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ION. ANT.— 46

IONOSPHERIC DATA AT SYOWA STATION (ANTARCTICA)

January 1986—June 1986

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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 Radio Research Laboratories, through the sponsorship 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	Specificatons
Frequency Range	400 kHz-15 MHz
Transmitting power	10 kW (peak value)
Duration of Sweep	20 sec
Transmitted Pulse Width	80 μsec
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	100 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

(i) 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 infuenced 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 Volue 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 tabuation sheets.

D Greater than.

E Less than.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characterisitic 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

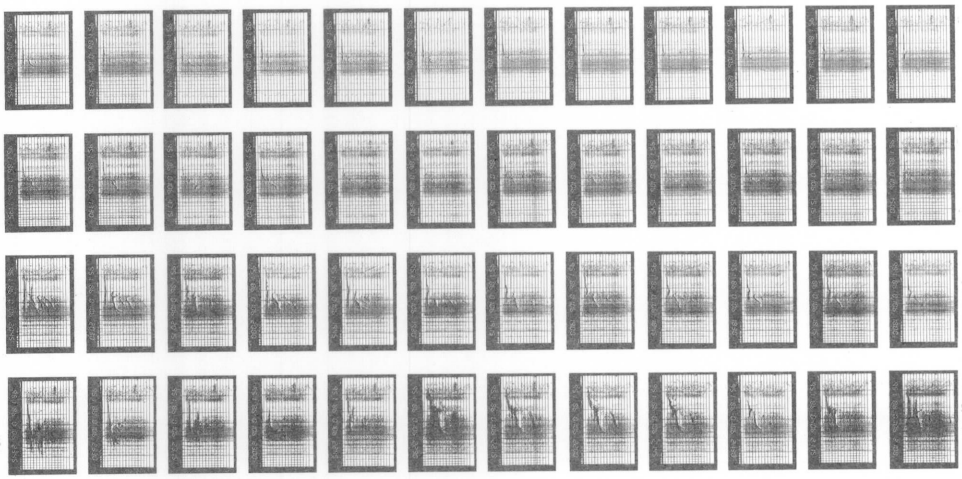
Median count (CNT) is the number of values from which a median has been computed. In addition to numerical values, the count may include certain descriptive letters.

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 accrding to magnitude; the lower quartile (LQ) is the median value of the lower half.

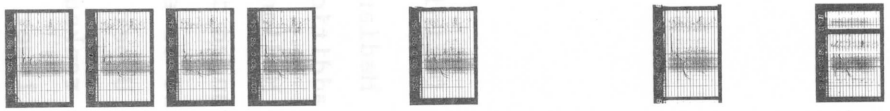
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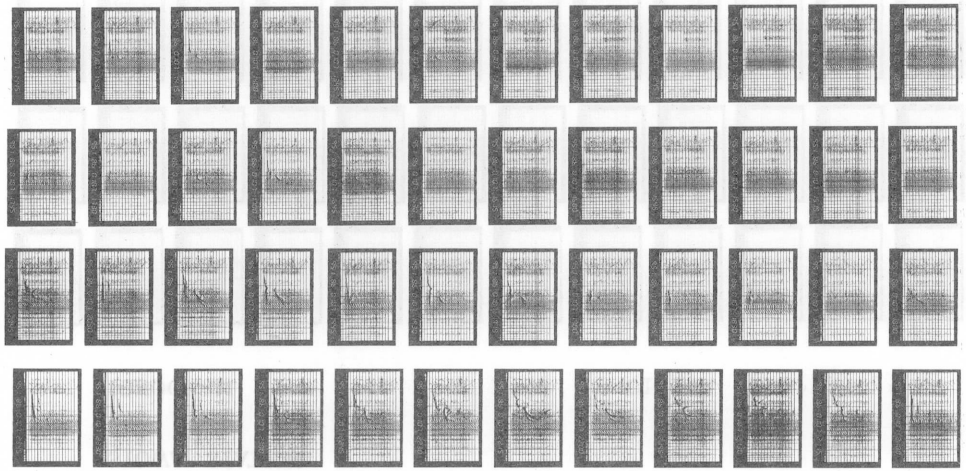
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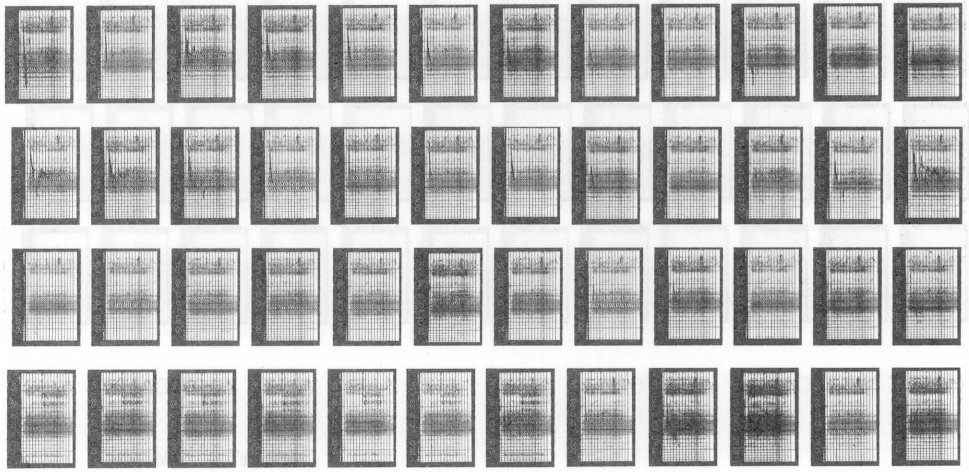
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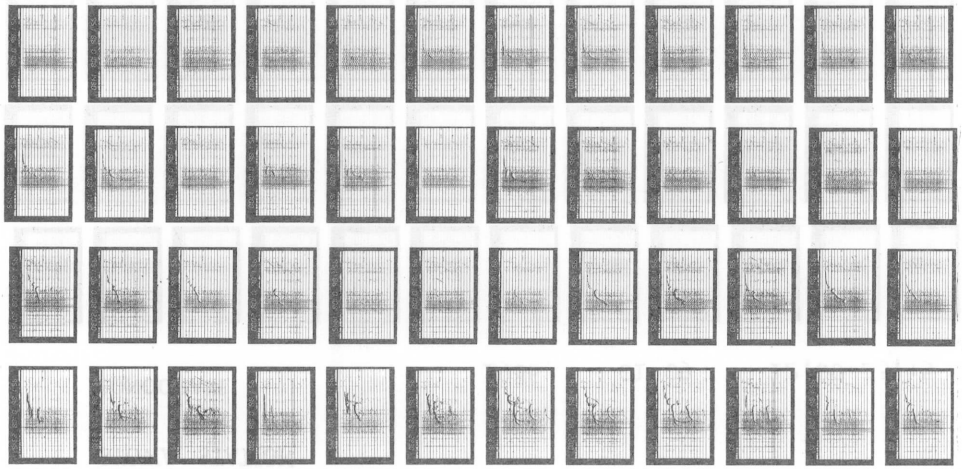
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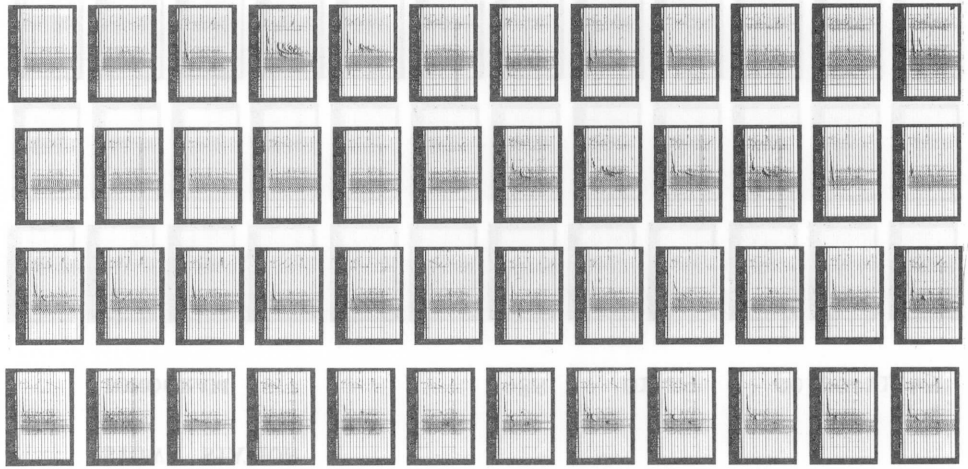
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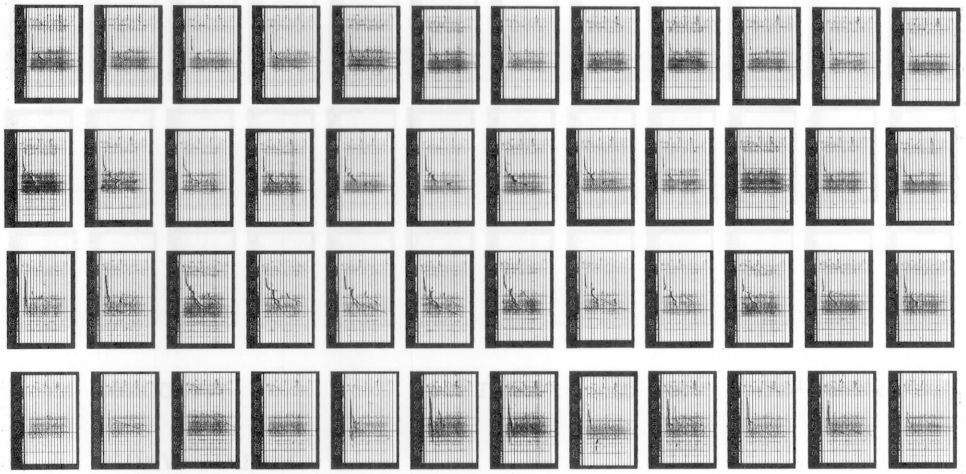
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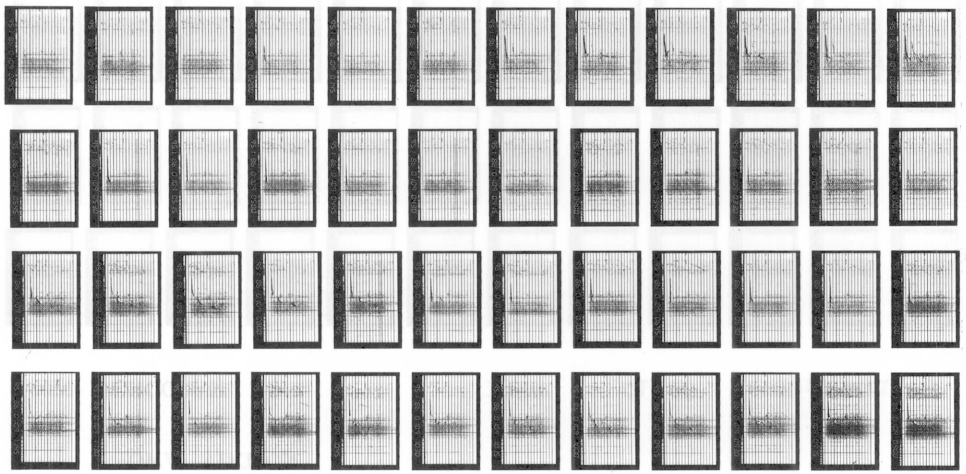
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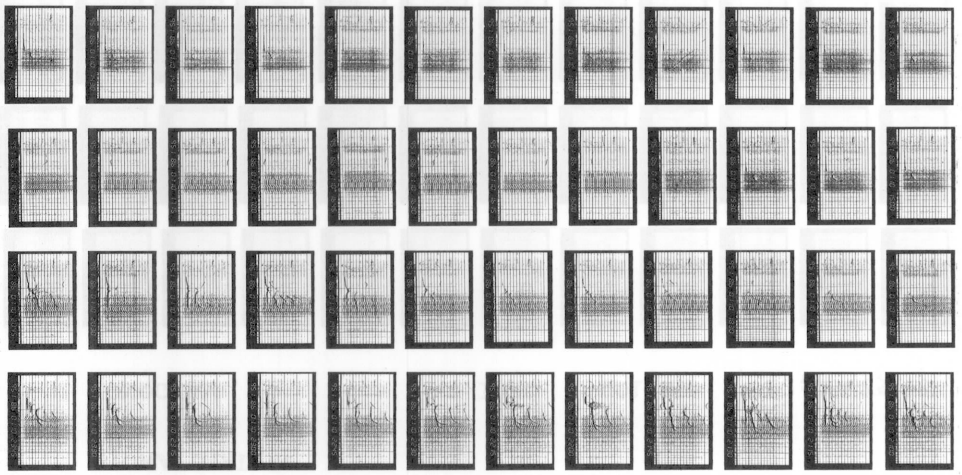
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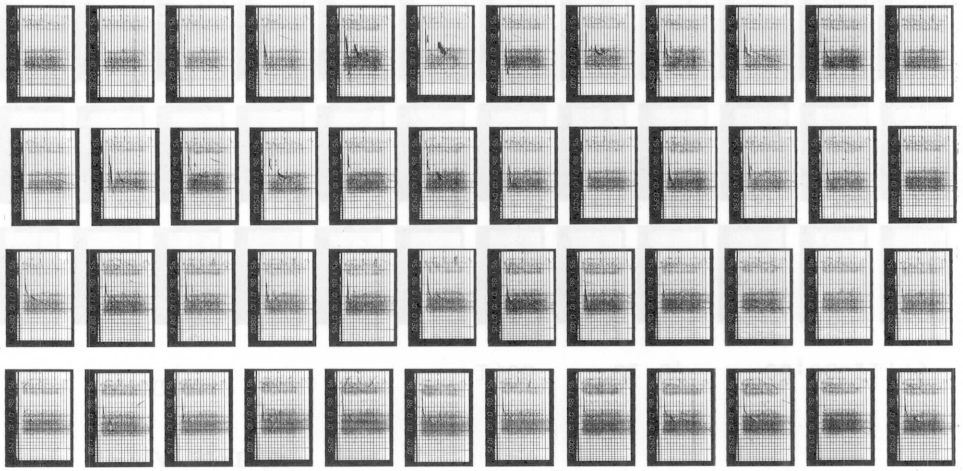
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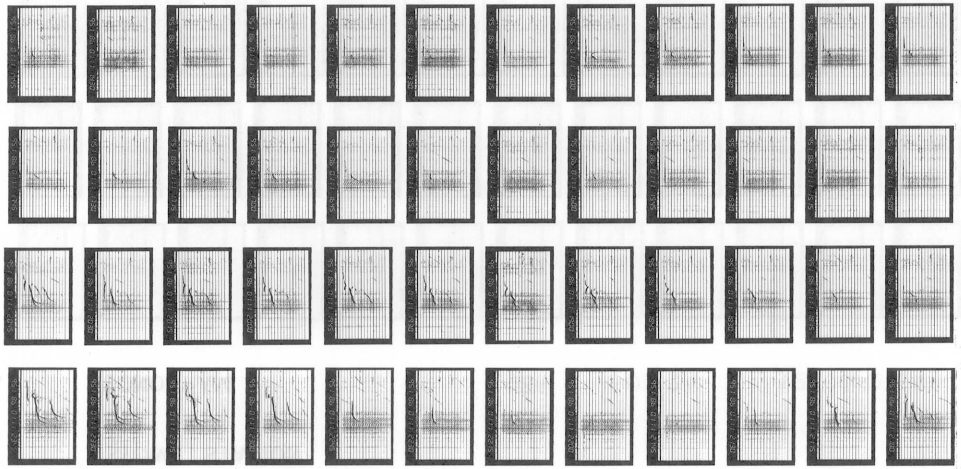
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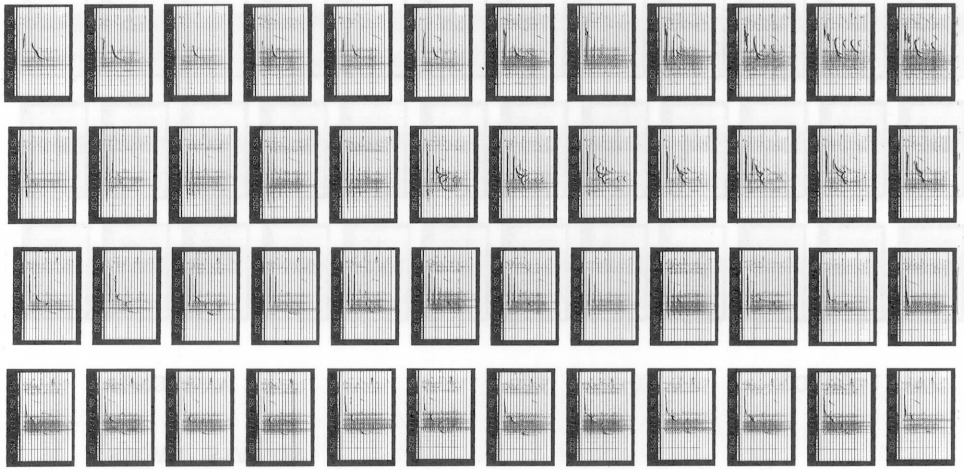
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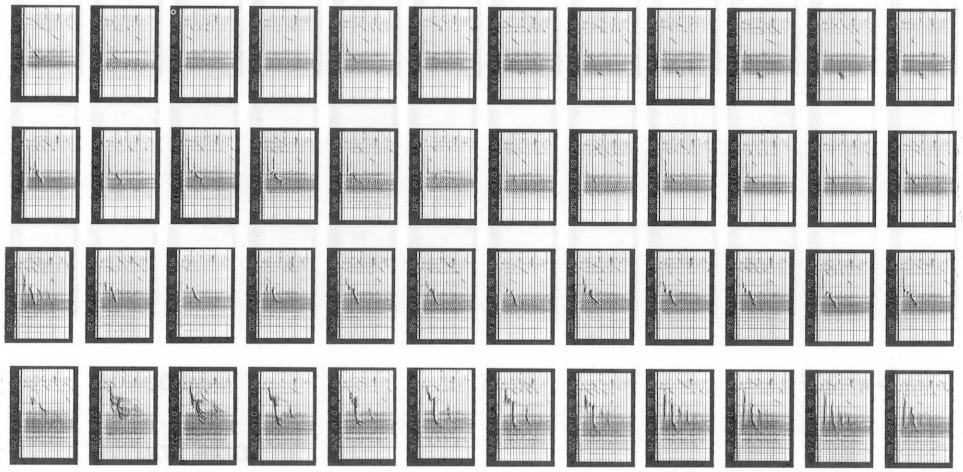
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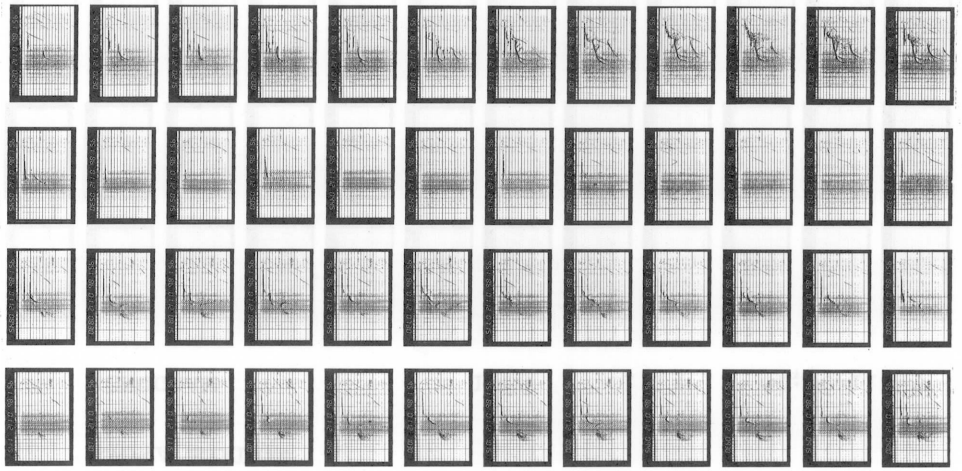
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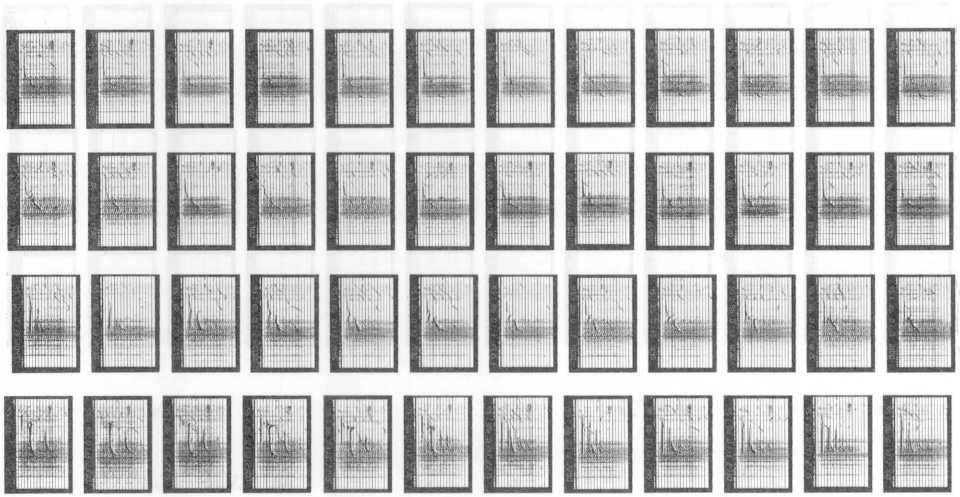
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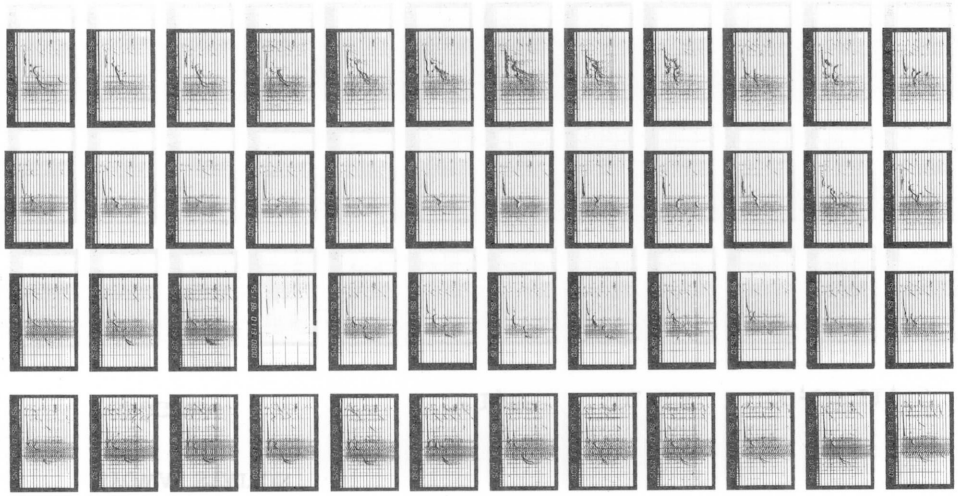
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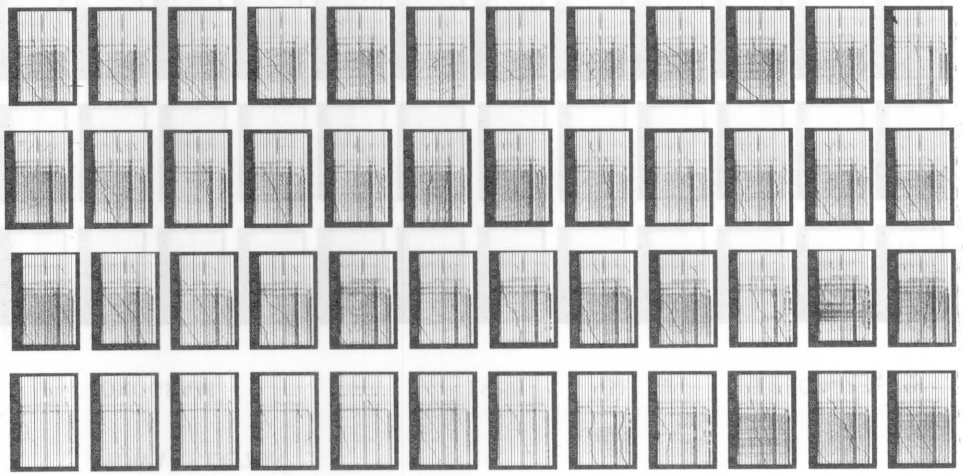
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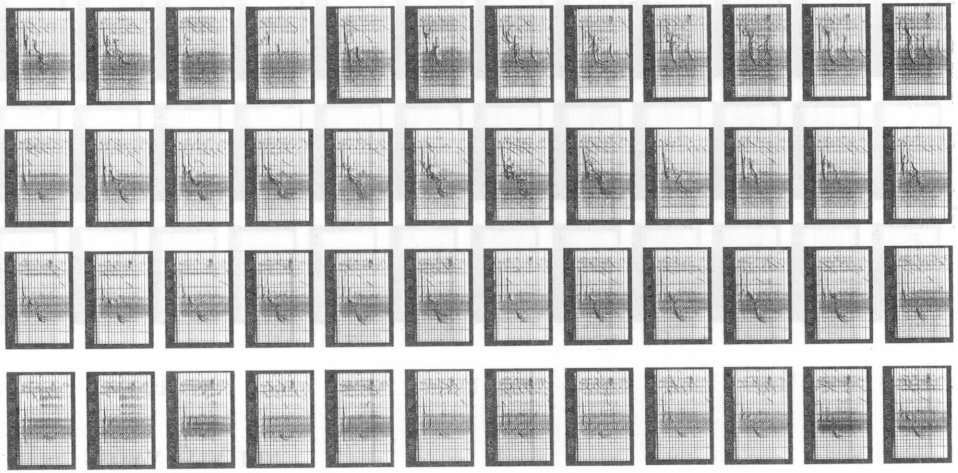
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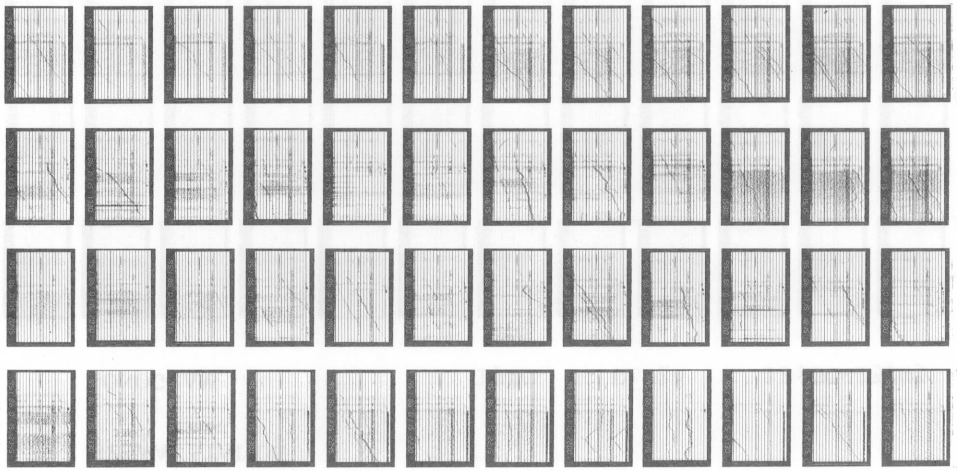
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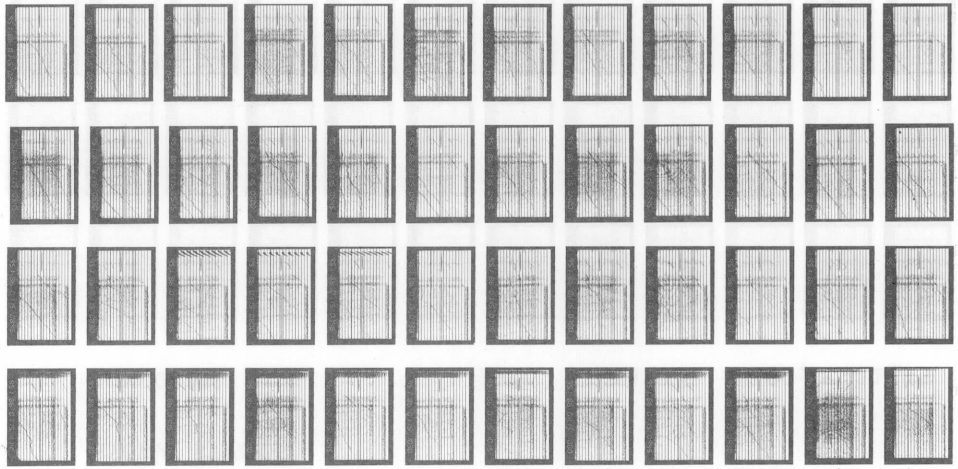
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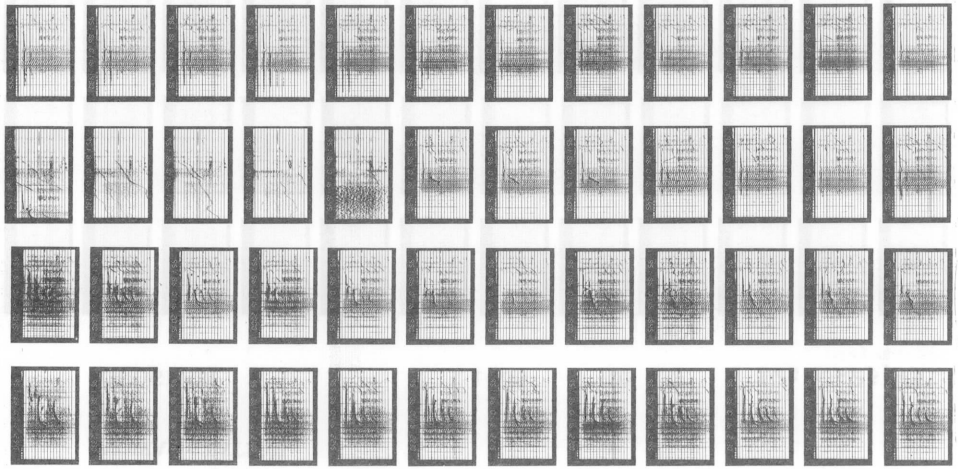
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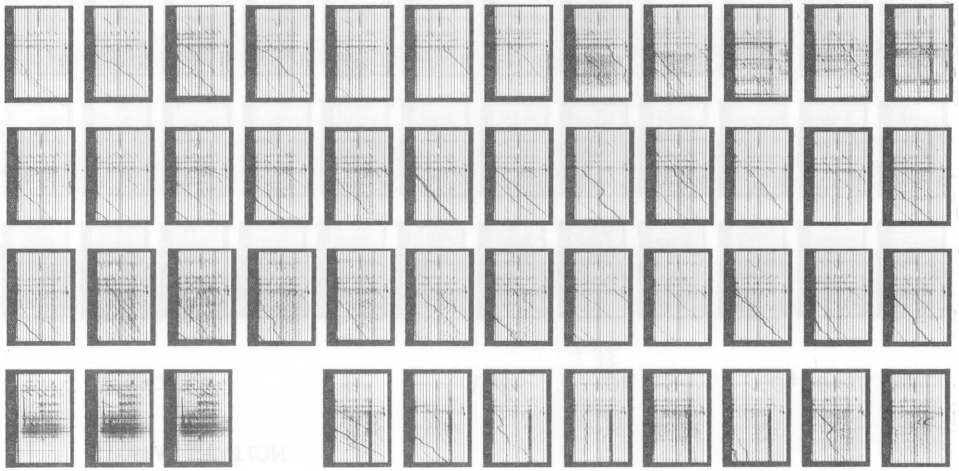
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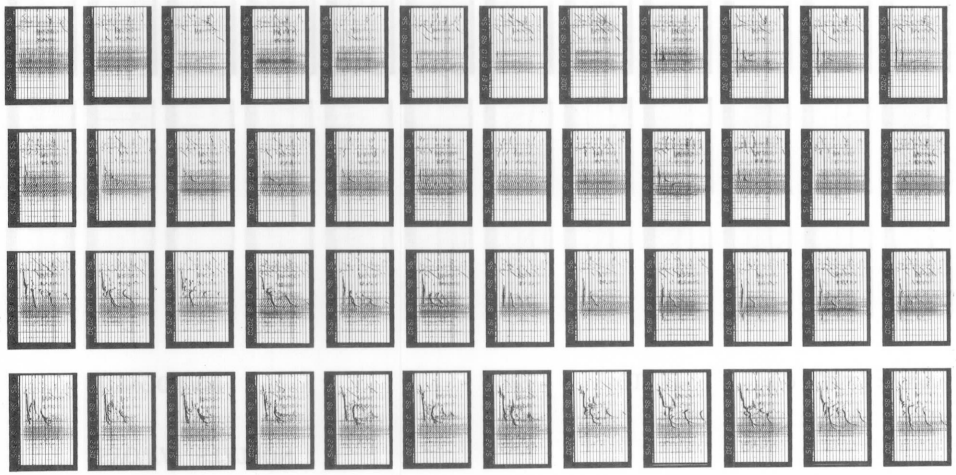
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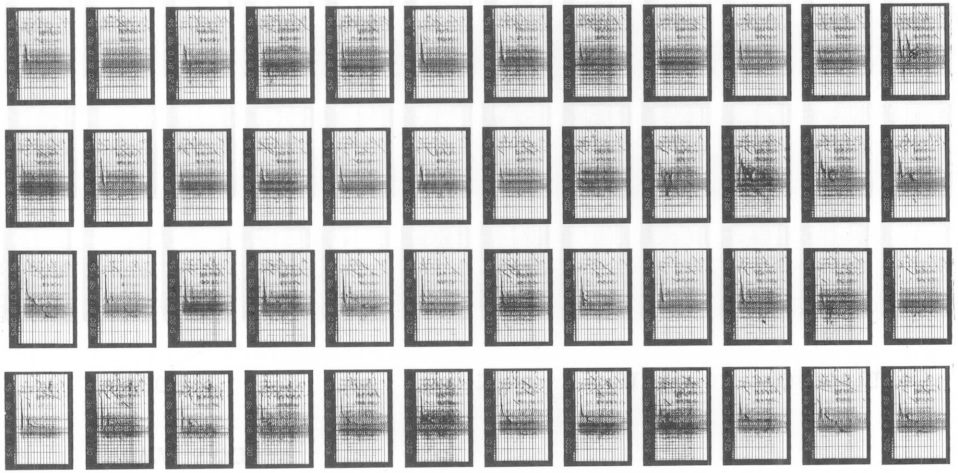
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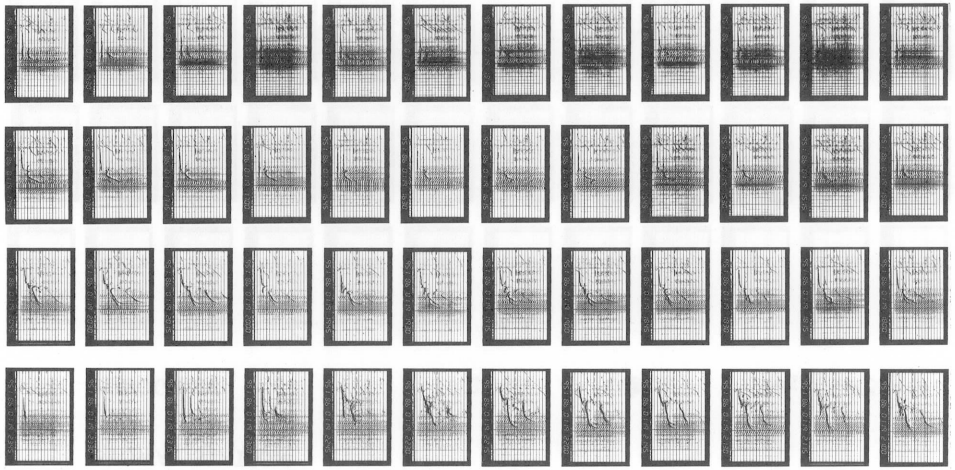
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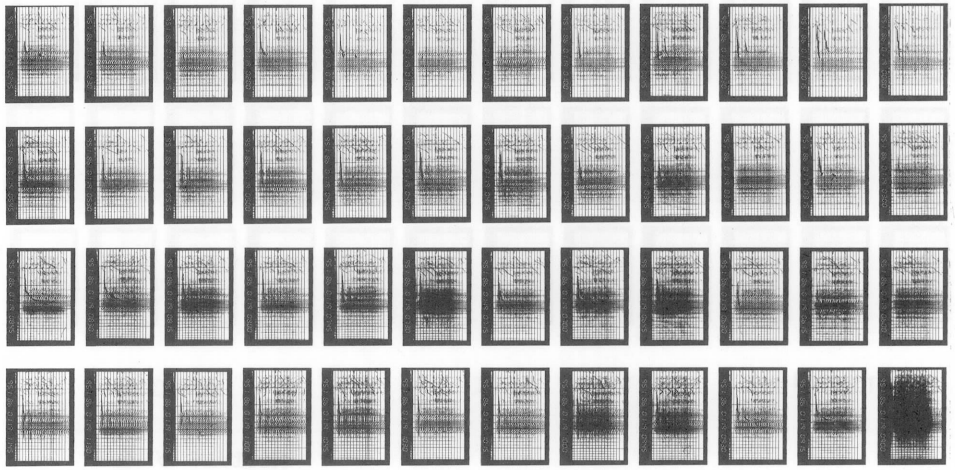
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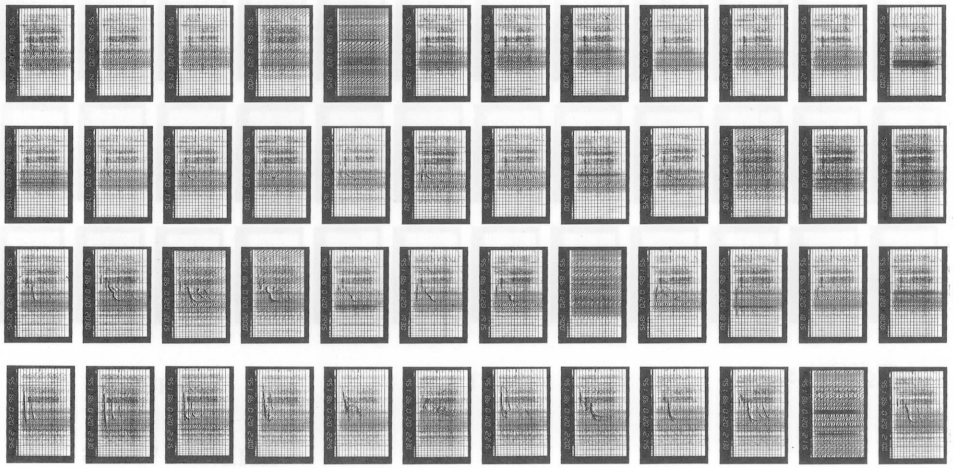
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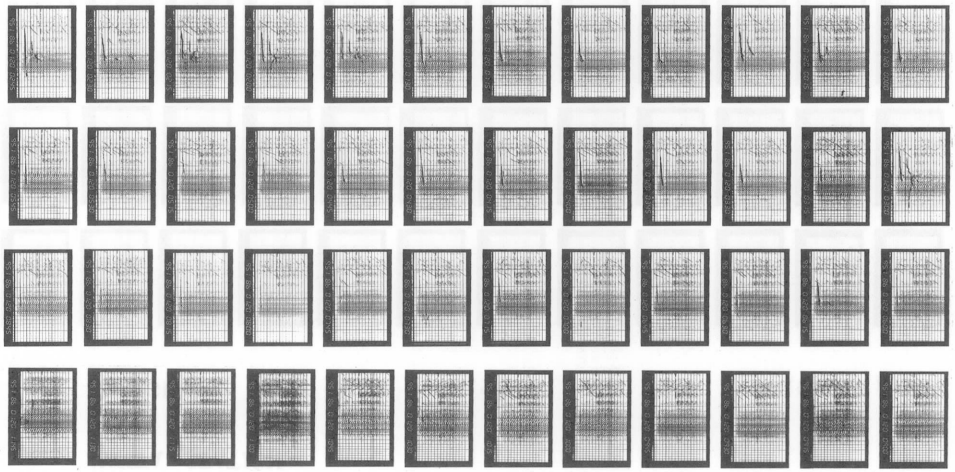
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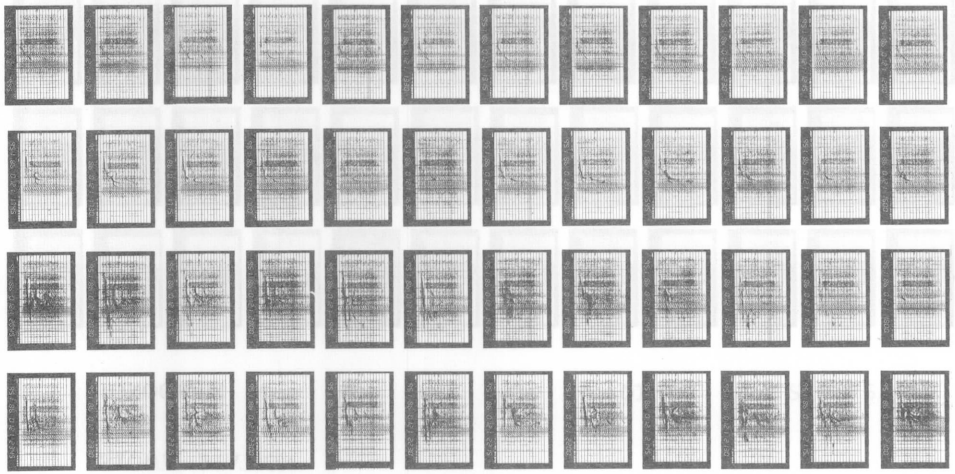
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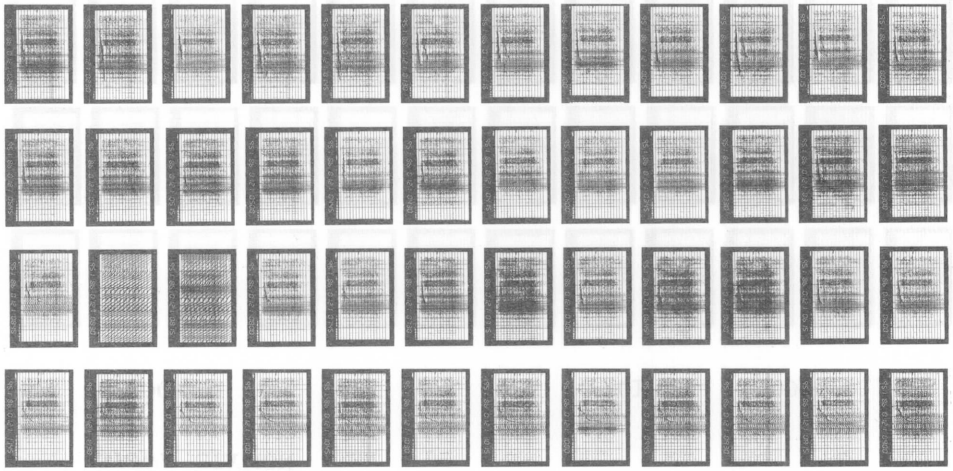
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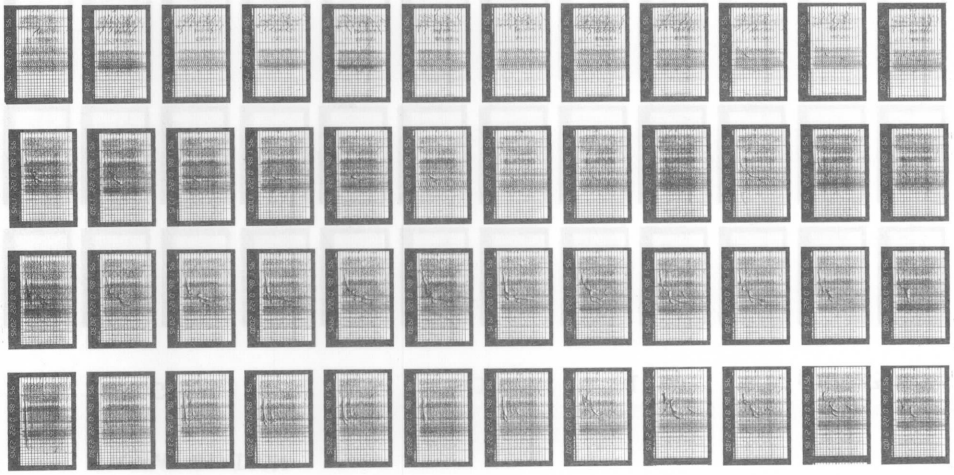
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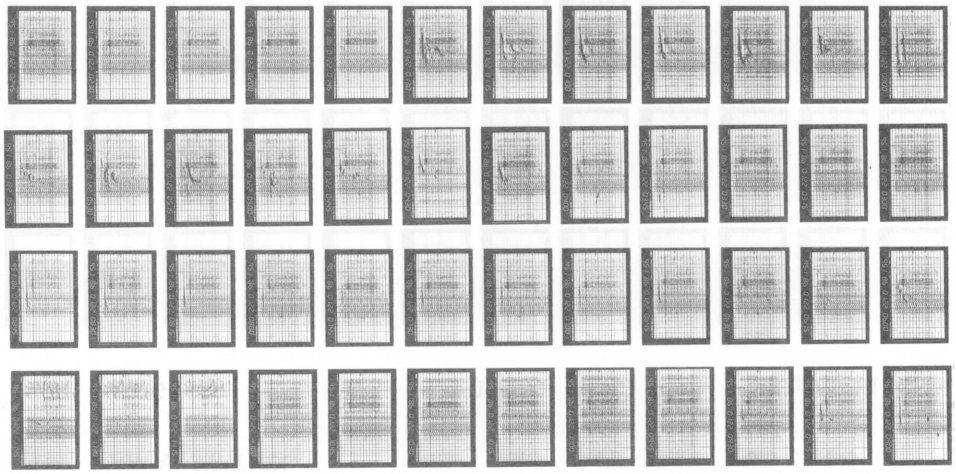
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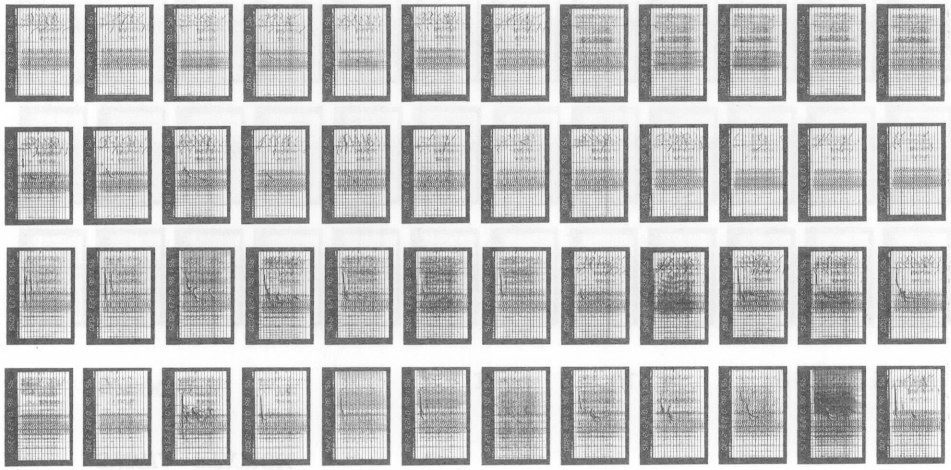
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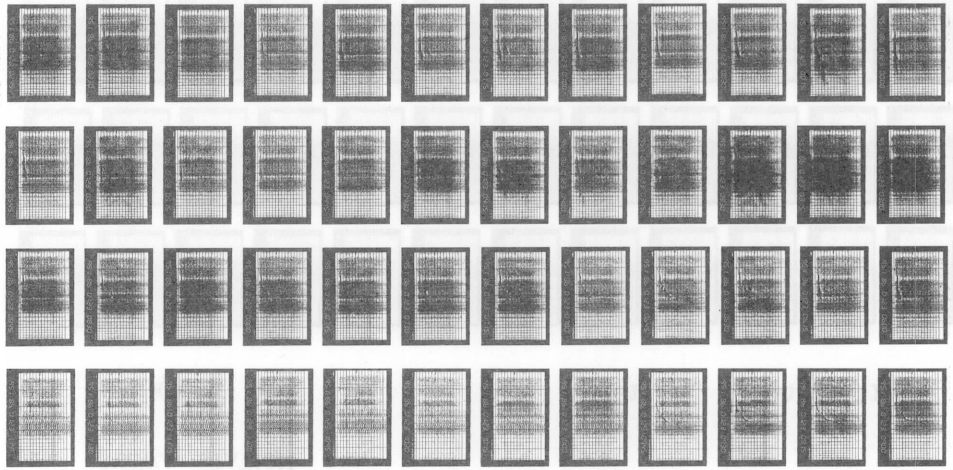
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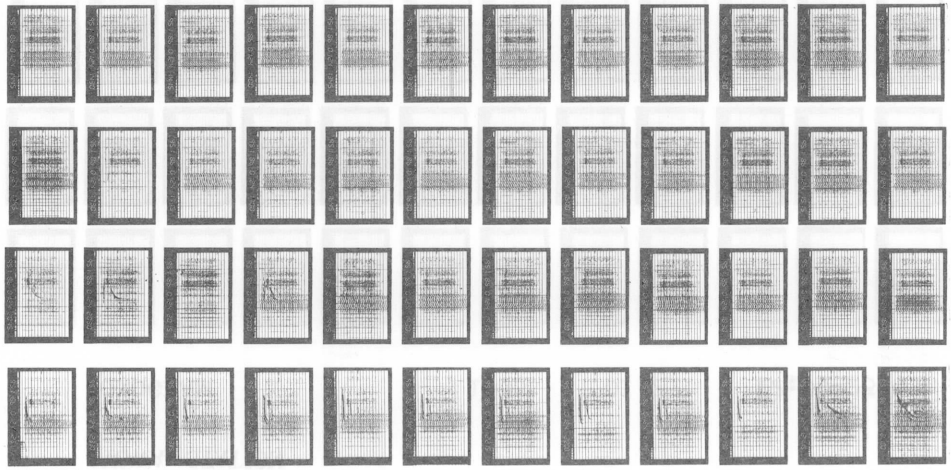
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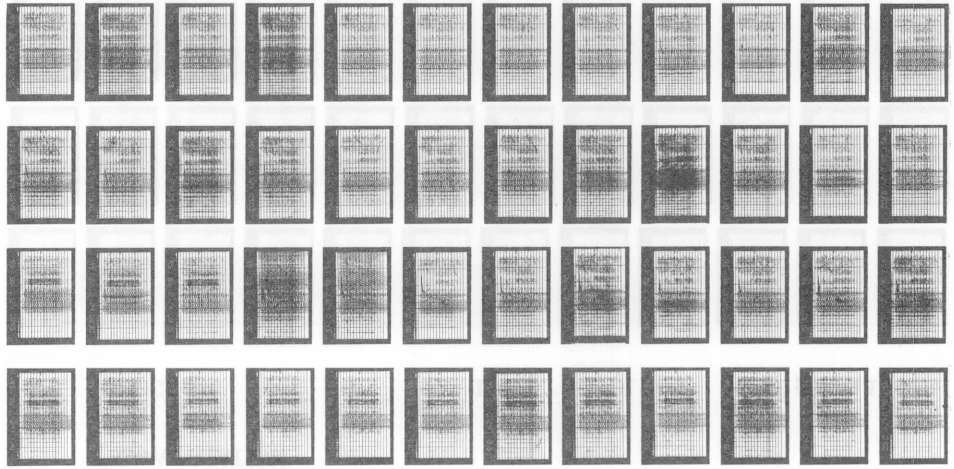
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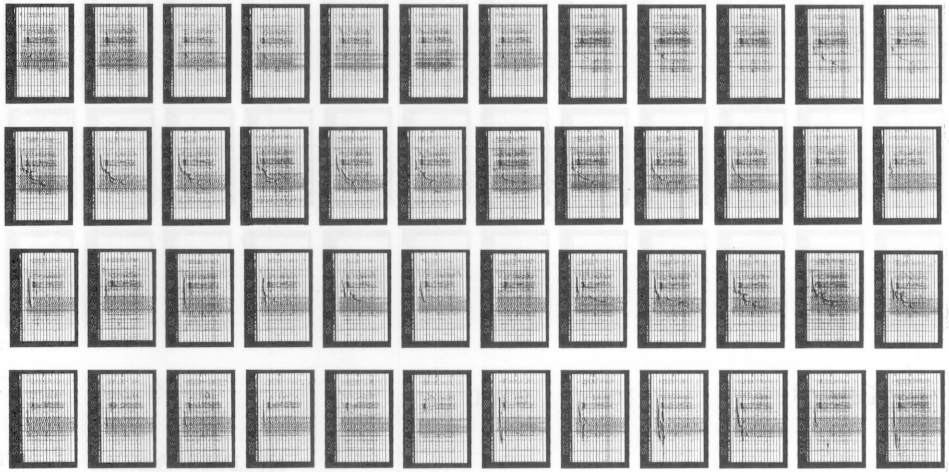
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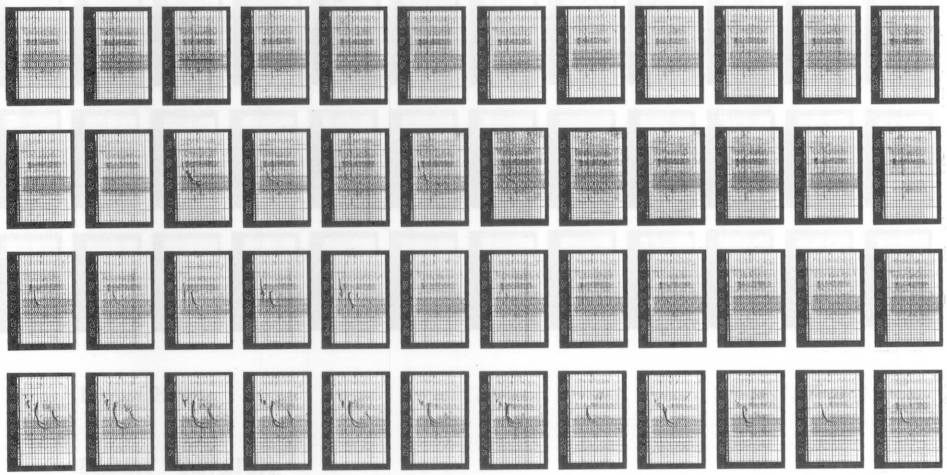
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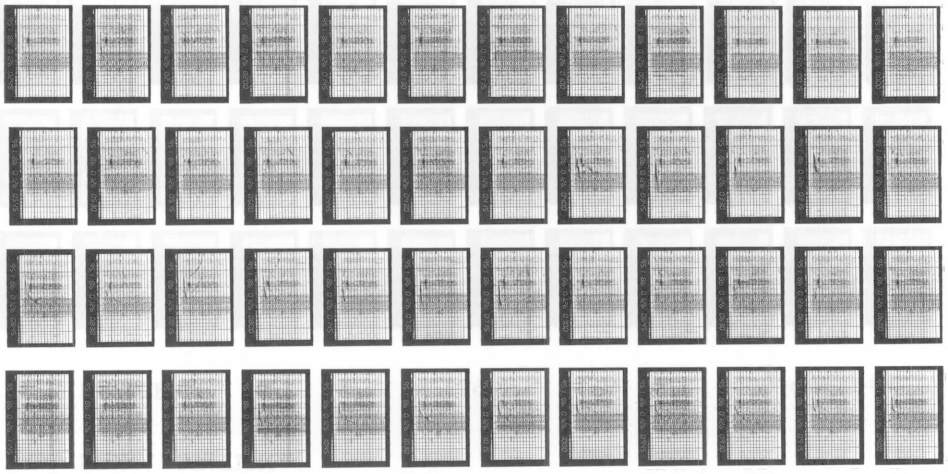
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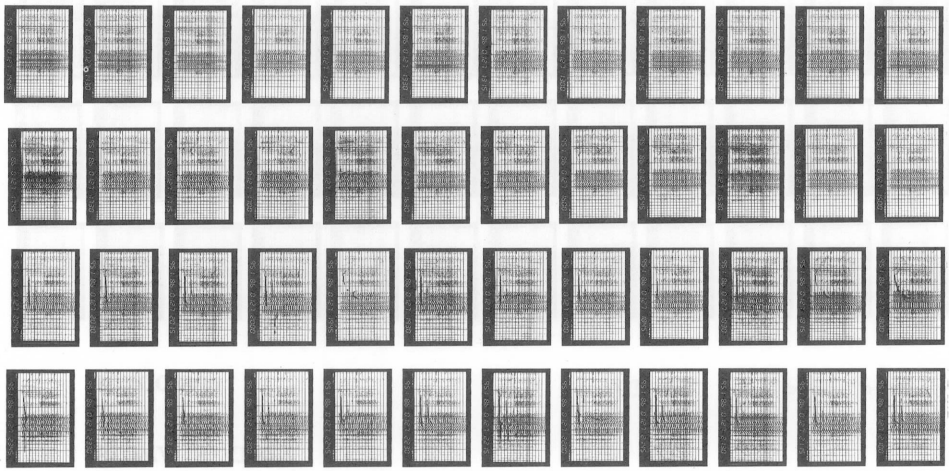
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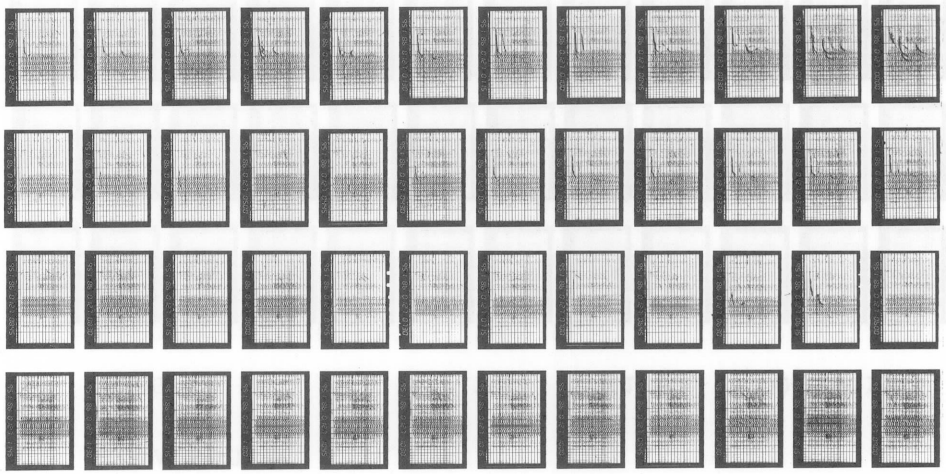
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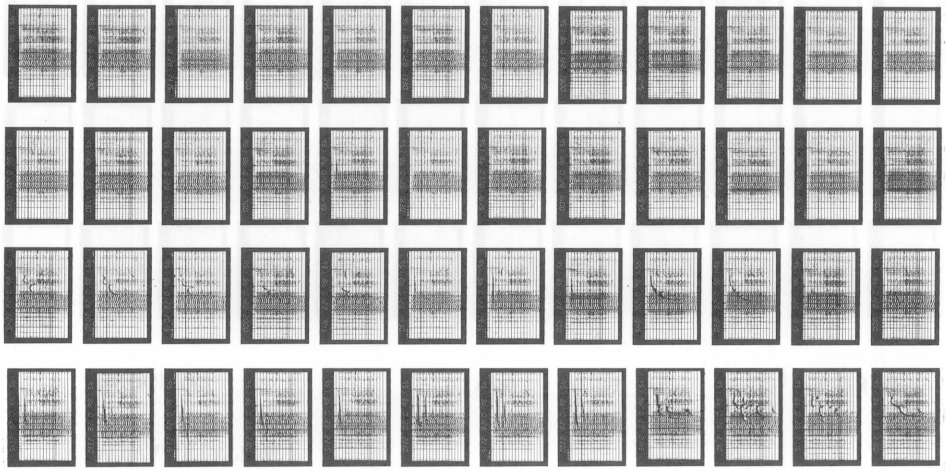
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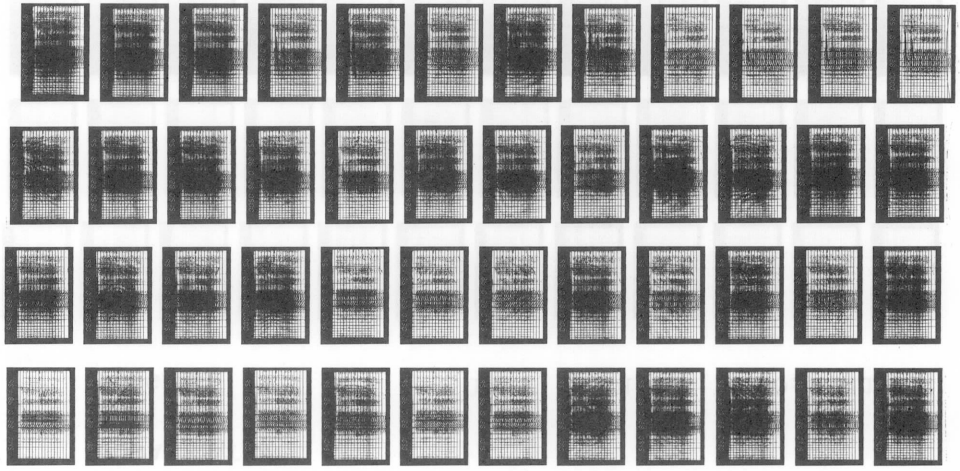
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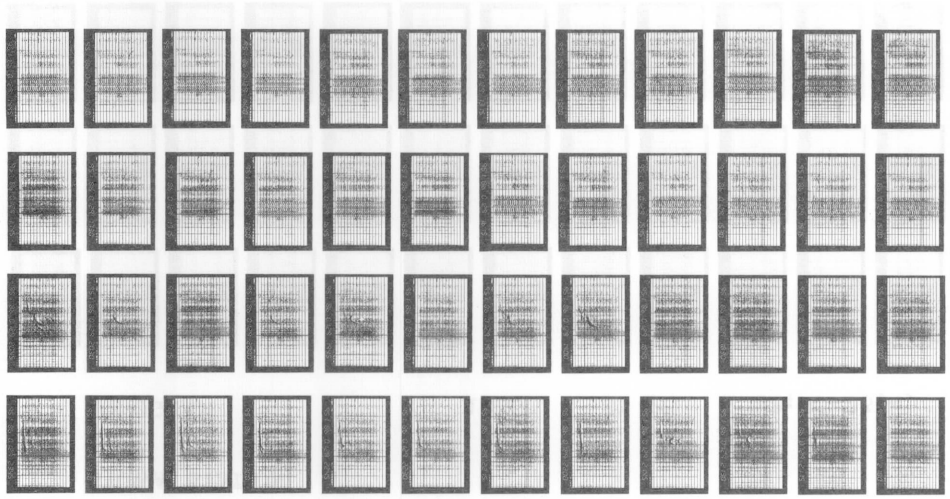
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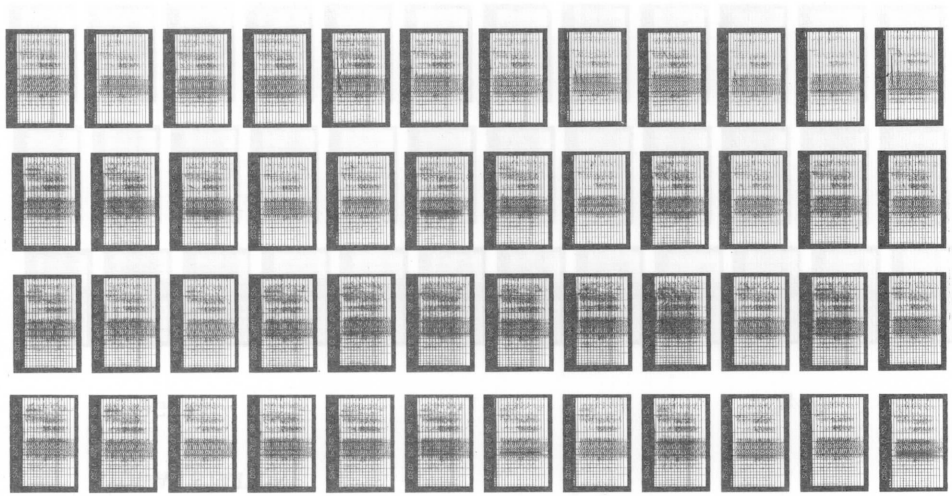
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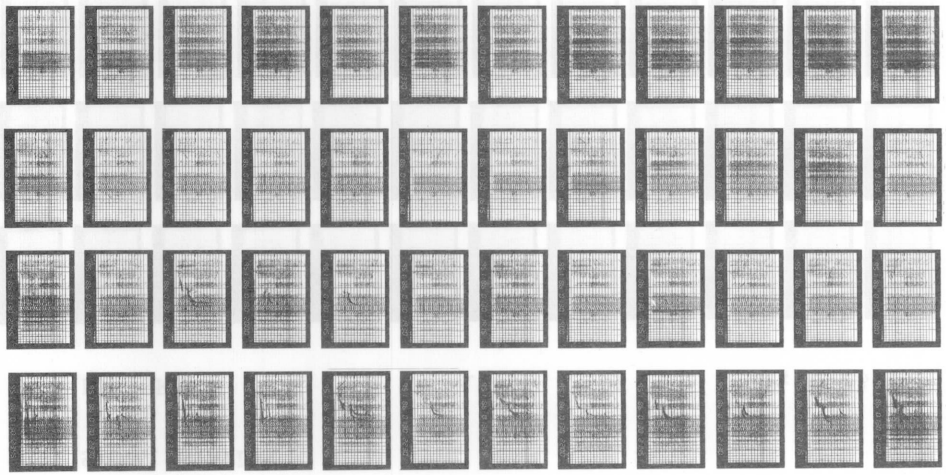
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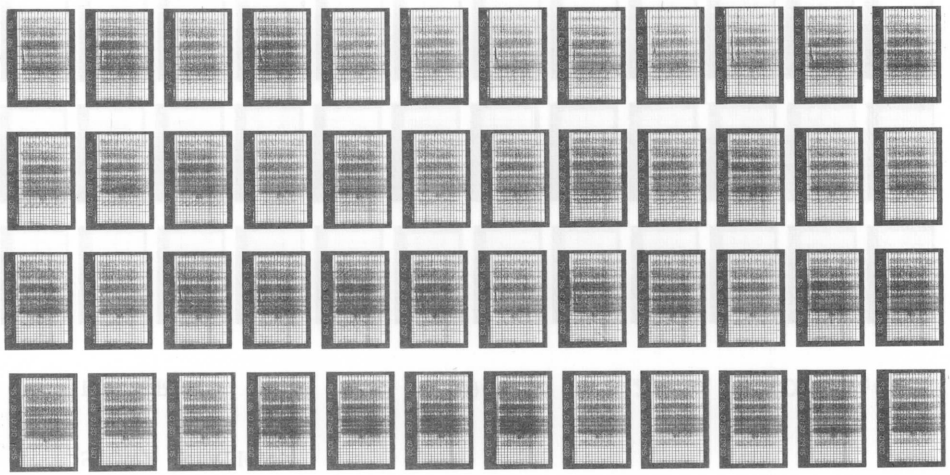
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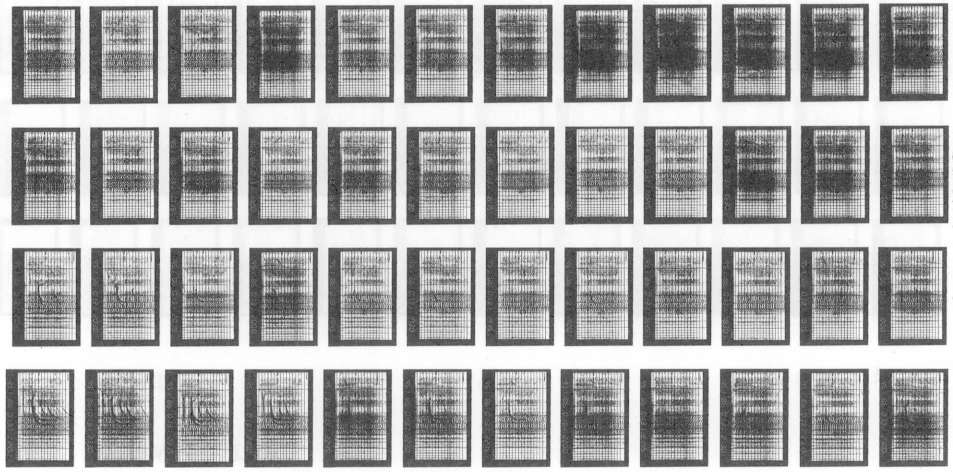
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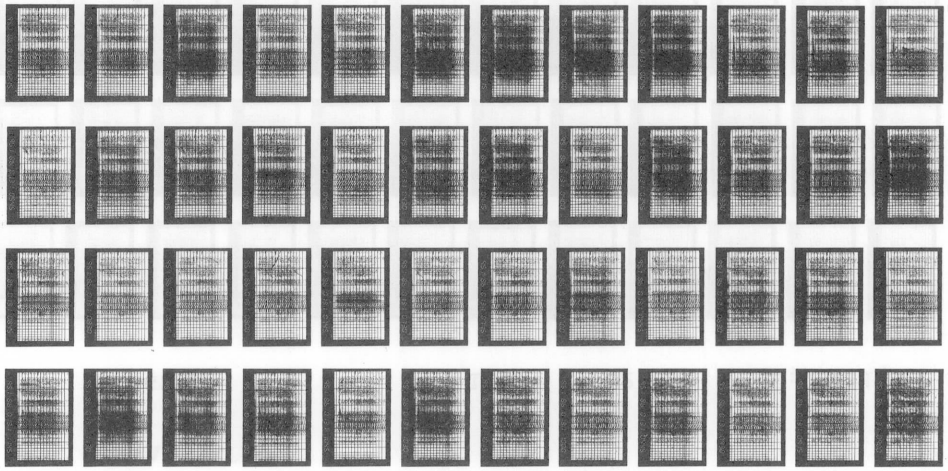
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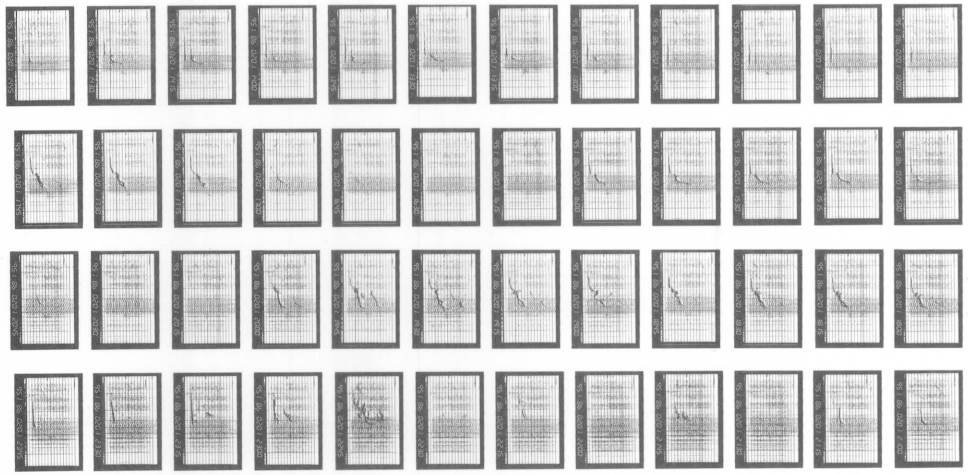
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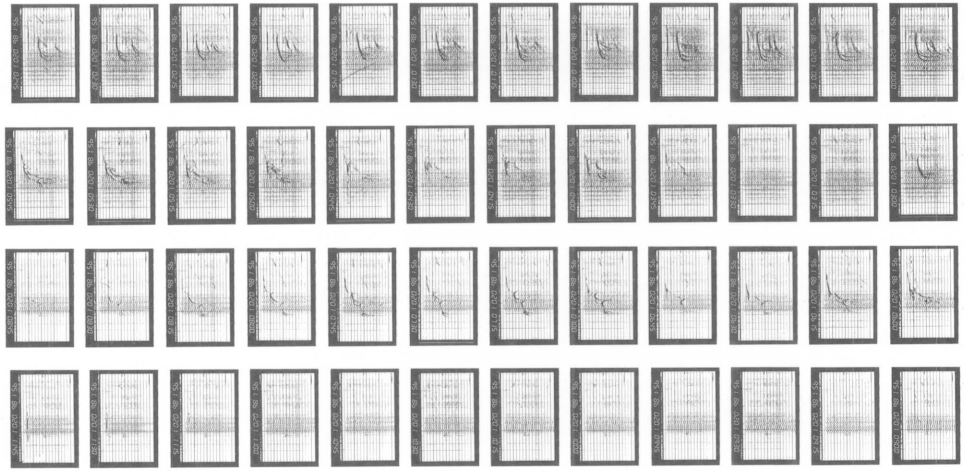
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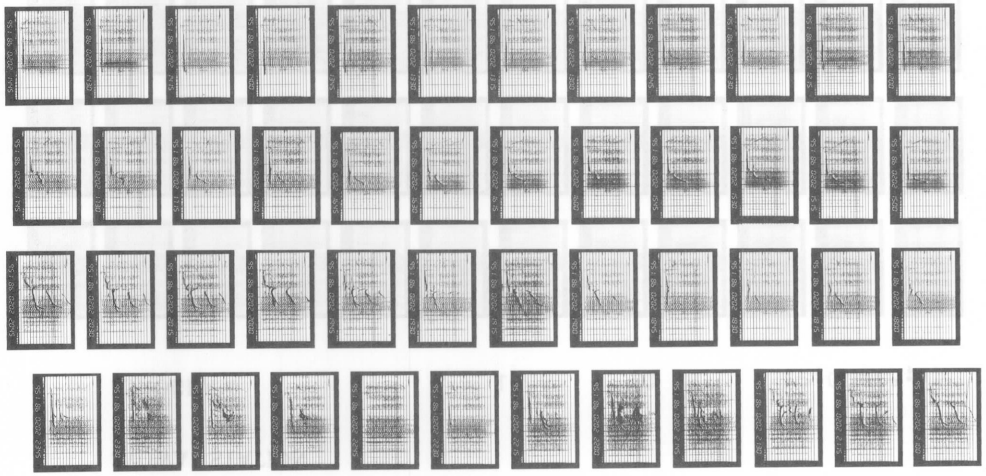
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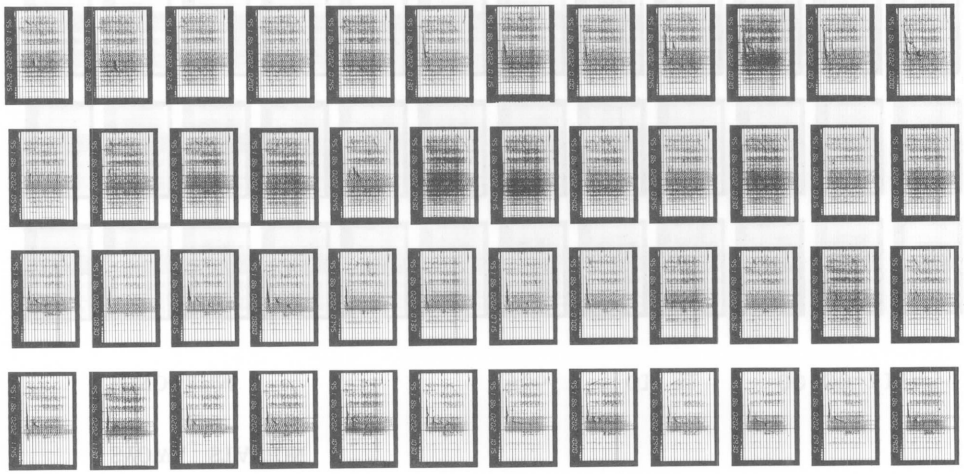
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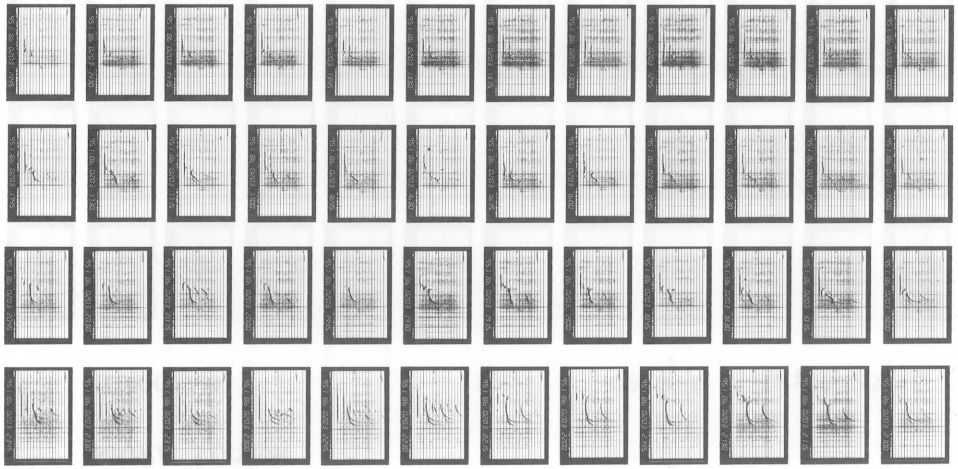
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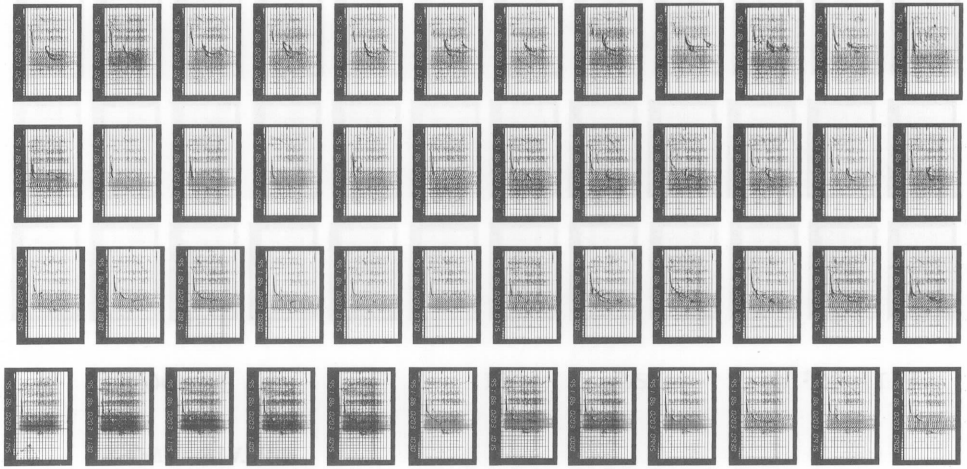
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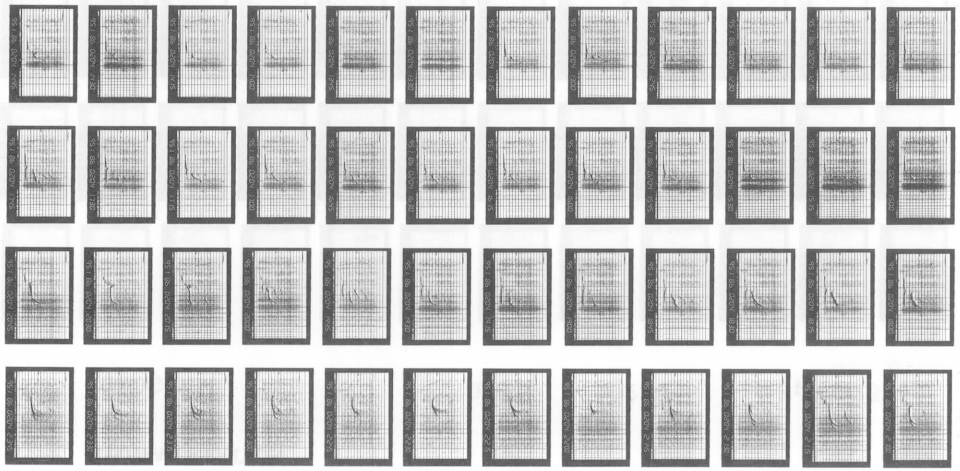
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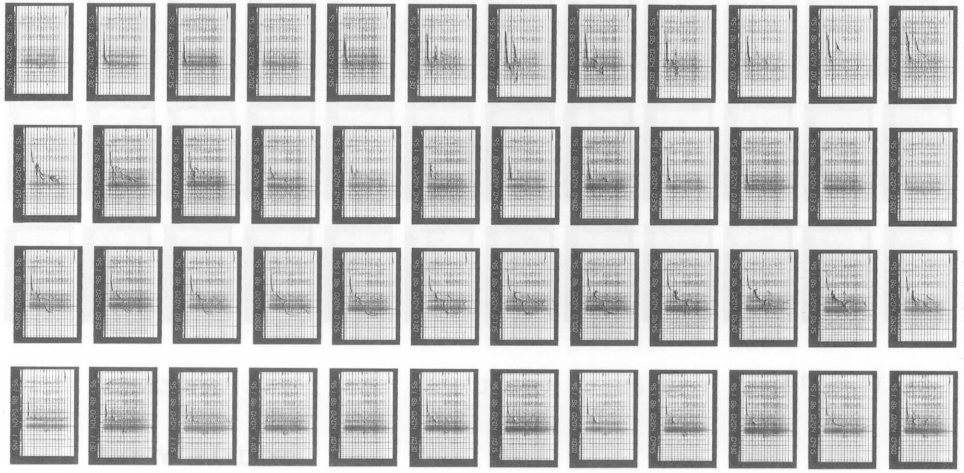
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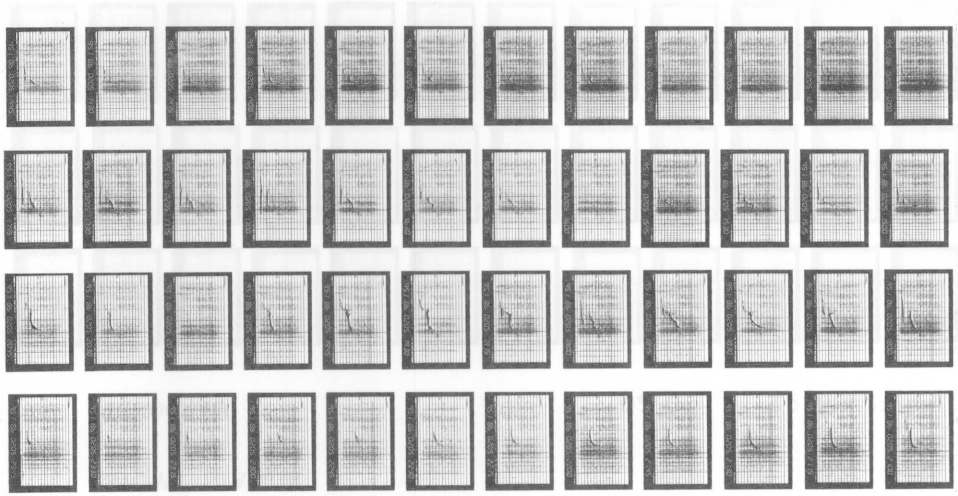
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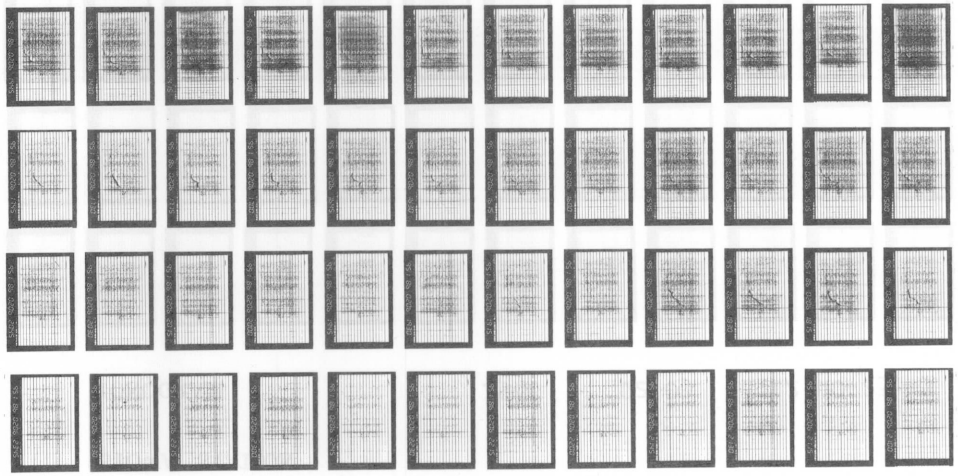
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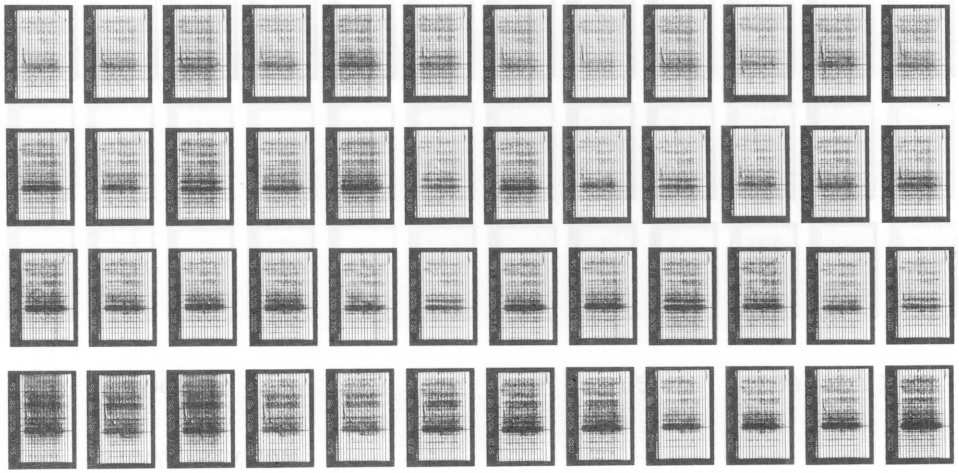
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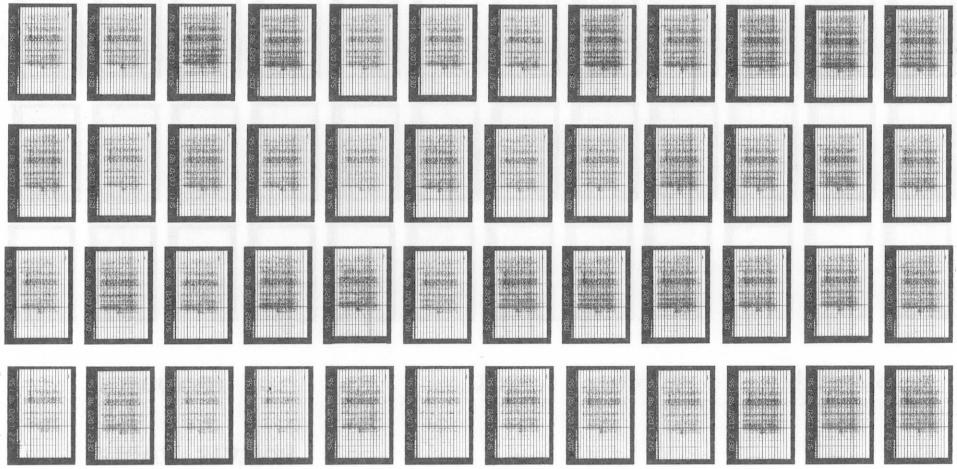
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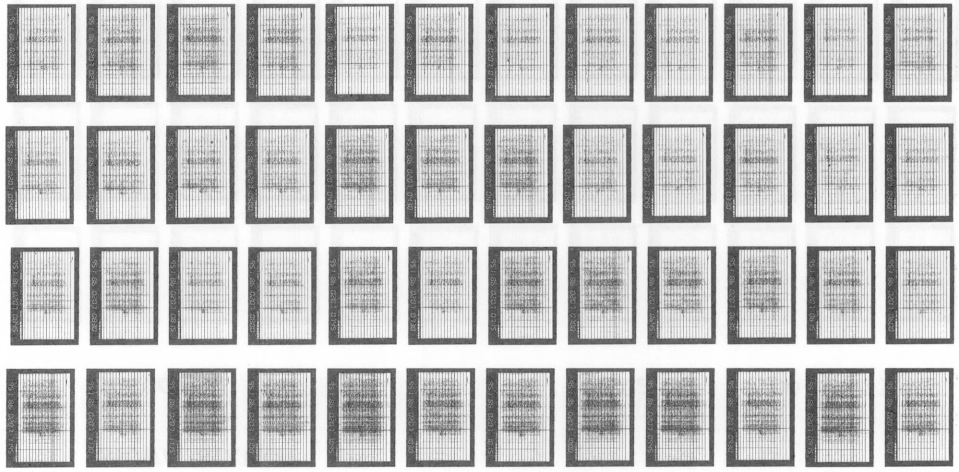
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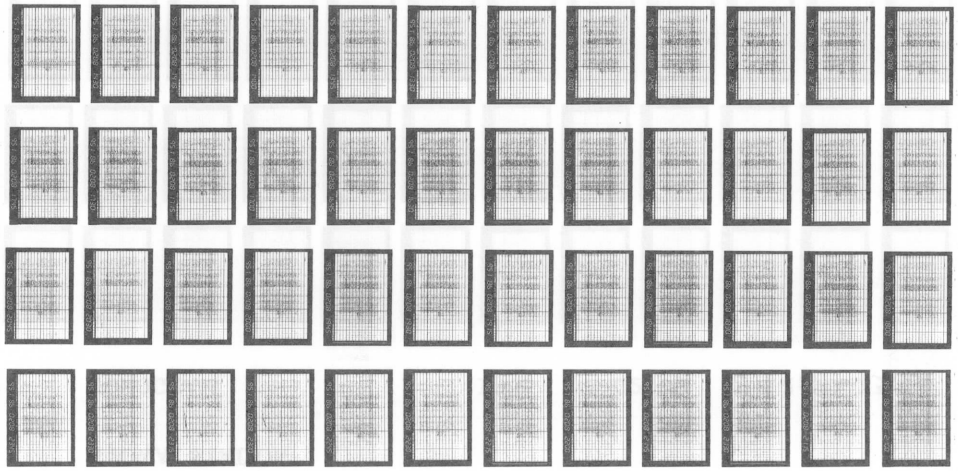
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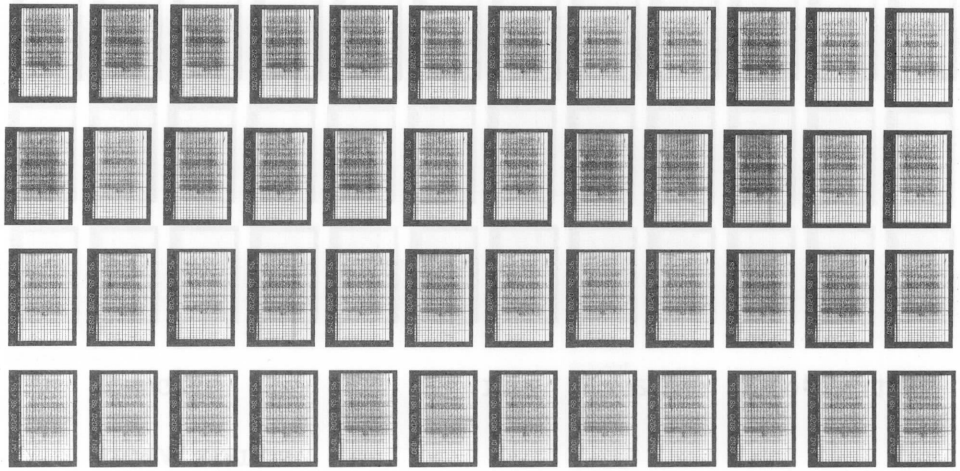
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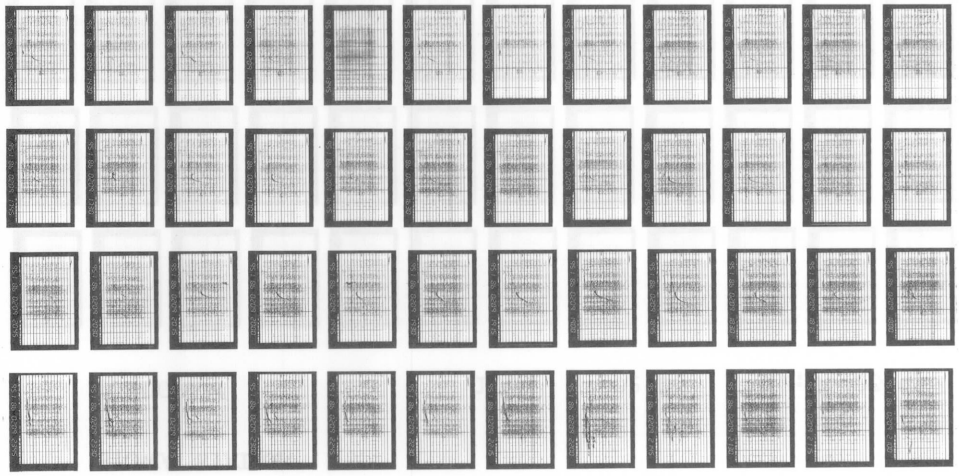
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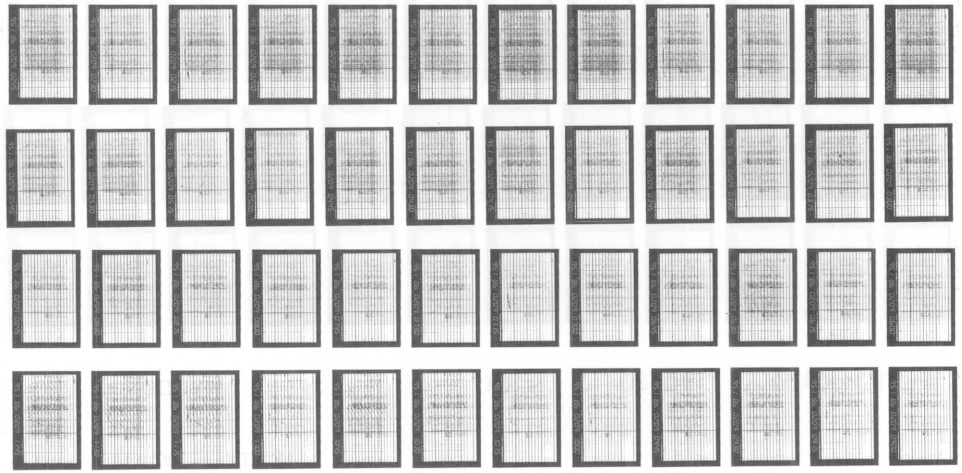
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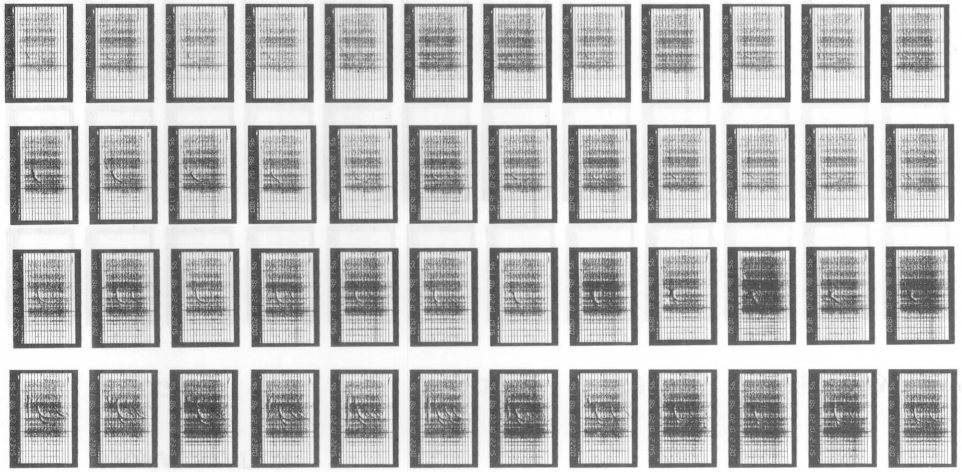
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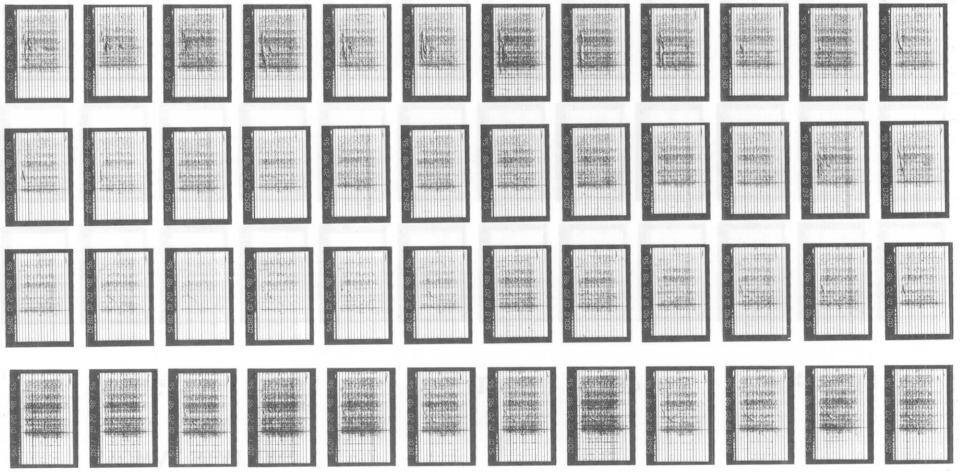
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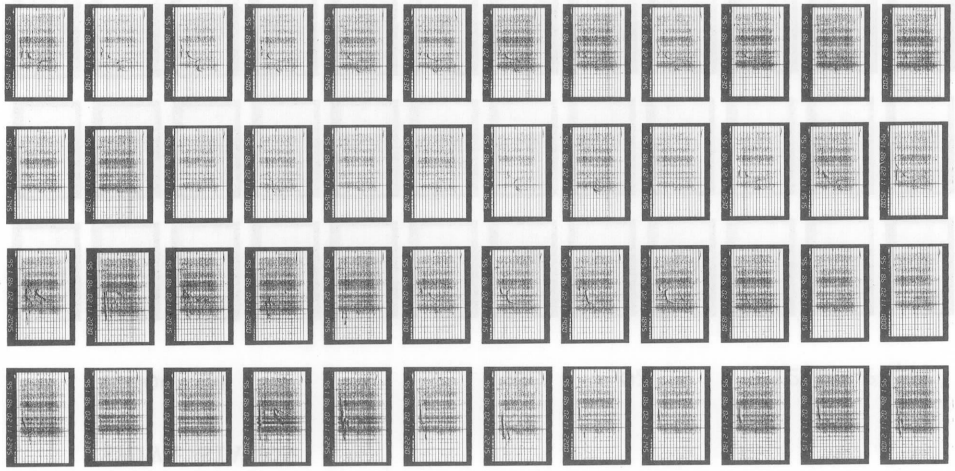
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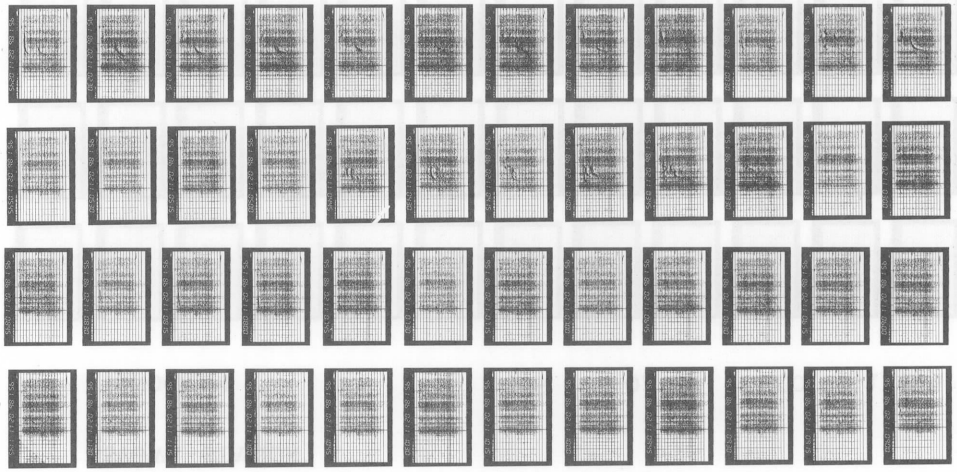
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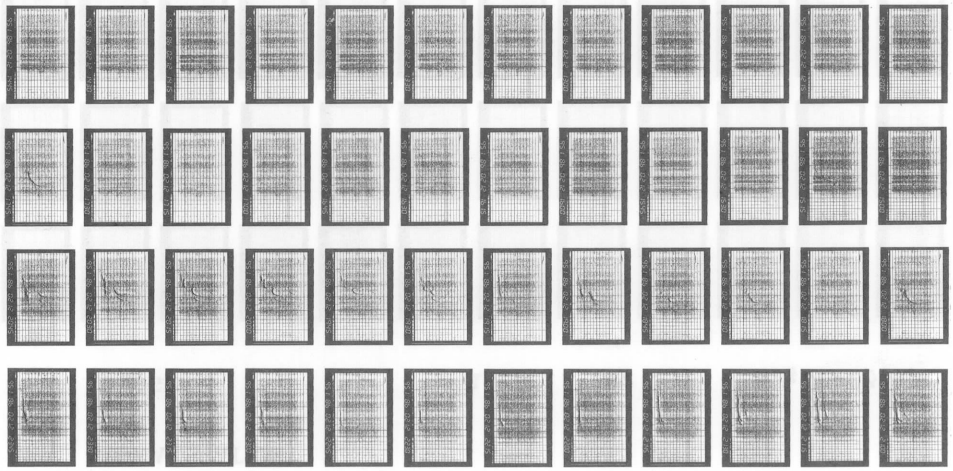
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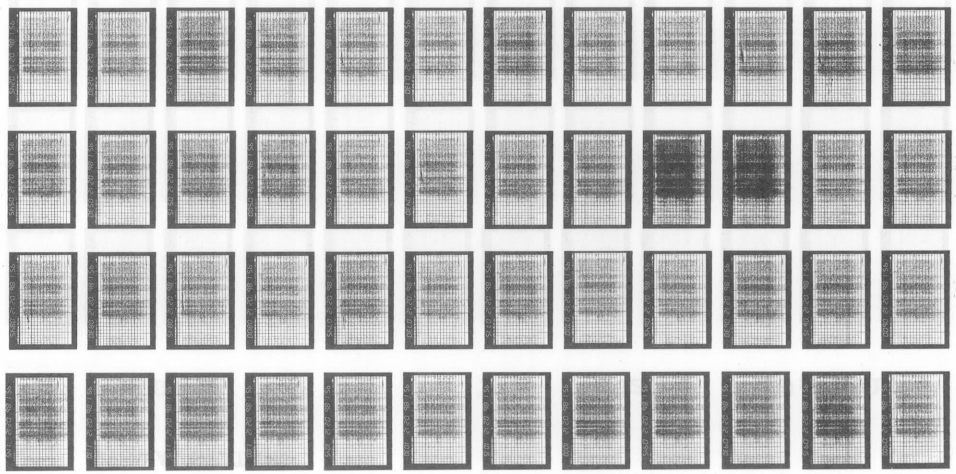
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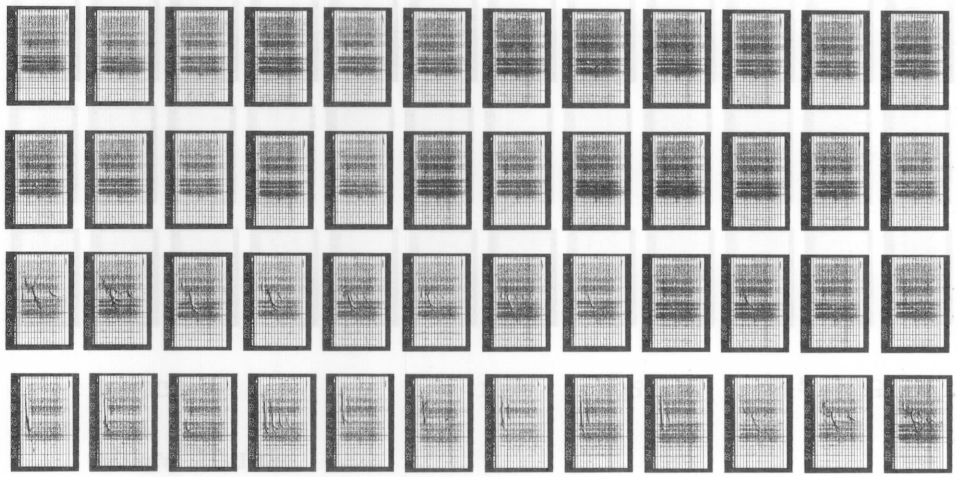
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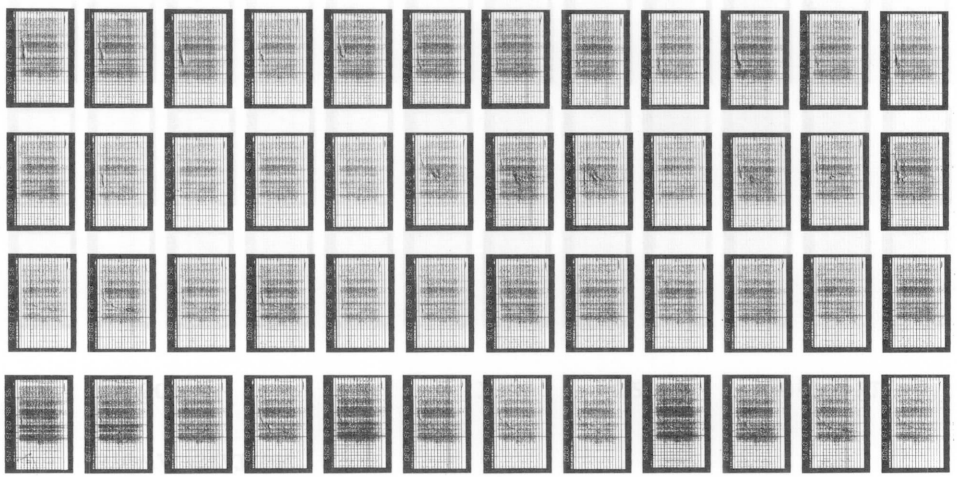
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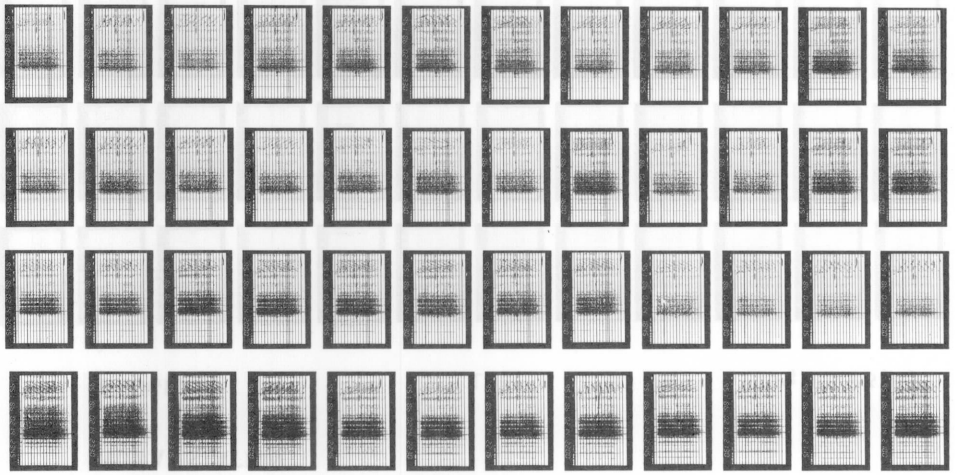
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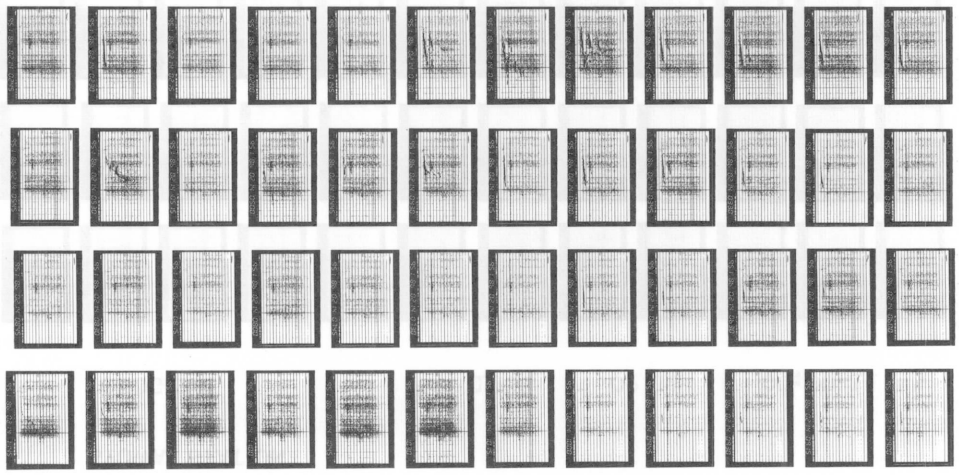
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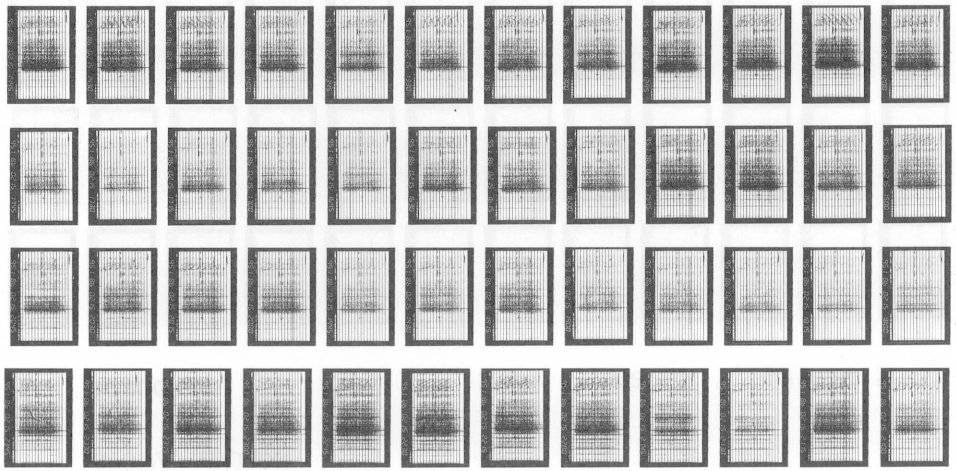
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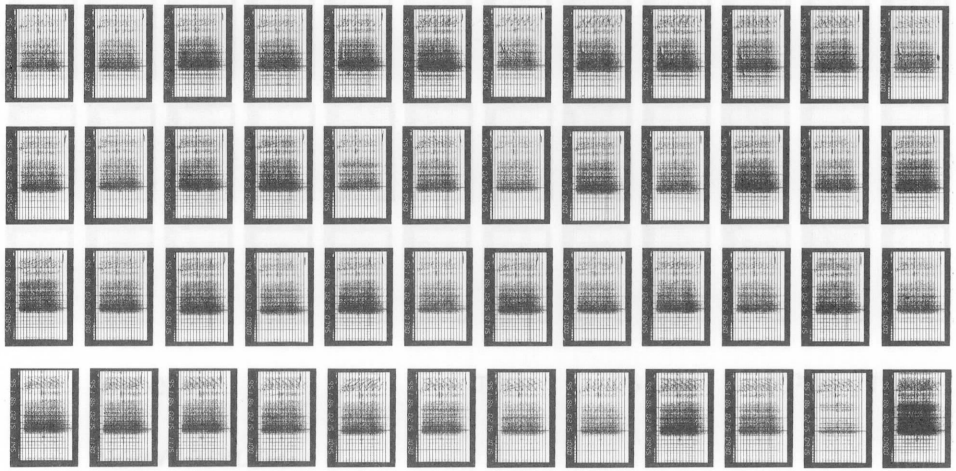
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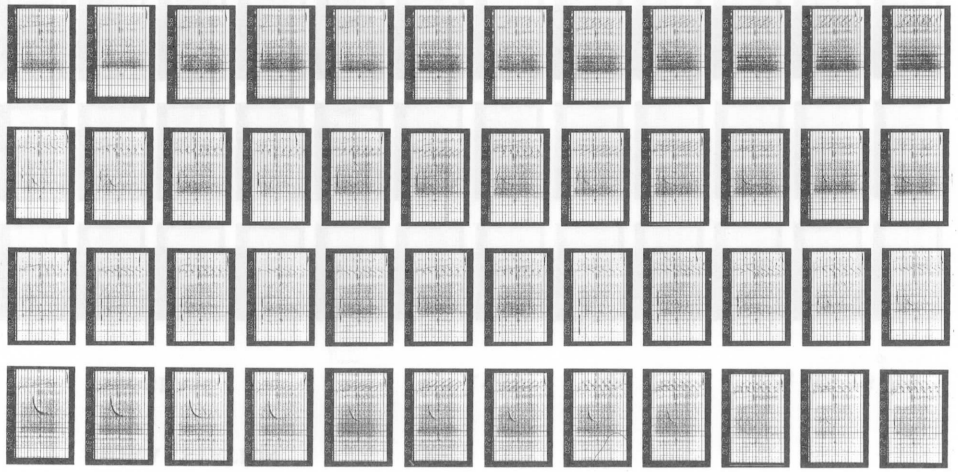
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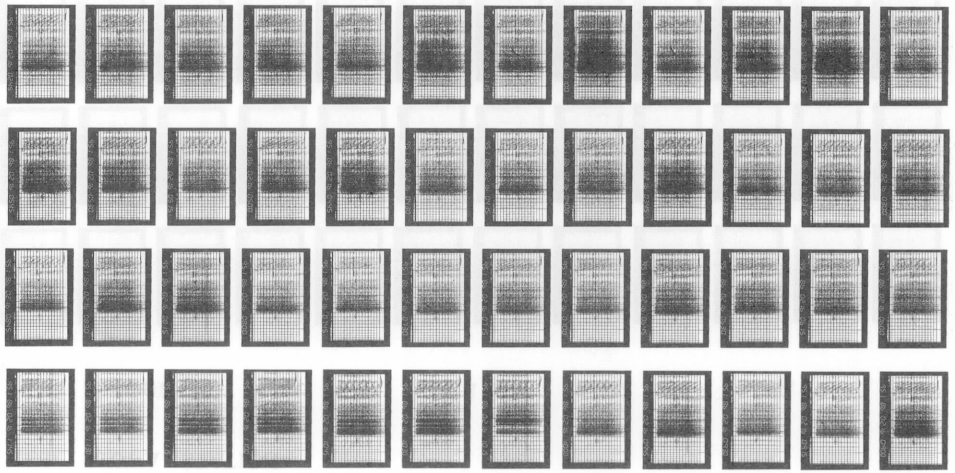
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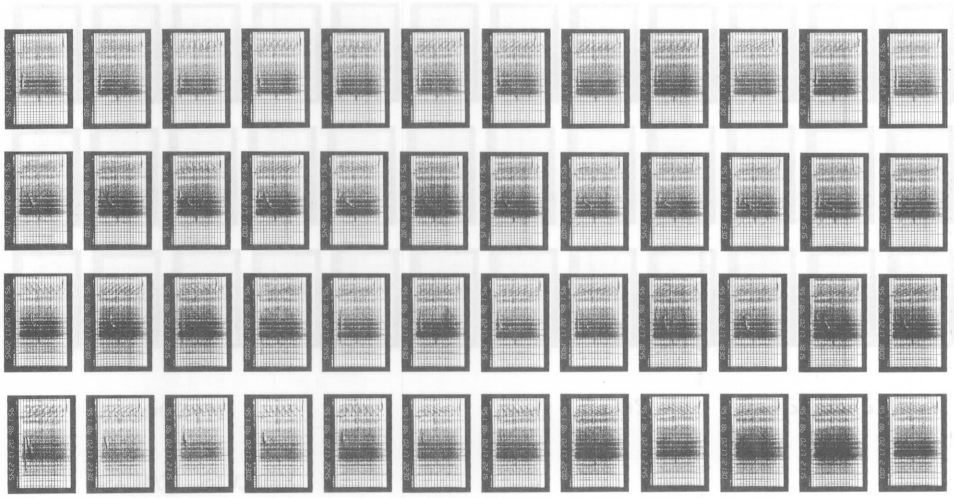
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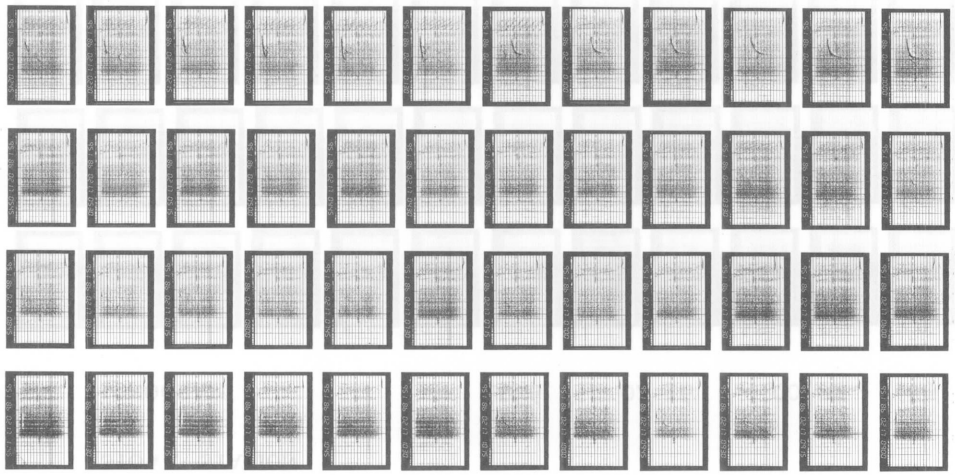
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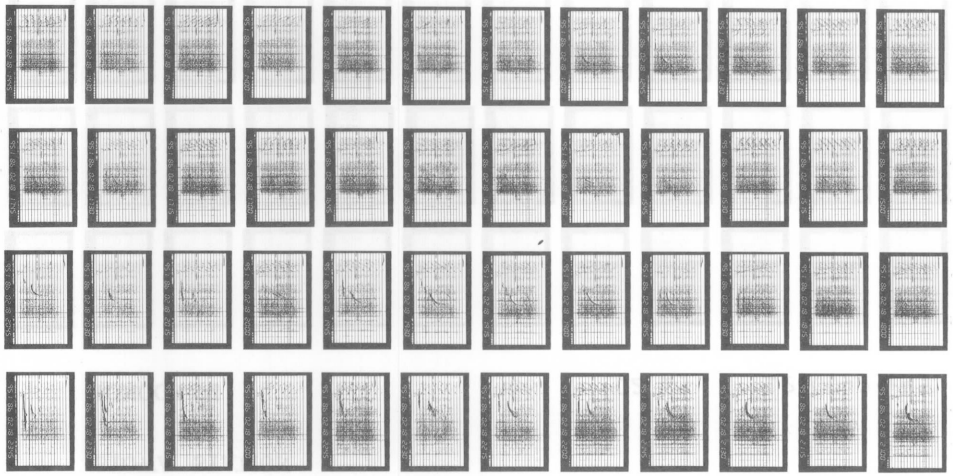
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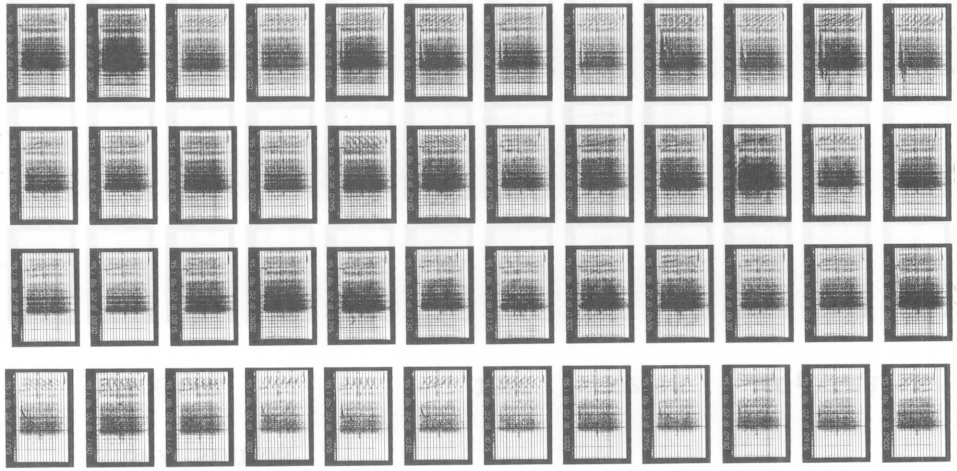
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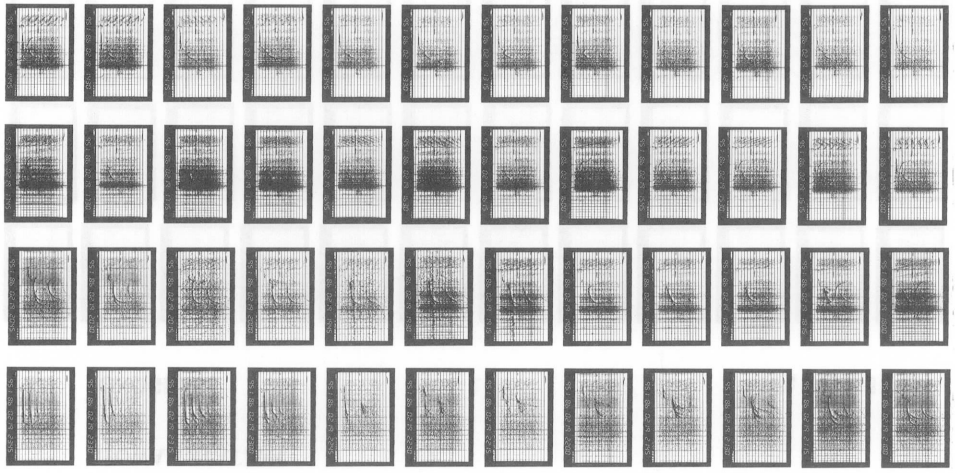
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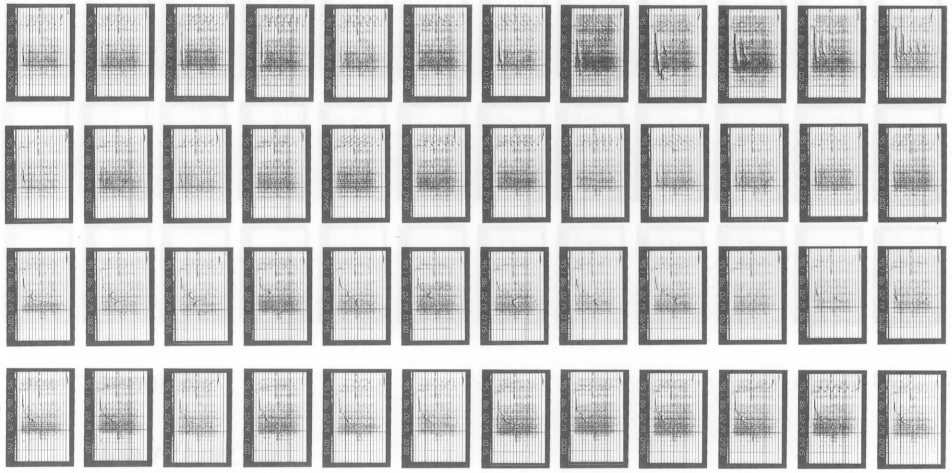
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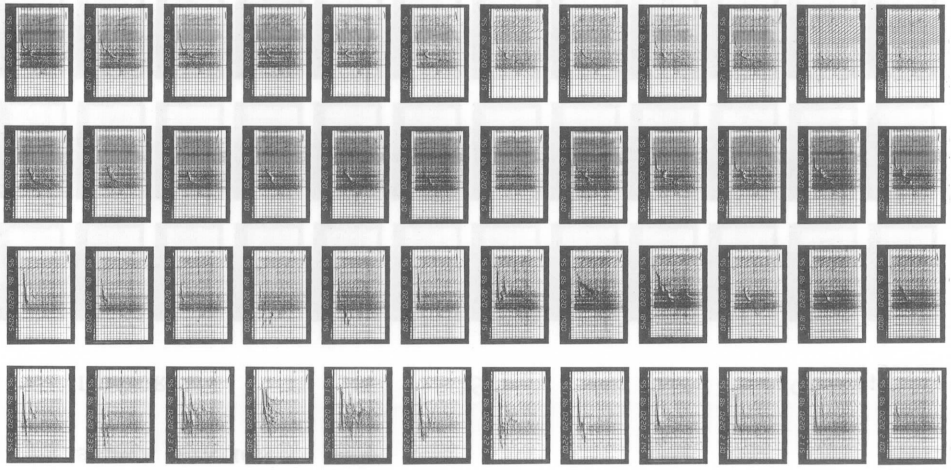
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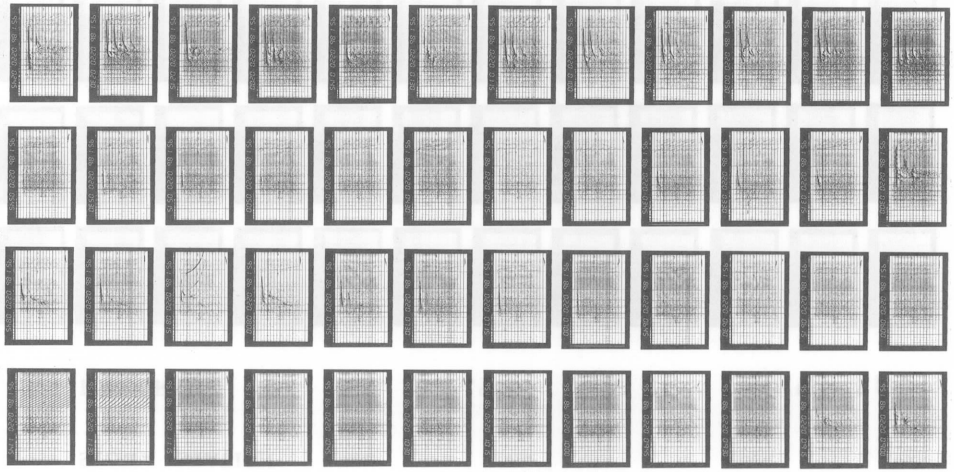
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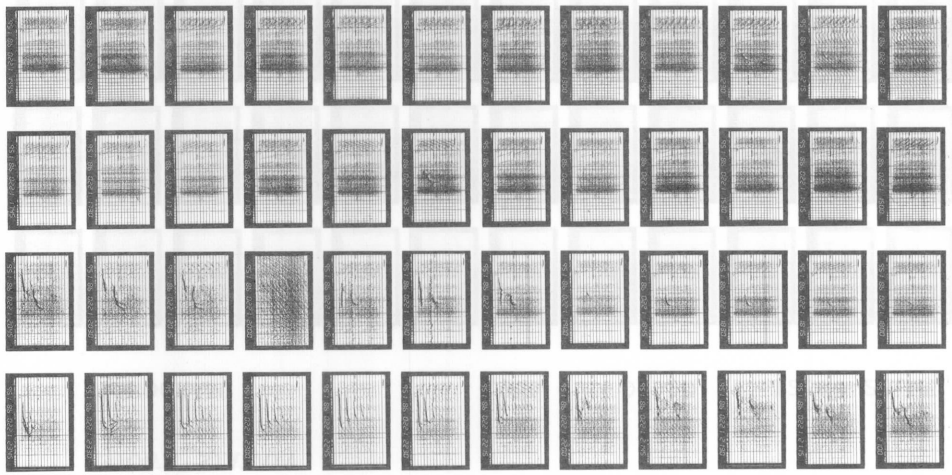
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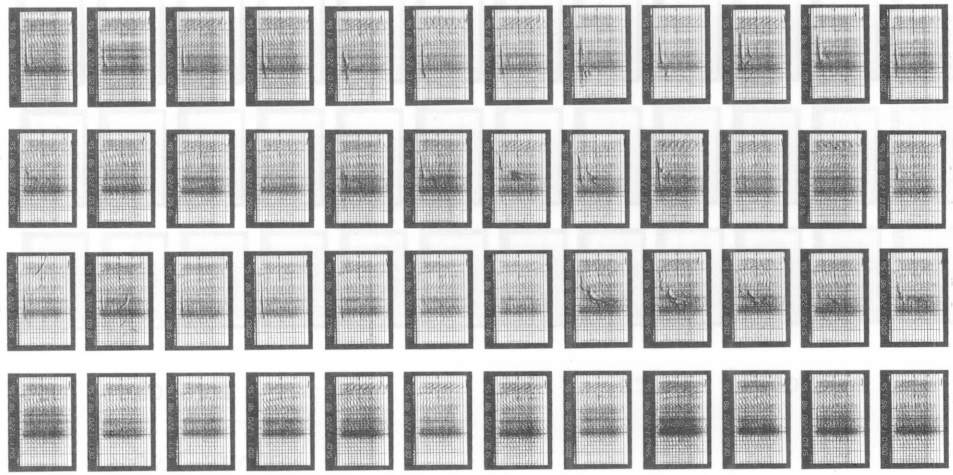
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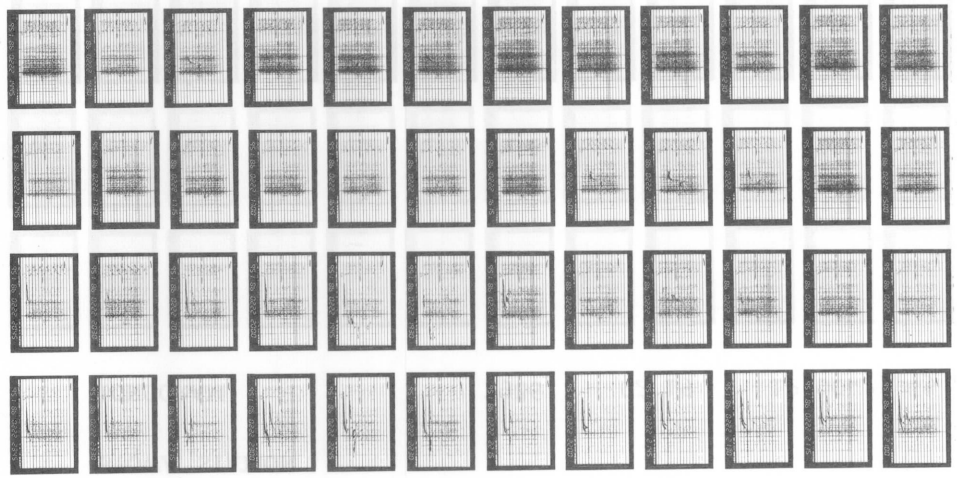
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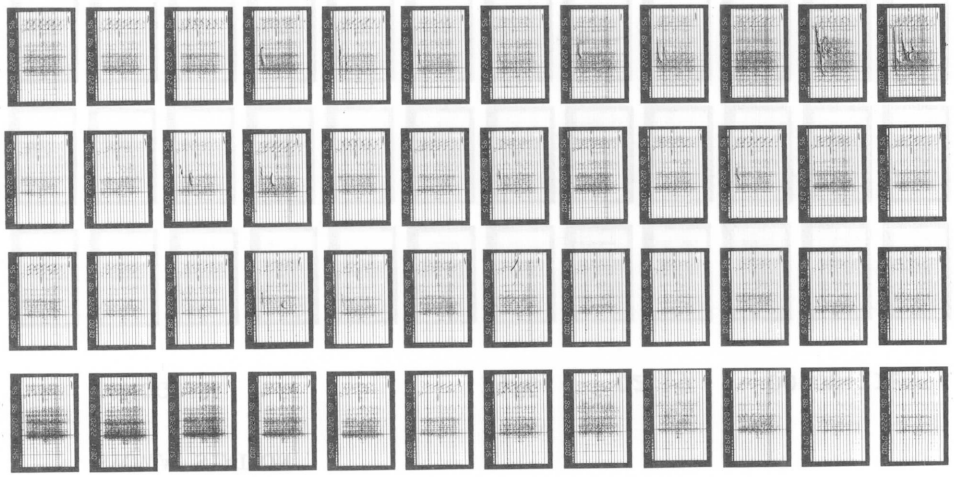
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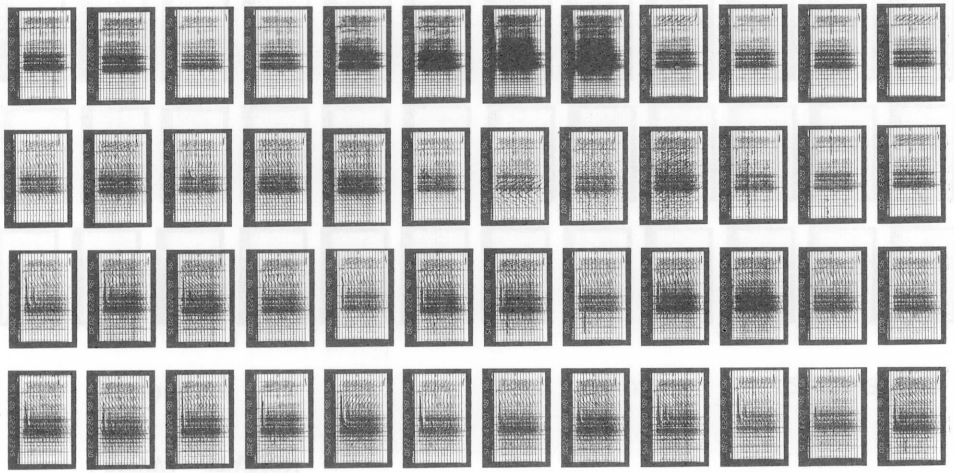
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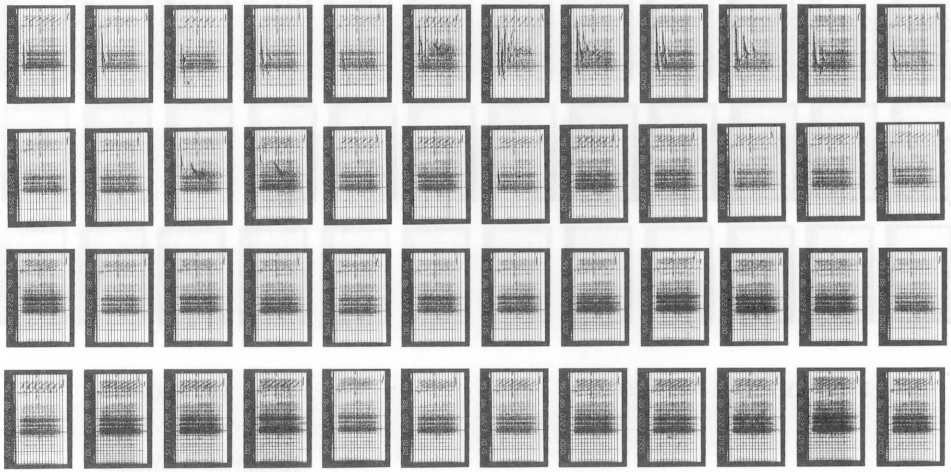
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SYOWA STATION

