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RADAR SIGNATURE MEASUREMENTS OF
BQM-34A AND BQM-34F TARGET DRONES
VOLUME IA

Test Group (6585th)

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January 1974

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THE RADAR TARGET SCATTER DIVISION (RAT SCAT)
6585th Test Group

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FOREWORD

This Air Force report is based on actual radar cross section measurements made at the Radar Target Scatter Division (RAT SCAT) of the 6585th Test Group. RAT SCAT is located on the Alkali Flats, Holloman Air Force Base, New Mexico. This Facility is operated and maintained by Dynalectron Corporation, Land-Air Division under AF Contract F29601-73-C-0133, and is under the specific direction of the 6585th Test Group. The AF Project Officer is Lt Colonel Carroll R. Griffin.

Correspondence pertaining to this report should be addressed to the attention of the 6585th Test Group (RX).

This technical report has been reviewed and is approved.



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ABSTRACT

Radar signature data were acquired from BQM-34A and BQM-34F remotely piloted vehicles at the U.S. Air Force Special Weapon Center's Radar Target Scatter Division (RAT SCAT), 6585th Test Group, Holloman AFB, New Mexico. Monostatic measurements of the components of the target scattering matrix, monostatic and 30 degree bistatic measurements of target glint, as well as 10 and 20 degree bistatic measurements of target cross section were performed using vertical and horizontal antenna polarizations. Data were obtained from both the principal and crossed polarized components of the target return. Sixteen orientations of each vehicle were measured at a frequency of 5500 MHz.

This report is published in three parts, each of which presents data acquired from both BQM-34 vehicles. Part a is limited to monostatic radar cross section and glint data. Part b presents radar cross section data acquired at bistatic angles of 10 and 20 degrees. Radar cross section and glint data acquired at a bistatic angle of 30 degrees are contained in Part c.

TABLE OF CONTENTS

Section	Page
I INTRODUCTION	i
II TEST CONDITIONS AND RESULTS	2
APPENDIX A - SITE INTRODUCTION	A-1
1. GENERAL	A-1
2. CAPABILITIES	A-1
3. CALIBRATION	A-1
4. OPERATING PROCESURES	A-5
APPENDIX B - TARGET ORIENTATIO' AND DATA FORMAT	B-1
1. COORDINATE SYSTEM	B-1
2. DATA FORMAT	B-5
APPENDIX C - DIGITAL DATA FORMATS L, M, AND N	C-1
APPENDIX D - DIGITAL TAPE INDEX	D-1

LIST OF FIGURES AND TABLES

Figure	Title	Page
1A	BQM-34A Target Drone	6
1B	BQM-34F Target Drone	6
2A	Area of Conductive Finish Application, BQM-34A	7
2B	AN-75 Absorber Location, BQM-34A	7
3	Modulo 2π Relative Phase, VV Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch	8
4A	Modulo 40π Relative Phase, VV Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch	9
4B	Modulo 40π Relative Phase, HH Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch	9
4C	Modulo 40π Relative Phase, VH Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch	9
5A	Mean Frontal Cross Section, BQM-34A, VV Polarization	10
5B	Cumulative Probability of Frontal Cross Section, BQM-34A, VV Polarization	10
6A	Mean Frontal Cross Section, BQM-34A, HH Polarization	11
6B	Cumulative Probability of Frontal Cross Section, BQM-34A, HH Polarization	11
7A	Mean Frontal Cross Section, BQM-34A, VH Polarization	12
7B	Cumulative Probability of Frontal Cross Section BQM-34A, VH Polarization	12
8A	Mean Frontal Cross Section, BQM-34F, VV Polarization	13
8B	Cumulative Probability of Frontal Cross Section BQM-34F, VV Polarization	13
9A	Mean Frontal Cross Section, BQM-34F, HH Polarization	14
9B	Cumulative Probability of Frontal Cross Section BQM-34F, HH Polarization	14
10A	Mean Frontal Cross Section, BQM-34F, VH Polarization	15
10B	Cumulative Probability of Frontal Cross Section BQM-34F, VH Polarization	15
11	Monostatic Radar Cross Section, BQM-34A 0° Pitch, 0° Roll Vehicle Orientation	16
12	Monostatic Radar Cross Section, BQM-34F 0° Pitch, 0° Roll Vehicle Orientation	17
13	10 Degree Bistatic Radar Cross Section, BQM-34A 0° Pitch, 0° Roll Vehicle Orientation	18
14	10 Degree Bistatic Radar Cross Section, BQM-34F 0° Pitch, 0° Roll Vehicle Orientation	19
15	20 Degree Bistatic Radar Cross Section, BQM-34A 0° Pitch, 0° Roll Vehicle Orientation	20
16	20 Degree Bistatic Radar Cross Section, BQM-34F 0° Pitch, 0° Roll Vehicle Orientation	21

LIST OF FIGURES AND TABLES (CONT'D)

Figure	Title	Page
17	30 Degree Bistatic Radar Cross Section, BQM-34A 0° Pitch, 0° Roll Vehicle Orientation	22
18	30 Degree Bistatic Radar Cross Section, BQM-34F 0° Pitch, 0° Roll Vehicle Orientation	23
19	BQM-34A, Glint Distribution, 30° Frontal Aspect Zone VV Polarization	24
20	BQM-34A, Glint Distribution, 30° Frontal Aspect Zone HH Polarization	25
21	BQM-34A, Glint Distribution, 30° Frontal Aspect Zone VH Polarization	26
22	BQM-34F, Glint Distribution, 30° Frontal Aspect Zone VV Polarization	27
23	BQM-34F, Glint Distribution, 30° Frontal Aspect Zone HH Polarization	28
24	BQM-34F, Glint Distribution, 30° Frontal Aspect Zone VH Polarization	29
25A	Median Background Level, VV Polarization	30
25B	Median Background Level, HH Polarization	30
25C	Median Background Level, VH Polarization	30
A-1	Map of RAT SCAT Site	A-2
A-2	Plot of Error Induced by Background Interference	A-6
B-1	Vehicle Coordinate System	B-2
B-2	Target Orientation - Roll	B-3
B-3	Target Orientation - Pitch	B-4
B-4	Comparison of Pitch and Tilt Orientations	B-6
B-5	Target Orientation - Azimuth	B-7
B-6	Format for Rectilinear Plots	B-8
C-1	Magnetic Tape Character Codes	C-4
C-2	Physical Characteristics of Magnetic Tape Formats L, M, and N	C-5
Table	Title	Page
I	Data Plot Index	31
A-1	RAT SCAT Characteristics of Electronic Equipment	A-3

SECTION I
INTRODUCTION

This report documents radar cross section, phase and glint measurements of BQM-34A and BQM-34F target drones performed at the U. S. Air Force Radar Target Scatter Division (RAT SCAT), 6585th Test Group, Holloman Air Force Base, New Mexico. Monostatic, 10 degree bistatic, 20 degree bistatic, and 30 degree bistatic radar cross section data were acquired at a frequency of 5500 MHz using horizontal, vertical, and cross polarization. Monostatic and 30 degree bistatic target glint data were acquired concurrently with the cross section measurements. Phase data were obtained at the three measurement system polarizations for the monostatic case only.

Measurements were performed at vehicle roll angles of 0, 30, 60 and 90 degrees at vehicle pitch angles of 0, 10, 20 and 30 degrees providing a total of sixteen orientations for each target vehicle. Measurements of the BQM-34F target were performed with the vehicle in an inverted position. Consequently, all aspect referenced data for that target are the mirror images of those which would have been obtained had the vehicle not been inverted. Measurements of the BQM-34A target were performed with the target in the normal, non-inverted position.

This report is published in three parts, each of which contains data acquired from both the BQM-34A and BQM-34F vehicles. Monostatic data are presented in Part a, ten and twenty degree bistatic data are presented in Part b and thirty degree bistatic data are presented in Part c.

A description of the measurement conditions as well as reproductions of the data acquired are presented in Section II of this document. The target drone measurement programs were requested by the U.S. Army Missile Command (AMSMIL-RER), Redstone Arsenal, Alabama.

SECTION II
TEST CONDITIONS AND RESULTS

The BQM-34A and BQM-34F remotely piloted target drones are manufactured by the Teledyne Ryan Aeronautical Company, San Diego, California and are designed for subsonic and supersonic flight capabilities respectively. The BQM-34A vehicle, tail number 8356, was furnished by the Target Drone Division, 6585th Test Group at Holloman Air Force Base. The BQM-34F vehicle, tail number 07770, was shipped to RAT SCAT from the Ryan facility and assembled on site under the manufacturers cognizance. Both vehicles were measured in the clean configuration without accessory wing tip pods or external fuel tanks. The forward fiberglass cowling of the BQM-34A vehicle was painted to provide a conductive metallic finish and RAM was installed in the forward bulkhead area, behind the nose radome. The BQM-34F target drone has an approximate length of 29 feet with a wingspan of 9.7 feet. Approximate length and wingspan of the BQM-34A target drone are 22 feet and 13 feet respectively. Figures 1A and 1B show the BQM-34A and BQM-34F vehicles mounted for data acquisition at the RAT SCAT facility. Figures 2A and 2B illustrate the modifications to the BQM-34A.

The zero degree pitch, zero degree roll reference for both targets was defined as being the wings level, longitudinal water line horizontal, vehicle orientation. Positive pitch angles reflect a nose up flight attitude and positive roll angles are equivalent to clockwise rotation when viewed from aft of the vehicle. Due to the inverted mounting of the BQM-34F target, aspect angle annotations for that vehicle deviate from the normal RAT SCAT standards. The left beam-on aspect corresponds to an angle of 90 degrees and the right beam-on aspect corresponds to an angle of 270 degrees. Angular annotations for the left beam-on and right beam-on aspects of the BQM-34A target remain 270 and 90 degrees respectively. Annotations of 0 and 180 degrees correspond to the nose-on and tail-on aspects of both vehicles. Target rotation was in the clockwise sense with data origin at 180 degrees of target aspect.

The test vehicles were mounted on two styrofoam columns to provide an approximate fourteen foot target height at the vicinity of the vehicle C. G. The measurement system antenna heights were selected in accordance with ground plane range geometry to minimize RF field intensity taper in the vertical plane. A measurement range of 2458 feet was used. The 5500 MHz measurement system was operated at a nominal output power level of 1 KW at a PRF of 1 KHz. The transmitted pulse width was on the order of 0.2 microseconds and the range gate width used was 0.1 microseconds. The radar cross section measurement system was calibrated using the broadside specular value of a 5.5 inch diameter, 18 inch long cylinder. Bistatic calibrations were effected by scaling of the specular value in proportion to the cosine of the bistatic half angle.

Glint characteristics of the BQM-34A and BQM-34F vehicles were measured using a pair of three foot diameter parabolic antennas on a horizontal baseline of 44.6 inches. The resulting angular aperture was equivalent to 1.5 milliradians or 0.087 degrees. Baseline phase difference data were acquired using constant-phase limiting amplifiers in conjunction with a phase tracking servo system at the 60 MHz intermediate frequency. The one wavelength of phase difference system ambiguity was equivalent to a cross range aperture in the target zone of 118.4 feet at the measurement frequency and target range used. The corresponding angular deviation from the boresight axis was ± 24 milliradians. The boresight axis reference calibration for glint data acquisition employed a 26.6 inch diameter precision sphere located at the center of target rotation.

Target relative phase data were obtained from the phase difference between the received signal from the inboard baseline antenna and the 60 MHz measurement system reference frequency. The local oscillator was phase locked with the system reference to eliminate the phase noise resulting from non-coherent RF to IF translation. Examples of phase data acquired from the BQM-34F target drone are presented in rectilinear plot format in Figures 3 and 4. The ordinates are annotated in terms of degrees of phase for modulo 2π and for modulo 40π analog data respectively. The abscissas are annotated in degrees of target aspect in both cases. Phase system stability, as indicated by the modulo 2π data, was on the order of 10 degrees. The modulo 40π data indicate the presence of multiple ambiguities in the modulo 2π data even at the minimum RAT SCAT target rotation rate of .025 rpm. Phase data acquired from the target vehicles were recorded on digital magnetic tape at target aspect intervals of 0.01 degree and are representative of the modulo 2π output of the phase tracking servo system. The phase data were referenced to a value of 180 degrees at the tail-on aspect of the target vehicles.

Cumulative probability of frontal cross section and mean frontal cross section were computed from the monostatic data acquired at the 0 degree pitch, 0 degree roll orientations of the BQM-34A and BQM-34F vehicles. The data are based on the 30 degree interval about the nose-on aspect and presented in Figures 5 through 10. Mean cross section data were computed over 1 degree aspect intervals at 0.1 degree increments.

Monostatic and bistatic median cross section as a function of target aspect are presented in Figures 11 through 18 for the 0 degree, 10 degree, 20 degree and 30 degree bistatic angles respectively. The median values were computed over 10 degree aspect intervals at 1 degree increments and based on data acquired from the 0 degree roll, 0 degree pitch orientations of both target vehicles.

Figures 19 through 24 present glint data in the form of probability density and cumulative probability distributions computed for the BQM-34A and BQM-34F vehicles over the 30 degree frontal aspect zone. The abscissas of the probability density and cumulative probability curves are annotated in terms of the apparent cross range displacement, in feet, either left or right of the center of target rotation; the ordinates are annotated in percent and percentile respectively. Both curves represent estimations of the appropriate continuous functions based on the phase difference data acquired within the specified aspect zone.

The density distribution functions indicate the probability of a given offset, or angular tracking error, occurring within the data base aspect zone. The cumulative probability functions are the integrals of the corresponding probability density functions and indicate the probability of the error due to target glint being less than or equal to a specified value. The probability of the glint error occurring between any two specified limits can be estimated by differencing the cumulative probability percentiles at the limit points.

The data of Figure 25 indicate the median measurement background levels obtained during monostatic data acquisition as a function of target aspect. The measurement backgrounds are typical of those observed throughout the measurement program. Median values were computed for 10 degree aspect intervals at 1 degree aspect increments.

The rectilinear signature data plots included in this report represent the radar cross section and glint characteristics of the BQM-34A and BQM-34F vehicles as a function of target aspect. Glint data is plotted with respect to degrees of relative phase difference with the center of target rotation, or boresight axis, equivalent to 180 degrees. The apparent linear cross range displacement and angular boresight deviation scale factors are approximately 3.0 degrees per foot and 0.33 milliradians per degree respectively. Table I is a data plot index which correlates data run number to target vehicle, antenna polarization, vehicle orientation, and bistatic angle. The monostatic and 30 degree bistatic cross section data are annotated with an A after the run number; the corresponding glint data are annotated with a G. Rectilinear plot format phase data were deemed to have minimal analytical value at the phase rates observed and consequently were deleted as a data item.

All data acquired from measurements of the BQM-34A and BQM-34F vehicles are available on BCD card image digital magnetic tape. Monostatic data are recorded in RAT SCAT Format N at aspect increments of 0.01 degrees and represent the RCS amplitude and target glint (degrees of phase difference) or RCS amplitude and target relative phase (degrees) as applicable. Measurements of radar cross section amplitude at bistatic

AFSWC-TR-74-01, Volume Ia

angles of 10 and 20 degrees are recorded in Format L at aspect increments of 0.1 degree. The 30 degree bistatic data representative of RCS amplitude and target glint are also recorded at aspect increments of 0.1 degree but in Format N. A description of the formats used in conjunction with RAT SCAT digital magnetic tapes is provided in Appendix C. An index of the available digital data is provided in Appendix D.

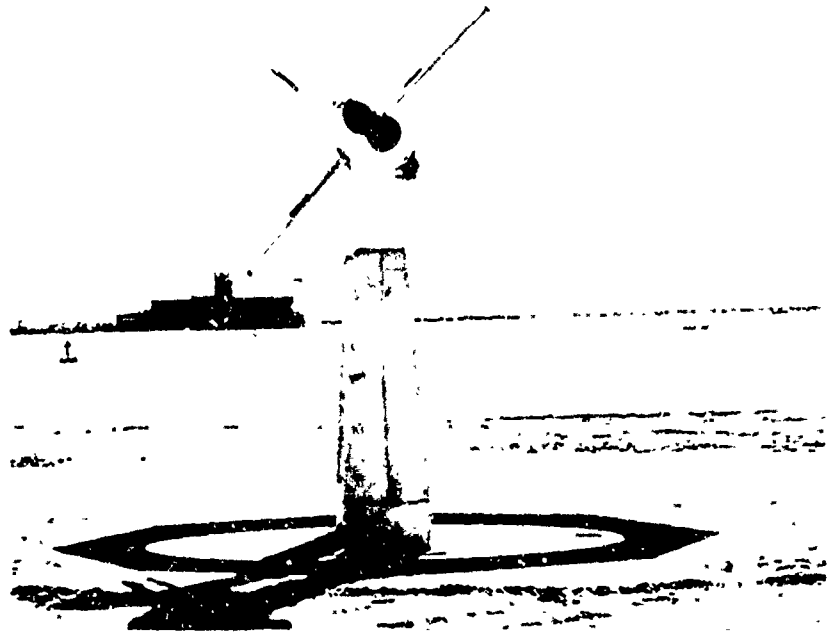


Figure 1A. BQM-34A Target Drone

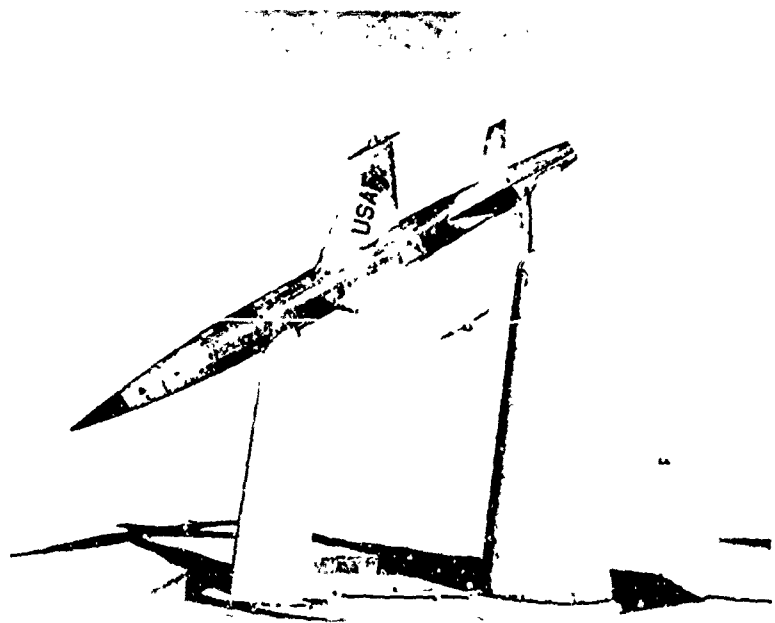


Figure 1B. BQM-34F Target Drone

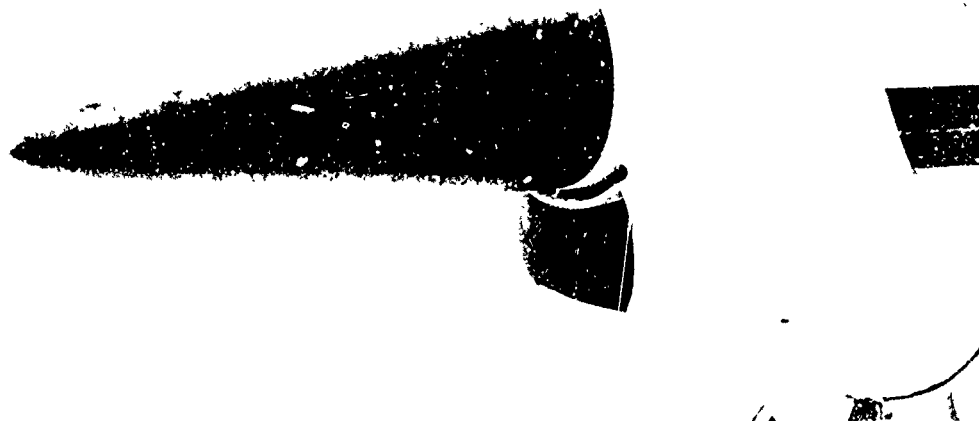


Figure 2A. Area of Conductive Finish Application. BQM-34A



Figure 2B. AN-75 Absorber Location, BQM-34A

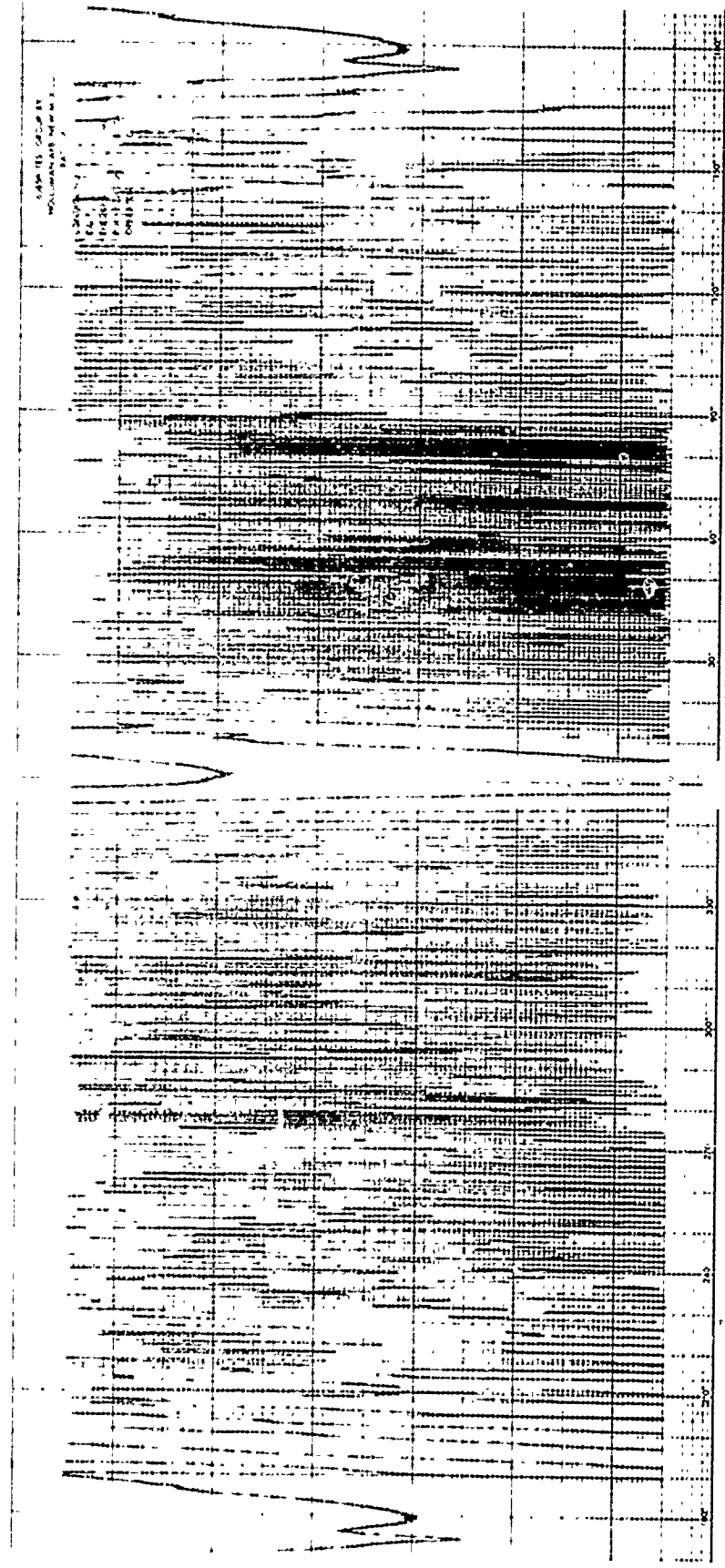


Figure 3. Modulo 2π Relative Phase, VV Polarization, 5500 MHz
BQM-34F Target Drone, 0° Roll, 0° Pitch

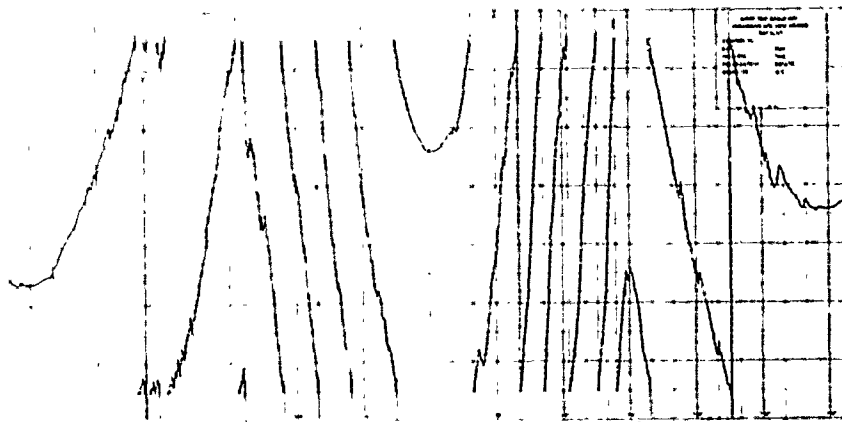


Figure 4a. Modulo 40π Relative Phase, VV Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch

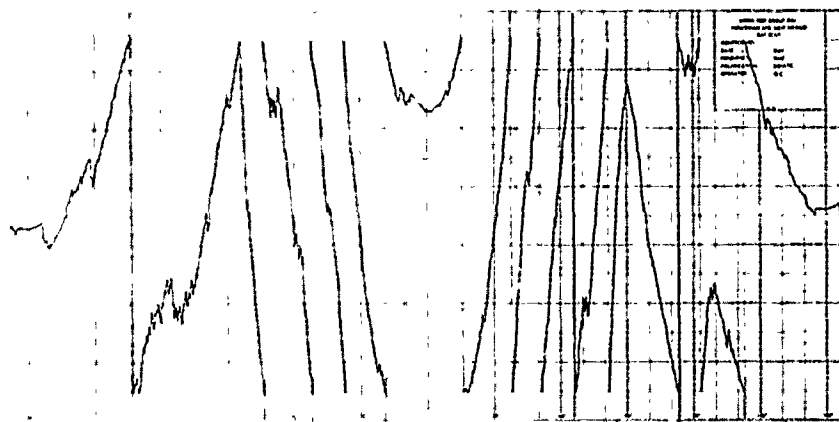


Figure 4b. Modulo 40π Relative Phase, HH Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch

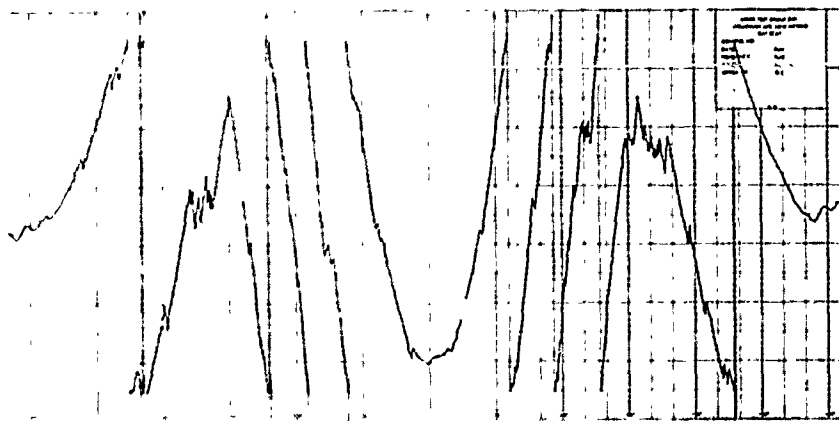


Figure 4c. Modulo 40π Relative Phase, VH Polarization, 5500 MHz BQM-34F Target Drone, 0° Roll, 0° Pitch

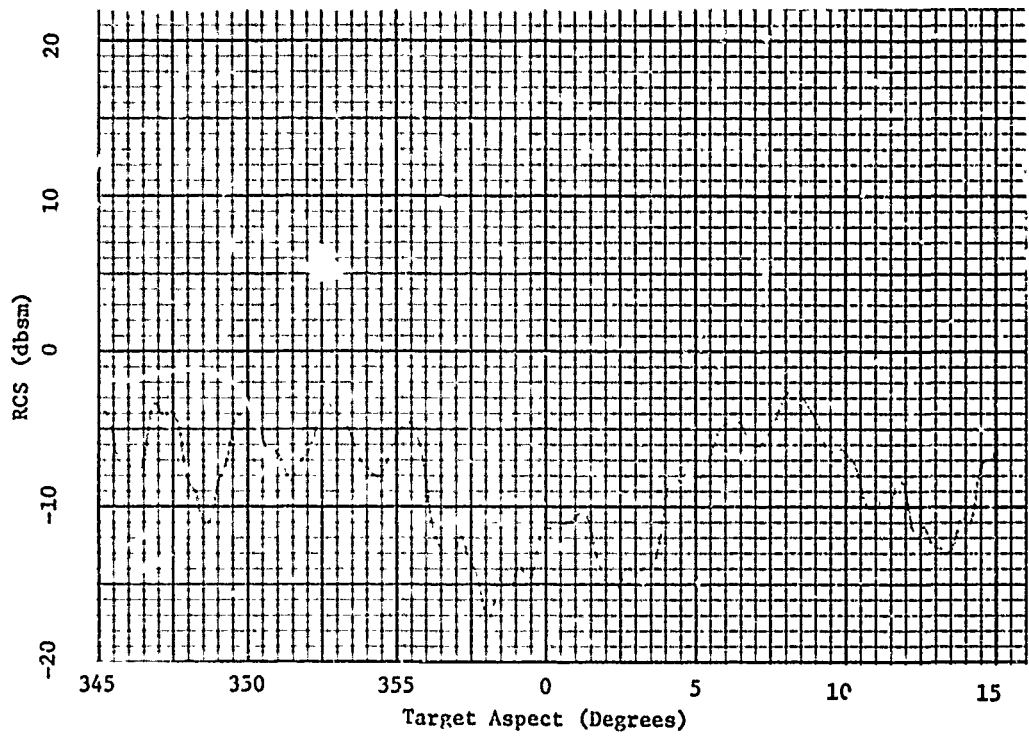


Figure 5A. Mean Frontal Cross Section
BQM-34A, VV Polarization

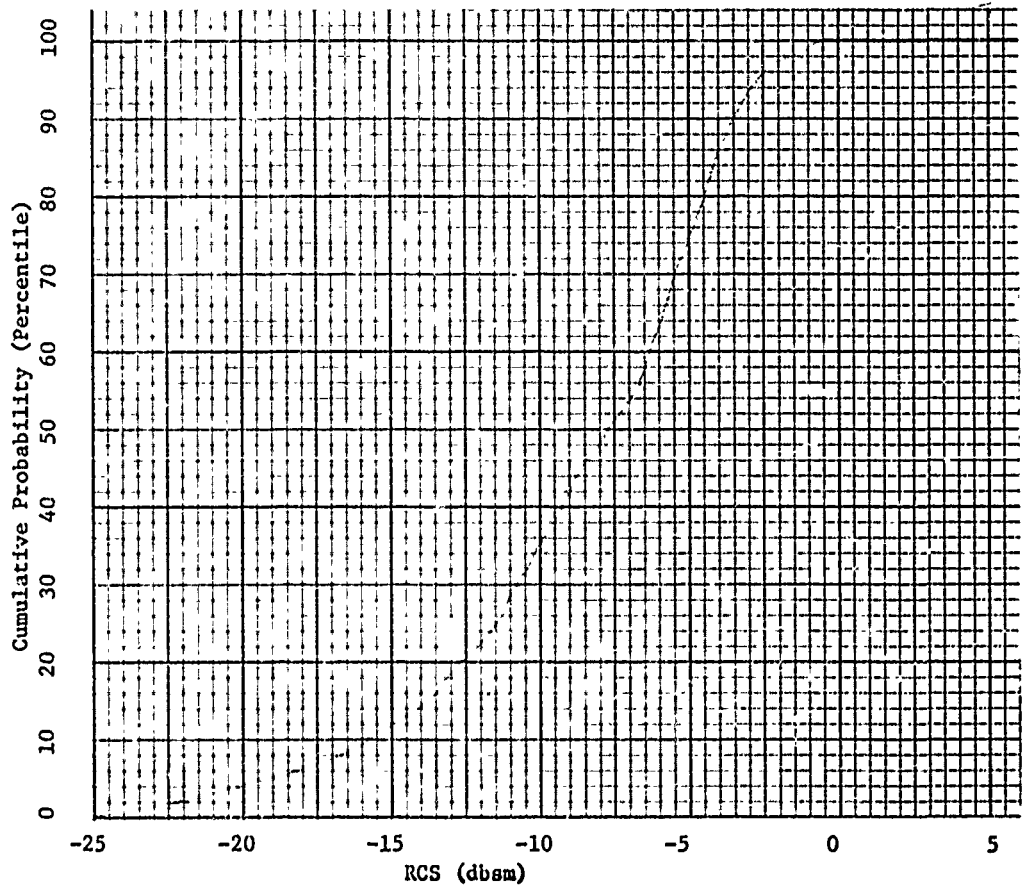


Figure 5B. Cumulative Probability of Frontal Cross Section
BQM-34A, VV Polarization

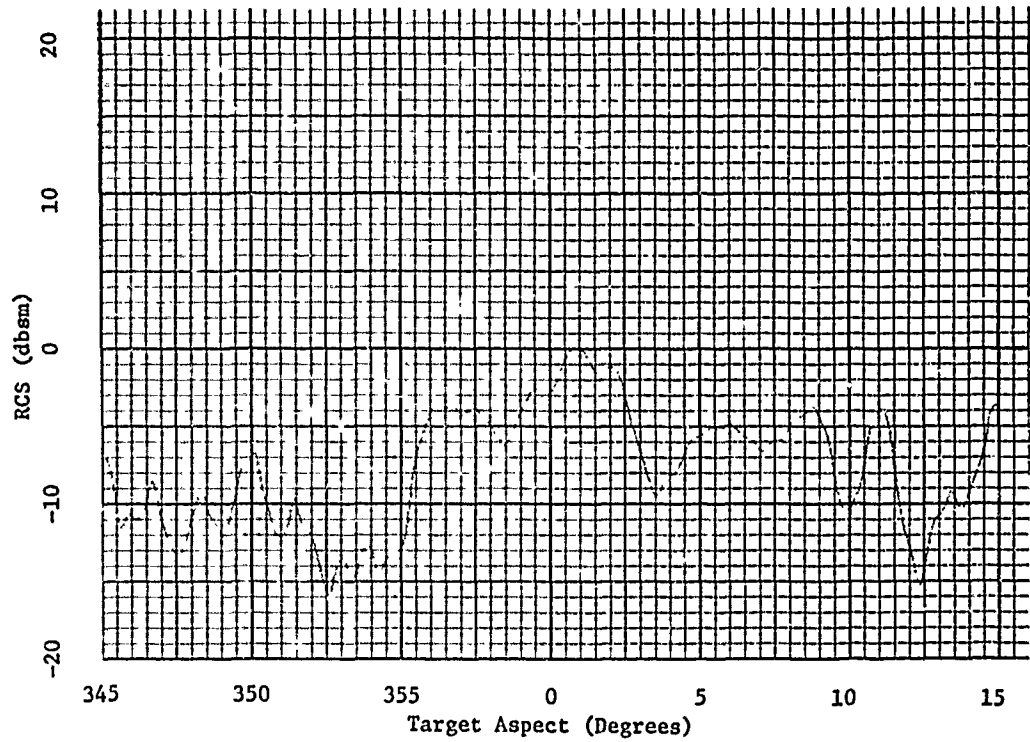


Figure 6A. Mean Frontal Cross Section
BQM-34A, HH Polarization

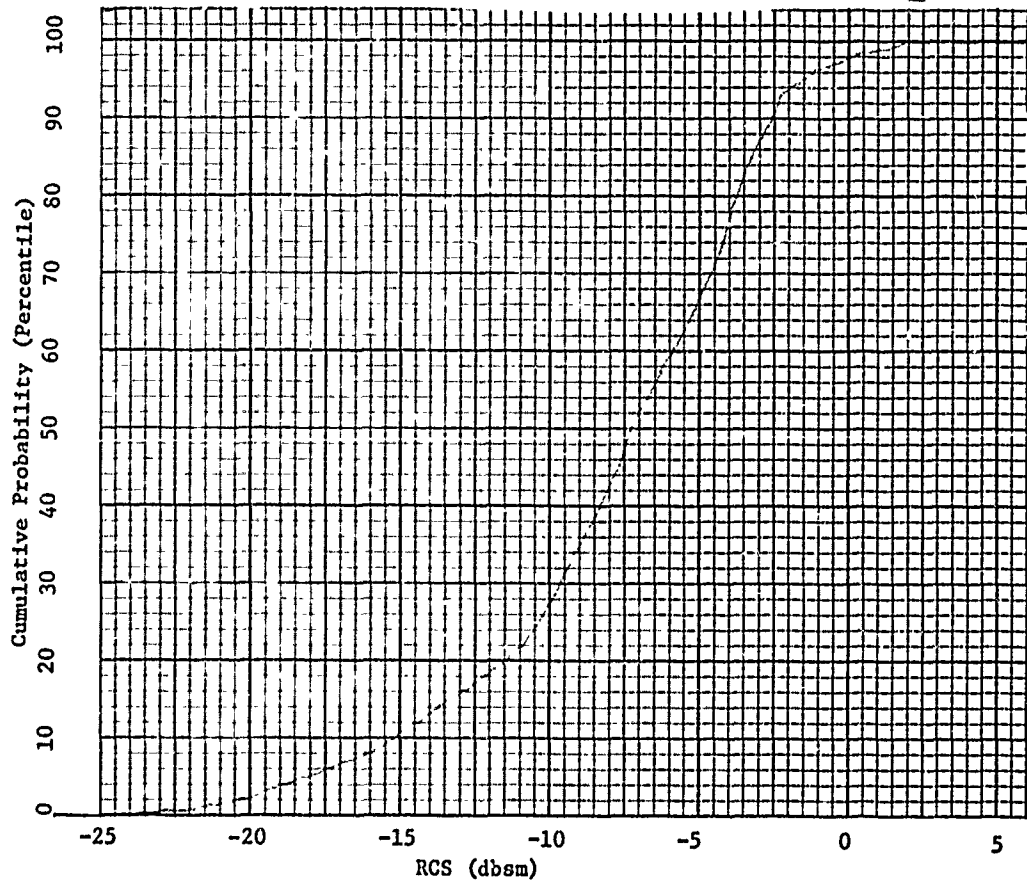


Figure 6B. Cumulative Probability of Frontal Cross Section
BQM-34A, HH Polarization

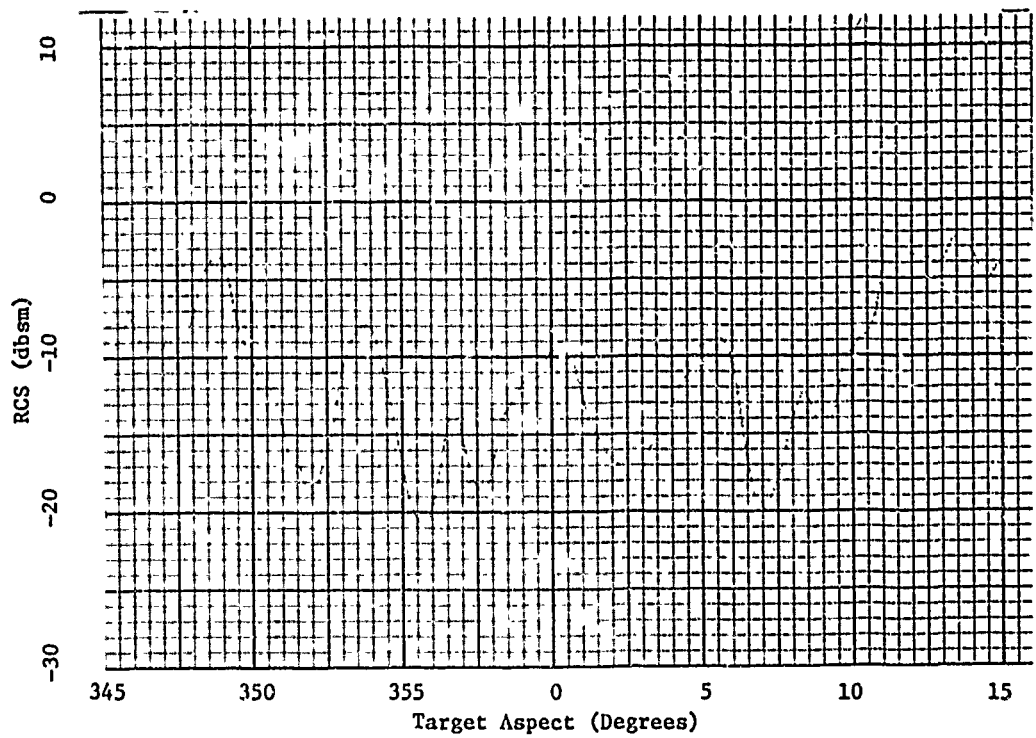


Figure 7A. Mean Frontal Cross Section
BQM-34A, VH Polarization

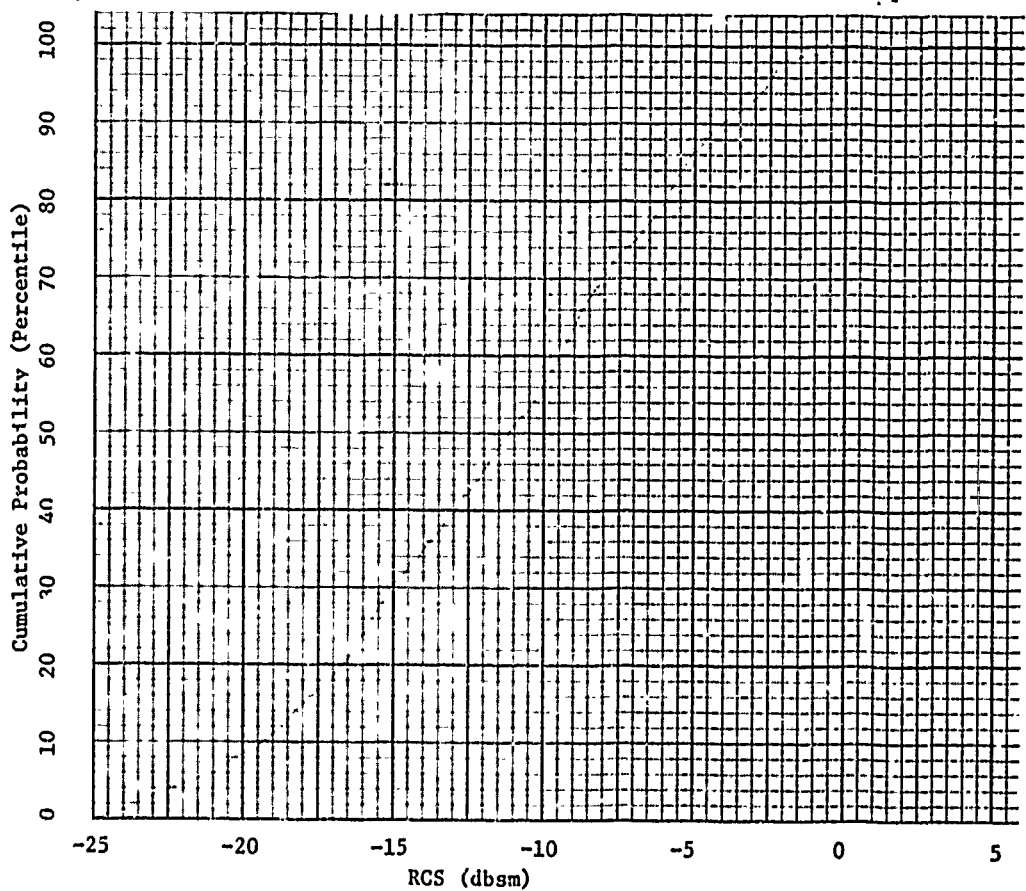


Figure 7B. Cumulative Probability of Frontal Cross Section
BQM-34A, VH Polarization

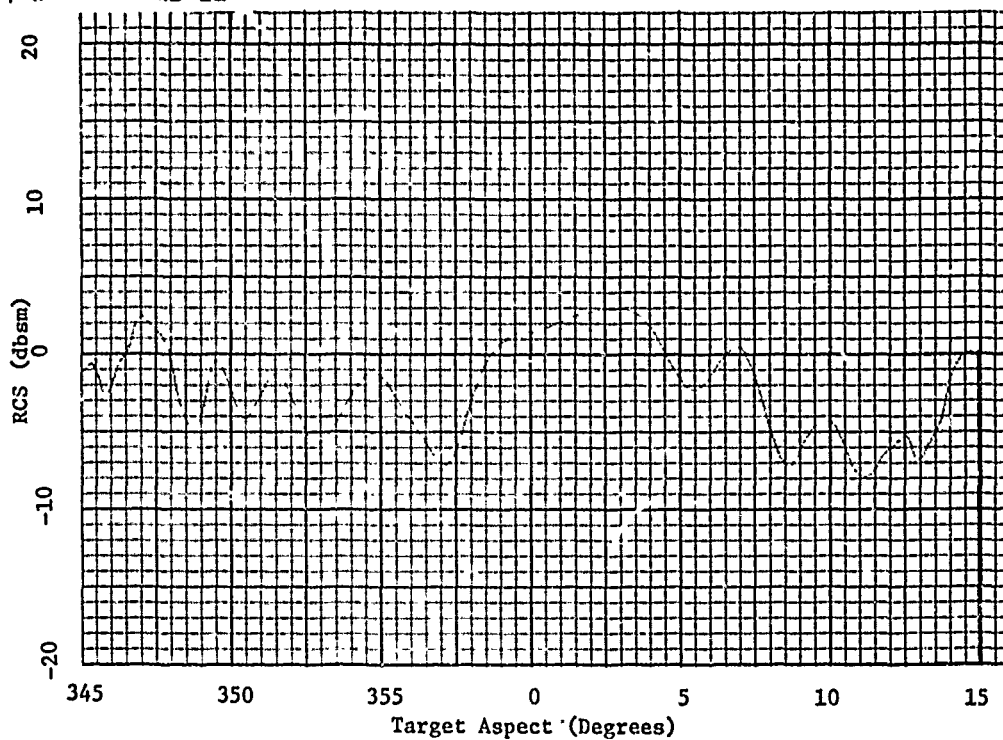


Figure 8A. Mean Frontal Cross Section
BQM-34F, VV Polarization

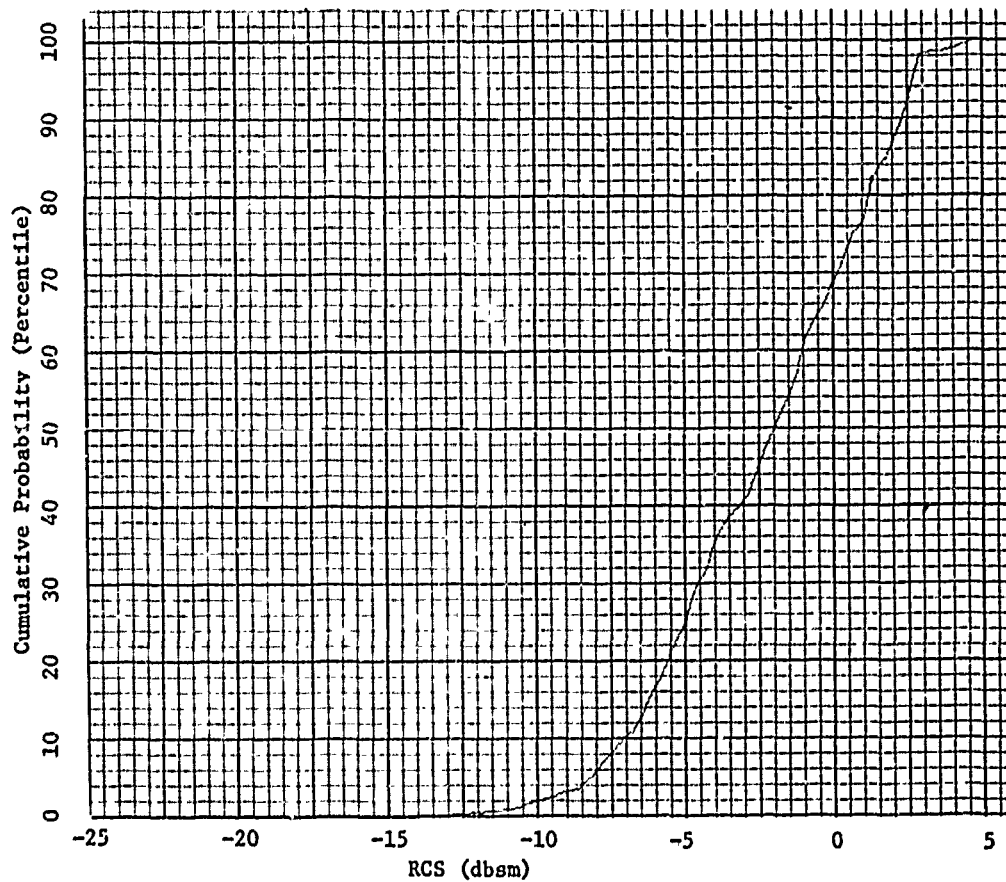


Figure 8B. Cumulative Probability of Frontal Cross Section
BQM-34F, VV Polarization

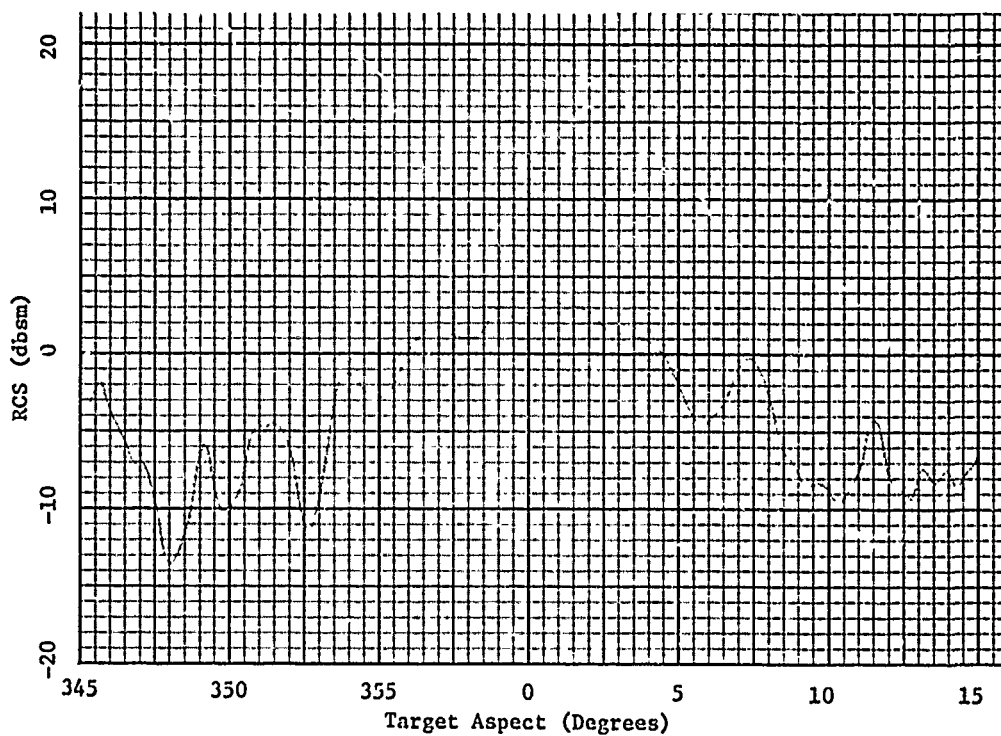


Figure 9A. Mean Frontal Cross Section
BQM-34F, HH Polarization

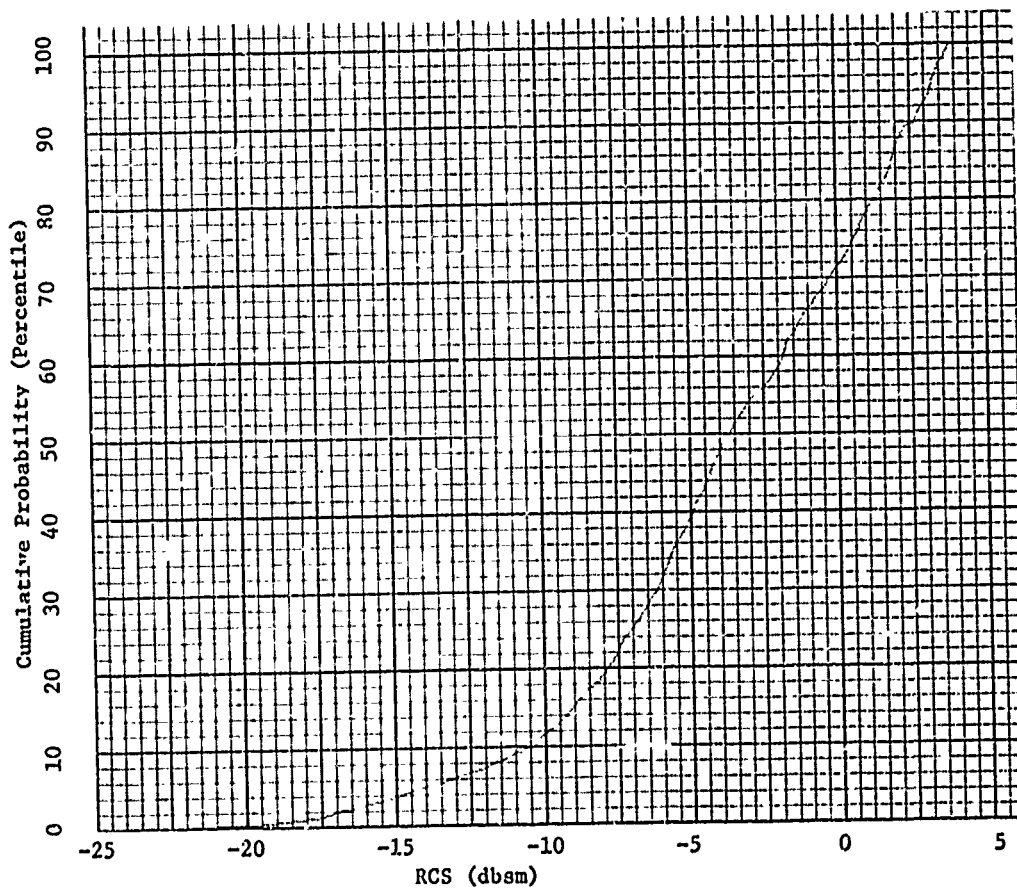


Figure 9B. Cumulative Probability of Frontal Cross Section
BQM-34F, HH Polarization

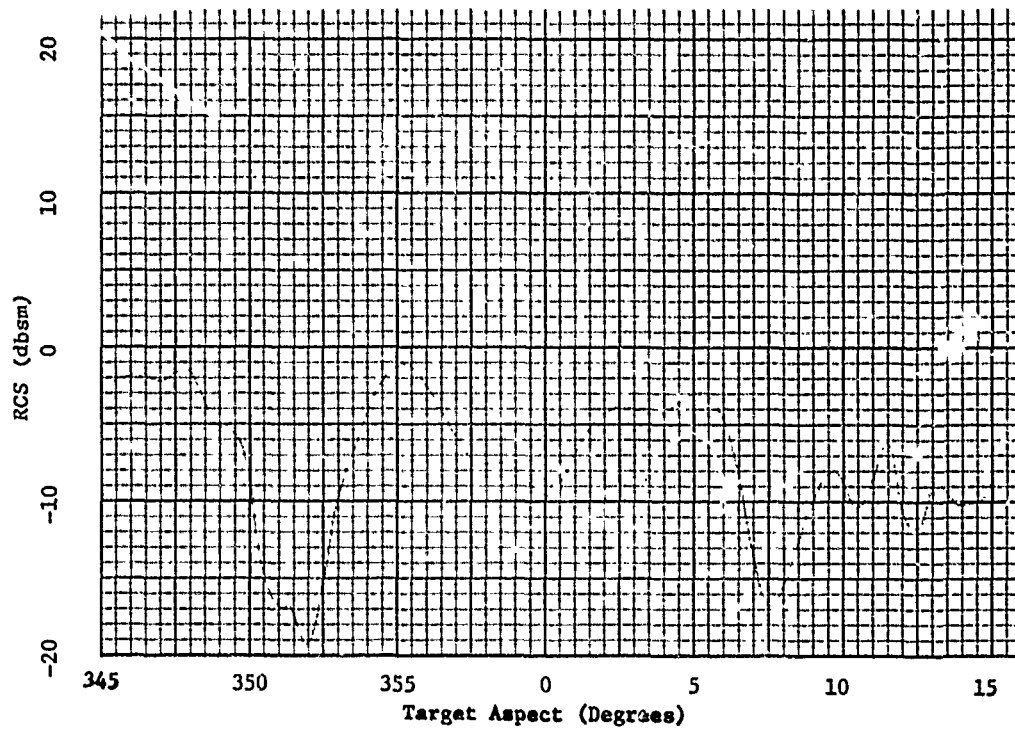


Figure 10A. Mean Frontal Cross Section
BQM-34F, VH Polarization

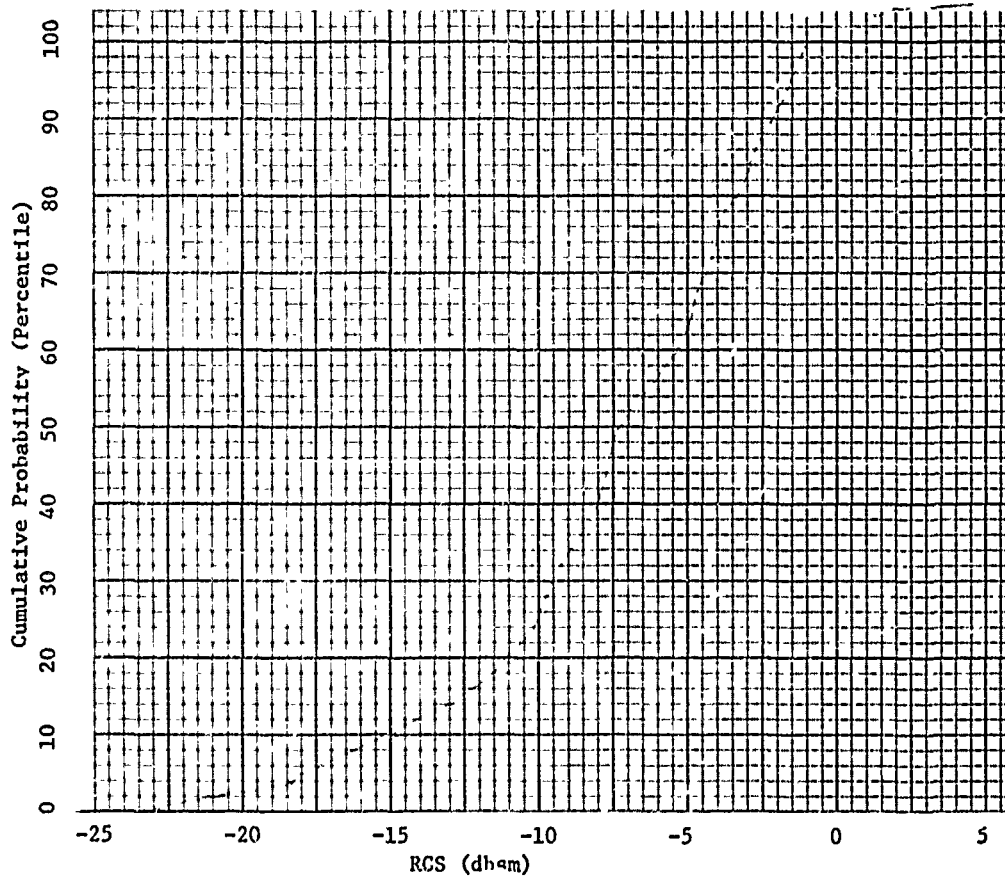


Figure 10B. Cumulative Probability of Frontal Cross Section
BQM-34F, VH Polarization

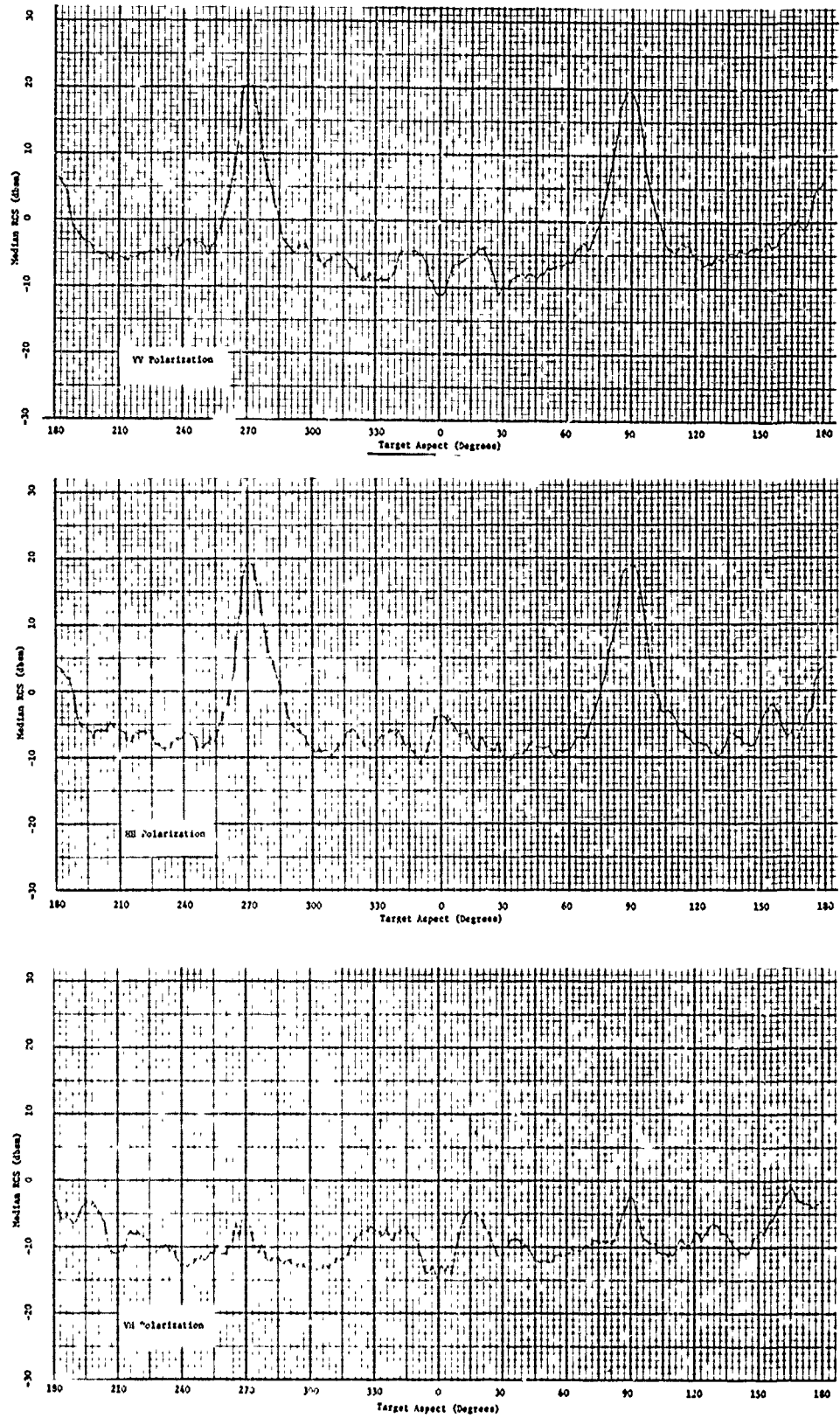


Figure 11. Monostatic Radar Cross Section, BQM-34A
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

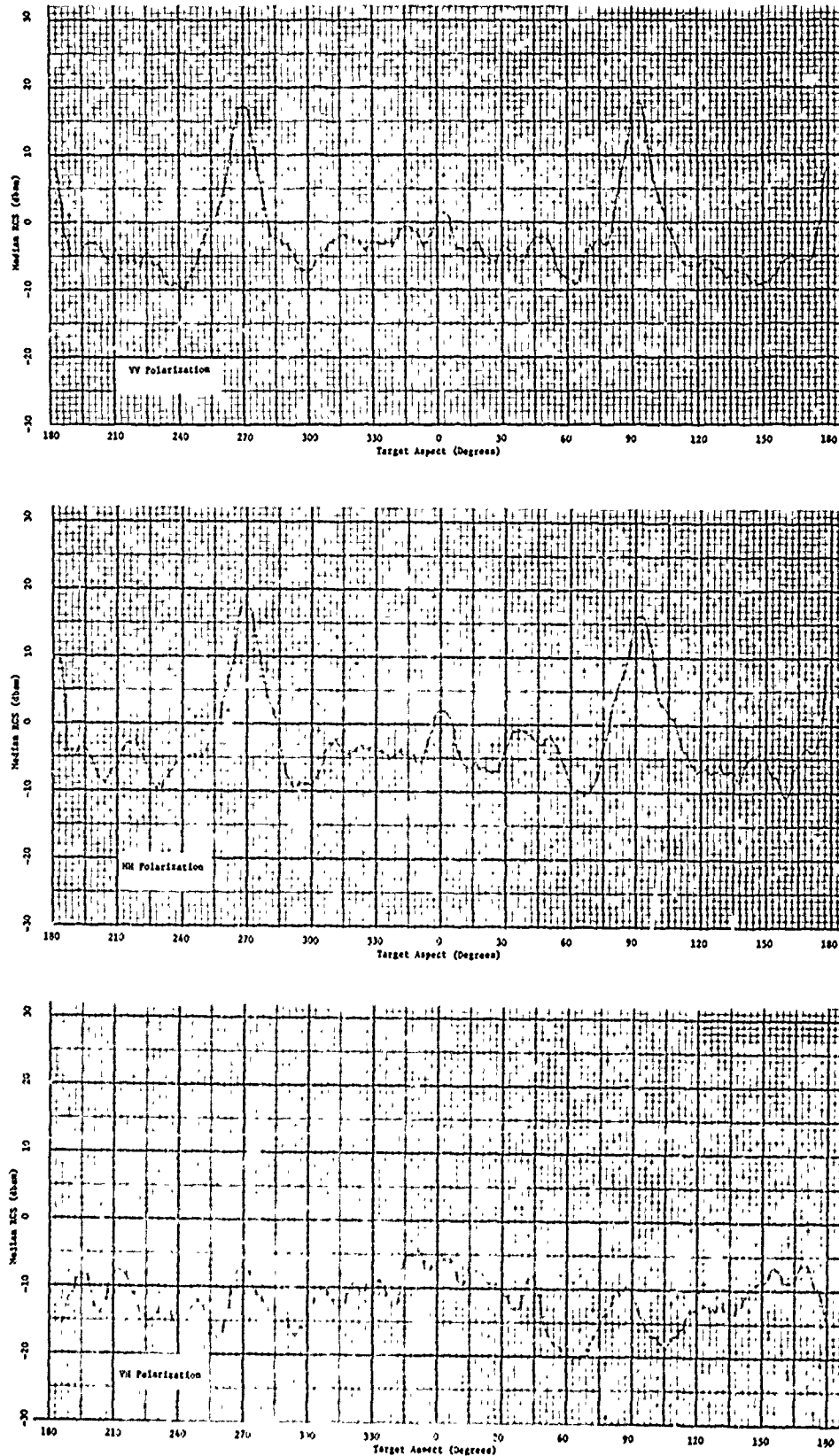


Figure 12. Monostatic Radar Cross Section, BQM-34F
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

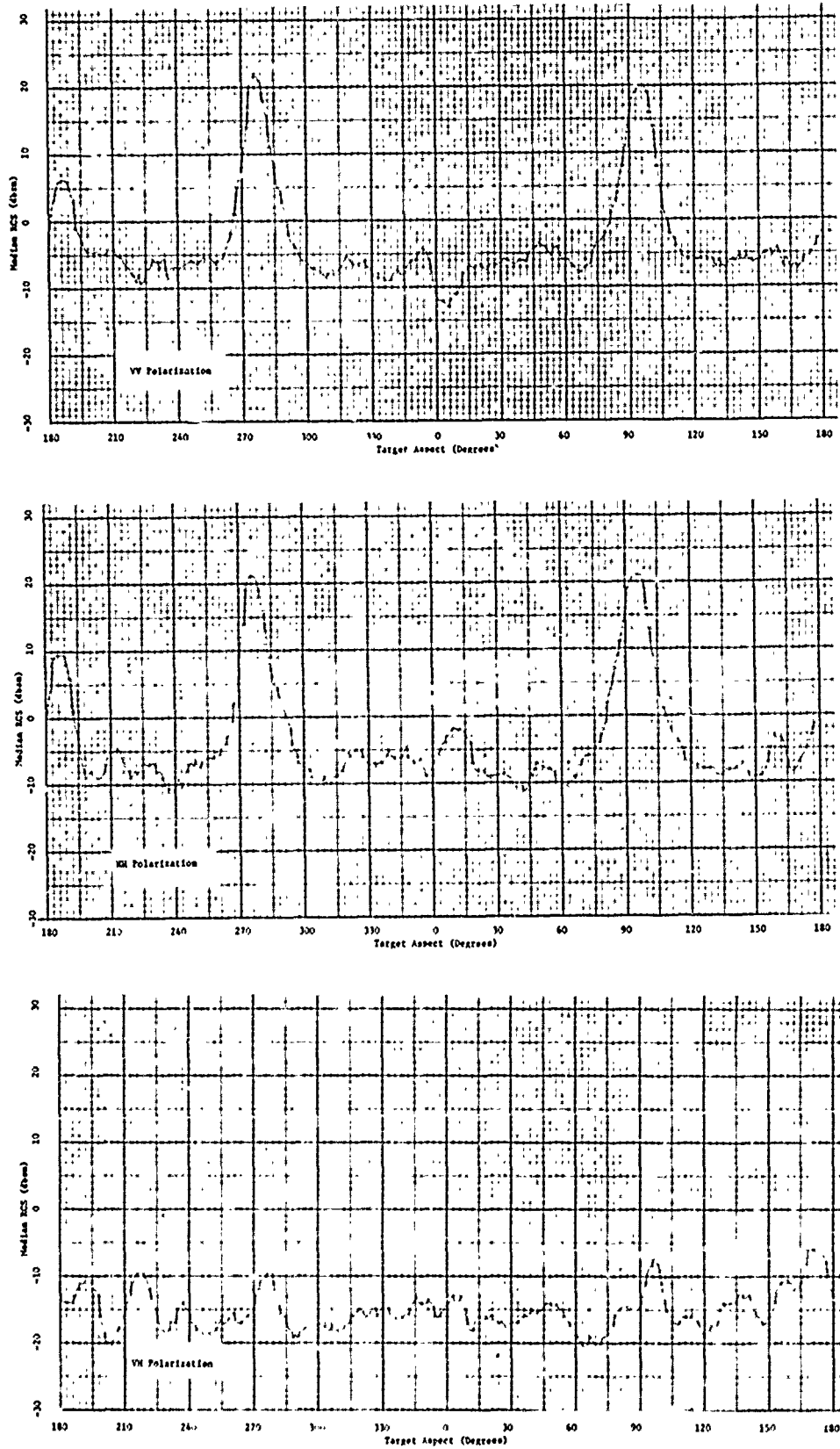


Figure 13. 10 Degree Bistatic Radar Cross Section, BQM-34A
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

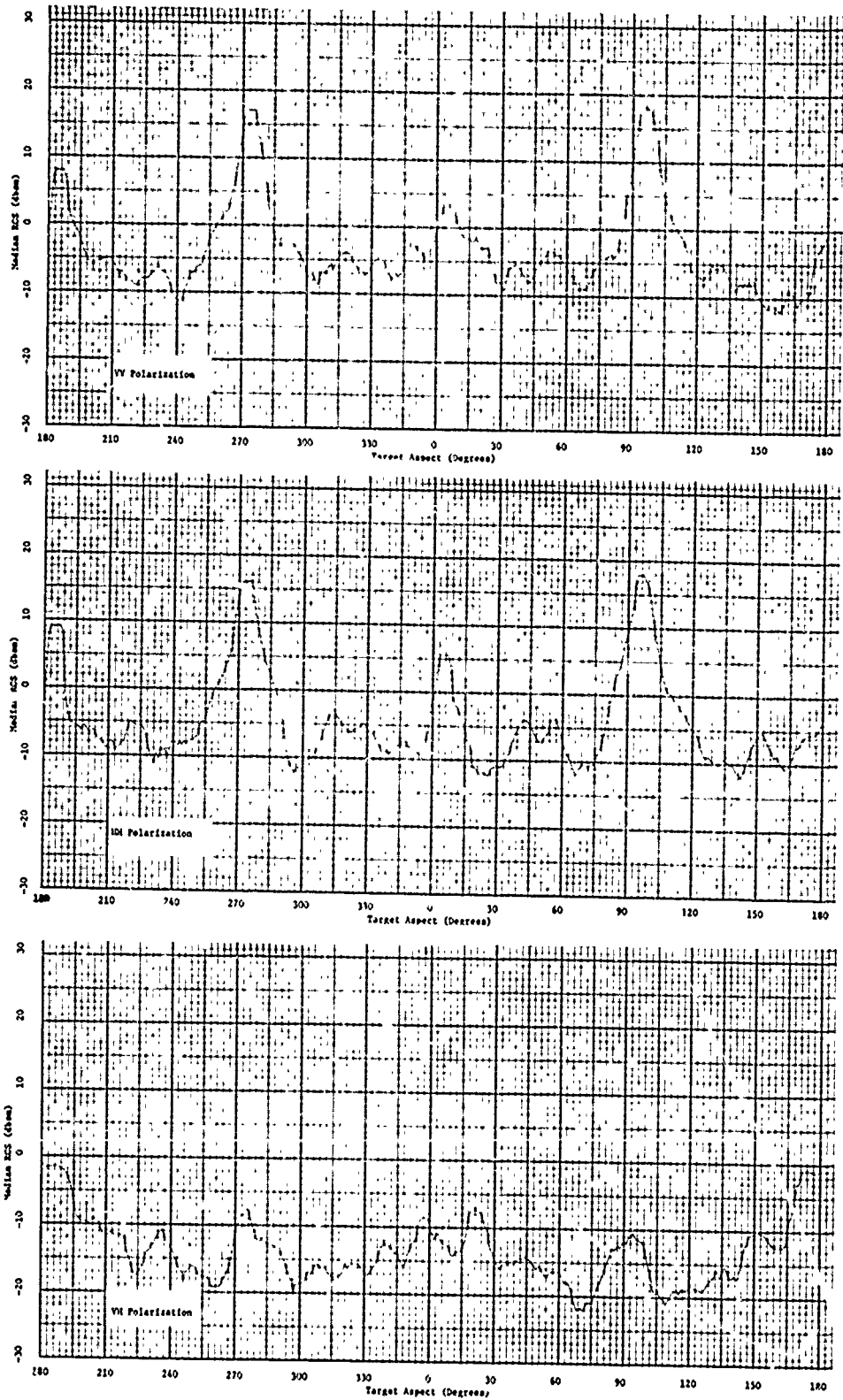


Figure 14. 10 Degree Bistatic Radar Cross Section, BQ1-34F
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

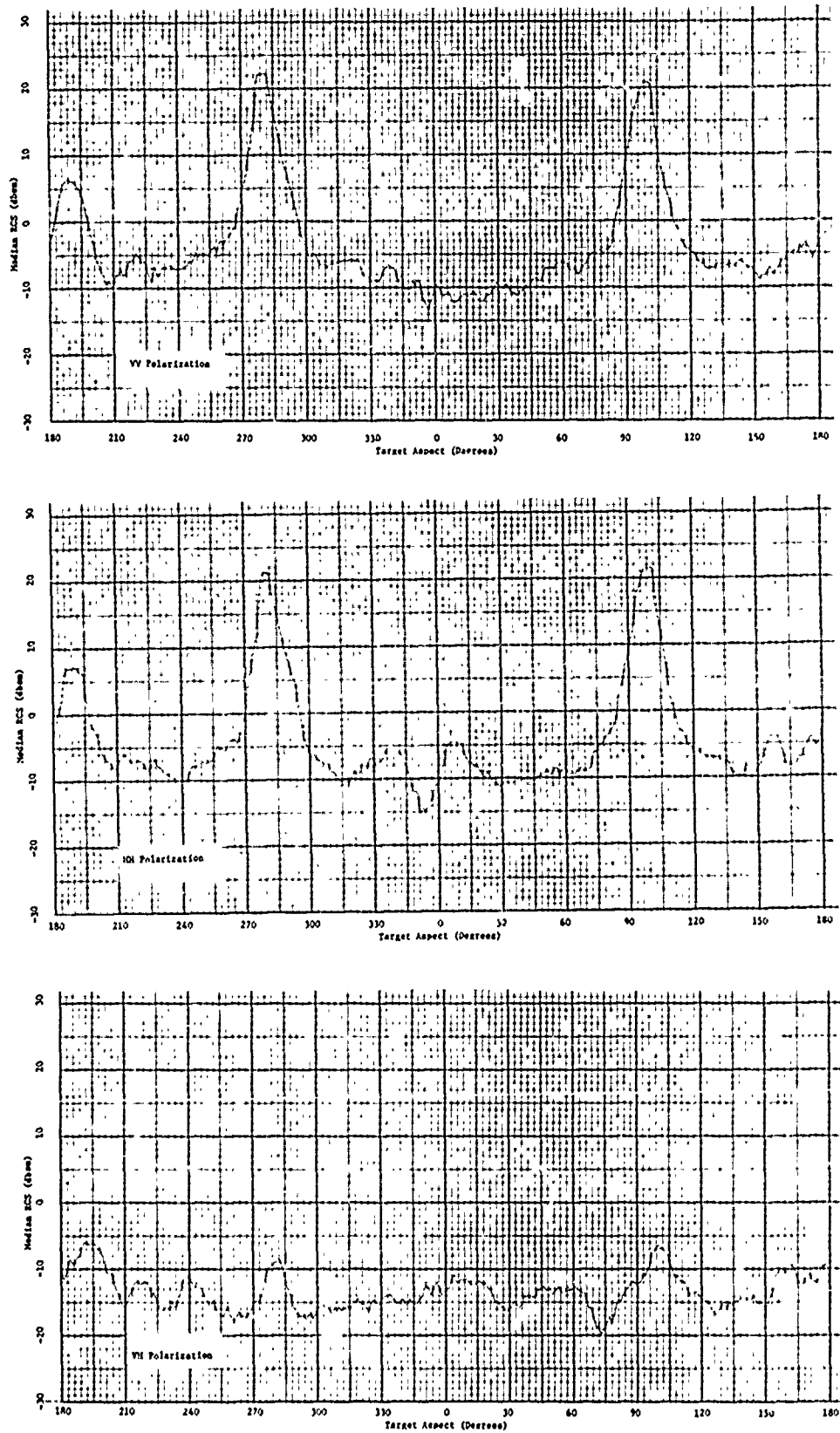


Figure 15. 20 Degree Bistatic Radar Cross Section, BQI-34A
0 Degree Pitch, 9 Degree Roll Vehicle Orientation

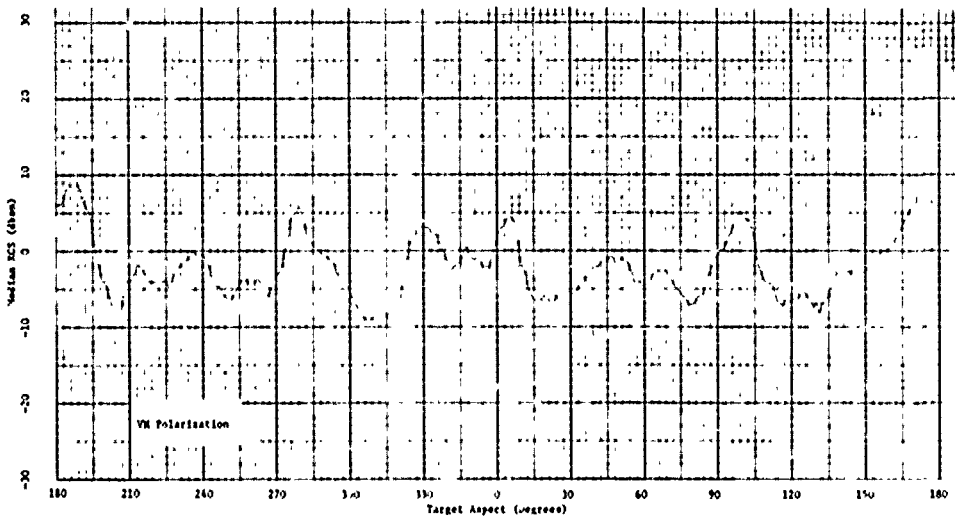
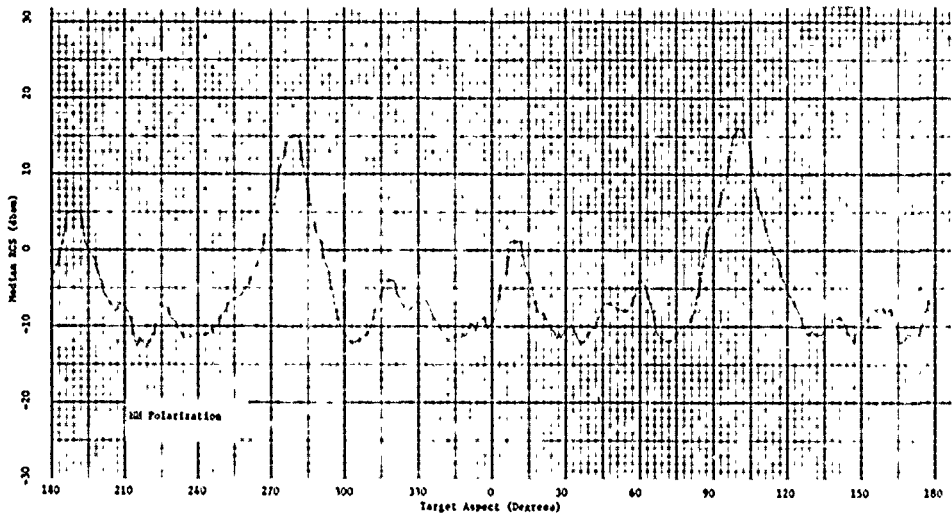
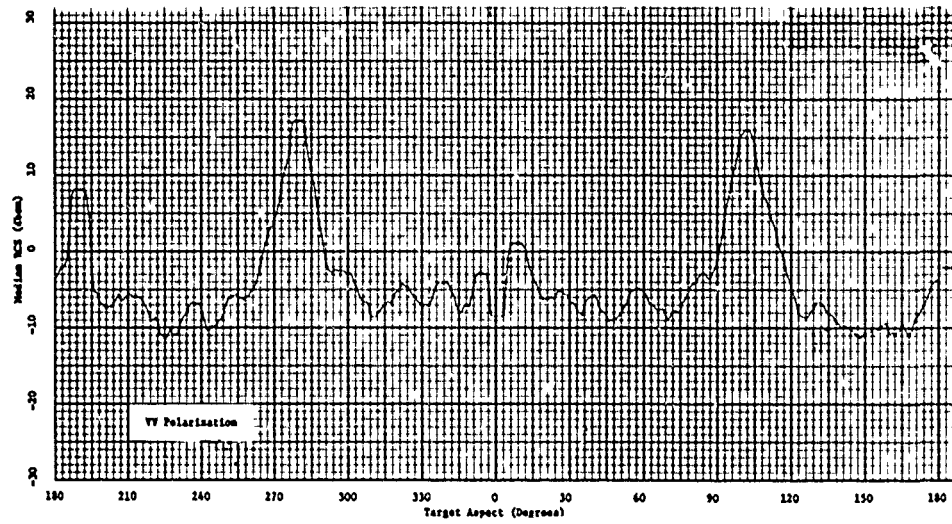


Figure 16. 20 Degree Bistatic Radar Cross Section, BQM-34F
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

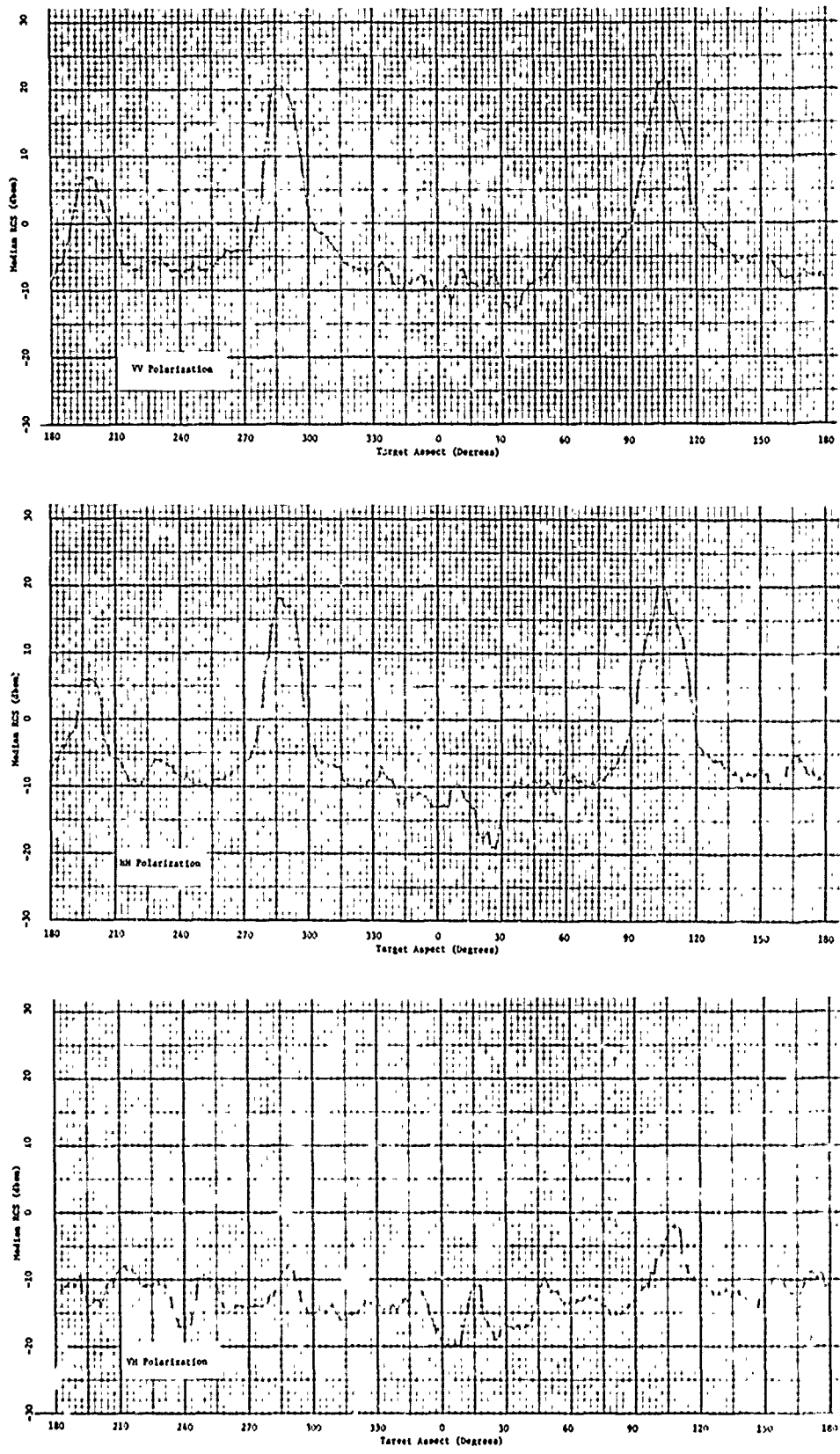


Figure 17. 30 Degree Bistatic Radar Cross Section, BQM-34A
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

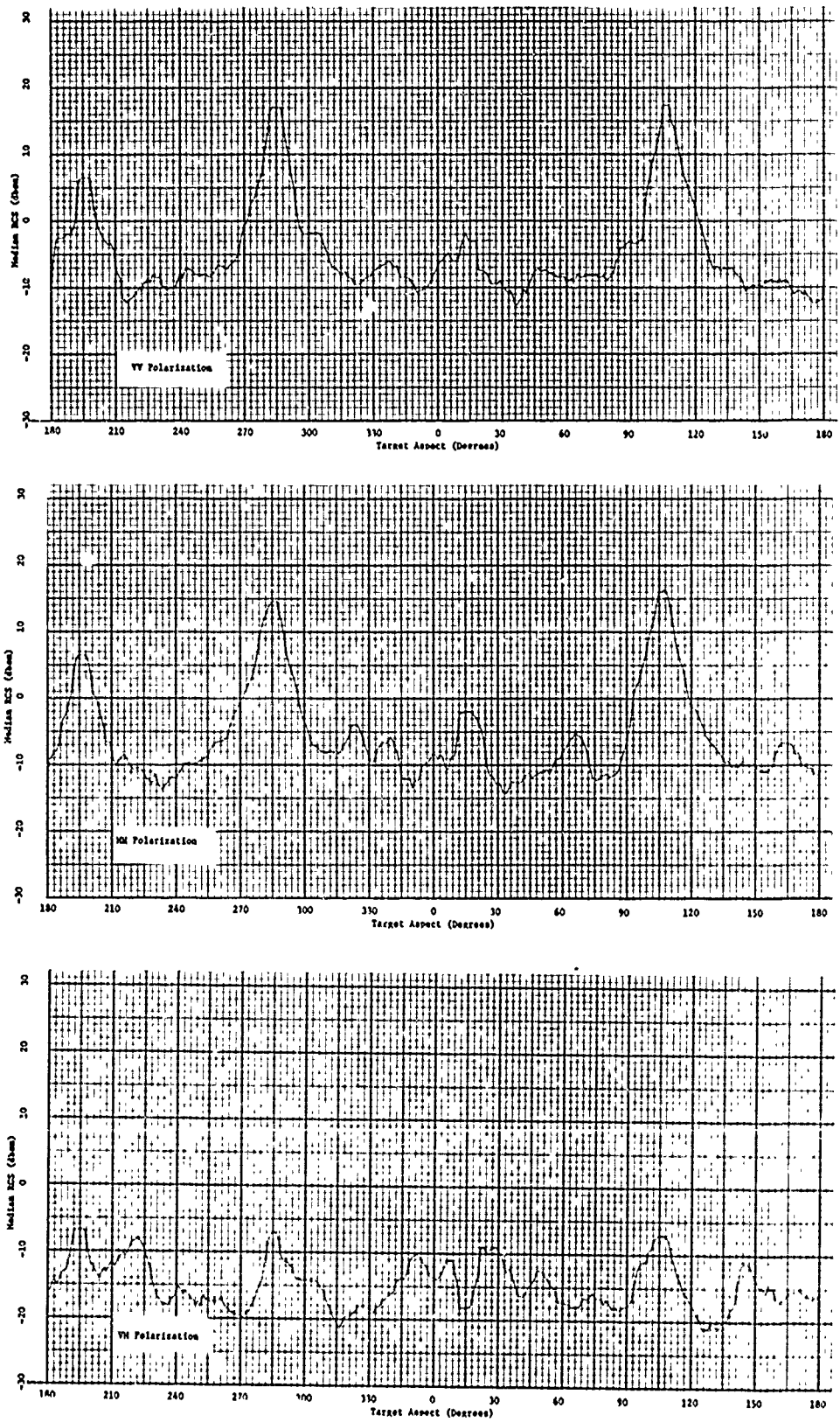


Figure 18. 30 Degree Bistatic Radar Cross Section, BQ1-34F
0 Degree Pitch, 0 Degree Roll Vehicle Orientation

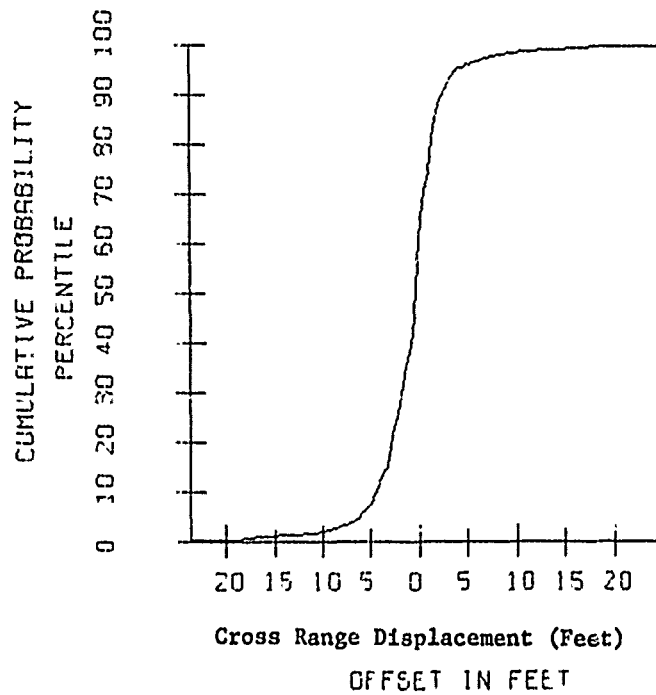
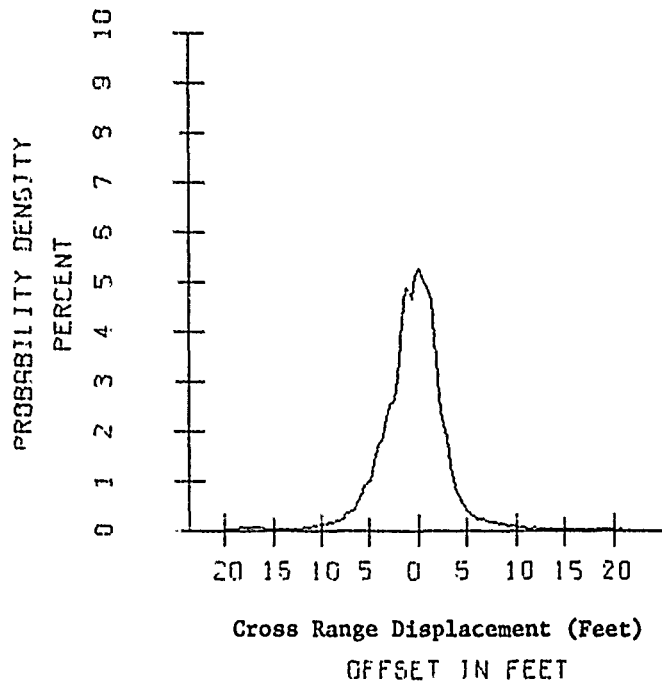


Figure 19. BQM-34A, Glint Distribution
30° Frontal Aspect Zone, VV Polarization

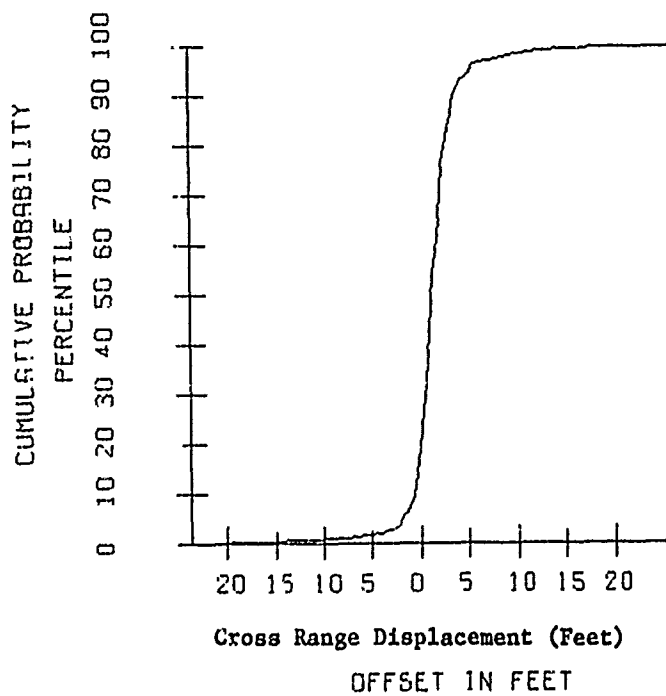
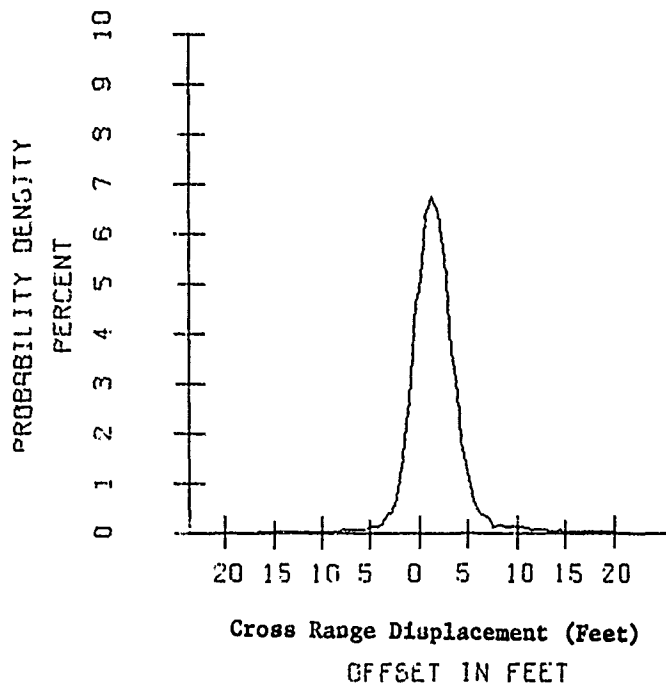


Figure 20. BQM-34A, Glint Distribution
30° Frontal Aspect Zone, HH Polarization

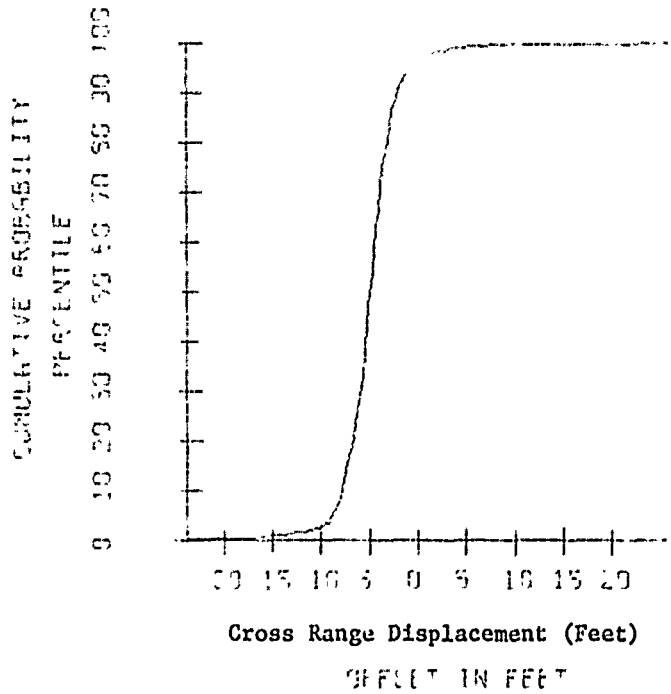
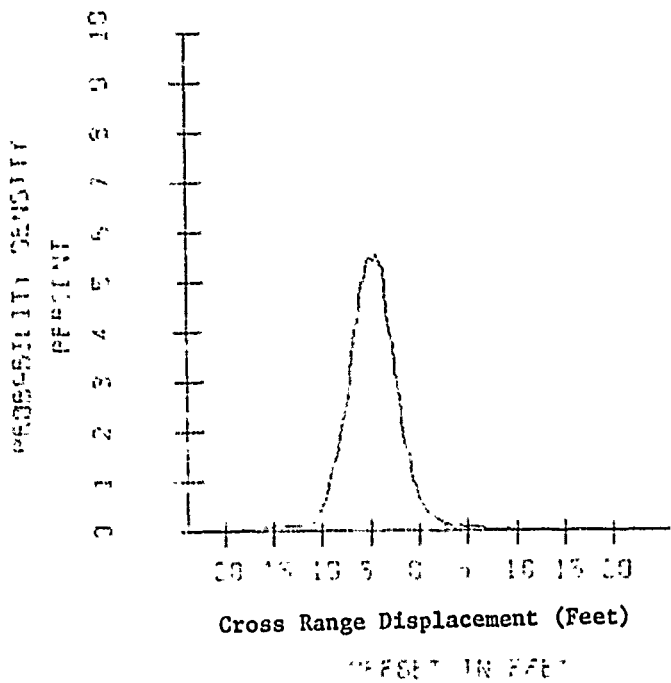


Figure 21. BQM-34A, Glint Distribution
30° Frontal Aspect Zone, Vii Polarization

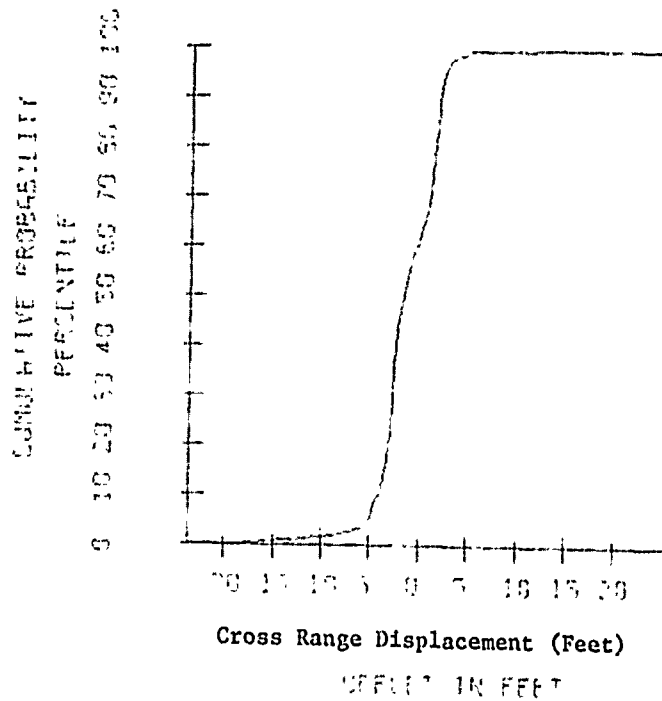
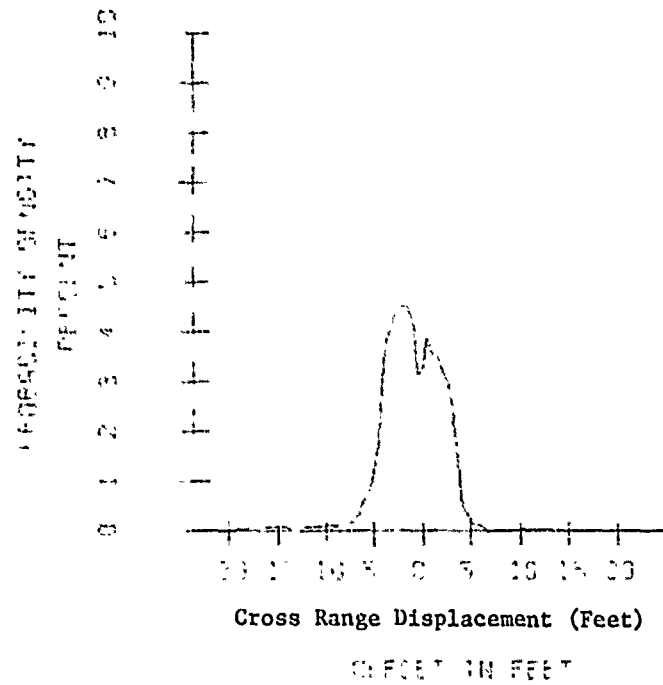


Figure 22. BQF-34F, Glint Distribution
30° Frontal Aspect Zone, VV Polarization

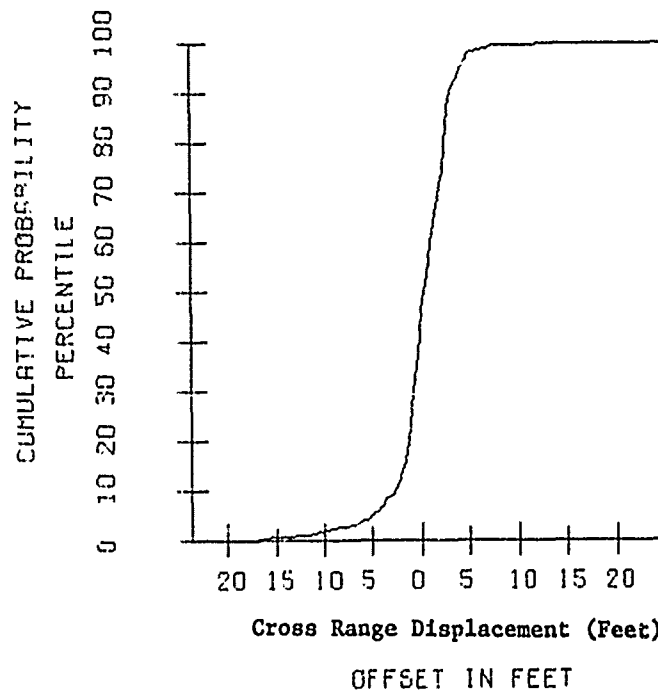
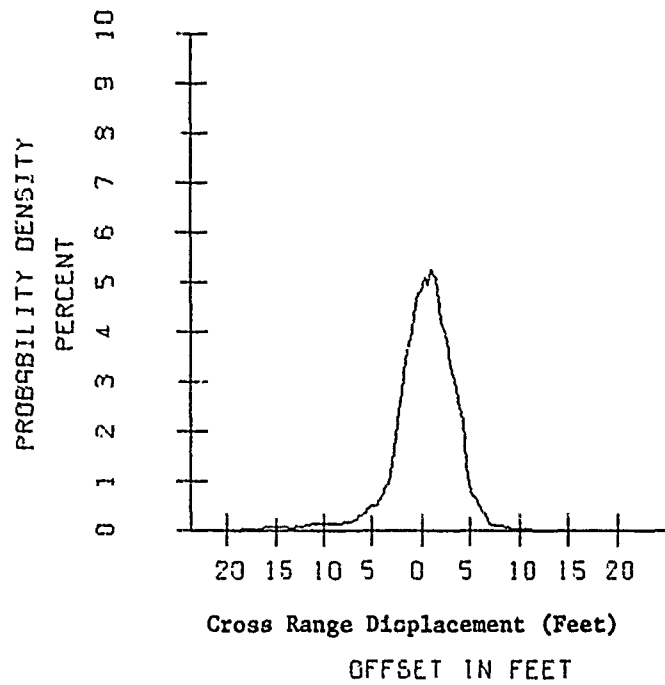


Figure 23. BQ1-34F, Glint Distribution
30° Frontal Aspect Zone, III Polarization.

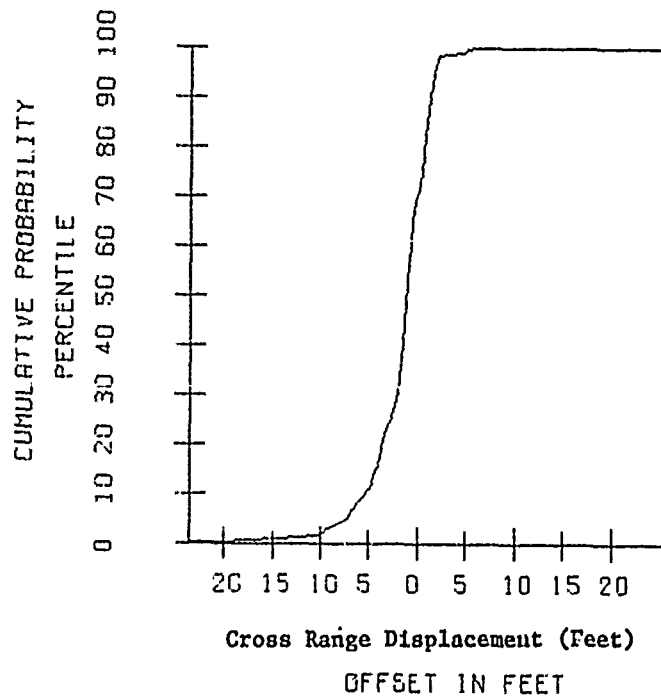
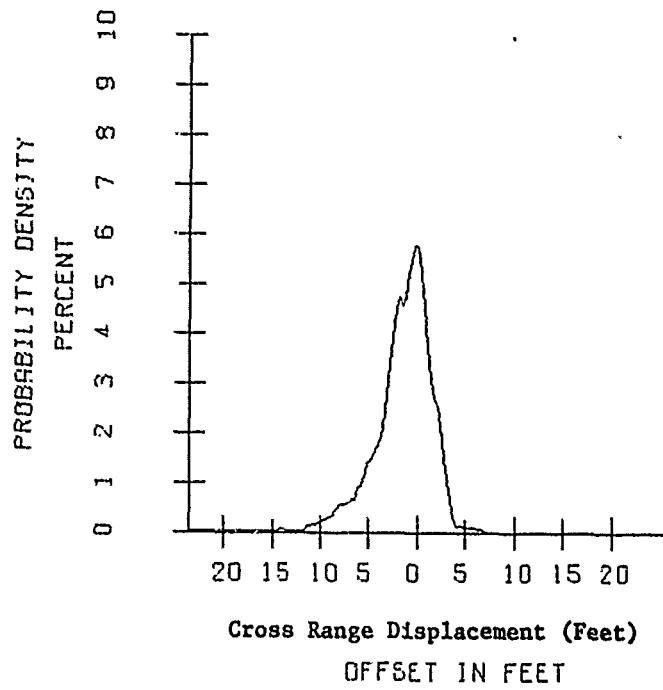


Figure 24. BQI-34F, Glint Distribution
30° Frontal Aspect Zone, VH Polarization

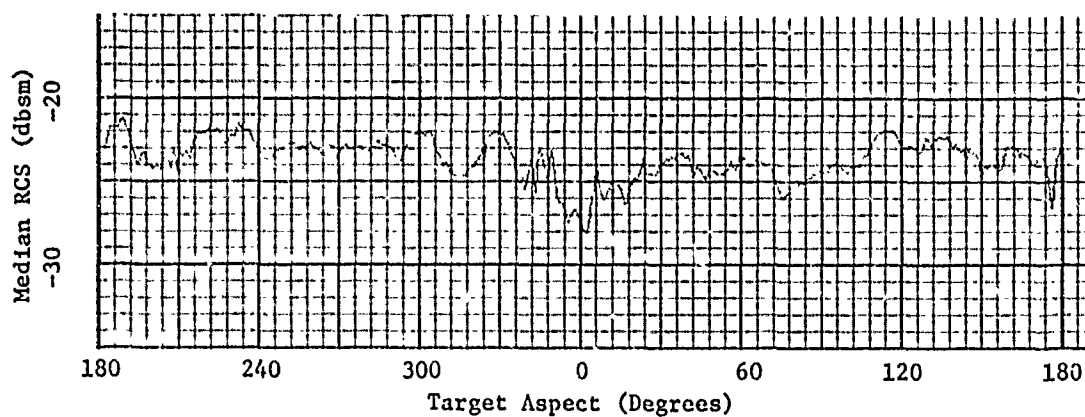


Figure 25a. Median Background Level, VV Polarization.

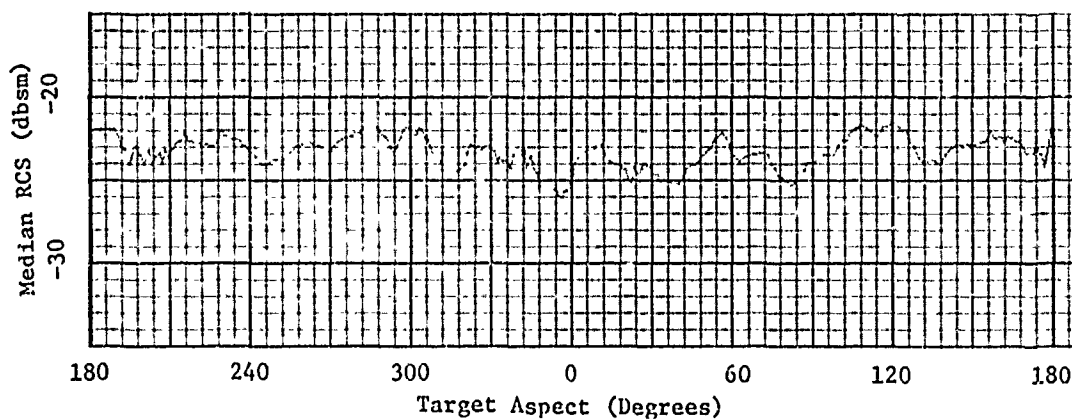


Figure 25b. Median Background Level, HH Polarization.

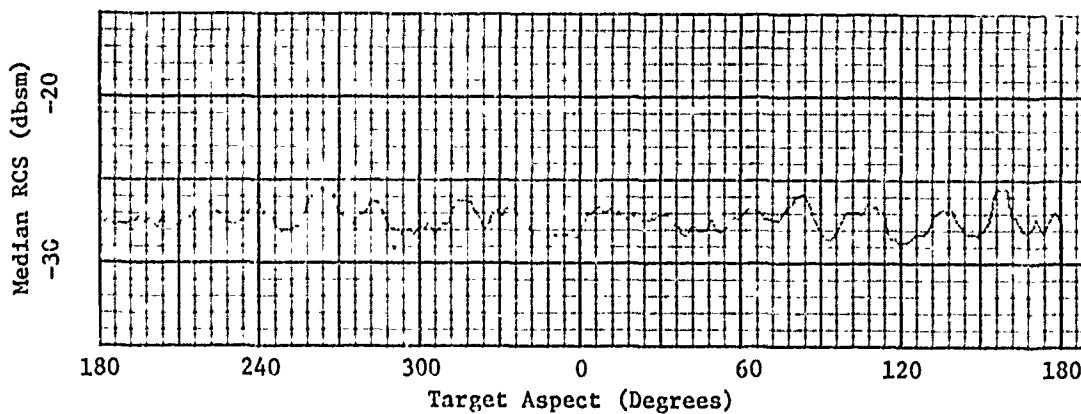


Figure 25c. Median Background Level, VH Polarization.

