J X 46	J X 54	J X 54	47	47	E B 30	G	G	26	G	C	G	E B 16	G	42	42	53	J X 70
21	J X 35	J X 37	35	28	J X 32	32	26	23	G	G	27	27	27	28	C	J X 27	G	E B 20	G	E B 12	E B 12	E B 11	B	B
22	J X 27	J X 27	J X 25	J X 21	26	21	G	G	G	24	27	G	E B 30	E B 28	G	G 22	G	E B 32	E B 20	E B 14	27	15	J X 29	J X 41
23	J X 39	J X 42	J X 31	30	J X 29	J X 21	J X 18	23	G	27	G	29	30	G	G	G	G	21	E B 20	E B 15	E B 15	E B 14	E B 12	E B 12
24	28	26	30	J X 29	23	J X 24	E B 15	M 22	G	G	G	G	G	G	G	E B 39	E B 32	G	34	J X 36	J X 65	J X 66	B	J X 65
25	J X 36	B	47	77	B	B	B	B	B	B	B	B	B	B	B	E B 42	E B 33	B	B	E B 22	M 26	J X 46	J X 22	33
26	J X 61	61	J X 46	B	B	B	B	E B 33	E B 43	B	E B 32	E B 31	E B 33	B	E B 58	E B 68	E B 42	E B 35	E B 32	E B 35	32	M 22	34	B
27	M 37	45	B	M 47	B	B	B	B	B	B	B	B	B	E B 42	E B 31	B	E B 42	E B 35	E B 35	B	J X 40	M 23	33	31
28	35	33	J X 23	31	27	B	42	34	G	G	E B 28	G	G	G	G	G	M 22	E B 22	E B 18	E B 14	E B 14	J X 24	J X 16	17
29	J X 32	32	J X 52	B	J X 47	J X 44	E B 34	B	B	B	E B 43	E B 39	E B 64	B	E B 40	E B 38	E B 63	E B 63	E B 57	E B 42	E B 28	B	24	J X 36
30	J X 25	J X 22	J X 36	S	J X 45	J X 31	B	B	B	E B 40	E B 40	E B 35	E B 35	E B 33	E B 30	G	E B 32	E B 35	E B 38	E B 35	E B 25	E B 20	E B 20	J X 76
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	27	26	23	21	24	22	21	19	17	22	22	26	23	23	24	25	26	26	28	25	24	23	25
MED	J X 35	J X 34	J X 36	39	J X 32	J X 37	34	U 28	E G 23	E G 25	E G 30	E G 30	E B 30	E B 28	E B 26	E G 25	E B 25	E B 24	E B 24	E B 22	E B 21	22	26	33
UQ	J X 39	J X 45	J X 46	J X 47	J X 45	J X 48	46	40	U 32	E B 35	E B 40	E B 32	E B 36	E B 32	E B 32	E B 32	E B 33	E B 35	E B 34	E B 33	26	33	34	J X 41
LQ	27	28	J X 30	30	29	30	E G 19	22	G	G	G	G	G	G	G	G	E G 22	E B 20	E B 18	E B 15	E B 15	E B 15	E E 17	24

IONOSPHERIC DATA

SEP. 1961 | f-min (0.1) | 45° E Mean Time (G. M. T. 3h)

Station SYOWA BASE Lat. 69° .4' N, Long. 39°35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	22	20	40	S	31	22	B	S	S	S	B	36	B	B	B	B	32	27	21	B	21	12	15
2	20	B	B	B	B	42	30	B	B	B	32	B	37	B	B	45	B	B	B	33	B	B	B	11
3	13	20	28	B	41	32	14	19	B	B	B	B	35	32	B	B	44	B	32	20	22	11	14	11
4	11	25	18	21	20	18	12	15	18	19	B	B	38	51	39	B	B	45	B	23	B	B	B	B
5	12	15	17	20	B	B	36	B	33	B	B	B	41	38	27	23	23	35	37	35	B	B	12	20
6	17	17	22	17	17	25	29	38	32	35	20	20	20	16	19	19	22	20	20	18	12	E	E	12
7	16	13	12	12	20	32	15	17	20	25	20	23	20	25	20	22	23	20	17	15	11	E	12	B
8	B	18	21	30	15	23	21	21	31	31	32	30	23	27	26	25	25	20	20	15	15	15	E	20
9	20	15	25	18	18	18	18	18	20	20	33	32	32	B	45	20	22	25	20	12	20	18	15	E
10	13	20	15	15	20	33	39	15	17	20	20	20	21	28	20	20	20	18	E	15	20	18	20	13
11	15	15	19	20	21	17	18	40	B	B	43	33	41	28	34	33	48	32	40	37	B	B	B	B
12	B	B	B	B	B	32	B	B	B	B	B	B	B	B	B	B	B	B	B	B	22	B	B	23
13	S	23	40	36	30	31	B	B	B	B	40	35	40	32	28	32	25	23	25	25	18	22	20	22
14	23	28	20	25	B	21	21	31	B	37	25	23	B	37	37	23	19	22	18	19	14	17	15	17
15	22	19	B	B	21	18	15	22	21	20	21	21	23	28	26	26	45	22	34	24	15	15	14	18
16	13	17	19	32	19	18	23	20	20	B	39	32	28	34	21	18	32	41	29	22	27	17	16	18
17	12	16	16	15	15	B	B	42	54	B	B	42	31	32	22	18	33	52	57	33	18	14	18	15
18	12	14	16	32	20	26	82	32	21	38	26	22	27	22	25	20	19	17	17	16	21	17	15	16
19	B	18	15	18	B	18	B	21	20	17	18	20	20	21	18	16	16	15	16	E	E	11	B	11
20	14	E	15	18	17	20	30	36	27	20	20	30	22	25	20	17	C	15	16	12	20	12	17	E
21	13	11	12	E	14	16	15	15	15	16	17	19	16	16	C	18	16	20	15	12	12	11	B	B
22	E	E	E	19	E	11	13	17	19	23	23	19	30	28	18	18	18	32	20	14	16	11	11	15
23	14	15	15	13	11	11	15	15	19	18	19	20	20	20	19	19	17	19	20	15	15	14	12	12
24	E	E	12	E	11	E	15	18	20	18	17	18	16	20	19	39	32	18	17	18	20	18	B	20
25	15	B	12	18	B	B	B	B	B	B	B	B	B	B	B	42	33	B	B	22	20	14	14	14
26	13	18	20	B	B	B	B	33	43	B	32	31	33	B	58	68	42	35	32	35	12	18	16	B
27	35	30	B	42	B	B	B	B	B	B	B	B	B	42	31	B	42	35	35	B	20	19	15	12
28	16	18	18	21	15	B	38	18	18	20	28	23	22	19	19	18	17	22	18	14	14	12	15	12
29	13	15	16	B	22	23	34	B	B	B	43	39	64	B	40	38	63	63	57	42	28	B	19	20
30	19	21	16	S	21	25	B	B	B	40	40	35	35	33	30	20	32	35	38	35	25	20	20	23
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	30	29	29	30	30	30	29	29	29	30	30	30	29	30	29	30	30	30	30	30	30	30
MED	15	18	18	21	20	25	30	32	31	37	32	32	32	32	27	23	32	28	26	20	20	17	16	16
UQ	20	22	22	40	B	33	B	B	B	B	43	B	40	51	40	42	44	41	38	33	25	21	20	22
LQ	13	15	15	18	17	18	15	18	20	20	20	21	22	25	20	19	20	20	18	15	15	12	14	12

IONOSPHERIC DATA

SEP. 1961

M(3000)F2(0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	A	A	B	S	S	R	B	S	S	S	B	F 310	B	B	B	B	U F 320	F	R	B	A	A	A
2	A	B	B	B	B	B	B	B	B	B	315	B	290	B	B	345	B	B	B	R	B	B	B	R
3	A	A	A	B	B	B	F 290	A	B	B	B	B	340	F 370	B	B	340	B	F	F	R	A	A	A
4	A	A	A	A	A	A	F 285	F	F 340	F 325	B	B	U F 350	F	U F 345	B	B	A	B	F	B	B	B	B
5	R	A	A	A	B	B	A	B	R	B	B	B	F	320	F 330	F 360	F 365	F	F	R	B	B	A	A
6	A	A	A	R	275	A	B	B	A	U F 335	U F 305	F	F	335	370	F 345	350	U F 340	F 345	F	U F 310	F	F	325
7	A	A	A	290	A	A	F	F	U F 315	F 315	320	330	325	F 340	F 340	U F 340	F	360	F 320	F	F 345	F 325	F 300	B
8	B	R	R	F	F	F	F	F 325	F 310	345	330	F 330	U F 325	F 325	F	F 290	U F 365	F 350	F 315	F 340	F 330	F 350	F 295	A
9	A	R	R	A	F	F	F	F	F	F	F 275	F	F	B	F	F	F	F	F	F	F	U F 280	A	A
10	A	A	295	A	A	F	B	F	F 260	F 265	F 305	F 295	300	330	R	335	340	310	F	F	R	290	A	A
11	A	A	A	A	A	F	U F 260	F	B	B	F	U F 295	F	F	F 305	F 295	340	F 345	F 325	R	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	B	A
13	S	A	B	B	B	B	B	B	B	B	305	300	305	300	310	350	F 315	F 340	F	F	290	A	A	A
14	A	A	A	B	B	A	A	305	B	F 295	F 350	V 345	B	295	F 330	F 315	285	F 290	F	F	R	F	A	A
15	A	A	B	B	A	F 285	F	F 370	370	350	360	290	330	320	F 325	F 335	345	370	360	F	F	F	F	F
16	F	A	R	R	F	F 285	A	F 290	F 320	B	F 315	F 330	F 310	F 315	F	F 330	F	F	F	F	F 350	A 265	A	A
17	F	A	F	F	F	B	B	B	R	B	B	310	F 310	J F 320	F	F 315	F 340	345	R	R 350	F 340	R	R	R
18	R	R	R	A	R	A	B	R	320	325	V 320	320	260	270	F 260	F 280	F 300	F 280	270	F	F	F	F	F
19	B	A	U F 250	U F 250	B	J F 260	B	U F 305	F	F	F 310	J F 275	F	U F 305	F	F 305	F 290	325	F	F	F	F	B	A
20	A	A	A	F	A	A	F 250	A	F	F	U F 290	U F 280	F 265	U F 285	U F 290	F 315	C	F 325	F 325	F	F	A	A	A
21	A	A	A	A	F	F	J F 260	F	F 260	F 265	265	290	305	F 305	C	305	340	F 320	F 325	F 335	F 340	F 335	B	B
22	A	F	F	F 280	F	F	F	F 280	F 300	F 290	U F 285	F 315	315	310	F 305	315	F	F	F 315	F	F	F	F	A
23	A	A	A	A	A	F	F	F	F	F	F 290	F 285	305	305	340	330	335	340	370	F 335	F	F	F	F
24	F	F	F	F	F	F	F 310	U F 305	F 305	F 310	F 290	290	V 280	R 280	285	R	V 310	F	V 310	A	A	A	B	A
25	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	300	300	B	B	F	F	R 305	R	A
26	A	A	A	B	B	B	B	280	350	B	F 315	325	320	B	310	R	U F 340	F	F 340	R	A	F	A	B
27	B	A	B	B	B	B	B	B	B	B	B	B	B	R	F	B	F 290	U F 350	U F 355	B	F	R	A	A
28	A	A	R	R	R	B	B	285	F 315	F 310	335	315	320	335	345	F	F	F	F	F	F	F	F	F
29	A	R	A	B	A	F	310	B	B	B	R 315	325	R 325	B	F 320	F 320	R 335	355	R	R	F	B	R	A
30	R	R	A	S	A	R	B	B	B	250	290	F 285	F 295	F 275	315	F 295	F 315	F	F	U F 365	F	U F 315	F	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			2	3	1	3	7	9	12	13	21	20	21	20	17	21	20	17	13	5	7	8	2	1
MED			272	F 280	275	F 285	F 285	F 305	F 315	F 310	F 310	305	310	312	F 320	F 315	338	F 340	F 325	F 340	F 340	F 310	F 298	F 325
UQ				285		F 285	F 300	F 305	330	F 325	320	325	325	328	F 340	F 335	340	F 350	F 345	F 350	F 342	F 330		
LQ				F 265		F 272	F 260	F 285	F 302	F 290	F 290	F 290	300	298	F 305	F 305	305	F 320	F 315	F 335	F 320	285		

IONOSPHERIC DATA

SEP. 1961

h'F2 (km)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									S	S	S	B	310	B	B	B	B							
2									B	B		B	B	B	B	250	B							
3									B	B	B	B			B	B	260							
4											B	B		250		B	B							
5										B	B	B	255			240								
6																								
7												270		230										
8												270		L										
9												260	265	B	275									
10									450	390	L	L		270	265									
11								B	B	B	300		270	L										
12								B	B	B	B	B	B	B	B	B								
13								B	B	B	E B 290		290	280										
14									B		380	370	B	360	300	300	370	370						
15										370	350	400	315	300	260	255								
16										B	265	265	275	280										
17								B	245	B	B	360	250	300	295	280								
18										300	300	330	285	L										
19													L	250		235								
20										A 320	250	240	260	225	L	250	C							
21										L	L	305	295		C									
22										L	270	270		270	230	250								
23									L	330	330	295	270	260	235									
24									L	320	370	320	320	290	355			240	330					
25							B	B	B	B	B	B	B	B	B	B 400	345	B	B					
26							B	435	B 395	B		305	310	B	300	B 295								
27							B	B	B	B	B	B	B	440	415	B	330	280	260					
28							B	370	L	L	250	250	270	260	250	L								
29								B	B	B	315	300	B 335	B	290		270	265	260					
30							B	B	B	440	340	L	270		270	235	260							
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	3	7	13	16	17	15	13	11	6	4	3					
MED								402	395	330	300	298	275	270	275	250	300	272	260					
UQ									422	380	340	325	310	295	300	288	345	325	295					
LQ									320	320	268	268	270	255	260	245	260	252	260					

IONOSPHERIC DATA

SEP. 1961 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	A	A	B	S	B	B	B	S	S	S	B	B	B	B	B	B	B	B 260	B	B	A	A	A
2	A	B	B	B	B	B	B	B	B	B	E 300	B	B	B	B	B	B	B	B	B	B	B	B	R
3	A	A	B	B	B	B	350	B	B	B	B	B	275	240	B	B	B	B	240	230	260	A	A	A
4	A	B	A	B	B	A	370	315	275	230	B	B	230	B	240	B	B	B	B	230	B	B	B	B
5	A	A	A	A	B	B	B	B	A	B	B	B	B	260	235	235	230	225	B 250	B	B	B	A	A
6	A	A	A	B	A	B	B	B	B	E B 290	225	210	210	230	230	225	220	210	230	200	230	240	250	300
7	B	A	A	A	A	B	A	320	250	250	235	250	230	215	200	230	230	205	205	220	215	230	B 260	B
8	B	B	B	B	R	F	330	B 260	240	250	230	220	230	220	220	215	230	210	230	200	210	220	E E 280	A
9	A	A	A	A	380	360	370	370	265	230	260	235	240	B	B	235	230	225	215	235	250	B	A	A
10	A	A	A	A	A	B	B	315	240	250	240	230	230	215	220	230	230	210	220	230	260	B	B	A
11	A	A	A	A	A	E A 380	310	B	B	B	B	250	230	230	250	250	260	230	B 240	240	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B 250	B	B	B
13	S	B	B	B	B	B	B	B	B	B	B	B 250	B	240	230	240	240	240	250	240	E B 310	B	B	A
14	B	B	B	B	B	A	A	A	B	B	A	245	B	B	B	235	B	330	270	290	A	A	A	A
15	A	A	B	B	A	A	315	300	270	250	205	225	235	225	225	230	250	240	230	230	225	240	260	300
16	A	A	260	B	370	A	A	A 340	270	B	B	235	225	235	220	235	235	235	240	220	310	B	A	A
17	F	A	A	A	A	B	B	B	B	B	B	B	B	250	225	230	270	265	280	250	245	A	A	A
18	R	R	270	A	A	A	B	B	A	B	225	260	230	230	220	235	220	220	230	260	B 260	B 270	265	E B 270
19	B	B	A	B	B	B 330	B	325	260	230	235	225	230	230	230	220	230	230	200	210	210	215	B	A
20	A	A	A	A	A	A	A	B	F	260	240	260	250	260	220	220	C	235	235	240	A	A	A	A
21	A	A	A	A	A	A	305	270	235	200	235	230	225	230	C	240	235	235	220	205	210	200	B	B
22	A	A	A	B	370	345	300	265	250	240	230	220	230	210	220	225	230	230	205	230	235	240	A	A
23	A	A	A	A	A	300	270	260	250	240	230	235	215	205	225	210	230	220	215	230	235	230	240	270
24	A 350	B 340	330	350	320	325	295	250	235	225	220	230	210	215	280	230	235	240	A	A	A	A	B	A
25	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	265	320	A 305	A	A
26	A	A	A	B	B	B	B	B	B	B	255	235	240	B	B	B	235	260	270	270	A	280	A	B
27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	260	B	B	B	B	B	A 375	A	A	A
28	A	A	A	A	A	B	B	A	255	220	225	220	245	235	225	230	225	215	210	220	210	225	230	170
29	A	275	A	B	A	A	360	B	B	B	B	B	B	B	B	265	B	B	B	265	285	B	R	B
30	A	B	A	S	B	B	B	B	B	B	B	225	240	250	245	210	B 250	240	230	240	235	230	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1	2	3	1	4	6	11	12	13	14	16	20	20	20	20	22	20	22	23	24	21	13	7	5
MED	A 350	308	270	350	370	333	315	308	250	238	231	232	230	230	225	230	230	230	230	230	240	230	255	270
UQ			300		375	352	355	322	265	250	239	248	240	240	238	235	238	240	245	245	260	240	261	300
LQ			265		345	325	302	262	240	230	225	225	228	218	220	225	230	220	218	220	225	225	245	270

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

SEP. 1961

h'Es (km)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N, Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	110	105	110	S	110	110	B	S	S	S	B	B	B	B	B	B	B	B	130	B	110	105	110
2	105	B	B	B	B	160	115	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	110
3	150	115	110	B	105	110	115	110	B	B	B	B	B	B	B	B	B	B	B	B	B	110	110	115
4	115	160	115	115	165	130	G	160	135	G	B	B	B	B	B	B	B	130	B	B	B	B	B	B
5	115	115	110	110	B	B	100	B	105	B	B	B	B	B	B	B	B	B	B	B	B	B	115	120
6	140	105	120	130	120	110	110	110	105	B	G	G	140	G	140	140	B	B	B	B	B	E	130	180
7	130	120	130	120	110	110	110	115	B	B	G	G	G	B	G	G	B	B	B	B	B	E	B	B
8	B	170	170	B	140	B	B	B	B	B	B	B	G	B	B	B	B	B	B	B	B	B	E	120
9	130	115	110	110	125	120	125	110	180	G	B	B	B	B	B	150	B	B	B	B	B	130	140	120
10	120	110	110	110	110	130	130	130	G	G	G	G	110	B	G	G	G	G	150	B	B	190	130	130
11	130	130	130	105	100	120	130	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
12	B	B	B	B	B	130	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	120
13	S	150	125	105	110	110	B	B	B	B	B	B	B	B	230	B	B	B	B	B	B	130	110	110
14	130	135	130	110	B	100	110	125	B	B	115	G	B	B	B	G	115	155	130	130	120	125	125	120
15	100	120	B	B	105	120	G	B	G	G	G	110	G	B	B	B	B	B	B	B	B	B	B	B
16	115	125	130	140	125	115	105	110	125	B	B	B	G	B	G	G	B	B	B	B	B	150	120	120
17	125	105	120	125	115	B	B	170	B	B	B	B	B	B	G	G	B	B	B	B	B	110	175	135
18	130	120	115	115	125	105	120	100	105	B	G	G	150	G	G	G	G	G	B	B	B	B	B	B
19	B	130	120	130	B	B	B	105	125	130	130	150	140	G	G	115	G	140	B	E	E	B	B	135
20	130	110	130	120	105	105	110	110	105	110	130	B	G	G	130	G	C	G	B	G	130	130	130	110
21	110	110	105	130	140	130	150	125	G	G	130	130	130	115	C	105	G	B	G	B	B	B	B	B
22	140	135	125	110	140	120	G	G	G	165	130	G	B	B	G	110	G	B	B	B	130	140	150	115
23	150	120	120	110	110	130	130	135	G	160	G	140	130	G	G	G	G	160	B	B	B	B	B	B
24	130	125	125	130	125	170	B	150	G	G	G	G	G	G	G	B	B	G	105	115	120	150	B	115
25	120	B	115	125	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	125	125	110	115
26	115	100	105	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	120	135	120	B
27	160	105	B	140	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	110	135	120	110
28	110	125	120	120	115	B	135	110	G	G	B	G	G	G	G	G	110	B	B	B	B	110	120	150
29	120	120	110	B	105	120	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	130	125
30	120	125	120	S	120	105	B	B	B	B	B	B	B	B	B	G	B	B	B	B	B	B	B	135
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	27	26	22	21	22	16	16	8	4	5	4	6	1	3	5	2	4	3	3	7	15	17	22
MED	125	120	120	118	115	120	115	112	115	145	130	135	135	115	140	115	112	148	130	130	120	130	120	120
UQ	130	128	125	130	125	130	130	132	130	162	130	145	140		185	140		158	140	130	128	138	130	130
LQ	115	110	110	110	110	110	110	110	105	120	130	120	130		135	110		135	118	122	120	118	115	115

