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ION. ANT.—47

IONOSPHERIC DATA AT SYOWA STATION

(ANTARCTICA)

July 1986—December 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.

SYOWA STATION

IONOGRAM 1986 07 01 12;00-23;45



SYOWA STATION

IONOGRAM 1986 07 01 00;00-11;45



SYOWA STATION

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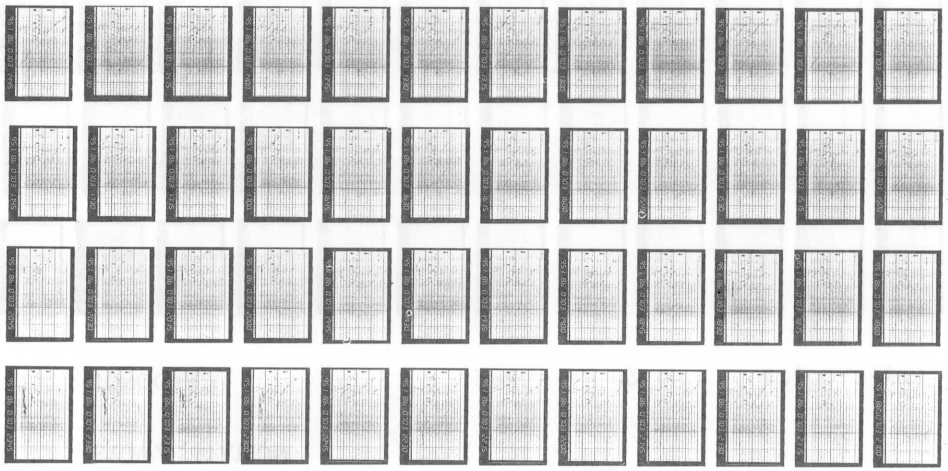
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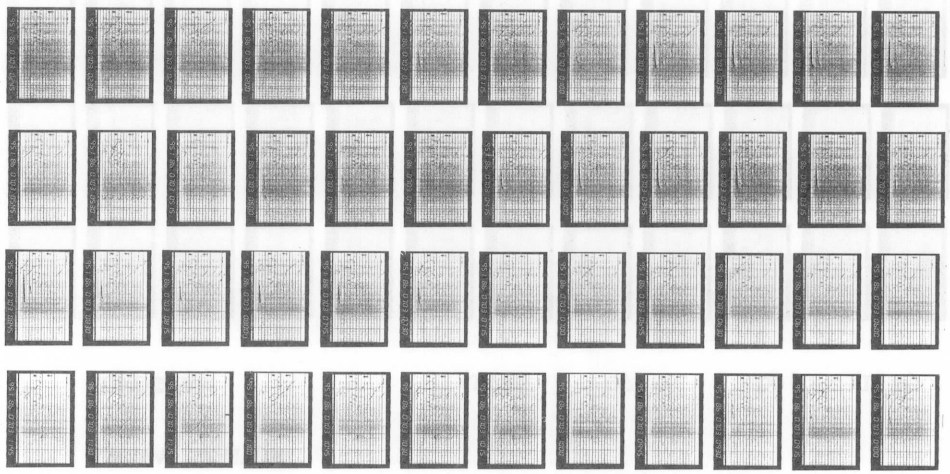
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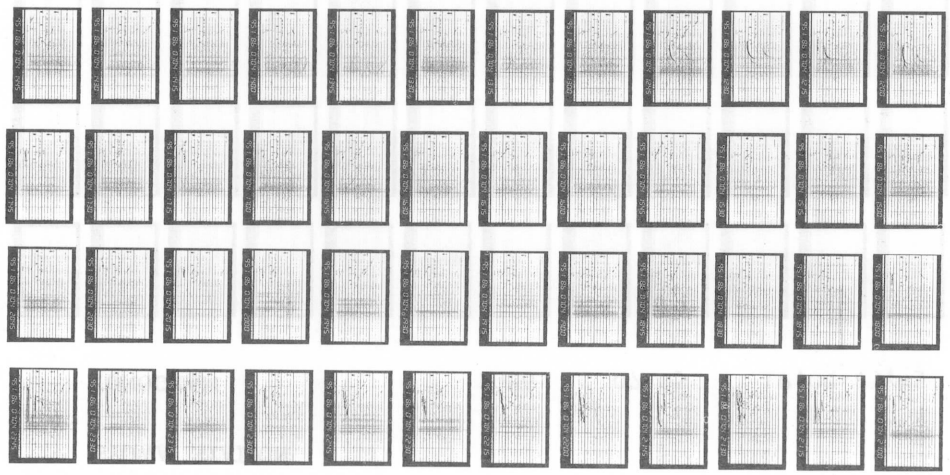
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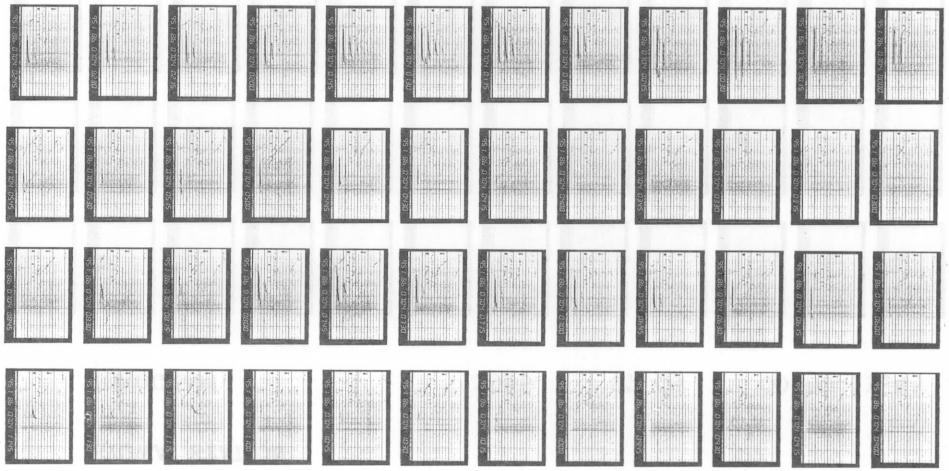
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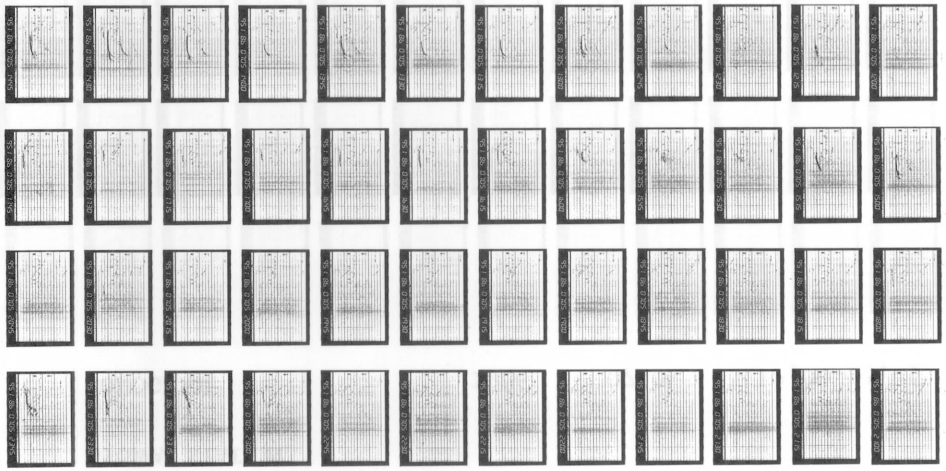
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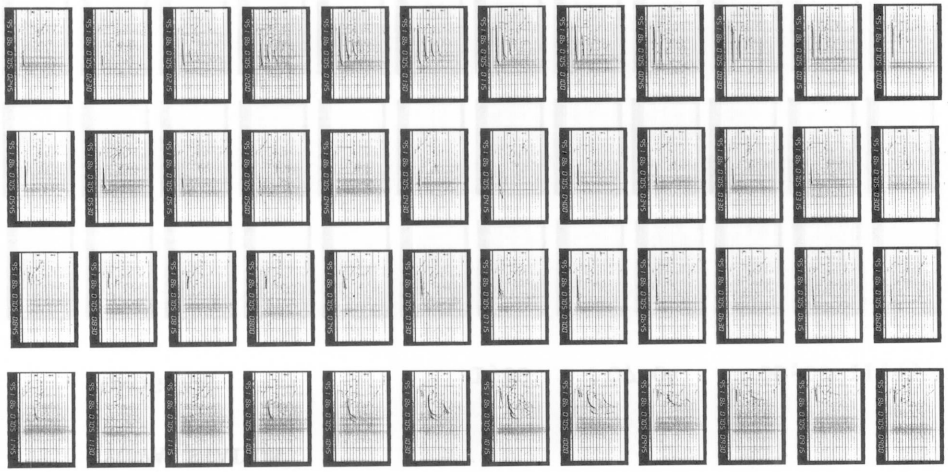
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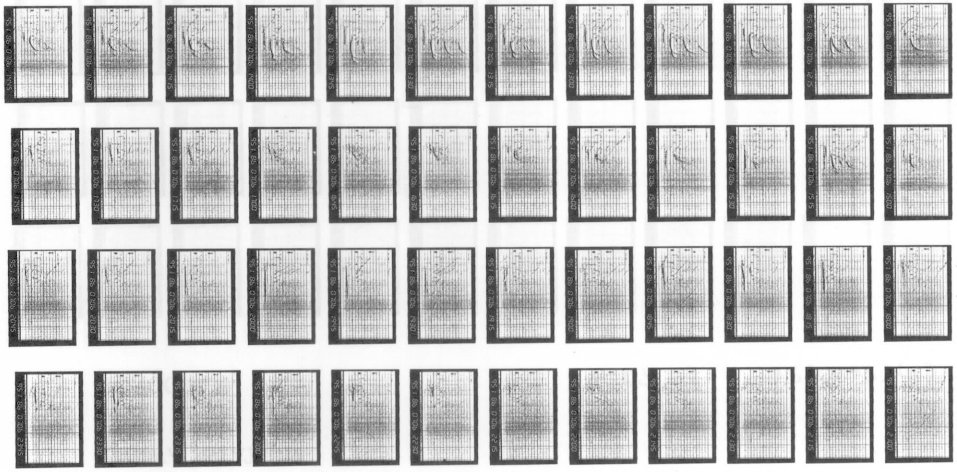
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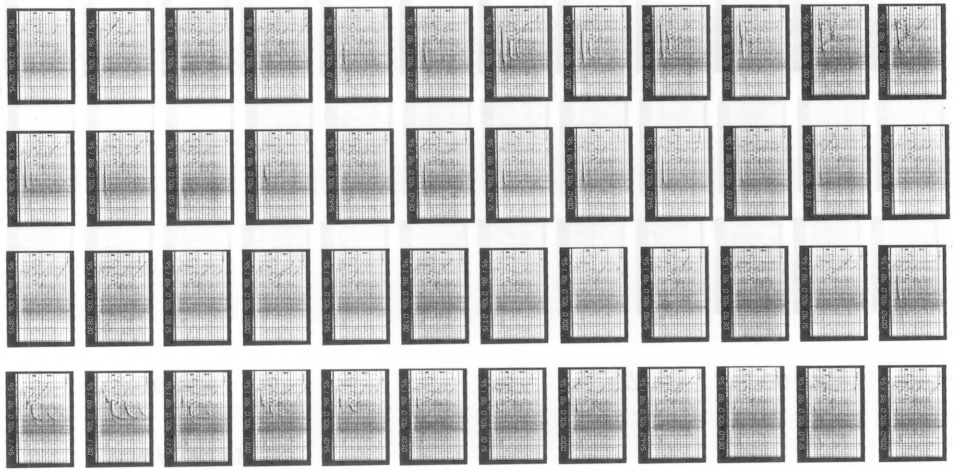
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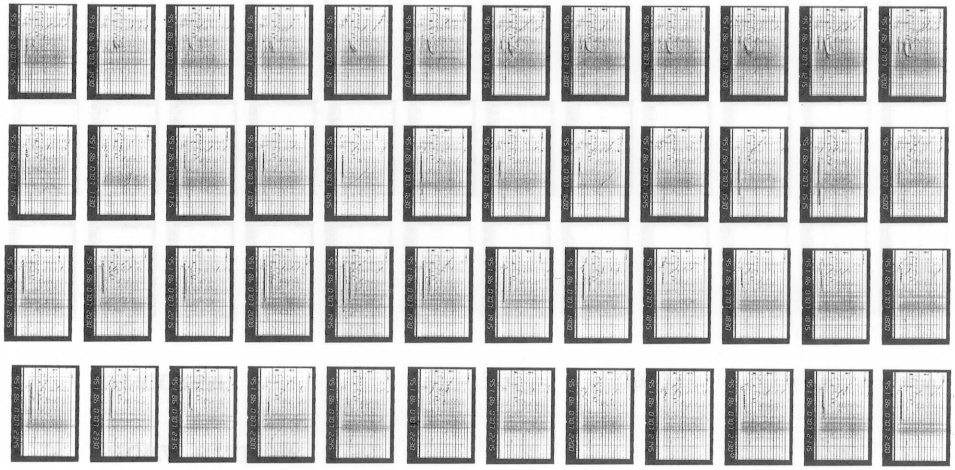
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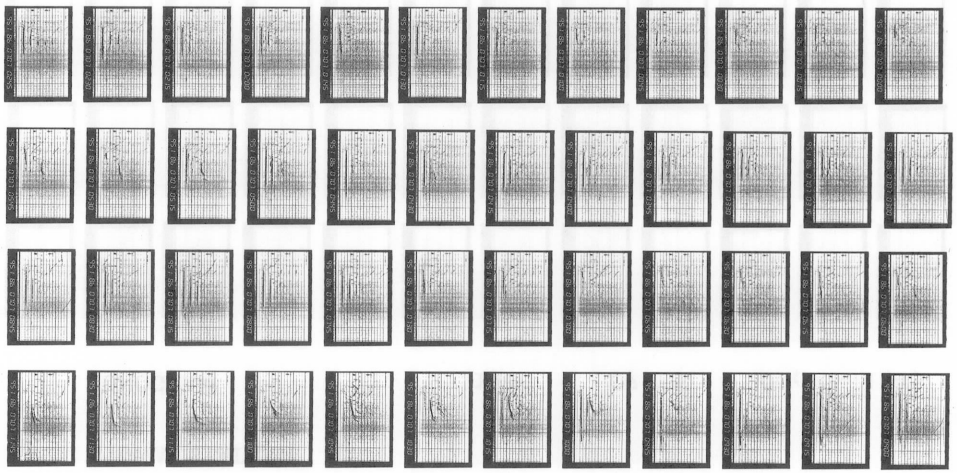
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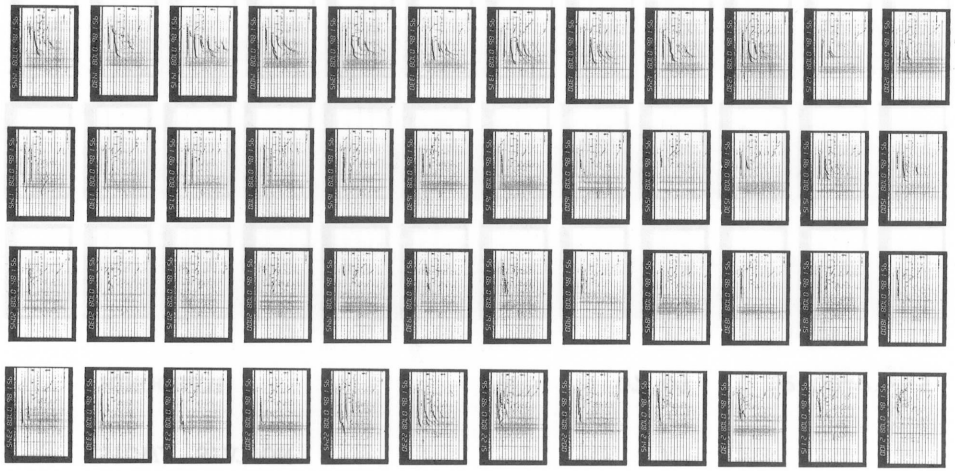
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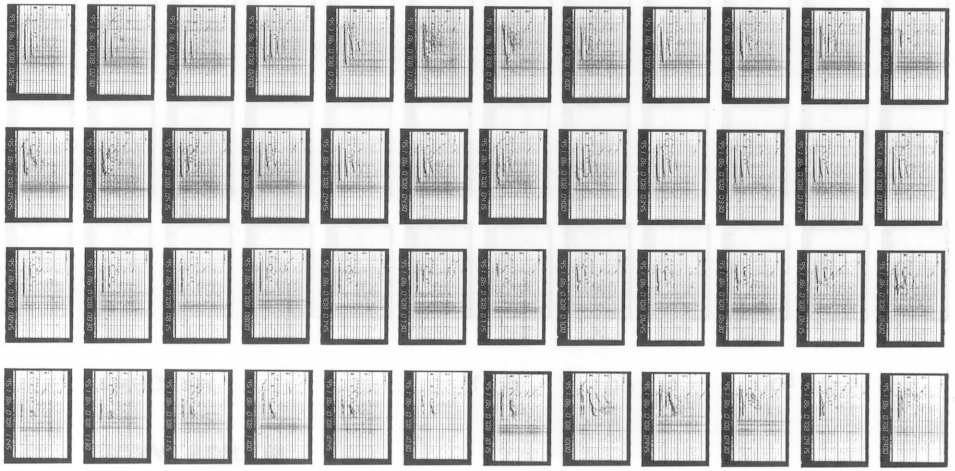
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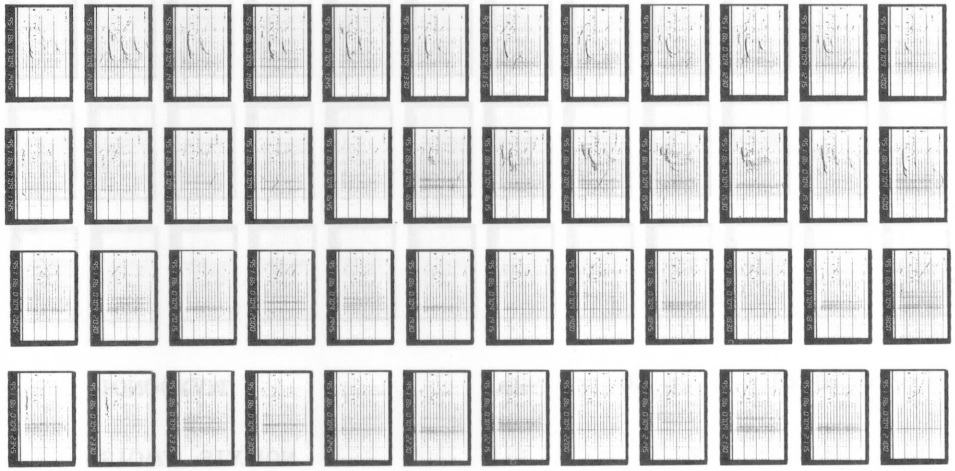
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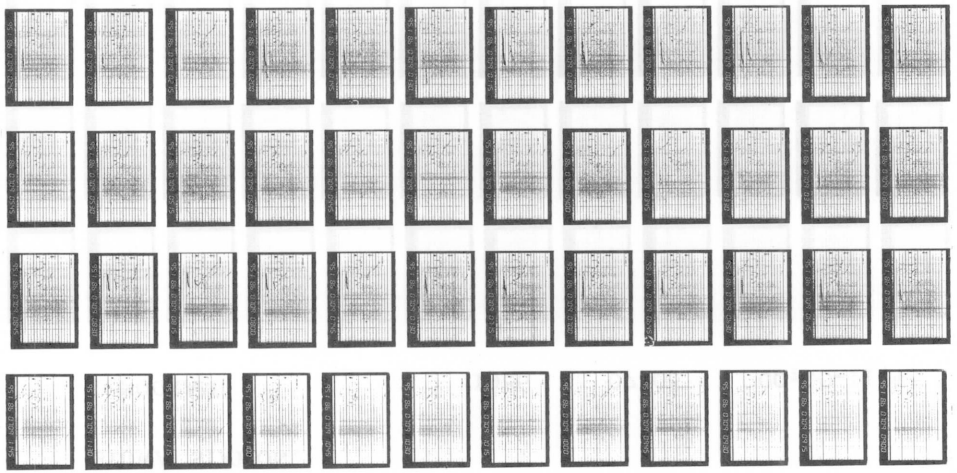
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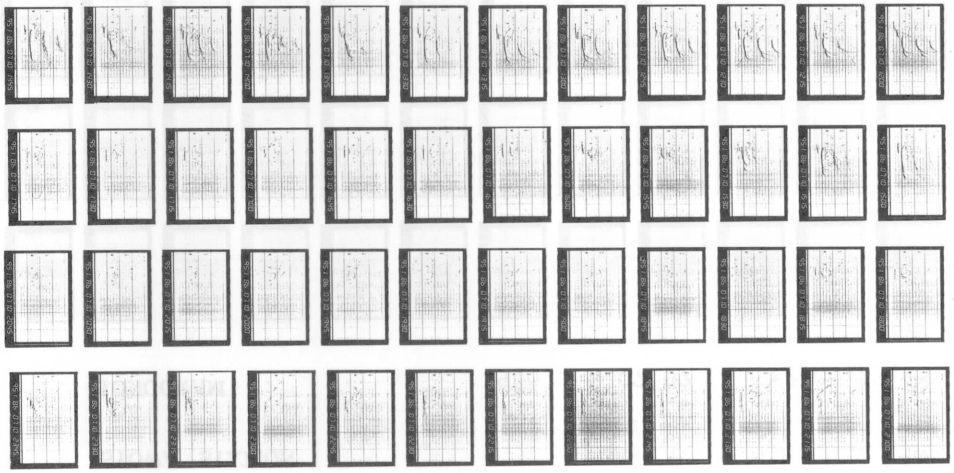
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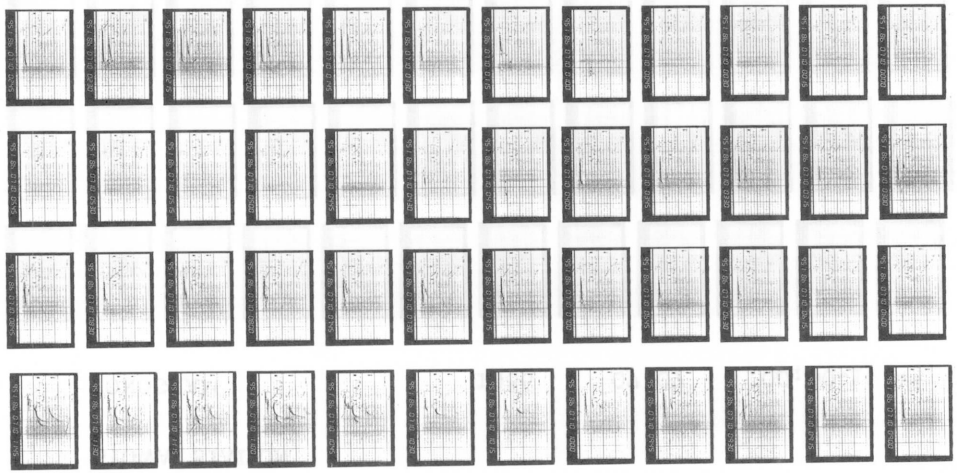
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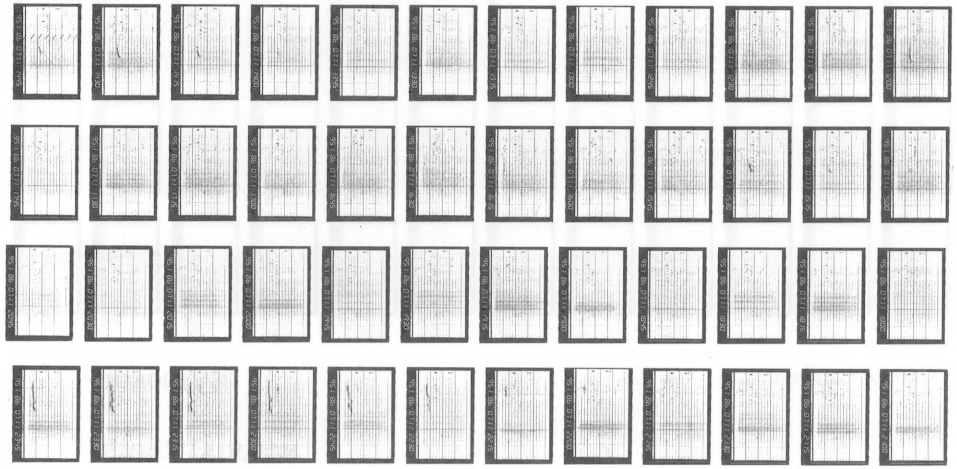
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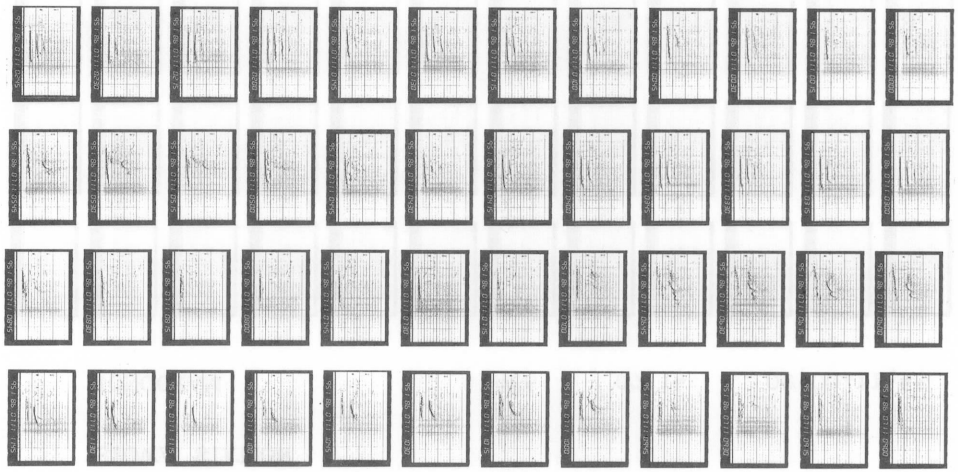
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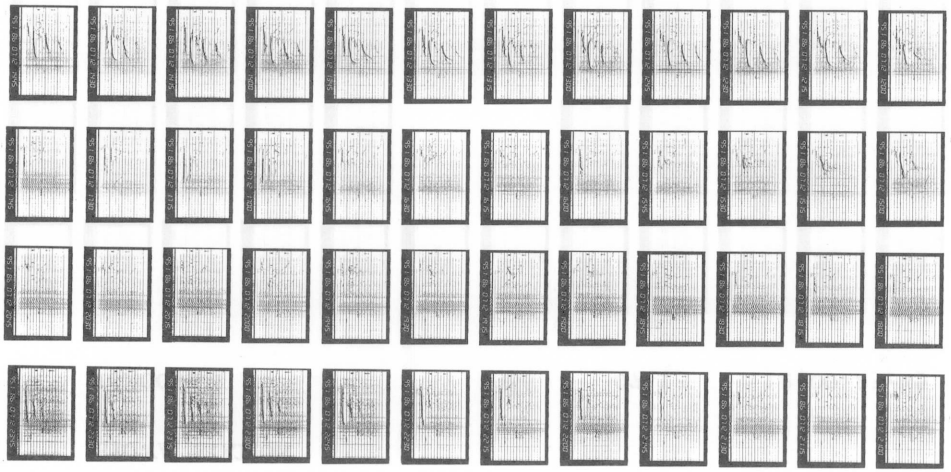
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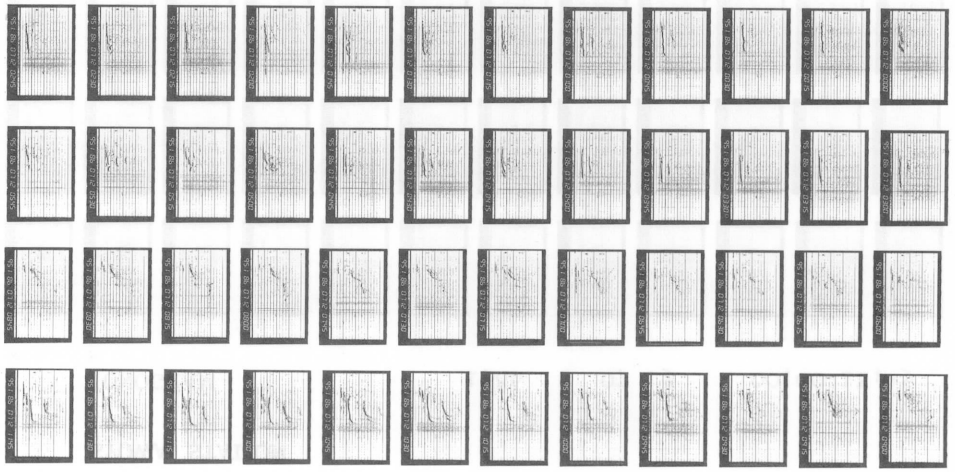
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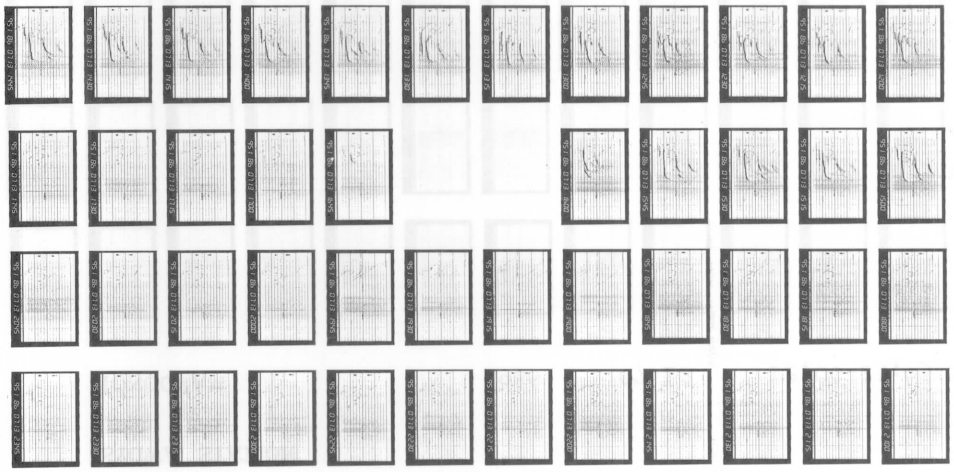
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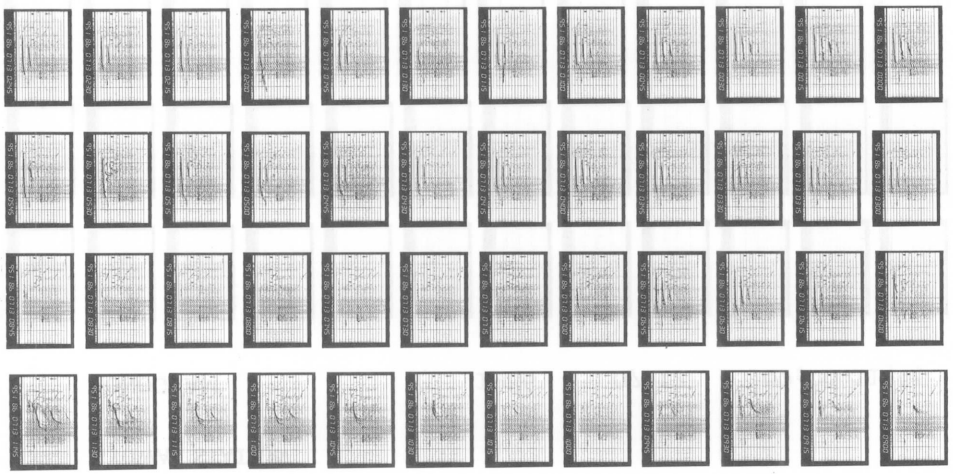
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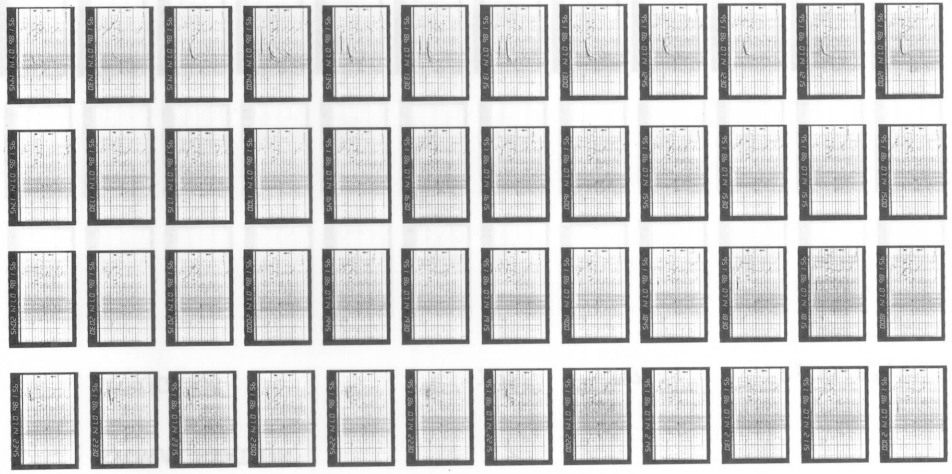
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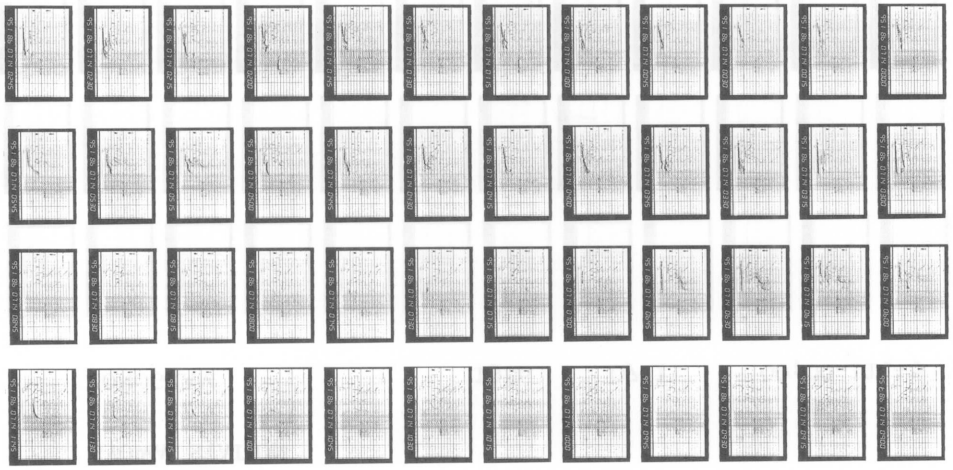
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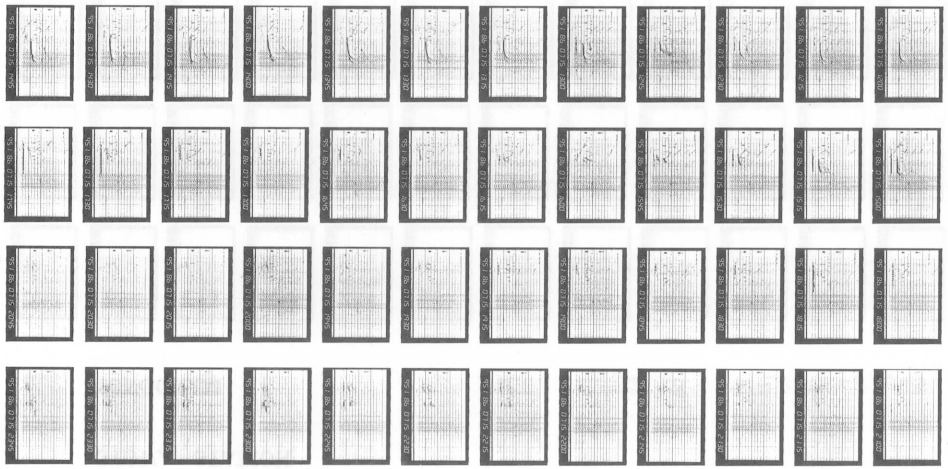
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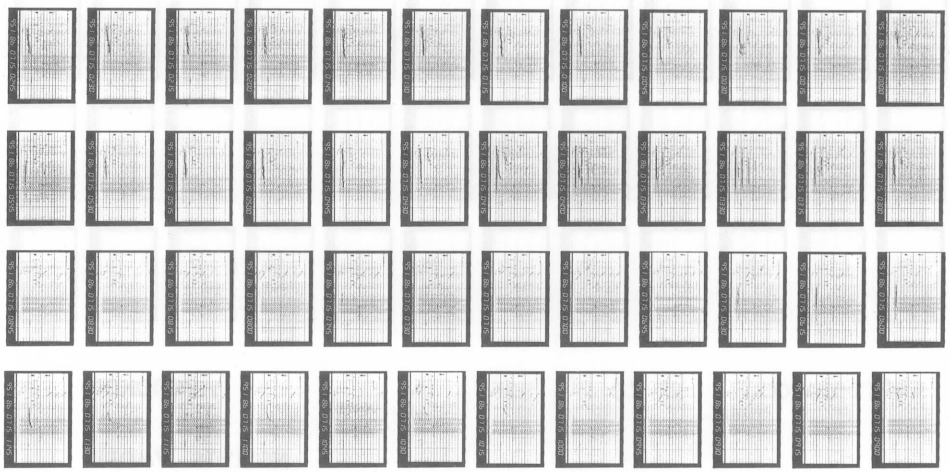
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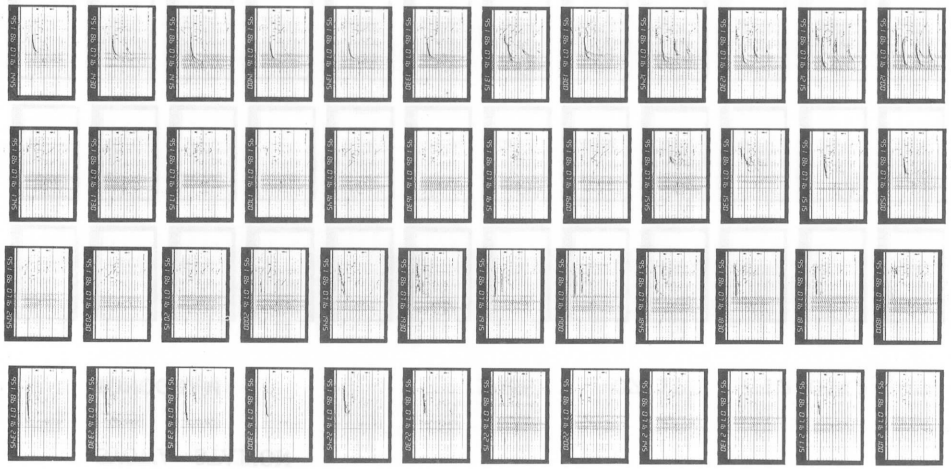
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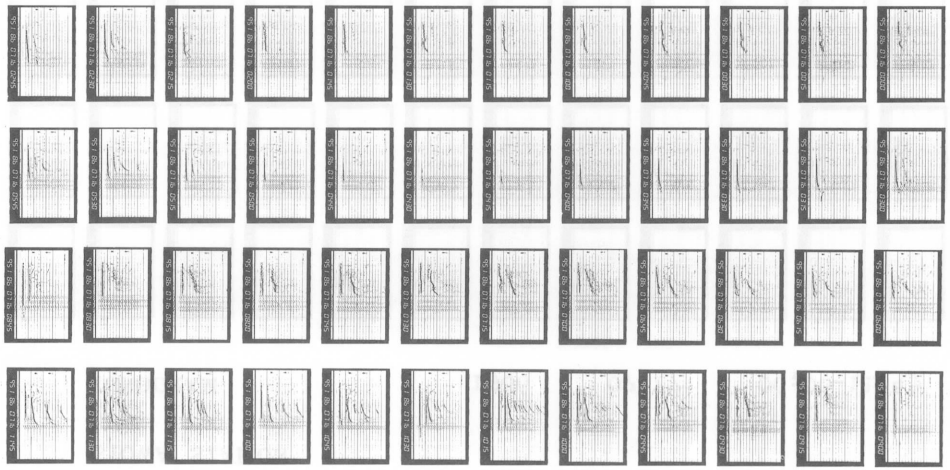
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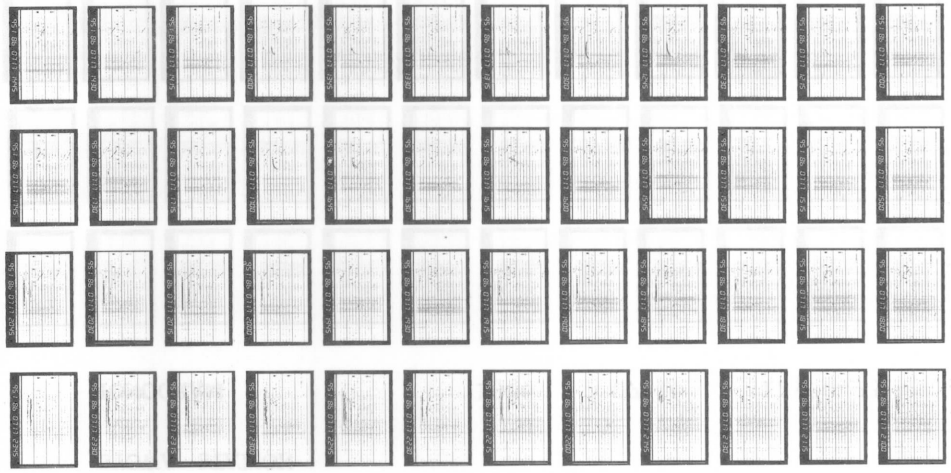
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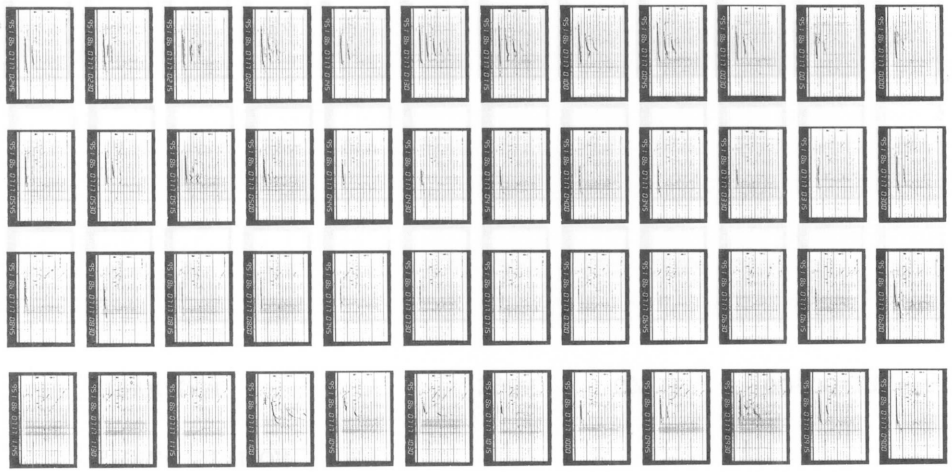
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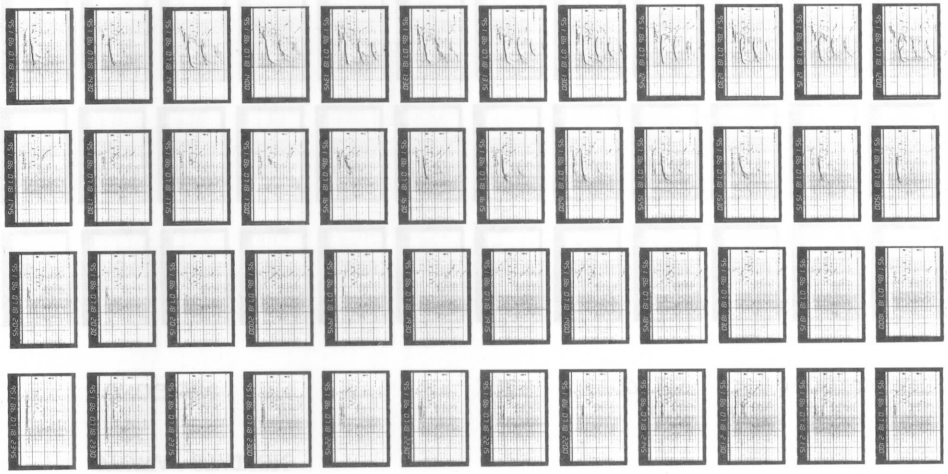
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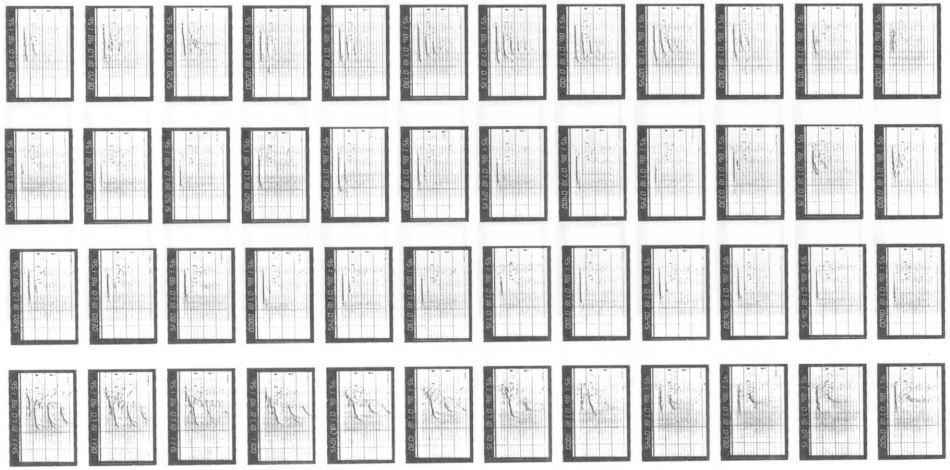
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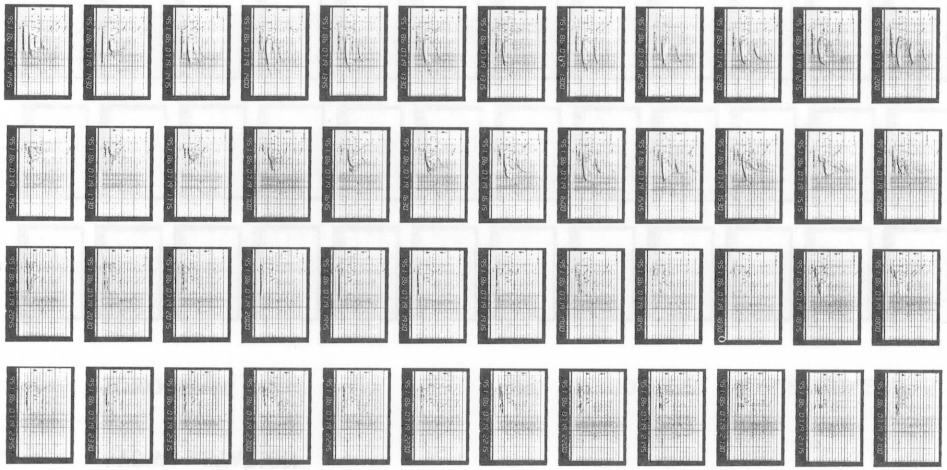
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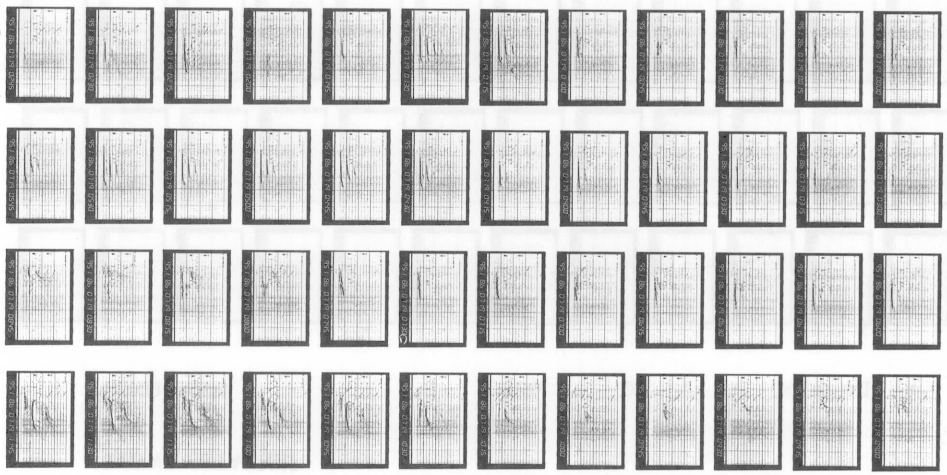
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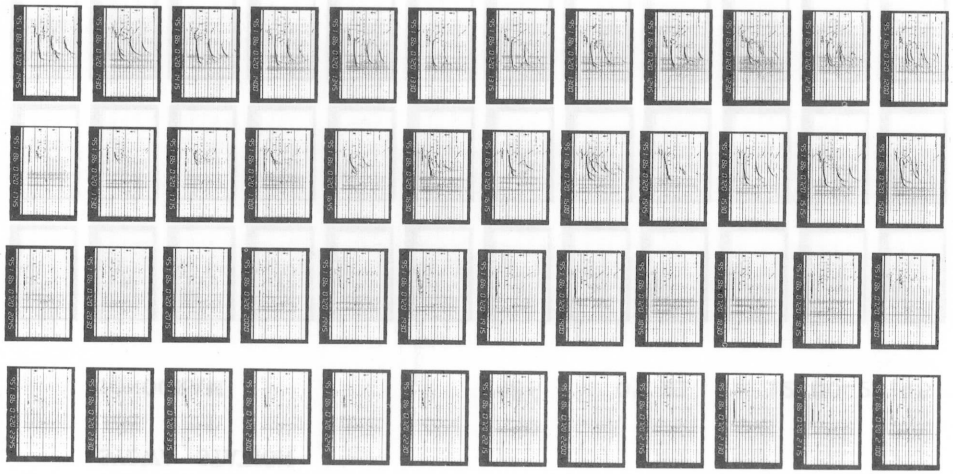
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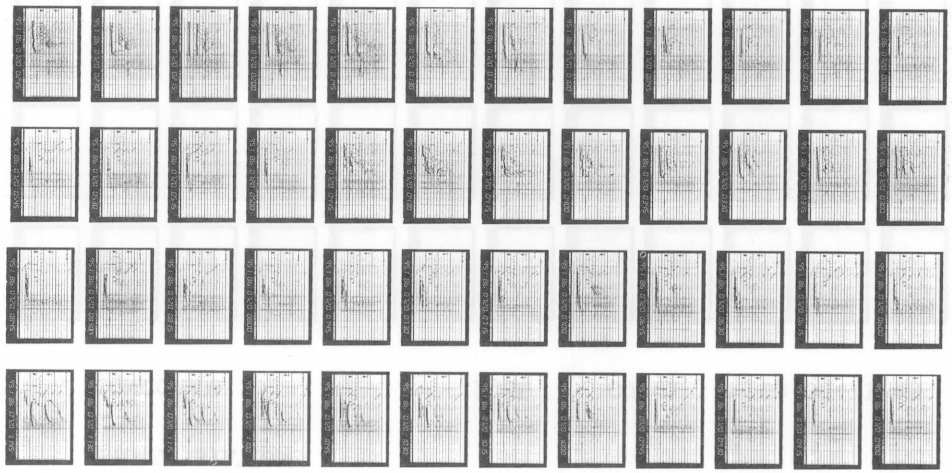
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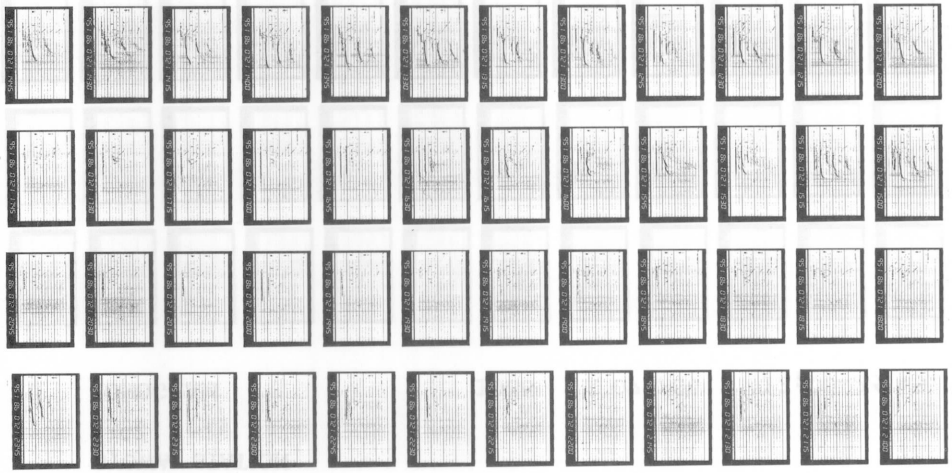
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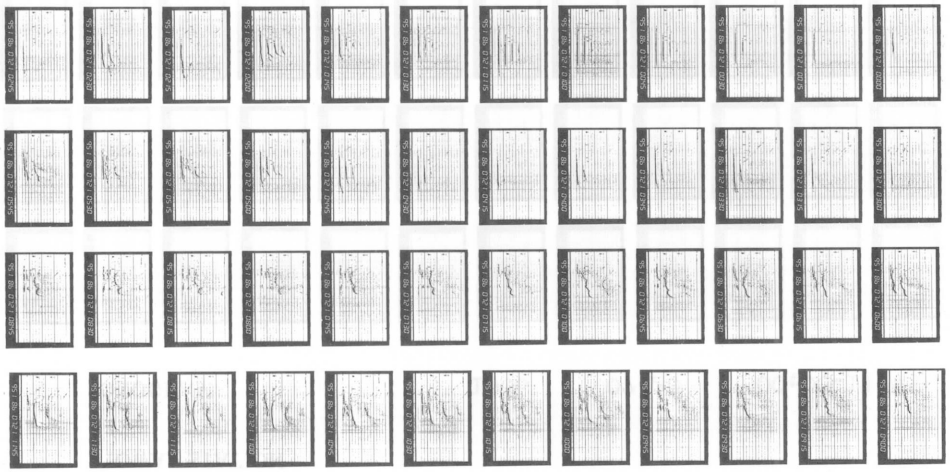
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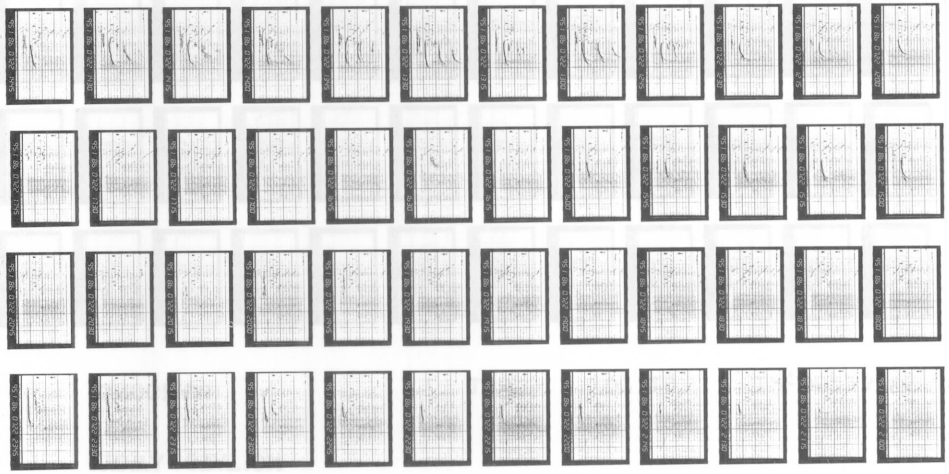
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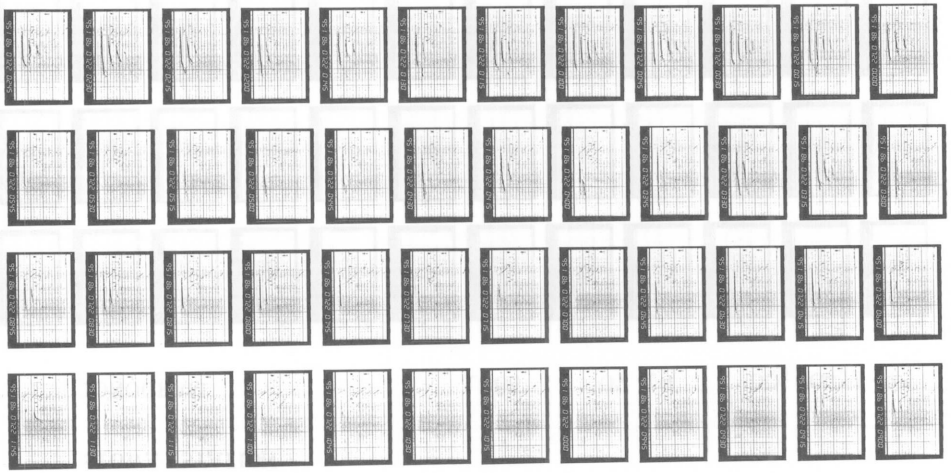
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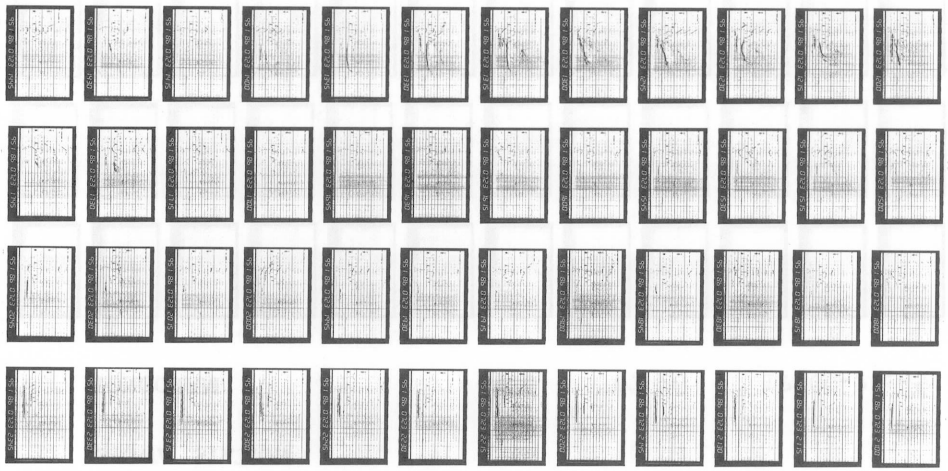
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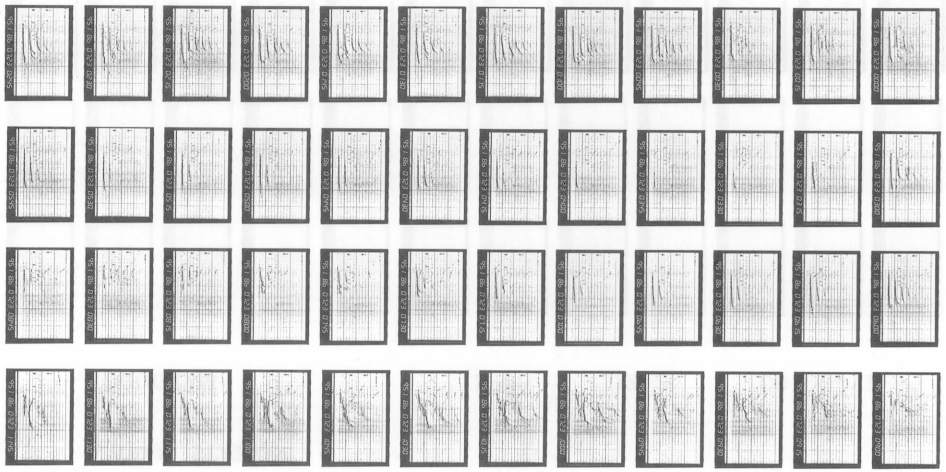
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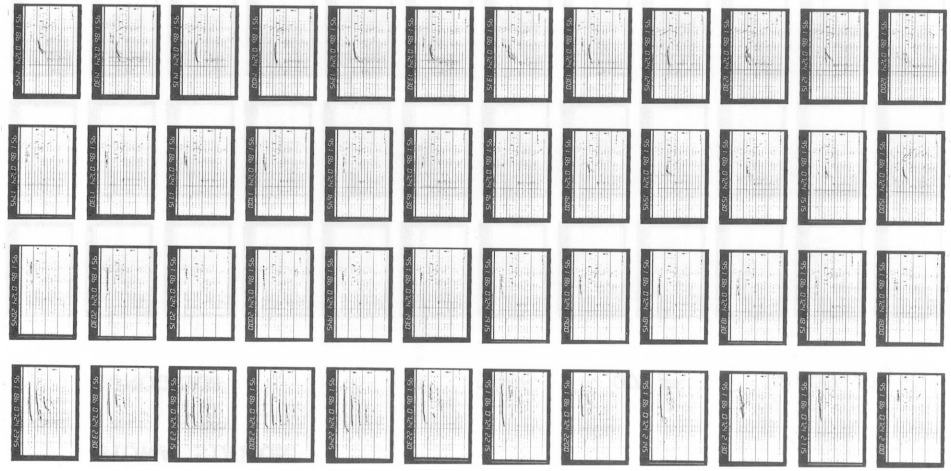
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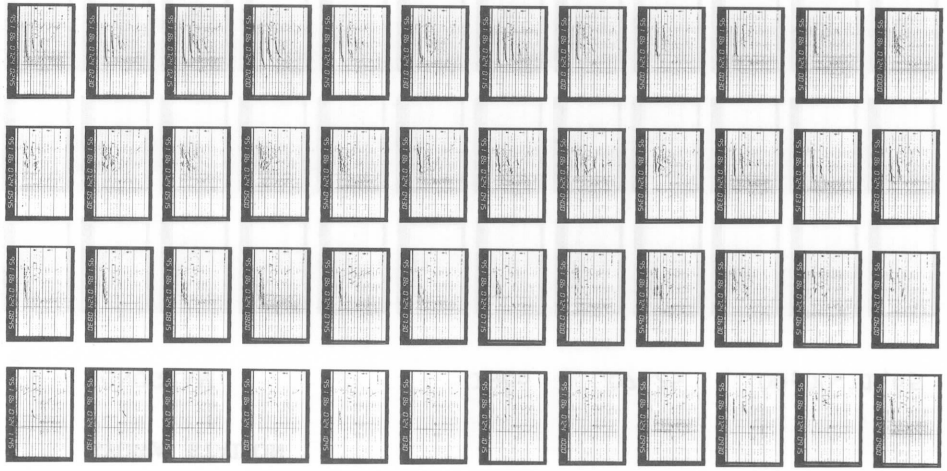
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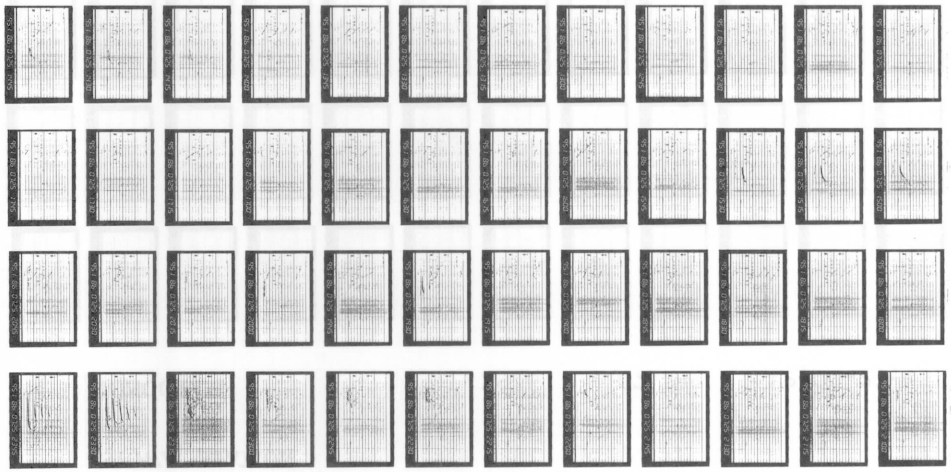
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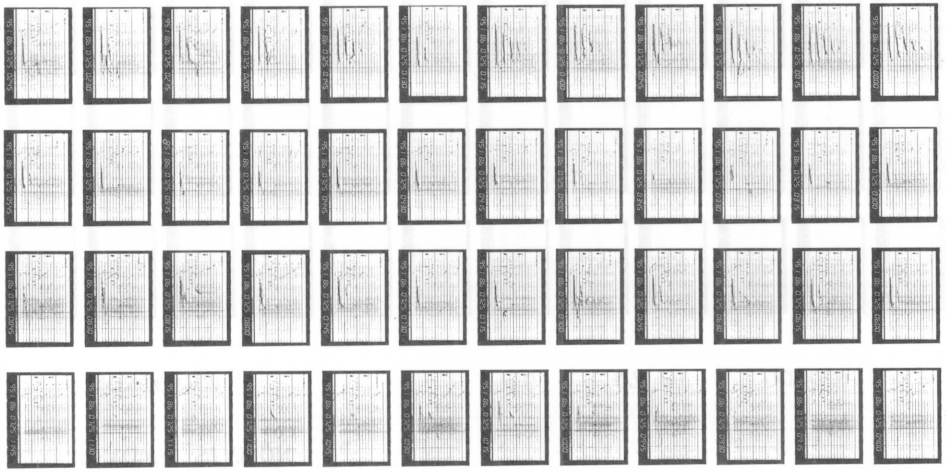
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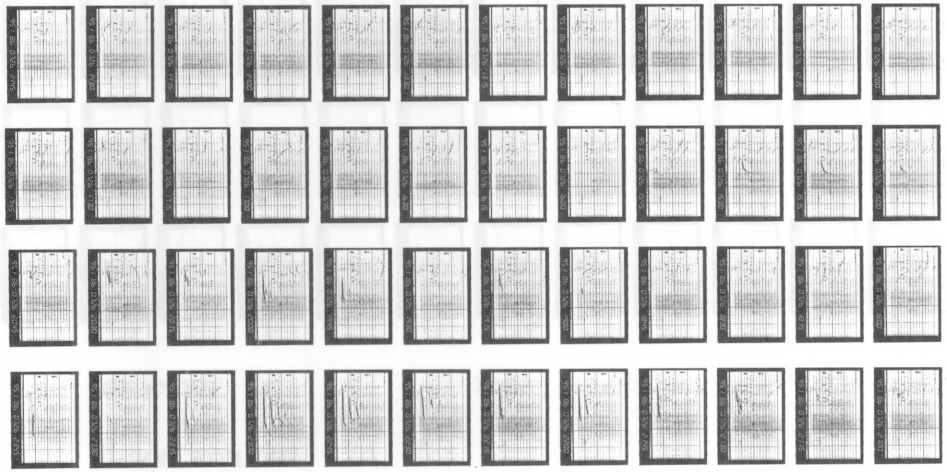
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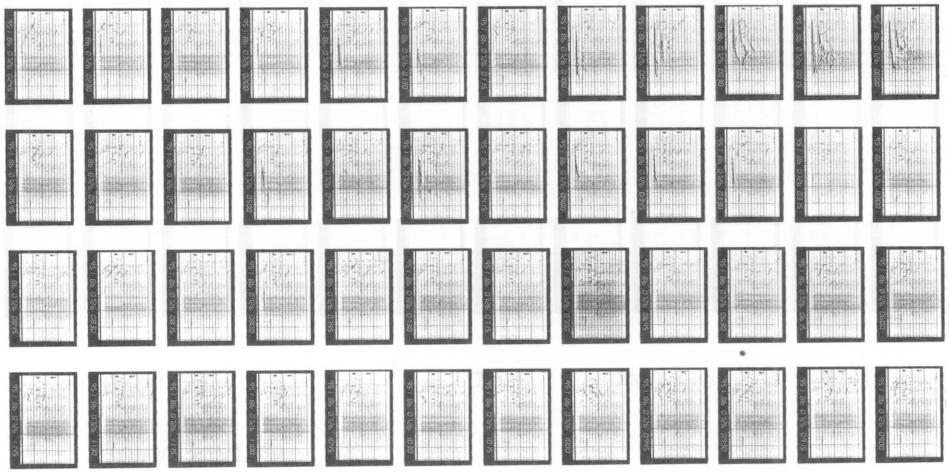
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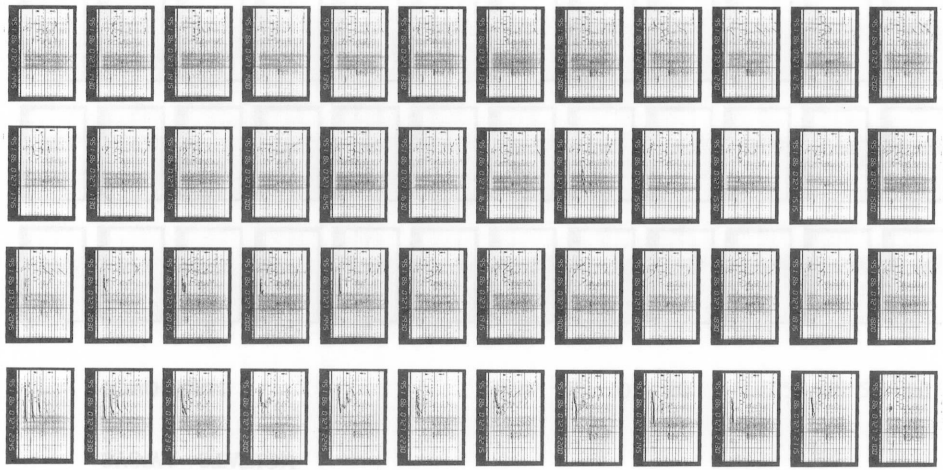
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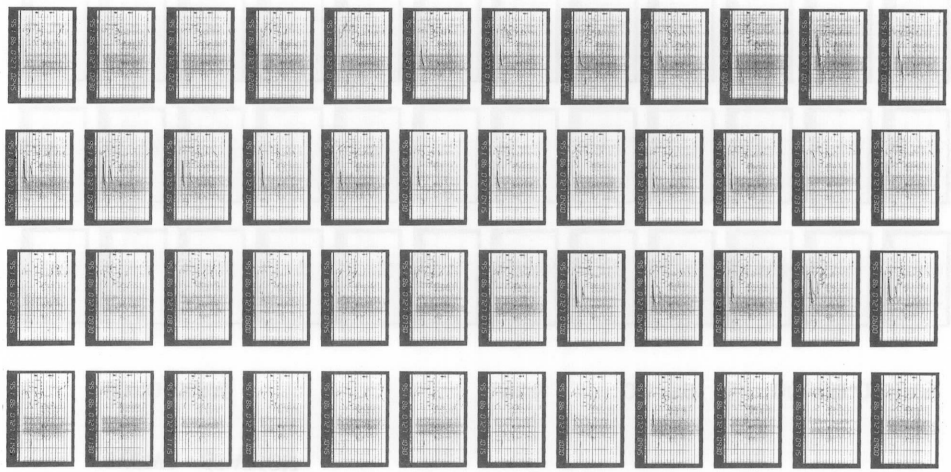
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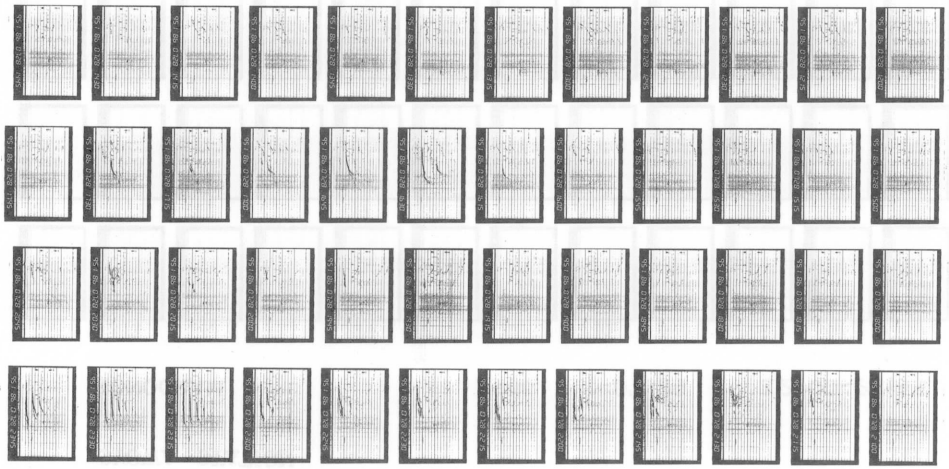
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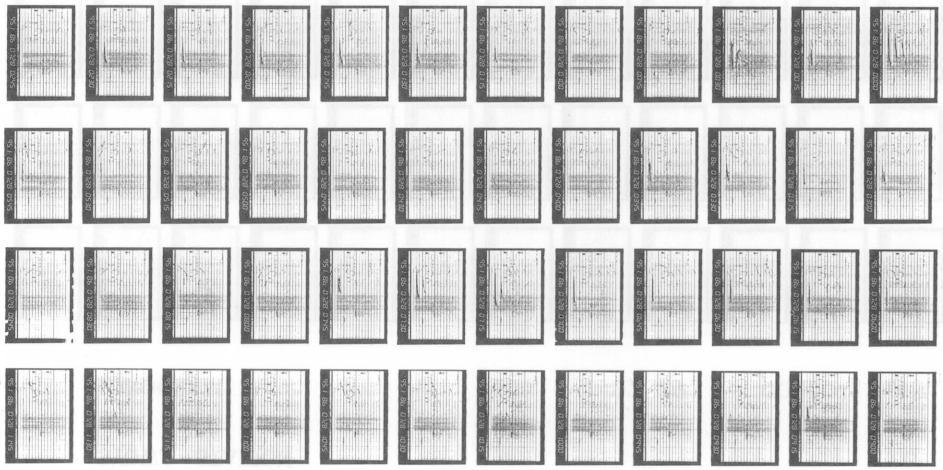
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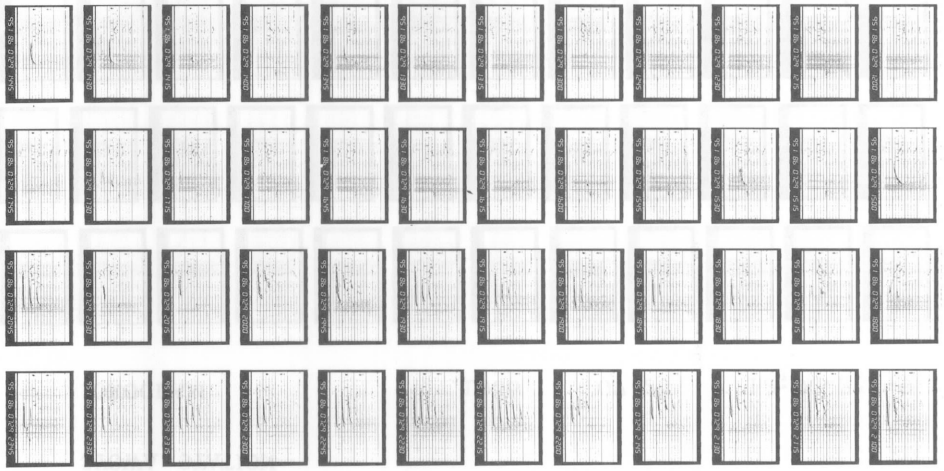
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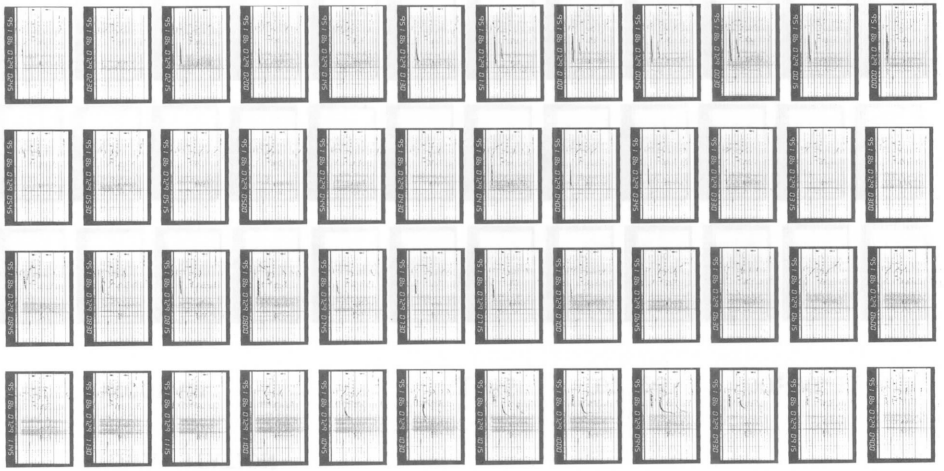
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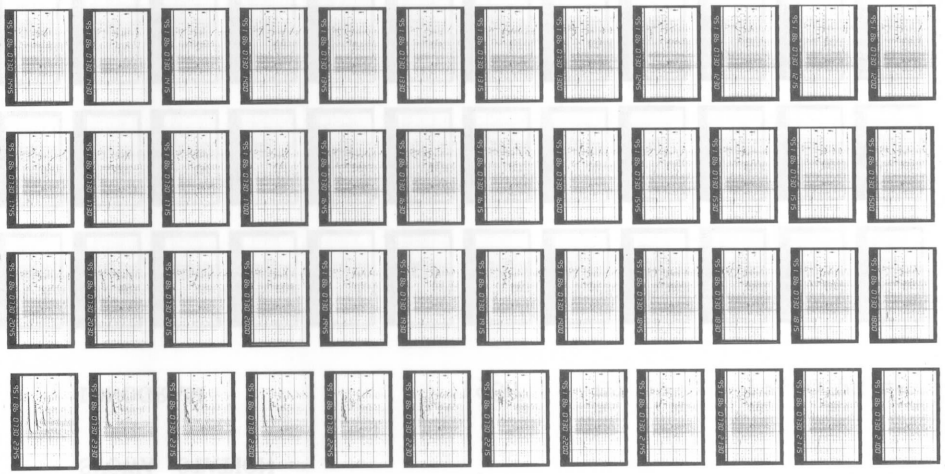
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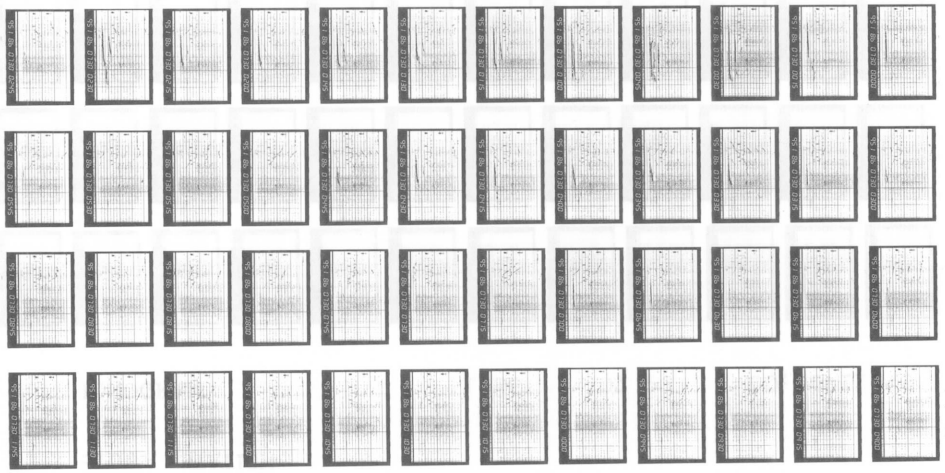
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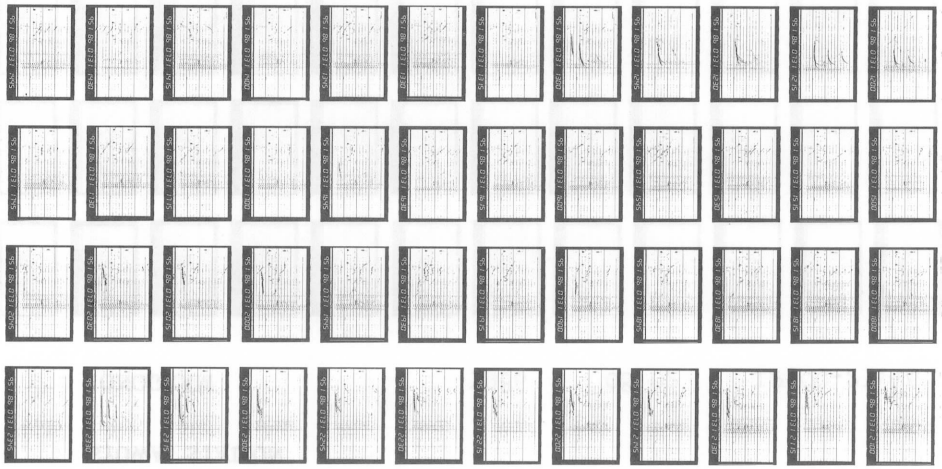
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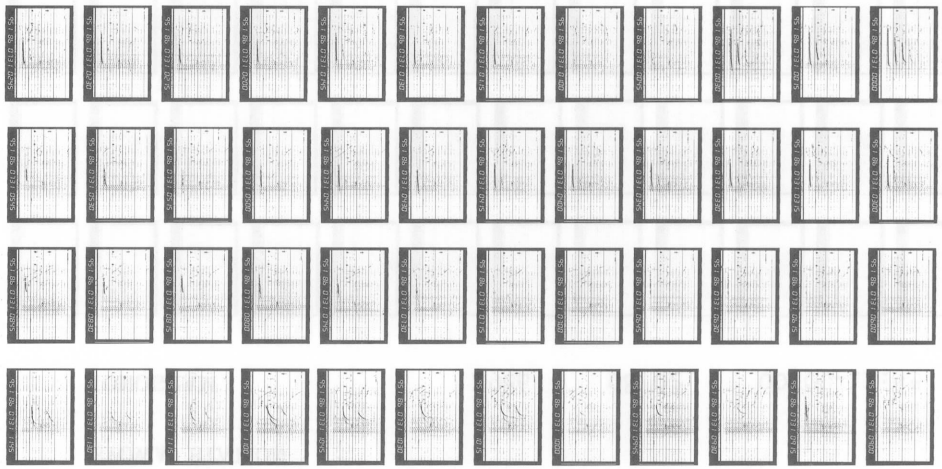
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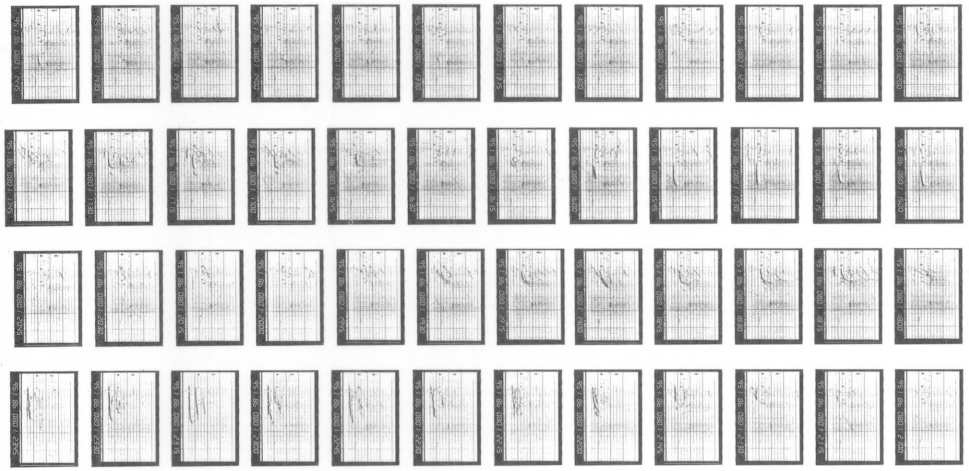
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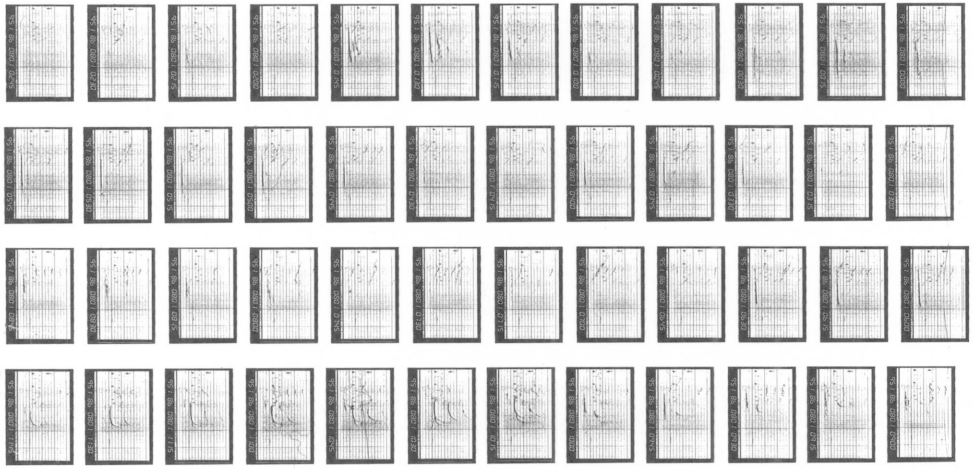
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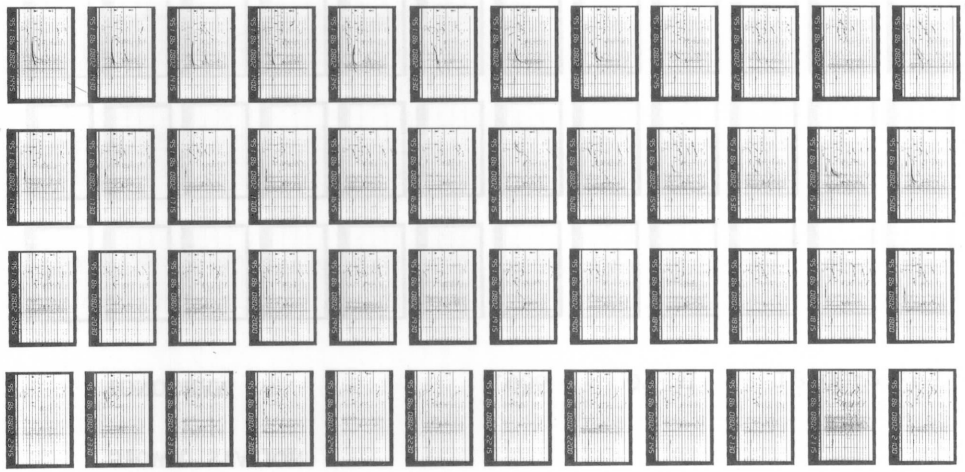
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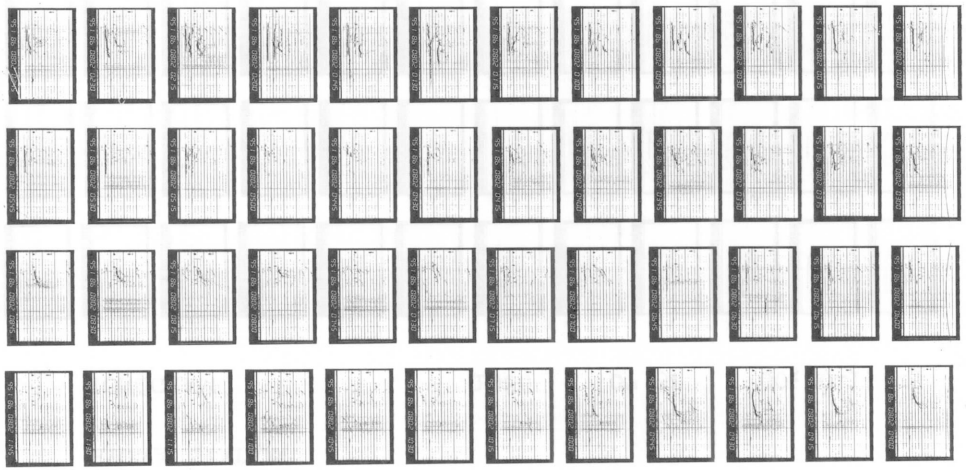
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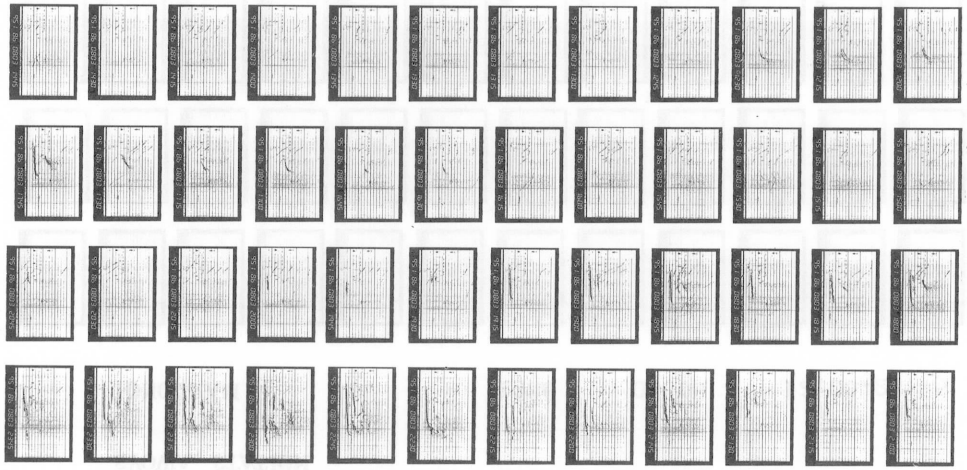
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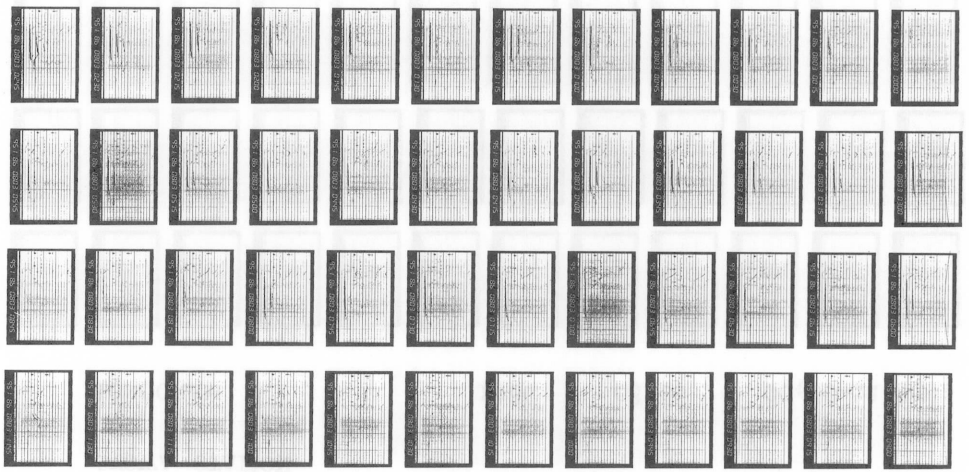
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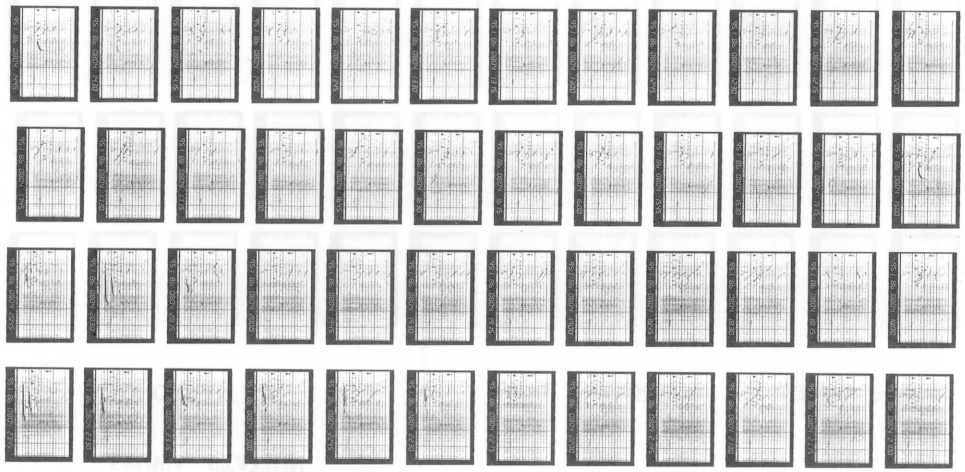
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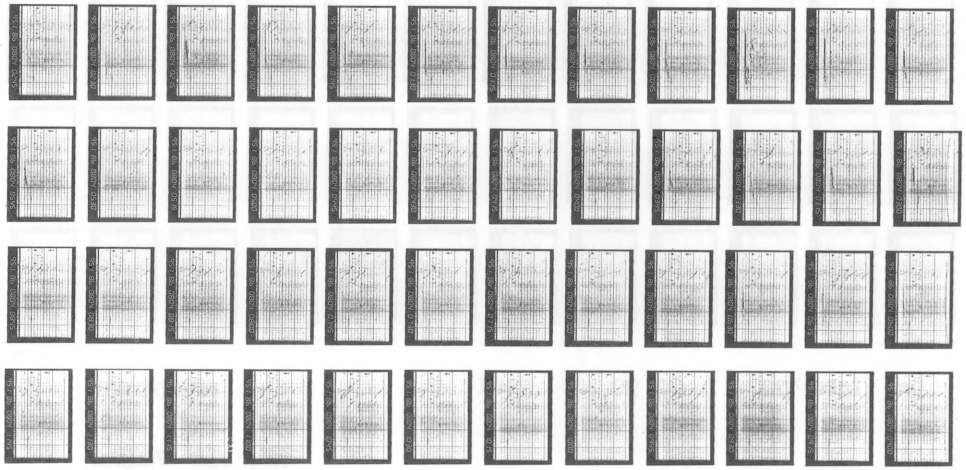
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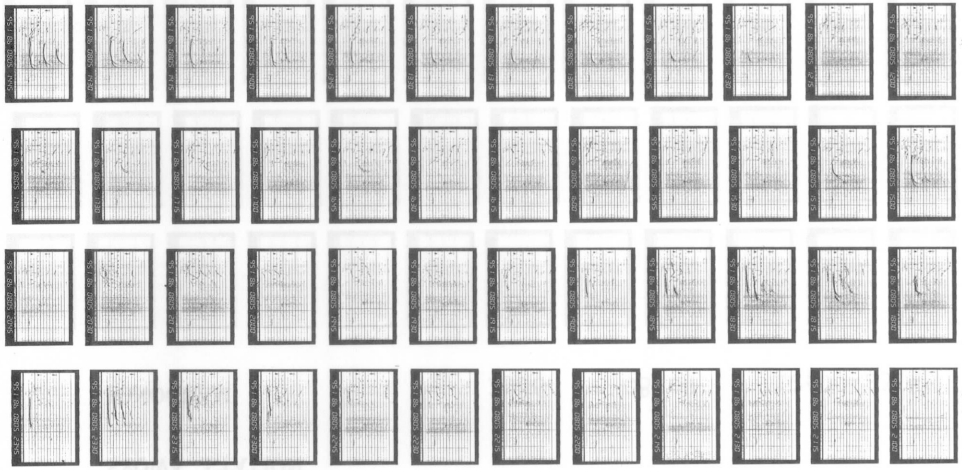
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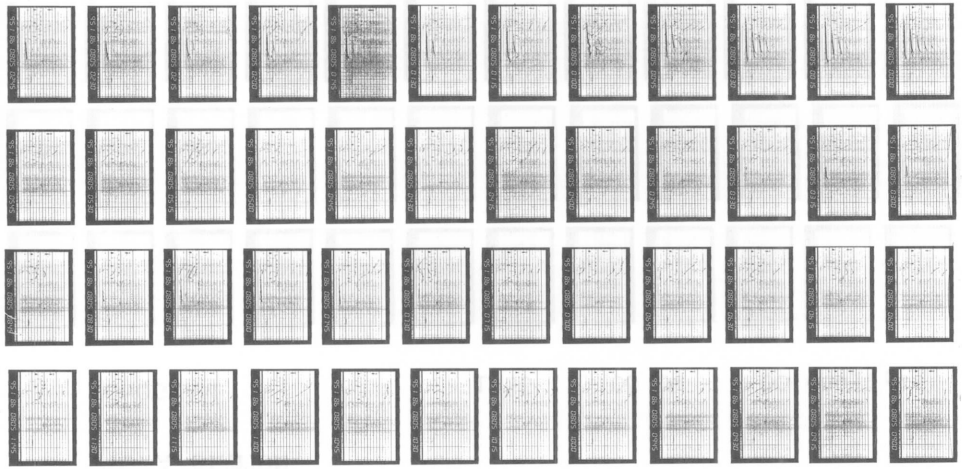
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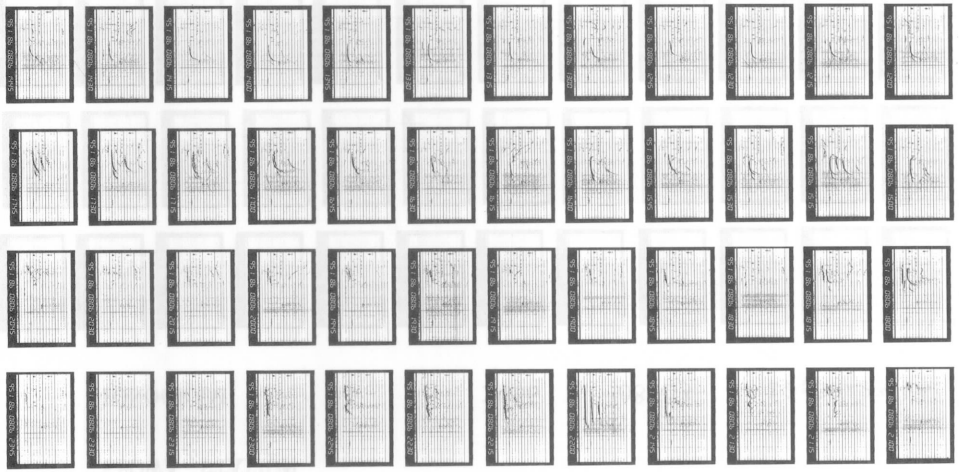
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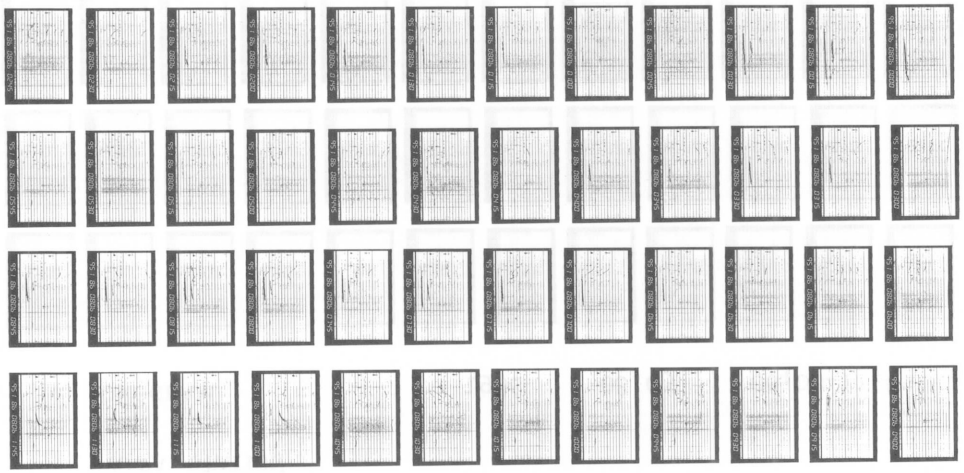
