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ION.ANT.—48

IONOSPHERIC DATA AT SYOWA STATION

(ANTARCTICA)

January 1987—June 1987

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COMMUNICATIONS RESEARCH LABORATORY

MINISTRY OF POSTS AND TELECOMMUNICATIONS

TOKYO, JAPAN

INTRODUCTION

Vertical soundings of ionosphere at Syowa Station, Antarctica, have been carried out by the Communications Research Laboratory through the sponsorship of of the National Institute of Polar Research of Japan.

LOCATION OF SYOWA STATION

Geographic		Geomagnetic	
Latitude	Longitude	Latitude	Longitude
69° 00.4'S	39° 35.4'E	-69.8°	78.2°

SPECIFICATIONS OF THE IONOSONDE USED AT SYOWA STATION

Items	Specifications
Frequency Range	400 kHz-15 MHz
Transmitting Power	10 kW (peak value)
Duration of Sweep	20 sec
Transmitted Pulse Width	80 μ sec
Recurrence Frequency of Transmitted Pulse	50 Hz (by power source frequency)
Frequency Scale	every 1 MHz
Height Range	900 km
Height Scale	every 50 km
Total Receiver Gain	120 dB
Recording Method	35 mm film and video fax for ionograms
Power Supply	1000 volt AC, 2.0 kVA
Transmitting Antenna and Receiving Antenna	30 m height vertical delta terminated by 600 Ω respectively

DESCRIPTION

a. All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Handbook of Ionogram Interpretation and Reduction (Second Edition 1972)"

b. Ionograms data are printed in the quarter hourly of every days.

c. Characteristics of Ionosphere

fxI	Top frequency of spread F traces or oblique traces.
foF2	Ordinary wave critical frequency for the F2 layer.
fEs(ftEs)	Top frequency of Es layer as reflected overhead.
fmin	Lowest frequency showing vertical ionospheric reflection.
h'F	Minimum virtual height of the ordinary wave F trace as a whole.

Symbols

(1) Descriptive Letters.

The following letters are entered after, or used to replace, a numerical value on the 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 fmin.

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.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced or impossible because the ionization density of the layer is too small to enable it to made accurately.

H Measurement influenced by, or impossible because of, the presence of stratification.

K Presence of particle E layer.

L Measurement influenced by or impossible because the trace has no sufficiently definite cusp between layers.

M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

P Man-made perturbation of parameters-Presence of polar spur traces.

Q Range spread present.

R Measurement influenced by,or impossible because of, attenuation in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

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 Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets.

D Greater than.

E Less than.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characteristic deduced from the ordinary 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 magneto-electronic component.

Definitions of the CNT, MED, UQ and LQ

Median count (CNT) is the number of values from which a median has been computed. In addition to numerical values, the count may include certain descriptive letters.

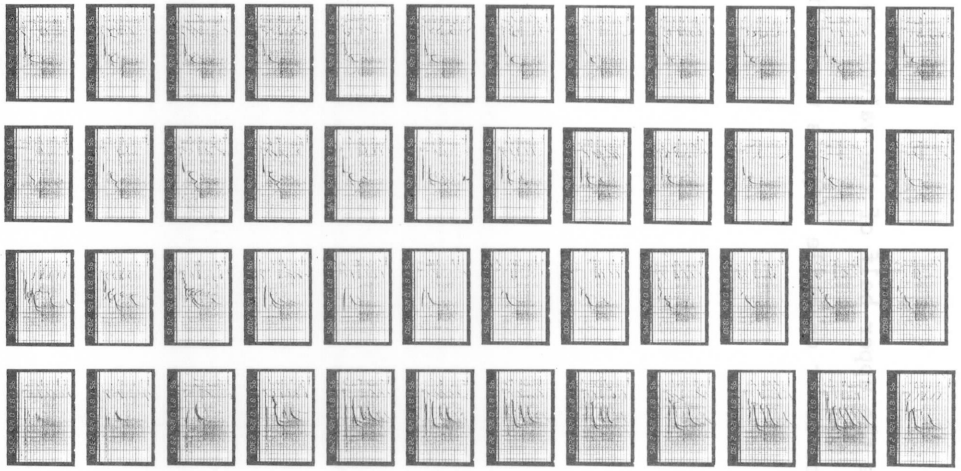
Median (MED) of a set of numbers is the middle value when the numbers are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (UQ) is the median value the upper half of the values when they are ranked according to magnitude; the lower quartile (LQ) is the median value of the lower half.

SYOWA STATION

1987 01 26 12:00 ~ 23:45

IONOGRAM



SYOWA STATION

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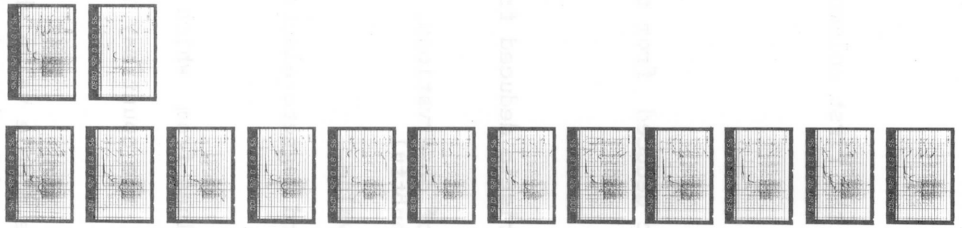

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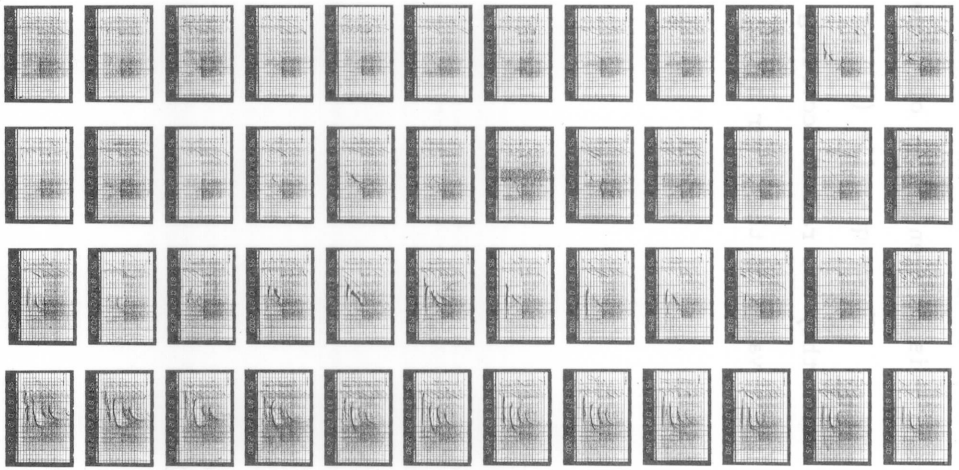

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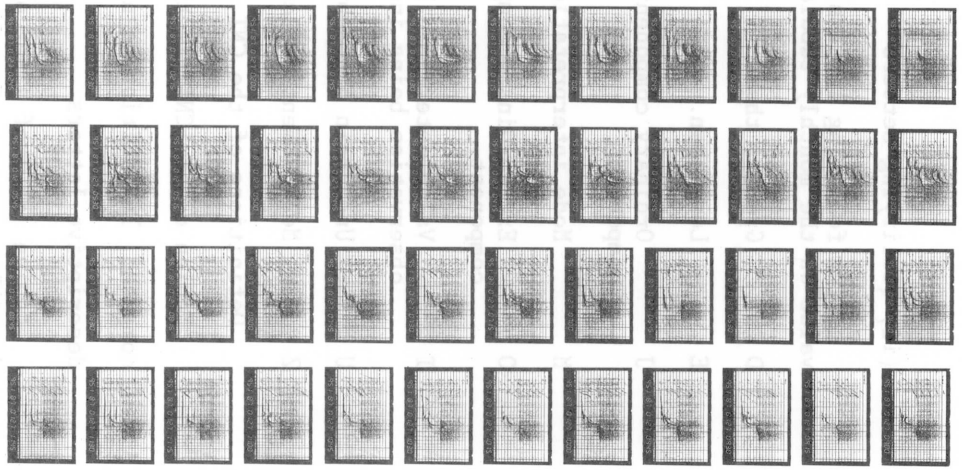

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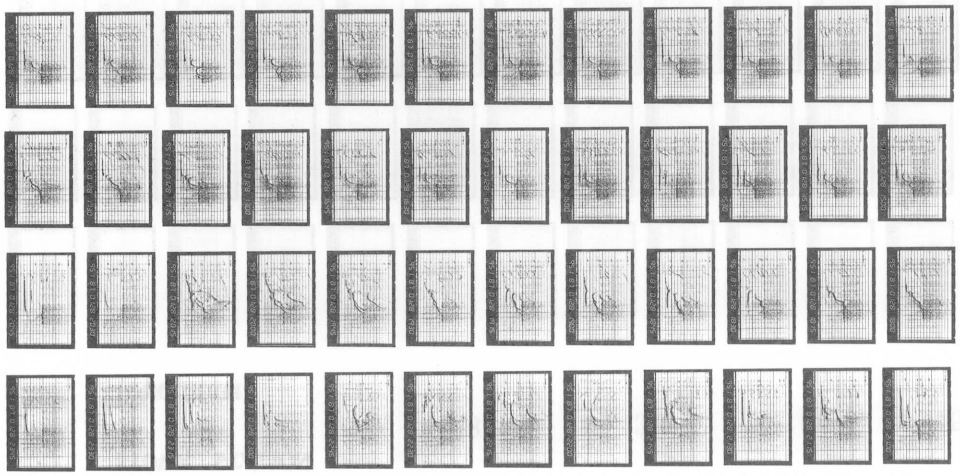

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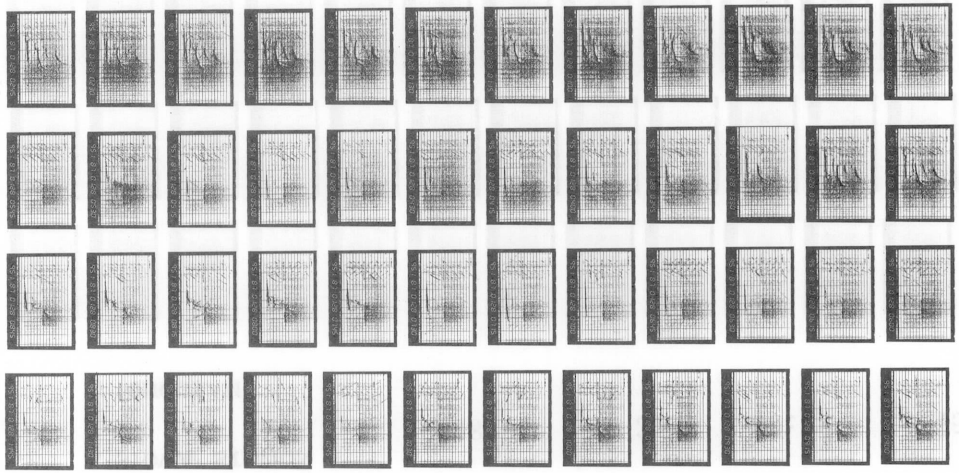

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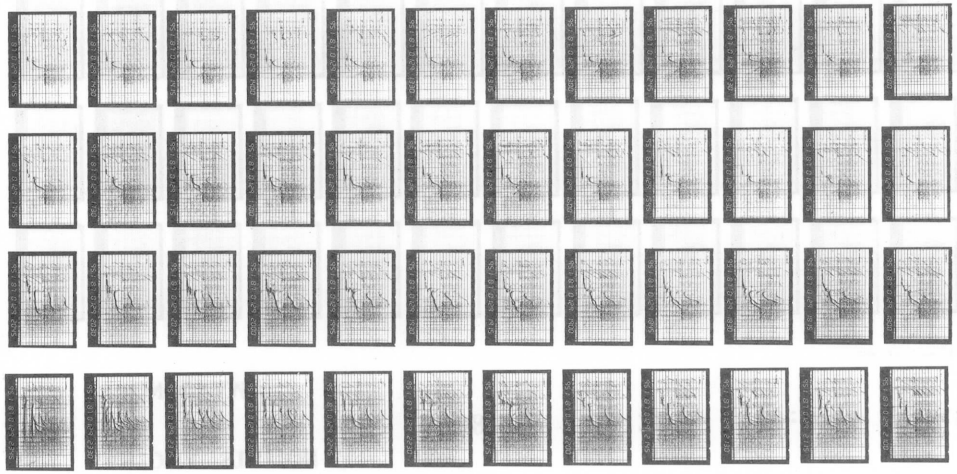

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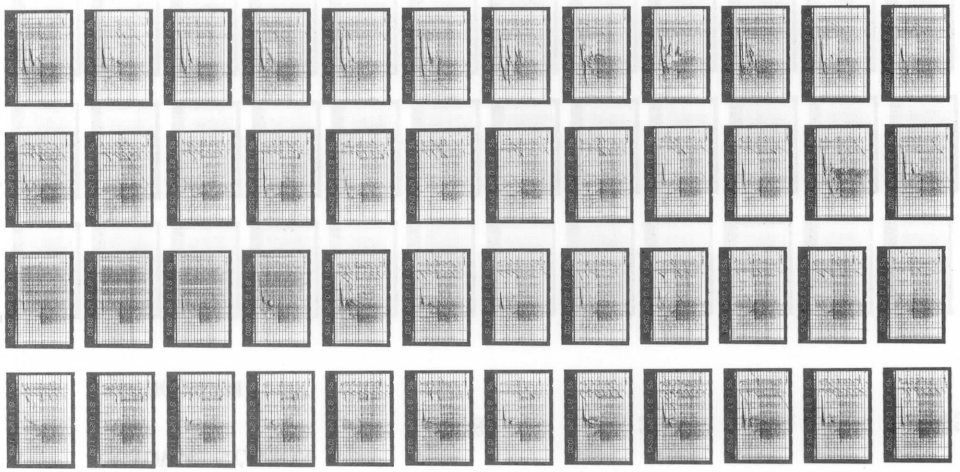

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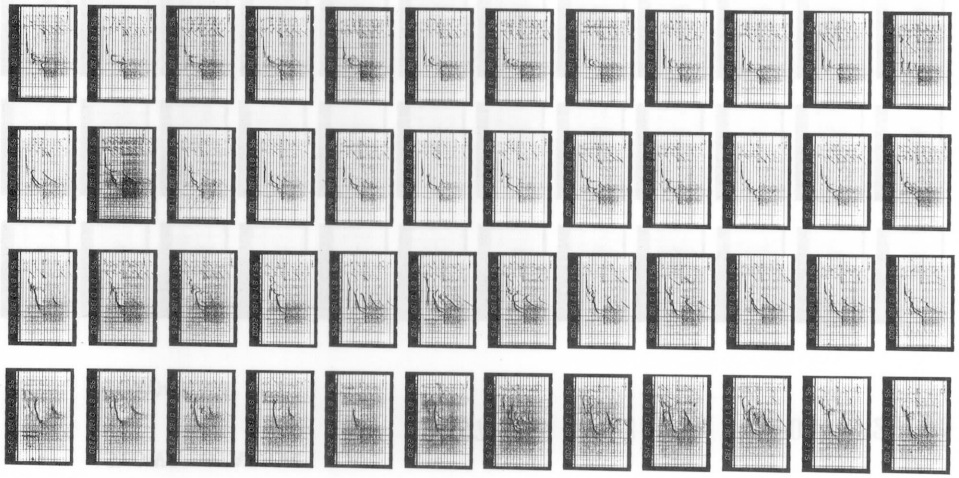

SYOWA STATION

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SYOWA STATION

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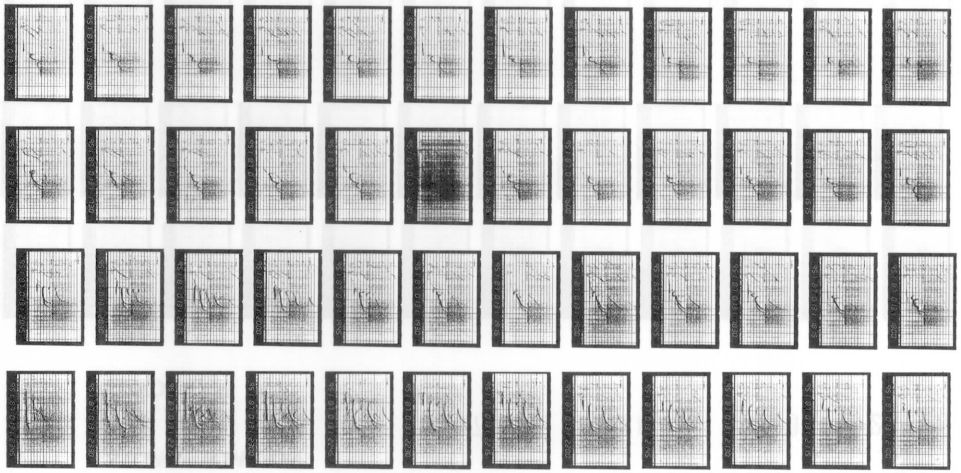

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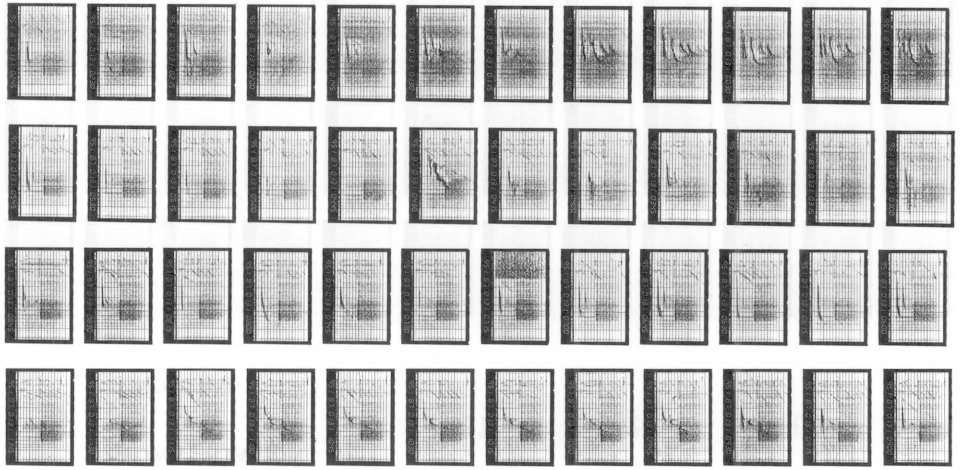

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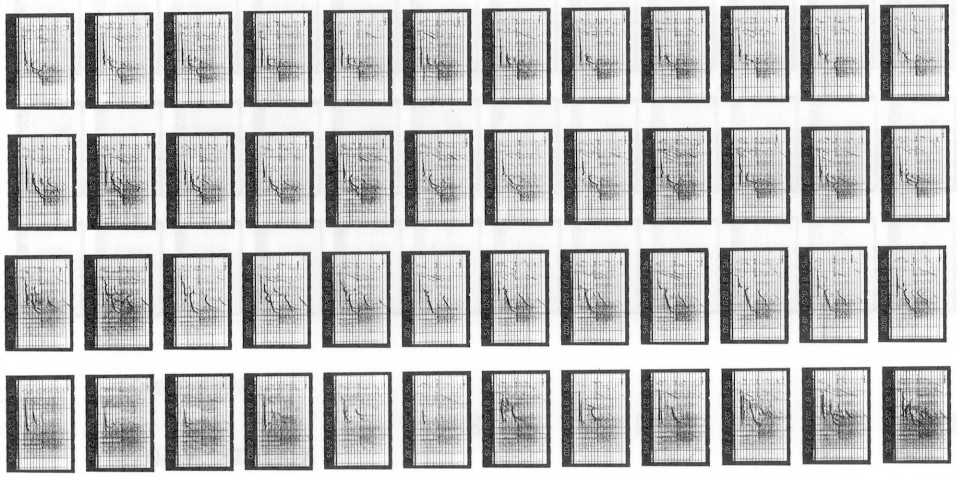

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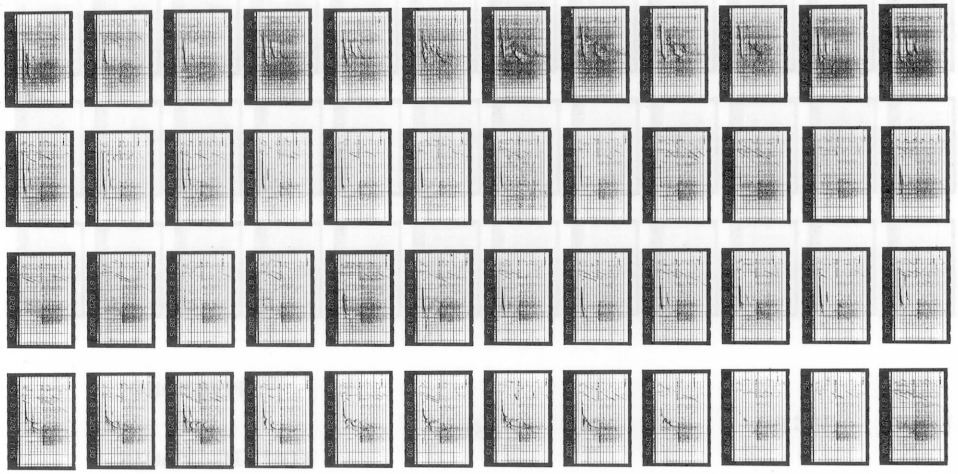

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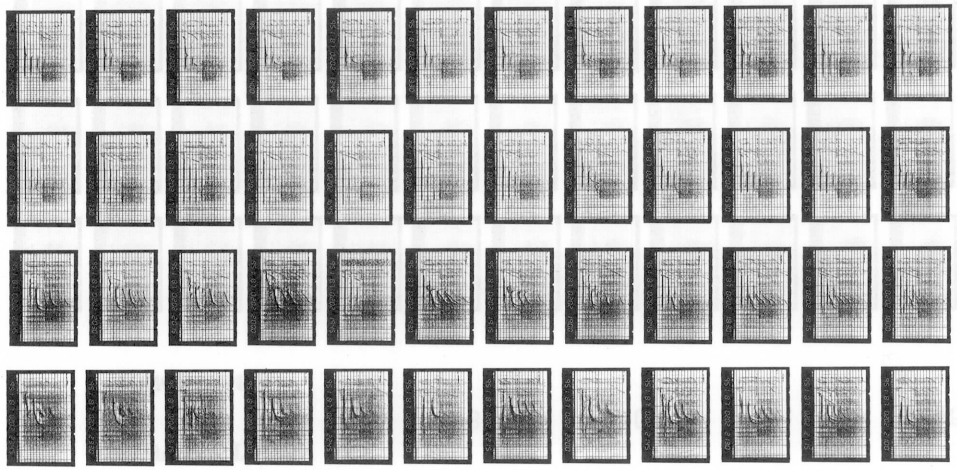

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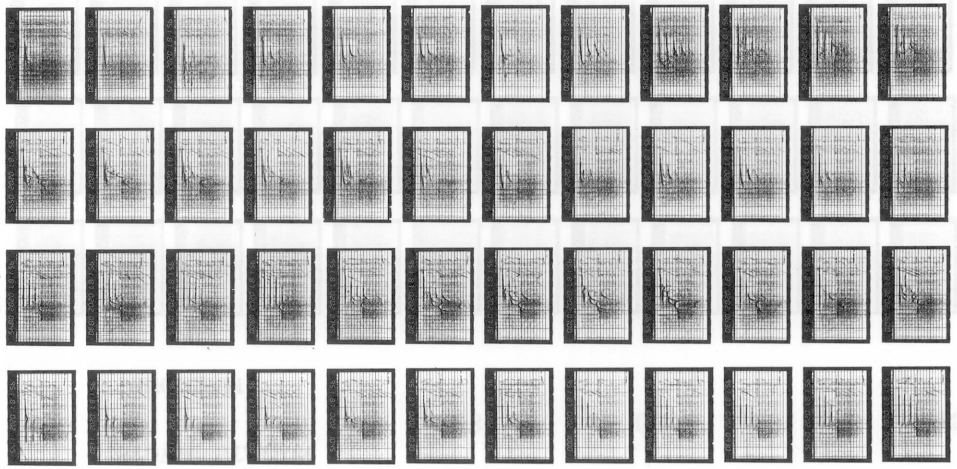

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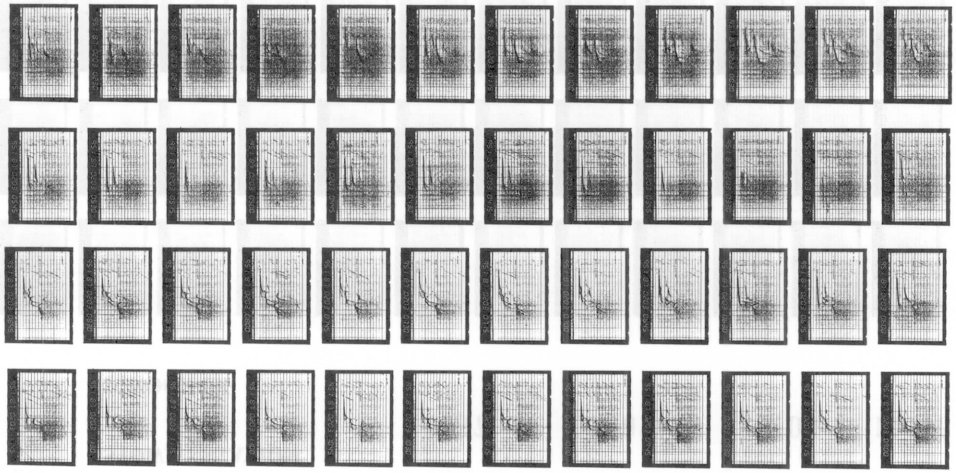

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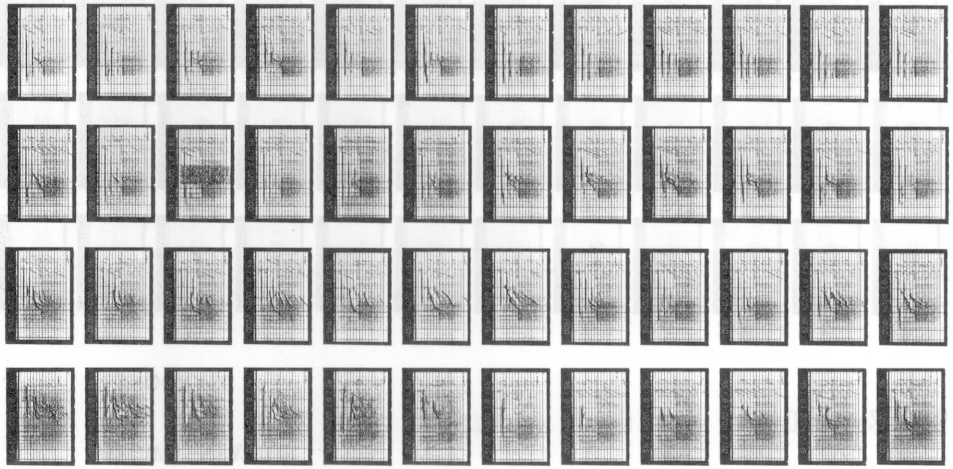

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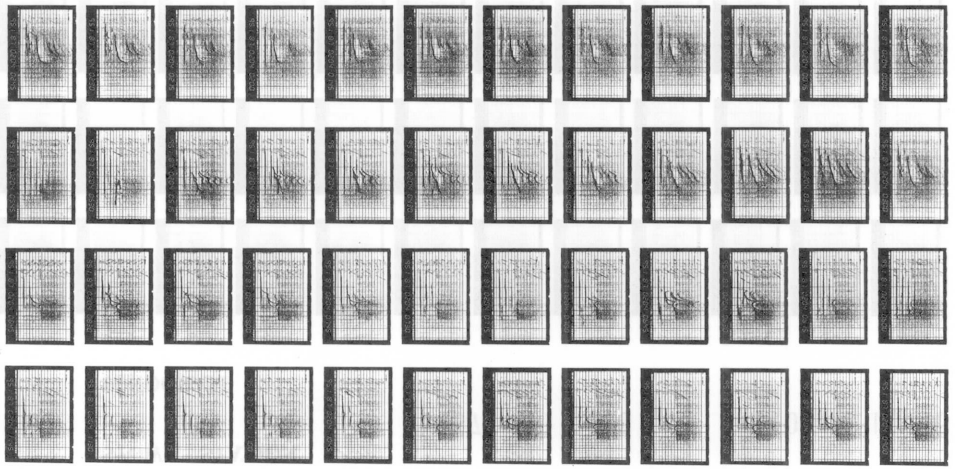

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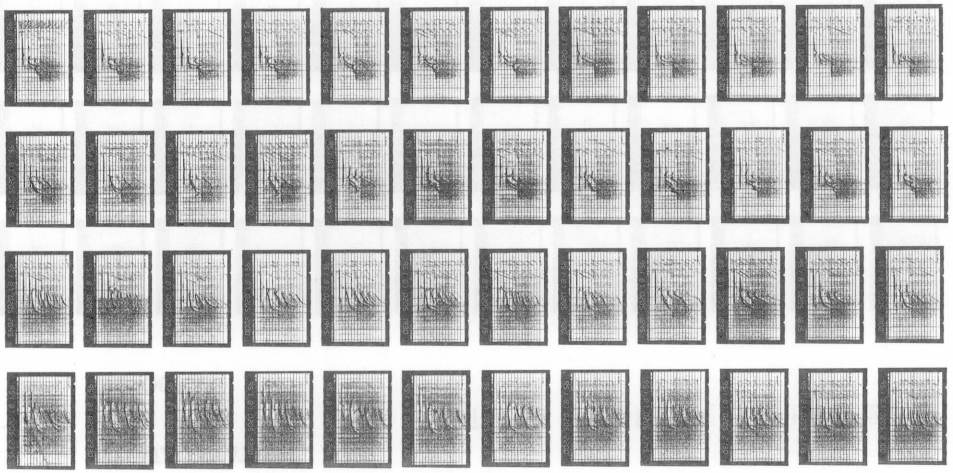

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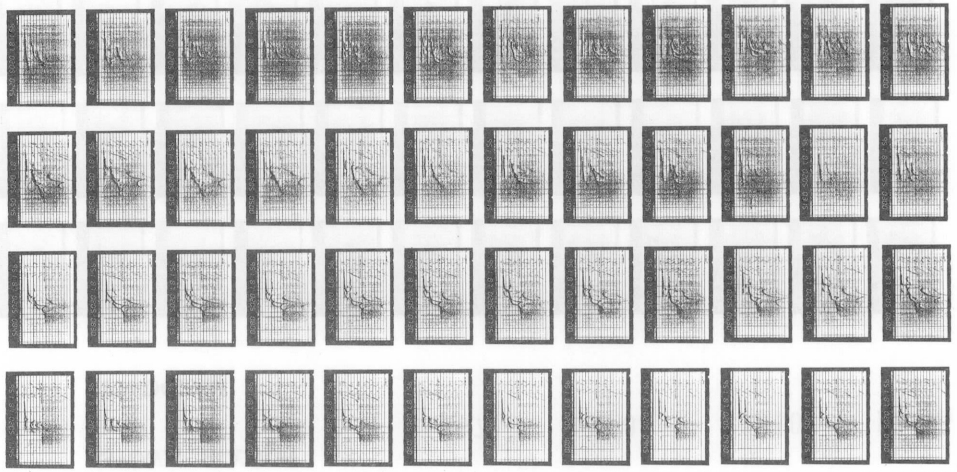

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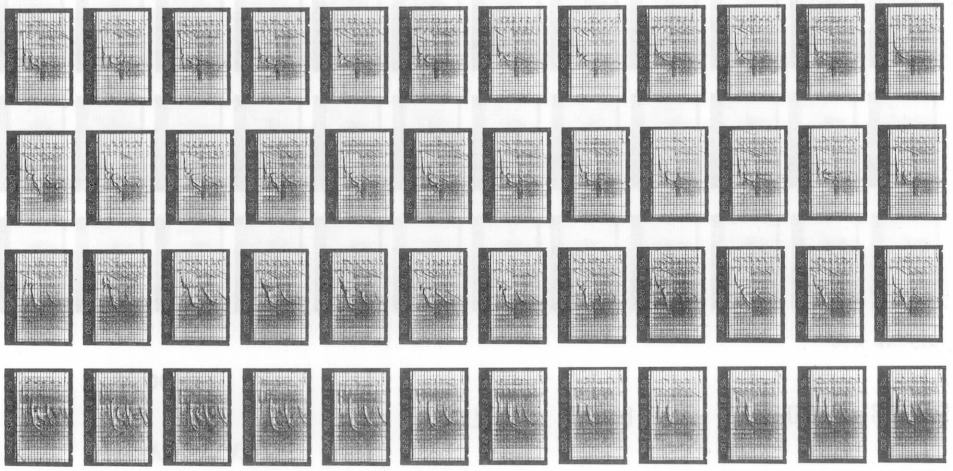

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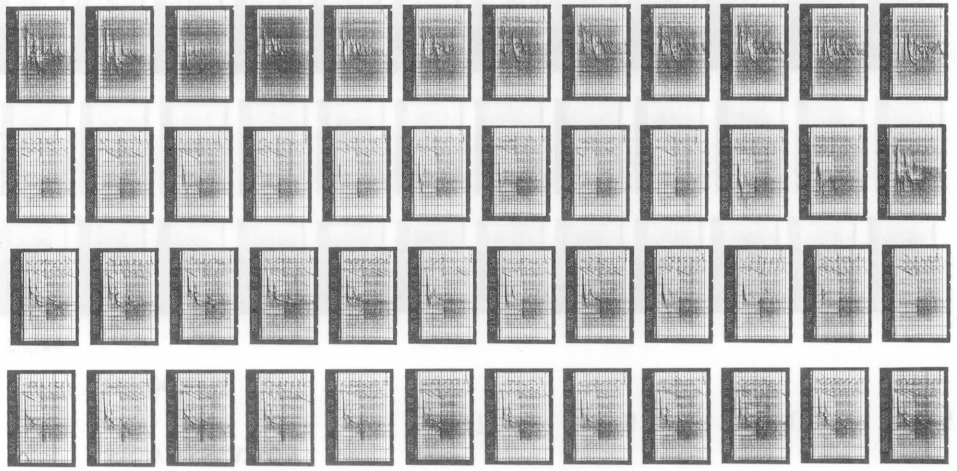

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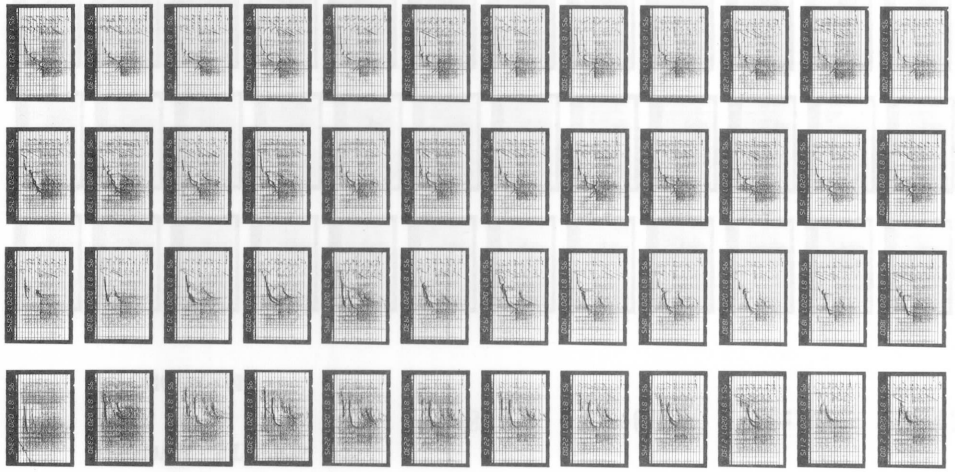

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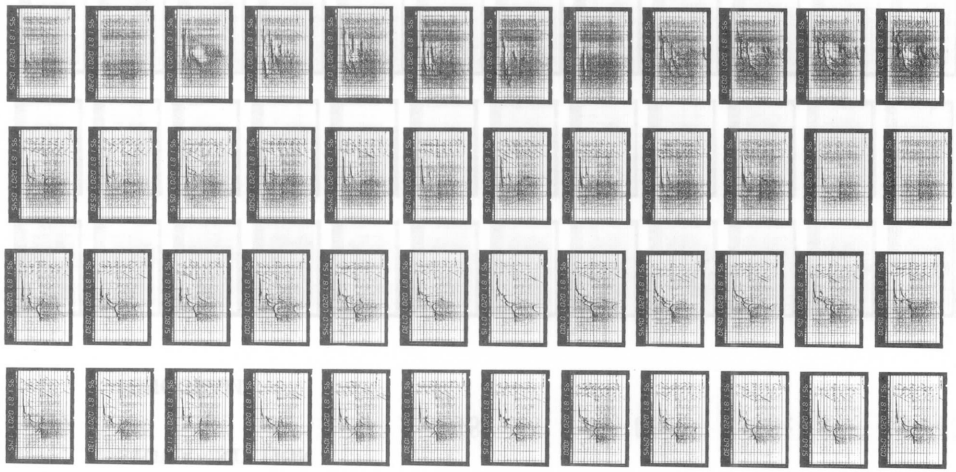

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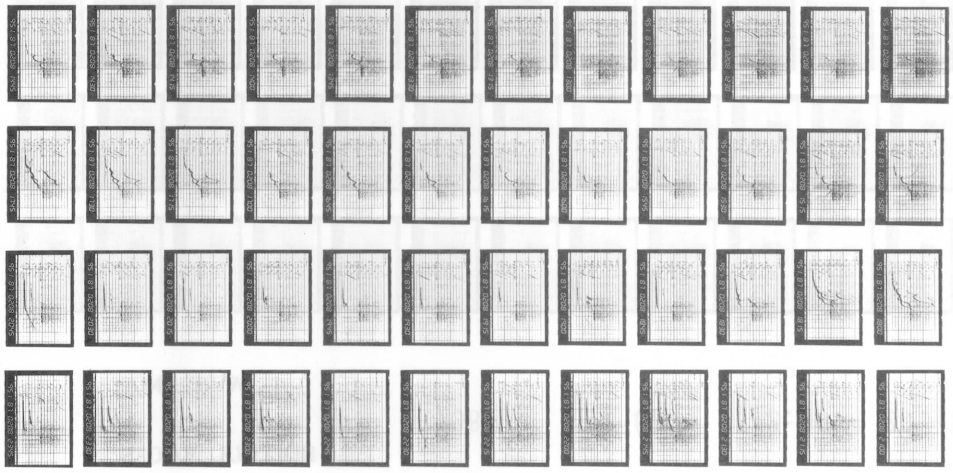

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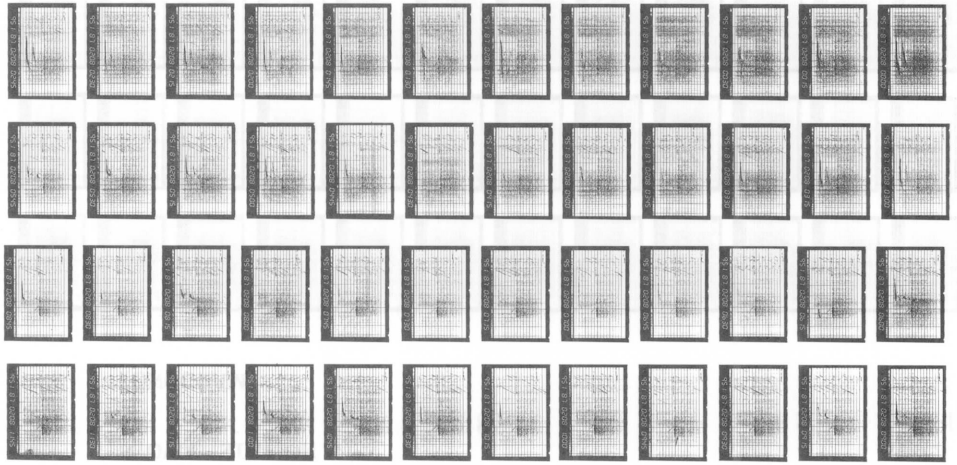

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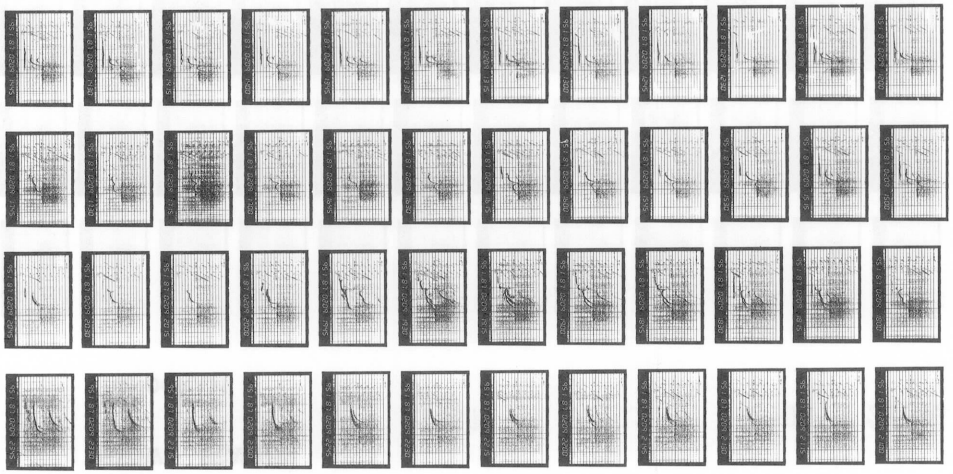

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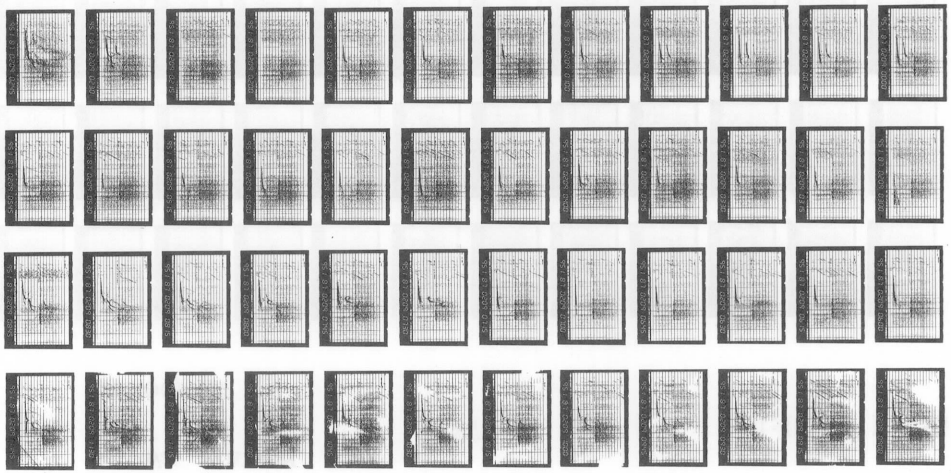

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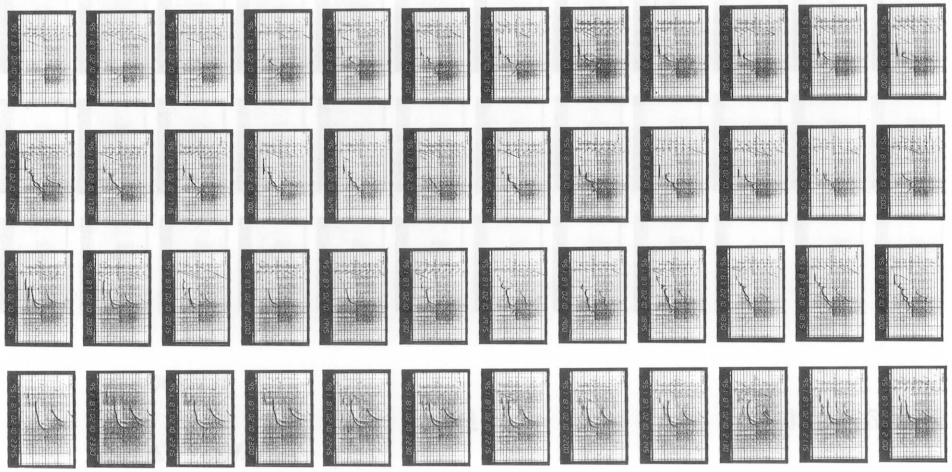

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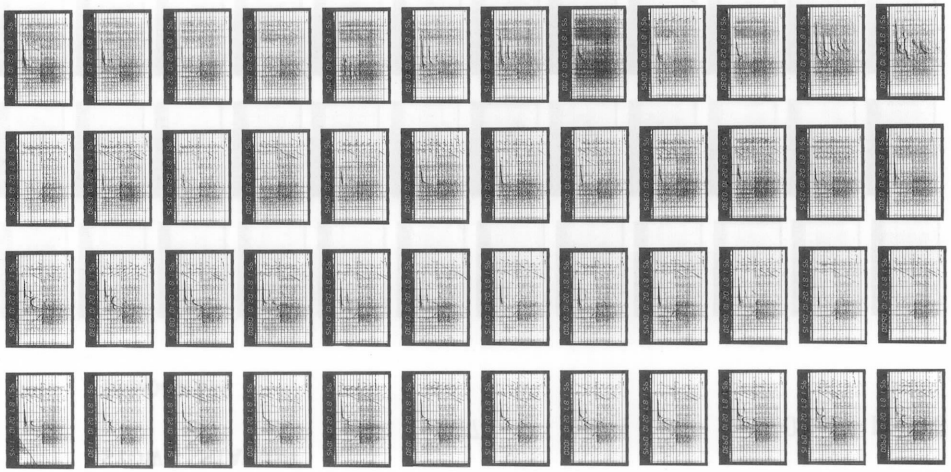

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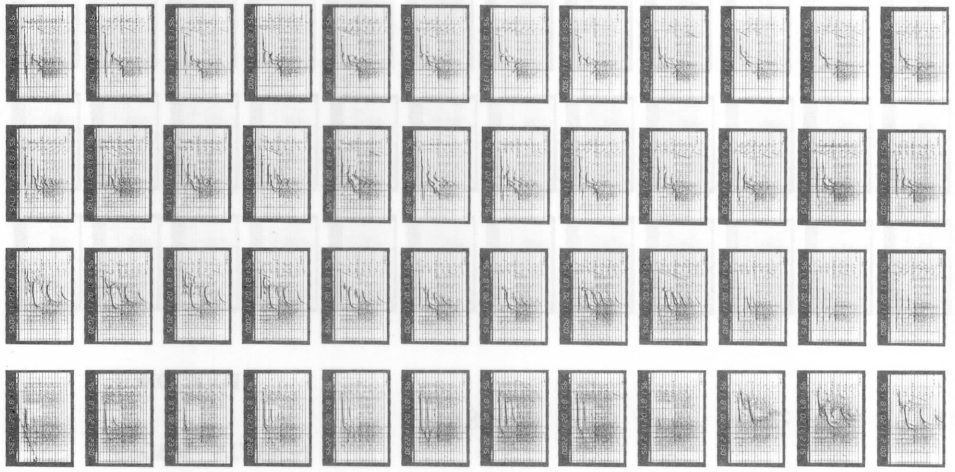

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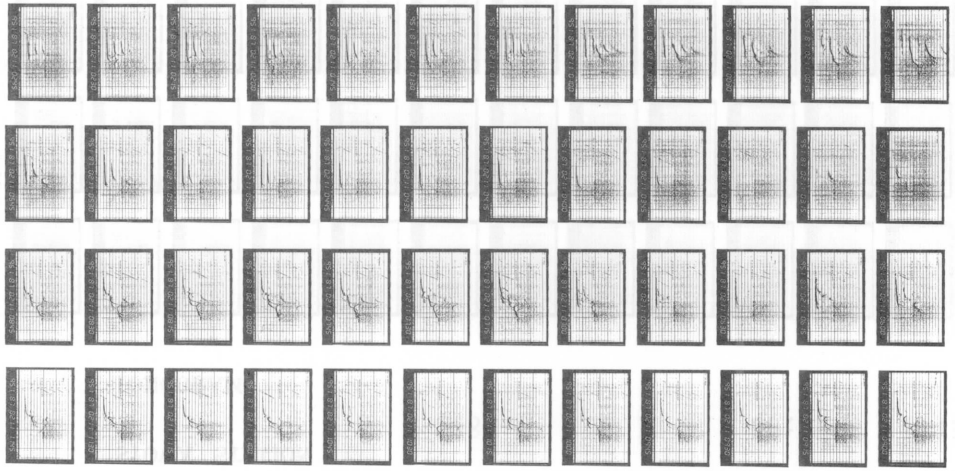

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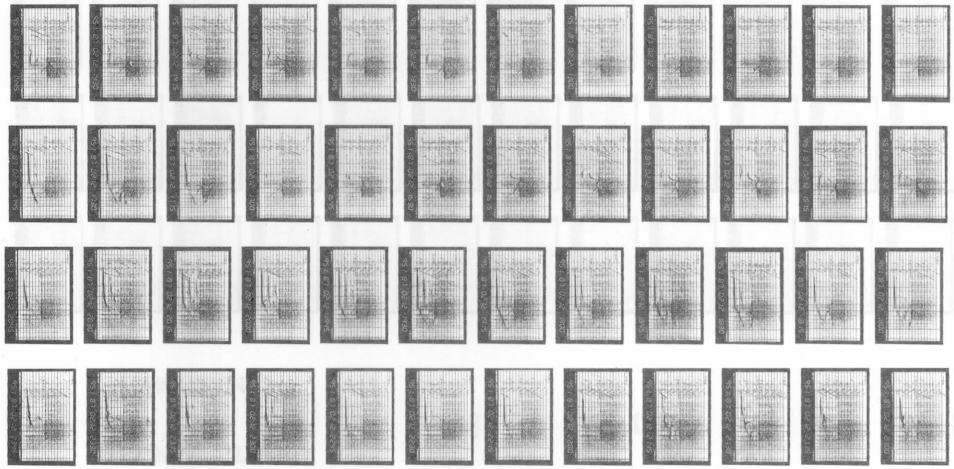

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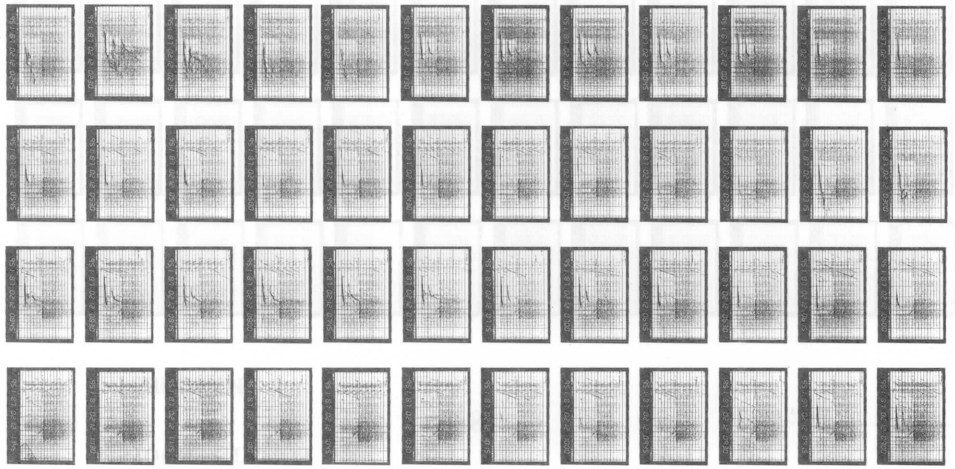

SYOWA STATION

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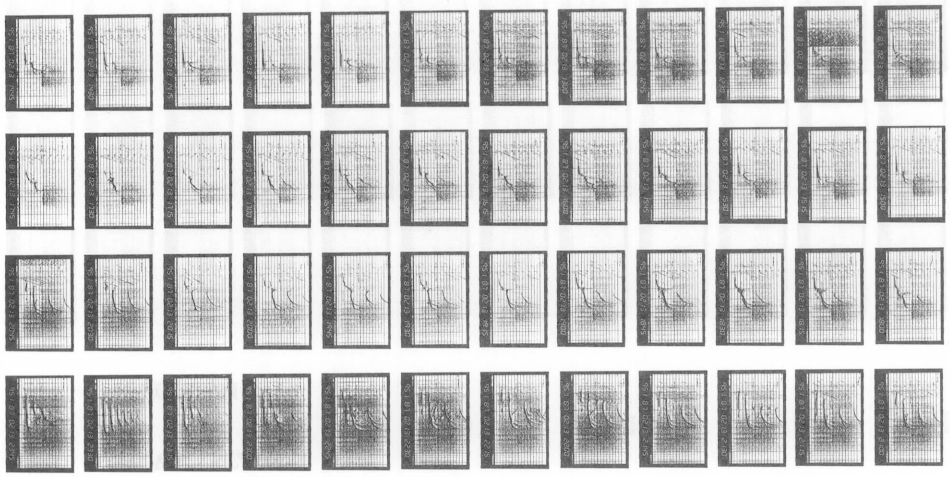

SYOWA STATION

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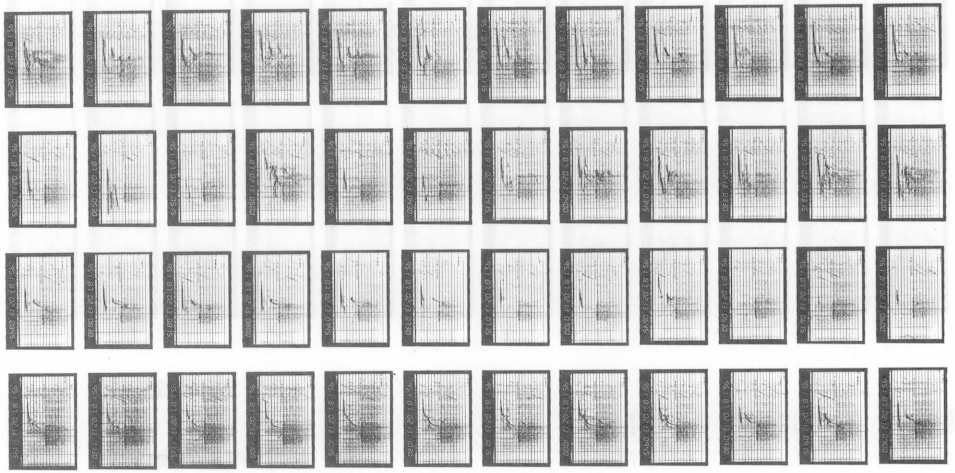

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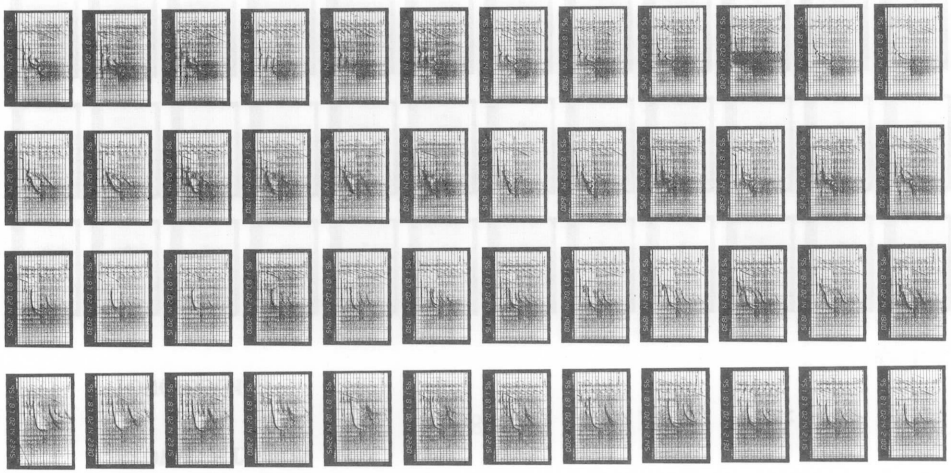

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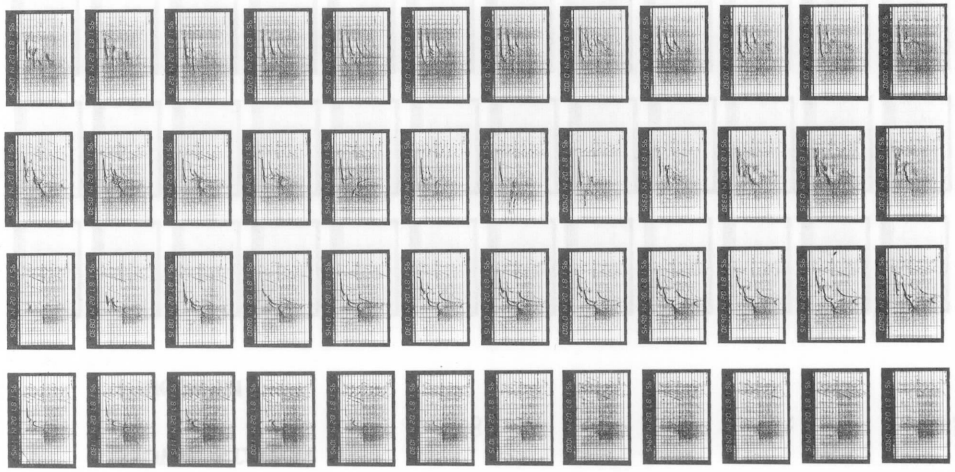

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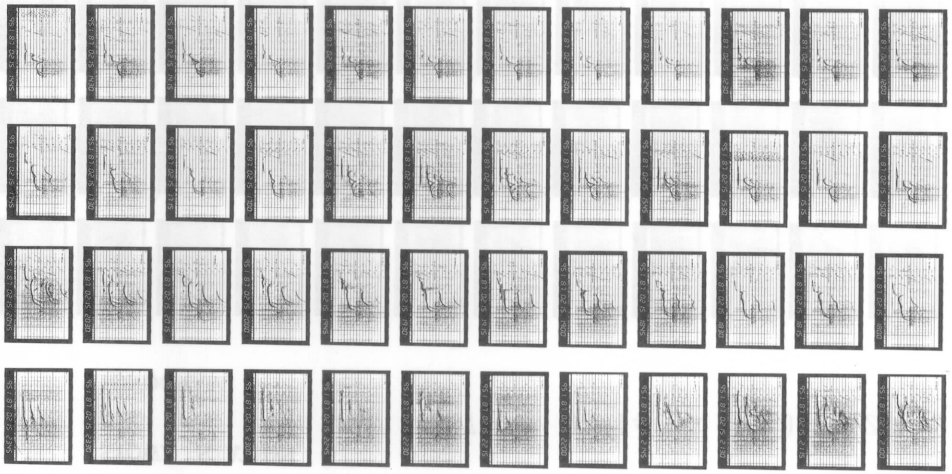

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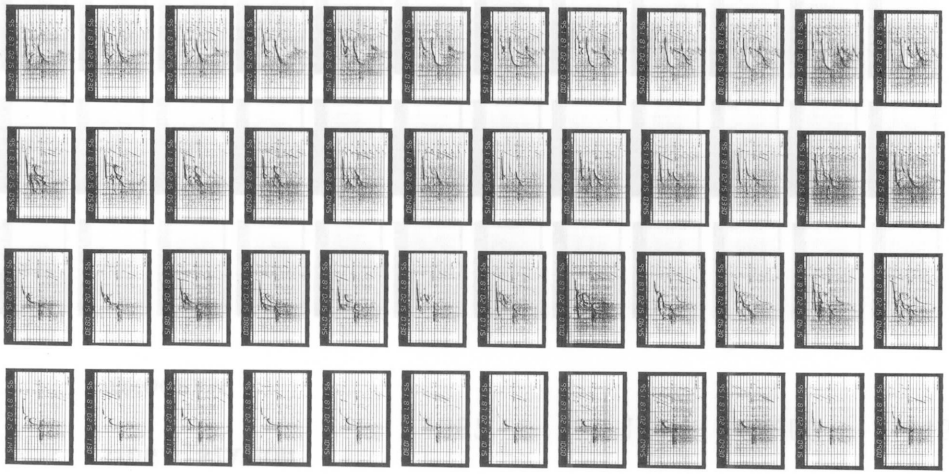

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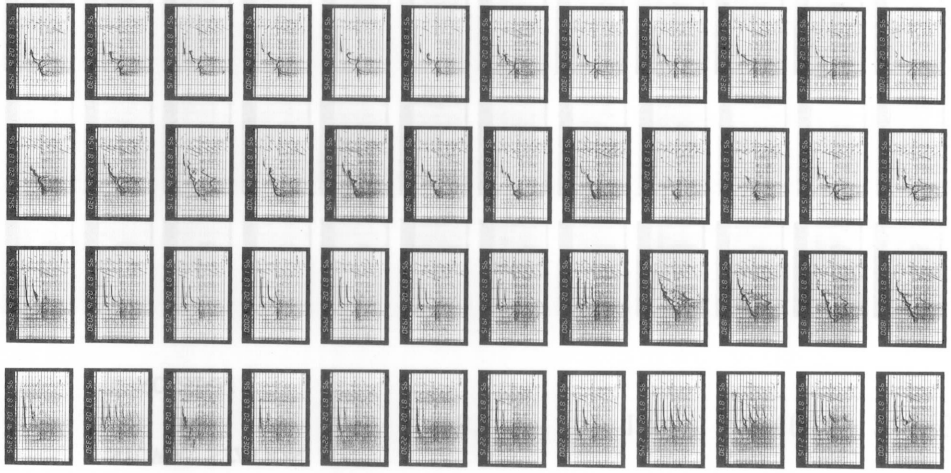

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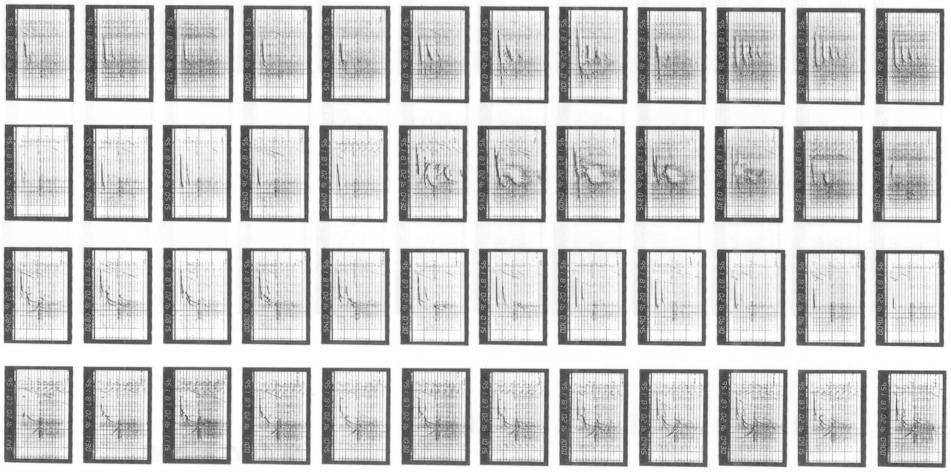

SYOWA STATION

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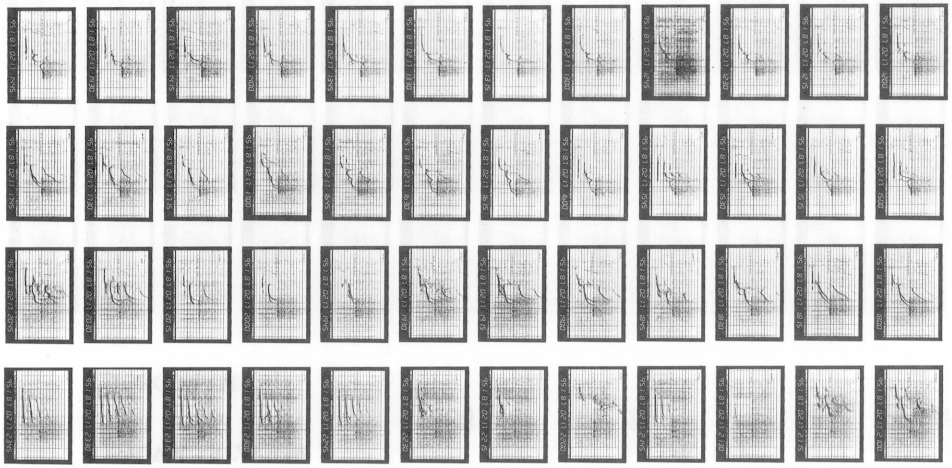
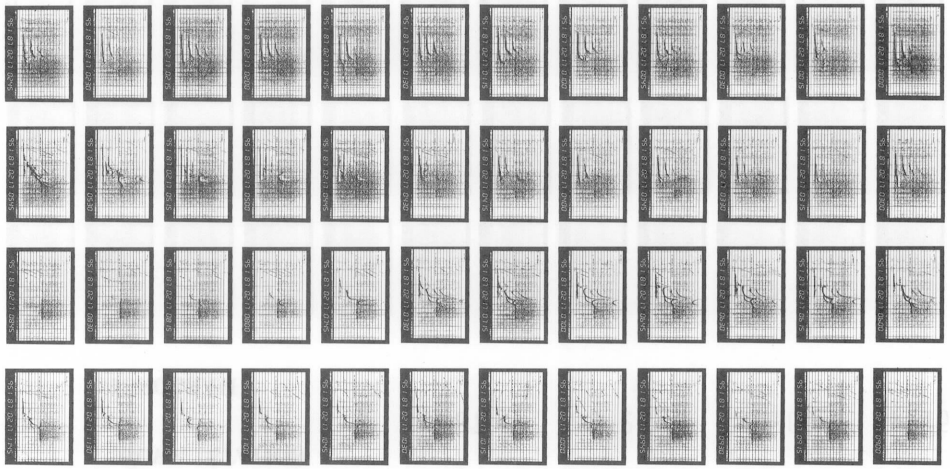
IONOGRAM



SYOWA STATION

1987 02 17 00:00 ~ 11:45

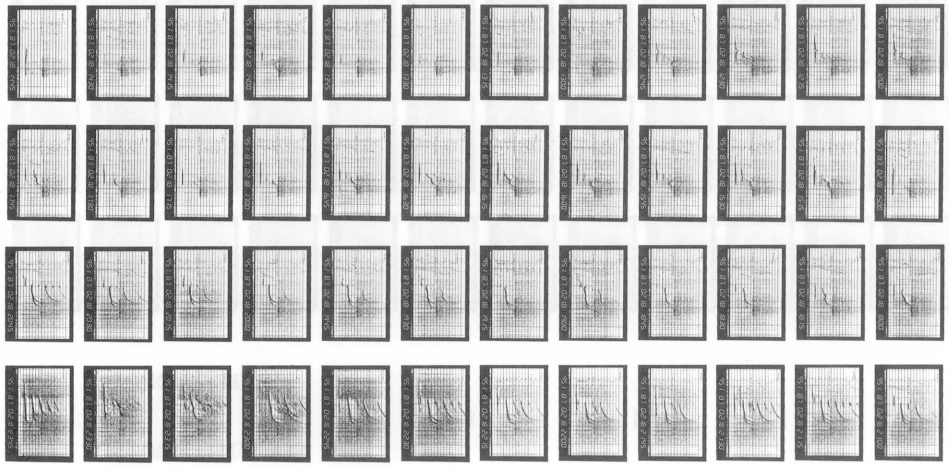
IONOGRAM



SYOWA STATION

1987 02 18 12:00 ~ 23:45

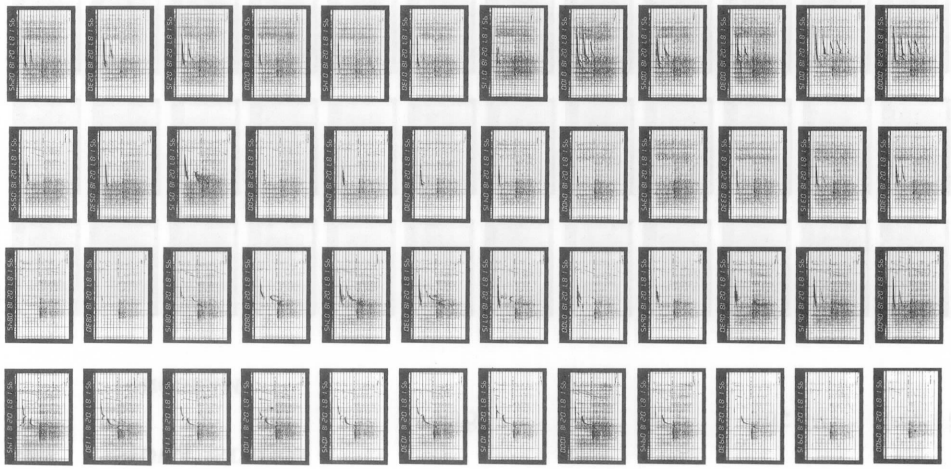
IONOGRAM



SYOWA STATION

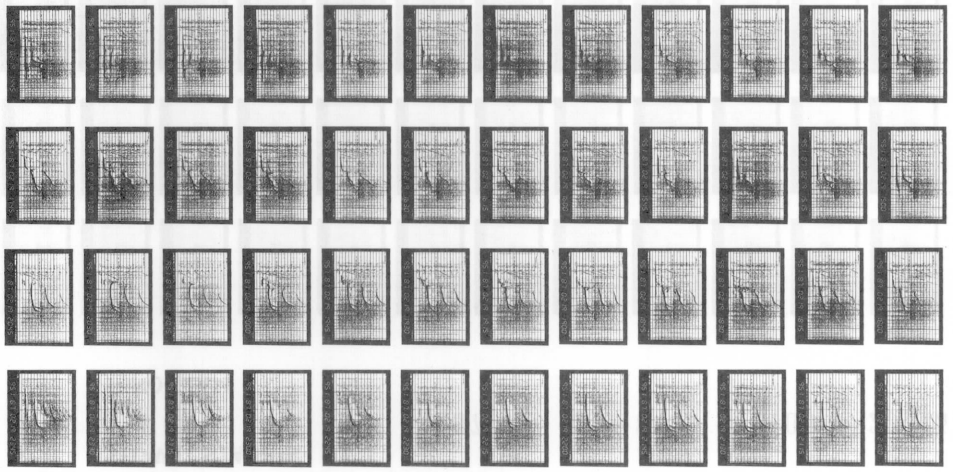
1987 02 18 00:00 ~ 11:45

IONOGRAM



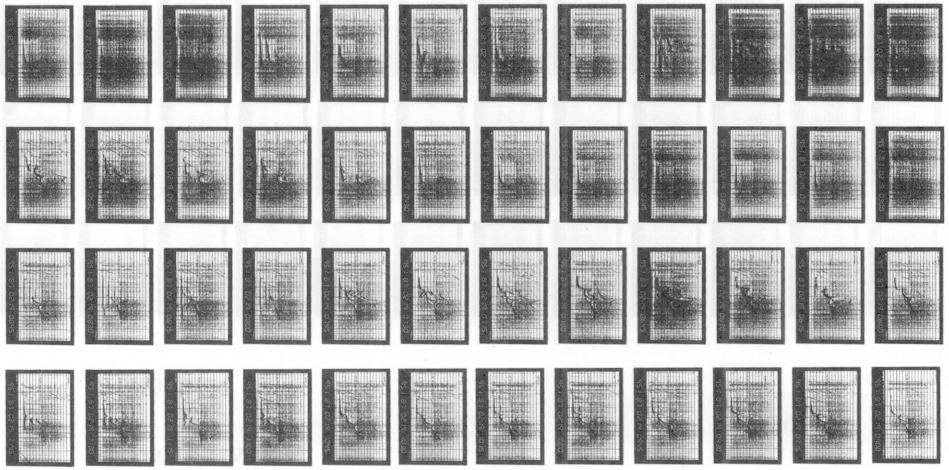
SYOWA STATION 1987 02 19 12:00 ~ 23:45

IONOGRAM



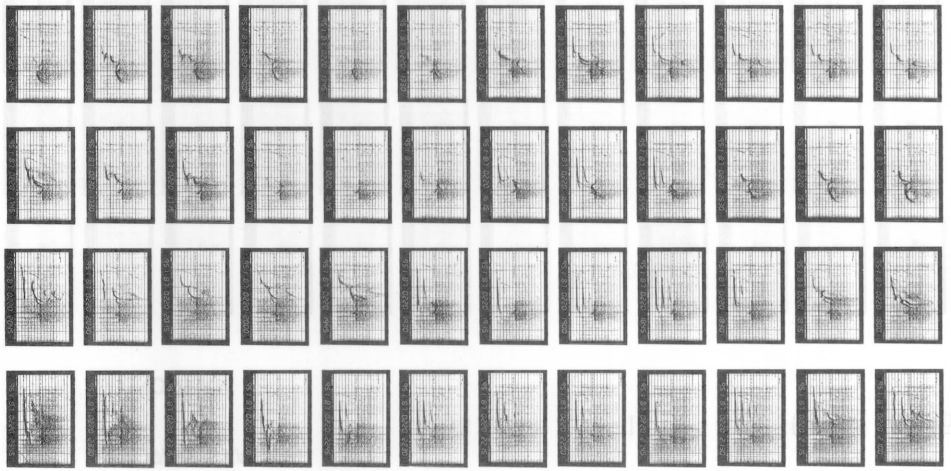
SYOWA STATION 1987 02 19 00:00 ~ 11:45

IONOGRAM



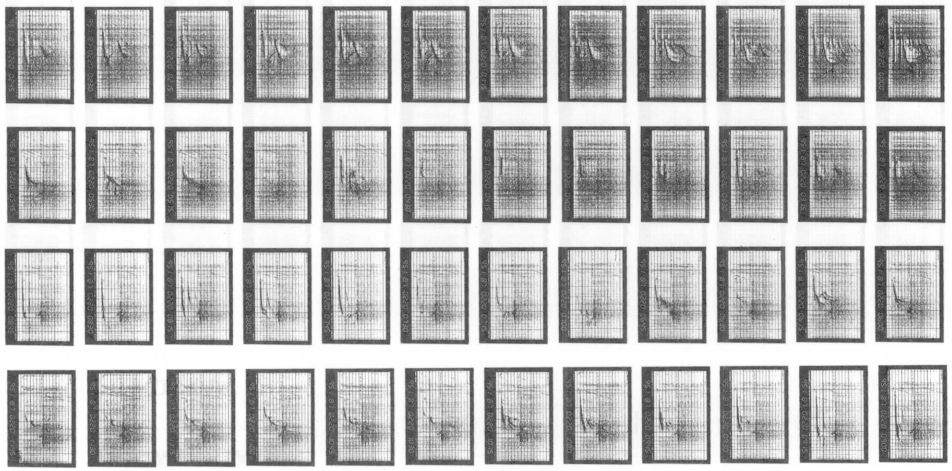
SYOWA STATION 1987 02 20 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 02 20 00:00 ~ 11:45