IONOSPHERIC DATA

OCT. 1961 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R
2	R	A	A	R	R	F 31	F 34	F 40	43	45	45	47	50	47	46	47	48	48	47	45	38	R	B	B
3	B	B	B	F	F	U F 32	F 38	48	55	60	F 62	U R 65	F	F	F	F	F	F	F	F	F	A	R	R
4	A	A	A	A	A	A	A	F 42	F 45	48	50	52	54	57	60	U F 62	F	F	F	F 53	F	A	A	A
5	A	A	A	B	A	U F 40	F 47	F 50	53	56	60	63	67	70	70	F 68	69	68	U S 67	F	F	F	F	F
6	F	F	F	F	25	F 57	S	F 64	F	F	69	F 74	F 81	F 85	F	F	F 79	73	F 70	F 49	F	F	A	A
7	A	R	A	F	F	B	B	B	F 52	F 52	F 57	F 62	F 70	F 72	70	72	77	70	62	F 62	F 55	F	F	F 36
8	F	F	F	J F 36	F	F	F 53	F 59	66	72	F	F	F	F	F	F	F	F	F 65	J F 62	F	R	F	F
9	R	R	F	F	F	F	F 53	F	F	F	F	F	F 79	78	74	70	70	63	U F 62	57	54	55	U F 50	F
10	F	F	F 46	U F 46	J F 52	F	Z 64	F 63	70	78	79	78	81	81	82	72	F 68	66	F 64	F 58	F 54	U F 48	U F 41	U F 32
11	F	A	F	F	F	F	F	F	F 72	F 78	J F 82	F	F 82	R	R 93	R 99	F	F	F	F	F	F	F	A
12	F	F	F	A	A	B	B	A	A	54	54	F 53	R	B	F 65	F 66	F 68	65	66	F	F	F	R	A
13	A	S	B	A	R	F	A	A	A	A	B	47	B	R 53	F 57	F 54	F 52	53	F 53	F 54	F	F	F	U F 28
14	R	A	A	A	B	B	46	F 56	F 55	54	54	B	B	F 60	62	64	F 63	F 58	F 54	U F 52	F	F	F	F
15	F	F	F	F 38	F	F	F	F	68	Z 72	F 73	F 75	F	F 78	F 73	U F 72	F	F 67	F	F	F	F	F	F
16	F	F	F	F	F	F	F	F	Z 68	F	F 75	75	78	77	F	F	F	F	F	F 65	F	F	F	F
17	F	F	F	F	F	F	F	U F 75	78	83	86	83	82	80	77	F 73	F	F	U F 61	U F 61	J F 54	F	S	S
18	S	S	F	F	F	F	F	J F 78	F 83	F 85	87	83	F 83	F 82	J F 77	F 67	65	J R 64	60	F 60	F 57	U F 59	F	F
19	F	F	F	F	F	A	B	F	F	F	F 74	F 70	65	62	60	61	F 60	F 56	F 55	55	F	F	F	S
20	A	A	F	B	B	B	B	B	A	F	R	B	B	41	F	F 47	F 47	F 47	F	J F 42	F	F	F	F
21	F	R	F	F	A	F	F	F	F	F	F 57	J F 57	F 68	J F 72	J F 72	F 68	J F 63	64	60	J F 51	F	A	A	A
22	A	F	A	R	R	A	A	F 47	F 53	53	R	F 58	67	68	71	72	64	F	J F 56	F 56	J F 52	F	F	F
23	F	A	F 35	F	F	F	F	J F 68	F	F	F	U F 71	F 68	F	F 71	F 66	F	F	F 56	J F 58	F	F 54	F	F
24	A	A	F	F	F	F	F	F	U F 60	59	61	F 55	F	F	F	F	F	F	F	J F 55	J F 53	F	F	A
25	A	24	F	F	F	J F 56	F 59	F 56	F 61	J F 59	J F 59	F 57	F 55	F 60	F 61	U F 60	F 63	60	60	J F 55	F	A	A	A
26	A	B	A	A	B	F	A	A	A	A	A	F 48	B	61	F	B	F	F	F	F	A	F	A	B
27	A	A	F	F	A	F	F	A	B	B	A	A	R	40	B	B	43	B	B	F 40	F 34	F	F	F 33
28	A	A	A	F	A	F	R	F	A	F 43	F 43	45	B	B	F 46	F	F	F	F	F	A	F	A	B
29	A	A	B	A	A	B	A	A	A	A	B	B	R	R	R	R	R	R	40	42	42	F 41	F 40	F
30	F	A	B	F 36	F 57	F 45	F 50	U F 52	F 56	55	57	58	F 60	56	F 54	51	52	51	50	48	U F 23	F	U F 33	F
31	F	F	U F 39	F 45	F	F 53	F	F 65	70	F 70	F	F	F	R 62	F 60	F 60	U F 62	J F 60	54	52	55	F 53	F	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT		1	3	5	3	7	9	15	18	19	20	22	17	22	21	21	18	17	20	23	12	6	4	4
MED		24	F 39	F 38	F 52	F 45	F 50	F 56	60	59	60	60	F 68	65	70	F 66	F 63	63	60	F 55	F 54	F 54	U F 40	F 32
UQ			F 42	F 45	F 54	F 54	F 53	F 64	70	72	74	74	F 81	78	73	F 72	68	66	63	F 58	F 54	F 55	U F 46	F 34
LQ			F 37	F 36	38	F 36	F 46	F 49	F 53	54	56	F 53	65	57	F 60	F 60	F 52	56	54	F 50	F 40	F 48	F 36	U F 30

IONOSPHERIC DATA

OCT. 1961

foF1 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	B	B	B	B	B	B	B	B	B	B	B	B					
2								L 340	350		L	400	380	L	B	L	L 350							
3							U L 280	330	L	400	420	B	L	L 430	L	L								
4								R 340	360	370	390	390	L	L	L	L	L	L						
5							L 320	L	L 380	400	L 400	L	L	L	L									
6							L	L	L	L	L	L 440	L	L	L	L		B	B					
7							B	B	B	F 410	L	L	L 420	L	L	L	L	L						
8							L	L 360	L 400	420	B	L		L 430	L	L	L							
9							F 380	F	U L 420	U L 420	L 420	L	L	L	L	L	L	L	L					
10						L	L	U L 370	U L 420	U L 410	U L 420	L	L	L	L	L								
11								L	L	L	L 430	L	L 460	B	L	L	L							
12						B	B	A	A	A	A	440	440	B	B	B	L	L	L	L				
13						A	B	A	B	B	B	B	B	B	420	L 400	L	L						
14							A	370	H 390	400	H 420	B	B	420	420	L	L							
15						L	L	L	L 390	L 420	L	L 430	L	L	L	L		L						
16							L	370	380	410	420	L 420	U L 420	L	L	L								
17							L 350	370	390	L 420	L 420	L	L 420	L	L	L	L	L	L					
18						L	L	380	400	420	L 420	430	400	U L 420	L	L	L	L						
19								A	F 380	F 400	400	420	420	420	L	U L 400	L							
20						B	B	B	A	A	B	B	B	380	400	400	L	L						
21							B	F	F 370	F	380	420	L	U L 420	U L 420	L	L	L	L	L				
22					A	A	A	A	380	R 380	B	430	L	U L 420	U L 420	U L 400	L	L	L					
23					L	L	L 360	370	380	420	420	420	430	420	U L 420	L	L	L						
24						L	L 360	U L 370	380	B	B	R	410	410	420	U L 410	L	L						
25					260	300	330	360	380	390	410	420	430	420	U L 400	L	L	L	L	L				
26							B	A	A	B	B	400	B	B	B	B	B	L						
27					B	A		B	B	B	B	A	L	R 370	B	B	B	B	B					
28							A		A	380	390	400	B	B	370	R		F 350	A	F	A			
29					A	B	A	B	F	A	B	B	380	370	370	380	370	390						
30					280	370	340	360	380	400	400	420	410	420	420	410	L 400	L	L					
31						L	370	390	400	420	B	R 420	B	B	L 420	430	L	L	B	B	B			
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					2	2	9	15	18	20	16	15	14	14	11	8	3	2						
MED					270	335	L 350	370	380	405	420	420	420	420	420	L 400	L 370	370						
UQ							L 360	370	L 400	420	L 420	430	L 430	L 420	420	L 410	385							
LQ							L 330	360	380	395	400	410	410	410	400	400	360							

IONOSPHERIC DATA

OCT. 1961 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N, Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	B	B	B	B	B	B	B	B	B	B	B	B					
2							B	B	B	B	B	B	B	B	B	B	B	B	B					
3							B	B	B	B	B	B	280	330	270	A	250	A	B					
4							B	A	260	270	270	275	270	280	270	R 270	240	195	200					
5						A	A	200	240	H 270	280	280	R	300	280	280	270	230	A 180	150				
6						A	180	210	240	B	B	R	B	B	290	270	B	B	B	B				
7						B	B	B	B	B	280	280	280	R	280	245	245	B	R	B				
8						B	175	220	250	R	B	B	280	R	R	R	255	275	R	A				
9						A	A	A	A	300	R	A	280	A	280	270	260	275	185	170				
10						160	180	225	240	270	265	R	295	R	B	265	260	240	180	170				
11						A	315	230	260	275	280	280	R	B	B	B	B	B	A	A				
12						B	B	B	A	B	B	B	B	B	B	B	B	215	180	A				
13						B	B	B	B	B	B	B	B	B	B	R 275	R 245	225	285	R 200				
14						B	A	A	260	R 270	R 280	B	B	230	A	220	A	A	B	B				
15						R 185	175	170	215	A	B	270	260	270	280	R	270	240	185	A				
16						A	190	170	B	B	R	295	295	275	280	270	275	250	230	R				
17					160	180	215	215	255	255	280	285	300	300	R 300	R 280	265	270	225	165				
18					B	170	B	230	250	260	280	300	300	290	A	A	A	A	200	170	120			
19					A	B	B	B	A	280	290	290	290	300	300	270	270	220	210	170	150			
20					B	B	B	B	B	A	B	B	B	B	B	280	250	A	200	150	A			
21					A	B	A	A	255	270	290	280	R 280	300	A	275	250	240	R 200	B	B			
22					B	A	A	A	A	315	B	B	300	300	280	R	R 270	240	R 210	A	225			
23					165	170	170	R 225	230	230	280	B	B	B	B	B	R	R 230	180	R	R 170			
24					170	185	220	220	230	B	B	B	B	A	A	280	A	A	A	A	B			
25					R	210	220	230	260	275	280	290	290	280	A	280	270	A	200	220	A			
26					B	A	B	A	A	B	B	A	B	B	B	B	B	A	220	A	A			
27					B	A	A	B	B	B	B	B	R 300	B	B	B	B	B	B	220	B			
28					B	A	B	260	A	330	275	275	B	B	270	R	R	A	A	A	A	A		
29					B	B	B	B	A	A	B	B	R	280	B	300	270	230	A	200	R 170	170		
30					A	A	A	A	250	280	290	300	R	300	A	280	270	240	220	210	A	B		
31				A	A	A	A	250	270	A	B	B	B	B	B	270	A 270	A	B	B	B	B	B	

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					3	7	10	14	16	15	14	13	15	14	12	18	19	16	18	12	5	1		
MED					165	180	185	222	250	270	280	280	290	295	280	272	265	240	200	170	170	170		
UQ					168	185	220	230	260	280	280	290	298	300	285	280	270	245	220	205	R 170			
LQ					162	170	175	210	240	270	280	280	280	280	275	270	250	228	185	168	150			

IONOSPHERIC DATA

OCT. 1961

foEs (0.1)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	119	B	B	B	B	J X 49	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	24
2	J X 21	J X 22	J X 37	J X 24	J X 21	23	E B 25	E B 25	E B 30	E B 33	E B 33	E B 32	E B 33	E B 31	E B 38	E B 33	E B 26	E B 23	E B 20	E B 20	E B 26	25	B	B
3	B	B	B	E B 17	E B 15	E B 16	E B 20	E B 21	E B 26	E B 27	E B 35	E B 43	E B 31	G	30	28	28	25	E B 20	E B 19	J X 31	35	28	27
4	33	36	J X 39	J X 50	44	J X 39	J X 41	J X 40	32	G	30	28	28	G	30	G	G	24	22	E B 20	35	35	35	J X 45
5	J X 76	J X 42	J X 50	J X 41	42	29	21	G	G	G	G	30	G	G	G	G	G	G	24	G	E B 15	E B 15	E B 11	E
6	13	E	12	20	29	J X 23	J X 38	G	G	E B 27	E B 32	G	E B 38	E B 32	G	G	E B 32	E B 40	E B 36	E B 33	E B 17	J X 36	37	34
7	33	27	J X 54	J X 41	J X 70	B	B	B	M 46	J X 37	G	G	G	G	33	J X 70	27	E B 24	G	E B 23	E B 30	J X 41	E B 14	E B 14
8	E B 12	J X 26	J X 31	J X 30	J X 36	M 24	G	G	31	G	E B 44	E B 38	G	G	G	G	G	G	G	M 18	21	13	M 18	12
9	28	J X 31	J X 62	J X 42	J X 41	J X 41	J X 41	J X 42	J X 49	38	G	J X 79	29	J X 33	33	36	32	31	G	G	E B 17	E B 13	E	E
10	E	E B 12	J X 27	13	13	G	G	G	G	G	G	G	G	G	G	28	G	31	22	G	E B 14	E B 14	E	J X 30
11	J X 30	J X 38	J X 47	J X 37	J X 42	J X 47	G	29	G	G	35	30	G	E B 58	E B 42	E B 33	E B 18	E B 18	30	J X 31	J X 22	J X 32	J X 33	48
12	J X 60	J X 36	J X 84	J X 78	J X 85	B	B	J X 70	J X 62	47	M 44	E B 37	E B 31	B	E B 42	E B 44	E B 18	24	21	36	J X 41	J X 13	33	J X 61
13	J X 62	S	B	J X 53	J X 40	J X 32	J X 49	46	J X 64	47	B	E B 42	B	E B 44	E B 34	G	G	G	20	G	23	26	M 17	M 16
14	M 16	32	J X 75	J X 57	M 47	B	J X 41	33	G	G	G	B	B	28	28	28	M 26	M 26	E B 32	E B 18	22	E B 16	E B 13	E B 17
15	J X 21	J X 32	36	J X 30	26	G	21	23	33	27	E B 33	33	29	33	30	G	28	25	22	22	E B 23	E B 15	E B 14	20
16	12	E B 15	11	J X 25	17	20	22	23	E B 28	E B 25	G	G	32	J X 32	J X 32	29	G	26	28	G	E B 16	13	E	E
17	E	E B 12	13	12	G	G	22	23	G	27	34	30	G	G	G	G	28	G	G	17	E B 17	E	E	E
18	E	E	E B 15	E B 15	E B 18	G	E B 20	G	G	G	G	G	G	G	35	33	28	32	G	G	G	E	E	E
19	E	E	E B 11	43	32	J X 50	B	53	43	G	G	G	G	G	G	G	G	G	G	G	G	E B 11	E	J X 22
20	J X 33	J X 54	J X 41	B	B	B	B	B	J X 51	J X 44	45	B	B	E B 32	E B 32	G	G	28	J X 29	J X 29	J X 29	J X 30	J X 27	J X 24
21	32	J X 26	J X 32	31	J X 41	J X 43	37	J X 39	J X 32	G	G	G	G	G	J X 70	34	J X 52	J X 42	23	E B 22	E B 23	36	J X 36	J X 51
22	J X 50	J X 146	42	J X 36	J X 38	J X 52	51	46	J X 26	G	E B 40	E B 32	G	G	G	G	G	G	26	J X 41	J X 46	M 27	E B 18	E B 19
23	30	34	J X 37	J X 30	J X 41	G	27	30	31	27	32	E B 32	E B 37	29	28	28	G	28	G	G	G	E B 22	E B 13	J X 22
24	J X 101	J X 40	37	32	32	27	25	28	G	E B 44	J X 49	36	J X 32	33	J X 29	33	32	28	22	J X 28	E B 33	J X 19	E B 12	J X 36
25	J X 40	J X 39	J X 29	17	G	G	G	G	G	G	J X 29	G	G	J X 32	J X 32	G 27	G 26	23	G	J X 34	33	J X 41	J X 47	J X 66
26	J X 73	J X 52	55	J X 44	B	J X 20	J X 49	53	J X 52	J X 46	J X 41	34	B	E B 52	E B 44	B	E B 46	J X 29	30	J X 35	J X 41	J X 28	32	B
27	J X 110	J X 64	27	J X 111	J X 48	38	J X 47	43	B	B	J X 50	J X 41	G	E B 35	B	B	E B 38	B	B	25	J X 26	J X 121	J X 49	J X 53
28	D	86	47	J X 40	J X 42	34	J X 31	J X 112	45	G	G	G	B	B	G	G	G	28	J X 80	J X 39	J X 62	J X 76	J X 65	B
29	J X 62	J X 83	B	J X 44	J X 40	B	J X 94	J X 121	J X 76	J X 34	B	B	G	G	E B 31	G	G	G	25	G	G	G	J X 21	26
30	J X 29	J X 32	J X 32	J X 26	J X 27	26	J X 30	27	27	G	G	G	G	G	36	G	G	27	G	G	J X 20	E B 20	E B 20	J X 24
31	22	28	J X 65	30	38	J X 33	32	G	G	32	E B 44	E B 40	E B 51	E B 53	E B 37	G	30	26	E B 40	E B 38	E B 37	E B 33	E B 30	E B 21
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	28	27	29	28	26	26	28	29	29	28	27	25	28	29	28	30	29	29	30	30	30	29	28
MED	31	J X 32	J X 37	J X 32	38	26	28	28	30	E G 27	E G 32	E G 30	G	E G 28	E G 31	E G 27	E G 22	25	21	E G 20	E G 23	U 20	E E 18	23
UQ	J X 62	J X 41	J X 48	J X 43	J X 42	J X 39	J X 41	44	45	33	U 36	E B 36	E G 31	E B 33	E B 35	U 30	28	28	U 26	30	U 31	J X 35	33	J X 35
LQ	16	24	28	25	24	16	E G 21	E G 21	G	G	G	G	G	G	G	G	G	E G 18	G	G	E G 17	E B 13	E E 12	E E 15

IONOSPHERIC DATA

OCT. 1961 | f min (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	55	B	B	B	B	35	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	21
2	19	28	20	20	20	20	25	25	30	33	33	32	33	31	38	33	26	23	20	20	26	20	B	B
3	B	B	B	17	15	16	20	21	26	27	35	43	20	23	20	15	17	13	20	19	12	12	13	E
4	13	14	18	17	17	17	18	16	16	17	17	17	17	19	17	18	17	26	17	20	15	12	12	18
5	E	34	25	36	20	18	15	15	15	15	17	16	20	20	18	20	17	15	11	12	15	15	11	E
6	11	E	E	E	E	16	14	12	12	27	32	20	38	32	20	20	32	40	36	33	17	12	12	12
7	17	25	16	18	18	B	B	B	41	18	15	18	17	16	14	17	17	24	17	23	30	18	14	14
8	12	14	E	E	E	18	14	17	16	20	44	38	22	28	22	20	17	19	17	13	17	E	12	E
9	E	12	12	24	E	12	17	13	14	18	21	20	17	17	15	13	E	12	14	12	19	13	E	E
10	E	12	15	11	12	13	14	18	18	21	18	19	20	20	29	20	16	15	14	13	14	14	E	15
11	14	12	19	16	15	19	16	16	17	17	22	18	18	58	42	33	18	18	16	13	13	11	E	12
12	E	E	14	22	30	B	B	32	22	38	39	37	31	B	42	44	18	17	14	21	20	12	17	E
13	17	S	B	19	32	29	37	23	41	39	B	42	B	44	34	20	19	16	16	17	12	E	11	E
14	E	E	13	27	43	B	20	17	17	19	17	B	B	20	19	17	17	17	32	18	14	16	13	17
15	14	14	E	18	15	14	14	13	15	15	33	19	20	22	17	26	15	16	14	14	23	15	14	E
16	E	15	E	E	E	12	12	13	28	25	20	17	17	16	16	17	15	15	13	14	16	11	E	E
17	E	12	12	E	E	E	13	14	16	19	15	19	15	17	17	15	17	14	13	16	17	E	E	E
18	E	E	15	15	18	16	20	20	15	19	20	27	15	15	14	15	E	11	15	13	E	11	E	E
19	E	E	11	15	15	23	B	32	15	15	17	16	16	18	16	15	14	15	15	13	E	11	E	E
20	E	14	15	B	B	B	B	B	33	20	40	B	B	32	32	20	15	15	14	12	E	E	E	E
21	12	E	14	15	16	32	16	15	14	17	16	17	17	17	16	18	E	12	14	22	23	22	12	16
22	13	32	16	28	32	22	21	15	17	23	40	32	16	16	23	22	20	22	14	14	21	17	18	19
23	15	13	15	13	12	12	E	13	14	22	22	32	37	25	25	24	22	17	16	13	15	22	13	E
24	E	31	17	17	15	13	12	13	15	44	44	31	32	28	21	17	23	18	18	17	33	E	12	E
25	E	E	E	E	15	13	13	11	12	14	15	15	16	20	17	15	12	11	E	E	13	12	17	15
26	11	35	17	22	B	16	36	23	20	35	35	23	B	52	44	B	46	19	14	16	11	E	E	B
27	23	23	18	14	33	15	12	35	B	B	40	34	28	35	B	B	38	B	B	17	20	16	11	14
28	22	30	20	19	23	17	27	20	21	20	20	20	B	B	20	18	17	13	15	17	17	14	E	B
29	12	13	B	18	20	B	30	35	20	20	B	B	22	22	31	20	15	15	16	14	17	14	E	E
30	E	14	32	20	13	14	15	E	15	18	17	20	19	27	23	15	15	11	E	E	E	20	20	E
31	E	E	14	22	15	15	13	12	14	24	44	40	51	53	37	17	14	17	40	38	37	33	30	21
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	11	14	15	18	16	17	17	17	17	20	22	23	20	23	21	20	17	16	15	16	17	13	12	E
UQ	14	28	20	22	26	26	28	24	24	27	40	38	38	34	33	23	20	19	18	20	20	16	14	16
LQ	E	E	12	14	14	14	14	13	15	18	17	18	17	18	17	17	15	14	14	13	13	11	E	E