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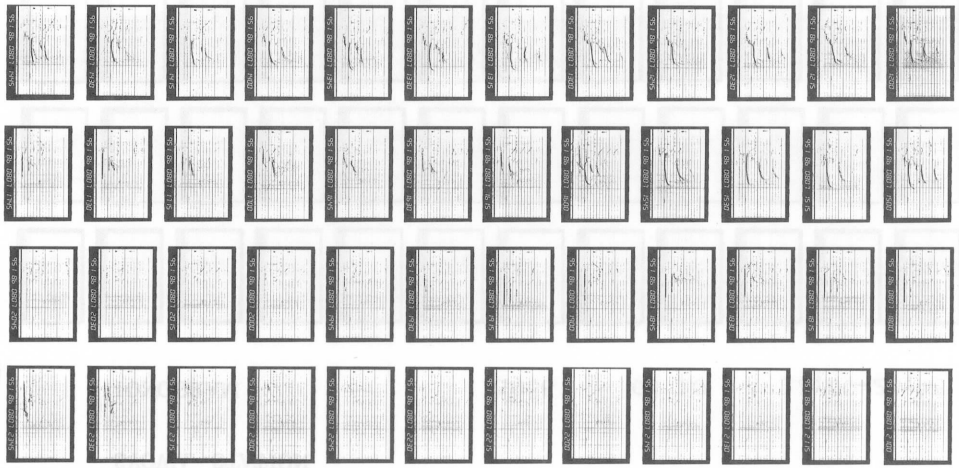
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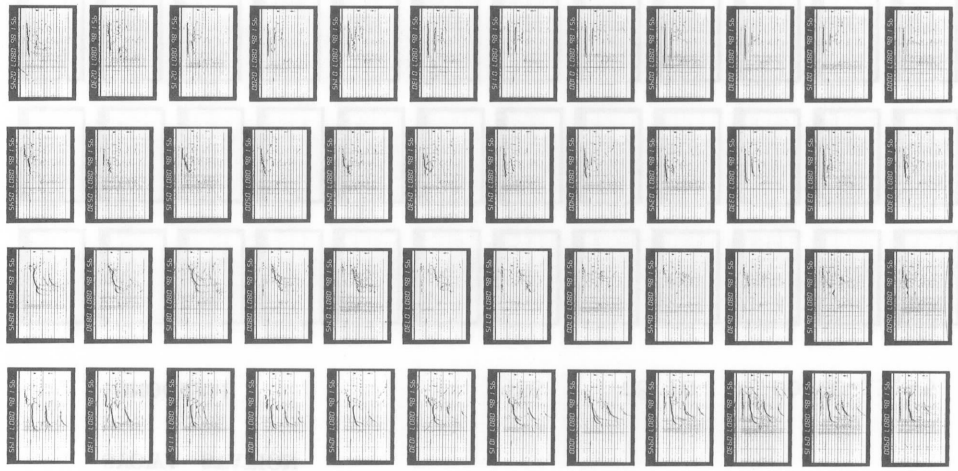
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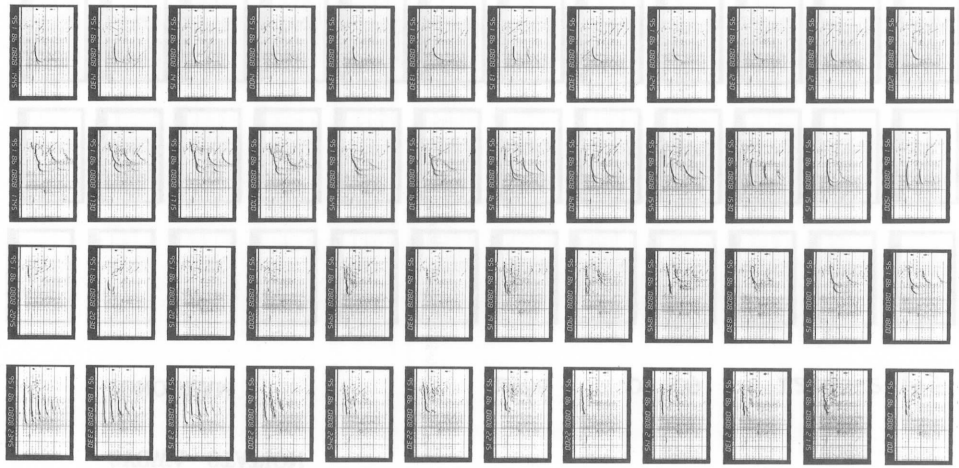
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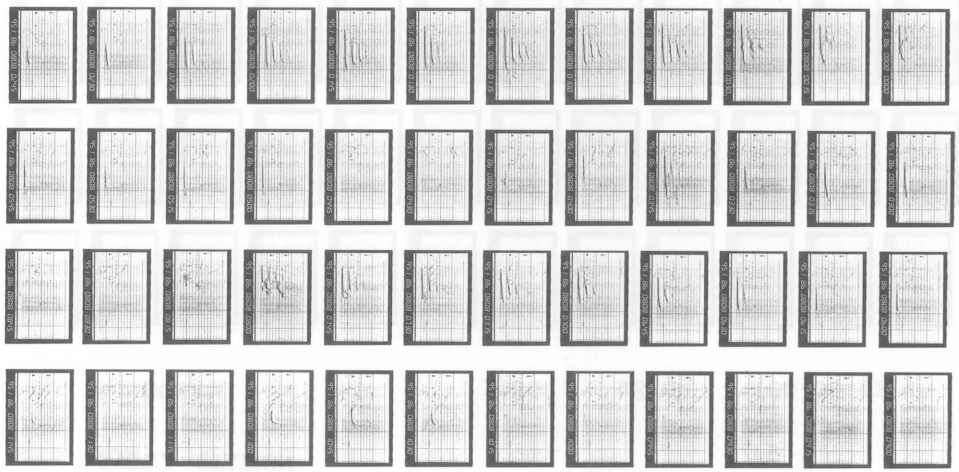
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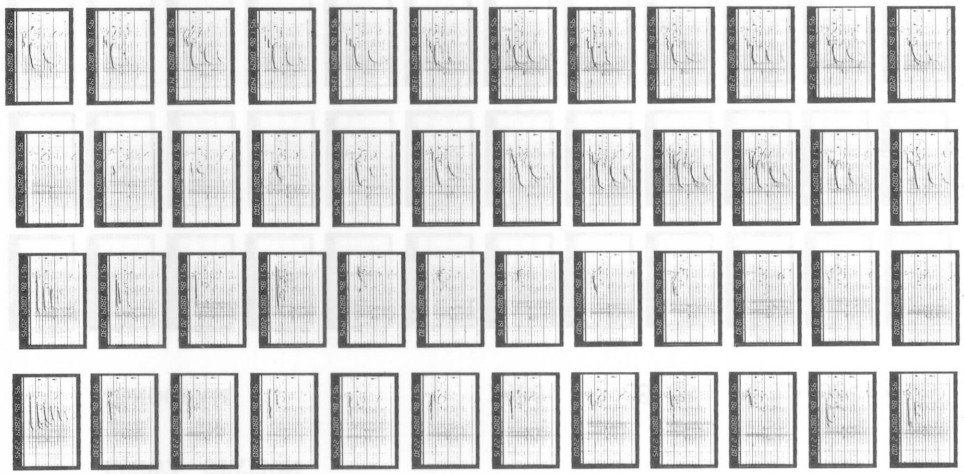
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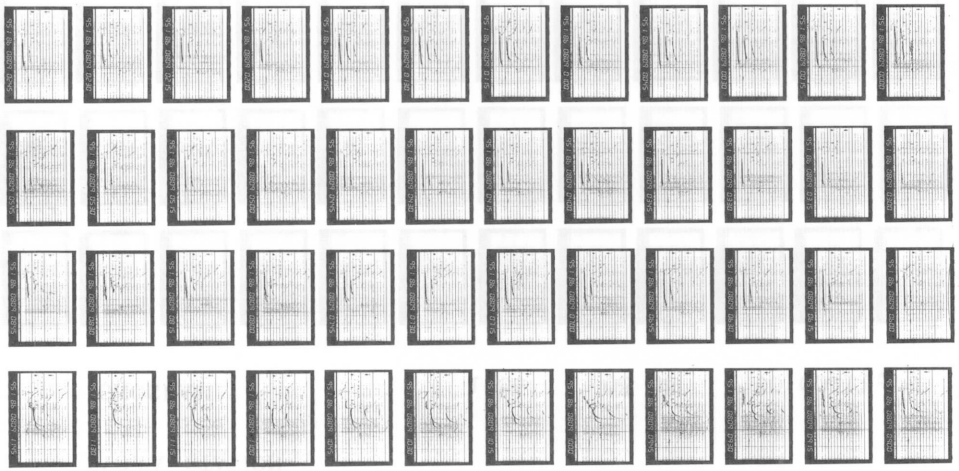
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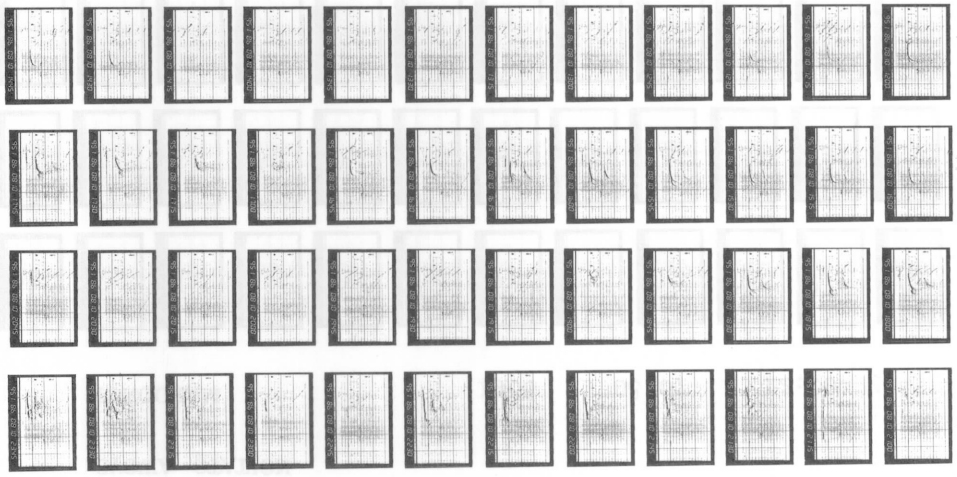
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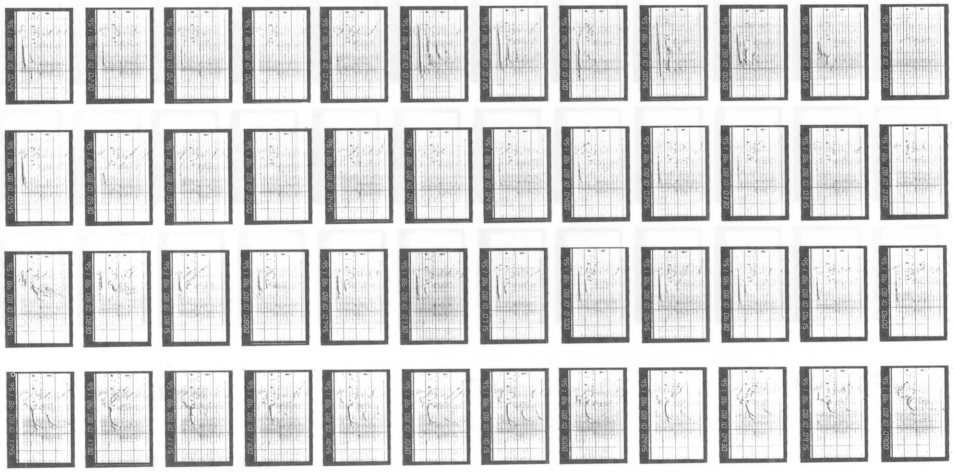
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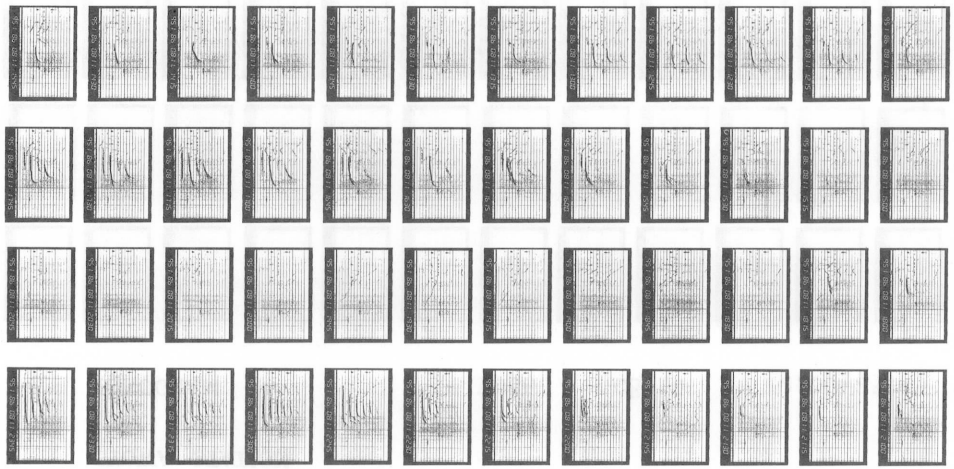
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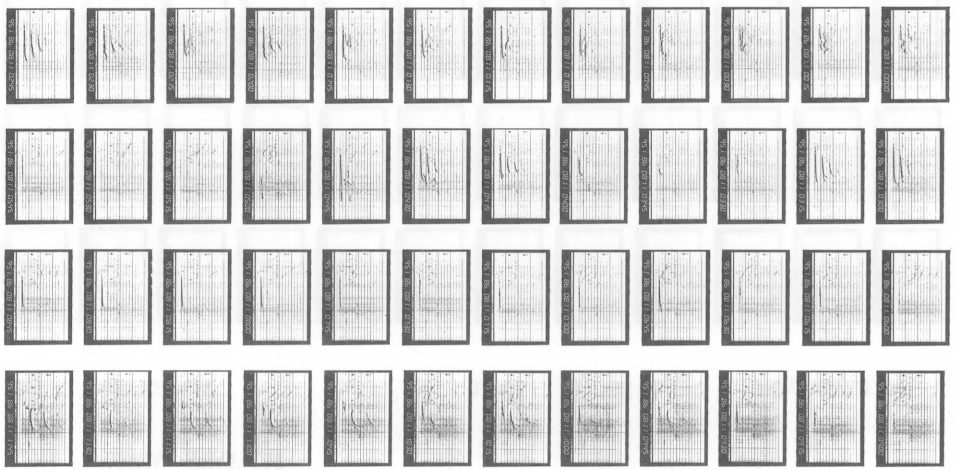
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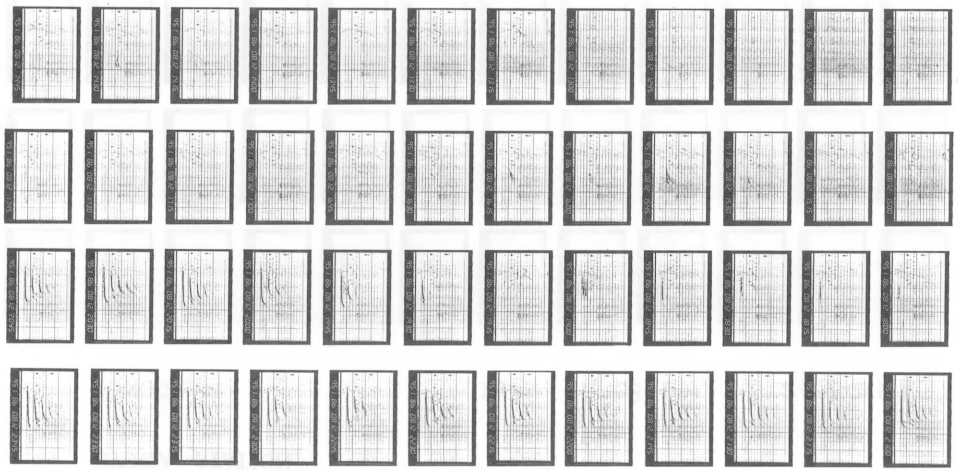
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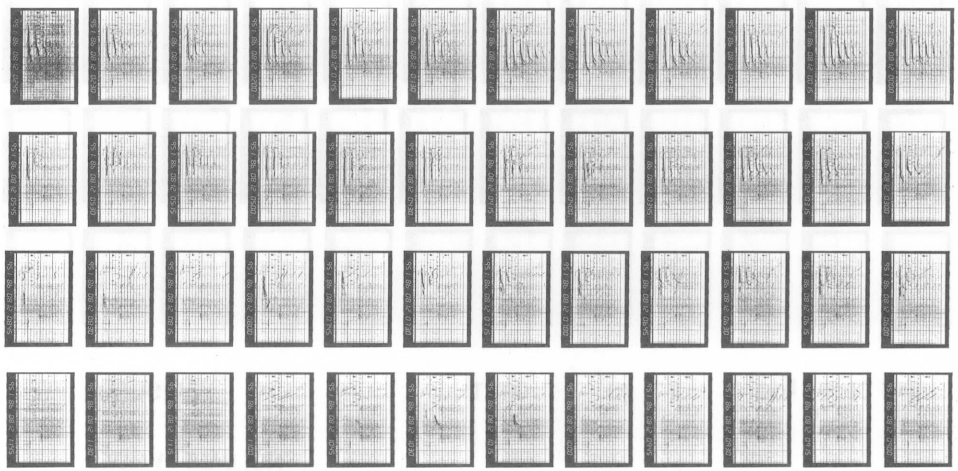
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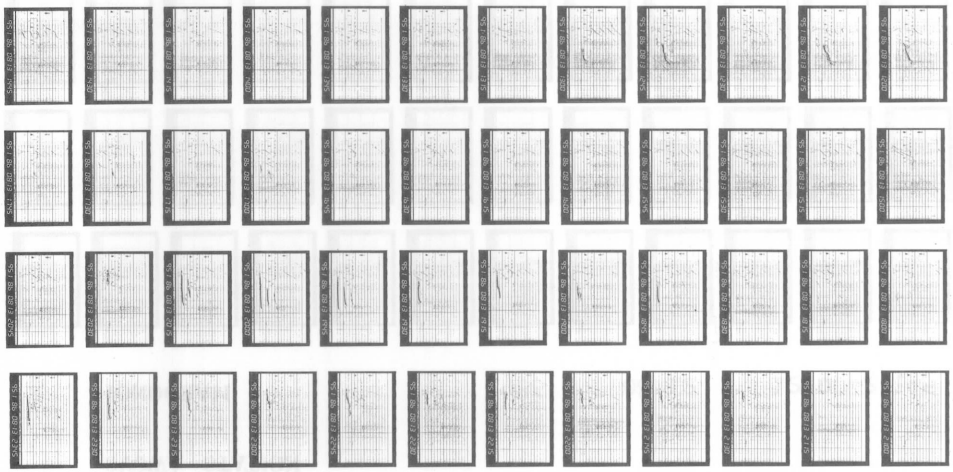
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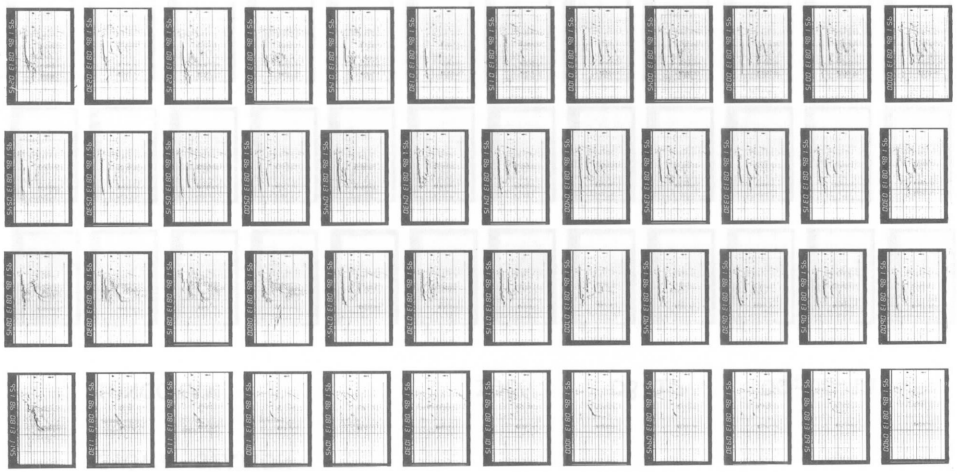
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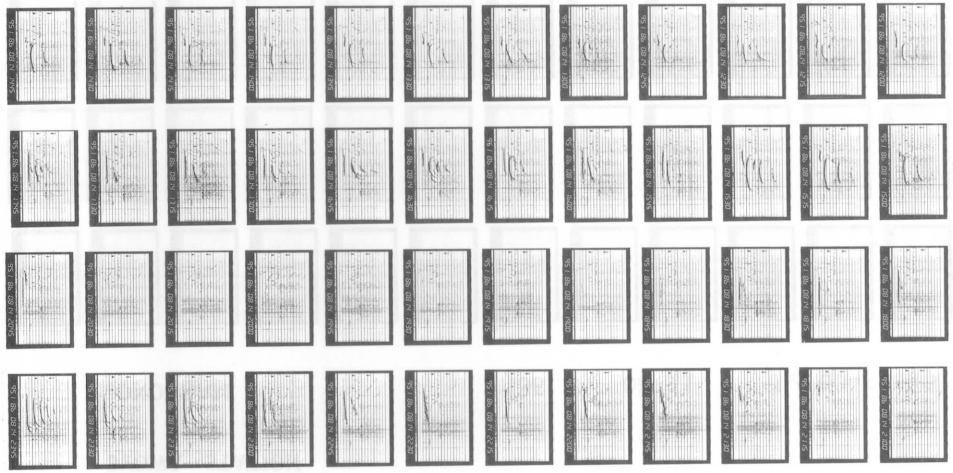
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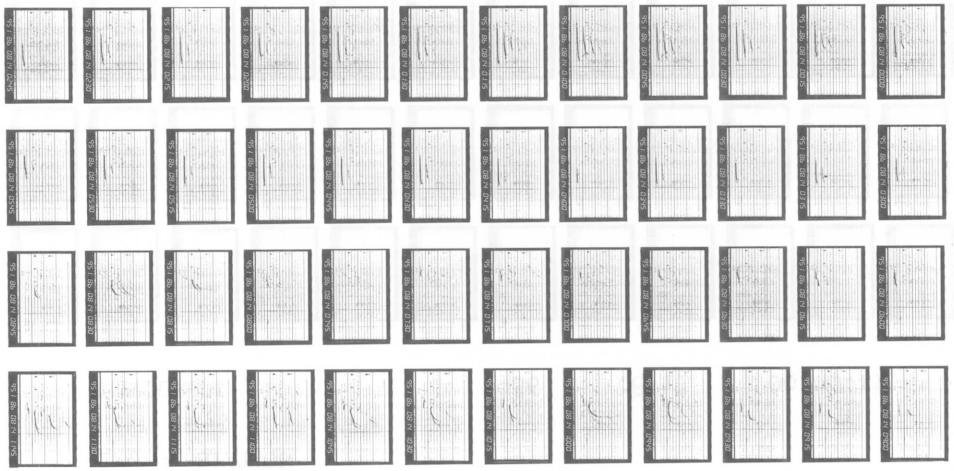
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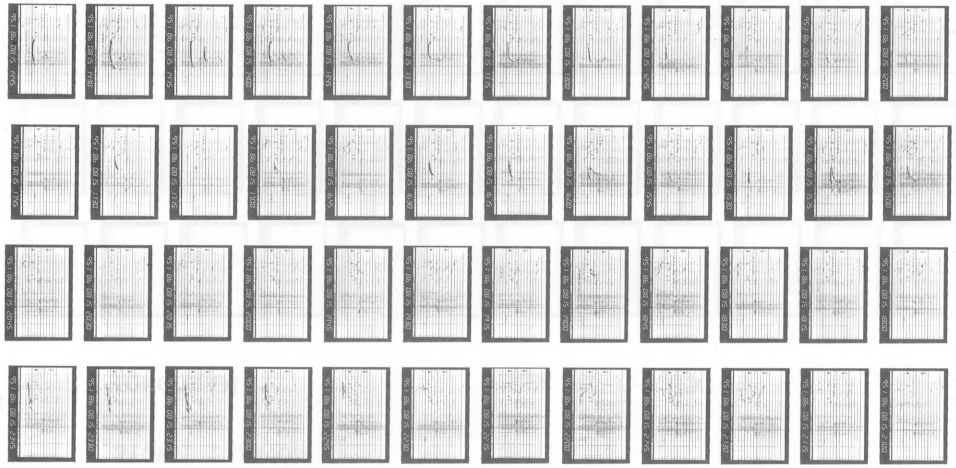
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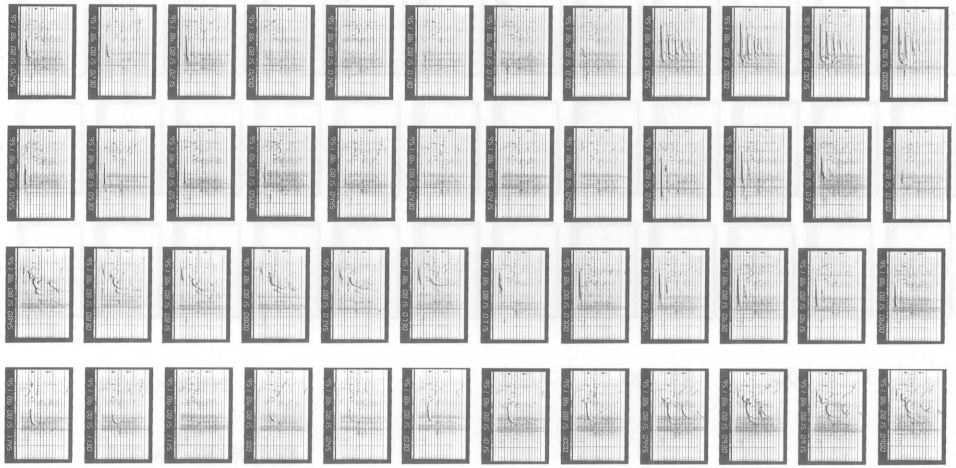
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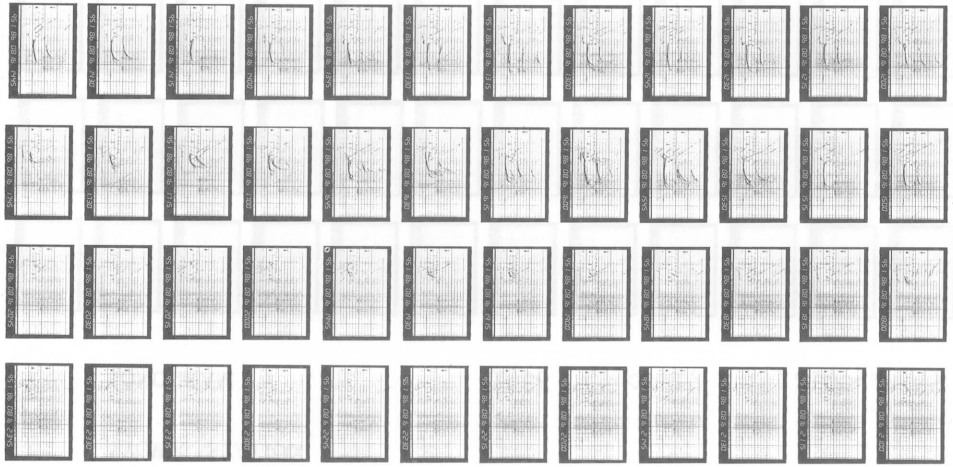
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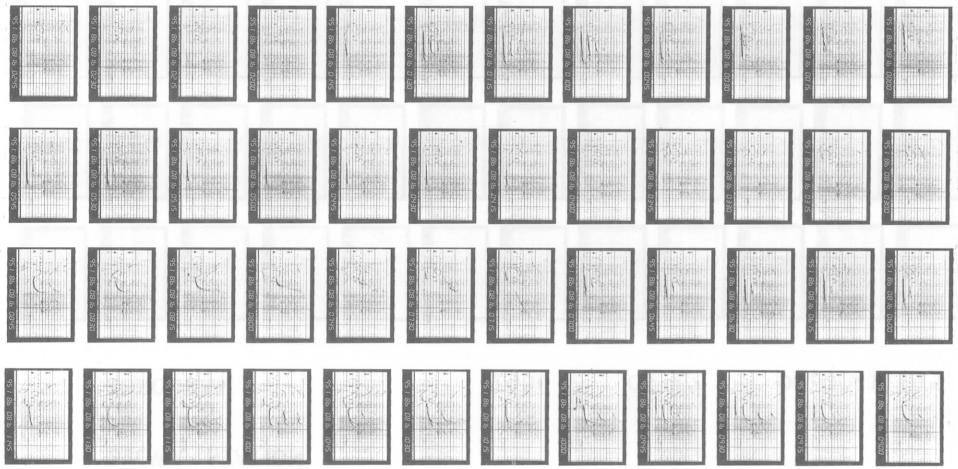
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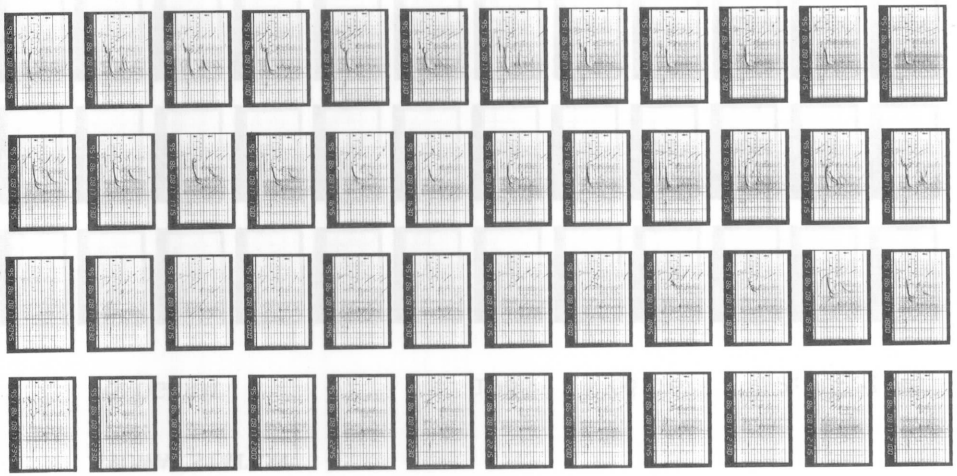
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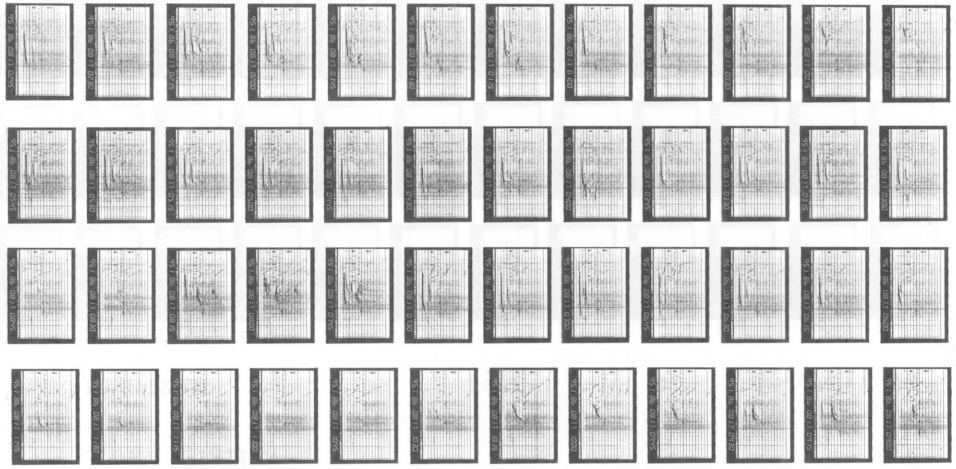
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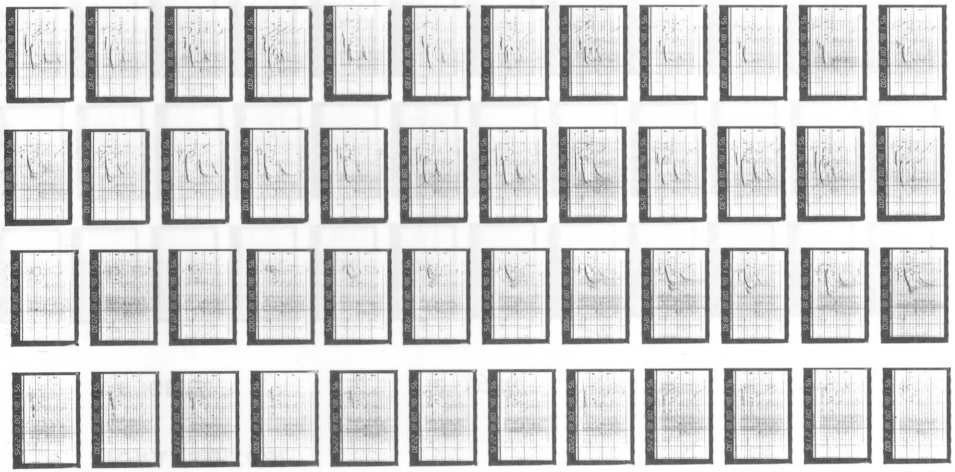
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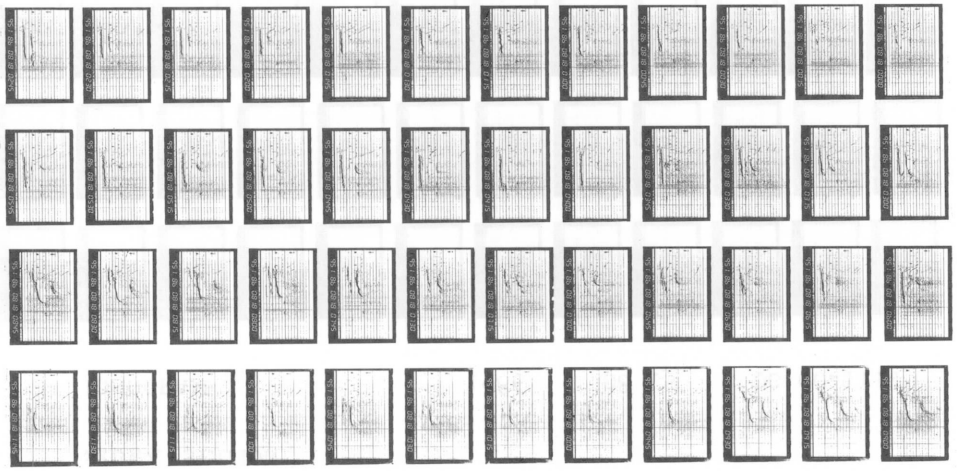
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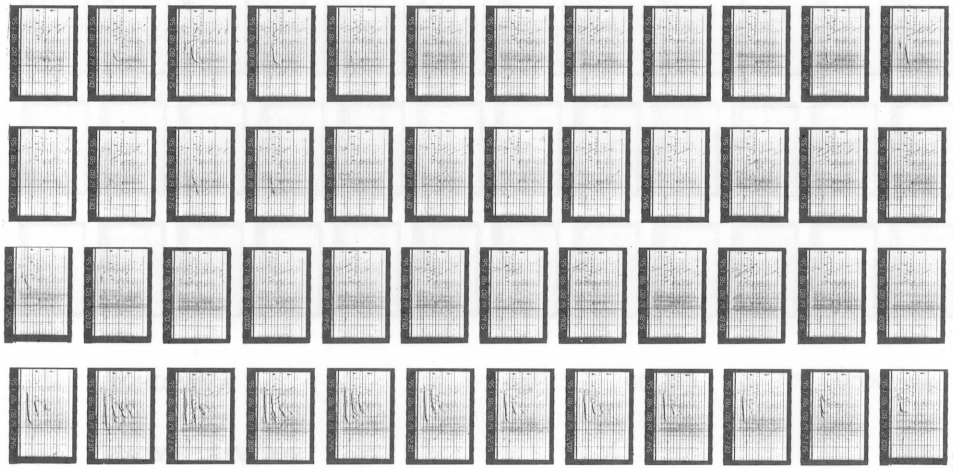
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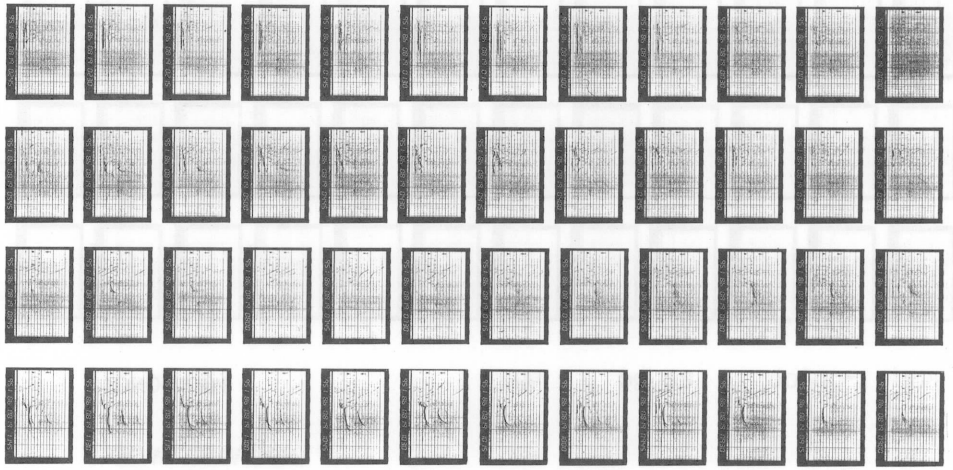
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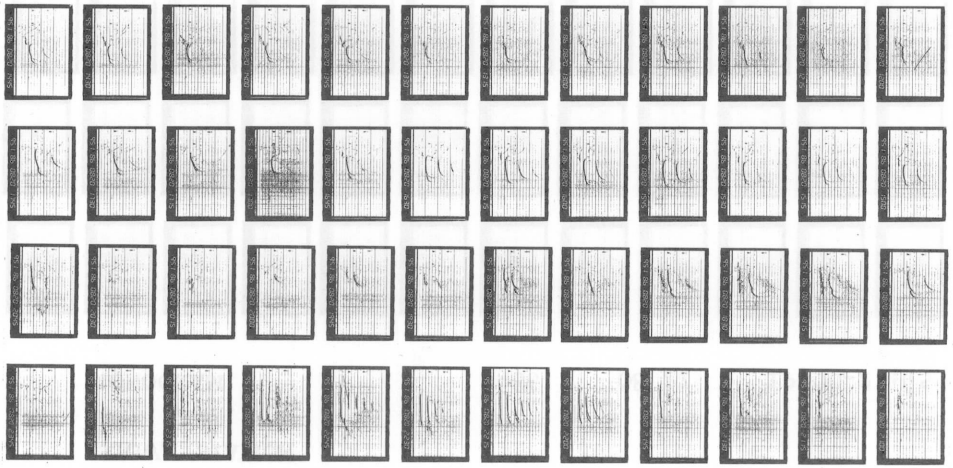
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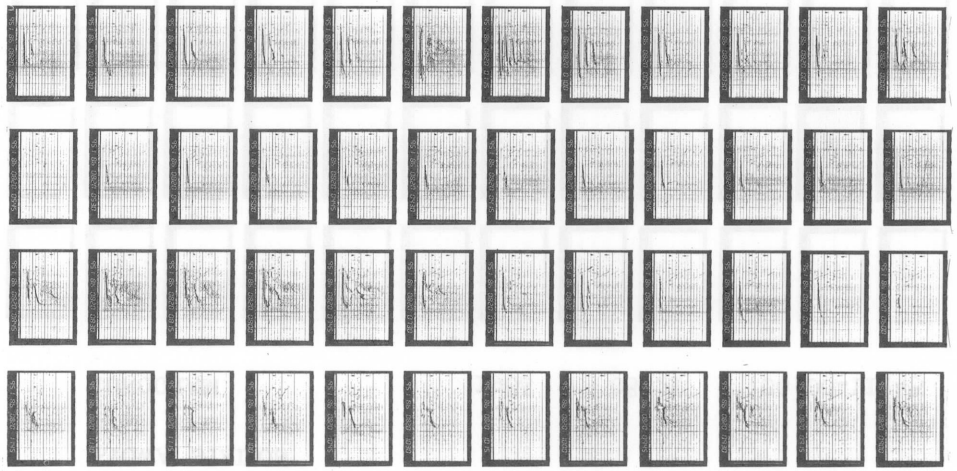
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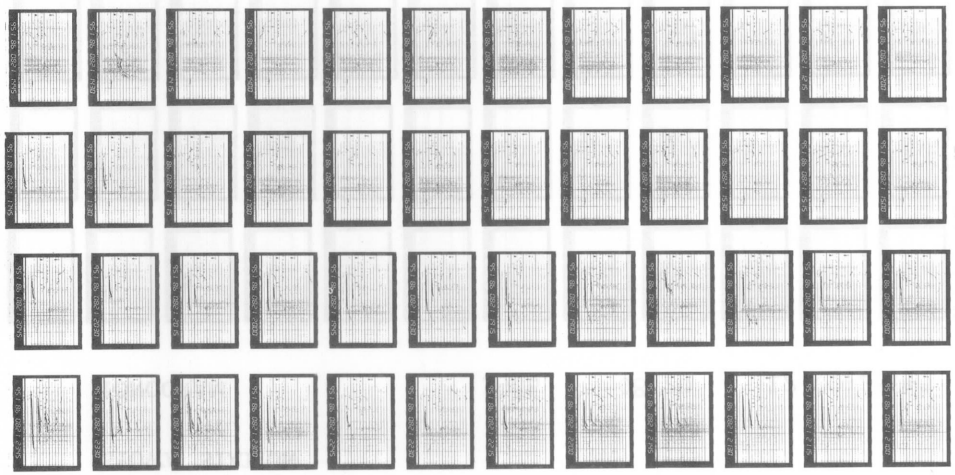
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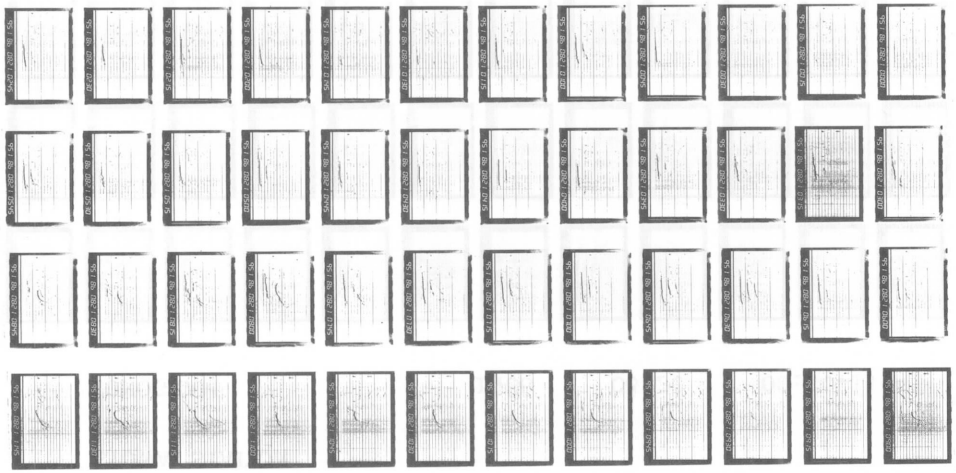
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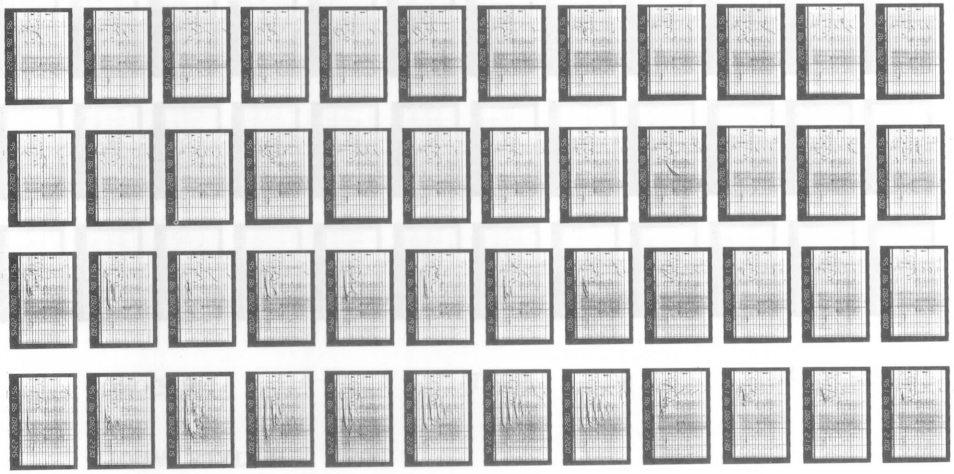
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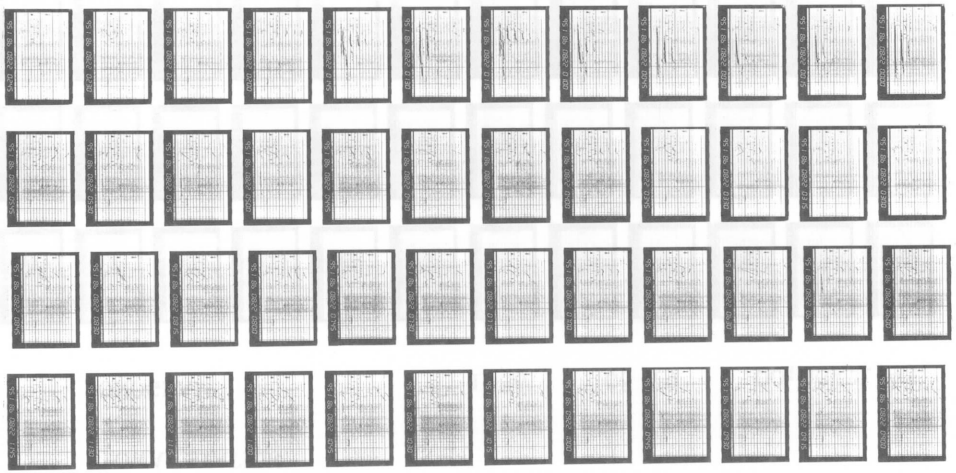
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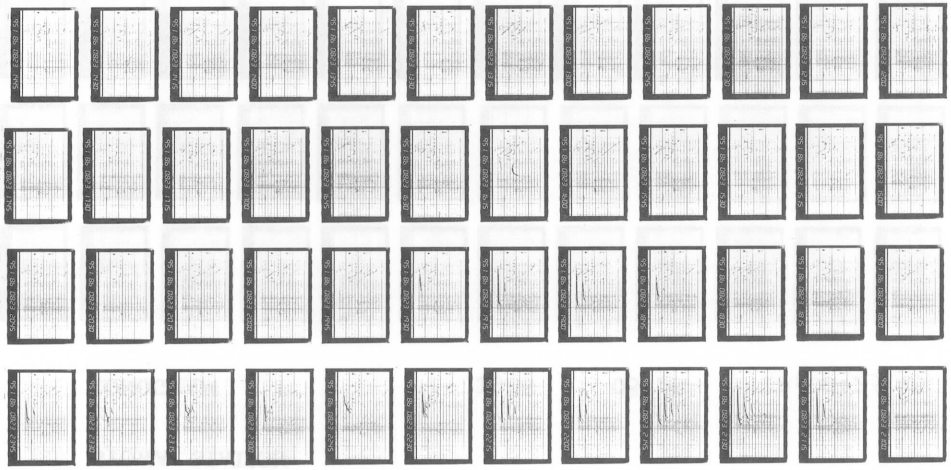
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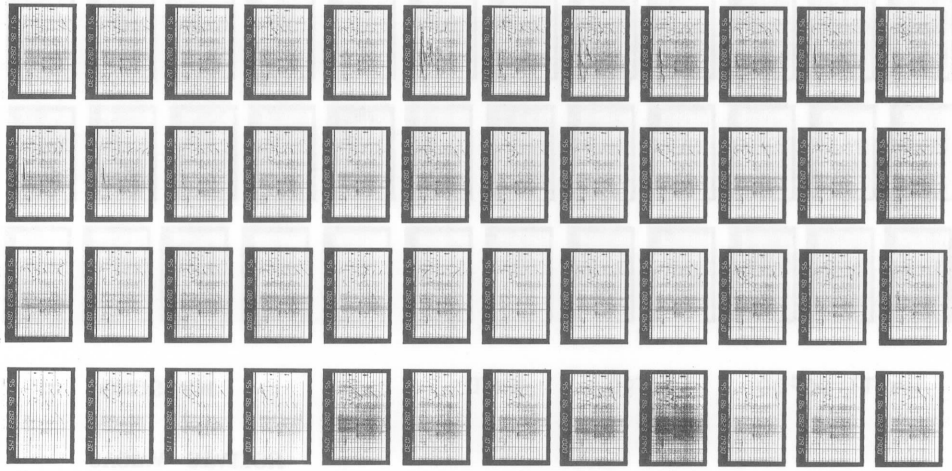
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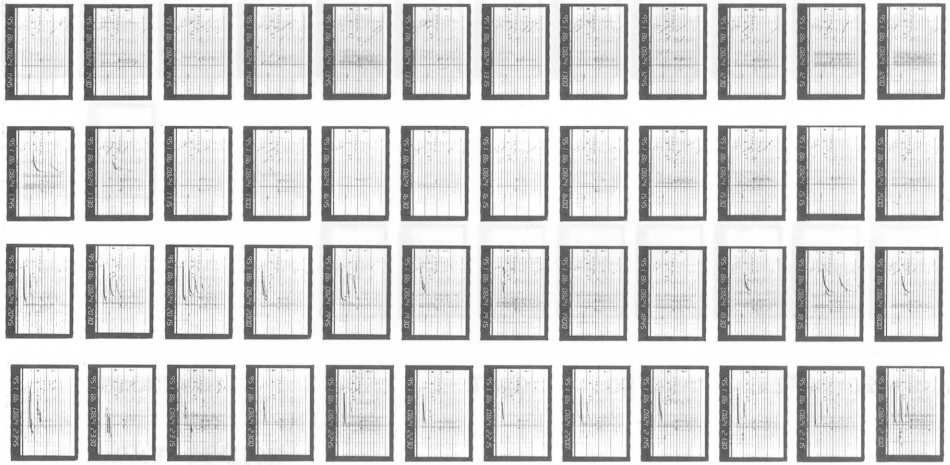
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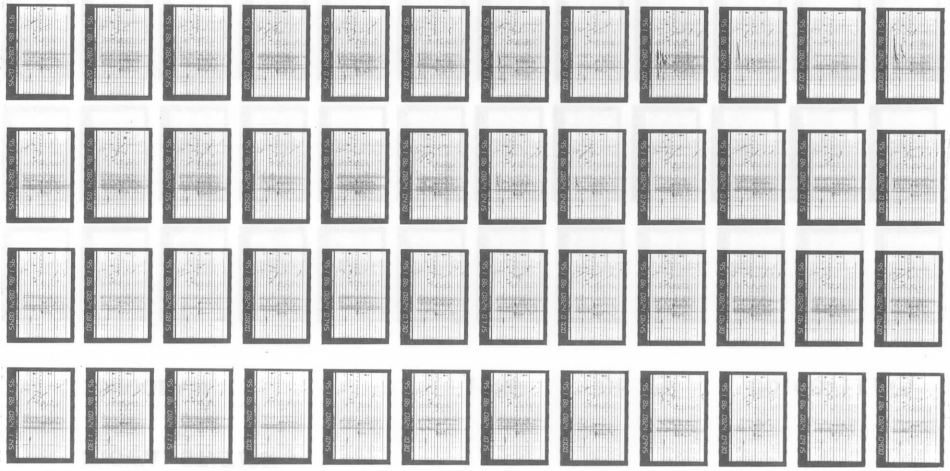
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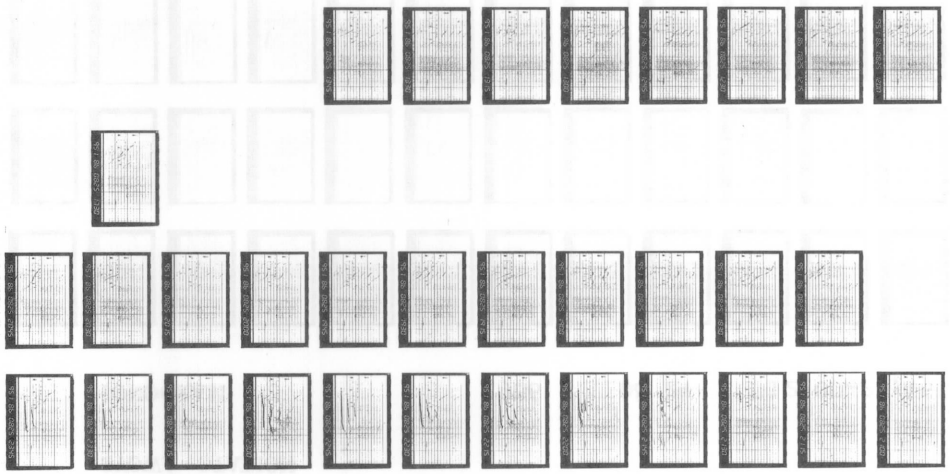
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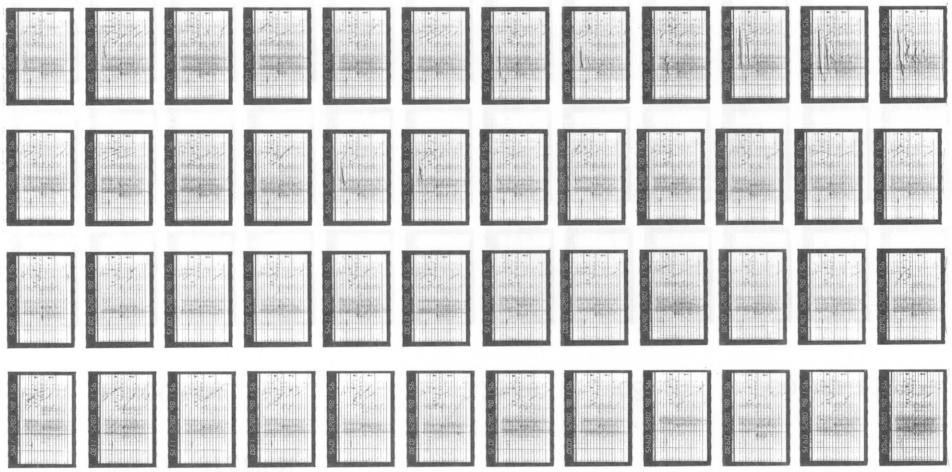
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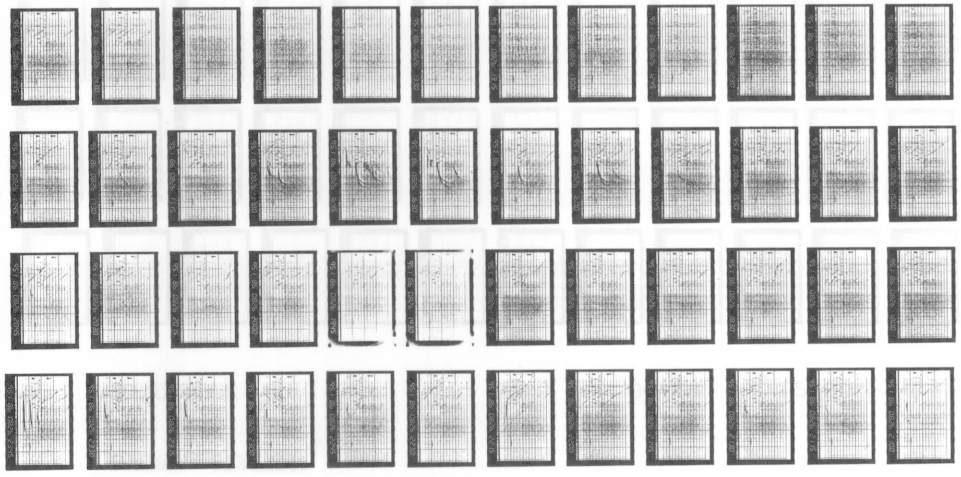
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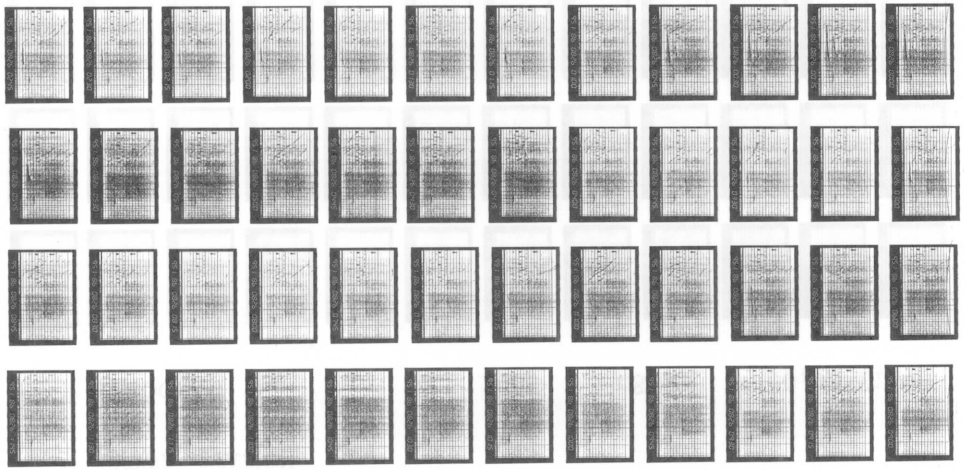
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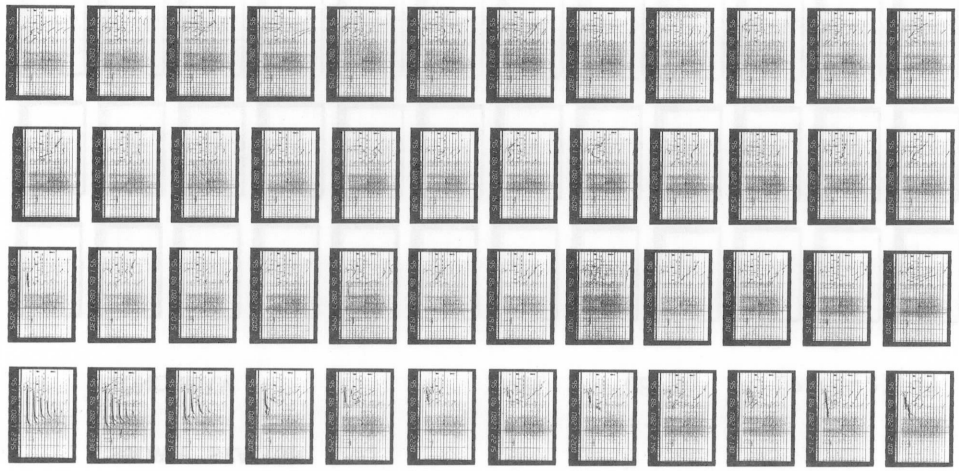
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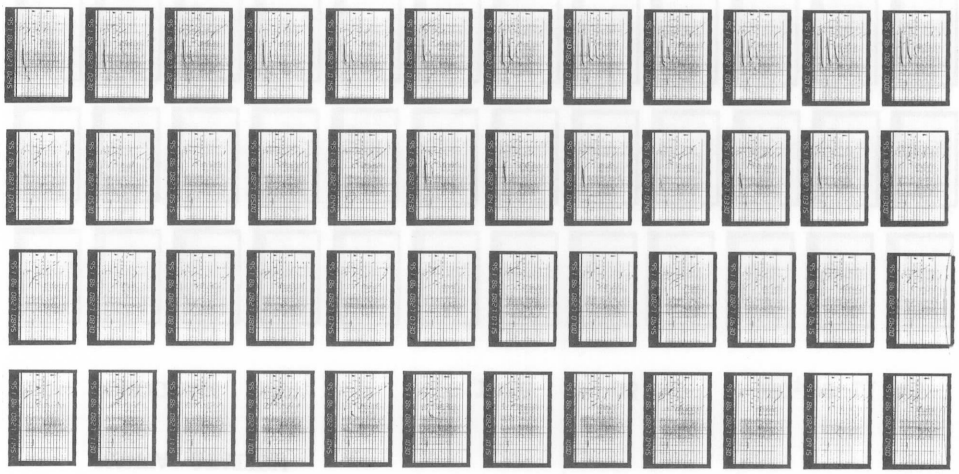
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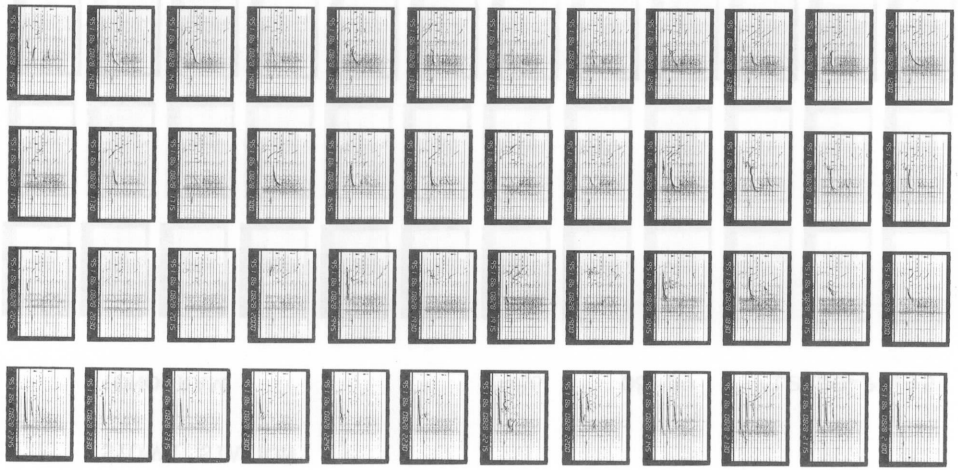
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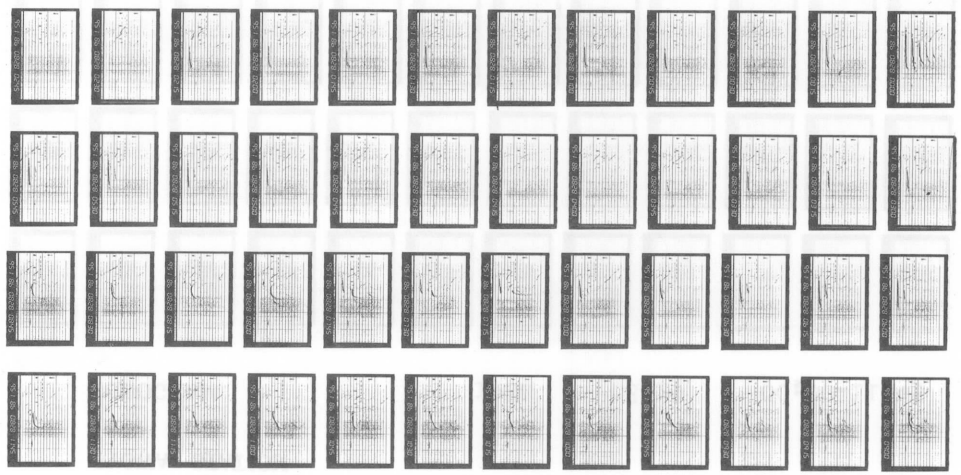
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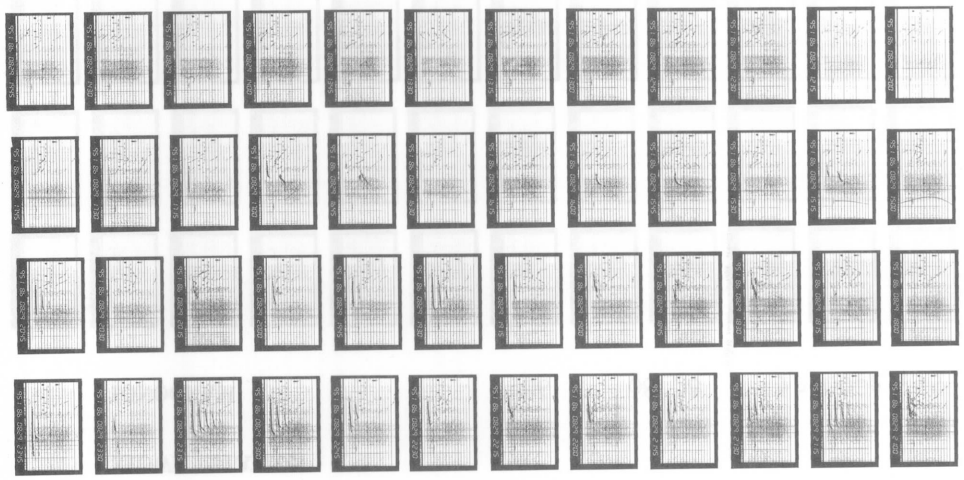
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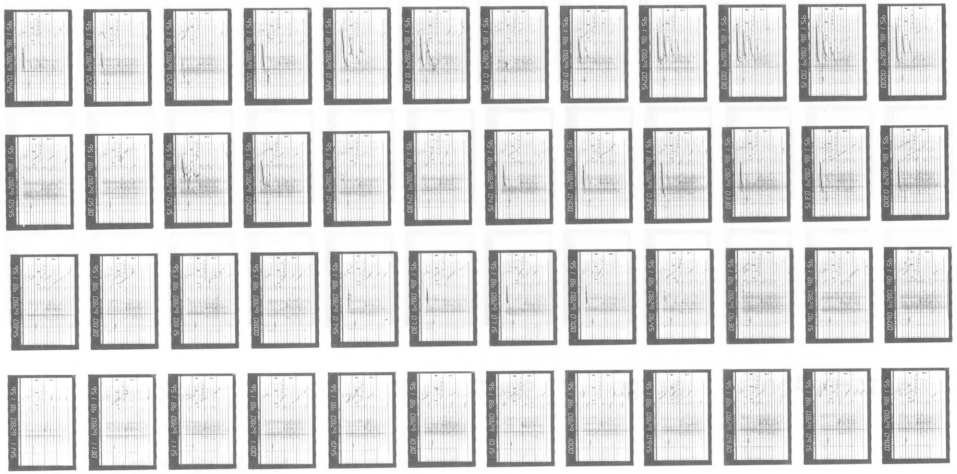
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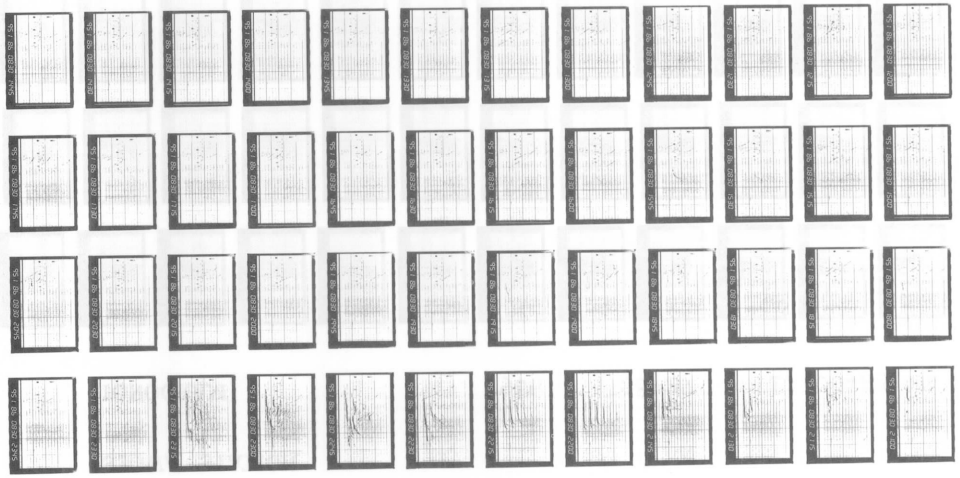
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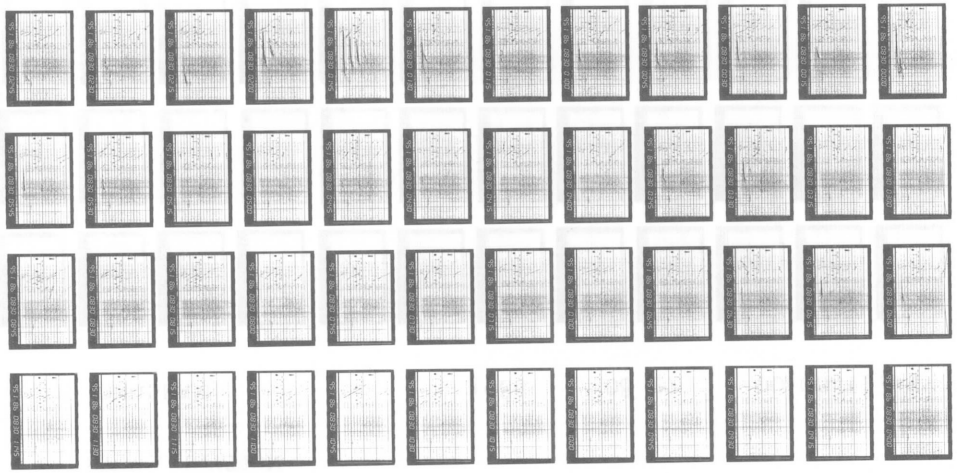
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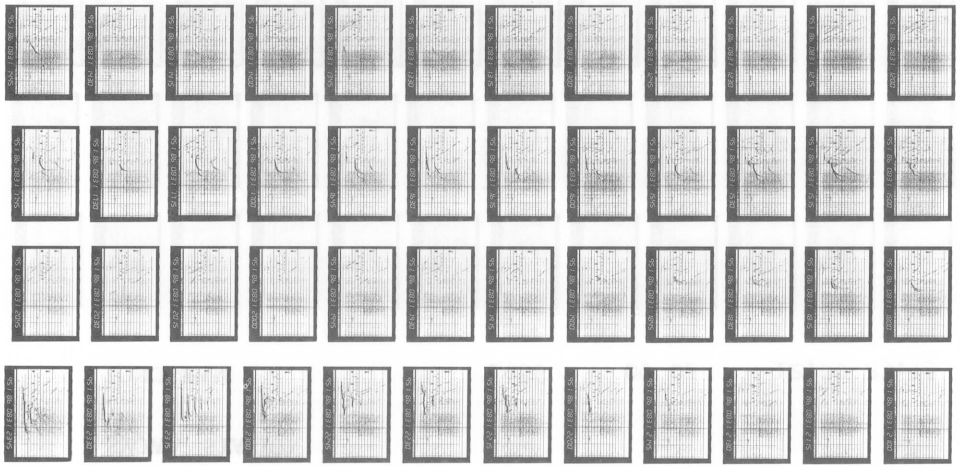
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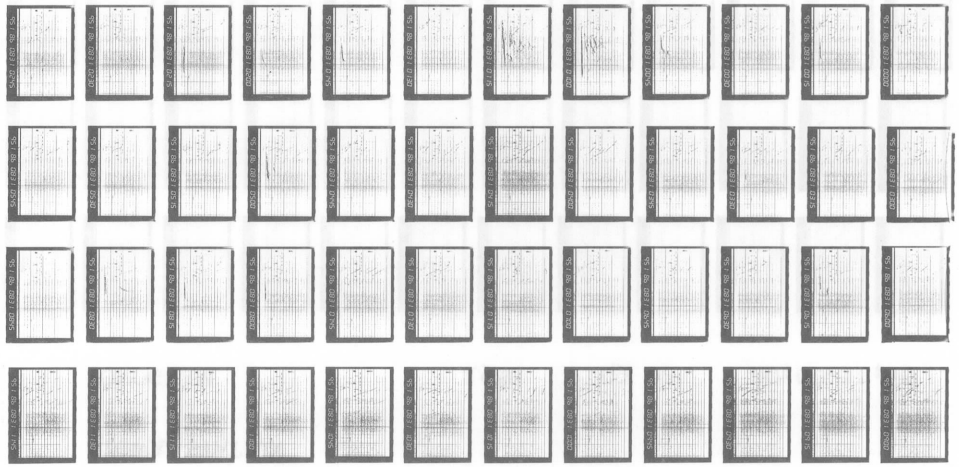
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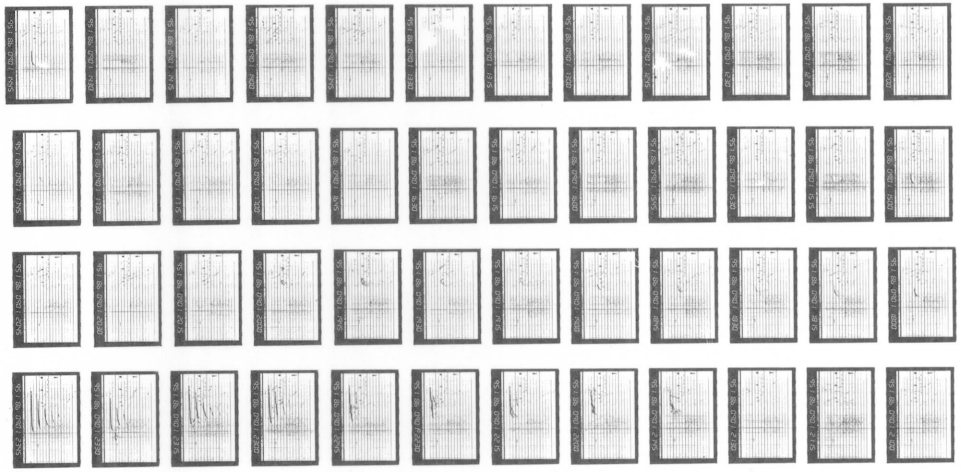
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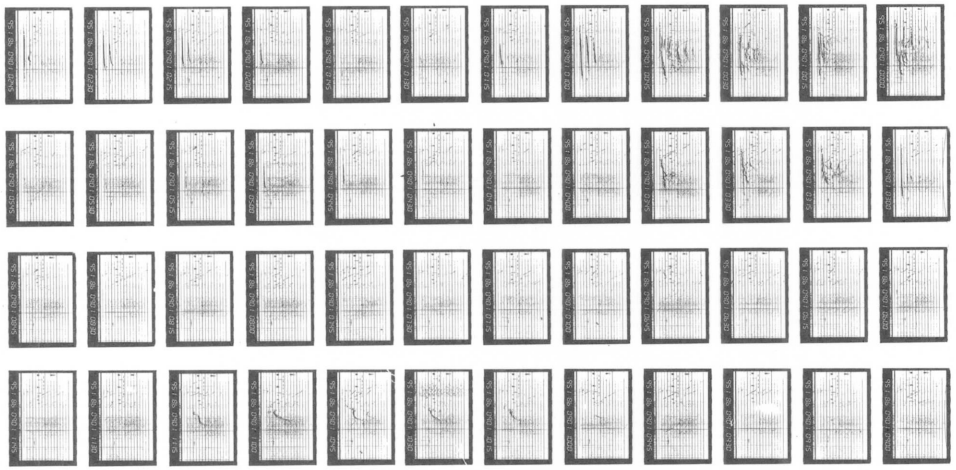
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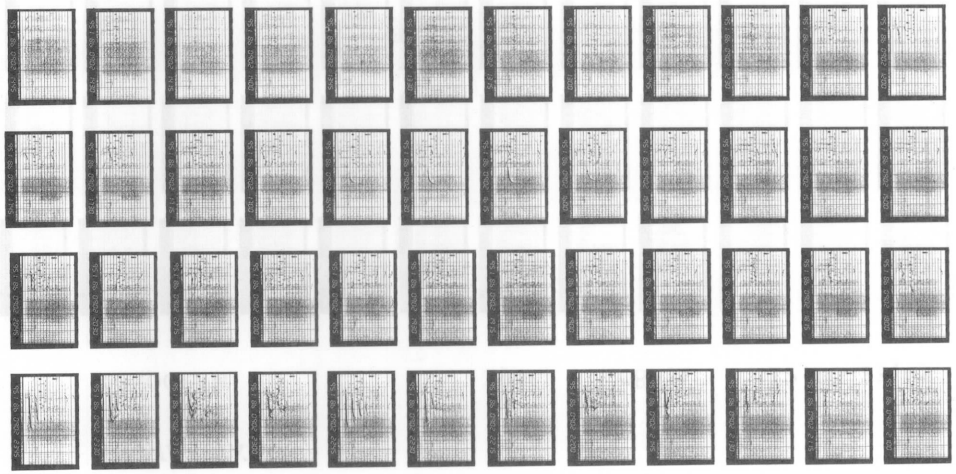
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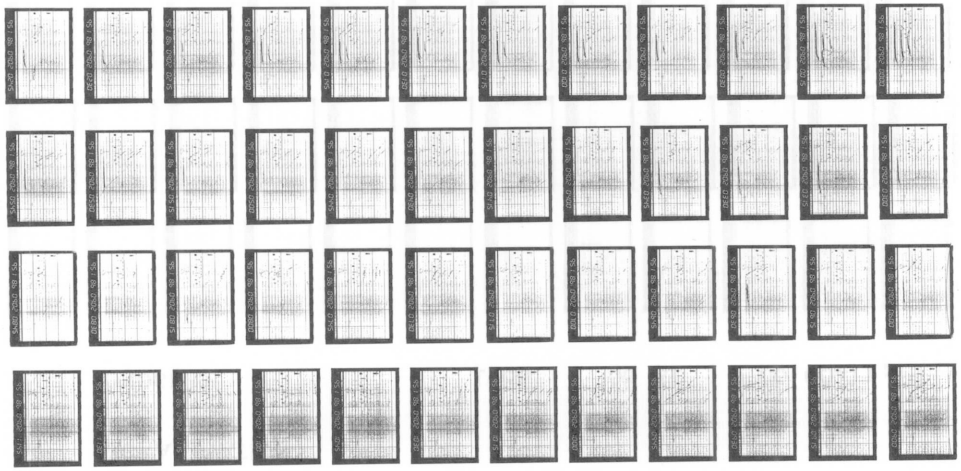
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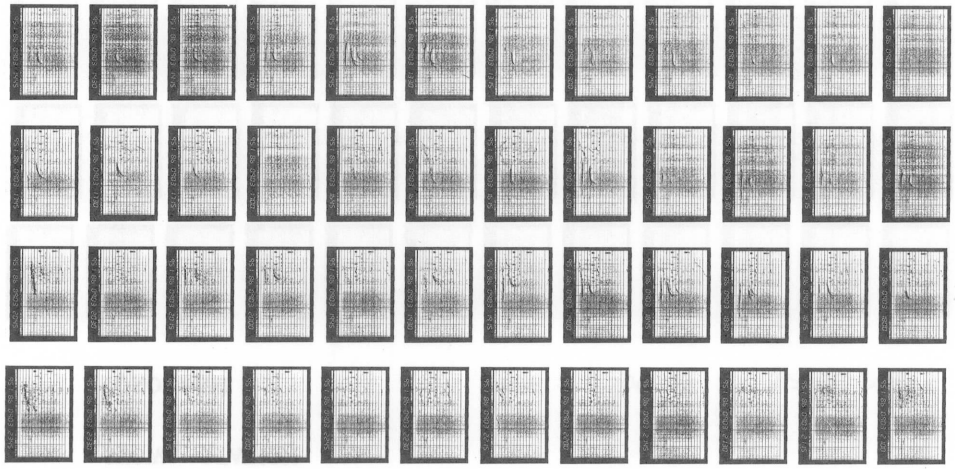
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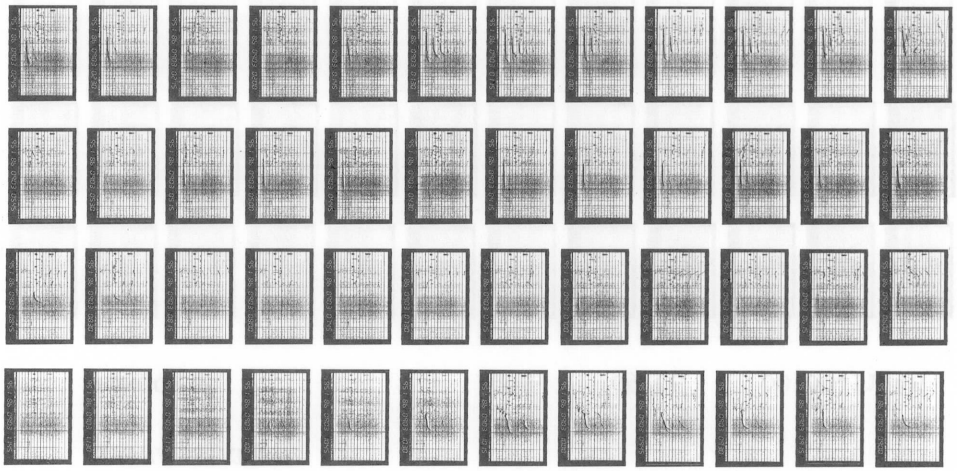
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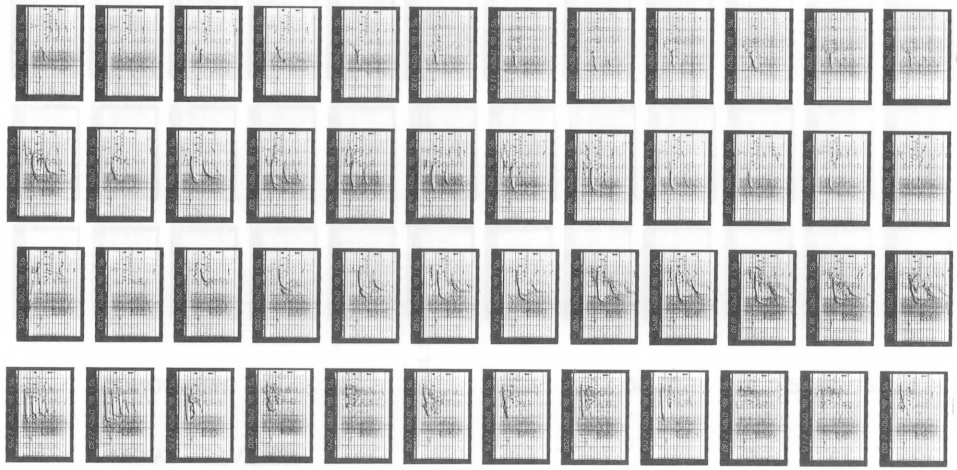
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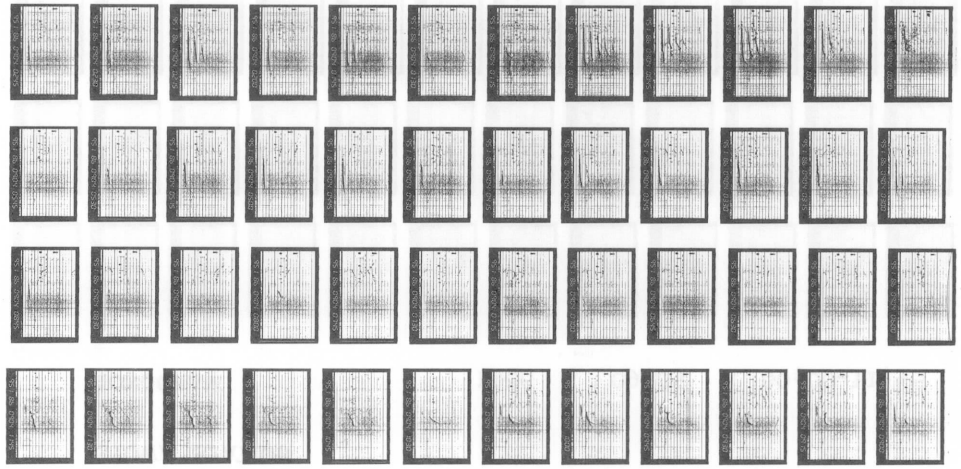
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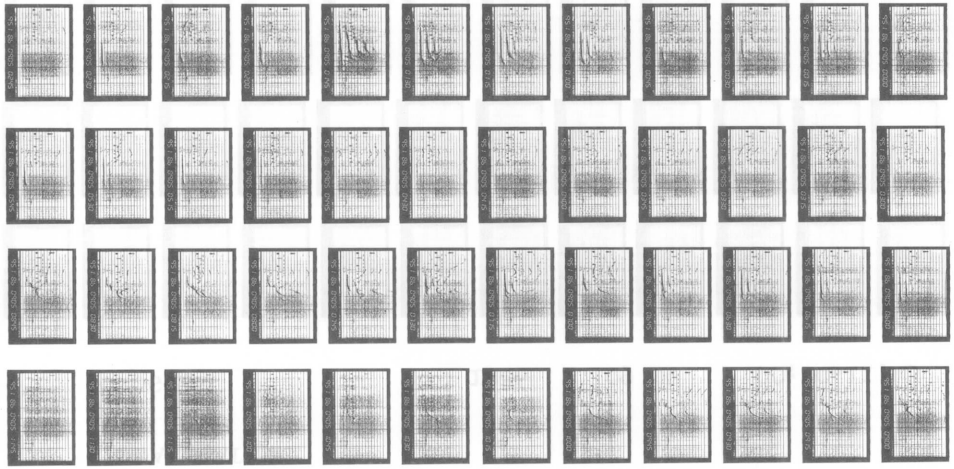
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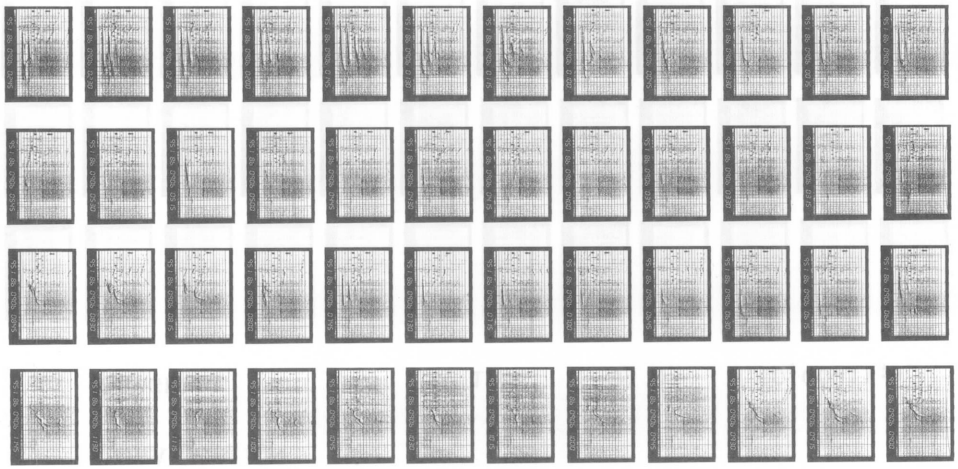
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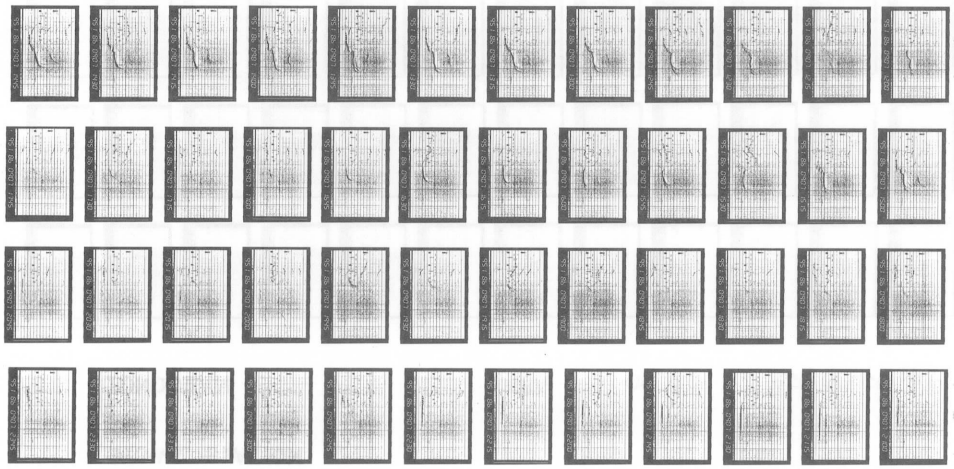
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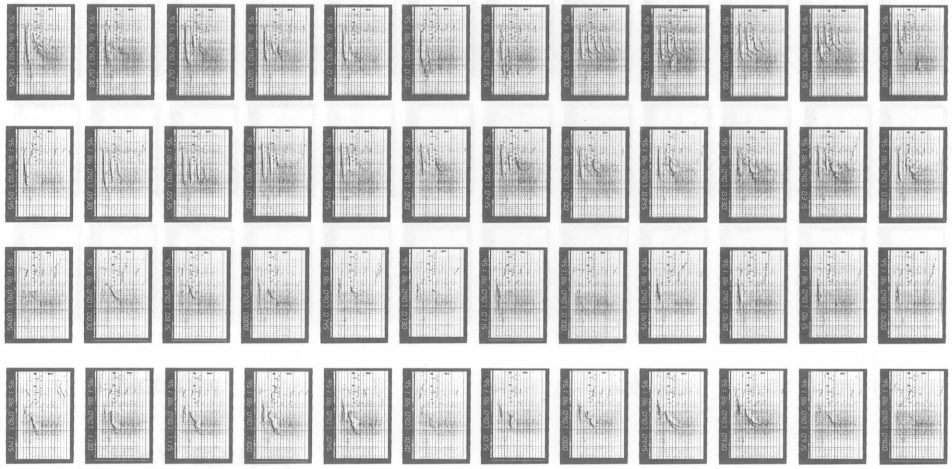
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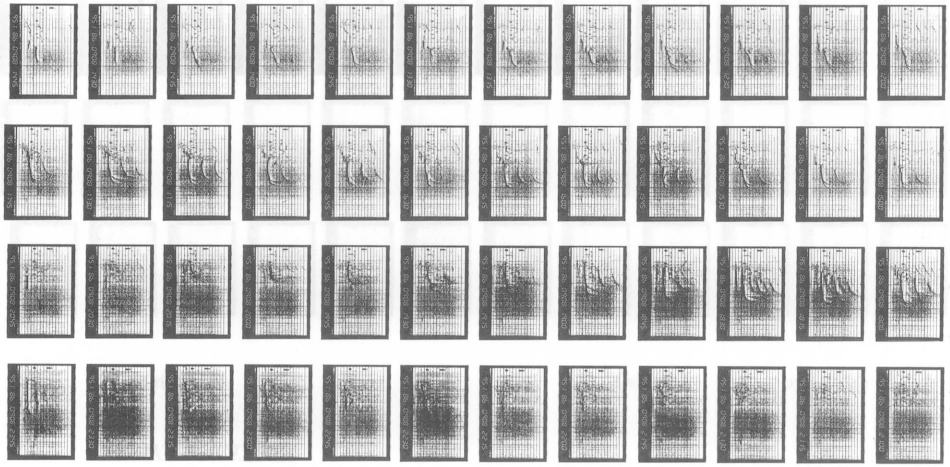
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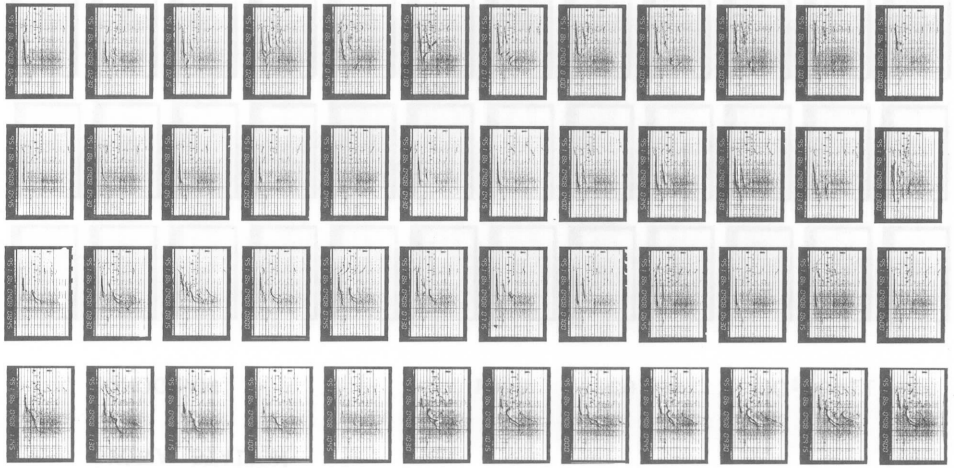
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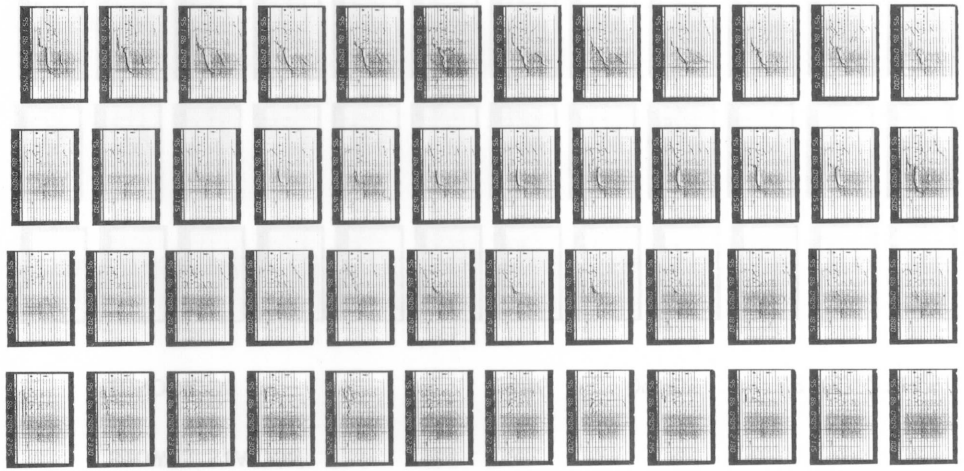
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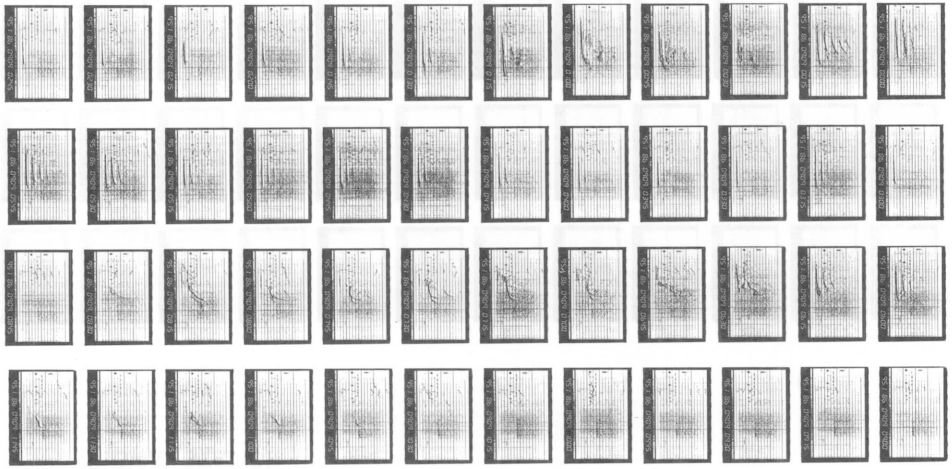
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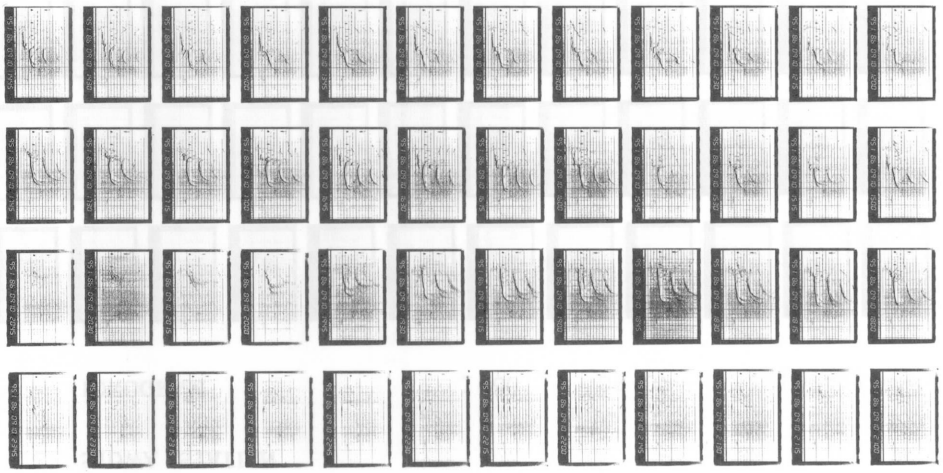
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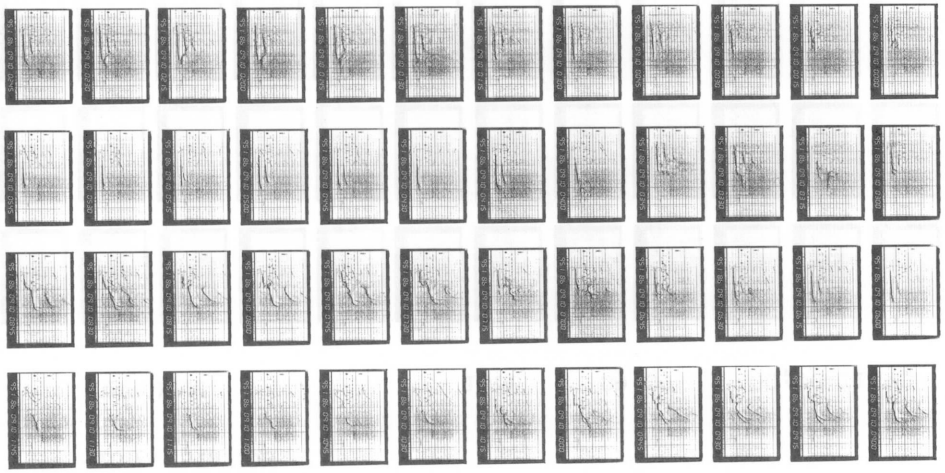
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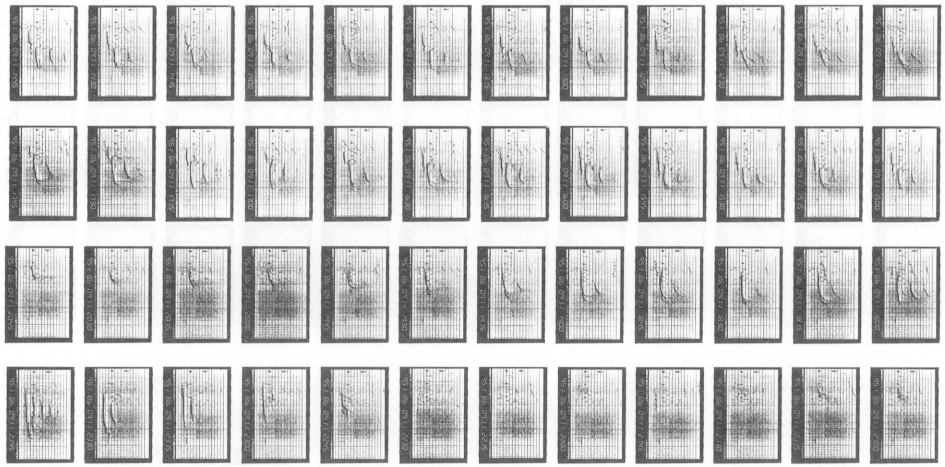
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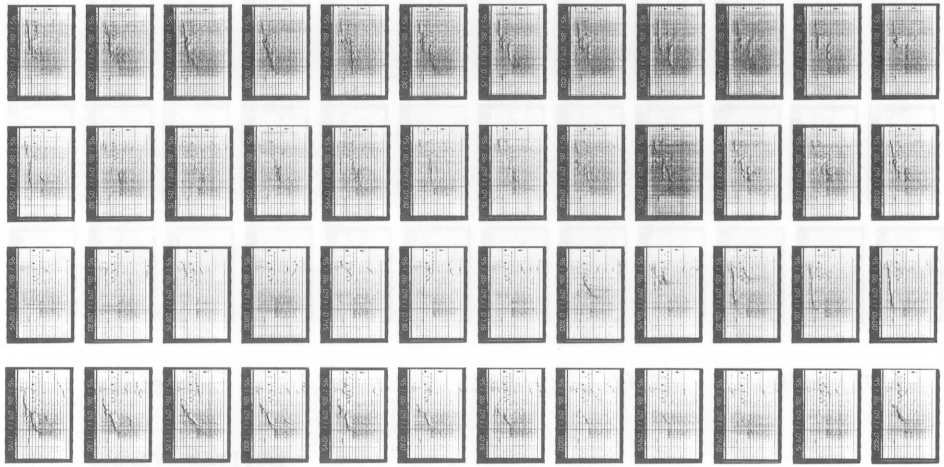
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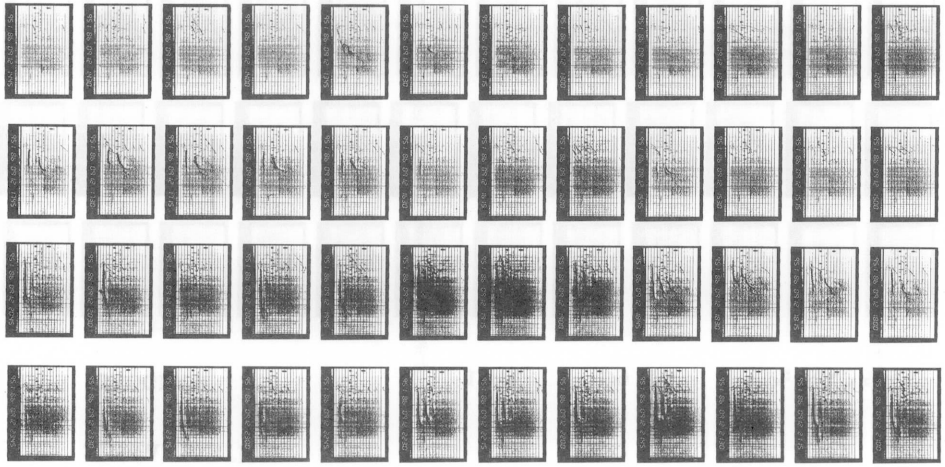
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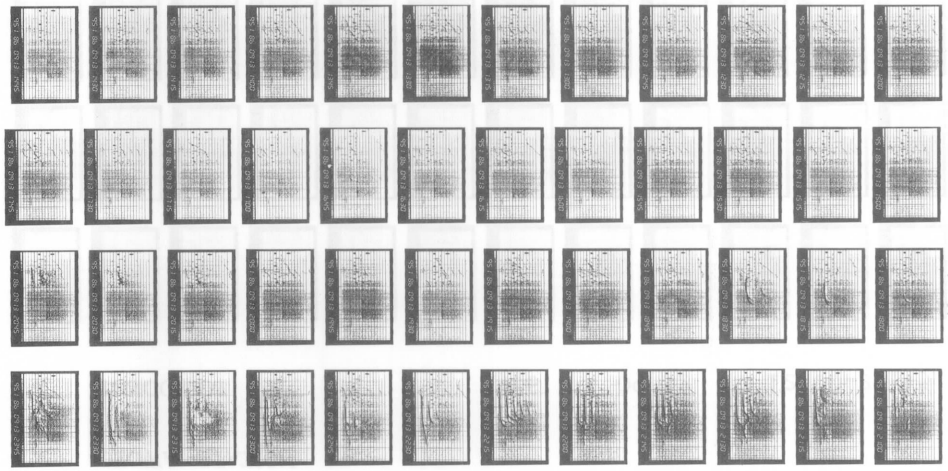
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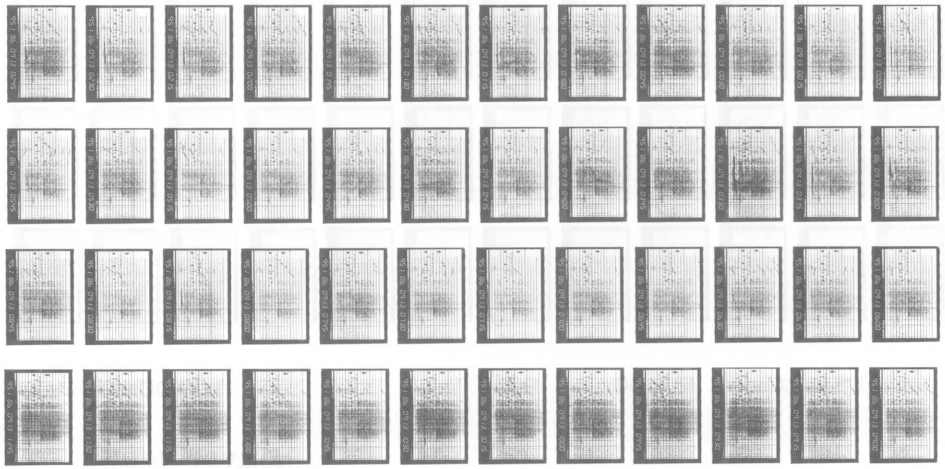
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IONOGRAM 1986 09 13 12;00-23;45



