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⑨ Technical Report

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 86.

C-130E Aircraft, Near and Far-Field Noise

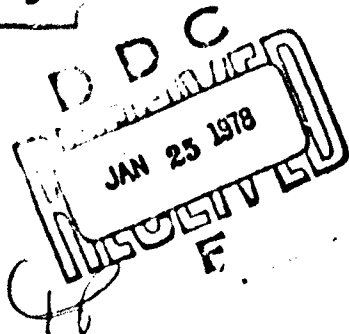
⑩ Robert G. Powell
Justus F. Rose

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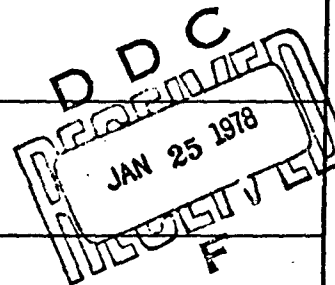
This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER


HENNING E. VON GIERKE
Director
Biodynamics and Bionics Division
Aerospace Medical Research Laboratory

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The USAF C-130E is a long range tactical airlift aircraft powered by four T56-A-7 turboprop engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for four engine power configurations. Near-field data are reported for 4 locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and		



7 limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, 'USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application', AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Robert England for his assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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INTRODUCTION

The USAF C-130E is a long range tactical airlift-type aircraft powered by four T56-A-7 turboprop engines. The aircraft was manufactured by the Lockheed Aircraft Corporation and the engines by Allison, a Division of General Motors Corporation.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the C-130E aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15°C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the C-130E aircraft during ground runup operations of its on-board gas turbine compressor, GTC, and turboprop engines. For these tests the aircraft was located on a concrete parking apron at Pope AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the five engine or GTC power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the one-third octave band root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the four near-field locations where ground crew are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the C-130E aircraft at the four ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1
MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

C-130E Aircraft, Ground Runup, Pope AFB, 4 Mar 1971,
Tail # 640495

Ground Crew Location

1-4

Engine Starting Observer

Aircraft Engine Operation

A

Engines Off
Gas Turbine Compressor, GTC, On

B

Engine #3 Idle, GTC On

C

Engines #3 and 4 Idle, GTC On

D

Engines #2, #3, and #4 Idle, GTC On

E

All Engines Idle, GTC On

Meteorology

Temperature
Bar Pressure
Rel Humidity
Wind — Speed
— Direction

16.7 C
0.763 M Hg
54 %
1 M Sec (2 kt)
130 Deg

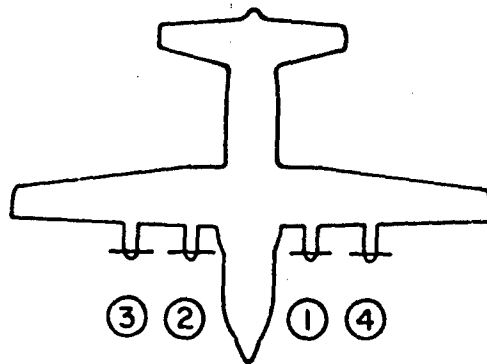


Figure 1. Near-Field Measurement Locations on
Parking Apron, Pope AFB, NC

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired the near and far-field data during a 1- 2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the aircraft on a concrete parking apron and its orientation relative to 19 microphone measurement sites on a semicircle. The center of the 76 meter radius semicircle used in surveying the T56-A-7 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through all engines' propeller planes.

Table 4 provides cockpit readouts of engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All 19 microphone measurement sites are in the acoustic far-field of the source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape recorder system was used to sequentially record the noise at each far-field location. The microphone was hand-held 1.7 meters (5-1/2 feet) above the ground and pointed at the source (0° angle of incidence).

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the C-130E aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power levels and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 11,000 inch-lbs torque) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background electronic noise were eliminated from all figures and tables. No data are presented beyond the 150-degree location for the two highest power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level at the 150 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background electronic noise were generally not significant because the levels were so low.

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

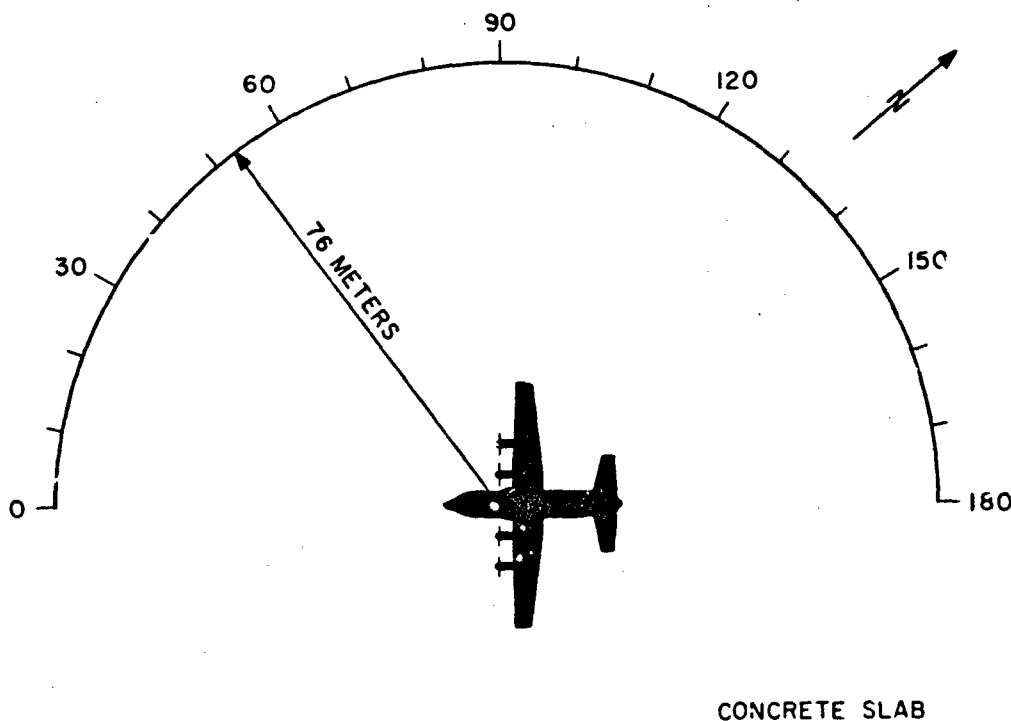


Figure 2. Far-Field Measurement Location on Parking Apron, Pope AFB, NC

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)					IDENTIFICATION:	
2 1/3 OCTAVE BAND						
					OMEGA 3.2	
					TEST 71-071-102	
					RUN 01	
					21 APR 75	
					PAGE F1	
NOISE SOURCE/SUBJECT:					LOCATION/CONDITION	
C-130E AIRCRAFT						
GROUP D CREW						
NEAR FIELD NOISE LEVELS						
FREQ (HZ)	1/A	2/B	3/C	1/D	4/E	
25	67	77	81	78	78	
31.5	68	86	89	81	85	
40	71	84	91	92	95	
50	76	88	83	100	100	
63	78	101	101	100	99	
80	78	90	94	93	96	
100	90	90	93	101	102	
125	83	101	100	100	101	
160	89	101	102	97	98	
200	86	102	102	100	101	
250	83	105	106	98	100	
315	88	105	105	99	100	
400	85	103	103	98	100	
500	86	104	102	97	100	
630	82	102	102	96	97	
800	78	99	99	95	96	
1000	83	99	99	95	96	
1250	83	97	98	93	94	
1600	83	98	98	93	96	
2000	83	96	97	91	93	
2500	86	96	96	90	92	
3150	90	94	96	90	93	
4000	88	91	97	91	96	
5000	87	91	98	102	105	
6300	89	96	98	100	102	
8000	98	102	102	94	100	
10000	95	93	98	101	104	
OVERALL	102	114	114	112	114	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 2		MEASURED SOUND PRESSURE LEVEL (DB)				IDENTIFICATION:	
		OCTAVE BAND					
		NOISE SOURCE/SUBJECT:					
		OPERATION:					
		C-130E AIRCRAFT					
		GROUND CREW					
		NEAR FIELD NOISE LEVELS					
		LOCATION/CONDITION					
FREQ (HZ)		1/A	2/B	3/C	1/D	4/E	
31.5		74	89	93	92	95	
63		82	101	102	103	103	
125		90	104	105	104	105	
250		91	109	109	104	105	
500		89	103	107	102	104	
1000		86	103	104	99	100	
2000		89	101	102	96	99	
4000		93	97	102	103	107	
8000		100	103	104	104	107	
OVERALL		102	114	114	112	114	

TABLE: MEASURES OF HUMAN NOISE EXPOSURE					IDENTIFICATION:	
3					OMEGA 3.2	
					TEST 71-001-102	
NOISE SOURCE/SUBJECT:					RUN 01	
C-130E AIRCRAFT					21 MAR 75	
GROUND CREW					PAGE M1	
NEAR FIELD NOISE LEVELS						
					LOCATION/CONDITION	
					1/A	2/B 3/C 1/D 4/E
HAZARD/PROTECTION						
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBQ) AT EAR						
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR						
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)						
NO PROTECTION						
OASLC	100	114	114	111	113	
OASLA	101	110	111	108	111	
T	25	5	4.5	8	4.5	
MINIMUM QPL EAR MUFFS						
OASLA*	77	90	90	88	89	
T	960	170	170	240	202	
AMERICAN OPTICAL 1700 EAR MUFFS						
OASLA*	74	85	86	83	84	
T	960	404	339	571	480	
V-51R EAR PLUGS						
OASLA*	72	86	86	82	84	
T	960	339	339	679	480	
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS						
OASLA*	61	71	72	69	71	
T	960	960	960	960	960	
H-133 GROUND COMMUNICATION UNIT						
OASLA*	72	82	83	80	82	
T	960	679	571	960	679	
COMMUNICATION						
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)						
PSIL	88	104	104	99	101	
ANNNOYANCE						
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)						
TONE CORRECTION (C IN DB)						
PNLT	116	125	125	126	129	
C	1	1	1	2	2	

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE 4
TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

C-130E Aircraft, Ground Runup,
Pope AFB Tail #640495

Aircraft Engine Operation

Idle, Low Speed	All engines 800 in-lbs Torque 73 % RPM 625 C, Turbine Inlet Temperature 650 LBS/HR, Fuel Flow
Idle, Normal	All Engines 1400 in-lbs Torque 97.5 % RPM 560 C, TIT 780 LBS/HR, FF
Runup Power	All Engines 9600 in-lbs Torque 100 % RPM 775 C, TIT 1400 LBS/HR, FF
Military Power	All Engines 16,800 in-lbs Torque 100 % RPM 970 C, TIT 2000 LBS/HR, FF

Meteorology

Temperature	16.7 C
Bar Pressure	0.763 M Hg
Rel Humidity	54 %
Wind — Speed	1 M/Sec (2 Kt)
— Direction	130 Deg

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
G-130E AIRCRAFT																
T56-A-7A ENGINE																
FAR FIELD NOISE																
FREQ (HZ)																
ANGLE (DEGREES)																
METEOROLOGY:																
TEMP = 17 C																
BAR PRESS = .763 H MG																
REL HUMID = 54 %																
IDENTIFICATIONS:																
OMEGA 1.4																
TEST 75-002-021																
RUN 01																
17 APR 75																
PAGE 2																
25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000
65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
68	69	69	67	68	68	68	68	68	68	68	68	68	68	68	68	68
81	82	81	80	79	78	75	73	72	73	72	73	72	73	72	73	72
89	89	88	88	86	86	85	85	85	85	85	85	85	85	85	85	85
77	78	77	75	74	74	73	73	73	73	73	73	73	73	73	73	73
85	86	85	84	82	81	78	79	78	79	78	79	78	79	78	79	78
93	91	90	90	92	91	93	93	93	96	95	92	95	94	91	93	94
92	90	89	89	90	88	90	91	91	95	94	91	93	94	91	93	94
90	89	88	89	86	86	86	86	86	86	86	86	86	86	86	86	86
89	88	88	89	86	86	86	86	86	86	86	86	86	86	86	86	86
87	87	86	85	85	83	83	83	81	80	81	84	83	85	87	87	87
89	90	90	85	88	88	88	88	84	84	84	84	84	84	84	84	84
89	87	88	87	88	85	85	85	85	85	85	85	85	85	85	85	85
85	84	84	82	84	81	80	82	78	79	79	78	81	82	83	81	82
84	84	83	79	81	80	79	80	79	80	79	80	81	82	84	85	85
82	80	79	81	78	78	78	78	78	78	78	78	78	78	78	78	78
79	79	79	78	78	77	77	77	77	77	77	77	77	77	77	77	77
78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
79	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
78	77	77	75	74	75	74	75	74	74	73	75	75	75	75	75	75
79	78	77	76	74	75	74	74	74	74	73	75	75	75	75	75	75
78	77	75	74	73	72	73	72	73	71	71	73	74	75	76	74	71
88	87	89	87	86	85	81	77	77	77	77	77	77	77	77	77	77
85	84	84	82	82	80	79	77	77	79	80	80	80	80	81	81	81
75	75	74	72	71	70	70	67	68	70	71	72	74	71	67	63	59
76	76	75	73	72	71	68	64	64	64	64	67	69	68	63	59	56
100	100	99	98	98	97	97	97	97	97	99	99	98	99	100	99	91
OVERALL	100	100	99	98	97	97	97	97	97	99	99	98	99	100	99	91

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																			
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																			
NOISE SOURCE/SUBJECT:																			
(OPERATION:)																			
(IDLE POWER, NORMAL SPEED)																			
(1400 INCH POUNDS TORQUE)																			
(ALL ENGINES)																			
C-130E AIRCRAFT																			
T56-A-7A ENGINE																			
FAR FIELD NOISE																			
TEMP = 17 C																			
BAR PRESS = .763 H MG																			
REL HUMID = 54 %																			
PAGE 2																			
IDENTIFICATION:																			
OMEGA 1.4																			
TEST 75-002-021																			
RUN 02																			
17 APR 75																			
FREQ (HZ)																			
ANGLE (DEGREES)																			
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	67	68	69	67	66	66	67	67	65	66	67	68	69	70	72	71	76	97	98
31.5	70	70	71	72	73	71	68	68	68	69	69	70	73	73	74	73	74	86	88
40	73	73	73	72	70	70	70	71	70	71	73	73	74	75	76	75	75	84	86
50	79	79	78	77	76	77	76	77	76	77	77	77	79	79	79	78	77	81	83
63	90	93	91	93	92	93	96	96	98	98	96	94	94	94	93	88	86	82	84
80	83	83	83	82	81	80	83	83	84	84	84	83	84	85	87	83	80	78	79
100	83	84	83	82	82	81	82	81	80	81	83	85	88	87	88	84	79	77	78
125	97	98	97	96	94	94	93	93	93	95	97	98	96	101	103	102	95	88	83
160	94	93	93	93	90	91	93	93	89	87	86	87	89	92	94	96	93	86	87
200	98	97	97	97	96	92	92	89	87	86	87	86	88	92	89	91	92	86	85
250	96	97	98	96	94	94	92	90	88	87	86	89	90	93	95	96	96	89	87
315	100	100	100	99	97	97	95	94	89	89	89	89	90	93	95	95	91	86	84
400	98	97	97	96	94	91	92	90	86	87	87	86	88	88	88	90	89	84	81
500	93	94	93	92	89	89	88	86	86	84	85	86	88	89	90	89	84	83	81
630	95	95	94	93	90	88	89	88	84	84	86	86	88	89	89	89	84	80	81
800	90	90	90	88	87	85	84	85	83	84	84	85	85	86	86	84	81	78	78
1000	90	89	89	88	87	84	85	85	83	84	85	85	85	86	85	83	80	76	76
1250	87	87	86	85	85	84	85	84	82	82	82	81	83	82	83	81	77	73	75
1600	88	88	86	85	87	86	86	84	83	83	83	83	85	83	84	80	75	74	73
2000	87	87	85	84	85	84	84	84	81	81	82	82	84	82	82	78	72	70	70
2500	87	86	85	82	83	81	81	81	80	80	81	81	82	82	80	76	71	68	68
3150	84	82	81	81	81	81	81	80	80	80	81	81	81	81	80	76	69	70	68
4000	81	80	79	78	78	78	78	78	78	78	78	79	80	79	78	74	67	69	66
5000	80	79	78	77	77	75	75	77	76	77	78	78	78	78	78	72	65	66	64
6300	83	82	81	79	77	77	76	76	75	76	76	78	78	77	76	71	64	65	63
8000	87	87	85	84	82	80	79	79	76	77	78	78	79	78	78	71	65	66	65
10000	73	73	72	70	70	69	70	70	70	72	73	73	74	73	73	66	60	61	61
OVERALL	107	107	106	105	104	103	103	102	102	102	102	102	105	106	106	102	96	96	97
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (OBS)																			IDENTIFICATION:	
1/3 OCTAVE BAND																			) OMEGA 1.4	
DISTANCE = 75 METERS																			) TEST 75-002-021	
NOISE SOURCE/SUBJECT:																			) RUN 03	
(OPERATION:																			) METEOROLOGY:	
(RUNUP POWER																			) TEMP = 17 C	
(9600 INCH POUNDS TORQUE																			) BAR PRESS = .763 M HG	
(ALL ENGINES																			) REL HUMID = 54 %	
(																			) PAGE 2	
C-130E AIRCRAFT																				
T56-A-7A ENGINE																				
FAR FIELD NOISE																				
FREQ																				
(HZ)																				

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
C-130E AIRCRAFT																
T56-A-7A ENGINE																
FAR FIELD NOISE																
OPERATION:																
MILITARY POWER																
16800 INCH POUNDS TORQUE																
ALL ENGINES																
METEOROLOGY:																
TEMP = 17 C																
BAR PRESS = .763 H MG																
REL HUMID = 54 %																
PAGE 2																
IDENTIFICATIONS:																
OMEGA 1.4																
TEST 75-002-021																
RUN 04																
17 APR 75																
FREQ (HZ)																
ANGLE (DEGREES)																
105 107 107 107 107 108 108 109 111 114 116 113 118 116 109 108 104 98																
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																
25	80	79	79	79	80	81	83	83	83	83	83	83	82	84	83	90
31.5	80	80	81	82	83	82	84	84	85	86	84	85	86	85	86	90
40	81	82	81	82	82	82	83	83	84	84	84	85	85	85	84	88
50	83	84	84	83	84	84	86	87	89	88	88	89	87	87	86	86
63	93	99	100	97	105	105	109	112	115	112	115	118	108	107	102	94
80	87	90	90	80	93	94	97	101	103	100	106	104	96	95	92	85
100	89	89	80	87	87	86	87	87	87	87	87	89	90	89	86	81
125	94	95	94	93	92	94	100	103	107	106	101	97	98	96	89	82
160	93	93	92	91	91	90	93	95	98	97	95	93	93	90	79	79
200	92	95	92	95	94	92	91	92	91	92	92	91	91	51	88	78
250	94	96	97	99	90	94	94	93	92	92	93	92	93	92	87	76
315	95	97	97	99	90	98	95	94	94	94	94	95	95	94	90	79
400	92	94	95	93	93	94	92	92	91	90	91	92	92	90	88	77
500	92	94	94	94	93	95	94	94	94	92	92	92	92	91	90	86
630	92	93	92	92	92	93	92	91	91	89	89	89	88	88	86	77
800	91	93	91	91	91	91	91	90	90	89	89	89	88	87	85	77
1000	91	92	90	90	90	91	92	92	90	89	89	88	88	86	85	78
1250	89	91	90	91	91	92	93	93	91	89	89	87	88	85	84	75
1600	92	93	94	94	94	94	97	95	94	90	89	88	89	86	84	75
2000	92	93	95	94	94	94	95	94	93	88	87	87	85	83	73	73
2500	92	92	92	91	92	92	92	91	91	87	87	86	86	84	82	72
3150	92	93	93	92	92	92	93	91	90	88	86	85	84	81	72	72
4000	89	91	91	89	90	89	90	88	88	85	84	83	83	79	69	69
5000	88	89	89	88	88	88	87	87	87	83	83	82	81	77	69	69
6300	87	87	87	85	86	85	85	85	85	81	81	80	79	75	65	65
8000	86	87	87	84	84	83	84	82	82	79	78	77	76	72	62	62
10000	79	80	80	78	78	78	79	78	78	75	74	74	74	73	68	59
OVERALL	105	107	107	107	108	108	111	114	116	113	118	116	109	108	104	98

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OPERATION:

SOLE POWER, LOW SPEED

800 INCH POUNDS TORQUE

ALL ENGINES

G-130E AIRCRAFT

156-A-7A ENGINE

FAR FIELD NOISE

METEOROLOGICAL:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

OMEGA 1.4

TEST 75-002-021

RUN 01

17 APR 75

PAGE 6

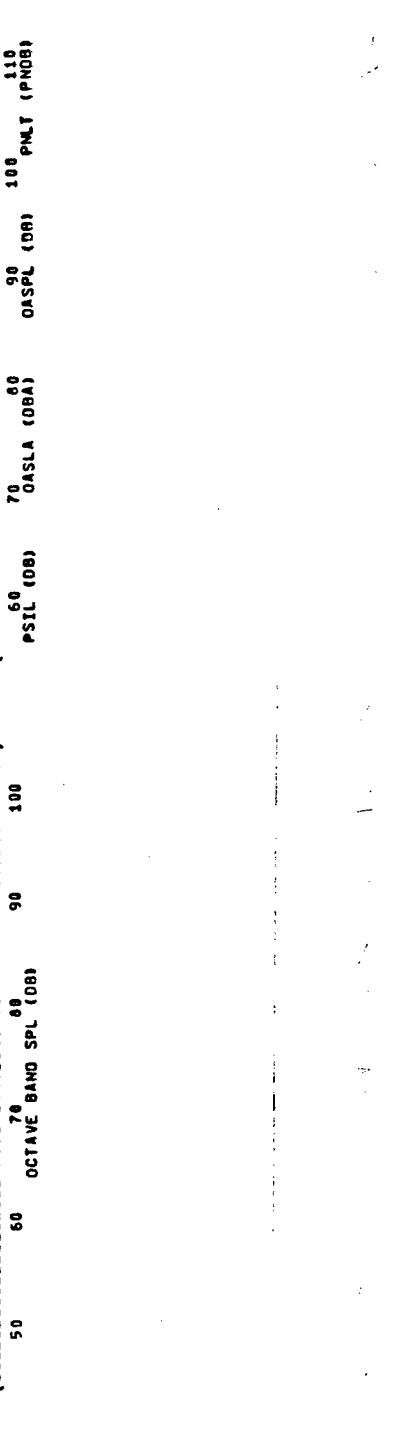
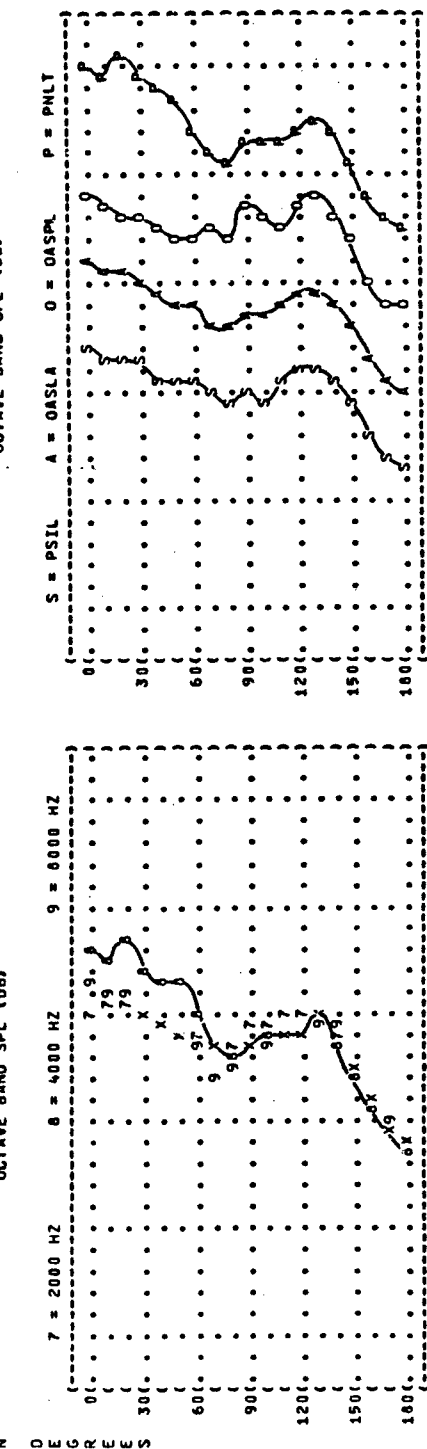
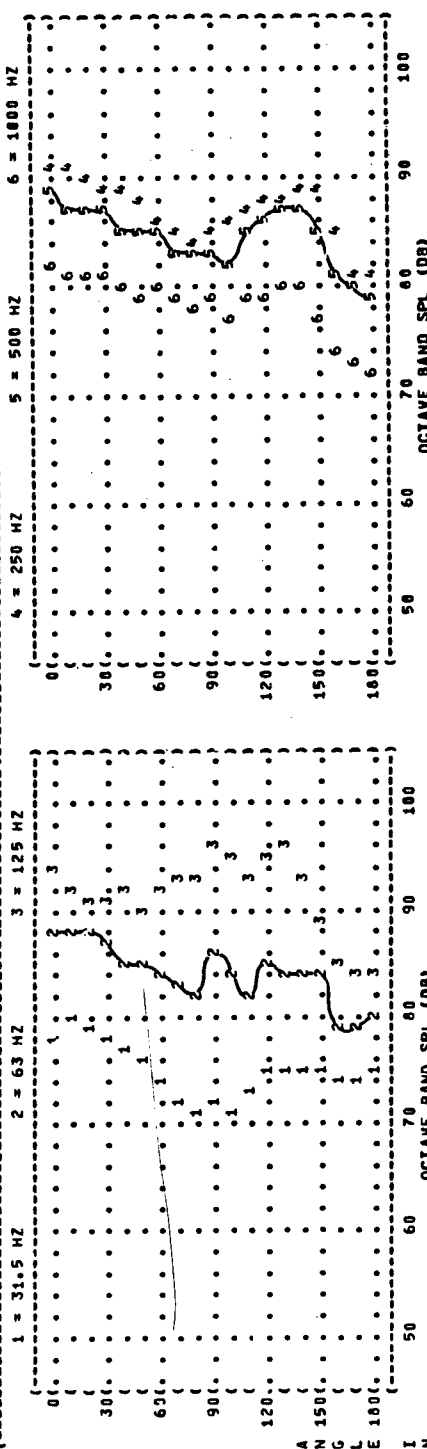


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT 1

C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE

OPERATION 1

IDLE POWER, NORMAL SPEED
1400 INCH POUNDS TORQUE
ALL ENGINES

METEOROLOGICAL

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION

OMEGA 1.4
TEST 75-002-021
RUN 02
17 APR 75
PAGE 6

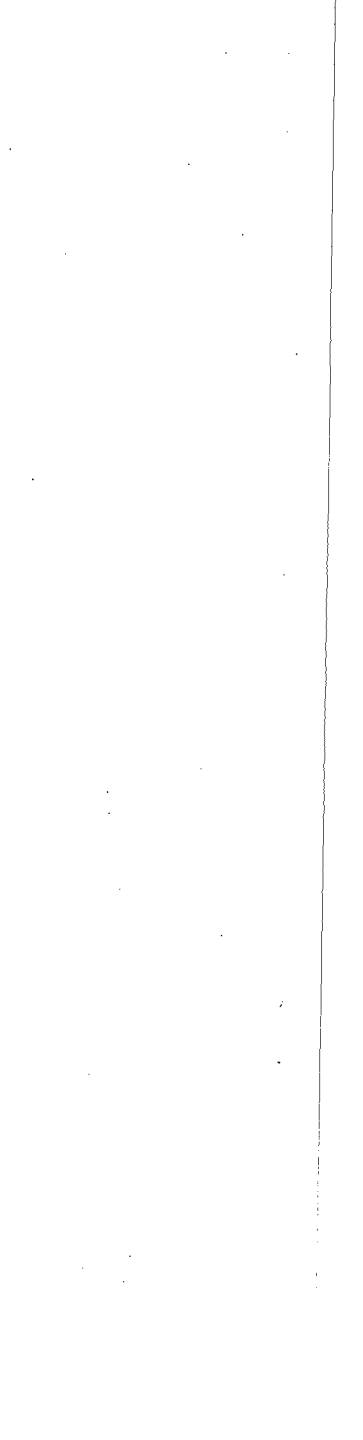
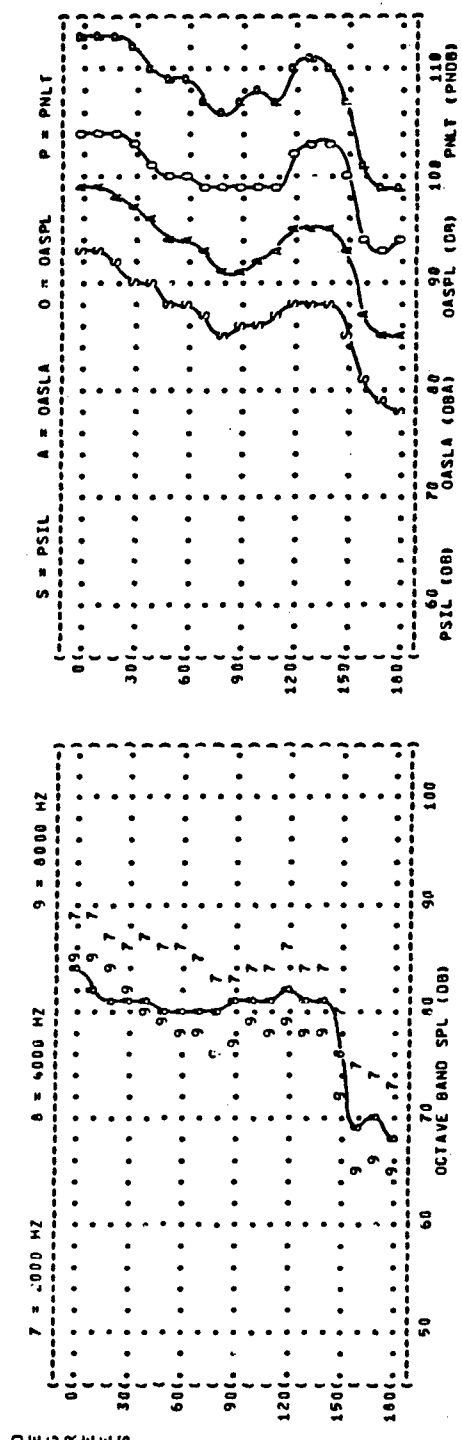
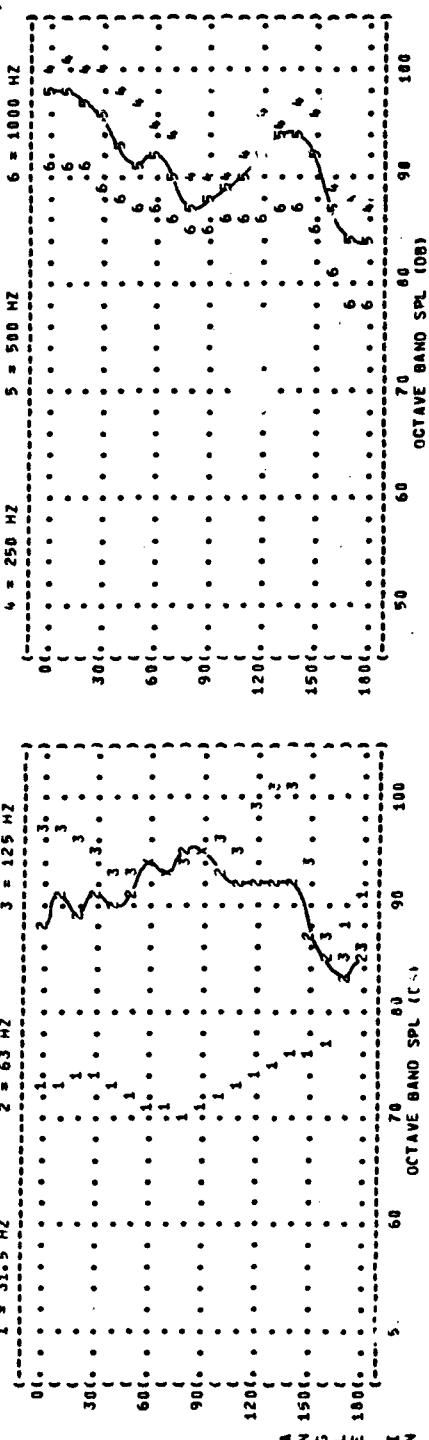