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IONOSPHERIC DATA

OCT. 1961

M(3000)F2(0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R
2	R	A	A	R	R	F 275	F 310	F 265	280	265	280	300	290	320	325	310	315	315	320	335	305	R	B	B
3	B	B	B	F	F	U F 270	F 275	260	235	265	F 290	U R 300	F	F	F	F	F	F	F	F	F	A	R	R
4	A	A	A	A	A	A	A	F 250	F 290	280	285	290	305	310	335	F	F	F	F	F 290	F	A	A	A
5	A	A	A	B	A	U F 275	F 255	F 260	265	270	275	285	290	295	315	F 295	335	340	S	F	F	F	F	F
6	F	F	F	F	240	F 255	S	F 265	F	F	260	F 280	F 280	F 295	F	F	F 315	330	F 315	F 320	F	F	A	A
7	A	R	A	F	F	B	B	B	F 260	F 270	F 280	F 305	F 310	F 310	345	330	345	355	365	F 355	F 335	F	F	F 305
8	F	F	F	F	F	F	F 275	F 290	290	265	F	F	F	F	F	F	F	F	F 340	F	F	R	F	F
9	R	R	F	F	F	F	F 280	F	F	F	F	F	F 305	335	335	345	345	350	U F 340	350	345	345	U F 330	F
10	F	F	F 310	U F 305	F	F	Z 290	F 290	290	300	310	310	310	335	340	340	F 355	350	F 360	F 345	F 350	U F 335	U F 340	U F 290
11	F	A	F	F	F	F	F	F	F 300	F 280	F	F	F 265	R	R 295	R 305	F	F	F	F	F	F	F	A
12	F	F	F	A	A	B	B	A	A	270	310	F 275	R	B	F 295	F 315	F 325	315	340	F	F	F	R	A
13	A	S	B	A	R	F	A	A	A	A	B	275	B	R 290	F 305	F 315	F 345	340	F 345	F 360	F	F	F	U F 320
14	R	A	A	A	B	B	285	F 280	F 280	285	285	B	B	F 300	305	320	F 315	F 345	F 335	U F 350	F	F	F	F
15	F	F	F	F 290	F	F	F	F	305	Z 300	F 290	F 305	F	F 320	F 330	U F 330	F	F 345	F	F	F	F	F	F
16	F	F	F	F	F	F	F	F	Z 295	F	F 300	305	315	325	F	F	F	F	F	F 325	F	F	F	F
17	F	F	F	F	F	F	F	U F 285	295	295	310	315	320	320	335	F 340	F	F	U F 355	U F 370	F	F	S	S
18	S	S	F	F	F	F	F	J F 280	F 265	F 260	280	290	F 265	F 280	J F 300	F 315	325	J R 315	325	F 315	F 315	U F 315	F	F
19	F	F	F	F	F	A	B	F	F	F	F 250	F 270	275	290	285	310	F 300	F 320	F 320	310	F	F	F	S
20	A	A	F	B	B	B	B	B	A	F	R	B	B	215	F	F 275	F 310	F 300	F	J F 335	F	F	F	F
21	F	R	F	F	A	F	F	F	F	F	F 300	J F 300	F 325	F	J F 305	F 335	F	330	345	J F 355	F	A	A	A
22	A	F	A	R	R	A	A	F 270	F 295	300	R	F 295	320	320	320	335	345	F	F	F 330	F	F	F	F
23	F	A	F 285	F	F	F	F	F	F	F	F	U F 295	F 320	F	F 325	F 335	F	F	F 350	F	F	F 340	F	F
24	A	A	F	F	F	F	F	F	U F 265	270	260	F 260	F	F	F	F	F	F	F	J F 310	J F 300	F	F	A
25	A	260	F	F	F	J F 275	F 255	F 295	F 270	J F 280	F	F 280	F 275	F 285	F 295	U F 285	F 315	315	300	J F 290	F	A	A	A
26	A	B	A	A	B	F	A	A	A	A	A	F 230	B	250	F	B	F	F	F	F	A	F	A	B
27	A	A	F	F	A	F	F	A	B	B	A	A	R	R	B	B	255	B	B	F 290	F 265	F	F	F 275
28	A	A	A	F	A	F	R	F	A	F 235	F 245	265	B	B	F 215	F	F	F	F	F	A	F	A	B
29	A	A	B	A	A	B	A	A	A	A	B	B	R	R	R	R	R	R	300	310	310	F 315	F 290	F
30	F	A	B	F 280	F 280	F 245	F 260	U F 270	F 270	265	265	265	F 265	285	F 295	295	310	315	320	335	U F 325	F	U F 290	F
31	F	F	U F 310	F 290	F	F 265	F	F 260	270	F 255	F	F	F	R 315	F 300	F 290	U F 325	J F 315	335	315	310	F 310	F	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT		1	3	4	2	7	9	14	18	19	18	22	17	20	21	20	17	17	18	21	10	6	4	4
MED		260	F 310	F 290	260	F 270	F 275	F 270	280	270	282	290	F 305	305	305	F 315	F 325	330	338	F 330	F 312	F 325	U F 310	F 298
UQ			F 310	F 298		F 275	F 285	F 285	295	282	300	300	315	320	330	335	345	345	F 345	F 350	F 335	F 340	U F 335	F 312
LQ			F 298	F 285		F 260	F 260	F 260	F 265	265	265	F 275	F 275	288	F 295	F 300	F 315	315	320	F 310	305	F 315	F 290	F 282

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1961 | h'F2 (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39° 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	B	B	B	B	B	B	B	B	B	B	B	B					
2								430	425		L	405	360	285	290	L	290							
3							290	400	420	260	335	300	290	290	260	L								
4								505	425	425	415	385	370	330	290	L	L	L						
5							395	L	380	270	310	L	L	270	L									
6							L	L	300	L	L	330	310	280	270	260		230	230					
7							B	B	440	380	L	365	305	295	270	L	L	235						
8							370	350	350	370	370	325		310	270	L	L							
9							305	390	400	365	335	A	L	280	L	L	L	L	L					
10						L	L	345	370	290	295	320	L	280	265	L								
11								L	L	345	330	L	375	305	320	L	L							
12						B	B	A	A	470	390	400	430	B	230	300	L	L	L	L				
13						275	A	A	A	A	B	B	B	330	350	315	L	L						
14							A	400	390	400	420	B	B	365	345	295	L							
15						365	345	335	325	330	320	320	L	280	L	L		L						
16							L	330	335	335	325	315	295	270	F	L								
17							335	330	335	320	300	L	285	290	280	L	L	L	L					
18						240	235	320	240	340	295	300	295	280	270	L	270	L						
19								A 380	380	350	340	340	330	340	300	295	270							
20							B	B	B	A	F	A	B	B	R	500	400	L	L					
21							B	415	370	385	380	365	L	325	295	L	L	L	L	L				
22					A	A	A	465	385	370	R	L	315	295	295	265	265	L	L					
23					L	L	345	335	295	325	360	325	325	310	295	280	L	L						
24						380	365	360	365	385	390	440	360	360	370	325	L	L						
25					370	370	380	300	330	360	335	265	300	370	300	320	290	L	L	300				
26							A	A	A	A	A	550	B	B	350	B	400	L						
27					A	A		A	B	B	B	A	R	R	B	B	B	B	B					
28							R		A	520	530	520	B	B	630	520		R	A	F	405			
29					A	B	A	A	A	A	B	B	R	R	R	R	R	R						
30					415	420	395	380	370	400	395	390	360	350	320	340	320	L	L					
31						380	360	360	340	335	340	340	350	B	330	320	280	L	350	B 260	260			
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					2	7	13	19	22	23	21	19	18	23	23	13	8	2	2	2	2			
MED					392	370	360	360	370	360	340	340	325	295	295	315	285	232	290	280	332			
UQ						380	380	395	390	382	390	395	360	330	338	325	305							
LQ						320	335	335	335	332	325	320	300	280	270	295	270							

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IONOSPHERIC DATA

OCT. 1961 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
2	A	B	B	A	B	B	B 350	280	B 260	E B 280	270	240	260	215	B	B 250	230	230	250	230	240	B	B	B
3	B	B	B	B	360	E B 290	270	240	220	210	240	B	230	230	220	200	220	230	225	225	230	380	R	R
4	A	A	A	A	A	A	A	305	265	230	210	320	225	225	230	220	220	240	215	255	320	A	A	A
5	A	B	B	B	A	380	270	250	230	220	235	230	215	230	220	230	235	235	230	210	220	250	260	305
6	320	350	A	A	E A 400	350	220	225	220	220	230	205	220	235	230	220	240	B	B	230	235	380	A	A
7	A	R	A	A	370	B	B	B	B	300	230	230	225	225	215	230	240	250	230	230	250	230	230	255
8	265	270	300	325	325	295	H 260	H 265	230	250	B	B 290	225	230	245	210	230	235	240	230	260	225	270	280
9	350	A	A	F	300	335	280	285	310	270	225	220	205	210	225	220	225	225	225	225	230	230	230	235
10	240	265	270	270	270	280	265	230	235	235	225	220	205	200	250	210	230	225	230	220	225	225	225	325
11	A	A	A	365	365	350	325	225	215	200	225	230	215	B	B	B	240	240	230	245	225	265	300	A
12	365	A	A	A	B	B	B	B	A	B	B	B 260	325	B	B	B	230	230	255	225	305	325	A	A
13	A	S	B	A	B	A	B	A	A	A	B	B	B	B	240	235	230	230	250	240	280	A	375	290
14	A 400	A	A	B	B	B	A	270	215	215	200	B	B	H 225	220	H 220	210	230	245	235	240	235	235	250
15	270	270	A 330	A	360	300	230	230	H 220	215	240	205	220	225	225	230	225	210	230	225	225	230	265	A 335
16	280	340	300	295	290	265	230	230	230	230	225	225	225	230	225	225	205	225	225	225	230	230	225	230
17	250	260	270	280	280	265	H 230	H 215	H 205	H 205	200	230	220	200	225	230	225	205	205	230	225	225	230	230
18	250	250	280	295	295	265	240	230	H 210	H 200	230	210	200	200	205	210	220	220	240	230	230	230	210	240
19	230	250	270	A 340	F	A	B	B	260	200	210	230	H 200	215	205	230	230	230	240	240	230	230	240	270
20	A	A	270	B	B	B	B	B	B	220	B	B	B	250	235	250	240	250	240	250	250	270	A 340	A
21	A	A	A	A	A	B	270	230	230	220	225	220	200	210	205	210	225	225	230	235	325	A	A	A
22	A	B	A	A	A	A	A	A	250	240	E B 300	230	225	220	225	230	220	250	265	235	230	240	250	260
23	295	A	A 420	365	355	270	245	225	225	H 230	220	225	280	220	225	230	225	230	230	230	235	235	250	270
24	A	B	A	385	370	335	270	205	200	B	B	E B 250	220	220	240	230	230	230	250	260	280	260	285	A
25	A	A	240	350	350	300	230	220	200	200	230	205	200	205	230	225	230	230	230	290	A 320	A	A	A
26	A	B	A	B	B	A	B	A	A	B	B	250	B	B	B	B	B	280	295	A	A	270	A	B
27	A	B	A	A	B	A	A	B	B	B	B	B	290	B	B	B	B	B	B	270	330	A	A	350
28	A	B	A	A	B	A	A	240	A	R	260	240	B	B	210	R	R	270	A	F 295	A	A	A	B
29	A	A	B	A	A	B	A	B	A	A	B	B	265	250	230	240	235	270	260	260	260	260	260	320
30	A	A	B	A	A	280	250	230	215	215	200	210	200	230	230	210	220	220	220	240	300	380	250	270
31	300	A	290	300	A 380	A	260	220	210	235	B	B	B	B	260	200	230	230	B	B	B	250	250	240
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	13	8	11	11	15	15	18	21	22	23	21	23	24	23	25	25	27	28	26	28	27	23	20	18
MED	280	268	280	325	352	295	260	230	222	220	225	230	220	225	225	225	230	230	230	232	240	240	250	270
UQ	320	305	300	358	365	335	270	250	235	234	232	238	228	230	230	230	230	240	250	248	280	268	268	305
LQ	250	255	270	295	298	272	230	225	215	212	220	220	205	212	220	210	222	225	230	228	230	230	230	240

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

OCT. 1961 | h'Es (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N, Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	180	B	B	B	B	120	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	130
2	130	120	120	130	130	130	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	110	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	135	G	130	140	160	120	B	B	130	110	120	115
4	120	125	115	110	105	110	100	120	130	G	135	130	120	G	150	G	G	170	150	B	150	120	120	120
5	140	120	B	110	105	120	140	G	G	G	G	130	G	G	G	G	G	G	165	G	B	B	B	E
6	130	E	130	110	120	140	125	G	G	B	B	G	B	B	G	G	B	B	B	B	B	120	125	125
7	115	140	120	110	125	B	B	B	105	125	G	G	G	G	125	130	165	B	G	B	B	100	B	B
8	B	170	120	120	120	180	G	G	125	G	B	B	G	G	G	G	G	G	G	150	135	125	120	125
9	110	120	130	110	110	105	105	110	150	125	G	100	125	115	125	120	125	125	G	G	B	B	E	E
10	E	B	175	130	130	G	G	G	G	G	G	G	G	G	G	135	G	125	190	G	B	B	E	165
11	130	125	100	120	110	110	G	130	G	G	120	150	G	B	B	B	B	B	125	150	130	135	120	120
12	125	125	145	180	105	B	B	120	100	130	100	B	B	B	B	B	B	170	170	125	175	160	130	195
13	105	S	B	115	125	125	115	120	100	115	B	B	B	B	B	G	G	G	170	G	125	165	180	150
14	160	110	115	100	105	B	110	120	G	G	G	B	B	130	115	125	125	125	B	B	140	B	B	B
15	170	130	115	125	125	G	140	125	130	115	B	130	125	120	140	G	140	150	135	165	B	B	B	125
16	165	B	130	125	130	130	145	115	B	B	G	G	125	120	125	130	G	170	170	G	B	100	E	E
17	E	B	135	135	G	G	150	135	G	135	120	140	G	G	G	G	150	G	G	150	B	E	E	E
18	E	E	B	B	B	G	B	G	G	G	G	G	G	G	105	100	105	100	G	G	G	E	E	E
19	E	E	B	120	130	100	B	105	110	G	G	G	G	G	G	G	G	G	G	G	G	B	E	140
20	125	120	120	B	B	B	B	B	130	110	140	B	B	B	B	G	G	150	115	140	130	130	130	130
21	120	120	130	135	115	125	115	125	125	G	G	G	G	G	105	125	125	120	180	B	B	160	105	165
22	105	125	100	125	135	105	105	115	120	G	B	B	G	G	G	G	G	G	165	130	135	140	B	B
23	125	125	120	125	100	G	125	125	110	125	150	B	B	120	125	125	G	180	G	G	G	B	B	140
24	150	130	125	125	125	135	170	125	G	B	170	150	120	115	120	135	130	140	130	170	B	150	B	120
25	120	120	130	110	G	G	G	G	G	G	130	G	G	115	115	110	110	110	G	120	130	120	100	130
26	100	110	110	110	B	130	115	110	105	120	110	110	B	B	B	B	B	120	130	120	115	120	130	B
27	120	110	100	110	105	110	100	130	B	B	100	110	G	B	B	B	B	B	B	170	160	130	140	140
28	100	120	100	110	130	115	120	170	110	G	G	G	B	B	G	G	G	110	125	125	125	110	130	B
29	110	150	B	150	110	B	115	110	115	105	B	B	G	G	B	G	G	G	160	G	G	G	135	110
30	120	130	120	110	110	120	110	100	110	G	G	G	G	G	105	G	G	100	G	G	100	B	B	100
31	100	110	120	120	115	110	110	G	G	110	B	B	B	B	B	G	110	110	B	B	B	B	B	B
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	22	24	27	24	19	19	19	16	11	10	9	6	7	13	11	11	18	15	12	14	18	14	19
MED	120	122	120	120	118	120	115	120	112	120	125	130	125	120	125	125	125	125	160	145	130	122	128	130
UQ	130	130	130	125	128	130	132	125	128	125	140	140	125	120	125	132	145	150	170	158	140	140	130	140
LQ	110	120	115	110	108	110	110	112	108	112	110	110	120	115	115	122	118	110	130	125	125	110	120	120

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IONOSPHERIC DATA

NOV. 1961 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	B	F	F	F	F	F	F	J F 80	F 75	F 82	U F 80	J F 77	F	U F 66	F	F	U F 64	F	F	R	F
2	F	F	R	F	S	F	F	F	F 71	F 72	F	U F 73	R 82	J F 91	F	F	R	F	F	F	U F 56	F	F	F
3	F	F	F	A	A	F	F	F	F 62	F	F	F	F	F	F 67	F 60	F 60	F	J F 61	F	F	F	F	F
4	F	F	F	A	F 44	F 48	J F 54	J F 59	64	65	62	59	58	60	58	58	55	54	55	52	50	50	F	A
5	A	A	F	B	F	A	J F 55	F 59	F 53	F 61	F	F	F 60	F 61	F	F	F 55	57	F 52	F	F	A	A	F
6	A	F	A	A	A	R	F	B	R	F	F	F	B	B	F 63	F 57	F 52	F 53	F 47	F 47	48	F	F	F
7	F	F	F	F	F	F	F	A	A	F 47	C	C	C	C	C	R	F	A	A	A	F	F	F	A
8	B	A	F	F	F	B	B	R	R	R	R	B	B	S	R	R	46	45	B	42	40	42	F 41	F
9	F	S	F 43	F	F	B	R	F 47	F 56	52	F 52	F	B	57	57	U F 60	F 63	F	F	U F 52	F	F	F	F
10	F	A	A	A	F	F	52	R	F	B	F	F	F	F 61	F 61	F 62	58	58	F 60	57	56	F	B	B
11	F	F	F	F	F	F	F 67	U F 73	73	72	69	F 65	F 65	F 67	F	U F 62	F	U F 62	F 59	F	F 52	F	F	F
12	F	B	F	B	F	A	A	F	F	F 63	F 60	F 63	F	F	F	F	F	F	F	F	F	F 43	F	A
13	F	F	B	A	A	F	A	58	F 61	F 59	55	55	57	57	57	56	53	52	51	50	43	50	F	F
14	F 32	F	F	F 45	F	F	F	A	A	F	F	B	B	45	F 61	F 59	F 57	F 57	F 55	54	52	F	A	F
15	S	F 50	A	F	F	F	F	F 70	F 74	75	74	70	65	63	S	58	56	56	53	F 52	F 53	F 53	J F 50	S
16	F	F	F	F	F 46	F	F 60	F 68	73	76	75	F 75	F 74	F	F 62	F	F 58	F 55	F 54	F 53	F	F	F	F
17	F	F	A	47	F	F 56	F	F	F 71	76	72	71	69	63	61	57	53	F 49	F	F	F 43	F 43	R	F
18	F	F	F	R	A	A	R	A	R	A	40	F 47	B	B	B	F	B	R	A	F	F	A	A	A
19	B	F	F	F	R	R	R	R	A	B	B	B	B	44	45	48	F 48	F 47	43	45	F 47	F	S 48	F
20	J F 52	F	J F 50	F	J F 50	F	F	B	F	F	F	B	B	R 57	B	F 55	F 55	U F 47	49	F 48	37	F 39	A	A
21	F	F	A	F 47	F	R	A	A	A	46	R	F 42	43	F 45	49	47	47	48	47	45	43	43	45	F 35
22	F	F	R	B	R	F 50	F 54	F 60	F 65	F 59	58	59	59	60	58	55	54	50	49	50	51	S 52	55	58
23	53	53	S	R	F	F 71	J F 58	F	J F 87	F 79	70	66	63	65	62	60	58	F 55	F 50	50	50	S	S	J F 64
24	R	R	F	F	F	F	F	F	F	F	J F 87	U F 70	U F 65	F 60	59	F 57	F 55	53	51	49	U S 54	S 52	F	U F 52
25	F	R	U A 41	U F 48	U F 51	F 58	F 64	F 72	F 80	79	79	F 71	F 74	F 74	F 67	F 61	F 58	57	58	56	F	Z 50	F	F
26	F	F	F	F	F	F	F	F	F	F	F	F 73	F	S	U F 77	F	F	F	F 57	F 58	52	F	F	F
27	F	F	F	F	F	F 52	F	F	F 75	F 76	F 70	F 66	63	58	59	59	F 59	F 55	F 57	55	F 52	48	C	42
28	U S 46	F 51	54	U F 69	U F 54	F 65	F 73	79	84	82	82	78	J F 79	U F 70	66	F 61	59	56	F	J F 59	J F 61	S	F	F
29	J S 55	S	S	S	S	F	55	F	F	F	F	F 71	71	71	F 70	F 65	54	F 56	58	57	57	56	F 58	S
30	S	S	S	A	F	F	F	F	F	95	F 93	88	F 86	F 76	F 71	67	63	F 61	58	57	F	S	S	F
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	5	3	4	5	5	7	10	10	15	18	17	20	18	22	21	21	24	22	21	22	20	13	6	5
MED	52	F 51	46	F 47	F 50	F 56	F 56	F 64	F 71	72	70	F 70	65	61	61	F 59	56	55	54	52	52	50	49	F 52
UQ	J 53	52	52	U F 48	U F 51	F 62	F 64	F 72	F 74	76	79	F 73	F 74	F 70	F 67	F 61	F 58	F 57	F 58	57	54	52	F 55	F 58
LQ	F 46	F 50	42	F 47	F 46	F 51	F 54	F 59	F 63	F 59	60	F 61	60	57	58	57	54	50	50	49	45	43	45	F 42