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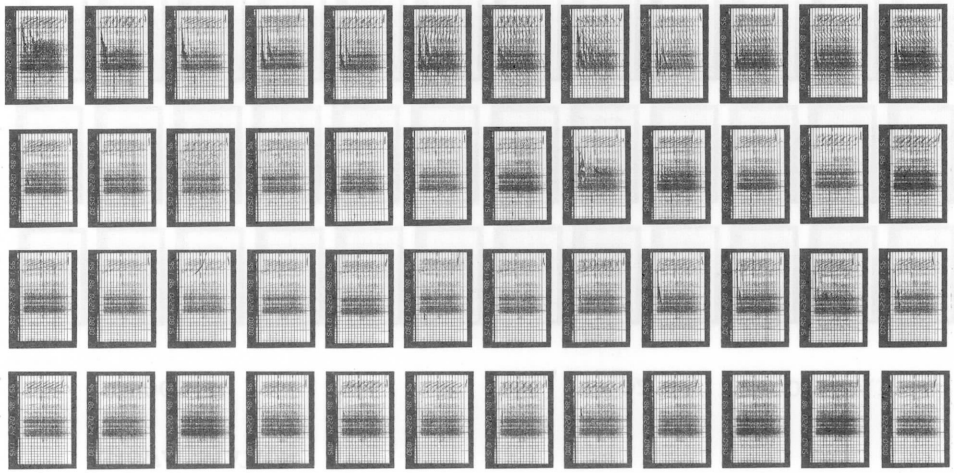
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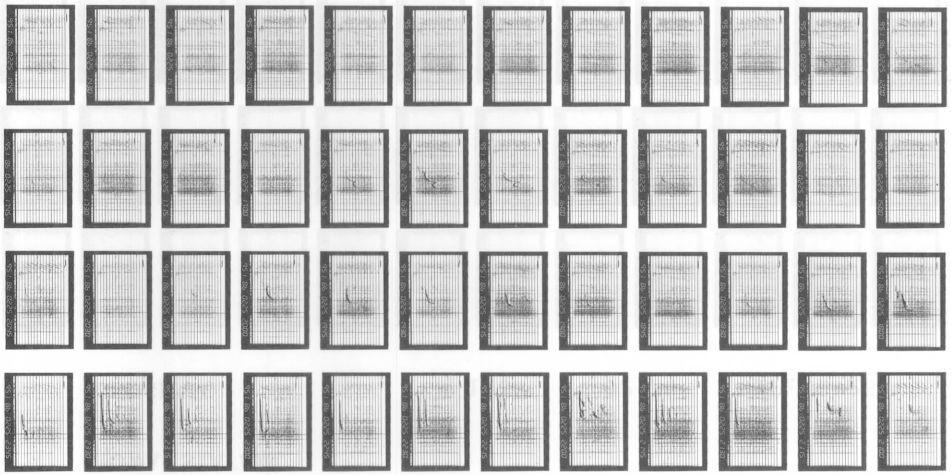
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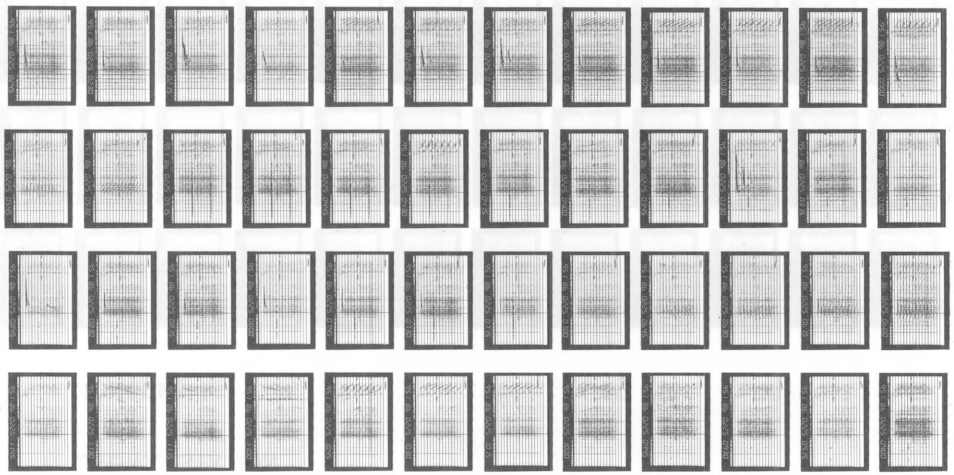
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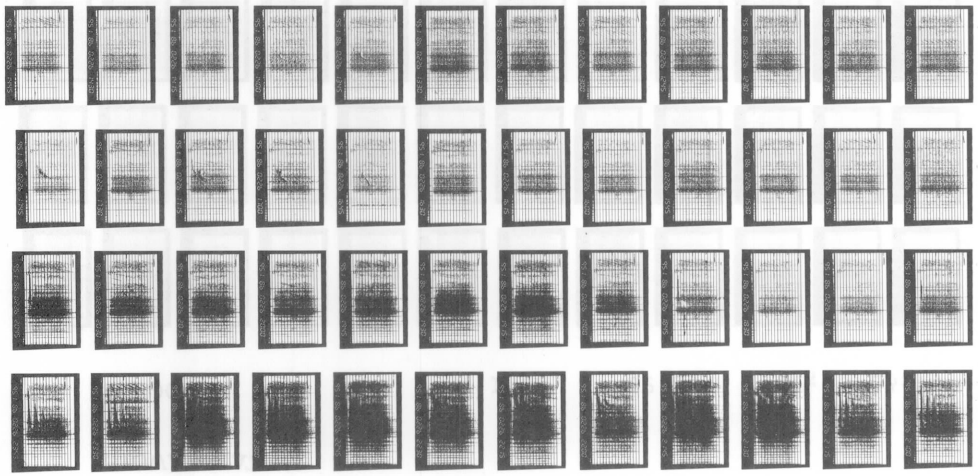
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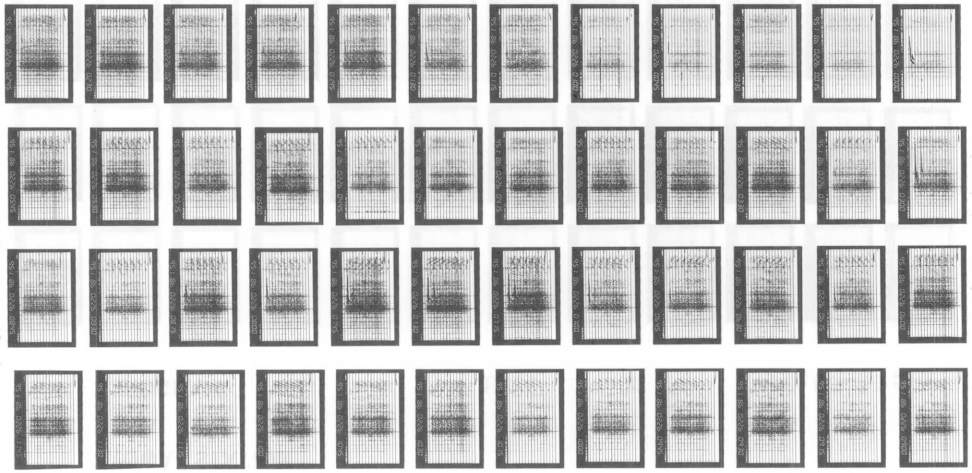
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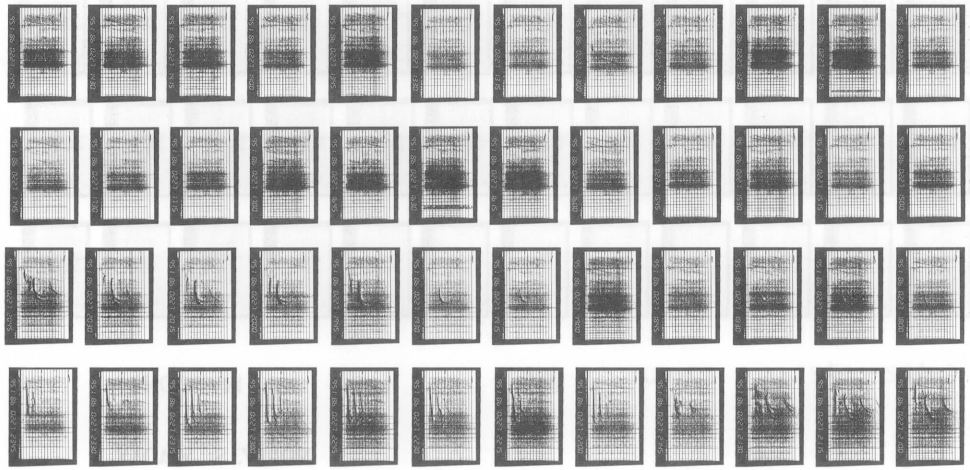
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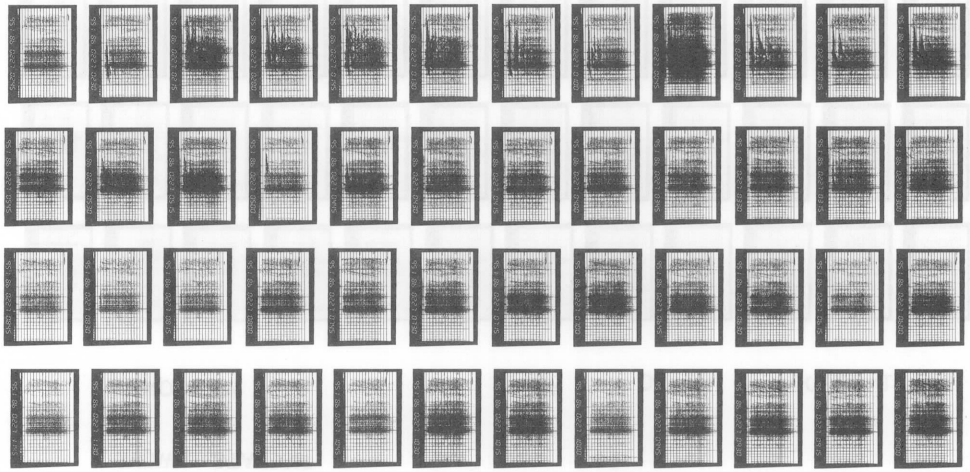
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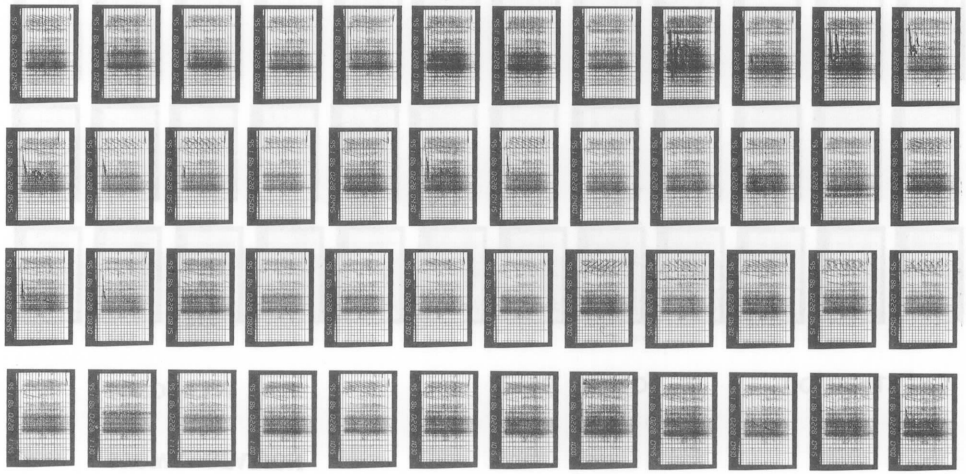
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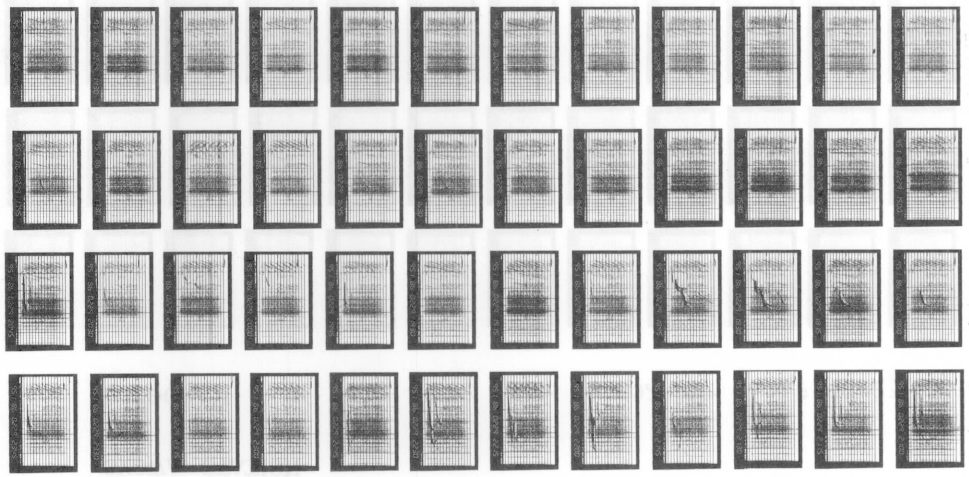
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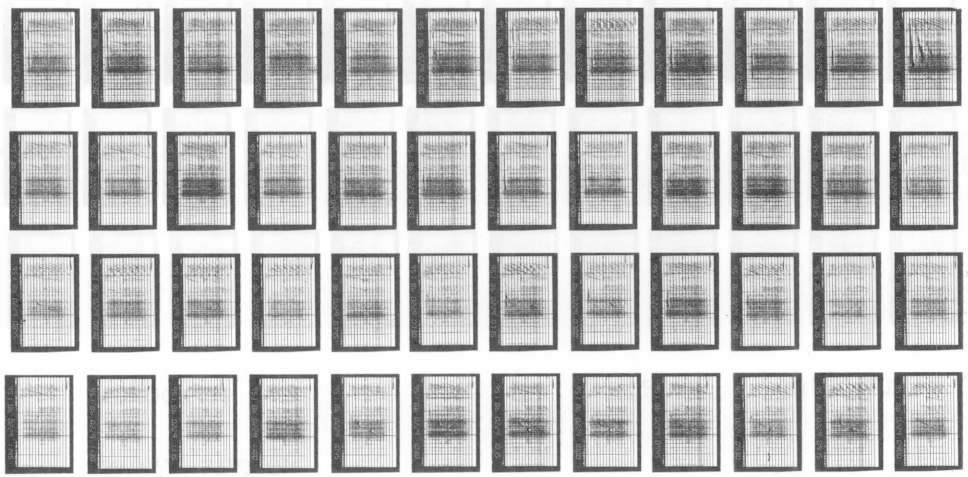
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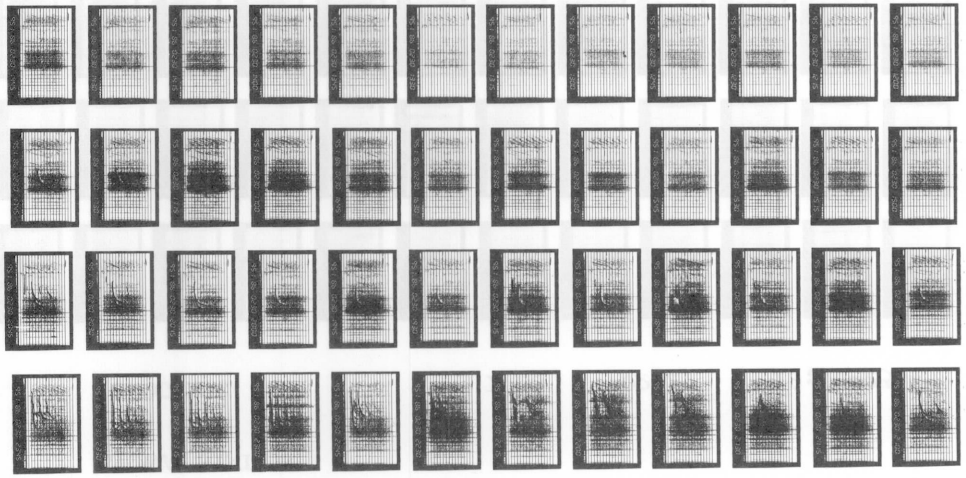
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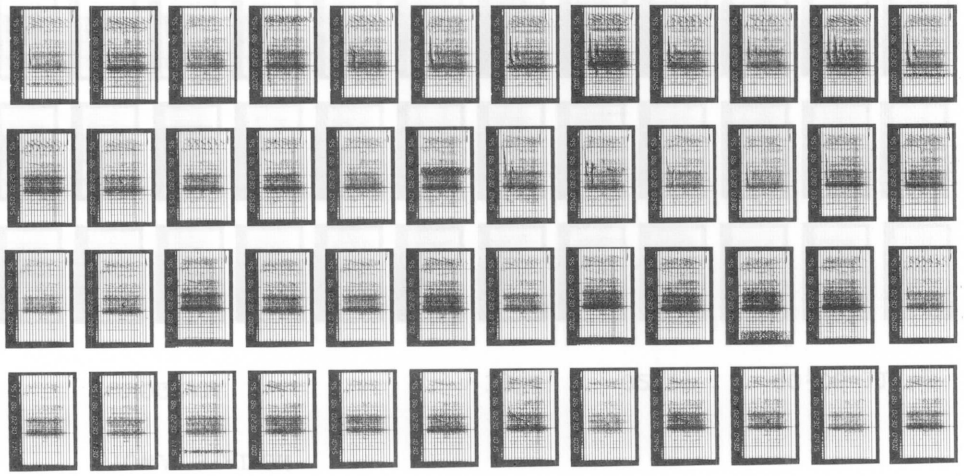
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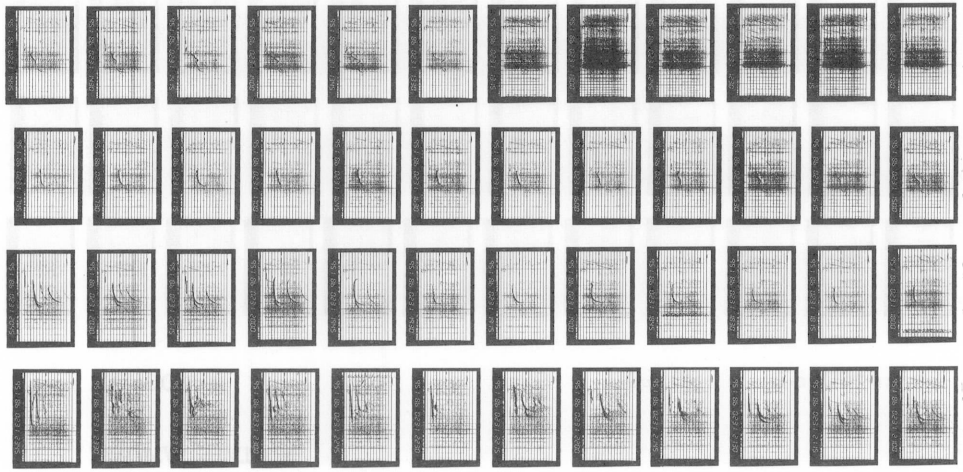
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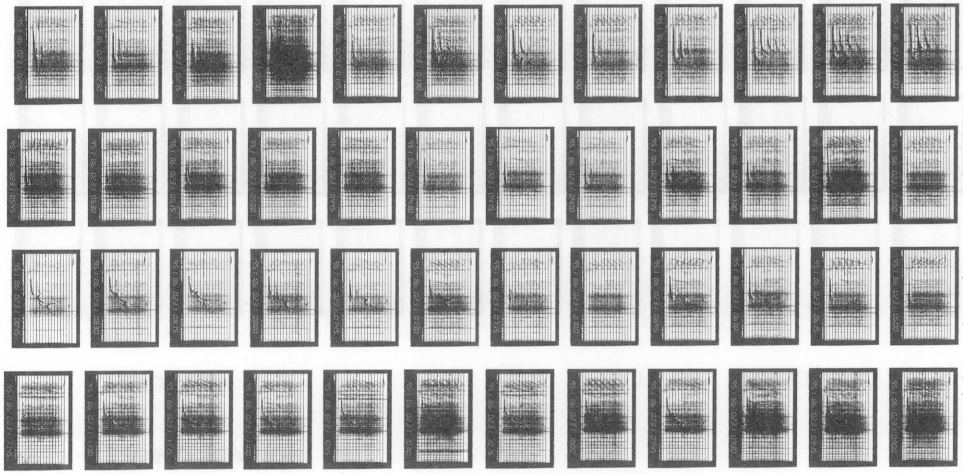
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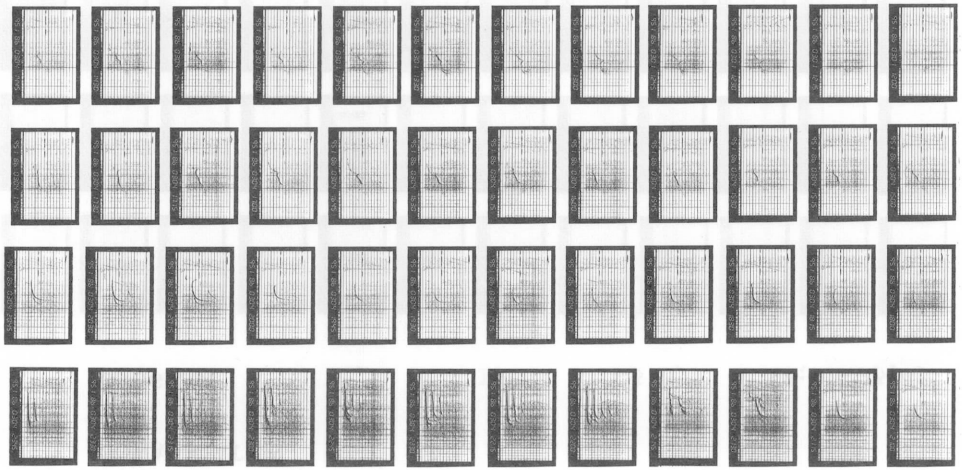
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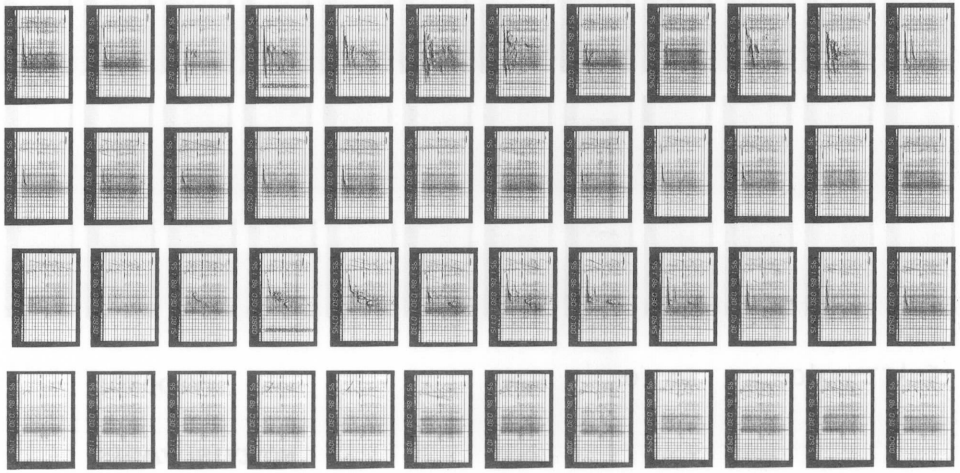
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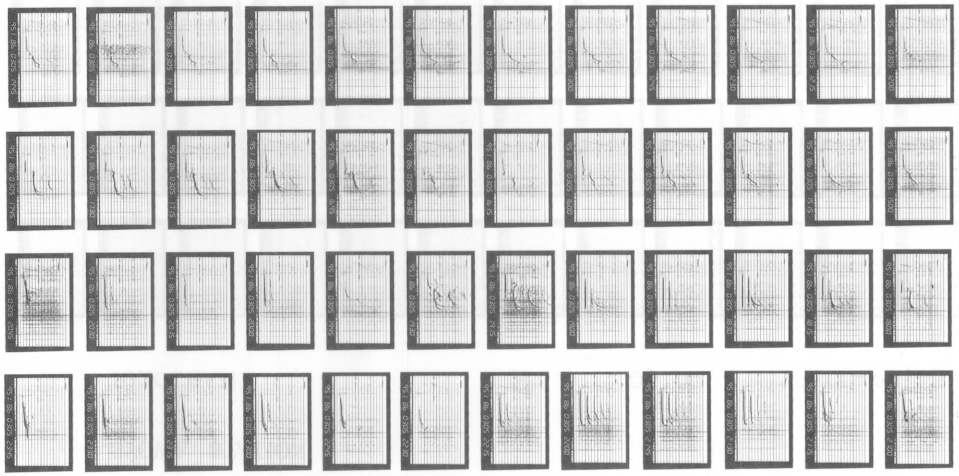
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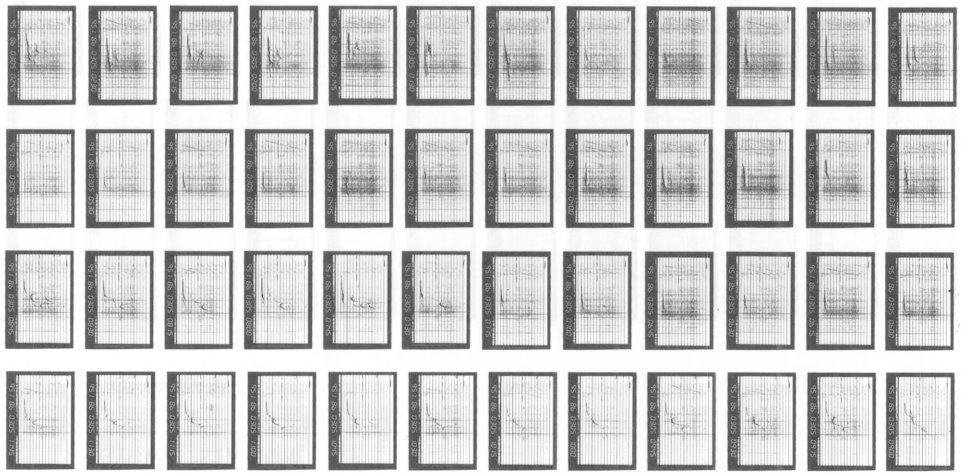
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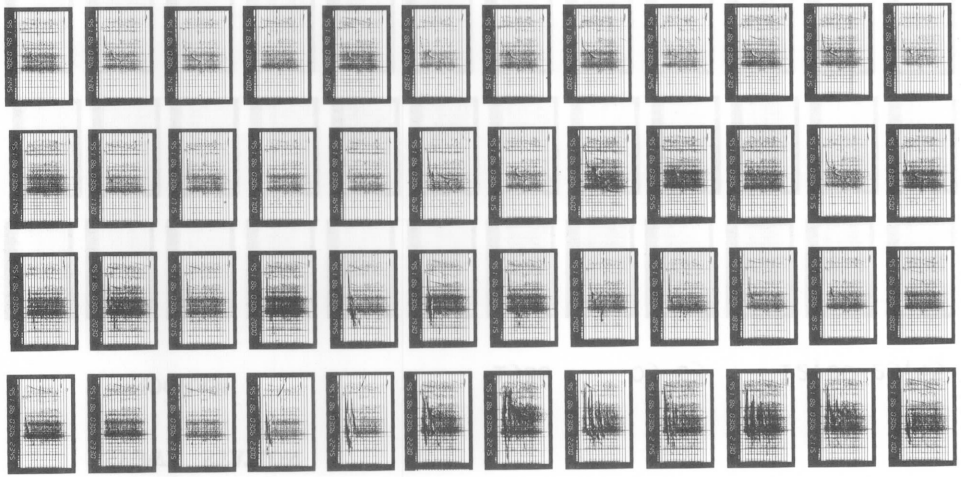
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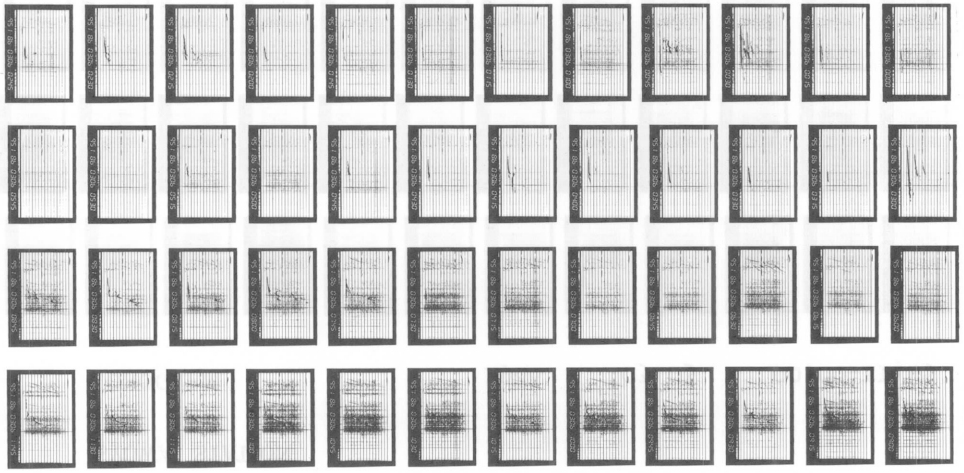
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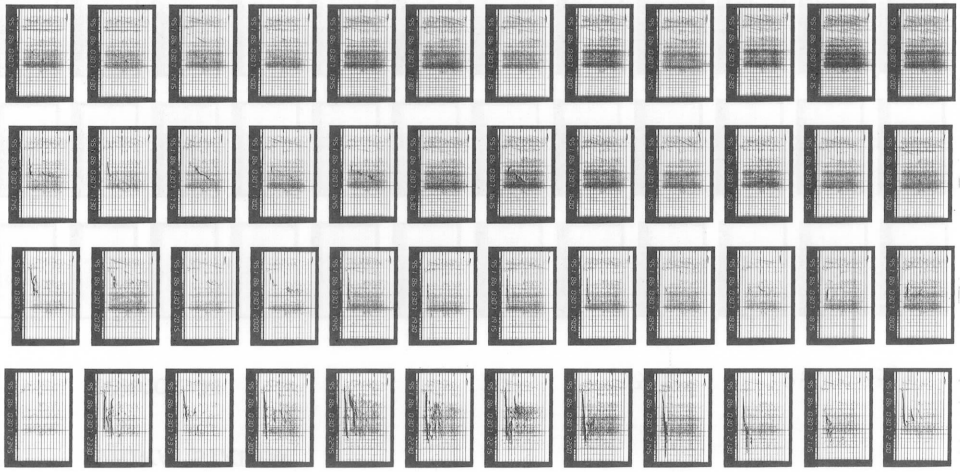
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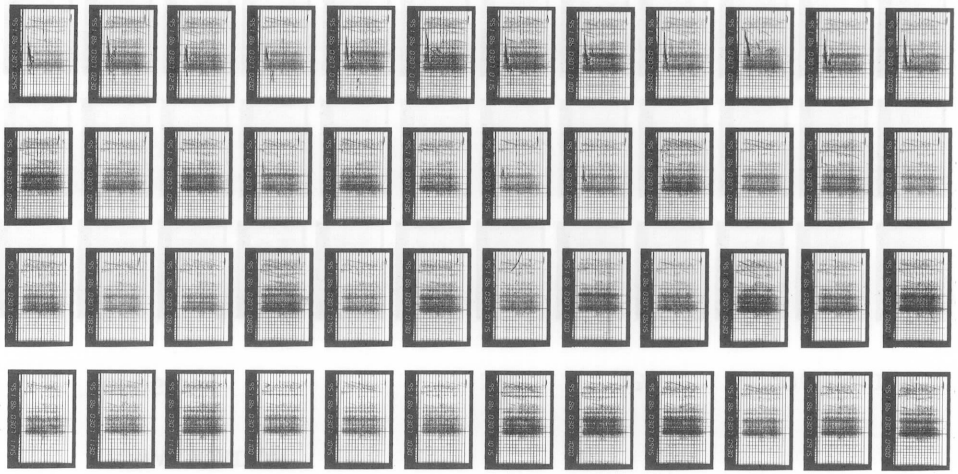
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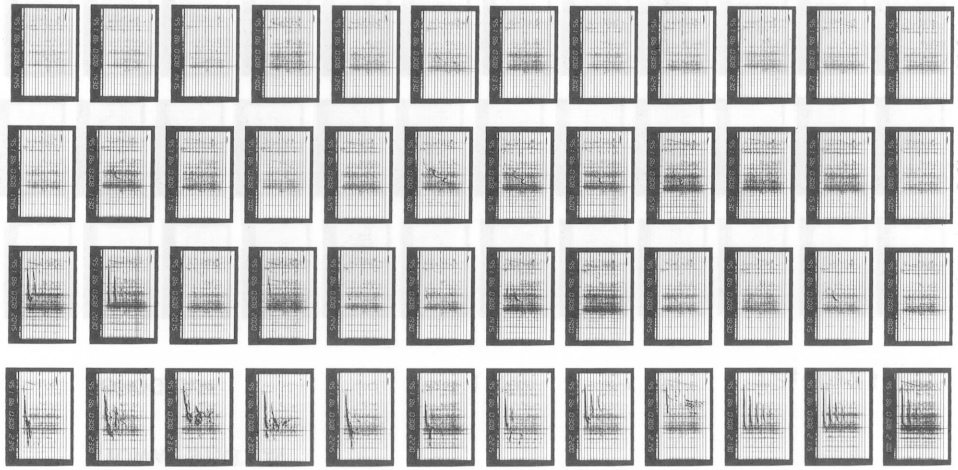
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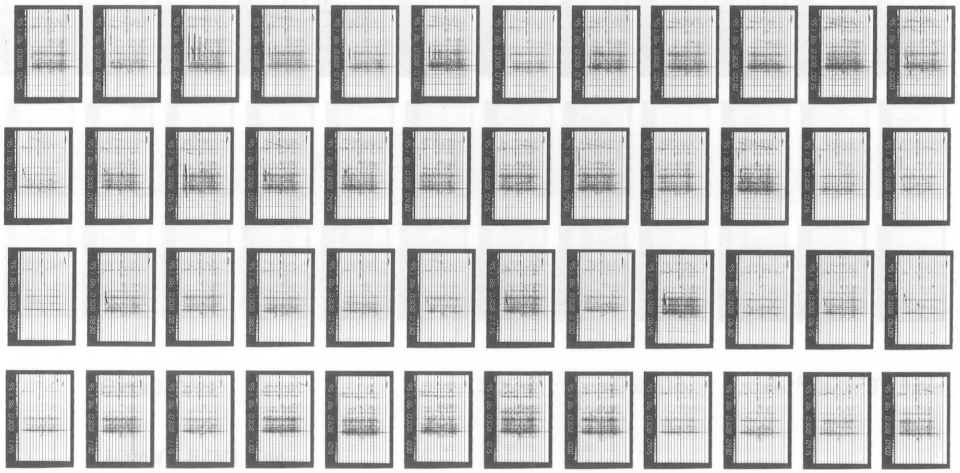
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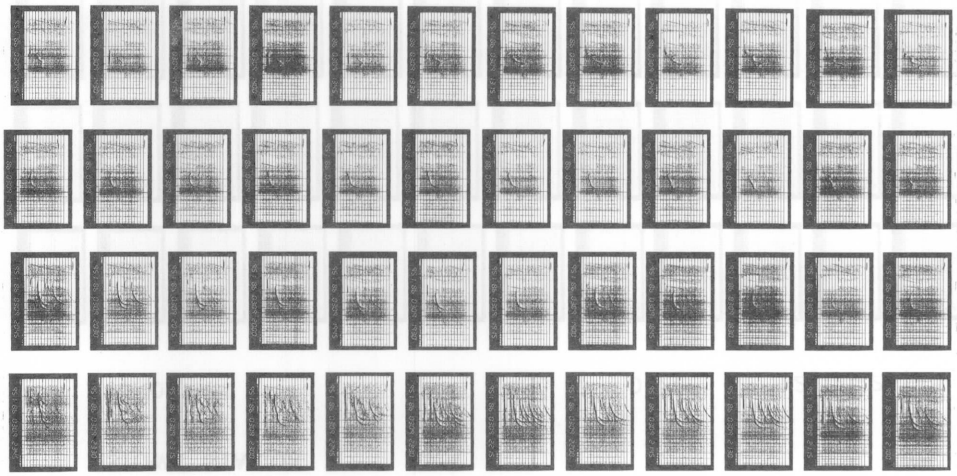
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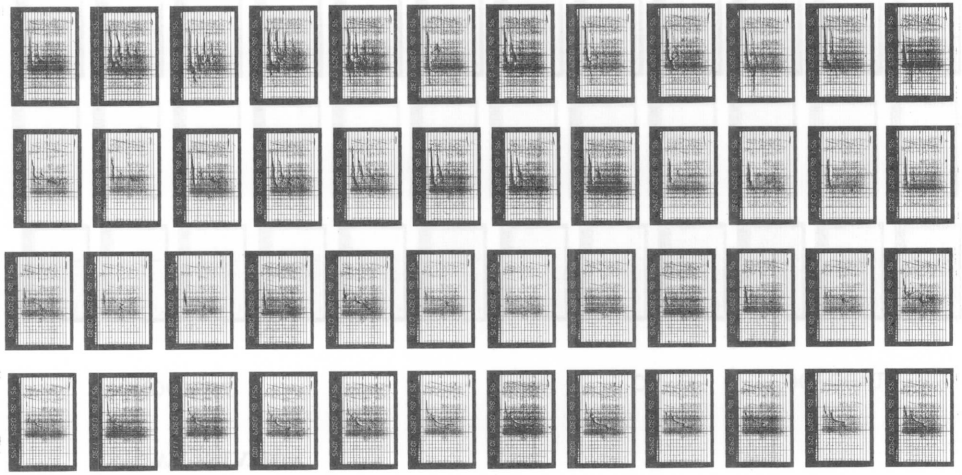
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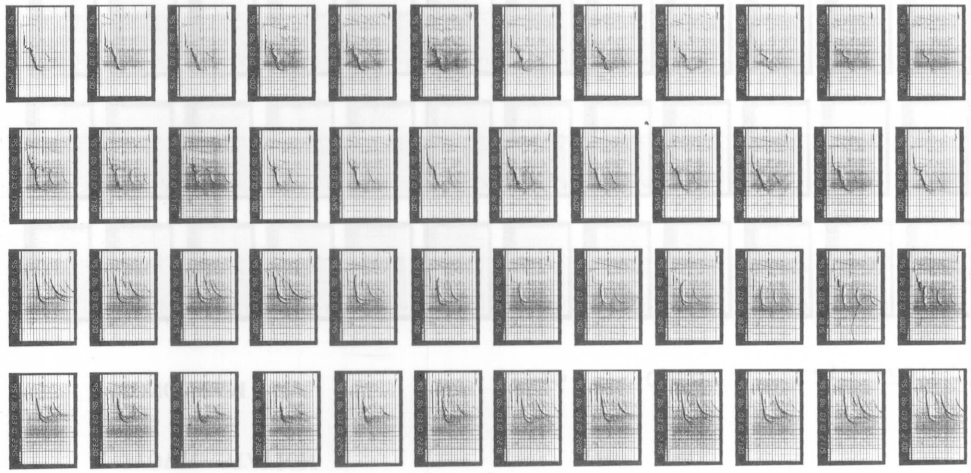
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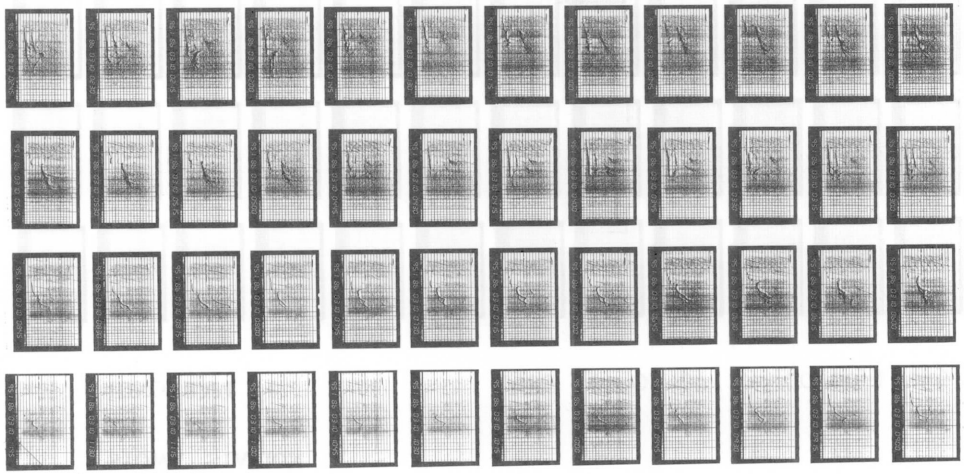
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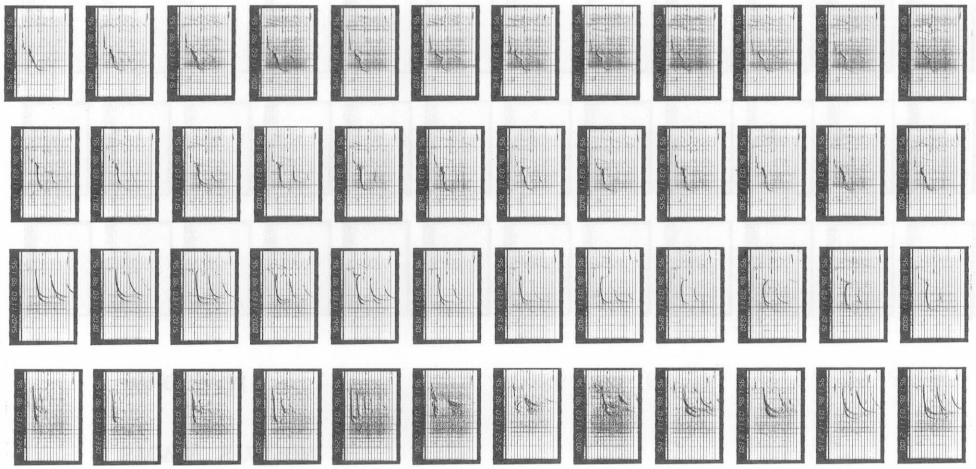
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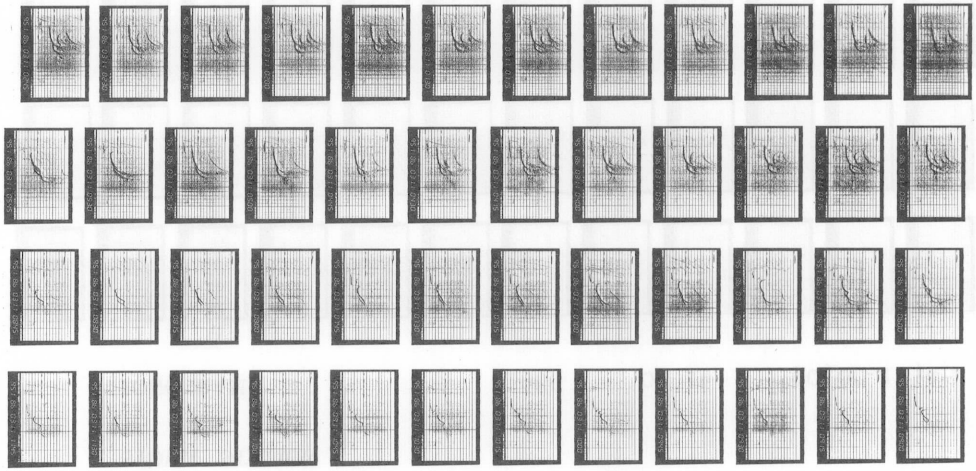
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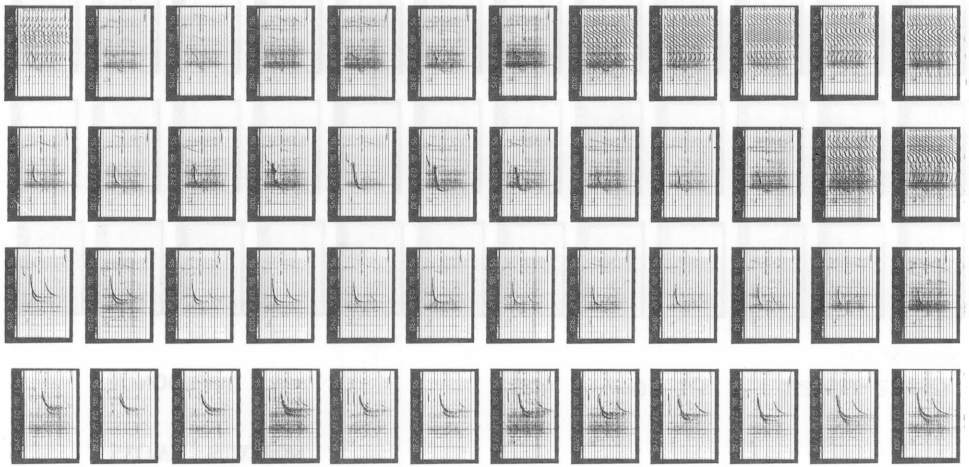
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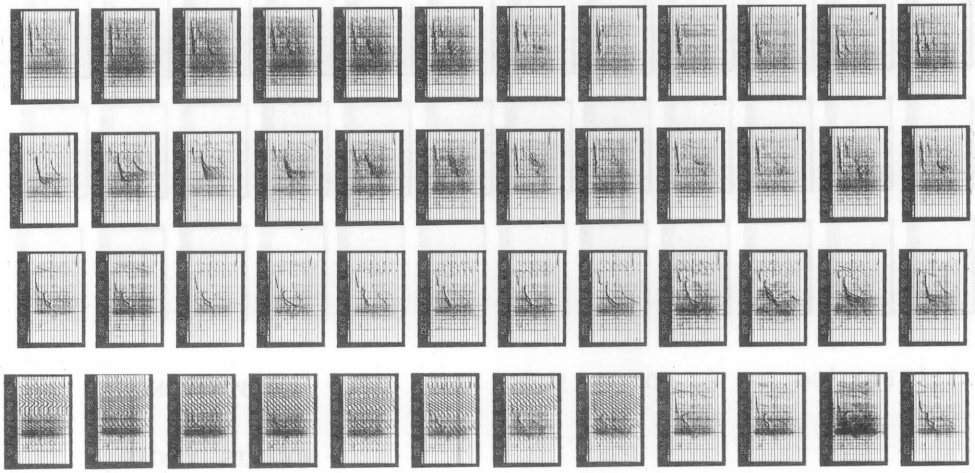
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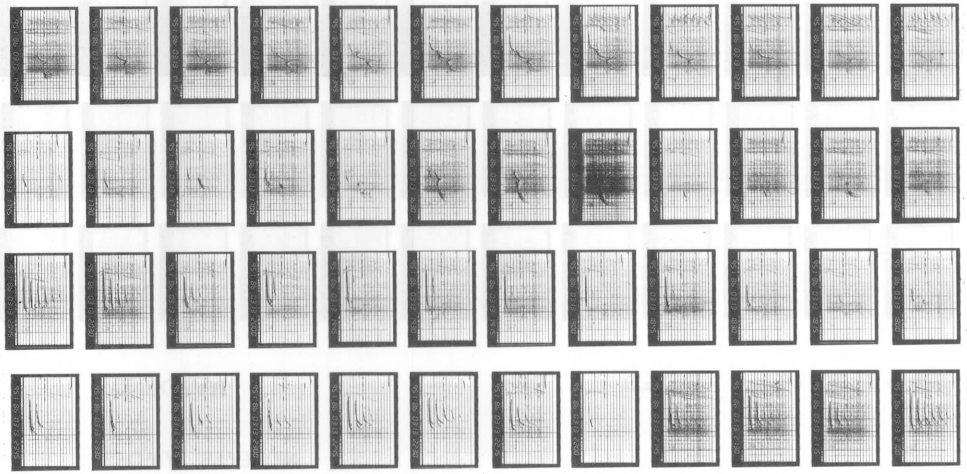
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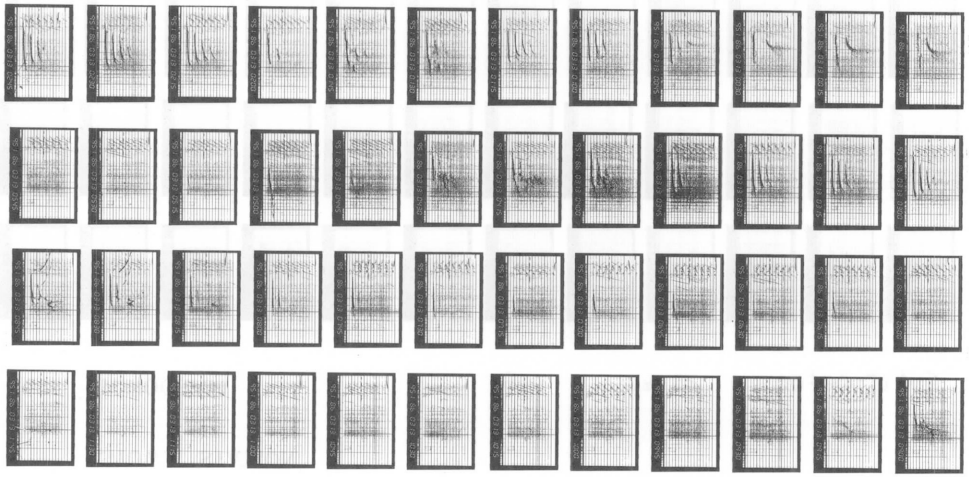
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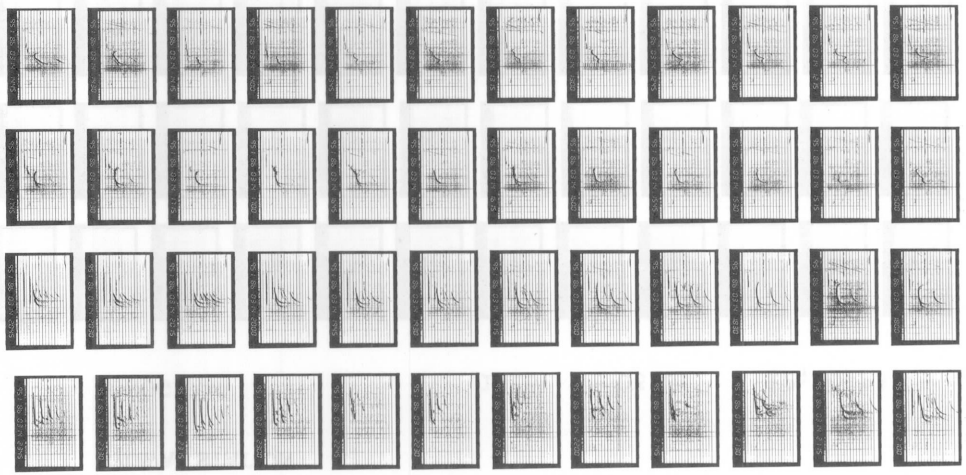
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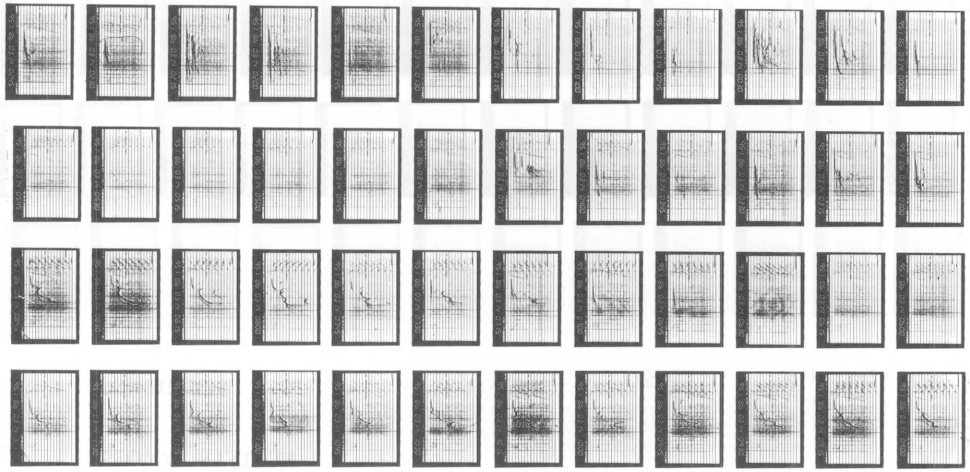
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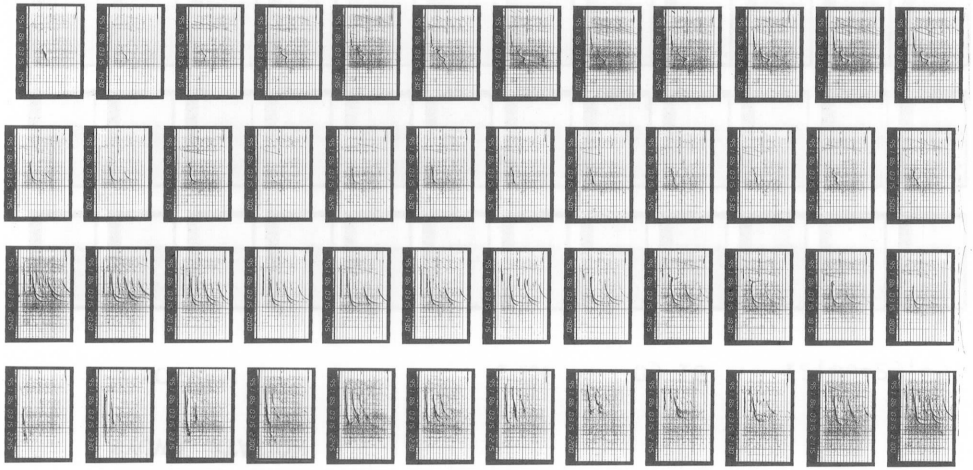
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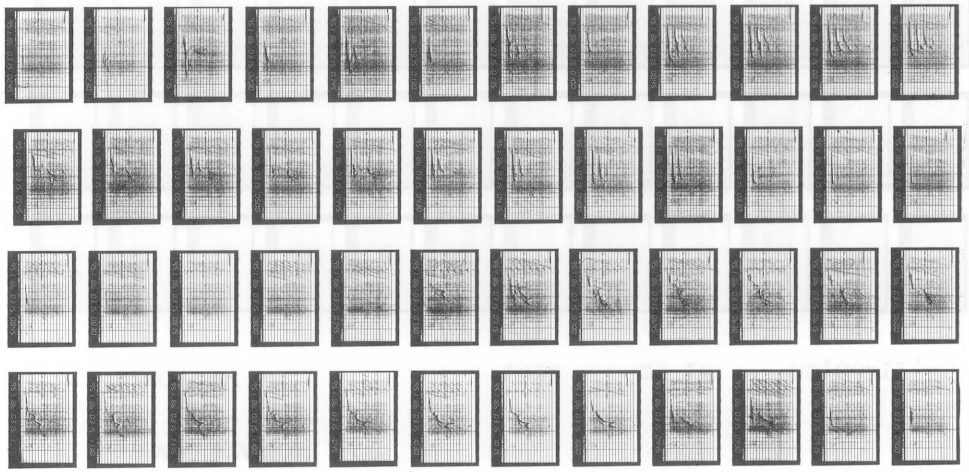
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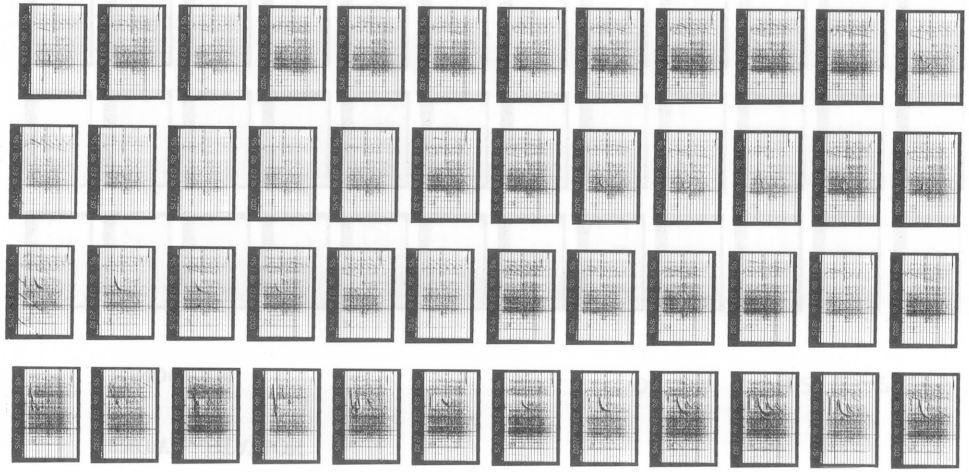
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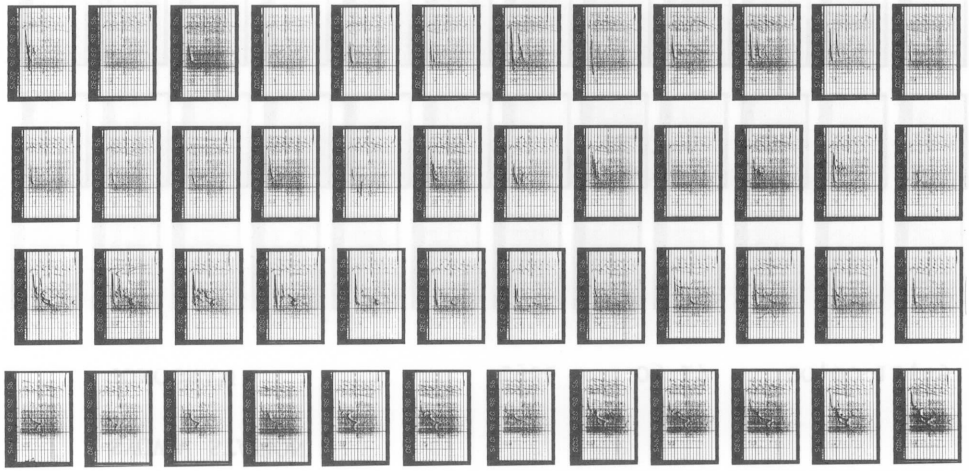
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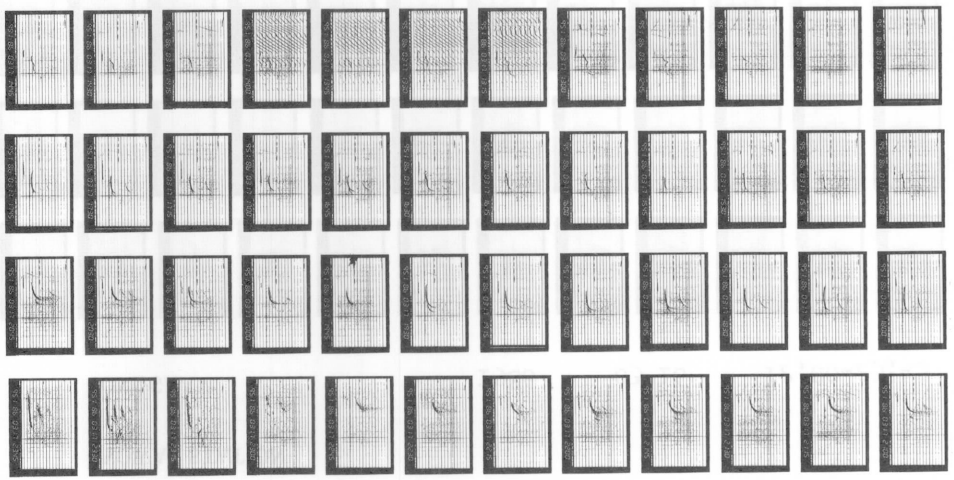
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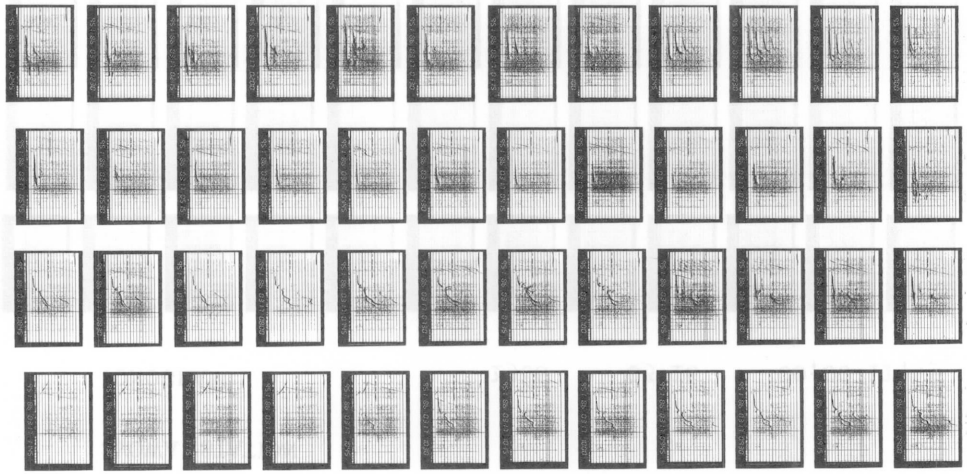
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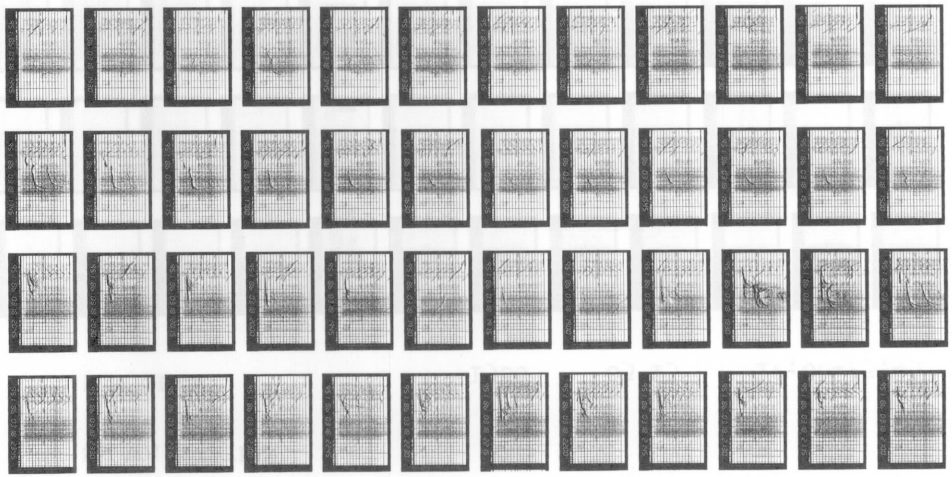
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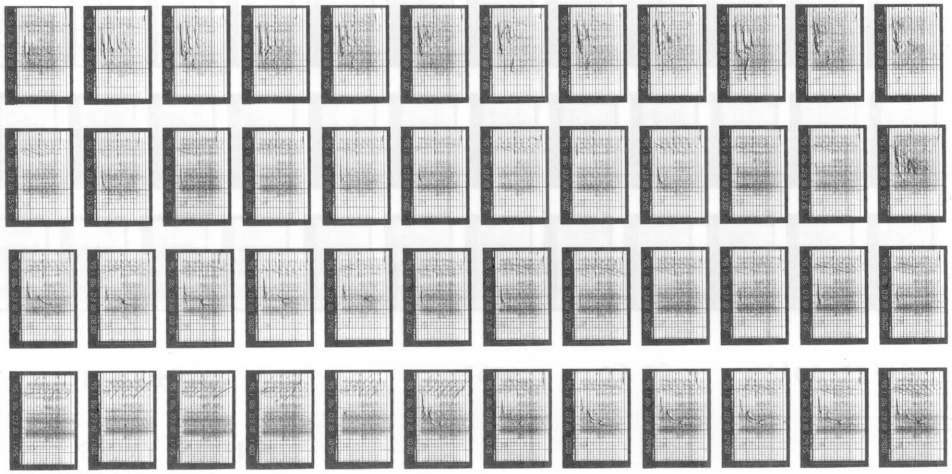
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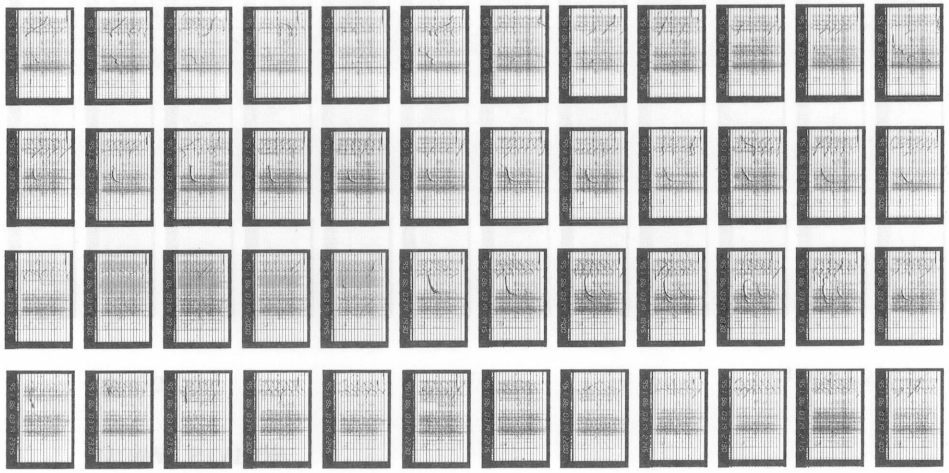
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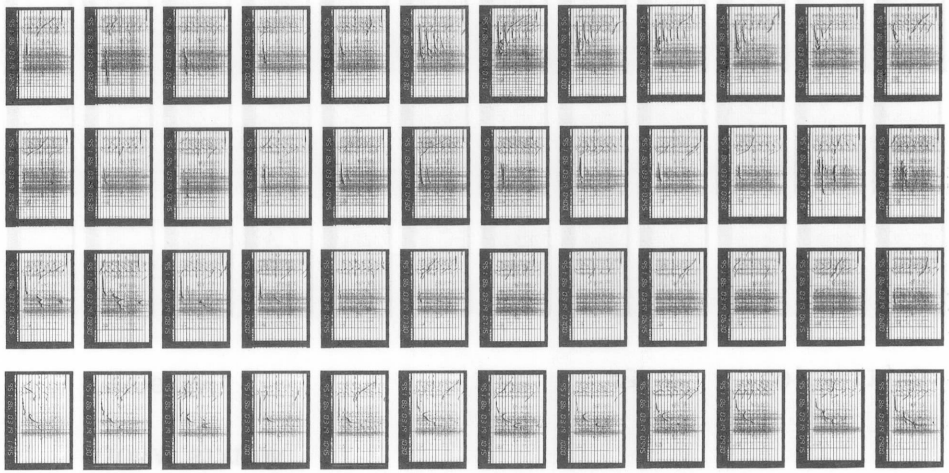
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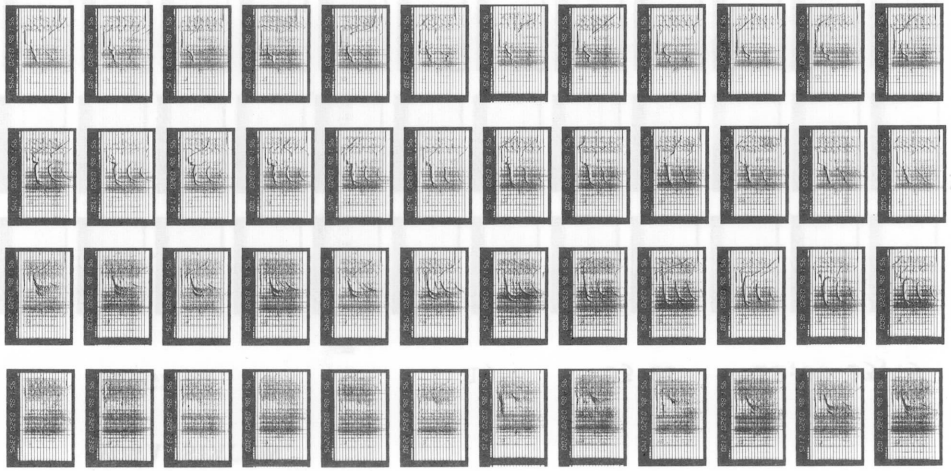
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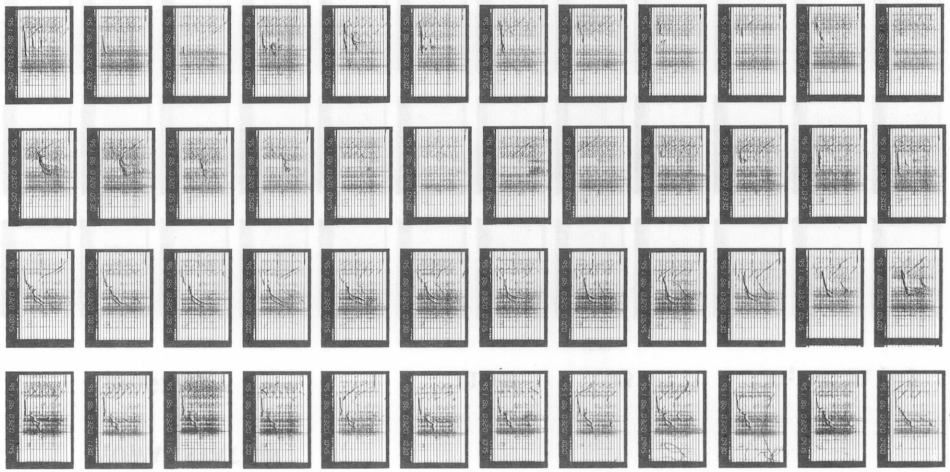
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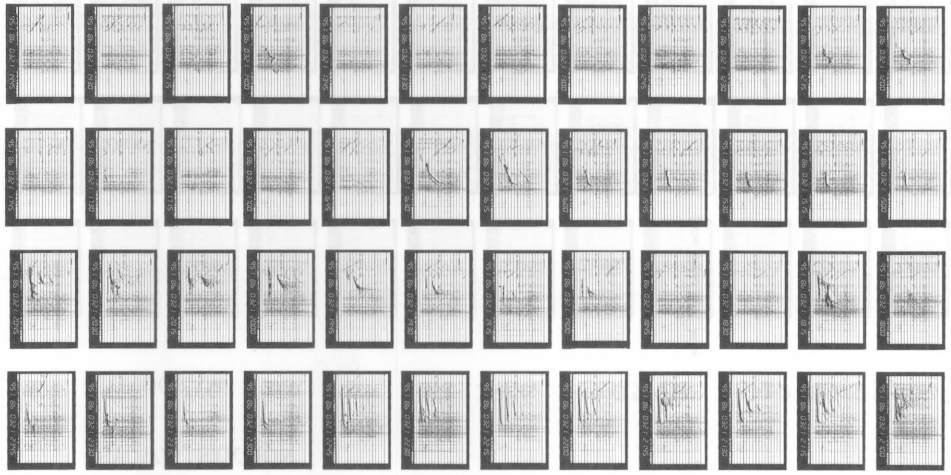
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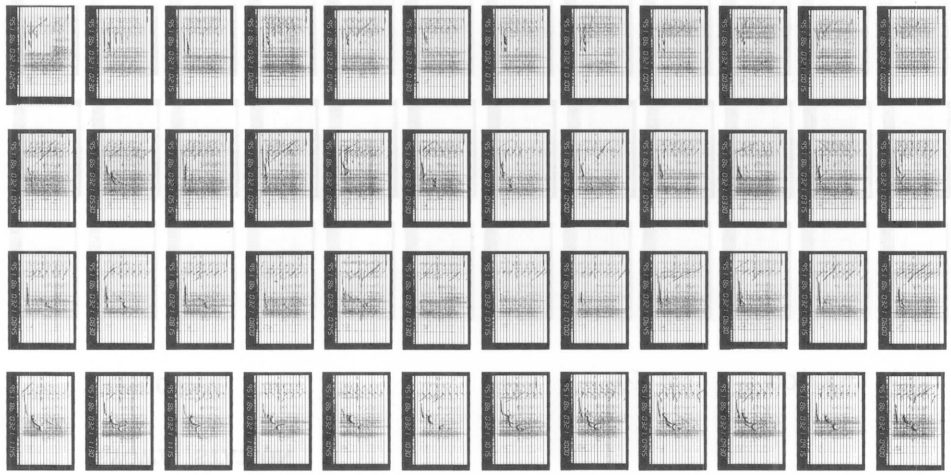