FIGURE 1: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

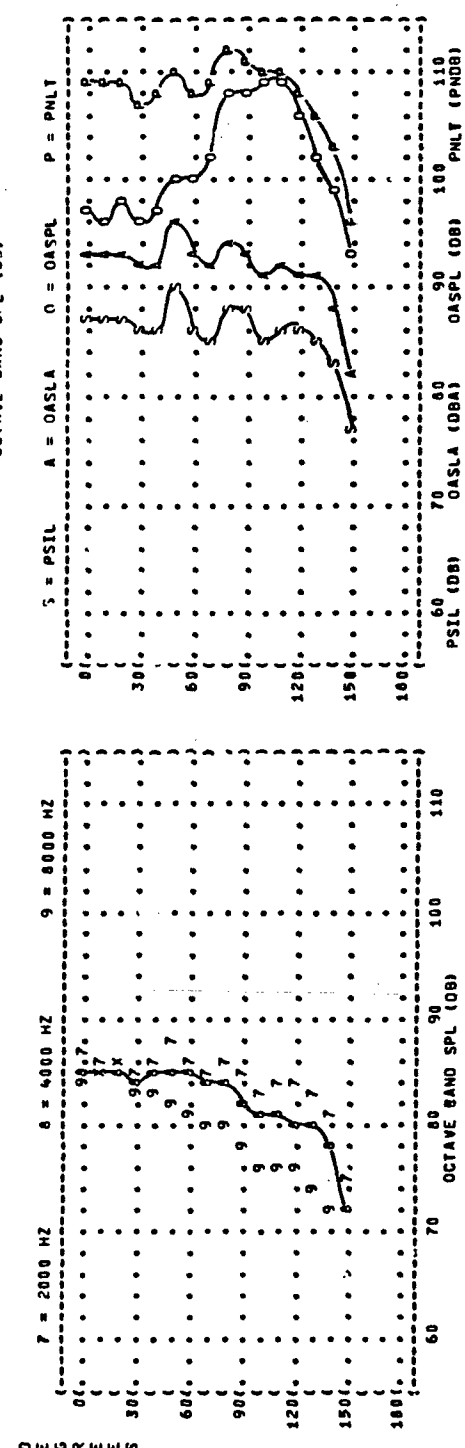
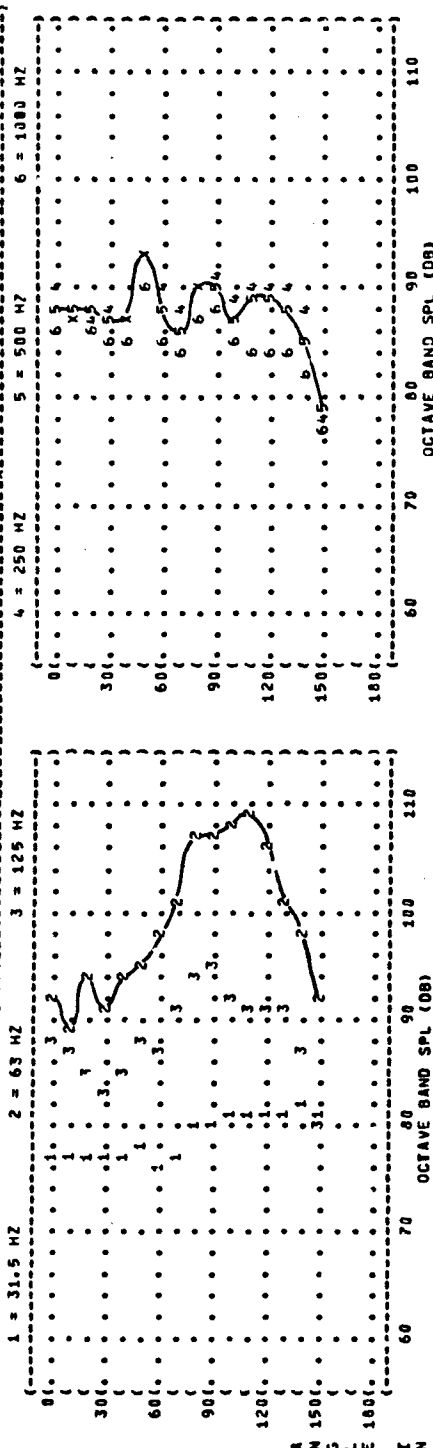
NOISE SOURCE/SUBJECT:

C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE

OPERATION:
RUNUP POWER
9600 INCH POUNDS TORQUE
ALL ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-021
RUN 03
17 APR 75
PAGE 6



IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-021
 RUN 04
 17 APR 75
 PAGE 6

NOISE SOURCE/SUBJECT:
 C-130E AIRCRAFT
 T56-A-7A ENGINE
 FAR FIELD NOISE

OPERATION:
 MILITARY POWER
 16800 INCH POUNDS TORQUE
 ALL ENGINES

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = 760 MM HG
 REL HUMID = 70 %

DISTANCE = 100 METERS

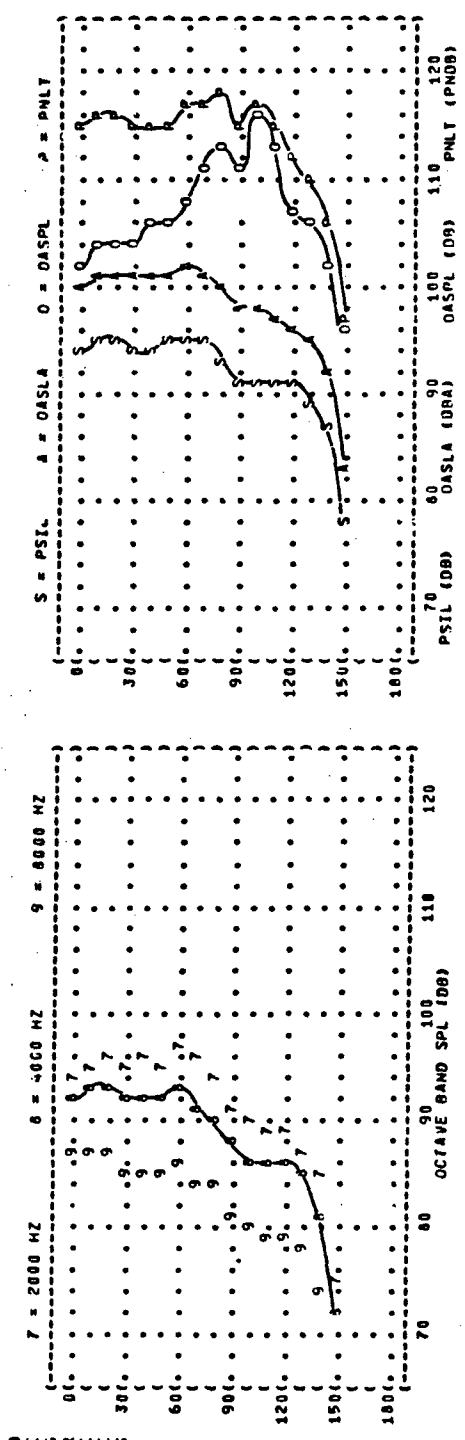
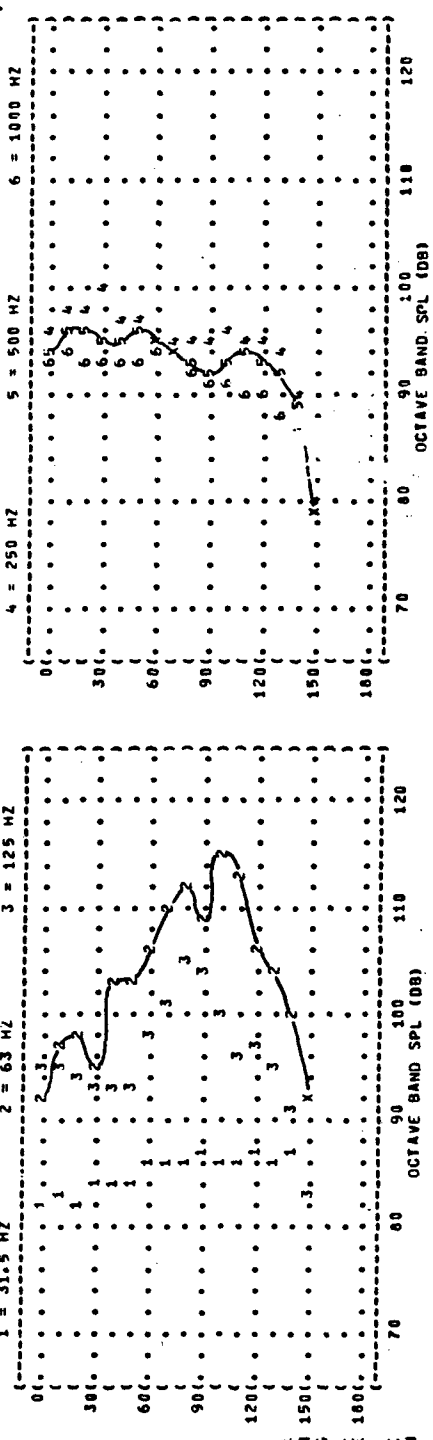


FIGURE 1: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-021

PUN 01

17 APR 75

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

TEMP = 17 C

BAR PRESS = .763 M HG

REL HUMID = 54 %

C-130E AIRCRAFT

156-A-7A ENGINE

FAR FIELD NOISE

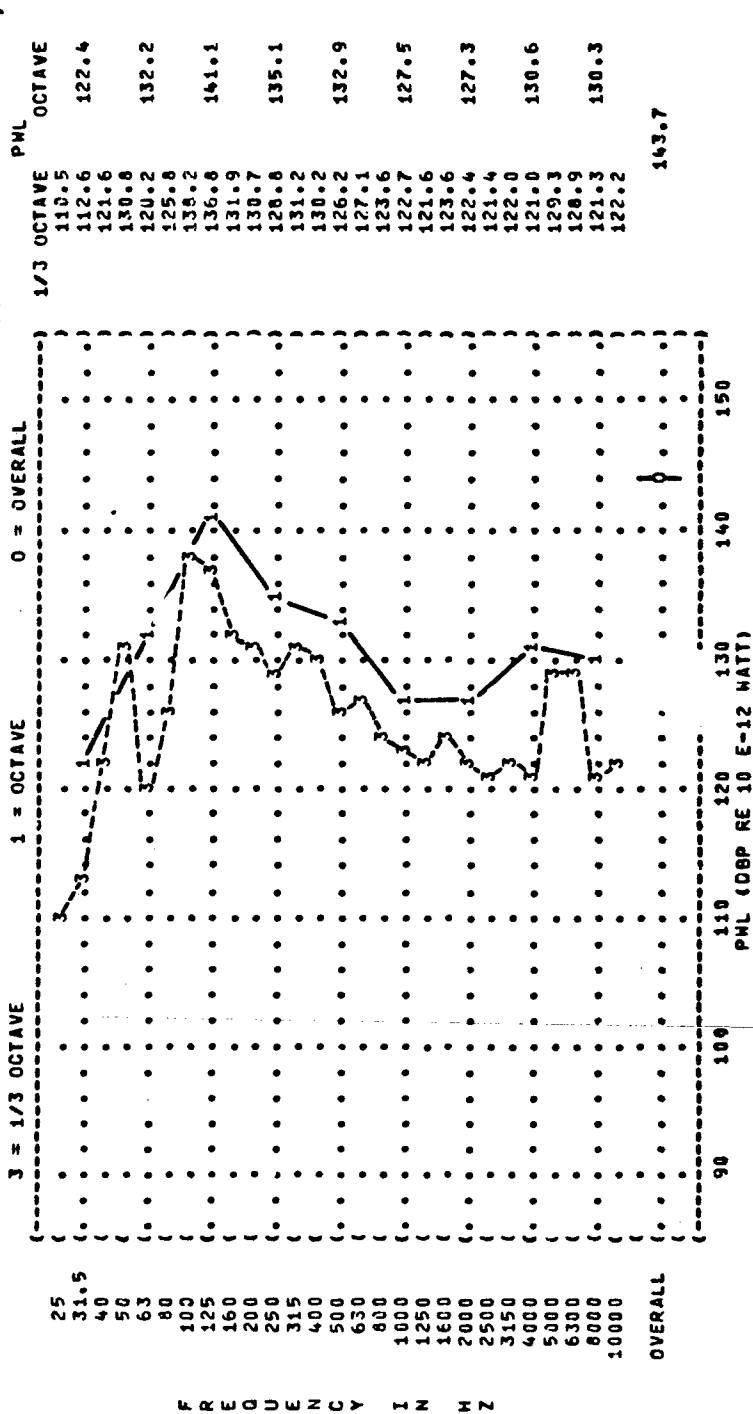
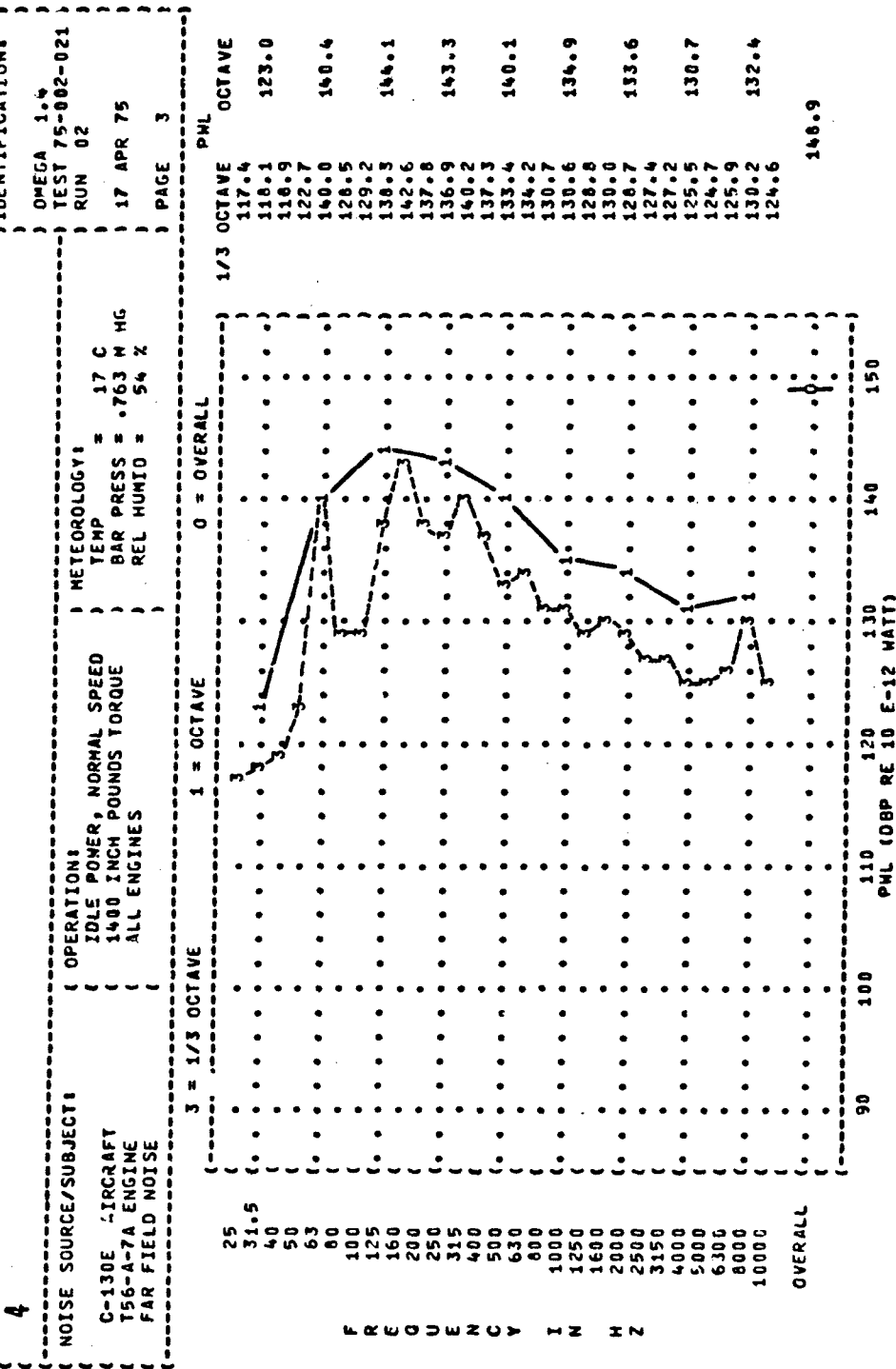


FIGURE 1: ACOUSTIC POWER LEVEL (PWL)



4

1

FIGURE: ACOUSTIC POWER LEVEL (PWL)		IDENTIFICATION:	
4		OMEGA 1-4	
		TEST 75-002-021	
		RUN 04	
NOISE SOURCE/SUBJECT:		METEOROLOGY:	
(OPERATIONS)		(TEMP = 17 C)	
(MILITARY POWER)		(BAR PRESS = .763 M HG)	
(16000 INCH POUNDS TORQUE)		(REL HUMID = 54 %)	
(ALL ENGINES)			
(FAR FIELD NOISE)		(PAGE 3)	
3 = 1/3 OCTAVE		1 = OCTAVE	
		0 = OVERALL	
		PWL	

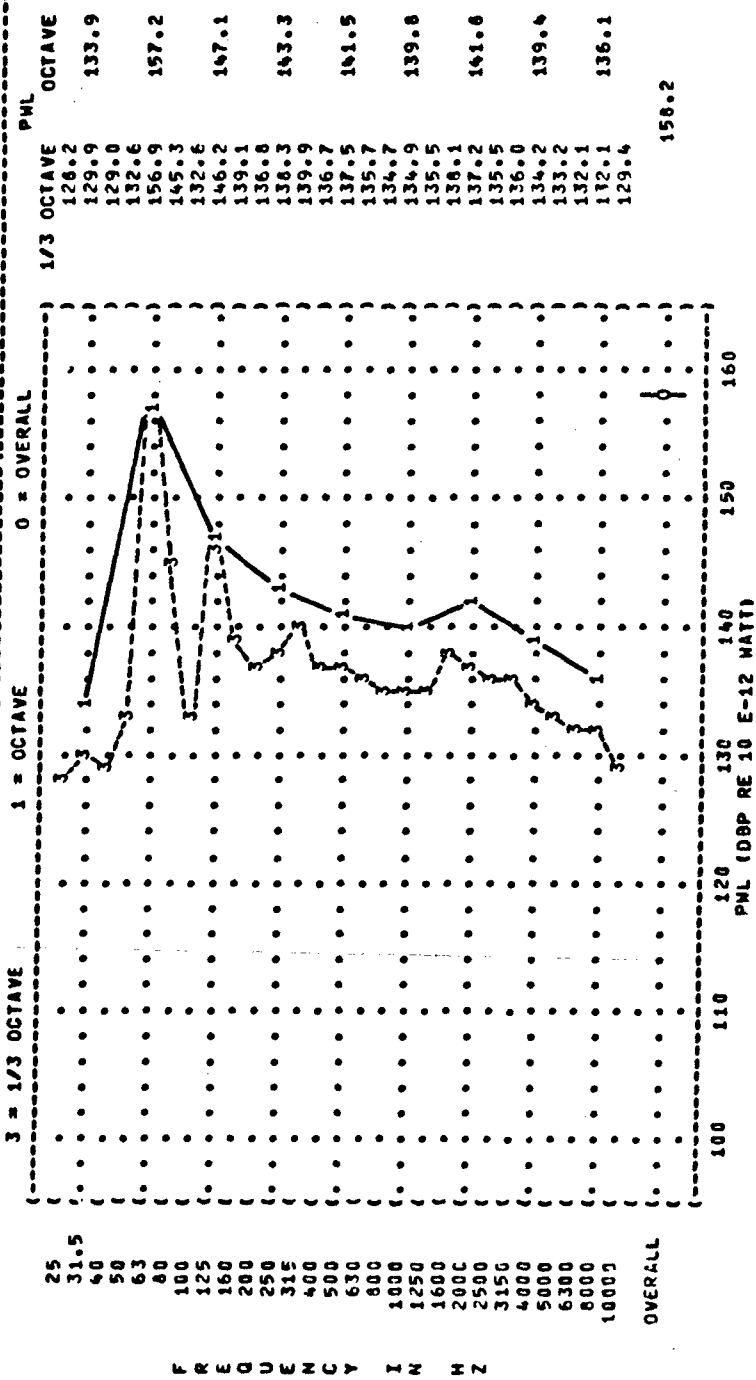


TABLE: DIRECTIVITY INDEX (DB)												
6												
NOISE SOURCE/SUBJECT:												
C-130E AIRCRAFT												
T56-A-7A ENGINE												
FAR FIELD NOISE												
FREQ (HZ)												
ANGLE (DEGREES)												
1/3 OCTAVE												
25	-1	-1	0	-1	0	-1	-1	-1	-1	-1	-1	5
31.5	1	1	0	1	0	-1	-1	-1	-1	-1	-1	1
40	4	4	3	3	1	-1	-1	-1	-1	-1	-1	2
50	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
63	2	3	2	-1	1	-1	-1	-1	-1	-1	-1	-1
80	5	6	4	2	0	-2	-1	-1	-1	-1	-1	-1
100	0	-2	-3	-4	-4	-2	-1	-1	-1	-1	-1	-1
125	-1	-3	-3	-3	-2	-2	-1	-1	-1	-1	-1	-1
160	3	3	3	2	1	-1	-1	-1	-1	-1	-1	-1
200	3	3	3	2	1	-1	-1	-1	-1	-1	-1	-1
250	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
315	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
400	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
500	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
630	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
800	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
1000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
1250	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
1600	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
2000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
2500	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
3150	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
4000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
5000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
6300	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
8000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
10000	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
OCTAVE												
31.5	4	5	4	3	3	1	-1	-1	-1	-1	-1	0
63	4	4	3	2	1	-1	-1	-1	-1	-1	-1	-1
125	1	-1	-2	-2	-1	-3	-1	-1	-1	-1	-1	-1
250	3	4	2	2	1	0	-1	-1	-1	-1	-1	-1
500	4	4	2	2	1	0	-1	-1	-1	-1	-1	-1
1000	3	3	2	2	1	0	-1	-1	-1	-1	-1	-1
2000	2	2	2	2	1	0	-1	-1	-1	-1	-1	-1
4000	5	5	4	4	3	2	-1	-1	-1	-1	-1	-1
8000	5	5	4	4	3	2	-1	-1	-1	-1	-1	-1
10000	7	7	6	6	5	4	-1	-1	-1	-1	-1	-1
OVERALL												
2	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1

TABLE: DIRECTIVITY INDEX (DB)																			
6																			
NOISE SOURCE/SUBJECT:										IDENTIFICATION:									
C-130E AIRCRAFT										OMEGA 1.4									
156-A-7A ENGINE										TEST 75-002-021									
FAR FIELD NOISE										RUN 02									
OPERATION:										METEOROLOGY:									
IDLE POWER, NORMAL SPEED										TEMP = 17 C									
1490 INCH POUNDS TORQUE										BAR PRESS = .763 M HG									
ALL ENGINES										REL HUMID = 54 %									
										PAGE 4									
ANGLE (DEGREES)																			
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-6	-4	-4	-6	-6	-6	-5	-5	-7	-6	-5	-4	-4	-2	-2	-0	-1	3	15
31.5	-3	-3	-2	-1	-0	-2	-5	-5	-5	-4	-4	-3	-3	0	0	1	0	1	13
40	-1	-1	-1	-1	-1	-4	-3	-3	-3	-2	-1	-1	-1	0	1	2	2	1	10
50	1	1	0	1	-0	-2	-0	-1	-1	-1	-1	-1	-1	1	1	1	0	-1	4
63	-5	-2	-4	-2	-3	-3	1	1	3	3	1	-1	-1	-1	-2	-7	-9	-13	-11
80	-1	-0	-1	-2	-2	-3	-1	-1	0	1	-0	-0	-0	1	1	3	-0	-3	-5
100	-1	-1	-1	-2	-2	-3	-2	-3	-4	-3	-1	-1	-1	1	1	4	1	-6	-7
125	4	5	4	3	1	1	0	-1	-1	-2	-4	-3	0	1	3	5	-3	-8	-11
160	-3	-4	-5	-5	-7	-7	-4	-5	-2	-1	-1	-1	-1	3	5	5	-10	-11	-10
200	5	5	4	4	5	4	-1	-3	-5	-6	-5	-4	-3	-0	1	4	1	-7	-9
250	4	5	6	4	2	2	0	-1	-2	-4	-5	-4	-2	1	-0	1	1	-6	-8
315	5	5	5	4	2	2	0	-1	-6	-6	-5	-5	-2	1	-0	1	1	-6	-9
400	6	5	5	4	2	1	-0	-2	-6	-5	-5	-3	-3	-0	3	3	-1	-6	-9
500	5	6	5	4	1	-1	-0	-2	-2	-4	-3	-2	-2	-0	2	2	1	-4	-5
630	6	6	5	4	2	2	0	-1	-5	-2	-2	-1	-1	-0	1	-0	-5	-9	-8
800	5	5	5	3	2	2	-1	-0	-2	-2	-1	-1	-1	-1	0	0	-2	-5	-9
1000	5	4	4	3	2	2	1	0	-0	-2	-1	-1	-1	-1	-1	-1	-4	-7	-8
1250	4	4	4	3	2	2	1	0	0	-2	-1	-1	-1	-1	-1	-1	-5	-9	-9
1600	4	4	4	3	2	2	1	1	1	-2	-1	-1	-1	-1	-1	-1	-6	-10	-10
2000	4	4	4	3	2	2	1	1	1	-2	-1	-1	-1	-1	-1	-1	-9	-11	-11
2500	6	5	4	3	2	2	1	0	-1	-1	-1	-1	-1	0	1	1	-5	-11	-13
3150	3	2	1	1	0	0	0	-0	-0	-1	-1	-1	0	1	1	1	-4	-12	-13
4000	3	2	1	0	0	-0	-0	-0	-0	0	0	0	1	1	1	1	-4	-12	-13
5000	3	2	1	-0	-0	-1	-2	-1	-1	0	1	1	1	1	1	1	-5	-12	-13
6300	6	5	4	2	0	-0	-1	-1	-2	-1	-1	-1	1	1	0	-1	-6	-13	-14
8000	8	7	6	4	2	0	-0	-1	-1	-2	-1	-2	1	1	-1	-1	-8	-15	-15
10000	2	1	0	-1	-2	-3	-2	-1	-1	-1	1	2	3	1	1	1	-5	-11	-11
OCTAVE																			
31.5	-2	-2	-2	-2	-2	-4	-4	-4	-5	-4	-3	-2	-1	-1	0	1	1	2	13
63	-4	-4	-4	-2	-2	-2	-3	-3	-3	-3	-1	-0	-1	-1	-0	-1	-5	-8	-10
125	0	0	-0	-1	-3	-3	-3	-3	-2	-1	-0	-1	3	5	4	4	-3	-9	-11
250	5	5	5	4	3	1	0	-2	-5	-6	-5	-3	0	0	2	2	1	-6	-8
500	6	6	6	4	3	1	-1	-2	-5	-4	-3	-2	-0	2	2	0	-5	-8	-8
1000	5	4	4	3	2	0	-0	-0	-2	-1	-1	-1	-1	0	0	0	-2	-5	-9
2000	4	4	2	1	0	0	1	0	-1	-1	-1	-1	-1	1	1	-1	-5	-10	-12
4000	3	2	1	0	0	-0	-1	-1	-1	-1	-1	-1	1	1	1	1	-6	-12	-13
8000	7	6	5	3	1	0	-0	-1	-1	-2	-1	-2	1	1	0	-1	-8	-13	-14
OVERALL	3	3	3	2	0	-1	-0	-2	-2	-1	-1	-2	1	2	3	-1	-7	-8	-6

TABLE: DIRECTIVITY INDEX (DB)														
6														
NOISE SOURCE/SUBJECT:														
C-130E AIRCRAFT														
T56-A-7A ENGINE														
FAR FIELD NOISE														
FREQ (HZ)														
ANGLE (DEGREES)														
1/3 OCTAVE														
25														
31.5														
40														
50														
63														
80														
100														
125														
160														
200														
250														
315														
400														
500														
630														
800														
1000														
1250														
1600														
2000														
2500														
3150														
4000														
5000														
6300														
8000														
10000														
OCTAVE														
31.5														
63														
125														
250														
500														
1000														
2000														
4000														
8000														
OVERALL														

TABLE: DIRECTIVITY INDEX (DB)																	IDENTIFICATION:		
6																	OMEGA 1.4		
NOISE SOURCE/SUBJECT:																	TEST 75-002-021		
(OPERATION: MILITARY POWER)																	RUN 04		
(C-130E AIRCRAFT)																			
(T55-A-7A ENGINE)																	17 APR 75		
(FAR FIELD NOISE)																	PAGE 4		
METEOROLOGY:																			
TEMP = 17 C																			
BAR PRESS = .763 M HG																			
REL HUMID = 54 %																			
ANGLE (DEGREES)																			
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
(Hz)																			
1/3 OCTAVE																			
25	-3	-4	-4	-4	-3	-2	0	-0	-0	0	-0	-1	1	-0	-0	-0	7		
31.5	-5	-4	-4	-2	-2	-3	-0	-0	-0	1	-1	-0	1	0	1	1	6		
40	-3	-2	-2	-1	-2	-2	-1	-1	0	1	1	1	1	0	1	1	4		
50	-4	-3	-4	-4	-4	-3	-1	-0	1	1	4	2	-1	-0	-2	-2			
63	-18	-13	-12	-15	-7	-6	-3	1	3	0	6	4	-4	-5	-10	-18			
80	-13	-10	-10	-12	-7	-6	-3	1	3	0	6	4	-4	-5	-8	-15			
100	1	1	0	-1	-1	-1	-0	-1	1	1	1	1	2	1	-1	-7			
125	-7	-6	-7	-8	-9	-7	-1	2	6	5	0	-4	-3	-5	-12	-19			
160	-1	-1	-2	-3	-3	-4	-1	1	4	3	1	-1	-1	-1	-4	-15			
200	1	4	1	4	5	2	1	1	-1	1	1	-0	-1	-1	-4	-14			
250	1	3	3	4	4	1	1	-0	-1	-1	0	-1	-0	-1	-6	-17			
315	-0	2	2	3	4	3	0	-1	-1	-1	0	-0	-1	-1	-5	-16			
400	0	2	2	2	2	3	1	2	2	-0	-1	1	0	-2	-3	-14			
500	0	2	2	2	2	2	2	2	1	0	0	-0	-1	-2	-6	-15			
630	2	2	2	2	2	2	2	1	1	-1	-1	-0	-1	-2	-4	-13			
800	2	4	2	2	2	2	4	3	3	1	-1	-1	-1	-3	-5	-12			
1000	1	1	1	1	1	1	3	2	1	1	0	-1	-1	-2	-4	-12			
1250	-1	3	1	1	1	1	1	3	2	1	-1	-1	-1	-1	-3	-4			
1600	-0	1	0	1	1	2	3	3	1	-2	-3	-4	-5	-6	-8	-15			
2000	1	1	2	2	2	2	5	3	3	-2	-3	-4	-4	-6	-9	-18			
2500	2	3	3	3	3	2	4	3	3	1	-2	-3	-3	-5	-8	-17			
3150	2	4	4	4	2	2	4	2	2	1	-3	-4	-4	-5	-8	-18			
4000	2	4	4	4	2	2	4	2	1	-2	-3	-4	-3	-4	-8	-18			
5000	3	4	4	4	2	2	4	2	1	-2	-3	-4	-3	-5	-8	-17			
6300	3	4	4	4	2	2	3	1	2	-2	-3	-4	-4	-4	-8	-18			
8000	5	5	6	3	3	2	3	1	1	-3	-4	-4	-4	-5	-9	-19			
10000	3	4	4	2	2	2	3	1	2	-1	-1	-2	-2	-4	-8	-17			
OCTAVE																			
31.5	-4	-3	-4	-2	-2	-2	-0	-1	0	1	-0	0	1	0	1	6			
63	-17	-13	-12	-15	-7	-6	-3	-1	3	-0	6	4	-4	-5	-9	-17			
125	-4	-4	-5	-6	-7	-6	-1	2	5	4	0	-3	-2	-4	-9	-16			
250	1	3	3	4	2	2	-0	-0	-1	-0	0	-0	-1	-1	-5	-16			
500	1	2	3	1	1	2	1	1	-0	-1	-0	0	-0	-2	-4	-14			
1000	1	3	1	1	1	2	3	2	1	-1	-0	-1	-2	-3	-5	-13			
2000	1	2	3	2	2	2	4	2	3	1	-2	-4	-4	-6	-8	-18			
4000	2	4	4	2	2	2	4	2	1	-2	-3	-4	-4	-5	-8	-17			
8000	4	5	5	2	3	2	3	1	1	-2	-3	-4	-4	-5	-9	-18			
OVERALL	-8	-6	-6	-6	-5	-4	-2	1	3	0	5	3	-3	-5	-9	-15			

FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

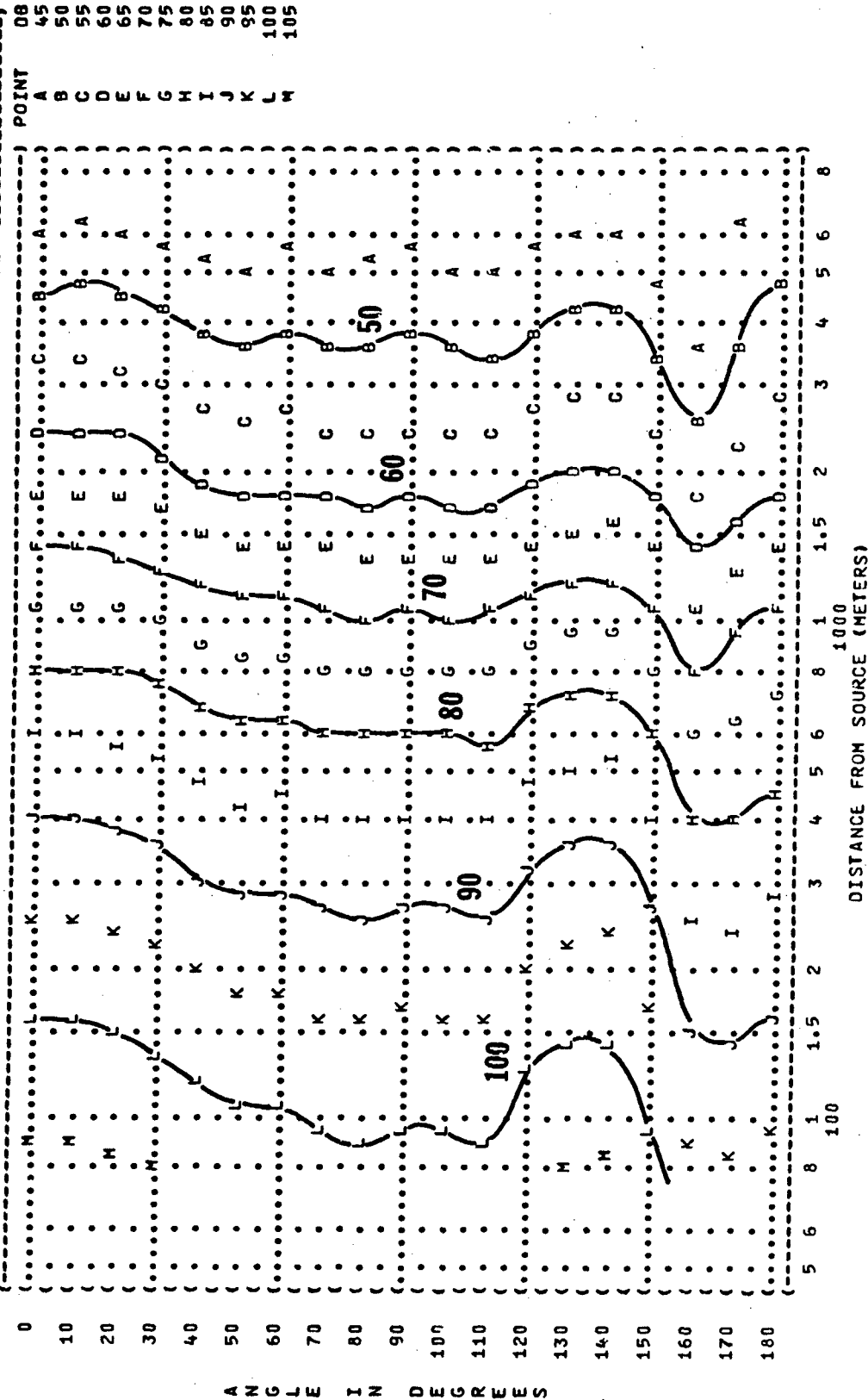
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NOISE SOURCE/SUBJECT: C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE

