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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 97. T-39 AIRC--ETC(U)
MAY 77 R G POWELL, N A FARINACCI

UNCLASSIFIED AMRL-TR-75-50-VOL-97 NL

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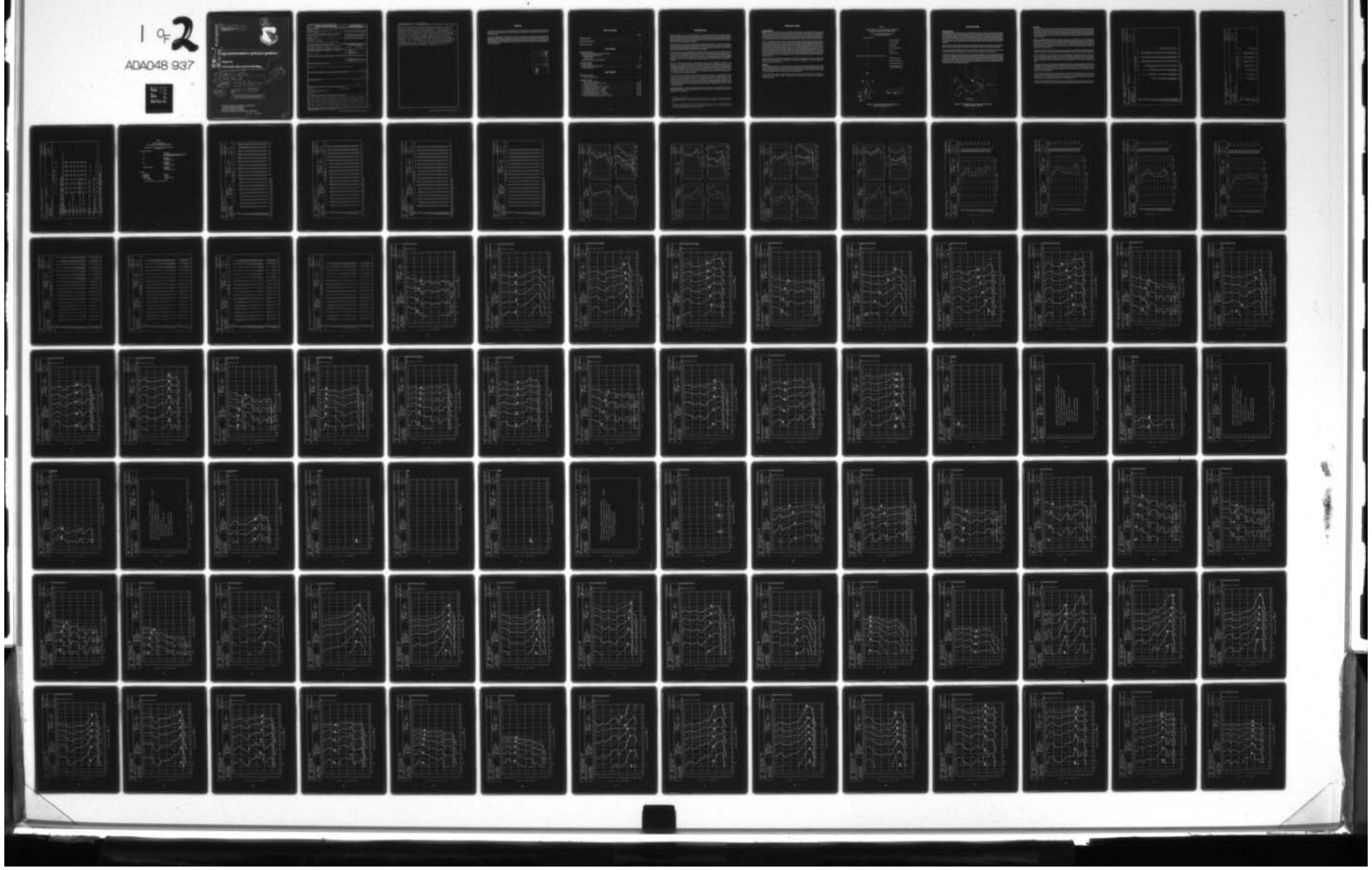

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Volume 97.

T-39 Aircraft, Near and Far-Field Noise.

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(10) Robert G./Powell
Nick A./Farinacci

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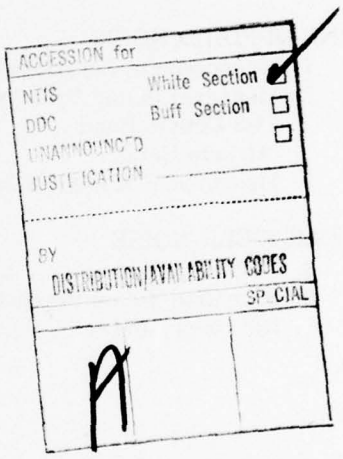
preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distances 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 authors gratefully acknowledge Mr. John Cole for his assistance in preparing this report, Mr. Jerry Speakman and Mr. Robert Lee for their 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. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.



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INTRODUCTION

The USAF T-39A, B, and F are pilot proficiency trainer aircraft each of which are powered by two J60-P-3A turbojet engines. Since these aircraft are externally identical and have the same engines, their near and far-field noise characteristics are the same. These aircraft were manufactured by the Los Angeles Division of North American Rockwell and the engines by the Pratt and Whitney Aircraft Division of United Technologies 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 T-39 aircraft.

This volume is one of a series published by the 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% relative humidity, 0.760 meter 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.

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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), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on a T-39B aircraft during ground runup operations of its turbojet engines. For these tests the aircraft was located on a runup area at Langley AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the engines' power conditions and nomenclature for ground crew locations. The ground-crew chief selected power conditions and near-field locations usually 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 six 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 T-39B aircraft at the 6 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 for the meteorological conditions at the time of the tests but are valid for all typical airbase meteorology (winds $\leq$ 5 meters per second) because of the short sound propagation distances involved.

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

T-39B Aircraft, Ground Runup, Langley AFB
Tail #592873 27 March 1975

Ground Crew Location	
1	Marshal, Right Side
2	Marshal, Left Side
3	MD-3 Operator
4	Power Cable Disconnect
5	Chock Pull
6	Marshal, Forward
Aircraft Engine and Ground Support Equipment Operation	
A	Engines Off, MD-3 On
B	Engine #2 Idle, MD-3 On
C	Both Engines Idle, MD-3 On
D	Both 65% RPM, MD-3 On (Hydraulic Pressurization)

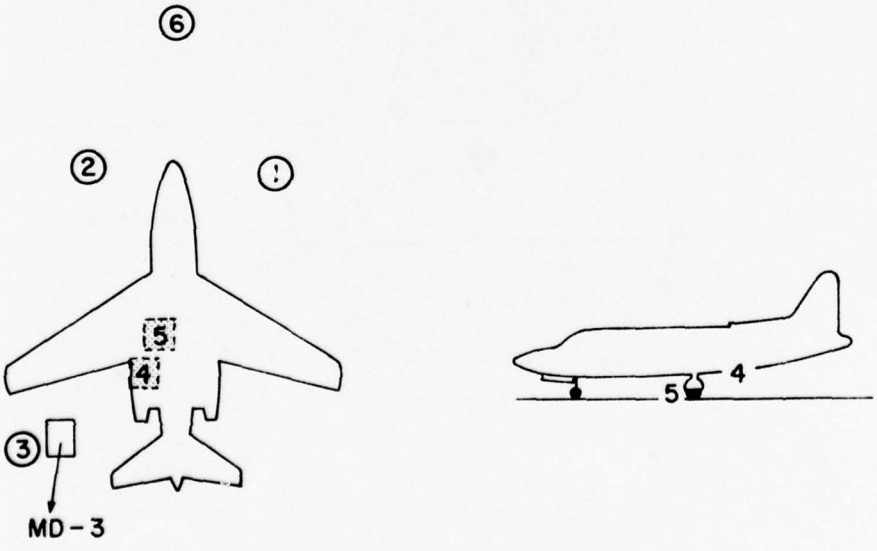


Figure 1. Near-Field Measurement Locations on Runup Pad Langley AFB, VA

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field noise data on a T-39A aircraft during a 1-hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup area (taxiway), ground cover, aircraft orientation and 19 microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the J60-P-3A engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits. The ground runup area did not have a blast deflector, therefore, the jet exhaust was in a "free'flow" condition.

Table 4 provides cockpit readouts of engine characteristics 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 attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

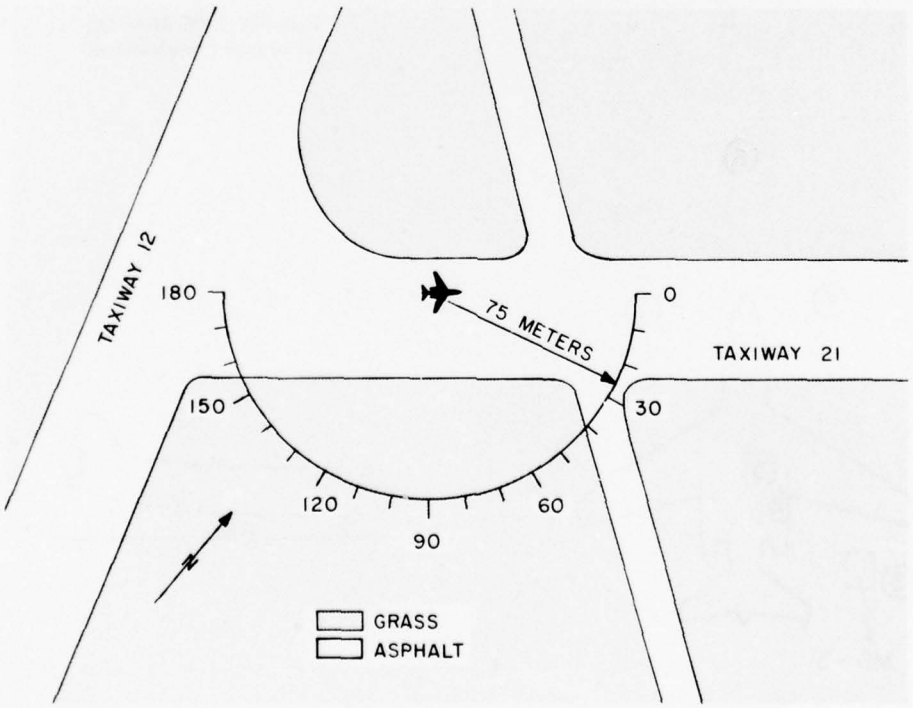


Figure 2. Far-Field Measurement Locations on Taxiway, Wright-Patterson AFB, OH

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 T-39A aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level 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., 1.6 EPR) 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 time 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 at the 170 degree loctions for the 75% and 85% RPM runups nor at the 170/180 locations for the maximum power setting because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level measured at the preceding microphone 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 (e.g., Table 5 and Figure 11, 31.5 Hz idle power).

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.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB) 1/3 OCTAVE BAND

IDENTIFICATION:
OMEGA 3.2
TEST 75-005-002
RUN 01
17 APR 75
PAGE F1

NOISE SOURCE/SUBJECT:
T-39B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	1/B	2/C	2/D	3/A	3/C	4/C	5/C	6/C
25					87<	89<	89<	
31.5		80<	77<		87	88	89	
40					87<	91<	90<	
50		86<	88<	95<	96	99	99	
63				96<	98<	102	101	
80				90<	93<	95<	95<	
100		90<	88<	99	99	97	97<	
125		91<	89<	100	99	100	96<	
160	90<	93<	91<	100	99	99	98	
200		89<	89<	99	95	96	98	
250	87<	89<	89<	100	99	98	97	
315	86<	86<	91<	94<	95	102	93<	83<
400			86<	89<	94	100	98	
500	81<	87	91	90	92	101	102	
630	82<	86	93	90	91	97	93	
800	84	86	89	88	91	99	97	73<
1000	91	90	90	90	92	102	100	83
1250	100	98	92	89	91	101	98	93
1600	89	90	93	91	93	101	95	87
2000	88	92	95	97	96	99	94	86
2500	92	99	95	87	90	102	95	90
3150	93	95	95	85	88	100	95	89
4000	97	99	110	88	91	104	97	91
5000	102	108	101	83	91	107	100	97
6300	102	104	100	79	89	104	99	93
8000	109	107	110	77	95	108	103	99
10000	106	106	105	74	96	108	102	98
12500	104	106	110	72	92	103	97	97
16000	105	105	108	68	90	101	94	97
20000	103	103	105	66	88	97	90	93
OVERALL	114	115	116	108	109	116	112	106

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB)
OCTAVE BAND

IDENTIFICATION:
OMEGA 3.2
TEST 75-005-002
RUN 01

17 APR 75

PAGE J1

NOISE SOURCE/SUBJECT:
T-39B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/B	2/C	2/D	3/A	3/C	4/C	5/C	6/C
31.5					92	94	94	
63				99	101	104	104	
125		97	94	104	103	104	102	
250	89	93	95	103	101	104	101	
500	84	89	96	94	97	104	104	
1000	100	99	95	94	96	105	103	93
2000	95	100	99	98	98	105	99	93
4000	103	108	110	91	95	109	102	98
8000	111	111	111	82	99	112	106	102
16000	109	109	112	74	95	106	99	100
OVERALL	114	115	116	108	109	116	112	106

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST 75-005-002
RUN 01

17 APR 75

PAGE H1

NOISE SOURCE/SUBJECT:
T-39B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION							
	1/B	2/C	2/D	3/A	3/C	4/C	5/C	6/C
HAZARD/PROTECTION								
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) 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	110	112	113	108	108	115	111	103
OASLA	112	113	115	102	104	115	110	104
T	PP	PP	PP	21	PP	PP	PP	PP
MINIMUM QPL EAR MUFFS								
OASLA*	89	90	92	85	85	91	88	81
T	202	170	120	404	404	143	240	807
AMERICAN OPTICAL 1700 EAR MUFFS								
OASLA*	87	87	89	81	81	88	84	78
T	285	285	202	807	807	240	480	960
V-51R EAR PLUGS								
OASLA*	84	85	87	77	79	87	83	76
T	480	404	285	960	960	285	571	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS								
OASLA*	74	75	76	64	66	75	71	66
T	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT								
OASLA*	84	85	86	76	78	87	82	76
T	480	404	339	960	960	285	679	960
COMMUNICATION								
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)								
PSIL	93	96	97	95	97	105	102	
ANNOYANCE								
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)								
TONE CORRECTION (C IN DB)								
PNLT	127	129	132	120	121	130	126	119
C	3	3	4	3	2	1	2	3

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
PP EAR PROTECTION REQUIRED TO AVOID HIGH FREQUENCY, WHOLE BODY EFFECTS.

TABLE 4

TEST CONDITIONS FOR FAR-FIELD NOISE MEASUREMENTS

T-39A Aircraft, Ground Runups, Wright-Patterson AFB OH
1 August 1974

Aircraft Engine Operation

Idle	Both Engines 1.03 EPR, Engine Pressure Ratio (Calculated*) 30.05 Inches Hg, Engine Pressure, PT5
75%	Both Engines 1.25 EPR 36.5 Inches Hg, PT5
85%	Both Engines 1.46 EPR 42.5 Inches Hg, PT5
Takeoff Rated Thrust	Both Engines 1.93 EPR 56.5 Inches Hg, PT5

Meteorology

Temperature	27.8 C
Bar Pressure	0.742 M Hg
Rel Humidity	40 %
Wind — Speed	4.1 M/Sec (8 KTS)
— Direction	230 Deg

*EPR = Engine Pressure ÷ Ambient Pressure

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 2

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25																			
31.5										61<		61<		61<	62<	61<	62<		64<
40						60<	62<	53<	63<	63<	63<	63<	63<	65<	65<	63<	67<	64<	66<
50	59<	59<	59<	59<	60<	60<	60<	53<	65<	65<	65<	66<	68<	67<	68<	66<	68<	64<	68<
63	61<	61<	63<	63<	62<	64<	63<	56<	66<	67<	68<	68<	70	70	70	70	70	64<	69
80	64	65	56	71	65	68	67	59	68	68	70	70	69	71	71	70	73	63<	71
100	68	70	70	74	68	69	70	73	72	70	71	71	72	73	74	72	74	61<	71
125	69	69	71	70	65	67	67	70	67	66	68	68	67	69	70	68	72	54<	65
160	66	67	67	68	63	59<	59<	52	62	61	62	62	63	65	67	65	69	54<	62
200	68	68	69	68	59	59	59	59	59	60	61	59	60	61	62	61	64	51<	56
250	68	68	68	63	60	62	60	61	63	64	64	63	62	62	63	60	63	52	57
315	68	71	66	66	63	63	61	61	62	62	59	61	64	65	66	60	64	51<	56
400	67	68	65	65	63	63	60	60	61	62	58	61	63	65	69	62	64	51<	56
500	65	68	63	65	61	61	60	61	65	67	61	64	66	64	68	66	62	52	56
630	66	66	64	64	60	59	58	58	61	61	58	61	63	62	64	60	61	51	55
800	66	66	65	64	62	61	60	61	64	64	59	63	61	58	62	55	59	47<	52
1000	76	74	71	72	69	68	65	67	67	67	63	66	63	61	64	58	66	51	55
1250	79	77	75	78	75	75	67	72	71	70	62	67	62	62	65	60	69	53	61
1600	71	71	72	71	68	66	59	65	65	64	60	63	59	58	63	56	62	50	56
2000	71	71	71	70	65	64	58	64	63	63	58	61	59	57	61	55	61	52	57
2500	78	78	77	75	71	72	65	72	69	65	59	64	58	59	63	59	62	49	53
3150	76	74	73	72	70	69	61	65	64	64	59	61	54	56	61	55	61	45	51
4000	75	76	74	74	70	71	62	66	65	65	60	62	55	58	61	54	61	46	52
5000	78	83	80	80	74	76	66	70	69	65	59	62	55	58	61	57	61	47	52
6300	75	79	77	76	72	70	62	66	64	62	56	61	54	56	58	54	59	44	48
8000	78	81	76	76	72	72	62	67	66	64	58	61	54	57	59	53	58	44	50
10000	72	71	70	70	69	67	58	61	59	63	58	61	54	55	57	50	52	39	46
OVERALL	87	88	85	85	82	83	77	81	80	79	78	79	78	79	81	78	81	71	77

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 2

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25														69<	70<	67<	70<	68<	
31.5	65<	62<	61<		65<	62<	65<	66<	66<	64<	64<	66<	68<	71<	73	73	73	70<	
40	67<	65<	65<	64<	67<	67<	68<	69<	67<	68<	68<	71	72	75	77	76	75	72	
50	65<	65<	66<	64<	66<	67<	66<	66<	69<	71	72	74	75	79	81	79	78	73	
63	68<	68<	70	69	70	70	70	71	73	73	76	77	79	83	84	82	81	71	
80	71	70	72	72	72	72	73	73	74	75	78	80	81	85	86	85	83	69	
100	71	71	74	74	73	74	74	74	75	75	77	80	82	87	90	86	83	69	
125	72	72	73	72	72	72	72	74	76	75	77	79	80	85	89	85	82	70	
160	74	73	75	74	73	71	72	74	74	76	77	79	82	87	89	85	83	70	
200	76	76	78	76	73	74	73	73	74	73	74	76	79	84	87	81	80	67	
250	77	78	77	75	72	72	71	73	73	75	76	78	80	83	86	78	75	61	
315	81	79	77	75	73	75	75	74	73	73	76	77	81	83	85	75	71	57	
400	79	79	76	77	73	75	75	73	72	73	75	78	79	81	84	72	69	57	
500	77	78	76	77	73	74	74	74	72	75	77	78	79	80	83	71	69	56	
630	77	78	77	75	73	75	76	74	73	74	78	77	79	81	82	72	70	55	
800	73	76	75	74	73	74	74	72	72	74	76	77	79	81	82	71	69	55	
1000	71	74	74	74	73	73	75	72	73	77	77	79	81	80	81	71	70	55	
1250	71	75	72	74	72	74	74	73	72	76	77	79	81	80	81	70	69	55	
1600	74	75	73	74	73	74	75	73	72	76	76	78	81	81	79	70	68	55	
2000	74	75	75	73	72	73	73	73	72	76	78	77	80	80	76	68	66	53	
2500	74	74	76	73	72	73	71	72	71	74	74	74	77	77	73	64	62	50	
3150	74	76	75	75	73	74	73	72	69	73	73	73	76	75	72	64	61	51	
4000	79	79	81	82	81	81	79	76	75	74	75	75	76	76	71	64	62	51	
5000	88	87	91	93	92	92	89	85	83	76	76	78	74	75	72	64	63	52	
6300	73	72	74	75	72	74	73	69	66	69	70	70	71	71	67	58	57	48	
8000	73	71	72	73	71	71	70	66	65	66	67	67	69	67	65	56	56	46	
10000	76	76	76	75	74	75	75	69	65	66	65	65	65	66	62	55	55	45	
OVERALL	91	91	93	94	93	93	91	88	88	88	89	91	93	95	98	93	91	80	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 2

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	70<		71<				68<	68<	72<	68<		68<	71<	73<	75<	79	74<	75<	
31.5	68<	65<	70<	65<	66<	66<	68<	71<	74	69<	68<	70<	73	74	78	80	75	76	
40	70<	67<	72	68<	68<	68<	72	74	78	71	73	75	78	79	83	84	77	79	
50	68<	68<	70	70	68<	69<	70	72	78	74	77	77	80	83	86	86	78	77	
63	71	73	72	74	71	71	74	75	80	77	79	81	84	86	90	89	76	75	
80	73	75	75	75	73	74	74	77	80	78	81	83	86	90	92	90	76	72	
100	75	76	77	80	75	76	76	79	80	79	81	84	87	92	95	92	77	73	
125	75	76	78	77	74	76	76	78	79	79	81	84	88	92	94	92	77	71	
160	77	80	79	80	76	76	75	79	81	82	84	84	88	93	95	93	81	76	
200	80	81	81	81	76	76	76	78	80	79	81	82	87	90	93	92	78	72	
250	81	82	81	81	76	76	76	79	79	79	81	82	87	90	92	94	78	73	
315	83	83	82	81	77	76	76	79	79	79	80	81	86	87	90	92	78	71	
400	82	84	81	82	77	76	76	79	79	79	78	81	84	84	89	90	75	68	
500	81	81	81	83	77	75	77	79	79	81	80	83	83	82	86	86	73	66	
630	80	79	81	81	77	76	76	81	79	81	79	83	82	82	84	84	72	65	
800	79	79	81	81	79	77	77	81	80	82	79	84	81	79	81	81	70	63	
1000	78	77	80	80	79	75	76	81	81	83	81	85	79	79	82	82	70	62	
1250	76	78	78	80	78	76	76	81	82	84	83	86	78	78	80	82	69	62	
1600	77	80	78	81	79	77	77	82	83	83	81	86	78	80	80	81	68	60	
2000	78	79	81	79	77	76	76	80	81	82	81	86	78	80	79	82	68	61	
2500	78	79	82	81	77	78	78	82	80	80	79	84	75	78	76	78	67	59	
3150	80	80	82	81	77	77	76	80	79	80	79	82	74	76	76	77	65	57	
4000	79	80	81	81	79	78	76	80	79	81	81	84	75	76	76	75	65	59	
5000	91	91	96	93	93	91	90	87	88	82	81	81	74	74	72	73	64	55	
6300	85	84	88	84	85	84	82	80	80	78	77	78	71	73	70	69	60	52	
8000	77	76	76	77	74	74	71	73	72	73	73	75	68	69	66	64	56	47	
10000	77	76	79	78	76	75	72	72	70	68	67	70	63	63	62	59	50	42	
OVERALL	95	95	98	96	95	94	93	94	94	94	94	97	97	100	103	102	89	86	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 2

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	72<	69<	69<	70<	70<	70<	72<	74<	74<	72<	73<	74<	77<	80	82	85	81		
31.5	73	69<	72	72	73	73	75	75	75	72	75	77	79	83	84	85	82		
40	74	74	74	75	73	76	77	78	80	75	79	80	83	88	88	88	83		
50	73	73	75	74	75	77	77	77	80	78	82	84	88	89	91	88	83		
63	77	77	78	78	77	78	80	79	81	81	93	87	91	92	94	91	80		
80	78	78	81	80	79	80	82	83	84	83	85	89	93	96	96	92	78		
100	81	81	85	83	81	83	84	85	85	85	88	90	95	98	98	92	79		
125	81	82	84	84	83	83	83	83	85	86	88	90	95	97	98	89	78		
160	85	85	87	86	83	83	83	85	84	86	89	93	97	99	97	89	78		
200	86	86	89	87	84	83	83	83	85	84	86	91	94	96	96	89	77		
250	88	90	89	88	84	83	83	83	84	83	85	89	95	95	96	89	80		
315	92	93	92	89	86	84	84	83	85	83	83	90	92	96	95	87	81		
400	92	92	91	89	86	86	85	86	87	86	84	92	95	93	95	90	84		
500	89	91	91	90	87	86	86	86	90	88	87	93	95	91	94	92	85		
630	87	90	92	89	88	87	87	88	90	90	90	94	97	91	93	90	83		
800	87	90	92	90	88	87	88	89	91	91	90	95	95	91	93	90	81		
1000	87	87	92	91	88	87	87	88	91	92	91	95	97	91	93	89	81		
1250	84	88	89	87	88	88	88	89	90	92	92	95	96	91	95	89	78		
1600	84	87	89	87	88	89	89	91	90	91	92	96	97	91	95	89	78		
2000	82	84	88	86	86	87	88	87	88	92	93	96	95	90	95	89	80		
2500	84	86	87	86	87	89	88	87	89	90	91	95	95	89	93	87	77		
3150	88	89	90	86	89	87	86	86	89	91	89	93	94	88	90	84	75		
4000	84	85	88	85	86	87	86	85	89	92	91	93	94	89	88	84	76		
5000	82	83	85	81	84	84	82	83	86	88	88	89	90	84	84	79	72		
6300	92	93	95	91	90	87	87	85	86	87	86	89	88	82	83	78	71		
8000	80	81	83	78	80	79	78	77	81	83	83	86	84	79	80	75	68		
10000	77	76	79	75	75	75	74	72	75	76	77	80	79	74	74	69	62		
OVERALL	100	102	103	101	99	99	99	99	101	102	102	106	108	107	108	102	94		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

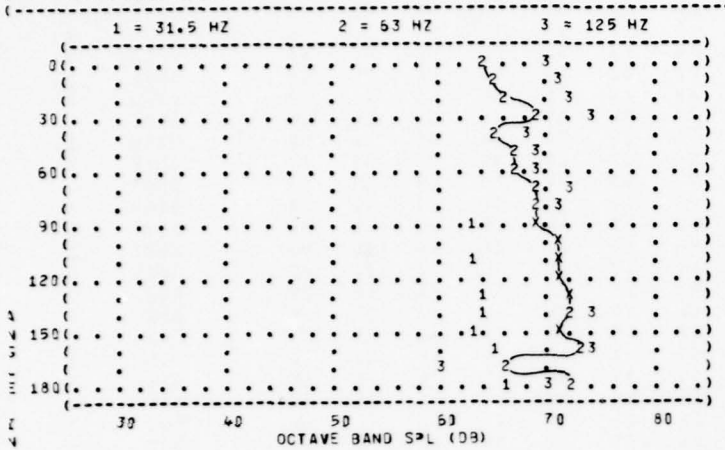
3 DISTANCE = 100 METERS

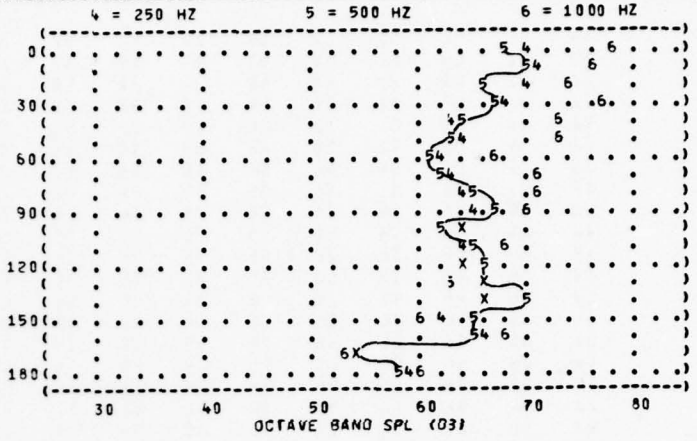
NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

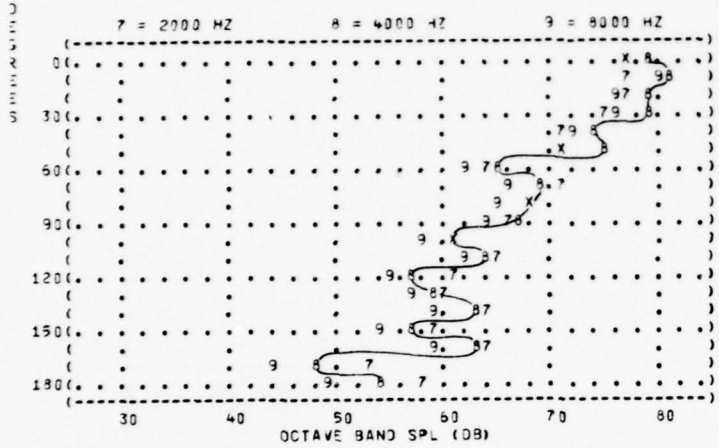
OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 6







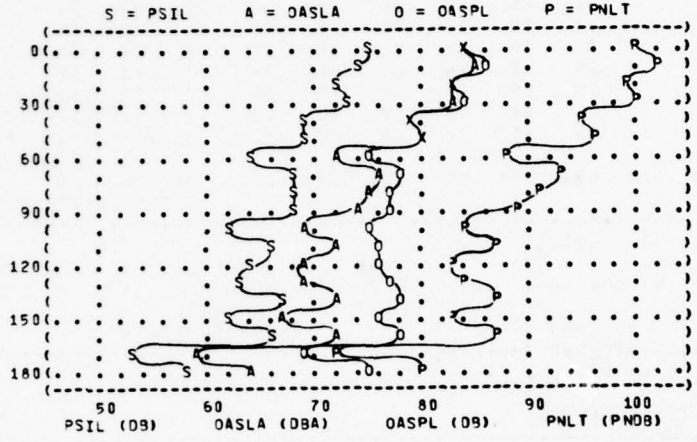


FIGURE 3 NORMALIZED FARFIELD NOISE LEVELS

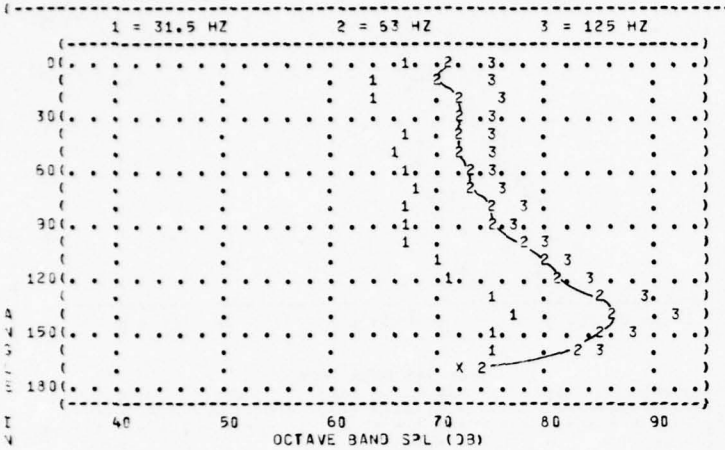
DISTANCE = 100 METERS

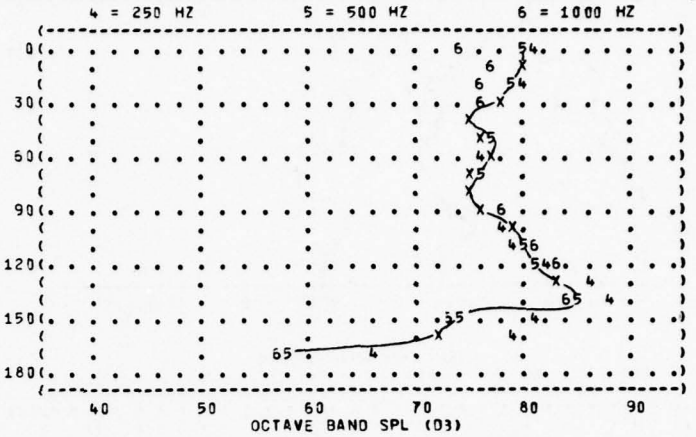
NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

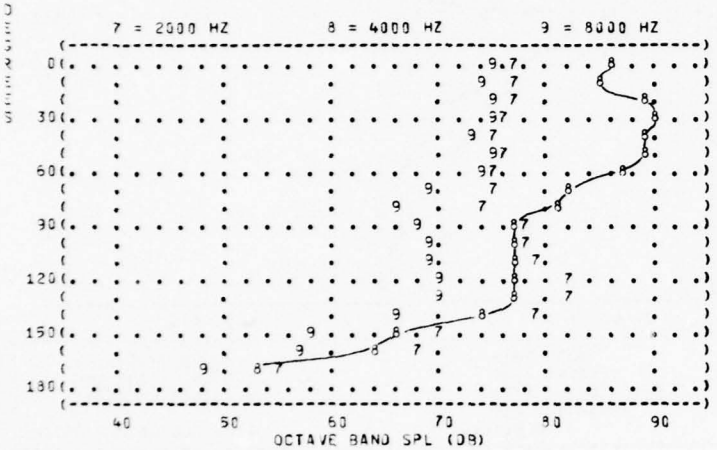
OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 6







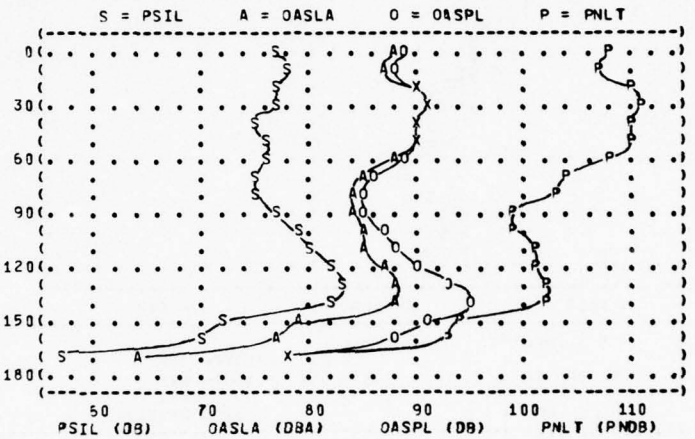


FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 6

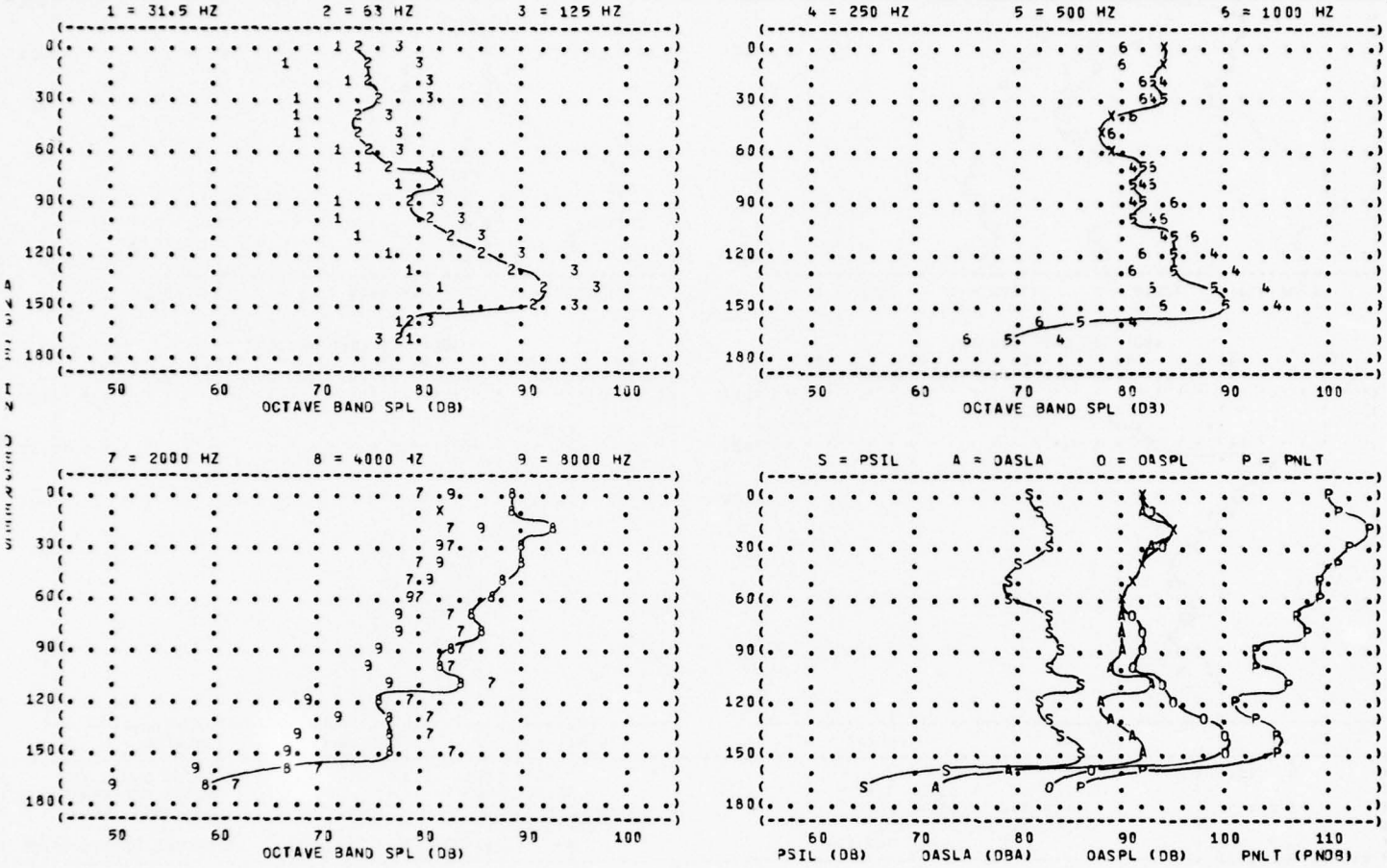


FIGURE 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
T-33A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 6