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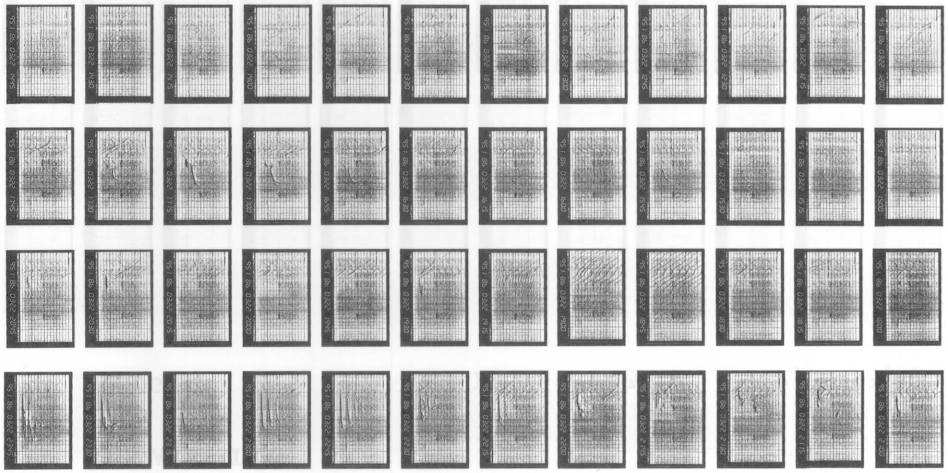
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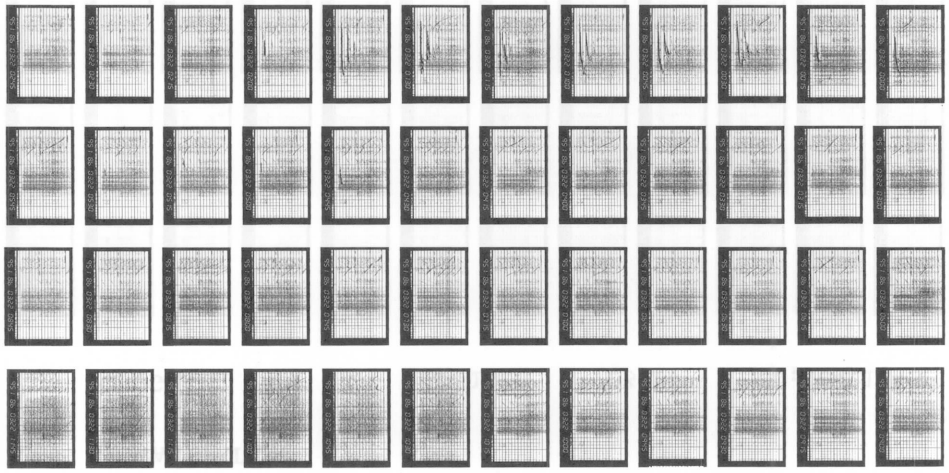
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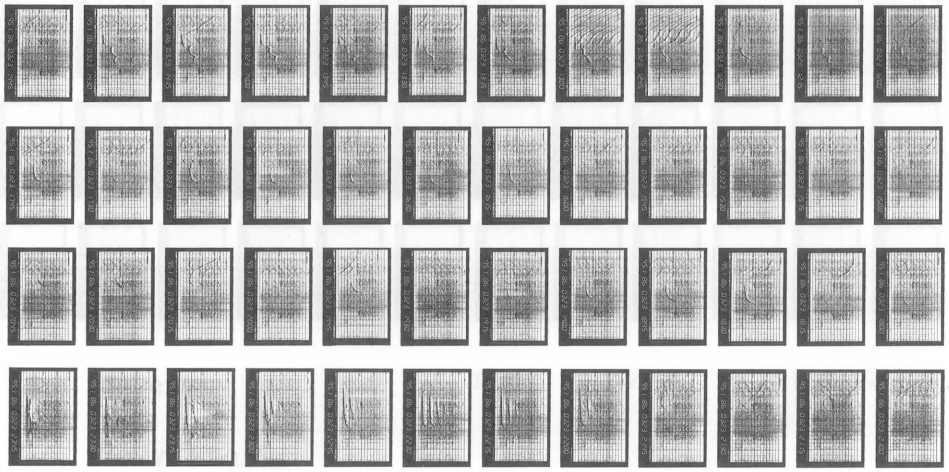
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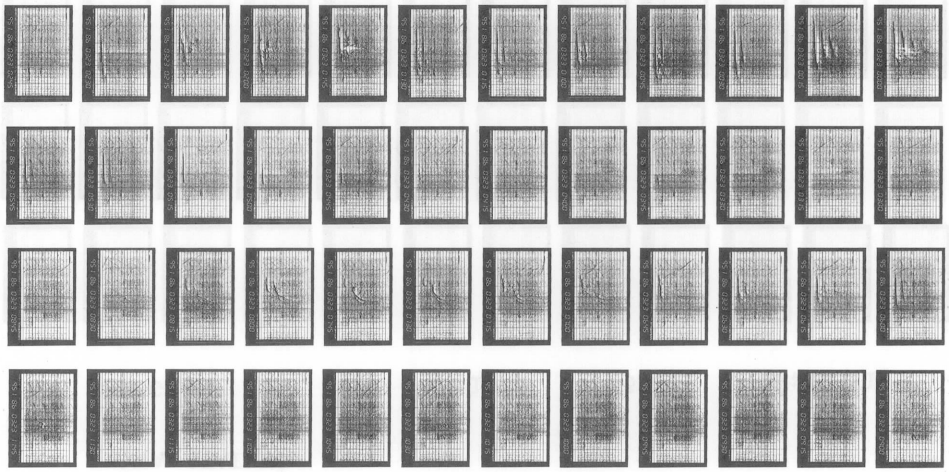
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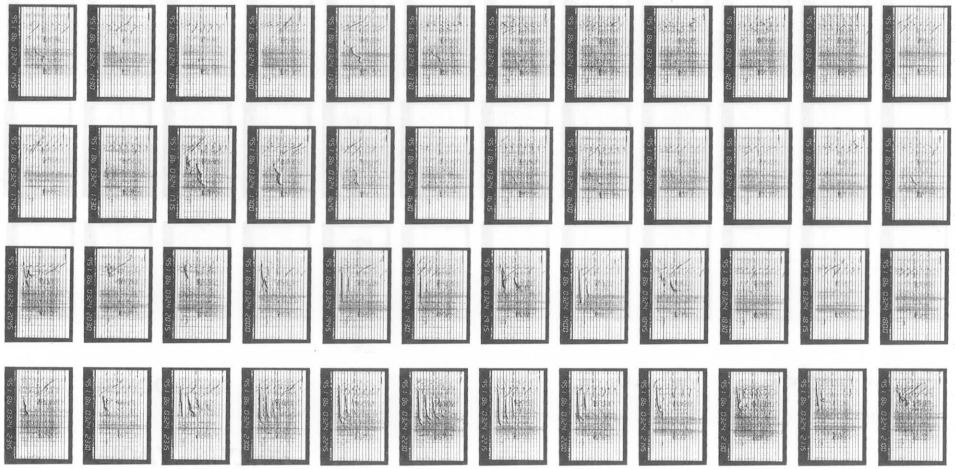
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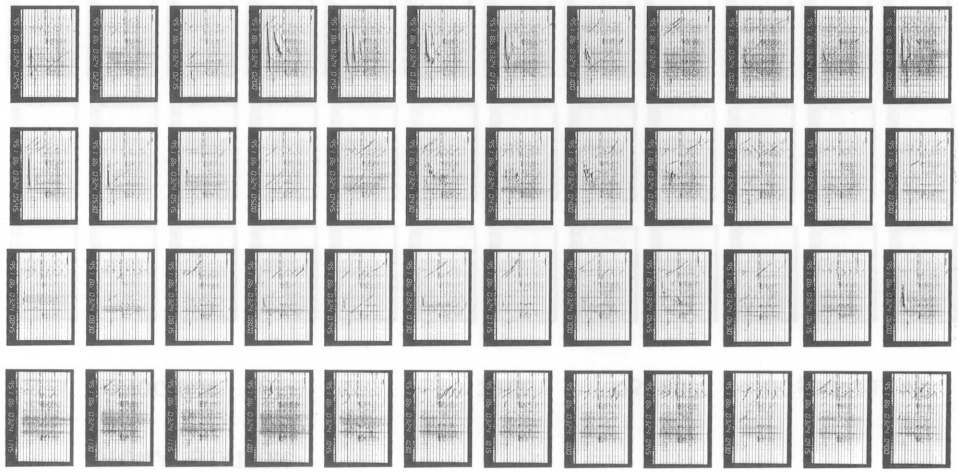
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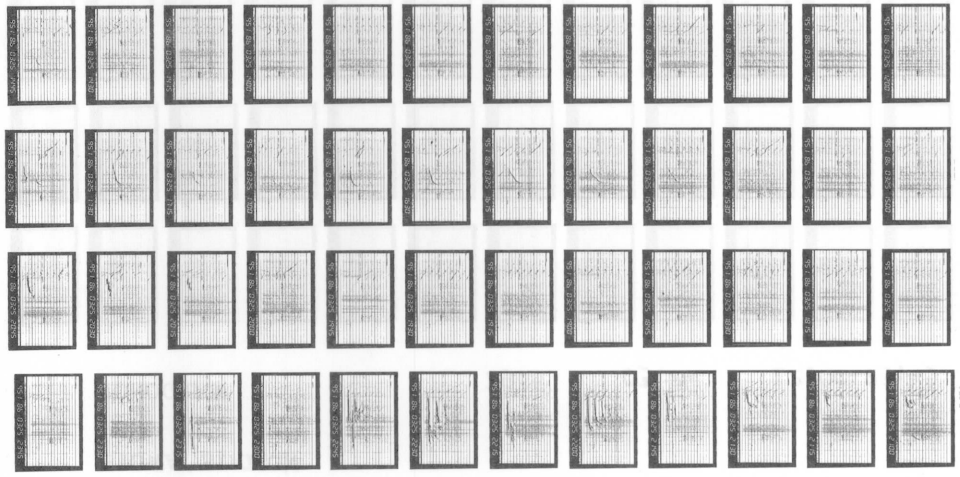
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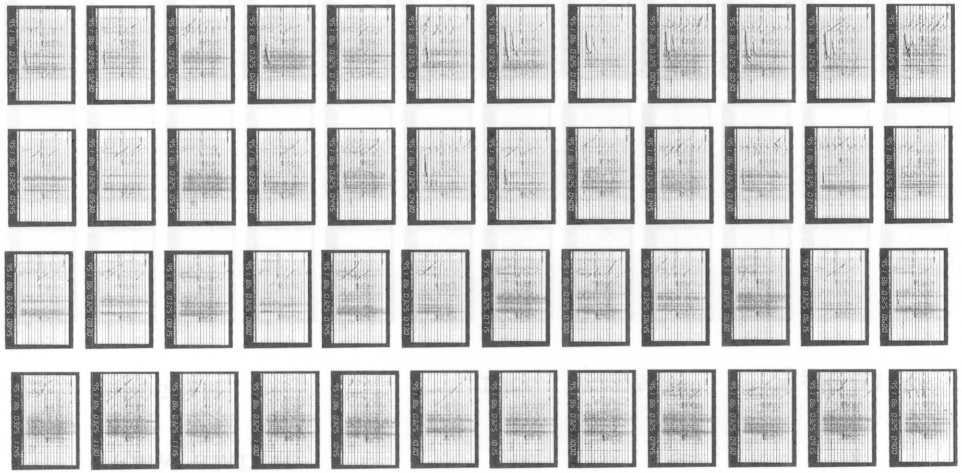
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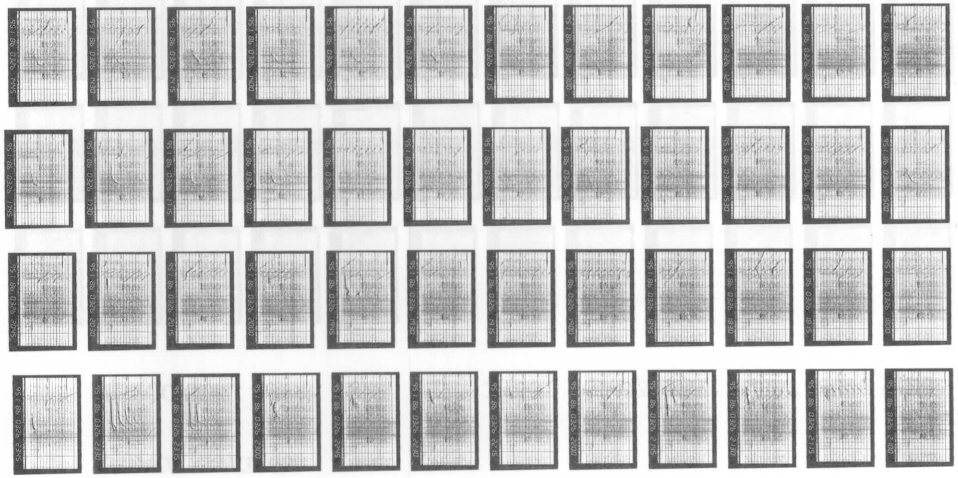
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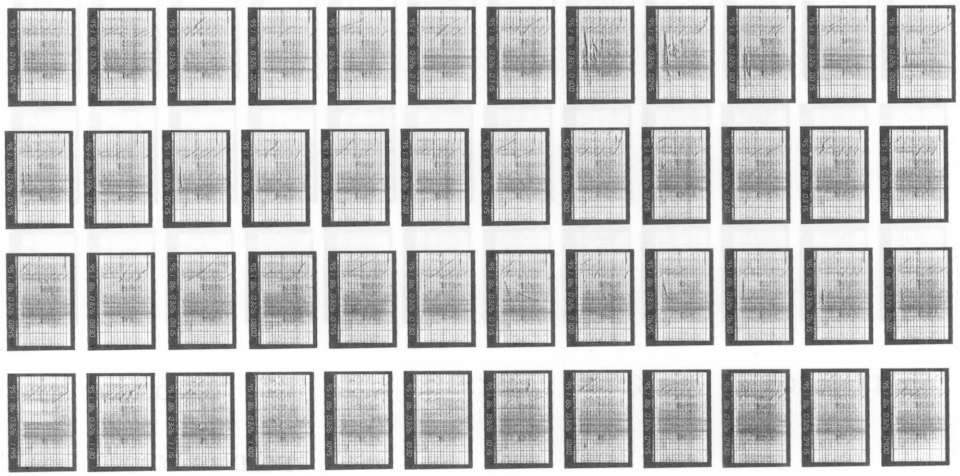
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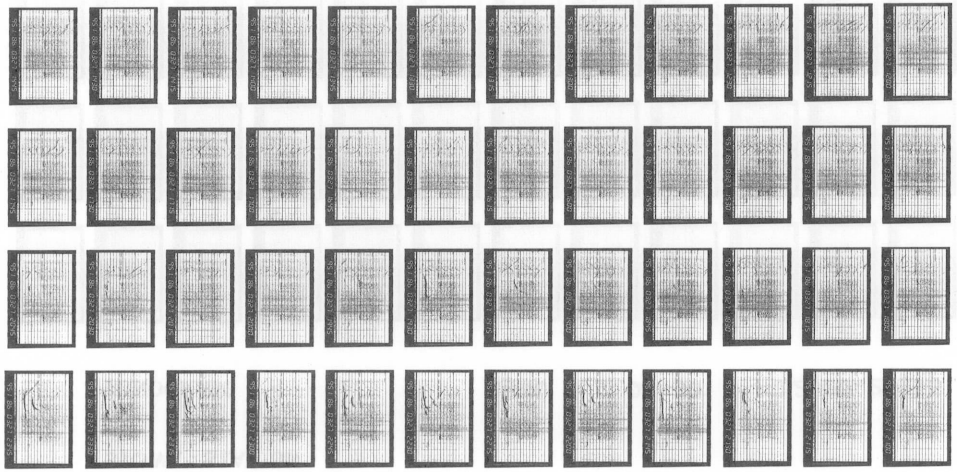
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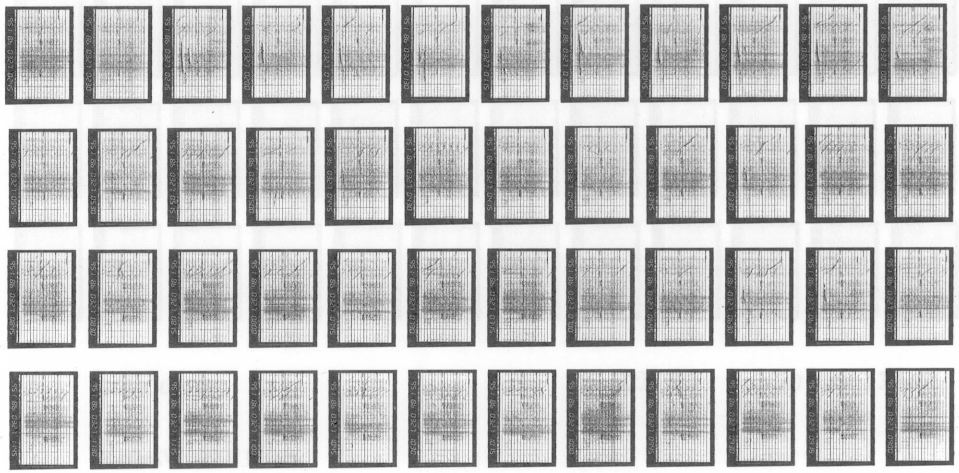
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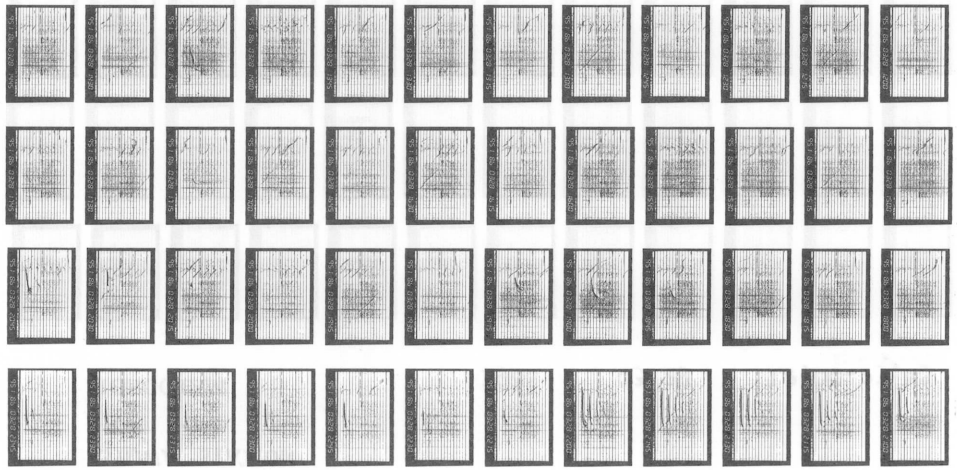
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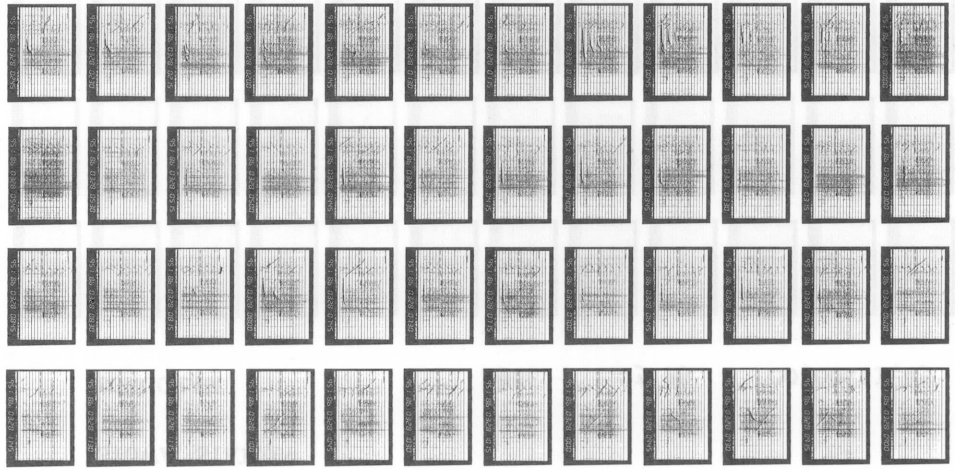
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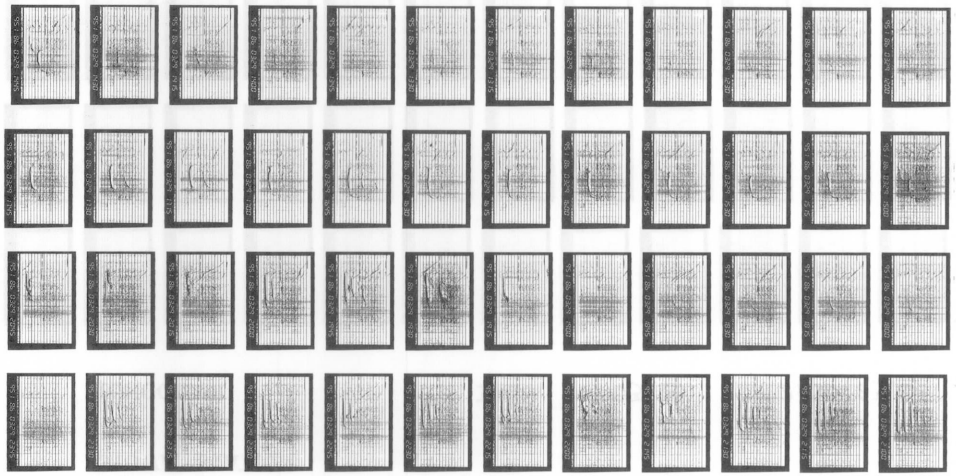
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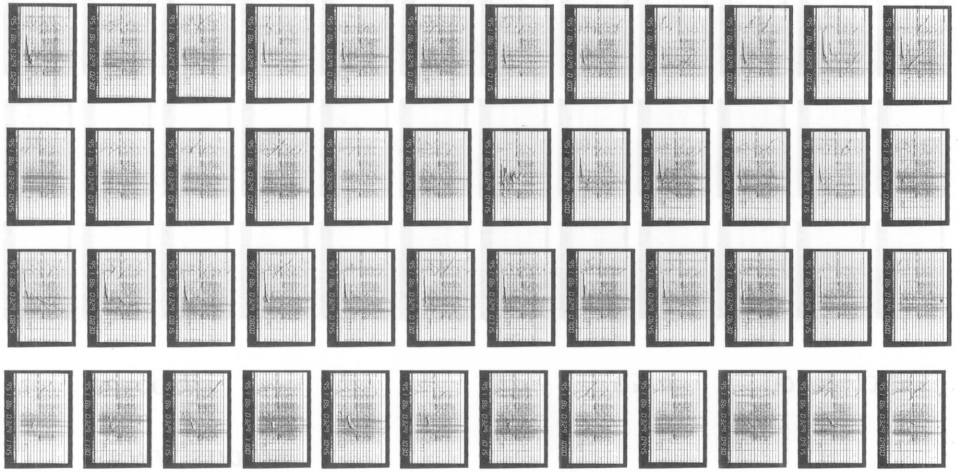
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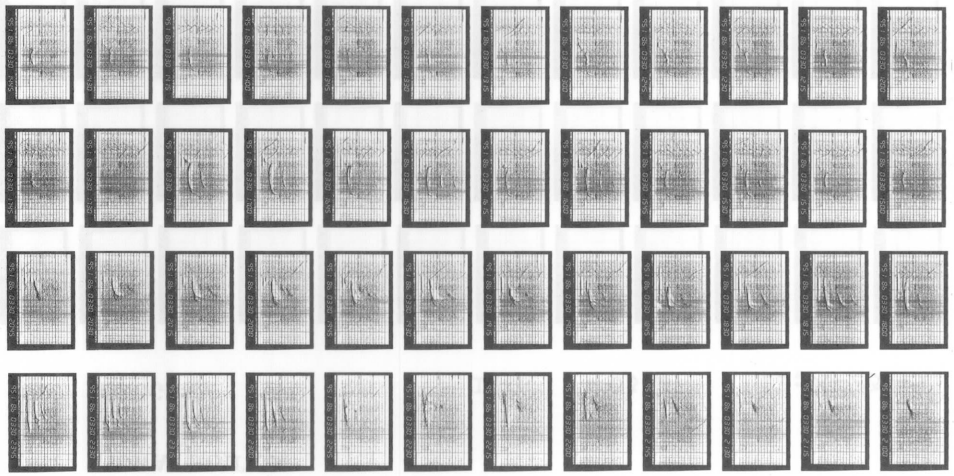
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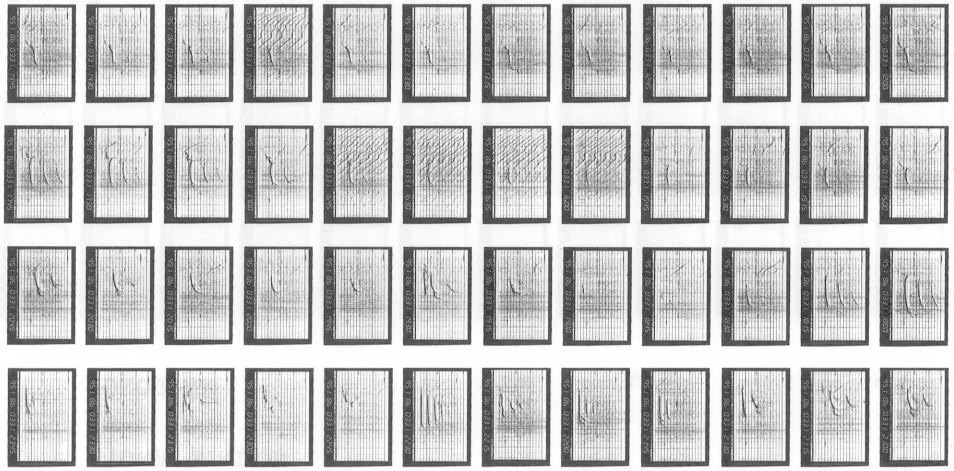
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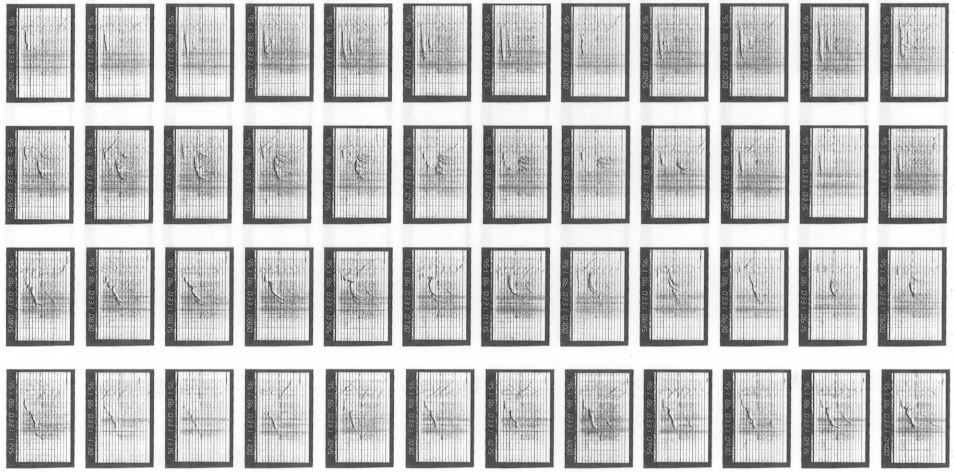
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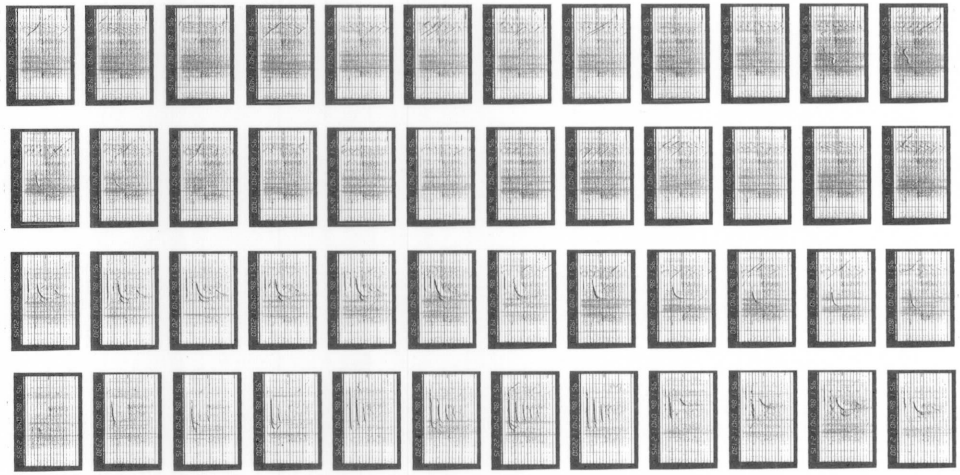
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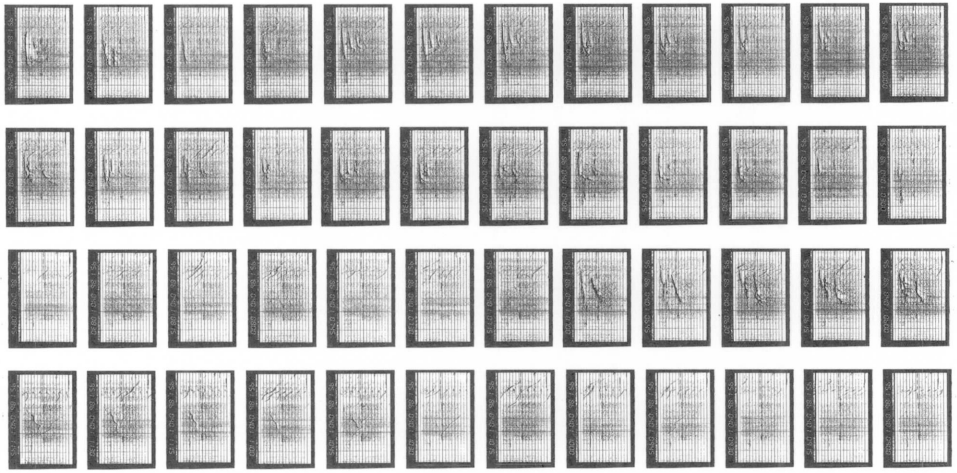
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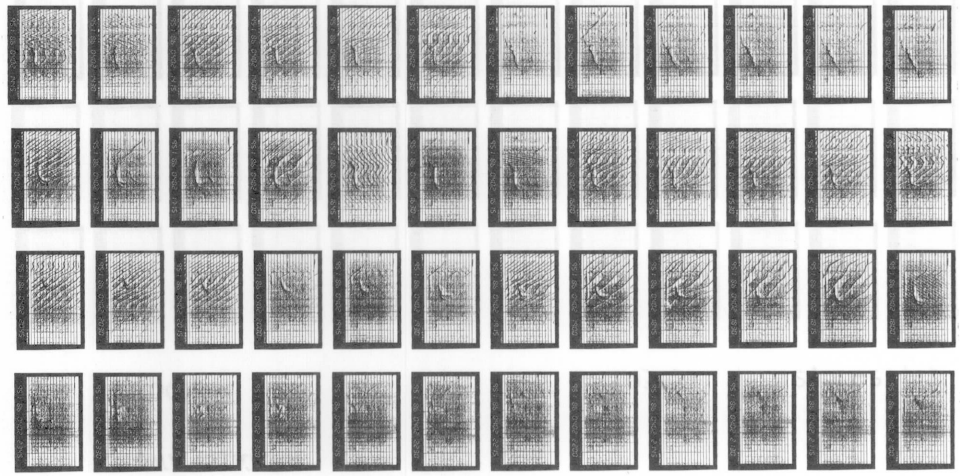
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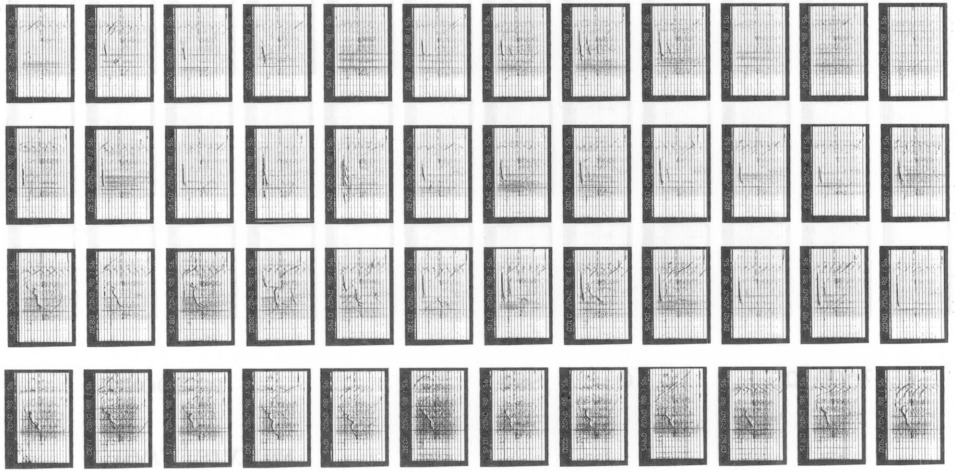
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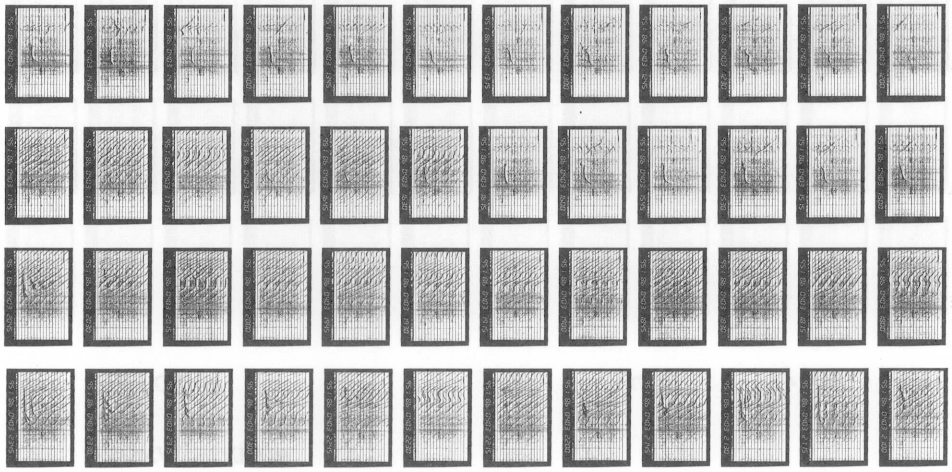
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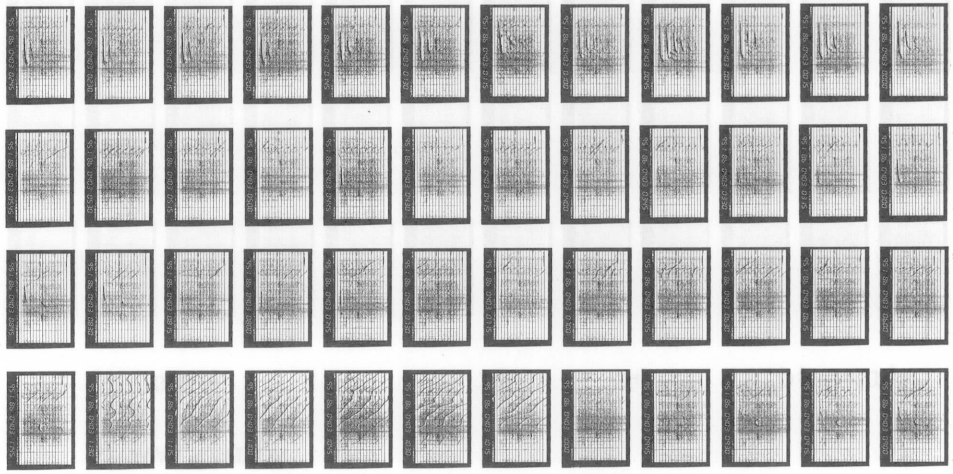
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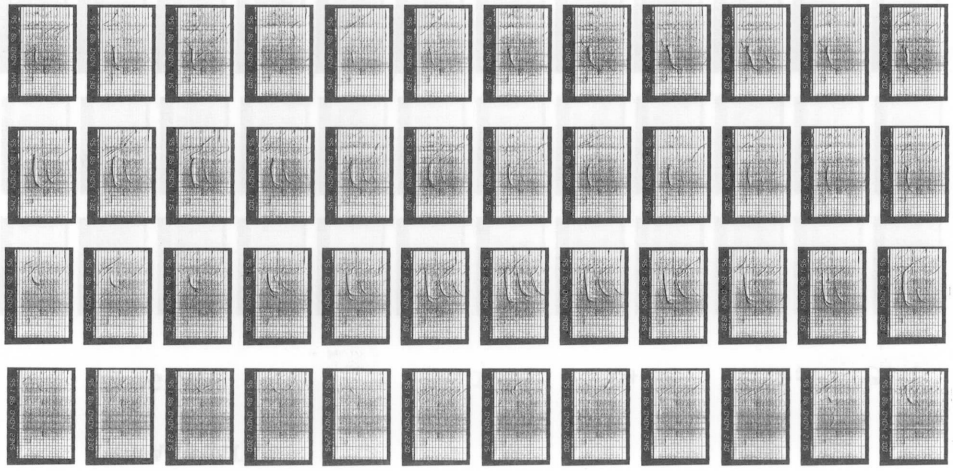
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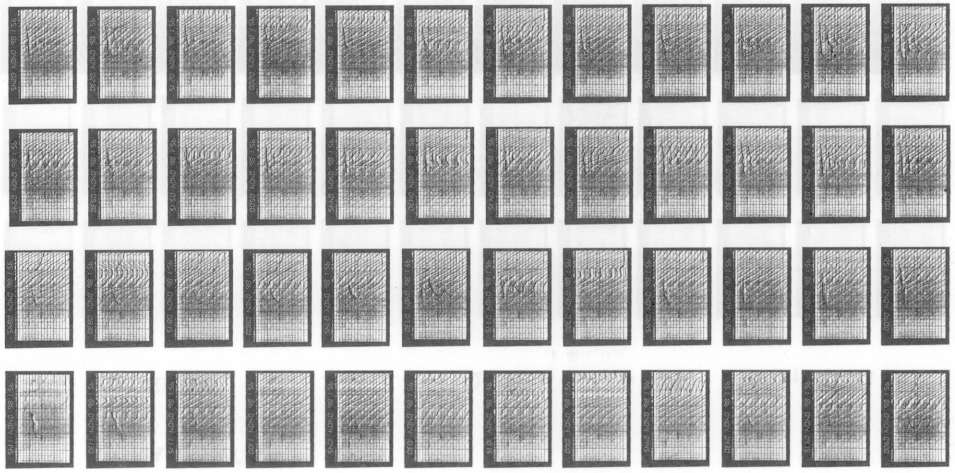
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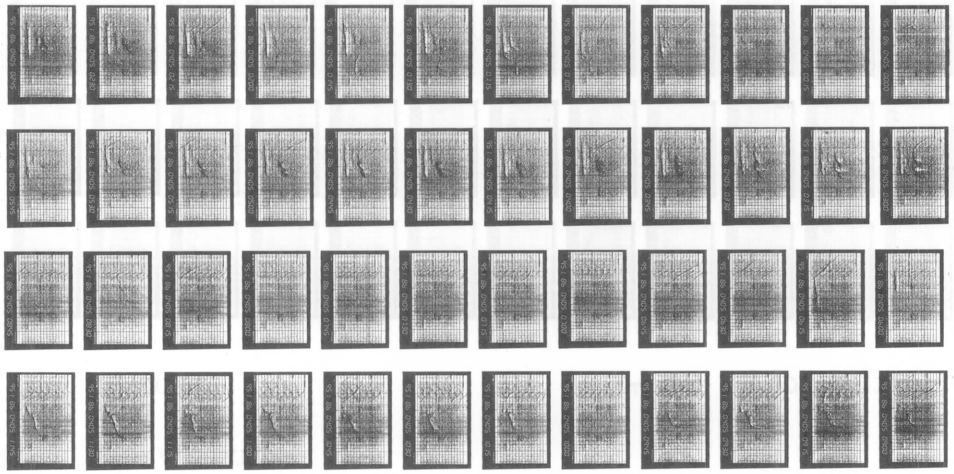
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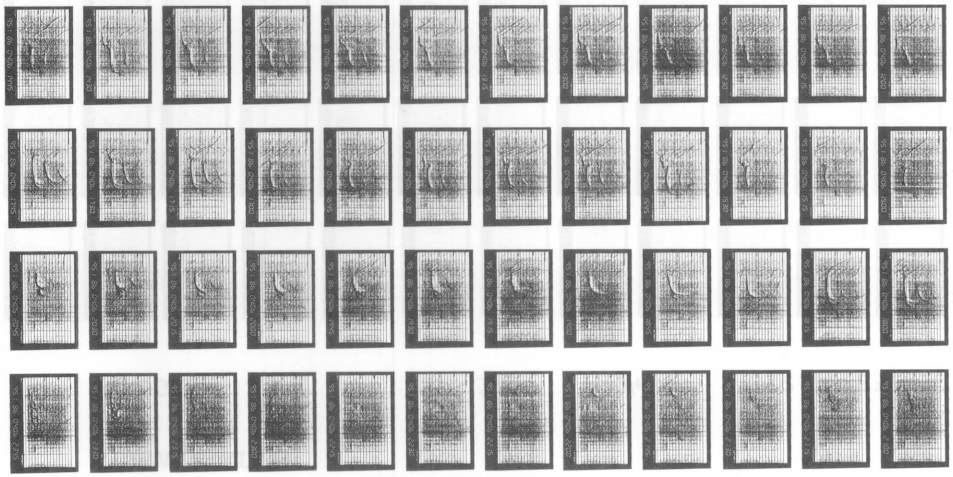
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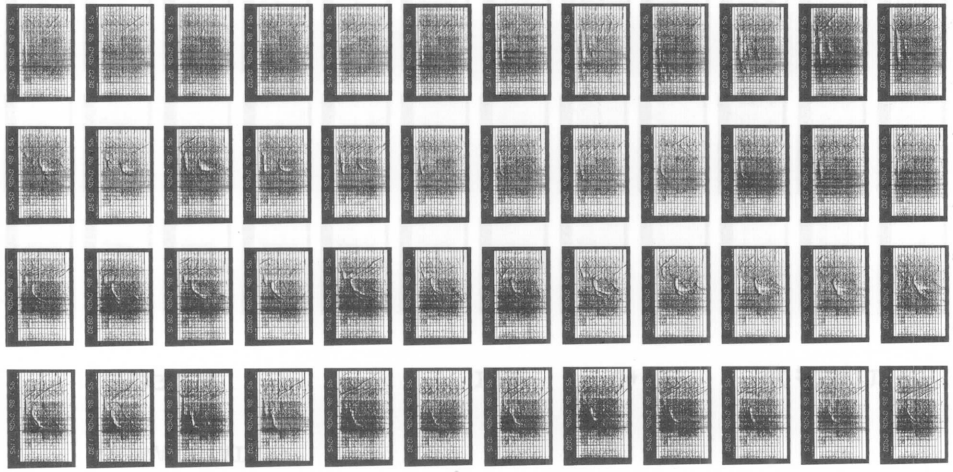
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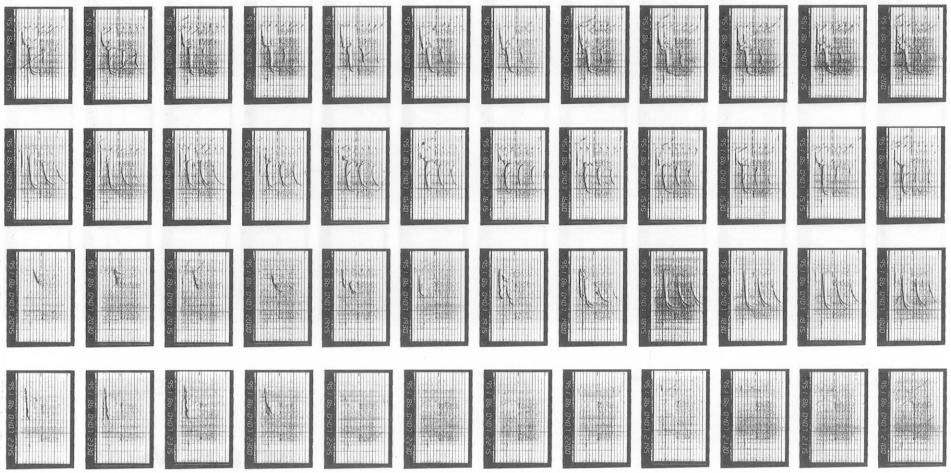
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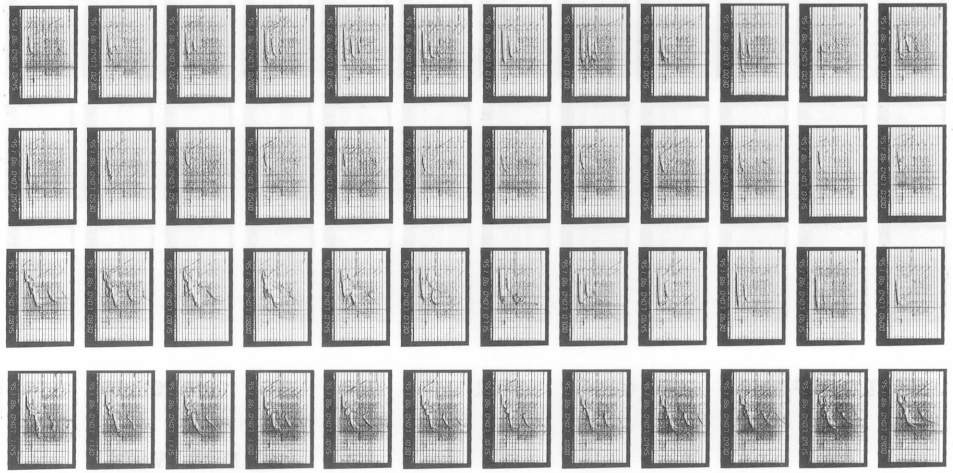
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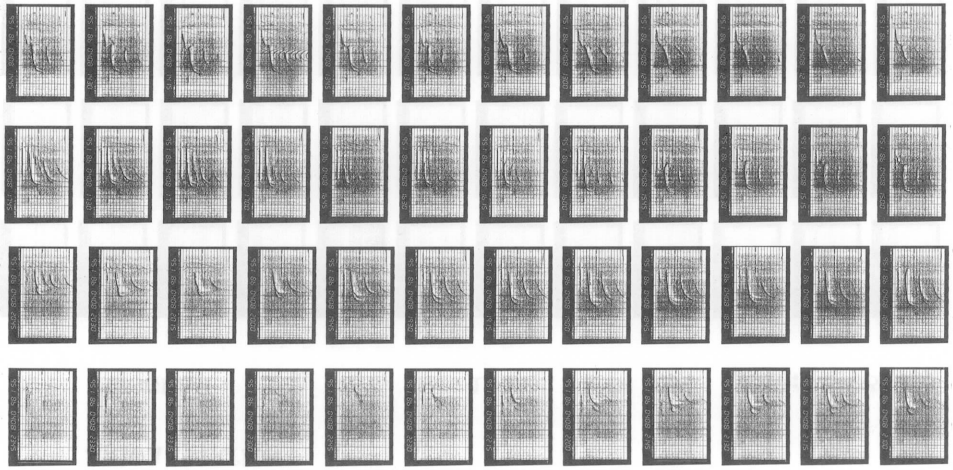
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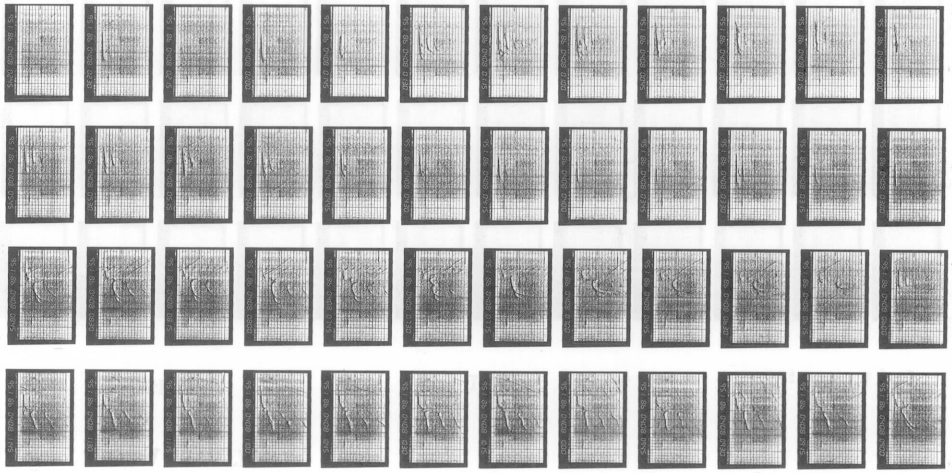
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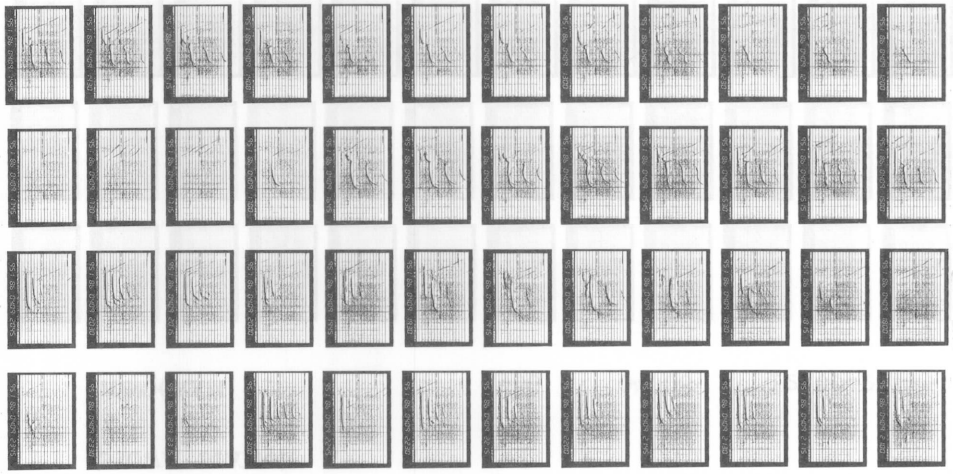
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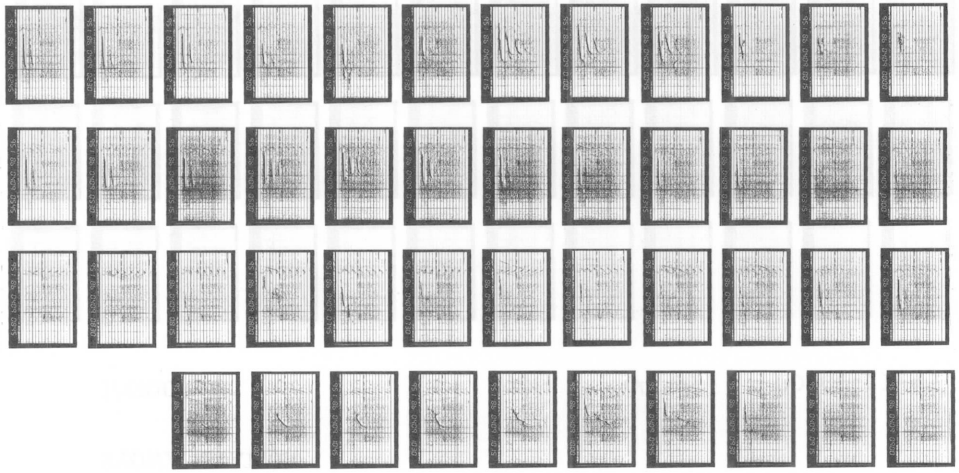
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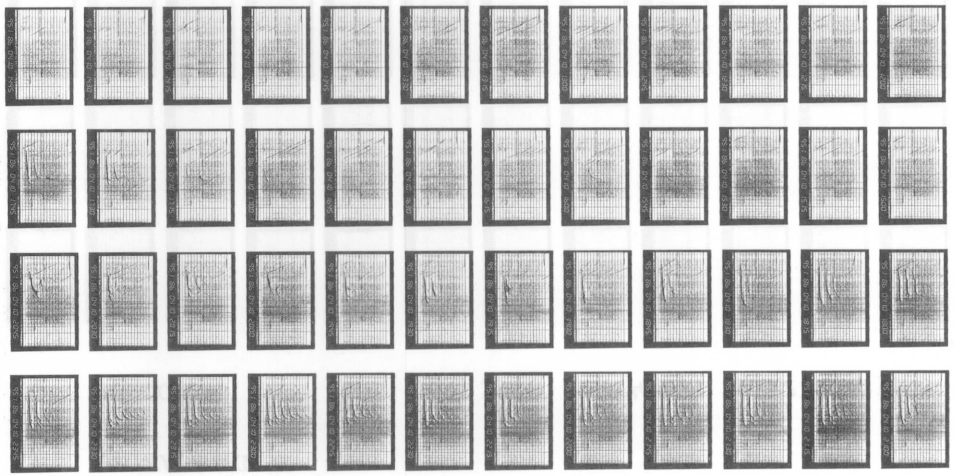
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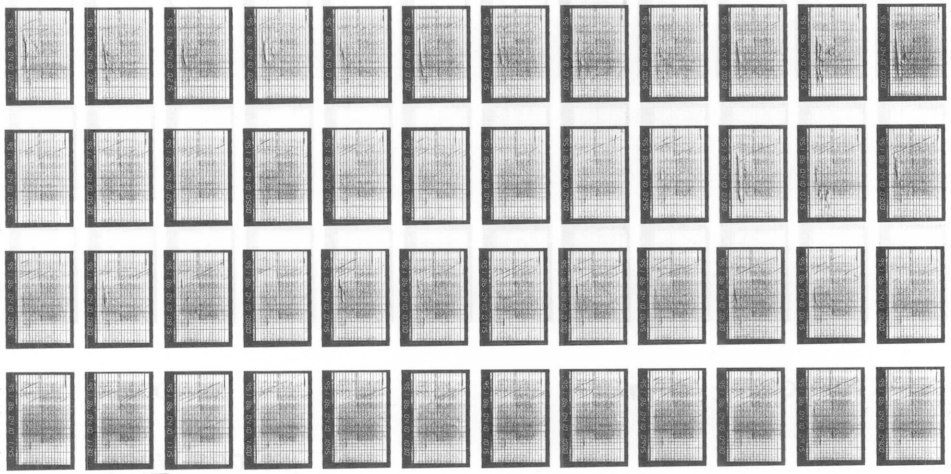
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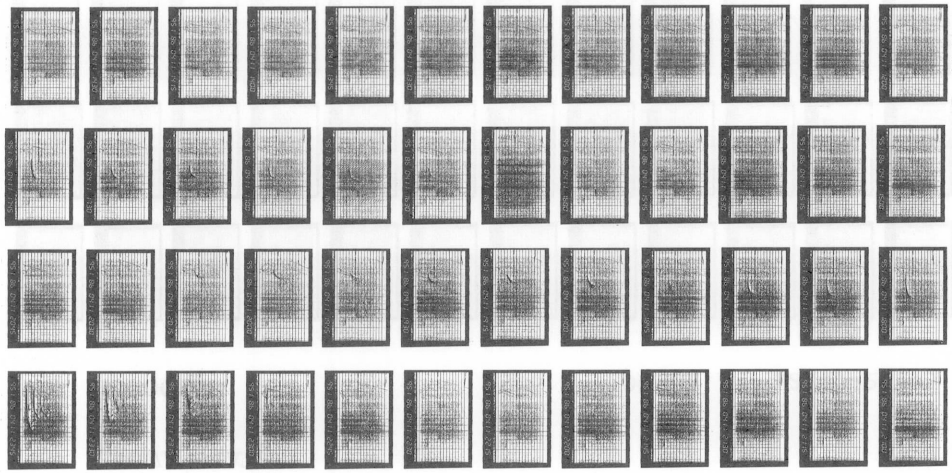
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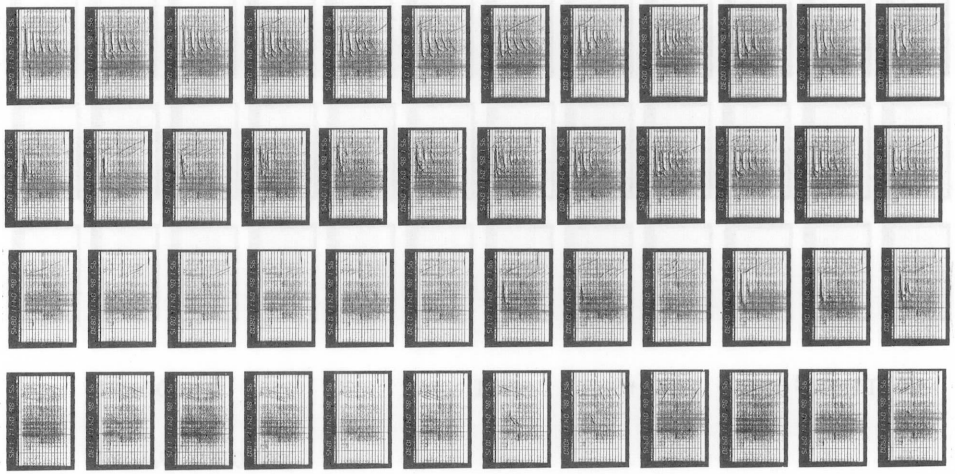
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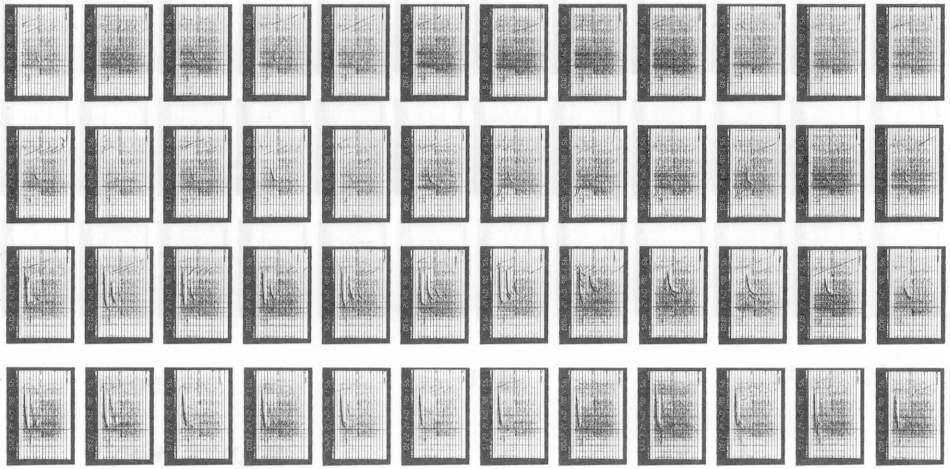
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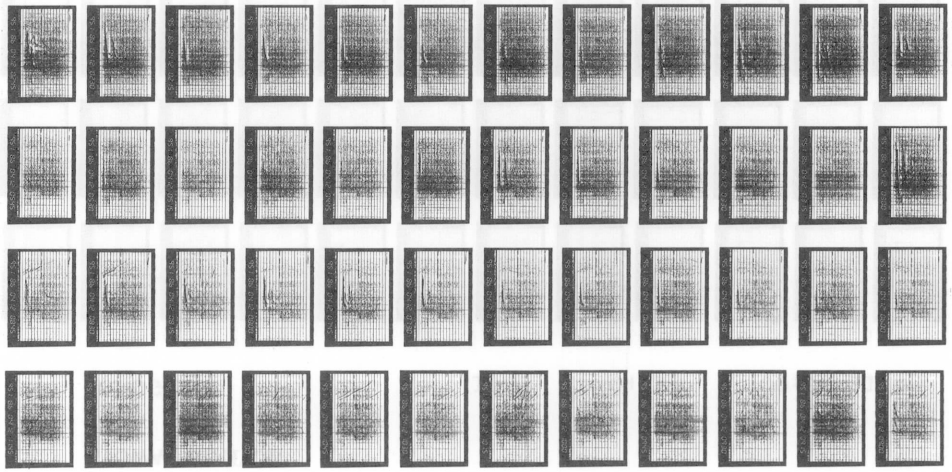
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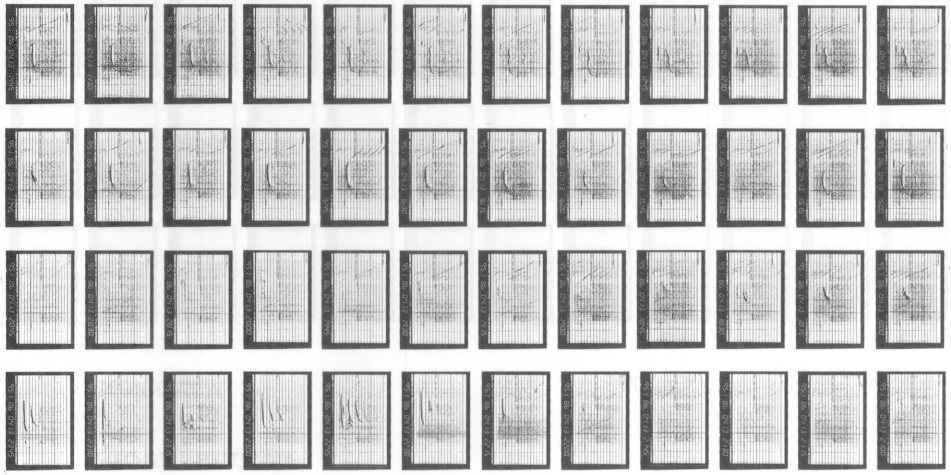
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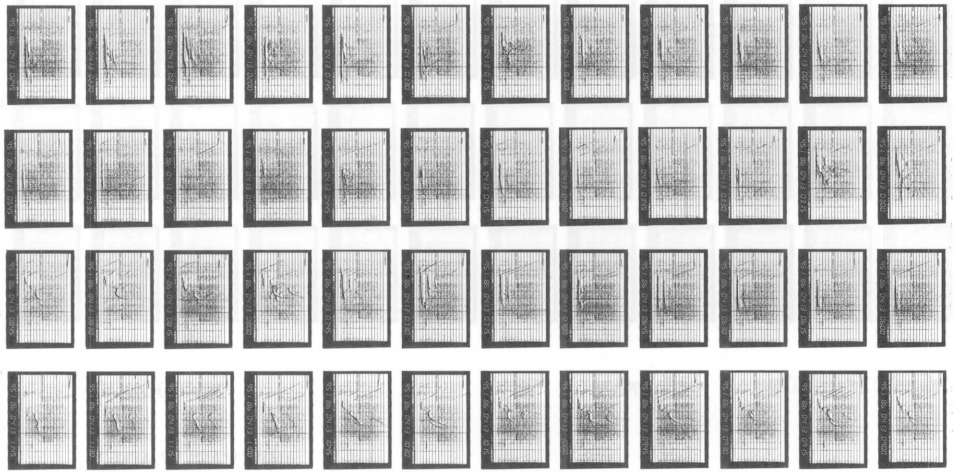
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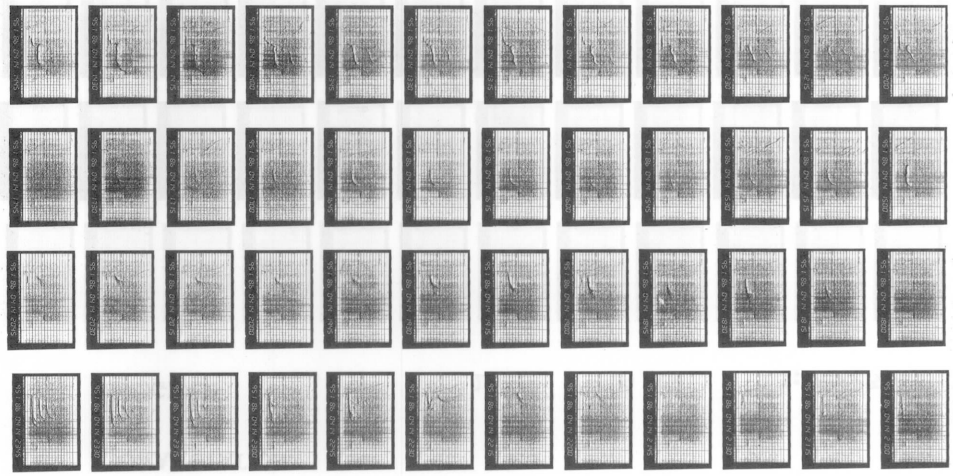
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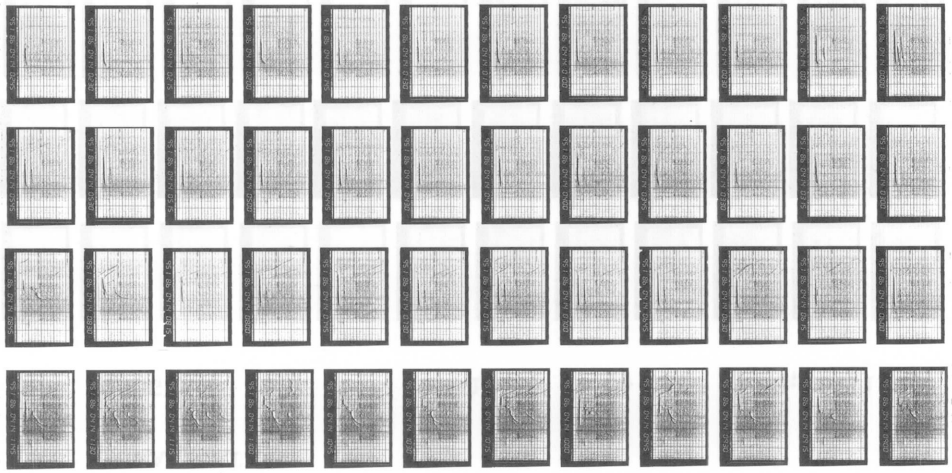
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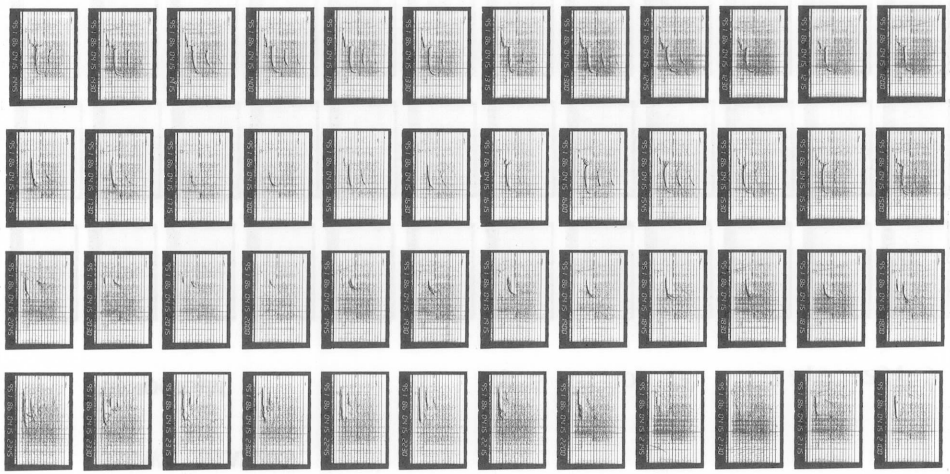
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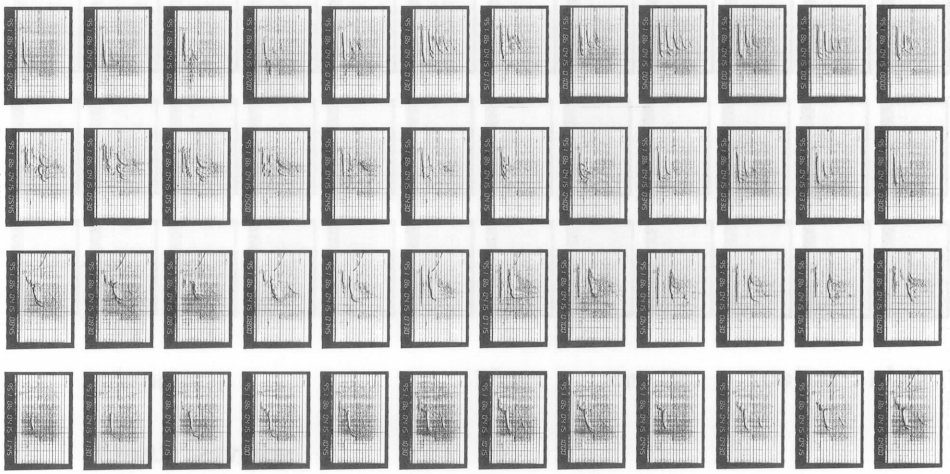
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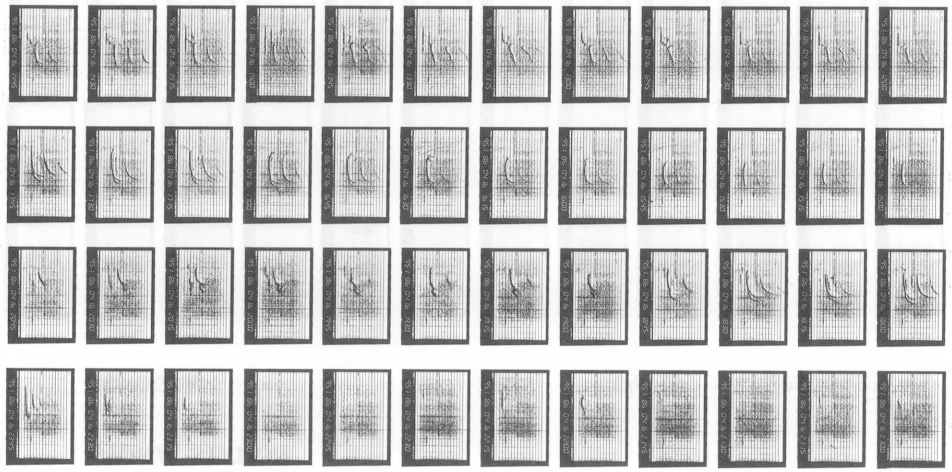
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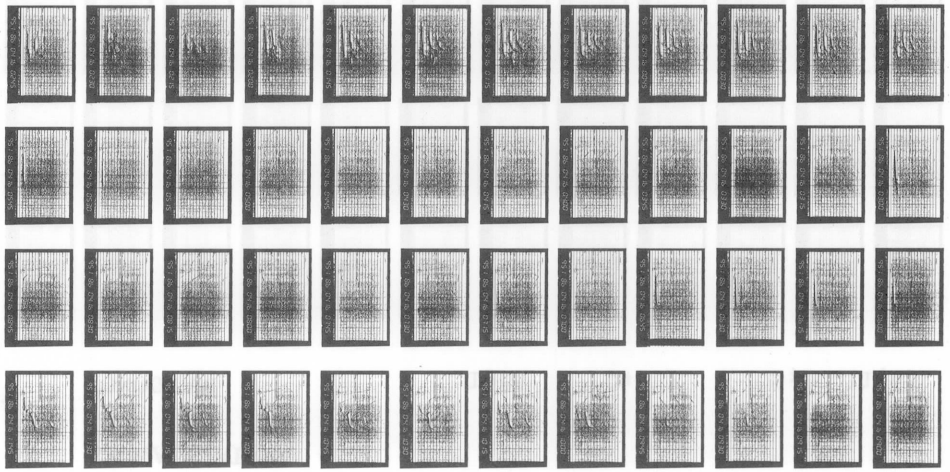