CONTROL NUMBER 72-17

Table I

DATA PLOT INDEX

Sheet 1

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISTATIC ANGLE	TARGET CONFIGURATION AND REMARKS
37	313A	5500	HH	0°	0°	0°	BQM-34A, RCS
38	313C	5500	HH	0	0	0	BQM-34A, Glint
39	315A	5500	VV	0	0	0	BQM-34A, RCS
40	315G	5500	VV	0	0	0	BQM-34A, Glint
41	318A	5500	VH	0	0	0	BQM-34A, RCS
42	318G	5500	VH	0	0	0	BQM-34A, Glint
43	927A	5500	HH	0	30	0	BQM-34A, RCS
44	927G	5500	HH	0	30	0	BQM-34A, Glint
45	925A	5500	VV	0	30	0	BQM-34A, RCS
46	925G	5500	VV	0	30	0	BQM-34A, Glint
47	929A	5500	VH	0	30	0	BQM-34A, RCS
48	929G	5500	VH	0	30	0	BQM-34A, Glint
49	930A	5500	HH	0	60	0	BQM-34A, RCS
50	936G	5500	HH	0	60	0	BQM-34A, Glint
51	940A	5500	VV	0	60	0	BQM-34A, RCS
52	940G	5500	VV	0	60	0	BQM-34A, Glint
53	938A	5500	VH	0	60	0	BQM-34A, RCS
54	338G	5500	VH	0	60	0	BQM-34A, Glint
55	214A	5500	HH	0	90	0	BQM-34A, RCS
56	214G	5500	HH	0	90	0	BQM-34A, Glint
57	218A	5500	VV	0	90	0	BQM-34A, RCS
58	218G	5500	VV	0	90	0	BQM-34A, Glint
59	216A	5500	VV	0	90	0	BQM-34A, RCS
60	216G	5500	VH	0	90	0	BQM-34A, Glint
61	225A	5500	HH	10	0	0	BQM-34A, RCS
62	225G	5500	HH	10	0	0	BQM-34A, Glint
63	228A	5500	VV	10	0	0	BQM-34A, RCS
64	228G	5500	VV	10	0	0	BQM-34A, Glint
65	226A	5500	VH	10	0	0	BQM-34A, RCS
66	226G	5500	VH	10	0	0	BQM-34A, Glint
67	230A	5500	HH	10	30	0	BQM-34A, RCS
68	230G	5500	HH	10	30	0	BQM-34A, Glint

CONTROL NUMBER 72-17

Table I

DATA PLOT INDEX

Sheet 2

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISTATIC ANGLE	TARGET CONFIGURATION AND REMARKS
69	234A	5500	VV	10°	30°	0°	BOM-34A, RCS
70	234G	5500	VV	10	30	0	BOM-34A, Glint
71	232A	5500	VH	10	30	0	BOM-34A, RCS
72	232G	5500	VH	10	30	0	BOM-34A, Glint
73	240A	5500	HH	10	60	0	BOM-34A, RCS
74	240G	5500	HH	10	60	0	BOM-34A, Glint
75	236A	5500	VV	10	60	0	BOM-34A, RCS
76	236C	5500	VV	10	60	0	BOM-34A, Glint
77	238A	5500	VH	10	60	0	BOM-34A, RCS
78	238G	5500	VH	10	60	0	BOM-34A, Glint
79	242A	5500	HH	10	90	0	BOM-34A, RCS
80	242G	5500	HH	10	90	0	BOM-34A, Glint
81	246A	5500	VV	10	90	0	BOM-34A, RCS
82	246G	5500	VV	10	90	0	BOM-34A, Glint
83	244A	5500	VH	10	90	0	BOM-34A, RCS
84	244G	5500	VH	10	90	0	BOM-34A, Glint
85	254A	5500	HH	20	0	0	BOM-34A, RCS
86	254G	5500	HH	20	0	0	BOM-34A, Glint
87	258A	5500	VV	20	0	0	BOM-34A, RCS
88	258G	5500	VV	20	0	0	BOM-34A, Glint
89	256A	5500	VH	20	0	0	BOM-34A, RCS
90	256G	5500	VH	20	0	0	BOM-34A, Glint
91	264A	5500	HH	20	30	0	BOM-34A, RCS
92	264G	5500	HH	20	30	0	BOM-34A, Glint
93	260A	5500	VV	20	30	0	BOM-34A, RCS
94	260G	5500	VV	20	30	0	BOM-34A, Glint
95	262A	5500	VH	20	30	0	BOM-34A, RCS
96	262G	5500	VH	20	30	0	BOM-34A, Glint
97	266A	5500	HH	20	60	0	BOM-34A, RCS
98	266G	5500	HH	20	60	0	BOM-34A, Glint
99	270A	5500	VV	20	60	0	BOM-34A, RCS
100	270G	5500	VV	20	60	0	BOM-34A, Glint

CONTROL NUMBER 72-17

Table I

DATA PLOT INDEX

Sheet 3

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISTATIC ANGLE	TARGET CONFIGURATION AND REMARKS
101	268A	5500	VH	20	60	0	BQM-34A, RCS
102	268G	5500	VH	20	60	0	BQM-34A, Glint
103	276A	5500	HH	20	90	0	BQM-34A, RCS
104	276G	5500	HH	20	90	0	BQM-34A, Glint
105	272A	5500	VV	20	90	0	BQM-34A, RCS
106	272G	5500	VV	20	90	0	BQM-34A, Glint
107	274A	5500	VH	20	90	0	BQM-34A, RCS
108	274G	5500	HH	20	90	0	BQM-34A, Glint
109	288A	5500	HH	30	0	0	BQM-34A, RCS
110	288G	5500	HH	30	0	0	BQM-34A, Glint
111	281A	5500	VV	30	0	0	BQM-34A, RCS
112	281G	5500	VV	30	0	0	BQM-34A, Glint
113	286A	5500	VH	30	0	0	BQM-34A, RCS
114	286G	5500	VH	30	0	0	BQM-34A, Glint
115	299A	5500	HH	30	30	0	BQM-34A, RCS
116	299G	5500	HH	30	30	0	BQM-34A, Glint
117	303A	5500	VV	30	30	0	BQM-34A, RCS
118	303G	5500	VV	30	30	0	BQM-34A, Glint
119	301A	5500	VH	30	30	0	BQM-34A, RCS
120	301G	5500	VH	30	30	0	BQM-34A, Glint
121	948A	5500	HH	30	60	0	BQM-34A, RCS
122	948G	5500	HH	30	60	0	BQM-34A, Glint
123	952A	5500	VV	30	60	0	BQM-34A, RCS
124	952G	5500	VV	30	60	0	BQM-34A, Glint
125	950A	5500	VH	30	60	0	BQM-34A, RCS
126	950G	5500	VH	30	60	0	BQM-34A, Glint
127	963A	5500	HH	30	90	0	BQM-34A, RCS
128	963G	5500	HH	30	90	0	BQM-34A, Glint
129	967A	5500	VV	30	90	0	BQM-34A, RCS
130	967G	5500	VV	30	90	0	BQM-34A, Glint
131	965A	5500	VH	30	90	0	BQM-34A, RCS
132	965G	5500	VH	30	90	0	BQM-34A, Glint

CONTROL NUMBER 72-17

Table I

DATA PLOT INDEX

Sheet 4

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISTATIC ANGLE	TARGET CONFIGURATION AND REMARKS
133	14A	5500	HH	0°	0°	0°	BOM-34F, RCS
134	14G	5500	HH	0	0	0	BOM-34F, Glint
135	10A	5500	VV	0	0	0	BOM-34F, RCS
136	10G	5500	VV	0	0	0	BOM-34F, Glint
137	12A	5500	VH	0	0	0	BOM-34F, RCS
138	12G	5500	VH	0	0	0	BOM-34F, Glint
139	16A	5500	HH	0	30	0	BOM-34F, RCS
140	16G	5500	HH	0	30	0	BOM-34F, Glint
141	20A	5500	VV	0	30	0	BOM-34F, RCS
142	20G	5500	VV	0	30	0	BOM-34F, Glint
143	19A	5500	VH	0	30	0	BOM-34F, RCS
144	19G	5500	VH	0	30	0	BOM-34F, Glint
145	27A	5500	HH	0	60	0	BOM-34F, RCS
146	27G	5500	HH	0	60	0	BOM-34F, Glint
147	23A	5500	VV	0	60	0	BOM-34F, RCS
148	23G	5500	VV	0	60	0	BOM-34F, Glint
149	24A	5500	VH	0	60	0	BOM-34F, RCS
150	24G	5500	VH	0	60	0	BOM-34F, Glint
151	29A	5500	HH	0	90	0	BOM-34F, RCS
152	29G	5500	HH	0	90	0	BOM-34F, Glint
153	33A	5500	VV	0	90	0	BOM-34F, RCS
154	33G	5500	VV	0	90	0	BOM-34F, Glint
155	31A	5500	VH	0	90	0	BOM-34F, RCS
156	31G	5500	VH	0	90	0	BOM-34F, Glint
157	40A	5500	HH	10	0	0	BOM-34F, RCS
158	40G	5500	HH	10	0	0	BOM-34F, Glint
159	34A	5500	VV	10	0	0	BOM-34F, RCS
160	34G	5500	VV	10	0	0	BOM-34F, Glint
161	42A	5500	VH	10	0	0	BOM-34F, RCS
162	42G	5500	VH	10	0	0	BOM-34F, Glint
163	44A	5500	HH	10	30	0	BOM-34F, RCS
164	44G	5500	HH	10	30	0	BOM-34F, Glint

CONTROL NUMBER 72-17 Table I DATA PLOT INDEX Sheet 5

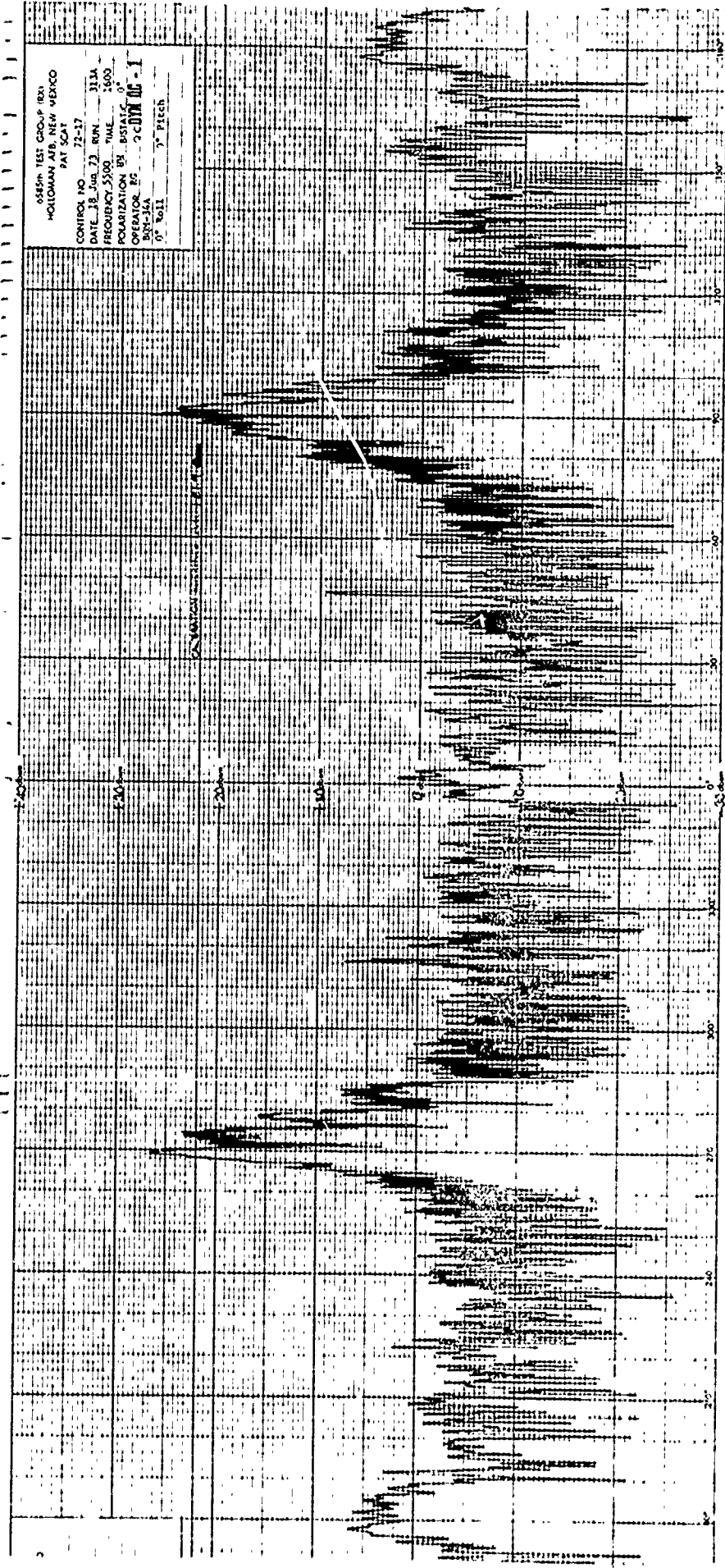
PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISATIC ANGLE	TARGET CONFIGURATION AND REMARKS
165	46A	5500	VV	10°	30°	0°	BOM-34F, RCS
166	46G	5500	VV	10	30	0	BOM-34F, Glint
167	48A	5500	VH	10	30	0	BOM-34F, RCS
168	48G	5500	VH	10	30	0	BOM-34F, Glint
169	52A	5500	HH	10	60	0	BOM-34F, RCS
170	52G	5500	HH	10	60	0	BOM-34F, Glint
171	50A	5500	VV	10	60	0	BOM-34F, RCS
172	50G	5500	VV	10	60	0	BOM-34F, Glint
173	54A	5500	VH	10	60	0	BOM-34F, RCS
174	54G	5500	VH	10	60	0	BOM-34F, Glint
175	56A	5500	HH	10	90	0	BOM-34F, RCS
176	56G	5500	HH	10	90	0	BOM-34F, Glint
177	60A	5500	VV	10	90	0	BOM-34F, RCS
178	60G	5500	VV	10	90	0	BOM-34F, Glint
179	58A	5500	VH	10	90	0	BOM-34F, RCS
180	58G	5500	VH	10	90	0	BOM-34F, Glint
181	115A	5500	HH	20	0	0	BOM-34F, RCS
182	115G	5500	HH	20	0	0	BOM-34F, Glint
183	117A	5500	VV	20	0	0	BOM-34F, RCS
184	117G	5500	VV	20	0	0	BOM-34F, Glint
185	119A	5500	VH	20	0	0	BOM-34F, RCS
186	119G	5500	VH	20	0	0	BOM-34F, Glint
187	121A	5500	HH	20	30	0	BOM-34F, RCS
188	121G	5500	HH	20	30	0	BOM-34F, Glint
189	125A	5500	VV	20	30	0	BOM-34F, RCS
190	125G	5500	VV	20	30	0	BOM-34F, Glint
191	123A	5500	VH	20	30	0	BOM-34F, RCS
192	123G	5500	VH	20	30	0	BOM-34F, Glint
193	146A	5500	HH	20	60	0	BOM-34F, RCS
194	146G	5500	HH	20	60	0	BOM-34F, Glint
195	148A	5500	VV	20	60	0	BOM-34F, RCS
196	148G	5500	VV	20	60	0	BOM-34F, Glint

CONTROL NUMBER 72-17 Table I DATA PLOT INDEX Sheet 6

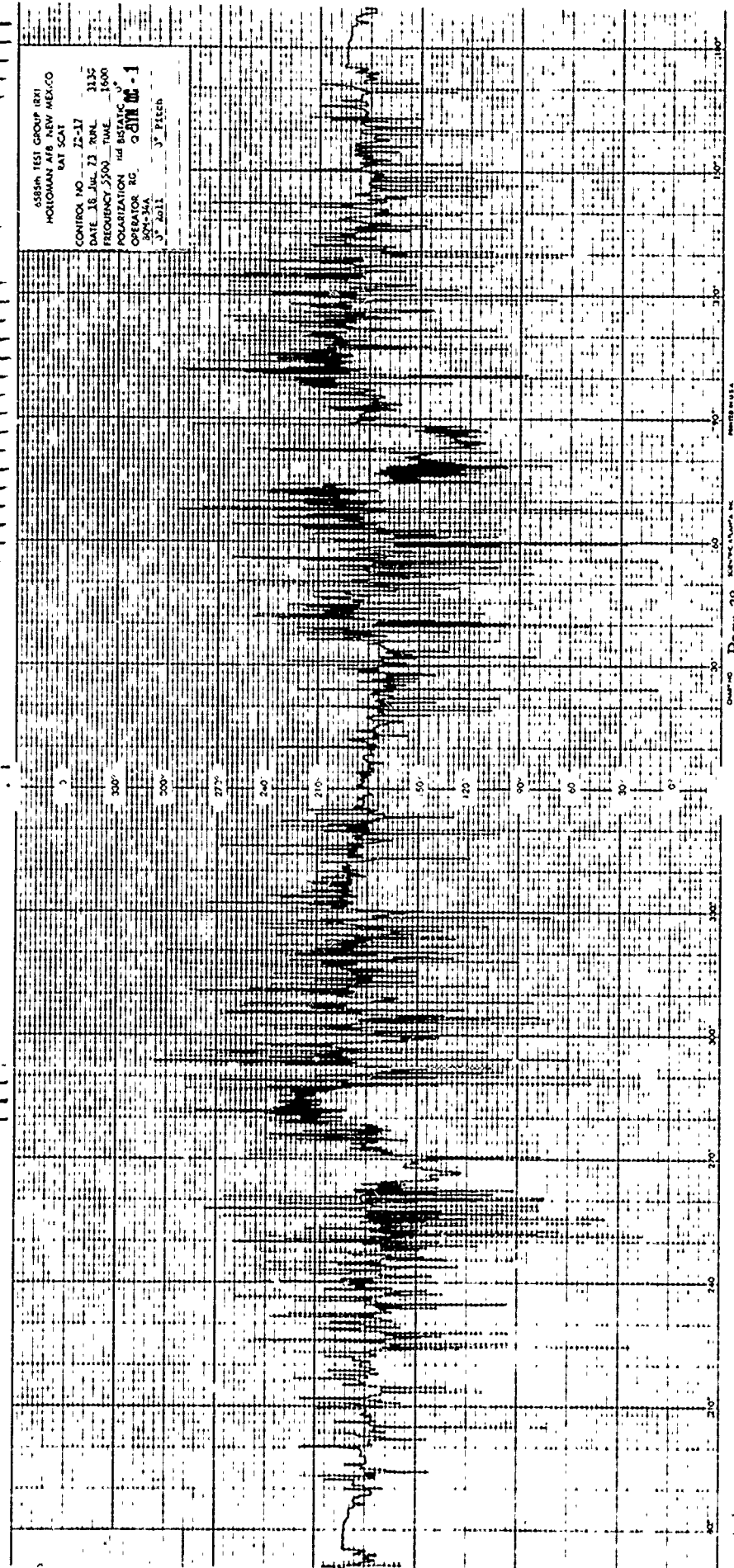
PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	BISTATIC ANGLE	TARGET CONFIGURATION AND REMARKS
197	145A	5500	VH	20°	60°	0°	BQM-34F, RCS
198	145G	5500	VH	20	60	0	BQM-34F, Glint
199	150A	5500	HH	20	90	0	BQM-34F, RCS
200	150G	5500	HH	20	90	0	BQM-34F, Glint
201	154A	5500	VV	20	90	0	BQM-34F, RCS
202	154G	5500	VV	20	90	0	BQM-34F, Glint
203	152A	5500	VH	20	90	0	BQM-34F, RCS
204	152G	5500	VH	20	90	0	BQM-34F, Glint
205	159A	5500	HH	30	0	0	BQM-34F, RCS
206	159G	5500	HH	30	0	0	BQM-34F, Glint
207	163A	5500	VV	30	0	0	BQM-34F, RCS
208	163G	5500	VV	30	0	0	BQM-34F, Glint
209	161A	5500	VH	30	0	0	BQM-34F, RCS
210	161G	5500	VH	30	0	0	BQM-34F, Glint
211	179A	5500	HH	30	30	0	BQM-34F, RCS
212	179G	5500	HH	30	30	0	BQM-34F, Glint
213	182A	5500	VV	30	30	0	BQM-34F, RCS
214	182G	5500	VV	30	30	0	BQM-34F, Glint
215	180A	5500	VH	30	30	0	BQM-34F, RCS
216	180G	5500	VH	30	30	0	BQM-34F, Glint
217	166A	5500	HH	30	60	0	BQM-34F, RCS
218	166G	5500	HH	30	60	0	BQM-34F, Glint
219	170A	5500	VV	30	60	0	BQM-34F, RCS
220	170G	5500	VV	30	60	0	BQM-34F, Glint
221	168A	5500	VH	30	60	0	BQM-34F, RCS
222	168G	5500	VH	30	60	0	BQM-34F, Glint
223	176A	5500	HH	30	90	0	BQM-34F, RCS
224	176G	5500	HH	30	90	0	BQM-34F, Glint
225	172A	5500	VV	30	90	0	BQM-34F, RCS
226	172G	5500	VV	30	90	0	BQM-34F, Glint
227	174A	5500	VH	30	90	0	BQM-34F, RCS
228	174G	5500	VH	30	90	0	BQM-34F, Glint

0855th TEST GROUP (RTA)
HOLLOWAY AFB, NEW MEXICO
PAT SCAT

CONTROL NO. 72-17
DATE 18 Jul 73 RW 311A
FREQUENCY 5500 MHz 1400
POLARIZATION U - BIST
OPERATOR SP - CROWN HP - 1
BY MAIL 7 PRECH



6588th TEST GROUP (RT)I
 HOLLAMAN AFB NEW MEXICO
 SAT SCAT
 CONTROL NO. 22-17
 DATE 16 Jul 73 709L 3135
 FREQUENCY 5500 TIME 1600
 POLARIZATION THE BOSTATIC
 OPERATOR RC O'DWIG - J
 804-34A J 4011 J Pitch

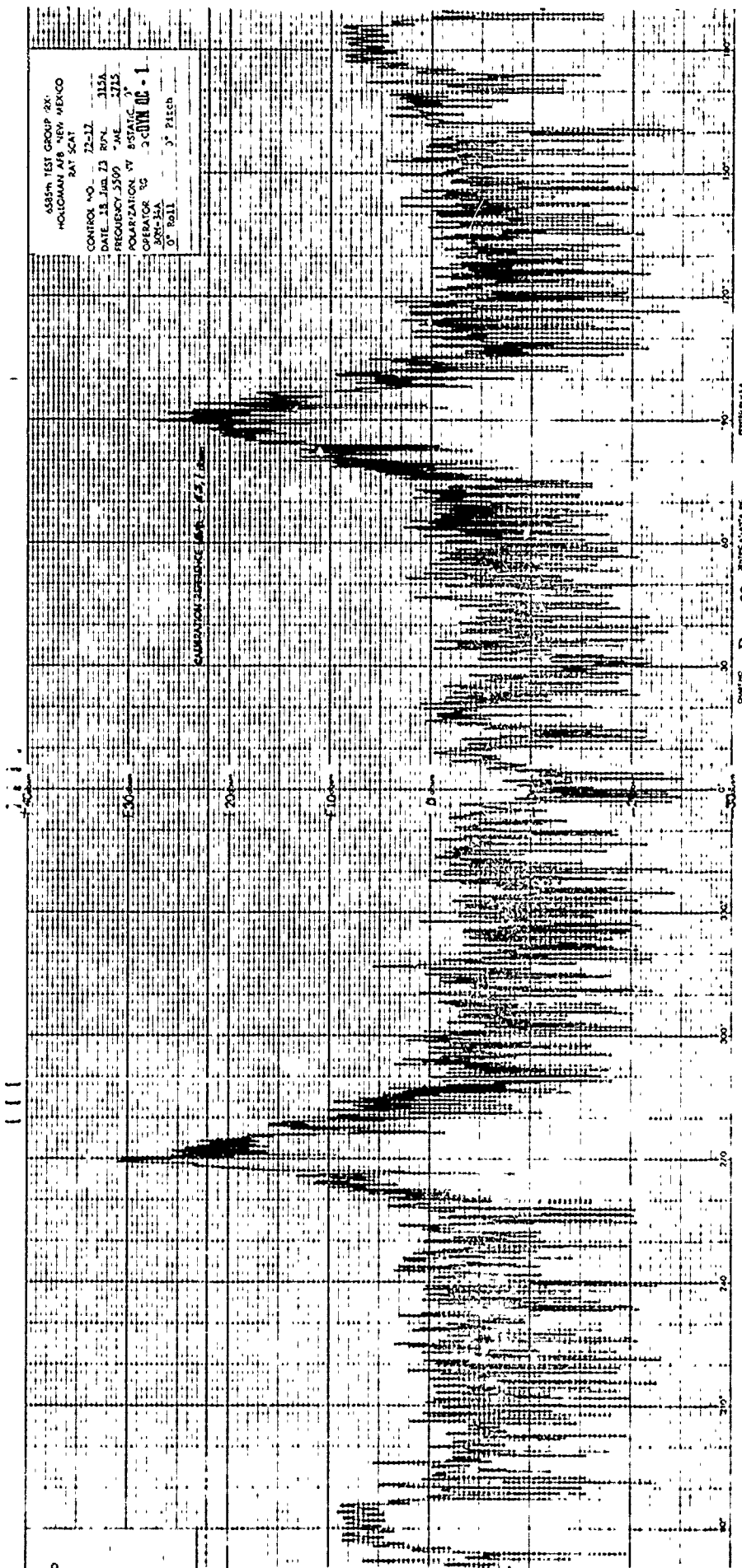


DUMBO Page 38
 SERVING PLUMBA BK
 NUMBER 8011

ASST. TEST GROUP 2X
HOLLAMAN AFB NEW MEXICO
RAT SCAT

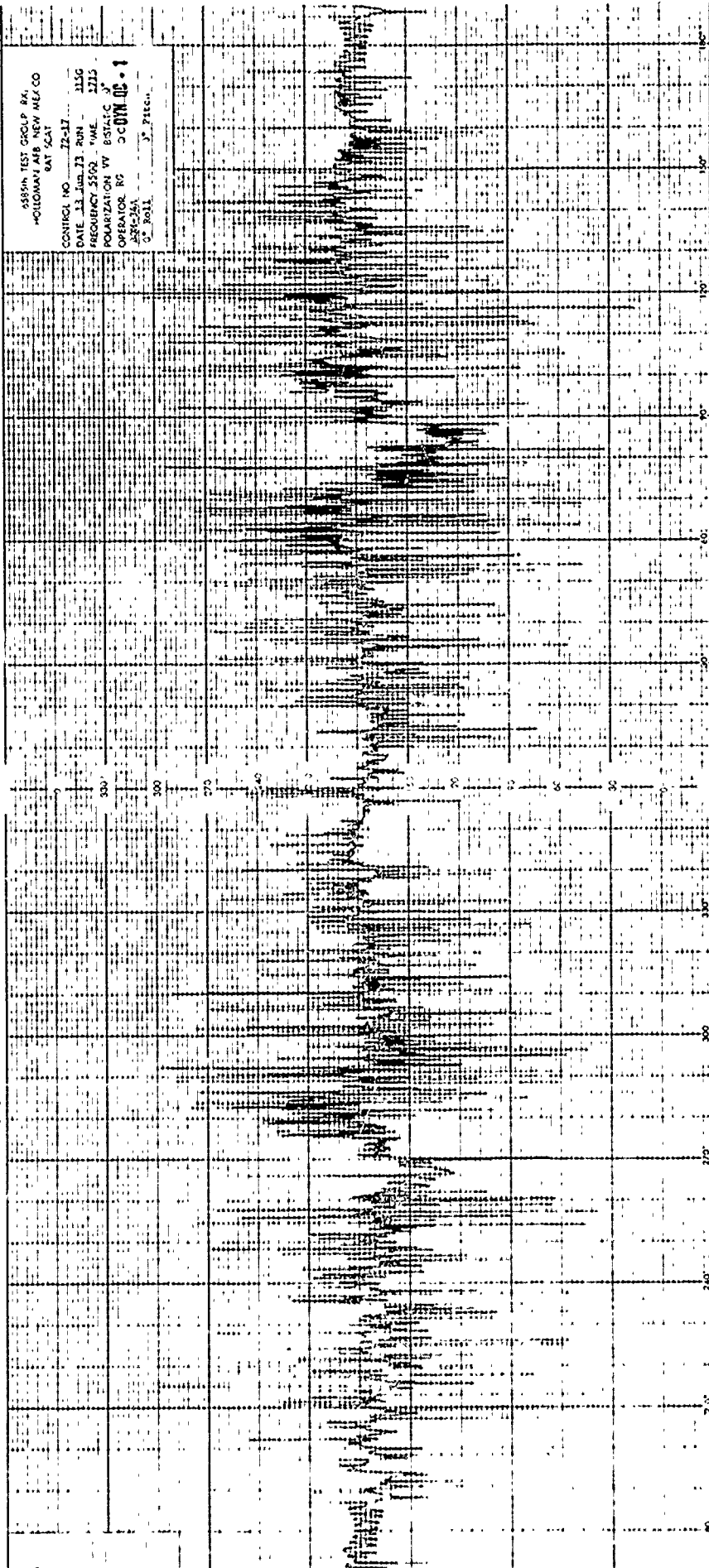
CONTROL NO. 72-11
DATE 18 Jun 73 RPN 315A
FREQUENCY 5500 MAE 2715
POLARIZATION VV B/STATIC 3
OPERATOR TG JCHW DE-1
88-3A
0° Roll 0° Pitch

CALCULATION REFERENCE: 44-1-1637



555th TEST GROUP IN
HOLLOMAN AIR NEW MEX CO
SAT SAT

CONTROL NO 72-17
DATE 11 Jun 73 RUN 1156
FREQUENCY 5502 TIME 1215
POLARIZATION W ESTATIC J
OPERATOR RG CCBW UC-1
APC-2A
C. Roll J. P. Rich



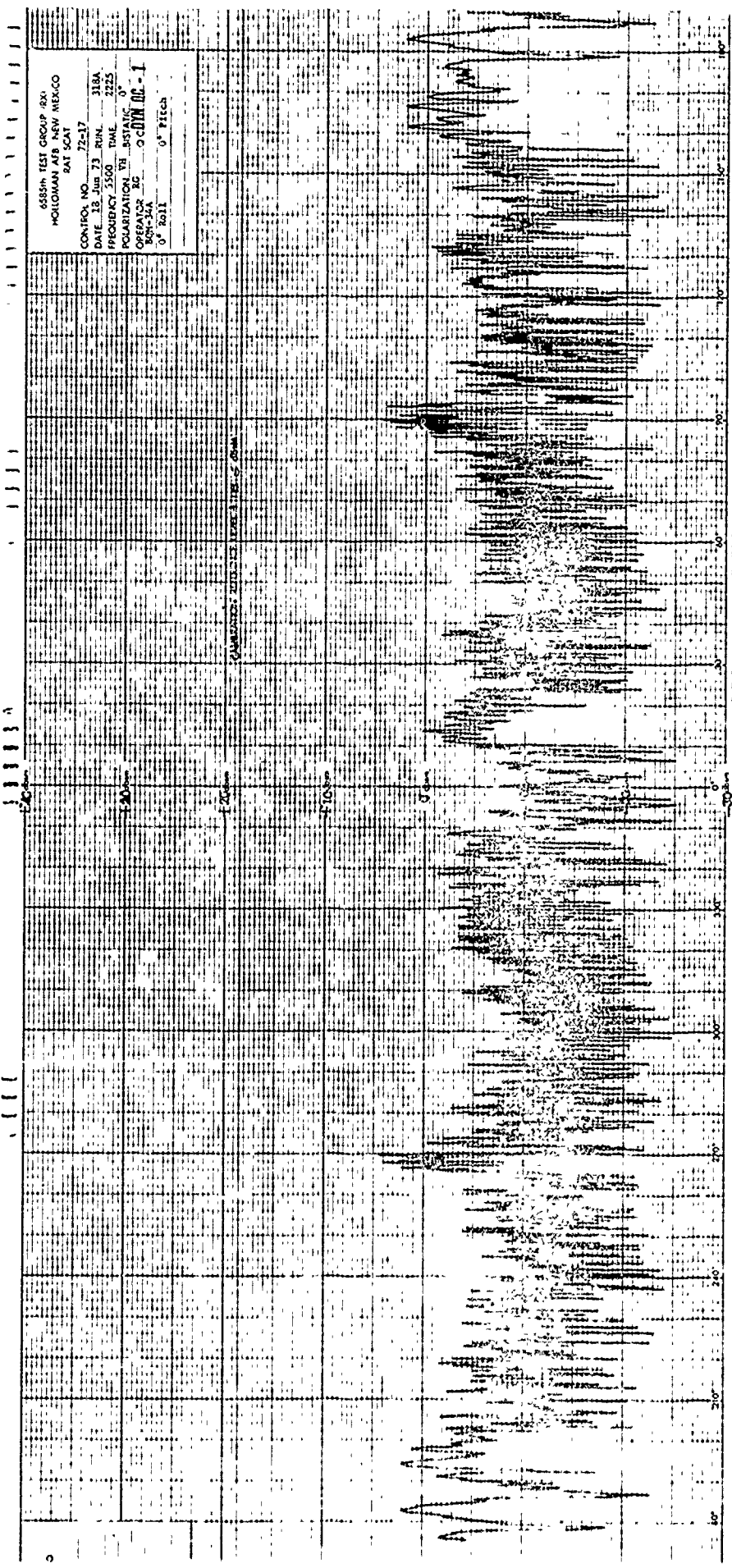
PERIODS

COUNTS

Page 40

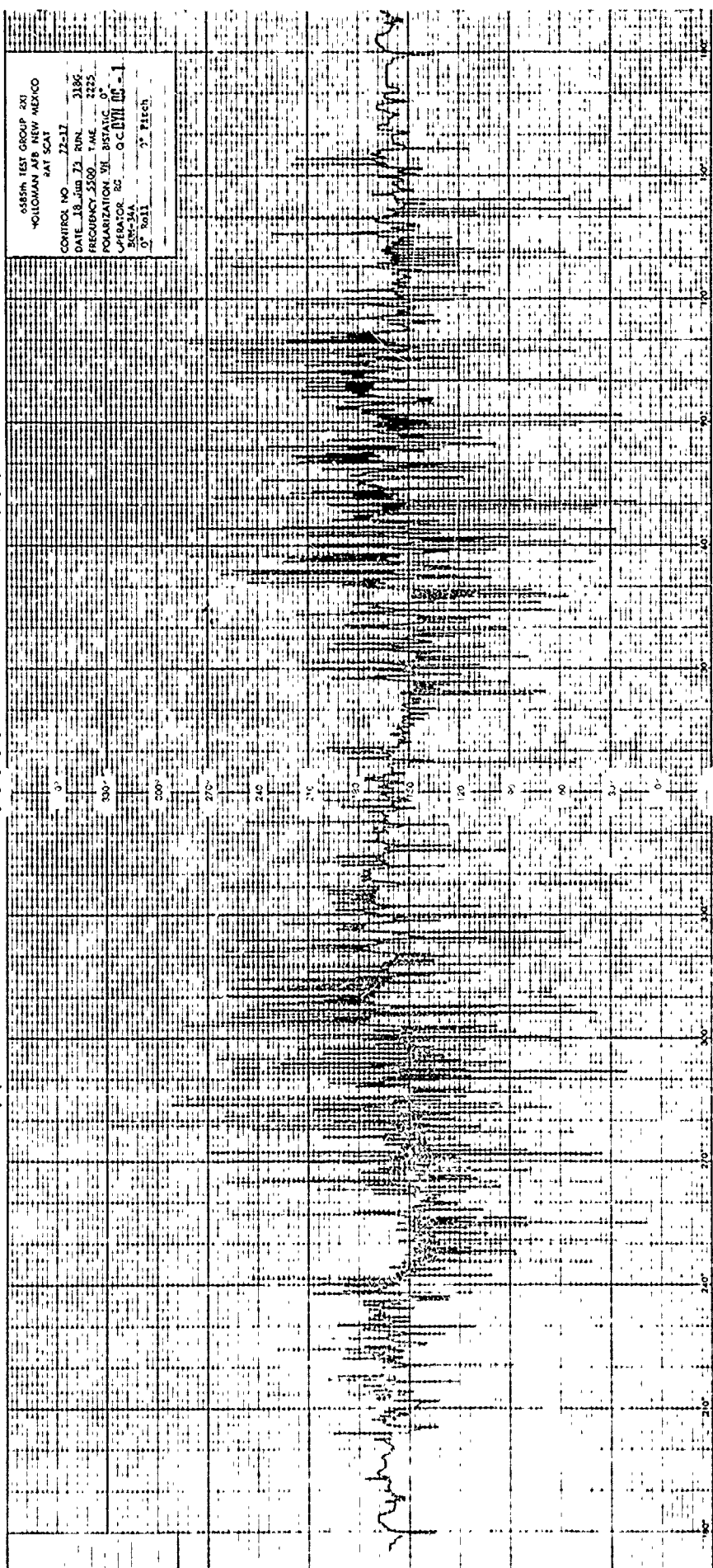
6585th TEST GROUP (RA)
HOLLOMAN AFB NEW MEXICO
RAT SCAT

CONTROL NO. 72-17
DATE 18 Jun 73 RUN 318A
FREQUENCY 5500 TIME 2225
POLARIZATION VERTICAL
OPERATOR RG O'DONNAN
R09-34A 0° Roll 0° Pitch

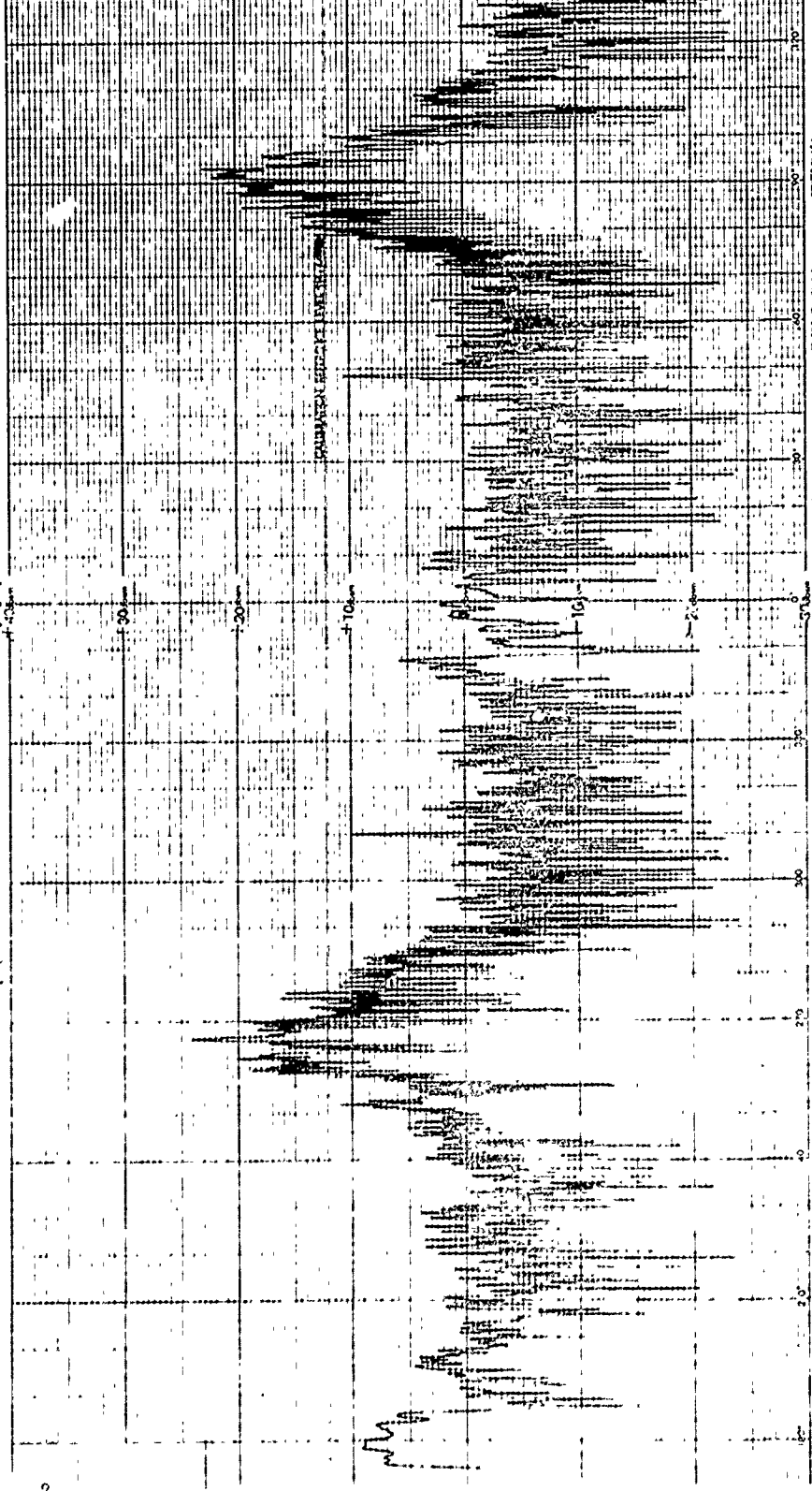


6858th TEST GROUP XXI
WOLLOMAN AFB NEW MEXICO
SAT SCAT

CONTROL NO. 72-17
DATE 18 Jun 71 BNL 1186
FREQUENCY 2500 MHz 2225
POLARIZATION RH 85% 0°
OPERATOR BG G.C. BIL 05-1
800-5A
7 8011 2 Pich

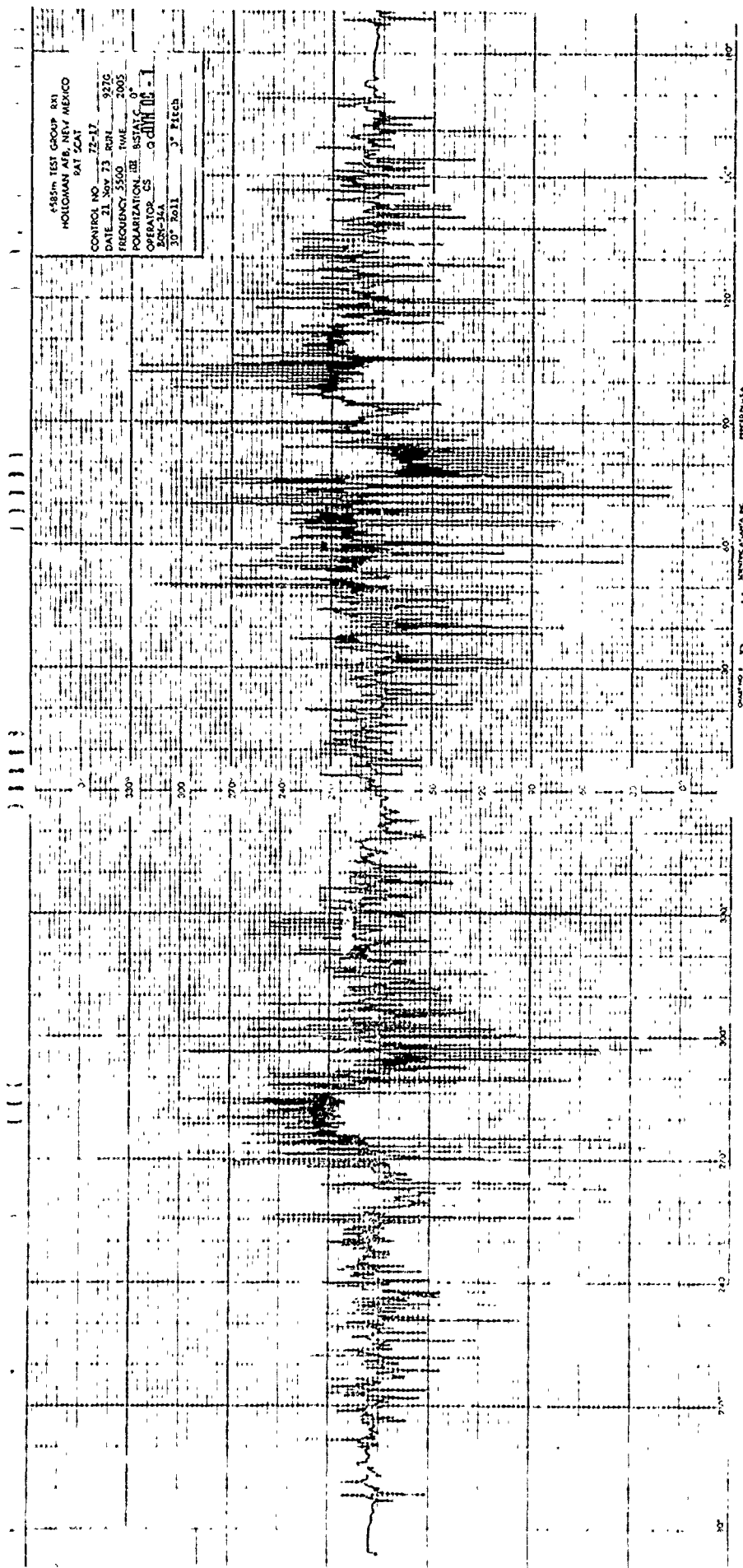


6556A TEST CASE, RUN
 MOTOROLA AT SCAR, MEXICO
 CONTROL NO. 72-31
 DATE 21 SEP 73. RUN 27A
 FREQUENCY 3500. TIME 3:05
 POLARIZATION 3H. INSTANT
 OPERATOR CS. O CATH DE - I
 200-10A 3" Pitch
 30" 2011



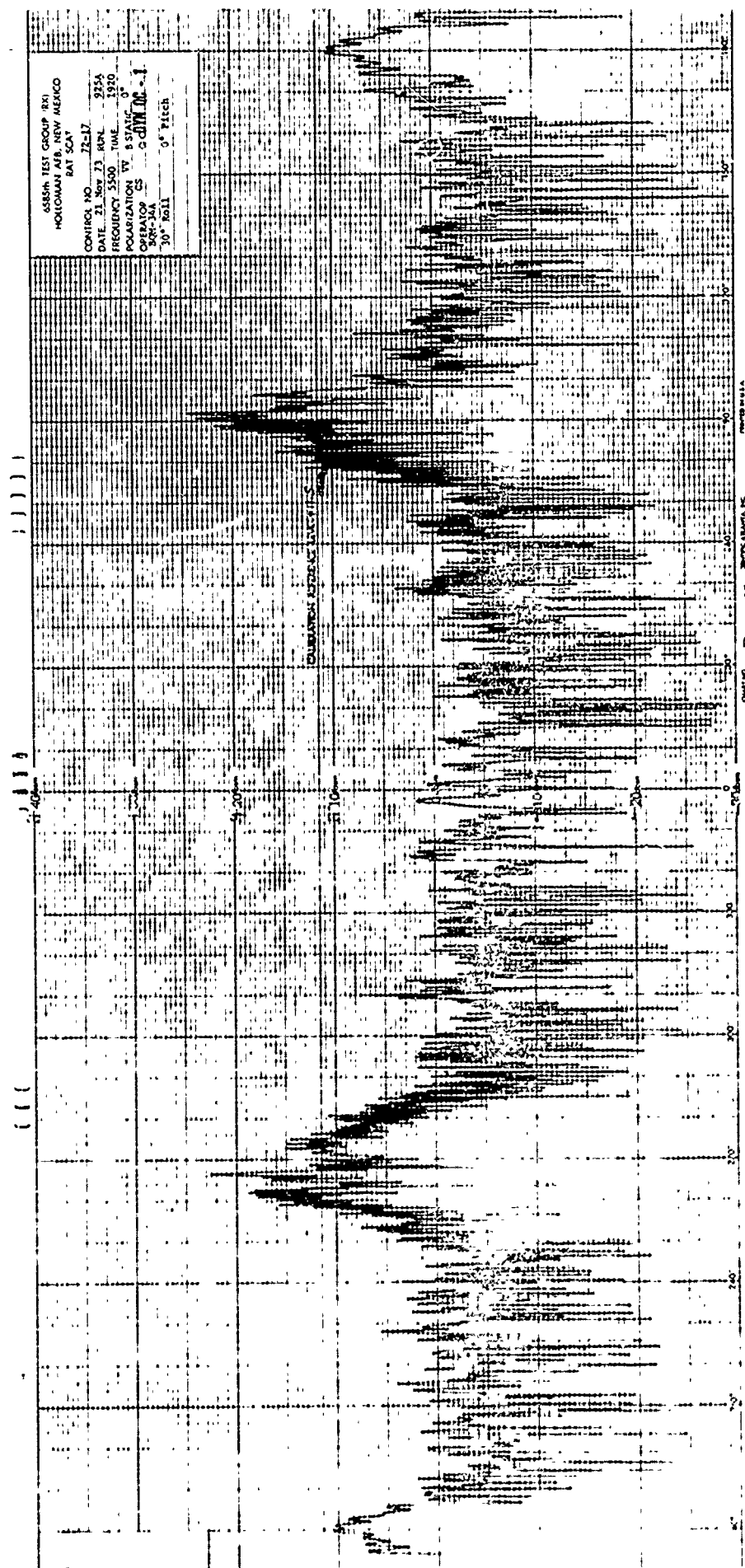
488th TEST GROUP R1
HOLLOWAY AFB, NEW MEXICO
SAT SCAT

CONTROL NO. ZZ-17 9276
DATE 21 Nov 73 RRL
FREQUENCY 5500 TWE 2005
POLARIZATION LH RSTAT 0°
OPERATOR CS
BOM-34A
30° 20.11 3° Pitch

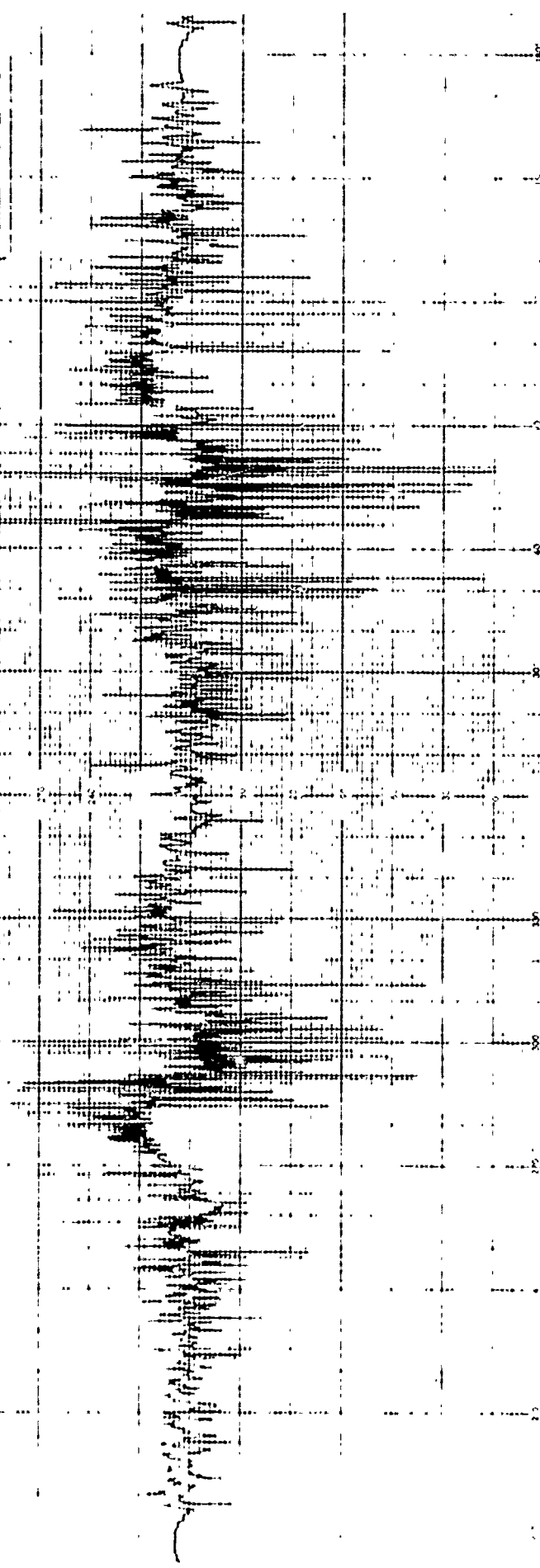


ASSEA TEST GROUP BK1
 HOLLOMAN AFB, NEW MEXICO
 RAT SCAT

CONTROL NO.	72-17
DATE	21 Nov 71
FREQUENCY	2550
POLARIZATION	W
OPERATOR	G CHH
TIME	08-11
30° Azim	0° Pitch

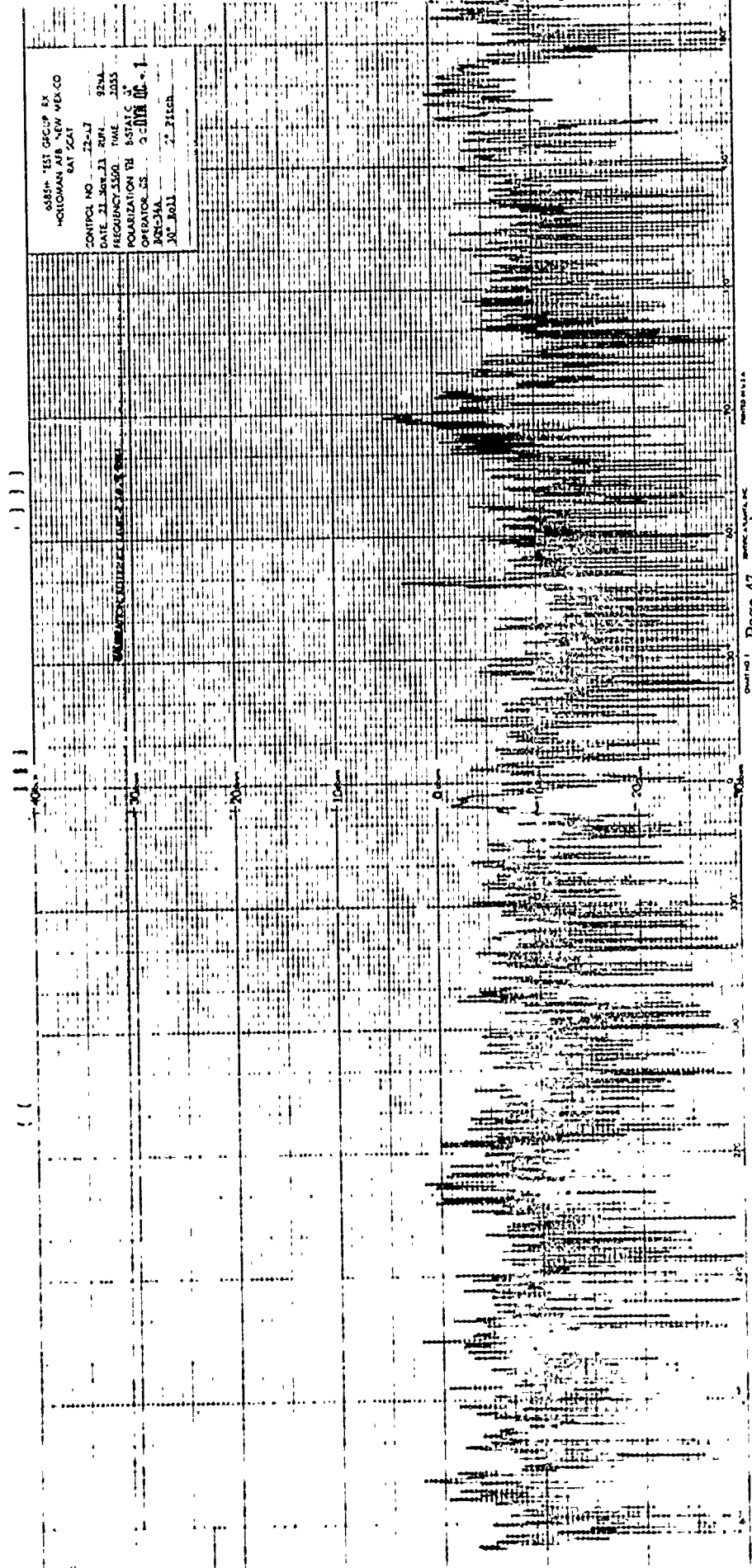


5851P TEST GROUP BK
HOLLAND AFB NEW MEX CC
SAT SCAT
CONTROL NO 72-17
DATE 11 MAY 73 RUN 325G
FREQUENCY 55.90 * WE 1220
POLARIZATION VV INSTALC
OPERATOR CS
504-36A
A* Roll 2 Pitch

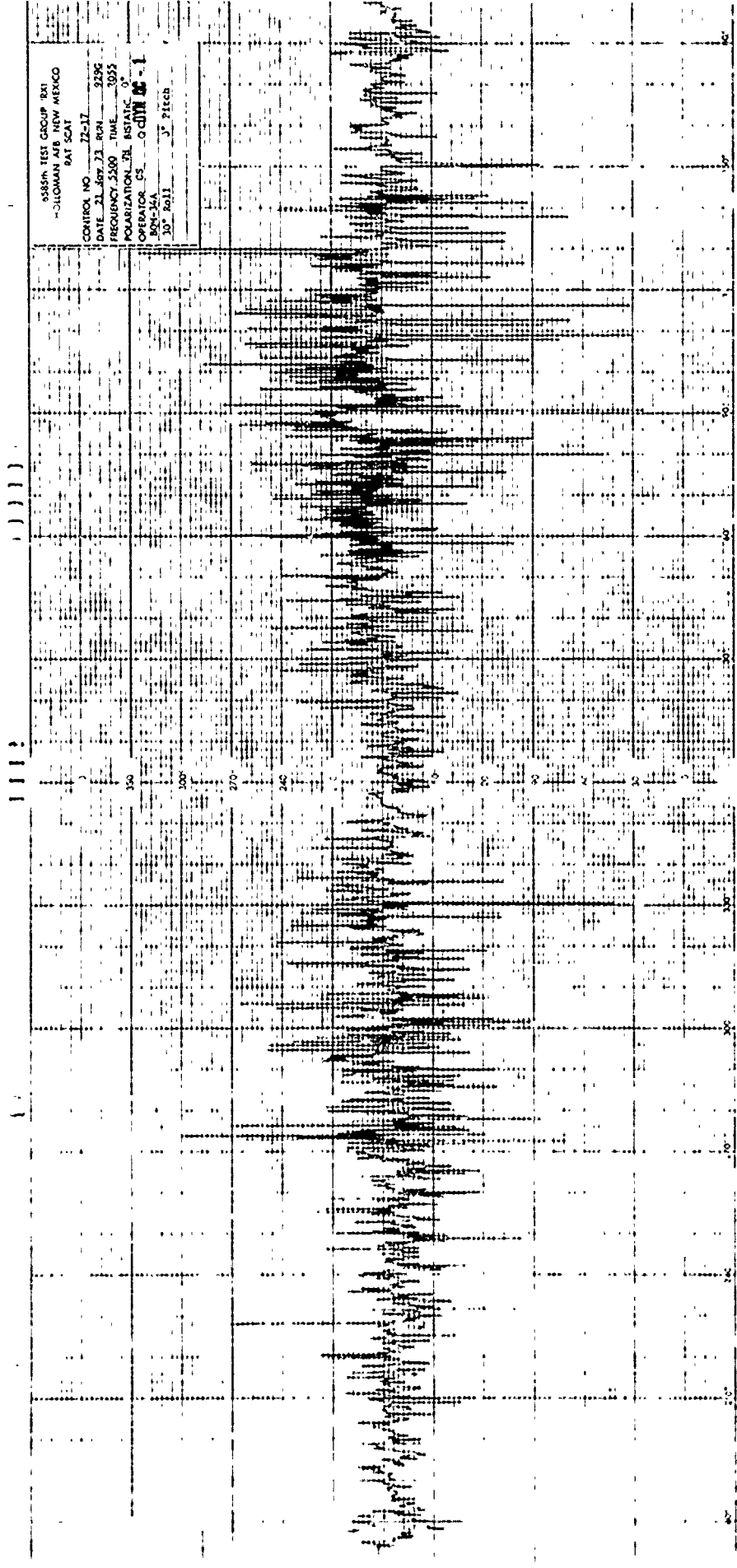


5856a TEST REC'D BY
MOTOMAN AIR NEW MEX CO
SAT ZCAT

CONTROL NO. 22-17
DATE 21 Nov 51 RPM 9244
FREQUENCY 5580 TIME 2105
POLARIZATION VE 5574 C
OPERATOR SS 3 CHH 00-1
PRCCHA
NO Roll 2 Pisch

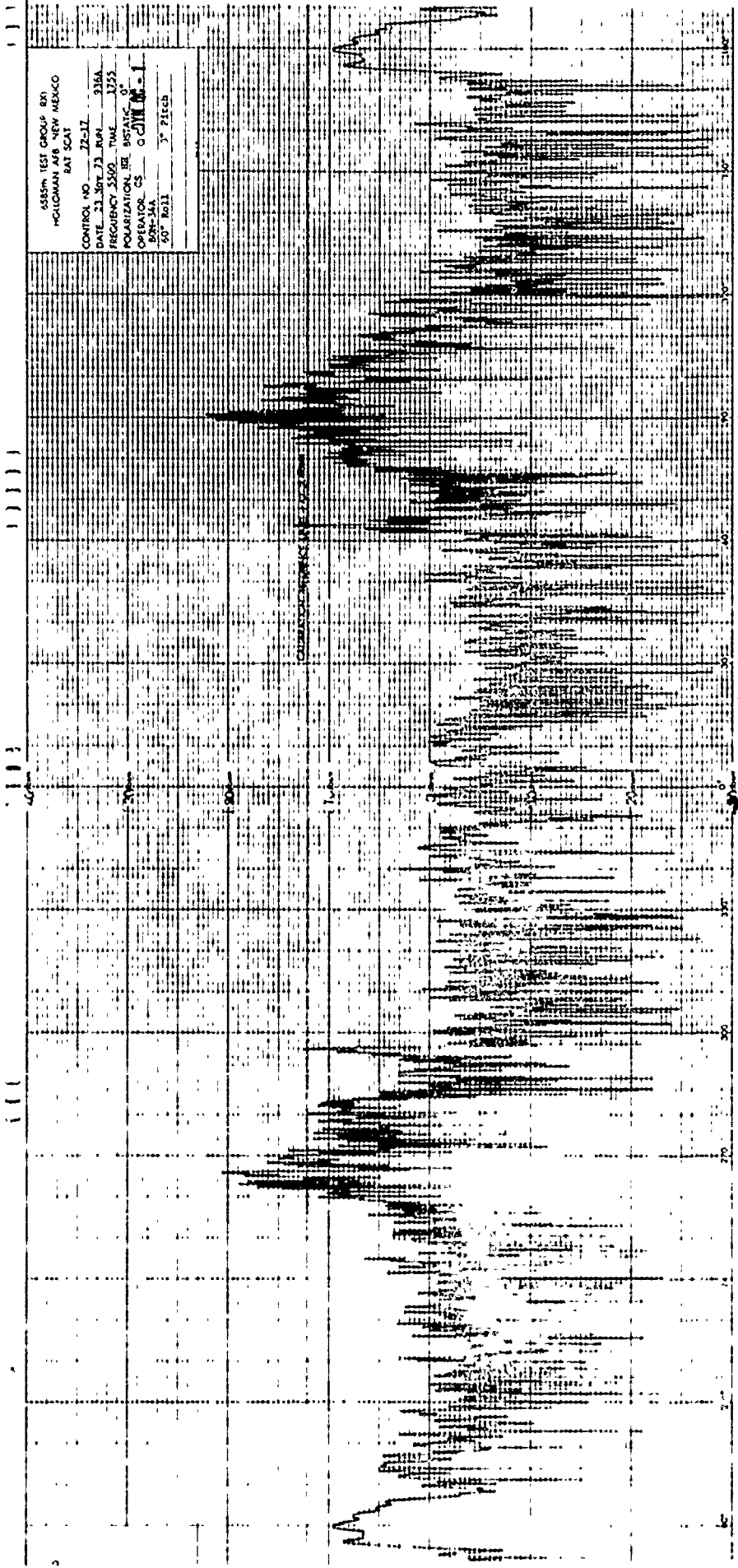


5856A TEST GROUP 101
 -CALOMAN LAB NEW MEXICO
 RAT SCAL
 CONTROL NO. 12-31
 DATE 21 Apr 71 RUN 2296
 FREQUENCY 5300 TIME 0055
 POLARIZATION OR BISTATIC 0
 OPERATOR CS O CUM 05-1
 804-344
 30" Roll 3" Pitch



ASSIGN TEST GROUP: BDI
MCCLIMAN AFB NEW MEXICO
RAT SCAT

CONTROL NO: 72-17
DATE: 21 Oct 73 RPA 936A
FREQUENCY: 5.500 MHz 1255
POLARIZATION: RH DISTANCE: 0
OPERATOR: CS GCM
50° Roll 3° Pitch



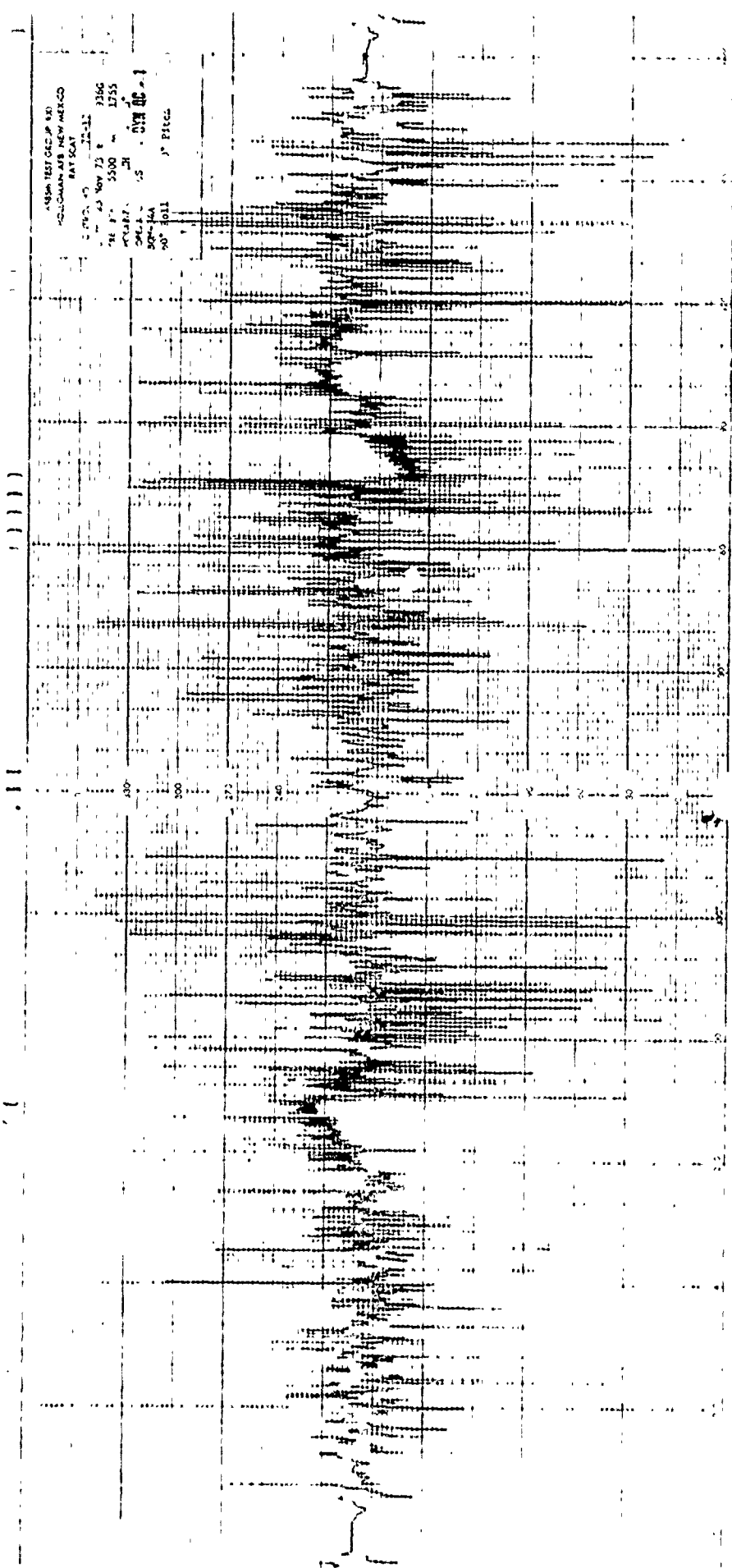
ASBMA TEST CELL NO. 810
HOLLAND IN EAST NEW MEXICO

DATE: 27 NOV 23 1942

TIME: 5500

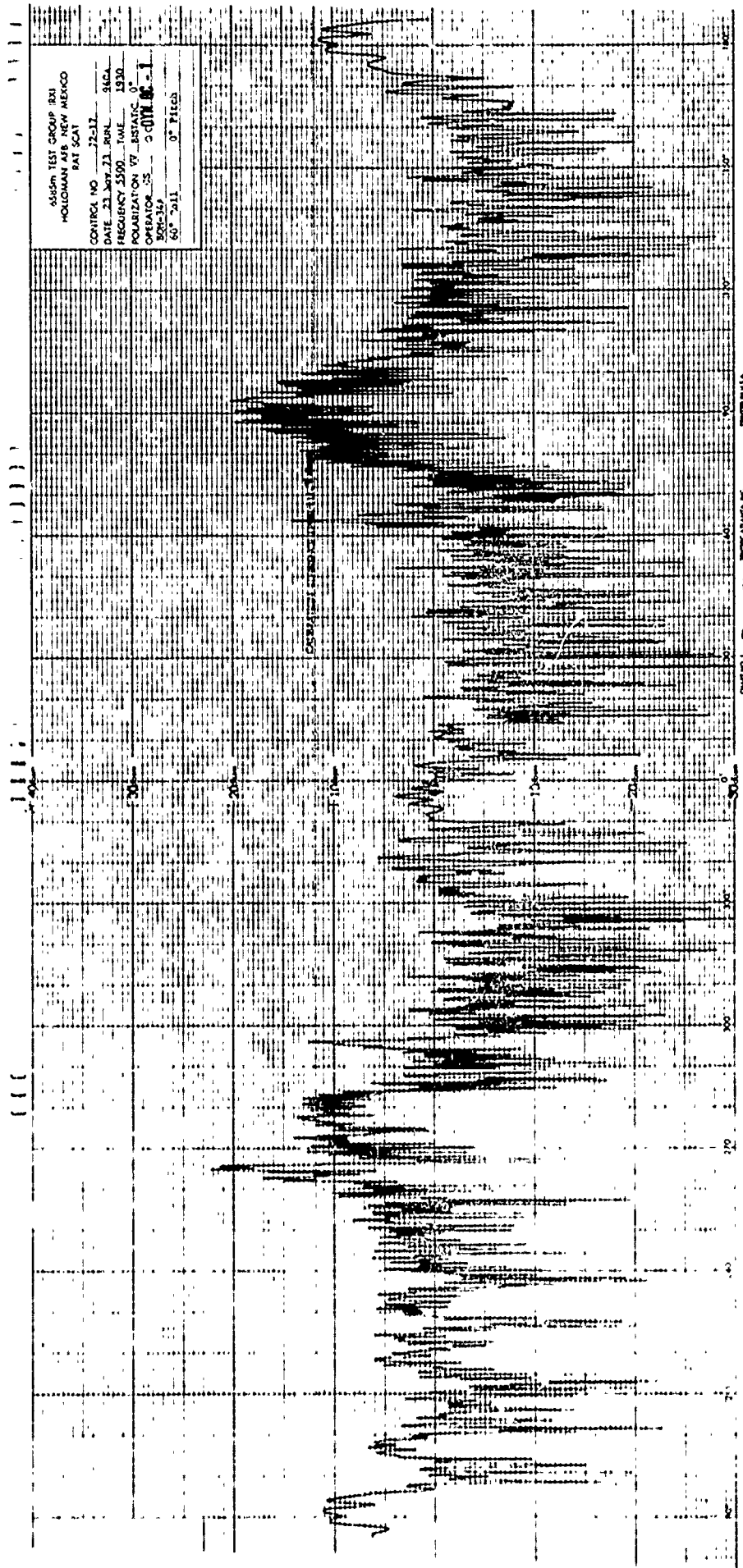
OPERATOR: J. P. ...

90° ETC



5585th TEST GROUP (BX)
HOLLAMAN AFB NEW MEXICO
PAT SCAT

CONTROL NO 72-317
DATE 23 Nov 71 RUN 91CA
FREQUENCY 5500 TIME 1930
POLARIZATION VERTICAL
OPERATOR JS - 207M BC - 1
SR-369
60° Roll 0° Pitch

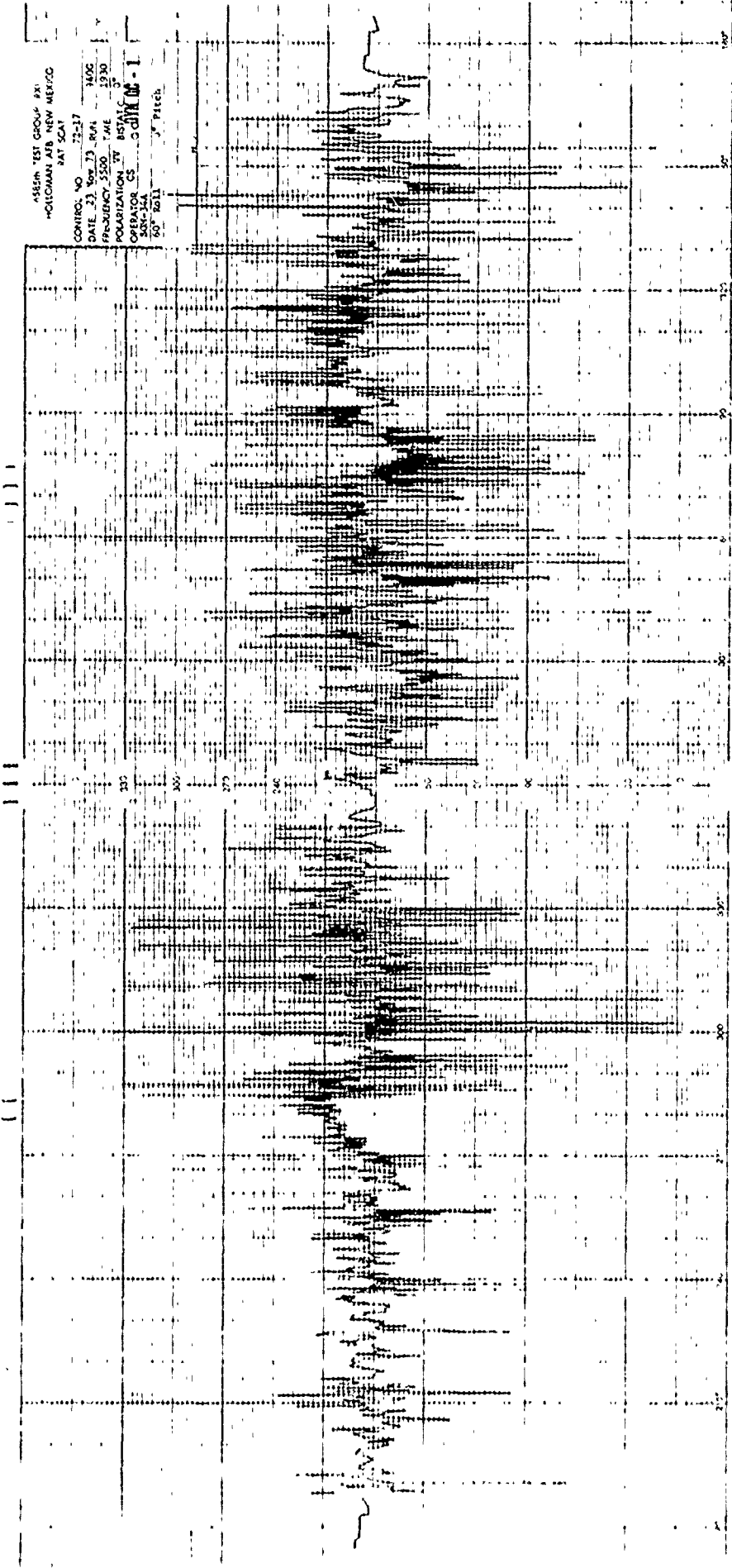


RECORD 10114

ASSEN TEST GROUP #1
HOLCOMB AFB NEW MEXICO
RAT SCAT

CONTROL NO. 22-17
DATE 23 SEP 73 RFA 1106
FREQUENCY 2500 TAE 1230
POLARIZATION TV BSM
OPERATOR CS
26N-25A
90-1011

Y Pitch

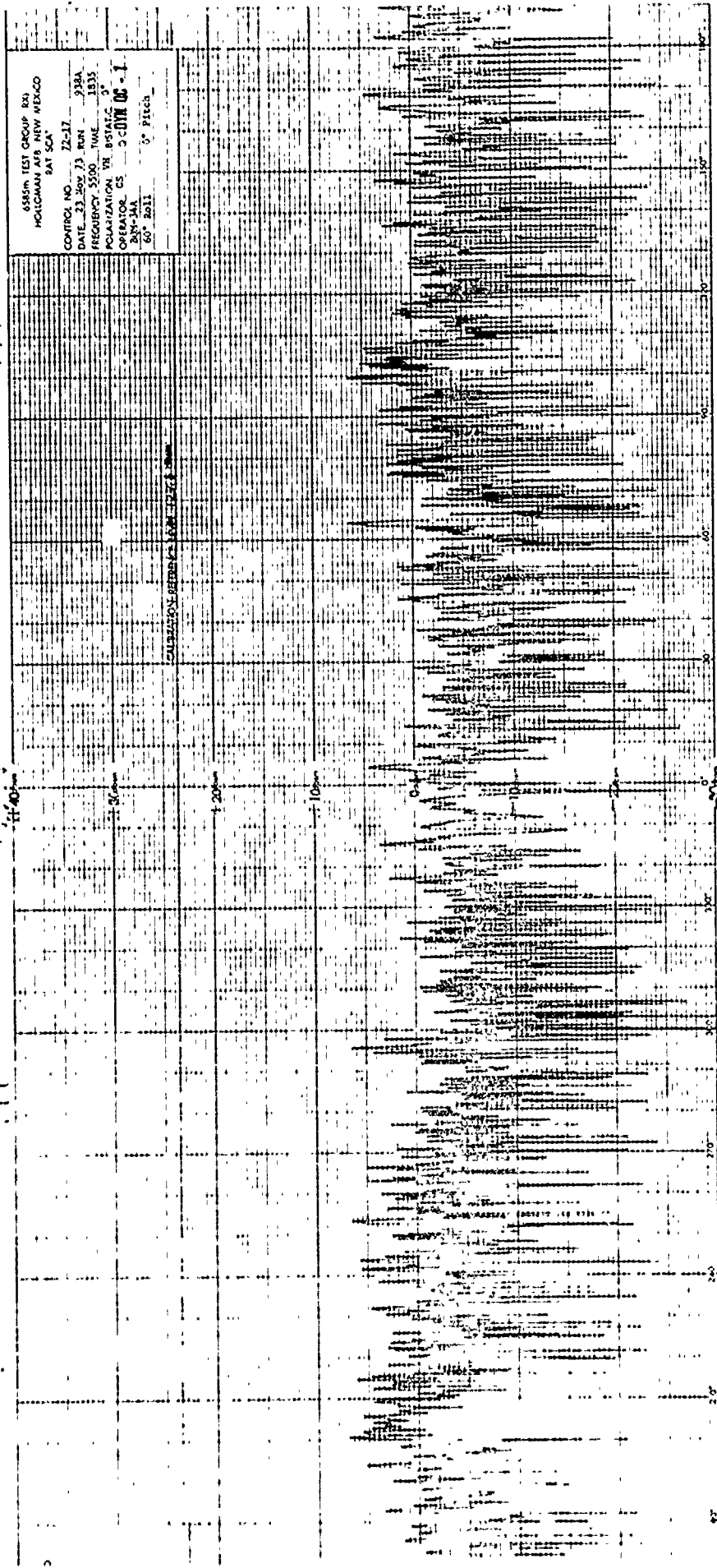


DATE 23 SEP 73 TIME 1106

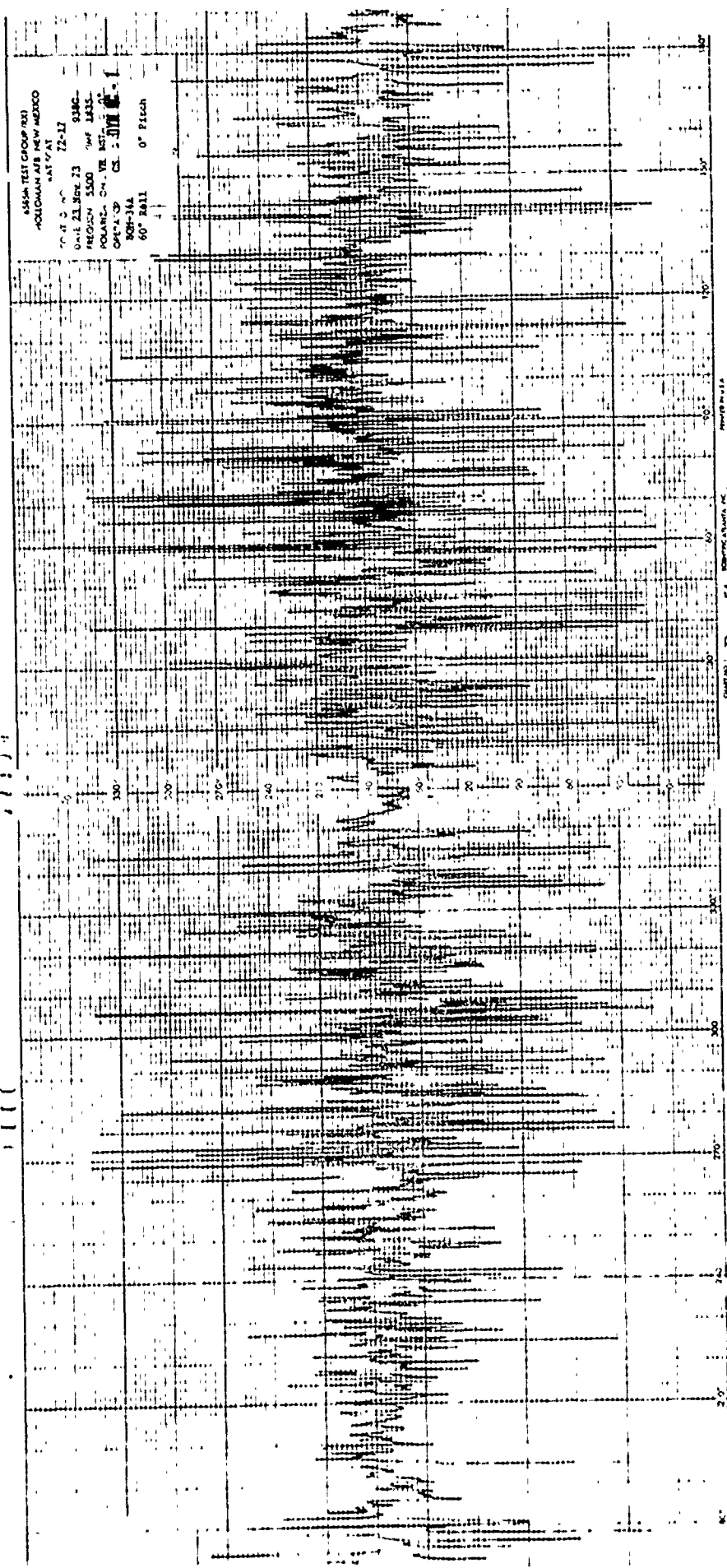
Page 52

6585th TEST GROUP RXI
 HOLLAMAN AFB NEW MEXICO
 9AT SCA
 CONTROL NO. 72-17
 DATE 23 NOV 73 RUN 93AA
 FREQUENCY 5500. MHz 1835
 ORGANIZATION YR DIST 0
 OPERATOR CS 501106
 2800-JAY
 60-2011 0 Filed

CALCULATIONS REFERRED TO ARE LISTED BELOW



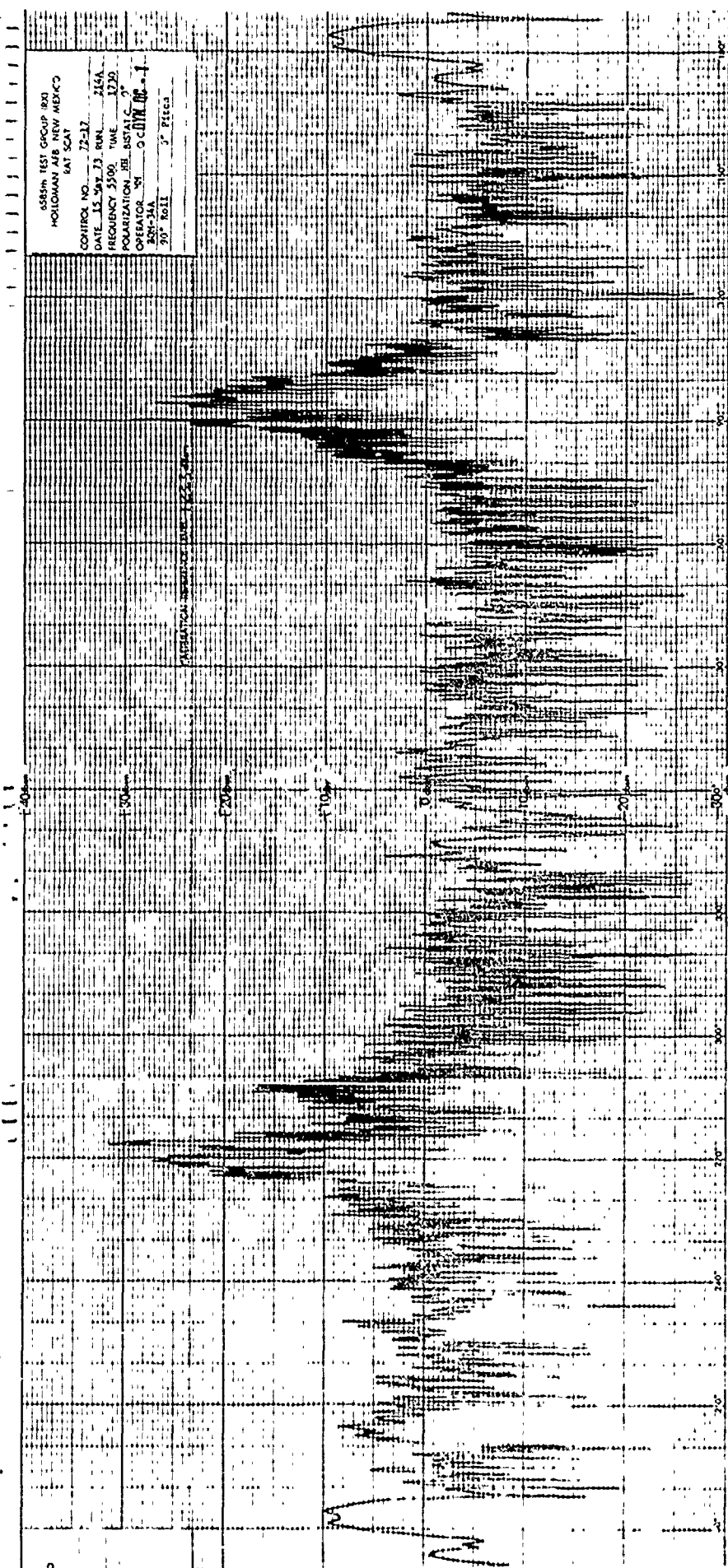
ASSAULT GROUP (R2)
HOLLAND AIR NEW MEXICO
SATVAT
DATE 21 SEP 73 938C
REGION 5500 94F 1413
POLAR 0. VE 1000
OP-A 0 CS 5.111
R0F-314
60° RAIL 0° Pitch



585th TEST GROUP (BQ)
HOLLAMAN AFB NEW MEXICO
SAT SCAT

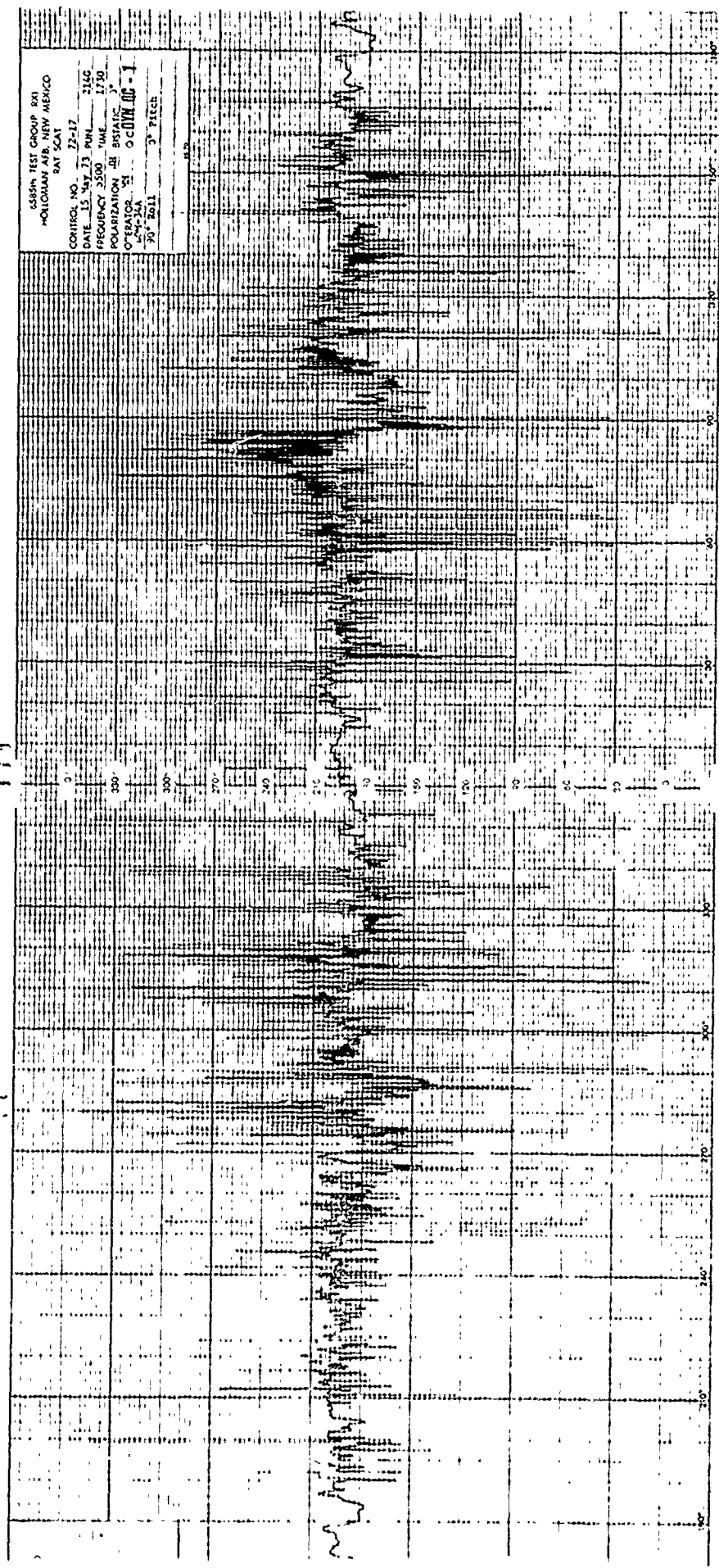
CONTROL NO. 12-17
DATE 15 May 73 RUN 216A
FREQUENCY 5500 TIME 1720
POLARIZATION RH ANASTAT 0°
OPERATOR ST OCHIM [unclear]
RSH-34A 3° BEGGS

EXPERIMENTAL INSTRUMENTATION DATA



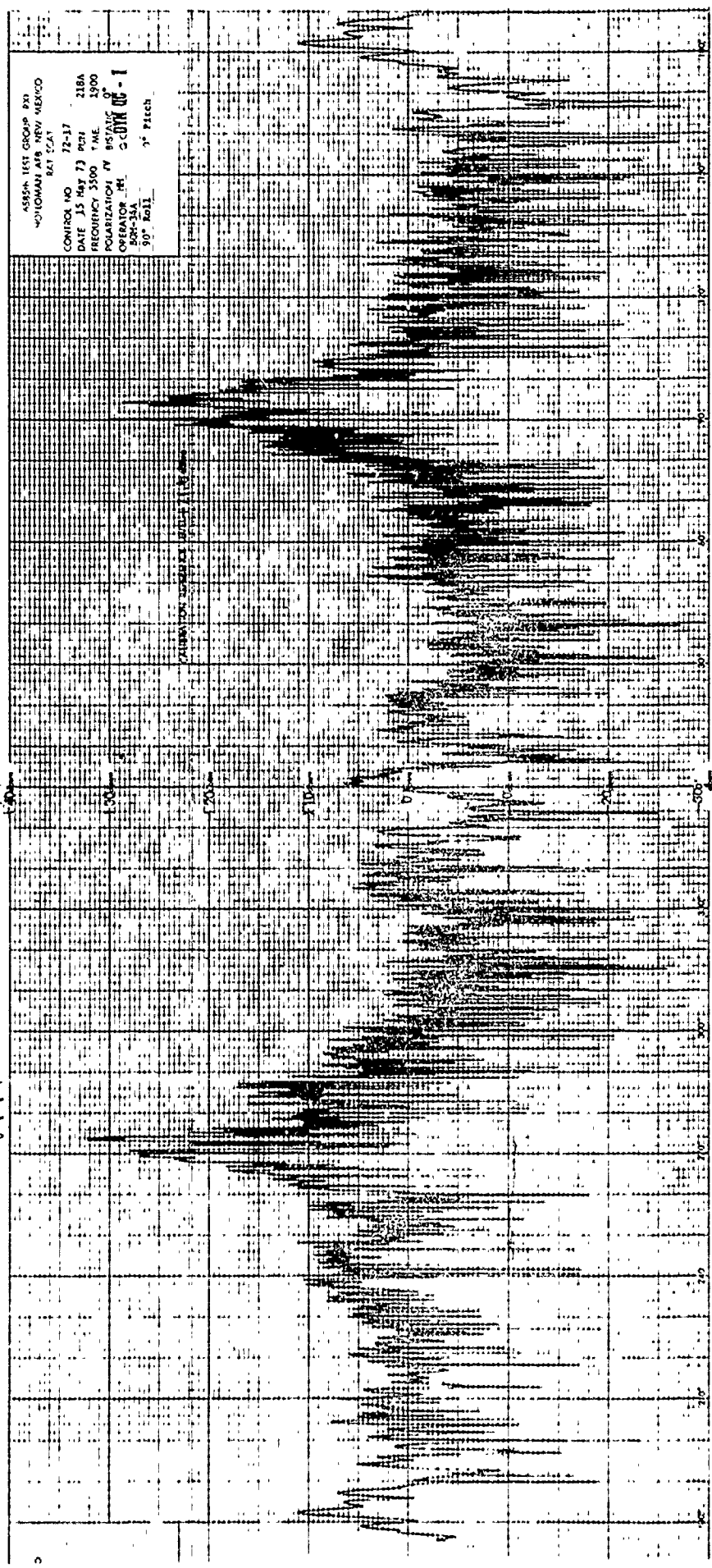
6585H TEST GROUP RX1
HOLLAND AFB, NEW MEXICO
RAT SCAT

CONTROL NO. 72-17
DATE 15 May 73 RUN 2166
FREQUENCY 2500 TIME 1730
POLARIZATION BI BISTATIC J
OPERATOR WJ OGDW 05-1
44-31A
30° Roll 3° Pitch

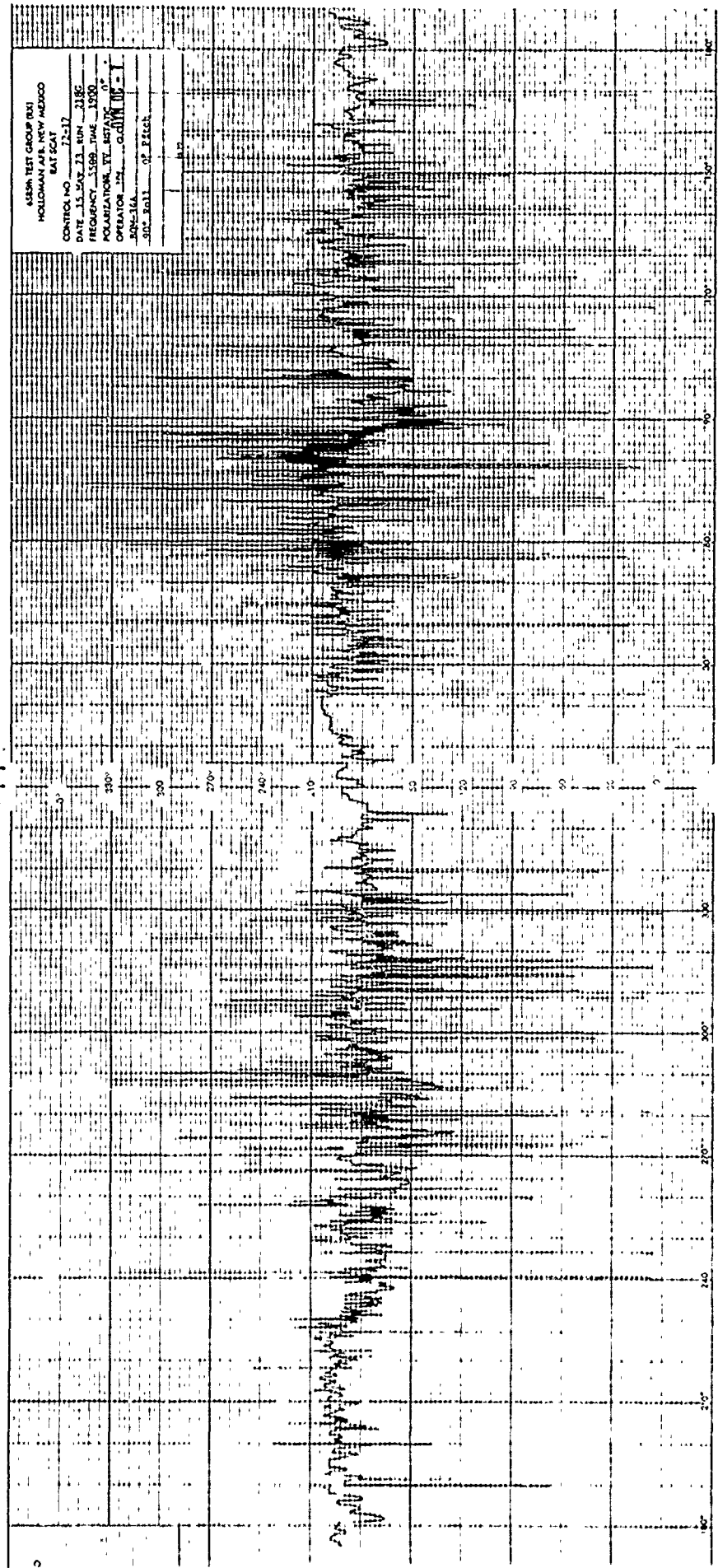


ASBPA TEST GROUP BX1
MOTIONLABS NEW MEXICO
BAT 52A1

CONTROL NO. 72-17 218A
DATE 15 MAY 73 PHL
FREQUENCY 5500 Hz 1900
POLARIZATION V BISTATIC 0
ORBITOR REL. COOR 00-1
WAVELENGTH 90° Roll 3° Pitch

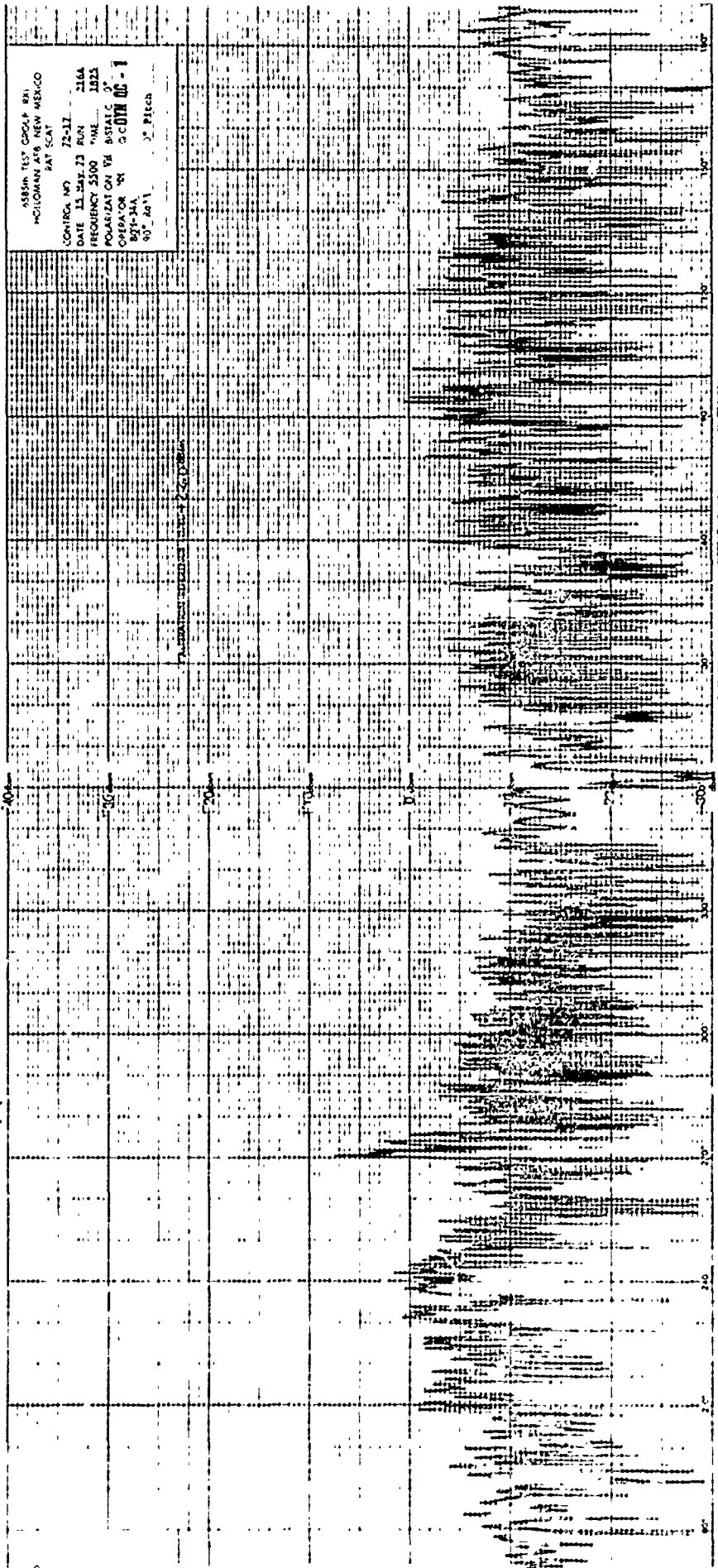


USDA TEST GROUP TEST
HOLDMAN AFE NEW MEXICO
CONTROL NO. 817-1317
DATE 11-28-11 11:28
FREQUENCY 158.146 1200
POLARIZATION VERTICAL
OPERATOR J.M. GILBERT
STATION JRM-3011 OF PITCH



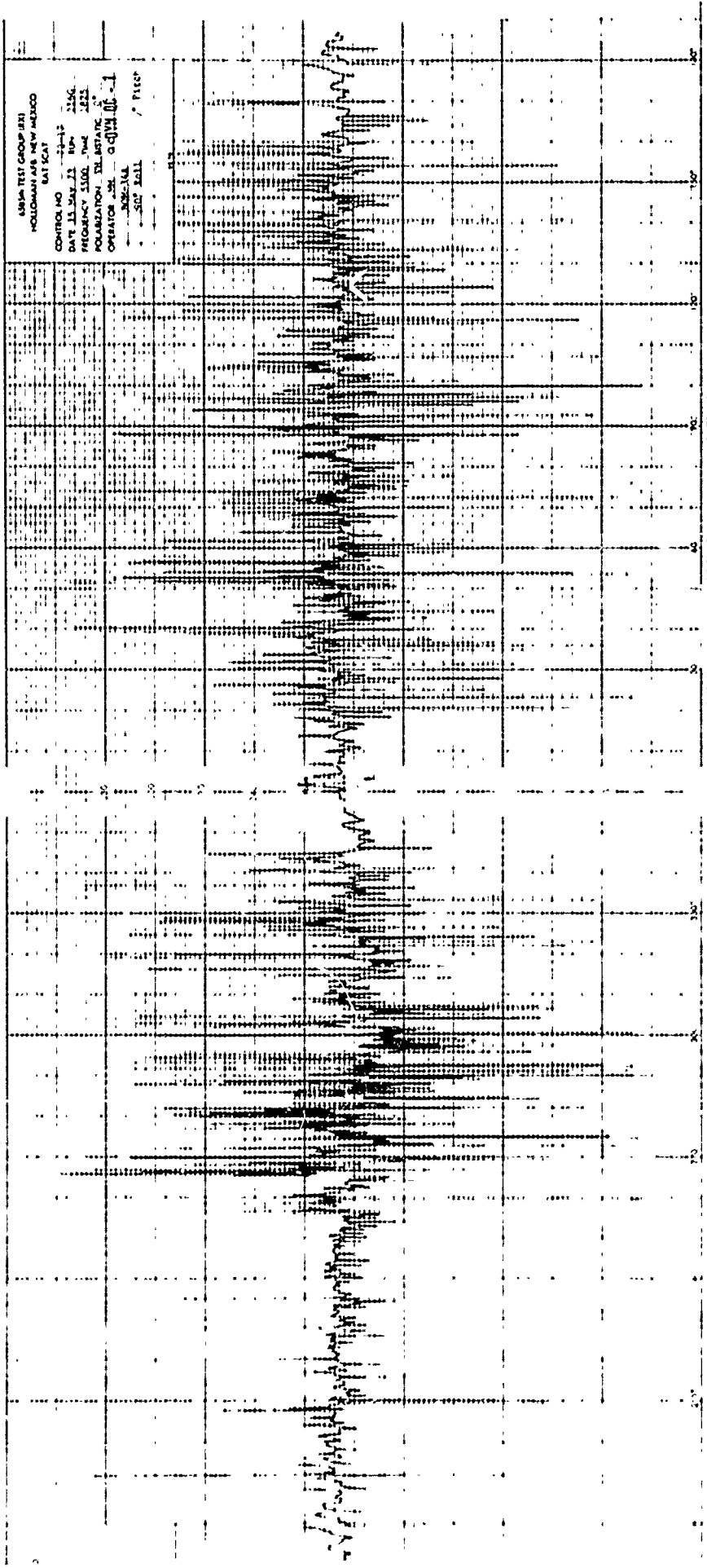
ASSR TEST CIRCLE 801
MCILWAIN AT'S NEW MEXICO
PAT SCAT

CONTR. NO 72-117 216A
DATE 15 MAY 23 RUN
FREQUENCY 5300 MHz 1825
POLARIZATION VERTICAL
COUNTRY USA
847-344
90° Az 0° Pitch



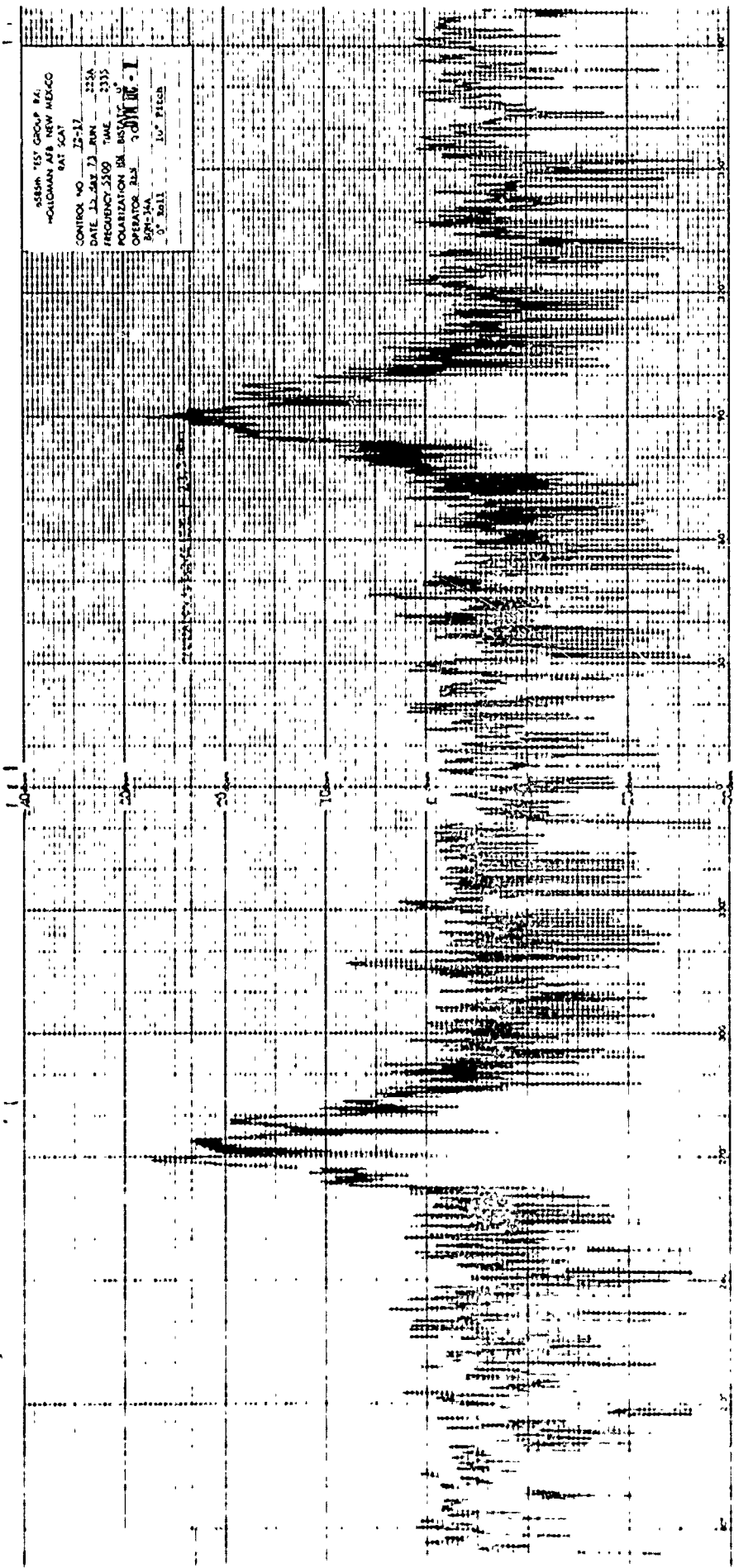
USNA TEST GROUP (R)
HOLLOWAY AFB NEW MEXICO
BAT SCAT

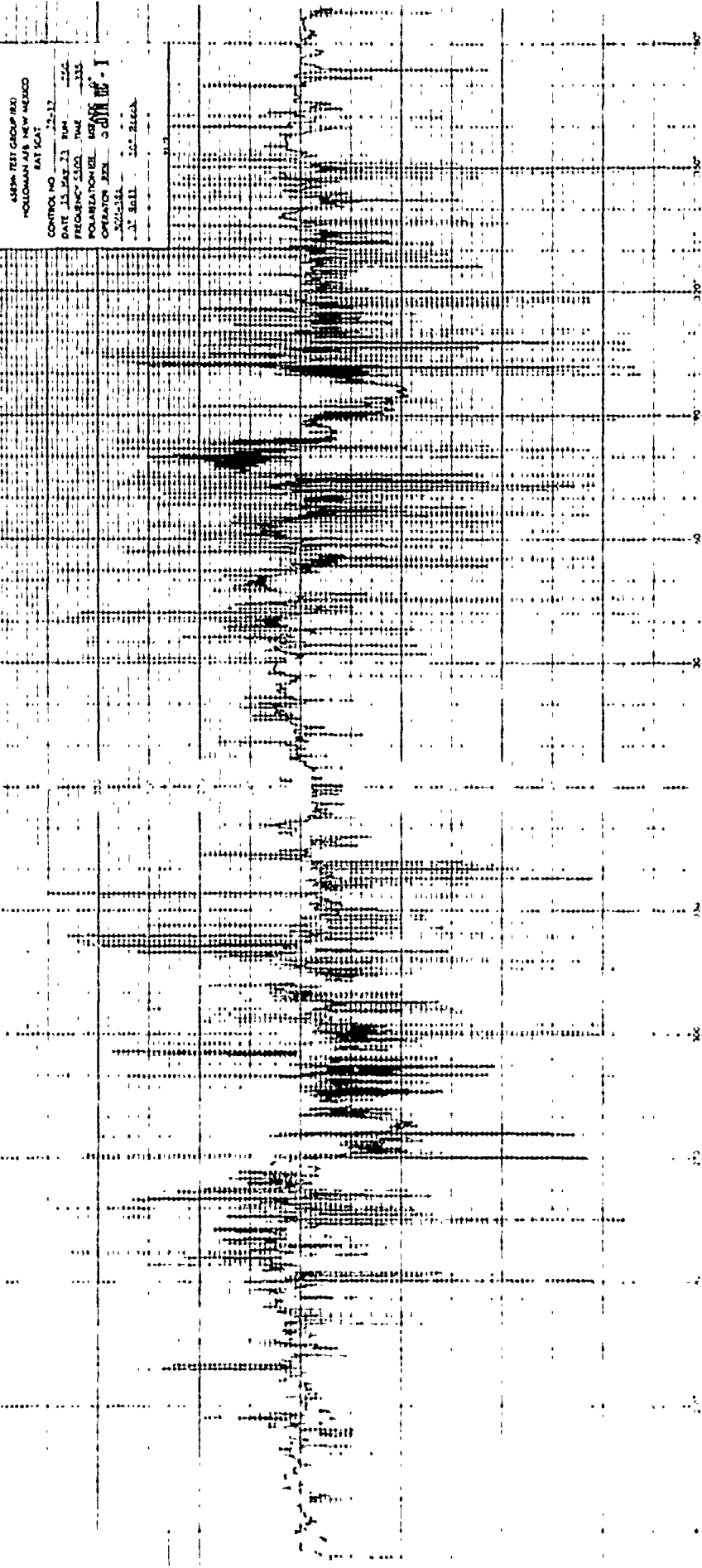
CONTROL NO 22-12
DATE 11 MAY 71 10M 215G
FREQUENCY 1500.7 Mc 2F2L
POLARIZATION TEL BRITAIN
OPERATOR JNL G. J. H. J. C. - 1
JNL:JAL
SOP Roll 7 P10P



ASBMA TEST GROUP #41
HOLLANDMAN AFB NEW MEXICO
SAT SCAT

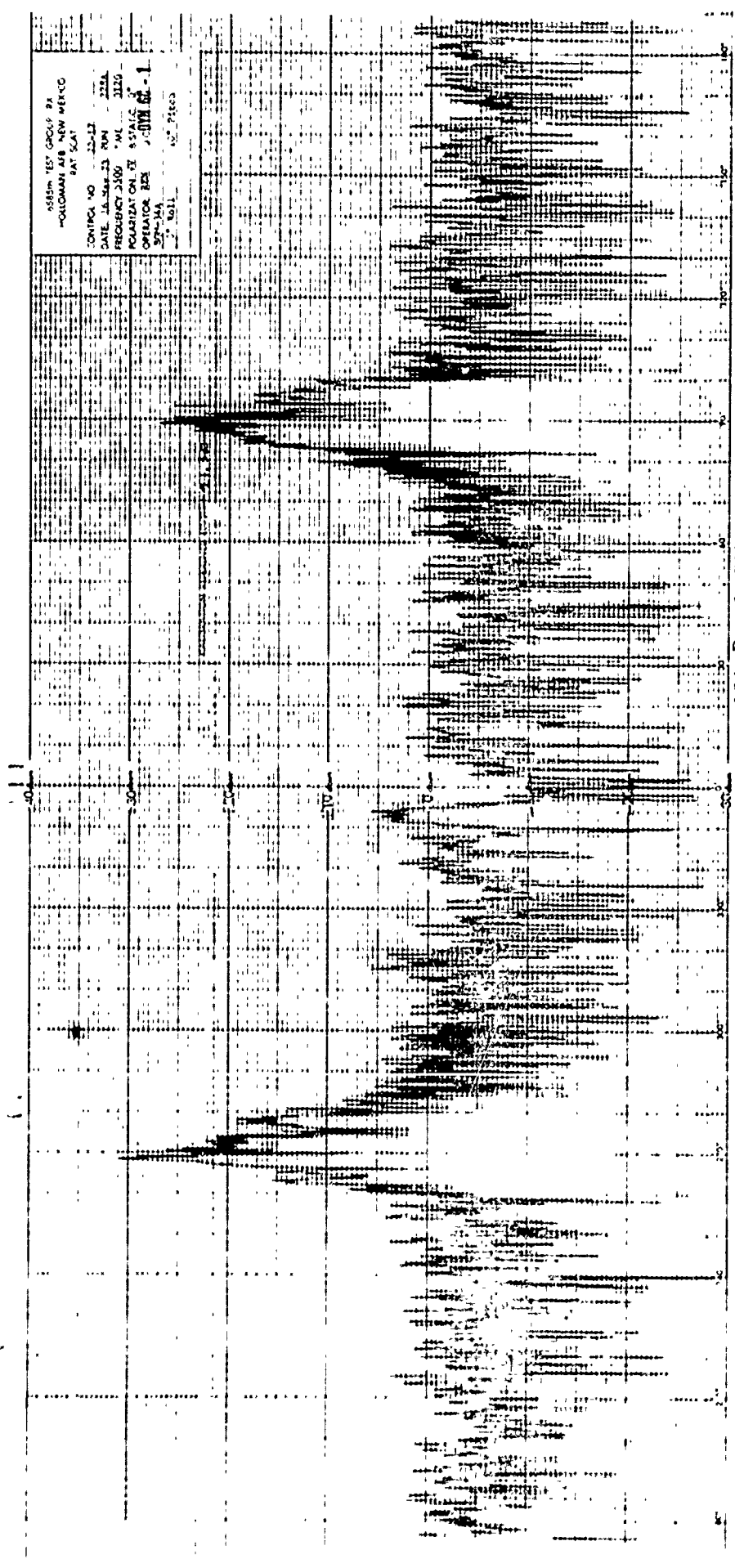
CONTROL NO. 22-17
DATE 12-28-73 RWK 223A
FREQUENCY 5100 TIME 2335
POLARIZATION BAL. 100% H
OPERATOR J.S. 100% H
890-JAL 10" PULSE





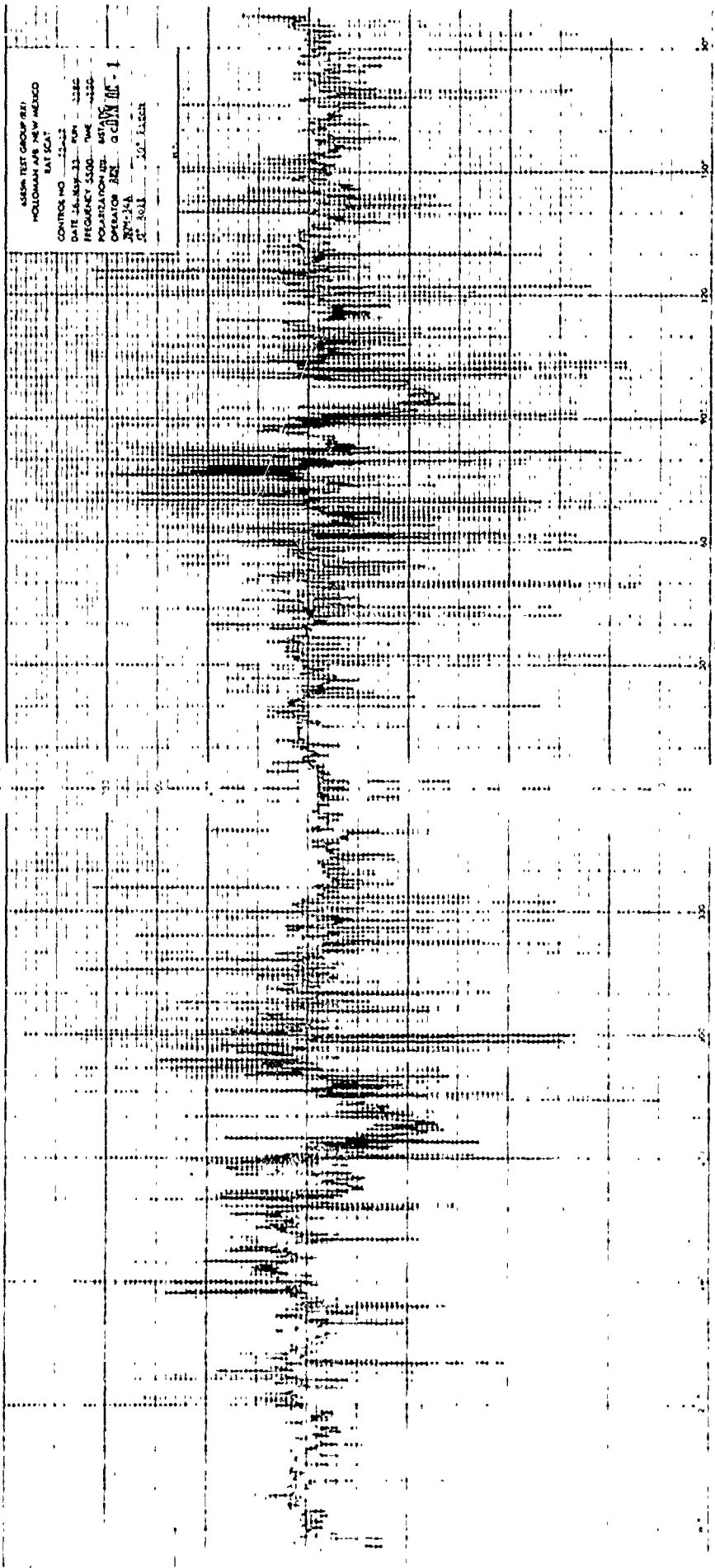
4585m TEST GROUP 2A
-CALIFORNIA AIR NEW MEXICO
PAT 5041