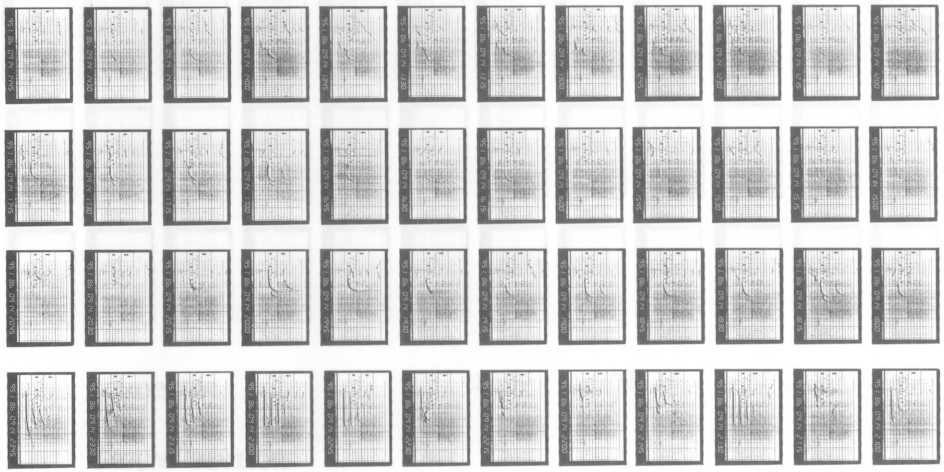
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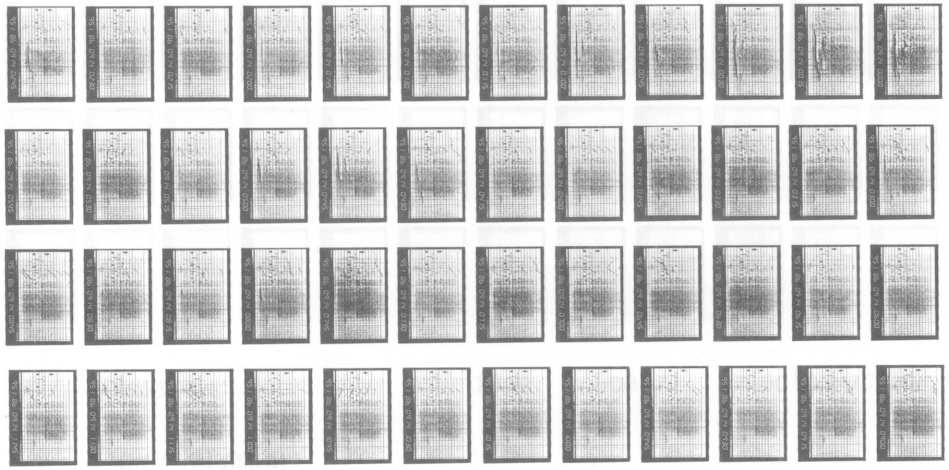
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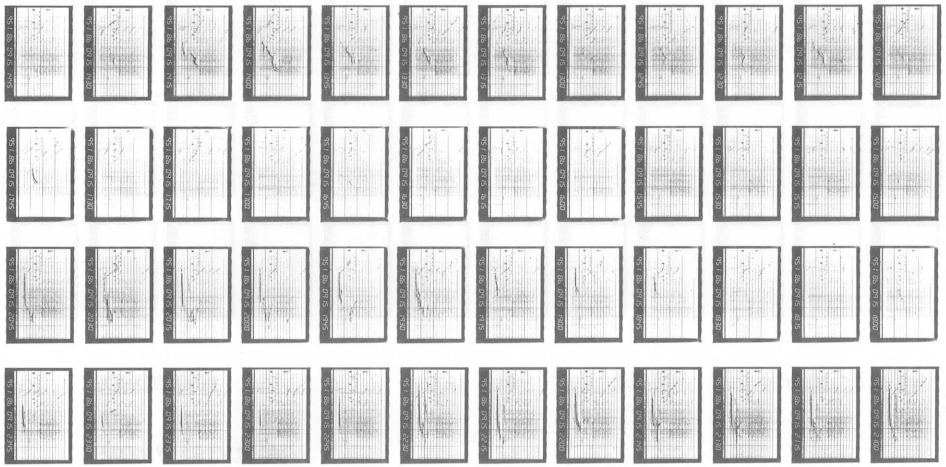
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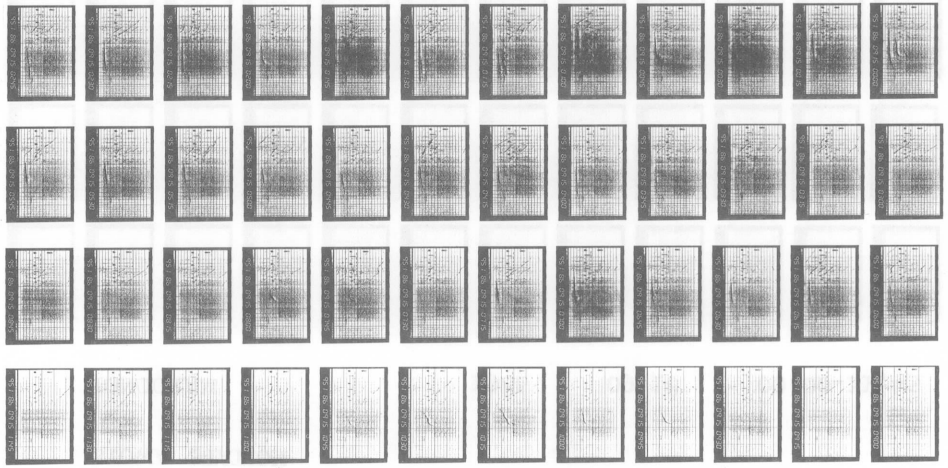
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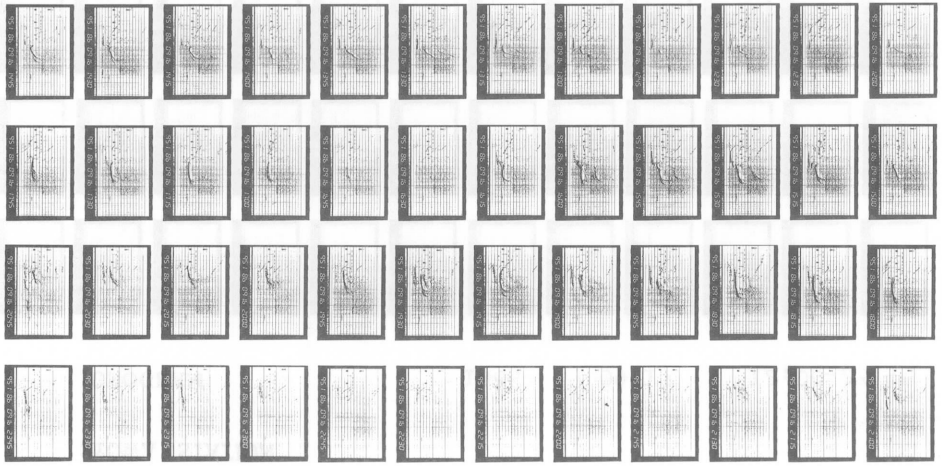
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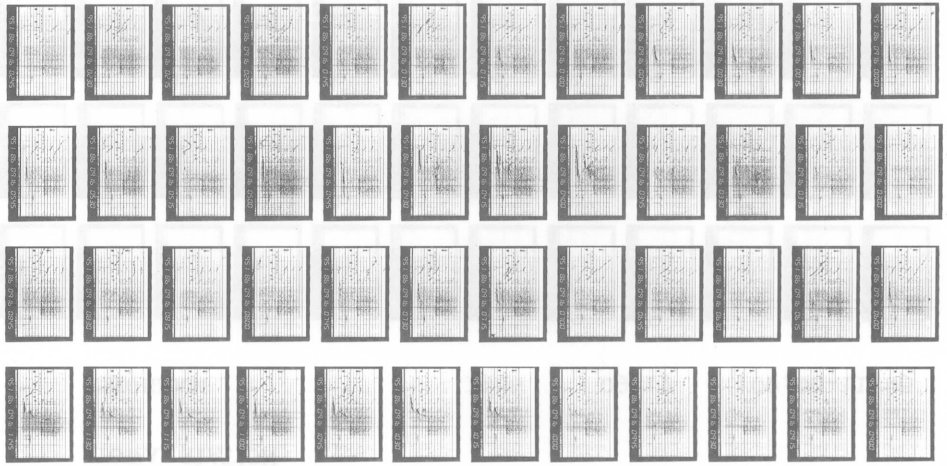
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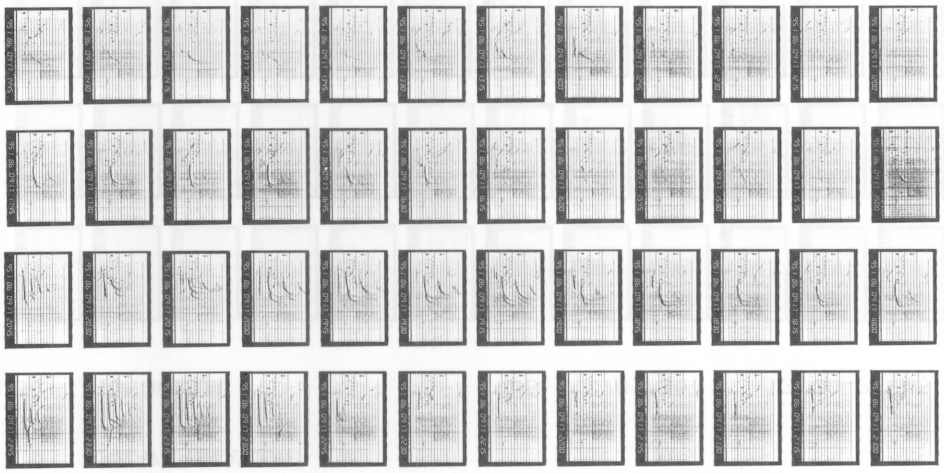
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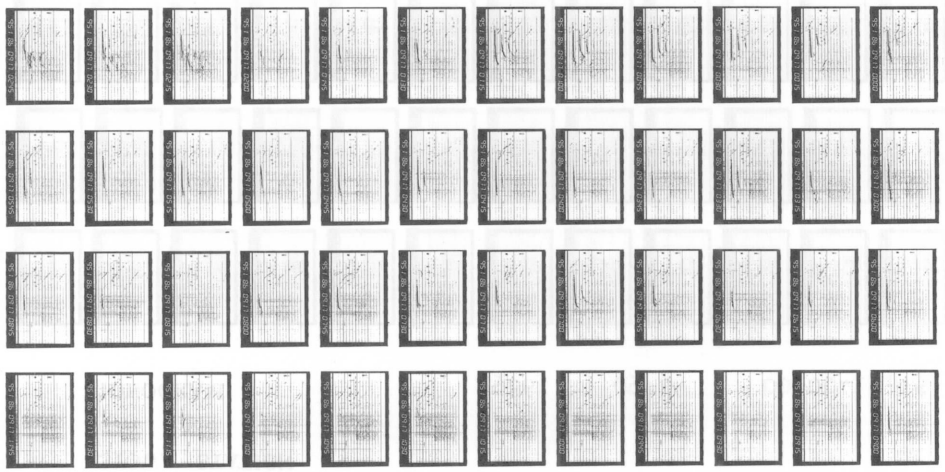
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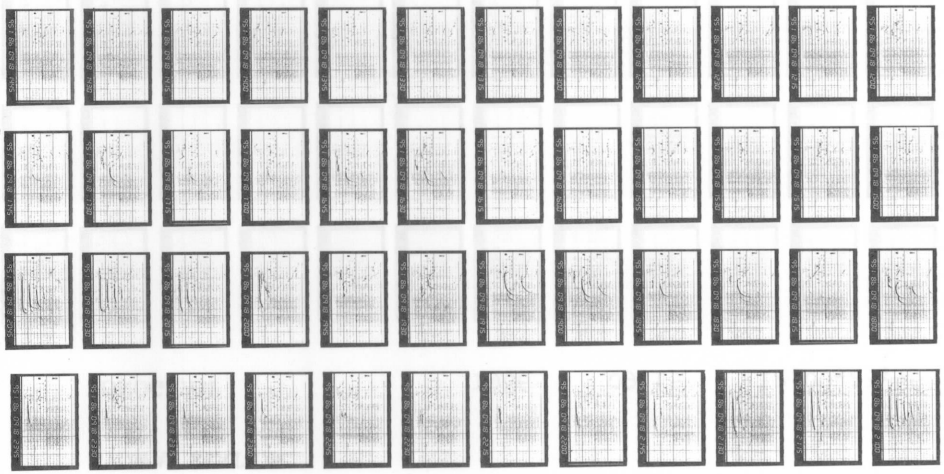
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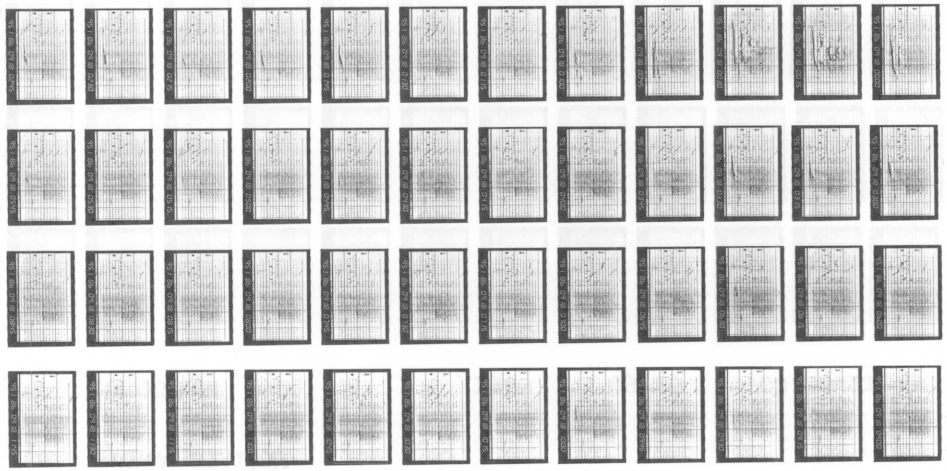
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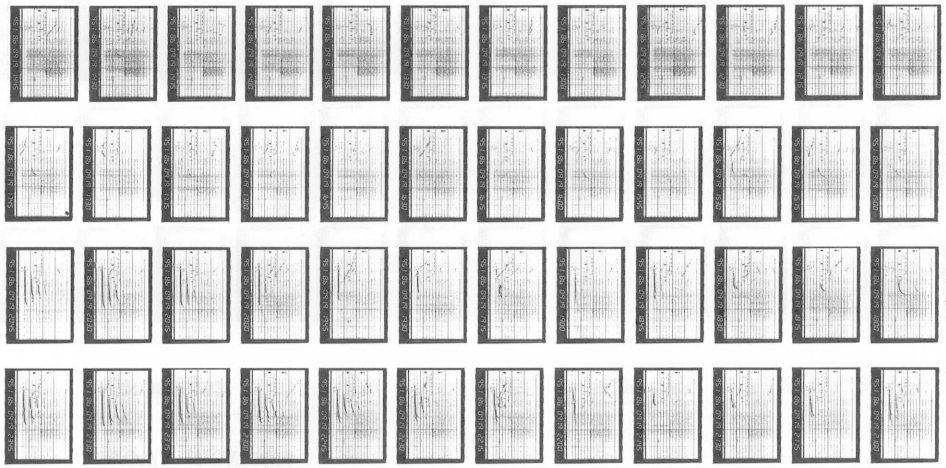
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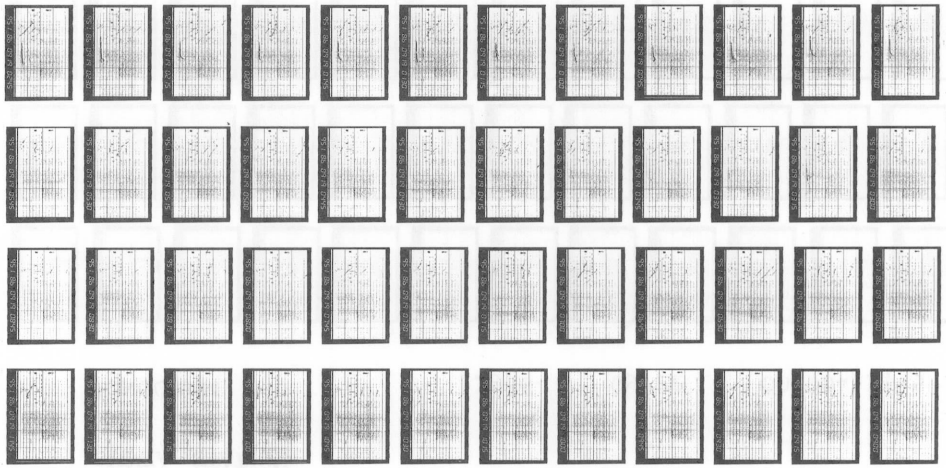
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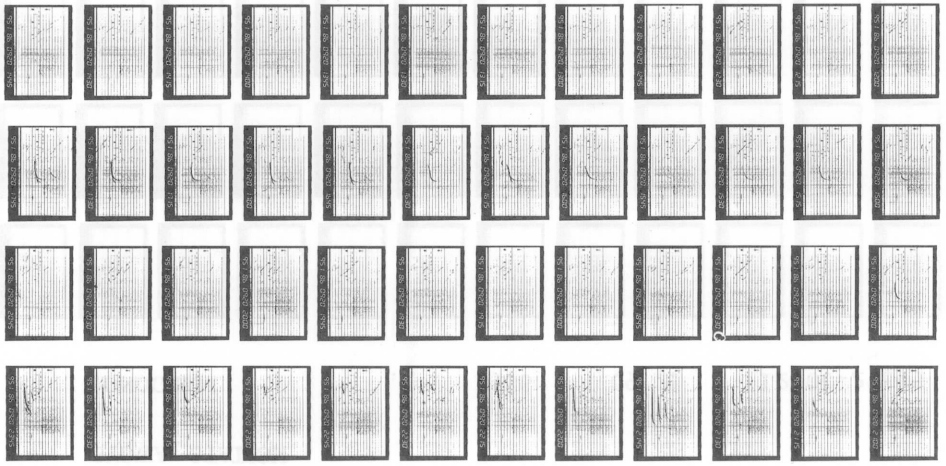
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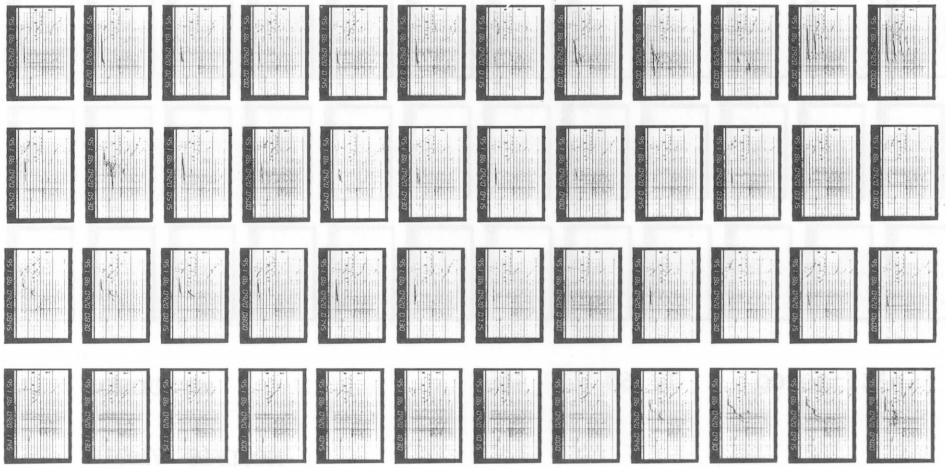
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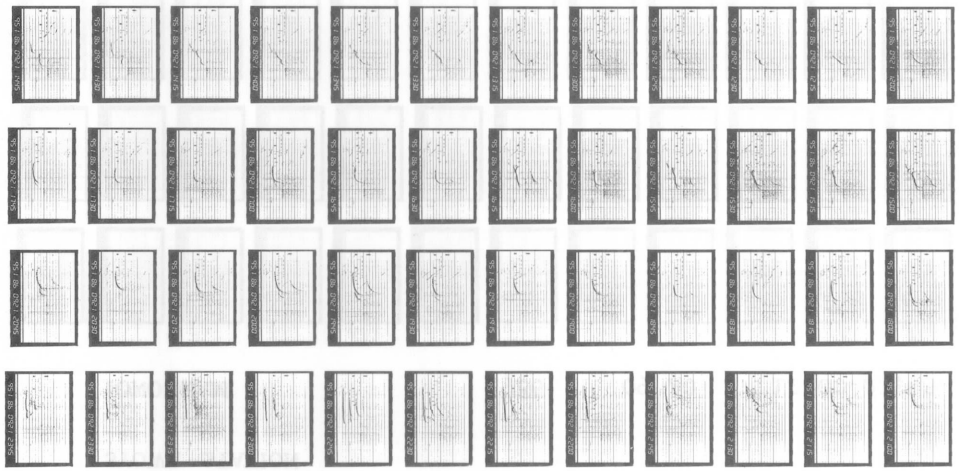
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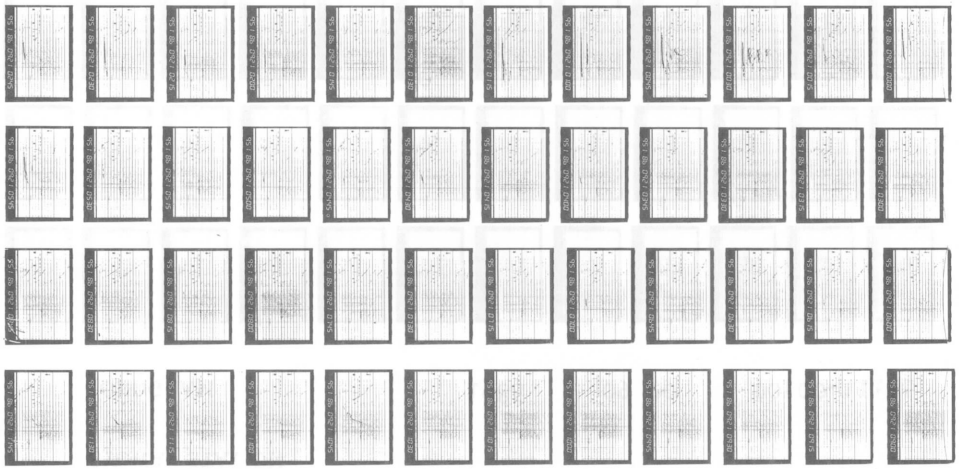
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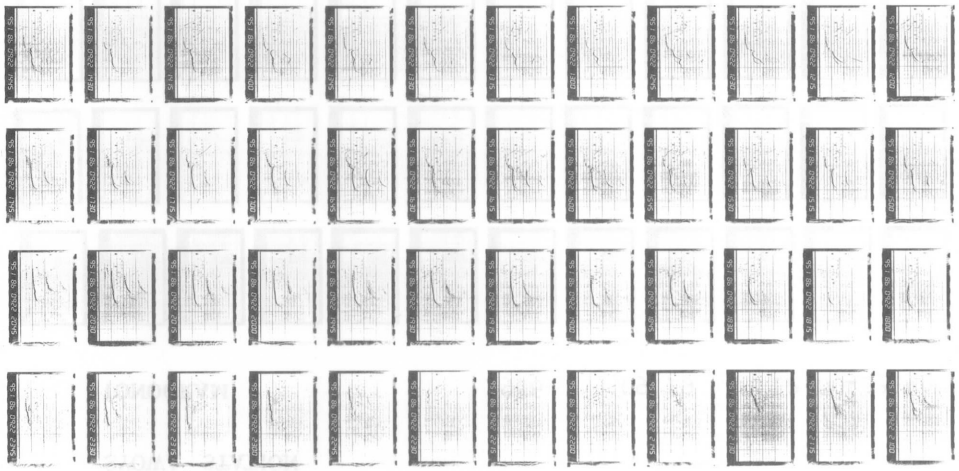
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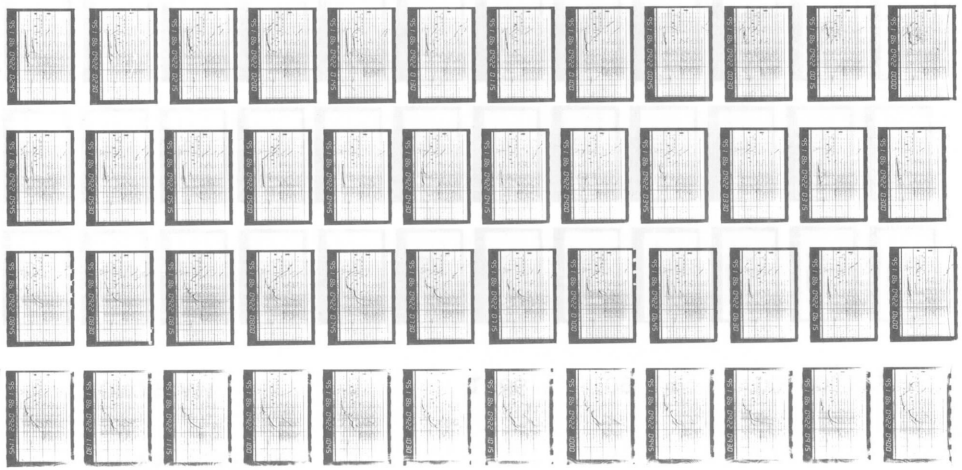
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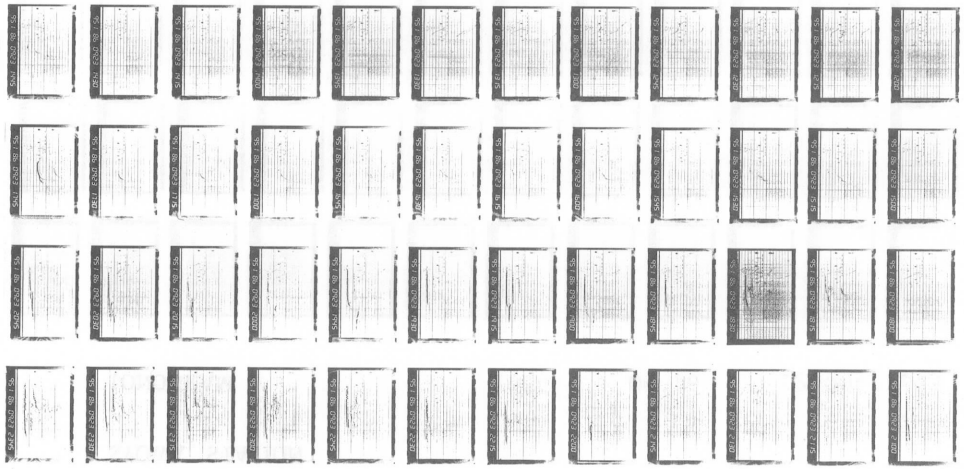
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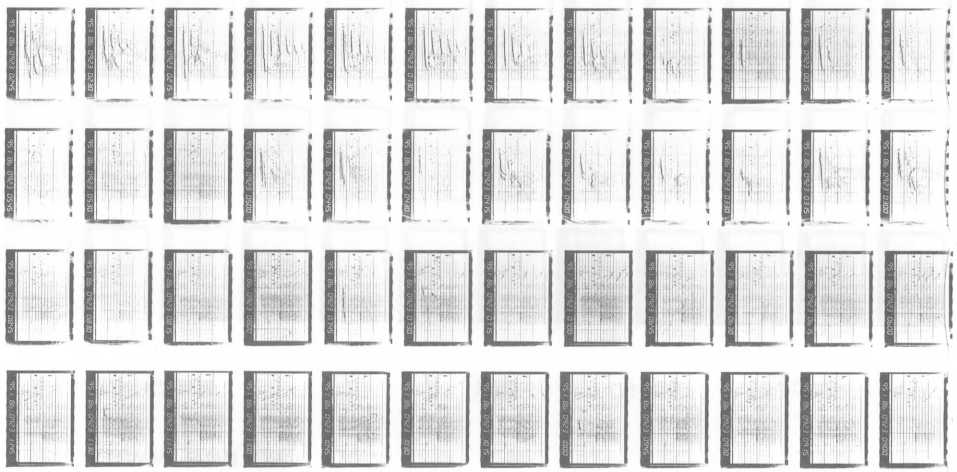
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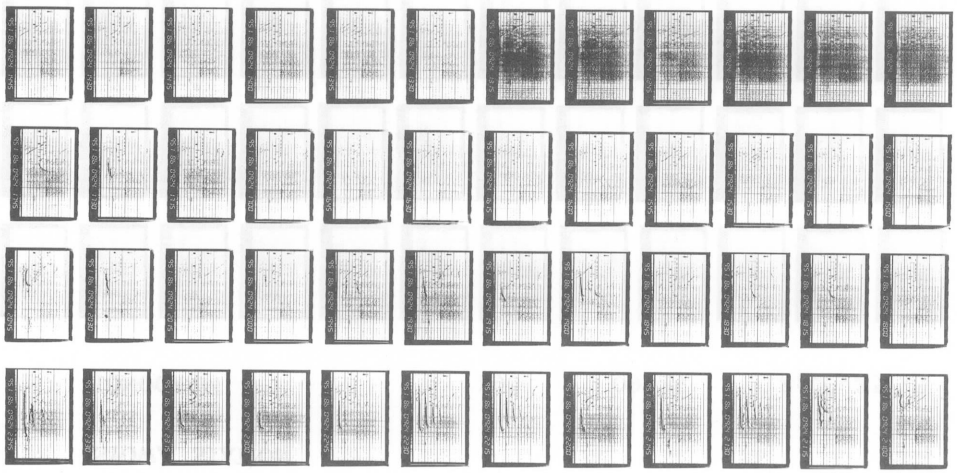
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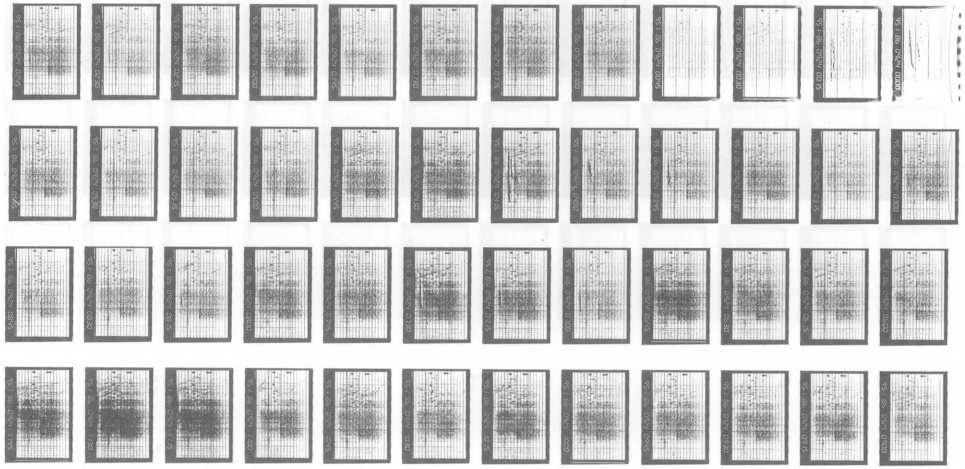
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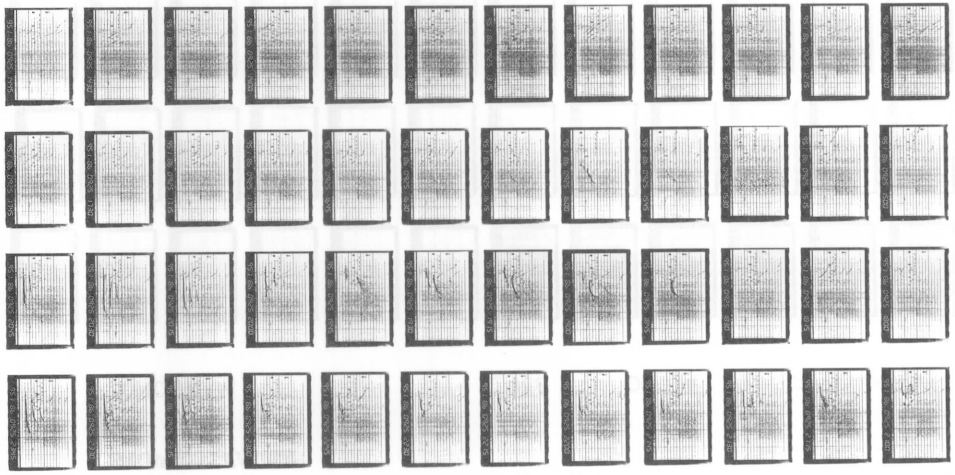
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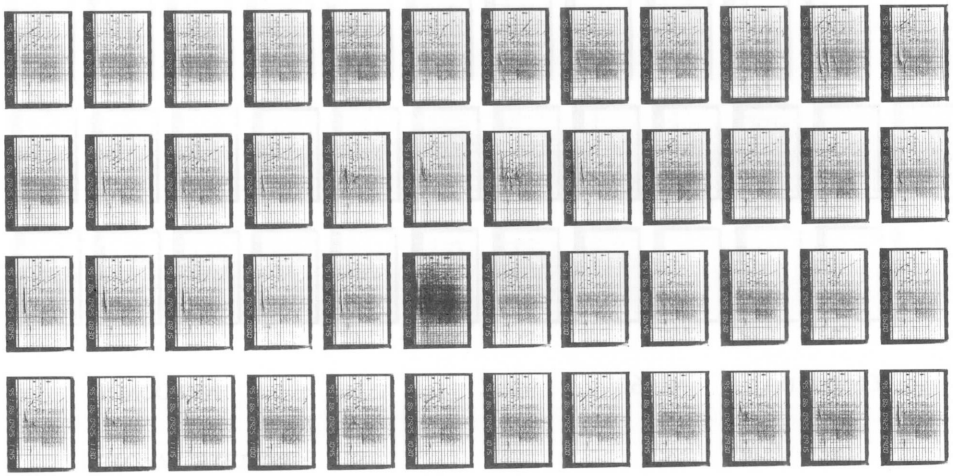
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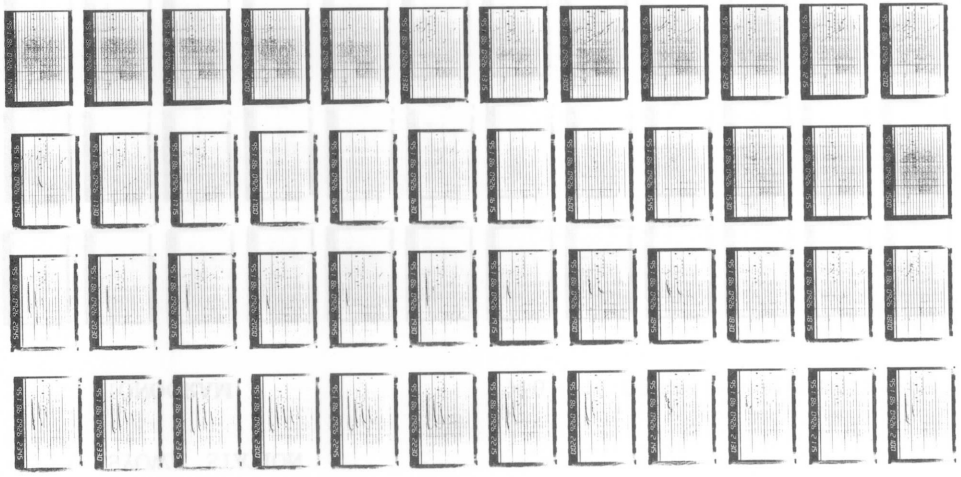
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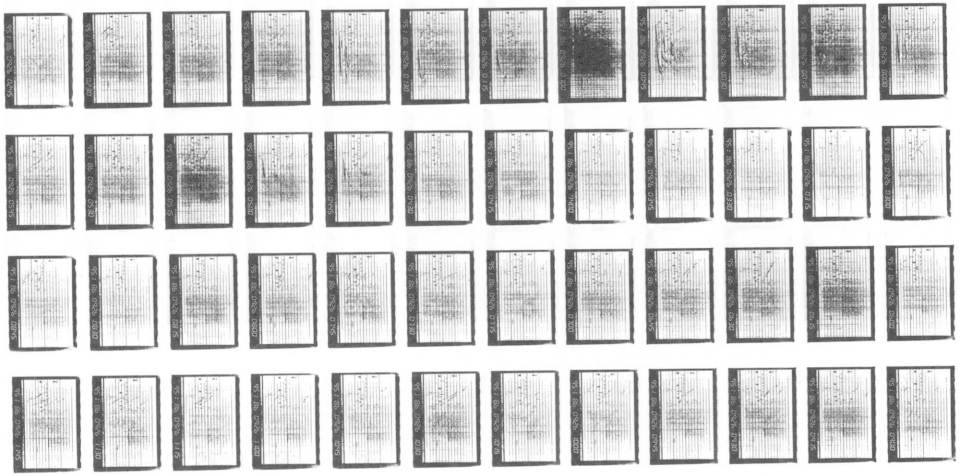
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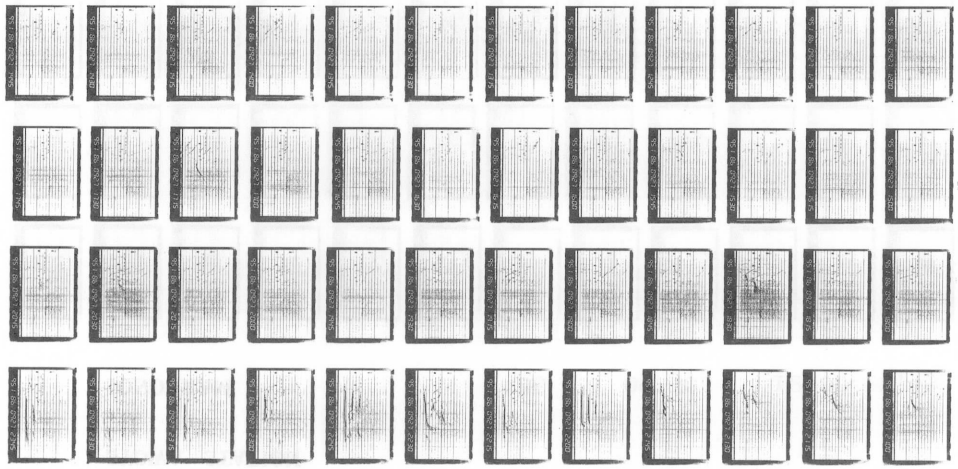
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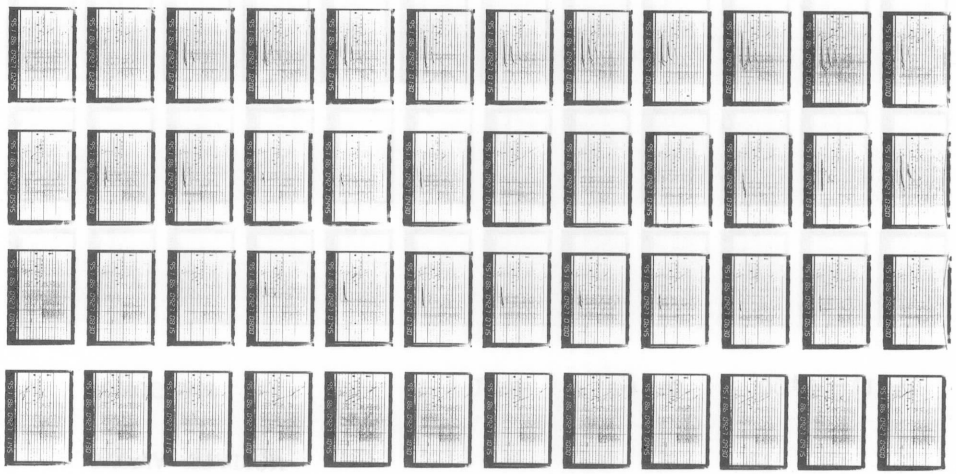
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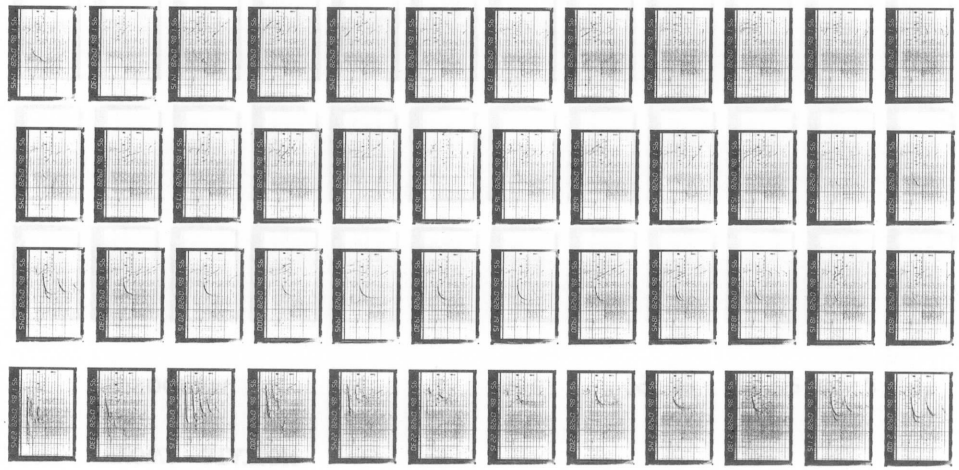
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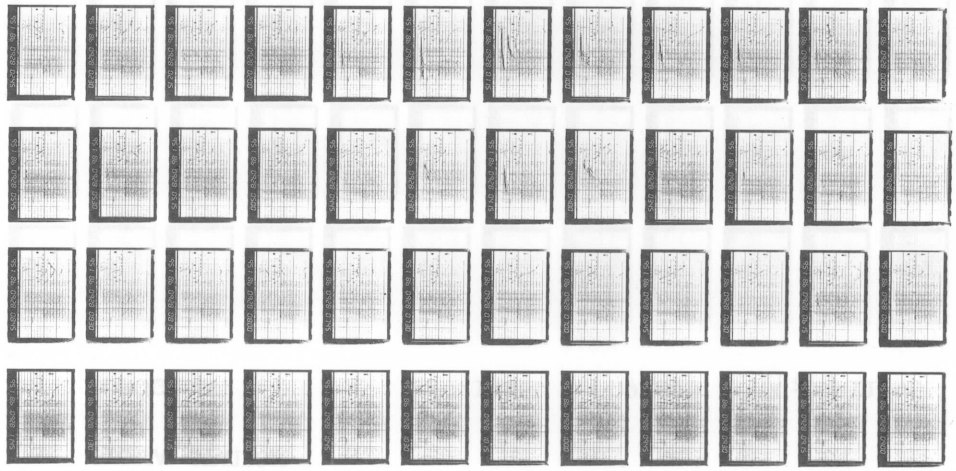
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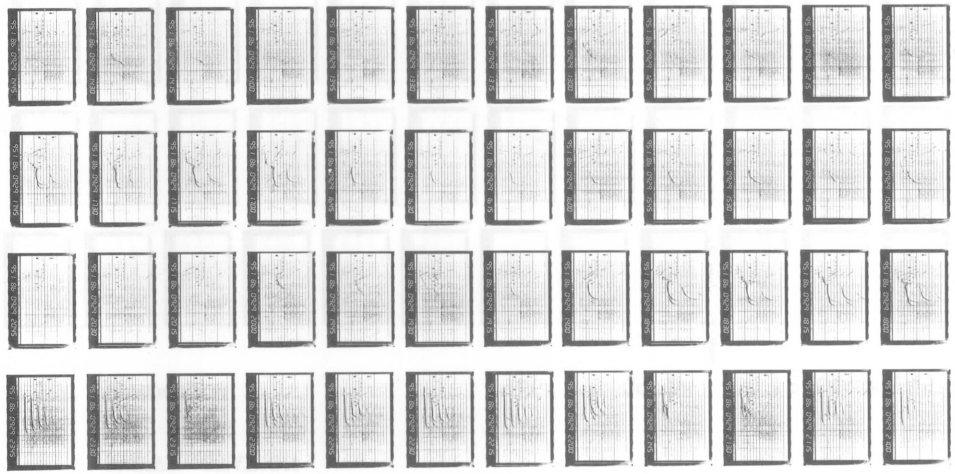
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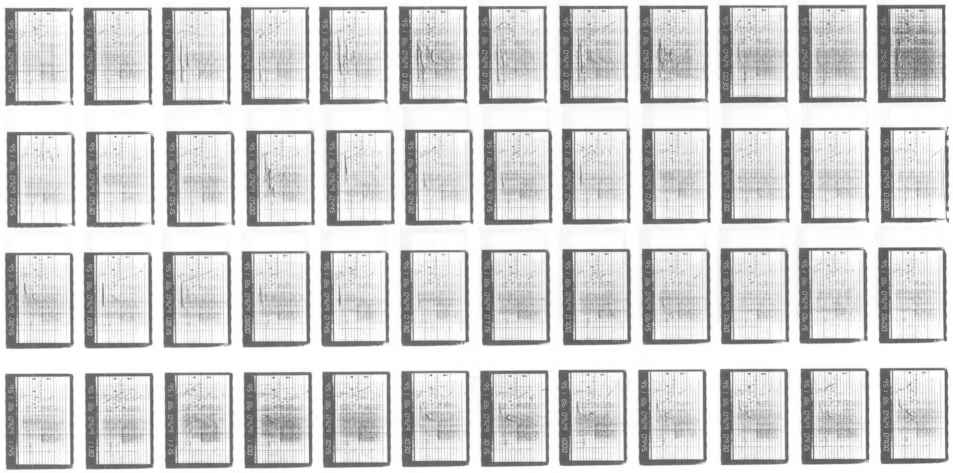
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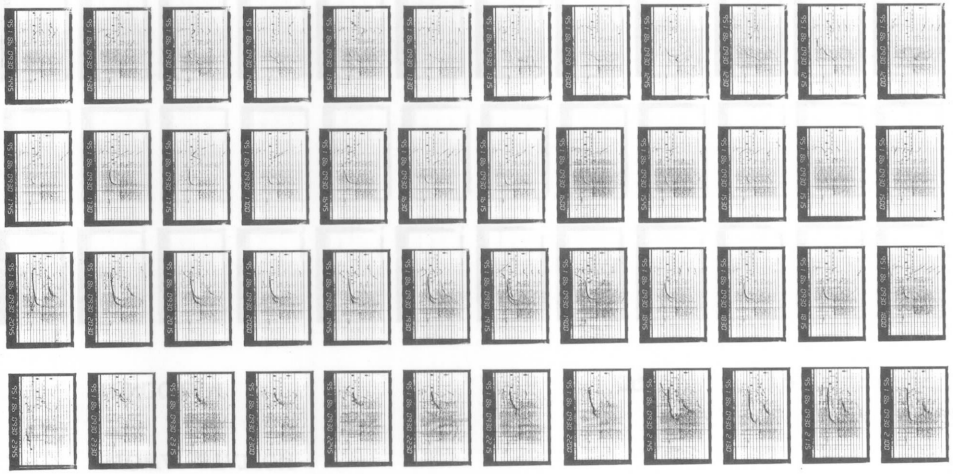
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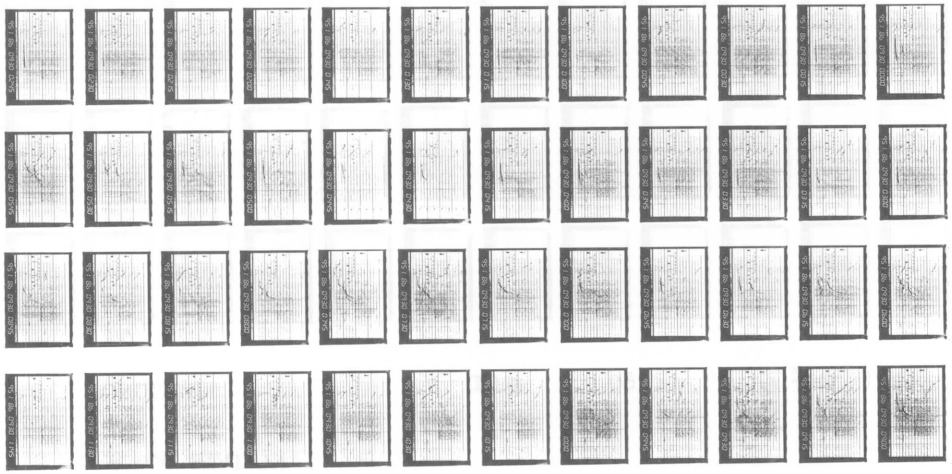
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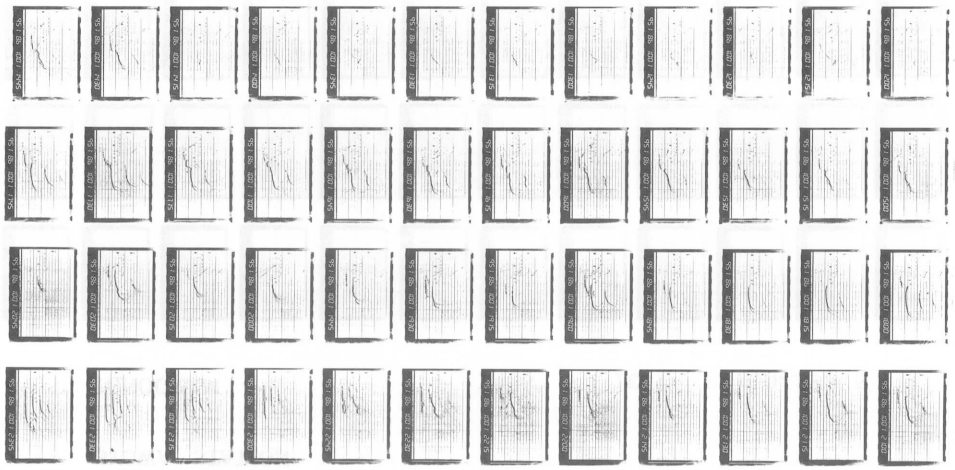
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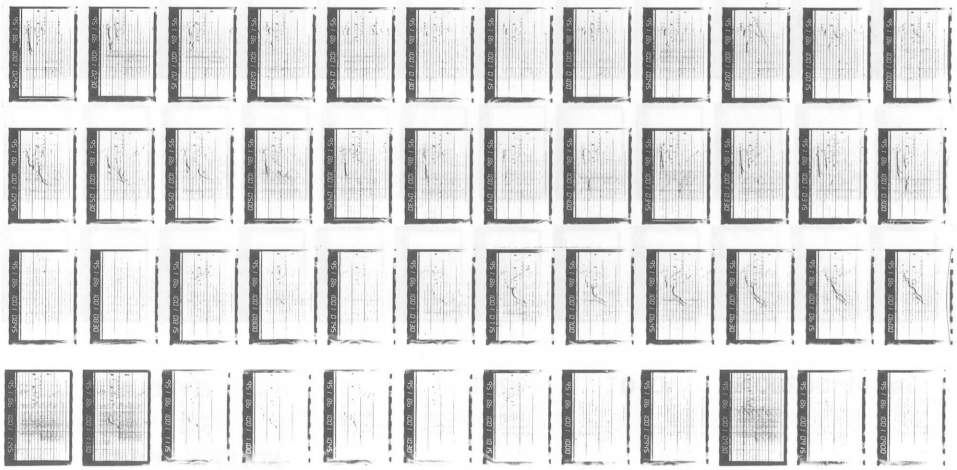
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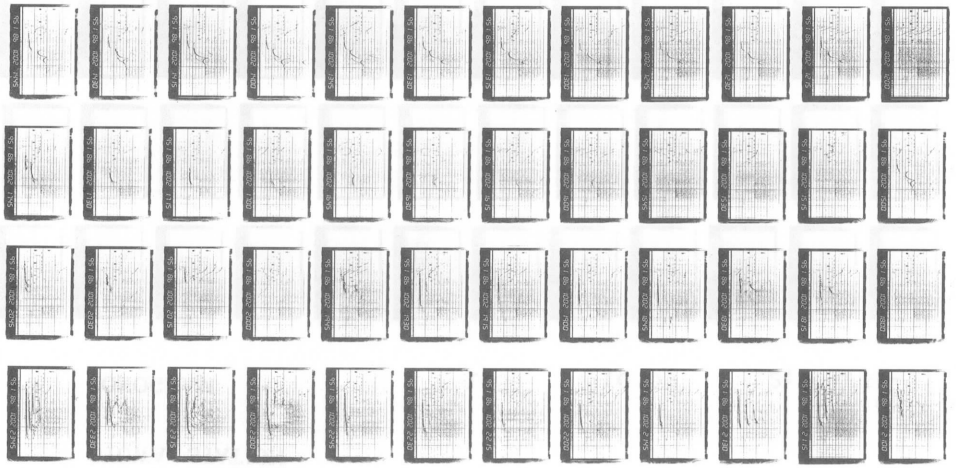
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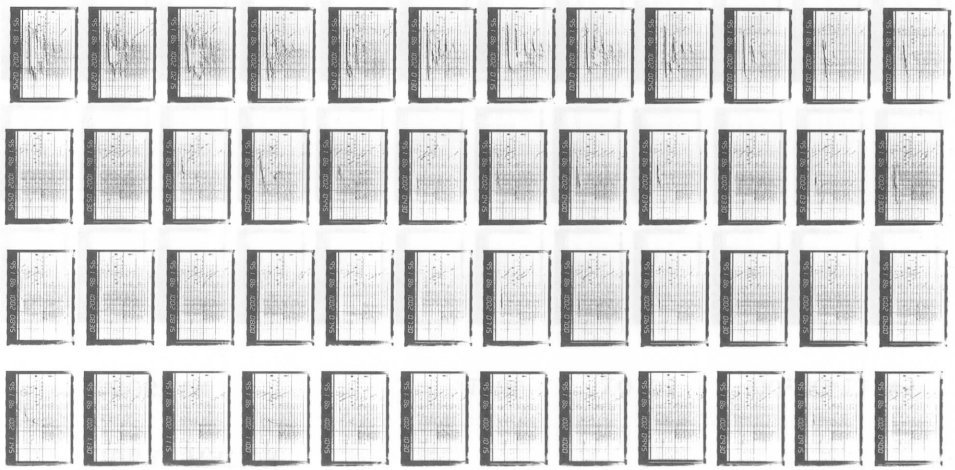
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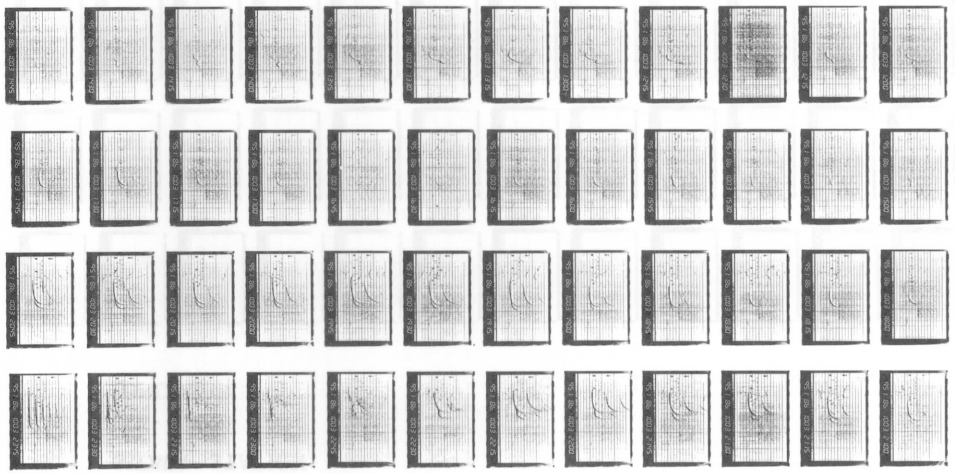
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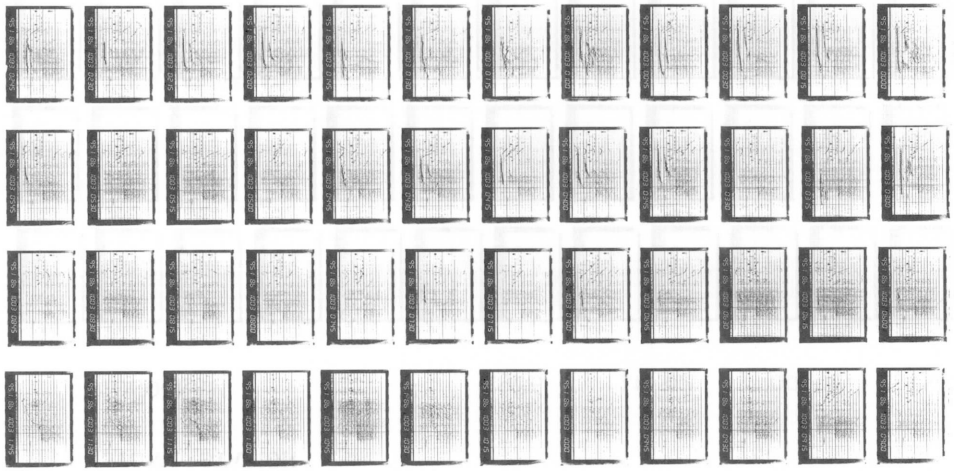
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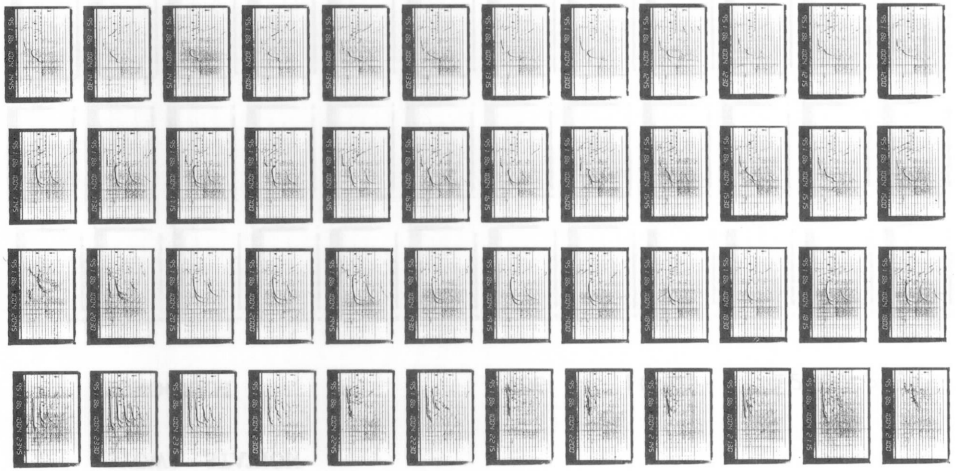
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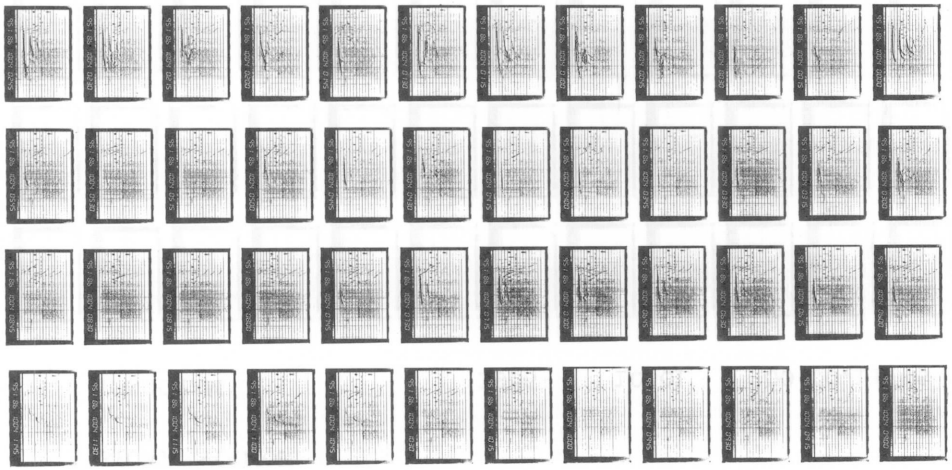
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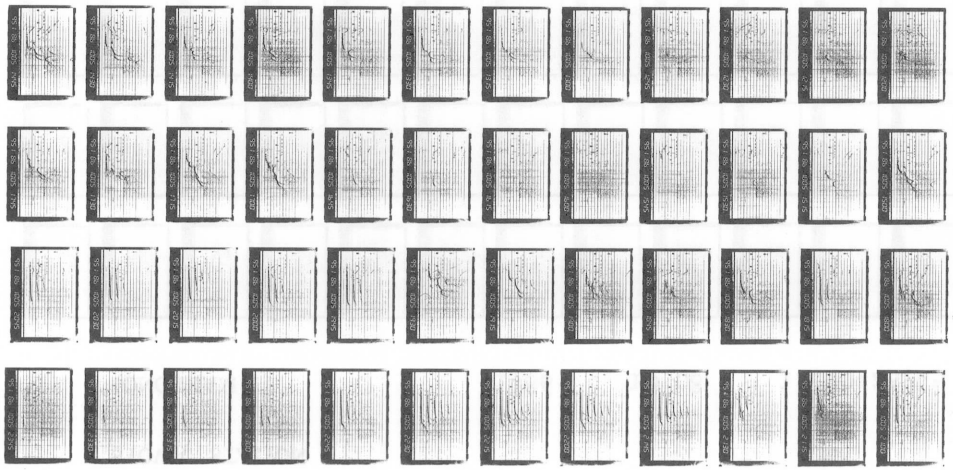
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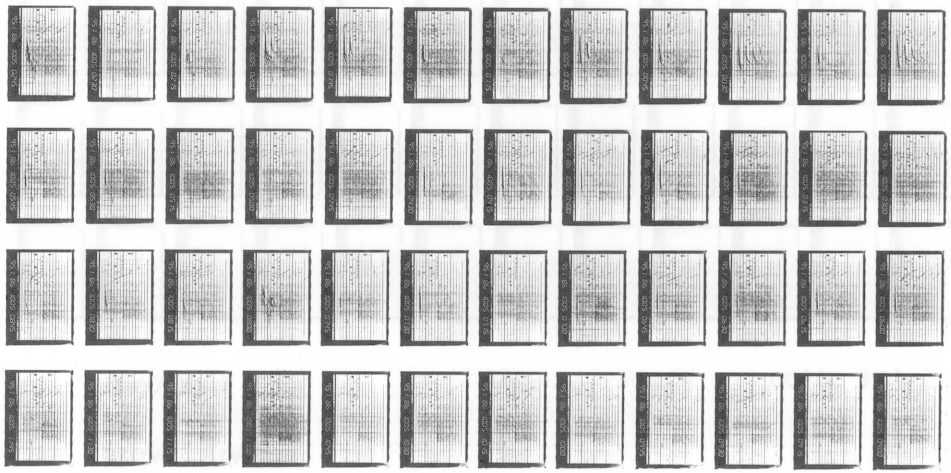
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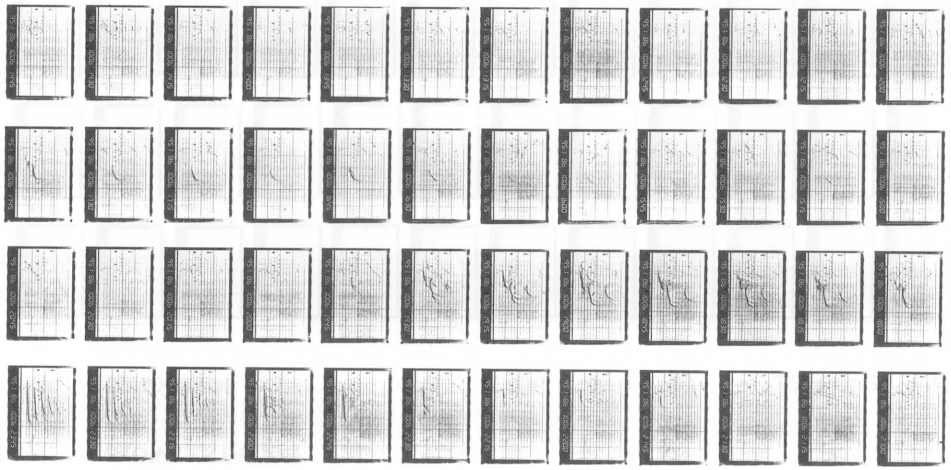
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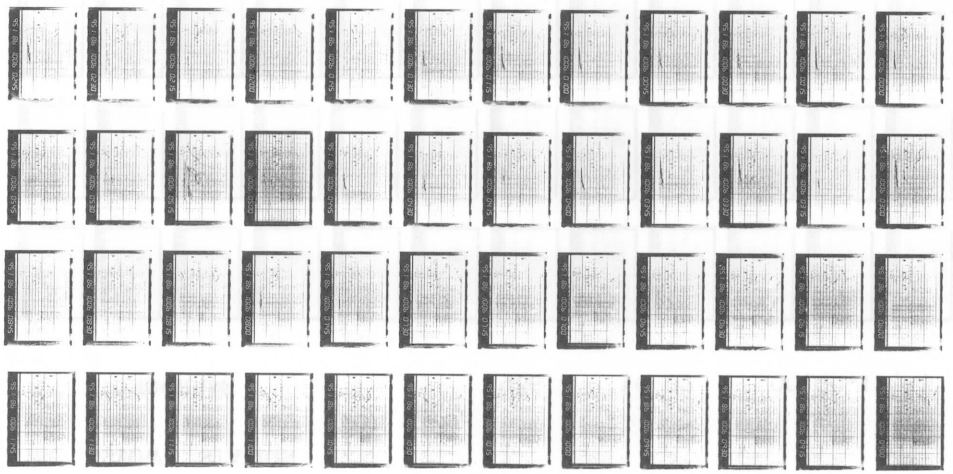
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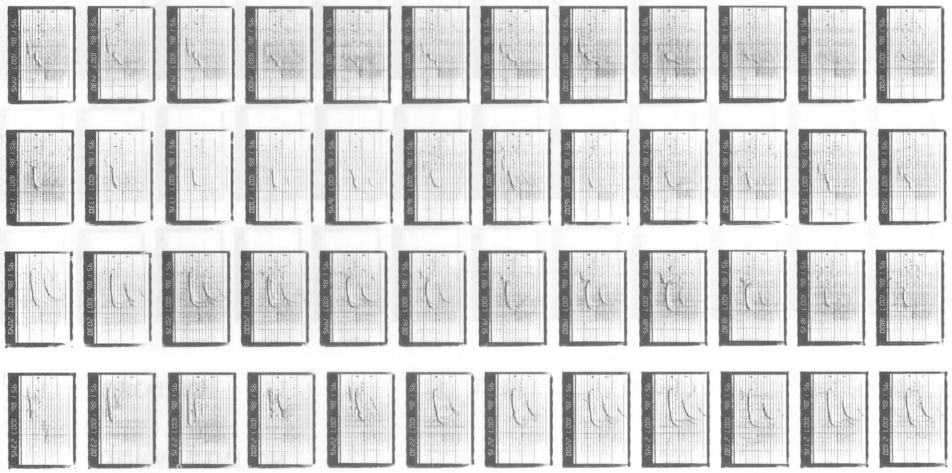
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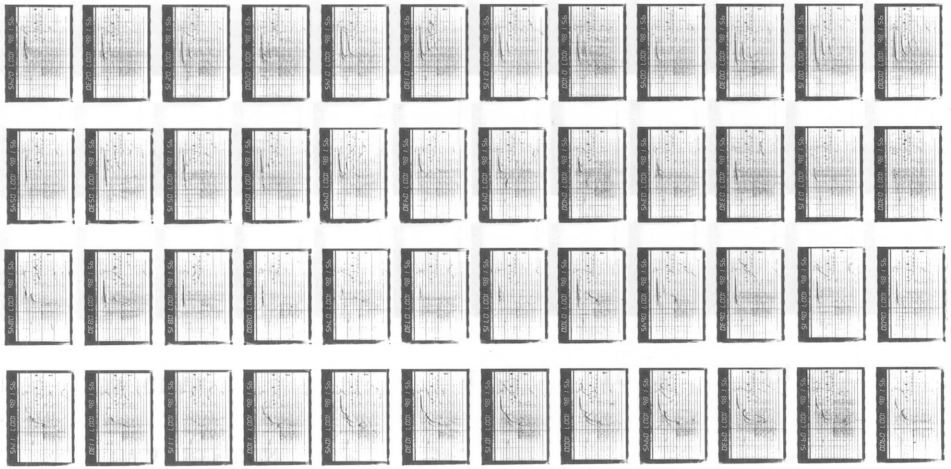
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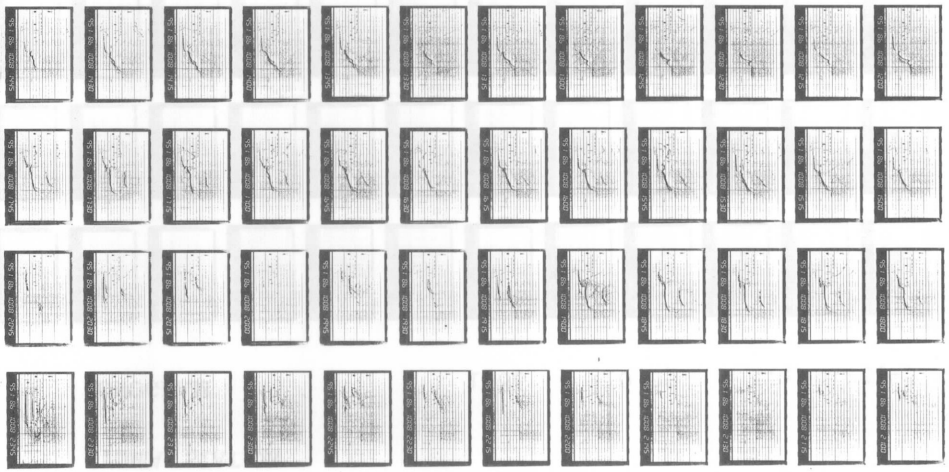
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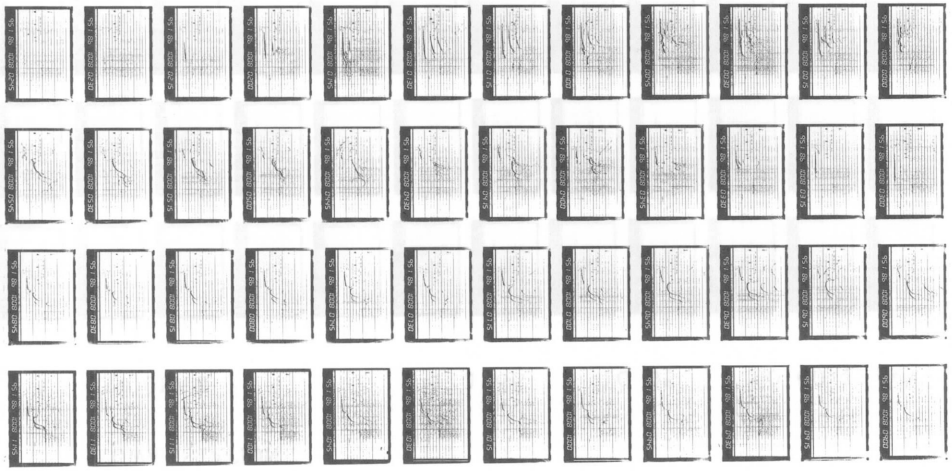
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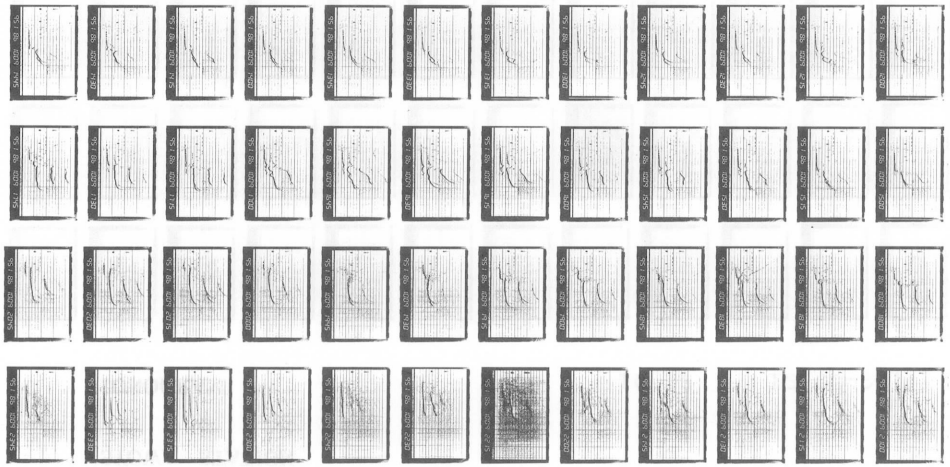
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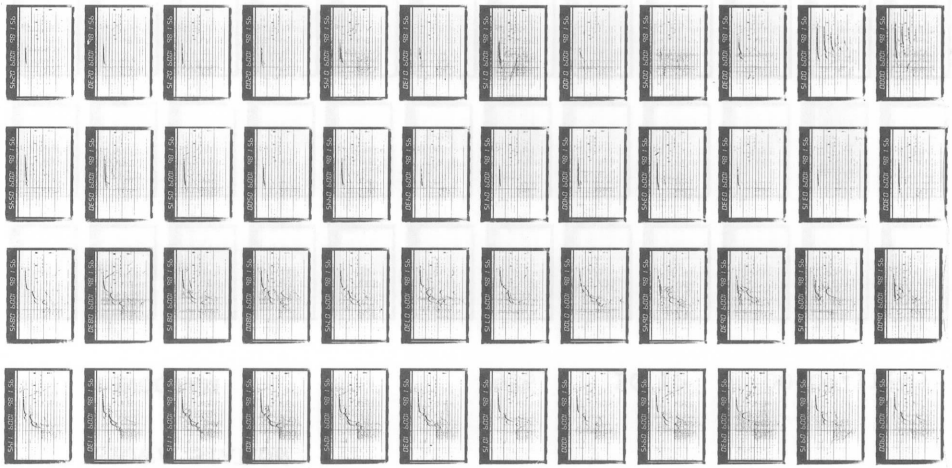
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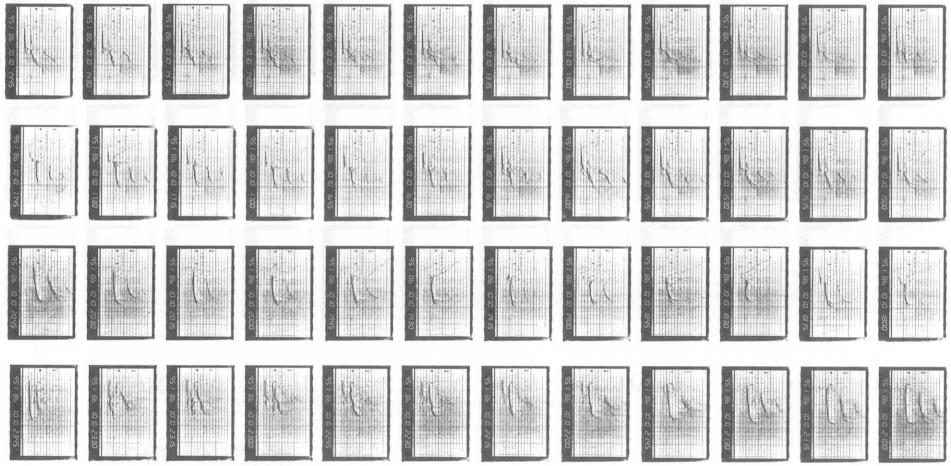
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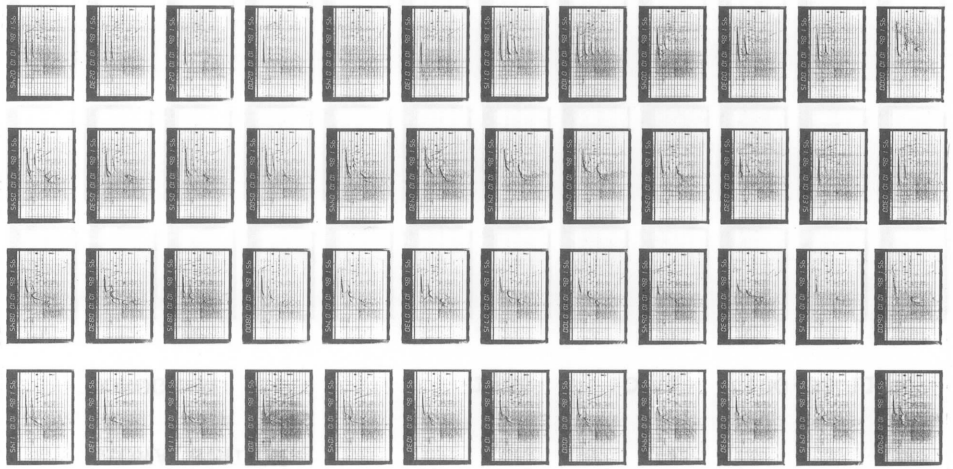
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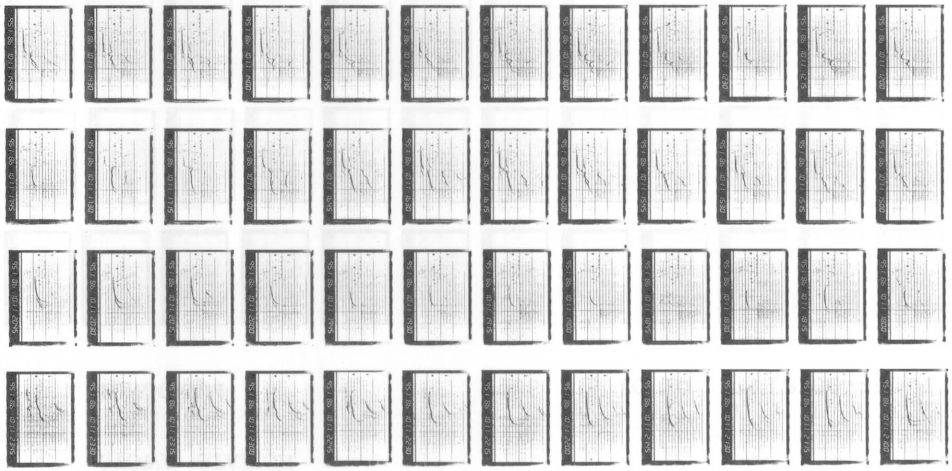
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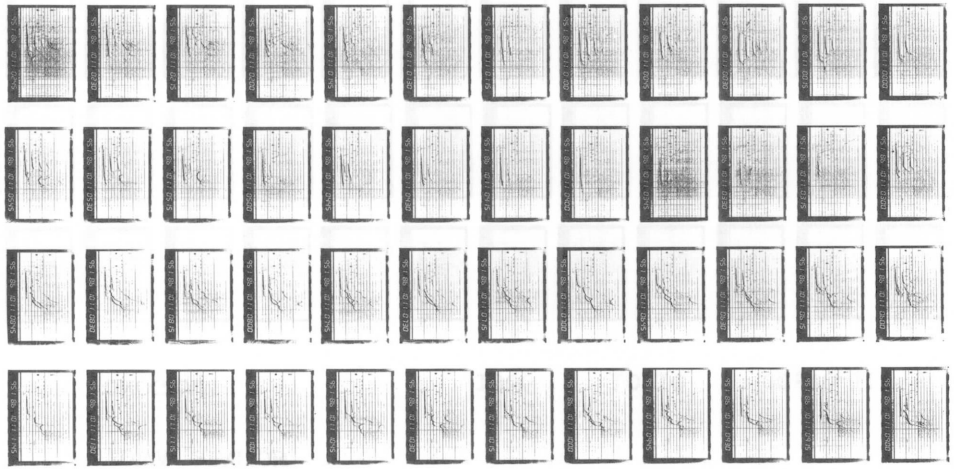
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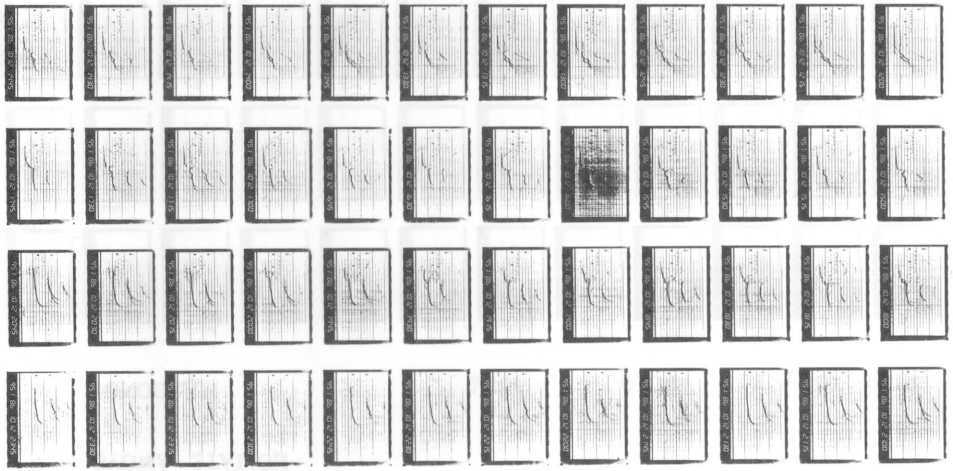
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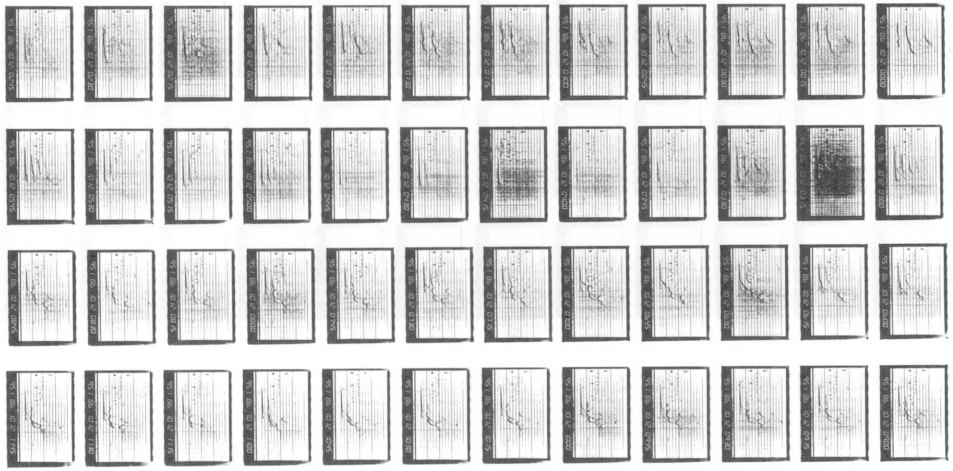
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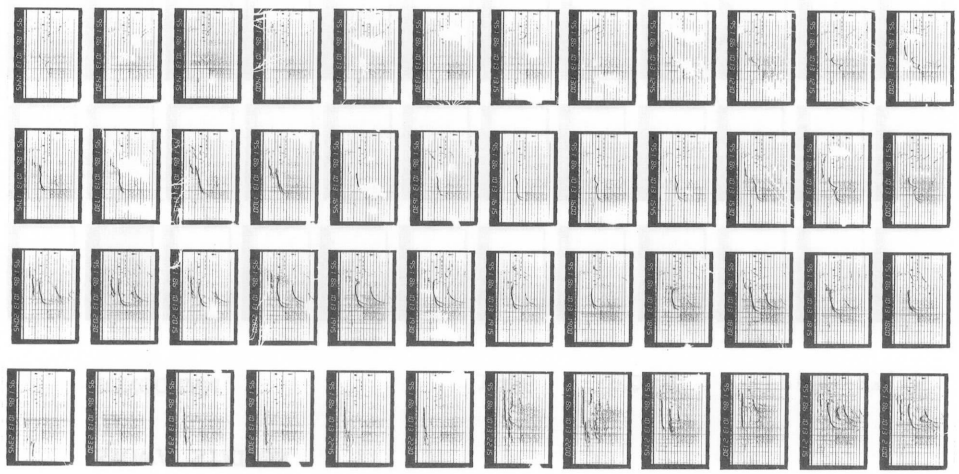
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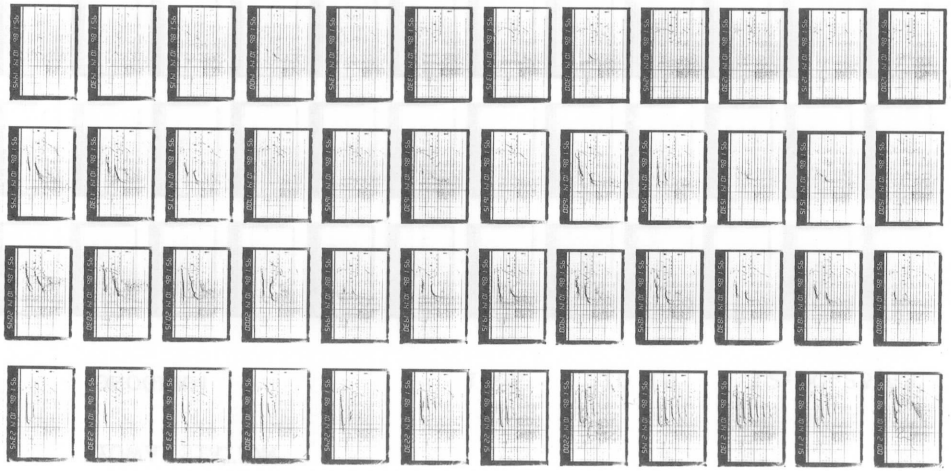
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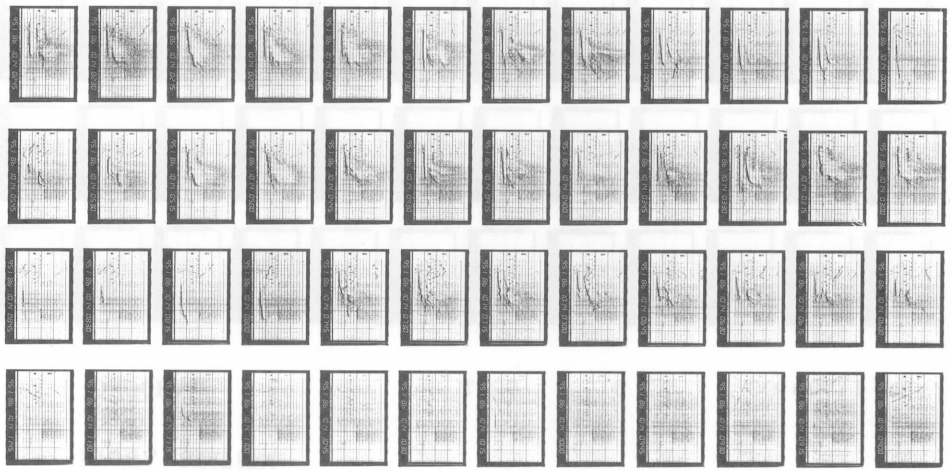
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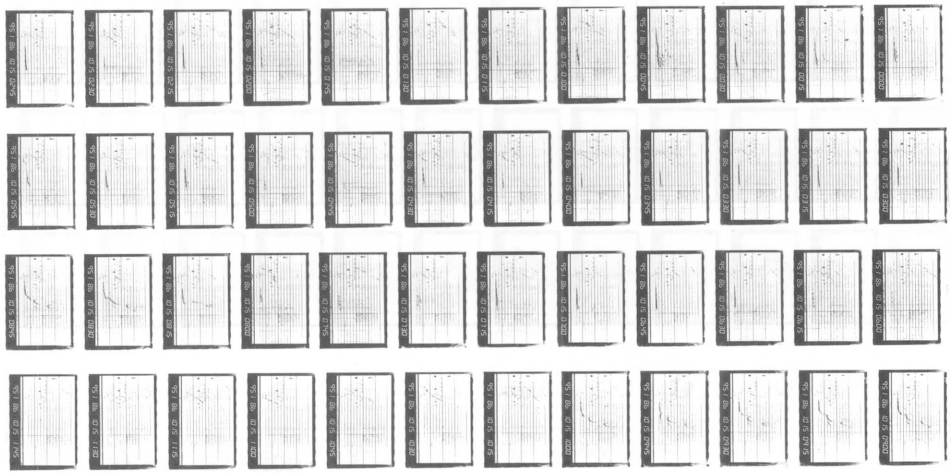
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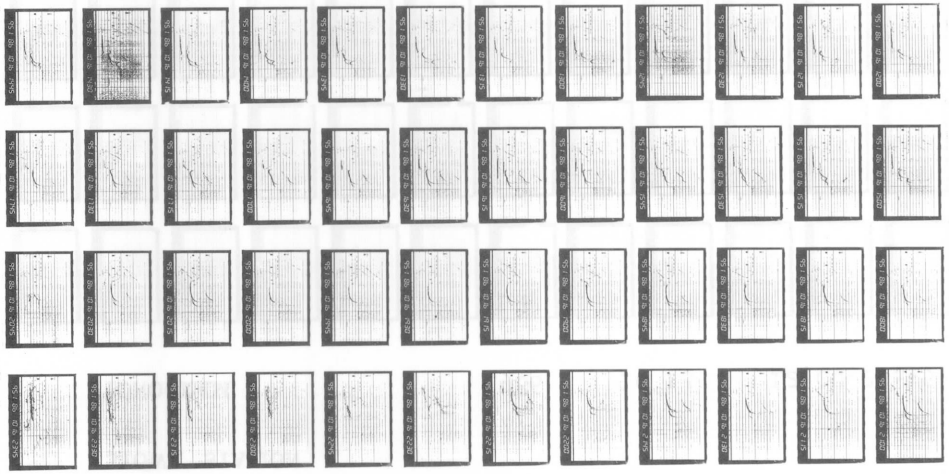
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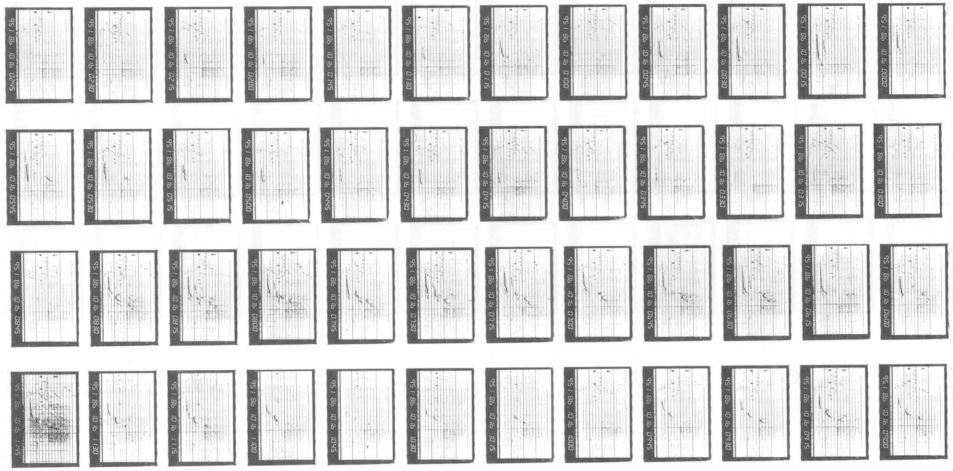
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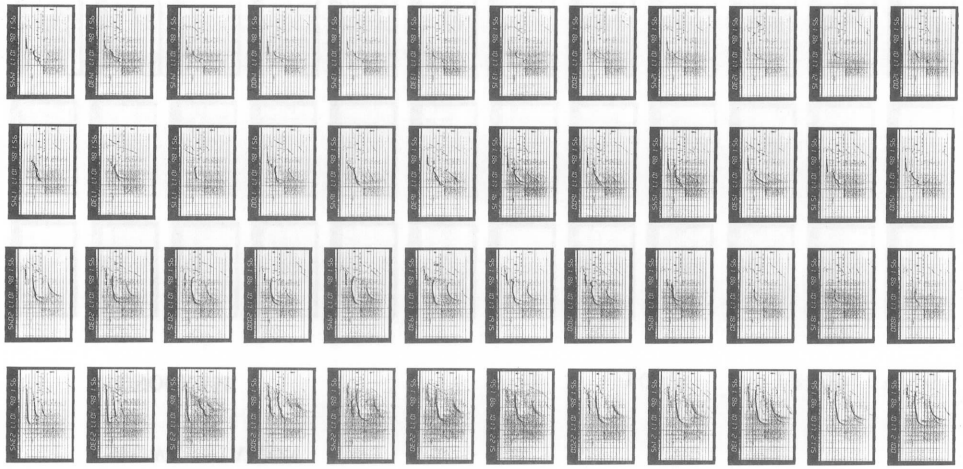
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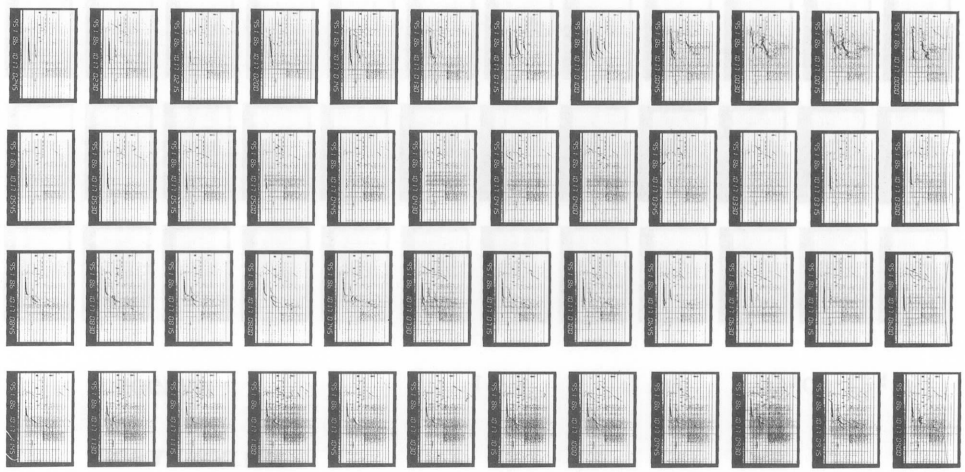
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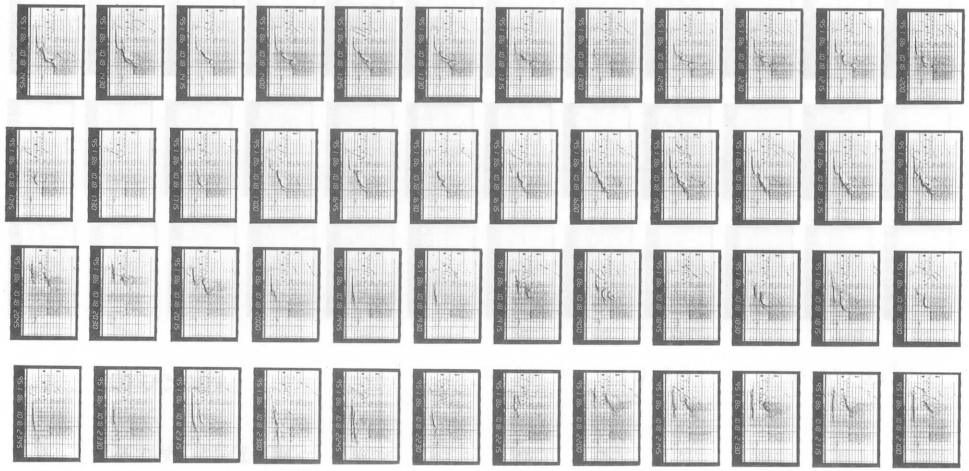