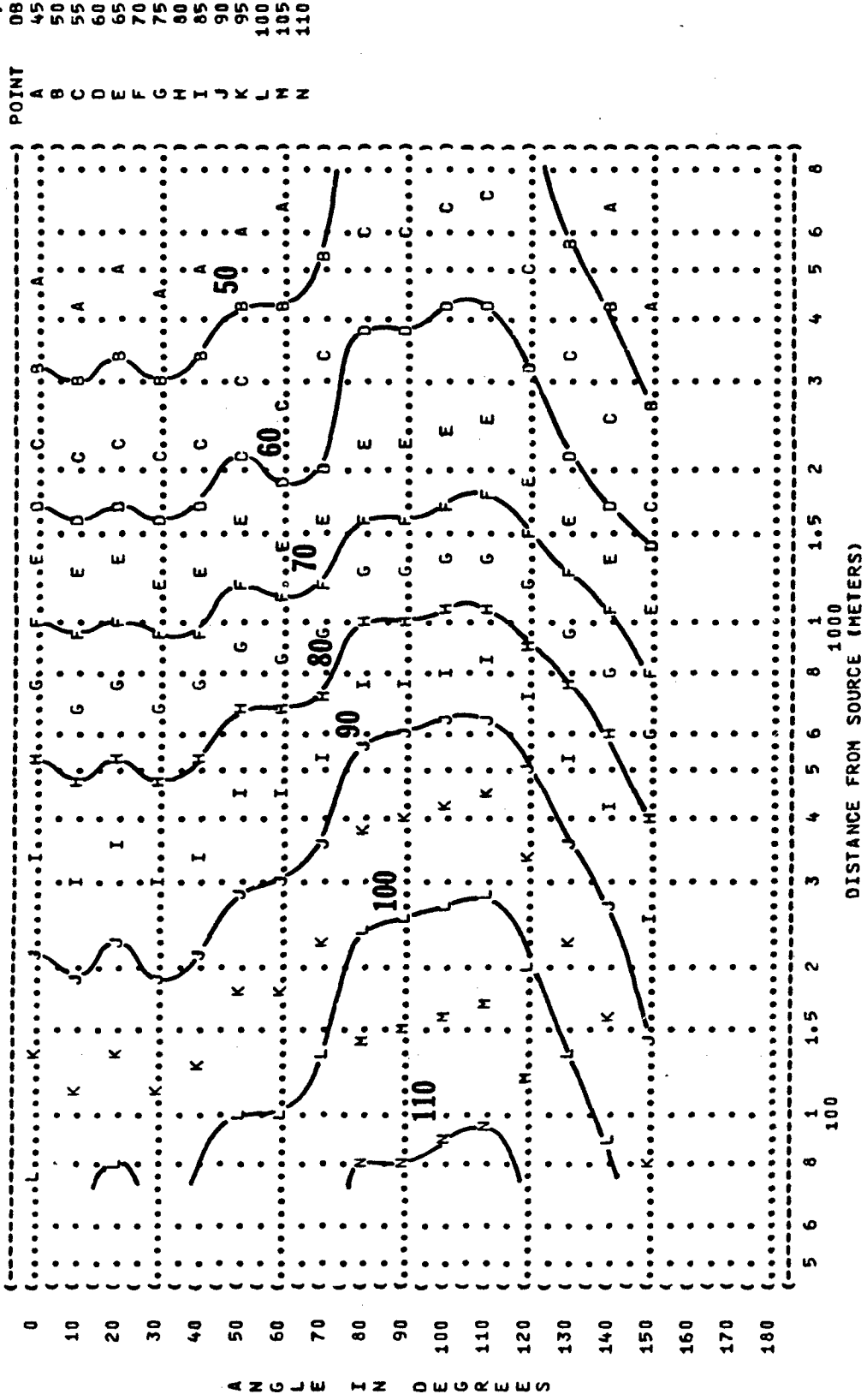
OPERATION: IDLE POWER, NORMAL SPEED
1400 INCH POUNDS TORQUE
ALL ENGINES

METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

OMEGA 1.4
TEST 75-002-021
RUN 02
17 APR 75
PAGE 13



(FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL))
 (5)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (T56-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (RUNUP POWER)
 (9600 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 03)
 (17 APR 75)
 (PAGE 13)



((FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
 ((5 EQUAL LEVEL CONTOURS (DB)
 (() IDENTIFICATION:
 (() OMEGA 1.4
 (() TEST 75-002-021
 (() RUN 04
 (() NOISE SOURCE/SUBJECT:
 (() OPERATIONS:
 (() MILITARY POWER
 (() 16800 INCH POUNDS TORQUE
 (() ALL ENGINES
 (() C-130E AIRCRAFT
 (() T56-A-1A ENGINE
 (() FAR FIELD NOISE
 (() METEOROLOGY:
 (() TEMP = 15 C
 (() BAR PRESS = .760 H HG
 (() REL HUMID = 70 %
 (() 17 APR 75
 (() PAGE 13

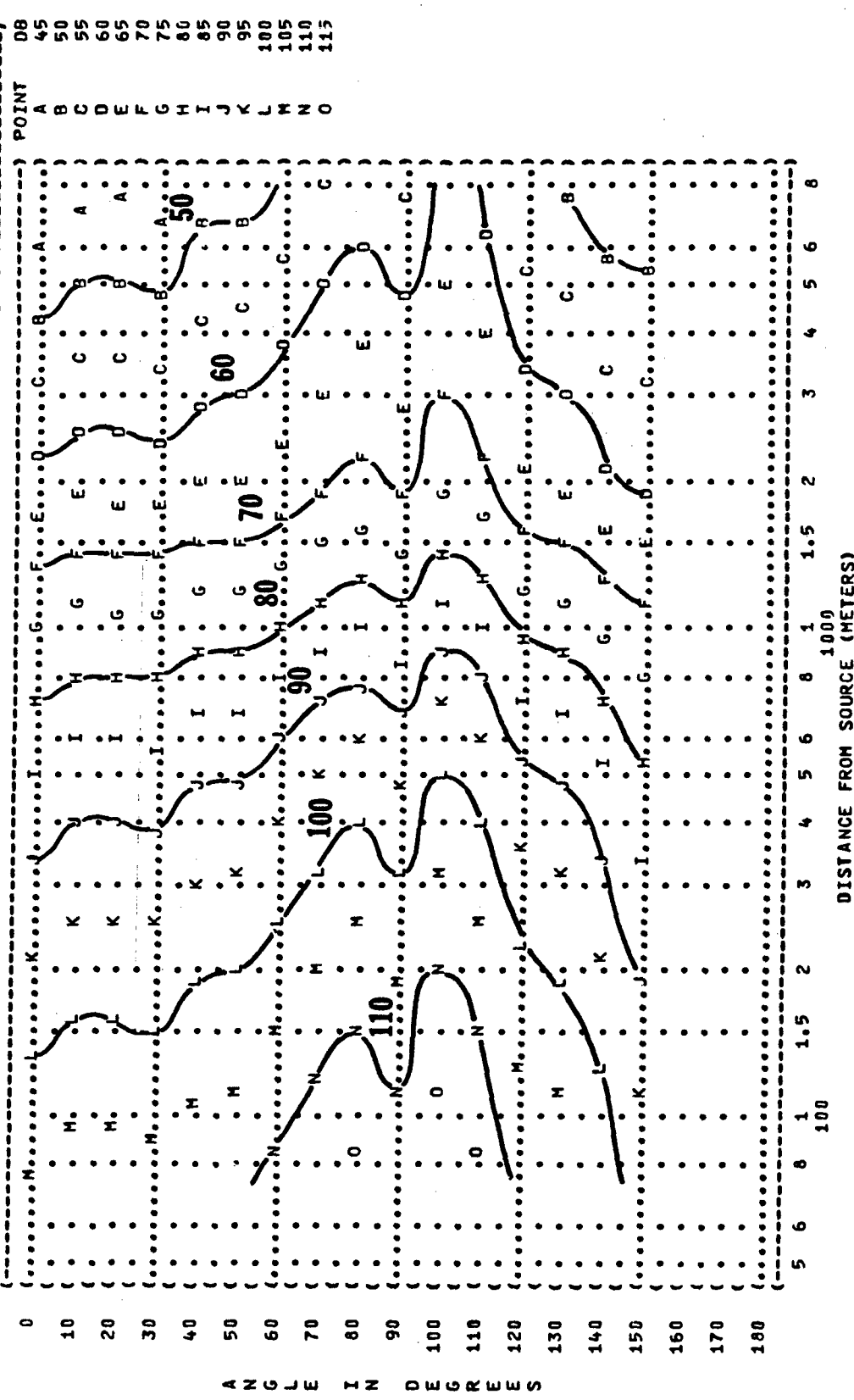


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6 EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:

C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE

OPERATION:

IDLE POWER, LOW SPEED
800 INCH POUNDS TORQUE
ALL ENGINES

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

OMEGA 1.4

TEST 75-002-021

RUN 01

17 APR 75

PAGE 14

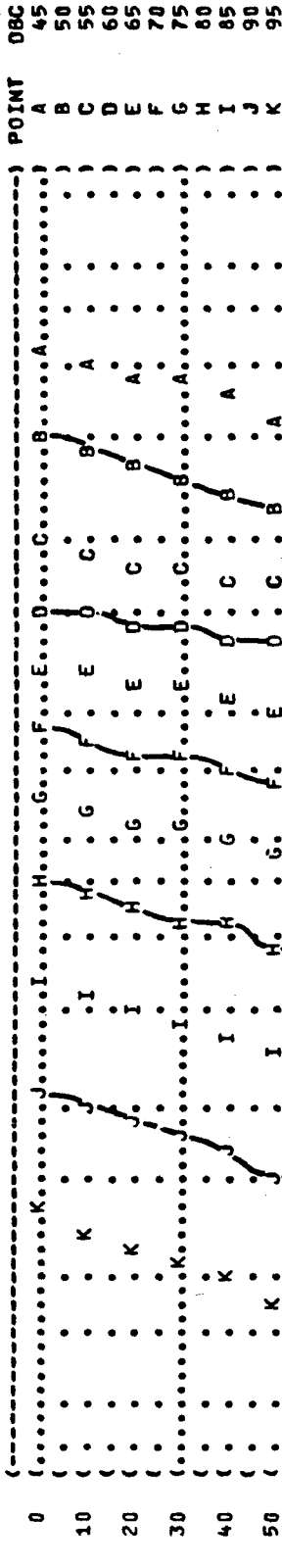
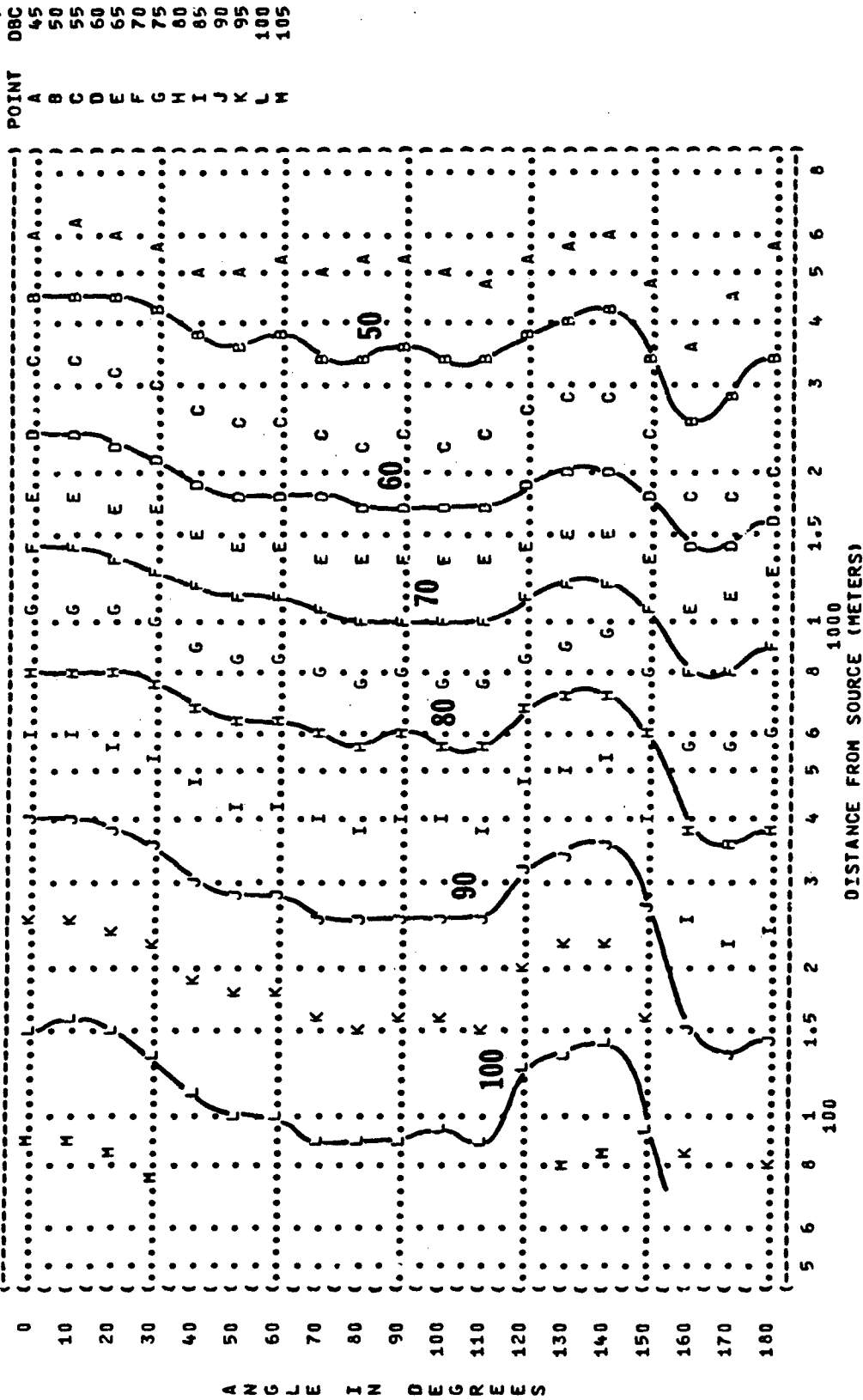


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6
EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION: OMEGA 1.4
TEST 75-002-021
RUN 02
METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION: IDLE POWER, NORMAL SPEED
1400 INCH POUNDS TORQUE
ALL ENGINES
NOISE SOURCE/SUBJECT: C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE



6



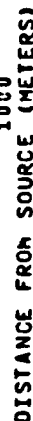
IDENTIFICATION:)

OPERATIONS

**MILITARY POWER
16800 INCH POUNDS TORQUE
ALL ENGINES**

TEMP = 15 C
BAR PRESS = .760 H HG
REL HUMID = 70 %

OMEGA 1.4
TEST 75-002-021
RUN 04



7

FAR FIELD NOISE

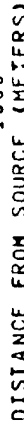
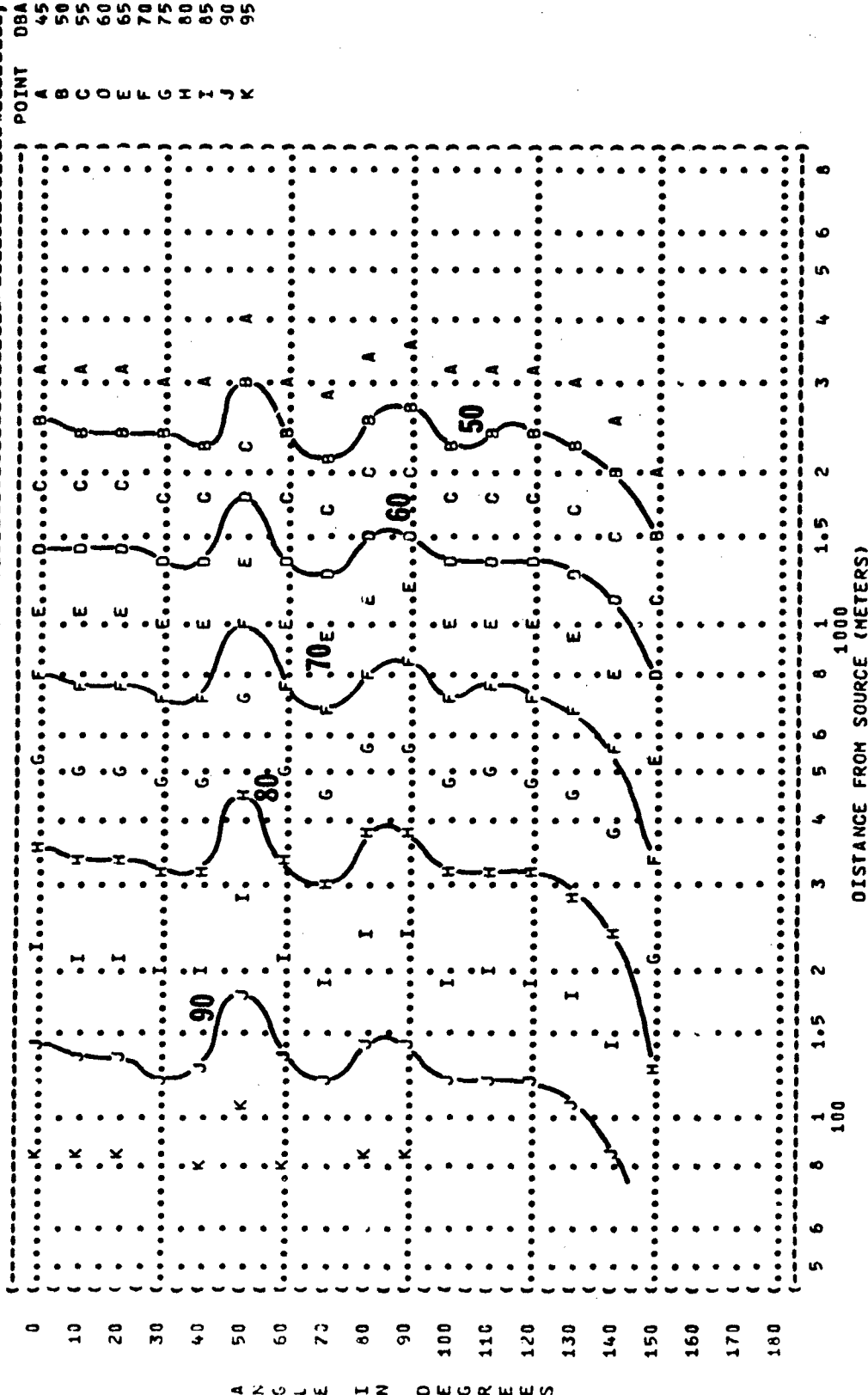


FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION: OMEGA 1.4
TEST 75-002-021
RUN 03
17 APR 75
PAGE 15

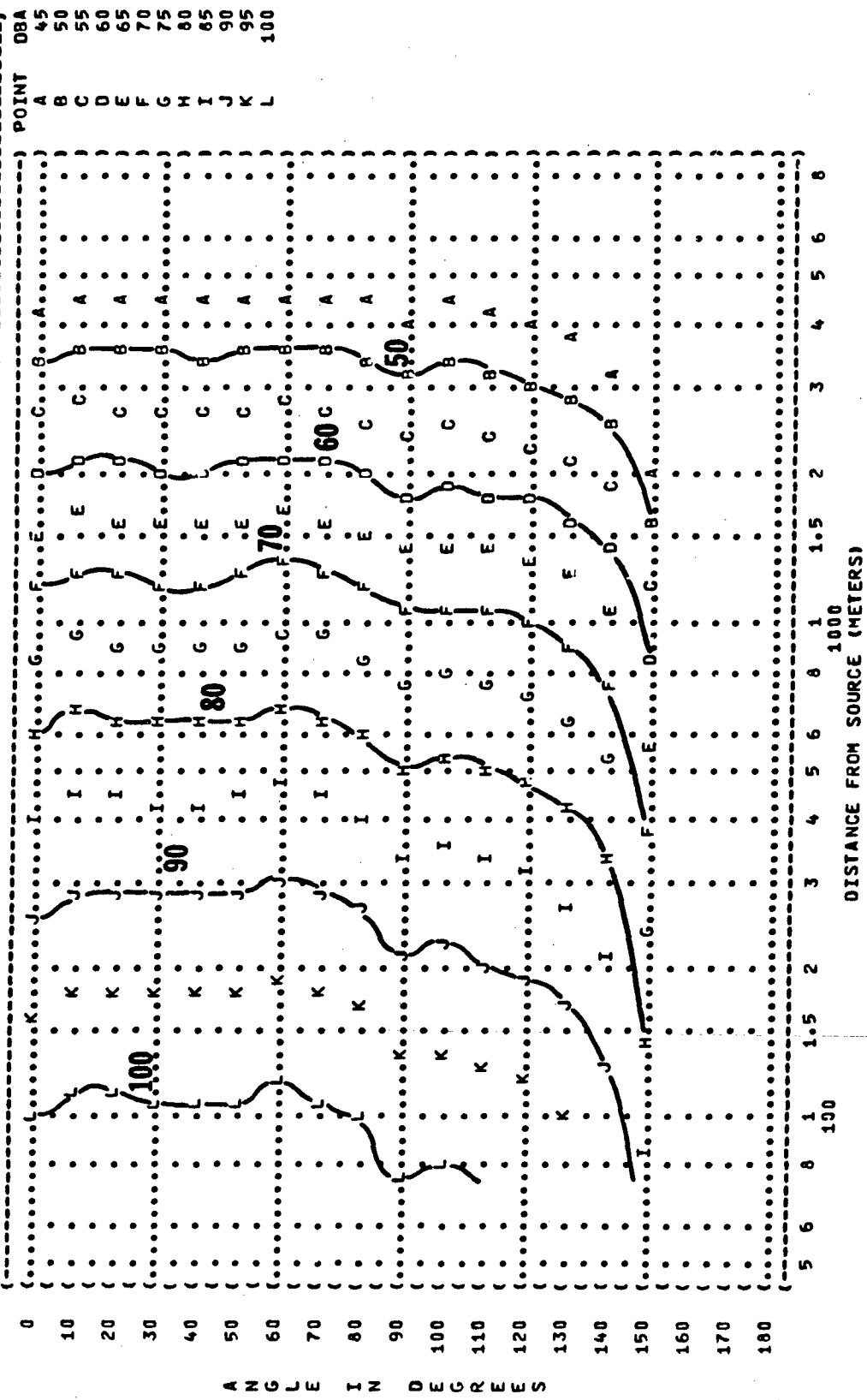
NOISE SOURCE/SUBJECT: OPERATION:
C-130E AIRCRAFT RUNUP POWER
T56-A-7A ENGINE 9600 INCH POUNDS TORQUE
FAR FIELD NOISE ALL ENGINES

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

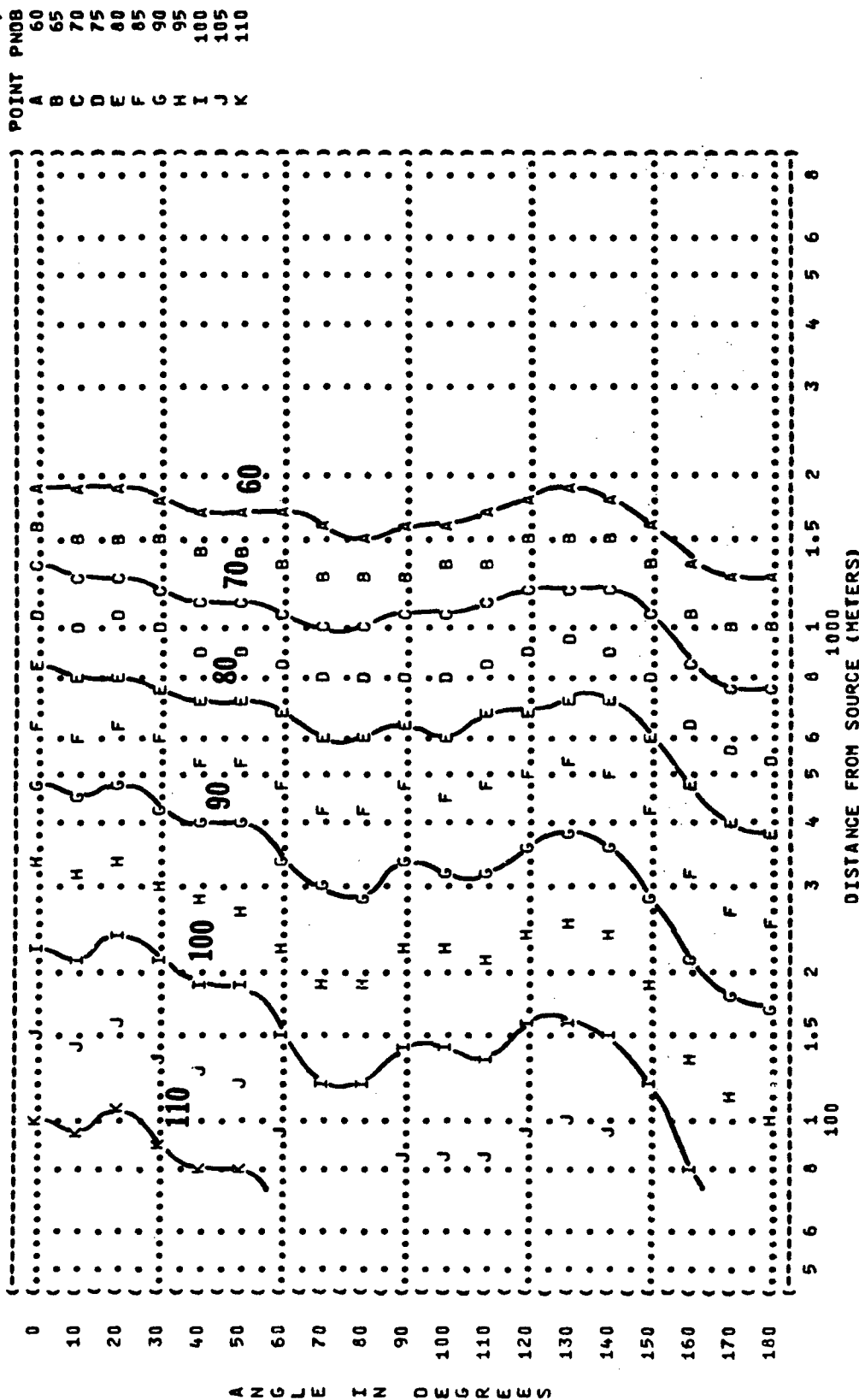


A N G L E I N D E G R E E S

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 7
 IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-021
 RUN 04
 17 APR 75
 PAGE 15
 NOISE SOURCE/SUBJECT:
 C-130E AIRCRAFT
 T56-A-7A ENGINE
 FAR FIELD NOISE
 OPERATION:
 MILITARY POWER
 16800 INCH POUNDS TORQUE
 ALL ENGINES
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %



(FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT))
 (8)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (756-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (IDLE POWER, LOW SPEED)
 (800 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 01)
 (17 APR 75)
 (PAGE 16)



(FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT))
 (8)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (156-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (RUNUP POWER)
 (9600 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 03)
 (17 APR 75)
 (PAGE 16)

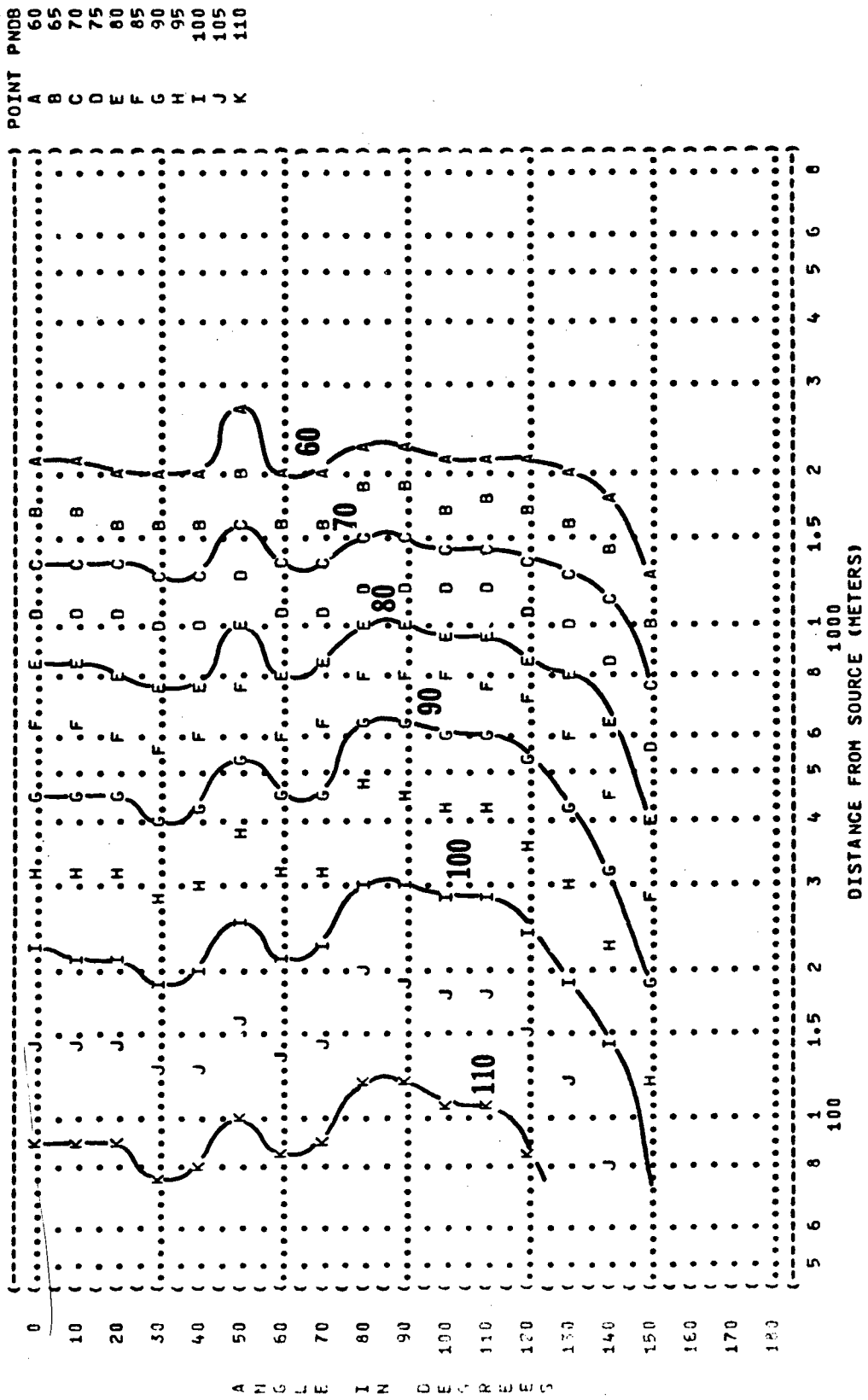
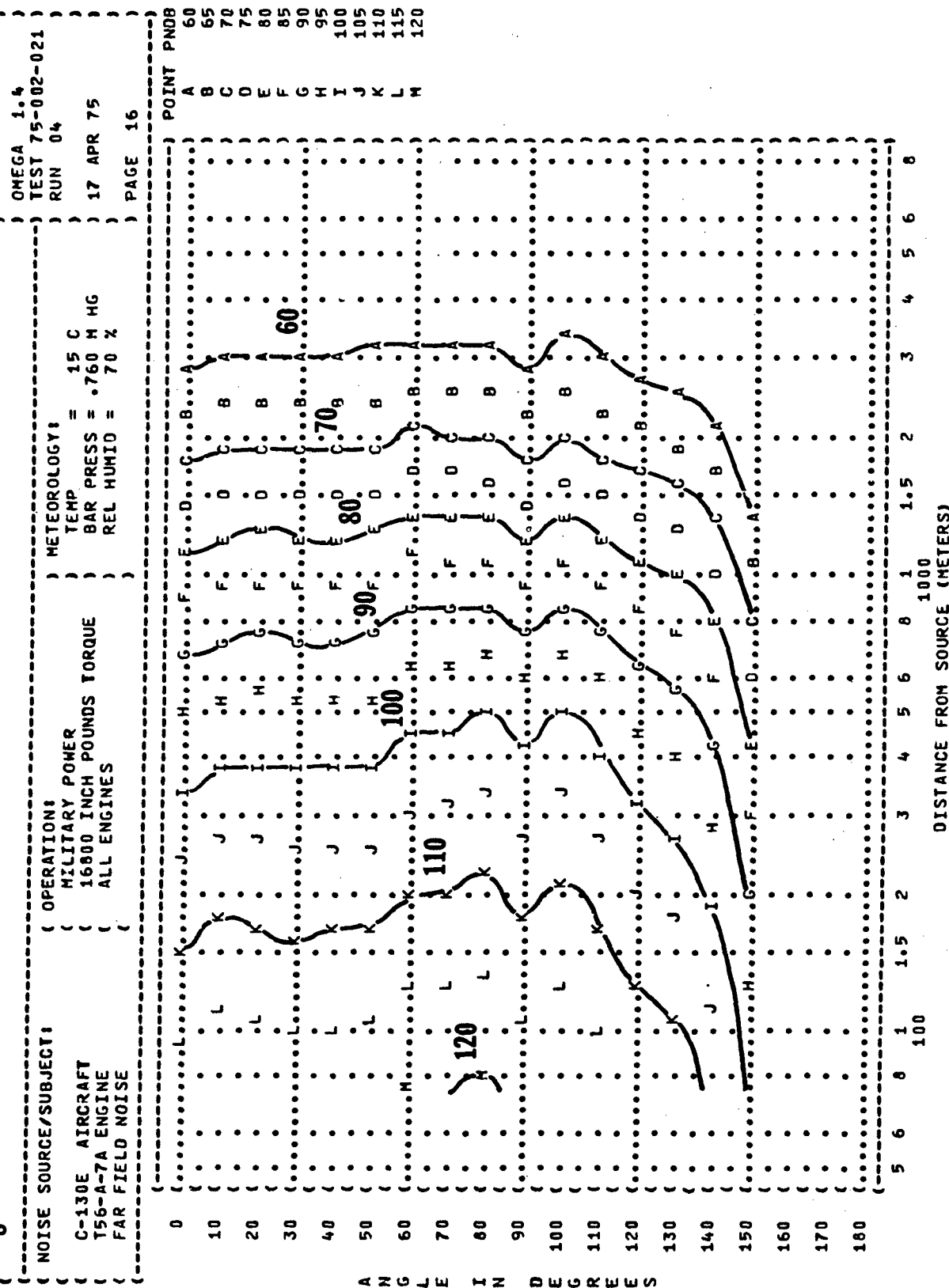
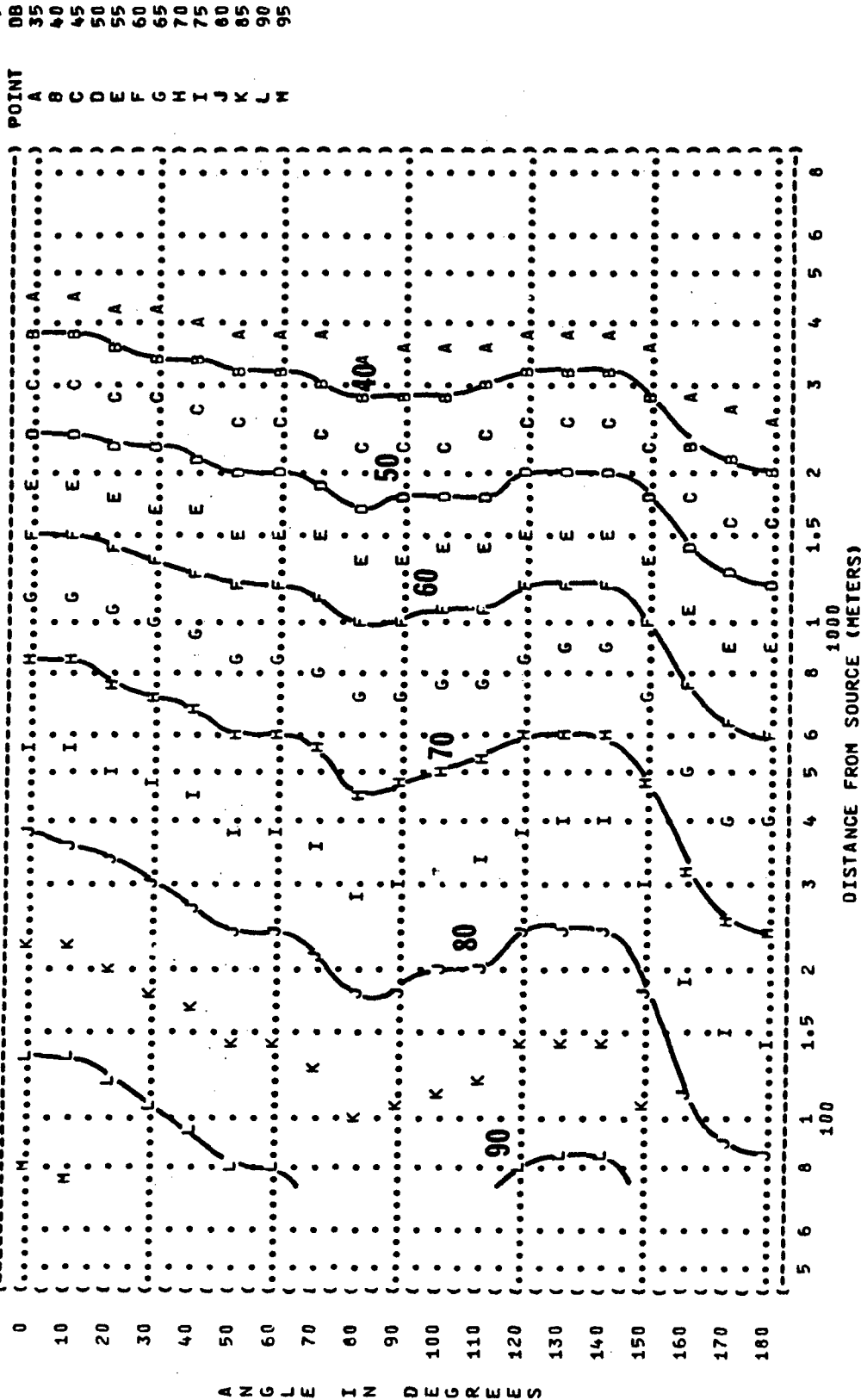