CONTROL NO 22-42
DATE 1A 584-23 RW 222A
FREQUENCY 2100 *M 2120
POLARITY ON *Y 85VALC
OPERATOR BRS J. D. W. G. - 1
SUN-MA
* 1011
* 1011



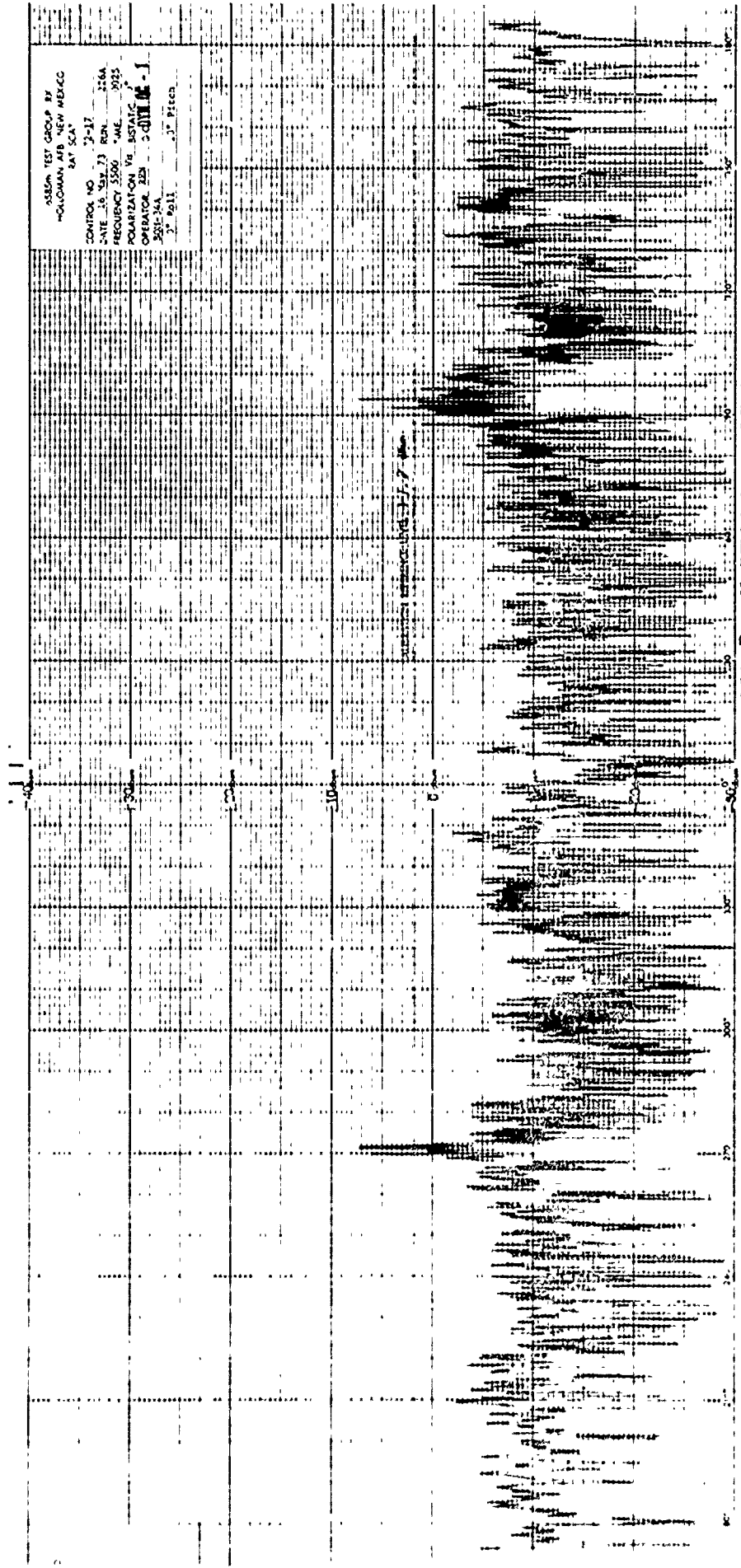
USRA TEST GROUP (RT)
HOLLAND AIR NEW MEXICO
EAT 501

CONTROL NO 15-2-22
DATE 14-NOV-33 104 122C
FREQUENCY 5500 104 122C
POLARIZATION DIR. 181°/170°
OPERATOR JES. O'CONNOR
ST. No. 11 20' East



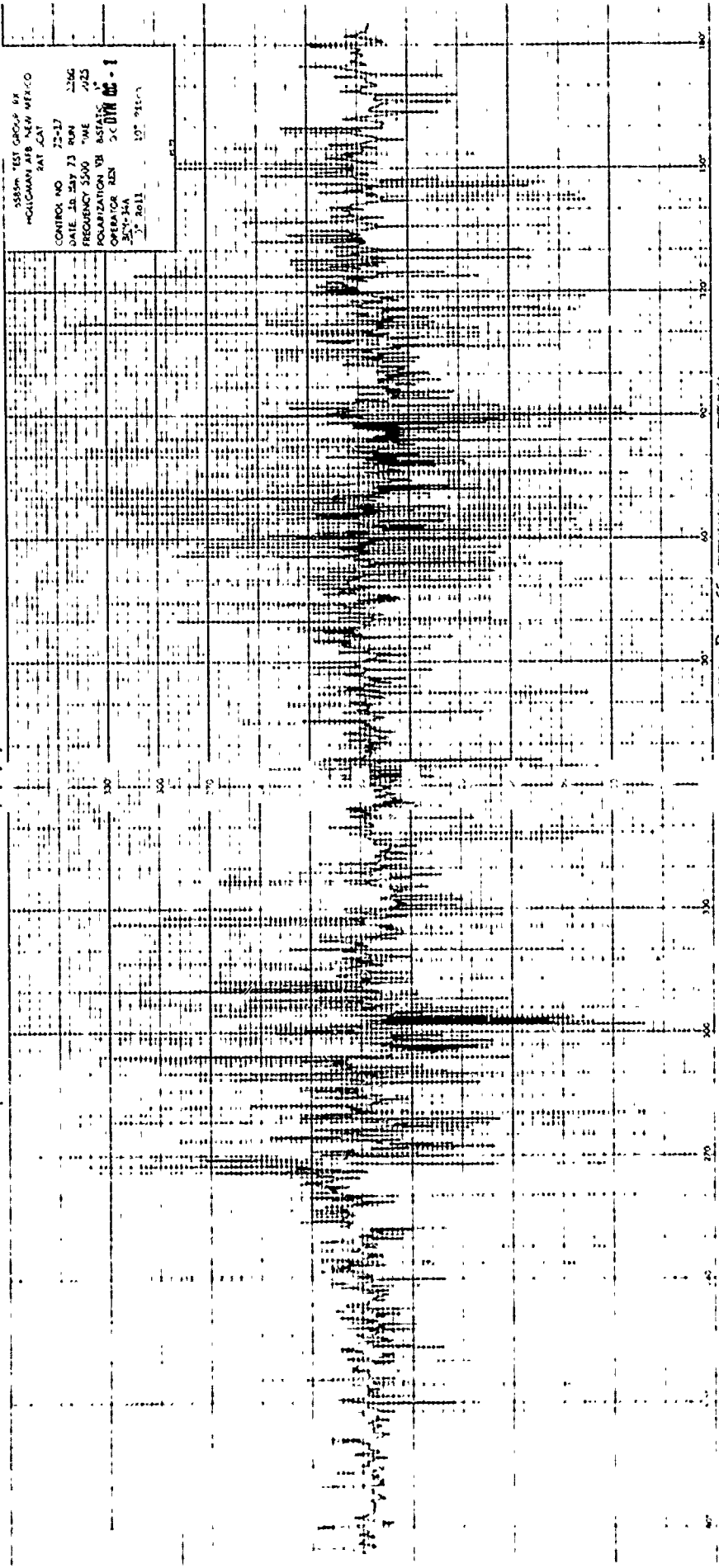
ASB/AV TEST GROUP BY
"COLONIAN AFB NEW MEXICO
DAY SCA"

CONTROL NO. 2-17
DATE 16 MAY 73 RUN 216A
FREQUENCY 5500 KHZ 0025
POLARIZATION VERTICAL
OPERATOR ZEN SCOTT MC - J
501-341 37 Pitch



3585th TEST GROUP, 94
HICKAM AFB, HAWAII
ZAT CAT

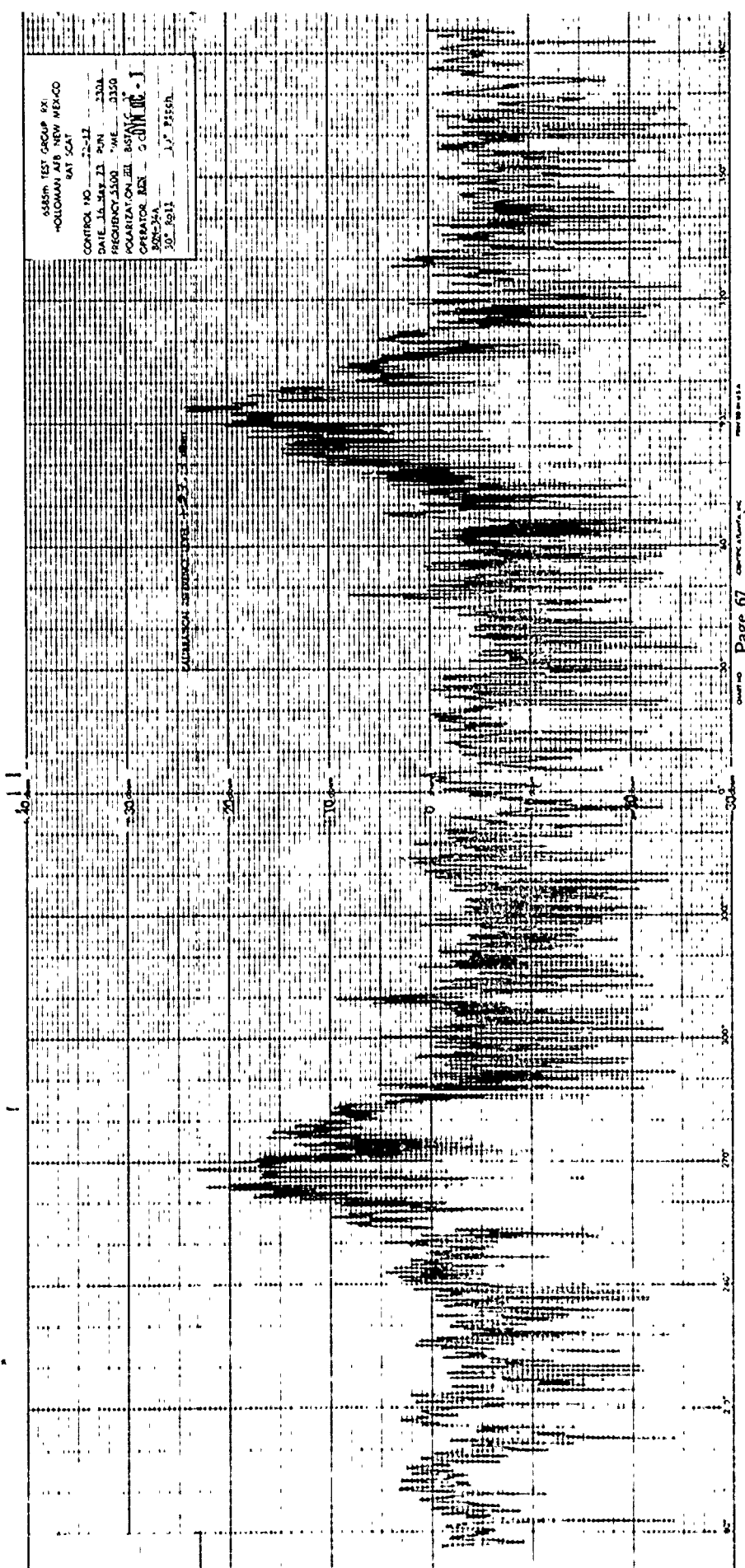
CONTROL NO 22-17
DATE 18 MAY 73 RUN 236G
FREQUENCY 5500 TIME 4/25
POLARIZATION VERTICAL
OPERATOR RIN 20000000-1
307-344
10" SEC



ASSISTANT TEST GROUP SIX
HOLLAND AIR NEW MEXICO
SAT CAT

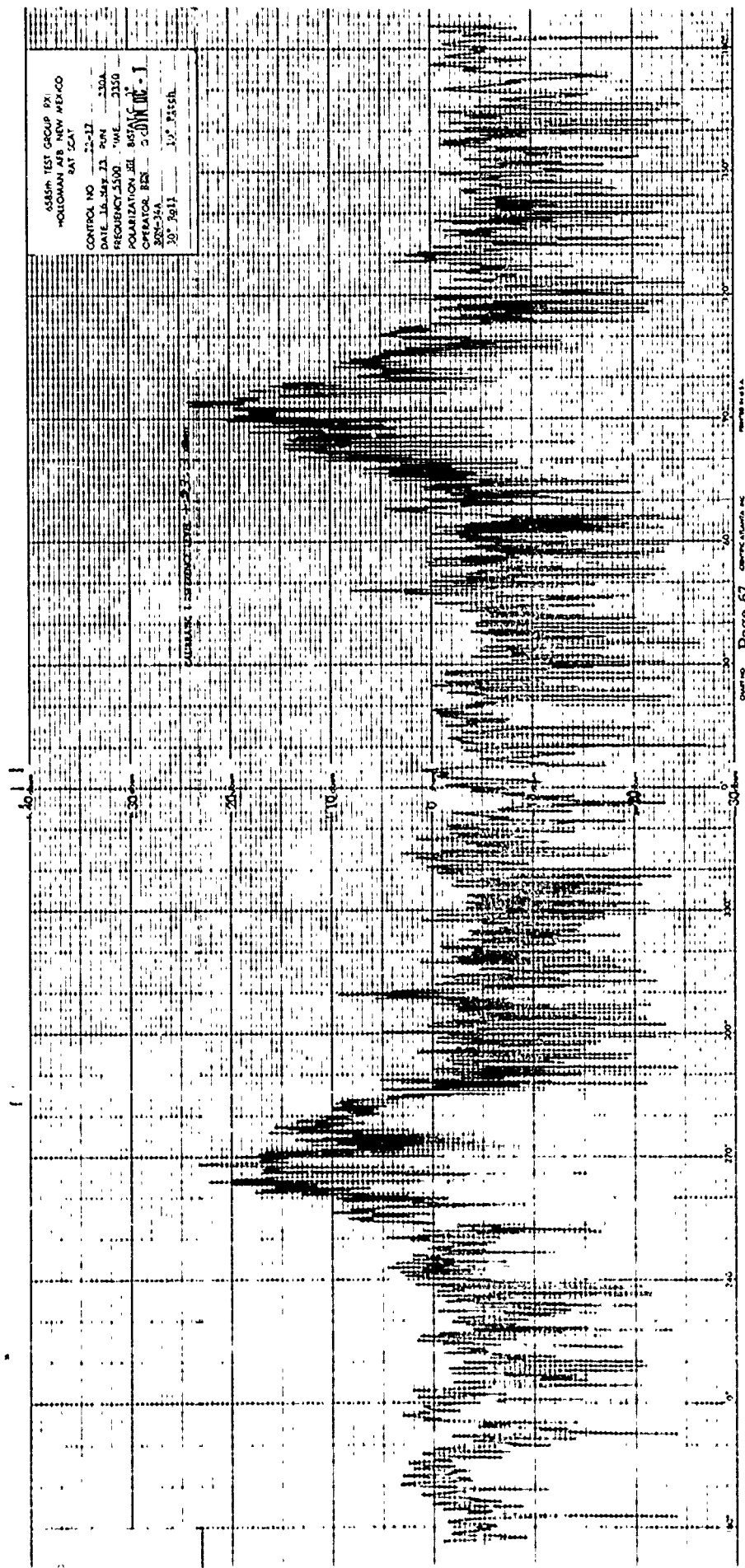
CONTROL NO. 22-11
DATE JUL 21 1951
FREQUENCY 3.500 MHz
POLARIZATION HORIZONTAL
OPERATOR MAX G. SMITH
300-54
30-1911 11:25 AM

TRANSMISSION STOPPED 11:25 AM



ASBPA TEST GROUP BY:
HOLCOMB LAB NEW MEXICO
BAT CAT

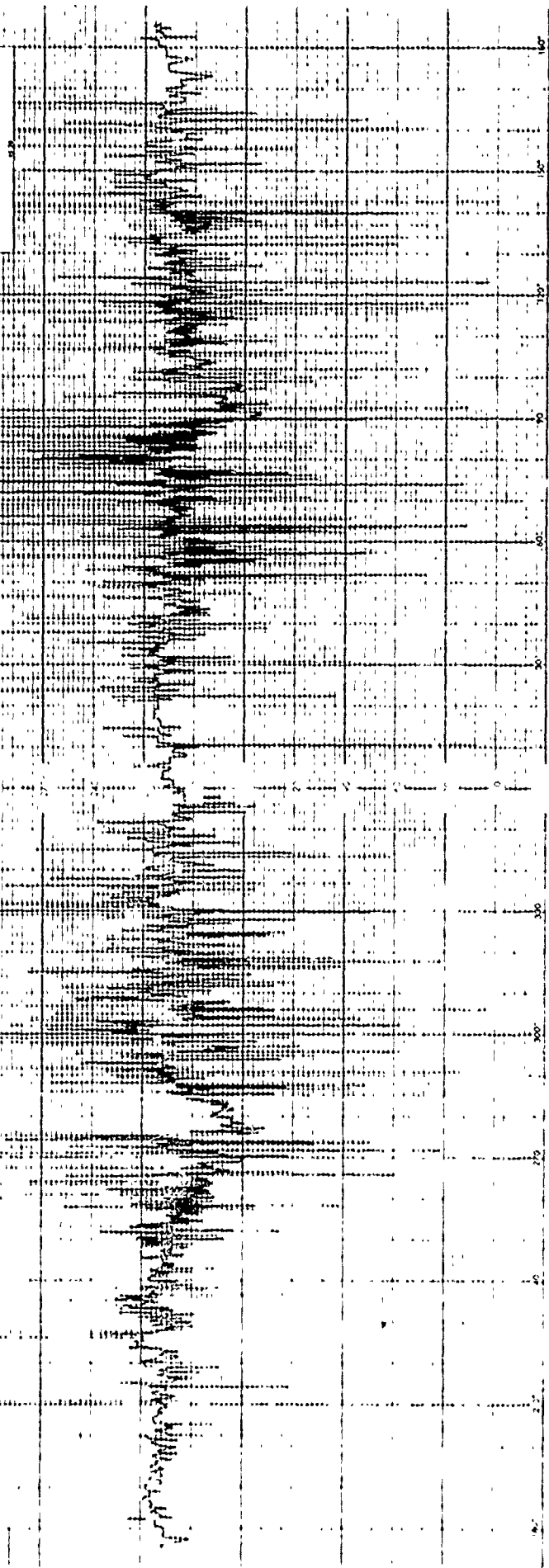
CONTROL NO 22-17
DATE 16 MAY 71 PUN 350A
FREQUENCY 3500 MHz 3150
POLARIZATION RH RH
OPERATOR BEN S
SUN-34A
20 7611 10 2158h



65584 TEST GROUP (R1)
HOLLOWAY AFB NEW MEXICO
RAY SCAT

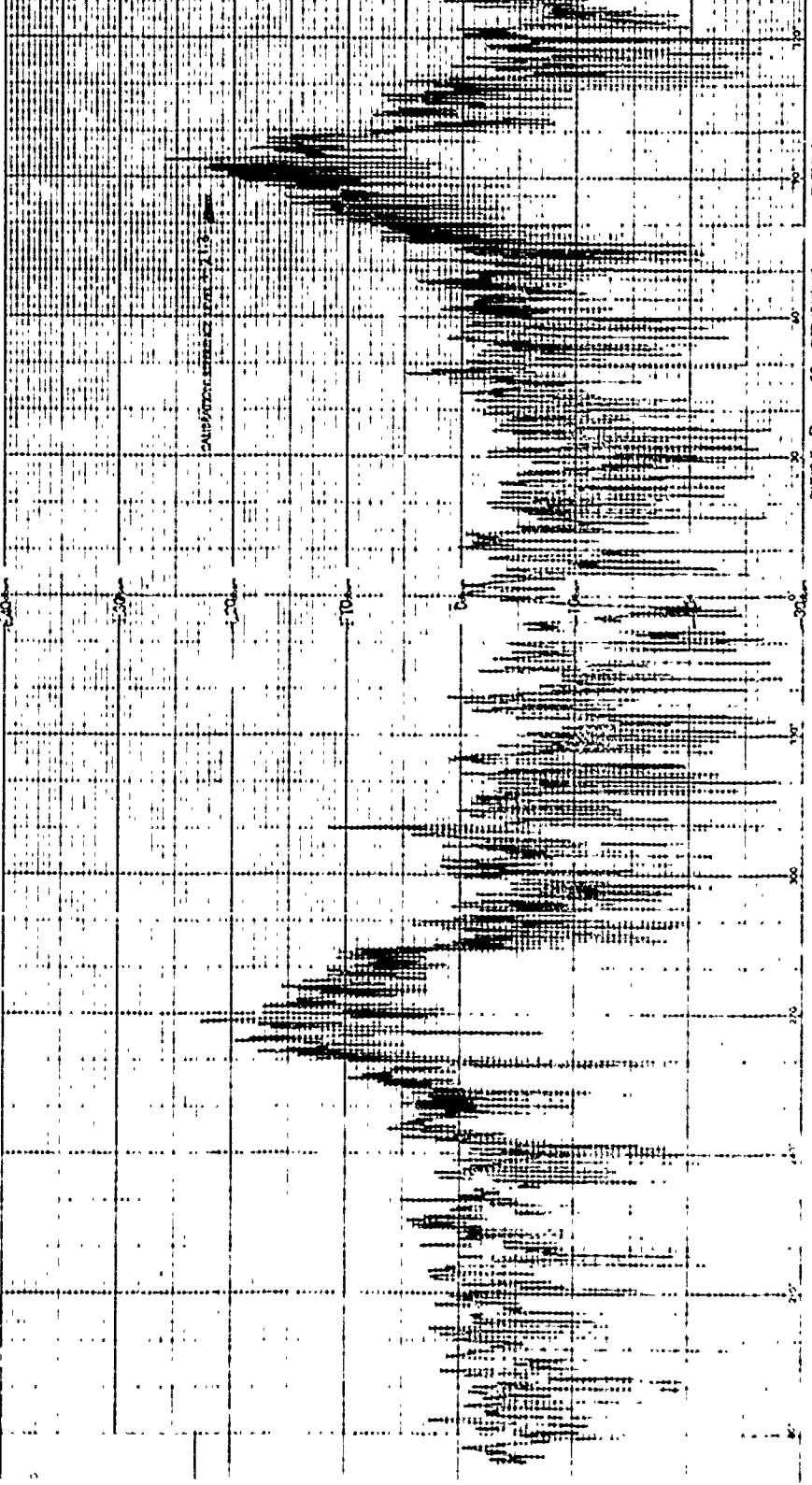
CONTROL NO. 22-12
DATE 24-71 RUM 2100
FREQUENCY 5000 TIME 0130
POLARIZATION RE BRITAIN
OPERATOR BEN O CHIN W-1
MKS-51
MOT BALL 20° PLUCK

43 M



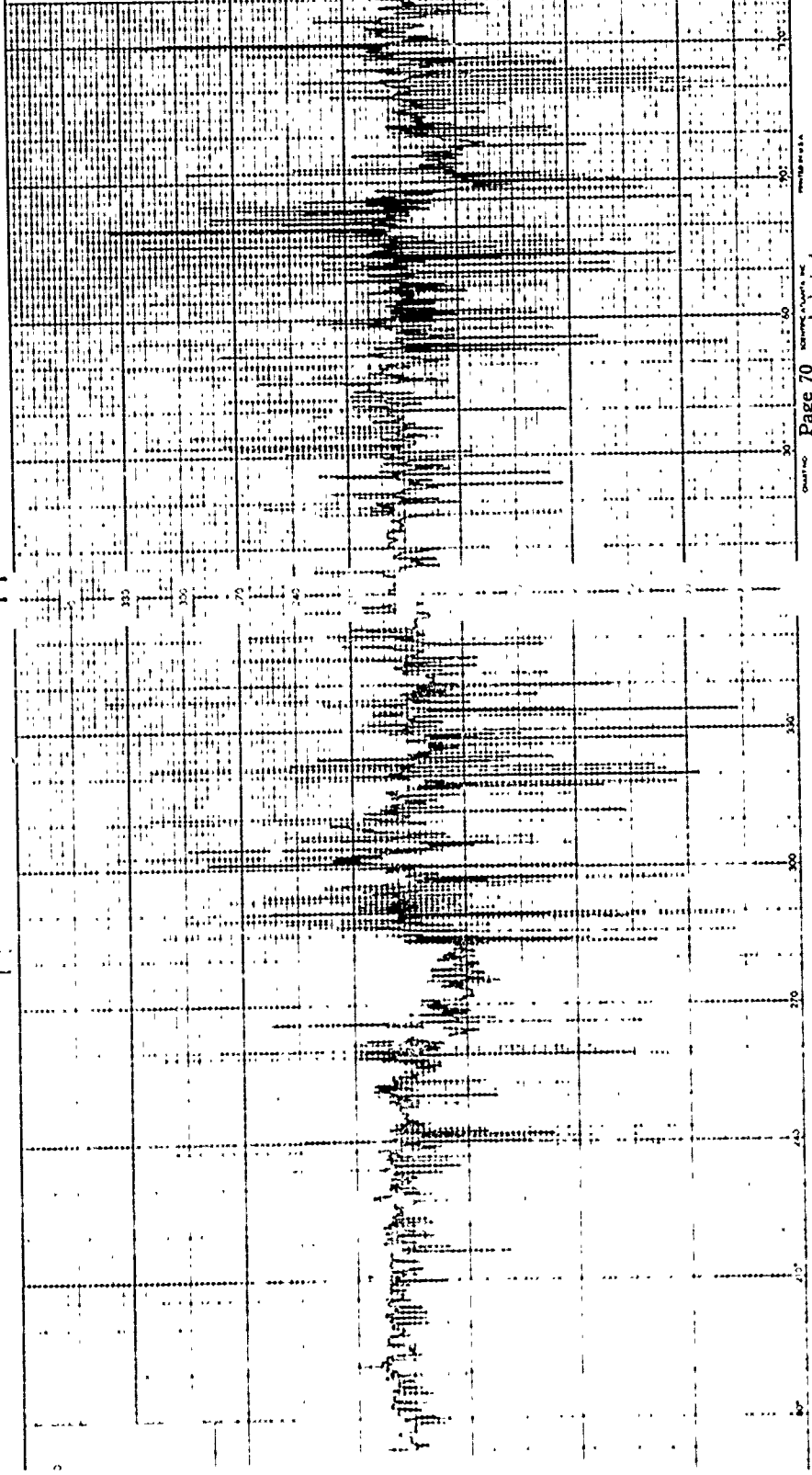
688th TEST GROUP 281
HOLLAMAN AFB NEW MEXICO
SAT SCAT

CONTROL NO 72-17
DATE 16 MAY 73 RWI 214A
FREQUENCY 2570 MHz 2530
POLARIZATION TV INSTANT 3
OPERATOR 225 J-0111 M-1
574-3A
33° Roll 10° Pitch



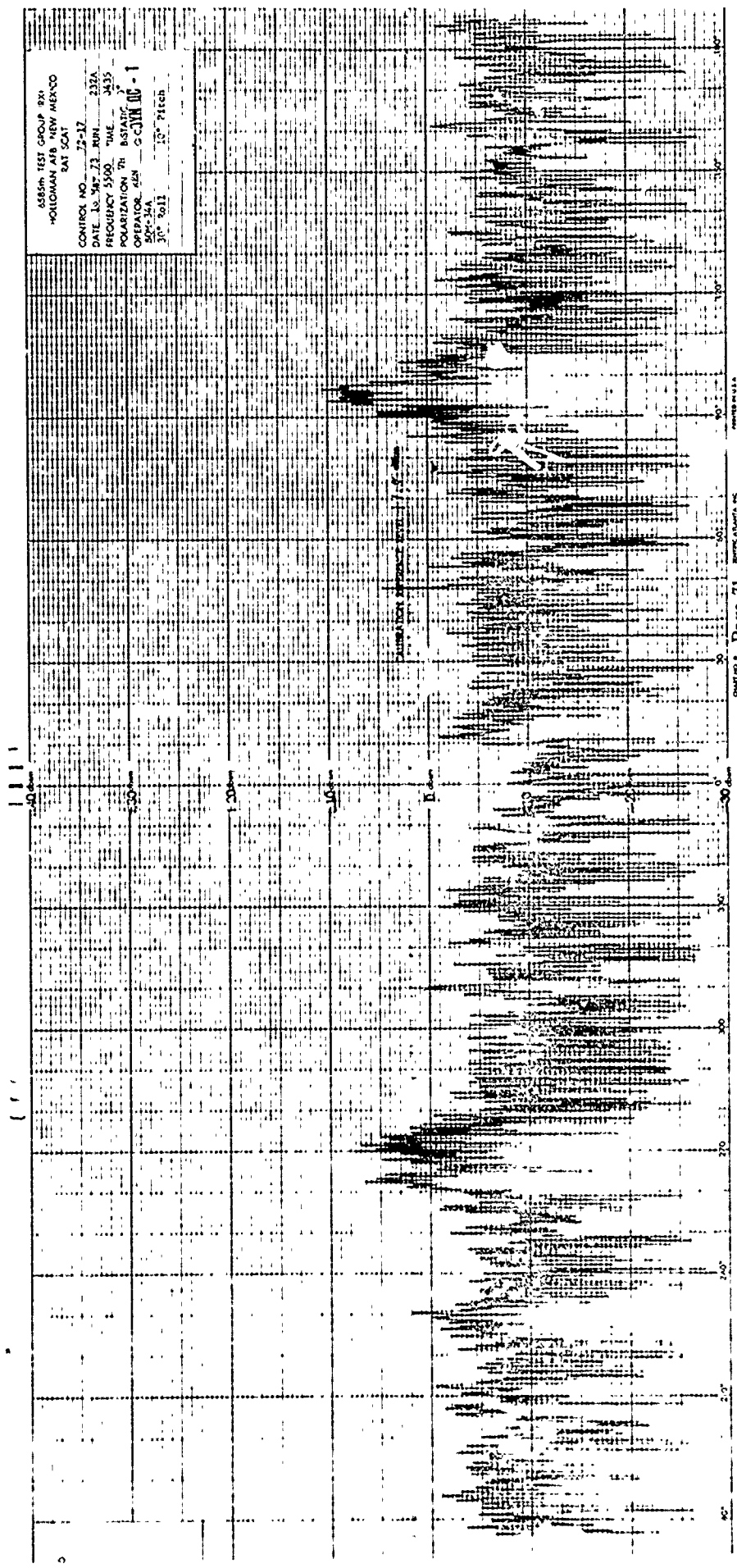
4850A TEST GROUP (R1)
HOLLAND AIR NEW MEXICO
RAT SCAT

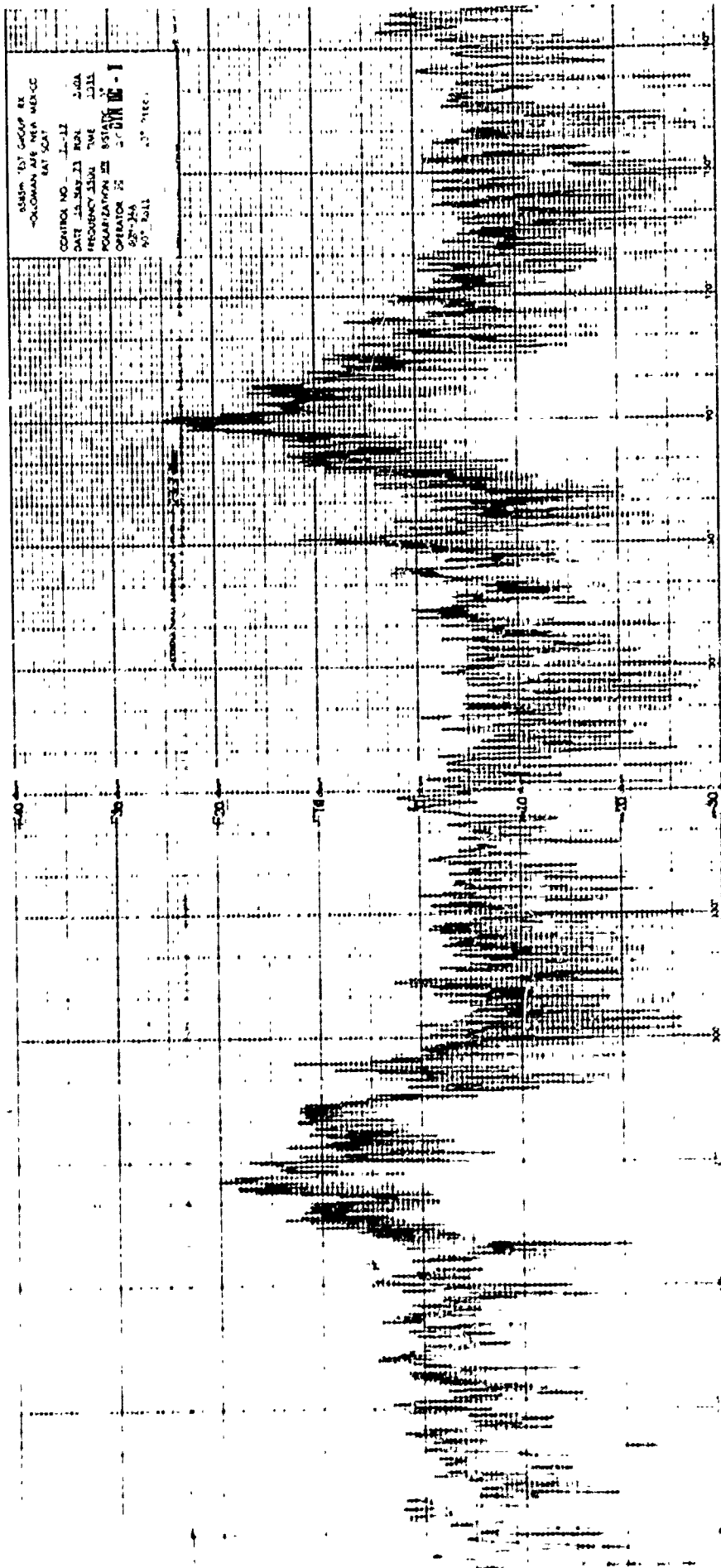
CONTROL NO 72-17
DATE 16 MAY 71 RUN 2346
FREQUENCY 5500 THZ 6530
POLARIZATION VERTICAL
OPERATOR BEN O'CONNOR
R05:34A
31° 30' 11" 10° 21' 30" E



RESEARCH TEST GROUP BY
-HUGHES AIR NAV AGENCO
SAT SCAT

CONTROL NO. 22-317
DATE 12-28-72 RUN 227A
FREQUENCY 5590 TIME 2:33
POLARIZATION TH BISTATIC
OPERATOR 45H CCHN 06-1
500-24A
300 9011 100 Pitch

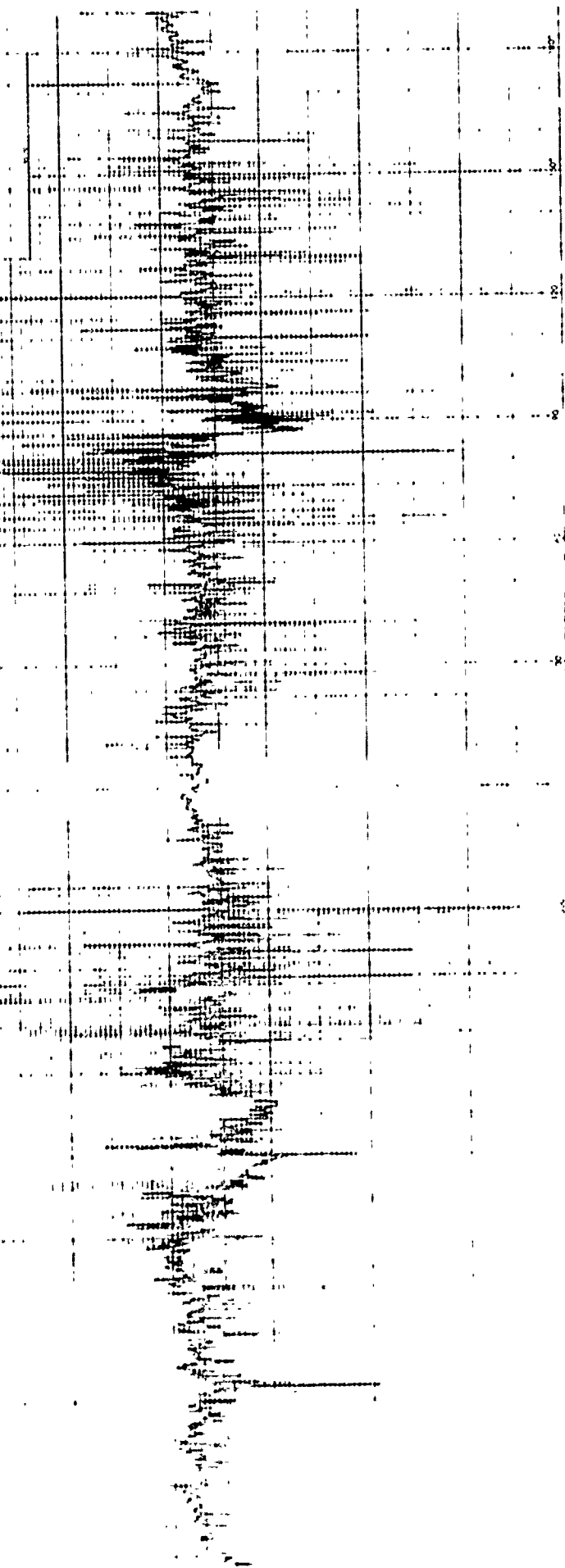




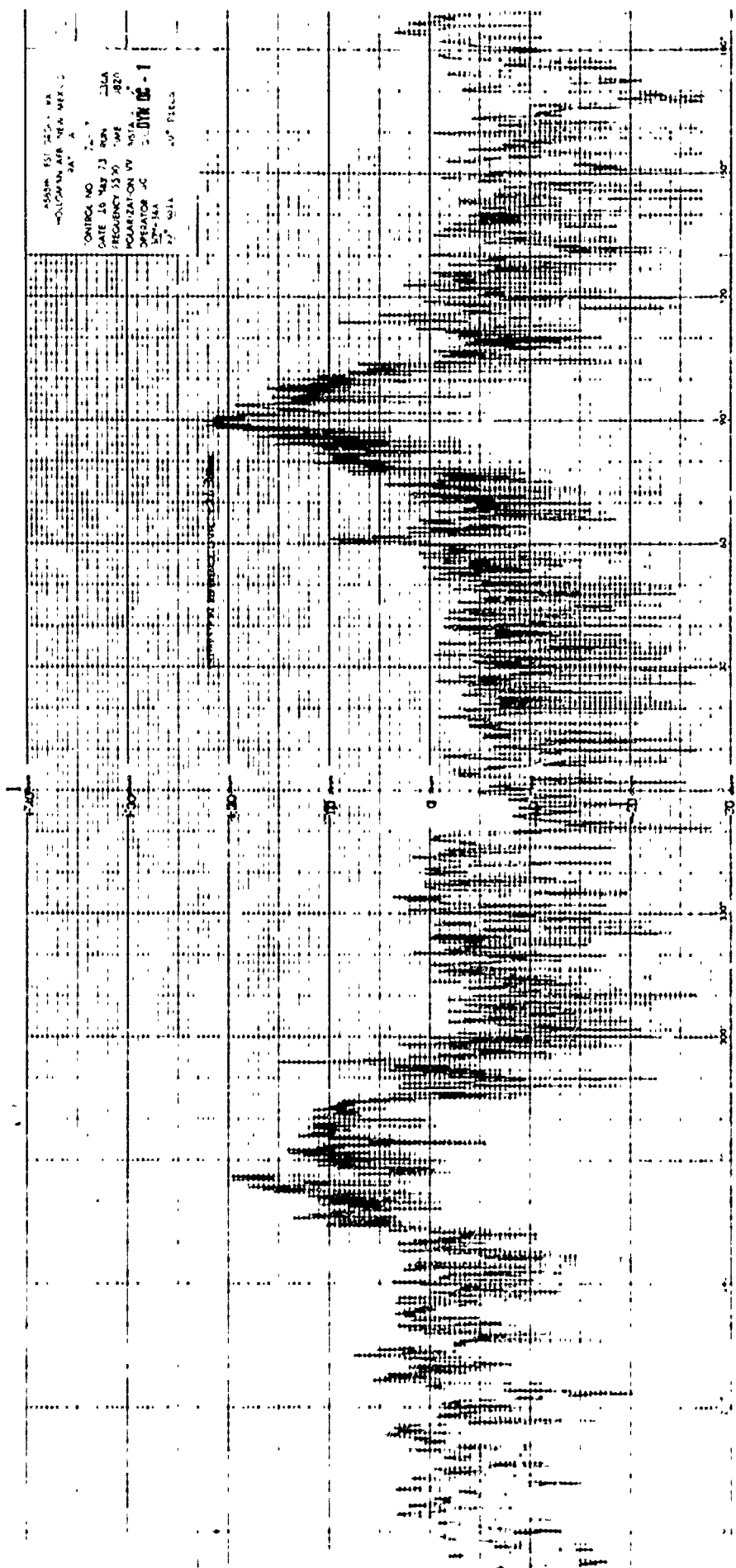
ASPH TEST GROUP 7E1
HOLLOWMAN AFB NEW MEXICO
BAT SCAT

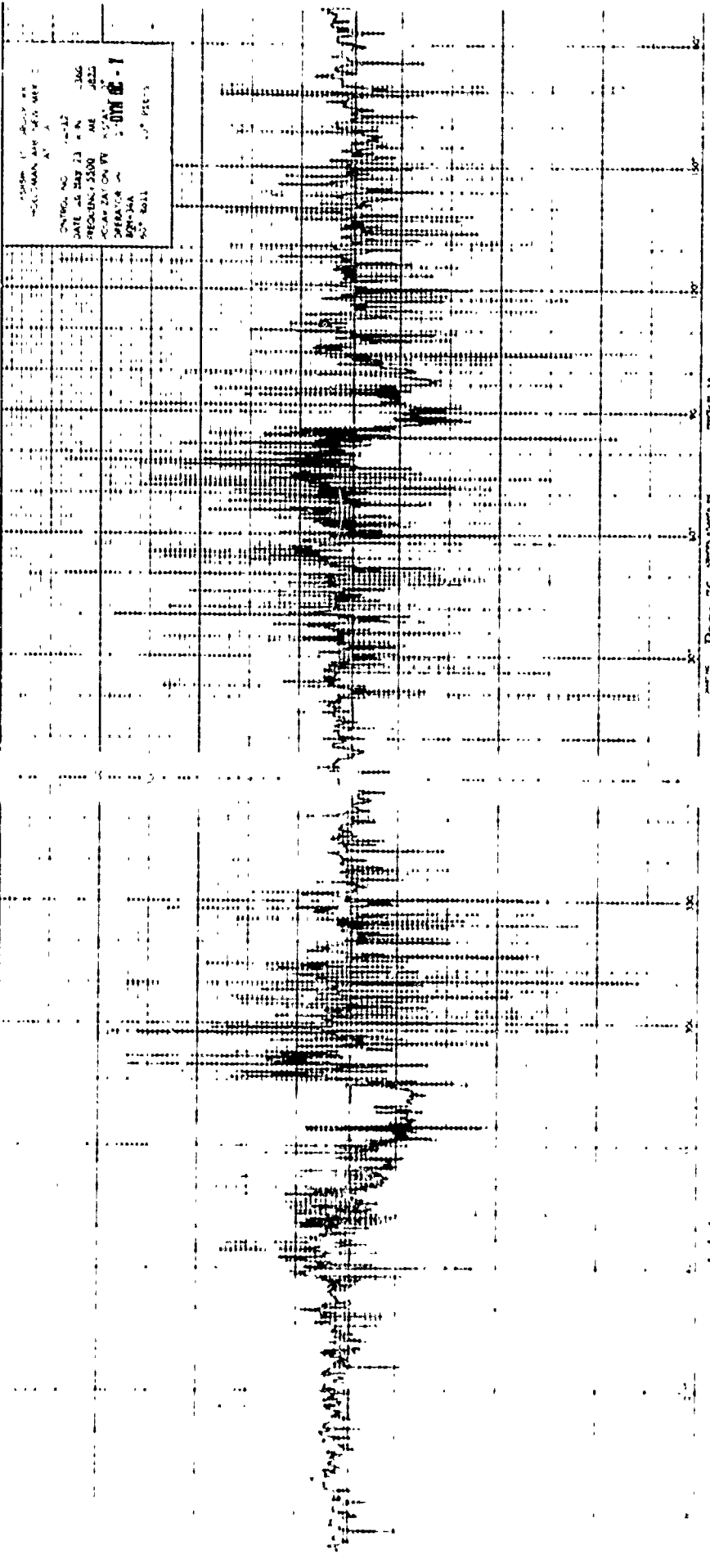
CONTROL NO
DATE 22 MAR 61
FREQUENCY 1000
POLARIZATION 20
OPERATOR SE
PLOT No. 2
BY 4311

20° PULSA



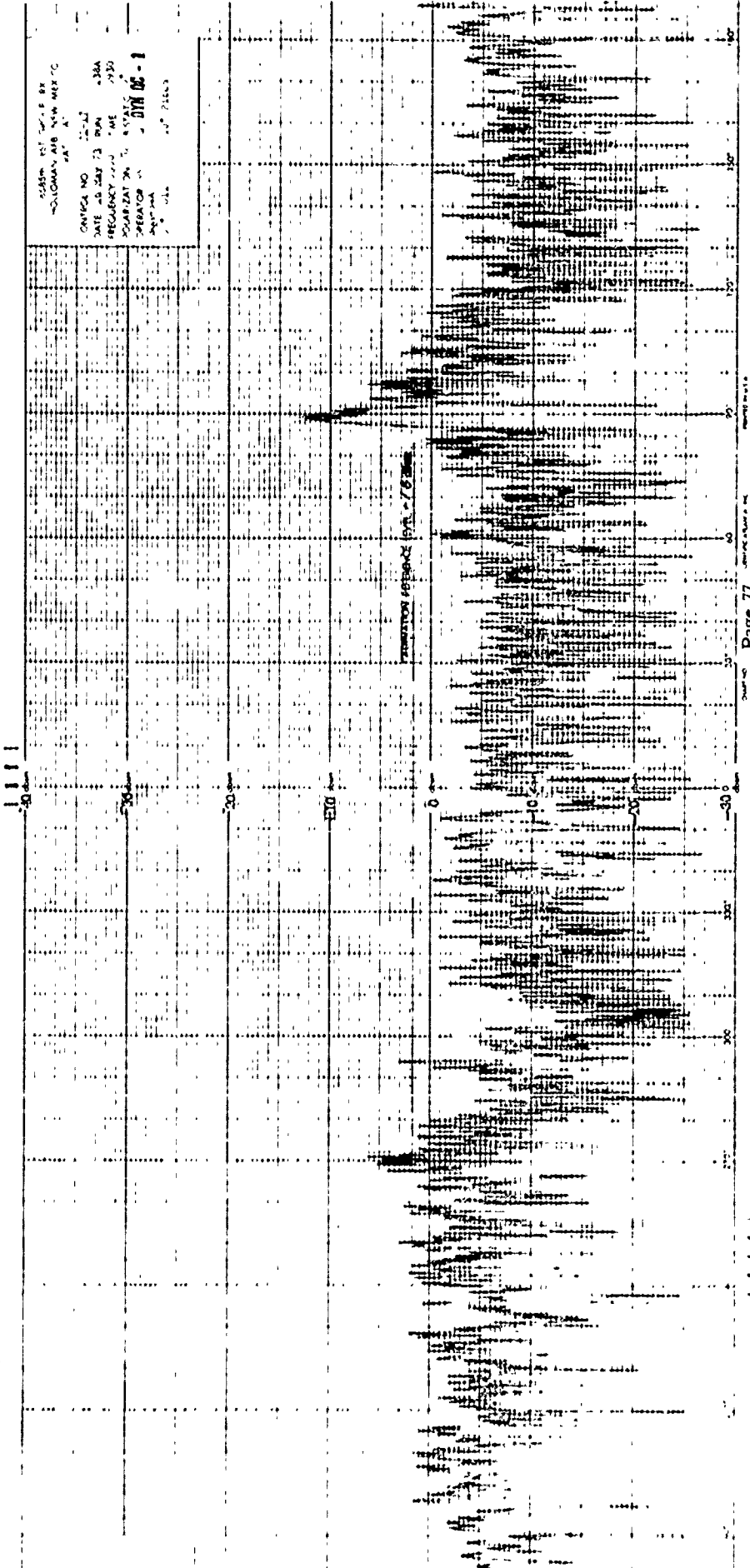
ASSIGN EST 222-1 1A
HOLLAND AIR WEA STATION
CONTROL NO 72-1
DATE 25 MAY 73 RGN 212A
FREQUENCY 13.91 MHz 4820
MODULATION W 100%
OPERATOR JC 2107H DC-1
27-1A 40° ELEC



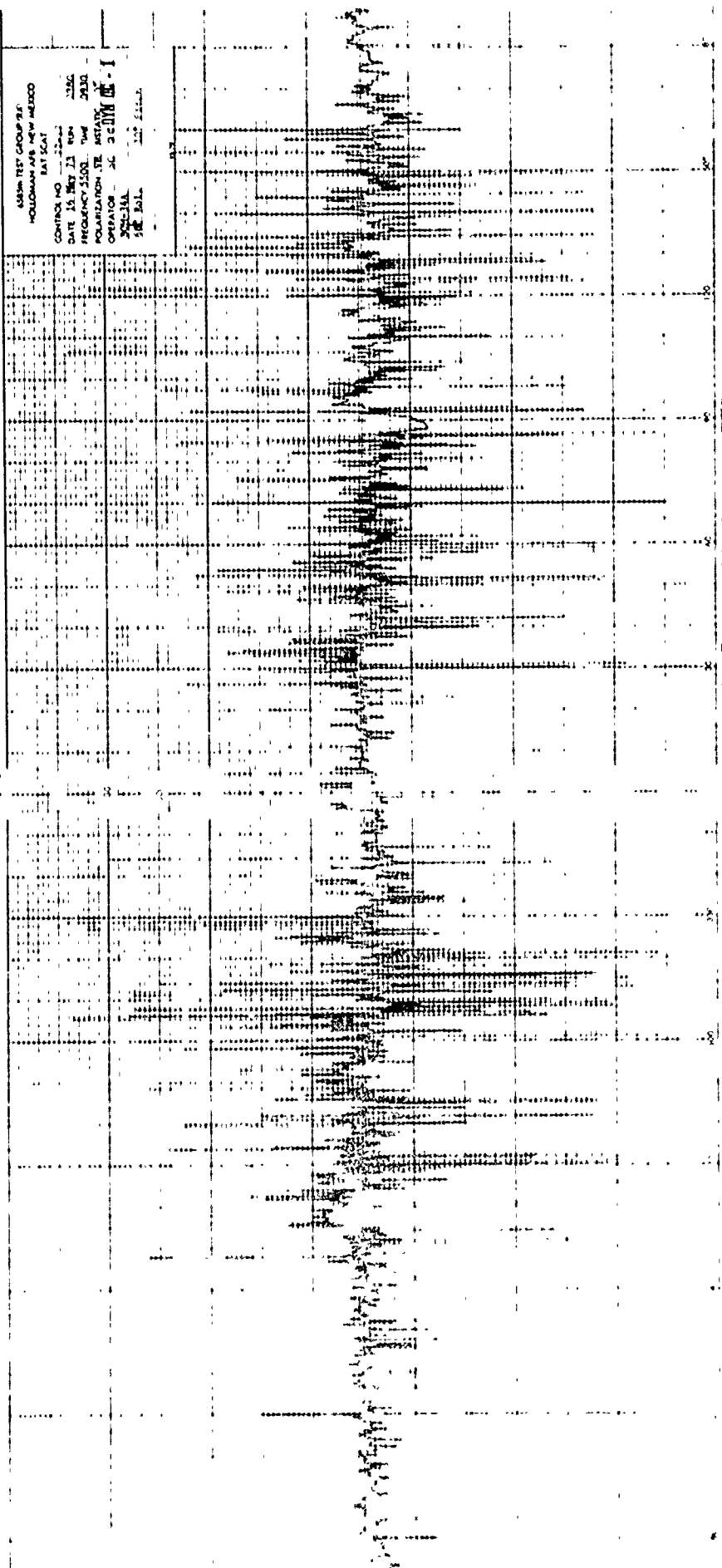


CONTROL NO. 10112
 DATE 25 MAY 23 1962
 RECORDING 15500
 STATION ON PT. 10112
 OPERATOR 10112
 10112
 10112

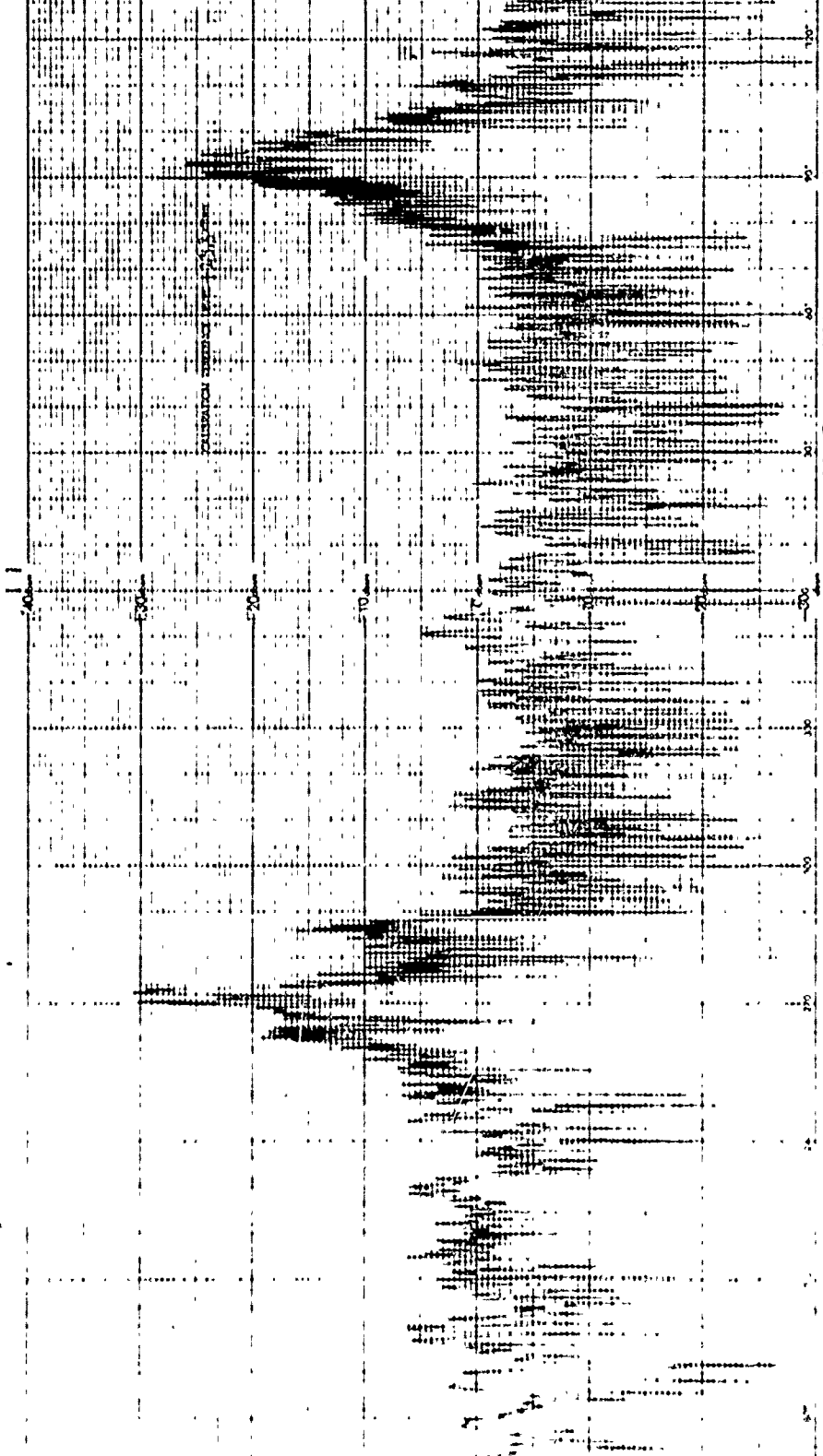
CASE NO. 157-10-1-1
 CALIFORNIA AIR MAIL
 PAT. A.
 OFFICE NO. 157-10-1-1
 DATE AS SENT TO MAIL 1934
 FREQUENCY 157.10 MHz
 ORGANIZATION U.S. AIR FORCE
 OPERATOR A. J. BILLY
 157-10-1-1

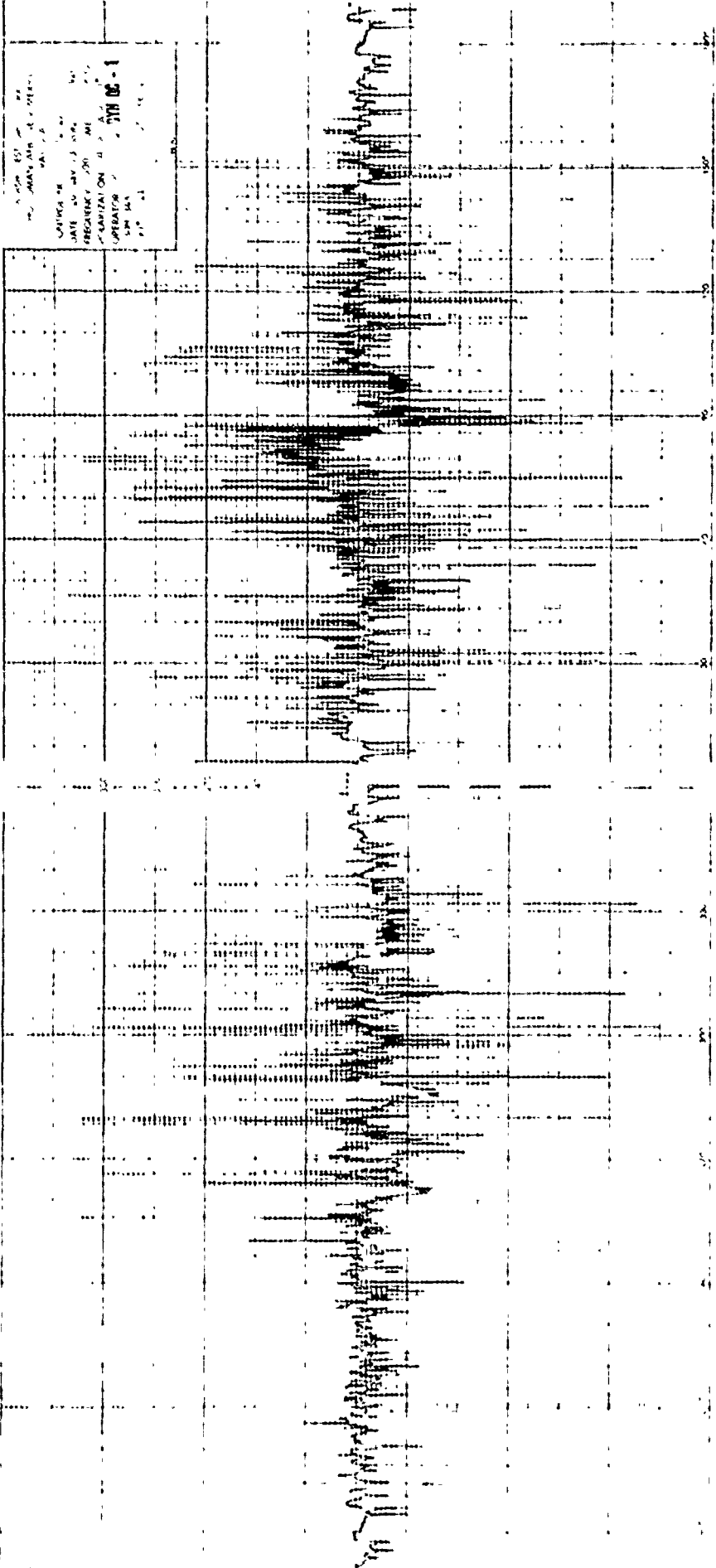


LABOR TEST GROUP #17
HOLLAND AIR NEW MEXICO
LAT 34.0
CONTRACT NO. 22-2
DATE 15 MAY 73 RUN 2300
FREQUENCY 5100 THM 2430
POLARIZATION TH INSTANT
OPERATOR JC 2000000000
SPEC-1A
THE Ball



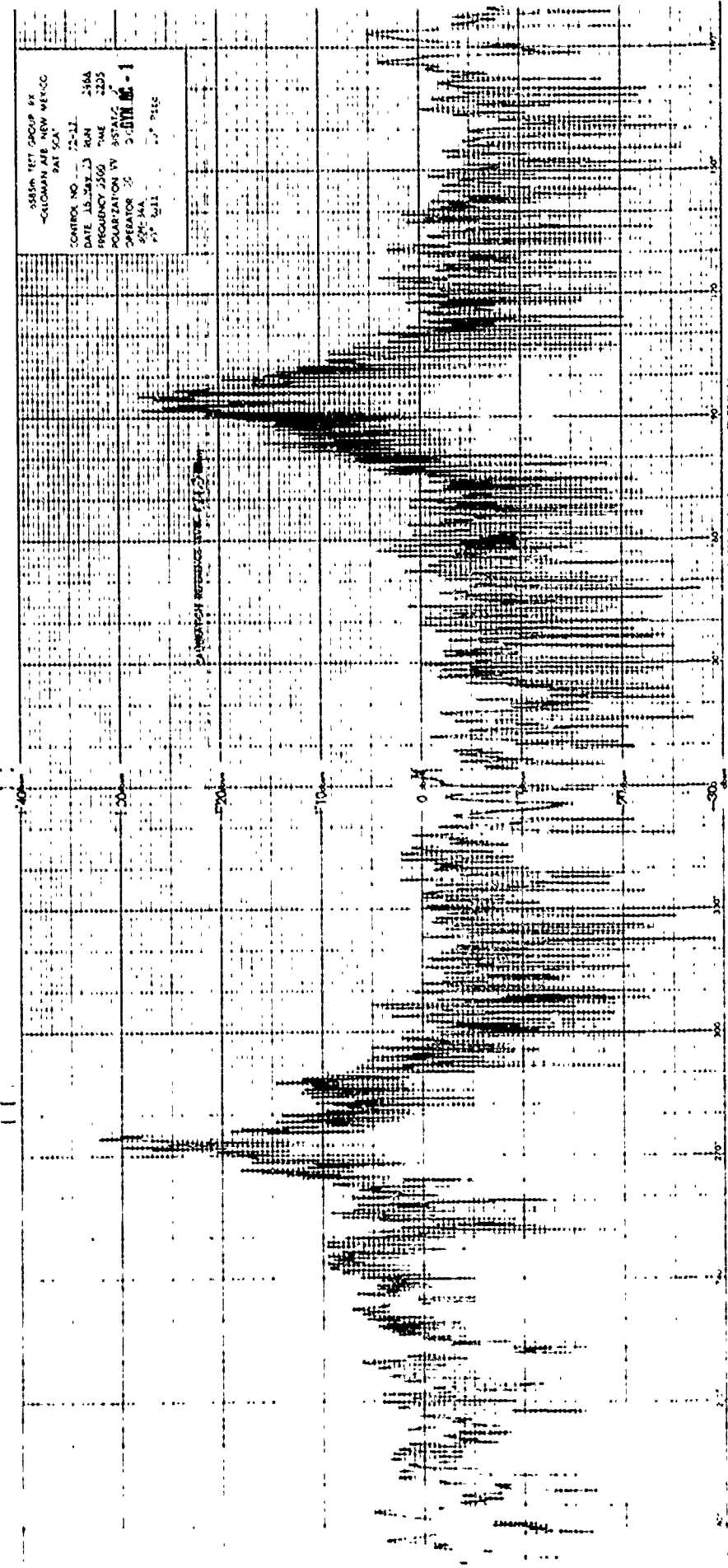
ADMIN. ST. UNIT BY
 S. COMAN AIR NEW MEXICO
 SAT. CA
 CONTRACT NO. 22-17
 DATE 15 MAY 53 RUN 428
 FREQUENCY 3.40 MHE 433
 REGULATION 30 A.S.A.
 OPERATOR J.M. J.M. 86-1
 374-344 107 91288

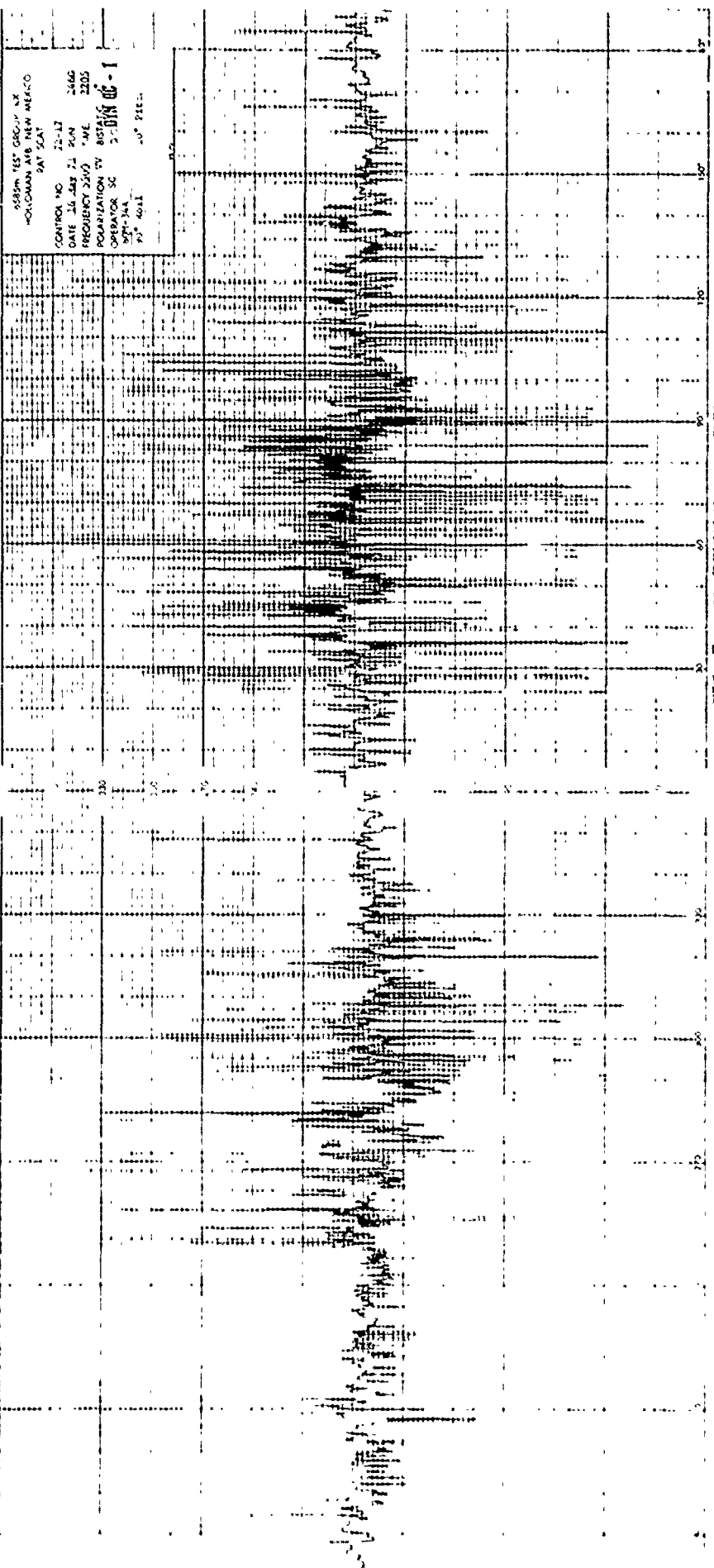




NAME: [unclear]
 DATE: [unclear]
 FREQUENCY: [unclear]
 OPERATOR: [unclear]

ASSIGN TEST GROUP BY
-CLOOMAN AFB NEW MEXICO
PAT 50A
CONTROL NO. 72-12
DATE 15-201-13 841 256A
FREQUENCY 2500 PAIR 2205
LOCALIZATION BY STATE
OPERATOR S. J. M. - 1
PAGE 81

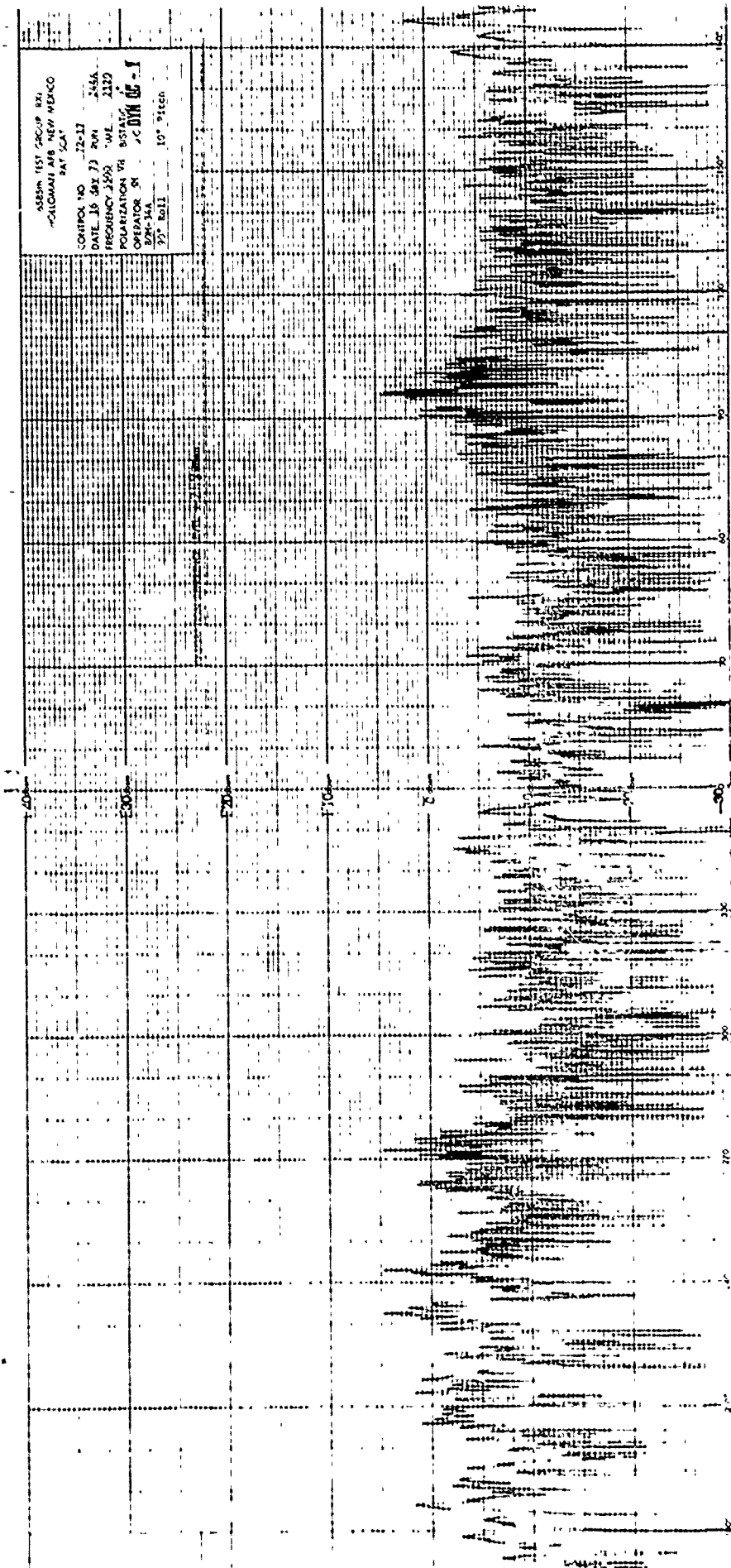




258PM TEST GROUP NX
 HOLCOMAN AFB NEW MEXICO
 2AT SCAT
 CONTROL NO. 22-12
 DATE 16 JAN 71 24N
 FREQUENCY 2500 MHz
 ORGANIZATION 77
 OPERATOR SC
 24 JAN 71
 71 4011
 10° PEEK

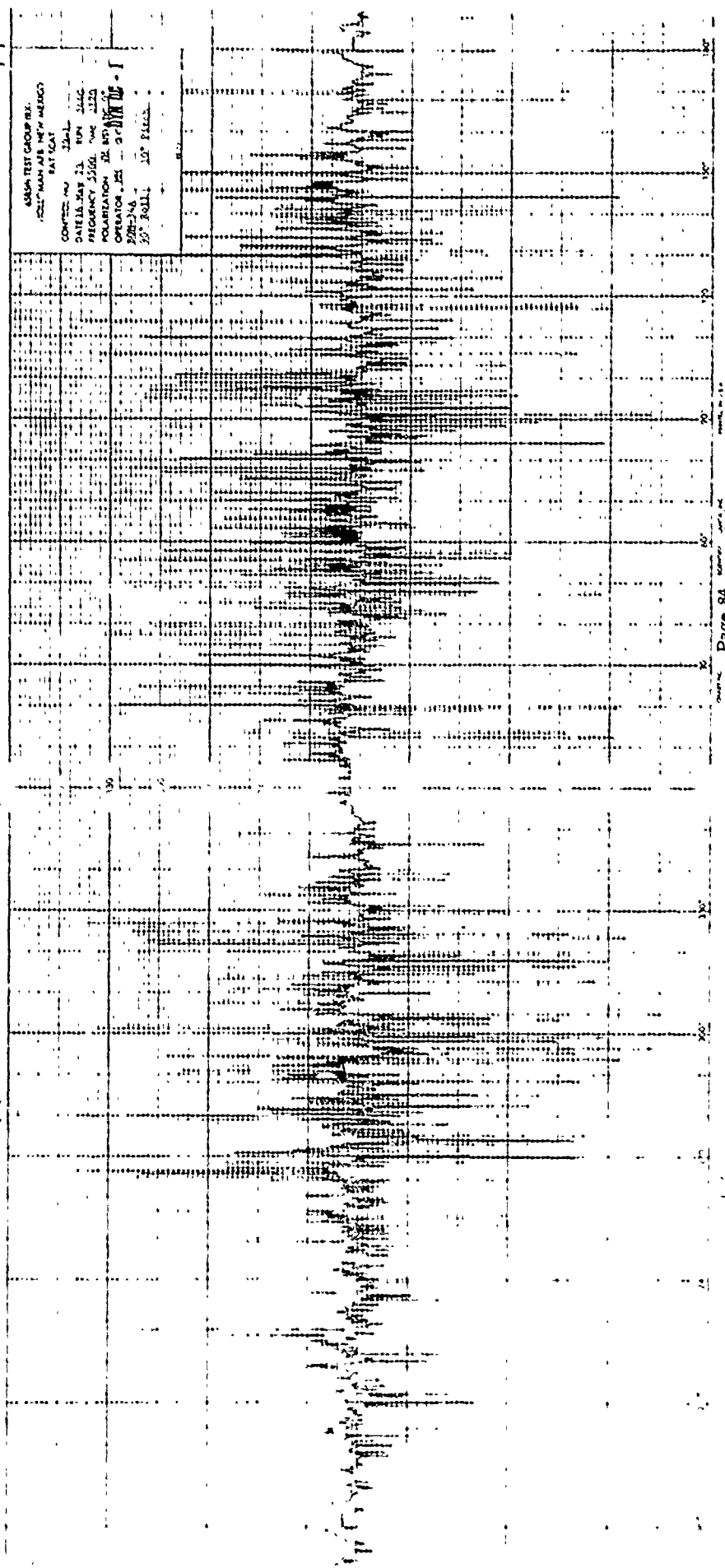
5858m 151° 50.0' ERI
-CALIGNANT AIR NEW MEXICO
"AT 50A"

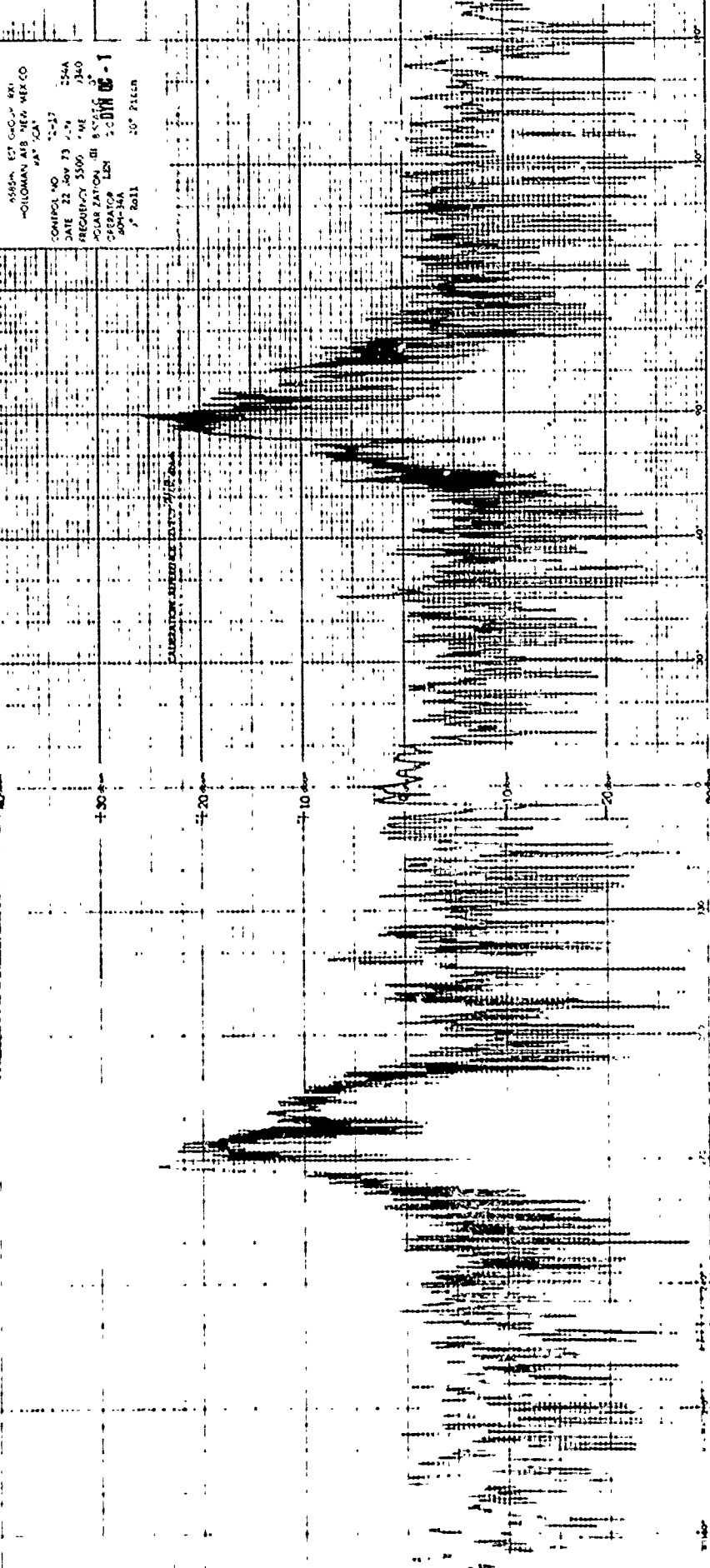
CONTROL NO 22-117
DATE 18 OCT 73 RW 245A
FREQUENCY 3300 WEL 2120
POLARIZATION VBI BISTATIC
OPERATOR SN JC DVM US -1
SPW-MA
20° Roll 10° Pitch



ASMA TEST GROUP BE.
2527 MAIN AVE. NEW MEXICO
BAT CAT

CONTROLLER NO. 1241
DATE: MAY 23 1946
FREQUENCY 5500 KHZ
POLARIZATION 20 BT
OPERATOR JES
208-34
50" ROLL 10" PAPER





4585A 157 G-001 871
 HOLONAN AIR NEW MEX CO
 147 10A
 CONTROL NO 22-57
 DATE 22 Nov 73 4-24 254A
 REGISTRY 5500 10E 1340
 PLANTATION BR 85750 3
 4585A LEN 200W 00-1
 1 Roll 30" Picta

CALCULATION SUPERSEDED BY DATA 7/15/80

65534 151 GCP-181
HOLLAMAN AFB NEW MEXICO
PAT 504

CONTROL NO. 72-17 2546

DATE 22 Nov 73 FOR 0340

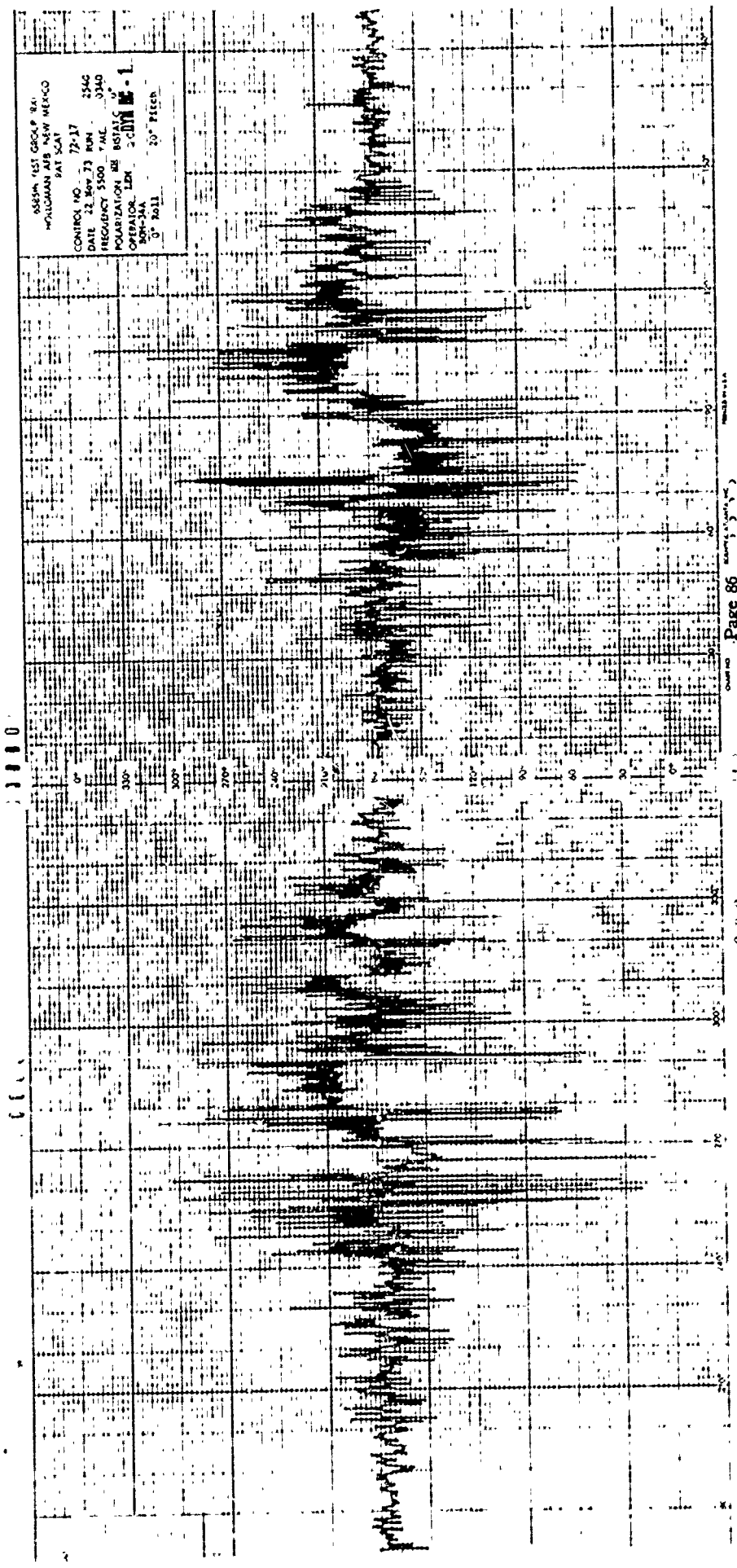
FREQUENCY 5500 F/MC

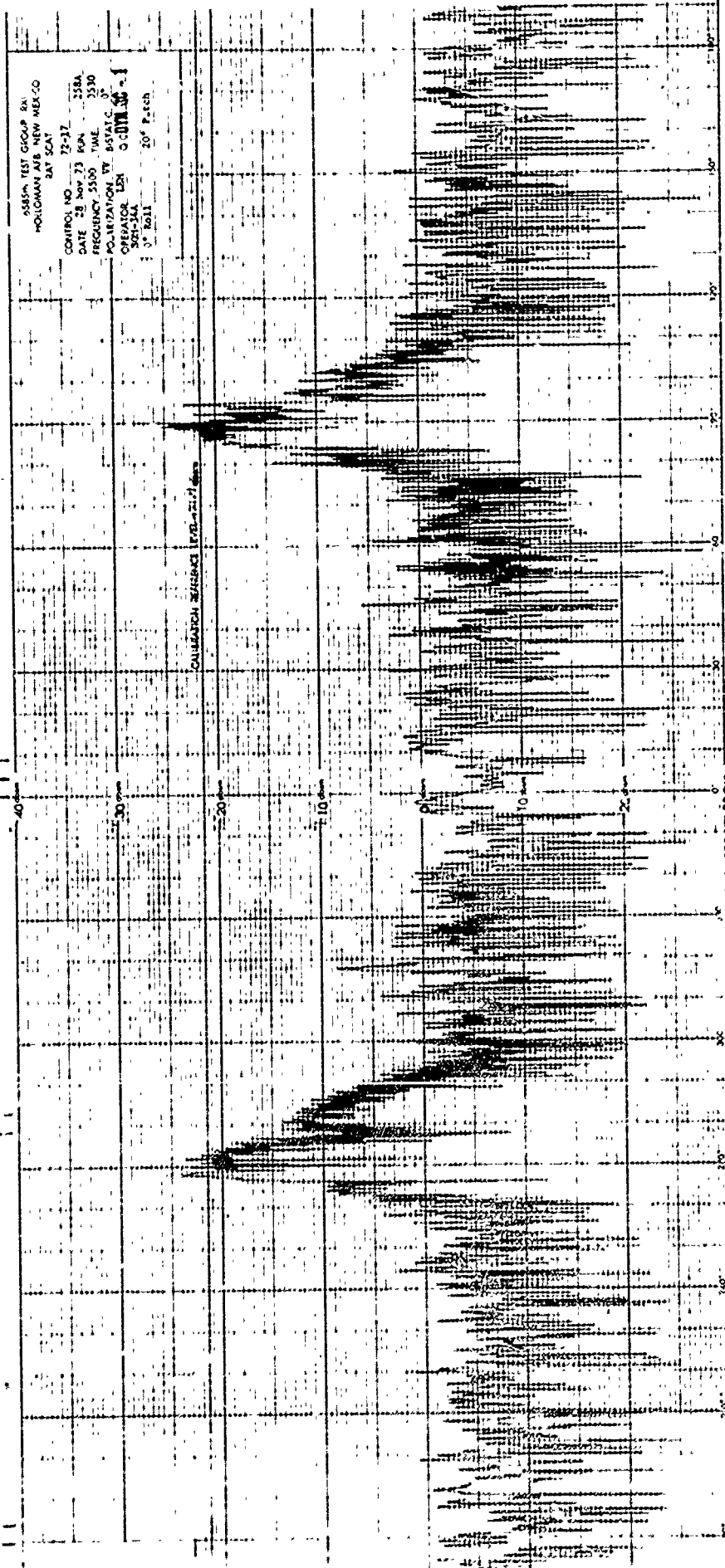
POLARIZATION BE BISTATIC

OPERATOR LER 207N 15-1

504-344

0° Roll 20° Pitch

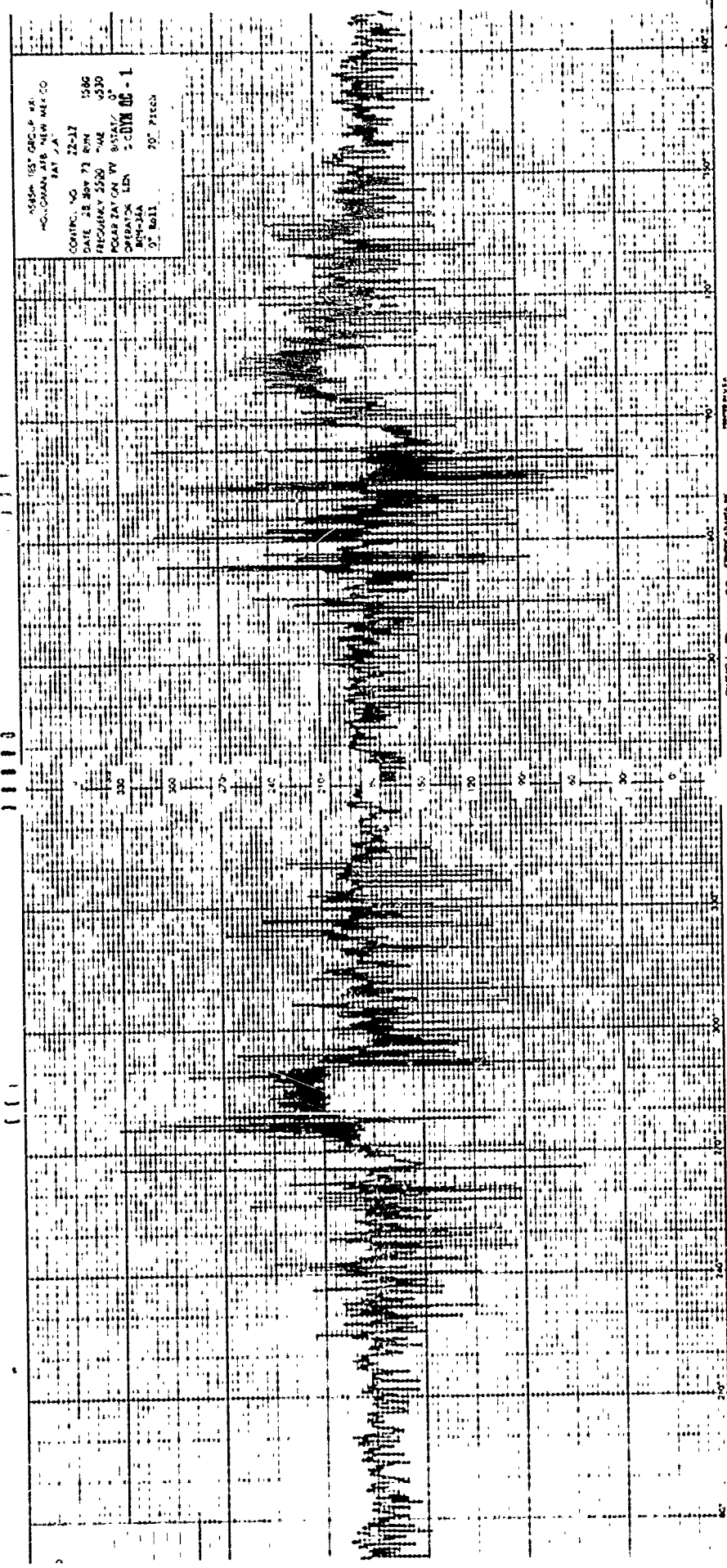




585PM TEST GROUP IN
 HOLLOWAY AVE NEW HAVEN CT
 SAT SCAT
 CONTROL NO 22-377
 DATE 28 NOV 73 RUN 258A
 FREQUENCY 5500 TIME 3530
 POLARIZATION BY B51AT.C. 0
 OPERATOR LBN 0-00000000
 500-34A
 0" Roll 20" Patch

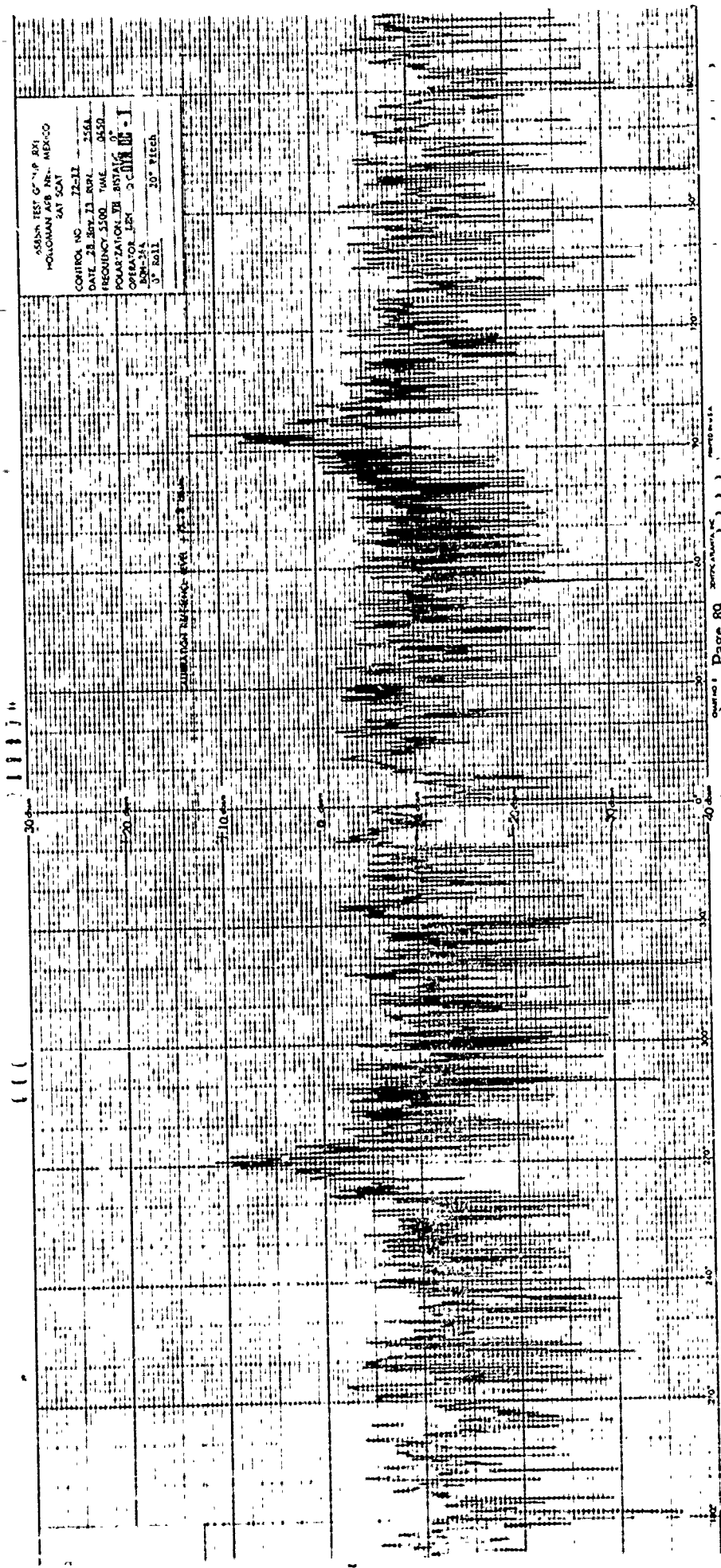
CALIBRATION SIGNALS (100-2000 Hz)

MASSA 1537 GRC.P. 41.
-O- OMAN AIR NEW MELCO
SAT / A / A
CONTR. NO 22-117
DATE 28 SEP 73 BIN 1586
FREQUENCY 3585 MHz 0330
OPERATION TV B/W A/T / U
OPERATOR LBN : GDBH 02 - 1
MFR-MA
7" Roll 70" Pitch



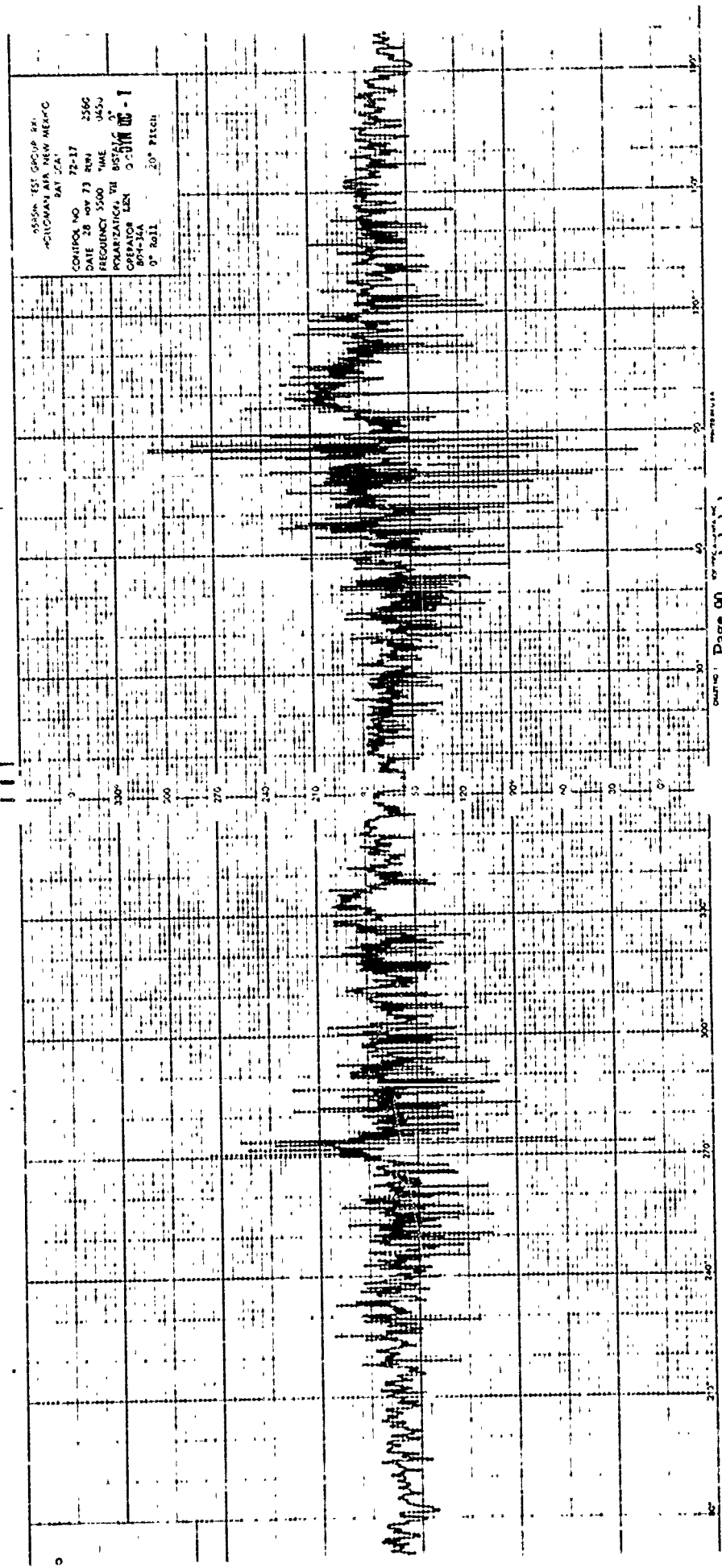
ASSIGN TEST OFFICE BY
HOLLAND AIR STATION
SAT 501

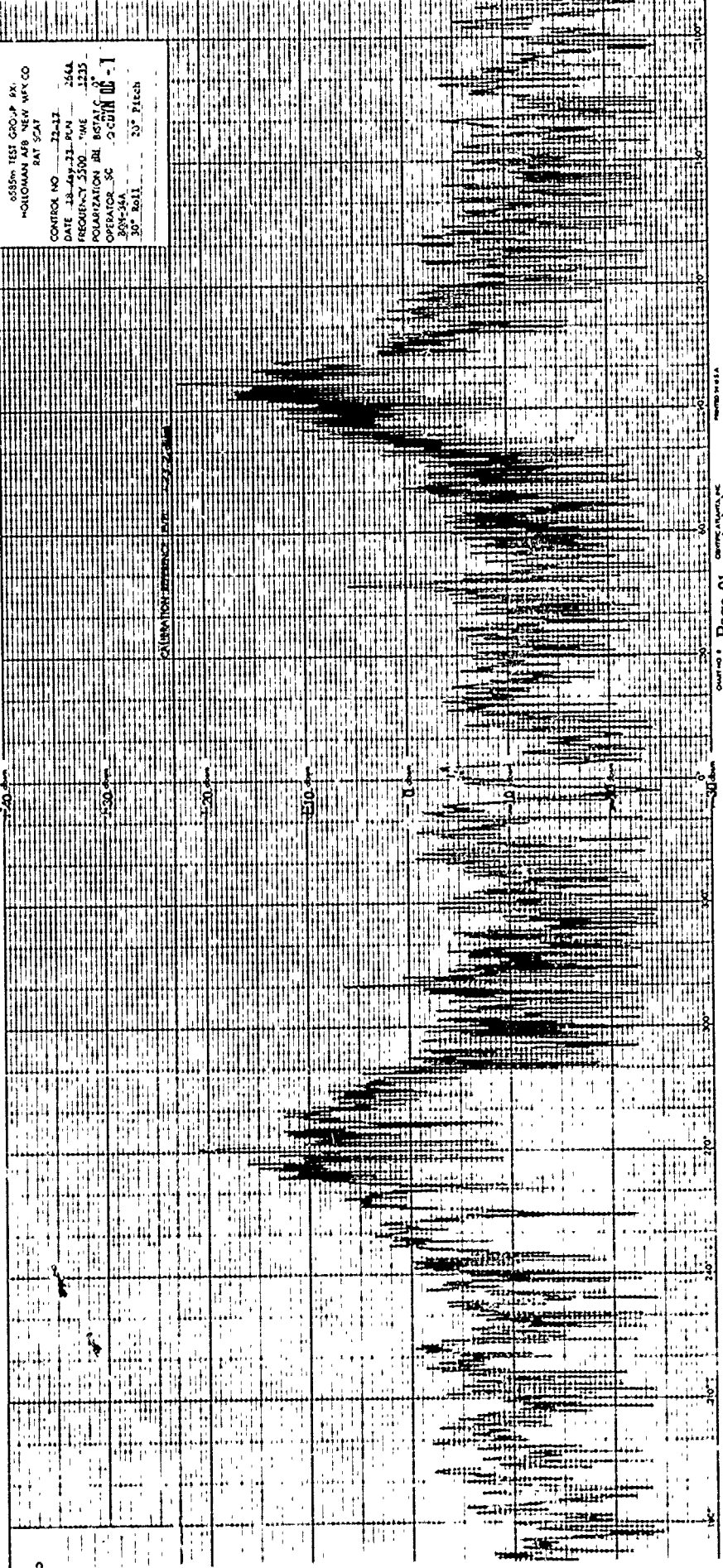
CONTROL NO. 72-11
DATE 28 Nov 71
FREQ. 5100
POLARIZATION H
OPERATOR JRY
804-54
10" Pitch



ASSON TEST GROUP, INC.
CHICAGO, ILL. NEW MEXICO
SAT. JCA.