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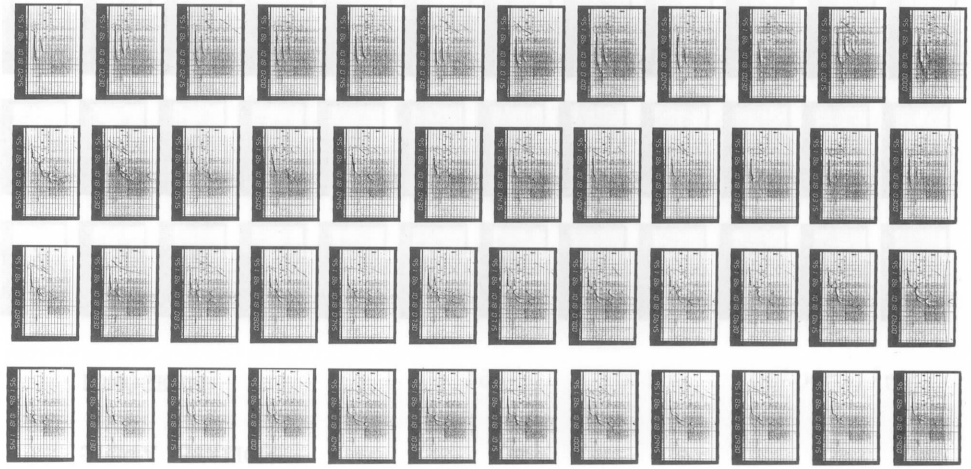
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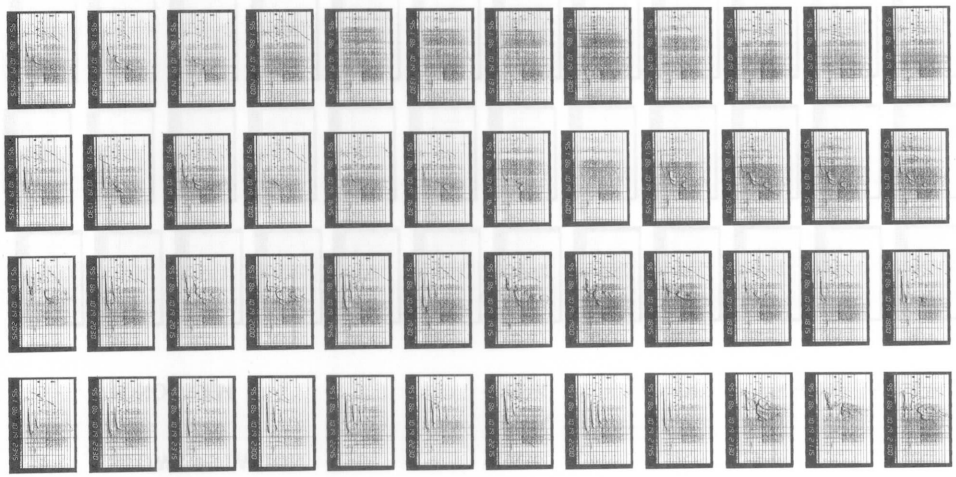
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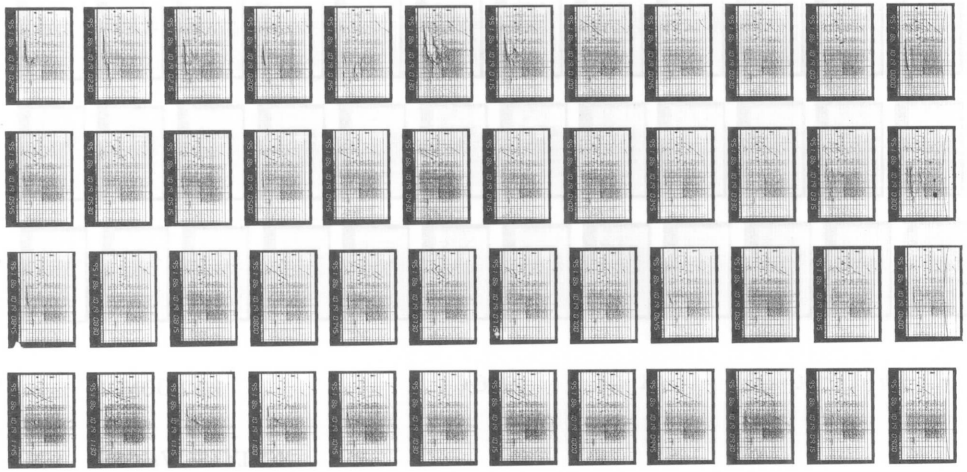
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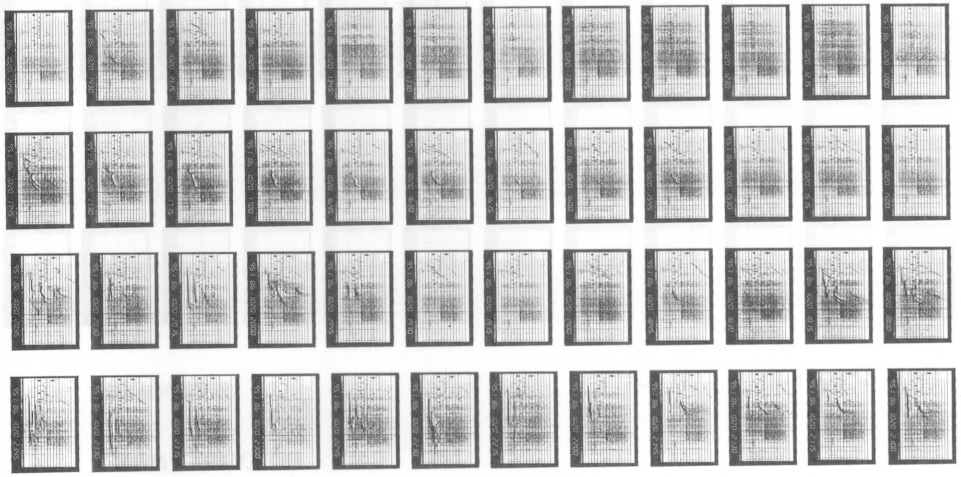
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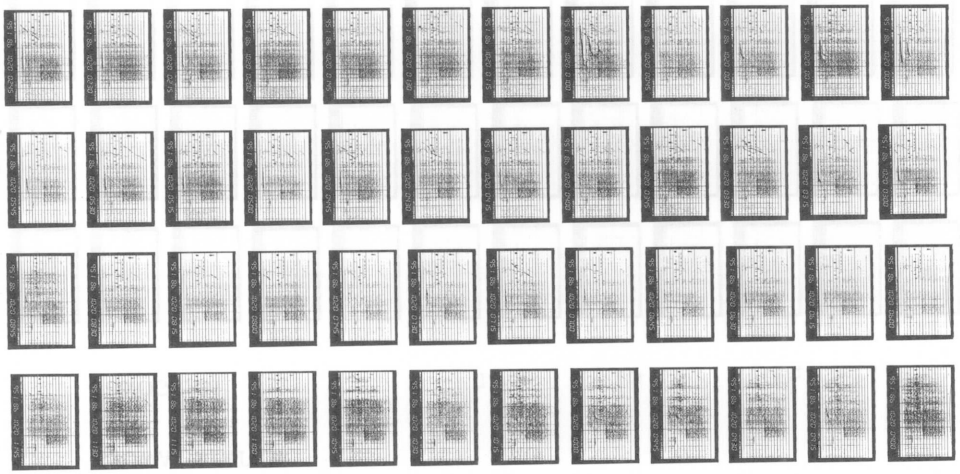
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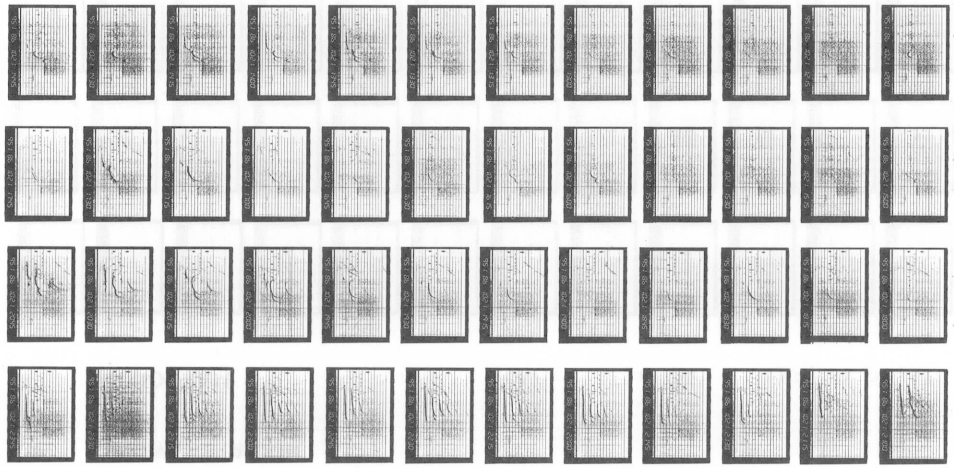
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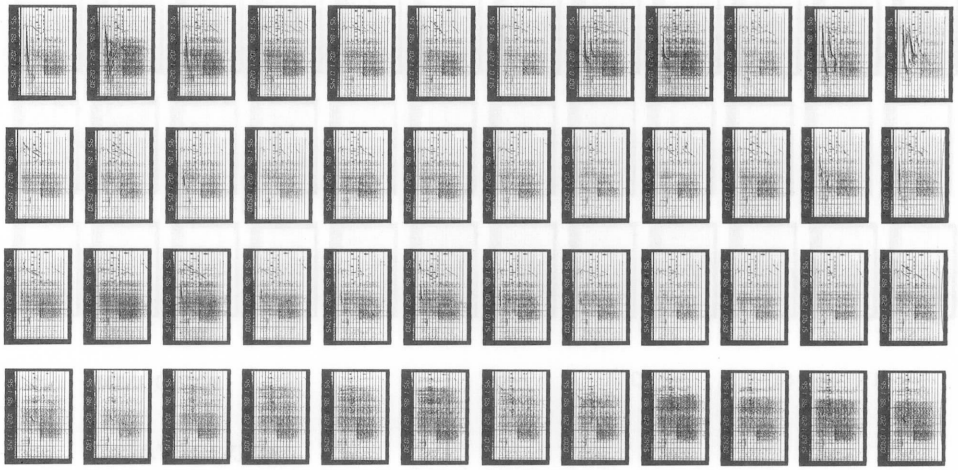
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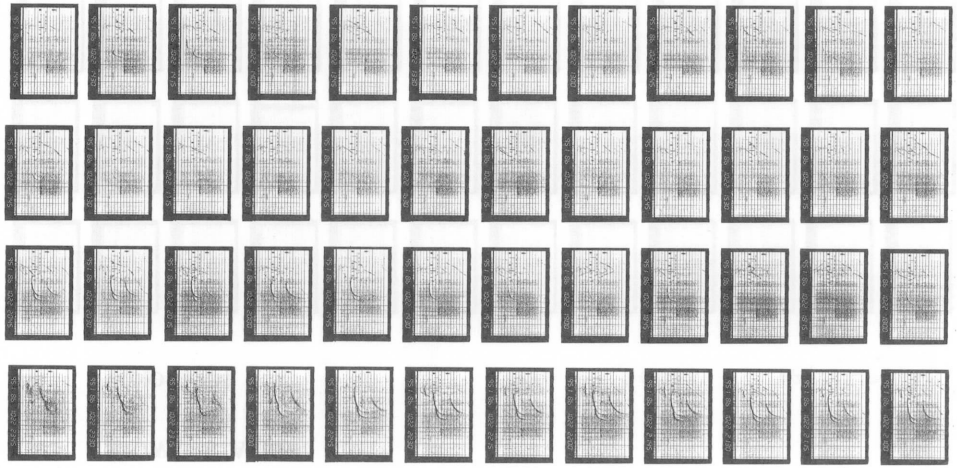
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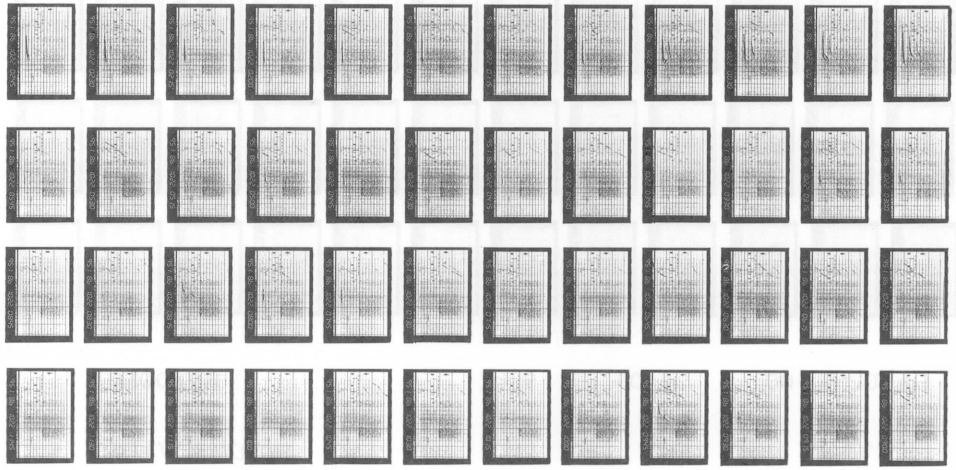
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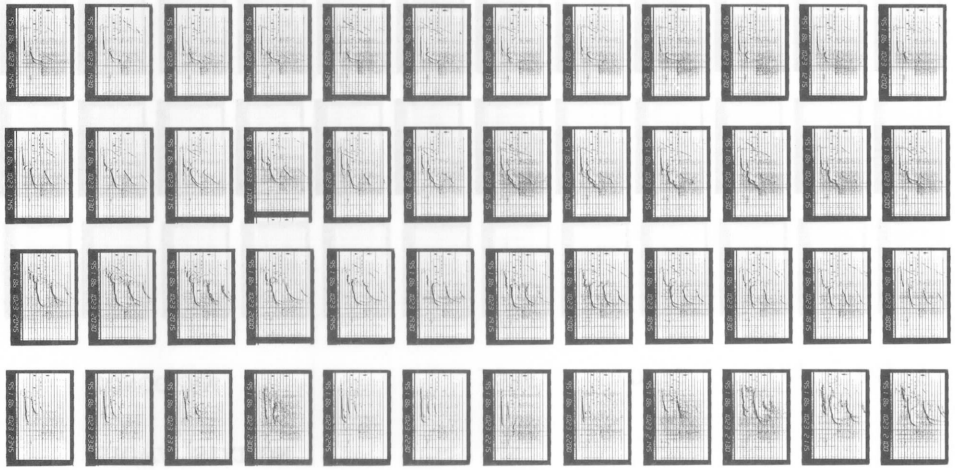
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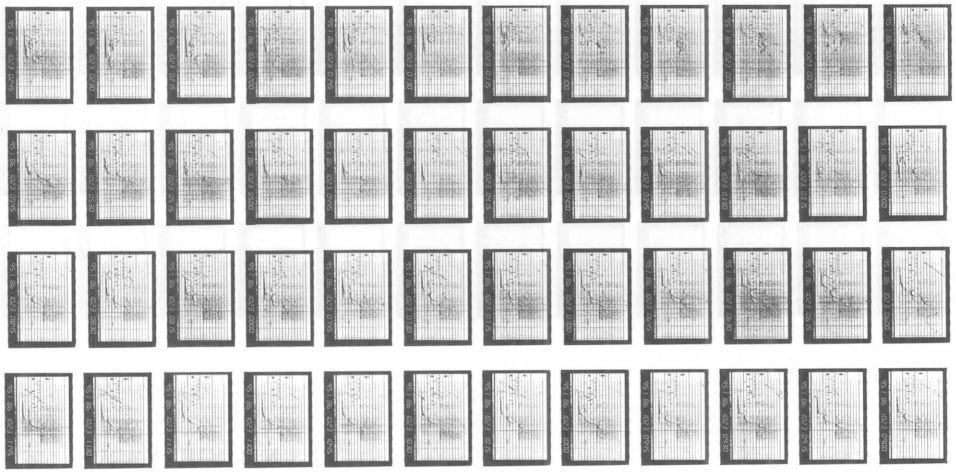
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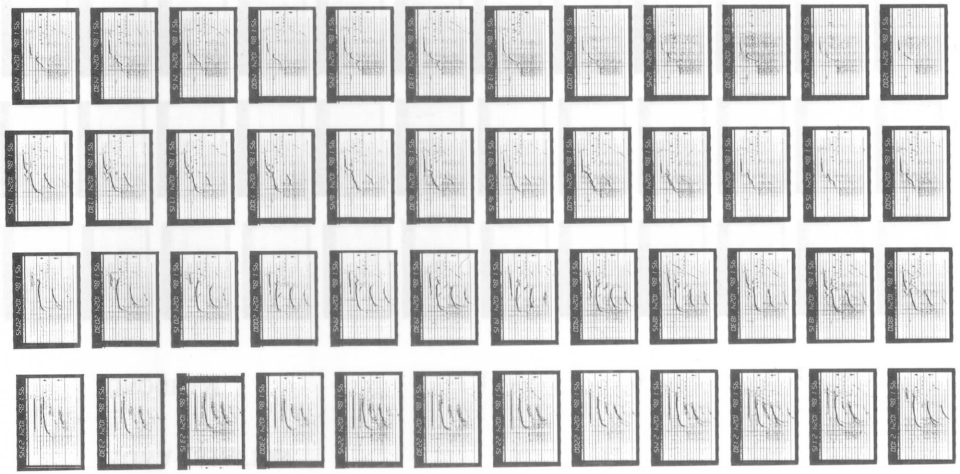
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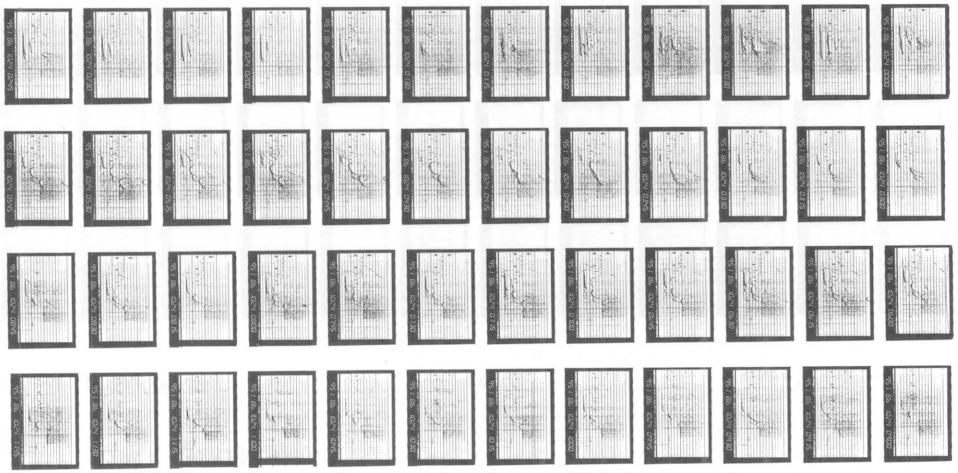
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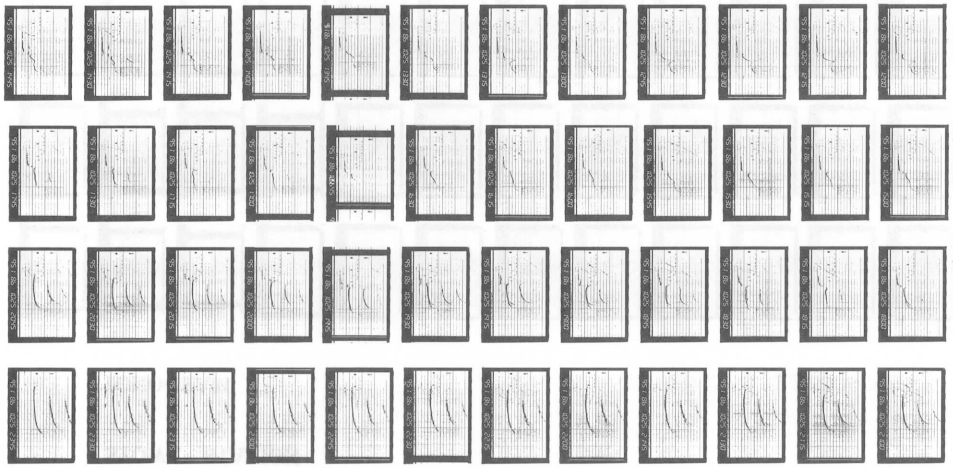
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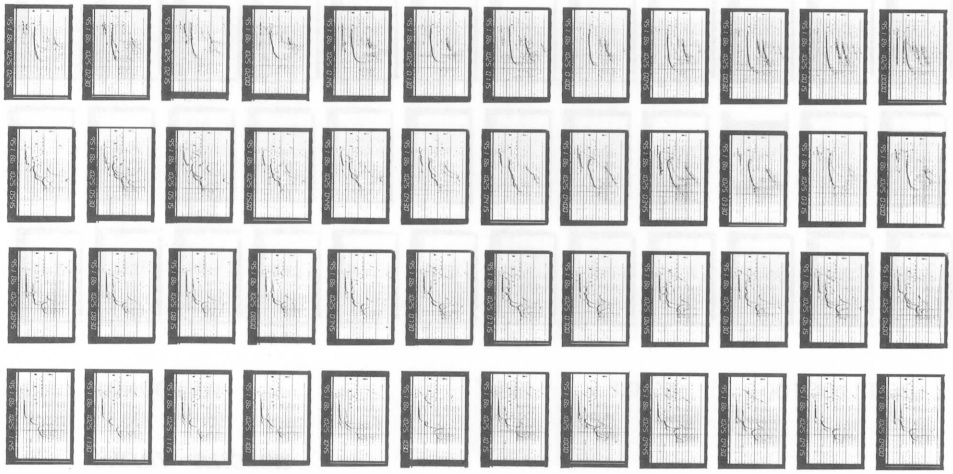
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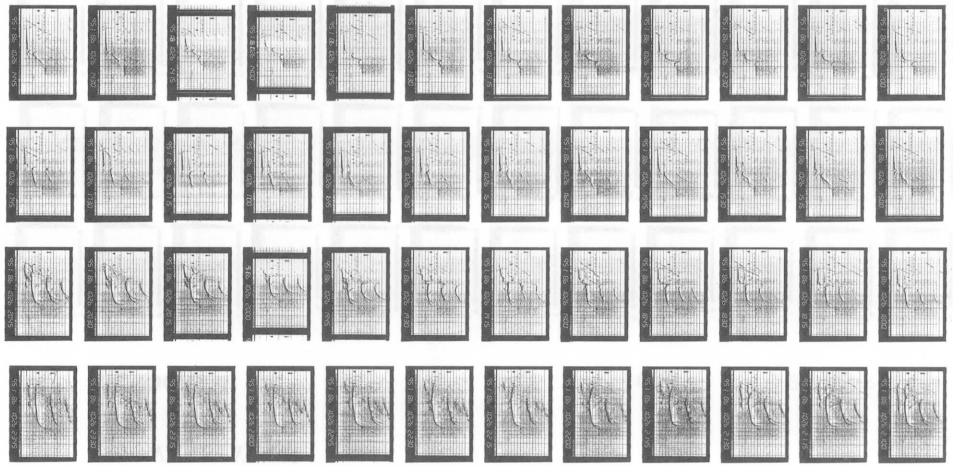
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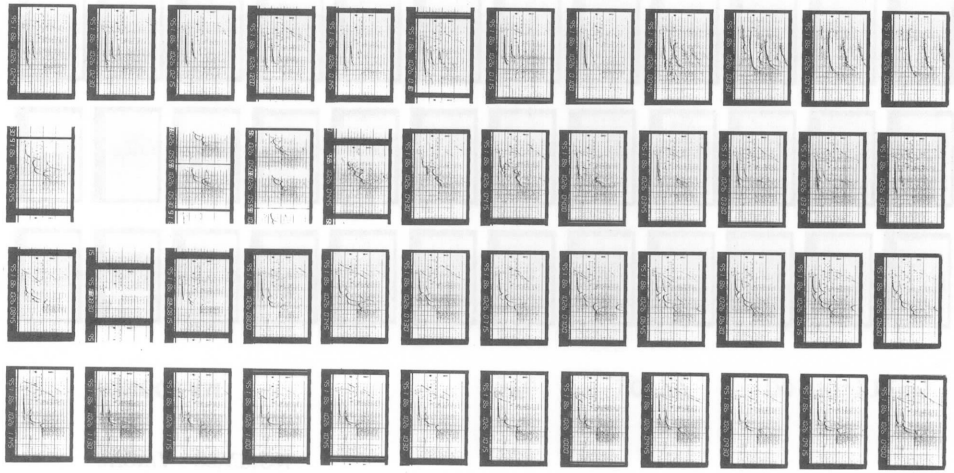
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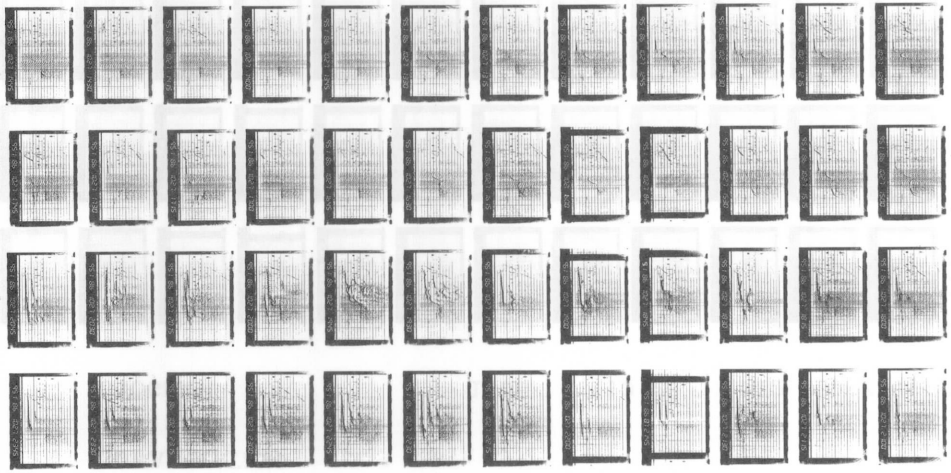
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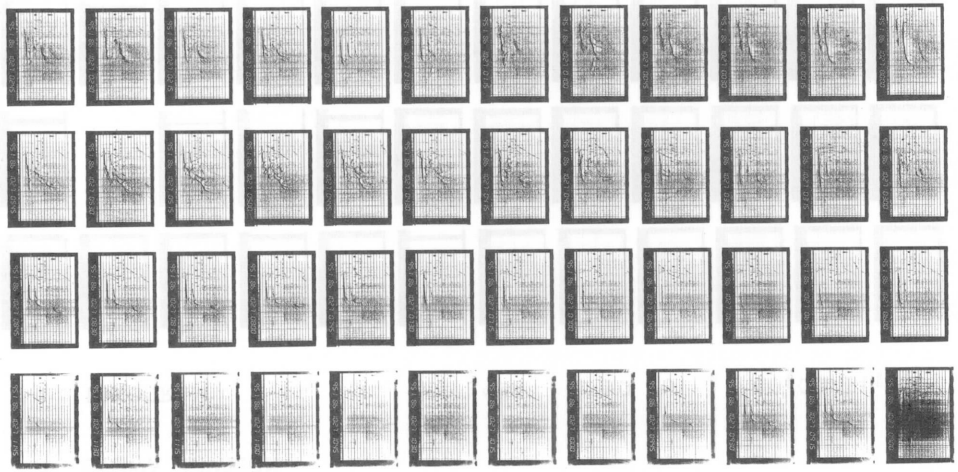
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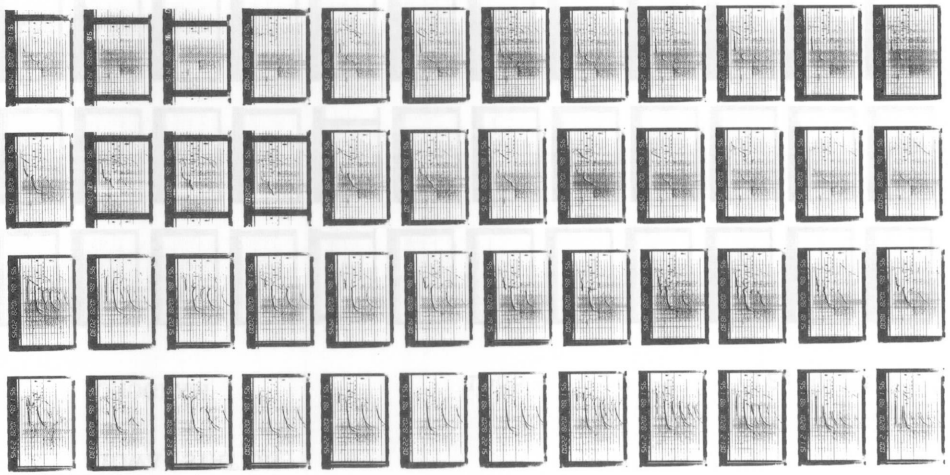
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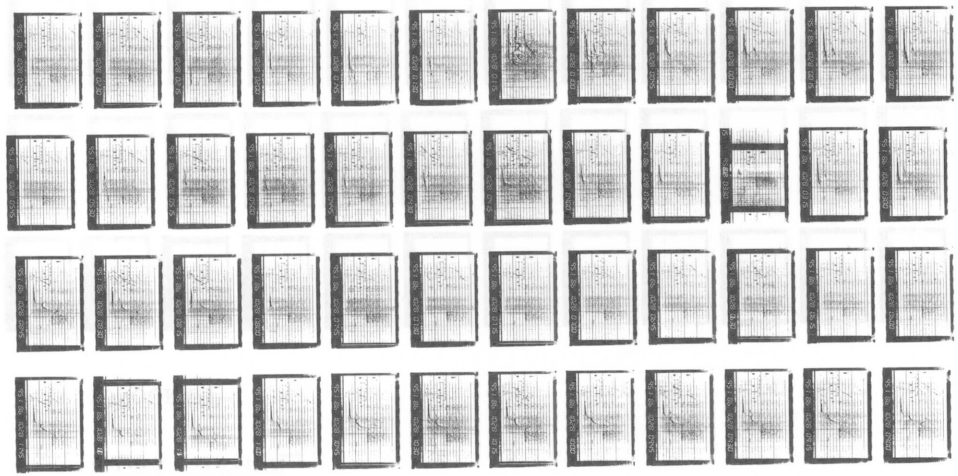
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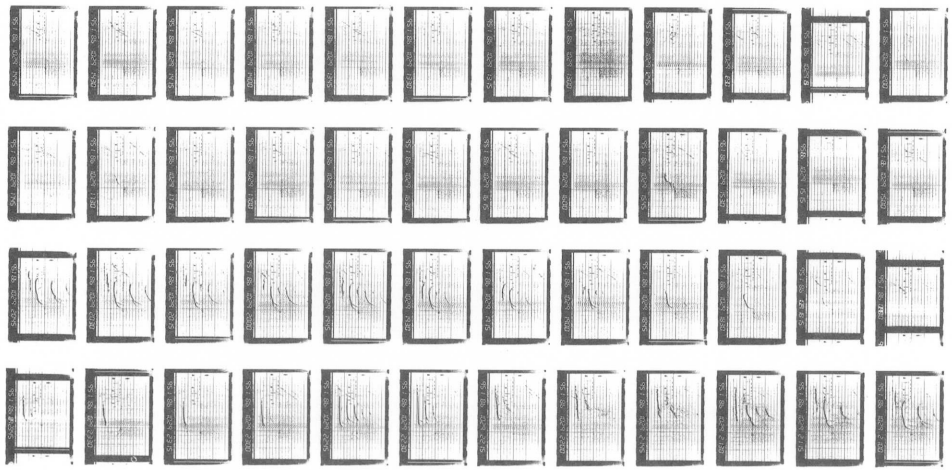
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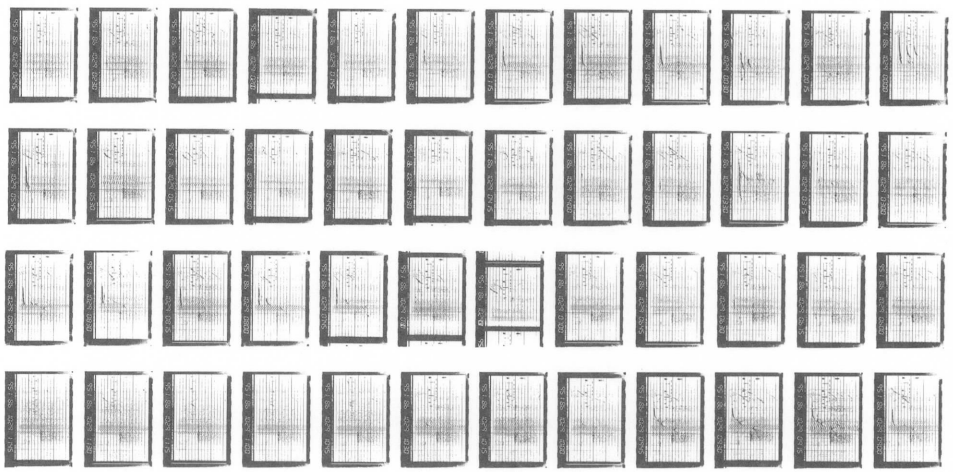
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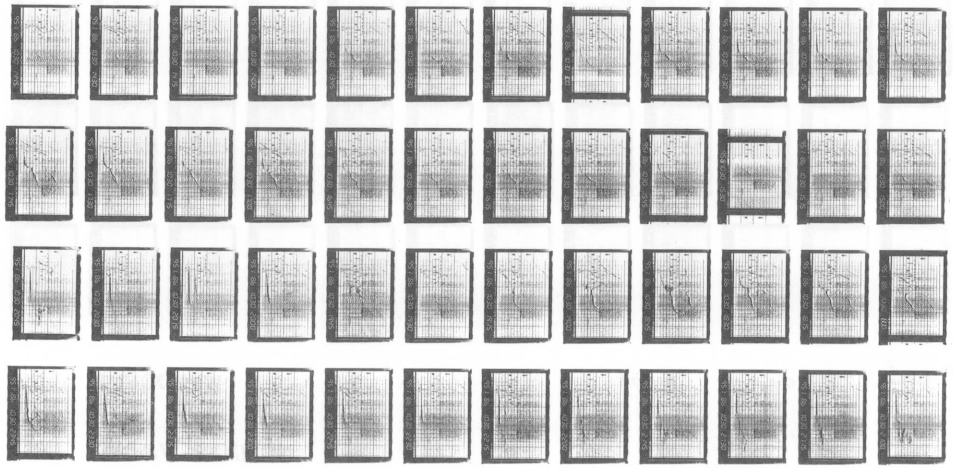
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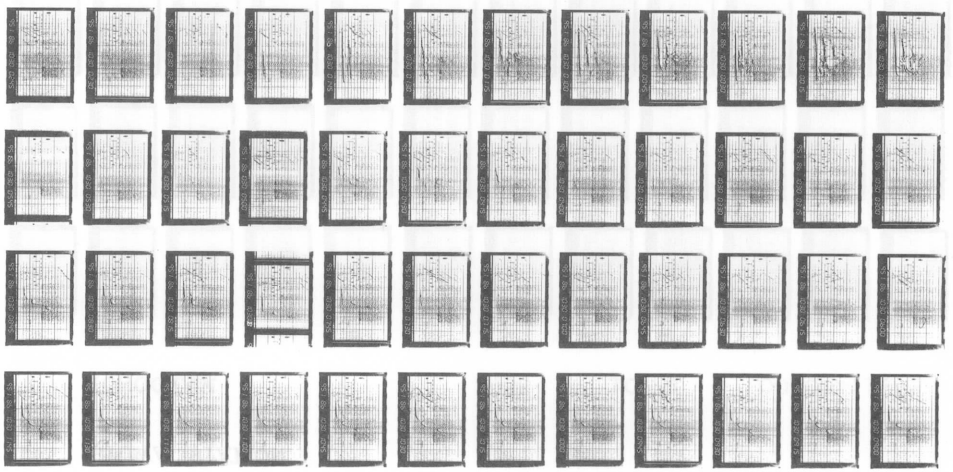
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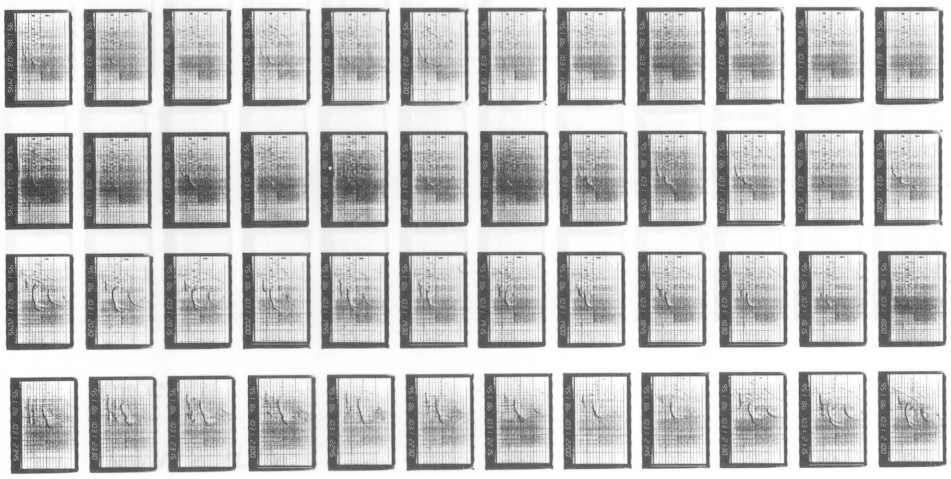
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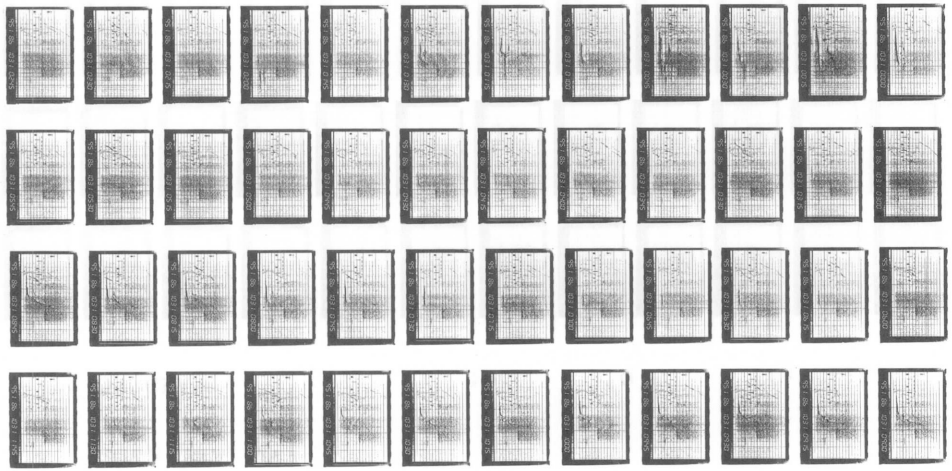
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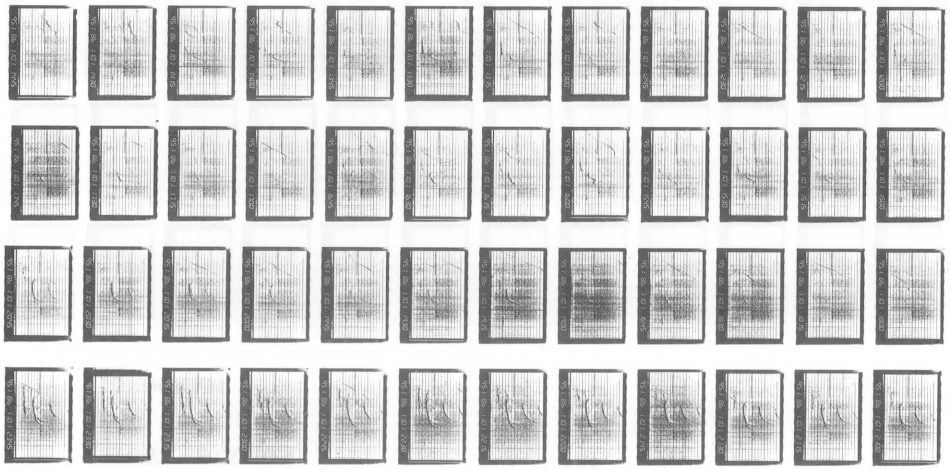
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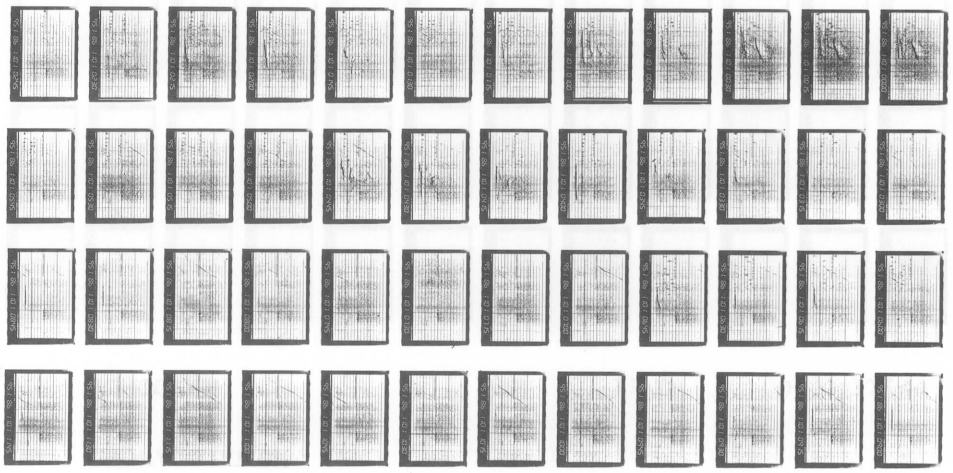
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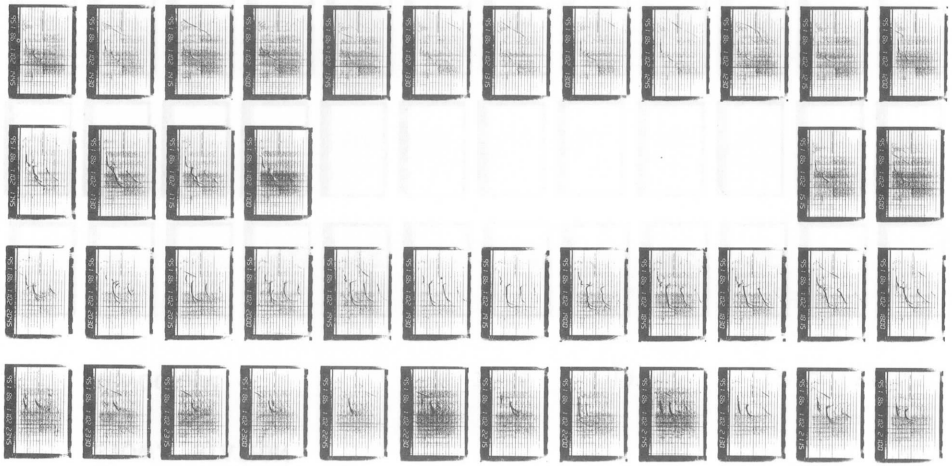
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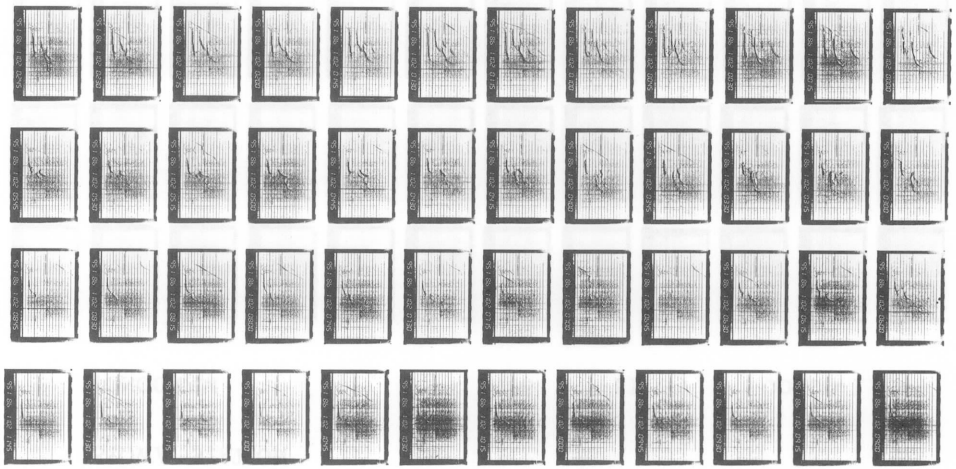
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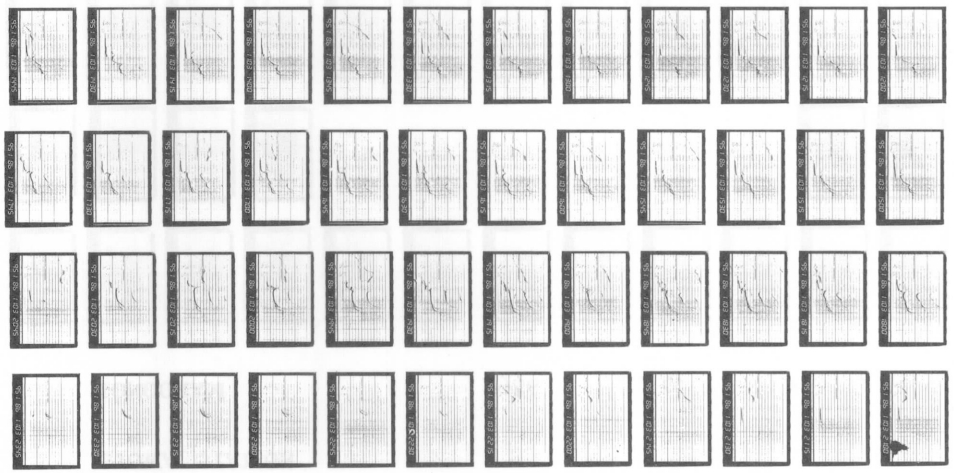
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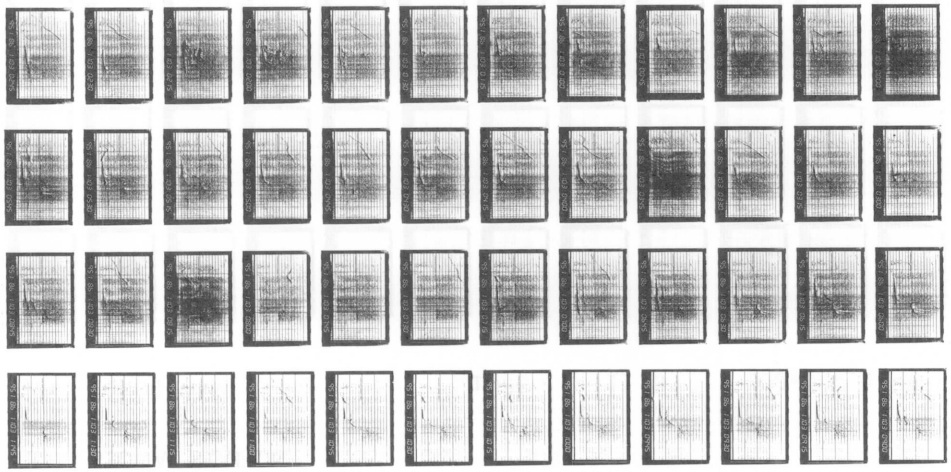
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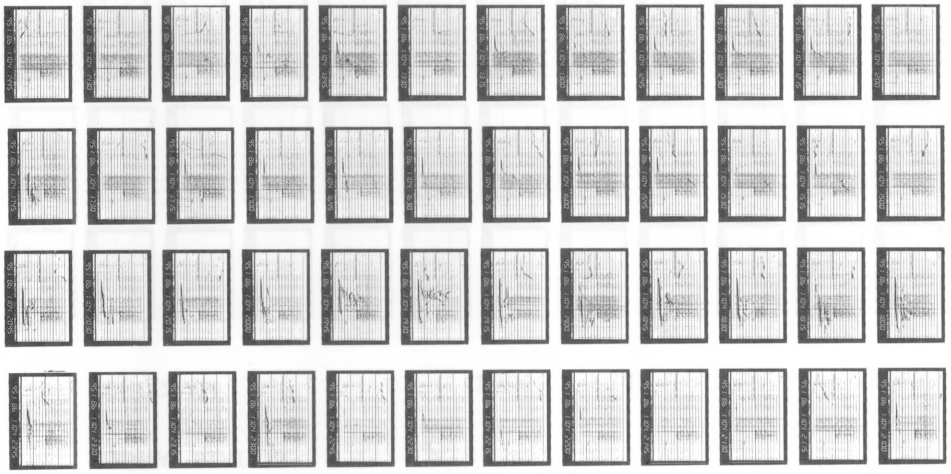
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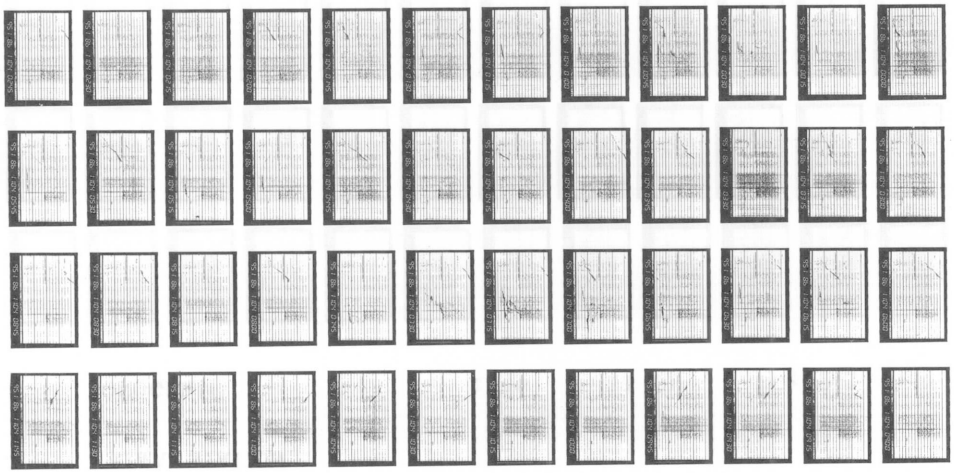
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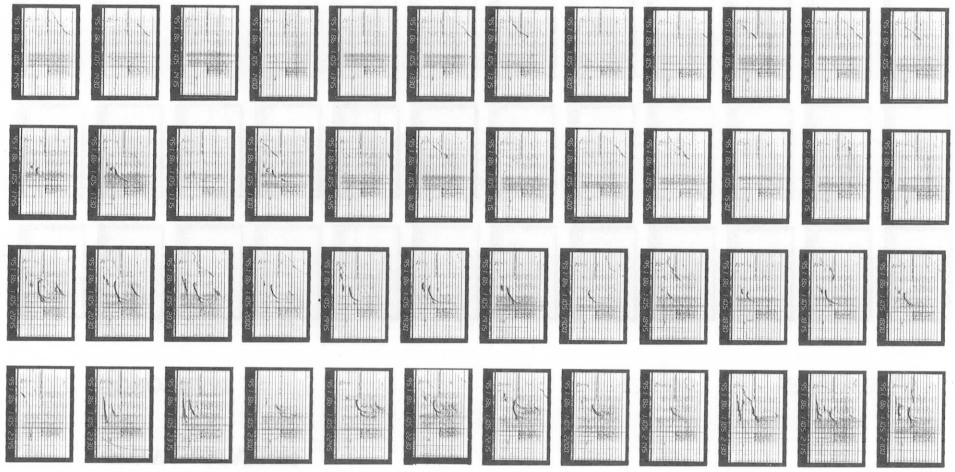
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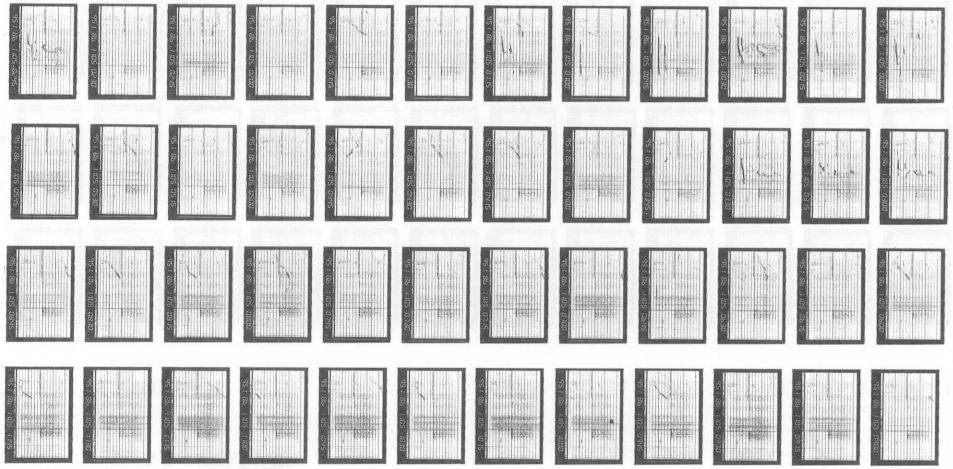
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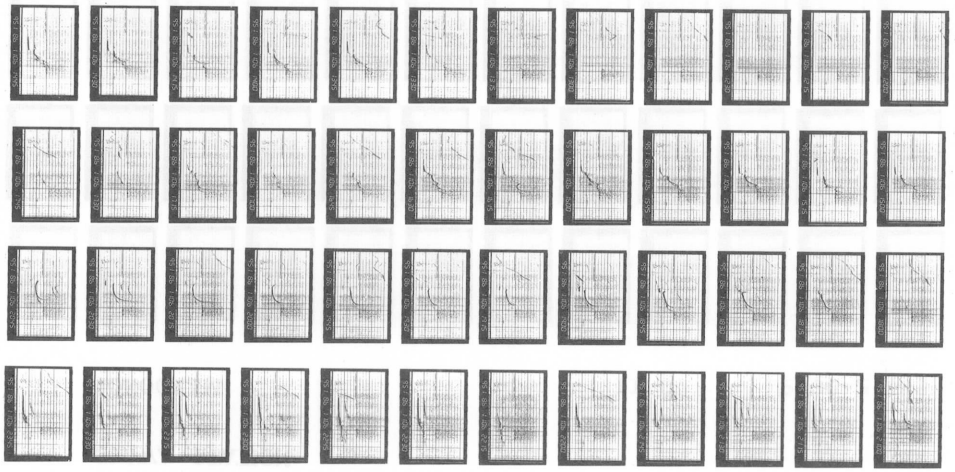
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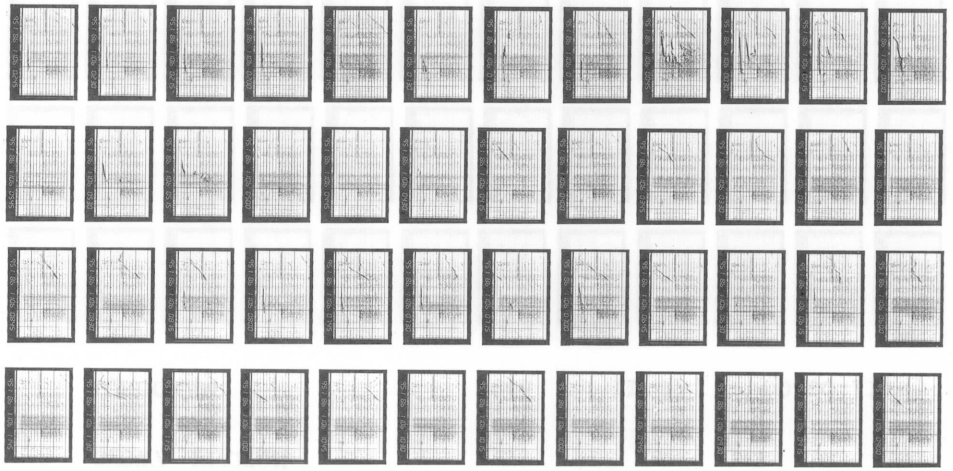
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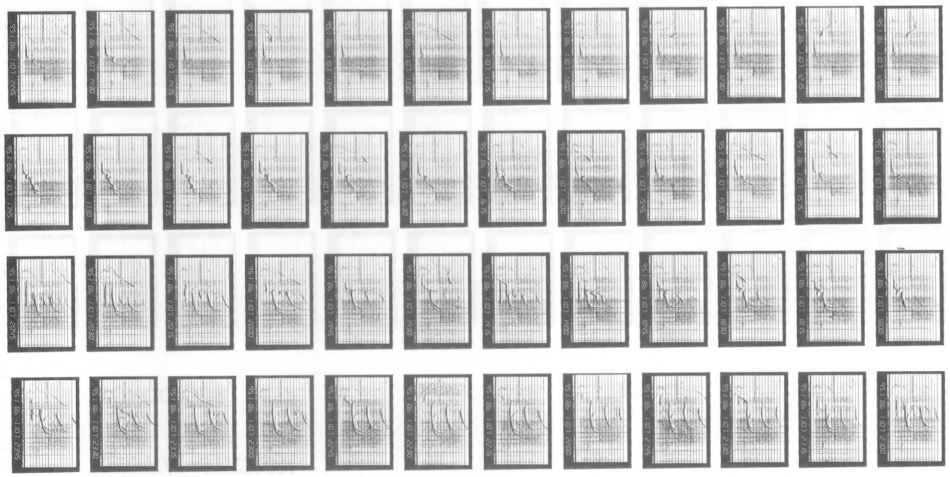
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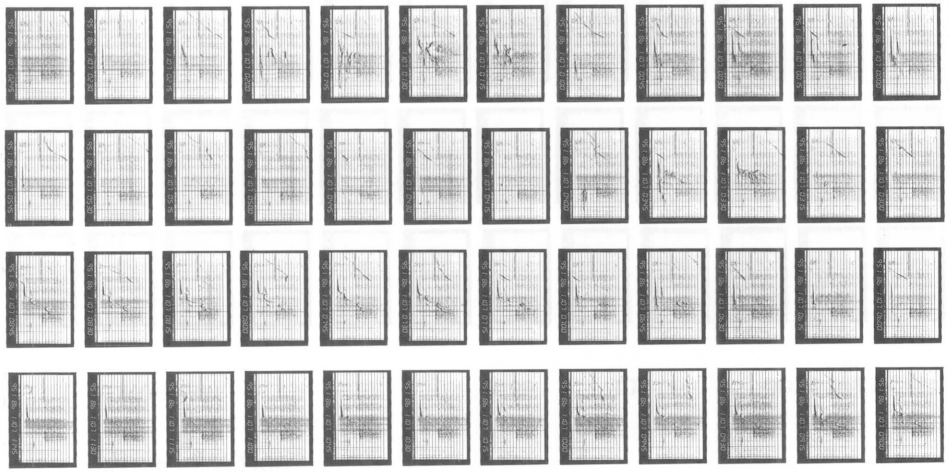
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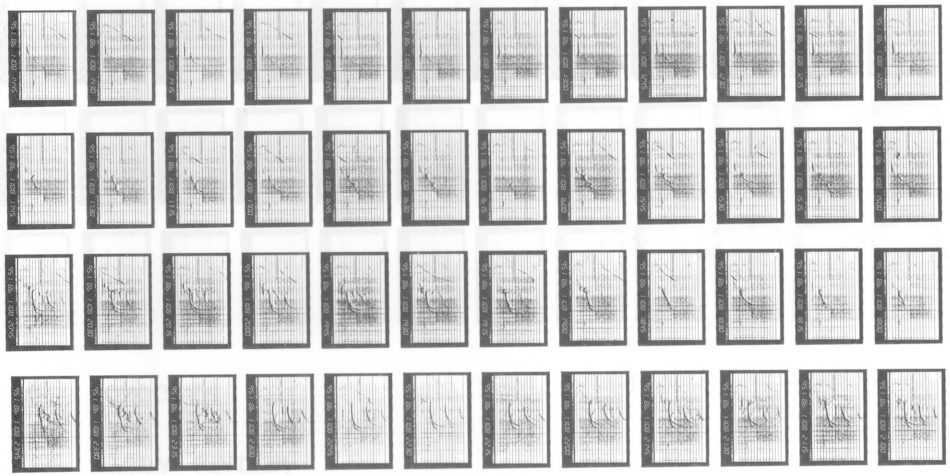
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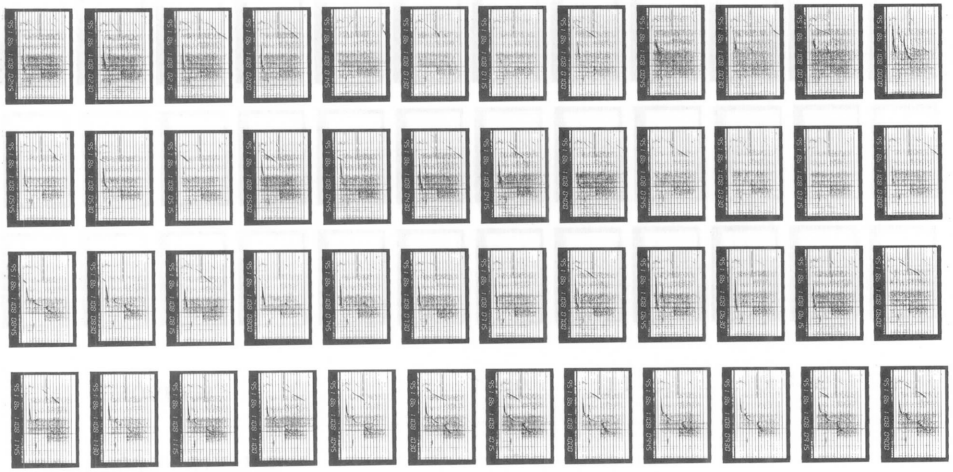
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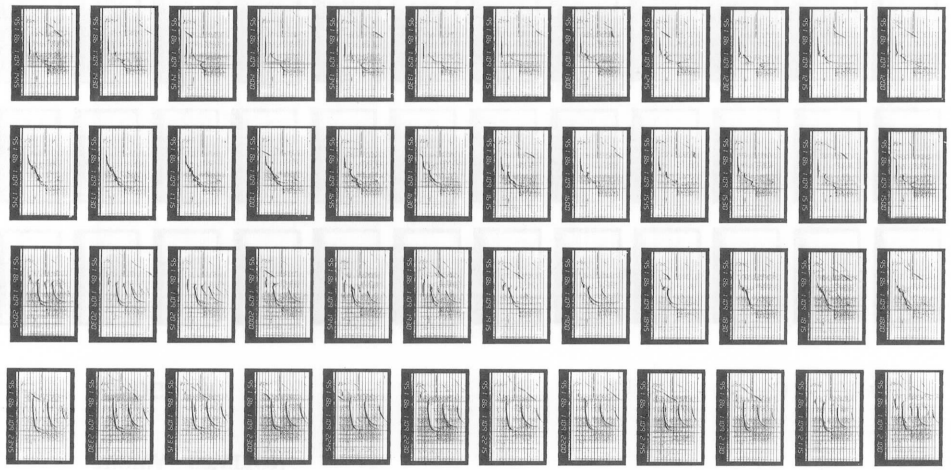
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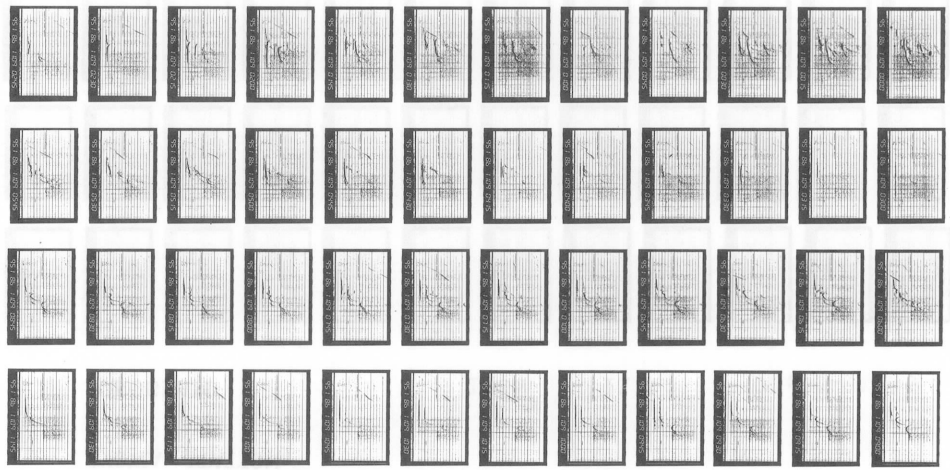
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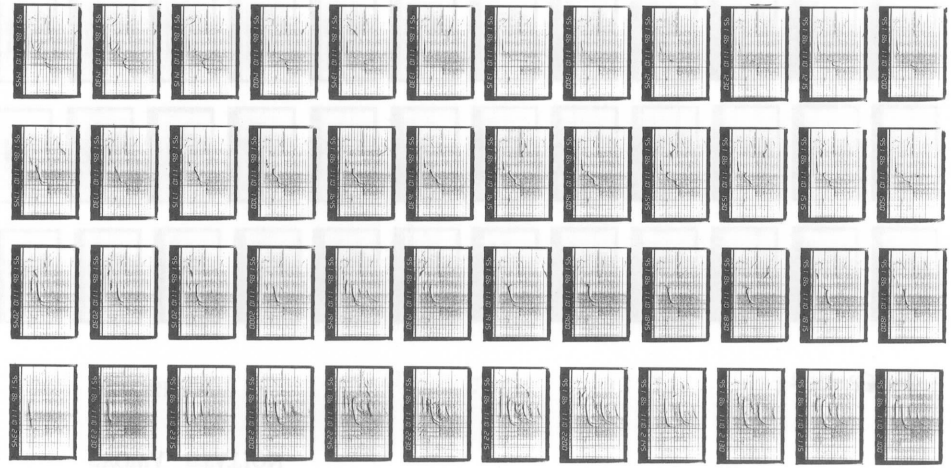
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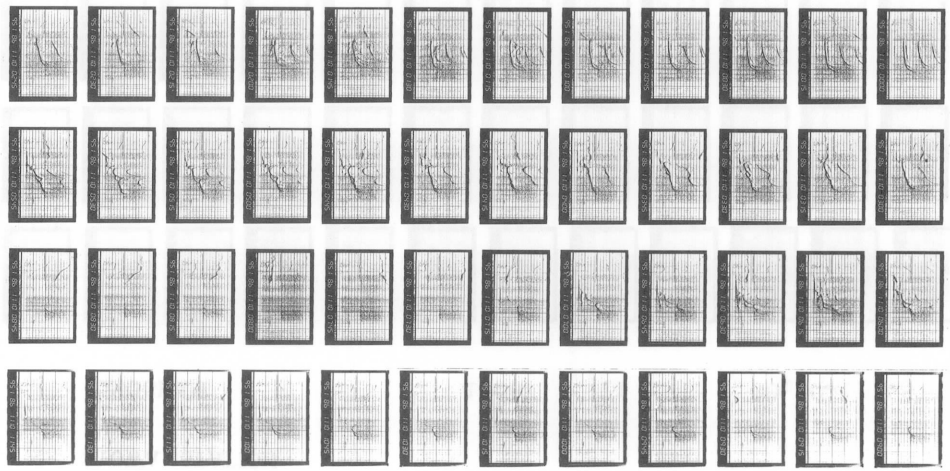
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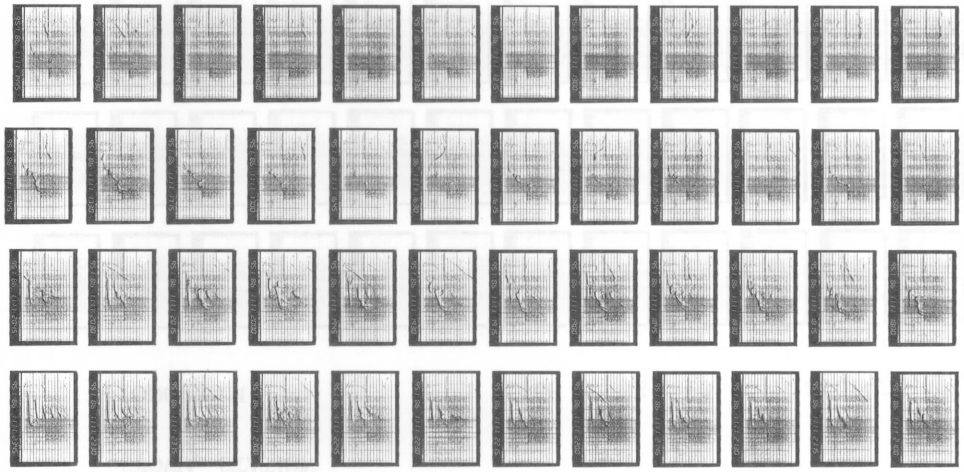
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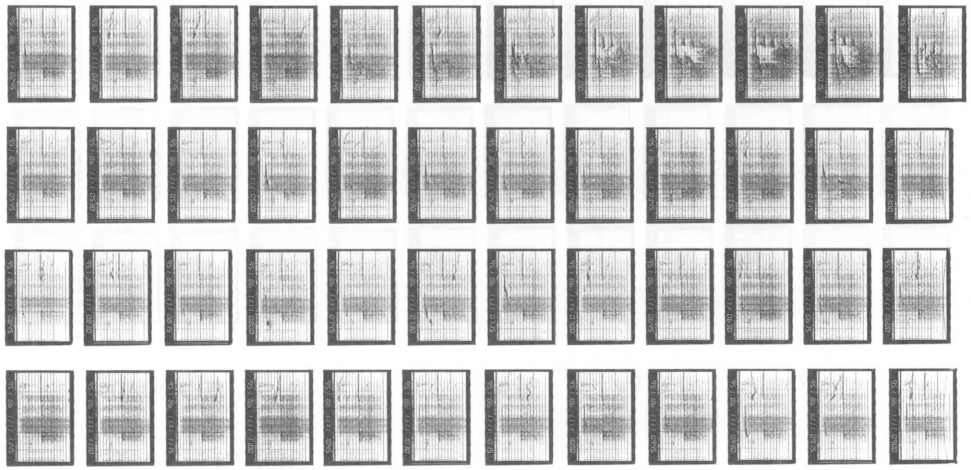
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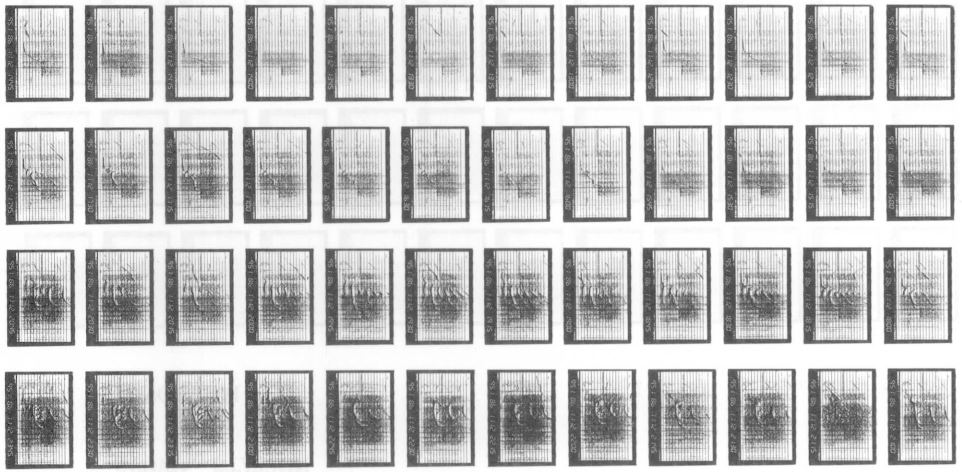
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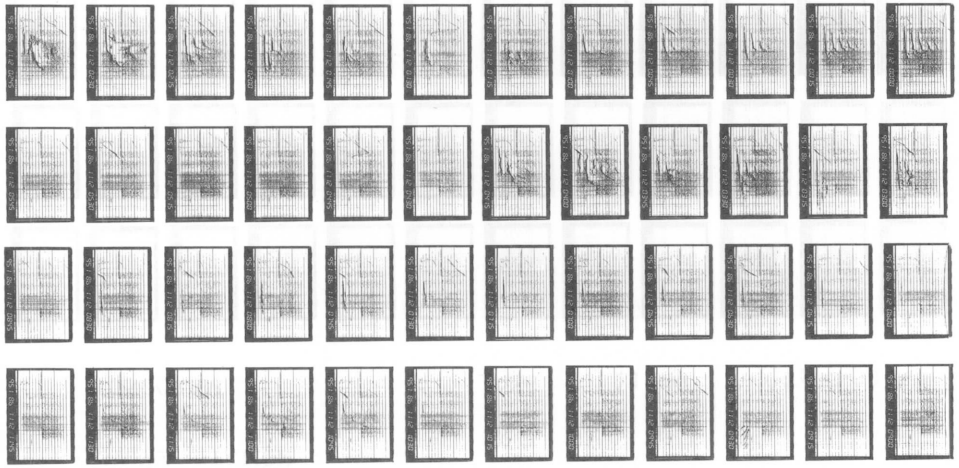
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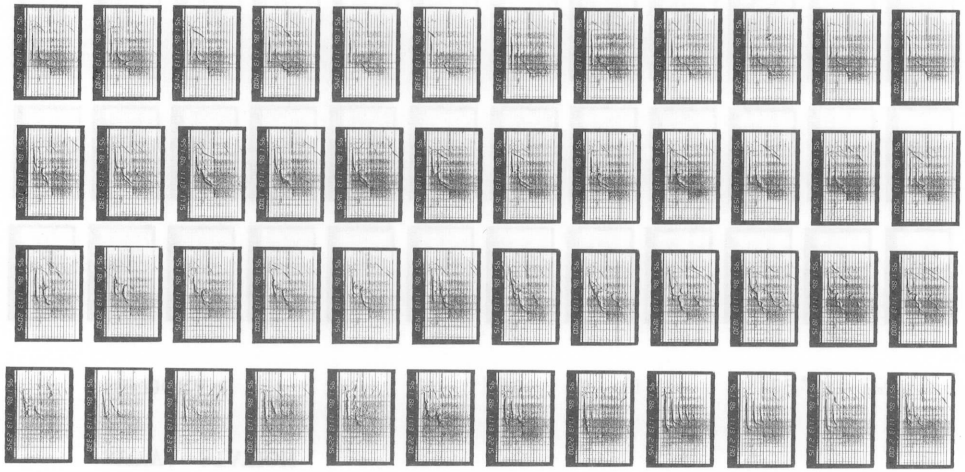
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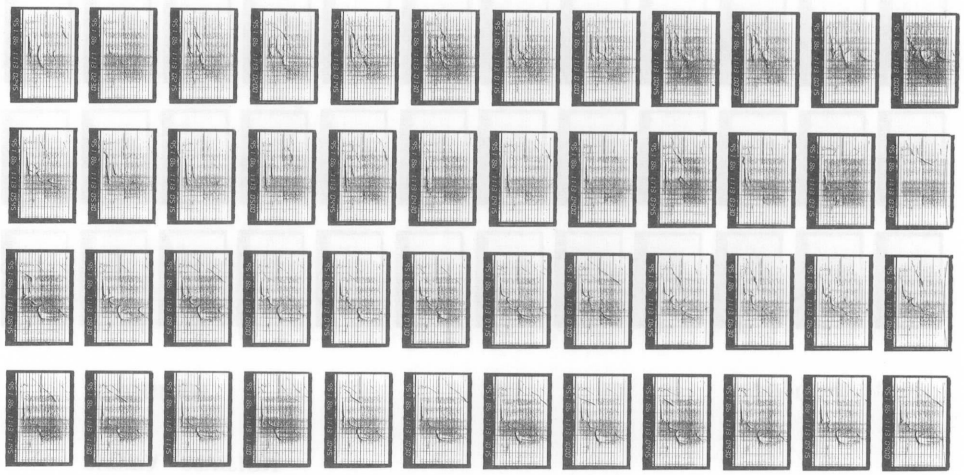
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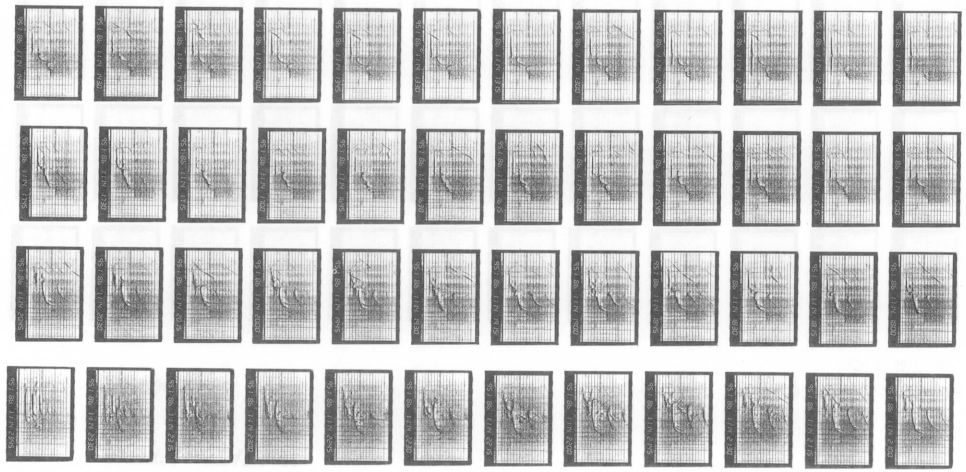
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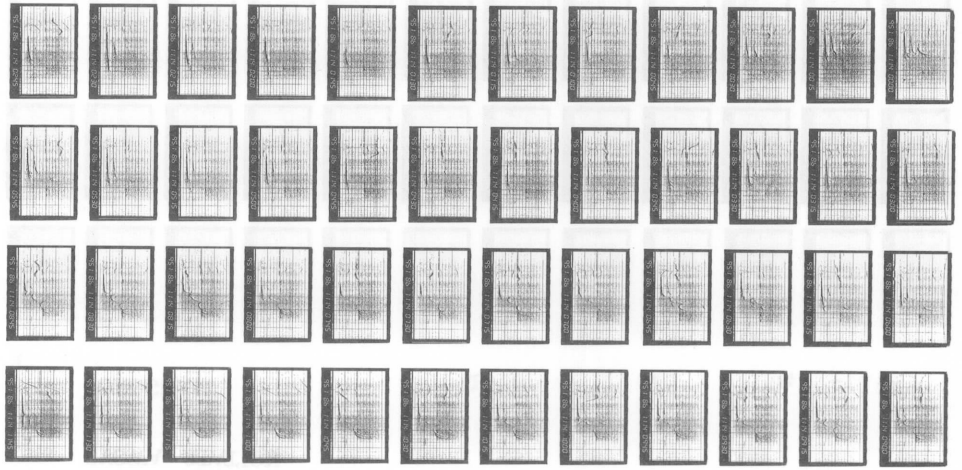
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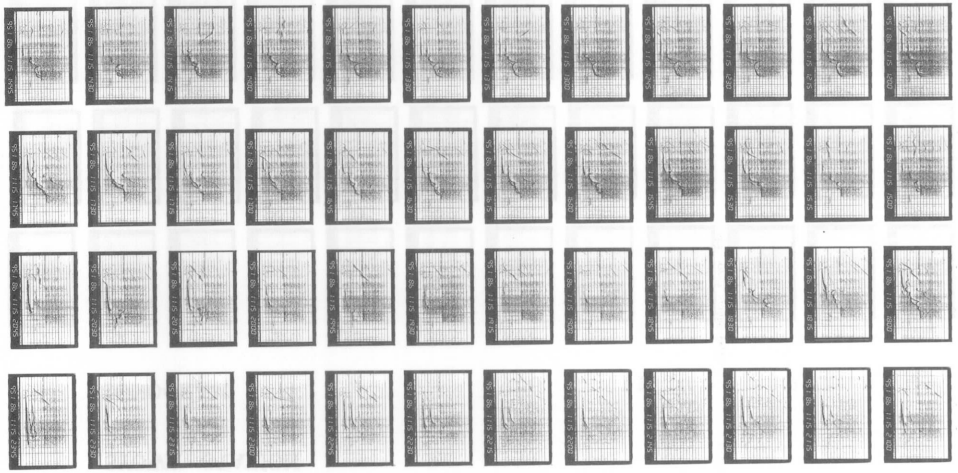
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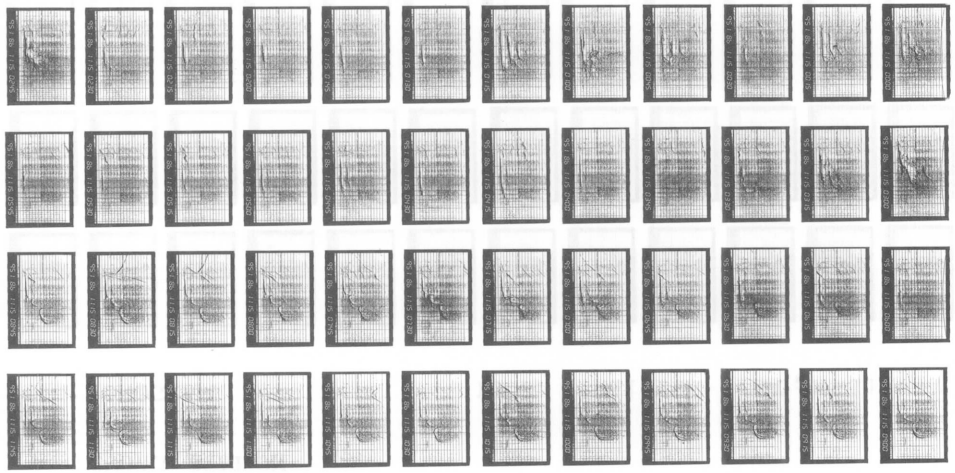
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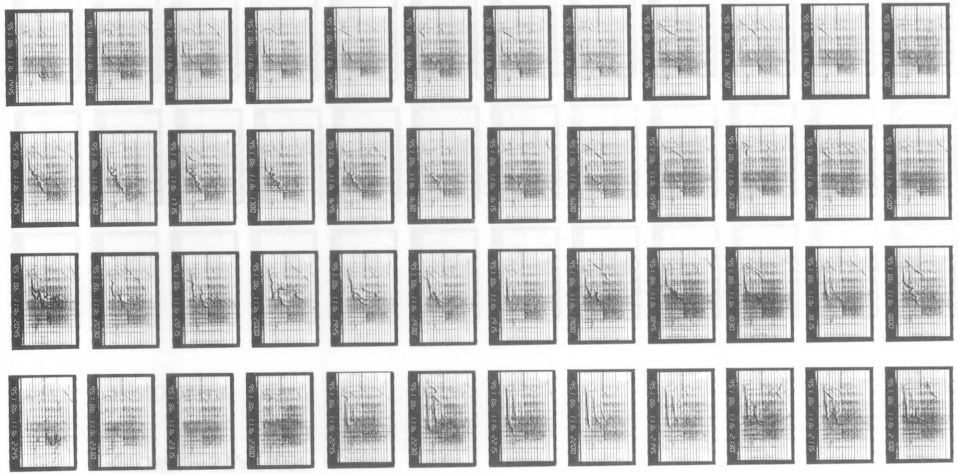
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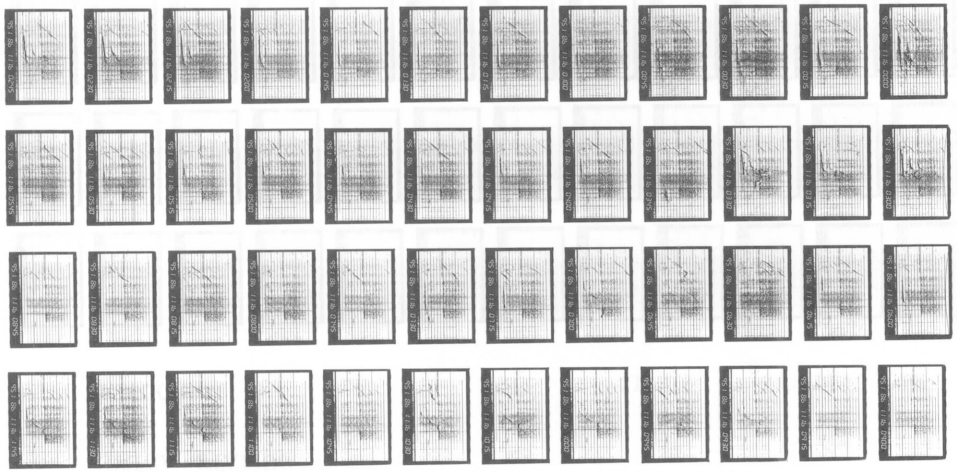
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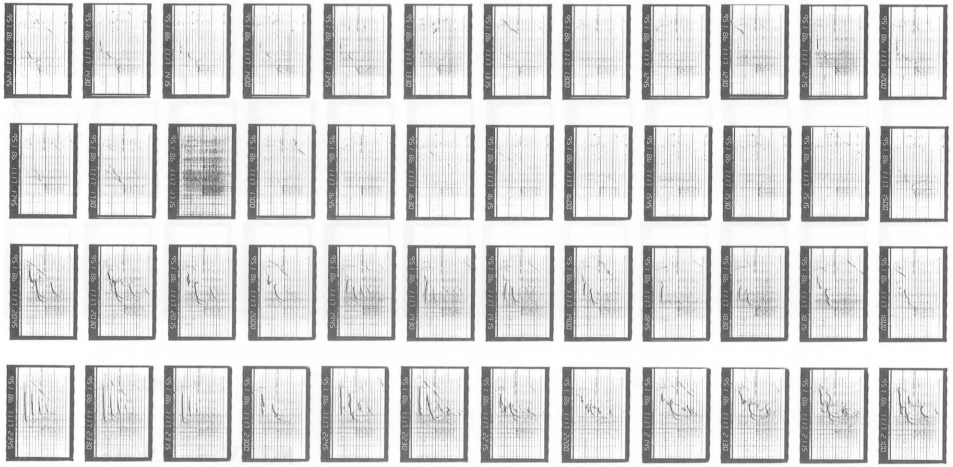
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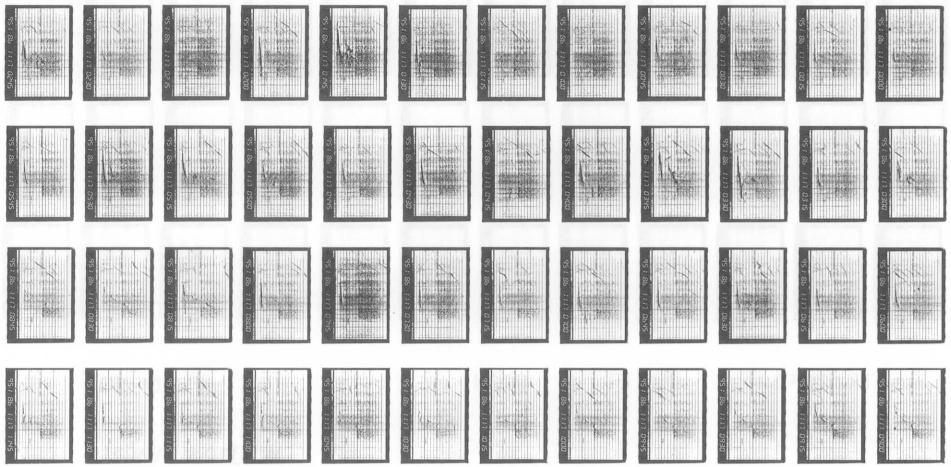
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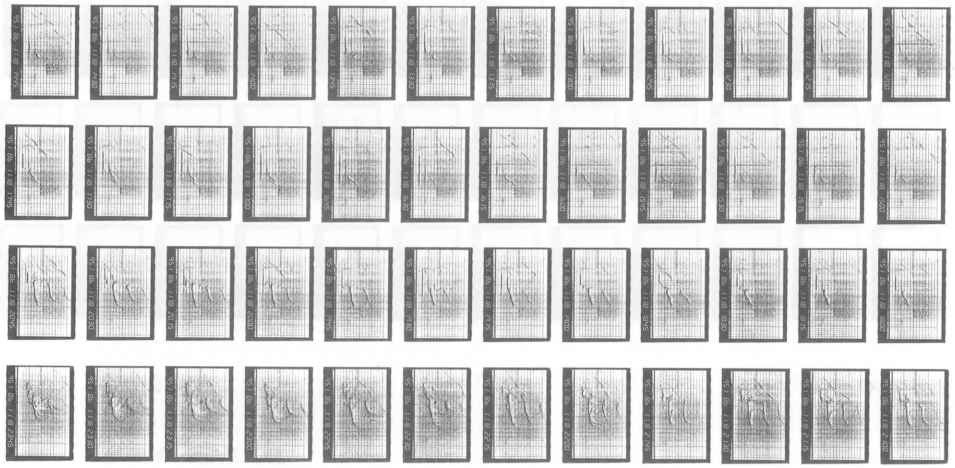
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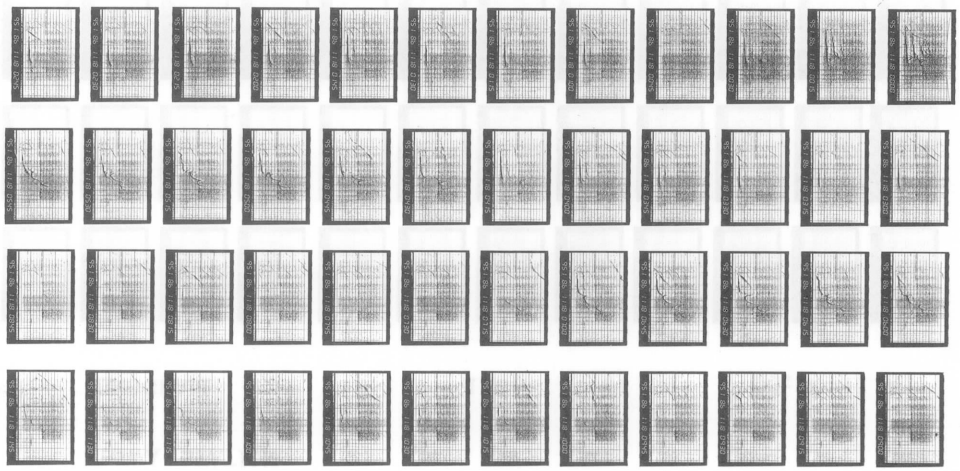
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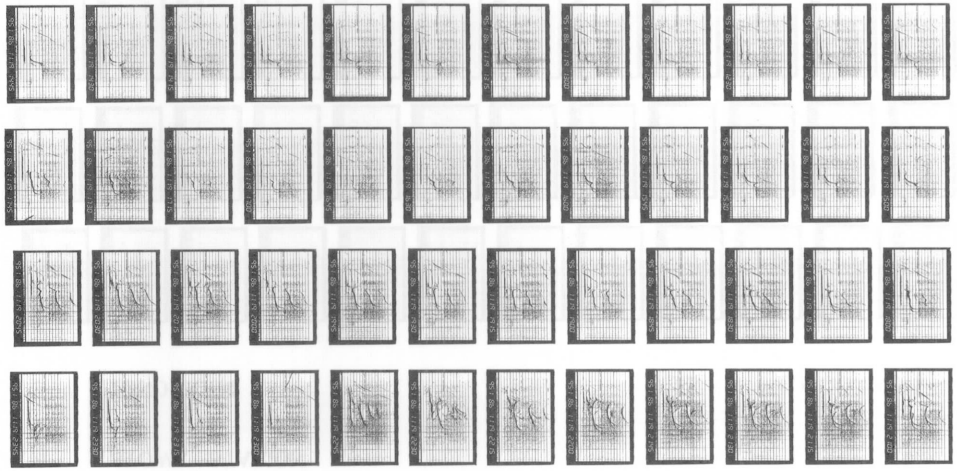
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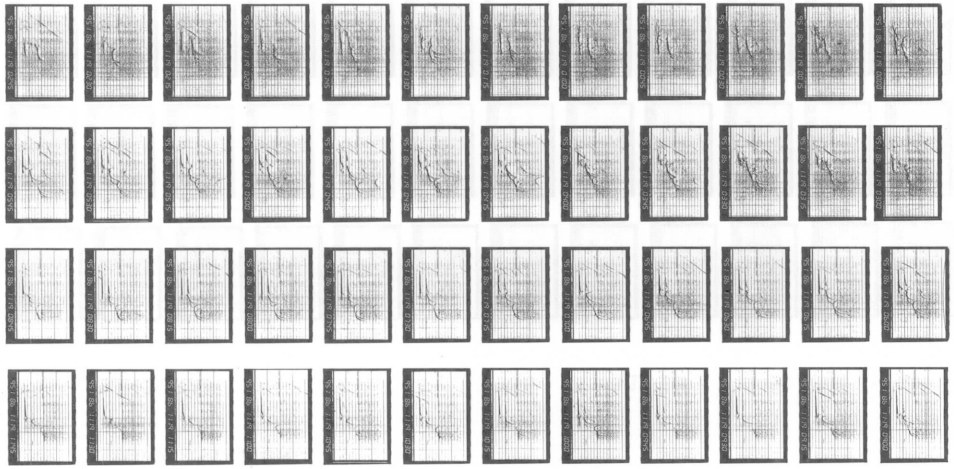
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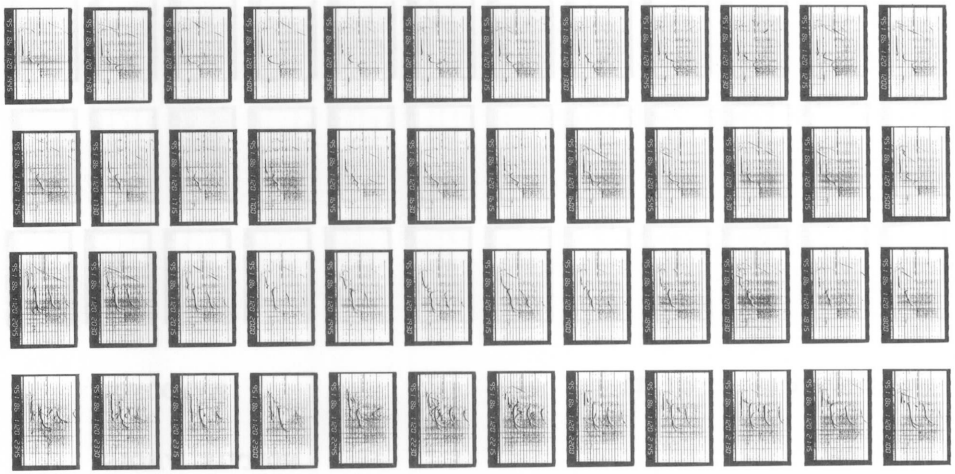