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)



(FIGURE 1 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
 (9 EQUAL LEVEL CONTOURS (DB)
 () IDENTIFICATION:
 () OMEGA 1.4
 () TEST 75-002-021
 () RUN 02
 () METEOROLOGY:
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %
 () 17 APR 75
 () PAGE 17
 () NOISE SOURCE/SUBJECT:
 () OPERATION:
 () IDLE POWER, NORMAL SPEED
 () 1400 INCH POUNDS TORQUE
 () ALL ENGINES
 () C-130E AIRCRAFT
 () T56-A-7A ENGINE
 () FAR FIELD NOISE



```
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-021
RUN 03
17 APR 75
PAGE 17
```

METEOROLOGY

TEMP = 15 C
BAR PRESS = .760 H HG
REL HUMID = 70 %

((RUNUP POWER
 ((9600 INCH PO
 ((ALL ENGINES



FIGURE 9		PREFERRED SPEECH INTERFERENCE LEVEL ('SIL)		EQUAL LEVEL CONTOURS (DB)		IDENTIFICATIONS:	
NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:					
C-130E AIRCRAFT	(MILITARY POWER	TEMP	= 15 C				OMEGA 1.4
T56-A-7A ENGINE	(16800 INCH POUNDS TORQUE	BAR PRESS	= .760 M HG				TEST 75-002-021
FAR FIELD NOISE	(ALL ENGINES	REL HUMID	= 70 %				RUN 04
	(						17 APR 75
	(						PAGE 17

PAGE 17



FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	IDENTIFICATION:
10	OMEGA 1.4
EQUAL TIME CONTOURS (MINUTES)	TEST 75-002-021
NO PROTECTION	RUN 01
NOISE SOURCE/SUBJECT:	METEOROLOGY:
C-130E AIRCRAFT	TEMP = 15 C
T56-A-7A ENGINE	BAR PRESS = .760 M HG
FAR FIELD NOISE	REL HUMID = 70 %
	PAGE 7

MIN 960
480
240
120

POINT A
B
C
D

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

120 480 100 180

5 6 8 1 1.5 2 3 4 5 6 8 100 1000

DISTANCE FROM SOURCE (METERS)

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS
FOR ALL ANGLES EVALUATED (INDICATED BY $\angle$ AT LEFT)
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS
AMERICAN OPTICAL 1700 EAR MUFFS
V-51R EAR PLUGS
CONFIT TRIPLE FLANGE EAR PLUGS
H-133 GROUND COMMUNICATION UNIT

H-133 GROUND COMMUNICATION UNIT

DISTANCE FROM SOURCE (METERS)

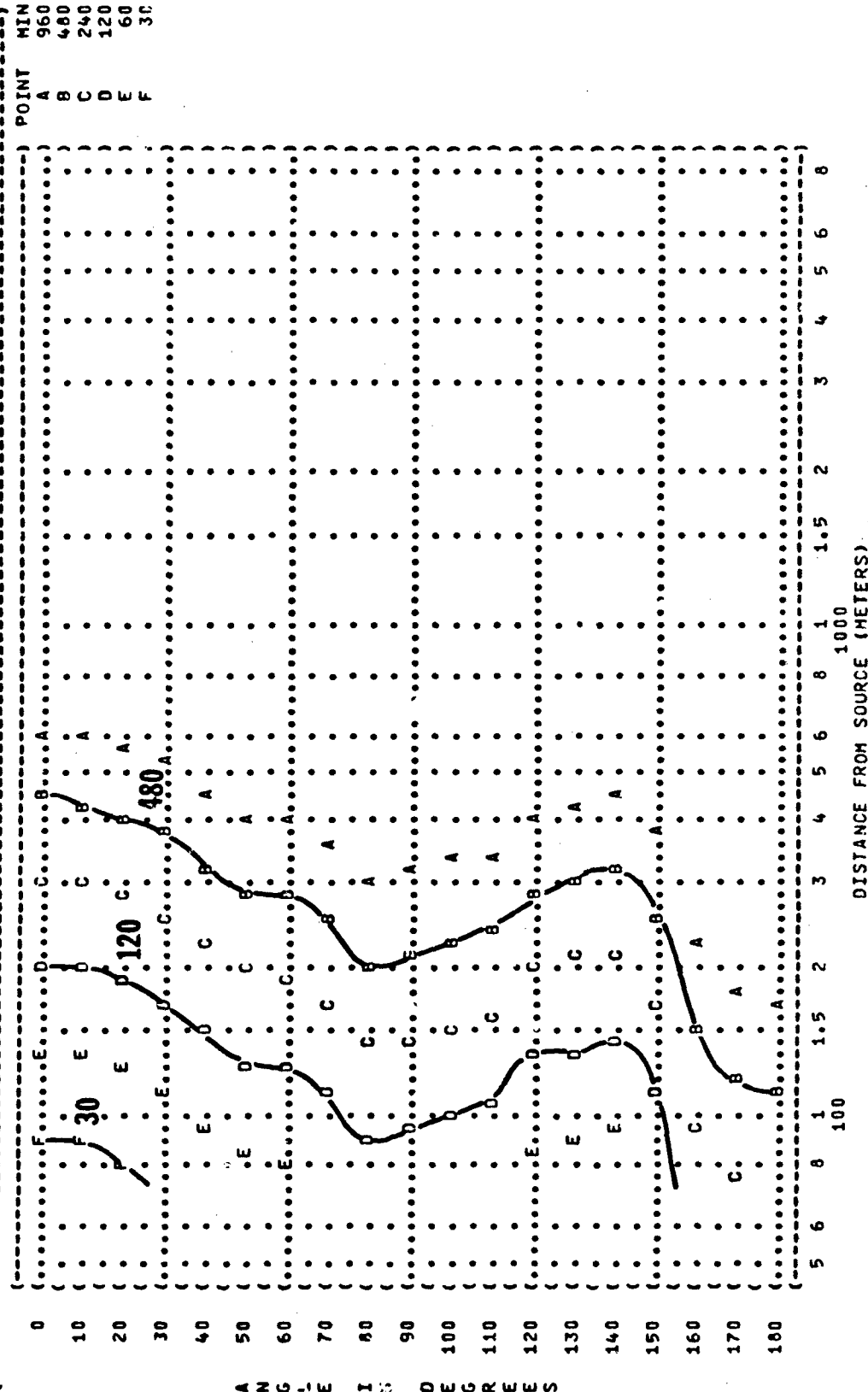
	5	6	8	1	1.5	2	3	4	5	6	8	1000	
				100									

DISTANCE FROM SOURCE (METERS)

```

( ( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
( ( 10 EQUAL TIME CONTOURS (MINUTES)
( ( NO PROTECTION
(-----)
( ( NOISE SOURCE/SUBJECT:
( (
( ( C-130E AIRCRAFT
( ( T56-A-7A ENGINE
( ( FAR FIELD NOISE
(-----)
( ( OPERATION:
( ( IDLE POWER, NORMAL SPEED
( ( 1400 INCH POUNDS TORQUE
( ( ALL ENGINES
(-----)
( ( METEOROLOGY:
( ( TEMP = 15 C
( ( BAR PRESS = .760 M HG
( ( REL HUMID = 70 %
(-----)
( ( IDENTIFICATION:
( ( OMEGA 1.4
( ( TEST 75-002-021
( ( RUN 02
( ( 17 APR 75
( ( PAGE 7
(-----)

```



POINT	MIN
1	960
2	960
3	960
4	960
5	960
6	960
7	960
8	960
9	960
10	960
11	960
12	960
13	960
14	960
15	960
16	960
17	960
18	960
19	960
20	960
21	960
22	960
23	960
24	960
25	960
26	960
27	960
28	960
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32	960
33	960
34	960
35	960
36	960
37	960
38	960
39	960
40	960
41	960
42	960
43	960
44	960
45	960
46	960
47	960
48	960
49	960
50	960
51	960
52	960
53	960
54	960
55	960
56	960
57	960
58	960
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60	960
61	960
62	960
63	960
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79	960
80	960
81	960
82	960
83	960
84	960
85	960
86	960
87	960
88	960
89	960
90	960
91	960
92	960
93	960
94	960
95	960
96	960
97	960
98	960
99	960
100	960

(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73))
 (10 EQUAL TIME CONTOURS (MINUTES))
 (NO PROTECTION)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (T56-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (RUNUP POWER)
 (9600 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 03)
 (17 APR 75)
 (PAGE 7)

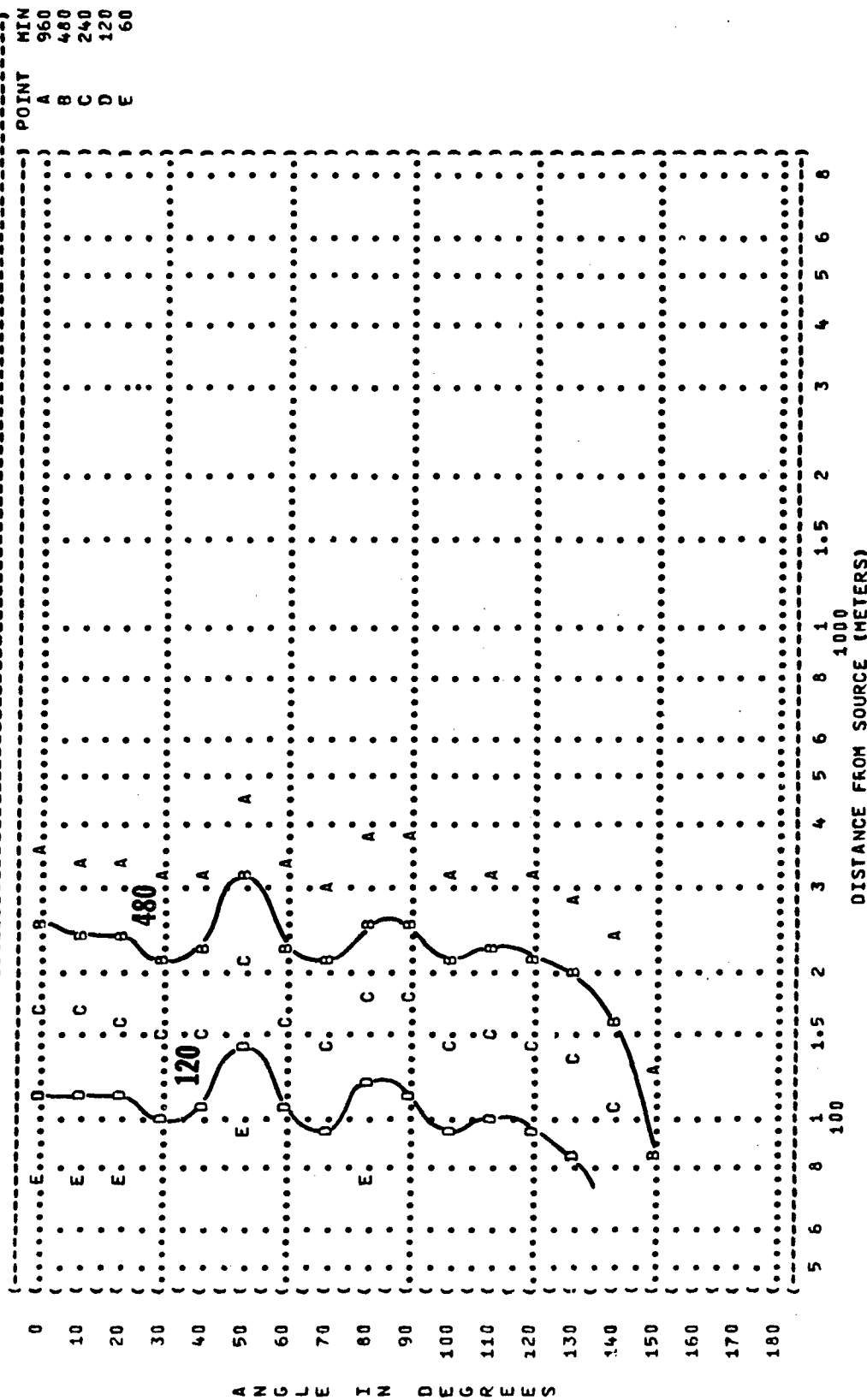


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 EQUAL TIME CONTOURS (MINUTES)

MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) OMEGA 1.4

C-130E AIRCRAFT (RUNUP POWER) TEMP = 15 C

T56-A-7A ENGINE (9600 INCH POUNDS TORQUE) BAR PRESS = .760 M HG

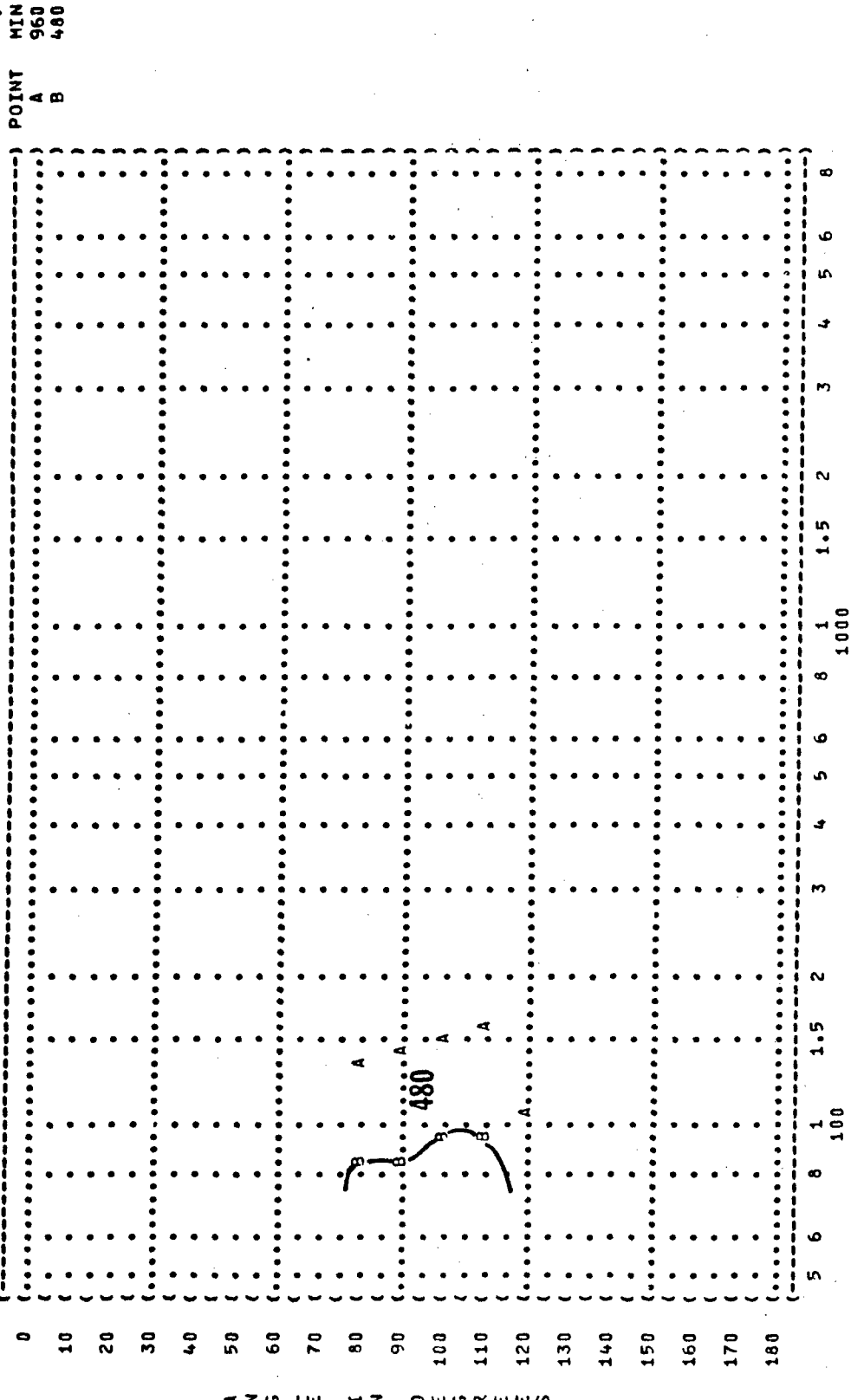
FAR FIELD NOISE (ALL ENGINES) REL HUMID = 70 %

TEST 75-002-021

RUN 03

17 APR 75

PAGE 8



DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

FIGURE 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-021

RUN 03

17 APR 75

PAGE 10

NOISE SOURCE/SUBJECT:

OPERATION:

TEMP = 15 C

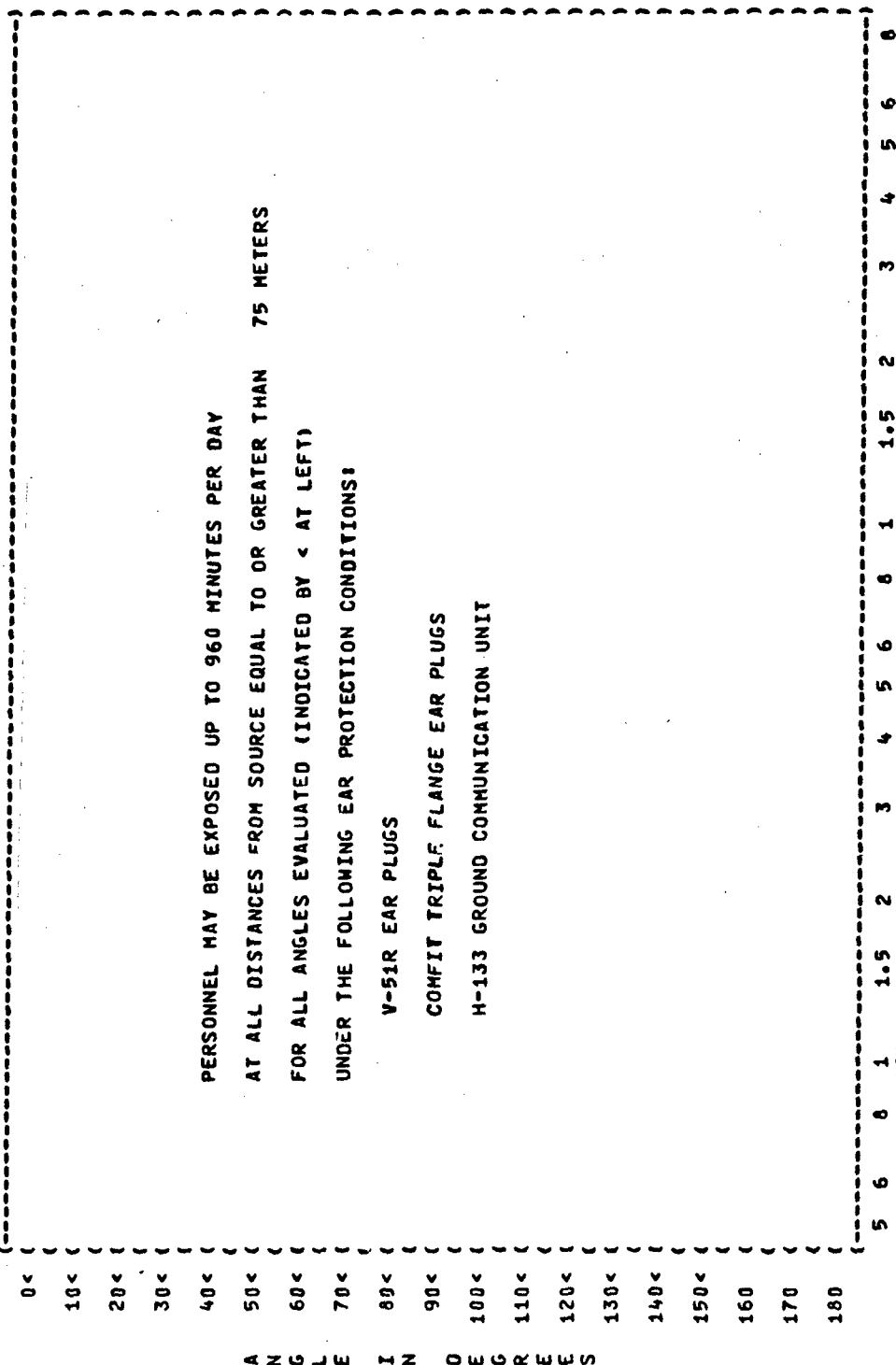
BAR PRESS = .760 M HG

REL HUMID = 70 %

C-130E AIRCRAFT

756-A-7A ENGINE

FAR FIELD NOISE



PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY

AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

V-51R EAR PLUGS

COMFIT TRIPLE FLANGE EAR PLUGS

H-133 GROUND COMMUNICATION UNIT

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10 EQUAL TIME CONTOURS (MINUTES)

NO PROTECTION

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY:

C-130E AIRCRAFT MILITARY POWER TEMP = 15 C

T56-A-7A ENGINE 16800 INCH POUNDS TORQUE BAR PRESS = .760 M HG

FAR FIELD NOISE ALL ENGINES REL HUMID = 70 %

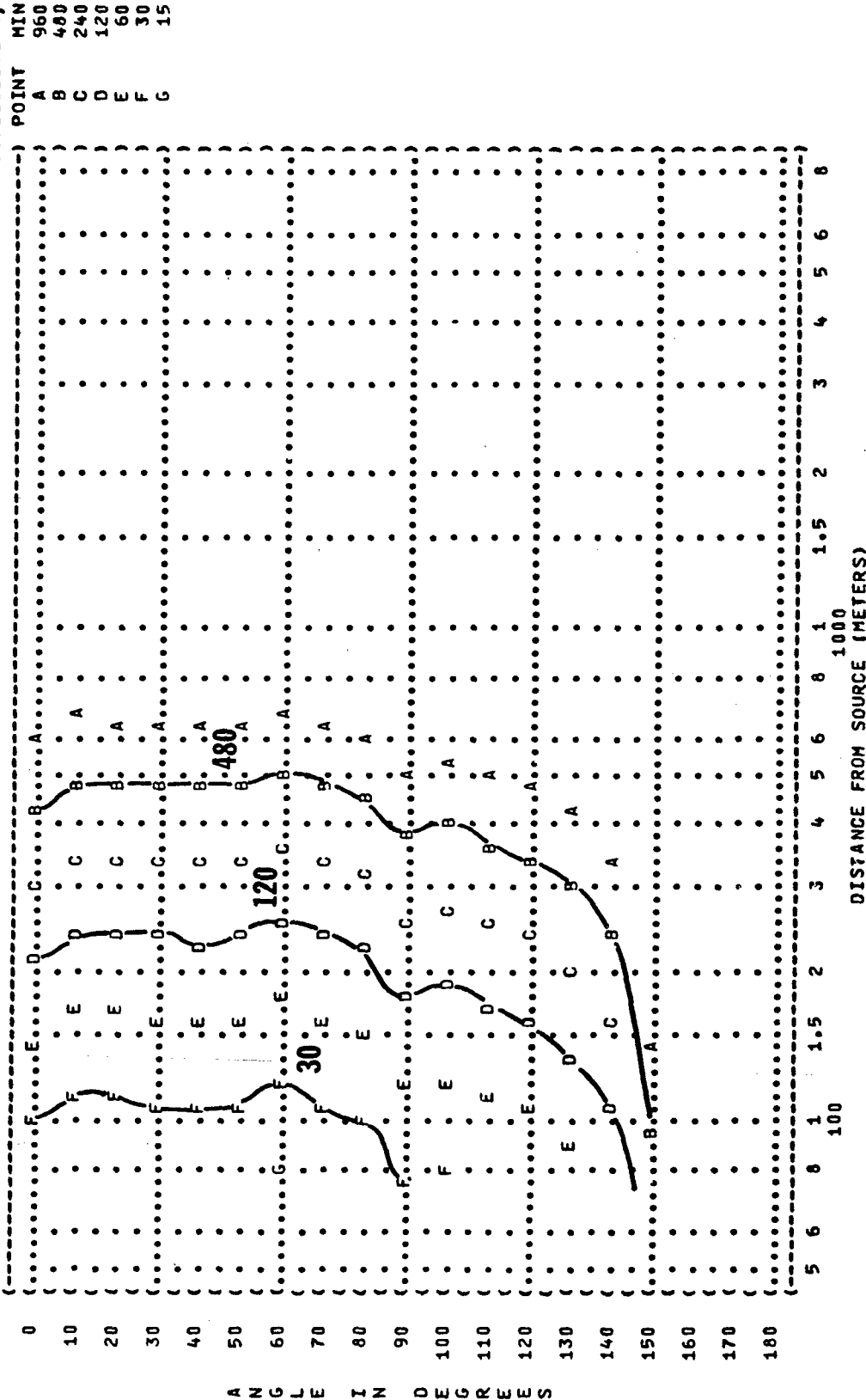
OMEGA 1.4

TEST 75-002-021

RUN 04

17 APR 75

PAGE 7



	C	10	POINT	MIN
A	.	.	960	
B	.	.	480	
C	.	.	240	

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 EQUAL TIME CONTOURS (MINUTES)

V-51R EAR PLUGS

NOISE SOURCE/SUBJECT:

(OPERATION:) METEOROLOGY:) OMEGA 1.4

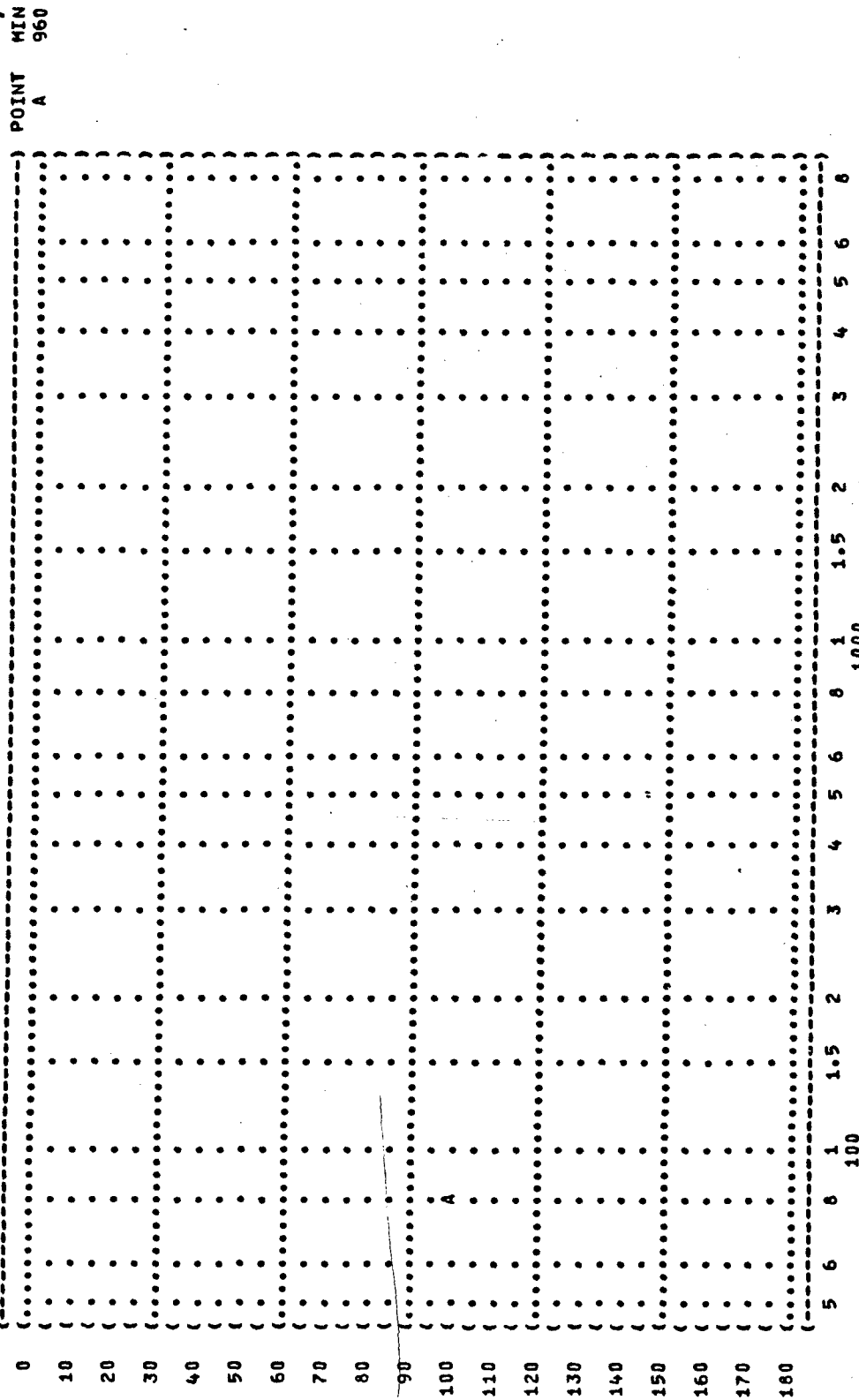
(MILITARY POWER)) TEST 75-002-021

(16800 INCH POUNDS TORQUE)) RUN 04

(ALL ENGINES)) 17 APR 75

()) REL HUMID = 70 %

()) PAGE 10



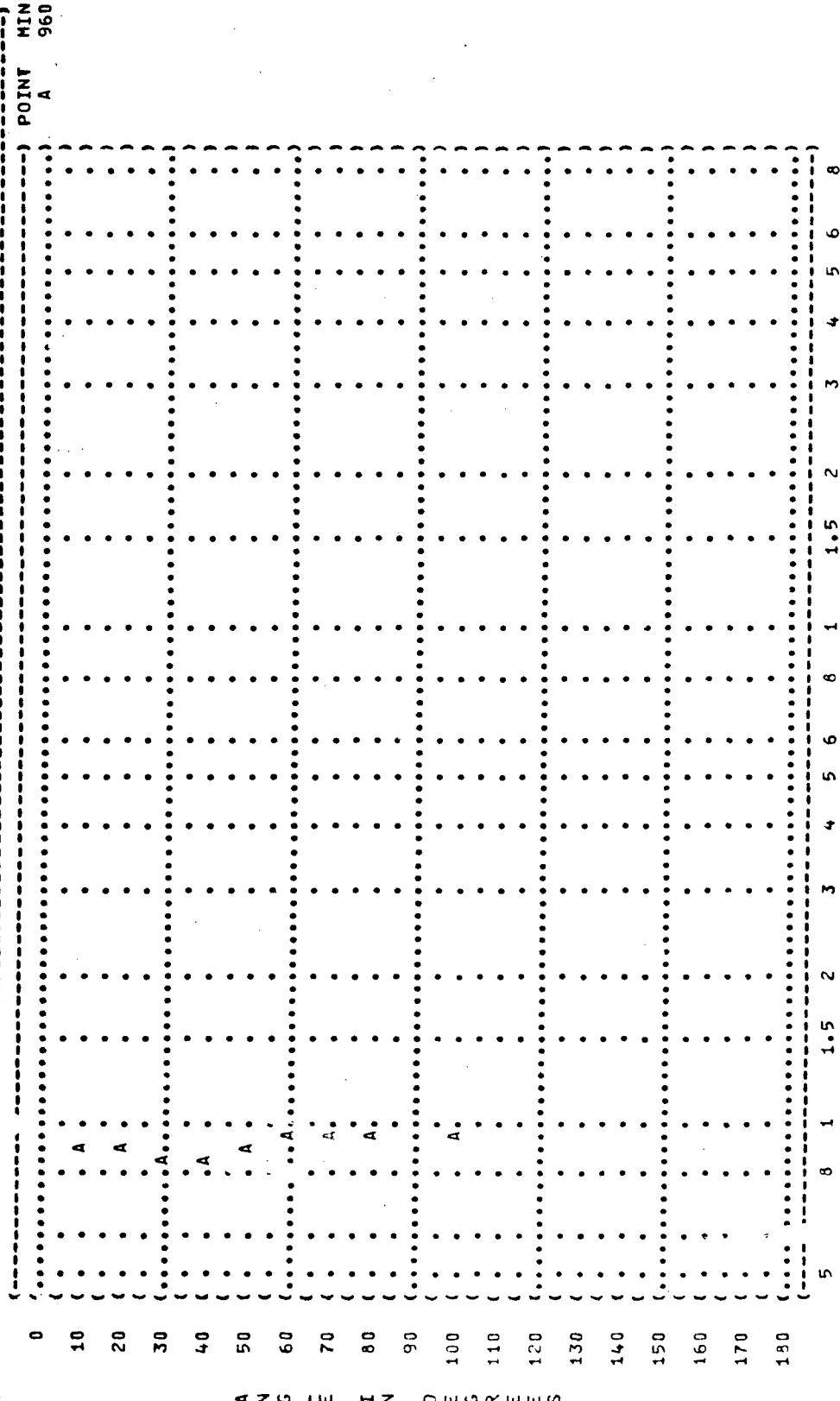
DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10
EQUIL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 ((MILITARY POWER) TEMP = 15 C
 ((16800 INCH POUNDS TORQUE) BAR PRESS = .760 M HG
 ((ALL ENGINES) REL HUMID = 70 %
 ((FAR FIELD NOISE))