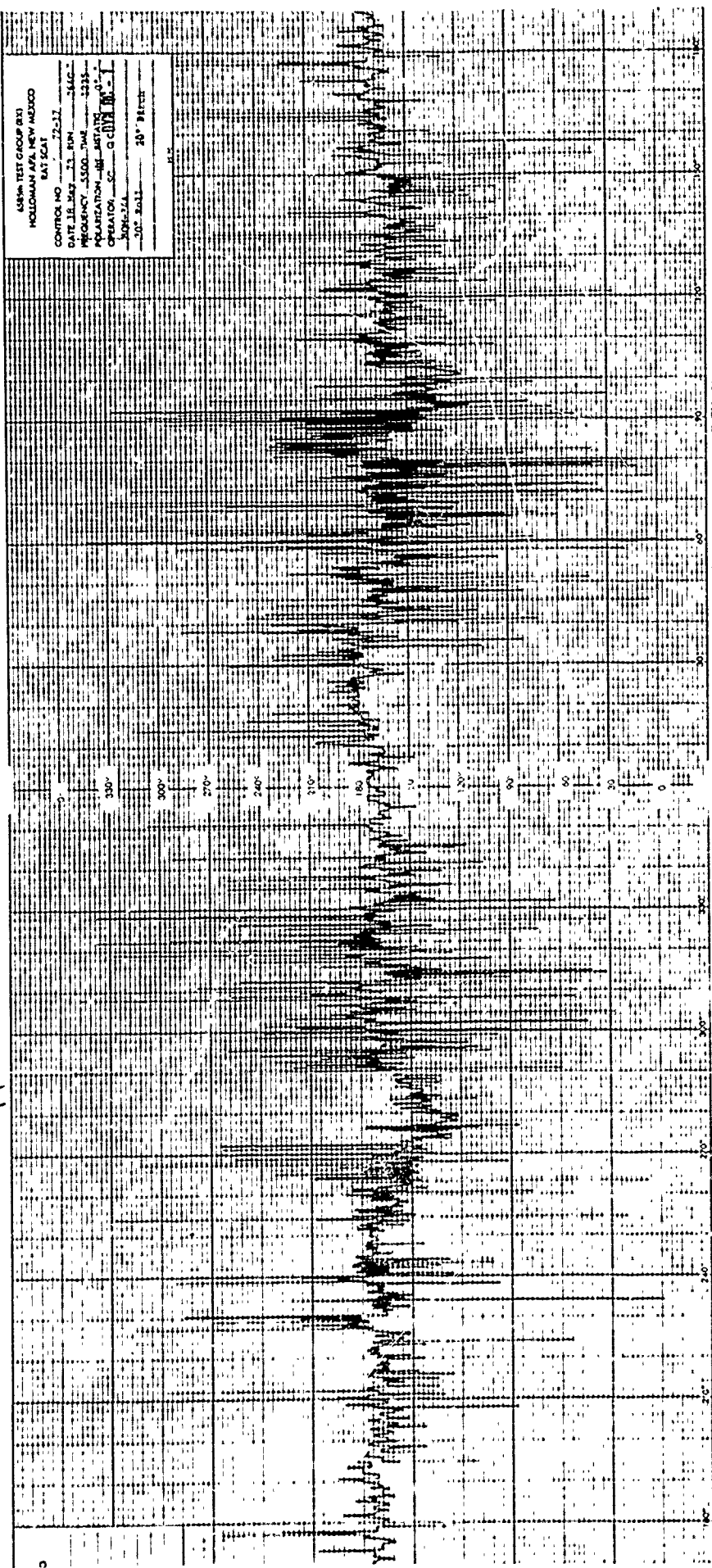
CONTROL NO. 72-17
DATE 26 NOV 73 TIME 2346
FREQUENCY 5500 MHz 04570
POLARIZATION RH BSR
OPERATOR LEN O'CONNOR
894-514
0' 0011 20° PITCH





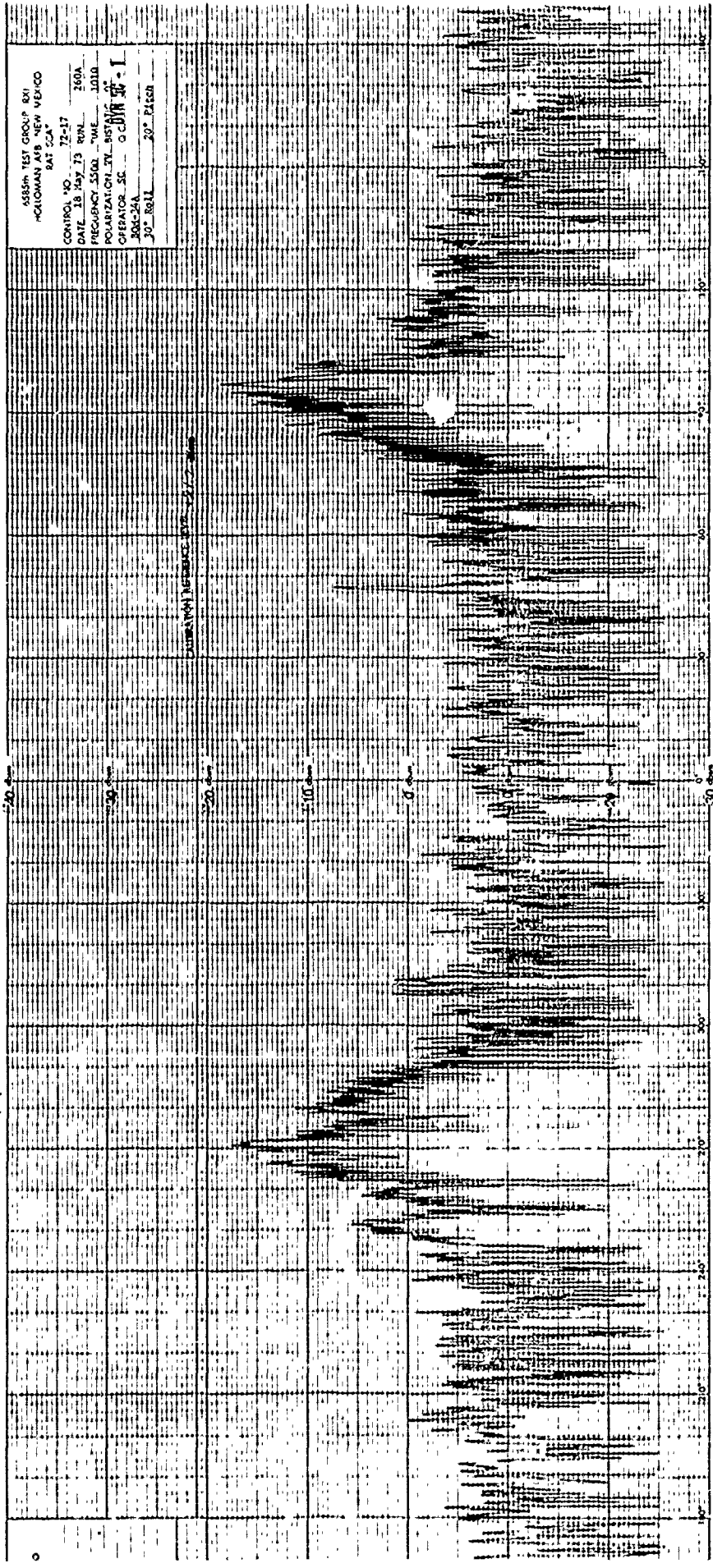
6585th TEST GROUP PK.
 HOLLAMAN AFB NEW MEX CO
 RAT SCAT
 CONTROL NO 32-417
 DATE 18-49-31-P-4 244
 FREQUENCY 2500 198 1210
 MODULATION 800 100
 OPERATOR SC 0001100-1
 55-24A
 30" Roll 20" Pitch

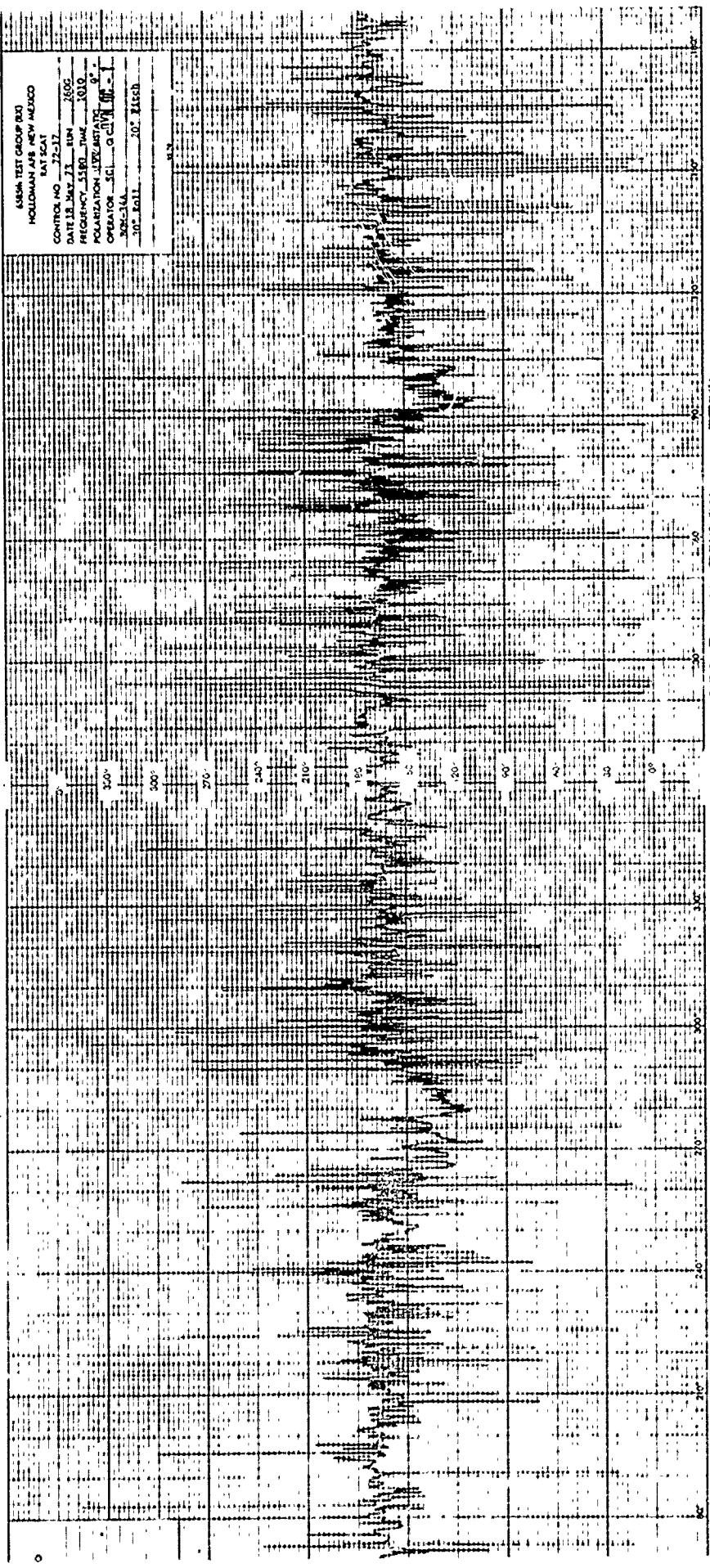
CALIBRATION APPROXIMATE DATE 7-2-54

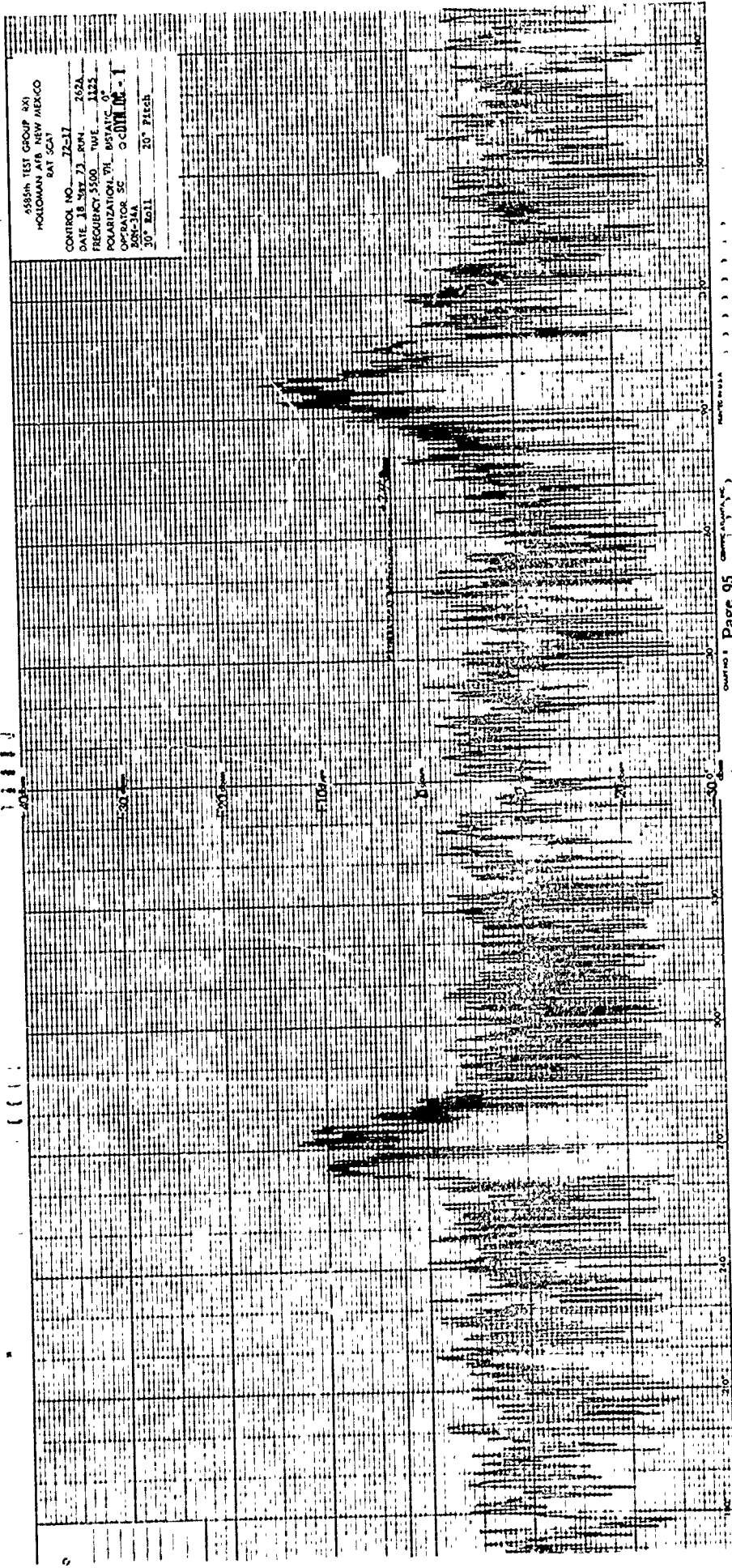


USMC TEST GROUP (R1)
 HOLLAMAN AFB, NEW MEXICO
 EAST SCAT
 CONTROL NO. 72-37
 DATE 18 MAY 71 RUN 246C
 FREQUENCY 5500 THZ 1335
 POLARIZATION RH INSTANT
 OPERATOR SC G C I T R D R - 1
 506-374
 20° Pitch

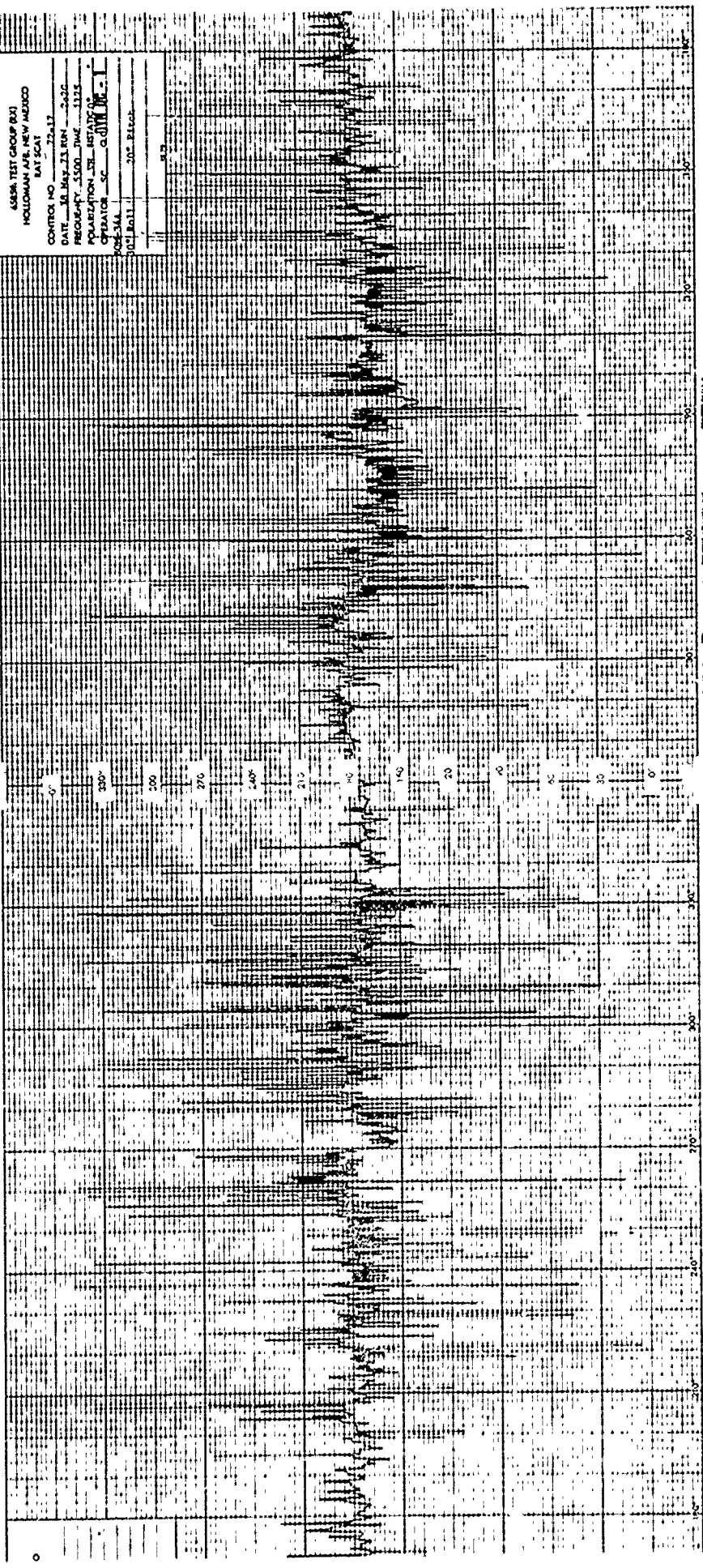
ASBSP TEST GROUP BX1
MCALOMAN AFB NEW MEXICO
RAT 22A
CONTROL NO. 72-17 260A
DATE 18 MAY 75 RPL 1010
FREQUENCY 5500 MHz
POLARIZATION LINE-BY-LINE
OPERATOR SC - GUBIN
30025A
30-8841 30° Patch





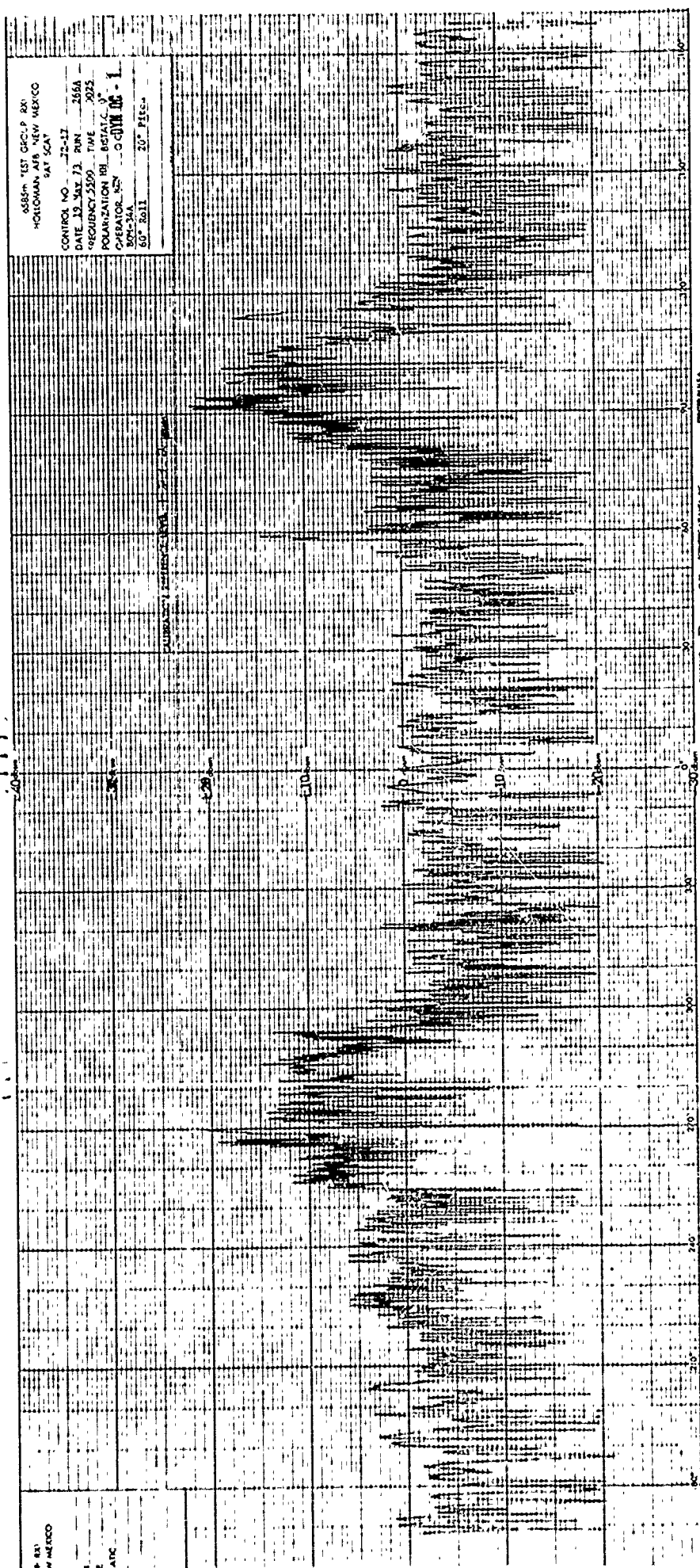


5885th TEST GROUP RX1
 HOLLOMAN AFB NEW MEXICO
 BAT SCAT
 CONTROL NO. 12-217
 DATE 18 SEP 73 RUN 262A
 FREQUENCY 5500 THF 1122
 POLARIZATION PH. INSTANT 0°
 SCALAR SE 0.001000
 30° Ball 20° Pitch



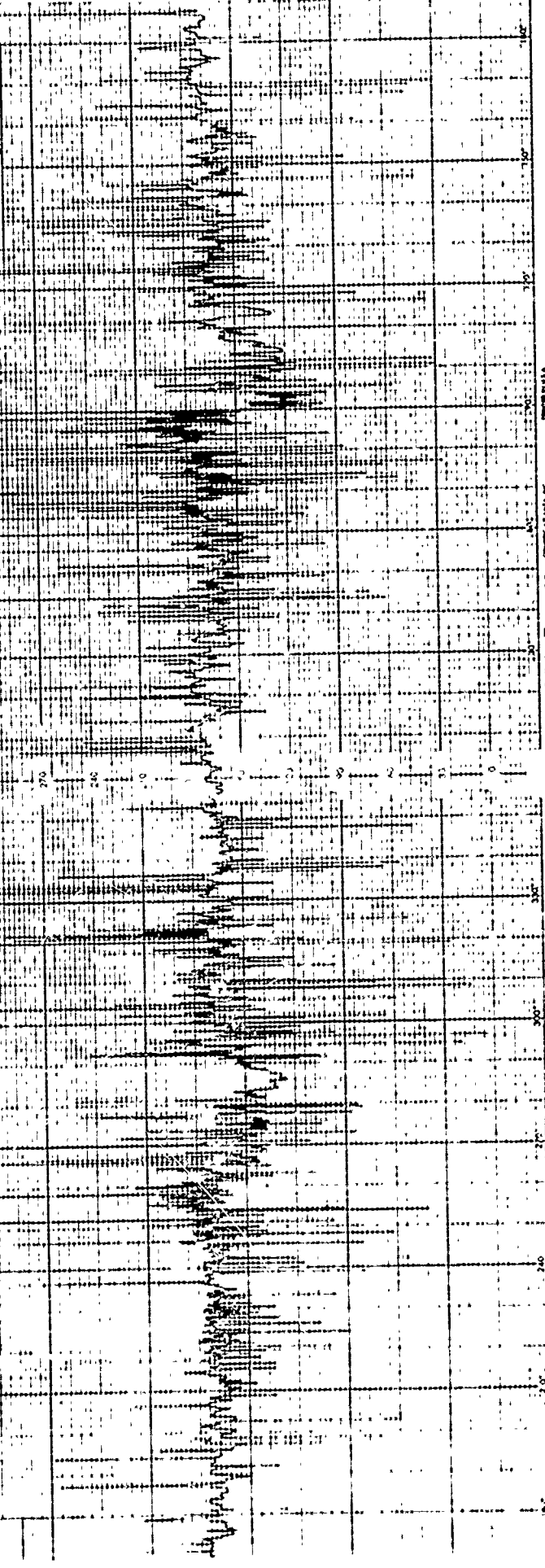
4584 TEST GROUP (X)
 HOLLOWAY AT NEW ARDOD
 CONTROL NO. 21-25-17
 DATE 18 MAY 53 8M 2-30
 RECORDING 1500-100 1115
 OPERATOR 25-100-100
 QUANTITY 50 0.011 10-1
 25-541
 25-1011 25-1100

P RTI
W MEXICO

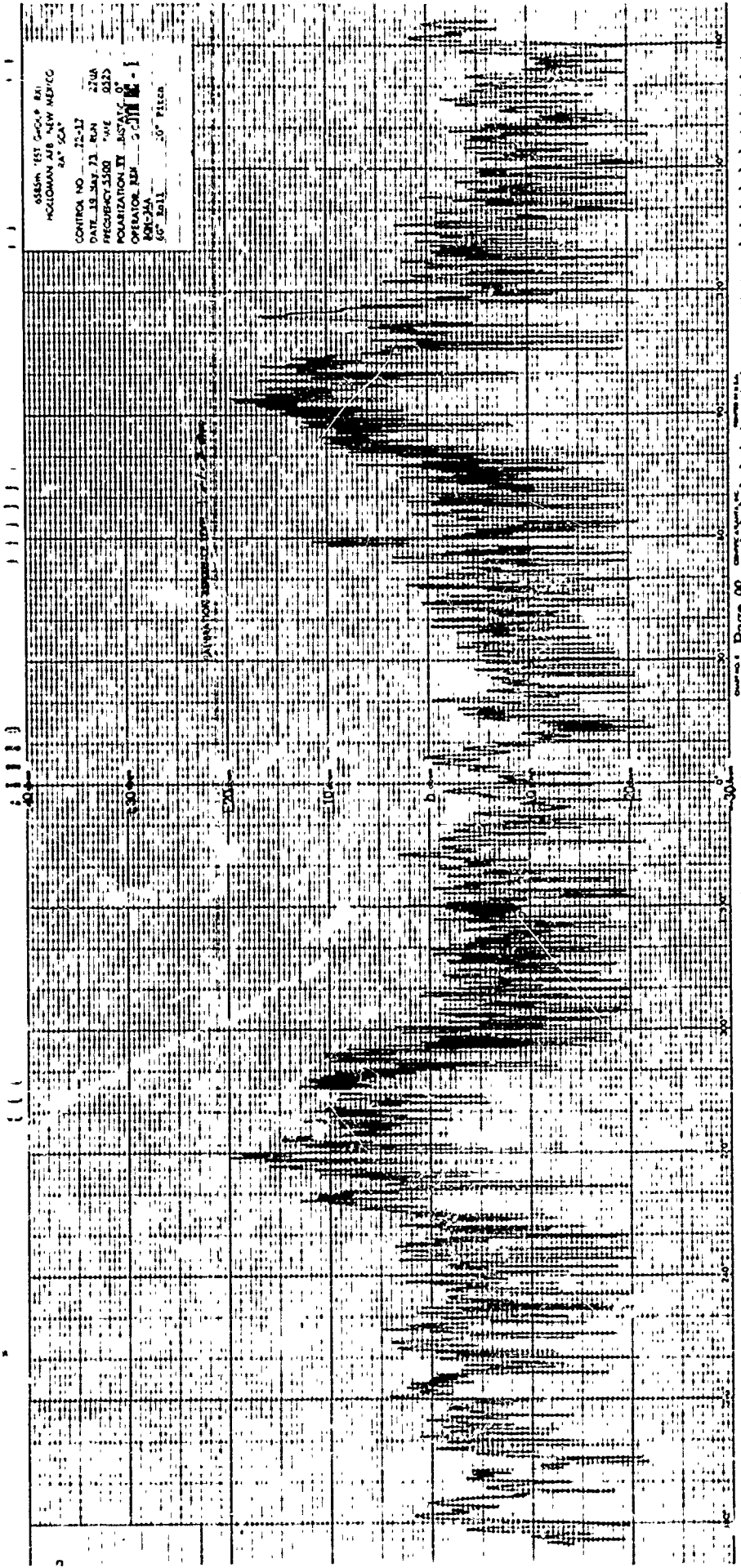


3884m TEST GROUP RTI
HOLCOMB AFB NEW MEXICO
SAT SCA
CONTROL NO. 75-17
DATE 19 JAN 73 RUN 255A
FREQUENCY 5500 TIME 2023
POLARIZATION RH - BSATC J
OPERATOR RTI O GIM JR - 1
SOL-3A
50° Roll 20° Pitch

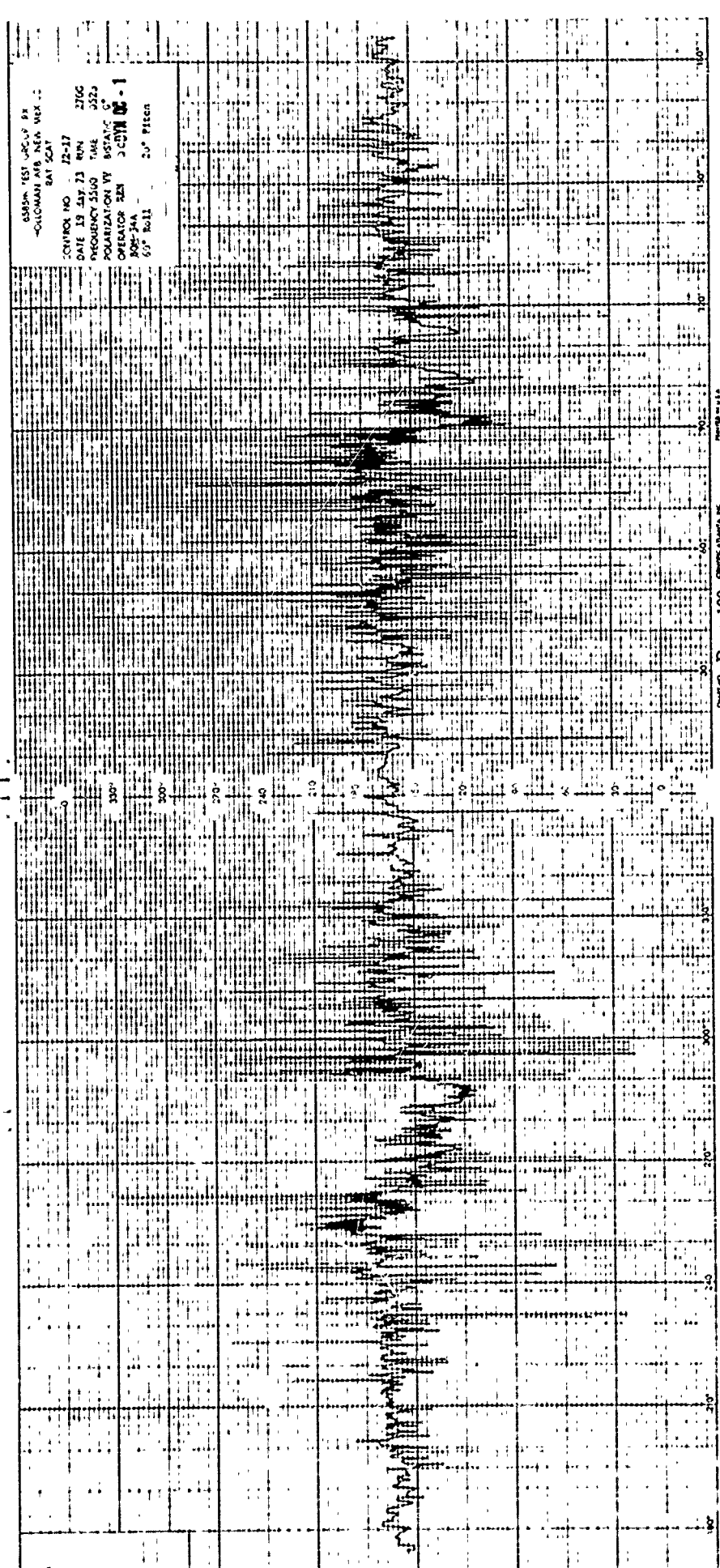
SESSION TEST GROUP #11
 HATLOWAN AIR NEW MEXICO
 RAT SCAT
 CONTROL NO 22-17
 DATE 19 MAY 73 RUN 2566
 FREQUENCY 2500 TIME 0125
 POLARIZATION RH DISTANCE 10
 OPERATOR BEN J. C. J. JR.
 50° Roll 20° Pitch

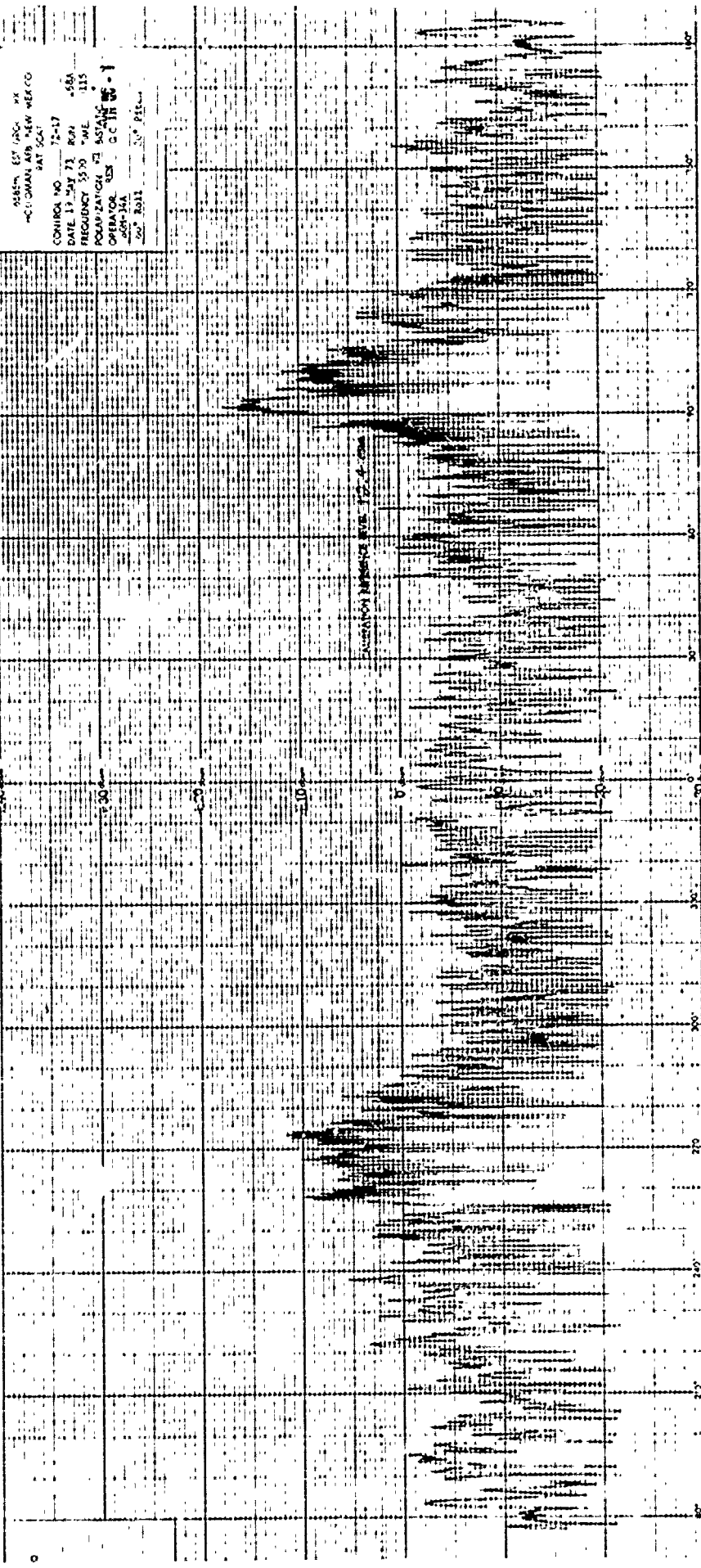


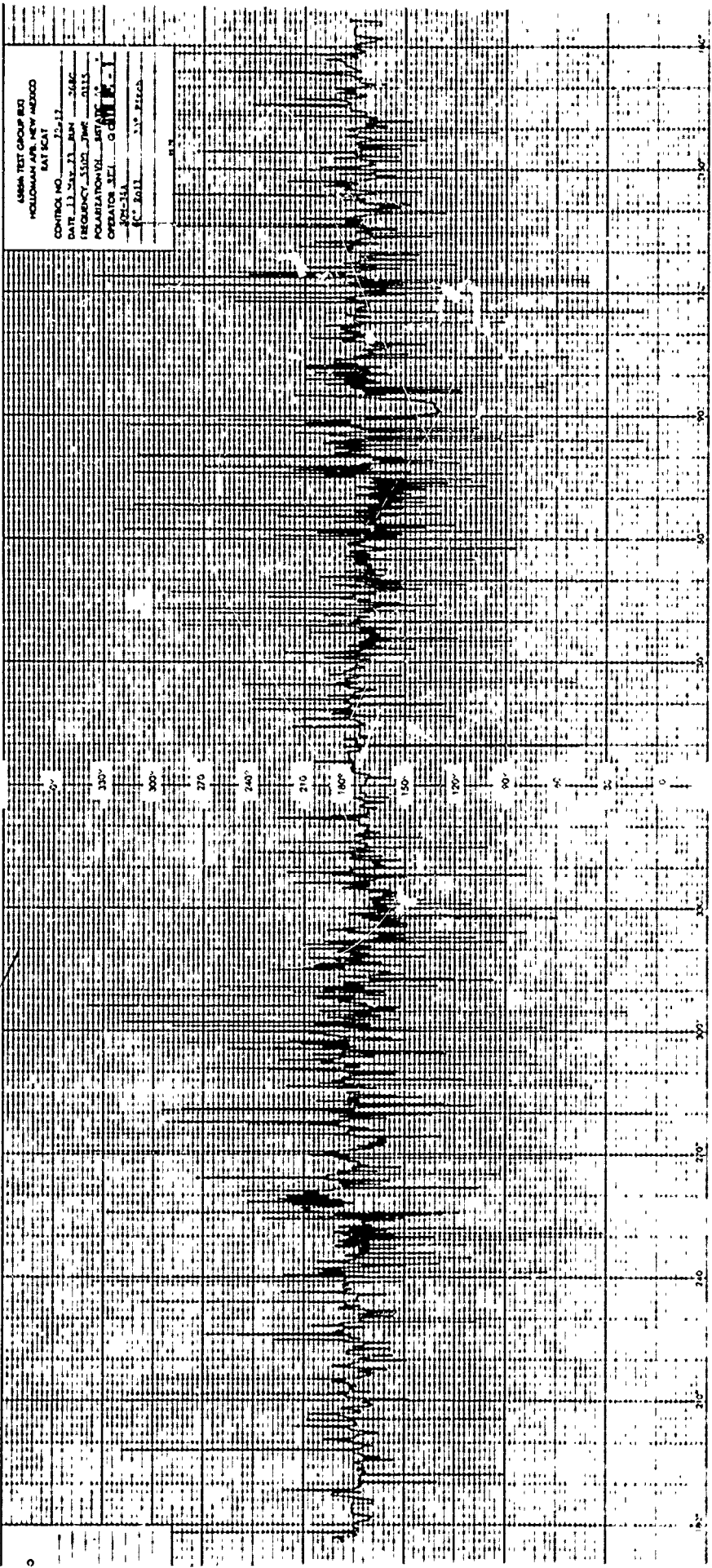
6589h 1511 G-60.6 B-1
 HOLLANDMAN 247 147 MEDIC
 8A 50A
 CONTROL NO. 72-17
 DATE 18 MAY 73 RUN 27UA
 FREQUENCY 1500 MHz 0325
 POLARIZATION BY BURST
 OPERATOR BKH
 RFL/MA
 50° Roll 20° Pitch



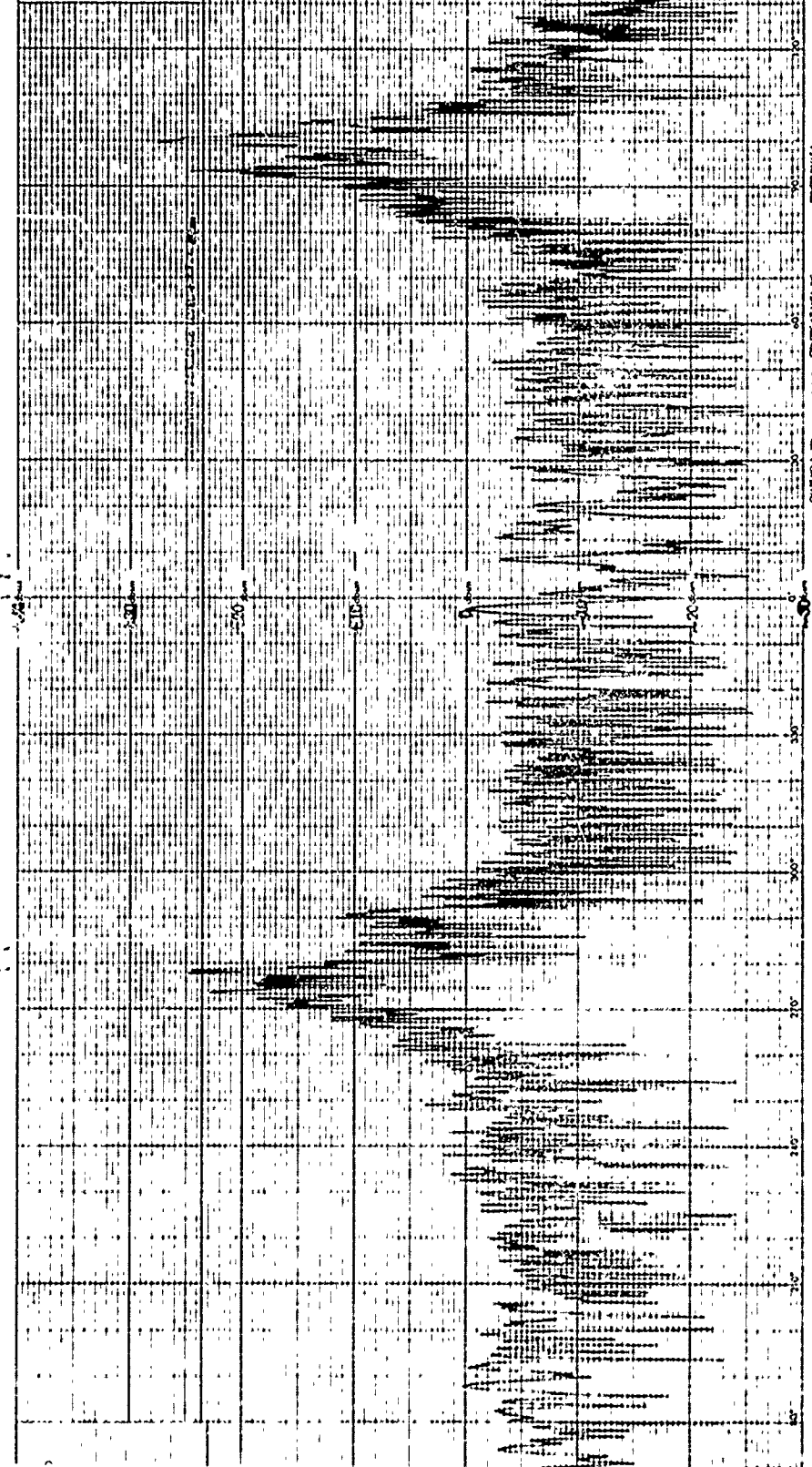
6858m TEST W/200 BT
 -OLOMAN AFB NEW MEX 12
 BAT SCAT
 CONTROL NO 12-17
 DATE 19 MAY 73 RUN 2766
 FREQUENCY 5500 TIME 0523
 POLARIZATION W/ BSSAFC C
 OPERATOR REN JCCW
 60° Roll 20° Pitch



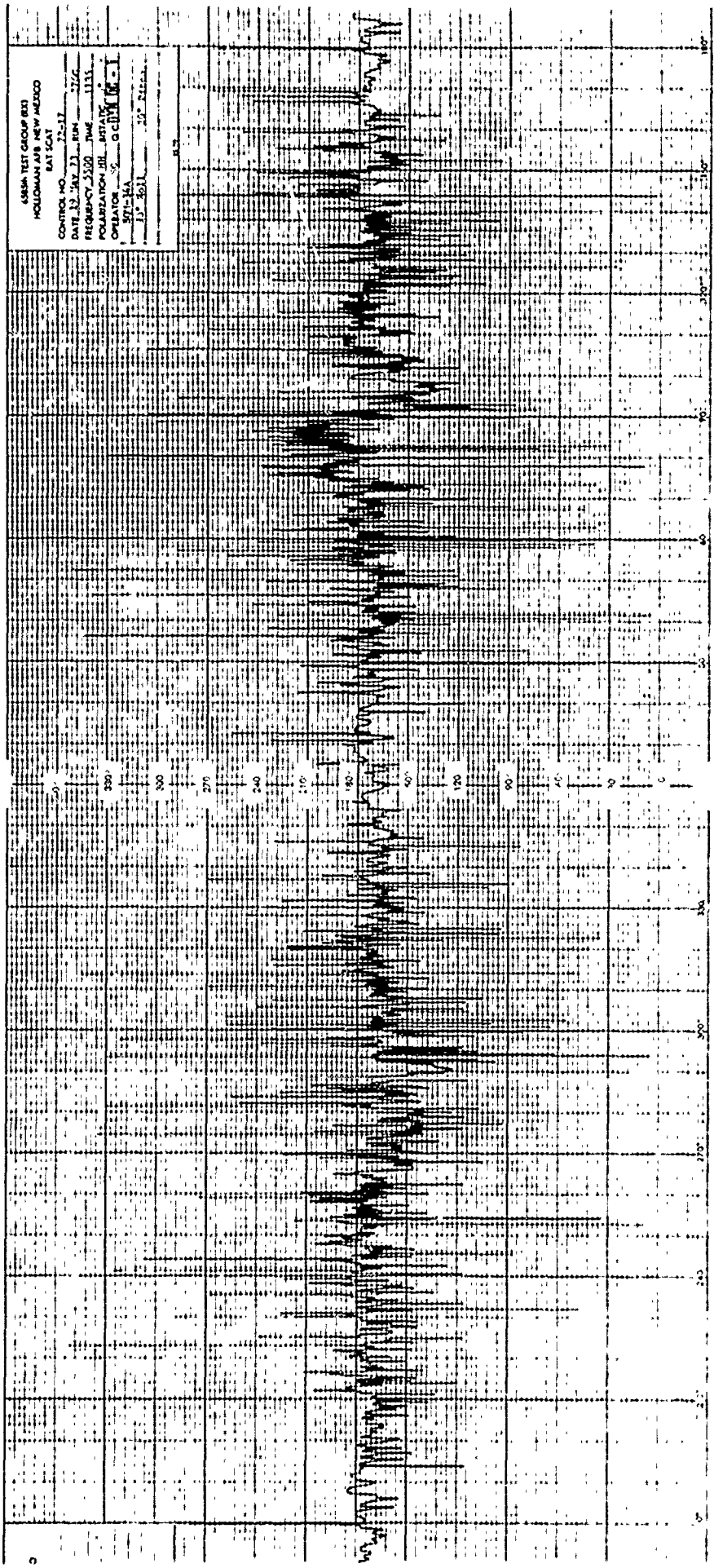




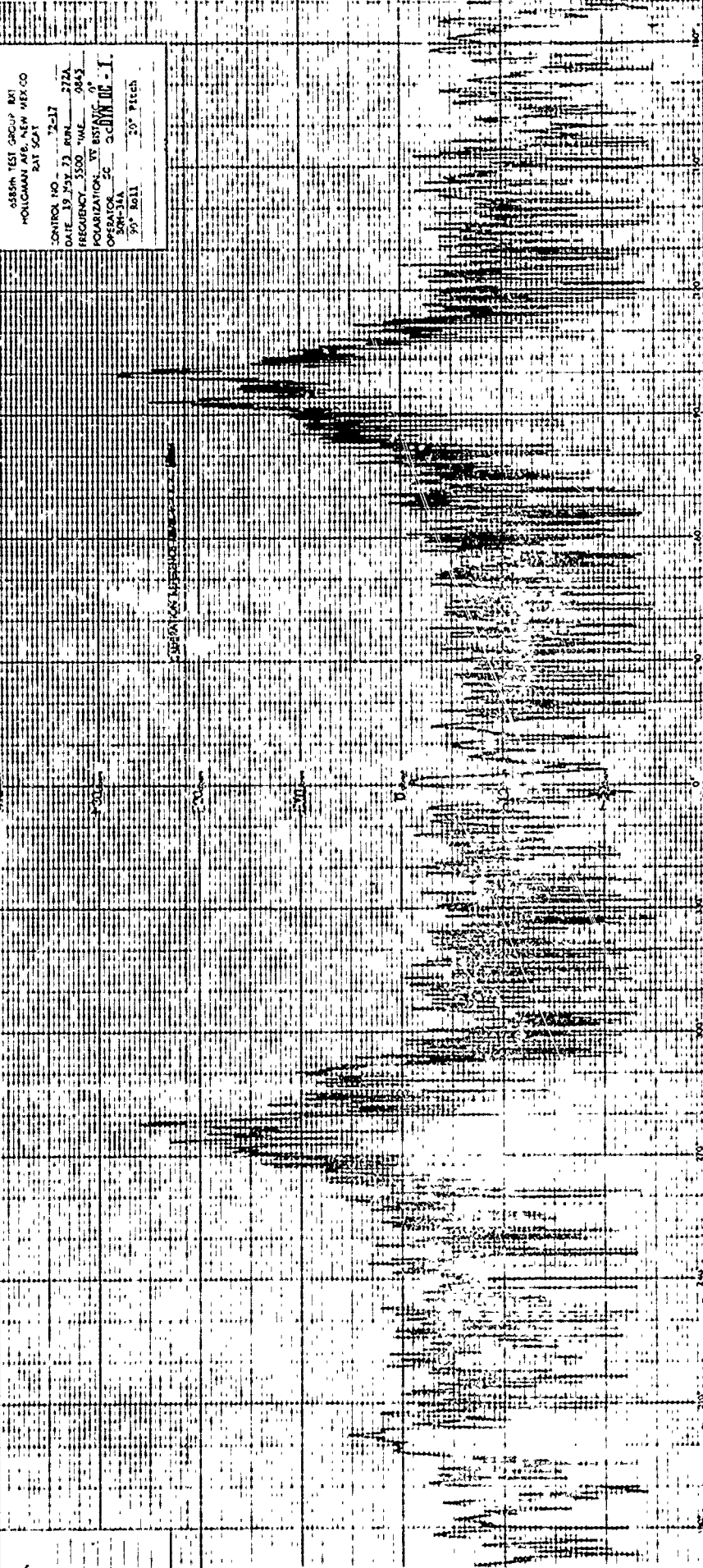
6889P 157 GRC J W
 WASHINGTON FIELD OFFICE
 CONTROL NO. 7-17
 DATE 13 59 73 PAN 276A
 FREQUENCY 3500 WME 1135
 POLARIZATION 3 BRITAIN
 OPERATOR SC 0 GDMW E-1
 804-3A 30° 2411 30° 2411



4554 TEST GROUP (B3)
 HOLLAMAN AIR, NEW MEXICO
 BAIT CAT
 CONTROL NO. 22-37
 DATE 12 MAY 71 TIME 27.6
 FREQUENCY 5.500 MHz 1113
 POLARIZATION RH ANTENNA
 OPERATOR G. J. [unclear]
 19-14
 19-8011 20-1122

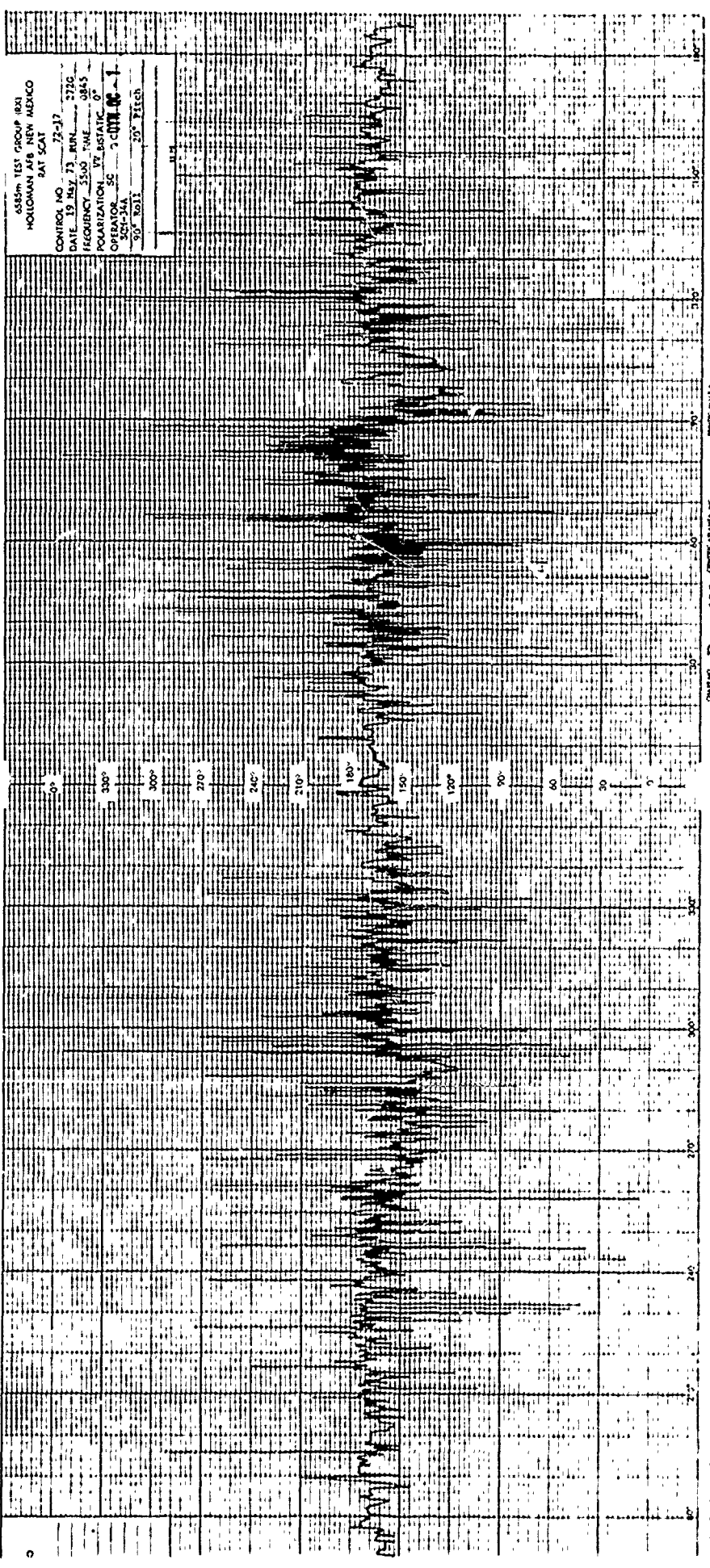


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ASSESS TEST GROUP BKT
 HOLLAMAN AFB, NEW MEX CO
 RAT 5047

CONTROL NO. 12-317
 DATE 19 MAY 73 0814L 272A
 FREQUENCY 1500 MHz 0843
 POLARIZATION BY BST
 OPERATOR PE GCH/III - I.
 548-31A
 90° ROT 20° PITCH

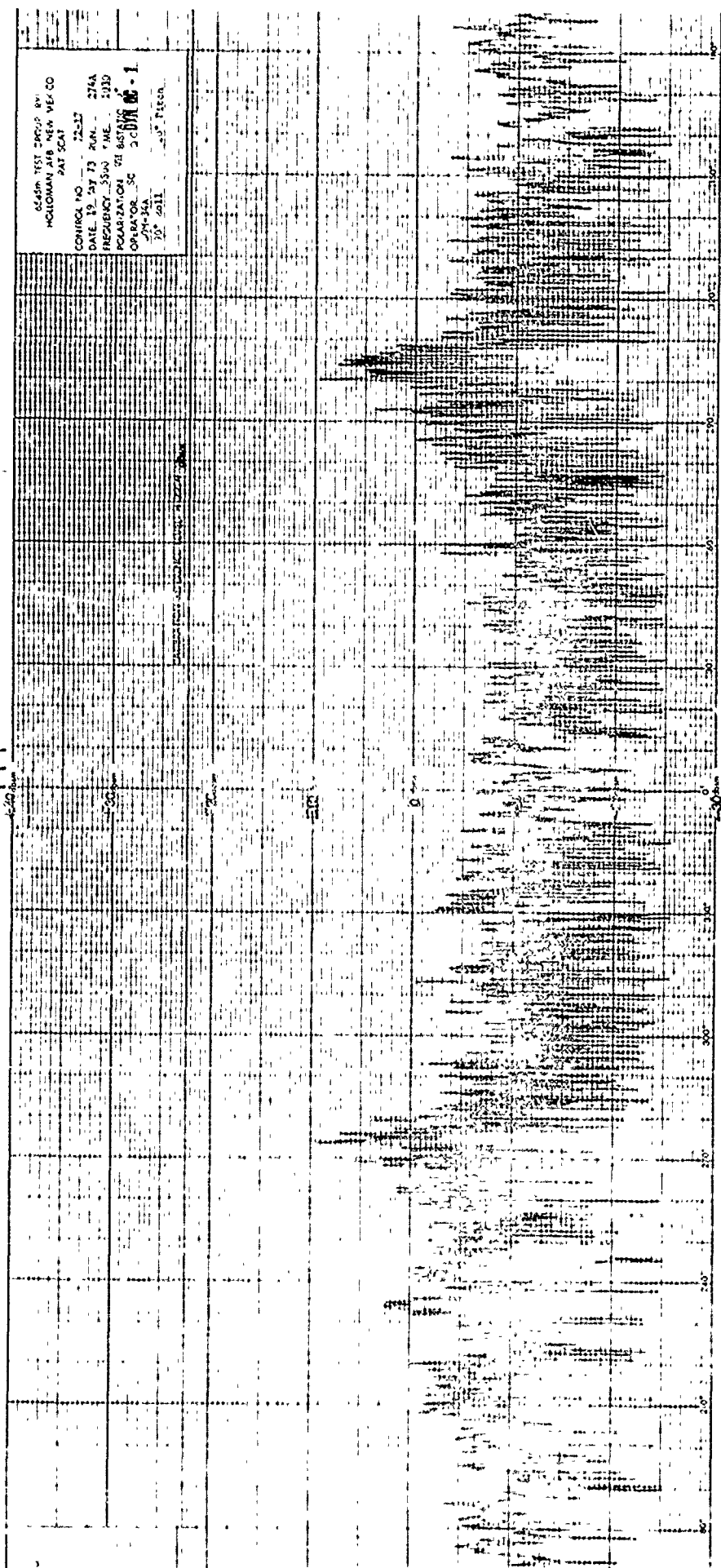


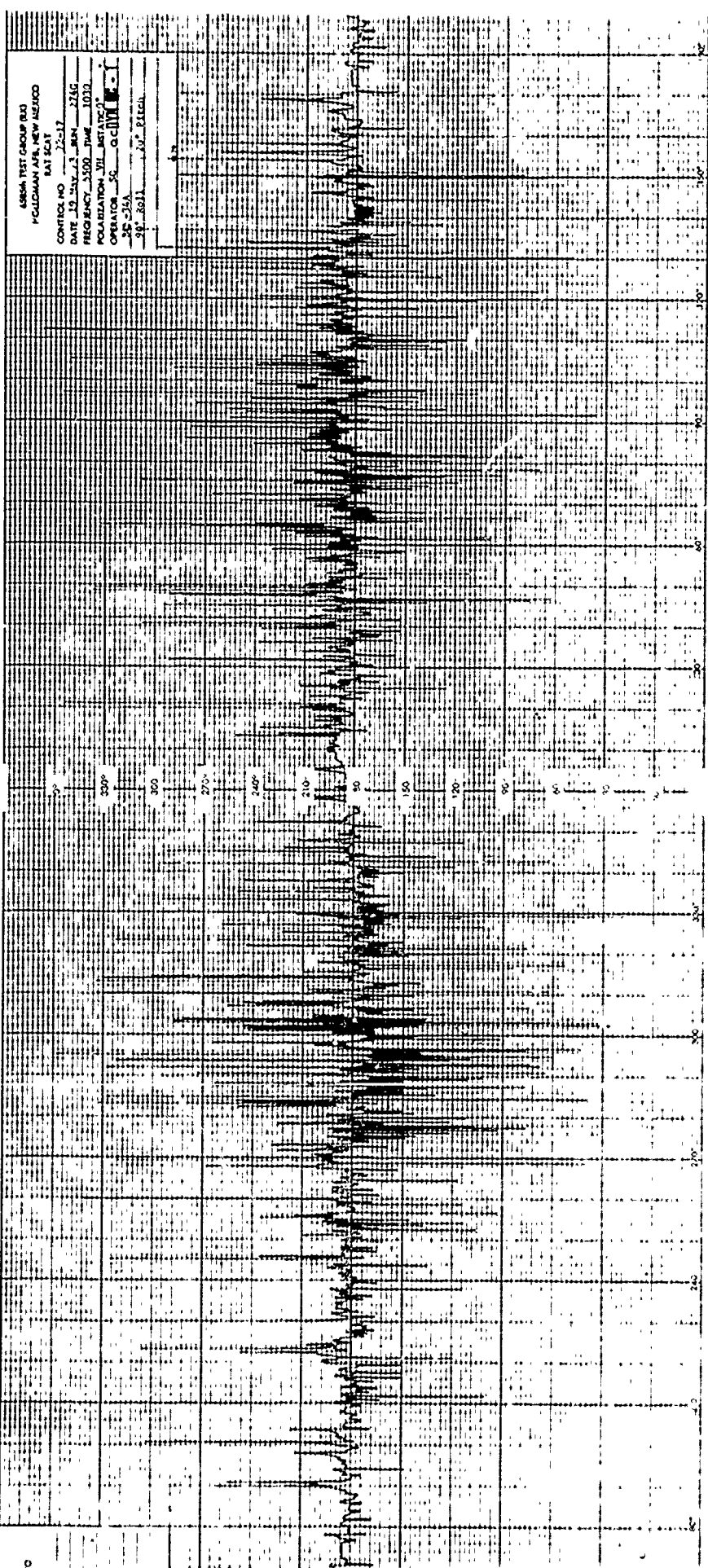
ASSON TEST GROUP 1821
HOLLAMAN AFB NEW MEXICO
BAT SCAT

CONTROL NO. 22-17
DATE 19 MAY 73 RUN 2726
FREQUENCY 2500 MHz 0845
POLARIZATION LINEAR
OPERATOR SC 200104
SCN-24A 20 PITCH
30 1811

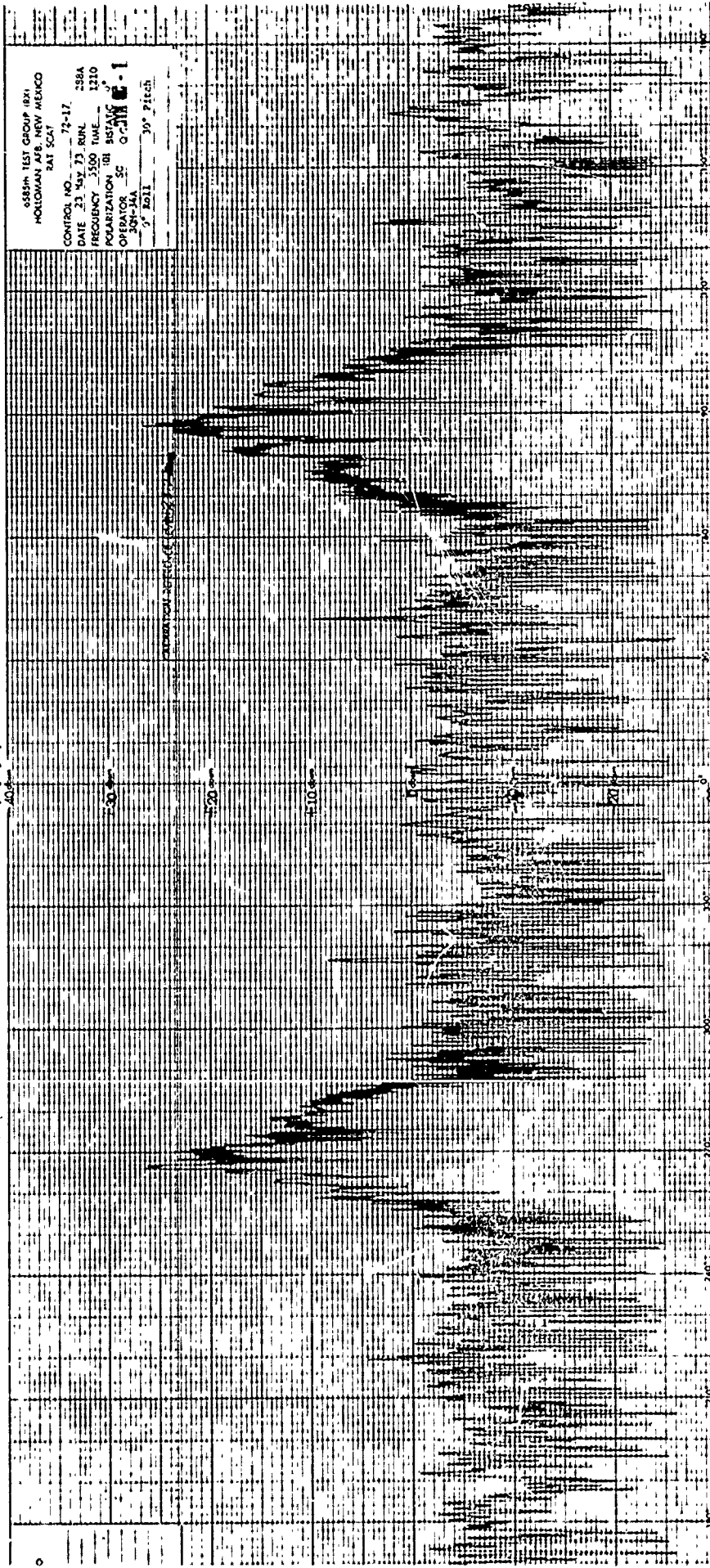
6245th TEST GROUP BY
HOLLOWAY AIR NEW MEX CO
PAT SCAT

CONTRACT NO. 22-237
DATE 19 24 73 RUN. 27AA
FREQUENCY 5500 F.M.E. 5130
POLARIZATION VE BIASING
OPERATOR SC 200011 05-1
7/4-31A
70° Roll

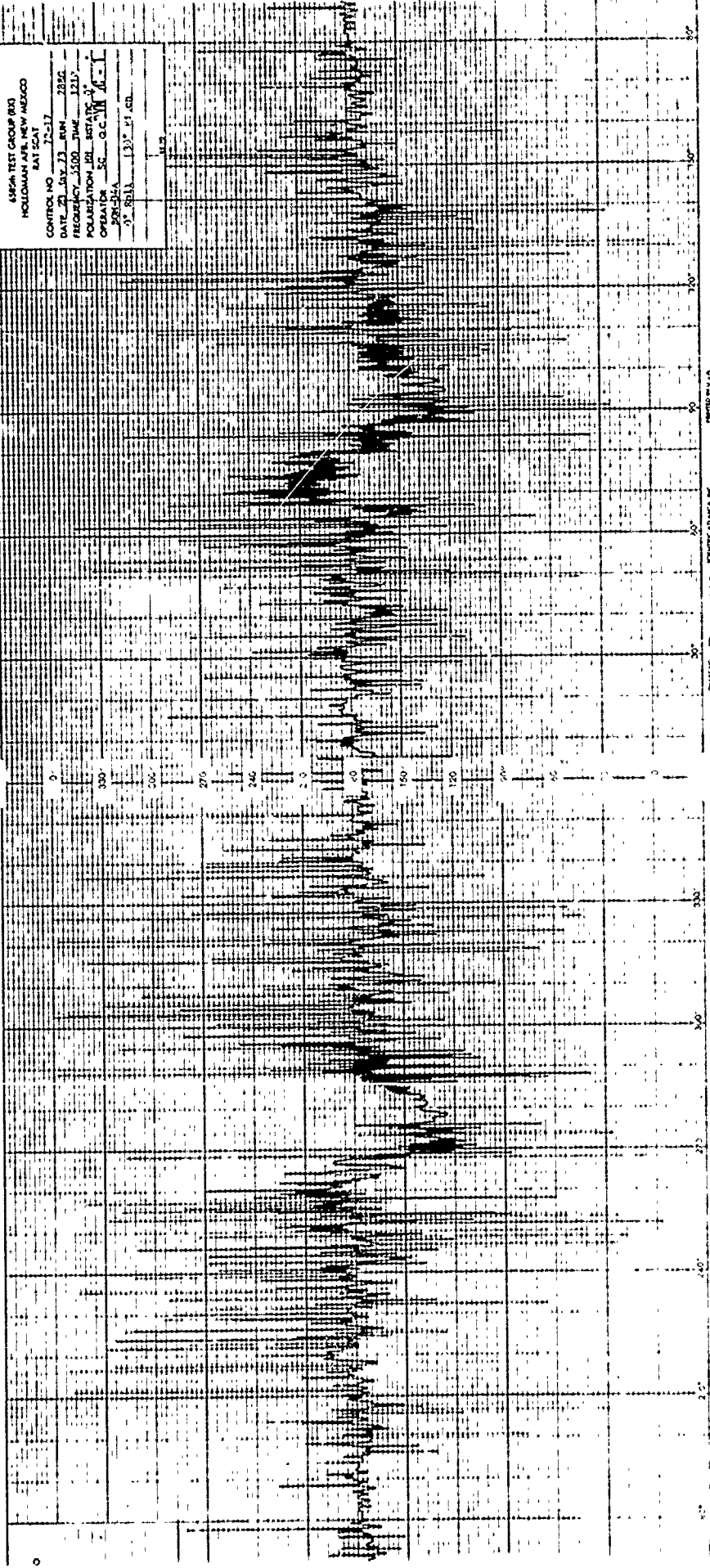


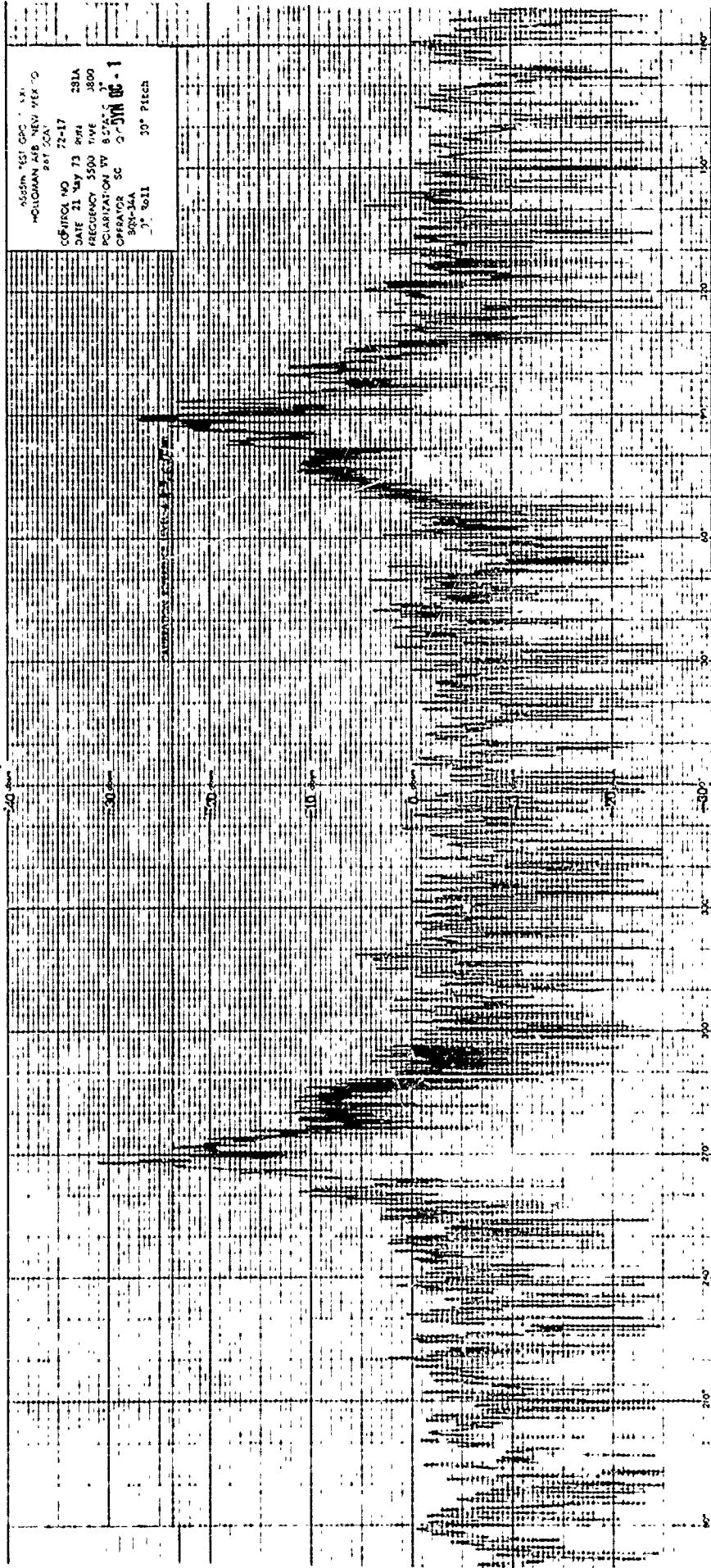


6584 TEST GROUP BUJ
 POLICEMAN AVE, NEW BRUNSWICK
 CONTROL NO. 25-317
 DATE 10-25-67
 FREQUENCY 2500 Hz
 REGISTRATION TIME 10:31
 OPERATOR G. G. H. [initials]
 25-35A
 25-691



ASKIA TEST GROUP (83)
 HOLLISMAN AIR NEW MEXICO
 BAIT CAT
 CONTROL NO. 72-17
 DATE 23 MAY 73 RUN 2850
 FREQUENCY 3500 TIME 1215
 POLARIZATION DEL INSTANT 0
 OPERATOR SC oc W J
 80M-57A
 0° 88A 130° 41.0L

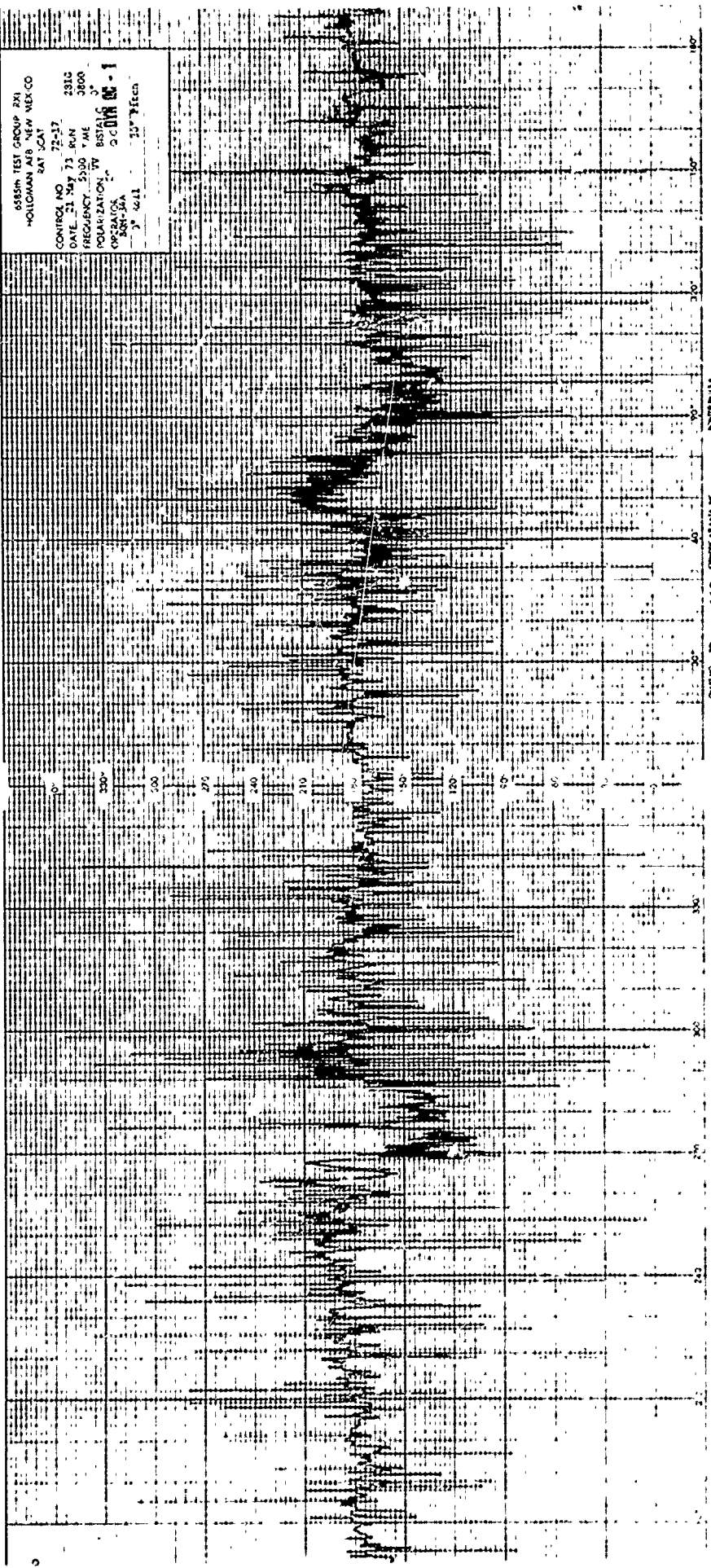




ASSUM TEST QPC
 HOLLOWMAN AFB NEW MEXICO
 887 SCAT

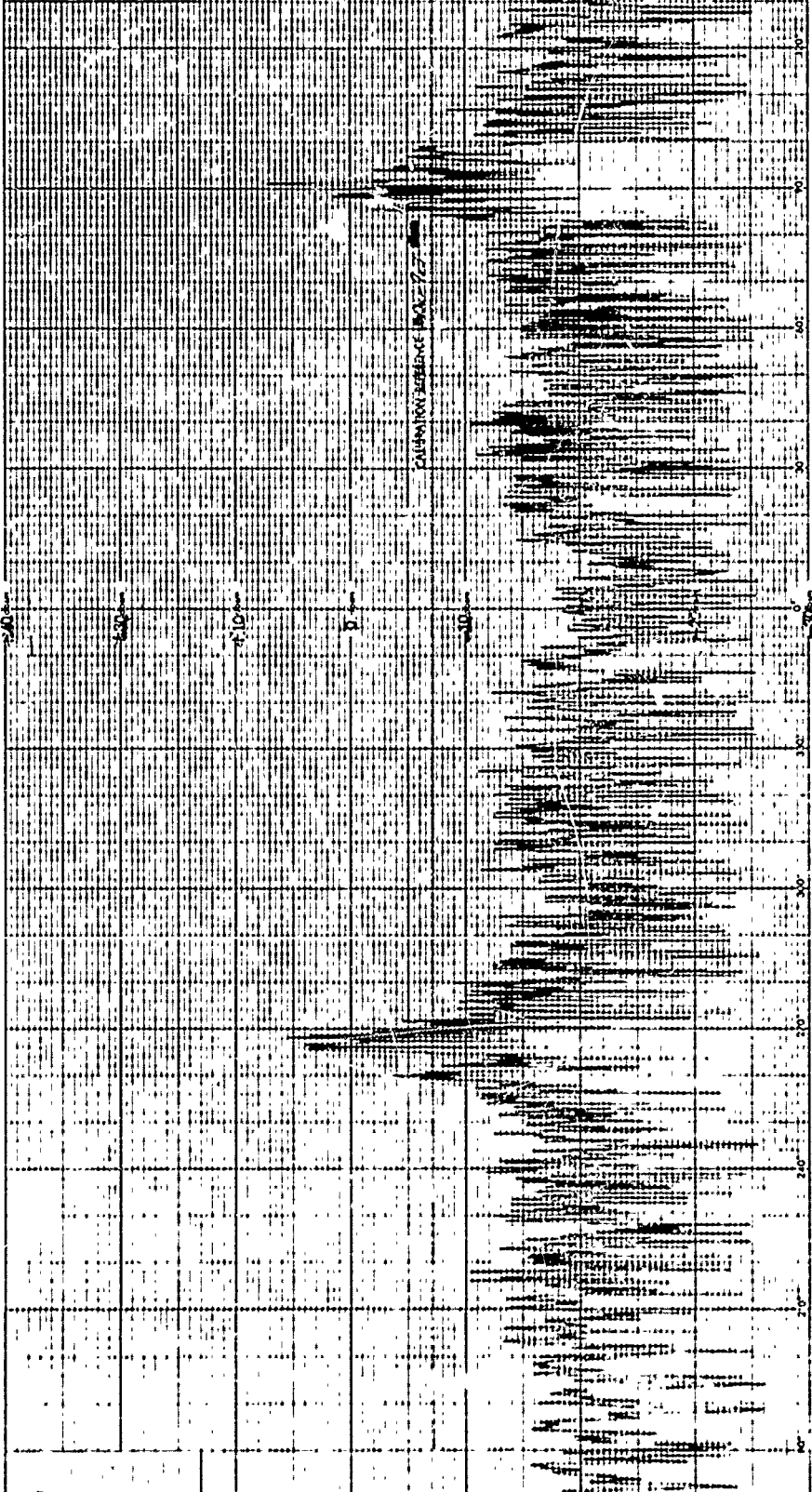
COPILOT NO 72-17
 DATE 21 May 73
 FREQUENCY 5500 Hz
 POLARIZATION W
 OPERATOR SC
 804-34

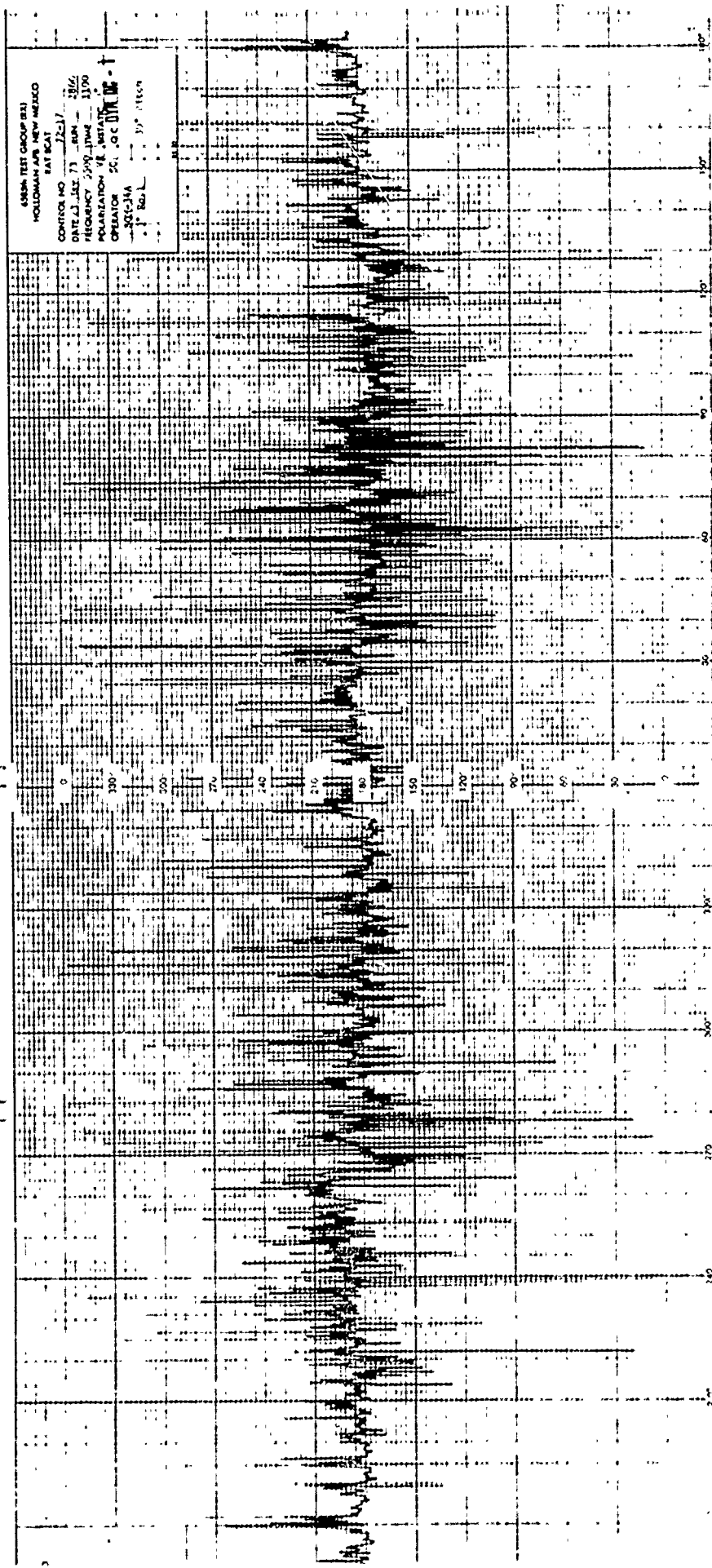
30° Pitch

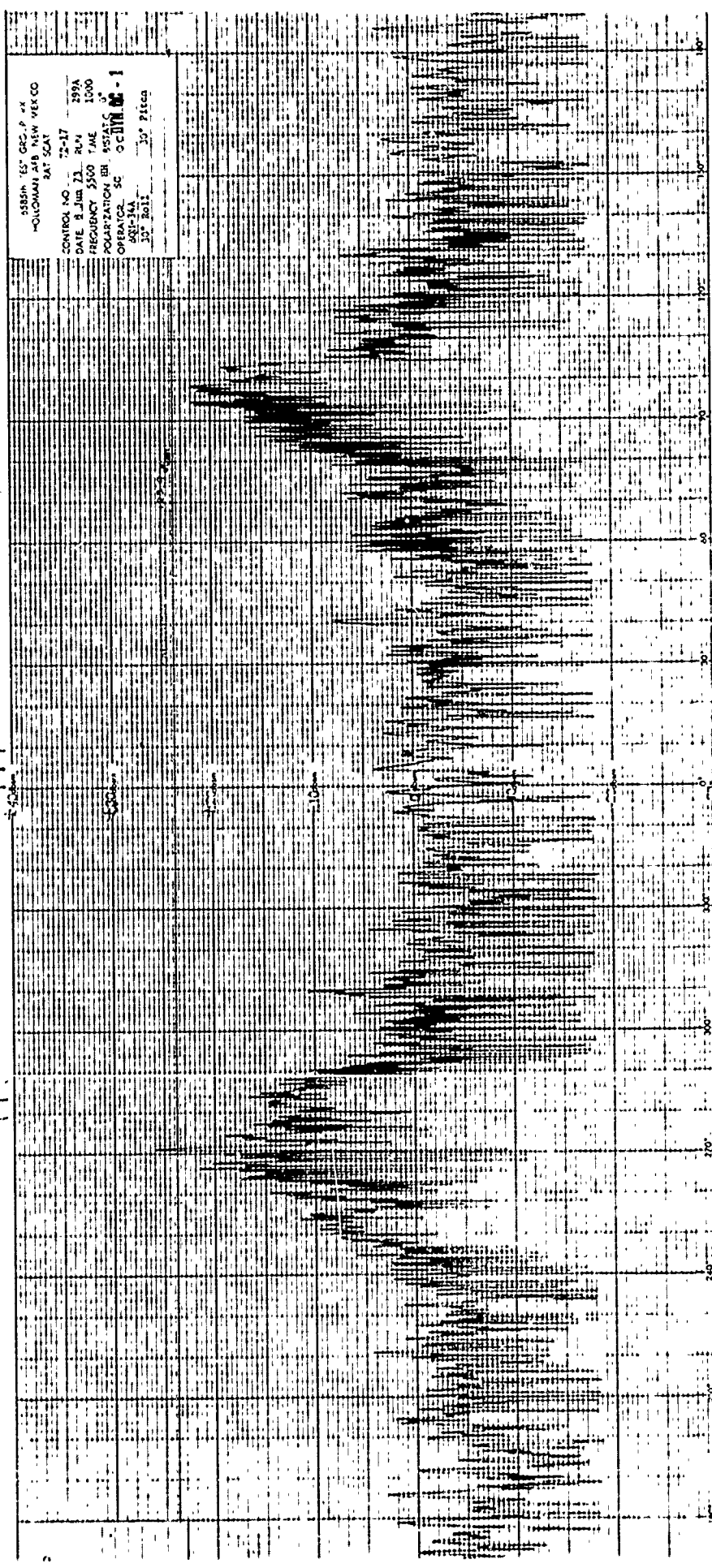


6885th TEST GROUP 2A1
 HOLLOWMAN AIR NEW MEXICO
 SAT SCAT
 CONTROL NO 72-17
 DATE 21 May 73 RUN 231G
 FREQUENCY 5000 MHz 3800
 POLARIZATION TV BSIALC J
 OPERATOR C. C. OWEN
 300-10A
 300-10A
 300-10A
 10" Pitch

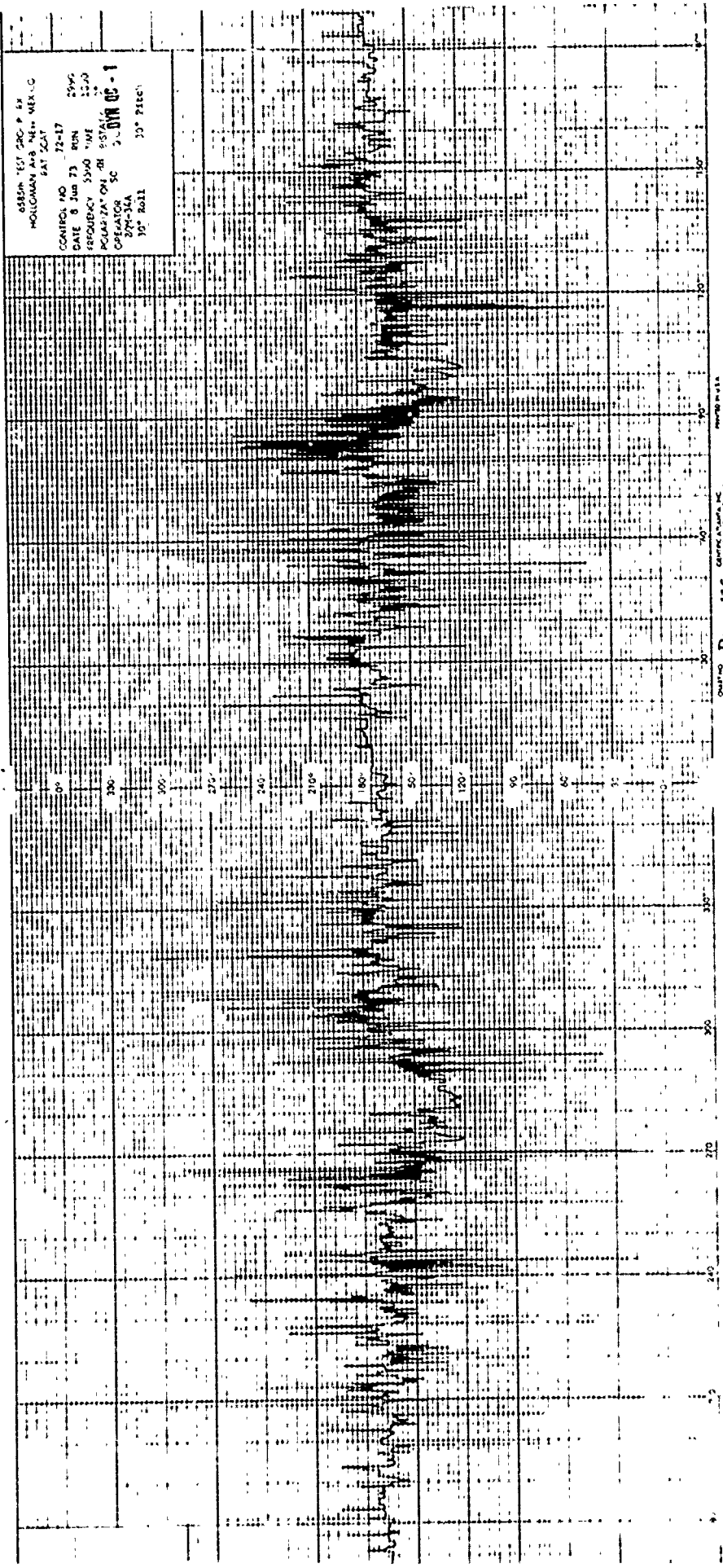
MASH 155 GARDEN PK
 HOLLOWAY AVE NEW MEX CO
 CONTROL NO. 12-17 236A
 DATE 23 MAY 73 RUN 1100
 FREQUENCY 5500 KHZ
 POLARIZATION VERTICAL
 OPERATOR B. C. BISHOP JR.
 STATION 2C 201M 85-1
 20' PALE





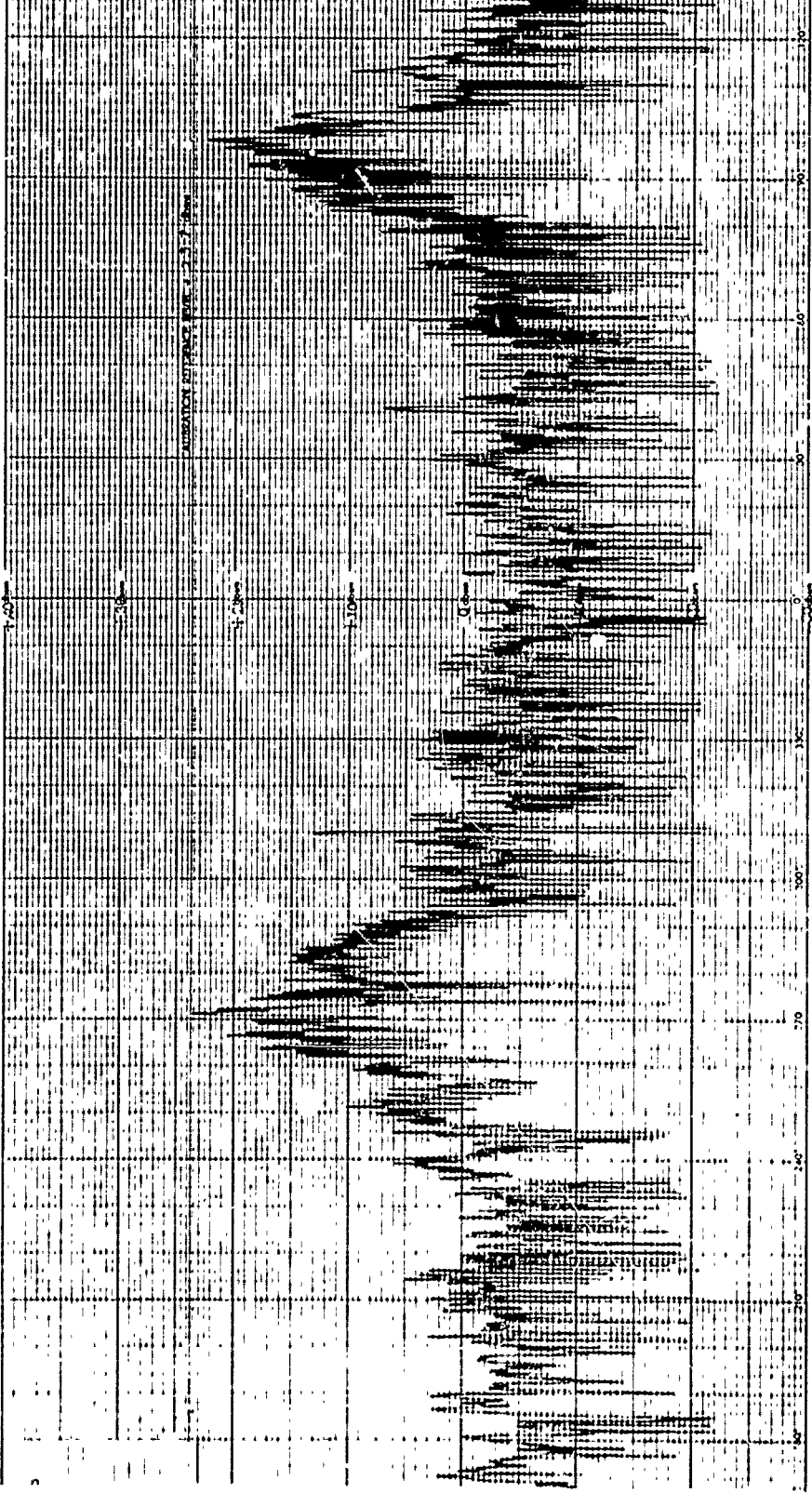


5855H 75° GRG-P KK
 HOLLAND AIR NEW MEXCO
 SAT SAT
 CONTROL NO. 72-17
 DATE 8 Jun 73 BLN 299A
 FREQUENCY 5500 FAE 1000
 POLARIZATION BB. VERTICAL
 OPERATOR SC. O. C. H. M. C. - 1
 5855H 75° GRG-P KK
 30° Pitch

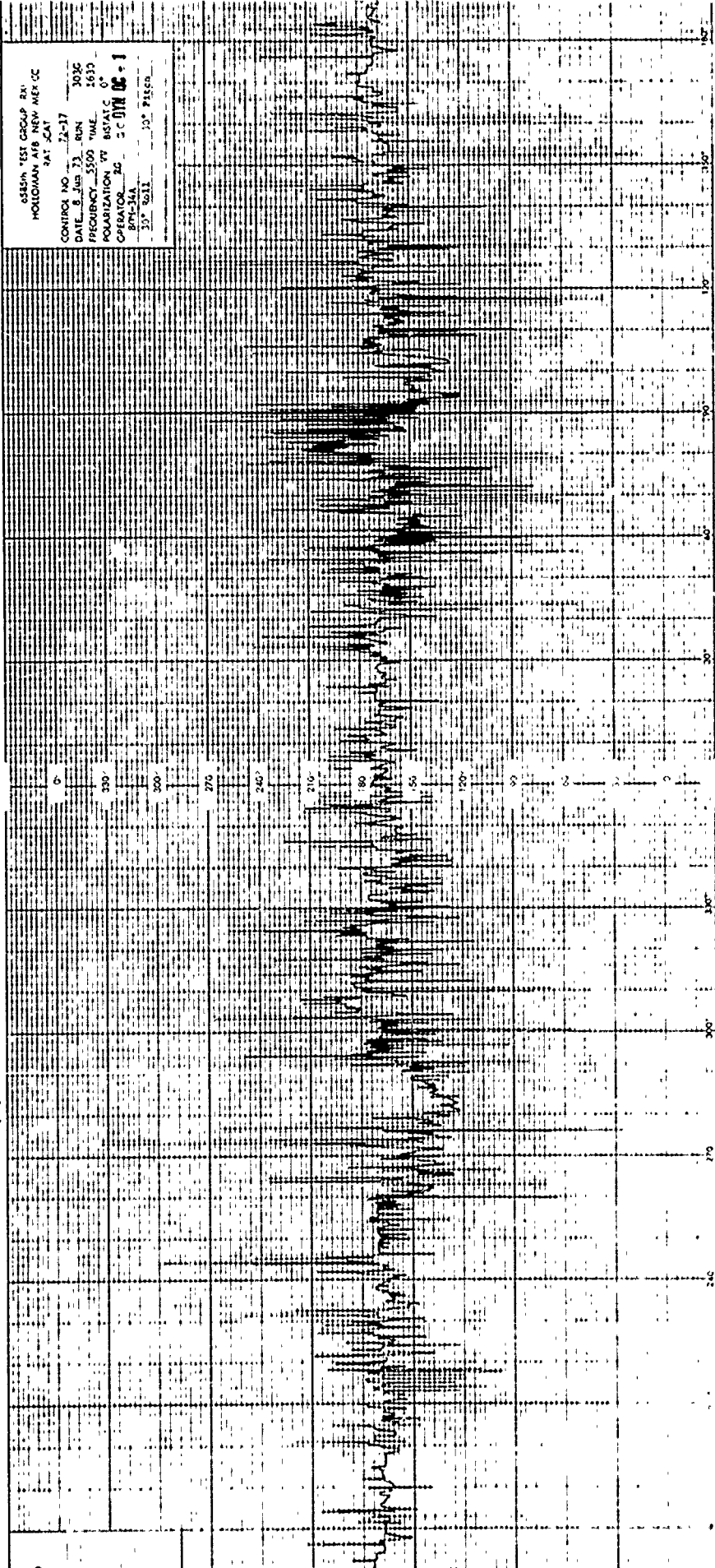


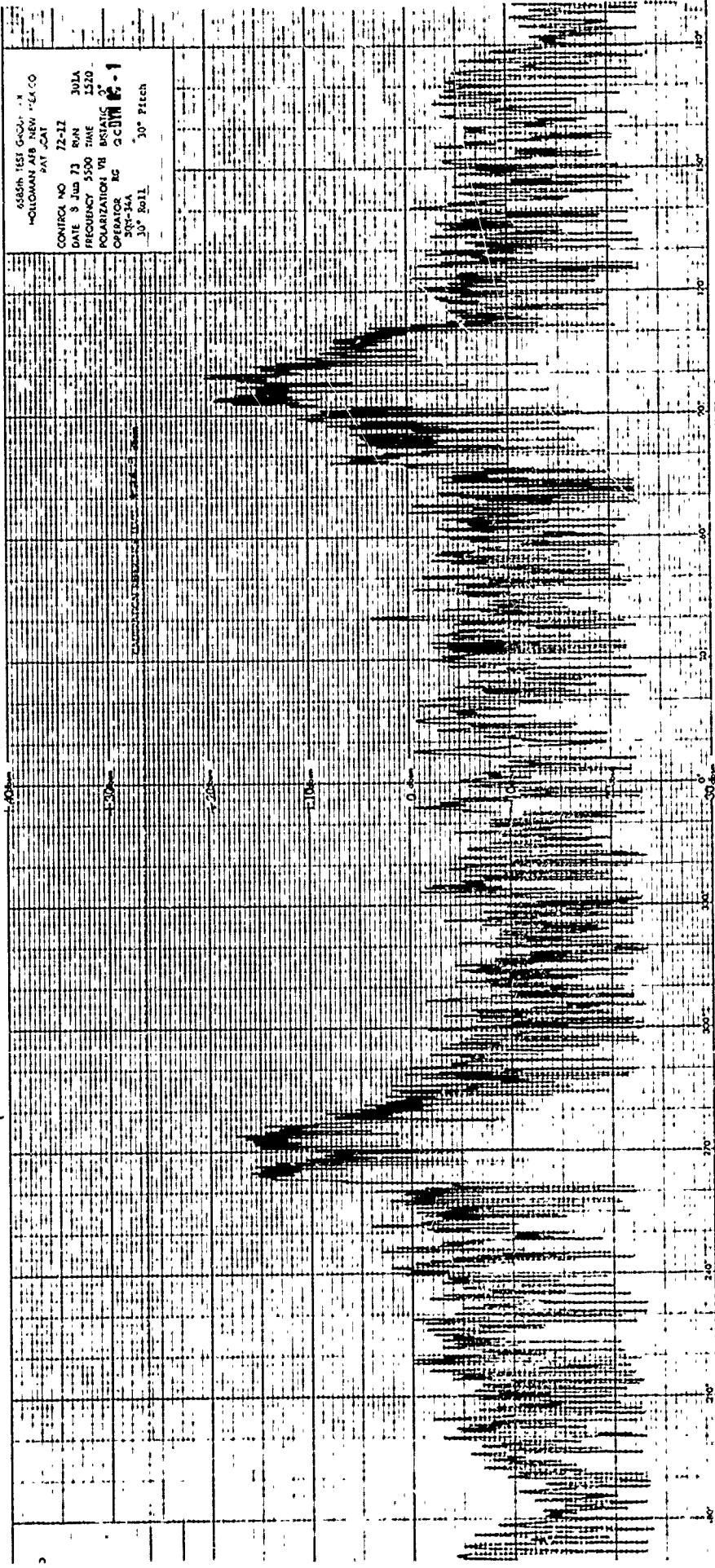
OBSERV TEST PROC P 84
 HOLLOWAY AIRB MEXIC
 SAT SCAT
 CONTROL NO 72-17
 DATE 8 Jun 73 RUN 2596
 FREQUENCY 5500 HZ TIME 1520
 POLARIZER ON, 28 0524
 OPERATOR SC 3-010108-1
 OPERATOR
 19" Roll 30" PAPER

435PM TEST GROUP 540
 WILLOWMAN AIR NEW WYDGO
 SAT SCAT
 CONTROL NO. 22-17
 DATE 2 JUN 71 804 303A
 FREQUENCY 1590.1000 12.20
 POLARIZATION AT BEARING 0
 OPERATOR MC CORMICK - I
 30-31A 30° PERCS



65814 TEST GROUP RX
 HOLLOWAY AFB NEW MEXICO
 RAT SCAT
 CONTROL NO. 72-37
 DATE 8 Jun 73 RUN 3030
 FREQUENCY 5500 TIME 1630
 POLARIZATION W VERTICAL 0°
 OPERATOR JG S C O W G C 1
 RM-34A
 35° BALL 30° PAPER



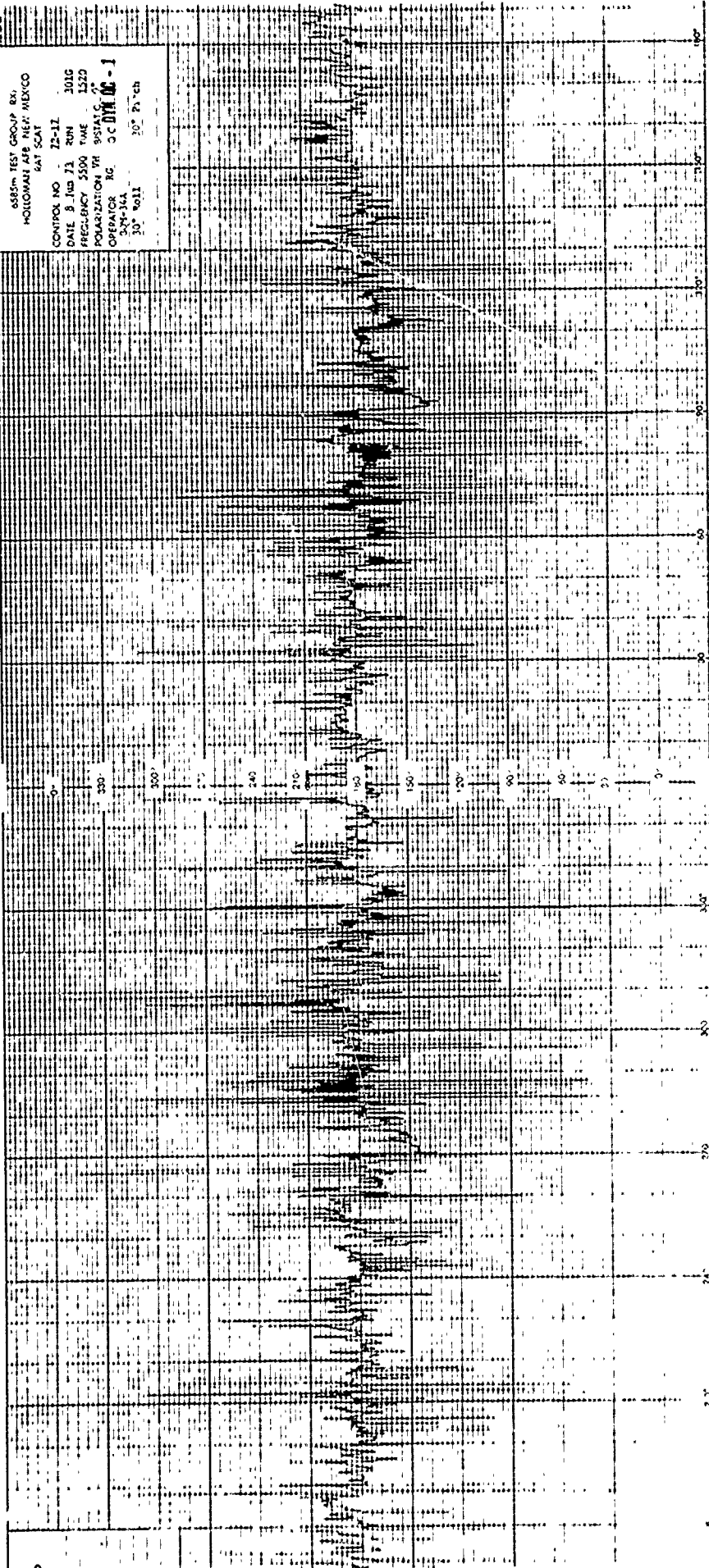


6580R TEST GRAB - 11
 HOLLOMAN AFB NEW TEXAS
 PAT 1041

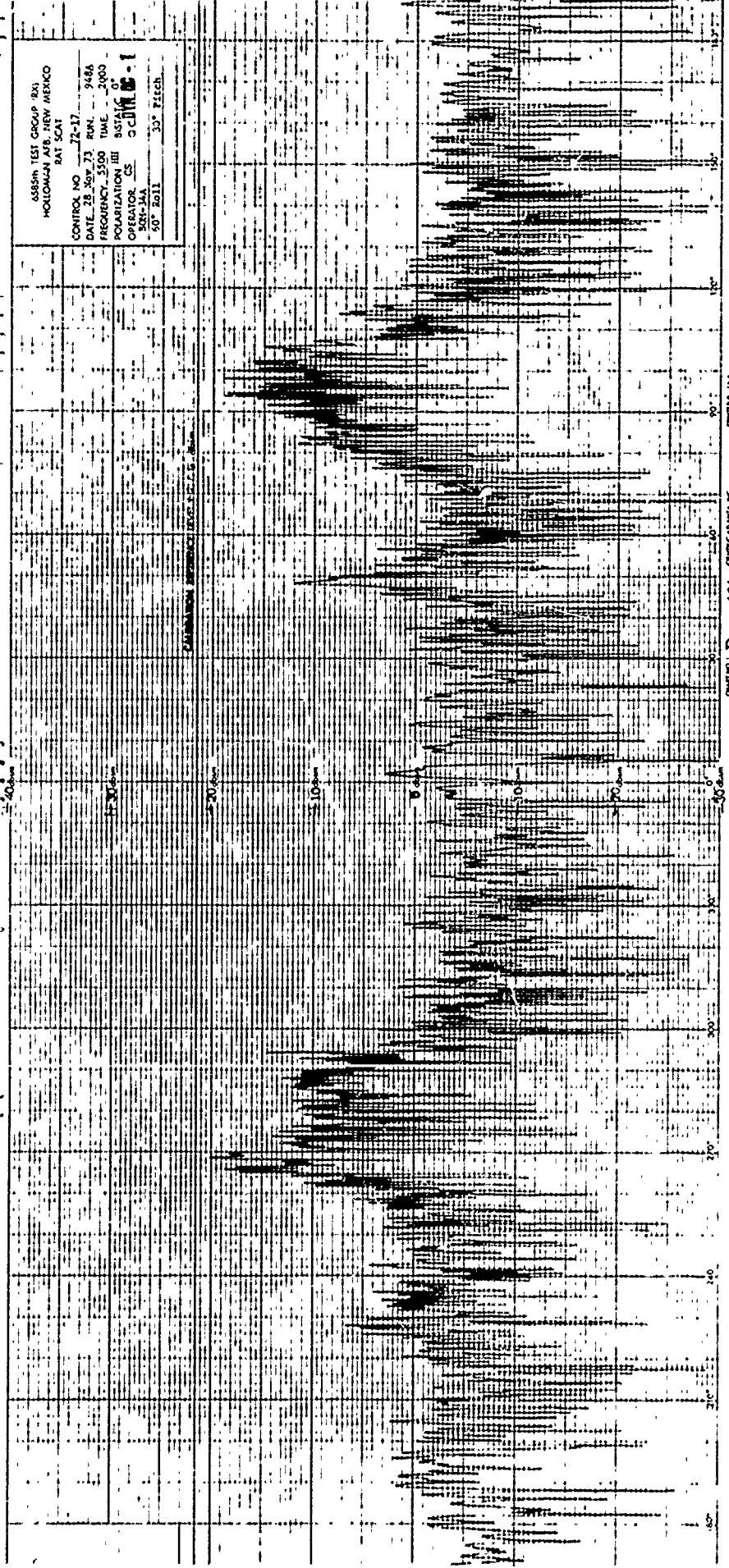
CONTROL NO 72-17
 DATE 9 Jul 73 RUN 301A
 FREQUENCY 5500 HZ TIME 1520
 POLARIZATION VE BRSTATIC 0°
 OPERATOR RG 2CJW 6-1
 SRC-14A
 30° Roll 30° Pitch

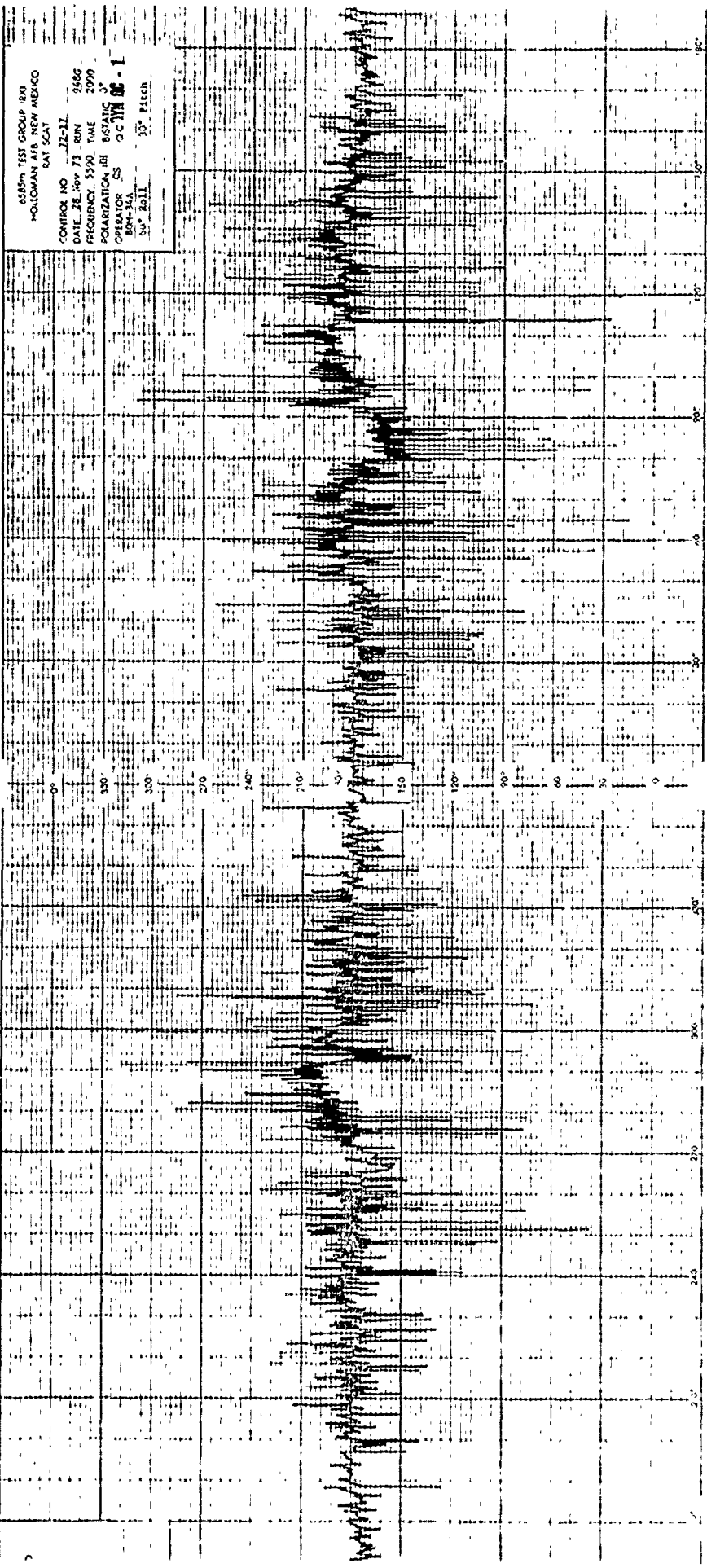
6855m TEST GROUP BX
HOLLOWAY AFB NEAR MEXICO
SAT SCAT

CONTROL NO 72-11
DATE 8 Jun 73 RUN 301G
FREQUENCY 5500 WAE 1520
POLARIZATION V/R 95STAT C
OPERATOR RC C C DVM 06-1
544-34A 30° Az 30° Pt Ch



6885th TEST GROUP (R1)
 HOLLAMAN AFB, NEW MEXICO
 RAT SCAT
 CONTROL NO. 72-17
 DATE 28 Nov 73 RUN 948A
 FREQUENCY 5500 TIME 2000
 POLARIZATION IRI ASYMETRIC
 OPERATOR CS
 50H-1AA
 50° Roll 30° Pitch

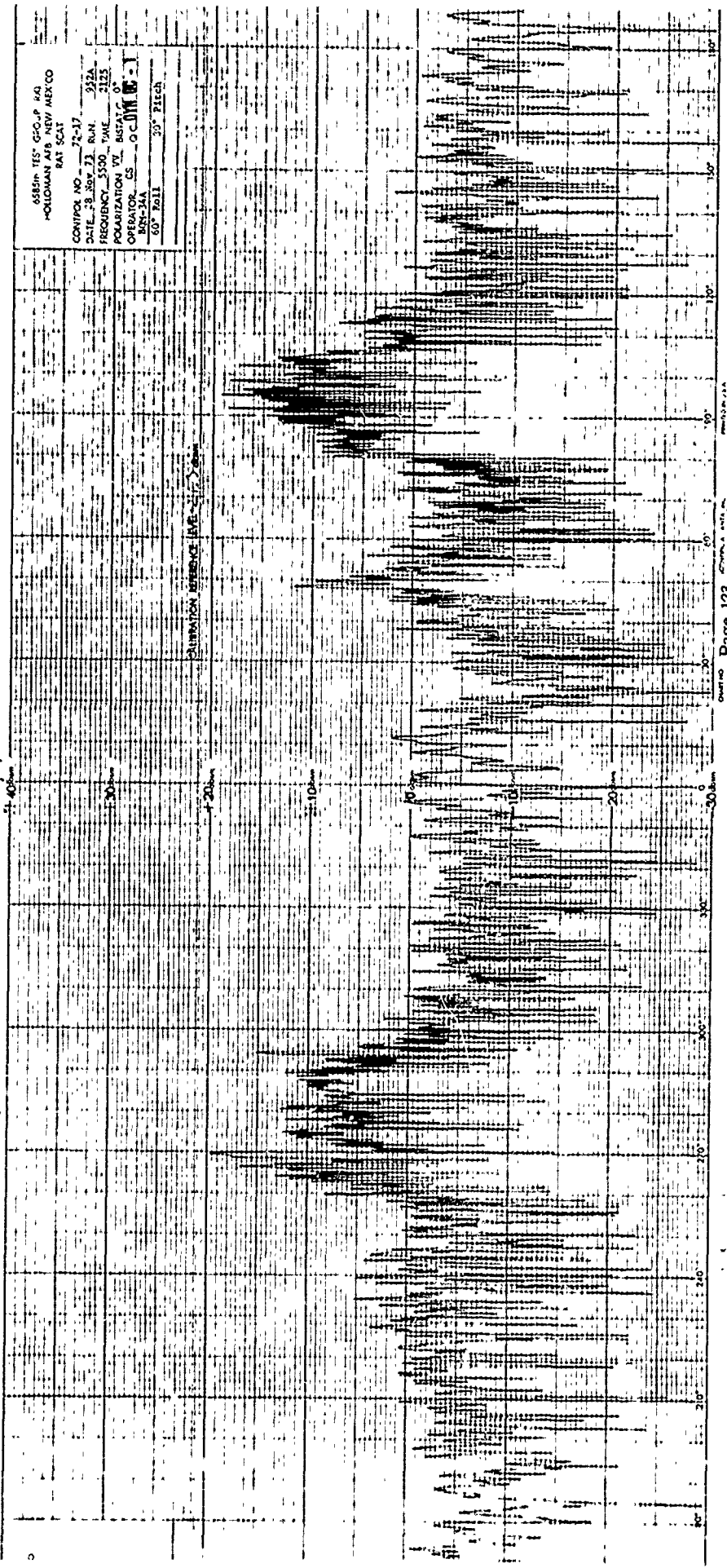




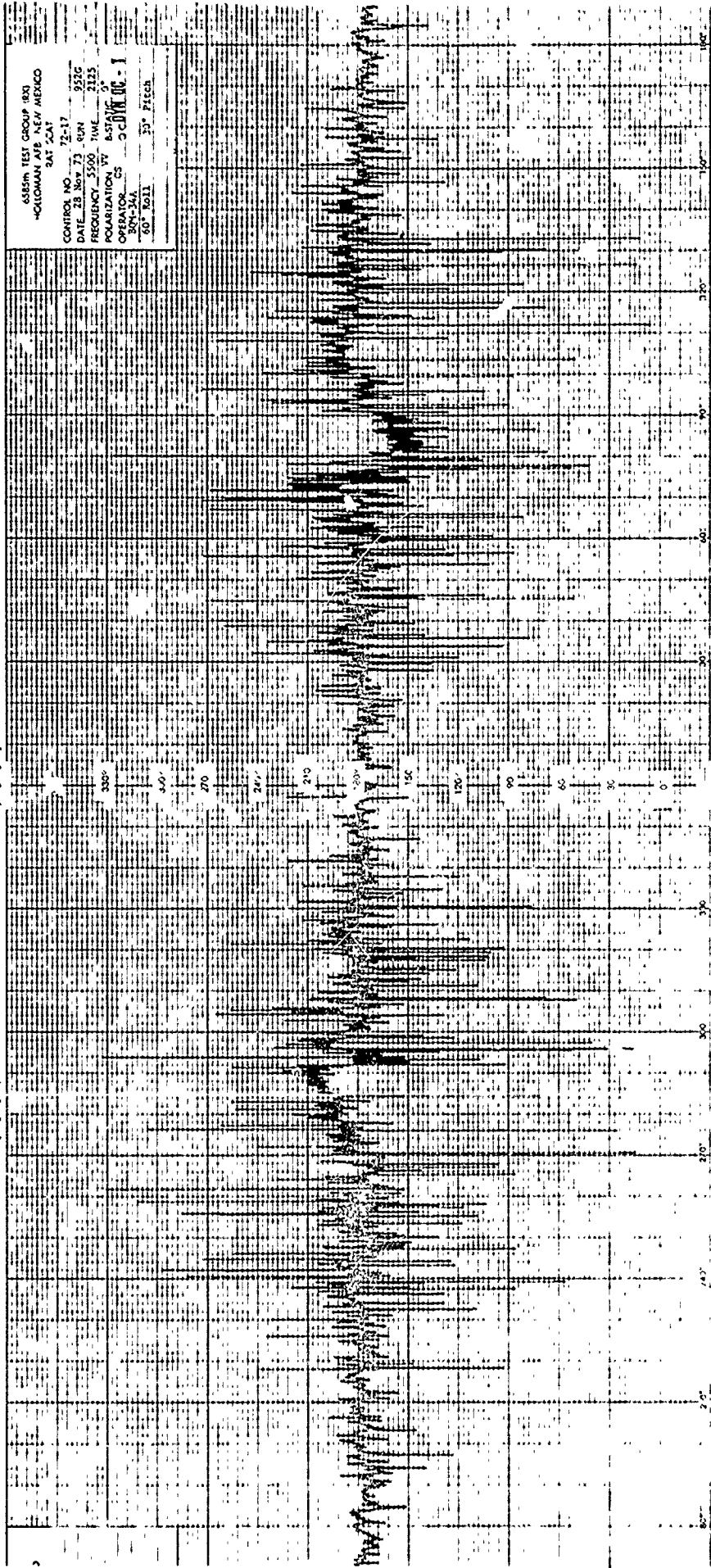
635PM TEST GROUP 803
 HOLLAMAN AFB NEW MEXICO
 RAT SCAT
 CONTROL NO 72-17
 DATE 28 Nov 73 RUN 946G
 FREQUENCY 5500 TALE 2000
 POLARIZATION RH BUSTING 3
 RANGE 100 50
 50° Roll 50° Pitch

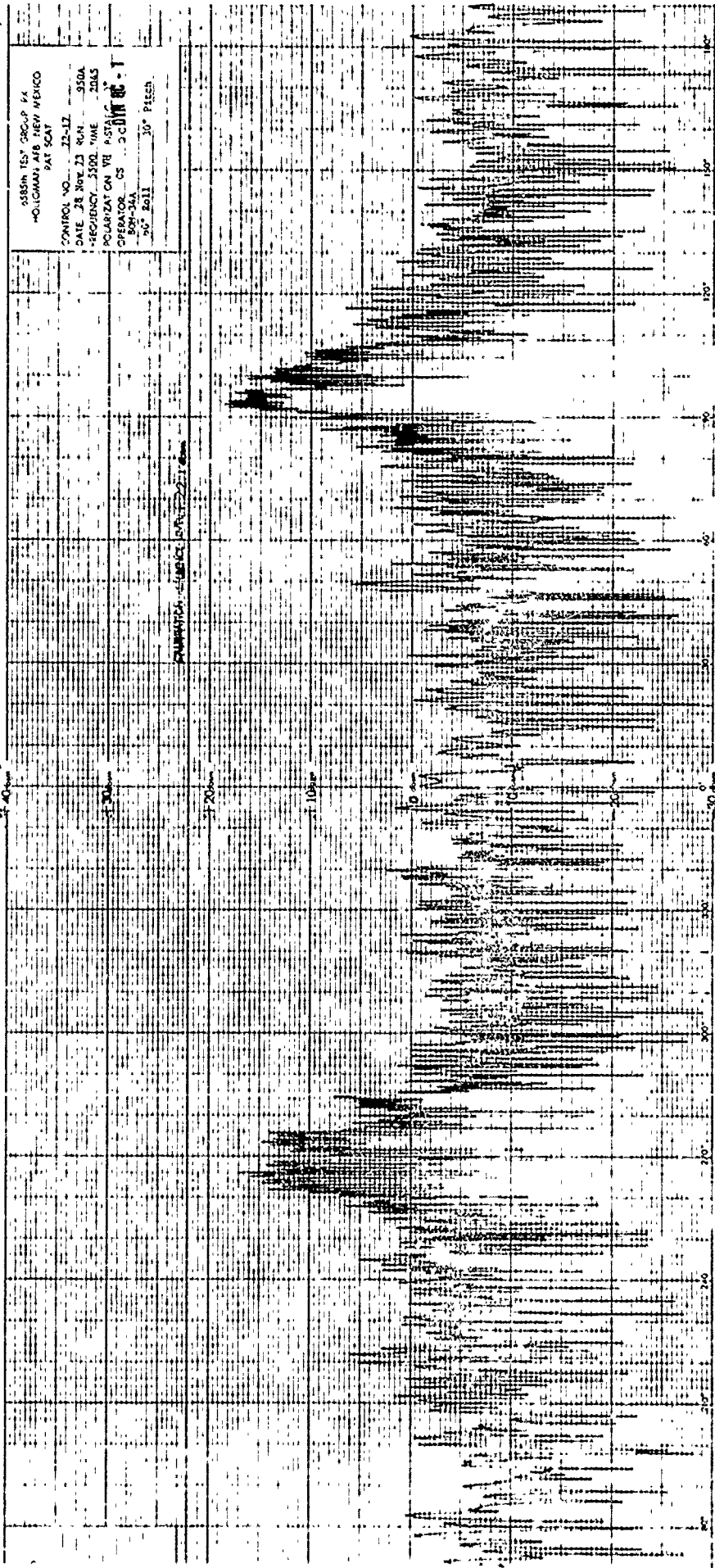
685h 15' G.C.P. HA
 HOLDING AT NEW MEX CO
 RAT SCAT

CONTROL NO. 72-17
 DATE 8 NOV 73 RUN 3/2A
 FREQUENCY 3300 TIME 2123
 POLARIZATION VTI INSTANT 0
 OPERATOR CS O C W B - 1
 BNS-JA
 60" Roll 30" Pitch

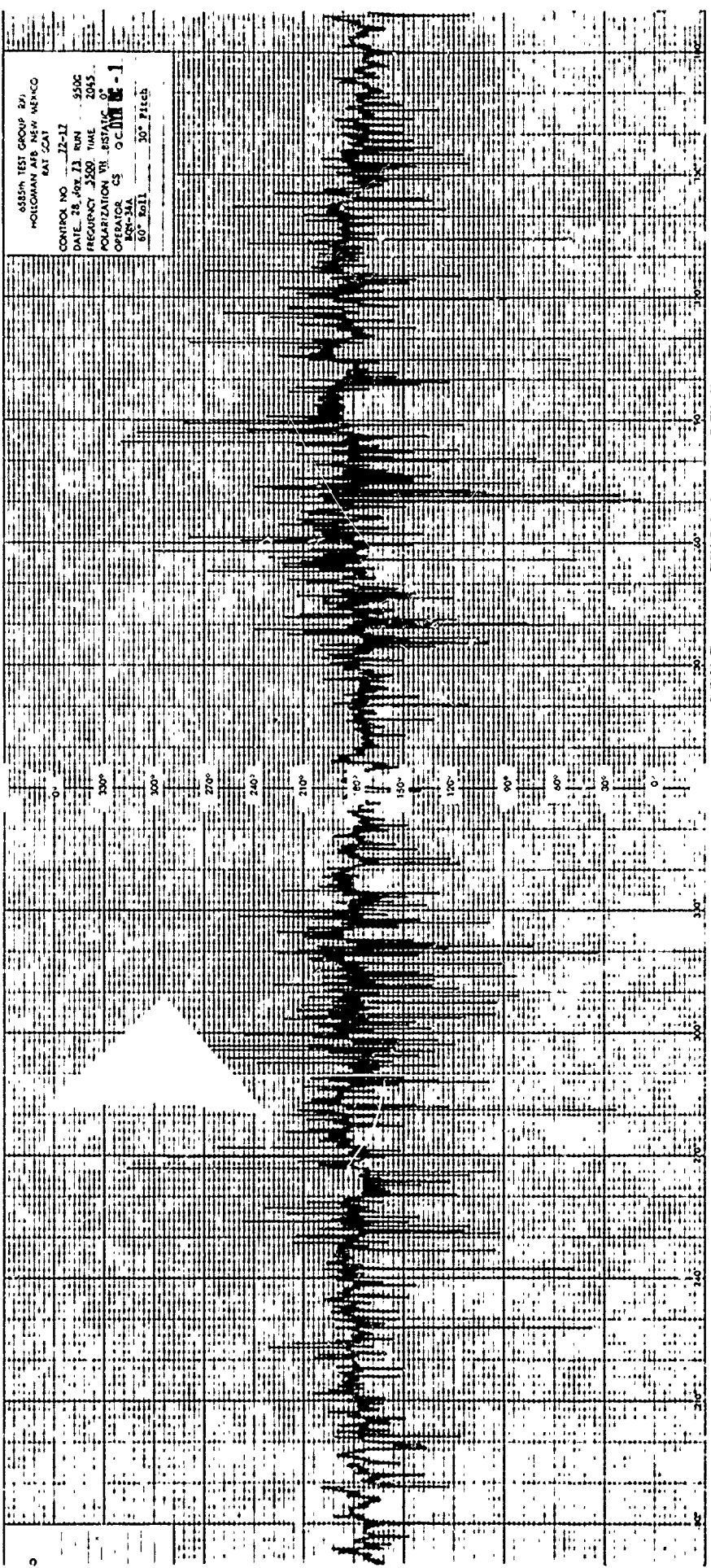


ASSEM TEST GROUP (80)
COLUMBIAN AIR NEW MEXICO
SAT JAN
CONTROL NO. 72-17
DATE 28 FEB 73 091 9516
FREQUENCY 5500 TIME 2125
POLARIZATION 77 851
OPERATOR GS 5 C
80-1011 30 PFCB