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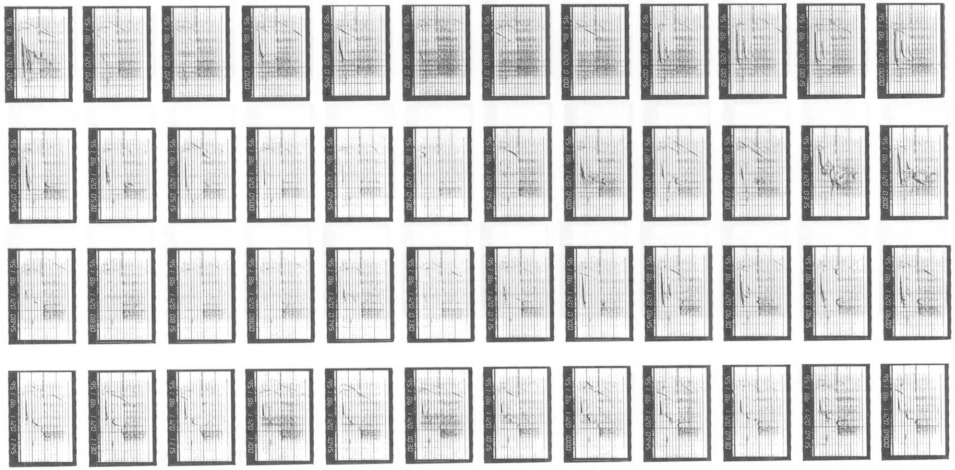
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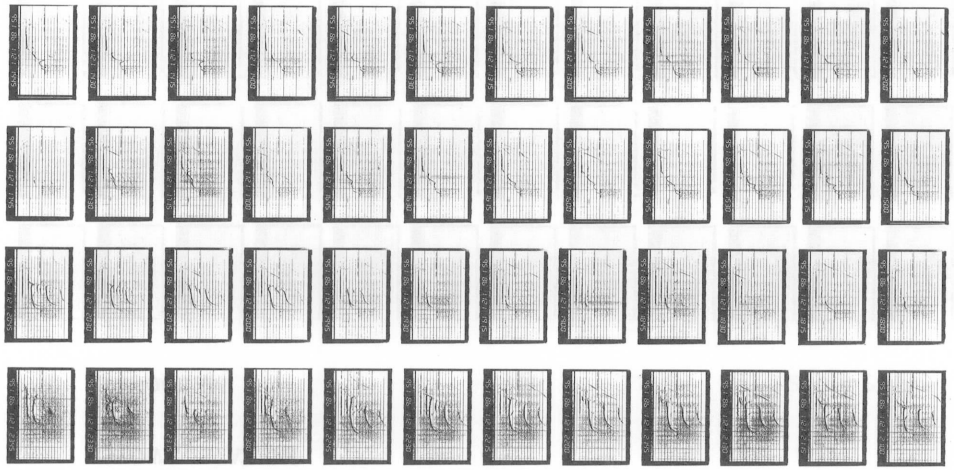
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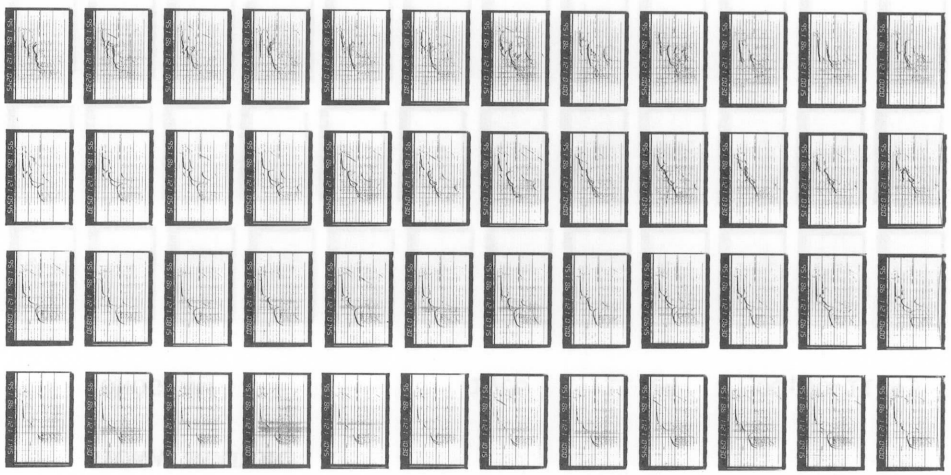
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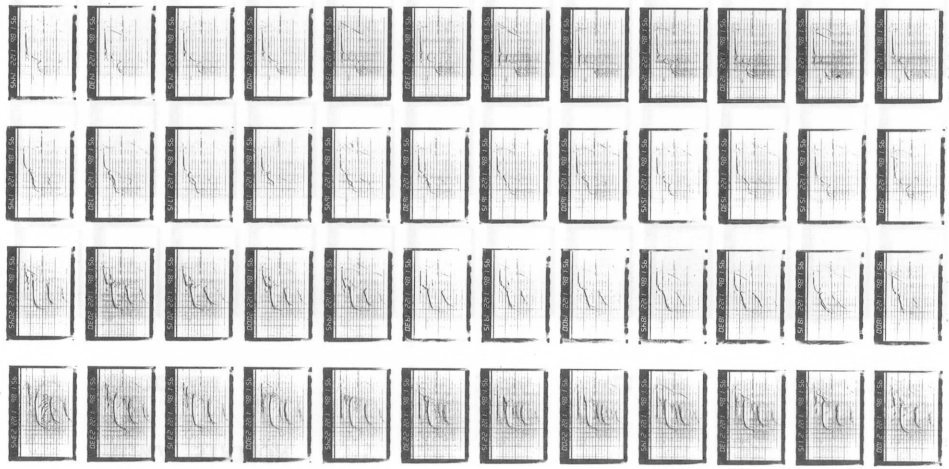
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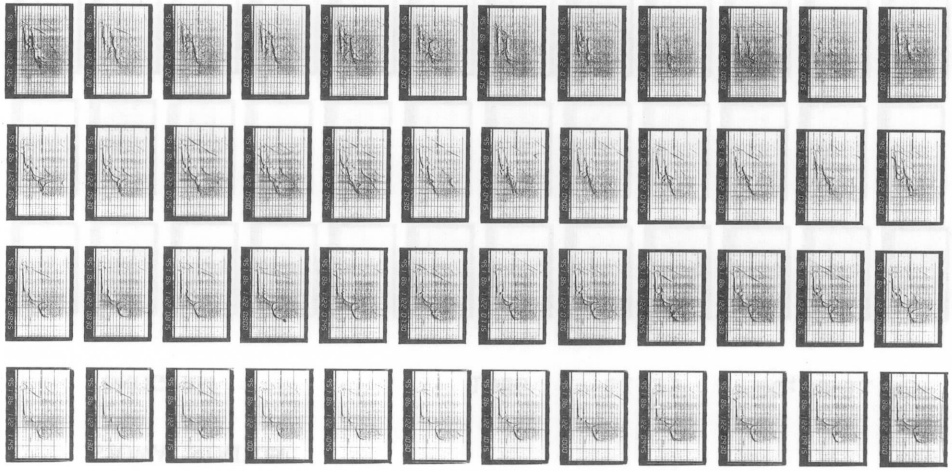
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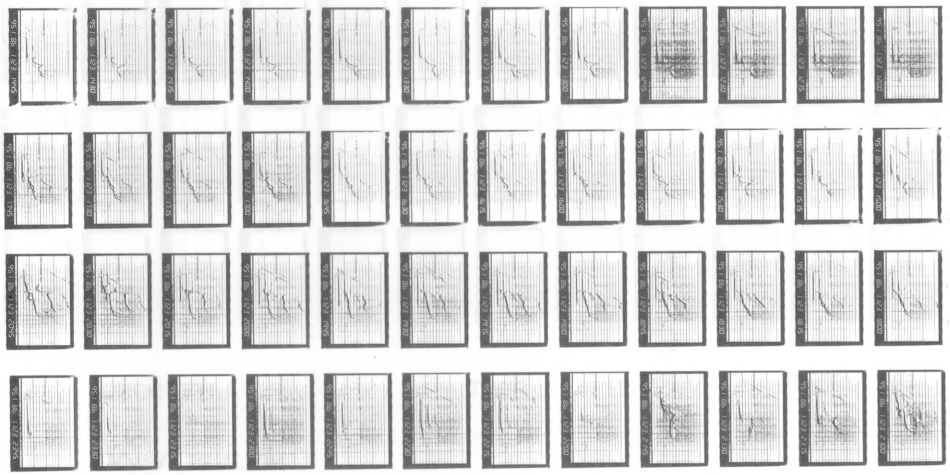
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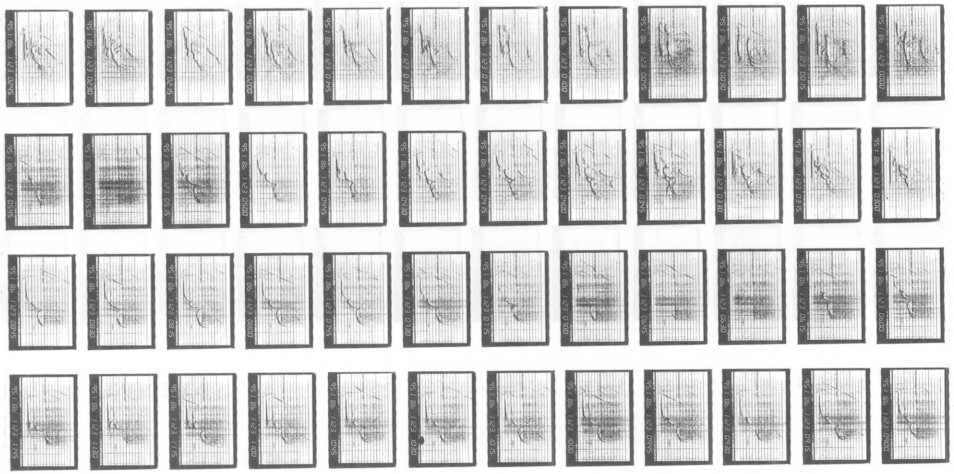
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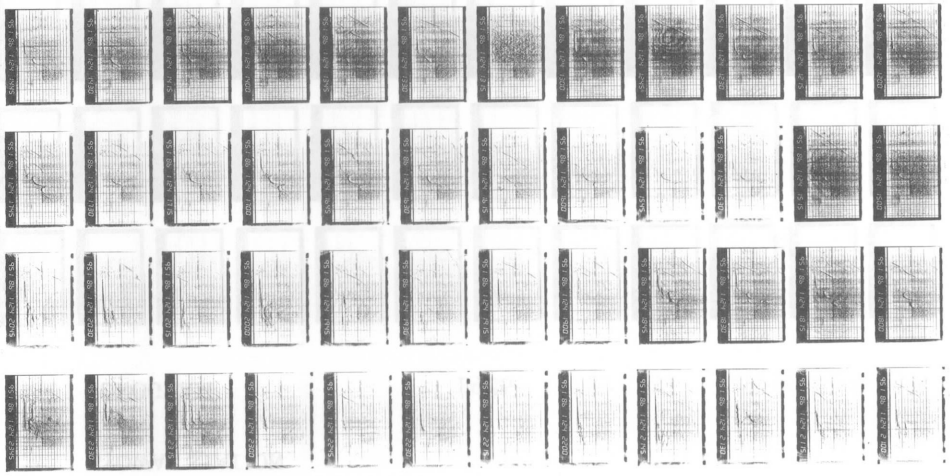
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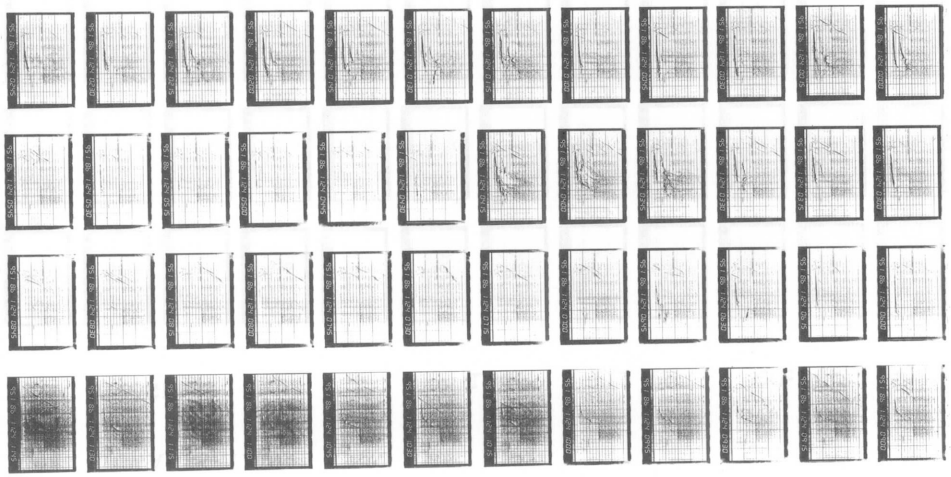
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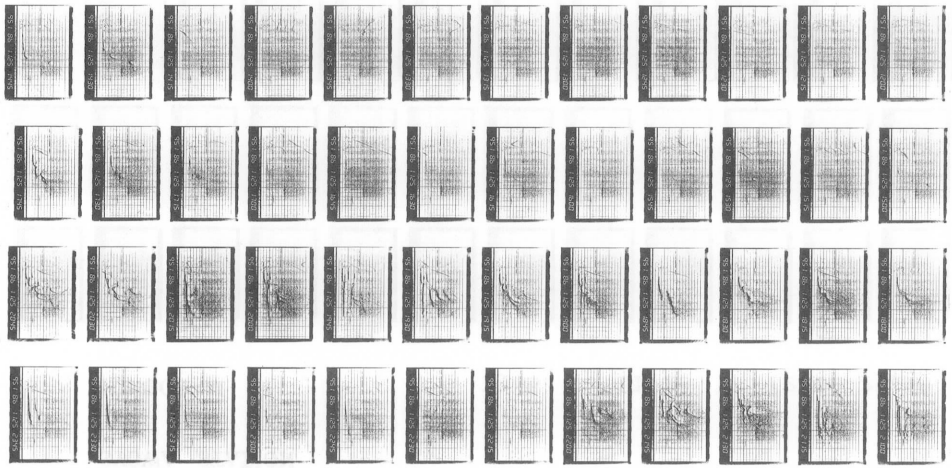
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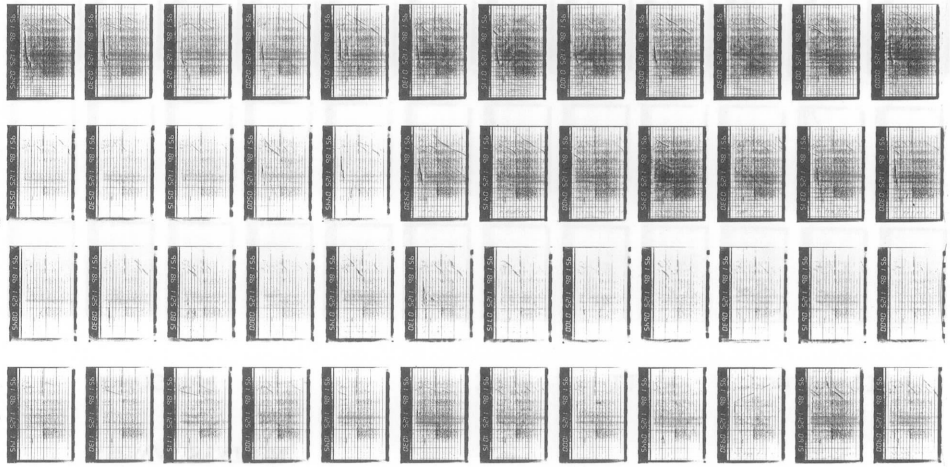
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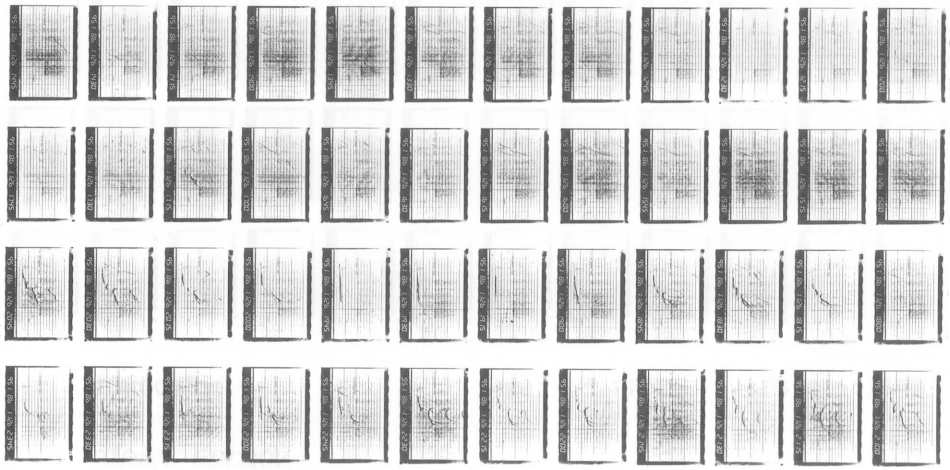
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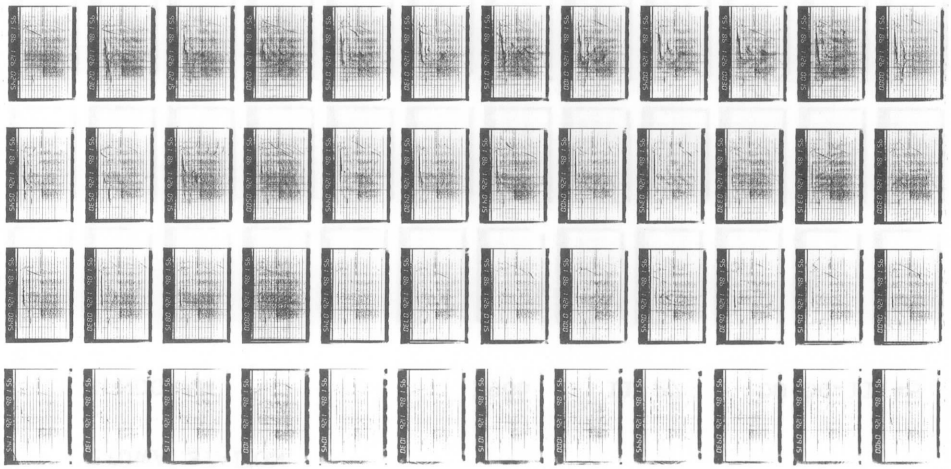
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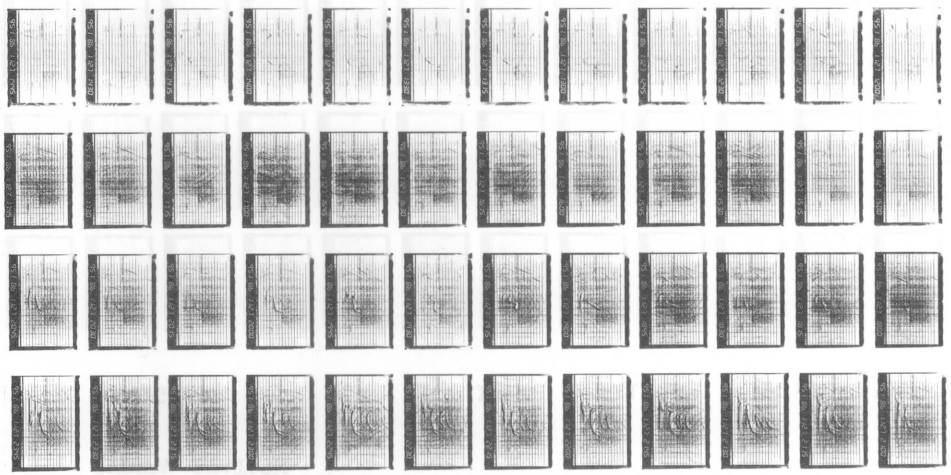
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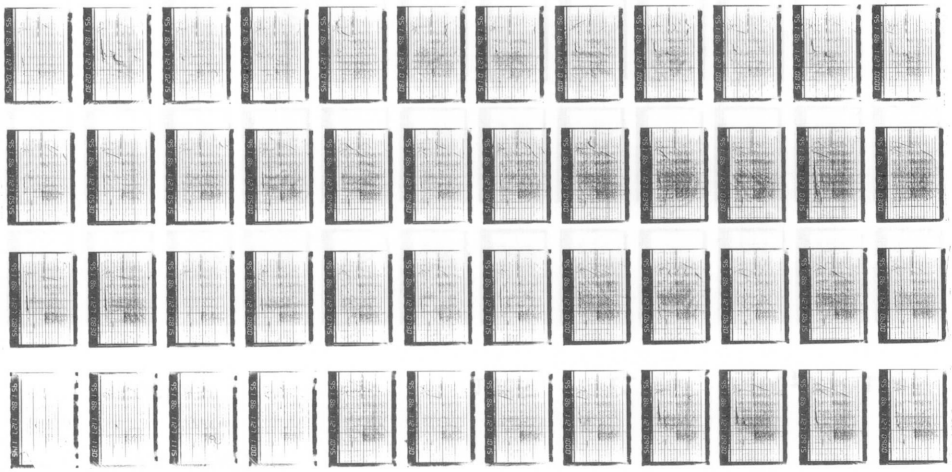
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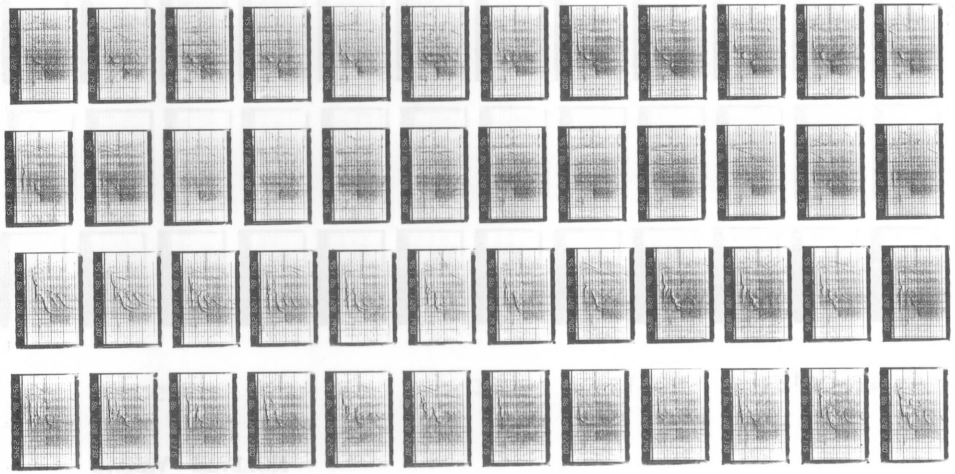
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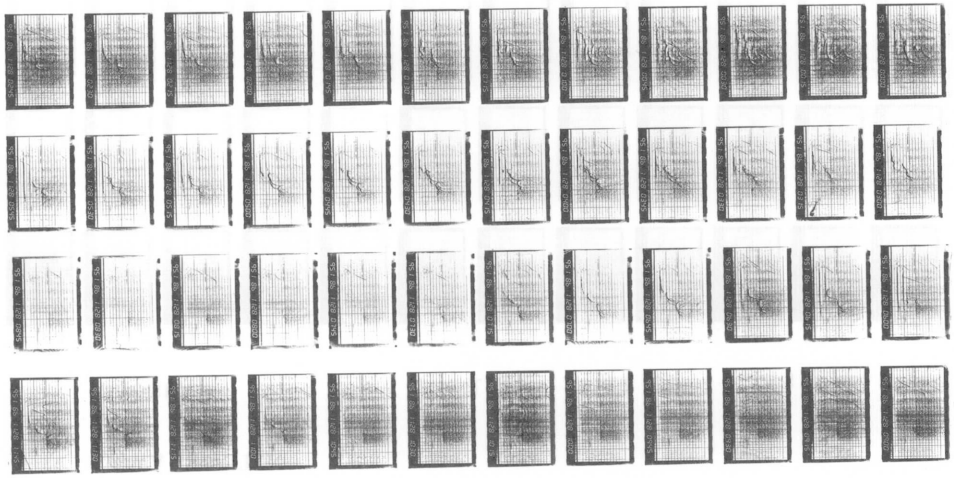
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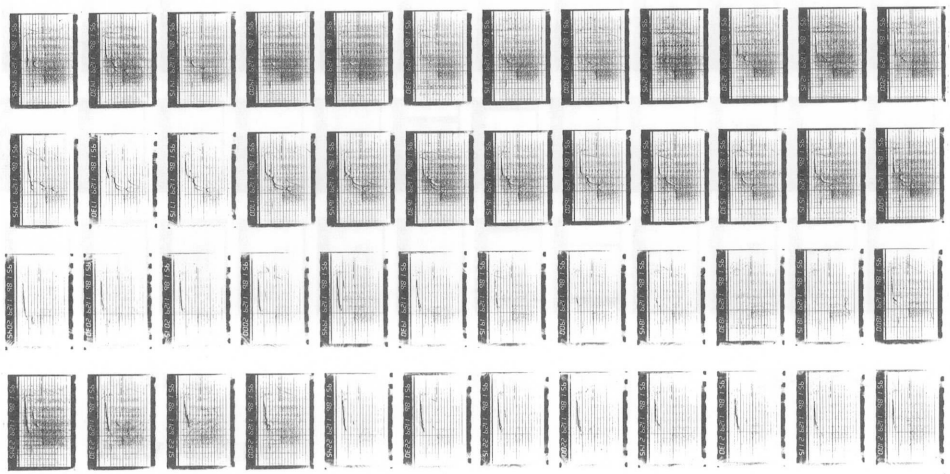
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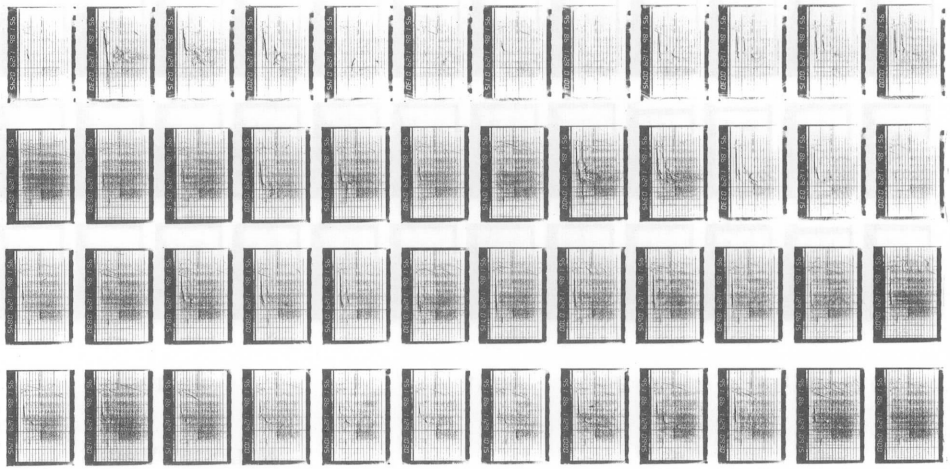
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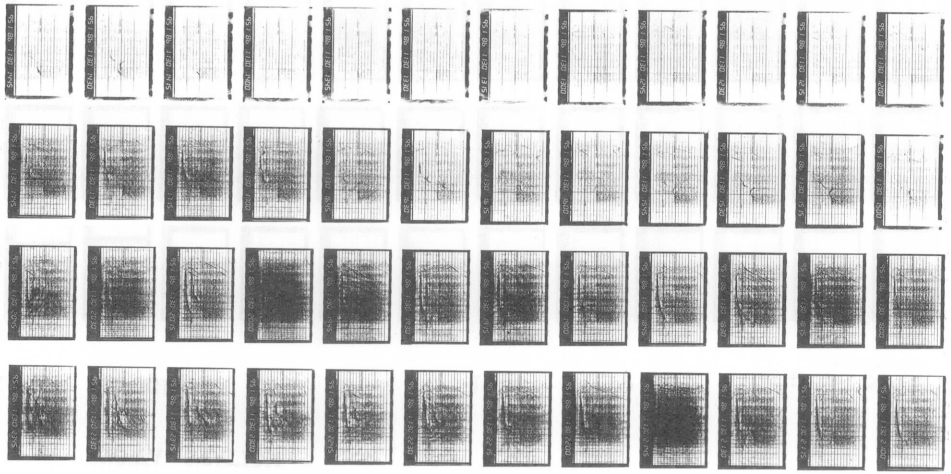
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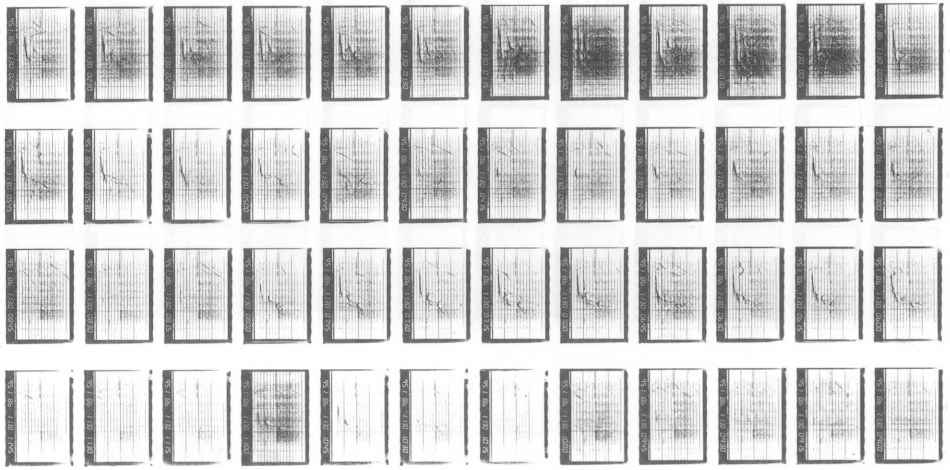
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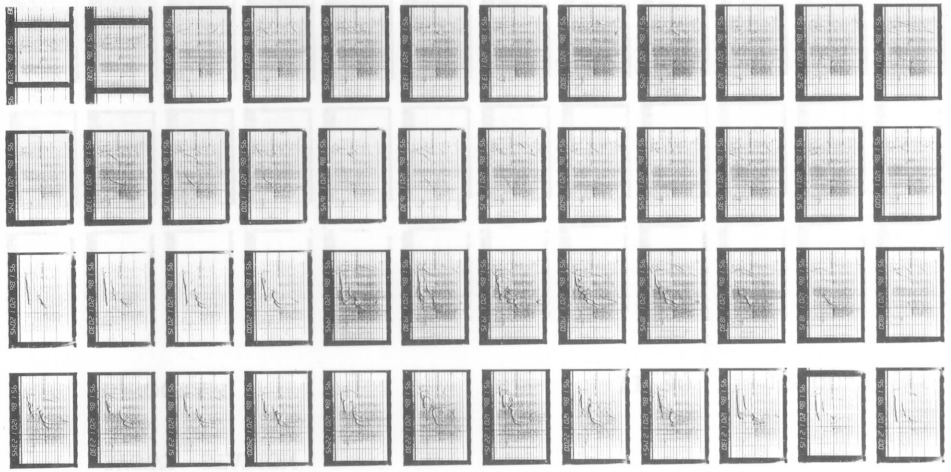
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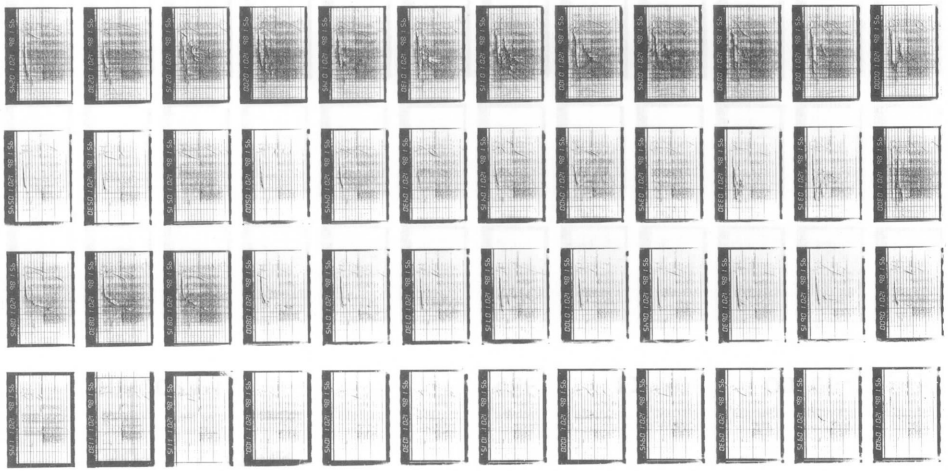
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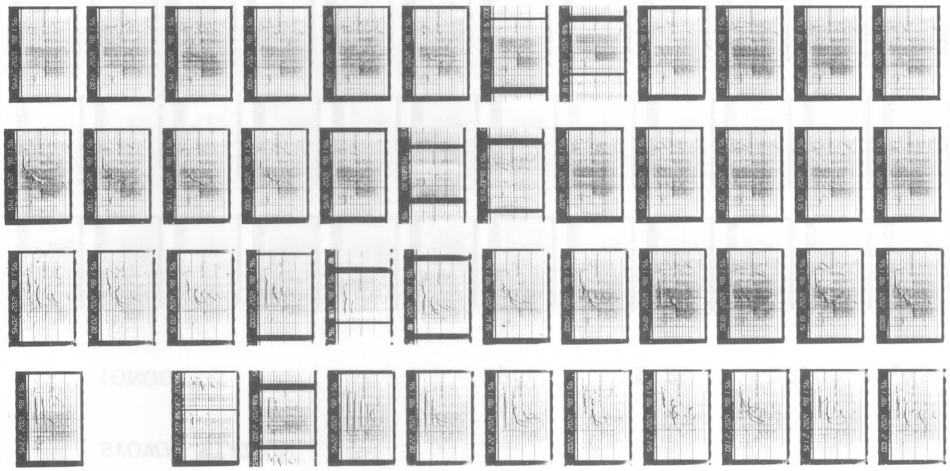
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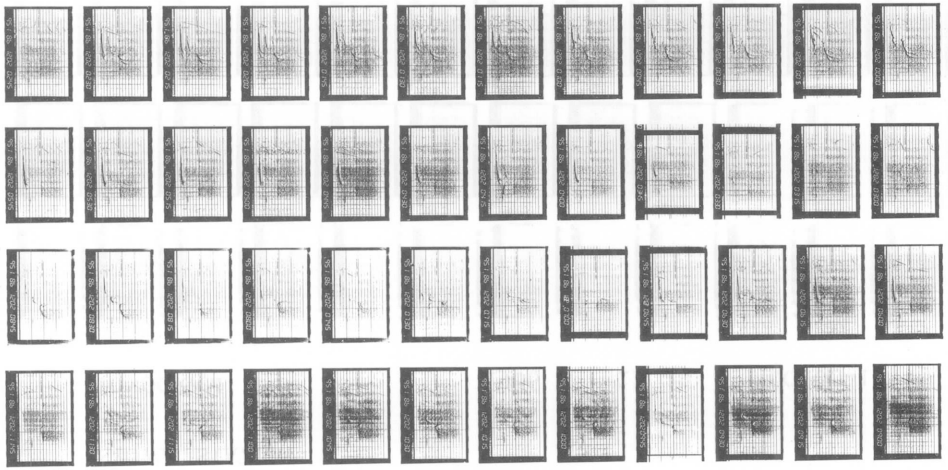
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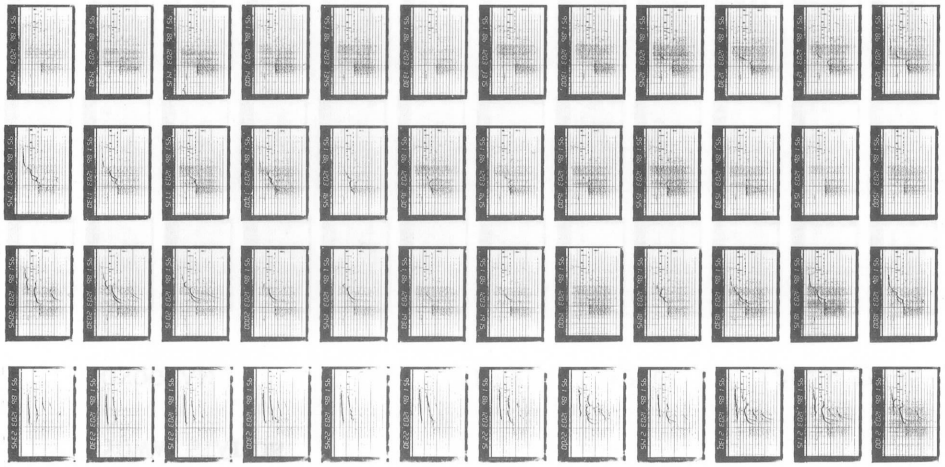
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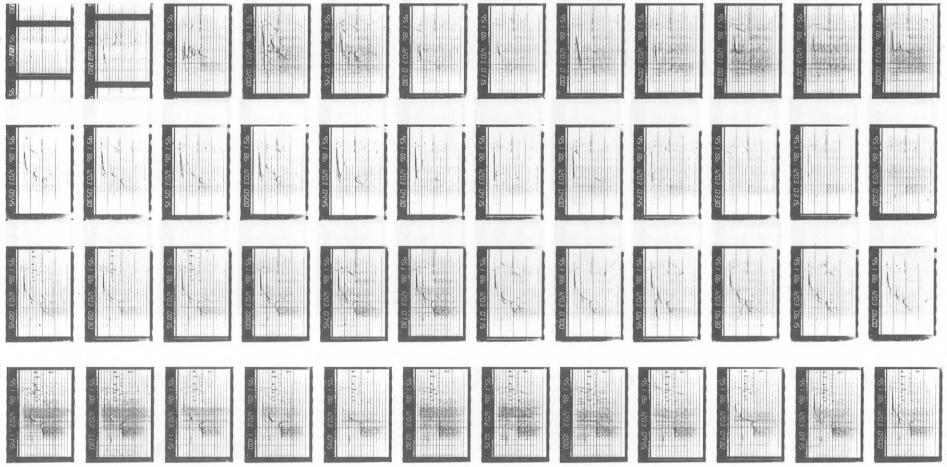
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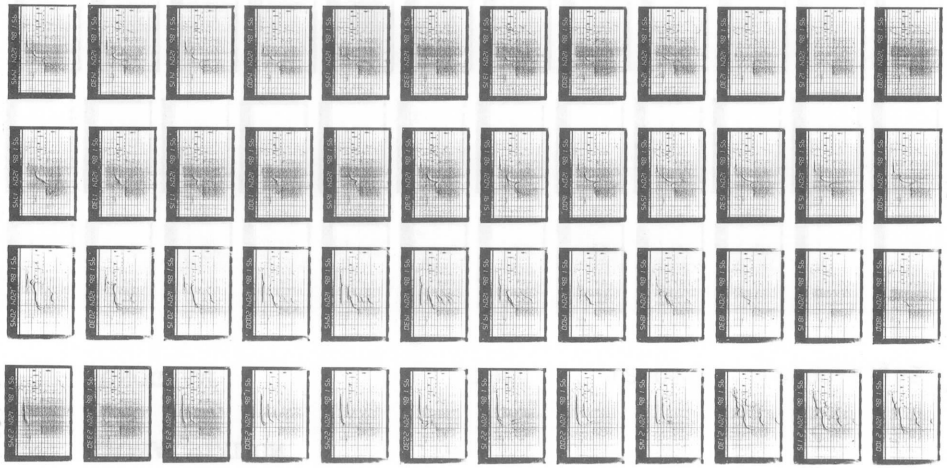
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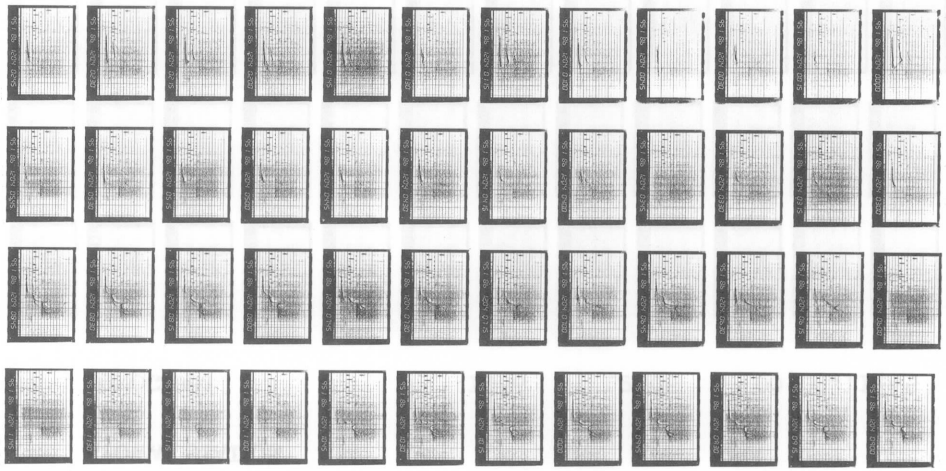
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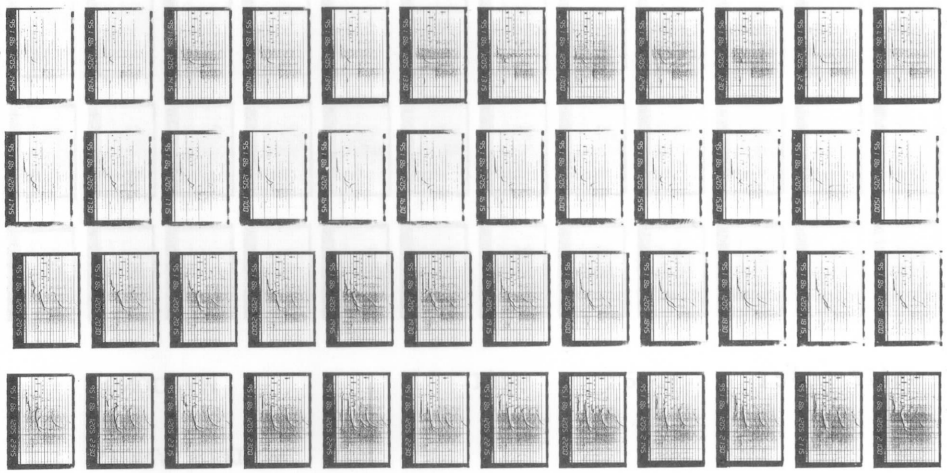
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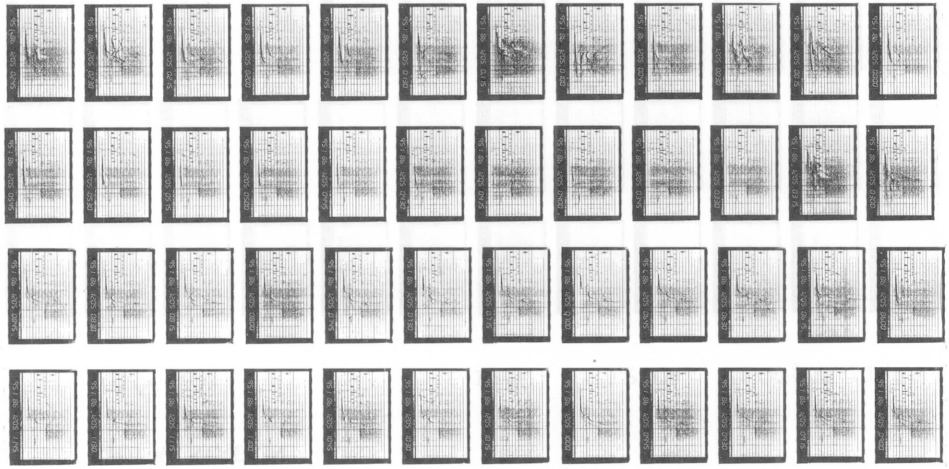
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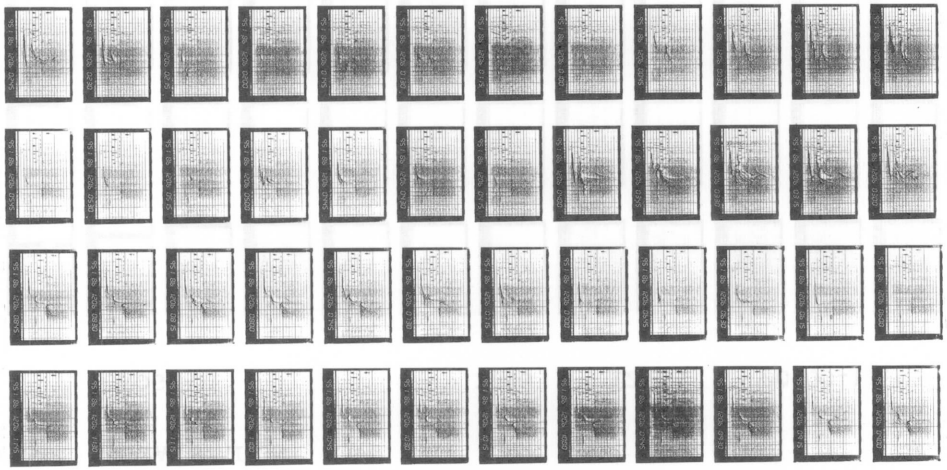
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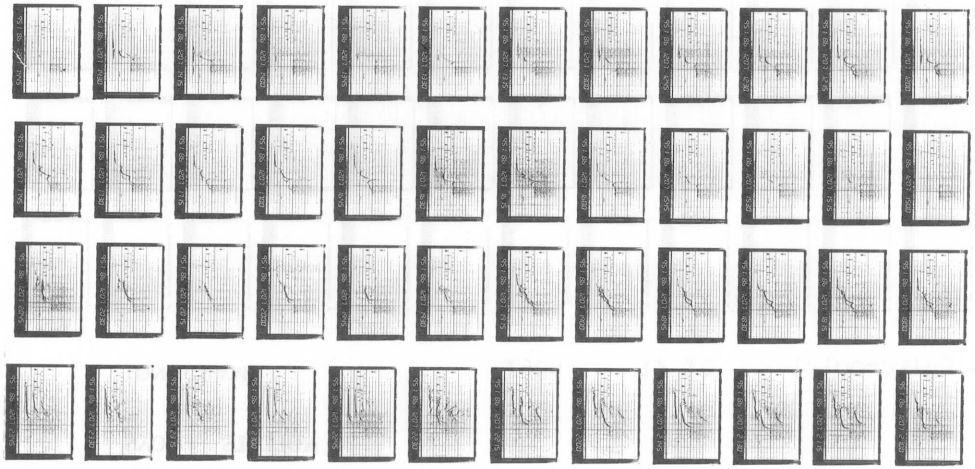
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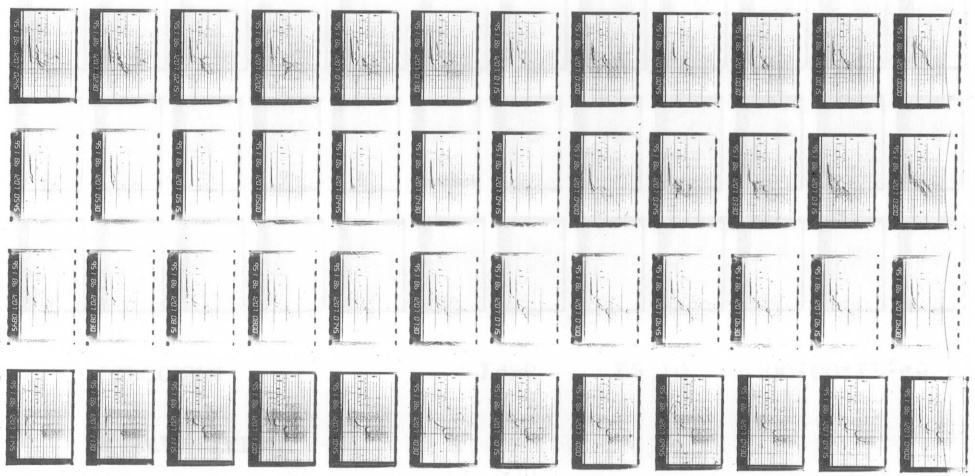
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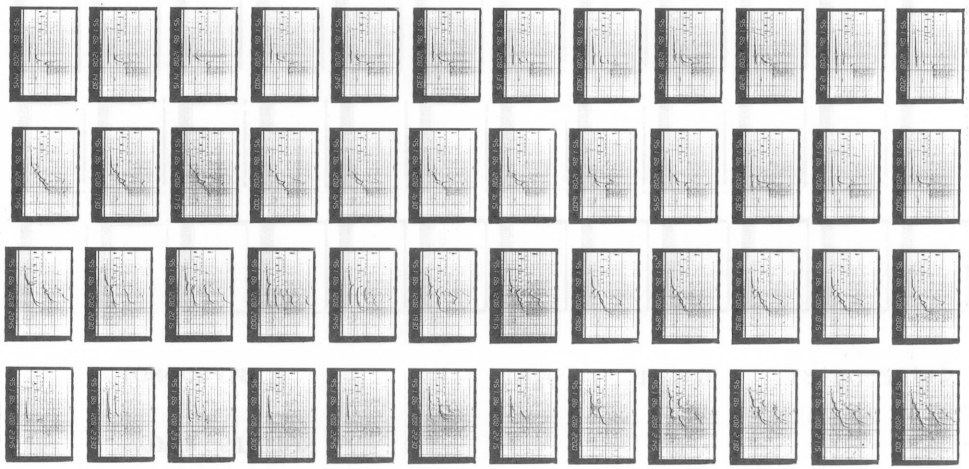
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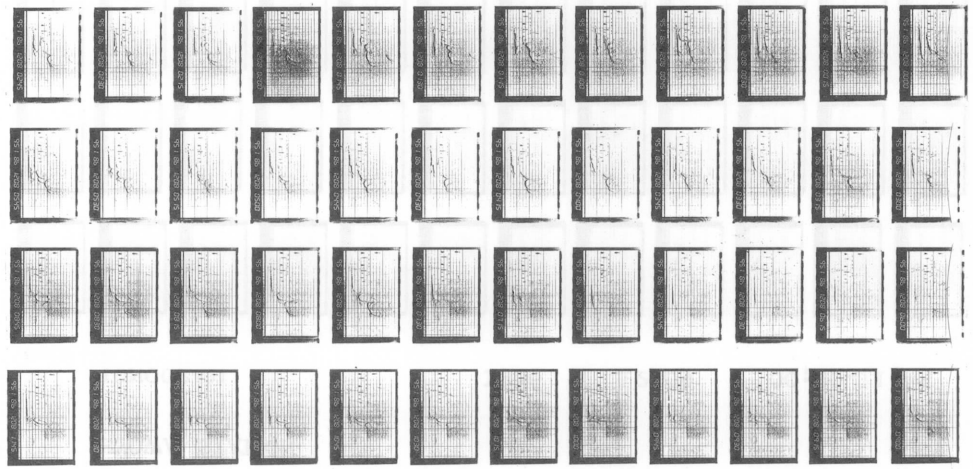
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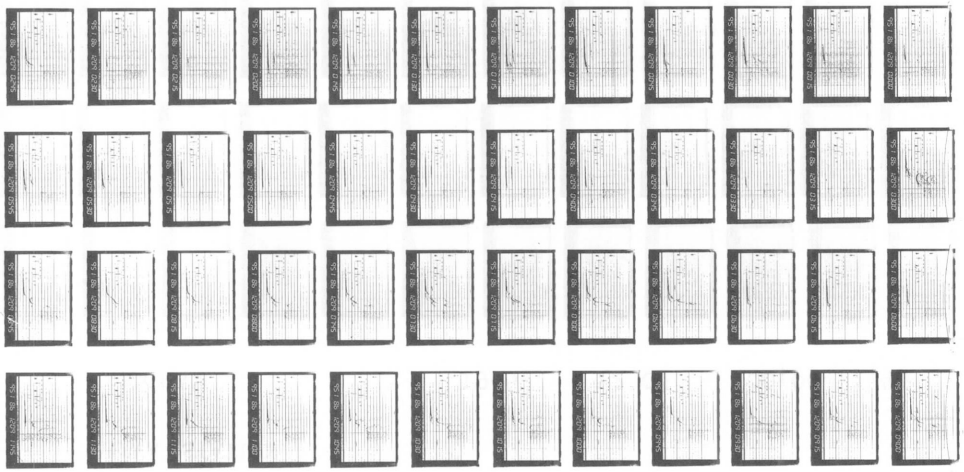
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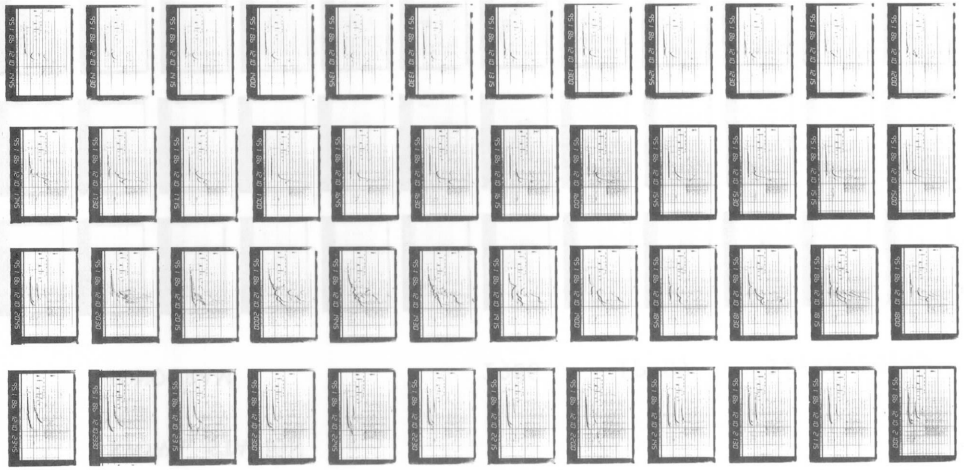
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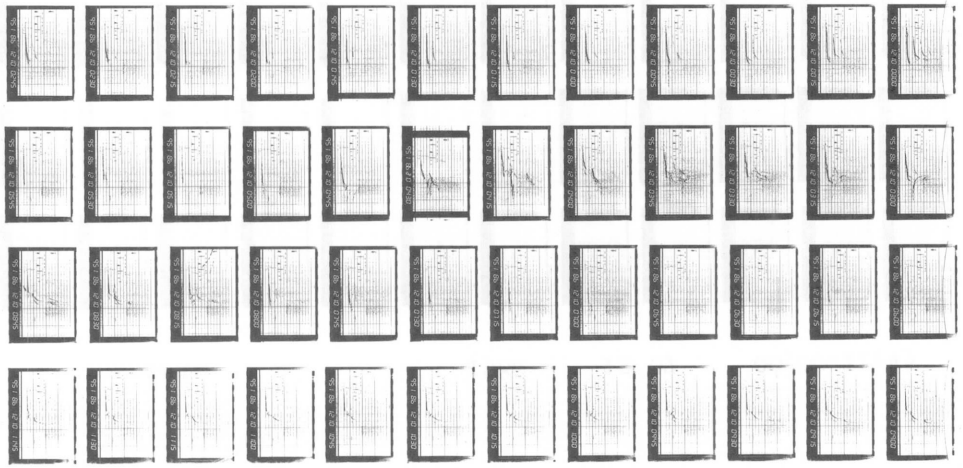
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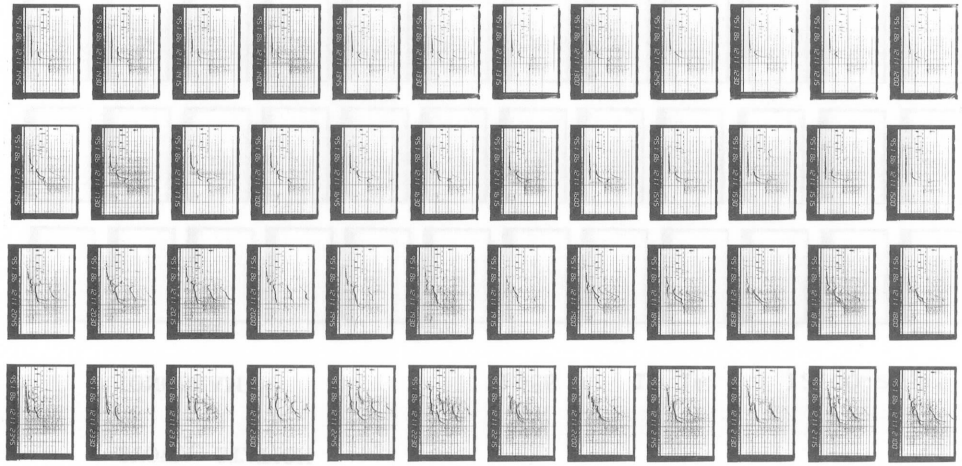
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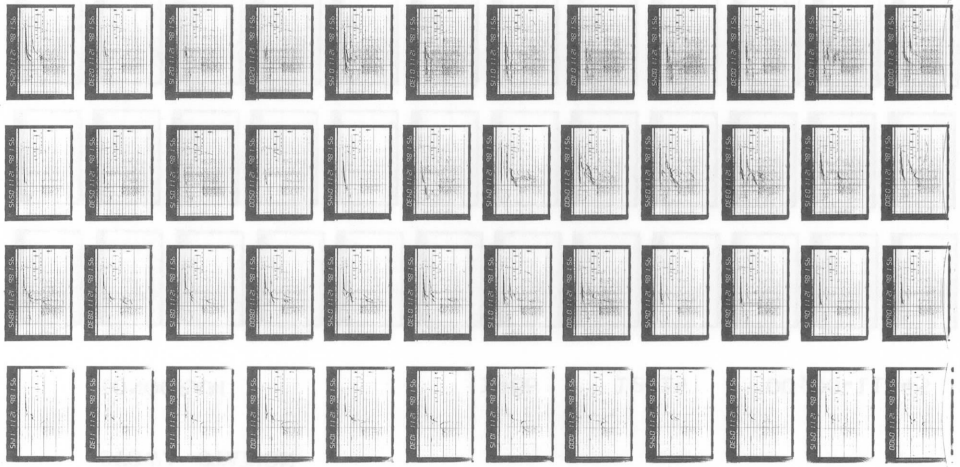
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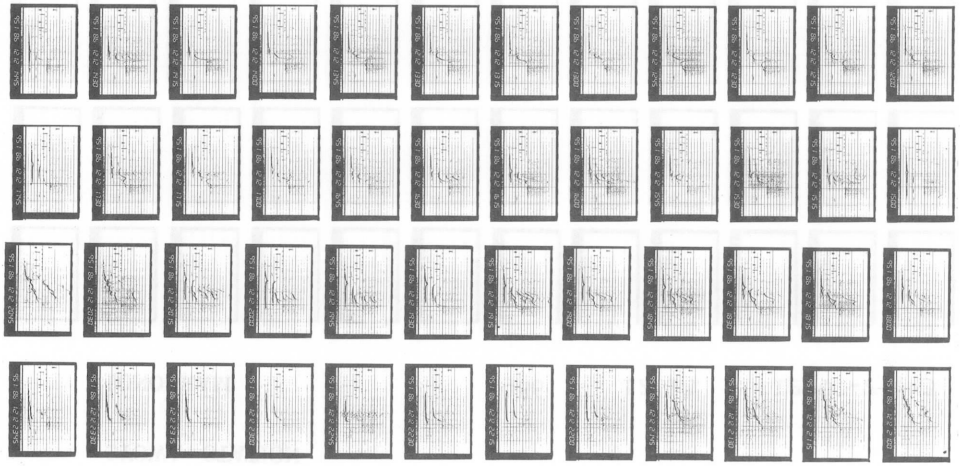
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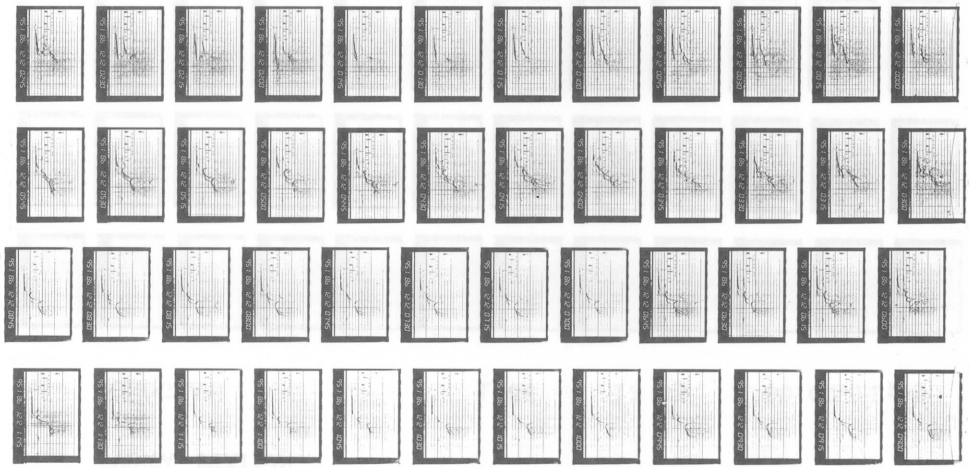
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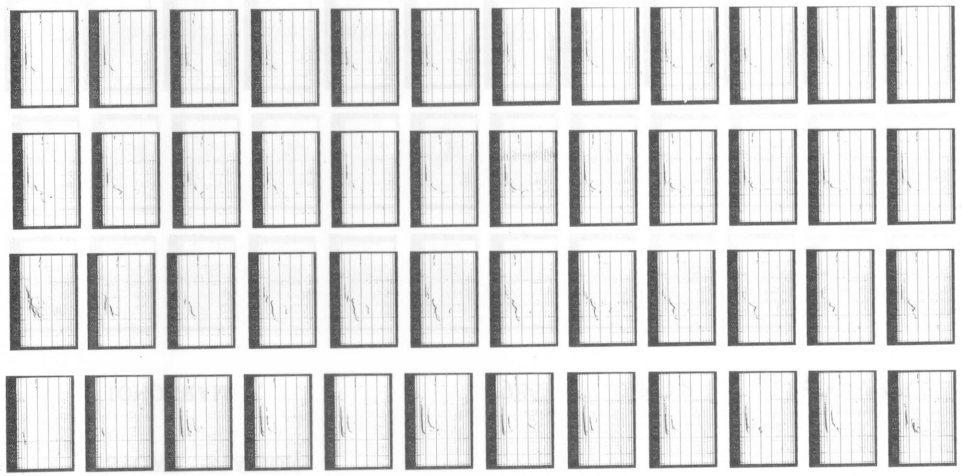
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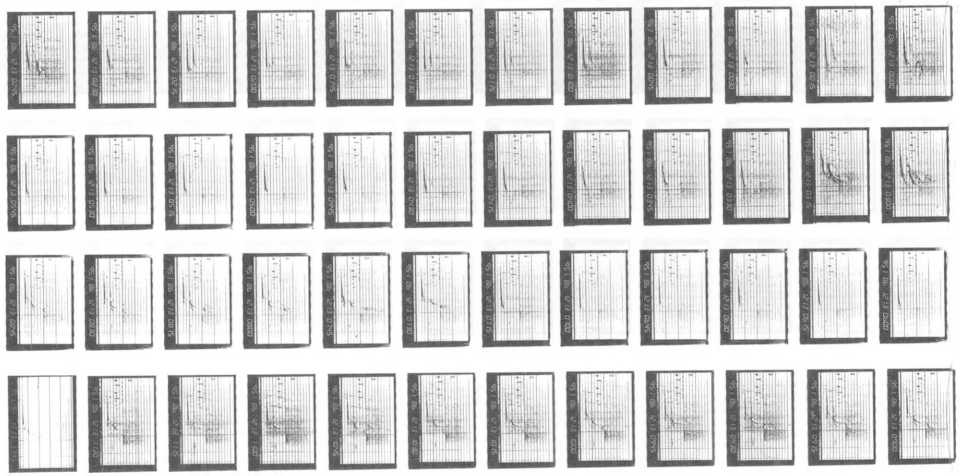
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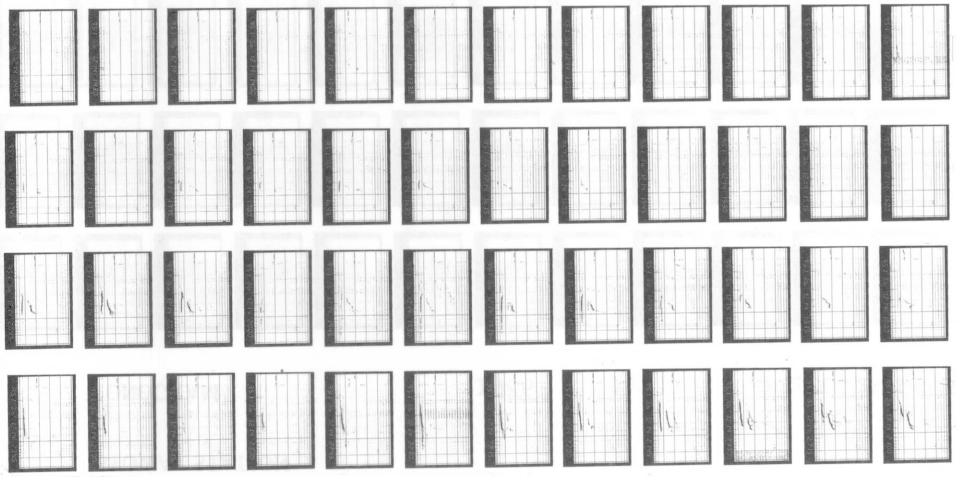
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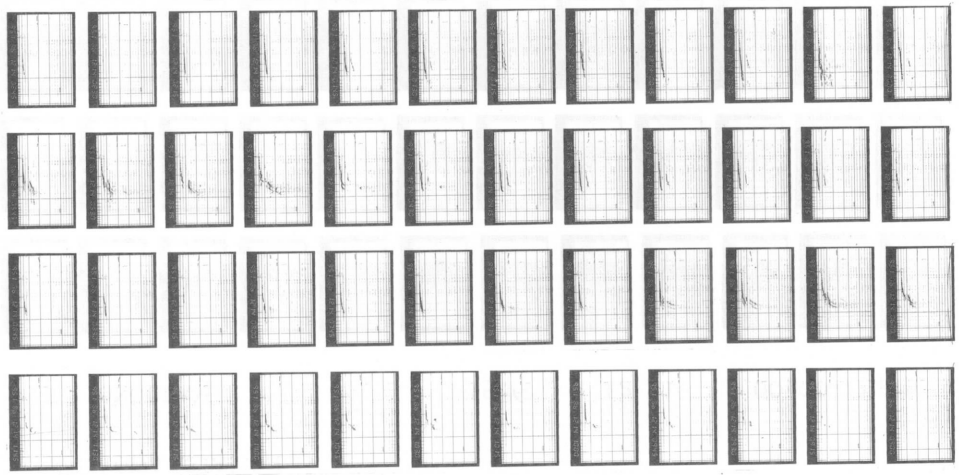
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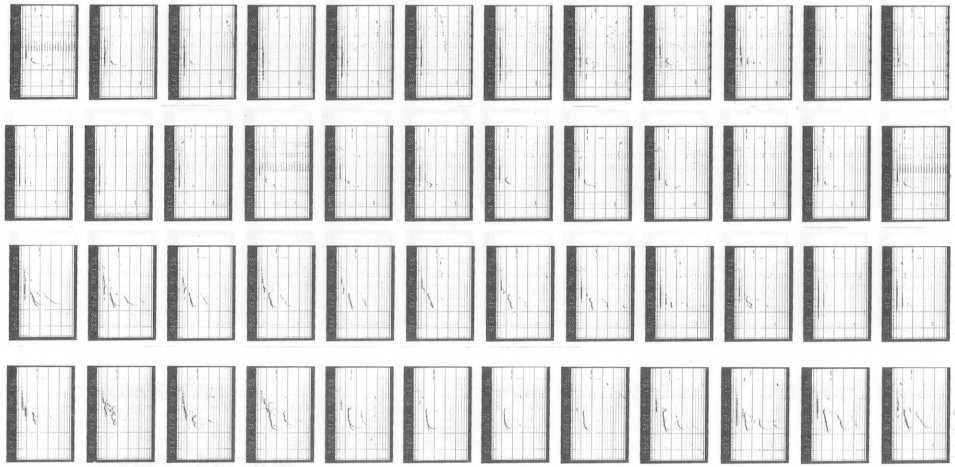
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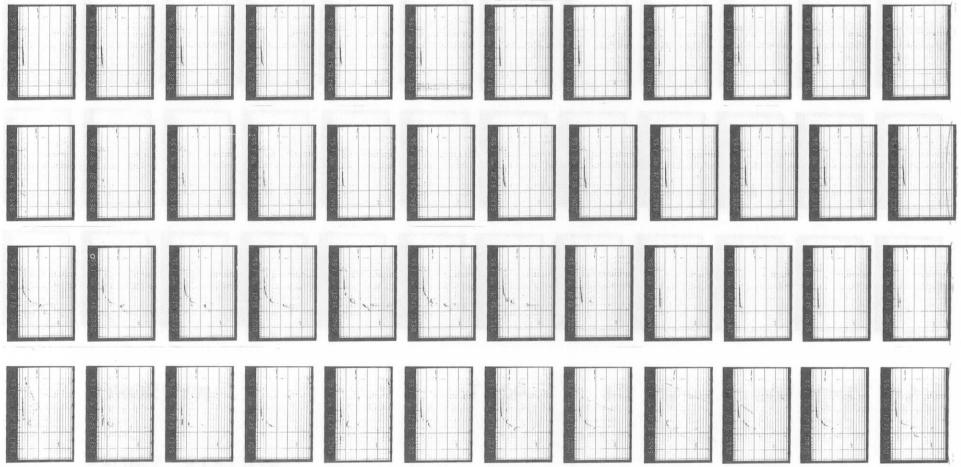
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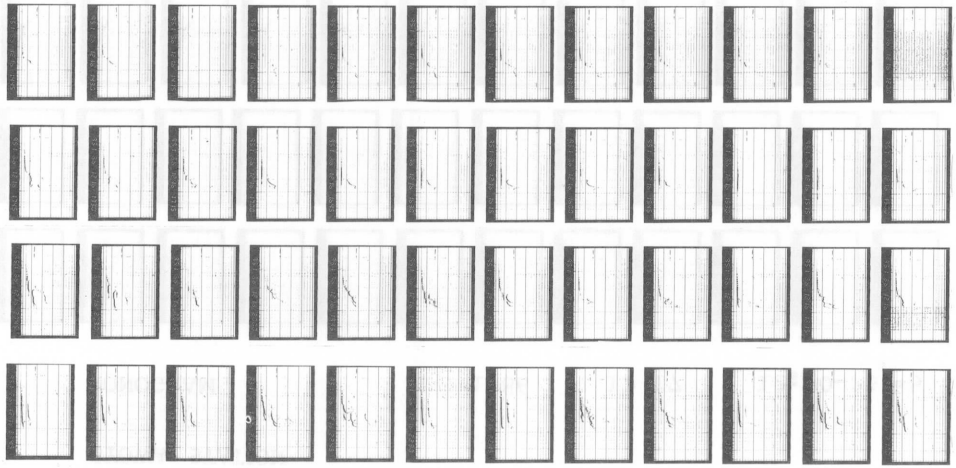
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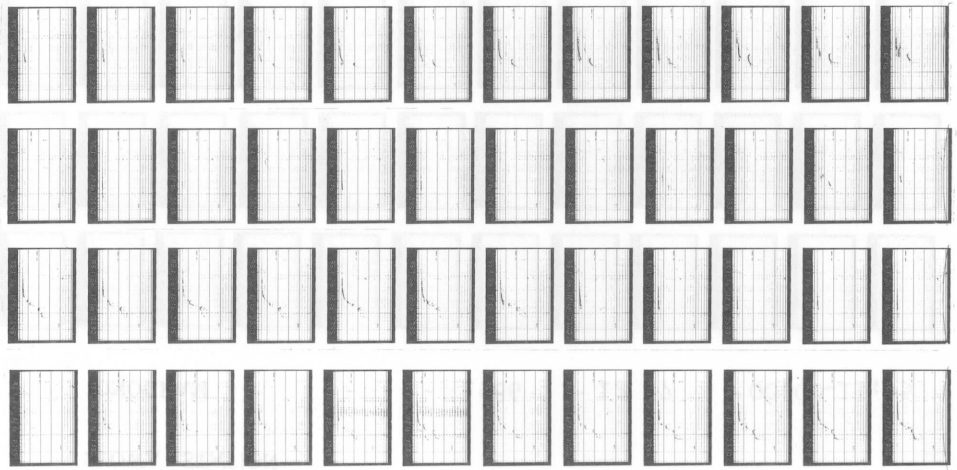
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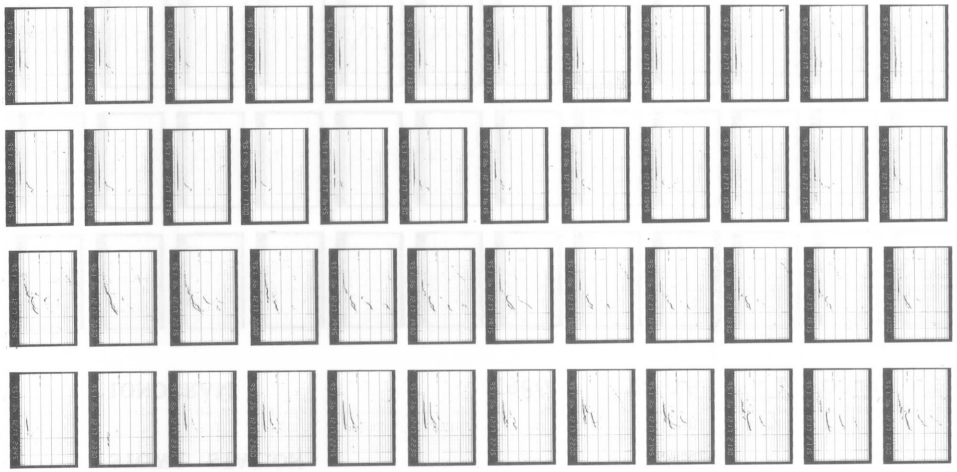
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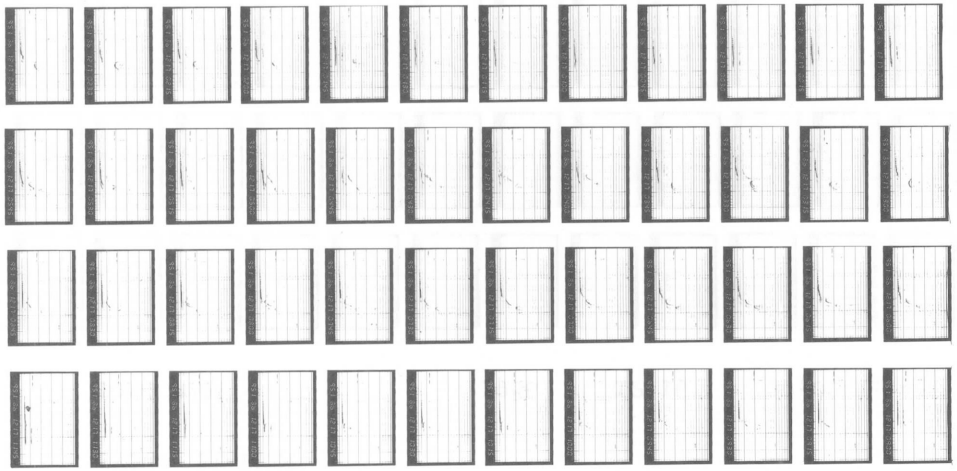
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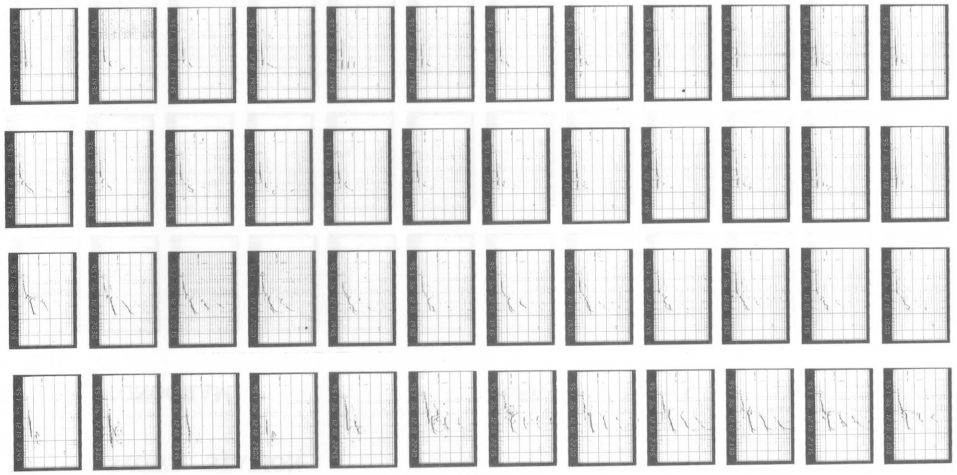
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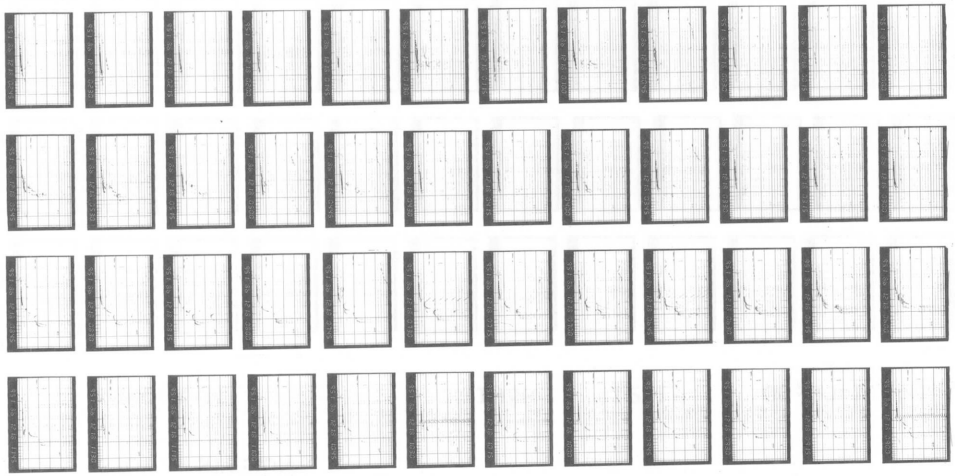
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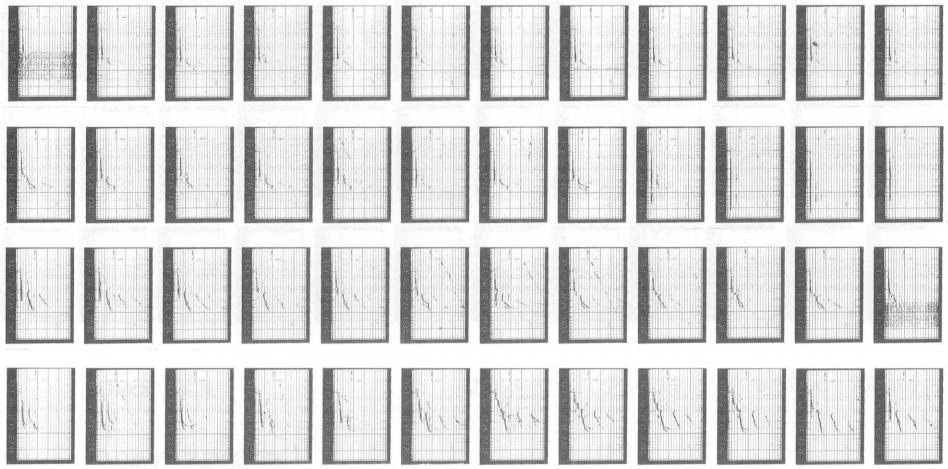
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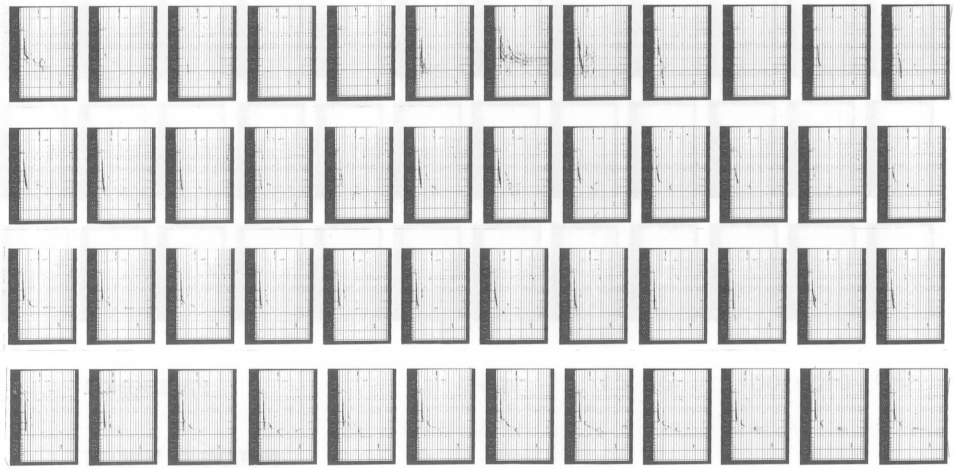
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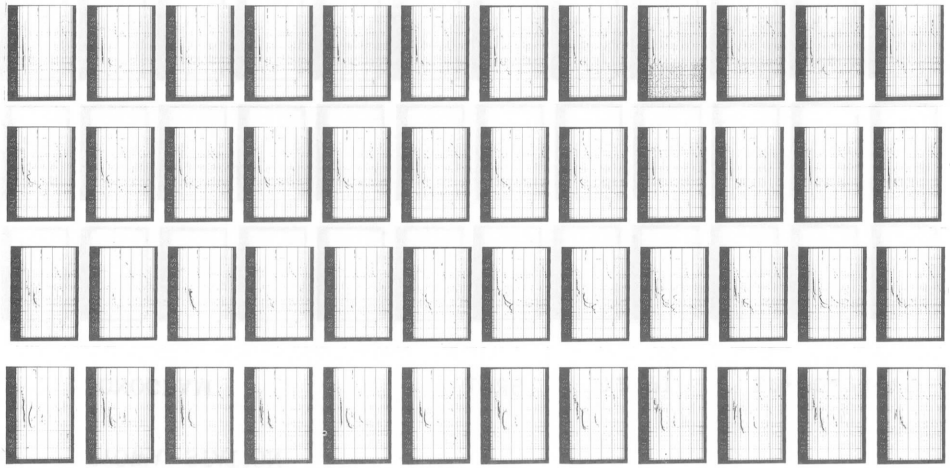
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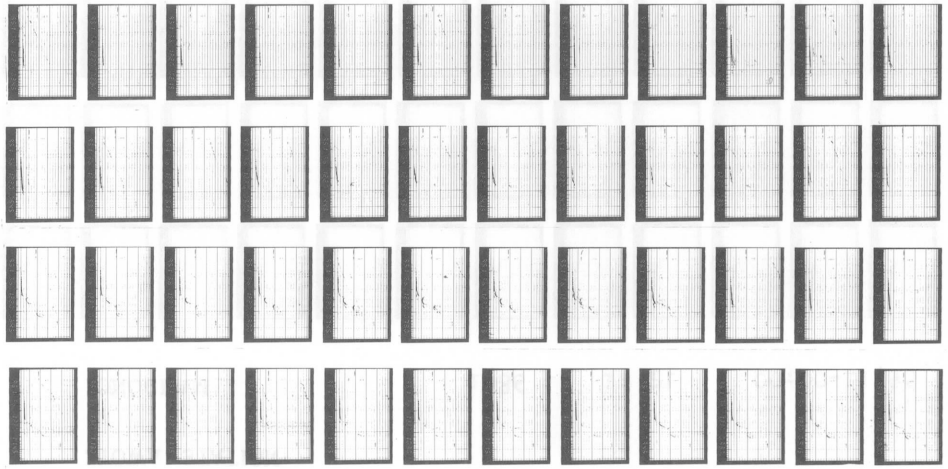
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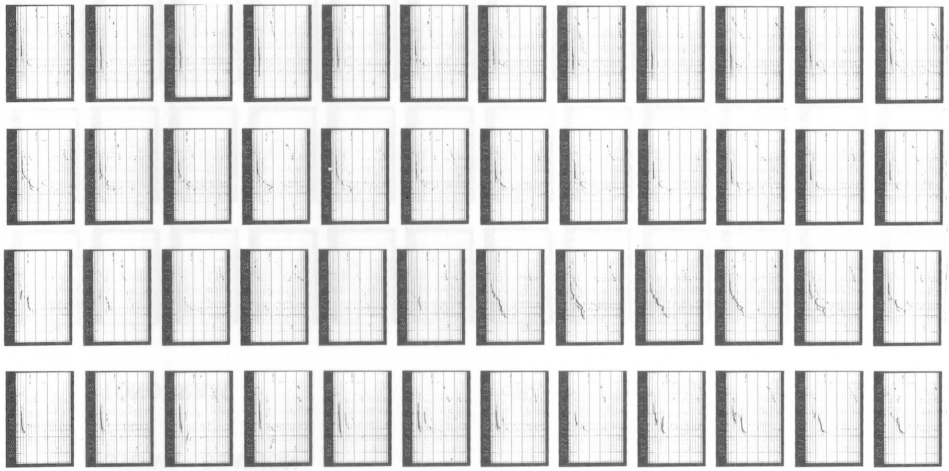
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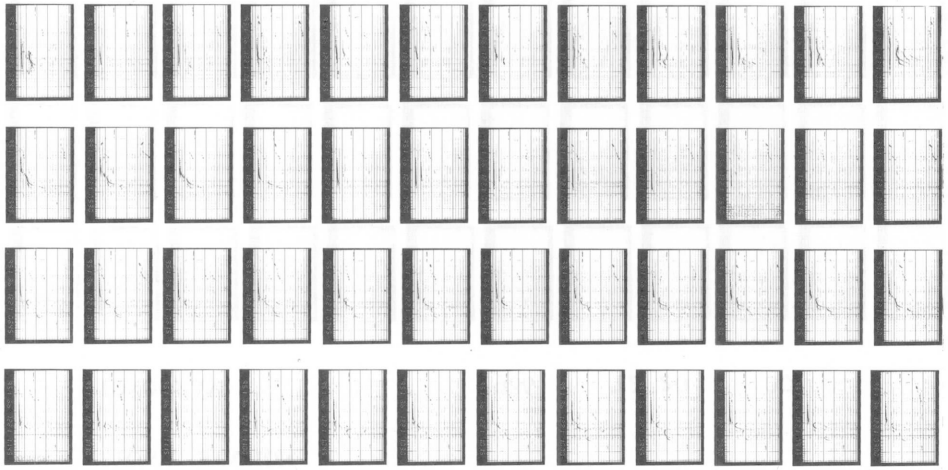
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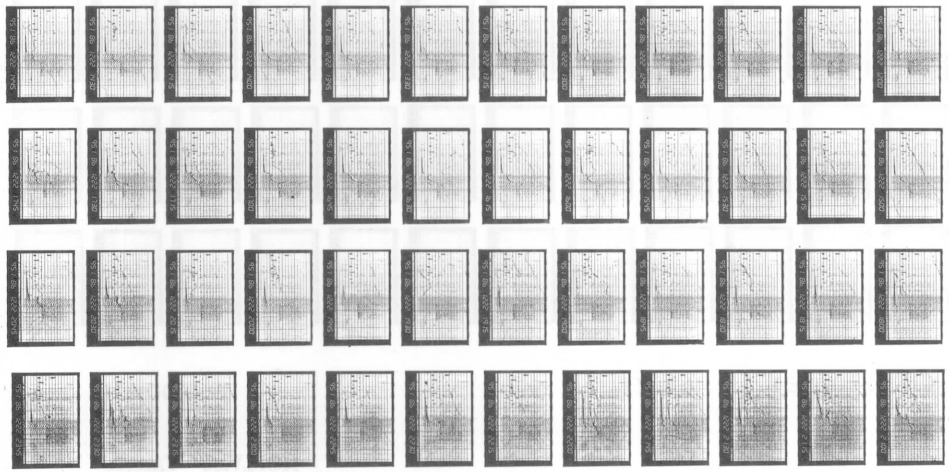
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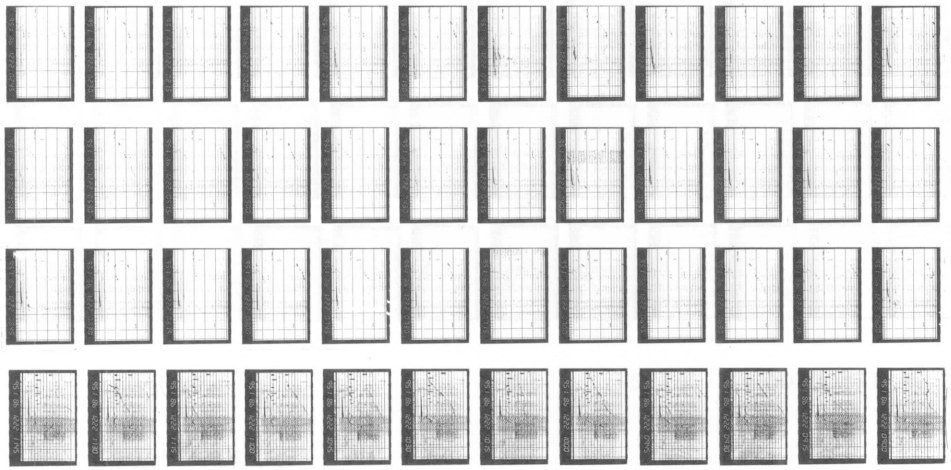
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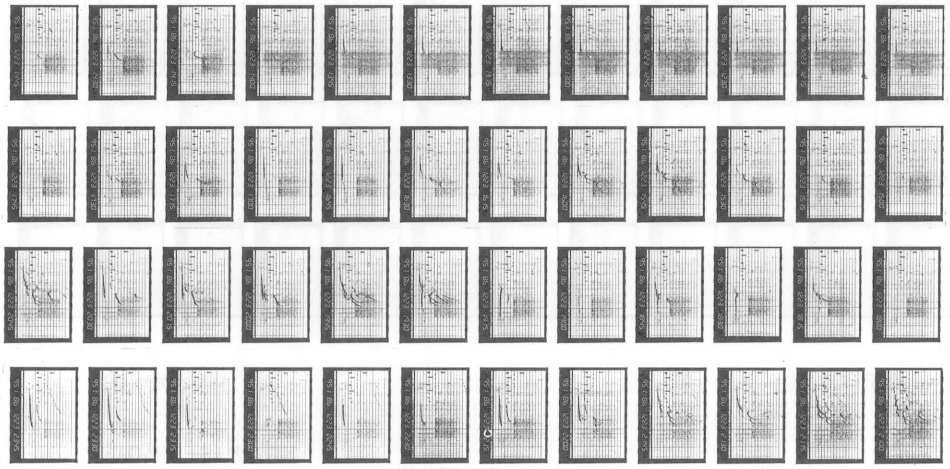
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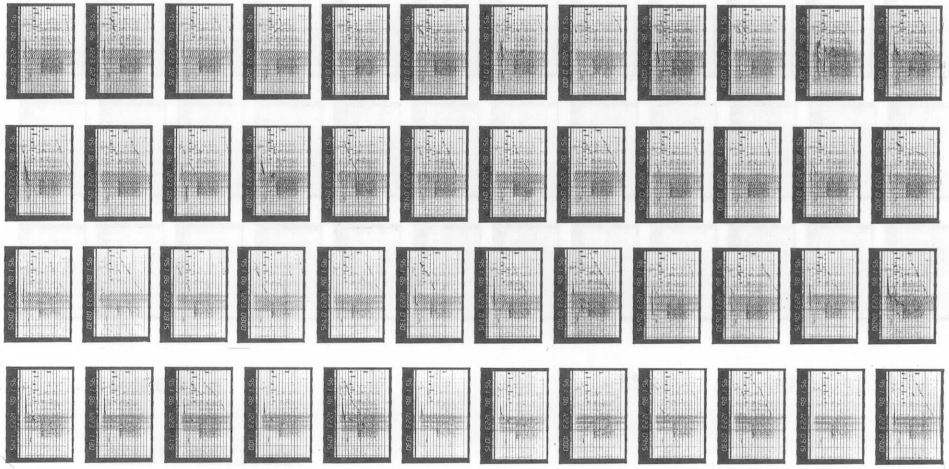
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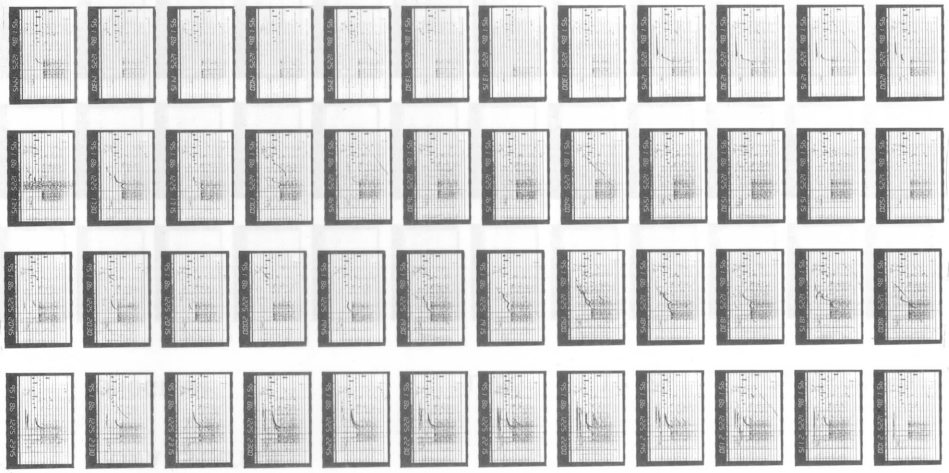
SYOWA STATION