IDENTIFICATION:)
) OMEGA 1.4
) TEST 75-002-021
) RUN 04
) 17 APR 75
) PAGE 11



A N G L E I N D E G R E E S


```
(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
( 11 EQUAL LEVEL CONTOURS (DB) ) )
( 31.5 HZ OCTAVE BAND ) OMEGA 1.4 )
(-----)
( NOISE SOURCE/SUBJECT: ) TEST 75-002-021 )
( OPERATION: ) RUN 01 )
( IDLE POWER, LOW SPEED ) TEMP = 15 C )
( 800 INCH POUNDS TORQUE ) BAR PRESS = .760 M HG. )
( ALL ENGINES ) REL HUMID = 70 % )
( FAR FIELD NOISE ) PAGE 10 )
(-----)
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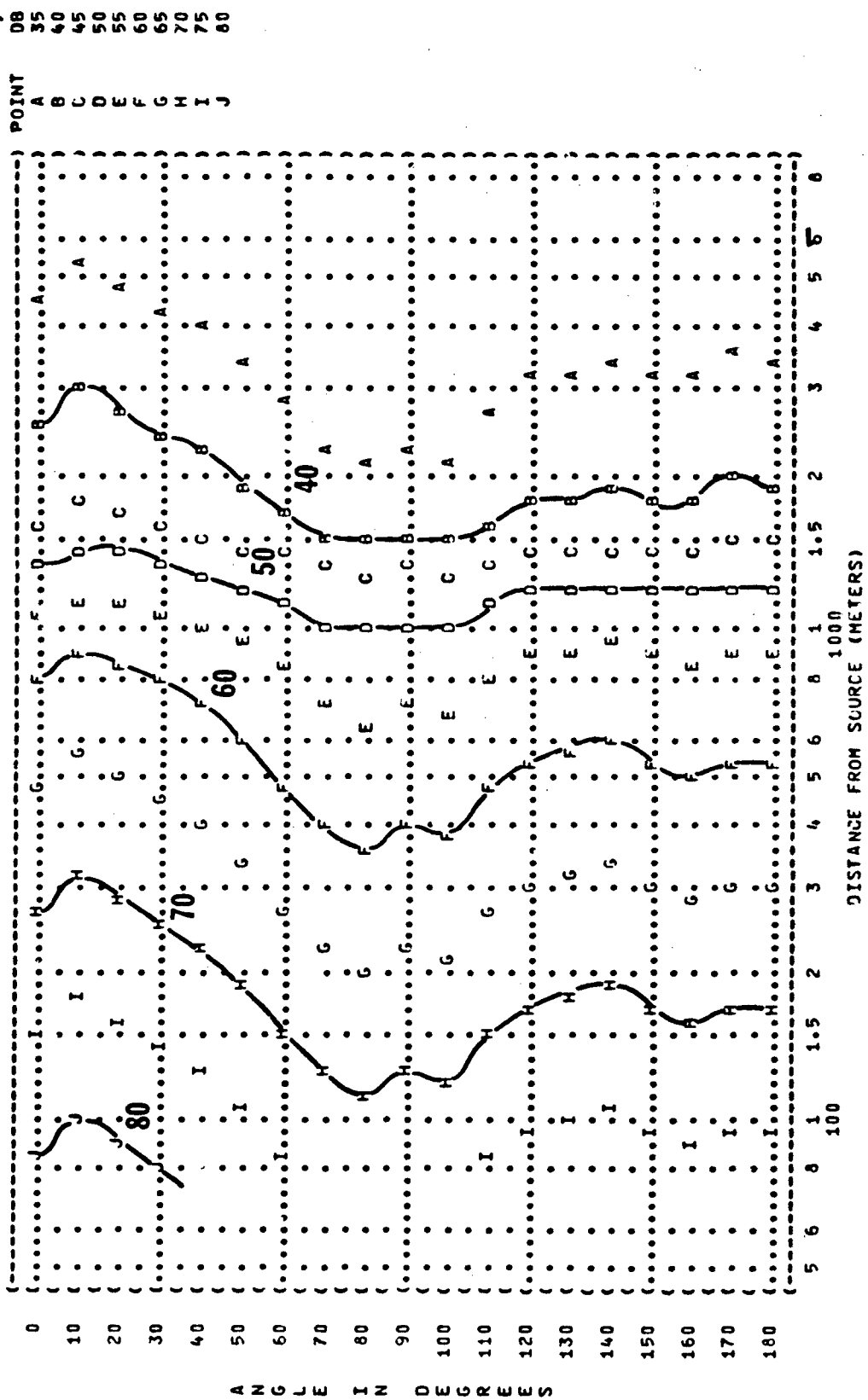


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

C-130E AIRCRAFT
T56-A-7A ENGINE
FAR FIELD NOISE

OPERATION:

IDLE POWER, LOW SPEED
800 INCH POUNDS TORQUE
ALL ENGINES

METEOROLOGY:

TEMP = 15 C
BAR PRESS = 760 MM HG
REL HUMID = 70 %

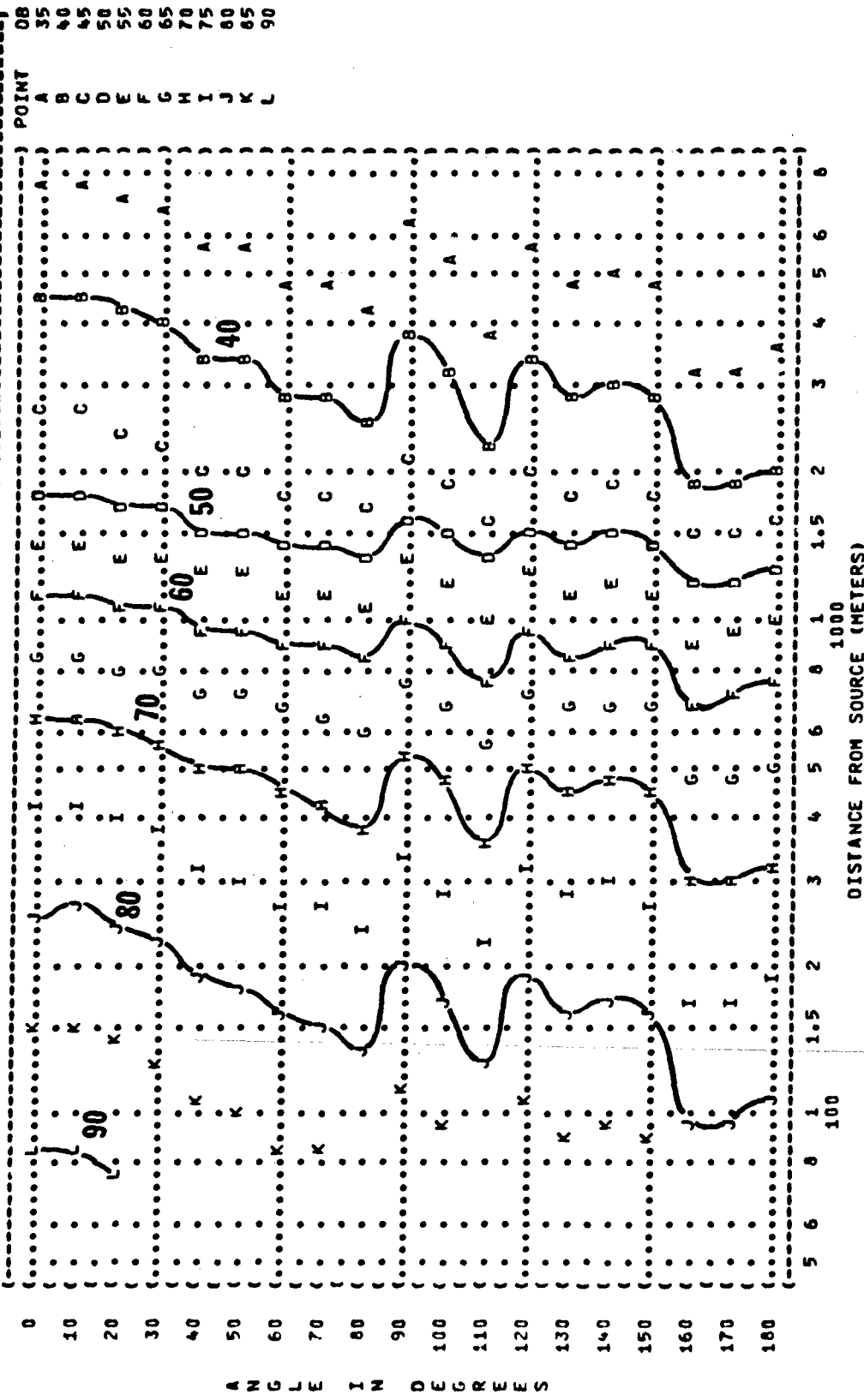
OMEGA 1.4

TEST 75-002-021

RUN 01

17 APR 75

PAGE 19



DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 (C-130E AIRCRAFT
 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (IDLE POWER, LOW SPEED
 (800 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 01
 (17 APR 75
 (PAGE 20

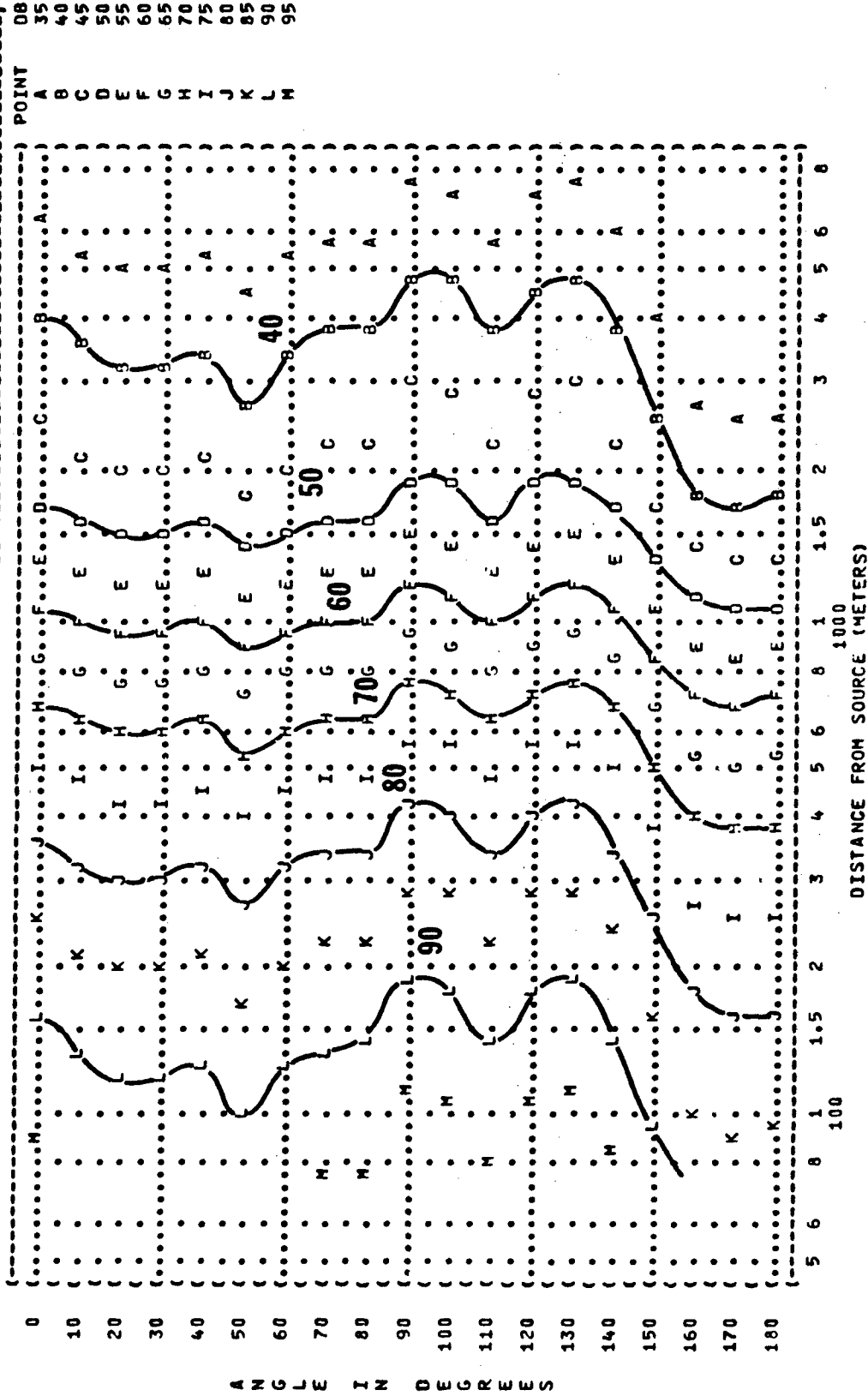
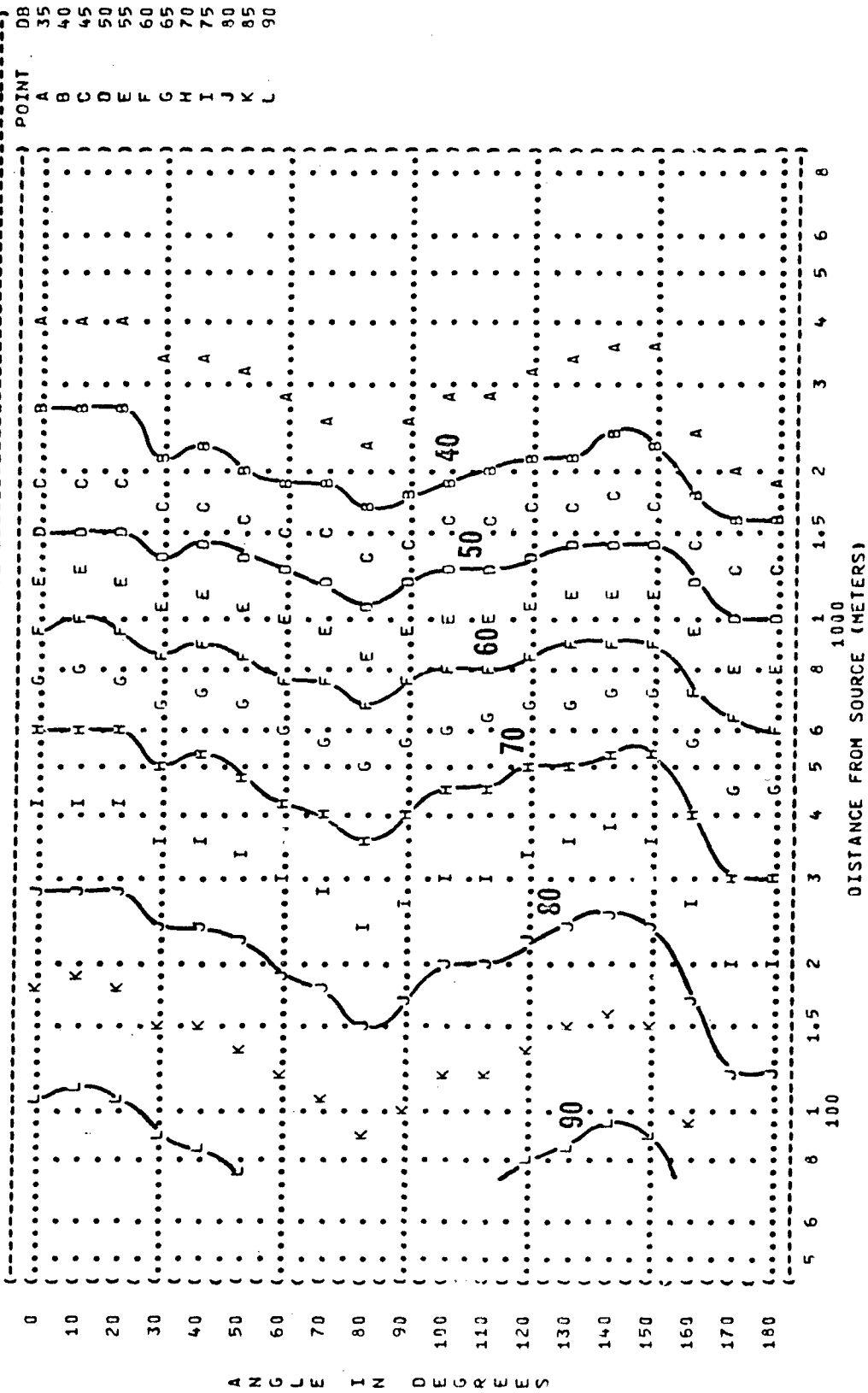


FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 250 HZ OCTAVE BAND
 NOISE SOURCE/SUBJECT:
 OPERATION:
 C-130E AIRCRAFT
 156-A-7A ENGINE
 FAR FIELD NOISE
 METEROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-021
 RUN 01
 17 APR 75
 PAGE 21



IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-021
 RUN 01
 17 APR 75
 PAGE 22
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 OPERATION:
 IDLE POWER, LOW SPEED
 800 INCH POUNDS TORQUE
 ALL ENGINES
 G-130E AIRCRAFT
 T56-A-7A ENGINE
 FAR FIELD NOISE

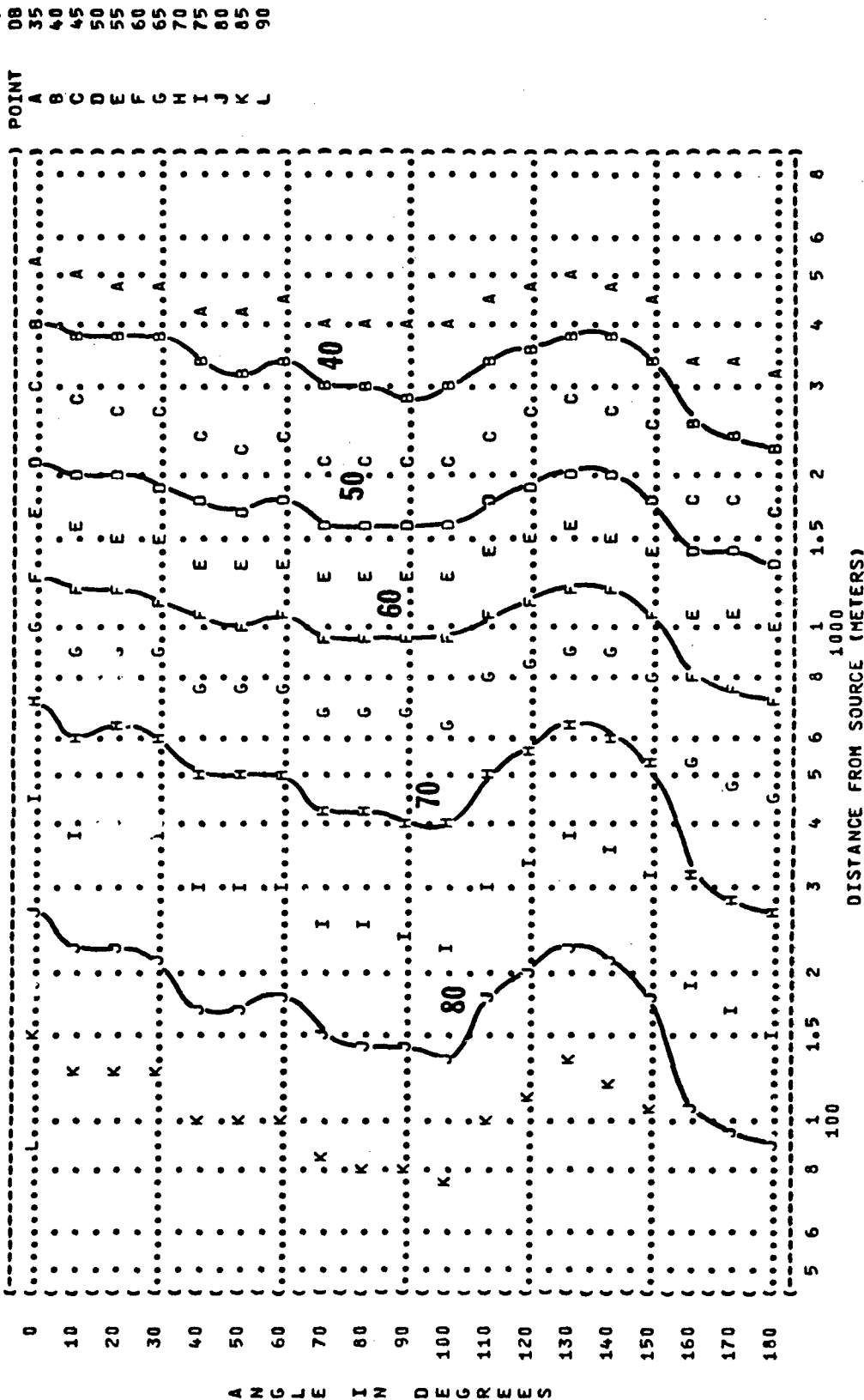


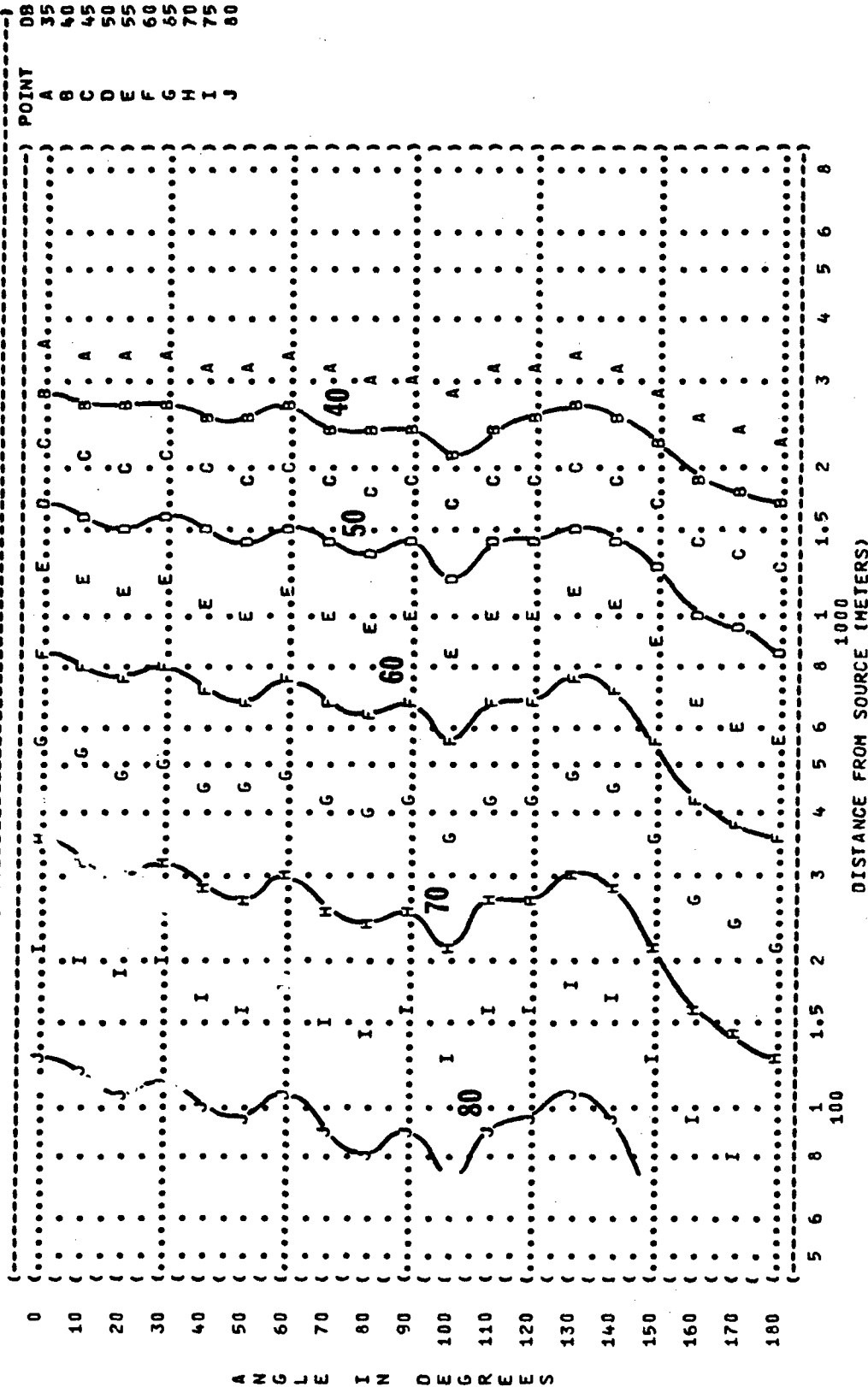
FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: C-130E AIRCRAFT
 T56-A-7A ENGINE
 FAR FIELD NOISE

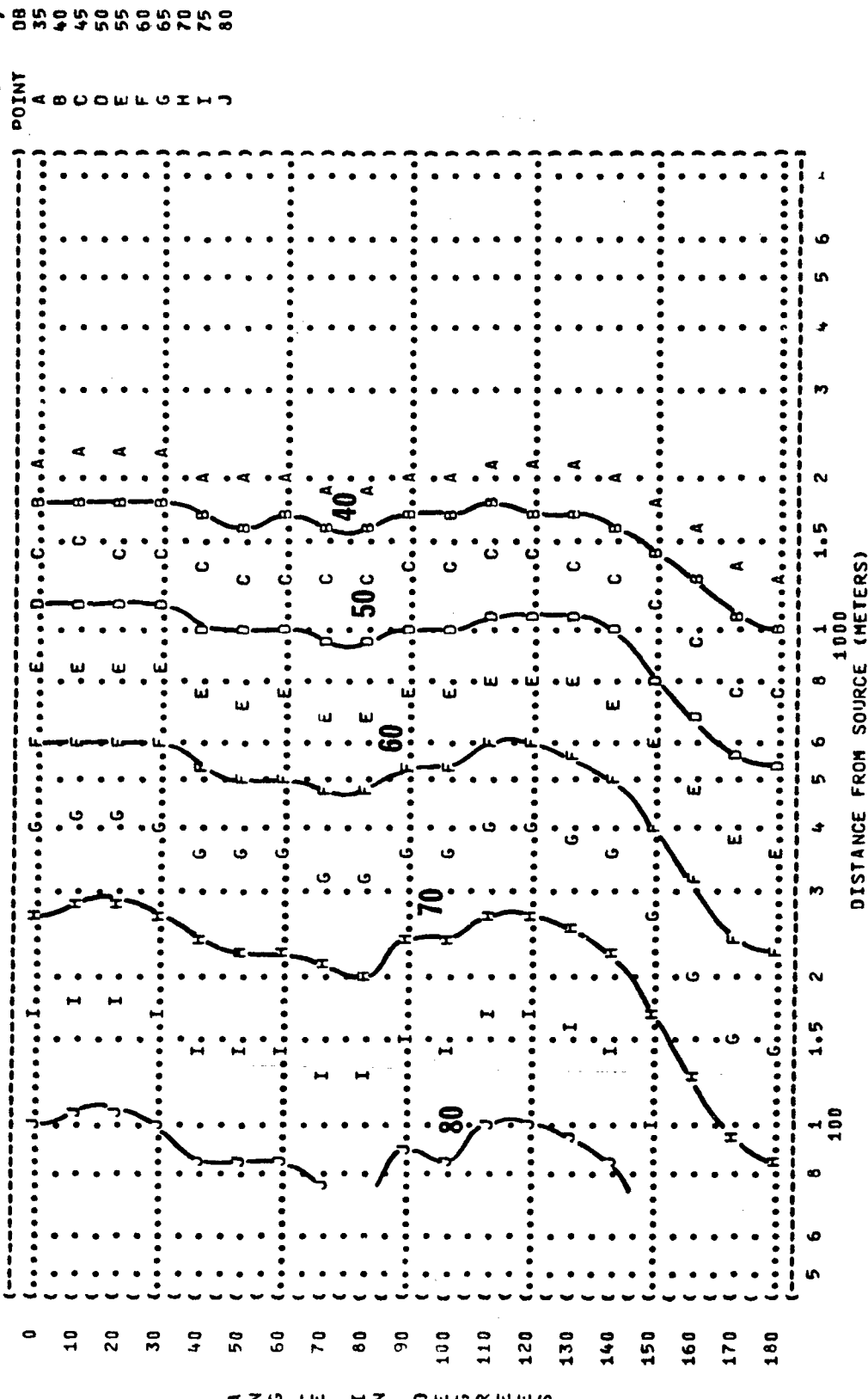
OPERATION: IDLE POWER, LOW SPEED
 800 INCH POUNDS TORQUE
 ALL ENGINES

METEOROLOGY: TEMP 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4
 TEST 75-002-021
 RUN 01
 17 APR 75
 PAGE 23

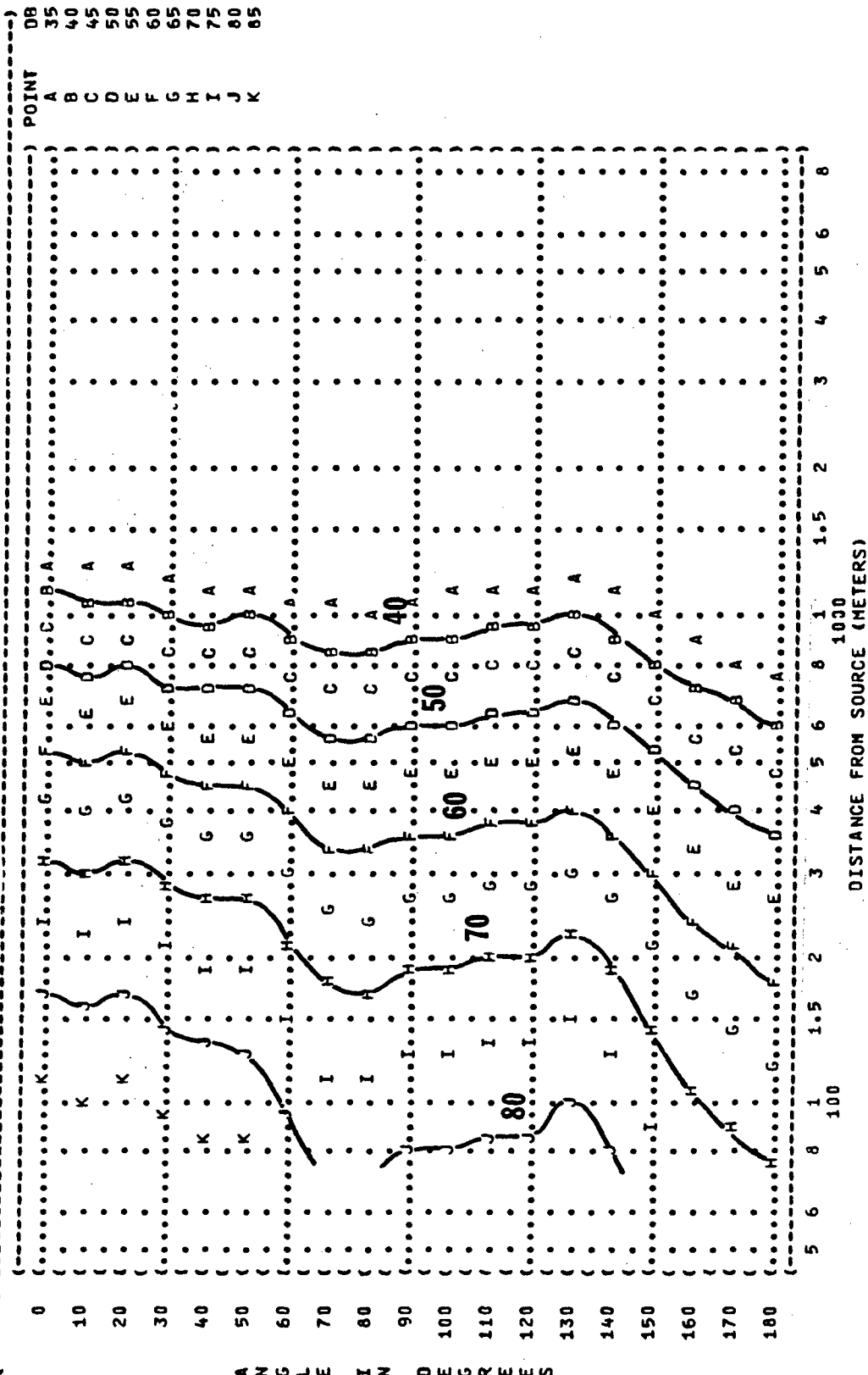


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (2000 HZ OCTAVE BAND
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 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (IDLE POWER, LOW SPEED
 (800 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 01
 (17 APR 75
 (PAGE 24

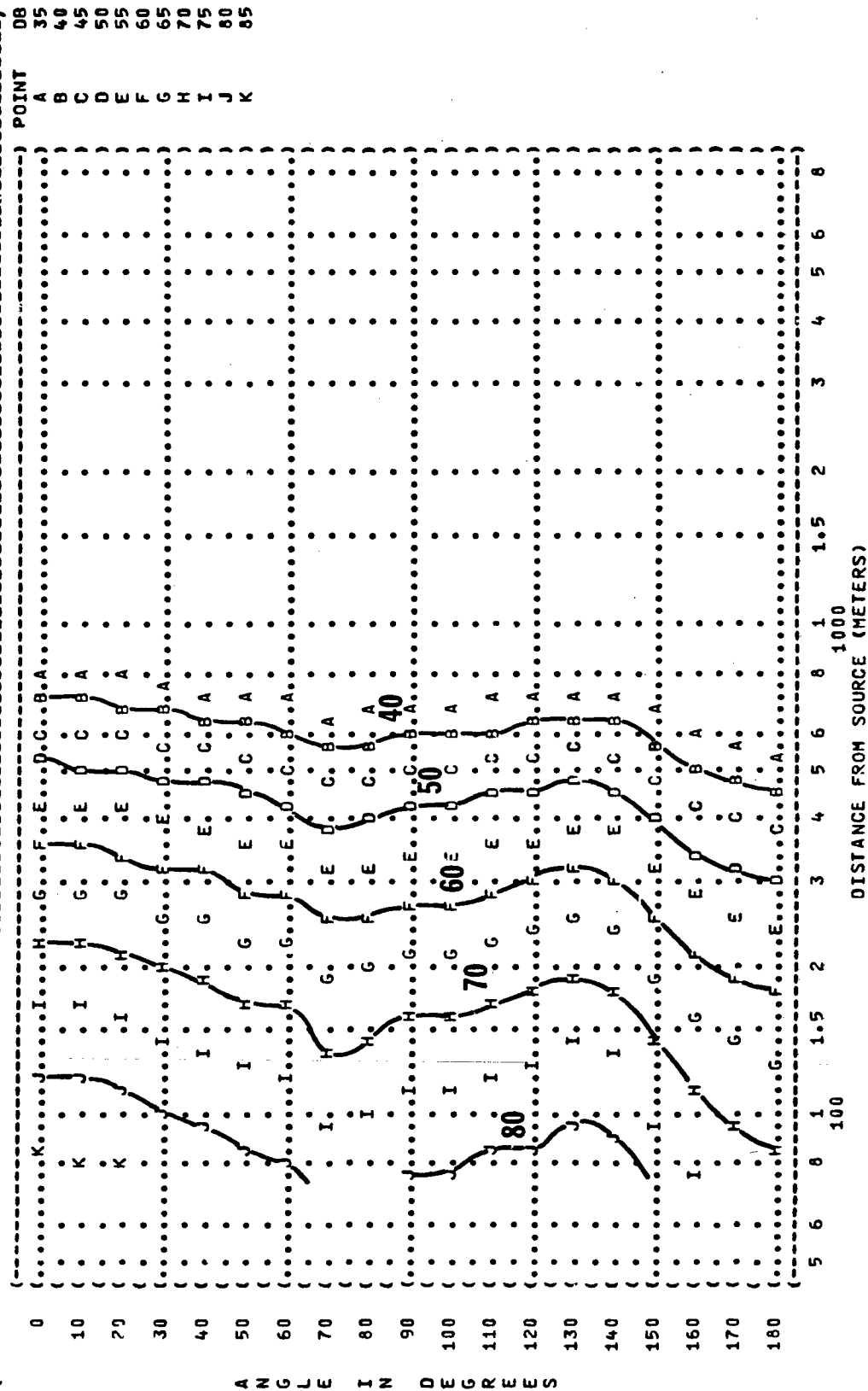


A N G L E I N D E G R E E S

DB	POINT
35	A
40	B
45	C
50	D
55	E
60	F
65	G
70	H
75	I
80	J
85	K

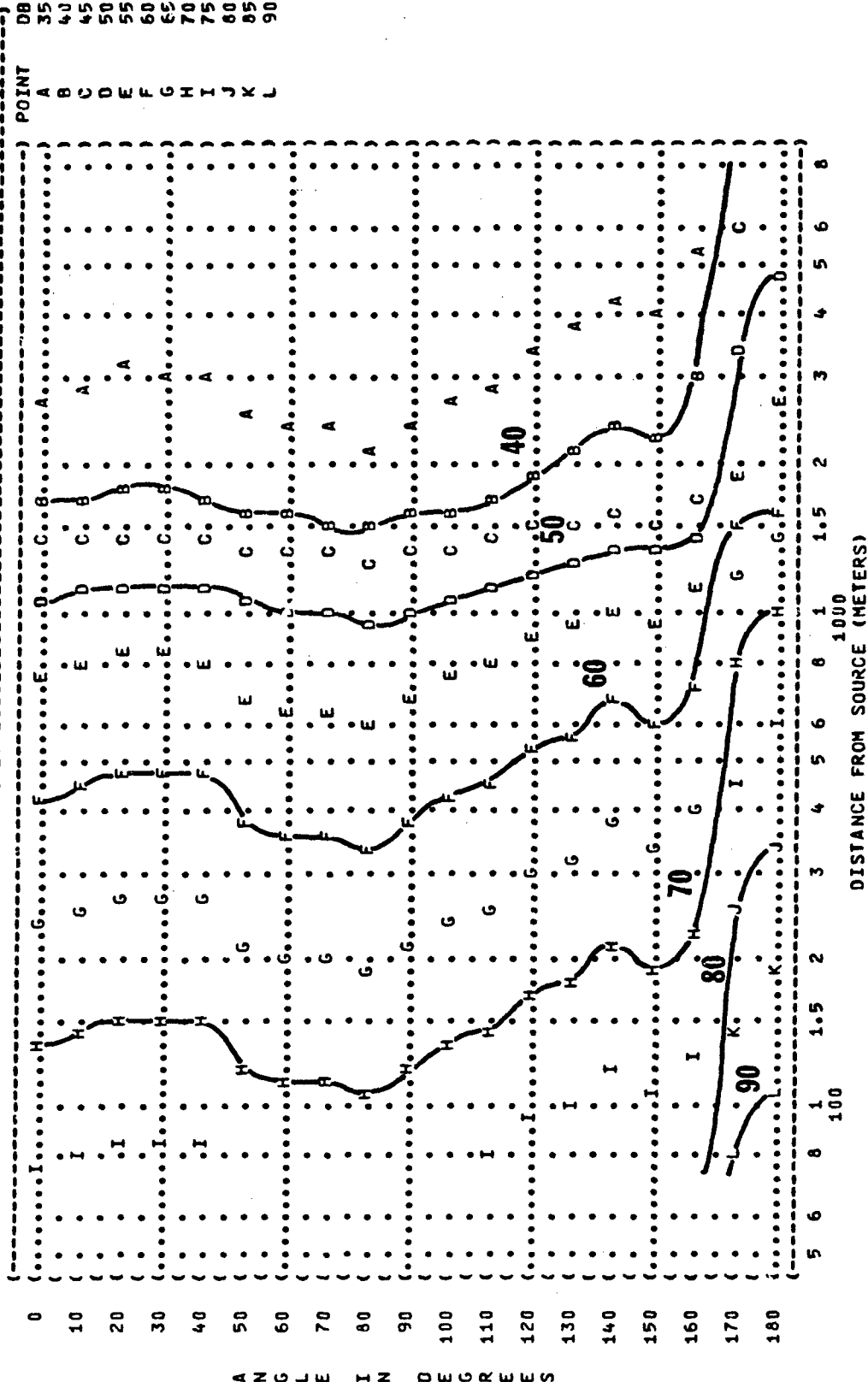


(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (8000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (156-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (IDLE POWER, LOW SPEED)
 (800 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 01)
 (17 APR 75)
 (PAGE 26)



DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