IONOSPHERIC DATA

NOV. 1961 | foF1 (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L	L 380	F	B	420	430	B	430	L 430	U L 420	L	L	L						
2						L	370	370	390	400	420	430	B	420	L 430	L	B		L					
3									400	420	410	F 420	420	U L 420	L 420	L	L	L	L					
4						A	360	370	380	400	420	420	420	420	L 420	L	L	L	L	L				
5						A	L 375	390	400	420	B	420	420	420	420	L 420	L 420	390	U L 370					
6					A	A	A	B	B	U R 410	F 410	420	B	B	420	420	L	B						
7										F 400	C	C	C	C	C	U R 410	U F 400	A	A	A	F	F		
8						B	B				A	B	B	S	R	410	400	L	B						
9					B	B	B	B	390	A	420	420	B	B	420	420	L 420	L 400	L	L				
10							A	A	B	B	F 420	430	430	430	L 430	L 420	L	L	L					
11					B	B	B	400	410	420	420	420	430	430	U L 430	L	L	L	L					
12								A	A	A	430	B	430	430	420	420	420	R	A	A	A	A		
13				A	A	R	B	F	F 410	420	420	420	H 430	420	420	L 420	L 400	L	L	L				
14								A	A	A	420	B	B	420	420	410	410	L 380	L	L				
15						350	370	380	390	410	420	430	430	420	L	420	L	L	L					
16						L 370	370	380	400	410	420	420	430	430	L	L	L	L	L	L				
17						A	R	F	410	410	420	420	420	420	420	A	L	L 400	L					
18					B	A	A	B	B	A		400	B	B	B	380	B	380	A	A	A	A		
19						R		A	B	B	B	B	B	B	400	410	390	L		B	L			
20					F 320	F 360	F	B	400	A	400	B	B	420	B	400	F 400	400	L	A		A	A	
21			A			B	A	A	A	410	400	400	410	410	410	410	400	L 390	L		L			
22			A	B	A	A	380	380	390	400	420	430	420	420	420	L 420	L 410	L	L	L				
23					L 320	380	380	390	400	410	430	430	420	420	430	410	400	L	L					
24				A	A	390	390	410	F 410	F 410	410	420	430	F 450	L 420	L 420	L 410	L	L	L				
25				A	U L 350	F 380	380	400	400	410	420	420	430	440	L 440	430	420	L 400	L	L				
26					370		390	F 390	410	J F 420	430	430	H 430	S	430	B	L	L	L	L	L			
27			A		A	A	A	420	430	420	420	430	430	440	440	420	L 420	U L 410	L	L	L		C	
28			L	L	L 350	360	390	400	410	420	430	440	430	430	440	440	420	L	L	L	L	L		
29			L	320	350	F 370	390	400	410	420	430	440	440	440	450	U L 450	U L 450	L 410	L	L				
30				A	370	U F 400	F 400	410	450	430	430	H 450	450	460	450	440	L	L	L	L				
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				1	7	9	14	15	20	22	25	23	21	23	24	22	17	10	1					
MED				320	350	370	380	390	400	410	420	420	430	420	420	420	410	L 400	U L 370					
UQ					360	380	390	400	410	420	430	430	430	430	430	420	L 420	L 400						
LQ					335	360	370	380	395	410	420	420	420	420	420	410	400	L 390						

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

NOV. 1961 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1				B	A	A	230	240	B	A	300	B	B	B	280	275	B	B	B	B	B	B		
2						200	220	A	265	280	290	R 295	B	R	R	275	B	B	B	A	A			
3					A	A	A	A	B	B	A	A	275	300	275	A	R 265	R 235	R	215	170			
4					A	A	R 230	230	270	280	280	290	290	290	290	275	A	230	220	185	150	175	150	
5					B	B	A	250	270	B	B	300	R	B	B	B	A	B	A	A	A			
6					B	B	A	B	B	A	A	B	B	B	B	B	B	B	B	B	B			
7					170	B	A	A	B	B	C	C	C	C	C	B	290	R 265	250	A	170	140		
8					B	B	B	B	205	B	B	B	B	S	B	B	280	B	B	B	B			
9					B	B	B	B	A	B	B	A	B	B	A	B	B	R	R	190	A			
10					A	A	B	B	B	B	A	330	320	320	315	R	R	R	275	B	B			
11					B	B	B	B	B	B	B	320	B	A	A	245	A	R 255	R	B	R	B		
12				B	B	B	B	A	A	B	A	B	B	B	A	270	B	B	A	A				
13				B	B	B	B	A	280	R 275	R	R 305	310	R 305	295	R	R 280	R	R 225	225	180	R 170	R 160	R 160
14					A	A	A	A	B	B	A	B	B	B	A	R	270	240	230	200	200	A		
15					A	170	230	250	250	A	300	300	320	300	A	A	A	A	250	A	175	A		
16		170		A	170	210	230	270	285	285	R	315	315	315	280	280	A	A	R 225	225	170	B		
17					B	B	A	275	270	R	R 300	310	295	R 300	A	A	280	245	A	220	B			
18					B	B	A	B	B	A	A	B	B	B	B	B	B	A	A	A	B	B		
19					B	B	B	B	B	B	B	B	B	B	R	B	R	B	B	B	B	A	B	
20		A	A	A	A	A	A	B	A	A	A	B	B	B	B	A	A	B	B	A	A	A	A	
21	A	A	A	A	A	B	B	B	A	A	R 280	280	280	280	R	R	R	R 260	210	215	170	A	A	120
22	200	A	A	B	A	A	260	280	R 280	R 290	300	300	A 300	A	R	A	A	R 280	250	230	180	H 190	140	A
23	A	A	A	A	180	210	250	270	290	290	300	300	300	320	290	A	290	280	250	210	200	A	140	B
24	A	170	A	A	A	A	A	A	290	300	300	R 310	300	A	300	295	280	280	250	220	180	A	B	B
25	A	A	A	A	220	A 220	250	280	290	290	R 300	R 300	R 310	B	R 310	R	275	265	R 250	220	180	215	A	A
26	A	A	225	A	A	A	260	270	285	290	R	B	B	S	R	B	B	280	R 270	225	180	150	170	B
27	A	B	A	A	B	A	A	A	275	300	310	R 315	R 300	300	A	300	280	A	250	220	190	150	C	130
28	130	120	R 130	150	210	210	A	A	260	280	300	300	300	300	300	290	290	A	A	225	210	A	A	A
29	170	A	A	170	A	290	A	300	290	290	300	310	310	A	300	300	R 290	280	250	225	225	170	A	A
30	A	A	A	B	A	230	A	270	290	A	305	310	320	320	310	300	290	275	R	240	210	200	A	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	3	2	2	5	8	9	12	17	12	14	18	16	12	12	11	13	14	15	17	17	9	5	3
MED	170	170	178	160	180	210	230	270	280	290	300	302	300	300	298	280	280	265	250	220	180	170	150	130
UQ	185	170			210	225	250	278	290	290	300	310	312	318	305	298	290	280	250	225	200	190	160	145
LQ	150	145			170	205	230	250	270	280	300	300	298	300	285	275	280	245	228	215	170	150	140	125

IONOSPHERIC DATA

NOV. 1961 | foEs (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39°35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 20	J X 34	24	B	J X 34	28	G	G	E B 50	J X 47	G	E B 51	E B 35	E B 32	G	G	E B 37	E B 27	E B 32	E B 35	E B 26	E B 15	30	38
2	J X 25	J X 22	E B 33	M 28	J X 36	J X 39	G	J X 25	G	G	32	G	E B 51	33	32	29	E B 64	E B 37	E B 27	J X 40	J X 26	J X 57	J X 80	J X 32
3	J X 31	M 32	J X 66	J X 52	J X 56	48	J X 46	J X 46	38	E B 34	J X 29	J X 31	29	G	32	33	28	28	28	23	22	16	15	J X 23
4	J X 27	J X 31	37	J X 52	J X 48	32	28	30	G	G	G	G	G	30	G	J X 30	J X 44	G	J X 39	G	J X 20	J X 25	J X 25	39
5	J X 38	J X 77	85	J X 36	J X 54	J X 50	J X 43	G	G	40	E B 42	G	G	E B 35	E B 33	E B 32	30	E B 37	J X 35	J X 39	J X 54	J X 43	J X 54	J X 61
6	J X 77	J X 51	J X 62	J X 76	J X 49	J X 48	44	B	J X 63	37	J X 40	30	B	B	E B 37	E B 34	E B 33	E B 38	E B 28	E B 28	E B 33	M 30	J X 29	J X 26
7	J X 30	33	26	35	32	J X 37	J X 43	48	J X 56	J X 49	C	C	C	C	C	E B 37	J X 62	J X 72	75	J X 78	J X 61	J X 82	J X 61	J X 80
8	B	40	J X 33	J X 80	J X 50	B	B	E B 62	J X 23	53	J X 42	B	B	S	E B 33	E B 28	32	E B 37	B	E B 27	E B 25	E B 23	M 22	J X 36
9	36	S	E B 34	E B 38	E B 39	B	42	J X 30	J X 50	46	J X 30	J X 27	B	E B 43	32	E B 39	E B 33	G	G	26	27	25	J X 30	J X 25
10	36	J X 38	J X 36	J X 60	J X 38	J X 40	J X 41	J X 43	E B 43	B	33	G	G	G	G	G	G	G	30	E B 27	E B 32	E B 40	B	B
11	E B 31	E B 31	E B 34	E B 35	E B 40	E B 40	E B 39	E B 40	E B 38	34	33	33	38	J X 36	J X 31	29	M 29	G	G	E B 27	G	E B 22	E B 22	E B 18
12	E B 21	B	28	B	J X 52	J X 46	J X 53	44	48	47	J X 40	E B 44	E B 42	E B 36	M 34	G	E B 31	38	J X 40	J X 53	42	J X 46	J X 33	J X 37
13	J X 65	J X 55	B	J X 57	J X 52	J X 35	M 46	56	38	G	G	32	33	33	32	G	G	G	26	G	20	G	G	G
14	32	38	35	40	J X 35	J X 23	58	J X 49	J X 40	J X 49	J X 52	B	B	E B 40	J X 29	G	G	G	G	23	32	J X 29	J X 84	J X 36
15	J X 77	J X 33	45	38	30	31	G	J X 39	G	35	G	J X 60	J X 34	J X 34	J X 36	J X 33	J X 30	J X 30	J X 29	J X 31	J X 41	J X 40	J X 38	J X 37
16	J X 30	22	J X 38	32	23	28	30	J X 27	35	37	38	38	38	J X 58	J X 51	J X 42	J X 49	J X 30	29	28	J X 36	32	J X 40	J X 22
17	28	J X 88	J X 62	J X 39	46	J X 46	42	J X 46	G	G	J X 46	32	J X 34	J X 32	J X 34	J X 73	J X 32	32	37	28	E B 23	J X 23	J X 42	J X 41
18	24	32	32	46	J X 49	J X 50	J X 32	55	J X 41	J X 50	J X 41	E B 33	B	B	B	E B 33	B	J X 34	J X 42	J X 35	J X 39	J X 44	102	J X 80
19	B	J X 63	J X 62	J X 34	J X 39	J X 22	36	J X 39	J X 59	B	B	B	B	E B 42	G	J X 41	G	E B 33	E B 33	E B 39	J X 32	J X 30	E B 17	J X 22
20	J X 61	J X 37	31	30	28	J X 27	J X 38	B	J X 45	J X 41	J X 31	B	B	E B 39	B	J X 47	29	E B 32	E B 37	J X 35	31	36	J X 79	J X 44
21	J X 29	J X 31	J X 64	J X 50	J X 44	J X 41	J X 52	J X 60	J X 59	J X 36	G	G	G	G	34	G	G	G	G	25	22	20	23	17
22	25	26	J X 36	B	J X 46	37	30	G	G	G	G	G	J X 40	31	G	32	34	G	27	26	23	G	G	16
23	18	16	16	19	19	24	G	G	G	31	G	G	35	38	33	33	G	G	29	24	J X 28	21	J X 22	E B 15
24	15	J X 20	28	42	J X 32	42	J X 54	J X 44	G	G	G	G	G	J X 35	G	31	G	G	G	25	24	J X 19	E B 22	J X 42
25	J X 22	J X 44	J X 44	37	G	J X 32	G	G	G	G	G	J X 31	G	E B 43	G	G	32	J X 35	G	G	24	G	24	22
26	J X 37	J X 42	G	J X 44	J X 35	J X 22	G	G	G	G	G	E B 34	E B 34	S	G	E B 40	E B 33	G	G	J X 29	J X 26	21	J X 26	30
27	J X 28	J X 62	J X 44	J X 65	J X 40	47	J X 47	35	G	G	G	33	36	36	J X 45	G	G	33	G	26	25	J X 23	C	G
28	G	J X 39	G	20	27	J X 39	J X 50	J X 40	J X 29	32	G	35	35	33	G	G	G	J X 29	J X 29	J X 37	25	J X 25	J X 32	25
29	G	J X 25	26	J X 32	J X 21	J X 41	J X 51	G	J X 31	J X 40	G	G	G	J X 32	J X 34	G	G	G	G	J X 50	26	J X 31	J X 23	19
30	18	19	J X 32	J X 49	J X 39	33	J X 26	33	J X 35	J X 41	J X 48	33	G	G	33	33	G	G	J X 29	28	G	G	J X 26	J X 27
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	27	30	28	29	28	30	28	28	25	22	25	27	30	29	30	29	30	30	30	28	29
MED	28	J X 34	34	J X 39	J X 38	J X 38	41	U 36	U 30	36	E G 30	E G 31	E G 34	U 32	32	E G 32	E G 30	E G 28	28	27	26	24	J X 28	J X 27
UQ	J X 36	J X 43	J X 44	J X 51	J X 48	J X 44	J X 46	J X 46	J X 43	J X 44	J X 40	32	36	E B 38	34	34	32	U 32	U 31	J X 35	J X 32	J X 34	J X 41	J X 38
LQ	22	27	27	33	31	30	27	E G 25	G	G	G	G	G	32	G	G	G	G	G	24	22	U 18	22	22

IONOSPHERIC DATA

NOV. 1961 | f-min (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	20	E	E	B	16	13	13	15	50	20	25	51	35	32	16	18	37	27	32	35	26	15	23	12
2	E	18	33	22	12	17	13	14	13	15	14	17	51	17	19	17	64	37	27	20	18	14	12	E
3	E	23	18	18	20	24	21	18	28	34	24	22	20	22	19	18	17	13	12	14	15	12	E	E
4	E	11	18	21	13	13	13	E	12	13	14	15	15	14	15	13	E	E	E	13	12	E	E	12
5	17	13	15	35	30	25	15	15	13	33	42	18	22	35	33	32	18	37	20	20	14	15	15	18
6	21	E	18	20	35	32	19	B	44	19	22	28	B	B	37	34	33	38	28	28	33	23	14	11
7	12	14	14	15	14	30	20	23	33	27	C	C	C	C	C	37	17	16	15	17	13	E	E	E
8	B	18	15	13	34	B	B	62	19	13	37	B	B	S	33	28	19	37	B	27	25	23	17	12
9	14	S	34	38	39	B	38	27	20	35	28	20	B	43	27	39	33	19	18	11	17	15	12	E
10	13	28	27	32	12	20	24	28	43	B	22	21	19	18	21	18	19	13	21	27	32	40	B	B
11	31	31	34	35	40	40	39	40	38	33	32	24	33	21	21	17	20	21	22	27	20	22	22	18
12	21	B	22	B	27	40	28	22	20	34	19	44	42	36	22	17	31	29	20	18	23	17	18	20
13	17	13	B	23	27	30	42	19	17	17	15	17	16	17	17	20	20	19	14	15	13	13	13	13
14	12	11	15	20	15	15	17	24	33	30	29	B	B	40	21	20	20	15	15	12	11	13	11	E
15	15	17	15	14	12	E	E	13	14	15	15	23	13	15	13	16	12	12	12	12	E	E	E	12
16	E	12	14	E	E	12	E	12	E	12	13	15	14	15	12	15	E	12	13	12	E	18	E	E
17	12	16	32	22	20	30	16	13	13	13	15	16	16	14	18	16	12	12	12	12	23	12	E	13
18	13	13	13	43	42	23	12	32	35	20	20	33	B	B	B	33	B	15	12	14	20	26	14	42
19	B	15	15	14	21	19	22	32	39	B	B	B	B	42	22	32	21	33	33	39	17	14	17	16
20	12	E	12	14	13	14	21	B	27	23	27	B	B	39	B	18	15	32	37	15	E	E	20	13
21	17	20	22	19	E	39	30	35	22	22	17	15	E	13	18	18	17	17	15	13	16	11	E	E
22	13	12	20	B	21	14	13	12	13	15	15	15	15	17	19	15	16	17	15	13	12	12	12	12
23	E	E	E	E	E	E	E	12	16	15	20	20	16	20	18	15	15	15	13	20	15	14	E	15
24	11	13	13	18	24	20	15	13	12	14	15	15	15	15	15	14	14	15	14	E	E	14	22	27
25	15	15	13	11	11	13	E	E	14	15	15	14	19	43	23	21	14	17	15	13	E	18	21	E
26	13	14	19	13	14	E	E	12	13	13	17	34	34	S	21	40	33	16	16	13	12	E	14	18
27	15	19	14	20	31	16	15	15	15	14	15	16	15	17	20	15	15	12	14	15	11	E	C	E
28	E	E	E	E	12	E	E	14	12	13	16	18	13	17	15	15	15	E	E	E	E	E	15	15
29	13	E	E	E	E	E	25	12	12	15	15	15	15	20	15	15	15	15	15	20	14	12	12	12
30	12	E	E	20	12	12	E	13	15	15	12	17	17	15	15	15	15	15	12	12	11	14	11	12
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	30	30	30	30	30	30	30	30	29	29	28	27	29	30	30	30	30	30	30	30	29	30
MED	13	13	15	20	16	18	16	15	16	16	17	20	19	20	19	18	17	16	15	14	14	14	13	12
UQ	17	18	22	32	27	30	24	28	33	30	25	33	46	38	22	28	21	27	21	20	20	17	17	16
LQ	12	11	13	14	12	13	12	13	13	14	15	16	15	16	16	15	15	13	13	12	11	11	E	E

