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APR 77 J F ROSE, R G POWELL

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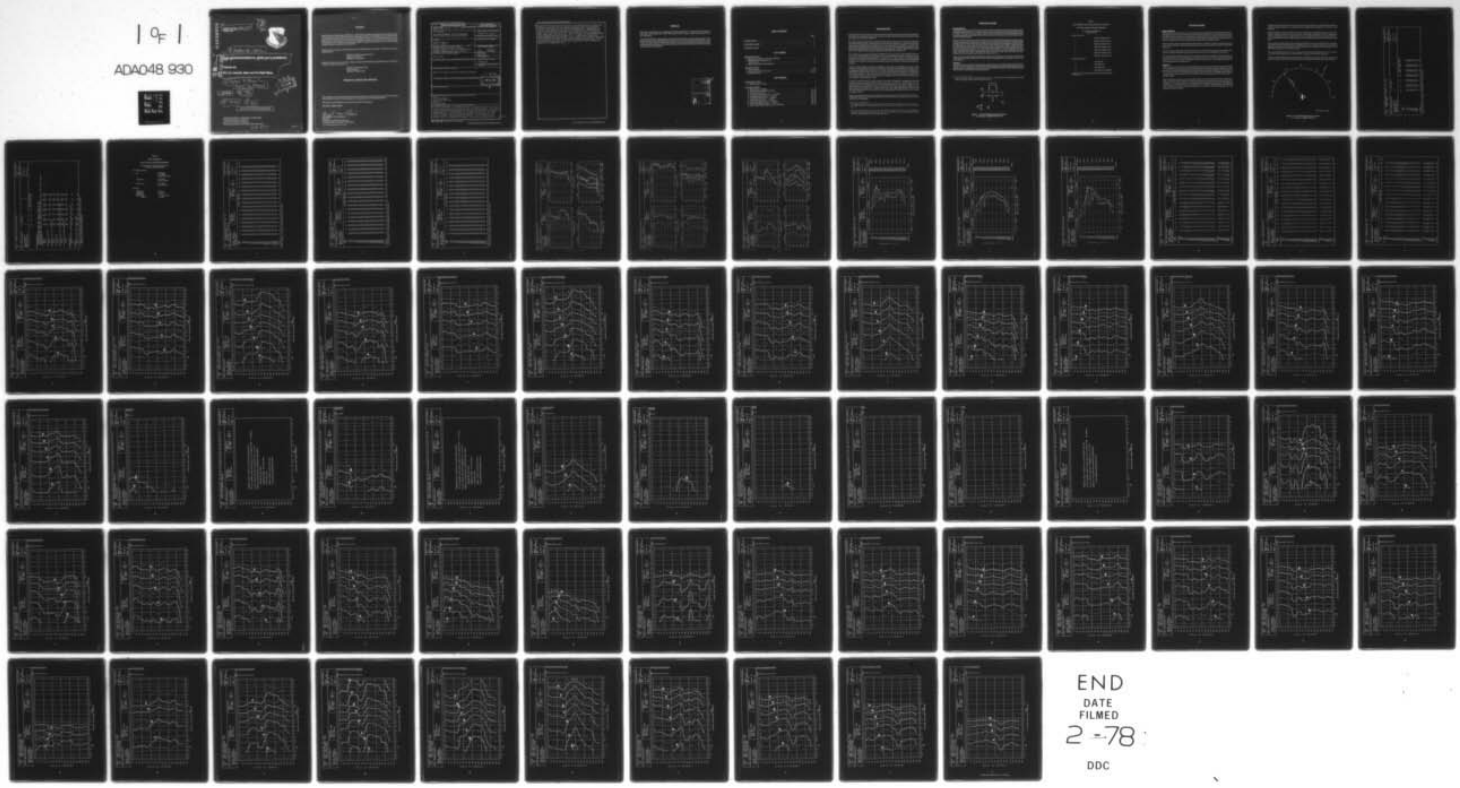

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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 85

OV-10A Aircraft, Near and Far-Field Noise

Justus F. Rose
Robert G. Powell

APRIL 1977

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
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FOR THE COMMANDER

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

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The USAF OV-10A is a forward air control or observation/strike reconnaissance aircraft powered by one each T76-G-10,-12 turboprop engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for three engine/power conditions. Near-field data are reported for 7 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

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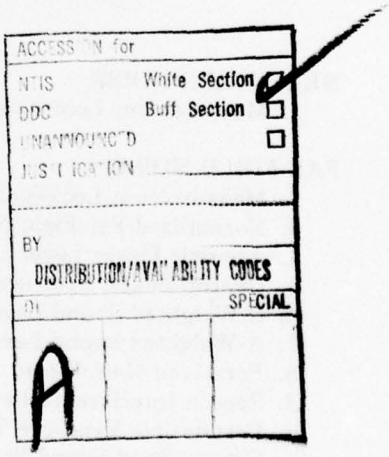
interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and 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 authors gratefully acknowledge Mr. John Cole for his assistance in preparing this report, Lt. Col Donald Gasaway of the USAFSAM/NGEA, Brooks AFB, TX for providing near-field 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 Ms. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.