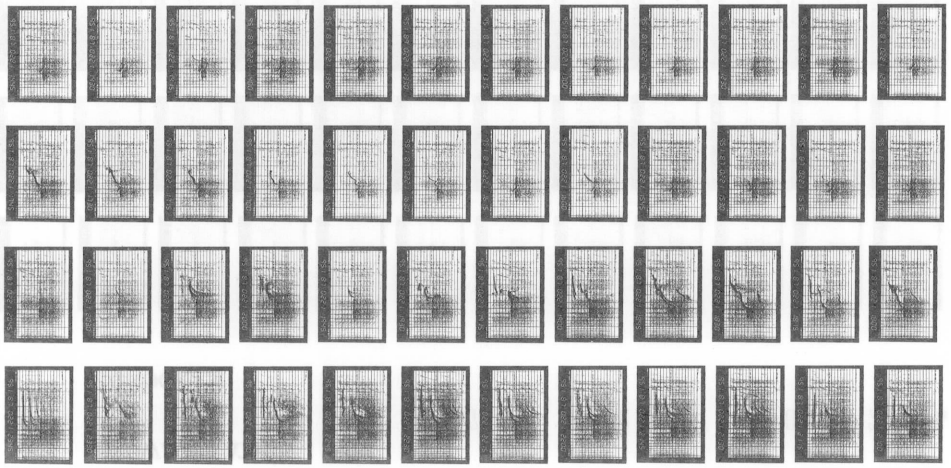
IONOGRAM



SYOWA STATION

IONOGRAM

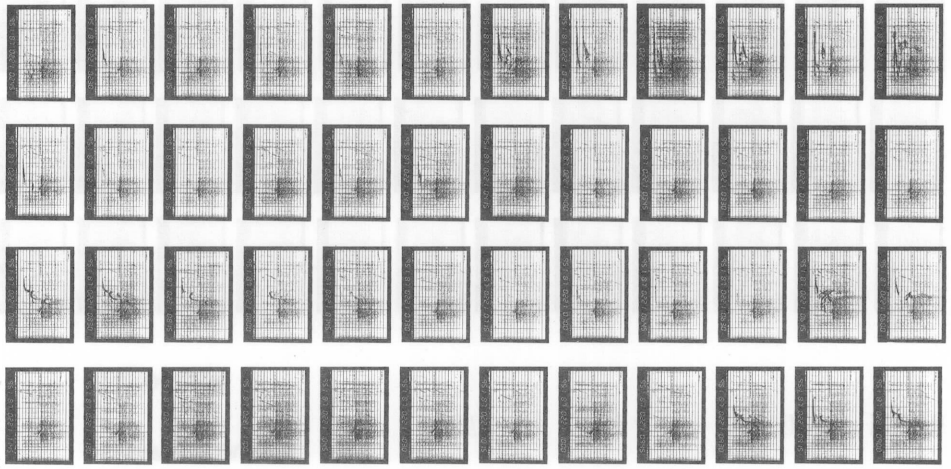
1987 02 21 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

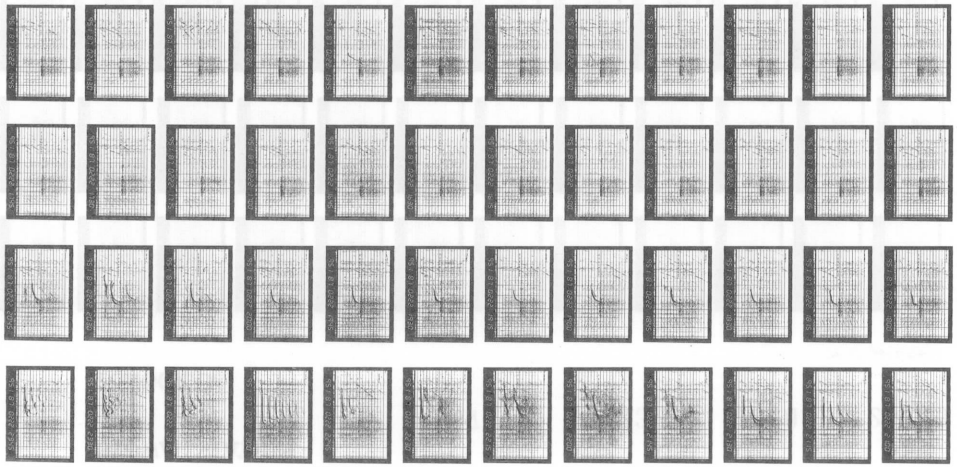
1987 02 21 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

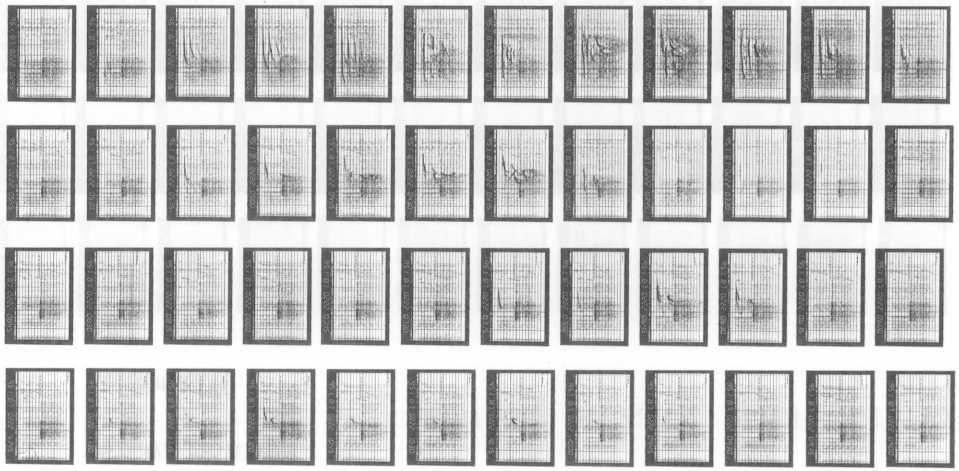
1987 02 22 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

1987 02 22 00:00 ~ 11:45



SYOWA STATION 1987 02 23 12:00 ~ 23:45

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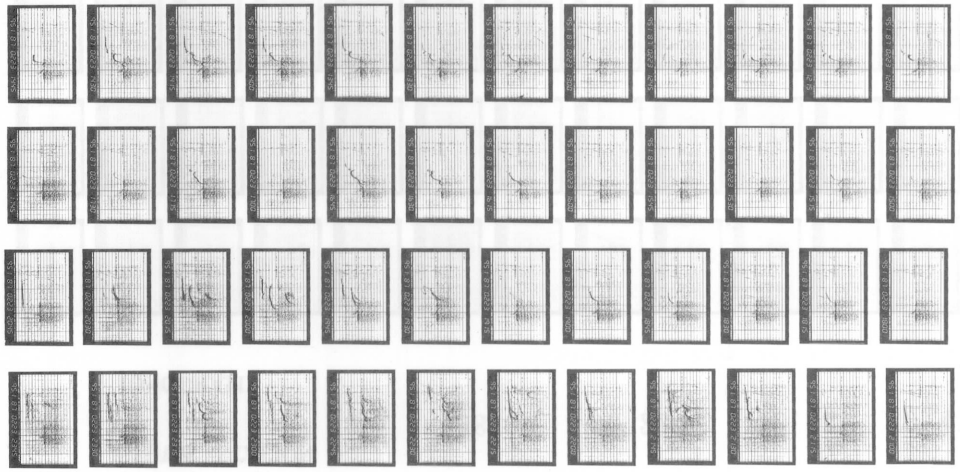

SYOWA STATION 1987 02 23 00:00 ~ 11:45

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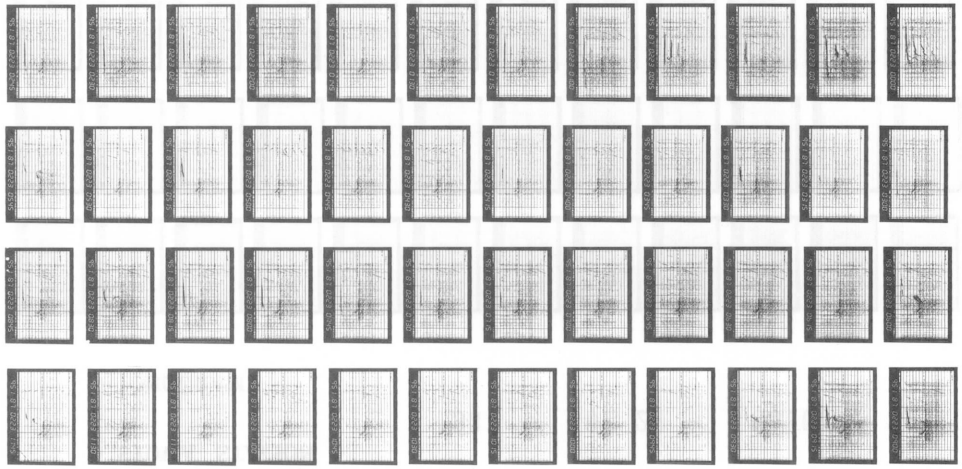
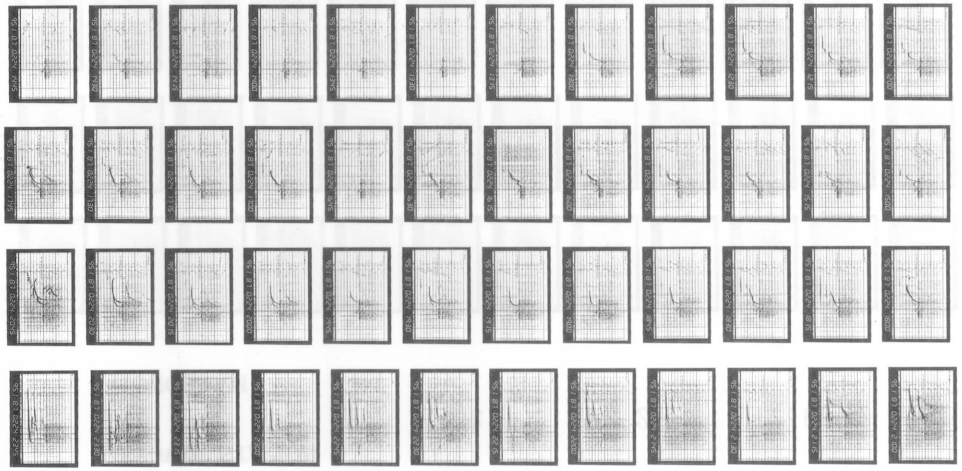


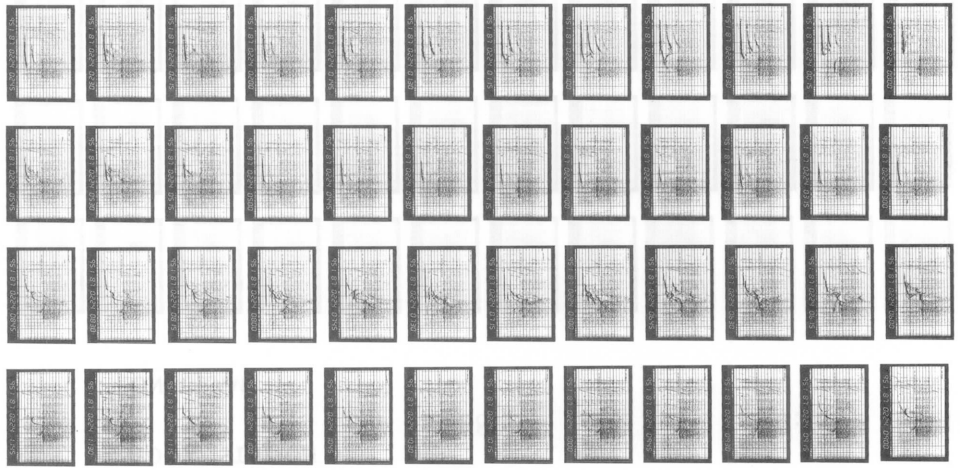
SYOWA STATION 1987 02 24 12:00 ~ 23:45

IONOGRAM



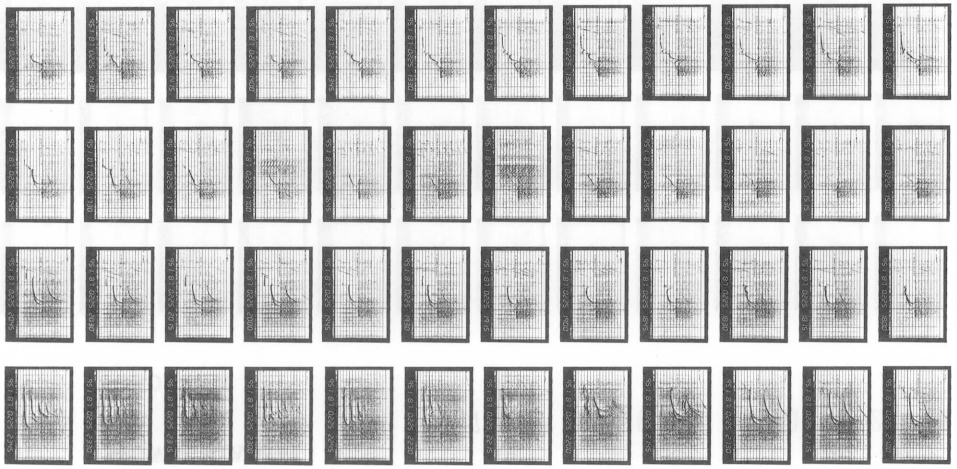
SYOWA STATION 1987 02 24 00:00 ~ 11:45

IONOGRAM



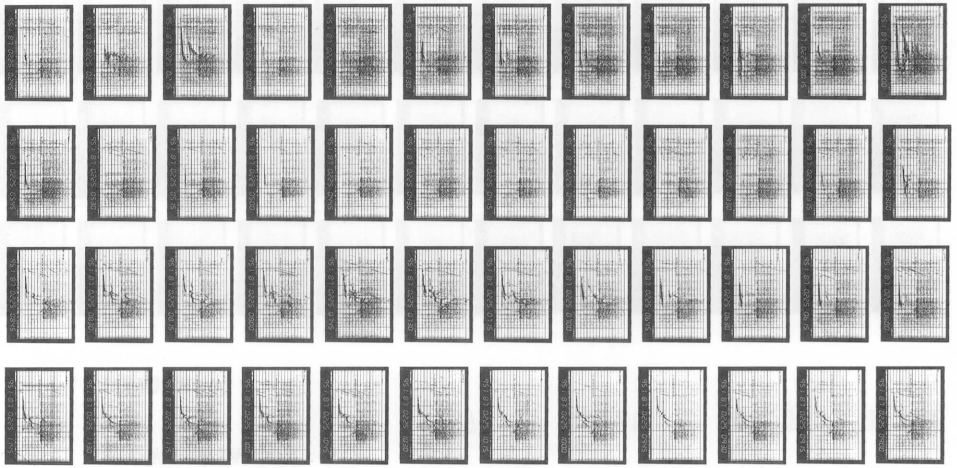
SYOWA STATION 1987 02 25 12:00 ~ 23:45

IONOGRAM



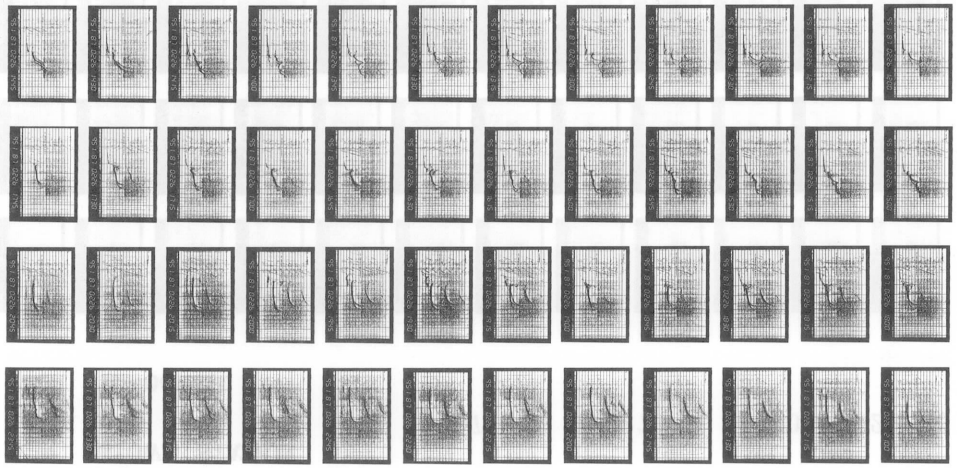
SYOWA STATION 1987 02 25 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 02 26 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 02 26 00:00 ~ 11:45

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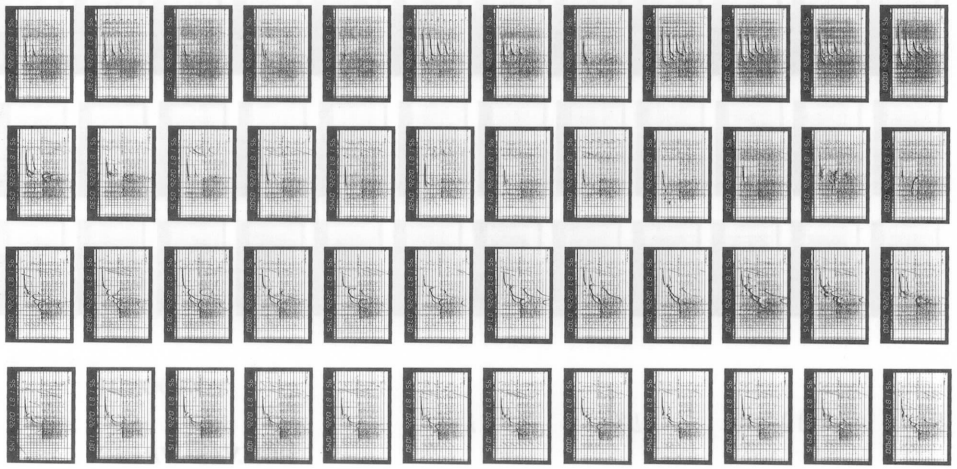
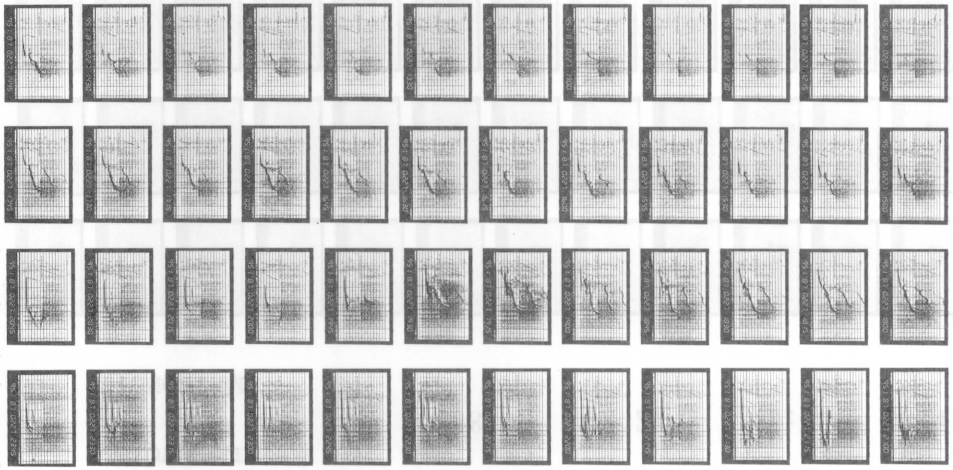


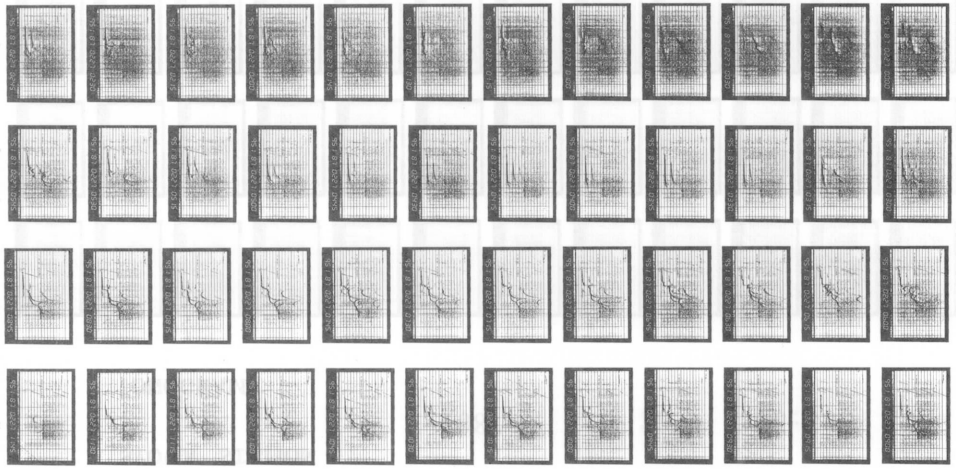
SYOWA STATION 1987 02 27 12:00 ~ 23:45

IONOGRAM



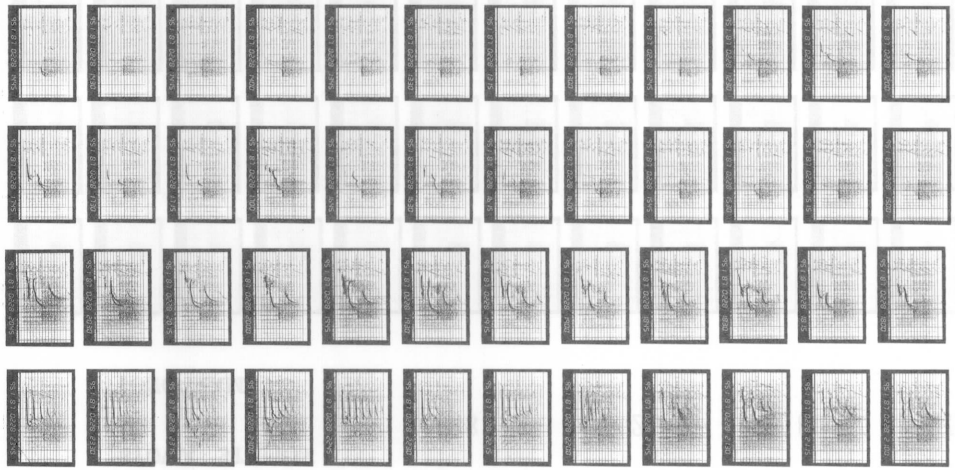
SYOWA STATION 1987 02 27 00:00 ~ 11:45

IONOGRAM



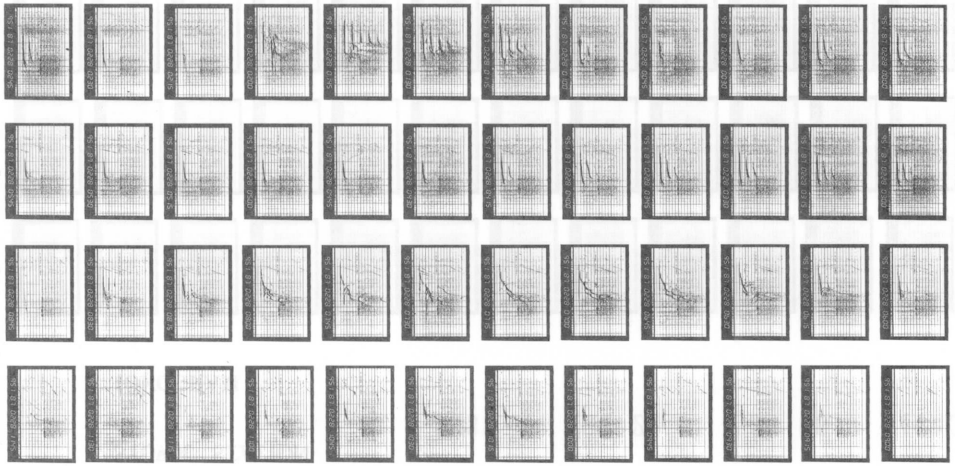
SYOWA STATION 1987 02 28 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 02 28 00:00 ~ 11:45

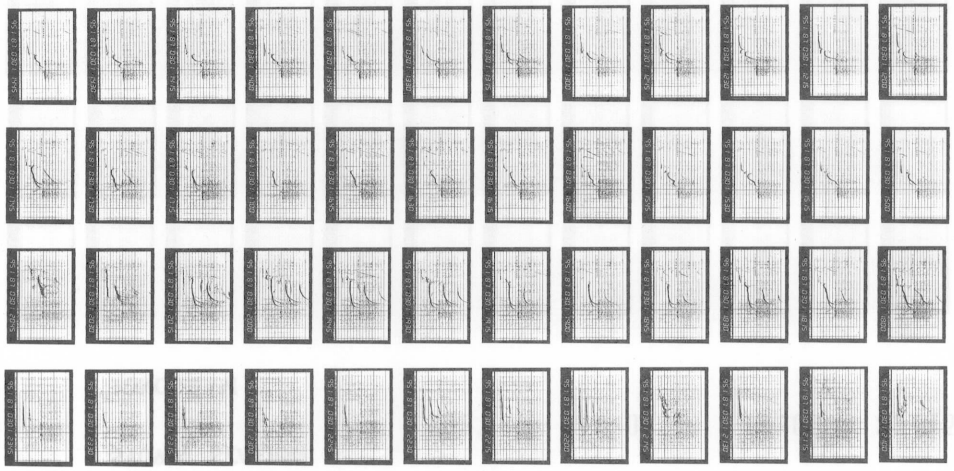
IONOGRAM



SYOWA STATION

IONOGRAM

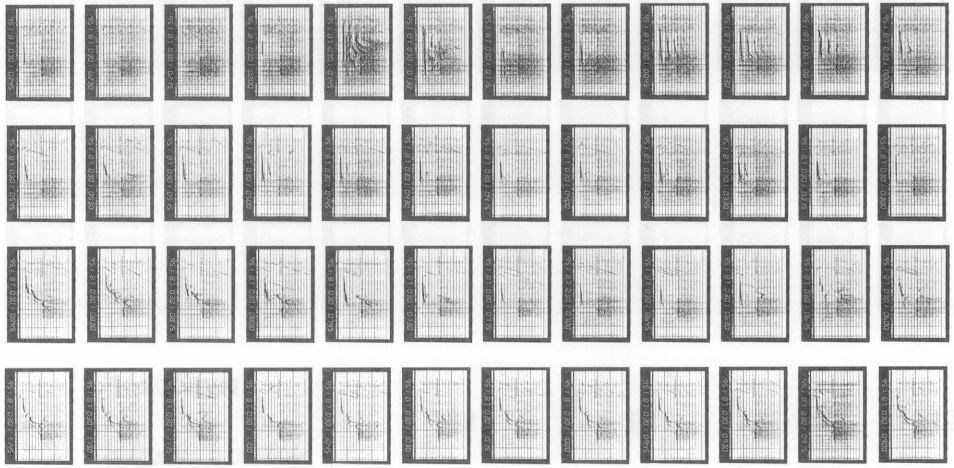
1987 03 01 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

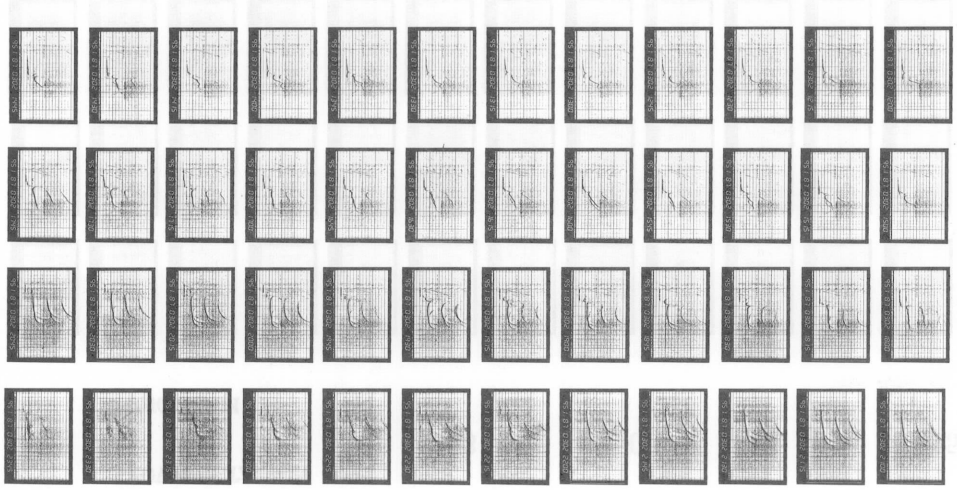
1987 03 01 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

1987 03 02 12:00 ~ 23:45



SYOWA STATION

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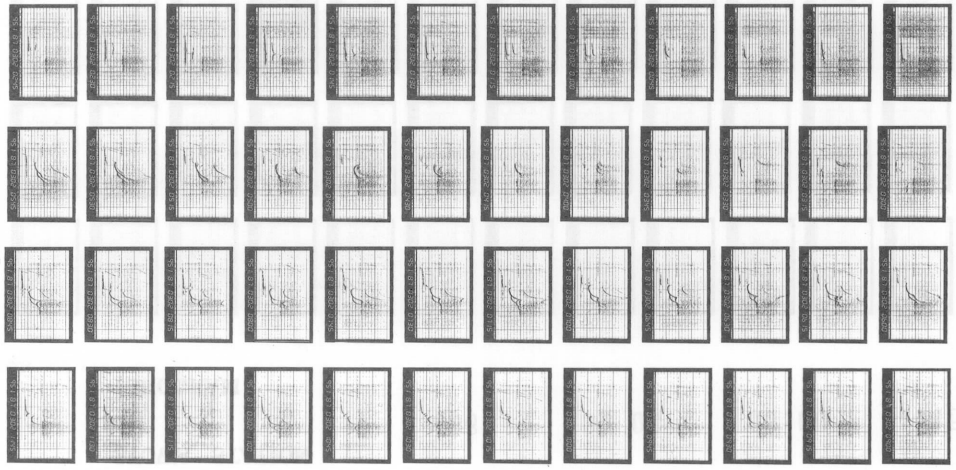
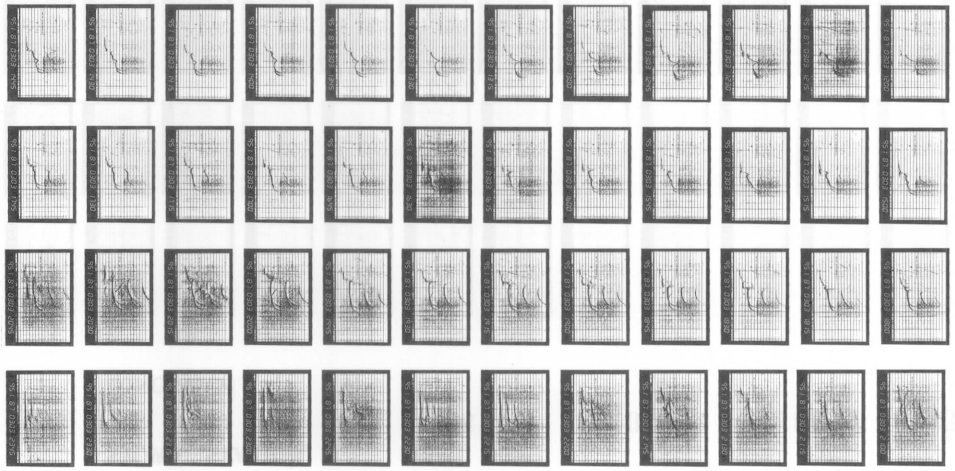


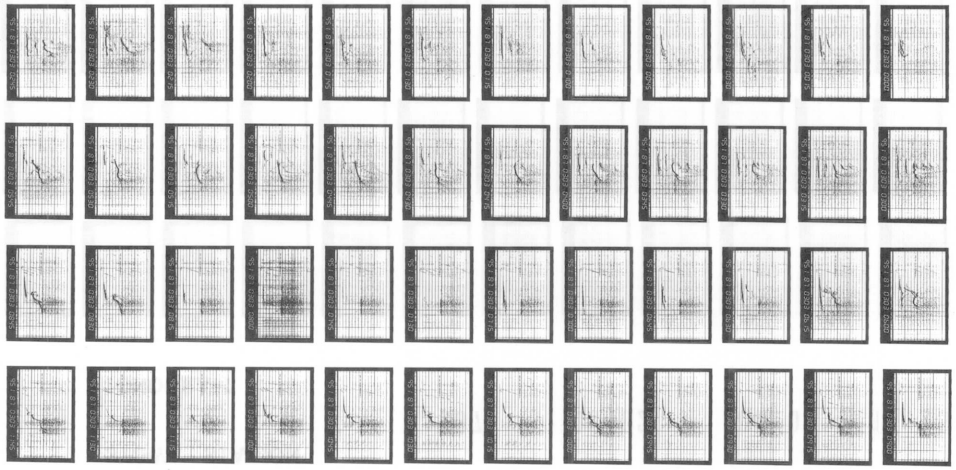
SYOWA STATION 1987 03 03 12:00 ~ 23:45

IONOGRAM



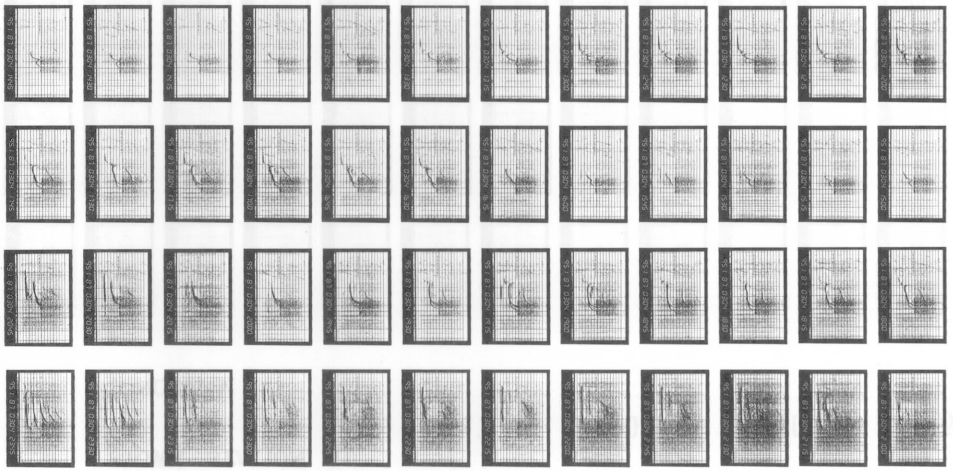
SYOWA STATION 1987 03 03 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 03 04 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 03 04 00:00 ~ 11:45

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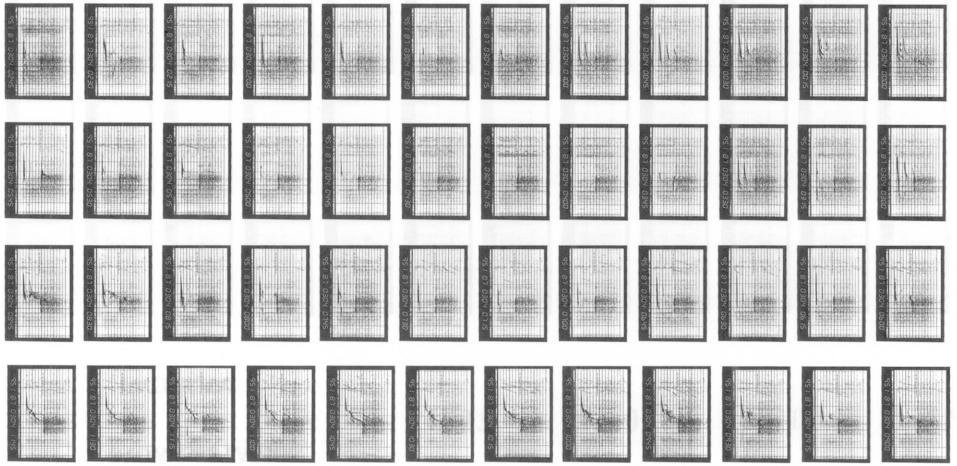

SYOWA STATION

IONOGRAM

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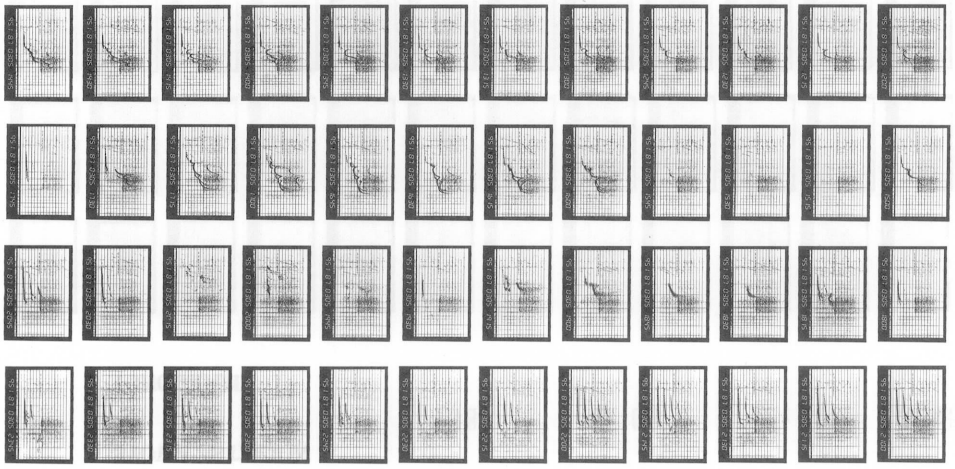

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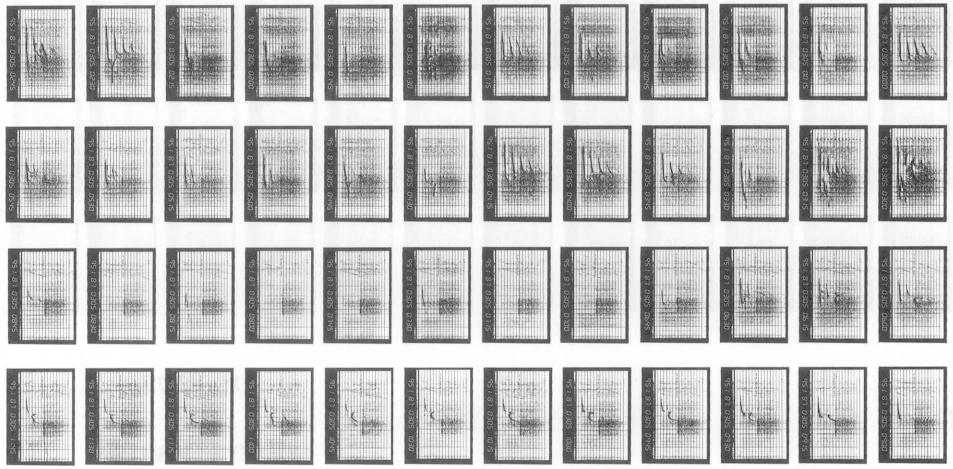
IONOGRAM

1987 03 05 00:00 ~ 11:45



SYOWA STATION

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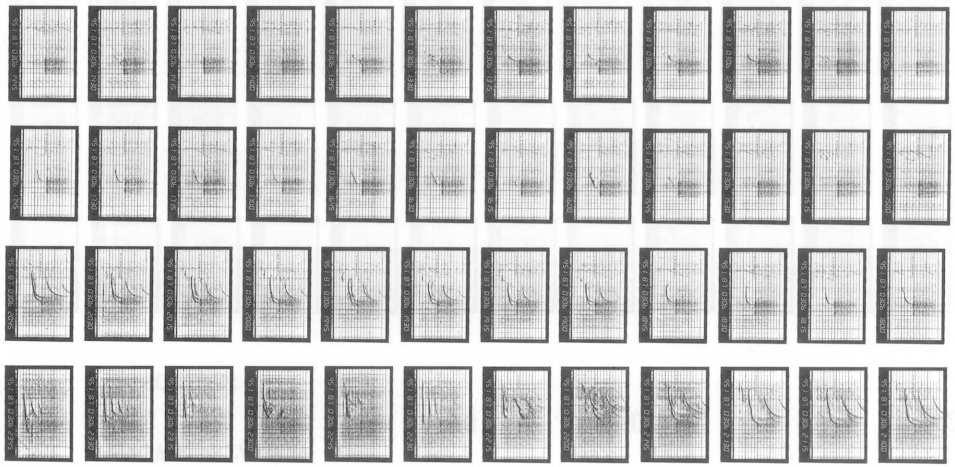
1987 03 06 12:00 ~ 23:45



SYOWA STATION

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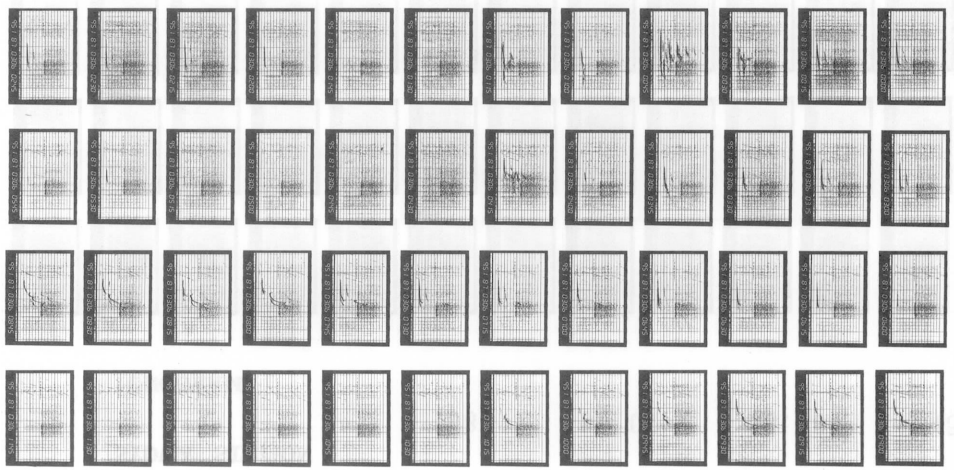
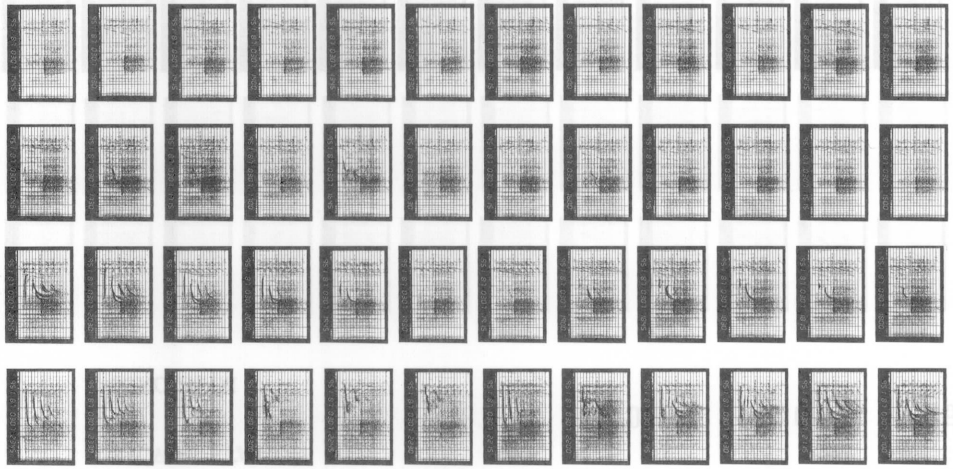
1987 03 06 00:00 ~ 11:45



SYOWA STATION 1987 03 07 12:00 ~ 23:45

IONOGRAM



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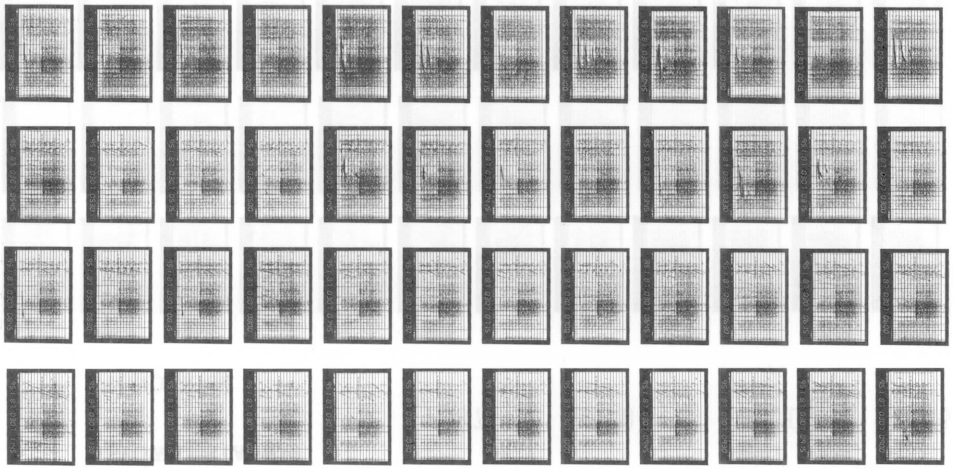
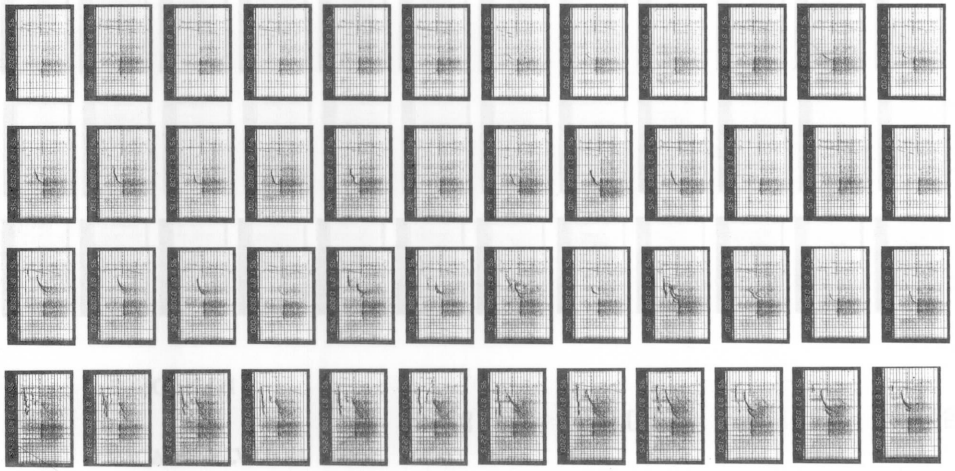


SYOWA STATION 1987 03 08 12:00 ~ 23:45

IONOGRAM



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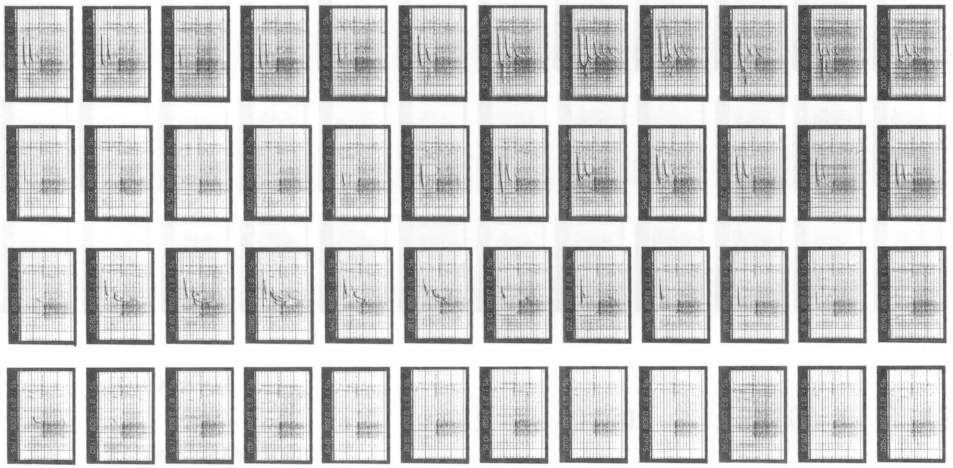
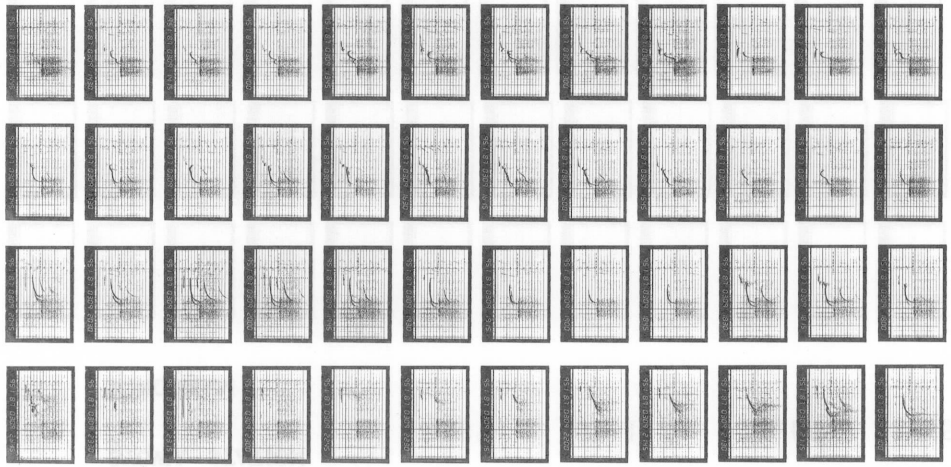


SYOWA STATION

1987 03 09 12:00 ~ 23:45

IONOGRAM



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1987 03 09 00:00 ~ 11:45

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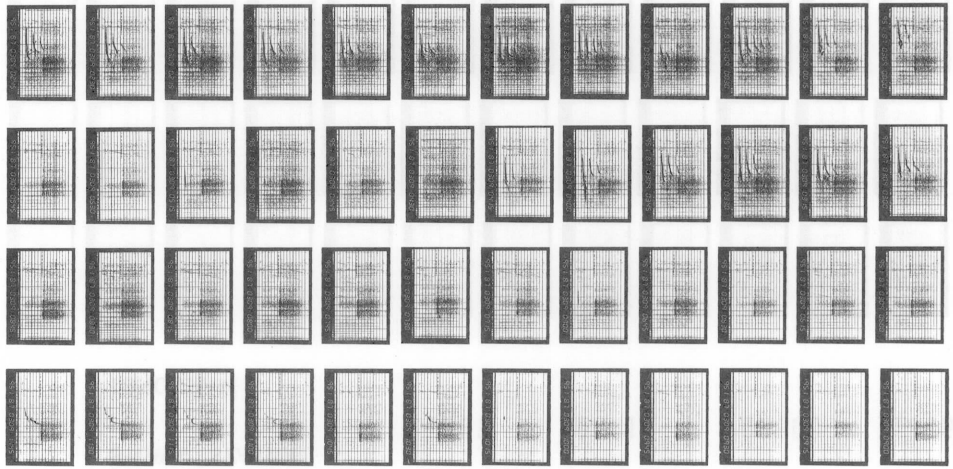
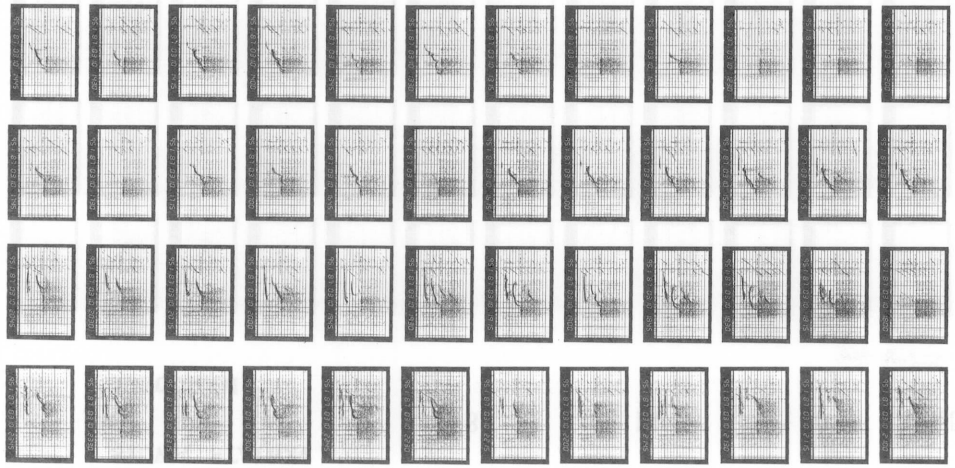


SYOWA STATION

1987 03 10 12:00 ~ 23:45

IONOGRAM



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1987 03 10 00:00 ~ 11:45

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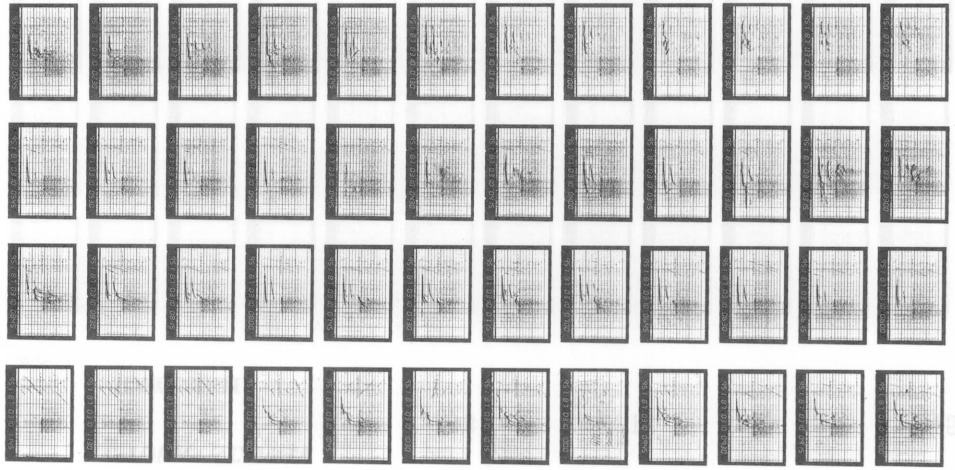
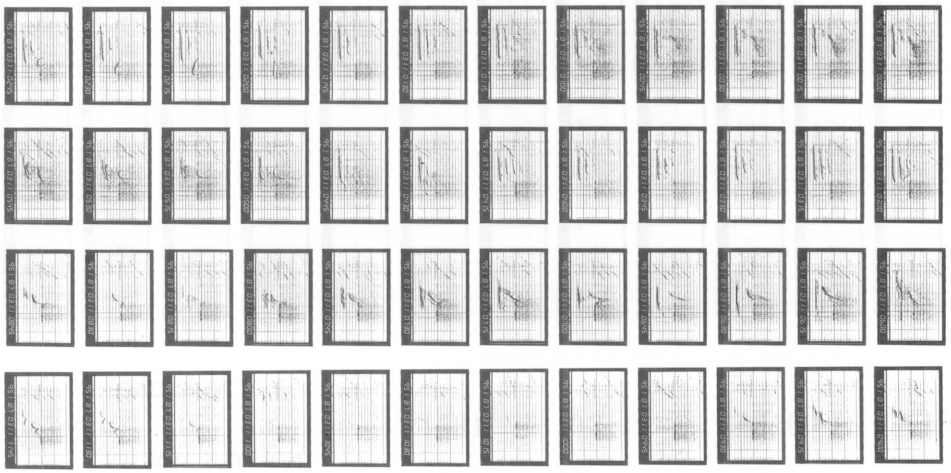


SYOWA STATION 1987 03 11 12:00 ~ 23:45

IONOGRAM

SYOWA STATION 1987 03 11 00:00 ~ 11:45

IONOGRAM



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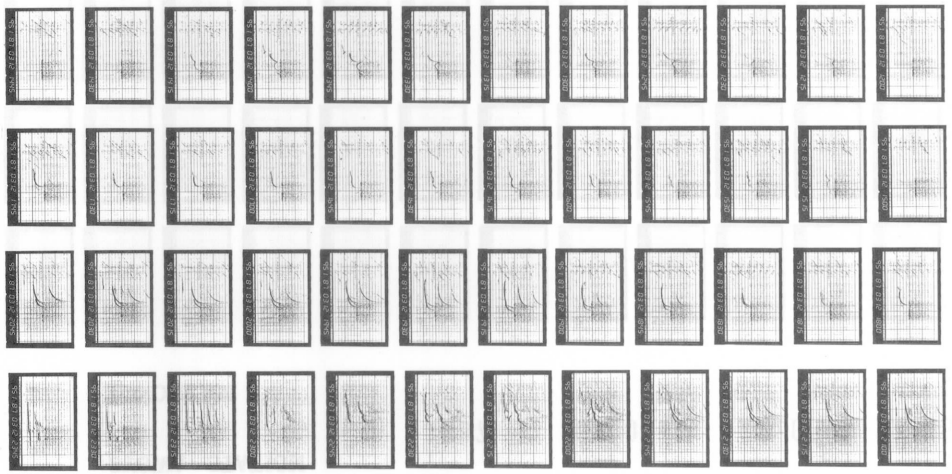
IONOGRAM



SYOWA STATION 1987 03 12 00:00 ~ 11:45

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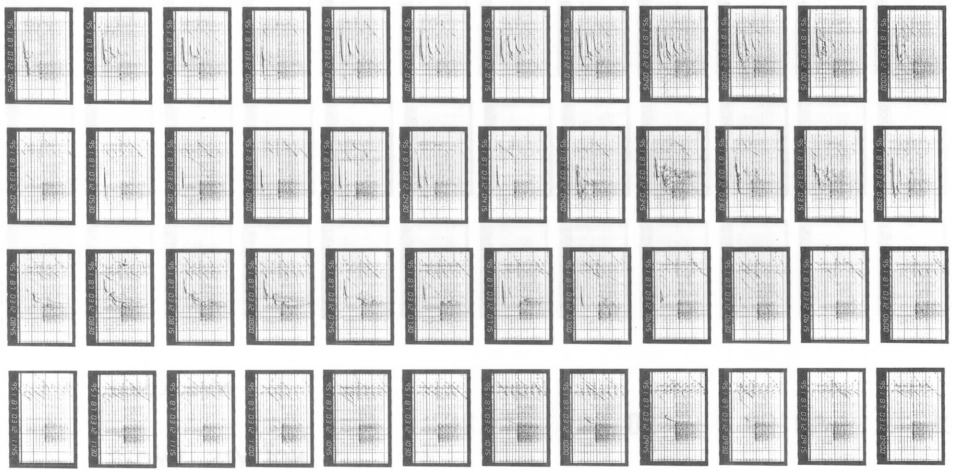

SYOWA STATION 1987 03 13 12:00 ~ 23:45

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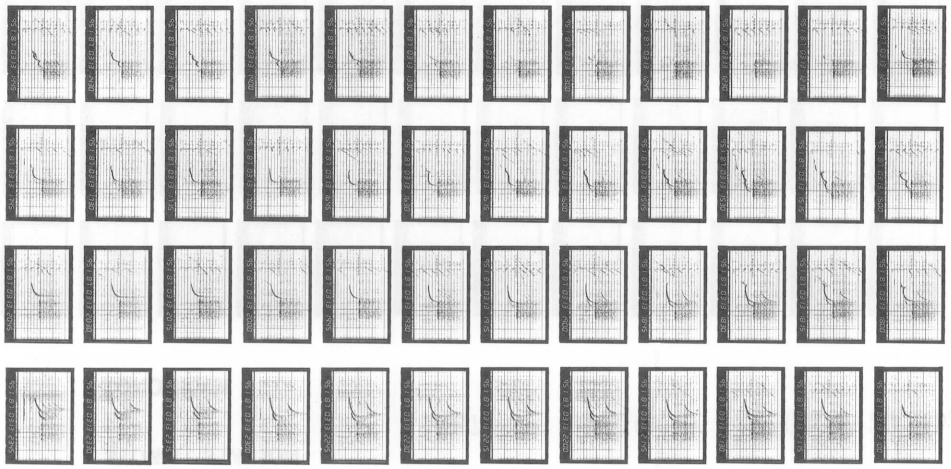

SYOWA STATION 1987 03 13 00:00 ~ 11:45

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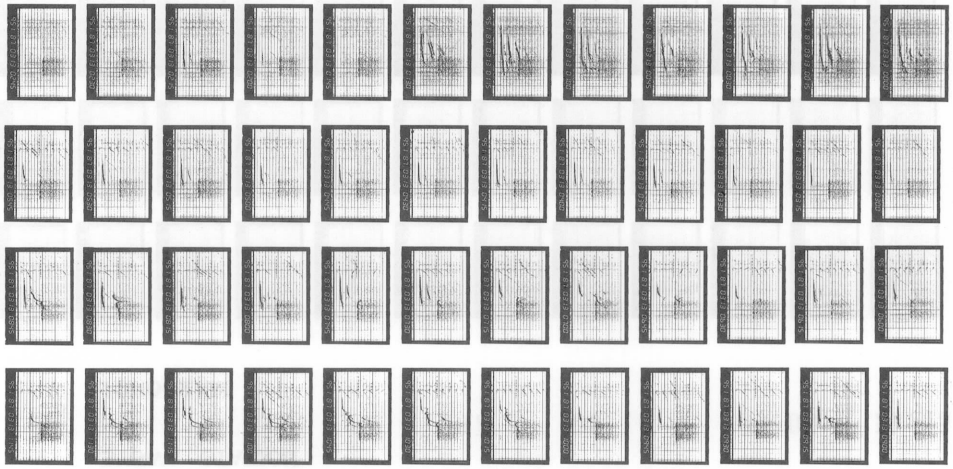
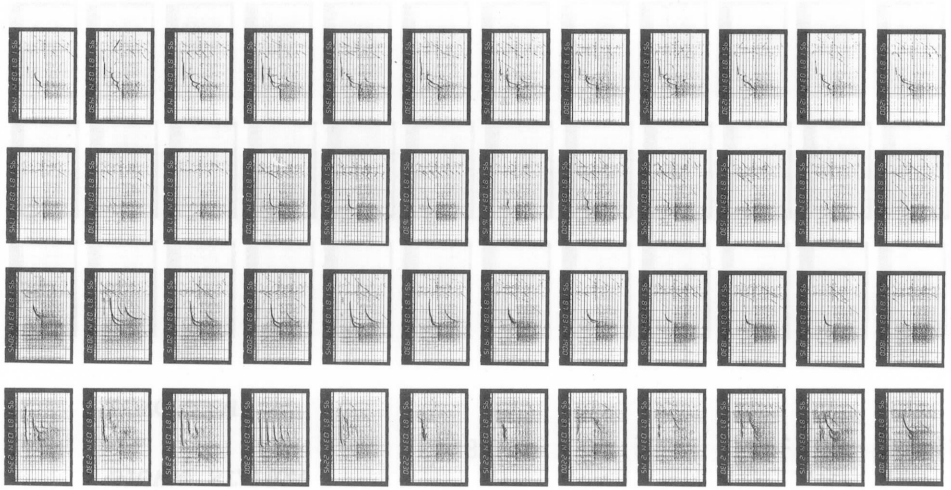


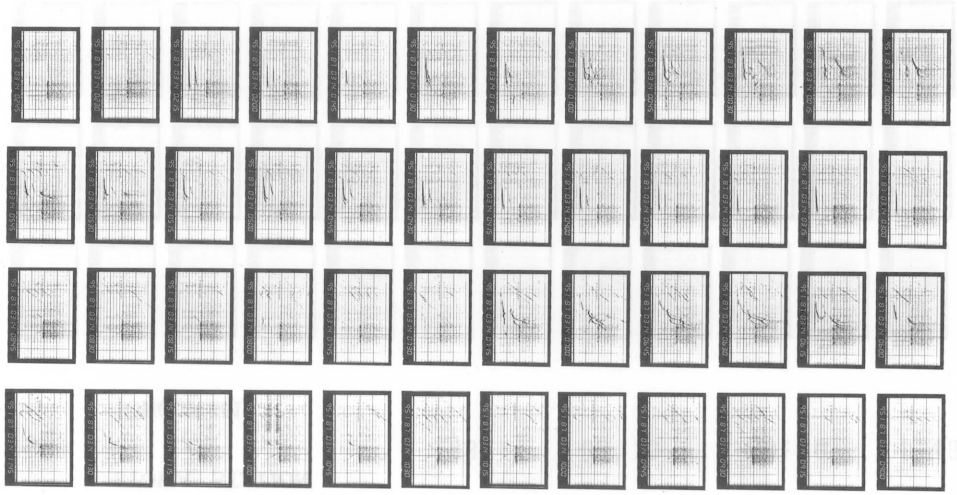
SYOWA STATION 1987 03 14 12:00 ~ 23:45

IONOGRAM



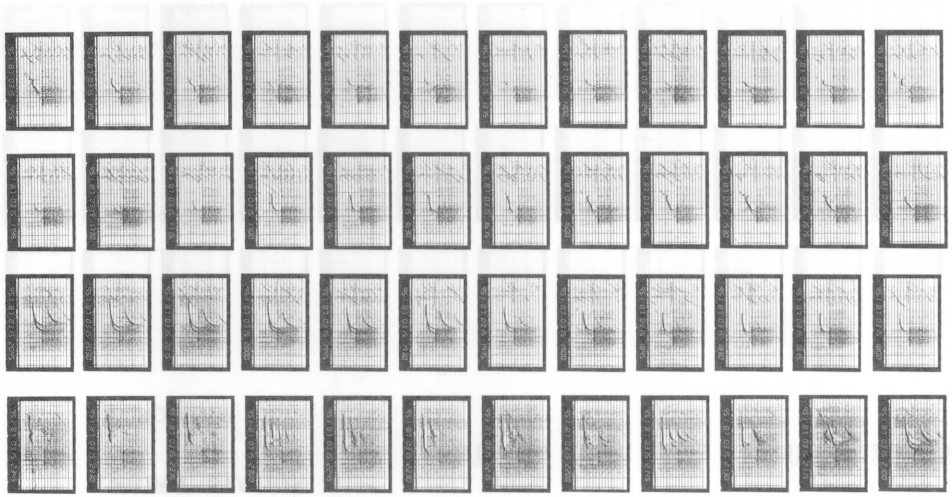
SYOWA STATION 1987 03 14 00:00 ~ 11:45

IONOGRAM



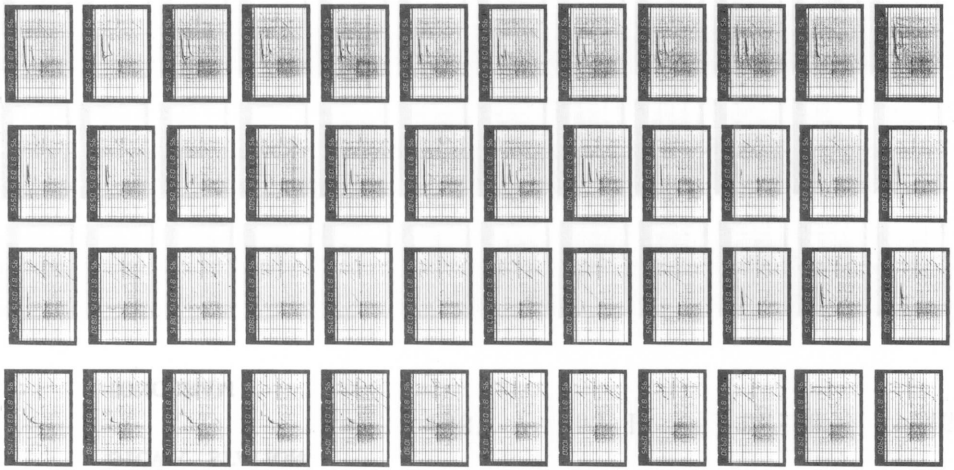
SYOWA STATION 1987 03 15 12:00 ~ 23:45

IONOGRAM



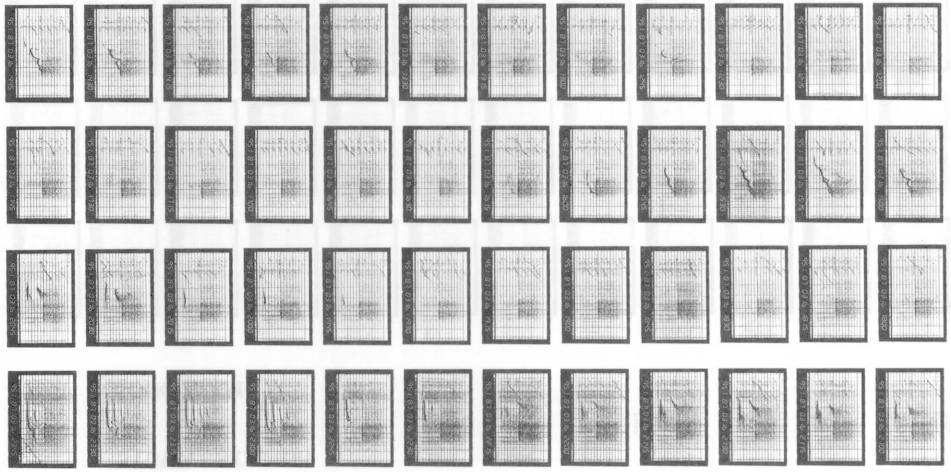
SYOWA STATION 1987 03 15 00:00 ~ 11:45

IONOGRAM



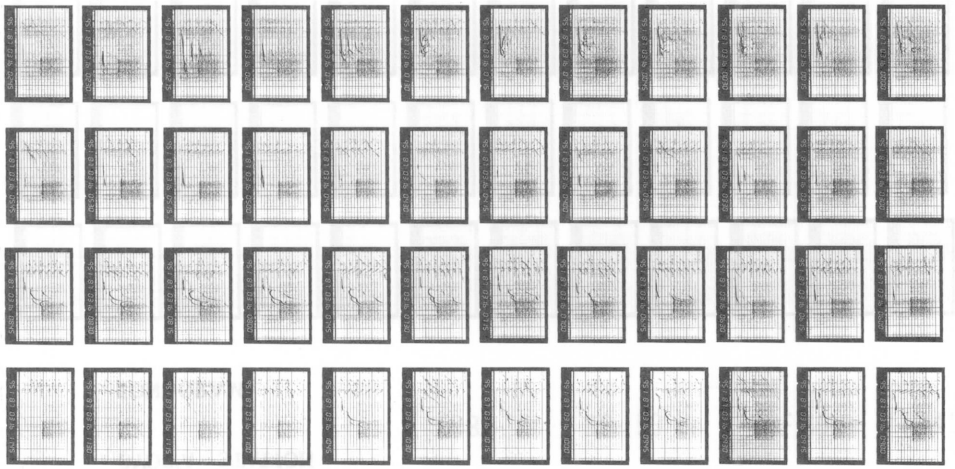
SYOWA STATION 1987 03 16 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 03 16 00:00 ~ 11:45