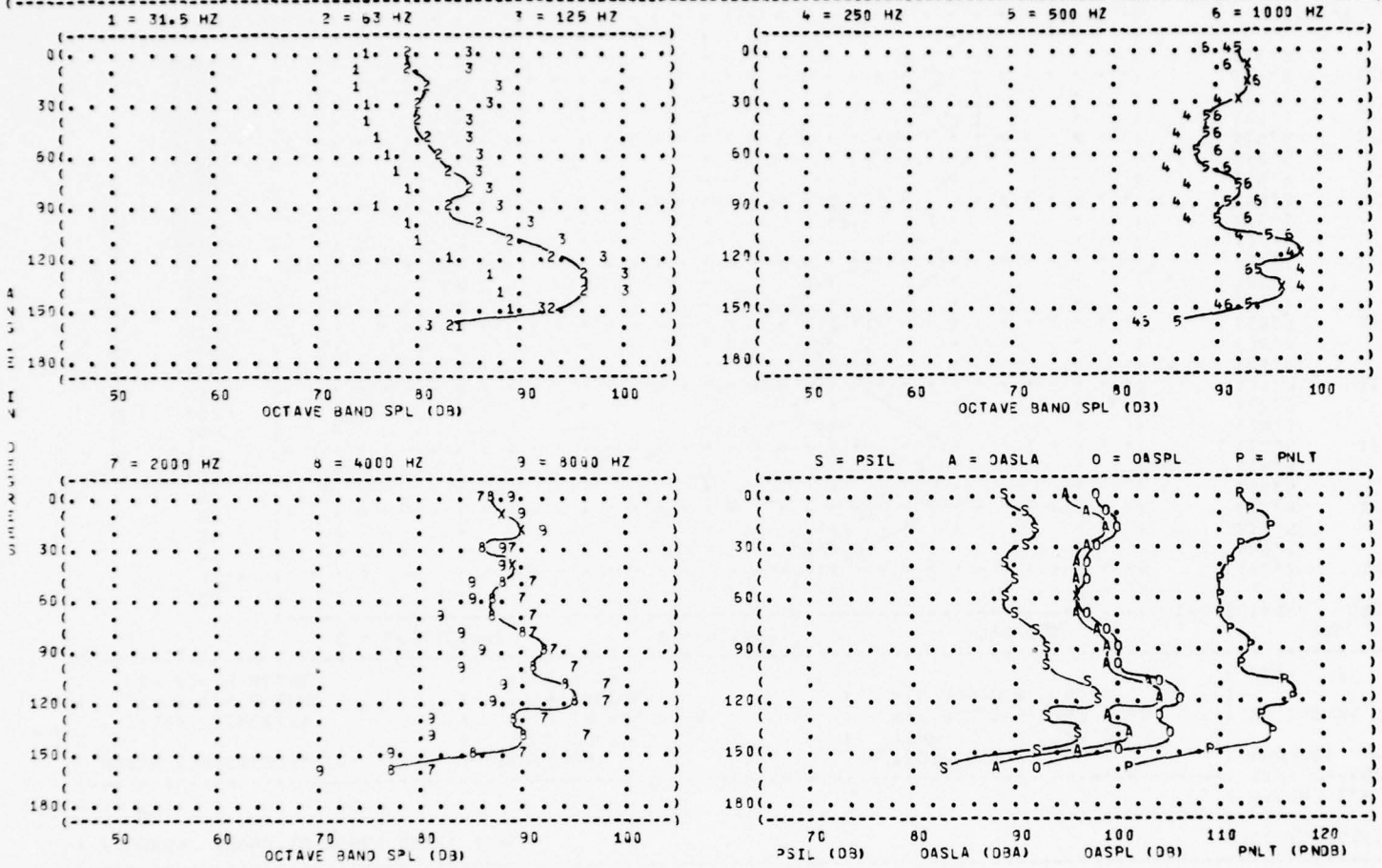


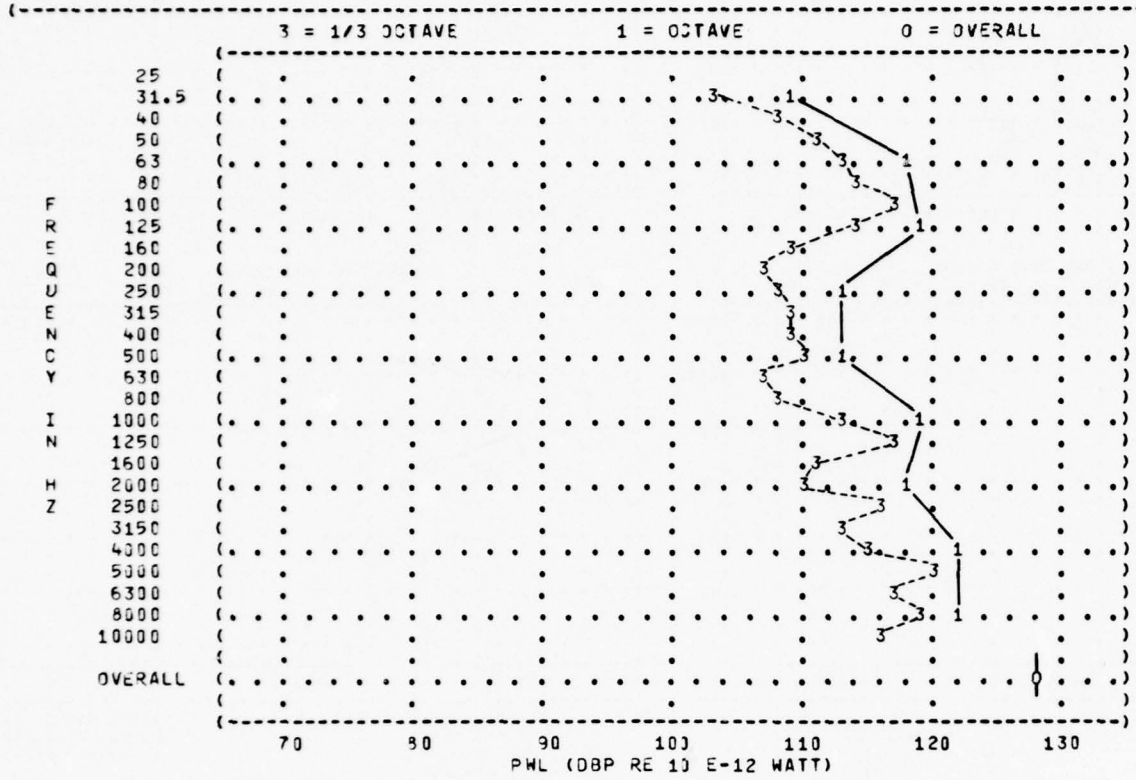
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 3

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %



FREQUENCY (HZ)	PWL 1/3 OCTAVE	PWL OCTAVE
25		
31.5	102.7	109.3
40	108.2	
50	110.5	
63	112.9	117.7
80	114.5	
100	116.9	
125	113.6	119.0
160	109.2	
200	107.3	
250	108.3	112.9
315	108.8	
400	108.7	
500	109.9	113.4
630	106.7	
800	107.5	
1000	112.7	118.8
1250	117.1	
1600	111.1	
2000	109.8	117.9
2500	115.9	
3150	112.9	
4000	114.6	121.8
5000	120.1	
6300	117.0	
8000	119.3	122.4
10000	115.9	
OVERALL		128.1

FIGURE: ACOUSTIC POWER LEVEL (PWL)

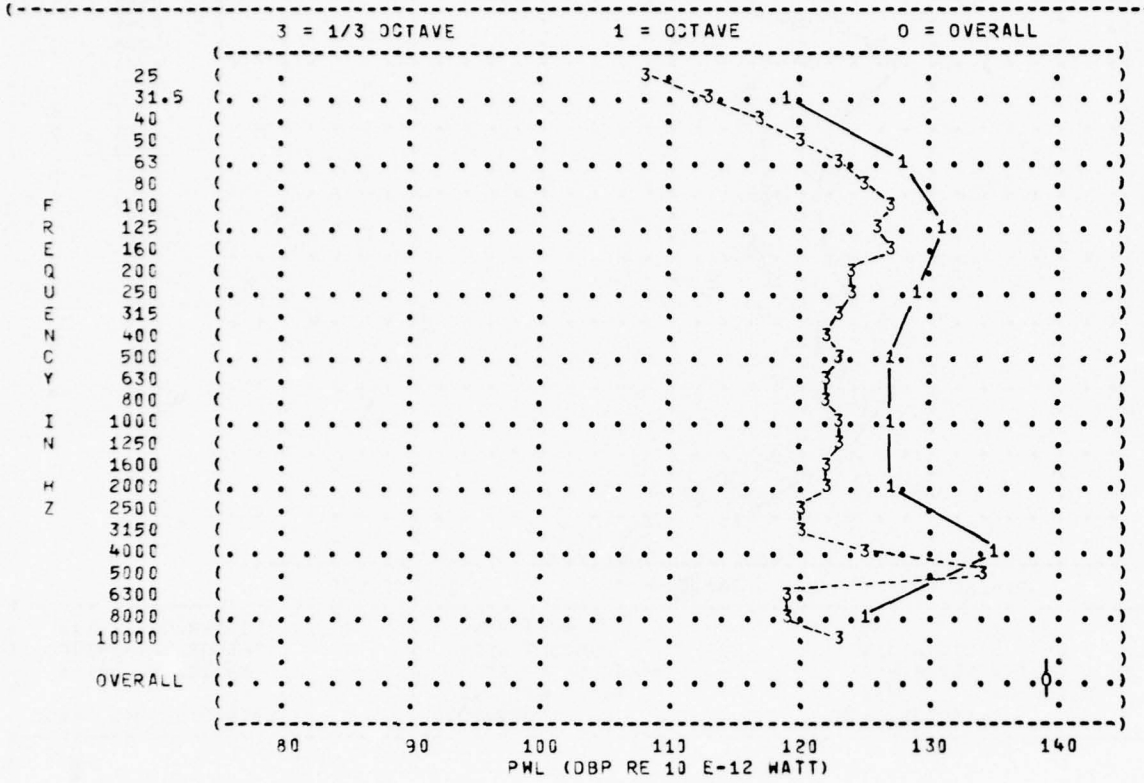
4

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 3



	PWL	
	1/3 OCTAVE	OCTAVE
25	107.9	
31.5	113.2	118.7
40	116.7	
50	119.6	
63	123.0	128.0
80	125.2	
100	127.0	
125	126.2	131.4
160	126.6	
200	124.2	
250	124.0	128.7
315	123.5	
400	122.4	
500	122.6	127.3
630	122.5	
800	122.1	
1000	122.7	127.3
1250	122.6	
1600	122.5	
2000	122.2	126.5
2500	120.2	
3150	120.0	
4000	124.7	134.7
5000	134.1	
6300	119.4	
8000	118.5	125.4
10000	122.8	
OVERALL		138.8

FIGURE: ACOUSTIC POWER LEVEL (PWL)

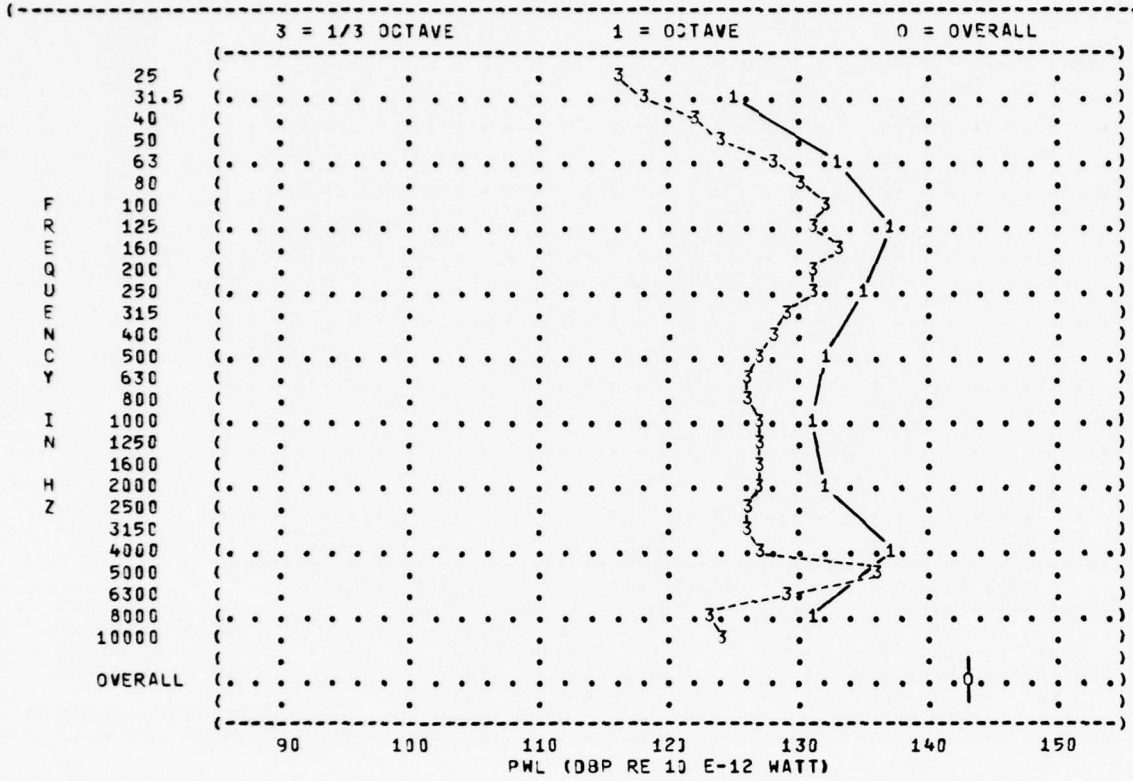
4

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	116.5	
31.5	118.3	124.5
40	122.4	
50	124.4	
63	127.8	132.6
80	129.9	
100	132.0	
125	131.5	136.9
160	132.7	
200	130.9	
250	130.9	135.2
315	129.4	
400	128.1	
500	126.9	132.0
630	126.4	
800	126.0	
1000	126.7	131.3
1250	126.9	
1600	127.3	
2000	126.8	131.5
2500	126.2	
3150	125.7	
4000	126.8	136.5
5000	135.6	
6300	129.4	
8000	122.8	131.2
10000	124.1	
OVERALL	143.1	

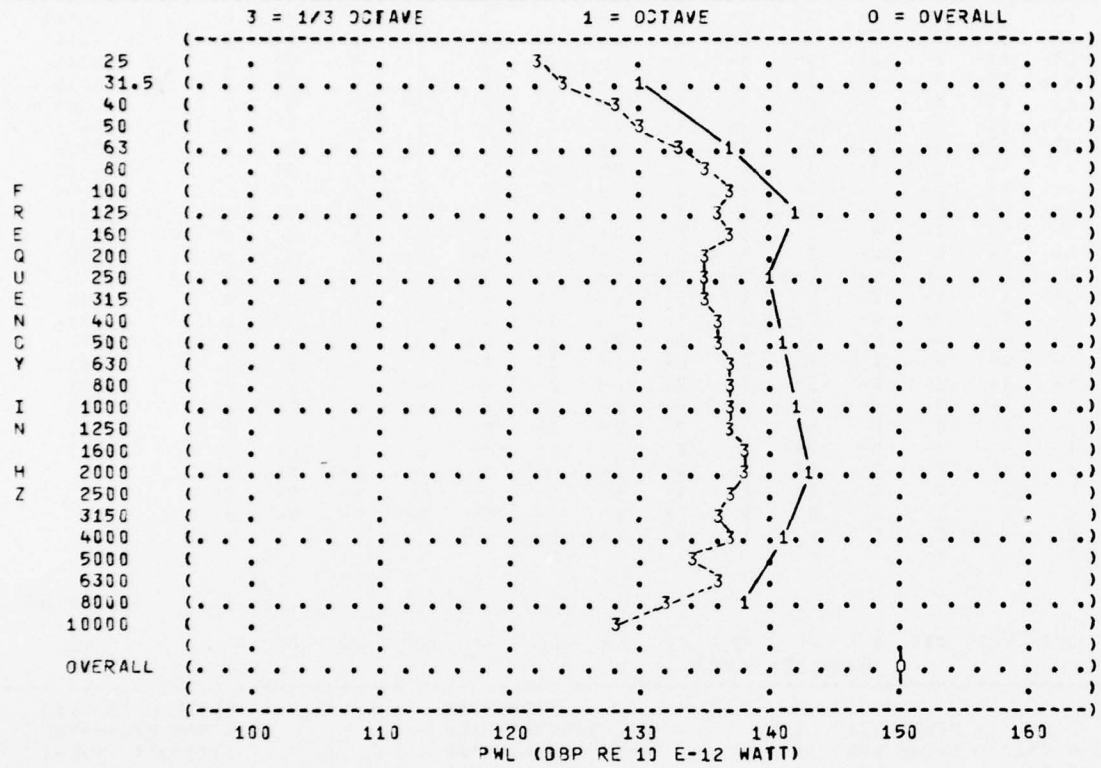
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 3

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %



	PWL	
	1/3 OCTAVE	OCTAVE
25	122.4	
31.5	123.9	130.0
40	127.6	
50	129.8	
63	132.5	137.5
80	134.5	
100	136.9	
125	136.2	141.6
160	137.4	
200	135.3	
250	135.4	140.0
315	135.0	
400	135.7	
500	136.1	141.0
630	137.0	
800	137.0	
1000	137.3	142.0
1250	137.4	
1600	138.2	
2000	137.8	142.5
2500	137.2	
3150	136.4	
4000	137.0	140.7
5000	133.7	
6300	136.5	
8000	131.6	138.2
10000	128.2	
OVERALL	149.8	

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 4

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25																			
31.5										4		4		4	5	4	5		7
40						-3	-1	1	1	0	1	0	1	2	2	0	4	1	3
50	-6	-6	-5	-6	-5	-5	-5	-2	0	0	0	1	3	2	3	1	3	-1	3
63	-6	-6	-4	-5	-5	-3	-4	-1	-1	-1	1	1	2	3	2	2	2	-3	2
80	-5	-4	-3	2	-4	-1	-2	-0	-1	-1	1	1	-0	2	2	1	4	-6	2
100	-4	-2	-2	2	-4	-3	-2	1	0	-2	-0	-0	0	1	3	0	3	-10	-1
125	1	1	3	1	-4	-1	-2	1	-1	-3	0	0	-1	0	2	0	3	-14	-3
160	3	3	3	4	-1	-5	-5	-1	-2	-3	-1	-1	-1	2	3	1	5	-10	-2
200	6	6	7	6	-3	-3	-3	-3	-3	-2	-1	-3	-2	-1	0	-1	2	-11	-6
250	5	5	5	0	-3	-1	-3	-2	-0	1	1	0	-0	-0	0	-3	-0	-11	-6
315	5	8	3	3	-0	-0	-2	-3	-1	-1	-4	-2	0	2	3	-4	1	-13	-7
400	3	5	2	3	-1	-1	-4	-4	-2	-1	-5	-2	-1	2	6	-1	1	-12	-8
500	1	3	-1	1	-3	-3	-5	-3	1	3	-3	-0	1	-0	4	1	-2	-12	-8
630	5	5	3	3	-1	-2	-3	-3	-0	-0	-3	-0	2	1	3	-1	-0	-10	-6
800	4	5	3	2	-0	-0	-2	-1	2	2	-3	1	-1	-4	0	-7	-3	-14	-10
1000	9	7	4	5	2	1	-2	0	0	0	-4	-1	-4	-6	-3	-9	-1	-16	-12
1250	8	5	4	7	3	3	-5	1	-0	-1	-9	-5	-9	-9	-6	-12	-3	-18	-11
1600	6	6	7	6	3	1	-6	0	0	-1	-5	-2	-6	-7	-2	-9	-3	-15	-9
2000	7	8	7	6	1	1	-6	0	-1	-1	-6	-3	-4	-7	-3	-9	-3	-11	-6
2500	9	9	8	6	1	2	-4	2	-1	-4	-10	-6	-12	-10	-7	-10	-7	-20	-16
3150	10	8	7	6	4	3	-5	-1	-2	-2	-7	-5	-12	-10	-5	-11	-5	-21	-15
4000	8	9	7	7	3	4	-5	-1	-2	-2	-7	-5	-12	-9	-6	-13	-6	-21	-15
5000	6	11	8	8	1	4	-7	-3	-4	-7	-13	-10	-18	-14	-11	-16	-12	-26	-21
6300	7	10	8	7	3	2	-6	-3	-4	-6	-12	-8	-15	-12	-10	-14	-9	-24	-20
8000	9	12	7	7	3	3	-7	-2	-3	-5	-11	-8	-15	-12	-10	-16	-11	-25	-19
10000	9	7	6	5	5	4	-6	-3	-4	-1	-6	-3	-9	-9	-7	-13	-12	-25	-18
OCTAVE																			
31.5										1		2		3	3	2	4		4
63	-6	-5	-4	-1	-5	-2	-3	-1	-1	-1	1	1	1	2	2	1	3	-4	2
125	-1	-0	1	2	-3	-2	-2	1	-0	-2	-0	-0	-0	1	3	0	3	-11	-1
250	5	6	5	3	-2	-1	-3	-2	-1	-0	-1	-1	-1	1	1	-3	1	-11	-6
500	3	4	1	2	-2	-2	-4	-3	-0	1	-4	-1	1	1	5	0	-0	-12	-8
1000	8	6	4	6	3	3	-3	1	0	-0	-6	-3	-6	-8	-4	-10	-2	-17	-11
2000	8	8	8	6	2	2	-5	2	-0	-3	-8	-4	-8	-9	-5	-10	-5	-16	-11
4000	7	10	7	7	2	4	-6	-2	-3	-5	-10	-7	-15	-12	-8	-14	-9	-24	-18
8000	8	11	7	7	4	3	-6	-2	-4	-5	-10	-7	-13	-12	-10	-15	-10	-25	-19
OVERALL	6	7	5	5	1	1	-4	-0	-1	-2	-3	-2	-3	-2	-0	-3	-0	-10	-4

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25														6	8	5	8	5	
31.5	-3	-5	-7		-3	-6	-3	-2	-2	-3	-3	-2	0	4	5	5	5	2	
40	-5	-7	-6	-7	-4	-4	-3	-2	-4	-3	-3	-0	1	3	6	4	4	1	
50	-9	-9	-9	-10	-9	-7	-8	-8	-6	-3	-3	-0	1	4	6	5	4	-1	
63	-10	-9	-7	-9	-7	-7	-8	-7	-6	-5	-1	-0	1	6	6	4	4	-6	
80	-9	-10	-8	-8	-8	-8	-7	-7	-6	-5	-2	0	1	5	6	5	3	-11	
100	-10	-10	-8	-8	-8	-8	-7	-8	-6	-7	-4	-1	0	5	8	5	1	-13	
125	-9	-8	-7	-9	-9	-9	-8	-7	-6	-6	-4	-2	-1	4	9	4	1	-11	
160	-7	-8	-6	-8	-8	-10	-10	-7	-7	-6	-4	-3	1	5	8	4	1	-11	
200	-3	-3	-1	-2	-5	-5	-6	-6	-6	-6	-5	-3	-0	5	8	2	1	-12	
250	-1	-1	-1	-4	-7	-7	-7	-6	-6	-4	-2	-1	2	5	8	-1	-3	-18	
315	3	1	-1	-3	-6	-3	-3	-4	-6	-5	-2	-1	3	5	7	-3	-7	-21	
400	2	2	-1	-0	-4	-2	-2	-4	-6	-4	-2	1	2	4	7	-5	-8	-20	
500	0	1	-1	-0	-4	-3	-3	-3	-5	-2	0	1	2	3	6	-6	-8	-21	
630	1	1	-0	-2	-4	-2	-1	-3	-4	-3	1	0	2	4	5	-5	-7	-22	
800	-3	-0	-2	-3	-3	-2	-2	-4	-4	-2	-0	1	2	5	6	-5	-7	-22	
1000	-6	-3	-3	-3	-4	-4	-2	-5	-4	0	0	2	4	3	4	-6	-7	-22	
1250	-6	-2	-5	-3	-5	-3	-3	-4	-4	-1	1	2	4	3	4	-7	-7	-22	
1600	-2	-1	-3	-3	-3	-3	-2	-3	-4	-1	-0	1	4	5	2	-7	-9	-22	
2000	-2	-1	-1	-3	-4	-3	-3	-3	-4	0	2	1	4	4	-0	-8	-10	-23	
2500	1	0	3	-1	-2	-1	-2	-2	-3	0	0	0	3	3	-1	-10	-12	-24	
3150	1	3	2	2	0	1	-0	-1	-4	-0	-0	-0	3	2	-1	-9	-12	-22	
4000	2	1	4	5	3	4	2	-2	-2	-3	-3	-3	-1	-2	-6	-14	-15	-27	
5000	2	0	5	6	5	5	3	-2	-3	-10	-10	-9	-12	-12	-14	-23	-23	-34	
6300	2	2	3	4	1	3	2	-1	-4	-2	-1	-1	1	1	-4	-13	-13	-23	
8000	4	3	4	5	2	3	2	-2	-3	-2	-1	-1	0	-1	-3	-12	-12	-22	
10000	5	5	6	4	3	5	4	-1	-5	-5	-5	-5	-5	-5	-8	-16	-16	-25	
OCTAVE																			
31.5	-4	-7	-7		-4	-5	-4	-3	-4	-3	-4	-1	0	4	6	5	5	2	
63	-9	-10	-6	-8	-8	-8	-8	-7	-5	-5	-2	0	1	5	6	5	3	-6	
125	-9	-9	-7	-8	-8	-9	-8	-7	-5	-6	-4	-2	0	5	8	4	1	-12	
250	0	-1	-1	-3	-5	-5	-5	-5	-5	-5	-3	-1	2	5	8	-0	-2	-15	
500	1	1	-1	-1	-4	-2	-2	-3	-5	-3	-0	1	2	4	6	-5	-8	-21	
1000	-5	-2	-3	-3	-4	-3	-2	-4	-4	-1	0	2	4	4	5	-6	-7	-22	
2000	-1	-1	-0	-2	-3	-2	-2	-3	-4	-0	1	1	4	4	1	-8	-10	-22	
4000	2	1	5	6	5	5	3	-2	-3	-8	-7	-7	-7	-7	-10	-19	-20	-31	
8000	4	4	4	4	2	4	3	-1	-5	-3	-2	-2	-1	-1	-5	-13	-14	-23	
OVERALL	-1	-1	1	2	1	1	-1	-4	-4	-4	-3	-1	1	3	5	1	-2	-12	

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-1		0				-3	-3	1	-3		-3	0	2	4	8	3	4	
31.5	-5	-7	-3	-8	-6	-6	-5	-1	1	-4	-5	-2	0	1	5	7	2	3	
40	-7	-10	-5	-9	-9	-9	-5	-3	1	-6	-4	-2	1	2	6	7	-0	2	
50	-10	-10	-9	-9	-10	-9	-9	-7	-1	-5	-2	-2	1	4	7	7	-1	-2	
63	-11	-9	-10	-9	-11	-11	-9	-8	-2	-5	-3	-1	2	3	8	6	-7	-7	
80	-11	-10	-10	-8	-12	-10	-11	-7	-4	-7	-4	-2	1	5	8	6	-9	-12	
100	-12	-10	-9	-7	-12	-11	-10	-8	-6	-7	-5	-3	0	5	9	5	-10	-14	
125	-11	-10	-8	-9	-12	-10	-10	-8	-7	-7	-5	-2	2	6	8	6	-9	-15	
160	-11	-8	-8	-8	-12	-11	-12	-9	-6	-6	-4	-4	1	6	7	6	-6	-12	
200	-6	-4	-5	-5	-9	-10	-9	-8	-5	-7	-5	-3	2	4	8	6	-7	-13	
250	-4	-3	-4	-5	-9	-10	-9	-6	-6	-7	-4	-3	2	4	6	8	-7	-13	
315	-1	-1	-2	-3	-7	-8	-8	-5	-5	-5	-4	-3	2	3	6	8	-6	-13	
400	-0	1	-2	-0	-5	-6	-6	-3	-4	-4	-5	-2	2	1	6	8	-7	-15	
500	-0	-0	-0	2	-4	-6	-5	-2	-3	-1	-2	2	1	1	5	5	-9	-15	
630	-1	-1	0	0	-4	-5	-5	-0	-2	-0	-1	2	2	2	3	3	-9	-16	
800	-1	-1	0	0	-1	-3	-4	0	-0	1	-1	3	0	-1	1	1	-10	-17	
1000	-3	-4	-1	-1	-2	-5	-5	-0	-0	2	0	4	-2	-2	1	1	-11	-19	
1250	-5	-3	-3	-1	-3	-5	-5	-0	1	3	2	5	-3	-3	-1	1	-12	-19	
1600	-5	-2	-3	-0	-2	-4	-4	0	2	2	-0	4	-4	-2	-2	-0	-13	-21	
2000	-3	-1	0	-1	-3	-5	-4	-0	0	1	0	5	-3	-1	-1	1	-13	-20	
2500	-2	-0	3	1	-2	-2	-2	2	1	1	-0	4	-5	-2	-4	-1	-13	-21	
3150	1	1	4	2	-1	-1	-2	1	0	2	0	4	-5	-3	-3	-2	-14	-22	
4000	-0	0	1	2	-0	-2	-3	1	-0	1	1	4	-4	-3	-4	-4	-14	-20	
5000	4	4	8	5	5	3	2	-1	-0	-6	-7	-7	-14	-14	-16	-15	-24	-33	
6300	5	3	8	4	4	3	2	-0	-0	-3	-4	-3	-10	-7	-11	-11	-20	-29	
8000	4	4	4	4	2	2	-2	0	-1	0	1	2	-5	-4	-6	-9	-17	-26	
10000	5	4	8	6	4	3	0	-0	-2	-4	-5	-2	-9	-9	-10	-13	-22	-30	
OCTAVE																			
31.5	-5	-10	-3	-9	-9	-9	-5	-2	1	-5	-5	-2	1	2	6	7	1	2	
63	-11	-9	-10	-9	-11	-10	-10	-7	-3	-6	-3	-1	1	4	8	6	-6	-7	
125	-11	-9	-8	-8	-12	-11	-11	-8	-7	-7	-5	-3	1	6	8	6	-8	-13	
250	-4	-3	-4	-4	-9	-9	-9	-6	-6	-6	-4	-3	2	4	7	8	-7	-13	
500	-0	0	-1	1	-4	-6	-5	-2	-3	-2	-3	1	1	1	5	6	-8	-15	
1000	-3	-3	-1	-1	-2	-5	-4	0	0	2	1	4	-1	-2	0	1	-11	-18	
2000	-3	-1	0	-0	-3	-4	-3	1	1	1	0	5	-3	-1	-2	0	-13	-21	
4000	3	3	7	4	4	2	1	-1	-0	-3	-4	-2	-10	-9	-9	-9	-20	-27	
8000	4	3	7	4	4	3	1	-0	-1	-2	-3	-2	-9	-7	-10	-11	-20	-28	
OVERALL	-2	-2	1	-1	-2	-3	-4	-3	-2	-3	-3	-0	0	3	6	5	-8	-11	

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .742 M HG
REL HUMID = 40 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-5	-8	-8	-7	-7	-7	-5	-3	-3	-5	-4	-3	0	3	5	8	4		
31.5	-6	-9	-6	-6	-6	-6	-3	-3	-3	-6	-3	-2	0	5	5	7	3		
40	-8	-8	-9	-7	-9	-7	-5	-4	-3	-7	-4	-3	1	5	6	6	0		
50	-12	-12	-9	-11	-9	-7	-7	-7	-4	-6	-3	-0	4	5	7	4	-1		
63	-10	-10	-9	-9	-10	-9	-7	-8	-6	-6	-4	0	4	5	7	4	-7		
80	-11	-11	-8	-9	-10	-10	-8	-7	-5	-7	-5	-1	3	6	6	2	-11		
100	-10	-10	-7	-9	-10	-9	-7	-7	-6	-7	-4	-1	4	7	6	0	-12		
125	-10	-8	-6	-6	-8	-8	-8	-8	-6	-5	-3	-1	5	6	7	-2	-12		
160	-7	-7	-5	-6	-9	-9	-9	-7	-8	-6	-3	1	5	7	5	-3	-14		
200	-4	-4	-1	-3	-6	-7	-7	-7	-5	-6	-4	1	4	6	6	-1	-13		
250	-2	0	-1	-2	-6	-7	-7	-7	-6	-7	-5	-1	6	5	6	-1	-10		
315	2	4	3	-1	-4	-5	-5	-7	-4	-6	-7	1	3	6	5	-3	-8		
400	2	2	1	-1	-4	-4	-5	-4	-3	-4	-6	2	5	3	5	-0	-6		
500	-2	0	0	-0	-3	-5	-5	-5	-0	-3	-3	3	5	1	4	1	-6		
630	-4	-1	0	-2	-4	-4	-4	-4	-1	-1	-1	3	5	-0	2	-1	-8		
800	-4	-1	1	-1	-4	-4	-4	-2	-0	-1	-1	3	5	-0	1	-2	-10		
1000	-4	-4	0	-1	-4	-4	-4	-4	-1	0	-1	3	5	-1	1	-3	-10		
1250	-7	-4	-2	-4	-4	-4	-4	-2	-1	0	0	4	4	-0	3	-3	-13		
1600	-8	-5	-3	-5	-4	-3	-3	-1	-2	-1	0	4	5	-1	3	-3	-14		
2000	-10	-7	-4	-6	-6	-4	-4	-4	-4	0	2	5	4	-2	3	-3	-12		
2500	-7	-5	-4	-5	-3	-2	-3	-3	-2	-0	0	4	4	-1	2	-4	-14		
3150	-2	-1	1	-3	-1	-2	-4	-4	-1	1	-1	4	4	-2	0	-6	-14		
4000	-5	-5	-2	-5	-3	-2	-4	-5	-1	2	1	4	4	-0	-1	-6	-14		
5000	-4	-3	-1	-5	-2	-2	-4	-3	-0	2	2	3	4	-2	-2	-7	-14		
6300	4	5	7	3	3	-0	-1	-3	-2	-0	-2	1	0	-6	-5	-10	-17		
8000	-1	-0	2	-3	-2	-3	-3	-4	-0	2	2	5	3	-2	-2	-7	-14		
10000	1	-0	3	-1	-1	-1	-2	-4	-1	0	1	4	3	-2	-2	-7	-14		
OCTAVE																			
31.5	-7	-8	-8	-7	-8	-6	-5	-4	-3	-6	-4	-2	1	5	6	7	2		
63	-11	-11	-8	-9	-10	-9	-7	-7	-5	-6	-4	-0	4	6	7	3	-7		
125	-9	-8	-6	-7	-9	-9	-8	-7	-6	-6	-3	0	5	6	6	-1	-13		
250	-1	1	0	-2	-5	-5	-6	-7	-5	-6	-5	0	4	6	6	-2	-10		
500	-1	0	0	-1	-4	-4	-5	-4	-1	-2	-3	2	5	1	3	-0	-7		
1000	-5	-3	-0	-2	-4	-4	-4	-3	-1	0	-0	3	5	-0	2	-2	-11		
2000	-8	-6	-4	-5	-5	-3	-3	-3	-2	-0	1	4	5	-2	3	-3	-13		
4000	-3	-2	-0	-4	-2	-2	-4	-4	-1	2	1	4	4	-1	-1	-6	-14		
8000	3	5	7	2	2	-1	-1	-3	-1	0	-1	2	1	-5	-4	-9	-16		
OVERALL	-4	-2	-1	-3	-4	-4	-5	-4	-2	-2	-1	2	4	3	4	-1	-9		

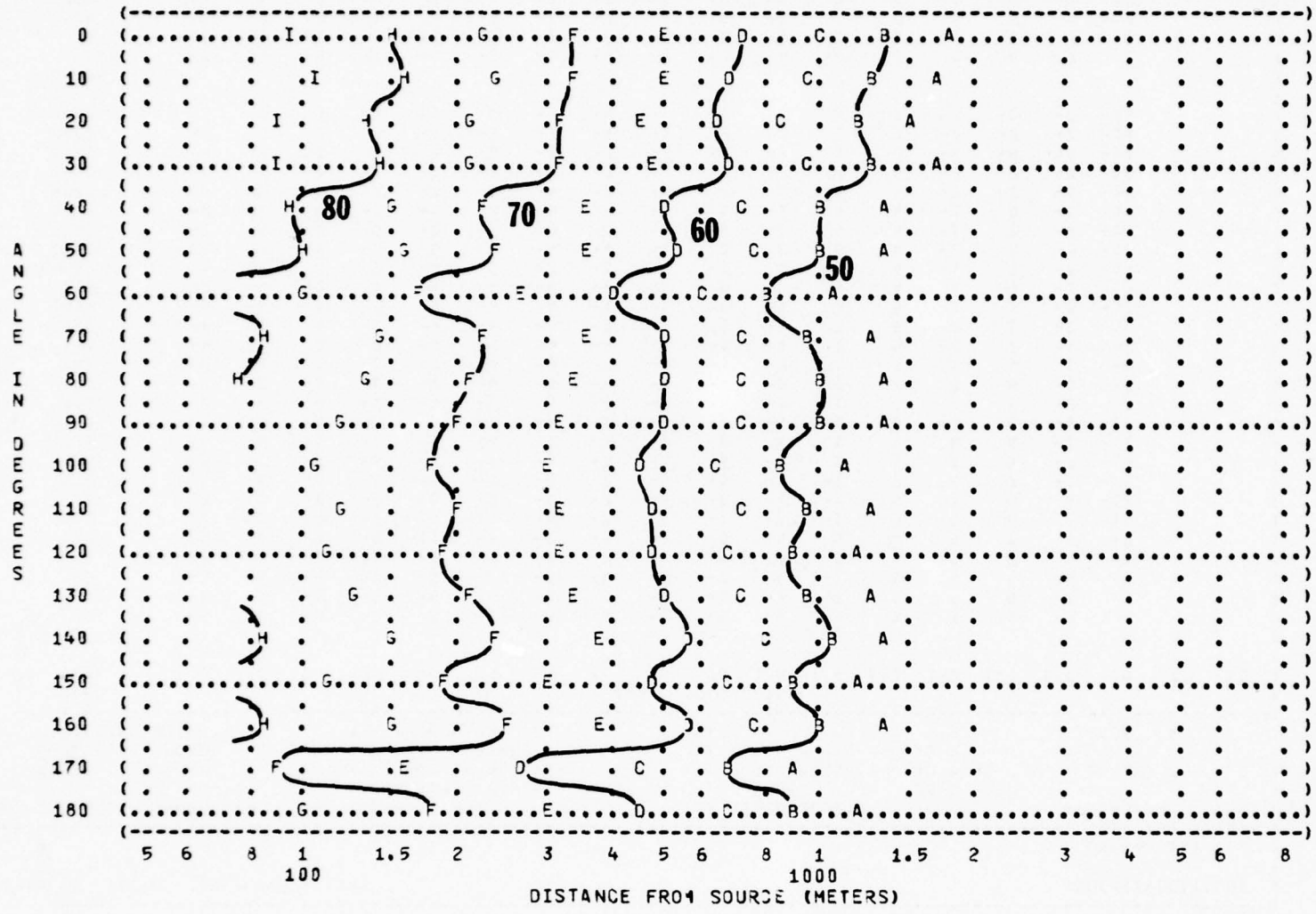
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 13