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INTRODUCTION

The USAF OV-10A is a forward air control or observation/strike reconnaissance aircraft powered by one each T76-G-10, 12 turboprop engines. The aircraft was manufactured by North American Rockwell and the engines by the Garrett 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 OV-10A aircraft. The measured data presented in this volume were acquired by the Aerospace Medical Research Laboratory (AMRL), Wright-Patterson AFB, OH, and the USAF School of Aerospace Medicine (USAFSAM), Brooks AFB, TX.

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 an 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 discussed 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 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (reference 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 an 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

USAFSAM acquired near-field noise data on the OV-10A aircraft during ground runup operations of its turboprop engines (Reference 3). For these tests the aircraft was at Eglin Air Force Base, Hurlburt Field, FL. Table 1 lists the four engine-power conditions and near-field locations. 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. During this test he recorded a 15-20 second noise sample on magnetic tape at each location. During analysis of each sample, he determined the octave band root-mean-square sound pressure levels. Figure 1 shows the seven 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 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 OV-10A aircraft at the seven ground crew locations. This table includes the overall 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 or personnel and their performance.

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3. Gasaway, Donald C., *Noise Associated With Operation of Air Force OV-10A Aircraft*, SAM-TR-70-51, USAF School of Aerospace Medicine, Brooks AFB, Texas, 1970.

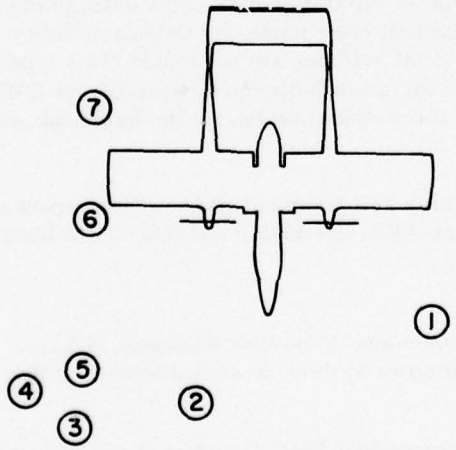


Figure 1. Near-Field Measurement Locations on a Taxiway at Hurlburt Field, FL

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS

FOR NEAR-FIELD NOISE MEASUREMENTS

OV-10A Aircraft, Ground Runups
Hurlburt Field, FL

*Ground Crew Location**

1	Left Side, 60 degrees at 22 ft.
2	Right Side, 20 degrees at 18 ft.
3	Right Side, 45 degrees at 32 ft.
4	Right Side, 60 degrees at 35 ft.
5	Right Side, 60 degrees at 23 ft.
6	Right Side, 90 degrees at 22 ft.
7	Right Side, 135 degrees at 26 ft.

Aircraft Engine Operation

A	Left Engine Idle
B	Both Engines Idle
C	Both Engines Taxi
D	Both Engines Taxi, High RPM

*Locations are relative to the intersection of the aircraft's centerline and the propellers' plane.

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired all far-field data during a 1-hour period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and 19 microphone measurement sites on each of two semicircles. The center of the 76 meter radius semicircle used in surveying the T76-G-10, 12 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' propeller planes.

Table 4 provides cockpit readouts of engine characteristics (% RPM and torque) 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 their respective 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 5 to 10 seconds of 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). These samples were then time-integrated to derive a root-mean-square sound pressure level.

RESULTS

Table 5 lists the overall and 1/3 octave band SPLmeasured 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 200 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 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 OV-10A 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 characteristics for intermediate power settings (e.g., 80% RPM) 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 at the 180-degree location for the idle and military power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted level for that angle is 5 to 10 dBA below the level at the 170 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.

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.