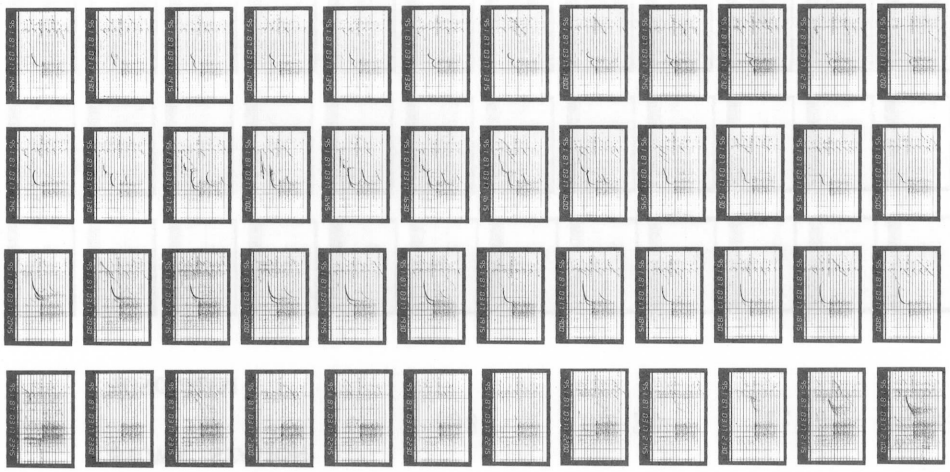
IONOGRAM



SYOWA STATION

IONOGRAM

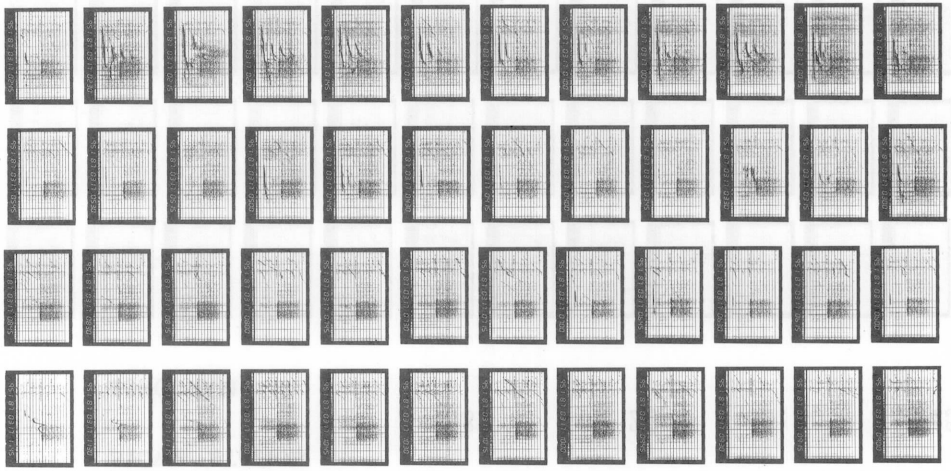
1987 03 17 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

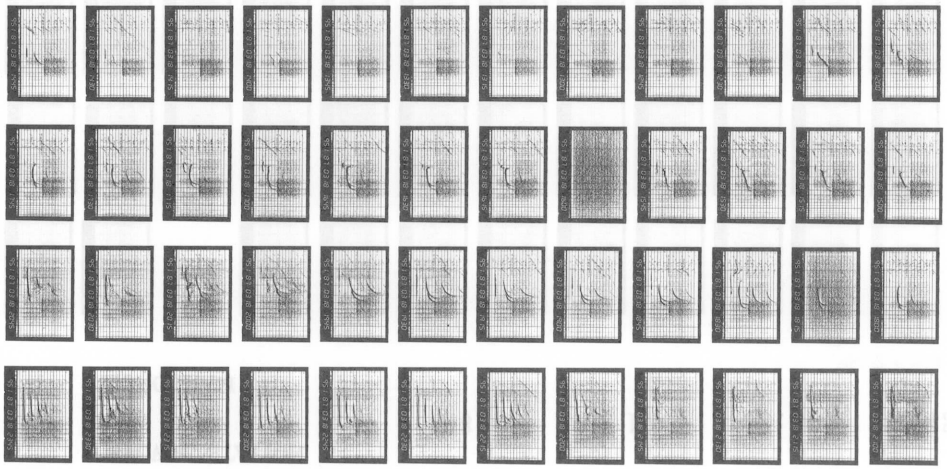
1987 03 17 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

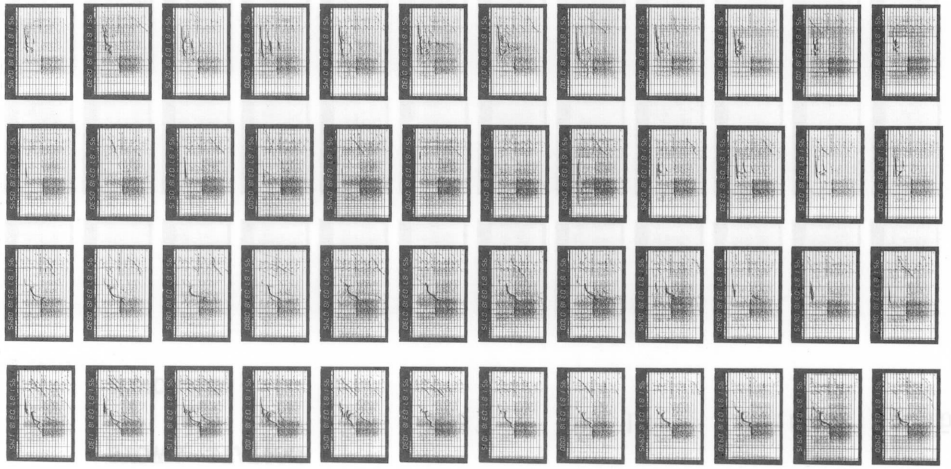
1987 03 18 12:00 ~ 23:45



SYOWA STATION

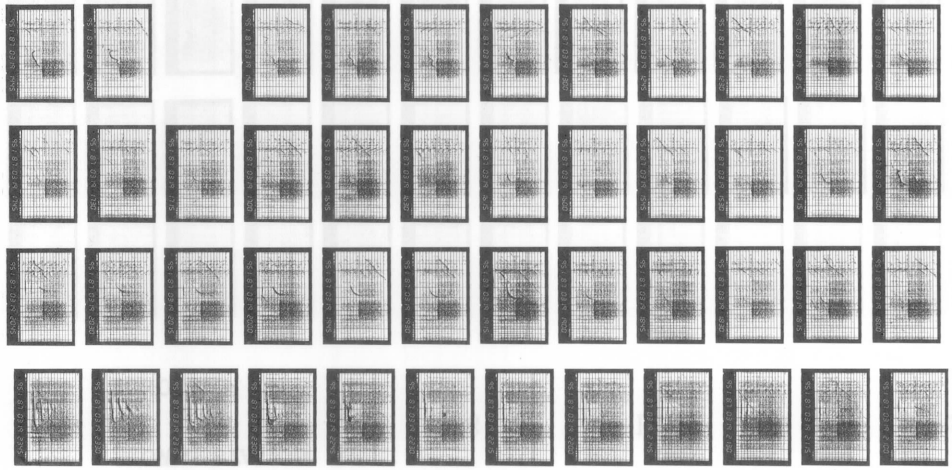
IONOGRAM

1987 03 18 00:00 ~ 11:45



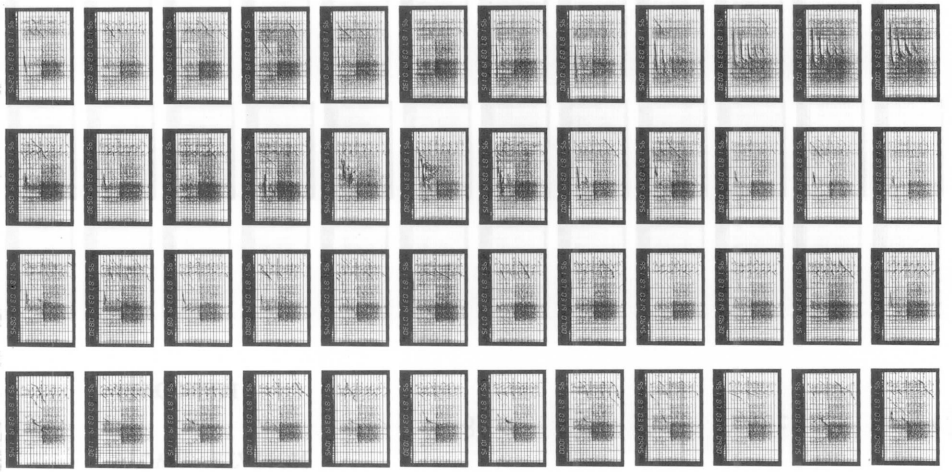
SYOWA STATION 1987 03 19 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 03 19 00:00 ~ 11:45

IONOGRAM

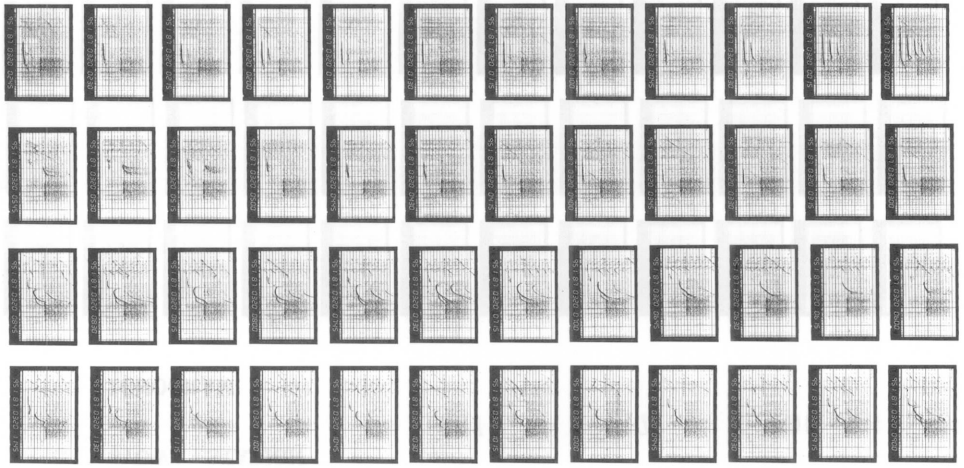


SYOWA STATION 1987 03 20 12:00 ~ 23:45

IONOGRAM

SYOWA STATION 1987 03 20 00:00 ~ 11:45

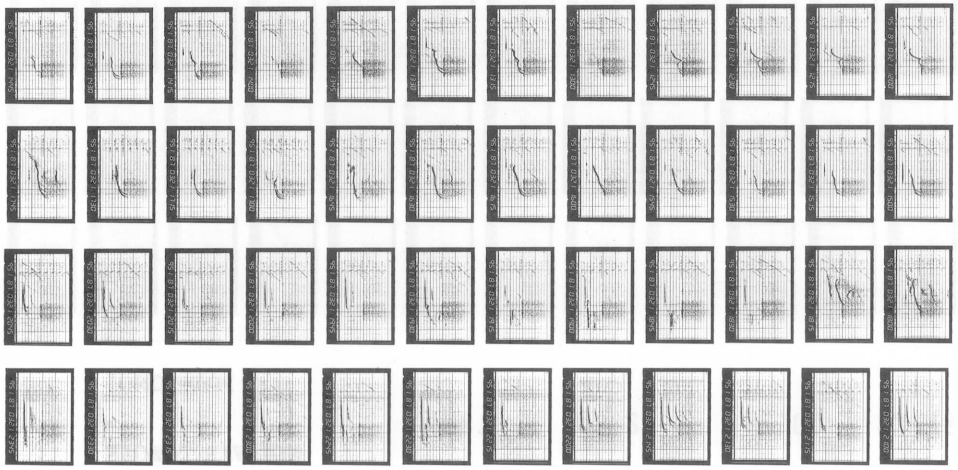
IONOGRAM



SYOWA STATION

IONOGRAM

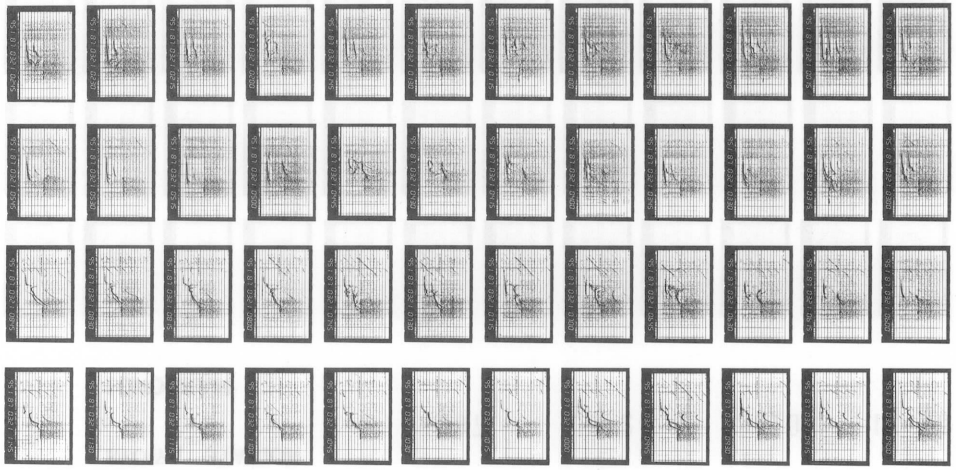
1987 03 21 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

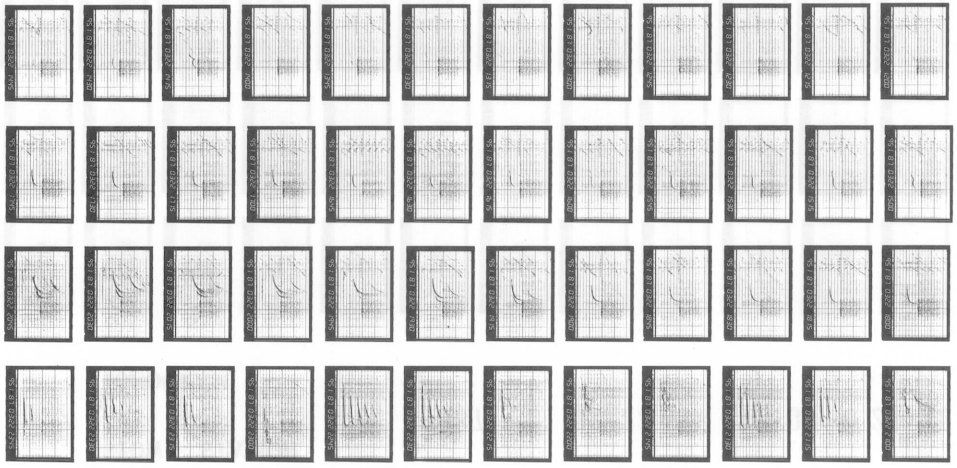
1987 03 21 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

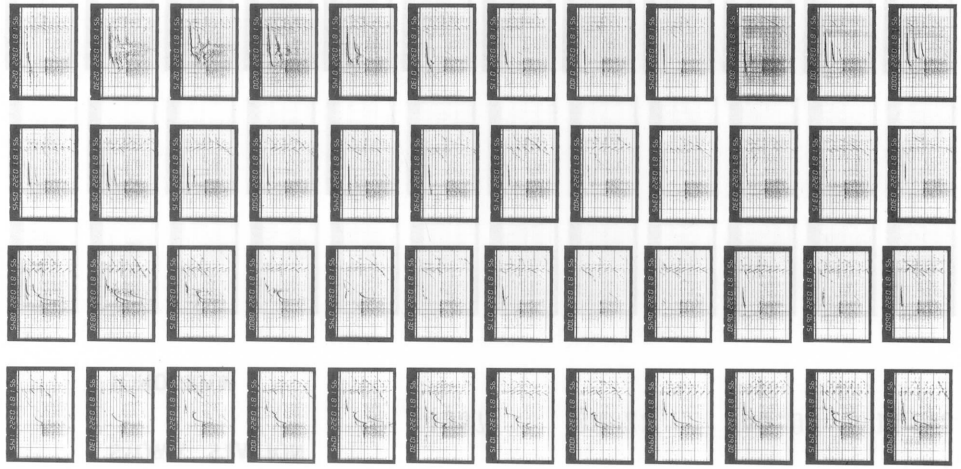
1987 03 22 12:00 ~ 23:45



SYOWA STATION

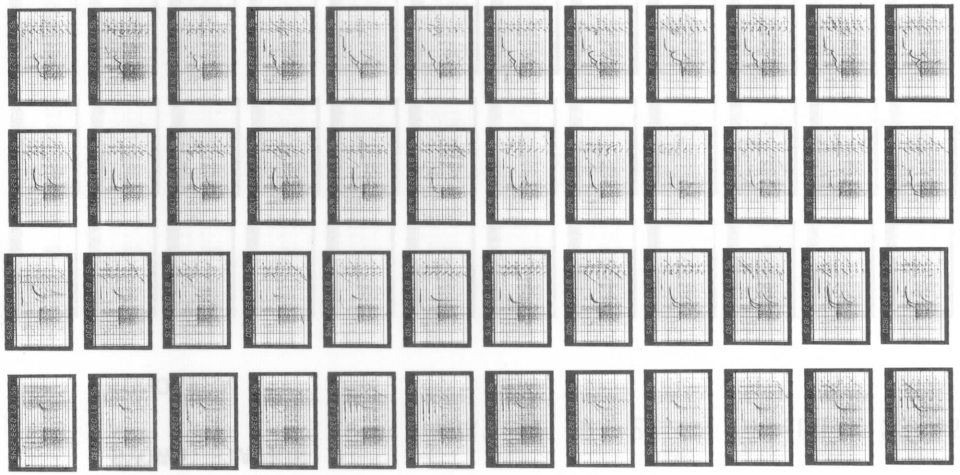
IONOGRAM

1987 03 22 00:00 ~ 11:45



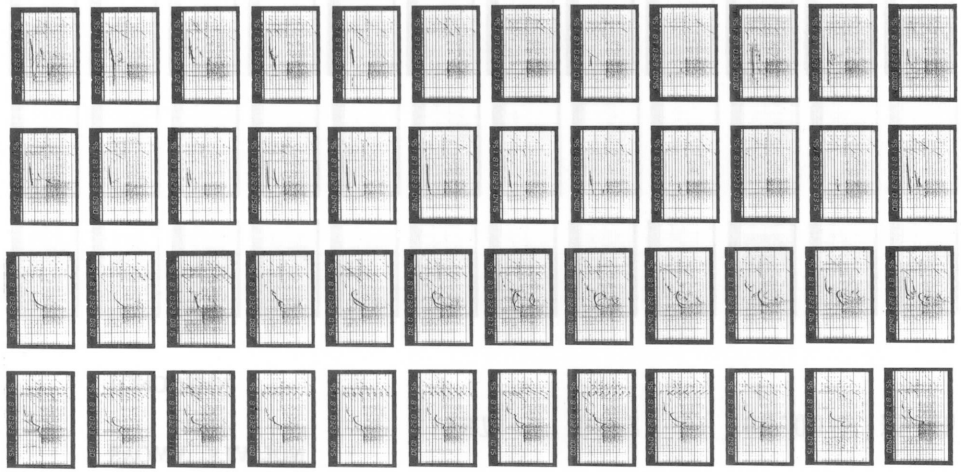
SYOWA STATION 1987 03 23 12:00 ~ 23:45

IONOGRAM



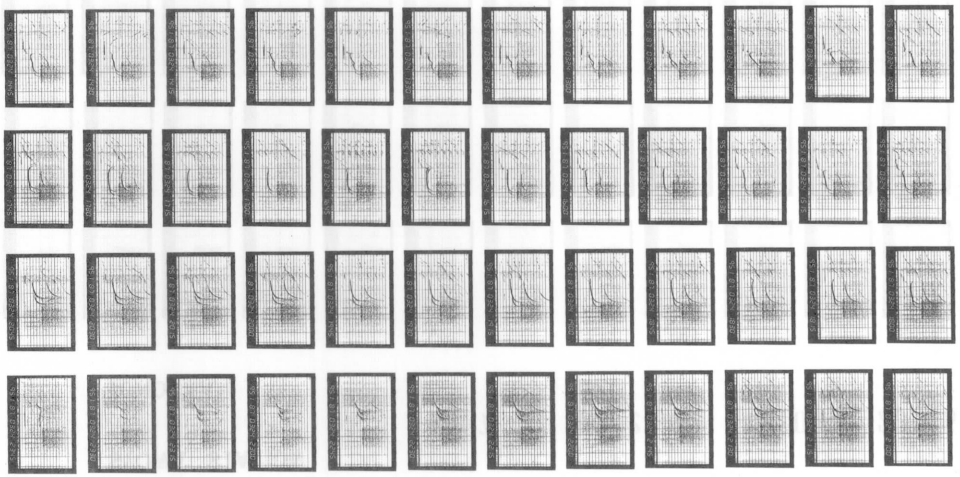
SYOWA STATION 1987 03 23 00:00 ~ 11:45

IONOGRAM



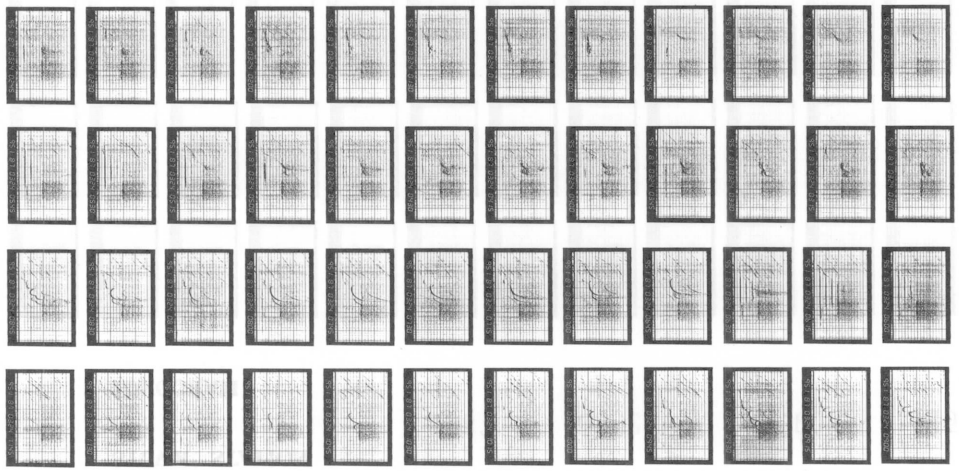
SYOWA STATION 1987 03 24 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 03 24 00:00 ~ 11:45