IONOSPHERIC DATA

NOV. 1961

M(3000)F2(0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	B	F	F	F	F	F	F	J F 270	F 280	F 295	U F 275	F	F	U F 305	F	F	U F 315	F	F	R	F
2	F	F	R	F	S	F	F	F	F 285	F 290	F	U F 290	R 300	F	F	F	R	F	F	F	U F 330	F	F	F
3	F	F	F	A	A	F	F	F	F 285	F	F	F	F	F	F 330	F 335	F 335	F	J F 345	F	F	F	F	F
4	F	F	F	A	F 275	F 295	F	J F 265	265	260	265	255	270	285	300	295	310	315	310	325	320	290	F	A
5	A	A	F	B	F	A	J F 310	F 265	F 285	F 270	F	F	F 265	F 250	F	F	F 275	265	F 270	F	F	A	A	F
6	A	F	A	A	A	R	F	B	R	F	F	F	B	B	F 305	F 310	F 325	F 340	F 355	F 350	340	F	F	F
7	F	F	F	F	F	F	F	A	A	F 245	C	C	C	C	C	R	F	A	A	A	F	F	F	A
8	B	A	F	F	F	B	B	R	R	R	R	B	B	S	R	R	275	305	B	335	340	310	F 320	F
9	F	S	F 270	F	F	B	R	F 270	F 270	255	F 290	F	B	295	275	U F 265	F 315	F	F	U F 315	F	F	F	F
10	F	A	A	A	F	F	255	R	F	B	F	F	F	F 295	F 305	F 325	335	325	F 340	350	365	F	B	B
11	F	F	F	F	F	F	F 285	F	295	290	285	F 300	F 300	F 320	F	U F 325	F	U F 340	F 355	F	F 365	F	F	F
12	F	B	F	B	F	A	A	F	F	F 290	F 265	F 280	F	F	F	F	F	F	F	F	F	F 325	F	A
13	F	F	B	A	A	F	A	275	F 285	F 290	290	280	280	315	300	350	340	330	350	340	335	345	F	F
14	F 300	F	F	F 265	F	F	F	A	A	F	F	B	B	355	F 295	F 290	F 280	F 300	F 320	315	290	F	A	F
15	S	F 280	A	F	F	F	F	F 270	F 255	280	270	270	315	310	S	305	295	300	300	F 300	F 310	F 305	F	S
16	F	F	F	F	F 280	F	F 255	F 255	260	260	275	F 265	F 280	F	F 300	F	F 300	F 290	F 305	F 315	F	F	F	F
17	F	F	A	235	F	F 275	F	F	F 260	275	270	270	275	270	280	280	300	F 275	F	F	F 315	F 300	R	F
18	F	F	F	R	A	A	R	A	R	A	325	F 250	B	B	B	F	B	R	A	F	F	A	A	A
19	B	F	F	F	R	R	R	R	A	B	B	B	B	255	265	290	F 285	F 325	335	335	F 300	F	S 300	F
20	J F 310	F	F	F	F	F	F	B	F	F	F	B	B	R 250	B	F 220	F 225	F 235	255	F 285	F 320	F 310	A	A
21	F	F	A	F 300	F	R	A	A	A	250	R	F 215	185	F 220	285	285	275	315	310	310	300	300	300	F 285
22	F	F	R	B	R	F 280	240	F 215	F 275	F 270	225	285	305	300	310	310	335	340	325	325	350	300	325	315
23	340	330	S	R	F	F 260	F	F	F	F 280	280	275	295	F 290	330	325	300	F 335	F 340	320	340	S	S	S
24	R	R	F	F	F	F	F	F	F	F	F	F	F	F 300	340	F 300	F 335	330	335	335	S	S 325	F	F
25	F	R	A	U F 335	F	F 270	F 260	F 265	F 260	255	260	F 270	F 295	F 270	F 275	F 310	F 295	290	310	305	F	Z 260	F	F
26	F	F	F	F	F	F	F	F	F	F	F	F 275	F	S	U F 245	F	F	F	F 300	F 305	335	F	F	F
27	F	F	F	F	F	F 270	F	F	F 275	F 275	F 270	F 270	285	275	290	290	F 290	F 300	F 300	310	F 310	315	C	290
28	U S 315	F 295	275	U F 275	U F 325	F 270	F 260	265	270	270	270	280	J F 280	U F 285	290	F 295	305	305	F	J F 305	J F 310	S	F	F
29	S	S	S	S	S	F	235	F	F	F	F	F 270	270	280	F 270	F 275	315	F 305	295	300	300	285	F 295	S
30	S	S	S	A	F	F	F	F	F	F 275	F 270	275	F 280	F 275	F 280	305	300	F 310	330	315	F	S	S	F
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	4	3	2	5	3	7	8	9	14	18	16	19	17	21	20	21	24	22	21	22	19	13	5	3
MED	312	F 295	272	F 275	F 280	F 270	F 258	F 265	F 272	272	270	F 275	280	285	292	F 300	300	308	320	315	320	305	300	290
UQ	328	312		U F 300	F 302	F 278	F 272	F 270	F 285	280	282	280	295	300	305	F 310	320	330	F 340	335	340	315	320	302
LQ	F 305	F 288		F 265	F 278	F 270	F 248	F 265	F 260	260	268	F 270	275	F 270	278	F 290	288	F 300	300	305	310	300	300	288

IONOSPHERIC DATA

NOV. 1961 | h'F2 (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						330	L	340	340	305	320	330	305	310	280	280	280	270						
2						L	365	330	335	350	350	340	325	300	290	295	E B 300		L					
3									370	350	335	315	325	305	290	L	L	L	L					
4						365	380	370	370	355	370	390	365	325	325	290	L	280	270	260				
5						A	360	380	390	390	360	360	390	410	330	330	370	370	370					
6					A	R	F	B	A	F	F	605	B	B	355	355	320	300						
7										L	C	C	C	C	C	390	F	A	A	A	F	F		
8						B	B				R	B	B	S	R	600	470	R	B					
9					460	B	R	490	435	E A 510	420	435	B	395	435	400	335	290	L	L				
10							470	A	F	B	400	380	390	370	340	300	L	L	L					
11					300	340	370	340	335	345	370	355	360	325	305	L	L	L	L					
12								435	400	380	430	395	365	370	370	365	325	395	A	350	330	330		
13				A	A	410	A	370	365	370	300	415	420	345	380	305	315	L	L	L				
14								A	A	460	R	B	B	360	310	330	350	305	L	280				
15						390	370	360	350	330	330	350	330	320	L	325	L	L	L					
16						350	340	375	350	330	315	335	315	310	L	L	L	L	L	L				
17						A	375	370	370	315	330	350	325	340	325	325	300	375	360					
18					A	A	A	A	A	A		495	B	B	B	365	B	R	A	400	A	A		
19						R		A	A	B	B	B	B	B	540	435	460	L		B	L			
20					375	365	400	B	F	430	460	B	B	360	B	380	400	420	340	370		320	A	
21			A			A	A	A	A	R	R	700	800	610	390	395	400	340	L		L			
22			350	B	A	400	400	380	330	390	400	390	350	340	330	350	300	L	L	L				
23					320	340	310	305	330	310	310	350	330	330	300	300	305	L	L					
24				360	R	390	430	470	370	330	310	340	350	340	300	340	310	L	L	250				
25				360	350	380	380	330	350	350	310	340	360	335	330	300	315	300	L	L				
26					360		360	330	305	330	340	330	360	S	330	295	305	300	L	L	L			
27			330		350	450	450	380	335	315	350	350	350	390	360	330	310	320	L	L	270		C	
28			L	290	230	340	370	330	340	330	320	330	325	320	320	320	320	300	L	290	L	280		
29			340	340	360	390	470	410	370	330	340	340	360	340	330	330	360	295	L	L				
30				A	390	370	330	320	330	310	310	330	310	310	340	300	L	280	L	L				
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			3	4	10	15	18	20	21	23	23	25	22	24	24	27	21	16	4	7	2	3		
MED			340	350	355	370	372	370	350	338	340	350	350	340	330	330	320	300	350	290	300	320		
UQ			345	360	375	390	400	380	370	368	370	390	365	365	358	365	360	355	365	360		325		
LQ			335	315	320	345	360	330	335	330	318	340	325	320	308	300	305	292	305	270		300		

IONOSPHERIC DATA

NOV. 1961 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	250	260	320	B	350	280	240	200	B	205	230	B	220	210	220	220	220	220	250	250	240	245	B	A 350
2	325	340	470	A 400	A 400	315	230	225	205	200	225	205	B	215	220	215	B	265	245	235	230	250	235	260
3	300	350	F	A	A	A	A	F	290	260	205	210	225	205	215	210	200	225	225	235	230	230	230	250
4	280	295	A	H	A 380	A	260	240	215	200	230	210	200	220	230	230	220	215	230	235	250	260	310	A
5	A	A	A	B	B	A	260	225	215	B	B	210	215	245	235	230	210	240	A	A	A	A	A	A
6	A	A	A	A	B	B	A	B	B	305	225	220	B	B	B 260	235	240	B	230	265	280	270	265	280
7	310	340	330	A	A	A	290	A	A	270	C	C	C	C	C	E B 300	E B 295	A	A	A	F	F	200	420
8	B	A	A	460	F	B	B	295	A	225	A	B	B	S	245	225	300	E B 340	B	250	270	280	270	380
9	A	S	455	350	B	B	B	B	E B 350	A	280	225	B	B	230	E B 300	255	235	230	235	240	270	375	305
10	A	A	A	A	295	290	A	A	B	B	235	225	220	220	215	220	225	225	240	235	250	280	B	B
11	325	320	300	315	B	B	B	B	E B 300	240	215	235	240	235	220	200	210	230	230	235	230	250	240	250
12	265	B	330	B	345	B	A	A	A	A	235	B	E B 380	235	225	225	235	A	A	A	A	A	300	280
13	310	300	B	A	A	A	B	225	225	230	215	220	270	235	225	225	215	220	240	225	235	250	245	240
14	380	A	A	400	A	A	A	A	A	A	230	B	B	B 280	210	250	210	210	230	210	240	300	A	A
15	A	340	A	410	390	290	230	215	210	220	210	H 200	205	200	205	210	200	215	215	250	250	240	230	250
16	300	300	275	A	300	230	H 200	215	230	225	205	205	H 205	H 205	200	200	235	190	225	235	235	235	240	245
17	290	300	B	A	A	A	345	300	320	200	205	200	215	200	H 200	A	220	230	335	225	250	260	225	A
18	300	280	370	B	B	A	A	B	B	A	235	235	B	B	B	275	B	250	A	A	A	A	A	B
19	B	305	300	375	A	R	A	A	B	B	B	B	B	B	H 215	235	225	250	265	B	235	265	250	260
20	270	280	295	H 330	290	255	A	B	A	A	270	B	B	B	B	240	220	245	B	A	A 300	A	R	A
21	A	A	A	320	250	B	A	B	A	A	200	190	200	H 200	215	H 210	220	220	215	225	235	260	290	280
22	300	335	A	B	A	A	260	230	205	H 200	220	H 200	200	200	210	210	210	205	210	230	210	230	250	250
23	230	240	240	260	250	240	220	210	200	200	210	H 200	205	210	230	210	210	210	205	230	230	250	260	250
24	250	250	270	A	A	360	200	340	230	205	200	210	H 200	200	200	210	220	220	210	210	230	230	250	270
25	280	A	A	A	280	220	200	210	230	200	200	H 200	200	B	200	200	H 210	210	215	220	225	260	250	270
26	315	305	345	330	270	F	225	220	200	200	205	200	210	S	F	B	225	215	215	240	235	245	300	290
27	260	A	A	340	A	A	A	290	200	195	205	205	260	230	210	200	225	210	230	235	235	240	C	260
28	260	250	260	270	250	235	240	210	205	200	200	230	200	200	H 200	200	200	H 200	215	220	230	260	A	300
29	300	340	290	280	250	265	280	250	210	H 200	200	H 190	200	205	220	H 200	200	H 200	230	210	230	250	230	250
30	260	260	290	A	A	220	200	210	220	230	210	H 200	H 195	200	210	205	210	210	220	230	230	240	270	280
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	20	16	14	14	12	16	18	19	21	26	23	21	21	26	28	28	27	24	24	26	25	22	23
MED	295	300	300	335	292	260	235	225	212	205	212	205	205	210	215	214	220	220	230	235	235	250	250	270
UQ	310	338	338	400	350	290	260	250	229	230	230	220	220	230	225	230	225	231	235	235	250	260	270	285
LQ	260	270	282	315	250	232	210	210	205	200	205	200	200	200	210	208	210	210	215	225	230	240	235	250

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

NOV. 1961 | h'Es (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	110	105	B	120	120	G	G	B	110	G	B	B	B	G	G	B	B	B	B	B	B	140	125
2	115	125	B	135	120	130	G	120	G	G	130	G	B	125	125	125	B	B	B	135	130	125	120	125
3	120	135	130	105	105	125	115	135	130	B	120	115	125	G	135	120	120	140	145	135	150	130	145	150
4	130	130	125	100	100	105	125	110	G	G	G	G	G	105	G	105	100	G	100	G	130	150	170	120
5	130	110	105	110	105	100	110	G	G	130	B	G	G	B	B	B	110	B	115	145	115	110	110	110
6	180	120	100	105	120	110	105	B	100	120	110	125	B	B	B	B	B	B	B	B	B	170	130	110
7	110	120	130	130	125	130	115	110	100	120	C	C	C	C	C	B	125	170	195	105	135	115	175	120
8	B	110	115	110	125	B	B	B	115	105	105	B	B	S	B	B	170	B	B	B	B	B	135	130
9	120	S	B	B	B	B	125	100	100	120	120	115	B	B	125	B	B	G	G	160	150	140	120	115
10	120	130	110	125	100	115	110	100	B	B	110	G	G	G	G	G	G	G	135	B	B	B	B	B
11	B	B	B	B	B	B	B	B	B	135	130	130	115	110	110	115	125	G	G	B	G	B	B	B
12	B	B	125	B	110	115	100	115	120	125	105	B	B	B	120	G	B	160	125	125	125	125	135	130
13	125	125	B	100	105	135	130	170	135	G	G	135	125	125	125	G	G	G	160	G	160	G	G	G
14	145	130	120	130	110	110	105	110	130	130	120	B	B	B	110	G	G	G	G	140	170	150	125	140
15	115	110	100	110	105	110	G	100	G	100	G	105	115	120	105	105	110	115	120	110	100	100	125	130
16	120	125	125	100	155	125	115	110	110	115	110	110	115	115	110	110	110	115	135	150	130	120	100	100
17	120	115	100	115	110	125	125	125	G	G	115	130	110	115	100	100	125	115	165	140	B	150	115	120
18	125	130	125	130	105	105	105	105	125	100	105	B	B	B	B	B	B	165	110	110	110	100	100	100
19	B	115	100	130	100	115	120	100	100	B	B	B	B	B	G	100	G	B	B	B	150	135	B	105
20	145	150	110	120	120	150	110	B	110	110	110	B	B	B	B	105	105	B	B	105	100	110	160	100
21	110	120	110	100	120	125	100	100	100	105	G	G	G	G	100	G	G	G	G	150	140	120	125	150
22	150	120	100	B	100	100	140	G	G	G	G	G	105	100	G	100	100	G	130	130	130	G	G	110
23	110	110	130	120	120	140	G	G	G	130	G	G	130	100	120	100	G	G	160	150	115	120	150	B
24	150	150	110	110	130	110	100	100	G	G	G	G	G	100	G	110	G	G	G	150	140	120	B	110
25	150	100	100	130	G	100	G	G	G	G	G	100	G	B	G	G	110	105	G	G	160	G	135	130
26	125	125	G	105	140	105	G	G	G	G	G	B	B	S	G	B	B	G	G	135	135	130	130	130
27	120	175	105	155	130	110	105	100	G	G	G	135	100	110	135	G	G	100	G	150	150	140	C	G
28	G	100	G	130	130	100	100	100	100	130	G	125	120	120	G	G	G	100	100	100	130	110	125	150
29	G	120	140	125	110	100	110	G	110	100	G	G	G	100	100	G	G	G	G	140	150	130	130	150
30	150	110	130	110	100	135	100	110	100	100	110	125	G	G	125	125	G	G	110	110	G	G	130	140
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	27	24	25	27	27	22	19	16	18	14	12	10	13	15	13	12	10	15	21	23	22	23	25
MED	125	120	110	115	110	115	110	110	110	118	110	125	115	110	120	105	110	115	130	135	135	125	130	125
UQ	145	130	125	130	122	125	120	112	122	130	120	130	125	120	125	115	125	160	152	150	150	140	138	130
LQ	120	110	102	105	105	105	105	100	100	105	110	112	110	100	108	100	108	105	112	110	128	115	122	110

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IONOSPHERIC DATA

DEC. 1961 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	U F 54	S	S	F	F	F	F	F	J F 85	F	F	F 88	S	102	99	R	R	A	R	A	A	A	F
2	S	F	A	A	A	A	A	A	R	B	E G 41	E G 42	E G 41	F 48	55	R 54	F	F	F	F	A	F	A	F
3	A	A	A	R	R	A	B	B	B	B	B	R	B	B	F 53	F 50	R	50	F	R	R	R	R	A
4	B	B	B	F 34	B	B	A	R	A	B	50	51	50	B	57	58	F 52	51	52	44	F 43	B	47	47
5	F 47	F 46	36	45	45	U F 65	F	F 74	78	77	75	68	61	59	57	F 57	F 57	56	57	57	B	F	F	F
6	F	F	F	F	F	F	46	R	R	F	F	F 52	F 52	55	54	57	58	61	42	S	A	A	A	F
7	A	A	R	F	F	F 49	F 55	F 64	F 55	60	58	58	58	57	62	60	F 67	F 58	54	F 45	F	F	50	S
8	F	F	F	F	F	F	F 66	F 72	74	73	72	72	69	66	R 62	F	F	F	U F 57	F 55	52	F	F 58	F 58
9	F	F	U F 68	U F 73	F	F	F 73	79	81	80	78	J R 79	82	75	75	70	67	62	58	58	57	59	60	56
10	R	S 47	S 52	U S 56	J F 65	U F 76	78	80	78	78	F 77	F 78	70	70	75	75	75	68	S	F 50	48	F 40	J F 53	A
11	A	A	A	F	J A 45	U F 48	R	A	F 57	F	J F 64	J F 68	67	F	F	F 75	F 72	R	F	F	A	A	A	R
12	A	F	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	F	U S 61	66	72	78	76	79	70	67	65	65	63	60	F 53	F 44	F 51	50	51	53	57	56	U S 54
14	S	A	A	A	F	U F 60	F	F	J F 66	F 65	F 66	63	65	65	61	55	51	51	50	53	55	56	50	F 52
15	S	F	F	R	F	F	F	F	F	F	F	F	F	F 57	F 61	F 62	65	65	F 51	F 51	F	U F 48	F 45	S
16	S	F	A	F	47	F	U F 54	F	F	F 65	62	63	63	S	63	54	56	55	56	55	54	53	45	48
17	U S 52	J F 45	F	F	S	F 56	F 59	F	F	F	C	F	C	F 63	J R 64	58	54	F 56	C	54	53	53	J S 54	U S 52
18	S	J S 41	U S 44	S	J S 55	F	F	F	F	F	F	59	55	56	57	53	52	54	52	51	50	J S 52	R	S
19	S	S	S	S	S	F	U F 85	S	F	F	F 83	80	74	70	F 66	63	R 60	F 53	F 53	F 52	F 55	F	F	U F 54
20	R	R	R	S	F	F	F	F	F	F	F	F	F 80	J F 82	U F 77	F 70	F	F	F	F 55	R	S	U R 51	R
21	F	F	F 43	F	J R 61	F	F	F	F	F	F	F	F 70	U F 67	66	F 61	F 60	55	J F 54	J F 55	53	J F 52	R	R
22	R	F	F	C	C	C	C	C	C	C	F 76	75	72	72	66	66	60	62	65	F	F	48	J F 50	A
23	A	F	F	A	F 47	F 48	A	F 50	F 56	F 52	60	55	60	58	60	66	68	F	J F 65	F	F	J F 48	J F 46	U F 46
24	F	F	A	U F 51	F 59	F 63	J F 69	F	F 77	F 73	F 72	F 68	65	F 65	F 60	F 65	F 64	F 61	55	U F 50	F 45	46	49	R
25	F	J F 51	J F 44	52	58	63	70	V 71	73	75	73	72	68	66	64	59	59	58	60	55	58	57	53	U R 51
26	U R 51	S	S	F	J F 64	F	F 81	J F 82	F	U F 87	81	85	80	78	F 73	F 65	F 67	F 69	F 69	U F 63	J F 64	J F 64	J F 52	F
27	40	44	49	F	F	F	F	F	F	F	F	F	U F 66	F	F 65	U F 66	F	F	62	F	F	F 53	J F 54	J F 55
28	R	U F 51	S	R	R	F	F	F 54	F	F	J F 79	J F 77	U F 67	70	J F 69	F	71	F 51	45	A	F	53	S 47	A
29	A	A	A	A	A	R	A	A	F 49	F 54	F 50	F 54	56	59	59	58	F 56	55	59	56	F	F 41	F 45	47
30	F 54	A	A	R	A	A	F	A	A	F 46	F 53	F 47	58	55	B	52	57	F 59	F 50	F	F	R	46	F
31	F	37	F 42	F	F 49	F	F 55	S 56	F 57	F	F	U F 56	U F 55	U R 51	55	52	58	54	55	53	53	48	44	F 42
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	5	9	8	7	12	10	13	11	13	15	20	23	27	24	28	28	24	23	23	20	15	18	21	13
MED	51	F 46	44	U 52	56	F 62	F 69	F 72	F 73	F 73	70	65	65	64	62	60	60	56	55	54	53	52	50	52
UQ	U 52	F 51	50	U 58	62	F 65	F 78	78	78	78	76	74	70	70	66	66	67	61	58	55	55	56	53	F 54
LQ	47	44	F 42	48	47	F 49	F 55	F 59	F 57	F 62	59	56	58	57	58	54	56	54	52	51	51	F 48	46	47