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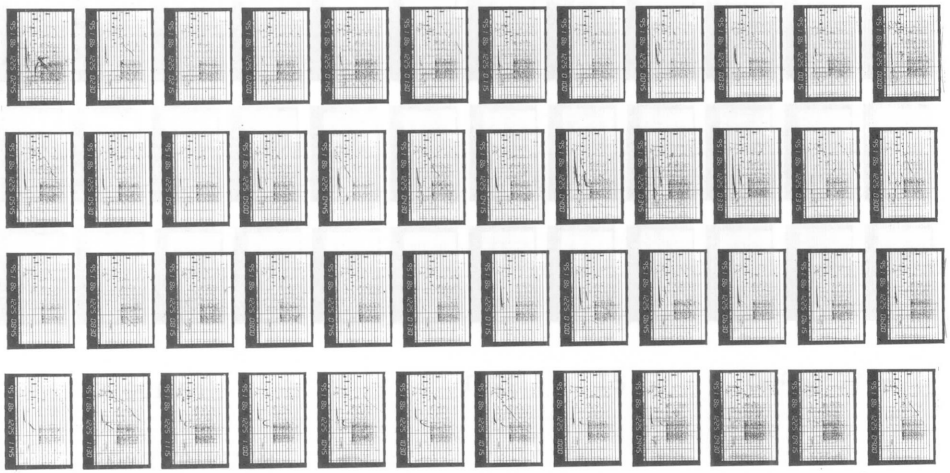
SYOWA STATION