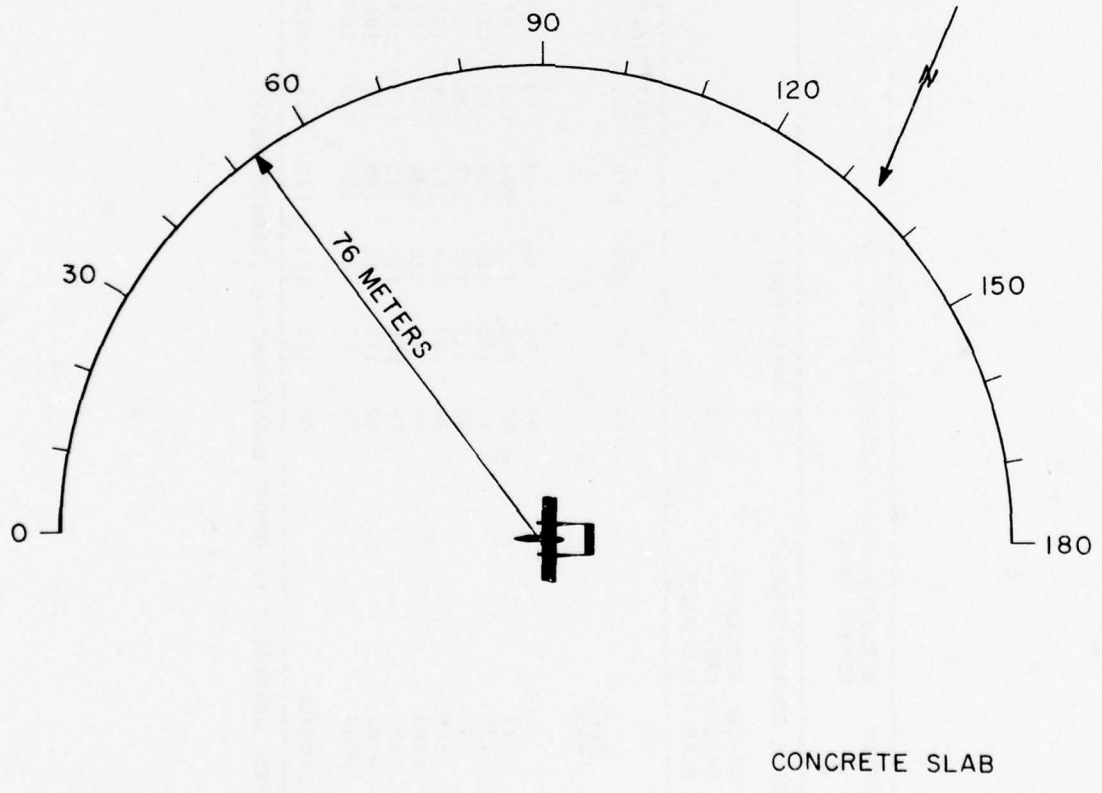


Figure 2. Far-Field Measurement Locations on a Taxiway at Eglin AFB, FL

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

IDENTIFICATION:
OMEGA 3.2
TEST 69-006-500
RUN 01
26 JUL 76
PAGE F1

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/B	3/C	4/D	5/B	6/B	7/B
31.5	83	90	99	93	89	93	87
63	92	103	113	104	105	107	96
125	87	101	114	104	102	103	100
250	92	103	115	107	106	105	101
500	93	103	119	110	107	105	99
1000	84	98	110	104	107	97	96
2000	79	104	107	110	103	103	94
4000	82	110	110	105	101	106	93
8000	79	102	113	106	103	100	88
OVERALL	98	113	123	116	114	113	106

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 69-006-500
RUN 01
26 JUL 76
PAGE H1

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE

OPERATION:

	LOCATION/CONDITION						
	1/A	2/B	3/C	4/D	5/B	6/B	7/B
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	98	113	123	116	113	113	106
OASLA	93	113	119	115	111	110	102
T	101	3.2	P	2.2	4.5	5	21
MINIMUM QPL EAR MUFFS							
OASLA*	74	87	99	91	89	88	83
T	960	285	36	143	202	240	571
AMERICAN OPTICAL 1700 EAR MUFFS							
OASLA*	70	83	95	86	84	84	78
T	960	571	71	339	480	480	960
V-51R EAR PLUGS							
OASLA*	70	85	96	88	87	84	78
T	960	404	60	240	285	480	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS							
OASLA*	55	68	81	73	73	69	64
T	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT							
OASLA*	64	82	89	85	83	81	74
T	960	679	202	404	571	807	960
COMMUNICATION							
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)							
PSIL	85	102	112	108	106	102	96
ANNOYANCE							
PERCEIVED NOISE LEVEL (PNL IN PNDB)							
PNL	105	128	133	128	124	125	116

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4

TEST CONDITIONS

FOR FAR-FIELD NOISE MEASUREMENTS

OV-10A Aircraft, Ground Runups, Eglin AFB, FL
10 February 1969 Tail # 6613553,

Aircraft Engine Operation

Idle	Both Engines 70 % RPM 600 foot pounds torque
Locked Props	89 % RPM < 600 ft. lb torque
Military Power	101 % RPM 1900 ft. lb torque