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

FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

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

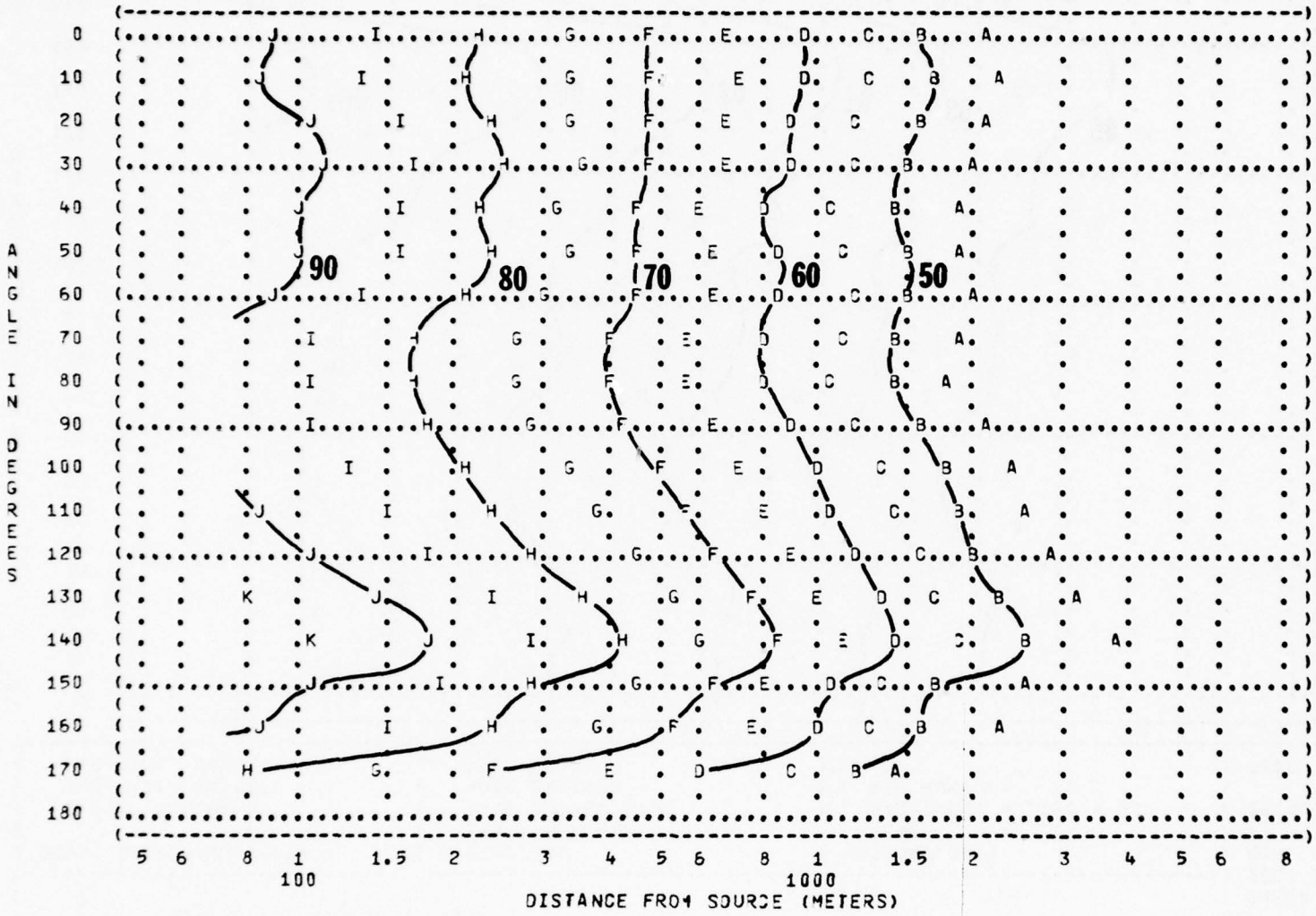


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100

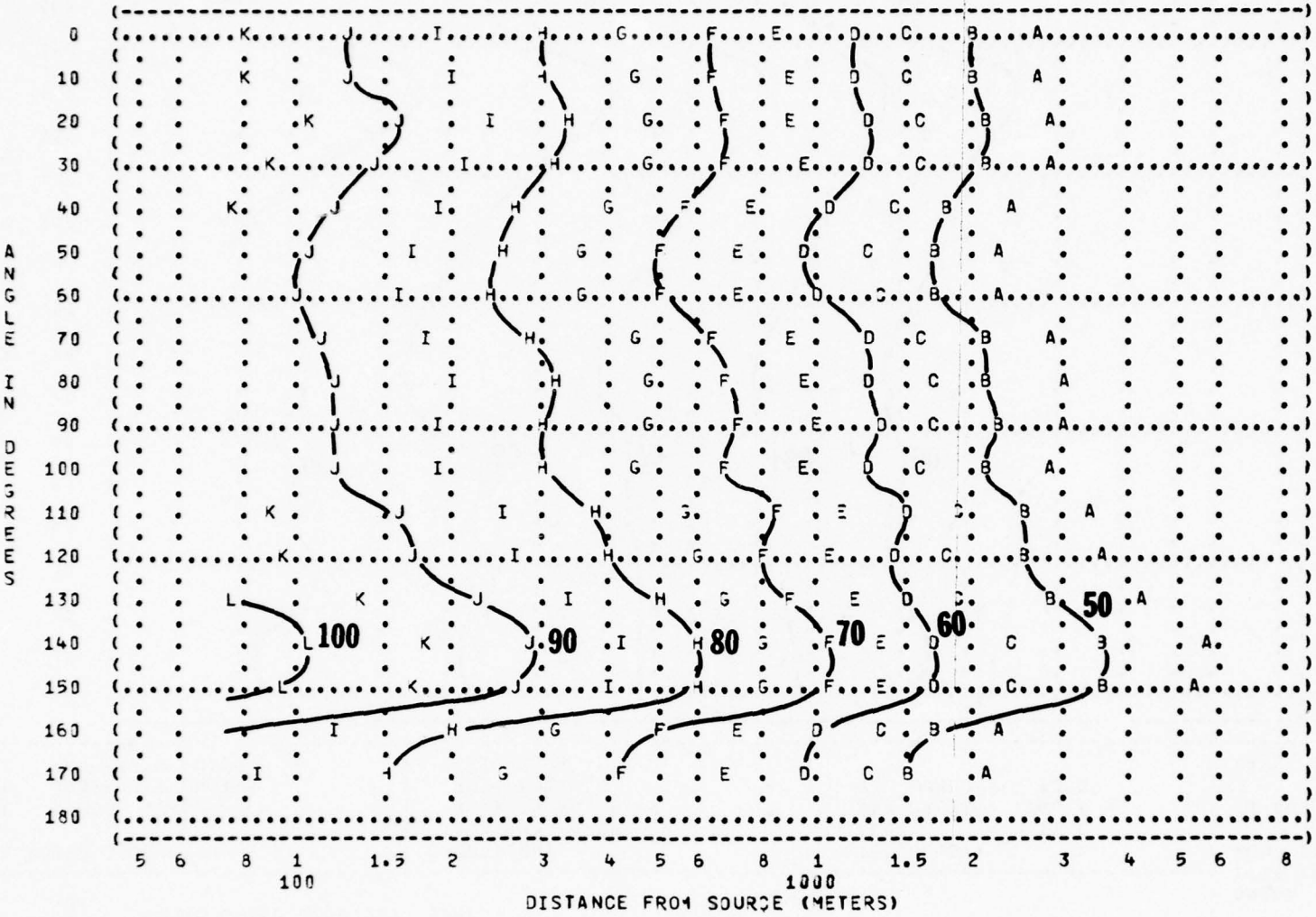


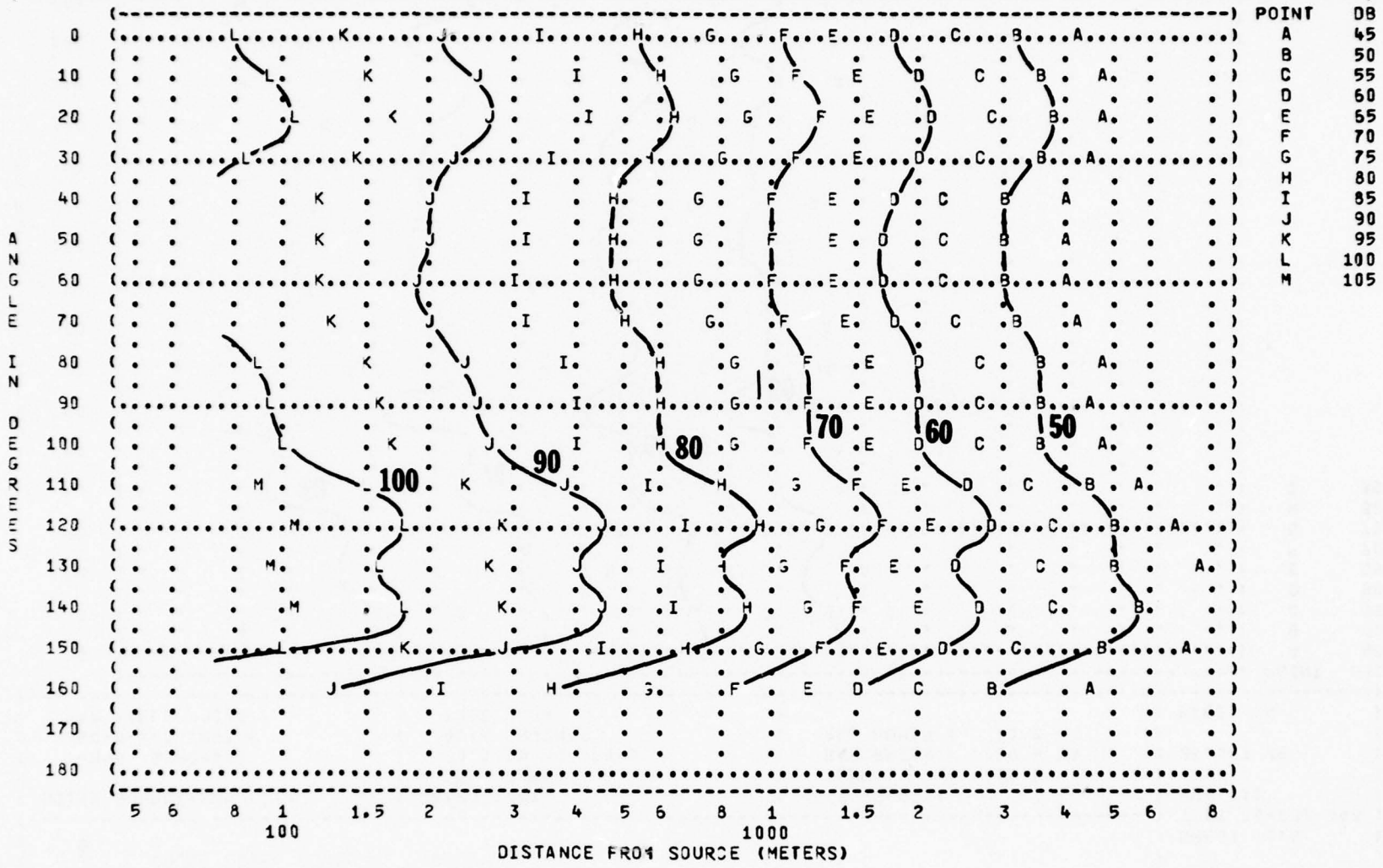
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

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

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 14

POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85

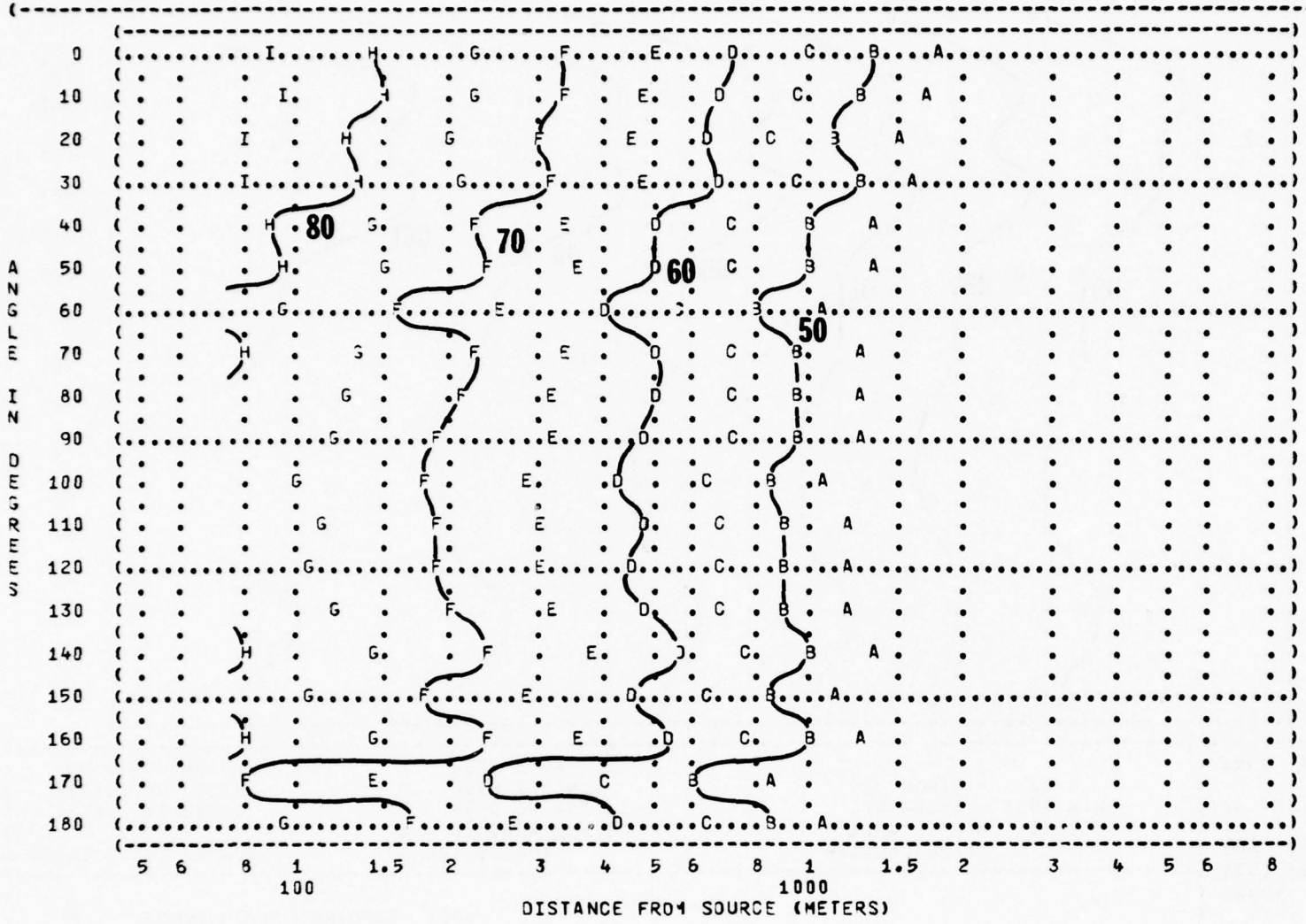


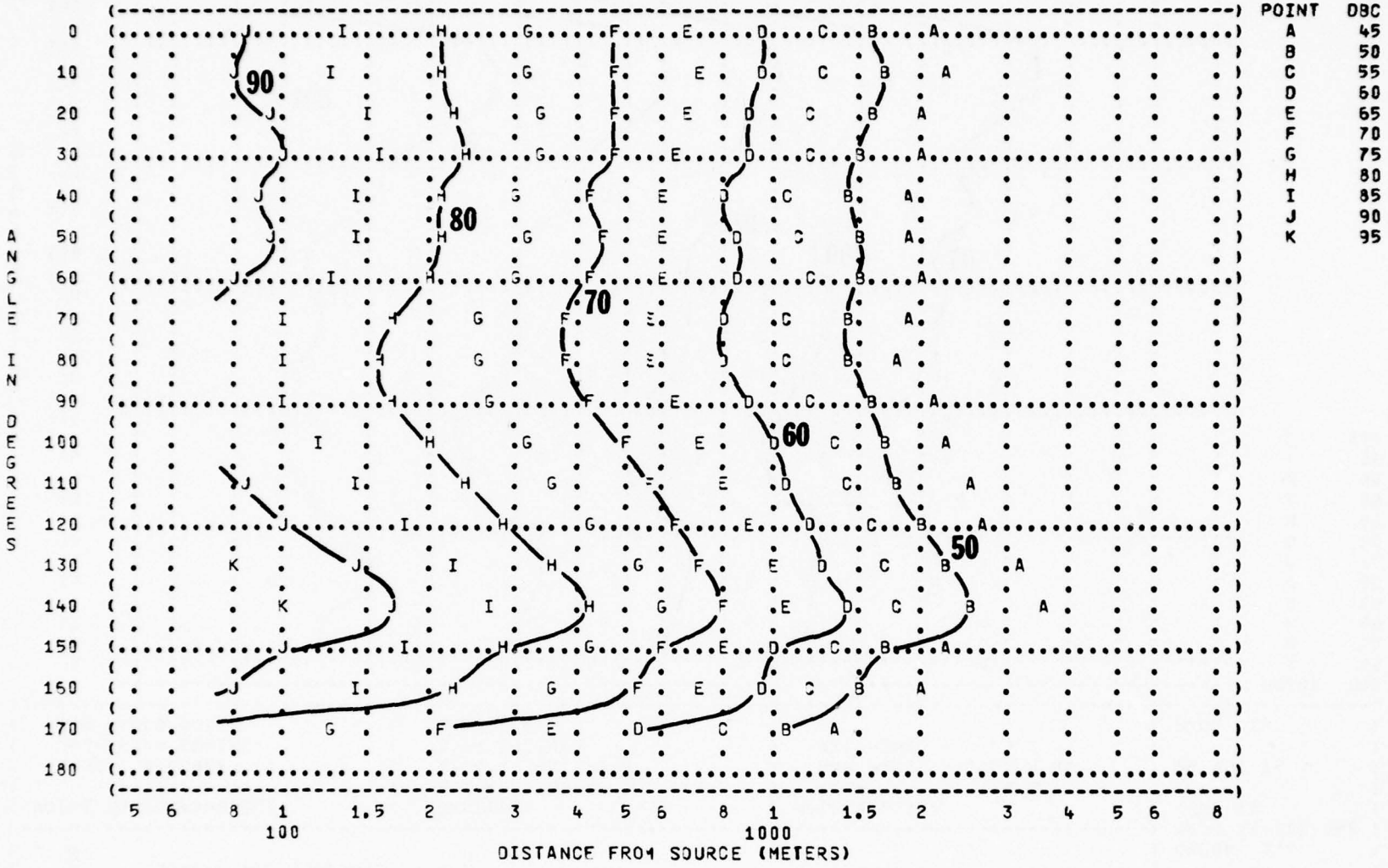
FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 14



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100

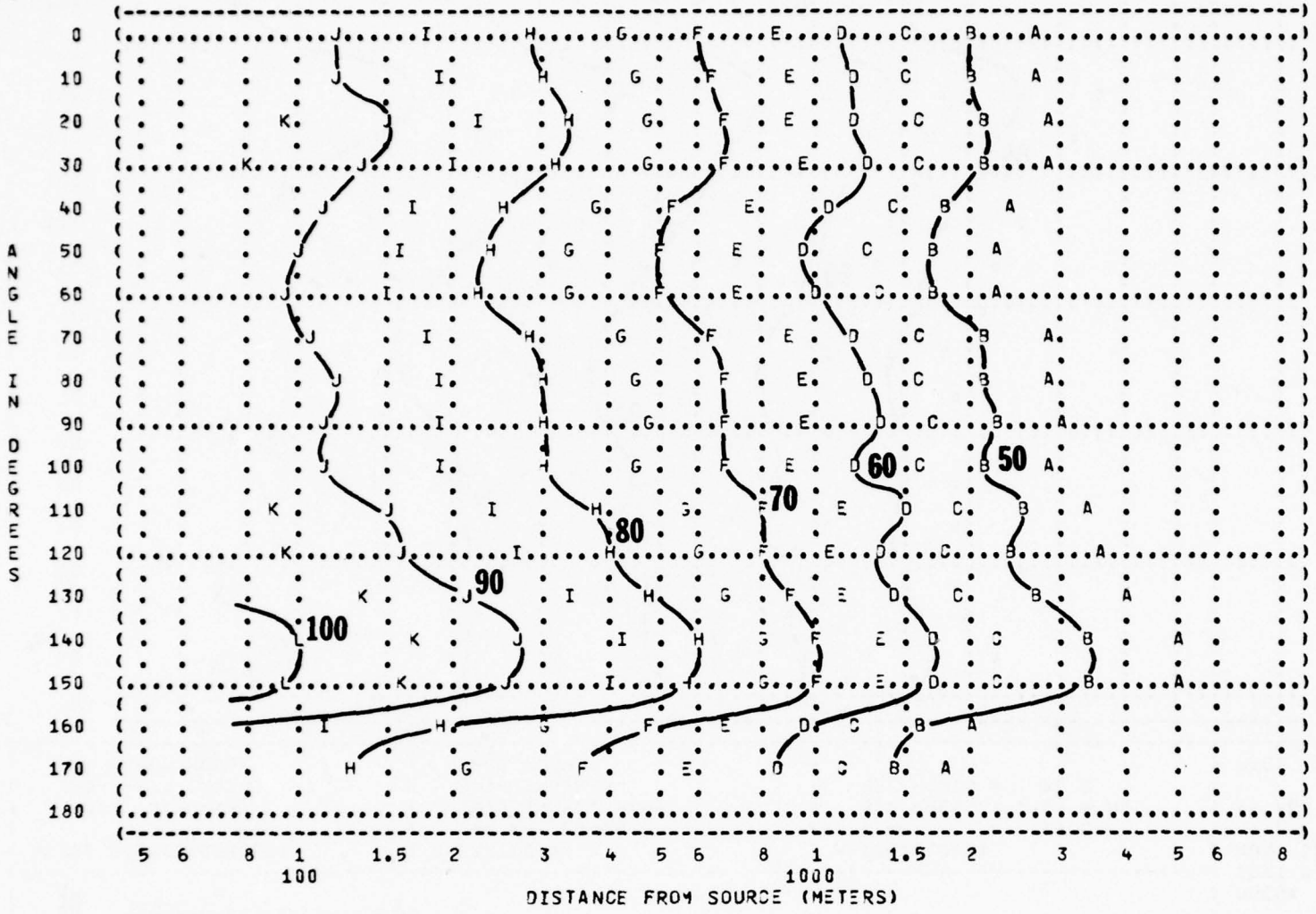


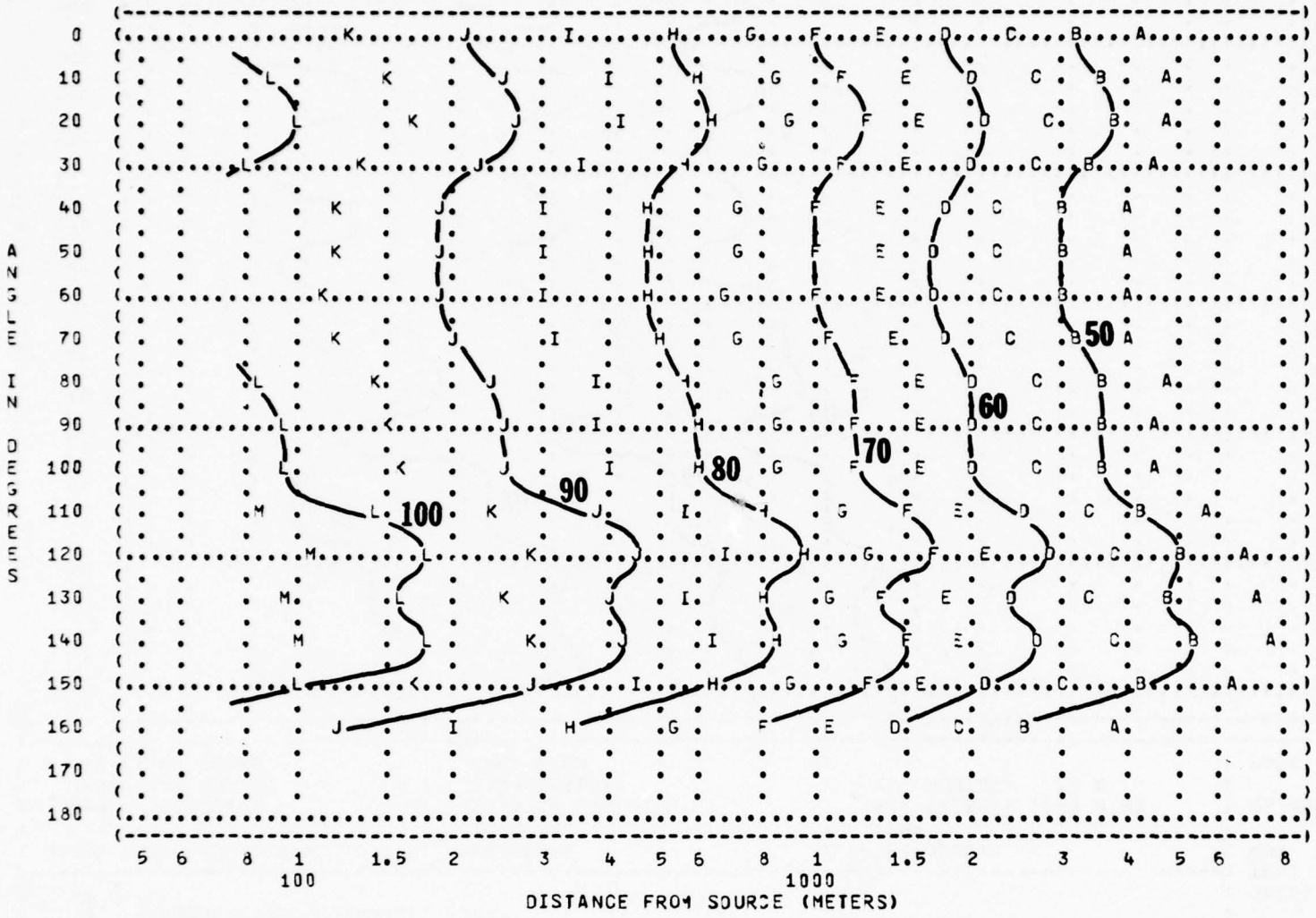
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

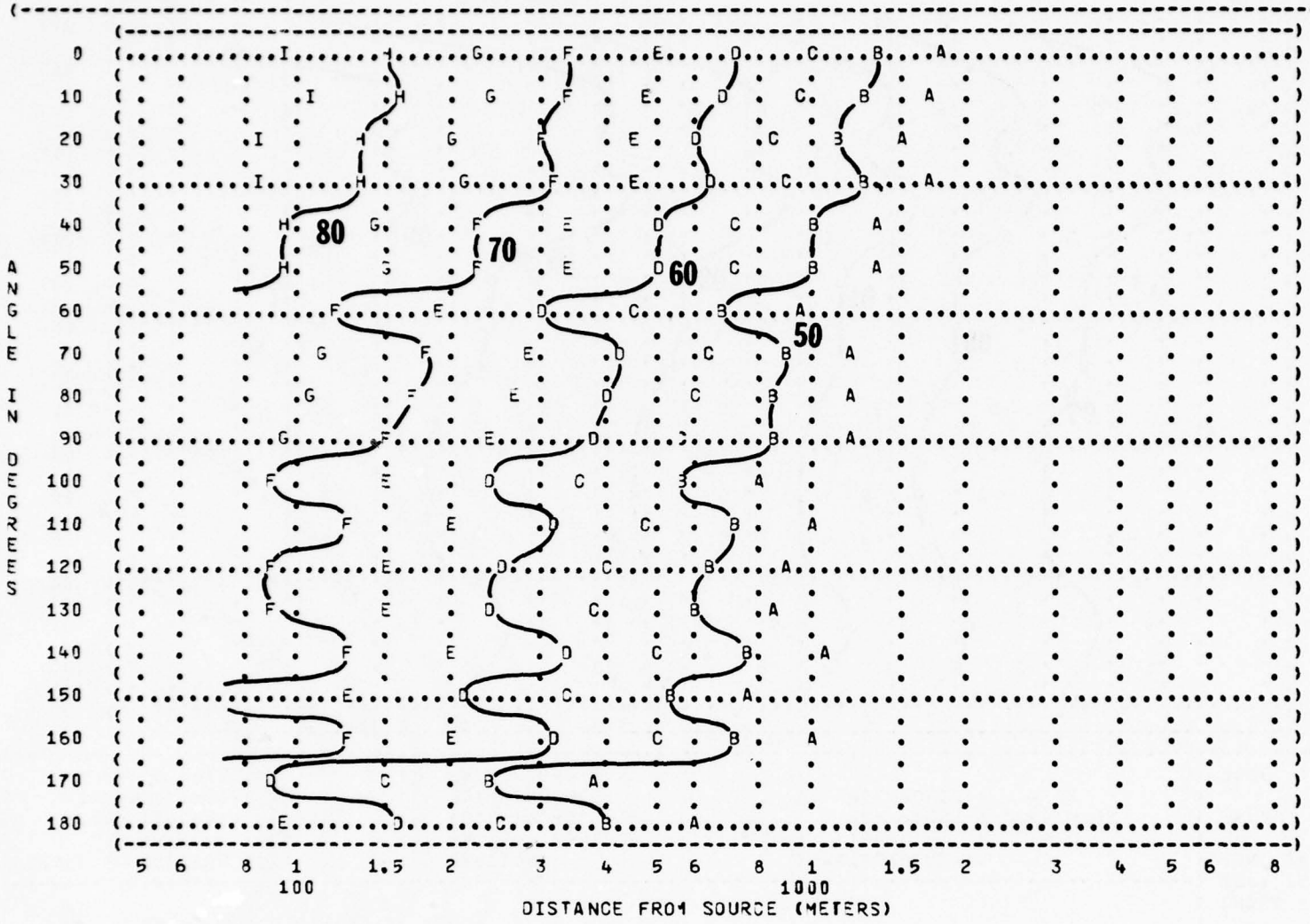
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 15

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85

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

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 15

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90

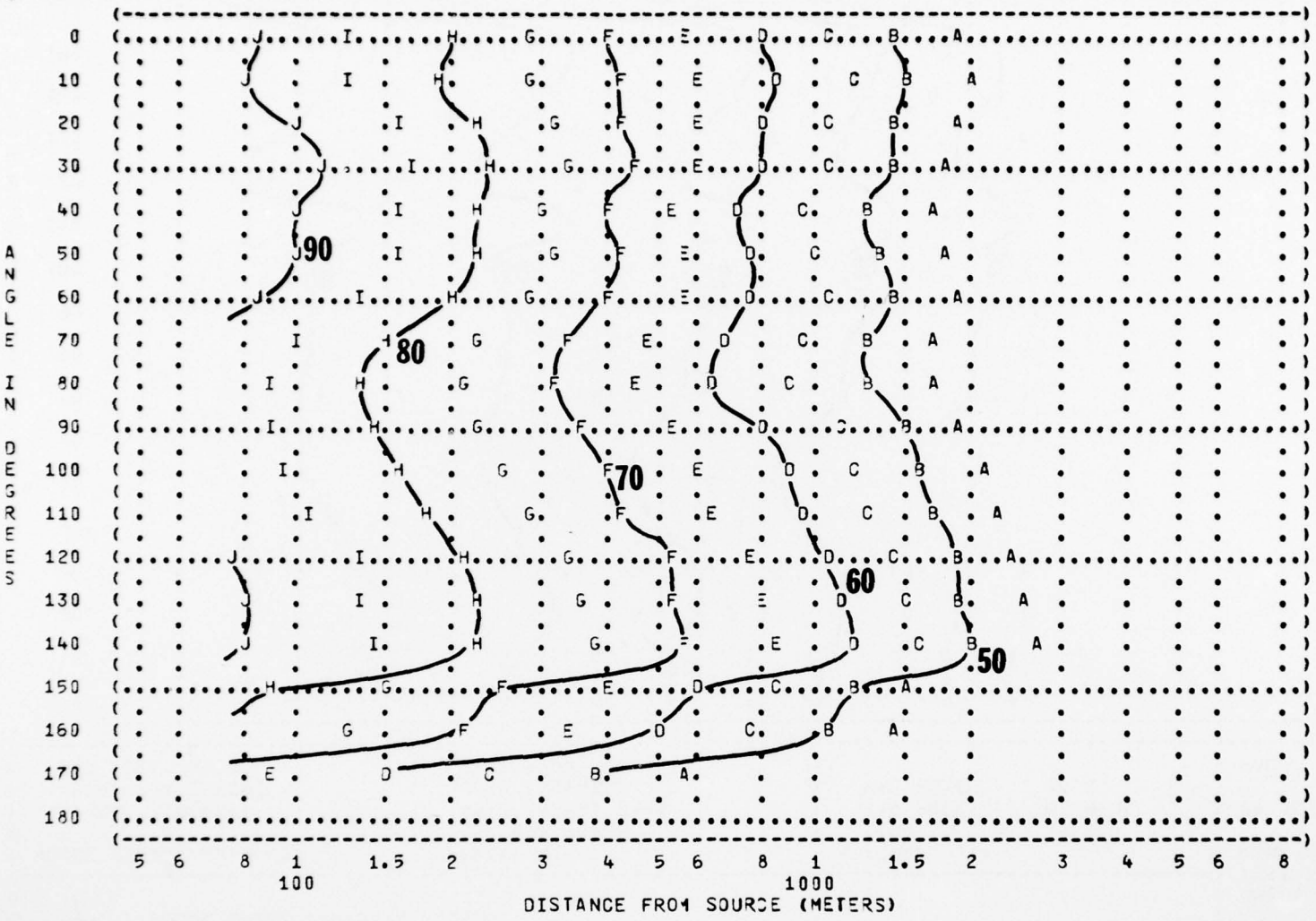


FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 15

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

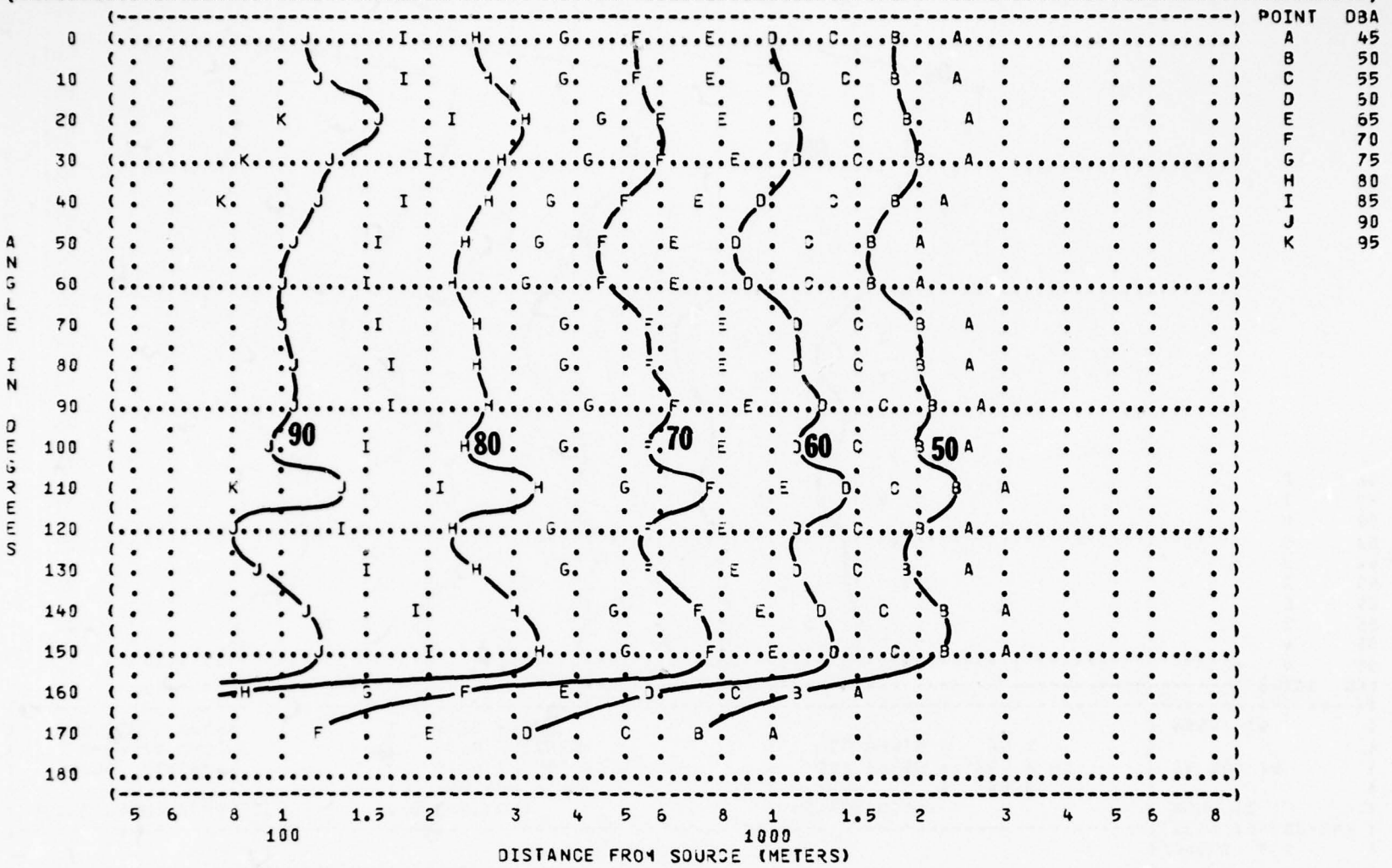


FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 15

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

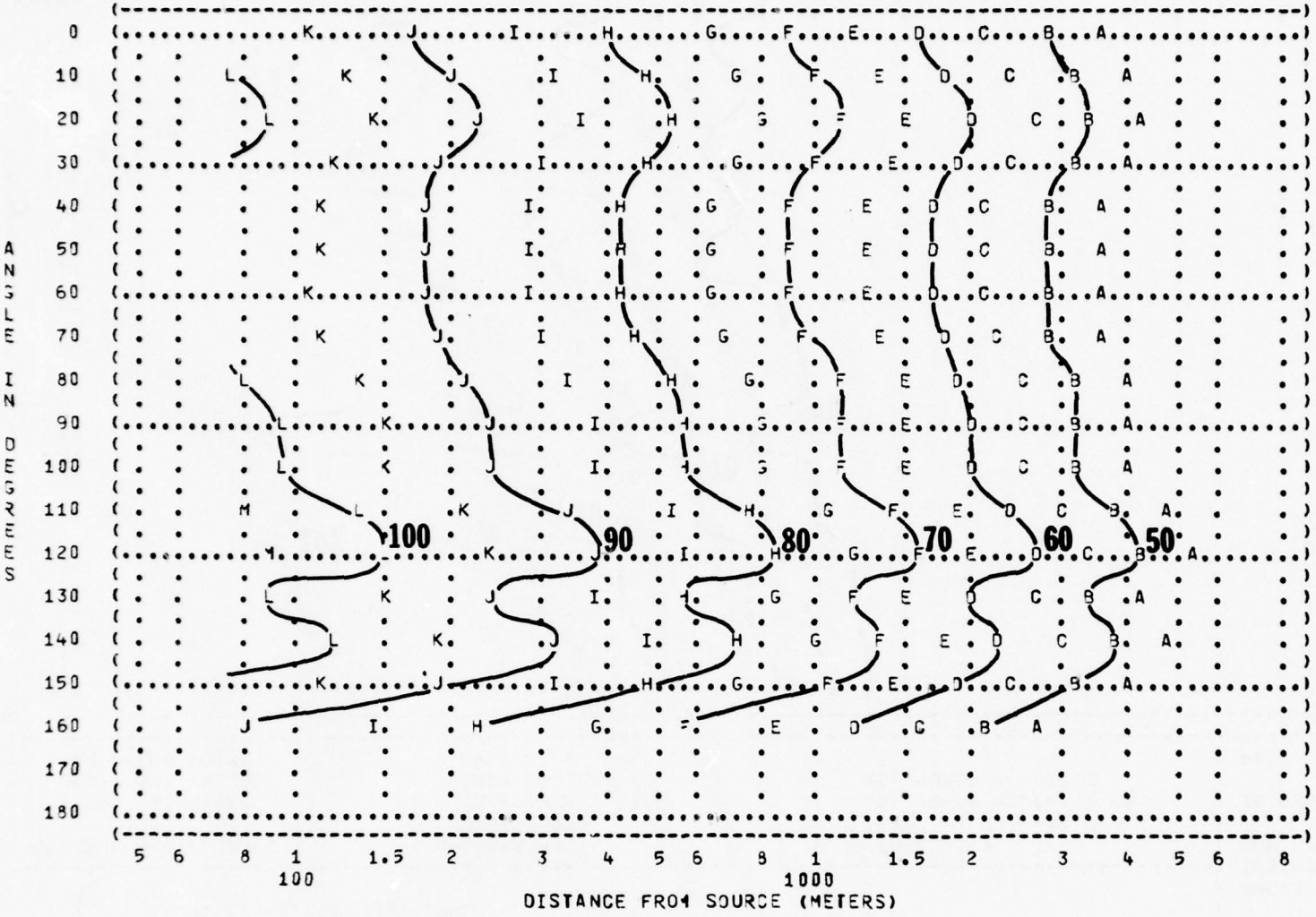


FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	PNDB
A	60
B	55
C	70
D	75
E	80
F	85
G	90
H	95
I	100

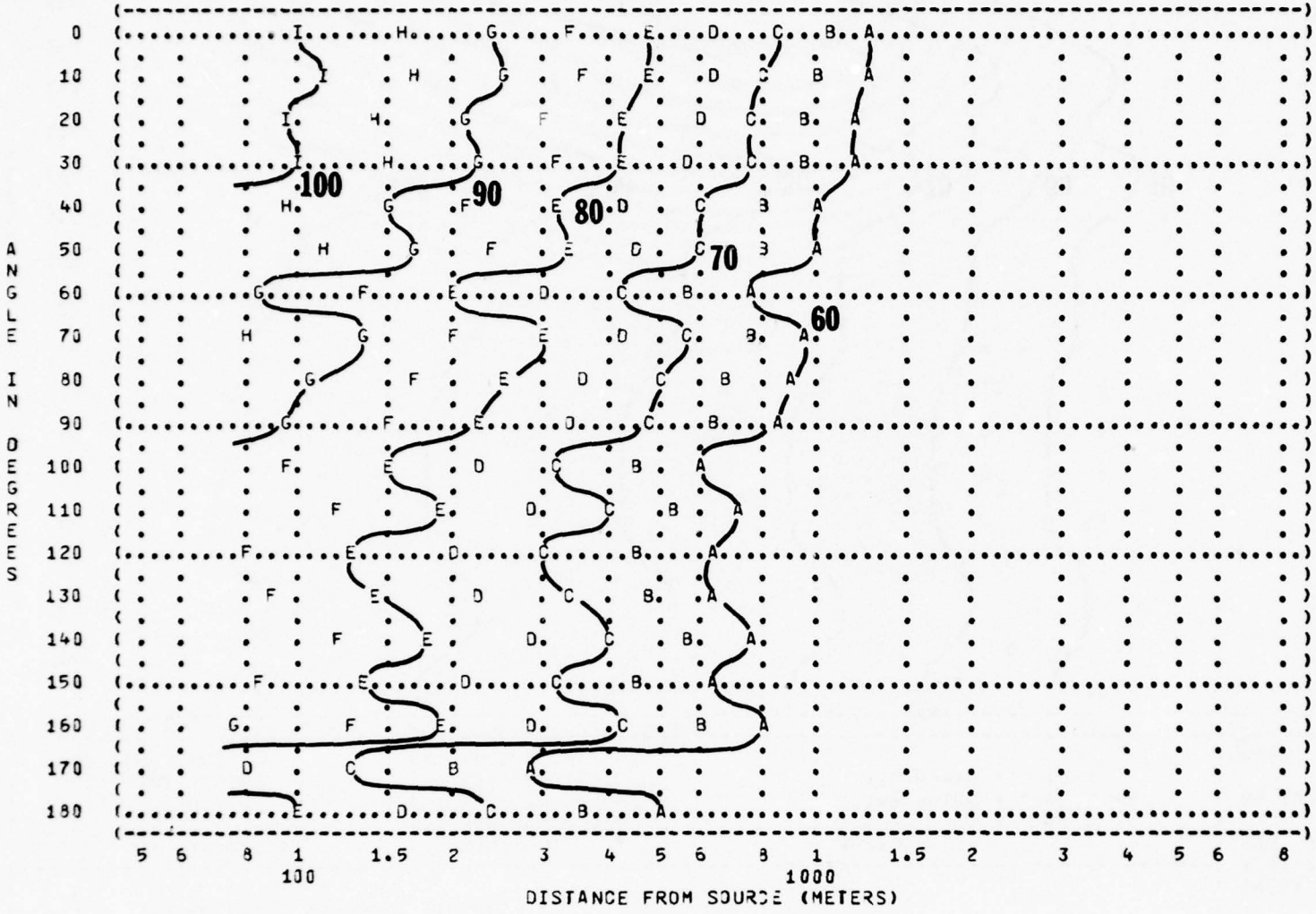


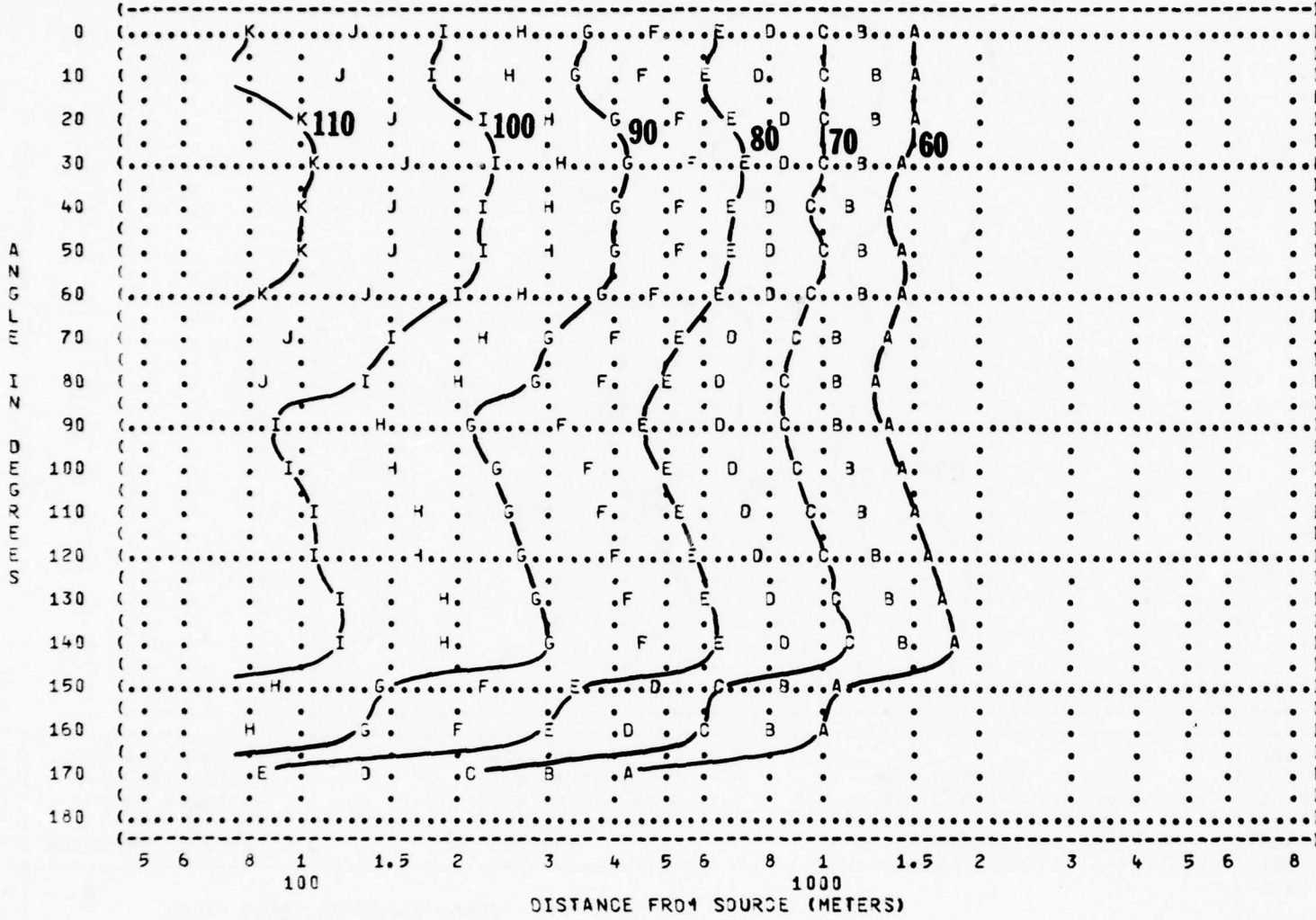
FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 33
25 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	PNDB
A	50
B	55
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115