IONOGRAM

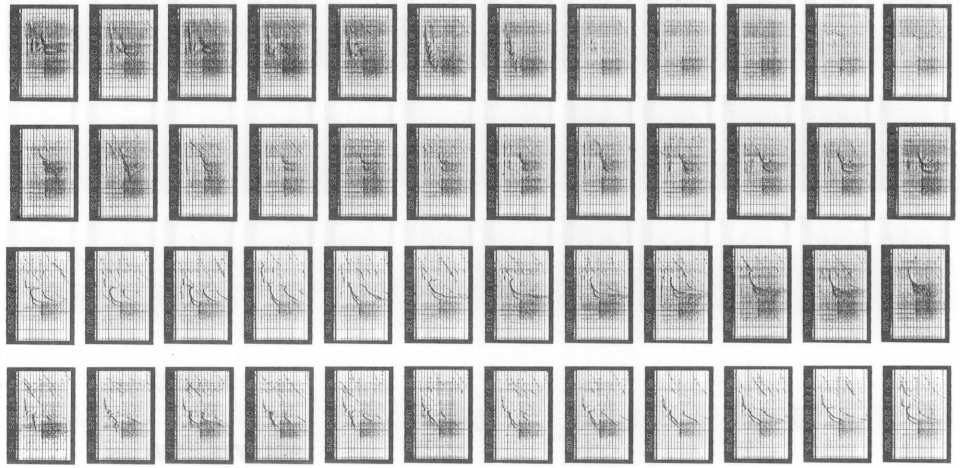


SYOWA STATION 1987 03 25 12:00 ~ 23:45

IONOGRAM

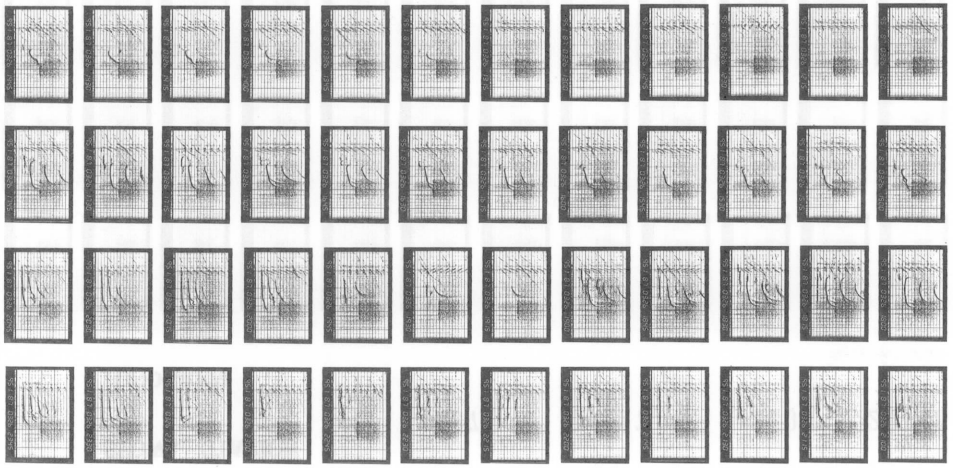
SYOWA STATION 1987 03 25 00:00 ~ 11:45

IONOGRAM



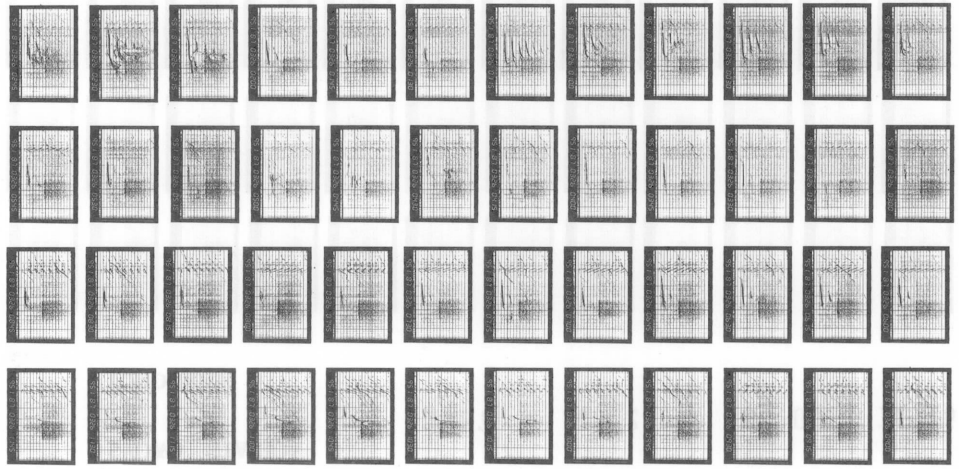
SYOWA STATION 1987 03 26 12:00 ~ 23:45

IONOGRAM



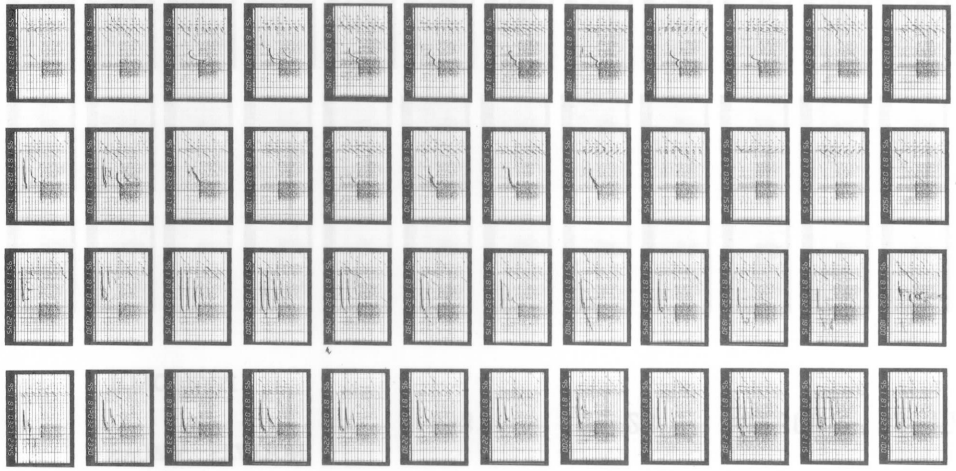
SYOWA STATION 1987 03 26 00:00 ~ 11:45

IONOGRAM



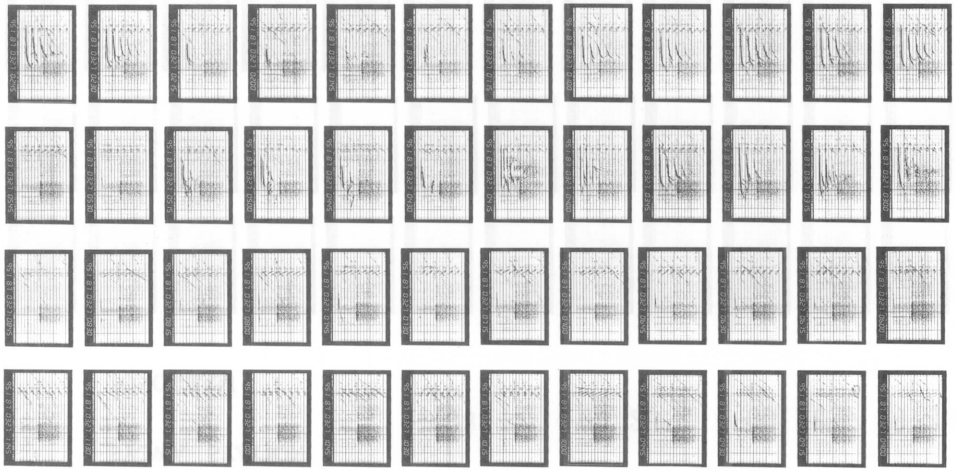
SYOWA STATION 1987 03 27 12:00 ~ 23:45

IONOGRAM



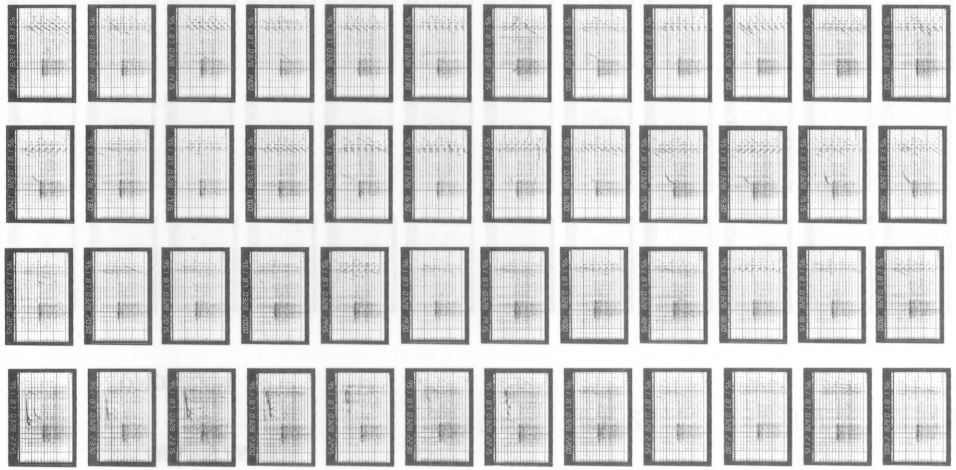
SYOWA STATION 1987 03 27 00:00 ~ 11:45

IONOGRAM



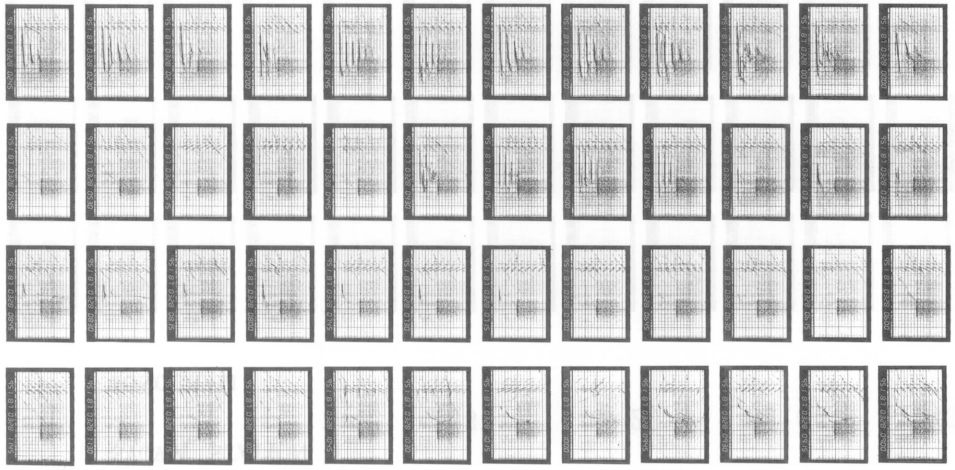
SYOWA STATION 1987 03 28 12:00 ~ 23:45

IONOGRAM



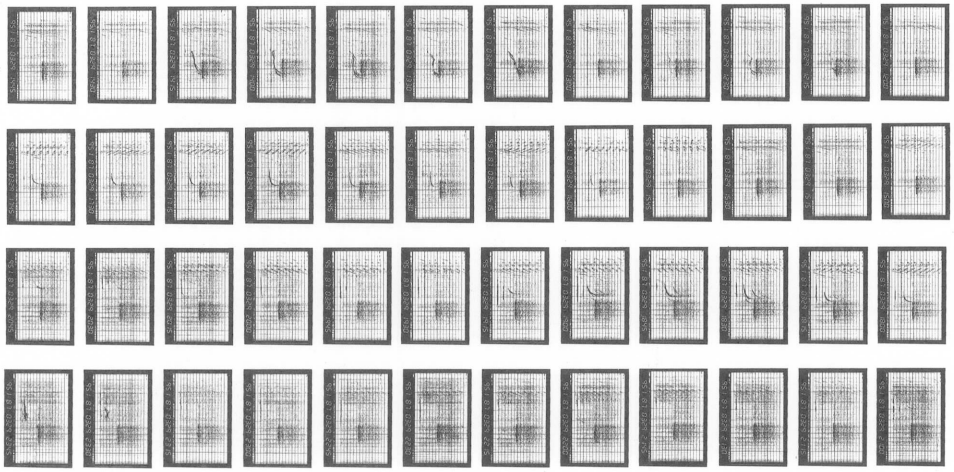
SYOWA STATION 1987 03 28 00:00 ~ 11:45

IONOGRAM



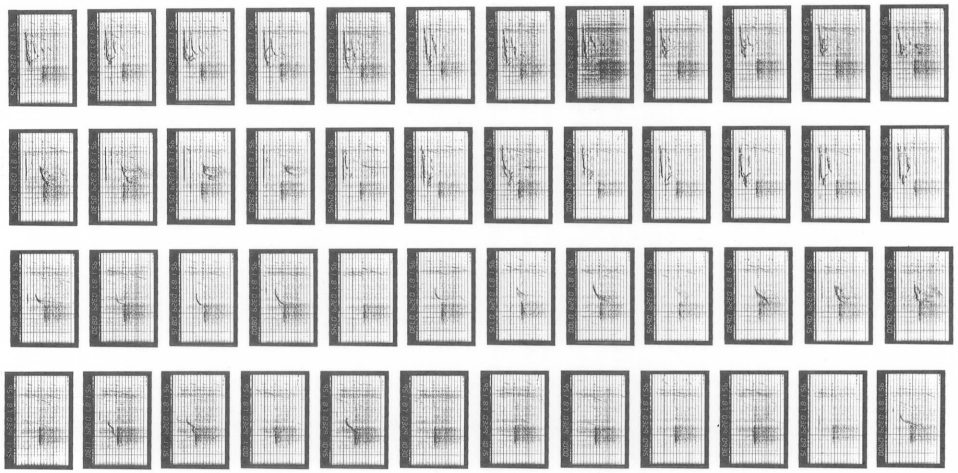
SYOWA STATION 1987 03 29 12:00 ~ 23:45

IONOGRAM



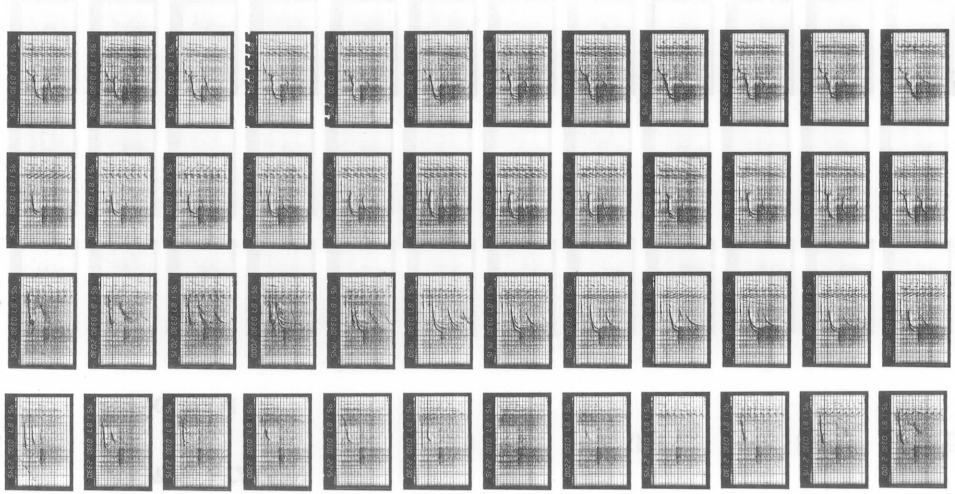
SYOWA STATION 1987 03 29 00:00 ~ 11:45

IONOGRAM



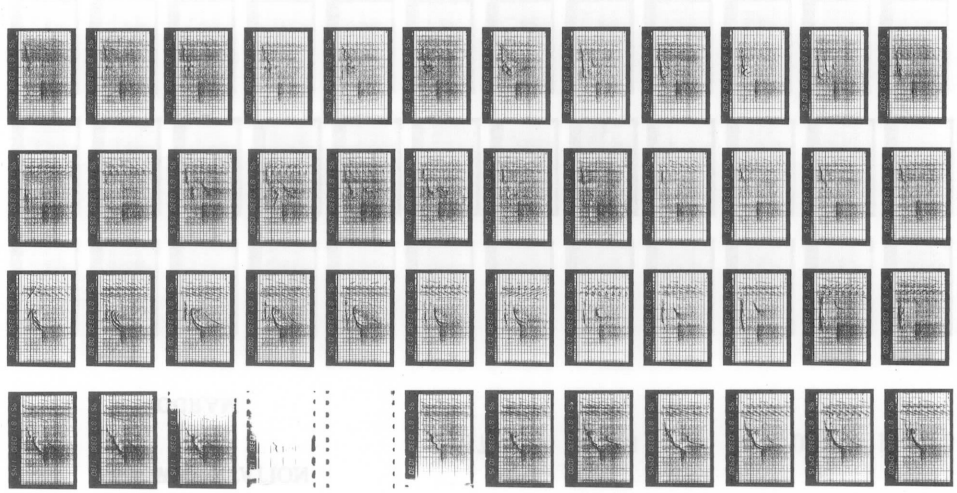
SYOWA STATION 1987 03 30 12:00 ~ 23:45

IONOGRAM



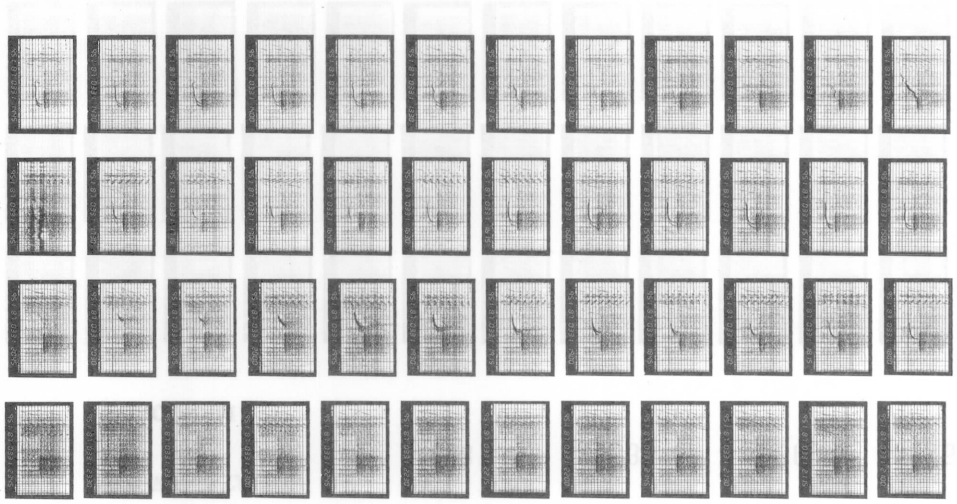
SYOWA STATION 1987 03 30 00:00 ~ 11:45

IONOGRAM



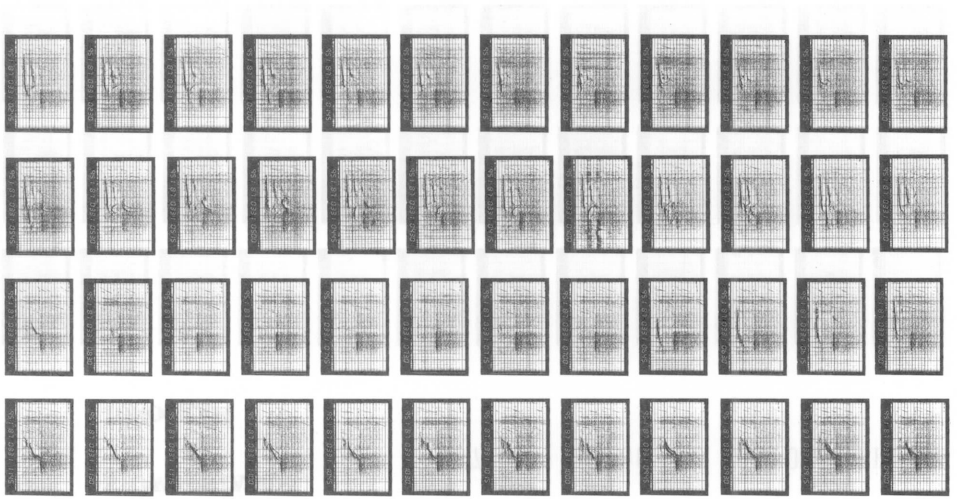
SYOWA STATION 1987 03 31 12:00 ~ 23:45

IONOGRAM



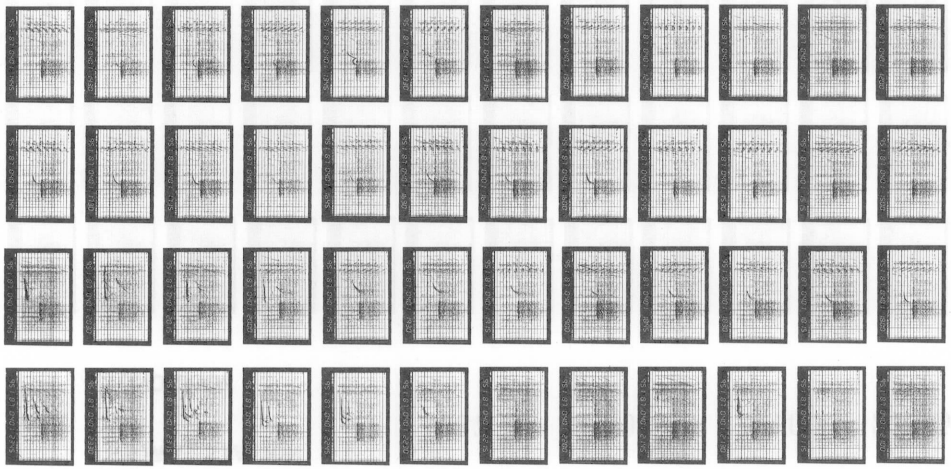
SYOWA STATION 1987 03 31 00:00 ~ 11:45

IONOGRAM



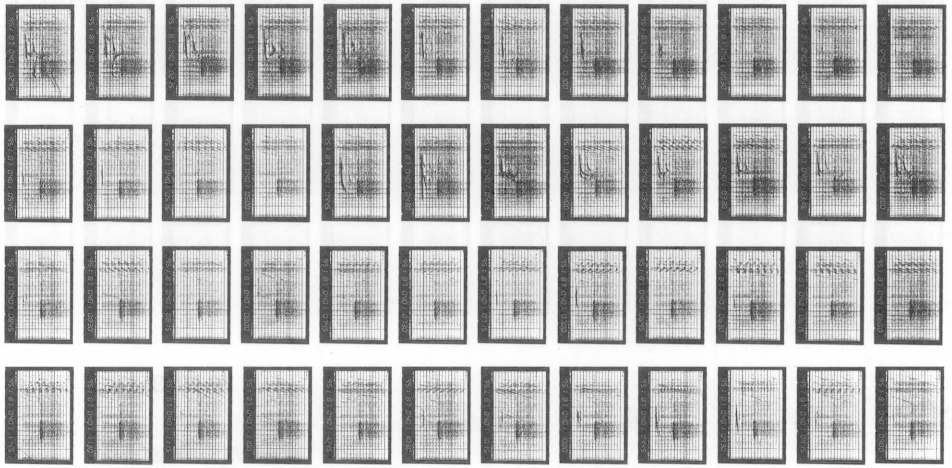
SYOWA STATION 1987 04 01 12:00 ~ 23:45

IONOGRAM



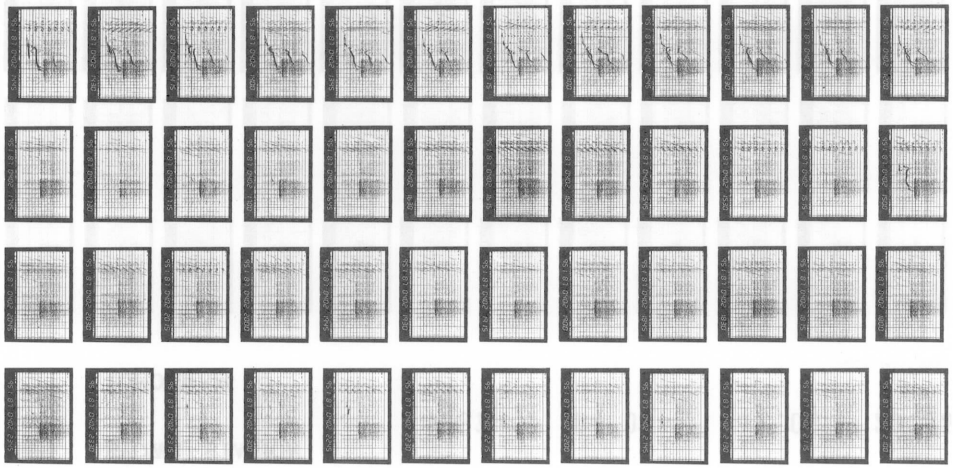
SYOWA STATION 1987 04 01 00:00 ~ 11:45

IONOGRAM



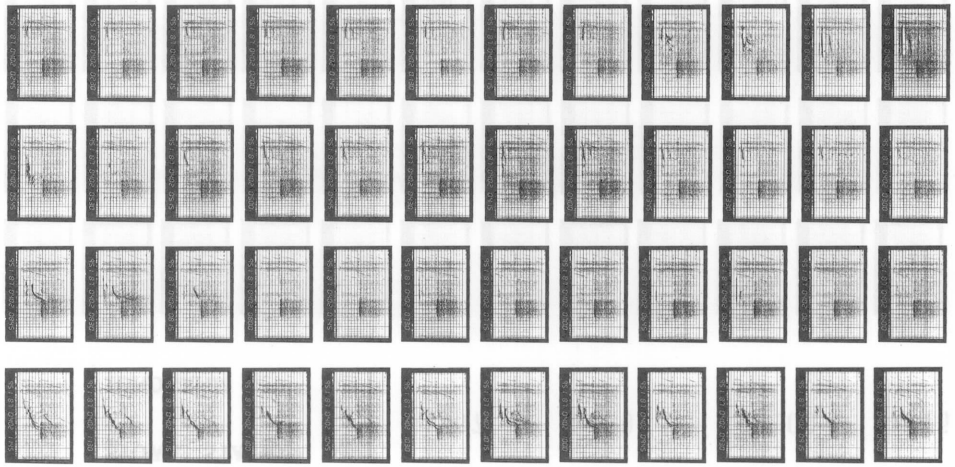
SYOWA STATION 1987 04 02 12:00 ~ 23:45

IONOGRAM



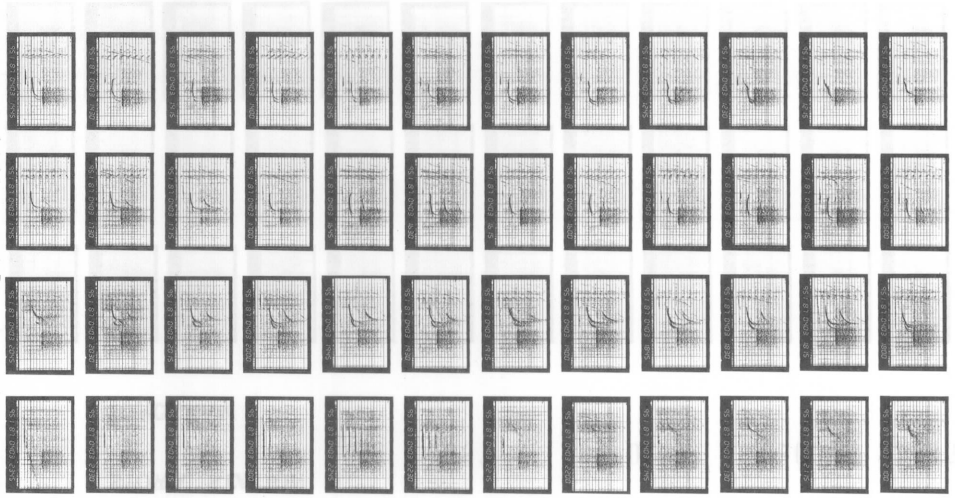
SYOWA STATION 1987 04 02 00:00 ~ 11:45

IONOGRAM



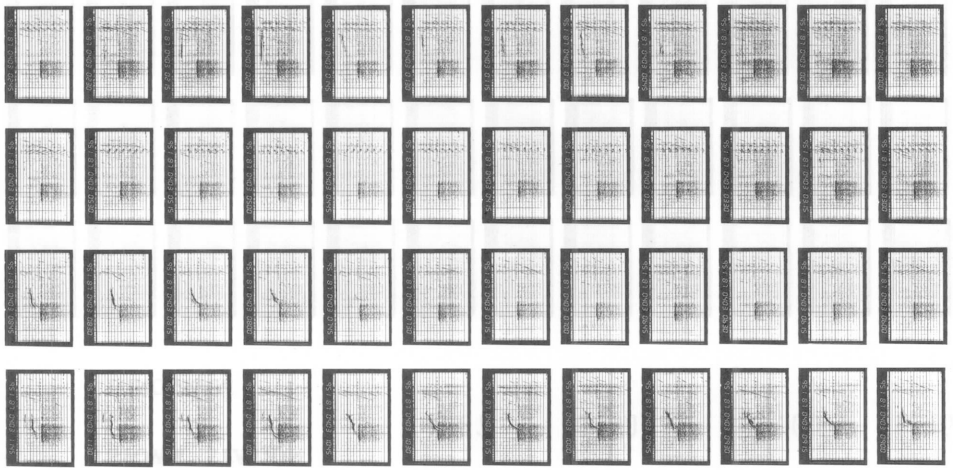
SYOWA STATION 1987 04 03 12:00 ~ 23:45

IONOGRAM



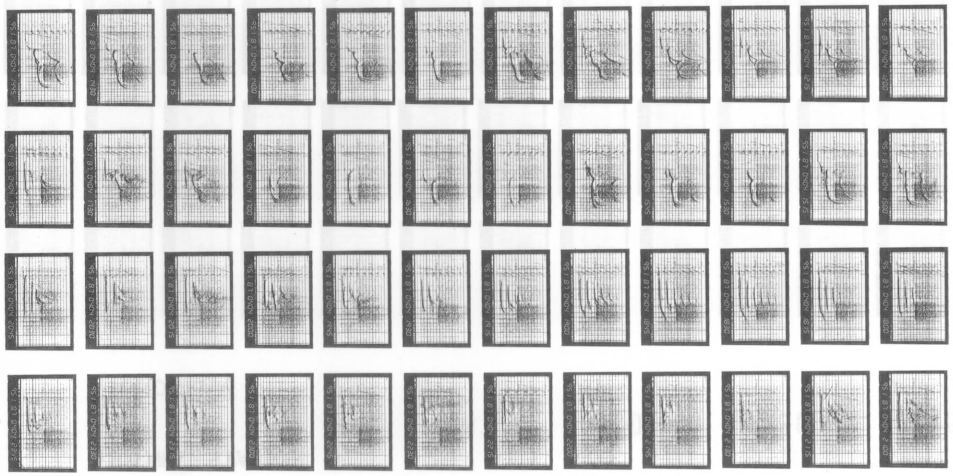
SYOWA STATION 1987 04 03 00:00 ~ 11:45

IONOGRAM



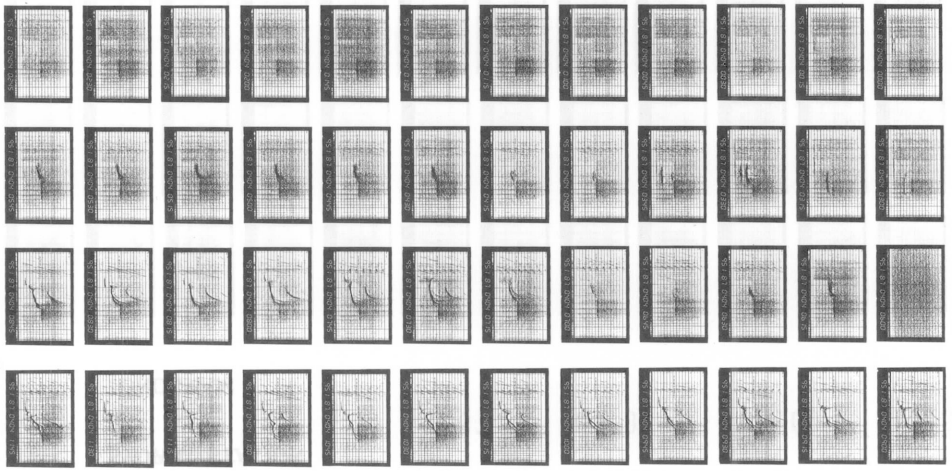
SYOWA STATION 1987 04 04 12:00 ~ 23:45

IONOGRAM



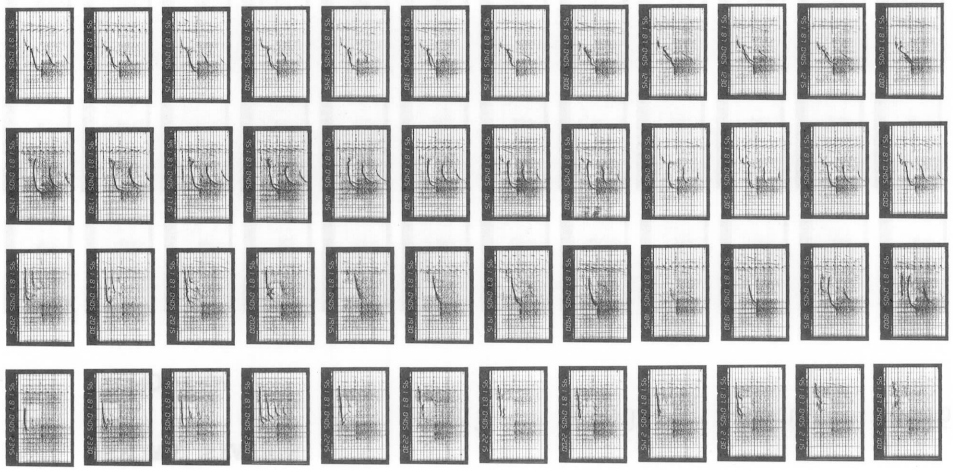
SYOWA STATION 1987 04 04 00:00 ~ 11:45

IONOGRAM



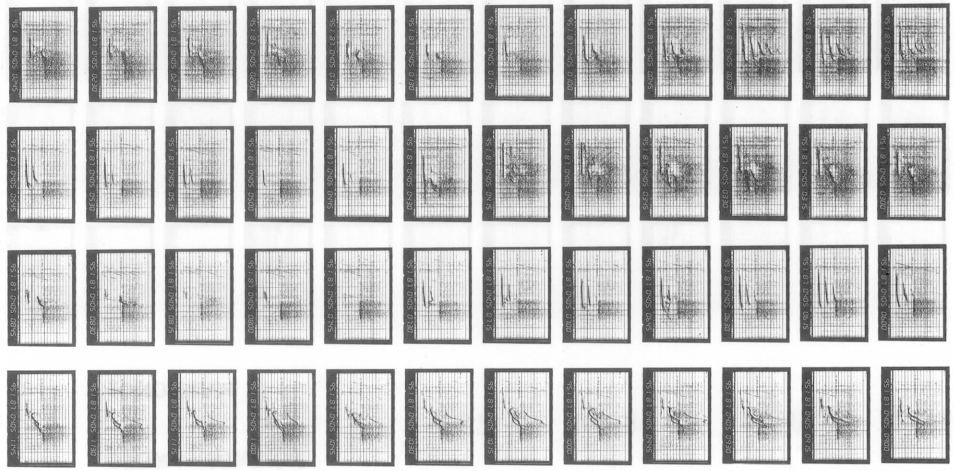
SYOWA STATION 1987 04 05 12:00 ~ 23:45

IONOGRAM



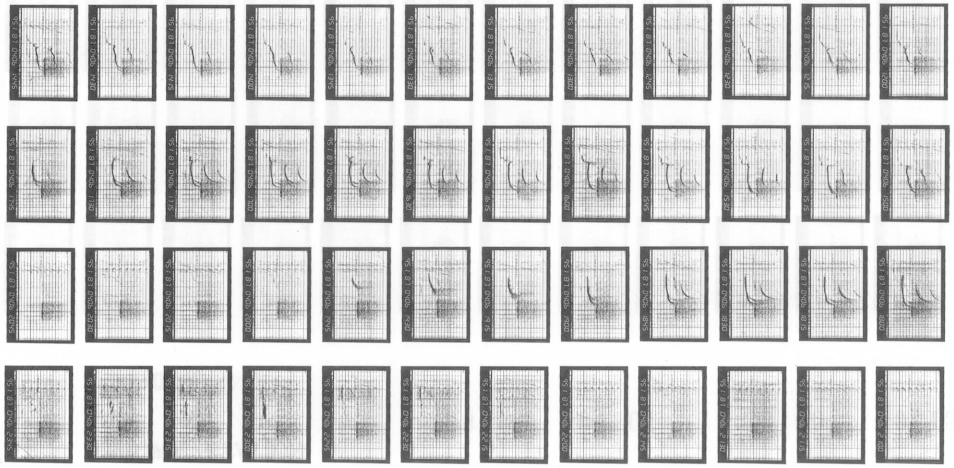
SYOWA STATION 1987 04 05 00:00 ~ 11:45

IONOGRAM



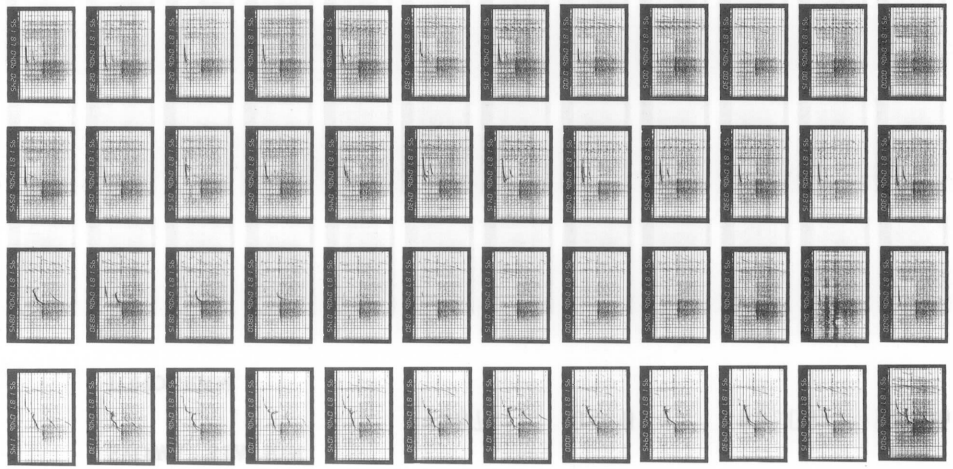
SYOWA STATION 1987 04 06 12:00 ~ 23:45

IONOGRAM



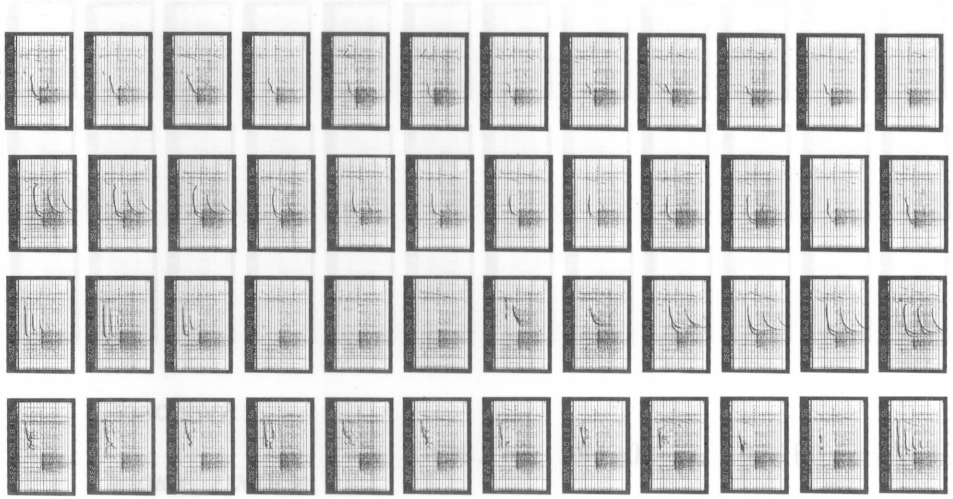
SYOWA STATION 1987 04 06 00:00 ~ 11:45

IONOGRAM



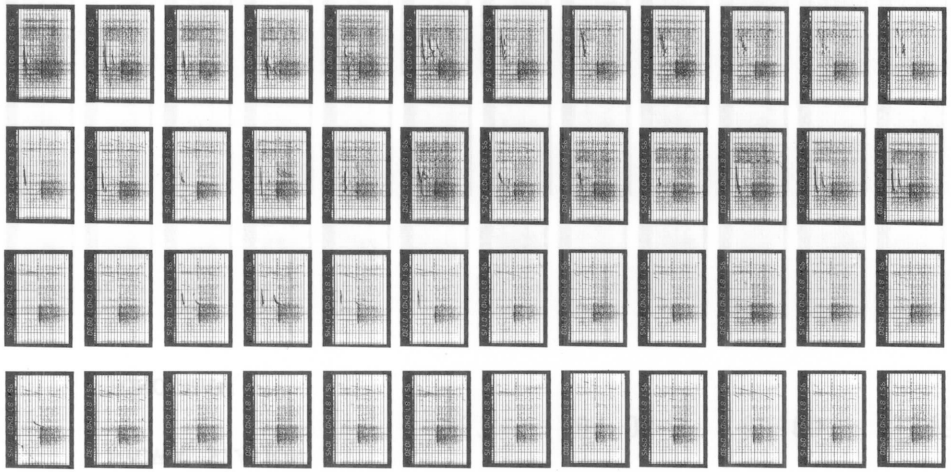
SYOWA STATION 1987 04 07 12:00 ~ 23:45

IONOGRAM



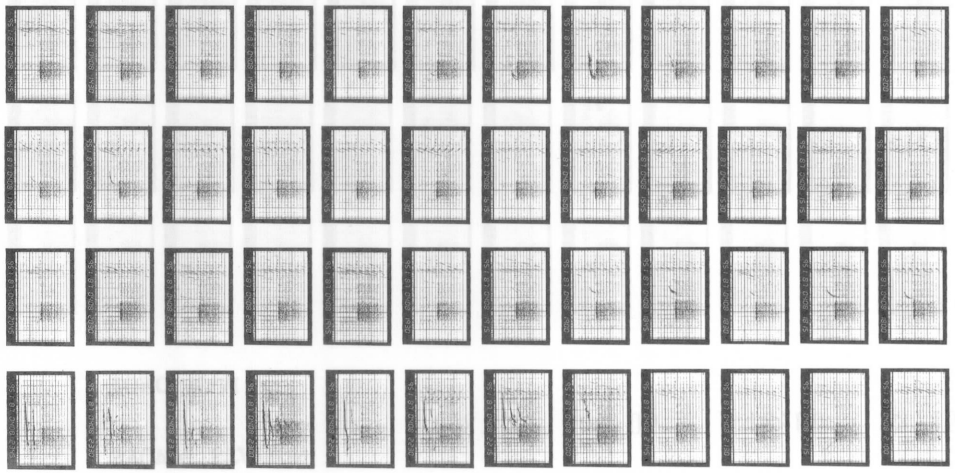
SYOWA STATION 1987 04 07 00:00 ~ 11:45

IONOGRAM



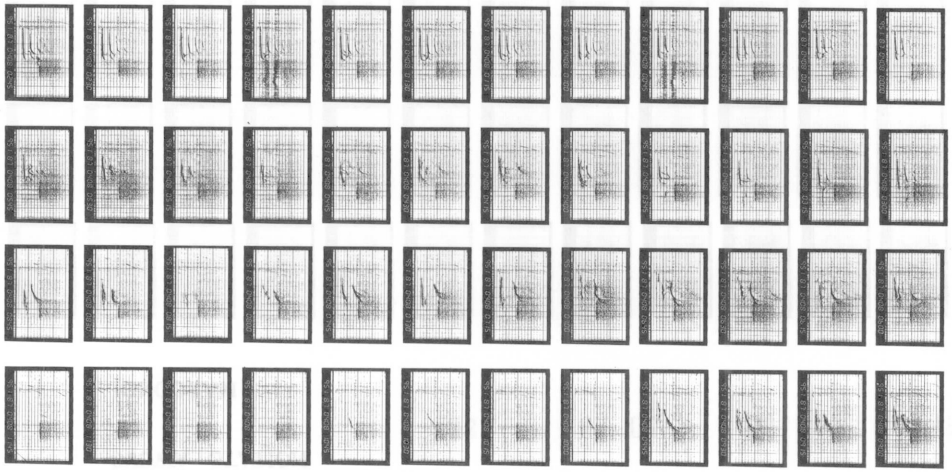
SYOWA STATION 1987 04 08 12:00 ~ 23:45

IONOGRAM



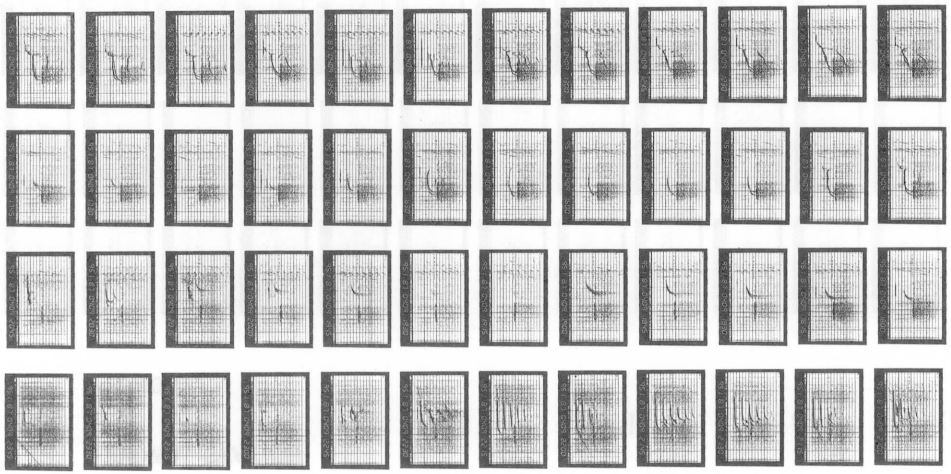
SYOWA STATION 1987 04 08 00:00 ~ 11:45

IONOGRAM



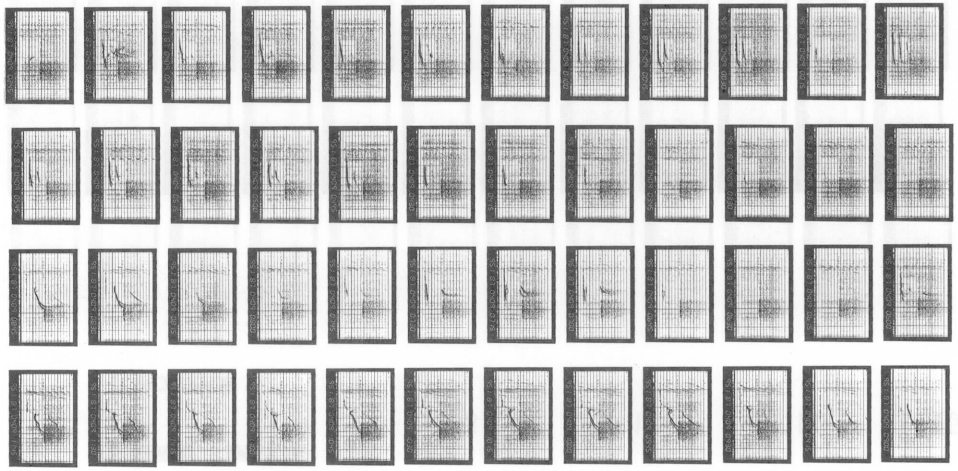
SYOWA STATION 1987 04 09 12:00 ~ 23:45

IONOGRAM



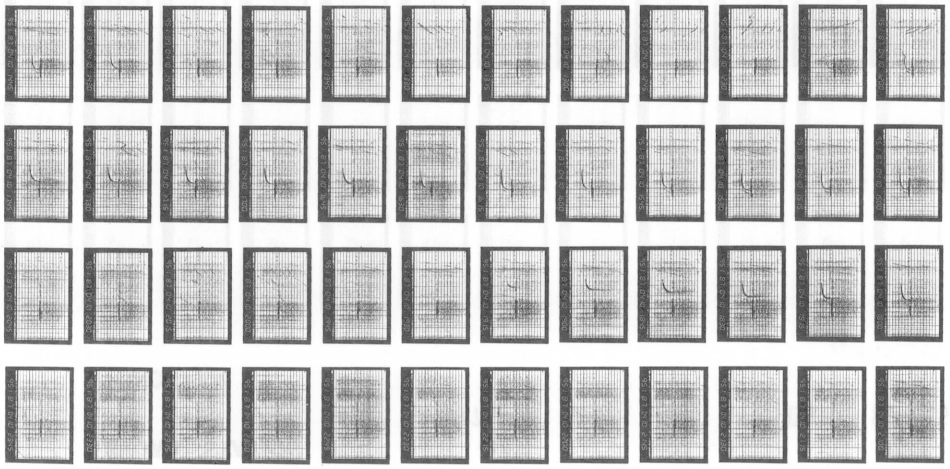
SYOWA STATION 1987 04 09 00:00 ~ 11:45

IONOGRAM



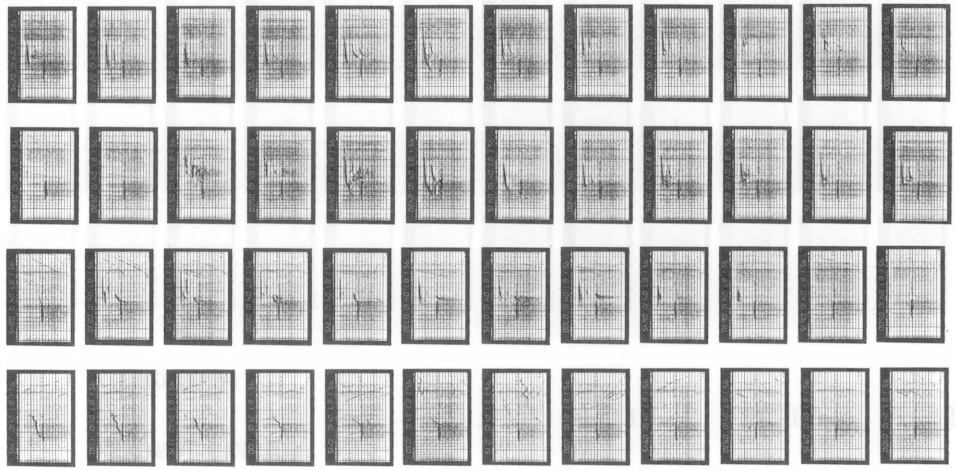
SYOWA STATION 1987 04 10 12:00 ~ 23:45

IONOGRAM



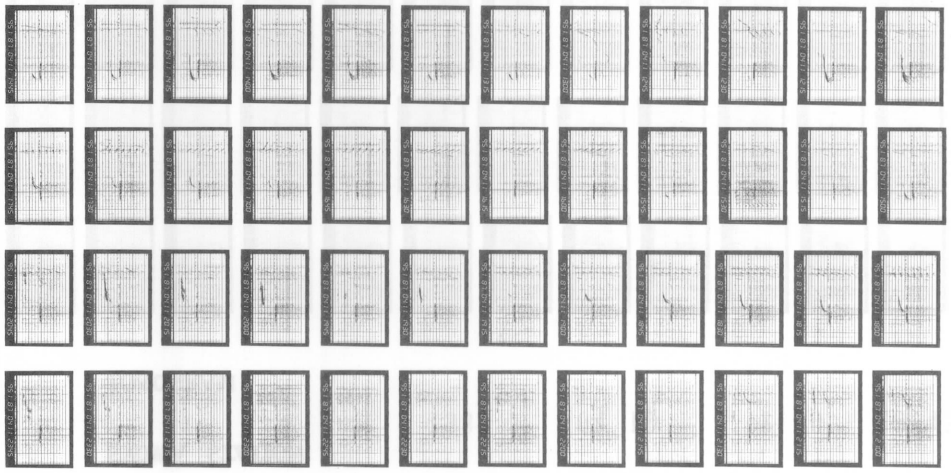
SYOWA STATION 1987 04 10 00:00 ~ 11:45

IONOGRAM



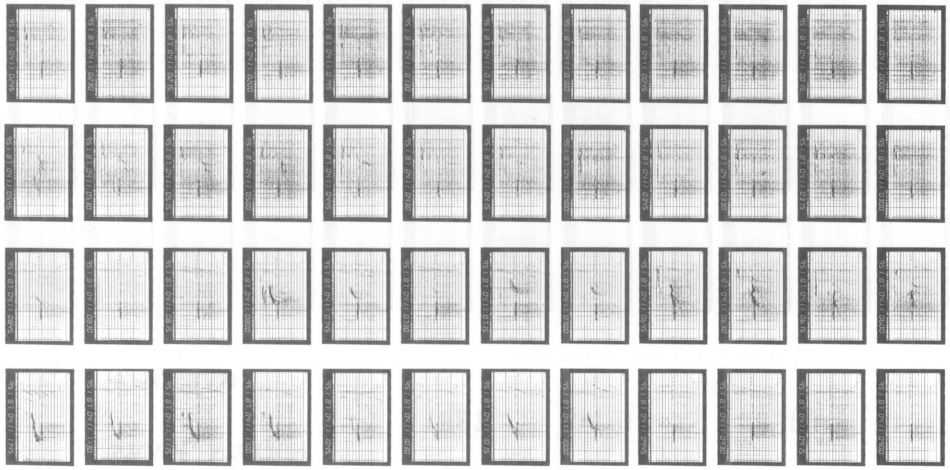
SYOWA STATION 1987 04 11 12:00 ~ 23:45

IONOGRAM



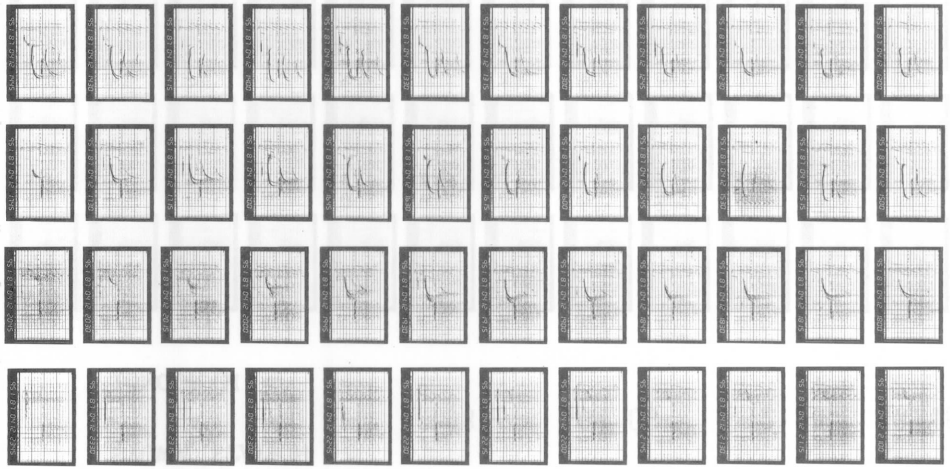
SYOWA STATION 1987 04 11 00:00 ~ 11:45

IONOGRAM



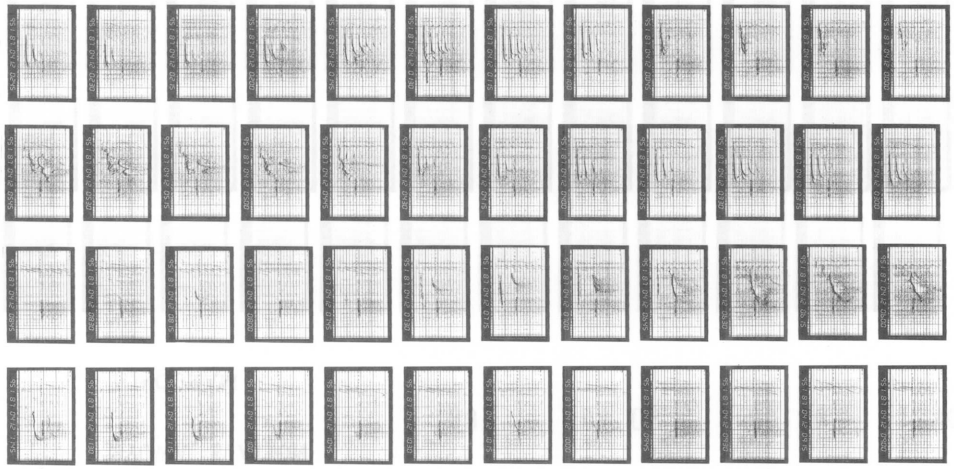
SYOWA STATION 1987 04 12 12:00 ~ 23:45

IONOGRAM



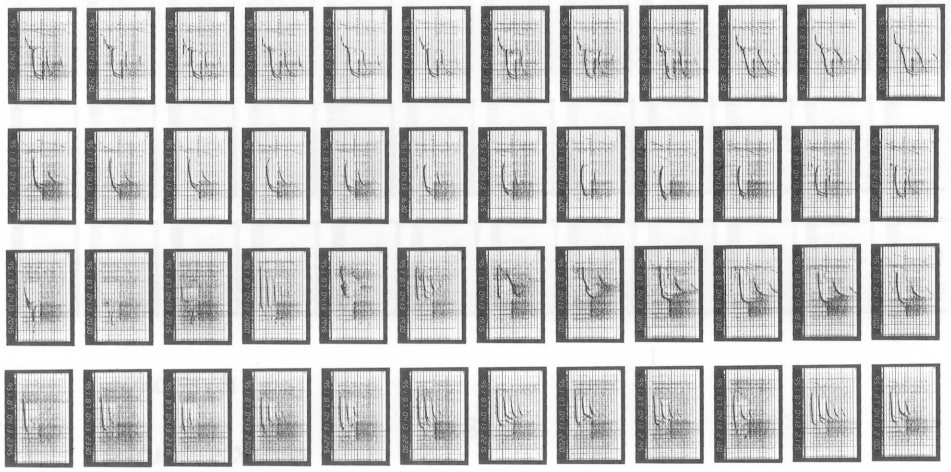
SYOWA STATION 1987 04 12 00:00 ~ 11:45

IONOGRAM



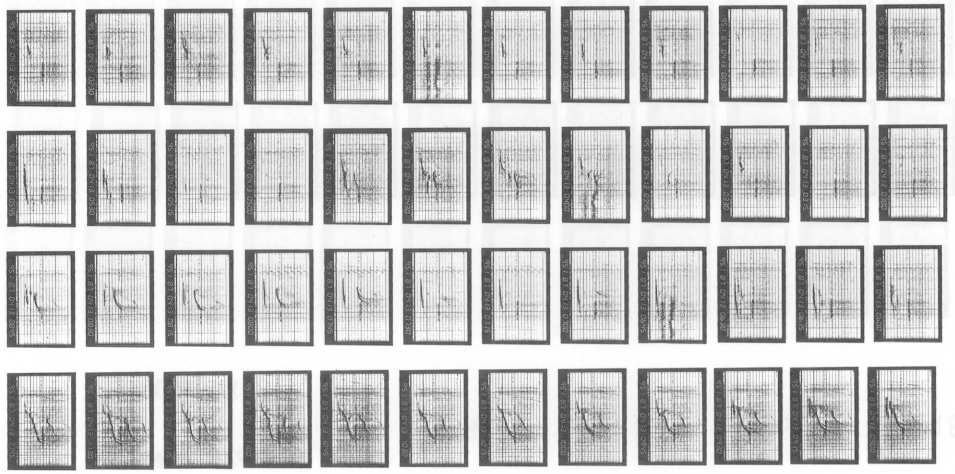
SYOWA STATION 1987 04 13 12:00 ~ 23:45

IONOGRAM



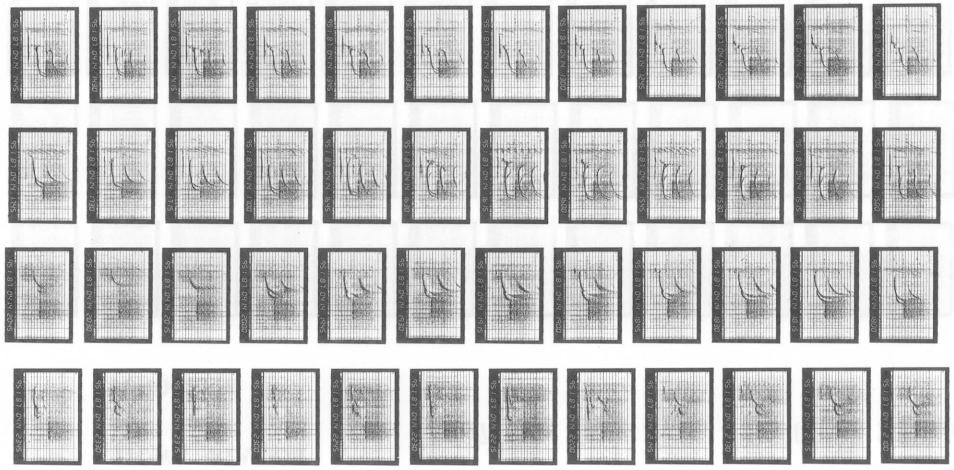
SYOWA STATION 1987 04 13 00:00 ~ 11:45

IONOGRAM



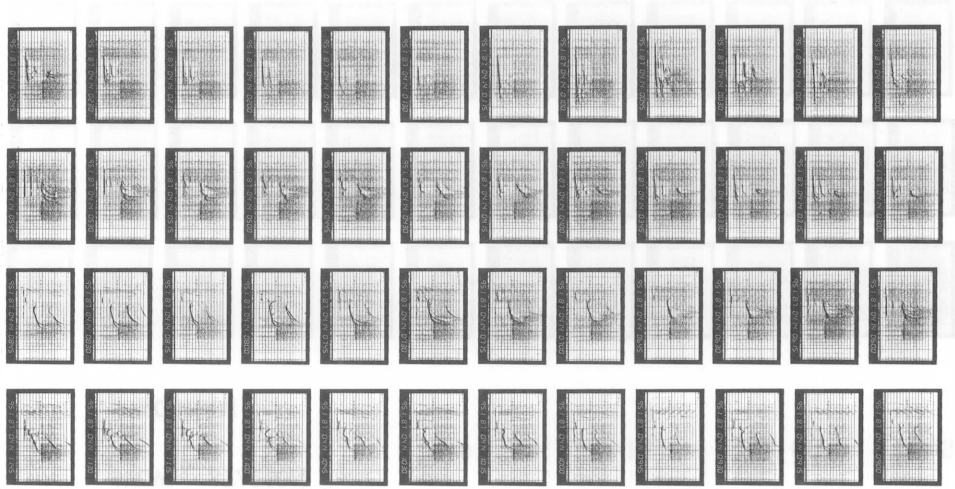
SYOWA STATION 1987 04 14 12:00 ~ 23:45

IONOGRAM



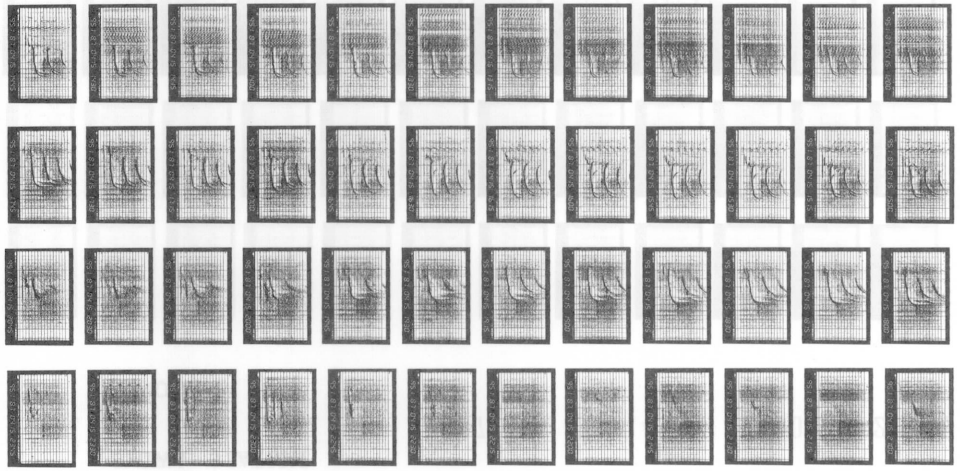
SYOWA STATION 1987 04 14 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 04 15 12:00 ~ 23:45

IONOGRAM

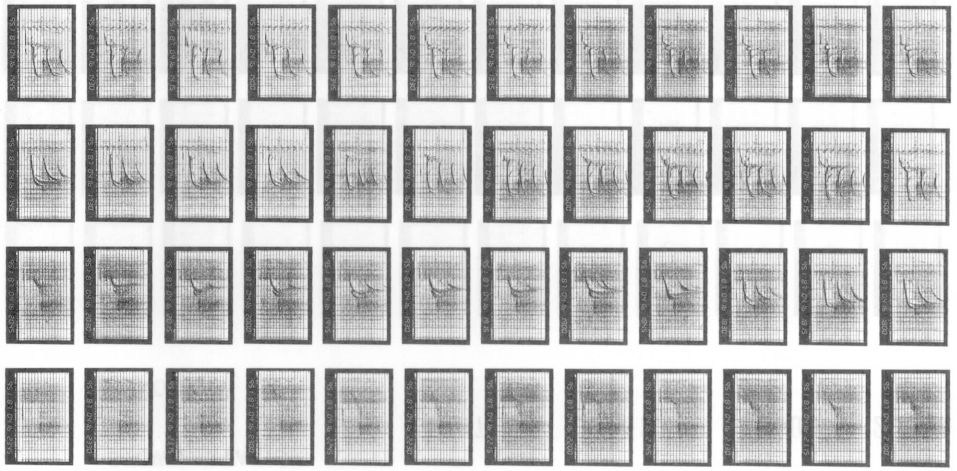


SYOWA STATION 1987 04 15 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 04 16 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 04 16 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 04 17 12:00 ~ 23:45

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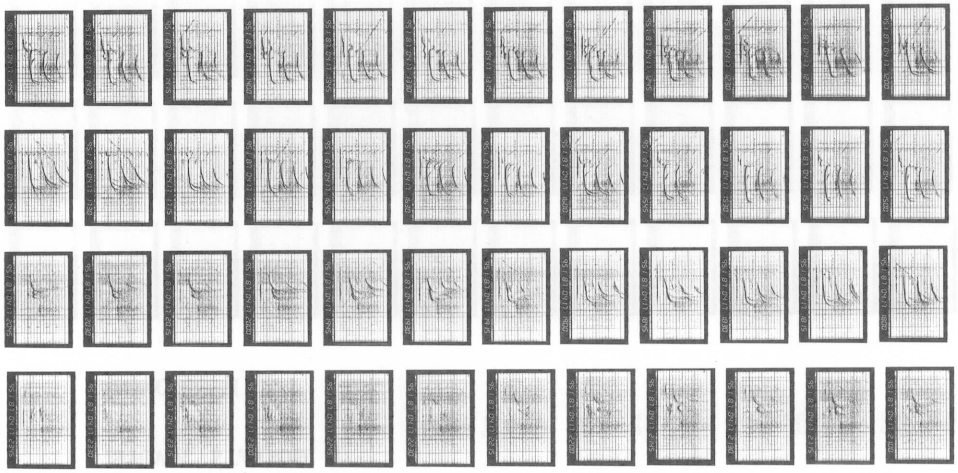
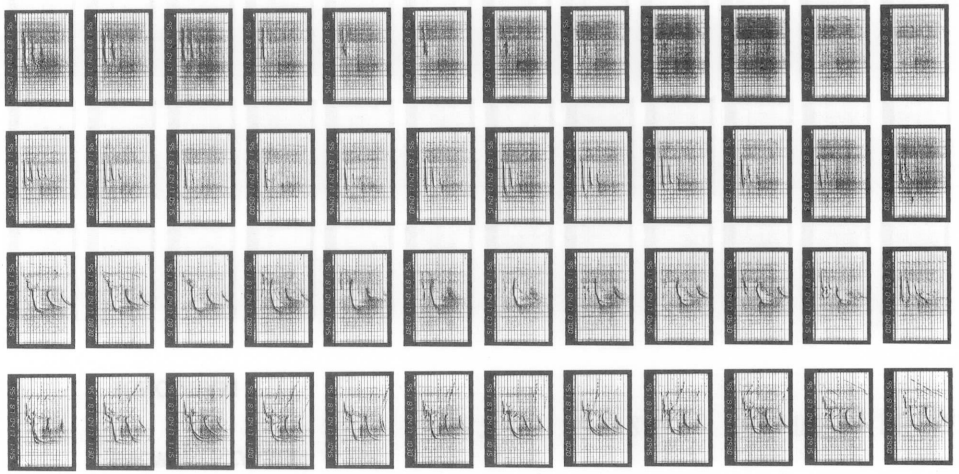


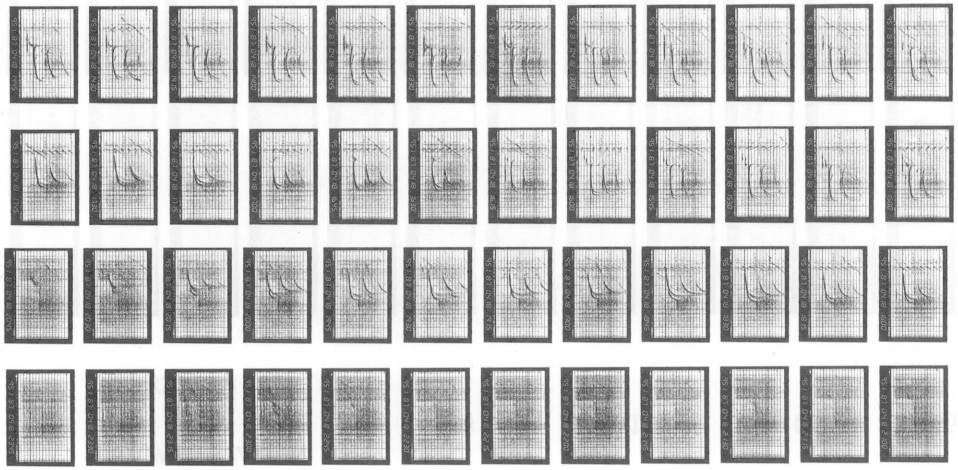
SYOWA STATION 1987 04 17 00:00 ~ 11:45

IONOGRAM



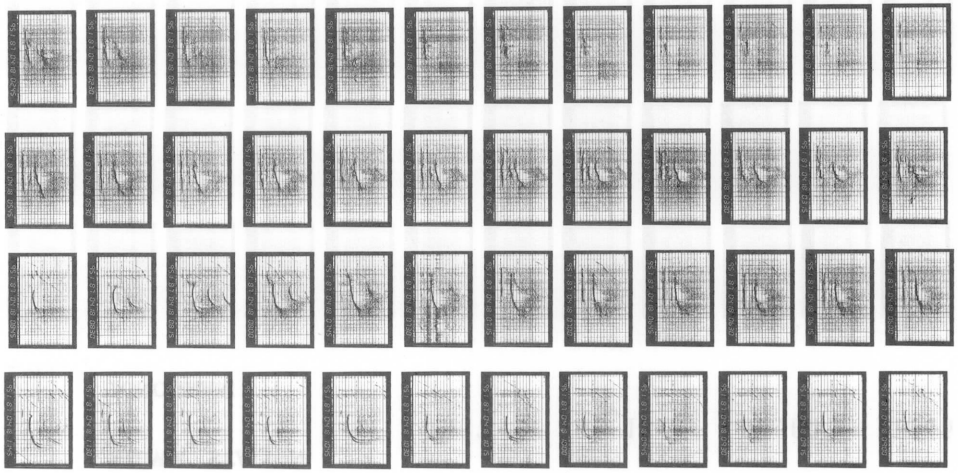
SYOWA STATION 1987 04 18 12:00 ~ 23:45

IONOGRAM



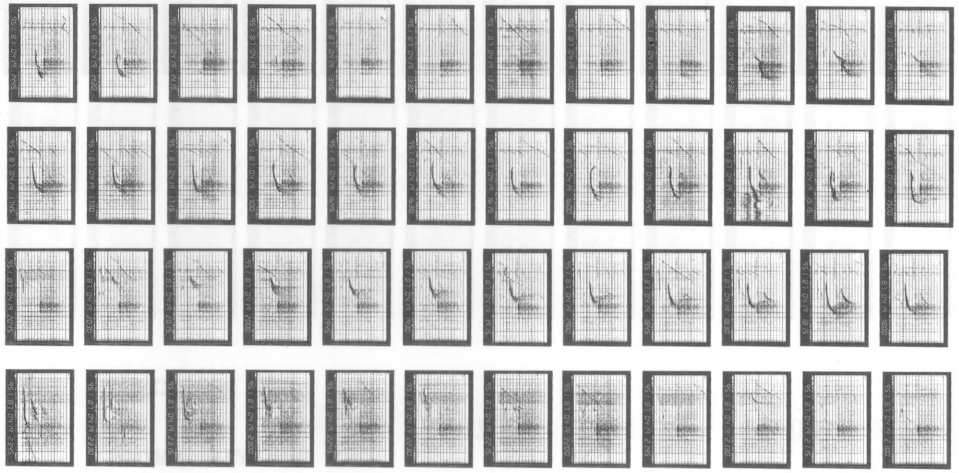
SYOWA STATION 1987 04 18 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 04 19 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 04 19 00:00 ~ 11:45

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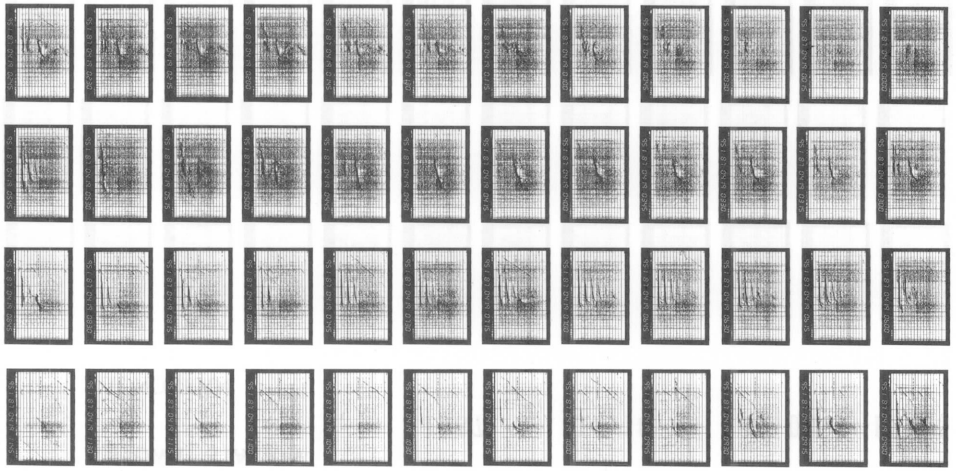
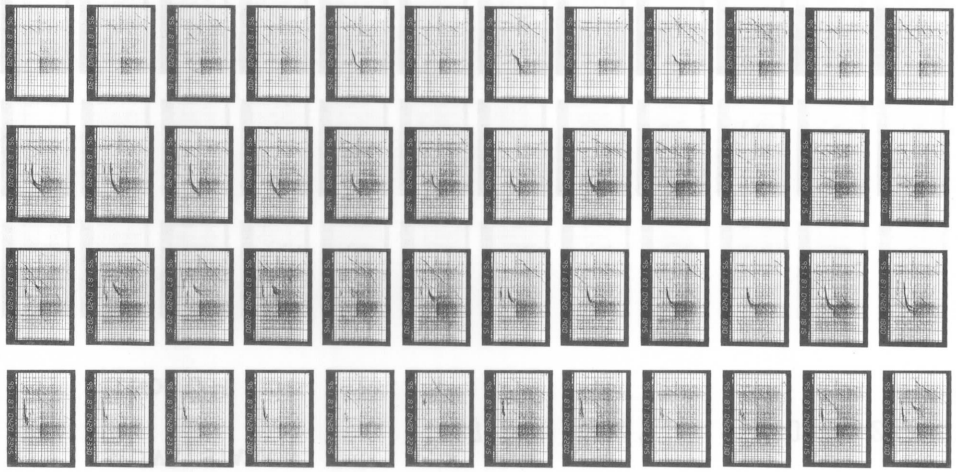


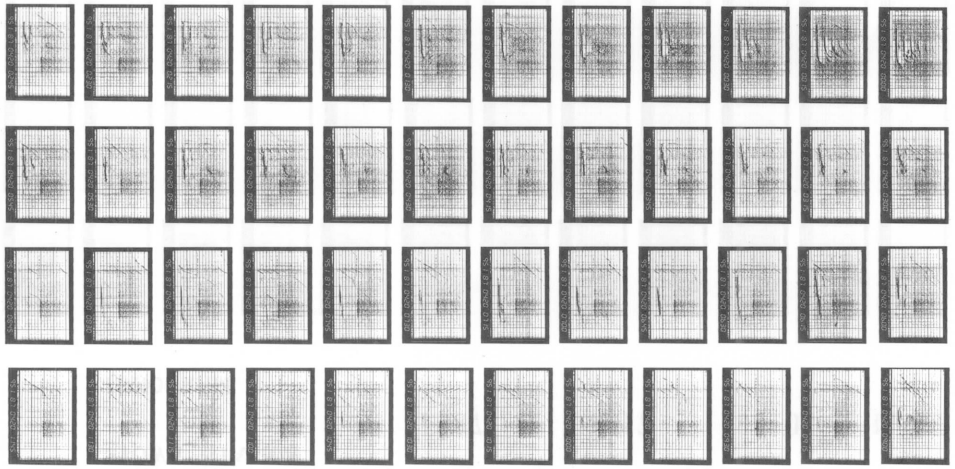
SYOWA STATION 1987 04 20 12:00 ~ 23:45

IONOGRAM



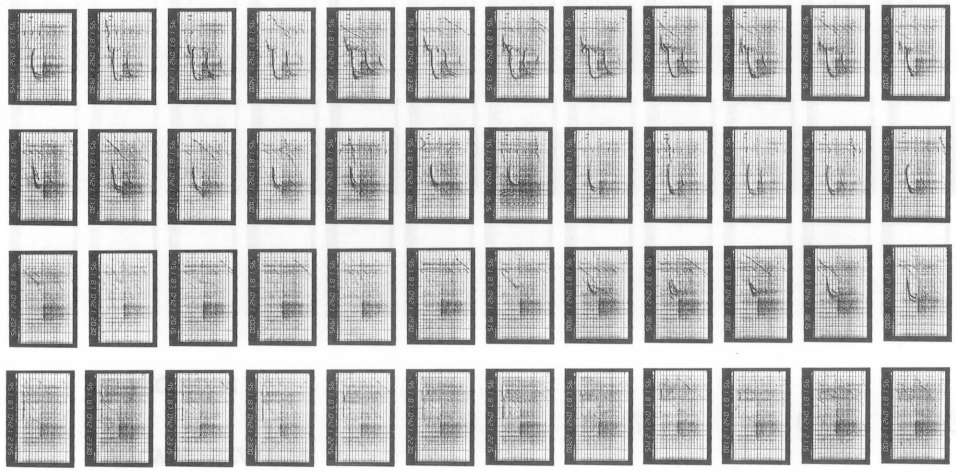
SYOWA STATION 1987 04 20 00:00 ~ 11:45

IONOGRAM



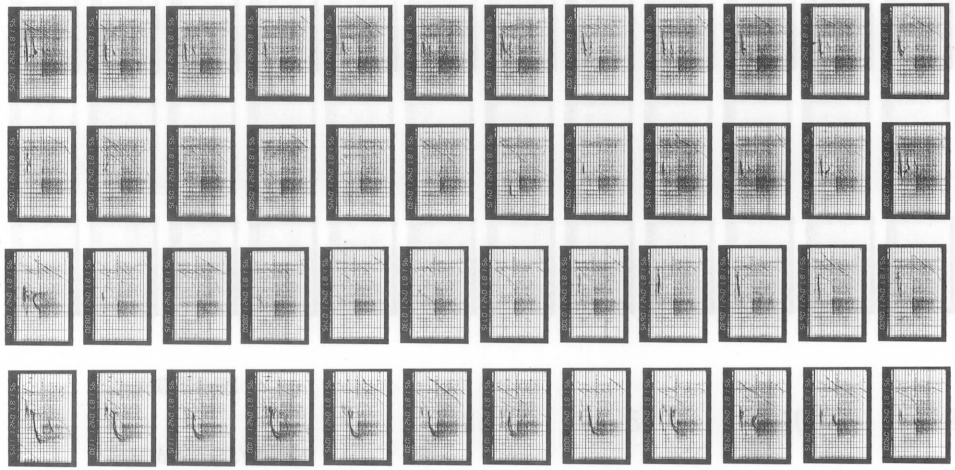
SYOWA STATION 1987 04 21 12:00 ~ 23:45

IONOGRAM



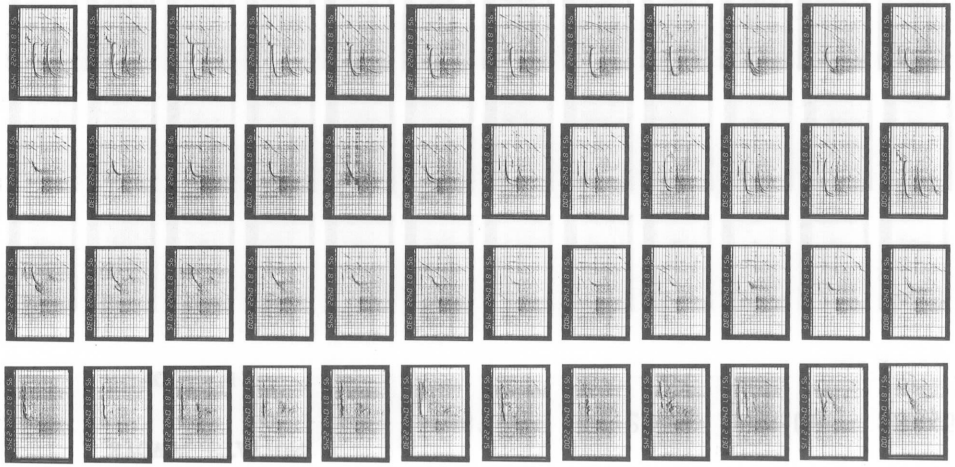
SYOWA STATION 1987 04 21 00:00 ~ 11:45

IONOGRAM



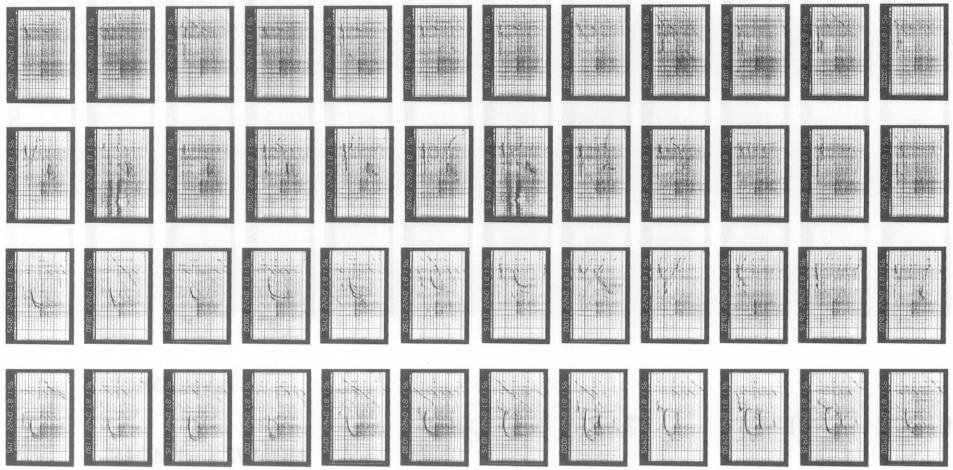
SYOWA STATION 1987 04 22 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 04 22 00:00 ~ 11:45

IONOGRAM

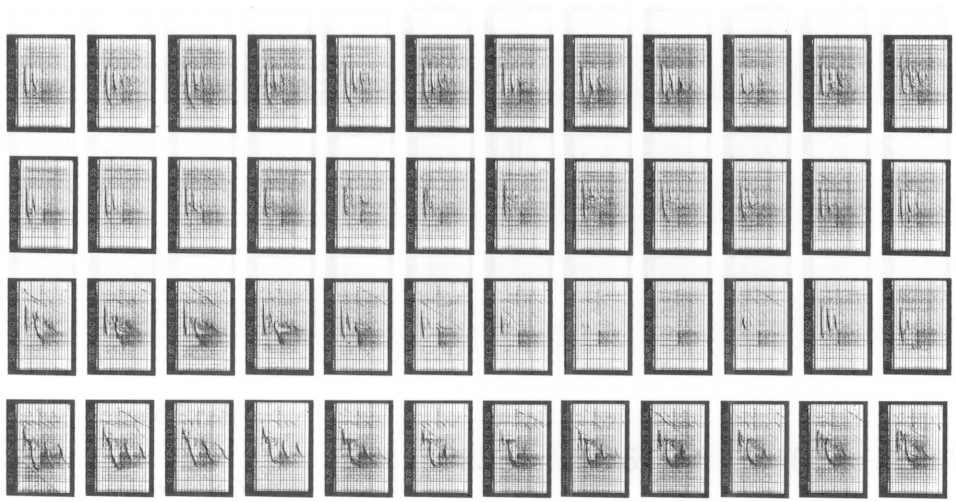


SYOWA STATION 1987 04 23 12:00 ~ 23:45

IONOGRAM

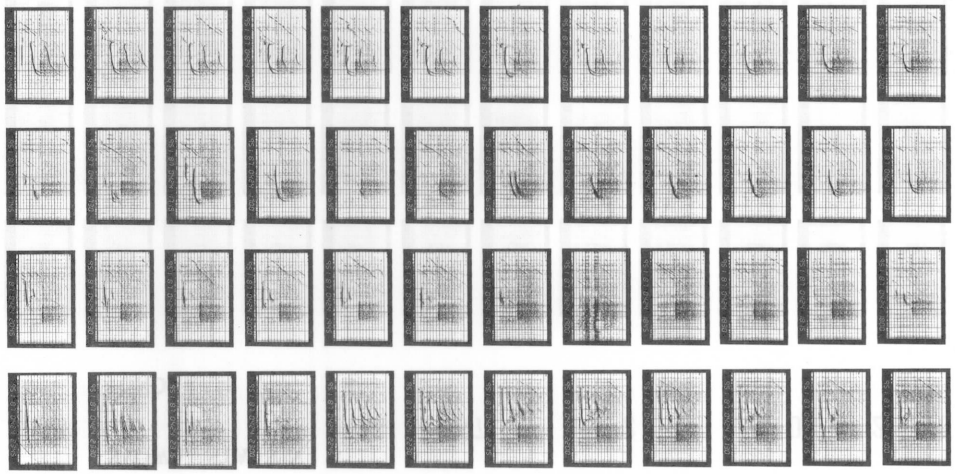
SYOWA STATION 1987 04 23 00:00 ~ 11:45

IONOGRAM



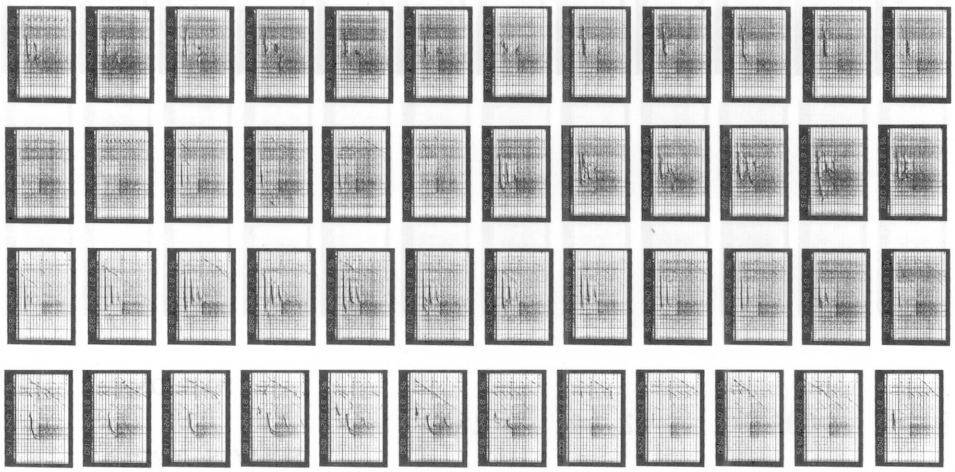
SYOWA STATION 1987 04 24 12:00 ~ 23:45

IONOGRAM



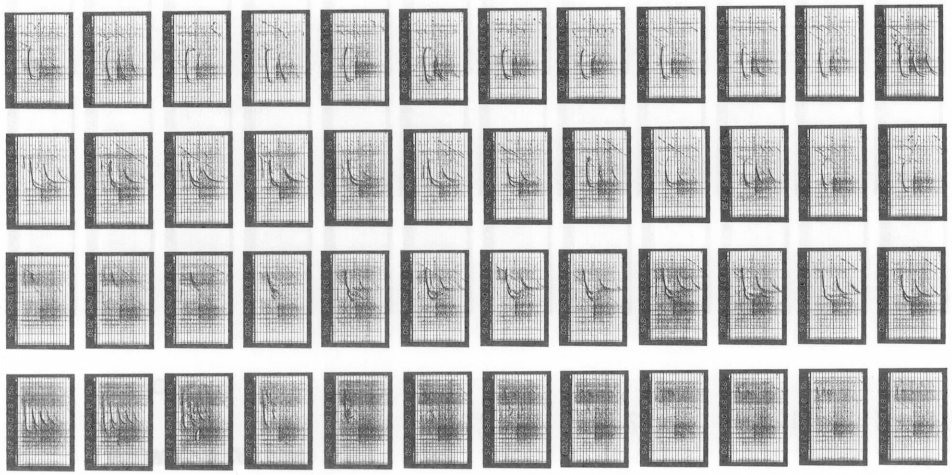
SYOWA STATION 1987 04 24 00:00 ~ 11:45

IONOGRAM



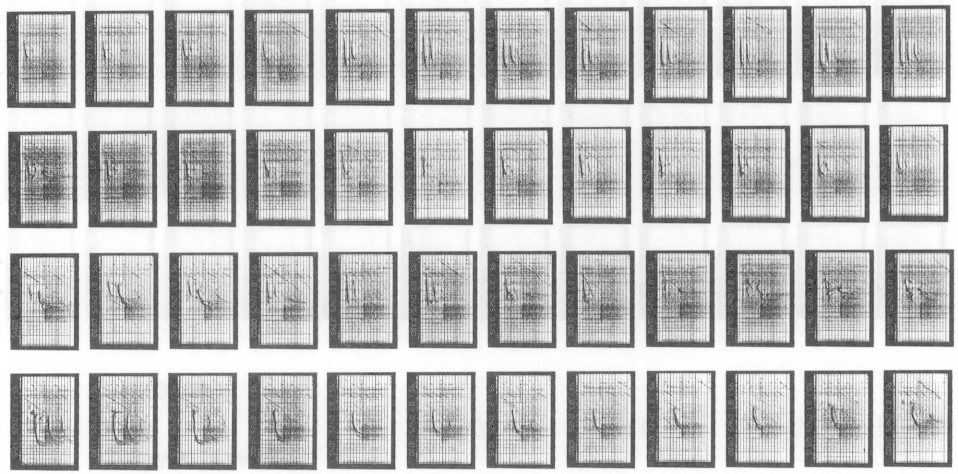
SYOWA STATION 1987 04 25 12:00 ~ 23:45

IONOGRAM



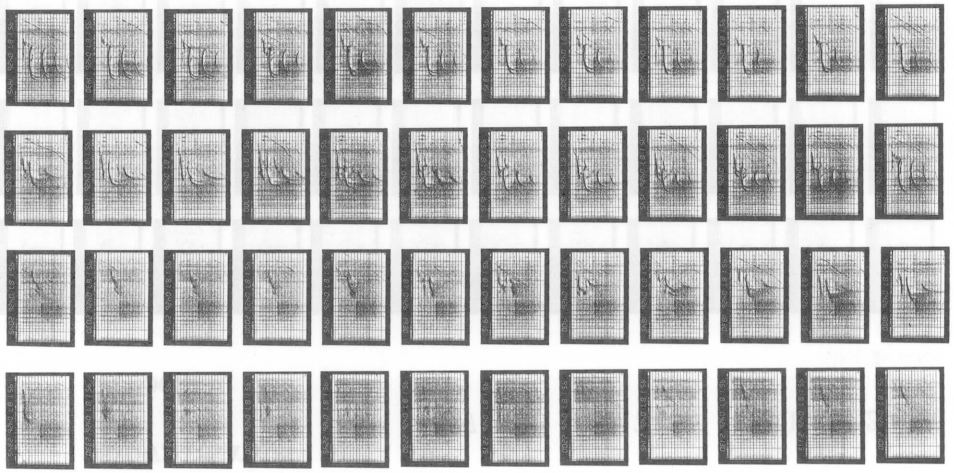
SYOWA STATION 1987 04 25 00:00 ~ 11:45

IONOGRAM



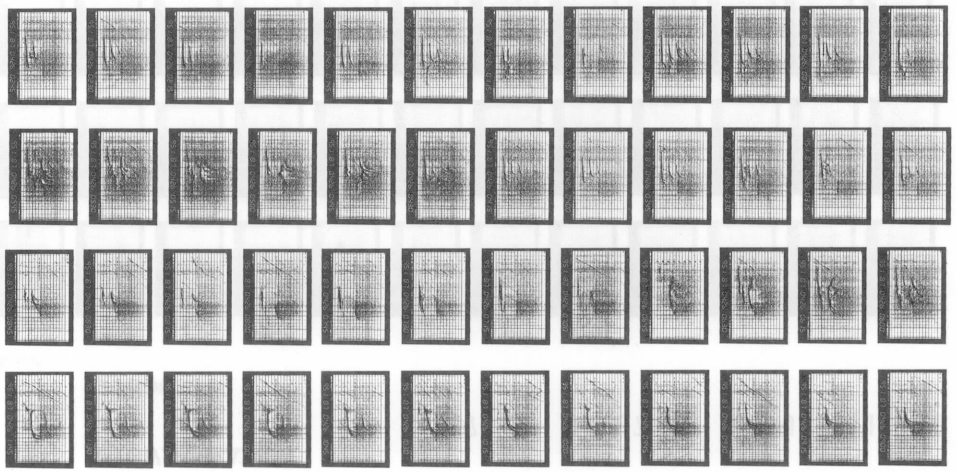
SYOWA STATION 1987 04 26 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 04 26 00:00 ~ 11:45

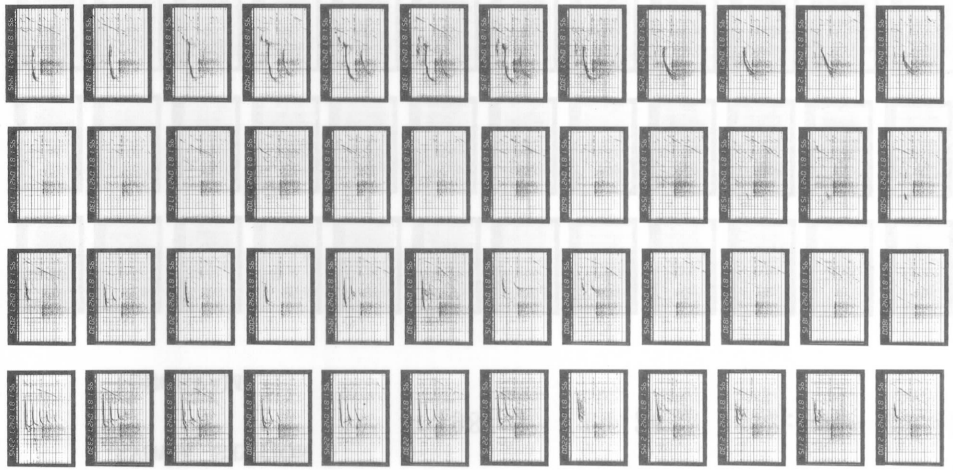
IONOGRAM



SYOWA STATION

IONOGRAM

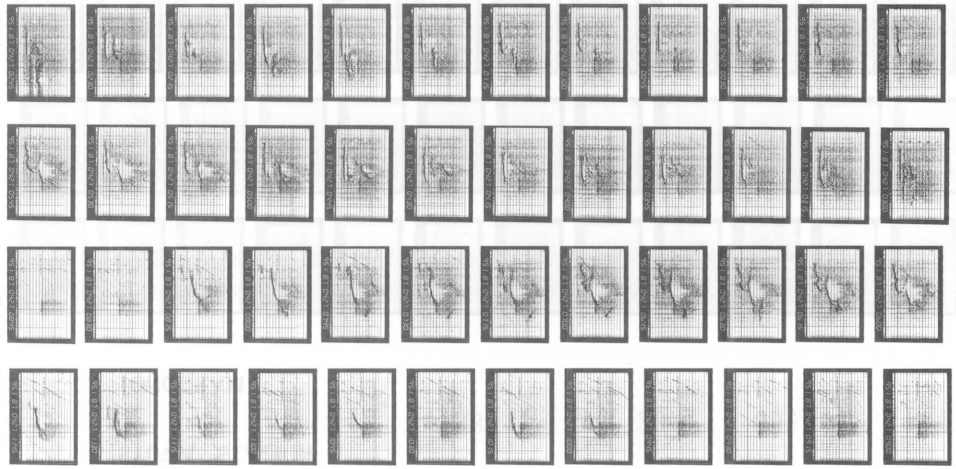
1987 04 27 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

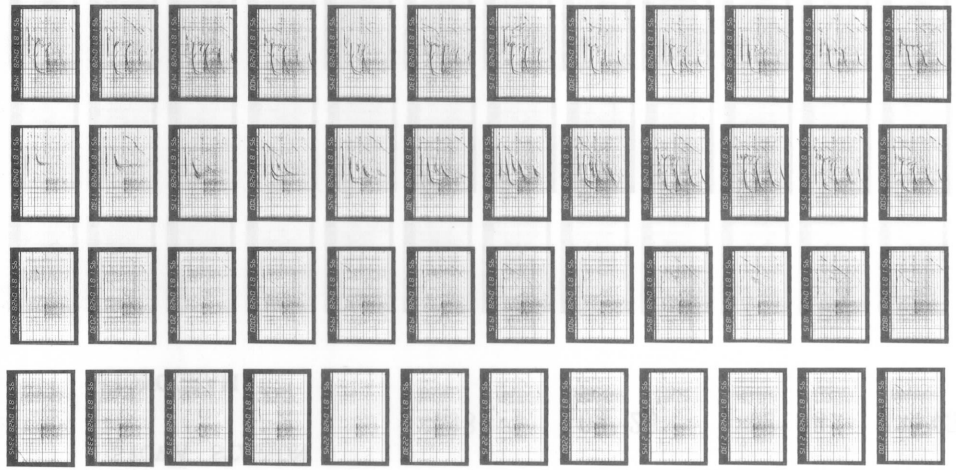
1987 04 27 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

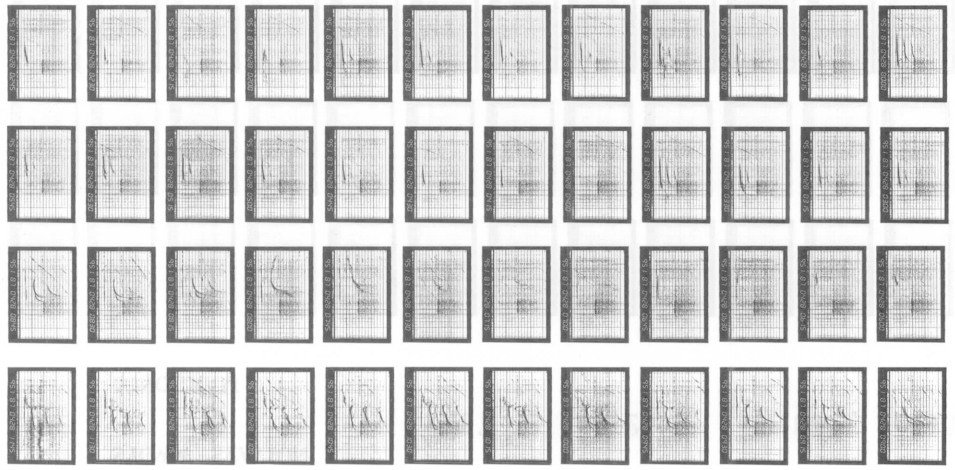
1987 04 28 12:00 ~ 23:45



SYOWA STATION

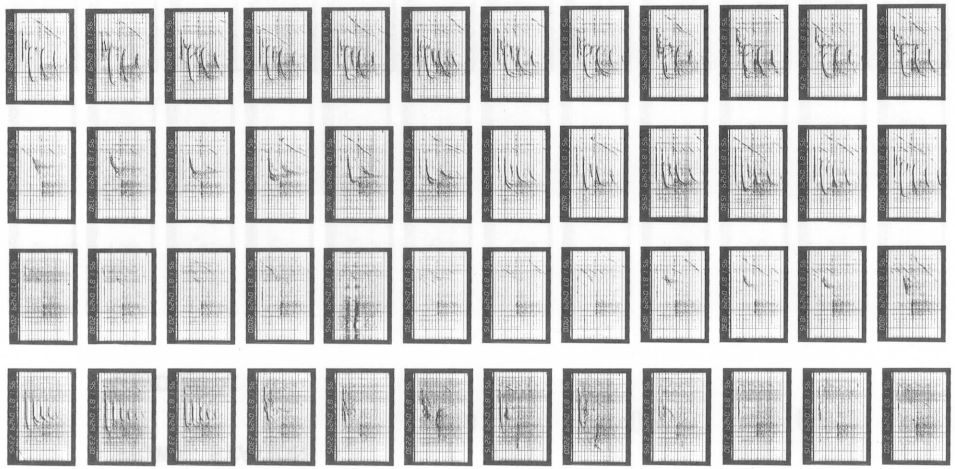
IONOGRAM

1987 04 28 00:00 ~ 11:45



SYOWA STATION 1987 04 29 12:00 ~ 23:45

IONOGRAM



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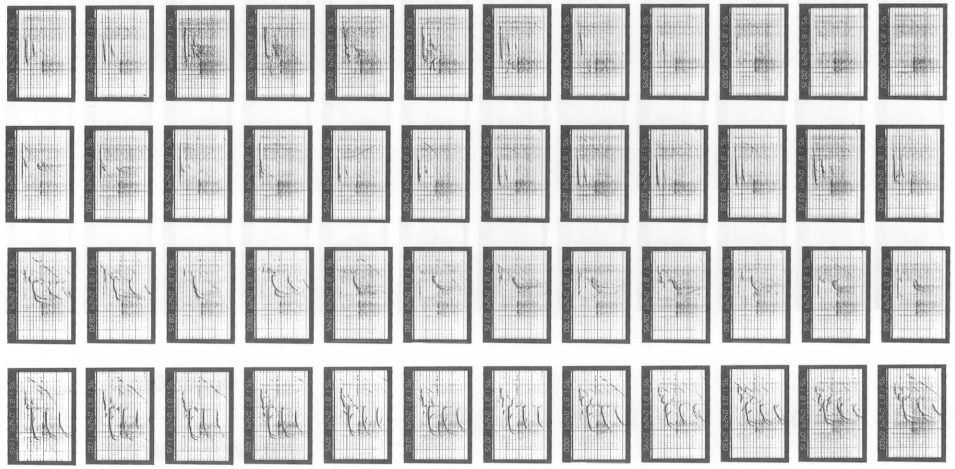
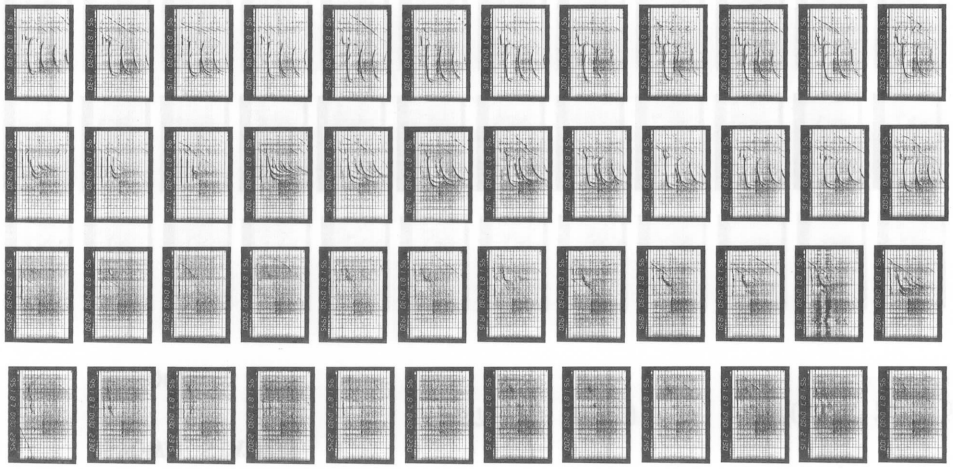


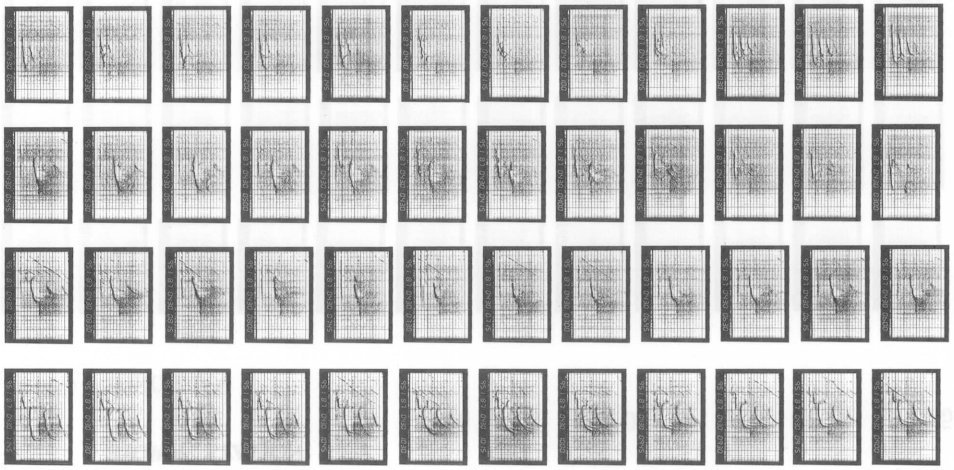
SYOWA STATION 1987 04 30 12:00 ~ 23:45

IONOGRAM



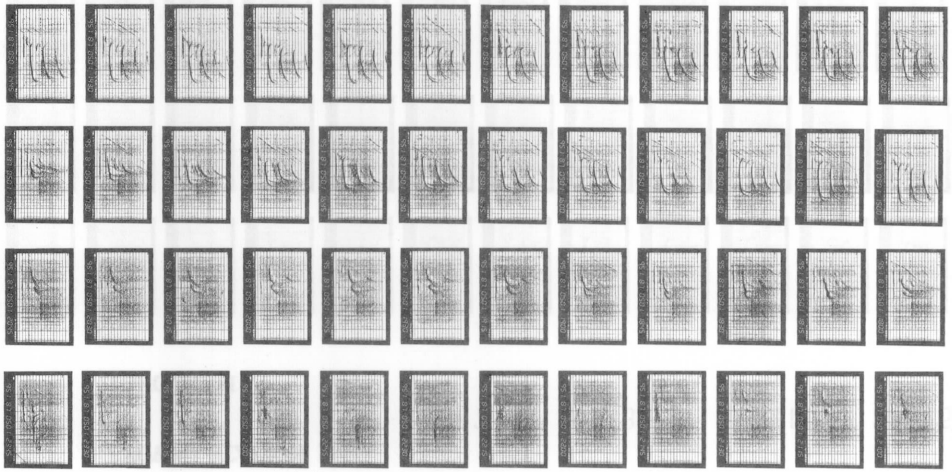
SYOWA STATION 1987 04 30 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 01 12:00 ~ 23:45

IONOGRAM

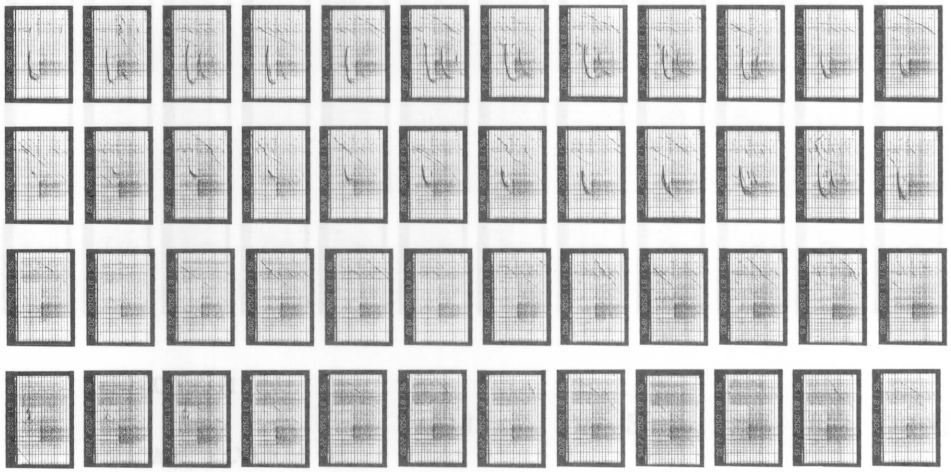


SYOWA STATION 1987 05 01 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 05 02 12:00 ~ 23:45

IONOGRAM



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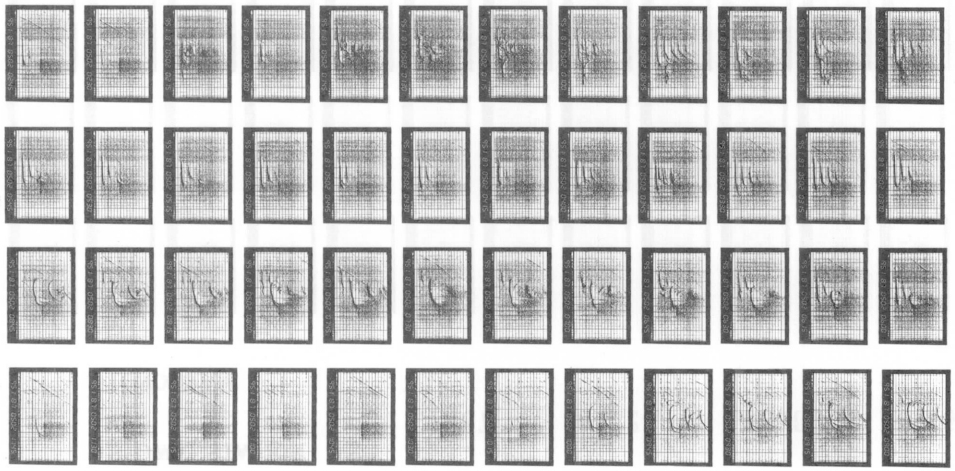

SYOWA STATION 1987 05 03 12:00 ~ 23:45

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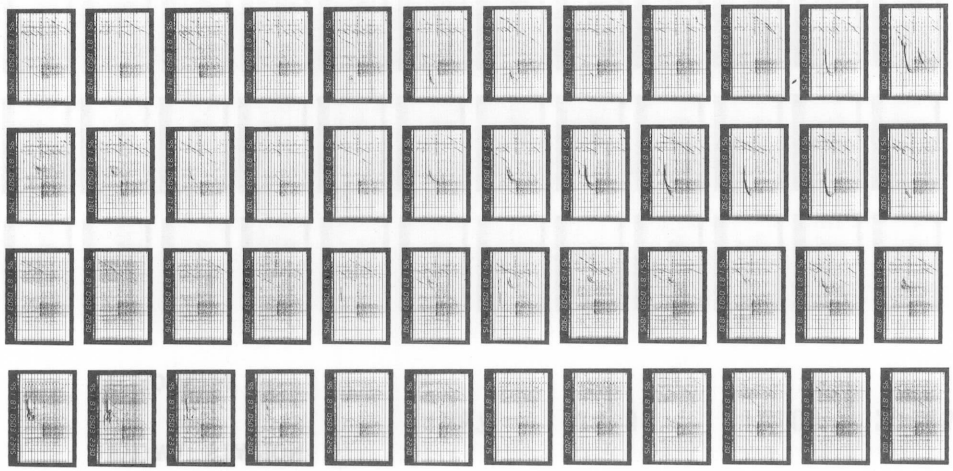
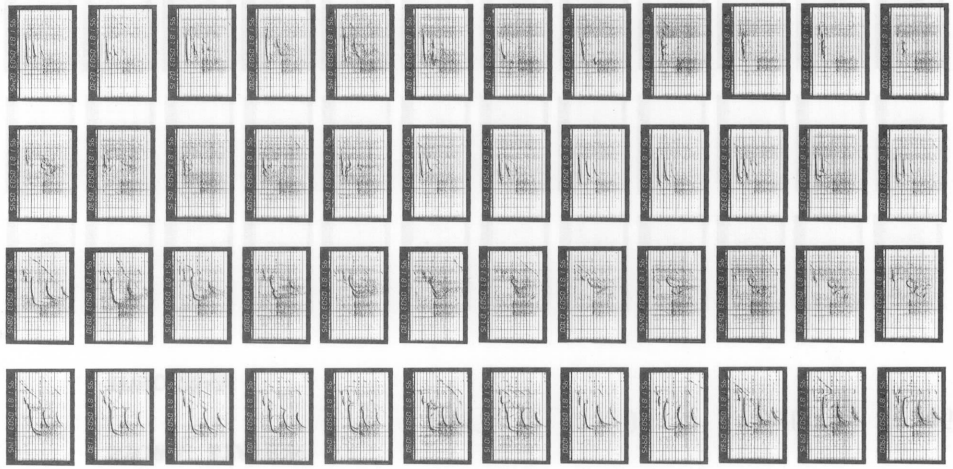


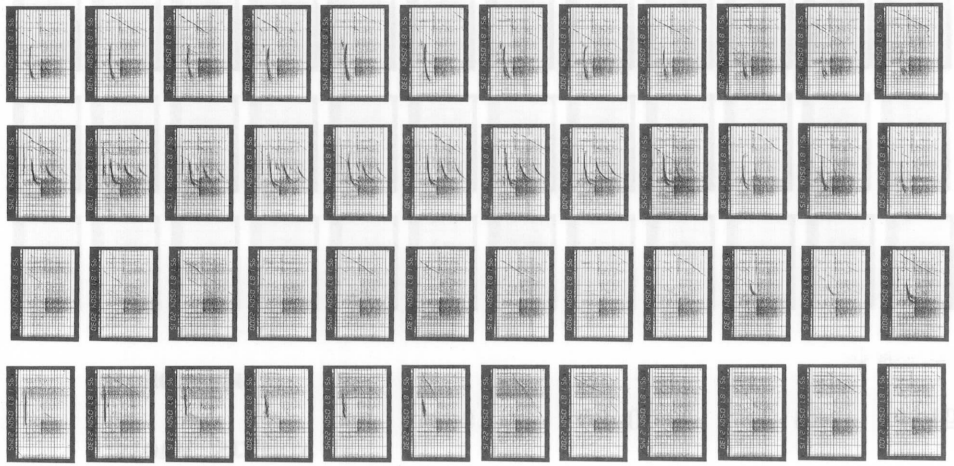
SYOWA STATION 1987 05 03 00:00 ~ 11:45

IONOGRAM



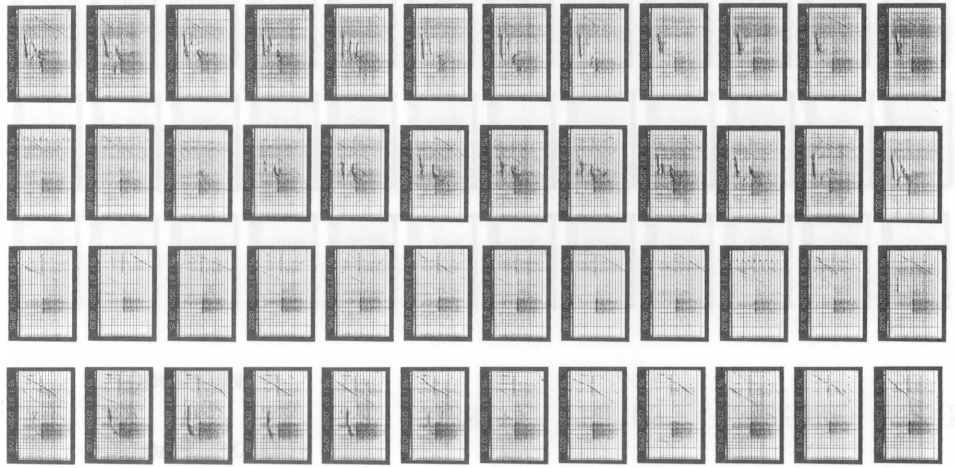
SYOWA STATION 1987 05 04 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 04 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 05 12:00 ~ 23:45

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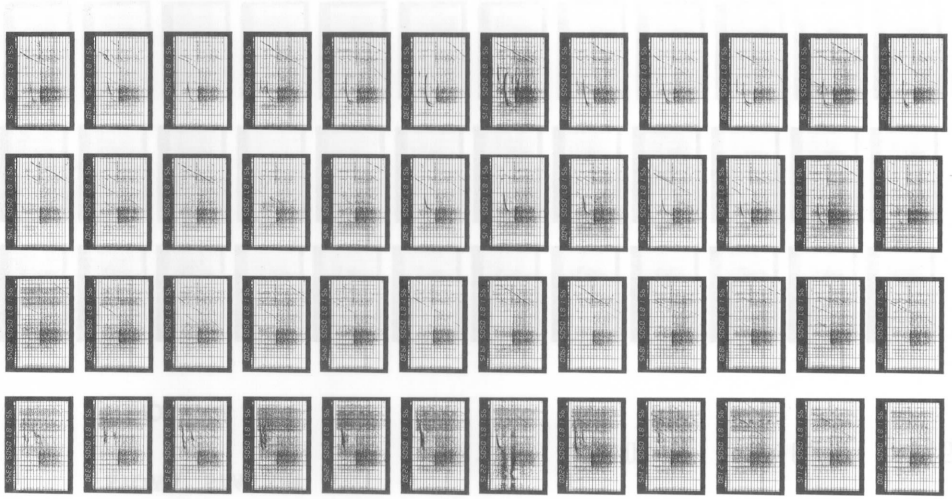

SYOWA STATION 1987 05 05 00:00 ~ 11:45

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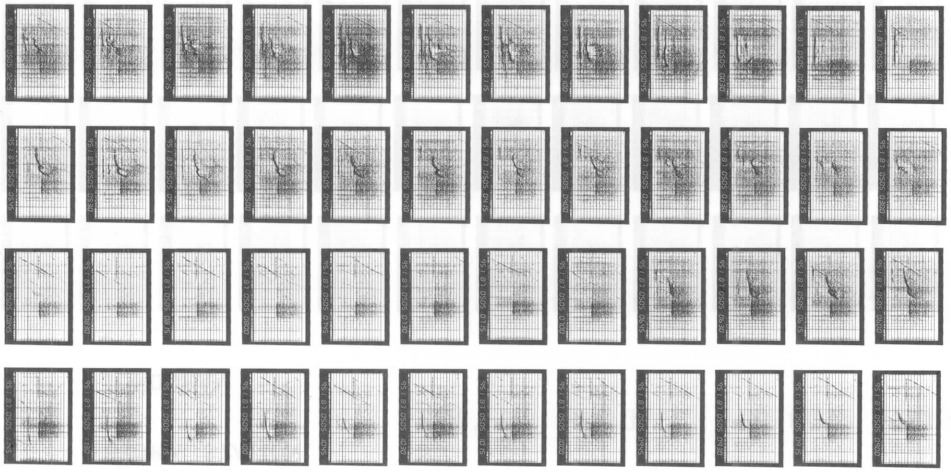