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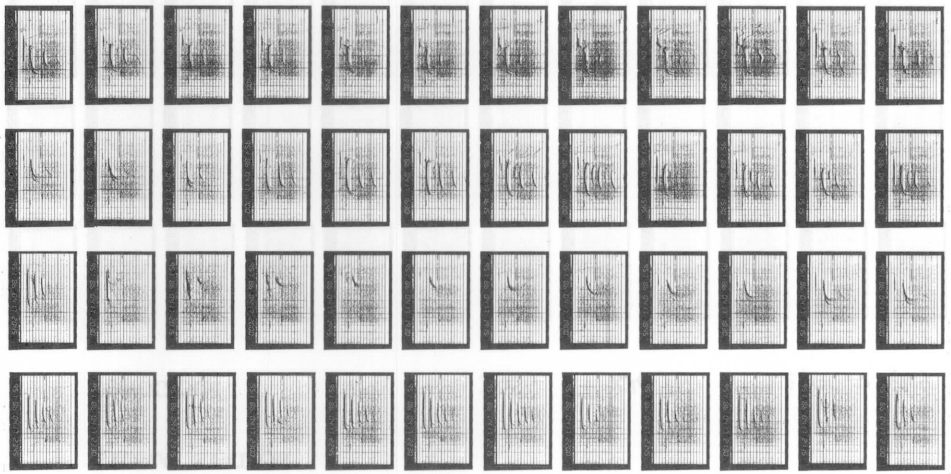
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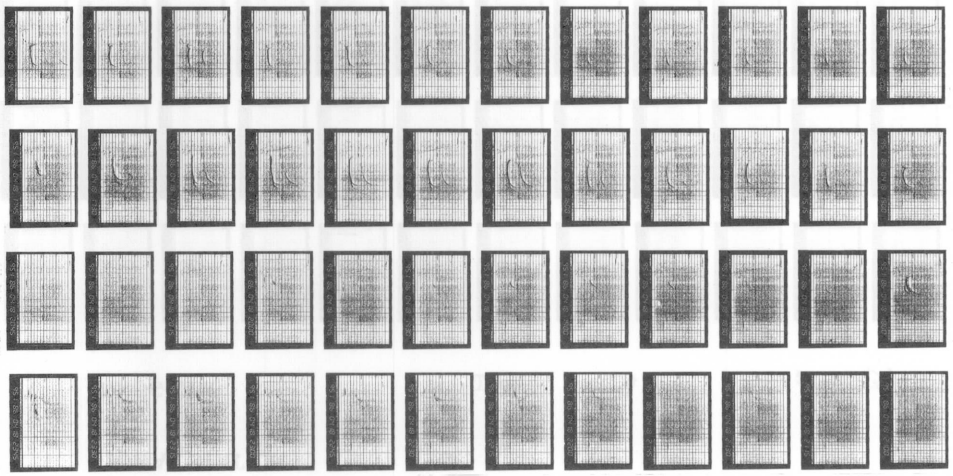
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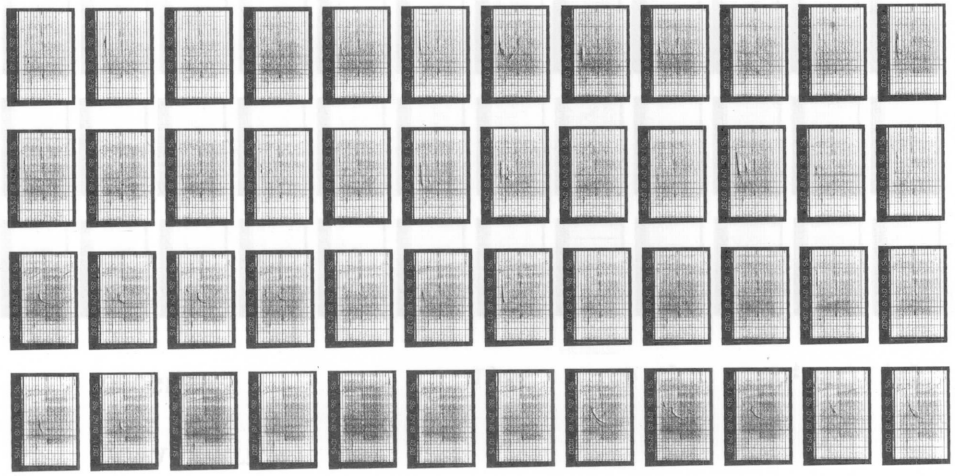
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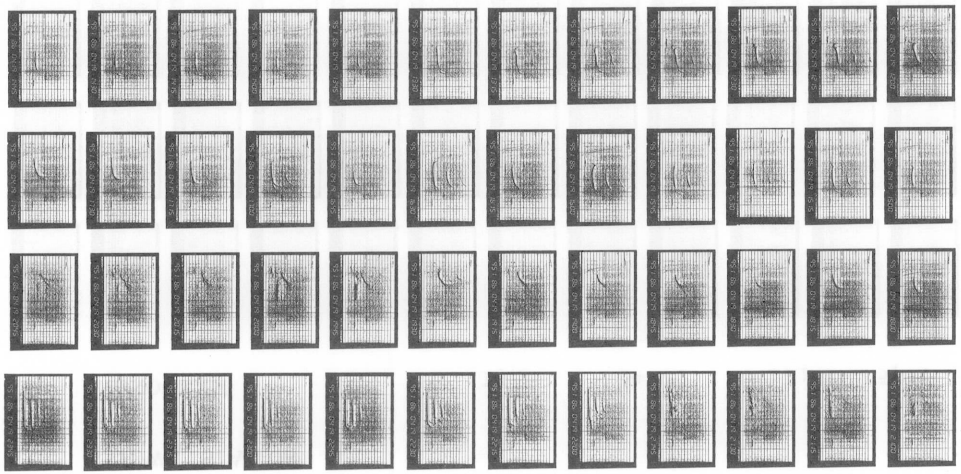
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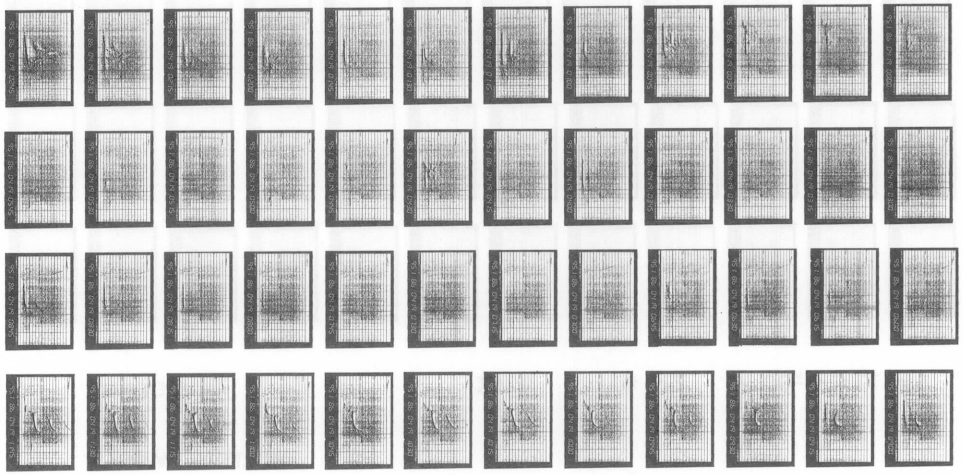
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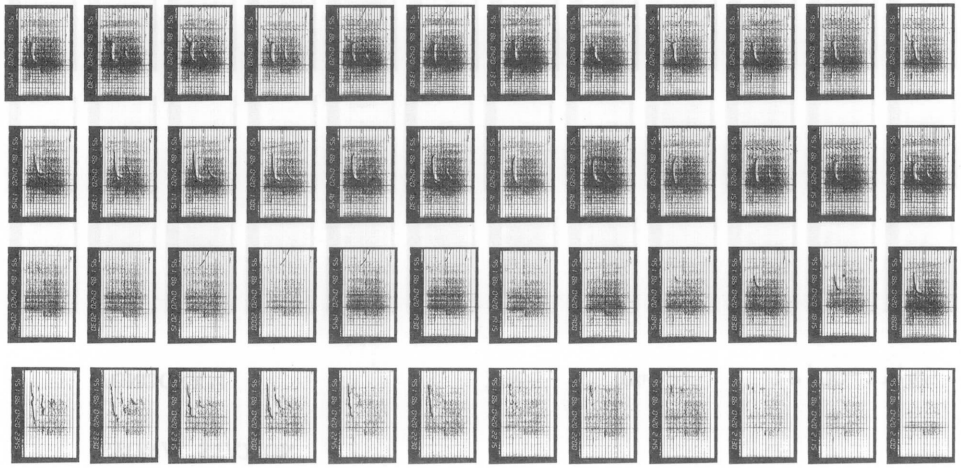
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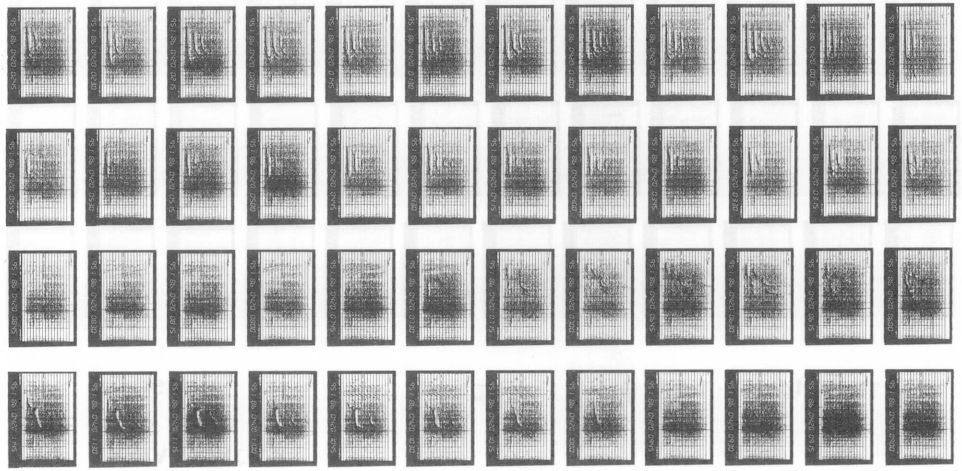
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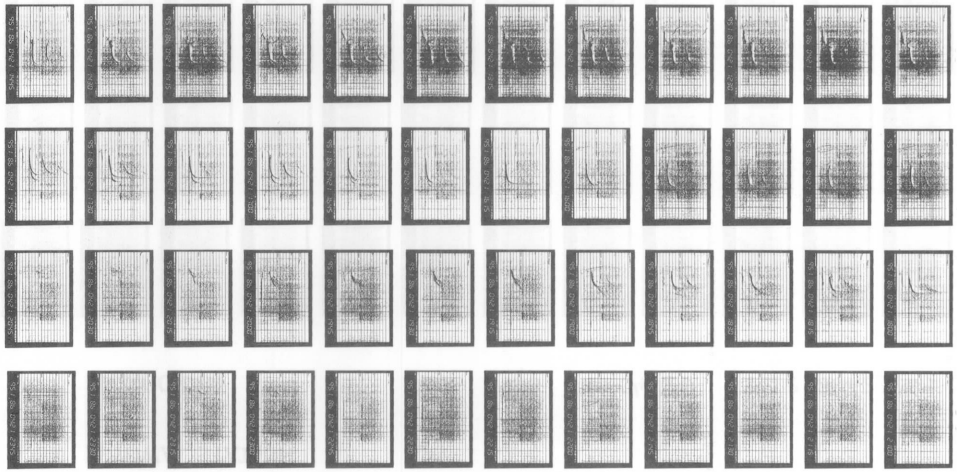
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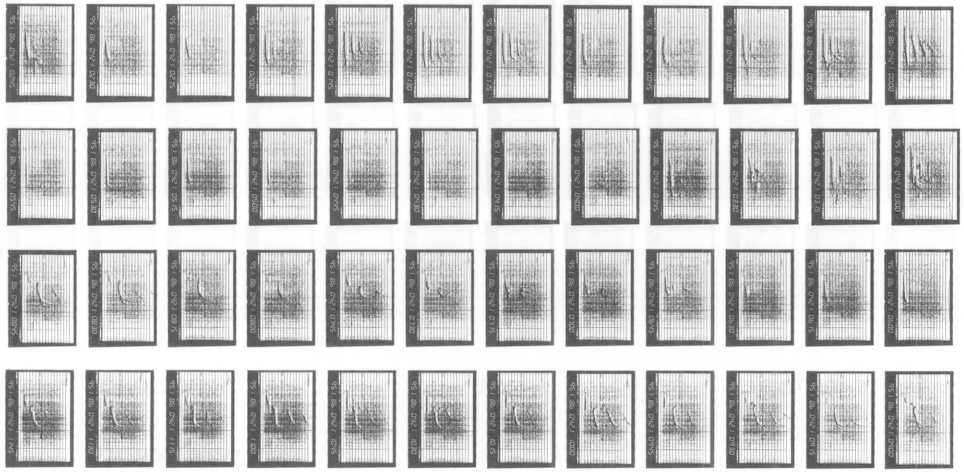
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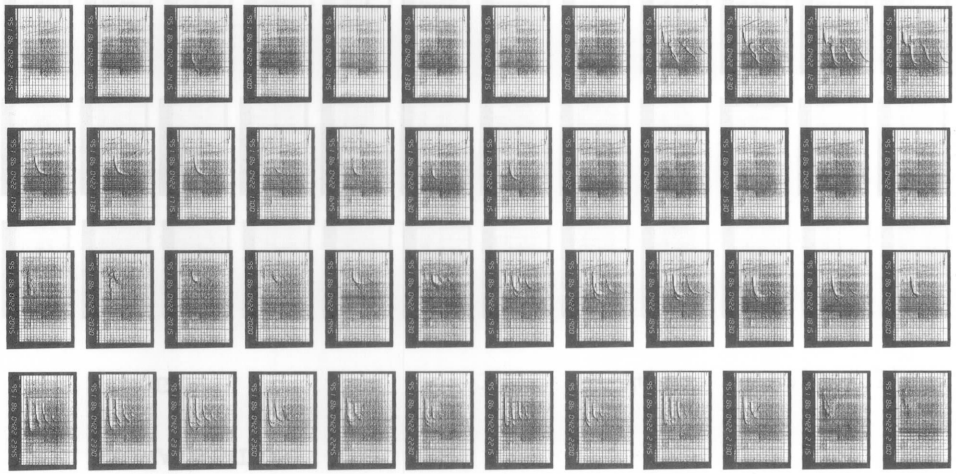
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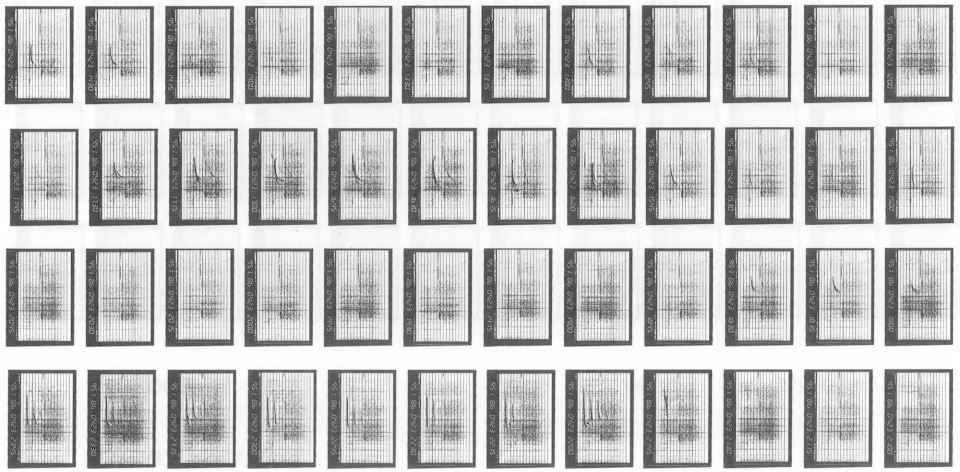
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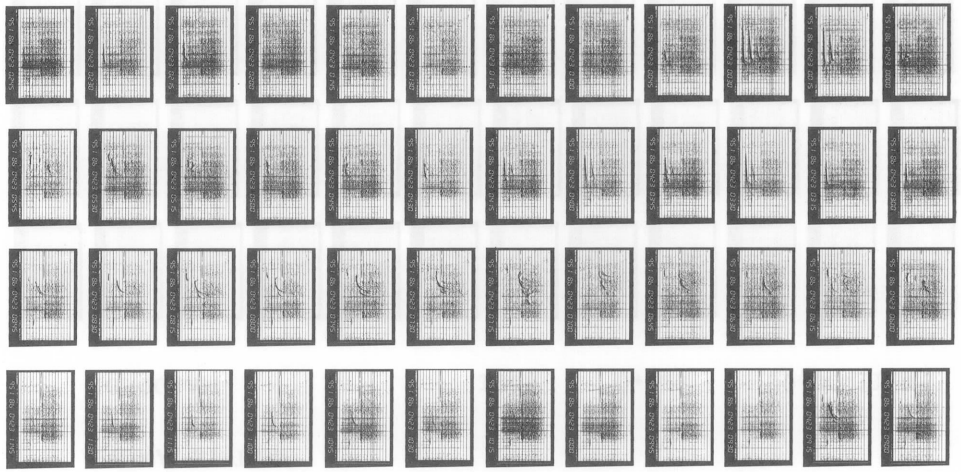
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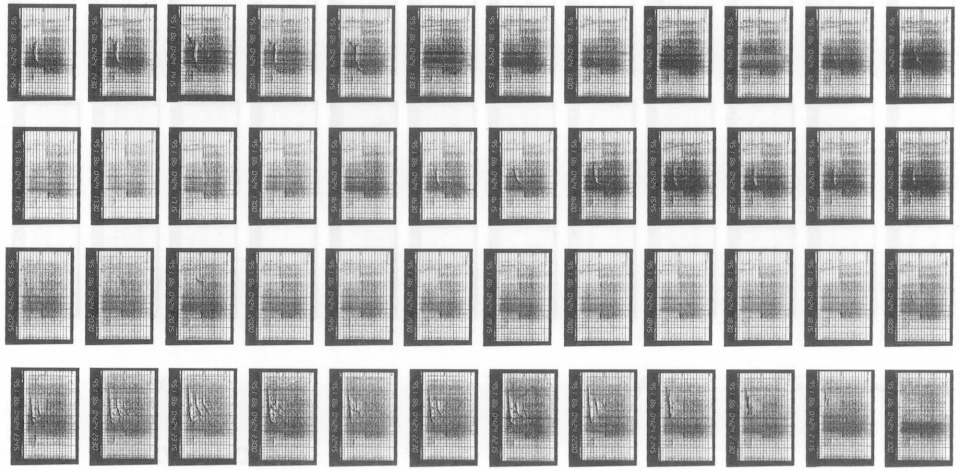
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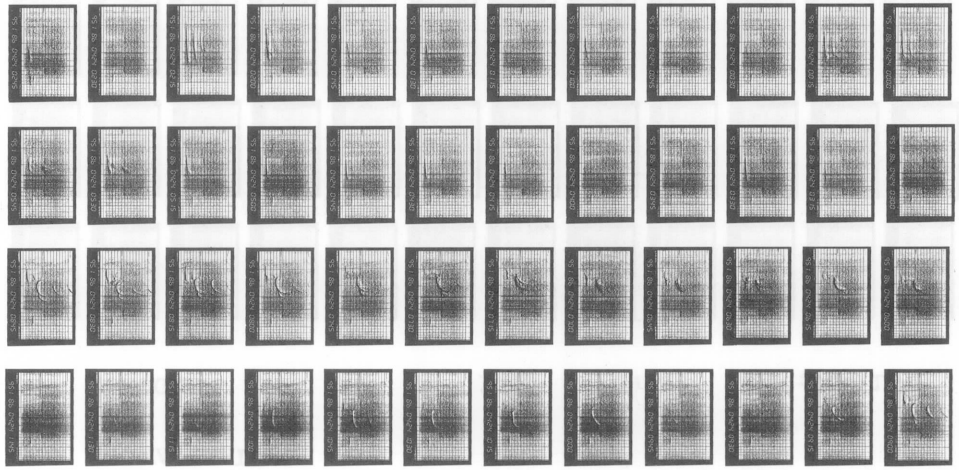
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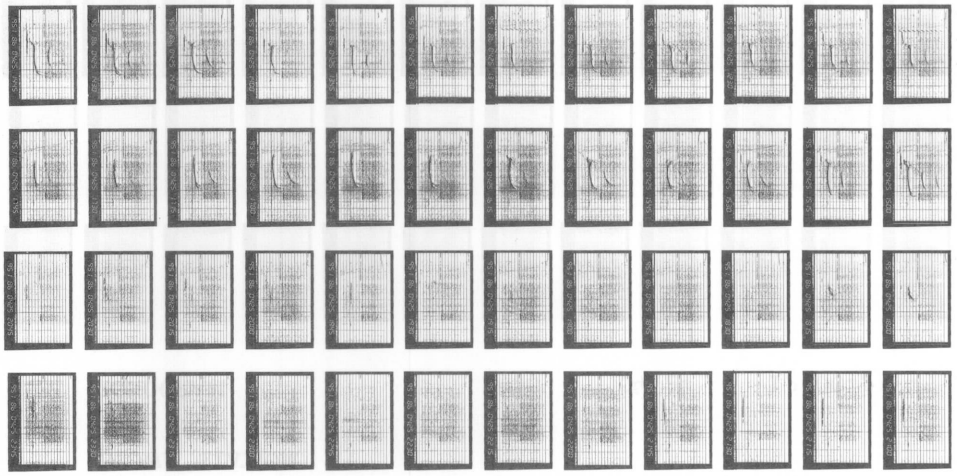
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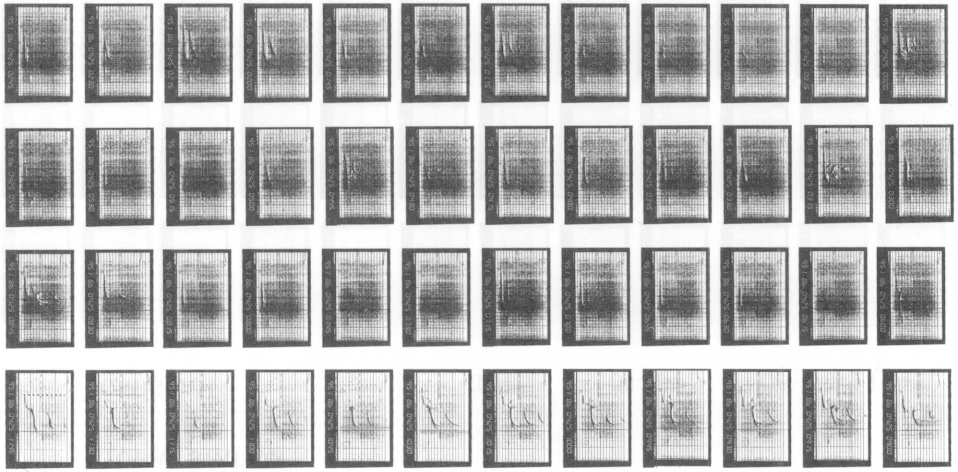
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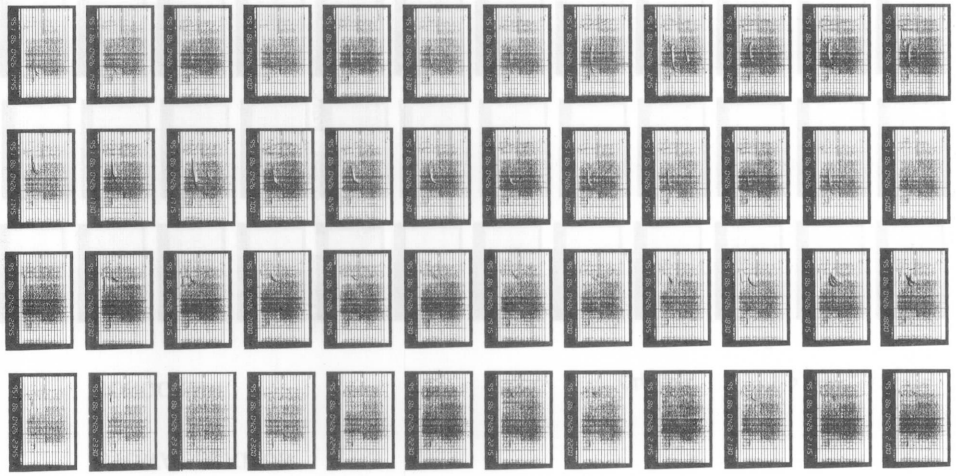
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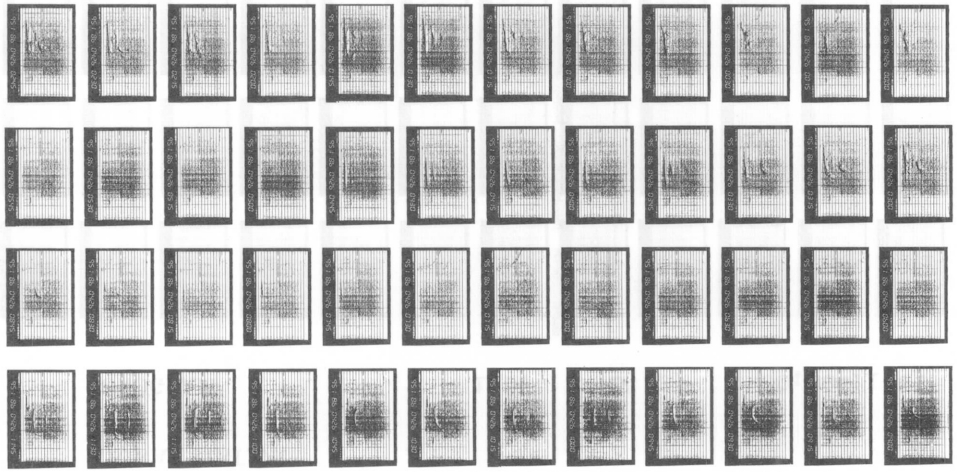
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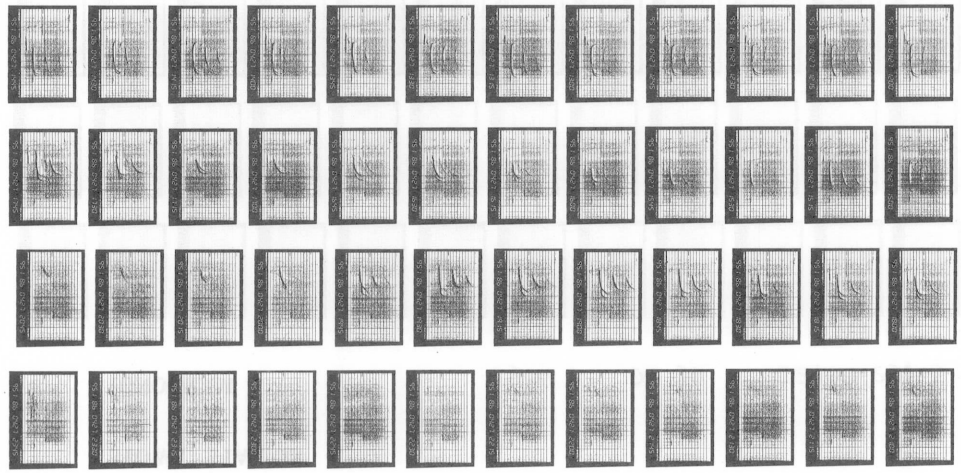
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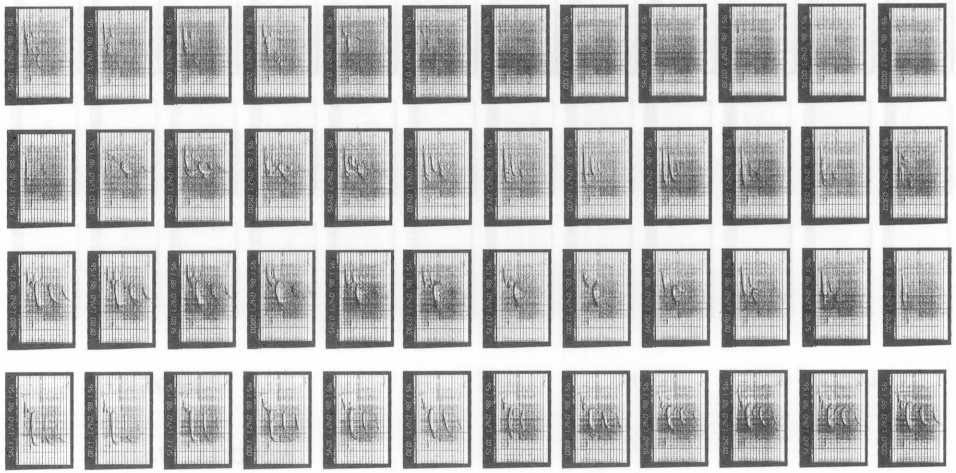
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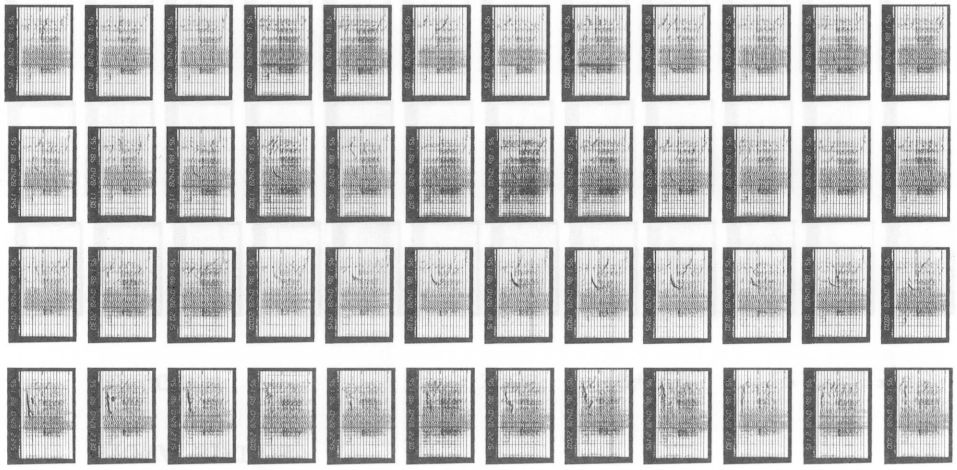
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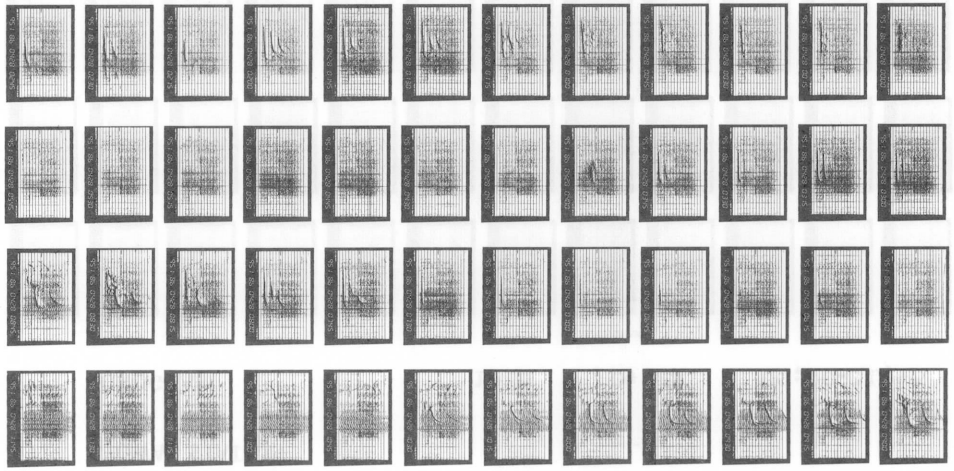
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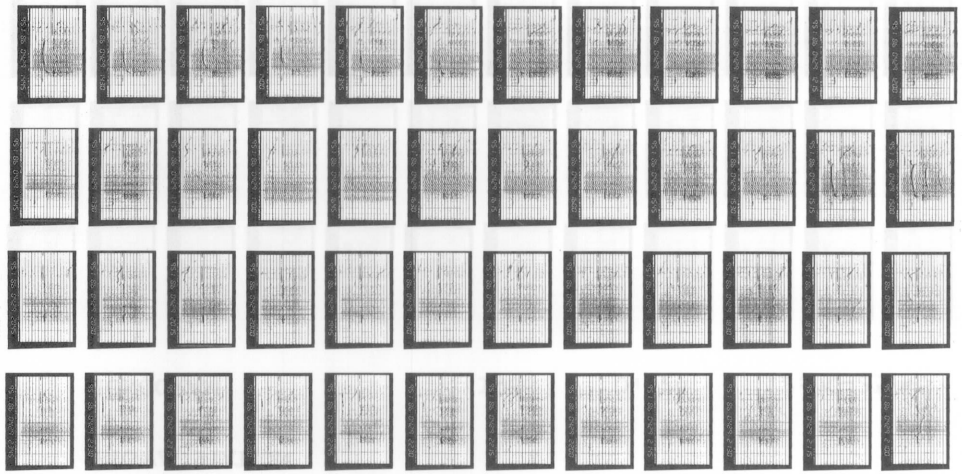
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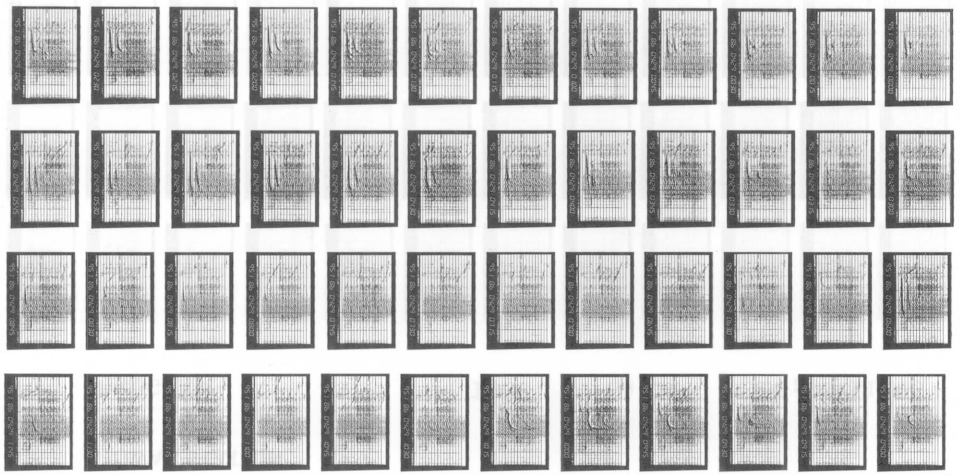
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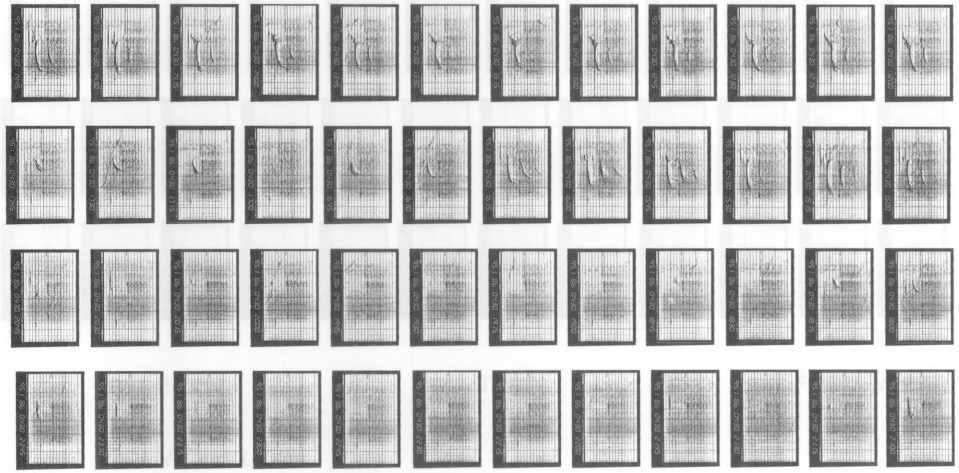
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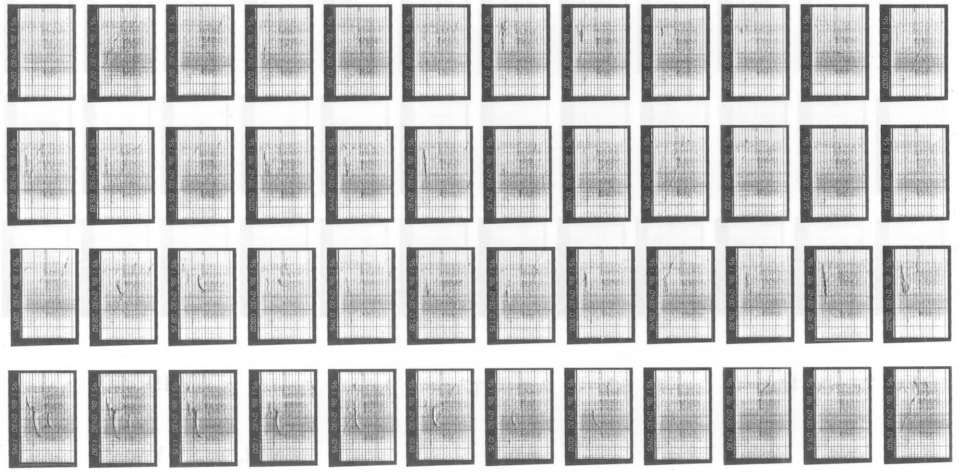
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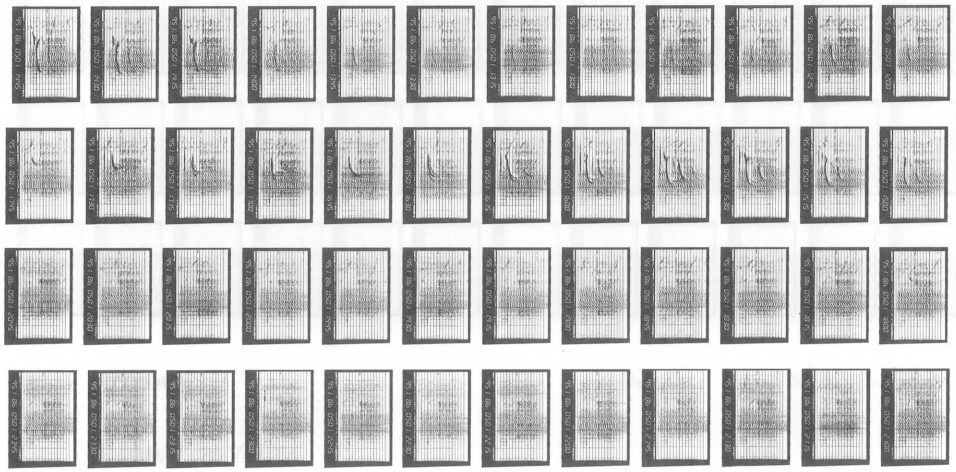
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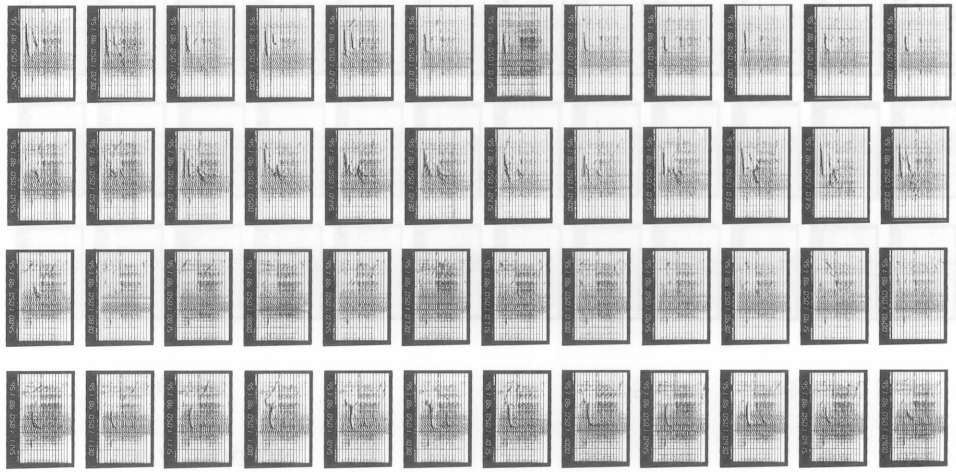
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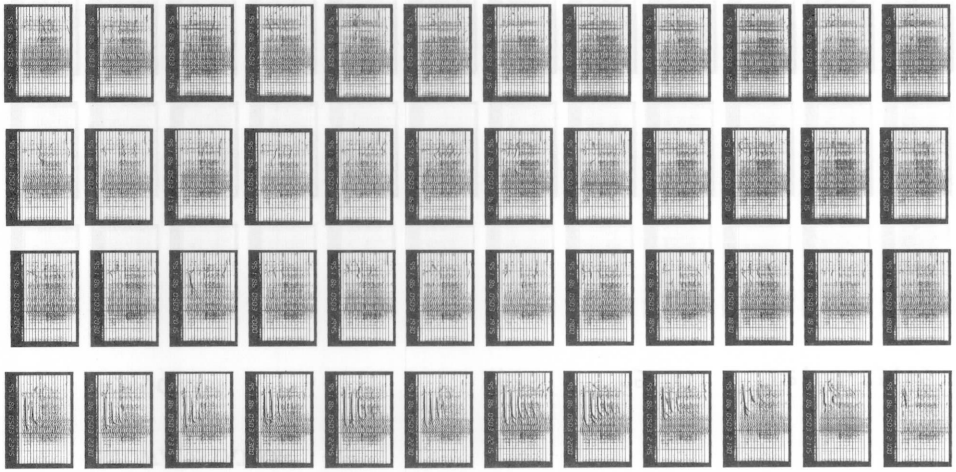
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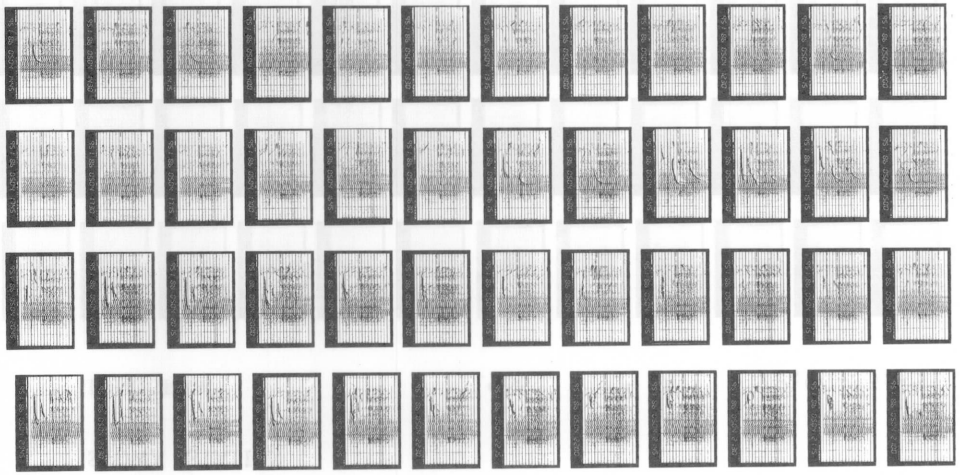
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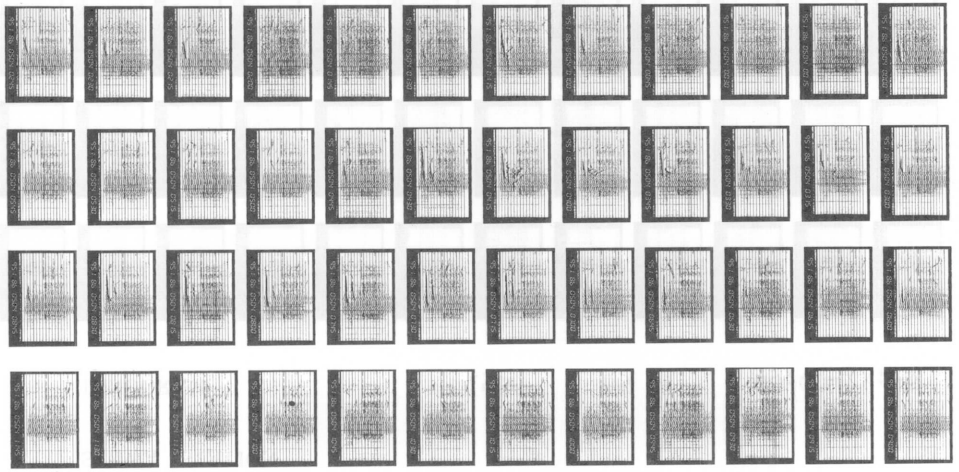
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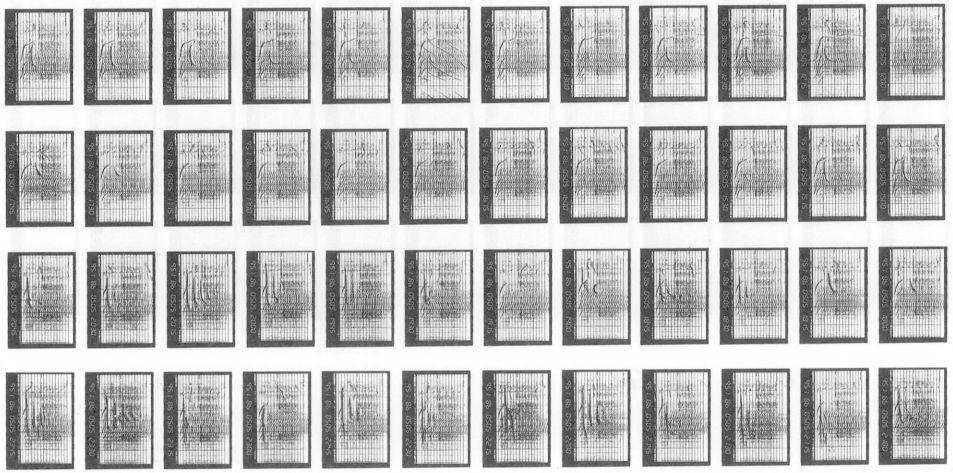
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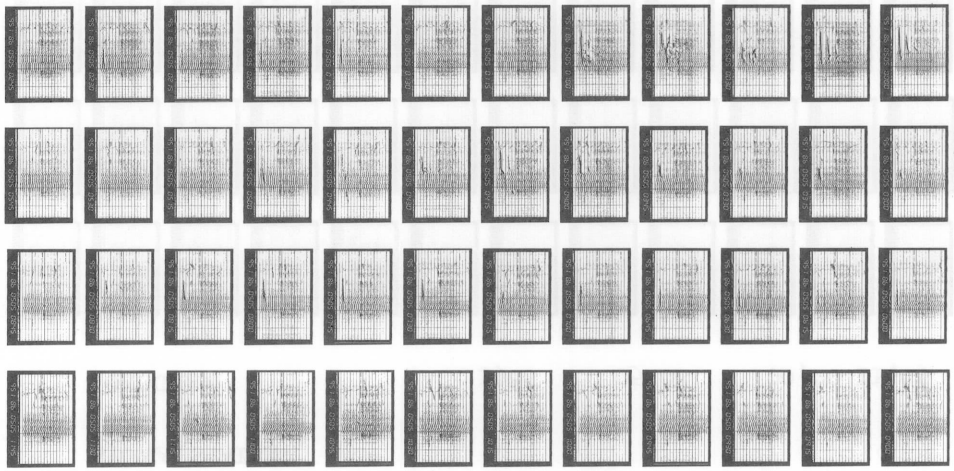
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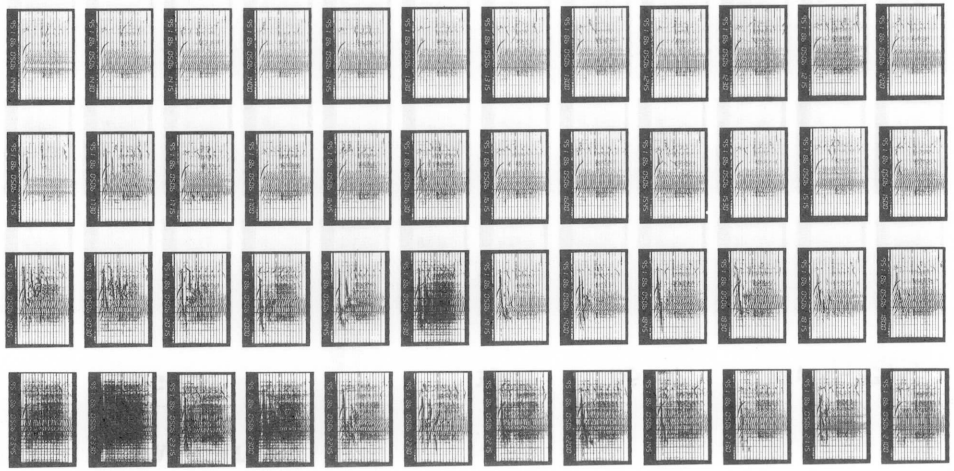
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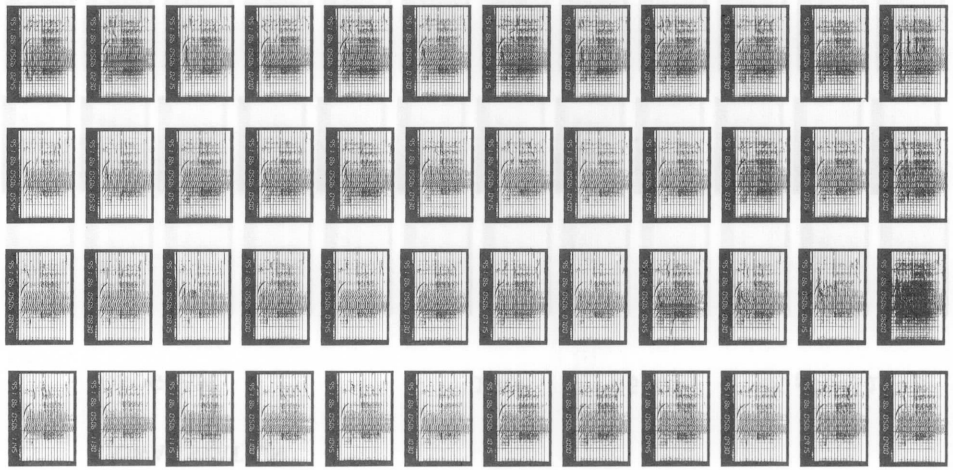
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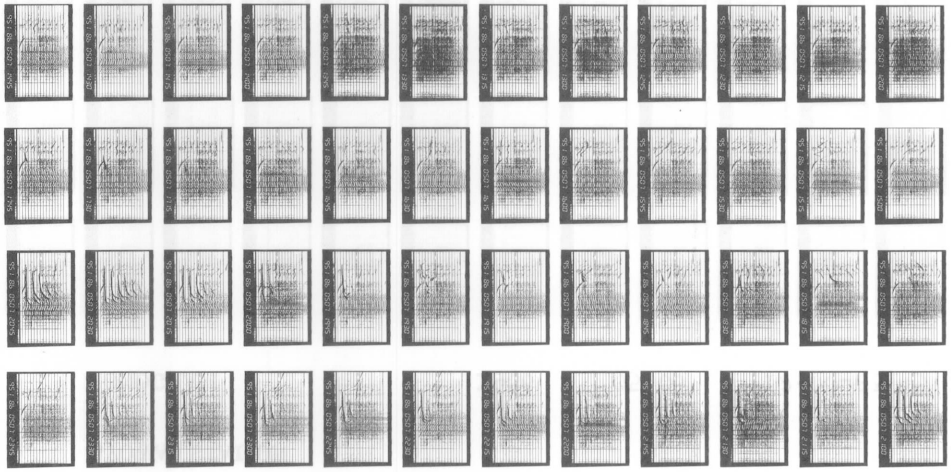
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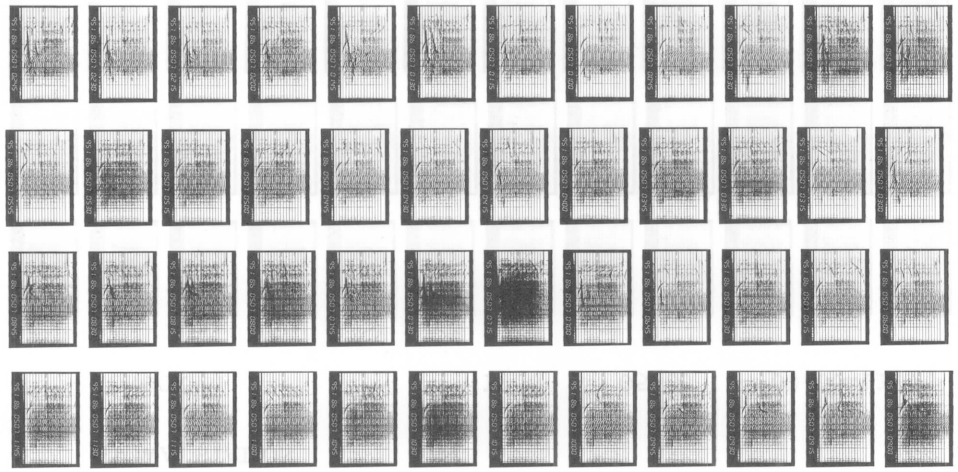
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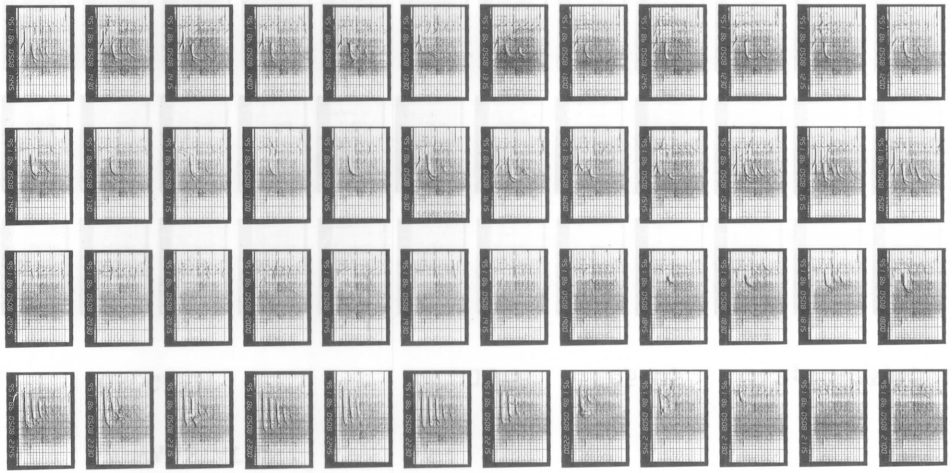
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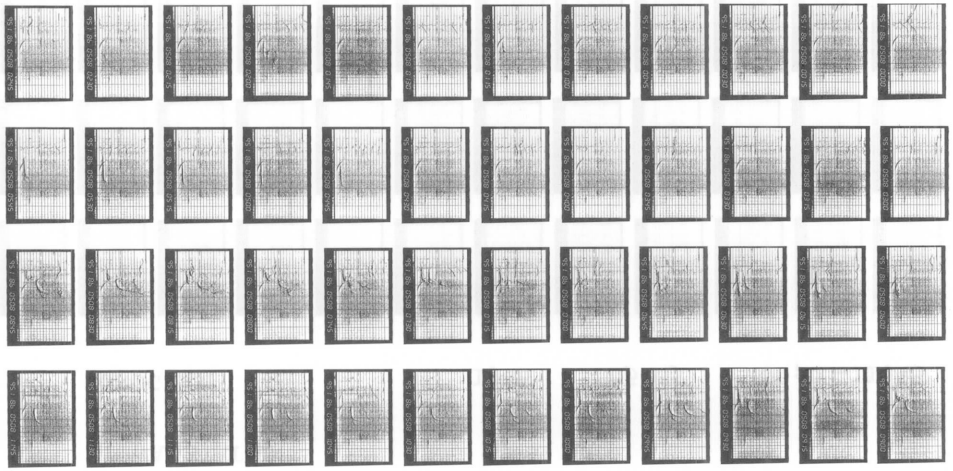
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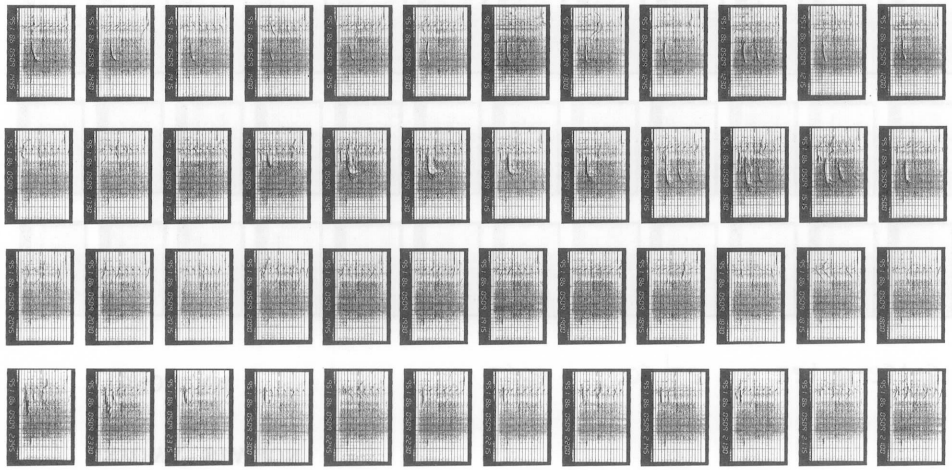
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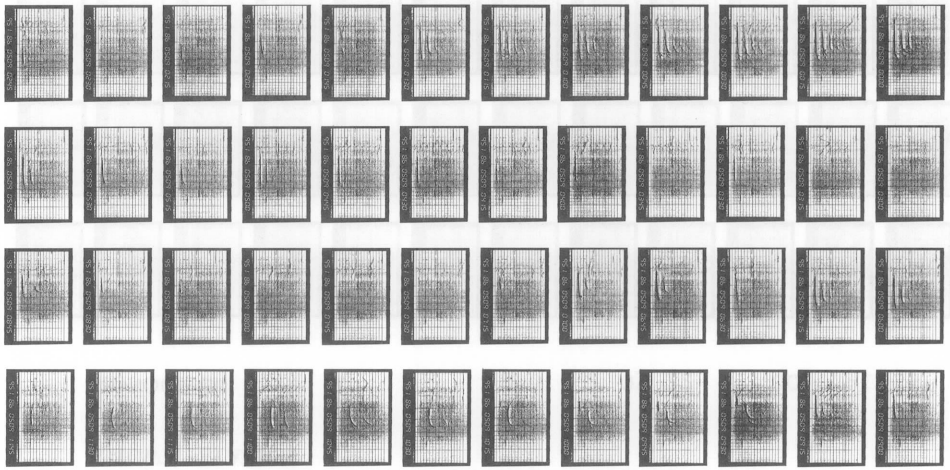
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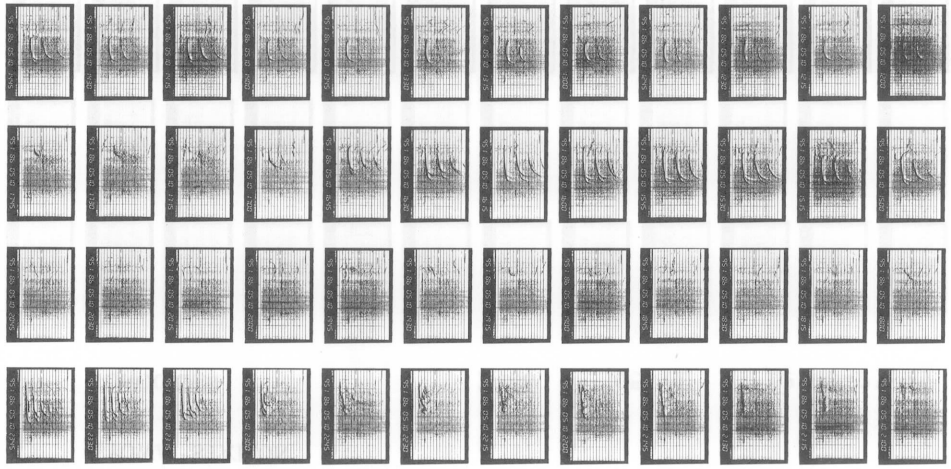
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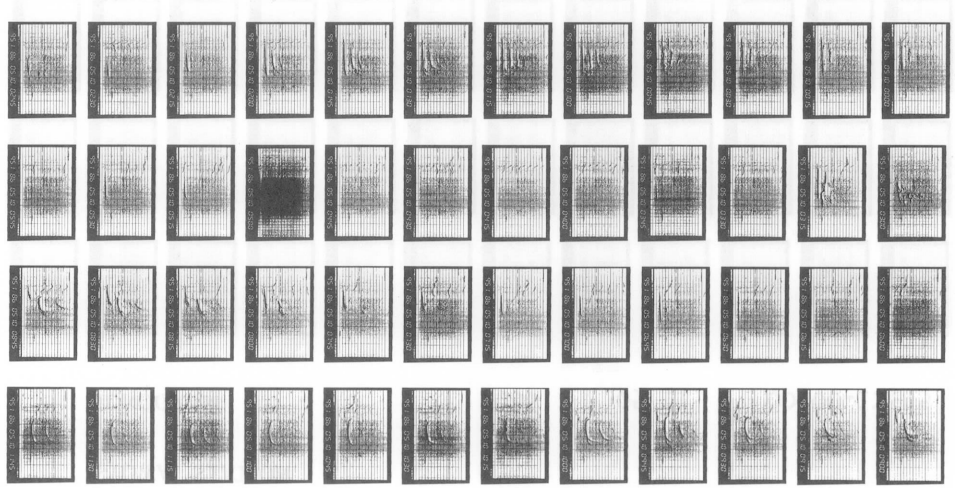
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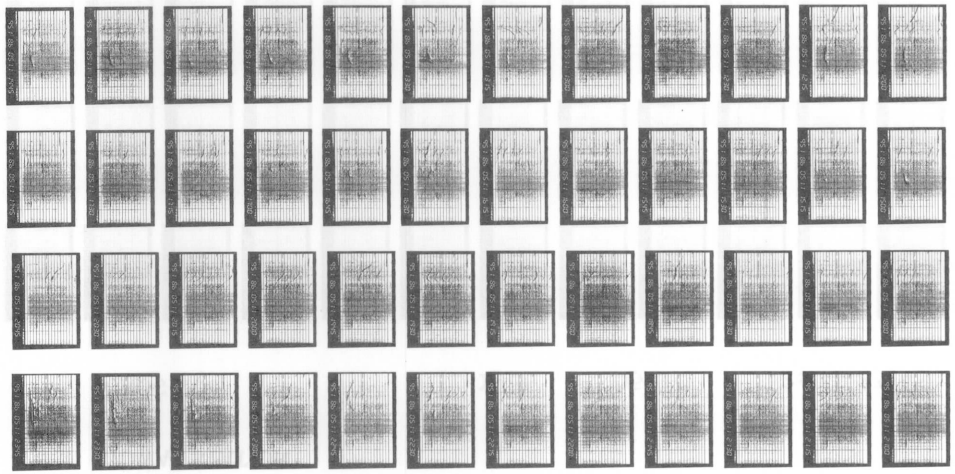
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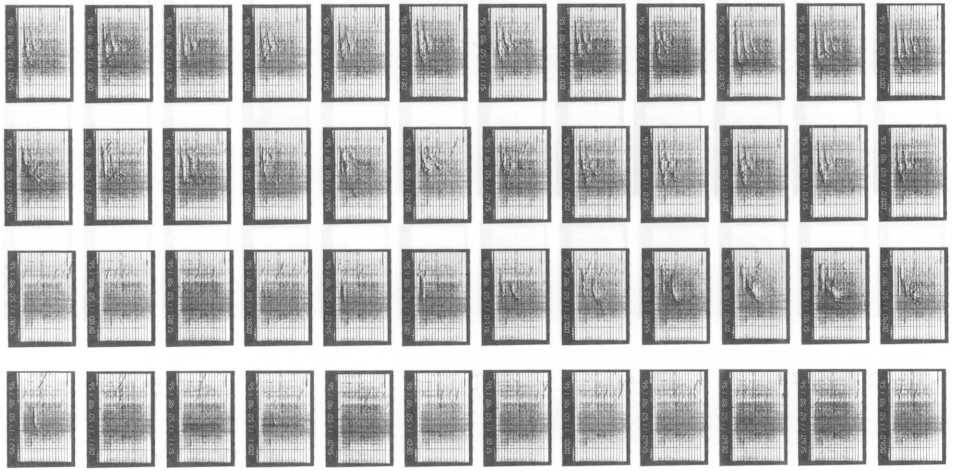
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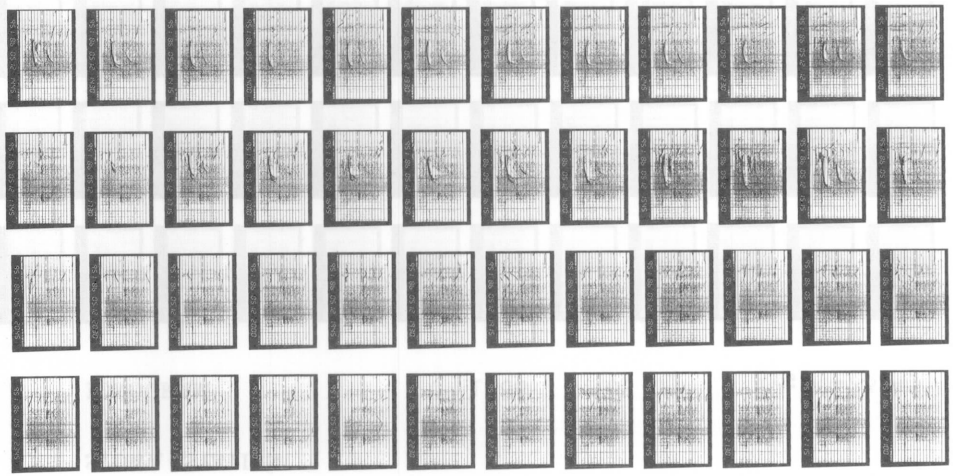
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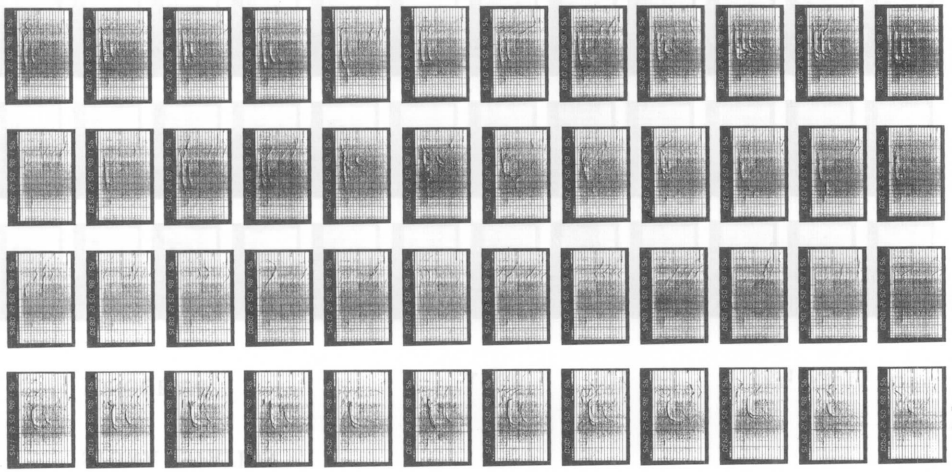
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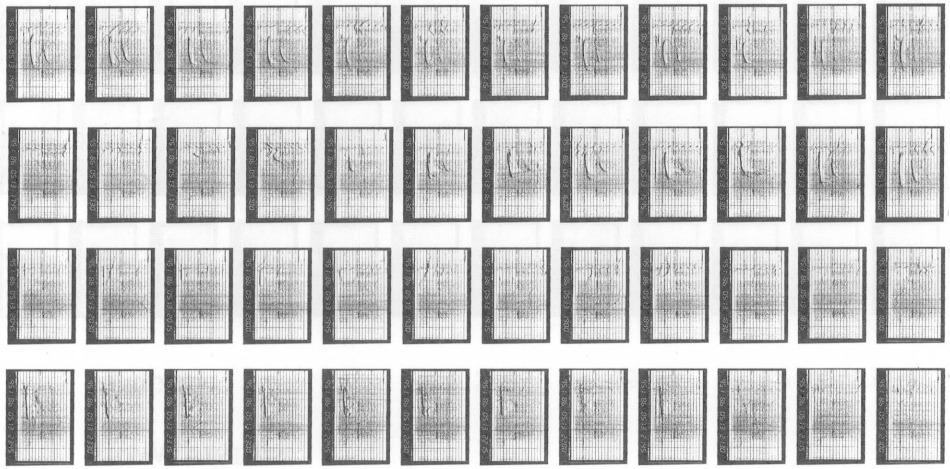
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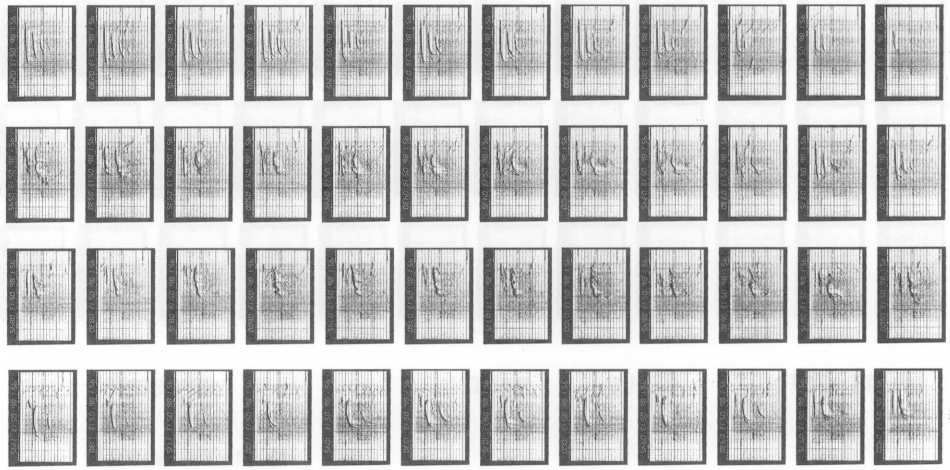
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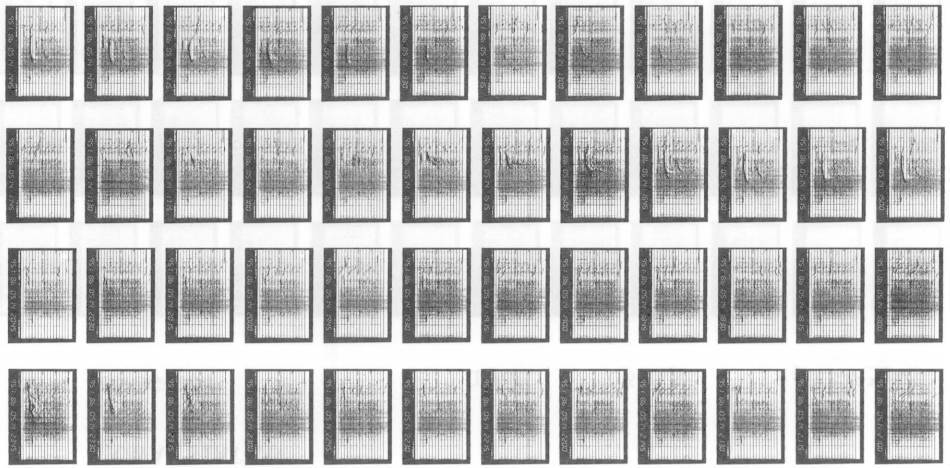