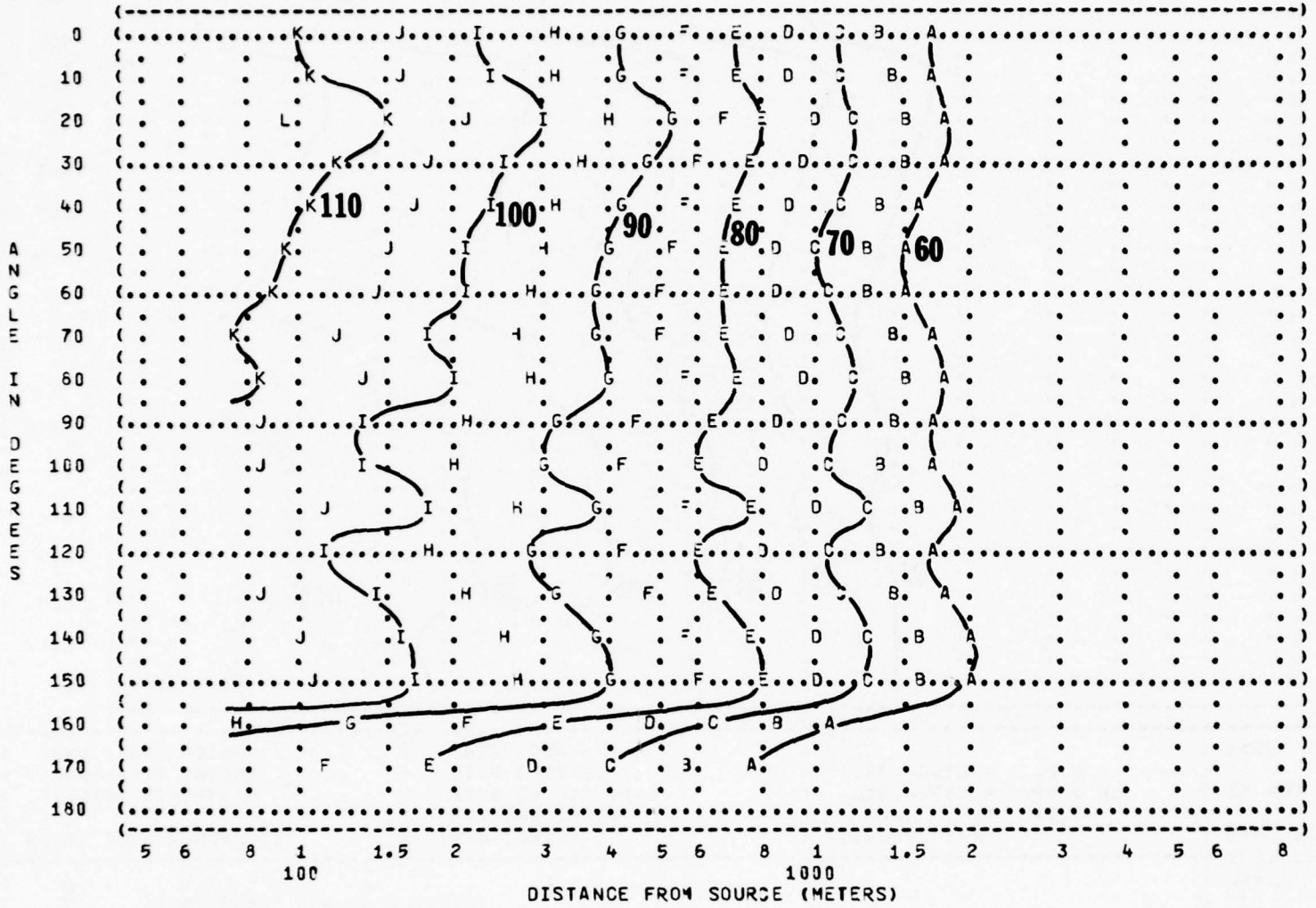


FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04

25 AUG 76

PAGE 16

POINT	PNDB
A	50
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115

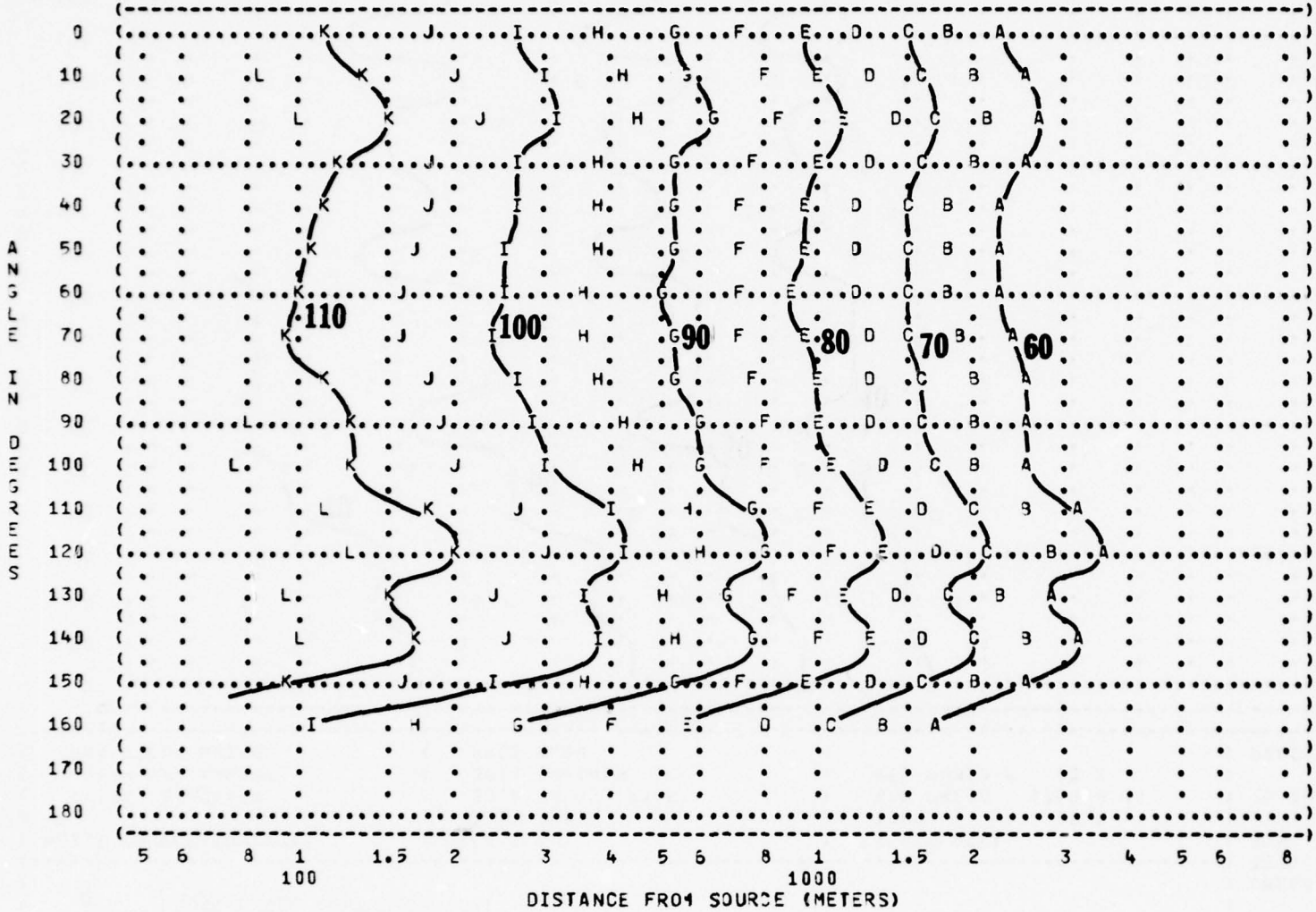


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 17

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

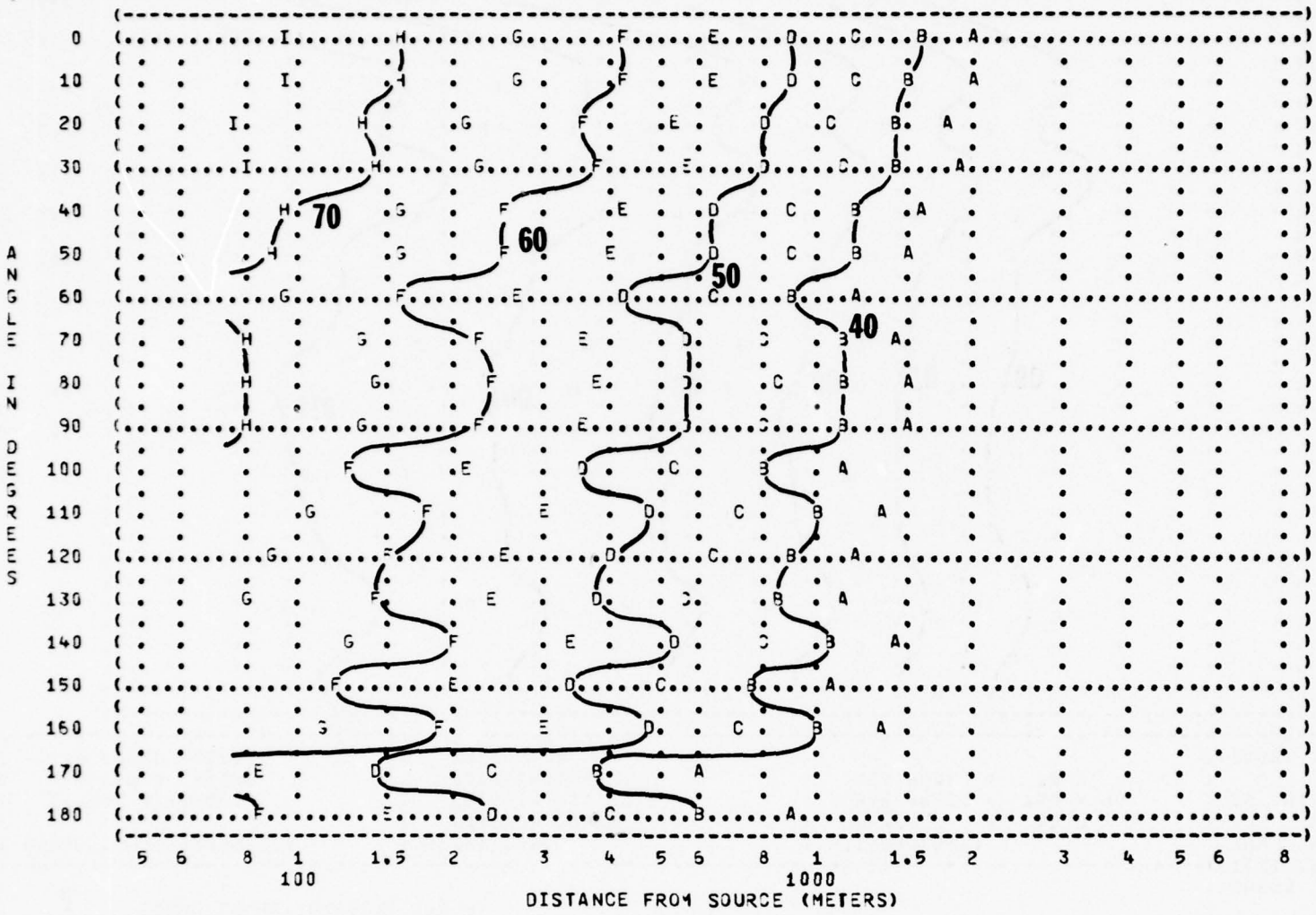


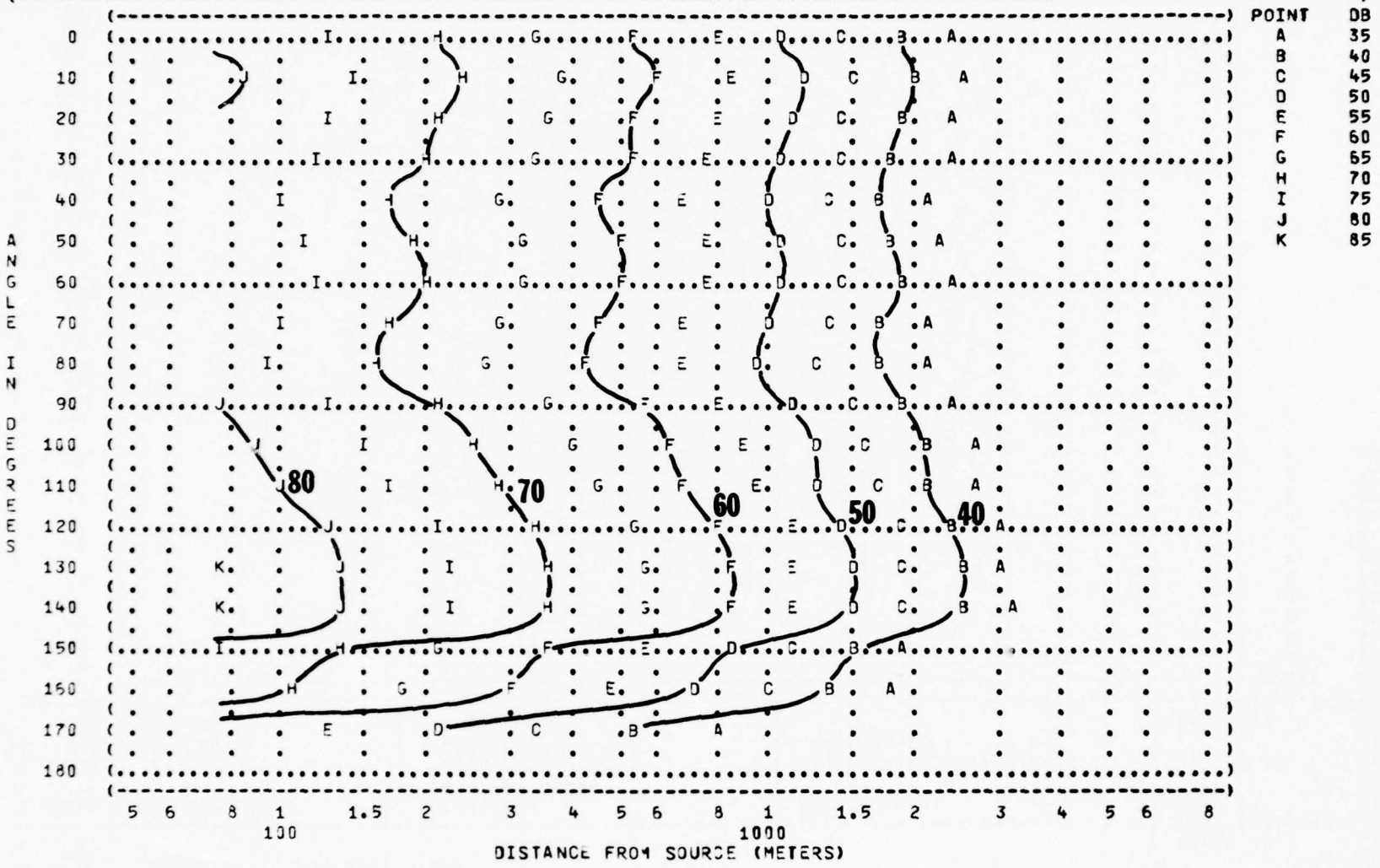
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 17



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

FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 17

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

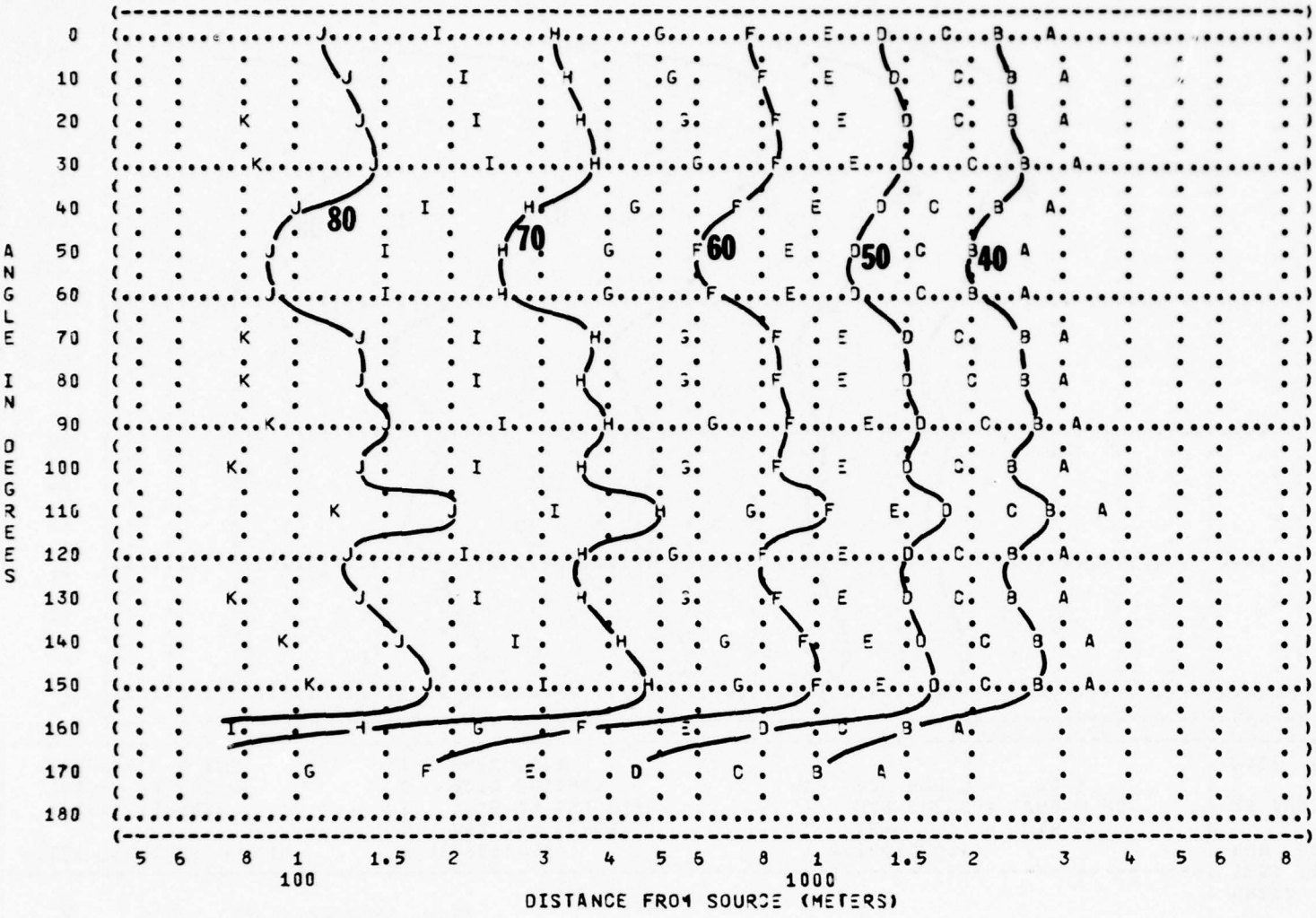


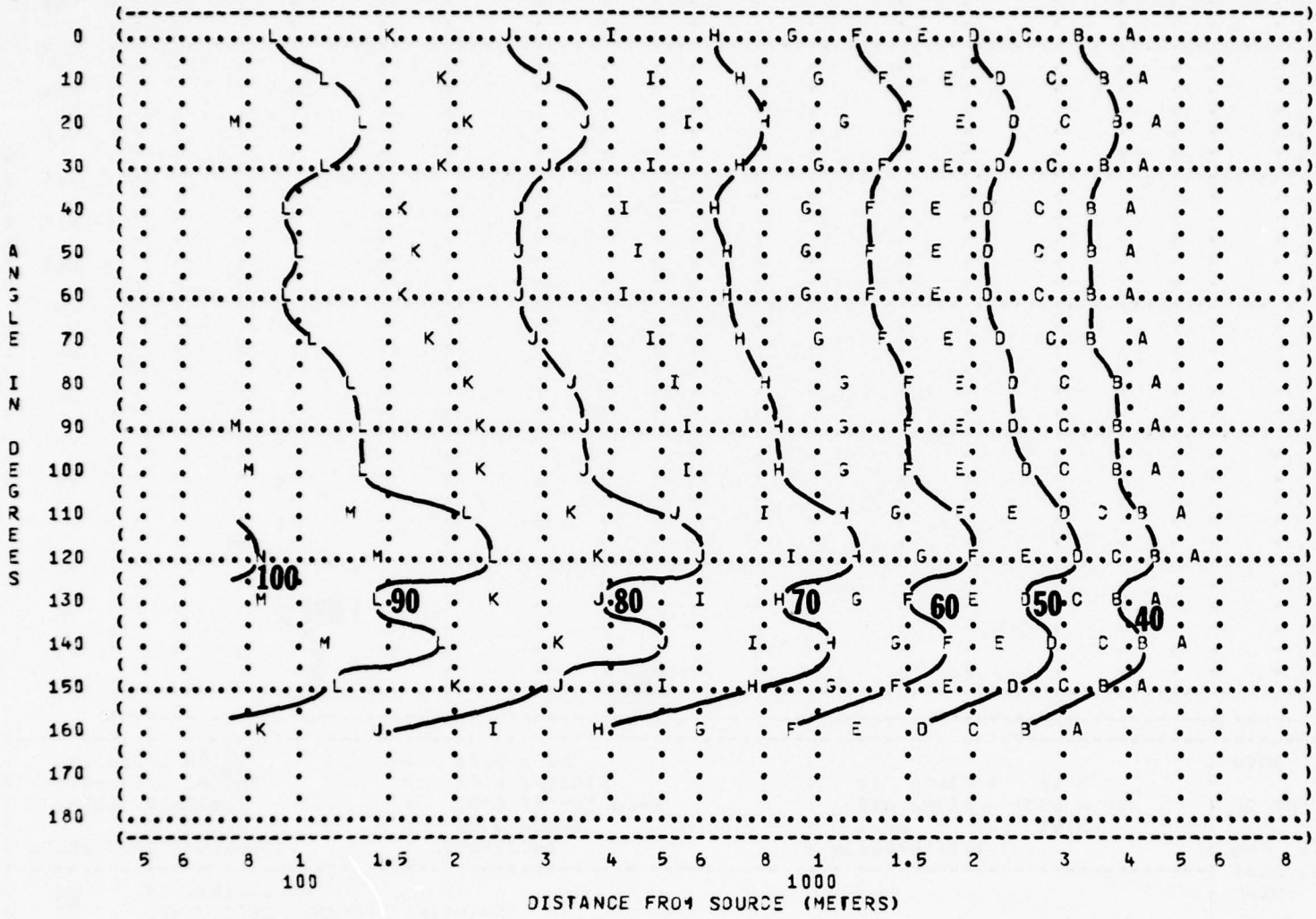
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 17



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 7

POINT	MIN
A	950
B	480
C	240

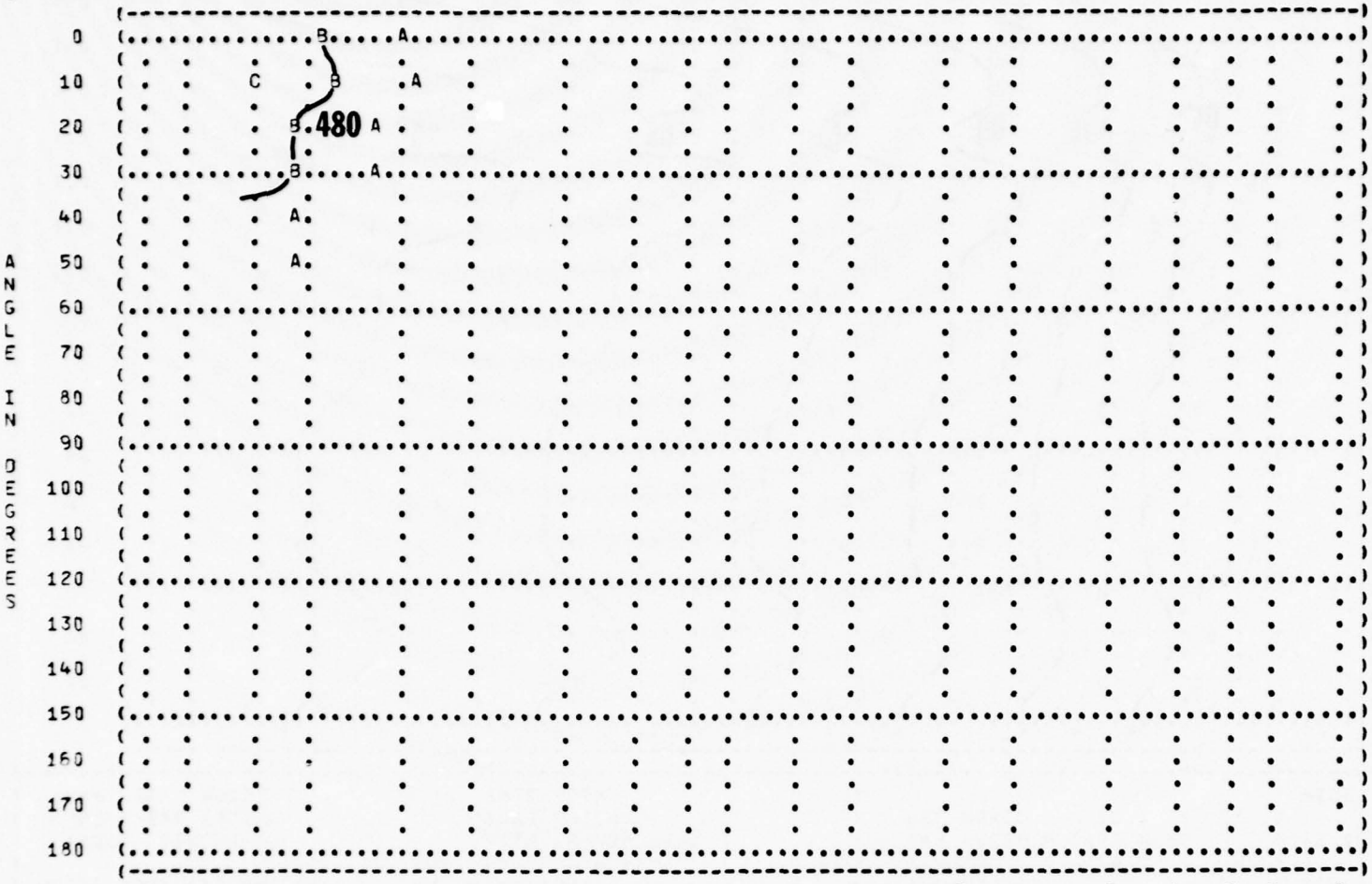


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

10

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 8

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

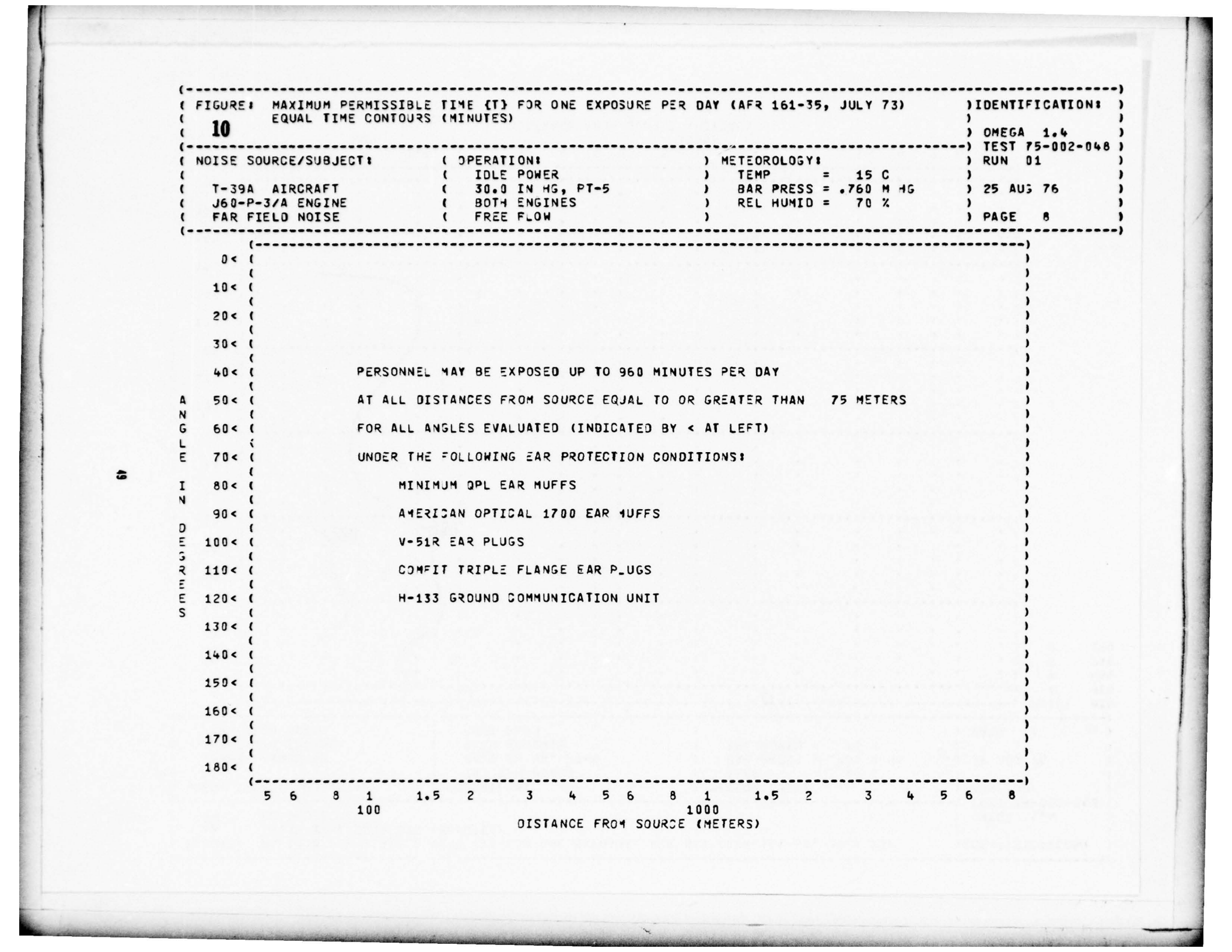


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 7

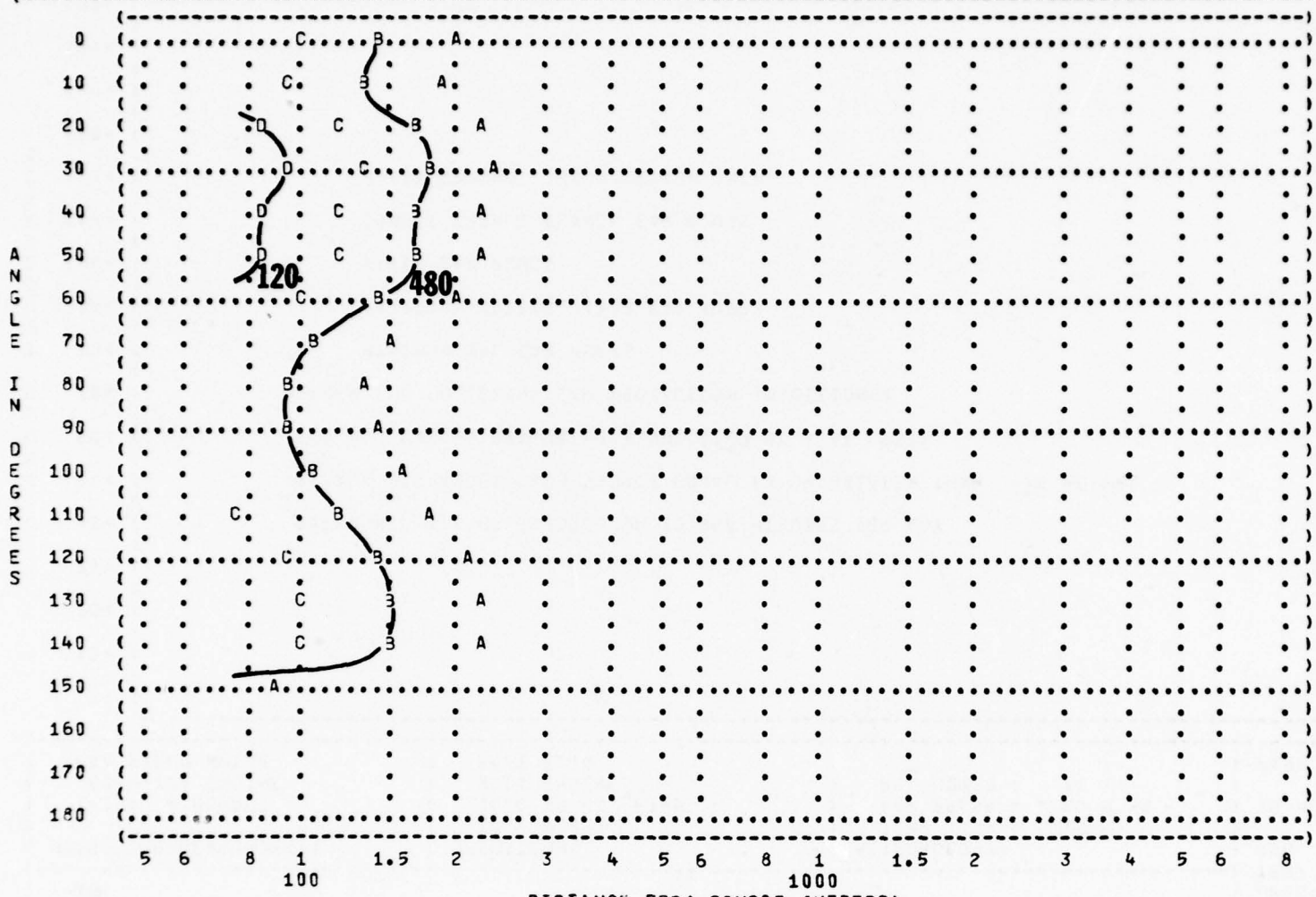


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 8

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

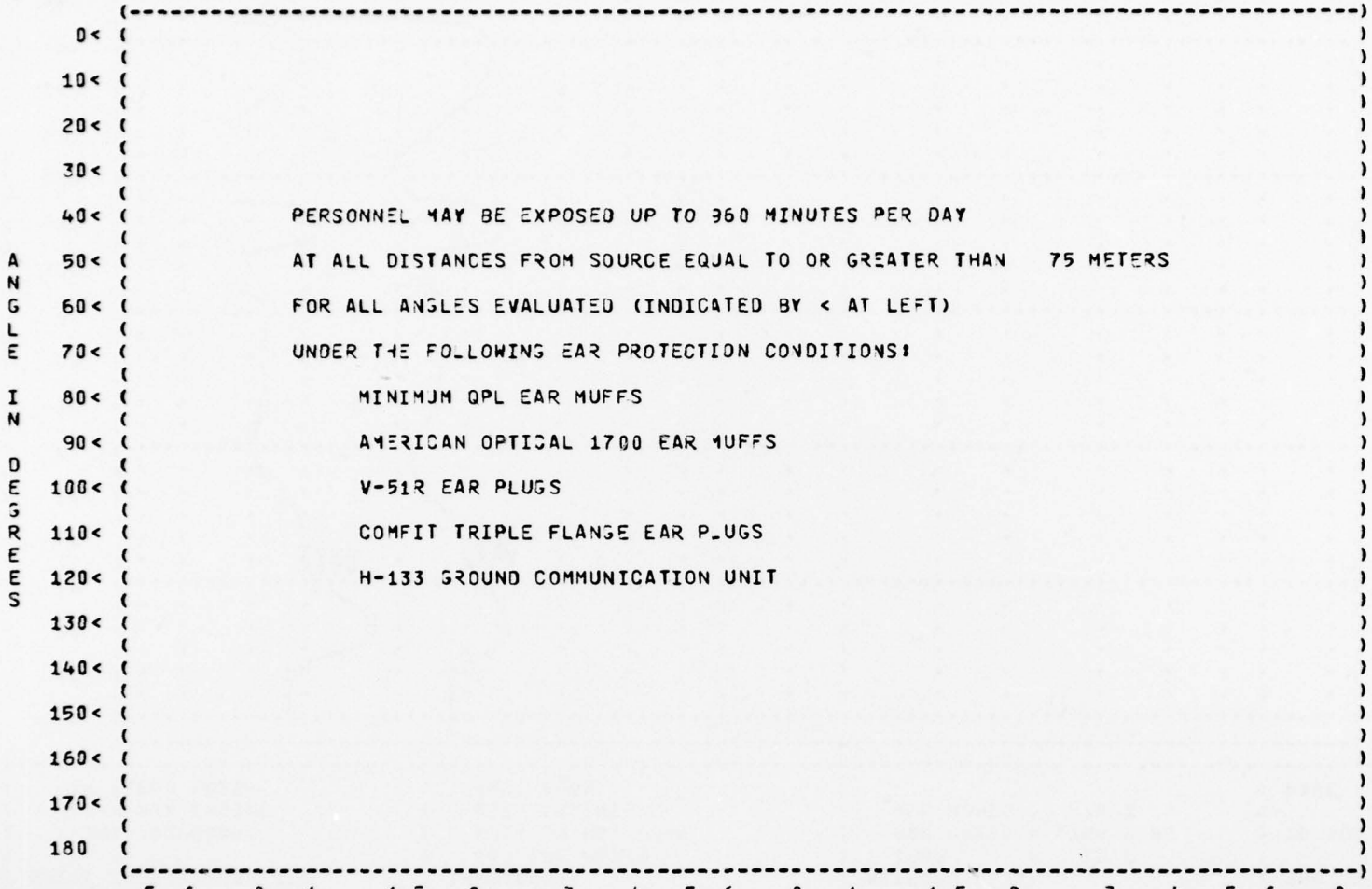


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	MIN
A	960
B	480
C	240
D	120
E	60