SYOWA STATION 1987 05 06 12:00 ~ 23:45

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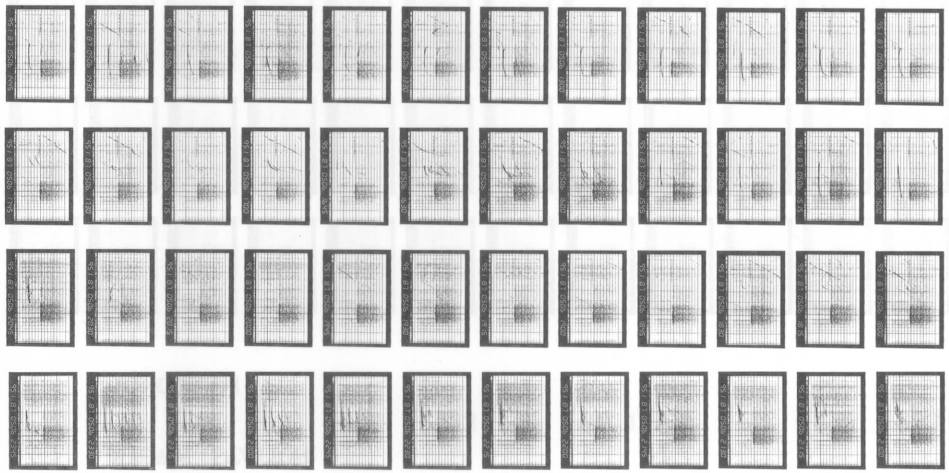
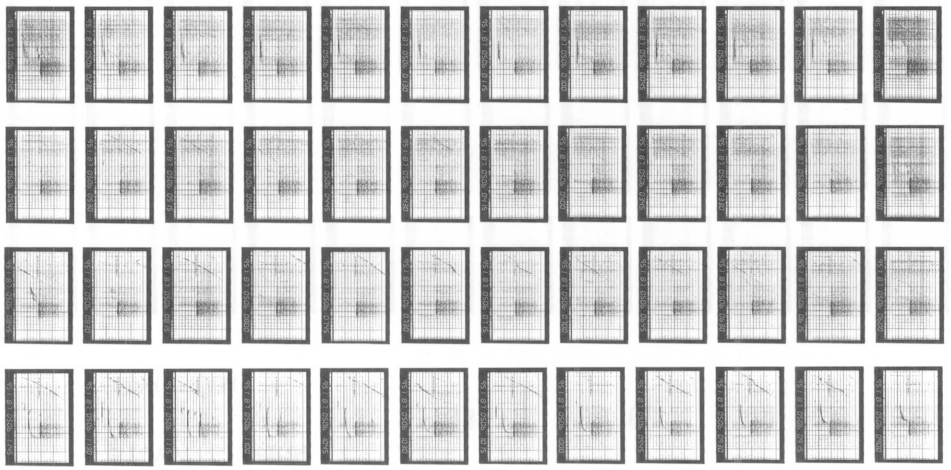


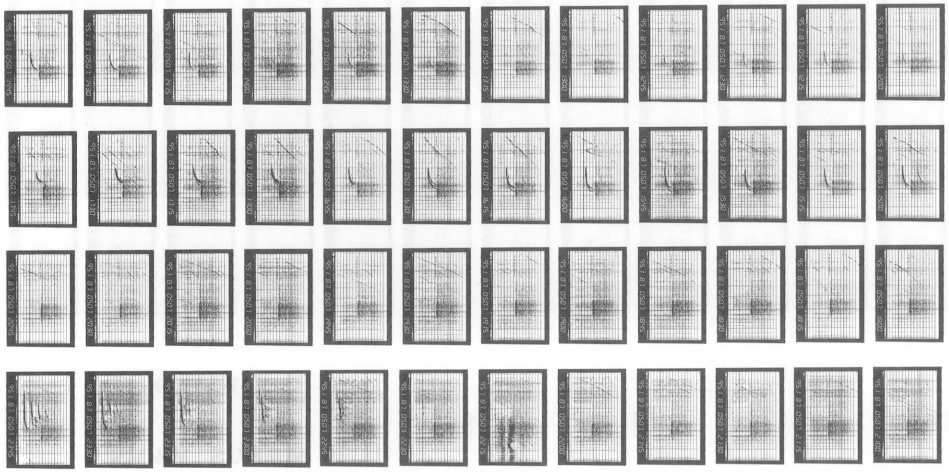
SYOWA STATION 1987 05 06 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 07 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 07 00:00 ~ 11:45

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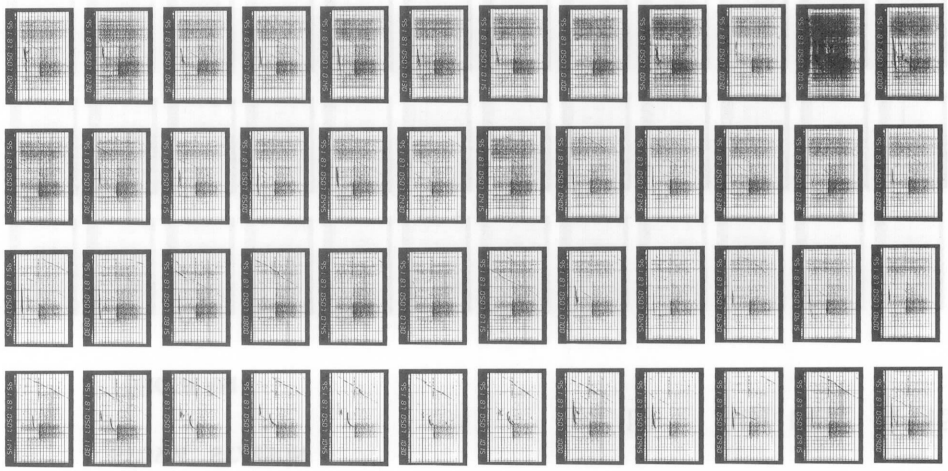
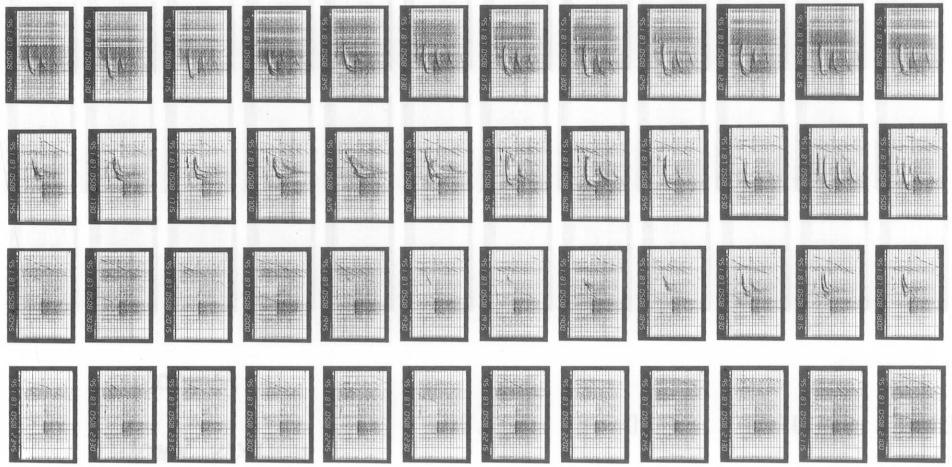


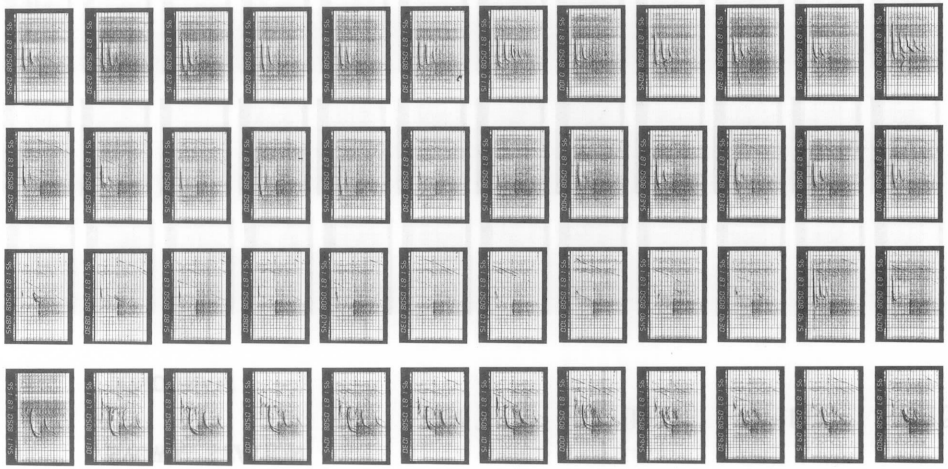
SYOWA STATION 1987 05 08 12:00 ~ 23:45

IONOGRAM



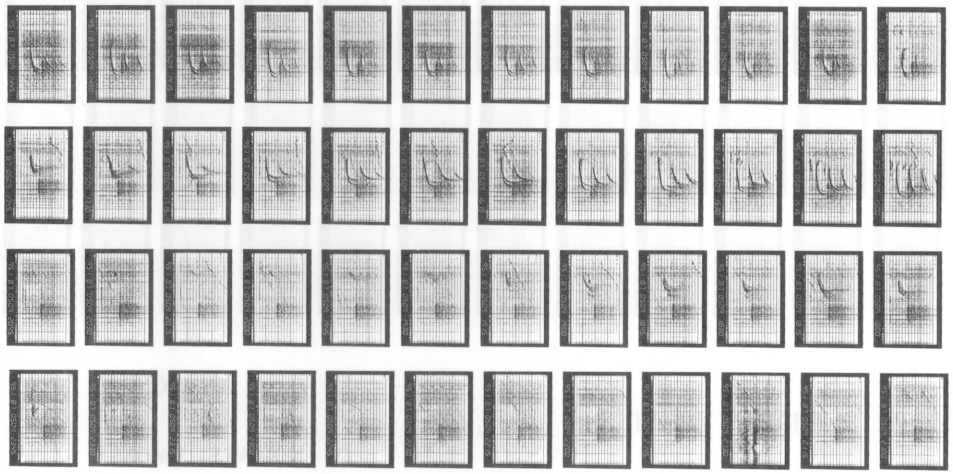
SYOWA STATION 1987 05 08 00:00 ~ 11:45

IONOGRAM



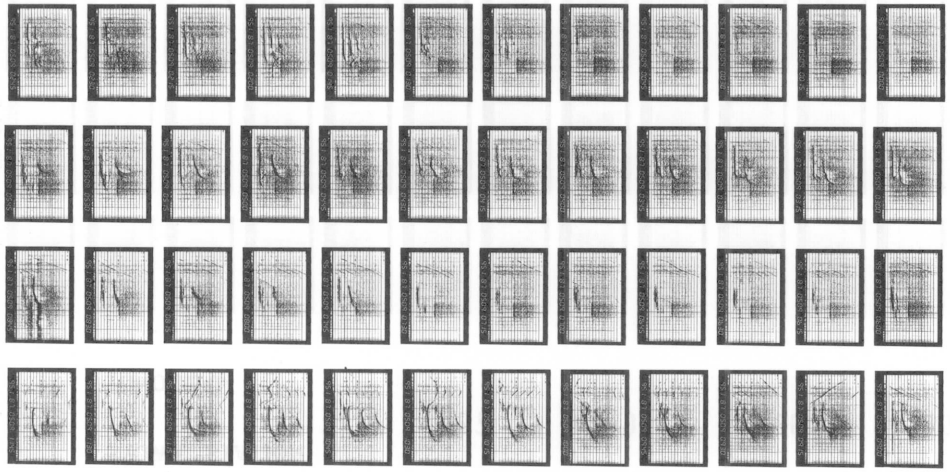
SYOWA STATION 1987 05 09 12:00 ~ 23:45

IONOGRAM



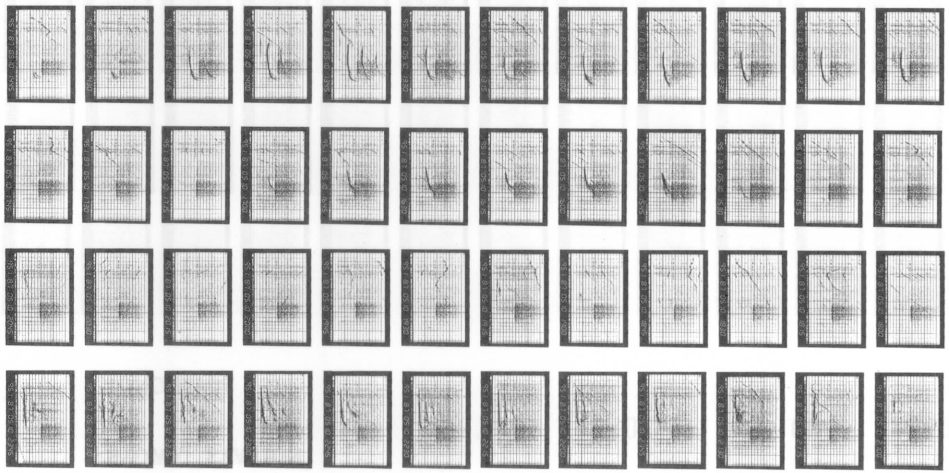
SYOWA STATION 1987 05 09 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 10 12:00 ~ 23:45

IONOGRAM



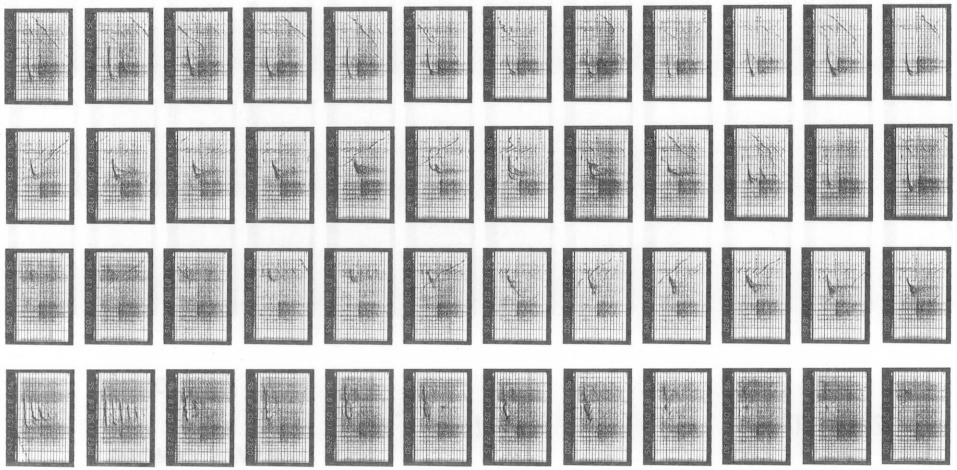
SYOWA STATION 1987 05 10 00:00 ~ 11:45

IONOGRAM

SYOWA STATION

1987 05 11 12:00 ~ 23:45

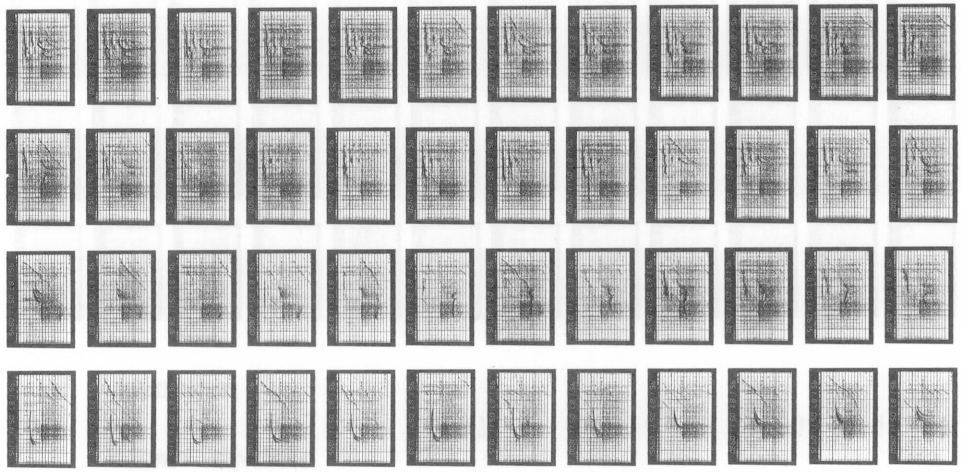
IONOGRAM



SYOWA STATION

1987 05 11 00:00 ~ 11:45

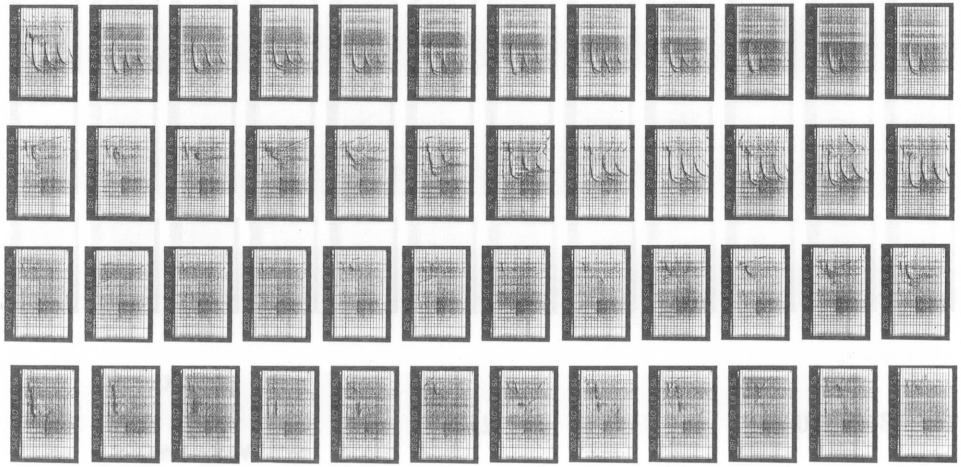
IONOGRAM



SYOWA STATION

1987 05 12 12:00 ~ 23:45

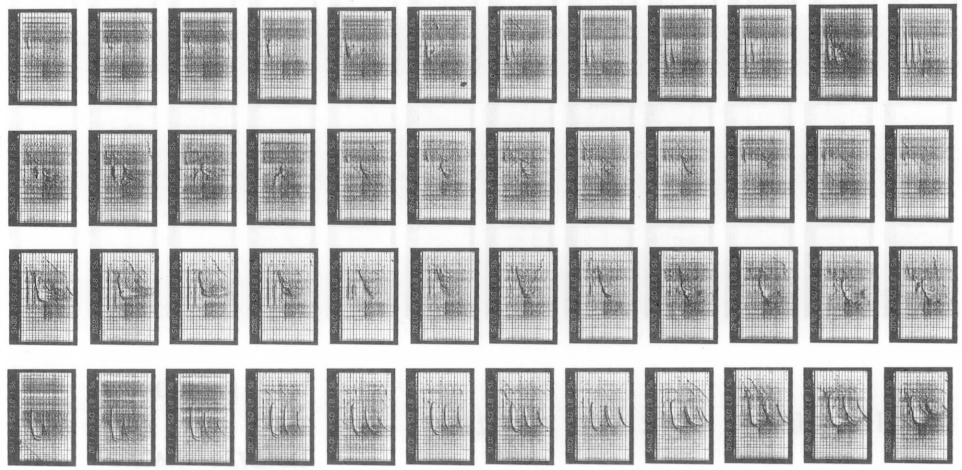
IONOGRAM



SYOWA STATION

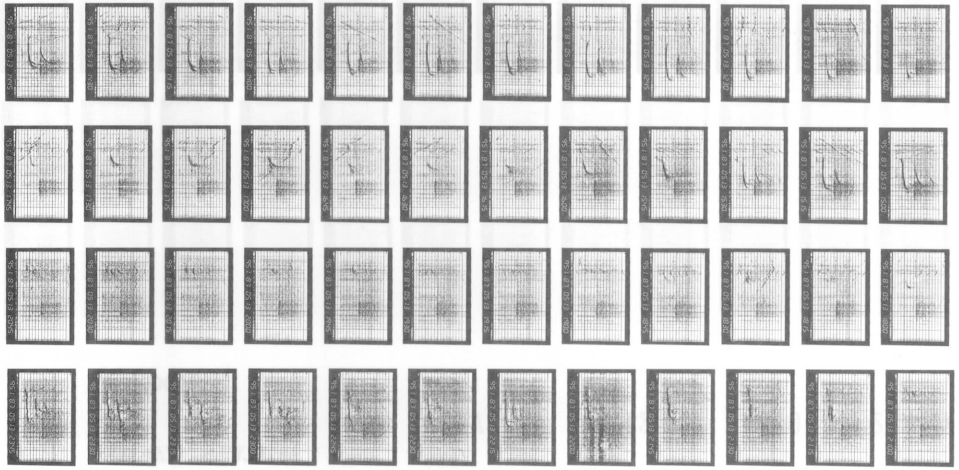
1987 05 12 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 13 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 13 00:00 ~ 11:45

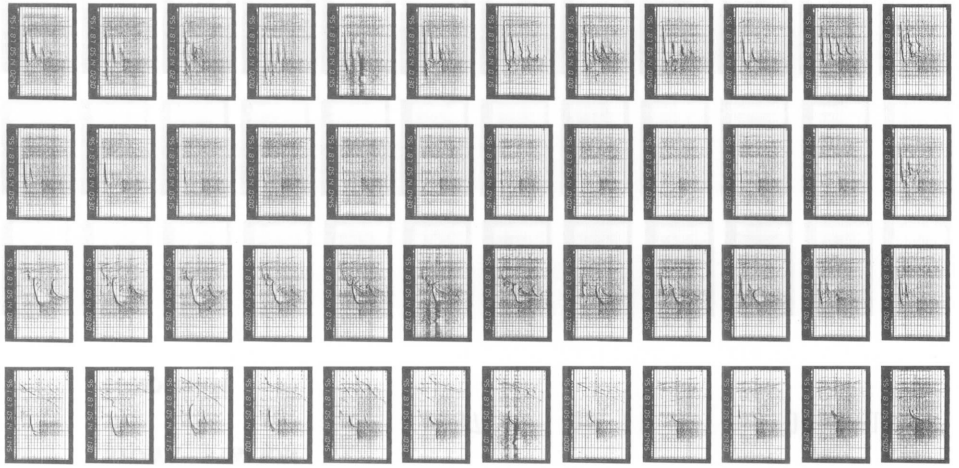
IONOGRAM

SYOWA STATION 1987 05 14 12:00 ~ 23:45

IONOGRAM

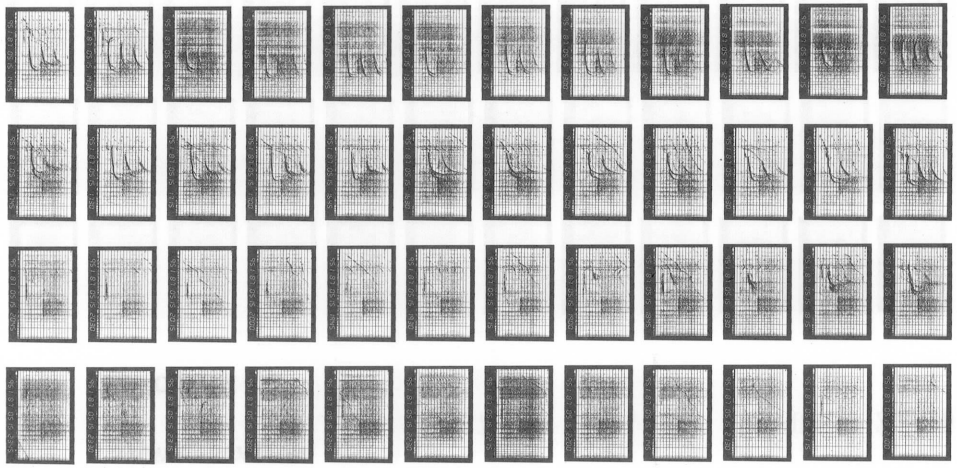
SYOWA STATION 1987 05 14 00:00 ~ 11:45

IONOGRAM



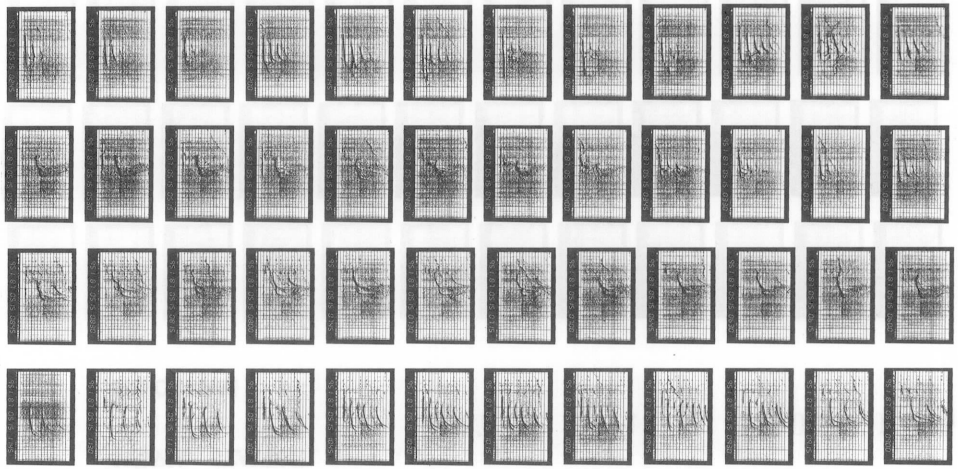
SYOWA STATION 1987 05 15 12:00 ~ 23:45

IONOGRAM



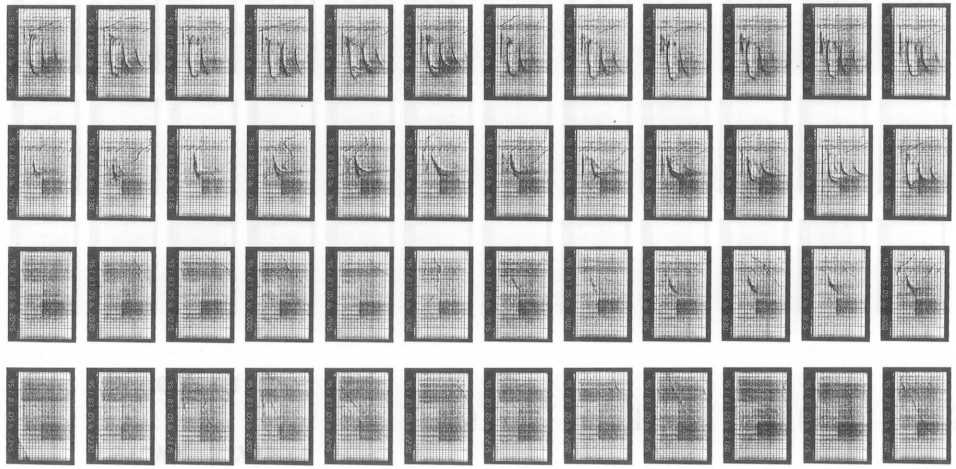
SYOWA STATION 1987 05 15 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 05 16 12:00 ~ 23:45

IONOGRAM

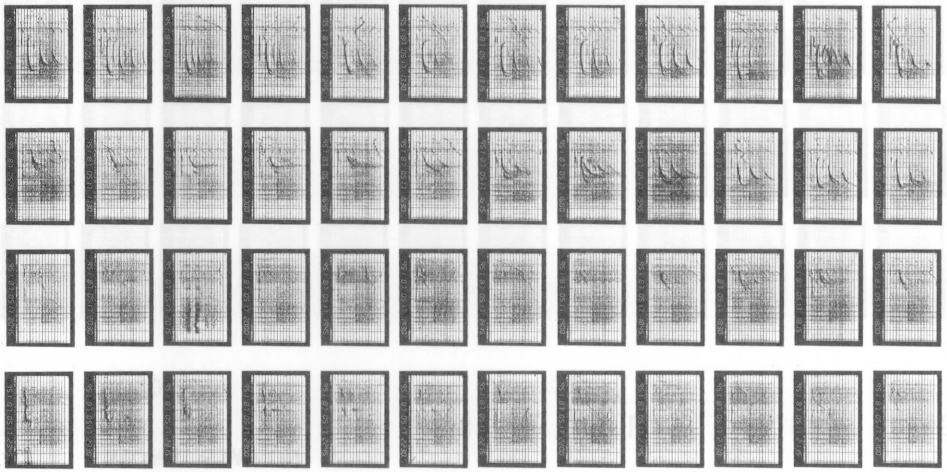


SYOWA STATION 1987 05 16 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 05 17 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 17 00:00 ~ 11:45

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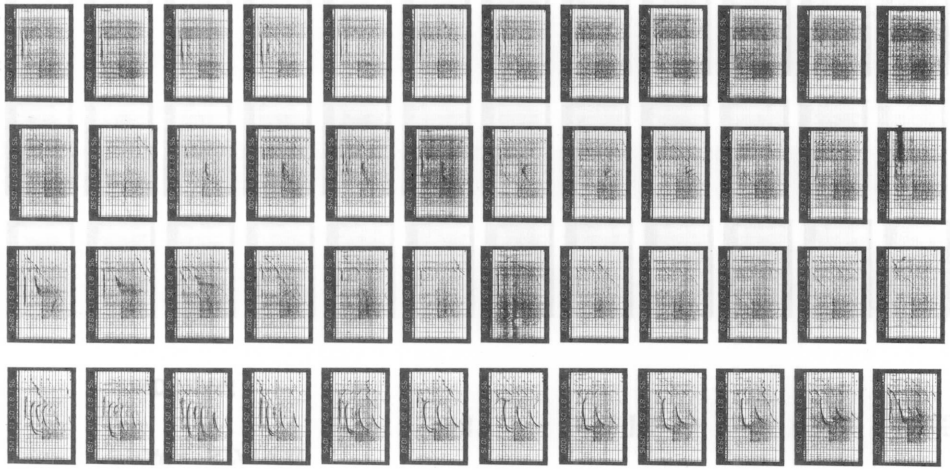
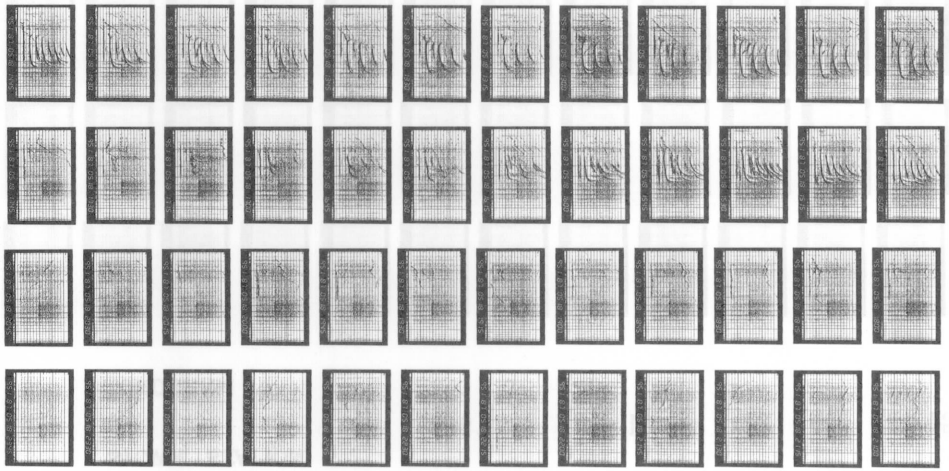


SYOWA STATION 1987 05 18 12:00 ~ 23:45

IONOGRAM

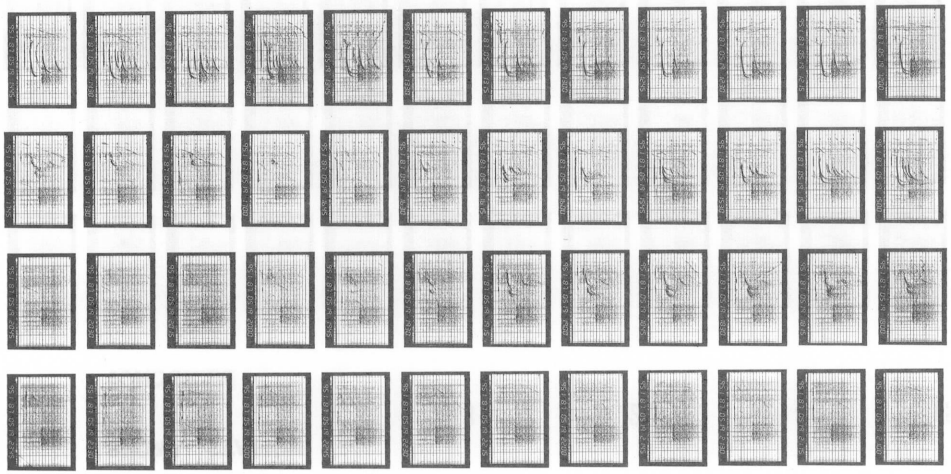


SYOWA STATION 1987 05 18 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 05 19 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 19 00:00 ~ 11:45

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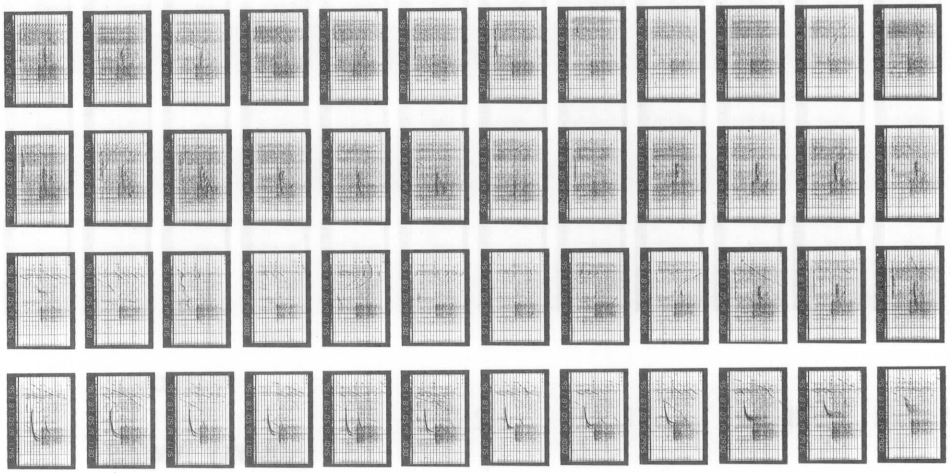
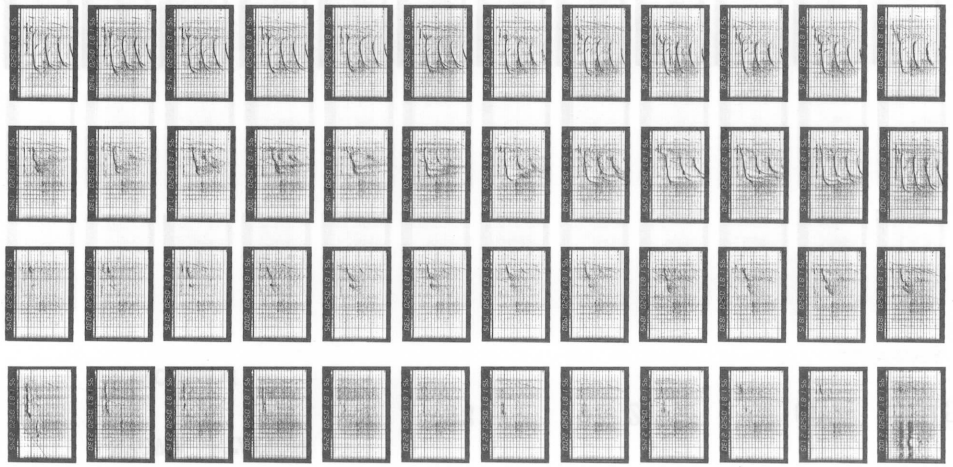


SYOWA STATION 1987 05 20 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 20 00:00 ~ 11:45

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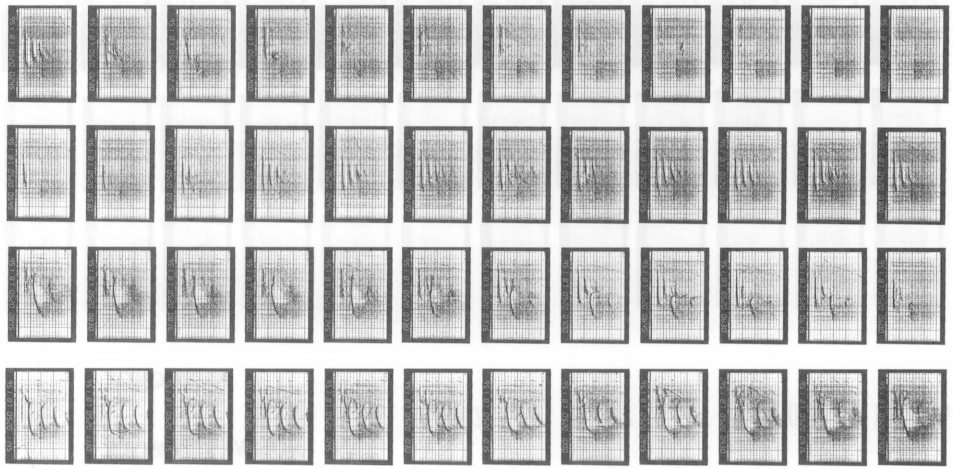
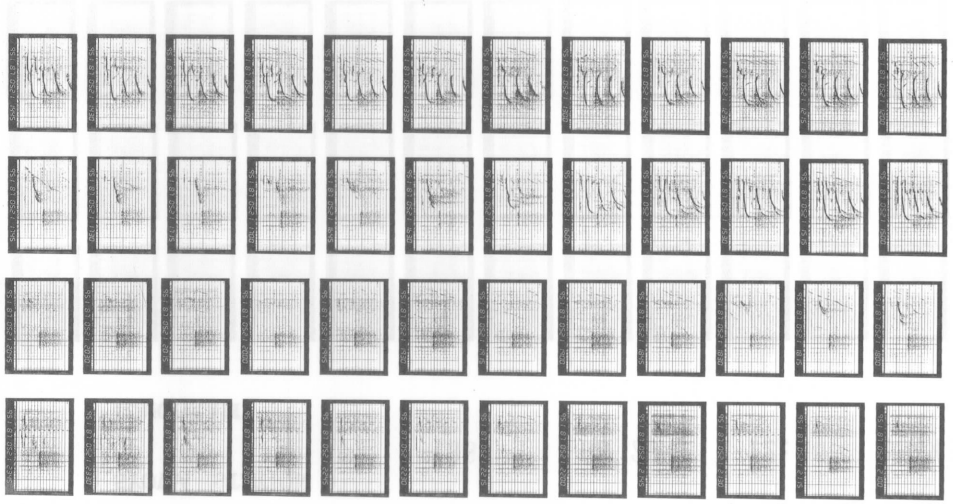


SYOWA STATION 1987 05 21 12:00 ~ 23:45

IONOGRAM

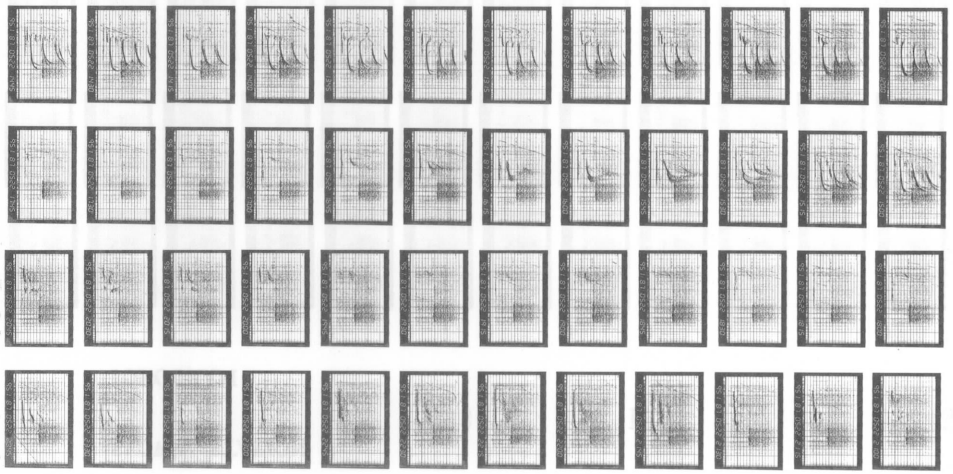


SYOWA STATION 1987 05 21 00:00 ~ 11:45

IONOGRAM

SYOWA STATION 1987 05 22 12:00 ~ 23:45

IONOGRAM

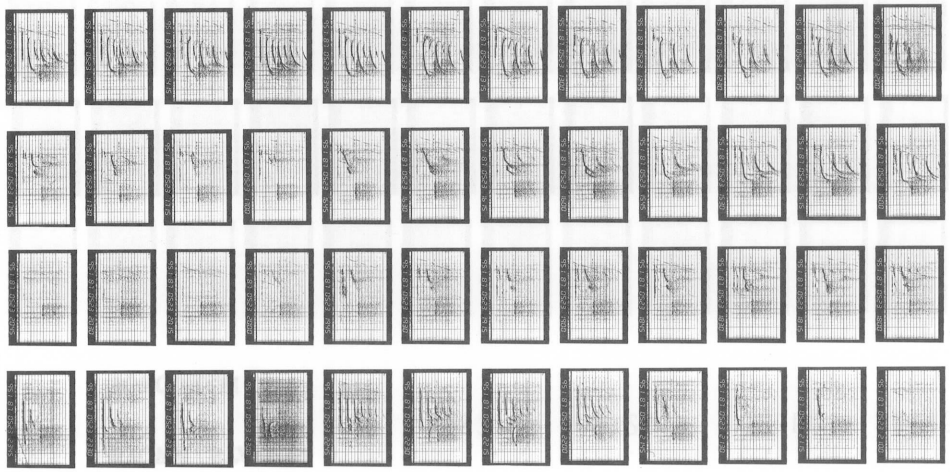


SYOWA STATION 1987 05 22 00:00 ~ 11:45

IONOGRAM

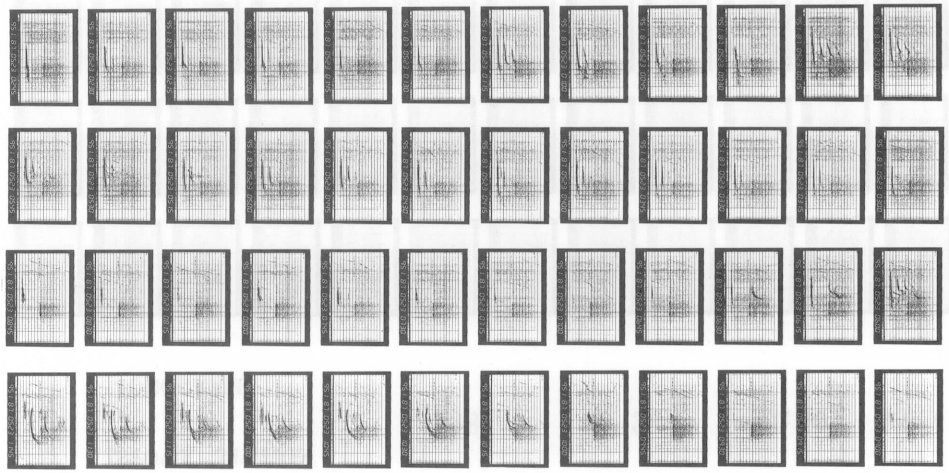
SYOWA STATION 1987 05 23 12:00 ~ 23:45

IONOGRAM



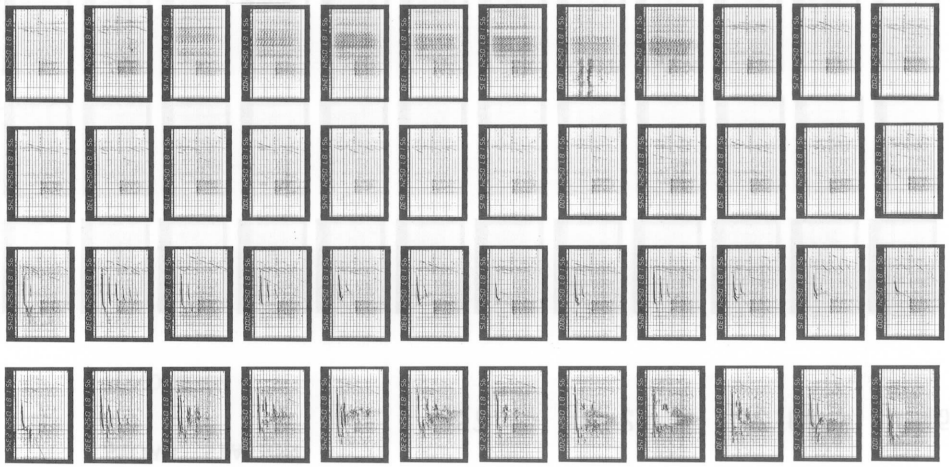
SYOWA STATION 1987 05 23 00:00 ~ 11:45

IONOGRAM



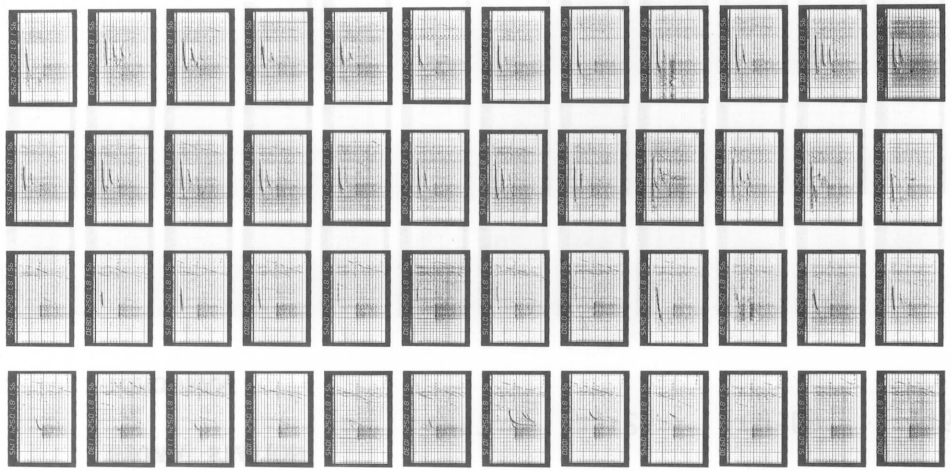
SYOWA STATION 1987 05 24 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 05 24 00:00 ~ 11:45

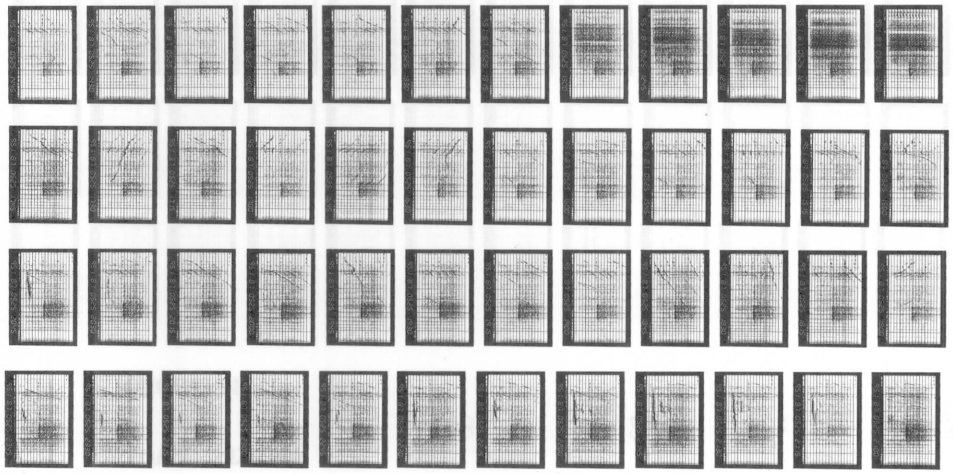
IONOGRAM



SYOWA STATION

IONOGRAM

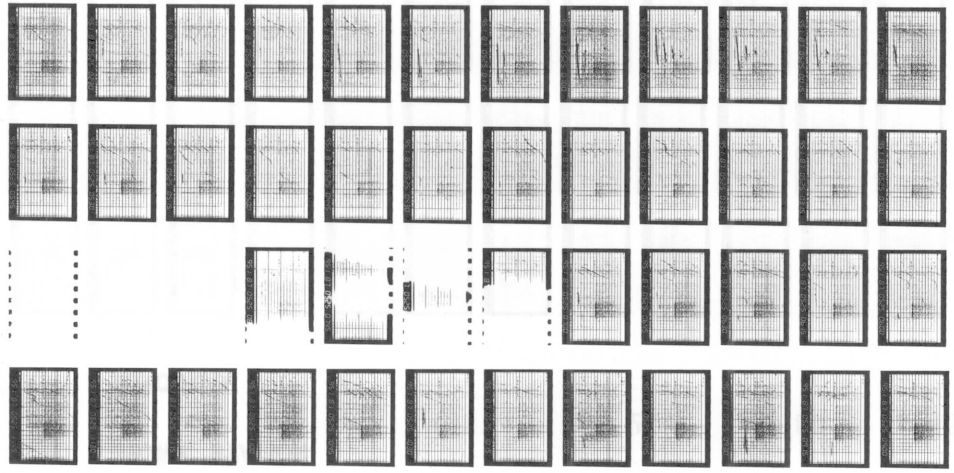
1987 05 25 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

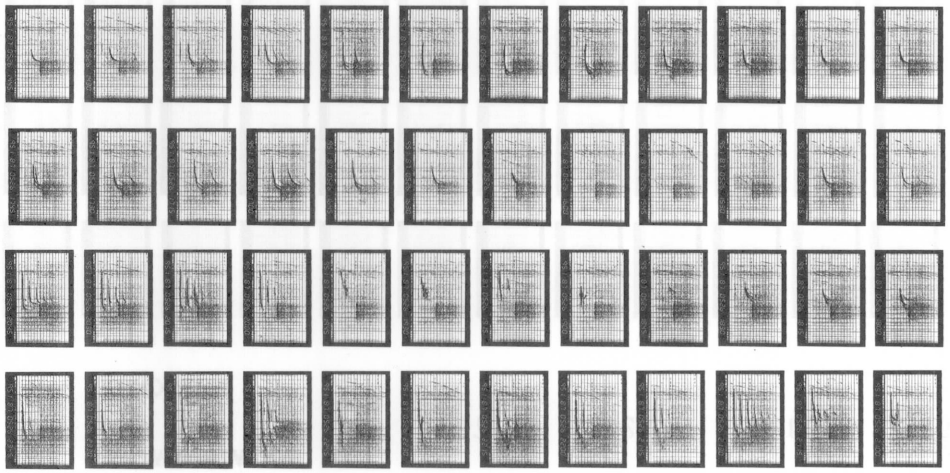
1987 05 25 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

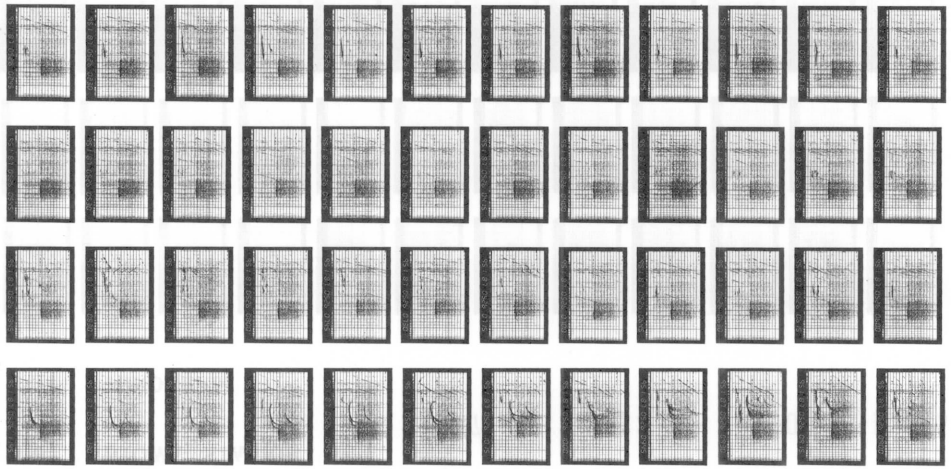
1987 05 26 12:00 ~ 23:45



SYOWA STATION

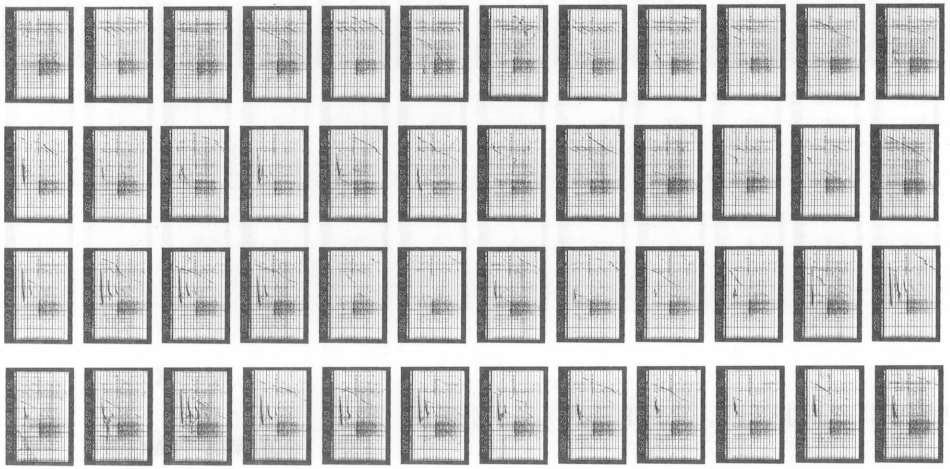
IONOGRAM

1987 05 26 00:00 ~ 11:45



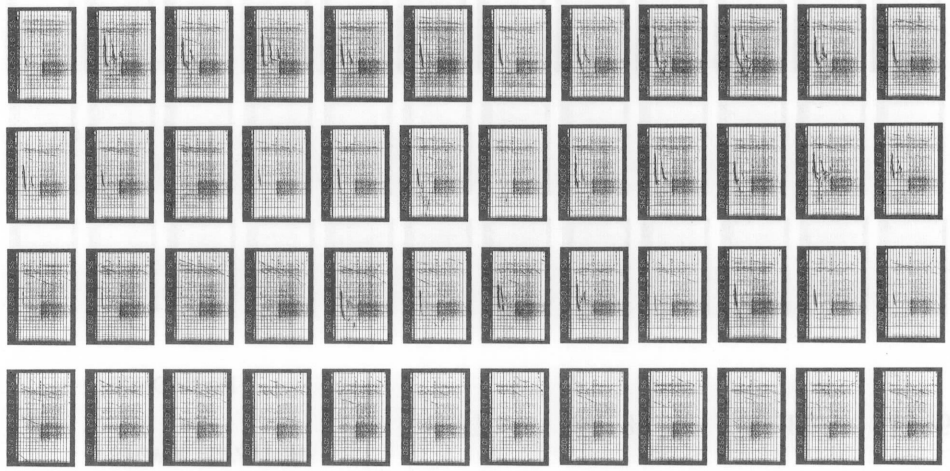
SYOWA STATION 1987 05 27 12:00 ~ 23:45

IONOGRAM



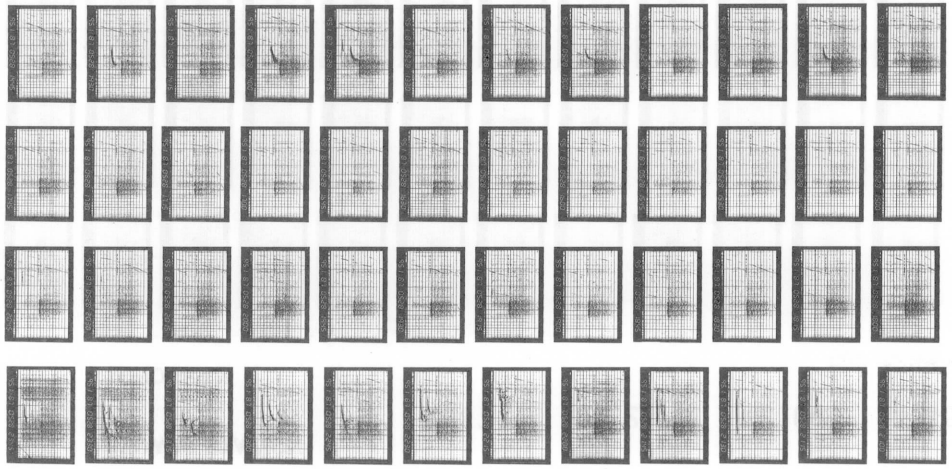
SYOWA STATION 1987 05 27 00:00 ~ 11:45

IONOGRAM



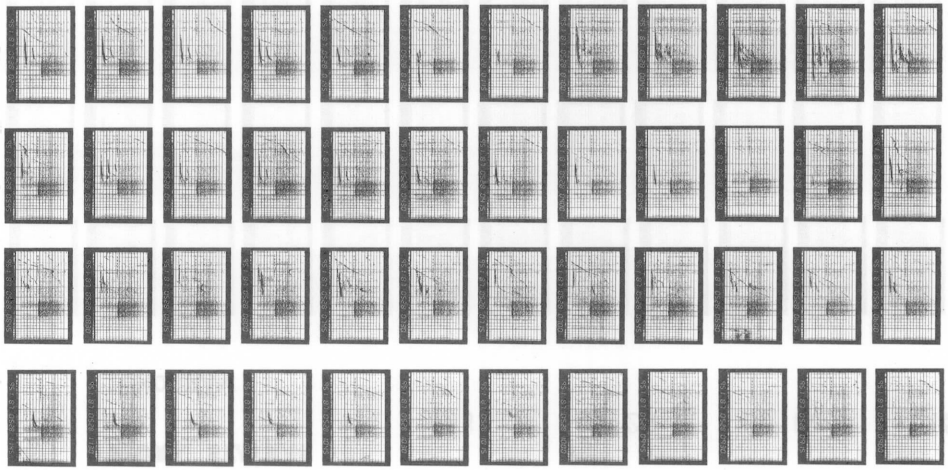
SYOWA STATION 1987 05 28 12:00 ~ 23:45

IONOGRAM



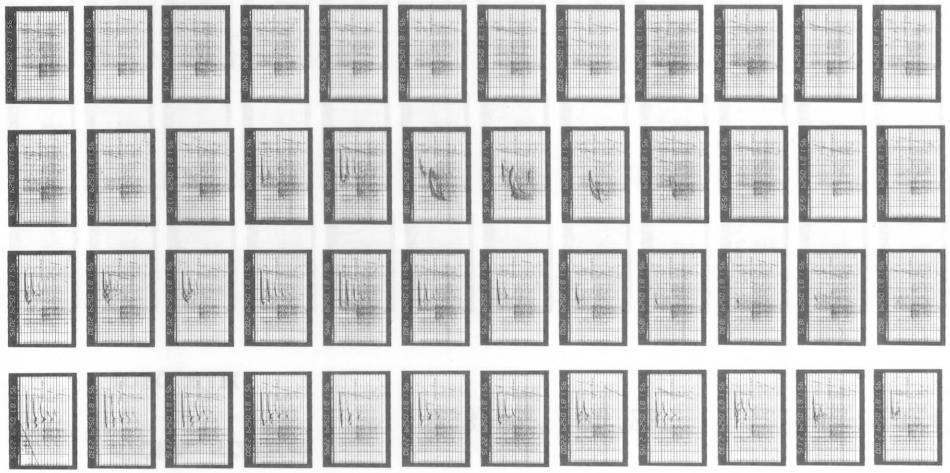
SYOWA STATION 1987 05 28 00:00 ~ 11:45

IONOGRAM



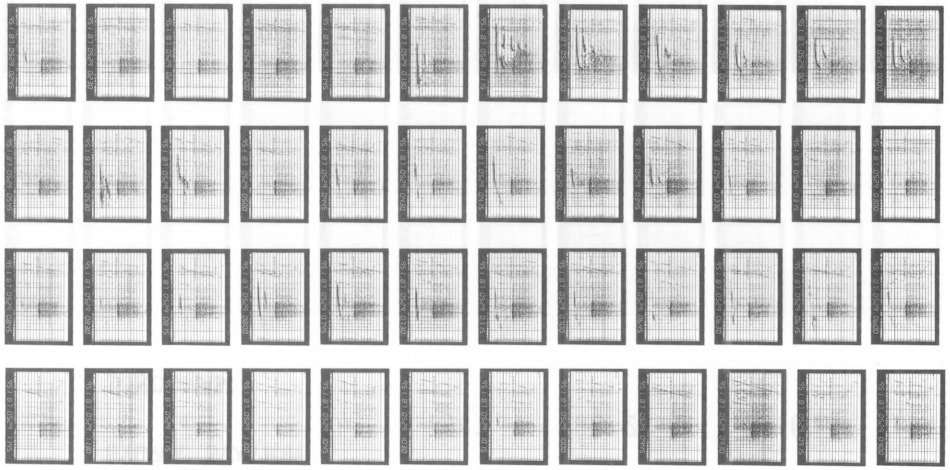
SYOWA STATION 1987 05 29 12:00 ~ 23:45

IONOGRAM



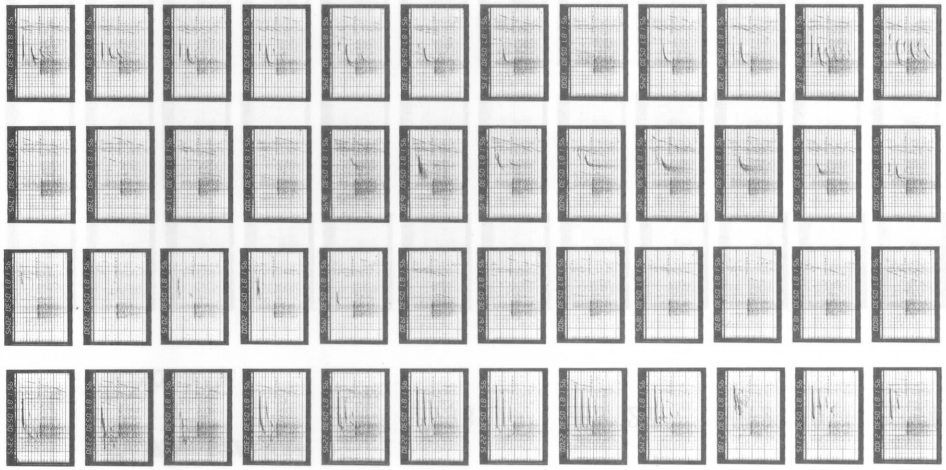
SYOWA STATION 1987 05 29 00:00 ~ 11:45

IONOGRAM



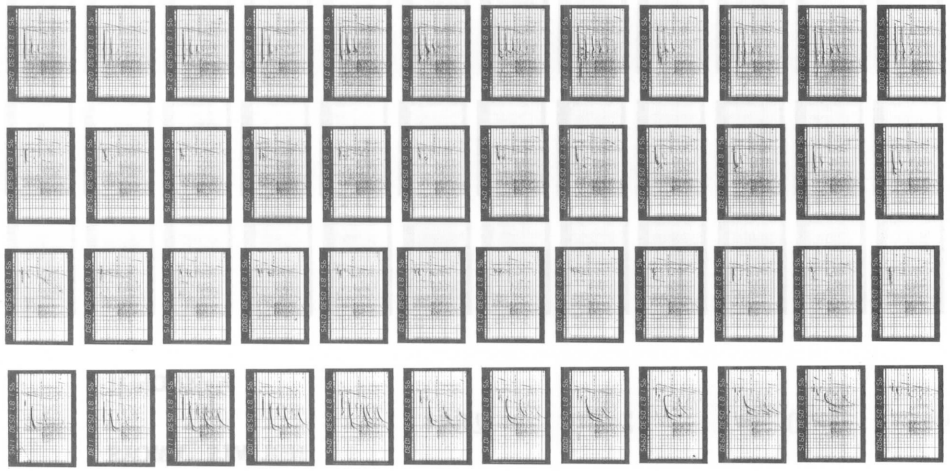
SYOWA STATION 1987 05 30 12:00 ~ 23:45

IONOGRAM



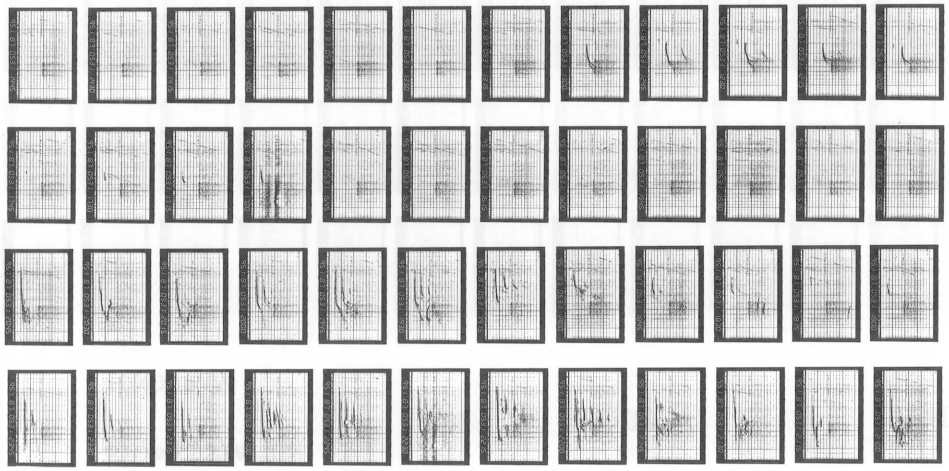
SYOWA STATION 1987 05 30 00:00 ~ 11:45

IONOGRAM



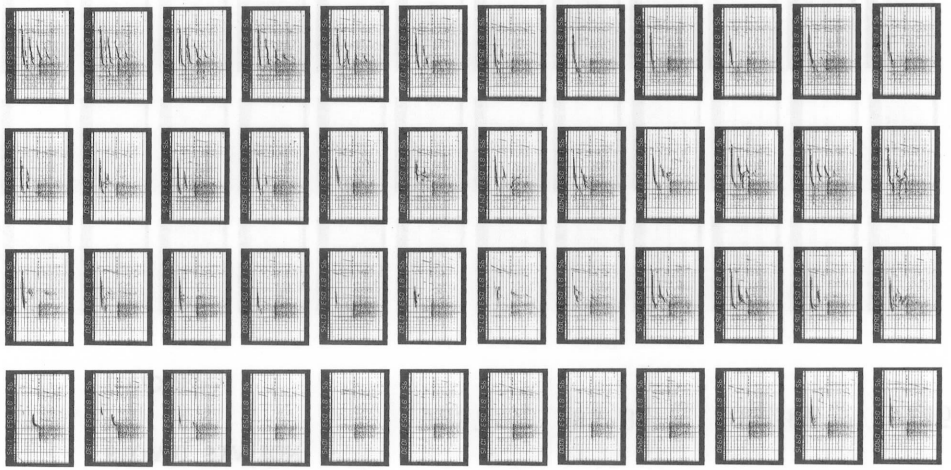
SYOWA STATION 1987 05 31 12:00 ~ 23:45

IONOGRAM



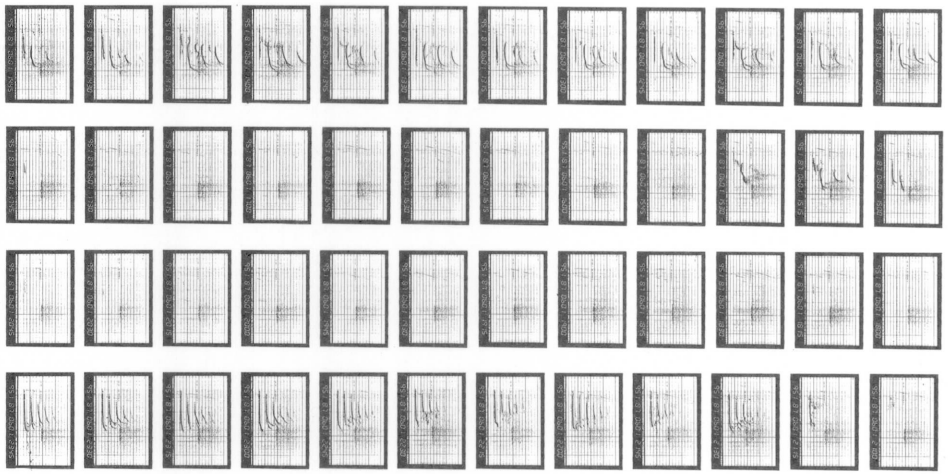
SYOWA STATION 1987 05 31 00:00 ~ 11:45

IONOGRAM



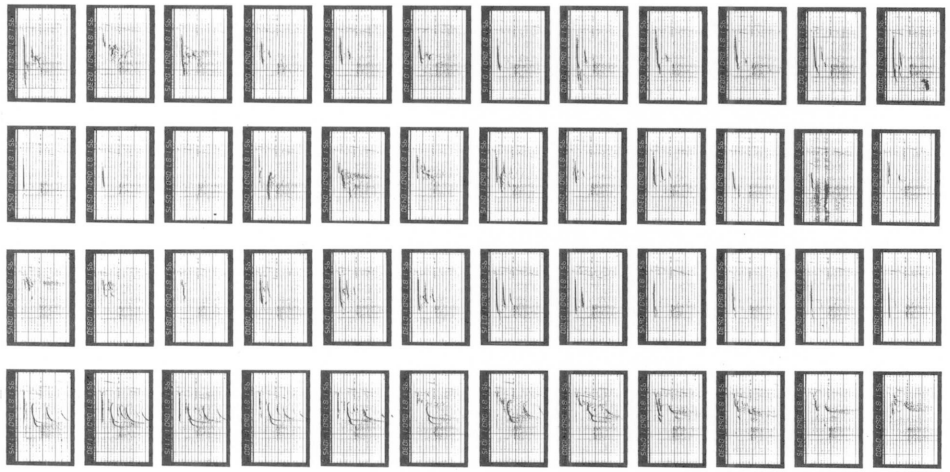
SYOWA STATION 1987 06 01 12:00 ~ 23:45

IONOGRAM



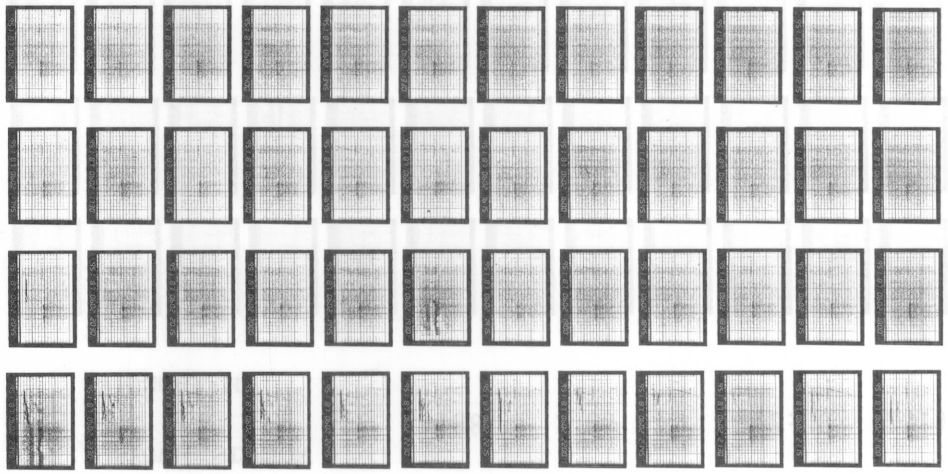
SYOWA STATION 1987 06 01 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 06 02 12:00 ~ 23:45