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IONOSPHERIC DATA

DEC. 1961 | foF1 (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A		A		L	F 410	E 400	410	440	430	450	F 450	430	430	430	430	R	F 400	A	F 400	A	A	A	
2			A	A	A	A	A	A	400	B	410	420	410	410	415	R 430	U R 420	F	F	F	A	F	A	F
3	A	A	A	F 340	B	A	B	B	B	B	B	R	B	B	420	F 410	R	400		F	F 410	F 420	410	A
4	B	B	B	320	B	B	A	F 450	A	B	B	430	B	B	430	430	430	420	L 420	L 380		B	B	
5			A		360	390	400	400	420	430	430	450	450	450	450	F 440	430	420	L 410	L	B		A	
6					A	A	A	B	450	420	440	430	440	B	440	440	430	420	R	S	A	A	A	
7	A	A	370	R	A	370	390	410	410	420	420	430	430	430	440	430	430	L 410	400	L	L	L		
8				L	340	370	380	400	410	420	430	R 440	B	R 420	R 450	R 460	L 440	L 420	L					
9				320	330	365	380	F 400	410	A	430	440	450	H 450	450	430	L 460	L 390	U L 380	L		A	A	
10			L	U L 340	340	320	400	H 400	420	420	450	450	H 450	450	H 430	430	L	L 420	A	A			A	A
11	A	A	A		A	A	F 400	A	A	H 410	F 410	410	A	430	420	420	400	B	L	A	A	A	A	400
12	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	L	330	330	350	370	390	400	420	420	H 430	A	A	440	420	420	L	L	L	L	L		
14	A	A	A	A	A	A	F 390	F 400	400	400	420	420	420	A	430	420	L	H 410	L	U L 370	L	L		
15				A	345	380	F	405	A	420	420	420	H 430	420	420	430	410	H 400	U L 400	L	U L 330	L	L	
16		A	A	A	A	A	A	A	400	410	410	430	H 430	S	430	430	410	410	400	L	L			
17			A	A	A	A	400	A	400	410	C	420	C	H 440	430	430	420	400	C	L	L	L		
18				L	330	350	390	400	400	420	420	430	430	430	430	420	420	L 410	L	L	L	A	L	
19			L	L	350	370	390	410	400	420	420	420	430	425	445	430	L 420	L	L	L	L			
20				L	L 360	370	F 370	400	410	R	420	430	430	440	420	430	L	L	L	L	L	L	L	R
21	A	A		350	370	F 390	F 390	F 430	F 430	420	430	440	H 440	440	430	430	420	L	L	L				
22			L	C	C	C	C	C	C	C	430	440	430	440	440	430	L	420	400	L	L	A	A	A
23	A	A		A	A	A	A	410	420	420	430	440	430	440	450	420	420	420	L 400	L	A	A		
24	A	A	A	A	A	400	380	A	420	420	430	440	H 440	F 440	S	430	440	L	L 410	L	L	L	A	L
25	A	A	300	330	350	360	390	400	430	430	450	440	450	450	450	L 440	450	430	U L 400	L	L		L	
26				L	370	390	400	420	430	440	440	450	460	450	460	450	L 450	L 430	L	L	A	L		
27			A	A	A	A	A	F	A	F 430	440	430	450	450	430	420	420	420	A	430	L 350	L		
28		A			A	A	F	A	F 440	420	430	430	430	420	B	440	420	420	A	A	A	A	A	A
29	A	A	A	A	A	L	A	A	S 380	410	430	410	430	430	430	440	430	420	L 410	L	L			
30	L	A	A	A	A	A	F	B	A	A	430	430	430	430	B	430	420	430	410		L	420		L
31			A		A	R 370	390	400	R 420	F 420	F 430	440	420	440	430	430	420	B	U L 390	U L 360	L	L	A	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			2	7	12	16	18	18	23	23	27	29	24	24	27	30	24	22	13	5	3	2	1	1
MED			335	330	348	370	390	400	410	420	430	430	430	440	430	430	420	420	400	L 380	L 350	420	410	400
UQ				340	360	390	400	410	425	420	430	440	445	445	442	430	430	420	L 410	400	380			
LQ				325	335	362	380	400	400	420	420	430	430	430	430	430	420	410	U L 400	U L 370	L 340			

IONOSPHERIC DATA

DEC. 1961 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	A	A	240	280	290	300	A	A	310	B	320	310	R	A	A	240	A	A	A	A
2	A	A	A	A	A	A	A	A	A	B	A	300	290	R 295	R 295	B	R	255	R 275	230	A	A	A	A
3	B	A	A	A	B	A	B	B	B	B	B	R 275	B	B	350	320	A	290	A	A	A	A	A	A
4	B	B	B	A	B	B	B	A	A	B	B	300	B	B	B	B	B	B	B	300	220	B	B	R
5	A	A	A	A	A	225	240	260	290	A	300	300	310	310	A	A	A	B	B	230	B	A	A	A
6	A	A	A	A	A	A	A	B	B	300	310	310	A	B	300	300	A	270	320	S	A	A	A	A
7	A	A	A	A	A	A	A	A	280	290	300	320	A	320	320	A	290	B	B	230	235	180	170	A
8	A	175	170	175	170	R 230	R 270	275	285	320	320	B	B	B	B	320	300	275	R 270	225	215	180	180	170
9	180	180	R 175	R 175	185	205	265	280	270	305	320	320	340	R 300	B	A	S	280	270	230	200	180	140	160
10	A	A	A 140	160	200	225	250	A 260	270	300	300	A 310	320	A	300	290	A	270	A	230	300	180	A	A
11	A	A	A	A	A	A	A	A	A	A	280	R 300	B	B	B	R	R	B	300	A	A	A	A	A
12	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	A	A	A	A	A	A	275	290	290	300	305	300	300	290	A	275	250	220	A 200	A	150	A
14	A	A	B	A	A	A	A	A	270	270	A	310	305	300	300	300	A 280	270	250	A 220	215	215	170	170
15	170	190	175	175	180	220	225	270	A	A	310	300	300	290	A	300	280	R	250	240	190	190	A	A
16	A	A	A	A	A	A	A	A	A 300	280	300	R	300	S	A	A	A	A	250	220	230	180	A	150
17	A	A	A	220	A	A	A	A	A	300	C	310	C	300	300	R 290	290	R	C	240	A	190	A	A
18	A	A	170	180	150	A	A	A	R 290	270	A	A	A	A	A	A	A	A	250	220	200	180	A	A
19	A	A	A	A	A 190	A	A 240	A	270	290	300	300	300	300	295	300	A	280	270	230	215	A	170	A
20	A	A	A	A	190	225	A	A	A	B	290	B	B	A	A	A	R	R	R 260	240	A 225	190	A	A
21	A	A	250	A	260	230	A	A	280	300	300	300	R	A	A	290	280	280	250	240	200	180	150	A
22	A	A	A	C	C	C	C	C	C	C	300	300	300	A	310	A	A	280	275	A 250	A	A	A	A
23	A	A	A	A	A	A	A	A	A	A	320	A	A	310	R 300	300	280	A	A	A 250	A	220	A	A
24	A	A	B	A	A	A	A	R 275	R	R	R	R	310	R 310	R	R	300	280	250	250	210	A	A	A
25	A	A	220	200	A	A	A	260	300	290	320	320	320	A 320	300	300	300	275	270	250	220	225	170	A
26	150	A	250	A	A	240	250	270	290	310	340	R 325	R 330	R 320	320	290	280	A	270	240	A 230	200	A	A
27	A	A	A	A	A	A	A	280	290	A	A	A	A	A 300	A	A	300	275	250	A 250	B	B	A	A
28	A	A	A	A	A	A	A	270	290	R 300	A	A 300	300	A	B	B	B	A	A	A	A	A	A	A
29	A	A	A	B	A	A	B	A	R	R 280	290	R 290	310	300	290	B	B	B	B	B	250	A	A	A
30	A	A	A	A	B	B	280	B	A	A	R 290	310	290	B	B	B	B	B	A	A	R	320	A	A
31	A	A	B	A	A	A	260	A	B	B	A	325	R	R	A	R 300	R	B	260	H 230	A	210	190	175

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	3	8	7	8	8	10	11	16	17	19	22	17	15	15	15	11	14	19	24	17	16	9	5
MED	170	180	175	175	188	225	250	270	288	300	300	300	305	300	300	300	290	275	260	235	215	190	170	170
UQ	175	185	235	190	195	230	265	278	290	300	315	310	310	310	315	300	300	280	270	245	230	212	170	170
LQ	160	178	170	175	175	222	240	265	272	290	295	300	300	300	300	290	280	270	250	230	200	180	150	160

IONOSPHERIC DATA

DEC. 1961 | foEs (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	39	J X 45	41	38	33	J X 34	G 24	G	J X 50	G	J X 34	J X 35	G	E B 33	J X 39	G	G	J X 30	J X 41	G	J X 44	J X 51	J X 50	J X 31
2	J X 34	J X 29	J X 75	J X 50	J X 54	J X 40	48	47	33	B	33	G	J X 40	G	G	E B 35	G	G	G	G	J X 96	44	J X 121	J X 85
3	J X 86	J X 85	J X 49	J X 42	43	J X 46	B	B	B	B	B	G	B	B	G	G	35	G	J X 37	36	J X 40	J X 45	J X 29	J X 52
4	B	B	B	J X 54	B	B	J X 43	J X 48	J X 76	B	E B 45	G	E B 45	B	E B 38	E B 35	E B 31	E B 30	J X 39	G	27	B	E B 40	G
5	J X 25	29	35	35	40	25	28	28	G	35	J X 36	J X 42	35	36	33	J X 32	30	E B 35	E B 28	G	B	J X 34	J X 50	38
6	35	J X 77	J X 40	J X 31	37	J X 64	48	J X 40	J X 50	J X 44	G	G	33	E B 45	G	G	35	G	G	S	J X 84	J X 87	J X 50	J X 72
7	J X 79	43	37	J X 31	J X 41	37	J X 35	30	G	J X 44	33	J X 46	J X 37	J X 96	J X 40	34	G	E B 30	E B 33	J X 37	J X 30	28	23	J X 36
8	J X 22	J X 30	J X 30	26	J X 32	J X 41	34	32	36	36	37	E B 39	E B 47	E B 38	E B 44	G	31	J X 43	34	J X 40	28	22	G	19
9	26	26	G	22	23	28	28	J X 36	J X 80	J X 73	J X 45	38	J X 50	J X 40	J X 39	J X 40	J X 50	30	J X 47	G	J X 40	J X 61	D	G
10	J X 20	J X 24	J X 22	25	27	25	27	33	G	G	G	38	38	J X 39	J X 45	J X 34	J X 34	G	36	J X 51	G	G	J X 36	J X 47
11	J X 46	J X 45	J X 40	J X 50	J X 60	J X 59	J X 37	J X 59	J X 60	48	G	G	E B 42	E B 35	E B 33	G	G	E B 42	36	J X 44	J X 60	J X 86	J X 79	J X 44
12	J X 60	J X 31	J X 53	J X 66	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	29	J X 65	J X 52	J X 39	J X 40	J X 45	G	J X 39	J X 73	J X 35	J X 51	J X 66	J X 117	J X 32	J X 47	30	J X 44	24	23	J X 21	22	19
14	J X 26	J X 61	J X 62	43	48	J X 49	J X 47	J X 36	G	G	J X 45	34	36	J X 65	34	J X 66	J X 36	J X 34	J X 45	J X 78	J X 41	23	J X 22	33
15	J X 22	J X 32	J X 66	J X 45	33	24	G	G	J X 41	50	J X 41	J X 35	35	G	J X 35	G	35	G	G	28	25	J X 80	J X 81	J X 41
16	J X 34	40	41	32	J X 36	J X 40	J X 65	46	J X 44	G	G	G	G	S	J X 50	J X 42	J X 65	J X 50	27	G	G	28	J X 24	24
17	22	J X 29	36	28	J X 40	36	J X 44	J X 50	J X 33	31	C	46	C	33	36	G	G	G	C	29	J X 51	J X 63	J X 25	J X 39
18	J X 42	29	20	G	25	J X 40	36	J X 43	G	35	35	J X 49	J X 41	J X 54	J X 40	J X 68	J X 44	J X 38	J X 40	28	J X 51	J X 41	J X 28	J X 37
19	J X 21	J X 29	20	J X 23	J X 24	J X 44	33	34	J X 34	G	J X 49	J X 47	J X 47	J X 34	J X 34	G	J X 62	G	J X 38	27	29	24	18	22
20	22	J X 24	21	J X 24	22	28	J X 84	J X 64	J X 33	33	36	35	E B 33	33	J X 33	J X 32	G	G	J X 39	G	J X 34	G	J X 25	32
21	J X 37	33	J X 37	26	33	33	29	J X 67	G	G	G	G	G	J X 32	J X 34	35	J X 69	35	30	31	26	J X 35	J X 23	J X 36
22	J X 25	J X 32	J X 21	C	C	C	C	C	C	C	J X 39	J X 62	J X 51	J X 34	J X 66	J X 34	J X 39	G	G	J X 37	J X 32	J X 50	43	J X 41
23	J X 40	41	J X 31	J X 145	J X 39	J X 58	52	50	J X 39	35	G	38	38	G	G	J X 34	33	58	J X 78	J X 49	J X 45	J X 40	J X 31	J X 25
24	J X 34	40	J X 54	J X 39	44	36	28	41	G	G	34	J X 35	J X 39	36	J X 32	G	G	G	G	G	G	25	34	33
25	43	J X 29	24	G	J X 40	J X 40	J X 74	J X 49	G	G	G	G	J X 39	J X 60	J X 64	J X 47	G	J X 31	33	J X 41	J X 34	G	J X 21	19
26	41	J X 22	28	J X 29	27	G	J X 40	J X 64	G	G	G	35	36	G	34	35	G	31	J X 34	33	J X 61	J X 45	21	J X 33
27	J X 30	J X 36	J X 37	J X 50	J X 65	J X 48	J X 54	40	38	J X 49	J X 37	38	J X 36	J X 39	J X 44	J X 40	J X 47	J X 47	J X 95	J X 84	J X 38	26	29	J X 38
28	35	J X 31	J X 34	J X 40	37	J X 49	J X 50	J X 48	J X 64	G	39	J X 37	32	J X 37	E B 55	E B 41	E B 35	J X 35	J X 41	43	J X 41	45	J X 40	J X 41
29	42	J X 47	J X 62	J X 58	J X 64	J X 35	J X 41	42	G	G	G	G	G	G	33	E B 37	E B 31	E B 30	E B 30	E B 25	G	J X 22	22	J X 28
30	J X 40	54	J X 54	43	J X 41	J X 44	33	J X 54	J X 47	J X 40	G	34	G	E B 33	B	E B 35	E B 34	E B 31	32	36	G	G	J X 41	J X 31
31	31	37	J X 61	J X 41	J X 41	J X 40	35	J X 34	E B 36	E B 32	36	G	G	G	J X 39	G	G	E B 43	32	G	23	G	37	23
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	30	28	28	28	28	28	26	28	30	28	27	29	30	30	30	29	29	29	29	30	30
MED	J X 34	J X 32	J X 37	J X 38	40	J X 40	38	J X 42	34	32	34	35	36	34	J X 35	E G 33	U 32	E G 30	34	29	J X 34	J X 34	J X 30	J X 33
UQ	J X 41	J X 43	J X 53	J X 50	J X 44	J X 45	J X 48	J X 50	J X 46	40	J X 38	J X 38	J X 40	J X 40	J X 42	36	J X 39	J X 34	J X 40	J X 40	J X 44	J X 45	J X 43	J X 41
LQ	J X 25	J X 29	28	26	32	34	31	34	G	G	G	G	E G 32	E G 32	33	G	G	G	E G 30	G	25	22	J X 23	24

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

DEC. 1961 | f-min (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	12	15	15	15	16	15	E	E	16	15	17	16	18	33	21	20	18	13	13	16	12	15	12	E
2	12	E	13	11	11	17	18	16	15	B	20	19	16	17	16	35	22	18	E	13	E	E	E	13
3	30	12	12	14	38	23	B	B	B	B	B	23	B	B	32	16	20	20	15	13	12	15	17	15
4	B	B	B	14	B	B	33	17	20	B	45	23	45	B	38	35	31	30	30	22	17	B	40	E
5	E	17	17	21	19	16	12	12	17	17	17	18	20	17	19	17	16	35	28	15	B	20	15	13
6	E	E	19	22	E	12	20	40	33	17	20	16	15	45	17	15	15	12	20	S	13	14	22	12
7	20	15	17	22	16	15	15	15	14	13	15	14	18	15	15	17	15	30	33	16	13	E	13	13
8	12	E	12	13	11	E	14	13	17	20	32	39	47	38	44	15	15	13	13	13	12	12	12	12
9	12	12	13	14	E	12	E	E	14	16	15	13	20	20	30	25	33	20	12	15	E	E	E	15
10	15	E	E	E	E	E	E	E	11	15	E	15	12	12	13	13	16	20	18	12	23	E	E	E
11	E	E	E	11	15	15	17	18	15	15	12	15	42	35	33	20	20	42	16	13	28	15	12	E
12	15	15	14	13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	E	E	E	E	E	E	E	15	17	18	16	15	17	15	12	15	12	13	E	E	E	12
14	E	14	26	20	16	18	12	E	13	E	13	15	15	15	14	14	15	13	13	13	15	13	13	13
15	E	17	13	15	13	13	12	E	15	17	12	13	12	15	15	15	15	15	E S 15	22	15	15	16	14
16	E	E	13	15	15	20	15	15	12	15	15	20	18	S	15	15	15	15	17	20	15	E	E	12
17	E	11	12	13	15	14	22	18	15	15	C	13	C	13	15	15	15	16	C	E	14	17	14	E
18	E	11	E	E	E	E	18	14	13	13	E	15	15	12	14	15	14	E	E	E	E	E	E	E
19	E	E	E	E	12	E	E	15	E	15	15	14	15	15	15	17	13	14	14	13	E	E	E	12
20	E	E	E	E	E	E	12	13	15	28	15	30	33	18	15	19	20	20	18	13	E	E	12	18
21	12	15	E	E	12	E	11	14	15	15	13	13	15	15	14	13	E	E	E	E	12	12	E	15
22	E	E	E	C	C	C	C	C	C	C	14	14	14	15	17	15	13	E	12	E	E	E	15	15
23	14	12	E	E	20	23	E	12	14	22	15	15	12	14	11	15	18	12	15	E	22	14	E	11
24	11	E	35	20	15	15	20	27	11	16	19	21	19	22	17	15	12	19	13	14	15	E	12	E
25	18	15	13	E	E	E	15	12	13	13	16	15	14	14	15	15	15	E	15	E	E	E	E	E
26	E	E	12	E	14	E	12	14	15	15	19	15	20	20	18	15	18	15	22	19	15	E	13	E
27	13	13	15	15	E	12	17	17	12	15	17	17	20	15	14	15	16	15	12	20	20	19	15	15
28	14	16	E	E	16	20	15	E	E	14	15	13	19	15	55	41	35	30	14	15	15	15	17	E
29	14	15	E	29	15	22	27	17	15	15	15	14	13	16	17	37	31	30	30	25	12	17	15	12
30	18	21	20	20	32	35	18	40	21	22	17	17	26	33	B	35	34	31	15	20	13	14	15	E
31	12	15	24	24	18	19	13	18	36	32	25	20	15	17	17	16	20	43	15	16	14	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	31	30	29	29	29	29	29	29	29	30	29	29	30	30	30	30	29	29	30	30	30	30
MED	12	12	13	14	15	15	15	14	15	15	15	15	18	16	17	15	16	16	15	13	13	12	12	12
UQ	14	15	16	20	16	19	18	17	16	20	19	19	20	22	21	20	20	30	18	16	15	15	15	14
LQ	E	E	E	E	E	E	12	12	13	15	15	14	15	15	15	15	15	13	12	13	E	E	E	E