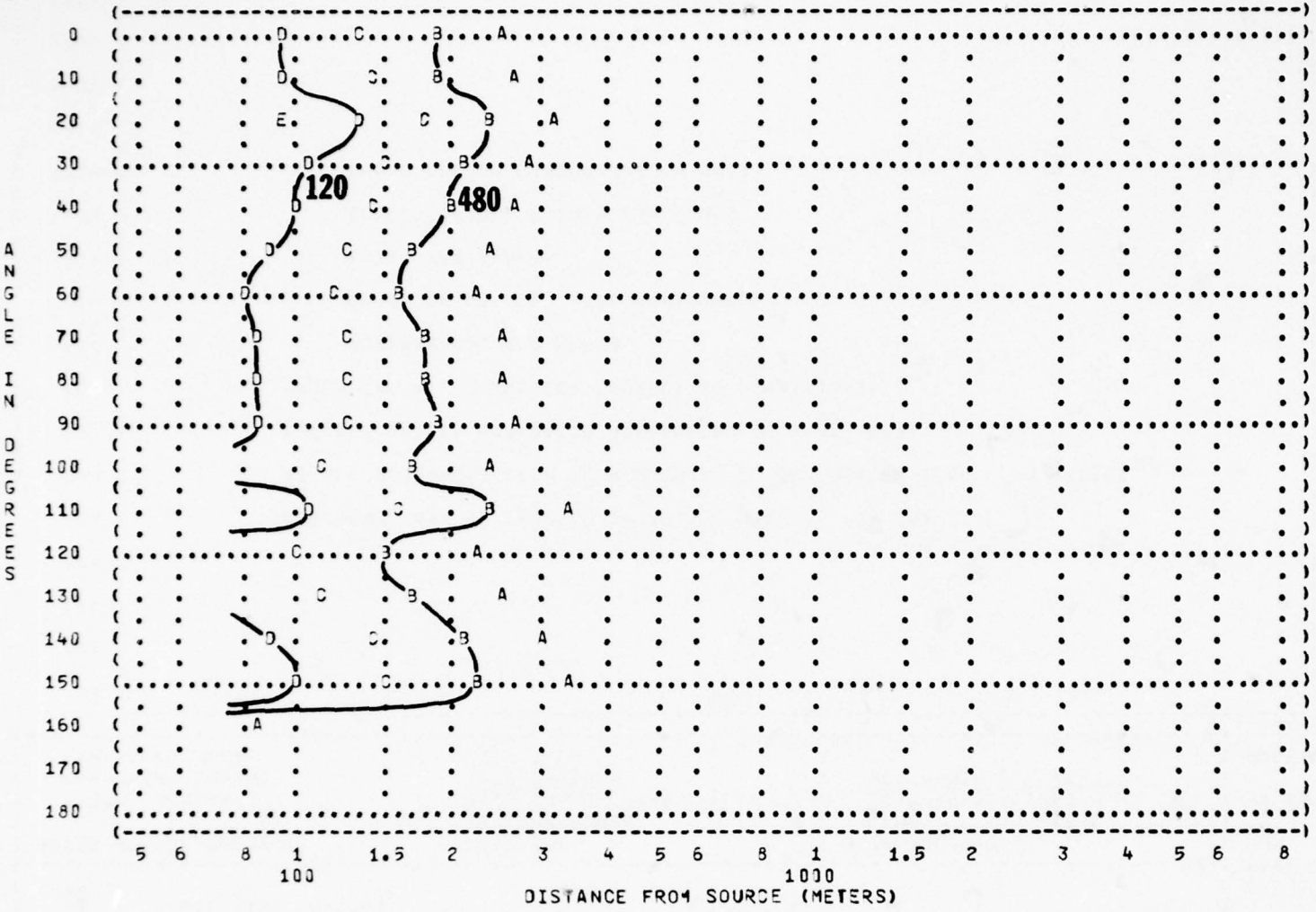


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 8

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

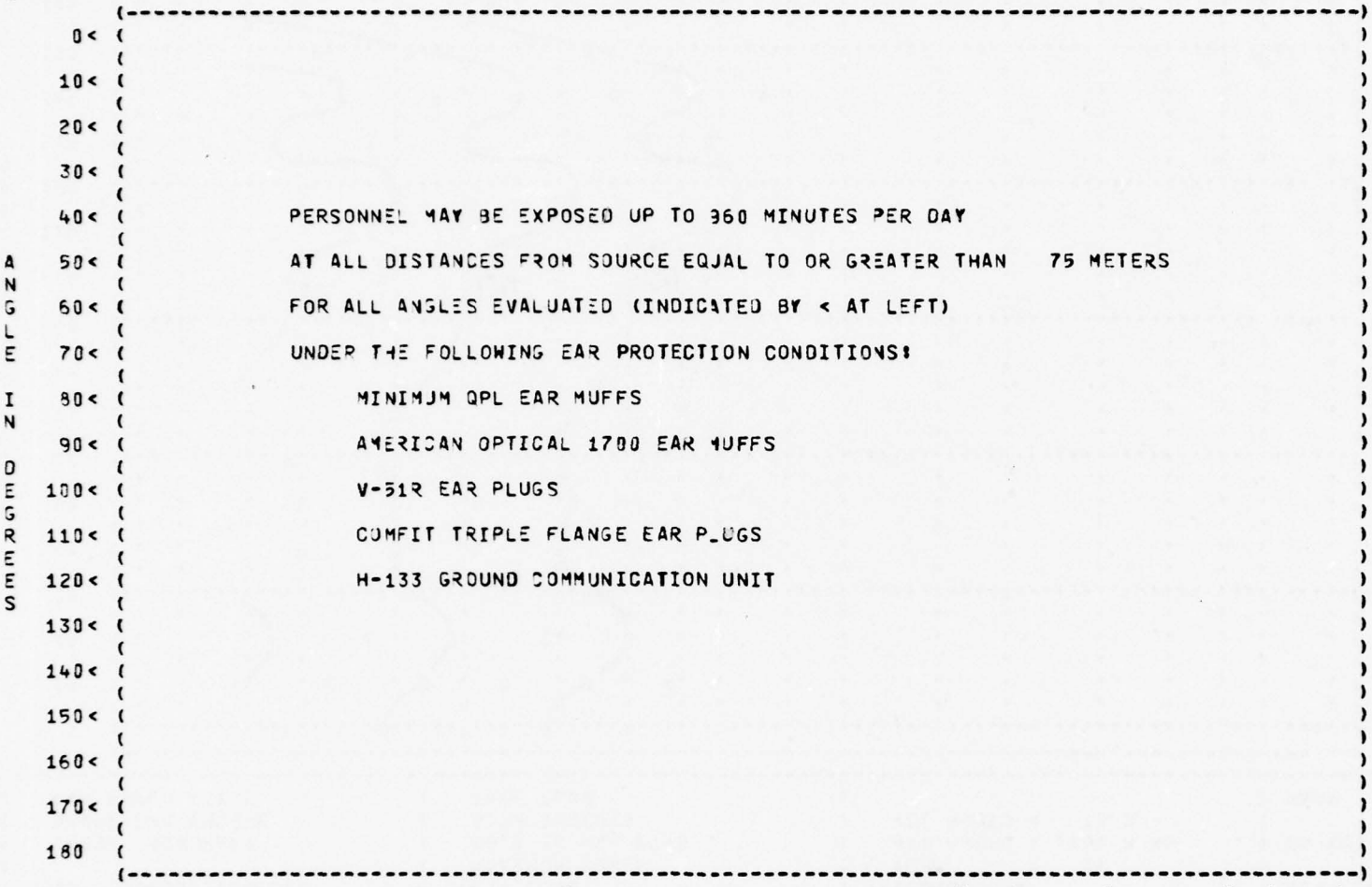


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
10
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT	MIN
A	960
B	480
C	240
D	120
E	50
F	30
G	15

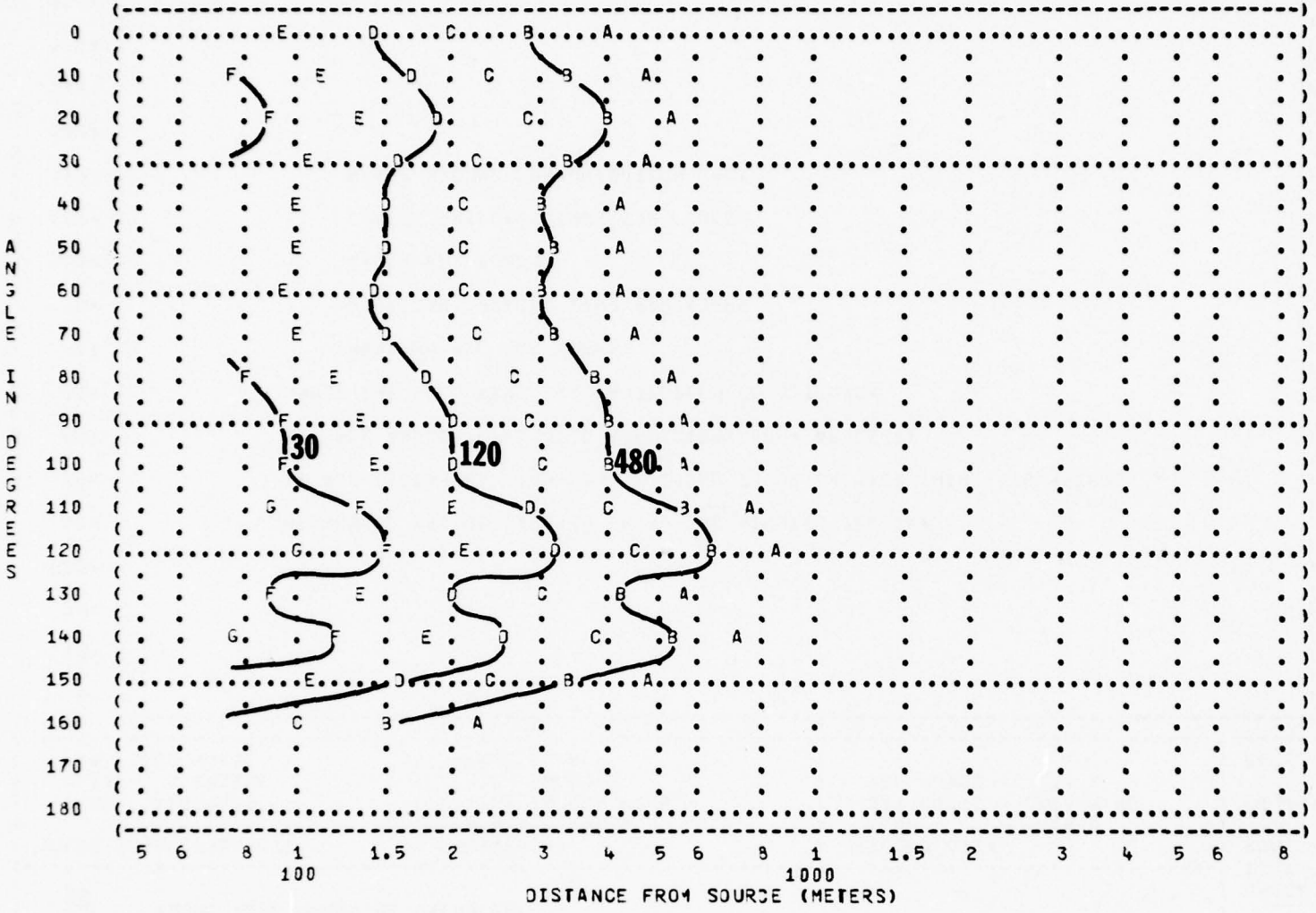


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04

25 AUG 76

PAGE 8

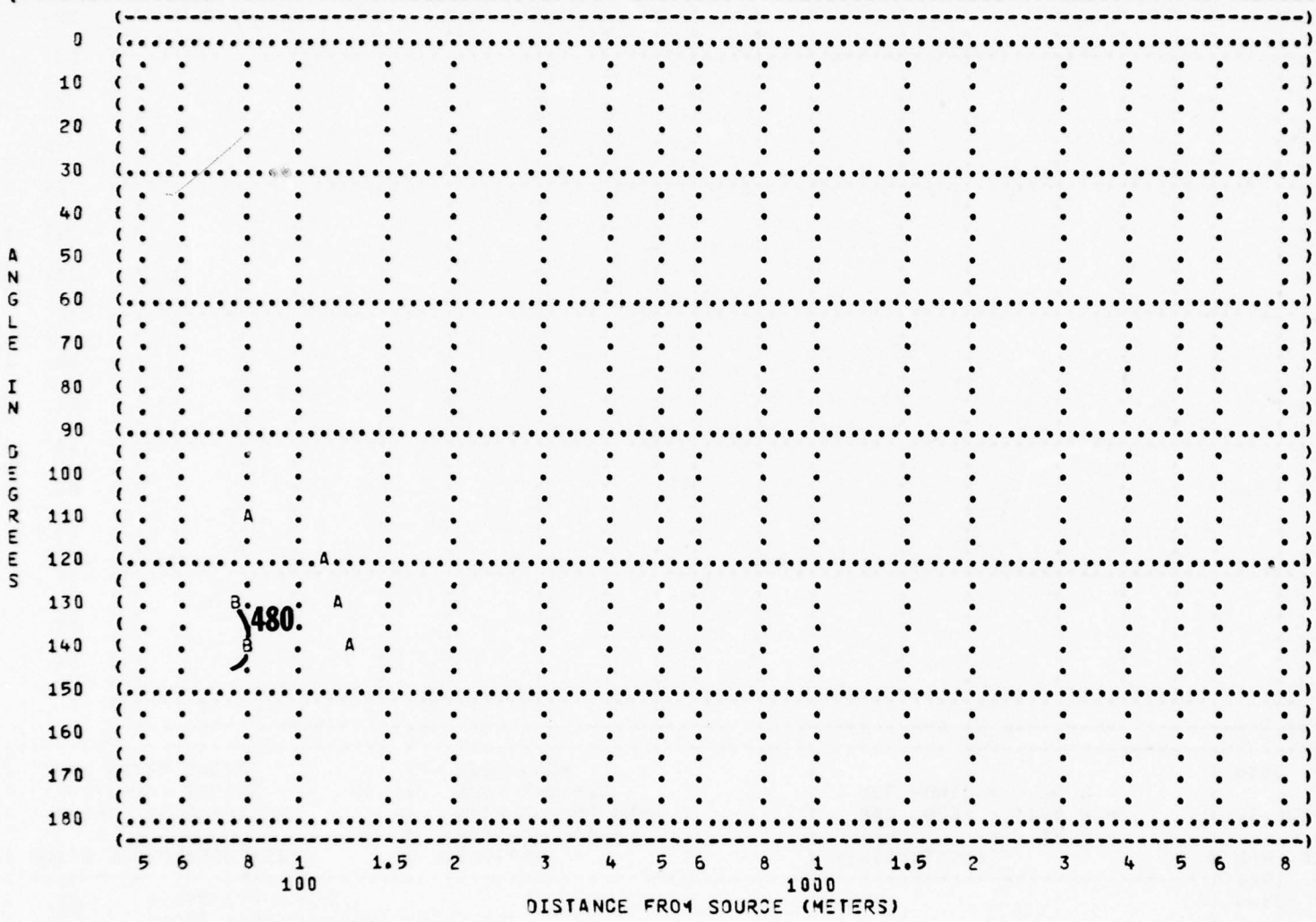


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 9

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

POINT A MIN 950

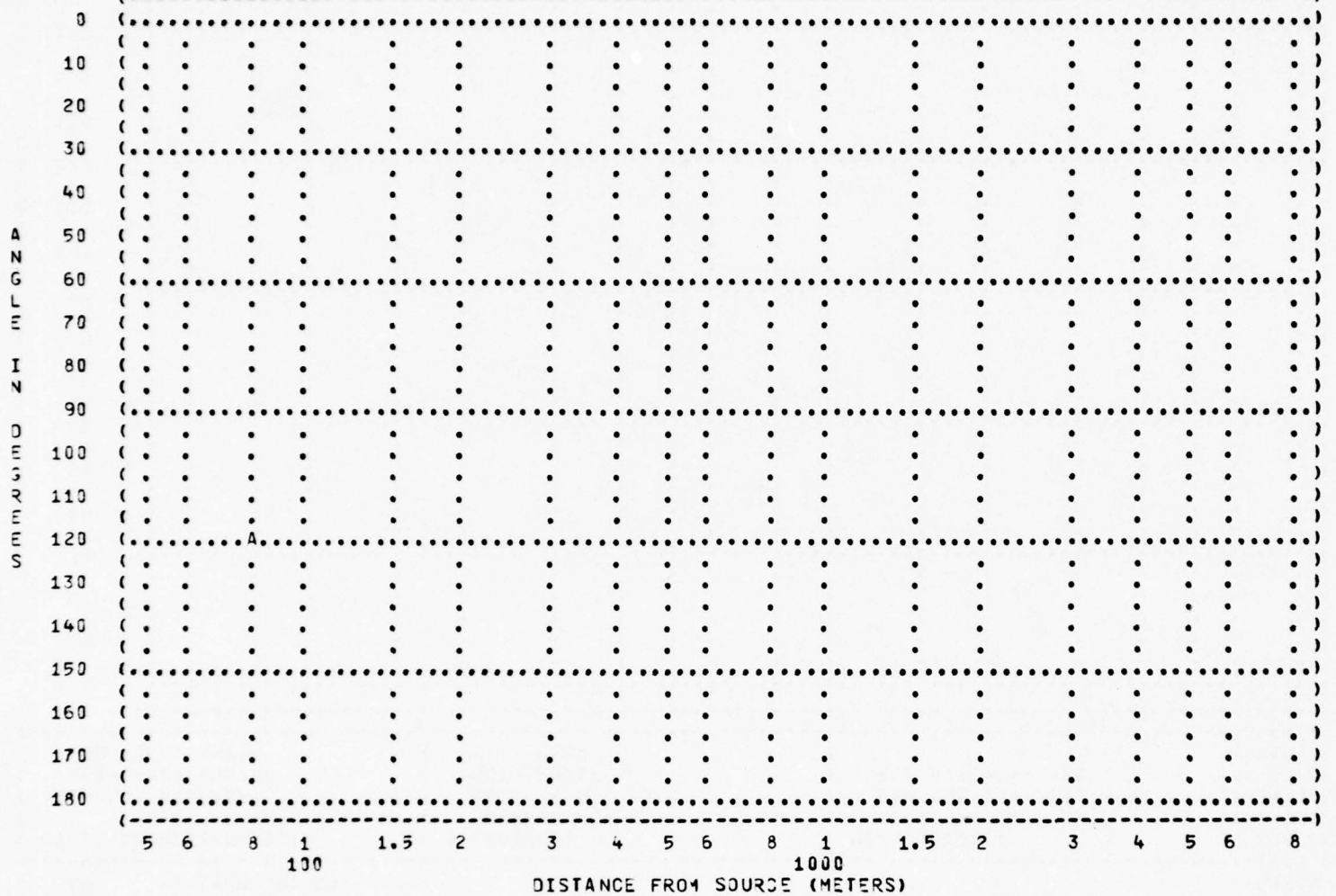


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 10

POINT	MIN
A	960
B	480

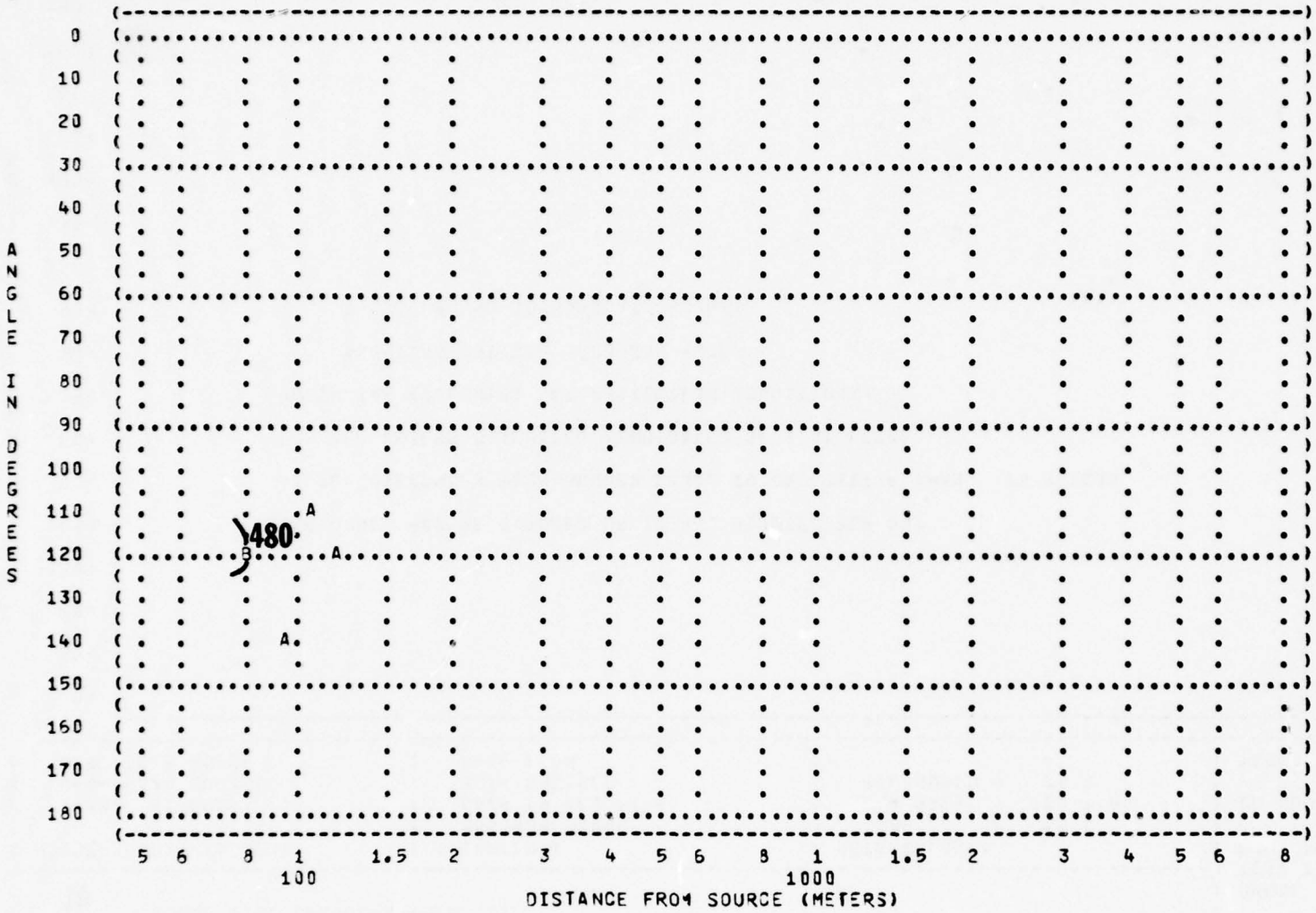


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 11

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

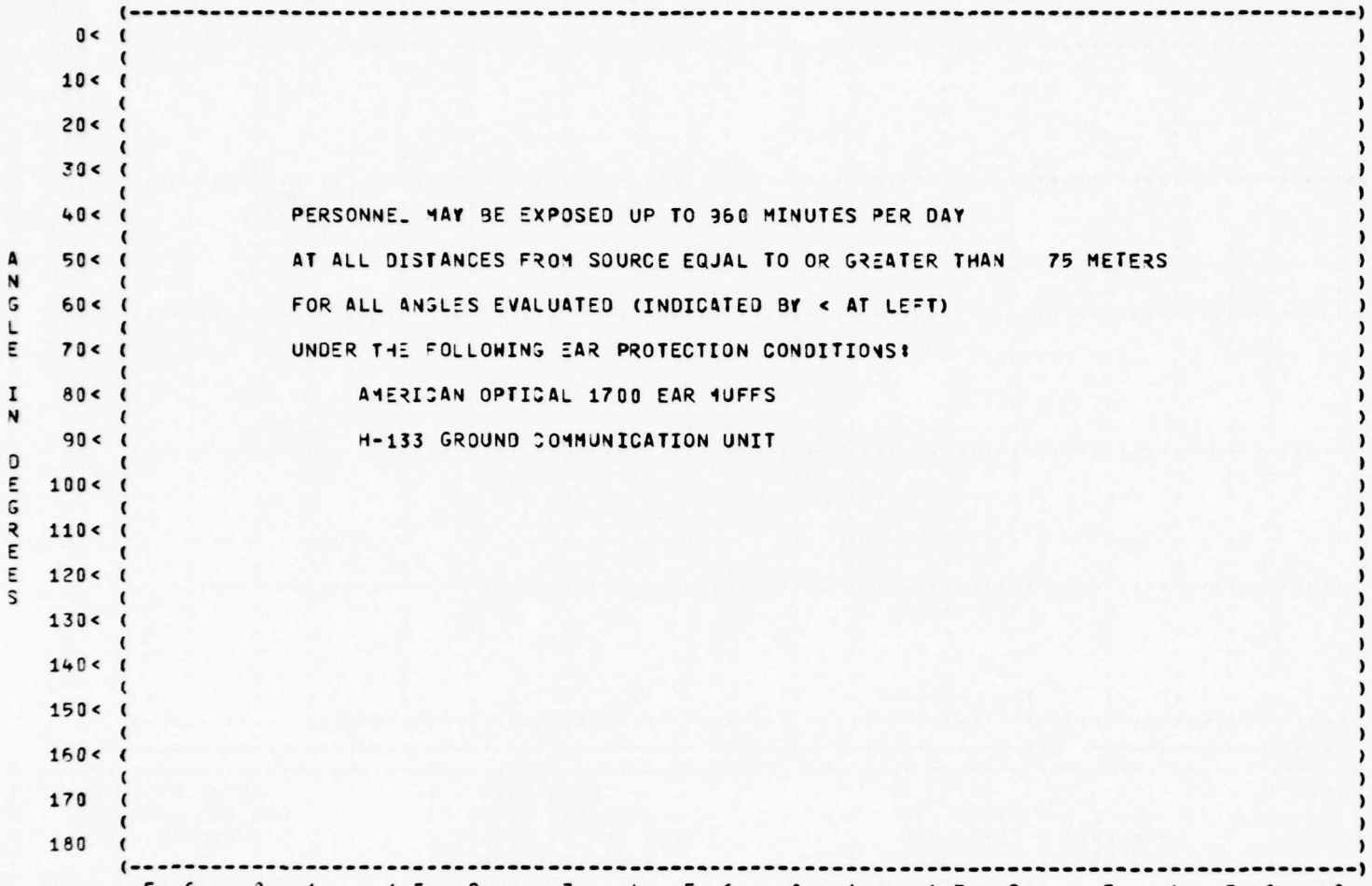


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 18

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65

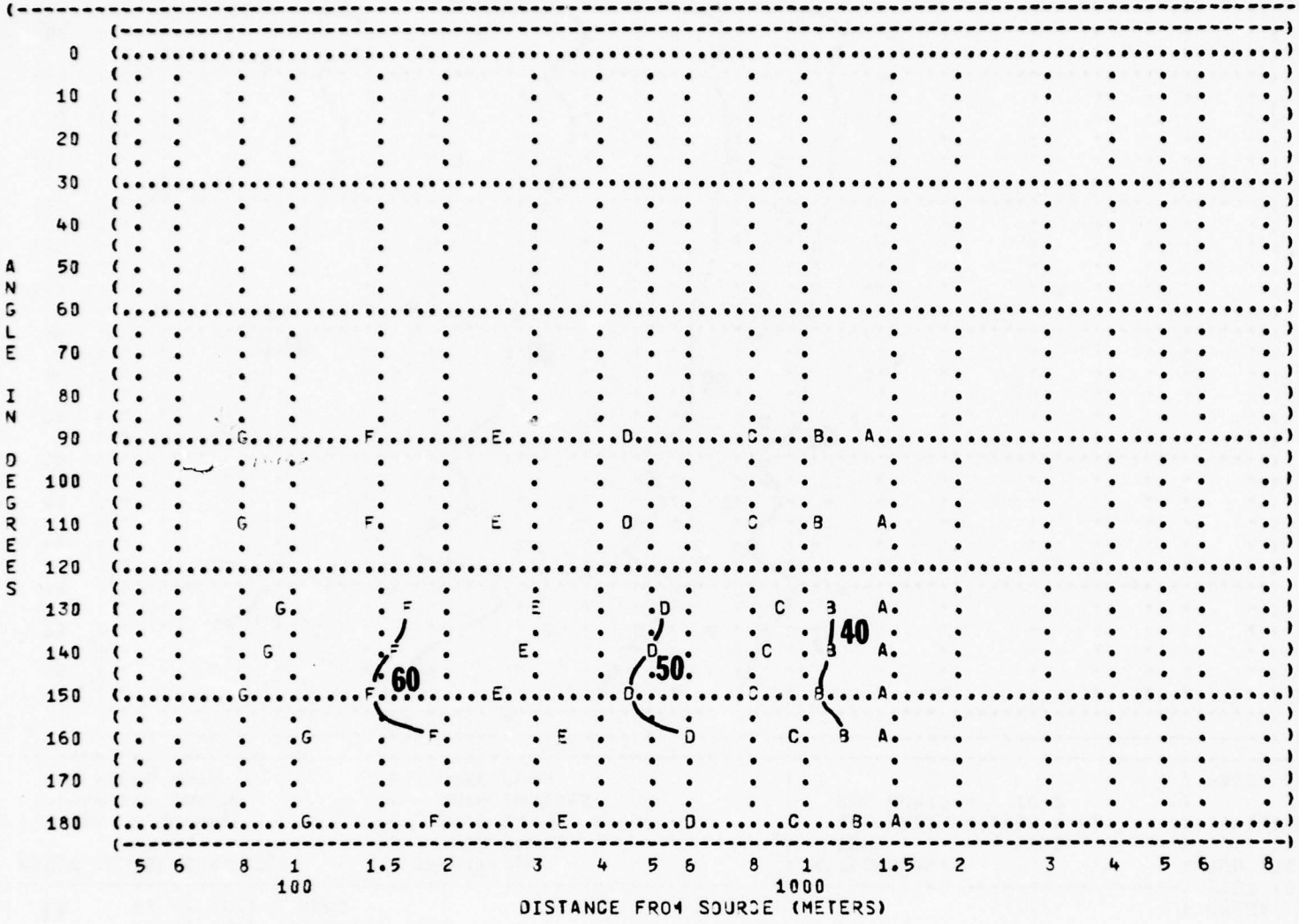


FIGURE: 11

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 19

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

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

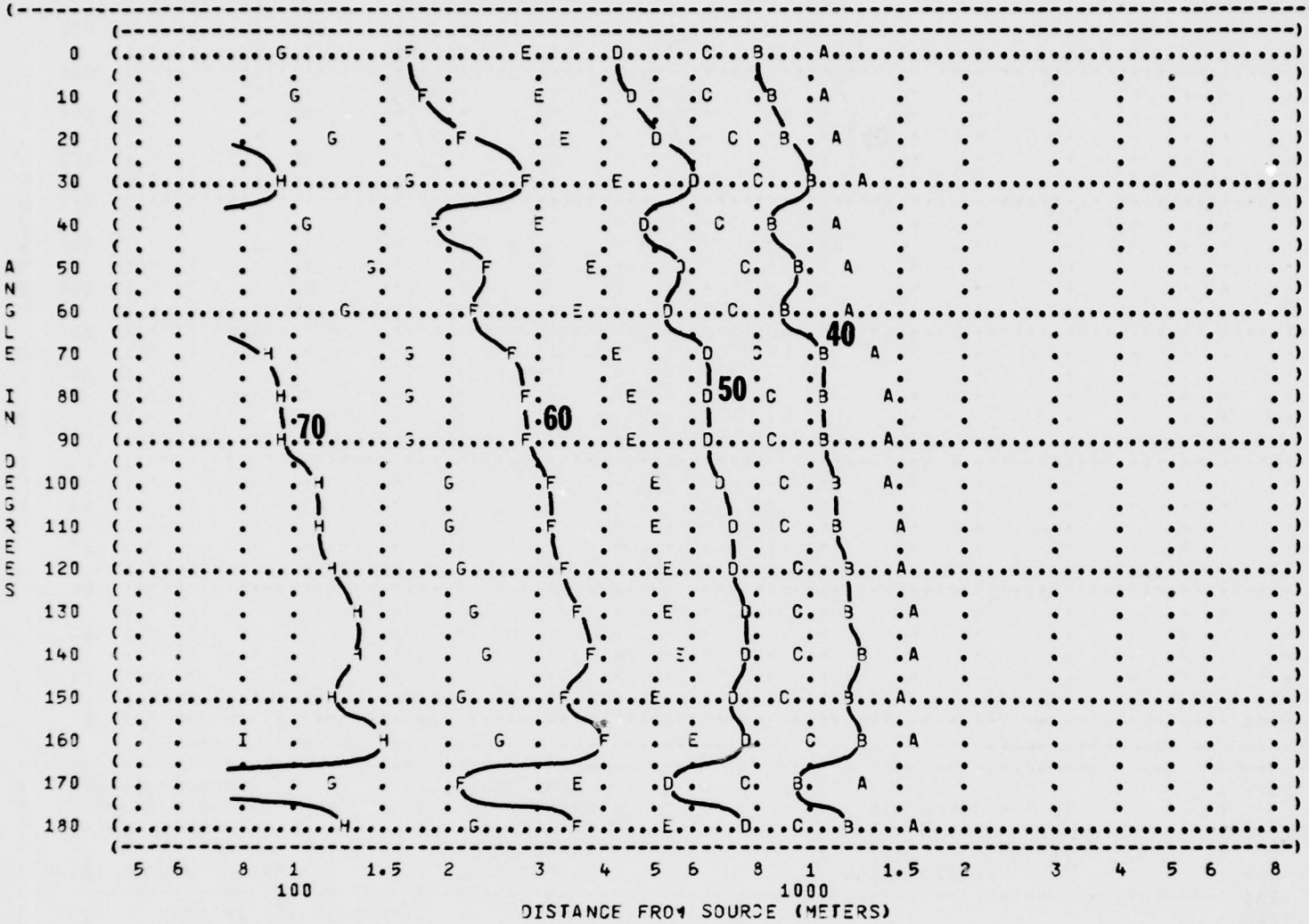


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 20

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

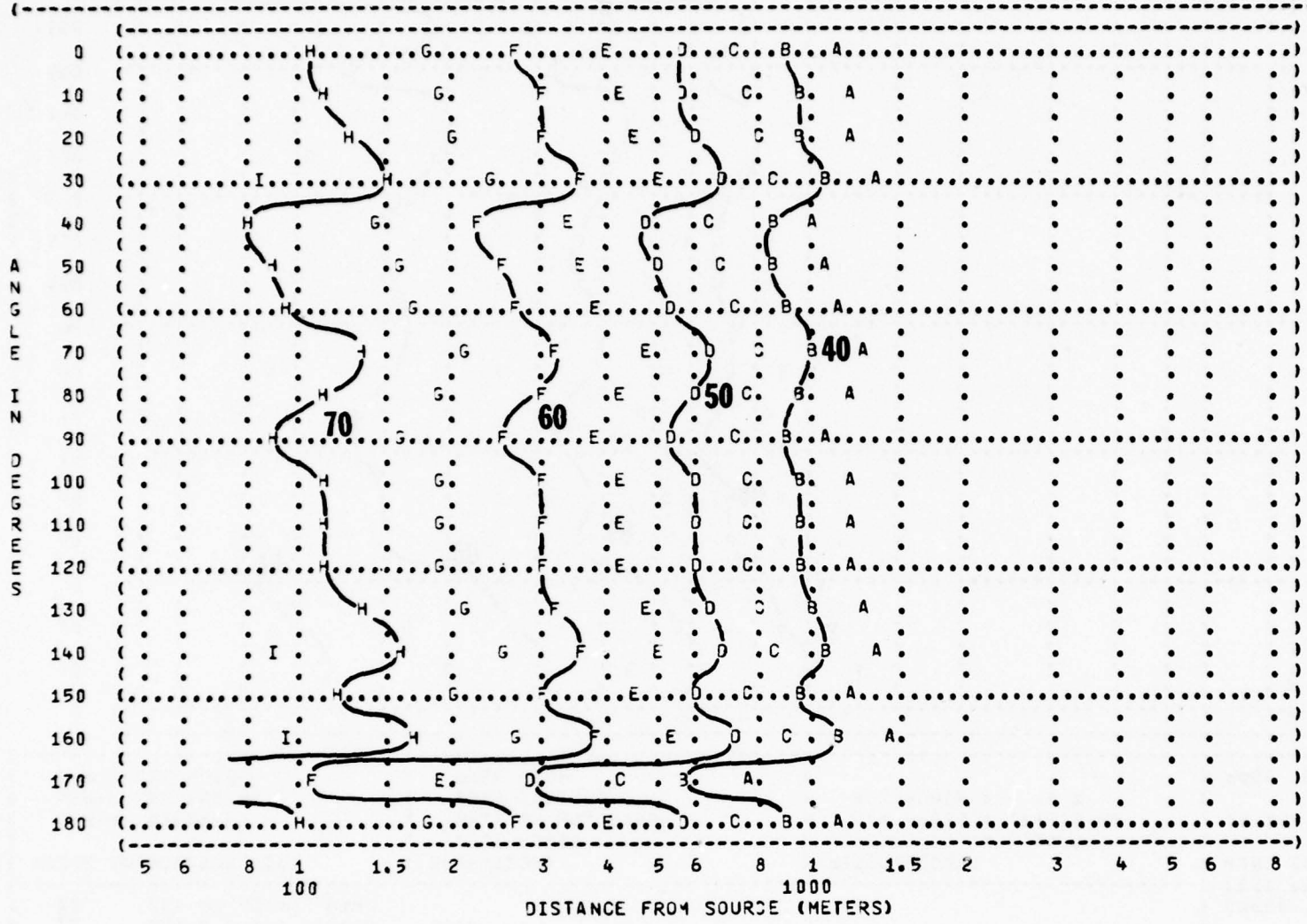


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 21

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70

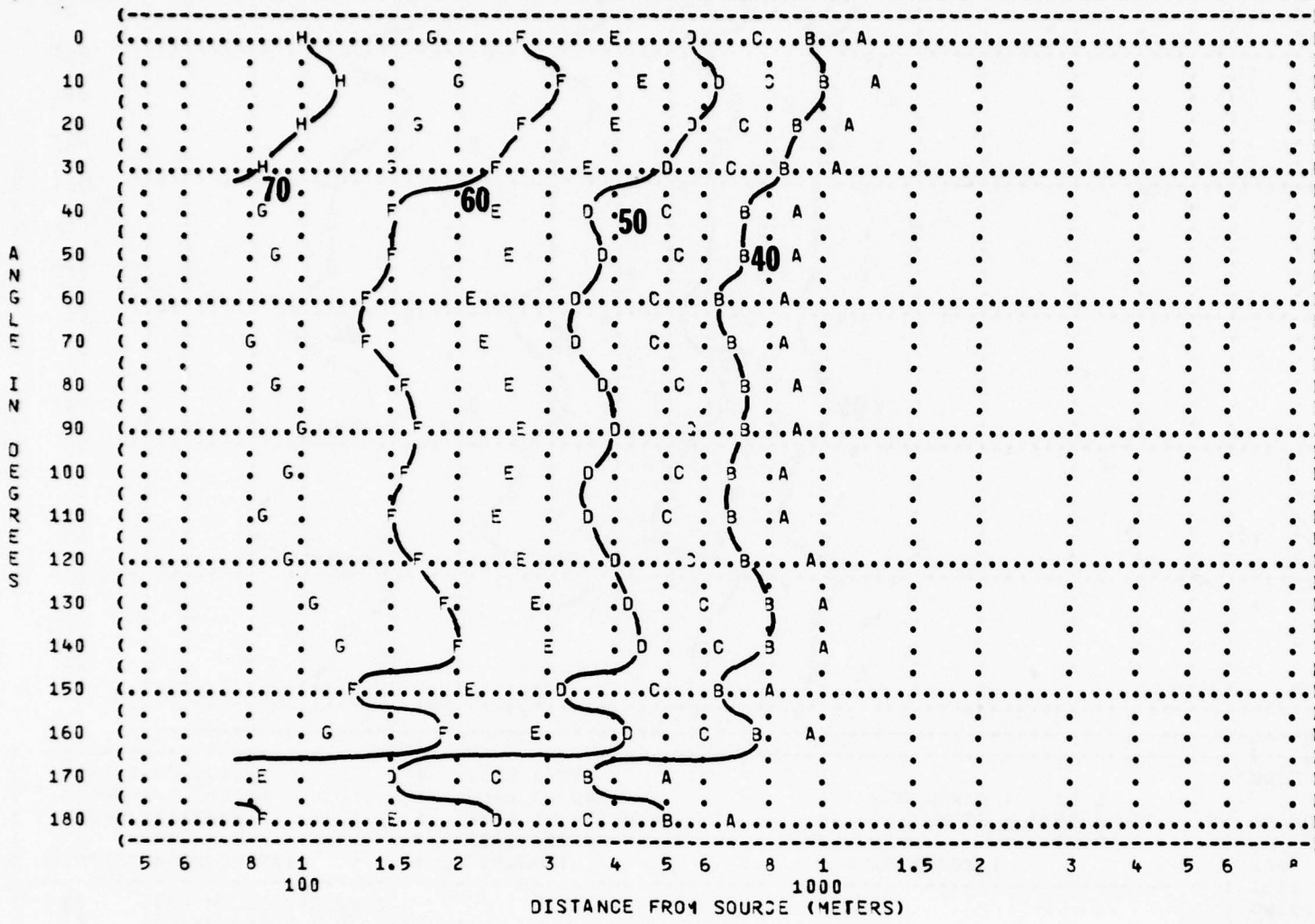


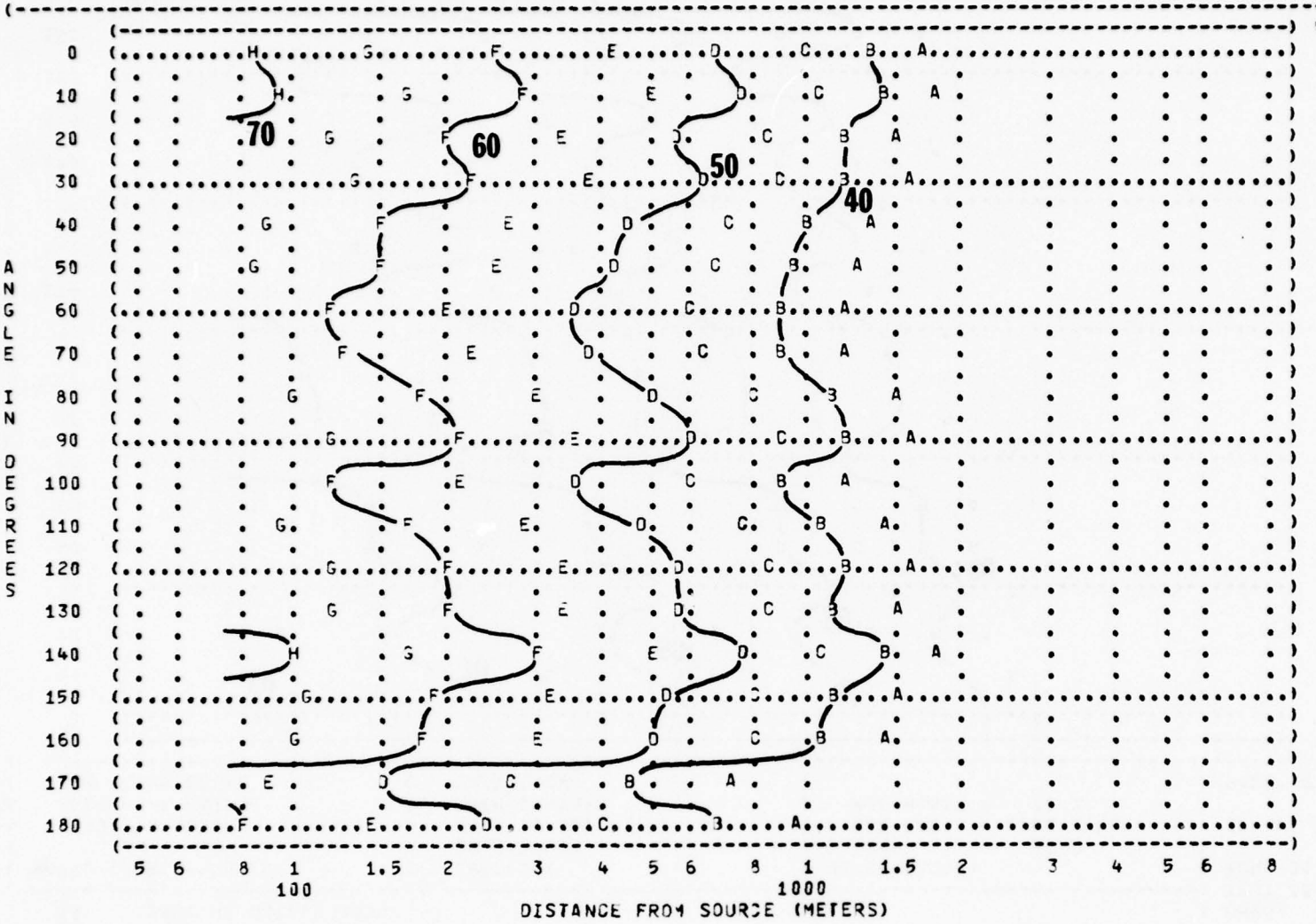
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-048 RUN 01 25 AUG 76 PAGE 22