IONOGRAM



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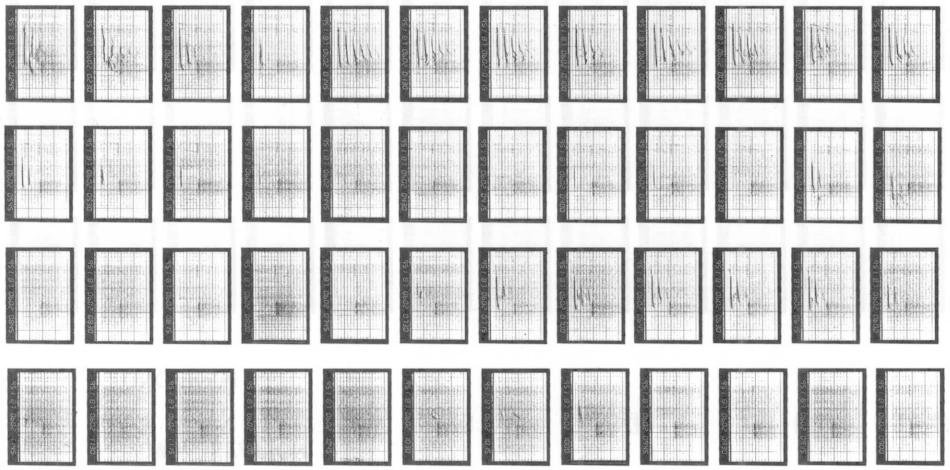
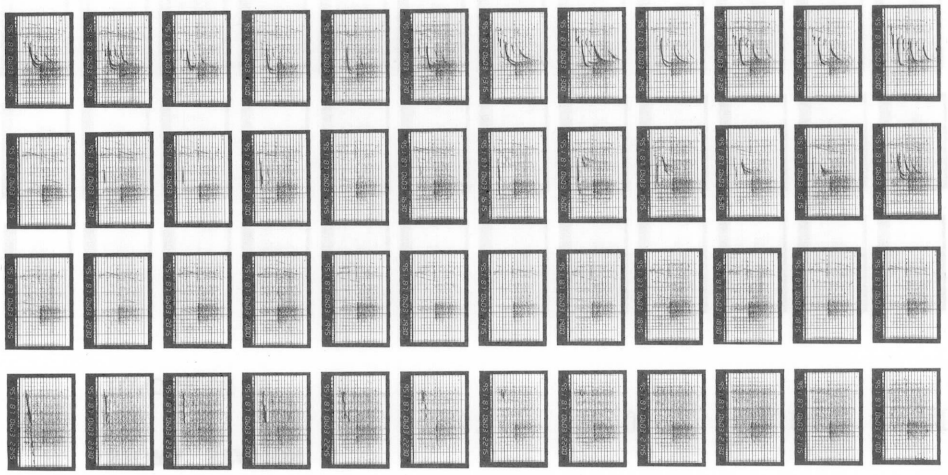


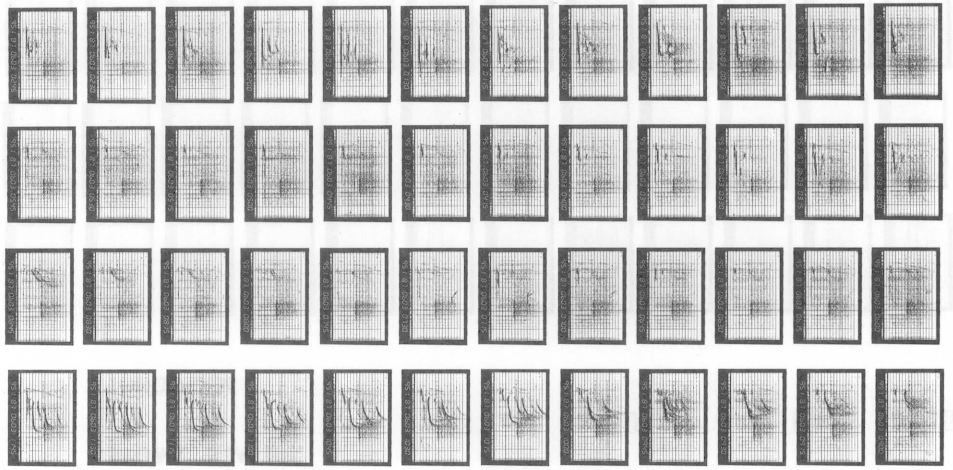
SYOWA STATION 1987 06 03 12:00 ~ 23:45

IONOGRAM



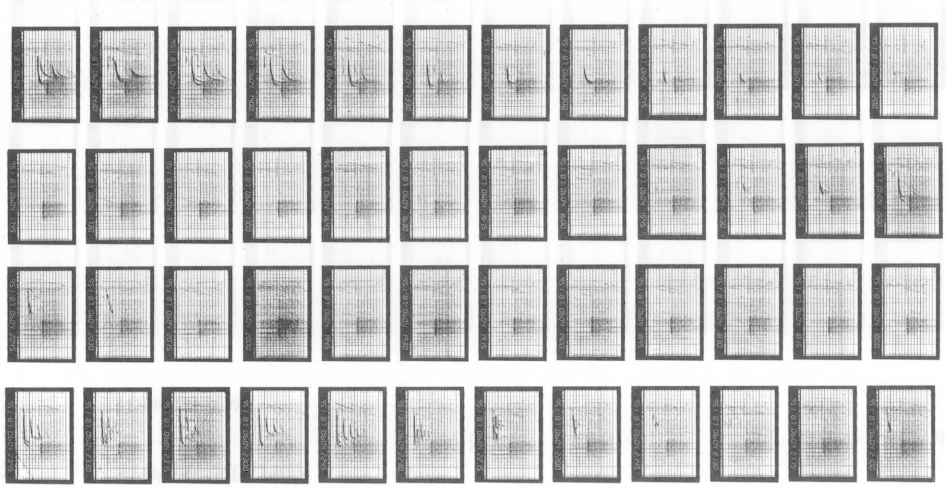
SYOWA STATION 1987 06 03 00:00 ~ 11:45

IONOGRAM



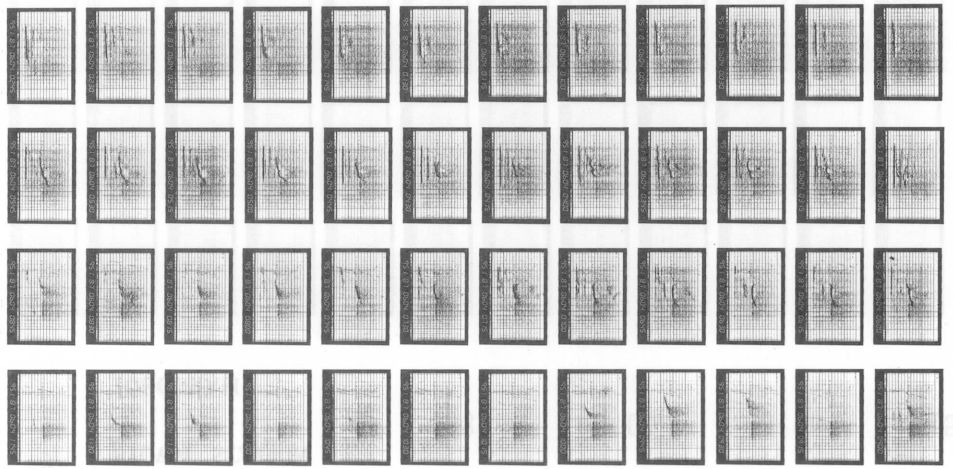
SYOWA STATION 1987 06 04 12:00 ~ 23:45

IONOGRAM



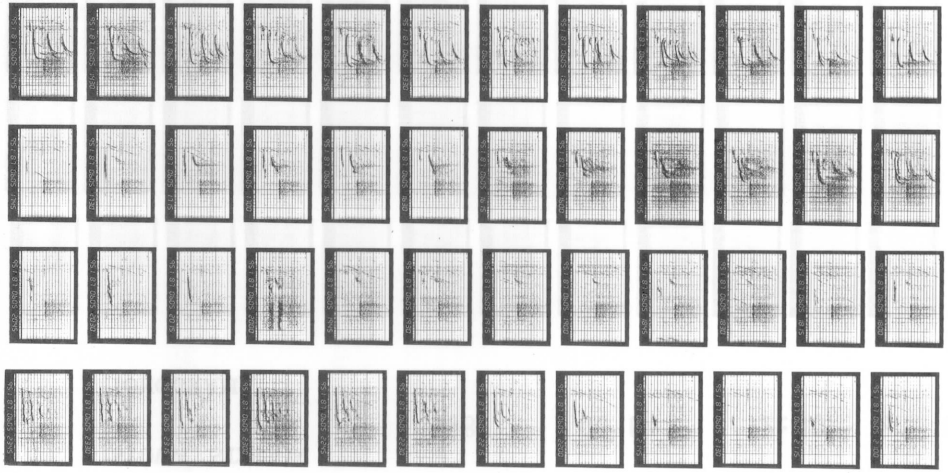
SYOWA STATION 1987 06 04 00:00 ~ 11:45

IONOGRAM



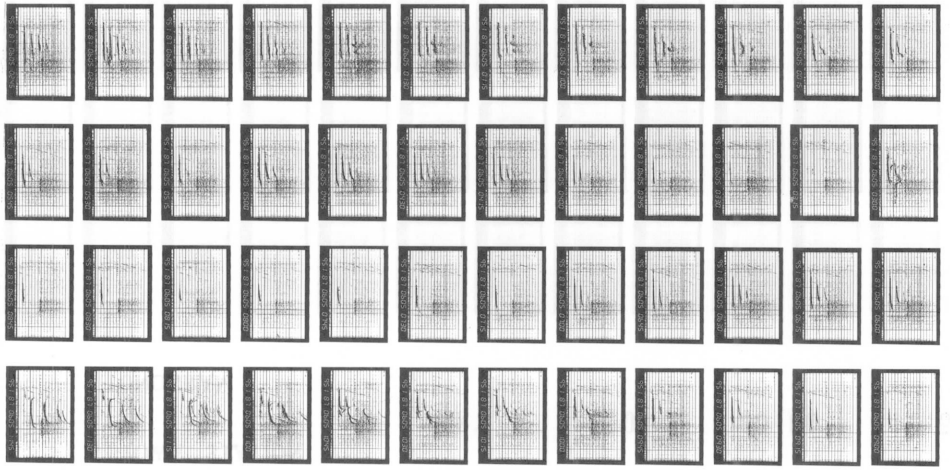
SYOWA STATION 1987 06 05 12:00 ~ 23:45

IONOGRAM



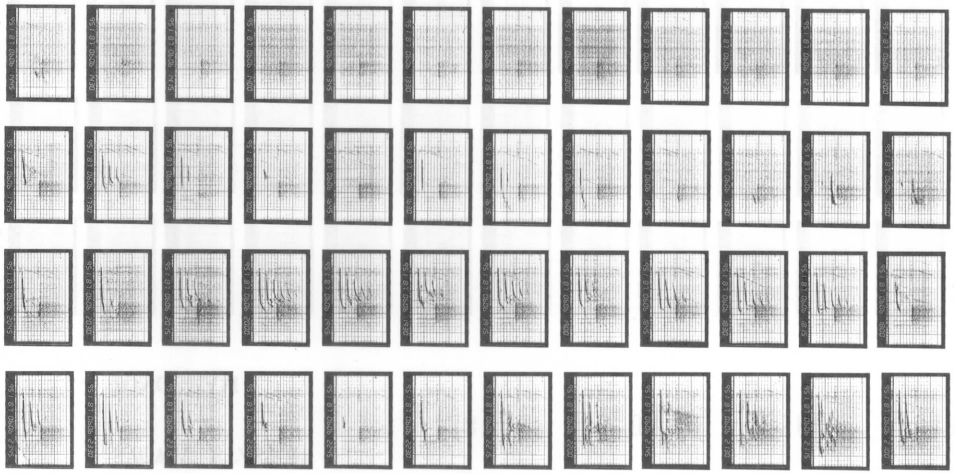
SYOWA STATION 1987 06 05 00:00 ~ 11:45

IONOGRAM



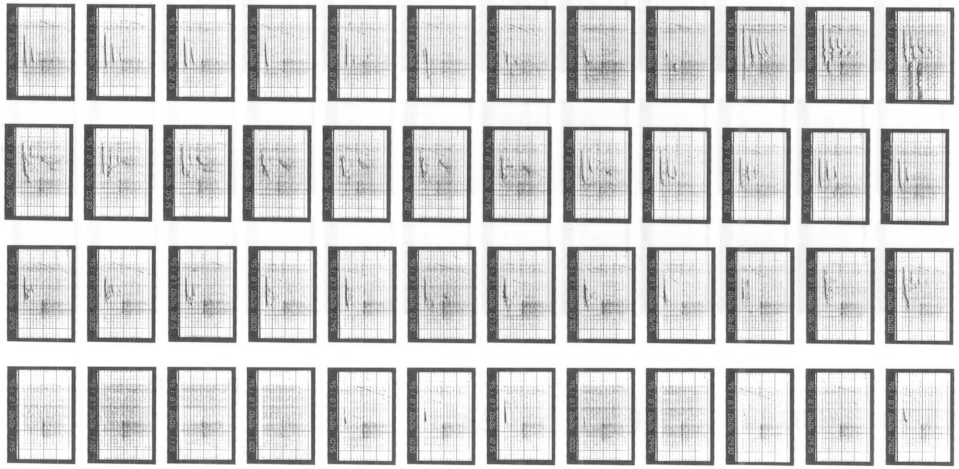
SYOWA STATION 1987 06 06 12:00 ~ 23:45

IONOGRAM



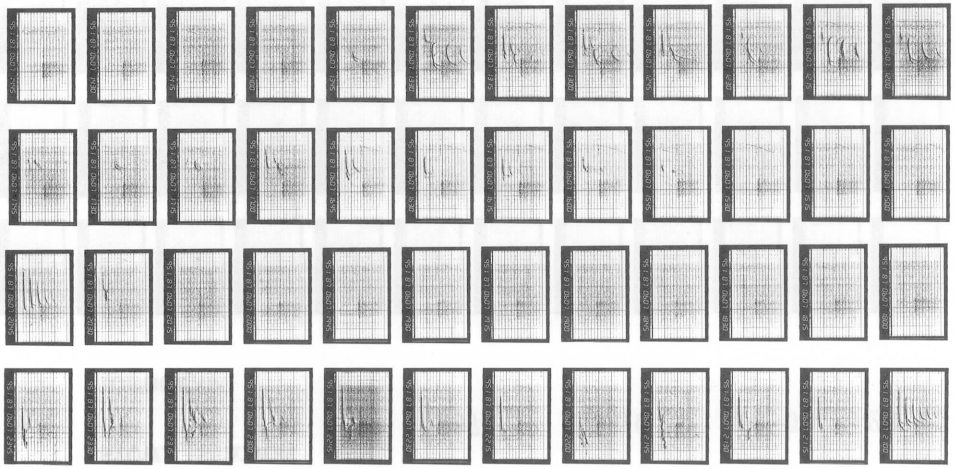
SYOWA STATION 1987 06 06 00:00 ~ 11:45

IONOGRAM



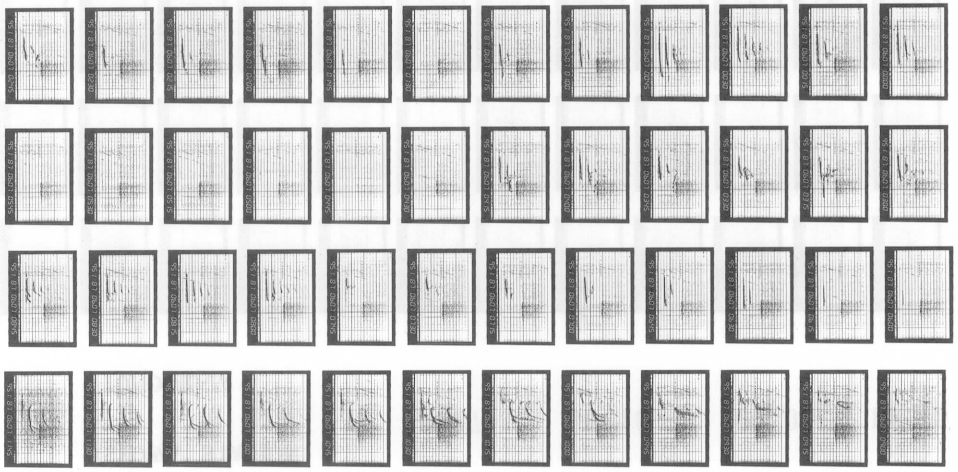
SYOWA STATION 1987 06 07 12:00 ~ 23:45

IONOGRAM



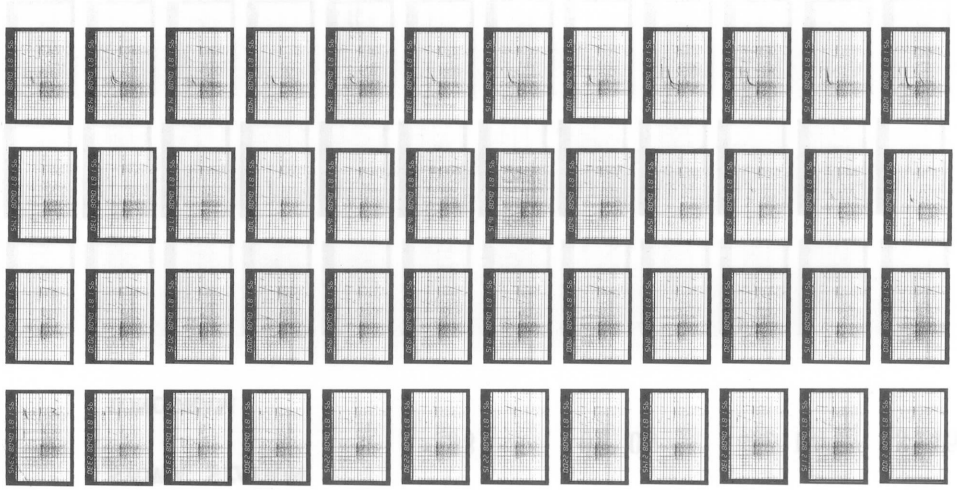
SYOWA STATION 1987 06 07 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 06 08 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 08 00:00 ~ 11:45

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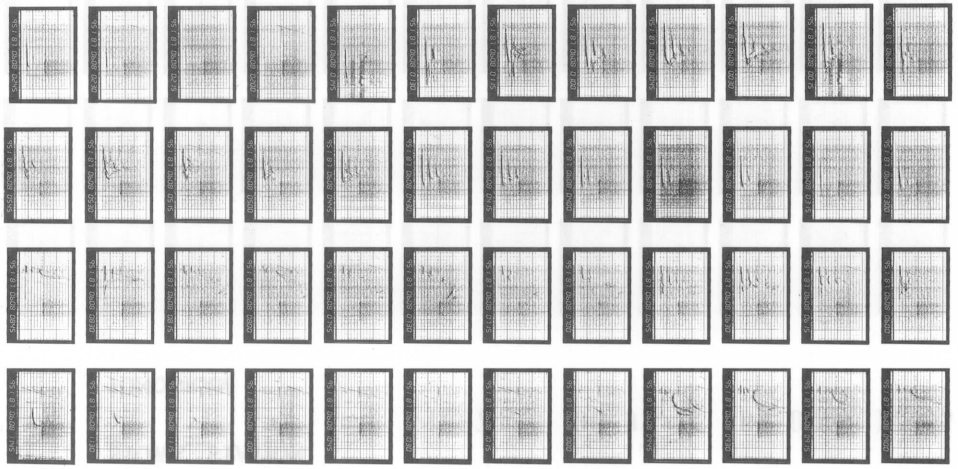
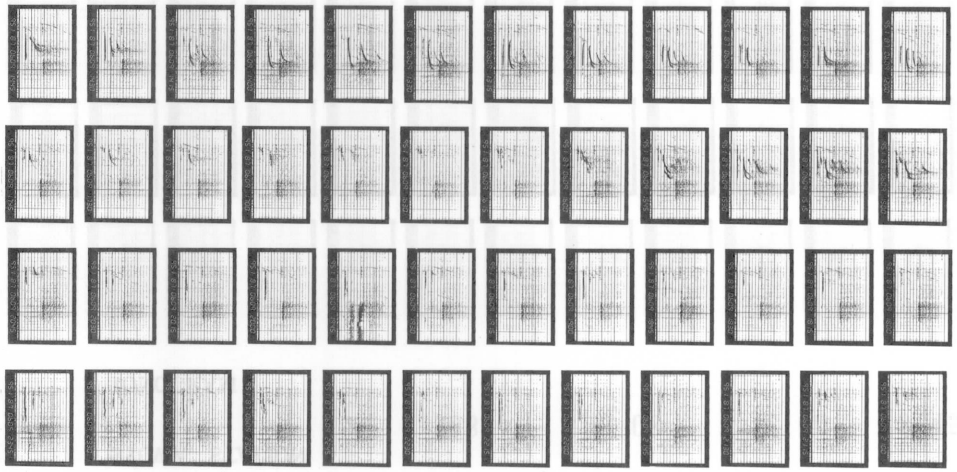


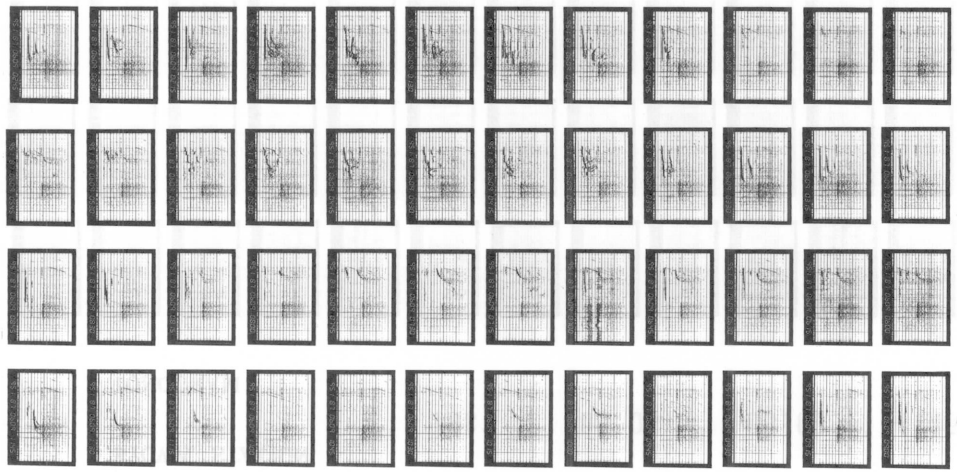
SYOWA STATION 1987 06 09 12:00 ~ 23:45

IONOGRAM



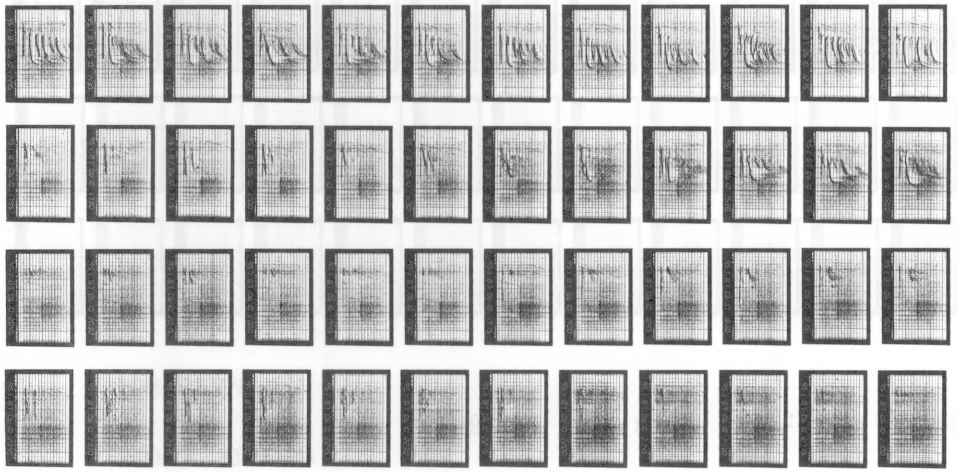
SYOWA STATION 1987 06 09 00:00 ~ 11:45

IONOGRAM



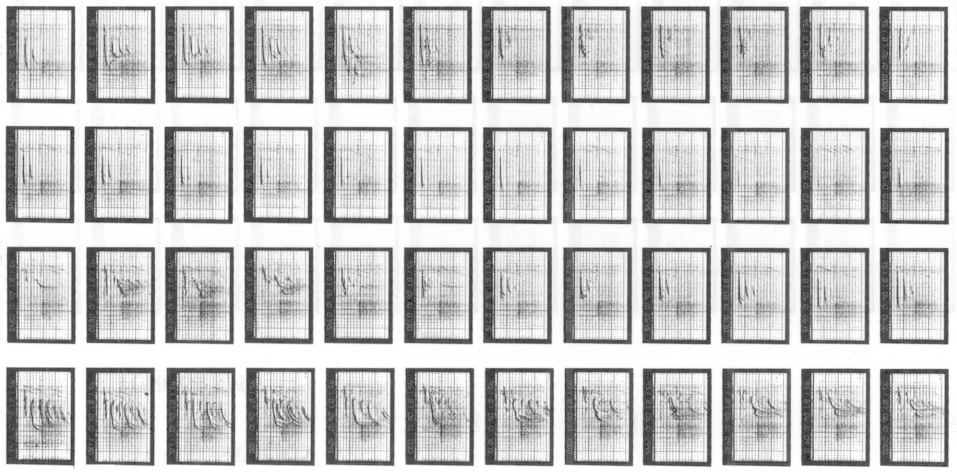
SYOWA STATION 1987 06 10 12:00 ~ 23:45

IONOGRAM



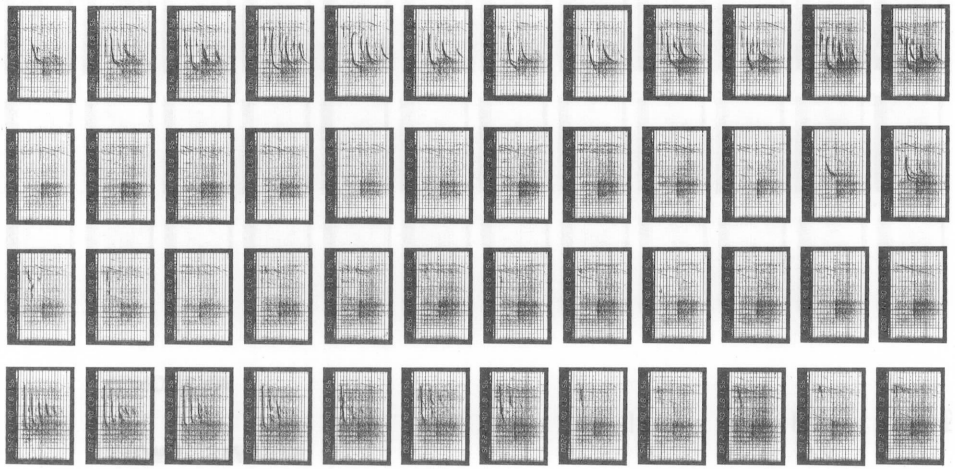
SYOWA STATION 1987 06 10 00:00 ~ 11:45

IONOGRAM



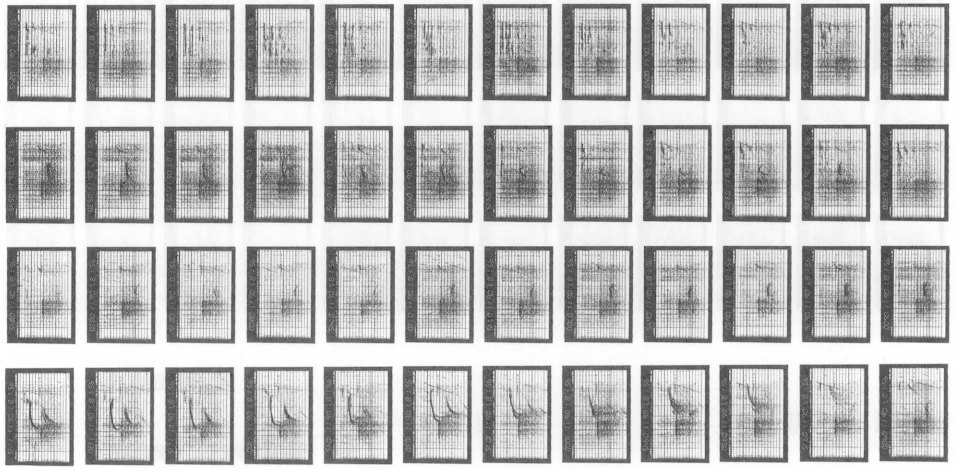
SYOWA STATION 1987 06 11 12:00 ~ 23:45

IONOGRAM



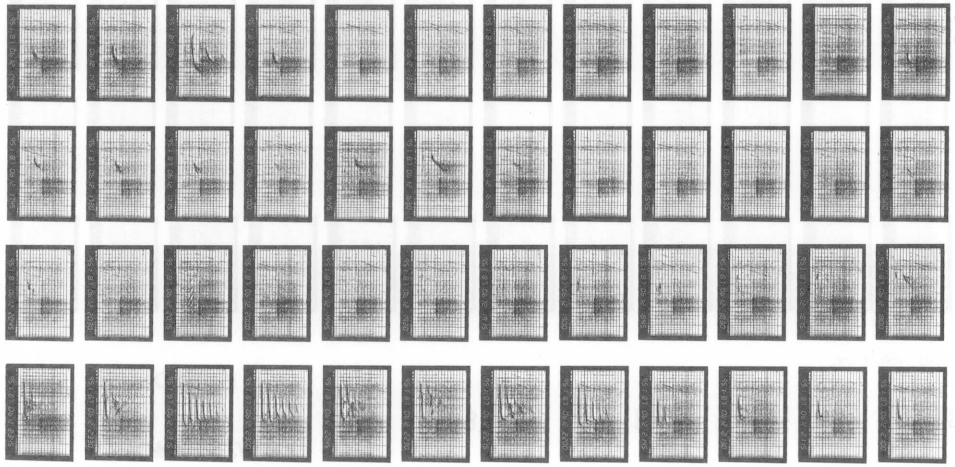
SYOWA STATION 1987 06 11 00:00 ~ 11:45

IONOGRAM



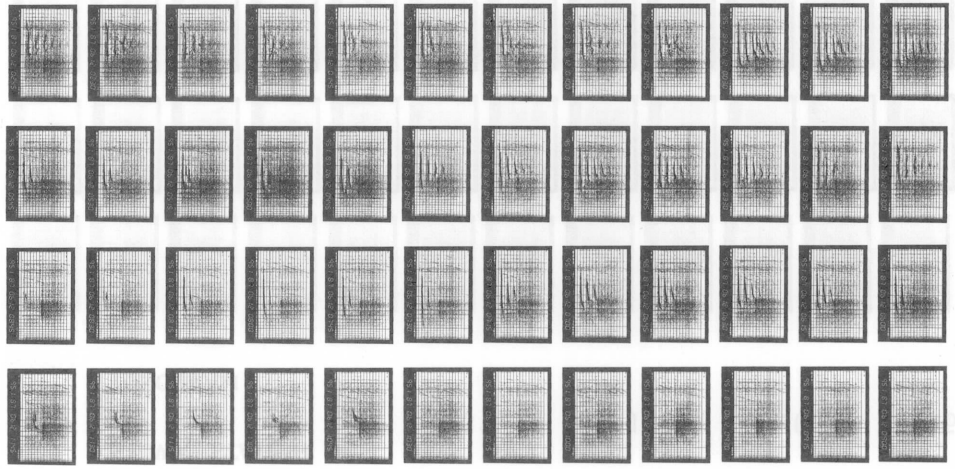
SYOWA STATION 1987 06 12 12:00 ~ 23:45

IONOGRAM



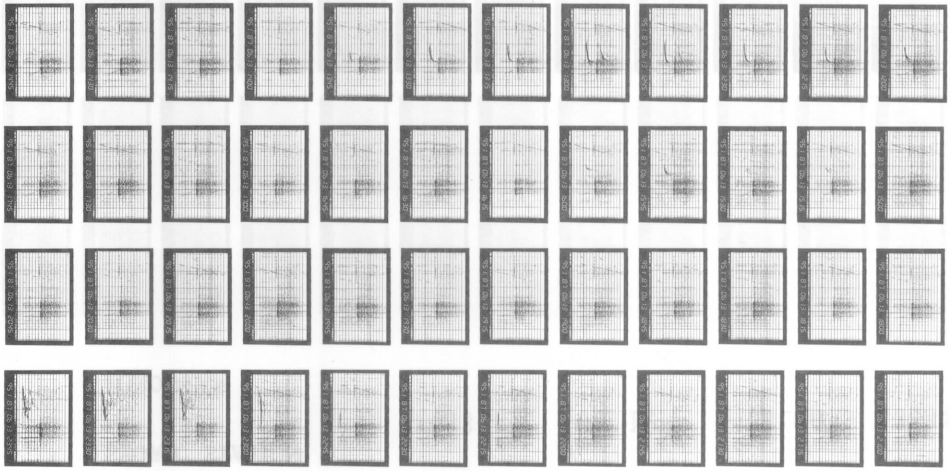
SYOWA STATION 1987 06 12 00:00 ~ 11:45

IONOGRAM



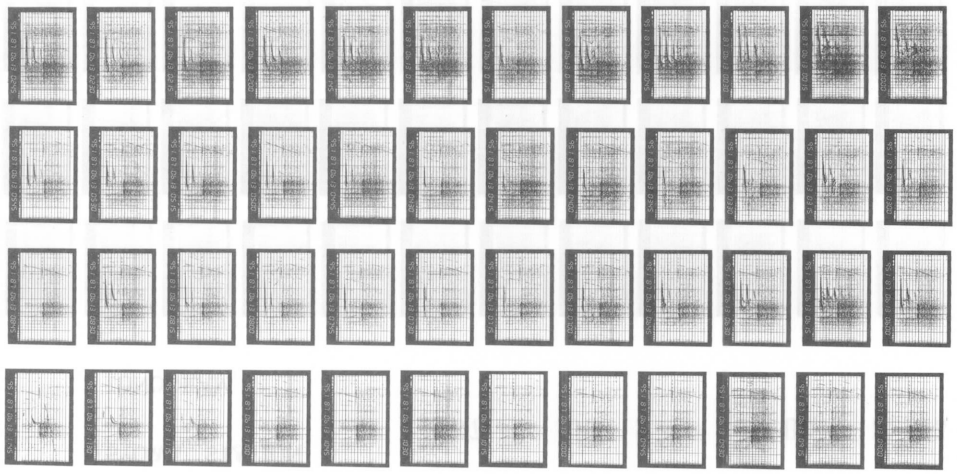
SYOWA STATION 1987 06 13 12:00 ~ 23:45

IONOGRAM



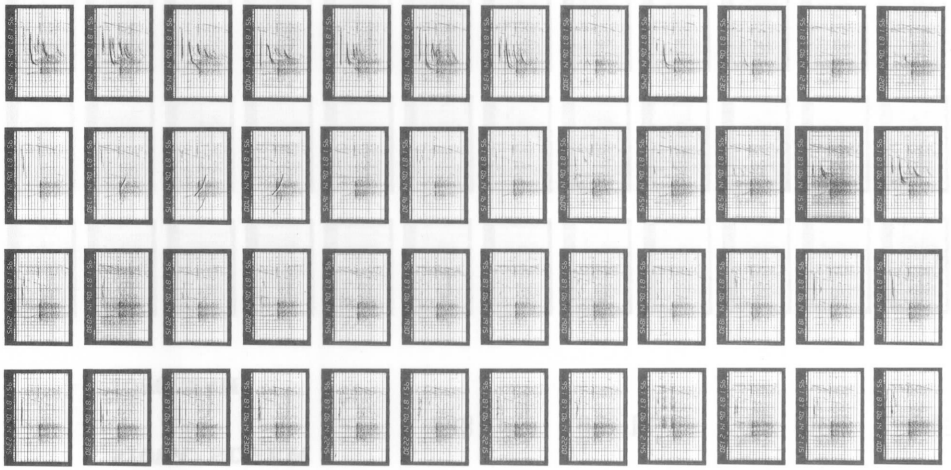
SYOWA STATION 1987 06 13 00:00 ~ 11:45

IONOGRAM



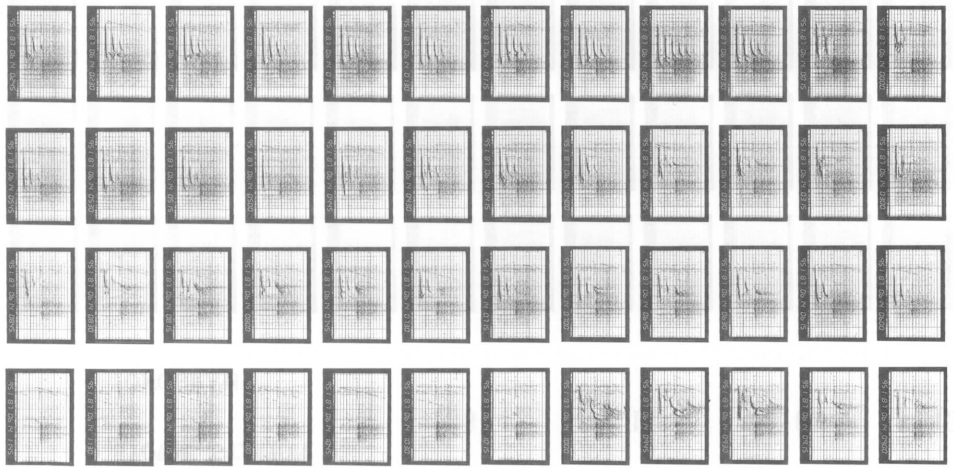
SYOWA STATION 1987 06 14 12:00 ~ 23:45

IONOGRAM



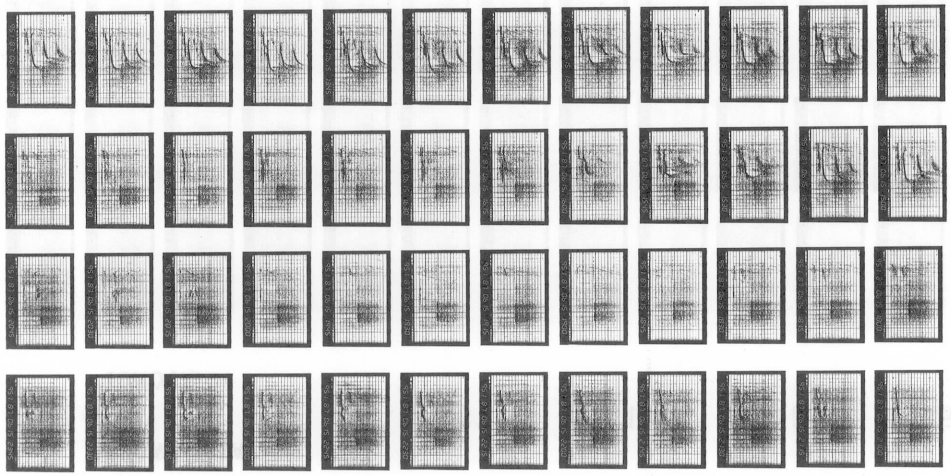
SYOWA STATION 1987 06 14 00:00 ~ 11:45

IONOGRAM



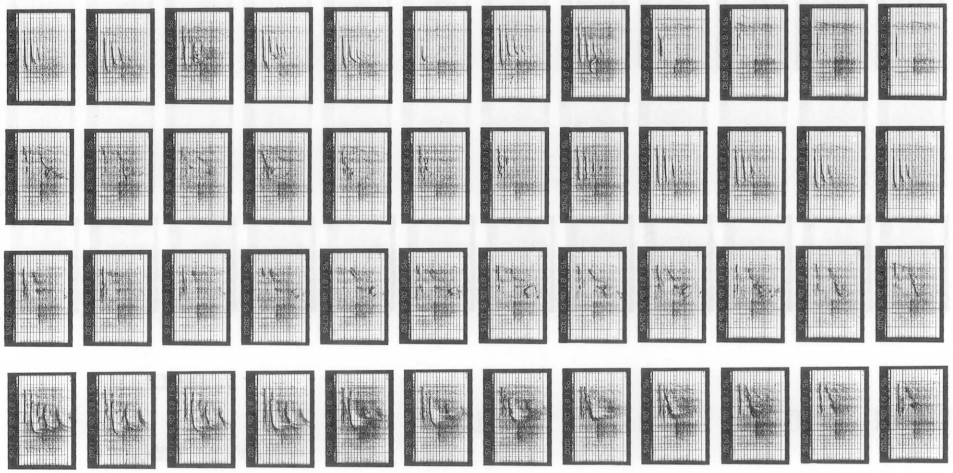
SYOWA STATION 1987 06 15 12:00 ~ 23:45

IONOGRAM



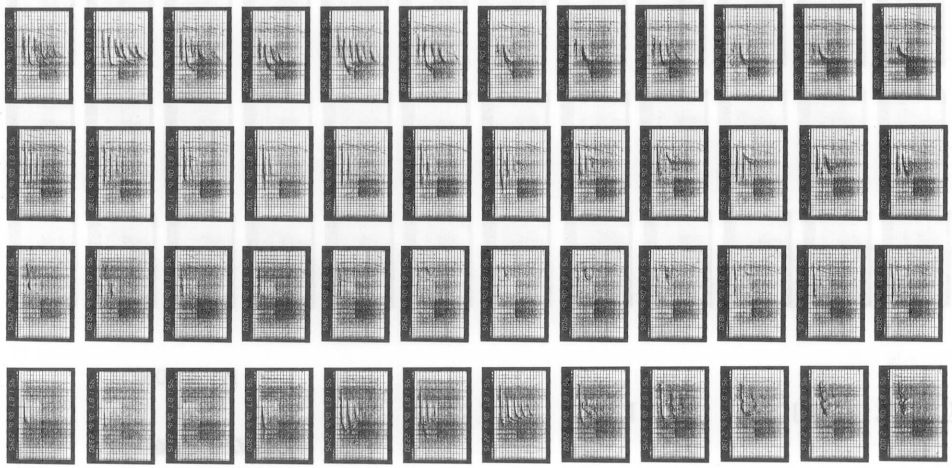
SYOWA STATION 1987 06 15 00:00 ~ 11:45

IONOGRAM



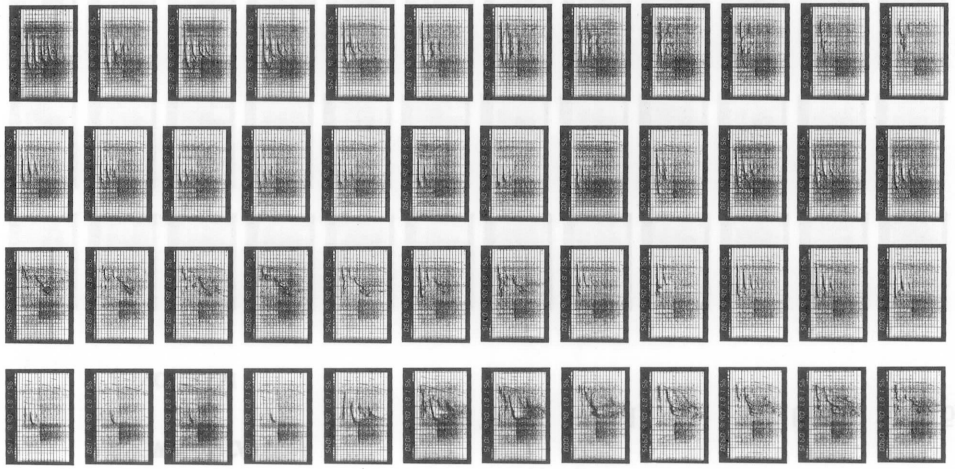
SYOWA STATION 1987 06 16 12:00 ~ 23:45

IONOGRAM



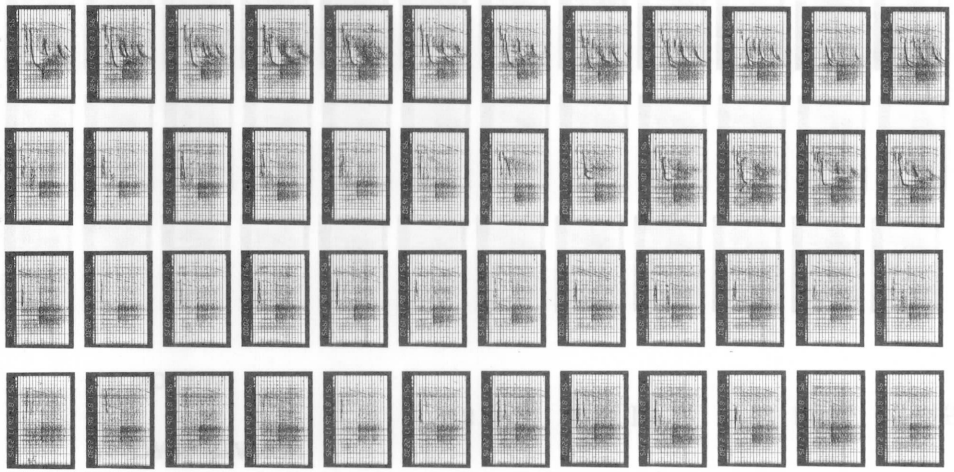
SYOWA STATION 1987 06 16 00:00 ~ 11:45

IONOGRAM



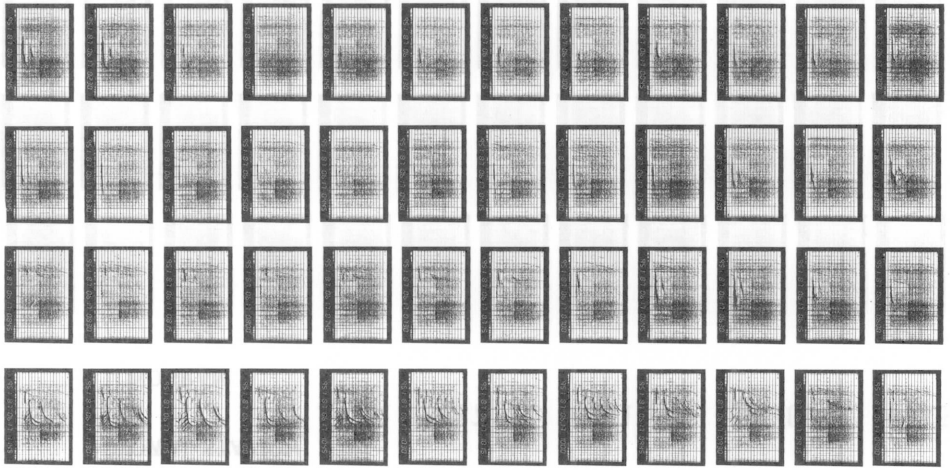
SYOWA STATION 1987 06 17 12:00 ~ 23:45

IONOGRAM



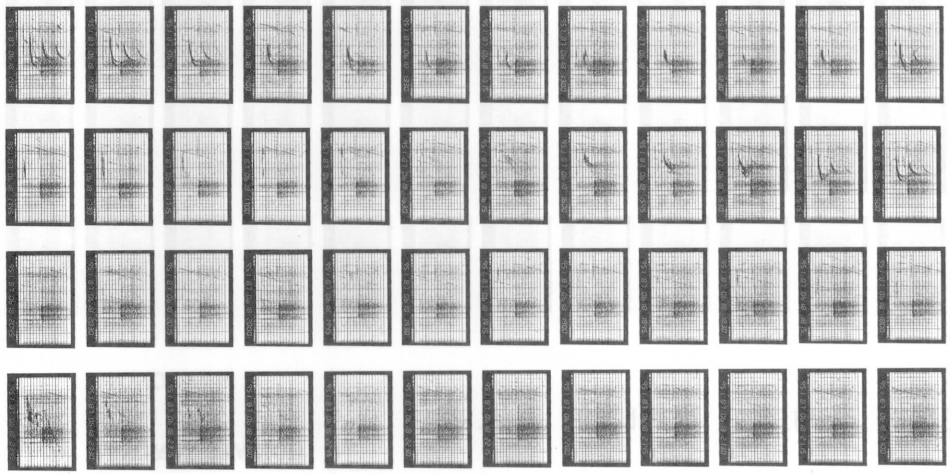
SYOWA STATION 1987 06 17 00:00 ~ 11:45

IONOGRAM



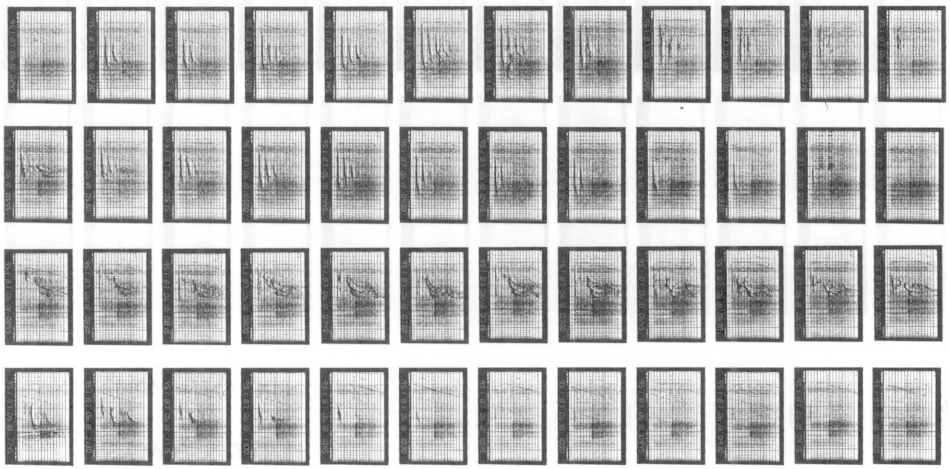
SYOWA STATION 1987 06 18 12:00 ~ 23:45

IONOGRAM



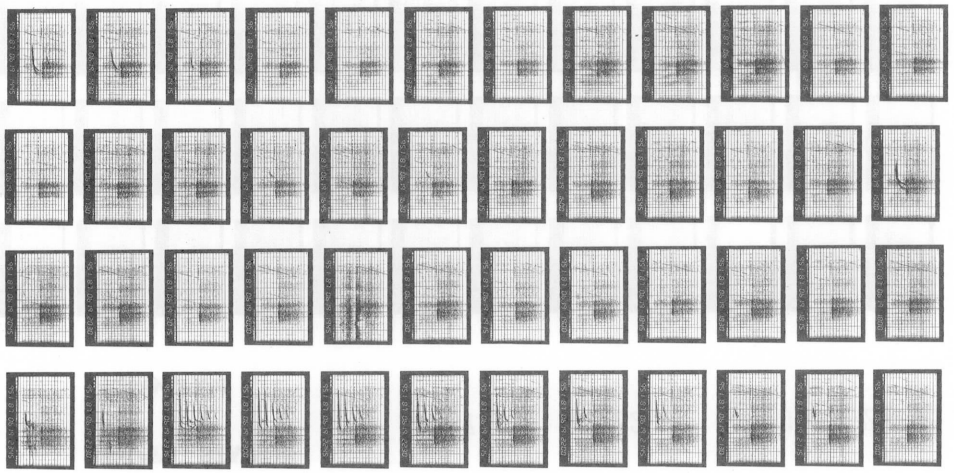
SYOWA STATION 1987 06 18 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 06 19 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 19 00:00 ~ 11:45

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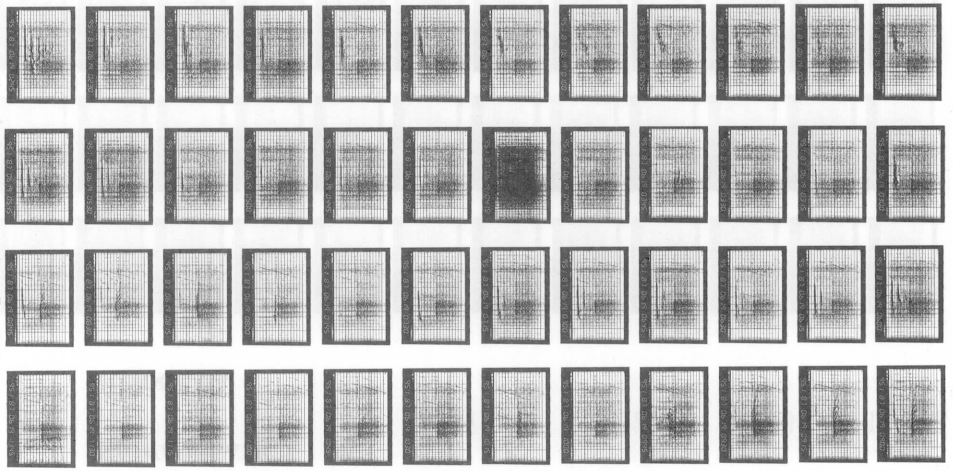

SYOWA STATION 1987 06 20 12:00 ~ 23:45

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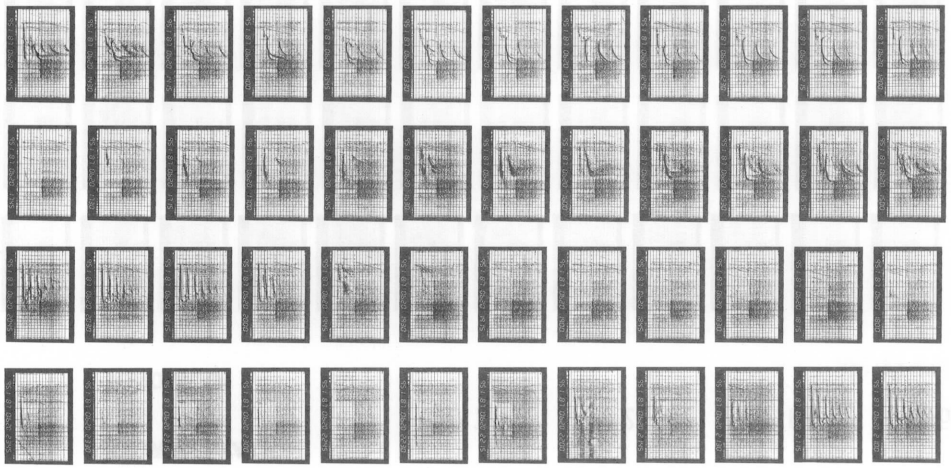

SYOWA STATION 1987 06 20 00:00 ~ 11:45

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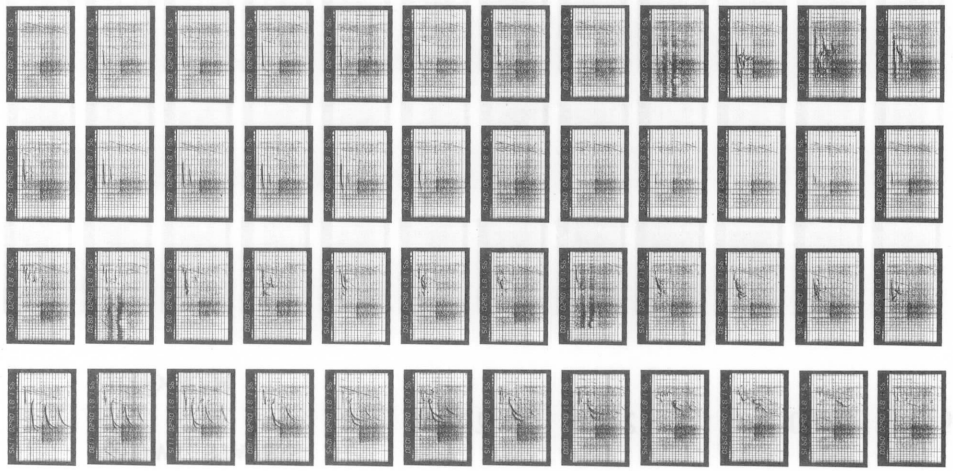
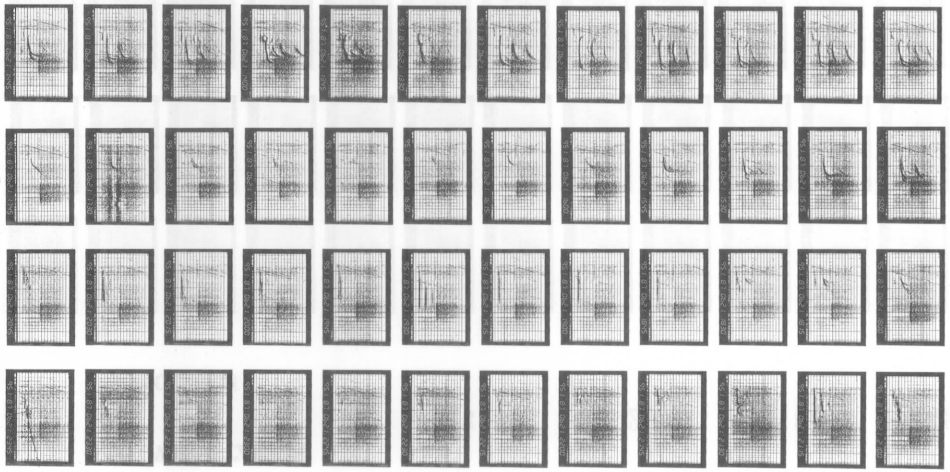


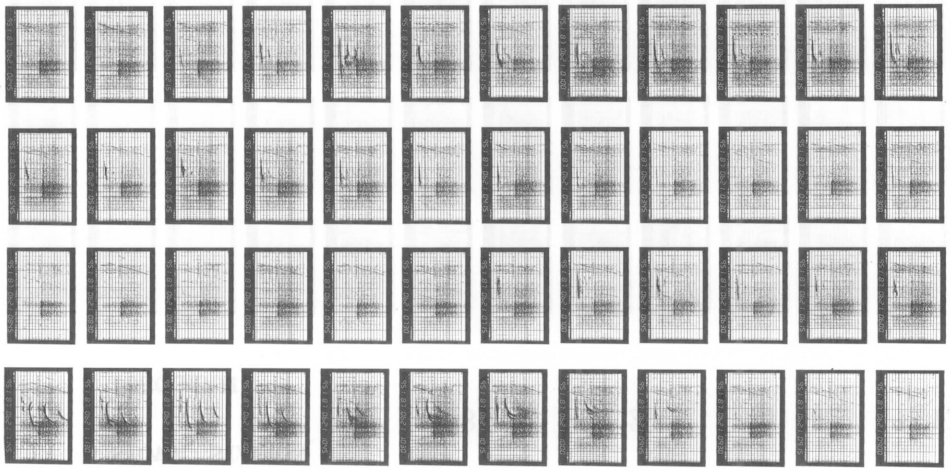
SYOWA STATION 1987 06 21 12:00 ~ 23:45

IONOGRAM



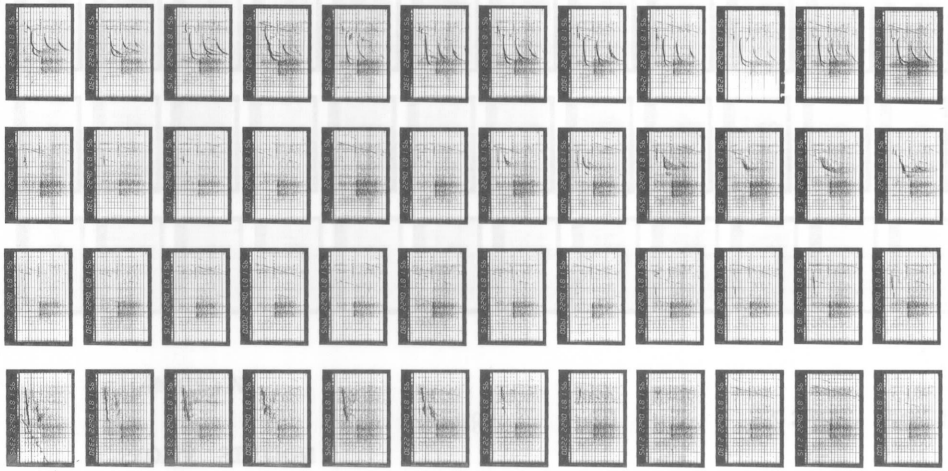
SYOWA STATION 1987 06 21 00:00 ~ 11:45

IONOGRAM



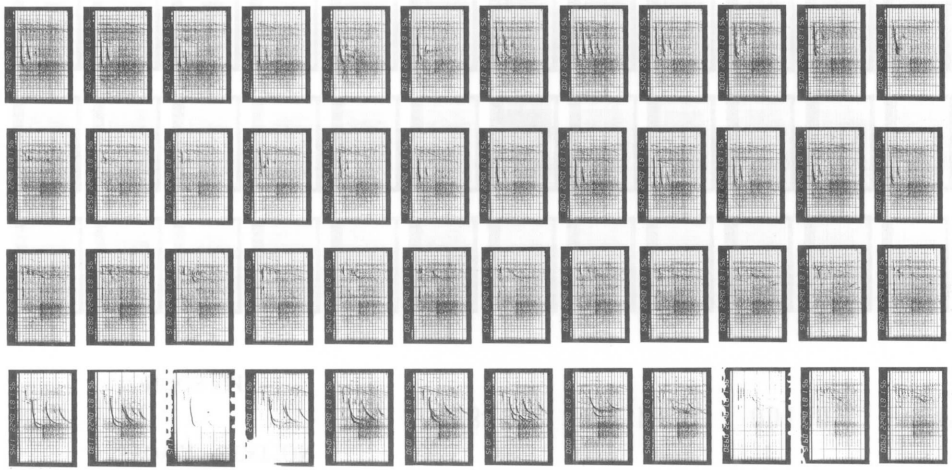
SYOWA STATION 1987 06 22 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 22 00:00 ~ 11:45

IONOGRAM



SYOWA STATION 1987 06 23 12:00 ~ 23:45

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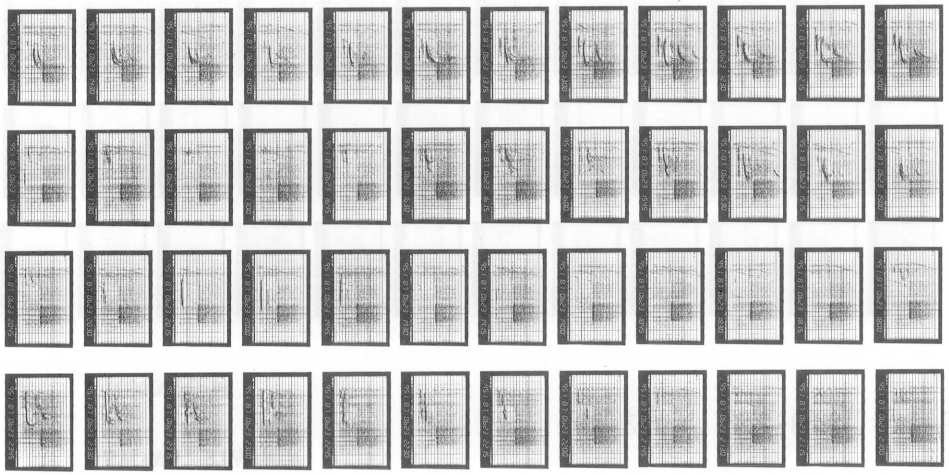

SYOWA STATION 1987 06 23 00:00 ~ 11:45

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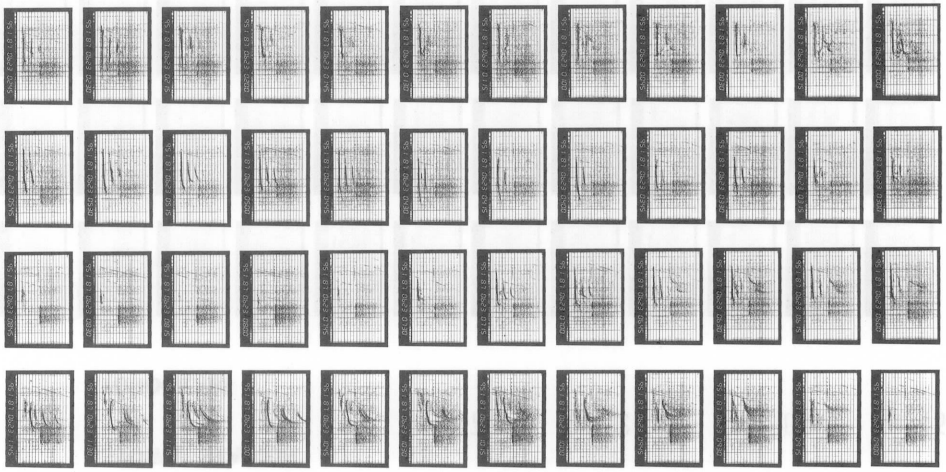
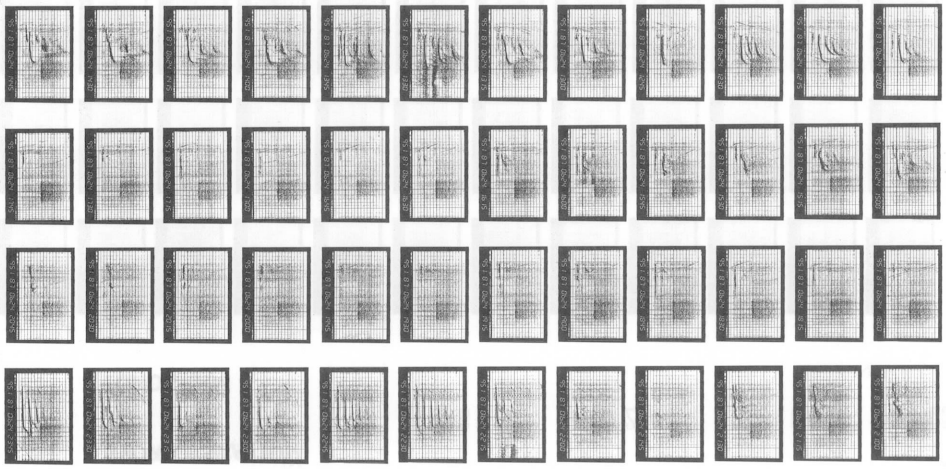


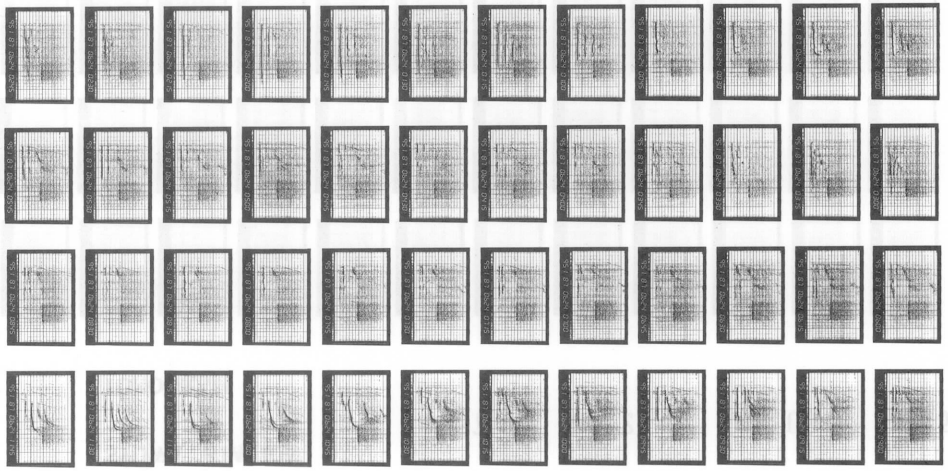
SYOWA STATION 1987 06 24 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 24 00:00 ~ 11:45

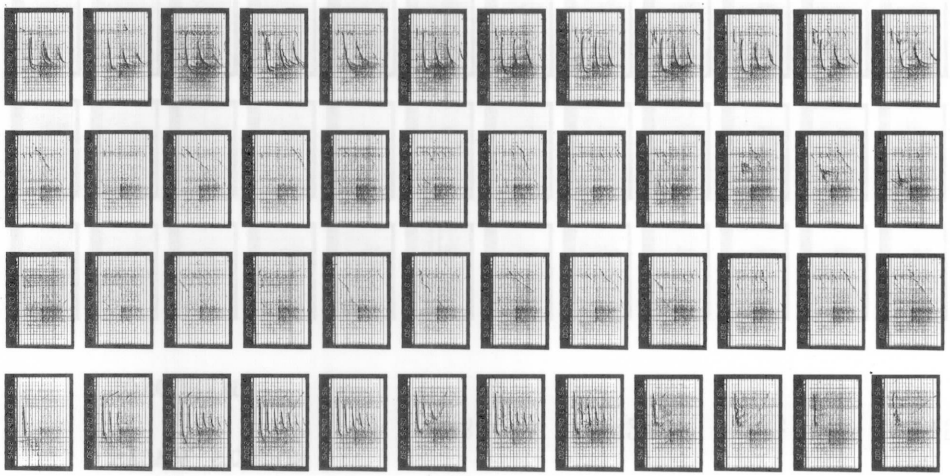
IONOGRAM



SYOWA STATION

IONOGRAM

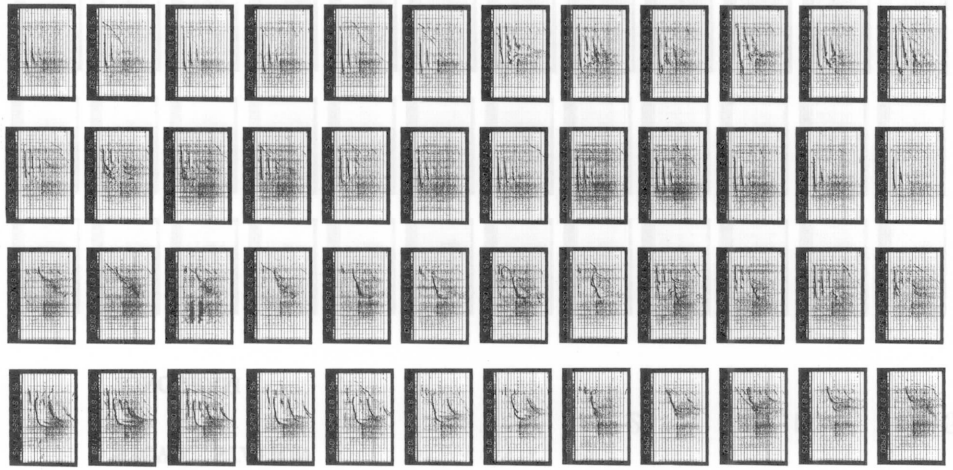
1987 06 25 12:00 ~ 23:45



SYOWA STATION

IONOGRAM

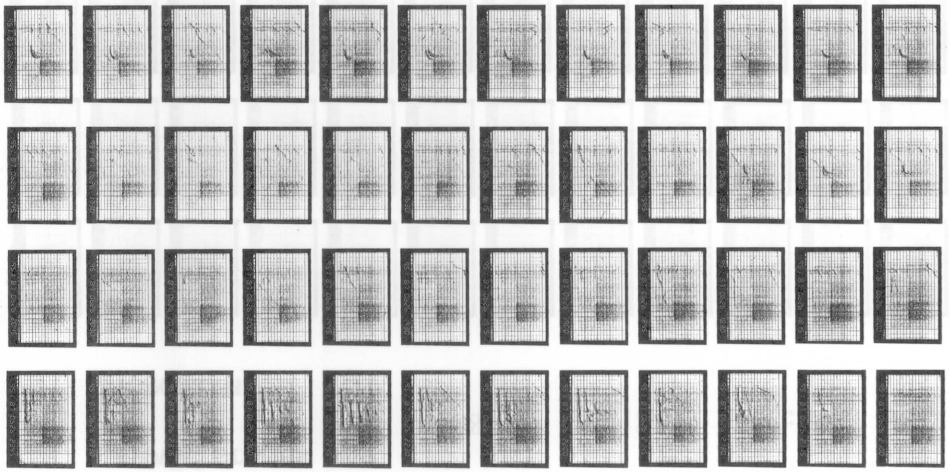
1987 06 25 00:00 ~ 11:45



SYOWA STATION

IONOGRAM

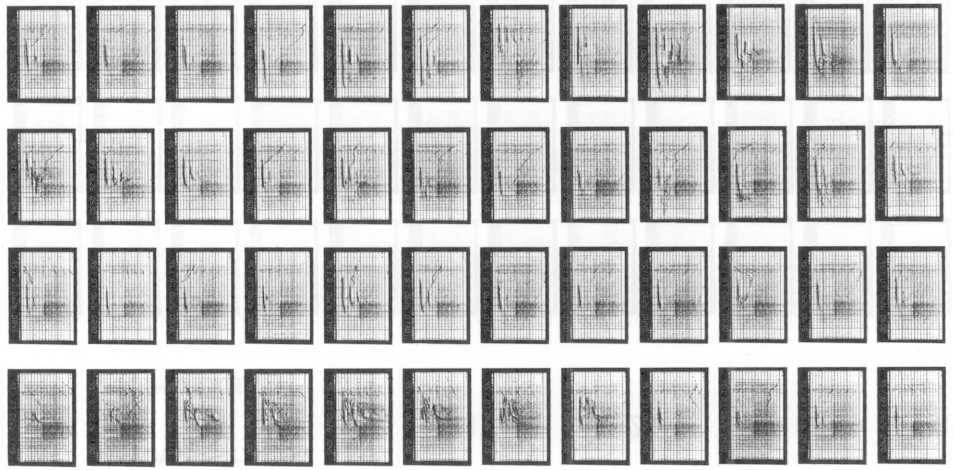
1987 06 26 12:00 ~ 23:45



SYOWA STATION

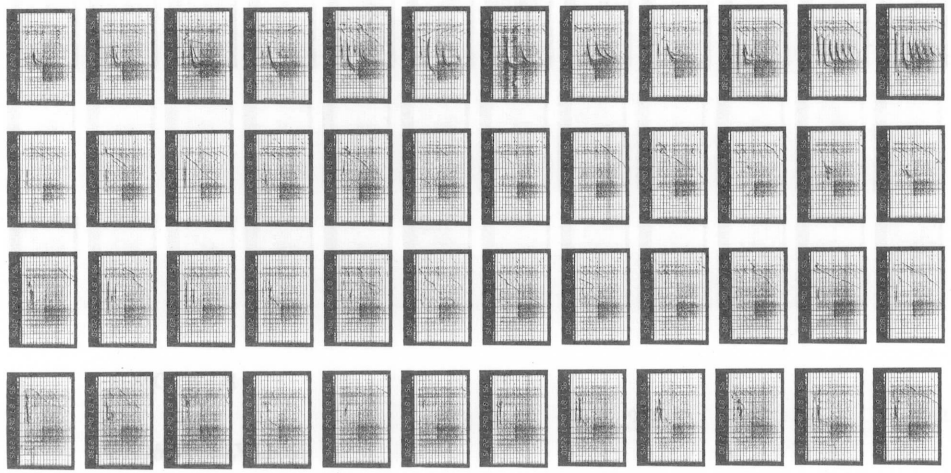
IONOGRAM

1987 06 26 00:00 ~ 11:45



SYOWA STATION 1987 06 27 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 27 00:00 ~ 11:45