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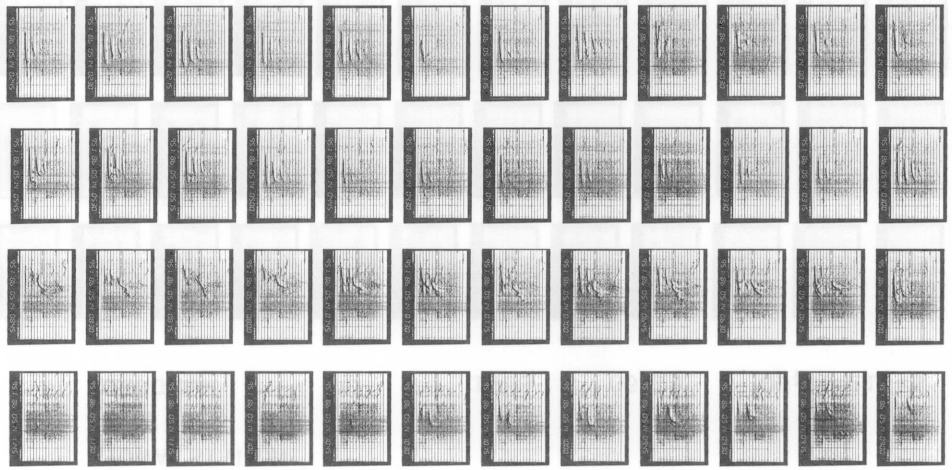
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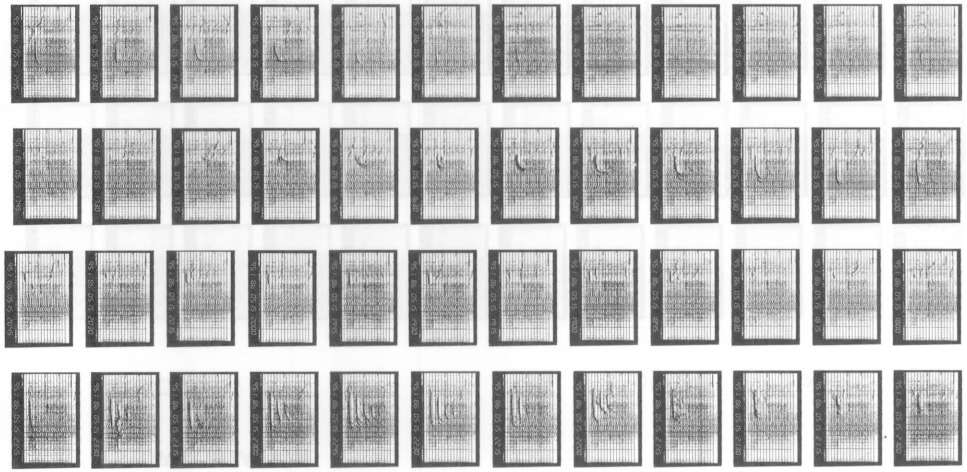
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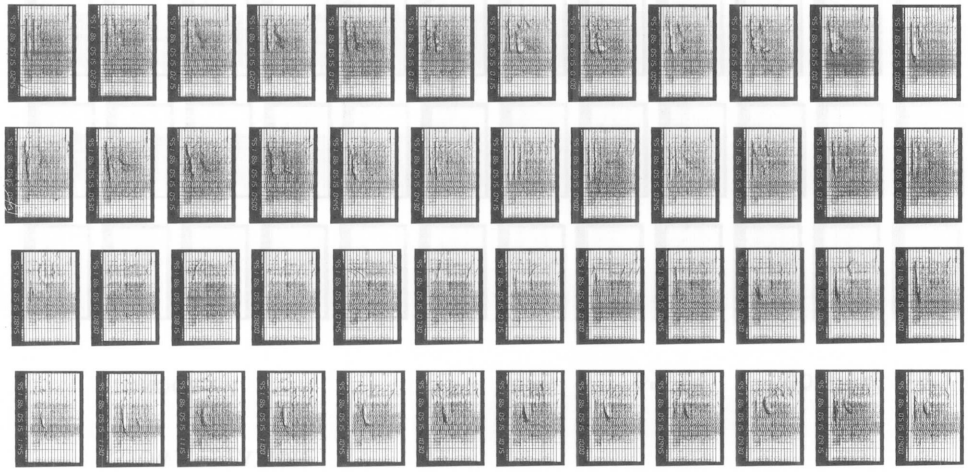
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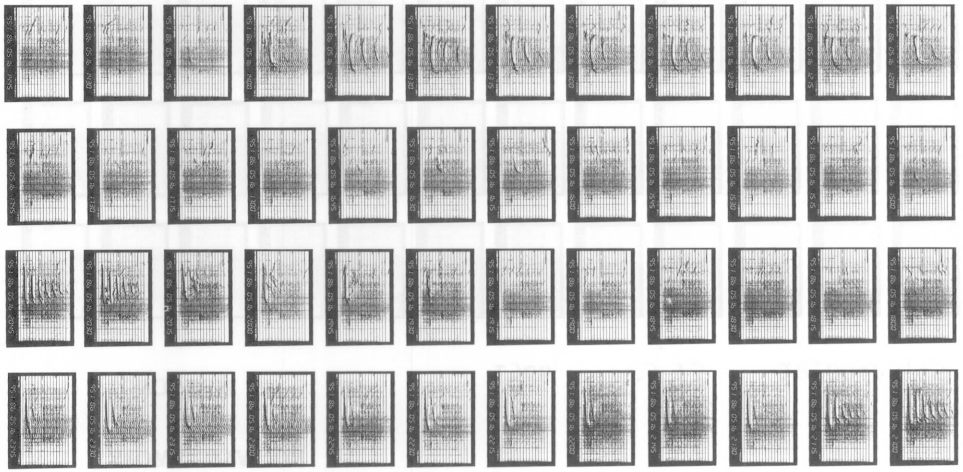
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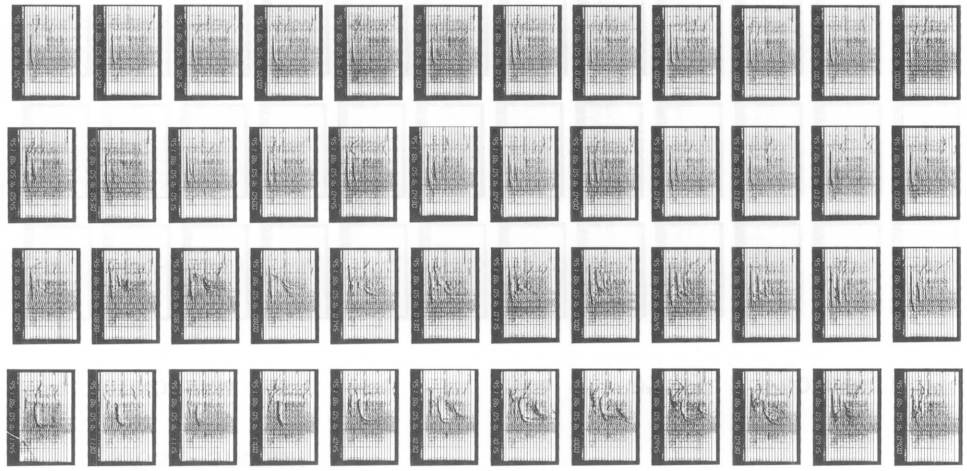
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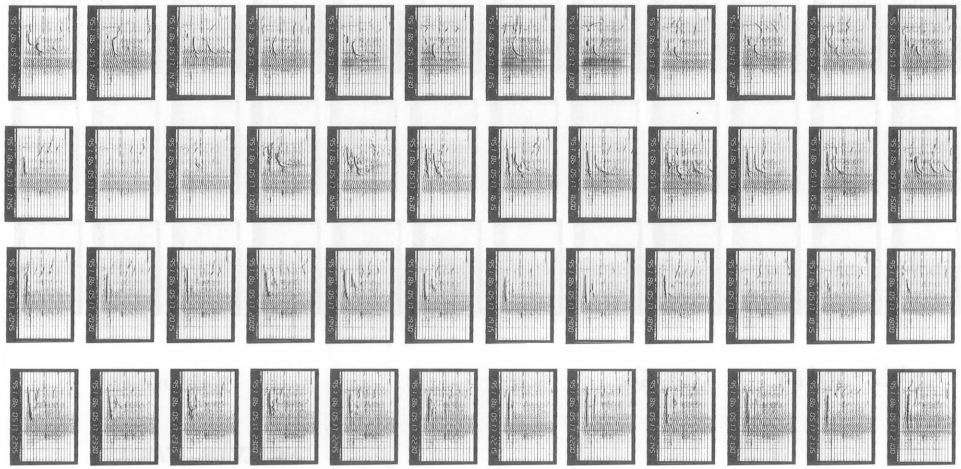
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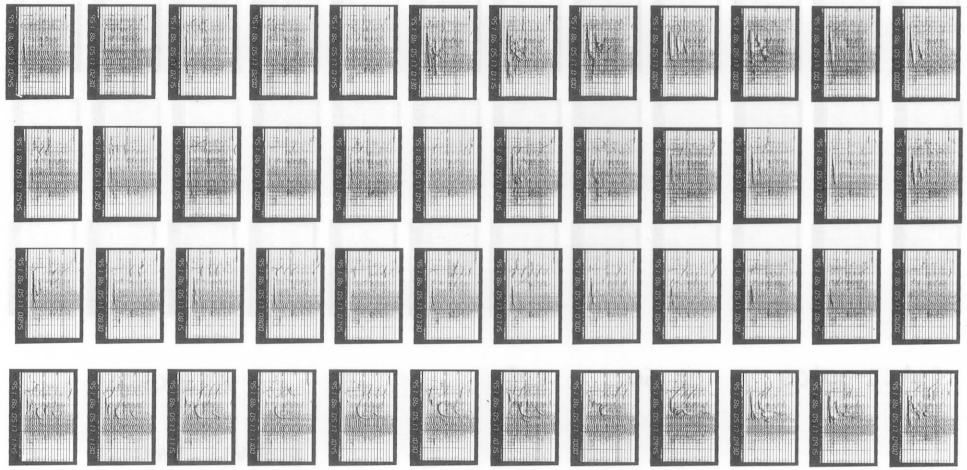
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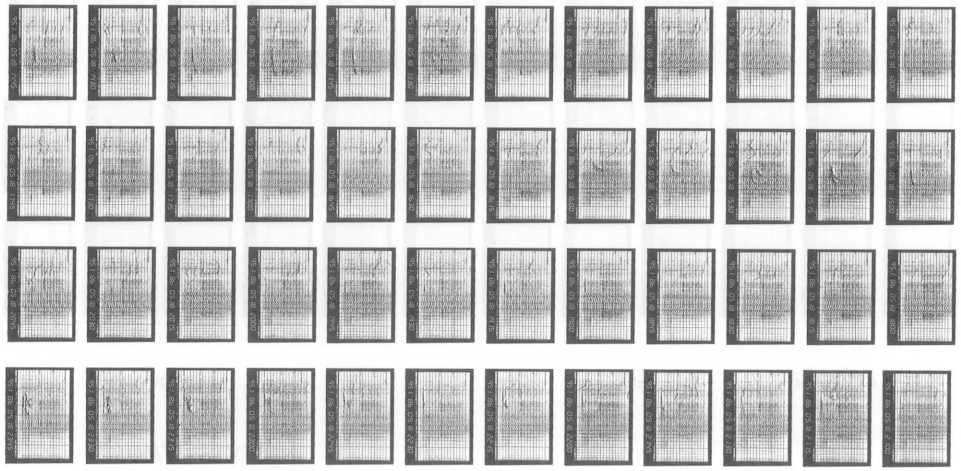
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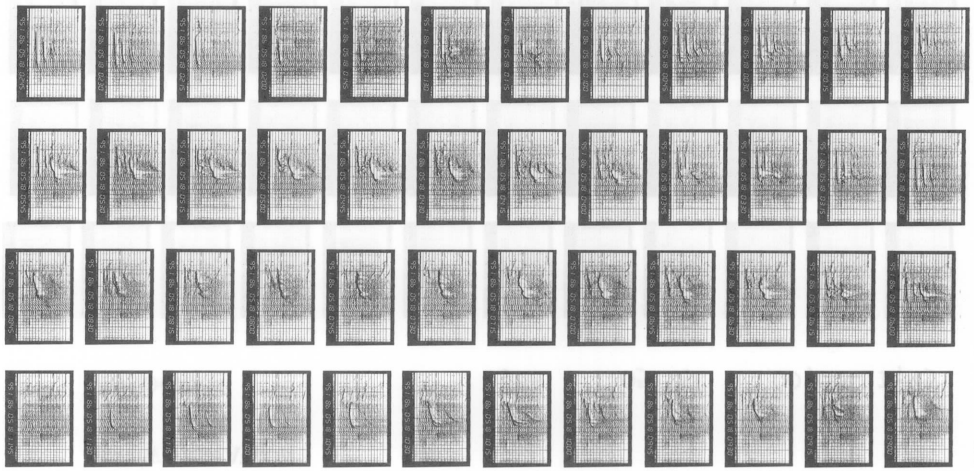
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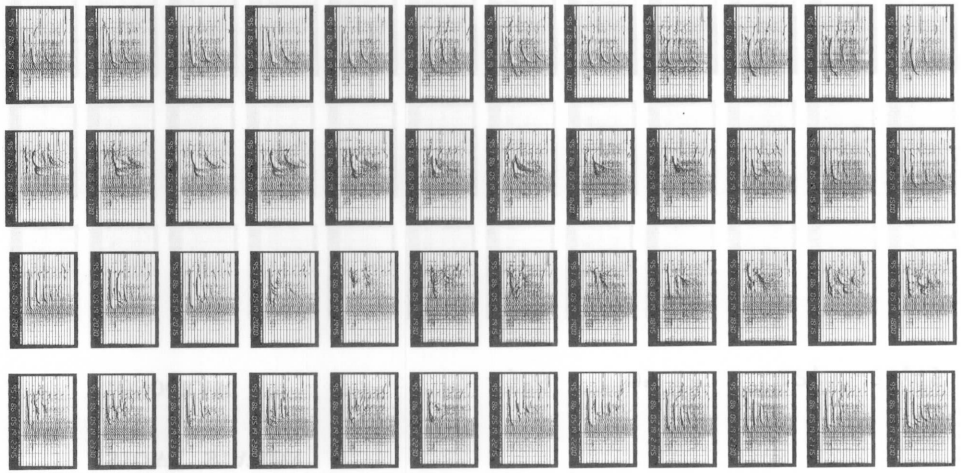
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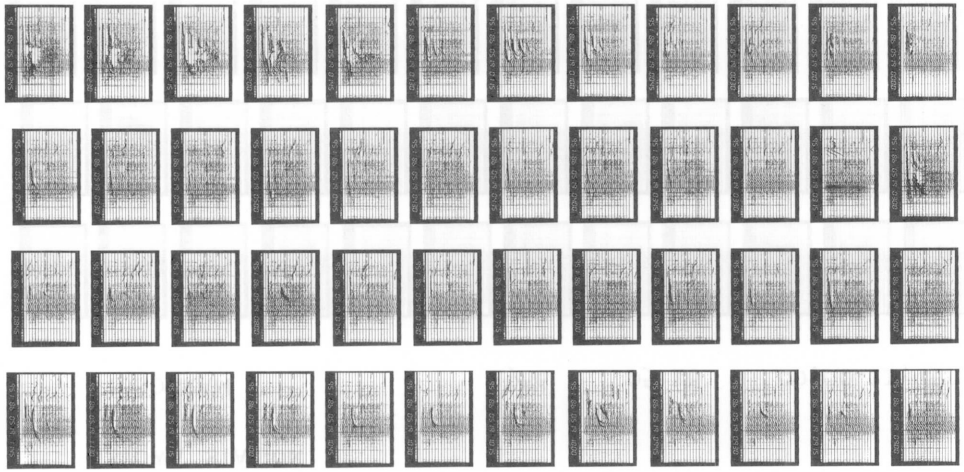
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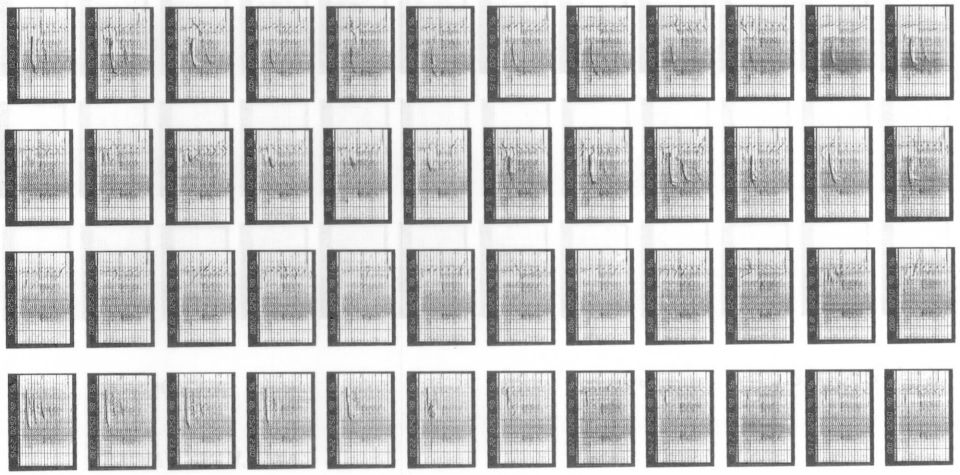
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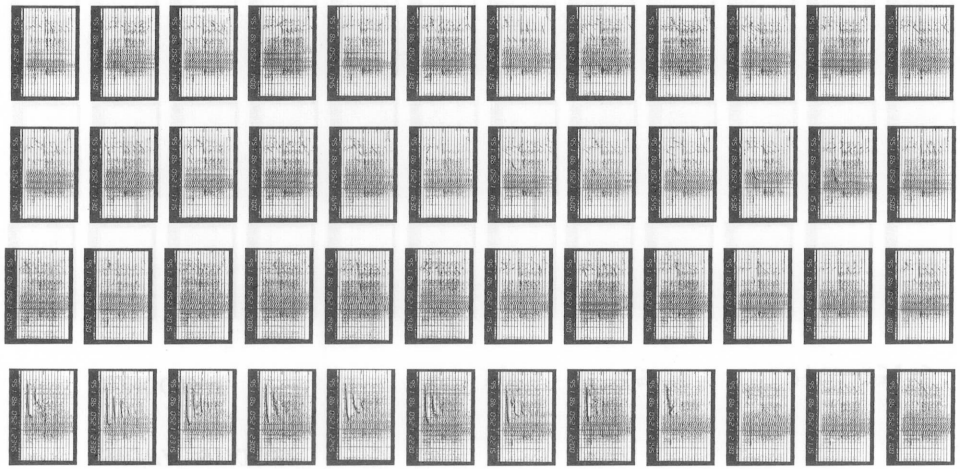
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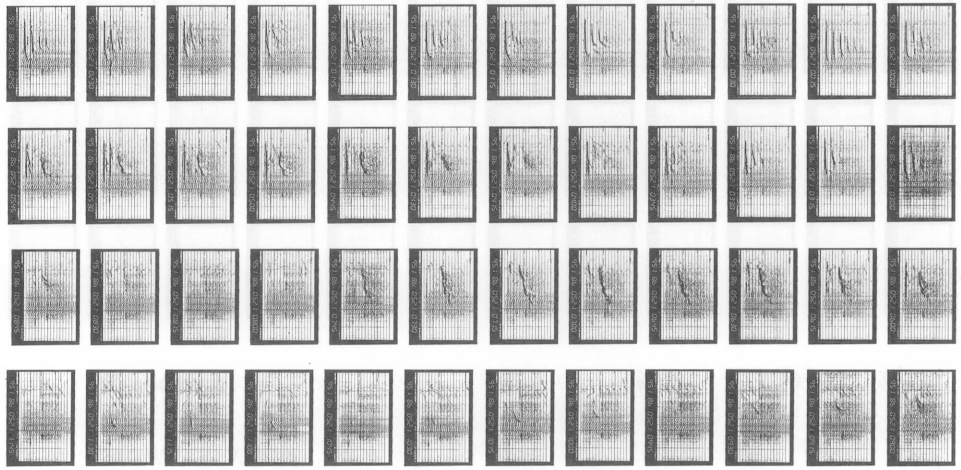
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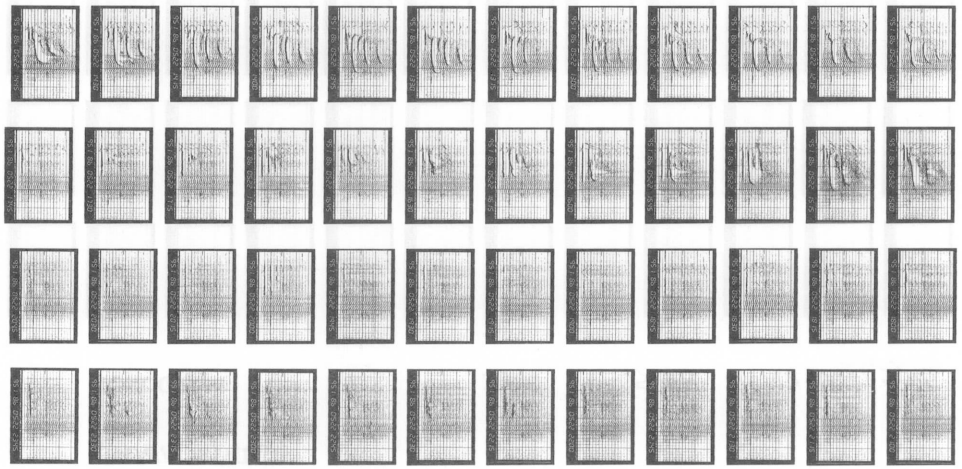
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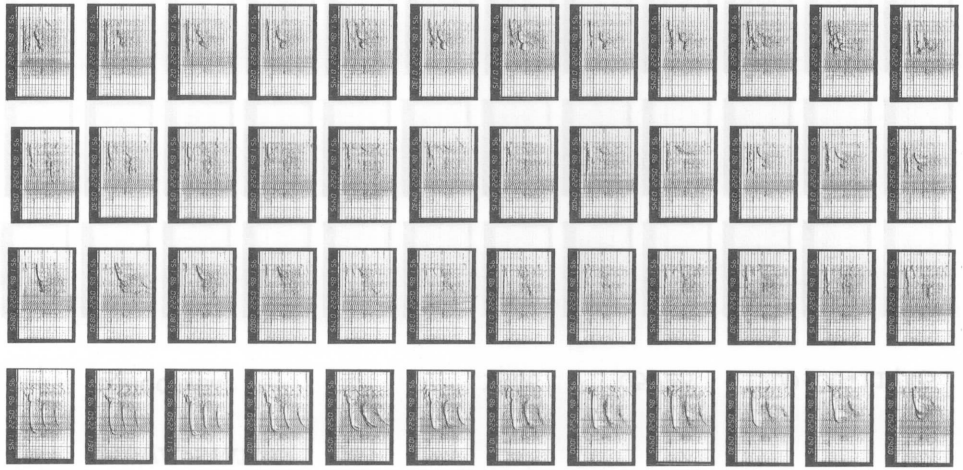
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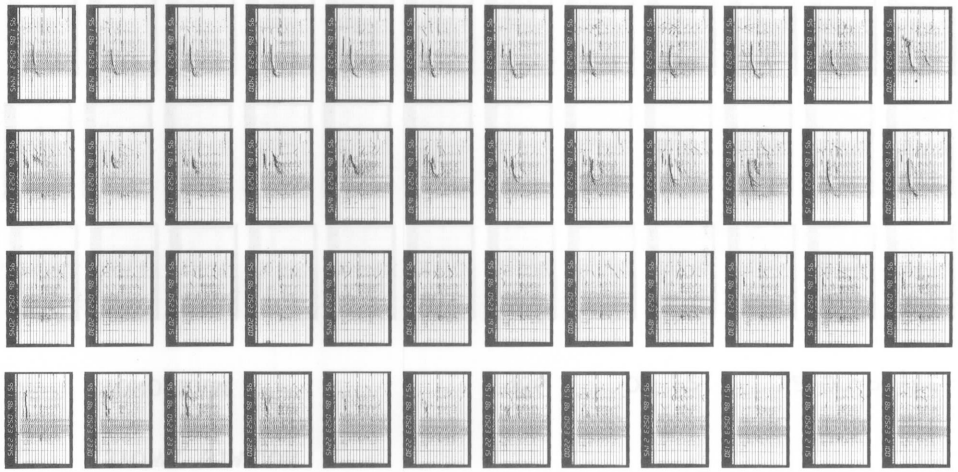
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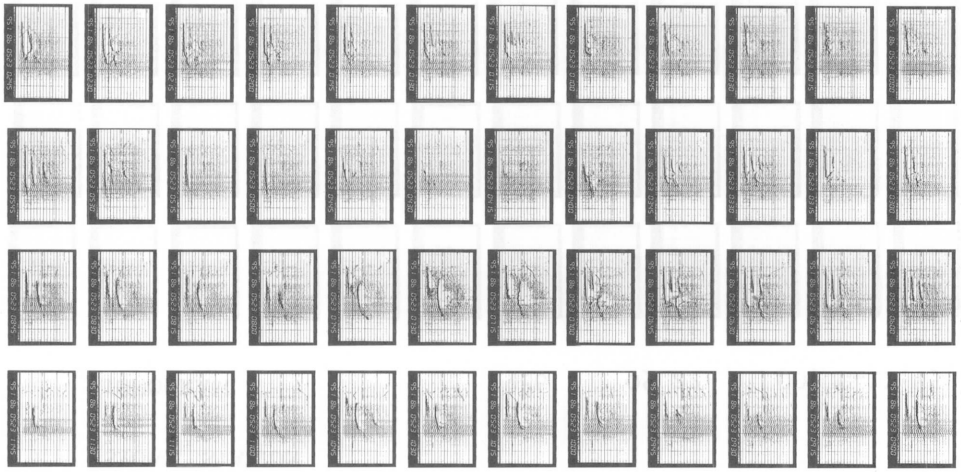
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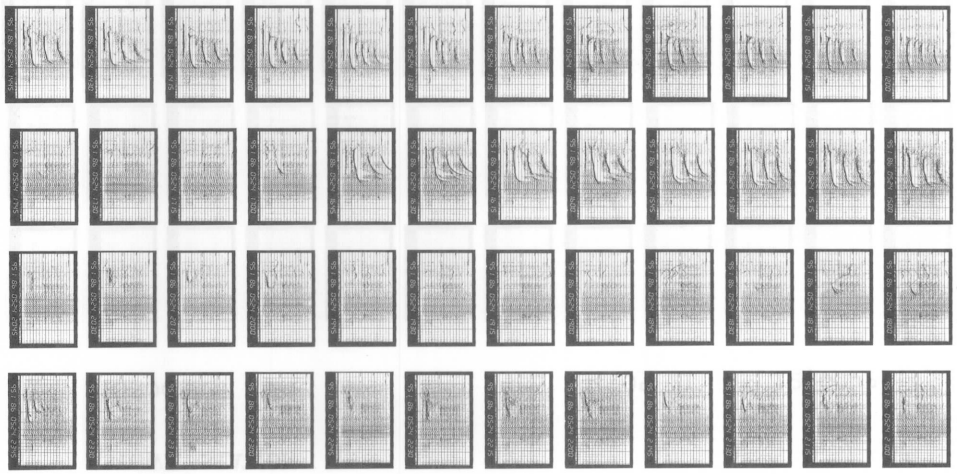
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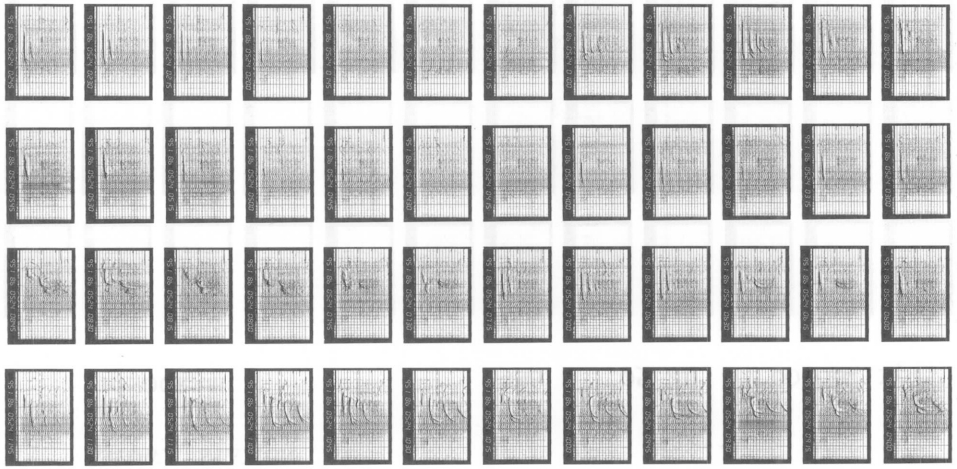
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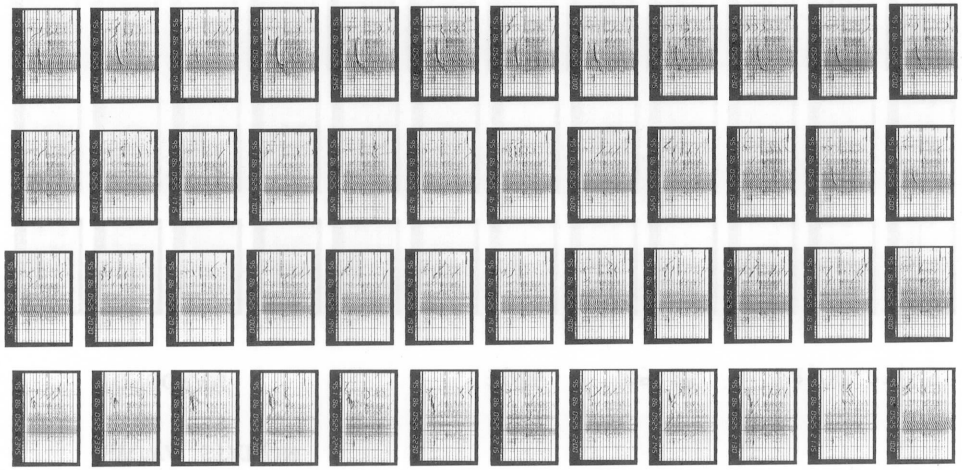
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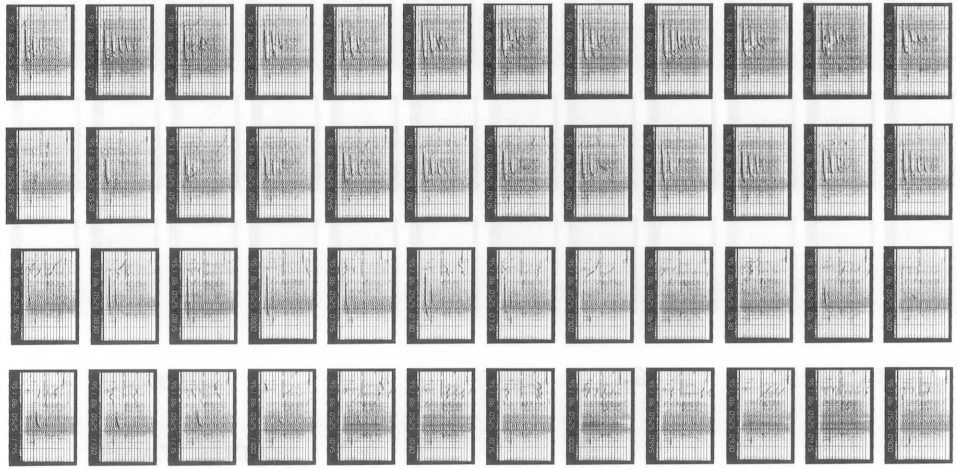
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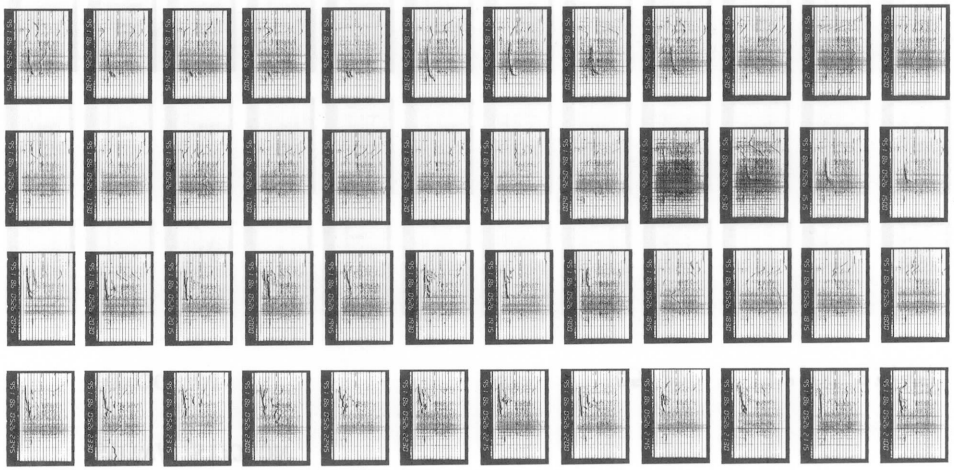
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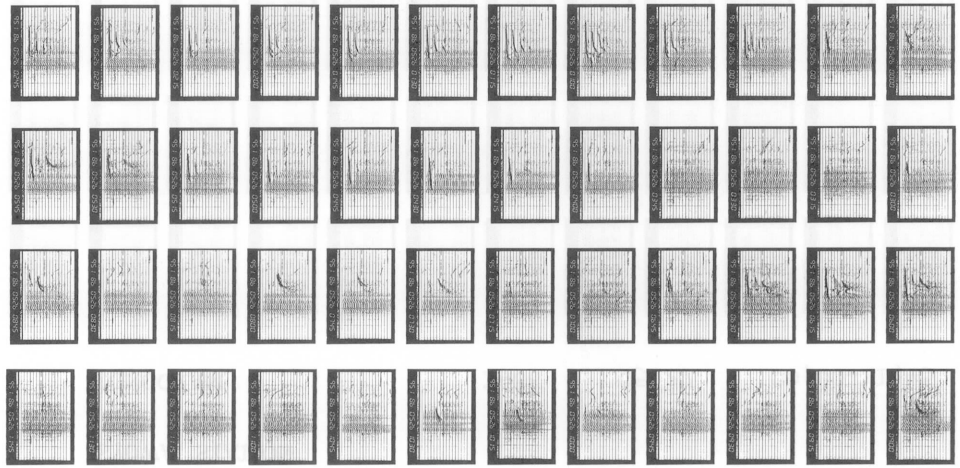
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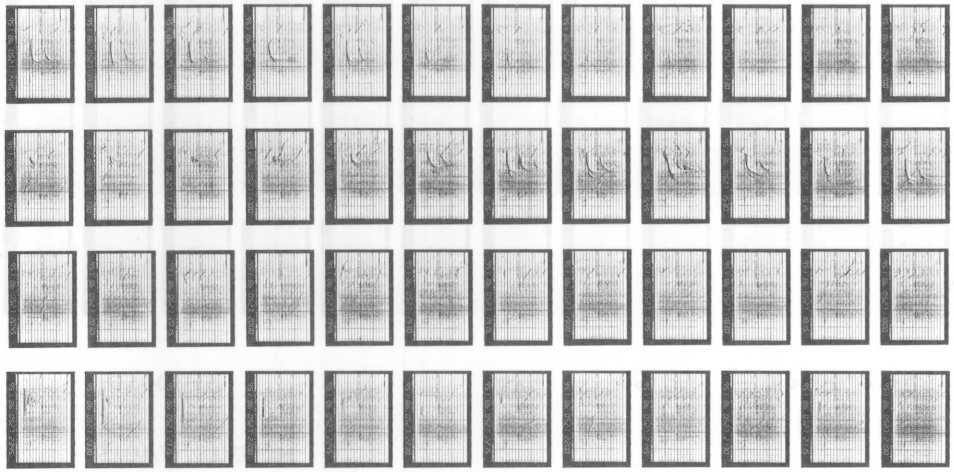
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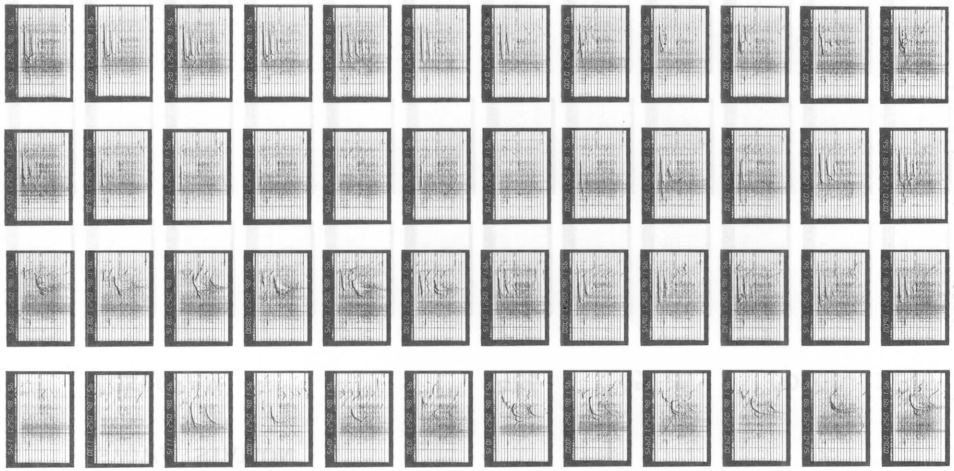
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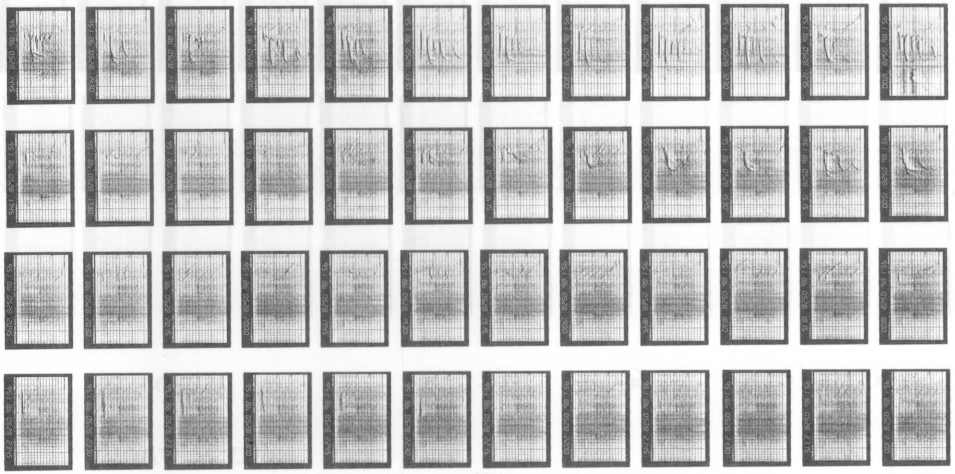
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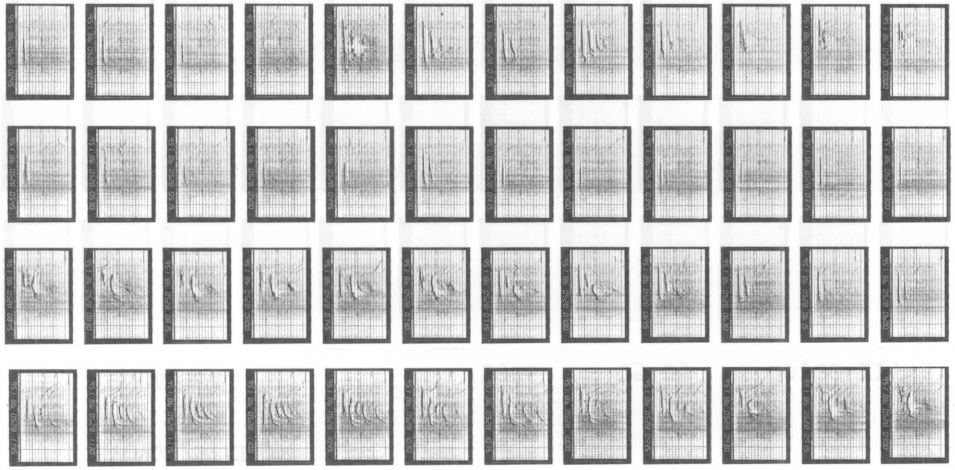
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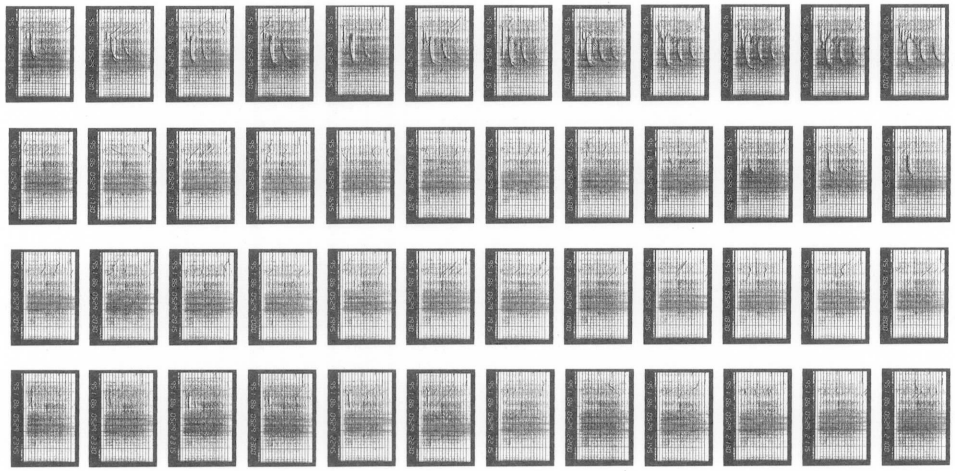
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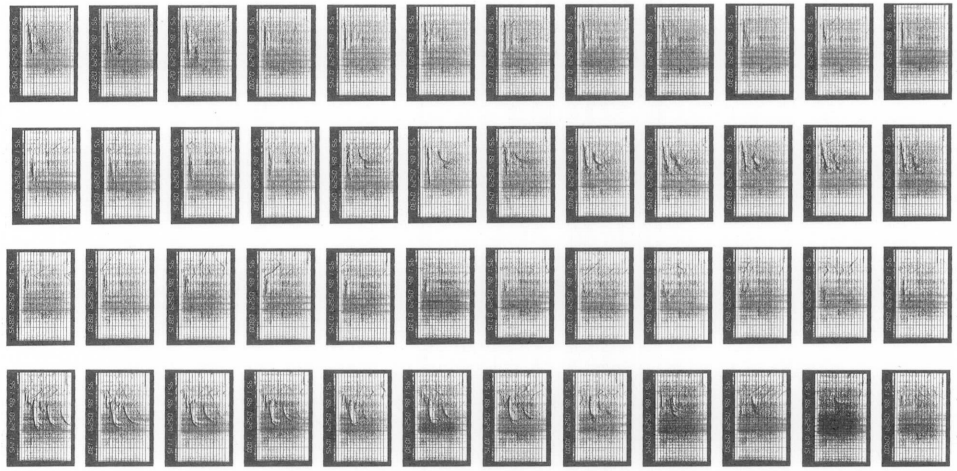
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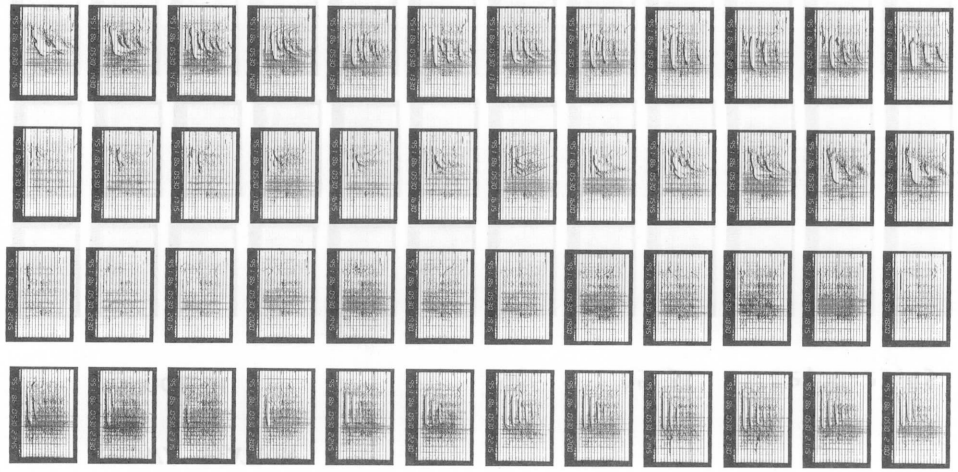
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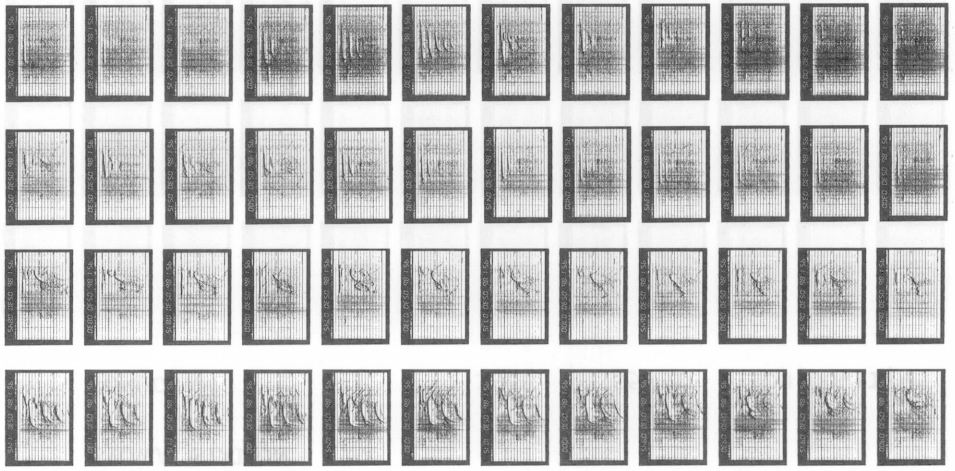
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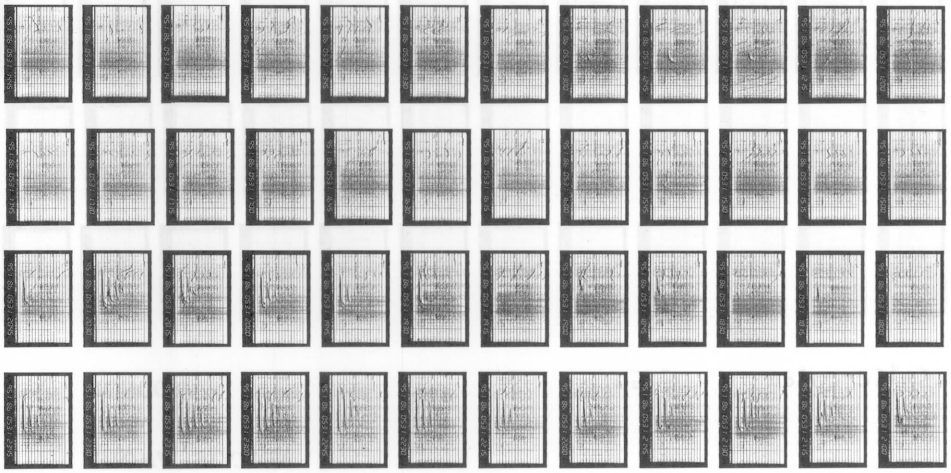
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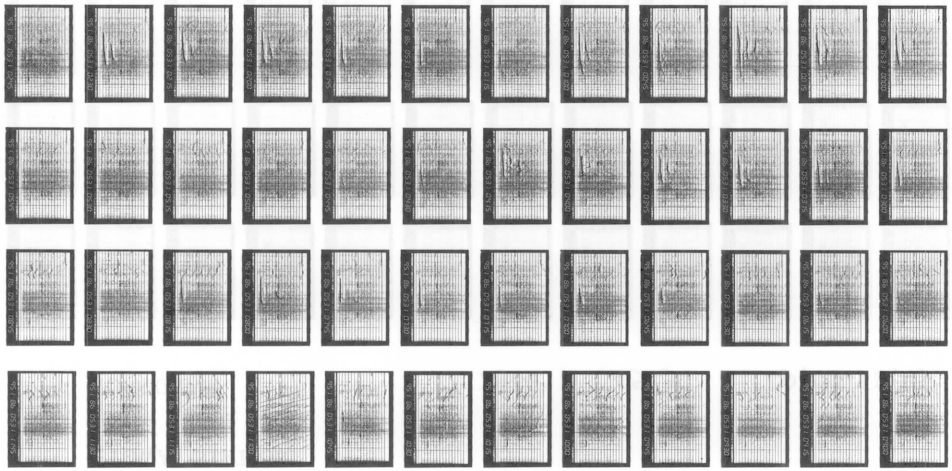
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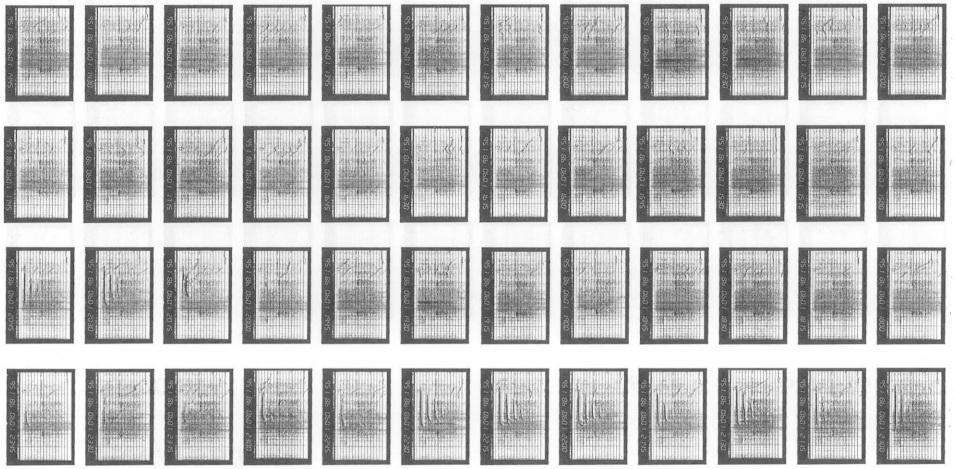
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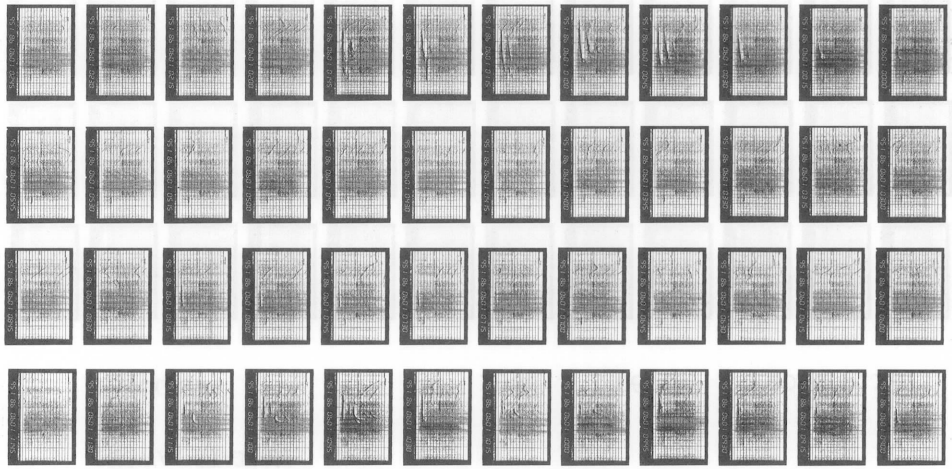
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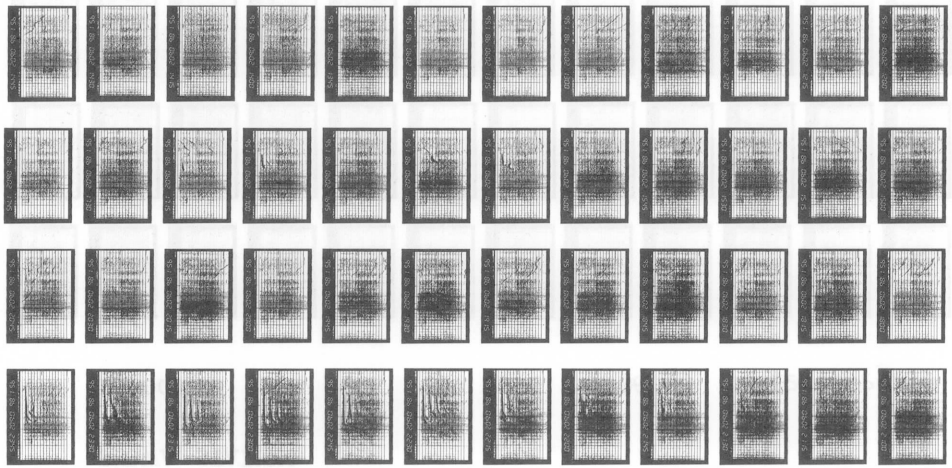
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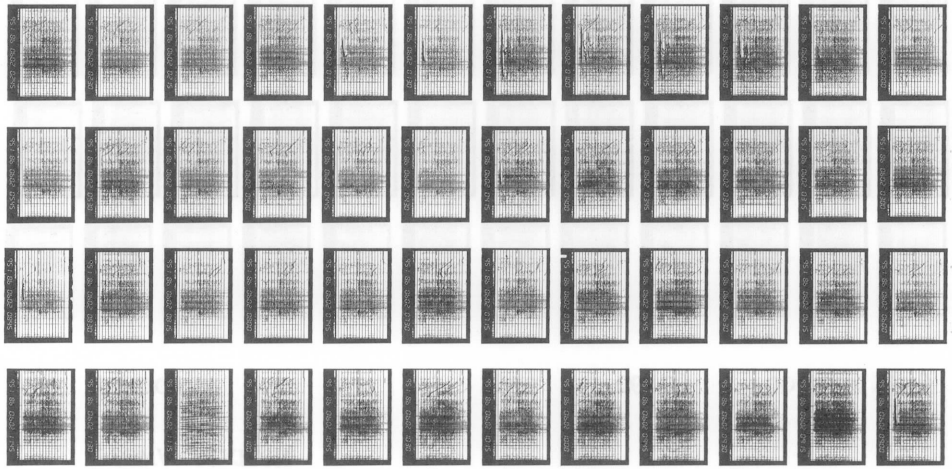
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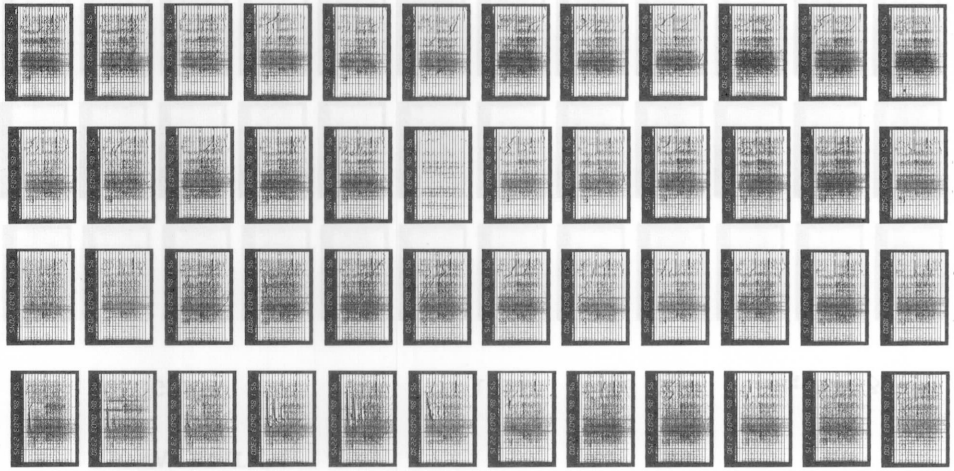
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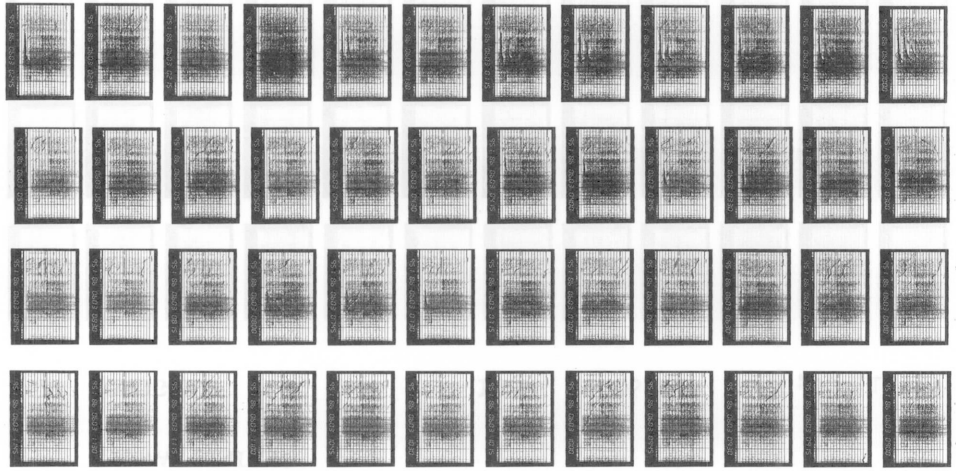
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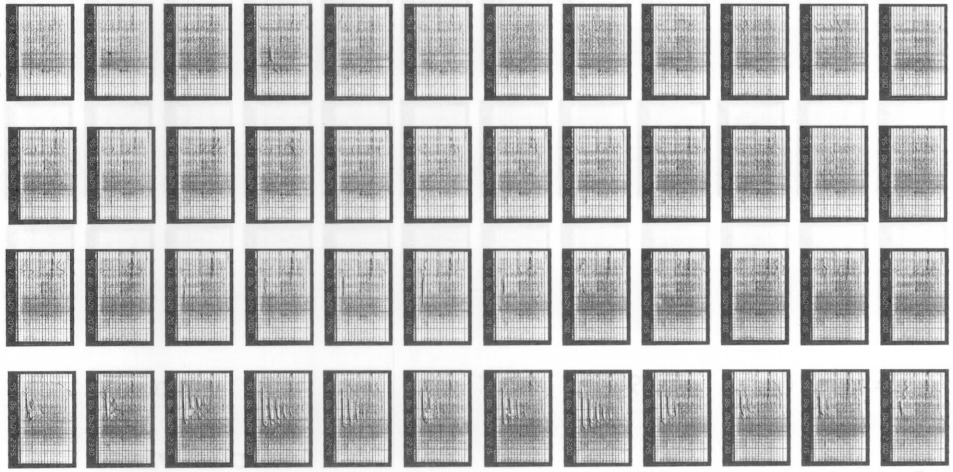
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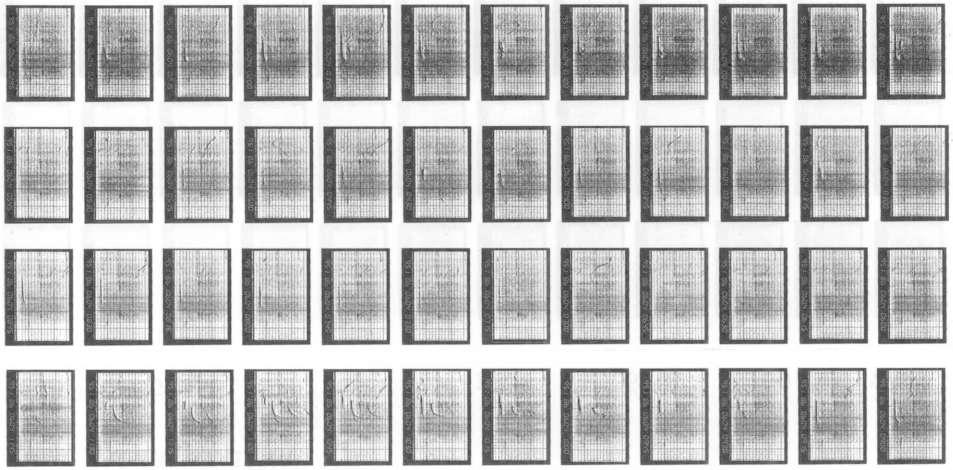
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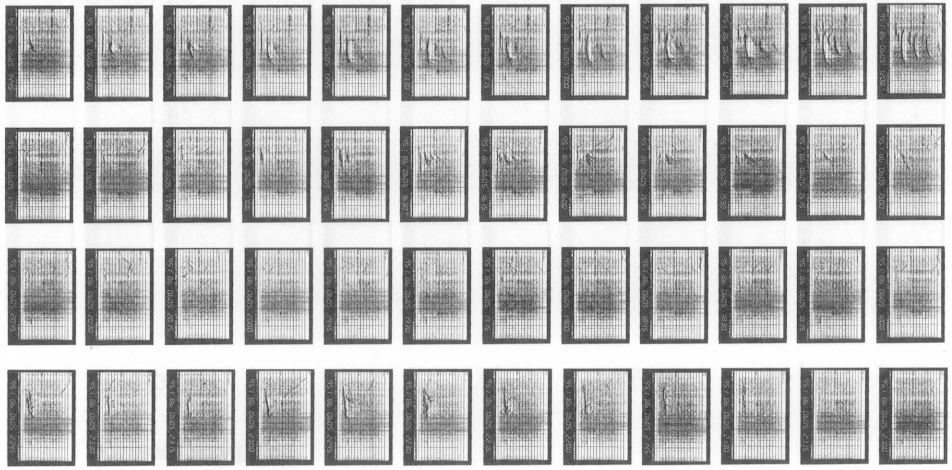
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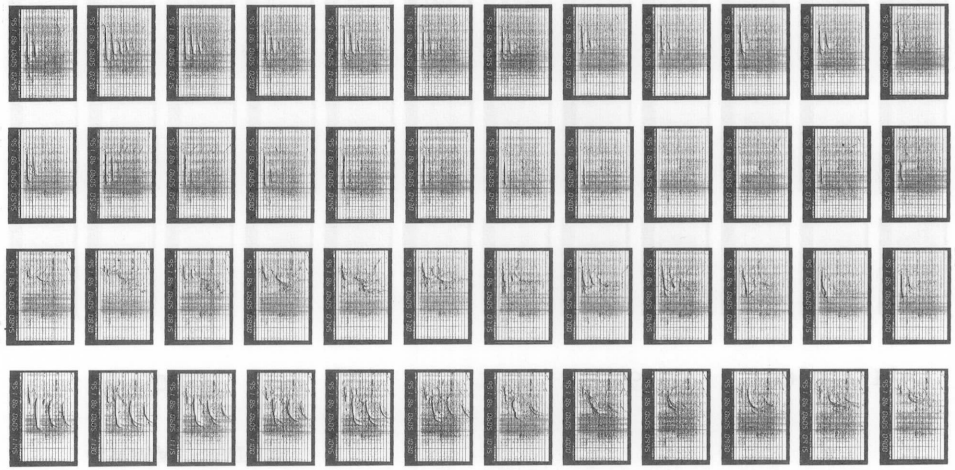
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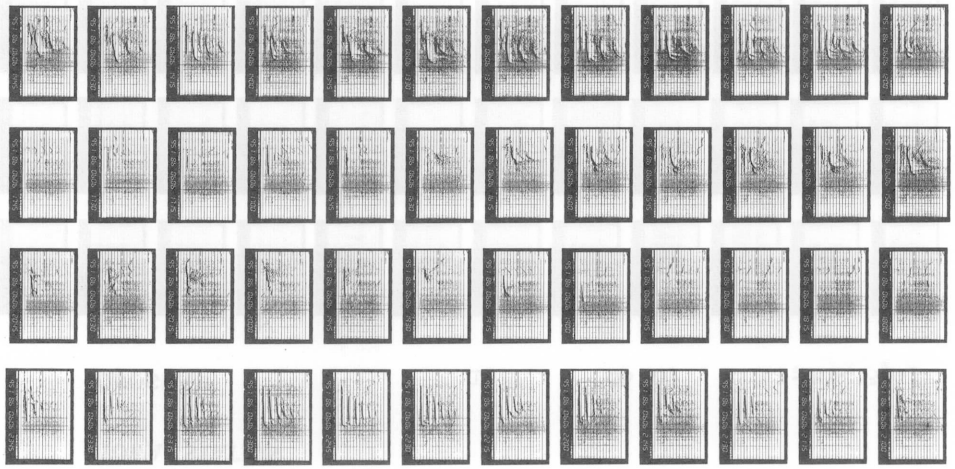
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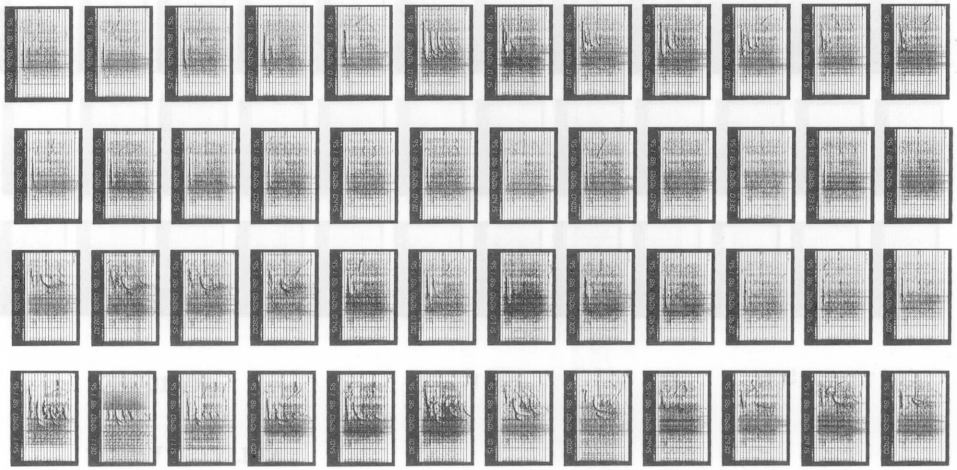
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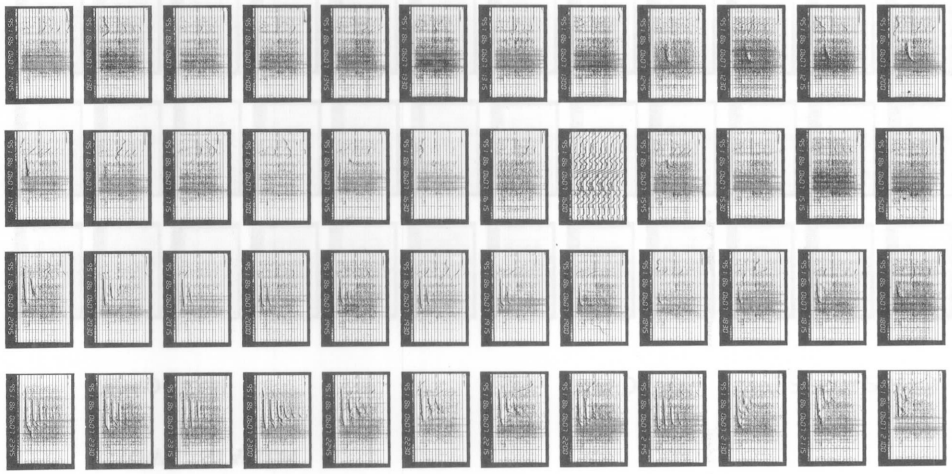
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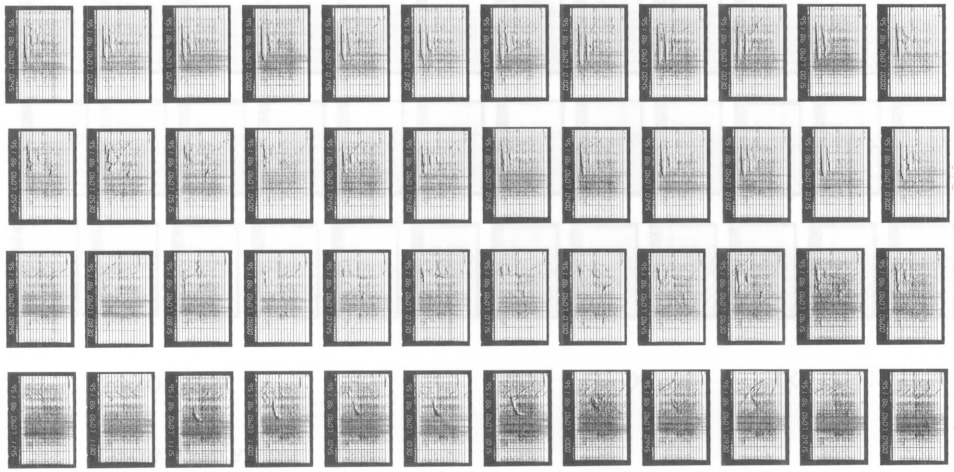
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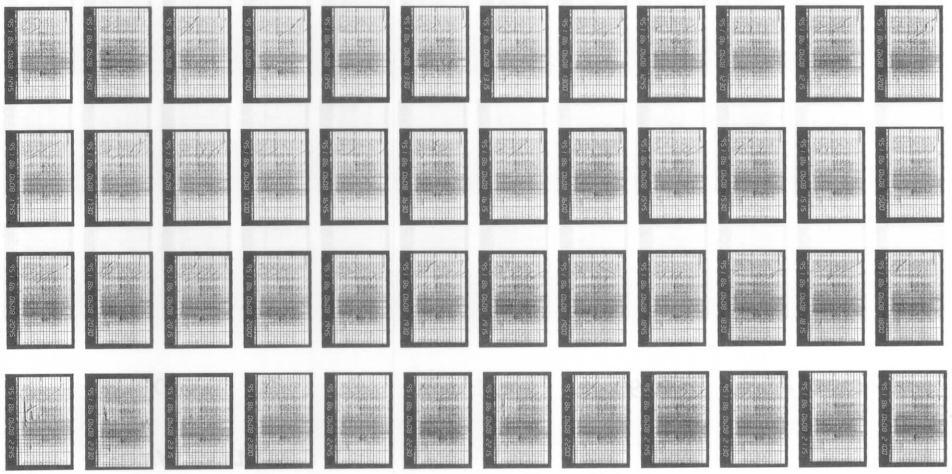
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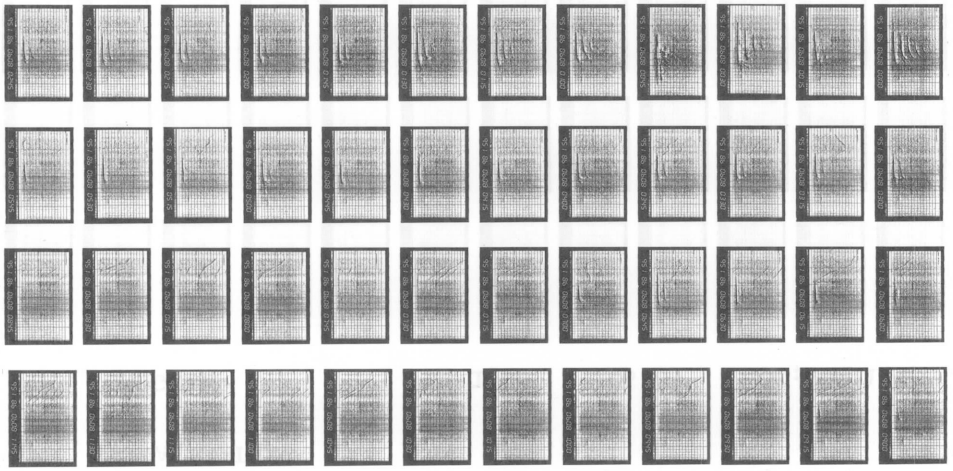
SYOWA STATION