 ((IDLE POWER, NORMAL SPEED
 ((1400 INCH POUNDS TORQUE
 ((ALL ENGINES
 (C-130E AIRCRAFT
 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 H HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 02
 (17 APR 75
 (PAGE 18



IDENTIFICATION:
OMEGA 1.4

0 METEOROLLOGY:

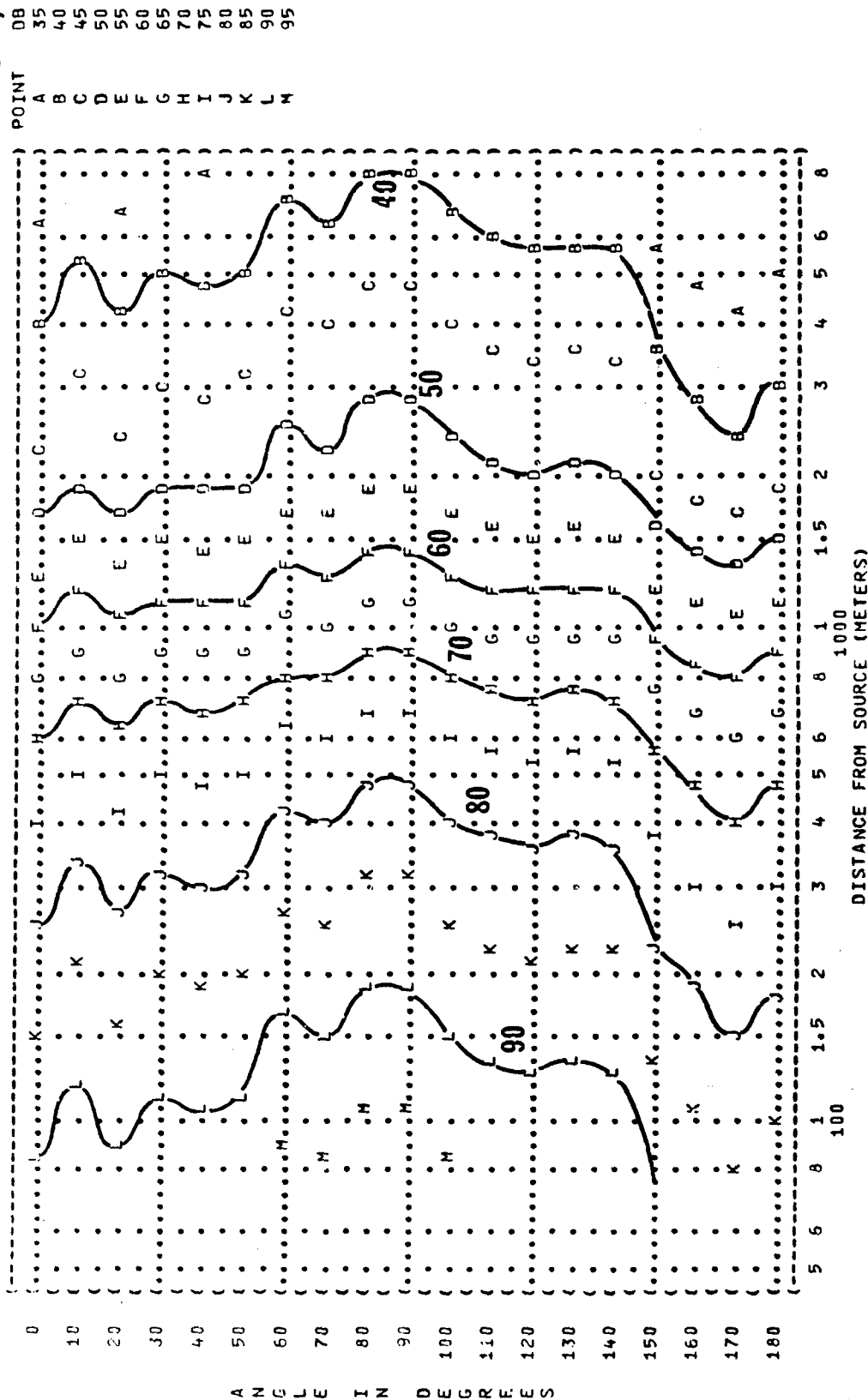
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDLE POWER, NORMAL SPEED
 1400 INCH POUNDS TORQUE
 ALL ENGINES

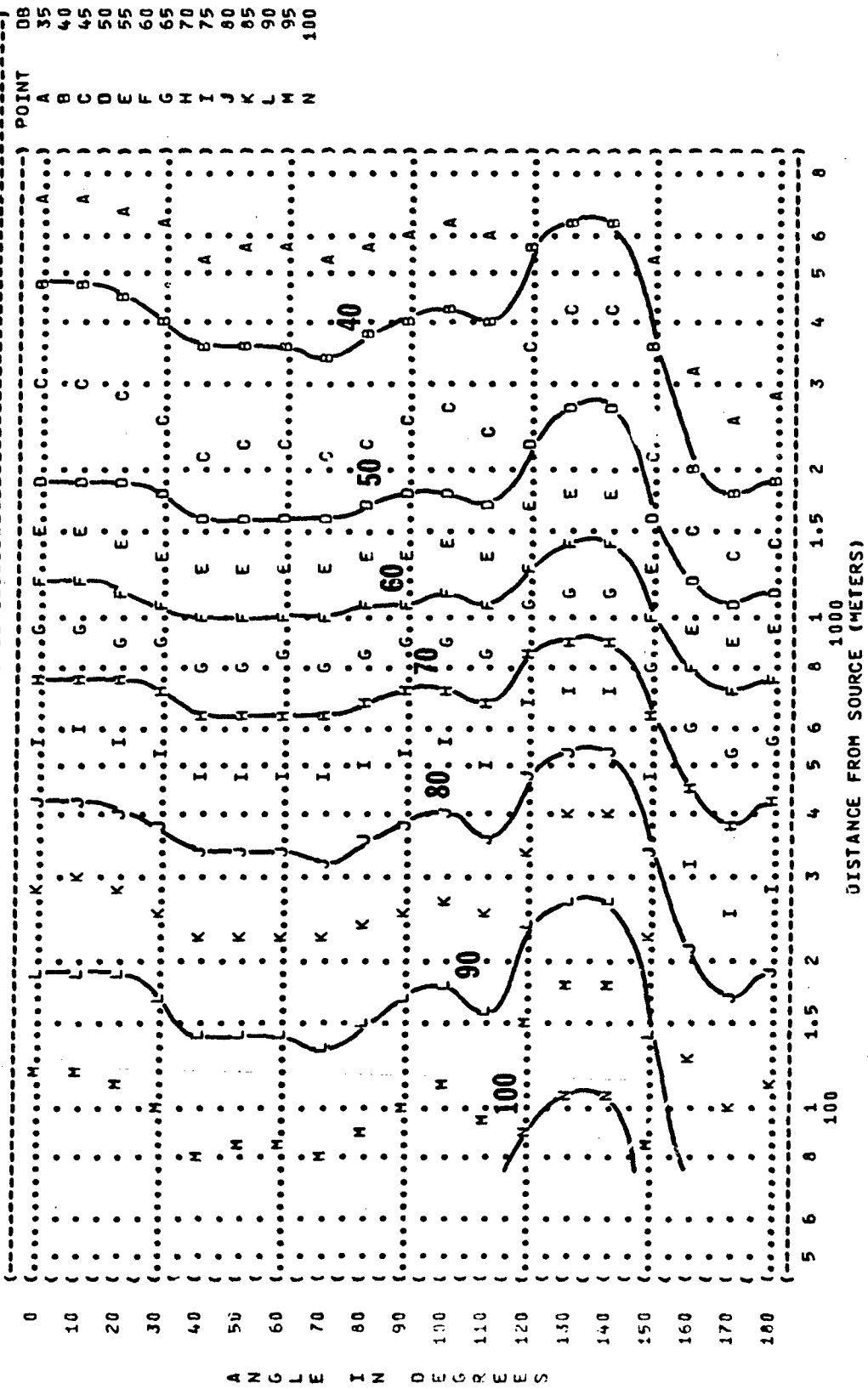
TEMP
BAR
REL

17 APR 75

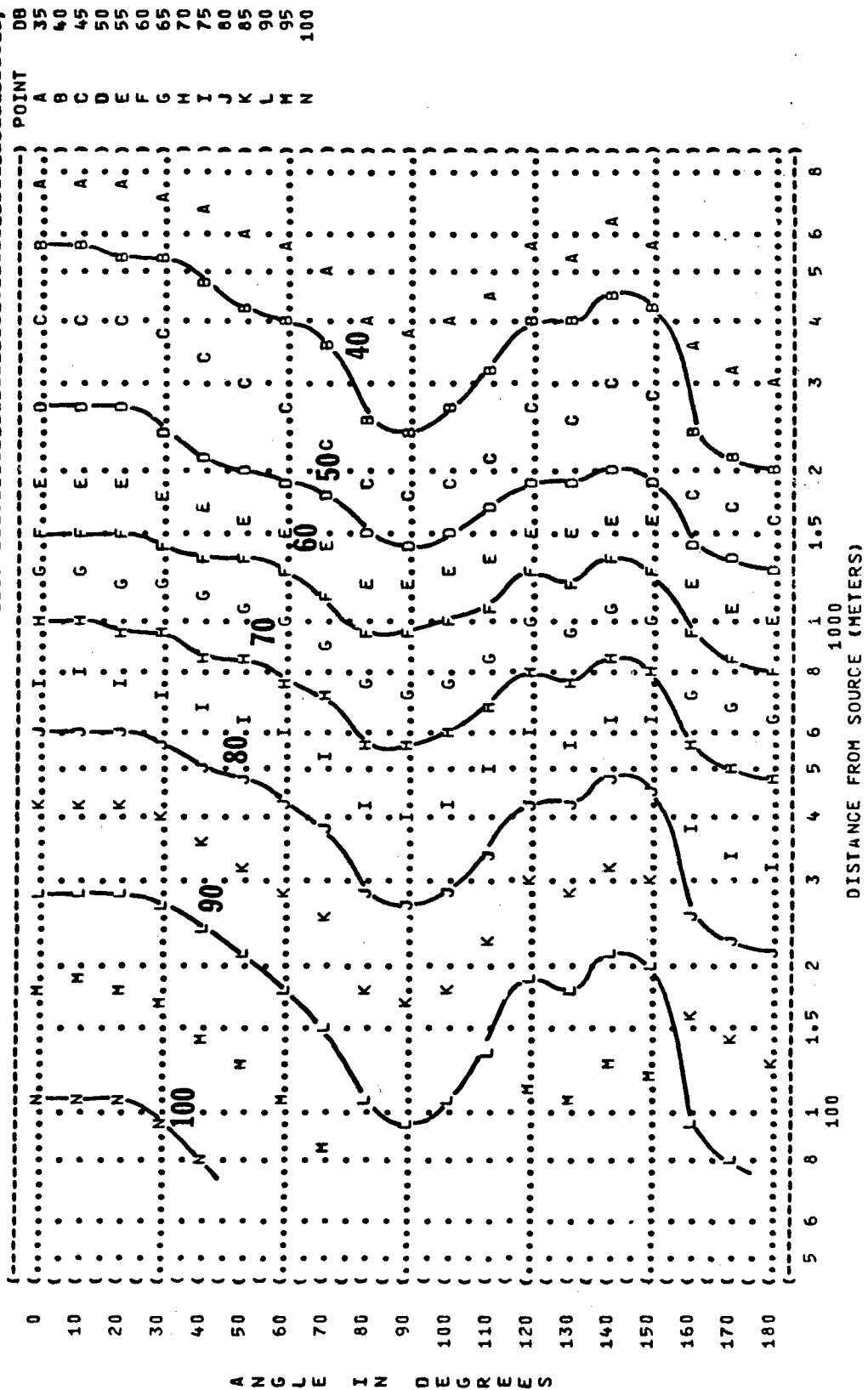
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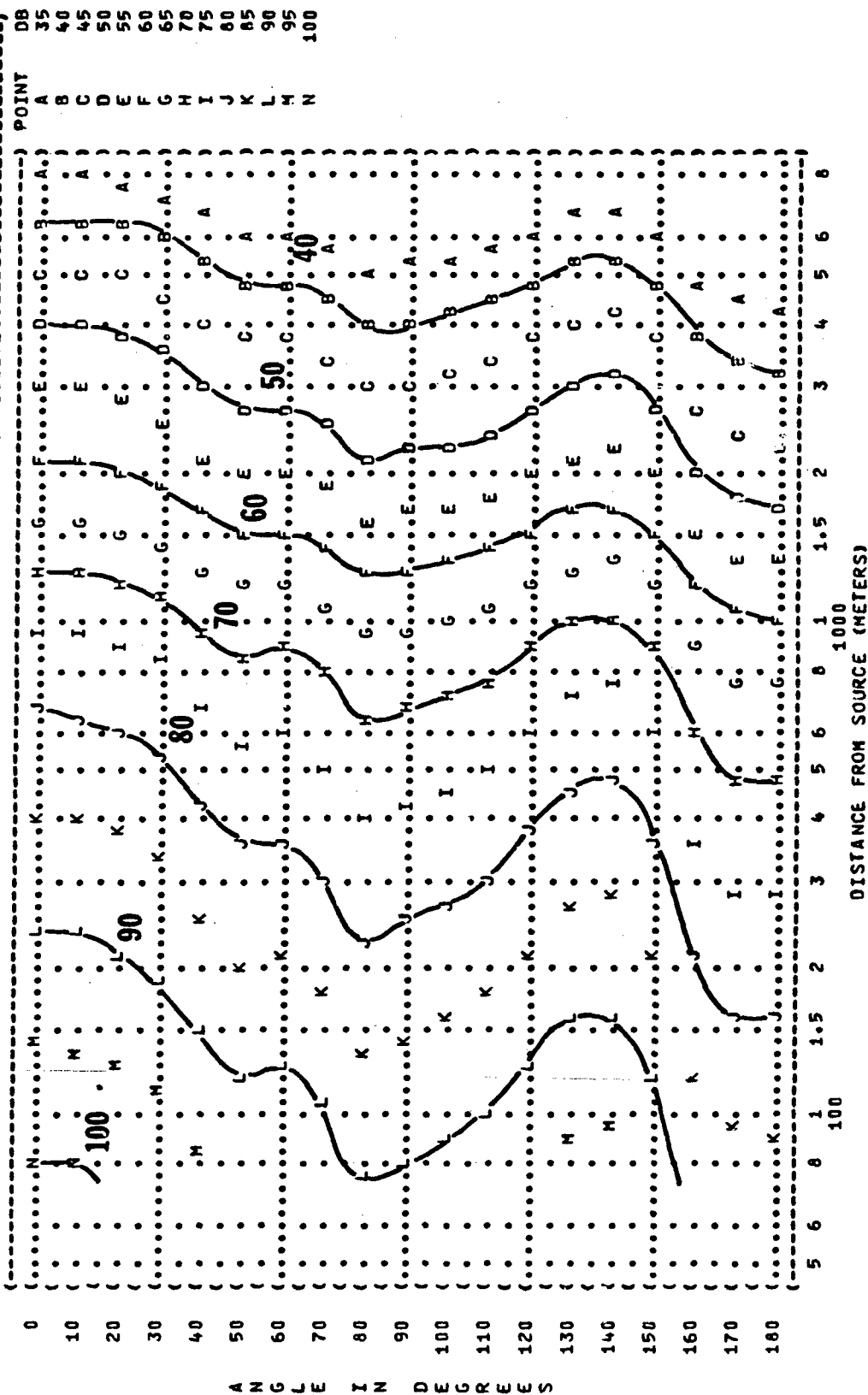
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY: (IDENTIFICATION: ()
 (C-130E AIRCRAFT (IDLE POWER, NORMAL SPEED () OMEGA 1.4
 (T56-A-7A ENGINE (1400 INCH POUNDS TORQUE () TEST 75-002-021
 (FAR FIELD NOISE (ALL ENGINES () RUN 02
 () 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %
 () 17 APR 75
 () PAGE 20



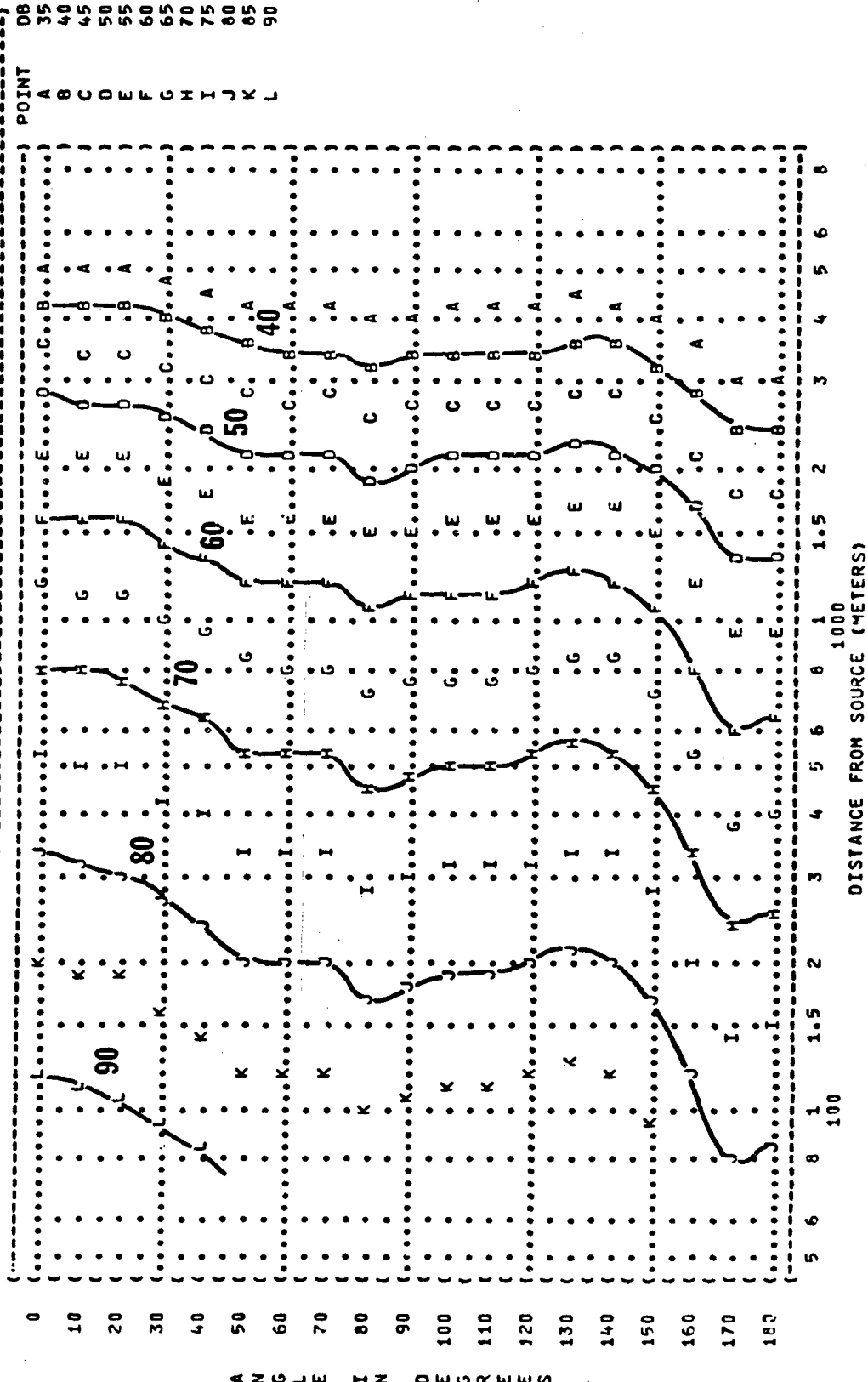
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 (11 EQUAL LEVEL CONTOURS (DB)
 (250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
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 (T55-A-7A ENGINE (1400 INCH POUNDS TORQUE
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 02
 (17 APR 75
 (PAGE 21



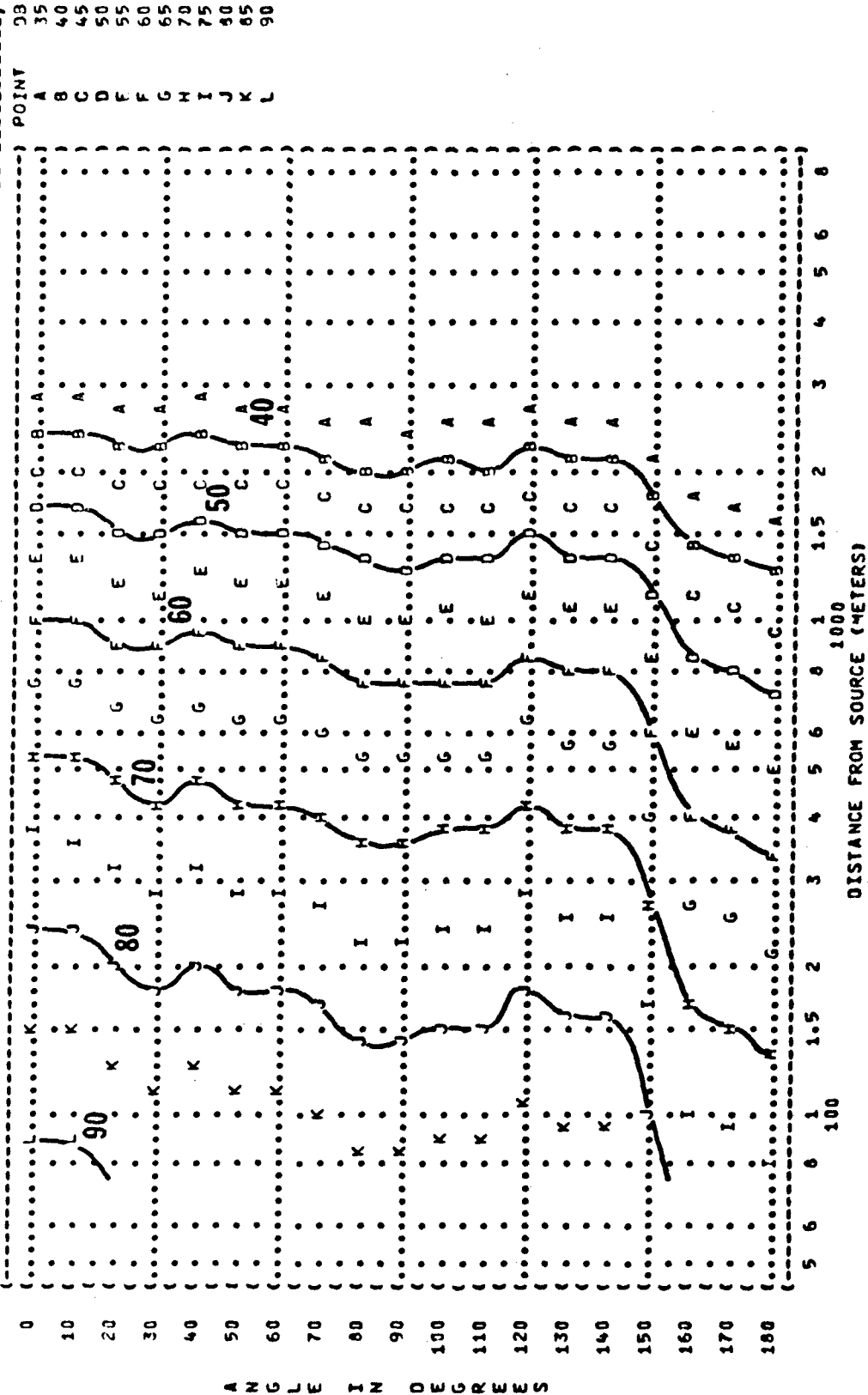
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 (11 EQUAL LEVEL CONTOURS (DB)
 (500 HZ OCTAVE BAND
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 (C-130E AIRCRAFT (IDLE POWER, NORMAL SPEED (TEMP = 15 C (OMEGA 1.4
 (T56-A-7A ENGINE (1400 INCH POUNDS TORQUE (BAR PRESS = .760 M HG (TEST 75-002-021
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (RUN 02
 ((((17 APR 75 (((()
 ((((PAGE 22 (((()



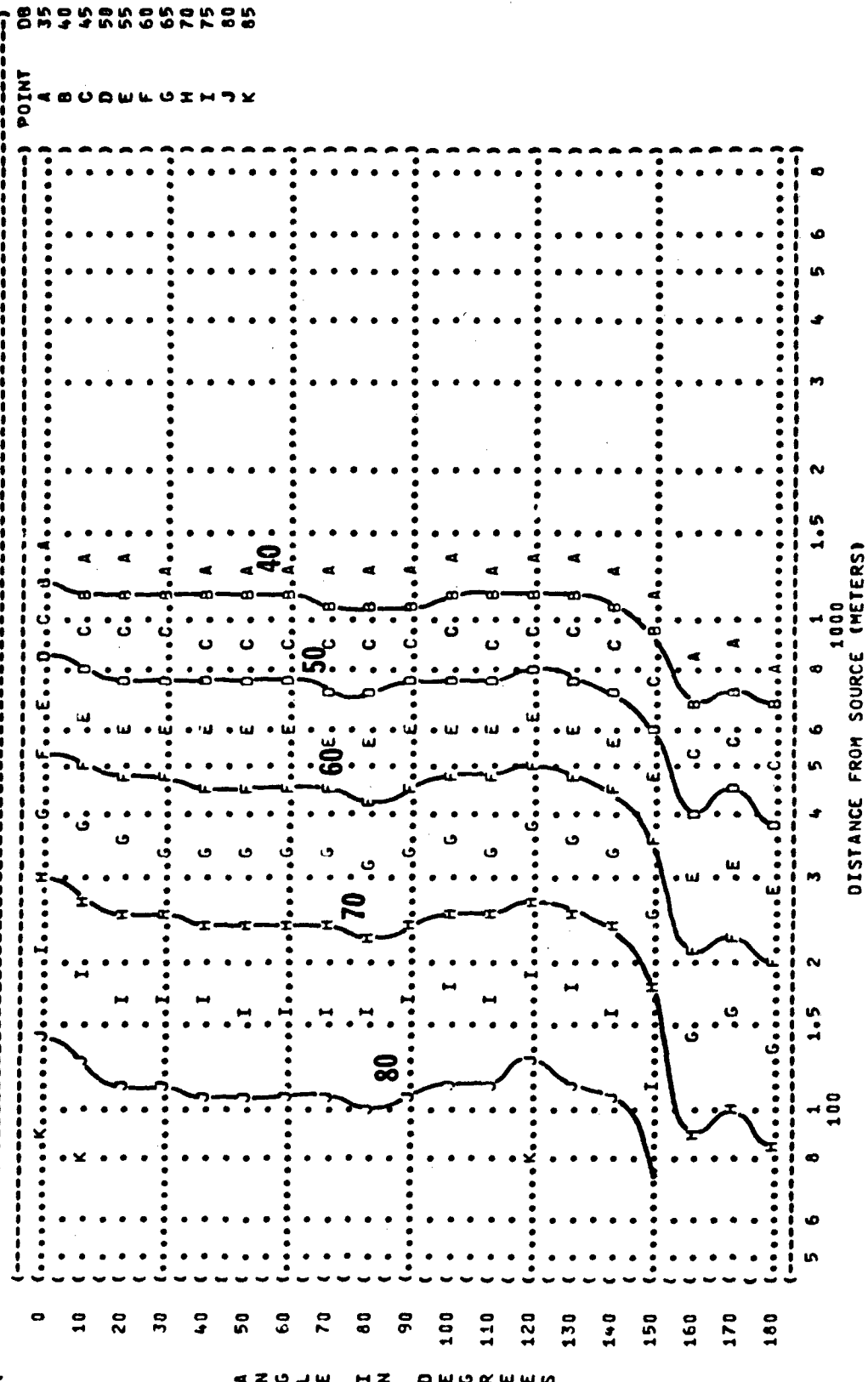
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 (11 1000 HZ OCTAVE BAND
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 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (IDLE POWER, NORMAL SPEED
 (1400 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 H MG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 02
 (17 APR 75
 (PAGE 23



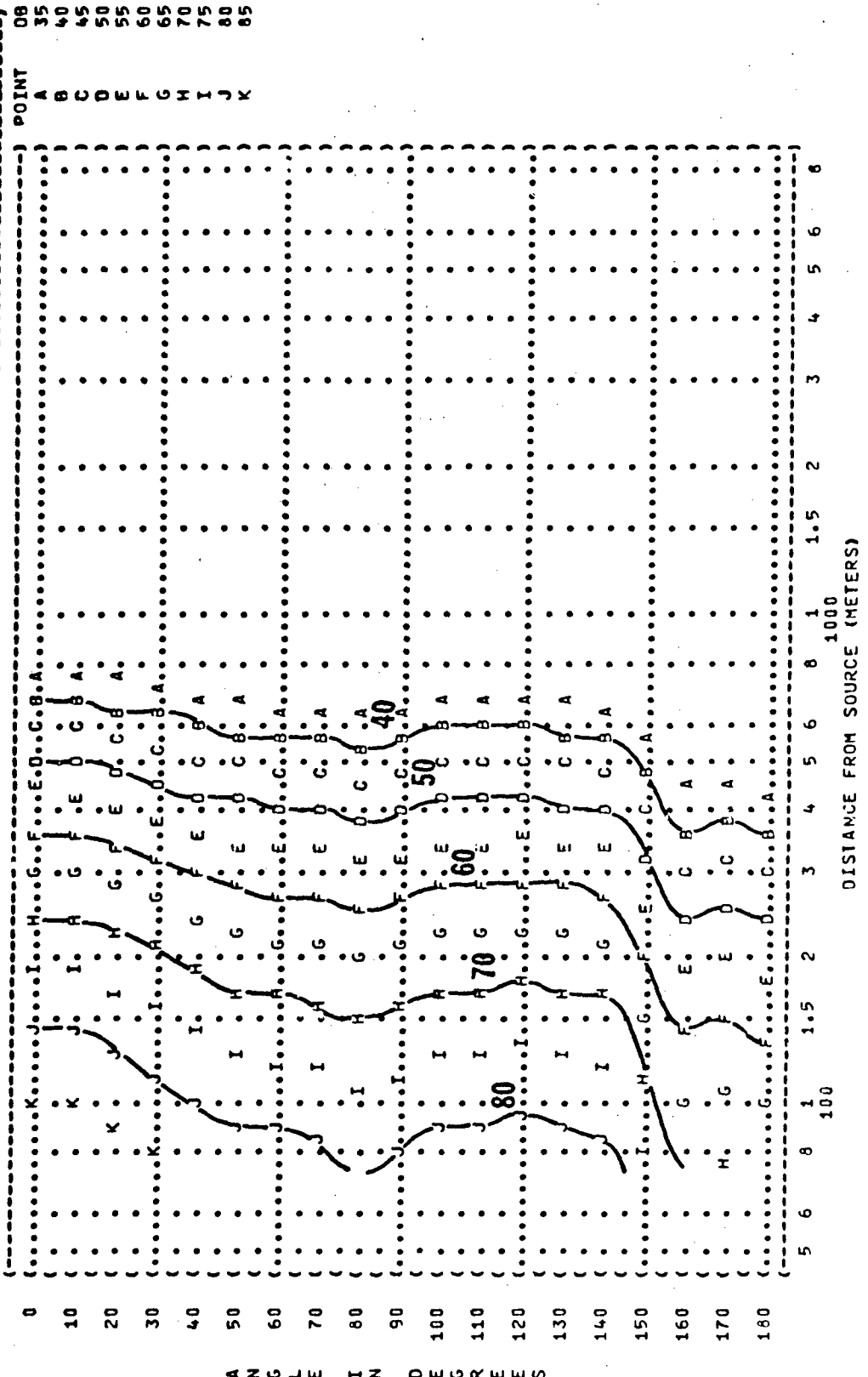
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 (2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
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 ((1400 INCH POUNDS TORQUE
 ((ALL ENGINES
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((C-130E AIRCRAFT
 ((T56-A-7A ENGINE
 ((FAR FIELD NOISE
 (IDENTIFICATION:
 (OMFGA 1.4
 (TEST 75-002-021
 (RUN 02
 (17 APR 75
 (PAGE 24



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (156-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (IDLE POWER, NORMAL SPEED)
 (1400 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 02)
 (17 APR 75)
 (PAGE 25)



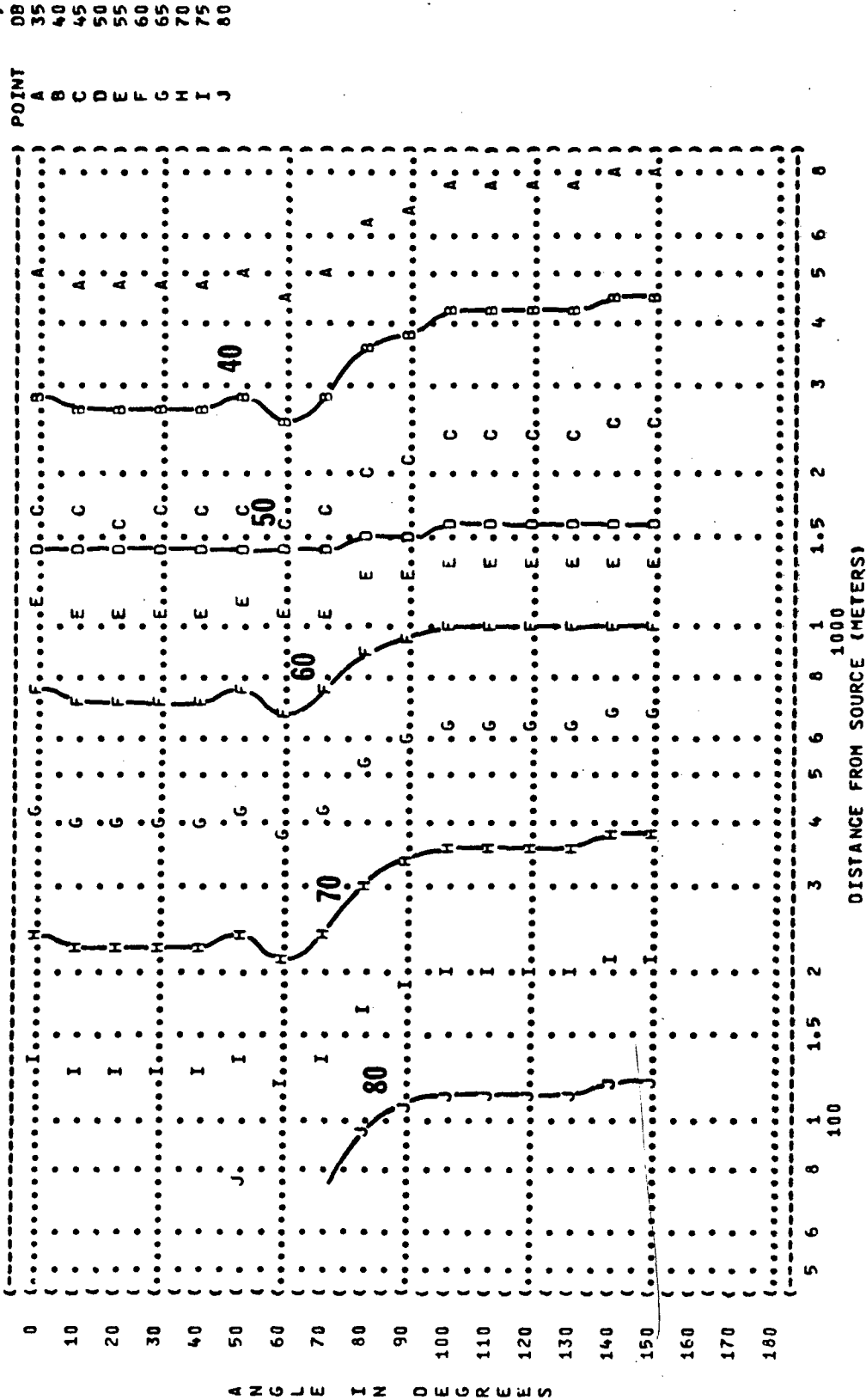
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 (11 EQUAL LEVEL CONTOURS (DB)