IONOGRAM 1986 12 25 12;00-23;45



SYOWA STATION

IONOGRAM 1986 12 25 00;00-11;45



SYOWA STATION

IONOGRAM 1986 12 26 12;00-23;45



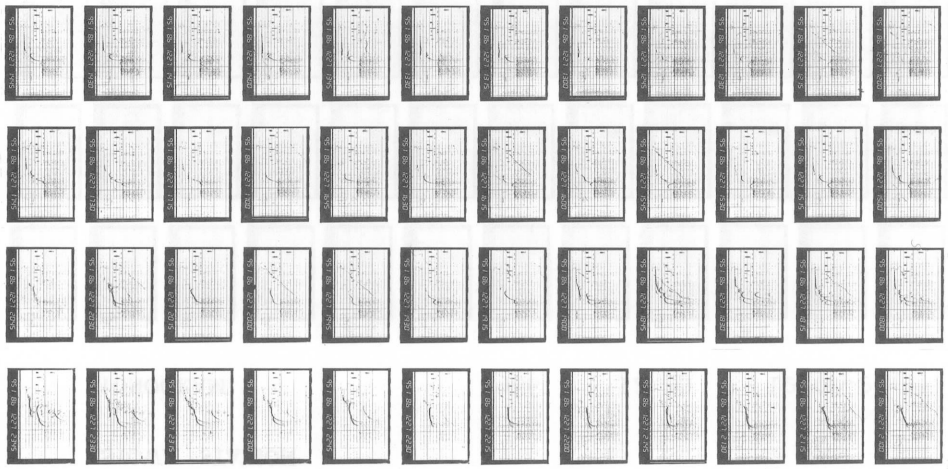
SYOWA STATION

IONOGRAM 1986 12 26 00;00-11;45



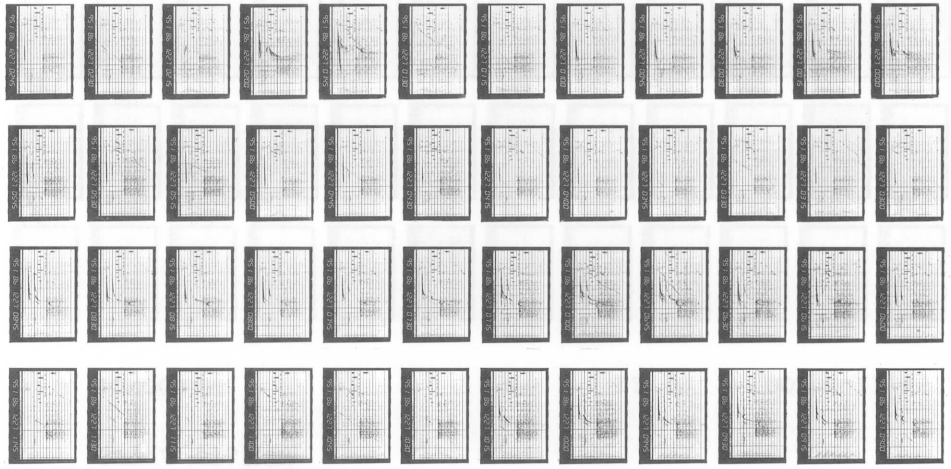
SYOWA STATION

IONOGRAM 1986 12 27 12;00-23;45



SYOWA STATION

IONOGRAM 1986 12 27 00;00-11;45



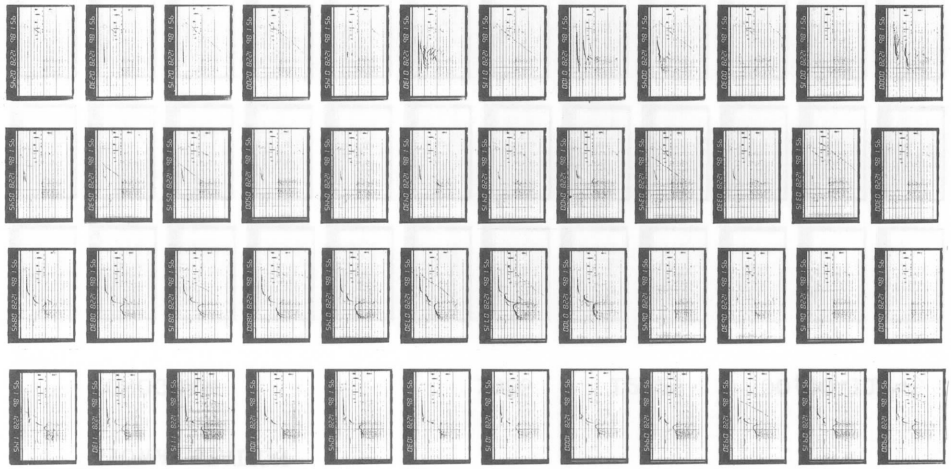
SYOWA STATION

IONOGRAM 1986 12 28 12;00-23;45



SYOWA STATION

IONOGRAM 1986 12 28 00;00-11;45



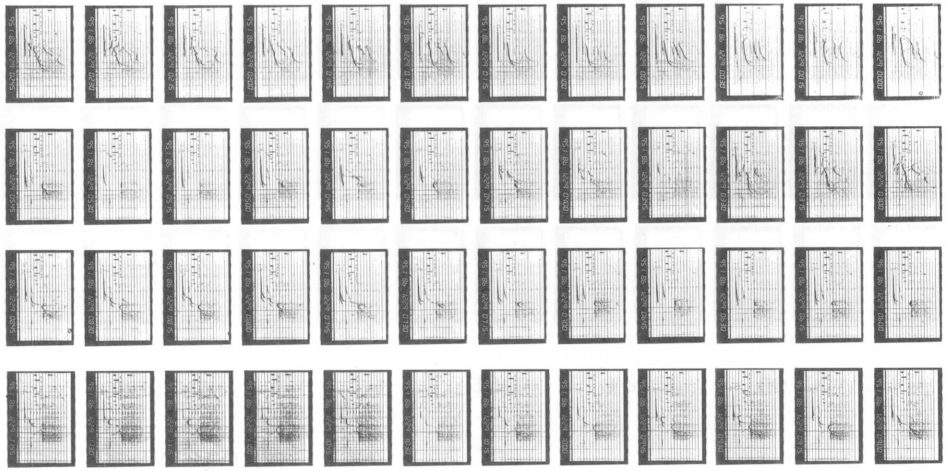
SYOWA STATION

IONOGRAM 1986 12 29 12;00-23;45



SYOWA STATION

IONOGRAM 1986 12 29 00;00-11;45



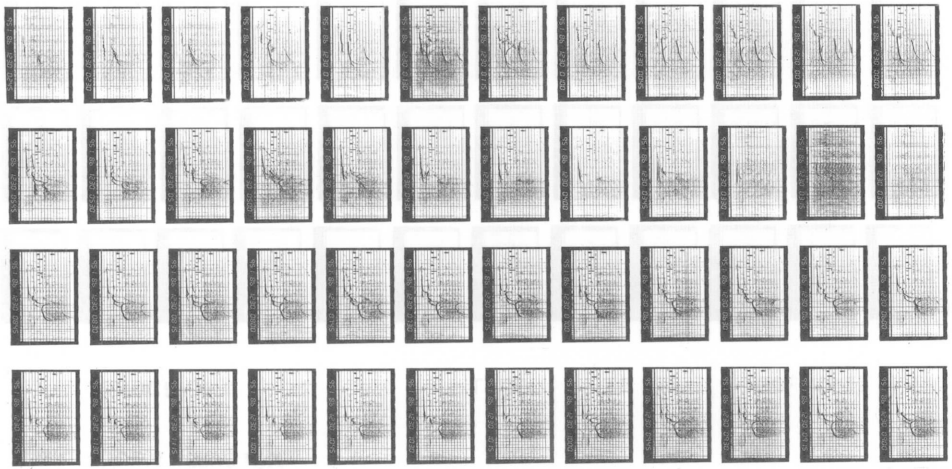
SYOWA STATION

IONOGRAM 1986 12 30 12;00-23;45



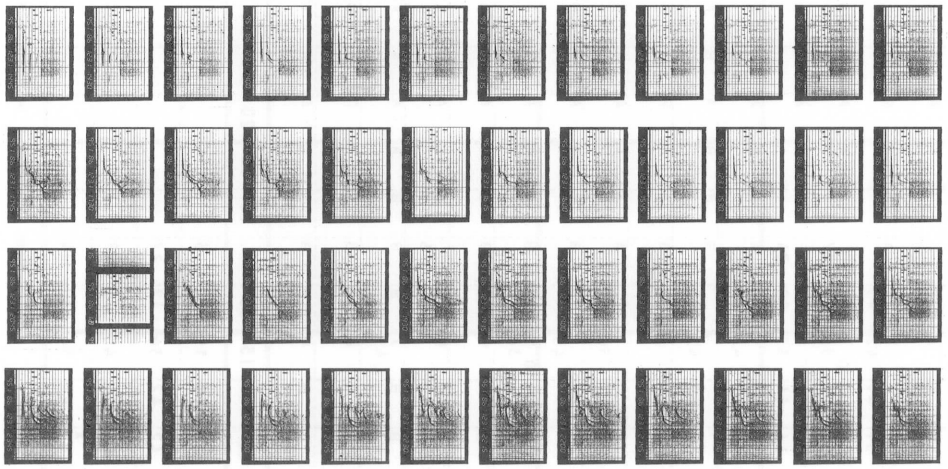
SYOWA STATION

IONOGRAM 1986 12 30 00;00-11;45



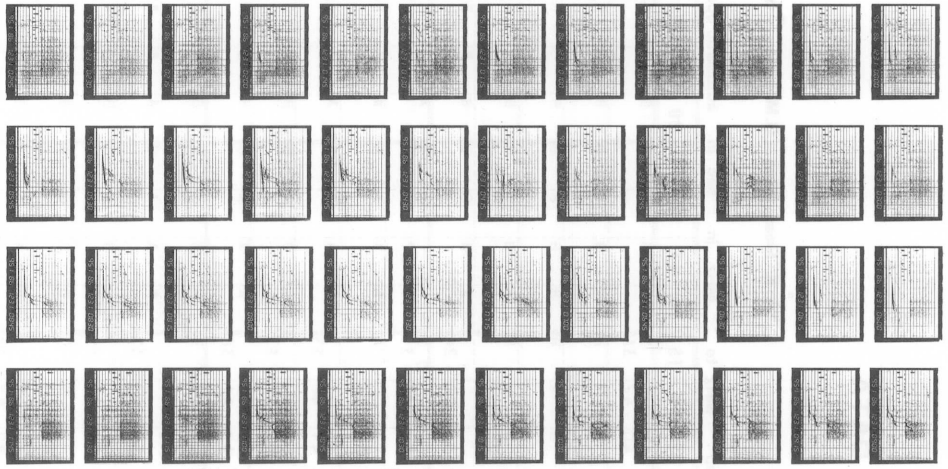
SYOWA STATION

IONOGRAM 1986 12 31 12;00-23;45



SYOWA STATION

IONOGRAM 1986 12 31 00;00-11;45



IONOSPHERIC DATA

JUL. 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	B	A	B	B	B	B	B	O X 36	X 40	42	X 34	B	B	A	B	B	A	A	A
2	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	B	A	A	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A
4	A	A	A	B	B	A	A	A	A	B	B	B	X 41	B	B	B	B	B	B	B	B	A	A	A
5	A	A	B	A	A	A	A	A	A	X 28	O X 37	B	36	36	36	24	A	A	B	B	B	B	B	A
6	A	A	B	B	A	A	A	B	B	B	A	35	36	41	40	O X 31	24	22	A	A	A	B	B	A
7	A	A	A	A	A	A	A	A	A	A	28	32	O X 41	O X 36	36	A	A	A	A	A	A	A	B	A
8	A	A	A	A	A	A	A	A	A	A	28	A	41	41	40	33	A	A	A	A	A	A	A	A
9	A	A	A	A	B	B	A	A	A	B	B	B	33	X 41	40	33	26	B	A	B	B	B	B	B
10	A	B	A	A	A	B	B	A	A	A	A	34	X 38	X 42	X 41	38	A	A	A	B	B	B	A	A
11	A	A	A	A	A	A	28	A	A	A	24	38	O X 49	B	B	B	B	B	B	B	B	B	B	A
12	A	A	A	A	A	A	A	A	17	16	33	43	43	50	43	31	A	A	A	B	A	A	A	A
13	A	A	A	A	A	A	A	A	B	28	B	X 35	42	44	42	39	30	B	B	B	B	B	B	B
14	A	A	A	A	A	A	A	A	B	B	B	B	O X 42	X 42	X 41	B	B	B	B	B	B	A	B	A
15	A	A	A	A	A	A	A	B	B	B	B	O X 38	O X 47	O X 46	44	35	B	A	A	A	B	B	B	B
16	A	A	A	A	A	A	39	30	27	A	O X 37	37	45	36	O X 41	34	B	B	B	A	A	B	B	A
17	A	A	A	A	A	A	A	A	A	A	A	X 36	B	X 42	O X 38	B	B	28	B	A	A	A	A	A
18	A	A	A	A	A	A	A	A	A	O X 26	32	39	44	O X 51	O X 49	42	O X 43	A	B	B	B	A	A	A
19	A	A	B	A	A	A	A	A	A	B	B	O X 56	O X 61	52	51	O X 36	36	27	A	A	A	A	A	B
20	A	A	A	A	A	A	A	A	A	A	30	43	X 43	X 46	X 44	X 37	32	24	A	A	A	A	B	A
21	A	A	A	A	A	A	32	O X 37	A	O X 34	O X 41	44	44	50	51	43	33	A	A	A	A	A	A	A
22	A	A	A	A	A	A	A	B	A	A	B	A	O X 41	45	43	45	35	B	B	B	A	B	A	30
23	A	A	A	A	A	A	A	A	A	A	O X 41	43	46	43	S	A	B	B	B	B	B	A	A	A
24	A	A	A	A	A	A	A	A	A	A	A	B	B	X 43	47	36	31	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	A	O X 36	B	B	B	45	B	B	B	B	A	A	B	A
26	A	A	A	B	A	A	A	B	A	B	B	B	B	O X 36	B	O X 36	B	B	B	A	A	B	A	A
27	A	A	B	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	A	B	A	A
28	A	B	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	36	B	B	A	B	A	A
29	A	A	A	B	A	B	B	A	A	B	O X 34	B	B	B	B	X 49	B	B	B	A	A	A	A	A
30	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A
31	A	B	A	A	A	A	B	B	A	B	O X 33	X 38	X 47	50	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							3	2	2	5	12	16	21	22	19	19	9	5						1
MED							32	34	22	X 28	33	38	X 42	42	42	36	32	27						30
UQ							36			X 28	O X 37	43	45	46	44	40	35	28						
LQ							30			26	29	36	X 41	X 41	40	34	30	24						

JUL. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUL. 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

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	A	B	A	B	B	B	B	B	30	34	F 33	28	B	B	A	B	B	A	A	A
2	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	B	A	A	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A
4	A	A	A	B	B	A	A	A	A	B	B	B	35	B	3	B	B	B	A	B	B	A	A	A
5	A	A	B	A	A	A	A	A	A	22	31	B	F 30	F 30	F 30	F 18	A	A	B	B	B	B	B	A
6	A	A	B	B	A	A	A	B	B	B	A	29	F 30	F 35	F 34	F 25	F 18	F 16	A	A	A	B	B	A
7	A	A	A	A	A	A	A	A	A	A	F 22	F 26	35	30	F 30	A	A	A	A	A	A	A	B	A
8	A	A	A	A	A	A	A	A	A	A	F 22	A	F 35	F 35	F 34	F 27	A	A	A	A	A	A	A	A
9	A	A	A	A	B	B	A	A	A	B	B	B	F 27	35	F 34	27	F 18	B	A	B	B	B	B	B
10	A	B	A	A	A	B	B	A	A	A	A	F 28	32	36	35	F 32	A	A	A	B	B	B	A	A
11	A	A	A	A	A	A	F 22	A	A	A	F 18	F 32	U S 43	B	B	B	B	B	B	B	B	B	B	A
12	A	A	A	A	A	A	A	A	F 11	F 10	F 27	F 37	F 37	44	F 37	F 25	A	A	A	B	A	A	A	A
13	A	A	A	A	A	A	A	A	B	F 22	B	29	F 35	F 38	F 36	F 33	F 24	B	B	B	B	B	B	B
14	A	A	A	A	A	A	A	A	B	B	B	B	36	36	35	B	B	B	B	B	B	A	B	A
15	A	A	A	A	A	A	A	B	B	B	B	32	41	U S 40	F 37	F 29	B	A	A	A	B	B	B	B
16	A	A	A	A	A	A	F 33	F 24	F 20	A	31	F 31	F 39	F 30	35	F 28	B	B	B	A	A	B	B	A
17	A	A	A	A	A	A	A	A	A	A	A	30	B	36	32	B	B	F 22	B	A	A	A	A	A
18	A	A	A	A	A	A	A	A	A	20	F 26	F 33	F 37	45	43	F 36	37	A	B	B	B	A	A	A
19	A	A	B	A	A	A	A	A	A	B	B	U S 50	D S 55	F 46	F 45	U S 30	F 30	F 20	A	A	A	A	A	B
20	A	A	A	A	A	A	A	A	A	A	F 22	F 37	37	40	38	31	F 26	F 18	A	A	A	A	B	A
21	A	A	A	A	A	A	F 26	31	A	28	35	F 38	F 38	F 44	F 45	F 37	F 27	A	A	A	A	A	A	A
22	A	A	A	A	A	A	A	B	A	A	B	A	35	39	F 37	F 39	F 29	B	B	B	A	B	A	F 24
23	A	A	A	A	A	A	A	A	A	A	35	F 37	F 40	F 37	S	A	B	B	B	B	B	A	A	A
24	A	A	A	A	A	A	A	A	A	A	A	B	B	37	F 41	F 30	F 25	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	A	A	30	B	B	B	F 39	B	B	B	B	A	A	B	A
26	A	A	A	B	A	A	A	B	A	B	B	B	B	30	3	30	B	B	B	A	A	B	A	A
27	A	A	B	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	A	B	A	A
28	A	B	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	F 30	B	B	A	B	A	A
29	A	A	A	B	A	B	B	A	A	B	28	B	B	B	B	43	B	B	B	A	A	A	A	A
30	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A
31	A	B	A	A	A	A	B	B	A	B	27	32	41	F 44	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							3	2	2	5	12	16	21	22	19	19	9	5						1
MED							F 26	28	F 16	22	27	F 32	36	36	F 35	F 30	F 26	F 20						F 24
UQ							F 30			22	31	F 37	39	40	F 38	F 34	F 29	F 22						
LQ							F 24			F 20	F 22	30	35	35	F 34	F 28	F 24	F 18						

JUL. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUL. 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	43	70	46	42	16	B	42	B	B	B	B	B	E B 21	E B 15	20	27	B	B	42	B	B	18	25	23
2	27	25	42	42	43	43	45	16	B	B	B	B	B	B	B	B	B	B	B	B	B	36	45	42
3	43	35	B	42	42	B	B	B	37	30	B	B	B	B	B	B	B	B	B	B	B	B	B	33
4	39	35	43	B	B	45	42	42	42	B	B	B	17	B	B	B	B	B	16	B	B	19	32	36
5	37	43	B	43	60	41	43	20	18	14	E B 15	B	E B 15	E B 19	19	13	17	20	B	B	B	B	B	14
6	29	41	B	B	42	31	37	B	B	B	26	21	E B 20	17	25	19	17	13	16	16	35	B	B	26
7	14	19	30	36	40	58	30	26	43	71	73	16	25	22	E B 20	43	33	30	18	36	43	32	B	32
8	21	36	45	40	33	32	26	21	27	27	25	30	42	42	26	20	22	70	26	30	13	21	35	37
9	43	43	42	60	B	B	36	32	20	B	B	B	E B 20	21	16	E B 10	14	B	30	B	B	B	B	B
10	23	B	36	42	44	B	B	43	42	42	30	25	17	17	16	13	13	14	17	B	B	B	27	23
11	27	41	43	42	43	41	31	30	30	35	30	27	E B 21	B	B	B	B	B	B	B	B	B	B	26
12	22	30	80	43	33	30	21	26	11	14	13	26	21	27	29	17	23	40	22	B	10	13	31	40
13	41	43	43	52	45	60	51	42	B	18	B	E B 14	17	26	20	16	E B 10	B	B	B	B	B	B	B
14	28	26	29	32	31	29	18	21	B	B	B	B	E B 19	E B 19	31	B	B	B	B	B	B	29	B	13
15	17	30	29	35	43	30	70	B	B	B	B	E B 24	E B 18	70	E B 15	28	B	17	23	13	B	B	B	B
16	22	29	28	50	45	37	30	27	32	66	60	33	30	15	E B 15	E B 15	B	B	B	31	27	B	B	32
17	37	41	46	56	50	42	45	41	42	55	36	17	B	E B 19	E B 24	B	B	E B 14	B	32	36	26	16	41
18	31	44	40	35	45	45	42	42	37	29	26	27	17	26	21	E B 13	30	29	B	B	B	28	27	36
19	42	31	B	36	45	41	42	35	30	B	B	26	32	28	28	27	14	12	14	26	32	27	22	B
20	28	35	32	32	29	41	30	31	27	35	28	28	16	17	26	13	14	29	18	30	43	27	B	21
21	29	60	45	59	43	36	28	12	12	22	22	27	29	27	14	24	32	42	27	28	33	25	21	30
22	42	55	65	80	70	67	42	B	43	30	B	30	E B 19	20	20	26	27	B	B	B	27	B	35	35
23	37	40	42	51	43	70	43	35	26	26	17	30	37	27	26	28	B	B	B	B	B	42	37	31
24	27	36	47	36	30	25	21	27	35	28	27	B	B	28	E B 19	E B 19	E B 18	28	20	28	26	14	28	47
25	41	35	42	42	46	45	45	42	35	B	28	E B 19	B	B	B	27	B	B	B	B	18	15	B	19
26	59	80	27	B	31	43	A	B	A	B	B	B	B	E B 21	B	E B 21	B	B	B	29	36	B	34	43
27	33	43	B	32	43	40	35	42	B	B	B	B	B	B	B	B	B	B	B	B	19	B	32	20
28	45	B	43	37	B	B	42	36	B	B	B	B	B	B	B	B	B	E B 20	B	B	17	B	36	36
29	70	42	43	B	45	B	B	30	28	B	20	B	B	B	B	E B 18	B	B	B	45	32	42	35	43
30	42	75	45	40	45	B	42	45	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	36
31	45	B	40	48	46	45	B	B	32	B	E B 20	E B 19	E B 24	30	B	B	B	B	B	30	29	22	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	31	28	26	27	28	24	26	24	21	16	17	18	21	22	20	21	14	14	13	13	17	17	18	27
MED	37	40	42	42	43	41	42	32	32	30	26	26	18	22	20	18	18	24	20	30	29	26	32	32
UQ	42	43	45	49	45	45	43	42	37	38	30	28	25	27	26	27	27	30	26	31	35	29	35	36
LQ	27	33	36	36	36	34	30	26	27	24	20	18	E B 17	17	16	14	14	14	17	28	19	19	27	24

JUL. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

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

JUL. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

JUL. 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	B	A	B	B	B	B	B	230	220	200	200	B	B	A	B	B	A	A	A
2	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A
3	A	A	B	A	A	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A
4	A	A	A	B	B	A	A	A	A	B	B	B	220	B	B	B	B	B	A	B	B	A	A	A
5	A	A	B	A	A	A	A	A	A	250	220	B	230	225	200	210	A	A	B	B	B	B	B	A
6	A	A	B	B	A	A	A	B	B	B	A	A 250	E B 250	215	210	230	A 260	210	A	A	A	B	B	A
7	A	A	A	A	A	A	A	A	A	A	E A 250	210	210	200	200	A	A	A	A	A	A	A	B	A
8	A	A	A	A	A	A	A	A	A	A	A 250	A	210	220	200	210	A	A	A	A	A	A	A	A
9	A	A	A	A	B	B	A	A	A	B	B	B	E B 250	225	225	190	E A 255	B	A	B	B	B	B	B
10	A	B	A	A	A	B	B	A	A	A	A	230	225	205	200	195	A	A	A	B	B	B	A	A
11	A	A	A	A	A	A	E A 320	A	A	A	A 225	A 230	225	B	B	B	B	B	B	B	B	B	B	A
12	A	A	A	A	A	A	A	A	A 220	A 220	H 250	220	H 210	210	215	180	A	A	A	B	A	A	A	A
13	A	A	A	A	A	A	A	A	B	E A 350	B	230	210	210	H 200	200	180	B	B	B	B	B	B	B
14	A	A	A	A	A	A	A	A	B	B	B	B	225	230	230	B	B	B	B	B	B	A	B	A
15	A	A	A	A	A	A	A	B	B	B	B	E B 250	200	H 210	200	200	B	A	A	A	B	B	B	B
16	A	A	A	A	A	A	E A 320	A 290	A 290	A	230	205	210	190	220	225	B	B	B	A	A	B	B	A
17	A	A	A	A	A	A	A	A	A	A	A	220	B	210	E B 245	B	B	230	B	A	A	A	A	A
18	A	A	A	A	A	A	A	A	A	E A 310	240	A 240	210	200	H 160	205	225	A	B	B	B	A	A	A
19	A	A	B	A	A	A	A	A	A	B	B	200	200	205	200	H 180	200	195	A	A	A	A	A	B
20	A	A	A	A	A	A	A	A	A	A	E A 260	255	200	210	200	195	200	A 210	A	A	A	A	B	A
21	A	A	A	A	A	A	280	H 200	A	H 250	225	225	220	220	195	220	230	A	A	A	A	A	A	A
22	A	A	A	A	A	A	A	B	A	A	B	A	A 230	200	200	220	205	B	B	B	A	B	A	240
23	A	A	A	A	A	A	A	A	A	A	230	210	200	200	200	A	B	B	B	B	B	A	A	A
24	A	A	A	A	A	A	A	A	A	A	A	B	B	210	225	240	220	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	A	B 250	B	B	B	A 225	B	B	B	B	A	A	B	A
26	A	A	A	B	A	A	A	B	A	B	B	B	B	B 260	B	B 260	B	B	B	A	A	B	A	A
27	A	A	B	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	A	B	A	A
28	A	B	A	A	B	B	A	A	B	B	B	B	B	B	B	B	B	250	B	B	A	B	A	A
29	A	A	A	B	A	B	B	A	A	B	260	B	B	B	B	225	B	B	B	A	A	A	A	A
30	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A
31	A	B	A	A	A	A	B	B	A	B	B 250	H 220	245	245	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							3	2	2	5	12	16	21	22	20	19	9	5						1
MED							E A 320	245	A 255	U A 235	238	225	215	210	200	210	212	210						240
UQ							E A 320			E A 310	250	240	228	220	215	225	228	230						
LQ							290			250	228	215	210	205	200	198	200	210						

JUL. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

AUG. 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	A	A	A	B	B	A	40	X 46	B	B	B	49	46	28	B	22	B	B	A	A
2	A	A	A	A	A	A	A	A	B	26	36	B	44	O X 46	O X 52	O X 46	B	A	A	B	A	B	B	A
3	A	A	A	A	A	A	A	A	A	B	B	B	40	B	B	B	B	33	26	A	A	A	A	A
4	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	O X 34	B	B	B	B	B	B	B	A
5	A	A	A	A	B	B	B	B	A	B	B	B	B	O X 51	X 50	X 49	B	B	35	A	B	B	B	A
6	A	A	A	B	A	B	B	A	A	A	B	40	X 42	O X 43	X 45	X 42	X 39	30	X 26	A	A	B	A	A
7	A	A	A	A	A	A	A	A	25	33	X 36	X 47	45	X 52	X 48	52	O X 49	33	A	A	B	B	B	B
8	A	A	A	A	A	A	A	A	O X 35	B	B	O X 42	O X 41	X 43	O X 46	X 50	40	29	25	20	B	A	A	A
9	A	A	A	A	A	A	A	A	A	X 31	X 37	X 44	42	X 46	48	46	41	31	B	A	A	A	A	A
10	B	A	B	B	A	B	A	A	A	X 32	X 40	X 40	O X 46	B	B	O X 48	X 41	B	29	B	B	B	A	A
11	A	A	A	A	A	A	A	A	A	A	42	O X 48	O X 49	X 51	46	B	45	45	33	B	B	A	A	A
12	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A
13	A	A	A	A	A	A	A	A	A	B	33	O X 36	O X 46	O X 46	B	B	B	A	B	A	B	B	A	A
14	A	A	A	A	A	A	A	A	B	O X 37	X 36	X 46	O X 51	X 48	51	51	41	38	A	B	B	B	A	A
15	A	B	B	A	B	A	A	A	X 29	X 33	X 42	O X 45	O X 51	O X 49	O X 50	46	36	33	B	A	B	B	B	A
16	A	A	B	B	B	A	A	A	26	X 36	X 42	O X 50	X 54	X 53	O X 51	X 51	45	34	A	A	B	B	B	B
17	A	A	A	A	A	A	A	A	40	40	40	B	O X 49	X 51	X 52	O X 49	43	35	35	B	B	B	B	B
18	A	A	A	A	A	A	A	26	O X 37	O X 46	O X 46	X 52	O X 55	O X 56	O X 66	O X 64	50	40	30	23	B	B	A	A
19	B	A	A	A	A	A	B	A	B	42	48	52	O X 52	B	X 51	B	B	B	B	B	B	A	A	A
20	A	A	A	A	A	A	A	A	O X 38	O X 46	44	O X 46	46	X 46	X 43	46	44	34	31	30	22	A	A	A
21	A	A	A	A	A	A	A	A	40	O X 41	39	O X 43	B	B	B	B	B	B	A	A	A	A	O X 45	A
22	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
23	B	A	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	A	A
24	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	O X 34	B	A	A	A	A
25	A	A	B	B	A	B	B	B	B	B	B	B	B	B	C	C	C	C	C	B	B	B	A	A
26	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	X 43	X 45	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	B	A	A	A	X 36	X 41	O X 44	X 46	O X 41	S	O X 50	O X 50	O X 48	48	36	B	A	A	A	A
29	A	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	O X 46	36	B	A	A	A	A	A
30	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	O X 44	B	A	B	B	A	A	A
31	B	A	B	B	B	A	B	B	A	B	B	B	B	B	B	O X 39	X 39	O X 36	30	B	B	B	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	9	13	16	16	17	14	15	17	18	17	12	4	1		1	
MED								26	X 36	X 37	40	X 46	O X 46	X 48	X 50	X 49	44	34	30	22	22		O X 45	
UQ									X 38	O X 41	43	X 48	O X 51	X 51	X 51	X 50	46	38	34	26				
LQ									X 29	X 33	36	X 42	42	X 46	X 47	O X 46	41	33	28	21				

AUG. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

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

AUG. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

AUG. 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	70	45	B	B	45	57	45	B	B	37	27	22	B	B	B	E B 18	E B 19	E B 12	B	E B 10	B	B	28	32
2	28	26	37	27	22	26	22	26	B	E B 12	E B 15	B	E B 24	E B 23	E B 20	21	B	35	35	B	37	B	B	27
3	17	43	30	56	55	60	60	65	61	B	B	B	E B 23	B	B	B	B	E B 14	41	36	27	30	60	90
4	70	44	42	35	B	27	42	B	B	B	B	B	B	B	B	22	B	B	B	B	B	B	B	26
5	40	35	37	35	B	B	B	B	37	B	B	B	B	E B 30	E B 18	E B 15	B	B	E B 14	28	B	B	B	41
6	94	42	42	B	37	B	B	41	32	32	B	26	21	22	E B 20	E B 15	E B 14	E B 13	23	13	16	B	37	27
7	28	25	33	32	33	28	27	27	31	32	16	32	20	21	20	21	28	19	40	37	B	B	B	B
8	32	42	46	59	41	46	45	37	22	B	B	E B 22	E B 23	E B 22	E B 21	E B 18	18	13	26	28	B	26	27	35
9	43	45	40	42	42	50	45	41	35	29	17	20	21	22	21	27	26	E B 15	B	26	42	37	17	27
10	B	80	B	B	40	B	40	37	28	16	18	E B 18	E B 20	B	B	E B 23	17	B	17	B	B	B	30	22
11	24	30	33	40	29	70	36	42	44	42	32	26	22	21	25	B	26	30	E B 13	B	B	29	35	42
12	40	51	37	32	33	30	30	25	27	B	B	B	B	B	B	B	B	B	30	26	39	37	38	40
13	50	46	51	36	78	49	45	32	28	B	E B 17	E B 21	E B 19	E B 23	B	B	B	25	B	30	42	B	16	20
14	35	40	32	41	41	42	22	16	B	31	18	20	26	25	21	18	42	33	43	B	B	B	31	39
15	42	B	B	42	B	42	42	35	13	16	E B 17	E B 30	E B 35	E B 20	25	26	E B 20	E B 20	B	26	B	B	B	17
16	27	40	B	B	B	41	41	29	E B 15	E B 16	21	19	20	19	20	E B 19	18	E B 15	25	25	B	B	B	B
17	15	32	36	43	42	51	40	69	31	E B 20	E B 19	B	E B 23	24	21	20	E B 16	20	16	B	B	B	B	B
18	11	32	29	31	45	43	42	27	30	19	E B 23	E B 22	25	27	26	24	32	28	17	12	B	B	20	12
19	B	35	27	27	25	26	B	31	B	E B 20	27	23	28	B	E B 22	B	B	B	B	B	B	26	34	37
20	43	70	43	45	45	36	43	50	37	35	29	25	25	20	22	21	17	E B 15	E B 10	E B 12	E B 14	25	42	37
21	42	43	42	40	44	40	42	36	29	31	22	E B 23	B	B	B	B	B	B	35	43	45	41	42	70
22	90	60	B	B	B	45	B	B	B	B	B	B	B	B	B	B	B	B	B	31	32	17	43	70
23	B	71	B	B	B	B	34	B	B	B	B	B	B	B	B	B	B	B	B	46	B	B	37	35
24	37	B	B	42	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E B 24	B	35	44	41	41
25	67	45	B	B	40	B	B	B	B	B	B	B	B	B	C	C	C	C	C	B	B	B	40	36
26	37	B	40	43	B	B	B	B	B	B	B	B	B	B	B	B	E B 18	28	B	B	B	B	B	28
27	39	42	42	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	28	17	18
28	41	40	42	42	B	35	40	28	18	E B 19	E B 21	E B 20	E B 22	E B 23	E B 24	E B 20	E B 30	E B 19	E B 19	B	13	43	35	27
29	41	40	46	59	60	36	B	40	B	B	B	B	B	B	B	B	E B 23	25	B	27	31	28	31	45
30	70	40	31	B	B	B	42	B	B	B	B	B	B	B	B	B	E B 30	B	26	B	B	17	45	30
31	B	80	B	B	B	36	B	B	40	B	B	B	B	B	B	E B 20	26	E B 17	E B 18	B	B	B	28	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	27	28	22	21	19	22	21	20	18	16	16	16	17	15	15	17	18	19	19	17	12	14	23	28
MED	40	42	38	41	41	42	42	36	30	24	19	21	22	21	20	19	20	16	24	27	34	28	35	35
UQ	46	46	42	43	45	49	43	41	37	32	25	25	E B 25	23	22	22	27	26	32	31	40	37	40	40
LQ	30	38	33	35	35	35	36	28	27	E B 18	16	E B 20	20	20	20	E B 18	E B 18	E B 15	E B 17	25	22	26	28	27

AUG. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

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

AUG. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

AUG. 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	B	A	A	A	B	B	A	E A 260	220	B	B	B	220	200	245	B	230	B	B	B	A
2	A	A	A	A	A	A	A	A	B	260	255	B	210	210	200	200	B	A	A	B	A	B	B	A
3	A	A	A	A	A	A	A	A	A	B	B	B	E B 270	B	B	B	B	275	E A 320	A	A	A	A	A
4	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	245	B	B	B	B	B	B	B	A
5	A	A	A	A	B	B	B	B	A	B	B	B	B	245	220	200	B	B	250	A	B	B	B	A
6	A	A	A	B	A	B	B	A	A	A	B	255	225	E A 250	210	220	230	230	210	A	A	B	A	A
7	A	A	A	A	A	A	A	A	E A 250	250	220	215	200	215	200	200	200	E A 255	A	A	B	B	B	B
8	A	A	A	A	A	A	A	A	E A 370	B	B	225	225	230	245	210	210	H 205	225	E A 340	B	A	A	A
9	A	A	A	A	A	A	A	A	A	E A 300	260	225	H 200	210	210	200	205	220	B	A	A	A	A	A
10	B	A	B	B	A	B	A	A	A	260	250	215	225	B	B	215	200	B	230	B	B	B	A	A
11	A	A	A	A	A	A	A	A	A	A	E A 300	230	210	210	205	B	200	240	230	B	B	A	A	A
12	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A
13	A	A	A	A	A	A	A	A	A	B	B 240	B 255	H 205	H 205	B	B	B	A	B	A	B	B	A	A
14	A	A	A	A	A	A	A	A	B	E A 250	225	230	230	205	220	210	205	245	A	B	B	B	A	A
15	A	B	B	A	B	A	A	A	260	250	225	B 230	225	210	225	200	B 225	E B 250	B	A	B	B	B	A
16	A	A	B	B	B	A	A	A	E B 300	245	H 220	240	H 210	200	205	200	195	205	A	A	B	B	B	B
17	A	A	A	A	A	A	A	A	280	280	H 200	B	225	H 210	H 180	195	200	H 205	210	B	B	B	B	B
18	A	A	A	A	A	A	A	E B 300	250	H 220	230	245	210	220	200	200	H 180	200	200	200	B	B	A	A
19	B	A	A	A	A	A	B	A	B	250	205	220	220	B	220	B	B	B	B	B	B	A	A	A
20	A	A	A	A	A	A	A	A	E A 290	230	H 225	250	225	H 180	205	220	200	240	255	250	E B 250	A	A	A
21	A	A	A	A	A	A	A	A	290	280	250	270	B	B	B	B	B	B	A	A	A	A	220	A
22	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
23	B	A	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	B	B	A	A
24	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	B	A	A	A	A
25	A	A	B	B	A	B	B	B	B	B	B	B	B	B	C	C	C	C	C	B	B	B	A	A
26	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	250	300	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	B	A	A	A	250	250	230	205	200	220	225	220	B 220	250	220	B	B	A	A	A
29	A	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	275	E A 300	B	A	A	A	A	A
30	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	E B 300	B	A	B	B	A	A	A
31	B	A	B	B	B	A	B	B	A	B	B	B	B	B	B	225	240	245	250	B	B	B	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	9	13	16	16	17	15	15	17	18	17	12	4	1		1	
MED								E B 300	D 265	250	228	230	215	210	210	210	204	238	229	D 228	E B 250		220	
UQ									E E 290	260	248	248	225	219	220	220	228	248	250	D 272				
LQ									250	250	222	220	210	208	202	200	200	220	215	215				

AUG. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

SEP. 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	B	A	B	B	B	B	0 X 38	40	B	B	B	0 X 51	B	B	0 X 38	0 X 30	22	B	A	A
2	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	0 X 42	B	B	B	B	A	A	A
3	A	A	B	A	A	A	A	A	B	0 X 46	X 51	0 X 56	B	X 55	46	X 52	50	B	40	0 X 36	22	A	B	B
4	A	A	A	A	A	A	B	B	36	43	X 46	X 49	X 55	X 52	45	B	X 52	X 48	0 X 41	0 X 42	30	A	A	A
5	A	A	A	B	B	A	A	0 X 34	X 35	0 X 38	X 39	B	B	0 X 50	0 X 51	X 47	48	0 X 48	X 45	X 41	B	B	A	A
6	A	A	A	A	B	B	A	A	A	X 40	X 44	X 51	X 53	X 50	0 X 51	0 X 51	0 X 46	X 47	B	28	26	B	B	B
7	A	A	A	36	A	B	A	B	0 X 41	B	50	X 60	X 60	X 58	60	X 52	X 51	B	B	B	B	A	A	A
8	A	A	A	A	A	A	A	A	X 41	X 42	H 46	X 51	X 56	X 53	X 53	X 50	X 51	47	0 X 46	X 31	20	A	A	A
9	A	A	A	A	A	A	A	X 35	X 38	B	B	0 X 47	0 X 51	X 51	X 55	58	X 50	X 44	0 X 39	31	B	B	B	A
10	A	A	A	A	A	A	A	35	X 42	42	47	0 X 51	X 51	X 51	X 52	X 51	X 52	X 46	45	36	25	B	A	B
11	A	A	A	A	B	B	A	32	B	0 X 42	B	X 50	X 53	X 52	X 54	53	X 52	53	43	36	26	20	B	A
12	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	33	36	A	A	A	A	A
13	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0 X 45	B	B	A	A	A
14	A	A	A	A	B	A	B	B	A	B	B	B	0 X 41	0 X 40	0 X 41	0 X 42	B	X 41	0 X 36	X 36	29	A	A	A
15	A	A	A	B	A	A	A	A	X 43	B	0 X 48	B	B	S	X 61	B	B	B	44	A	A	A	A	A
16	A	B	B	B	A	A	A	A	B	B	B	S	0 X 43	0 X 44	0 X 46	0 X 46	50	46	43	X 36	25	20	B	A
17	A	A	A	A	A	A	A	0 X 46	A	A	B	B	B	0 X 42	0 X 44	0 X 46	B	X 48	X 43	39	X 33	A	A	A
18	A	A	A	A	B	B	B	B	B	B	A	B	B	B	B	B	B	0 X 39	X 37	X 35	A	A	A	A
19	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	0 X 41	0 X 41	0 X 41	0 X 36	A	A	A	A	A
20	A	A	A	B	A	A	A	B	A	36	B	B	B	B	B	0 X 47	0 X 46	X 48	0 X 44	B	B	B	A	A
21	A	A	A	B	A	B	B	A	B	B	B	B	0 X 47	X 50	0 X 50	X 51	X 49	X 44	X 41	0 X 33	30	24	A	A
22	A	A	A	A	B	A	A	A	X 39	0 X 46	X 49	X 49	0 X 49	0 X 56	X 60	X 55	X 52	X 50	0 X 54	46	45	28	B	A
23	A	A	A	A	A	A	B	B	B	B	A	B	B	B	0 X 37	B	0 X 42	0 X 43	B	A	A	A	A	A
24	A	B	B	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
25	A	B	B	A	A	A	B	B	A	A	B	B	B	B	B	B	0 X 46	B	B	33	A	A	A	A
26	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	30	A	A	A	A
27	A	A	A	A	B	B	B	A	0 X 36	B	B	B	B	B	B	B	B	B	B	B	B	25	A	A
28	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	0 X 46	B	B	0 X 41	39	0 X 36	33	33	A
29	A	A	A	B	A	A	B	B	A	X 37	X 38	0 X 39	0 X 41	0 X 41	0 X 45	0 X 46	0 X 44	X 42	X 40	X 37	0 X 26	A	A	A
30	A	B	B	A	A	0 X 32	0 X 36	A	0 X 37	X 38	B	B	0 X 48	0 X 47	0 X 49	B	0 X 49	0 X 46	0 X 43	X 40	36	38	30	0 X 23
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				1		1	1	5	10	11	11	11	13	16	18	18	19	19	22	20	15	7	2	1
MED				36		0 X 32	0 X 36	X 35	X 38	X 42	X 46	X 50	0 X 51	X 50	X 50	X 50	X 49	X 46	X 42	X 36	26	25	32	0 X 23
UQ								X 35	X 41	X 42	X 48	X 51	X 53	X 52	X 54	X 52	X 51	X 48	X 44	39	32	30		
LQ								34	X 36	X 38	X 42	X 48	0 X 47	0 X 46	0 X 45	0 X 46	0 X 46	X 42	0 X 39	X 32	25	22		

SEP. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

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

SEP. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

SEP. 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	34	80	45	80	B	42	B	B	B	B	29	23	B	B	B	29	B	B	14	18	14	B	27	36
2	45	45	42	52	B	32	45	B	B	B	B	B	B	B	B	B	E B 23	B	B	B	B	21	26	28
3	30	36	B	48	49	42	45	45	B	26	23	E B 34	B	E B 30	70	50	70	B	E B 22	32	19	14	B	B
4	26	45	59	60	45	51	B	B	27	35	32	E B 25	E B 23	E B 24	E B 24	B	28	18	E B 12	14	20	20	28	26
5	35	45	45	B	B	41	40	23	20	17	E B 22	B	B	E B 30	E B 30	27	20	18	E B 21	23	B	B	31	36
6	47	83	52	44	B	B	36	42	39	E B 20	23	E B 22	24	E B 23	E B 28	E B 30	E B 21	E B 19	B	E B 10	E B 14	B	B	B
7	30	37	42	39	33	B	40	B	45	B	35	41	E B 24	26	26	24	E B 22	B	B	B	B	74	39	26
8	26	30	35	80	50	42	41	42	30	22	32	26	28	29	26	22	20	17	16	16	12	30	12	26
9	36	45	45	45	57	45	36	16	21	B	B	E B 32	E B 28	26	23	27	26	25	E B 24	E B 18	B	B	B	16
10	23	36	35	32	41	47	41	30	20	19	20	E B 25	26	27	27	26	21	30	14	25	9	B	25	B
11	20	25	24	21	B	B	47	E B 15	B	E B 23	B	28	29	27	25	33	27	19	16	E B 12	E B 10	E B 10	B	35
12	37	70	72	71	41	60	37	B	B	B	B	B	B	B	B	B	B	42	31	33	82	45	41	70
13	45	42	B	37	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E B 25	B	B	30	41	90
14	80	80	43	31	B	37	B	B	37	B	B	B	E B 27	26	23	E B 24	B	E B 18	E B 19	E B 14	E B 10	36	20	39
15	55	45	45	B	70	42	43	41	E B 30	B	E B 28	B	B	E B 24	29	B	B	B	38	30	40	45	43	45
16	45	B	B	B	25	40	42	42	B	B	B	31	26	26	26	23	20	E B 20	E B 18	23	26	24	B	17
17	37	42	41	75	67	45	51	45	50	60	B	B	B	32	E B 28	E B 23	B	22	E B 15	21	26	26	21	38
18	70	72	46	38	B	B	B	B	B	B	32	B	B	B	B	B	B	E B 22	21	16	37	45	36	22
19	37	40	37	B	B	B	B	B	B	B	B	B	B	B	B	E B 25	E B 25	E B 30	E B 16	41	42	34	27	38
20	40	46	46	B	34	36	43	B	32	23	B	B	B	B	B	E B 30	E B 23	E B 20	E B 20	B	B	B	27	14
21	35	71	60	B	41	B	B	44	B	B	B	B	E B 30	27	E B 25	24	E B 24	E B 20	E B 18	E B 14	E B 10	E B 11	30	32
22	20	29	24	37	B	41	32	23	21	24	24	26	25	25	26	22	21	20	E B 19	E B 12	19	26	B	31
23	42	41	53	30	32	42	B	B	B	B	45	B	B	B	26	B	E B 25	E B 25	B	44	42	85	70	70
24	67	B	B	B	31	B	B	60	B	B	B	B	B	B	B	B	B	B	B	32	16	17	46	42
25	44	B	B	41	37	45	B	B	44	42	B	B	B	B	B	B	E B 23	B	B	16	27	15	23	22
26	45	37	B	B	B	27	B	B	B	B	B	B	B	B	B	B	B	B	B	28	40	39	37	40
27	41	44	39	41	B	B	B	36	25	B	B	B	B	B	B	B	B	B	B	B	B	E B 13	42	36
28	B	32	B	B	22	B	B	B	B	B	B	B	B	B	B	E B 30	B	B	E B 24	E B 19	E B 19	E B 12	E B 10	31
29	70	89	80	B	43	45	B	B	35	22	25	E B 15	22	27	E B 30	25	E B 24	17	15	E B 17	E B 12	41	35	39
30	45	B	B	45	38	31	21	26	26	21	B	B	26	E B 31	E B 28	B	E B 33	E B 30	E B 25	E B 17	E B 12	E B 10	E B 9	E B 10
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	26	22	20	18	20	16	15	16	13	13	12	13	17	18	18	19	19	22	25	23	24	24	27
MED	40	44	45	42	41	42	41	41	30	23	28	24	25	26	25	25	E B 23	18	E B 19	17	19	26	29	35
UQ	45	70	52	56	49	45	44	43	38	26	32	30	27	28	E B 28	30	E B 26	22	E B 24	28	32	40	40	39
LQ	34	37	39	37	33	38	36	24	22	20	23	E B 24	24	26	25	23	20	18	E B 16	E B 16	E B 12	14	24	26

SEP. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

SEP. 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	9	19	8	B	18	B	B	B	B	29	23	B	B	B	29	B	B	14	18	14	B	10	7
2	8	10	14	15	B	22	19	B	B	B	B	B	B	B	B	B	23	B	B	B	B	10	7	7
3	8	9	B	18	19	14	20	24	B	19	10	34	B	30	20	22	18	B	22	15	9	7	B	B
4	7	8	15	15	11	11	B	B	17	18	18	25	23	24	23	B	15	14	12	9	8	8	7	8
5	16	13	19	B	B	14	13	11	12	14	22	B	B	30	30	20	15	12	21	10	B	B	8	7
6	9	10	7	14	B	B	10	30	12	20	20	22	20	23	28	30	21	19	B	10	14	B	B	B
7	7	9	12	10	10	B	20	B	15	B	18	15	24	15	13	10	22	B	B	B	B	14	15	15
8	8	8	9	15	13	15	12	10	12	11	12	21	14	15	19	15	12	11	9	7	9	11	7	8
9	7	8	18	13	15	13	10	10	12	B	B	32	28	15	17	13	19	18	24	18	B	B	B	9
10	7	7	8	10	15	10	12	10	11	11	11	25	15	13	12	14	12	9	9	8	7	B	7	B
11	9	8	8	7	B	B	8	15	B	23	B	15	15	10	13	12	10	11	10	12	10	10	B	9
12	8	12	13	10	7	19	9	B	B	B	B	B	B	B	B	B	B	13	10	8	12	12	12	19
13	20	30	B	15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	25	B	B	8	9	13
14	13	12	19	14	B	14	B	B	21	B	B	B	27	18	16	24	B	18	19	14	10	9	7	7
15	12	10	25	B	19	25	21	13	30	B	28	B	B	24	12	B	B	B	20	10	10	9	10	19
16	19	B	B	B	10	16	19	21	B	B	B	16	19	18	18	17	10	20	18	10	10	9	B	9
17	10	7	18	15	19	18	14	12	24	18	B	B	B	15	28	23	B	15	15	12	8	8	10	8
18	14	25	13	15	B	B	B	B	B	B	20	B	B	B	B	B	B	22	12	10	9	8	15	12
19	14	19	19	B	B	B	B	B	B	B	B	B	B	B	B	25	25	30	16	10	7	9	10	8
20	8	18	19	B	25	19	21	B	15	13	B	B	B	B	B	30	23	20	20	B	B	B	7	9
21	7	12	21	B	32	B	B	33	B	B	B	B	30	19	25	18	24	20	18	14	10	11	7	9
22	10	10	10	14	B	15	14	14	14	13	13	14	14	13	12	13	12	10	19	12	8	9	B	9
23	10	10	8	9	10	8	B	B	B	B	29	B	B	B	20	B	25	25	B	12	11	12	29	8
24	8	B	B	B	15	B	B	19	B	B	B	B	B	B	B	B	B	B	B	10	12	8	18	24
25	13	B	B	15	14	23	B	B	13	15	B	B	B	B	B	B	23	B	B	10	7	7	10	10
26	14	7	B	B	B	13	B	B	B	B	B	B	B	B	B	B	B	B	B	15	19	11	9	9
27	10	10	11	9	B	B	B	20	15	B	B	B	B	B	B	B	B	B	B	B	B	13	9	10
28	B	13	B	B	15	B	B	B	B	B	B	B	B	B	B	30	B	B	24	19	19	12	10	8
29	16	10	29	B	19	10	B	B	16	15	15	15	19	18	30	19	24	10	10	17	12	8	7	8
30	15	B	B	19	15	14	15	15	15	13	B	B	16	31	28	B	33	30	25	17	12	10	9	10
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	19	15	19	18	21	D B 33	27	B	B	B	B	30	28	30	24	21	20	12	12	10	10	9
UQ	14	18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	18	19	13	18	13
LQ	8	9	12	13	15	14	14	15	15	15	20	23	20	18	18	18	18	14	14	10	9	8	7	8