IONOSPHERIC DATA

DEC. 1961 | M(3000)F2(0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	U F 295	S	S	F	F	F	F	F	J F 260	F	F	F 240	S	255	240	R	R	A	R	A	A	A	F
2	S	F	A	A	A	A	A	A	R	B	G	G	G	F 215	220	R 240	F	F	F	F	A	F	A	F
3	A	A	A	R	R	A	B	B	B	B	B	R	B	B	F 235	F 220	R	265	F	R	R	R	R	A
4	B	B	B	F 280	B	B	A	R	A	B	240	255	260	B	255	285	F 260	255	290	250	F 280	B	275	320
5	F 285	F 285	280	255	240	U F 260	F	F 255	255	260	265	265	260	270	270	F 280	F 280	305	290	300	B	F	F	F
6	F	F	F	F	F	F	240	R	R	F	F	F 280	F 250	250	250	270	250	270	260	S	A	A	A	F
7	A	A	R	F	F	F 245	F 255	F 240	F 210	260	260	260	250	255	275	260	F 270	F 265	280	F 335	F	F	305	S
8	F	F	F	F	F	F	F 265	F 255	260	255	265	270	265	270	R 275	F	F	F	U F 300	F 275	285	F	F 300	F 295
9	F	F	U F 280	U F 255	F	F	F 275	260	265	255	270	J R 255	270	265	280	285	300	305	295	300	300	290	300	285
10	R	S 275	S 270	U S 250	J F 260	U F 255	265	265	270	255	F 275	F 245	280	270	280	275	280	280	S	F 300	270	F 275	J F 300	A
11	A	A	A	F	J A 255	U F 240	R	A	F 245	F	J F 250	J F 250	245	F	F	F 255	F 250	R	F	F	A	A	A	R
12	A	F	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	F	U S 260	260	265	255	265	265	270	275	255	275	285	285	F 275	F 340	F 305	280	295	290	300	305	U S 285
14	S	A	A	A	F	U F 260	F	F	J F 260	F 255	F 260	255	275	290	295	290	305	295	300	290	300	310	310	F 305
15	S	F	F	R	F	F	F	F	F	F	F	F	F	F 280	F 280	F 265	275	285	F 295	F 305	F	U F 315	F 300	S
16	S	F	A	F	270	F	U F 235	F	F	F 260	275	265	270	S	285	295	285	290	285	310	315	320	310	315
17	U S 290	J F 310	F	F	S	F 270	F 265	F	F	F	C	F	C	F 285	J R 280	275	280	F 295	C	300	300	300	J S 295	U S 290
18	S	J S 295	U S 285	S	J S 255	F	F	F	F	F	F	290	280	285	305	320	280	300	325	315	320	J S 315	R	S
19	S	S	S	S	S	F	U F 270	S	F	F	F 275	290	285	285	285	300	R 310	F 300	F 300	F 290	F 305	F	F	U F 290
20	R	R	R	S	F	F	F	F	F	F	F	F	F 275	J F 270	U F 260	F 285	F	F	F	F 290	R	S	U R 315	R
21	F	F	F 255	F	J R 280	F	F	F	F	F	F	F	F 270	U F 270	290	F 295	F 300	290	F	J F 290	320	J F 290	R	R
22	R	F	F	C	C	C	C	C	C	C	F 265	280	305	345	350	320	300	315	325	F	F	240	J F 340	A
23	A	F	F	A	F 255	F 270	A	F 280	F 295	F 290	265	255	260	265	285	265	265	F	J F 325	F	F	J F 290	J F 350	U F 350
24	F	F	A	U F 275	F 290	F 255	J F 275	F	F 295	F 285	F 280	F 295	280	F 300	F 265	F 270	F 280	F 295	275	U F 240	F 300	285	305	R
25	F	J F 285	J F 275	270	245	255	255	V 270	260	265	265	265	255	250	280	270	270	275	285	290	300	315	290	U R 315
26	U R 295	S	S	F	J F 265	F	F 270	F	F	U F 275	280	260	265	270	F 265	F 270	F 275	F 270	F 290	U F 315	J F 295	J F 315	J F 310	F
27	300	295	305	F	F	F	F	F	F	F	F	F	U F 260	F	F 260	U F 240	F	F	275	F	F	F 300	J F 295	J F 310
28	R	U F 265	S	R	R	F	F	F 240	F	F	F	F	U F 255	245	J F 240	F	280	F 275	245	A	F	300	S 300	A
29	A	A	A	A	A	R	A	A	F 245	F 280	F 240	F 260	255	255	255	265	F 270	275	255	305	F	F 295	F 290	330
30	F 220	A	A	R	A	A	F	A	A	F 240	F 245	F 320	260	275	B	250	245	F 255	F 260	F	F	R	325	F
31	F	295	F 260	F	F 265	F	F 255	S 260	F 265	F	F	U F 270	U F 275	U R 230	275	265	275	280	280	290	300	290	295	F 300
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	5	9	8	7	12	10	13	10	13	15	19	22	27	24	28	28	24	23	22	20	15	18	21	13
MED	290	F 295	278	U 260	260	F 258	F 265	260	F 260	F 260	265	262	265	270	275	270	280	285	288	298	300	300	300	305
UQ	U 295	295	282	272	F 268	F 265	F 270	265	265	F 272	275	280	275	285	285	285	292	298	300	305	302	315	310	315
LQ	F 285	F 285	F 265	U 255	255	F 255	F 255	F 255	F 255	255	255	255	255	255	258	262	270	272	275	290	292	290	295	F 290

IONOSPHERIC DATA

DEC. 1961 | h'F2 (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A		295		290	360	360	350	350	360	370	350	430	430	360	395	R	R	A	R	A	A	A	
2			A	A	A	A	A	A	R	B	G	G	G	630	565	485	325	F	F	F	A	F	A	F
3	A	A	A	R	B	A	B	B	B	B	B	R	B	B	520	590	R	450		R	A	A	R	A
4	B	B	B	500	B	B	A	R	A	B	B	450	B	B	430	360	435	450	L	L		B	B	
5			A		500	390	470	370	350	340	340	360	380	380	380	360	340	330	330	L	B		A	
6					A	F	A	B	A	F	430	430	460	450	440	380	405	380	530	S	A	A	A	
7	A	A	R	R	A	500	420	400	400	390	410	400	430	450	360	420	350	L	340	L	L	L		
8				L	315	335	365	365	345	365	345	350	350	360	335	375	325	300	L					
9				310	320	335	340	330	330	345	330	350	395	340	340	330	300	300	290	L		A	260	
10			L	380	330	330	350	330	330	350	300	350	320	330	320	325	L	295	270	A			290	A
11	A	A	A		350	A	520	A	450	440	400	395	395	360	360	390	350	365	L	F	A	A	A	A
12	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	L	340	335	340	325	330	320	330	330	370	330	350	325	330	340	300	L	320	L	270		
14	S	A	A	A	A	380	400	370	350	365	355	380	350	320	320	340	L	350	210	310	L	L		
15				A	370	335	365	400	360	370	340	340	390	390	350	390	340	310	L	290	260	270	280	
16		A	A	430	400	450	470	A	390	360	360	370	370	S	340	350	330	340	320	280	295			
17			A	410	370	360	380	380	390	380	C	340	C	340	315	360	L	305	C	290	L	L		
18				L	360	340	360	370	370	365	360	350	380	360	330	330	380	320	290	L	L	A	240	
19			L	L	320	310	300	295	290	330	315	315	305	300	315	295	270	290	L	L	L			
20				L	325	330	300	310	330	320	320	335	330	305	300	300	310	280	L	330	L	L	280	R
21	300	A		380	350	370	340	330	360	320	370	350	355	360	330	310	310	L	300	L				
22			L	C	C	C	C	C	C	C	335	330	335	300	300	320	300	360	310	310	L	590	295	A
23	A	410		A	A	A	A	460	360	430	380	440	430	420	400	390	360	340	305	L	270	280		
24	300	280	A	430	350	440	360	365	330	340	390	365	370	370	365	380	360	300	350	L	L	L	295	290
25	A	300	390	365	390	340	370	340	345	330	350	350	380	370	340	350	360	350	300	L	290		270	
26				340	340	360	315	230	330	310	330	330	330	340	340	350	350	320	L	290	270	270		
27			270	A	A	A	A	430	370	310	315	390	380	395	390	430	370	330	A	350	295	L		
28		A			R	360	A	490	430	395	380	340	400	430	B 410	340	300	395	500	A	A	320	330	A
29	A	A	A	A	A	R	A	A	480	380	495	450	430	400	430	370	400	400	360	L	L			
30	350	A	A	A	A	A	350	A	A	A	470	400	380	400	B	495	430	380	420		L	R		L
31			420		405	A	410	405	400	380	380	400	410	550	390	435	370	370	325	L	295	L	340	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	3	4	10	18	19	21	21	24	24	27	29	27	27	29	30	26	26	17	9	7	6	10	1
MED	300	300	342	380	350	360	360	365	355	360	360	360	380	370	350	360	345	335	320	310	290	275	285	290
UQ	325	355	405	430	370	375	400	400	390	380	385	400	405	410	390	390	370	370	350	320	295	320	295	
LQ	300	290	282	340	325	335	340	330	330	330	332	350	342	340	330	330	325	300	300	290	270	270	270	

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IONOSPHERIC DATA

DEC. 1961 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69°.4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	290	A	280	230	240	230	220	210	200	200	200	200	250	240	230	R	240	A	210	A	A	A	350
2	350	A	A	A	A	A	A	A	200	B	220	230	215	200	200H	250	260	225	235	235	A	340	A	F
3	A	A	A	265	B	A	B	B	B	B	B	185	B	B	260	250	A	230	300	A	480	335	350	A
4	B	B	B	A	B	B	B	A	A	B	B	220	B	B	230	220	230	220	240	R	280	B	B	265
5	290	300	A	A 400	A	250	230	200H	210	200	205	235	200	200H	230	210	210	240	230	230	B	A	A	230
6	300	290	A	380	A	A	A	B	A	200	210	200	190H	B	200H	210	230	230	R	S	A	A	A	360
7	A	A	A	A	A	A	A	210	200	200	200	200	210	210	210	230	240	210	270B	235	240	245	265	275
8	275	275	270	250	245	230	235	205	235	235	225	245B	B	235	B	205	200	215	220	240	235	235	240	260
9	270	265	265	260	230	225	205	225	230	A	230	215	200H	210	220	220	230	200	240	230	260	A	A	270
10	295	270	270	260	230H	210H	210	210	205	200	200H	200	200	200H	200	210H	230	205	A	A	300	250	A	A
11	A	A	A	A	240	A	A	A	A	230	200H	200	A	250	200H	230	230	B	280	A	A	A	A	A
12	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	265	A	230	240	230A	235	200	215	200	220	A	A	240	215	210	210	230	250	220	250	260	230
14	A	A	A	A	A	A	280	200H	195	195	230H	225	205	A	200H	250A	210	205	230	230	240	235	240	225
15	245	280	F	A	320	240	205	200	A	260	210	200	200	200	230	220	210	210	210H	270	250	250	250	270
16	240	240	A	A	A	A	A	A	220	200	210	230	210	S	215	215	210	205	210	240	210	240	230	260
17	260	250	A	A	A	A	210	A	210	200	C	200	C	210	200H	200	205	200	C	250	230	230	240	250
18	270	240	250	210	250	210	230	220	200	200	200	200	230	205	220	200	E A 250	250	230	230	230	A	220	230
19	250	240	260	250	235	220	230	200	220	200	200	260A	230A	195	215	205	200	215	205	220	230	235	230	250
20	240	250	260	250	230	210	210	220	220	A	205	210	200	210	200	210	205	230	210	210	230	250	260	A
21	A	A	A	A	300	230	210	250	200	210	190H	200	200	200	230	240	210	205	200	210	215	250	215	235
22	230	270	250	C	C	C	C	C	C	C	250A	220	A	200	200	200H	220	225	225	250	235	A	A	A
23	A	A	A	A	A	A	A	340A	A	200	230	240	200H	210	230	220	210	240	210	245	A	A	250	265
24	A	A	B	A	A	A	230	A	200	220	210	215	215	200	205	220	210	220	230	250R	230	260	A	240
25	A	A	300	255	240	240	250	210	220	205	215	210	210	A	E A 260	200	210	205	220	215	230	230	230	260
26	265	270	290	220	250	230	210	205	200H	200	210	215	230	200	200H	220	210	210	230	220	A	250	210	260
27	260	E A 270	A	A	A	A	A	A	A	200	200	190	210	220	230	240A	A	250	A	230	240	260	230	260
28	300	A	260	260	A	A	A	A	210	200	210H	210	200	200	B	B	220	A 250	A	A	A	A	A	A
29	A	A	260	B	A	295	A	A	215	210	250	200	200	250	210	230	220	215	230	280	240	260	250	240
30	240	A	A	A	B	B	240	B	A	220	190H	220	200	310H	B	215	220	240	230	A	R	290	250	260
31	280	315	A	340	A	305	230	A	230	225	210H	190	250	195	230	215	210	B	220	215	230	230	A	265

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	16	12	14	13	15	18	16	21	24	27	30	23	23	27	29	27	28	24	23	21	20	18	23
MED	268	270	262	260	240	230	230	210	210	200	210	210	200	205	215	220	210	218	230	230	235	250	240	260
UQ	290	285	270	280	250	240	230	222	220	218	218	220	212	215	230	230	228	235	232	248	240	260	250	265
LQ	245	248	260	250	230	222	210	202	200	200	200	200	200	200	200	210	210	208	215	220	230	235	230	240

IONOSPHERIC DATA

DEC. 1961 | h'Es (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	130	130	130	125	125	110	100	G	140	G	100	100	G	B	130	G	G	105	105	G	110	130	120	130
2	130	120	140	110	130	110	100	100	150	B	105	G	120	G	G	B	G	G	G	G	100	190	100	115
3	100	100	100	130	105	100	B	B	B	B	B	G	B	B	G	G	105	G	105	100	110	110	120	180
4	B	B	B	140	B	B	100	100	100	B	B	G	B	B	B	B	B	B	150	G	150	B	B	G
5	100	110	110	105	100	135	100	130	G	100	100	120	120	120	100	100	100	B	B	G	B	140	100	100
6	100	100	100	130	100	110	100	110	100	130	G	G	100	B	G	G	100	G	G	S	110	110	100	100
7	100	100	110	125	110	110	105	100	G	100	130	130	100	110	110	100	G	B	B	130	135	125	125	120
8	110	130	130	125	105	110	105	130	130	130	125	B	B	B	B	G	130	105	165	125	125	120	G	135
9	140	125	G	140	120	110	135	120	110	115	115	110	110	105	105	100	100	130	130	G	140	130	115	G
10	110	115	130	120	130	130	E G 140	110	G	G	G	110	100	100	105	105	100	G	140	130	G	G	115	100
11	100	100	160	100	100	100	100	100	100	100	G	G	B	B	B	G	G	B	160	105	140	110	120	100
12	100	110	100	105	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	170	105	100	100	100	100	G	115	160	120	120	110	110	110	100	150	130	130	115	110	150	120
14	120	125	100	110	100	100	110	100	G	G	100	150	130	120	105	110	110	120	130	120	120	170	125	125
15	160	130	125	105	120	125	G	G	125	110	100	105	110	G	100	G	130	G	G	140	150	130	130	130
16	120	110	100	110	120	110	105	100	130	G	G	G	G	S	100	100	100	100	140	G	G	135	140	145
17	130	130	125	130	110	105	105	105	100	100	C	140	C	120	100	G	G	G	C	150	130	125	130	120
18	130	135	130	G	110	110	100	100	G	105	100	100	100	100	100	140	100	100	130	120	115	120	115	100
19	100	110	110	110	110	105	120	105	100	G	115	115	115	115	110	G	100	G	105	150	125	105	115	170
20	135	130	130	115	120	115	105	100	110	115	110	110	B	105	100	100	G	G	140	G	150	G	120	130
21	120	110	110	110	160	150	100	120	G	G	G	G	G	100	100	100	130	115	100	110	110	115	120	110
22	130	130	130	C	C	C	C	C	C	C	110	110	140	100	130	100	110	G	G	150	150	110	130	110
23	110	110	100	150	110	110	100	100	150	100	G	100	100	G	G	105	115	100	140	110	150	160	120	125
24	110	110	100	110	100	100	120	160	G	G	135	125	125	120	105	G	G	G	G	G	G	110	115	110
25	110	120	120	G	120	110	110	110	G	G	G	G	120	120	110	115	G	120	130	140	130	G	110	110
26	120	115	120	110	100	G	110	140	G	G	G	130	130	G	120	120	G	100	130	130	130	140	120	130
27	160	130	130	100	100	100	100	150	160	100	100	100	105	100	100	100	125	130	130	130	140	130	115	120
28	140	140	140	110	125	115	100	120	130	G	100	110	130	100	B	B	B	170	110	110	120	105	100	110
29	110	110	110	100	110	130	100	100	G	G	G	G	G	G	115	B	B	B	B	B	G	140	130	130
30	130	105	100	110	110	115	170	100	130	100	G	120	G	B	B	B	B	B	100	120	G	G	120	120
31	110	135	160	100	105	110	130	110	B	B	110	G	G	G	100	G	G	B	130	G	110	G	110	150
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	28	28	27	27	26	16	14	17	19	18	16	21	15	16	13	21	19	24	24	28	28
MED	120	115	120	110	110	110	102	105	128	102	110	110	118	108	105	100	102	115	130	130	128	125	120	120
UQ	130	130	130	125	120	115	110	120	135	115	115	122	125	120	110	110	120	130	140	135	140	138	125	130
LQ	110	110	100	105	100	105	100	100	100	100	100	108	100	100	100	100	100	100	110	115	112	110	115	110

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IONOSPHERIC DATA

JAN. 1962 | foF2 (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N. Long. 39° 35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F 40	F	F	F	B	F	F	B	F	F	F	F 51	F 51	53	55	50	57	50	47	49	51	54	56	U S 54
2	55	55	F	S	F	F	F	F 52	F 54	F 54	58	F 60	B	B	B	74	F	F	60	57	F 51	46	F 45	F
3	F	F	F	F	F	J F 54	F	F 58	U F 61	F	F 65	63	F 60	55	55	55	53	F 55	50	48	49	53	58	48
4	F	F	J F 51	J F 55	F	U F 69	F	U F 76	F 76	F 76	F 75	70	68	56	67	63	56	50	50	52	53	56	S	60
5	U S 63	S 53	58	55	S 63	69	80	82	78	S 78	78	80	75	69	60	57	54	50	48	F 50	F 55	F	S	R
6	F	F	F	F	F	F	J F 79	U F 75	F	F	F	F	F 75	72	62	J R 54	57	51	52	51	U F 52	U F 51	S	S
7	F	F	F	J F 47	U F 51	U F 57	F	J F 60	F 62	U F 65	71	F 66	65	63	55	53	53	52	50	F 55	56	U S 64	S	R
8	A	R	A	F	F	F	F	U F 47	F 55	F 56	F 57	F 56	F 55	F 55	50	49	49	50	52	J F 50	J F 41	U F 40	F	J F 40
9	F 47	F	F	F	F	F 59	F	F	F	F	F	F	F	F 65	J F 55	F 55	F 58	60	F 61	F 55	F 44	U F 40	F	A
10	F	F	F	U F 49	F	A	B	A	B	B	F 52	F 50	55	F 45	C	58	B	F	R	A	A	A	R	A
11	A	A	A	A	U F 41	A	R	R	A	B	B	F 44	U F 45	B	51	48	50	52	55	F 50	F	J F 45	F	U F 39
12	U F 40	36	A	F 38	U F 44	U F 44	A	F	F 45	F 49	54	C	C	50	50	51	F 49	50	F 49	50	46	S	45	F 36
13	35	F	B	R	F 41	47	U F 51	F	F	F	F 64	60	F 56	58	F 56	55	F 50	F 50	J F 59	J S 59	53	53	54	F 54
14	F	F 36	F 40	F	F	J F 67	F	F	U F 75	F 70	F 68	60	F 59	60	F	F 55	J F 59	J F 56	F	F 54	B	R	F	A
15	A	A	A	R	A	R	43	F 45	F 50	B														
16																								
17																								
18																								
19																								
20																								
21									No Observation															
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	4	3	5	5	8	4	8	9	7	10	11	11	12	11	14	12	12	12	13	11	10	5	7
MED	44	44	F 51	F 49	U F 44	F 58	65	F 59	F 61	F 65	F 64	F 60	F 59	57	55	55	54	50	51	51	51	52	54	F 48
UQ	55	54	54	F 55	U F 51	F 68	80	F 76	F 75	F 73	F 71	64	66	64	58	57	57	54	57	55	53	54	56	54
LQ	F 40	36	F 46	F 47	U F 41	F 50	47	F 50	F 54	F 55	F 57	F 54	F 55	54	53	51	50	50	50	50	48	U F 45	45	F 46