3555th TEST GROUP 1A
 HOLLAMAN AFB NEW MEXICO
 PAT SCAT
 CONTROL NO. 22-17
 DATE 28 NOV 73 RJA 350A
 RESIDUAL 300L TIME 200L
 ORGANIZATION RE PISTON
 OPERATOR CS 3000
 30' PAUSE

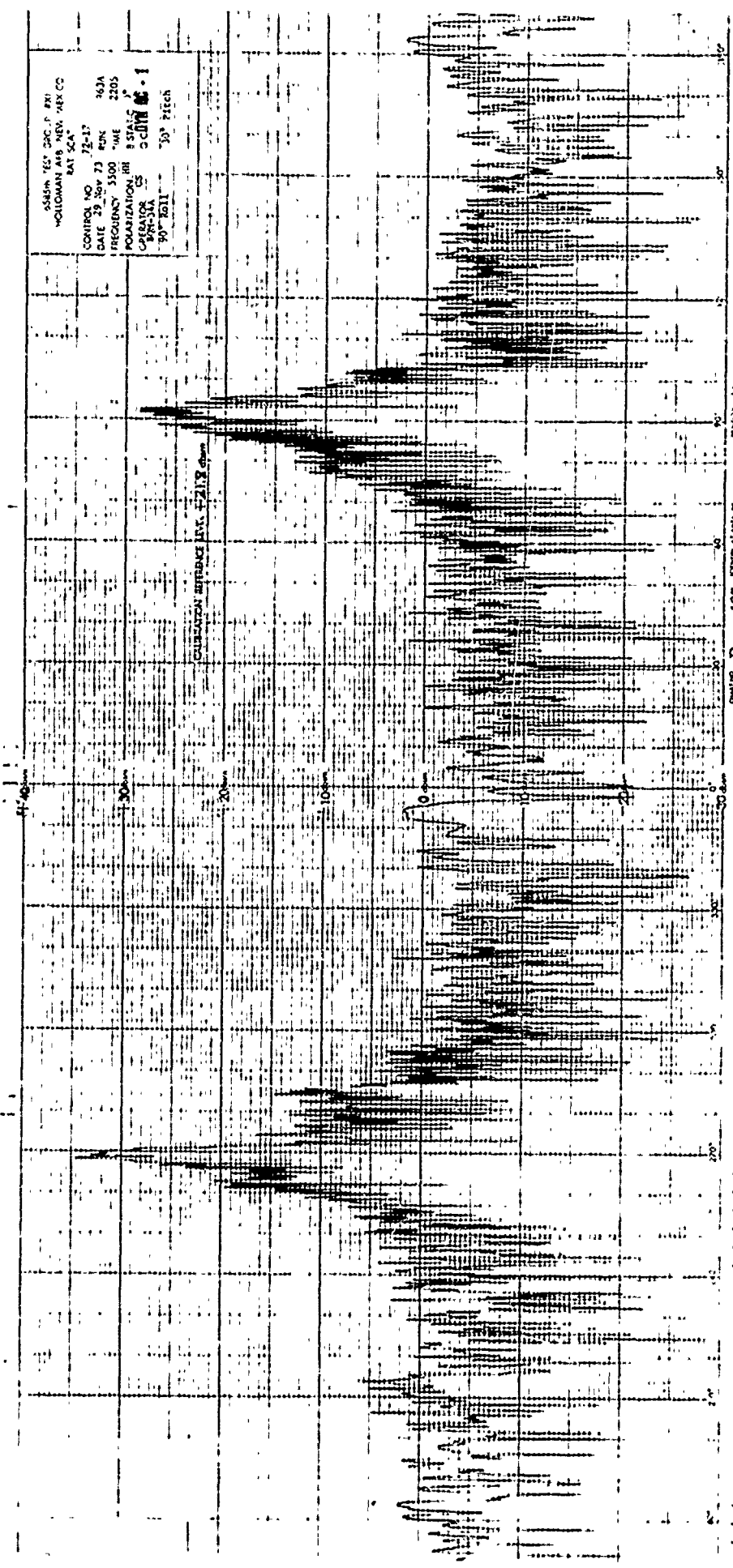


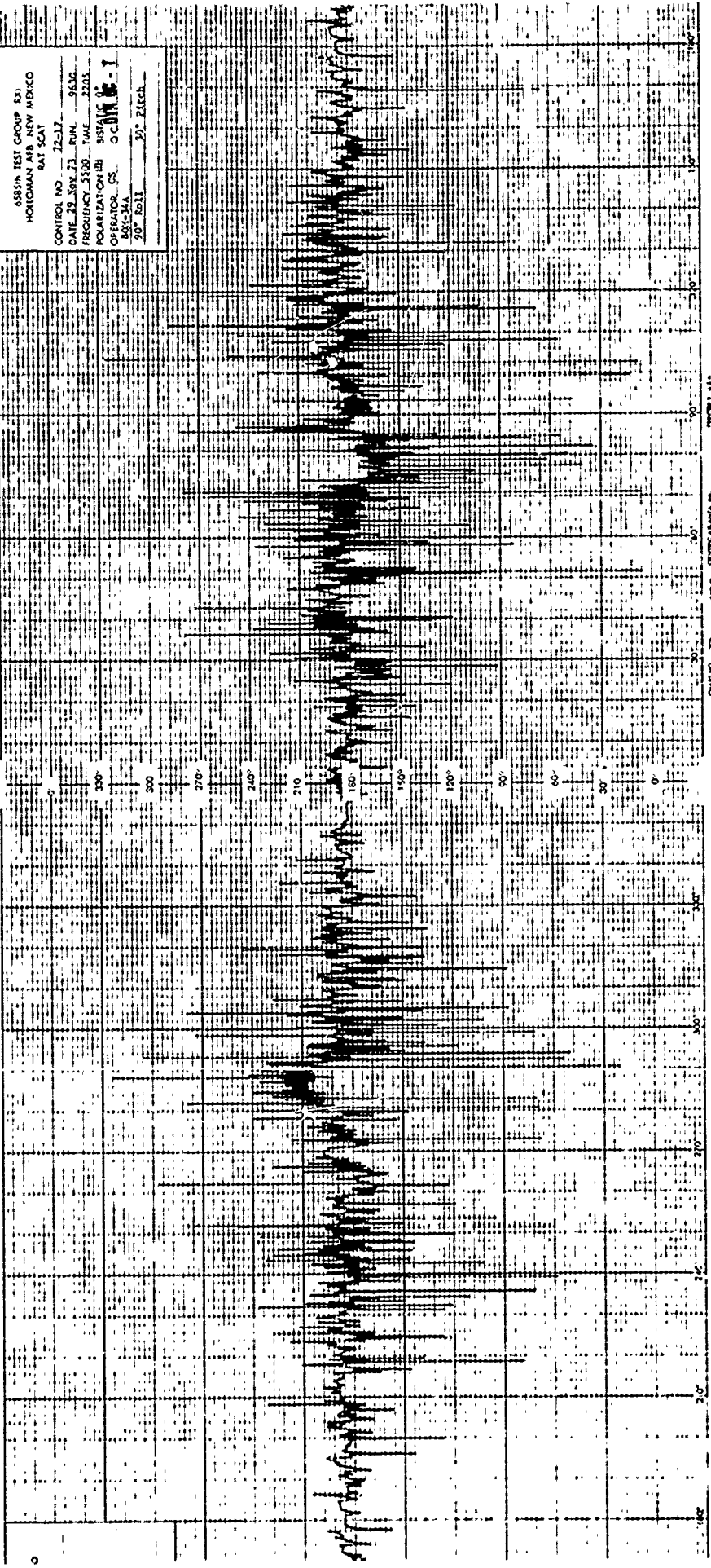
6855th TEST GROUP 247
 WOLFGANG T. B. NEW MEXICO
 241-5011
 CONTROL NO. J2-11
 DATE 28 Apr 73 RUN 550G
 FREQUENCY 3500 TIME 2045
 POLARIZATION VIB. STATIC 0°
 OPERATOR CS O.C. [initials]
 60° Roll 30° Pitch

ALPHA TEST PROC. P. 701
WOLMAN 19 2000 REC CO
BAT 50A

CONTROL NO. 72-17
DATE 25 10 73 PPK 46JA
FREQUENCY 3500 "ME 2205
POLARIZATION 88 8 STAT. 7
OPERATOR CS CCHM 06-1
88-301 90" SOIL 30" PITCH

CALIBRATION REFERENCE (PK. 421) 0.000



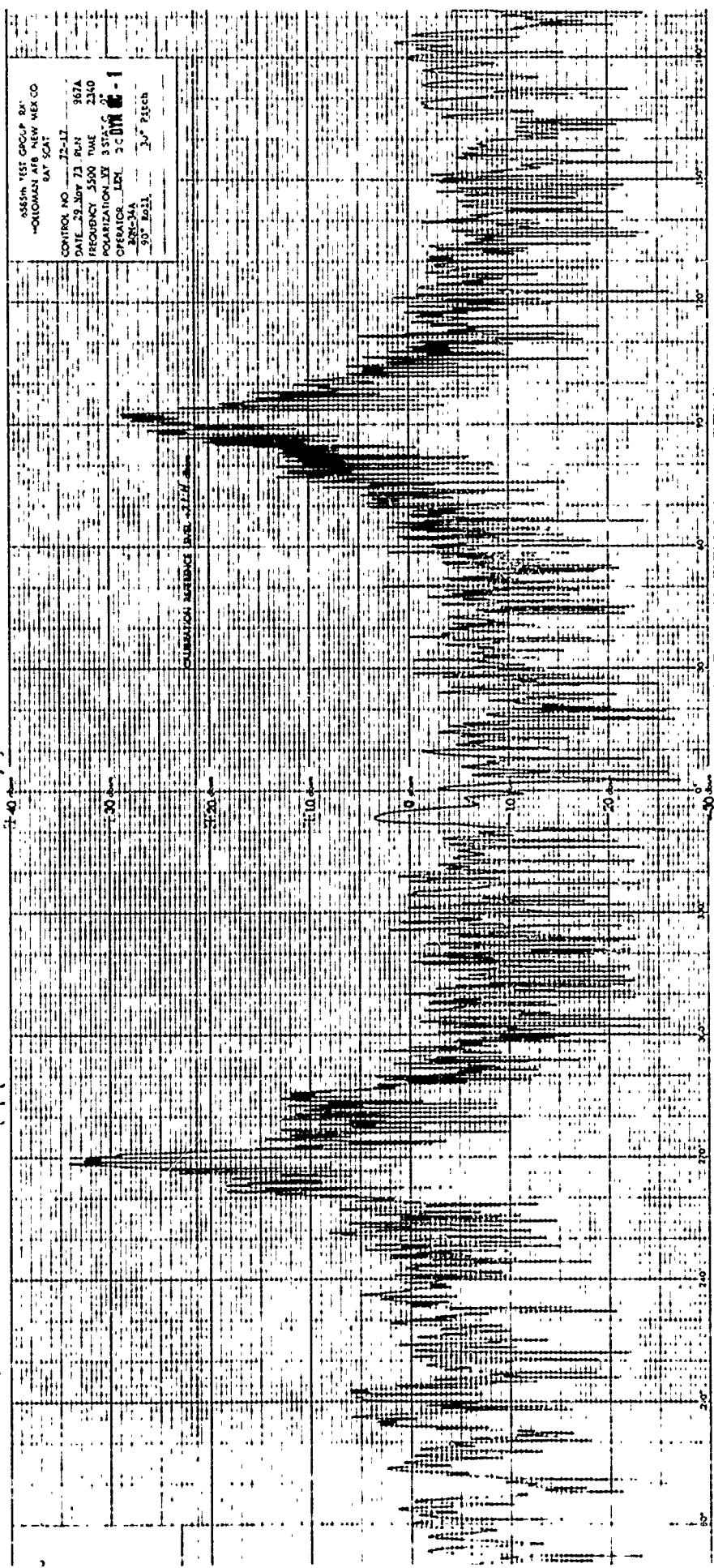


688th TEST GROUP (X)
 HOLLAMAN AB, NEW MEXICO
 RAT SCAT

CONTROL NO. 72-17
 DATE 22 Nov 73 RUN 963G
 FREQUENCY 5100 TIME 2205
 POLARIZATION (H) STATIC 0
 OPERATOR CS O'CONNOR
 805-MA
 90° Roll 20° Pitch

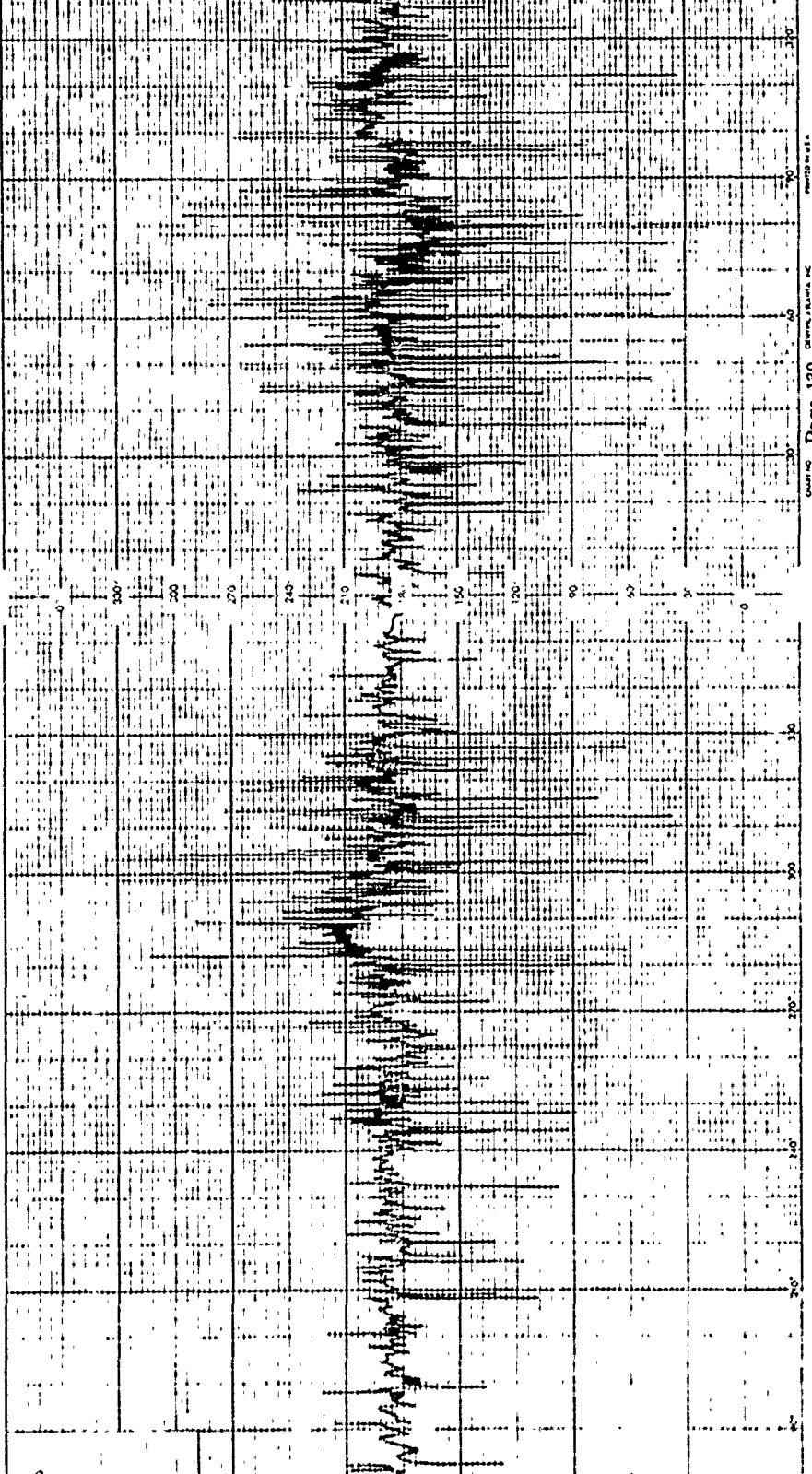
ASSN TEST GROUP 84
HOLLAMAN AFB NEW MEX CO
SAT SCAT

CONTROL NO 72-17
DATE 29 Nov 73 RAY 967A
FREQUENCY 5500 THUS 2240
POLARIZATION 35° C
OPERATOR DEL 200W 6-1
882-5A
30-1931 3rd Page



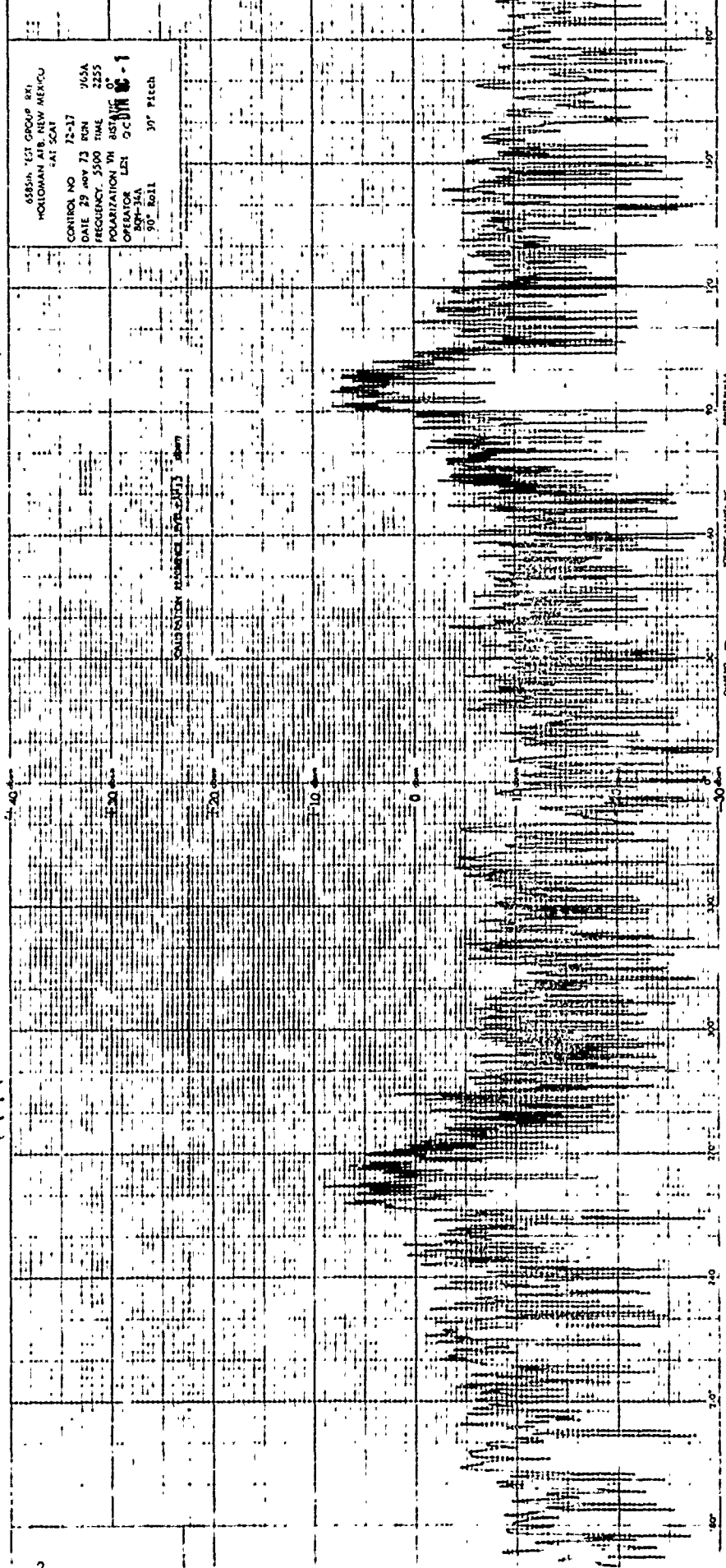
5855* TEST SAC - 44
MCCLIMAN 43 NEW MER CC
447 2547

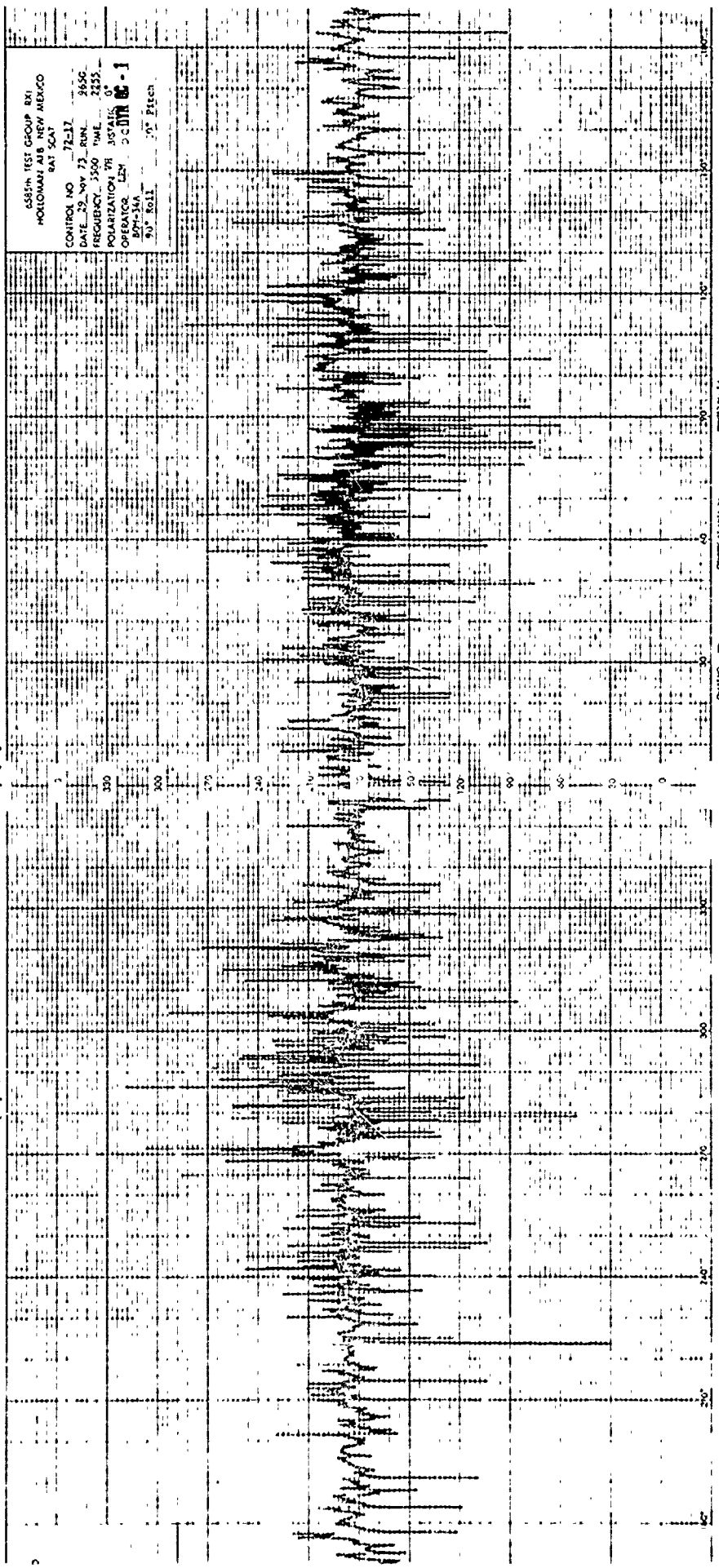
CONTROL NO 75-17 5855
DATE 29 Nov 73 2:41 2343
FREQUENCY 5500 *ME 2343
POLARIZATION VV 87A/C 5
OPERATOR LEM 3100M UC - 1
300-3AA 1 1/2 Pitches
30° Roll



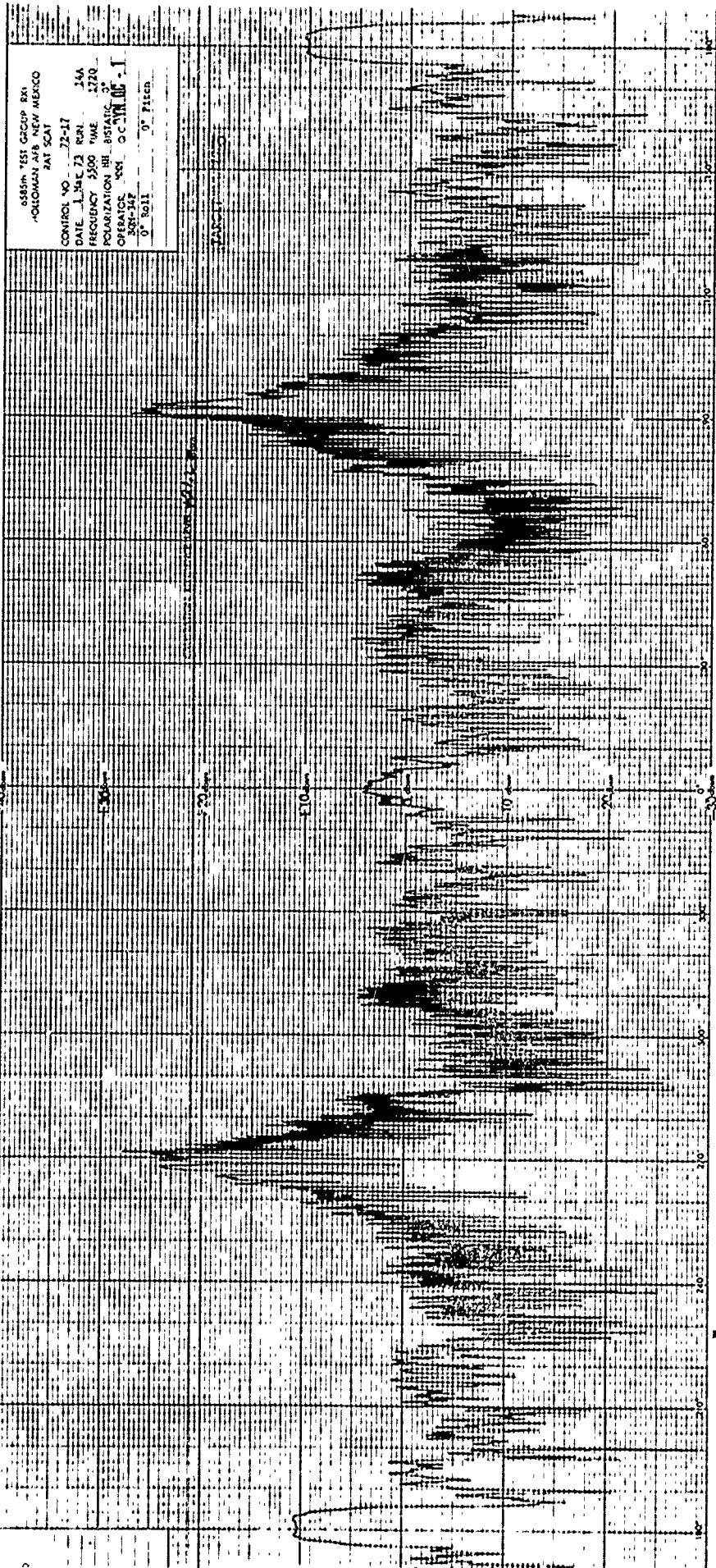
6885A TGT GROUP BY
 HOLLOWAY & LOW MEXICO
 FAT SCAL
 CONTROL NO 72-17
 DATE 29 MAY 73 RUN 705A
 FREQUENCY 5500 TIME 2255
 POLARIZATION VERTICAL
 OPERATOR LER
 84-31A
 90° Roll 30° Pitch

CALIBRATION REFERENCE TIME 00:00:00





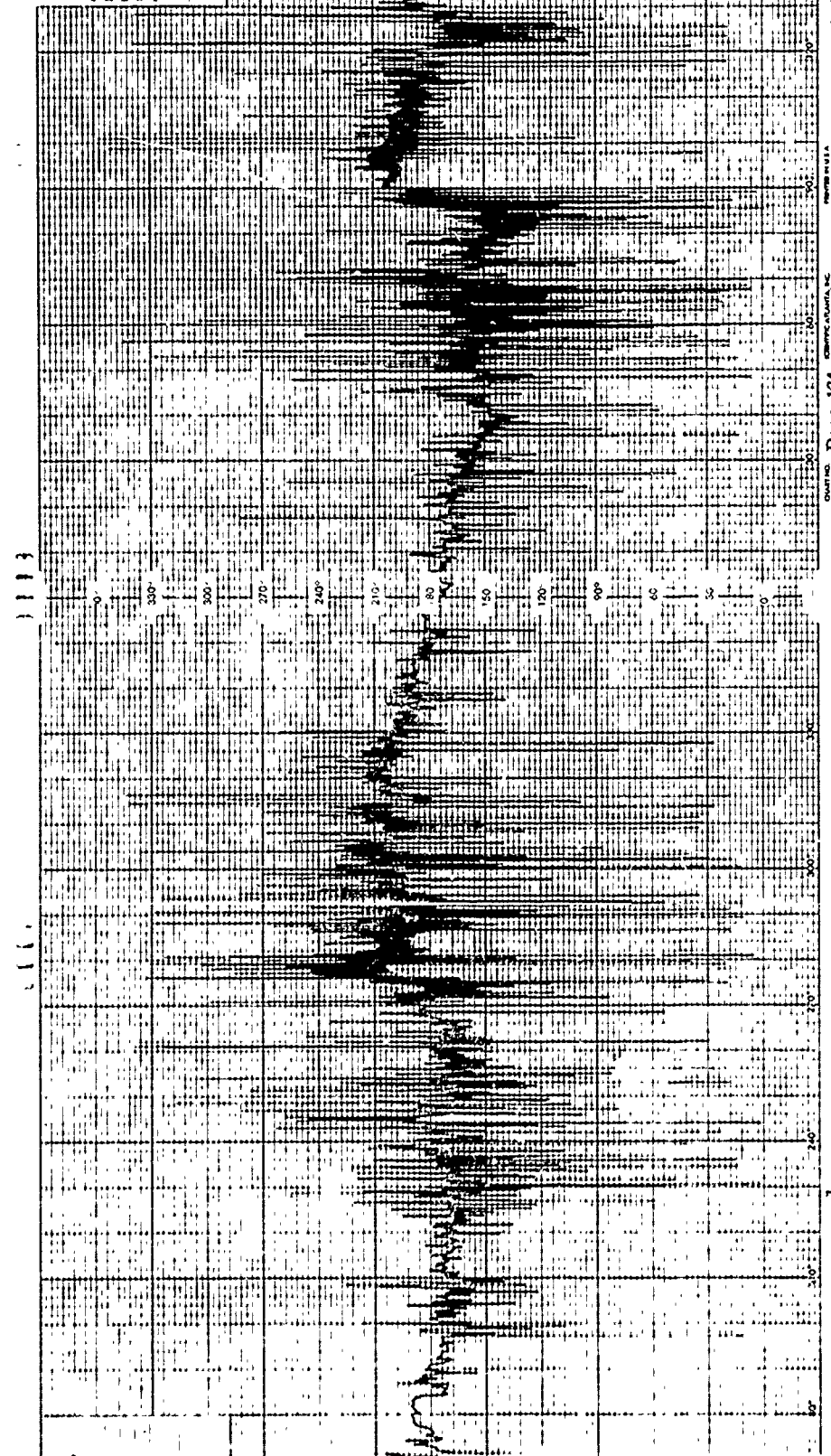
585TH TEST GROUP RTI
 HOLLOWAY AFB NEW MEXICO
 RAT SCAT
 CONTROL NO 72-17
 DATE 29 Nov 73 RWL 965G
 FREQUENCY 5500 PALE 2255
 POLARIZATION 0°
 OPERATOR LEM J. G. [unclear]
 70 Roll 7° Pitch



6885th TEST GROUP RAI
 HOLLAMAN AFB NEW MEXICO
 PAT SCAT
 CONTROL NO. 22-17
 DATE 1 MAR 73 RAI 14A
 FREQUENCY 5500 MHz 1720
 POLARIZATION RH BIPOLAR
 OPERATOR TEST CC 21A 00 - 1
 0 8011 0° Pitch

548PM TEST 200.0 PK.
 -COLUMBIAN AIR NEW MEXICO
 DAT 52A
 CONRG. NO 72-17
 DATE 1 MAY 73 RAN 145
 FREQUENCY 5000 MHz 1729
 POLARIZATION ON BE 30/10
 OPERATOR ST GORDON JR - 1
 SEC-347
 9 2011 J. P. BIECH

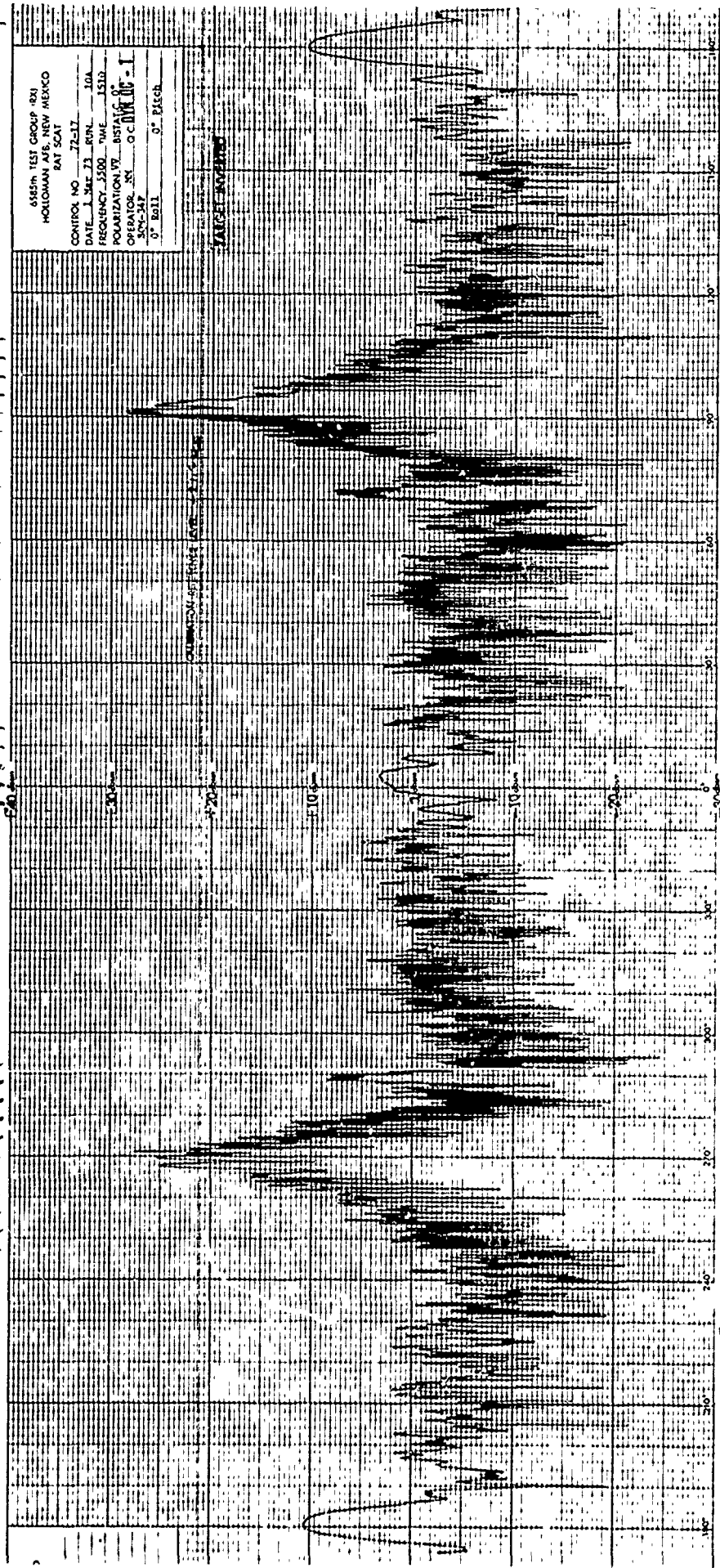
TARGET IDENTIFIED
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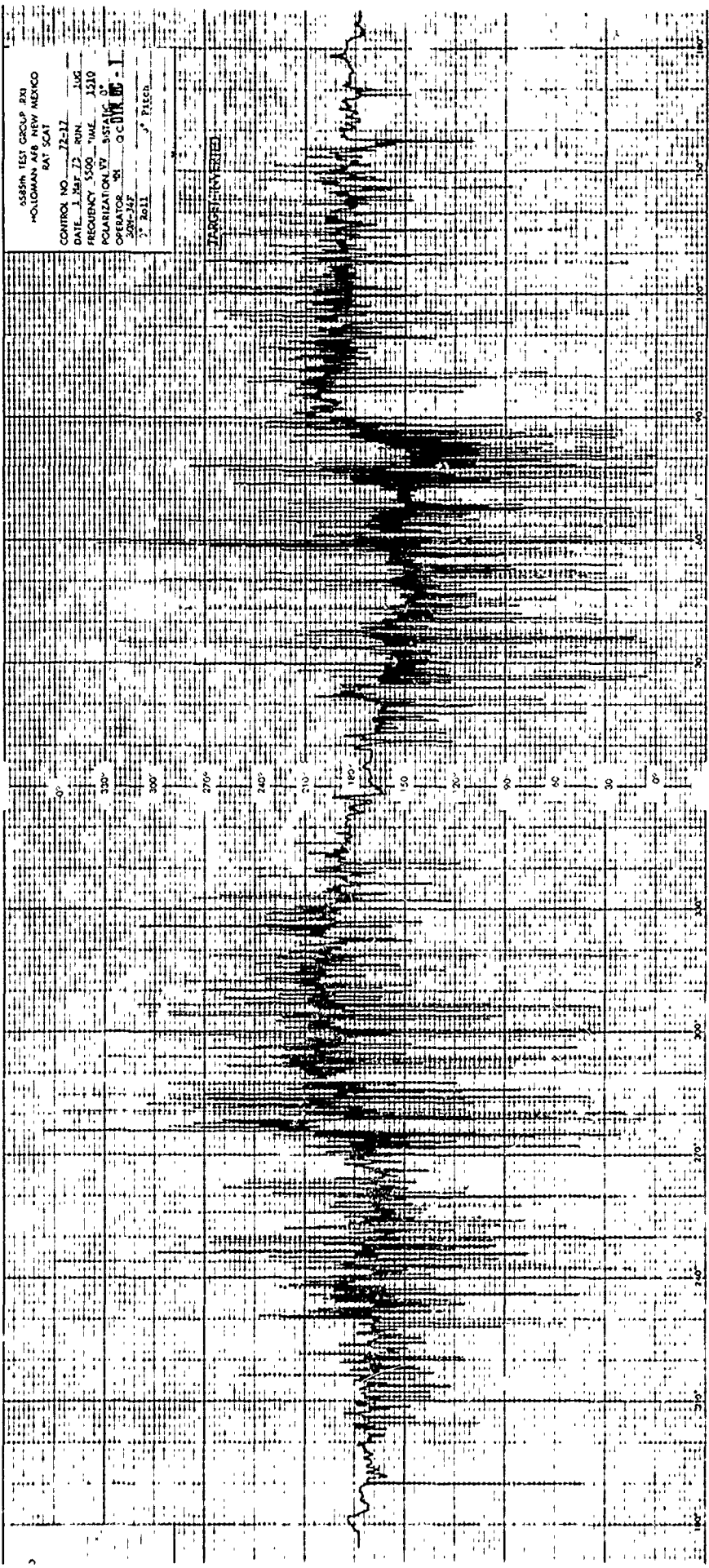


6585th TEST GROUP (BT)
HOLLAMAN AFB, NEW MEXICO
RAT SCAT

CONTROL NO 72-17
DATE 1 Mar 73 RUN 10A
FREQUENCY 5500 TIME 1510
POLARIZATION V. H. DISTANCE 0
OPERATOR SSI O.C. [Signature]
S/N: 347
0° Ball 0° E/Sch

TARGET ACQUISITION



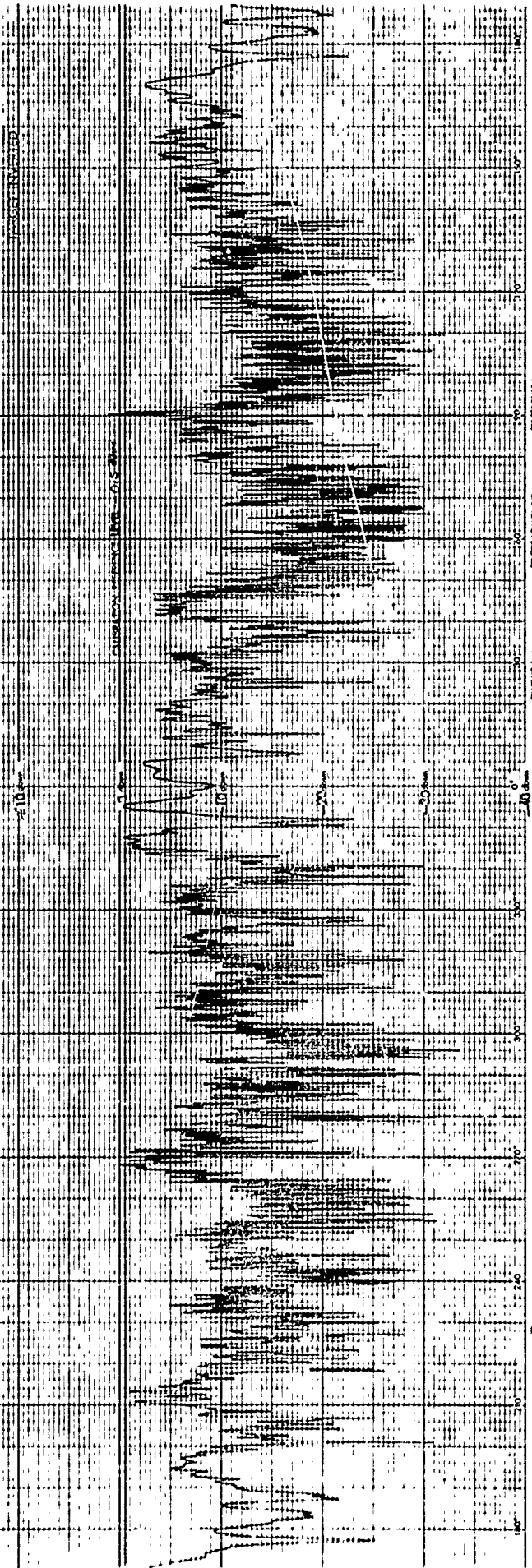


1585th TEST GROUP 281
 HOLLAMAN AFB NEW MEXICO
 6A1 SCA
 CONTROL NO. 72-17
 DATE 1 SEP 72 RUN 1UG
 FREQUENCY 5000 TIME 1310
 POLARIZATION V VST
 OPERATOR SN O C C
 509-247 1
 Roll Pitch

TARGET (UNTESTED)

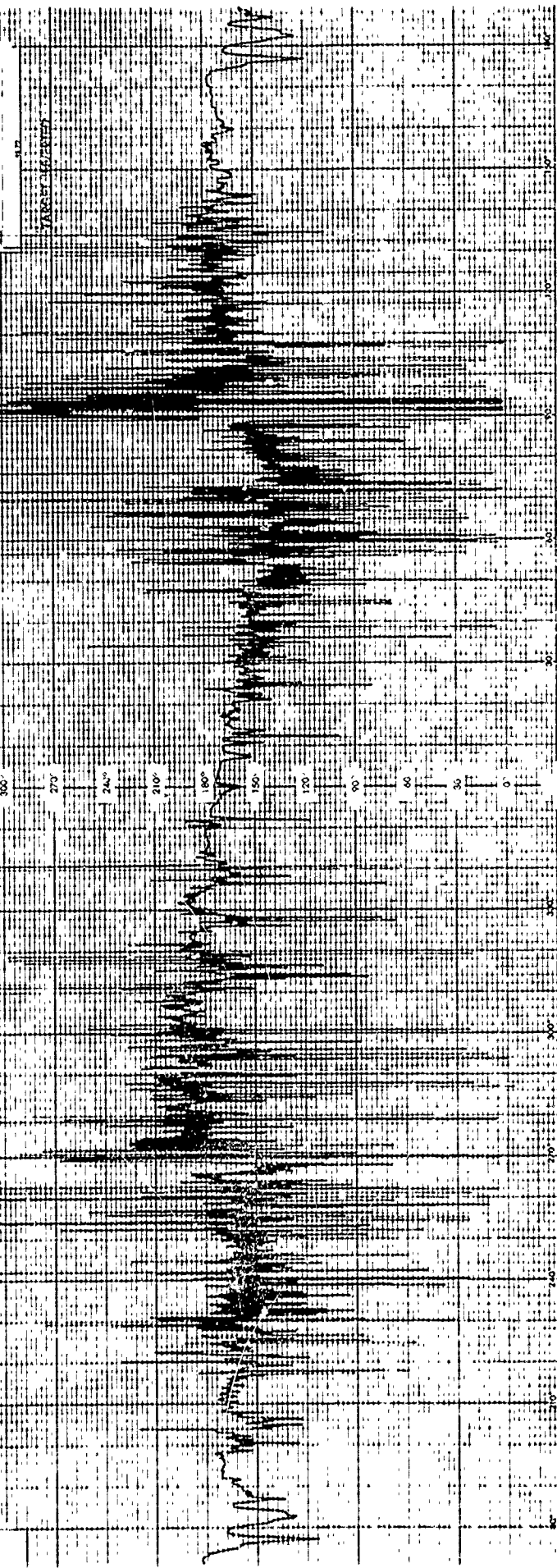
6883th TEST GROUP BK
 HOLLOWAY AFB, NEW MEX CO
 RAT SCAT

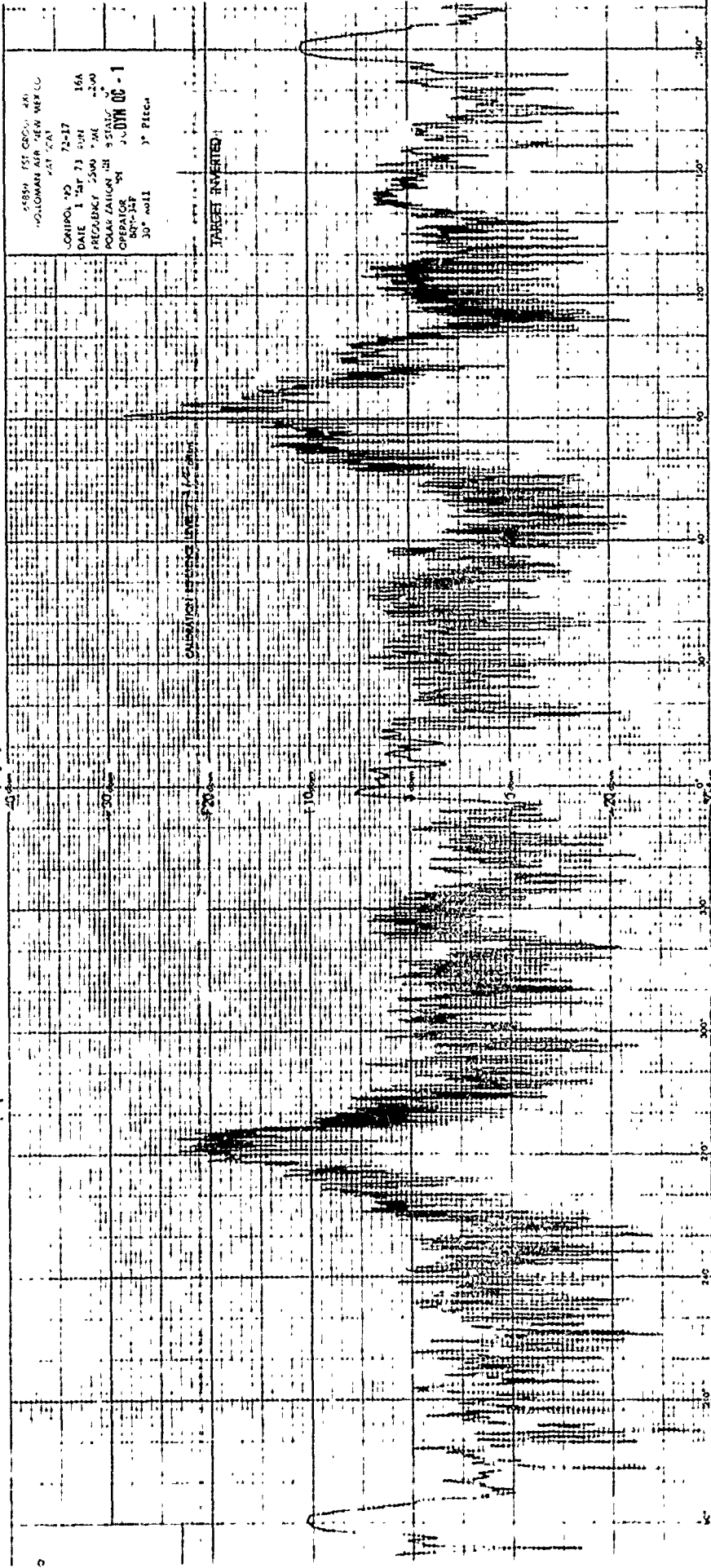
CONTROL NO. 72-17
 DATE 1 MAR 71 RGN 12A
 FREQUENCY 3200 DWE 1555
 POLARIZATION VBI BSC
 OPERATOR SA O C M R 06 - 1
 262-347
 9-2011 0° Pitch

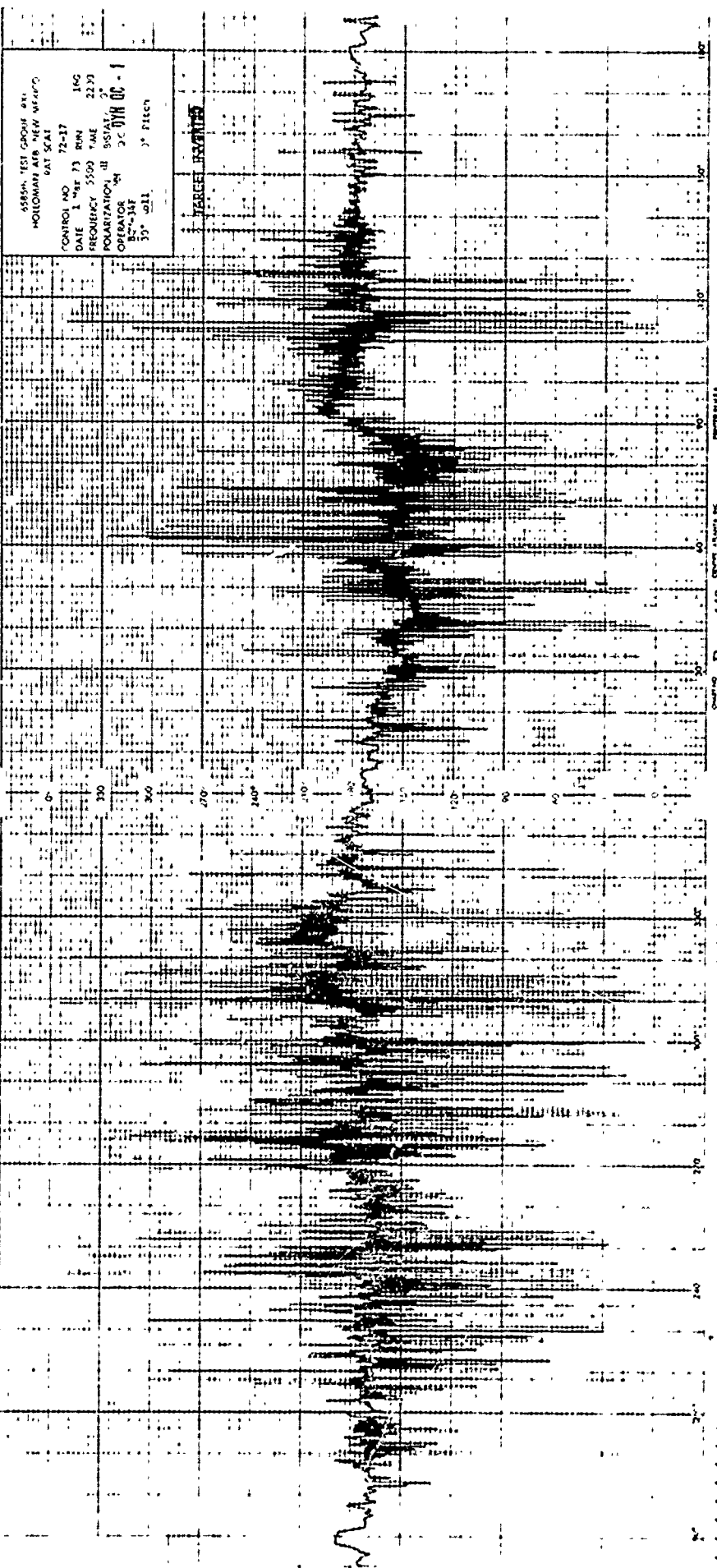


ASBUN TEST GROUP BX
 HULLMAN AFB NEW MEX CO
 PAT SCAT

COURT: NO. 72-17
 DATE 1 SEP 73 RUM 12G
 FREQUENCY 5500 TIME 1655
 OPERATOR W. BUSTARD
 STATION WY 2C DUM B-1
 10" Roll 3" Pitch





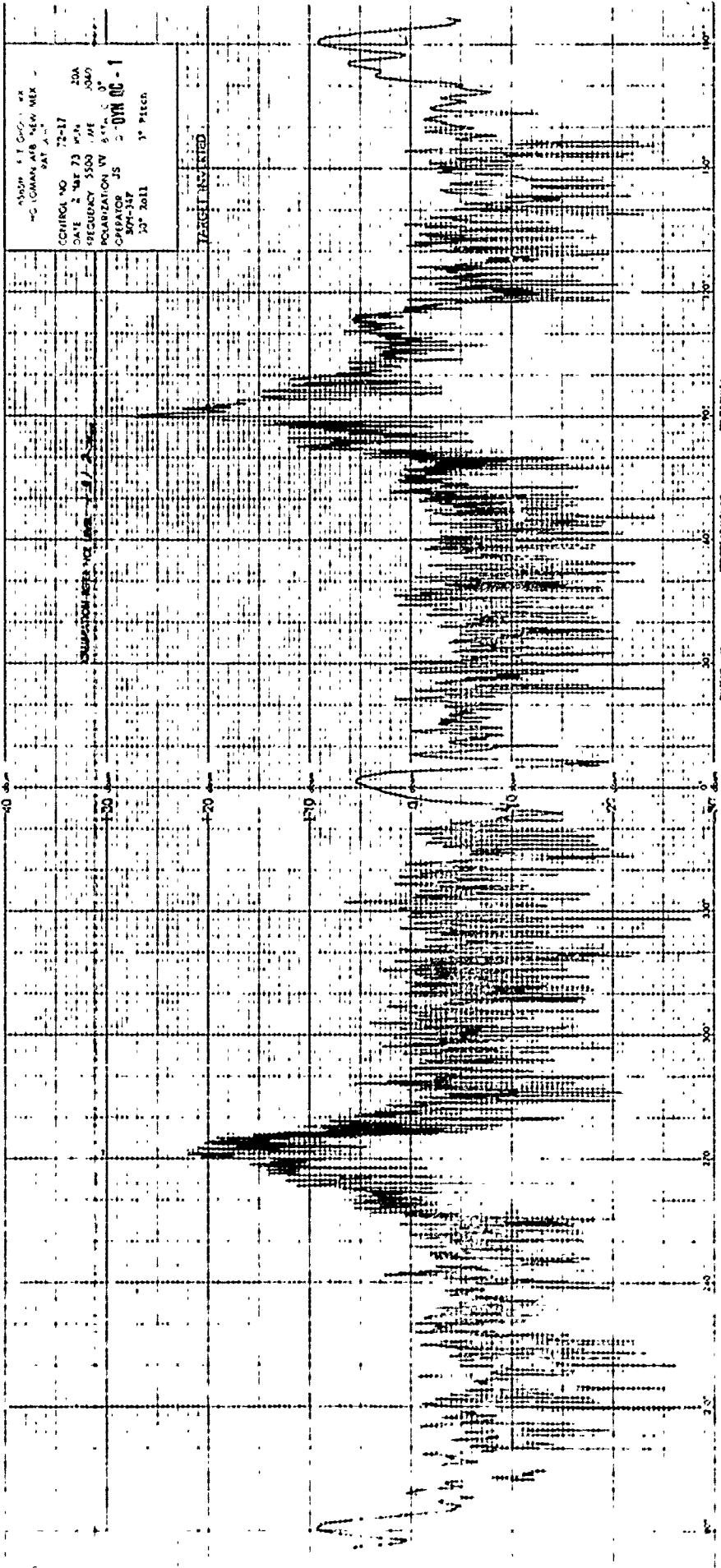


5855N TEST GROUP 041
 HOLLOWAY AIR NEW MEXICO
 DAT 5/41
 CONTROL NO 72-17 160
 DATE 1 MAR 73 RUN 22.93
 FREQUENCY 5500 HAZ 22.93
 POLARIZATION III 95141
 OPERATOR WJ D.C. BYN DC - 1
 87-34F
 30" roll 3" pitch

TARGET SEISMIC

4500 5.1 GGG. 42
 - C. (C)MAN LAB NEW MEX
 DAT A. 1
 CONTROL NO 72-17 20A
 DATE 2 MAR 73 WVA 2005
 FREQUENCY 3300 MHz 3000
 POLARIZATION VV 5.1% 0
 OPERATOR JS 5-01R OC-1
 89F-317 3° Pitch
 33° Azim

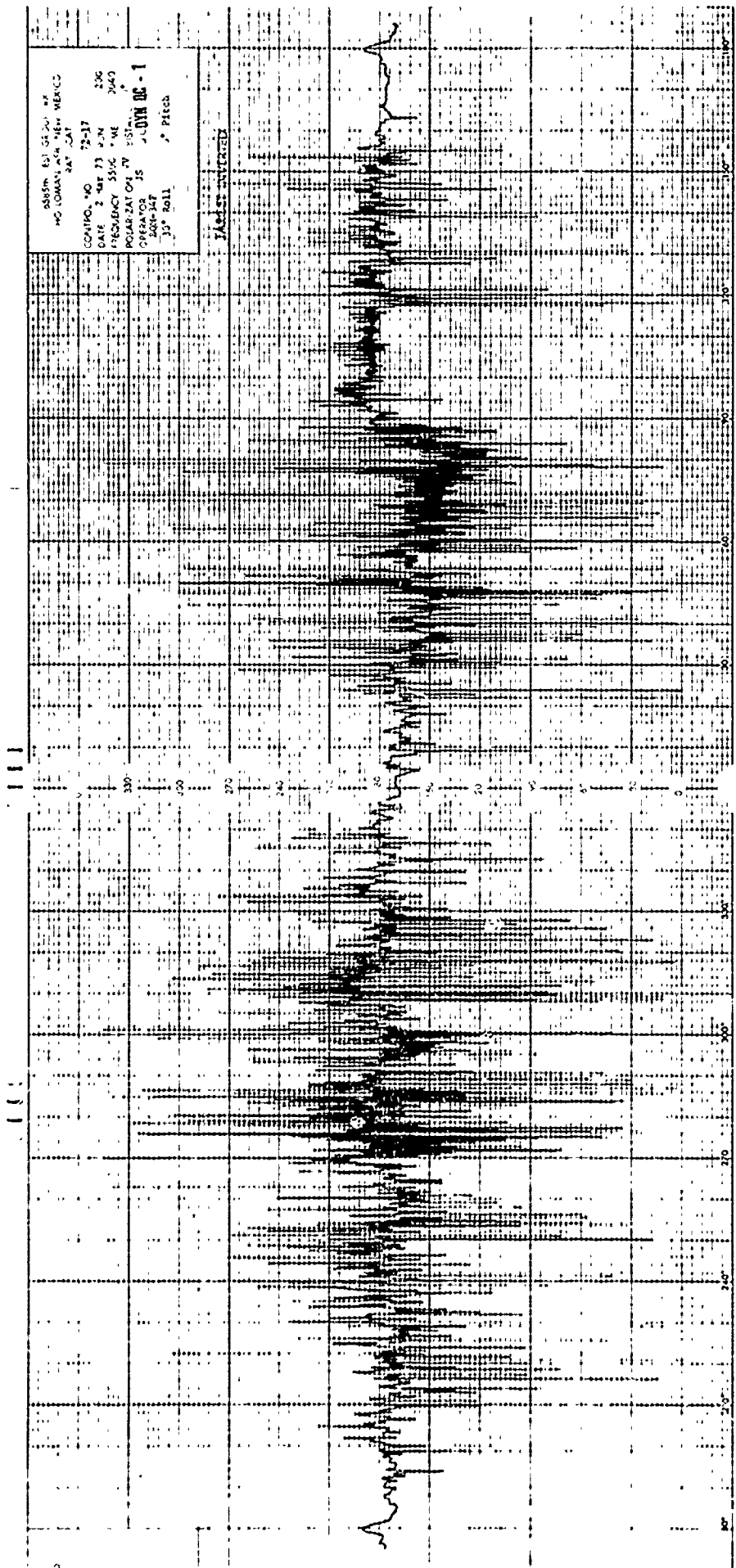
TARGET TRACKED

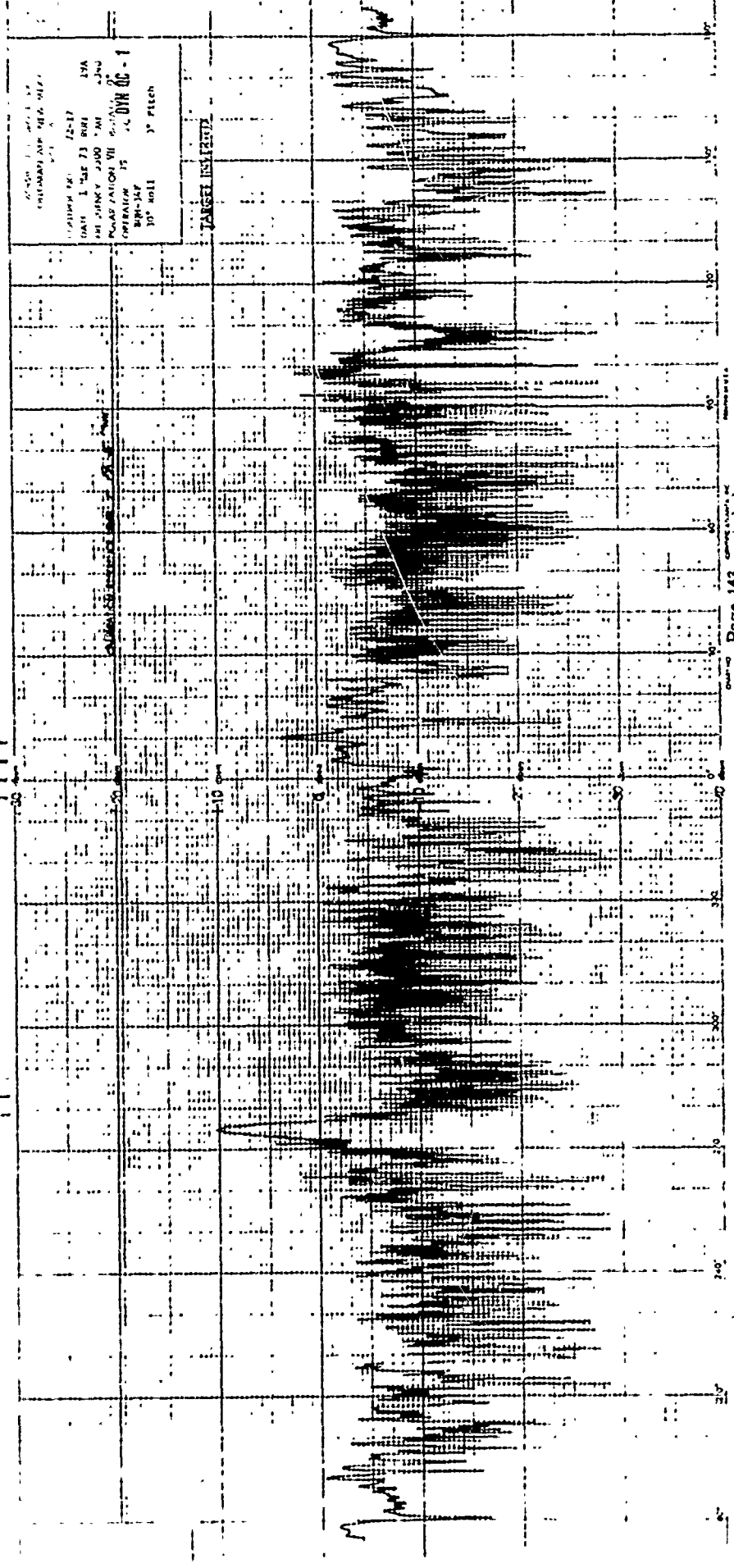


588m (S) 65.20' W
40 COMAN, 40' NEW MEXICO
44' CA

CONTRO. NO 72-17
DATE 2 APR 73 P.M. 206
FREQUENCY 55.5 MC 3040
POLARIZATION TV 1ST
OPERATOR JS
240-147
30" Roll
Pitch

TRACE INVERTED





11-11-57
 CHICAGO AIR FIELD
 11-11-57
 DAY 1 11:23 AM
 AIR FORCE 2000
 MOBILE STATION VII
 11-11-57
 10" ROLL 3" PITCH
 DYN 10-1

TARGET IDENTIFIED

2555 161-104-17-17
MICHIGAN AIR FORCE WLA
441 541

DATE 1 Sep 73 001 190

FREQUENCY 3000 MHz 2140

MODULATION 400 Hz

OPERATOR JS

3-0111

3-0111

3-0111

3-0111

3-0111

3-0111

3-0111

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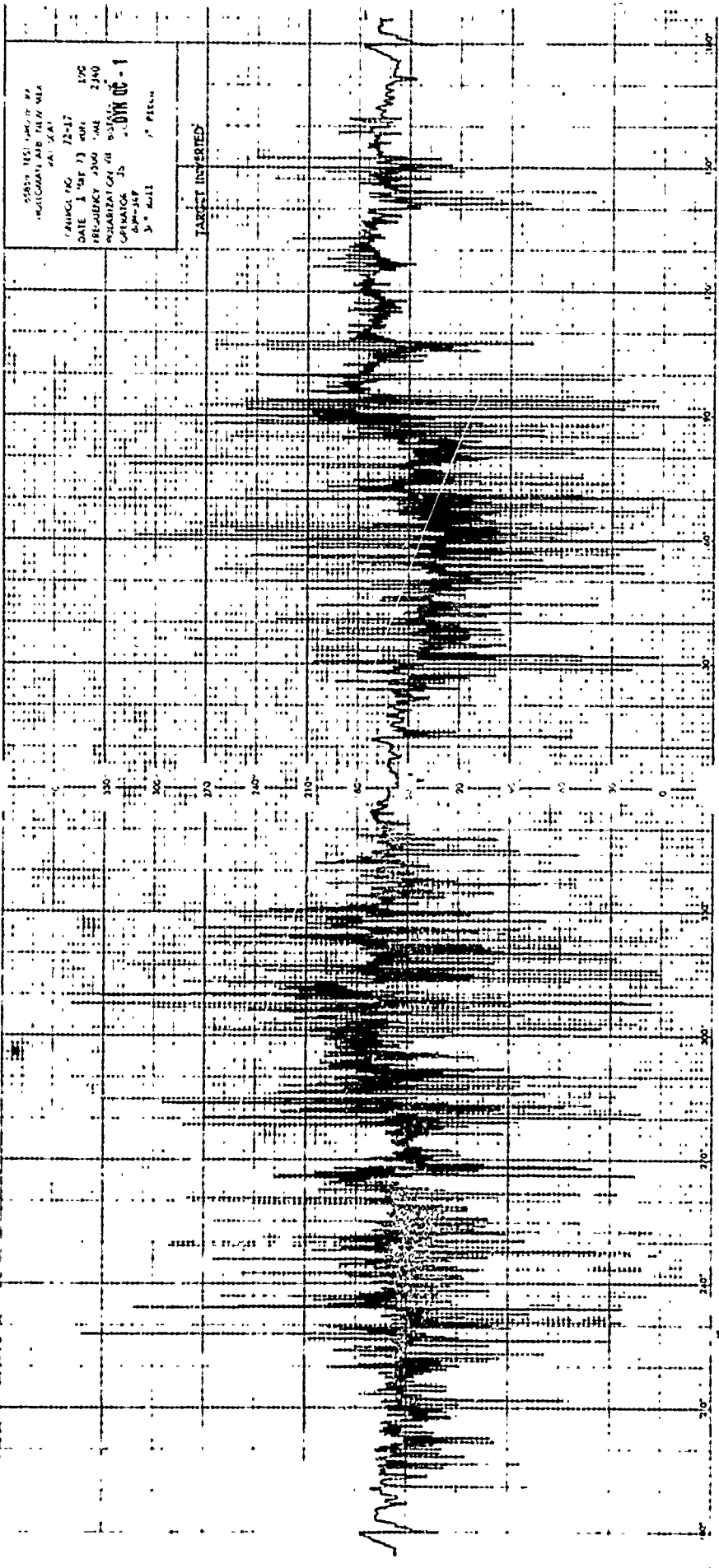
3-0111

3-0111

3-0111

3-0111

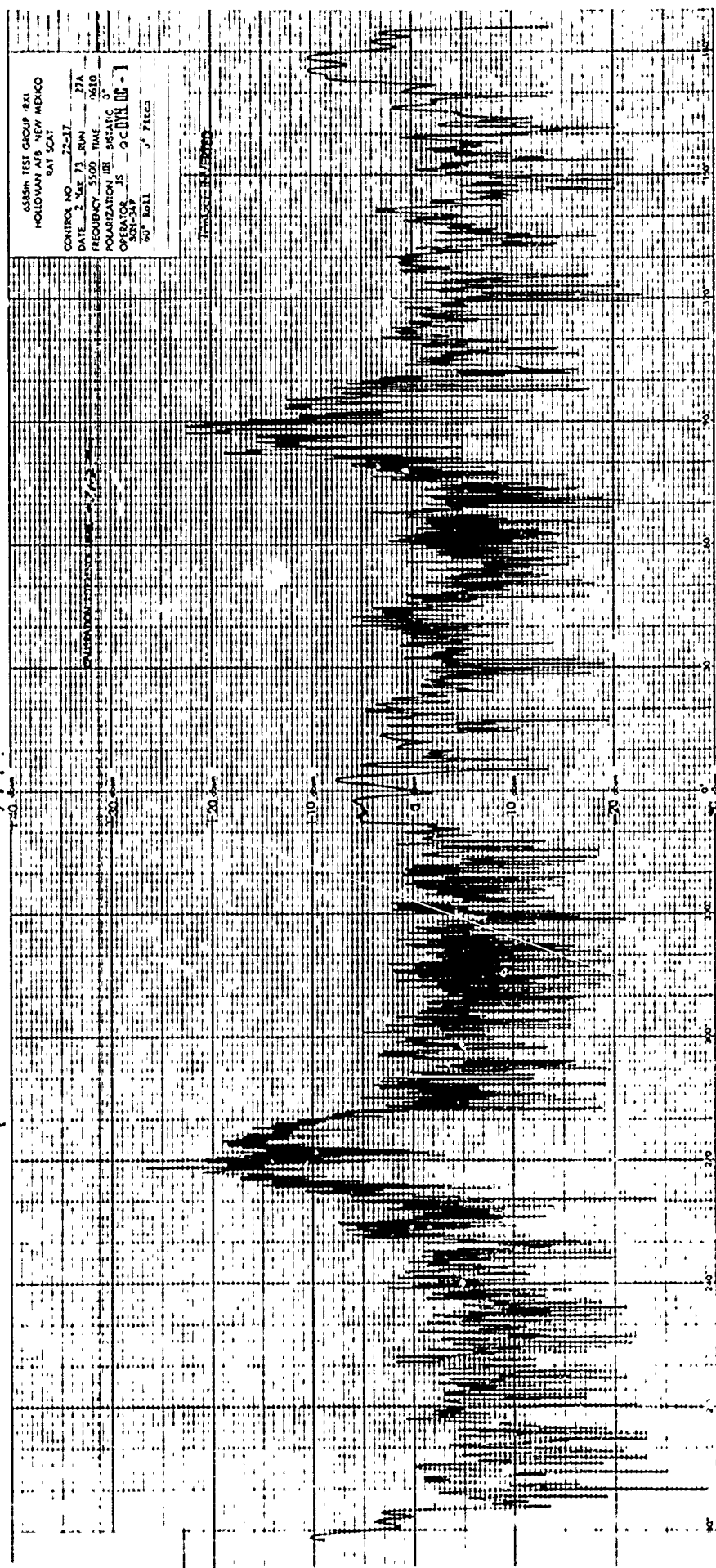
3-0111



685th TEST GROUP (B-1)
 HOLLAMAN AFB NEW MEXICO
 847 5047

CONTROL NO 72-17
 DATE 2 May 73 RUN 27A
 FREQUENCY 5500 TIME 0610
 POLARIZATION (B) - RHSTATIC 3
 OPERATOR JS - OGDH CC - 1
 500-34P
 70" Roll 3" Pitch

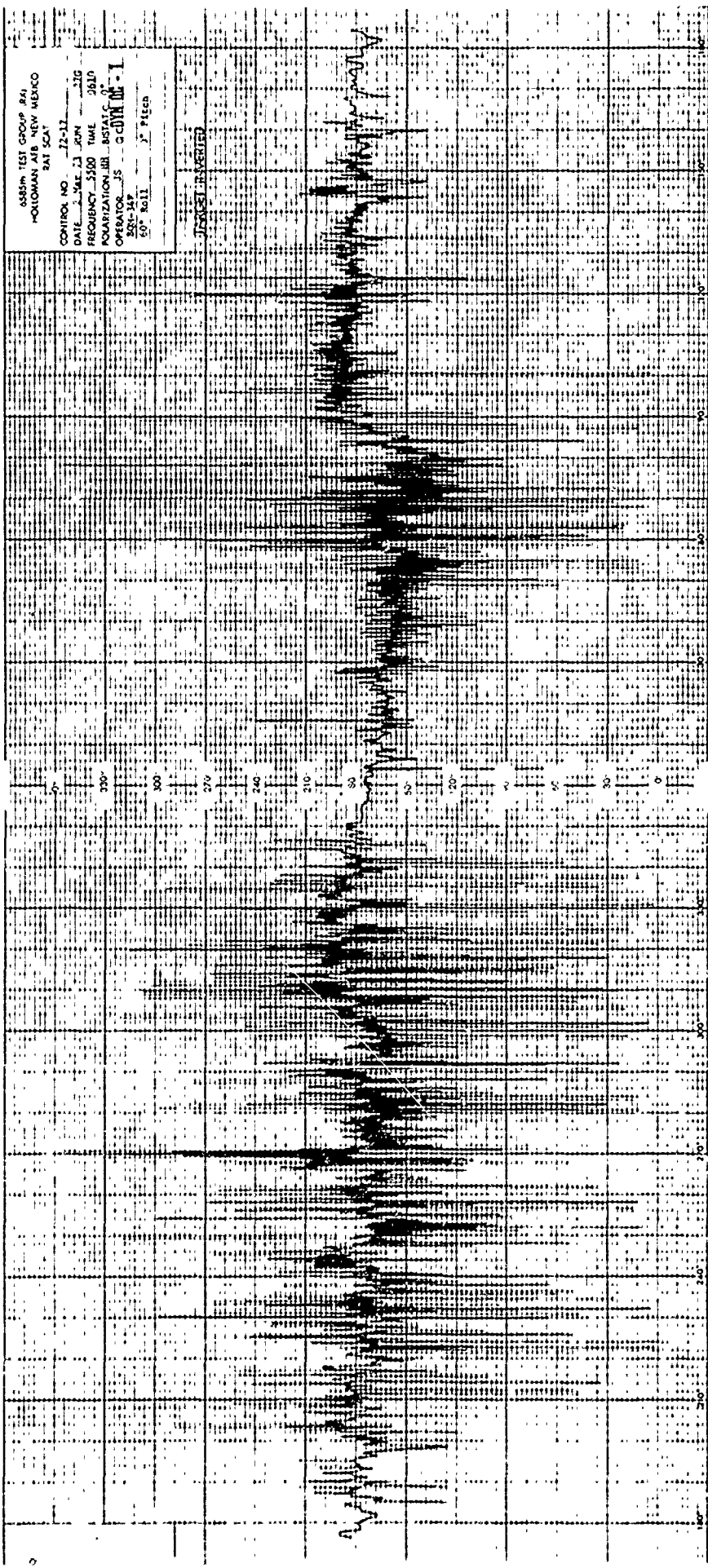
TRANSMITTER

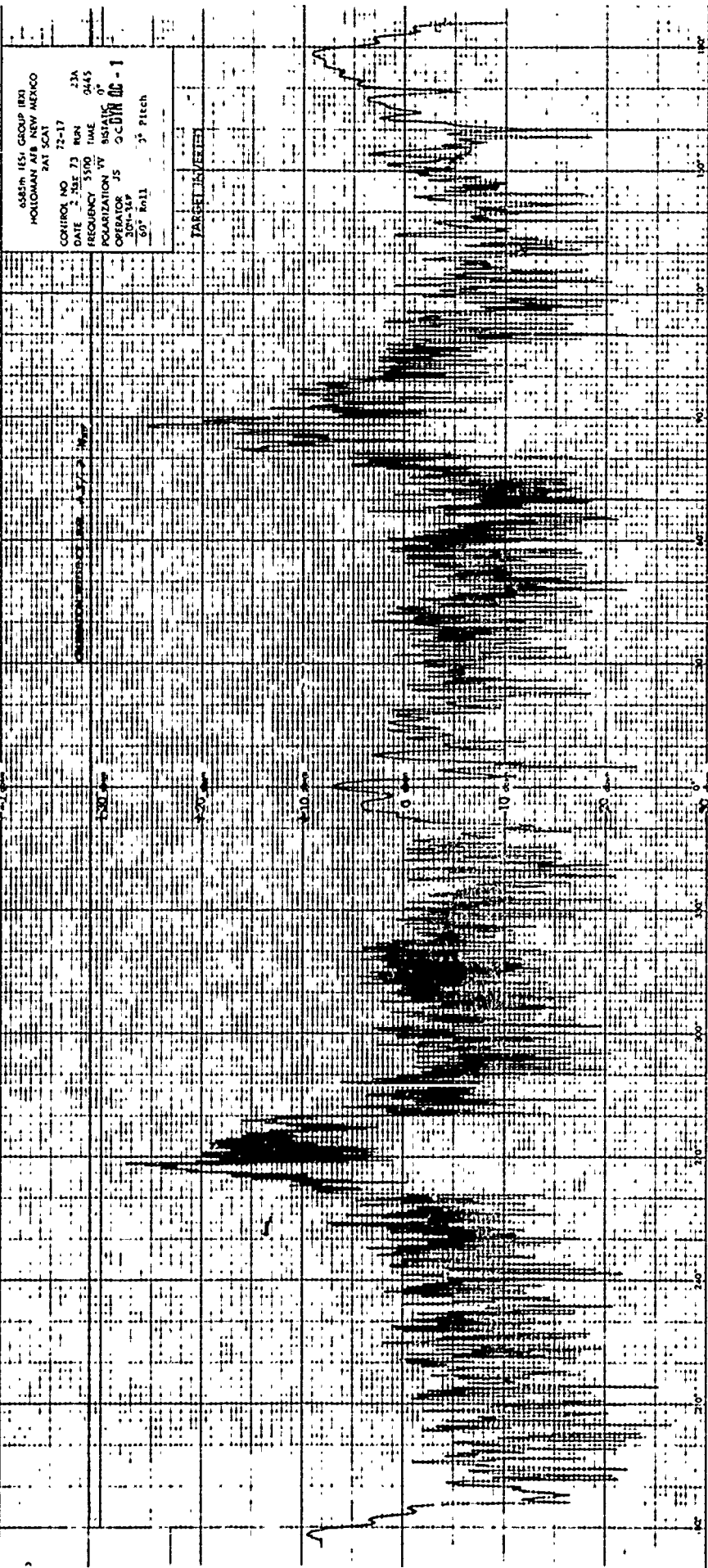


65834 TEST GROUP (A)
HOLLOMAN AFB NEW MEXICO
2AT SCA

CONTROL NO. 22-17
DATE 24 MAR 53 8PM
FREQUENCY 5500 THz 0210
POLARIZATION III. 8515C
OPERATOR JS GCHV 06-1
50° ROLL PITCH

JFASSET INVERTED





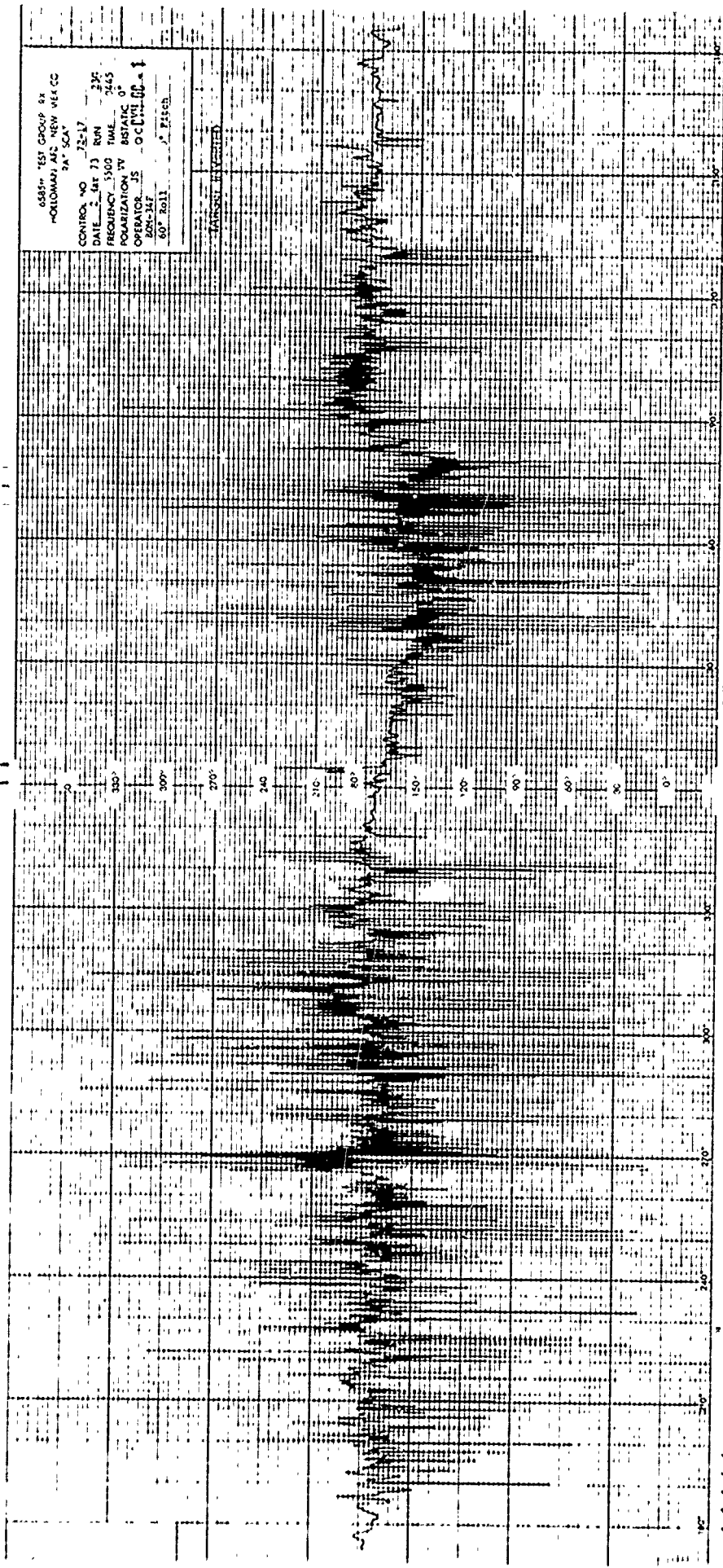
688th IES, GROUP (RW)
 POLIGNAN AIR NEW MEXICO
 24T 504T
 CONTROL NO 72-17
 DATE 2 FEB 73 RUN 23A
 FREQUENCY 3500 TIME 0445
 POLARIZATION TV SIGTYPE 0
 OPERATOR JS 0007N 00-1
 301-34P
 50° Roll 3° Pitch

TARGET INVERTED

6585th TEST GROUP 4x
"OCCOMAD" A/C NEW VEA CC
7A "SCA"

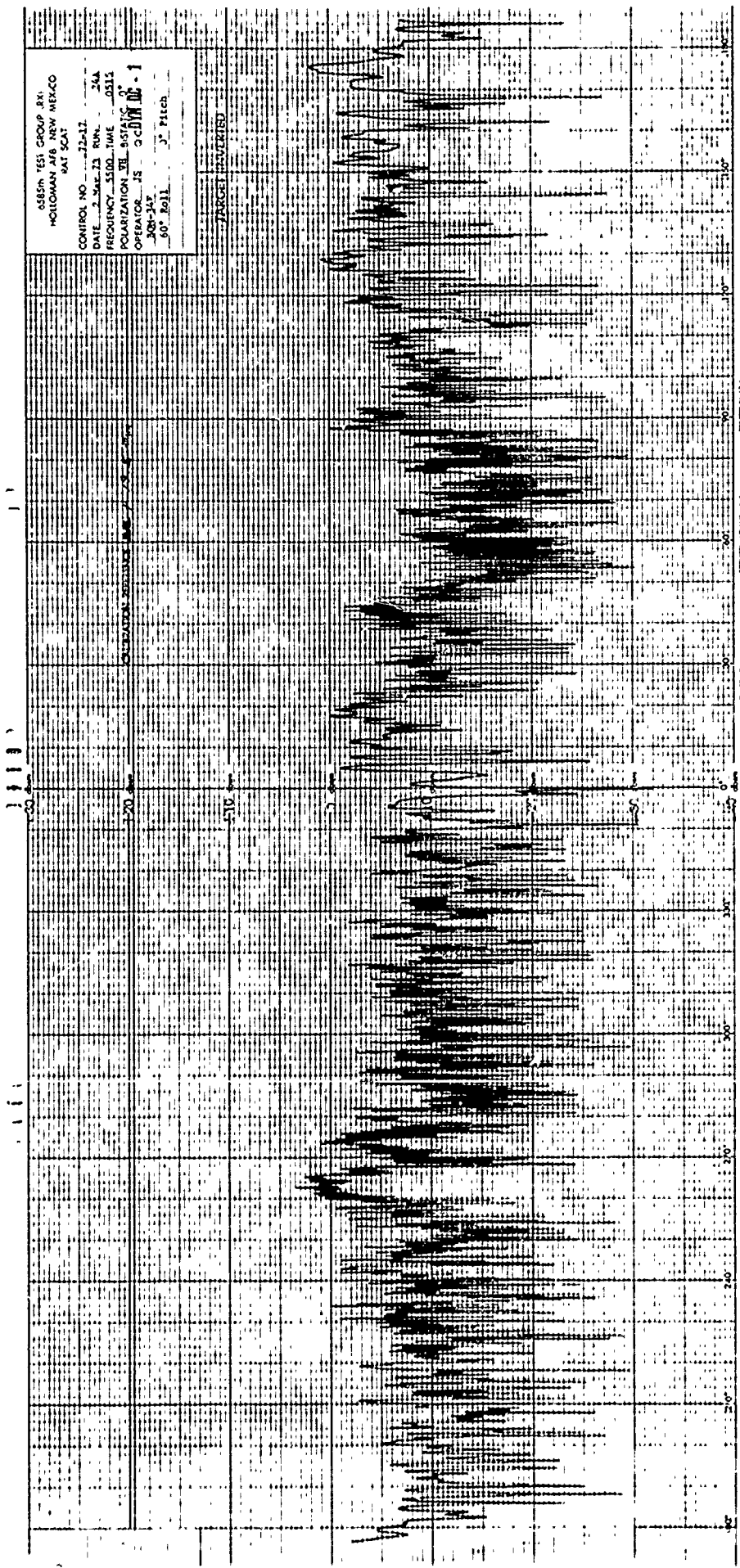
CONTROL NO. 72-17
DATE 24T 73 RUN 237
FREQUENCY 5500 TIME 2445
POLARIZATION TV BASTATIC 0°
OPERATOR JS - OCB
20M-247
60° Roll 5° Pitch

TANSONI, IN (2000)



585TH TEST GROUP (R)
 HOLLOWAY AFB NEW MEXICO
 BAF SCAT
 CONTROL NO. 22-17
 DATE 2 MAR 73 RIN 24A
 FREQUENCY 5500.000 MHz
 POLARIZATION RH BUSTIC
 OPERATOR IS GCM/MS-1
 90° Bell 5 Pitch

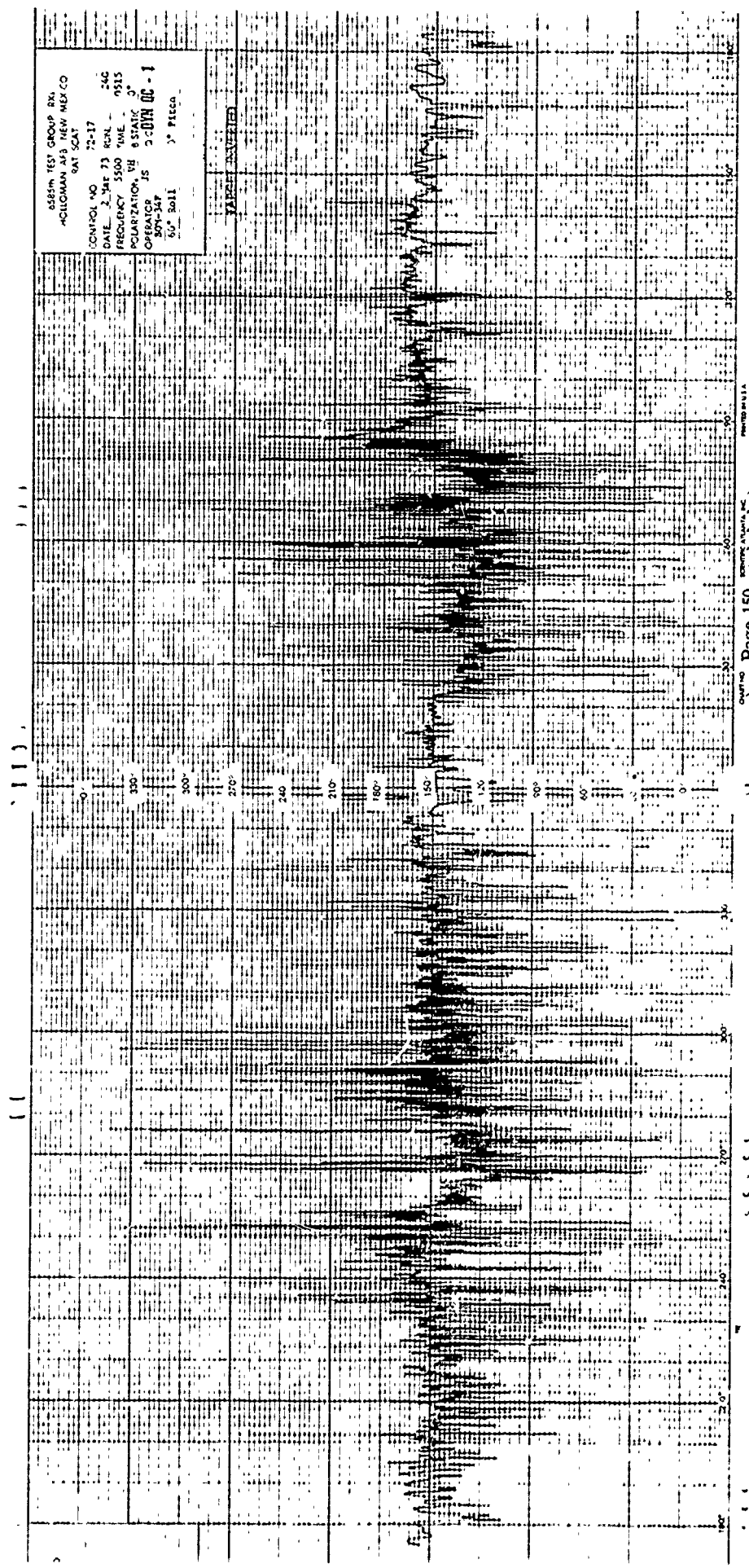
TARGET IDENTIFIED



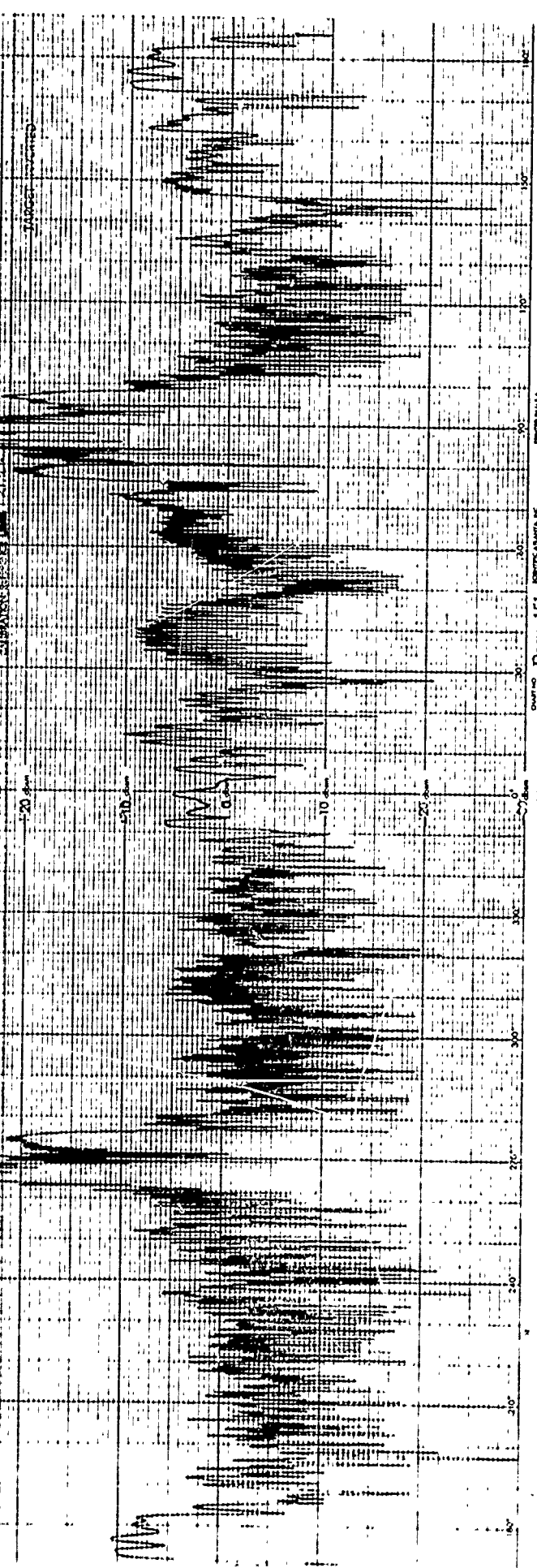
85574 TEST GROUP, RX,
 HOLLAND, 143 NEW MEX CO
 8AT SCAT

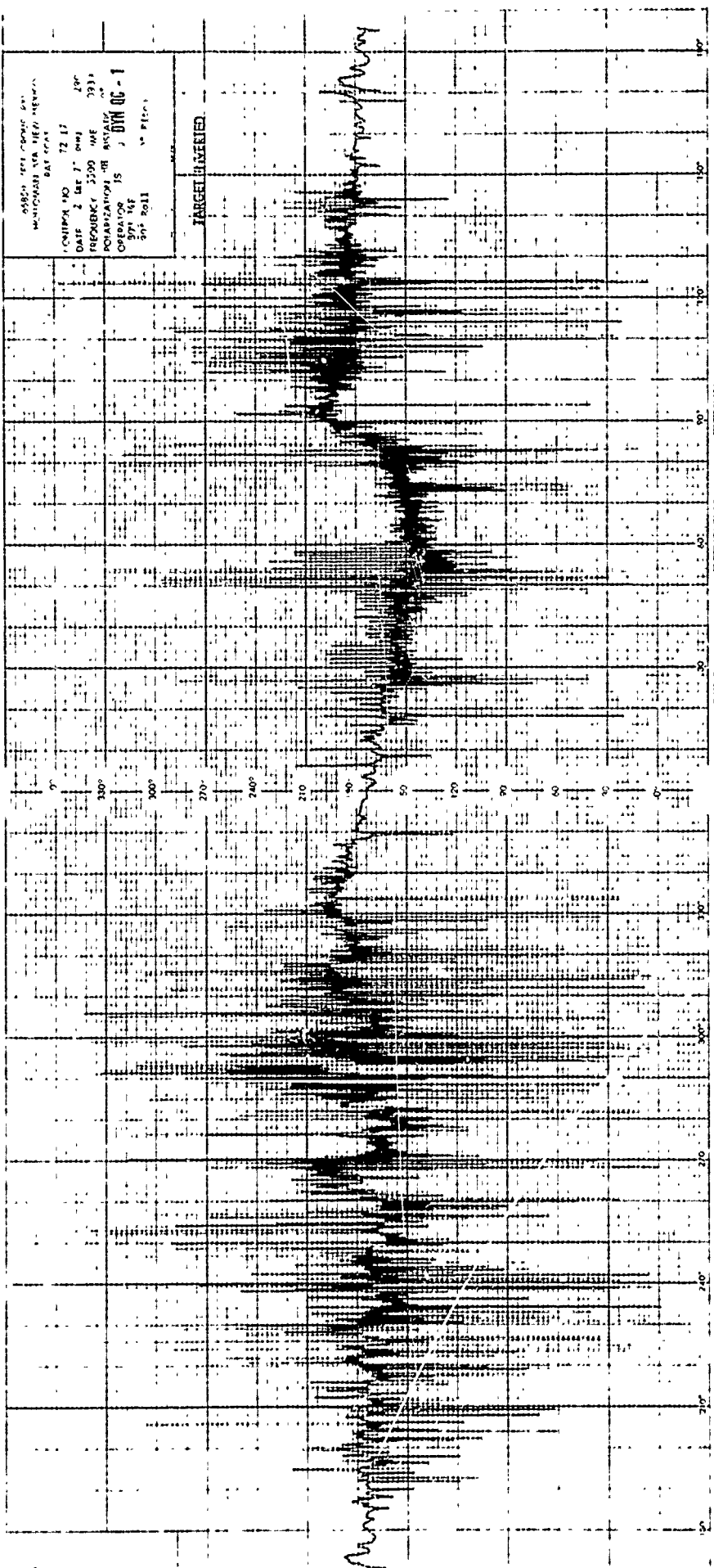
CONTROL NO 72-17
 DATE 2 Apr 73 RUN 24G
 FREQUENCY 3500 TIME 0515
 POLARIZATION VE 6 STATIC
 OPERATOR JS 20V 00-1
 50V-34P 3" Plectra

MARKET INVERTED



1585th TEST GROUP, 177
 HONOLULU, HI
 CONTROL NO 22-12
 DATE 2 SEP 73 RUN 29A
 FREQUENCY 3500 TIME 0930
 POLARIZATION, IIR BISTATIC 0°
 OPERATOR JS 300010C-1
 804-31F
 30° Roll 3° Pitch



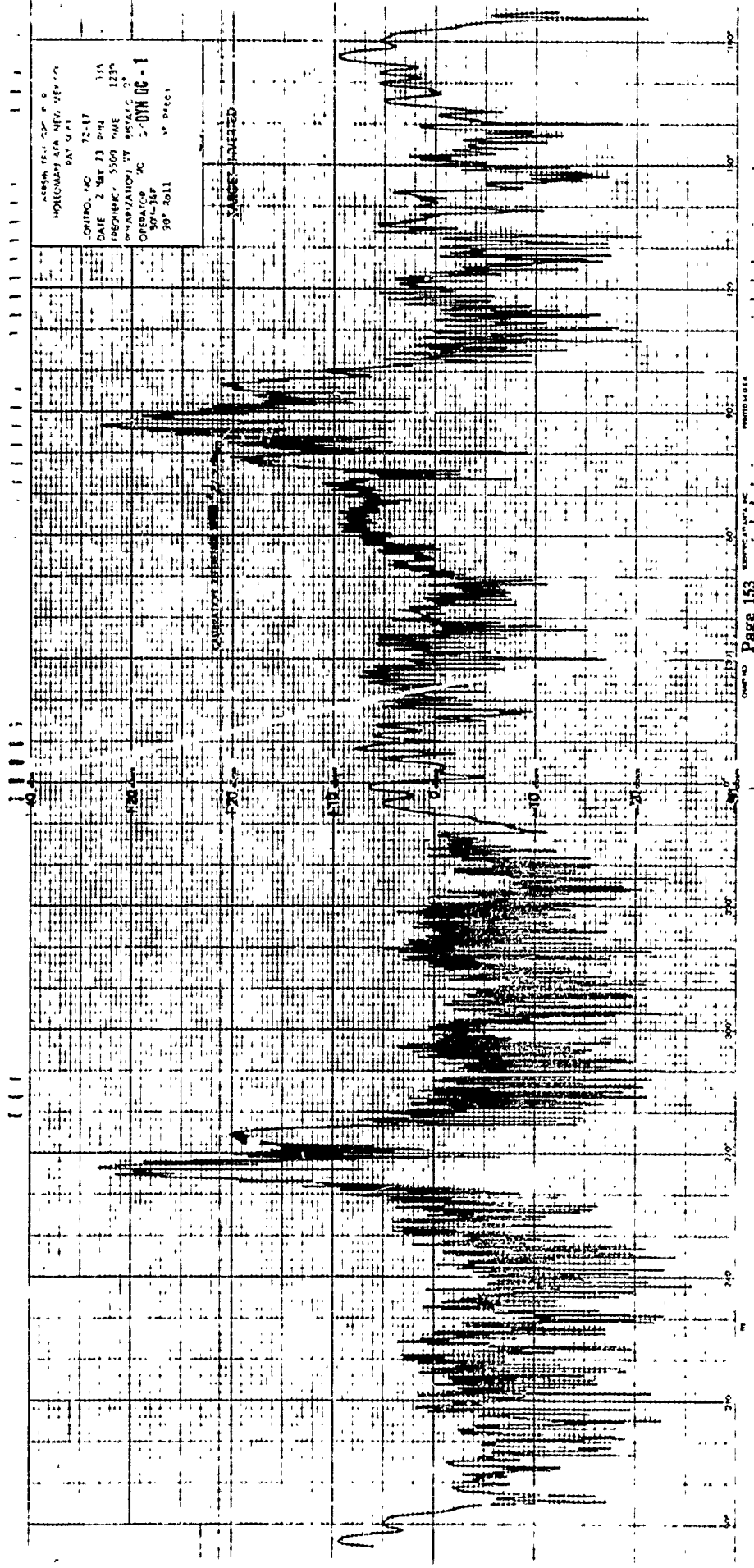


5580 101 0000 001
 55800000 0000 0000
 000000
 CONTROL NO 72 17
 DATE 2 Oct 77 0943 280
 FREQUENCY 3500 MHz 3933
 POLARIZATION RH HORIZONTAL
 OPERATOR JS J DVM 06-1
 591 467 1st Floor

TARGET IDENTIFIED

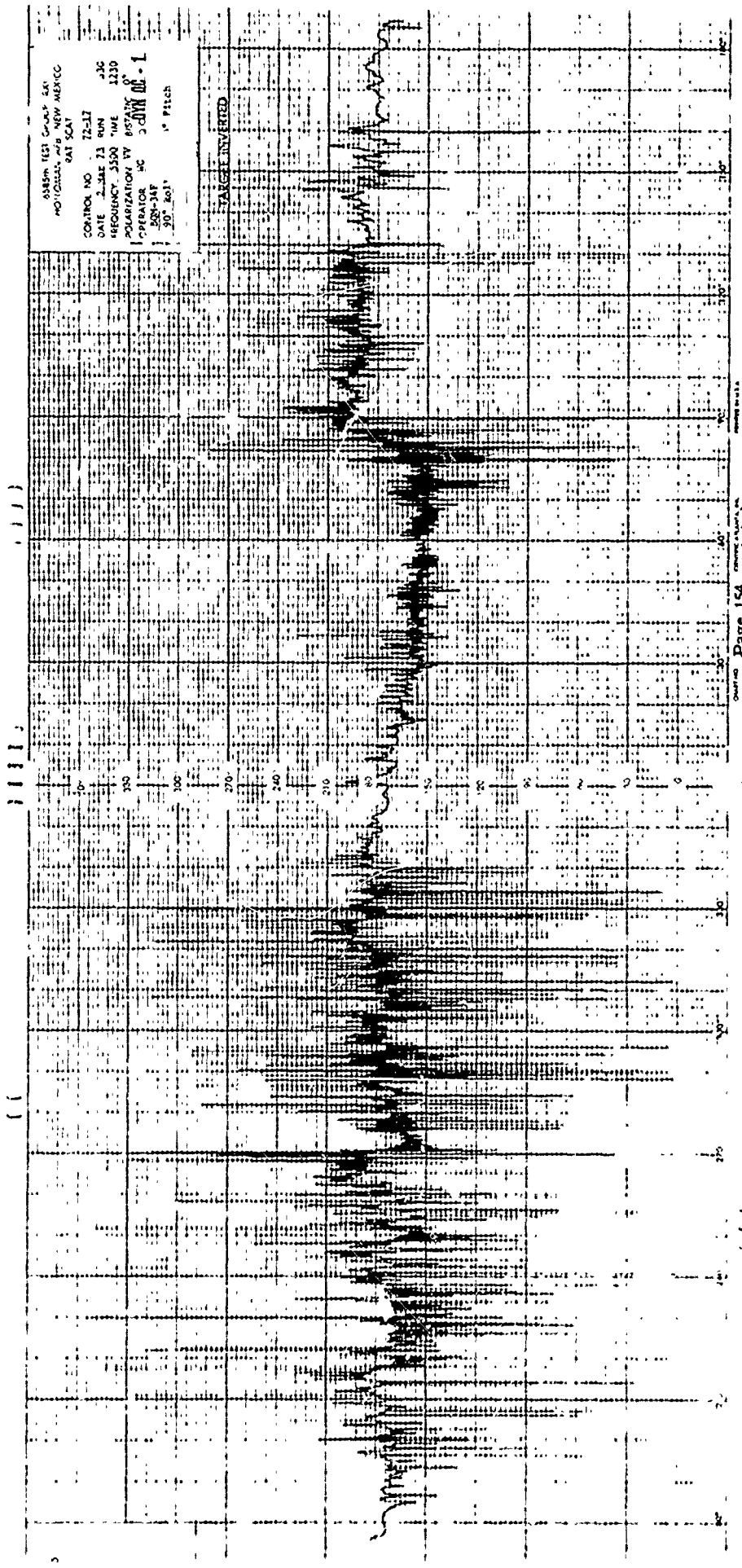
MOHAWAK AIR REG. REF. NO.
DAY 0/11
OHIO, MO 72-17 11A
DATE 2 Mar 73 074
FREQUENCY 5500 MHz 1237
OPERATOR JC
90° 2011 10 Dec 73

TARGET UNKNTD



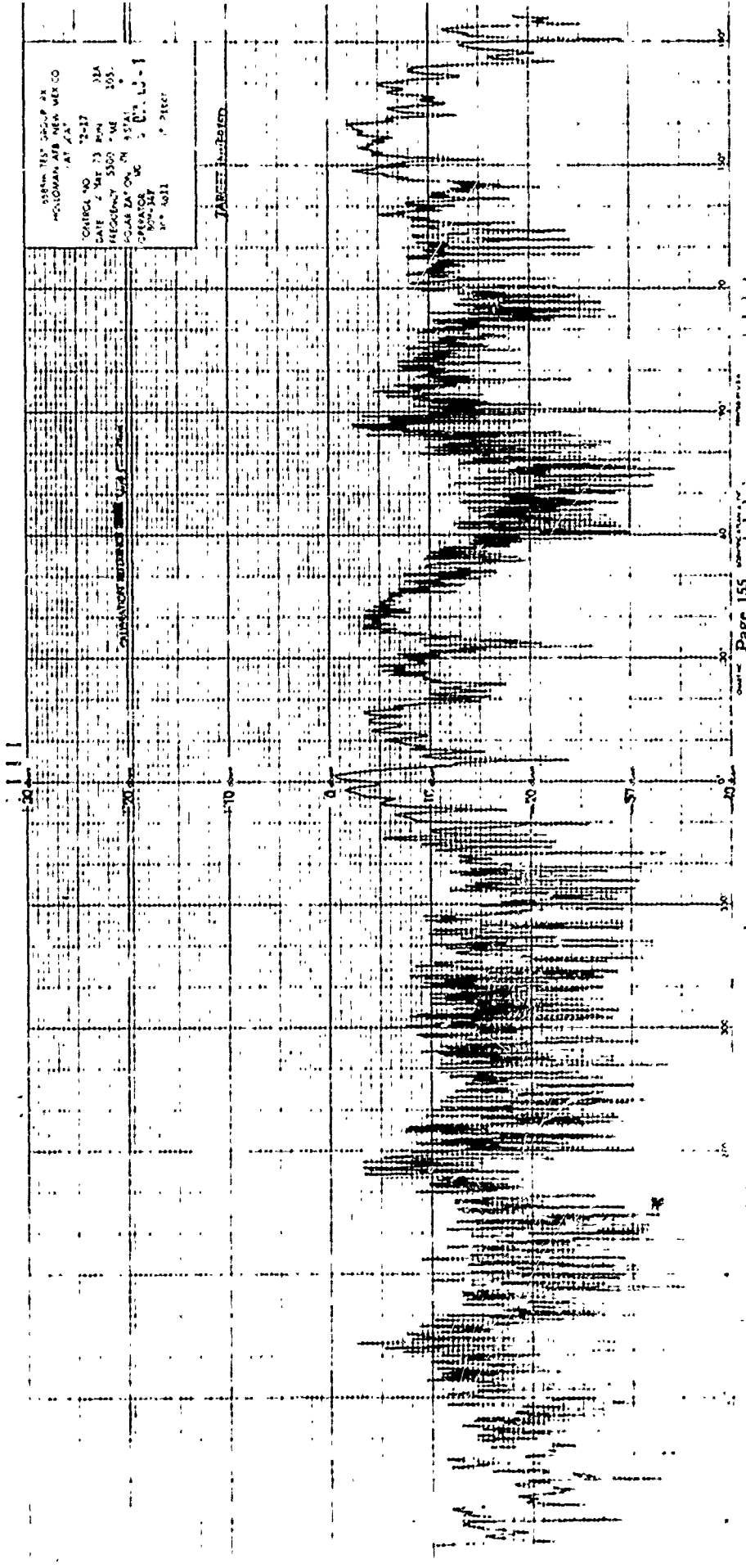
ANSRN (E3) 60-45-50
 HQ/CLASS. W/4 NEW AMEXCC
 9AT SCAT
 CONTROL NO 72-517 JSC
 DATE 2. SEE 73 RUN 1130
 FREQUENCY 3550 MHz
 POLARIZATION VV 85°
 OPERATOR WC 5000-14F
 90° Roll 1° Pitch

TARGET INVERTED



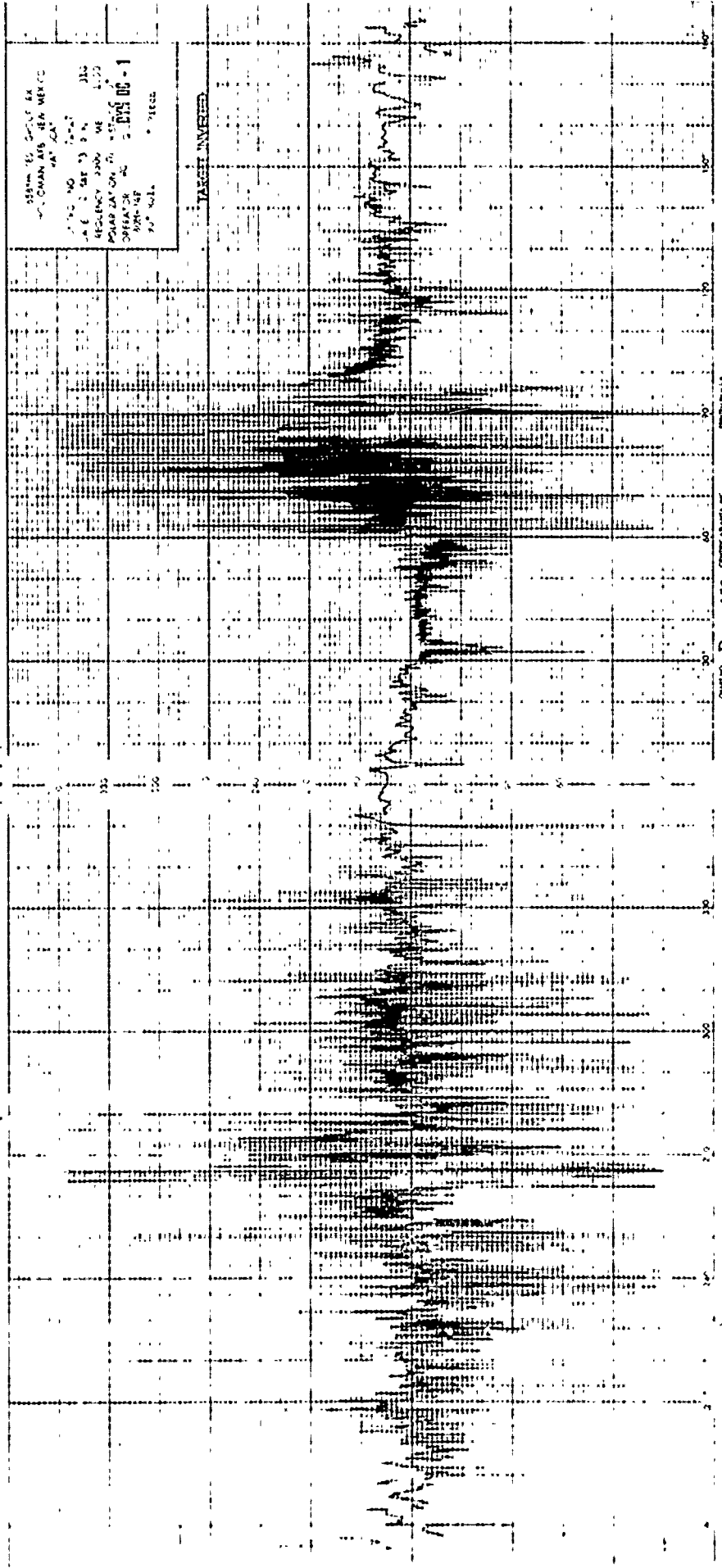
1587M TEST GROUP 2K
HIGLIOMAN AFB NEW MEXICO
AT AAT
CONTROL NO. 72-17
DATE 4 MAY 73 38A
FREQUENCY 5500 MHz
POLARIZATION RH
OPERATOR S. C. LU-1
307-8031 1-21807