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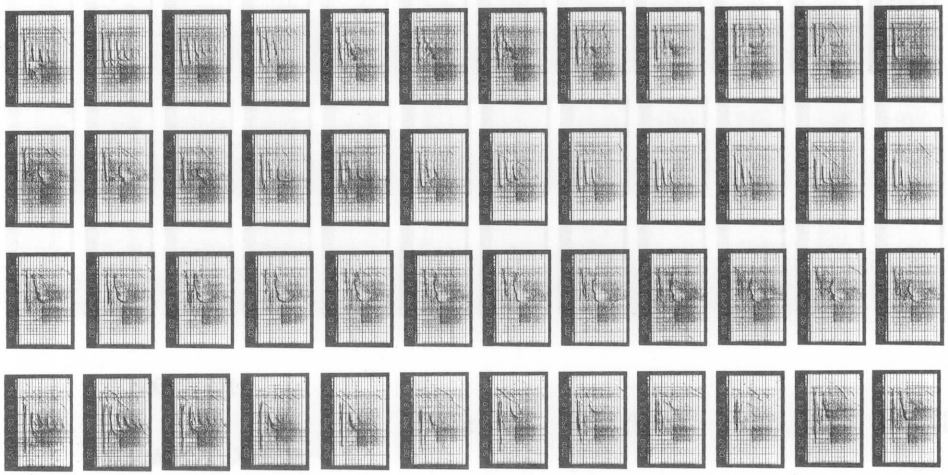
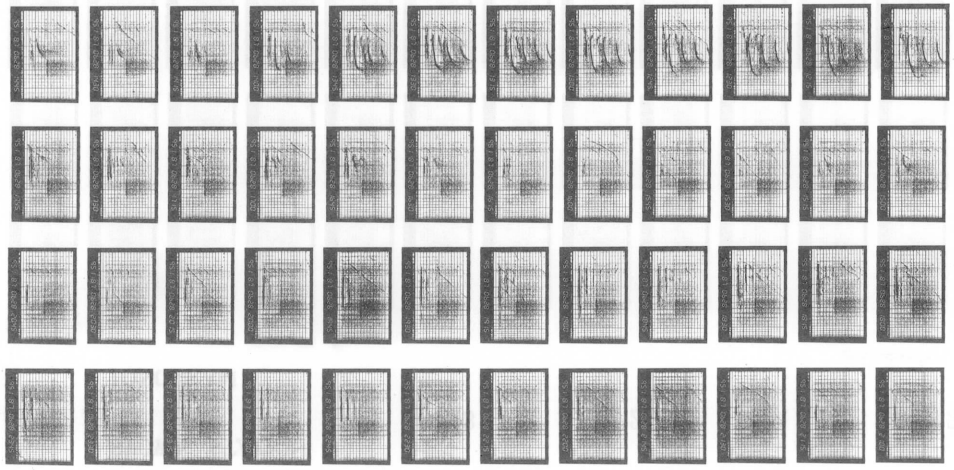


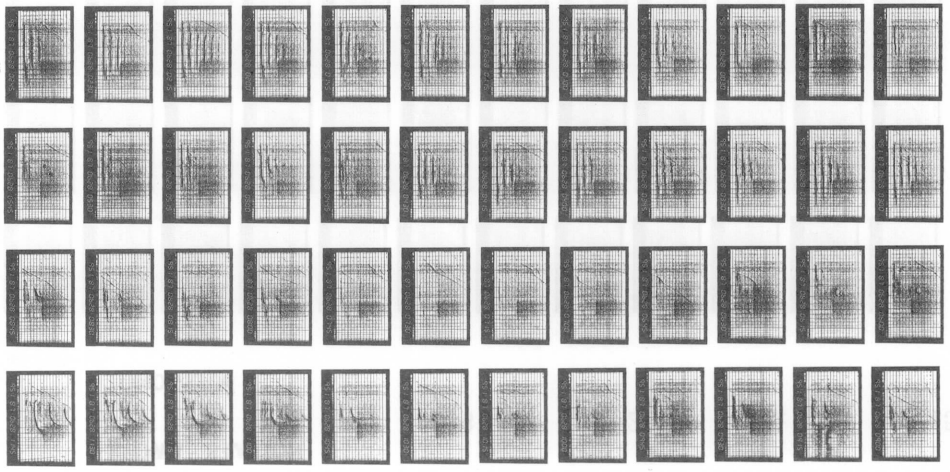
SYOWA STATION 1987 06 28 12:00 ~ 23:45

IONOGRAM



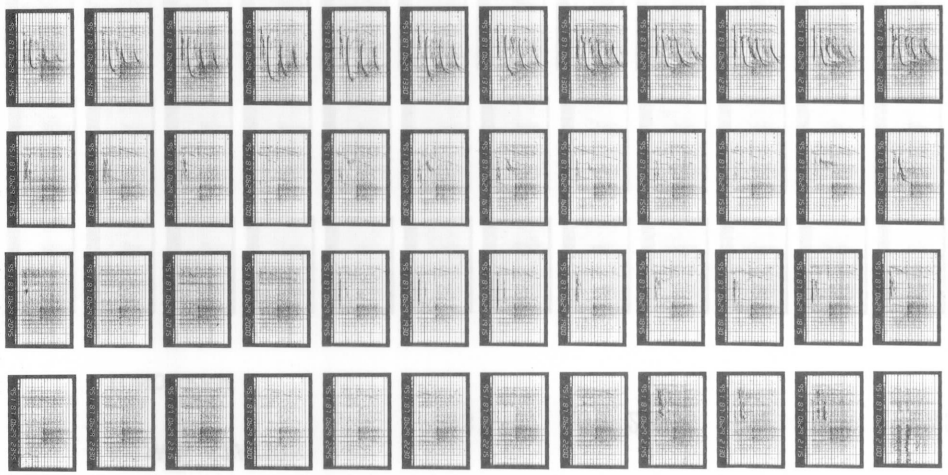
SYOWA STATION 1987 06 28 00:00 ~ 11:45

IONOGRAM



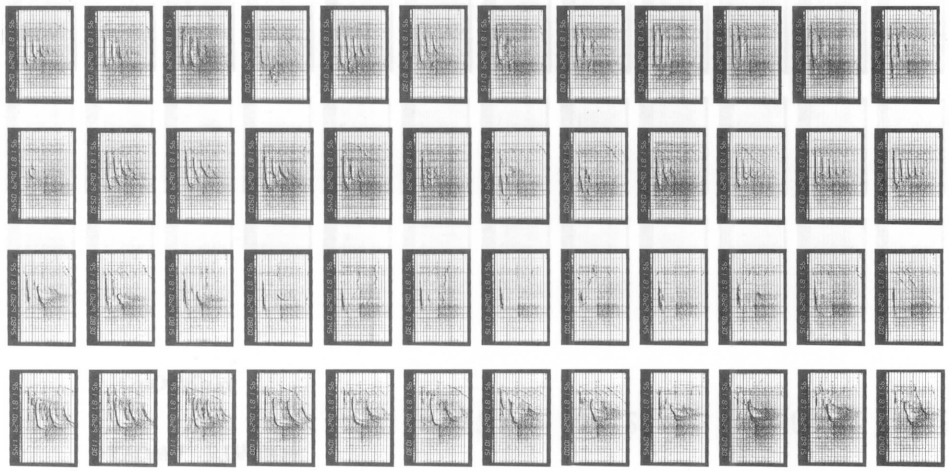
SYOWA STATION 1987 06 29 12:00 ~ 23:45

IONOGRAM



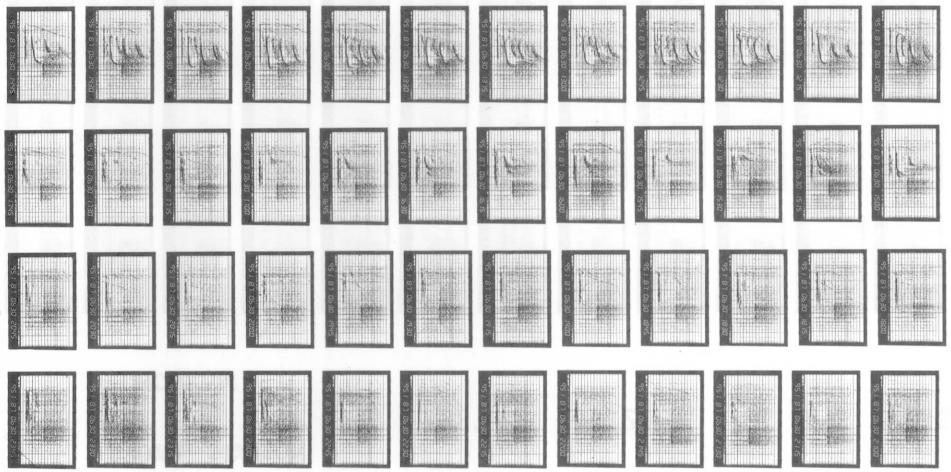
SYOWA STATION 1987 06 29 00:00 ~ 11:45

IONOGRAM



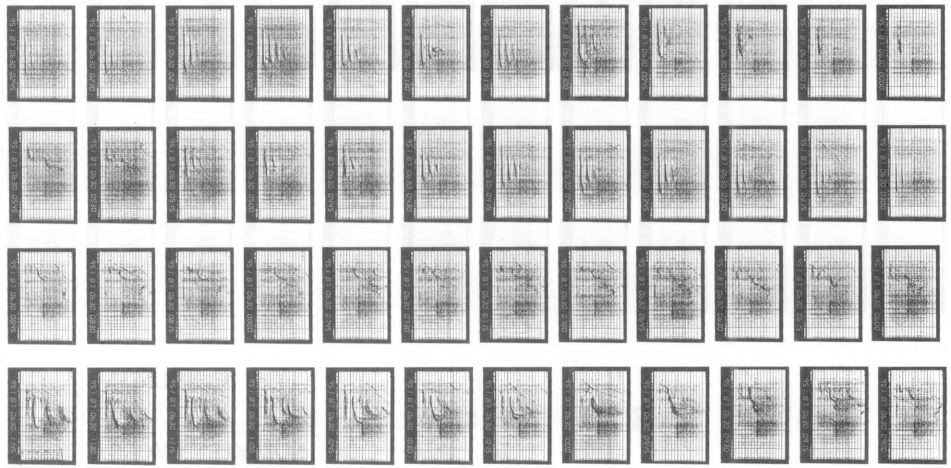
SYOWA STATION 1987 06 30 12:00 ~ 23:45

IONOGRAM



SYOWA STATION 1987 06 30 00:00 ~ 11:45

IONOGRAM



IONOSPHERIC DATA

JAN. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	X 40	45	X 41	B	A	48	48	A	59	66	61	A	55	54	55	O X 51	O X 50	B	A	A	41	A	A	O X 40
2	A	A	A	B	A	O X 47	A	A	51	51	O X 50	O X 49	B	B	A	A	O X 51	X 51	45	X 41	51	X 48	O X 46	X 39
3	X 45	X 40	A	A	A	A	X 53	O X 54	O X 52	B	A	56	O X 49	A	O X 56	A	X 64	X 57	X 55	X 54	X 52	X 52	X 48	X 41
4	36	A	A	O X 46	47	55	55	X 56	X 58	X 61	X 60	O X 55	O X 56	O X 56	A	O X 55	O X 53	O X 50	X 51	X 50	O X 52	X 51	X 49	47
5	42	X 39	O X 56	O X 52	A	X 51	59	X 56	X 55	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	O X 51	O X 55	X 60	X 61	S	O X 51	O X 48	S	O X 55	O X 54	O X 47	X 44	X 47	45	41
27	38	40	49	44	44	X 47	X 51	58	61	60	54	O X 50	52	B	B	B	X 58	64	B	O X 49	45	50	46	45
28	45	41	43	43	A	A	A	A	O X 51	56	58	B	X 64	X 61	X 62	O X 50	O X 53	O X 46	O X 50	52	X 47	47	X 46	O X 41
29	A	A	A	A	B	A	B	A	A	A	O X 45	O X 44	B	O X 55	O X 46	S	O X 51	O X 49	X 46	X 47	X 49	X 46	X 42	X 41
30	X 41	X 40	36	36	A	A	X 47	X 52	X 56	X 56	S	X 58	X 57	O X 52	56	56	X 52	X 51	X 48	X 46	X 46	O X 51	X 44	43
31	39	36	A	A	A	B	A	A	A	A	O X 54	52	O X 51	O X 56	X 58	X 60	O X 56	X 52	X 49	X 46	X 48	X 43	X 44	41
	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	8	7	5	5	2	5	6	5	8	7	8	8	8	6	7	6	9	9	8	9	10	9	9	10
MED	40	40	43	44	46	X 48	52	X 56	X 56	56	X 54	X 54	X 56	O X 56	X 56	O X 53	O X 53	X 51	X 50	X 47	X 48	X 48	X 46	41
UQ	44	40	49	O X 46		51	55	X 56	58	60	59	X 57	X 59	O X 56	X 57	X 56	O X 56	X 55	X 52	X 50	X 51	X 51	X 46	43
LQ	38	40	41	43		X 47	X 43	X 54	X 52	54	O X 52	O X 50	52	O X 54	53	O X 50	O X 51	O X 50	X 47	X 46	X 45	X 47	X 44	X 41

JAN. 1987 | FXI (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1987 | FOF2 (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	34	F 39	35	B	A	F 40	F 40	A	F 50	F 60	F 55	A	F 49	F 48	F 49	45	44	B	A	A	F 35	A	A	35
2	A	A	A	B	A	41	A	A	F 45	F 45	44	43	B	B	A	A	H 45	45	F 39	35	F 45	42	40	33
3	39	34	A	A	A	A	R 47	R 48	46	B	A	F 50	43	A	50	A	58	51	49	48	46	46	42	35
4	F 30	A	A	40	F 41	F 46	F 49	50	52	55	54	49	50	50	A	49	47	44	45	44	S 46	45	43	F 41
5	F 34	33	R 50	46	A	45	F 53	50	49	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	R 45	49	54	55	S	45	H 42	S	49	R 48	41	38	41	F 39	F 35
27	F 32	F 34	F 43	F 38	F 38	41	45	F 50	F 55	F 50	F 48	44	F 46	B	B	B	52	R 58	B	43	F 35	F 44	F 40	F 39
28	F 39	F 35	F 37	F 37	A	A	A	A	45	F 50	F 52	B	58	55	56	50	H 47	H 40	H 44	F 46	41	F 41	40	35
29	A	A	A	A	B	A	B	A	A	A	39	38	B	49	40	S	45	43	40	41	43	40	36	35
30	35	34	F 30	F 30	A	A	41	46	50	50	S	52	51	46	F 50	F 50	46	45	42	40	40	45	38	F 37
31	F 33	F 30	A	A	A	B	A	A	A	A	48	F 46	45	50	52	54	50	46	43	40	42	37	38	F 35
	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	8	7	5	5	2	5	6	5	8	7	8	8	8	6	7	6	9	9	8	9	10	9	9	10
MED	F 34	F 34	F 37	F 38	F 40	41	46	50	50	F 50	48	48	50	50	50	50	47	45	44	41	42	42	40	35
UQ	37	F 34	F 43	40		45	F 49	50	51	F 52	53	51	53	50	51	50	50	49	46	44	45	45	40	F 37
LQ	F 32	34	F 35	F 37		41	41	48	46	43	46	44	46	48	47	45	45	44	41	40	38	41	38	35

JAN. 1987 | FOF2 (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	30	40	35	B	45	37	59	47	32	38	39	30	50	36	45	37	38	B	45	43	37	45	88	42
2	42	79	45	B	36	35	70	32	35	33	33	32	B	B	45	56	26	25	33	32	35	28	29	28
3	31	36	38	33	31	60	42	31	31	B	45	40	37	80	29	68	27	26	21	24	21	20	27	27
4	32	39	40	41	41	31	25	31	31	31	35	34	33	40	53	42	45	26	25	24	22	37	26	18
5	30	31	45	35	35	27	27	30	33	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	33	27	26	29	23	31	28	36	27	27	28	42	55	41	130
27	38	32	35	42	33	40	40	43	39	40	32	32	36	B	B	B	E B 30	E B 29	B	70	31	36	33	26
28	58	31	35	32	37	60	46	59	37	33	33	B	32	39	35	38	37	25	29	40	27	40	18	32
29	37	88	45	37	B	52	B	41	35	42	37	E B 31	B	30	33	29	30	27	25	23	26	22	17	28
30	55	36	40	58	55	41	35	22	25	36	32	43	42	34	38	27	26	37	22	22	29	16	15	14
31	31	36	31	110	70	B	57	60	52	42	31	31	E B 30	29	30	27	E B 29	24	25	25	31	19	19	30
	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	10	10	10	8	9	9	9	10	10	9	10	9	8	8	9	9	10	9	9	10	10	10	10	10
MED	34	36	39	39	37	40	42	36	34	36	33	32	34	35	35	37	30	26	25	26	30	32	26	28
UQ	42	40	45	50	45	52	57	47	37	40	37	34	40	40	45	42	37	27	29	40	35	40	33	32
LQ	31	32	35	34	35	35	35	31	31	33	32	31	31	30	31	28	26	25	25	24	26	20	18	26

JAN. 1987 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JAN. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4 'S , Long. 39° 35.4 'E Sweep 4 MHz to 15 MHz in 20 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	9	7	14	B	18	9	11	12	8	10	10	21	15	13	10	12	11	B	14	10	9	15	12	11
2	10	15	14	B	17	13	14	14	14	10	10	10	B	B	30	27	15	10	25	10	9	10	11	9
3	8	9	8	22	21	15	10	9	8	B	25	10	12	15	19	10	14	14	13	9	12	8	9	8
4	11	14	18	10	12	11	12	9	9	9	10	11	11	10	11	14	12	11	13	13	10	9	8	8
5	8	8	9	12	9	9	9	8	9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	14	15	13	16	15	14	12	12	11	18	20	18	14	11	9
27	15	8	9	9	9	8	8	8	18	21	12	10	13	B	B	B	30	29	B	22	20	19	11	12
28	8	8	8	8	15	21	37	12	13	13	11	B	19	11	12	10	13	11	14	9	9	8	13	12
29	22	19	10	9	B	10	B	18	19	14	14	31	B	9	19	19	15	14	13	9	10	11	9	6
30	9	9	8	10	14	13	10	10	9	10	11	12	10	13	13	13	13	13	9	9	11	12	8	10
31	9	9	19	18	23	B	13	15	14	17	18	13	30	18	21	15	29	18	15	12	18	14	10	9
	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	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
MED	9	9	10	11	16	12	12	11	11	14	12	12	16	14	16	14	14	14	14	10	10	12	10	9
UQ	11	14	14	22	21	15	14	14	14	17	15	21	30	18	21	19	15	18	18	13	18	14	11	11
LQ	8	8	8	9	12	9	10	9	9	10	10	10	12	11	12	12	12	11	13	9	9	9	9	8

JAN. 1987 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JAN. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	260	230	E A 290	B	A	200	E A 250	A	175	H 195	200	A	210	195	210	220	215	B	A	A	225	A	A	250
2	A	A	A	B	A	230	A	A	225	200	195	H 180	B	B	A	A	H 195	H 180	E A 300	210	E A 300	225	E A 280	250
3	255	E A 340	A	A	A	A	E A 250	220	E A 250	B	A	190	200	A	200	A	200	H 200	H 200	200	170	205	240	250
4	E A 310	A	A	E A 400	A	220	200	200	175	180	220	H 200	250	E A 340	A	200	200	H 180	200	200	215	200	230	220
5	240	250	E A 280	E A 275	A	H 205	195	200	H 180	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	200	H 180	180	220	210	H 190	180	205	200	210	H 205	220	210	230	250
27	E A 290	240	250	E A 305	270	240	215	215	210	190	180	180	180	B	B	B	210	220	B	E A 250	Q 250	240	230	225
28	250	270	280	280	A	A	A	A	200	195	180	B	205	200	220	205	200	H 195	200	230	225	A	245	E A 270
29	A	A	A	A	B	A	B	A	A	A	190	200	B	200	220	200	220	200	H 200	205	210	225	H 225	245
30	250	260	E A 290	E A 325	A	A	E A 280	210	190	205	195	E A 280	A 200	190	H 175	H 170	200	200	H 180	H 190	H 195	240	250	250
31	260	280	A	A	A	B	A	A	A	A	205	200	205	195	205	205	210	H 190	205	200	225	220	225	250
	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	8	7	5	5	1	5	6	5	8	7	9	8	8	7	7	7	10	9	8	9	10	8	9	10
MED	254	255	E A 280	E A 305	270	220	U 214	210	190	195	195	190	205	198	205	200	202	H 200	200	202	220	222	230	250
UQ	268	270	E A 290	E A 325		230	E A 250	215	212	200	200	200	215	202	215	205	210	200	205	208	225	232	242	250
LQ	250	245	280	E A 280		205	200	200	178	192	180	180	200	195	195	190	200	H 190	200	200	210	208	230	245

JAN. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	39	0 X 38	A	A	A	A	A	A	B	0 X 48	0 X 49	0 X 55	0 X 55	0 X 56	0 X 56	X 55	X 54	X 55	X 49	X 46	X 43	35	A
2	A	A	A	A	A	0 X 44	0 X 47	X 53	0 X 56	0 X 56	0 X 52	0 X 51	A	A	0 X 54	X 58	X 58	A	X 50	X 49	X 47	X 46	40	34
3	38	39	40	A	A	A	X 57	56	61	59	53	X 55	58	X 61	A	X 62	X 55	X 55	X 51	X 51	X 49	X 49	X 46	43
4	X 46	42	40	46	51	X 58	0 X 55	0 X 56	X 57	56	0 X 56	55	A	A	50	A	X 56	A	X 52	X 48	X 51	X 49	A	X 35
5	36	X 35	X 37	38	45	50	55	53	X 55	X 56	0 X 54	X 51	A	X 53	X 53	X 56	X 52	X 51	X 47	49	X 46	49	X 46	X 46
6	45	45	A	A	A	B	B	42	46	0 X 48	0 X 51	X 52	0 X 50	0 X 50	0 X 52	0 X 50	X 50	X 51	X 50	X 50	X 45	X 46	X 47	49
7	X 47	A	A	A	A	0 X 42	47	56	X 64	61	X 60	0 X 56	0 X 55	0 X 54	0 X 54	0 X 56	X 52	X 51	55	46	41	36	39	41
8	A	A	A	A	A	A	A	A	B	0 X 41	B	0 X 46	0 X 44	B	S	X 55	X 50	0 X 51	X 47	A	A	A	A	A
9	A	A	B	A	A	A	A	A	50	X 42	0 X 50	X 44	0 X 47	0 X 50	X 53	0 X 54	X 59	0 X 56	0 X 51	X 42	X 41	40	39	40
10	39	A	B	A	A	B	B	A	0 X 50	X 44	X 43	X 44	0 X 51	X 54	X 60	0 X 56	X 56	X 50	X 49	X 51	0 X 42	X 41	43	39
11	40	45	A	A	A	A	X 48	X 55	X 61	X 58	X 55	0 X 55	0 X 52	51	0 X 55	0 X 51	0 X 52	X 55	A	X 46	X 46	41	A	A
12	A	A	A	A	A	A	A	A	X 42	A	A	B	B	B	0 X 52	X 58	X 61	B	A	A	A	A	A	A
13	A	A	A	A	A	38	A	A	41	43	0 X 48	X 43	X 43	0 X 48	0 X 49	0 X 50	X 50	X 48	X 45	X 43	X 42	X 44	X 42	X 36
14	A	A	A	45	A	0 X 46	0 X 55	52	0 X 50	B	B	0 X 52	0 X 52	0 X 56	X 58	X 56	X 61	X 55	51	X 47	47	X 48	X 46	50
15	46	X 42	41	40	X 39	X 44	X 46	X 51	X 51	0 X 50	0 X 50	0 X 55	X 59	X 60	65	X 67	X 68	X 66	X 57	X 53	45	X 42	A	A
16	A	A	A	A	A	A	A	A	0 X 49	X 52	0 X 51	0 X 50	0 X 54	X 60	X 66	X 66	70	69	X 58	A	A	A	A	A
17	A	A	A	A	A	X 54	X 48	0 X 50	0 X 50	B	0 X 53	0 X 52	X 52	0 X 54	X 54	X 59	X 61	X 56	X 47	X 44	X 41	X 36	A	A
18	A	A	A	A	A	A	A	A	0 X 50	B	0 X 51	0 X 53	S	B	0 X 57	X 56	X 55	0 X 52	0 X 51	0 X 51	X 46	X 43	X 43	39
19	A	A	A	A	A	46	X 49	X 56	X 61	X 59	X 58	X 56	0 X 56	0 X 55	0 X 52	X 55	X 54	X 51	X 50	X 48	X 46	X 47	X 45	39
20	X 39	0 X 41	36	A	A	B	A	A	A	A	0 X 51	0 X 51	0 X 50	X 62	X 79	84	66	B	44	A	X 36	X 38	A	A
21	A	A	A	B	B	B	A	A	0 X 44	0 X 48	B	B	B	B	S	B	S	X 49	X 49	X 42	36	34	X 35	35
22	A	33	A	B	A	A	B	A	B	B	0 X 46	R	B	B	B	B	B	B	0 X 50	X 43	0 X 46	43	33	A
23	A	A	A	A	A	B	A	B	A	A	B	B	S	0 X 46	0 X 51	B	0 X 43	B	B	0 X 41	45	A	A	X 32
24	A	A	A	A	A	A	X 45	46	X 48	0 X 47	S	0 X 49	0 X 51	0 X 50	B	0 X 54	X 50	X 49	X 44	0 X 48	X 44	33	A	A
25	A	A	A	A	B	A	A	0 X 45	X 46	X 49	0 X 49	0 X 51	0 X 56	X 59	0 X 56	0 X 51	0 X 51	0 X 48	0 X 48	X 46	X 45	X 43	X 29	A
26	A	A	A	A	A	A	43	0 X 48	0 X 51	X 55	X 57	0 X 56	X 56	X 61	X 62	X 57	X 59	61	X 49	48	X 50	X 49	0 X 45	0 X 43
27	0 X 38	A	A	A	A	0 X 45	X 46	X 51	X 56	X 58	X 59	X 60	B	X 64	62	61	X 64	X 56	55	X 55	A	A	A	A
28	A	A	A	A	A	A	A	X 46	46	A	A	A	0 X 48	B	B	B	X 62	55	50	49	45	39	A	A
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	10	9	6	4	3	10	13	16	23	19	21	23	19	20	22	23	26	22	25	24	24	23	16	15
MED	40	41	39	42	45	X 46	X 48	X 52	X 50	X 52	0 X 51	0 X 52	0 X 52	X 54	X 54	X 56	X 56	X 53	X 50	X 48	X 45	X 43	X 42	39
UQ	46	42	40	46	48	X 50	X 55	56	X 56	X 57	X 55	0 X 55	0 X 56	X 60	X 60	X 58	X 61	X 56	X 51	X 50	X 46	X 46	X 46	43
LQ	38	39	X 37	39	42	0 X 44	X 46	X 47	X 47	X 48	0 X 50	0 X 50	0 X 50	0 X 50	0 X 52	0 X 54	X 52	X 51	X 48	X 45	X 42	40	37	36

FEB. 1987 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1987 | FOF2 (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	F 33	32	A	A	A	A	A	A	B	42	43	49	49	50	50	49	48	49	43	40	37	F 29	A
2	A	A	A	A	A	38	41	47	50	50	46	R 45	A	A	48	52	52	A	44	43	41	40	F 34	F 28
3	F 32	F 33	F 34	A	A	A	51	F 50	F 55	F 53	F 47	49	F 52	55	A	56	49	49	45	45	43	43	40	F 37
4	40	F 36	F 34	F 40	F 45	52	R 49	U R 50	51	F 50	50	F 49	A	A	F 49	A	50	A	46	42	45	43	A	29
5	30	29	31	F 32	F 39	F 44	F 49	F 47	49	50	48	45	A	47	47	50	46	45	41	F 43	40	F 43	40	40
6	F 37	F 37	A	A	A	B	B	F 36	F 40	42	45	46	44	44	46	44	44	45	44	44	39	40	41	F 43
7	41	A	A	A	A	36	F 41	F 50	58	F 55	54	50	49	48	48	50	46	45	F 49	F 40	F 35	F 30	F 33	F 35
8	A	A	A	A	A	A	A	A	B	35	B	40	38	B	S	49	44	U R 45	41	A	A	A	A	A
9	A	A	B	A	A	A	A	A	F 44	36	44	38	41	44	47	48	53	50	45	36	35	F 34	F 33	F 34
10	F 33	A	B	A	A	B	B	A	44	38	37	38	45	48	54	50	50	44	43	45	36	35	F 37	F 33
11	F 34	F 39	A	A	A	A	42	49	55	52	49	49	U R 46	F 45	49	45	46	49	A	40	40	F 35	A	A
12	A	A	A	A	A	A	A	A	36	A	A	B	B	B	46	52	55	B	A	A	A	A	A	A
13	A	A	A	A	A	F 32	A	A	F 35	F 37	42	37	37	42	43	44	44	42	39	37	36	38	36	30
14	A	A	A	F 39	A	40	49	F 46	50	B	B	46	46	50	52	50	55	49	F 45	41	F 41	42	41	F 44
15	F 40	36	F 35	F 34	33	38	40	45	45	44	44	49	53	54	59	60	62	60	51	47	F 39	36	A	A
16	A	A	A	A	A	A	A	A	43	46	45	44	48	54	60	60	F 64	F 63	52	A	A	A	A	A
17	A	A	A	A	A	48	42	44	44	B	R 47	U R 46	46	48	48	53	55	50	41	38	35	30	A	A
18	A	A	A	A	A	A	A	A	44	B	45	47	S	B	51	50	49	46	45	45	40	37	37	F 33
19	A	A	A	A	A	F 40	43	50	55	53	52	50	50	49	46	49	48	45	44	42	40	41	39	F 33
20	33	U R 35	F 30	A	A	B	A	A	A	A	45	45	44	56	73	F 78	F 60	B	F 38	A	30	32	A	A
21	A	A	A	B	B	B	A	A	38	42	B	B	B	B	S	B	S	43	43	36	F 30	F 28	29	F 29
22	A	F 27	A	B	A	A	B	A	B	B	R 40	R	B	B	B	B	B	B	44	37	40	F 37	F 27	A
23	A	A	A	A	A	B	A	B	A	A	B	B	S	40	45	B	37	B	B	35	F 39	A	A	26
24	A	A	A	A	A	A	39	F 40	42	41	S	43	45	44	B	48	44	43	38	42	38	F 27	A	A
25	A	A	A	A	B	A	A	39	40	43	43	45	50	53	U R 50	U R 45	U R 45	42	42	40	39	37	23	A
26	A	A	A	A	A	A	F 37	42	45	49	51	50	50	55	56	51	53	F 45	43	F 42	44	43	39	37
27	32	A	A	A	A	39	40	45	50	52	53	54	B	58	F 56	F 55	58	50	F 45	49	A	A	A	A
28	A	A	A	A	A	A	A	40	F 40	A	A	A	42	B	B	B	56	F 49	F 44	F 43	F 39	F 33	A	A
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	10	9	6	4	3	10	13	16	23	19	21	23	19	20	22	23	26	22	25	24	24	23	16	15
MED	34	F 35	F 33	F 36	F 39	40	42	46	44	46	45	46	46	48	49	50	50	46	44	42	39	37	36	F 33
UQ	F 40	F 36	F 34	F 40	F 42	44	49	50	50	51	49	49	50	54	54	52	55	49	45	44	40	40	40	F 37
LQ	32	F 33	31	F 33	36	38	40	41	41	42	44	44	44	44	47	48	46	45	42	39	36	F 34	F 31	F 30

FEB. 1987 | FOF2 (0.1 MHZ)

IONOSPHERIC DATA

FEB. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	31	37	60	42	42	45	60	37	B	37	34	32	37	40	36	33	30	32	32	32	30	31	40
2	41	39	40	58	42	41	41	37	41	45	51	42	67	40	42	52	47	80	59	37	29	60	57	56
3	22	30	31	30	53	43	42	37	30	31	32	31	50	37	72	66	42	43	33	25	35	43	15	25
4	23	31	45	30	37	56	67	60	34	43	41	49	71	81	59	93	48	90	90	55	39	32	47	55
5	30	31	31	35	35	31	27	30	31	32	33	32	41	41	41	38	51	36	40	42	32	39	29	30
6	41	30	35	45	70	B	B	41	31	31	31	32	31	31	32	38	31	30	23	23	21	31	30	32
7	27	70	70	41	45	42	34	26	37	32	26	27	27	29	27	28	27	25	26	27	26	37	21	31
8	71	91	58	56	40	40	37	37	B	37	B	31	E B 32	B	E B 30	27	25	E B 26	22	39	37	42	45	45
9	45	35	B	107	45	52	41	60	38	28	28	30	41	41	38	37	26	E B 24	E B 24	21	26	24	E B 16	E B 14
10	30	35	B	40	39	B	B	41	36	23	30	29	33	29	27	E B 30	27	32	21	22	E B 20	29	27	15
11	28	31	42	30	42	46	39	40	30	30	32	30	28	36	41	58	54	45	97	51	33	16	43	42
12	36	40	70	70	36	45	42	42	37	44	37	B	B	B	35	39	33	B	43	45	42	42	37	42
13	40	47	34	71	45	23	41	42	45	43	28	27	32	35	39	28	27	25	33	20	16	18	21	30
14	36	35	35	32	43	33	31	23	25	B	B	30	32	33	70	35	32	37	36	41	35	16	18	22
15	45	31	30	39	32	32	42	58	41	25	E B 30	29	32	33	34	41	60	27	36	17	28	25	43	31
16	44	60	45	20	72	43	42	43	32	30	31	29	31	33	28	32	27	22	23	43	45	44	46	44
17	47	37	41	57	40	35	37	32	E B 26	B	26	25	30	27	32	36	35	23	28	28	29	23	16	39
18	39	46	44	41	42	41	50	42	22	B	32	30	39	B	37	64	43	45	37	21	20	22	32	27
19	68	31	46	26	40	32	22	22	70	28	30	37	40	40	80	41	26	23	21	27	18	E B 13	E B 11	22
20	40	30	32	35	30	B	26	35	55	70	49	27	29	31	E B 29	E B 25	44	B	32	47	17	30	43	45
21	80	49	42	B	B	B	28	35	E B 25	30	B	B	B	B	E B 30	B	E B 28	E B 24	26	34	31	37	26	31
22	39	70	48	B	55	36	B	45	B	B	E B 31	32	B	B	B	B	B	B	E B 25	22	E B 23	52	22	41
23	41	38	60	45	58	B	30	B	45	37	B	B	29	31	27	B	E B 30	B	B	E B 24	30	38	30	19
24	31	40	38	45	41	38	31	33	42	26	27	26	24	29	B	30	28	27	26	E B 23	E B 18	31	38	47
25	57	53	35	58	B	42	45	35	32	24	28	29	29	29	E B 31	E B 31	E B 29	E B 29	E B 21	E B 21	20	12	27	35
26	45	37	33	35	40	42	30	19	22	28	26	25	35	31	36	30	23	22	21	E B 19	20	E B 16	E B 9	E B 9
27	21	32	31	36	43	40	28	34	27	29	30	32	B	E B 28	31	33	31	26	21	23	40	53	60	45
28	45	46	31	50	45	42	37	42	35	39	37	35	E B 28	B	B	B	E B 40	25	30	28	21	30	38	41
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	28	28	26	26	26	23	25	27	26	23	24	25	24	22	25	24	27	24	27	28	28	28	28	28
MED	40	37	39	41	42	41	37	37	34	31	31	30	32	33	35	36	31	26	28	27	28	30	30	34
UQ	45	46	45	57	45	42	42	42	41	38	35	32	40	37	41	41	42	36	36	40	34	40	43	43
LQ	30	31	33	35	40	36	30	34	30	28	28	29	29	29	28	30	26	24	22	22	20	22	21	26

FEB. 1987 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	9	8	11	20	19	10	9	19	23	B	13	10	10	9	10	10	13	11	11	10	8	11	9	10
2	9	9	14	13	14	3	8	9	8	8	9	11	10	11	10	10	10	10	13	10	10	17	10	9
3	10	9	9	13	14	15	11	9	10	9	9	10	15	14	14	13	10	11	13	10	10	9	8	9
4	8	7	8	8	7	8	8	10	9	9	9	10	10	10	10	10	10	9	9	9	8	10	19	8
5	8	9	8	8	8	8	8	10	9	10	9	10	10	13	10	10	10	10	8	9	8	8	8	6
6	9	8	10	9	15	B	B	10	8	11	9	10	10	10	11	10	10	10	13	15	15	10	15	8
7	8	20	8	17	13	13	11	10	11	11	11	13	10	10	13	18	10	11	18	11	13	16	9	8
8	16	26	16	15	23	17	15	14	B	15	B	19	32	B	30	18	19	26	9	12	15	10	9	13
9	13	14	B	28	14	18	13	13	13	10	12	13	10	13	10	12	19	24	24	10	15	13	16	14
10	9	10	B	14	19	B	B	13	12	11	10	13	13	13	23	30	19	14	13	18	20	13	12	10
11	9	9	11	19	18	12	10	10	10	10	10	11	13	10	11	11	8	10	10	10	8	9	10	10
12	14	13	19	18	15	15	21	13	11	19	28	B	B	B	23	24	20	B	12	9	9	13	11	10
13	8	9	9	13	11	9	24	13	13	16	14	13	12	11	13	11	14	14	13	10	11	10	8	8
14	8	9	9	13	13	12	10	9	10	B	B	20	13	14	14	10	10	9	9	10	13	8	8	8
15	8	E	7	8	9	10	10	13	13	14	30	15	13	20	19	14	13	13	13	10	10	8	9	8
16	10	9	14	18	8	20	24	13	10	10	10	11	24	10	15	13	18	15	13	9	13	10	10	14
17	14	13	13	9	9	9	12	12	26	B	15	11	10	10	11	13	15	12	10	10	13	8	8	9
18	10	9	17	15	23	24	13	11	15	B	15	23	11	B	27	17	17	18	20	13	14	14	8	8
19	21	17	12	13	18	14	14	9	9	13	13	13	11	12	15	13	14	12	10	8	13	13	11	10
20	8	8	8	13	15	B	16	29	12	1	11	18	18	11	29	25	13	B	12	9	10	8	11	10
21	13	8	15	B	B	B	11	20	25	15	B	B	B	B	30	B	28	24	17	9	14	15	10	9
22	14	8	8	B	22	13	B	23	B	B	31	19	B	B	B	B	B	B	25	19	23	14	8	8
23	8	8	14	13	21	B	14	B	14	19	B	B	24	28	15	B	30	B	B	24	12	15	8	8
24	8	7	13	15	18	14	13	8	8	19	24	16	19	18	B	24	17	15	15	23	18	8	8	14
25	9	14	18	20	B	18	13	14	9	13	13	13	10	13	31	31	29	29	21	21	13	10	9	9
26	9	15	19	19	22	15	12	9	10	10	12	11	13	13	10	14	13	15	13	19	12	16	9	9
27	9	9	9	9	14	11	9	9	9	11	9	11	B	28	19	14	10	13	9	8	18	8	8	13
28	14	16	9	16	12	18	11	9	9	23	21	19	28	B	B	B	40	16	15	12	12	8	8	8
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	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MED	9	9	12	14	15	14	12	12	10	13	13	13	13	13	15	14	14	14	13	10	13	10	9	9
UQ	13	14	16	18	20	19	16	14	14	19	26	19	24	28	28	24	19	24	16	14	14	14	10	10
LQ	8	8	9	13	12	10	10	9	9	10	10	11	10	10	11	11	10	11	10	9	10	8	8	8

FEB. 1987 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	E A 350	E A 400	A	A	A	A	A	A	B	H 170	225	H 200	200	200	200	200	H 190	210	205	240	250	E A 300	A
2	A	A	A	A	A	E A 370	E A 290	200	E A 260	A	A	E A 320	A	A	E A 250	A	A 220	A	A 240	230	225	225	240	260
3	245	275	280	A	A	A	E A 350	190	180	190	210	195	E A 320	E A 250	A	200	190	225	215	225	225	245	220	250
4	245	250	245	255	260	230	A	A 220	205	210	215	A	A	A	E A 250	A	H 180	A	200	E A 255	230	250	A	270
5	245	275	E A 300	E A 325	E A 290	200	205	205	180	200	190	200	A	190	220	190	230	H 180	230	240	220	240	230	225
6	250	275	A	A	A	B	B	220	H 200	190	195	H 180	200	210	230	210	200	H 200	215	215	230	225	255	240
7	245	A	A	A	A	230	E A 310	225	200	H 180	H 180	H 190	195	200	195	A 190	200	A 190	220	220	210	255	260	250
8	A	A	A	A	A	A	A	A	B	240	B	H 230	230	B	225	215	210	H 210	H 160	A	A	A	A	A
9	A	A	B	A	A	A	A	A	240	210	205	205	200	220	200	200	H 200	220	220	H 215	210	250	250	250
10	250	A	B	A	A	B	B	A	E A 265	200	H 165	H 180	195	195	215	210	205	190	195	230	245	230	230	250
11	250	E A 300	A	A	A	A	A	A	200	200	195	180	H 165	H 220	H 205	A	A	245	A	220	230	240	A	A
12	A	A	A	A	A	A	A	A	225	A	A	B	B	B	E A 260	E A 280	E A 240	B	A	A	A	A	A	A
13	A	A	A	A	A	E A 250	A	A	E A 250	220	190	195	230	240	E A 260	210	H 200	200	230	210	250	245	240	E A 300
14	A	A	A	260	A	E A 325	230	205	195	B	B	203	190	220	A	H 200	H 180	205	210	240	250	230	245	245
15	245	265	300	E A 320	E A 340	E A 300	H 225	225	200	200	210	210	205	220	210	210	200	H 200	200	210	225	H 220	A	A
16	A	A	A	A	A	A	A	A	H 170	190	190	H 180	H 200	H 200	210	225	210	200	H 195	A	A	A	A	A
17	A	A	A	A	A	A	230	210	E B 250	B	210	210	200	200	200	205	H 200	205	H 200	240	230	250	A	A
18	A	A	A	A	A	A	A	A	260	B	205	205	210	B	E A 280	E A 300	210	E A 300	225	220	230	230	240	250
19	A	A	A	A	A	E A 350	250	225	260	230	H 195	200	H 205	H 205	E A 380	200	195	205	H 200	H 210	225	225	230	E A 245
20	250	E A 300	E A 305	A	A	B	A	A	A	A	205	180	195	190	E B 245	H 200	220	B	245	A	Y	E A 260	A	A
21	A	A	A	B	B	B	A	A	225	210	B	B	B	B	250	B	220	240	245	E A 320	250	E B 275	260	300
22	A	E A 330	A	B	A	A	B	A	B	B	E B 270	215	B	B	B	B	B	B	250	250	250	250	E A 280	A
23	A	A	A	A	A	B	A	B	A	A	B	B	225	230	200	B	E B 250	B	B	E B 260	250	A	A	E A 300
24	A	A	A	A	A	A	290	H 200	H 200	205	220	200	200	200	B	210	200	210	200	245	245	280	A	A
25	A	A	A	A	B	A	A	E A 300	250	H 180	195	210	195	225	225	225	B 205	E B 225	220	230	230	230	E A 300	A
26	A	A	A	A	A	A	A	200	200	240	H 210	200	A 200	205	H 220	225	210	200	H 200	H 210	235	210	225	225
27	260	A	A	A	A	E A 290	E A 280	H 205	H 200	H 200	200	180	B	200	220	200	H 195	205	H 180	250	A	A	A	A
28	A	A	A	A	A	A	A	H 170	H 195	A	A	A	215	B	B	B	E B 295	225	230	240	240	250	A	A
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	10	9	6	4	3	9	10	15	23	18	21	23	21	20	23	21	26	22	25	24	23	23	16	15
MED	248	262	U 272	U 272	E A 290	E A 290	U 240	205	200	200	198	200	200	204	210	205	201	204	215	225	230	242	238	250
UQ	250	E A 300	E A 305	E A 322	E A 315	E A 325	E A 290	221	U 232	210	210	209	208	220	E 250	E 212	215	218	230	241	245	250	254	258
LQ	245	275	U 262	258	268	U 215	230	200	200	190	190	185	195	200	208	200	200	200	200	215	225	230	230	245

FEB. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	X 44	A	49	X 52	X 51	O X 51	R	O X 51	O X 51	X 49	O X 51	O X 49	X 48	X 46	X 43	A	A	A
2	A	A	A	A	O X 34	X 37	X 42	X 46	X 48	X 51	O X 51	X 55	O X 51	X 52	53	O X 52	X 51	X 54	X 53	X 48	X 45	X 39	31	31
3	A	A	A	X 35	36	45	46	A	A	43	53	O X 51	X 60	X 70	X 70	X 57	X 56	X 52	X 48	X 48	X 46	47	A	A
4	A	A	A	A	B	A	O X 46	A	A	A	O X 49	X 45	O X 49	O X 51	O X 51	O X 54	O X 51	X 49	X 49	X 49	40	A	A	A
5	A	A	A	A	A	A	49	B	B	A	O X 46	X 42	X 43	O X 46	X 53	O X 54	X 63	X 61	A	34	B	A	A	A
6	A	A	A	A	A	B	A	A	O X 46	O X 48	O X 47	B	B	O X 55	B	B	O X 51	O X 46	O X 45	X 43	X 41	39	31	A
7	A	A	B	B	B	B	B	A	A	B	B	B	B	B	B	B	O X 56	B	O X 41	X 44	X 41	33	28	A
8	A	A	A	A	A	B	B	A	46	B	B	B	O X 51	O X 49	B	B	O X 49	O X 48	O X 45	O X 33	B	26	26	22
9	A	A	A	A	A	B	B	A	B	B	B	O X 51	O X 51	O X 49	O X 51	O X 50	X 50	X 47	X 46	O X 46	X 45	X 38	26	B
10	A	A	A	A	A	A	A	X 48	A	O X 46	O X 48	O X 49	B	B	X 56	X 53	X 50	O X 51	B	X 46	40	26	A	32
11	A	A	A	A	A	O X 48	O X 44	O X 46	O X 51	O X 44	B	O X 49	O X 52	X 55	X 59	63	64	56	55	49	39	A	A	A
12	A	A	A	A	A	A	B	A	O X 56	B	O X 51	B	B	O X 56	X 59	B	O X 53	O X 48	O X 46	X 47	X 41	39	33	A
13	A	A	A	A	A	A	A	X 44	A	A	S	X 48	O X 49	O X 54	O X 56	X 55	X 50	O X 46	X 40	X 43	X 39	34	33	33
14	27	A	A	A	A	A	O X 39	X 41	B	B	B	O X 41	X 54	X 49	X 51	X 55	O X 54	O X 48	O X 46	38	41	29	A	A
15	A	A	A	A	A	A	A	B	B	B	B	O X 50	O X 51	O X 49	O X 51	O X 49	X 49	O X 47	O X 46	X 44	40	35	A	A
16	A	A	A	B	A	A	A	X 43	O X 46	O X 49	X 48	B	B	B	X 59	60	B	B	B	B	A	A	24	A
17	A	A	A	A	B	A	A	A	B	B	B	B	O X 56	O X 56	O X 55	X 50	X 50	X 50	O X 46	X 43	X 37	27	B	B
18	A	A	A	A	A	A	A	O X 41	O X 43	46	O X 51	O X 51	O X 54	B	O X 56	O X 51	B	X 52	X 49	40	32	A	A	A
19	A	A	B	B	A	A	A	B	B	41	41	B	O X 51	B	X 50	O X 49	B	B	B	O X 38	O X 32	O X 27	A	A
20	A	A	A	A	A	A	X 33	X 39	X 42	X 47	O X 49	O X 48	O X 53	X 54	X 55	X 52	X 56	X 51	X 44	X 40	X 34	X 30	28	26
21	A	A	A	A	A	O X 35	A	X 46	O X 52	H 49	X 49	X 51	O X 55	X 61	B	X 63	X 66	O X 76	X 56	A	A	A	A	A
22	A	A	A	A	B	A	A	B	X 40	X 42	H 45	O X 47	B	B	B	O X 56	O X 54	O X 51	O X 48	X 44	32	25	A	A
23	A	A	A	A	A	A	X 43	X 47	X 46	O X 46	O X 51	O X 51	X 56	X 57	X 58	X 61	X 53	O X 50	X 43	O X 40	31	28	O X 24	A
24	22	O X 21	A	31	28	29	A	X 33	X 39	X 43	O X 48	O X 55	O X 53	X 57	X 57	X 56	X 56	O X 55	X 46	X 41	34	30	26	26
25	23	B	30	29	28	27	28	X 33	X 42	X 42	X 49	X 50	X 53	X 60	X 58	X 55	X 51	53	X 47	36	A	A	A	A
26	A	A	A	A	A	A	A	A	A	A	O X 43	O X 46	B	B	O X 49	X 51	50	X 45	X 46	O X 48	A	A	A	A
27	A	A	A	A	A	A	B	B	A	A	B	B	B	O X 55	O X 49	B	50	B	40	O X 46	A	A	A	A
28	A	A	A	A	A	A	B	B	A	O X 41	O X 42	B	B	B	B	O X 47	45	B	B	B	B	B	B	A
29	26	A	A	A	A	26	36	34	X 41	40	B	B	B	B	65	B	O X 51	O X 47	O X 44	X 35	A	O X 26	A	A
30	A	A	A	A	A	26	A	33	42	X 45	X 50	X 58	60	X 62	X 59	X 56	X 56	X 51	44	X 44	X 36	A	B	A
31	A	A	A	A	A	37	A	B	B	O X 51	X 53	O X 55	O X 55	B	X 61	X 62	X 59	O X 55	O X 51	40	28	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	4	1	1	3	4	9	11	14	16	19	21	21	20	21	25	25	28	26	26	28	22	18	11	6
MED	24	O X 21	30	31	31	35	X 43	X 42	X 46	X 46	O X 49	O X 50	O X 53	O X 55	X 56	X 54	X 51	O X 50	X 46	X 44	X 40	30	28	28
UQ	26			33	35	X 37	X 45	X 46	O X 48	X 48	O X 51	O X 51	O X 55	X 57	X 59	X 56	X 56	X 53	X 48	X 46	X 41	38	31	32
LQ	22			30	28	27	X 38	X 34	X 42	X 42	O X 47	O X 48	O X 51	O X 51	O X 51	O X 51	X 50	O X 48	X 44	X 40	34	27	26	26

MAR. 1987 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1987 | FOF2 (0.1 MHZ) | 45°E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	38	A	F 43	46	45	45	R	45	46	43	45	43	42	40	37	A	A	A
2	A	A	A	A	28	31	36	40	42	45	45	49	45	46	47	U S 46	45	48	47	42	39	33	F 25	F 24
3	A	A	A	29	F 30	F 39	F 40	A	A	F 37	F 47	45	54	64	64	51	50	46	42	42	40	F 41	A	A
4	A	A	A	A	B	A	40	A	A	A	43	39	43	45	46	48	45	43	43	43	F 34	A	A	A
5	A	A	A	A	A	A	F 43	B	B	A	40	36	37	40	47	R 48	57	55	A	F 28	B	A	A	A
6	A	A	A	A	A	B	A	A	40	42	41	B	B	49	B	B	45	40	39	37	35	F 33	F 25	A
7	A	A	B	B	B	B	B	A	A	B	B	B	B	B	B	B	50	B	35	38	35	F 27	F 22	A
8	A	A	A	A	A	B	B	A	F 40	B	B	B	45	43	B	B	43	42	39	27	B	F 20	F 20	F 16
9	A	A	A	A	A	B	B	A	B	B	B	45	R 45	43	45	44	44	41	40	40	39	32	F 20	B
10	A	A	A	A	A	A	A	42	A	40	42	R 43	B	B	50	47	44	45	B	40	F	F 20	A	F 26
11	A	A	A	A	A	42	38	40	45	R 38	B	43	R 46	49	53	F 57	F 58	F 50	F 49	F 43	F 33	A	A	A
12	A	A	A	A	A	A	B	A	50	B	45	B	B	50	53	B	R 47	42	40	41	35	F 33	F 27	A
13	A	A	A	A	A	A	A	38	A	A	S	42	43	48	50	49	44	40	34	37	33	F 28	F 27	F 27
14	F 21	A	A	A	A	A	33	35	B	B	B	35	48	43	45	49	R 48	42	R 40	F 32	F 35	F 23	A	A
15	A	A	A	A	A	A	A	B	B	B	B	44	45	43	U R 45	43	43	41	40	38	F 34	F 29	A	A
16	A	A	A	B	A	A	A	37	H 40	43	42	B	B	B	53	F 54	B	B	B	B	A	A	F 18	A
17	A	A	A	A	B	A	A	A	B	B	B	B	50	50	49	44	44	44	40	37	31	F 21	B	B
18	A	A	A	A	A	A	A	H 35	H 37	F 40	45	45	48	B	50	R 45	B	46	43	F 34	F 26	A	A	A
19	A	A	B	B	A	A	A	B	B	F 35	F 35	B	45	B	44	43	B	B	B	32	26	21	A	A
20	A	A	A	A	A	A	27	33	36	41	43	42	47	48	49	46	50	45	38	34	28	24	F 22	F 18
21	A	A	A	A	A	29	A	40	R 46	H 43	43	45	49	55	B	57	60	70	50	A	A	A	A	A
22	A	A	A	A	B	A	A	B	34	36	H 39	41	B	B	B	50	D R 48	45	42	38	F 26	F 19	A	A
23	A	A	A	A	A	A	37	41	40	40	45	45	50	51	52	55	47	44	37	34	F 25	F 22	18	A
24	F 16	15	A	F 25	F 22	F 21	A	27	33	37	42	U S 49	R 47	51	51	50	50	49	40	35	F 28	F 23	F 20	F 17
25	F 16	B	F 24	F 22	F 22	F 20	F 20	27	36	36	43	44	47	54	52	49	45	F 47	41	F 30	A	A	A	A
26	A	A	A	A	A	A	A	A	A	A	37	40	B	B	43	45	F 44	39	40	42	A	A	A	A
27	A	A	A	A	A	A	B	B	A	A	B	B	B	U S 49	43	B	F 44	B	F 34	40	A	A	A	A
28	A	A	A	A	A	A	B	B	A	35	36	B	B	B	B	41	F 39	B	B	B	B	B	B	A
29	F 20	A	A	A	A	F 20	F 30	F 28	35	F 34	B	B	B	B	F 57	B	U S 45	41	38	29	A	20	A	A
30	A	A	A	A	A	F 20	A	F 27	F 36	39	44	52	F 54	56	53	50	50	45	F 38	38	30	A	B	A
31	A	A	A	A	A	F 31	A	B	B	D R 45	47	49	D R 49	B	55	56	53	U S 49	45	F 34	F 22	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	4	1	1	3	4	9	11	14	16	19	21	21	20	21	25	25	28	26	26	28	21	18	11	6
MED	F 18	15	F 24	F 25	F 25	F 29	37	36	40	40	43	44	47	49	50	48	45	44	40	38	33	F 24	F 22	F 21
UQ	F 20			27	29	31	39	40	42	42	45	45	49	51	53	50	50	47	42	40	35	F 32	F 25	F 26
LQ	F 16			F 24	F 22	F 20	32	28	36	36	41	42	45	45	46	45	44	42	38	34	F 28	F 21	F 20	F 17

MAR. 1987 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	39	45	32	41	40	40	32	41	35	25	24	26	30	29	30	27	32	E B 14	20	E B 17	14	30	41	40
2	40	37	45	27	E B 23	18	18	32	28	23	28	28	33	36	30	26	14	34	20	16	12	E B 9	11	20
3	35	35	32	32	30	24	40	60	37	36	27	33	30	25	28	30	25	21	18	18	13	28	36	35
4	37	45	45	70	B	35	38	45	40	36	28	30	28	29	E B 27	E B 27	36	19	20	E B 18	E B 17	36	35	35
5	40	46	46	80	37	49	39	B	B	35	25	24	26	27	23	25	27	24	38	20	B	41	43	47
6	46	90	42	45	35	B	38	33	24	24	28	B	B	E B 28	B	B	E B 25	E B 25	E B 19	16	E B 13	11	12	30
7	45	47	B	B	B	B	B	41	41	B	B	B	B	B	B	B	E B 29	B	E B 24	21	32	32	28	31
8	38	45	52	42	38	B	B	40	51	B	B	B	E B 28	E B 30	B	B	E B 25	E B 24	E B 24	E B 21	B	12	27	29
9	25	39	45	35	37	B	B	39	B	B	B	E B 30	29	29	27	E B 30	24	22	20	E B 13	32	E B 15	29	B
10	31	30	32	37	60	50	45	37	42	24	42	25	B	B	25	24	22	E B 24	B	39	37	31	30	29
11	30	31	31	36	34	32	70	46	41	30	B	E B 30	20	60	43	42	43	31	42	29	25	45	30	32
12	35	41	57	70	70	46	B	40	32	B	E B 19	B	B	26	27	B	E B 25	E B 22	E B 19	E B 17	18	27	12	36
13	32	47	42	38	42	41	36	29	46	41	32	24	23	E B 30	E B 15	26	E B 22	E B 23	19	E B 17	18	E B 17	E B 13	42
14	30	31	44	46	41	35	26	19	B	B	B	E B 29	24	25	41	E B 29	E B 26	43	E B 29	E B 20	E B 15	E B 13	31	40
15	35	47	35	45	47	51	45	B	B	B	B	26	26	E B 28	E B 31	E B 25	22	E B 23	E B 20	18	E B 12	E B 10	29	32
16	30	34	38	B	41	43	38	26	22	21	22	B	B	B	E B 29	E B 23	B	B	B	B	39	40	30	41
17	70	45	39	39	B	70	44	36	B	B	B	B	E B 30	E B 28	E B 27	E B 28	26	32	E B 20	E B 16	17	E B 12	B	B
18	27	37	35	30	100	40	37	18	E B 20	31	E B 25	30	26	B	E B 30	27	B	25	18	29	12	29	33	50
19	42	81	B	B	70	60	42	B	B	30	E B 29	B	E B 27	B	E B 31	E B 14	B	B	B	E B 26	26	30	42	36
20	44	41	52	39	39	28	18	17	18	21	22	25	35	37	34	29	21	19	17	E B 14	E B 9	E B 9	E B 9	E B 11
21	35	36	35	41	37	45	32	30	22	21	25	25	26	E B 36	B	38	36	35	36	45	44	55	45	40
22	46	65	46	36	B	50	43	B	23	24	23	23	B	B	B	E B 25	E B 24	E B 23	E B 20	E B 19	35	27	24	58
23	38	44	47	59	58	45	32	22	E B 19	21	22	25	23	22	24	21	E B 22	21	27	E B 20	28	27	15	26
24	30	30	25	13	31	41	68	12	18	25	22	E D 24	25	34	34	23	21	E B 20	16	12	12	26	E B 10	E B 10
25	21	B	31	25	31	30	11	36	18	21	24	25	35	34	31	21	22	17	30	26	37	28	28	32
26	32	34	46	34	42	60	43	43	34	41	33	25	B	B	23	31	22	20	16	18	45	45	39	28
27	43	41	45	45	45	43	B	B	65	41	B	B	B	36	21	B	E B 20	B	30	41	45	45	45	45
28	59	70	70	42	46	37	B	B	37	32	E B 23	B	B	B	B	E B 24	E B 31	B	B	B	B	B	B	26
29	30	32	40	34	28	36	19	E B 17	22	21	B	B	B	B	22	B	E B 30	E B 21	35	37	26	30	19	30
30	28	30	21	30	17	18	41	33	30	25	21	19	24	24	22	22	21	24	23	20	30	30	B	23
31	33	42	34	36	31	32	45	B	B	E B 23	31	27	25	B	E B 25	E B 23	E B 21	34	E B 24	E B 20	E B 17	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	31	30	29	28	27	27	25	24	24	24	22	21	21	21	25	25	28	26	27	29	28	29	27	28
MED	35	41	42	38	39	41	38	34	31	25	24	25	26	28	25	24	22	22	19	18	22	28	29	32
UQ	41	46	46	45	46	48	43	40	40	34	28	28	30	34	31	28	26	25	26	26	34	32	36	40
LQ	30	34	34	34	32	34	32	24	22	22	22	25	25	26	23	22	22	19	18	E B 17	13	13	17	28

MAR. 1987 | FES (0.1 MHZ)

IONOSPHERIC DATA

MAR. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	13	14	13	14	18	13	14	20	14	12	11	11	10	13	15	15	15	14	10	17	8	8	9	20
2	15	16	10	17	23	10	10	9	9	10	13	13	14	15	13	13	10	10	10	8	8	9	9	8
3	13	13	9	8	8	8	12	17	19	15	13	17	21	18	19	14	16	14	9	9	9	7	8	8
4	9	15	15	15	B	23	11	17	15	15	11	10	9	12	27	27	22	11	14	18	17	14	8	8
5	9	13	17	8	9	13	15	B	B	15	14	15	13	13	8	14	15	13	15	14	B	8	9	11
6	15	20	19	14	23	B	20	8	13	13	19	B	B	28	B	B	25	25	19	14	13	8	8	8
7	14	14	B	B	B	B	B	23	23	B	B	B	B	B	B	B	29	B	24	15	14	9	8	8
8	13	10	13	15	13	B	B	13	10	B	B	B	28	30	B	B	25	24	24	21	B	9	8	8
9	8	11	10	11	10	B	B	26	B	B	B	30	9	13	20	30	15	14	14	13	10	15	9	B
10	8	8	8	13	14	14	13	13	10	10	9	14	B	B	18	16	14	24	B	13	9	8	9	8
11	8	8	8	8	10	13	10	16	20	20	B	30	19	20	13	9	11	10	10	13	8	14	8	8
12	8	8	15	14	18	21	B	17	13	B	19	B	B	21	18	B	25	22	19	17	14	9	8	9
13	9	10	24	14	17	18	16	15	15	14	18	13	20	30	15	21	22	23	14	17	15	17	13	9
14	17	11	18	18	18	14	14	10	B	B	B	29	18	11	16	29	26	24	29	20	15	13	9	9
15	9	14	13	18	13	14	17	B	B	B	B	21	20	28	31	25	19	23	20	15	12	10	8	8
16	8	8	16	B	27	17	22	14	14	10	13	B	B	B	29	23	B	B	B	B	20	14	17	13
17	16	13	9	20	B	19	30	23	B	B	B	B	30	23	27	28	15	10	20	16	15	12	B	B
18	13	10	10	11	16	18	19	15	20	18	25	14	15	B	30	19	B	17	14	11	8	8	8	9
19	8	9	B	B	9	25	25	B	B	21	29	B	27	B	31	14	B	B	B	26	19	14	9	9
20	9	18	16	21	15	15	14	8	8	10	17	14	12	10	11	13	9	11	13	14	9	9	9	11
21	10	10	11	12	14	14	15	13	10	8	9	19	15	36	B	17	17	23	11	13	15	13	13	13
22	10	20	8	17	B	15	19	B	14	15	15	17	B	B	B	25	24	23	20	19	14	10	8	23
23	23	30	13	10	24	15	13	12	19	17	15	18	15	13	14	17	22	14	15	20	14	10	10	13
24	9	8	9	10	9	8	10	8	9	11	9	24	15	14	15	13	12	20	11	10	10	10	10	10
25	8	B	9	15	8	8	8	8	9	8	14	15	13	13	13	9	8	8	7	7	9	10	10	9
26	8	8	17	19	13	20	14	20	24	21	14	18	B	B	15	16	19	13	10	9	9	8	8	8
27	8	13	9	8	8	13	B	B	21	24	B	B	B	20	13	B	20	B	14	11	8	8	11	14
28	13	9	9	25	9	8	B	B	15	10	23	B	B	B	B	24	31	B	B	B	B	B	B	8
29	9	9	8	8	8	8	14	17	13	18	B	B	B	B	15	B	30	21	24	13	13	13	10	8
30	8	8	8	8	9	9	10	19	13	16	10	13	15	15	14	13	14	11	13	13	15	9	B	10
31	13	13	10	8	9	8	9	B	B	23	19	19	15	B	25	23	21	24	24	20	17	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	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	9	11	11	14	14	14	15	17	15	16	18	19	20	28	18	21	20	21	15	14	14	10	9	9
UQ	13	14	16	18	20	20	24	24	24	24	B	B	B	B	30	28	25	24	24	18	15	14	10	13
LQ	8	9	9	10	9	12	12	13	13	12	13	14	15	14	14	14	15	13	12	13	9	8	8	8

MAR. 1987 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69°00.4'S, Long. 39°35.4'E Sweep 4 MHz to 15 MHz in 20 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	E A 260	A	E A 300	H 195	H 190	H 195	200	200	H 175	H 200	210	225	200	225	240	A	A	A
2	A	A	A	A	E B 390	E A 310	250	220	210	200	230	210	210	200	200	200	200	225	200	225	210	210	245	255
3	A	A	A	E A 375	E A 340	E A 325	195	A	A	230	H 200	225	205	220	H 205	H 200	205	205	H 180	H 220	230	245	A	A
4	A	A	A	A	B	A	E A 360	A	A	A	H 195	195	220	230	220	210	215	210	225	240	250	A	A	A
5	A	A	A	A	A	A	A	B	B	A	215	200	200	200	195	215	245	240	A	Q 275	B	A	A	A
6	A	A	A	A	A	B	A	A	230	H 200	220	B	B	210	B	B	210	220	H 210	225	230	225	275	A
7	A	A	B	B	B	B	B	A	A	B	B	B	B	B	B	B	E B 250	B	255	290	250	270	E A 320	A
8	A	A	A	A	A	B	B	A	H 200	B	B	B	210	E B 250	B	B	220	230	255	270	B	270	270	A
9	A	A	A	A	A	B	B	A	B	B	B	260	H 205	H 210	220	230	210	215	225	250	225	250	275	B
10	A	A	A	A	A	A	A	E A 330	A	205	205	195	B	B	H 200	210	200	230	B	E A 290	E A 300	E A 290	A	255
11	A	A	A	A	A	E A 275	E A 325	E A 300	250	210	B	E B 250	225	E A 250	A 210	E A 250	245	H 200	210	225	250	A	A	A
12	A	A	A	A	A	A	B	A	255	B	E B 245	B	B	220	215	B	220	205	H 205	225	240	250	275	A
13	A	A	A	A	A	A	A	E A 350	A	A	E A 255	200	H 205	245	H 205	210	200	220	240	240	250	255	255	255
14	E A 300	A	A	A	A	A	E A 325	230	B	B	B	210	190	210	H 195	E B 240	210	240	240	245	240	255	A	A
15	A	A	A	A	A	A	A	B	B	B	B	220	225	220	E B 230	220	215	235	225	220	230	240	A	A
16	A	A	A	B	A	A	A	E A 300	220	H 215	200	B	B	B	220	H 200	B	B	B	B	A	A	E B 345	A
17	A	A	A	A	B	A	A	A	B	B	B	B	E B 260	240	225	220	240	250	220	230	240	265	B	B
18	A	A	A	A	A	A	A	250	H 210	215	210	200	205	B	E B 240	210	B	230	220	230	E A 295	A	A	A
19	A	A	B	B	A	A	A	B	B	E A 300	E B 255	B	E B 245	B	E B 250	210	B	B	B	E B 260	E D 270	E B 355	A	A
20	A	A	A	A	A	A	E A 340	255	230	200	220	210	A 200	200	230	210	225	H 205	210	220	225	245	250	275
21	A	A	A	A	A	E A 350	A	290	H 230	200	225	220	200	E B 310	B	A 230	H 200	255	260	A	A	A	A	A
22	A	A	A	A	B	A	A	B	E A 300	E A 230	H 200	H 200	B	B	B	230	230	225	215	230	260	E A 325	A	A
23	A	A	A	A	A	A	A	E A 280	H 210	230	H 225	230	210	205	195	225	225	225	220	245	E B 300	E A 280	E A 300	A
24	E A 315	E A 350	A	E A 375	E A 380	E A 370	A	245	220	270	220	220	H 200	225	210	215	220	220	205	210	210	240	250	E B 255
25	E A 295	B	E A 290	E A 320	E A 360	E A 350	260	240	H 205	200	H 205	H 200	H 200	H 205	E A 220	H 210	H 200	H 200	210	260	A	A	A	A
26	A	A	A	A	A	A	A	A	A	A	E A 290	E A 280	B	B	210	225	220	230	230	230	A	A	A	A
27	A	A	A	A	A	A	B	B	A	A	B	B	B	250	225	B	250	B	E A 320	E A 260	A	A	A	A
28	A	A	A	A	A	A	B	B	A	210	H 220	B	B	B	B	220	E B 300	B	B	B	B	B	B	A
29	E A 300	A	A	A	A	A	E A 300	E A 260	240	210	B	B	B	B	220	B	235	220	230	E A 250	A	E A 300	A	A
30	A	A	A	A	A	E A 380	A	E A 310	245	220	H 200	205	200	200	220	205	220	210	215	240	255	A	B	A
31	A	A	A	A	A	A	A	B	B	205	215	200	195	B	230	230	225	220	220	240	E B 270	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	4	1	1	3	4	7	9	14	16	19	22	21	21	21	25	25	28	26	26	28	22	18	11	5
MED	E A 300	E A 350	E A 290	E A 375	E A 370	E A 350	E A 300	U 245	225	208	212	205	202	215	215	212	219	222	220	235	238	248	262	255
UQ	E A 308			E A 375	E E 385	E A 360	E A 325	E A 300	242	220	222	220	210	230	222	222	228	230	230	248	255	E E 280	282	255
LQ	E A 298			E A 348	E A 350	E A 318	U 228	242	H 210	200	H 200	200	200	205	202	210	210	210	210	225	230	245	252	255