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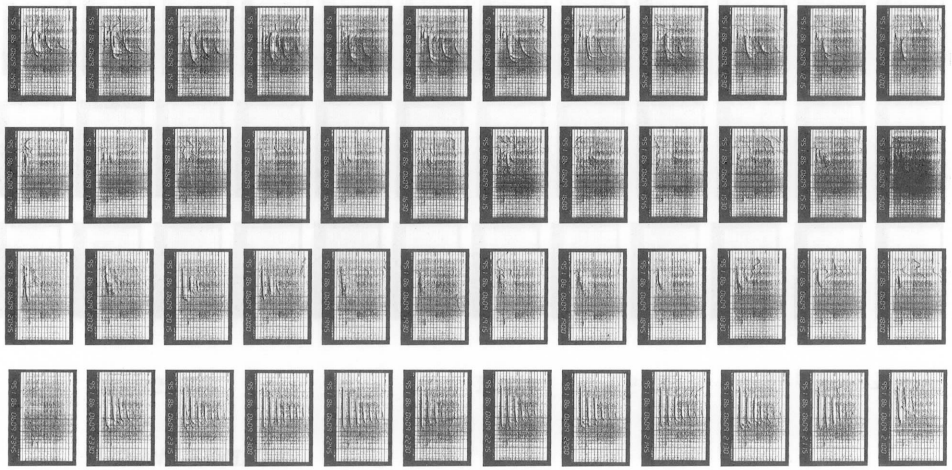
SYOWA STATION