IONOSPHERIC DATA

JAN. 1962 | foF1 (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	B	360	A	B	400	430	430	430	430	430	430	L	L	400	L	L		L		
2		B	A	A	A	A	A	410	410	430	R 430	430	B	B	B	B	B	410	L	L		B		
3					A	F 370	360	390	400	400	420	430	430	430	430	430	420	400	L	L				
4			300	320	360	360	380	390	400	410	420	440	430	430	420	420	420	400	L	L	L		L	L
5				A	A	350	360	390	H 400	420	430	430	430	A	A	420	L 410	L 410	L	L	L	L		
6				L	F	350	370	B	F 410	400	410	A	H 430	430	430	L	420	380	U L 370	L	L	L		S
7			L	U L 310	L	F 330	360	380	390	400	400	420	410	420	430	L 420	420	L	L 390	U L 360	L	L		A
8	A	A	A	F	L	350	A 390	390	380	390	390	410	410	410	420	420	400	380	370	U L 350	L			
9	L		L	320	U F 350	F 390	F 390	F 400	400	400	F 400	F 410	F 420	420	420	420	410	400	390	L		A	L	A
10	A			A		A	B	A	B	B	400	400	400	410	C	A	B	A	F	A	A	A	A	A
11	B	F	A	A	F 310	A	F 350	A	A	B	B	B	400	B	400	400	B	B	390	360	350	U L 300	L	A
12	A			A	A 330	A	A	R 400	400	400	U R 390	C	C	420	410	410	L 410	L 400	L 390	U L 360	L	S	L	
13		A	B	A	R	A	360	390	400	400	B	420	430	420	430	420	410	400	400		A			
14	L		A	300		350	380	380	400	390	410	420	430	430	F 430	L 430	L 410	L 410	L 400	360	B	A	A	A
15	A	A	A	A	A	A	B	A	400	B														
16																								
17																								
18																								
19																								
20																								
21									No Observation															
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23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT			1	4	4	9	10	10	13	12	12	11	12	11	11	10	10	11	8	5	1	1		
MED			300	315	340	350	365	390	400	400	410	420	430	420	430	420	410	400	390	U L 360	350	U L 300		
UQ				320	355	360	380	400	400	415	425	430	430	430	430	420	420	405	395	U L 360				
LQ				305	320	350	360	390	400	400	400	415	410	420	420	420	410	400	380	U L 360				

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IONOSPHERIC DATA

JAN. 1962 | foE (0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	B	270	A	B	A	290	A	300	R	300	300	A	A	R 250	230	190	170	150	160	170
2	150	A	A	B	A	A	A	320	R	300	B	B	B	B	B	B	B	B	B	B	A	B	B	A
3	A	230	A 250	A	A 190	A	230	260	A	R	R	B	A	300	R 280	K 300	A	A	B	B	A	A	A	170
4	170	A	160	A	A	A 200	230	260	A 260	300	300	R 310	A	300	300	300	B	R	250	230	H 220	A 170	A	A
5	A	130	A	A	180	200	210	260	280	290	300	R 300	A 320	A 320	A 300	A	A	275	250	230	200	160	A	A
6	A	A	A	A	A	A	A	B	A	A	A	A	A	A	R	A	A 280	275	R 250	230	210	160	A	S
7	A	A	A	A	A 160	A 200	230	240	280	280	290	300	300	300	A	A	A	A 275	250	H 225	A	A	A	B
8	B	A	A	A	A	A	A	A	270	260	270	300	300	A	A 280	A	A	250	220	170	150	B	140	A
9	A	180	175	A	A	B	A	A	A	A	290	A 290	A	300	R 300	290	A	A	250	250	200	A	A	A
10	A	A	A	A	A	A	B	A	B	B	B	B	300	290	R	A	B	A	A	A	A	A	A	B
11	B	A	A	A	A	A	300	A	A	B	B	B	B	B	R	B	B	B	270	230	A	A	180	A
12	A	A	B	A	A	A	A	A	300	R	R	C	C	290	A	260	260	250	A	200	A	S	160	B
13	A	A	B	B	A	A	A	A	270	R	B	B	B	A	R 300	R	280	290	250	230	B	B	200	150
14	B	A	B	225	270	250	230	A	280	A	290	300	A 290	290	A	300	290	A 280	275	A	B	B	A	A
15	A	A	B	B	A	A	B	A	R	B														
16																								
17																								
18																								
19																								
20											No Observation													
21																								
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24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	2	3	3	1	4	5	6	5	7	6	6	7	5	9	7	5	4	8	10	10	6	4	5	3
MED	160	180	175	225	185	200	230	260	280	290	290	300	300	300	300	300	280	275	250	230	200	160	160	170
UQ		205	212		230	250	230	260	280	300	300	300	300	300	300	300	285	278	250	230	210	165	180	170
LQ		155	168		170	A 200	230	260	270	280	290	300	300	290	R 290	290	270	250	250	200	170	155	160	160

IONOSPHERIC DATA

JAN. 1962 | foEs (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	32	JX 32	JX 37	37	B	G	JX 41	B	JX 34	G	31	G	G	G	G	33	JX 45	G	JX 37	JX 34	JX 25	G	G	G
2	41	G	JX 39	JX 39	38	JX 50	JX 44	G	G	G	EB 41	EB 35	B	B	B	EB 47	EB 32	EB 32	JX 36	EB 29	29	EB 38	EB 28	JX 43
3	JX 52	JX 39	JX 29	JX 39	JX 37	JX 29	G	JX 37	37	G	33	EB 35	38	31	G	G	33	JX 30	EB 30	27	JX 41	JX 61	JX 25	20
4	G	JX 24	29	28	JX 25	28	30	29	37	G	G	33	38	37	32	38	35	G	29	27	JX 32	JX 45	JX 23	JX 31
5	JX 34	JX 15	JX 24	JX 41	47	JX 51	JX 36	JX 65	30	JX 29	JX 59	36	JX 40	JX 67	JX 73	JX 121	JX 61	JX 34	31	27	JX 64	JX 40	JX 40	JX 53
6	JX 85	JX 61	JX 51	JX 35	JX 79	JX 49	55	JX 49	JX 31	JX 33	JX 46	JX 54	JX 41	37	G	79	35	G	28	JX 46	JX 47	25	21	S
7	21	17	JX 20	21	22	23	30	JX 29	G	33	JX 36	JX 34	JX 40	JX 40	JX 54	JX 34	JX 49	JX 50	30	30	JX 25	JX 20	JX 31	33
8	46	JX 38	JX 64	JX 31	45	37	JX 51	45	G	JX 80	31	G	G	JX 32	35	33	JX 36	G	G	G	25	JX 80	JX 64	JX 23
9	JX 21	JX 21	JX 21	JX 34	42	JX 44	JX 67	JX 70	JX 50	JX 34	34	JX 35	34	G	33	G 29	31	JX 37	G	28	25	35	41	48
10	49	JX 39	JX 30	36	24	55	B	JX 40	B	B	EB 33	EB 32	G	JX 62	G	43	B	JX 30	30	D	JX 50	47	35	JX 59
11	JX 105	36	JX 80	JX 69	33	JX 47	G	JX 39	JX 42	B	B	EB 41	EB 38	B	G	EB 32	EB 40	EB 38	G	26	25	30	G	JX 24
12	33	JX 25	JX 39	35	35	JX 38	47	38	G	G	G	C	C	JX 47	33	29	G	JX 37	JX 41	35	25	S	G	EB 16
13	24	28	B	JX 39	31	JX 41	34	JX 36	JX 61	G	EB 43	EB 36	EB 36	JX 39	JX 40	G	G	33	JX 48	30	44	22	JX 30	22
14	16	25	31	34	G 27	JX 53	28	JX 52	JX 49	JX 38	JX 60	JX 75	JX 83	JX 76	JX 47	G	G	JX 31	36	35	B	JX 37	JX 50	JX 60
15	JX 41	D	JX 55	41	JX 46	JX 40	EB 36	43	G	B														
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CNT	15	15	14	15	14	15	14	14	14	12	13	13	12	12	13	14	13	14	14	14	13	13	14	13
MED	34	JX 28	JX 34	JX 36	36	JX 41	36	JX 40	32	EG 29	32	EG 35	38	JX 38	33	32	34	31	30	30	JX 29	36	29	JX 31
UQ	JX 48	JX 38	JX 51	JX 39	45	JX 50	JX 47	JX 49	JX 42	JX 34	JX 43	36	JX 40	JX 54	JX 40	U 40	JX 40	JX 36	JX 36	35	JX 44	JX 45	JX 40	JX 48
LQ	22	22	JX 29	34	27	33	29	JX 36	G	G	31	EG 33	EG 34	32	G	EG 29	EG 31	G	EG 28	27	25	25	EG 21	22

IONOSPHERIC DATA

JAN. 1962 | f-min (0.1) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N, Long. 39° 35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	13	11	16	15	B	22	22	B	20	20	18	18	18	18	15	17	15	12	11	E	12	12	E	E
2	E	32	20	32	16	16	15	13	15	15	41	35	B	B	B	47	32	32	30	29	15	38	28	15
3	E	E	E	E	E	12	15	13	25	22	23	35	16	20	20	20	20	17	30	26	12	E	E	11
4	E	E	11	12	12	E	13	E	14	12	15	20	17	15	15	15	28	18	13	14	12	15	12	E
5	E	E	E	E	12	E	E	15	20	18	18	19	21	18	21	19	18	18	15	15	14	12	11	E
6	E	E	E	18	14	15	13	38	15	15	15	16	15	20	15	20	25	16	15	12	E	E	E	S
7	13	12	E	E	E	15	13	E	15	E	13	13	12	13	12	13	15	12	15	11	11	E	E	28
8	18	E	E	E	15	18	15	12	14	12	E	14	14	14	15	15	15	14	14	E	14	17	E	E
9	E	E	12	12	12	22	20	18	18	14	13	14	20	19	E	17	18	22	13	E	18	17	18	15
10	E	E	E	18	E	20	B	19	B	B	33	32	21	16	12	20	B	20	E	E	E	13	E	36
11	43	12	18	15	16	15	17	27	22	B	B	41	38	B	20	32	40	38	21	17	18	13	15	12
12	15	22	34	15	17	20	20	14	15	15	16	C	C	15	16	18	14	16	16	E	13	S	11	16
13	E	14	B	27	15	15	18	15	15	20	43	36	36	19	21	21	15	20	18	20	25	17	15	E
14	12	15	21	15	13	15	14	12	15	13	13	14	13	17	15	13	15	16	13	12	B	27	14	12
15	E	16	22	25	16	17	36	25	28	B														
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CNT	15	15	15	15	15	15	15	15	15	15	14	13	13	14	14	14	14	14	14	14	14	13	14	13
MED	E	11	12	15	14	15	15	15	15	15	17	19	18	18	15	18	18	18	15	12	14	13	11	12
UQ	13	14	20	18	16	19	20	22	21	21	33	35	21	20	20	20	28	20	18	17	18	17	15	15
LQ	E	E	E	E	E	12	15	14	12	15	14	13	14	15	15	15	15	15	16	13	E	12	12	E	E

IONOSPHERIC DATA

JAN. 1962 | M(3000)F2(0.01) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F 290	F	F	F	B	F	F	B	F	F	F	F 275	F 275	285	275	280	280	300	300	305	295	305	305	U S 285
2	290	275	F	S	F	F	F	F 250	F 260	F 260	240	F 240	B	B	B	270	F	F	310	315	F 295	315	F 310	F
3	F	F	F	F	F	J F 250	F	F 260	U F 260	F	F 270	270	F 285	275	265	275	265	F 280	300	315	305	320	300	300
4	F	F	J F 265	J F 255	F	U F 260	F	U F 245	F 265	F 270	F 275	260	280	340	285	300	315	310	290	310	315	305	S	315
5	U S 315	S 310	240	280	S 285	275	275	280	280	S 270	270	290	280	315	300	305	315	315	315	F 300	F 310	F	S	R
6	F	F	F	F	F	F	J F 270	U F 280	F	F	F	F	F 295	290	290	J R 295	290	320	310	315	U F 310	U F 285	S	S
7	F	F	F	J F 310	U F 295	U F 280	F	J F 265	F 275	U F 270	280	F 290	290	315	295	270	285	310	280	F 290	305	U S 315	S	R
8	A	R	A	F	F	F	F	U F 265	F 235	F 280	F 265	F 285	F 275	F 290	280	310	265	300	295	J F 280	J F 295	U F 325	F	J F 315
9	F 255	F	F	F	F	F 290	F	F	F	F	F	F	F	F 285	J F 285	F 280	F 275	290	F 285	F 275	F 295	U F 300	F	A
10	F	F	F	U F 305	F	A	B	A	B	B	F 265	F 260	280	F 260	C	225	B	F	R	A	A	A	R	A
11	A	A	A	A	U F 255	A	R	R	A	B	B	F 240	U F 255	B	275	265	260	275	290	F 290	F	J F 310	F	U F 280
12	U F 315	280	A	F 250	U F 260	U F 250	A	F	F 265	F 265	285	C	C	280	280	290	F 265	290	F 305	330	310	S	310	F 300
13	315	F	B	R	F 295	255	U F 275	F	F	F	F 280	300	F 285	305	F 295	310	F 300	F 300	J F 290	J S 285	320	320	315	F 315
14	F	F 290	F 300	F	F	J F 260	F	F	U F 265	F 285	F 295	285	F 270	300	F	F 290	J F 270	J F 285	F	F 230	B	R	F	A
15	A	A	A	R	A	R	350	F 265	F 250	B														
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CNT	6	4	3	5	5	8	4	8	9	7	10	11	11	12	11	14	12	12	12	13	11	10	5	7
MED	302	285	F 265	F 280	U F 285	F 260	275	F 265	F 265	F 270	F 272	F 275	F 280	290	285	285	278	300	298	300	305	312	310	F 300
UQ	U 315	300	F 282	F 305	F 295	F 278	312	F 272	F 265	F 275	F 280	288	285	310	292	300	295	310	308	315	310	320	310	315
LQ	F 290	278	252	F 255	U F 260	F 252	F 272	F 255	F 260	F 268	F 265	F 260	F 275	282	278	270	265	288	290	F 285	295	F 305	305	292

IONOSPHERIC DATA

JAN. 1962 | h'F2 (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N, Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	330	380	400	B	390	A	B	400	R	400	440	430	390	400	L	L	330	L	L		270		
2		330	350	A	A	A	430	440	400	410	460	410	B	B	B	340	310	315	280	290		B		
3					390	400	395	380	390	370	370	370	360	395	410	390	400	435	305	L				
4			360	340	350	340	330	350	335	340	330	340	330	345	310	300	300	300	L	L	L		260	260
5				315	330	340	295	300	300	330	340	300	300	330	340	300	300	325	L	L	280	260		
6				L	340	325	295	340	360	370	310	320	300	305	310	340	330	270	290	L	280	L		S
7			280	300	310	340	295	370	360	350	330	310	300	300	340	L 380	370	L 290	L 350	300	L	260		R
8	A	A	A	F	L	395	490	460	410	390	380	360	390	360	400	335	330	350	320	310	L			
9	L		L	305	270	350	330	395	390	360	340	340	335	330	330	395	350	325	350	315		320	L	A
10	A			300		A	B	A	B	B	430	450	380	510	C	530	B	R	R	A	A	A	A	A
11	A	A	A	A	410	A	R	A	A	B	B	B	530	B	400	440	440	390	325	335	340	300	L	335
12	300			A	410	A	A	R	490	430	360	C	C	390	410	380	410	340	320	300	L	S	L	
13		300	B	A	400	A	400	400	370	350	340	330	380	340	350	305	345	370	300		280			
14	290		330	395		240	320	330	330	320	310	350	370	340	360	330	340	340	330	410	B	A	320	A
15	A	A	A	A	A	A	260	430	460	B														
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CNT	2	3	5	7	9	9	11	11	13	11	13	12	12	12	12	13	12	13	10	7	4	5	2	2
MED	295	330	350	315	350	340	330	380	390	360	340	345	365	342	355	340	342	330	320	310	280	270	290	298
UQ		330	360	368	400	390	398	415	400	380	380	390	385	390	400	390	385	350	330	325	310	300		
LQ		315	330	302	330	340	295	345	360	345	330	325	315	330	335	330	320	315	300	300	280	260		

IONOSPHERIC DATA

JAN. 1962 | h'F (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4'N. Long. 39°35.4'E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	B	H 270	A	B	230	210	200	200	200	210	200	200	220	220	210	235	225	240	240	260
2	270	B	A	B	A	A	A	210	190	200	B	H 210	B	B	B	B	B	230	220	235	220	B	B	270
3	235	A	350	310	A	240	220	200	210	200	200	200	210	200	200	H 200	230	210	230	210	A 250	260	235	230
4	280	290	A	290	250	210	H 200	H 200	200	230	230	H 200	210	H 200	H 200	220	210	200	210	235	235	A 260	240	240
5	240	230	250	A	A	A	A	210	200	E A 260	H 200	225	240	A	A	A	235	205	200	220	230	220	250	240
6	240	260	270	A 260	240	230	230	B	200	210	E A 250	A	E A 250	H 210	200	A 240	210	220	H 220	A	230	260	260	S
7	270	240	250	250	230	220	210	200	210	200	200	210	200	230	235	200	230	225	210	230	200	250	260	B
8	A	A	A	A	230	A	A	270	225	200	225	220	225	200	210	200	210	235	230	235	A 250	230	250	240
9	230	260	240	210	250	210	200	220	220	H 180	200	200	200	H 200	200	200	205	220	210	220	265	A	240	A
10	A	360	390	A	A	A	B	A	B	B	210	230	200	220	C	A	B	A	210	A	A	A	A	B
11	B	A 250	A	A	310	A	300	A	A	B	B	B	B	B	220	225	B	B	240	260	235	290	260	A
12	A	A	B	A	A	A	A	300	230	220	210	C	C	220	200	200	200	230	225	200	210	S	230	270
13	280	A	B	A	A	A	A 290	260	200	210	B	215	H 210	215	230	220	200	215	220	H 230	A	250	250	250
14	220	290	A	340	330	230	220	A 240	215	H 200	200	A 260	200	200	200	210	205	210	210	A	B	A	A	A
15	300	A	A	A	A	A	B	A	265	B														
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CNT	10	8	6	6	7	7	8	10	13	12	11	11	11	11	11	11	11	12	14	11	11	9	11	8
MED	255	260	260	275	250	230	220	215	210	202	200	210	205	210	200	200	210	220	215	230	230	250	250	245
UQ	280	290	350	310	280	235	260	260	225	212	214	222	214	218	215	220	225	228	225	235	242	260	255	265
LQ	235	245	250	250	235	215	205	200	200	200	200	200	200	200	200	200	205	210	210	220	222	240	240	240

IONOSPHERIC DATA

JAN. 1962 | h'Es (km) | 45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° .4' N, Long. 39°35.4' E Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	110	110	110	110	B	G	110	B	105	G	100	G	G	G	G	100	100	G	115	110	120	G	G	G
2	110	G	110	105	100	100	100	G	G	G	B	B	B	B	B	B	B	B	120	B	110	B	B	140
3	125	130	140	120	110	110	G	130	110	G	120	B	100	100	G	G	110	130	B	130	110	110	110	110
4	G	140	140	150	115	110	115	110	110	G	G	140	105	110	135	100	120	G	110	130	115	110	110	105
5	110	105	100	115	110	110	110	120	115	110	130	130	120	110	110	100	165	120	140	140	130	110	110	100
6	100	100	130	130	110	110	110	130	100	100	100	100	100	100	G	100	130	G	160	120	130	170	125	S
7	130	120	120	125	115	120	110	110	G	120	120	120	120	110	100	100	100	100	135	120	110	110	120	120
8	120	110	115	110	100	110	100	115	G	130	110	G	G	100	110	100	105	G	G	G	140	140	130	130
9	120	110	140	105	100	110	140	105	100	100	120	110	110	G	100	100	100	100	G	135	150	130	130	110
10	110	130	140	120	110	100	B	110	B	B	B	B	G	120	G	110	B	110	105	105	100	105	110	100
11	100	110	100	100	100	150	G	100	100	B	B	B	B	B	G	B	B	B	G	160	150	110	G	110
12	100	130	130	120	110	110	100	105	G	G	G	C	C	120	100	115	G	125	110	120	110	S	G	B
13	110	110	B	105	100	100	100	110	120	G	B	B	B	105	110	G	G	150	130	135	120	125	130	160
14	145	130	120	135	110	110	125	100	100	100	110	115	110	170	110	G	G	110	110	105	B	120	100	100
15	100	100	100	115	150	100	B	110	G	B														
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	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	14	14	14	15	14	14	11	13	9	6	8	6	7	10	8	9	8	8	10	12	13	11	10	11
MED	110	110	120	115	110	110	110	110	105	105	115	118	110	110	110	100	108	115	118	125	120	110	115	110
UQ	120	130	140	122	110	110	112	115	110	120	120	130	115	120	110	100	125	128	135	135	130	128	130	125
LQ	100	110	110	108	100	100	100	105	100	100	105	110	102	100	100	100	100	105	110	115	110	110	110	102

The Radio Research Laboratories, Japan

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