NOISE SOURCE/SUBJECT: T-39A AIRCRAFT; J60-P-3/A ENGINE; FAR FIELD NOISE

OPERATION: IDLE POWER; 30.0 IN HG, PT-5; BOTH ENGINES; FREE FLOW

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



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70

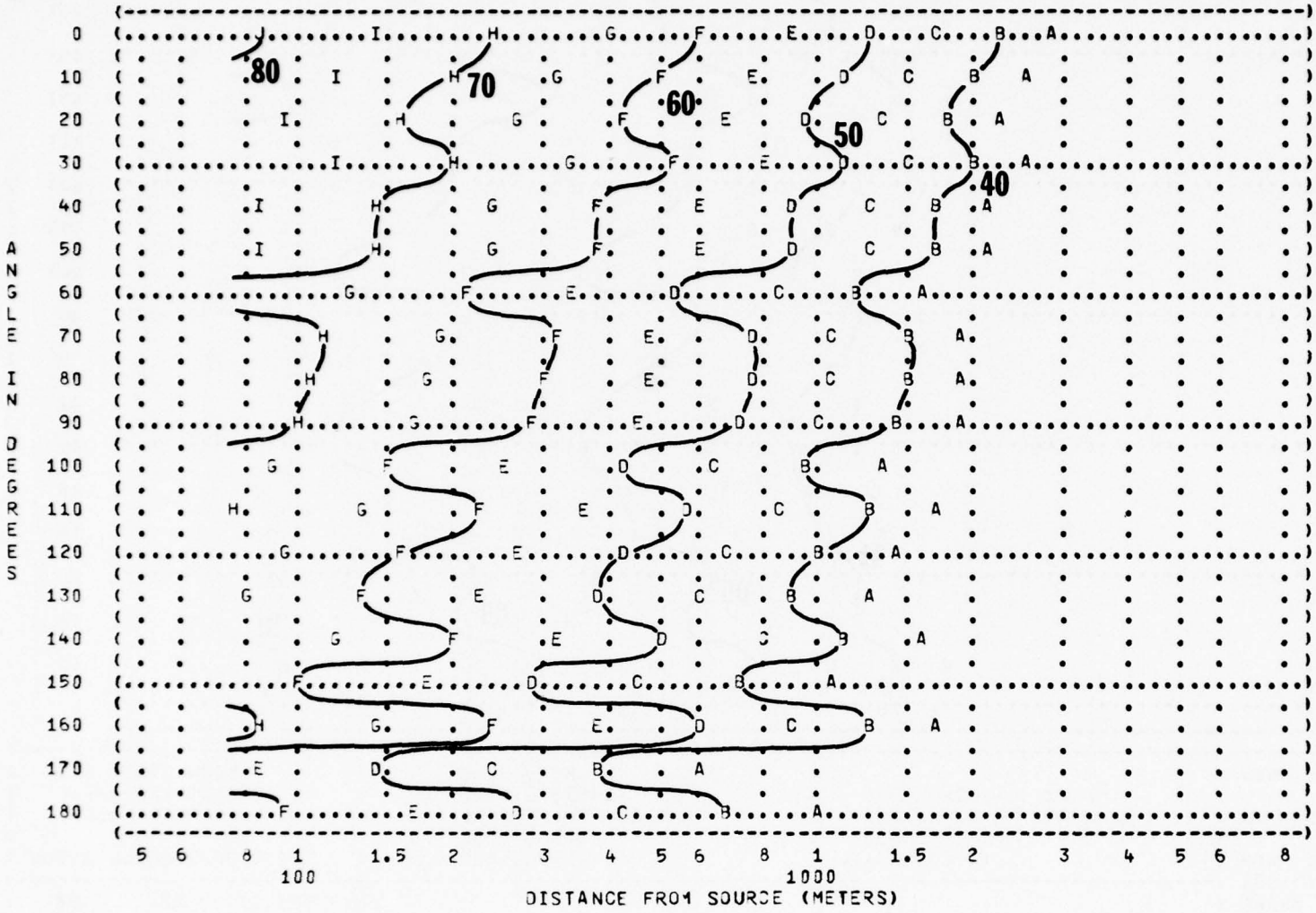
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 23



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

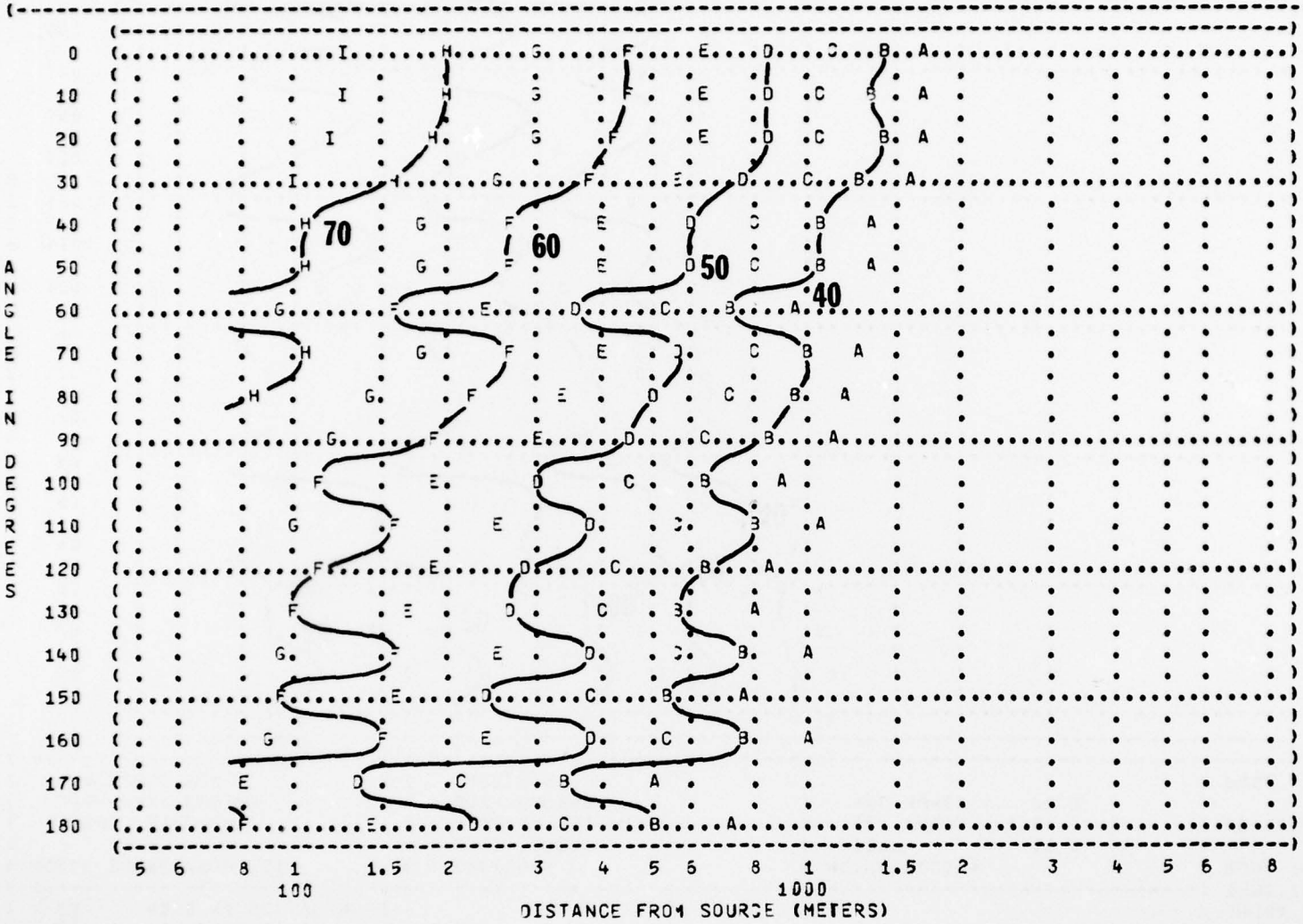
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 24

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



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

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 25

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

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

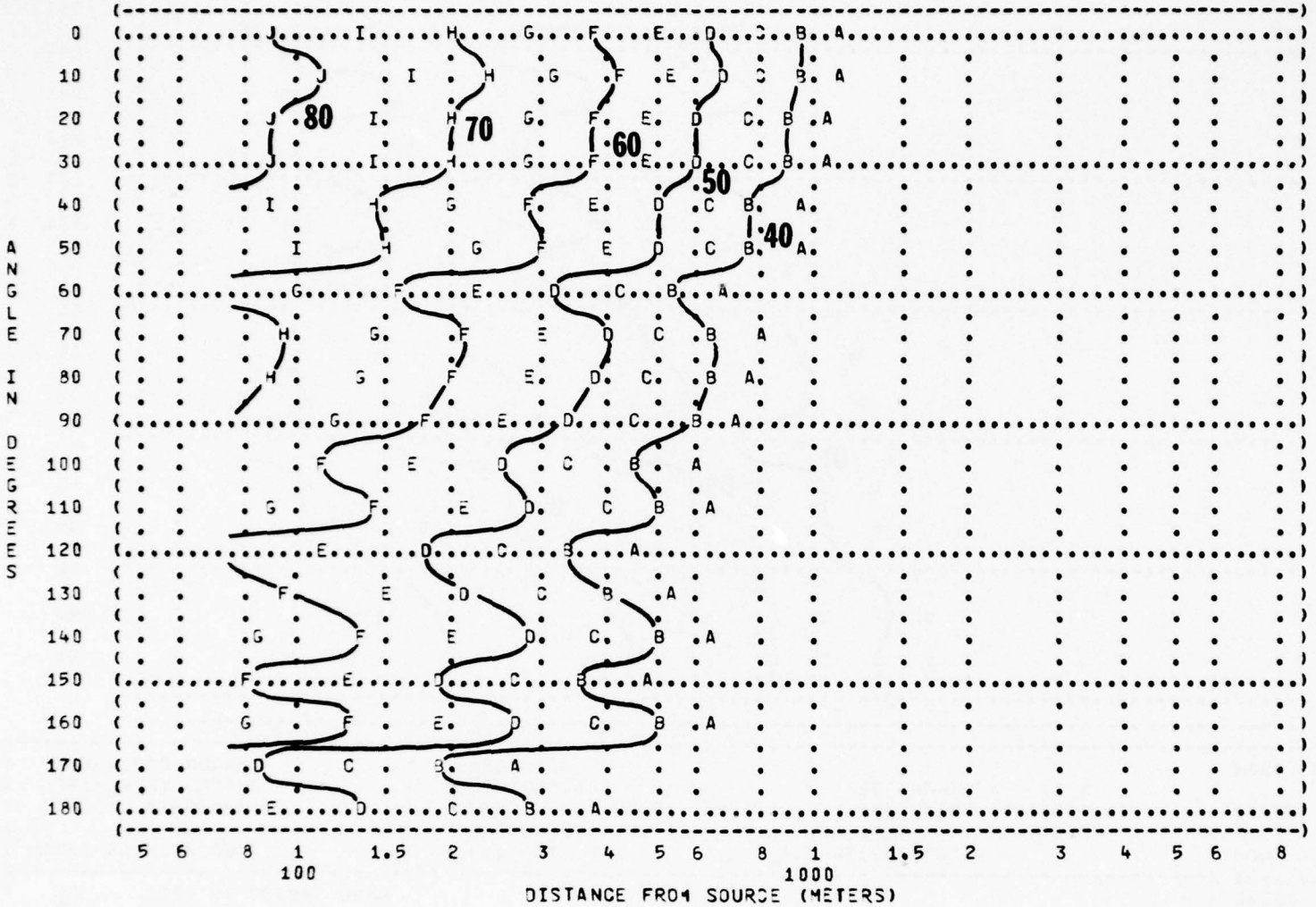


FIGURE: 11

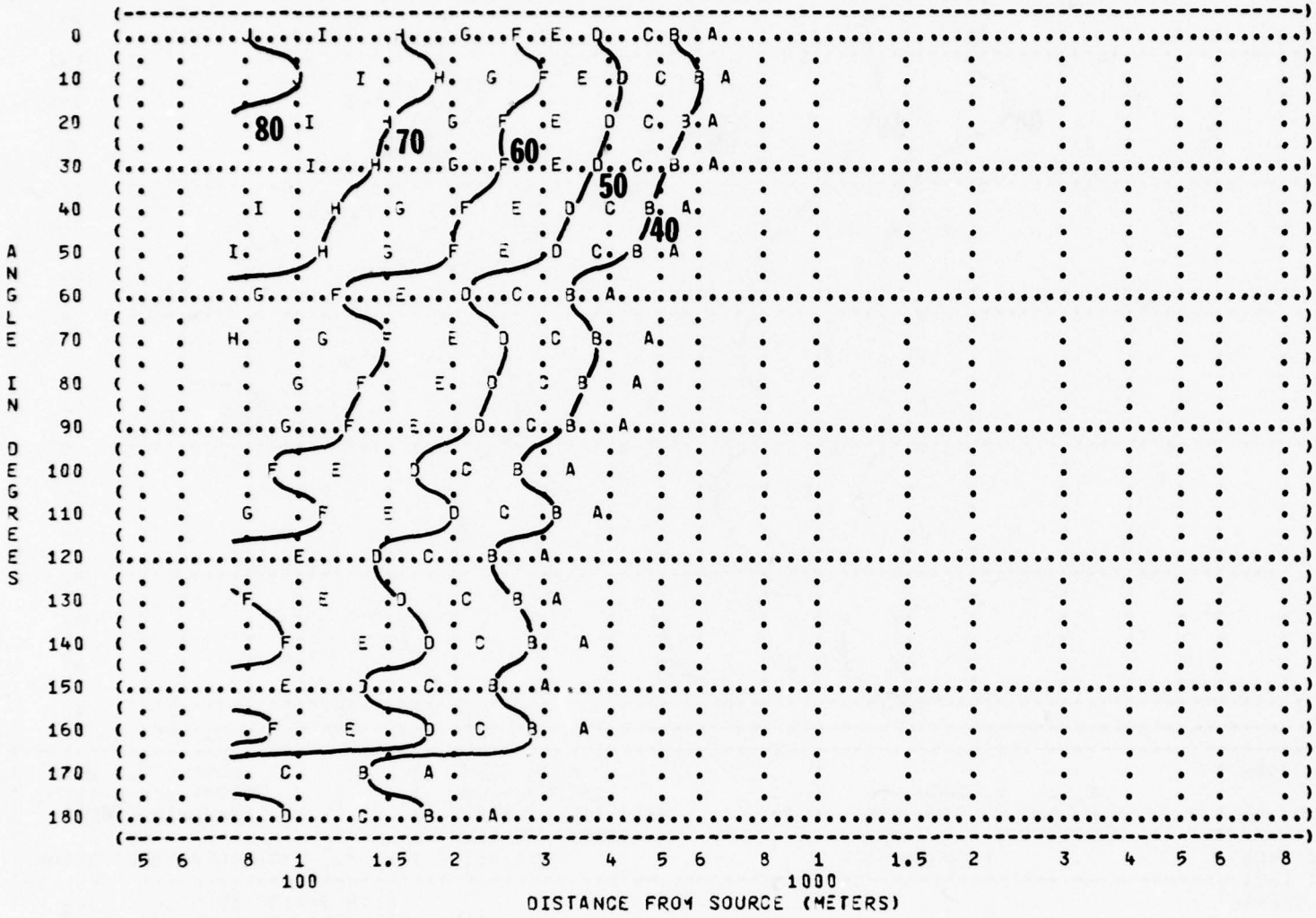
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
30.0 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 01
25 AUG 76
PAGE 26