IONOGRAM 1986 06 08 00;00-11;45



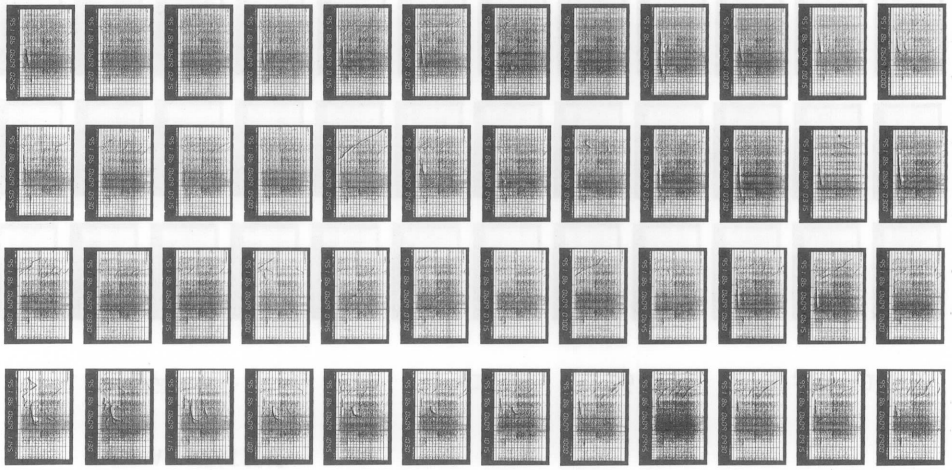
SYOWA STATION

IONOGRAM 1986 06 09 12;00-23;45



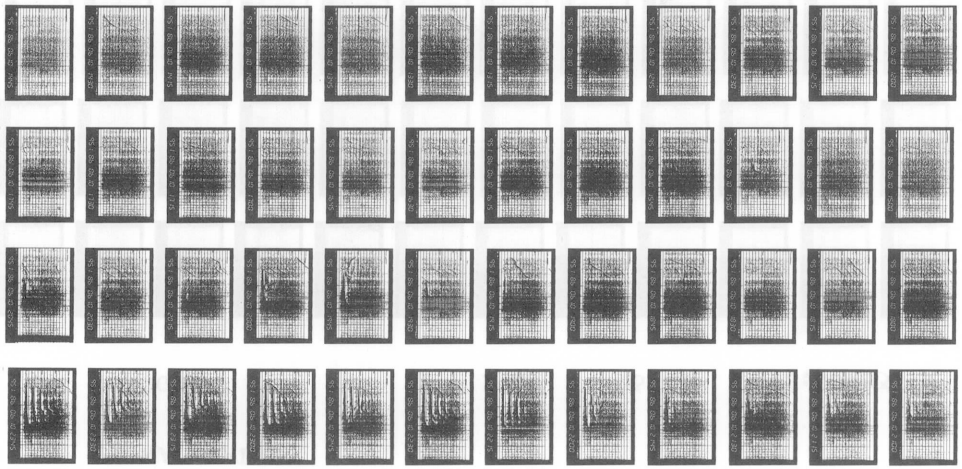
SYOWA STATION

IONOGRAM 1986 06 09 00;00-11;45



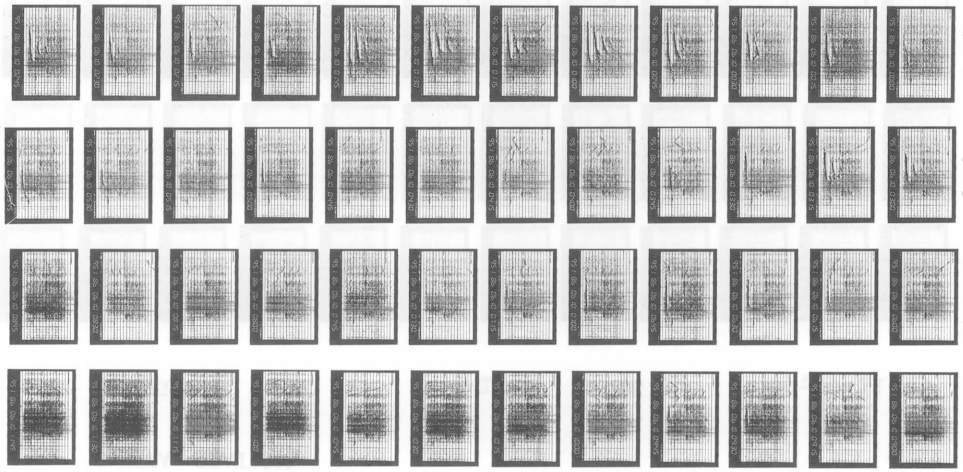
SYOWA STATION

IONOGRAM 1986 06 10 12;00-23;45



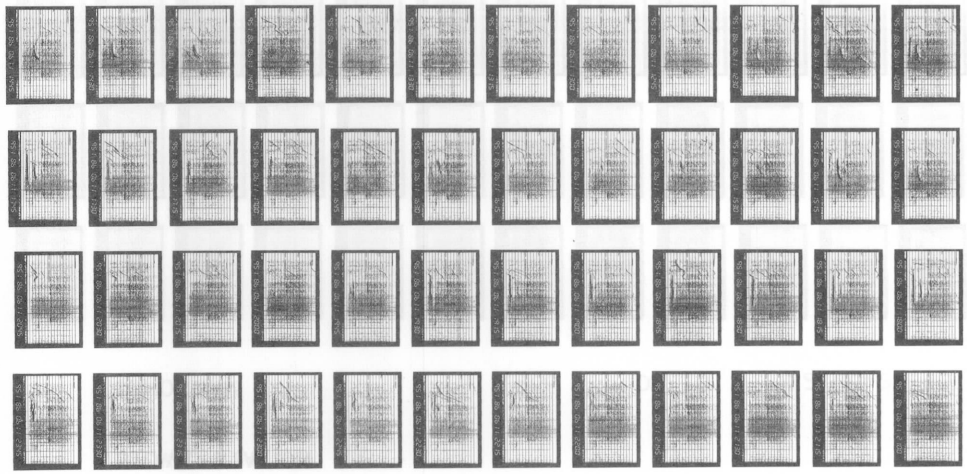
SYOWA STATION

IONOGRAM 1986 06 10 00;00-11;45



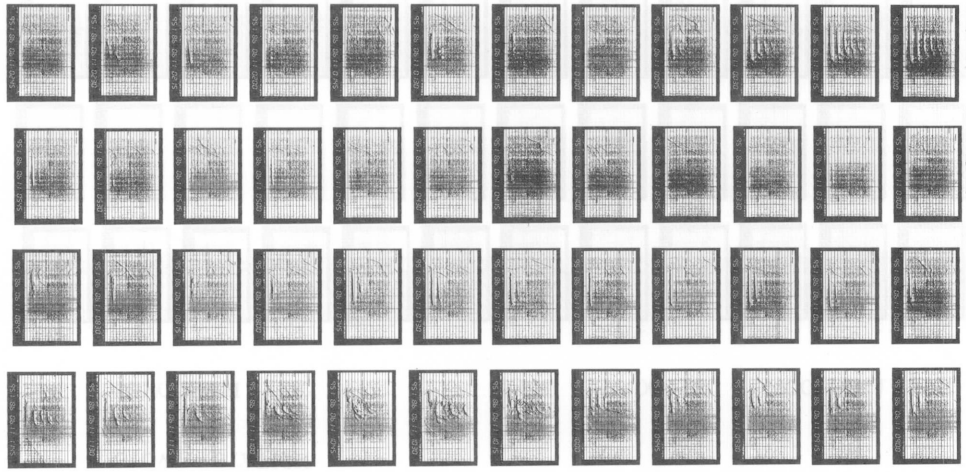
SYOWA STATION

IONOGRAM 1986 06 11 12;00-23;45



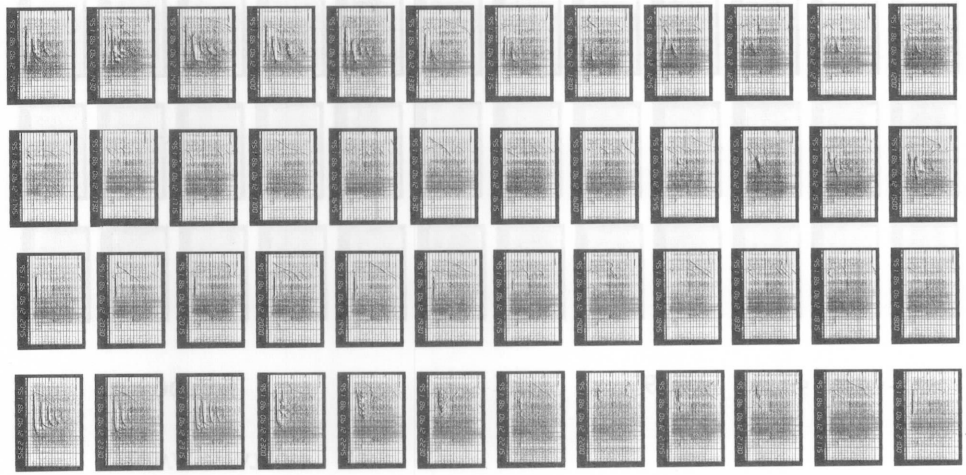
SYOWA STATION

IONOGRAM 1986 06 11 00;00-11;45



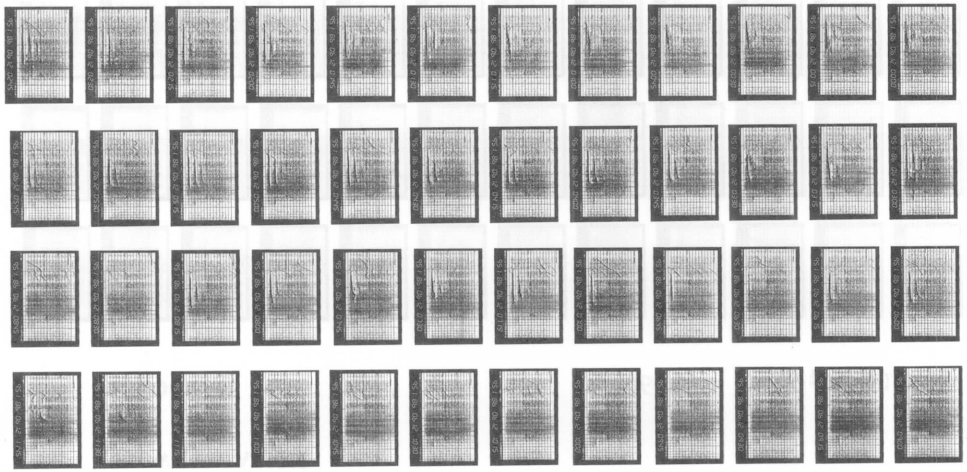
SYOWA STATION

IONOGRAM 1986 06 12 12;00-23;45



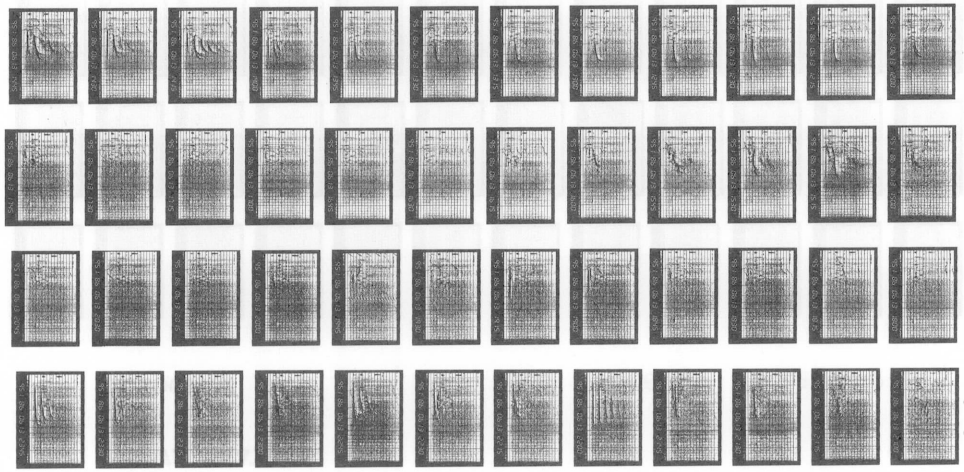
SYOWA STATION

IONOGRAM 1986 06 12 00;00-11;45



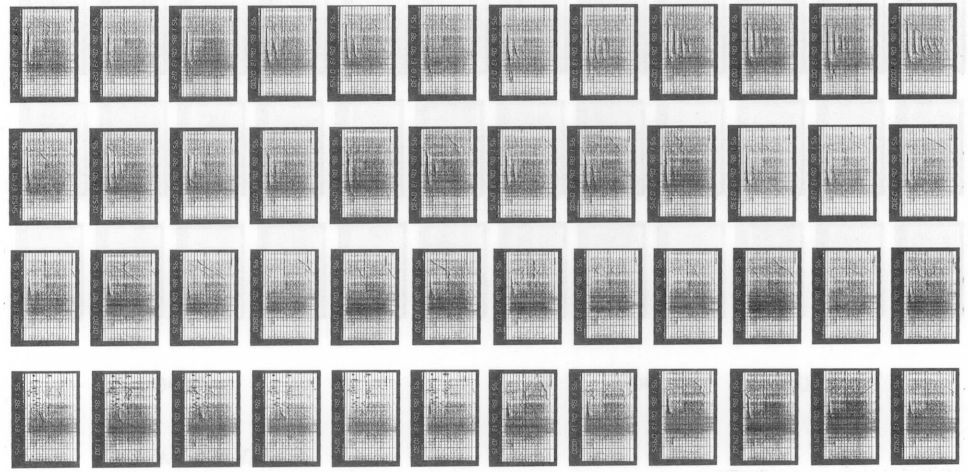
SYOWA STATION

IONOGRAM 1986 06 13 12;00-23;45



SYOWA STATION

IONOGRAM 1986 06 13 00;00-11;45



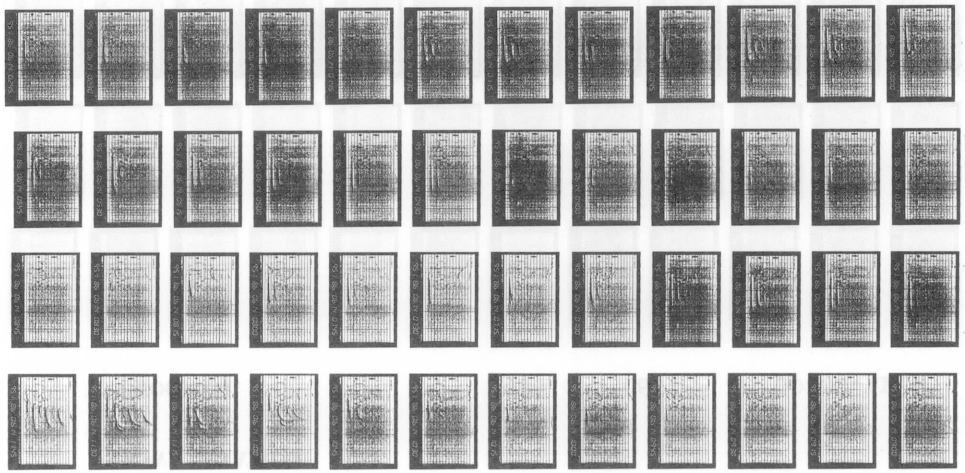
SYOWA STATION

IONOGRAM 1986 06 14 12;00-23;45



SYOWA STATION

IONOGRAM 1986 06 14 00;00-11;45



SYOWA STATION

IONOGRAM 1986 06 15 12;00-23;45



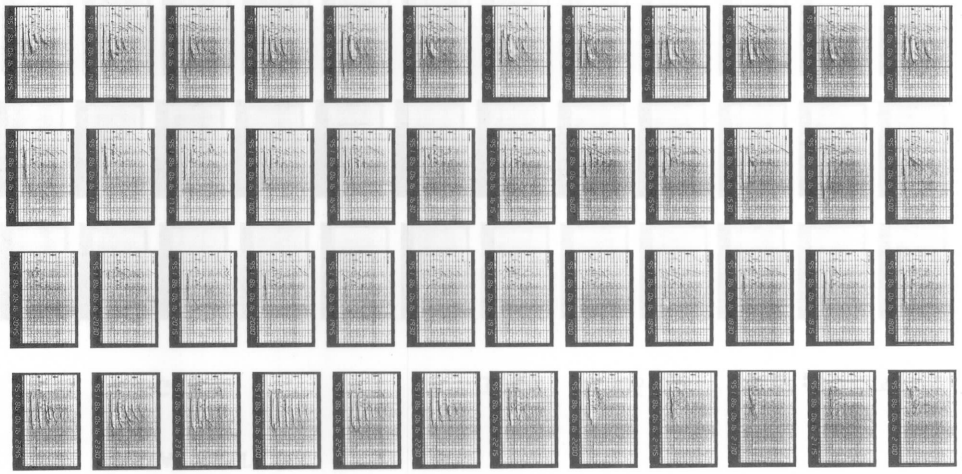
SYOWA STATION

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SYOWA STATION

IONOGRAM 1986 06 16 12;00-23;45



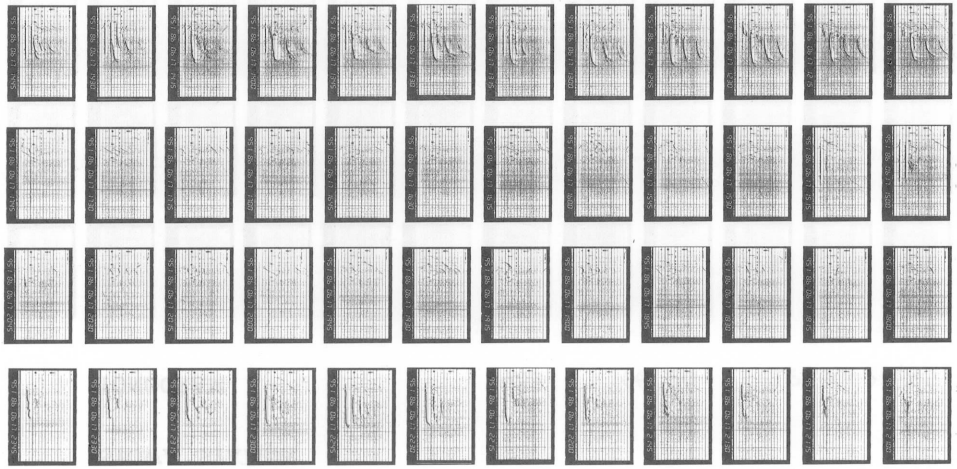
SYOWA STATION

IONOGRAM 1986 06 16 00;00-11;45



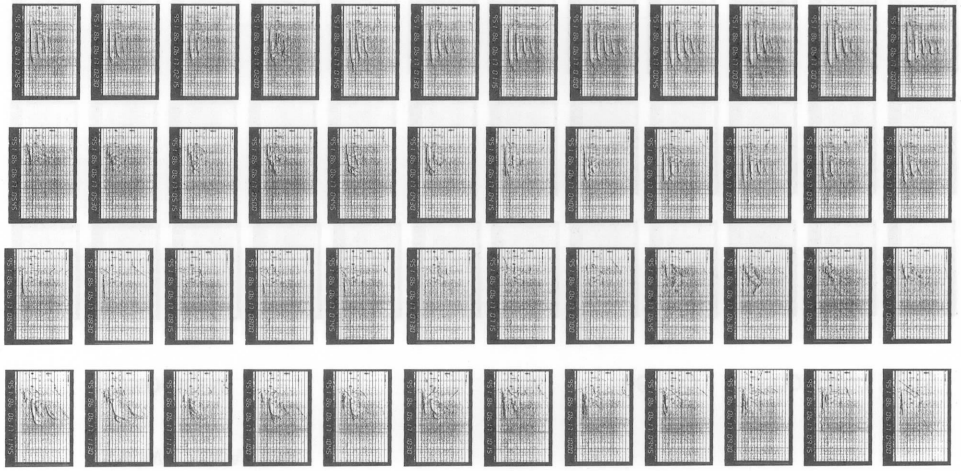
SYOWA STATION

IONOGRAM 1986 06 17 12;00-23;45



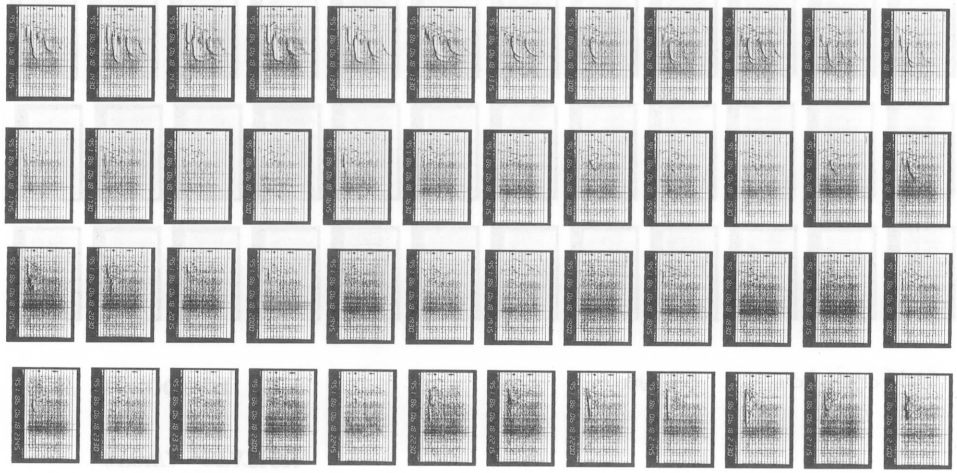
SYOWA STATION

IONOGRAM 1986 06 17 00;00-11;45



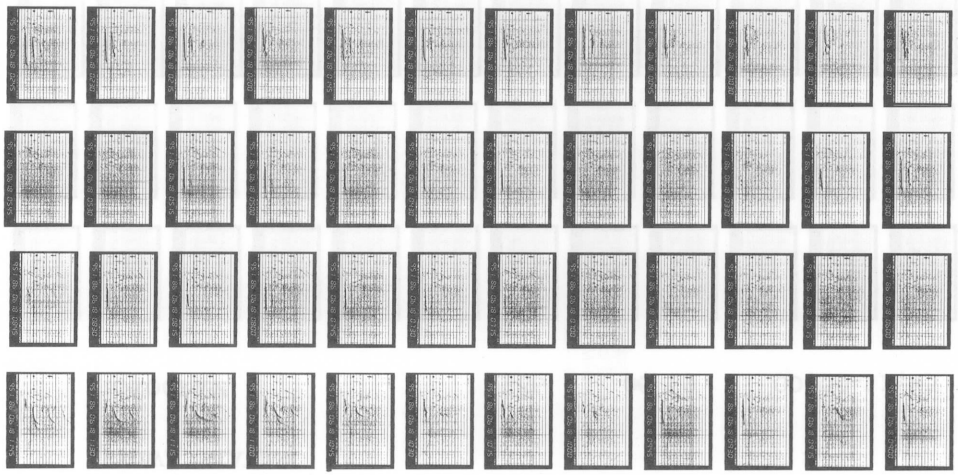
SYOWA STATION

IONOGRAM 1986 06 18 12;00-23;45



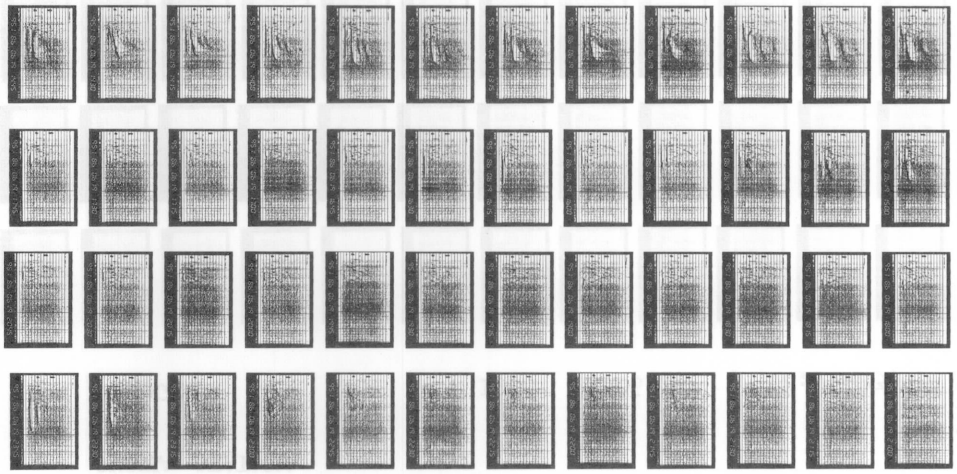
SYOWA STATION

IONOGRAM 1986 06 18 00;00-11;45



SYOWA STATION

IONOGRAM 1986 06 19 12;00-23;45



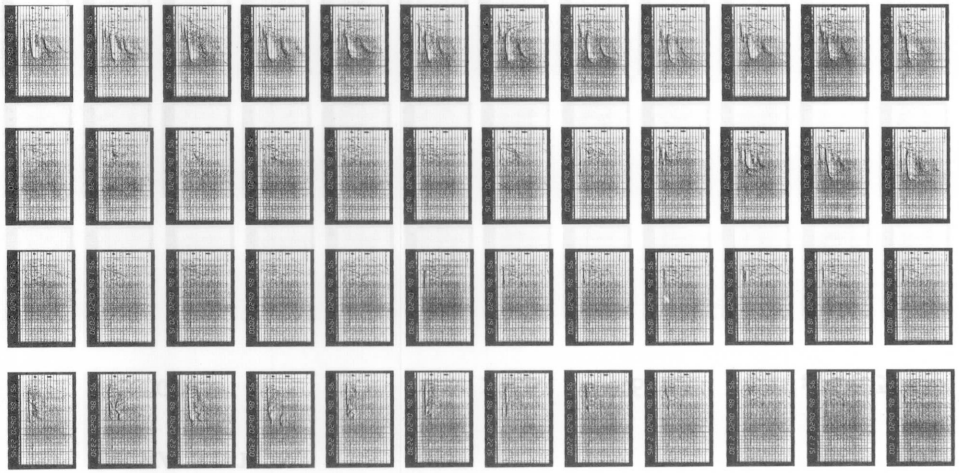
SYOWA STATION

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SYOWA STATION

IONOGRAM 1986 06 20 12;00-23;45



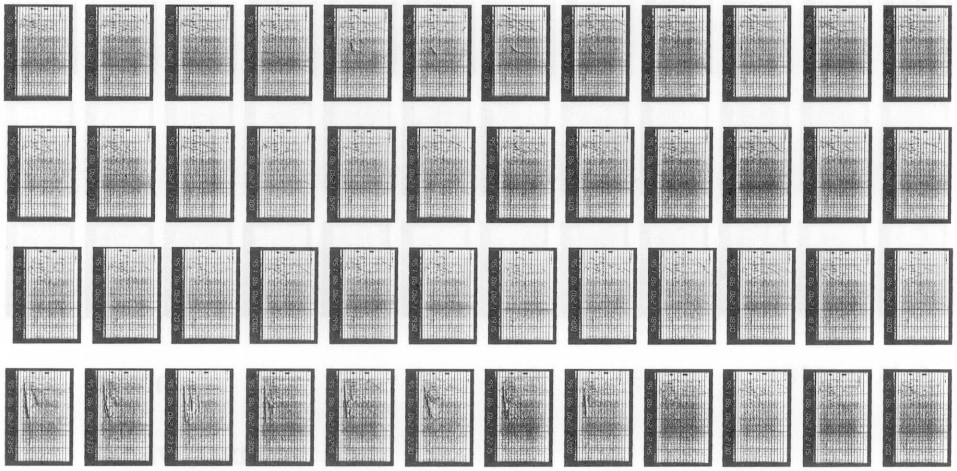
SYOWA STATION

IONOGRAM 1986 06 20 00;00-11;45



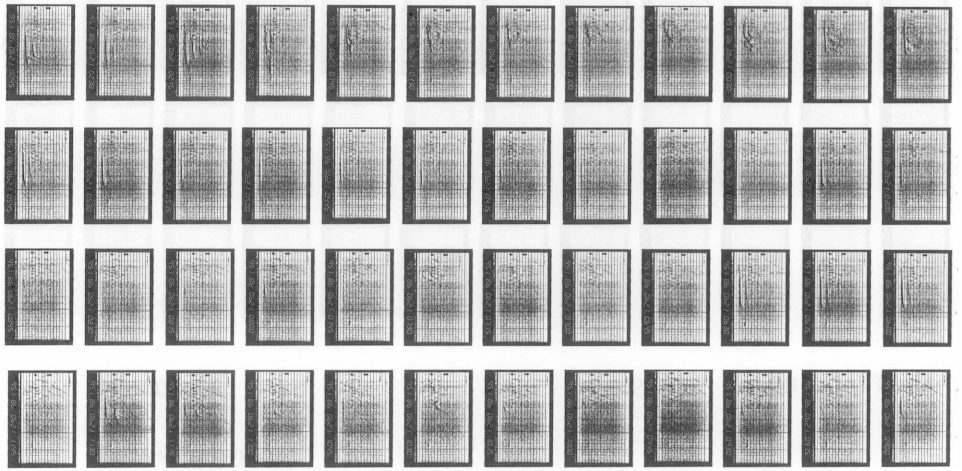
SYOWA STATION

IONOGRAM 1986 06 21 12;00-23;45



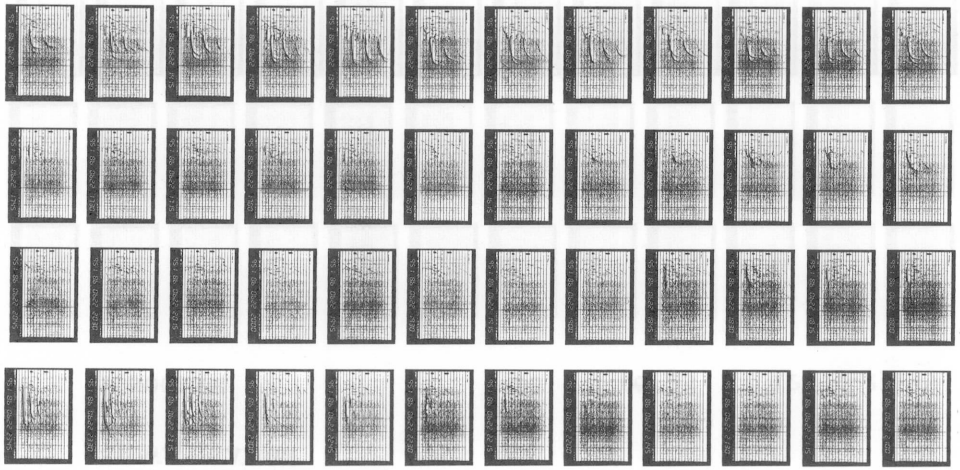
SYOWA STATION

IONOGRAM 1986 06 21 00;00-11;45



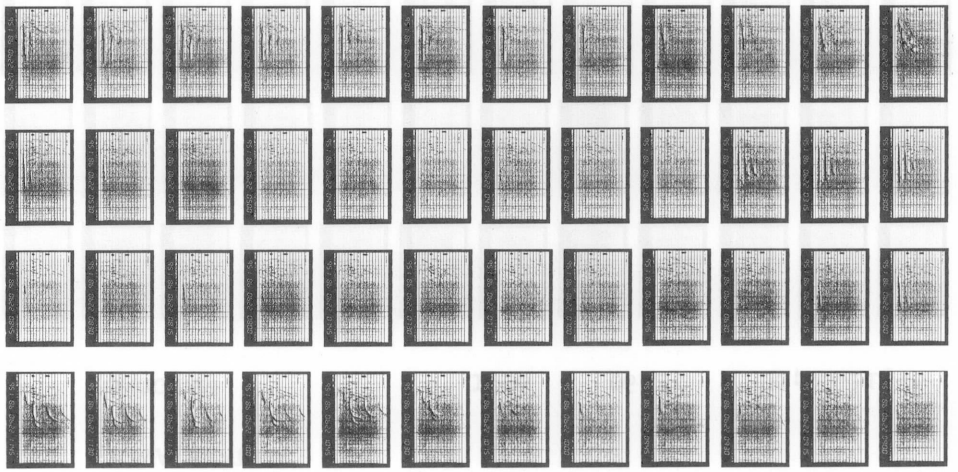
SYOWA STATION

IONOGRAM 1986 06 22 12;00-23;45



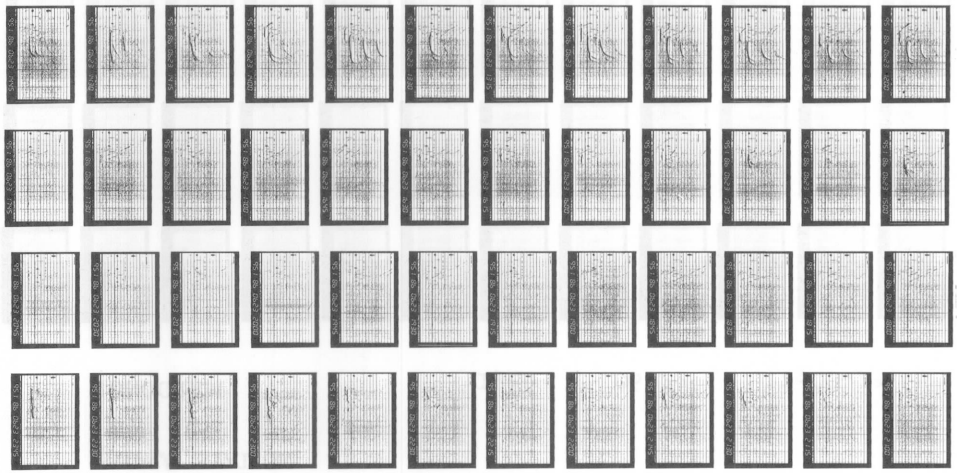
SYOWA STATION

IONOGRAM 1986 06 22 00;00-11;45



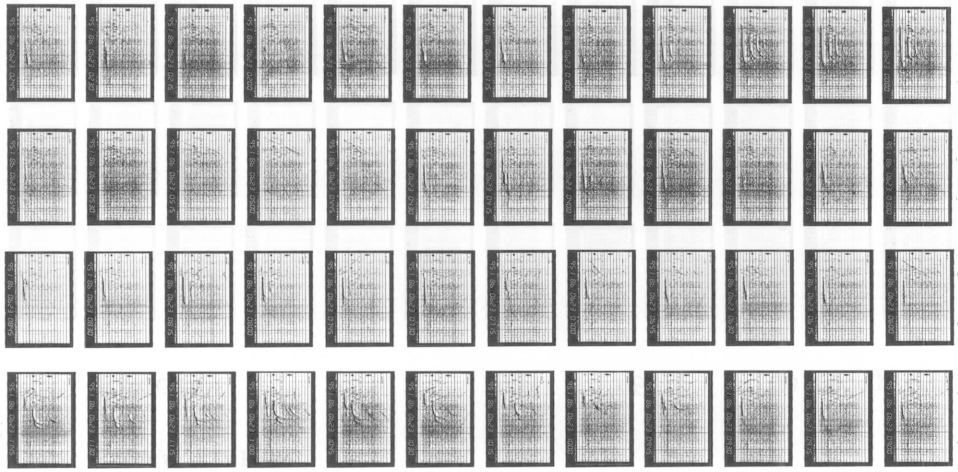
SYOWA STATION

IONOGRAM 1986 06 23 12;00-23;45



SYOWA STATION

IONOGRAM 1986 06 23 00;00-11;45



SYOWA STATION

IONOGRAM 1986 06 24 12;00-23;45



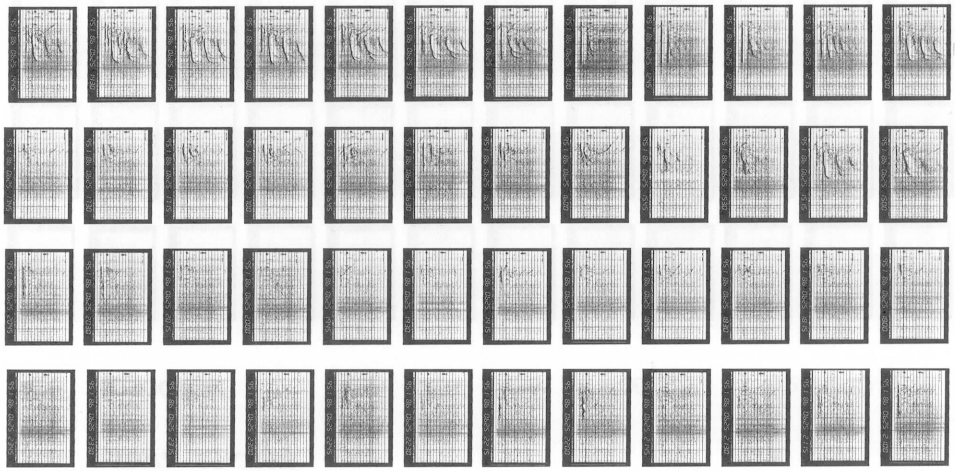
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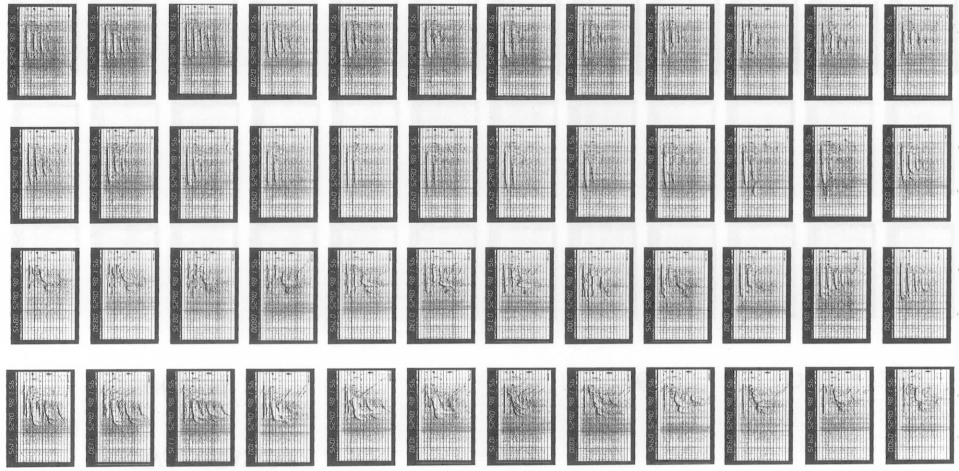
SYOWA STATION

IONOGRAM 1986 06 25 12;00-23;45



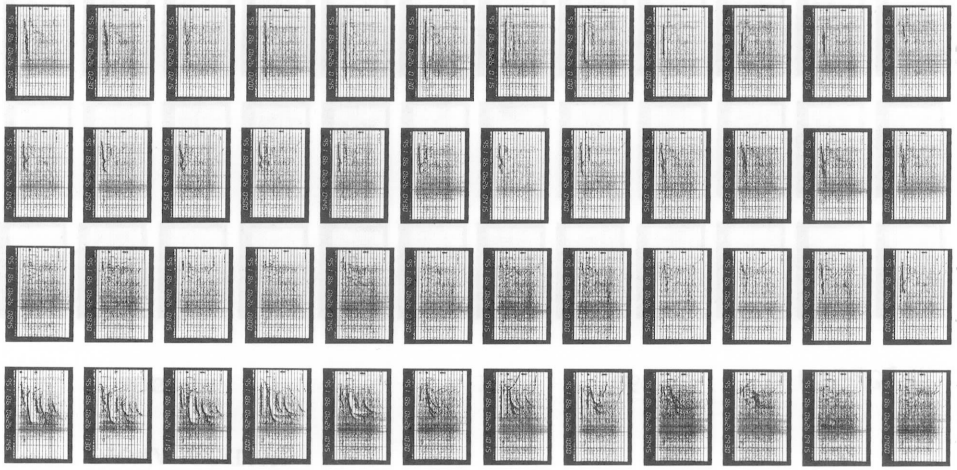
SYOWA STATION

IONOGRAM 1986 06 25 00;00-11;45



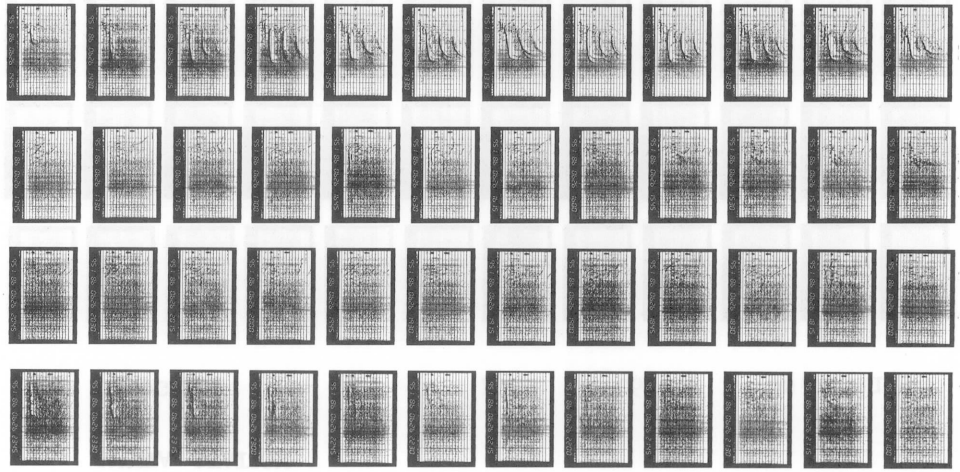
SYOWA STATION

IONOGRAM 1986 06 26 12;00-23;45



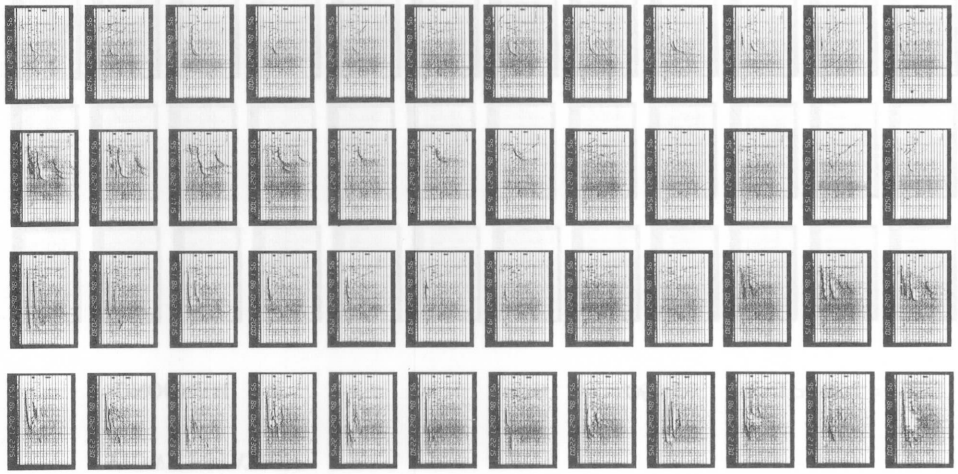
SYOWA STATION

IONOGRAM 1986 06 26 00;00-11;45



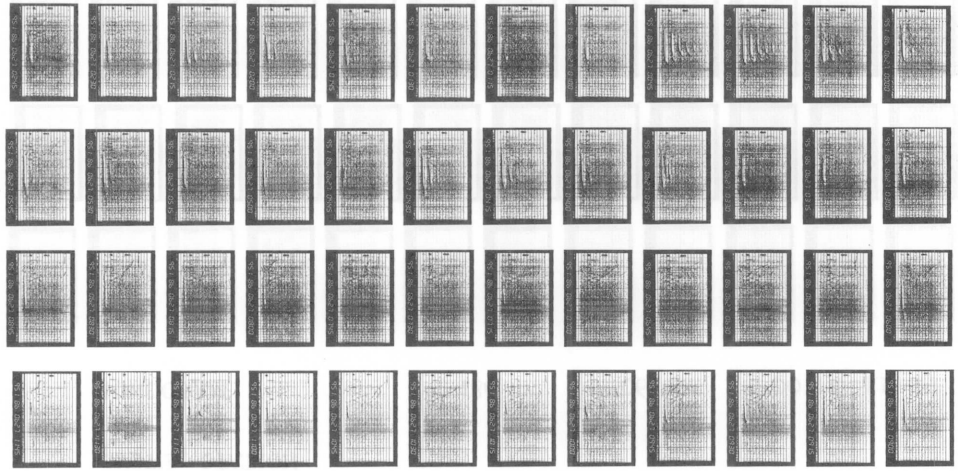
SYOWA STATION

IONOGRAM 1986 06 27 12;00-23;45



SYOWA STATION

IONOGRAM 1986 06 27 00;00-11;45



SYOWA STATION

IONOGRAM 1986 06 28 12;00-23;45



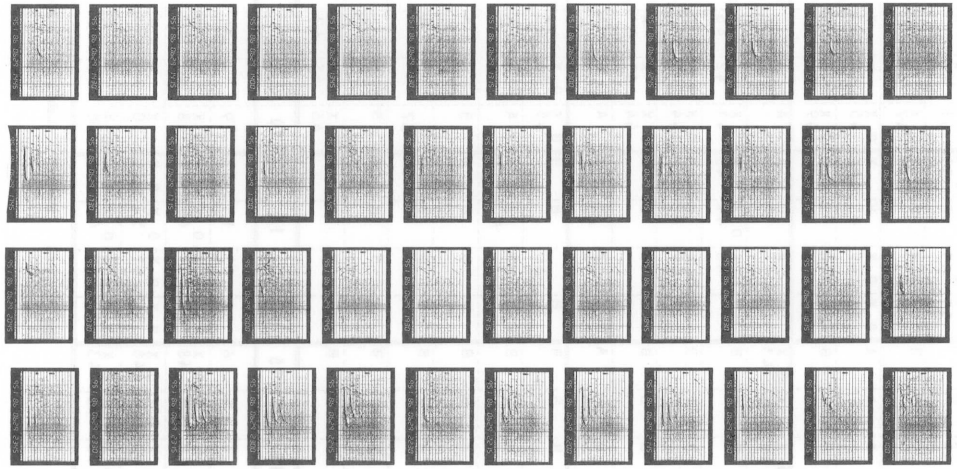
SYOWA STATION

IONOGRAM 1986 06 28 00;00-11;45



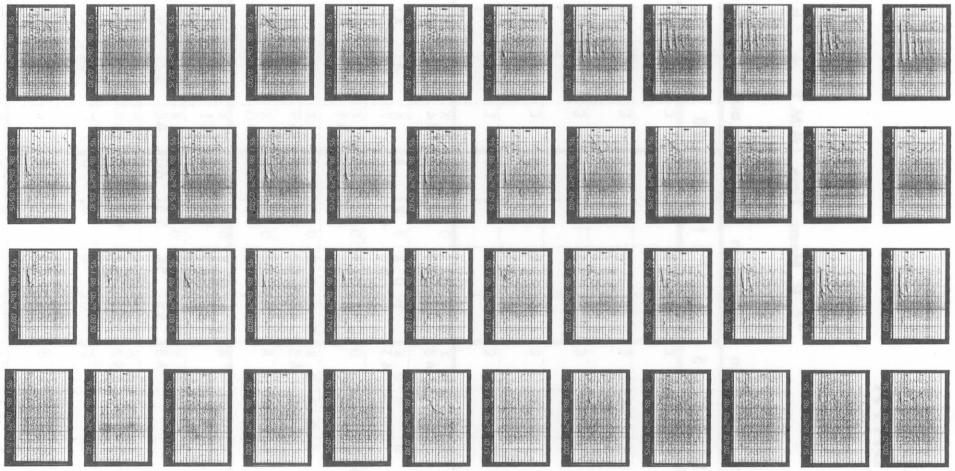
SYOWA STATION

IONOGRAM 1986 06 29 12;00-23;45



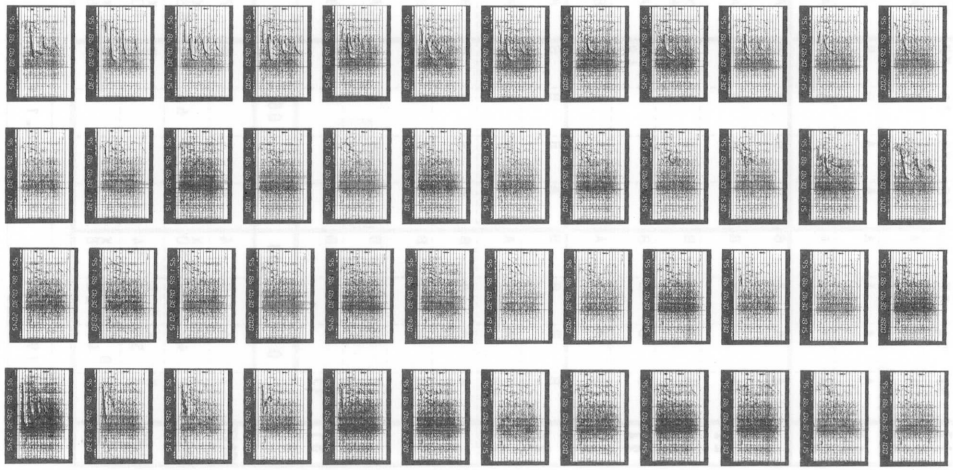
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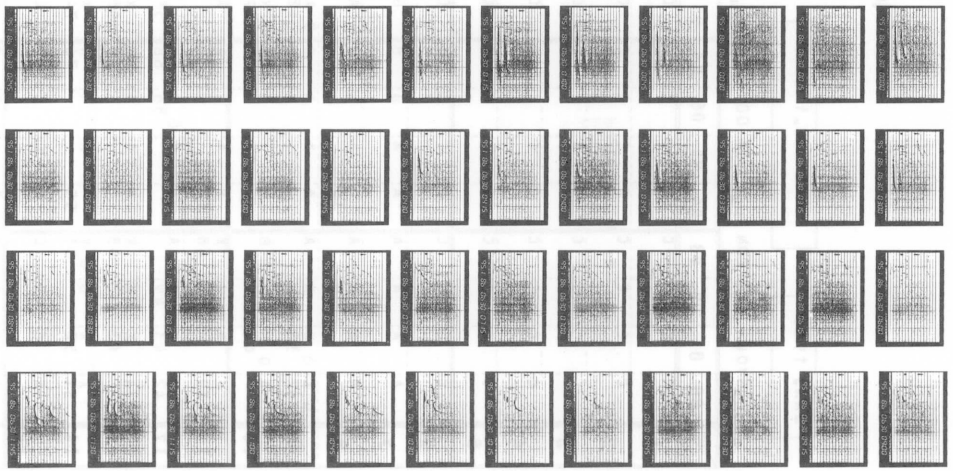
SYOWA STATION

IONOGRAM 1986 06 30 12;00-23;45



SYOWA STATION

IONOGRAM 1986 06 30 00;00-11;45



IONOSPHERIC DATA

JAN. 1986 | 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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	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	X 71	X 63	S	S	O X 48	O X 48	O X 49	O X 49	O X 51	O X 54	X 53	X 51	A
7	A	A	A	A	A	A	B	B	B	A	A	B	B	B	B	O X 43	B	O X 48	O X 49	A	X 47	A	X 37	X 40
8	A	A	X 36	A	36	A	A	B	A	A	O X 49	B	S	O X 46	B	B	O X 48	O X 43	O X 47	O X 48	O X 51	O X 49	X 46	A
9	O X 42	O X 38	A	A	A	A	A	A	O X 48	O X 49	O X 51	S	S	S	O X 46	O X 48	O X 48	O X 48	O X 49	O X 51	X 49	B	A	B
10	A	O X 41	A	B	B	38	B	A	O X 42	A	A	A	B	A	A	A	B	B	O X 48	O X 49	O X 50	X 49	X 47	X 42
11	X 39	A	O X 45	X 48	X 52	A	A	A	A	S	X 61	X 60	S	S	B	A	O X 48	O X 49	O X 51	O X 54	X 51	X 48	B	X 44
12	X 42	X 43	O X 49	A	A	A	O X 56	68	58	60	70	69	B	B	B	O X 48	O X 55	O X 54	O X 53	X 60	O X 48	X 52	54	X 45
13	A	X 42	X 42	X 48	A	A	S	60	X 66	X 74	X 72	X 70	X 67	X 63	O X 63	O X 57	O X 51	O X 51	X 51	O X 49	X 49	A	X 50	52
14	X 51	X 52	B	O X 51	55	A	A	X 76	X 74	X 76	X 69	68	B	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	A	A	A	A	A	B	X 58	X 55	X 49	46	50	46
17	52	54	X 52	56	70	70	X 75	X 78	X 76	X 71	X 68	S	A	X 62	A	A	X 59	O R 55	O X 52	O X 51	X 51	X 48	A	A
18	A	A	A	A	B	A	B	A	A	X 58	S	A	A	B	B	B	B	B	A	O X 50	X 47	X 49	X 38	X 35
19	A	A	A	A	A	A	B	B	A	A	A	A	A	A	A	A	O X 56	O X 49	H 49	X 46	O X 45	X 49	X 51	A
20	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	O X 49	X 48	X 42	A
21	A	A	A	B	B	B	A	A	A	O X 42	O X 42	O X 42	O X 44	O X 44	O X 44	O X 43	A	A	B	A	A	A	46	A
22	A	A	B	B	A	B	B	A	A	A	B	B	B	B	B	B	B	O X 48	O X 44	X 43	X 41	O X 42	O X 46	A
23	A	A	A	B	B	B	A	O X 43	O X 44	O X 46	B	B	B	B	O X 46	B	B	O X 44	X 42	A	O X 44	41	X 42	A
24	B	B	B	B	B	A	A	O X 48	A	B	B	B	B	B	B	B	B	B	B	B	O X 44	X 41	A	A
25	B	A	A	A	B	A	B	B	B	A	O X 48	O X 48	B	B	O X 66	A	O X 55	X 54	X 52	A	A	A	A	A
26	B	B	B	B	A	B	B	B	A	A	A	A	B	B	B	B	B	50	B	B	O X 46	O X 42	40	41
27	42	A	O X 34	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	X 40	A	A	A	A	A
28	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	X 35	A	A
29	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	41	37	B	A	A
30	B	B	A	B	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	X 38	33	A
31	32	A	B	B	B	B	B	B	B	B	B	O X 46	A	B	B	B	B	B	B	B	O X 46	X 45	O X 42	X 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	7	6	6	4	4	2	2	6	7	8	9	8	3	4	5	6	9	13	15	13	19	17	16	9
MED	X 42	X 42	X 44	X 50	54	54	X 66	X 64	X 58	X 59	X 61	X 64	X 63	X 54	O X 46	O X 48	O X 51	O X 49	O X 49	O X 50	O X 48	X 48	X 46	X 42
UQ	X 46	X 52	O X 49	54	62			X 76	X 70	X 72	X 69	70	X 65	X 62	O X 63	O X 48	O X 55	O X 51	O X 52	O X 51	X 50	X 49	X 50	X 45
LQ	40	O X 41	X 36	X 48	44			O X 48	O X 46	O X 48	O X 49	O X 47	X 54	O X 45	O X 46	O X 43	O X 48	O X 48	O X 48	O X 48	O X 46	X 42	X 41	X 41

JAN. 1986 | FXI (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1986 | 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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	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	65	57	S	S	42	42	43	43	45	48	47	45	A
7	A	A	A	A	A	A	B	B	B	A	A	B	B	B	B	37	B	42	43	A	41	A	31	34
8	A	A	30	A	F 30	A	A	B	A	A	43	B	S	40	B	B	42	42	41	42	45	43	40	A
9	36	32	A	A	A	A	A	A	42	H 43	H 45	S	S	S	40	42	42	42	43	45	43	B	A	B
10	A	35	A	B	B	F 32	B	A	E G 36	A	A	A	B	A	A	A	B	B	H 42	43	44	43	41	36
11	33	A	39	42	46	A	A	A	A	S	55	J S 54	S	S	B	A	42	H 43	R 45	48	45	42	B	38
12	36	37	43	A	A	A	50	F 58	F 52	54	F 57	F 63	B	B	B	42	49	48	47	44	42	46	F 48	39
13	A	36	36	42	A	A	S	F 54	60	68	66	64	61	57	57	51	H 45	45	45	43	43	A	44	F 46
14	45	46	B	45	F 49	A	A	70	68	70	63	F 60	B	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	A	A	A	A	A	B	J A 52	49	43	F 40	F 40	F 40
17	F 46	F 48	46	F 50	F 58	F 60	69	72	70	65	62	S	A	56	A	A	J A 53	R 49	46	45	45	42	A	A
18	A	A	A	A	B	A	B	A	A	52	S	A	A	B	B	B	B	B	A	44	41	43	32	29
19	A	A	A	A	A	A	B	B	A	A	A	A	A	A	A	A	50	H 43	H 43	40	39	43	45	A
20	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	43	42	36	A
21	A	A	A	B	B	B	A	A	A	E G 36	E G 36	E G 36	38	38	38	37	A	A	B	A	A	A	F	A
22	A	A	B	B	A	B	B	A	A	A	B	B	B	B	B	B	B	42	R 38	37	35	36	R 40	A
23	A	A	A	B	B	B	A	H 37	H 38	40	B	B	B	B	40	B	B	38	36	A	38	F 35	36	A
24	B	B	B	B	B	A	A	42	A	B	B	B	B	B	B	B	B	B	B	B	38	35	A	A
25	B	A	A	A	B	A	B	B	B	A	H 42	H 42	B	B	60	A	49	48	46	A	A	A	A	A
26	B	B	B	B	A	B	B	B	A	A	A	A	B	B	B	B	B	44	B	B	40	36	F 34	F 33
27	F 31	A	28	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	34	A	A	A	A	A
28	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	29	A	A
29	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	F 35	F 31	B	A	A
30	B	B	A	B	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	32	F 27	A
31	F 36	A	B	B	B	B	B	B	B	B	B	R 40	A	B	B	B	B	B	B	B	40	39	36	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	7	6	6	4	4	2	2	6	7	8	9	8	3	4	5	6	9	13	15	13	19	17	15	9
MED	36	36	38	44	F 48	F 46	60	56	52	53	55	57	57	48	40	42	45	43	43	44	42	42	40	36
UQ	40	46	43	48	F 54			70	64	66	62	64	59	56	57	42	49	45	46	45	44	43	42	39
LQ	34	35	30	42	38			42	40	42	43	41	48	39	40	37	42	42	42	42	40	36	35	34

JAN. 1986 | FOF2 (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1986 | 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	27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	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	32	37	31	33	32	25	26	33	27	42	31	20	41
7	70	100	41	42	42	41	B	B	B	37	35	B	B	B	B	E B 31	B	34	28	35	42	35	22	27
8	35	60	30	35	25	36	35	B	35	28	35	B	25	30	B	B	E B 31	35	26	23	E B 23	25	21	39
9	35	28	36	41	42	40	41	35	28	28	27	16	26	28	28	26	30	25	26	21	22	B	34	B
10	42	36	36	B	B	23	B	36	34	29	26	33	B	29	28	27	B	B	E B 28	26	25	28	17	27
11	26	47	27	40	34	110	60	70	50	31	28	26	28	41	B	41	35	E B 29	27	20	27	34	B	18
12	20	28	29	32	35	35	36	35	35	35	28	28	B	B	B	26	26	36	29	28	26	42	26	17
13	24	30	27	23	28	29	35	25	25	27	27	42	26	25	29	28	29	25	31	29	35	44	45	27
14	19	28	B	23	35	30	36	41	32	35	42	70	B	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	41	71	140	82	42	B	27	28	41	42	41	40
17	22	25	19	26	26	37	35	43	41	40	35	40	41	42	65	41	42	27	35	24	31	31	37	67
18	40	41	42	26	B	37	B	42	40	33	30	32	55	B	B	B	B	B	70	42	21	28	27	30
19	36	36	32	30	42	43	B	B	60	42	73	62	61	35	43	40	35	40	23	28	27	28	17	32
20	42	41	40	35	42	36	42	B	42	41	B	B	B	B	B	B	B	B	B	B	25	22	24	36
21	42	42	60	B	B	B	41	42	35	30	25	25	27	28	25	33	38	32	B	33	62	40	45	51
22	70	41	B	B	33	B	B	35	41	41	B	B	B	B	B	B	B	E B 30	22	20	31	27	20	41
23	66	41	36	B	B	B	40	25	24	25	B	B	B	B	29	B	B	E B 30	30	36	30	35	25	41
24	B	B	B	B	B	26	27	29	46	B	B	B	B	B	B	B	B	B	B	B	36	20	41	41
25	B	41	43	37	B	41	B	B	B	33	26	27	B	B	27	30	26	26	32	26	41	100	70	36
26	B	B	B	B	35	B	B	B	34	27	28	32	B	B	B	B	B	24	B	B	30	E B 21	E B 19	16
27	20	35	33	27	31	B	B	35	B	B	B	B	B	B	B	B	B	B	27	35	42	43	41	41
28	45	36	70	B	B	28	B	B	B	B	B	B	B	B	B	B	B	B	B	26	B	20	43	41
29	45	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	28	E B 33	B	42	42
30	B	B	35	B	B	B	B	36	31	B	B	B	B	B	B	B	B	B	B	B	B	21	20	34
31	32	40	B	B	B	B	B	B	B	B	B	28	29	B	B	B	B	B	B	B	E B 30	22	E B 18	29
	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	20	19	17	13	13	15	11	14	17	17	14	14	11	10	10	12	11	14	16	19	22	22	23	23
MED	36	40	36	32	35	36	36	36	35	33	28	32	29	30	29	32	31	30	28	28	30	30	26	36
UQ	44	41	41	37	42	40	41	42	41	37	35	40	41	41	43	40	36	34	32	31	41	40	41	41
LQ	25	32	30	26	31	30	35	35	32	28	27	27	26	28	28	27	27	26	26	25	26	22	20	28

JAN. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JAN. 1986 | 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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	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	13	13	13	14	14	14	13	14	11	9	10	9	19
7	18	14	13	8	22	9	B	B	B	24	13	B	B	B	B	31	B	16	19	25	10	8	7	8
8	13	8	7	13	17	22	13	B	13	12	12	B	13	13	B	B	31	15	13	13	23	13	13	13
9	12	13	18	25	24	13	14	13	13	12	14	13	14	18	13	13	14	13	13	12	13	B	15	B
10	18	13	13	B	B	11	B	13	14	13	13	13	B	15	13	13	B	B	28	13	12	9	11	10
11	9	12	19	13	12	9	13	10	10	11	13	14	17	18	B	18	15	29	23	13	15	11	B	10
12	8	8	8	14	15	15	10	12	8	8	9	12	B	B	B	13	18	9	9	10	20	13	12	9
13	12	10	9	9	12	11	10	9	8	8	8	11	13	13	11	10	10	13	13	12	8	9	9	9
14	9	9	B	8	10	8	10	9	10	12	13	14	B	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	13	13	B	13	11	B	10	10	13	8	9	8
17	8	9	9	9	10	8	10	10	12	10	10	13	13	13	10	10	15	19	14	11	9	9	9	11
18	10	13	14	13	B	20	B	13	10	11	11	10	11	B	B	B	B	B	15	14	10	8	8	8
19	11	13	10	19	13	13	B	B	15	9	10	14	10	12	13	12	11	10	11	11	10	10	8	9
20	15	8	12	8	9	15	10	B	13	13	B	B	B	B	B	B	B	B	B	B	14	18	13	10
21	13	13	13	B	B	B	14	20	13	15	18	18	15	14	15	13	14	14	B	14	14	12	13	13
22	10	8	B	B	15	B	B	14	20	19	B	B	B	B	B	B	B	30	13	13	13	23	12	13
23	13	13	14	B	B	B	13	9	14	13	B	B	B	B	22	B	B	30	9	23	13	8	14	13
24	B	B	B	B	B	19	18	14	15	B	B	B	B	B	B	B	B	B	B	B	15	13	13	13
25	B	19	14	15	B	13	B	B	B	15	13	15	B	B	23	14	13	13	13	13	14	13	14	15
26	B	B	B	B	13	B	B	B	13	14	13	16	B	B	B	B	B	20	B	B	13	21	19	10
27	10	10	13	13	13	B	B	14	B	B	B	B	B	B	B	B	B	B	13	13	13	13	10	13
28	13	10	13	B	B	18	B	B	B	B	B	B	B	B	B	B	B	B	B	15	B	14	10	14
29	13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	20	33	B	13	13
30	B	B	13	B	B	B	B	23	20	B	B	B	B	B	B	B	B	B	B	B	B	12	12	13
31	15	19	B	B	B	B	B	B	B	B	B	14	19	B	B	B	B	B	B	B	30	14	18	13
	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	23	23	23	23	23	23	23	23	23	23	24	25	24	24	24	24	24	24	24	24	24	24	24
MED	13	13	13	19	22	18	B	14	14	13	13	16	B	B	B	D B 31	B	30	14	13	13	12	12	13
UQ	16	16	D B 19	B	B	B	B	B	D B 20	D B 24	B	B	B	B	B	B	B	B	B	24	18	14	14	13
LQ	10	10	12	13	13	12	13	12	12	12	12	13	13	14	14	13	14	14	13	12	11	9	9	10

JAN. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JAN. 1986 | 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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	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	A 200	E A 250	200	200	195	H 175	H 200	210	220	195	H 195	H 225	A
7	A	A	A	A	A	A	B	B	B	A	A	B	B	B	B	220	B	240	H 200	A	H 270	A	E A 280	E A 270
8	A	A	E A 275	A	E A 275	A	A	B	A	A	H 200	B	H 205	H 190	B	B	220	H 225	H 210	220	220	H 235	245	A
9	E A 340	E A 375	A	A	A	A	A	A	210	190	190	200	200	200	200	H 200	205	210	210	200	H 220	B	A	B
10	A	E A 250	A	B	B	E A 250	B	A	E A 250	A	A	A	B	A	A	A	B	B	225	H 220	E A 245	H 200	H 195	230
11	E A 260	A	E A 280	E A 250	E A 250	A	A	A	A	200	H 180	180	H 180	195	B	A	210	210	A 210	210	205	200	B	H 210
12	H 215	230	220	A	A	A	A 240	H 180	H 195	H 195	H 180	H 180	B	B	B	H 180	H 170	200	200	205	225	E A 260	230	220
13	A	E A 255	300	300	A	A	225	200	200	H 190	H 210	200	200	225	200	190	205	200	210	220	225	A	E A 255	230
14	H 200	E A 270	B	A 260	A 230	A	A	A 230	200	200	A	A	B	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	A	A	A	A	A	B	210	H 200	225	240	230	225
17	240	255	250	250	225	200	H 200	220	220	200	210	220	A	A 250	A	A	A 200	190	H 195	205	210	220	A	A
18	A	A	A	A	B	A	B	A	A	H 200	H 175	A	A	B	B	B	B	B	A	220	H 180	225	E A 250	E A 275
19	A	A	A	A	A	A	B	B	A	A	A	A	A	A	A	A	200	200	190	225	A 220	H 230	210	A
20	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	225	H 230	E A 270	A
21	A	A	A	B	B	B	A	A	A	E A 300	210	H 175	205	H 200	220	205	A	A	B	A	A	A	E A 255	A
22	A	A	B	B	A	B	B	A	A	A	B	B	B	B	B	B	B	240	H 200	230	E A 270	240	E A 260	A
23	A	A	A	B	B	B	A	H 180	H 180	H 210	B	B	B	B	210		B	B	225	A 220	300	E A 380	290	A
24	B	B	B	B	B	A	A	E A 300	A	B	B	B	B	B	B	B	B	B	B	B	225	A 250	A	A
25	B	A	A	A	B	A	B	B	B	A	H 195	200	B	B	205	A	200	H 180	E A 250	A	A	A	A	A
26	B	B	B	B	A	B	B	B	A	A	A	A	B	B	B	B	B	210	B	B	250	240	275	260
27	260	A	E A 330	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	230	A	A	A	A	A
28	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	260	A	A
29	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	225	245	B	A	A
30	B	B	A	B	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	240	E A 290	A
31	E A 280	A	B	B	B	B	B	B	B	B	B	200	A	B	B	B	B	B	B	B	E B 255	240	230	240
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	7	6	6	4	4	2	3	6	7	9	9	9	6	7	6	6	9	12	15	14	19	17	16	9
MED	U 230	E A 255	U 249	255	A U 232	212	225	U 230	200	200	H 195	200	201	200	202	198	200	205	210	220	222	235	U 227	228
UQ	E A 270	E A 270	E A 300	280	E A 262		232	A 225	210	200	H 210	200	205	212	210	205	205	218	214	220	236	240	E A 272	U 245
LQ	218	E A 250	U 235	250	228		212	H 180	198	H 195	H 180	180	200	198	200	190	200	200	200	205	220	H 225	229	225

JAN. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1986 | 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 41	X 42	45	42	A	O X 48	O X 49	62	61	B	B	B	A	A	A	O X 48	O X 49	O X 51	O X 50	O X 47	X 49	O X 46	B	32
2	A	A	B	B	B	B	B	A	A	S	S	A	A	A	A	O X 51	O X 49	A	O X 51	O X 50	O X 49	X 50	X 51	36
3	A	X 36	X 39	42	46	A	O X 45	O X 51	O X 54	S	X 61	X 62	X 60	S	S	X 59	O X 56	O X 52	O X 48	O X 49	O X 49	X 46	X 46	X 44
4	A	A	A	A	A	A	X 52	X 60	X 66	X 62	R	B	X 60	S	O X 49	O X 48	X 53	O X 49	O X 51	X 52	X 50	X 47	B	X 46
5	X 40	48	49	50	X 51	X 55	X 58	X 68	X 70	X 72	X 71	X 69	X 62	X 60	S	S	B	A	O X 56	O X 58	O X 54	O X 51	O X 46	O X 43
6	A	A	A	A	B	B	A	B	B	O X 52	B	X 62	X 58	S	S	B	B	O X 55	O X 51	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	O X 42	O X 41	O X 40	O X 41	O X 37	A	A	A
10	A	A	A	A	B	B	A	O X 39	O X 41	O X 42	O X 46	B	A	O X 49	O X 51	O X 50	O X 49	O X 48	X 46	X 45	X 43	X 42	X 40	X 38
11	O X 34	32	35	B	38	B	B	B	A	B	B	B	B	S	X 65	X 60	B	B	B	O X 51	B	A	A	40
12	B	B	B	B	B	B	B	B	B	A	B	B	B	B	B	B	B	B	O X 47	X 44	X 36	O X 40	A	A
13	A	A	A	A	A	B	B	B	O X 45	O X 46	O X 49	O X 49	O X 48	O X 51	B	B	B	B	O X 48	O X 47	X 44	42	A	A
14	A	A	A	B	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	O X 41	O X 38	B	B	B	B	B	B	B	B	B	B	B	B	A	O X 47	O X 46	A	O X 49	A	A	A	X 40	37
17	35	33	A	B	B	B	B	B	B	O X 42	O X 46	O R 54	A	A	A	A	O X 51	O X 49	O X 48	O X 48	A	B	B	A
18	A	A	B	B	B	B	B	B	B	B	B	B	O X 51	O X 48	O X 46	B	O X 47	B	O X 46	O X 42	B	31	28	A
19	A	A	A	A	B	B	A	O X 49	O X 51	O X 51	O X 53	O X 51	O X 49	O X 48	O X 51	O X 49	O X 48	O X 48	O X 46	O X 45	X 46	X 40	O X 36	A
20	A	A	A	A	B	B	B	A	41	44	B	B	B	O X 48	O X 48	X 52	O X 51	O X 50	O X 48	43	A	A	A	A
21	A	A	A	A	A	B	A	O X 47	A	A	B	B	B	B	B	B	B	B	B	B	B	O X 46	A	A
22	A	A	A	B	B	O X 48	B	B	A	B	B	B	B	B	B	B	O X 53	B	B	B	A	A	A	A
23	A	A	A	A	B	31	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
24	A	A	A	B	A	B	A	A	B	B	O X 41	B	B	B	B	B	B	B	B	B	A	31	A	A
25	A	A	A	B	B	B	A	B	A	B	B	B	B	B	B	B	O X 46	B	O X 48	O X 46	O X 40	B	A	A
26	A	B	A	A	B	B	B	A	A	B	B	B	B	B	O X 47	B	B	O X 44	A	B	B	A	A	A
27	A	A	A	A	A	A	B	B	B	B	B	B	B	O X 43	O X 47	B	B	B	B	O X 46	X 46	V 37	A	A
28	A	B	A	A	B	B	B	B	B	O X 47	O X 48	B	B	B	O X 51	B	B	O X 49	B	X 43	B	A	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	5	6	4	3	3	4	4	7	8	9	8	6	7	7	9	9	13	11	16	17	12	13	7	8
MED	X 40	37	42	42	46	X 48	X 50	O X 51	X 52	O X 47	O X 48	X 58	X 58	O X 48	O X 49	O X 50	O X 49	O X 49	O X 48	O X 46	X 46	X 42	X 40	39
UQ	X 41	X 42	47	46	48	X 52	X 55	X 61	X 64	O X 52	X 57	X 62	X 60	O X 50	O X 51	X 52	O X 51	O X 50	O X 50	O X 49	X 49	X 46	X 46	X 44
LQ	X 35	33	37	42	42	40	O X 47	O X 48	O X 43	O X 44	O X 46	O X 51	O X 50	O X 48	O X 47	O X 48	O X 47	O X 48	O X 46	O X 44	X 42	40	X 38	36

FEB. 1986 | FXI (0.1 MHZ)

IONOSPHERIC DATA

FEB. 1986 | 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	35	36	F 30	F 33	A	42	43	F 56	F 55	B	B	B	A	A	A	42	43	H 45	44	H 41	43	40	B	F 26
2	A	A	B	B	B	B	B	A	A	S	S	A	A	A	A	H 45	H 43	A	45	44	R 43	44	45	F 30
3	A	30	33	F 36	F 40	A	39	45	R 48	S	55	56	54	S	S	J A 53	R 50	R 46	42	43	43	40	40	38
4	A	A	A	A	A	A	46	54	60	56	R	B	J A 54	S	43	42	R 47	43	45	46	44	41	B	40
5	34	F 37	F 38	F 39	45	49	52	62	64	67	65	63	56	J A 54	S	S	B	A	R 50	R 52	R 48	45	R 40	U R 37
6	A	A	A	A	B	B	A	B	B	46	B	56	52	S	S	B	B	R 49	45	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	36	E G 35	E G 34	35	31	A	A	A
10	A	A	A	A	B	B	A	E G 33	E G 35	E G 36	R 40	B	A	H 43	H 45	H 44	H 43	H 42	40	39	37	36	34	32
11	28	F 26	F 29	B	F 32	B	B	B	A	B	B	B	B	S	59	J S 54	B	B	B	B 45	B	A	A	F 30
12	B	B	B	B	B	B	B	B	B	A	B	B	B	B	B	B	B	B	41	38	30	34	A	A
13	A	A	A	A	A	B	B	B	H 39	H 40	H 43	H 43	H 42	H 45	B	B	B	B	H 42	41	38	F 36	A	A
14	A	A	A	B	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	35	32	B	B	B	B	B	B	B	B	B	B	B	B	A	41	40	A	43	A	A	A	34	F 31
17	F 29	F 27	A	B	B	B	B	B	B	36	R 40	R 48	A	A	A	A	45	43	42	R 42	A	B	B	A
18	A	A	B	B	B	B	B	9	B	B	B	B	45	42	40	B	H 41	B	R 40	36	B	F 25	F 22	A
19	A	A	A	A	B	B	A	43	45	45	47	45	43	42	45	43	42	42	40	39	40	34	30	A
20	A	A	A	A	B	B	B	A	41	44	B	B	B	42	H 42	46	45	44	42	F 27	A	A	A	A
21	A	A	A	A	A	B	A	41	A	A	B	B	B	B	B	B	B	B	B	B	B	40	A	A
22	A	A	A	B	B	42	B	B	A	B	B	B	B	B	B	B	47	B	B	B	A	A	A	A
23	A	A	A	A	B	F 25	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
24	A	A	A	B	A	B	A	A	B	B	E G 35	B	B	B	B	B	B	B	B	B	A	F 25	A	A
25	A	A	A	B	B	B	A	B	A	B	B	B	B	B	B	B	H 40	B	42	40	R 34	B	A	A
26	A	B	A	A	B	B	B	A	A	B	B	B	B	B	H 41	B	B	38	A	B	B	A	A	A
27	A	A	A	A	A	A	B	B	B	B	B	B	B	H 42	H 41	B	B	B	B	40	40	V 31	A	A
28	A	B	A	A	B	B	B	B	B	41	42	B	B	B	45	B	B	43	B	37	B	A	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	5	6	4	3	3	4	4	7	8	9	8	6	7	7	9	9	13	11	16	17	12	13	7	8
MED	34	31	F 32	F 36	F 40	42	44	45	46	44	42	52	52	42	43	44	43	43	42	40	40	36	34	32
UQ	35	36	36	F 38	42	46	49	55	58	46	51	56	54	44	45	46	45	44	44	43	43	40	40	38
LQ	29	F 27	F 30	F 34	F 36	34	41	42	40	40	40	45	44	42	H 41	42	H 41	42	40	38	36	34	32	F 30

FEB. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1986 | 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	28	31	28	18	30	29	33	28	26	B	B	B	43	36	34	28	29	E B 28	27	22	E B 19	E B 20	B	30
2	36	40	B	B	B	B	B	42	42	32	35	36	65	64	72	26	27	43	29	23	20	17	31	42
3	35	15	20	27	31	40	35	30	28	28	27	28	35	40	34	30	36	30	32	31	26	E B 19	17	40
4	41	43	41	41	35	35	24	34	26	32	28	B	41	41	30	28	35	36	43	45	27	16	B	E B 14
5	E B 13	E B 14	E B 16	45	17	19	22	31	24	26	30	27	26	30	32	36	B	59	35	35	E B 21	E B 20	E B 19	E B 21
6	31	40	40	36	B	B	41	B	B	E B 30	B	32	31	31	28	B	B	E B 26	E B 24	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E B 30	E B 25	E B 27	16	18	41	120	31
10	28	118	50	36	B	B	32	E B 26	E B 29	E B 29	E B 31	B	33	E B 31	E B 33	E B 31	E B 28	E B 28	16	E B 23	E B 23	E B 20	E B 18	28
11	20	17	E B 23	B	41	B	B	B	45	B	B	B	B	36	34	42	B	B	B	25	B	70	36	70
12	B	B	B	B	B	B	B	B	B	41	B	B	B	B	B	B	B	B	E B 24	21	21	37	42	45
13	42	42	32	32	43	B	B	B	30	E B 29	26	29	E B 34	E B 33	B	B	B	B	E B 25	E B 24	25	17	42	45
14	45	30	41	B	41	35	B	43	B	40	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	35	30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	E B 23	E B 19	B	B	B	B	B	B	B	B	B	B	B	B	42	29	33	40	40	110	90	45	E B 23	E B 16
17	E B 13	E B 14	30	B	B	B	B	B	B	32	27	30	43	41	63	41	30	28	36	60	105	B	B	31
18	80	70	B	B	B	B	B	B	B	B	B	B	30	E B 30	E B 30	B	E B 30	B	E B 30	E B 21	B	E B 13	26	28
19	40	120	42	42	B	B	36	24	21	21	23	22	24	25	26	26	E B 29	E B 27	E B 24	E B 20	15	E B 15	12	39
20	41	47	48	42	B	B	B	60	37	42	B	B	B	20	26	25	24	E B 24	E B 23	33	32	32	42	42
21	46	110	60	30	40	B	31	22	46	21	B	B	B	B	B	B	B	B	B	B	B	28	29	41
22	66	35	43	B	B	26	B	B	35	B	B	B	B	B	B	B	E B 25	B	B	B	45	40	46	70
23	59	70	80	37	B	18	B	B	B	B	B	B	B	B	B	B	B	B	B	30	26	43	36	42
24	43	70	45	B	44	B	46	36	B	B	27	B	B	B	B	B	B	B	B	B	36	17	30	41
25	71	41	41	B	B	B	41	B	41	B	B	B	B	B	B	B	E B 28	B	26	E B 24	E B 18	B	27	42
26	71	B	30	42	B	B	B	41	33	B	B	B	B	B	E B 30	B	B	E B 24	32	B	B	41	27	40
27	39	80	51	16	42	27	B	B	B	B	B	B	B	27	E B 30	B	B	B	B	E B 23	20	25	40	38
28	30	B	36	41	B	B	B	B	B	27	E B 29	B	B	B	E B 30	B	B	E B 27	B	E B 30	B	45	100	42
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	24	22	20	14	10	8	10	12	14	14	10	7	11	14	16	11	13	14	17	19	18	21	20	23
MED	40	40	41	36	40	28	34	32	32	30	28	29	34	31	30	28	26	E B 28	26	23	24	25	30	40
UQ	46	70	46	42	42	35	41	42	41	32	29	31	42	40	34	34	30	36	32	32	32	41	42	42
LQ	29	30	30	30	31	22	31	27	26	24	27	28	29	28	30	27	E B 28	E B 26	E B 24	E B 22	18	E B 17	24	30

FEB. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1986 | 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	10	9	10	8	13	13	12	14	13	B	B	B	20	14	13	14	13	28	13	13	19	20	B	13
2	10	14	B	B	B	B	B	14	14	19	10	18	14	14	13	14	14	12	15	13	10	9	11	12
3	9	10	13	10	10	19	13	13	14	15	13	14	14	14	13	14	13	12	10	13	20	19	13	8
4	8	13	23	23	14	22	13	10	10	13	14	B	13	20	20	14	13	14	14	13	20	13	B	14
5	13	14	16	23	13	13	14	13	10	13	15	13	13	15	15	14	B	13	13	14	21	20	19	21
6	19	20	24	21	B	B	30	B	B	30	B	12	14	13	14	B	B	26	24	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	30	25	27	13	14	31	22	14
10	10	13	13	13	B	B	24	26	29	29	31	B	23	31	33	31	28	28	13	23	23	20	18	10
11	13	13	23	B	20	B	B	B	26	B	B	B	B	20	20	23	B	B	B	20	B	23	23	18
12	B	B	B	B	B	B	B	B	B	24	B	B	B	B	B	B	B	B	24	12	13	13	14	13
13	13	22	14	9	15	B	B	B	15	29	14	15	34	33	B	B	B	B	25	24	14	13	10	13
14	13	9	18	B	13	18	B	17	B	20	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	18	18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	23	19	B	B	B	B	B	B	B	B	B	B	B	B	23	18	25	24	24	31	25	21	23	16
17	13	14	13	B	B	B	B	B	B	20	23	23	14	19	18	15	20	15	15	16	25	B	B	19
18	15	19	B	B	B	B	B	B	B	B	B	B	16	30	30	B	30	B	30	21	B	13	10	8
19	10	17	10	17	B	B	20	15	14	13	13	13	14	10	10	15	29	27	24	20	10	15	8	11
20	10	10	8	9	B	B	B	20	13	15	B	B	B	16	13	10	16	24	23	13	20	16	12	7
21	7	16	16	19	11	B	18	10	13	15	B	B	B	B	B	B	B	B	B	B	B	8	8	8
22	10	19	12	B	B	19	B	B	23	B	B	B	B	B	B	B	25	B	B	B	11	10	12	7
23	16	7	12	15	B	14	B	B	B	B	B	B	B	B	B	B	B	B	B	14	15	14	15	11
24	18	8	7	B	9	B	9	19	B	B	18	B	B	B	B	B	B	B	B	B	24	10	10	8
25	23	16	25	B	B	B	25	B	18	B	B	B	B	B	B	B	28	B	15	24	18	B	9	11
26	15	B	18	8	B	B	B	13	14	B	B	B	B	B	30	B	B	24	15	B	B	7	8	8
27	10	9	6	12	24	12	B	B	B	B	B	B	B	20	30	B	B	B	B	23	15	8	7	8
28	9	B	20	31	B	B	B	B	B	B	29	B	B	B	30	B	B	27	B	20	B	9	10	9
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	13	16	18	D B 31	B	B	B	B	D B 29	B	B	B	B	D B 33	30	B	B	D B 28	24	22	22	18	14	12
UQ	18	21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	D B 31	B	18
LQ	10	12	12	14	14	20	22	14	14	20	20	D B 23	15	18	16	15	25	24	15	14	15	12	10	8

FEB. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

FEB. 1986 | 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	250	260	255	E A 280	A	220	210	230	200	B	B	B	A	A	A	H 190	H 190	200	215	200	H 180	245	B	E A 300
2	A	A	B	B	B	B	B	A	A	210	200	A	A	A	A	200	H 200	A	205	215	240	210	255	E A 300
3	A	280	E A 300	E A 350	E A 360	A	230	220	230	200	210	210	H 190	200	230	210	220	H 200	205	H 205	215	H 220	245	250
4	A	A	A	A	A	A	200	200	200	200	200	B	225	205	205	200	H 220	210	215	E A 270	H 210	230	B	250
5	245	230	245	260	H 260	H 230	225	230	200	200	195	200	H 195	225	200	200	B	A	H 225	H 245	H 200	225	240	E B 300
6	A	A	A	A	B	B	A	B	B	200	B	200	200	200	H 190	B	B	225	205	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	250	260	260	E A 290	A	A	A
10	A	A	A	A	B	B	A	240	225	H 200	225	B	A	H 210	230	205	H 200	210	H 200	H 200	245	250	250	280
11	300	E A 350	E B 330	B	260	B	B	B	A	B	B	B	B	A 220	220	A 220	B	B	B	240	B	A	A	E A 350
12	B	B	B	B	B	B	B	B	B	A	B	B	B	B	B	B	B	B	225	E A 275	280	250	A	A
13	A	A	A	A	A	B	B	B	E A 290	225	H 220	230	B 240	230	B	B	B	B	230	B 250	H 225	E A 275	A	A
14	A	A	A	B	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	270	300		B	B	B	B	B	B	B	B	B	B	B	A	210	220	A	E A 270	A	A	A	250	240
17	260	E B 310	A	B	B	B	B	B	B	230	220	A 220	A	A	A	A	H 195	H 210	H 200	E A 250	A	B	B	A
18	A	A	B	B	B	B	B	B	B	B	B	B	230	200	220	B	210	B	E B 250	E B 230	B	275	A 270	A
19	A	A	A	A	B	B	A	H 205	245	210	200	H 190	H 170	H 195	H 180	225	200	200	200	225	245	250	330	A
20	A	A	A	A	B	B	B	A	210	E A 260	B	B	B	H 190	H 200	H 195	200	220	210	H 195	A	A	A	A
21	A	A	A	A	A	B	A	215	A	A	B	B	B	B	B	B	B	B	B	B	B	E A 300	A	A
22	A	A	A	B	B	E A 280	B	B	A	B	B	B	B	B	B	B	225	B	B	B	A	A	A	A
23	A	A	A	A	B	E A 325	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
24	A	A	A	B	A	B	A	A	B	B	E A 260	B	B	B	B	B	B	B	B	B	A	250	A	A
25	A	A	A	B	B	B	A	B	A	B	B	B	B	B	B	B	205	B	A 230	E B 260	245	B	A	A
26	A	B	A	A	B	B	B	A	A	B	B	B	B	B	240	B	B	215	A	B	B	A	A	A
27	A	A	A	A	A	A	B	B	B	B	B	B	B	A 250	230	B	B	B	B	250	250	E A 290	A	A
28	A	B	A	A	B	B	B	B	B	250	230	B	B	B	240	B	B	250	B	270	B	A	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	5	6	4	3	3	4	4	7	8	11	10	6	7	11	12	10	13	11	16	17	12	13	7	8
MED	260	U 268	U 262	E A 280	260	U 238	218	215	212	205	210	205	200	205	220	202	205	210	212	U 225	237	240	250	U 265
UQ	270	E E 310	E E 315	E A 315	U 285	E A 302	228	225	233	223	222	220	228	222	230	210	220	222	228	252	246	262	262	E A 300
LQ	250	260	250	265	260	225	205	202	200	200	200	200	H 192	200	200	200	H 200	205	205	210	H 212	230	248	250

FEB. 1986 | H'F (KM)

IONOSPHERIC DATA

MAR. 1986 | 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

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	B	A	A	B	B	A	B	O X 48	O X 51	B	B	B	B	B	B	B	O X 48	A	B	A	A	A
2	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	O X 50	X 44	X 38	30	A	A
3	A	A	A	A	A	A	A	B	X 55	O X 56	O X 57	X 58	X 62	X 59	X 62	X 61	O X 56	O X 51	O X 51	O X 46	X 47	X 42	36	A
4	A	A	A	A	A	A	A	O X 46	O X 51	B	B	B	B	X 66	O X 65	O X 56	O X 54	O X 52	O X 52	O X 49	X 42	O X 41	A	A
5	A	A	A	A	A	A	A	A	O X 49	O X 52	O R 56	X 58	O R 56	O R 58	X 57	O R 56	X 57	X 55	O X 52	X 49	A	A	A	A
6	A	A	A	A	A	B	B	B	O X 43	O X 46	O X 47	O X 51	O X 54	O X 53	B	O X 56	X 60	B	B	A	A	A	A	A
7	A	A	A	B	A	A	B	B	B	B	B	B	B	O X 48	B	B	B	B	A	A	A	A	A	A
8	B	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	O X 50	B	B	B	A	A	A	A
9	A	A	A	A	A	A	A	B	A	O X 49	O X 50	O X 51	X 56	X 56	X 59	O R 56	O X 51	O X 49	O X 48	X 46	X 43	X 39	X 37	35
10	35	30	A	A	A	40	50	X 46	X 49	O X 51	O X 56	O X 59	X 61	X 63	X 62	X 67	55	X 50	X 54	X 46	40	40	40	39
11	33	32	32	32	30	32	X 41	X 49	O R 52	O R 55	X 60	X 64	X 64	X 61	X 61	X 61	X 58	55	X 56	X 48	X 43	X 36	30	A
12	A	A	33	33	A	30	35	X 43	45	X 54	S	S	B	B	B	B	B	O X 65	O R 56	O X 51	X 45	40	35	32
13	30	A	A	A	A	A	B	A	A	50	B	B	O X 53	X 60	O X 58	B	90	49	O X 48	B	A	A	A	A
14	A	A	A	A	A	B	B	A	X 47	O X 46	O X 48	O X 51	O X 52	O X 51	O X 51	O X 50	O X 47	X 47	X 47	X 46	X 42	36	A	A
15	A	A	A	A	A	30	42	50	B	A	O X 49	O X 55	O X 56	O R 56	O X 64	S	S	O X 51	X 46	X 43	X 46	X 39	A	A
16	A	A	A	B	A	A	A	A	46	49	O X 54	O X 56	O X 56	B	B	B	B	B	B	B	O X 36	32	28	A
17	A	A	A	A	A	A	38	X 42	X 47	X 47	O X 51	B	B	X 61	B	O R 59	O X 55	O X 51	O X 55	X 48	36	27	26	B
18	A	A	A	A	A	B	A	B	44	46	O X 48	B	S	B	X 53	O R 56	O X 51	O X 51	49	B	A	A	A	A
19	A	A	A	A	A	A	A	B	O X 43	O X 47	O X 46	O X 40	O X 51	B	B	O X 48	O X 46	O X 45	X 41	B	B	B	B	B
20	B	A	A	A	B	B	32	X 40	X 42	O X 48	O X 51	O X 52	O X 54	O X 56	O X 55	O X 51	X 52	X 48	X 48	X 40	30	30	21	B
21	A	A	A	A	A	A	A	A	A	A	49	O X 51	O X 52	B	63	S	O X 51	B	B	32	24	A	A	A
22	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	44	B	B	B	A	A	A
23	A	A	A	B	B	A	A	X 40	X 41	B	B	B	O X 53	O X 51	O X 54	B	B	O X 49	O X 48	O X 41	B	B	A	A
24	A	A	A	B	A	A	A	B	A	B	B	B	B	B	B	B	B	O X 51	B	A	A	A	A	A
25	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	O X 46	O X 48	B	B	B	A	A	B
26	A	A	B	B	B	A	A	B	B	B	B	O X 48	B	B	O X 48	O X 48	B	O X 46	B	B	B	B	B	A
27	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
28	A	A	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	B	O X 39	B	A	A	A
29	A	A	A	B	A	B	A	A	A	B	B	O X 56	B	B	B	X 60	X 63	X 59	B	B	A	A	A	A
30	B	A	A	A	A	A	O X 36	X 35	X 41	O X 47	O X 50	O X 56	X 65	X 66	X 62	X 60	X 66	X 60	52	45	37	30	22	A
31	A	A	A	A	30	33	X 33	X 40	X 48	X 48	O X 51	O X 56	X 62	X 60	X 59	O X 56	O X 54	X 53	68	A	O X 34	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	2	2	5	8	10	16	17	17	16	16	16	16	16	19	22	19	16	15	13	9	3
MED	33	31	32	32	30	32	37	X 42	X 46	O X 48	O X 51	O X 56	O X 56	X 58	X 59	O X 56	O X 54	O X 51	O X 50	X 46	X 40	36	30	35
UQ	34					33	42	X 46	X 49	O X 51	O X 54	O X 57	X 62	X 61	X 62	X 60	X 58	O X 53	O X 53	X 48	X 43	X 40	36	37
LQ	32					30	34	X 40	X 43	O X 47	O X 49	O X 51	O X 53	O X 54	O X 54	O X 54	O X 51	O X 48	X 48	X 42	36	30	26	34

MAR. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1986 | 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	B	A	A	B	B	A	B	42	45	B	B	B	B	B	B	B	42	A	B	A	A	A
2	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	44	38	32	F 20	A	A
3	A	A	A	A	A	A	A	B	49	50	51	52	56	53	56	55	50	45	45	40	41	36	F 30	A
4	A	A	A	A	A	A	A	40	45	B	B	B	B	60	59	50	48	46	46	43	36	35	A	A
5	A	A	A	A	A	A	A	A	43	46	R 50	52	R 50	R 52	51	R 50	51	49	46	43	A	A	A	A
6	A	A	A	A	A	B	B	B	37	40	41	45	48	47	B	50	54	B	B	A	A	A	A	A
7	A	A	A	B	A	A	B	B	B	B	B	B	B	42	B	B	B	B	A	A	A	A	A	A
8	B	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	44	B	B	B	A	A	A	A
9	A	A	A	A	A	A	A	B	A	43	44	45	50	50	53	R 50	45	43	42	40	37	33	31	F 28
10	F 25	F	A	A	A	F 34	F 40	40	43	45	50	53	55	57	56	51	F 49	44	48	40	F 33	F 30	F 29	F 29
11	F 23	F 23	F 23	F 23	F 23	F 26	35	43	R 46	R 49	54	58	58	55	55	55	52	F 49	50	42	37	30	F 24	A
12	A	A	F 27	F 27	A	F 24	F 28	37	39	48	S	S	B	B	B	B	B	59	R 50	45	39	F 31	F 27	F 23
13	F 21	A	A	A	A	A	B	A	A	F 44	B	B	47	54	52	B	F 80	F 43	42	B	A	A	A	A
14	A	A	A	A	A	B	B	A	41	40	42	45	46	45	45	44	41	41	41	40	36	F 28	A	A
15	A	A	A	A	A	F 25	F 30	F 40	B	A	43	49	50	R 50	59	S	S	U S 45	40	37	40	33	A	A
16	A	A	A	B	A	A	A	A	F 40	F 43	48	50	50	B	B	B	B	B	B	B	30	F 26	F 22	A
17	A	A	A	A	A	A	F 32	36	41	41	45	B	B	55	B	R 53	49	45	49	42	F 30	F 21	F 19	B
18	A	A	A	A	A	B	A	B	F 38	F 40	42	B	S	B	47	R 50	45	45	43	B	A	A	A	A
19	A	A	A	A	A	A	A	B	37	41	40	34	45	B	B	42	40	39	35	B	B	B	B	B
20	B	A	A	A	B	B	F 26	34	37	42	45	U S 46	U S 48	U S 50	U S 49	45	46	42	42	34	F 24	F 21	F 15	B
21	A	A	A	A	A	A	A	A	A	A	F 43	45	46	B	F 57	S	45	B	B	F 26	F 18	A	A	A
22	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	F 38	B	B	B	A	A	A
23	A	A	A	B	B	A	A	34	35	B	B	B	S 47	45	S 48	B	B	43	42	35	B	B	A	A
24	A	A	A	B	A	A	A	B	A	B	B	B	B	B	B	B	B	45	B	A	A	A	A	A
25	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	40	42	B	B	B	A	A	B
26	A	A	B	B	B	A	A	B	B	B	B	42	B	B	42	42	B	40	B	B	B	B	B	A
27	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
28	A	A	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	B	33	B	A	A	A
29	A	A	A	B	A	B	A	A	A	B	B	U S 50	B	B	B	J S 54	57	J S 53	B	B	A	A	A	A
30	B	A	A	A	A	A	30	29	35	41	44	50	59	60	J S 56	J S 54	60	54	F 46	F 39	F 30	F 24	F 16	A
31	A	A	A	A	F 24	F 27	27	34	42	42	S 45	S 50	56	J S 54	J S 53	U S 50	48	47	F 56	A	28	A	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	1	2	2	2	5	8	10	16	17	17	16	16	16	16	16	19	22	19	16	15	13	9	3
MED	F 23	F 23	F 25	F 25	F 24	F 26	F 30	36	40	42	45	50	50	52	53	50	48	45	44	40	33	F 30	F 24	F 28
UQ	F 24					F 27	F 34	40	43	45	48	51	56	55	56	54	52	47	47	42	37	33	F 29	F 28
LQ	F 22					F 25	28	34	37	41	43	45	47	48	48	48	45	42	42	36	F 30	F 24	F 19	F 26

MAR. 1986 | FOF2 (0.1 MHZ)

IONOSPHERIC DATA

MAR. 1986 | 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	45	43	B	42	42	B	B	30	B	30	30	B	B	B	B	B	B	B	22	33	B	43	91	42
2	45	45	90	42	32	B	37	B	B	B	B	B	B	B	B	B	B	B	E B 20	E B 16	E B 12	27	41	40
3	40	45	43	40	43	45	43	B	28	25	26	27	27	26	27	25	E B 27	E B 24	E B 24	E B 18	16	22	18	32
4	46	70	80	19	41	41	42	38	26	B	B	B	B	E B 31	27	E B 30	E B 25	25	E B 31	E B 22	E B 20	E B 18	40	42
5	45	35	70	43	41	43	43	44	35	22	24	26	28	28	27	26	33	30	24	44	39	32	39	45
6	70	42	41	90	42	B	B	B	27	25	27	26	27	25	B	28	22	B	B	35	27	71	59	150
7	46	43	37	B	40	26	B	B	B	B	B	B	B	E B 30	B	B	B	B	32	43	20	42	80	70
8	B	65	39	30	20	36	28	B	B	B	B	B	B	B	B	B	E B 30	B	B	B	28	42	45	45
9	43	55	45	46	42	42	26	B	42	27	23	22	27	27	41	E B 26	E B 25	E B 24	E B 23	25	19	19	30	35
10	27	27	28	32	30	21	16	19	21	22	E B 29	25	E B 30	26	33	26	24	22	22	17	15	14	25	28
11	20	18	18	18	20	12	13	17	20	22	22	28	28	29	27	23	22	20	17	15	E B 12	E B 9	E B 10	35
12	40	34	29	26	29	12	41	17	20	23	22	25	B	B	B	B	B	19	E B 25	E B 19	E B 13	13	16	25
13	40	35	43	53	50	120	B	45	57	30	B	B	E B 30	26	E B 28	B	E B 24	43	36	17	40	45	41	43
14	66	30	90	45	65	B	B	35	22	21	20	19	25	24	31	E B 24	E B 24	20	26	20	37	28	29	35
15	35	35	70	42	43	32	23	20	B	41	23	25	26	25	18	E B 25	E B 24	E B 30	18	16	32	25	28	43
16	42	75	16	B	36	35	43	30	50	22	25	22	27	B	B	B	B	B	B	B	E B 19	20	21	30
17	30	32	55	90	42	42	42	20	21	32	24	B	B	29	B	26	E B 24	35	17	20	16	14	17	B
18	30	30	21	35	15	B	40	B	31	29	24	B	E B 29	B	E B 25	E B 25	E B 29	E B 24	18	B	40	21	26	28
19	22	33	43	60	41	60	42	B	32	22	22	36	25	B	B	E B 23	E B 22	E B 20	E B 20	B	B	B	B	B
20	B	20	29	30	B	B	E B 11	26	18	22	25	28	34	32	31	21	19	20	26	18	30	26	23	B
21	21	26	27	30	30	27	42	35	42	42	23	22	22	B	E B 24	E B 25	E B 23	B	B	30	30	29	35	42
22	60	60	32	B	B	28	B	B	B	B	B	B	B	B	B	B	B	20	B	B	B	27	21	41
23	48	70	60	B	B	45	42	27	26	B	B	B	26	26	21	B	B	E B 27	E B 30	E B 20	B	B	40	35
24	65	37	60	B	35	A	42	B	45	B	B	B	B	B	B	B	B	E B 20	B	41	22	16	36	40
25	35	31	42	B	B	43	42	B	B	B	B	B	B	B	B	B	E B 23	E B 30	B	B	B	20	45	B
26	42	45	B	B	B	36	36	B	B	B	B	E B 28	B	B	E B 27	E B 23	B	E B 24	B	B	B	B	B	28
27	42	70	45	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	21	19	20
28	22	42	41	42	42	B	B	40	27	B	B	B	B	B	B	B	B	B	B	E B 14	B	35	42	43
29	33	40	42	B	31	B	40	32	36	B	B	E B 34	B	B	B	28	21	18	B	B	36	43	20	37
30	B	36	30	42	39	32	16	E B 14	E B 22	20	22	22	30	25	E B 27	21	20	20	28	30	17	15	28	41
31	35	35	35	27	17	13	27	17	21	20	21	E B 24	24	23	21	25	E B 24	16	E B 13	26	E B 14	40	18	27
	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	31	29	22	25	21	23	18	22	19	18	17	17	16	16	18	20	22	20	22	23	28	29	27
MED	41	37	42	42	40	36	40	28	27	23	24	25	26	26	26	23	E B 24	20	21	20	20	26	29	40
UQ	46	45	55	45	42	43	42	35	36	30	25	27	28	28	30	26	E B 25	E B 27	26	30	31	38	41	42
LQ	32	32	30	30	30	27	26	19	21	22	22	22	26	25	21	E B 23	20	20	18	16	16	18	21	31