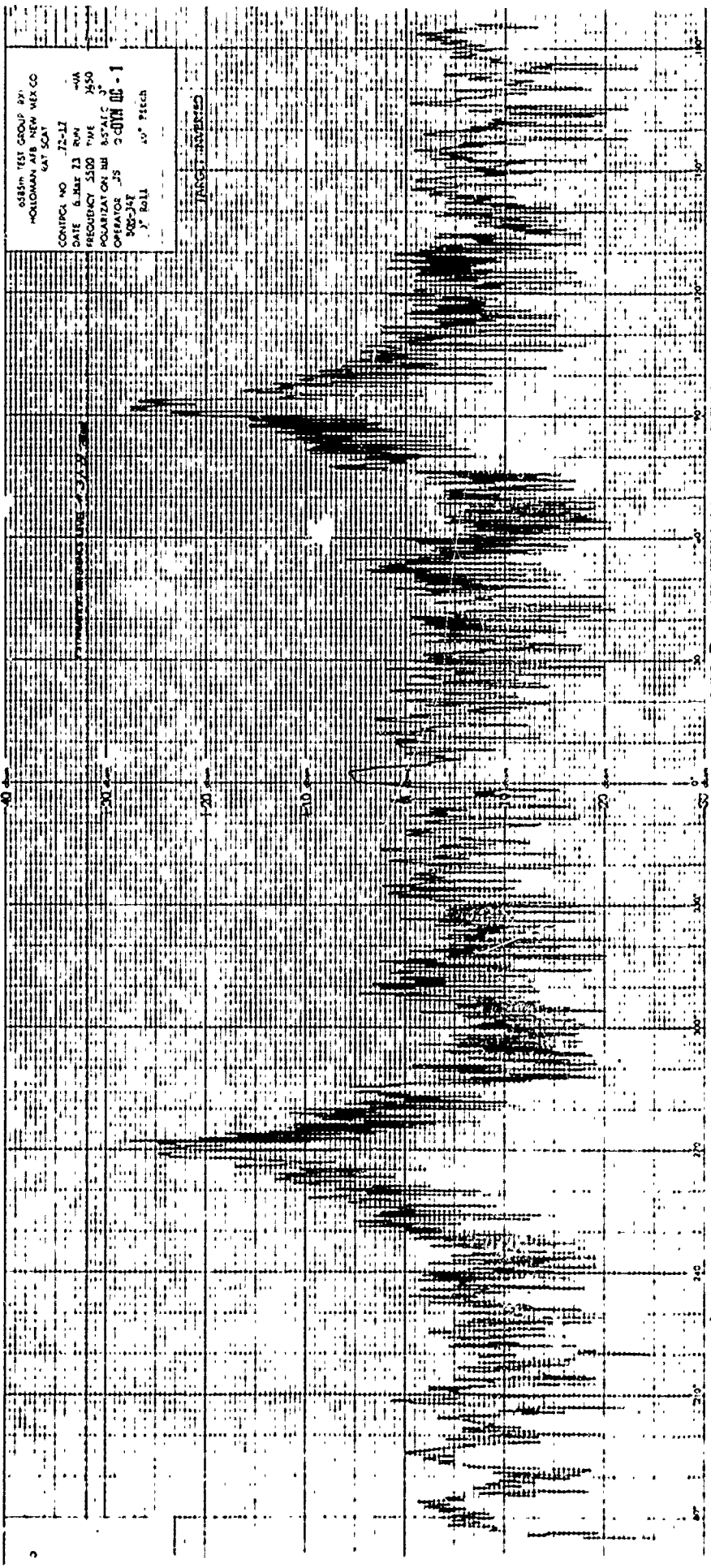
TARGET IDENTIFIED



RECORD TO BE KEPT AT
COMANAVS SEA WEXCC
AT JCA
STATION NO. 100-1
DATE 2 MAR 73 P.M. 010
AGENCY JMWV WE 1022
OPERATOR ON DUTY S. L. W. 05-1
ROR-4P
73-501A

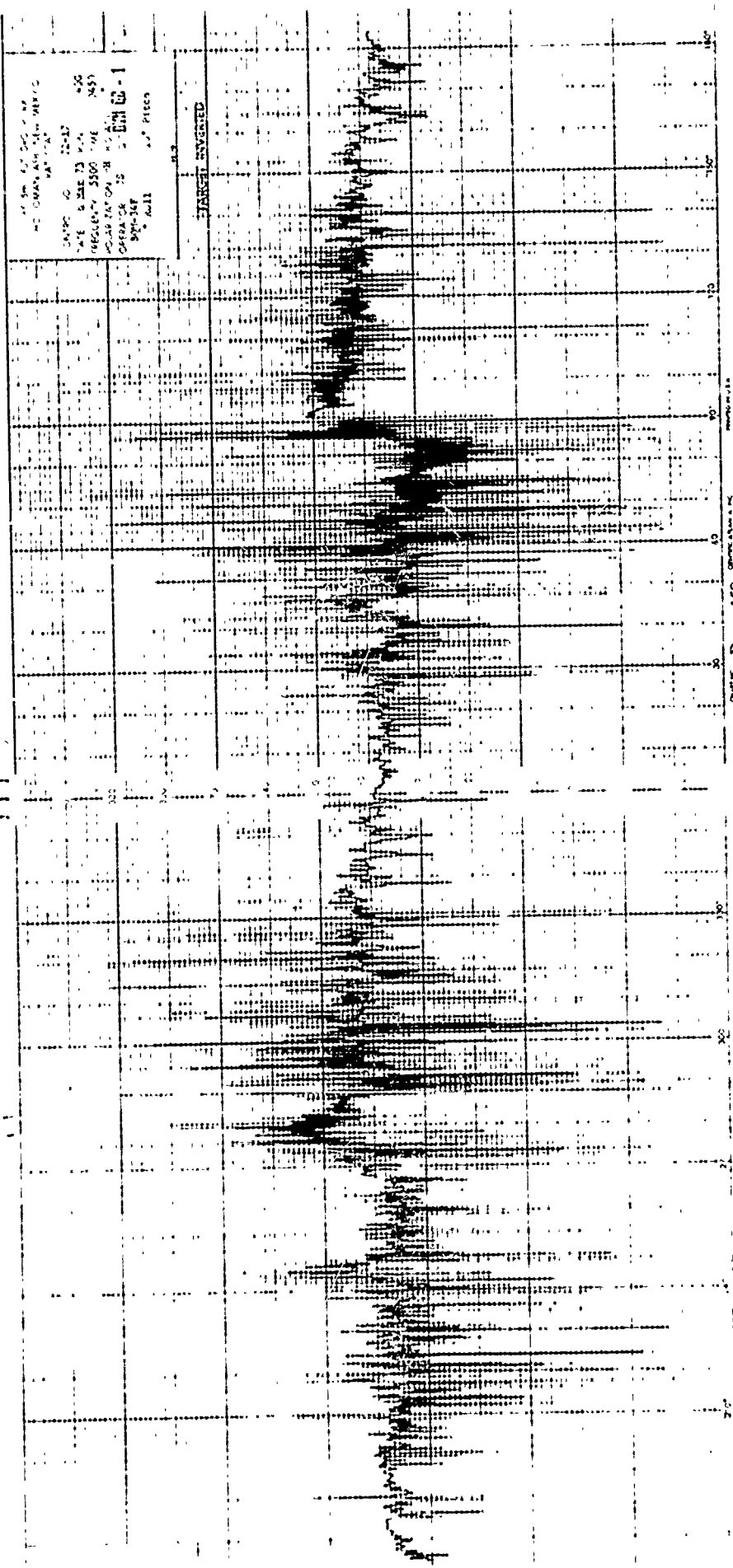
TARGET NUMBER

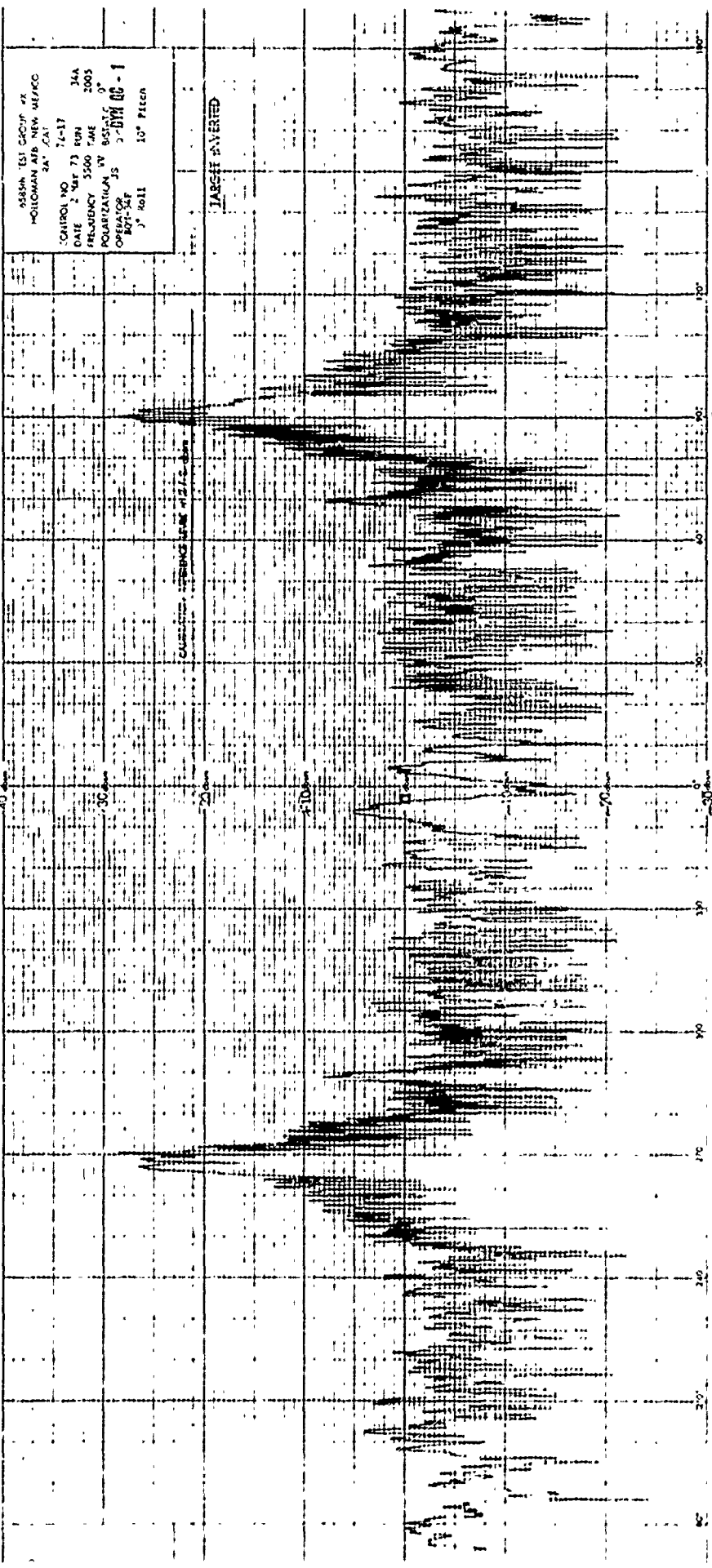




17 5m 27 Dec 54
NO. COMPANY AND NEW MEXICO
7487121
DATE 8 MAR 55
REGULATORY 5300 ME (N53)
OPERATION OR W. A. L.
OPERATOR IS - G. W. G. - 1
971-347 Fall 11.2 P. 1100

5.2
TARGET INVERTED





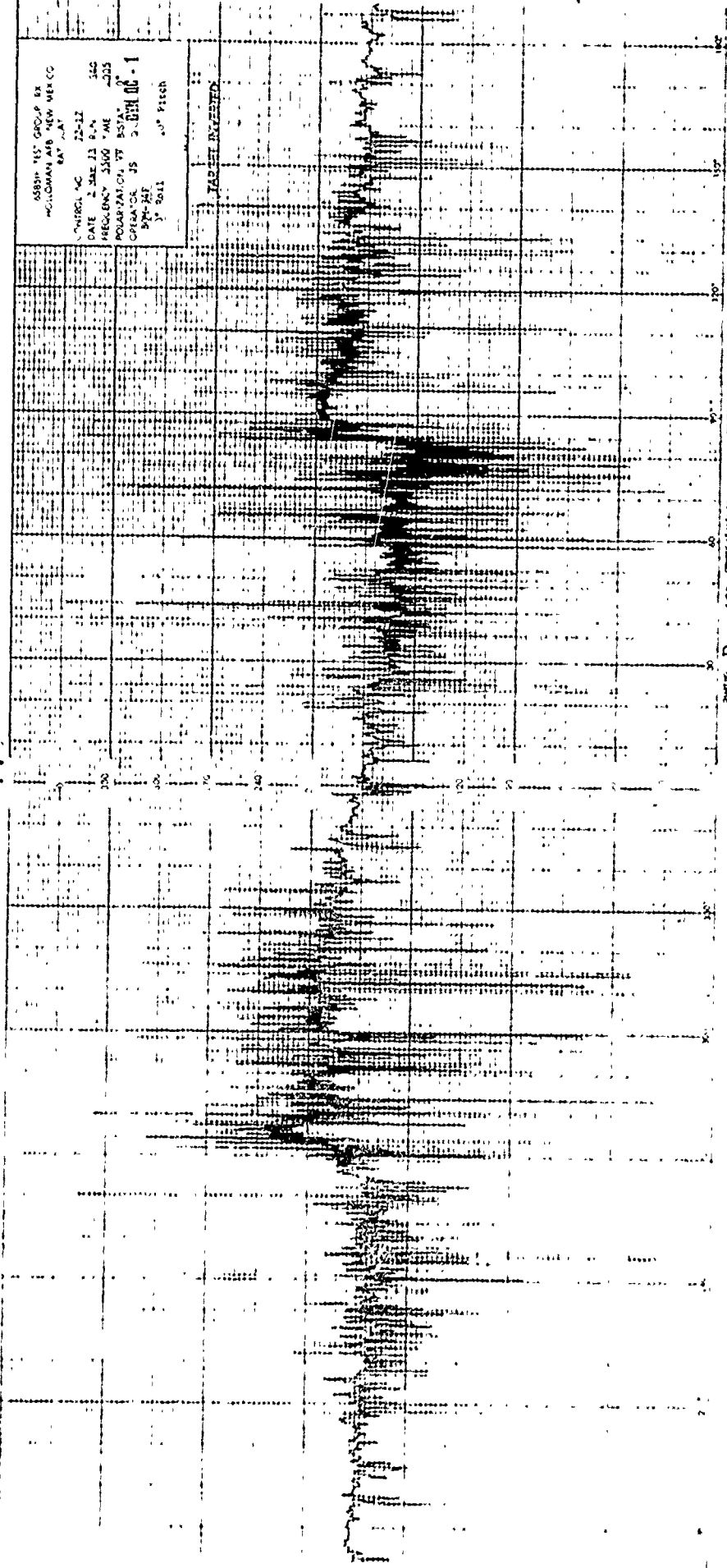
9888A TEST GROUP #X
 HOLLOWAN AFB NEW MEXICO
 2A / AT
 CONTROL NO 74-17 34A
 DATE 2 Mar 73 8PM 2005
 FREQUENCY 5500 SAH 0°
 POLARIZATION W 8513C 0°
 OPERATOR JS 3-87M 80-1
 3" Roll 10" PLSCH

TRACE REVERSED

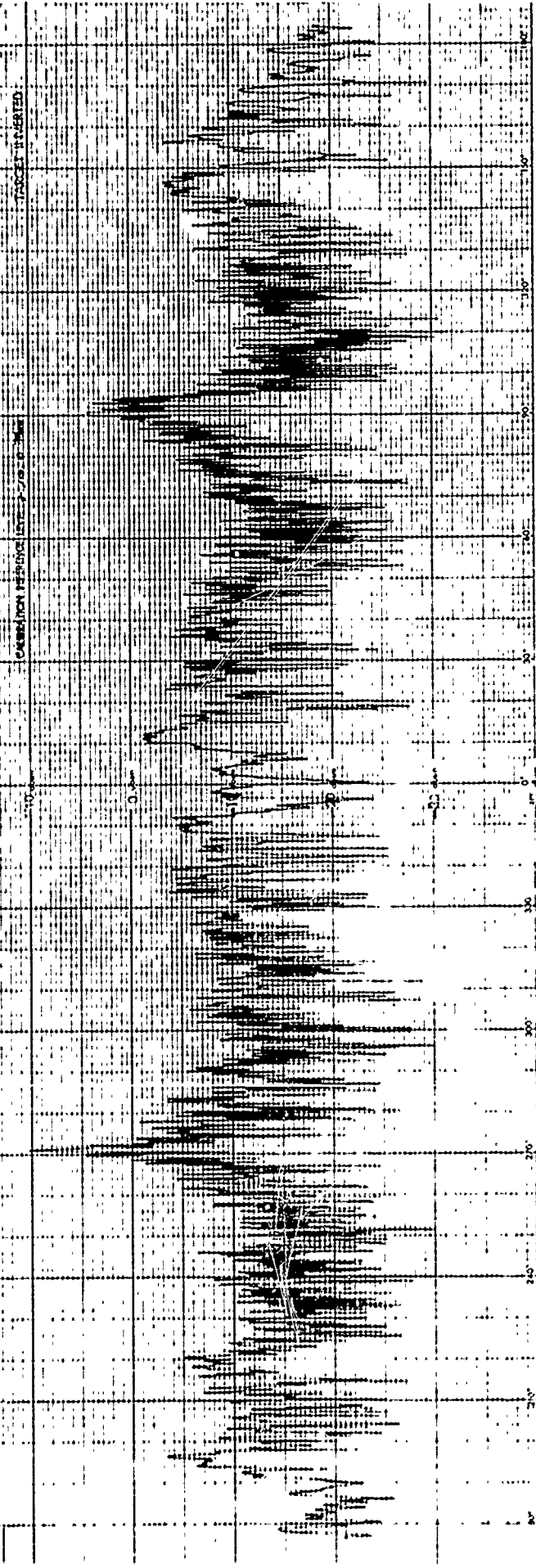
ASSN: 151 GROUP 1X
HOLCOMB 145 NEW MEX CO
6A 2A

UNIT: MC 22-12
DATE: 2 MAR 73 8:4
FREQUENCY: 3500 KHZ
POLARIZATION: VV
OPERATOR: JS
5M-AE
3011
30 Pitch

TARGET IDENTIFIED



3553H TEST GROUP #21
 HOLLAND AIR NEW MEXICO
 SAT SAT
 CONTROL NO 72-12 42A
 DATE 5 MAR 73 R/N
 FREQUENCY 5500 T/M 0545
 POLARIZATION VR 057A/C 0°
 OPERATOR JS C-0111 CC-1
 809-347 10° Pitch



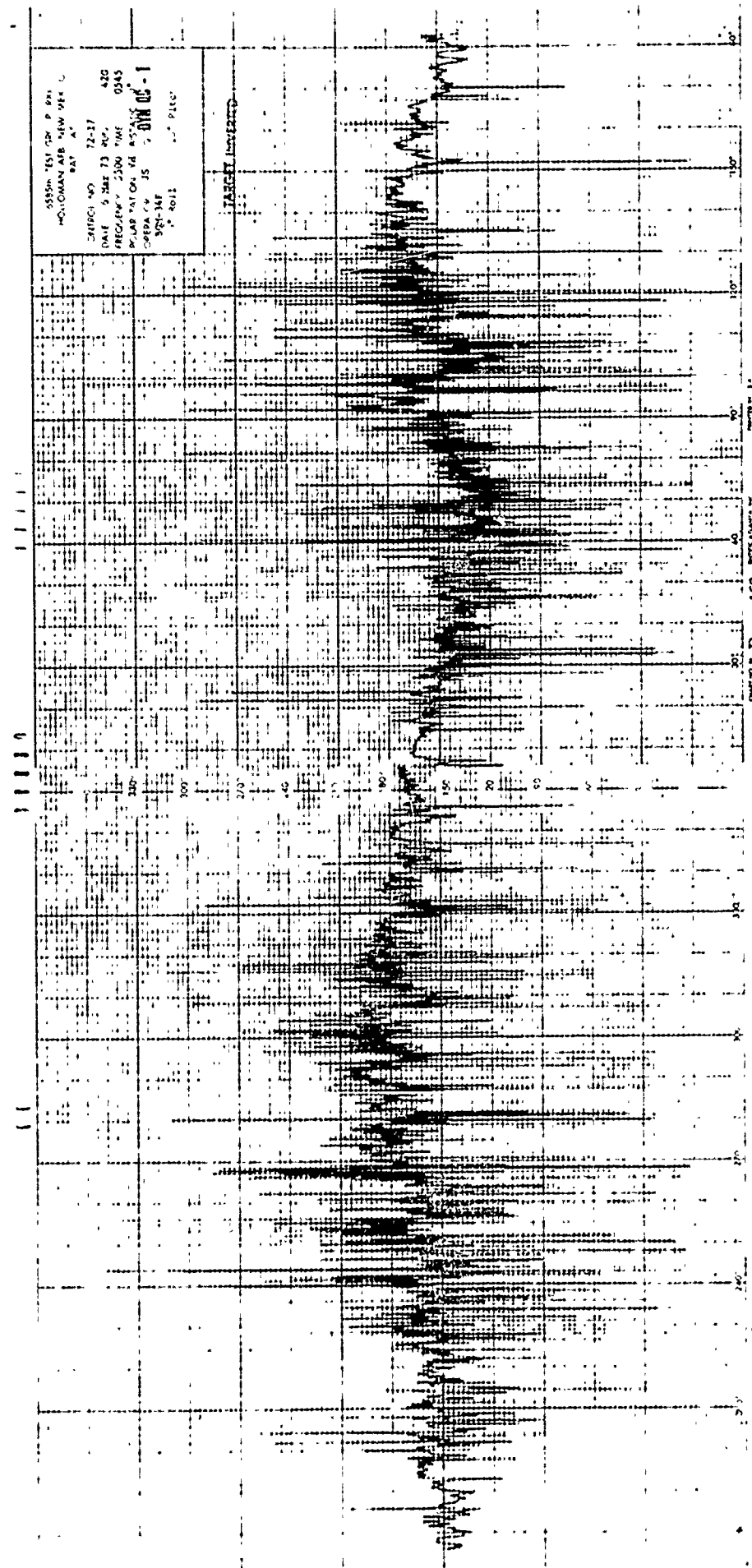
CALCULATION REFERENCE (SEE PAGE 10)

TRACE 11 REVERTED

5550m TEST CR. P. 801
MOLMAN AIR NEW MEK C
SAT A

DIRICH NO 72-27
DATE 5 MAR 73 40° 42G
FREQUENCY 2500 WME 0345
POLAR PAT ON VA 85° 15' S
SPEED 15 JS 2 00N 05 - 1
ROLL 10° PLIC

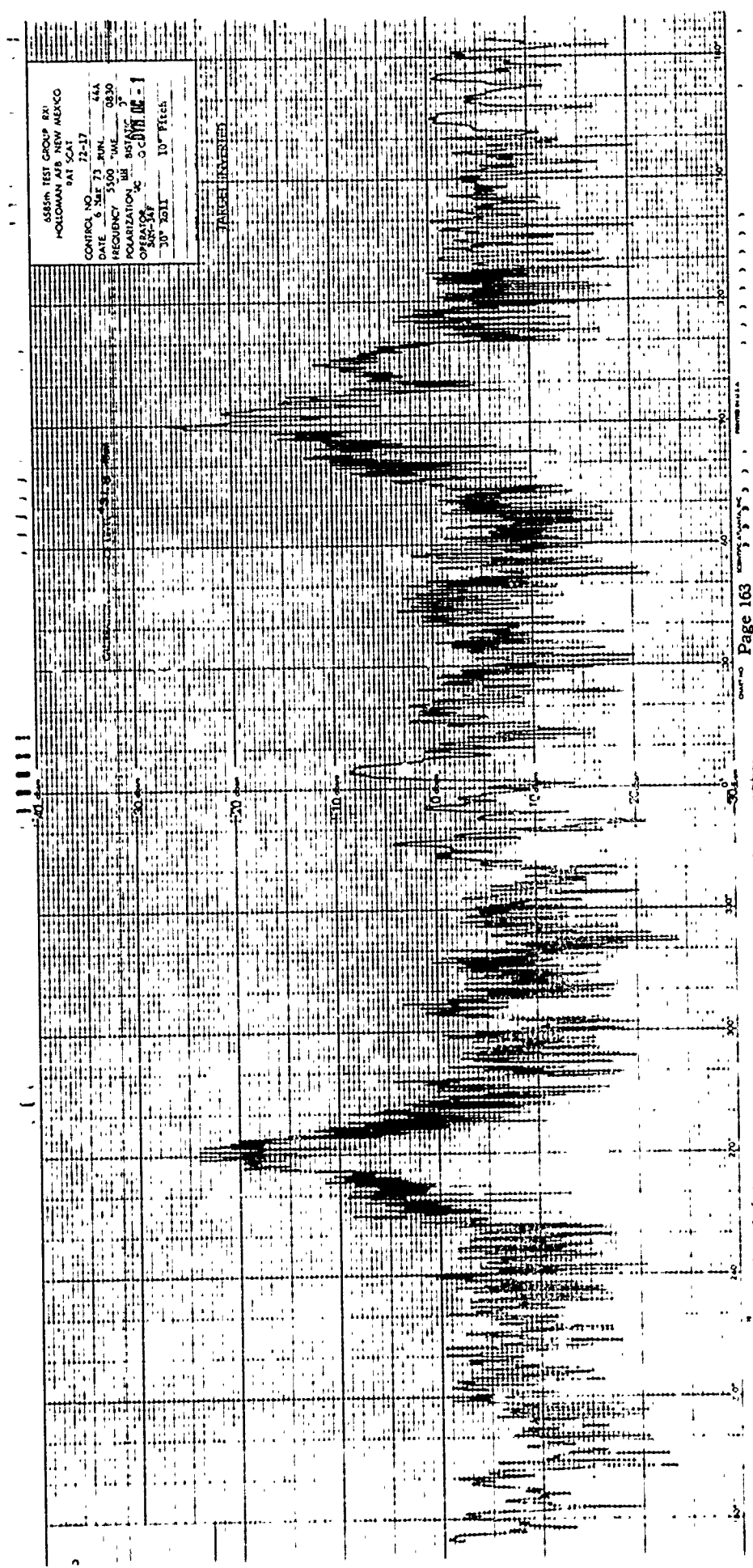
TARGET IDENTIFIED

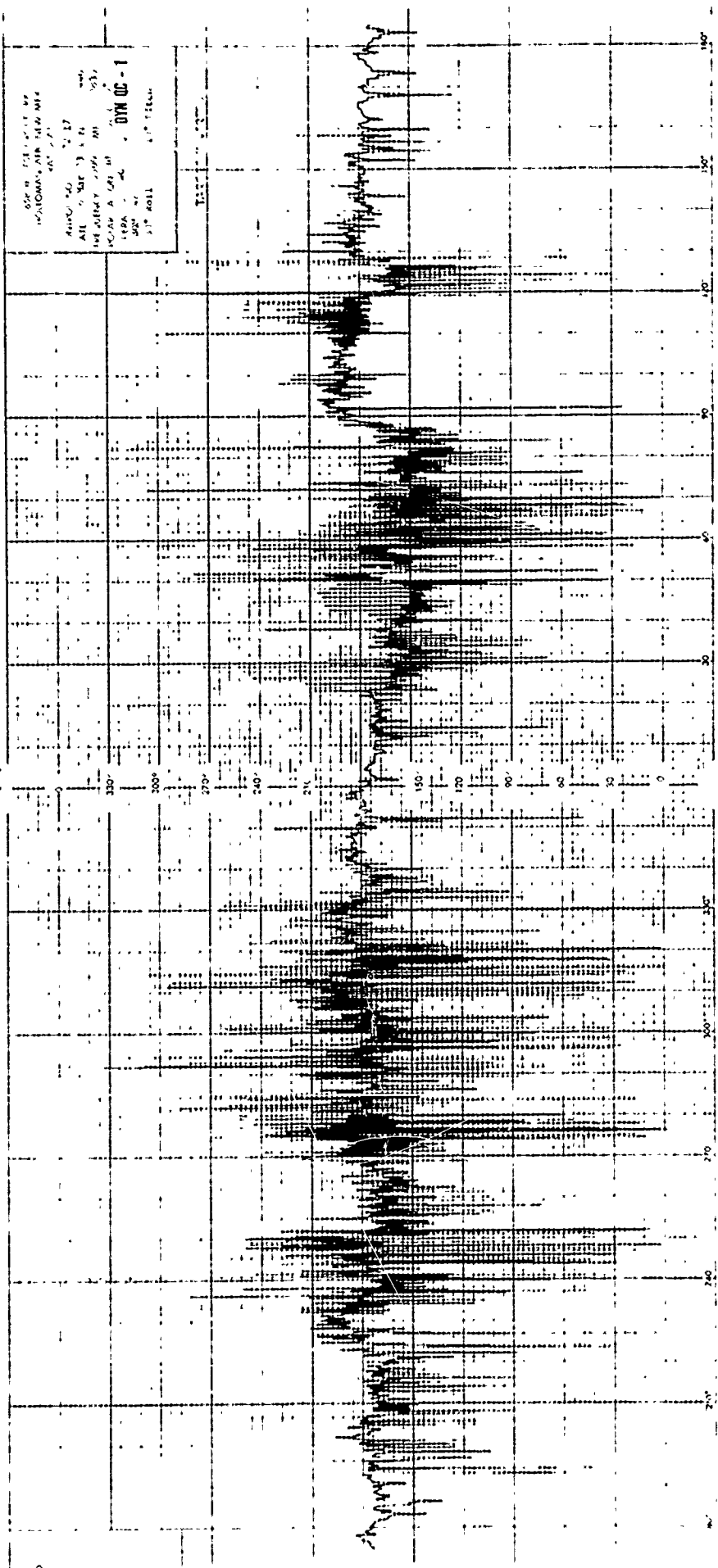


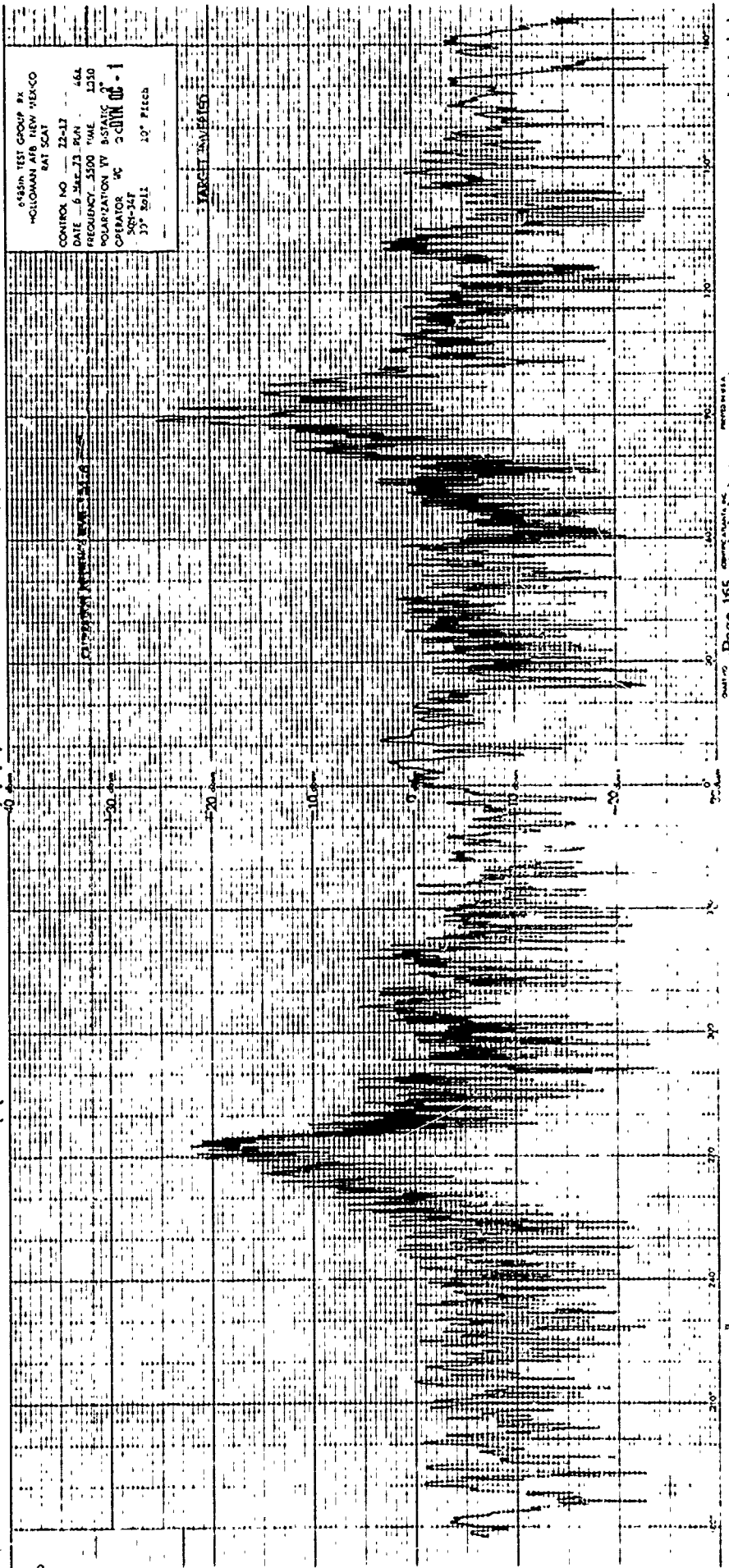
588th TEST GROUP BY:
 HOLLAND AIR NEW MEXCO
 RAT SCAT

CONTROL NO. 12-17 444
 DATE 6 JUN 73 JUN. 0830
 FREQUENCY 5.00 MHz
 POLARIZATION W. BY
 OPERATOR SGT-JEF PC
 30" ANT 10" Patch

TARGET IDENTIFIED





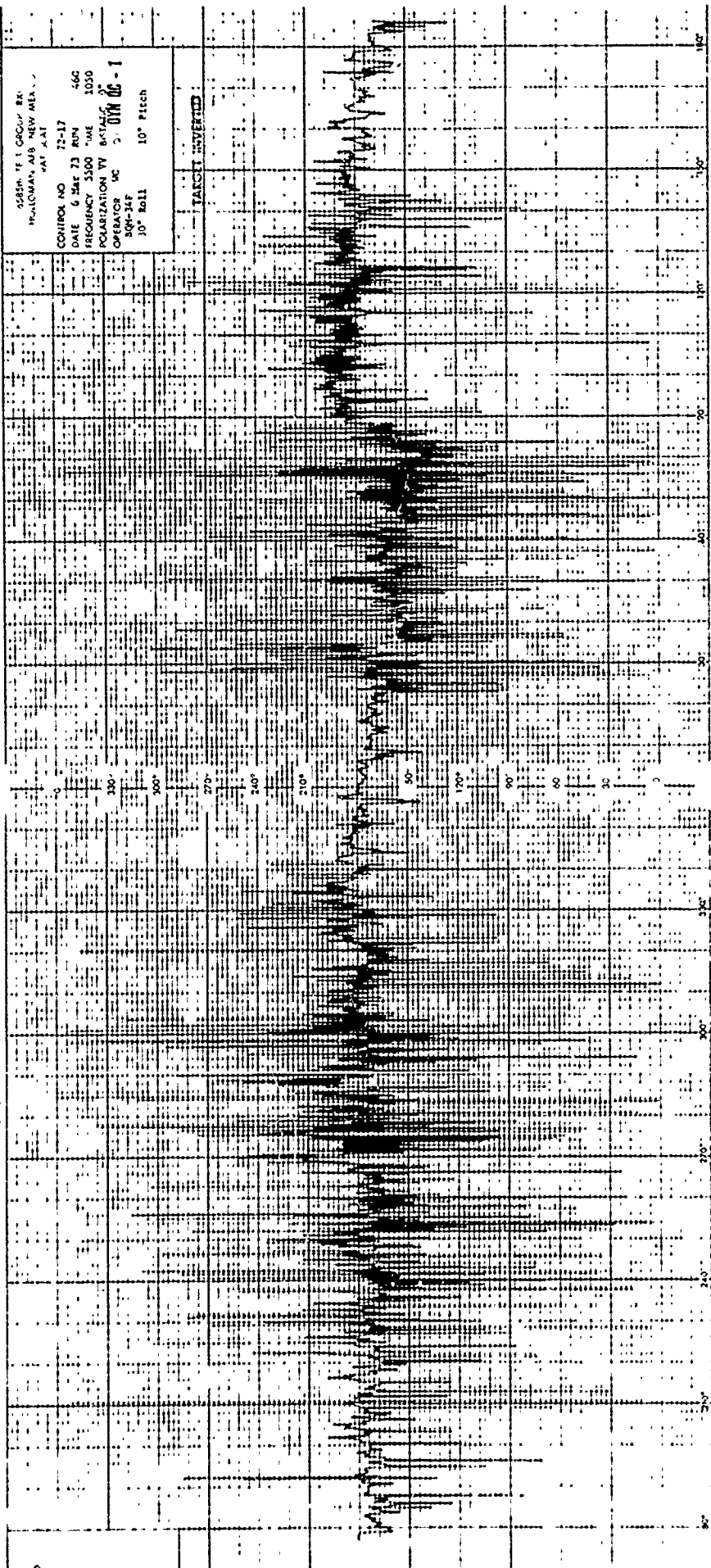


615th TEST GROUP BX
 MCLEODMAN AFB NEW MEXICO
 BAT SCAT
 CONTROL NO 22-12
 DATE 6 MAR 73 RUN 464
 FREQUENCY 5500 MHz 1030
 POLARIZATION W VERTICAL
 OPERATOR SCDW
 17" BALL 12" Pitch

TARGET NAME: 155

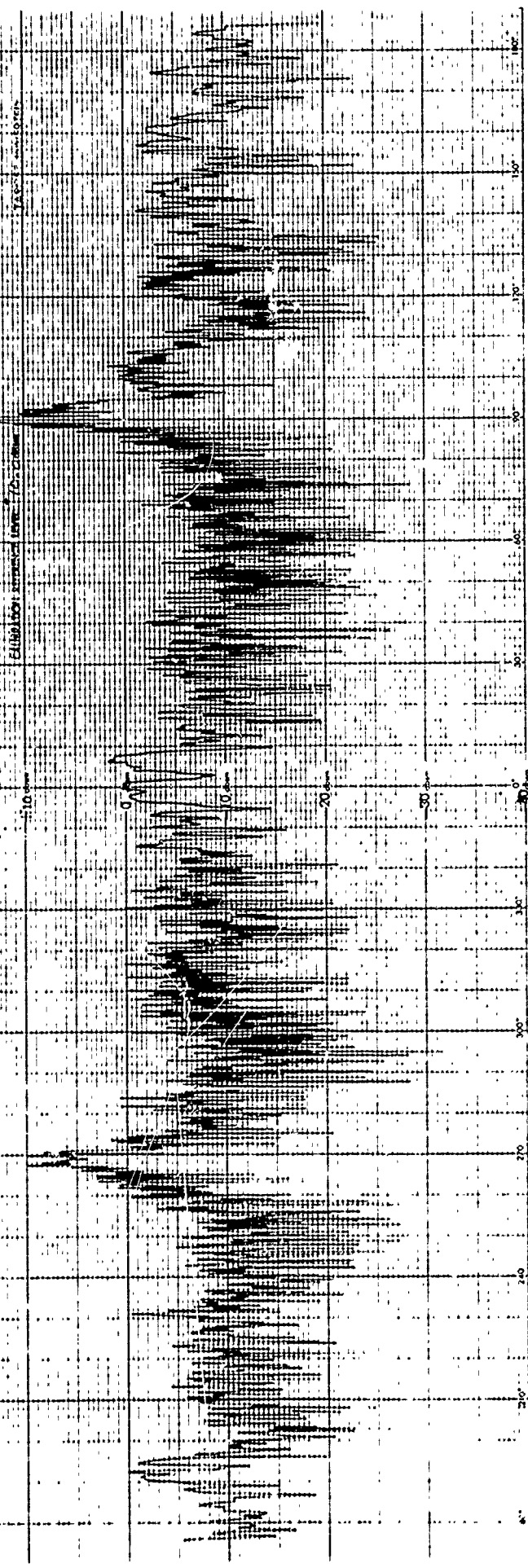
588th T E GROUP BR
 HAWAIIAN AIR NEW MEX
 JAT AAT
 CONTROL NO 72-17 466
 DATE 6 MAY 73 RUN 1050
 FREQUENCY 5500 TIME
 POLARIZATION VV EASTING 0°
 OPERATOR MC 2 07M 06 - 1
 509-34F 10° Roll 10° Pitch

TARGET IDENTIFIED



585th TEST GROUP (RTI)
 HOLLAMAN AFB NEW MEXICO
 SAT SCAT

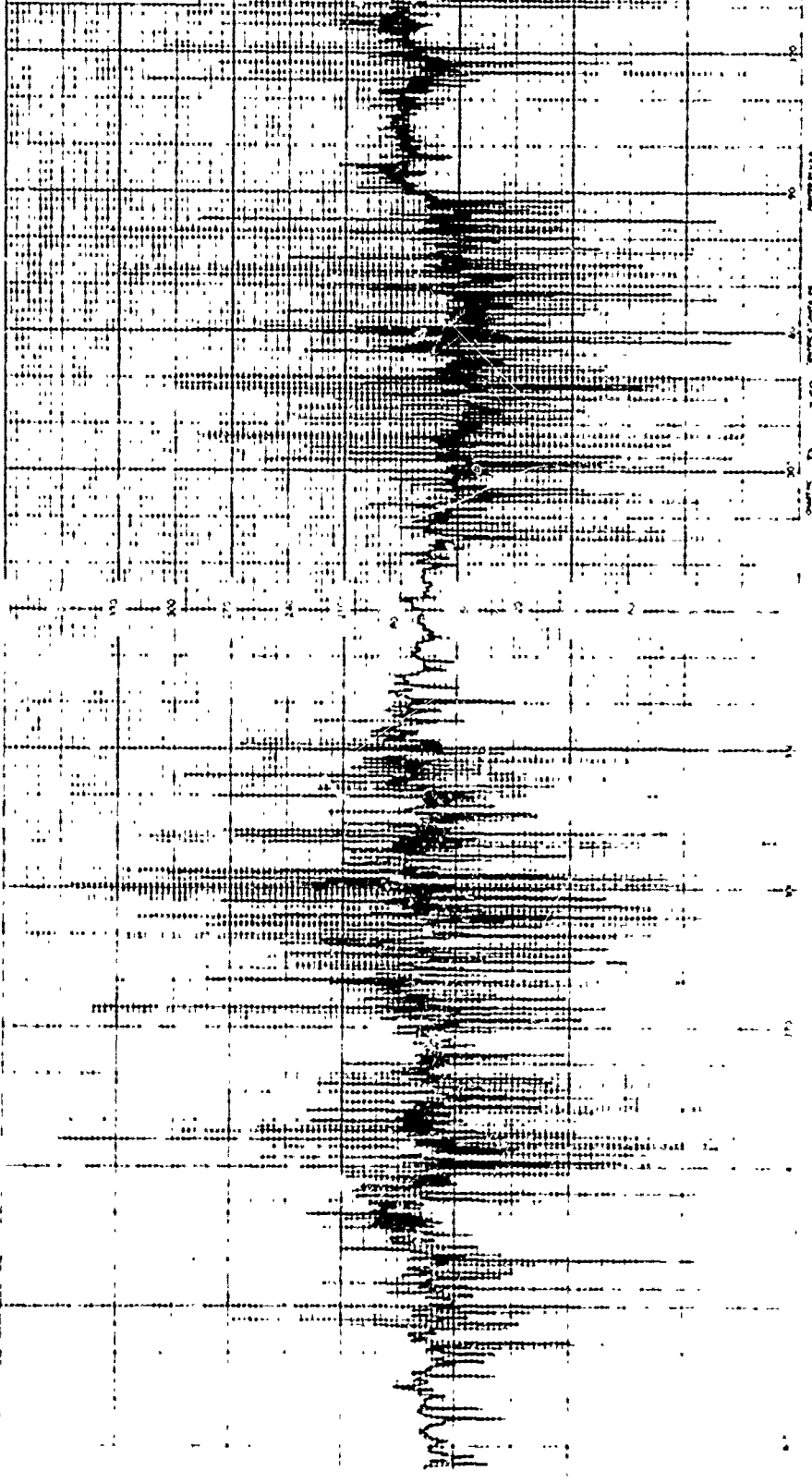
CONTROL NO. 72-17
 DATE 6 MAY 73 RUN 46A
 FREQUENCY 3500 TIME 1230
 POLARIZATION 0° EAST
 OPERATOR UC O'CONNOR
 SRG-3AF
 10° Roll 10° Pitch



ASSISTANT COMMANDER
MAGNETIC LAB. NAV. MET. C.
NA. SEA.

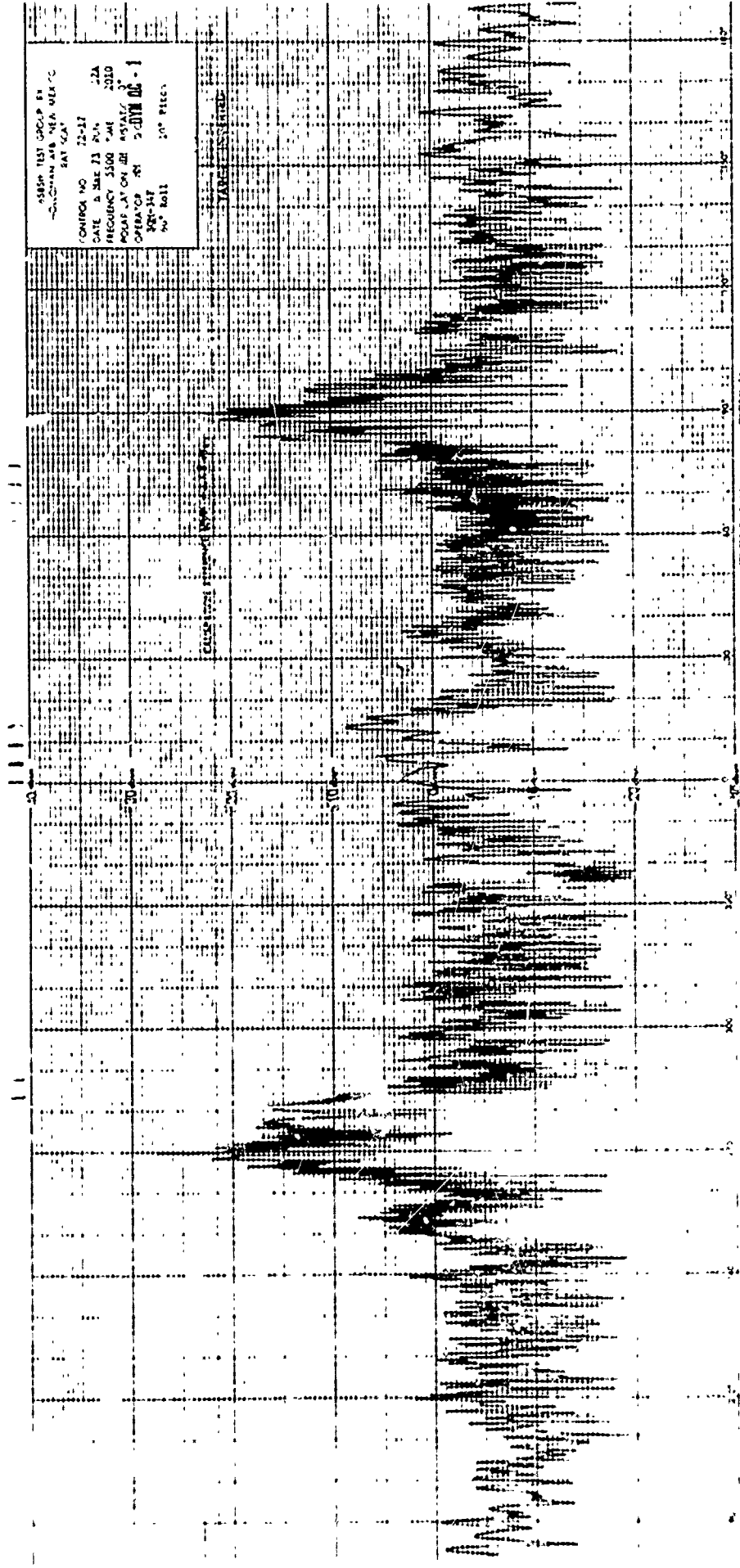
CONTINGENT NO. 22-27 436
DATE 3 MAY 73 RTN
FREQUENCY 5300 MHz
POTENTIAL ON VE 9.5'
OPERATOR JC
400-347
10" ROLL 10" PITCH

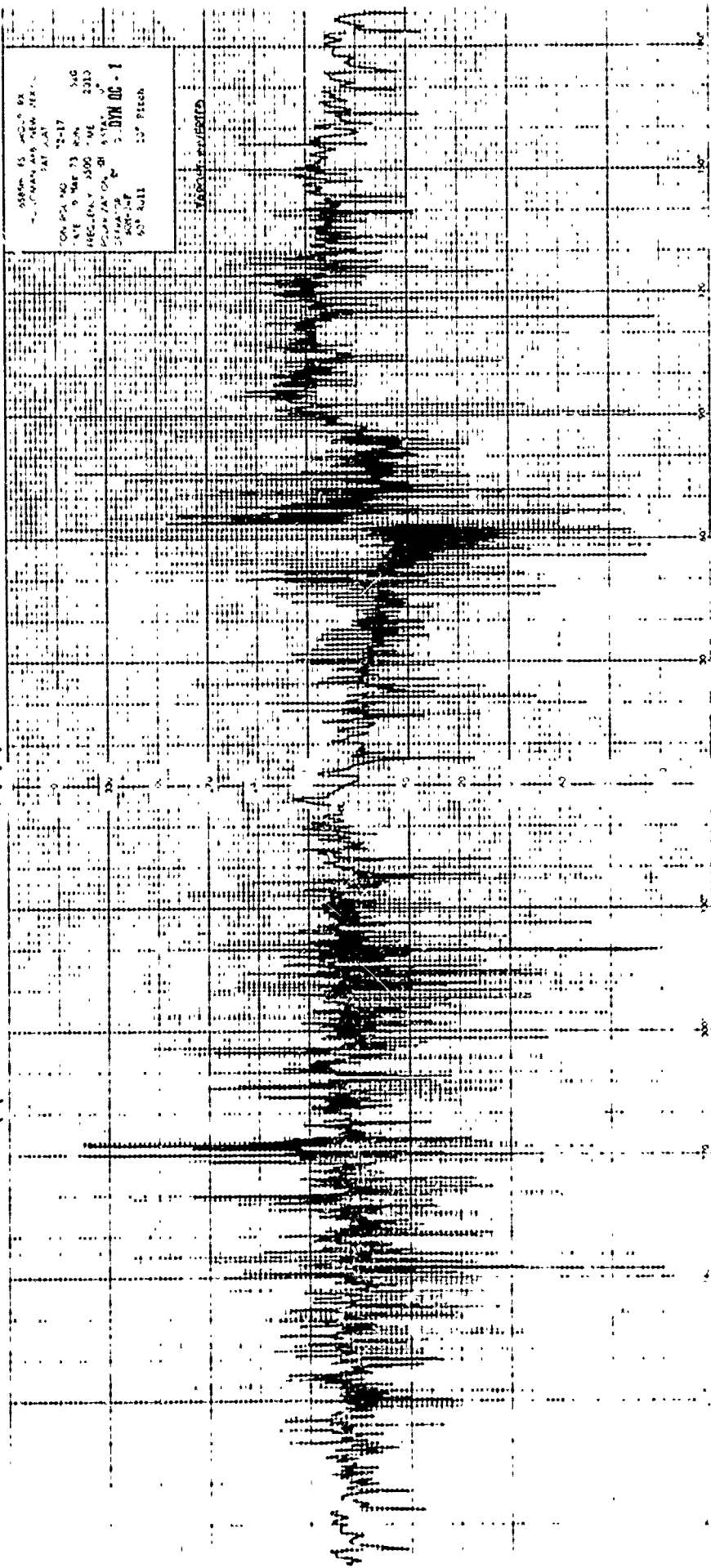
TARGET INSERTED



SHIP TEST GROUP 14
-COLUMBIA AIR NAV. STATION
EAT 50A
CONTROL NO. 72-17
DATE 2 MAR 53 P.M. 22A
FREQUENCY 2500 KHZ 2010
POSITION ON AIR 50A
OPERATOR ST 5301
38-147 100 FEET

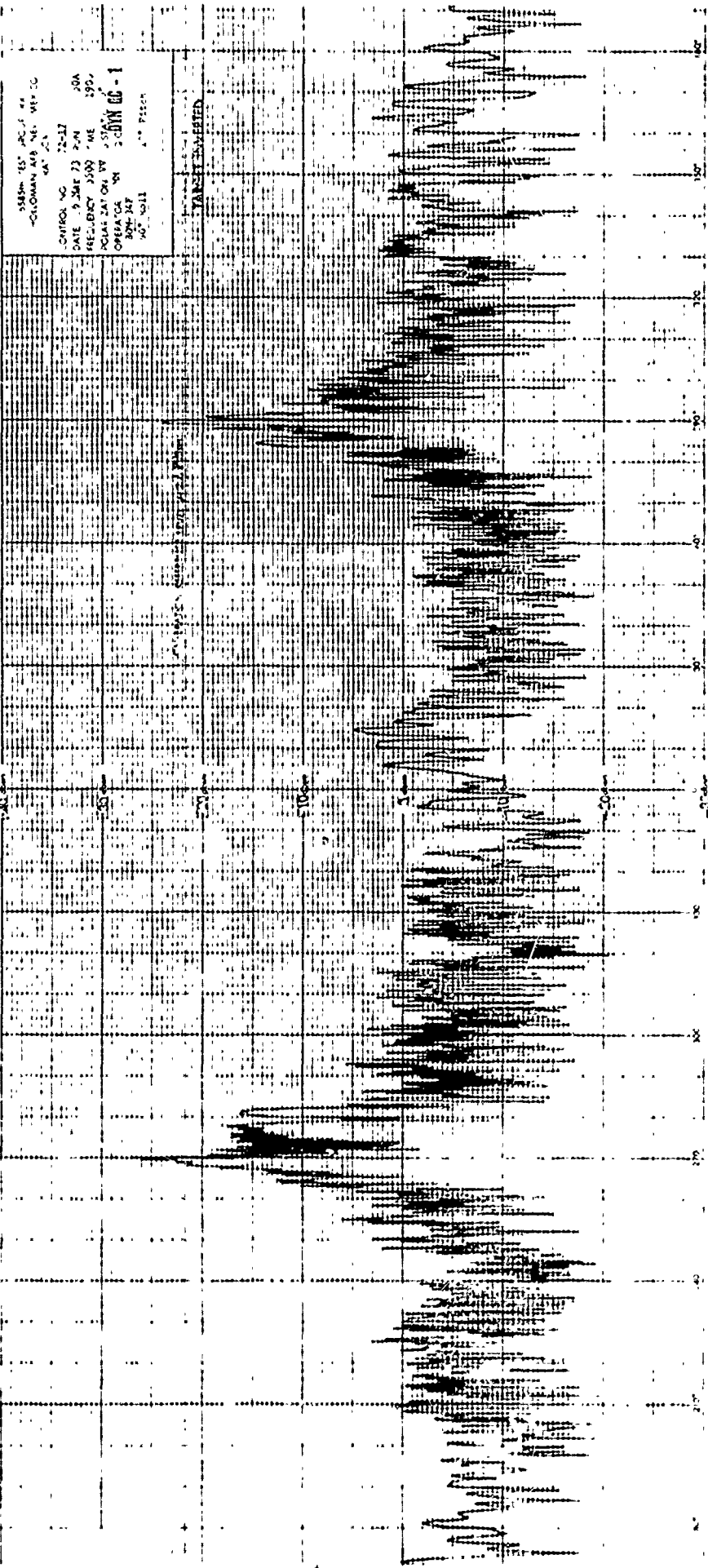
YANG-MIN SHIP





SYSTEM IS UNLOADED BY
 - (MANUAL AND REM. MEANS)
 247 JAW
 ON PZL NO. 12-17 SAG
 NET 9 MAR 73 RUN 2313
 REC. PZL 1500 TIME
 STATION ON BR. 1574
 STATION NO. 1574
 609 4411 107 PZL

TYPICAL PROPERTIES
 1 - 50 MFT.

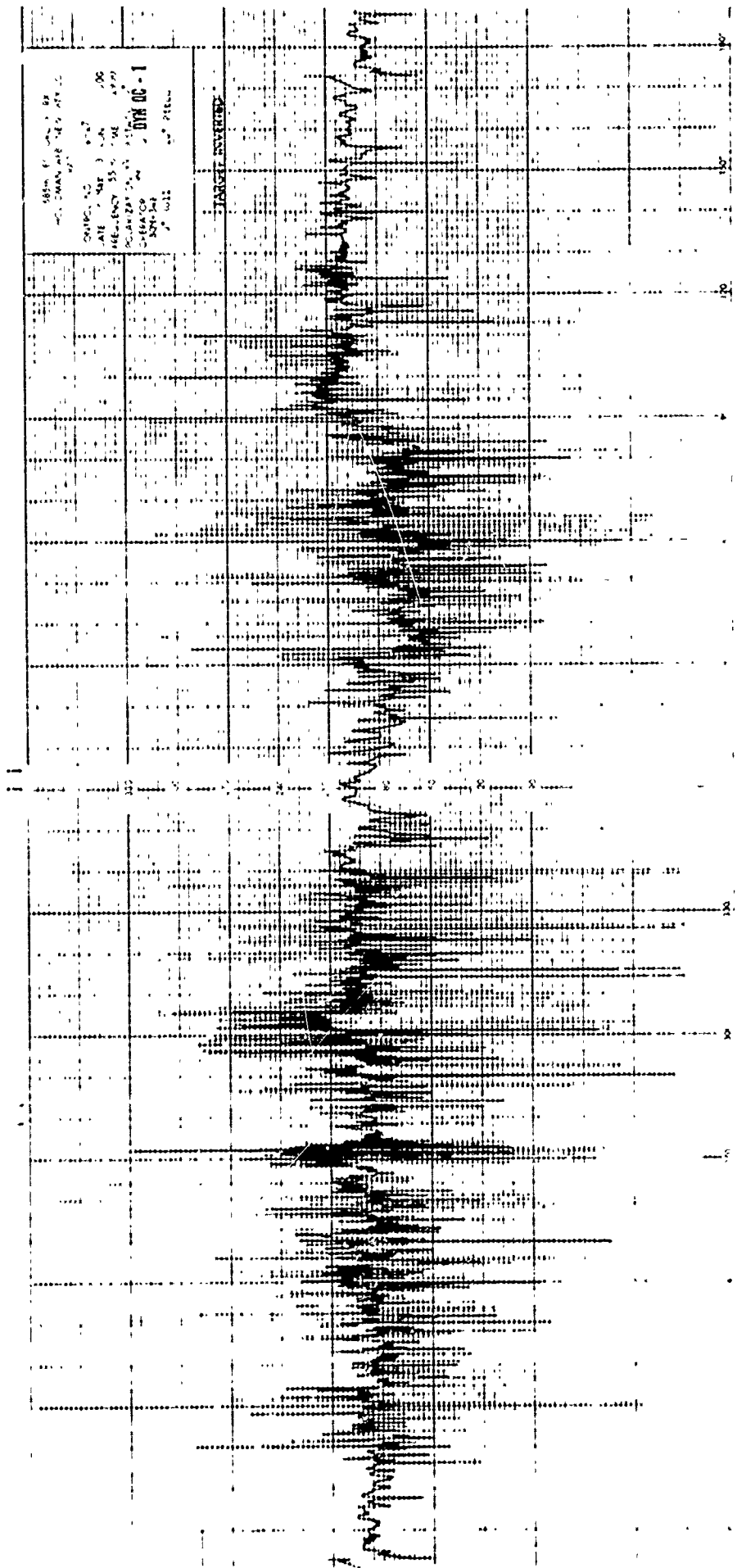


15854-167 25.5 41
 -CLOWAN 149 141- 445 10
 04 2 1
 CONTROL NO. 75-217
 DATE 9 JAN 73 2-41
 REEL NO. 3300 7ME 390
 POLARIZATION BY 255
 OPERATOR 44 300IN 00-1
 304-247
 400 1011
 1 1/2 FEET

TAPERED

8888 11 12 10 1 10
MILITARY AIR RESERVE
UNIT
OFFICE NO 8787
DATE 3 MAR 5 1966
FREQUENCY 55.000 MHz
OPERATOR J. J. O'NEILL
STATION WPTA
OPERATOR J. J. O'NEILL
UNIT 8888

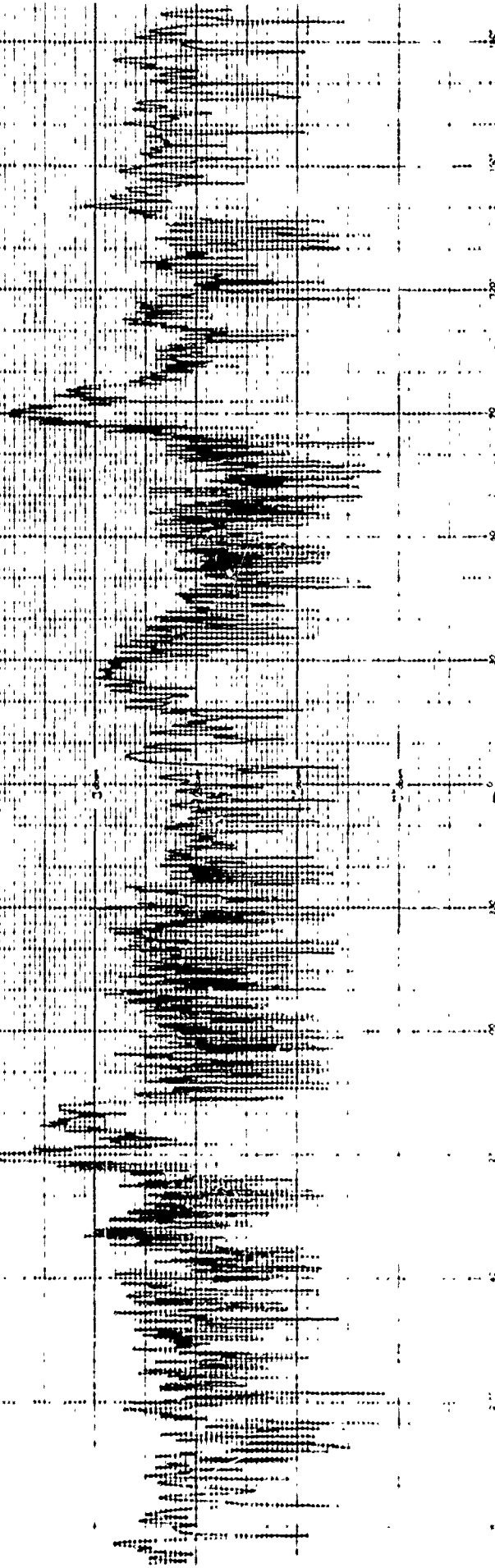
TARGET RECEIVED



SEA 3000 1A
DATE 11/15/68
TIME 15:10
OPERATOR
904-347
10" WALS
CENSUS NO 2527
STATE NO 111
REG. NO. 35-146 2125
INSTR. NO. 111
-DTR BC-1
C. P. FRENCH

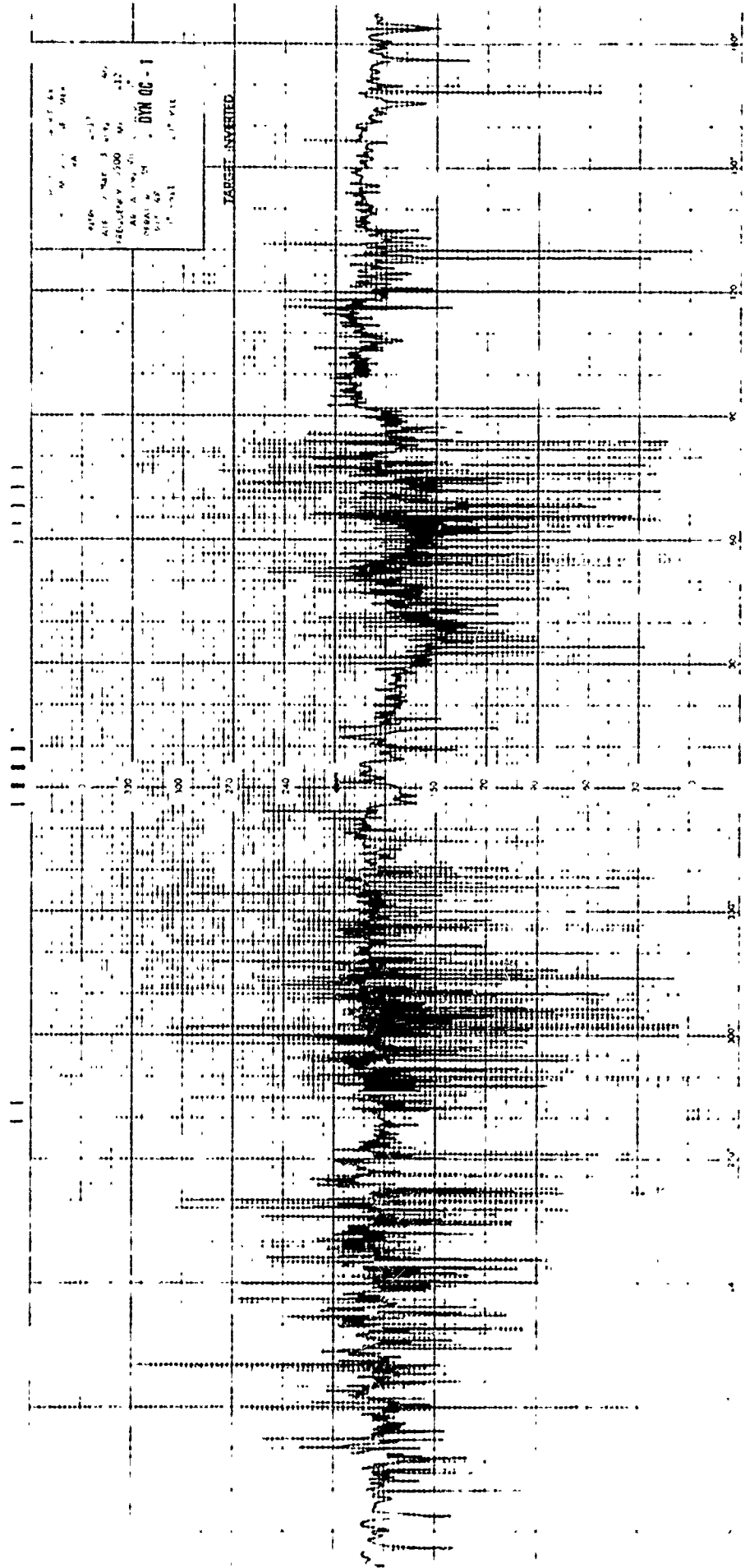
TABLE ALBERTA

CALIBRATION NUMBER 7012-800



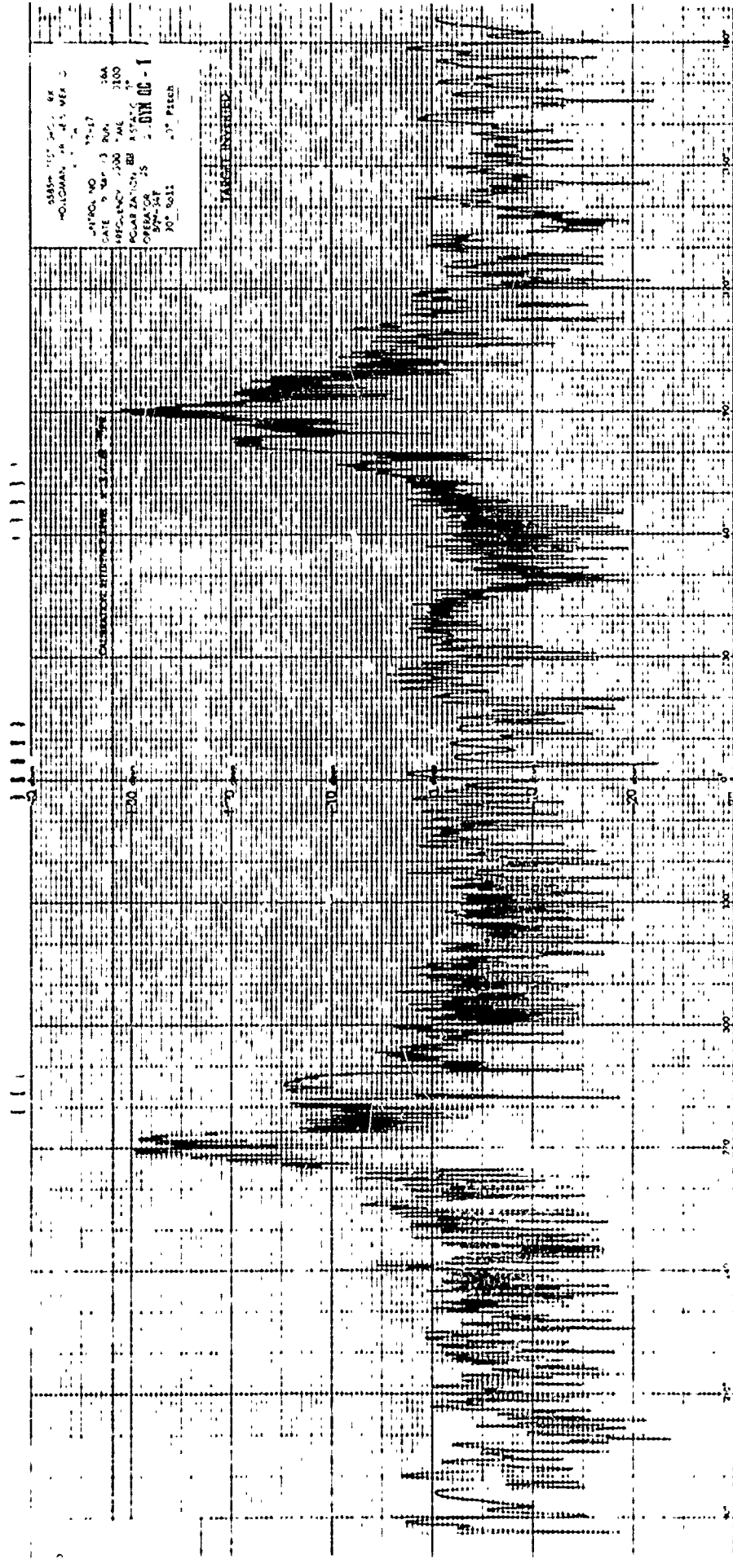
DATE: 11/17/50
TIME: 10:00 AM
FREQ: 1000 Hz
SIGNAL: 1000 Hz
DYN OC - 1

TARGET ANSWERED



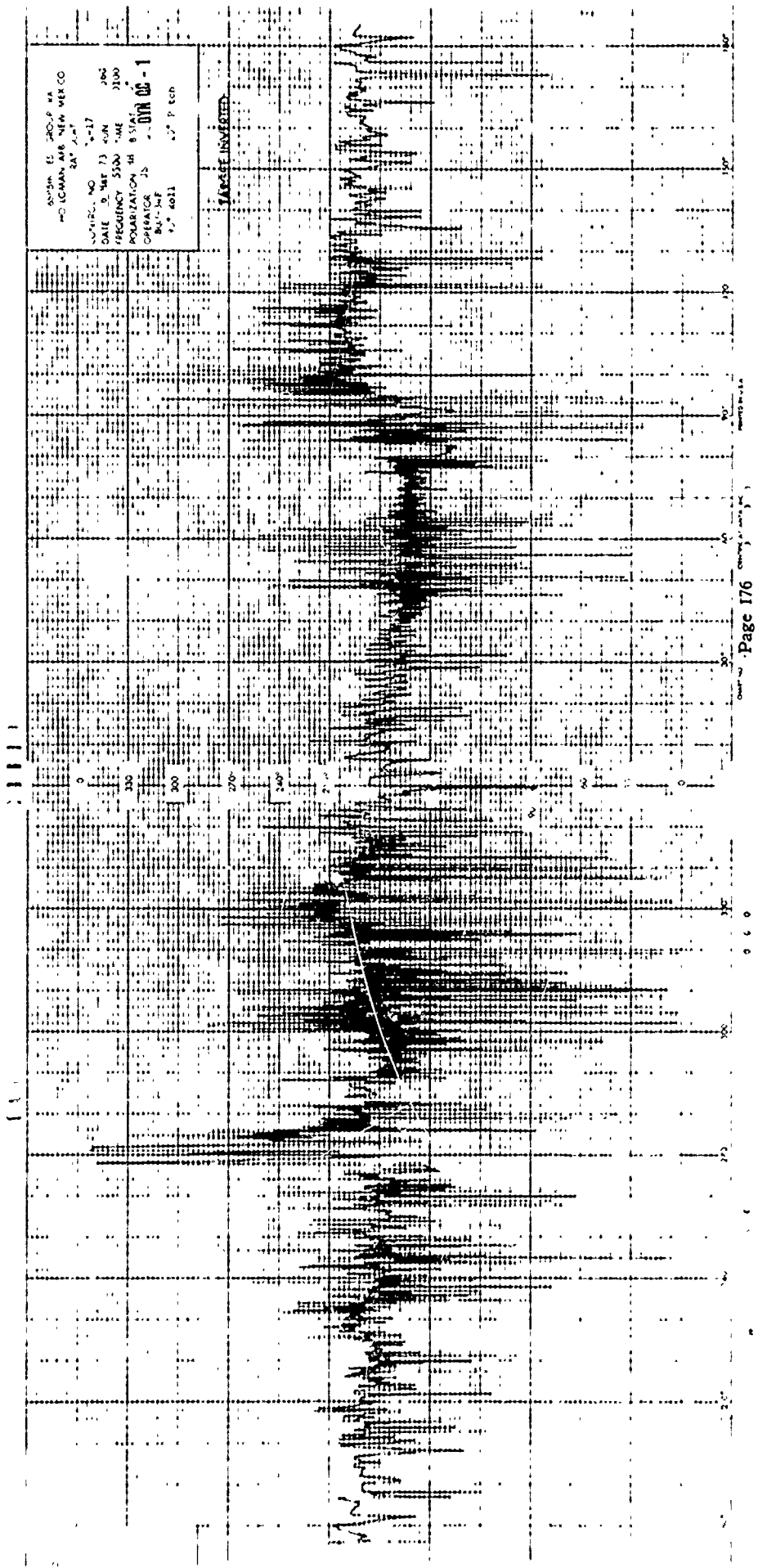
5858 117 322 64
 -HOLMAN, SA 415 VER 3
 ATPOA NO 17-17
 DATE 9 SEP 53 PWA 30A
 FREQUENCY 200 MAC 2100
 POLARIZATION BB ASTAC
 OPERATOR 25 JON CC - 1
 30° Roll 3° Pitch

TARGET INVERTED



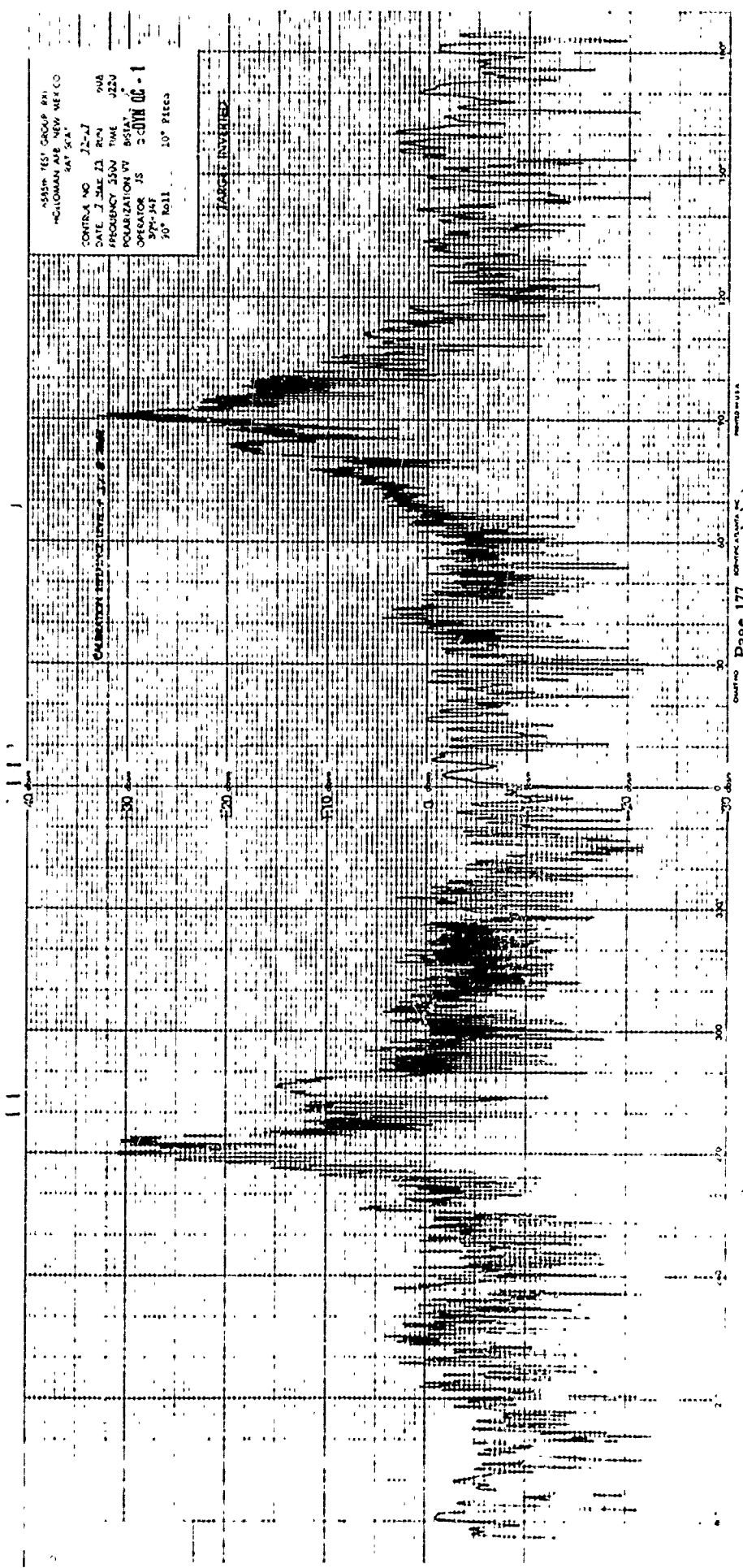
STATION: EL 250.0 P. #1
HOUGHMAN AIR NEW MEX CO
DATE: 30 MAR 73 09N
FREQUENCY: 5500 KHZ
POLARIZATION: HI 8 STAT
OPERATOR: JS
BUFILE: 4011
P. 1 of 1

TARGET INVERTED



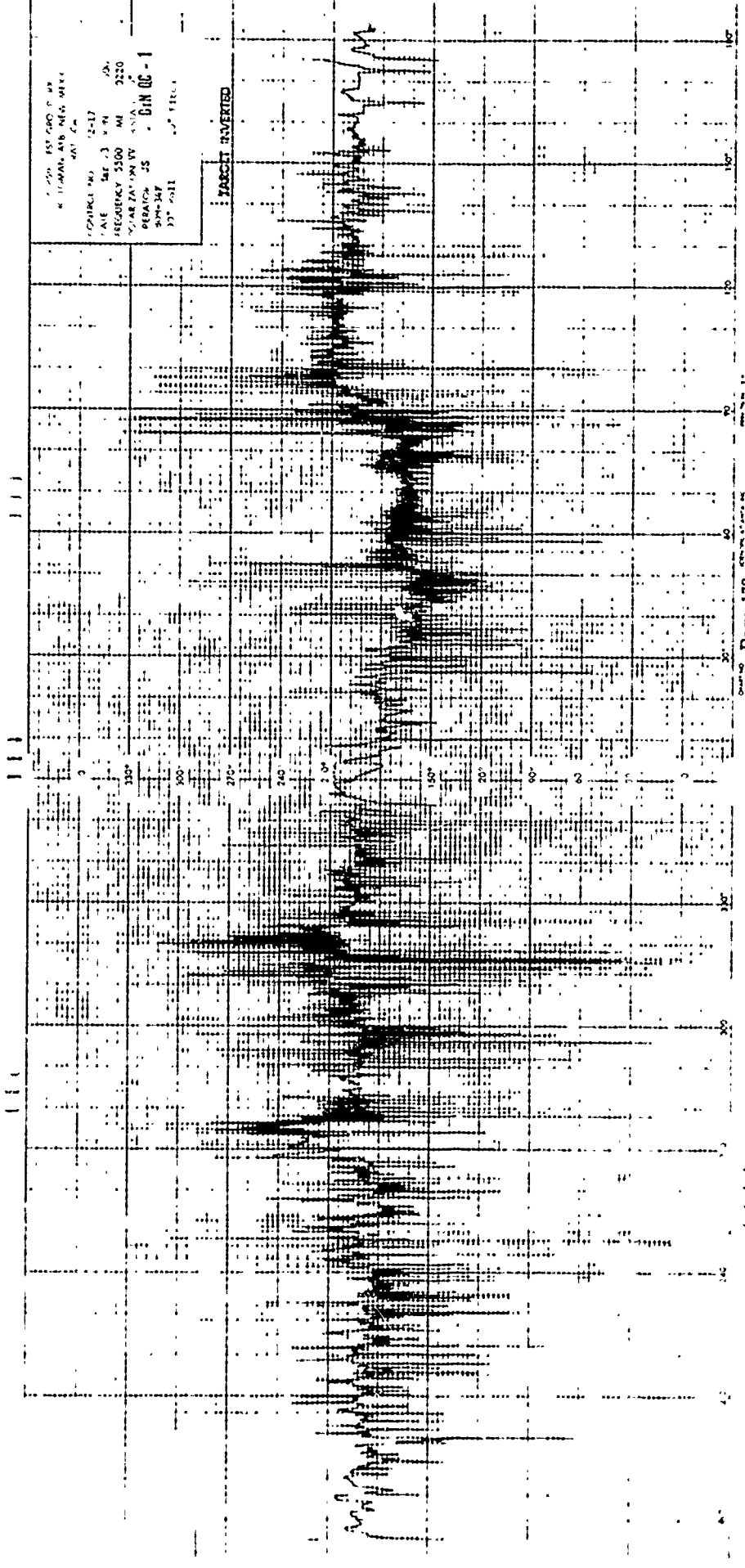
555P 765' GROUP 871
HULLMAN AFB NEW MEXICO
SAT 54A
CONTRACT NO 72-47
DATE 7 JUL 73 RCN 9VA
FREQUENCY 5500 TIME 0220
POLARIZATION VV BSIAT
OPERATOR JS 2-01M OC-1
97M-14F
70° Roll 10° Pitch

TARGET INVERTED



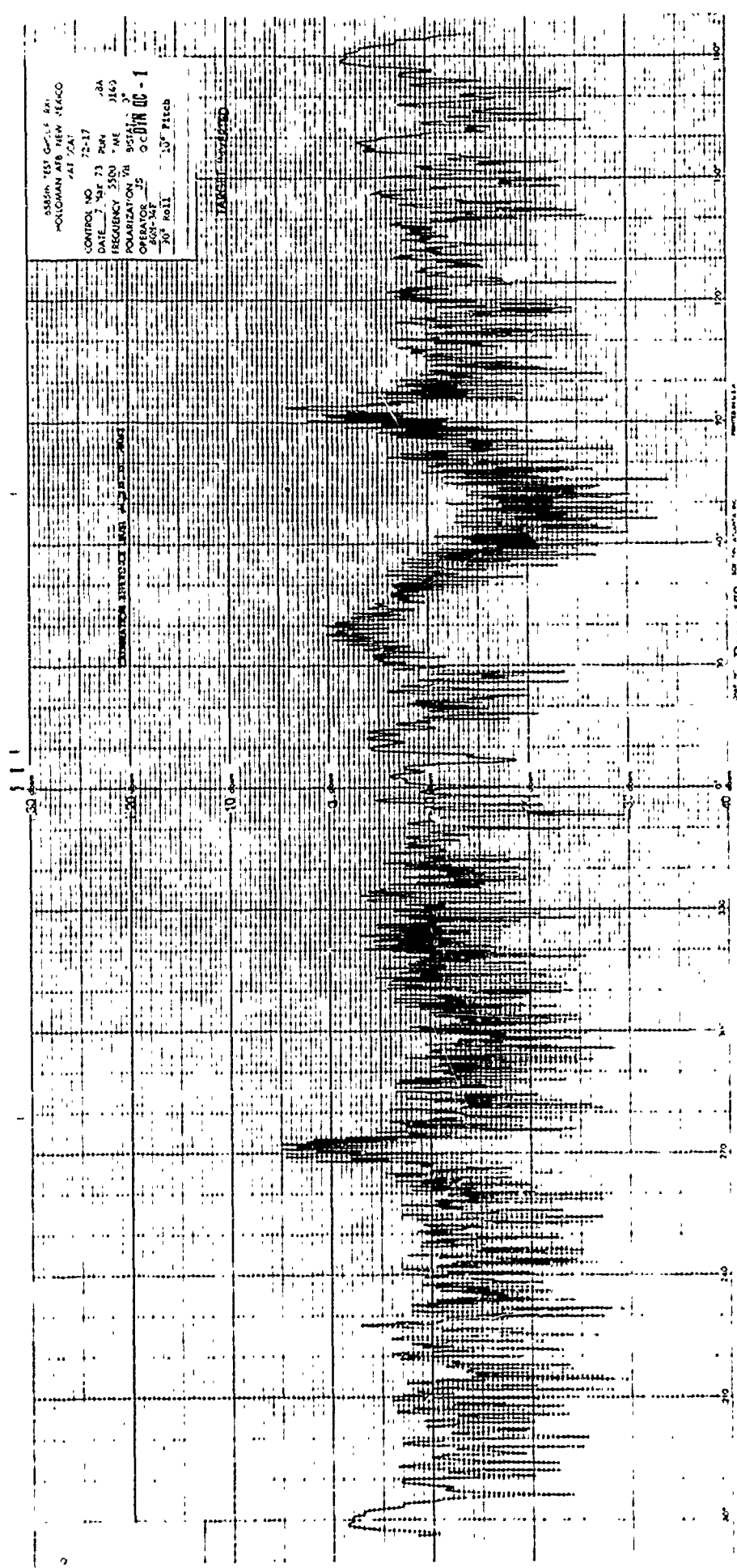
12-17 157 000 P. 4P
114000 410 NEW MEX
407 20
CONTROL NO. 12-17
DATE SEP 73
FREQUENCY 5500 MHZ
WAVELENGTH 54.5 M
PERIOD 25
BIN 00-1
137 0011 02 1100

YASCHI INVERTED

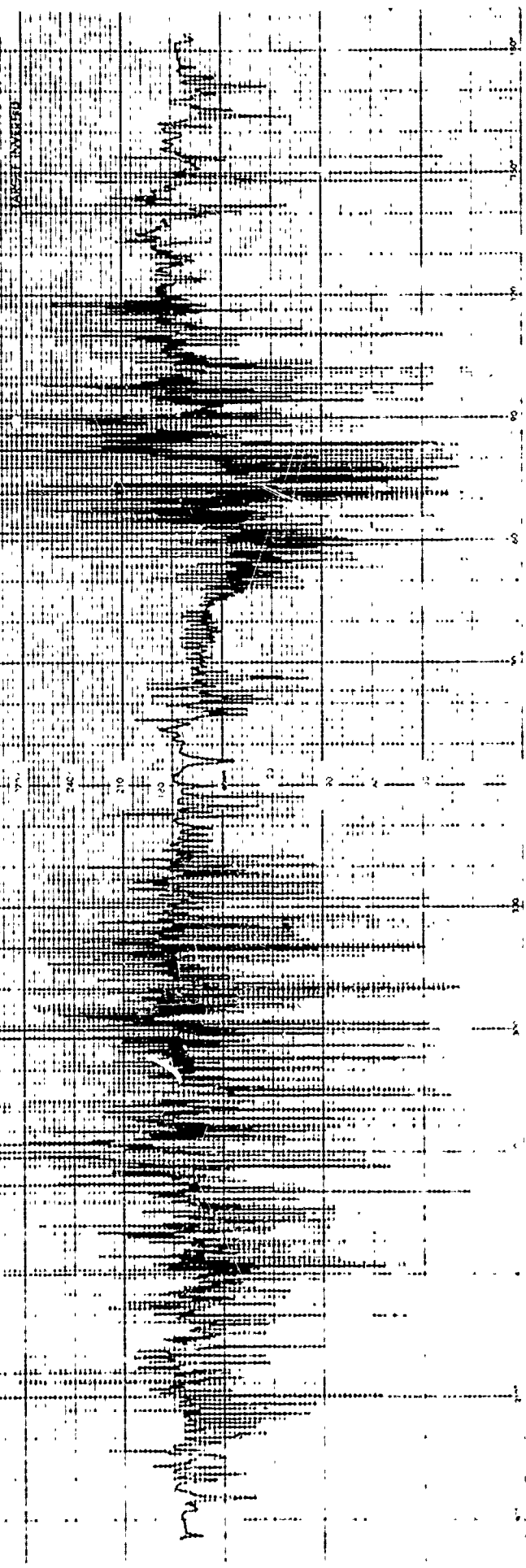


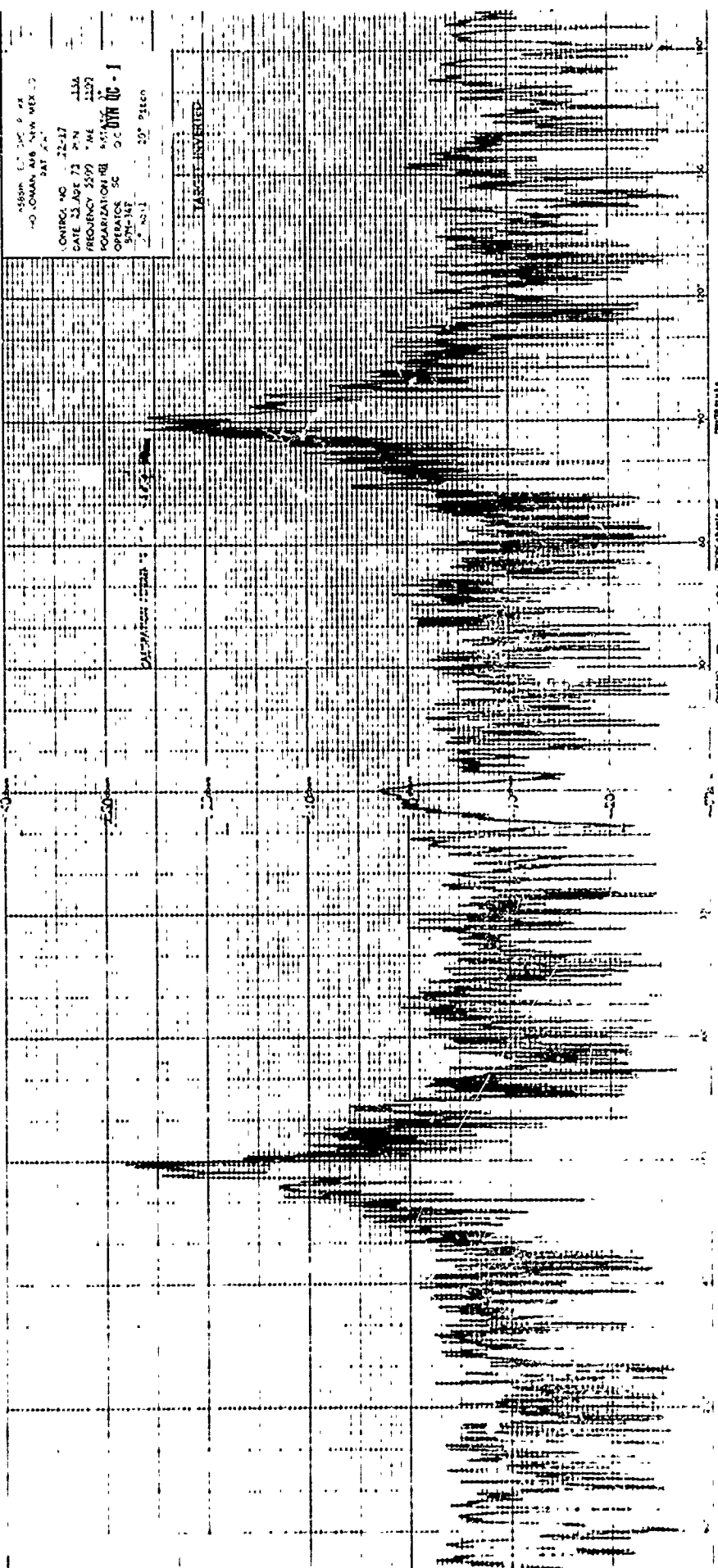
555PM TEST Q215 8A1
HOLLOMAN AFB NEW MEXICO
741 7CAT
CONTROL NO 72-17
DATE 7 Nov 73 RWK JBA
FREQUENCY 3500 MHz J160
POLARIZATION Vh B5511 3°
ORBITAL ALT 600-54
ORBITAL INCL 35°
30° Roll 15° Pitch

TRANSMITTED



LARSA TEST GROUP DATA
 HOLLOWAY AFB NEW MEXICO
 TEST PLANT
 CONTROL NO. 25-117
 DATE 2 JUL 73 RUN 102
 FREQUENCY 35.2 MHz 11.64
 POLARIZATION TEL. INST. W. 11.64
 OPERATOR E. O. CUNNINGHAM
 SIGNALER
 30" SKILL 30" P16CA





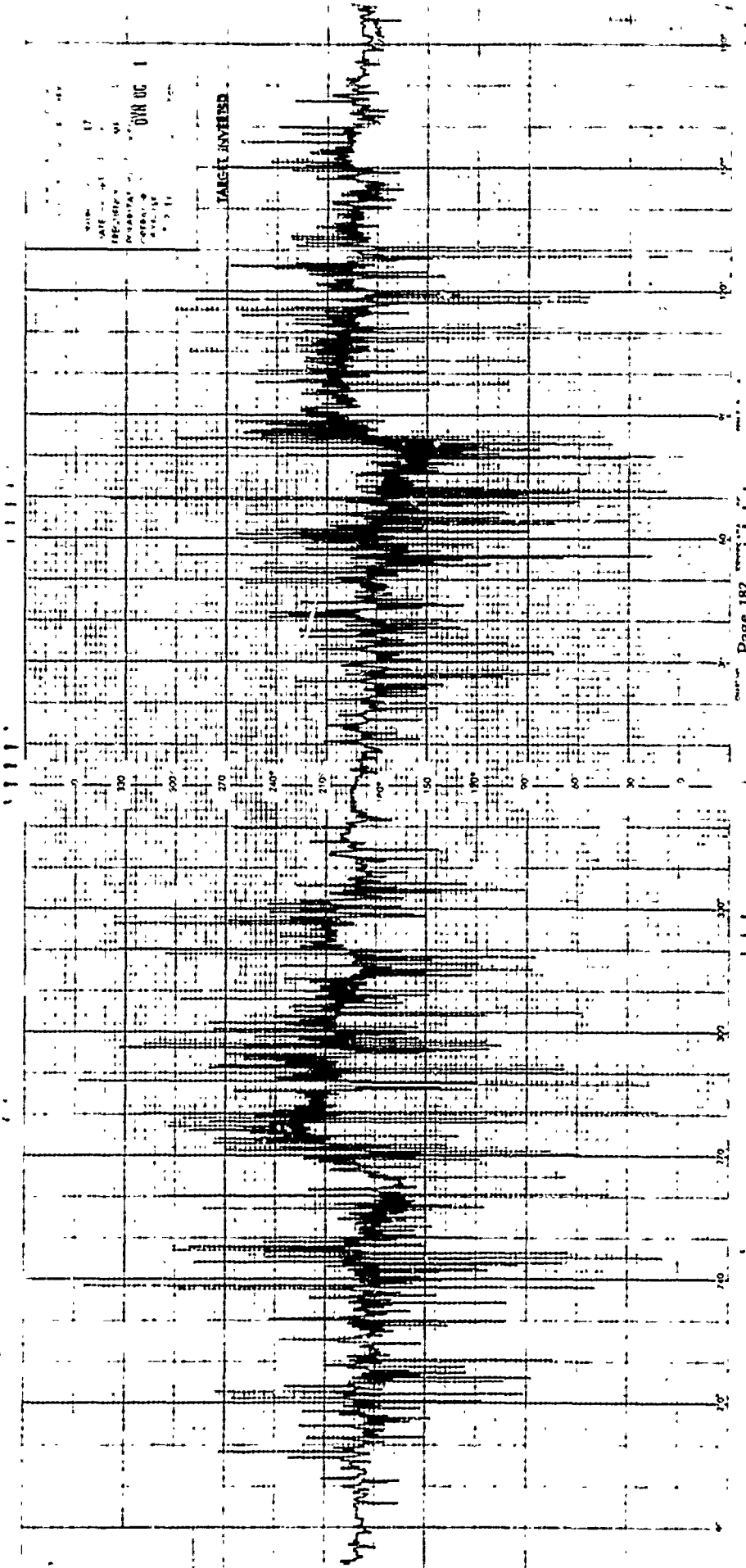
155000 15.1 300 0 24
 -O- LOMAN AKA NAN MEX 3
 247 2.1
 CONTROL NO 22-27 11A
 DATE 23 JUNE 73 P-N
 FREQUENCY 25970 MHz 2297
 POLARIZATION RH 5.5
 OPERATOR SC 02 WTR UC - 1
 SPT-MT 2.0-1 20° Pitch

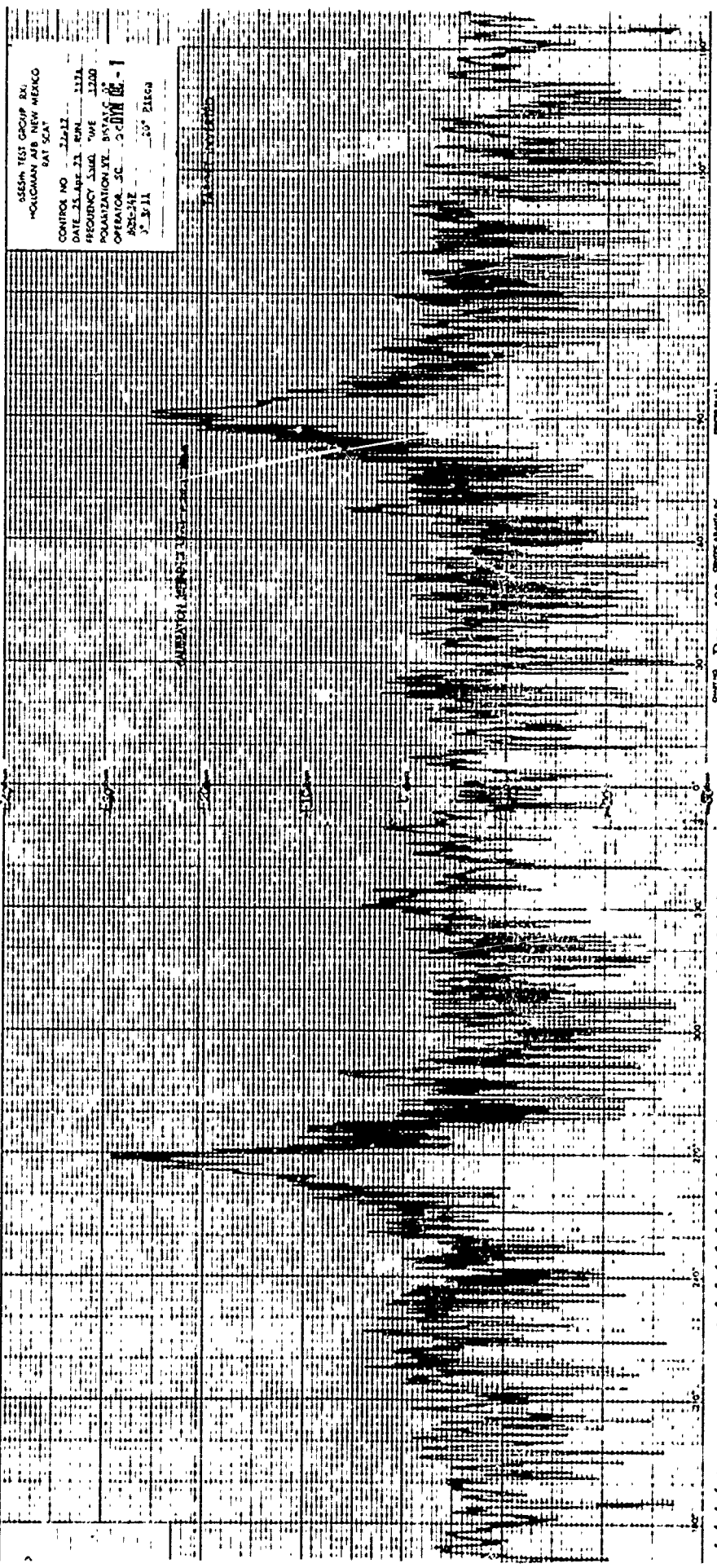
UNCLASSIFIED

DATE: 17
REPLY: 17
DURANT: 17
CERIAL: 17
17 17

DIR UC 1

TARGET ANSWER





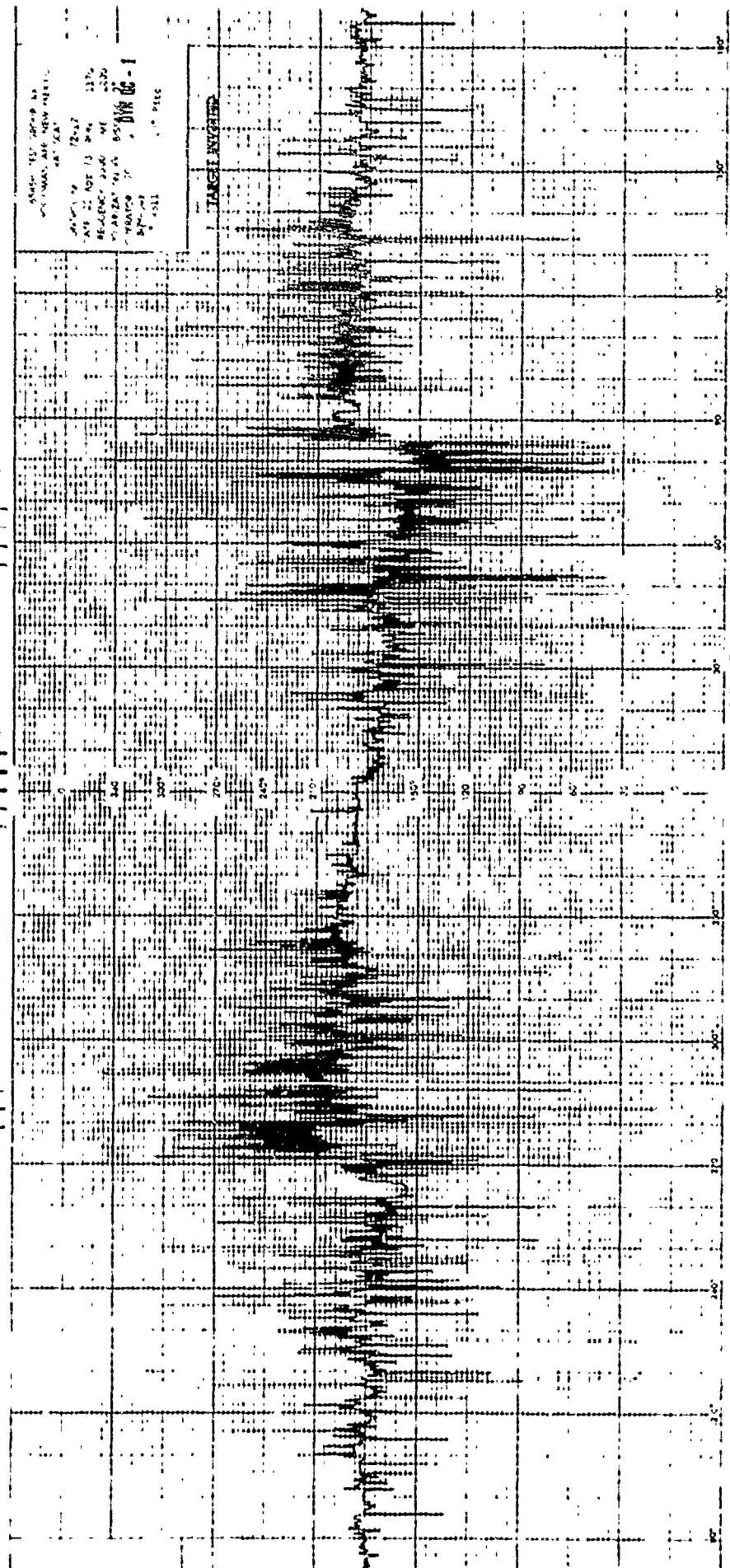
SESSION TEST GROUP (X)
 HOLLAMAN AIR NEW MEXICO
 DAT 547

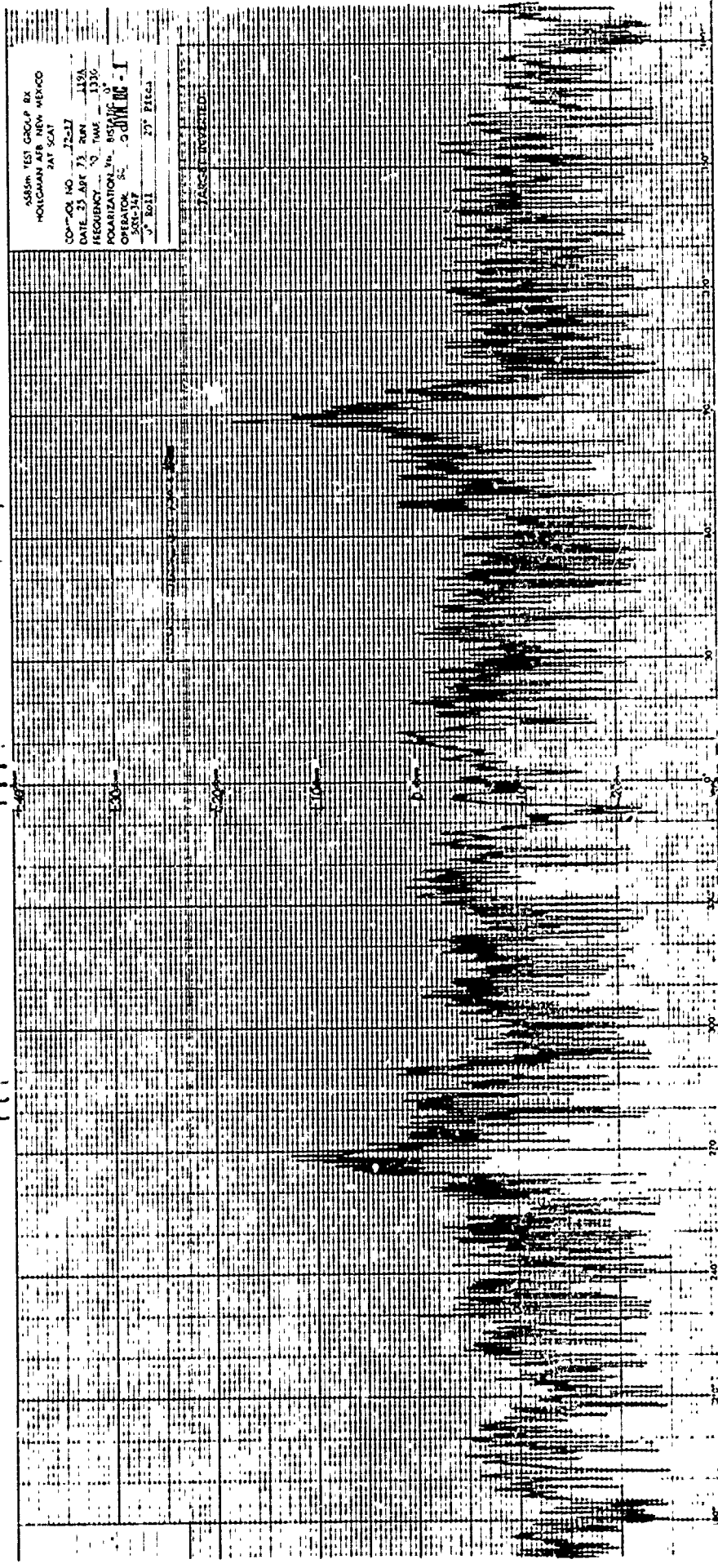
CONTROL NO. 22-12
 DATE 25 APR 23 8PM 1224
 FREQUENCY 1540 MHz 1200
 POLARIZATION BY STATE
 OPERATOR SC 30110-1
 282-411
 2-3011 -25-2180

AUTHORITY: AIR FORCE
 282-411

0540- 117 30000 14
 48 1/2 1/2
 DATE 22 OCT 13 1956
 BEACON 2000 WT 0520
 CHARACT 1/2 1/2
 0540 117 30000 14
 48 1/2 1/2

TARGET NUMBER





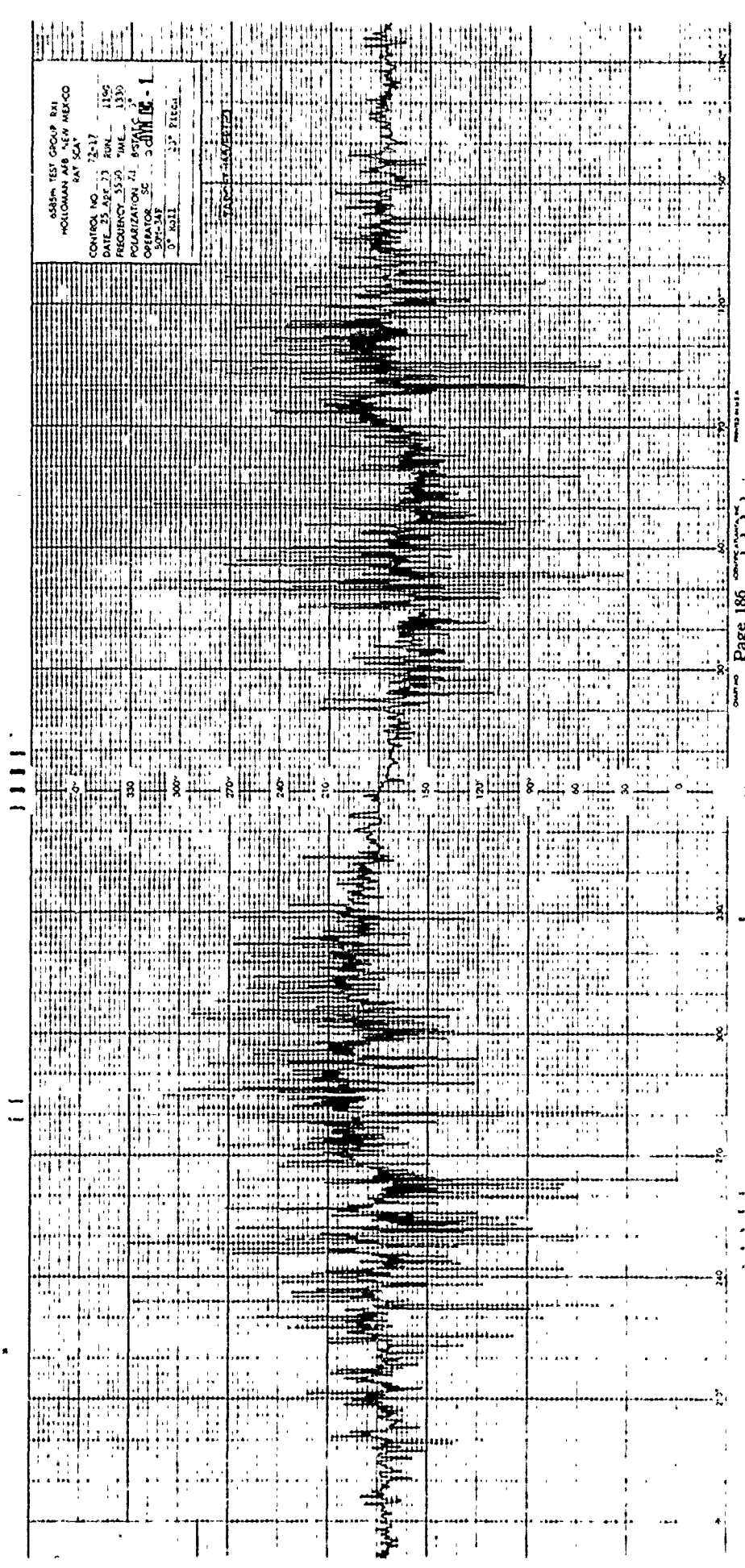
155601 TEST GROUP BY
 HORTONIAN AIR NAV MEXICO
 341 SCAT
 CO-OL NO. 12517
 DATE 31 APR 71 RUN 115A
 FREQUENCY 0 TIME 1330
 POLARIZATION 26 BS
 OPERATOR SC 0
 500-347
 0' ROLL 27' PITCH

TARGET INVERTED

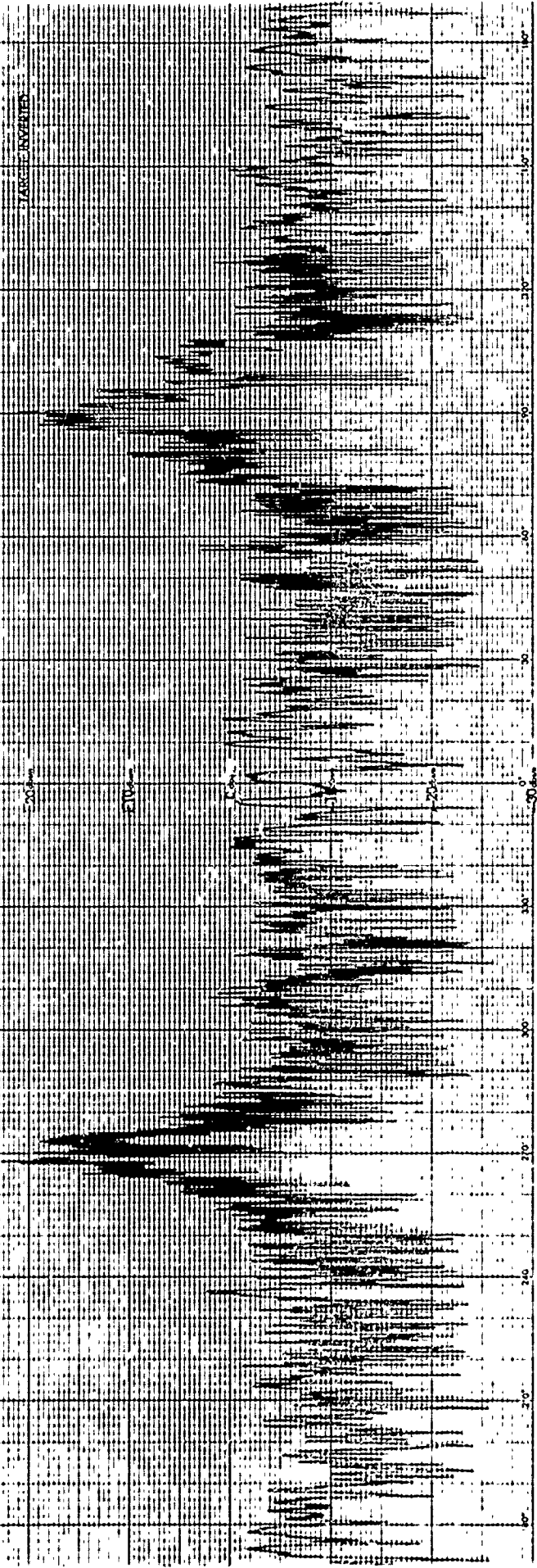
6585th TEST GROUP RMI
HOLLAMAN AFB NEW MEXICO
SAT SCA

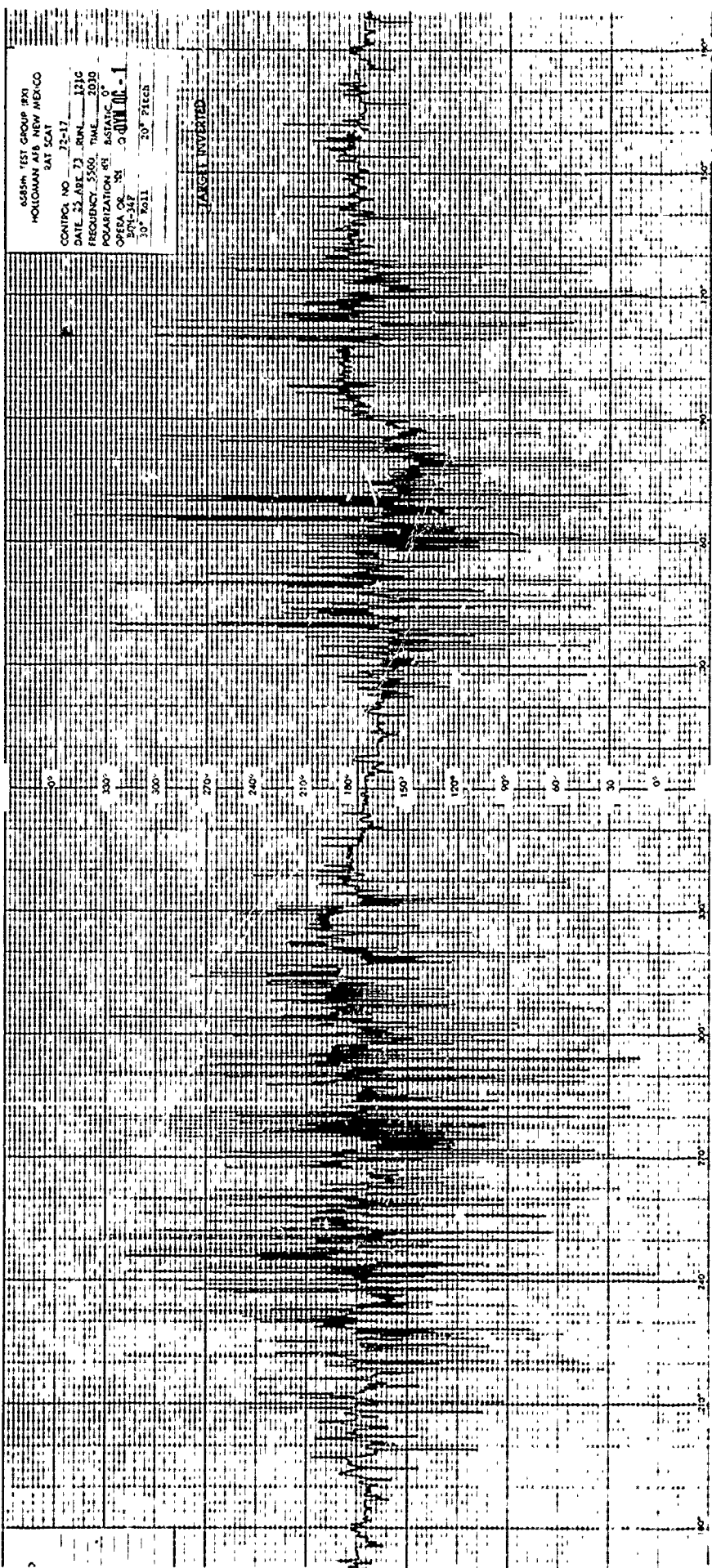
CONTROL NO. 72-17
DATE 25 APR 73 RUN. 1146
FREQUENCY 3530 MHz. 1330
POLARIZATION 71 RSTC
OPERATOR SC J. J. WILSON
507-347 137 FREQ.