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

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 18

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

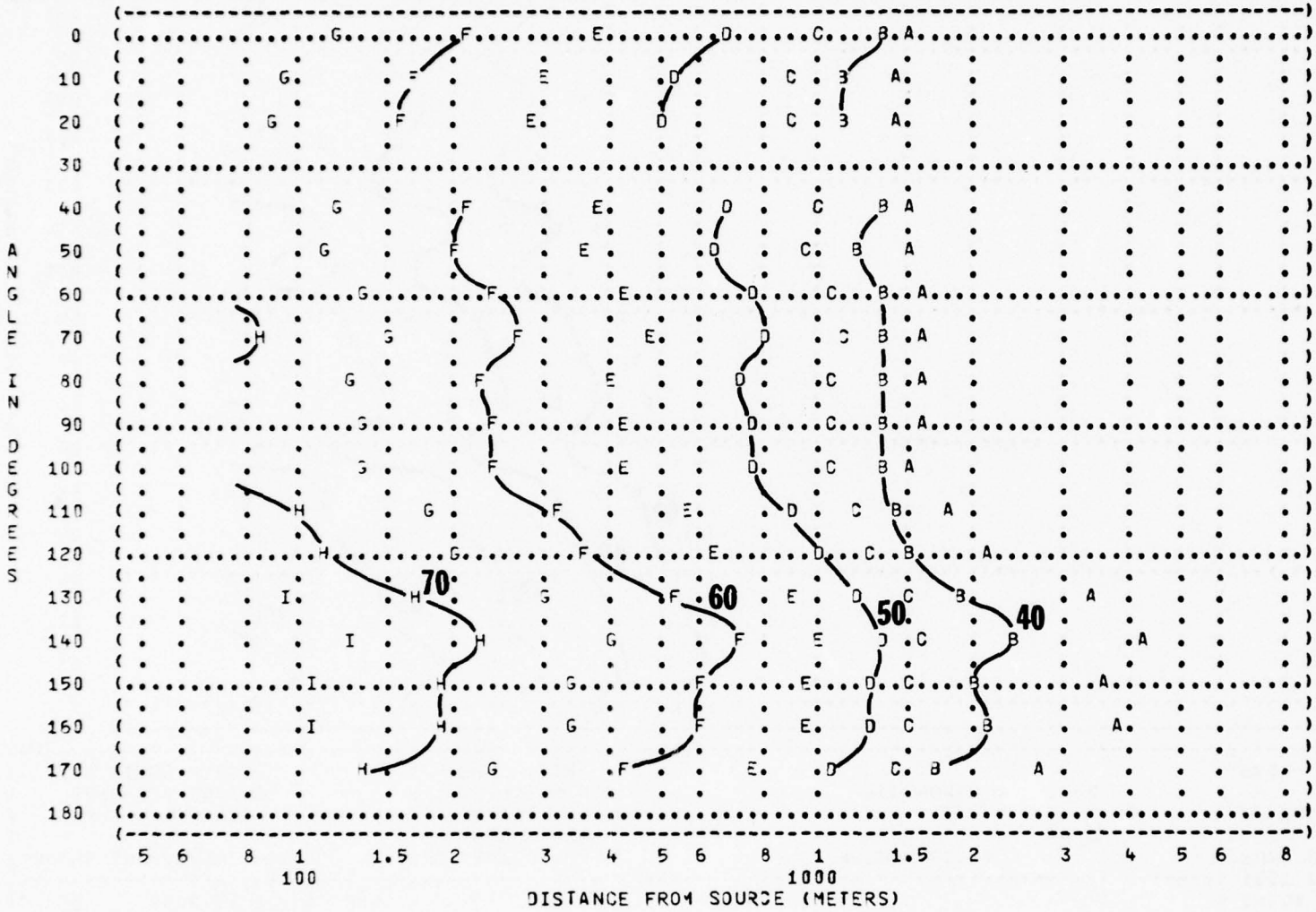


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 19

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

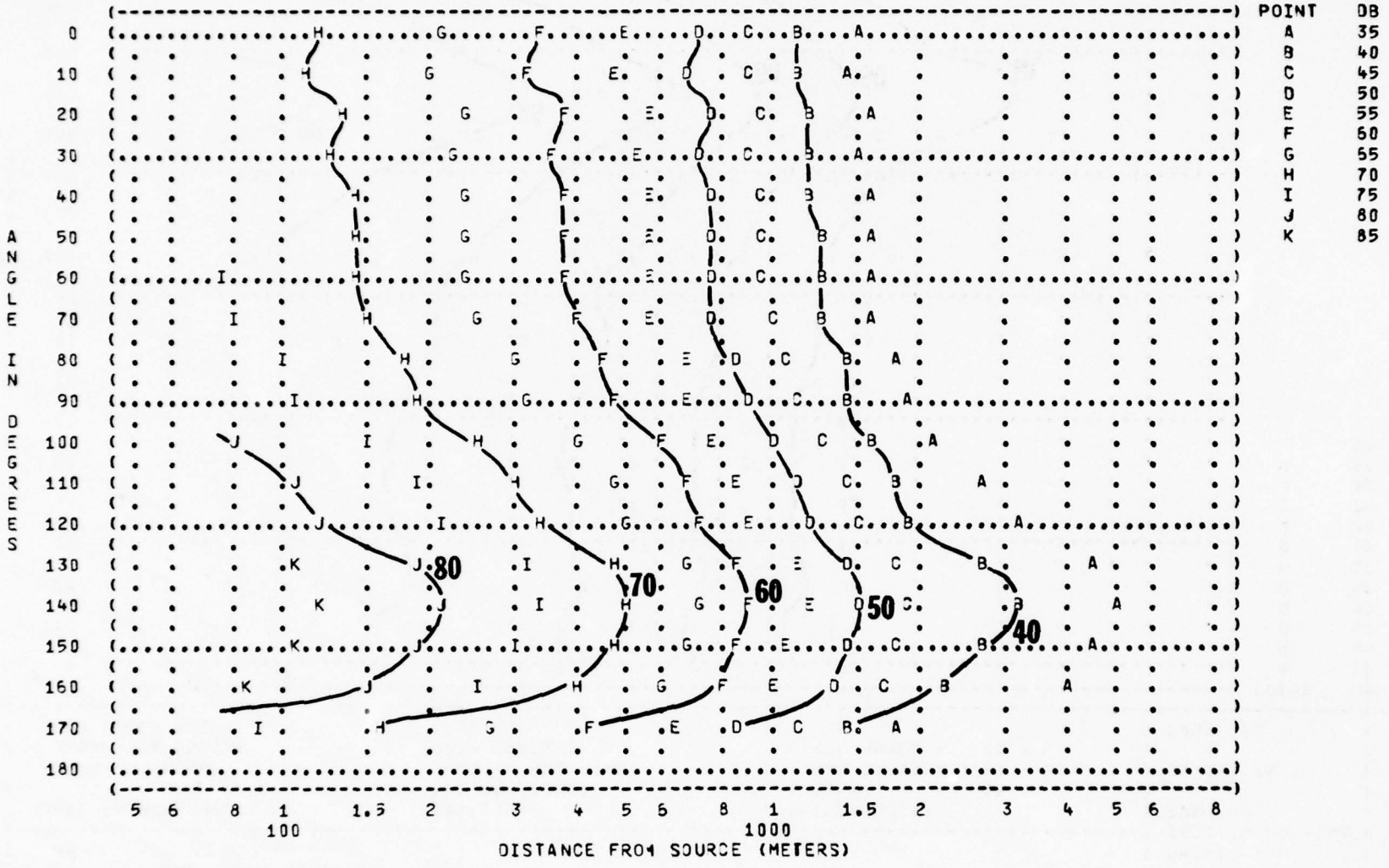


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 20

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

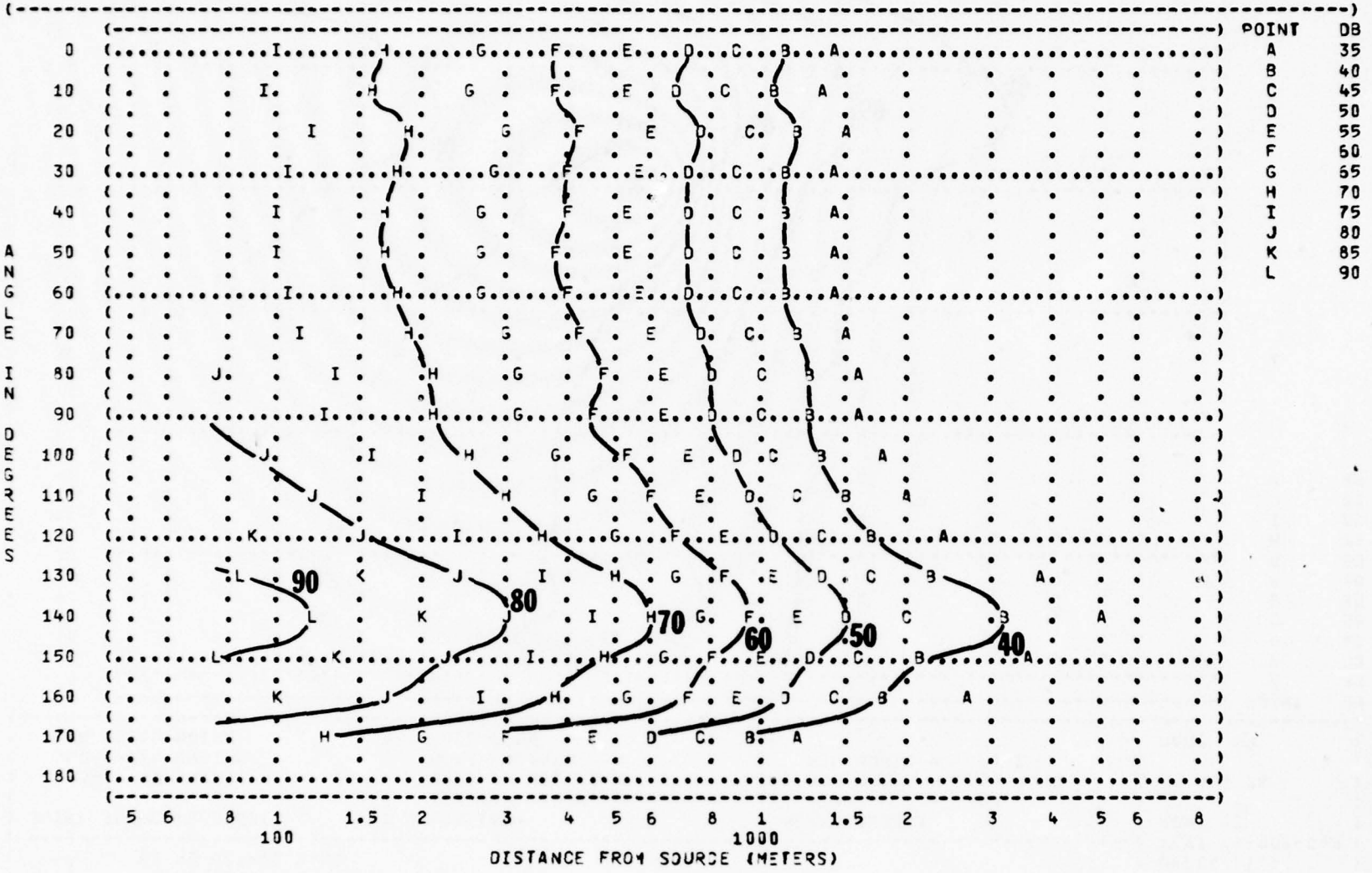


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 21

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

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

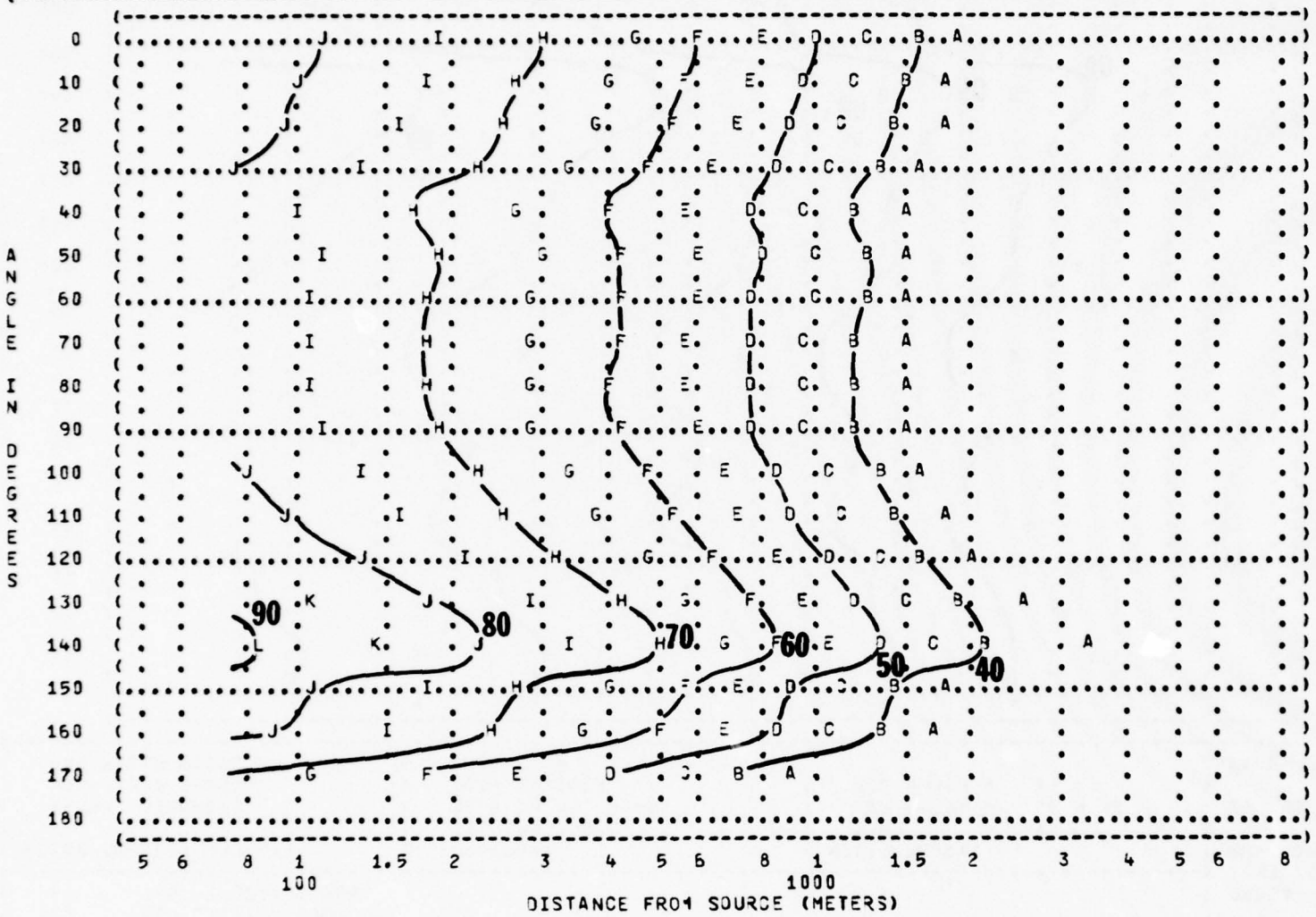


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 22

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

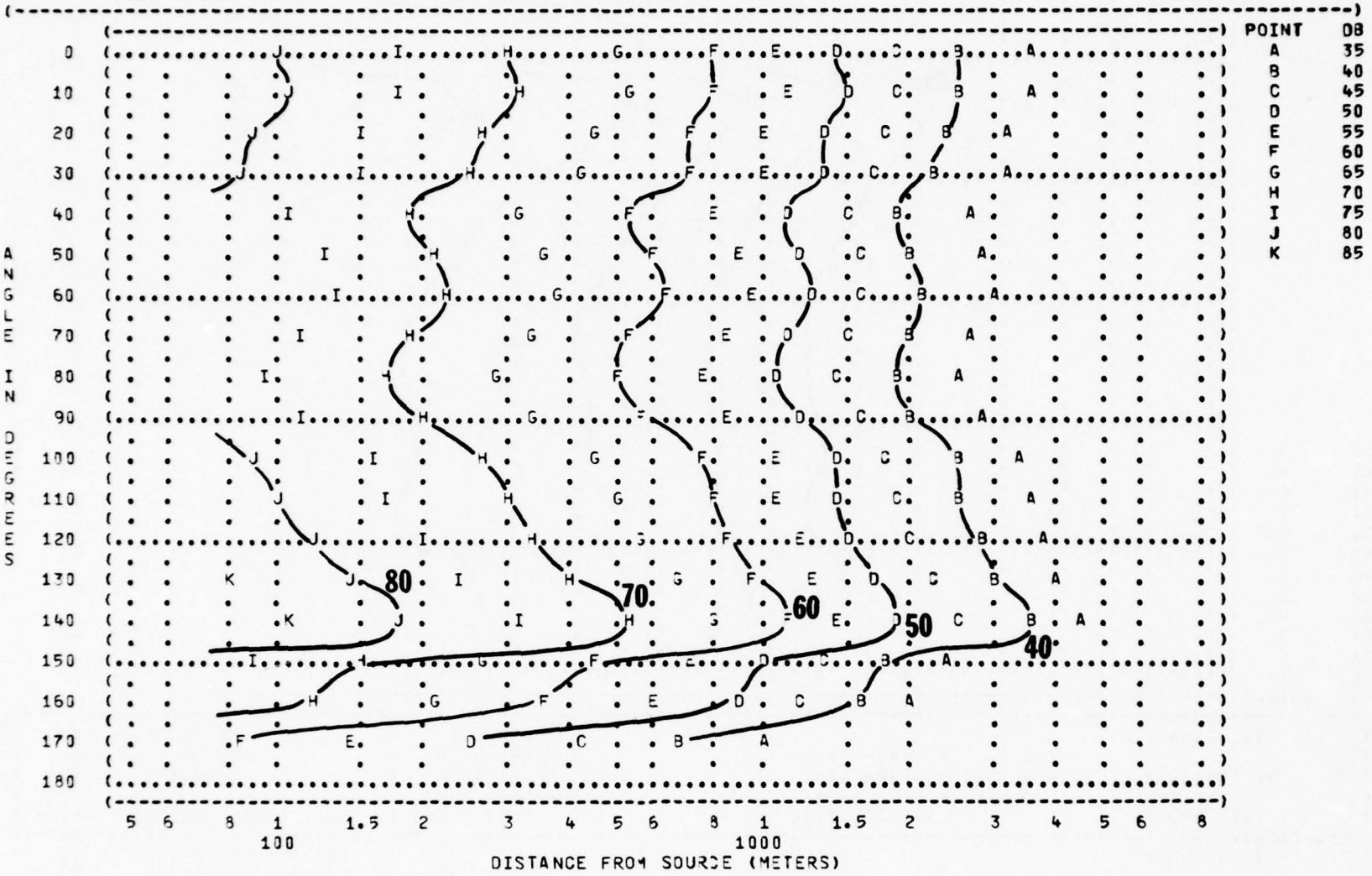


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 23

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

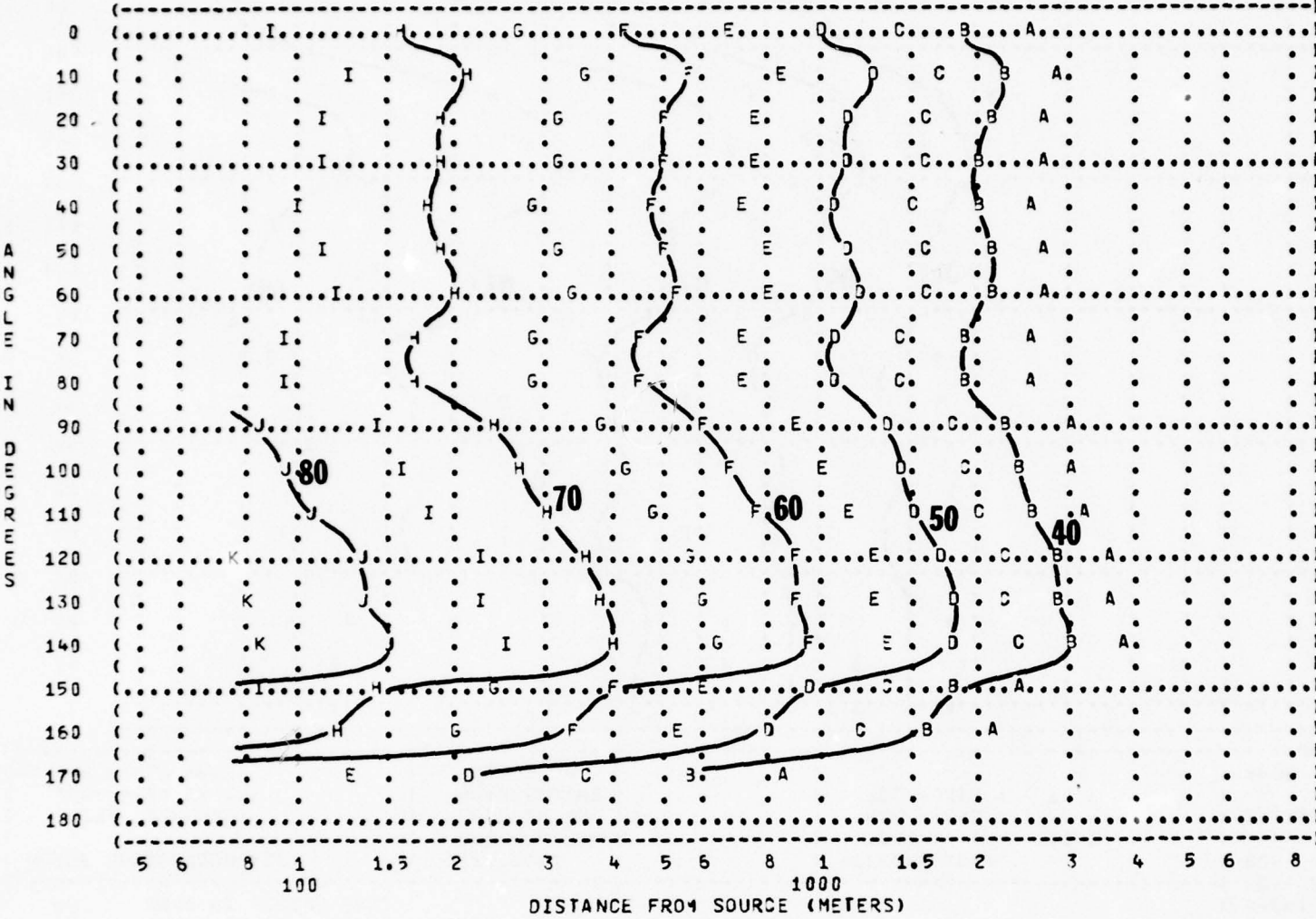


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 24

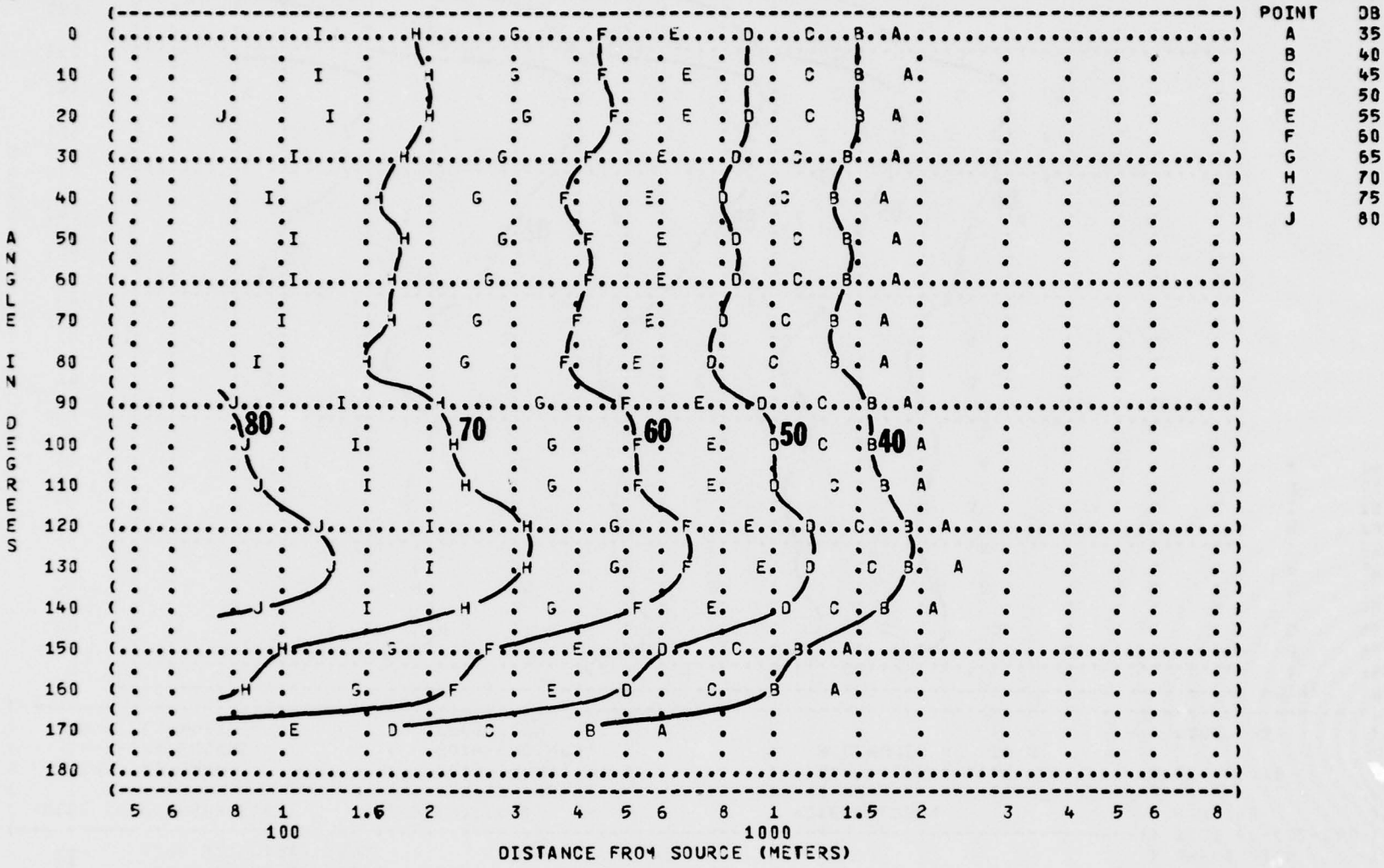


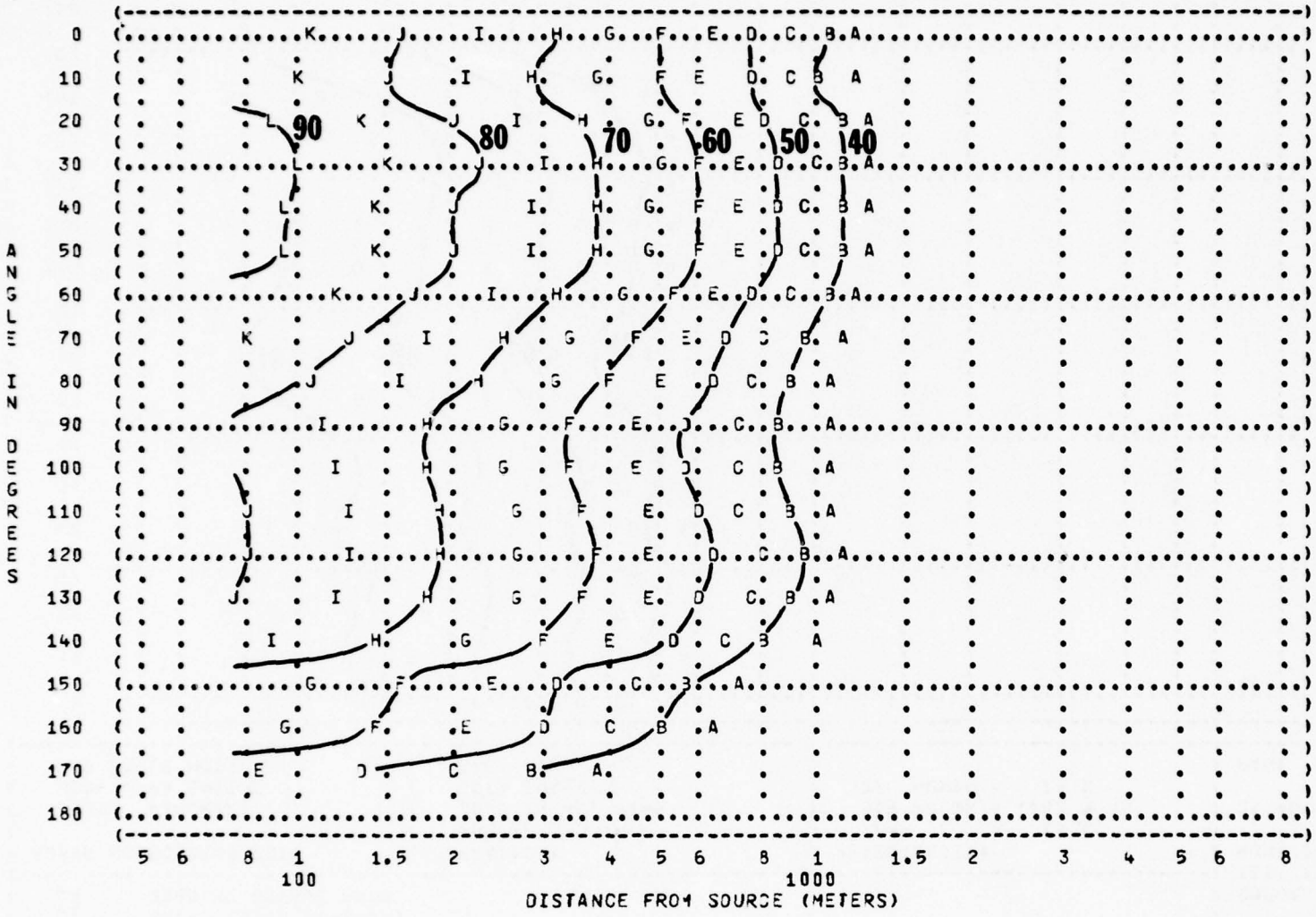
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 25



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

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM POWER
36.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 02
25 AUG 76
PAGE 26

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

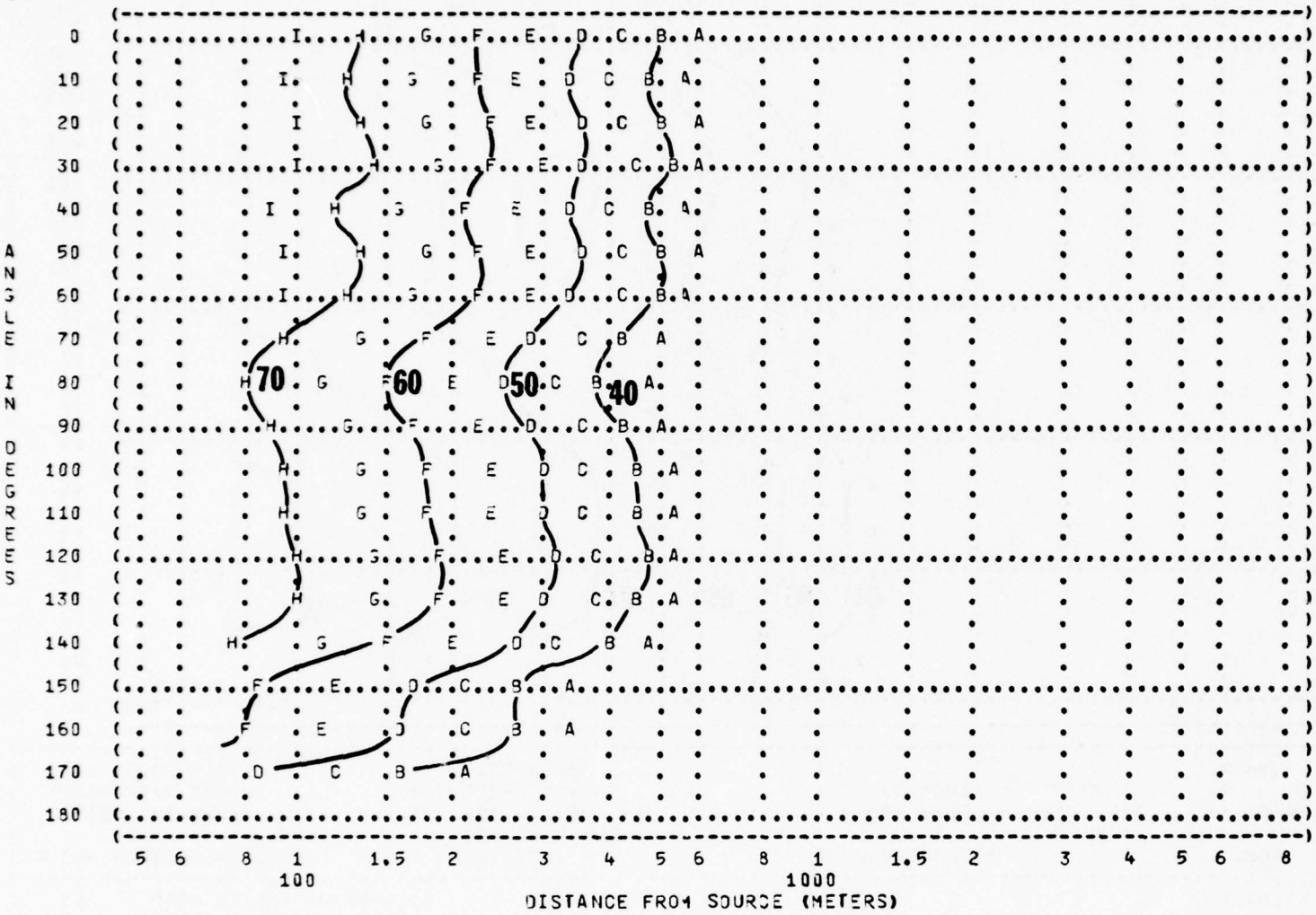


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 18

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

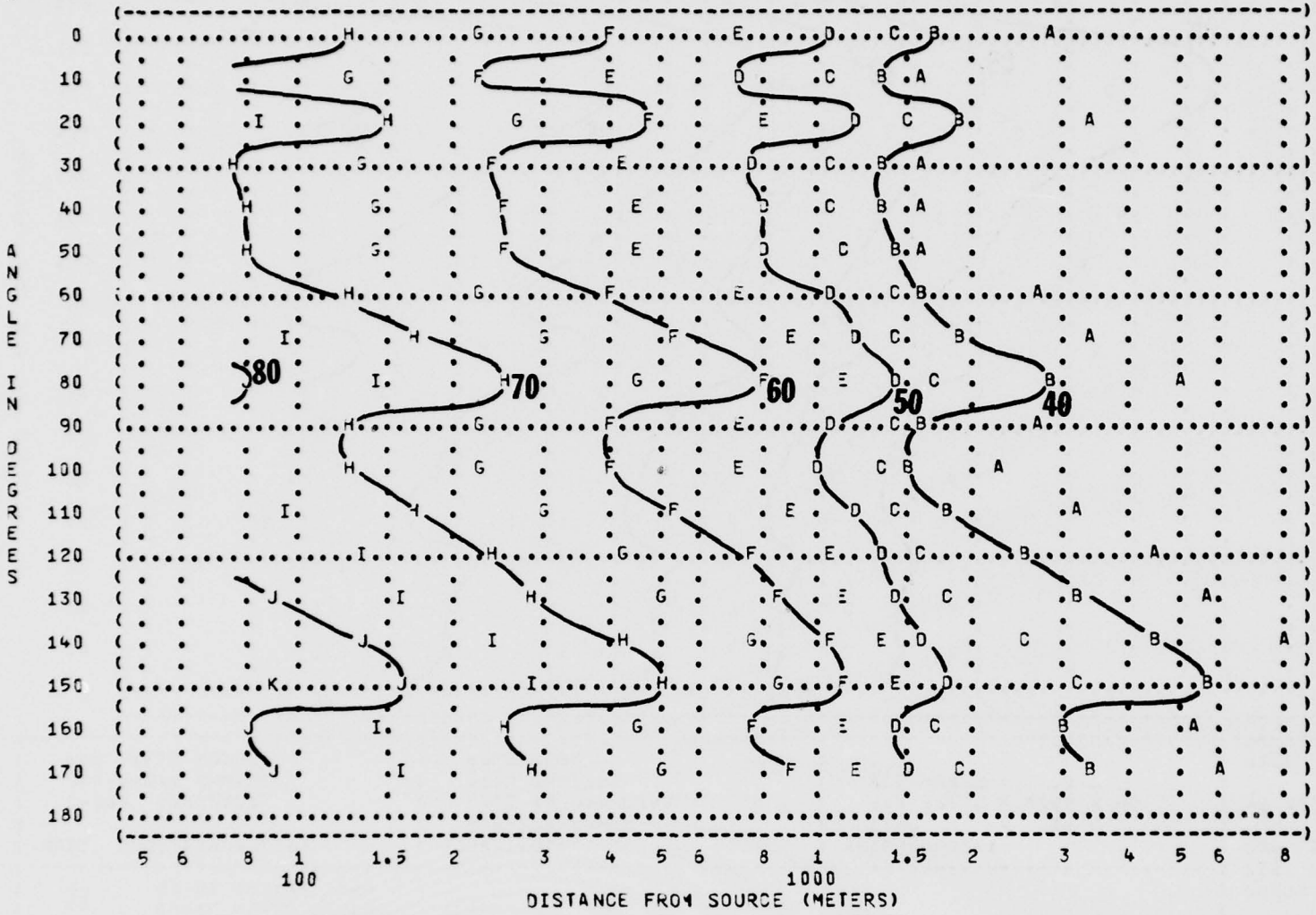


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-048 RUN 03 25 AUG 76 PAGE 19

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

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

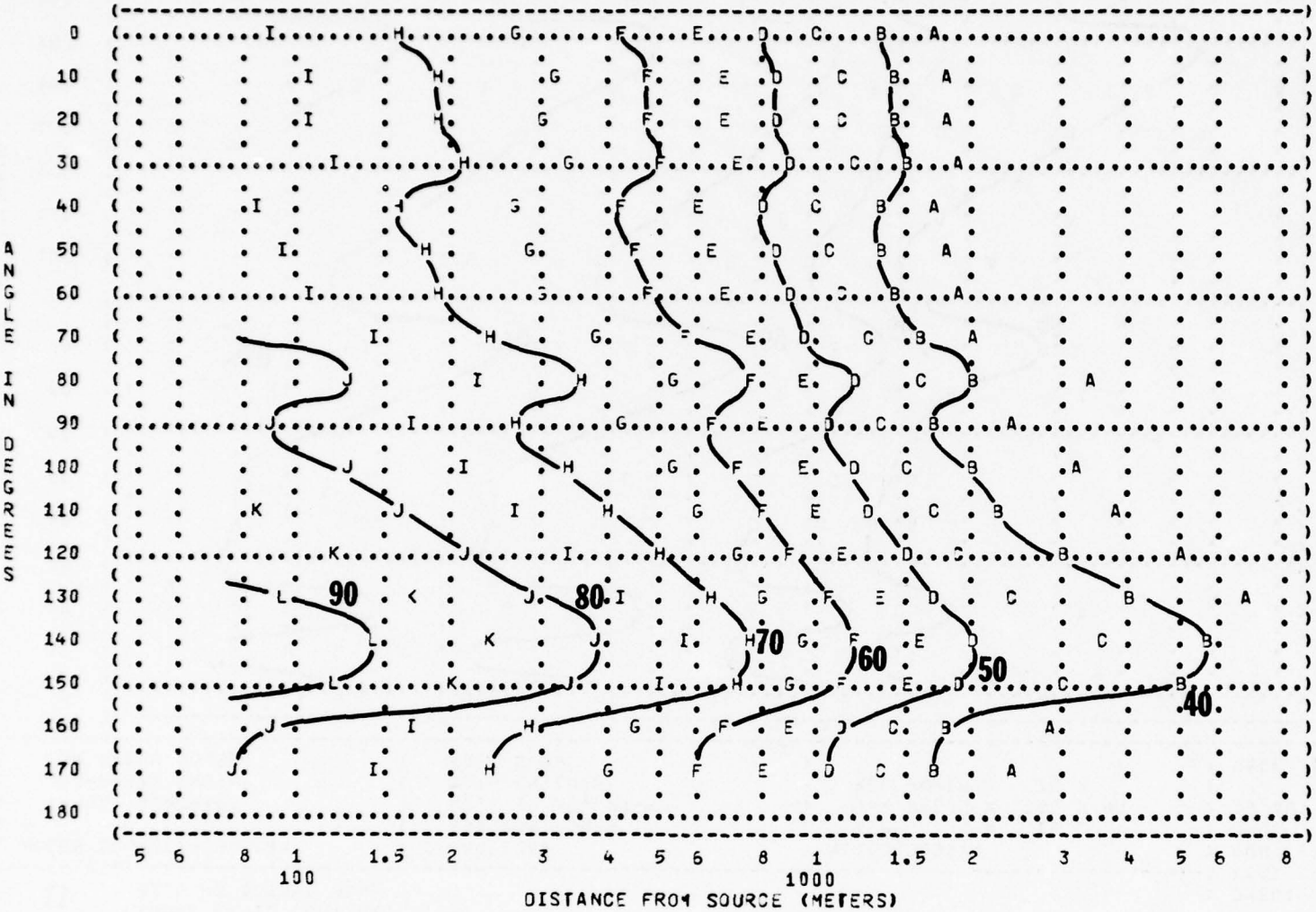


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 20

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

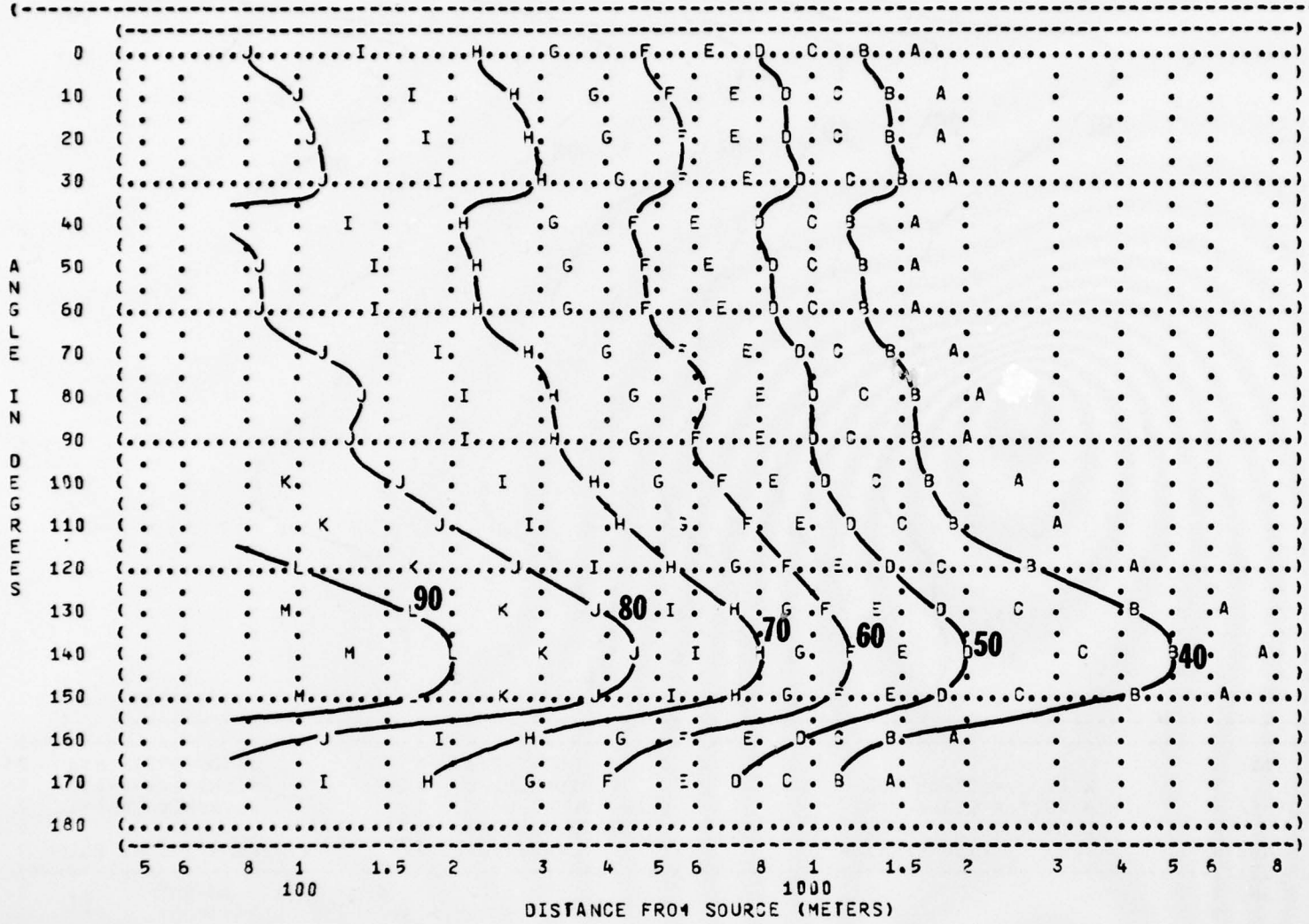


FIGURE 11

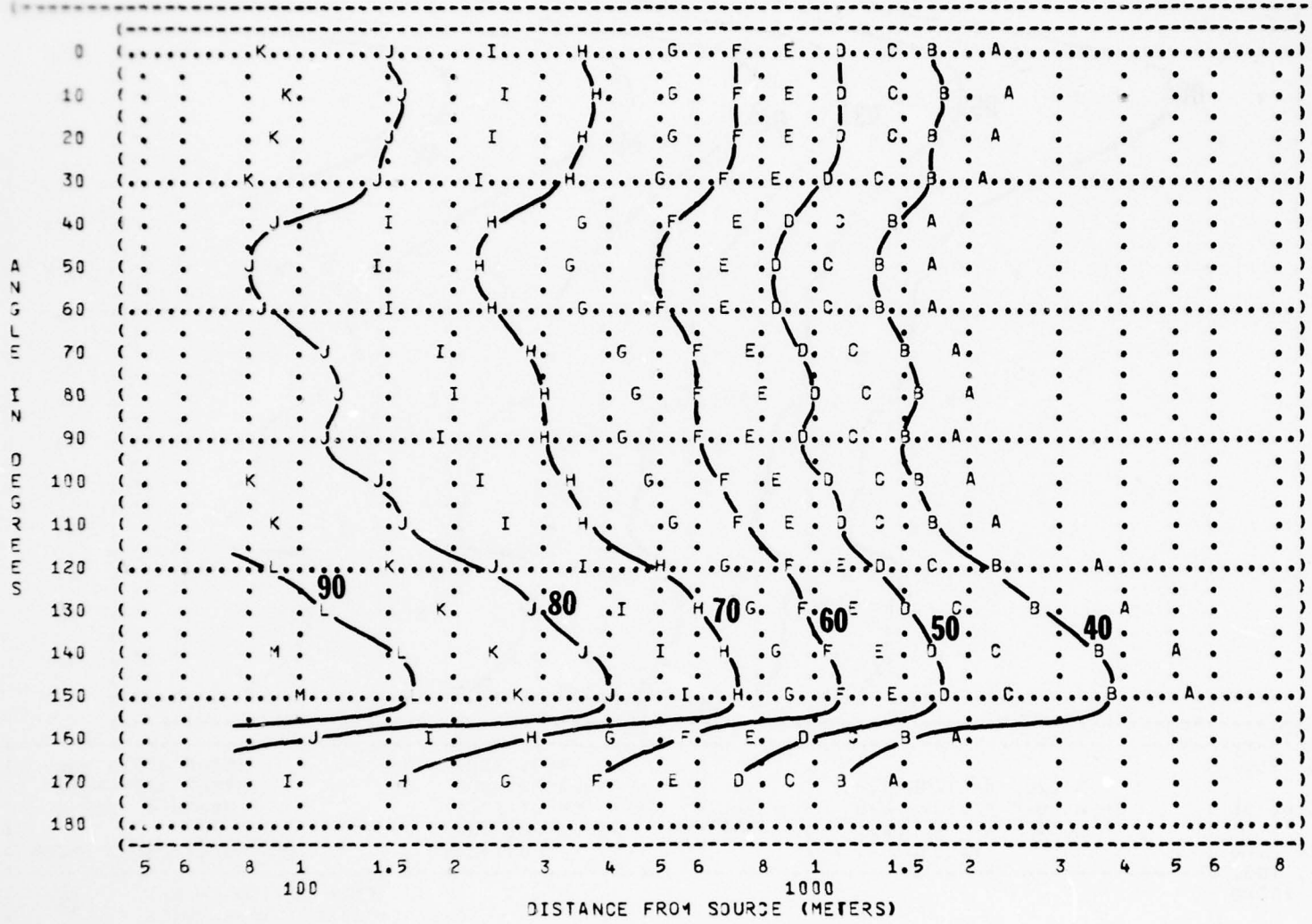
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-38A AIRCRAFT
J85-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 21



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

FIGURE: 11

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

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 22

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

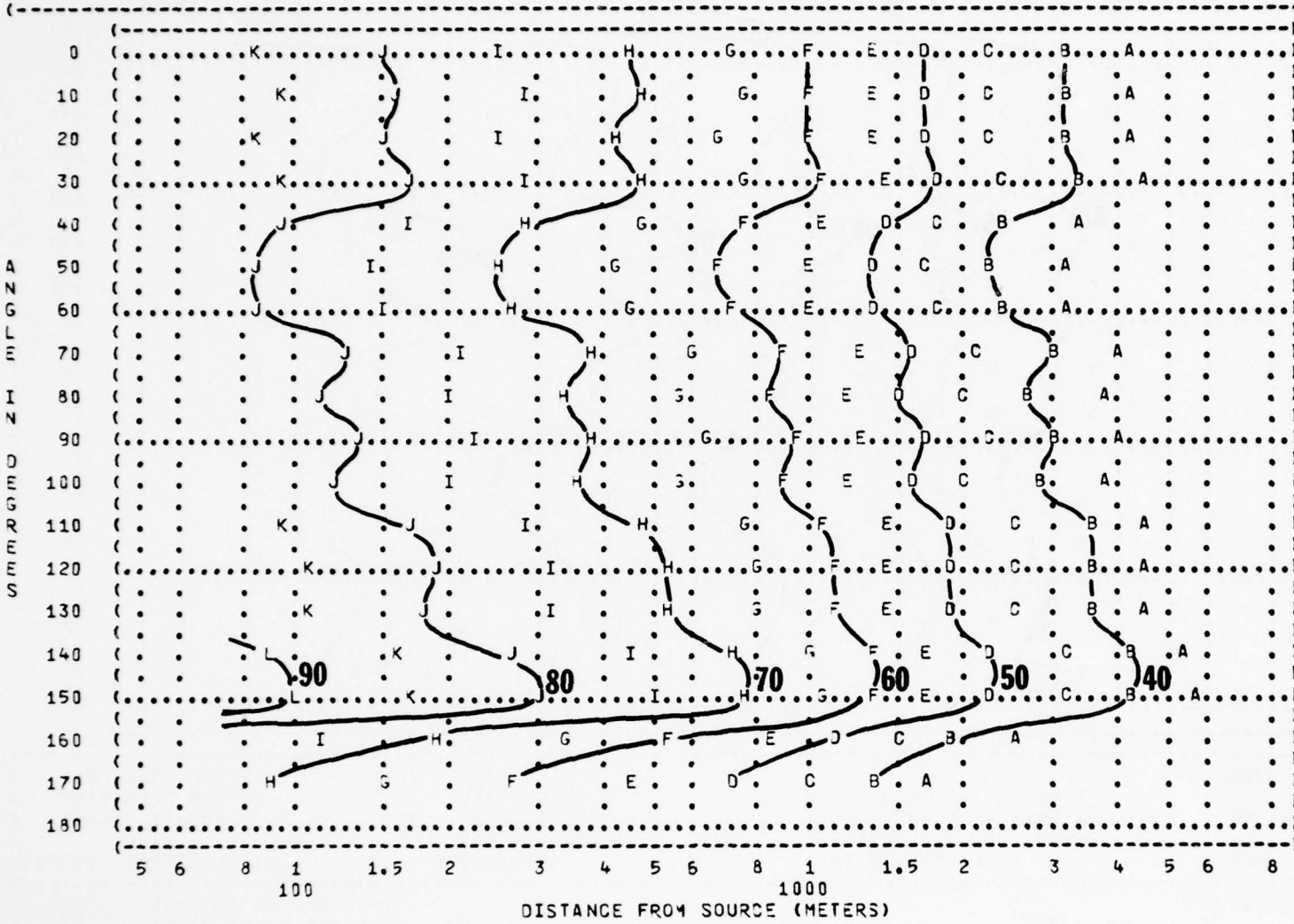


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 23

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

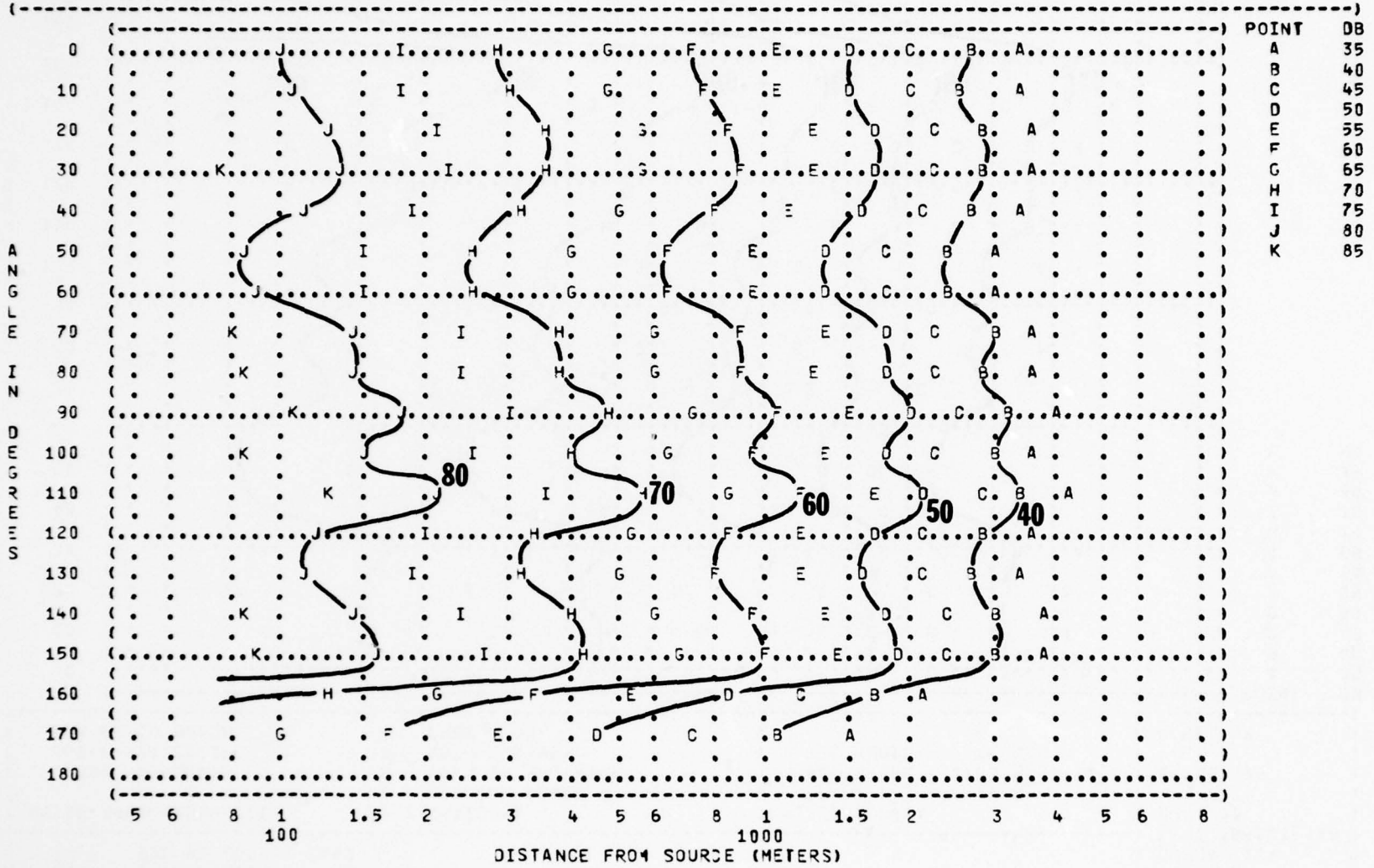


FIGURE: 11

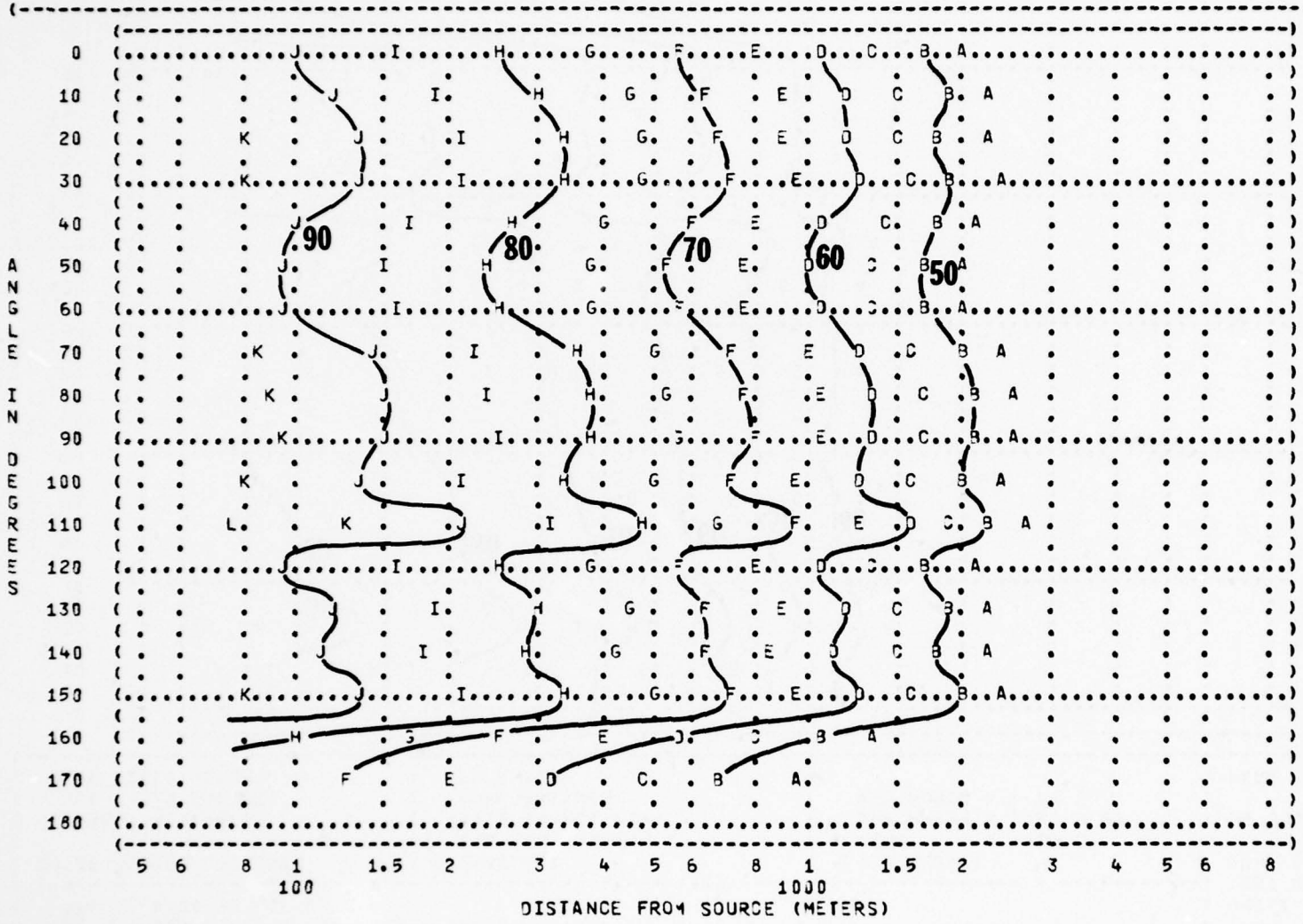
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 24