 (8000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
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 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (IDLE POWER, NORMAL SPEED
 (1400 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 02
 (17 APR 75
 (PAGE 26



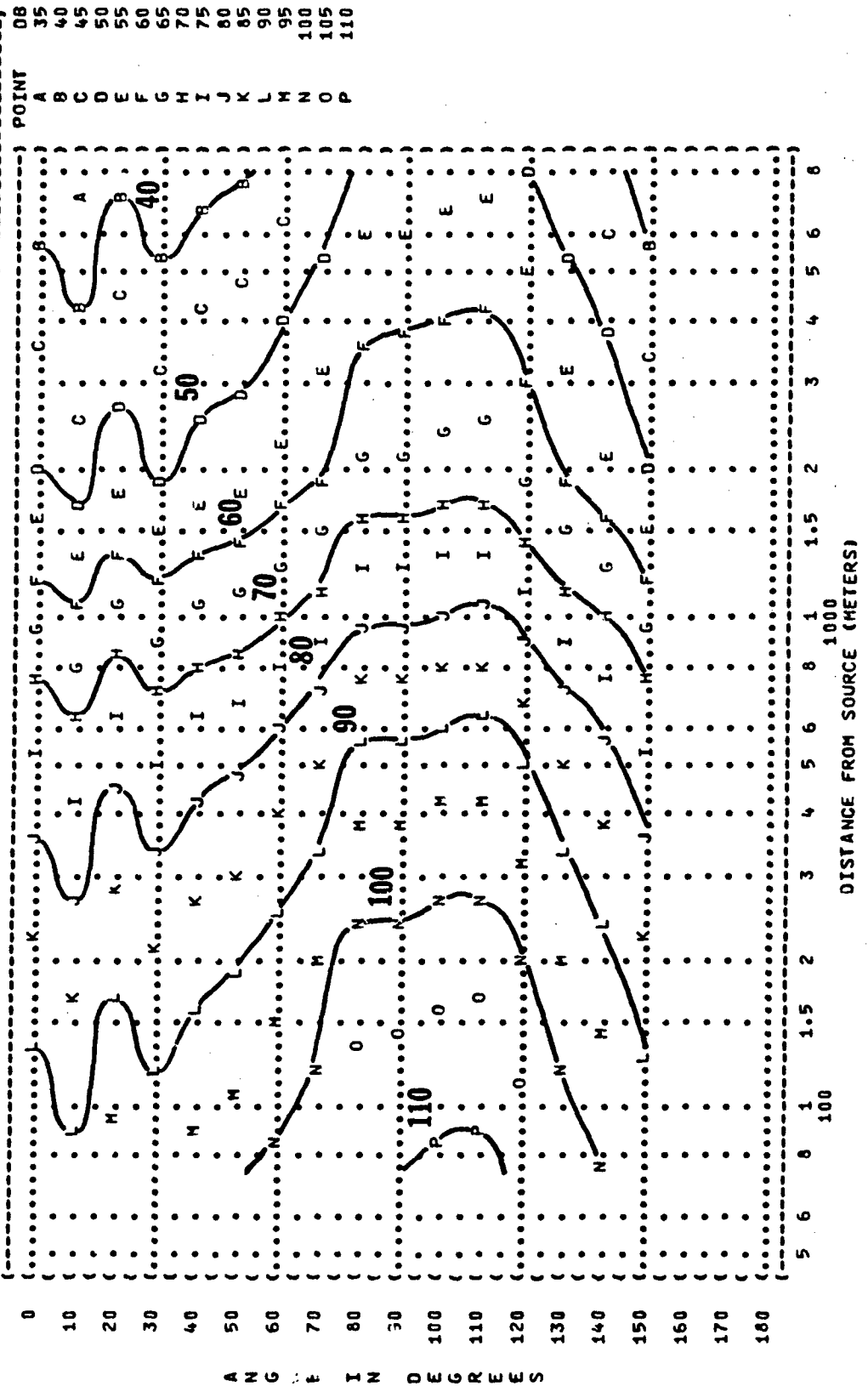
A N G L E I N D E G R E E S

=

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 (OPERATION:
 (C-130E AIRCRAFT
 (156-A-7A ENGINE
 (FAR FIELD NOISE
 (RUNUP POWER
 (9600 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 H HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 03
 (17 APR 75
 (PAGE 14



(FIGURE 11 SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (63 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (T56-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (RUNUP POWER)
 (9600 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 03)
 (17 APR 75)
 (PAGE 19)



IDENTIFICATION: OMEGA 1-A

OMEGA 1.4

METEOROLOGY:

OPERATION:

RUNUP POWER	)	TEMP	=	15 C
9600 I-PCH POUNDS TORQUE	)	BAR PRESS	=	.760 M HG
ALL ENGINES	)	REL HUMID	=	70 %

FAR FIELD NOISE

PAGE 20

DB	POINT
35	A
40	B
45	C
50	D
55	E
60	F
65	G
70	H
75	I
80	J
85	K
90	L
95	M

DB	POINT
0	A
10	B
20	C
30	D
40	E
50	F
60	G

A
N
C

ANGLE IN DEGREES

14

DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-130E AIRCRAFT (RUNUP POWER
 (F56-A-7A ENGINE (9600 INCH POUNDS TORQUE
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 03
 (17 APR 75
 (PAGE 21

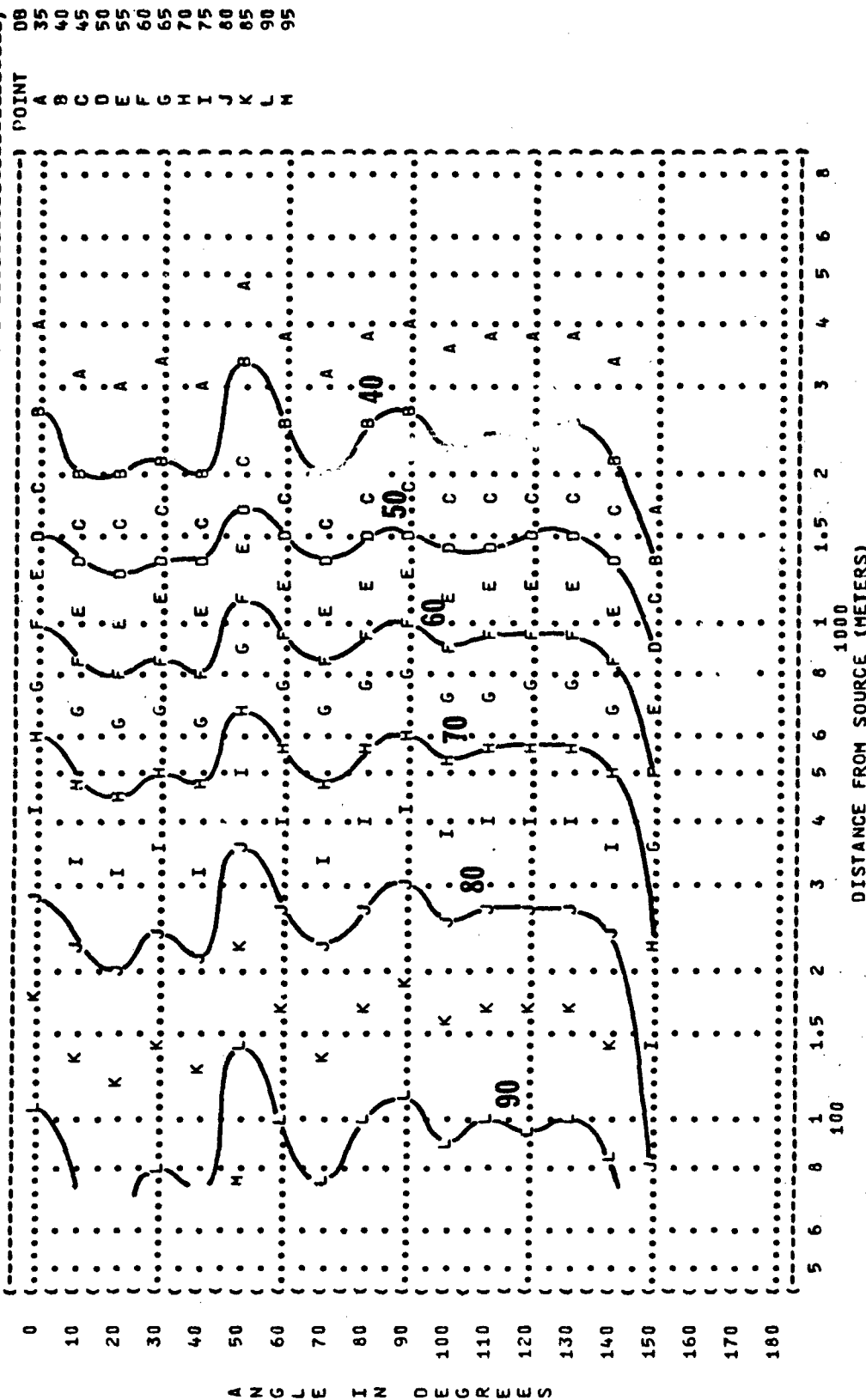
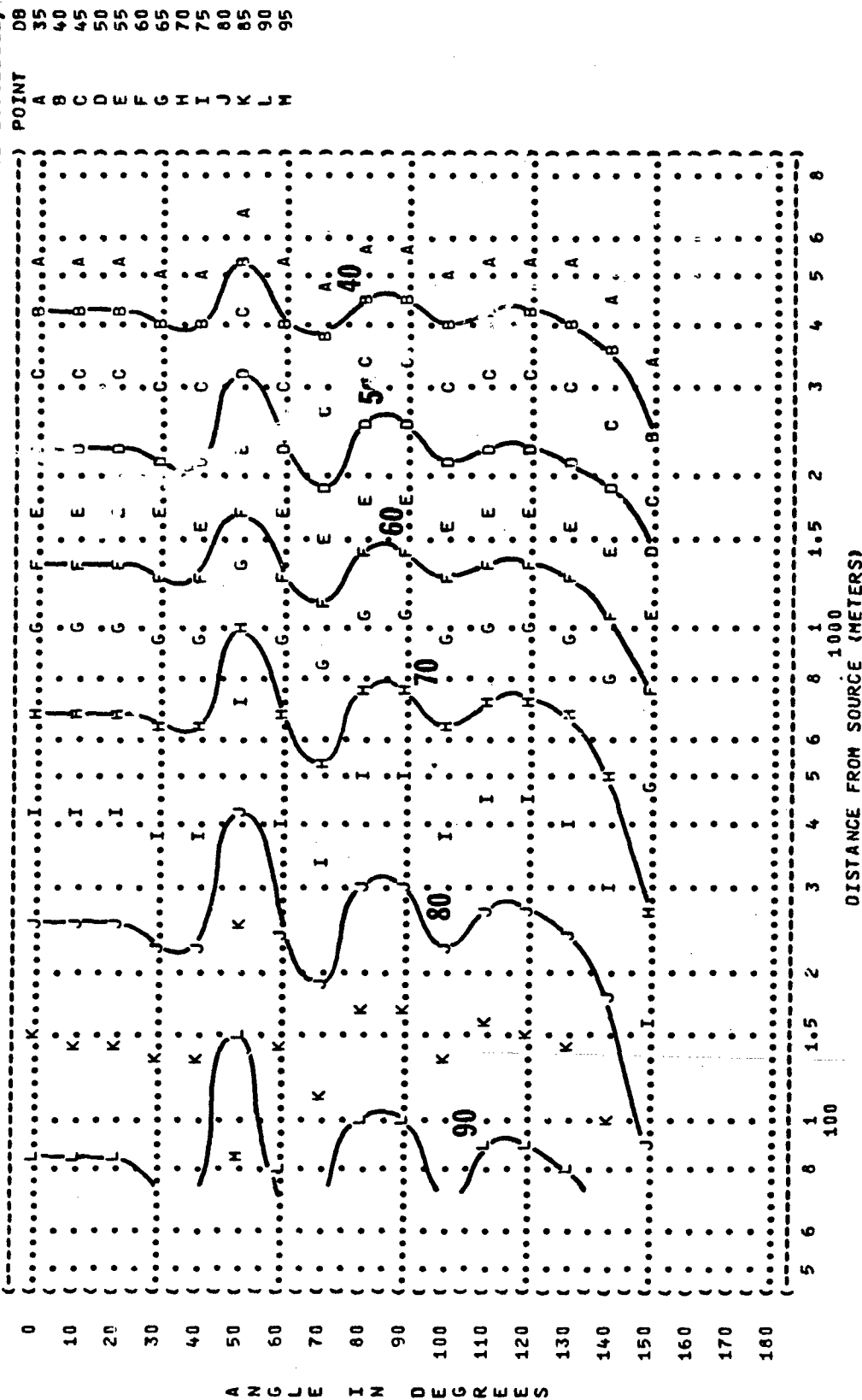


FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 500 HZ OCTAVE BAND

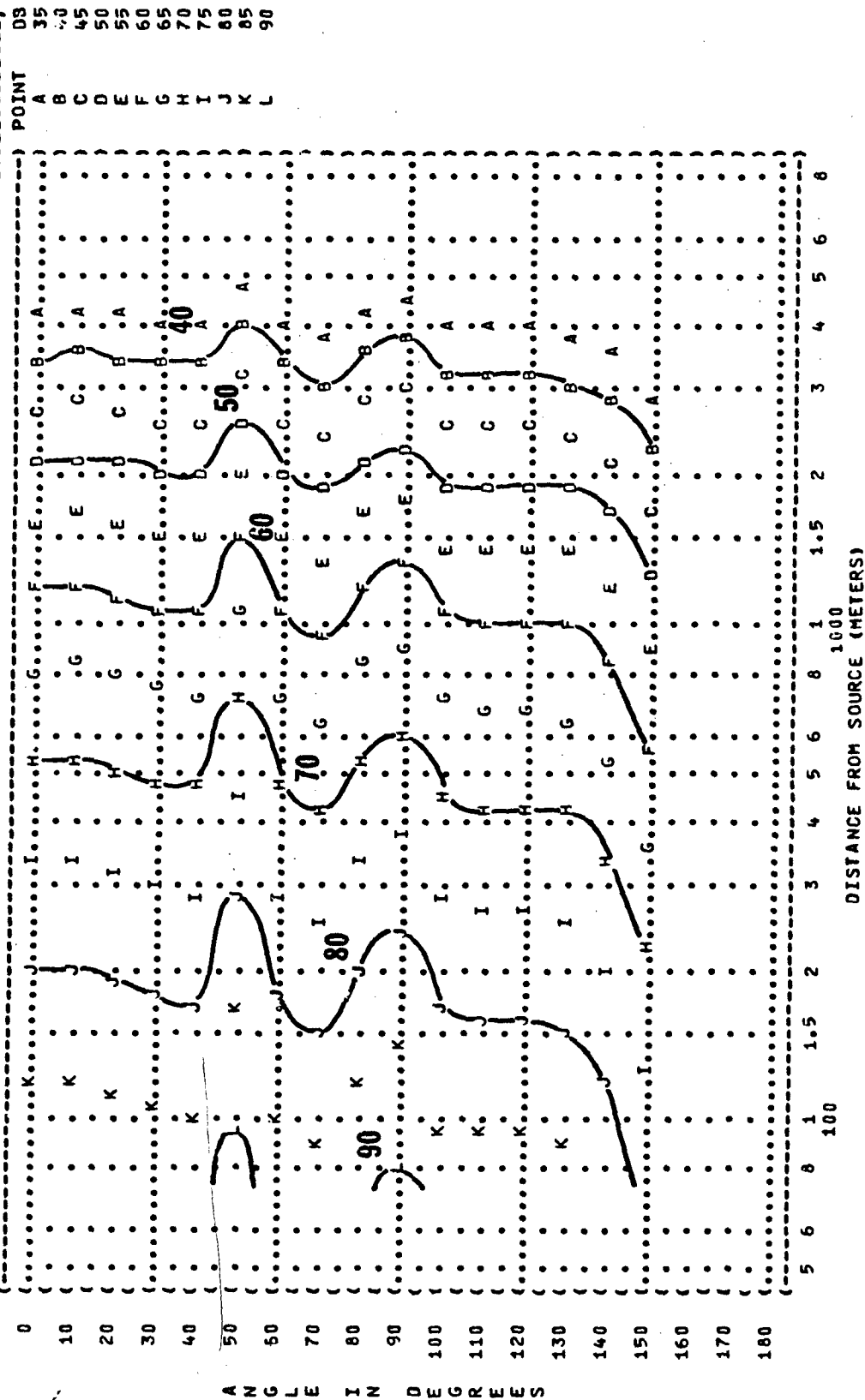
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 (C-130E AIRCRAFT)
 (T56-A-7A ENGINE)
 (FAR FIELD NOISE)

METEOROLOGY: ()
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)

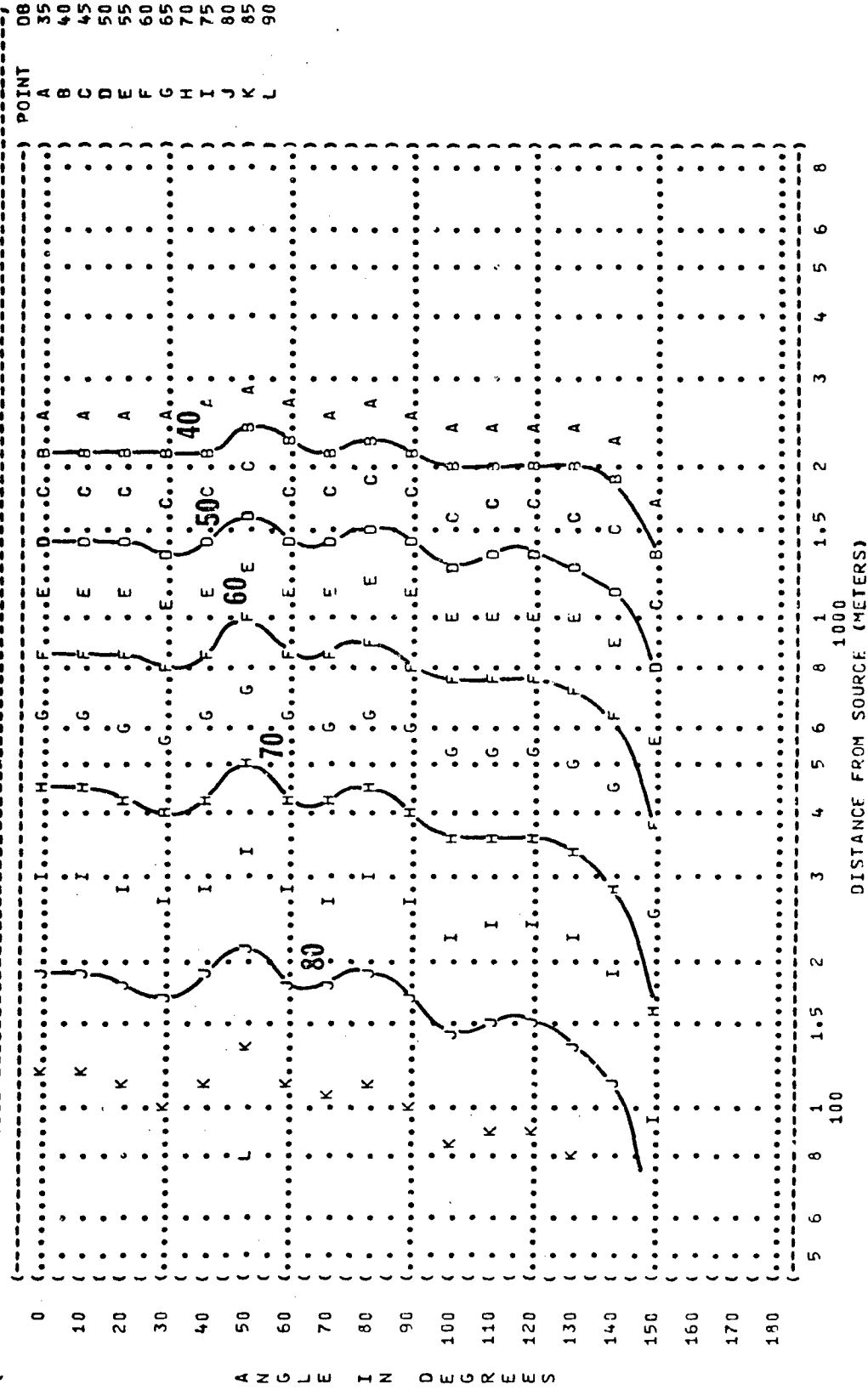
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 (TEST 75-002-021)
 (RUN 03)
 (17 APR 75)
 (PAGE 22)



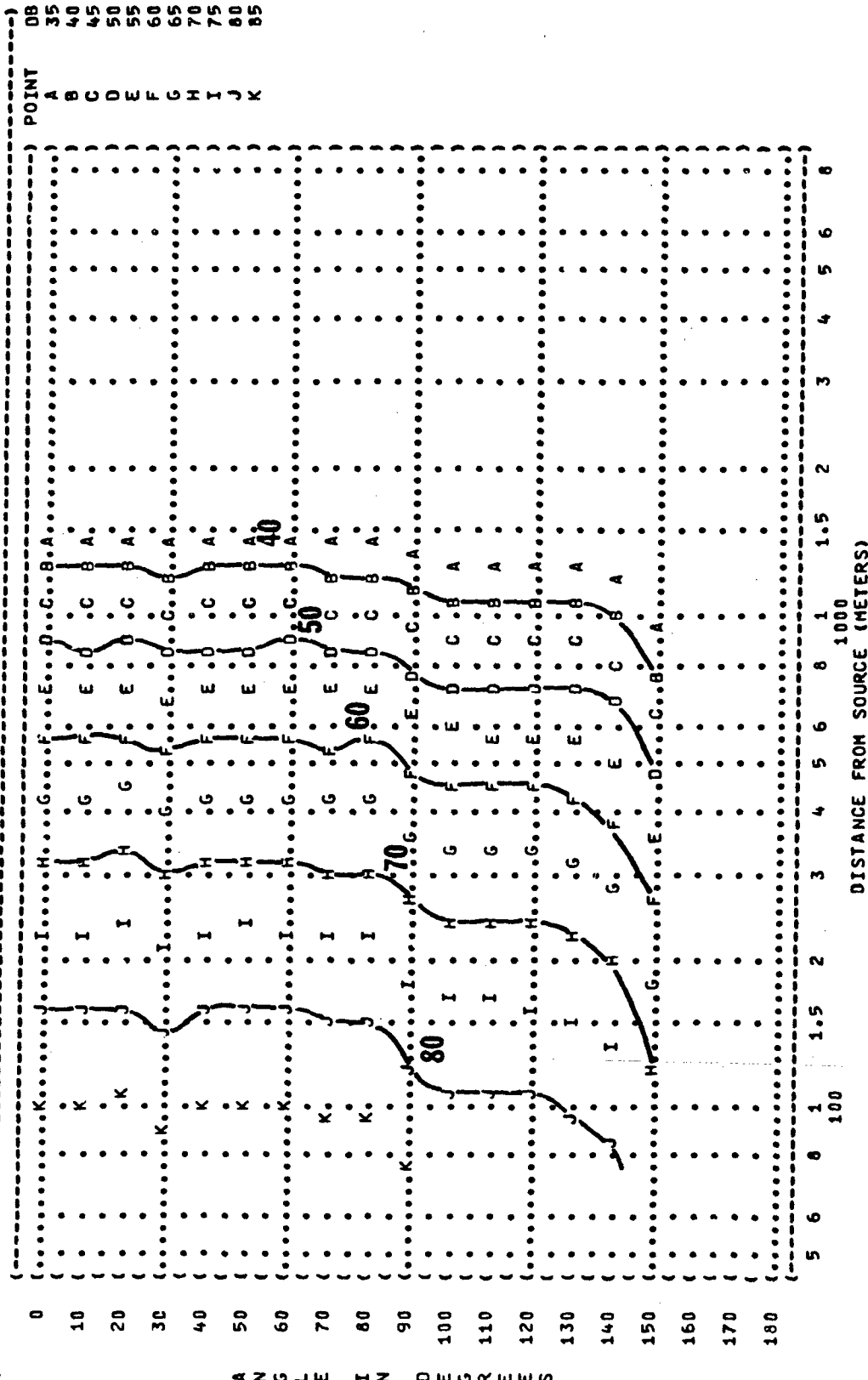
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 (1000 HZ OCTAVE BAND
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 (T56-A-7A ENGINE (9600 INCH POUNDS TORQUE
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-021
 (RUN 03
 (17 APR 75
 (PAGE 23



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 (C-130E AIRCRAFT
 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (RUNUP POWER
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 (ALL ENGINES
 (METEOROLOGY:
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 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
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 (TEST 75-002-021
 (RUN 03
 (17 APR 75
 (PAGE 24



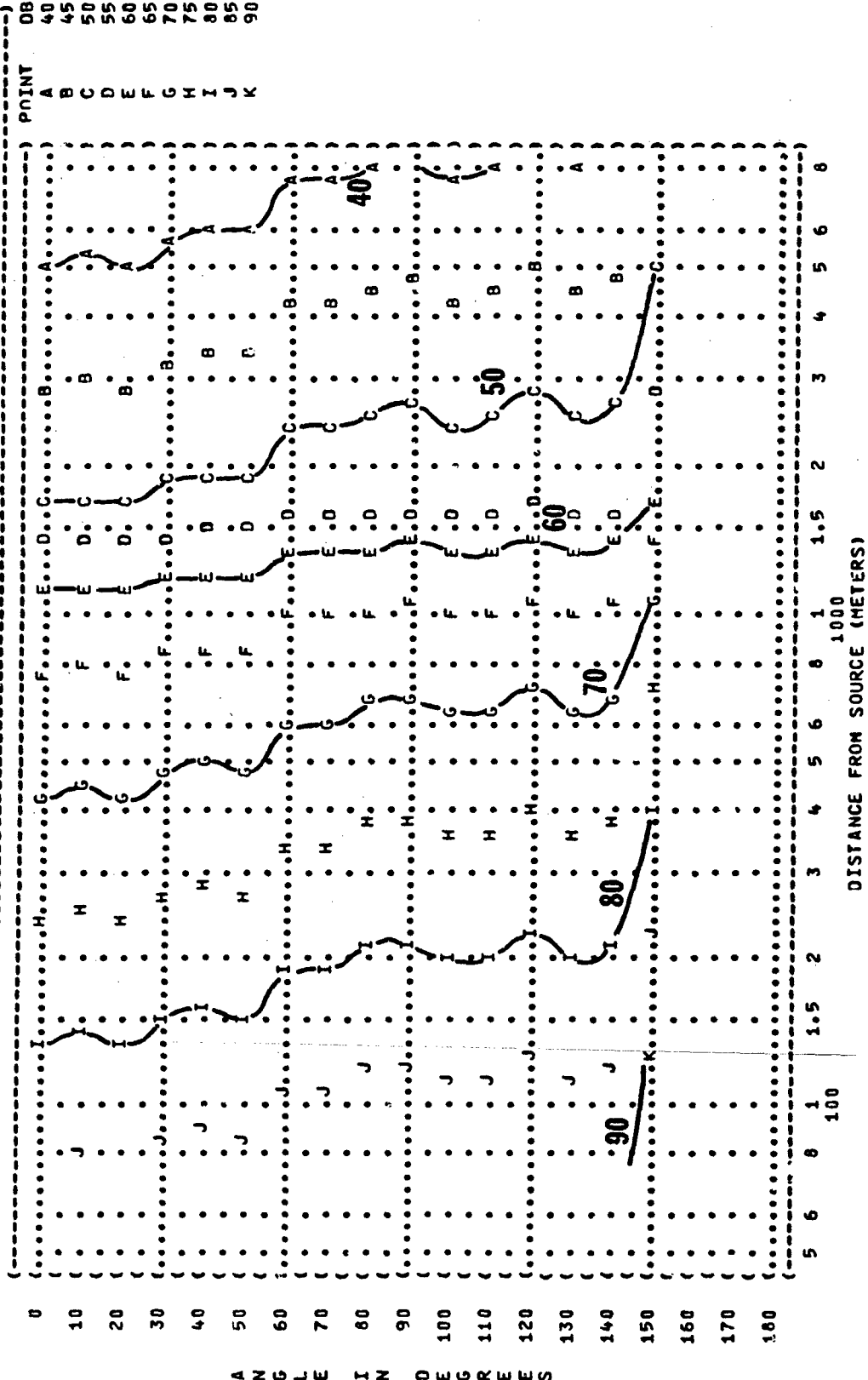
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 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (RUNUP POWER
 (9600 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 03
 (17 APR 75
 (PAGE 25



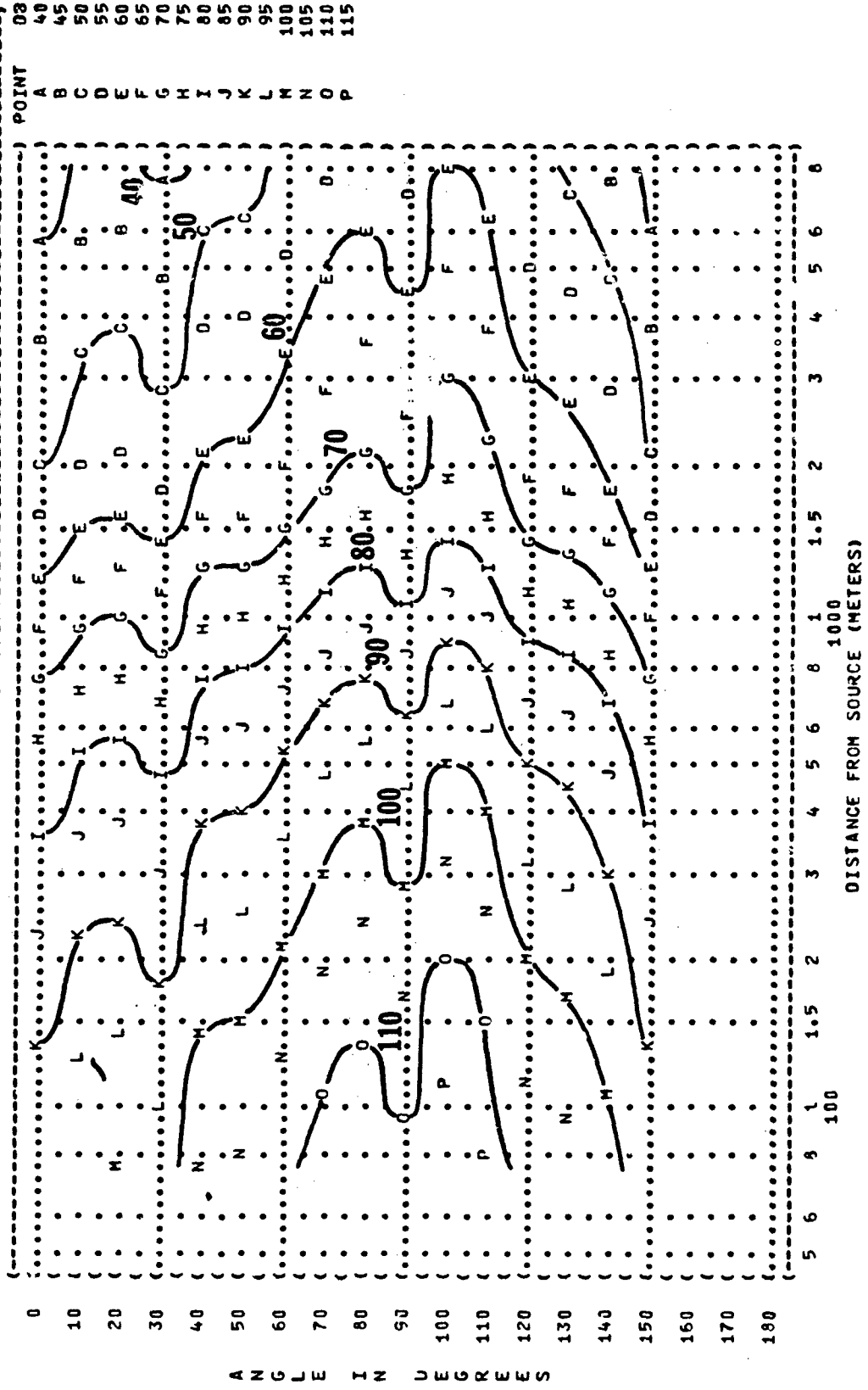