TAPE 346 (REPT)



455PR TEST GROUP 881
 MCALOMAN AFB, NEW MEXICO
 RAT SCAT
 CONTROL NO. 32-17
 DATE 45-Apr-55 RUN 153A
 FREQUENCY 3582 HMC 3000
 POLARIZATION H. - 151V
 OPERATOR J. J. GUTH
 SOURCE JUC 8811 30° Pitch





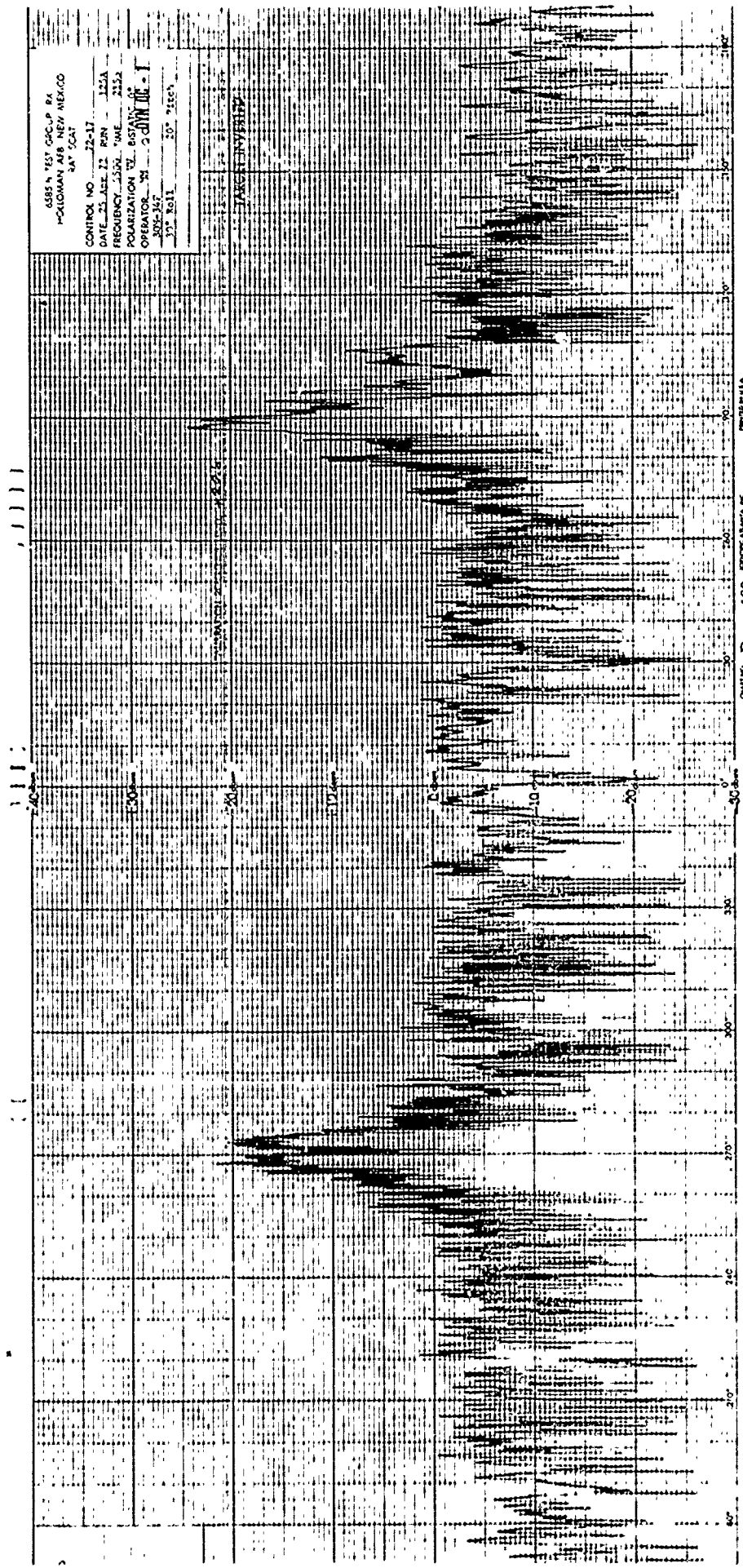
6858th TEST GROUP 871
HOLLAMAN AFB, NEW MEXICO
SAT SCAT

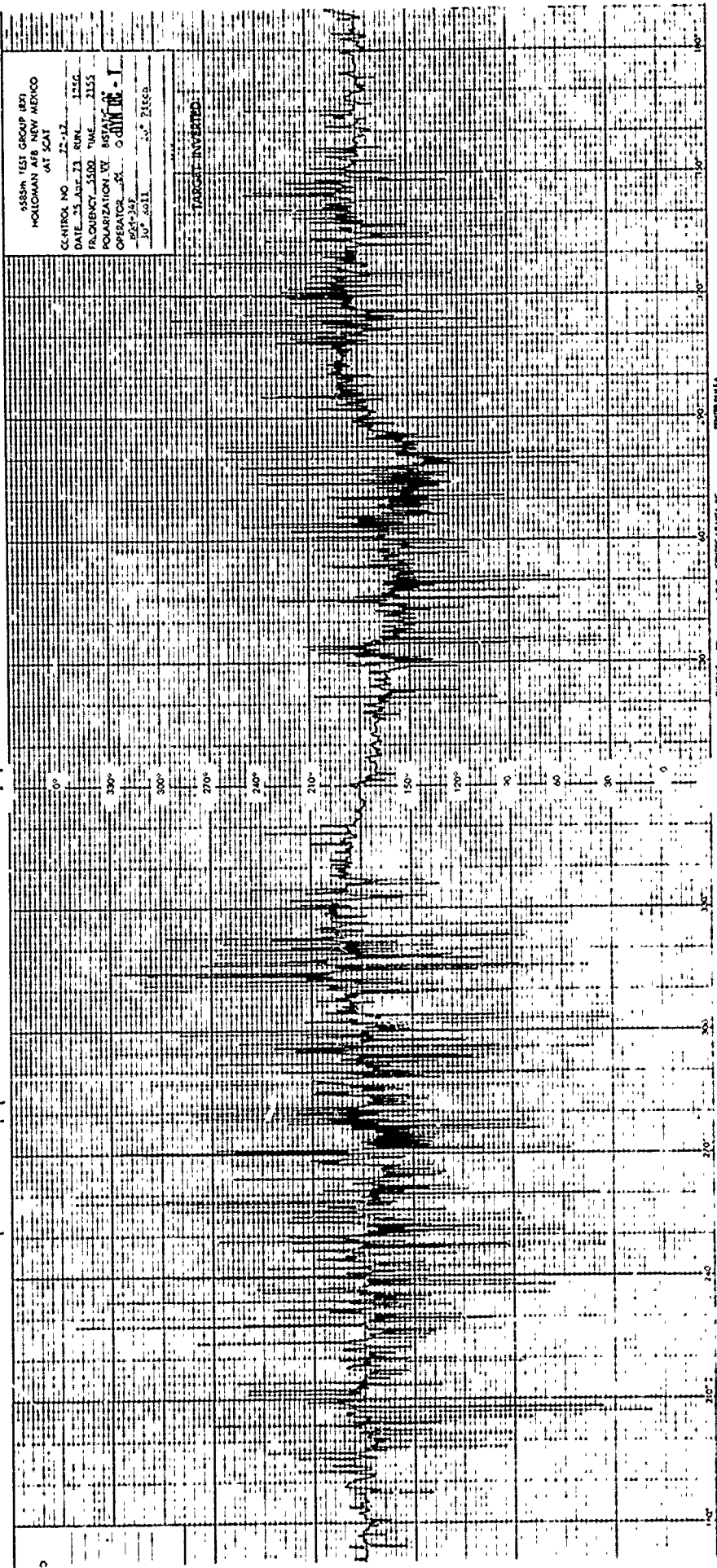
CONTRAC. NO. 72-17
DATE 22 APR 73 RUN 1216
FREQUENCY 5500 MHz 2099
POLARIZATION VERT. BISTATIC
OPEN O. 31 0.01 0.1
30° 1511 20° PITCH

6885 N TEST GCLP BX
POSITION AFB NEW MEXICO
44 504

CONTROL NO. 72-17
DATE 25 APR 72 P/N 122A
FREQUENCY 5500.0 MHz 2152
POLARIZATION V. B/S/AN
OPERATOR W. J. J. J. J. J.
305-267
17° Roll 20° Pitch

JARG UNIVERSITY





5853th TEST GROUP (B7)
 HOLLOWAY AFB NEW MEXICO
 AT SCAT

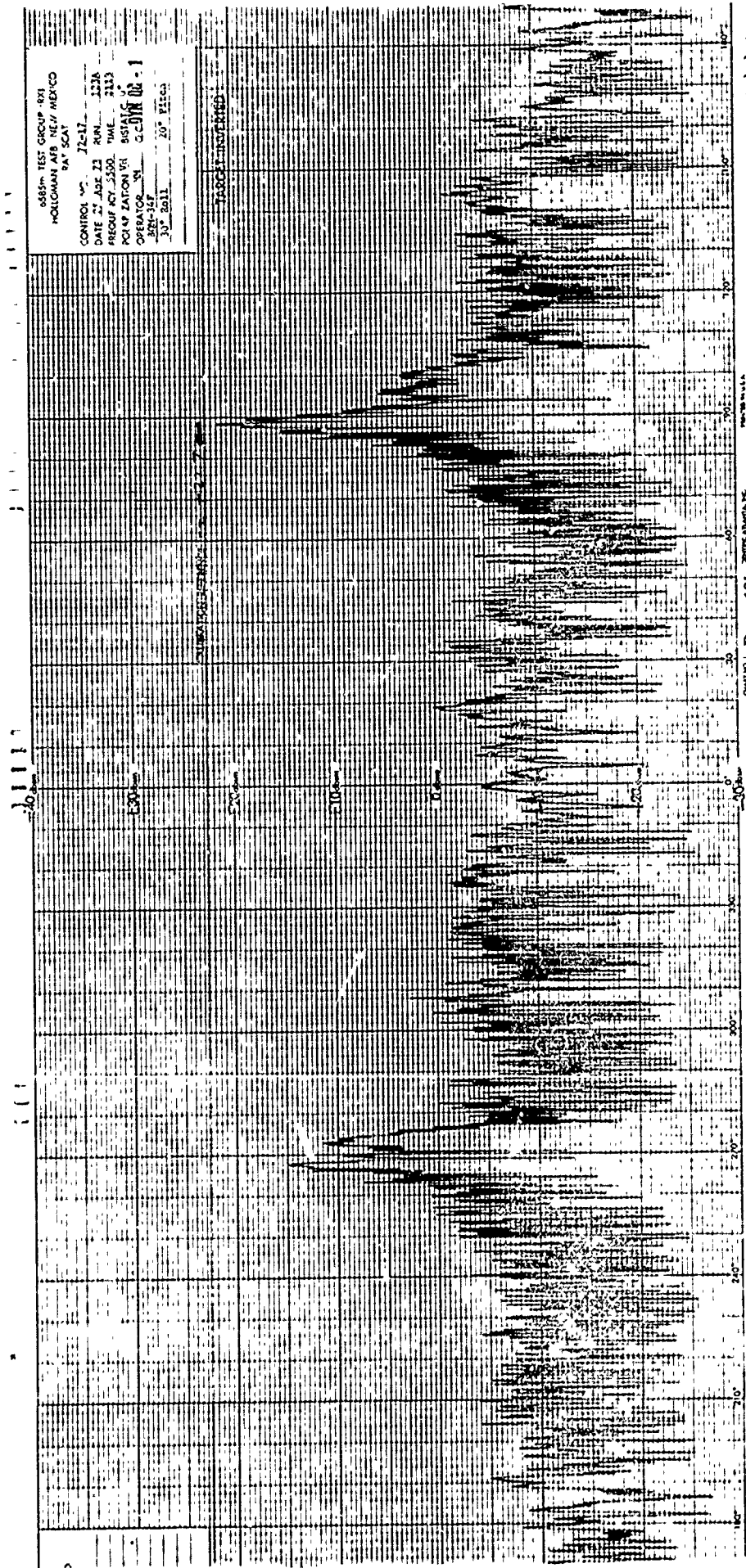
CONTROL NO. 22-12
 DATE 25 Apr 71 RFL 1256
 SUBJECT 5400 TIME 2155
 POLARIZATION RE. 0
 OPERATOR 0
 30 2011 30 2156

TARGET INVERTED

585A TEST GROUP 81
MOLICMAN AIRFIELD MEXICO
SA 504

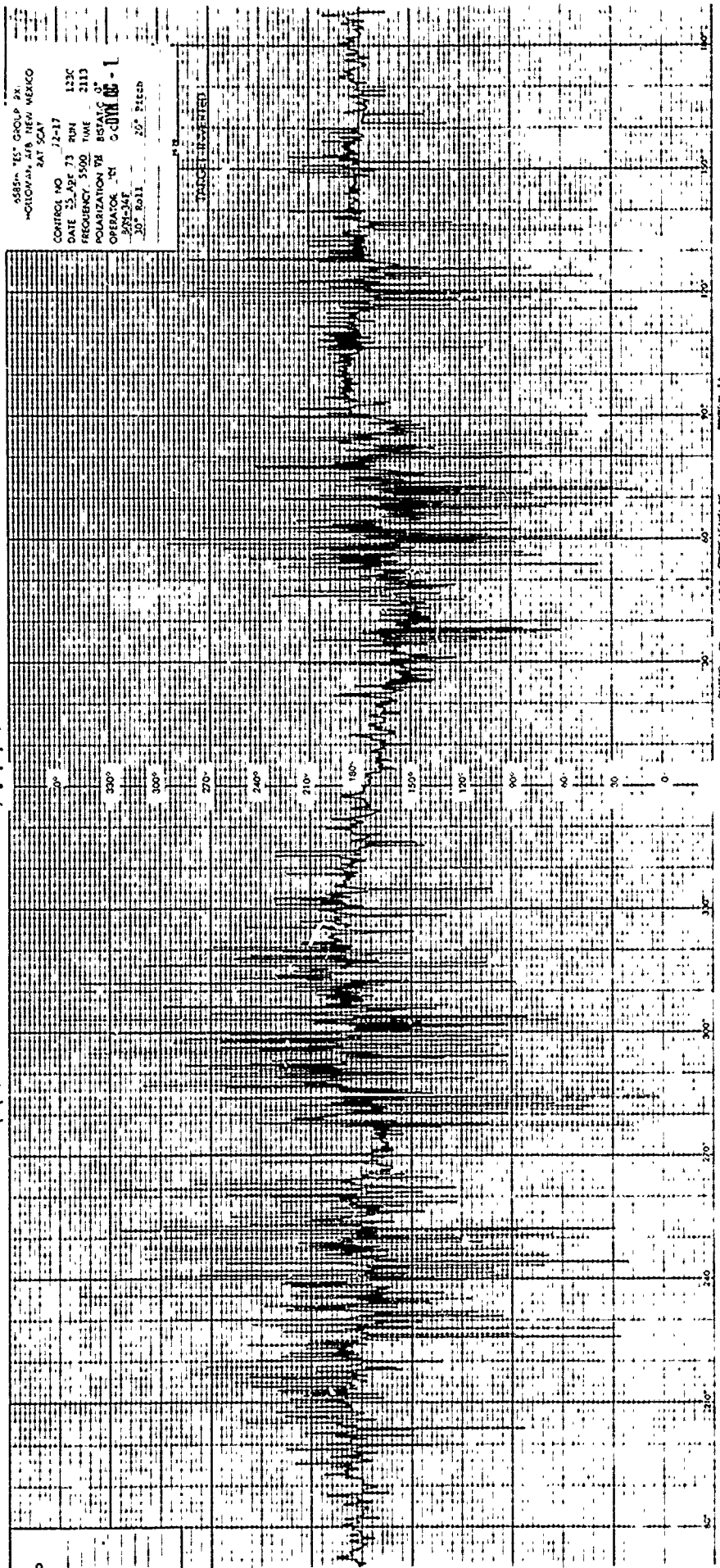
CONTROL NO. 72517
DATE 27 JUNE 23 RUN 112A
FREQU ACY 5500 TIME 2133
POLARIZATION VERTICAL
OPERATOR W. C. DUNN JR. - 1
282-347
30° Bell 20° Misc

TARGET IDENTIFIED



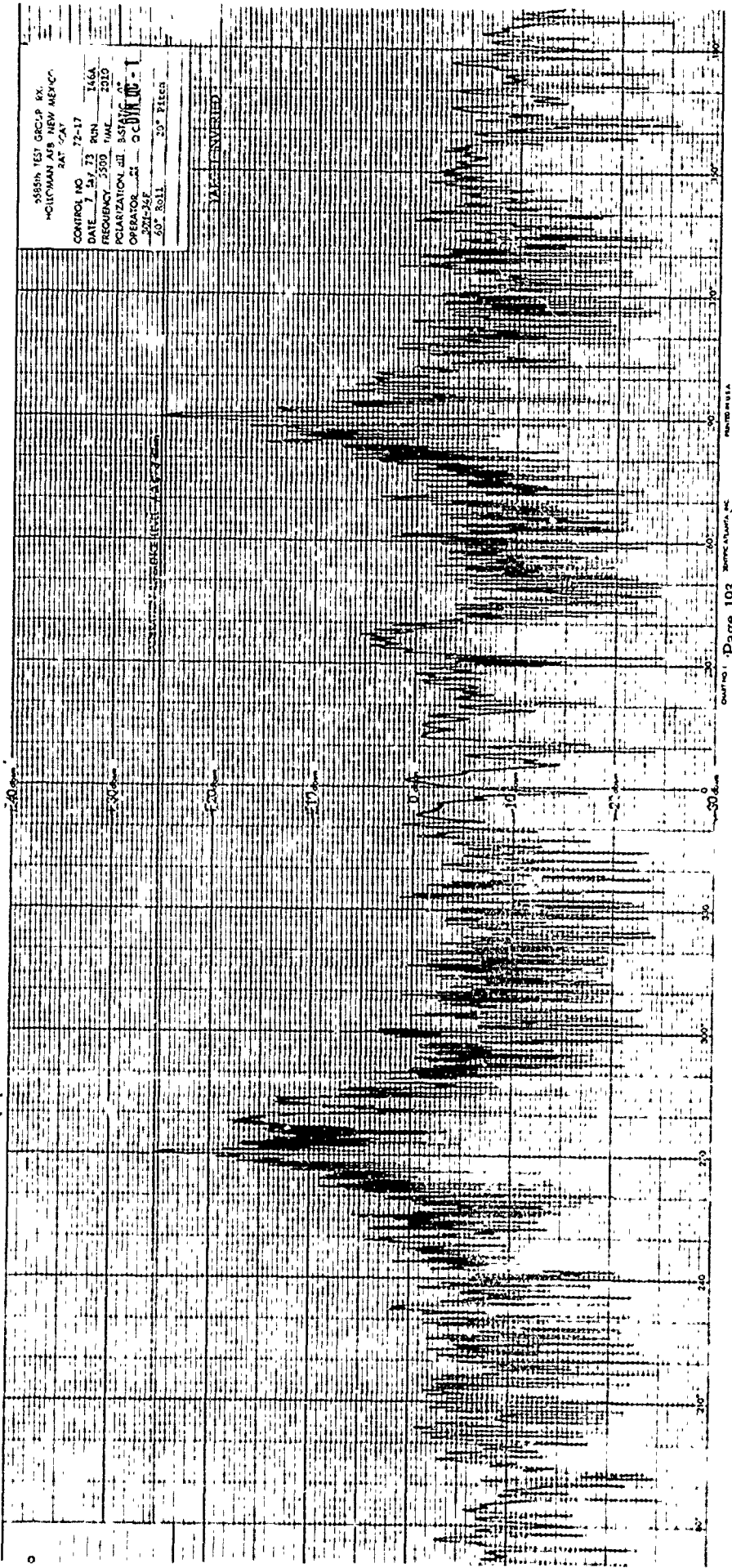
4585-151 GROUP 2K
"CROWLEY" AFB NEW MEXICO
241 50A

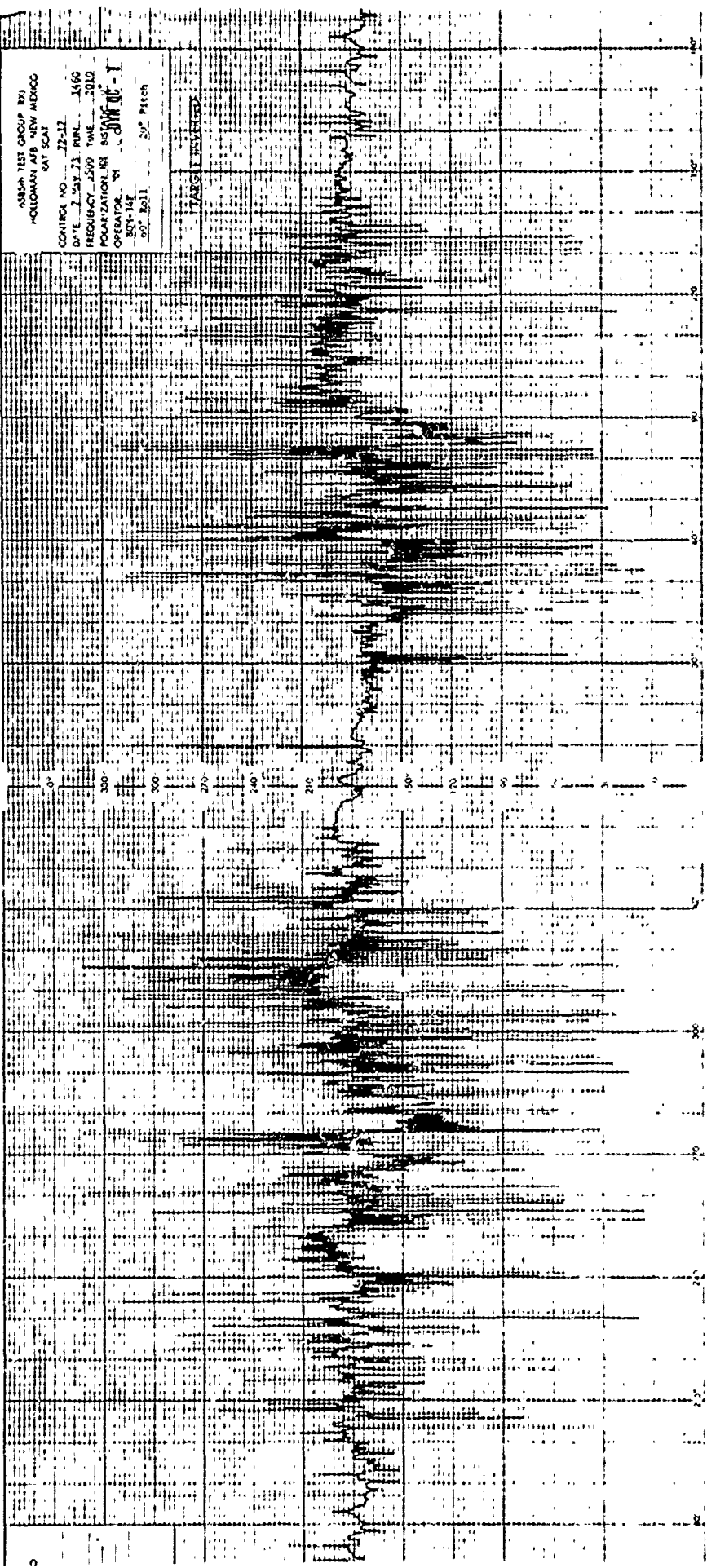
CONTROL NO 72-17
DATE 25_Apr 73 RUN 113C
FREQUENCY 5900 TIME 2113
POLARIZATION WB BISTATIC
OPERATOR "N" CROWN BS-1
278-24F
20° Roll 20° Pitch



5855N TEST GROUP BK.
 "CITIZEN AIR NEW MEXICO"
 SAT. CAT
 CONTROL NO. 72-17
 DATE 7 27 73 RUN 146A
 FREQUENCY 5500 KAL 210
 POLARIZATION J1 EAST
 OPERATOR J. J. O'CONNOR
 22L-24F
 60° Roll 20° Pitch

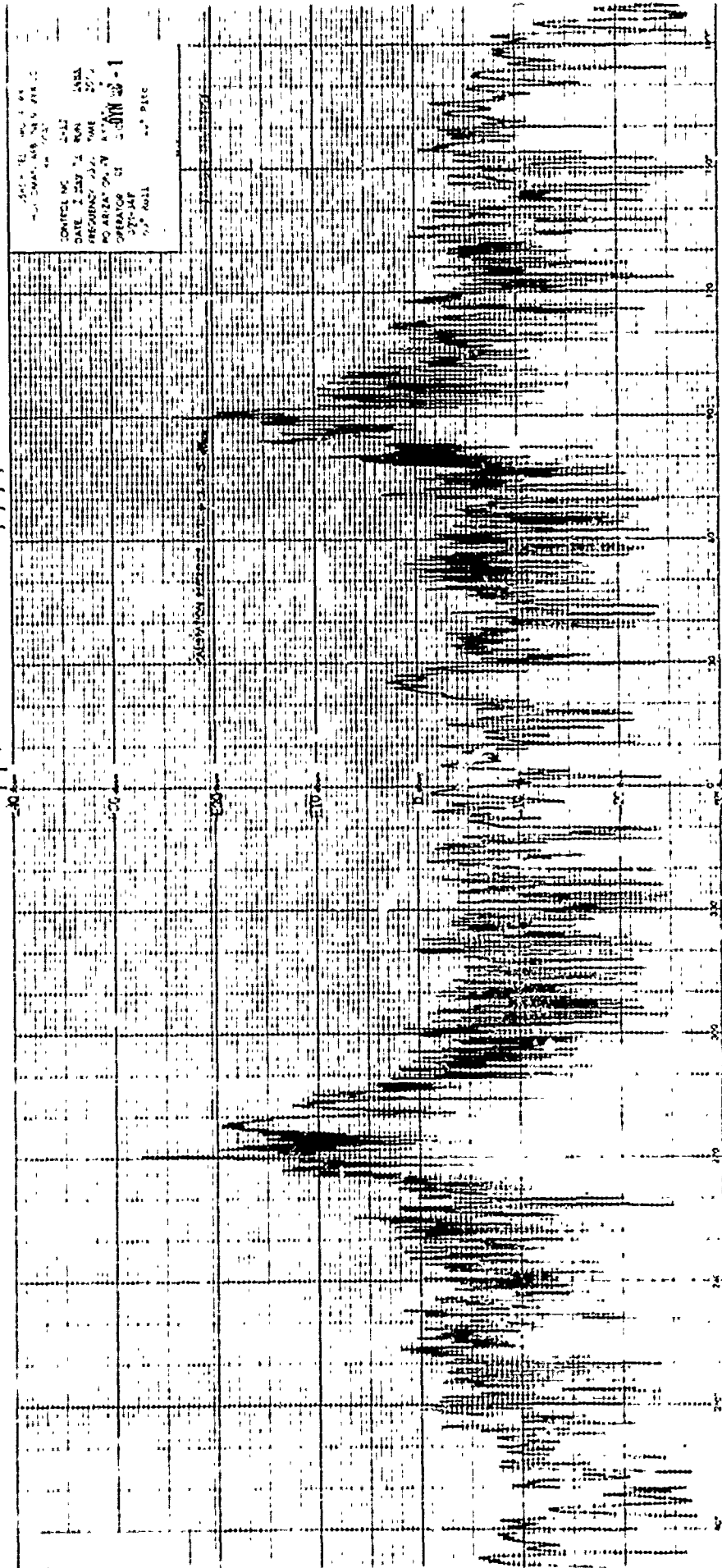
JAF INVERTED





ASBAP TEST GROUP BXU
 HOLLOWAY AFB NEW MEXICO
 DAY SCAT
 CONTRACT NO. 22-27
 DATE 7 MAY 73 RUN 1466
 FREQUENCY 2500 TUNE 2010
 POLARIZATION RR
 OPERATOR ST
 804-14
 20° Elev. 20° Pitch

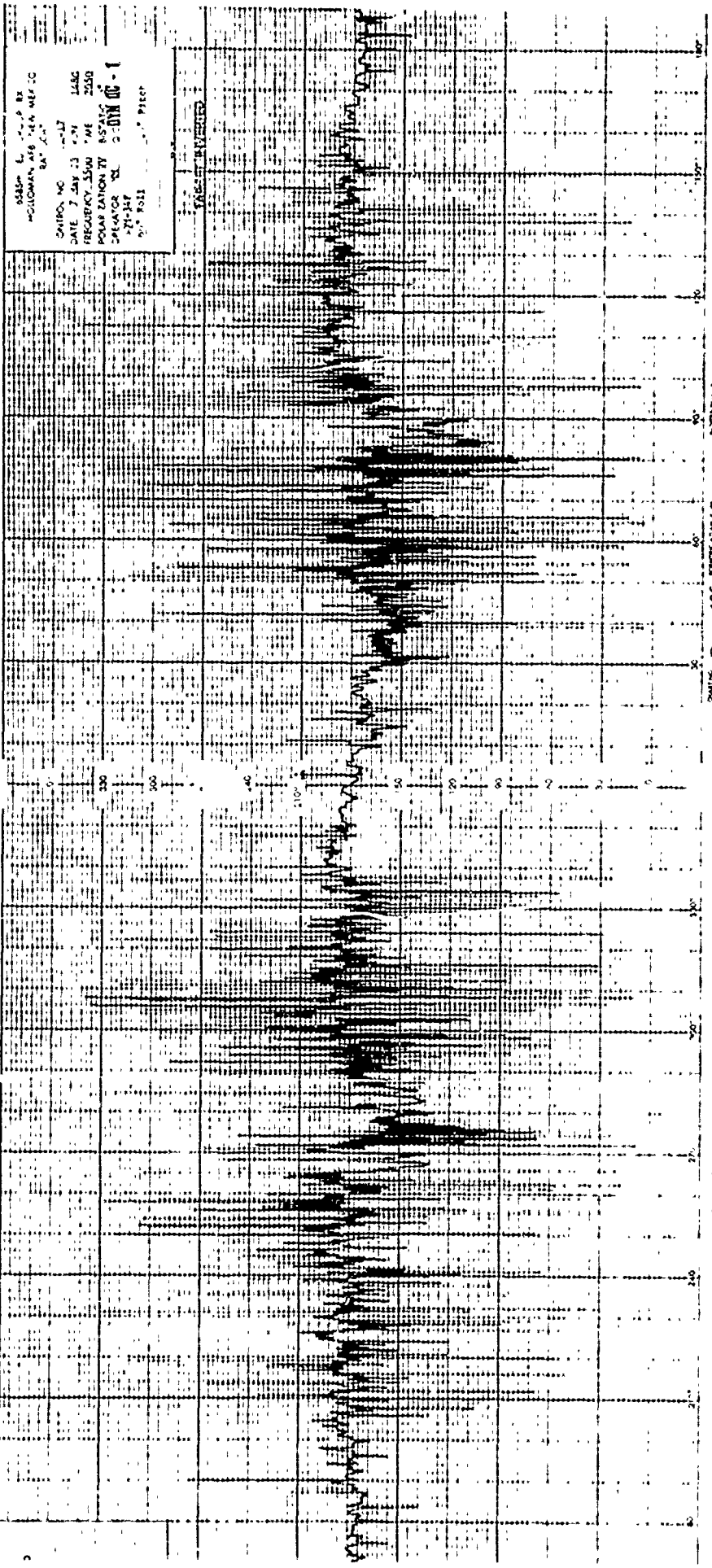
TARGET UNIDENTIFIED

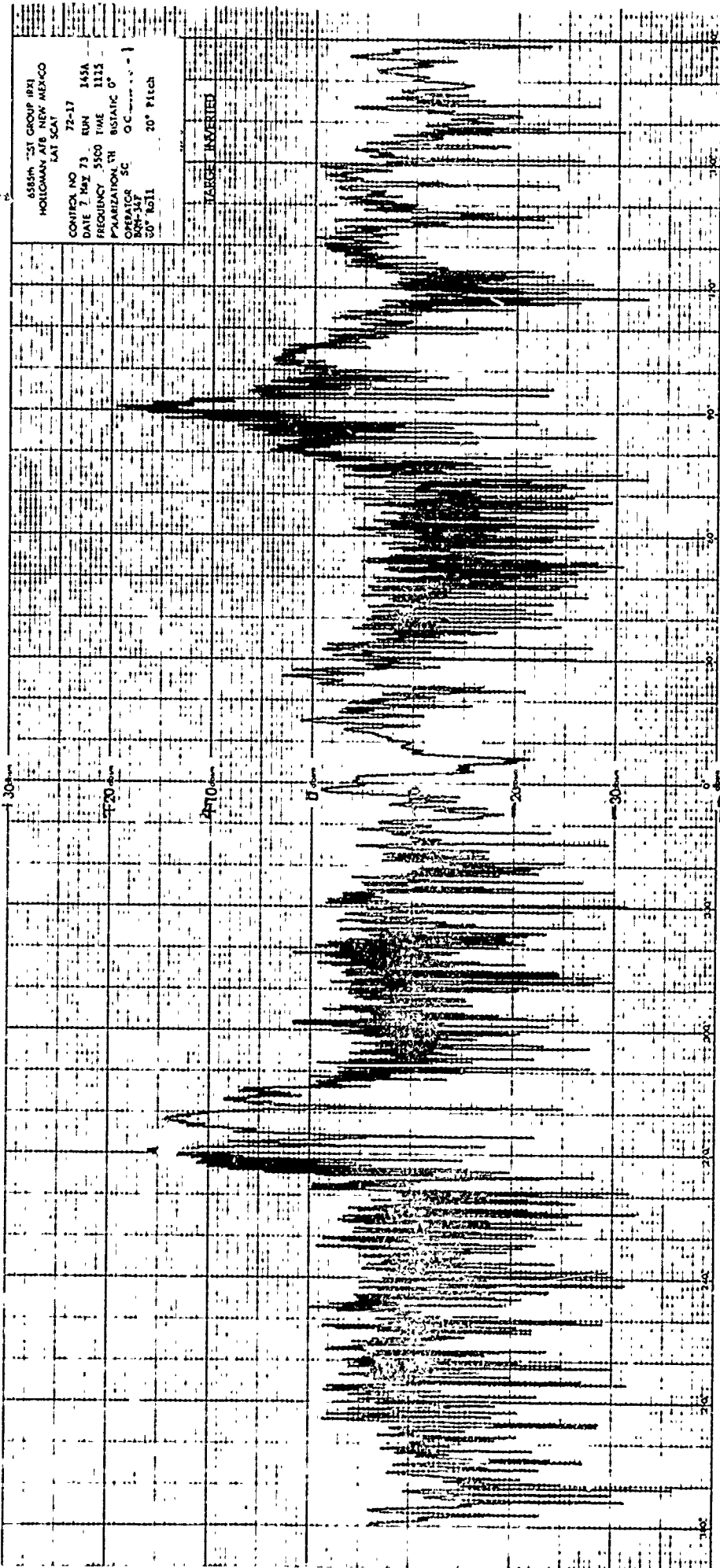


TITLE:
 DATE:
 TIME:
 LOCATION:
 INSTRUMENT:
 OPERATOR:
 CONTACT NO:
 PROJECT NO:
 SITE NO:
 SURVEY NO:
 RECORD NO:
 DATE:
 TIME:
 LOCATION:
 INSTRUMENT:
 OPERATOR:
 CONTACT NO:
 PROJECT NO:
 SITE NO:
 SURVEY NO:
 RECORD NO:

RECEIVED BY
HOLLOWAY AIR REF CO
DATE 7 MAY 53
FREQUENCY 1500 MHz
POLARIZATION VERTICAL
OPERATOR
270-347
2000000
PIEC

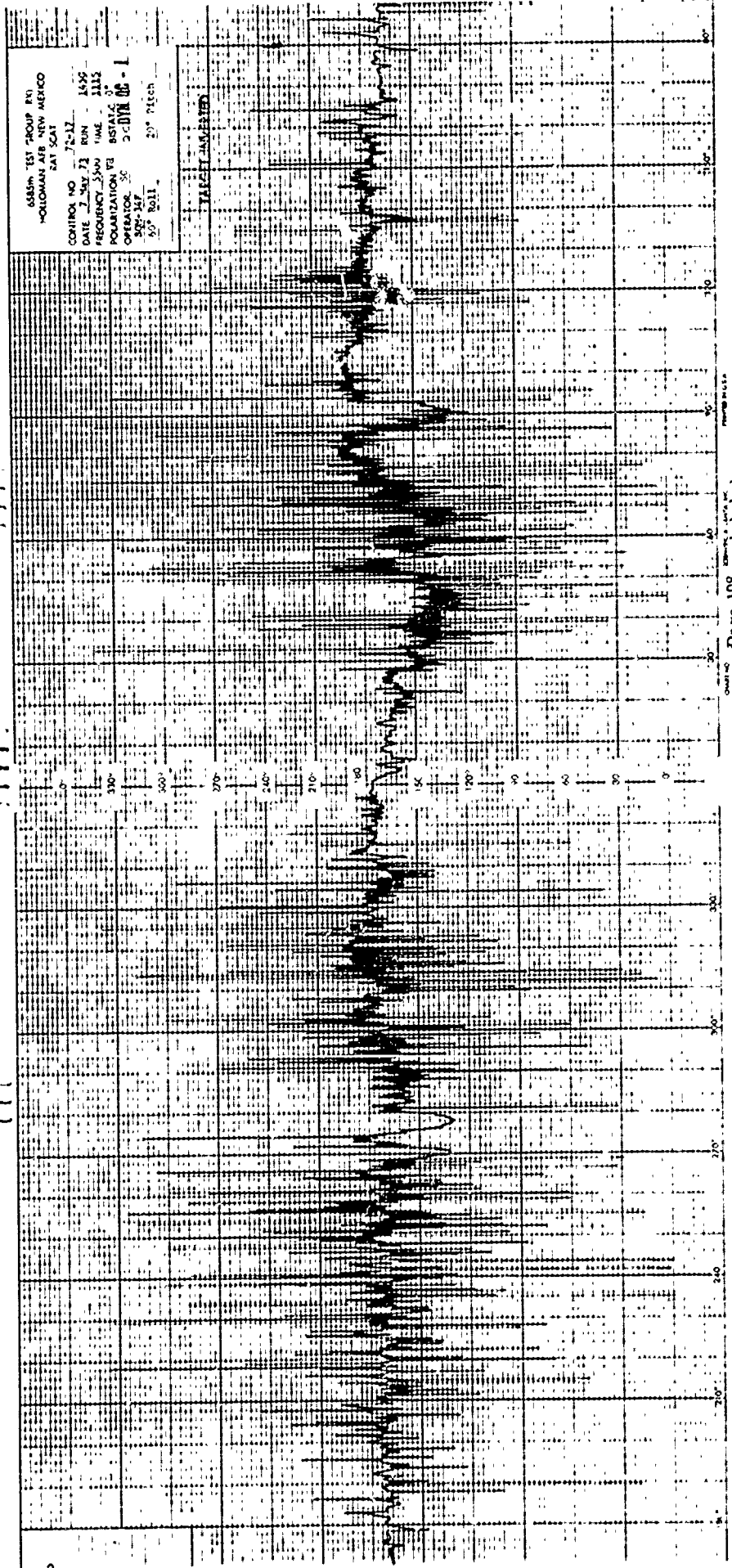
FAIRLY WEAK





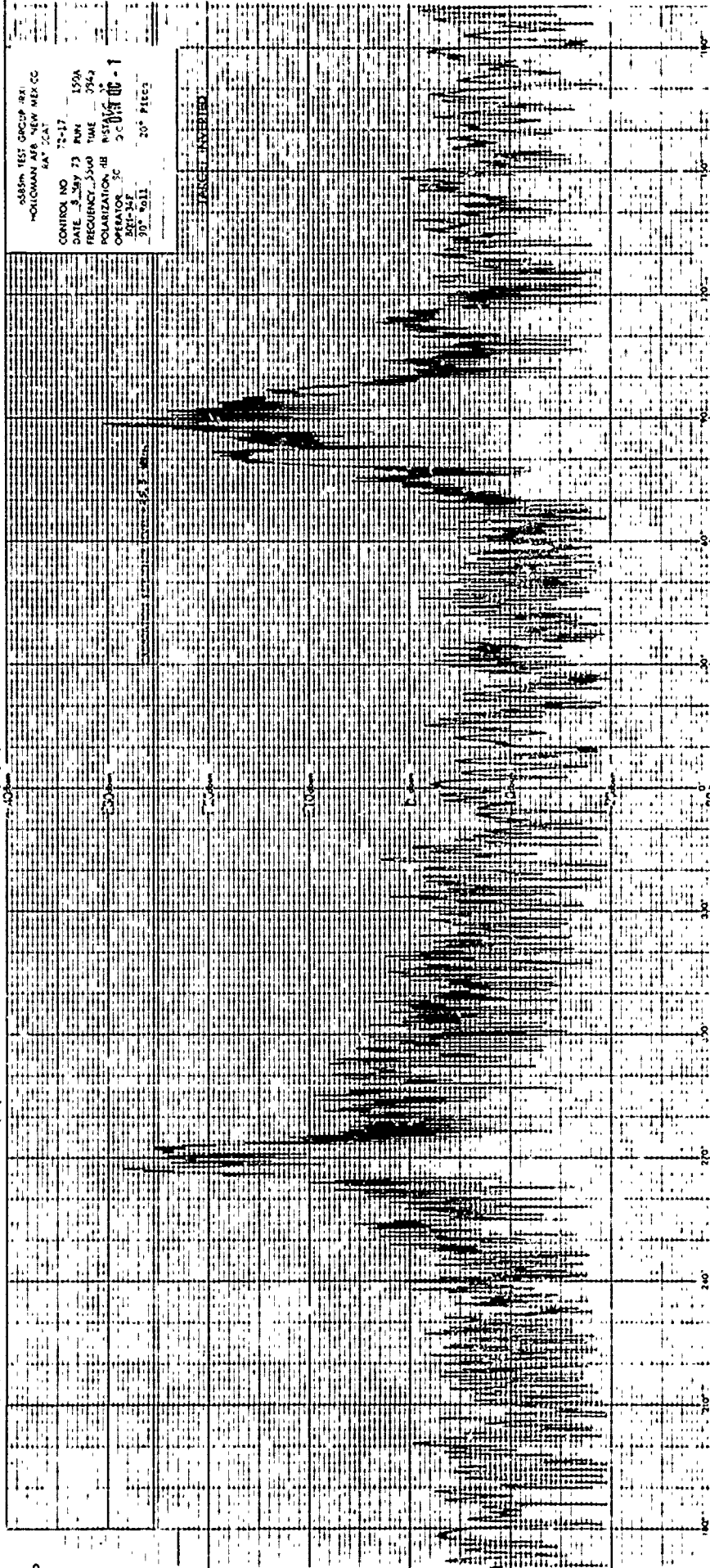
68500 TEST GROUP BY
 WOLLOMAN AFB NEW MEXICO
 SAT SCAT
 CONTROL NO 72-12
 DATE 2 MAY 73 RUN 1456
 FREQUENCY 2500 KHZ 1115
 POLARIZATION VERT DISTANCE 0
 OPERATOR 32018 06-1
 885-A17
 29° Pitch

TARGET IDENTIFIED



585th TEST GROUP (RT)
 HOLLAMAN AFB NEW MEX CO
 647 3247
 CONTROL NO 72-17
 DATE 8 MAY 73 RUN 150A
 FREQUENCY 5500 TIME 2542
 POLARIZATION RH
 OPERATOR SC
 30° Roll 30° Pitch

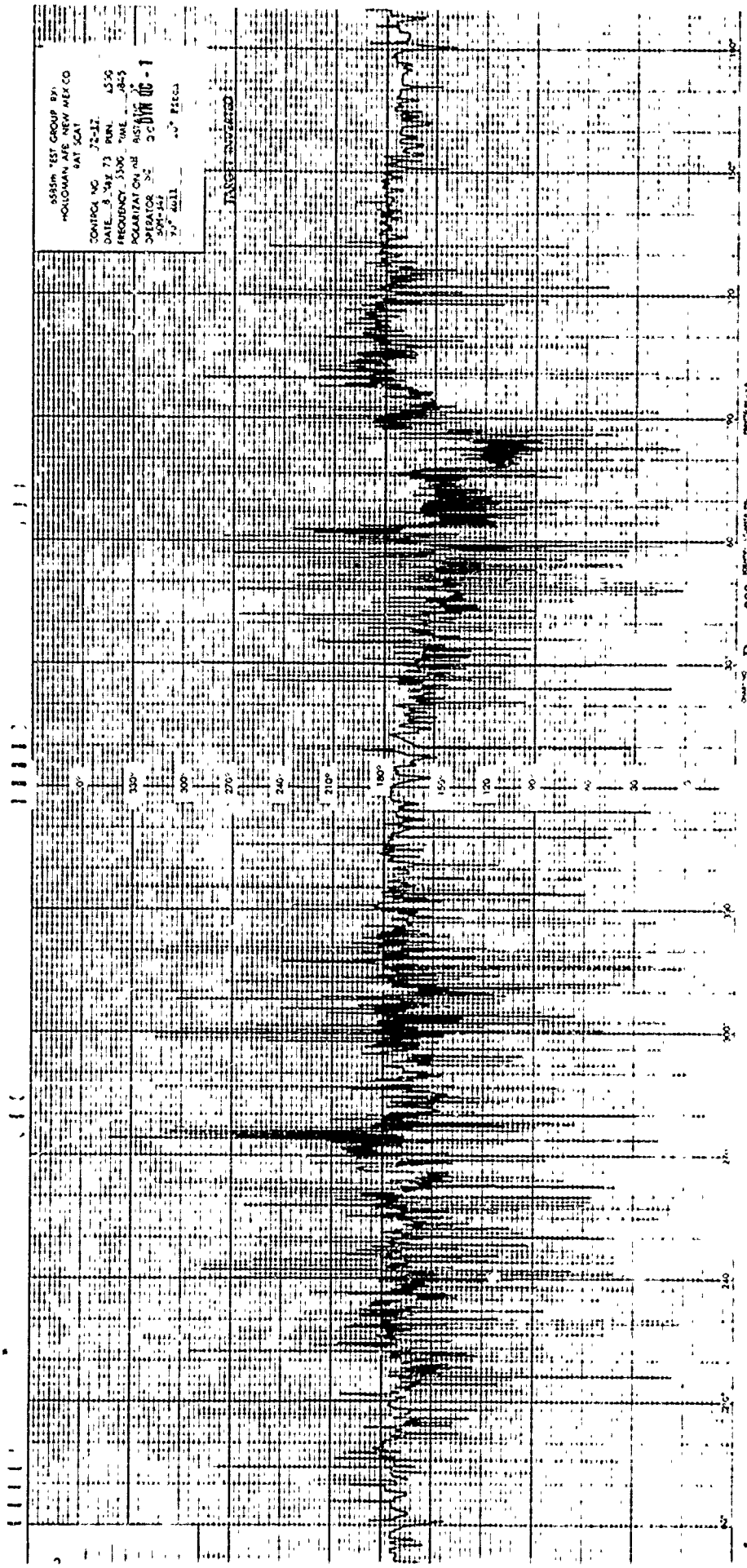
TARGET IDENTIFIED



ASSRA TEST GROUP BY:
 PHOTOGRAPHIC RESEARCH CO
 BAT SCAN

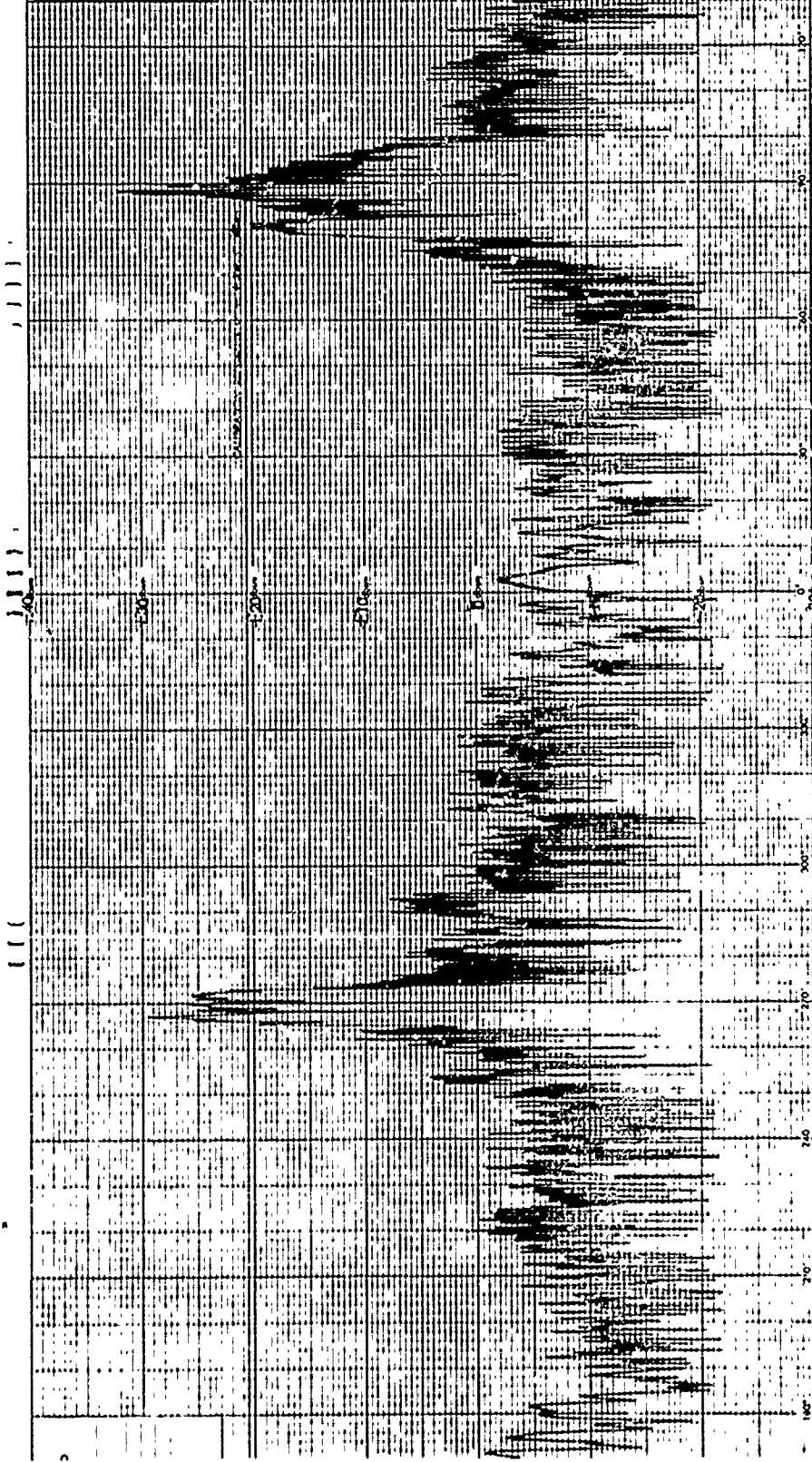
CONTROL NO. 72-11
 DATE 3-12-71 PNL 45-6
 FREQUENCY 1500 WAVE 8-5
 OPERATOR ON ASISTANT
 500-141 300-141
 7-4011 30-141

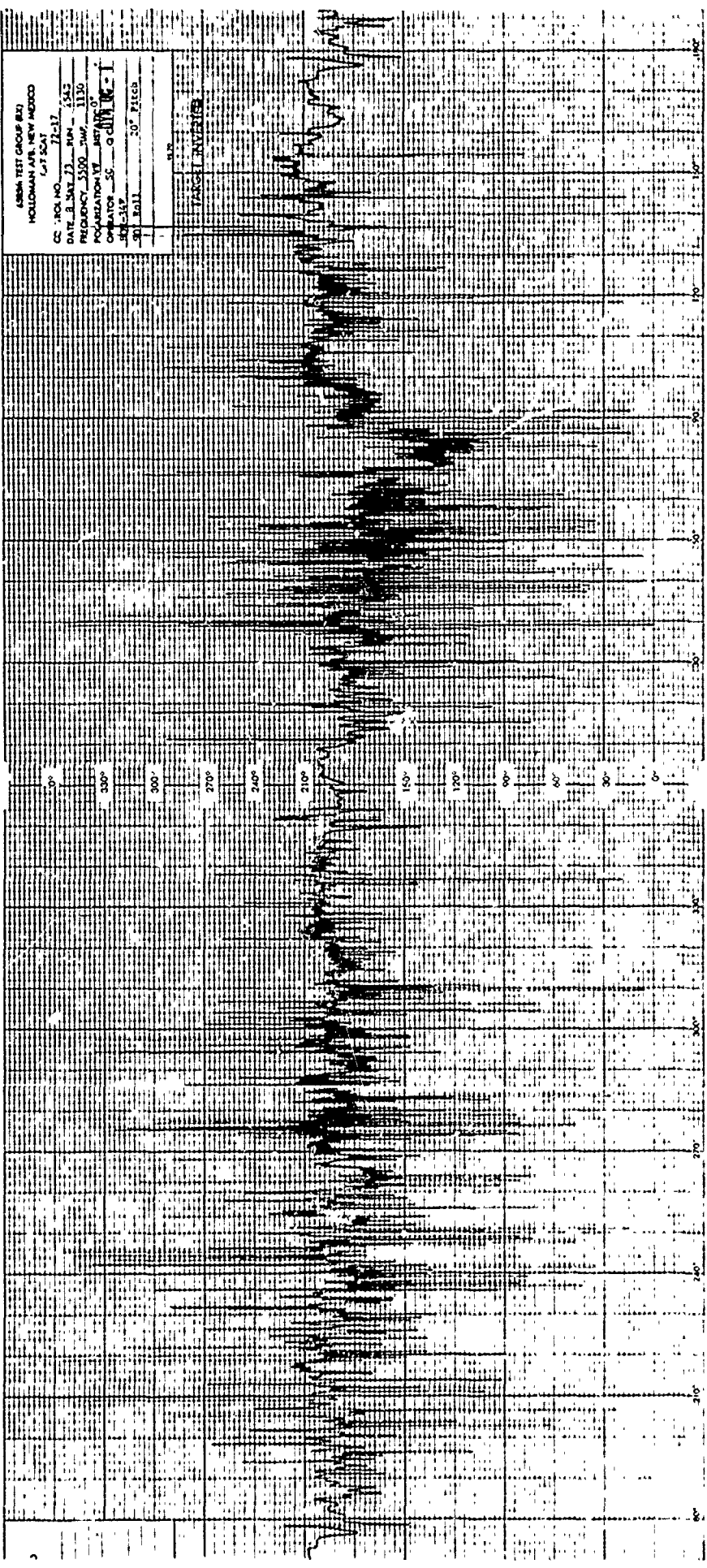
TANGENT



385th TEST GROUP BY
 HOLLOMAN AFB NEW MEXICO
 RAT 50A1

CONTROL NO	72-17	15A
DATE	3 MAY 73	RUN
FREQUENCY	5500	TIME
POLARIZATION	WV	BS7A/C
OPERATOR	JR	00000000 - 1
500-347	30" Pitch	





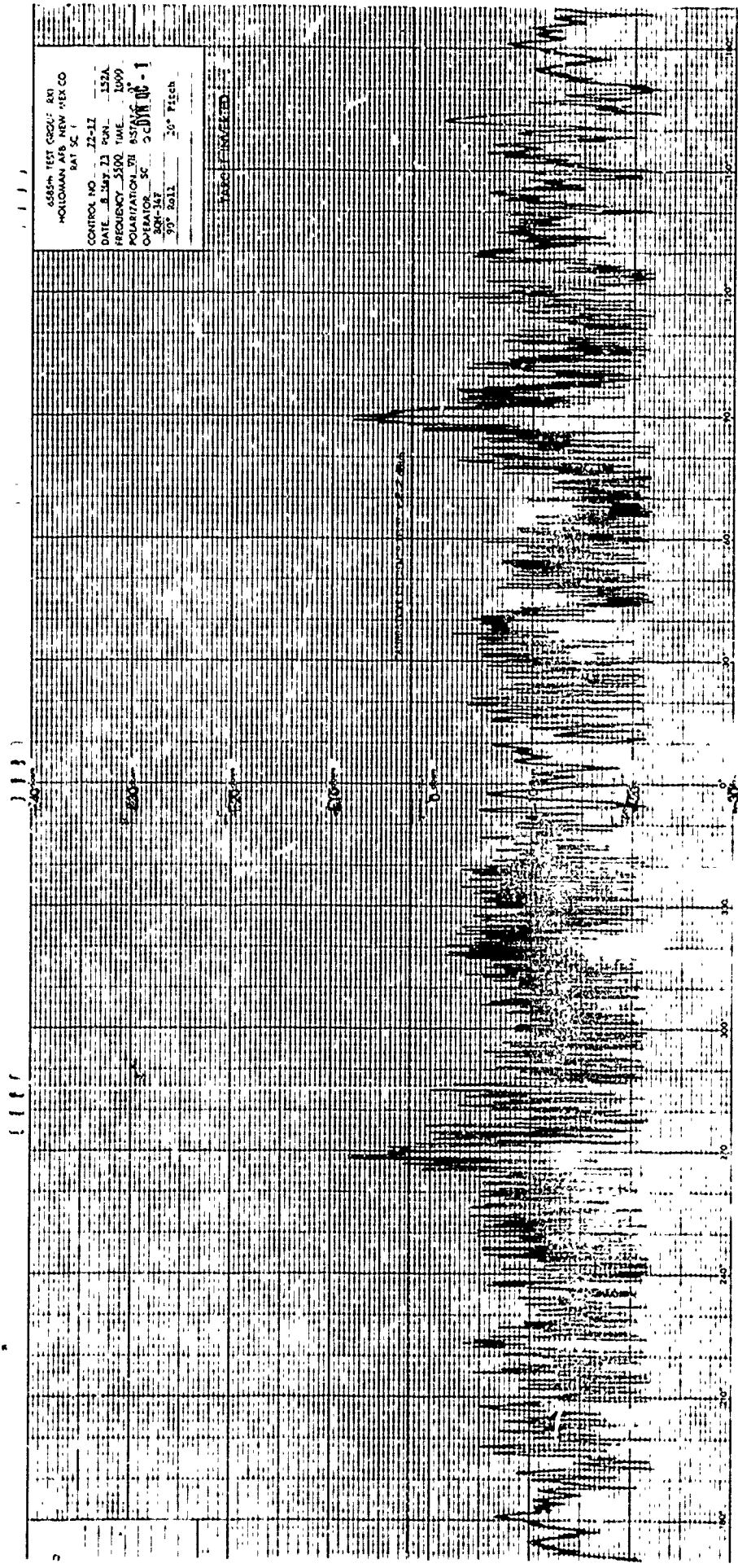
(ENR) TEST GROUP #47
 HOLLOWMAN AFB, NEW MEXICO
 CAT SCAT
 CC. ROL NO. 71-17
 DATE 8 MAY 77. RPM - 545
 FREQUENCY 5500. SWR 1130
 POLARIZATION VERT. JUST IN FRONT OF
 OPERATOR - SC - G CATH. CR - 1
 RFL - 517
 SW. ROLL 20. FEEDS

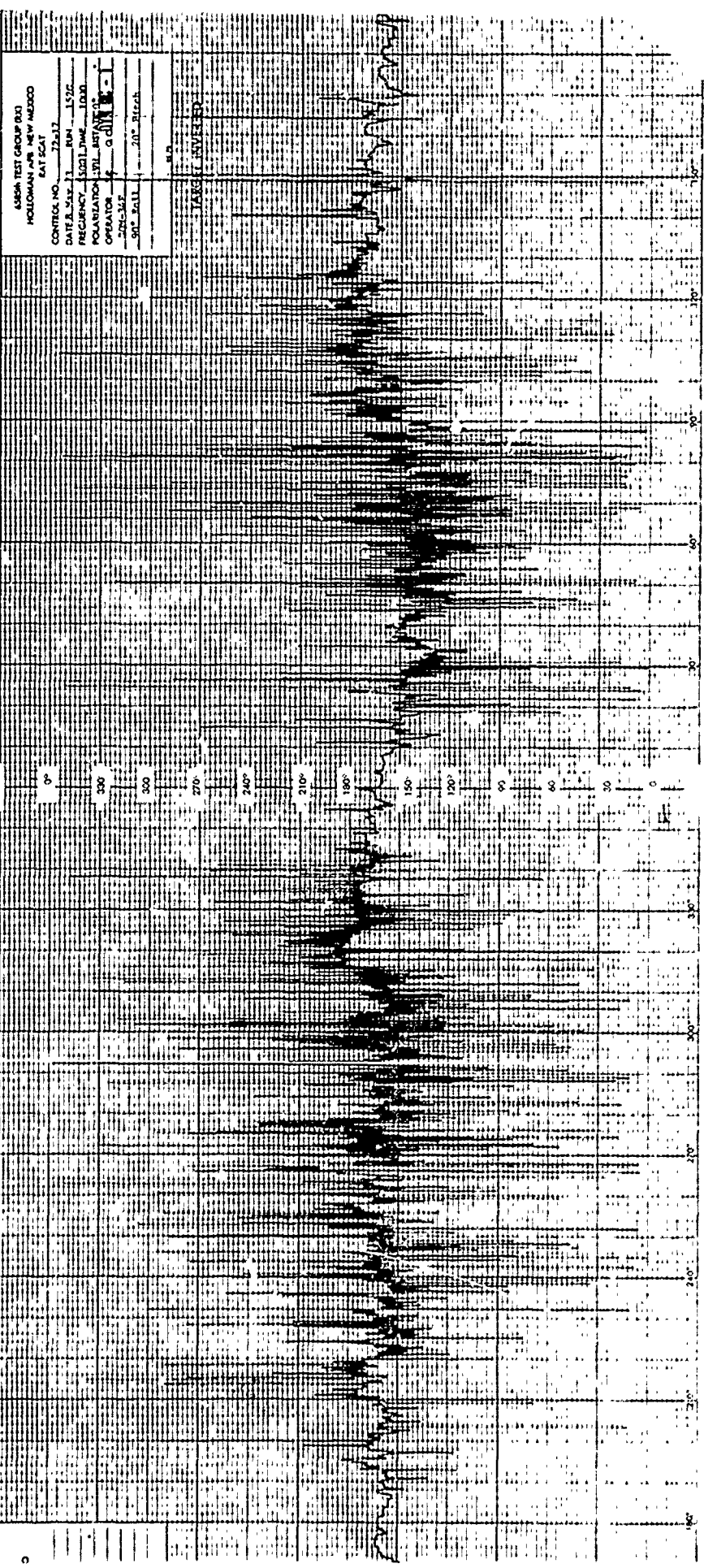
TARGET INVERTED

6885th TEST GROUP: RTI
 HOLLAMAN AFB NEW MEX CO
 DAT SC 1

CONTROL NO. 72-12
 DATE 8 May 73 PUN 152A
 FREQUENCY 5500 TIME 1000
 POLARIZATION 01 957A
 OPERATOR SC 2004-147
 99° Roll 20° Pitch

TARGET IDENTIFIED

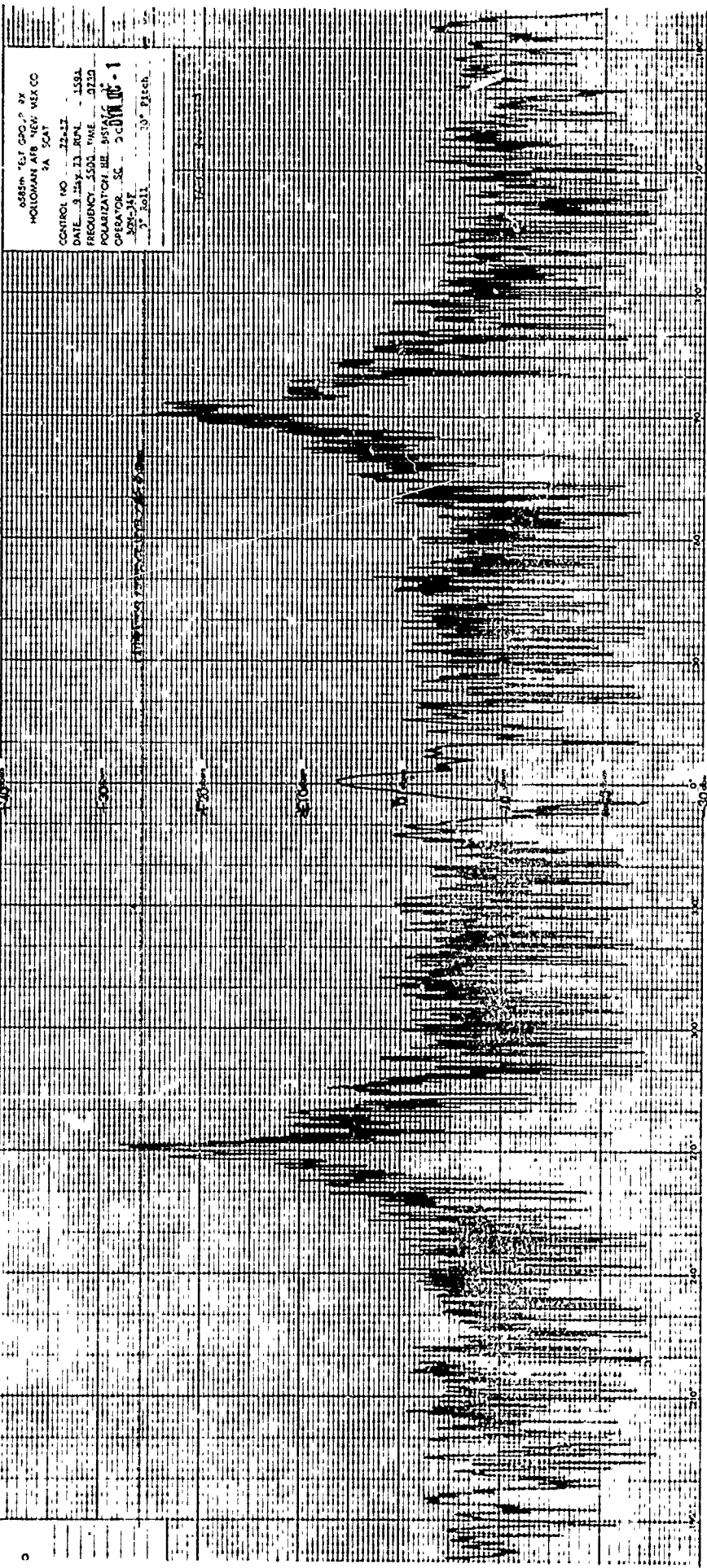




USMA TEST GROUP (B3)
 HOLLOWMAN AIR NEW ANDOOD
 FAT SCAT

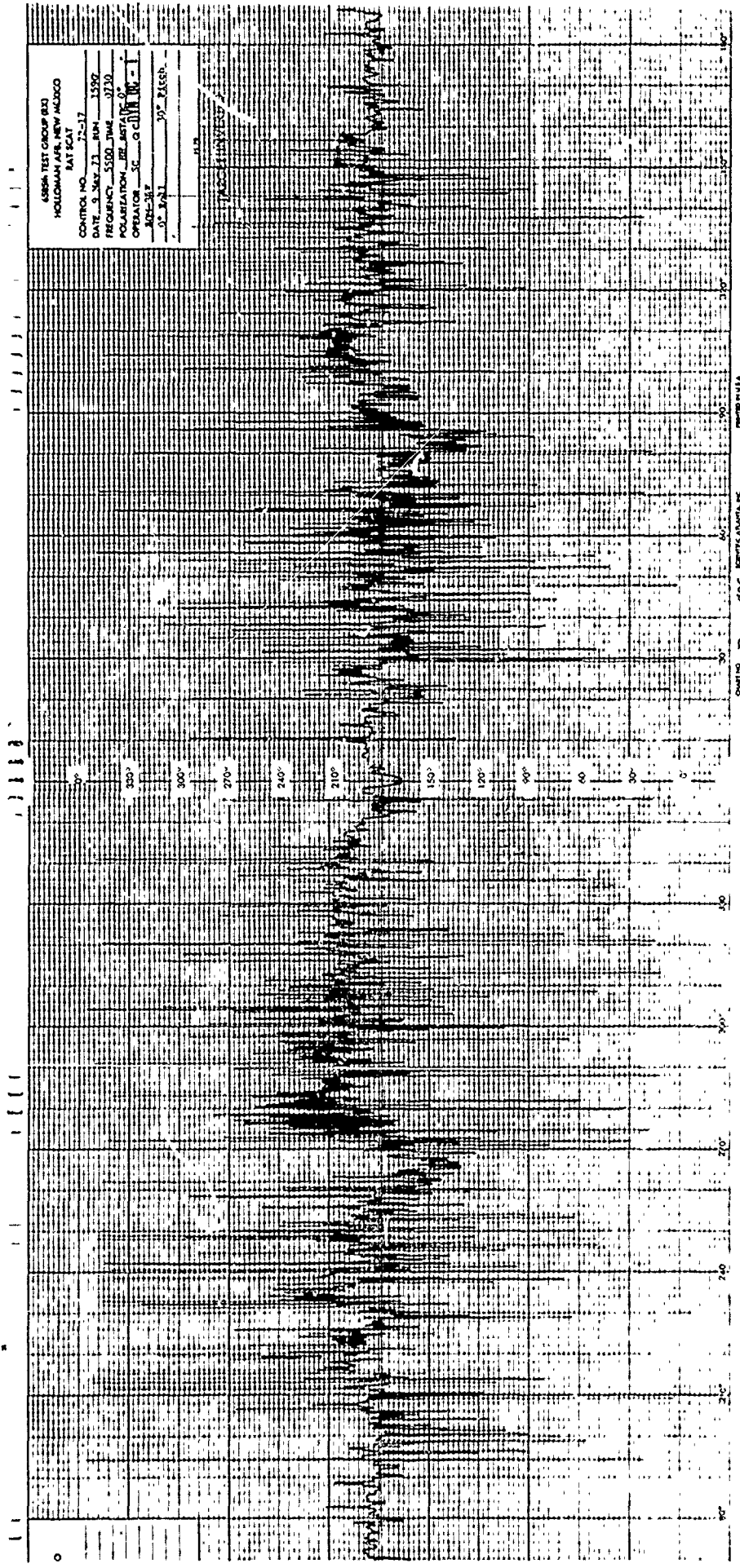
CONTROL NO.	72-317
DATE & TIME	11 JUN 1952
FREQUENCY	SOIL TIME 10.00
POLARIZATION	SP. INT. 0°
OPERATOR	G. D. [initials]
TYPE	270-315
SOC. BALL	200' BIRCH

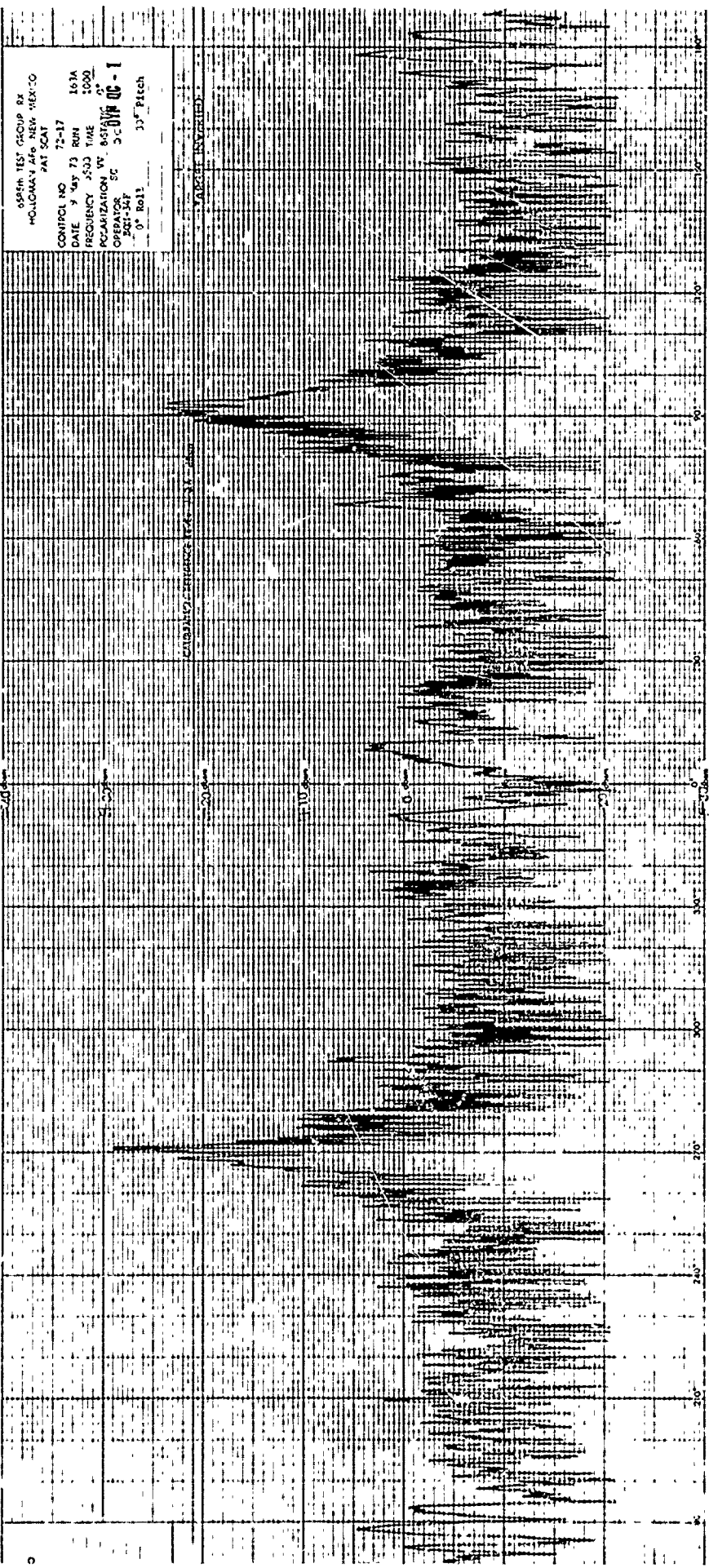
TARGET INVERTED



68584 TEST GROUP (B3)
 HOLLANDIA AFB, NEW MEXICO
 RAY SCAT
 CONTROL NO. 74-517
 DATE 3 MAY 73 RUN 1592
 FREQUENCY 5180 JMW 0720
 POLARIZATION REL ANTENNA 0
 OPERATOR SC G C III R - I
 0° 0' 0" 90° 0' 0" 180° 0' 0"

11.2
 15000 HERTZ





ASST TEST GROUP BY
 HOLCOMB AFB, NEW MEXICO

CONPCL NO 72-17
 DATE 9 MAY 73 RUN 153A
 FREQUENCY 3000 TIME 0000

REGISTRATION IN 800
 OPERATOR SC 30000000-1
 200-347
 0 Roll 30° Pitch

MARKET REGISTERED

USMA TEST GROUP 721
 HOLDMAN AFB, NEW MEXICO
 CONTROL NO. 841 21-17
 DATE TESTED 11 JUN 1956
 FREQUENCY 2170 MHz
 POLARIZATION 21.0° RT
 OPERATOR J. C. BULL
 SOLS 13 13.7 13.5

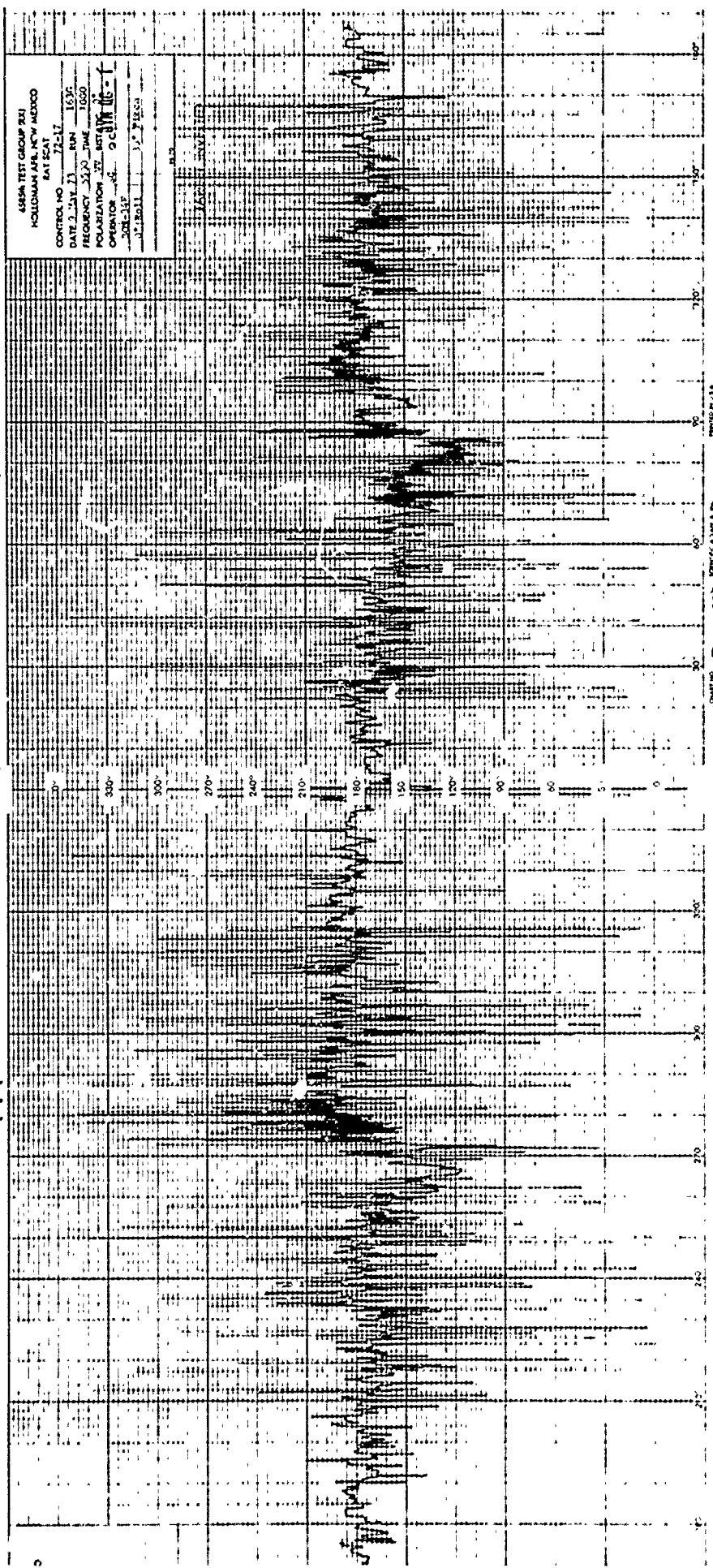
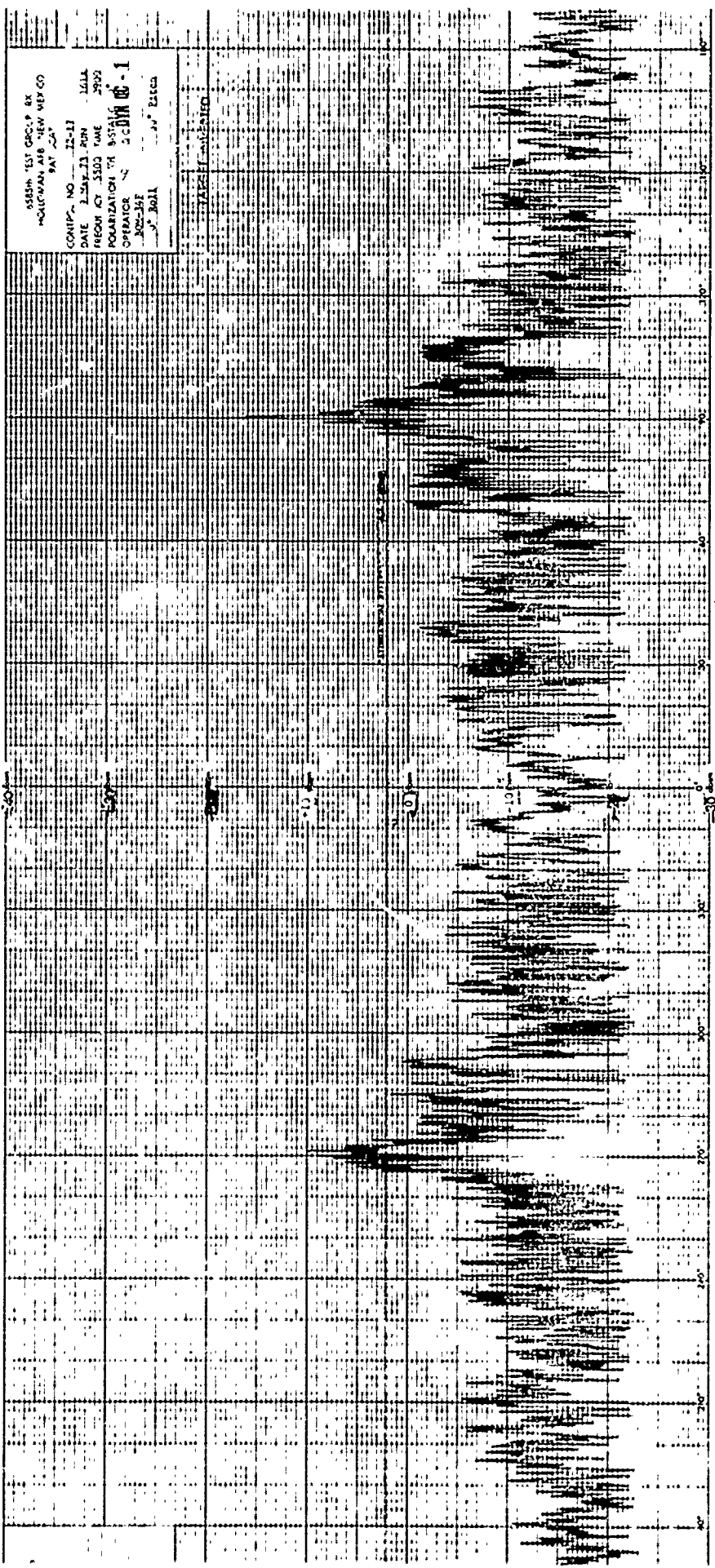
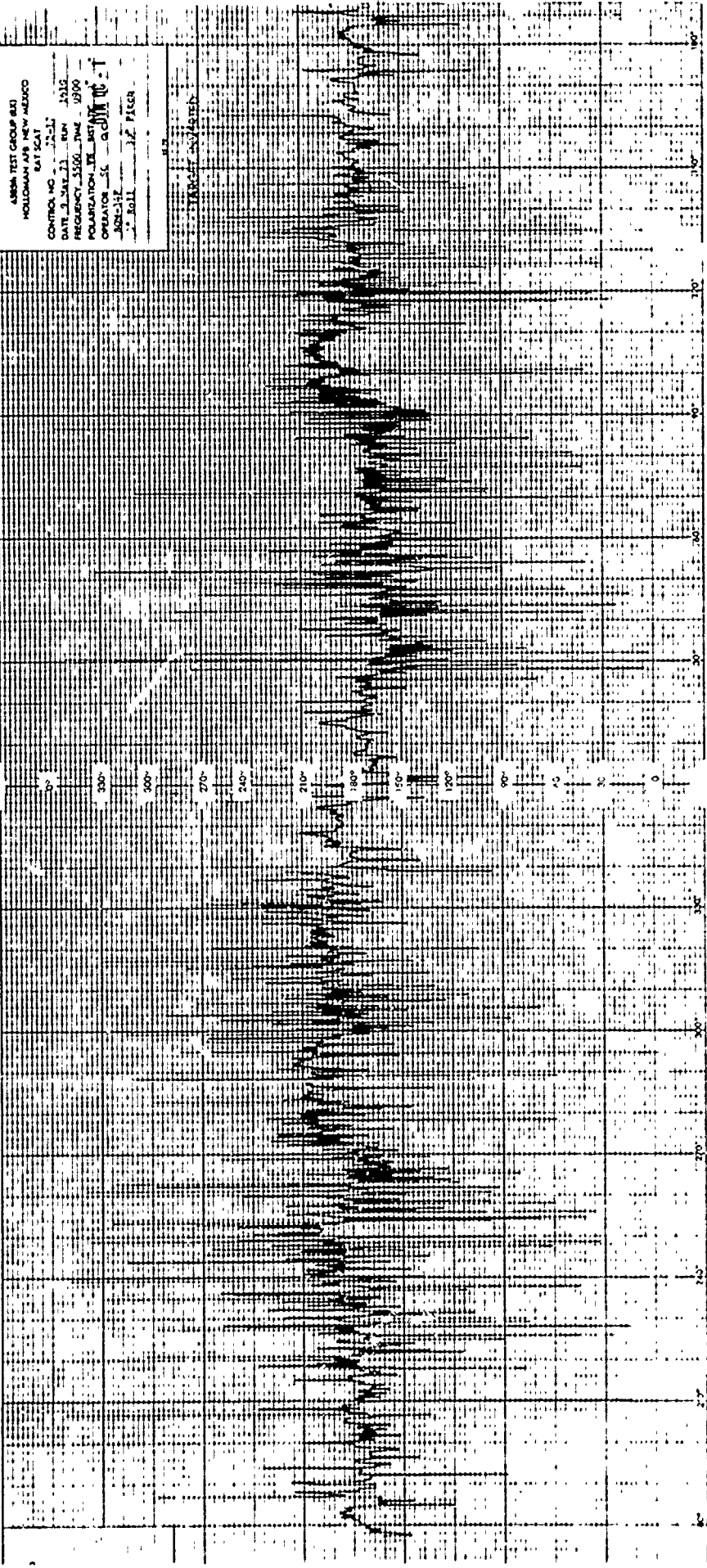


Chart No. 208
 Page 208





AIRBORNE TEST GROUP (B3)
 HOLLOWAY AIR NEW MEXICO
 BATT SGT
 CONTROL NO. 2151
 DATE 9 MAY 71 RUN 1012
 FREQUENCY 5500 KHZ 1900
 POLARIZATION THE INST
 OPERATOR SC G. J. PETER
 Roll 1/2 PETER

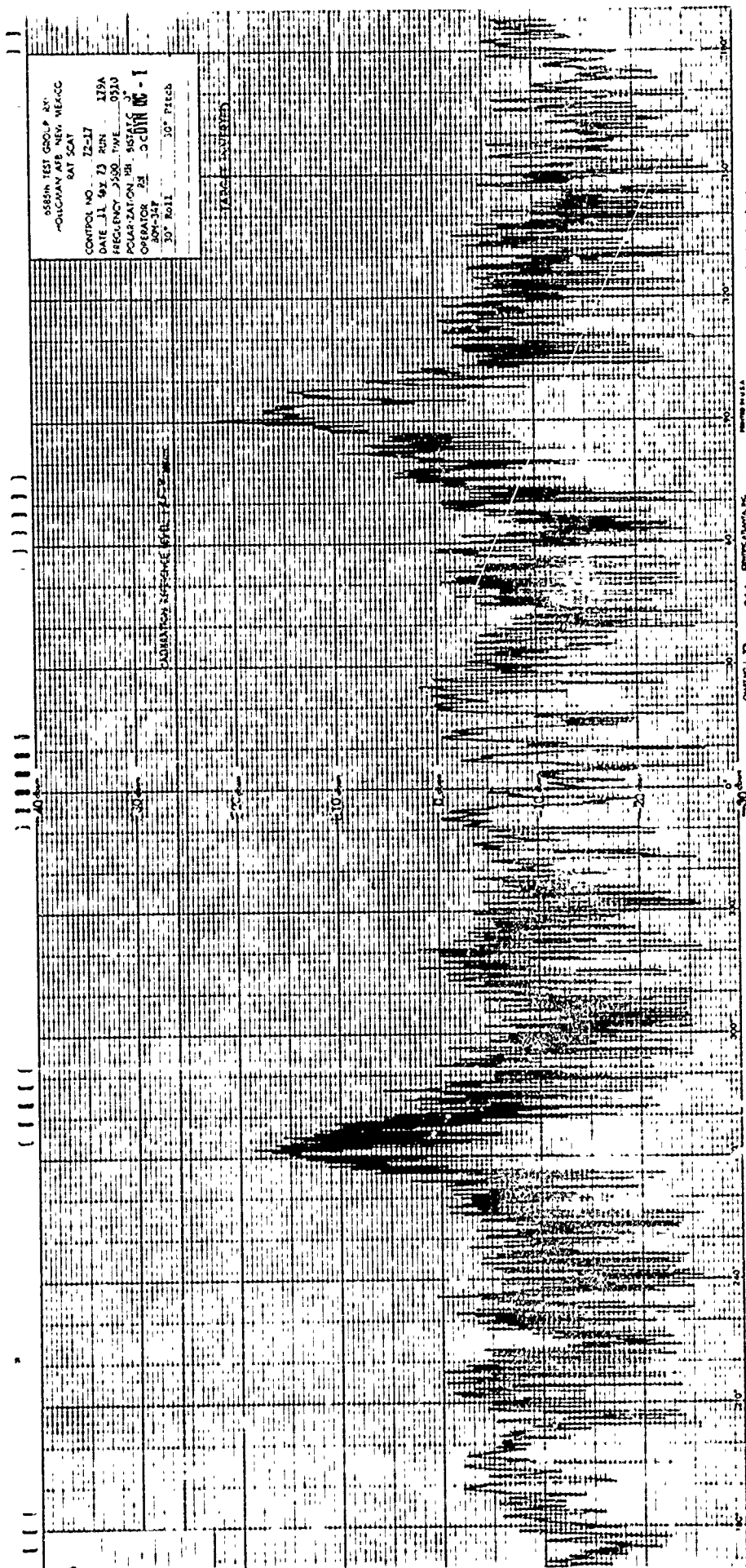
TARGET ACQUIRED

555th TEST GROUP BY:
HOLLAND AFB NEW MEXICO
SAT SCAT

CONTROL NO. 12-17
DATE 11 69 73 RUN 178A
FREQUENCY 2500 TWE 0310
POLARIZATION BR. BSRALC 3
OPERATOR BA JCCWV 06-1
307 Mail 307 Pritch

TARGET NUMBER

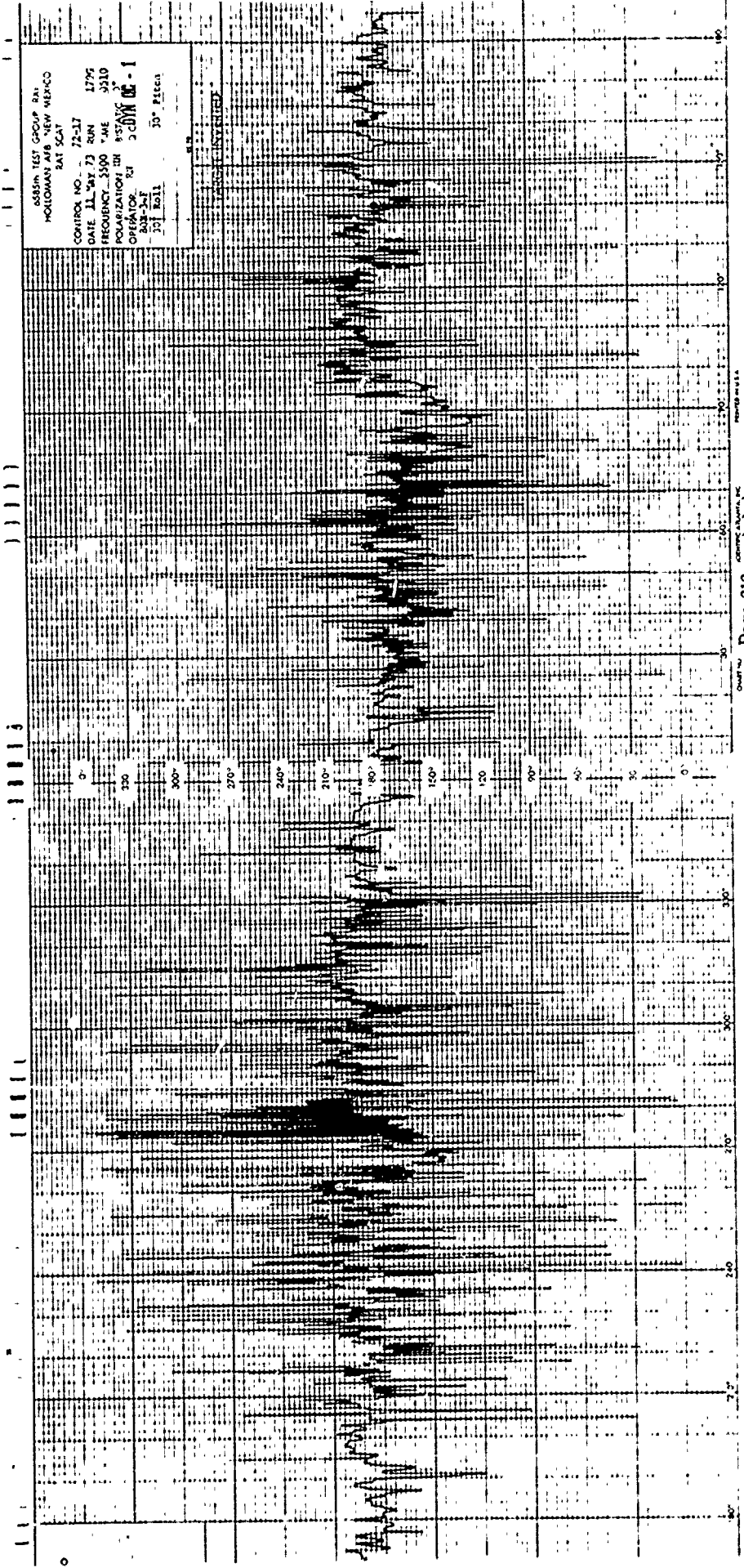
ADDITIONAL REFERENCE REFLECTIVITY



688th TEST GROUP RA
HOLLAMAN AFB, NEW MEXICO
SAT 50A

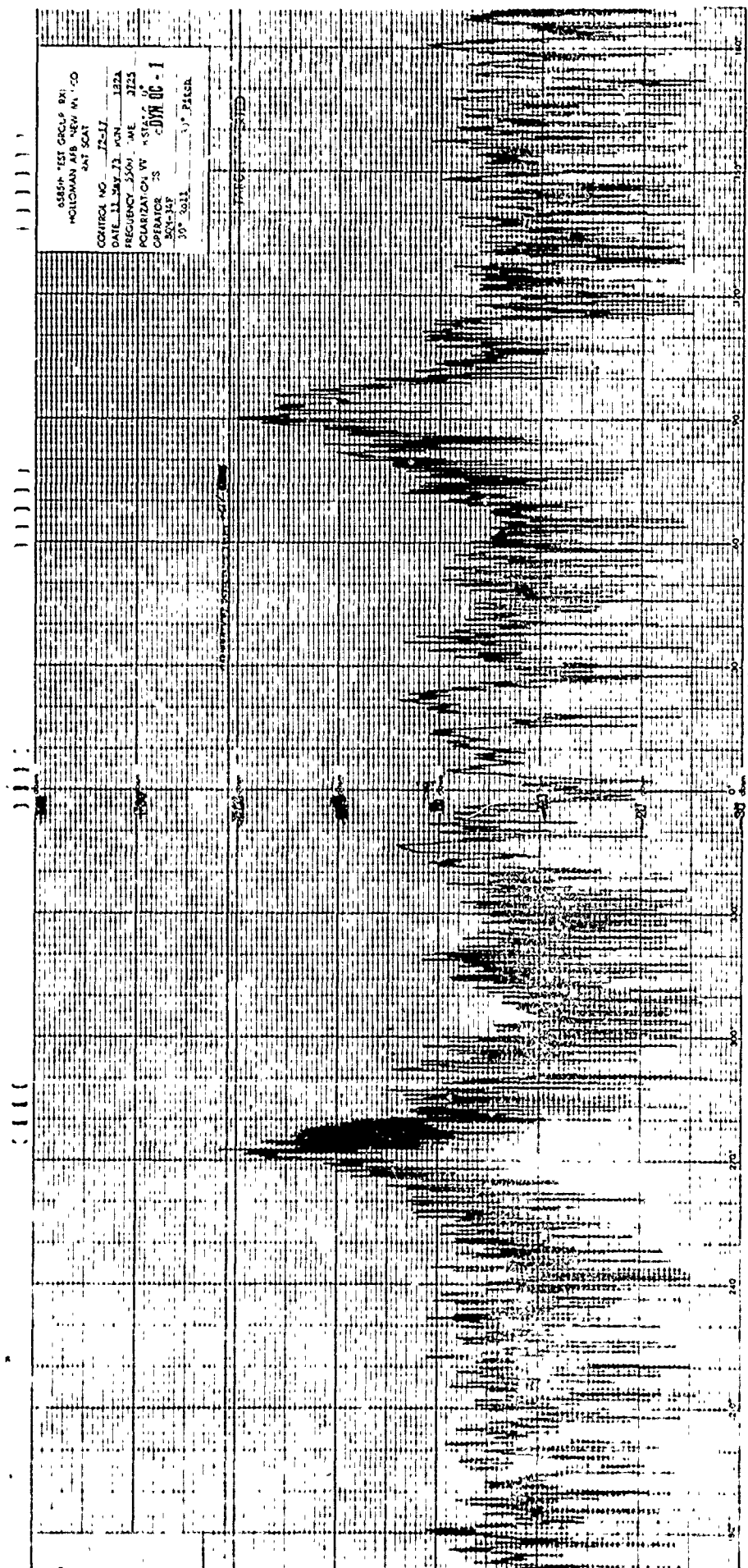
CONTROL NO. 72-17
DATE 11 OCT 73 RUN 1795
FREQUENCY 5500 MHz
POLARIZATION RH
OPERATOR RT
30 Roll 30° Pitch

UNCLASSIFIED

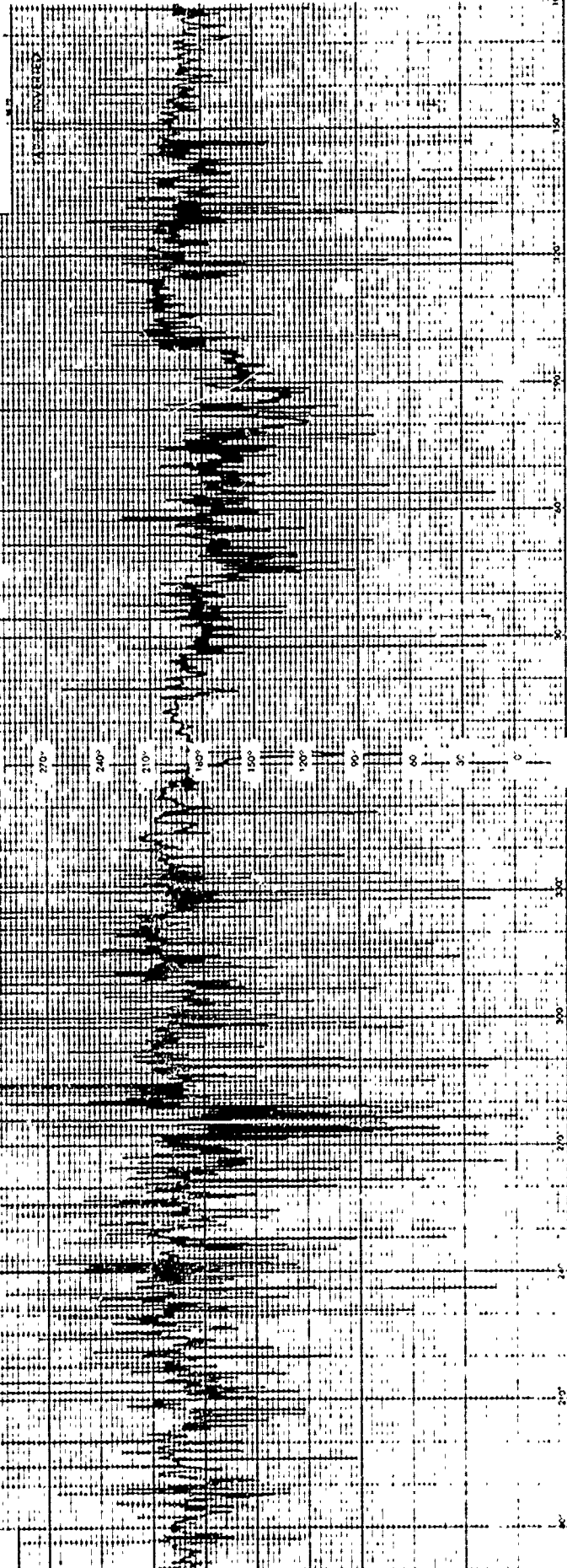


65854- TEST ORCLP BX1
HOLLISMAN AFB NEW MEXICO
SAT SCAT

CONTROL NO. 72-17
DATE 11 MAY 73 MIN 1824
FREQUENCY 3500 MHz 3724
POLARIZATION W V 15150 0°
OPERATOR CS CDW 00-1
W. SALL J. PALER

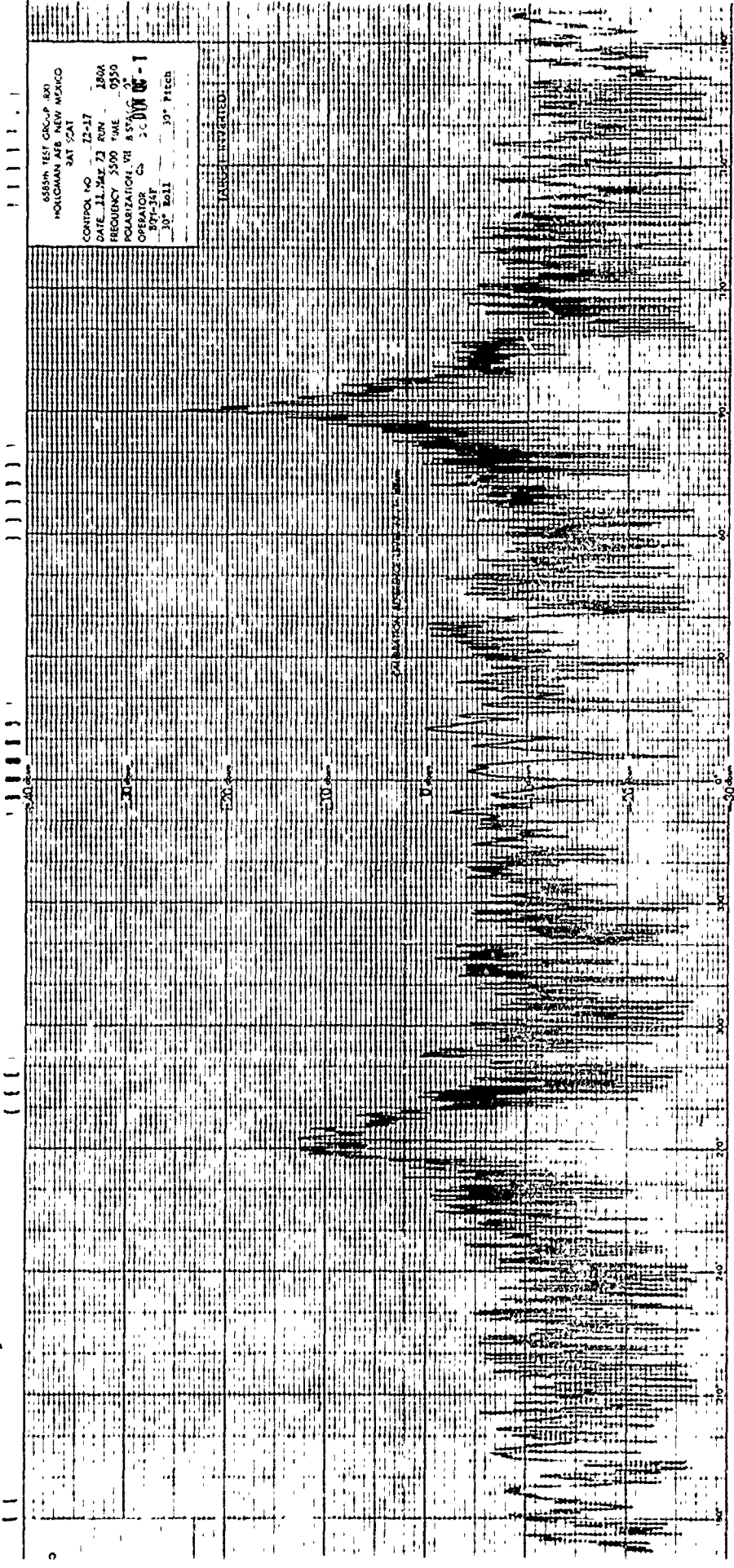


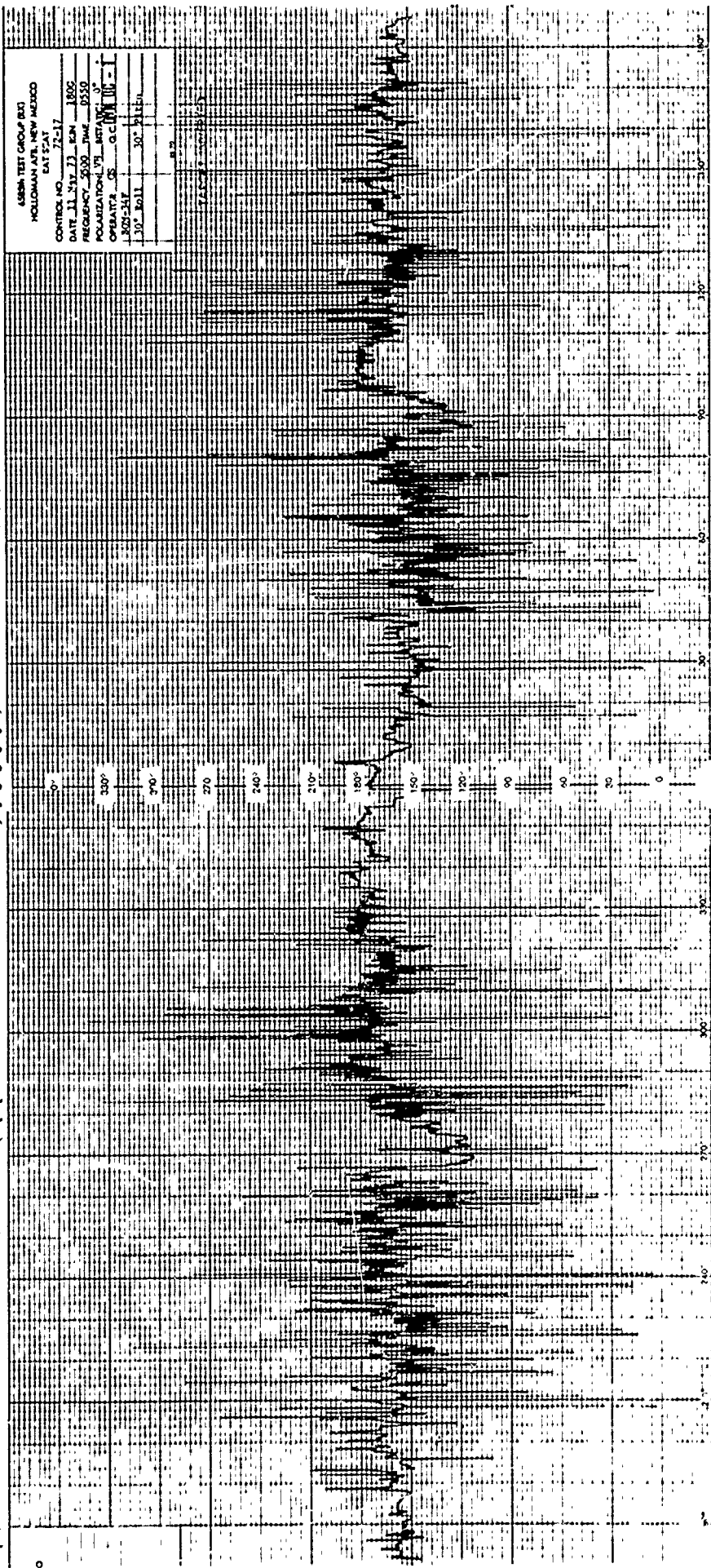
USNA TEST GROUP 201
HOLLAMAN AFB, NEW MEXICO
BAT SCAT
CONTROL NO. 72-57
DATE 11 Sep 73 RW 335C
FREQUENCY 5500.5 MHz 2723
POLARIZATION RT ANTENNA
OPERATOR G. G. GALT
30-347 33° 20' 11" E 115° 53'



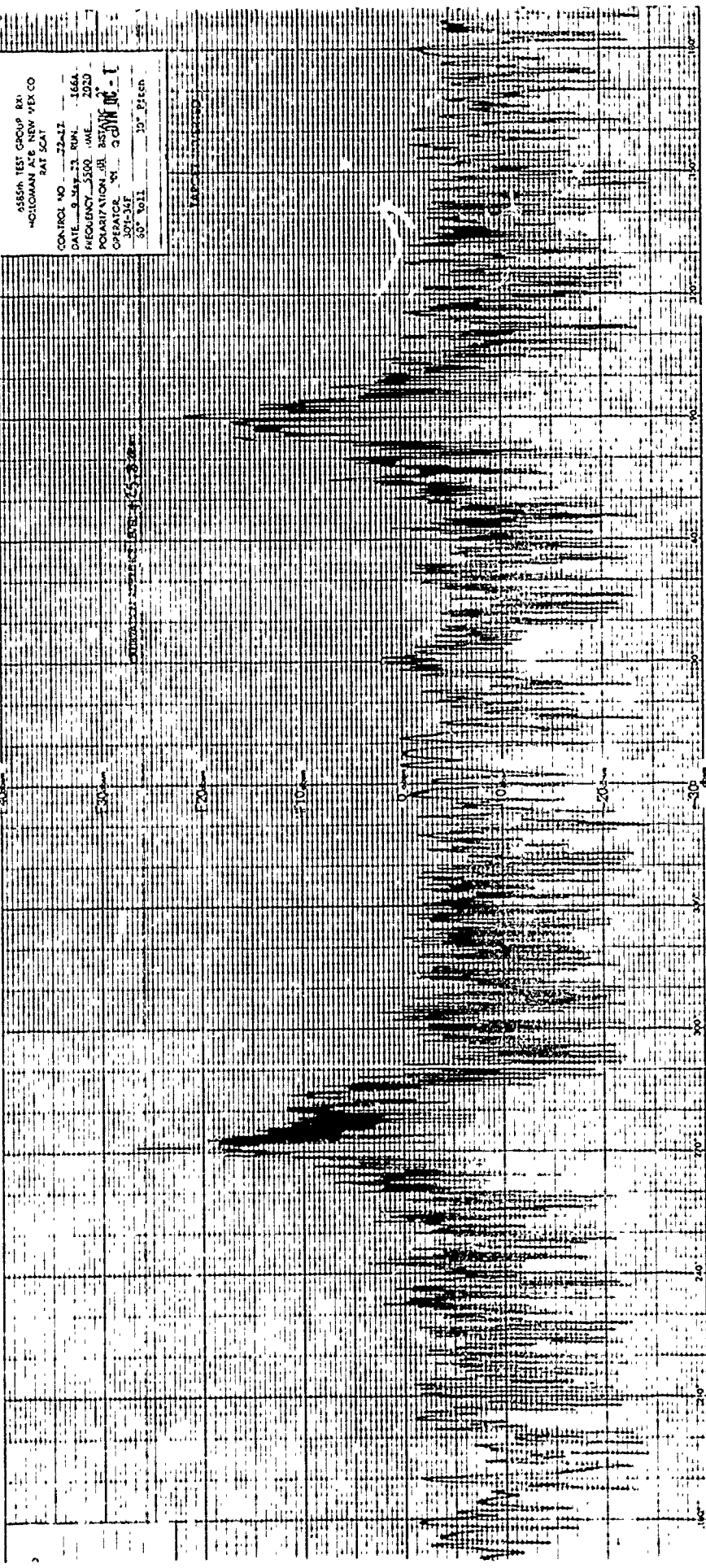
ASSHIN TEST CR.-P 80
 HOLLAND AIR NEW MEXICO
 CONTROL NO. 12-17
 DATE 11. MAY 73 RUN 180A
 FREQUENCY 5500 *ME 0550
 POLARIZATION VE A SVA
 OPERATOR CS
 874-36F
 30° Roll 30° Pitch

TABLE COVERED





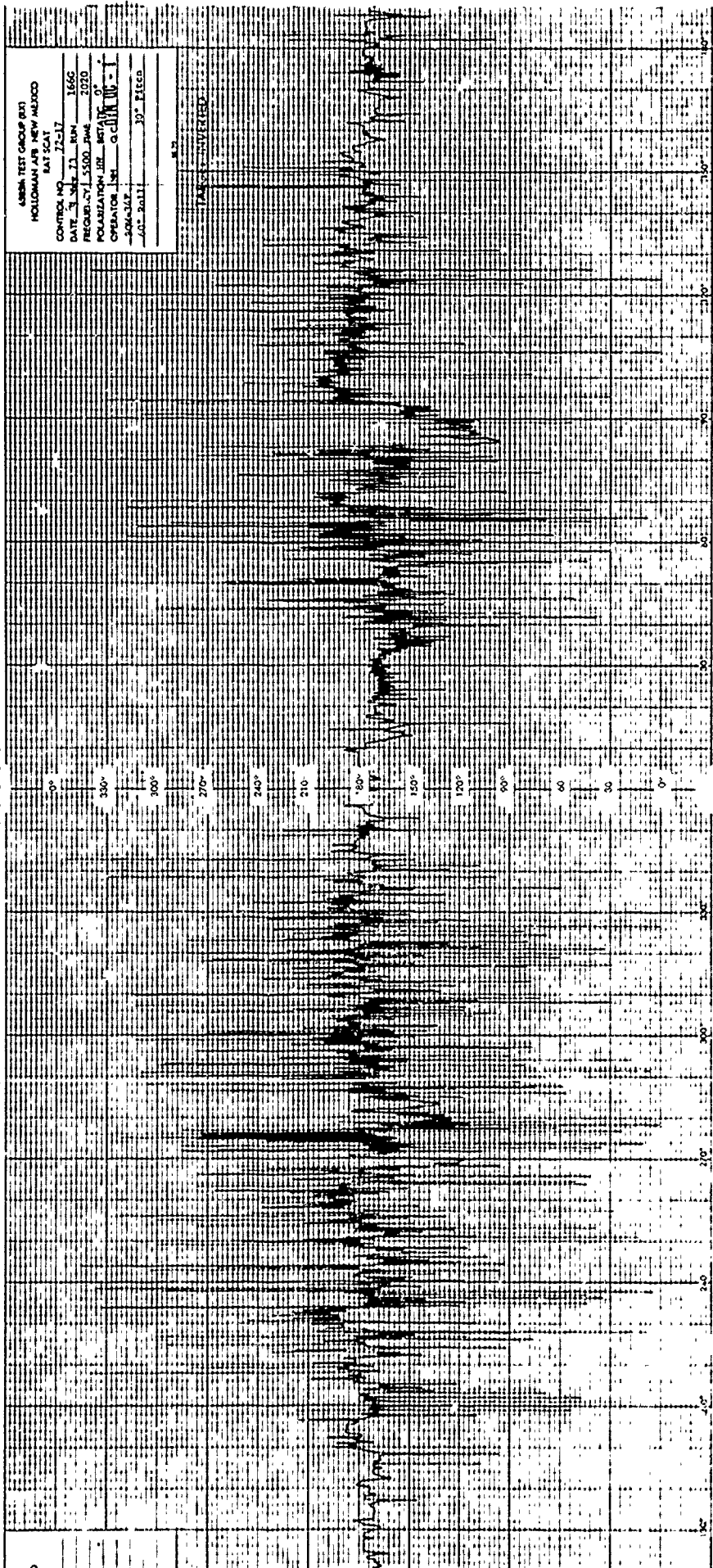
ASSH TEST GROUP (B3)
 HOLLOWMAN AFB, NEW MEXICO
 DATE 11 MAY 73 8:48
 FREQUENCY 5000 Hz
 POLARIZATION VERTICAL
 OPERATOR G.C. [initials]
 100-247
 30' Roll 30' Roll



5856 TEST GROUP BX
 -CLOHMAN AFB NEW MEXICO
 RAT SCAT
 CONTROL NO. 72-47
 DATE 9 MAY 73 RUN 166A
 FREQUENCY 5000 HME 2030
 POLARIZATION RL BSVAE DC - I
 OPERATOR W. OGDEN DC - I
 50° Roll 10° Pitch

USNA TEST GROUP (BT)
 HOLLOWAY ATB NEW MEXICO
 RAT SCAT
 CONTROL NO 72-17
 DATE 3 MAR 73 RUN 166G
 FREQUENCY 5500 MHz 2020
 POLARIZATION UR - RTN 0°
 OPERATOR LSI G. J. H. W. - I
 -504-312
 60° Roll 30° Pitch