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

FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 25

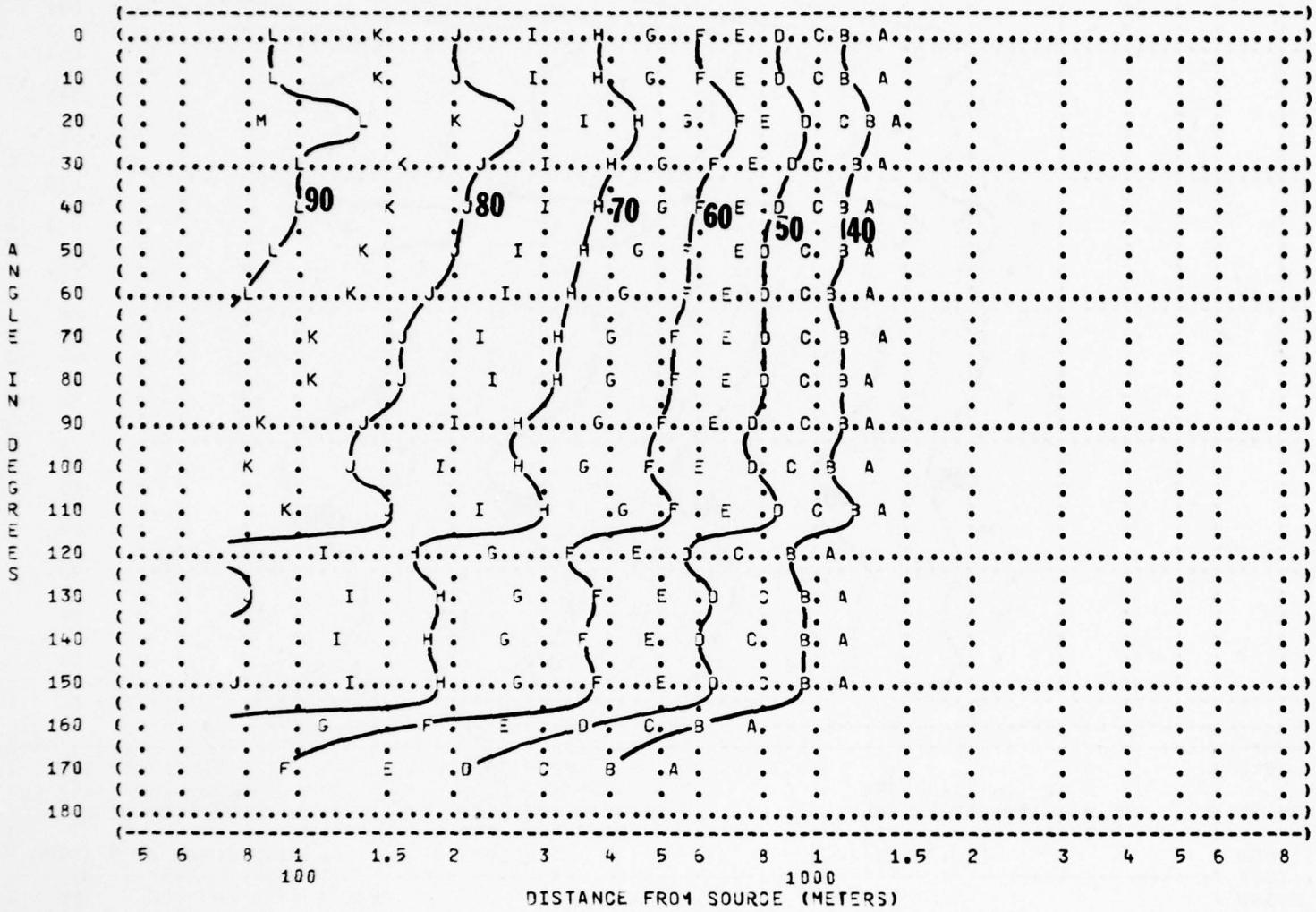


FIGURE: 11

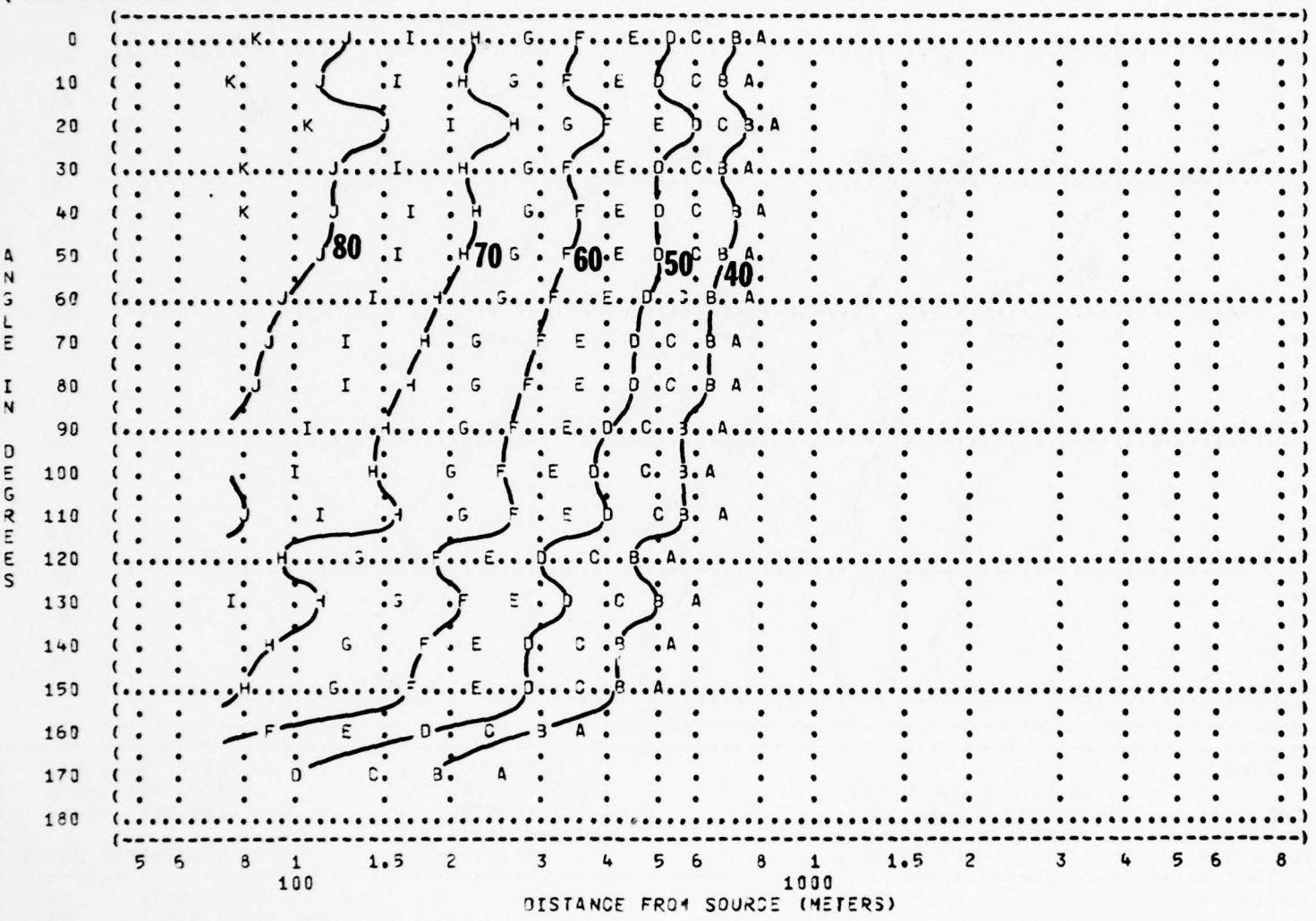
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM POWER
42.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 03
25 AUG 76
PAGE 26



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

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 18

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

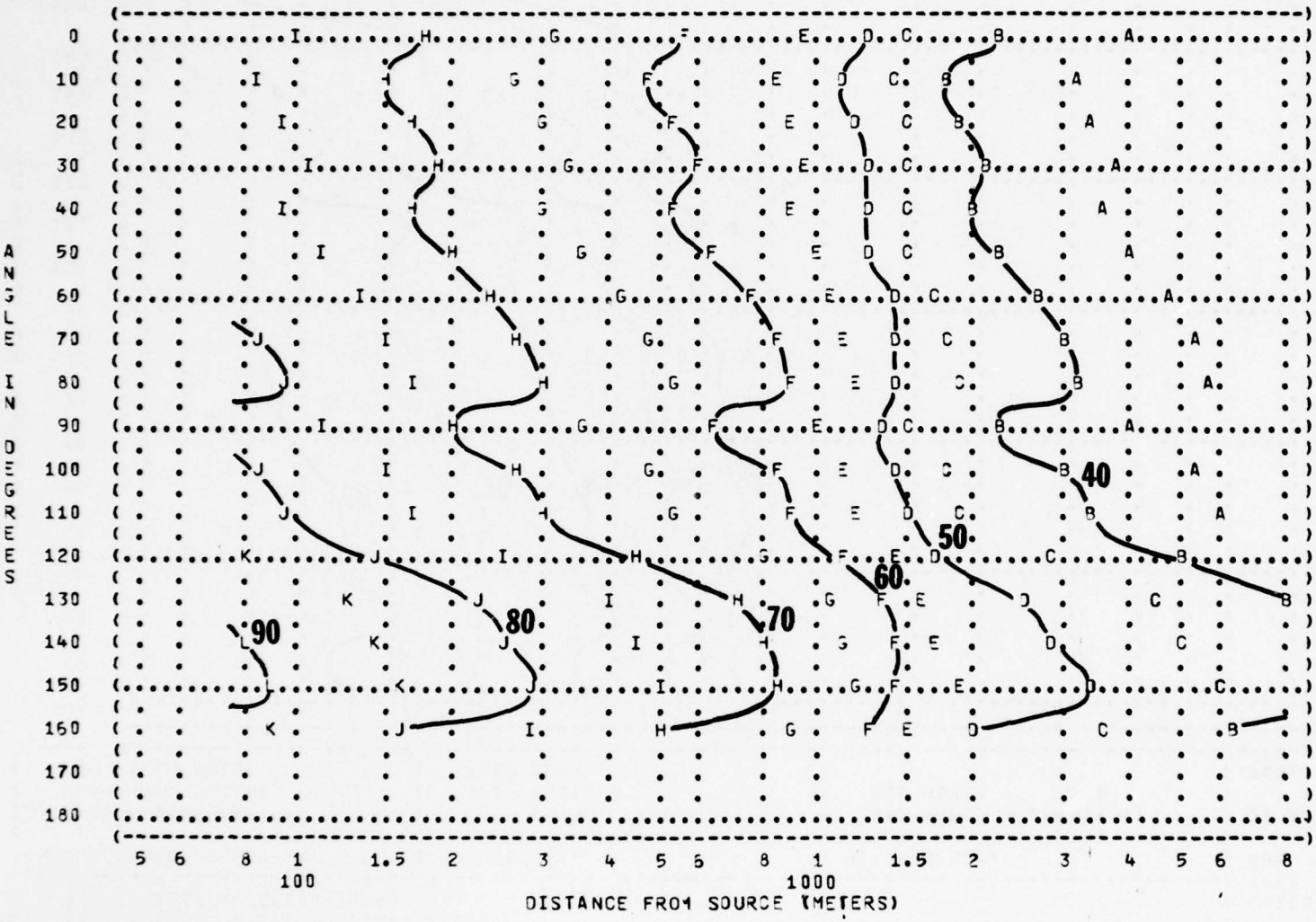


FIGURE: 11

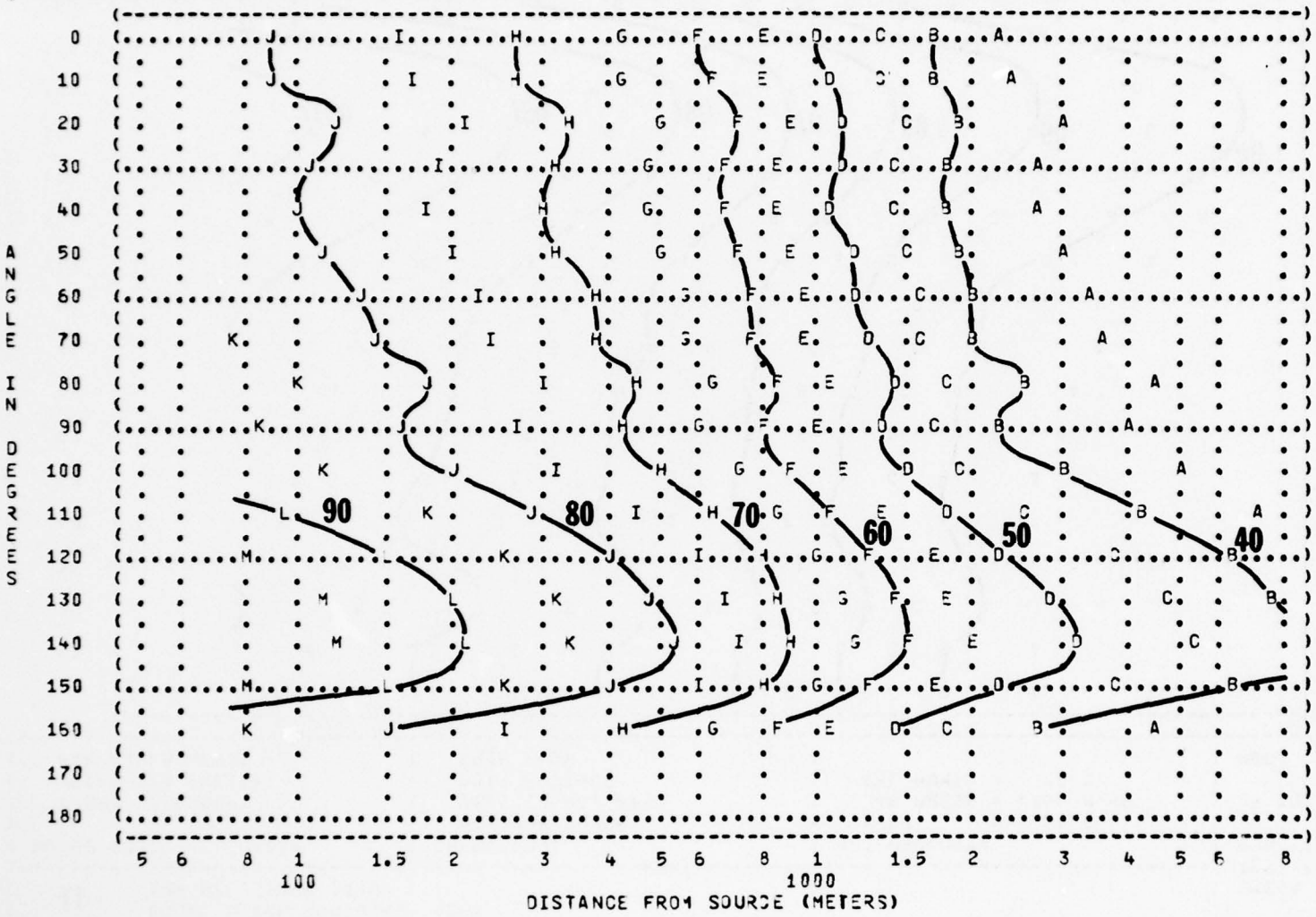
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 19



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

FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 20

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	55
H	70
I	75
J	80
K	85
L	90
M	95
N	100

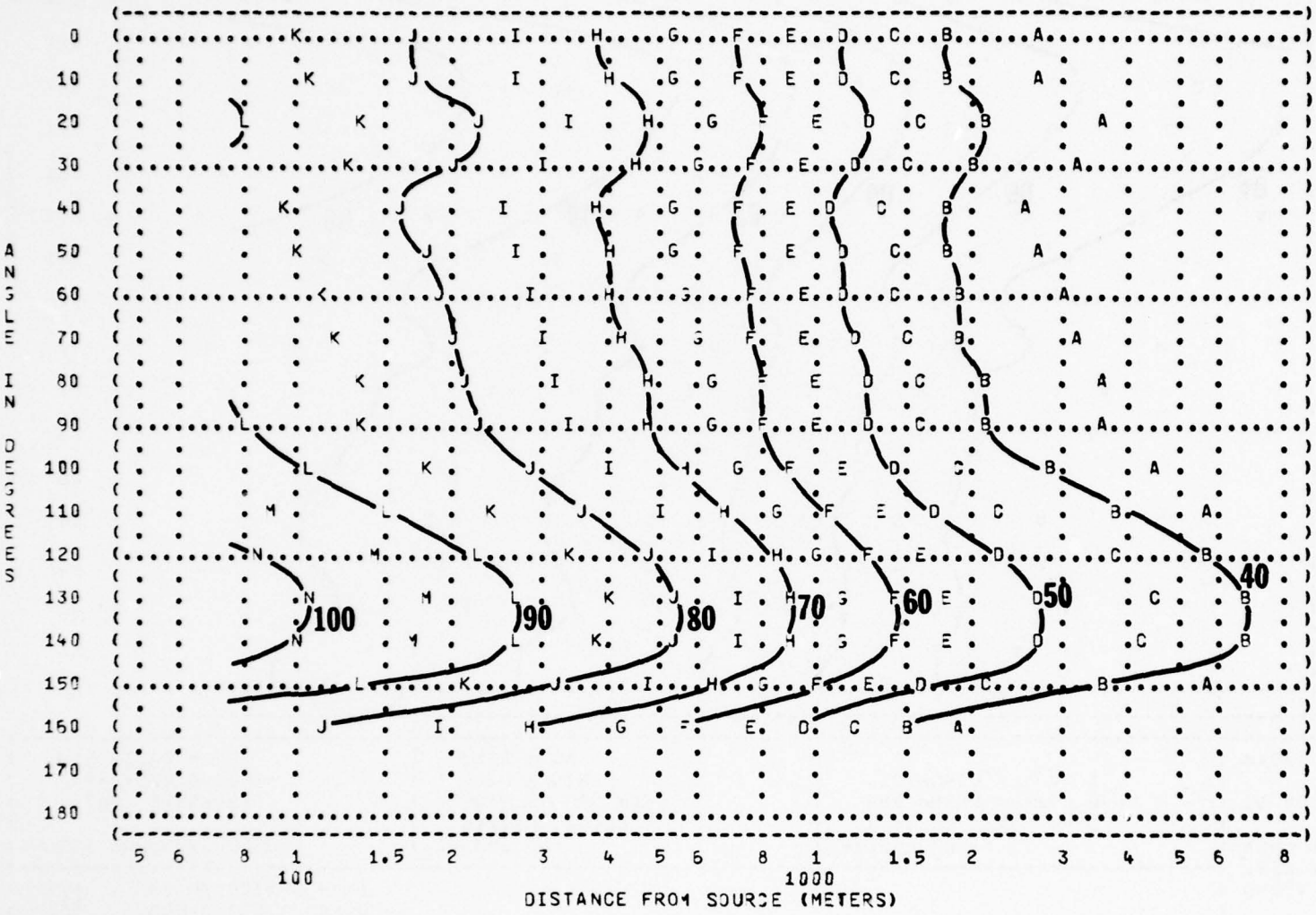


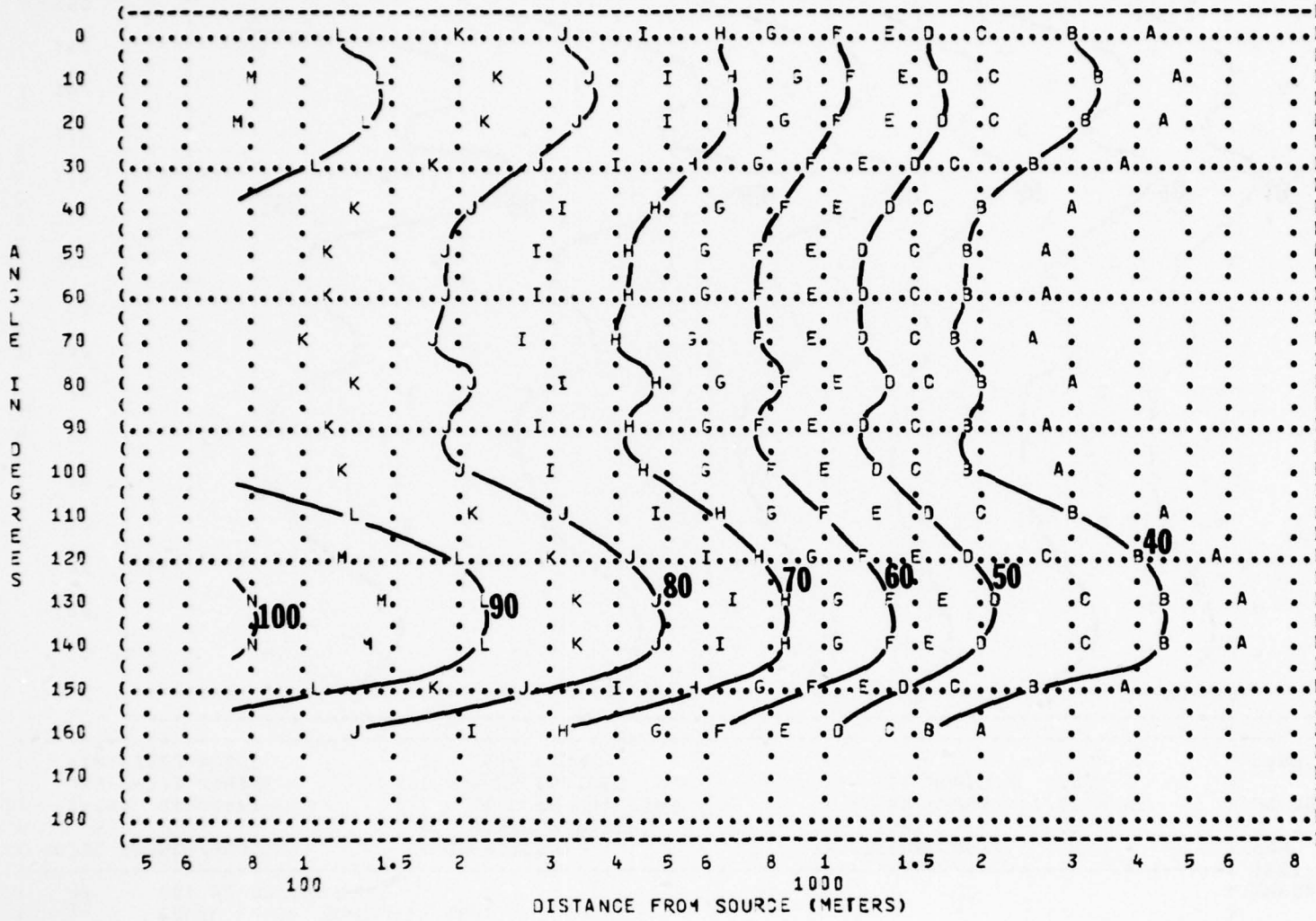
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 21



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

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

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 22

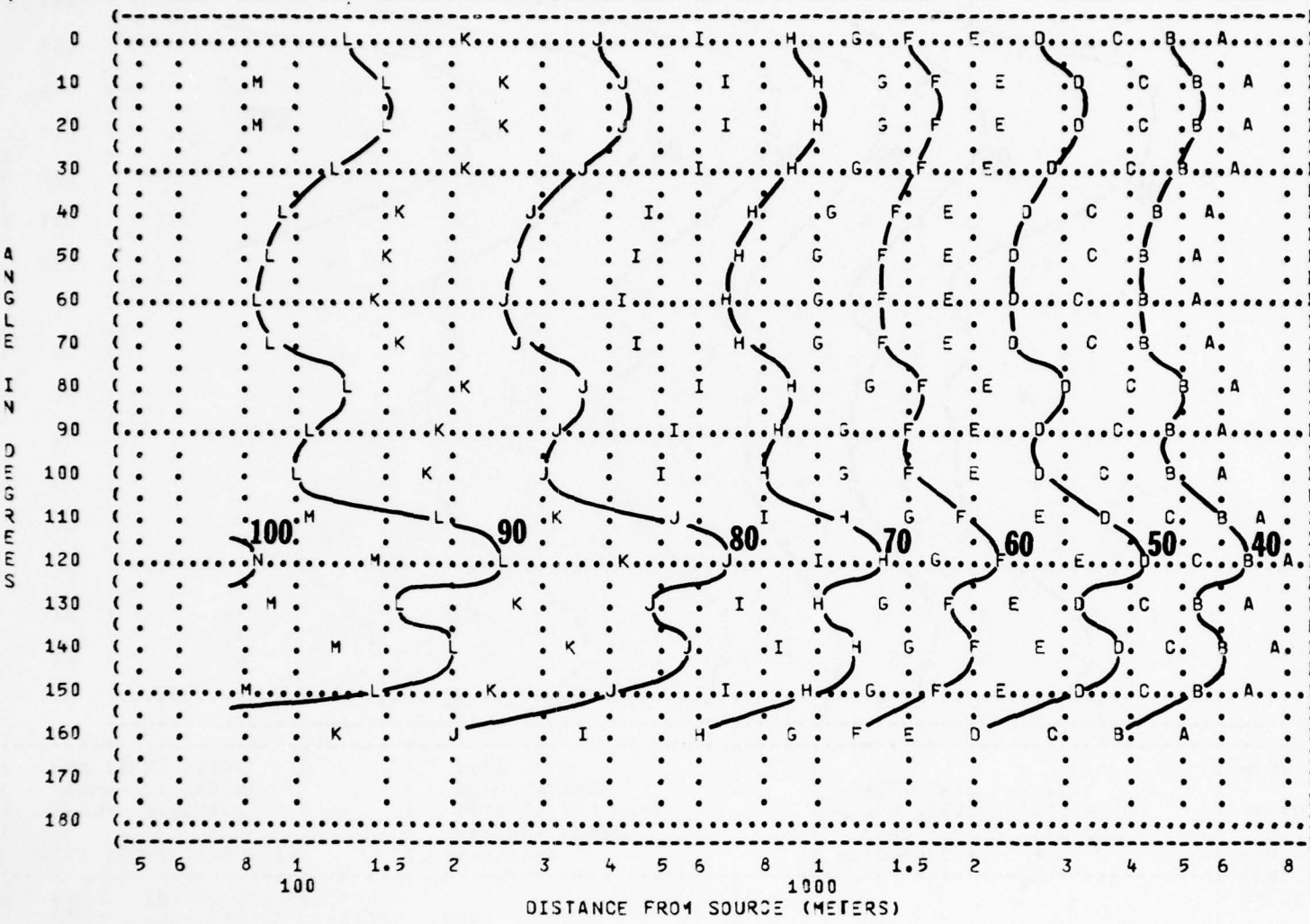


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-048 RUN 04 25 AUG 76 PAGE 23

NOISE SOURCE/SUBJECT: T-39A AIRCRAFT; J60-P-3/A ENGINE; FAR FIELD NOISE

OPERATION: MAXIMUM POWER; 56.5 IN HG, PT-5; BOTH ENGINES; FREE FLOW

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

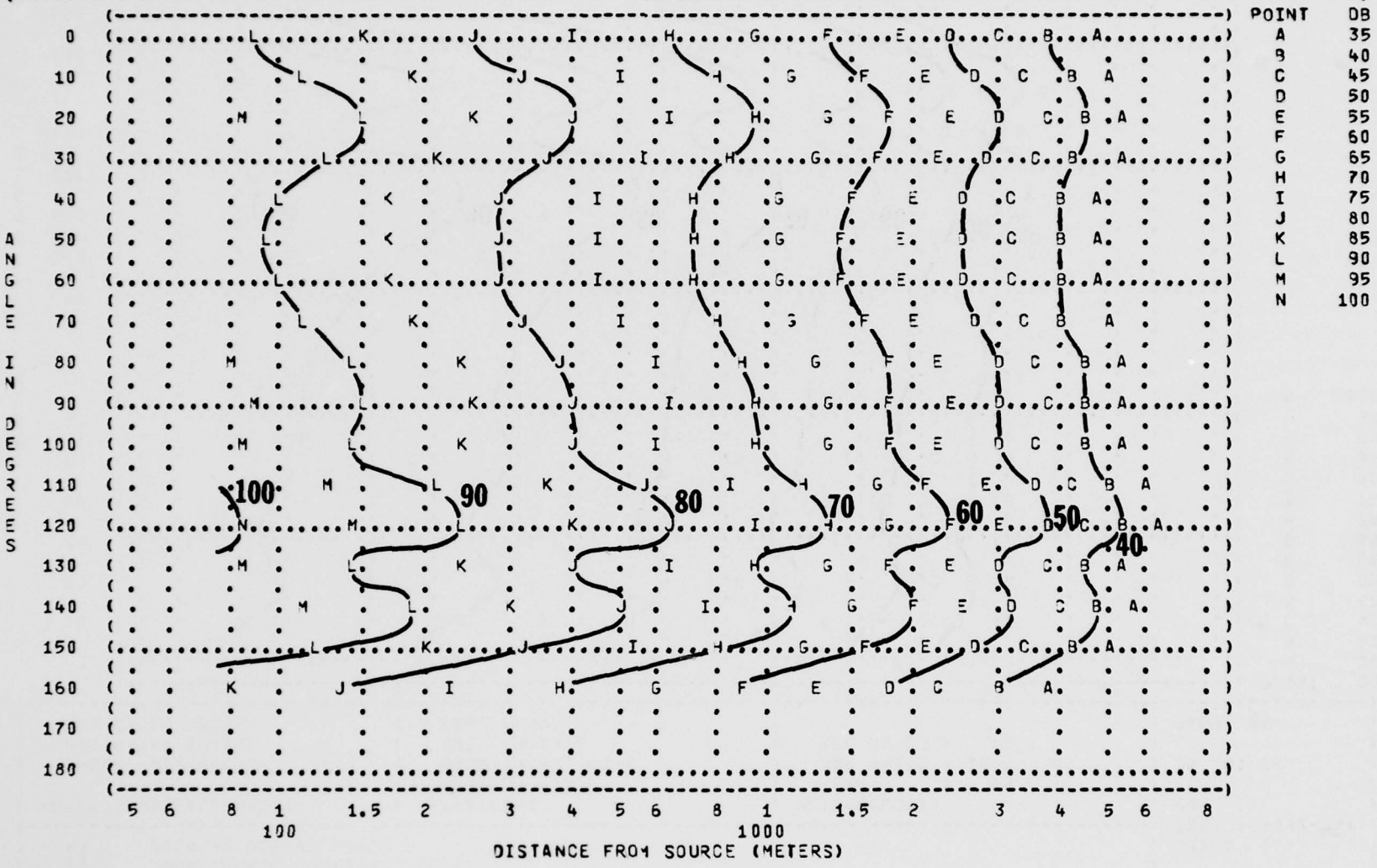


FIGURE: 11

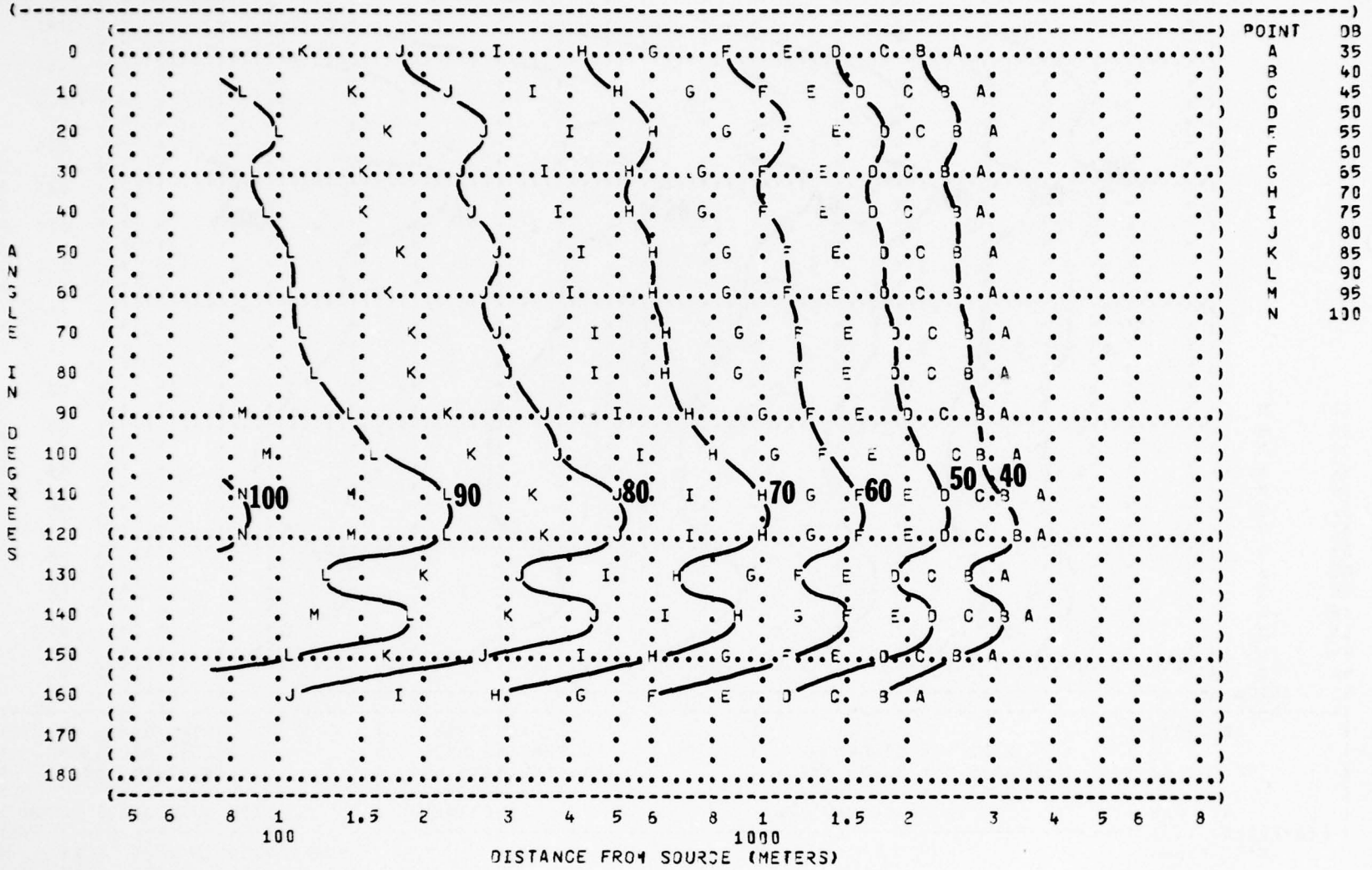
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 75
PAGE 24

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

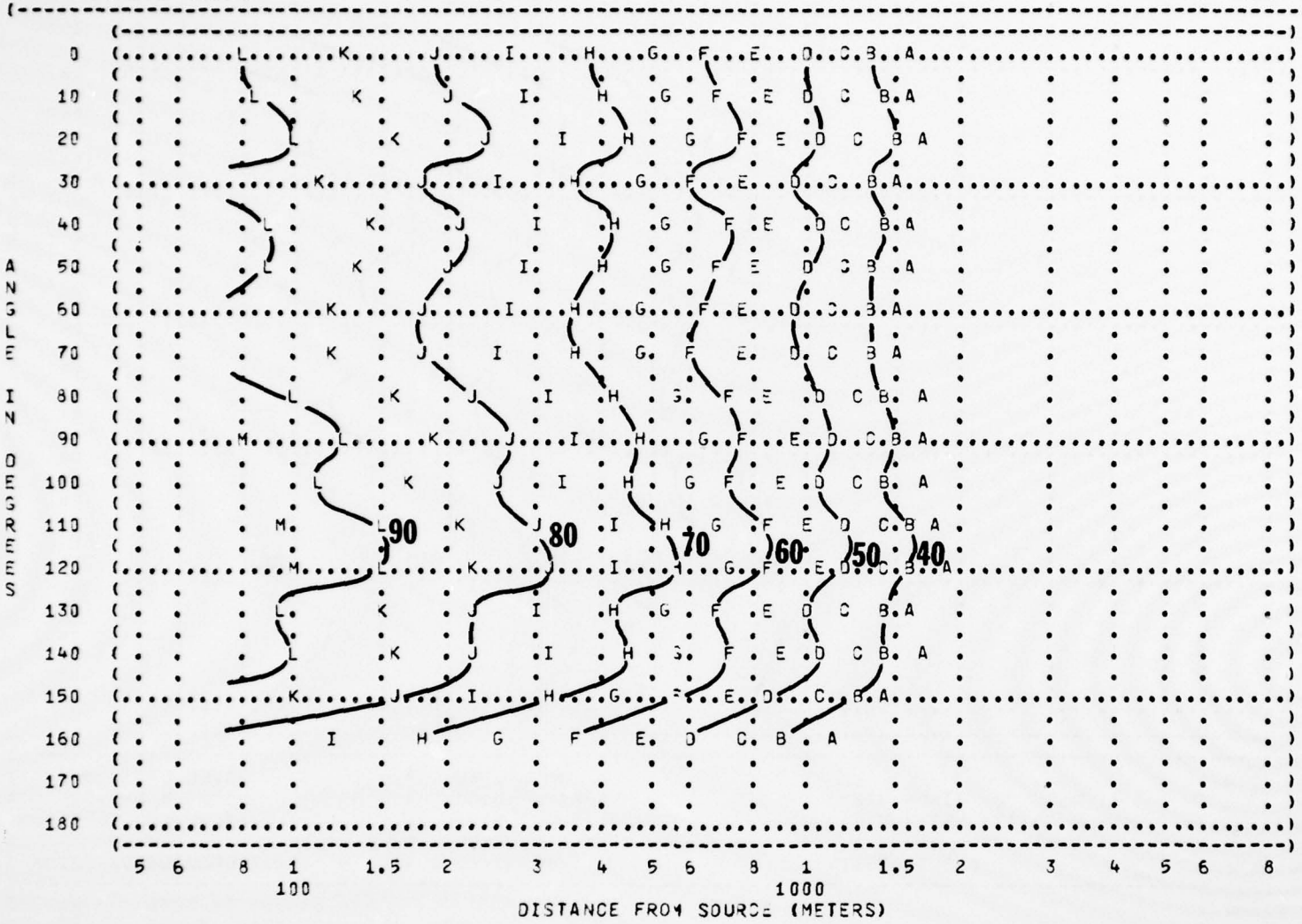
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-048
RUN 04
25 AUG 76
PAGE 25



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

AD-A048 937 AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 97. T-39 AIRC--ETC(U)
MAY 77 R G POWELL, N A FARINACCI

UNCLASSIFIED AMRL-TR-75-50-VOL-97 NL

2 of 2
ADA048 937

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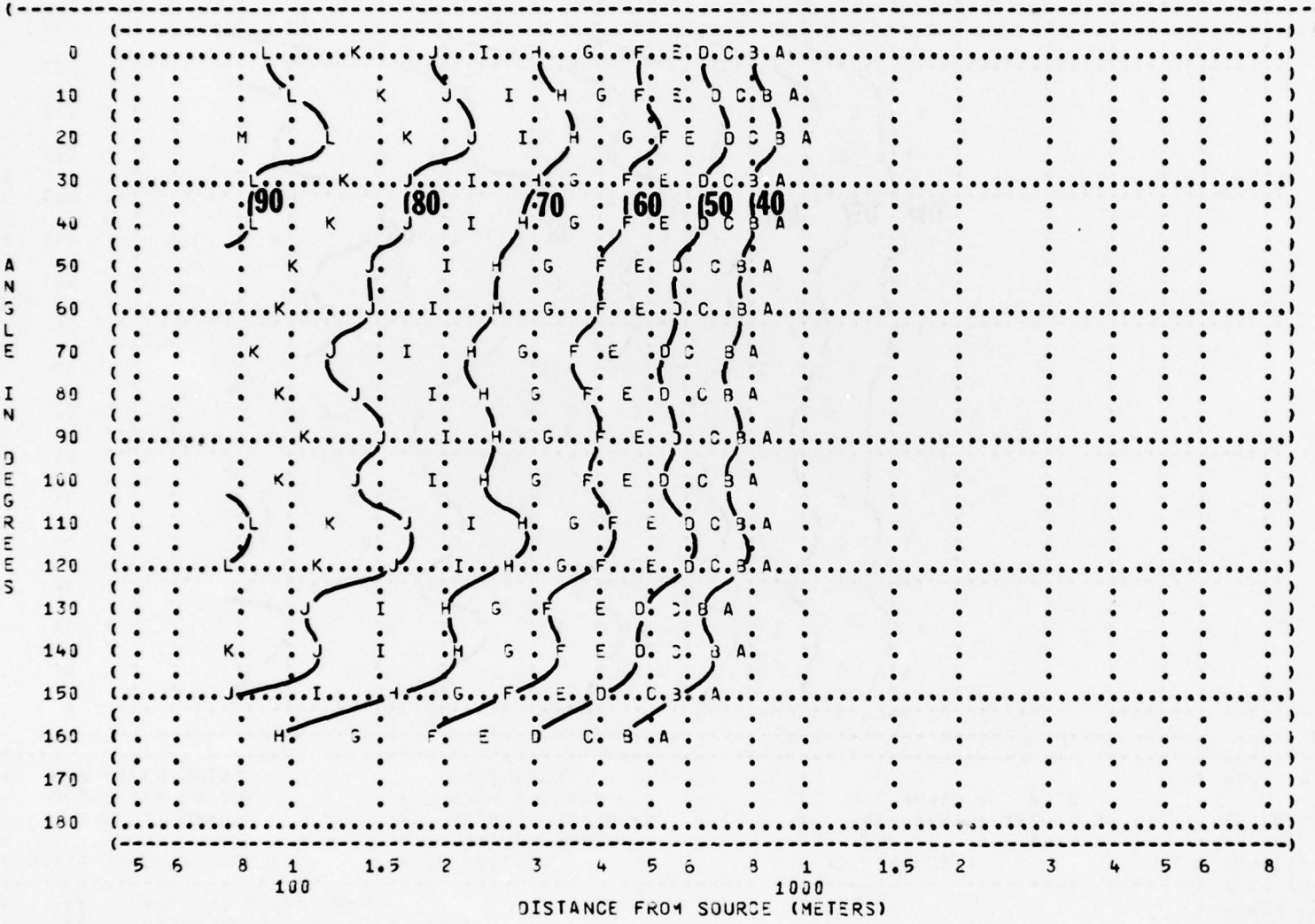
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-048 RUN 04 25 AUG 76 PAGE 26

NOISE SOURCE/SUBJECT:
T-39A AIRCRAFT
J60-P-3/A ENGINE
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
56.5 IN HG, PT-5
BOTH ENGINES
FREE FLOW

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



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

*U.S.Government Printing Office : 1977 — 757-080/234