SEP. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

SEP. 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	B	A	B	B	B	B	E B 310	210	B	B	B	240	B	B	230	225	E B 250	B	A	A
2	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	250	B	B	B	B	A	A	A
3	A	A	B	A	A	A	A	A	B	250	H 195	250	B	220	225	250	225	B	E B 250	215	E A 260	A	B	B
4	A	A	A	A	A	A	B	B	E A 250	220	205	240	H 180	H 205	H 175	B	220	200	H 195	225	220	A	A	A
5	A	A	A	B	B	A	A	E A 350	250	220	230	B	B	240	250	210	220	220	240	230	B	B	A	A
6	A	A	A	A	B	B	A	A	A	H 195	245	H 190	200	H 190	250	230	205	220	B	270	260	B	B	B
7	A	A	A	E A 300	A	B	A	B	E A 255	B	220	200	220	210	200	H 180	210	B	B	B	B	A	A	A
8	A	A	A	A	A	A	A	A	275	225	E A 230	E A 240	H 190	220	200	205	210	200	205	220	Q 230	A	A	A
9	A	A	A	A	A	A	A	270	240	B	B	E B 300	225	H 190	215	215	225	210	E B 250	E B 260	B	B	B	A
10	A	A	A	A	A	A	A	E A 300	H 205	200	H 180	205	H 190	H 210	H 200	250	220	210	210	200	Q 200	B	A	B
11	A	A	A	A	B	B	A	250	B	230	B	220	H 200	225	H 205	220	210	205	210	250	220	B 245	B	A
12	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	270	320	A	A	A	A	A
13	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	B	B	A	A	A
14	A	A	A	A	B	A	B	B	A	B	B	B	230	225	230	230	B	220	230	240	240	A	A	A
15	A	A	A	B	A	A	A	A	E B 260	B	E B 230	B	B	220	H 190	B	B	B	225	A	A	A	A	A
16	A	B	B	B	A	A	A	A	B	B	B	E B 280	220	220	245	205	225	220	205	255	220	Q 260	B	A
17	A	A	A	A	A	A	A	230	A	A	B	B	B	A 220	250	225	B	225	225	245	240	A	A	A
18	A	A	A	A	B	B	B	B	B	B	A	B	B	B	B	B	B	260	260	250	A	A	A	A
19	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	230	E B 255	E B 280	260	A	A	A	A	A
20	A	A	A	B	A	A	A	B	A	E A 260	B	B	B	B	B	E B 260	220	225	230	B	B	B	A	A
21	A	A	A	B	A	B	B	A	B	B	B	B	240	230	230	220	220	225	220	225	230	250	A	A
22	A	A	A	A	B	A	A	A	H 225	225	220	220	220	240	225	215	210	205	210	200	210	200	B	A
23	A	A	A	A	A	A	B	B	B	B	A	B	B	B	E A 290	B	E B 250	E B 260	B	A	A	A	A	A
24	A	B	B	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
25	A	B	B	A	A	A	B	B	A	A	B	B	B	B	B	B	230	B	B	250	A	A	A	A
26	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	E A 300	A	A	A	A
27	A	A	A	A	B	B	B	A	E A 270	B	B	B	B	B	B	B	B	B	B	B	B	270	A	A
28	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	E B 260	B	B	245	240	250	240	265	A
29	A	A	A	B	A	A	B	B	A	225	225	180	220	225	E B 250	225	225	H 200	210	230	280	A	A	A
30	A	B	B	A	A	E A 360	290	A	220	H 205	B	B	A 340	E B 250	230	B	250	250	225	225	225	230	210	270
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	1	5	10	11	11	12	13	17	18	18	19	19	22	20	15	7	2	1
MED				E A 300		E A 360	290	U 250	U 231	222	215	211	220	220	224	222	220	220	226	232	228	245	238	270
UQ								E A 300	E E 260	226	228	U 232	225	225	240	235	226	232	250	249	245	255		
LQ								250	222	212	212	202	H 200	210	200	215	215	208	210	225	220	235		

SEP. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

OCT. 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	B	B	A	A	A	X 40	X 41	O X 46	B	B	O X 51	O X 52	O X 53	O X 51	X 55	X 58	X 53	X 64	X 50	39	35	30	A
2	A	A	A	A	A	A	B	A	B	B	B	O X 41	O X 47	O X 49	X 54	X 53	B	O X 56	B	A	B	A	A	A
3	A	A	A	A	A	B	A	A	B	B	B	B	O X 51	X 48	O X 51	O X 51	O X 47	O X 47	O X 47	X 48	X 42	X 38	X 29	A
4	A	A	A	A	A	A	A	A	B	B	B	O X 46	O X 42	O X 46	O X 46	O X 46	O X 46	X 46	X 45	X 43	X 40	24	A	A
5	A	A	A	B	A	B	A	A	O X 56	B	B	B	O X 46	O X 46	O X 46	X 52	B	48	41	X 34	A	A	A	A
6	A	B	A	A	A	B	B	B	A	B	B	B	B	B	B	B	O X 45	O X 41	X 42	X 40	B	B	A	A
7	A	A	A	A	A	A	A	38	A	O X 41	O X 47	O X 49	O X 47	O X 49	O X 51	O X 56	O X 49	O X 50	47	O X 46	41	39	39	26
8	A	A	A	A	O X 37	O X 43	O X 38	X 43	X 44	X 46	O X 48	O X 49	X 52	X 55	X 54	X 54	X 54	56	51	X 48	B	A	A	A
9	A	A	A	A	A	A	A	X 46	X 47	X 41	O X 49	O X 51	O X 51	O X 49	X 52	X 51	O X 62	54	X 54	50	46	O X 46	38	A
10	A	A	A	A	33	A	X 41	O X 43	O X 46	O X 47	O X 47	X 49	O X 52	O X 51	X 54	X 51	X 55	X 53	X 50	46	46	O X 46	O X 38	29
11	A	A	A	A	A	A	X 50	X 51	X 51	46	51	X 46	X 56	X 60	X 57	X 53	X 56	X 58	X 53	O X 47	X 44	43	39	O X 38
12	O X 35	O X 38	A	A	A	A	X 42	X 46	X 49	O X 50	X 51	X 50	X 52	52	X 56	X 59	X 55	X 51	X 51	48	O X 49	45	O X 43	O X 44
13	O X 41	O X 38	33	A	A	O X 46	48	50	53	O X 50	X 52	X 53	X 56	B	O X 61	X 68	X 71	X 56	48	X 46	43	38	A	A
14	A	A	A	A	A	A	39	A	A	B	B	B	B	O X 41	O X 41	B	39	B	X 40	X 38	X 37	A	A	A
15	A	A	A	A	A	A	A	A	A	O X 43	O X 46	B	B	B	B	B	B	O X 50	O X 48	O X 46	35	X 36	A	A
16	A	B	A	B	B	A	X 42	O X 46	O X 46	O X 46	B	O X 48	O X 48	O X 49	O X 50	49	X 47	X 46	X 45	X 44	O X 41	X 46	28	A
17	30	A	A	A	B	A	A	O X 43	O X 44	O X 46	O X 46	O X 47	O X 49	O X 48	O X 50	O X 50	O X 47	O X 46	O X 45	X 42	X 42	39	36	32
18	A	A	A	A	A	41	45	X 43	O X 46	O X 46	X 50	O X 51	X 52	A	53	56	53	52	49	X 39	A	26	23	A
19	A	B	A	A	B	A	A	B	B	B	B	O X 41	B	B	B	O X 51	B	O X 42	A	X 37	X 34	X 31	A	A
20	A	A	A	A	B	A	B	A	B	O X 41	O X 48	B	B	B	O X 51	B	B	O X 49	X 41	B	35	31	A	A
21	A	A	B	A	B	B	B	B	A	O X 41	B	B	O X 50	O X 43	O X 48	O X 52	O X 49	O X 46	O X 46	B	X 40	31	A	A
22	A	A	A	A	B	A	B	B	A	B	B	B	B	B	S	B	B	B	O X 44	O X 42	X 41	X 38	X 33	32
23	B	A	A	X 38	A	X 42	X 44	O X 50	X 52	O X 52	X 52	S	O X 51	S	O X 51	51	51	X 50	X 51	X 47	43	43	A	A
24	A	A	A	39	X 43	O X 46	X 47	X 52	O X 52	X 59	57	58	X 57	X 56	X 57	X 55	X 55	X 56	51	X 51	50	X 43	42	46
25	49	X 46	39	39	44	50	S	O X 61	X 60	X 60	X 60	X 62	X 67	X 65	X 66	X 60	X 59	X 58	X 53	X 50	51	48	57	60
26	58	A	A	A	A	X 46	X 50	O X 55	X 55	X 54	S	S	58	O X 56	X 58	X 53	X 56	X 53	X 56	X 49	46	45	50	O X 56
27	O X 54	37	37	O X 41	A	51	A	A	O X 48	O X 48	B	B	S	O X 44	B	X 76	X 67	A	A	A	A	A	A	A
28	A	A	A	A	A	A	B	B	A	O X 55	S	X 56	S	X 60	B	S	O X 52	O X 50	X 51	X 51	X 49	X 49	X 48	X 46
29	A	A	B	B	B	B	B	B	O X 42	A	B	B	B	B	B	B	B	B	B	O X 50	X 49	X 45	A	A
30	A	A	A	B	B	B	B	B	S	S	S	S	X 56	A	B	O X 45	S	X 54	O X 52	O X 56	A	A	A	A
31	A	A	B	B	B	B	B	A	A	O X 47	O X 47	O X 49	B	B	O X 49	O X 50	O X 54	O X 48	B	X 46	X 44	X 41	30	32
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	4	3	4	4	8	12	15	17	20	15	18	21	20	23	24	23	27	26	27	24	24	16	11
MED	45	X 38	37	39	40	X 46	X 43	X 46	O X 48	O X 46	O X 49	O X 49	O X 52	O X 49	O X 51	X 52	X 54	X 50	X 48	X 46	X 42	40	38	38
UQ	54	X 42	38	40	44	48	X 48	X 50	X 52	O X 51	X 52	X 51	X 56	X 56	X 55	X 56	X 56	X 54	X 51	X 50	46	X 45	42	X 46
LQ	O X 35	38	35	38	35	X 42	X 40	X 43	O X 46	O X 44	O X 47	O X 47	O X 49	O X 47	O X 50	O X 51	O X 48	O X 48	X 45	X 42	X 40	36	30	32

OCT. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

OCT. 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	B	B	A	A	A	34	35	40	B	B	45	46	U S 47	45	49	52	47	57	44	F 33	F 27	F 24	A
2	A	A	A	A	A	A	B	A	B	B	B	35	41	43	48	47	B	50	B	A	B	A	A	A
3	A	A	A	A	A	B	A	A	B	B	B	B	45	42	45	45	41	41	41	42	36	32	23	A
4	A	A	A	A	A	A	A	A	B	B	B	R 40	36	R 40	R 40	40	40	40	39	37	34	F 18	A	A
5	A	A	A	B	A	B	A	A	S 50	B	B	B	40	40	40	46	B	F 42	F 35	28	A	A	A	A
6	A	B	A	A	A	B	B	B	A	B	B	B	B	B	B	B	39	35	36	34	B	B	A	A
7	A	A	A	A	A	A	A	F 32	A	35	41	43	R 41	43	45	U S 50	43	44	F 41	40	F 35	F 30	F 30	F 20
8	A	A	A	A	31	37	32	37	38	40	42	43	46	49	43	48	48	F 50	F 45	42	B	A	A	A
9	A	A	A	A	A	A	A	40	41	35	43	45	45	43	46	45	56	F 48	47	F 44	F 40	40	F 32	A
10	A	A	A	A	F 27	A	35	37	40	41	41	43	46	45	48	45	49	47	44	F 40	F 40	40	32	F 23
11	A	A	A	A	A	A	44	45	45	F 40	F 45	40	50	54	51	47	50	52	47	41	38	F 35	F 33	32
12	30	32	A	A	A	A	36	40	43	44	45	44	46	F 46	50	53	49	45	45	F 42	43	F 39	37	38
13	35	32	F 27	A	A	40	F 42	F 44	F 47	44	46	47	50	B	55	62	65	50	F 42	40	F 37	F 32	A	A
14	A	A	A	A	A	A	F 33	A	A	B	B	B	B	35	35	B	F 33	B	34	32	31	A	A	A
15	A	A	A	A	A	A	A	A	A	37	40	B	B	B	B	B	B	44	42	U R 40	F 29	30	A	A
16	A	B	A	B	B	A	36	40	40	40	B	42	42	43	44	F 43	41	40	39	38	35	40	F 22	A
17	F 22	A	A	A	B	A	A	37	38	40	40	41	43	42	44	44	41	40	U R 39	36	36	F 33	F 30	F 26
18	A	A	A	A	A	F 35	F 39	37	40	40	44	45	46	A	F 47	F 50	F 47	F 46	F 43	33	A	F 20	F 17	A
19	A	B	A	A	B	A	A	B	B	B	B	E G 35	B	B	B	45	B	36	A	31	28	25	A	A
20	A	A	A	A	B	A	B	A	B	35	42	B	B	B	45	B	B	43	35	B	F 29	F 25	A	A
21	A	A	B	A	B	B	B	B	A	35	B	B	44	E G 37	42	S 46	43	40	40	B	34	F 25	A	A
22	A	A	A	A	B	A	B	B	A	B	B	B	B	B	S	B	B	B	U R 38	U R 36	35	32	27	F 26
23	B	A	A	32	A	36	38	44	46	46	46	S	45	S	45	F 45	F 45	44	45	41	F 37	F 37	A	A
24	A	A	A	F 33	37	40	41	46	46	J S 53	F 51	52	51	50	51	49	49	50	F 45	45	F 44	37	F 36	F 40
25	F 43	40	F 33	F 33	F 38	F 43	S	U R 55	54	54	54	56	60	59	60	54	53	J S 52	47	44	F 45	F 42	F 51	F 54
26	F 50	A	A	A	A	40	44	49	49	48	S	S	F 52	50	J S 52	47	50	47	45	43	F 40	F 39	F 46	50
27	48	F 31	F 31	35	A	F 45	A	A	42	42	B	B	S	38	B	70	60	A	A	A	A	A	A	A
28	A	A	A	A	A	A	B	B	A	S 49	S	50	S	54	B	S	46	44	45	45	43	43	42	40
29	A	A	B	B	B	B	B	B	36	A	B	B	B	B	B	B	B	B	B	44	43	39	A	A
30	A	A	A	B	B	B	B	B	S	S	S	S	50	A	B	39	S	48	46	50	A	A	A	A
31	A	A	B	B	B	B	B	A	A	41	41	43	B	B	43	44	48	42	B	40	38	35	F 24	F 26
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	4	3	4	4	8	12	15	17	20	15	18	21	20	23	24	23	27	26	27	24	24	16	11
MED	39	32	F 31	33	34	40	37	40	42	40	43	43	46	43	45	46	48	44	42	40	36	F 34	F 31	F 32
UQ	F 48	36	F 32	34	38	42	42	44	46	45	46	45	50	50	49	50	50	48	45	44	F 40	39	F 36	40
LQ	30	32	F 29	32	29	36	34	37	40	38	41	41	43	41	44	45	42	42	39	36	34	F 28	F 24	F 26

OCT. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

OCT. 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	26	B	B	30	15	28	19	30	E B 30	B	B	26	E B 30	E B 30	E B 30	25	22	22	20	21	E B 13	20	17	34
2	58	52	80	72	42	36	B	51	B	B	B	E B 30	E B 32	25	25	25	B	E B 23	B	46	B	28	51	71
3	60	35	52	73	42	B	42	51	B	B	B	B	E B 30	27	E B 28	E B 32	E B 30	E B 25	E B 29	E B 19	E B 10	E B 15	E B 9	29
4	44	77	57	69	65	27	45	45	B	B	B	27	27	26	E B 28	25	26	20	E B 18	E B 15	E B 13	11	28	38
5	47	41	37	B	45	B	47	70	35	B	B	B	29	25	35	25	B	23	30	18	40	36	38	42
6	45	B	37	40	32	B	B	B	40	B	B	B	B	B	B	B	E B 29	E B 24	17	22	B	B	17	35
7	37	40	38	35	27	51	42	46	41	23	23	27	E B 30	26	28	27	E B 29	E B 22	E B 24	16	E B 12	E B 9	E B 9	27
8	30	32	36	46	20	15	17	20	21	24	24	26	26	26	26	25	23	20	21	26	B	15	15	23
9	36	36	47	60	46	42	34	26	24	32	25	28	33	29	27	27	26	30	17	17	14	15	26	35
10	31	41	43	40	25	35	26	25	33	30	28	28	35	35	31	31	31	23	18	17	16	E B 9	14	22
11	39	40	32	35	58	40	32	21	30	31	30	31	16	29	31	25	29	21	19	E B 15	E B 18	E B 12	E B 10	23
12	25	24	32	42	40	45	33	26	28	30	31	31	31	30	37	36	23	23	21	19	13	17	E B 8	E B 8
13	20	27	23	37	45	38	32	27	30	31	31	26	27	B	E B 32	E B 26	23	28	22	E B 20	21	28	35	90
14	67	43	32	28	35	38	26	30	70	B	B	B	B	E B 29	E B 28	B	19	B	31	28	31	34	35	89
15	39	45	44	44	43	42	43	45	31	26	27	B	B	B	B	B	B	23	27	30	28	31	33	33
16	27	B	43	B	B	36	35	27	27	23	B	27	33	30	28	31	26	23	E B 20	E B 19	E B 20	14	E B 11	28
17	29	33	43	37	B	45	45	36	25	32	26	27	26	26	31	26	22	23	E B 23	21	17	19	25	28
18	47	47	47	45	33	28	19	27	23	24	26	28	27	34	26	29	24	22	26	23	26	31	19	80
19	60	B	42	66	B	46	43	B	B	B	B	28	B	B	B	26	B	25	34	22	19	27	43	42
20	41	45	42	42	B	61	B	35	B	30	27	B	B	B	E B 30	B	B	E B 25	32	B	24	31	29	39
21	52	41	B	70	B	B	B	B	31	29	B	B	E B 30	E B 30	26	E B 28	E B 29	E B 25	E B 30	B	17	29	41	39
22	45	45	47	40	B	41	B	B	36	B	B	B	B	B	E B 33	B	B	B	E B 28	E B 24	E B 19	13	13	E B 18
23	B	15	26	36	36	31	22	22	31	30	27	28	28	30	32	24	31	27	21	20	20	14	36	32
24	32	32	42	23	16	17	20	22	25	26	30	30	27	27	28	27	26	26	22	28	25	14	36	42
25	39	E B 10	22	14	24	20	21	29	31	32	27	35	29	30	30	27	25	24	22	20	26	14	E B 10	E B 8
26	E B 9	47	43	45	30	19	25	25	31	32	28	29	29	28	30	31	31	30	21	19	26	27	12	12
27	23	26	32	46	35	22	47	45	35	35	B	B	29	27	B	27	E B 28	25	37	70	60	80	70	46
28	42	37	43	40	37	41	B	B	36	28	27	28	27	27	B	E B 30	27	24	27	23	18	40	14	21
29	36	41	B	B	B	B	B	B	37	35	B	B	B	B	B	B	B	B	B	26	23	17	30	40
30	58	63	60	B	B	B	B	B	32	28	27	27	27	27	B	E B 30	25	23	21	22	36	43	30	45
31	46	41	B	B	B	B	B	41	37	27	31	31	B	B	30	28	26	16	B	25	20	16	17	23
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	27	27	26	22	24	22	24	26	22	18	21	23	23	24	25	24	28	28	29	28	30	31	31
MED	39	41	42	41	36	37	32	30	31	30	27	28	28	28	29	26	25	24	22	21	20	18	25	34
UQ	47	45	46	46	43	42	43	45	36	32	30	30	30	30	30	28	28	24	27	25	26	31	35	42
LQ	30	32	34	36	27	28	22	26	28	26	26	27	27	26	27	25	24	22	20	18	14	14	14	23

OCT. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

OCT. 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	14	B	B	8	9	10	11	12	30	B	B	19	30	30	30	15	14	10	12	11	13	8	9	8
2	15	8	7	19	12	14	B	22	B	B	B	30	32	18	13	14	B	28	B	12	B	8	18	10
3	9	11	11	10	10	B	25	21	B	B	B	B	30	23	28	32	30	25	29	19	10	15	9	9
4	8	10	10	15	20	15	19	10	B	B	B	21	18	15	28	15	14	13	18	15	13	7	8	7
5	12	14	11	B	19	B	19	25	19	B	B	B	15	17	13	13	B	12	12	10	8	7	8	15
6	19	B	12	18	20	B	B	B	19	B	B	B	B	B	B	B	29	24	13	9	B	B	10	7
7	9	14	13	25	14	10	17	14	15	15	14	19	30	14	20	18	29	22	24	10	12	9	9	8
8	7	9	12	14	10	10	9	10	10	14	12	12	14	19	14	15	14	10	12	10	B	7	9	7
9	8	25	24	16	15	20	13	10	10	11	10	10	9	12	10	11	9	9	11	10	7	7	7	9
10	7	7	14	12	10	9	9	14	12	11	10	10	10	10	10	12	10	12	12	14	12	9	8	7
11	11	11	9	8	11	12	10	10	10	10	9	10	12	10	10	10	10	10	14	15	18	12	10	9
12	9	8	9	10	9	10	9	8	9	10	9	9	9	11	10	10	12	10	11	10	8	9	8	8
13	17	8	8	8	12	9	8	7	7	7	9	10	15	B	32	26	18	14	18	20	10	9	8	15
14	13	10	7	7	9	8	13	10	19	B	B	B	B	29	23	B	10	B	23	12	10	8	7	12
15	14	8	18	20	25	30	14	19	18	10	12	B	B	B	B	B	B	19	20	14	16	10	9	12
16	13	B	29	B	B	20	16	9	11	18	B	14	10	14	12	10	12	13	20	19	20	11	11	7
17	7	8	10	15	B	34	12	13	12	12	10	14	14	15	19	14	12	10	23	10	12	7	9	8
18	11	12	10	14	12	12	7	9	9	10	14	12	12	24	10	9	12	14	22	13	10	8	8	12
19	18	B	19	21	B	25	25	B	B	B	B	18	B	B	B	12	B	19	10	12	11	9	7	9
20	10	9	12	18	B	20	B	20	B	24	20	B	B	B	30	B	B	25	10	B	10	7	7	10
21	8	9	B	15	B	B	B	B	23	29	B	B	30	30	12	28	29	25	30	B	12	7	9	7
22	9	15	9	25	B	28	B	B	24	B	B	B	B	B	33	B	B	B	28	24	19	10	8	18
23	B	7	15	12	15	12	11	10	10	14	12	12	12	12	10	12	10	10	10	11	11	9	13	8
24	9	8	13	13	13	11	7	10	12	17	14	15	18	15	13	14	10	9	8	10	10	8	9	8
25	9	10	8	8	7	9	8	10	10	12	11	11	15	15	12	14	13	13	12	10	10	8	10	8
26	9	15	10	13	10	10	8	10	10	10	10	12	12	12	12	11	11	8	10	10	12	9	8	8
27	7	8	10	12	9	8	12	19	10	12	B	B	18	19	B	22	28	18	14	9	9	12	12	8
28	10	8	20	14	18	24	B	B	15	15	15	12	15	14	B	30	20	20	13	13	12	10	9	8
29	10	12	B	B	B	B	B	B	15	18	B	B	B	B	B	B	B	B	B	19	10	8	7	14
30	8	9	25	B	B	B	B	B	15	15	15	12	13	18	B	30	19	14	17	18	11	10	11	10
31	10	19	B	B	B	B	B	20	14	12	12	19	B	B	18	16	15	14	B	15	13	11	9	7
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	10	10	12	15	15	15	14	14	15	15	15	18	18	18	19	15	15	14	14	12	12	9	9	8
UQ	13	14	20	20	B	32	B	24	21	B	B	B	D B 32	D B 30	32	30	30	23	23	16	13	10	10	10
LQ	8	8	10	12	10	10	10	10	10	12	12	12	12	14	12	12	12	10	12	10	10	8	8	8

OCT. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

OCT. 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	B	B	A	A	A	E A 250	230	E B 260	B	B	250	240	230	220	210	H 190	210	210	220	240	240	260	A
2	A	A	A	A	A	A	B	A	B	B	B	E B 230	E B 260	230	210	250	B	250	B	A	B	A	A	A
3	A	A	A	A	A	B	A	A	B	B	B	B	240	205	210	E B 250	E B 250	240	240	225	220	245	230	A
4	A	A	A	A	A	A	A	A	B	B	B	230	210	220	215	210	H 205	225	230	230	230	Q 280	A	A
5	A	A	A	B	A	B	A	A	250	B	B	B	H 200	H 200	200	H 210	B	225	E A 300	225	A	A	A	A
6	A	B	A	A	A	B	B	B	A	B	B	B	B	B	B	B	E B 255	230	250	260	B	B	A	A
7	A	A	A	A	A	A	A	E A 300	A	205	190	A 210	E B 225	200	210	210	E B 240	225	230	220	220	230	220	A 280
8	A	A	A	A	E A 300	270	255	210	200	H 200	H 200	H 200	200	H 190	H 175	H 195	220	H 200	240	250	B	A	A	A
9	A	A	A	A	A	A	A	240	220	205	200	205	210	205	210	H 205	210	H 180	220	230	220	230	250	A
10	A	A	A	A	E A 345	A	A	255	E A 250	H 200	H 200	200	H 195	200	H 175	200	200	H 200	205	230	220	220	240	Q 260
11	A	A	A	A	A	A	A	H 205	H 200	H 160	H 175	E A 230	210	205	200	230	225	H 200	230	230	210	230	200	250
12	275	290	A	A	A	A	A	230	225	210	200	210	H 180	200	H 195	210	H 200	H 200	H 190	210	H 200	220	225	240
13	250	270	300	A	A	A	E A 275	H 190	H 175	195	200	225	220	B	E B 250	225	240	220	220	240	250	A 270	A	A
14	A	A	A	A	A	A	E A 300	A	A	B	B	B	B	E B 250	E B 240	B	280	B	E A 310	270	250	A	A	A
15	A	A	A	A	A	A	A	A	A	240	230	B	B	B	B	B	B	H 210	245	230	E A 270	260	A	A
16	A	B	A	B	B	A	310	A	250	220	B	230	210	215	210	210	225	200	H 200	230	240	240	240	A
17	300	A	A	A	B	A	A	A	230	240	H 200	225	H 200	210	210	205	210	220	240	H 220	230	230	250	280
18	A	A	A	A	A	E A 350	225	210	H 190	200	210	205	205	A	H 200	H 200	H 205	225	A 275	250	A	E A 300	E A 310	A
19	A	B	A	A	B	A	A	B	B	B	B	200	B	B	B	210	B	E A 270	A	255	280	E A 390	A	A
20	A	A	A	A	B	A	B	A	B	230	200	B	B	B	225	B	B	240	260	B	275	315	A	A
21	A	A	B	A	B	B	B	B	A	210	B	B	230	210	210	220	240	240	260	B	245	300	A	A
22	A	A	A	A	B	A	B	B	A	B	B	B	B	B	230	B	B	B	250	250	240	245	260	270
23	B	A	A	E A 370	A	E A 400	280	H 210	220	210	200	200	210	200	220	210	200	225	230	210	H 200	250	A	A
24	A	A	A	E A 350	275	255	230	220	210	215	205	205	200	200	200	200	205	225	215	230	225	225	240	250
25	245	230	260	280	260	240	210	205	205	H 190	200	205	200	H 195	H 200	225	200	H 200	220	210	225	230	230	240
26	240	A	A	A	A	255	225	210	205	205	200	220	200	200	210	H 200	H 200	210	210	210	230	225	245	250
27	230	300	E A 350	E A 400	A	280	A	A	250	250	B	B	220	200	B	240	240	A	A	A	A	A	A	A
28	A	A	A	A	A	A	B	B	A	245	210	H 200	240	210	B	220	225	240	220	240	230	250	240	240
29	A	A	B	B	B	B	B	B	220	A	B	B	B	B	B	B	B	B	B	240	250	245	A	A
30	A	A	A	B	B	B	B	B	275	225	210	H 190	200	A	B	225	205	215	240	250	A	A	A	A
31	A	A	B	B	B	B	B	A	A	H 200	250	245	B	B	220	230	230	230	B	250	250	255	295	310
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	4	3	4	4	7	10	13	18	21	18	21	23	21	24	25	24	27	26	27	24	24	16	11
MED	248	280	U 280	E A 360	U 274	262	U 238	210	218	210	200	208	208	202	210	210	210	222	230	230	230	242	240	250
UQ	275	295	312	E A 385	E A 322	U 292	268	230	240	225	210	230	218	210	216	225	232	229	245	250	249	258	252	275
LQ	240	250	280	U 298	268	255	225	210	205	200	200	200	200	200	200	205	202	205	220	222	220	230	230	245

OCT. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

NOV. 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	32	A	A	B	A	B	B	B	A	A	B	B	A	B	0 X 49	0 X 49	0 X 51	B	B	0 X 44	0 X 43	X 44	43	X 42
2	42	37	38	50	X 47	X 51	X 50	B	0 X 41	0 X 42	0 X 43	0 X 43	S	X 61	X 62	S	C	X 50	X 51	X 55	X 47	40	A	33
3	S	A	A	A	A	A	X 61	A	A	S	S	S	X 55	56	X 56	X 56	X 56	X 55	X 50	X 48	X 47	A	B	26
4	A	A	B	B	B	A	B	A	B	B	B	B	B	0 X 46	A	B	A	A	A	A	A	A	A	A
5	A	A	B	30	B	B	B	B	B	B	B	B	B	B	B	B	B	0 X 46	0 X 45	0 X 42	X 41	39	29	30
6	A	A	A	A	B	B	B	A	A	B	B	B	B	B	55	0 X 52	53	0 X 52	B	X 46	0 X 46	X 40	A	A
7	A	A	A	B	A	B	A	0 X 46	X 52	0 X 52	0 X 51	0 X 49	0 X 51	S	0 X 50	0 X 49	0 X 56	X 50	X 49	X 47	X 46	X 50	X 51	X 52
8	40	A	A	A	A	A	B	A	A	54	53	X 55	X 52	X 53	0 X 52	X 55	X 52	0 X 52	X 48	X 47	X 46	X 45	41	41
9	42	35	A	A	0 X 46	41	X 48	X 55	X 55	X 57	X 54	0 X 52	0 X 52	0 X 55	X 56	X 52	X 52	X 50	X 50	X 46	X 47	X 50	X 47	47
10	X 51	49	45	0 X 49	50	55	55	X 54	B	58	59	X 60	X 55	S	X 56	X 52	X 53	X 51	X 50	X 47	X 47	X 48	46	47
11	A	A	B	A	A	A	A	A	B	A	A	B	B	B	B	B	0 X 48	0 X 51	X 54	X 50	0 X 51	A	39	X 37
12	A	0 X 37	A	A	A	B	A	A	A	B	B	S	0 X 53	0 X 51	B	0 X 51	X 52	X 51	X 50	X 50	X 48	X 46	X 40	X 40
13	X 39	A	46	B	A	A	X 47	55	66	70	69	68	X 61	X 60	X 56	X 55	X 50	0 X 51	X 51	X 50	X 45	X 41	A	A
14	0 X 33	A	A	A	A	A	0 X 48	0 X 55	X 61	X 61	X 66	X 71	X 69	X 60	56	0 X 62	60	X 52	X 50	X 48	X 46	X 46	X 47	46
15	A	A	A	46	A	A	A	59	70	X 72	71	X 71	74	70	X 66	X 64	59	0 X 55	X 52	B	A	A	A	A
16	A	A	A	0 X 41	A	A	A	A	B	B	0 X 56	B	X 58	0 X 61	S	X 68	X 58	X 56	X 49	0 X 43	X 39	X 41	A	B
17	A	B	A	0 X 48	A	A	A	A	A	56	56	59	X 61	B	X 62	X 65	B	B	X 46	0 X 49	X 46	X 39	S	45
18	A	A	A	A	A	0 X 50	49	0 X 53	B	B	X 57	X 61	X 59	S	S	S	0 X 51	X 52	0 X 52	51	X 51	X 49	46	42
19	0 X 42	X 42	X 43	X 43	55	X 56	X 66	X 69	X 72	X 66	X 60	X 59	X 58	0 X 56	54	0 X 52	X 56	X 56	X 56	X 51	X 51	X 49	X 50	A
20	A	B	A	0 X 51	A	A	0 X 51	A	B	56	57	X 61	X 61	X 60	0 X 56	X 56	X 56	0 X 56	X 52	0 X 56	X 51	X 48	X 49	0 X 49
21	40	40	46	49	56	65	X 76	X 78	80	X 76	X 72	X 70	X 66	X 59	X 59	X 58	X 58	X 55	0 X 54	X 50	X 51	X 51	X 53	52
22	38	A	46	56	58	60	68	X 70	71	72	70	X 71	X 76	X 66	X 65	X 64	X 60	S	X 55	X 52	53	54	52	54
23	X 53	48	46	S	60	0 X 65	70	X 72	X 79	75	X 76	X 72	X 67	69	65	X 64	X 64	X 62	X 60	X 62	X 59	49	B	A
24	A	A	A	A	A	A	A	B	B	0 X 42	0 X 44	0 X 43	S	0 X 53	0 X 55	S	0 X 55	0 X 56	0 X 56	A	A	A	A	A
25	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	A	42	A	A	A	43	A
26	A	A	0 X 37	B	A	A	A	A	A	A	B	A	0 X 44	B	0 X 55	S	B	B	0 X 43	A	0 X 43	X 45	X 44	X 43
27	A	A	B	B	B	A	A	A	A	A	B	B	B	0 X 53	S	B	B	B	0 X 56	0 X 48	0 X 51	X 48	50	47
28	46	45	45	44	50	53	59	65	B	B	B	B	S	S	0 X 56	A	B	B	0 X 54	X 52	X 49	X 50	A	X 37
29	0 X 40	B	A	B	A	A	A	A	A	B	0 X 56	0 X 56	0 X 58	0 X 64	S	X 56	0 X 56	X 52	A	A	A	A	A	A
30	A	A	A	A	A	0 X 49	0 X 53	0 X 52	X 60	B	B	0 X 56	B	B	B	0 X 64	S	A	A	A	A	A	A	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	13	8	9	11	8	10	14	13	11	15	18	18	19	18	20	20	21	21	25	23	24	22	17	19
MED	40	41	45	48	52	54	X 54	X 55	X 66	X 58	X 57	X 60	X 58	X 60	X 56	X 56	X 56	X 52	X 51	X 49	X 47	X 47	46	43
UQ	42	46	46	50	57	60	66	X 69	72	71	X 69	X 70	X 64	X 61	X 60	X 64	X 58	X 55	X 54	X 51	X 51	X 49	X 50	47
LQ	39	37	43	44	48	X 50	X 49	0 X 54	X 58	55	0 X 54	0 X 55	X 54	0 X 53	0 X 55	X 52	X 52	X 51	X 49	X 47	X 46	X 41	43	38

NOV. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

NOV. 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	F 26	A	A	B	A	B	B	B	A	A	B	B	A	B	43	43	45	B	B	38	37	38	F 37	36
2	F 36	F 31	F 32	F 40	41	45	44	B	35	36	37	37	S	55	56	S	C	44	45	49	41	F 34	A	F 27
3	S	A	A	A	A	A	55	A	A	S	S	S	49	F 50	50	50	50	49	44	42	41	A	B	F 20
4	A	A	B	B	B	A	B	A	B	B	B	B	B	40	A	B	A	A	A	A	A	A	A	A
5	A	A	B	F 23	B	B	B	B	B	B	B	B	B	B	B	B	B	40	39	36	35	F 31	F 23	F 23
6	A	A	A	A	B	B	B	A	A	B	B	B	B	B	F 49	46	F 47	46	B	40	40	34	A	A
7	A	A	A	B	A	B	A	40	46	46	45	43	45	S	44	43	50	44	43	41	40	44	45	46
8	F 34	A	A	A	A	A	B	A	A	F 48	F 47	49	46	47	46	49	46	46	42	41	40	39	F 35	F 35
9	F 36	F 29	A	A	40	F 35	42	49	49	51	48	46	46	49	50	46	46	44	44	40	41	44	41	F 41
10	45	F 43	F 39	43	F 44	F 49	F 49	48	B	F 52	F 53	54	49	S	50	46	47	45	44	41	41	42	40	F 41
11	A	A	B	A	A	A	A	A	B	A	A	B	B	B	B	B	42	45	48	44	45	A	F 33	31
12	A	31	A	A	A	B	A	A	A	B	B	S	47	45	B	45	46	45	44	44	42	40	34	34
13	33	A	F 40	B	A	A	41	F 49	F 60	F 64	F 63	F 62	55	54	50	49	44	45	45	44	39	35	A	A
14	27	A	A	A	A	A	42	49	55	55	60	65	63	54	F 50	56	F 54	46	44	41	40	40	41	F 40
15	A	A	A	F 40	A	A	A	F 53	F 64	66	F 65	65	F 68	F 64	60	58	F 53	49	46	B	A	A	A	A
16	A	A	A	35	A	A	A	A	B	B	50	B	52	55	S	62	52	50	43	37	33	35	A	B
17	A	B	A	42	A	A	A	A	A	F 50	F 50	F 53	55	B	56	59	B	B	40	43	40	33	S	F 39
18	A	A	A	A	A	44	F 43	47	B	B	51	55	53	S	S	S	45	46	46	46	45	43	F 40	F 36
19	36	36	37	37	F 45	50	60	63	66	60	54	53	52	50	F 48	46	50	50	50	45	45	43	44	A
20	A	B	A	45	A	A	45	A	B	F 50	F 51	55	55	54	50	50	50	50	46	50	45	42	43	43
21	34	34	F 40	F 43	F 50	F 59	70	72	F 73	70	66	64	60	53	53	52	52	49	R 48	44	45	45	47	F 46
22	F 32	A	F 40	F 50	F 52	F 54	F 62	64	F 65	F 65	F 64	65	70	60	59	58	54	S	49	46	F 47	F 48	F 46	F 48
23	47	F 42	F 40	S	F 54	U R 59	F 64	66	73	U R 69	70	66	61	F 63	59	58	58	56	54	55	53	F 43	B	A
24	A	A	A	A	A	A	A	B	B	E G 36	E G 38	E G 37	S	S 47	49	S	49	50	50	A	A	A	A	A
25	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	A	F 36	A	A	A	F 37	A
26	A	A	31	B	A	A	A	A	A	A	B	A	E G 38	B	49	S	B	B	37	A	37	39	38	37
27	A	A	B	B	B	A	A	A	A	A	B	B	B	47	S	B	B	B	U S 50	42	45	42	F 44	F 41
28	F 40	F 38	F 38	F 38	F 44	F 47	F 53	F 59	B	B	B	B	S	S	47	A	B	B	48	46	43	44	A	30
29	34	B	A	B	A	A	A	A	A	B	50	50	52	58	S	50	50	46	A	A	A	A	A	A
30	A	A	A	A	A	43	47	46	54	B	B	50	B	B	B	58	S	A	A	A	A	A	A	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	13	8	9	11	8	10	14	13	11	15	18	18	19	18	20	20	21	21	25	23	24	22	17	19
MED	34	F 35	F 39	F 40	F 44	48	48	49	60	52	51	54	52	54	50	50	50	46	45	43	41	41	40	F 37
UQ	F 36	F 40	F 40	43	F 51	F 54	F 60	63	F 66	64	63	64	58	55	54	58	52	49	48	46	45	43	44	F 41
LQ	33	31	F 37	F 38	42	44	43	48	52	49	48	49	48	47	48	46	46	45	43	41	40	35	F 37	32

NOV. 1986 | FOF2 (0.1 MHZ)

IONOSPHERIC DATA

NOV. 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	30	36	46	B	70	B	B	B	35	40	B	B	31	B	27	28	26	B	B	E B 25	21	17	15	26
2	26	30	31	27	27	27	27	B	25	26	28	29	28	27	27	27	C	24	28	22	18	28	32	E B 18
3	18	50	34	40	40	38	42	60	29	40	29	28	29	28	29	30	30	30	22	20	18	22	B	E B 16
4	27	31	B	B	B	50	B	30	B	B	B	B	B	25	28	B	27	28	110	90	65	41	30	80
5	40	75	B	29	B	B	B	B	B	B	B	B	B	B	B	B	B	28	24	E B 23	21	26	E B 17	18
6	50	79	50	63	B	B	B	50	58	B	B	B	B	B	28	26	27	E B 27	B	23	E B 21	31	41	60
7	40	70	70	B	120	B	557	40	25	26	28	28	31	20	30	27	26	24	27	30	19	27	13	E B 14
8	31	36	55	46	46	27	B	55	41	29	29	29	20	31	30	37	27	23	20	22	27	21	E B 13	E B 14
9	14	30	47	70	65	35	27	27	31	28	41	31	31	28	40	31	26	25	25	22	23	20	13	E B 14
10	E B 14	E B 16	14	15	24	22	28	40	B	E B 33	31	28	30	27	30	27	26	24	21	E B 20	26	30	21	40
11	60	42	B	30	40	41	40	24	B	31	40	B	B	B	B	B	23	27	40	20	29	35	32	34
12	40	30	63	60	30	B	46	33	62	B	B	30	30	28	B	27	25	30	29	36	30	17	E B 15	17
13	30	32	30	B	40	41	25	28	27	31	29	40	29	47	41	37	31	30	28	25	31	35	46	35
14	31	39	70	36	40	42	37	28	35	32	32	35	51	30	35	28	26	28	27	25	28	19	20	31
15	35	115	46	31	46	53	45	36	26	28	27	35	29	38	27	28	28	21	28	B	37	58	42	46
16	59	46	45	33	34	28	45	25	B	B	E B 33	B	26	25	27	E B 35	29	24	27	30	30	34	43	B
17	40	B	70	35	42	35	42	45	45	27	27	44	32	B	25	27	B	B	E B 24	31	22	27	18	30
18	37	42	42	42	43	26	25	25	B	B	26	27	30	30	30	36	31	35	23	23	29	20	15	26
19	31	31	28	28	22	28	28	28	33	32	50	33	35	35	35	37	37	45	42	30	22	29	22	39
20	52	B	35	47	36	42	51	46	B	29	28	20	39	39	27	30	27	25	22	22	20	17	19	28
21	28	24	30	20	20	20	28	27	25	30	27	30	29	28	26	26	26	42	45	30	27	27	26	32
22	31	31	30	30	30	23	29	20	32	31	33	29	32	46	34	30	27	27	25	23	21	26	28	27
23	23	30	28	45	36	25	22	22	27	29	30	35	42	36	36	28	29	27	29	37	35	29	B	55
24	52	59	65	50	34	41	63	B	B	31	27	32	27	27	30	26	24	24	E B 27	20	70	81	70	45
25	25	44	70	45	B	46	B	60	B	B	B	B	B	B	B	B	B	25	23	80	70	60	23	37
26	42	39	35	B	45	31	45	42	42	40	B	26	30	B	E B 35	E B 33	B	B	E B 33	40	21	14	22	35
27	29	27	B	B	B	45	45	43	43	42	B	B	B	E B 33	E B 34	B	B	B	E B 34	42	36	69	30	31
28	32	40	34	27	34	25	60	26	B	B	B	B	28	28	37	60	B	B	57	36	52	31	36	35
29	37	B	37	B	68	43	45	45	42	B	26	25	29	25	27	27	26	27	37	37	46	37	45	40
30	46	53	36	32	32	30	37	30	34	B	B	34	B	B	B	E B 35	E B 35	37	36	60	42	51	44	56
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	27	26	23	25	25	24	26	20	20	20	21	23	22	25	25	23	25	28	29	30	30	28	29
MED	32	39	40	35	40	35	41	32	34	30	28	30	30	28	30	28	27	27	28	25	28	28	24	32
UQ	40	48	55	46	45	42	45	45	42	34	32	34	32	35	35	35	28	30	35	36	36	35	38	40
LQ	28	30	31	30	32	27	28	27	27	28	27	28	29	27	27	27	26	24	24	22	21	21	18	26

NOV. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

NOV. 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	10	14	B	17	B	B	B	25	15	B	B	29	B	20	20	15	B	B	25	19	10	8	9
2	8	8	10	15	10	15	11	B	10	12	12	12	18	18	19	19	L	15	14	12	14	15	15	18
3	14	17	16	31	17	15	15	15	15	15	15	20	17	20	14	12	14	13	11	18	14	19	B	16
4	18	22	B	B	B	25	B	19	B	B	B	B	B	20	20	B	14	14	14	19	14	17	18	16
5	15	17	B	10	B	B	B	B	B	B	B	B	B	B	B	B	B	20	18	23	15	12	17	14
6	15	23	19	27	B	B	B	17	20	B	B	B	B	B	17	19	15	27	B	19	21	14	15	13
7	11	37	20	B	50	B	18	18	14	14	15	17	14	17	14	15	14	14	14	14	14	11	10	14
8	7	19	20	22	21	14	B	14	16	17	14	14	16	15	14	15	15	20	16	14	11	11	13	14
9	10	21	10	17	18	14	14	14	14	14	12	11	14	14	15	15	14	15	14	14	15	14	11	14
10	14	16	11	10	10	14	10	15	B	38	19	16	15	20	19	15	17	17	15	20	17	14	10	10
11	14	10	B	20	20	18	18	18	B	19	19	B	B	B	B	B	20	23	14	10	10	12	11	10
12	10	14	14	14	14	B	21	20	18	B	B	19	19	12	B	19	17	15	15	11	14	14	15	11
13	8	11	14	B	14	11	11	11	14	14	14	14	13	11	15	13	10	9	8	10	13	10	13	19
14	10	18	16	14	14	13	10	10	15	10	11	12	12	10	13	13	12	16	10	10	9	8	8	8
15	8	12	18	10	14	14	14	13	13	10	12	13	13	11	10	20	13	13	9	B	18	18	15	14
16	13	22	14	8	15	15	15	17	B	B	33	B	19	19	13	35	19	14	10	13	8	10	10	B
17	24	B	15	18	18	18	15	20	15	19	19	19	15	B	20	20	B	B	24	14	14	9	13	10
18	8	17	16	13	13	11	11	10	B	B	19	15	13	13	13	12	15	11	13	13	10	11	9	8
19	8	8	9	13	10	8	10	10	10	10	10	10	13	10	14	12	12	10	10	8	8	7	7	15
20	13	B	8	10	15	16	15	14	B	18	15	17	14	13	11	13	13	14	14	13	12	11	10	8
21	9	9	11	11	8	10	9	8	8	10	15	14	13	13	10	12	13	10	10	10	8	8	8	8
22	8	10	8	11	8	8	8	8	8	11	10	11	13	13	10	8	11	10	12	11	19	8	8	8
23	9	8	8	8	8	12	14	19	11	12	13	13	12	12	10	12	13	10	9	8	8	9	B	14
24	13	8	8	11	8	14	14	B	B	18	18	18	14	14	14	17	21	12	27	14	14	12	13	14
25	19	30	21	14	B	21	B	43	B	B	B	B	B	B	B	B	B	20	14	13	8	11	10	14
26	8	8	20	B	10	13	22	14	8	14	B	15	24	B	35	33	B	B	33	13	12	10	9	10
27	18	19	B	B	B	14	24	20	25	14	B	B	B	33	34	B	B	B	34	21	20	14	11	10
28	8	8	11	10	9	10	8	13	B	B	B	B	19	13	15	23	B	B	13	13	10	8	14	8
29	12	B	8	B	8	17	14	14	12	B	12	15	13	21	14	13	10	10	14	24	13	14	13	8
30	9	10	10	19	23	15	13	8	17	B	B	23	B	B	B	35	35	15	13	11	11	13	10	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	29	30	30	30	30	30	30	30
MED	10	16	14	14	14	14	14	15	16	18	18	17	16	18	15	18	15	15	14	13	14	11	11	12
UQ	14	22	20	31	21	18	22	20	B	B	B	B	29	B	20	33	21	20	16	19	15	14	15	14
LQ	8	10	10	11	10	13	11	13	13	14	13	14	13	13	13	13	13	12	11	11	10	10	10	8

NOV. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

NOV. 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	E A 340	A	A	B	A	B	B	B	A	A	B	B	A	B	240	250	230		B	260	260	250	255	270
2	270	300	E A 300	290	E A 375	305	260	B	H 200	H 180	225	210	225	205	220	225	C	210	220	240	225	295	A	280
3	250	A	A	A	A	A	A	A	A	205	H 205	E A 370	200	E A 250	200	200	210	205	205	210	240	A	B	E B 350
4	A	A	B	B	B	A	B	A	B	B	B	B	B	250	A	B	A	A	A	A	A	A	A	A
5	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	250	245	270	260	E A 300	E A 300	E A 310
6	A	A	A	A	B	B	B	A	A	B	B	B	B	B	200	200	200	240	B	225	250	300	A	A
7	A	A	A	B	A	B	A	A	200	210	200	200	210	200	200	200	200	230	220	H 210	230	250	245	240
8	A 290	A	A	A	A	A	B	A	A	220	190	210	200	H 200	230	210	205	200	200	H 200	220	230	245	240
9	250	A 290	A	A	A	E A 310	H 200	210	H 170	180	190	200	H 190	H 190	200	205	205	190	220	220	240	245	230	240
10	240	250	270	240	H 200	215	220	210	B	E B 360	225	210	200	E A 250	200	210	200	200	220	H 200	240	250	240	A 280
11	A	A	B	A	A	A	A	A	B	A	A	B	B	B	B	B	210	225	250	225	A 250	A	255	A 295
12	A	E A 390	A	A	A	B	A	A	A	B	B	E A 230	225	220	B	200	210	210	225	E A 255	225	240	240	250
13	A 270	A	E A 270	B	A	A	250	205	205	H 180	215	210	200	215	E A 230	200	200	190	225	230	E A 290	E A 310	A	A
14	E A 325	A	A	A	A	A	A	260	240	205	H 200	230	E A 305	200	H 195	200	200	210	200	H 195	230	240	255	E A 280
15	A	A	A	E A 250	A	A	A	E A 280	200	195	200	200	195	H 180	220	215	195	195	225	B	A	A	A	A
16	A	A	A	250	A	A	A	A	B	B	205	B	E A 250	215	200	E B 250	210	H 200	210	265	250	A 300	A	B
17	A	B	A	260	A	A	A	A	A	E A 230	E A 250	220	195	B	220	220	B	B	225	230	230	245	275	A 305
18	A	A	A	A	A	A 270	240	205	B	B	220	210	205	195	215	205	240	225	210	225	230	225	230	245
19	265	280	330	E A 325	210	225	210	210	H 200	200	H 195	200	215	215	200	195	220	E A 250	220	225	200	H 200	240	A
20	A	B	A	E A 345	A	A	E A 375	A	B	230	H 200	215	205	H 210	200	200	H 200	210	205	215	220	H 210	240	E A 260
21	260	255	E A 295	260	225	200	205	H 200	200	H 200	200	200	205	205	195	195	195	240	250	210	240	240	230	240
22	275	A	E A 300	250	245	205	H 220	200	195	190	230	215	210	A 195	200	200	195	200	H 205	195	220	230	200	235
23	255	270	255	250	240	215	220	205	205	210	200	220	200	200	200	H 200	195	200	H 195	H 200	240	240	B	A
24	A	A	A	A	A	A	A	B	B	195	205	250	260	220	215	210	210	220	250	A	A	A	A	A
25	A	A	A	A	B	A	B	A	B	B	B	B	B	B	B	B	B	A	250	A	A	A	250	A
26	A	A	E A 375	B	A	A	A	A	A	A	B	A	E A 250	B	E B 280	E B 260	B	B	E B 250	A	E A 290	260	240	E A 320
27	A	A	B	B	B	A	A	A	A	A	B	B	B	220	205	B	B	B	E B 280	E B 250	250	260	260	250
28	260	280	E A 310	E A 280	H 200	230	E A 280	200	B	B	B	B	200	200	H 180	A	B	B	E A 270	240	250	260	A	A 270
29	E A 300	B	A	B	A	A	A	A	A	B	200	190	220	215	210	200	215	220	A	A	A	A	A	A
30	A	A	A	A	A	E A 360	E A 265	225	230	B	B	200	B	B	B	E B 250	E B 250	A	A	A	A	A	A	A
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	14	8	9	11	7	10	12	12	11	16	19	20	22	22	24	24	22	22	25	23	24	22	18	19
MED	263	278	E A 300	255	218	222	222	206	200	200	200	210	202	205	200	201	204	210	220	222	238	245	241	U 255
UQ	A 280	290	E A 310	272	237	U A 268	251	214	205	212	214	218	218	218	218	214	210	225	U 238	235	250	260	255	A 279
LQ	255	262	E A 270	250	205	215	215	202	200	192	200	200	200	200	200	200	200	200	210	210	228	240	240	241

NOV. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

DEC. 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	A	A	A	B	B	B	0 X 61	B	B	B	B	S	B	X 47	45	0 X 44	X 41	X 39
2	X 40	43	42	B	A	A	A	A	60	60	60	63	B	B	B	B	B	0 X 51	0 X 49	0 X 46	X 43	X 42	X 42	A
3	A	A	40	B	0 X 46	0 X 50	X 58	X 60	X 61	60	B	61	60	B	B	B	B	56	0 X 51	B	0 X 43	X 45	X 42	A
4	A	A	A	A	A	A	A	47	80	61	61	B	B	X 60	0 X 60	0 X 56	56	X 64	0 X 51	0 X 51	55	55	0 X 46	A
5	A	46	A	A	A	A	A	0 X 46	0 X 48	0 X 46	0 X 49	S	S	0 X 50	S	S	0 X 55	0 X 56	0 X 51	X 49	X 47	X 47	X 47	X 46
6	X 45	B	A	A	A	A	B	A	60	60	61	S	0 X 51	0 X 50	S	0 X 51	A	X 50	0 X 51	0 X 50	X 50	A	X 46	39
7	36	A	43	A	A	A	0 X 51	X 59	X 58	X 59	X 61	61	61	S	A	B	0 X 59	X 59	0 X 56	53	46	45	44	0 X 43
8	A	43	45	46	55	56	B	A	70	0 X 65	S	56	56	S	70	70	0 X 55	X 56	X 56	X 56	X 55	X 47	0 X 50	A
9	A	A	A	46	A	A	A	0 X 49	0 X 49	0 X 49	75	0 X 56	S	S	S	0 X 49	0 X 48	0 X 51	0 X 53	X 50	X 47	49	44	A
10	A	A	A	A	45	A	A	A	A	0 X 50	0 X 44	X 44	0 X 45	0 X 46	0 X 48	0 X 44	0 X 50	0 X 55	0 X 51	0 X 51	0 X 46	A	A	A
11	A	A	A	0 X 46	0 X 46	A	A	0 X 47	0 X 51	0 X 52	X 57	X 59	0 X 56	S	S	0 X 61	0 X 56	X 52	0 X 53	X 56	X 54	X 46	43	39
12	X 41	39	X 46	44	X 49	55	X 64	X 66	X 69	X 71	70	X 60	S	59	S	A	0 X 51	0 X 53	X 55	X 55	X 50	X 50	A	44
13	A	A	A	X 46	A	A	A	A	0 X 49	0 X 56	X 58	S	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A
15	A	A	A	A	A	A	A	0 X 42	0 X 49	X 59	0 X 56	S	S	0 X 56	A	0 X 51	0 X 60	0 X 49	A	X 53	X 49	X 48	0 X 50	X 45
16	0 X 40	X 45	0 X 47	A	B	B	A	A	60	62	X 59	X 58	B	X 61	X 61	0 X 59	X 57	X 55	S	0 X 41	X 41	45	X 40	42
17	A	A	44	50	0 X 43	0 X 51	X 51	X 52	X 53	X 53	S	0 X 55	A	A	X 58	X 55	X 52	0 X 52	X 52	0 X 49	X 51	X 45	41	A
18	B	0 X 42	0 X 43	A	A	A	X 43	X 54	X 62	X 62	X 59	X 60	X 60	0 X 63	0 X 53	0 X 56	0 X 51	0 X 54	X 52	0 X 50	X 49	0 X 49	X 50	A
19	A	A	B	A	A	A	0 X 43	A	A	0 X 50	56	X 56	X 56	0 X 61	A	A	X 55	X 52	S	X 49	0 X 51	X 52	X 46	X 45
20	A	A	A	A	A	A	A	X 54	64	X 65	X 60	X 56	X 61	S	0 X 54	0 X 46	0 X 54	X 46	0 X 53	X 55	0 X 51	46	50	43
21	40	A	A	B	A	X 46	X 51	X 56	X 60	X 63	X 65	X 58	X 60	X 57	A	S	X 52	X 56	S	X 60	B	X 60	0 X 48	A
22	A	A	B	B	A	B	A	B	A	S	S	S	0 X 52	S	0 X 64	X 59	0 X 60	0 X 56	A	A	A	X 54	X 49	A
23	A	B	B	A	B	A	46	A	B	A	B	0 X 55	S	0 X 56	0 X 66	B	X 61	A	B	B	X 46	X 52	46	B
24	A	A	A	A	B	B	B	A	B	A	B	B	60	X 61	X 64	0 X 65	X 61	X 60	X 52	X 60	X 55	44	A	A
25	A	B	B	B	45	A	A	A	B	B	0 X 44	0 X 46	0 X 45	B	B	B	B	0 X 54	0 X 51	0 X 56	B	A	X 49	45
26	41	A	A	A	B	A	B	A	A	A	B	B	B	0 X 52	B	B	S	S	0 X 52	49	48	X 46	X 43	0 X 49
27	40	A	40	A	A	A	A	0 X 56	0 X 51	0 X 54	X 56	B	B	0 X 56	0 X 54	0 X 56	0 X 53	0 X 46	X 43	X 41	0 X 48	46	0 X 47	X 41
28	55	A	B	B	0 X 51	A	B	70	66	X 62	X 61	X 61	X 60	X 58	0 X 52	0 X 53	X 50	0 X 51	0 X 51	A	A	X 55	X 55	X 55
29	X 51	X 51	X 51	55	45	A	50	51	55	60	X 59	X 60	56	56	0 X 49	X 49	0 X 49	50	X 51	X 49	X 51	X 58	X 53	X 51
30	X 50	X 55	X 48	B	A	X 51	60	64	X 71	X 71	X 70	X 65	X 61	X 60	X 57	0 X 56	0 X 52	X 53	X 55	X 52	X 52	X 55	0 X 42	A
31	A	A	A	A	A	48	A	R	0 X 49	52	0 X 51	X 60	56	0 X 46	0 X 52	0 X 53	0 X 55	59	X 56	X 51	0 X 51	X 42	X 42	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	11	8	11	7	9	7	10	16	22	24	22	20	18	18	15	18	23	26	22	25	25	26	26	16
MED	X 41	44	44	46	X 46	X 51	X 51	X 54	X 60	X 60	X 59	X 58	X 58	0 X 56	0 X 57	0 X 56	0 X 55	X 54	0 X 52	X 51	X 49	X 47	X 46	X 44
UQ	X 48	X 48	X 46	48	0 X 49	53	X 58	X 60	64	X 62	X 61	X 60	X 60	X 60	X 62	0 X 59	0 X 56	X 56	X 53	X 55	X 51	X 52	X 49	X 46
LQ	40	42	42	46	45	X 49	X 46	X 48	0 X 51	0 X 52	X 56	X 56	0 X 56	0 X 52	0 X 52	0 X 51	0 X 52	0 X 51	0 X 51	X 49	X 46	X 45	X 42	41

DEC. 1986 | FXI (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

DEC. 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	A	A	A	B	B	B	55	B	B	B	B	S	B	41	F 38	38	35	33
2	34	F 37	F 36	B	A	A	A	A	F 54	F 53	F 53	F 57	B	B	B	B	B	45	43	40	37	36	36	A
3	A	A	F 34	B	40	44	52	54	55	F 54	B	F 55	F 54	B	B	B	B	F 50	45	B	37	39	36	A
4	A	A	A	A	A	A	A	F	F	F 55	F 55	B	B	54	54	50	F 50	58	R 45	45	F 49	49	40	A
5	A	F 40	A	A	A	A	A	40	42	40	43	S	S	44	S	S	R 49	50	45	43	41	41	41	40
6	39	B	A	A	A	A	B	A	F 50	F 53	F 55	S	45	44	S	45	A	44	R 45	44	44	A	40	F 33
7	F 30	A	F 37	A	A	A	45	53	52	53	55	F 55	F 55	S	A	B	53	53	R 50	F 47	F 40	F 39	F 38	37
8	A	F 37	F 39	F 40	F 49	F 50	B	A	F 60	59	S	F 50	F 50	S	F	F	49	50	50	50	49	41	44	A
9	A	A	A	F 40	A	A	A	43	43	43	F	50	S	S	S	S 43	S 42	45	U R 47	44	41	F 43	F 38	A
10	A	A	A	A	F 39	A	A	A	A	44	E G 38	38	39	40	H 42	38	44	S 49	45	45	40	A	A	A
11	A	A	A	40	40	A	A	41	45	46	51	53	U R 50	S	S	55	U R 50	46	47	50	48	40	F 37	F 32
12	35	F 33	40	F 38	43	F 49	58	60	63	65	F 64	54	S	F 53	S	A	45	47	49	49	44	44	A	F 38
13	A	A	A	40	A	A	A	A	43	48	52	S	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A
15	A	A	A	A	A	A	A	36	43	53	D S 50	S	S	50	A	U S 45	S 44	43	A	47	43	42	44	39
16	34	39	41	A	B	B	A	A	F 50	F 56	53	52	B	55	55	53	51	49	S	35	35	F 38	34	F 36
17	A	A	F 38	F 44	37	45	45	46	47	47	S	49	A	A	52	49	46	R 46	46	43	45	39	F 35	A
18	B	36	37	A	A	A	37	48	56	56	53	54	54	57	47	50	45	48	46	44	43	43	44	A
19	A	A	B	A	A	A	37	A	A	44	F 50	50	50	55	A	A	49	46	S	43	45	46	40	39
20	A	A	A	A	A	A	A	48	F 58	59	54	50	55	S	48	40	48	40	47	49	45	F 40	F 44	F 37
21	F 34	A	A	B	A	40	45	50	54	57	59	52	54	51	A	S	46	50	S	54	B	54	42	A
22	A	A	B	B	A	B	A	B	A	S	S	S	46	S	58	53	54	50	A	A	A	48	43	A
23	A	B	B	A	B	A	F 40	A	B	A	B	49	S	50	60	B	55	A	B	B	40	46	F 40	B
24	A	A	A	A	B	B	B	A	B	A	B	B	F 54	55	58	59	55	54	46	54	49	F 38	A	A
25	A	B	B	B	F 39	A	A	A	B	B	E G 38	E G 40	E G 39	B	B	B	B	48	45	R 50	B	A	43	F 38
26	F 35	A	A	A	B	A	B	A	A	A	B	B	B	46	B	B	S	S	46	F 43	F 42	40	37	43
27	F 34	A	F 34	A	A	A	A	50	45	48	50	B	B	50	48	50	47	40	37	35	42	F 40	41	35
28	F 49	A	B	B	U R 45	A	B	F 60	F 60	56	55	55	54	52	R 46	47	44	45	45	A	A	49	49	49
29	45	45	45	F 47	F 35	A	F 44	F 45	F 49	F 50	53	54	F 50	F 50	H 43	43	H 43	F 44	45	43	45	52	47	45
30	44	49	42	B	A	45	F 50	F 58	65	65	64	59	55	54	51	50	46	47	49	46	46	49	36	A
31	A	A	A	A	A	F 42	A	R	43	F 46	45	54	F 50	40	46	47	49	F 53	50	45	45	36	36	F 35
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	11	8	11	7	9	7	10	15	21	24	21	20	18	18	14	17	23	26	22	25	25	26	26	16
MED	35	38	F 38	F 40	40	45	45	48	50	53	53	52	52	50	50	49	48	48	46	45	43	41	40	38
UQ	42	42	40	F 42	43	47	50	54	56	56	55	54	54	54	55	50	50	50	47	49	45	46	43	40
LQ	F 34	F 36	F 36	40	F 39	43	40	44	45	46	50	50	50	46	46	45	45	45	45	43	40	39	36	F 35

DEC. 1986 | FOF2 (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

DEC. 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	56	45	52	75	45	45	42	45	36	B	B	B	E B 34	B	B	B	B	E B 30	B	24	34	39	23	27
2	25	31	35	B	43	46	45	47	35	E B 35	E B 30	E B 31	B	B	B	B	B	23	30	29	56	30	25	67
3	20	47	58	B	36	36	27	24	25	27	B	22	27	B	B	B	B	E B 29	22	B	E B 24	26	31	42
4	56	48	46	39	36	40	21	35	26	27	27	B	B	E B 34	29	27	25	E B 30	E B 35	34	42	27	42	45
5	42	80	42	90	40	42	41	22	25	27	30	32	30	30	30	30	26	25	22	24	21	22	26	25
6	30	B	37	41	42	42	B	52	37	26	28	26	29	41	29	39	62	44	42	28	45	57	36	40
7	35	31	38	31	45	45	36	28	39	27	27	32	41	36	61	B	26	24	22	30	22	23	28	36
8	36	30	30	34	26	26	B	47	27	27	31	43	45	43	42	37	27	30	30	25	43	36	27	35
9	38	58	58	30	43	45	40	28	26	32	27	36	36	28	30	27	27	37	23	22	25	23	26	37
10	47	47	45	42	31	59	47	57	47	27	33	31	37	41	37	30	34	36	36	35	24	45	47	48
11	43	70	43	41	51	45	45	41	21	27	26	36	31	30	35	40	40	28	27	29	21	28	18	27
12	35	37	70	60	20	22	30	30	26	27	28	33	32	36	35	87	41	30	41	45	59	22	43	45
13	48	46	41	40	41	45	52	45	40	32	28	28	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	39
15	36	42	42	42	45	45	45	37	30	26	26	30	41	70	75	38	29	28	51	34	23	27	21	20
16	27	35	32	31	B	B	60	42	26	26	33	31	B	30	27	31	32	36	25	25	21	30	31	31
17	41	44	34	28	35	41	36	26	32	35	35	41	63	44	60	30	28	43	30	20	31	22	32	41
18	B	42	45	45	45	45	31	26	25	31	31	37	41	71	40	58	42	30	22	25	21	26	19	42
19	70	58	B	34	34	42	42	45	42	29	30	41	34	35	37	120	30	31	30	25	22	28	21	37
20	46	46	41	40	41	40	51	30	30	28	28	27	27	39	35	45	26	25	26	27	E B 26	27	27	35
21	56	46	47	B	43	29	25	26	30	29	31	40	35	55	64	31	26	30	27	28	B	21	33	38
22	42	33	B	B	36	B	26	B	43	37	29	29	28	28	28	27	27	26	40	30	34	27	36	36
23	31	B	B	42	B	32	35	29	B	37	B	30	27	29	E B 34	B	30	40	B	B	36	30	36	B
24	43	70	43	50	B	B	B	50	B	37	B	B	28	29	27	E B 35	E B 30	E B 29	21	29	31	37	41	40
25	108	B	B	B	58	44	40	40	B	B	35	29	30	B	B	B	B	E B 30	E B 29	25	B	69	66	45
26	36	36	71	49	B	37	B	33	44	43	B	B	B	E B 31	B	B	E B 31	34	E B 28	27	E B 24	30	35	38
27	40	41	37	43	45	46	41	35	40	35	33	B	B	35	35	29	29	E B 28	22	35	E B 23	E B 21	E B 19	16
28	37	60	B	B	32	36	B	27	29	32	32	31	40	43	41	41	35	26	45	45	111	140	30	31
29	31	42	33	31	28	45	43	41	37	35	33	29	30	30	33	40	40	38	42	37	36	31	32	15
30	16	18	20	B	39	33	28	31	31	34	34	35	40	45	34	32	35	27	30	28	22	30	33	36
31	45	46	42	42	35	60	57	38	33	32	35	30	36	35	43	46	30	31	30	27	E B 21	24	28	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	27	25	23	26	27	25	29	27	28	25	25	24	25	24	22	25	29	27	27	27	29	29	29
MED	40	45	42	41	40	42	41	35	31	30	30	31	34	35	35	36	30	30	28	28	24	28	31	37
UQ	46	48	46	44	45	45	45	45	38	35	33	36	40	43	42	41	35	34	36	32	36	31	36	42
LQ	35	36	37	34	35	36	31	28	26	27	28	29	29	30	30	30	27	26	23	25	22	24	26	31

DEC. 1986 | FES (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

DEC. 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	8	8	14	14	18	14	13	B	B	B	34	B	B	B	B	30	B	10	11	10	8	11
2	9	9	8	B	19	13	16	13	13	35	30	31	B	B	B	B	B	17	10	10	12	7	8	11
3	13	16	8	B	10	14	8	8	11	11	B	14	17	B	B	B	B	29	13	B	24	11	10	9
4	13	15	15	15	24	15	13	11	13	12	10	B	B	34	20	14	13	30	35	14	10	10	12	12
5	10	9	9	13	18	18	12	14	11	10	10	15	14	24	15	14	11	10	9	13	9	9	10	9
6	9	B	29	8	9	15	B	18	9	10	11	14	10	11	11	13	11	12	13	13	10	10	14	11
7	10	14	14	12	14	11	9	8	9	9	14	13	14	15	34	B	19	11	13	18	14	11	9	9
8	9	10	10	10	8	9	B	19	9	9	10	11	10	12	12	10	10	10	9	9	9	9	9	13
9	19	11	13	8	15	14	15	9	9	10	13	11	10	10	10	8	11	11	9	8	8	8	9	9
10	8	11	11	11	10	17	10	14	12	11	11	10	11	10	8	10	9	14	13	13	10	9	13	8
11	8	25	25	10	9	25	16	11	8	10	13	12	12	11	13	9	12	10	11	13	9	9	9	9
12	8	9	13	10	9	8	10	10	10	10	10	11	10	10	10	11	9	10	10	10	9	9	13	13
13	8	13	11	9	19	14	12	11	11	9	10	11	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	15
15	13	15	13	11	13	20	13	13	11	11	12	14	12	12	13	13	15	15	14	14	11	10	18	10
16	10	10	19	24	B	B	19	14	13	11	14	15	B	13	17	18	14	12	10	12	19	11	10	10
17	11	14	13	11	15	10	12	12	10	13	11	12	12	12	11	13	10	10	11	11	10	10	11	13
18	B	8	14	10	13	11	10	10	10	10	12	14	13	12	12	12	10	13	13	11	10	10	8	19
19	14	11	B	18	15	19	12	10	10	10	10	10	11	10	10	10	10	10	10	11	10	8	10	10
20	13	12	25	14	20	14	13	10	10	10	13	13	11	10	10	10	10	11	10	10	26	20	10	10
21	8	12	14	B	12	12	10	10	10	14	12	13	11	10	14	12	14	11	13	10	B	19	20	12
22	18	14	B	B	16	B	14	B	15	10	13	11	11	10	14	13	10	12	20	13	14	13	9	12
23	13	B	B	19	B	14	14	19	B	9	B	10	15	9	34	B	12	14	B	B	12	8	8	B
24	8	18	12	14	B	B	B	23	B	30	B	B	22	15	11	35	30	29	15	24	13	8	13	23
25	19	B	B	B	10	19	15	10	B	B	14	15	14	B	B	B	B	30	29	14	B	24	15	15
26	15	21	29	18	B	14	B	21	17	12	B	B	B	31	B	B	31	14	28	19	24	8	8	13
27	11	19	11	15	24	11	11	11	14	10	10	B	B	20	14	14	19	28	10	10	23	21	19	12
28	8	9	B	B	20	22	B	13	13	10	13	14	11	12	14	13	14	13	17	19	14	14	9	10
29	10	9	8	8	14	11	11	11	9	10	11	18	13	14	10	10	13	13	12	13	11	10	10	8
30	7	8	12	B	14	9	9	9	9	10	11	10	11	9	14	12	10	12	9	10	9	10	14	25
31	14	14	20	24	25	12	15	10	10	8	10	14	19	14	9	11	12	10	10	9	21	14	8	12
	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	29	29	29	29	29	29	29	29	29	29	29	30
MED	10	12	14	14	15	14	13	11	11	10	12	14	13	12	14	13	12	12	13	13	11	10	10	12
UQ	13	16	25	24	20	19	16	14	13	12	14	15	19	20	20	35	19	15	15	14	19	11	13	13
LQ	8	9	11	10	12	11	11	10	10	10	10	11	11	10	11	11	10	11	10	10	10	9	9	10

DEC. 1986 | F-MIN (0.1 MHZ)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA

DEC. 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	A	A	A	B	B	B	225	B	B	B	B	230	B	260	275	E A 350	255	320
2	300	315	E A 355	B	A	A	A	A	R	E B 240	200	200	B	B	B	B	B	240	245	240	240	235	250	A
3	A	A	255	B	A	210	245	250	200	190	B	200	200	B	B	B	B	240	H 170	B	250	250	250	A
4	A	A	A	A	A	A	A	230	H 200	210	200	B	B	240	225	210	H 200	210	E B 310	240	240	230	230	A
5	A	E A 280	A	A	A	A	A	225	200	H 180	H 205	210	190	220	200	200	200	215	210	215	H 200	230	220	245
6	270	B	A	A	A	A	B	A	200	H 195	H 195	200	200	200	200	220	A	E A 255	E A 250	225	230	A	250	E A 325
7	E A 310	A	E A 300	A	A	A	E A 260	200	200	200	200	210	200	205	A	B	240	H 200	215	230	225	230	A 250	E A 300
8	A	E A 310	E A 325	E A 300	E A 300	E A 255	B	A	200	195	180	220	E A 250	E A 245	200	200	H 200	210	H 210	200	250	H 190	275	A
9	A	A	A	E A 270	A	A	A	210	H 170	200	205	200	210	200	205	200	205	200	235	200	220	230	240	A
10	A	A	A	A	250	A	A	A	A	190	220	215	200	200	200	200	210	215	220	230	200	A	A	A
11	A	A	A	E A 320	E A 260	A	A	E A 275	200	190	190	200	200	H 200	200	200	210	205	210	205	215	210	E A 270	250
12	E A 270	220	E A 340	E A 300	H 190	220	200	205	200	180	180	180	205	180	200	A	205	200	235	E B 245	E B 270	H 180	A	250
13	A	A	A	E B 250	A	A	A	A	200	200	200	200	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A
15	A	A	A	A	A	A	A	E B 275	205	200	200	200	200	205	A	220	200	205	A	250	225	225	240	260
16	E A 315	E A 320	E A 370	A	B	B	A	A	H 195	H 180	215	205	B	200	200	220	210	210	H 170	E A 260	H 210	210	210	E A 290
17	A	A	E A 405	E A 350	280	210	250	205	230	205	210	E A 410	A	A	E A 355	200	205	205	200	210	260	240	260	A
18	B	E A 410	E A 450	A	A	A	210	200	190	210	220	240	210	210	200	E A 325	E A 260	200	H 200	200	210	225	200	A
19	A	A	B	A	A	A	E A 380	A	A	210	195	220	215	205	A	A	200	215	200	225	225	220	240	E A 310
20	A	A	A	A	A	A	A	245	190	195	205	210	E A 300	210	200	210	210	200	200	220	230	245	240	260
21	250	A	A	B	A	E A 290	210	210	225	210	200	200	195	205	A	210	200	H 210	220	200	B	250	E A 280	A
22	A	A	B	B	A	B	A	B	A	225	215	210	200	215	190	205	205	220	A	A	A	E A 270	E A 275	A
23	A	B	B	A	B	A	210	A	B	A	B	210	220	210	E B 250	B	210	A	B	B	E A 300	A 250	E A 340	B
24	A	A	A	A	B	B	B	A	B	A	B	B	230	225	210	E B 250	H 200	220	200	220	215	E A 300	A	A
25	A	B	B	B	A 250	A	A	A	B	B	215	180	200	B	B	B	B	225	225	H 210	B	A	A 250	A 260
26	A 260	A	A	A	B	A	B	A	A	A	B	B	B	200	B	B	200	205	215	205	E B 250	H 210	E A 250	E A 270
27	E A 300	A	E A 270	A	A	A	A	225	E A 320	205	H 180	B	B	E A 260	200	H 200	H 195	200	250	265	230	220	230	H 210
28	275	A	B	B	E A 375	A	B	200	210	195	200	205	200	250	225	220	220	H 190	220	A	A	E A 275	225	225
29	225	250	245	245	E A 265	A	E A 360	E A 380	240	H 190	H 195	180	E A 300	210	190	200	220	200	205	220	220	230	210	H 200
30	230	240	250	B	A	A 225	H 180	H 180	200	H 170	220	210	H 180	200	H 200	200	H 175	200	200	H 195	200	225	265	A
31	A	A	A	A	A	E A 280	A	200	H 160	H 170	H 175	200	A 200	200	H 180	210	200	H 175	H 225	200	B 200	225	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	11	8	11	7	8	7	10	17	21	25	25	25	23	24	20	20	24	28	25	25	25	26	26	16
MED	U 250	U 258	E A 325	E A 300	U A 226	A 213	U 216	208	200	195	200	202	200	205	200	204	204	206	212	218	222	228	242	U 246
UQ	U 285	E A 318	E A 362	E A 310	E A 290	E A 268	E A 260	235	202	205	210	210	213	214	204	215	210	216	222	235	240	240	255	E A 295
LQ	248	238	254	E E 260	U 235	215	210	200	200	190	195	200	200	200	200	200	200	200	200	205	215	220	230	242

DEC. 1986 | H'F (KM)

The Radio Research Laboratory, Japan

IONOSPHERIC DATA AT SYOWA STATION (ANTARCTICA)
ION. ANT.— 47 July 1986—December 1986 (Not for Sale)

昭和基地電離層資料（南極）

（1986年7月—1986年12月）

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