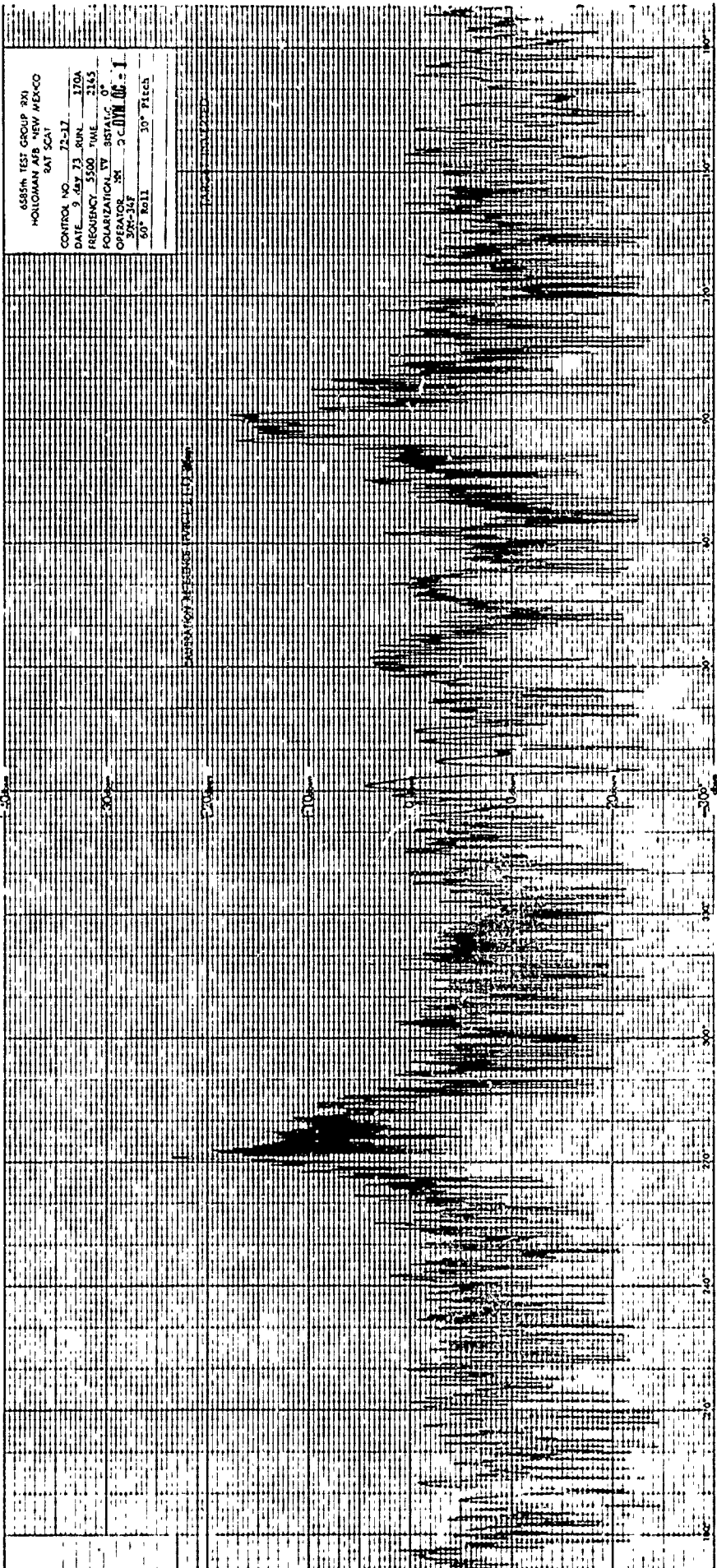
TARGET INVERTED

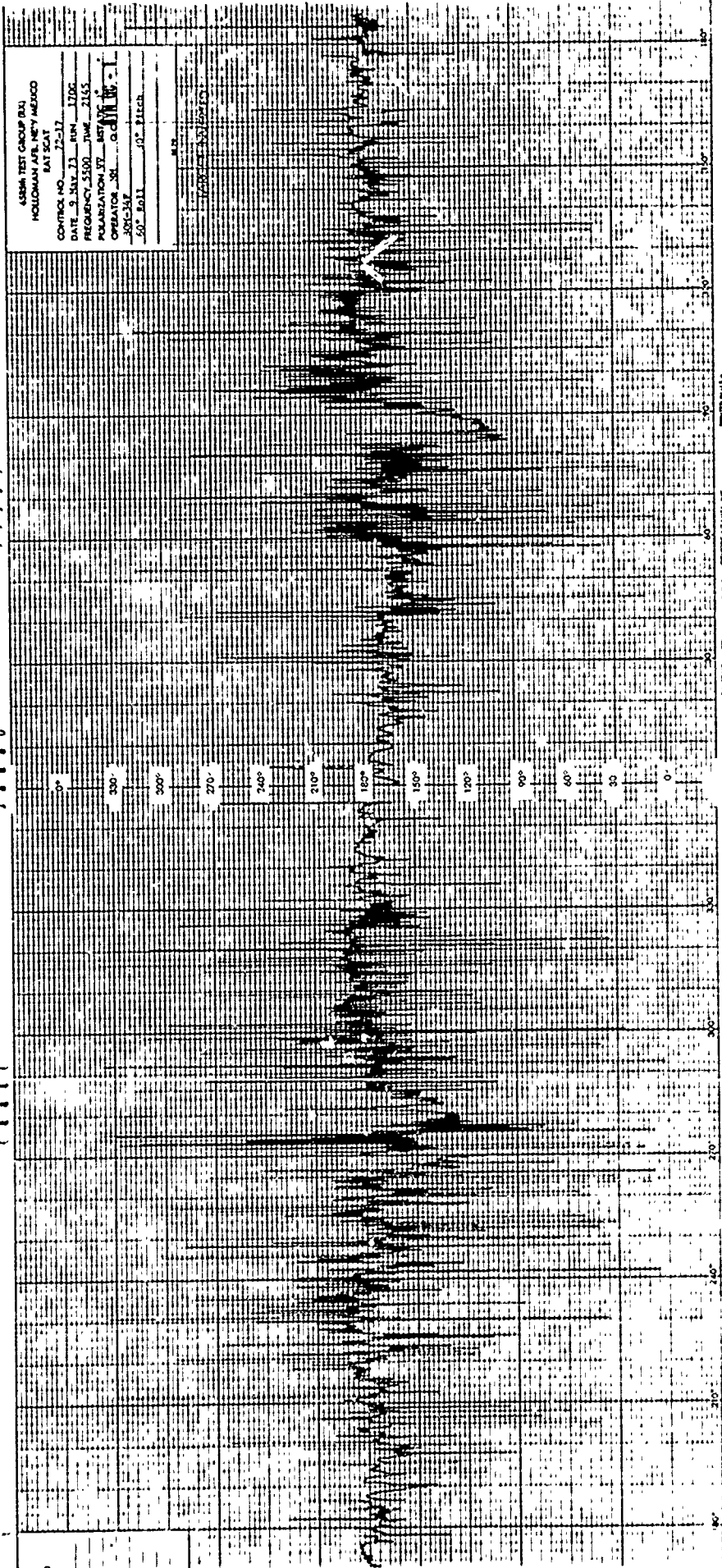


688th TEST GROUP (X)
HOLLAMAN AFB, NEW MEXICO
SAT 501

CONTROL NO. 72-17
DATE 9 May 73 RUN 170A
FREQUENCY 5500 TIME 2145
POLARIZATION TV STRATAC 0
OPERATOR SM C.C. DYM 06-1
574-14F
60" Roll 30" Pitch

EXPERIMENTAL REFERENCE CHANNEL 1 (1/3) 2000

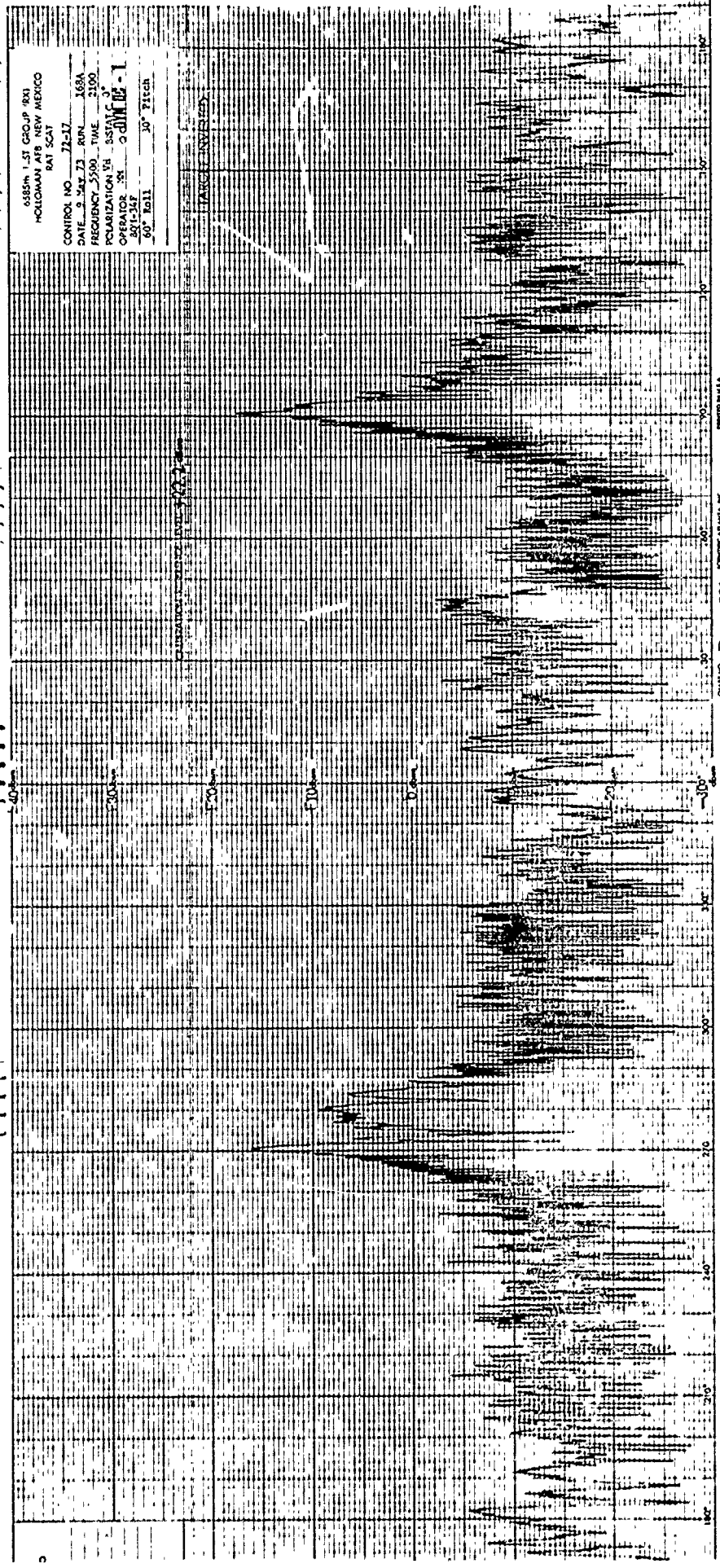


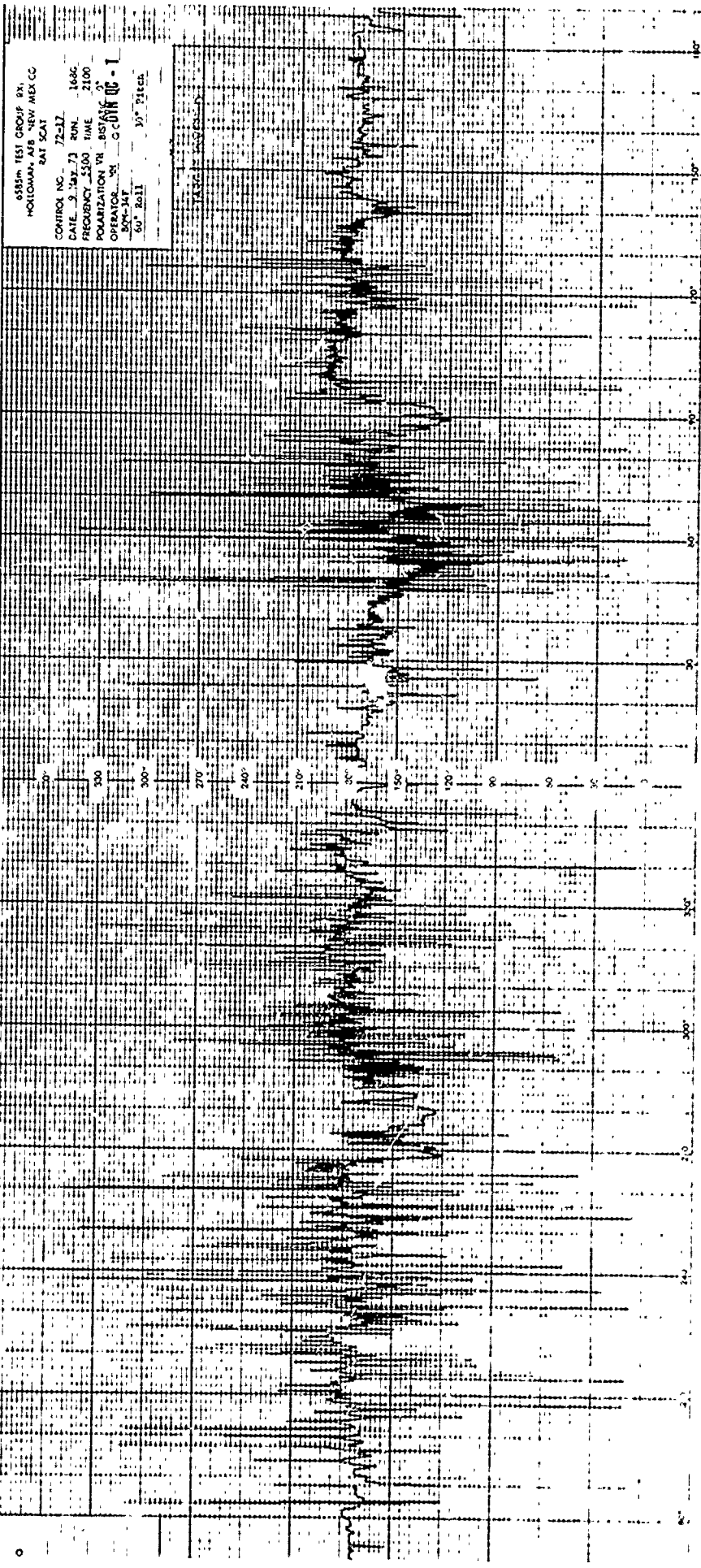


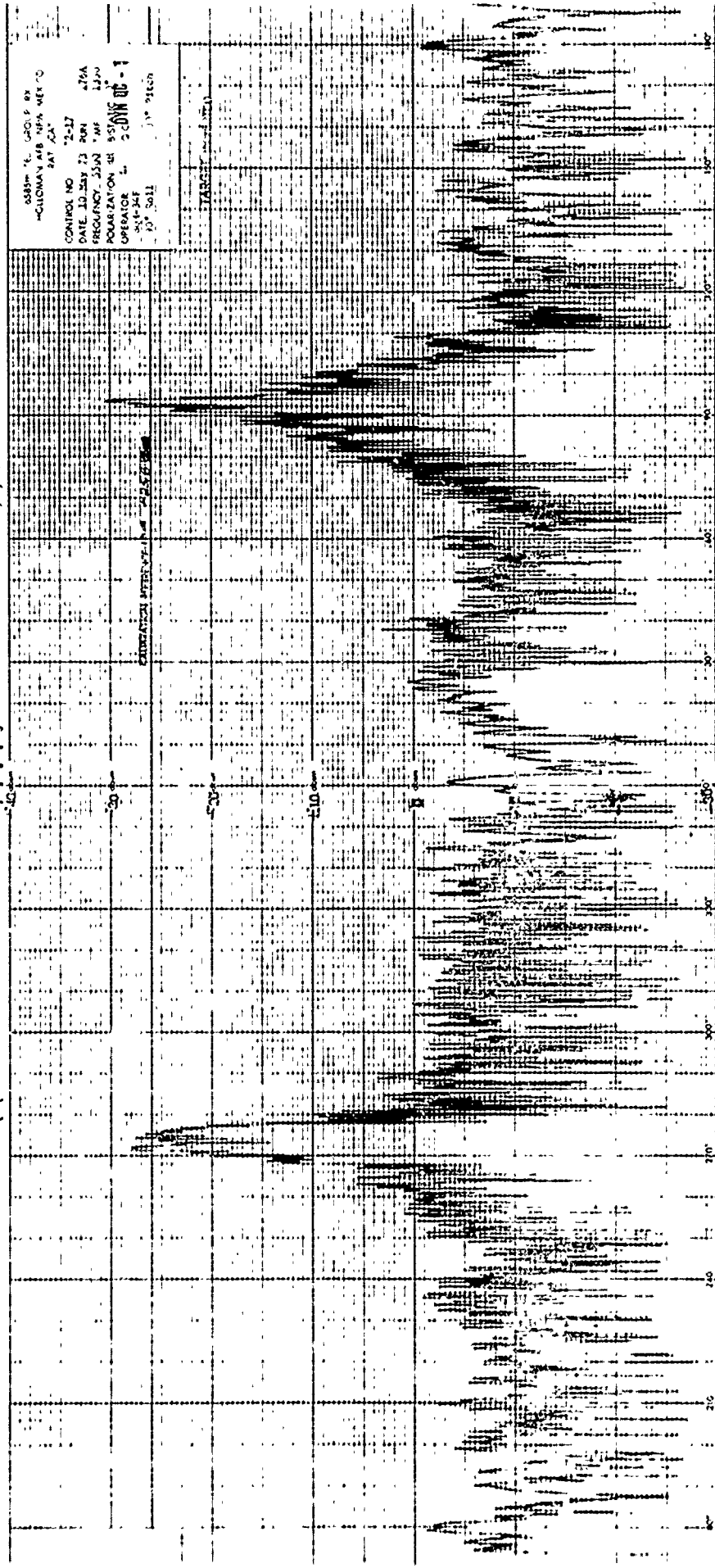
USMA TEST GROUP (U)
 HOLDMAN AFB, MISSISSIPPI
 CONTROL NO. 22-17
 DATE 3 MAY 13 RUN 1706
 FREQUENCY 2500 HZ 21.5
 POLARIZATION ST. 1ST
 OPERATOR SC. G. C. H. W. S.
 285-54
 50 Ball 0° Pitch

488th 1st Group (R) 1931
 HOLCOMB AFB NEW MEXICO
 RAT SCAT
 CONTROL NO 72-17
 DATE 3 MAY 73 RUN 168A
 FREQUENCY 5900 TIME 2100
 POLARIZATION VR - SST
 OPERATOR ST 0 DM 05 - 1
 201-567 30° Pitch

TARGET INVERTED

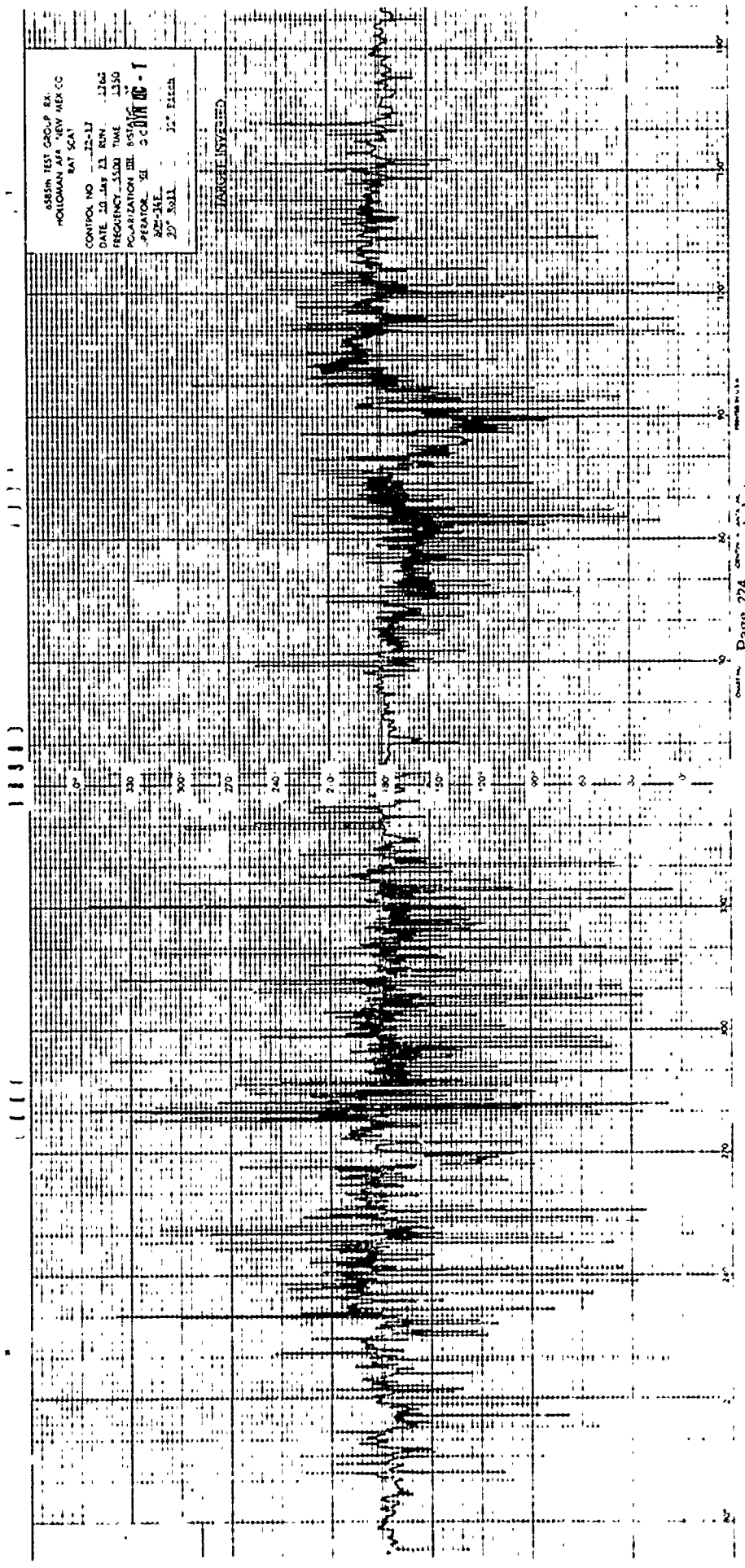






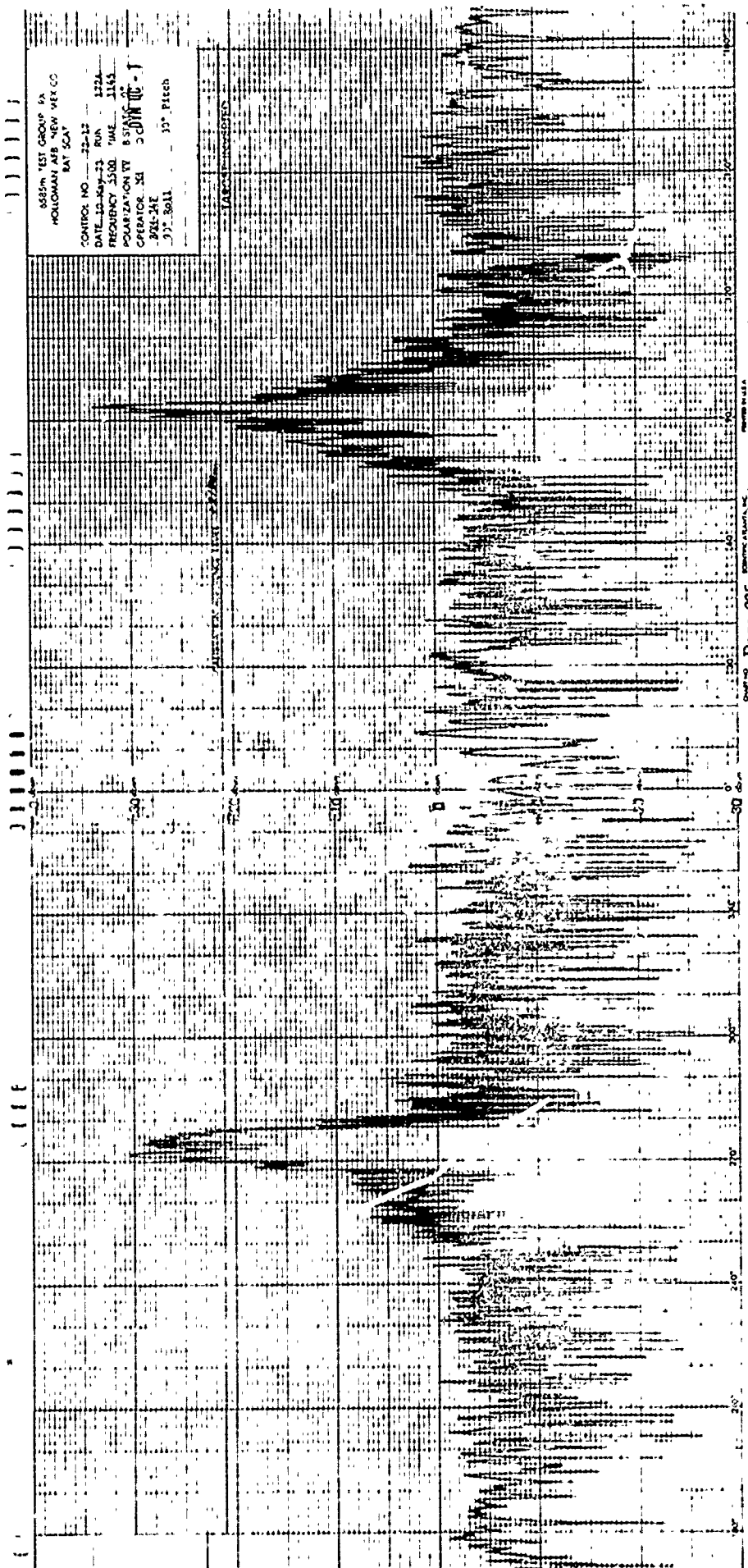
688th TEST GROUP BK.
 HOLLAMAN AFB NEW MEX CO
 RAT SCAT
 CONTROL NO. 22-17
 DATE 20 May 53 RUN 1745
 FREQUENCY 1500 THz 1350
 POLARIZATION HZ
 OPERATOR VE CCM
 27 3011 22 HIGH

RANGE INVERTED
 100
 80
 60
 40
 20
 0
 -20
 -40
 -60
 -80
 -100



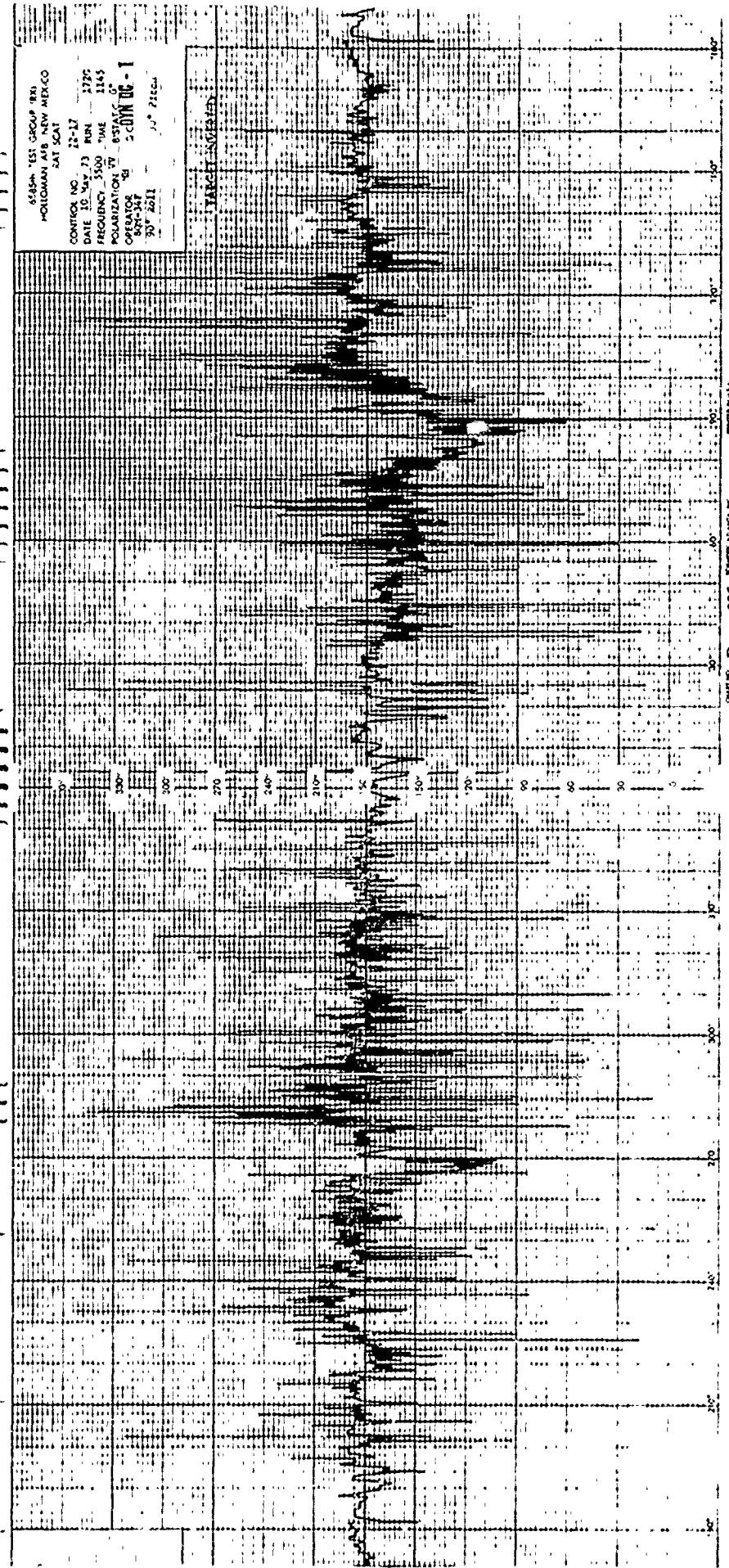
685m TEST GROUP 6A
 HOLDMAN AIR NEW REC CO
 SAT SCA

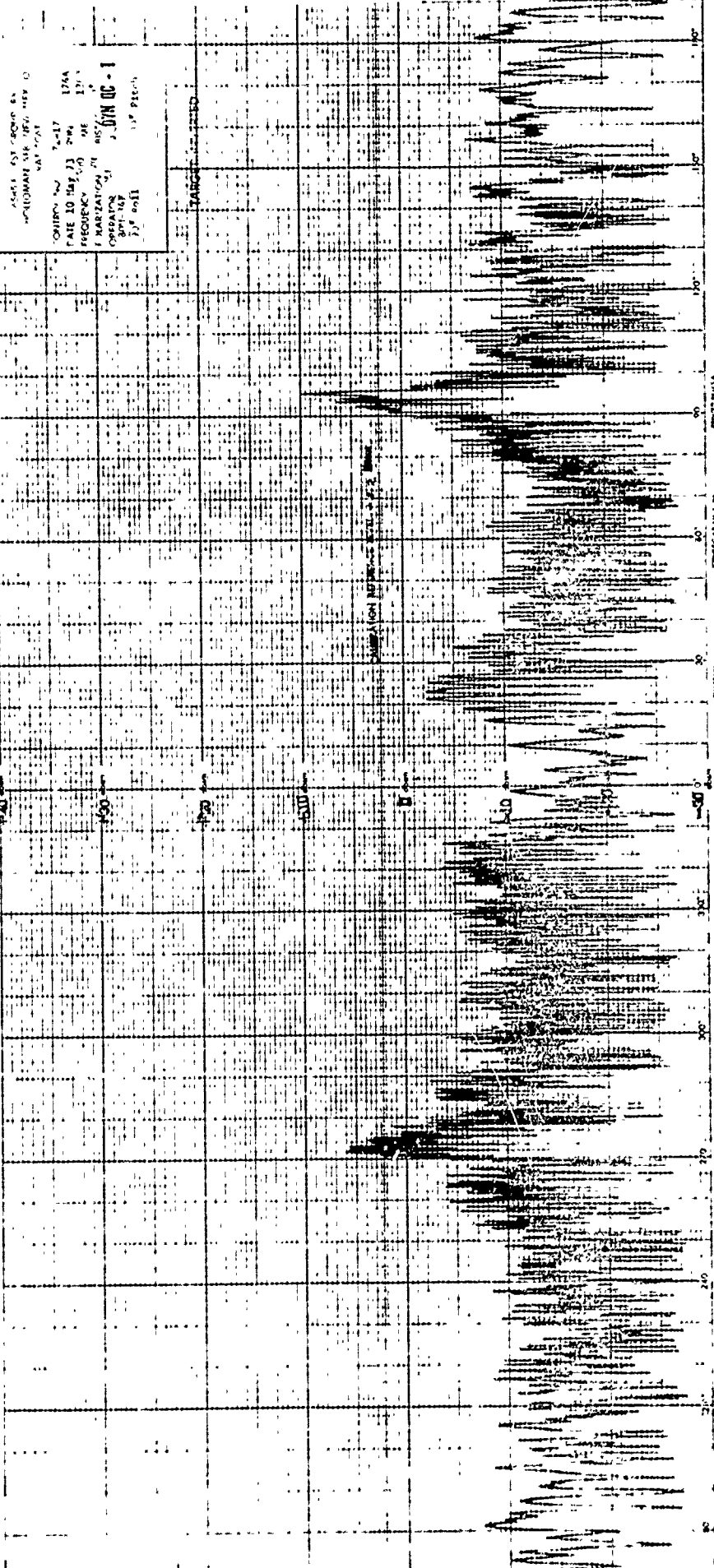
CONTROL NO. 22-12
 DATE 10-14-53 RUN 112A
 FREQUENCY 5500 TIME 1145
 POLARIZATION W 8.5°
 OPERATOR XI C
 201-24E
 27° Roll 15° Pitch



6585A TEST GROUP IIR
 HOLLAMAN AFB NEW MEXICO
 SAT SCAT
 CONTROL NO. 22-27
 DATE 10 May 73 RUN 1726
 FREQUENCY 5500 TIME 1145
 POLARIZATION VV RSTATIC 0
 OPERATOR EB 2 CONN DB-1
 874-347
 30° 2511
 10° 2120

TARGET NUMBER



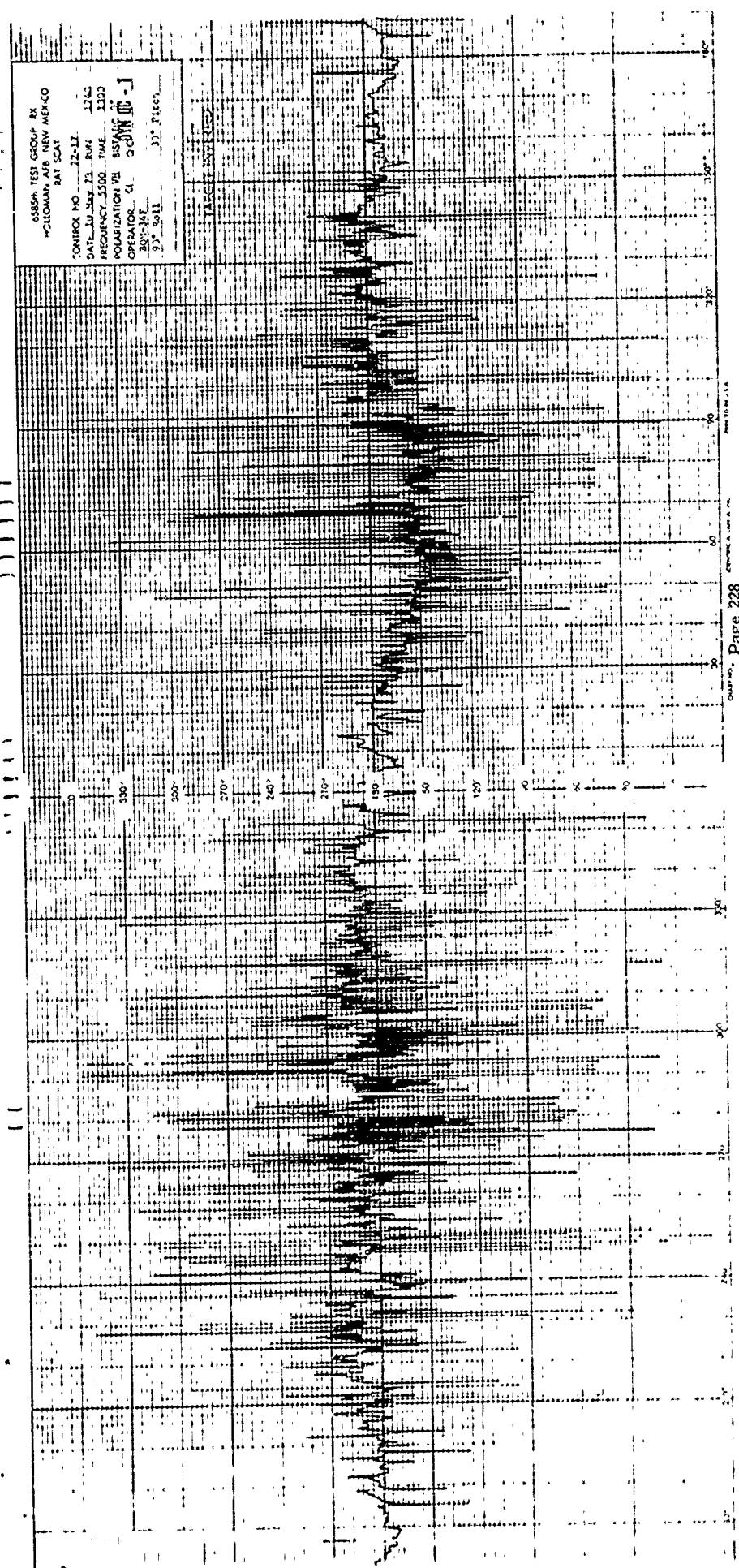


MODEL NO. 1200
 OPERATOR: J. J. HILL
 DATE: 10/13/54
 FREQUENCY: 100 MHz
 BANDWIDTH: 10 MHz
 OPERATOR: J. J. HILL
 DATE: 10/13/54

TARGET IDENTIFIED

6555th TEST GROUP BK
 WILLOWAY AFB NEW MEXICO
 BAT SCAT
 CONTROL NO. 22-12
 DATE: 10 MAY 73 RUN# 1763
 FREQUENCY 5500 TIME 1300
 POLARIZATION VE EAST
 OPERATOR G. J. PERRY
 37 PAGES

TARGET IDENTIFIED



UNCLASSIFIED

APPENDIX A
SITE INTRODUCTION

1. GENERAL

RAT SCAT is a static ground plane radar cross section measurement site, located on Alkali Flats near Holloman Air Force Base, New Mexico. It is authorized by the DOD for use by governmental agencies. It is under the auspices of the 6585th Test Group, Air Force Special Weapons Center, Kirtland Air Force Base, New Mexico.

A ground plane range utilizes radar energy reflected from the earth as well as radar energy traveling directly to the target through the atmosphere. When the antennas and target are adjusted to proper heights, coherent phase addition of these electromagnetic waves into a flat wave front, enhances the system sensitivity. Radar returns from objects near the earth's surface are reduced thus suppressing target area interference. Target area interference is reduced further through the use of special polyfoam support columns, radar absorptive materials (RAM), and rotators located below the earth's surface (in pits).

Pulsed transmitters are employed to enable utilization of the range gated receiving system, which can selectively measure radar returns from the target area or the range displaced transfer standard. Background interference outside the target range is eliminated by range gating. Operation without background cancellation is therefore practical.

2. CAPABILITIES

The RAT SCAT electronic equipment and controls are housed in a permanent building. Three separate range lengths (458 feet, 1158 feet, and 2458 feet) are provided for range variation as shown in Figure A-1. This allows the use of convenient antenna and target heights while satisfying the far field criterion for most targets. (Special 40-foot antenna towers are attached to the building for antenna height positioning.) Further versatility is provided by two mobile equipment vans, one for monostatic range length variation and one for bistatic measurements. A duplicate set of control and data consoles in the main building enables simultaneous operation of any two of the three ranges. A summary of the RAT SCAT characteristics is contained in Table A-1.

3. CALIBRATION

The normal method of calibration at RAT SCAT is to mount a primary standard (precision sphere) scatterer with a known radar cross section and record the corresponding signal level. Then the return from another secondary standard (corner or Luneberg lens) scatterer

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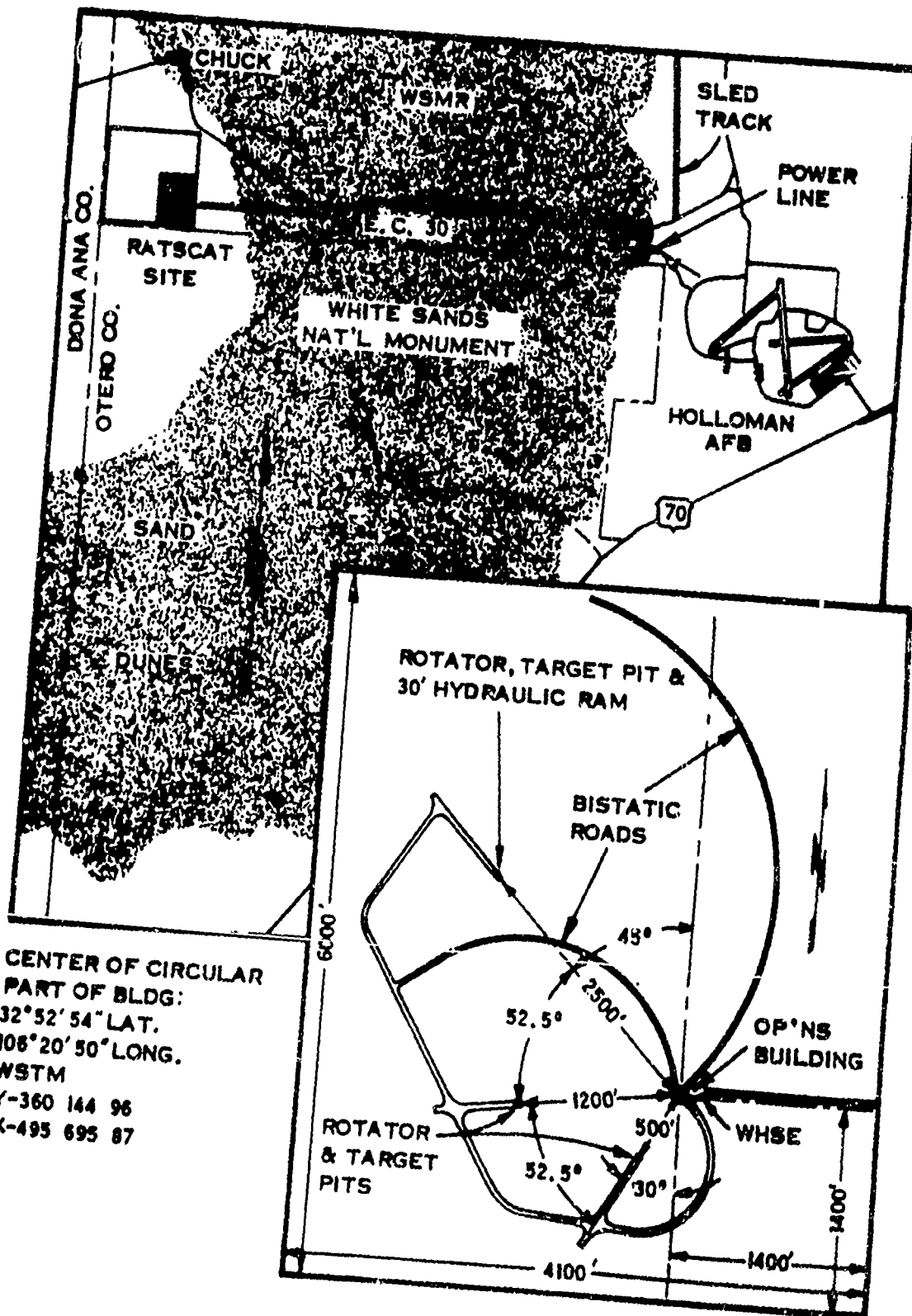


Figure A-1 MAP OF RAT SCAT SITE

A-2

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TABLE A-1

RAT SCAT CHARACTERISTICS OF ELECTRONIC EQUIPMENT

Power Output	1 KW nominal bands 1 through 8, 25 KW nominal Ku, Ka bands
Pulse Width	0.1 to 1.0 microsecond
Pulse Repetition Frequency	500 to 5000 pps
No. of Receiving Systems	Two per band, (one monostatic and one bistatic)
Receiver Minimum Detectable Signal	-94 dbm nominal
Receiver Bandwidth	2 or 10 Mhz (selectable)
Range Gate Width	0.1 to 1.0 microsecond (50 to 500 feet)
Dynamic Range	70 db
Linearity	± 0.5 db
Equipment Stability	0.1 db/hour (Average)
Analog Data Format	Polar and rectangular plots of cross section, glint and phase vs aspect angle
Digital Data Format	7 or 9 track magnetic (see Appendix C)
Antennas	1, 2, 3, 4, 6, 10, and 16 foot parabolic dishes (smaller and larger dishes available for special tests)
Antenna Feeds	Linear and circular horns with VSWR less than 2.0 to 1.0
Polarization	Horizontal, vertical, circular, elliptical in any transmitting and receiving configuration.
Background Level	As low as -80 dbsm (frequency dependent)
Background Reduction	Tuned columns and vector subtraction by using phase and amplitude measurements to reduce background by 20 db
Phase Measurement	Unique RAT SCAT capability for vector subtraction or scattering matrix applications
Azimuth Resolution	0.1 or 0.01 degree as applicable
Maximum Target Weight	40,000 pounds
Target Size	Greater than 60-foot length
Bistatic Capability	Primary ranges of 458 , 1158 , and 2458 feet for 0 to 160 degree bistatic angle
Frequency Coverage	100 to 18,000 MHz continuous, Ku, Ka bands and 95 GHz

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- Band 1 - 100 to 250 MHz
- Band 2 - 250 to 500 MHz
- Band 3 - 500 to 1000 MHz
- Band 4 - 1000 to 2000 MHz
- Band 5 - 2000 to 4000 MHz
- Band 6 - 4000 to 8000 MHz
- Band 7 - 8000 to 12,000 MHz
- Band 8 - 12,000 to 16,000 MHz

Ku, Ka bands;
95 GHz

Range Length 300 feet minimum

- Building/Pit 1 - 458 ft
- Building/Pit 2 - 1158 ft
- Building/Pit 3 - 2458 ft
- Monostatic Van/Pits 1, 2, or 3 - variable range length

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displaced in range is recorded as a transfer standard. Both the precision standard return and the transfer standard return are recorded on the same plot. Thereafter, radar cross section calibration is determined by referencing the transfer standard return for every run. Thus every run is recalibrated. The comparisons of primary and transfer standards accomplished before and after each measurement series are identified respectively as calibration and post-calibration. If the direct ratio of primary to secondary readings is not maintained before and after the measurement series, then all runs between are invalid and must be repeated.

The calibration reference level marked on each data plot is related to the transfer standard level. This reference level may under controlled conditions differ from the actual transfer standard signal level since precision calibrated attenuation is sometimes inserted in the receiver line. When such attenuation is inserted, returns from the transfer standard are reduced to a level compatible with the scale used for the target measurements. The 70 db dynamic range of the plot is placed to include the range of returns expected from the vehicle being measured. In some cases two runs are necessary to be plotted for direct overlay to include the dynamic range of the vehicle if it exceeds 70 db. Calibration plots are included with the target data when requested by the user.

The sphere calibration plots will not necessarily be straight lines. If the background return is within 20 db of the sphere return, for example, a variation in sphere return of approximately ± 1 db can result. For calibration the sphere is intentionally placed at least $1/2$ wavelength off the center of table rotation to insure sufficient phasing with the background return. The average sphere return is then chosen for a calibration level. This avoids the peak errors involved with coherent addition of sphere return and background return and allows the minimum errors involved with non-coherent addition of the returns. This is indicated in Figure A-2.

4. OPERATING PROCEDURES

The following step-by-step procedure is standard in obtaining monostatic radar cross section measurements after frequency, feeds, antennas, antenna height, target height, and pit (range length) have been chosen:

1. Calibration - As described in previous section.
2. Horizontal and vertical probes (field strength measurements at the target area) - Horizontal probes at the target area have been shown to be redundant for azimuthal boresighting. For this reason, these probes are taken only upon request for examination of near field effects.

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MAXIMUM POSSIBLE ERROR - Decibels

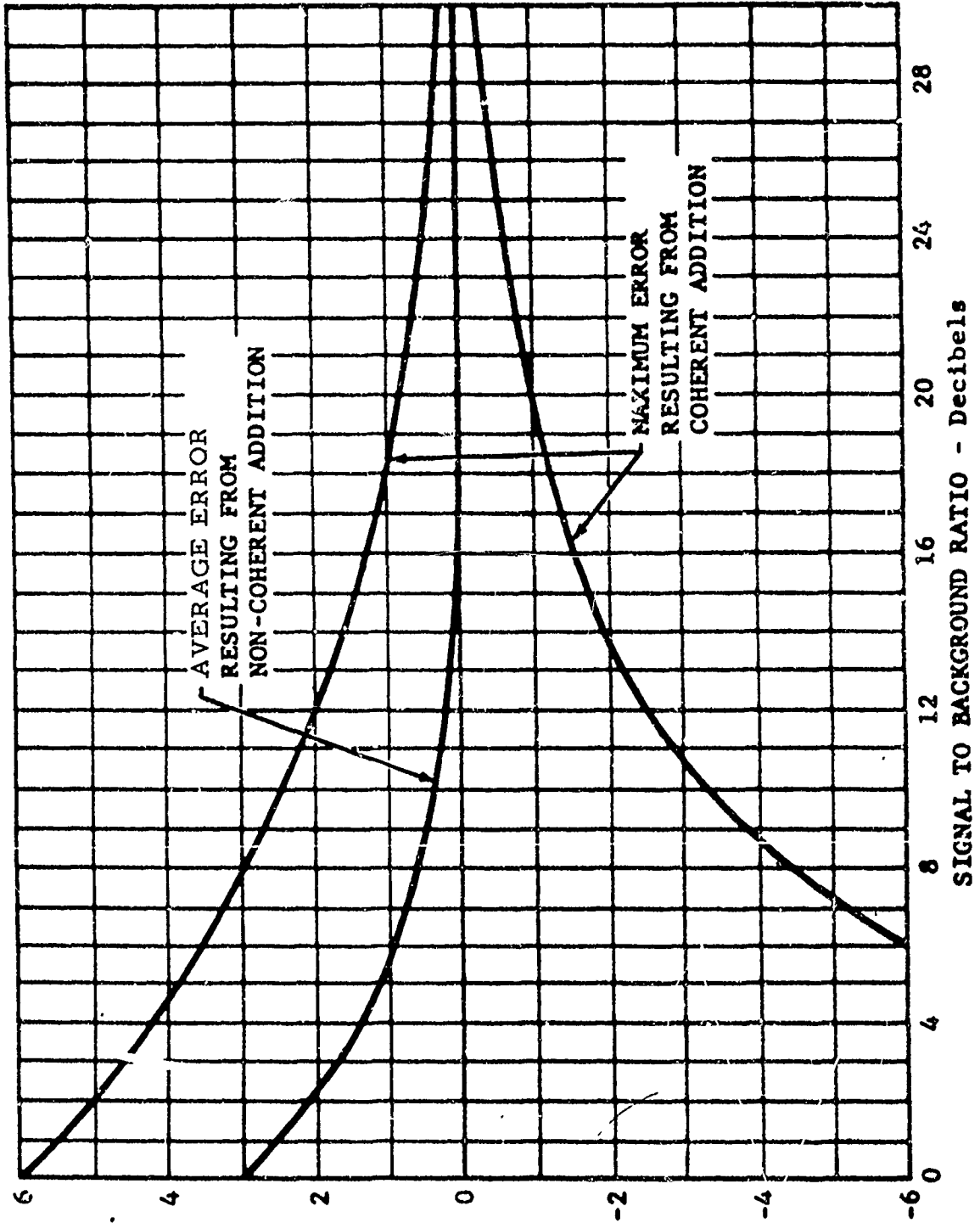


Figure A-2 PLOT OF ERROR INDUCED BY BACKGROUND INTERFERENCE

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Vertical probes are taken at the target area to determine power variation as a function of target height. If necessary, antenna height is varied to obtain an acceptable vertical probe which then necessitates a new calibration.

3. Background - The background level with the target mount in place is measured in each polarization to be used.

4. Measurement - The measurement is made with the vehicle in the position previously occupied by the primary standard.

5. Calibration - The primary calibration is repeated to verify calibration (post calibration).

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APPENDIX B
TARGET ORIENTATION AND DATA FORMAT

1. COORDINATE SYSTEM

The coordinate system described herein has been adopted as a standard for RAT SCAT operations. The system is referenced both to the vehicle being measured and to the measurement site.

a. Vehicle Reference

A three-axis system, referenced to an arbitrary vehicle, is illustrated in Figure B-1. In this system three mutually perpendicular planes (yaw, pitch, and roll) are passed through the vehicle so that the pitch and yaw planes mutually intersect on the longitudinal axis of the vehicle. These planes remain fixed with respect to the vehicle, regardless of vehicle rotation with respect to the radar or ground plane. The yaw plane, which includes the pitch axis and the roll axis, is numbered from 0 degrees to 360 degrees in a clockwise direction when the vehicle is viewed from the above. The nose-on aspect corresponds to 0 degrees, the starboard side of the vehicle corresponds to 90 degrees, and the port side to 270 degrees. The pitch plane, which contains the roll axis and the yaw axis is numbered from 0 degrees to ± 180 degrees; the + 90 degree point is below the center line, and the - 90 degree point is above the center line. The roll plane contains the yaw axis and the pitch axis. It is numbered from 0 degrees to 360 degrees, and the numbers increase in a counterclockwise direction when the vehicle is viewed from the rear.

b. Site Reference

As previously stated the coordinate system is fixed with respect to the vehicle. It is referenced to the site by means of three index marks. The exact value of any of the three angles is determined by noting the value of the vehicle coordinate opposite the index marks. Index marks come from such devices as bubble levels, inclinometers and transits.

As illustrated in Figure B-2, the index for roll angles is normal to the axis of rotation. As illustrated in Figure B-3, the index for pitch angles is normal to the axis of rotation and in line with the apparent source of radiation. For measurements at the RAT SCAT Site, targets can be mounted to provide desired pitch and roll angles.

c. Coordinate System Tilt

For small targets another angle, tilt, can be utilized in recording useful data. This angle, equipment-limited to less than 15 degrees, is formed by the axis of rotation and the normal to the line of sight to the

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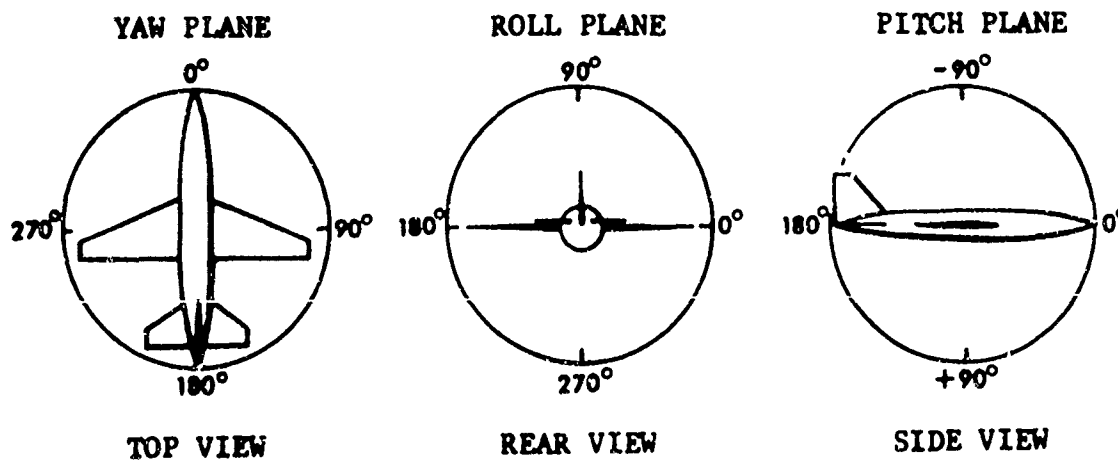
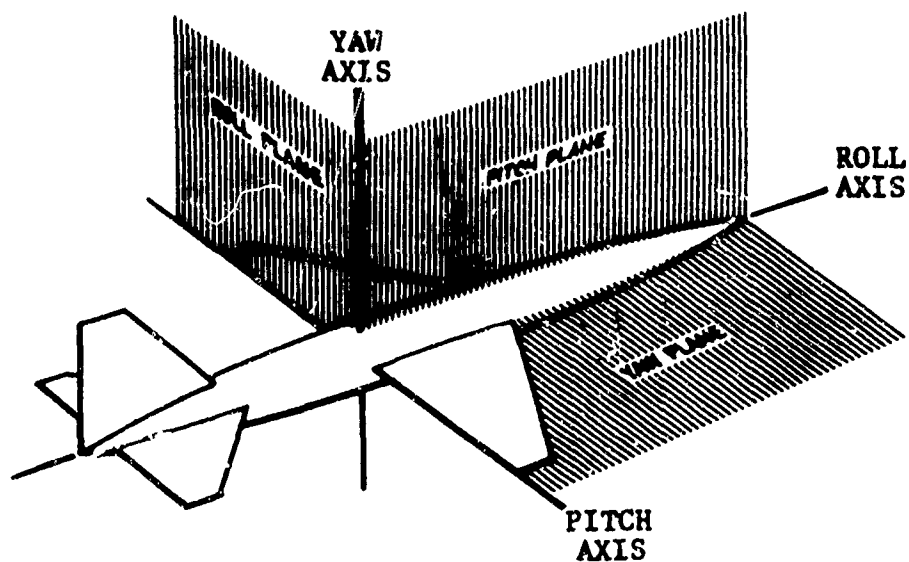
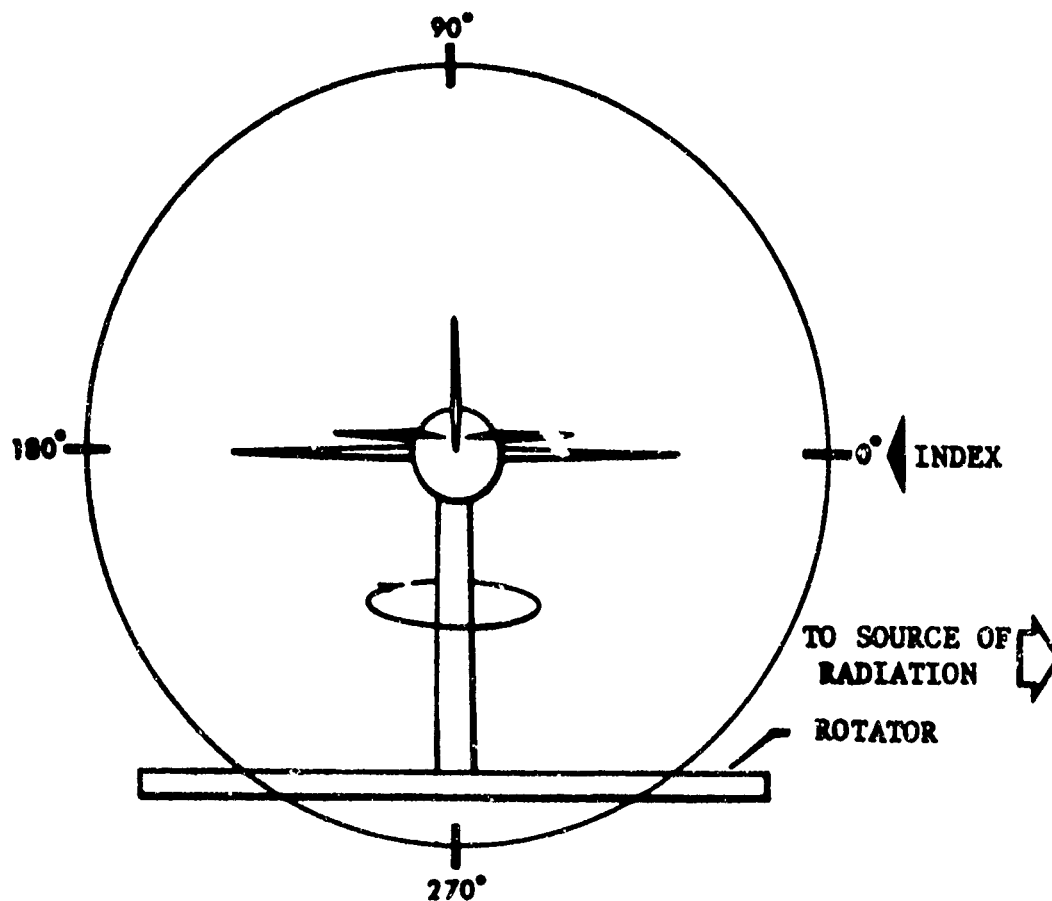


Figure B-1 VEHICLE COORDINATE SYSTEM

B-2

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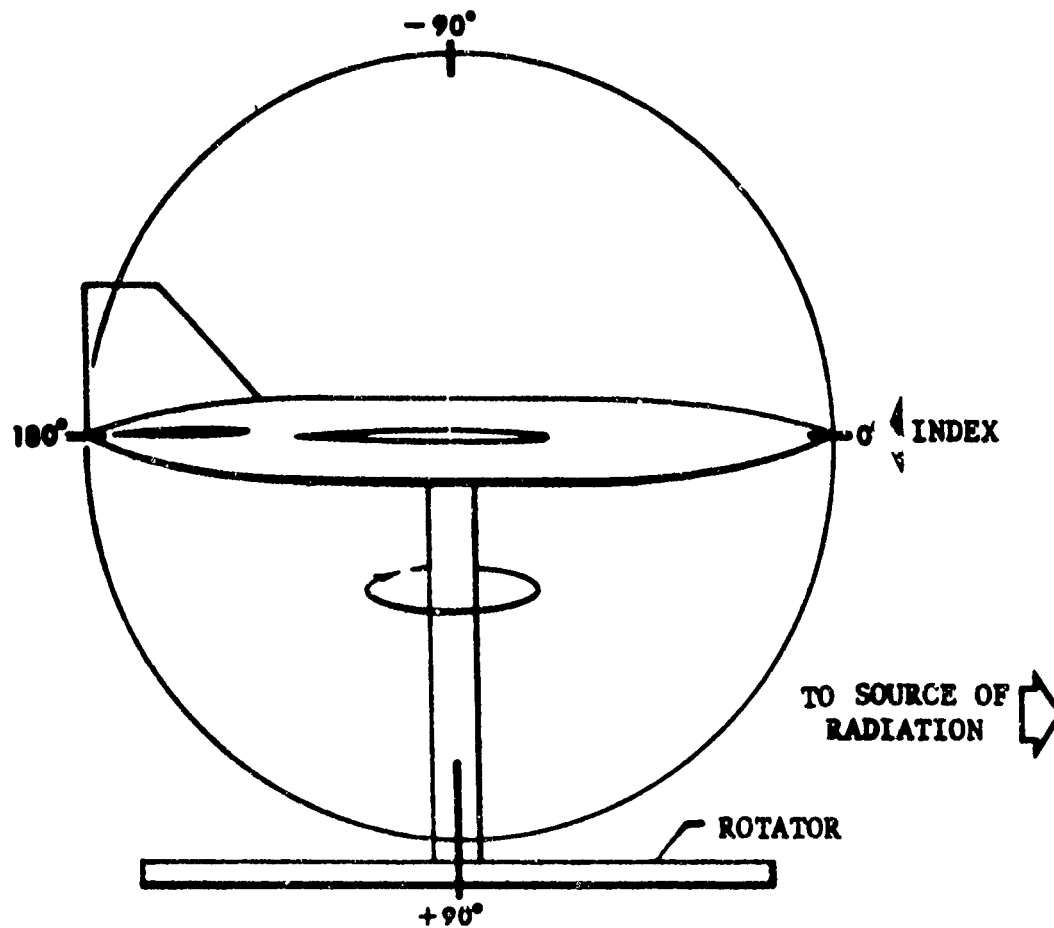
NOTE: The roll scale is fixed to the vehicle. The amount of roll is determined by noting the number of degrees opposite the index. Clockwise rotation of the target (when viewed from the rear) increases the roll angle.

Figure B-2 TARGET ORIENTATION - ROLL

B-3

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NOTE: The pitch scale is fixed to the vehicle.
The number of degrees of pitch is determined
by noting the scale value opposite the index.

Figure B-3 TARGET ORIENTATION - PITCH

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apparent source of radiation. Since, in a ground plane range, radiation can be considered to emanate from a point with zero height directly beneath the antennas, a zero-degree tilted axis of rotation is slightly off the geometrical vertical. This small deviation from the geometrical vertical is neglected in the following discussions.

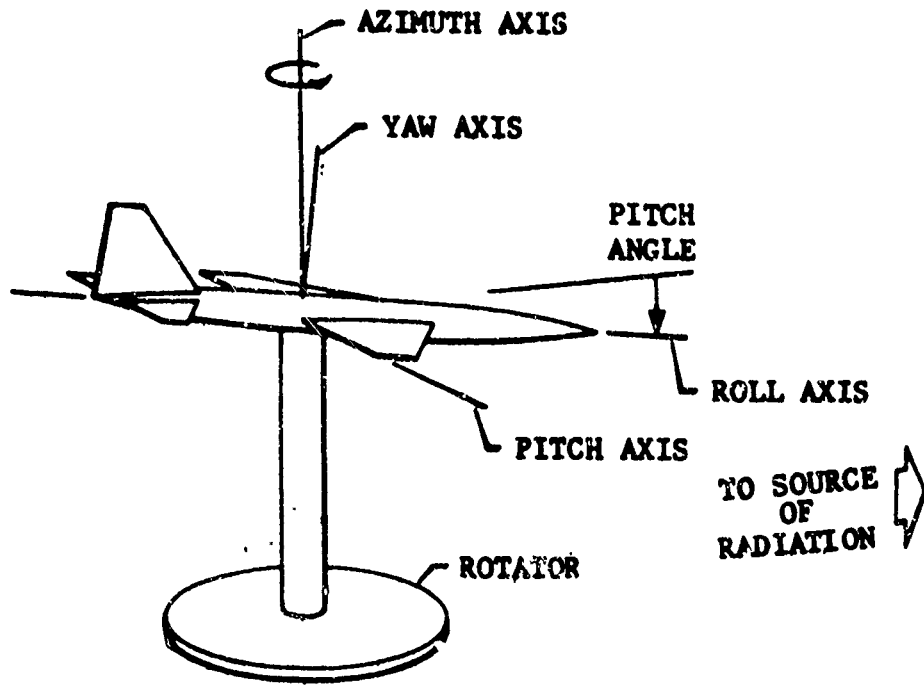
A target mounted with a pitch angle other than zero displaces the yaw axis from the vertical, but not the axis of rotation. The axis of rotation is displaced from the vertical only when non-zero tilt is employed. Tilting toward the radar is considered positive tilt and away from the radar is negative tilt. For monostatic measurements tilt will be measured in the vertical plane containing the line of sight between the radar and the target. The difference between pitch and tilt is shown in Figure B-4.

2. DATA FORMAT

Data recorders obtain azimuth angle information by means of precision synchro signals from the position of the rotating table. The line of sight from the antennas to the center of the rotator, as illustrated in Figure B-5, indexes azimuth angles. As used here the term azimuth refers to the position of the target rotator table. With zero degrees of pitch and roll, azimuth and yaw are identical. It is standard practice to turn the rotator in a clockwise (cw) direction as viewed from above. Consequently, the azimuth angle varies, for example from 180 degrees (tail-on) to 90 degrees (starboard-side) to 0 degrees (nose-on) to 270 degrees (port-side).

a. Polar and Rectilinear Plots

Essential information pertinent to each plot is contained in the information block located in the upper right hand corner of the rectilinear plots and in the second quadrant of the polar plots. Each rectilinear plot has the recording of the return from the left side of the vehicle on the left side of the plot, 0 degrees at the center, and the recording of the return from the right side of the vehicle on the right side of the plot; 180 degrees (tail-on) appears at the right and left extremities of the plot, as shown in Figure B-6. Since the paper moves from left to right under the recorder pen, it should be noted that measurements are limited at 180 degrees in order to obtain continuous measurements on the recorder paper. The table on the polar recorder is rotated in the same directions as the target so the 90-degree point appears on the right side of the polar plot, the 270 degree point on the left, and the zero or 360 degree point at the top of the plot.

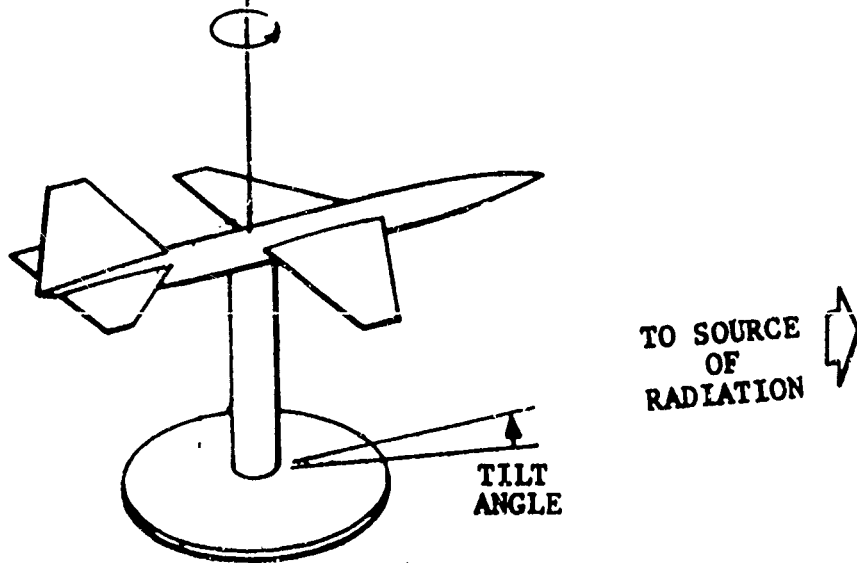


PITCH

NOTE:

Axis of rotation is always collinear with Azimuth Axis

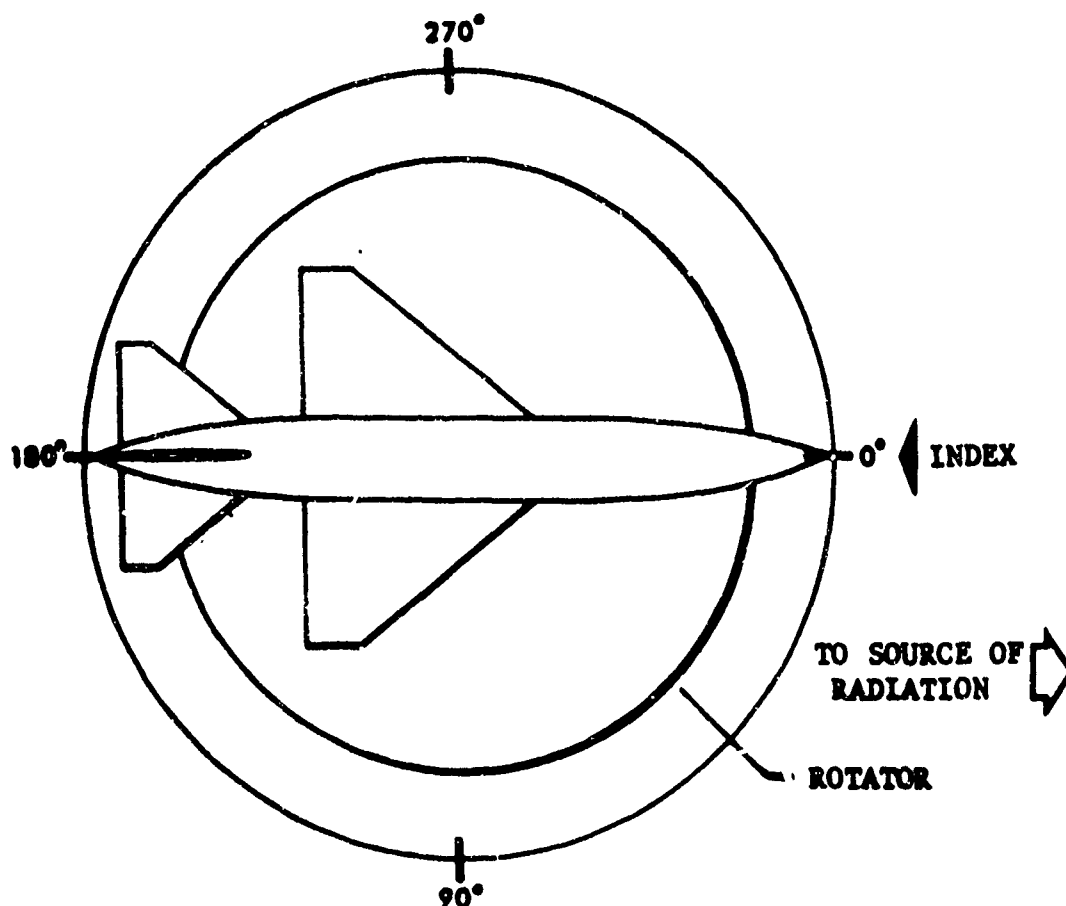
AZIMUTH & YAW AXIS



TILT

Figure B-4 COMPARISON OF PITCH AND TILT ORIENTATIONS

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NOTE: The azimuth scale is fixed to the target rotator. The azimuth value is determined by noting the value of the scale opposite the index mark as the rotator and scale revolve. The index is the line-of-sight from the radar antennas to the center of the rotator. (Azimuth angle data are transmitted to the data recorders by means of synchro signals.) The standard direction of rotation will be clockwise.

Figure B-5 TARGET ORIENTATION - AZIMUTH

B-7

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RECTILINEAR
RECORDER

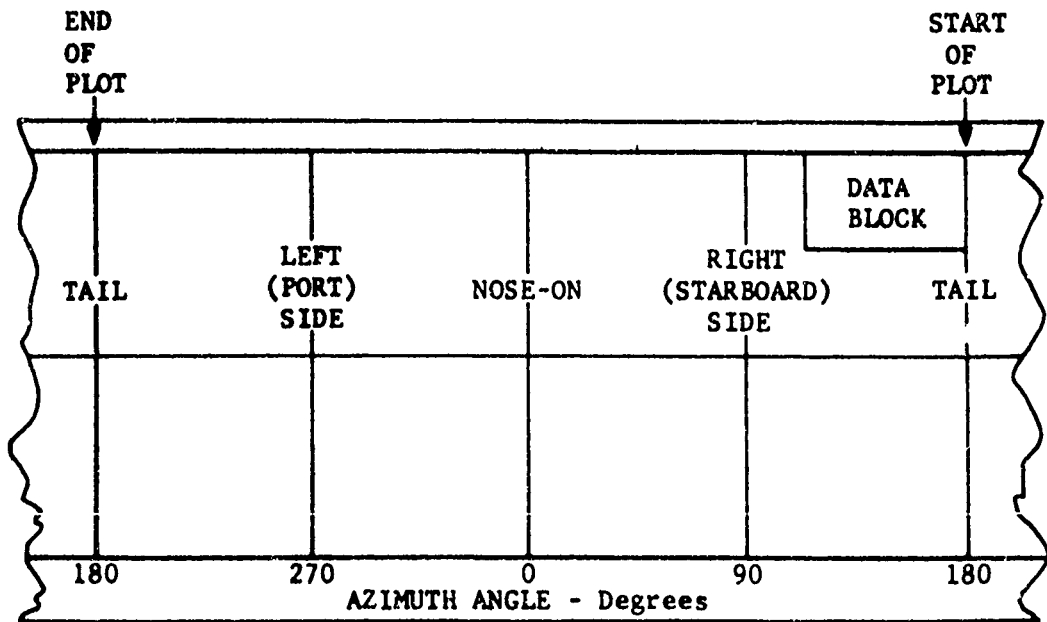
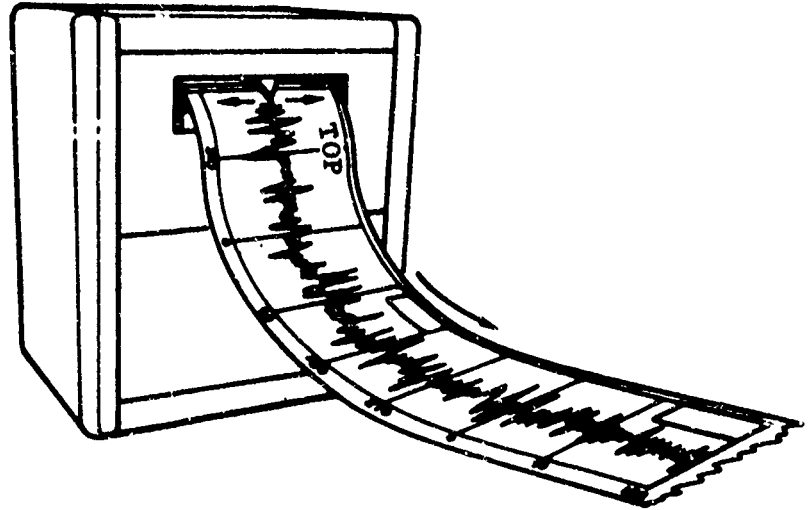


Figure B-6 FORMAT FOR RECTILINEAR PLOTS

APPENDIX C
DIGITAL DATA FORMATS L, M, AND N

RAT SCAT has the capability of supplying several types and formats of digital data. Edited magnetic tape formats L, M, and N as described herein are normally furnished to the user requesting digital data.

This appendix is not intended as a format specification, nor is it meant to restrict the data formats available to only those listed. It is intended solely as a guide for reference purposes.

The three formats are similar except for the presence or absence of a second dependent variable which is either phase or bistatic RCS amplitude.

<u>Format</u>	<u>Type Data</u>
L	Azimuth and Monostatic RCS
M	Azimuth, Monostatic RCS and Bistatic RCS
N	Azimuth, Monostatic RCS and Phase (or Glint)

Tapes are written in seven channels BCD card image. Each record contains 80 BCD characters. Azimuth is written in degrees, RCS in dBsm, and phase in degrees. All values contain signs and decimal points. The edited tapes are available in 200, 556, and 800 bits per inch recording densities.

Each tape may contain 40 runs (360 degrees of azimuth samples per run) or more depending on format, density, and user specifications. Each run is ended with an end of file mark (EoF). Each tape is ended with a double EoF.

The number of 80 character records per run depends on the azimuth increment, whether filler data is involved and the format used. The first record in each data run is a header constructed as follows:

<u>Character</u>	<u>Information</u>	<u>Example</u>	<u>Format</u>
1-4	Control Number	7307	A4
5-8	Blank	-	
9-12	Run Number	0015	A4
13-16	Blank	-	

<u>Character</u>	<u>Information</u>	<u>Example</u>	<u>Format</u>
17-20	Conversion Number*	-600	A4
21-24	Blank	-	
25-28	Bistatic Conversion*	-600	A4
29-32	Blank	-	
33-80	Alphanumeric Identification	RAT SCAT EDITED A48 TAPE	

*RAT SCAT Use Only.

The data records contain four or six samples of data depending on format. The makeup of a sample for a format N tape is as follows:

<u>Value</u>	<u>Format</u>	<u>Example</u>
Azimuth (degrees)	F7.2	+272.20
RCS (dBSm)	F5.1	-25.5
Phase (degrees)	F5.0	+179.
Flag	A-1	I

The third item, phase, would be replaced by bistatic RCS for format M (F5.1) and would be absent for format L. The meaning of the flag is: Blank = good data, I = interpolated data, B = band data, H = hand edited data, and F = filler data. Data with a filler flag should be ignored.

Data records can be read with Fortran formats as follows:

<u>Format</u>	<u>Read Statement Format</u>
L	Format (2(3(F7.2, F5.1, A1), X))
M	Format (4(F7.2, F5.1, A1, F5.1, A1, X))
N	Format (4(F7.2, F5.1, A1, F5.0, A1, X))

The azimuth angle in the first sample of a run is usually 180.00 degrees. The value decreases until 0.00 degrees is reached and thereafter goes from 359.9 degrees (for 0.1 degree increments) to 180.0 degrees.

Typical magnetic tape character codes are shown in Figure C-1 and the physical characteristic of a typical format, including EOF gaps, etc., is shown in Figure C-2.

CHARACTER	Track Identification						
	1	2	4	8	A	B	C (parity)
0		X		X			
1	X						X
2		X					X
3	X	X					
4			X				X
5	X		X				
6		X	X				
7	X	X	X				X
8				X			X
9	X			X			
Space (Blank)					X		X
Plus (+)					X	X	
Minus (-)						X	X
E. O. F.	X	X	X	X			
Dec. Point	X	X		X	X	X	X
I	X			X	X	X	
F		X	X		X	X	
B		X			X	X	X
H				X	X	X	X

Figure C-1 Magnetic Tape Character Codes

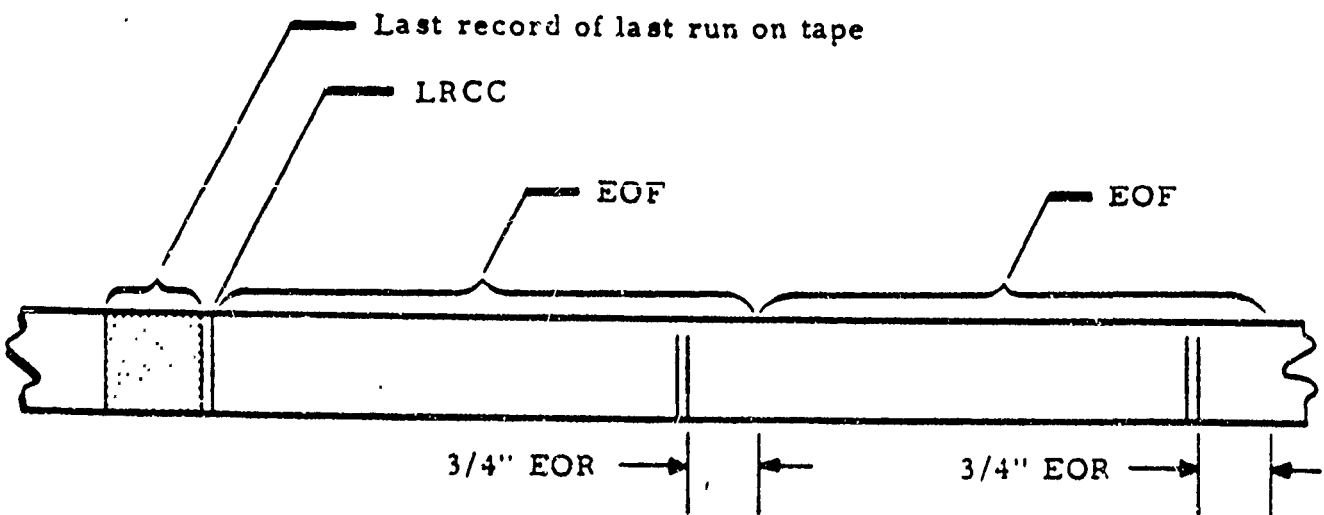
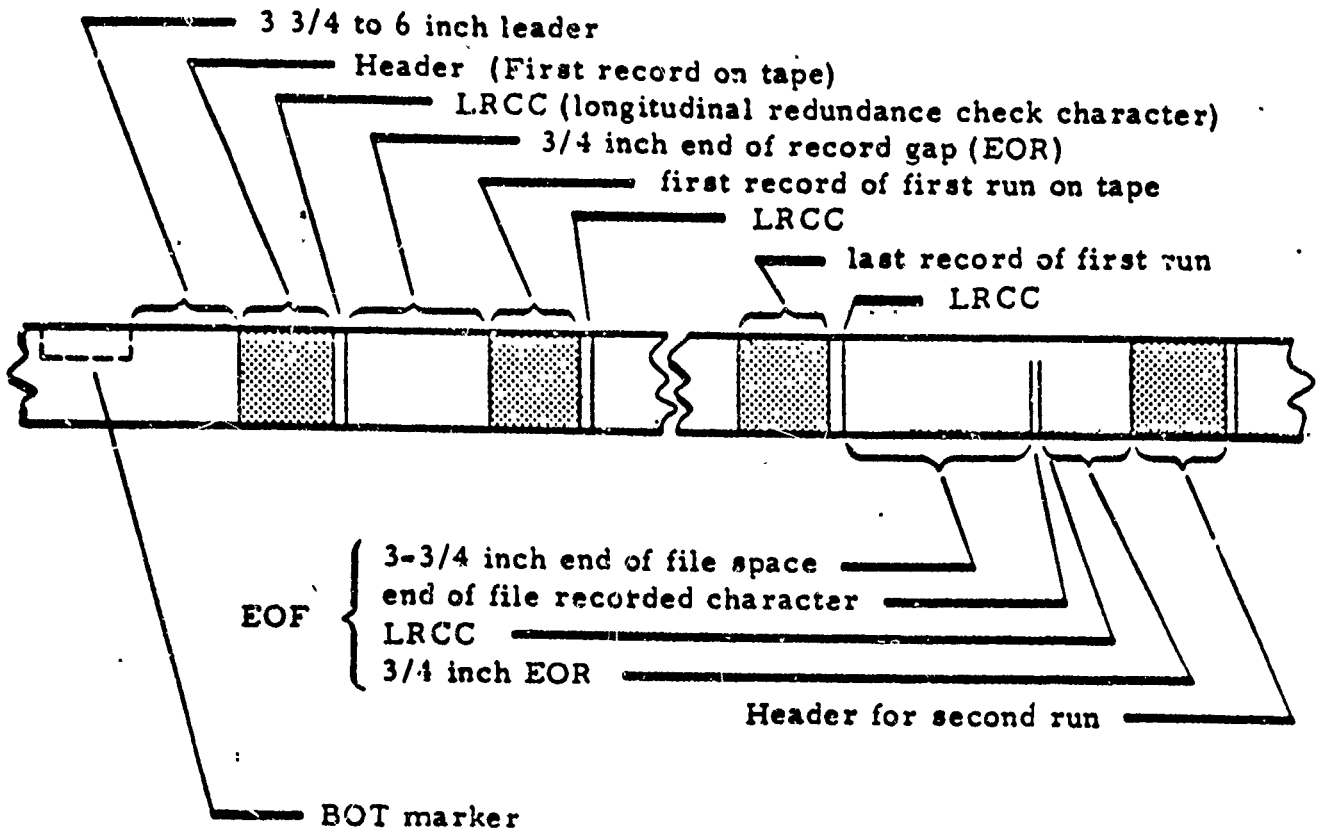


Figure C-2 Physical Characteristics of Magnetic Tape
Formats L, M, and N

APPENDIX D
DIGITAL TAPE INDEX

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data		Vehicle
						Type	Type	
1	10	0°	VV	0°	0°	RCS, Glint	RCS, Glint	BQM-34F
	11	0	VV	0	0	RCS, Phase	RCS, Phase	BQM-34F
2	12	0	VH	0	0	RCS, Glint	RCS, Glint	BQM-34F
	13	0	VH	0	0	RCS, Phase	RCS, Phase	BQM-34F
3	14	0	HH	0	0	RCS, Glint	RCS, Glint	BQM-34F
	15	0	HH	0	0	RCS, Phase	RCS, Phase	BQM-34F
10	214	0	HH	90	0	RCS, Glint	RCS, Glint	BQM-34A
	215	0	HH	90	0	RCS, Phase	RCS, Phase	BQM-34A
	216	0	VH	90	0	RCS, Glint	RCS, Glint	BQM-34A
11	217	0	VH	90	0	RCS, Phase	RCS, Phase	BQM-34A
	218	0	VV	90	0	RCS, Glint	RCS, Glint	BQM-34A
	219	0	VV	90	0	RCS, Phase	RCS, Phase	BQM-34A
12	224	0	HH	0	10	RCS, Phase	RCS, Phase	BQM-34A
	225	0	HH	0	10	RCS, Glint	RCS, Glint	BQM-34A
	226	0	VH	0	10	RCS, Glint	RCS, Glint	BQM-34A
13	227	0	VH	0	10	RCS, Phase	RCS, Phase	BQM-34A
	228	0	VV	0	10	RCS, Glint	RCS, Glint	BQM-34A
	229	0	VV	0	10	RCS, Phase	RCS, Phase	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
14	230	0°	HH	30°	10°	RCS, Glint	BQI-34A
	231	0	HH	30	10	RCS, Phase	BQI-34A
	232	0	VH	30	10	RCS, Glint	BQM-34A
15	233	0	VH	30	10	RCS, Phase	BQI-34A
	234	0	VV	30	10	RCS, Glint	BQM-34A
	235	0	VV	30	10	RCS, Phase	BQM-34A
16	236	0	VV	60	10	RCS, Glint	BQM-34A
	237	0	VV	60	10	RCS, Phase	BQM-34A
	238	0	VH	60	10	RCS, Glint	BQI-34A
17	239	0	VH	60	10	RCS, Phase	BQM-34A
	240	0	HH	60	10	RCS, Glint	BQM-34A
	241	0	HH	60	10	RCS, Phase	BQI-34A
18	242	0	HH	90	10	RCS, Glint	BQM-34A
	243	0	HH	90	10	RCS, Phase	BQM-34A
	244	0	VH	90	10	RCS, Glint	BQI-34A
19	245	0	VH	90	10	RCS, Phase	BQM-34A
	246	0	VV	90	10	RCS, Glint	BQI-34A
	247	0	VV	90	10	RCS, Phase	BQM-34A
20	254	0	HH	0	20	RCS, Glint	BQI-34A
	255	0	HH	0	20	RCS, Phase	BQI-34A
	256	0	VH	0	20	RCS, Glint	BQI-34A
21	257	0	VH	0	20	RCS, Phase	BQI-34A
	258	0	VV	0	20	RCS, Glint	BQM-34A
	259	0	VV	0	20	RCS, Phase	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization.	Roll	Pitch	Data Type	Vehicle
22	260	0°	VV	30°	20°	RCS, Glint	BQM-34A
	261	0	VV	30	20	RCS, Phase	BQM-34A
	262	0	VH	30	20	RCS, Glint	BQM-34A
23	263	0	VH	30	20	RCS, Phase	BQM-34A
	264	0	HH	30	20	RCS, Glint	BQM-34A
	265	0	HH	30	20	RCS, Phase	BQM-34A
24	266	0	HH	60	20	RCS, Glint	BQM-34A
	267	0	HH	60	20	RCS, Phase	BQM-34A
	268	0	VH	60	20	RCS, Glint	BQM-34A
25	269	0	VH	60	20	RCS, Phase	BQM-34A
	270	0	VV	60	20	RCS, Glint	BQM-34A
	271	0	VV	60	20	RCS, Phase	BQM-34A
26	272	0	VV	90	20	RCS, Glint	BQM-34A
	273	0	VV	90	20	RCS, Phase	BQM-34A
	274	0	VH	90	20	RCS, Glint	BQM-34A
27	275	0	VH	90	20	RCS, Phase	BQM-34A
	276	0	HH	90	20	RCS, Glint	BQM-34A
	277	0	HH	90	20	RCS, Phase	BQM-34A
28	281	0	VV	0	30	RCS, Glint	BQM-34A
	286	0	VH	0	30	RCS, Glint	BQM-34A
	287	0	VH	0	30	RCS, Phase	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data		Vehicle
						Type	Type	
29	288	0°	HH	0°	30°	RCS, Glint	RCS, Glint	BQM-34A
	289	0	HH	0	30	RCS, Phase	RCS, Phase	BQM-34A
	290	0	VV	0	30	RCS, Phase	RCS, Phase	BQM-34A
30	299	0	HH	30	30	RCS, Glint	RCS, Glint	BQM-34A
	300	0	HH	30	30	RCS, Phase	RCS, Phase	BQM-34A
	301	0	VH	30	30	RCS, Glint	RCS, Glint	BQM-34A
31	302	0	VH	30	30	RCS, Phase	RCS, Phase	BQM-34A
	303	0	VV	30	30	RCS, Glint	RCS, Glint	BQM-34A
	304	0	VV	30	30	RCS, Phase	RCS, Phase	BQM-34A
32	313	0	HH	0	0	RCS, Glint	RCS, Glint	BQM-34A
	314	0	HH	0	0	RCS, Phase	RCS, Phase	BQM-34A
	315	0	VV	0	0	RCS, Glint	RCS, Glint	BQM-34A
33	316	0	VV	0	0	RCS, Phase	RCS, Phase	BQM-34A
	318	0	VH	0	0	RCS, Glint	RCS, Glint	BQM-34A
	319	0	VH	0	0	RCS, Phase	RCS, Phase	BQM-34A
34	16	0	HH	30	0	RCS, Glint	RCS, Glint	BQM-34F
	17	0	HH	30	0	RCS, Phase	RCS, Phase	BQM-34F
	18	0	VH	30	0	RCS, Phase	RCS, Phase	BQM-34F
35	19	0	VH	30	0	RCS, Glint	RCS, Glint	BQM-34F
	20	0	VV	30	0	RCS, Glint	RCS, Glint	BQM-34F
	21	0	VV	30	0	RCS, Phase	RCS, Phase	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
36	22	0°	VV	60°	0°	RCS, Phase	BQM-34F
	23	0	VV	60	0	RCS, Glint	BQM-34F
	24	0	VH	60	0	RCS, Glint	BQM-34F
37	25	0	VH	60	0	RCS, Phase	BQM-34F
	26	0	HH	60	0	RCS, Phase	BQM-34F
	27	0	HH	60	0	RCS, Glint	BQM-34F
38	28	0	HH	90	0	RCS, Phase	BQM-34F
	29	0	HH	90	0	RCS, Glint	BQM-34F
	30	0	VH	90	0	RCS, Phase	BQM-34F
39	31	0	VH	90	0	RCS, Glint	BQM-34F
	32	0	VV	90	0	RCS, Phase	BQM-34F
	33	0	VV	90	0	RCS, Glint	BQM-34F
40	34	0	VV	0	10	RCS, Glint	BQM-34F
	35	0	VV	0	10	RCS, Phase	BQM-34F
	39	0	HH	0	10	RCS, Phase	BQM-34F
41	40	0	HH	0	10	RCS, Glint	BQM-34F
	41	0	VH	0	10	RCS, Phase	BQM-34F
	42	0	VH	0	10	RCS, Glint	BQM-34F
42	43	0	HH	30	10	RCS, Phase	BQM-34F
	44	0	HH	30	10	RCS, Glint	BQM-34F
	45	0	VV	30	10	RCS, Phase,	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data		Vehicle
						Type	Type	
43	46	0°	VV	30°	10°	RCS, Glint	RCS, Glint	BQM-34F
	47	0	VH	30	10	RCS, Phase	RCS, Phase	BQM-34F
	48	0	VH	30	10	RCS, Glint	RCS, Glint	BQM-34F
44	49	0	VV	60	10	RCS, Phase	RCS, Phase	BQM-34F
	50	0	VV	60	10	RCS, Glint	RCS, Glint	BQM-34F
	51	0	HH	60	10	RCS, Phase	RCS, Phase	BQM-34F
45	52	0	HH	60	10	RCS, Glint	RCS, Glint	BQM-34F
	53	0	VH	60	10	RCS, Phase	RCS, Phase	BQM-34F
	54	0	VH	60	10	RCS, Glint	RCS, Glint	BQM-34F
46	55	0	HH	90	10	RCS, Phase	RCS, Phase	BQM-34F
	56	0	HH	90	10	RCS, Glint	RCS, Glint	BQM-34F
	57	0	VH	90	10	RCS, Phase	RCS, Phase	BQM-34F
47	58	0	VH	90	10	RCS, Glint	RCS, Glint	BQM-34F
	59	0	VV	90	10	RCS, Phase	RCS, Phase	BQM-34F
	60	0	VV	90	10	RCS, Glint	RCS, Glint	BQM-34F
48	115	0	HH	0	20	RCS, Glint	RCS, Glint	BQM-34F
	116	0	HH	0	20	RCS, Phase	RCS, Phase	BQM-34F
	117	0	VV	0	20	RCS, Glint	RCS, Glint	BQM-34F
49	118	0	VV	0	20	RCS, Phase	RCS, Phase	BQM-34F
	119	0	VH	0	20	RCS, Glint	RCS, Glint	BQM-34F
	120	0	VH	0	20	RCS, Phase	RCS, Phase	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
50	121	0°	HH	30°	20°	RCS, Glint	BQM-34F
	122	0	HH	30	20	RCS, Phase	BQM-34F
	123	0	VH	30	20	RCS, Glint	BQM-34F
51	124	0	VH	30	20	RCS, Phase	BQM-34F
	125	0	VV	30	20	RCS, Glint	BQM-34F
	126	0	VV	30	20	RCS, Phase	BQM-34F
52	144	0	VH	60	20	RCS, Phase	BQM-34F
	145	0	VH	60	20	RCS, Glint	BQM-34F
	146	0	HH	60	20	RCS, Glint	BQM-34F
53	147	0	HH	60	20	RCS, Phase	BQM-34F
	148	0	VV	60	20	RCS, Glint	BQM-34F
	149	0	VV	60	20	RCS, Phase	BQM-34F
54	150	0	IH	90	20	RCS, Glint	BQM-34F
	151	0	IH	90	20	RCS, Phase	BQM-34F
	152	0	VH	90	20	RCS, Glint	BQM-34F
55	153	0	VH	90	20	RCS, Phase	BQM-34F
	154	0	VV	90	20	RCS, Glint	BQM-34F
	155	0	VV	90	20	RCS, Phase	BQM-34F
56	159	0	IH	0	30	RCS, Glint	BQM-34F
	160	0	IH	0	30	RCS, Phase	BQM-34F
	161	0	VH	0	30	RCS, Glint	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
57	162	0°	VH	0°	30°	RCS, Phase	BQM-34F
	163	0	VV	0	30	RCS, Glint	BQM-34F
	164	0	VV	0	30	RCS, Phase	BQM-34F
58	166	0	HH	60	30	RCS, Glint	BQM-34F
	167	0	HH	60	30	RCS, Phase	BQM-34F
	168	0	VH	60	30	RCS, Glint	BQM-34F
59	169	0	VH	60	30	RCS, Phase	BQM-34F
	170	0	VV	60	30	RCS, Glint	BQM-34F
	171	0	VV	60	30	RCS, Phase	BQM-34F
60	172	0	VV	90	30	RCS, Glint	BQM-34F
	173	0	VV	90	30	RCS, Phase	BQM-34F
	174	0	VH	90	30	RCS, Glint	BQM-34F
61	175	0	VH	90	30	RCS, Phase	BQM-34F
	176	0	HH	90	30	RCS, Glint	BQM-34F
	177	0	NH	90	30	RCS, Phase	BQM-34F
62	178	0	HH	30	30	RCS, Phase	BQM-34F
	179	0	HH	30	30	RCS, Glint	BQM-34F
	180	0	VH	30	30	RCS, Glint	BQM-34F
63	181	0	VH	30	30	RCS, Phase	BQM-34F
	182	0	VV	30	30	RCS, Glint	BQM-34F
	183	0	VV	30	30	RCS, Phase	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
64	334	20°	VV	0°	0°	RCS	BQM-34A
	335	20	HH	0	0	RCS	BQM-34A
	336	20	VH	0	0	RCS	BQM-34A
	337	20	VV	30	0	RCS	BQM-34A
	338	20	VH	30	0	RCS	BQM-34A
	339	20	HH	30	0	RCS	BQM-34A
	344	20	VV	0	10	RCS	BQM-34A
	345	20	VH	0	10	RCS	BQM-34A
	346	20	HH	0	10	RCS	BQM-34A
	347	20	HH	30	10	RCS	BQM-34A
	348	20	VV	30	10	RCS	BQM-34A
	349	20	VH	30	10	RCS	BQM-34A
	350	20	VV	60	10	RCS	BQM-34A
	351	20	VH	60	10	RCS	BQM-34A
	352	20	HH	60	10	RCS	BQM-34A
	353	20	VV	60	0	RCS	BQM-34A
	354	20	HH	60	0	RCS	BQM-34A
	355	20	VH	60	0	RCS	BQM-34A
	356	20	VV	0	20	RCS	BQM-34A
	357	20	VH	0	20	RCS	BQM-34A
358	20	HH	0	20	RCS	BQM-34A	
359	20	HH	30	20	RCS	BQM-34A	
360	20	VV	30	20	RCS	BQM-34A	
361	20	VH	30	20	RCS	BQM-34A	
65	366	20	VV	90	0	RCS	BQM-34A
	367	20	VH	90	0	RCS	BQM-34A
	368	20	HH	90	0	RCS	BQM-34A
	372	20	HH	90	10	RCS	BQM-34A
	373	20	VH	90	10	RCS	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
65	374	20°	VV	90°	10°	RCS	BQM-34A
	375	20	VV	0	30	RCS	BQM-34A
	376	20	VH	0	30	RCS	BQM-34A
	377	20	HH	0	30	RCS	BQM-34A
	381	20	VV	30	30	RCS	BQM-34A
	382	20	VH	30	30	RCS	BQM-34A
	383	20	HH	30	30	RCS	BQM-34A
	384	20	VV	60	30	RCS	BQM-34A
	385	20	VH	60	30	RCS	BQM-34A
	386	20	HH	60	30	RCS	BQM-34A
	387	20	HH	90	30	RCS	BQM-34A
	388	20	VH	90	30	RCS	BQM-34A
	389	20	VV	90	30	RCS	BQM-34A
	395	20	VV	90	20	RCS	BQM-34A
	396	20	VH	90	20	RCS	BQM-34A
	397	20	HH	90	20	RCS	BQM-34A
66	402	20	HH	60	20	RCS	BQM-34A
	403	20	VE	60	20	RCS	BQM-34A
	404	20	VV	60	20	RCS	BQM-34A
	410	20	VV	0	0	RCS	BQM-34F
	411	20	VH	0	0	RCS	BQM-34F
	412	20	HH	0	0	RCS	BQM-34F
	419	20	HH	30	0	RCS	BQM-34F
	420	20	VH	30	0	RCS	BQM-34F
	421	20	VV	30	0	RCS	BQM-34F
	423	20	VV	60	0	RCS	BQM-34F
424	20	VH	60	0	PGS	BQM-34F	
425	20	HH	60	0	RCS	BQM-34F	
427	20	HL	90	0	RCS	BQM-34F	

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
66	428	20°	VH	90°	0°	RCS	BQM-34F
	429	20	VV	90	0	RCS	BQM-34F
	430	20	VV	90	10	RCS	BQM-34F
	431	20	VH	90	10	RCS	BQM-34F
	432	20	HH	90	10	RCS	BQM-34F
	433	20	HH	60	10	RCS	BQM-34F
	434	20	VH	60	10	RCS	BQM-34F
	435	20	VV	60	10	RCS	BQM-34F
	438	20	VV	30	10	RCS	BQM-34F
	439	20	VH	30	10	RCS	BQM-34F
	440	20	HH	30	10	RCS	BQM-34F
	441	20	HH	0	10	RCS	BQM-34F
	442	20	VH	0	10	RCS	BQM-34F
	443	20	VV	0	10	RCS	BQM-34F
67	453	20	VV	0°	20°	RCS	BQM-34F
	454	20	HH	0	20	RCS	BQM-34F
	455	20	VH	0	20	RCS	BQM-34F
	457	20	VV	30	20	RCS	BQM-34F
	458	20	VH	30	20	RCS	BQM-34F
	459	20	HH	30	20	RCS	BQM-34F
	461	20	VV	60	20	RCS	BQM-34F
	462	20	VH	60	20	RCS	BQM-34F
	463	20	HH	60	20	RCS	BQM-34F
	464	20	VV	90	20	RCS	BQM-34F
	465	20	VH	90	20	RCS	BQM-34F
	466	20	HH	90	20	RCS	BQM-34F
	468	20	VV	0	30	RCS	BQM-34F
	469	20	VH	0	30	RCS	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle	
67	470	20°	HH	0°	30°	RCS	BQM-34F	
	471	20	VV	30	30	RCS	BQM-34F	
	472	20	VH	30	30	RCS	BQM-34F	
	473	20	HH	30	30	RCS	BQM-34F	
	474	20	HH	60	30	RCS	BQM-34F	
	475	20	VV	60	30	RCS	BQM-34F	
	476	20	VH	60	30	RCS	BQM-34F	
	479	20	VV	90	30	RCS	BQM-34F	
	480	20	VH	90	30	RCS	BQM-34F	
	481	20	HH	90	30	RCS	BQM-34F	
	68	788	10	HH	90	30	RCS	BQM-34F
		789	10	VH	90	30	RCS	BQM-34F
		790	10	VV	90	30	RCS	BQM-34F
792		10	VV	60	30	RCS	BQM-34F	
793		10	VH	60	30	RCS	BQM-34F	
794		10	HH	60	30	RCS	BQM-34F	
795		10	HH	30	30	RCS	BQM-34F	
796		10	VH	30	30	RCS	BQM-34F	
797		10	VV	30	30	RCS	BQM-34F	
798		10	VV	0	30	RCS	BQM-34F	
799		10	VH	0	30	RCS	BQM-34F	
800		10	HH	0	30	RCS	BQM-34F	
802		10	HH	0	20	RCS	BQM-34F	
803		10	VV	0	20	RCS	BQM-34F	
804		10	VH	0	20	RCS	BQM-34F	
805		10	VV	30	20	RCS	BQM-34F	
806		10	VH	30	20	RCS	BQM-34F	
807	10	HH	30	20	RCS	BQM-34F		
808	10	VV	60	20	RCS	BQM-34F		

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
68	809	10°	VH	60°	20°	RCS	BQM-34F
	810	10	HH	60	20	RCS	BQM-34F
	811	10	HH	90	20	RCS	BQM-34F
	812	10	VH	90	20	RCS	BQM-34F
	813	10	VV	90	20	RCS	BQM-34F
69	816	10	HH	0	10	RCS	BQM-34F
	817	10	VH	0	10	RCS	BQM-34F
	818	10	VV	0	10	RCS	BQM-34F
	819	10	VV	30	10	RCS	BQM-34F
	820	10	VH	30	10	RCS	BQM-34F
	821	10	HH	30	10	RCS	BQM-34F
	822	10	HH	60	10	RCS	BQM-34F
	823	10	VH	60	10	RCS	BQM-34F
	824	10	VV	60	10	RCS	BQM-34F
	825	10	VV	90	10	RCS	BQM-34F
	826	10	VH	90	10	RCS	BQM-34F
	827	10	HH	0	0	RCS	BQM-34F
	830	10	HH	0	0	RCS	BQM-34F
	831	10	VV	0	0	RCS	BQM-34F
	832	10	VH	0	0	RCS	BQM-34F
	833	10	VV	30	0	RCS	BQM-34F
	834	10	VH	30	0	RCS	BQM-34F
835	10	HH	30	0	RCS	BQM-34F	
836	10	VV	60	0	RCS	BQM-34F	
837	10	HH	60	0	RCS	BQM-34F	
838	10	VH	60	0	RCS	BQM-34F	
839	10	VV	90	0	RCS	BQM-34F	
840	10	VH	90	0	RCS	BQM-34F	

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
69	841	1.0°	HH	90°	0°	RCS	BQM-34F
70	844	1.0	HH	0	0	RCS	BQM-34A
	845	1.0	VV	0	0	RCS	BQM-34A
	846	1.0	VH	0	0	RCS	BQM-34A
	847	1.0	VV	30	0	RCS	BQM-34A
	848	1.0	VH	30	0	RCS	BQM-34A
	849	1.0	HH	30	0	RCS	BQM-34A
	850	1.0	VV	60	0	RCS	BQM-34A
	851	1.0	VH	60	0	RCS	BQM-34A
	852	1.0	HH	60	0	RCS	BQM-34A
	862	1.0	VV	90	0	RCS	BQM-34A
	863	1.0	VH	90	0	RCS	BQM-34A
	864	1.0	HH	90	0	RCS	BQM-34A
	865	1.0	VV	60	10	RCS	BQM-34A
	867	1.0	VH	60	10	RCS	BQM-34A
	868	1.0	HH	60	10	RCS	BQM-34A
	869	1.0	HH	30	10	RCS	BQM-34A
	870	1.0	VH	30	10	RCS	BQM-34A
	871	1.0	VV	30	10	RCS	BQM-34A
872	1.0	VV	0	10	RCS	BQM-34A	
874	1.0	HH	0	10	RCS	BQM-34A	
875	1.0	VH	0	10	RCS	BQM-34A	
877	1.0	VV	0	20	RCS	BQM-34A	
878	1.0	VH	0	20	RCS	BQM-34A	
879	1.0	HH	0	20	RCS	BQM-34A	
71	880	1.0	HH	30	20	RCS	BQM-34A
	881	1.0	VV	30	20	RCS	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle	
71	882	10°	VV	30°	20°	RCS	BQM-34A	
	883	10	VV	60	20	RCS	BQM-34A	
	884	10	VH	60	20	RCS	BQM-34A	
	885	10	HH	60	20	RCS	BQM-34A	
	887	10	VV	90	20	RCS	BQM-34A	
	888	10	VH	90	20	RCS	BQM-34A	
	889	10	HH	90	20	RCS	BQM-34A	
	892	10	HH	0	30	RCS	BQM-34A	
	893	10	VH	0	30	RCS	BQM-34A	
	894	10	VV	0	30	RCS	BQM-34A	
	900	10	VH	30	30	RCS	BQM-34A	
	901	10	VV	30	30	RCS	BQM-34A	
	902	10	HH	30	30	RCS	BQM-34A	
	903	10	HH	60	30	RCS	BQM-34A	
	904	10	VV	60	30	RCS	BQM-34A	
	905	10	VH	60	30	RCS	BQM-34A	
	907	10	VV	90	30	RCS	BQM-34A	
	908	10	VH	90	30	RCS	BQM-34A	
	909	10	HH	90	30	RCS	BQM-34A	
	72	911	10	VV	90	10	RCS	BQM-34A
912		10	VH	90	10	RCS	BQM-34A	
913		10	HH	90	10	RCS	BQM-34A	
925		0	VV	30	0	RCS, Glint	BQM-34A	
926		0	VV	30	0	RCS, Phase	BQM-34A	
927		0	HH	30	0	RCS, Glint	BQM-34A	
73		928	0	HH	30	0	RCS, Phase	BQM-34A
		929	0	VH	30	0	RCS, Glint	BQM-34A
		930	0	VH	30	0	RCS, Phase	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data		Vehicle
						Type	Type	
74	936	0°	HH	60°	0°	RCS, Glint		BQM-34A
	937	0	HH	60	0	RCS, Phase		BQM-34A
	938	0	VH	60	0	RCS, Glint		BQM-34A
75	939	0	VH	60	0	RCS, Phase		BQM-34A
	940	0	VV	60	0	RCS, Glint		BQM-34A
	941	0	VV	60	0	RCS, Phase		BQM-34A
76	948	0	HH	60	30	RCS, Glint		BQM-34A
	949	0	HH	60	30	RCS, Phase		BQM-34A
	950	0	VH	60	30	RCS, Glint		BQM-34A
77	951	0	VH	60	30	RCS, Phase		BQM-34A
	952	0	VV	60	30	RCS, Glint		BQM-34A
	953	0	VV	60	30	RCS, Phase		BQM-34A
78	963	0	HH	90	30	RCS, Glint		BQM-34A
	964	0	HH	90	30	RCS, Phase		BQM-34A
	965	0	VH	90	30	RCS, Glint		BQM-34A
79	966	0	VH	90	30	RCS, Phase		BQM-34A
	967	0	VV	90	30	RCS, Glint		BQM-34A
	968	0	VV	90	30	RCS, Phase		BQM-34A
80	978	30	HH	90	30	RCS, Glint		BQM-34A
	979	30	VH	90	30	RCS, Glint		BQM-34A
	980	30	VV	90	30	RCS, Glint		BQM-34A
	981	30	VV	30	30	RCS, Glint		BQM-34A
	982	30	VH	30	30	RCS, Glint		BQM-34A
	983	30	HH	30	30	RCS, Glint		BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
80	987	30°	HH	0°	30°	RCS, Glint	BQM-34A
	988	30	VH	0	30	RCS, Glint	BQM-34A
	989	30	VV	0	30	RCS, Glint	BQM-34A
	990	30	VV	60	30	RCS, Glint	BQM-34A
	991	30	VH	60	30	RCS, Glint	BQM-34A
	992	30	HH	60	30	RCS, Glint	BQM-34A
	995	30	VV	90	10	RCS, Glint	BQM-34A
	996	30	VV	90	10	RCS, Glint	BQM-34A
	997	30	HH	90	10	RCS, Glint	BQM-34A
	998	30	HH	90	20	RCS, Glint	BQM-34A
	999	30	VH	90	20	RCS, Glint	BQM-34A
	1000	30	VV	90	20	RCS, Glint	BQM-34A
	1003	30	VV	60	20	RCS, Glint	BQM-34A
	1004	30	VH	60	20	RCS, Glint	BQM-34A
	1005	30	HH	60	20	RCS, Glint	BQM-34A
	1006	30	HH	30	20	RCS, Glint	BQM-34A
	1007	30	VH	30	20	RCS, Glint	BQM-34A
	1008	30	VV	30	20	RCS, Glint	BQM-34A
81	1009	30	VV	0	20	RCS, Glint	BQM-34A
	1010	30	VH	0	20	RCS, Glint	BQM-34A
	1011	30	HH	0	20	RCS, Glint	BQM-34A
	1012	30	HH	0	10	RCS, Glint	BQM-34A
	1013	30	VH	0	10	RCS, Glint	BQM-34A
	1014	30	VV	0	10	RCS, Glint	BQM-34A
	1015	30	VV	30	10	RCS, Glint	BQM-34A
	1016	30	VH	30	10	RCS, Glint	BQM-34A
	1017	30	HH	30	10	RCS, Glint	BQM-34A
	1018	30	HH	60	10	RCS, Glint	BQM-34A

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
81	1019	30°	VH	60°	10°	RCS, Glint	BQM-34A
	1020	30	VV	60	10	RCS, Glint	BQM-34A
	1023	30	VV	0	0	RCS, Glint	BQM-34A
	1024	30	VH	0	0	RCS, Glint	BQM-34A
	1025	30	HH	0	0	RCS, Glint	BQM-34A
	1026	30	HH	30	0	RCS, Glint	BQM-34A
	1027	30	VH	30	0	RCS, Glint	BQM-34A
	1028	30	VV	30	0	RCS, Glint	BQM-34A
	1029	30	VV	60	0	RCS, Glint	BQM-34A
	1030	30	VH	60	0	RCS, Glint	BQM-34A
	1031	30	HH	60	0	RCS, Glint	BQM-34A
	1032	30	HH	90	0	RCS, Glint	BQM-34A
	1033	30	VH	90	0	RCS, Glint	BQM-34A
	1034	30	VV	90	0	RCS, Glint	BQM-34A
82	1039	30	VV	0	0	RCS, Glint	BQM-34F
	1040	30	VH	0	0	RCS, Glint	BQM-34F
	1041	30	HH	0	0	RCS, Glint	BQM-34F
	1042	30	HH	30	0	RCS, Glint	BQM-34F
	1043	30	VH	30	0	RCS, Glint	BQM-34F
	1044	30	VV	30	0	RCS, Glint	BQM-34F
	1045	30	VV	60	0	RCS, Glint	BQM-34F
	1046	30	VH	60	0	RCS, Glint	BQM-34F
	1047	30	HH	60	0	RCS, Glint	BQM-34F
	1048	30	HH	90	0	RCS, Glint	BQM-34F
	1049	30	VH	90	0	RCS, Glint	BQM-34F
	1050	30	VV	90	0	RCS, Glint	BQM-34F
	1051	30	VV	90	10	RCS, Glint	BQM-34F
	1052	30	VH	90	10	RCS, Glint	BQM-34F

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle	
82	1053	30°	HH	90°	10°	RCS, Glint	BQM-34F	
	1054	30	HH	60	10	RCS, Glint	BQM-34F	
	1055	30	VH	60	10	RCS, Glint	BQM-34F	
	1056	30	VV	60	10	RCS, Glint	BQM-34F	
	1057	30	VV	30	10	RCS, Glint	BQM-34F	
	1058	30	VH	30	10	RCS, Glint	BQM-34F	
	1059	30	HH	30	10	RCS, Glint	BQM-34F	
	1060	30	HH	0	10	RCS, Glint	BQM-34F	
	1061	30	VH	0	10	RCS, Glint	BQM-34F	
	1062	30	VV	0	10	RCS, Glint	BQM-34F	
	83	1065	30	HH	0	20	RCS, Glint	BQM-34F
		1066	30	VH	0	20	RCS, Glint	BQM-34F
		1067	30	VV	0	20	RCS, Glint	BQM-34F
		1068	30	VV	60	20	RCS, Glint	BQM-34F
1069		30	VH	60	20	RCS, Glint	BQM-34F	
1070		30	HH	60	20	RCS, Glint	BQM-34F	
1073		30	HH	90	20	RCS, Glint	BQM-34F	
1074		30	VH	90	20	RCS, Glint	BQM-34F	
1075		30	VV	90	20	RCS, Glint	BQM-34F	
1076		30	VV	30	20	RCS, Glint	BQM-34F	
1077		30	VH	30	20	RCS, Glint	BQM-34F	
1078		30	HH	30	20	RCS, Glint	BQM-34F	
1084		30	VV	90	30	RCS, Glint	BQM-34F	
1085		30	VH	90	30	RCS, Glint	BQM-34F	
1086		30	HH	90	30	RCS, Glint	BQM-34F	
1087		30	HH	60	30	RCS, Glint	BQM-34F	
1088		30	VH	60	30	RCS, Glint	BQM-34F	
1089	30	VV	60	30	RCS, Glint	BQM-34F		

Tape Reel No.	Data Run No.	Bistatic Angle	Polarization	Roll	Pitch	Data Type	Vehicle
83	1090	30°	VV	30°	30°	RCS, Glint	BQM-34F
	1091	30	VH	30	30	RCS, Glint	BQM-34F
	1092	30	HH	30	30	RCS, Glint	BQM-34F
	1093	30	HH	0	30	RCS, Glint	BQM-34F
	1094	30	VH	0	30	RCS, Glint	BQM-34F
	1095	30	VV	0	30	RCS, Glint	BQM-34F