MAR. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	B	B	A	B	B	A	B	B	B	B	B	47	47	0 X 46	0 X 36	28	B	B	A
2	A	A	A	A	A	A	B	B	B	40	44	0 X 46	X 49	X 52	X 52	X 55	B	B	B	B	B	B	A	A
3	B	A	A	B	B	B	B	B	X 38	41	X 49	59	X 53	X 66	X 62	X 56	X 49	X 45	X 41	32	32	33	A	A
4	A	B	B	A	B	35	B	0 X 36	40	X 46	X 49	X 63	X 64	X 72	X 71	X 85	89	70	A	A	A	A	A	A
5	A	A	A	0 X 49	A	A	A	A	A	42	X 46	X 48	X 49	0 X 51	X 51	X 51	X 53	X 48	51	43	A	A	A	A
6	B	A	A	A	A	A	A	B	0 X 39	X 46	X 49	X 53	X 53	X 54	X 56	X 56	X 53	X 46	X 45	40	B	B	B	A
7	A	A	A	A	A	A	B	B	0 X 42	B	B	B	B	0 X 55	0 X 52	X 58	X 52	X 48	X 44	33	B	A	A	A
8	A	A	A	A	A	A	X 36	38	39	0 X 46	0 X 51	B	B	X 72	B	B	B	0 X 49	0 X 39	0 X 31	B	B	B	A
9	A	A	A	B	A	A	0 X 38	0 X 34	0 X 38	X 43	X 49	X 55	X 56	X 58	X 57	X 59	0 X 61	0 X 51	0 X 42	28	26	A	A	A
10	A	A	A	A	A	A	B	34	0 X 42	B	B	0 X 52	0 X 61	B	B	X 59	0 X 56	0 X 46	0 X 44	29	B	B	B	B
11	B	B	A	A	A	0 X 36	0 X 41	0 X 34	40	B	0 X 53	0 X 66	X 76	B	X 73	0 X 75	B	0 X 56	50	0 X 37	A	0 X 35	B	B
12	A	A	0 X 42	A	A	A	40	28	B	B	B	B	X 71	63	X 81	X 76	X 66	X 48	X 34	36	30	B	A	A
13	A	A	A	B	X 43	B	A	A	42	46	X 55	X 62	X 66	X 71	X 70	X 66	X 60	X 50	44	X 32	A	A	A	A
14	A	A	A	0 X 37	0 X 32	34	34	35	X 42	X 43	X 51	X 51	X 58	X 60	X 64	X 60	X 60	X 56	X 40	34	31	26	23	A
15	A	A	A	X 30	A	A	A	0 X 51	49	X 48	X 52	X 60	X 66	X 71	X 70	X 66	X 70	X 53	39	35	X 31	27	B	A
16	26	29	31	32	32	30	0 X 38	30	X 38	X 49	X 56	X 64	X 70	X 77	X 76	0 X 75	X 65	X 47	X 42	30	30	A	A	B
17	B	A	A	A	A	A	40	41	47	X 47	X 54	X 60	X 58	78	80	X 78	60	X 51	X 45	36	29	27	A	B
18	A	A	A	A	0 X 39	44	45	46	46	0 X 50	X 61	X 71	X 82	X 97	X 85	X 76	X 62	X 49	X 41	X 34	0 X 35	B	B	B
19	B	A	0 X 39	0 X 39	40	44	A	A	A	49	0 X 55	B	R	B	B	0 X 76	X 68	54	X 50	36	26	B	B	A
20	A	A	A	A	A	0 X 36	A	A	B	A	A	B	B	B	B	B	50	63	X 54	43	28	25	A	A
21	A	A	A	A	A	B	A	A	B	B	62	X 64	70	76	72	62	X 62	X 43	40	28	B	B	A	A
22	A	B	B	A	A	A	A	A	X 36	0 X 48	X 64	X 65	X 60	X 73	X 71	X 79	0 X 56	0 X 42	0 X 31	26	25	26	B	A
23	A	A	A	A	A	A	A	B	53	50	55	X 55	X 66	X 61	X 57	X 60	X 51	52	50	26	0 X 22	X 22	B	B
24	S	A	S	A	A	A	A	A	A	A	B	X 56	60	X 65	X 60	X 61	70	79	49	B	A	A	A	A
25	A	A	A	A	A	A	30	A	A	X 40	X 49	X 63	X 73	X 72	X 72	X 59	X 46	39	37	32	25	A	B	A
26	A	A	A	A	A	40	A	A	A	43	46	X 56	X 64	60	X 63	X 64	X 53	41	35	24	25	20	B	A
27	A	A	A	A	A	X 42	44	45	41	B	60	50	60	73	76	B	B	B	B	27	A	A	A	A
28	A	A	A	A	B	A	A	B	29	X 37	X 45	X 48	X 53	X 60	X 63	X 56	X 50	X 36	0 X 23	A	A	A	A	A
29	B	A	A	A	A	A	25	24	X 31	X 38	X 51	X 65	X 69	X 69	X 72	X 65	X 50	34	28	A	A	A	A	A
30	A	A	A	A	X 51	40	39	33	X 39	X 39	50	X 65	X 73	84	83	X 56	45	35	30	33	A	A	A	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	3	5	6	10	12	14	20	21	24	24	25	25	25	26	26	28	27	25	15	9	1	
MED	26	29	0 X 39	0 X 37	X 40	38	38	34	40	X 46	X 51	X 60	X 64	X 69	X 70	X 62	X 56	X 48	X 42	33	28	26	23	
UQ			0 X 40	0 X 39	X 43	42	40	41	42	X 48	X 55	X 64	X 70	X 73	X 73	X 75	X 62	X 52	X 46	36	30	27		
LQ			35	X 32	0 X 32	35	35	33	X 38	X 41	X 49	X 52	X 58	X 60	X 60	X 58	X 50	X 46	X 38	29	26	25		

APR. 1987 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1987 | FOF2 (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	B	B	A	B	B	A	B	B	B	B	B	F 41	41	40	U R 30	F 22	B	B	A
2	A	A	A	A	A	A	B	B	B	F 34	F 38	40	43	46	46	49	B	B	B	B	B	B	A	A
3	B	A	A	B	B	B	B	B	32	F 35	43	53	47	60	56	50	43	39	35	F 26	F 26	F 27	A	A
4	A	B	B	A	B	F	B	30	F 34	40	43	57	58	66	65	79	F 81	F 63	A	A	A	A	A	A
5	A	A	A	43	A	A	A	A	A	F 36	40	42	43	45	45	45	47	41	F 45	F 37	A	A	A	A
6	B	A	A	A	A	A	A	B	33	40	43	47	47	48	50	50	47	40	39	F 34	B	B	B	A
7	A	A	A	A	A	A	B	B	36	B	B	B	B	U R 49	46	52	46	42	38	F 27	B	A	A	A
8	A	A	A	A	A	A	30	F 32	F 33	40	U R 45	B	B	66	B	B	B	R 43	33	25	B	B	B	A
9	A	A	A	B	A	A	32	28	32	42	43	49	50	52	51	53	55	S 45	U R 36	F 22	F 20	A	A	A
10	A	A	A	A	A	A	B	F 28	36	B	B	46	55	B	B	53	50	40	38	F 23	B	B	B	B
11	B	B	A	A	A	R 30	R 35	28	F 34	B	R 47	60	70	B	67	69	B	50	F 44	31	A	B 29	B	B
12	A	A	36	A	A	A	F 34	F	B	B	B	B	65	F 60	75	70	60	42	28	F 30	F 24	B	A	A
13	A	A	A	B	R 37	B	A	A	F 36	F 40	49	56	60	65	64	60	53	44	F 38	26	A	A	A	A
14	A	A	A	31	26	F 28	F 28	F 29	36	42	45	45	52	54	58	64	64	50	34	F 27	F 24	F 20	F 17	A
15	A	A	A	24	A	A	A	45	F 43	42	46	54	60	65	64	60	64	47	F 33	F 29	25	F 21	B	A
16	F 20	F 23	F 25	F 26	F 26	F	32	F	32	43	50	58	64	71	70	69	59	41	36	F 23	F 24	A	A	B
17	B	A	A	A	A	A	F 34	F 35	F 41	41	48	54	52	F 69	F 74	72	F 54	45	39	F 30	F 22	F 19	A	B
18	A	A	A	A	33	F 38	F 39	F 40	F 40	44	55	65	76	91	79	70	56	43	35	28	29	B	B	B
19	B	A	33	33	F 34	F 33	A	A	A	F 43	49	B	R	B	B	70	62	F 48	44	F 30	F 19	B	B	A
20	A	A	A	A	A	30	A	A	B	A	A	B	B	B	B	B	F 43	F 55	48	F 37	F 22	F 19	A	A
21	A	A	A	A	A	B	A	A	B	B	F 56	58	F 62	F 70	F 65	F 54	56	42	F 34	F 22	B	B	A	A
22	A	B	B	A	A	A	A	A	30	42	58	59	54	67	65	73	U S 50	36	25	F 20	F 19	F 20	B	A
23	A	A	A	A	A	A	A	B	F 43	F 44	F 49	49	60	55	51	54	45	F 46	F 44	F 20	13	16	B	B
24	S	A	S	A	A	A	A	A	A	A	B	50	F 54	59	54	55	F 60	F 71	F 43	B	A	A	A	A
25	A	A	A	A	A	A	F 24	A	A	34	43	57	67	66	66	53	40	33	F 31	F 23	F 19	A	B	A
26	A	A	A	A	A	F 34	A	A	A	F 37	F 40	50	58	F 53	57	58	47	35	F 28	F 18	F 19	F 14	B	A
27	A	A	A	A	A	36	F 38	F 39	F 35	B	F	F 44	F 50	F 67	F 70	B	B	B	B	F 21	A	A	A	A
28	A	A	A	A	B	A	A	B	F 23	31	39	42	47	54	57	50	44	30	17	A	A	A	A	A
29	B	A	A	A	A	A	F 19	F 18	25	32	45	59	63	63	66	59	44	F 28	F	A	A	A	A	A
30	A	A	A	A	45	F 33	F 33	F	33	33	F 43	59	67	F 78	67	50	F 39	F 27	F 22	F 17	A	A	A	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	3	5	6	8	12	11	20	21	23	24	25	25	25	26	26	28	26	25	15	9	1	
MED	F 20	F 23	33	31	34	F 34	F 32	F 30	34	40	45	54	58	63	64	56	50	42	36	F 26	F 22	F 20	F 17	
UQ			34	33	37	F 37	F 34	F 37	F 36	42	49	58	63	67	67	69	59	46	40	F 30	F 24	F 21		
LQ			29	26	26	30	29	28	32	35	43	46	50	54	54	52	44	40	33	F 22	F 19	F 19		

APR. 1987 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	35	39	33	33	B	B	43	B	B	36	B	B	B	B	B	E B 17	E B 35	E B 25	E B 23	36	B	B	40
2	30	17	15	14	33	21	B	B	B	29	32	26	35	22	21	26	B	B	B	B	B	B	35	30
3	B	28	36	B	B	B	B	B	E B 20	E B 21	E B 24	E B 24	31	28	28	30	28	30	35	31	14	33	31	45
4	33	B	B	31	B	E B 18	B	E B 19	16	22	23	21	22	34	E B 23	24	E B 18	E B 25	53	47	35	38	28	37
5	37	39	33	31	30	42	47	51	33	48	21	28	25	36	23	22	29	29	32	E B 14	28	24	31	35
6	B	37	38	44	37	33	36	B	E B 25	24	E B 20	24	22	22	21	17	18	14	35	E B 13	B	B	B	30
7	30	30	70	46	40	63	B	B	35	B	B	B	B	E B 27	E B 25	E B 21	E B 20	E B 16	11	E B 14	B	46	26	29
8	31	34	35	43	45	43	33	31	29	41	E B 29	B	B	E B 25	B	B	B	E B 27	E B 24	E B 20	B	B	B	80
9	45	41	38	B	41	44	39	38	E B 22	31	32	22	21	21	24	22	E B 29	49	30	E B 14	28	40	44	40
10	26	41	36	42	42	30	B	41	35	B	B	E B 28	E B 27	B	B	E B 24	E B 25	E B 22	E B 20	E B 15	B	B	B	B
11	B	B	15	15	30	15	12	E B 9	40	B	E B 23	E B 25	E B 26	B	E B 30	E B 40	B	E B 34	E B 24	E B 21	36	26	B	B
12	25	35	45	45	36	16	12	42	B	B	B	B	22	35	27	20	18	33	E B 15	28	E B 13	B	32	42
13	31	35	31	B	22	B	42	52	37	31	24	21	23	25	21	E B 21	25	16	E B 13	E B 9	45	41	39	41
14	41	106	42	34	32	27	29	14	15	30	32	31	25	37	35	40	32	41	E B 13	12	E B 11	E B 10	31	22
15	28	34	33	31	72	51	14	30	20	17	24	28	32	32	19	30	20	26	22	E B 9	70	E B 15	B	35
16	26	28	35	25	27	23	28	29	31	18	20	20	20	24	22	19	18	18	14	14	19	30	29	B
17	B	41	32	42	51	42	35	32	27	27	27	23	30	35	31	21	31	42	26	32	33	E B 9	40	B
18	31	29	32	35	35	29	45	31	14	E B 20	E B 24	E B 23	25	30	28	26	18	E B 14	35	E B 11	E B 11	B	B	B
19	B	23	20	29	E B 13	30	45	42	51	43	32	B	26	B	B	E B 20	E B 19	E B 16	E B 15	26	E B 13	B	B	26
20	42	32	39	27	30	31	34	57	B	42	40	B	B	B	B	B	E B 21	E B 23	27	E B 20	29	32	29	30
21	36	32	33	35	31	B	27	28	B	B	35	26	26	27	24	E B 21	E B 23	E B 19	E B 15	E B 15	B	B	26	35
22	27	B	B	32	32	29	32	30	E B 14	E B 20	24	E B 25	32	E B 24	21	19	34	E B 19	E B 19	33	33	11	B	31
23	39	47	52	45	43	42	47	B	40	31	26	30	21	33	30	32	13	35	39	32	31	35	B	B
24	E B 17	31	20	35	46	45	43	46	52	41	B	25	E B 21	34	33	E B 19	E B 30	E B 20	29	B	23	42	37	47
25	53	46	30	31	32	29	22	31	31	E B 15	E B 21	E B 19	22	E B 24	E B 20	E B 19	E B 14	18	15	32	E B 9	12	B	34
26	55	56	41	36	36	36	31	27	41	E B 20	E B 17	E B 9	21	21	26	27	33	32	27	28	32	E B 10	B	31
27	31	27	42	33	40	32	26	21	12	B	E B 26	E B 26	30	30	13	B	B	B	B	21	36	28	31	40
28	41	52	66	39	B	37	19	B	35	E B 18	33	19	29	35	20	33	32	37	39	32	32	31	31	32
29	B	30	33	35	41	35	31	28	11	17	26	29	22	36	40	32	31	17	E B 14	42	25	57	32	40
30	30	42	52	31	30	31	31	32	16	30	20	20	20	21	20	16	13	38	35	25	32	31	29	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	23	27	28	27	27	26	24	24	25	23	26	24	26	25	25	26	26	28	28	28	24	21	18	23
MED	31	35	36	34	35	32	32	31	29	27	24	22	24	28	23	21	20	21	21	17	30	31	31	35
UQ	40	41	42	40	41	42	40	42	35	31	32	26	29	34	28	28	30	33	34	32	34	38	35	40
LQ	29	30	32	31	30	29	26	28	15	13	22	20	22	22	21	18	16	E B 18	E B 15	E B 14	16	15	29	30

APR. 1987 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	13	11	11	11	B	B	19	B	B	24	B	B	B	B	B	17	35	25	23	13	B	B	15
2	9	10	8	8	8	8	B	B	B	19	15	19	14	12	11	20	B	B	B	B	B	B	25	18
3	B	13	10	B	B	B	B	B	20	21	24	24	21	20	22	15	14	14	10	8	8	8	16	8
4	8	B	B	7	B	18	B	19	13	15	14	15	14	11	23	10	18	25	9	10	10	10	8	9
5	8	14	11	12	8	24	14	15	23	14	8	15	15	19	14	11	11	8	13	14	8	8	9	8
6	B	21	20	15	14	15	17	B	25	17	20	8	11	17	13	8	10	8	9	13	B	B	B	9
7	17	8	24	17	20	9	B	B	19	B	B	B	B	27	25	21	20	16	8	14	B	10	13	9
8	10	9	9	13	11	16	12	8	18	17	29	B	B	25	B	B	B	27	24	20	B	B	B	B
9	9	10	12	B	20	16	10	10	22	14	8	14	14	13	13	17	29	18	17	14	18	9	8	16
10	14	13	16	16	18	13	B	15	9	B	B	28	27	B	B	24	25	22	20	15	B	B	B	B
11	B	B	9	9	10	9	10	9	13	B	23	25	26	B	30	40	B	34	24	21	15	18	B	B
12	8	8	13	13	10	8	9	8	B	B	B	B	19	15	17	14	13	19	15	19	13	B	8	13
13	8	18	13	B	13	B	15	14	14	14	15	15	13	13	14	21	18	13	13	9	8	13	10	13
14	9	10	13	13	9	13	8	10	11	10	10	10	13	13	13	9	9	9	13	9	11	10	8	8
15	9	8	8	8	17	16	14	11	13	11	10	10	14	15	13	8	11	8	8	9	8	15	B	8
16	8	8	8	8	8	9	9	7	8	9	10	10	13	13	12	8	12	11	11	8	10	9	8	B
17	B	15	8	16	15	17	9	18	10	9	13	8	11	12	9	11	8	8	8	8	8	9	8	B
18	8	10	8	8	8	8	8	8	8	20	24	23	18	13	10	12	11	14	23	11	11	B	B	B
19	B	9	8	8	13	8	9	9	8	3	15	B	13	B	B	20	19	16	15	9	13	B	B	8
20	8	8	8	8	8	9	15	19	B	14	30	B	B	B	B	B	21	23	14	20	17	15	13	13
21	15	13	19	11	20	B	12	16	B	B	24	19	18	13	15	21	23	19	15	15	B	B	8	8
22	10	B	B	10	3	8	8	8	14	20	14	25	24	24	14	12	19	19	19	11	10	8	B	8
23	9	14	11	15	10	15	14	B	9	11	14	9	8	10	9	12	10	9	10	9	8	8	B	B
24	17	9	10	12	14	16	19	11	10	20	B	18	21	15	14	19	30	20	22	B	14	13	8	13
25	10	14	16	13	10	13	13	10	10	15	21	19	13	24	20	19	14	13	11	15	9	8	B	8
26	16	23	18	12	13	8	9	15	20	20	17	9	13	14	13	9	9	8	9	9	15	10	B	16
27	9	8	10	9	13	8	8	8	8	B	26	26	21	19	13	B	B	B	B	14	17	15	10	11
28	12	16	23	15	B	10	13	B	8	13	10	8	8	10	10	9	9	3	8	10	8	9	8	17
29	B	11	9	9	14	8	7	8	8	8	9	10	10	10	10	9	8	10	14	19	8	8	8	9
30	10	9	13	10	8	8	8	6	10	8	10	10	10	11	13	10	10	8	9	8	8	18	16	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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	10	12	11	12	13	13	12	12	13	17	16	18	14	15	14	14	16	15	14	14	12	13	14	13
UQ	17	15	16	15	17	16	17	19	22	21	24	26	21	24	23	21	23	22	20	19	17	B	B	B
LQ	9	9	9	9	9	8	9	8	9	11	10	10	13	13	13	10	10	9	9	9	8	9	8	8

APR. 1987 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	B	B	A	B	B	A	B	B	B	B	B	255	E B 300	240	E B 300	E A 300	B	B	A
2	A	A	A	A	A	A	B	B	B	240	215	H 200	H 180	210	H 175	240		B	B	B	B	B	A	A
3	B	A	A	B	B	B	B	B	240	200	230	225	200	230	225	220	210	200	200	220	240	E A 260	A	A
4	A	B	B	A	B	Q 310	B	E B 275	215	215	H 225	220	H 205	225	245	225	210	225	A	A	A	A	A	A
5	A	A	A	E A 300	A	A	A	A	A	245	205	215	200	H 195	220	H 205	220	H 205	250	230		A	A	A	A
6	B	A	A	A	A	A	A	B	E B 325	265	H 200	220	H 200	210	205	230	220	H 200	220	230		B	B	B	A
7	A	A	A	A	A	A	B	B	E A 310	B	B	B	B	240	230	225	225	235	225	E B 255		B	A	A	A
8	A	A	A	A	A	A	E A 380	E A 350	E A 300	230	E B 255	B	B	E B 250	B	B	B	220	225	E B 275		B	B	B	A
9	A	A	A	B	A	A	A	E A 365	E A 305	230	220	H 195	210	H 205	220	225	230	A 230	A 225	E B 245	E A 275	A	A	A
10	A	A	A	A	A	A	B	E A 370	E A 300	B	B	E B 260	B 240	B	B	240	225	220	230	230		B	B	B	B
11	B	B	A	A	A	A	E A 360	E B 310	245	B	250	250	240	B	240	235	B	230	250	250		A	E A 300	B	B
12	A	A	E A 310	A	A	A	E A 340	Q 340	B	B	B	B	215	205	225	220	205	200	210	240	225	B	A	A
13	A	A	A	B	E A 340	B	A	A	Q 310	245	H 200	H 160	215	220	H 200	220	205	200	220	250		A	A	A	A
14	A	A	A	A	A	A	A	E A 310	260	245	225	H 190	230	225	H 200	230	215	210	215	230	230	265	E A 320	A
15	A	A	A	A	A	A	A	A	250	H 205	230	225	225	230	220	H 200	205	200	200	225	245	E B 260	B	A
16	E A 380	A	E A 375	E A 400	E A 380	E A 390	E A 440	Q 290	250	210	H 175	220	H 175	220	210	H 175	205	195	205	E A 250	E A 245	A	A	B
17	B	A	A	A	A	A	A	E A 300	240	230	H 200	H 200	H 210	210	220	215	200	200	215	215	240	245	A	B
18	A	A	A	A	330	310	300	275	255	230	220	220	230	230	205	210	200	195	210	225	210	B	B	B
19	B	A	E A 345	E A 345	E A 350	E A 345	A	A	A	E A 300	E A 280	B	E A 240	B	B	240	240	240	225	240	E B 260	B	B	A
20	A	A	A	A	A	E A 425	A	A	B	A	A	B	B	B	B	B	240	250	225	E A 250	E A 275	E A 280	A	A
21	A	A	A	A	A	B	A	A	B	B	230	H 200	225	H 225	220	210	205	225	210	200		B	A	A
22	A	B	B	A	A	A	A	A	250	240	220	245	205	220	220	220	200	220	E B 240	E A 260	E A 250	E A 250	B	A
23	A	A	A	A	A	A	A	B	E A 280	E A 240	H 205	H 180	205	210	H 190	210	200	225	200	E A 250	E A 260	E A 250	B	B
24	200	A	E A 300	A	A	A	A	A	A	A	B	E B 250	230	230	225	245	E B 270	E 3 280	255	B	A	A	A	A
25	A	A	A	A	A	A	E A 340	A	A	E B 270	E B 245	210	210	210	205	200	200	220	210	220	200	A	B	A
26	A	A	A	A	A	A	A	A	A	250	H 200	230	225	210	220	200	215	230	230	E A 270	230	220	B	A
27	A	A	A	A	A	E A 360	E A 330	E A 300	E A 265	B	E B 250	E B 260	250	225	230	B	B	B	B	E A 300	A	A	A	A
28	A	A	A	A	B	A	A	B	250	250	225	H 200	H 200	205	200	190	180	200	E A 260	A	A	A	A	A
29	B	A	A	A	A	A	Q 340	Q 300	250	230	225	220	210	200	200	195	200	200	E B 250	A	A	A	A	A
30	A	A	A	A	310	295	280	Q 280	240	240	215	215	220	205	200	190	H 180	A 200	A 210	E A 230	A	A	A	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	2		4	3	5	7	9	13	20	21	24	24	26	25	25	26	26	28	27	25	15	9	1	
MED	U 245		E A 328	E A 345	E A 340	E A 345	E A 340	E E 300	246	235	218	216	211	215	220	220	206	214	220	U 228	U 222	E A 260	E A 320	
UQ			E A 360	E A 372	E A 350	E A 375	E A 360	E A 340	E A 300	245	228	224	228	225	225	230	222	223	230	E E 250	E A 260	E A 265		
LQ			E A 305	E A 322	320	306	E A 330	282	248	230	205	H 200	205	210	200	200	200	200	210	230	229	E A 250		

APR. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	O X 46	51	48	47	45	53	X 56	X 68	X 71	X 76	X 86	X 75	X 55	X 44	28	28	24	25	A	B
2	A	A	A	A	A	A	46	O X 51	O X 47	42	X 49	B	X 70	O X 79	81	70	61	36	B	B	B	B	B	B
3	A	A	O X 37	A	A	A	O X 36	26	32	O X 46	X 46	X 51	X 60	B	B	B	X 51	B	B	O X 24	B	B	B	B
4	A	A	A	O X 36	40	X 40	A	B	B	B	B	65	B	75	70	60	45	51	40	B	B	B	B	A
5	A	O X 43	33	A	28	31	30	B	B	42	X 61	O X 66	X 71	X 70	X 59	B	O X 48	O X 33	B	B	B	B	A	A
6	A	A	A	B	B	B	B	B	B	40	O X 57	O X 67	O X 66	O X 69	X 60	X 67	X 38	O X 30	B	B	B	A	A	A
7	A	B	A	A	A	A	A	A	B	A	A	O X 45	O X 53	B	O X 51	50	X 53	40	B	B	B	B	B	A
8	A	A	A	A	A	A	A	B	A	40	X 47	55	X 67	X 66	X 64	X 55	45	33	O X 36	B	B	B	B	B
9	B	A	A	40	33	32	A	A	A	45	59	58	60	65	X 61	X 55	X 45	35	26	25	A	B	B	A
10	A	A	A	A	A	O X 41	O X 44	52	40	43	49	X 61	76	X 79	X 75	B	54	50	B	B	B	A	A	A
11	A	28	28	27	A	A	A	B	A	36	54	70	70	70	60	57	35	30	28	25	B	B	A	A
12	A	A	A	A	A	34	O X 41	34	28	41	X 50	X 66	66	X 65	55	X 51	O X 44	O X 22	X 24	B	B	B	B	A
13	A	A	A	A	26	26	27	26	26	O X 46	X 51	X 60	X 76	X 71	X 61	49	32	26	O X 20	B	B	A	A	A
14	A	A	A	A	A	A	A	44	46	41	O X 46	X 55	X 60	X 66	X 58	X 55	X 50	X 58	B	B	B	A	A	A
15	A	O X 44	A	A	33	35	32	28	28	X 39	X 50	X 56	X 58	X 66	X 71	X 46	X 37	X 40	33	A	A	B	B	B
16	A	A	A	A	O X 36	O X 41	A	A	A	50	60	70	76	77	O X 79	55	38	32	28	O X 35	B	B	B	A
17	B	A	A	A	B	A	B	A	A	X 38	46	X 63	68	X 65	X 66	O X 51	40	26	22	B	A	B	A	A
18	A	35	A	30	O X 38	38	33	30	31	43	O X 56	56	70	X 60	X 60	X 43	36	27	A	A	A	B	B	B
19	B	B	B	A	A	B	A	B	B	26	X 45	X 53	X 62	X 62	60	X 42	35	20	26	25	A	A	A	A
20	B	A	A	A	A	A	A	X 66	O X 66	57	53	60	X 65	65	X 57	X 50	O X 42	29	25	21	25	B	A	A
21	A	A	A	A	A	A	41	46	45	40	50	60	X 62	O X 66	O X 60	O X 52	O X 42	26	24	A	B	B	A	A
22	A	A	A	A	A	50	55	55	46	60	60	X 70	X 60	60	56	45	34	O X 22	A	B	20	A	A	A
23	A	A	A	A	A	A	A	B	A	A	O X 41	X 50	66	X 62	X 61	46	31	20	21	25	20	B	A	A
24	A	A	A	A	A	A	A	A	A	B	O X 36	B	B	B	B	B	B	B	A	A	A	A	A	A
25	A	A	B	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B
26	A	A	A	A	B	B	A	B	A	A	34	X 43	45	60	O X 50	X 44	B	X 48	X 45	A	A	A	A	A
27	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A
28	A	A	A	A	A	A	A	A	A	B	B	41	B	41	43	B	B	B	B	B	B	B	A	A
29	A	A	B	B	A	B	A	A	A	B	B	B	B	B	B	B	X 70	A	B	A	A	A	A	A
30	A	A	A	A	A	A	A	A	A	A	X 40	X 46	X 46	B	X 48	O X 41	26	B	B	B	A	A	A	A
31	A	A	A	A	A	A	A	A	A	B	B	B	O X 50	X 53	B	B	B	A	A	A	A	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		4	3	4	8	11	11	12	12	20	24	25	25	24	25	22	25	23	15	8	4	1		
MED		39	33	33	34	38	41	45	42	42	X 50	X 60	X 66	X 66	X 60	X 51	42	32	26	25	22	25		
UQ		O X 44	35	38	O X 39	41	45	52	46	46	X 56	X 66	70	X 70	X 66	X 55	X 50	40	30	26	24			
LQ		32	30	28	30	33	32	29	30	40	X 46	X 53	X 60	X 62	X 57	X 46	36	26	24	24	20			

MAY. 1987 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1987 | FOF2 (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4'S, Long. 39° 35.4'E Sweep 4 MHz to 15 MHz in 20 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	F 40	F 45	F 42	F 40	F 39	F 45	50	62	65	70	80	69	49	38	F 22	F 22	F 18	F 19	A	B
2	A	A	A	A	A	A	F 40	45	41	F 36	43	B	64	73	F 75	F 64	F 55	F 30	B	B	B	B	B	B
3	A	A	31	A	A	A	30	F 20	F 26	40	40	45	54	B	B	B	45	B	B	18	B	B	B	B
4	A	A	A	30	F 32	34	A	B	B	B	B	F 59	B	F 68	F 62	F 54	F 39	F 45	F 37	B	B	B	B	A
5	A	37	F 27	A	F 22	F 24	F 23	B	B	F 36	55	60	65	64	53	B	42	27	B	B	B	B	A	A
6	A	A	A	B	B	B	B	B	B	F 34	51	61	60	63	54	61	32	24	B	B	B	A	A	A
7	A	B	A	A	A	A	A	A	B	A	A	39	U S 47	B	U S 45	F 44	47	F 33	B	B	B	B	B	A
8	A	A	A	A	A	A	A	B	A	F 34	41	F 45	61	60	58	49	F 37	F 27	R 30	B	B	B	B	B
9	B	A	A	F 34	F 27	F 26	A	A	A	F 39	F 53	F 52	F 52	F 55	55	47	39	F 28	F 20	F 19	A	B	B	A
10	A	A	A	A	A	35	38	F 46	F 33	F 37	F 43	55	F 70	73	69	B	F 48	F 44	B	B	B	A	A	A
11	A	F 20	F 21	F 21	A	A	A	B	A	F 30	F 48	F 61	F 60	F 60	F 53	F 50	F 29	F 22	F 22	F 19	B	B	A	A
12	A	A	A	A	A	F 28	U S 35	F 28	F	F 35	44	60	F 59	59	F 45	45	38	16	18	B	B	B	B	A
13	A	A	A	A	F 20	F 19	F 21	F 20	F 19	40	45	54	70	65	55	F 43	F 26	F 20	20	B	B	A	A	A
14	A	A	A	A	A	A	A	F 38	F 40	F 35	40	49	54	60	52	49	44	52	B	B	B	A	A	A
15	A	38	A	A	F 27	F 29	F 26	F 22	F 21	33	44	50	52	60	65	40	31	34	F 27	A	A	B	B	B
16	A	A	A	A	U S 30	35	A	A	A	F 44	F 54	F 64	F 70	F 71	73	F 48	F 32	F 26	F 22	29	B	B	B	A
17	B	A	A	A	B	A	B	A	A	32	F 40	57	F 62	59	60	45	F 34	F 20	F 16	B	A	B	A	A
18	A	F 29	A	F 23	32	F 32	F 27	F 21	F 22	F 37	50	F 50	F 64	54	54	37	F 29	F 20	A	A	A	B	B	B
19	B	B	B	A	A	B	A	B	B	F 20	39	47	56	56	F 54	36	F 28	F 14	F 19	F 17	A	A	A	A
20	B	A	A	A	A	A	A	60	60	F 58	F 46	F 54	59	F 57	51	44	36	F 23	F 19	F 14	F 16	B	A	A
21	A	A	A	A	A	A	F 35	F 40	F 36	F 34	F 44	F 54	56	60	U R 54	46	36	F	F 17	A	B	B	A	A
22	A	A	A	A	A	F	F	F 45	F 40	F 50	F 50	64	54	F 54	F 50	F 38	F 28	16	A	B	F 14	A	A	A
23	A	A	A	A	A	A	A	B	A	A	35	44	F 60	56	55	F 40	F 25	F 14	F 15	F 19	F 14	B	A	A
24	A	A	A	A	A	A	A	A	A	B	30	B	B	B	B	B	B	B	A	A	A	A	A	A
25	A	A	B	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B
26	A	A	A	A	B	B	A	B	A	A	F 28	37	F 39	F 54	44	38	B	42	39	A	A	A	A	A
27	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A
28	A	A	A	A	A	A	A	A	A	B	B	F 35	B	F 35	F 37	B	B	B	B	B	B	B	A	A
29	A	A	B	B	A	B	A	A	A	B	B	B	B	B	B	B	64	A	B	A	A	A	A	A
30	A	A	A	A	A	A	A	A	A	A	34	40	40	B	42	35	F 20	B	B	B	A	A	A	A
31	A	A	A	A	A	A	A	A	A	B	B	B	44	47	B	B	B	A	A	A	A	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		4	3	4	8	10	10	12	11	20	24	25	25	24	25	22	25	22	15	8	4	1		
MED		33	F 27	F 26	F 28	F 30	F 32	F 39	F 36	F 36	44	54	59	60	54	45	F 36	F 26	F 20	F 19	F 15	F 19		
UQ		38	29	32	32	35	F 38	F 45	F 40	F 40	50	60	F 64	64	60	49	44	F 34	F 24	F 20	F 17			
LQ		F 24	F 24	F 22	F 24	F 26	F 26	F 22	F 24	F 34	40	45	54	56	51	40	F 29	F 20	F 18	F 18	F 14			

MAY. 1987 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	26	26	40	46	29	20	22	13	32	23	27	19	28	32	33	34	21	28	30	28	27	30	28	B
2	40	38	39	45	45	42	38	25	26	15	E B 18	B	E B 30	25	E B 19	E B 20	E B 23	E B 22	B	B	B	B	B	B
3	29	38	35	37	41	30	22	31	15	30	18	18	22	B	B	B	29	B	B	E B 14	B	B	B	B
4	30	33	30	33	32	27	27	B	B	B	B	E B 25	B	22	E B 21	E B 20	20	32	26	B	B	B	B	30
5	44	45	30	26	12	E B 12	16	B	B	E B 22	E B 21	E B 23	E B 25	E B 25	38	B	E B 21	E B 23	B	B	B	B	33	32
6	25	39	30	B	B	B	B	B	B	E B 19	E B 19	21	E B 20	E B 20	20	E B 17	15	E B 14	B	B	B	27	30	41
7	55	B	40	40	55	60	41	37	B	56	37	26	E B 32	B	E B 28	E B 20	E B 20	E B 17	B	B	B	B	B	31
8	37	43	47	45	42	60	36	B	32	23	23	32	E B 21	19	E B 22	31	18	34	E B 15	B	B	B	B	B
9	B	22	40	31	30	42	51	46	52	110	26	20	E B 20	E B 20	E B 20	26	E B 13	27	67	E B 10	25	B	B	31
10	28	35	35	52	46	37	45	39	60	33	26	32	E B 23	E B 25	30	B	E B 19	E B 31	B	B	B	20	33	32
11	40	28	28	30	27	28	24	B	60	E B 20	E B 19	E B 12	E B 22	E B 23	E B 20	16	16	E B 15	16	E B 10	B	B	24	31
12	45	42	30	17	16	15	12	29	41	28	35	35	E B 20	E B 20	E B 18	14	12	12	12	B	B	B	B	31
13	32	38	28	22	11	27	32	31	10	12	30	35	E B 30	E B 18	19	30	20	E B 14	E B 15	B	B	11	31	28
14	41	57	80	41	60	41	42	30	17	E B 21	E B 24	E B 23	27	E B 19	E B 18	40	31	E B 14	B	B	B	16	32	24
15	39	70	56	37	26	31	15	11	37	31	30	31	E B 18	E B 19	E B 20	17	13	E B 9	12	43	28	B	B	B
16	38	31	32	37	41	36	46	58	52	45	40	36	42	27	30	25	34	E B 14	E B 13	E B 14	B	B	B	27
17	B	26	56	31	B	17	B	22	32	32	E B 13	44	35	17	37	16	25	16	12	B	30	B	33	23
18	28	30	31	30	30	37	41	45	28	E B 9	12	20	32	16	35	39	33	29	26	29	28	B	B	B
19	B	B	B	36	35	B	31	B	B	E B 15	E B 19	E B 18	E B 18	17	38	20	47	32	12	21	21	25	31	37
20	B	32	35	52	47	57	45	37	30	26	27	33	33	33	40	28	31	30	30	E B 8	25	B	28	32
21	40	32	41	52	47	39	42	32	37	35	30	17	17	35	30	24	35	12	E B 9	31	B	B	12	23
22	21	25	29	27	25	31	30	E B 18	39	33	32	28	18	19	30	17	39	37	30	B	15	40	38	32
23	40	60	45	60	58	46	45	B	35	33	E B 23	34	27	35	37	31	32	30	30	35	E B 10	B	38	59
24	47	56	43	70	71	50	45	35	42	B	E B 20	B	B	B	B	B	B	B	28	45	41	70	55	60
25	40	70	B	B	B	B	B	37	B	B	B	B	B	B	B	B	B	B	B	B	B	B	35	B
26	30	32	35	31	B	B	30	B	26	30	17	22	E B 20	19	31	E B 19	B	E B 13	E B 19	40	40	35	46	75
27	45	47	45	37	45	45	43	48	B	B	B	B	B	B	B	B	B	41	45	33	40	33	34	40
28	57	40	40	40	40	34	26	20	28	B	B	E B 23	B	E B 24	E B 21	B	B	B	B	B	B	B	17	40
29	45	55	B	B	47	B	39	41	62	B	B	B	B	B	B	B	E B 23	39	B	35	35	30	35	35
30	40	40	42	32	18	24	22	12	12	12	15	26	18	B	26	27	13	B	B	B	29	32	43	39
31	36	41	42	46	56	51	35	42	43	B	B	B	24	E B 20	B	B	B	33	29	26	45	50	47	60
	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	27	29	28	28	27	26	28	23	24	24	25	25	25	24	25	22	25	26	20	16	15	13	21	24
MED	40	38	40	37	41	36	36	32	34	27	20	25	E B 23	18	28	22	20	20	22	28	28	30	33	32
UQ	42	45	42	46	47	45	42	40	42	33	30	32	28	25	33	30	31	32	30	35	38	35	38	40
LQ	30	32	30	31	28	27	25	24	27	16	E B 19	18	E B 20	18	E B 20	16	16	E B 14	12	E B 14	25	25	30	30

MAY. 1987 | FES (0.1 MHZ)

IONOSPHERIC DATA

MAY. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	8	8	10	13	9	8	8	8	18	8	10	10	10	9	10	11	9	9	9	8	8	8	14	B
2	9	10	18	12	14	12	8	11	9	12	18	B	30	15	19	20	23	22	B	B	B	B	B	B
3	10	15	9	10	13	14	9	8	8	6	10	9	15	B	B	B	22	B	B	14	B	B	B	B
4	10	13	10	10	17	17	14	B	B	B	B	25	B	22	21	20	11	9	9	B	B	B	B	14
5	10	8	10	14	9	12	9	B	B	22	21	23	25	25	24	B	21	23	B	B	B	B	9	10
6	16	14	12	B	B	B	B	B	B	19	19	16	20	20	18	17	10	14	B	B	B	14	14	14
7	14	B	20	24	21	16	21	19	B	15	12	17	32	B	28	20	20	17	B	B	B	B	B	8
8	9	16	14	16	16	14	13	B	18	18	14	13	21	14	22	15	9	10	15	B	B	B	B	B
9	B	11	8	8	8	9	13	19	15	14	14	12	20	20	20	9	13	10	17	10	15	B	B	16
10	8	8	8	15	13	8	8	9	8	8	9	13	23	25	13	B	19	31	B	B	B	11	9	8
11	8	8	8	8	8	8	9	B	13	20	19	12	22	23	20	14	12	15	13	10	B	B	8	8
12	9	13	14	13	11	10	8	8	8	9	8	13	20	20	18	9	8	8	8	B	B	B	B	8
13	8	13	9	8	8	8	11	8	8	8	9	8	30	18	19	10	14	14	15	B	B	8	8	9
14	8	8	10	8	22	18	16	13	10	21	24	23	19	19	18	9	8	14	B	B	B	10	16	16
15	10	15	13	10	8	8	8	8	8	8	8	9	18	19	20	10	10	9	8	10	18	B	B	B
16	17	8	8	8	8	7	10	14	13	10	9	10	10	11	10	10	10	14	13	14	B	B	B	10
17	B	11	13	14	B	9	B	9	11	12	13	10	13	14	14	10	9	8	8	B	8	B	16	8
18	8	8	8	8	8	8	7	8	6	9	9	8	10	10	9	8	7	8	8	8	8	B	B	B
19	B	B	B	8	14	B	8	B	B	15	19	18	18	13	11	11	10	9	8	6	8	8	16	9
20	B	8	8	9	10	10	14	8	10	8	8	8	8	8	8	8	8	8	8	8	8	B	9	8
21	8	8	8	13	12	19	10	8	E	E	8	10	10	9	8	8	8	8	9	17	B	B	8	7
22	8	8	8	8	10	10	9	18	10	10	8	9	10	11	8	8	7	8	8	B	8	8	8	8
23	10	14	14	13	10	15	11	B	14	19	23	13	13	10	10	8	8	8	8	8	10	B	8	18
24	13	15	13	18	11	14	18	10	15	B	20	B	B	B	9	B	B	B	18	13	11	18	8	8
25	15	13	B	B	B	B	B	25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	9	B
26	20	14	13	23	B	B	17	B	9	10	10	14	20	16	15	19	B	13	19	18	8	10	8	8
27	8	14	9	14	13	27	28	14	B	B	B	B	B	B	B	B	B	11	8	21	13	13	18	12
28	10	9	13	14	15	13	10	10	9	B	B	23	B	24	21	B	B	B	B	B	B	B	11	12
29	14	8	B	B	14	B	22	23	14	B	B	B	B	B	B	B	23	13	B	18	9	9	10	9
30	8	10	10	10	9	8	9	8	9	8	9	10	13	B	18	18	10	B	B	B	12	9	8	10
31	10	10	8	8	13	14	19	15	10	B	B	B	20	20	B	B	B	19	19	10	10	9	9	8
	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	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	10	11	10	13	13	13	11	14	11	14	14	13	20	20	19	15	11	13	15	21	B	B	14	10
UQ	14	14	14	16	16	18	18	D B 25	13	22	22	23	30	25	23	B	22	20	B	B	B	B	B	17
LQ	8	8	8	8	9	8	9	8	9	8	9	10	13	14	12	10	9	9	8	10	10	10	8	8

MAY. 1987 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	310	280	290	A 275	260	240	210	210	205	220	200	200	200	205	220	200	230	250	A	B
2	A	A	A	A	A	A	310	265	250	240	230	B	245	225	210	210	Q 215	E B 250	B	B	B	B	B	B
3	A	A	300	A	A	A	E A 340	E A 300	E A 270	225	200	H 200	220	B	B	B	200	B	B	E B 270	B	B	B	B
4	A	A	A	A	E A 330	E A 320	A	B	B	B	B	200	B	225	210	195	200	210	E A 245	B	B	B	B	A
5	A	H 220	E A 260	A	E A 310	E B 300	E A 290	B	B	E B 245	210	220	200	210	205	B	210	E B 290	B	B	B	B	A	A
6	A	A	A	B	B	B	B	B	B	240	210	210	200	200	200	200	190	E B 250	B	B	B	A	A	A
7	A	B	A	A	A	A	A	A	B	A	A	270	260	B	245	250	230	E B 250	B	B	B	B	B	A
8	A	A	A	A	A	A	A	B	A	E A 270	230	225	210	210	225	195	215	E A 260	E B 250	B	B	B	B	B
9	B	A	A	240	E A 340	E A 325	A	A	A	250	230	220	225	210	200	200	210	200	230	210	A	B	B	A
10	A	A	A	A	A	A	A	E A 295	260	240	235	200	225	225	210	B	245	E B 290	B	B	B	A	A	A
11	A	A	A	A	A	A	A	B	A	E B 260	230	215	200	200	200	195	225	E B 250	B 220	225	B	B	A	A
12	A	A	A	A	A	E A 360	E A 350	E A 300	Q 265	250	225	220	200	205	200	195	195	E A 240	220	B	B	B	B	A
13	A	A	A	A	E A 350	E A 350	E A 320	E A 300	E A 260	225	210	215	225	200	200	H 180	205	E B 250	200	B	B	A	A	A
14	A	A	A	A	A	A	A	E A 345	E A 280	E A 280	E B 260	225	230	210	200	210	230	220	B	B	B	A	A	A
15	A	E A 270	A	A	E A 360	E A 305	E A 310	E B 320	245	260	210	200	200	200	200	190	230	220	230	A	A	B	B	B
16	A	A	A	A	A	E A 350	A	A	A	250	230	210	210	205	205	180	E A 230	E B 260	E B 250	E B 255	B	B	B	A
17	B	A	A	A	B	A	B	A	A	E A 250	205	210	205	200	205	180	205	E A 270	E A 250	B	A	B	A	A
18	A	E A 290	A	E A 325	E A 325	E A 320	E A 340	E A 290	E A 290	230	210	H 190	205	200	195	190	200	220	A	A	A	B	B	B
19	B	B	B	A	A	B	A	B	B	E B 270	220	200	205	200	195	180	210	E A 320	E A 245	215	A	A	A	A
20	B	A	A	A	A	A	A	E A 290	250	240	H 190	190	210	200	200	190	200	E B 245	225	220	210	B	A	A
21	A	A	A	A	A	A	E A 320	E A 300	E A 270	230	220	205	200	200	200	200	200	Q 300	210	A	B	B	A	A
22	A	A	A	A	A	E A 310	E A 310	E B 290	E A 280	E A 260	240	210	190	200	180	190	230	E A 250	A	B	E A 260	A	A	A
23	A	A	A	A	A	A	A	B	A	A	E B 280	225	200	205	200	200	205	E A 250	245	E A 250	E B 255	B	A	A
24	A	A	A	A	A	A	A	A	A	B	E B 300	B	B	B	B	B	B	B	A	A	A	A	A	A
25	A	A	B	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B
26	A	A	A	A	B	B	A	B	A	A	E A 270	240	230	230	215	220	B	250	240	A	A	A	A	A
27	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A
28	A	A	A	A	A	A	A	A	A	B	B	240	B	225	B 225	B	B	B	B	B	B	B	A	A
29	A	A	B	B	A	B	A	A	A	B	B	B	B	B	B	B	E B 275	A	B	A	A	A	A	A
30	A	A	A	A	A	A	A	A	A	A	240	215	220	B	210	220	270	B	B	B	A	A	A	A
31	A	A	A	A	A	A	A	A	A	B	B	B	250	255	B	B	B	A	A	A	A	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	2	2	7	10	10	12	12	20	24	25	25	24	25	22	25	23	15	8	4	1		
MED		E A 270	280	U 261	E A 330	E A 320	E A 315	E A 298	254	239	219	210	210	205	200	195	208	E E 250	225	214	U 226	250		
UQ		E A 280			E A 345	E A 350	E A 340	E A 300	E A 275	E E 260	234	220	225	222	210	200	228	E E 260	E E 245	E E 252	E E 258			
LQ		U 232			E A 318	E A 305	E A 310	E A 290	252	233	210	200	200	200	200	190	200	U 215	220	212	220			

MAY. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1987 | FXI (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	A	20	X 32	X 37	X 42	X 46	49	O X 49	B	B	B	B	B	B	A	A
2	A	A	A	A	A	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	A	A	A	A	B	A	A	24	X 32	48	51	49	X 51	40	25	A	B	B	B	B	B	A
4	A	A	A	A	O X 37	37	41	39	29	26	29	B	B	46	44	X 42	B	B	B	B	B	A	A	A
5	A	O X 29	A	A	A	A	A	A	A	A	32	45	49	X 47	O X 47	35	28	26	A	O X 22	23	A	A	A
6	A	A	A	A	A	23	A	A	A	A	A	B	B	B	B	X 72	A	A	A	A	A	A	A	A
7	A	A	A	A	A	B	A	A	A	A	X 32	X 41	X 45	X 44	B	B	A	27	B	B	B	A	A	A
8	A	A	B	A	A	A	A	A	O X 21	29	B	B	O X 46	O X 46	O X 45	O X 46	B	B	B	B	B	B	B	B
9	A	A	A	A	A	A	O X 20	O X 20	O X 19	A	29	B	X 51	X 47	45	30	A	A	A	A	A	A	A	A
10	A	A	A	A	A	A	A	A	28	X 27	O X 38	41	X 50	51	46	45	44	A	17	A	A	B	A	A
11	A	A	A	A	O X 36	34	B	B	B	O X 18	30	41	53	X 45	X 51	X 39	B	B	B	B	A	A	A	A
12	A	A	A	A	A	A	A	A	A	B	B	O X 42	O X 49	B	O X 51	O X 36	B	B	21	A	B	A	A	A
13	A	O X 31	A	A	A	A	A	A	A	B	B	B	X 41	O X 45	B	B	O X 30	B	B	B	B	B	A	A
14	A	A	A	A	A	A	A	29	26	A	32	B	O X 45	B	41	O X 45	A	B	A	B	A	A	A	A
15	A	X 60	A	A	A	O X 21	32	30	A	A	35	46	46	44	O X 51	42	27	A	A	A	A	A	A	A
16	A	A	A	A	A	A	A	A	28	26	30	39	39	43	X 51	O X 46	A	A	A	O X 24	A	A	A	A
17	A	A	B	A	A	A	A	A	A	A	X 31	X 39	X 42	O X 51	46	O X 42	30	A	A	A	A	A	A	B
18	A	A	A	B	A	A	X 32	32	28	B	A	35	X 46	O X 51	45	36	24	A	A	A	B	B	B	B
19	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	X 50	B	O X 36	B	B	B	B	A	A
20	A	B	A	A	B	A	A	A	A	A	30	X 40	X 45	O X 44	38	41	31	O X 25	B	B	A	A	A	A
21	A	A	A	A	A	A	A	A	B	B	30	X 43	X 43	X 43	41	38	24	23	X 23	A	A	A	A	B
22	A	A	A	A	A	A	A	A	A	A	28	39	X 42	X 44	37	30	X 27	B	A	B	B	B	A	A
23	A	A	A	A	A	A	A	A	B	A	33	X 40	O X 45	43	X 43	44	22	B	B	B	A	B	A	A
24	A	A	A	A	A	A	23	A	O X 19	X 23	32	39	X 45	43	44	44	30	A	A	A	A	A	A	A
25	A	A	A	A	A	A	28	O X 37	26	23	29	42	41	X 51	46	X 46	A	B	B	B	B	A	A	A
26	A	A	A	A	A	A	A	A	A	A	34	X 38	O X 38	O X 41	O X 36	O X 33	B	B	A	B	B	B	A	A
27	A	26	A	A	A	36	X 33	O X 38	O X 36	30	26	X 38	A	O X 46	40	B	B	A	A	B	B	A	A	B
28	A	A	A	A	A	A	A	B	A	36	A	39	60	59	O X 57	O X 31	B	A	A	A	A	A	A	A
29	A	A	A	A	A	A	A	A	O X 36	40	33	O X 45	O X 48	O X 54	A	O X 36	A	B	A	A	B	B	B	B
30	A	A	A	A	A	A	A	B	O X 25	O X 22	26	39	X 43	X 41	A	34	25	O X 22	A	A	A	A	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		4			2	5	7	7	12	13	22	22	25	25	23	26	13	6	3	2	1			
MED		X 30			O X 36	34	32	32	27	26	32	40	X 45	X 46	45	X 42	27	26	21	O X 23	23			
UQ		X 46				36	32	38	28	29	32	42	X 49	X 49	X 50	X 45	30	27	22					
LQ		28				23	26	30	O X 23	23	29	39	X 42	X 44	42	36	25	O X 23	19					

JUN. 1987 | FXI (0.1 MHZ)

IONOSPHERIC DATA

JUN. 1987 | FOF2 (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	A	F 14	26	31	36	40	F 43	U S 43	B	B	B	B	B	B	A	A
2	A	A	A	A	A	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	A	A	A	A	B	A	A	F 18	26	F 42	F 45	F 43	45	F 33	F 19	A	B	B	B	B	B	A
4	A	A	A	A	31	F 31	F 35	F 33	F 23	F 20	F 23	B	B	F 40	F 38	36	B	B	B	B	B	A	A	A
5	A	23	A	A	A	A	A	A	A	A	F 26	F 39	F 43	41	41	F 29	F 22	F 20	A	16	F 17	A	A	A
6	A	A	A	A	A	F 16	A	A	A	A	A	B	B	B	B	66	A	A	A	A	A	A	A	A
7	A	A	A	A	A	B	A	A	A	A	26	35	39	38	B	B	A	F 21	B	B	B	A	A	A
8	A	A	B	A	A	A	A	A	15	F 13	B	B	40	40	39	U S 40	B	B	B	B	B	B	B	B
9	A	A	A	A	A	A	14	14	U S 13	A	F 23	B	45	41	F 39	F 24	A	A	A	A	A	A	A	A
10	A	A	A	A	A	A	A	A	F 22	21	32	F 35	44	F 45	F 40	F 39	U R 38	A	F 11	A	A	B	A	A
11	A	A	A	A	30	F 28	B	B	B	12	F 24	F 35	F 45	39	45	33	B	B	B	B	A	A	A	A
12	A	A	A	A	A	A	A	A	A	B	B	36	43	B	45	30	B	B	F 15	A	B	A	A	A
13	A	25	A	A	A	A	A	A	A	B	B	B	35	39	B	B	24	B	B	B	B	B	A	A
14	A	A	A	A	A	A	A	F 23	F 20	A	F 26	B	39	B	F 35	U R 39	A	B	A	B	A	A	A	A
15	A	54	A	A	A	15	F 26	F 24	A	A	F 29	F 40	F 40	F 38	45	F 36	F 21	A	A	A	A	A	A	A
16	A	A	A	A	A	A	A	A	F 22	F 20	F 24	F 33	F 33	F 36	45	40	A	A	A	U R 18	A	A	A	A
17	A	A	B	A	A	A	A	A	A	A	25	33	36	45	F 40	36	F 22	A	A	A	A	A	A	B
18	A	A	A	B	A	A	26	F 26	F 22	B	A	F 29	40	U S 45	F 39	F 30	F 18	A	A	A	B	B	B	B
19	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	44	B	30	B	B	B	B	A	A
20	A	B	A	A	B	A	A	A	A	A	F 23	34	39	38	F 32	F 35	F 25	19	B	B	A	A	A	A
21	A	A	A	A	A	A	A	A	B	B	F 22	37	37	42	F 35	F 32	F 18	F 17	17	A	A	A	A	B
22	A	A	A	A	A	A	A	A	A	A	F 21	F 32	36	38	F 31	F 23	21	B	A	B	B	B	A	A
23	A	A	A	A	A	A	A	A	B	A	F 27	34	39	F 37	37	F 38	F 15	B	B	B	A	B	A	A
24	A	A	A	A	A	A	F 17	A	13	17	F 26	F 33	39	F 37	F 38	U R 38	F 24	A	A	A	A	A	A	A
25	A	A	A	A	A	A	F 21	31	F 20	F 17	F 23	F 36	F 35	45	F 40	40	A	B	B	B	B	A	A	A
26	A	A	A	A	A	A	A	A	A	A	F 28	32	32	35	30	27	B	B	A	B	B	B	A	A
27	A	F 20	A	A	A	F 30	27	32	30	24	F 20	32	A	40	F 36	B	B	A	A	B	B	A	A	B
28	A	A	A	A	A	A	A	B	A	F 31	A	F 33	F 53	F 53	51	25	B	A	A	A	A	A	A	A
29	A	A	A	A	A	A	A	A	30	F 34	F 26	39	42	48	A	U R 30	A	B	A	A	B	B	B	B
30	A	A	A	A	A	A	A	B	19	16	F 20	F 33	37	35	A	F 28	F 18	16	A	A	A	A	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		4			2	5	7	7	12	13	22	22	25	25	23	26	13	6	3	2	1			
MED		24			30	F 28	F 26	F 26	21	F 18	F 26	F 34	39	40	F 39	36	F 21	20	F 15	17	F 17			
UQ		40				F 30	26	32	F 22	F 21	F 26	F 36	43	43	44	39	F 24	F 21	16					
LQ		22				F 16	19	F 24	17	F 16	F 23	F 33	36	38	F 36	F 30	F 18	17	F 13					

JUN. 1987 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1987 | FES (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	60	75	40	35	36	36	60	52	34	23	17	20	32	35	33	35	B	B	B	B	B	B	37	40
2	42	42	60	70	43	40	43	45	B	B	20	B	B	B	B	B	B	B	B	B	B	34	26	26
3	31	45	47	30	18	90	B	18	35	13	14	19	29	19	E B 18	21	41	41	B	B	B	B	B	30
4	35	35	31	45	43	35	26	32	E B 14	32	E B 15	B	B	E B 22	22	E B 15	B	B	B	B	B	27	30	42
5	41	70	36	40	46	43	45	53	37	41	30	18	17	16	26	35	20	22	34	E B 13	21	41	35	40
6	35	75	45	42	35	29	45	41	44	33	45	B	B	B	B	38	70	32	41	37	42	60	71	34
7	45	47	46	35	33	B	42	37	30	14	15	20	19	23	B	B	24	20	B	B	B	46	66	69
8	60	57	B	42	50	33	25	14	11	12	B	B	E B 20	E B 28	E B 29	E B 25	B	B	B	B	B	B	B	B
9	12	29	30	35	23	23	12	23	15	34	E B 18	B	36	60	E B 14	29	16	13	18	30	31	16	29	19
10	34	31	41	44	44	41	42	32	17	16	22	24	35	37	32	35	28	29	30	26	12	B	30	37
11	26	26	26	31	26	E B 17	B	B	B	12	E B 9	13	20	20	27	E B 14	B	B	B	B	26	26	19	42
12	51	37	44	35	54	56	55	47	65	B	B	E B 25	E B 24	B	E B 24	E B 23	B	B	16	27	B	33	45	40
13	40	45	41	41	45	49	40	50	60	B	B	B	E B 21	E B 16	B	B	E B 19	B	B	B	B	B	114	38
14	26	42	42	35	41	53	42	37	28	31	22	B	E B 29	B	53	26	24	B	26	B	40	27	26	37
15	36	39	44	45	31	29	21	23	11	29	30	31	25	28	25	27	19	32	14	13	30	27	22	26
16	22	45	45	47	45	55	35	28	17	22	33	E B 21	30	30	55	42	37	51	38	33	30	23	39	79
17	40	37	B	42	42	35	37	22	30	35	23	13	16	20	28	29	28	30	31	35	34	36	34	B
18	28	45	47	B	59	43	31	31	26	B	29	33	26	33	E B 20	31	33	29	28	21	B	B	B	B
19	27	20	41	41	42	42	60	70	B	35	B	B	B	B	B	E B 18	B	E B 23	B	B	B	B	34	36
20	71	B	42	41	B	50	31	16	28	65	17	17	25	14	15	25	31	39	B	B	35	42	40	41
21	40	50	38	39	40	31	28	32	B	B	29	25	15	13	19	E B 13	E B 14	E B 14	E B 12	36	31	25	14	B
22	30	35	41	38	42	25	32	30	30	31	E B 9	14	16	16	E B 9	12	26	B	30	B	B	B	14	24
23	32	43	31	35	70	45	32	37	B	33	29	23	26	26	E B 18	E B 20	30	B	B	B	45	B	14	31
24	32	36	89	69	22	35	31	31	26	26	36	20	35	17	16	14	31	26	16	22	22	22	32	45
25	59	56	56	45	51	32	31	41	18	E B 8	12	21	15	16	12	E B 14	16	B	B	B	B	22	38	52
26	45	45	85	45	45	42	37	42	52	58	37	36	E B 24	E B 24	E B 24	E B 19	B	B	26	B	B	B	35	33
27	32	37	35	49	50	42	26	23	23	60	60	107	59	20	33	B	B	34	36	B	B	28	32	B
28	31	47	66	71	101	41	36	B	57	35	33	26	40	33	36	32	B	34	35	70	53	36	32	33
29	87	42	38	39	35	46	56	32	45	16	20	26	35	32	33	39	21	B	30	31	B	B	B	B
30	26	39	45	60	55	29	14	B	E B 10	31	20	27	26	33	41	37	42	39	42	32	30	32	32	31
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	28	29	29	29	28	27	25	25	26	22	26	25	25	26	20	17	18	14	15	19	26	24
MED	35	42	42	41	43	41	36	32	28	31	22	21	26	22	24	26	27	30	30	30	31	28	32	37
UQ	45	47	46	45	50	45	42	42	37	35	30	26	32	32	33	35	32	34	35	35	38	36	38	42
LQ	30	37	38	35	35	32	30	26	17	16	16	18	18	16	E B 18	E B 18	20	23	18	22	28	26	26	31

JUN. 1987 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1987 | F-MIN (0.1 MHZ) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	11	12	15	15	15	11	19	13	10	10	10	10	10	10	8	12	B	B	B	B	B	B	8	3
2	8	3	14	24	21	20	18	12	B	B	18	B	B	B	B	B	B	B	B	B	B	11	8	8
3	8	8	9	8	8	8	B	9	8	9	9	9	9	9	18	14	14	14	B	B	B	B	B	8
4	8	7	8	8	8	8	8	7	14	21	15	B	B	22	13	15	B	B	B	B	B	10	11	8
5	10	8	8	12	14	10	11	13	18	19	11	9	12	9	8	8	10	10	14	13	10	15	13	8
6	8	23	18	13	10	10	8	15	13	19	28	B	B	B	B	30	19	22	11	8	8	8	8	13
7	8	15	17	11	9	B	24	12	9	9	10	9	10	9	B	B	13	9	B	B	B	10	30	8
8	10	8	B	15	13	10	8	8	8	8	B	B	20	28	29	25	B	B	B	B	B	B	B	B
9	8	8	8	9	8	8	8	8	8	8	18	B	19	18	14	9	8	9	10	9	10	8	9	8
10	9	8	8	19	15	10	8	10	8	8	8	8	9	8	8	9	8	8	8	8	8	B	8	8
11	8	8	8	8	7	17	B	B	B	8	9	10	9	10	8	14	B	B	B	B	8	8	8	8
12	8	8	8	8	9	14	12	11	8	B	B	25	24	B	24	23	B	B	12	17	B	15	9	7
13	7	13	13	13	21	12	11	16	10	B	B	B	21	16	B	B	19	B	B	B	B	B	25	9
14	8	8	8	9	8	10	8	11	10	10	8	B	29	B	10	13	13	B	12	B	21	10	13	13
15	13	8	9	9	8	10	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8	8
16	8	8	8	13	14	10	9	8	9	8	8	21	19	16	14	10	9	8	7	8	9	8	8	16
17	14	29	B	15	14	19	14	10	18	8	8	8	13	8	8	8	8	9	12	14	13	19	9	B
18	10	8	12	B	13	11	11	8	8	B	20	15	17	24	20	9	8	8	18	12	B	B	B	B
19	10	13	10	12	24	19	16	13	B	11	B	B	B	B	B	18	B	23	B	B	B	B	12	7
20	14	B	17	23	B	19	14	9	10	8	8	9	8	9	11	9	9	10	B	B	8	8	12	20
21	8	19	17	17	21	13	15	10	B	B	11	10	10	10	11	13	14	14	12	9	10	8	9	B
22	8	8	15	13	15	8	8	8	8	8	9	9	11	9	9	8	10	B	11	B	B	B	9	8
23	7	8	8	13	13	9	7	9	B	11	8	14	13	13	18	20	8	B	B	B	12	B	8	8
24	8	8	8	8	8	8	8	8	8	8	8	10	13	10	10	8	9	10	8	8	8	8	14	14
25	8	8	10	13	13	7	8	8	8	8	8	8	8	9	9	14	9	B	B	B	B	8	8	8
26	10	9	24	13	24	13	13	18	15	19	12	9	24	24	24	19	B	B	14	B	B	B	8	8
27	8	8	8	14	10	10	8	8	8	8	12	13	9	14	23	B	B	15	19	B	B	11	12	B
28	10	8	8	7	8	8	8	B	18	8	18	14	10	10	10	14	B	9	8	7	9	16	9	8
29	8	8	18	9	11	10	19	23	14	10	10	8	8	8	8	10	13	B	9	10	B	B	B	B
30	14	8	10	10	10	9	8	B	10	8	13	8	9	8	8	8	8	9	9	10	10	9	13	8
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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	8	8	10	13	13	10	10	10	10	9	10	10	12	10	12	14	13	18	14	B	D B 21	13	9	8
UQ	10	12	17	15	15	13	15	13	18	19	18	B	21	24	24	20	B	B	B	B	B	B	13	16
LQ	8	8	8	9	8	9	8	8	8	8	8	9	9	9	9	9	9	9	10	9	9	8	8	8

JUN. 1987 | F-MIN (0.1 MHZ)

IONOSPHERIC DATA

JUN. 1987 | H'F (KM) | 45° E Mean Time (G.M.T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 4 MHz to 15 MHz in 20 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	A	A	A	E A 320	E A 275	230	230	230	225	230	B	B	B	B	B	B	A	A
2	A	A	A	A	A	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	A	A	A	A	B	A	A	E A 280	240	215	210	195	200	205	205	A	B	B	B	B	B	A
4	A	A	A	A	E A 300	E A 310	E A 350	E A 360	E A 330	Q 345	250	B	B	200	200	200	B	B	B	B	B	A	A	A
5	A	A	A	A	A	A	A	A	A	A	E A 290	225	200	200	200	190	215	E A 255	A	E B 330	E A 280	A	A	A
6	A	A	A	A	A	E A 390	A	A	A	A	A	B	B	B	B	E A 305	A	A	A	A	A	A	A	A
7	A	A	A	A	A	B	A	A	A	A	E A 275	245	225	220	B	B	A	230	B	B	B	A	A	A
8	A	A	B	A	A	A	A	A	E A 325	E A 300	B	B	210	225	E B 250	E B 245	B	B	B	B	B	B	B	B
9	A	A	A	A	A	A	E A 370	E A 350	E A 330	A	E B 270	B	215	225	195	230	A	A	A	A	A	A	A	A
10	A	A	A	A	A	A	A	A	E A 320	E A 290	E A 270	225	210	200	170	190	195	A	E A 260	A	A	B	A	A
11	A	A	A	A	E A 405	B	B	B	B	E B 280	240	225	220	225	225	210	B	B	B	B	A	A	A	A
12	A	A	A	A	A	A	A	A	A	B	B	E B 250	225	B	E B 250	E B 260	B	B	E A 250	A	B	A	A	A
13	A	A	A	A	A	A	A	A	A	B	B	B	230	210	B	B	E B 240	B	B	B	B	B	A	A
14	A	A	A	A	A	A	A	A	E A 340	A	E A 280	B	E B 275	B	H 200	220	A	B	A	B	A	A	A	A
15	A	A	A	A	A	E A 380	E A 360	E A 300	A	A	180	200	180	220	200	220	195	A	A	A	A	A	A	A
16	A	A	A	A	A	A	A	A	E A 310	E A 345	215	E B 255	E A 250	Q 225	205	200	A	A	A	220	A	A	A	A
17	A	A	B	A	A	A	A	A	A	A	250	210	210	200	200	180	180	A	A	A	A	A	A	B
18	A	A	A	B	A	A	E A 320	E A 300	E A 310	B	A	E A 310	210	225	210	200	225	A	A	A	B	B	B	B
19	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	210	B	E B 280	B	B	B	B	A	A
20	A	B	A	A	B	A	A	A	A	A	260	245	205	210	200	220	210	E A 320	B	B	A	A	A	A
21	A	A	A	A	A	A	A	A	B	B	E A 260	230	220	190	225	210	220	E B 280	225	A	A	A	A	B
22	A	A	A	A	A	A	A	A	A	A	250	215	210	205	160	195	205	B	A	B	B	B	A	A
23	A	A	A	A	A	A	A	A	B	A	250	215	210	200	215	210	230	B	B	B	A	B	A	A
24	A	A	A	A	A	A	E A 295	A	E A 290	E A 310	245	220	215	195	200	190	200	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	E A 325	Q 280	E B 270	260	230	240	210	220	190	A	B	B	B	B	A	A	A
26	A	A	A	A	A	A	A	A	A	A	E A 310	260	210	250	E B 275	E B 270	B	B	A	B	B	B	A	A
27	A	A	A	A	A	E A 360	E A 330	E A 300	E A 275	E A 250	E A 300	E A 250	A	E A 250	205	B	B	A	A	B	B	A	A	B
28	A	A	A	A	A	A	A	B	A	E A 300	A	245	230	200	200	210	B	A	A	A	A	A	A	A
29	A	A	A	A	A	A	A	A	E A 340	E A 250	E A 270	225	200	220	A	180	A	B	A	A	B	B	B	B
30	A	A	A	A	A	A	A	B	E B 300	E A 300	Q 280	H 200	200	200	A	200	Q 260	E A 250	A	A	A	A	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					2	4	6	6	12	13	22	22	25	25	23	26	13	6	3	2	1			
MED					E A 352	E A 370	E A 340	E A 312	E A 315	E A 300	U 229	225	210	210	200	205	208	E E 268	E A 250	U 248	E A 280			
UQ						E A 385	E A 360	E A 350	E A 330	E A 310	E A 275	238	222	225	215	215	222	E B 280	E A 255					
LQ						E A 335	E A 320	E A 300	E A 295	E A 280	248	215	210	200	200	195	200	E A 250	232					

JUN. 1987 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA AT SYOWA STATION (ANTARCTICA)
ION. ANT.－48 January 1987—June 1987 (Not for Sale)

昭和基地電離層資料（南極）

（1987年1月—1987年6月）

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☎ 0423（21）1211（代）

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