MAR. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1986 | 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	7	23	B	10	13	B	B	20	B	E B 30	E B 30	B	B	B	B	B	B	B	23	10	B	10	10	25
2	9	14	11	13	11	B	23	B	B	B	B	B	B	B	B	B	B	B	20	16	12	7	9	8
3	9	14	12	13	16	13	12	B	13	14	14	14	14	20	18	15	27	24	24	18	12	12	8	5
4	13	25	8	13	14	15	21	12	14	B	B	B	B	31	23	30	25	14	31	22	20	18	8	8
5	12	9	14	14	16	23	18	13	11	14	14	13	14	15	14	12	12	10	14	13	8	8	8	9
6	10	9	8	9	7	B	B	B	14	15	16	16	14	16	B	13	12	B	B	15	13	14	8	13
7	12	13	22	B	18	15	B	B	B	B	B	B	B	30	B	B	B	B	20	15	12	10	9	8
8	B	11	8	8	10	24	23	B	B	B	B	B	B	B	B	B	30	B	B	B	14	8	7	10
9	9	8	5	14	12	10	13	B	14	18	15	14	13	13	20	26	25	24	23	15	13	10	9	7
10	8	6	8	18	7	9	14	8	12	13	29	18	30	15	12	12	11	11	8	13	9	8	8	8
11	7	5	E	E	8	7	10	12	12	13	15	15	19	13	12	15	16	13	13	10	12	9	10	9
12	7	8	7	7	7	8	12	10	12	12	13	14	B	B	B	B	B	12	25	19	13	10	10	9
13	9	8	8	8	8	20	B	19	14	13	B	B	30	13	28	B	24	20	23	13	8	8	12	12
14	15	8	11	10	12	B	B	12	14	14	14	15	14	13	14	24	24	12	12	11	7	7	9	7
15	8	13	18	16	10	9	8	12	B	20	15	10	11	10	15	25	24	30	14	8	8	8	8	9
16	15	15	13	B	13	14	15	13	12	12	15	15	24	B	B	B	B	B	B	B	19	13	14	8
17	9	10	10	15	18	15	12	8	12	12	12	B	B	18	B	19	24	14	12	15	13	9	8	B
18	6	8	9	8	8	B	24	B	14	14	14	B	29	B	25	25	29	24	11	B	10	8	8	9
19	9	8	17	18	15	19	14	B	14	12	12	12	14	B	B	23	22	20	20	B	B	B	B	B
20	B	8	14	8	B	B	11	8	10	10	8	13	12	12	10	12	11	8	9	9	9	10	9	B
21	9	8	9	8	9	8	18	23	15	15	13	15	12	B	24	25	23	B	B	14	8	7	8	13
22	15	8	12	B	B	19	B	B	B	B	B	B	B	B	B	B	B	16	B	B	B	18	9	10
23	8	12	10	B	B	19	13	13	14	B	B	B	20	15	14	B	B	27	30	20	B	B	8	10
24	13	20	7	B	19	A	18	B	30	B	B	B	B	B	B	B	B	20	B	10	7	8	9	8
25	14	13	20	B	B	13	24	B	B	B	B	B	B	B	B	B	23	30	B	B	B	13	11	B
26	15	13	B	B	B	22	24	B	B	B	B	23	B	B	27	23	B	24	B	B	B	B	B	10
27	25	14	20	9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	12	8	10
28	10	12	16	19	15	B	B	24	15	B	B	B	B	B	B	B	B	B	B	14	B	9	9	16
29	14	15	17	B	14	B	15	12	11	B	B	34	B	B	B	15	12	15	B	B	10	8	8	9
30	B	9	15	13	13	11	11	14	22	16	19	17	17	15	27	15	12	12	8	12	10	9	8	10
31	7	14	12	12	12	11	8	13	14	14	14	24	15	17	17	15	24	13	13	19	14	10	8	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	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	10	11	12	14	13	19	18	20	14	16	18	28	30	31	28	25	25	24	23	15	13	10	9	9
UQ	14	14	16	9	18	B	D B 24	B	B	B	B	B	B	B	B	B	B	B	B	B	D B 20	12	10	12
LQ	8	8	8	10	10	11	12	12	12	14	14	15	14	15	18	15	22	14	14	13	10	8	8	8

MAR. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAR. 1986 | 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	B	A	A	B	B	A	B	E B 250	B 220	B	B	B	B	B	B	B	230	A	B	A	A	A
2	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	250	240	250	E A 310	A	A
3	A	A	A	A	A	A	A	B	H 230	H 200	H 175	H 200	200	230	A 200	210	220	220	230	220	225	250	260	A
4	A	A	A	A	A	A	A	A	H 205	B	B	B	B	220	230	210	H 200	A 255	245	240	250	250	A	A
5	A	A	A	A	A	A	A	A	E A 310	H 220	H 195	205	200	H 200	220	200	205	225	240	260	A	A	A	A
6	A	A	A	A	A	B	B	B	240	H 200	250	230	230	H 220	B	255	H 220	B	B	A	A	A	A	A
7	A	A	A	B	A	A	B	B	B	B	B	B	B	B 250	B	B	B	B	A	A	A	A	A	A
8	B	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	E B 255	B	B	B	A	A	A	A
9	A	A	A	A	A	A	A	B	A	H 210	H 180	225	H 220	200	A 240	210	220	220	250	230	240	250	250	255
10	A 280	E A 370	A	A	A	E A 340	270	245	220	H 200	230	200	220	H 190	200	H 200	200	H 200	225	225	H 180	245	250	H 250
11	260	270	280	275	300	275	260	230	210	220	H 200	230	200	205	H 180	200	H 220	225	230	210	210	225	270	A
12	A	A	360	E A 380	A	E A 280	225	240	220	H 220	210	220	B	B	B	B	B	H 205	245	225	220	225	260	280
13	A 300	A	A	A	A	A	B	A	A	E A 300	B	B	E B 250	H 210	230	B	E B 230	E A 350	310	B	A	A	A	A
14	A	A	A	A	A	B	B	A	255	H 205	A 230	A 250	220	205	290	200	225	H 210	240	225	240	230	A	A
15	A	A	A	A	A	E A 375	E A 330	270	B	A	H 190	210	220	H 200	H 200	230	210	300	230	230	230	240	A	A
16	A	A	A	B	A	A	A	A	E A 340	H 220	H 220	210	220		B	B	B	B	B	B	260	260	270	A
17	A	A	A	A	A	A	E A 400	H 280	H 225	H 200	H 200	B	B	225	B	H 220	210	230	225	225	240	240	280	B
18	A	A	A	A	A	B	A	B	E A 310	H 255	H 200	B	230	B	230	230	E B 260	E A 250	240	B	A	A	A	A
19	A	A	A	A	A	A	A	B	E A 330	245	210	200	H 190	B	B	210	225	220	240	B	B	B	B	B
20	B	A	A	A	B	B	250	210	H 200	210	205	220	215	200	200	H 200	H 205	220	220	205	A 245	A 250	E A 300	B
21	A	A	A	A	A	A	A	A	A	A	H 195	H 220	H 200	B	H 200	H 220	H 210	B	B	A 210	E A 300	A	A	A
22	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	245	B	B	B	A	A	A
23	A	A	A	B	B	A	A	E A 320	H 250	B	B	B	H 210	H 210	H 205	B	B	240	240	240	B	B	A	A
24	A	A	A	B	A	A	A	B	A	B	B	B	B	B	B	B	B	B 250	B	A	A	A	A	A
25	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	240	B 260	B	B	B	A	A	B
26	A	A	B	B	B	A	A	B	B	B	B	260	B	B	B 220	H 210	B	B 250	B	B	B	B	B	A
27	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
28	A	A	A	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B 260	B	A	A	A
29	A	A	A	B	A	B	A	A	A	B	B	E B 280	B	B	B	A 260	240	210	B	B	A	A	A	A
30	B	A	A	A	A	A	E A 340	255	250	245	225	200	220	215	220	215	220	210	205	220	225	250	E A 300	A
31	A	A	A	A	E A 340	E A 320	260	H 200	200	200	H 200	H 190	200	H 195	H 190	230	220	H 195	210	A	B 250	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	2	2	5	8	9	16	17	18	17	17	16	16	18	20	22	19	16	15	13	9	3
MED	A U 280	295	320	U 302	310	E A U 320	252	242	225	H 215	H 202	215	218	208	212	210	218	222	240	225	240	248	265	255
UQ	A 290					E A 340	E A 335	262	U 261	U 232	220	228	220	220	230	230	224	248	242	240	249	250	275	268
LQ	270					E A 280	255	230	215	H 200	H 195	200	200	200	H 200	200	210	210	228	220	225	240	260	252

MAR. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1986 | 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	39	34	B	B	B	O X 52	O X 54	B	B	B	B	B	O X 49	35	31	28	A	A
2	B	A	A	A	A	A	A	43	O X 48	48	O X 52	X 60	55	X 54	X 52	X 50	X 51	48	42	33	28	21	3	A
3	A	A	A	A	B	B	B	B	A	46	B	B	B	X 57	O X 56	O X 50	X 49	O X 46	B	B	B	B	A	A
4	A	A	A	A	A	A	A	B	O X 41	O X 48	O X 52	B	X 61	X 56	B	X 62	X 56	X 51	X 50	45	34	26	B	B
5	A	A	A	A	A	31	A	B	B	45	B	51	61	70	62	65	X 60	52	44	36	31	A	A	A
6	A	A	B	A	A	32	37	36	X 39	X 42	X 48	O X 52	O X 56	O X 56	60	X 60	X 55	X 52	X 43	32	30	29	O X 20	B
7	A	A	A	A	A	A	A	A	46	43	51	O X 60	X 66	X 64	X 66	X 66	X 59	X 52	X 51	X 46	30	B	B	A
8	A	A	A	A	A	A	A	X 31	X 40	X 45	O X 51	X 55	X 55	X 63	X 65	70	X 61	X 51	X 47	44	33	30	26	B
9	A	A	A	A	A	A	A	A	A	B	O X 42	O X 46	O X 48	X 50	O X 51	X 52	X 51	O X 52	B	59	A	A	A	A
10	A	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	O X 40	A	A	A	A	A	A	A
11	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	O X 41	O X 38	26	20	B	B	A
12	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	O X 51	B	O X 47	41	30	A	A	A	A
13	A	A	A	A	A	A	A	A	X 46	X 39	X 42	X 48	X 57	X 65	X 56	X 54	X 60	O X 56	49	36	B	B	B	A
14	A	A	A	A	A	A	A	A	A	X 38	X 42	X 45	O X 48	O X 51	X 56	O X 56	O X 54	O X 51	B	30	33	A	B	A
15	A	A	A	A	A	X 36	38	33	35	45	X 51	X 62	X 62	X 61	X 58	X 66	X 60	O X 48	X 42	33	O X 26	A	A	A
16	A	A	A	A	A	B	A	B	B	B	O X 47	O X 51	O X 49	X 50	X 52	X 53	X 49	X 43	X 37	61	27	B	A	B
17	A	A	A	A	A	A	A	O X 26	X 36	X 42	46	46	60	65	X 59	58	X 60	60	35	30	24	A	A	A
18	A	A	B	B	B	A	B	B	B	40	X 42	B	O R 51	O X 51	O X 52	X 49	O X 51	X 44	30	O X 25	B	B	B	B
19	A	A	A	B	A	B	B	B	A	46	O X 48	X 52	O X 56	X 60	X 62	X 60	X 57	X 55	O R 34	24	21	B	A	A
20	A	A	A	A	A	A	A	27	B	B	45	X 48	X 52	O X 51	X 55	O X 53	O X 51	X 46	35	B	B	B	A	A
21	A	A	A	A	B	A	A	A	34	X 43	X 49	O X 51	X 51	X 53	X 51	O X 51	O X 48	X 38	29	25	19	B	B	B
22	B	A	A	A	A	A	A	B	B	A	X 45	X 50	X 51	B	B	B	B	O X 36	34	X 33	22	B	A	A
23	A	B	B	A	A	A	A	24	X 31	O R 33	B	O X 49	B	O X 51	B	O X 49	O X 48	X 42	30	B	B	B	A	A
24	A	A	A	B	B	A	32	30	X 32	X 40	O X 47	O X 51	O X 49	B	X 62	O X 55	48	B	O X 42	B	B	B	A	A
25	A	A	A	A	A	A	A	A	A	43	X 48	X 51	X 55	X 59	X 60	X 61	52	46	B	B	B	A	B	B
26	A	A	A	32	A	B	B	B	A	O X 41	O X 56	X 66	X 66	X 70	X 66	B	O X 55	O X 48	24	B	O X 22	B	B	B
27	B	B	A	A	A	35	A	44	45	50	X 55	X 70	X 75	X 75	X 71	X 63	O X 47	32	34	30	21	B	B	B
28	A	A	A	A	B	B	B	A	A	51	X 45	B	B	B	B	B	B	O X 41	O X 31	27	B	A	A	B
29	A	A	A	A	A	A	A	B	B	O X 41	X 45	B	B	B	O X 56	X 61	B	B	B	B	B	B	B	A
30	A	A	A	B	B	A	A	A	24	B	O X 48	X 57	64	O X 66	62	X 57	A	B	O X 31	B	B	A	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				1		4	4	10	13	21	23	22	23	22	22	24	23	25	24	21	17	5	2	
MED				32		34	38	32	X 39	43	X 48	X 51	X 55	X 58	X 58	X 56	X 52	X 48	38	33	27	28	23	
UQ						36	38	36	X 45	46	X 51	X 57	X 61	X 65	X 62	X 62	X 58	X 52	X 44	36	31	29		
LQ						32	34	27	X 34	X 41	X 45	X 49	X 51	X 51	X 55	O X 52	X 49	X 44	32	30	22	26		

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1986 | 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	F 33	F 28	B	B	B	U S 46	U S 48	B	B	B	B	B	43	F 29	F 25	F 22	A	A
2	B	A	A	A	A	A	A	F 37	42	F 42	46	54	F 49	48	46	44	45	F 40	F 35	F 27	F 22	F 15	B	A
3	A	A	A	A	B	B	B	B	A	F 40	B	B	B	51	50	44	43	40	B	B	B	B	A	A
4	A	A	A	A	A	A	A	B	35	42	46	B	55	50	B	56	50	45	44	F 39	F 27	F 20	B	B
5	B	A	A	A	A	F 25	A	B	B	F 39	B	F 45	D S 55	F 60	56	59	54	F 46	F 38	F 30	F 23	A	A	A
6	A	A	B	A	A	F 26	F 26	F 30	33	36	42	46	50	50	F 54	54	49	46	37	F 24	F 24	F 21	14	B
7	A	A	A	A	A	A	A	A	F 40	F 37	F 45	54	60	58	60	60	53	46	45	40	F 24	B	B	A
8	A	A	A	A	A	A	A	25	34	39	45	49	49	57	59	F 60	55	45	41	F 38	F 27	F 23	F 19	B
9	A	A	A	A	A	A	A	A	A	B	H 36	40	42	44	45	46	45	46	B	F 50	A	A	A	A
10	A	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	34	A	A	A	A	A	A	A
11	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	35	32	F 20	F 14	B	B	A
12	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	45	B	41	F 35	F 23	A	A	A	A
13	A	A	A	A	A	A	A	A	40	33	36	42	J S 51	59	50	48	54	U S 50	F 43	F 30	B	B	B	A
14	A	A	A	A	A	A	A	A	A	32	36	39	42	45	50	U S 50	U S 48	U S 45	B	F 22	F 17	A	B	A
15	A	A	A	A	A	30	F 32	F 27	F 28	F 38	45	56	56	55	52	60	54	42	36	F 27	20	A	A	A
16	A	A	A	A	A	B	A	B	B	B	41	45	43	44	46	47	43	42	31	F 25	F 20	B	A	B
17	A	A	A	A	A	A	A	20	30	36	F 40	F 40	F 50	F 56	53	F 51	54	F 54	F 27	F 24	F 18	A	A	A
18	A	A	B	B	B	A	B	B	B	F 32	36	B	R 45	45	46	43	45	33	F 24	19	B	B	B	B
19	A	A	A	B	A	B	B	B	A	F 40	42	46	U S 50	54	56	J S 54	51	49	R 28	F 18	F 15	B	A	A
20	A	A	A	A	A	A	A	F 21	B	B	F 39	42	46	45	49	U S 47	U S 45	40	F 28	B	B	B	A	A
21	A	A	A	A	B	A	A	A	F 28	37	43	45	45	47	45	45	42	32	F 23	F 19	F 13	B	B	B
22	B	A	A	A	A	A	A	B	B	A	39	44	45	B	B	B	B	30	F 28	27	F 16	B	A	A
23	A	B	B	A	A	A	A	F 17	25	R 32	B	43	B	S 45	B	43	42	36	F 24	B	B	B	A	A
24	A	A	A	B	B	A	F 26	F 20	26	34	41	45	43	B	56	49	F 42	B	36	B	B	B	A	A
25	A	A	A	A	A	A	A	A	A	F 37	42	45	49	53	54	55	F 46	F 40	B	B	B	A	B	B
26	A	A	A	F 26	A	B	B	B	A	35	J S 50	60	60	64	60	B	U S 49	42	F 18	B	16	B	B	B
27	B	B	A	A	A	F 29	A	F 38	F 39	F 44	59	64	69	69	65	J S 57	40	F 26	F 28	24	F 15	B	B	B
28	A	A	A	A	B	B	B	A	A	F 45	39	B	B	B	B	B	B	35	25	F 21	B	A	A	B
29	A	A	A	A	A	A	A	B	B	35	39	B	B	B	50	55	B	B	B	B	B	B	B	A
30	A	A	A	B	B	A	A	A	F 18	B	42	51	F 58	60	F 56	51	A	B	25	B	B	A	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				1		4	4	10	13	21	23	22	23	22	22	24	23	25	24	21	17	5	2	
MED				F 26		F 28	F 29	F 26	33	37	42	45	49	52	52	50	46	42	32	F 25	F 20	F 21	16	
UQ						30	F 32	F 30	39	F 40	45	51	55	58	56	56	52	46	38	F 30	F 24	F 22		
LQ						F 26	F 26	F 20	28	35	39	43	45	45	49	46	43	38	F 26	F 22	F 16	F 20		

APR. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1986 | 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	28	30	42	100	32	30	26	36	B	B	B	E B 21	21	B	B	B	B	B	E B 23	20	30	21	41	42
2	B	40	45	45	45	80	45	36	20	21	23	25	22	22	E B 25	E B 23	22	17	30	30	25	27	B	23
3	38	36	43	45	B	B	B	B	43	30	B	B	B	26	E B 24	E B 23	E B 21	E B 24	B	B	B	B	30	28
4	36	31	27	31	26	26	45	B	E B 20	E B 25	E B 35	B	E B 24	22	B	E B 23	E B 20	E B 15	E B 12	E B 10	15	E B 15	B	B
5	B	36	35	30	30	29	22	B	B	27	B	25	25	23	27	22	20	21	11	10	30	29	42	40
6	45	75	B	41	35	19	E B 25	16	17	E B 21	21	30	26	25	22	E B 23	21	E B 17	13	E B 10	E B 10	11	21	B
7	37	46	45	28	26	28	45	41	30	27	22	26	30	35	22	30	28	28	27	30	E B 10	B	B	26
8	27	33	45	43	40	35	31	15	15	26	18	22	22	23	22	25	33	40	31	26	E B 11	12	26	B
9	29	40	42	42	43	41	45	35	20	B	26	E B 24	E B 25	21	26	34	17	E B 18	B	16	37	42	40	45
10	80	80	42	38	B	B	B	35	B	B	B	B	B	B	B	B	E B 23	35	33	37	18	36	37	35
11	35	32	34	32	31	29	37	36	B	B	B	B	B	B	B	B	B	E B 20	E B 13	E B 14	E B 10	B	B	16
12	36	70	44	70	44	26	45	42	42	40	B	B	B	B	B	E B 34	B	E B 25	E B 20	41	42	45	45	45
13	42	45	80	90	45	27	45	42	18	22	22	22	27	27	20	20	21	E B 27	16	E B 19	B	B	B	39
14	49	42	42	45	45	45	45	43	42	25	40	21	26	20	20	E B 20	E B 30	E B 23	B	16	E B 13	30	B	30
15	38	34	70	43	36	30	30	31	16	20	22	22	22	24	21	36	15	E B 23	23	E B 15	E B 14	30	30	31
16	35	35	35	70	36	B	40	B	B	B	E B 23	22	21	21	31	18	E B 17	E B 12	13	E B 12	15	B	27	B
17	40	32	35	31	20	21	22	13	14	29	21	23	36	21	26	40	27	17	20	15	21	40	40	36
18	40	41	B	B	B	26	B	B	B	E B 19	27	B	E B 27	E B 25	E B 19	E B 19	E B 19	E B 12	E B 12	E B 14	B	B	B	B
19	27	35	45	B	60	B	B	B	42	42	21	23	19	21	E B 28	E B 22	16	E B 15	E B 13	E B 12	11	B	45	42
20	39	40	42	35	30	32	26	30	B	B	E B 18	16	E B 20	E B 20	20	21	E B 18	E B 13	E B 12	B	B	B	25	31
21	43	44	45	40	B	43	38	26	16	15	21	19	20	18	21	22	E B 19	15	21	21	42	B	B	B
22	B	30	40	52	34	45	47	B	B	35	18	30	20	B	B	B	B	E B 24	17	13	17	B	40	38
23	65	B	B	41	41	27	17	E B 11	15	E B 20	B	E B 23	B	E B 25	B	E B 20	22	E B 15	E B 16	B	B	B	40	40
24	39	37	40	B	B	34	19	20	15	18	E B 20	24	E B 24	B	E B 21	E B 23	E B 18	B	E B 18	B	B	B	36	36
25	38	36	40	42	43	37	70	43	43	25	18	18	20	28	26	21	16	E B 12	B	B	B	32	B	B
26	25	31	29	36	43	B	B	B	30	22	21	21	23	E B 24	E B 30	B	E B 24	E B 23	16	B	E B 12	B	B	B
27	B	B	31	42	42	30	42	20	19	20	21	30	21	21	26	E B 18	26	25	20	16	E B 8	B	B	B
28	30	36	40	45	B	B	B	42	43	21	17	B	B	B	B	B	B	E B 15	E B 19	E B 13	B	15	20	B
29	30	34	35	29	45	45	59	B	B	26	20	B	B	B	E B 22	18	B	B	B	B	B	B	B	19
30	20	19	37	B	B	17	28	25	23	B	E B 24	30	24	24	21	28	18	B	25	B	B	28	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	28	27	26	23	24	24	21	21	23	23	22	23	22	22	24	24	26	25	22	20	15	17	19
MED	38	36	42	42	40	30	39	35	20	25	21	22	22	22	22	20	18	E B 19	16	15	15	29	37	36
UQ	40	42	44	45	44	39	45	41	42	27	22	25	25	25	26	26	23	E B 24	23	21	28	34	40	40
LQ	30	32	35	35	32	26	26	20	16	20	20	21	21	21	20	19	16	E B 15	E B 13	E B 13	E B 11	18	27	29

APR. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1986 | 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	15	25	12	14	10	10	B	B	B	21	15	B	B	B	B	B	23	14	10	8	10	13
2	B	12	23	18	18	12	14	12	10	18	16	20	16	15	25	23	18	13	10	9	10	13	B	6
3	8	9	10	19	B	B	B	B	24	19	B	B	B	19	24	23	21	24	B	B	B	B	17	10
4	9	10	9	8	7	8	10	B	20	25	35	B	24	17	B	23	20	15	12	10	11	15	B	B
5	B	12	8	8	8	7	10	B	B	19	B	18	15	15	18	12	13	9	8	7	8	8	12	12
6	12	11	B	19	16	12	25	8	12	21	13	15	14	13	12	23	13	17	9	10	10	8	10	B
7	10	10	10	13	13	10	17	10	10	11	7	10	10	10	10	10	10	8	8	10	10	B	B	9
8	8	9	14	19	18	10	8	10	8	8	10	8	12	12	12	12	9	8	8	8	11	9	8	B
9	13	9	19	13	12	12	15	15	12	B	12	24	25	12	12	10	10	18	B	8	11	8	8	10
10	12	15	10	10	B	B	B	18	B	B	B	B	B	B	B	B	23	26	8	13	10	8	8	9
11	8	8	8	10	9	8	13	18	B	B	B	B	B	B	B	B	B	20	13	14	10	B	B	10
12	12	24	14	8	14	19	24	18	13	20	B	B	B	B	B	34	B	25	20	10	10	13	10	10
13	12	14	15	15	19	15	13	13	11	12	13	14	20	15	13	13	14	27	13	19	B	B	B	10
14	12	14	16	15	14	18	13	13	12	13	12	12	15	15	14	20	30	23	B	12	13	10	B	9
15	10	9	15	11	12	9	8	8	10	13	15	15	15	10	12	12	12	23	12	15	14	12	9	7
16	9	7	7	13	14	B	16	B	B	B	23	12	10	10	10	15	17	12	9	12	9	B	13	B
17	10	9	9	10	10	9	8	9	9	8	8	9	13	11	14	13	13	10	10	11	10	10	11	9
18	13	20	B	B	B	18	B	B	B	19	20	B	27	25	19	19	19	12	12	14	B	B	B	B
19	7	18	18	B	14	B	B	B	20	15	14	15	15	16	28	22	14	15	13	12	7	B	9	9
20	8	9	9	9	9	10	10	9	B	B	18	14	20	20	15	16	18	13	12	B	B	B	8	8
21	8	13	14	10	B	14	13	13	12	12	10	10	13	12	12	14	19	11	9	8	10	B	B	B
22	B	8	10	17	13	12	13	B	B	20	12	10	9	B	B	B	B	24	14	10	9	B	13	10
23	22	B	B	20	14	16	12	11	9	20	B	23	B	25	B	20	10	15	16	B	B	B	9	13
24	11	17	12	B	B	15	14	12	9	10	20	20	24	B	21	23	18	B	18	B	B	B	9	10
25	9	23	10	16	16	15	15	13	14	12	12	14	12	13	15	11	13	12	B	B	B	13	B	B
26	9	9	8	9	15	B	B	B	16	14	14	13	13	24	30	B	24	23	12	B	12	B	B	B
27	B	B	8	9	9	10	12	10	7	7	12	10	13	15	13	18	14	12	9	8	8	B	B	B
28	9	8	10	14	B	B	B	14	8	13	15	B	B	B	B	B	B	15	19	13	B	10	8	B
29	10	9	9	15	11	9	12	B	B	20	15	B	B	B	22	12	B	B	B	B	B	B	B	12
30	11	11	21	B	B	11	9	12	14	B	24	16	12	12	10	8	8	B	17	B	B	13	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	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	10	11	14	14	13	13	13	14	19	15	16	15	16	18	20	18	16	12	12	11	D 15 B	13	11
UQ	12	15	16	19	19	18	24	B	B	25	35	B	27	B	B	23	24	24	19	B	B	B	B	B
LQ	9	9	9	10	12	10	10	10	10	12	12	12	13	12	12	12	13	12	9	10	10	10	9	9

APR. 1986 | F-MIN (0.1 MHz)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

APR. 1986 | 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	E A 375	E A 280	B	B	B	210	210	B	B	B	B	B	220	240	260	A 245	A	A
2	B	A	A	A	A	A	A	E A 350	275	225	230	230	H 200	H 200	230	H 205	210	220	225	230	A 250	E A 270	B	A
3	A	A	A	A	B	B	B	B	A	E A 360	B	B	B	210	H 220	B 210	230	220	B	B	B	B	A	A
4	A	A	A	A	A	A	A	B	250	215	E B 300	B	225	H 210	B	220	205	205	205	205	200	E B 250	B	B
5	B	A	A	A	A	E A 340	A	B	B	250	B	215	H 200	200	240	H 210	200	H 180	H 165	210	220	A	A	A
6	A	A	B	A	A	E A 300	325	300	225	230	205	205	200	210	H 180	220	205	200	200	210	230	A 245	A 275	B
7	A	A	A	A	A	A	A	A	A 260	H 200	H 195	210	225	215	H 200	230	H 200	200	210	220	B 260	B	B	A
8	A	A	A	A	A	A	A	A 295	240	H 200	220	H 205	205	H 200	H 200	215	205	210	210	215	210	220	240	B
9	A	A	A	A	A	A	A	A	A	B	A 250	A 220	220	H 200	220	225	H 205	B 245	B	A 250	A	A	A	A
10	A	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B 255	A	A	A	A	A	A	A
11	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	220	240	B 250	B 275	B	B	A
12	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	E B 300	B	B 250	B 250	E A 290	A	A	A	A
13	A	A	A	A	A	A	A	A	260	280	H 250	H 240	225	250	210	215	225	230	210	B 250	B	B	B	A
14	A	A	A	A	A	A	A	A	A	E A 290	E A 350	240	220	225	H 200	220	250	230	B	A 220	E B 280	A	B	A
15	A	A	A	A	A	E A 380	E A 325	300	230	245	225	220	230	A 210	210	210	210	210	225	245	B 250	A	A	A
16	A	A	A	A	A	B	A	B	B	B	E B 250	245	230	225	225	230	210	210	210	B 250	A 260	B	A	B
17	A	A	A	A	A	A	A	320	250	H 180	H 180	220	225	H 200	210	205	210	200	240	230	E A 290	A	A	A
18	A	A	B	B	B	A	B	B	B	A 240	225	B	250	250	H 200	H 200	210	205	250	E B 300	B	B	B	B
19	A	A	A	B	A	B	B	B	A	280	230	250	210	230	245	240	210	210	240	B 255	E A 280	B	A	A
20	A	A	A	A	A	A	A	E A 350	B	B	B 250	220	H 200	H 195	215	220	210	205	205	B	B	B	A	A
21	A	A	A	A	B	A	A	A	300	250	230	H 200	H 200	H 200	H 195	230	205	205	200	210	A 230	B	B	B
22	B	A	A	A	A	A	A	B	B	A	240	H 200	H 200	B	B	B	B	E B 260	A 250	225	A 255	B	A	A
23	A	B	B	A	A	A	A	E B 360	260	250	B	250	B	245	B	225	205	220	210	B	B	B	A	A
24	A	A	A	B	B	A	320	300	270	240	240	240	H 240	B	225	230	205	B	240	B	B	B	A	A
25	A	A	A	A	A	A	A	A	A	275	245	240	H 200	H 210	210	210	210	210	B	B	B	A	B	B
26	A	A	A	E A 310	A	B	B	B	A	250	230	220	205	220	220	B	205	220	A 210	B	E B 250	B	B	B
27	B	B	A	A	A	E A 340	A	275	250	230	230	210	200	200	200	195	195	A 200	220	210	200	B	B	B
28	A	A	A	A	B	B	B	A	A	250	220	B	B	B	B	B	B	250	E A 250	250	B	A	A	B
29	A	A	A	A	A	A	A	B	B	E A 300	H 225	B	B	B	200	B 210	B	B	B	B	B	B	B	A
30	A	A	A	B	B	A	A	A	E A 300	B	260	230	210	200	205	210	A	B	250	B	B	A	B	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				1		4	4	10	13	21	23	22	23	22	22	24	23	25	24	21	17	5	2	
MED				E A 310		E A 340	322	292	255	245	230	220	210	210	210	216	210	210	218	228	240	U A 232	258	
UQ						E A 360	338	E E 350	265	262	245	240	225	225	220	226	210	220	240	250	A 258	E A 250		
LQ						E A 320	321	295	250	230	225	210	200	H 200	H 200	210	205	205	210	215	225	A 245		

APR. 1986 | H'F (KM)

IONOSPHERIC DATA

MAY. 1986 | 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	B	B	B	36	0 X 47	0 X 51	0 X 49	0 X 51	60	X 51	42	36	A	B	B	B	B	A
2	B	A	A	A	A	A	A	B	A	A	46	44	B	0 X 46	X 53	0 X 51	B	B	A	A	A	A	A	A
3	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
4	A	A	B	A	A	B	A	A	A	B	B	B	B	B	B	0 X 46	0 X 45	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	A	B	B	B	B	B	0 X 47	X 49	B	B	32	A	A	A	A	A
6	A	B	A	B	A	A	B	B	B	B	B	B	B	B	B	A	B	B	A	A	A	B	A	A
7	A	B	A	A	B	B	B	A	A	0 X 30	B	B	B	B	B	B	B	B	B	B	A	A	A	A
8	B	B	A	B	B	A	A	A	30	0 X 33	X 38	0 X 41	X 44	0 X 46	X 44	X 45	X 40	0 X 37	33	B	B	B	A	A
9	A	A	A	B	A	A	A	A	B	A	X 44	0 X 50	0 X 49	0 X 51	0 X 48	48	36	26	B	B	B	B	B	A
10	A	A	A	A	B	B	B	A	30	35	X 42	0 X 46	0 X 47	0 X 48	X 46	X 45	X 42	27	19	B	B	B	A	A
11	A	A	A	A	A	A	A	42	B	B	B	0 X 48	0 X 57	B	49	46	B	B	B	B	B	B	B	B
12	A	A	A	A	A	A	B	B	B	0 X 34	X 42	0 X 43	X 45	0 X 48	0 X 49	X 46	38	34	B	B	B	B	B	B
13	A	A	A	A	34	A	A	32	30	33	41	X 46	X 60	X 60	50	49	36	0 X 24	B	B	A	B	A	A
14	A	A	A	A	A	A	A	31	27	26	44	B	B	0 X 41	0 X 49	43	30	B	B	B	B	B	B	A
15	A	A	A	A	A	A	A	B	B	30	36	49	B	B	0 X 46	X 49	33	22	B	A	A	A	A	A
16	A	A	A	A	A	A	A	A	32	A	36	44	X 49	67	60	B	B	B	B	B	A	A	A	A
17	A	A	B	A	A	B	B	A	A	A	33	X 36	X 38	X 40	X 39	X 35	34	23	A	A	A	A	A	A
18	A	A	A	A	0 X 44	39	38	0 X 37	35	35	40	0 X 46	B	B	X 70	0 X 56	B	B	B	A	B	B	A	A
19	A	A	A	A	A	A	A	A	34	A	41	X 49	60	X 51	X 43	X 49	30	30	28	20	A	A	A	A
20	A	A	A	A	A	44	A	A	40	42	46	60	59	66	0 X 61	X 60	56	S	B	B	B	A	A	A
21	A	A	A	A	A	X 30	0 X 38	39	B	27	0 X 36	0 X 51	B	B	B	B	B	B	B	B	B	B	A	A
22	A	0 X 32	0 X 32	0 X 31	19	A	A	A	19	29	0 X 49	51	X 49	X 60	56	51	0 X 42	A	A	B	A	A	A	A
23	A	A	A	A	A	A	A	62	60	46	X 43	50	51	57	70	65	42	28	A	B	B	B	B	A
24	A	A	A	A	A	B	A	A	29	29	X 38	0 X 47	X 56	X 60	X 51	X 51	43	31	30	B	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	B	B	0 X 55	0 X 61	X 52	0 X 49	B	B	B	B	B	B	B	A
26	A	A	A	A	A	A	25	B	26	30	0 X 34	B	B	X 75	B	0 X 48	B	B	B	A	A	A	A	A
27	A	A	A	A	A	A	A	A	30	28	X 33	0 X 42	B	S	43	X 41	X 42	21	B	B	B	B	B	A
28	A	A	A	A	A	A	A	37	38	0 X 41	X 41	X 42	0 X 49	X 50	0 X 49	33	26	B	A	B	B	B	B	A
29	A	A	A	32	0 X 32	A	A	A	A	A	35	X 42	60	51	49	36	B	A	B	B	B	B	B	A
30	A	A	A	A	A	A	0 X 43	0 X 37	38	26	0 X 42	45	51	52	A	0 X 41	29	21	A	B	B	A	A	A
31	A	A	A	A	A	B	B	A	A	B	B	B	B	0 X 46	B	B	B	B	B	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		1	1	2	4	3	4	8	15	18	23	22	18	21	23	25	18	13	5	1				
MED		0 X 32	0 X 32	32	33	39	38	37	30	32	X 41	X 46	X 50	X 51	X 49	X 48	39	28	30	20				
UQ					39	42	43	40	36	35	X 44	0 X 50	57	X 60	54	X 51	X 42	31	32					
LQ					26	34	32	34	30	29	36	X 43	X 49	0 X 48	X 48	X 45	33	24	28					

MAY. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1986 | 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	B	B	B	F 30	41	45	43	U S 45	F 54	45	F 36	F 30	A	B	B	B	B	A
2	B	A	A	A	A	A	A	B	A	A	F 40	F 38	B	43	47	U S 45	B	B	A	A	A	A	A	A
3	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
4	A	A	B	A	A	B	A	A	A	B	B	B	B	B	B	40	39	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	A	B	B	B	B	B	41	43	B	B	F 26	A	A	A	A	A
6	A	B	A	B	A	A	B	B	B	B	B	B	B	B	B	A	B	B	A	A	A	B	A	A
7	A	B	A	A	B	B	B	A	A	24	B	B	B	B	B	B	B	B	B	B	A	A	A	A
8	B	B	A	B	B	A	A	A	F 23	27	32	35	38	40	38	39	34	31	F 27	B	B	B	A	A
9	A	A	A	B	A	A	A	A	B	A	38	44	43	45	42	F 41	F 30	F 20	B	B	B	B	B	A
10	A	A	A	A	B	B	B	A	F 24	F 28	36	40	41	42	40	39	36	F 21	F 13	B	B	B	A	A
11	A	A	A	A	A	A	A	F 36	B	B	B	42	U S 51	B	F 43	F 40	B	B	B	B	B	B	B	B
12	A	A	A	A	A	A	B	B	B	28	36	37	39	42	43	40	F 32	F 28	B	B	B	B	B	B
13	A	A	A	A	F 27	A	A	F 26	F 24	F 27	F 35	40	54	54	F 44	F 43	F 30	18	B	B	A	B	A	A
14	A	A	A	A	A	A	A	F 25	F 21	F 20	F 38	B	B	35	43	F 37	F 24	B	B	B	B	B	B	A
15	A	A	A	A	A	A	A	B	B	F 24	F 30	F 43	B	B	40	43	F 27	F 16	B	A	A	A	A	A
16	A	A	A	A	A	A	A	A	26	A	F 30	F 38	43	F 58	F 51	B	B	B	B	B	A	A	A	A
17	A	A	B	A	A	B	B	A	A	A	F 27	30	32	34	33	29	F 28	F 21	A	A	A	A	A	A
18	A	A	A	A	38	F 33	F 32	31	F 29	F 29	F 34	40	B	B	64	U S 50	B	B	B	A	B	B	A	A
19	A	A	A	A	A	A	A	A	F 28	A	F 35	43	F 54	45	42	43	F 22	F 22	F 20	F 14	A	A	A	A
20	A	A	A	A	A	F 38	A	A	F 32	F 35	F 40	F 50	F 52	F 60	U S 55	U S 54	F 50	S	B	B	B	A	A	A
21	A	A	A	A	A	24	32	F 33	B	F 21	30	S 45	B	B	B	B	B	B	B	B	B	B	A	A
22	A	26	26	25	F 13	A	A	A	F 13	F 22	43	F 45	43	54	F 50	F 45	36	A	A	B	A	A	A	A
23	A	A	A	A	A	A	A	F 56	F 54	F 40	37	F 42	F 45	F 51	F 56	F 56	F 34	F 17	A	B	B	B	B	A
24	A	A	A	A	A	B	A	A	F 21	F 23	32	41	50	54	45	45	F 37	F 25	F 24	B	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	B	B	U S 49	D S 55	46	43	B	B	B	B	B	B	B	A
26	A	A	A	A	A	A	F 19	B	F 17	F 24	28	B	B	69	B	42	B	B	B	A	A	A	A	A
27	A	A	A	A	A	A	A	A	F 24	F 22	27	36	B	S	F 37	35	26	F 15	B	B	B	B	B	A
28	A	A	A	A	A	A	A	F 31	F 32	35	35	36	43	44	43	F 27	F 20	B	A	B	B	B	B	A
29	A	A	A	F 26	26	A	A	A	A	A	F 28	36	F 50	F 45	F 43	F 30	B	A	B	B	B	B	B	A
30	A	A	A	A	A	A	42	31	F 22	F 20	36	F 37	F 44	F 46	A	35	F 23	F 15	A	B	B	A	A	A
31	A	A	A	A	A	B	B	A	A	B	B	B	B	40	B	B	B	B	B	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		1	1	2	4	3	4	8	15	18	23	22	18	21	23	25	18	13	5	1				
MED		26	26	26	26	F 33	32	F 31	F 24	F 26	35	40	44	45	43	42	F 31	F 21	F 24	F 14				
UQ					32	F 36	37	F 34	F 28	F 29	38	43	F 50	54	48	45	F 36	F 25	F 26					
LQ					20	28	26	F 28	F 22	F 22	30	37	43	42	42	39	F 26	F 17	F 20					

MAY. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1986 | 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	28	28	32	32	30	25	B	B	B	E B 20	17	E B 19	E B 24	E B 23	E B 22	21	35	20	15	B	B	B	B	16
2	B	45	60	45	45	45	47	B	36	23	19	17	B	E B 23	16	E B 31	B	B	26	36	37	50	55	66
3	60	60	43	B	29	B	42	B	B	B	B	B	B	B	B	B	B	B	B	B	B	19	41	50
4	43	32	B	30	31	B	41	42	42	B	B	B	B	B	B	E B 24	E B 24	B	B	B	36	25	17	32
5	40	45	40	A	29	42	42	42	35	B	B	B	B	B	E B 23	E B 18	B	B	E B 15	19	42	40	80	75
6	70	B	36	B	37	28	B	B	B	B	B	B	B	B	B	30	B	B	41	105	81	B	130	90
7	81	B	70	42	B	B	B	42	26	18	B	B	B	B	B	B	B	B	B	B	35	39	41	39
8	B	B	36	B	B	45	35	21	17	17	18	E B 20	E B 20	22	22	37	30	E B 19	E B 13	B	B	B	29	42
9	37	39	32	B	40	43	49	35	B	32	22	E B 19	E B 18	E B 22	E B 30	16	16	16	B	B	B	B	B	15
10	30	37	36	42	B	B	B	32	26	17	E B 16	E B 18	E B 17	E B 20	E B 17	16	16	14	E B 11	B	B	B	30	31
11	45	35	35	31	30	31	34	27	B	B	B	E B 30	E B 28	B	E B 27	30	B	B	B	B	B	B	B	B
12	45	45	46	41	36	45	B	B	B	E B 20	16	17	21	28	E B 17	16	E B 13	E B 12	B	B	B	B	B	B
13	25	40	41	37	27	31	26	27	11	28	20	18	18	21	E B 15	14	14	E B 13	B	B	20	B	19	30
14	35	39	42	33	45	45	36	26	16	25	30	B	B	E B 23	30	17	16	B	B	B	B	B	B	22
15	42	29	28	32	36	31	43	B	B	36	E B 15	E B 19	B	B	E B 22	E B 16	E B 13	E B 12	B	16	17	27	32	43
16	42	42	45	58	50	46	59	42	40	32	21	20	16	20	29	B	B	B	B	B	37	40	43	45
17	43	40	B	42	41	B	B	43	42	37	19	E B 19	22	22	E B 13	E B 14	33	20	25	39	30	45	43	29
18	33	37	42	45	32	20	32	26	17	16	19	E B 18	B	B	E B 23	E B 22	B	B	B	25	B	B	26	25
19	27	42	47	70	36	70	42	27	30	25	26	30	24	26	33	35	26	15	30	E B 10	37	41	37	34
20	32	36	36	37	40	31	42	35	32	32	30	28	19	E B 19	E B 23	16	19	16	B	B	B	18	18	32
21	36	35	35	35	37	40	32	12	B	14	E B 22	E B 32	B	B	B	B	B	B	B	B	B	B	35	37
22	32	25	28	26	42	22	25	30	13	12	11	16	19	20	18	23	40	31	28	B	27	30	26	30
23	28	30	41	40	35	65	46	32	43	27	30	27	20	35	30	16	17	21	17	B	B	B	B	21
24	31	41	42	43	45	B	30	36	20	15	14	20	18	40	35	27	25	E B 15	E B 20	B	20	22	22	20
25	32	42	42	45	39	36	16	45	69	B	B	B	E B 23	E B 20	17	E B 25	B	B	B	B	B	B	B	20
26	21	35	36	30	36	37	35	B	E B 22	23	E B 23	B	B	E B 24	B	E B 20	B	B	B	20	29	29	30	27
27	25	35	40	40	69	42	36	36	18	12	14	E B 19	B	E B 31	E B 20	E B 15	E B 12	14	B	B	B	B	B	27
28	26	45	25	45	60	42	43	31	28	19	29	40	30	41	18	13	14	B	16	B	B	B	B	21
29	25	27	26	29	29	36	41	27	28	20	17	22	26	30	18	E B 13	B	17	B	B	B	B	B	17
30	17	32	92	43	32	30	25	15	30	26	14	24	28	21	30	28	32	30	22	B	B	37	47	46
31	45	65	43	42	31	B	B	42	36	B	B	B	B	E B 29	B	B	B	B	B	22	40	35	42	46
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	29	26	28	24	24	24	23	24	23	22	18	22	24	26	18	16	13	9	14	15	21	29
MED	33	38	40	40	36	38	38	32	28	22	18	18	19	22	19	18	17	16	20	22	36	35	35	31
UQ	43	42	43	43	42	45	42	42	36	28	22	24	23	28	30	25	30	20	26	36	37	40	43	43
LQ	28	34	35	32	31	31	32	27	18	16	16	E B 18	18	20	E B 18	15	14	14	E B 15	19	27	26	26	22

MAY. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

MAY. 1986 | 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	15	14	10	9	13	10	B	B	B	20	14	19	24	23	22	12	9	11	9	B	B	B	B	10
2	B	18	16	14	14	15	13	B	14	14	9	14	B	23	14	31	B	B	14	12	7	7	7	7
3	9	11	10	B	13	B	24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	9	8	7
4	18	14	B	16	16	B	22	12	12	B	B	B	B	B	B	24	24	B	B	B	12	13	12	11
5	10	11	19	A	15	23	20	16	15	B	B	B	B	B	23	18	B	B	15	9	9	10	8	17
6	11	B	15	B	29	14	B	B	B	B	B	B	B	B	B	20	B	B	12	12	14	B	10	9
7	20	B	18	20	B	B	B	14	13	11	B	B	B	B	B	B	B	B	B	B	7	8	9	10
8	B	B	21	B	B	15	13	11	10	11	10	20	20	18	14	11	8	19	13	B	B	B	8	8
9	8	9	18	B	13	13	13	10	B	10	12	19	18	22	30	10	12	12	B	B	B	B	B	8
10	8	9	8	19	B	B	B	15	11	9	16	18	17	20	17	13	8	9	11	B	B	B	7	7
11	9	7	8	9	8	8	7	10	B	B	B	30	28	B	27	15	B	B	B	B	B	B	B	B
12	10	10	12	13	10	16	B	B	B	20	13	14	15	18	17	12	13	12	B	B	B	B	3	3
13	12	8	8	9	7	7	8	8	8	10	13	13	14	15	15	10	8	13	B	B	11	B	8	8
14	8	8	13	12	16	13	12	8	8	12	13	B	B	23	18	14	10	B	B	B	B	B	B	8
15	8	7	7	7	E	7	7	B	B	12	15	19	B	B	22	16	13	12	B	10	10	11	9	10
16	18	12	15	10	10	10	10	9	9	10	9	14	10	13	10	B	B	B	B	B	7	8	7	8
17	8	10	B	13	16	B	B	15	15	11	12	19	14	18	18	14	12	9	15	12	11	11	8	10
18	8	13	18	9	9	8	10	8	7	8	9	18	B	B	23	22	B	B	B	15	B	B	10	7
19	10	10	8	7	19	14	13	11	8	18	15	15	13	12	9	9	10	7	7	10	9	9	8	7
20	7	9	12	8	14	8	17	10	9	8	10	11	12	19	23	13	12	12	B	B	B	12	10	8
21	8	7	8	8	8	8	7	7	B	11	22	32	B	B	B	B	B	B	B	B	B	B	8	8
22	7	8	7	7	7	7	8	7	7	8	8	8	11	10	9	8	8	8	8	B	8	8	8	8
23	8	8	7	7	18	15	9	8	12	9	12	13	13	18	15	12	10	12	8	B	B	B	B	9
24	9	13	18	11	18	B	12	10	10	9	9	10	12	12	8	7	7	15	20	B	12	13	9	10
25	8	8	9	9	9	13	9	19	12	B	B	B	23	20	13	25	B	B	B	B	B	B	B	10
26	13	8	10	18	12	11	9	B	22	10	23	B	B	24	B	20	B	B	B	9	8	10	9	8
27	8	8	8	10	16	20	10	7	10	8	11	19	B	31	20	15	12	12	B	B	B	B	B	11
28	8	8	16	18	18	19	12	9	8	8	8	12	13	13	12	10	10	B	10	B	B	B	B	8
29	9	8	8	7	7	10	15	19	15	12	12	10	9	8	10	13	B	13	B	B	B	B	B	10
30	9	9	10	13	10	9	8	8	7	7	8	7	9	8	7	7	E	E	10	B	B	9	9	13
31	8	12	12	17	13	B	B	20	12	B	B	B	B	29	B	B	B	B	B	12	11	9	8	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	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	9	9	12	12	13	14	13	11	12	11	13	19	23	22	18	14	13	19	B	B	B	B	9	8
UQ	12	12	17	18	17	22	23	20	D B 22	20	D B 23	B	B	B	28	23	B	B	B	B	B	B	B	10
LQ	8	8	8	9	10	10	9	8	9	9	10	14	13	16	14	12	10	12	12	14	10	10	8	8

MAY. 1986 | F-MIN (0.1 MHZ)

IONOSPHERIC DATA

MAY. 1986 | 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	B	B	B	B 250	215	205	210	210	220	200	195	225	A	B	B	B	B	A
2	B	A	A	A	A	A	A	B	A	A	230	225	B	250	220	E B 340	B	B	A	A	A	A	A	A
3	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
4	A	A	B	A	A	B	A	A	A	B	B	B	B	B	B	E B 280	E B 300	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	A	B	B	B	B	B	230	220	B	B	300	A	A	A	A	A
6	A	B	A	B	A	A	B	B	B	B	B	B	B	B	B	A	B	B	A	A	A	B	A	A
7	A	B	A	A	B	B	B	A	A	E A 340	B	B	B	B	B	B	B	B	B	B	A	A	A	A
8	B	B	A	B	B	A	A	A	E A 350	260	240	240	240	215	220	225	E A 270	240	205	B	B	B	A	A
9	A	A	A	B	A	A	A	A	B	A	A 250	225	200	200	A 210	210	200	210	B	B	B	B	B	A
10	A	A	A	A	B	B	B	A	E A 330	255	220	210	215	200	200	200	200	200	E B 250	B	B	B	A	A
11	A	A	A	A	A	A	A	E A 290	B	B	B	E B 250	210	B	210	A 220	B	B	B	B	B	B	B	B
12	A	A	A	A	A	A	B	B	B	290	230	225	205	210	200	200	200	210	B	B	B	B	B	B
13	A	A	A	A	315	A	A	290	250	210	210	200	200	200	200	200	205	E B 250	B	B	A	B	A	A
14	A	A	A	A	A	A	A	310	320	E A 290	240	B	B	225	200	200	200	B	B	B	B	B	B	A
15	A	A	A	A	A	A	A	B	B	250	B 250	220	B	B	200	205	210	B 250	B	A	A	A	A	A
16	A	A	A	A	A	A	A	A	E A 320	A	260	260	250	200	210	B	B	B	B	B	A	A	A	A
17	A	A	B	A	A	B	B	A	A	A	280	250	275	250	245	240	240	225	A	A	A	A	A	A
18	A	A	A	A	E A 340	305	E A 330	300	300	260	200	240	B	B	210	200	B	B	B	A	B	B	A	A
19	A	A	A	A	A	A	A	A	E A 300	A	250	250	205	200	200	200	230	215	A 230	E B 320	A	A	A	A
20	A	A	A	A	A	E A 310	A	A	300	260	230	205	200	200	200	190	205	A 210	B	B	B	A	A	A
21	A	A	A	A	A	E A 330	E A 310	E A 300	B	A 270	E B 250	230	B	B	B	B	B	B	B	B	B	B	A	A
22	A	A 290	260	250	E A 300	A	A	A	E A 290	250	200	210	190	200	195	H 190	210	A	A	B	A	A	A	A
23	A	A	A	A	A	A	A	305	290	270	270	245	210	210	210	205	230	A 250	A	B	B	B	B	A
24	A	A	A	A	A	B	A	A	E A 360	280	240	220	200	200	195	H 180	200	B 260	B 245	B	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	B	B	230	200	210	225	B	B	B	B	B	B	B	A
26	A	A	A	A	A	A	E A 350	B	E B 230	E A 290	E B 310	B	B	B 260	B	210	B	B	B	A	A	A	A	A
27	A	A	A	A	A	A	A	A	310	280	245	245	B	220	215	200	210	E B 260	B	B	B	B	B	A
28	A	A	A	A	A	A	A	320	215	250	230	210	200	200	210	180	200	B	A	B	B	B	B	A
29	A	A	A	E A 300	260	A	A	A	A	A	240	210	215	195	200	200	B	A	B	B	B	B	B	A
30	A	A	A	A	A	A	E A 360	E A 320	E A 320	290	230	205	H 200	190	A	H 215	220	H 180	A	B	B	A	A	A
31	A	A	A	A	A	B	B	A	A	B	B	B	B	250	B	B	B	B	B	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		1	1	2	4	3	4	8	15	18	23	22	18	22	23	25	18	14	5	1				
MED		A 290	260	262	U 284	E A 310	E A 340	298	E E 300	262	235	224	208	200	210	200	205	218	238	E B 320				
UQ					322	E A 320	E A 355	312	E A 320	280	249	242	215	220	212	215	220	B 245	B 250					
LQ					270	306	E A 320	292	U 261	250	230	210	200	200	200	200	200	210	230					

MAY. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1986 | 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	B	B	B	B	B	B	A	A	0 X 32	X 42	B	B	B	B	B	B	B	B	A	A	A	B
2	B	A	B	B	A	B	B	B	B	A	B	B	0 X 48	B	B	B	B	A	B	B	B	B	A	A
3	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	A
4	A	A	A	B	A	A	B	B	A	A	0 X 36	X 35	B	B	65	B	B	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	23	22	28	40	50	49	45	25	22	A	B	B	B	B	A	A
6	A	A	A	B	A	A	A	A	28	0 X 21	28	X 37	36	43	40	33	29	A	B	A	A	A	A	A
7	A	A	A	A	A	A	A	A	A	B	25	35	0 X 46	B	B	B	B	B	A	A	A	A	A	A
8	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	A	B	A	A	B	B	B	B	B	A	A	0 X 41	X 42	X 42	45	31	24	B	A	A	A	A	A	A
10	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A
11	A	B	A	B	B	A	A	A	A	A	A	32	X 40	B	B	40	B	A	A	A	B	B	A	A
12	A	A	A	A	A	A	A	A	A	B	B	B	0 X 38	0 X 46	43	42	B	B	B	B	A	A	A	A
13	A	A	A	A	A	A	A	B	B	A	A	0 X 36	39	44	0 X 39	30	28	A	B	A	A	B	A	A
14	A	A	A	B	A	A	A	A	A	B	A	X 36	0 X 46	36	X 42	42	21	A	B	A	B	A	B	A
15	A	A	A	A	A	A	A	A	A	A	28	0 X 37	X 42	0 X 46	37	26	B	B	A	A	B	B	B	A
16	A	A	A	A	A	A	A	A	A	A	A	X 39	43	44	X 42	A	A	A	A	A	A	A	A	A
17	A	A	A	A	A	A	A	B	B	A	A	34	X 42	50	0 X 46	A	B	B	B	B	B	B	A	A
18	A	A	A	A	B	A	B	B	A	A	0 X 32	X 33	X 42	X 38	41	30	B	B	B	B	A	A	A	B
19	A	A	A	27	A	A	A	27	24	20	31	41	38	39	42	0 X 40	A	A	B	B	B	A	B	A
20	A	A	A	A	A	A	A	A	28	20	26	34	42	X 43	43	42	A	B	A	A	B	B	A	A
21	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A
22	A	A	A	A	B	B	A	B	B	B	A	X 36	X 41	X 42	X 42	28	B	A	A	B	B	B	B	A
23	A	A	B	A	A	B	A	A	A	A	27	35	X 41	40	42	30	A	B	B	B	B	B	A	A
24	A	A	B	A	A	A	A	A	B	B	A	24	43	43	44	32	24	A	A	B	B	A	A	A
25	A	A	A	A	A	A	A	A	27	28	0 X 34	34	40	A	42	0 X 36	A	A	B	B	B	A	A	B
26	A	A	A	A	A	A	A	A	B	B	24	36	38	X 42	A	B	B	B	B	B	B	B	B	A
27	A	A	A	A	A	A	A	B	A	A	A	A	A	X 36	36	0 X 31	B	35	0 X 38	B	A	A	A	A
28	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	B	A	B	A	A
29	A	A	B	B	A	A	A	B	A	B	B	B	B	0 X 49	B	0 X 43	A	A	A	B	A	A	A	A
30	A	A	A	A	A	B	B	B	A	B	B	X 36	X 36	36	40	35	B	B	A	B	B	B	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				1				1	5	5	12	21	21	19	19	18	6	1	1					
MED				27				27	27	21	28	X 36	X 42	43	42	32	24	35	0 X 38					
UQ									28	22	0 X 32	X 37	X 43	45	44	40	28							
LQ									24	20	26	34	39	40	40	30	22							

JUN. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1986 | 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	B	B	B	B	B	B	A	A	26	36	B	B	B	B	B	B	B	B	A	A	A	B
2	B	A	B	B	A	B	B	B	B	A	B	B	42	B	B	B	B	A	B	B	B	B	A	A
3	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	A
4	A	A	A	B	A	A	B	B	A	A	30	29	B	B	F 59	B	B	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	F 17	F 16	F 22	F 34	F 44	F 43	F 39	F 18	F 16	A	B	B	B	B	A	A
6	A	A	A	B	A	A	A	A	F 22	15	F 22	31	F 30	F 37	F 33	F 27	F 23	A	B	A	A	A	A	A
7	A	A	A	A	A	A	A	A	A	B	F 19	F 29	40	B	B	B	B	B	A	A	A	A	A	A
8	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	A	B	A	A	B	B	B	B	B	A	A	35	36	36	F 39	F 25	F 17	B	A	A	A	A	A	A
10	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A
11	A	B	A	B	B	A	A	A	A	A	A	F 26	34	B	B	F 34	B	A	A	A	B	B	A	A
12	A	A	A	A	A	A	A	A	A	B	B	B	32	40	F 37	F 35	B	B	B	B	A	A	A	A
13	A	A	A	A	A	A	A	B	B	A	A	30	F 33	F 38	33	F 24	F 20	A	B	A	A	B	A	A
14	A	A	A	B	A	A	A	A	A	B	A	30	40	F 30	36	F 35	F 15	A	B	A	B	A	B	A
15	A	A	A	A	A	A	A	A	A	A	F 22	31	36	40	F 31	F 20	B	B	A	A	B	B	B	A
16	A	A	A	A	A	A	A	A	A	A	A	33	F 37	F 38	36	A	A	A	A	A	A	A	A	A
17	A	A	A	A	A	A	A	B	B	A	A	F 28	36	F 44	40	A	B	B	B	B	B	B	A	A
18	A	A	A	A	B	A	B	B	A	A	26	27	36	32	F 35	F 24	B	B	B	B	A	A	A	B
19	A	A	A	F 21	A	A	A	F 21	F 17	F 14	F 25	F 35	F 32	F 33	F 36	34	A	A	B	B	B	A	B	A
20	A	A	A	A	A	A	A	A	F 22	F 14	F 20	F 28	F 36	37	F 37	36	A	B	A	A	B	B	A	A
21	A	A	A	A	A	A	A	B	A	A	B	B												
22	A	A	A	A	B	B	A	B	B	B	A	30	35	36	36	F 22	B	A	A	B	B	B	B	A
23	A	A	B	A	A	B	A	A	A	A	F 21	F 28	35	F 34	F 34	F 24	A	B	B	B	B	B	A	A
24	A	A	B	A	A	A	A	A	B	B	A	F 18	F 37	F 37	F 38	F 26	F 18	A	A	B	B	A	A	A
25	A	A	A	A	A	A	A	A	F 21	F 22	28	F 28	F 34	A	F 36	30	A	A	B	B	B	A	A	B
26	A	A	A	A	A	A	A	A	B	B	F 17	F 30	F 32	36	A	B	B	B	B	B	B	B	B	A
27	A	A	A	A	A	A	A	B	A	A	A	A	A	30	F 30	25	B	F 29	32	B	A	A	A	A
28	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	B	A	B	A	A
29	A	A	B	B	A	A	A	B	A	B	B	B	B	43	B	37	A	A	A	B	A	A	A	A
30	A	A	A	A	A	B	B	B	A	B	B	25	30	F 30	F 34	F 28	B	B	A	B	B	B	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				1				1	5	5	12	21	21	19	19	18	6	1	1					
MED				F 21				F 21	F 21	F 15	F 22	30	36	F 37	F 36	F 26	F 18	F 29	32					
UQ									F 22	F 16	26	31	37	F 39	F 38	F 34	F 20							
LQ									F 17	F 14	F 20	F 28	F 33	34	F 34	F 24	F 16							

JUN. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUN. 1986 | 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	42	42	B	B	B	B	B	B	42	36	26	36	B	B	B	B	B	B	B	B	46	44	37	B
2	B	63	B	B	43	B	B	B	B	41	B	B	E B 26	B	B	B	B	21	B	B	B	B	30	43
3	40	32	B	B	27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	26	B	B	42
4	42	42	42	B	45	42	B	B	42	42	22	18	B	B	E B 25	B	B	B	B	B	25	27	42	40
5	32	31	39	37	43	45	32	26	15	12	14	14	22	17	41	17	26	19	B	B	B	B	27	31
6	30	32	46	B	42	43	42	36	17	20	16	30	30	28	35	22	16	30	B	35	20	30	37	40
7	42	45	36	29	29	21	25	13	16	B	E B 14	E B 14	E B 18	B	B	B	B	B	29	40	45	30	40	42
8	47	42	42	44	42	60	43	36	B	36	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	30	B	42	42	B	B	B	B	B	30	27	28	18	16	26	20	E B 24	B	21	21	34	36	41	41
10	44	42	42	41	B	40	B	61	B	B	B	B	B	B	B	B	B	B	B	B	36	30	41	39
11	41	B	80	B	B	42	41	45	31	30	29	26	36	B	B	E B 20	B	30	40	35	B	B	36	30
12	30	31	43	40	45	46	41	42	37	B	B	B	25	41	36	24	B	B	B	B	32	27	15	35
13	44	70	43	44	43	43	36	B	B	36	27	E B 21	E B 23	27	32	20	22	15	B	27	17	B	37	26
14	33	46	42	B	40	45	60	41	36	B	32	20	26	26	E B 15	E B 17	36	36	B	28	B	35	B	42
15	42	46	35	37	42	32	35	27	27	30	25	E B 21	E B 19	E B 15	E B 14	E B 14	B	B	14	35	B	B	B	26
16	42	70	42	37	42	41	31	25	26	29	35	71	34	50	70	52	30	36	41	31	31	14	35	40
17	40	45	40	40	35	20	16	B	B	32	27	23	16	29	30	42	B	B	B	B	B	B	34	37
18	29	32	28	43	B	60	B	B	43	23	22	22	22	16	25	17	B	B	B	B	16	26	30	B
19	35	33	32	32	30	35	38	26	15	21	16	30	17	28	32	27	24	13	B	B	B	12	B	24
20	47	50	51	42	41	35	31	17	12	E B 10	21	27	16	20	20	27	28	B	17	17	B	B	22	35
21	30	23	32	31	40	41	42	B	35	25	B	B	B	B	B	B	B	B	B	B	B	B	28	35
22	26	33	39	56	B	B	45	B	B	B	22	16	E B 14	15	18	E B 10	B	13	16	B	B	B	B	36
23	45	42	B	36	45	B	35	30	32	30	17	27	17	18	15	E B 12	17	B	B	B	B	B	22	27
24	27	26	B	36	42	42	32	42	B	B	36	30	26	17	22	13	14	25	31	B	B	40	30	36
25	35	36	36	36	58	48	35	30	23	27	24	29	26	42	26	27	15	12	B	B	B	31	29	B
26	15	37	72	35	26	22	25	26	B	B	31	30	27	13	16	B	B	B	B	B	B	B	B	21
27	38	42	42	45	50	60	70	B	42	36	27	30	25	E B 15	E B 23	E B 18	B	E B 9	27	B	32	45	66	42
28	72	36	72	B	42	B	B	B	B	B	B	B	B	B	B	B	B	25	20	B	20	B	22	41
29	42	42	B	B	40	40	33	B	21	B	B	B	B	E B 20	B	E B 18	25	33	30	B	27	20	38	43
30	43	70	70	45	31	B	B	B	30	B	B	17	17	16	20	13	B	B	22	B	B	B	22	27
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	24	21	24	22	21	16	19	19	21	22	22	20	20	20	12	14	12	9	14	15	23	26
MED	40	42	42	40	42	42	35	30	30	30	25	26	21	18	25	18	24	23	24	31	29	30	34	36
UQ	42	46	44	43	43	45	42	42	36	36	27	30	26	28	32	26	27	30	30	35	34	36	38	41
LQ	30	32	38	36	38	35	32	26	19	26	21	18	17	16	18	E B 16	16	13	18	27	20	26	28	30

JUN. 1986 | FES (0.1 MHZ)

IONOSPHERIC DATA

JUN. 1986 | 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	20	8	B	B	B	B	B	B	19	21	15	13	B	B	B	B	B	B	B	B	8	7	12	B
2	B	10	B	B	22	B	B	B	B	15	B	B	26	B	B	B	B	13	B	B	B	B	9	9
3	9	13	B	B	19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	14	B	B	10
4	15	15	18	B	23	34	B	B	18	15	11	13	B	B	25	B	B	B	B	B	14	15	8	8
5	10	9	10	19	20	13	10	9	8	8	9	9	9	10	9	13	10	10	B	B	B	B	8	10
6	10	8	14	B	13	14	13	15	10	9	9	13	9	8	9	9	9	8	B	18	9	10	7	8
7	8	8	8	8	8	8	8	8	10	B	14	14	18	B	B	B	B	B	18	18	13	8	8	8
8	9	13	15	14	13	14	13	16	B	15	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	11	B	20	9	B	B	B	B	B	19	15	14	13	13	10	10	24	B	13	9	8	8	8	8
10	4	8	14	13	B	19	B	19	B	B	B	B	B	B	B	B	B	B	B	B	10	15	9	7
11	7	B	21	B	B	15	12	11	14	10	9	10	15	B	B	20	B	13	10	11	B	B	9	10
12	8	8	8	8	11	9	13	13	10	B	B	B	15	19	9	12	B	B	B	B	10	9	8	7
13	8	10	10	14	13	12	20	B	B	17	15	21	23	15	13	8	10	11	B	9	10	B	7	8
14	9	13	20	B	20	11	12	10	10	B	15	10	10	9	15	17	8	7	B	8	B	17	B	9
15	15	14	9	9	8	8	8	7	12	9	10	21	19	15	14	14	B	B	10	12	B	B	B	9
16	7	7	7	8	7	7	7	7	7	7	8	10	11	11	10	9	8	8	8	19	10	9	7	9
17	9	9	10	10	9	9	8	B	B	10	10	11	13	9	8	8	B	B	B	B	B	B	9	8
18	9	8	10	12	B	15	B	B	15	14	15	11	12	13	9	12	B	B	B	B	10	8	8	B
19	13	7	7	8	10	10	10	7	7	8	7	7	8	8	8	7	7	10	B	B	B	9	B	7
20	10	10	10	15	14	10	10	7	8	10	12	11	10	10	9	8	8	B	9	8	B	B	8	7
21	7	7	10	18	19	11	8	B	18	15	B	B	B	B	B	B	B	B	B	B	B	B	9	8
22	7	9	8	8	B	B	13	B	B	B	15	9	14	9	9	10	B	9	9	B	B	B	B	12
23	9	25	B	14	16	B	15	13	12	18	10	10	11	9	10	12	12	B	B	B	B	B	8	8
24	7	7	B	10	8	8	8	7	B	B	10	15	9	8	8	8	9	8	12	B	B	9	10	8
25	8	8	8	8	12	11	8	8	6	6	7	8	8	8	8	8	8	8	B	B	B	8	13	B
26	8	7	7	7	7	7	7	12	B	B	7	8	8	8	9	B	B	B	B	B	B	B	B	7
27	8	15	15	14	10	15	14	B	14	14	14	15	14	15	23	18	B	9	7	B	12	7	9	10
28	18	9	9	B	15	B	B	B	B	B	B	B	B	B	B	B	B	14	15	B	14	B	10	8
29	7	10	B	B	19	10	10	B	10	B	B	B	B	20	B	18	13	15	15	B	15	9	8	9
30	10	9	22	15	17	B	B	B	15	B	B	10	14	12	10	8	B	B	14	B	B	B	12	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	9	9	12	14	16	14	13	18	15	16	14	13	14	14	12	14	B	B	B	B	B	D B 17	9	8
UQ	10	13	21	B	22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	13	10
LQ	8	8	9	9	10	10	8	9	10	10	10	10	10	9	9	9	10	10	13	18	10	9	8	8

JUN. 1986 | F-MIN (0.1 MHZ)

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IONOSPHERIC DATA

JUN. 1986 | 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	B	B	B	B	B	B	A	A	E A 340	280	B	B	B	B	B	B	B	B	A	A	A	B
2	B	A	B	B	A	B	B	B	B	A	B	B	225	B	B	B	B	A	B	B	B	B	A	A
3	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	A
4	A	A	A	B	A	A	B	B	A	A	E A 320	250	B	B	225	B	B	B	B	B	A	A	A	A
5	A	A	A	A	A	A	A	A	325	275	230	215	200	210	200	A 200	A 250	A	B	B	B	B	A	A
6	A	A	A	B	A	A	A	A	A 300	E A 300	275	255	H 200	H 195	200	H 200	215	A	B	A	A	A	A	A
7	A	A	A	A	A	A	A	A	A	B	275	255	255	B	B	B	B	B	A	A	A	A	A	A
8	A	A	A	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
9	A	B	A	A	B	B	B	B	B	A	A	E A 250	200	205	E A 250	H 200	E B 280	B	A	A	A	A	A	A
10	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A
11	A	B	A	B	B	A	A	A	A	A	A	240	210	B	B	220	B	A	A	A	B	B	A	A
12	A	A	A	A	A	A	A	A	A	B	B	B	A 230	230	H 200	210	B	B	B	B	A	A	A	A
13	A	A	A	A	A	A	A	B	B	A	A	E B 260	E B 250	210	200	200	210	A	B	A	A	B	A	A
14	A	A	A	B	A	A	A	A	A	B	A	250	H 200	190	220	200	225	A	B	A	B	A	B	A
15	A	A	A	A	A	A	A	A	A	A	A 295	220	225	210	H 180	H 190	B	B	A	A	B	B	B	A
16	A	A	A	A	A	A	A	A	A	A	A	210	210	190	205	A	A	A	A	A	A	A	A	A
17	A	A	A	A	A	A	A	B	B	A	A	220	240	200	205	A	B	B	B	B	B	B	A	A
18	A	A	A	A	B	A	B	B	A	A	290	260	225	210	215	210	B	B	B	B	A	A	A	B
19	A	A	A	E A 300	A	A	A	E A 350	E A 300	E A 310	220	210	H 180	H 205	200	H 205	A	A	B	B	B	A	B	A
20	A	A	A	A	A	A	A	A	E A 330	E A 280	E A 290	240	205	215	H 200	195	A	B	A	A	B	B	A	A
21	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A
22	A	A	A	A	B	B	A	B	B	B	A	230	215	220	200	H 175	B	A	A	B	B	B	B	A
23	A	A	B	A	A	B	A	A	A	A	E A 270	240	220	200	200	200	A	B	B	B	B	B	A	A
24	A	A	B	A	A	A	A	A	B	B	A	E A 270	230	230	200	200	250	A	A	B	B	A	A	A
25	A	A	A	A	A	A	A	A	E A 330	230	H 240	H 205	205	A	210	H 200	A	A	B	B	B	A	A	B
26	A	A	A	A	A	A	A	A	B	B	A 250	240	H 200	200	A	B	B	B	B	B	B	B	B	A
27	A	A	A	A	A	A	A	B	A	A	A	A	A	245	E B 250	225	B	300	250	B	A	A	A	A
28	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	B	A	B	A	A
29	A	A	B	B	A	A	A	B	A	B	B	B	B	250	B	215	A	A	A	B	A	A	A	A
30	A	A	A	A	A	B	B	B	A	B	B	255	210	A 240	210	H 200	B	B	A	B	B	B	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				1				1	5	5	12	21	21	19	19	18	6	1	1					
MED				E A 300				E A 350	E A E A U 325	280	255	240	210	210	200	200	229	300	250					
UQ									E A 330	E A 300	A 284	252	225	225	210	210	250							
LQ									A U 300	252	240	220	200	200	200	200	215							

JUN. 1986 | H'F (KM)

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IONOSPHERIC DATA AT SYOWA STATION (ANTARCTICA)
ION. ANT.－46 January 1986—June 1986 (Not for Sale)

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