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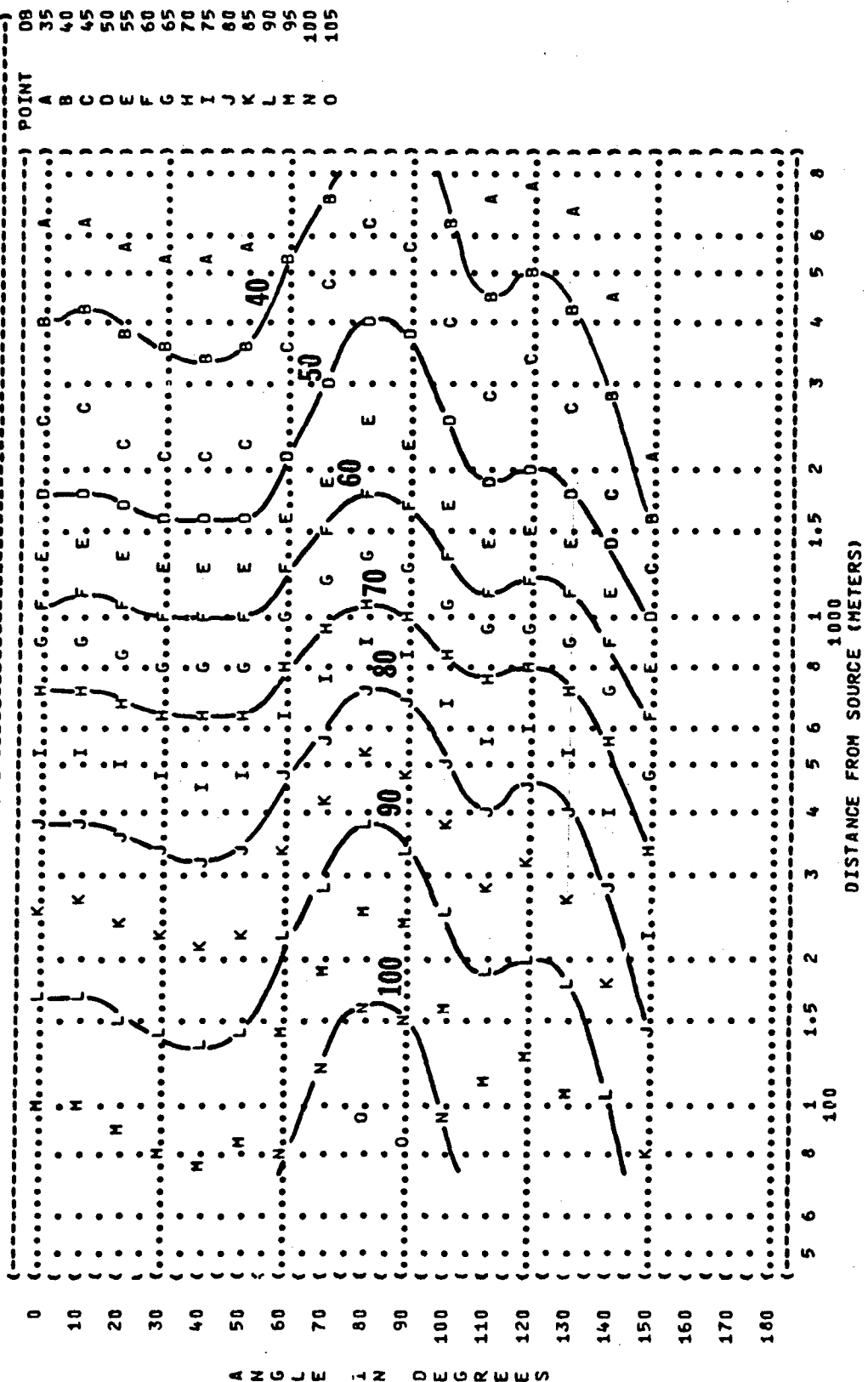
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 (11 EQUAL LEVEL CONTOURS (DB)
 (31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
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 (T56-A-7A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (MILITARY POWER
 (16800 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 04
 (17 APR 75
 (PAGE 18



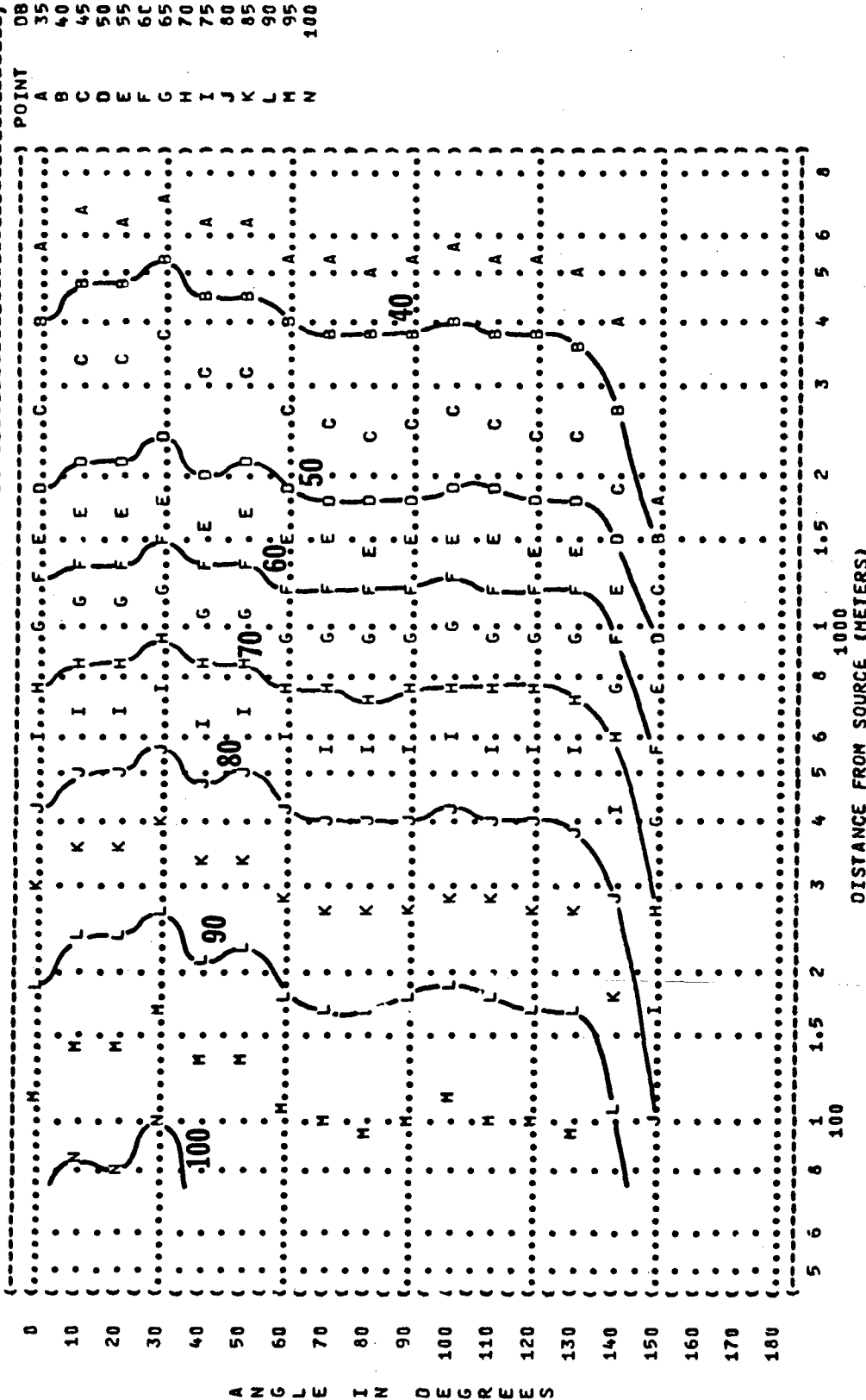
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 (OPERATION:
 (C-130E AIRCRAFT
 (156-A-7A ENGINE
 (FAR FIELD NOISE
 (MILITARY POWER
 (16000 INCH POUNDS TORQUE
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATIONS:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 04
 (17 APR 75
 (PAGE 19



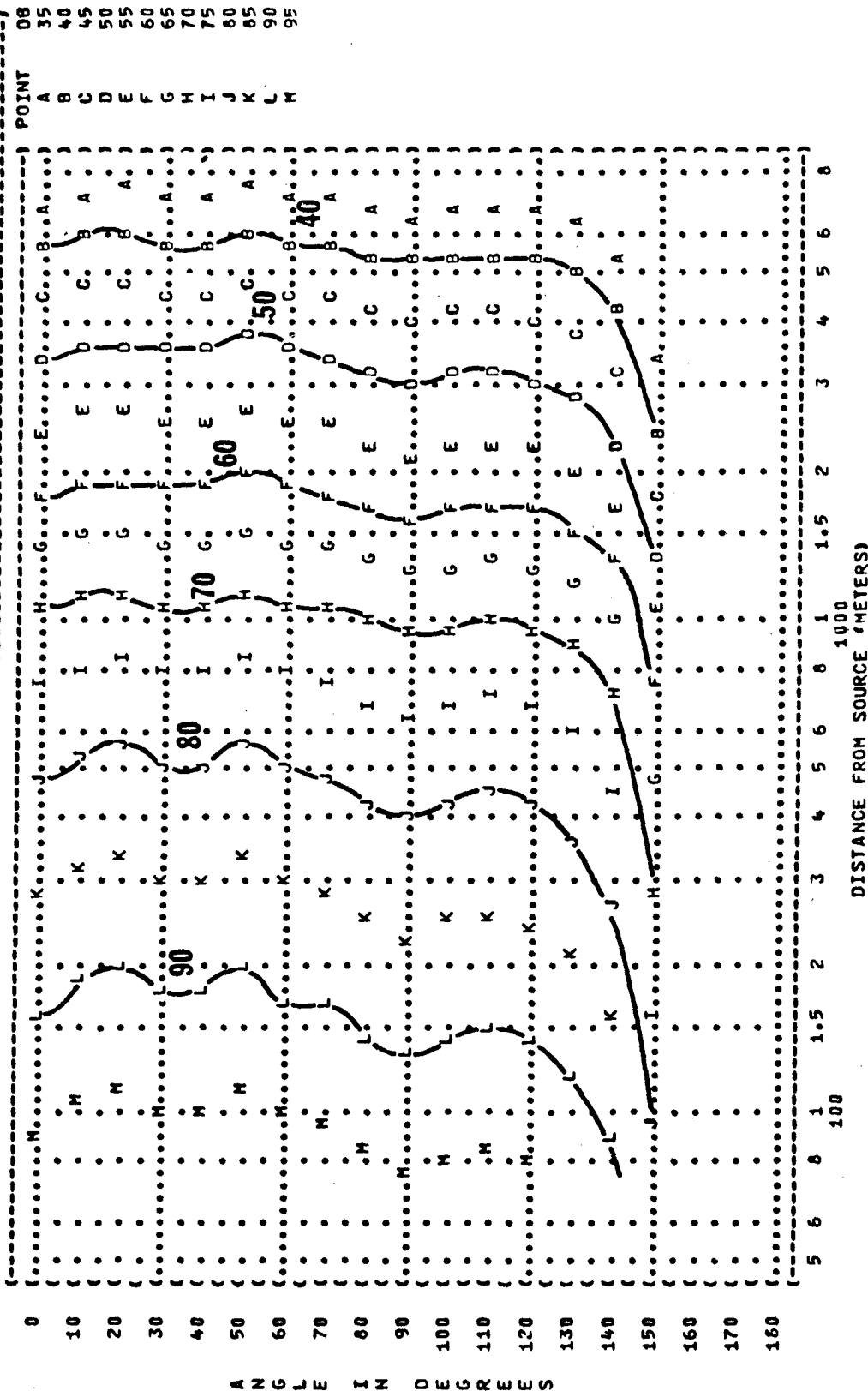
(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (125 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-130E AIRCRAFT)
 (156-A-7A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (MILITARY POWER)
 (16800 INCH POUNDS TORQUE)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 04)
 (17 APR 75)
 (PAGE 20)



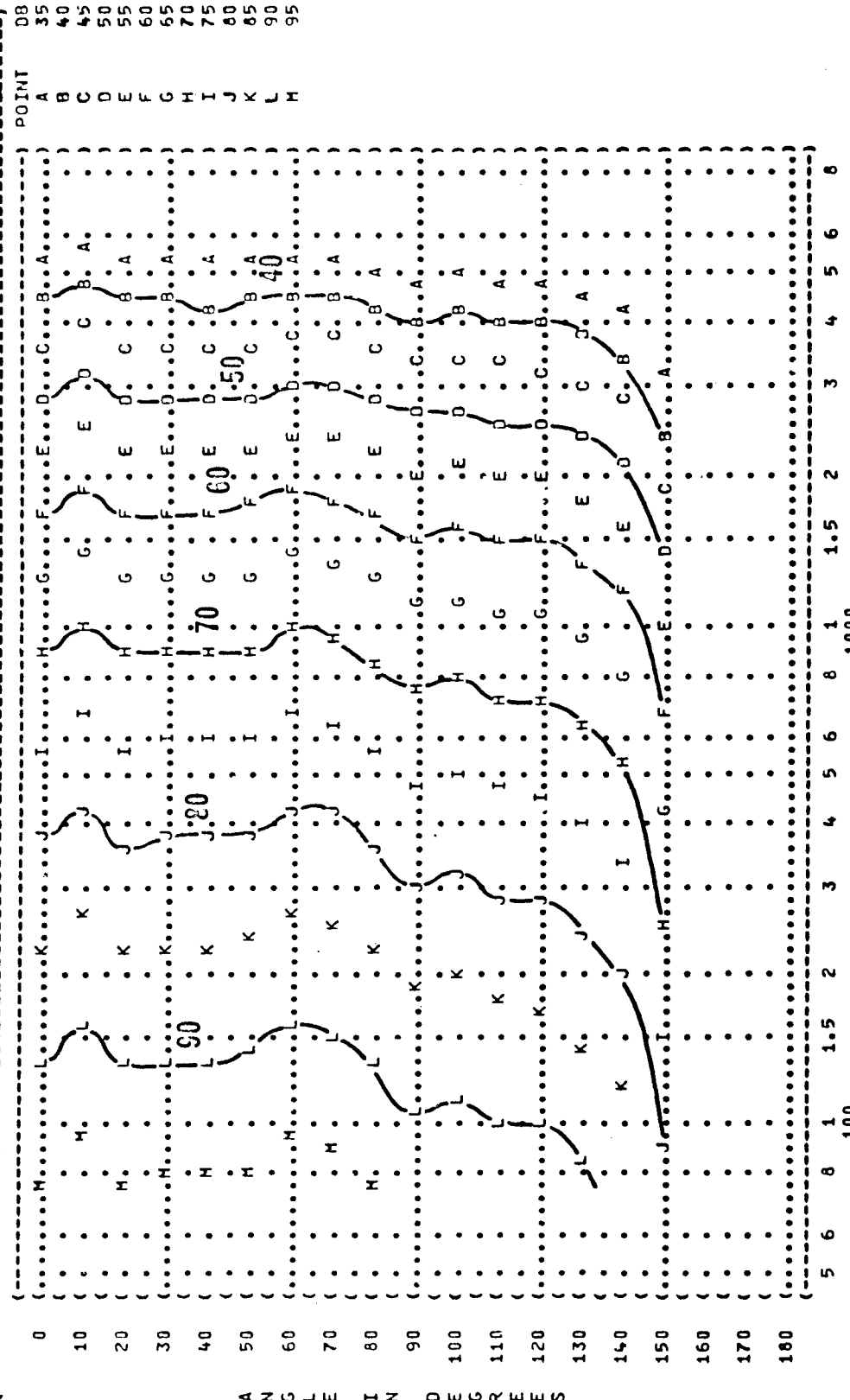
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
 ((MILITARY POWER
 ((16000 INCH POUNDS TORQUE
 ((ALL ENGINES
 ((C-130E AIRCRAFT
 ((T56-A-7A ENGINE
 ((FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 04
 (17 APR 75
 (PAGE 21



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (500 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATIONS:
 ((MILITARY POWER
 ((16800 INCH POUNDS TORQUE
 ((ALL ENGINES
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((C-130E AIRCRAFT
 ((T56-A-7A ENGINE
 ((FAR FIELD NOISE
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-021
 (RUN 04
 (17 APR 75
 (PAGE 22

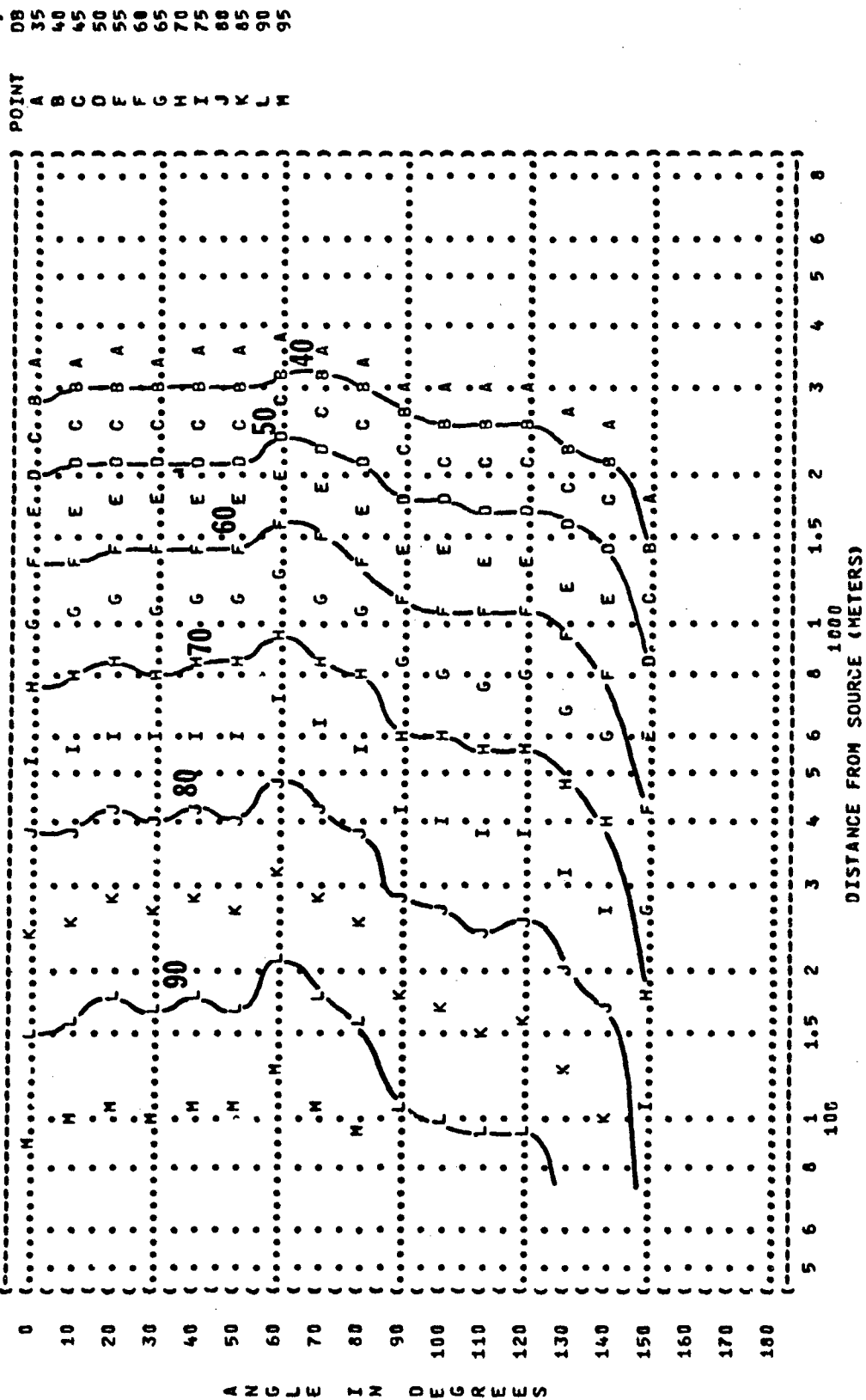


(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (1000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (OPERATION:)
 (C-130E AIRCRAFT)
 (T56-A-7A ENGINE)
 (FAR FIELD NOISE)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-021)
 (RUN 04)
 (17 APR 75)
 (PAGE 23)

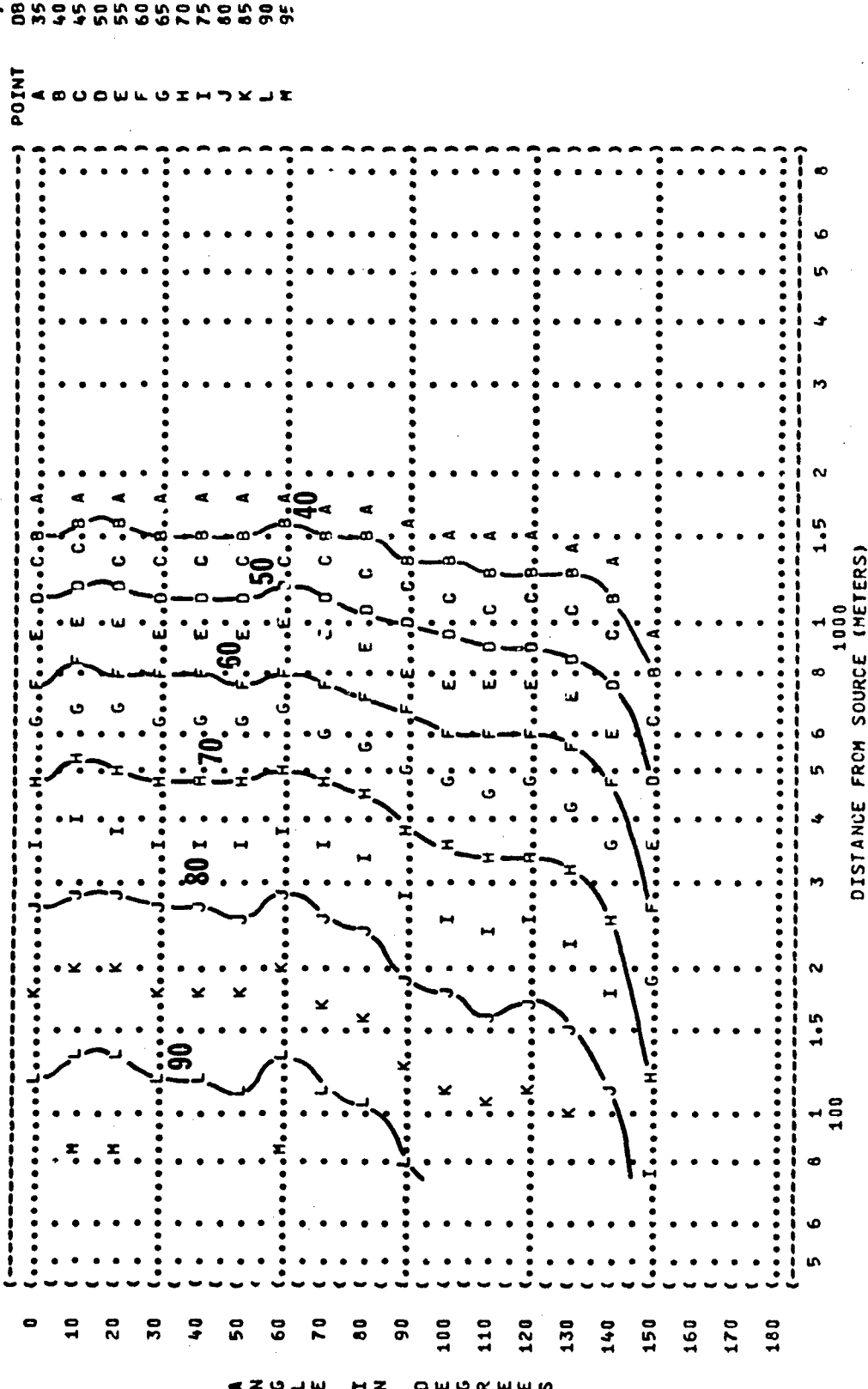


DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 2000 HZ OCTAVE BAND
 NOISE SOURCE/SUBJECT: OPERATION:
 C-130E AIRCRAFT MILITARY POWER
 T56-A-7A ENGINE 16800 INCH POUNDS TORQUE
 FAR FIELD NOISE ALL ENGINES
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 H HG
 REL HUMID = 70 %
 IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-021
 RUN 04
 17 APR 75
 PAGE 24



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (4000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATIONS: (METEOROLOGY: (IDENTIFICATION: ()
 (C-130E AIRCRAFT (MILITARY POWER (TEMP = 15 C (OMEGA 1.4
 (T56-A/A ENGINE (16800 INCH POUNDS TORQUE (BAR PRESS = .760 M HG (TEST 75-002-021
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (RUN 04
 (((((17 APR 75 (((((PAGE 25 ()



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