Meteorology

Temperature	11.8 C
Bar Pressure	0.769 M Hg
Rel Humidity	48 %
Wind — Speed	2.1 M/Sec (4 Kts)
— Direction	060 Deg

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 76 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	64	62	60	58	61	60	62	62	61	58	60	62	59	62	65	63	62	63	
31.5	65	64	65	60	59	60	60	59	63	62	61	60	61	60	62	63	63	63	
40	68	68	69	63	62	62	63	65	69	68	65	62	65	65	66	66	68	65	
50	71	68	65	64	62	62	62	65	68	69	67	68	66	67	66	65	67	66	
63	83	81	82	83	78	83	77	77	87	90	90	91	89	90	82	85	77	74	
80	81	79	79	80	75	80	75	75	84	88	88	90	88	88	81	84	75	73	
100	66	65	65	66	66	66	67	68	71	71	70	72	71	70	70	69	69	66	
125	72	76	74	75	70	69	71	74	76	75	77	74	75	73	75	72	68	64	
160	73	75	73	74	71	72	73	74	76	76	77	76	77	76	75	74	71	66	
200	76	74	77	76	70	69	72	70	71	70	72	75	72	73	71	74	69	65	
250	71	71	72	72	70	68	67	67	69	66	68	71	71	72	72	72	66	59	
315	81	82	81	79	76	72	73	73	73	71	69	75	81	83	83	82	73	65	
400	78	79	78	74	75	73	73	74	74	71	71	74	75	78	78	78	69	64	
500	80	80	78	77	78	80	79	80	78	78	79	80	77	74	77	76	69	65	
630	78	80	79	77	75	74	72	73	72	74	74	74	74	75	76	76	66	63	
800	78	78	79	76	77	75	72	73	72	72	75	77	74	74	71	76	66	63	
1000	78	80	79	77	77	76	73	74	72	72	72	73	74	74	73	77	68	63	
1250	79	80	79	77	77	76	71	75	71	71	74	75	72	73	72	77	68	62	
1600	81	80	79	78	77	78	72	75	72	71	69	72	72	73	71	74	67	61	
2000	83	83	82	79	79	80	75	76	73	71	69	72	71	71	70	72	65	59	
2500	85	86	84	82	82	83	78	79	75	71	69	71	69	69	69	69	64	57	
3150	84	87	84	83	84	84	79	79	76	72	69	71	69	69	68	69	63	56	
4000	84	88	84	82	84	85	80	80	77	75	70	72	70	70	68	69	63	56	
5000	77	83	82	82	80	80	76	76	71	71	66	68	65	66	64	64	58	52	
6300	73	76	77	76	72	70	68	67	62	64	59	62	60	61	58	58	52	46	
8000	76	79	79	73	72	68	70	68	64	65	57	59	58	58	56	55	49	44	
10000	67	70	70	69	65	62	62	60	60	59	55	57	57	57	54	53	47	41	
OVERALL	93	95	93	92	91	92	88	89	91	93	93	94	93	93	89	91	83	79	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 76 METERS

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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	61	61	61	62	62	63	63	60	61	56	59	60	61	59	64	59	61	62	68
31.5	66	65	69	70	71	69	71	67	69	64	66	67	68	69	68	67	63	64	69
40	66	67	67	70	67	68	68	68	66	61	61	63	76	65	64	62	63	64	69
50	69	65	62	65	63	63	64	63	63	61	63	68	73	70	64	63	63	64	68
63	70	68	67	67	66	70	68	68	69	66	68	71	80	70	67	67	67	67	69
80	81	83	82	83	83	83	84	85	85	84	82	80	78	77	80	80	80	80	79
100	81	82	81	83	84	84	86	87	87	88	86	82	79	80	82	83	82	82	80
125	71	72	71	71	71	70	70	71	70	70	71	72	78	78	74	72	72	71	71
160	87	87	85	85	85	81	82	84	85	86	84	83	82	83	83	81	82	84	82
200	84	83	83	83	83	80	82	85	86	88	87	87	84	84	83	81	80	81	80
250	88	88	86	86	85	85	84	82	84	83	85	82	81	83	85	86	86	84	84
315	89	88	88	87	88	84	83	84	83	81	79	80	82	85	86	87	85	84	84
400	88	89	86	87	88	84	84	85	86	85	83	83	83	85	88	89	86	85	84
500	88	89	88	88	88	83	83	82	82	84	83	84	85	85	88	89	85	85	83
630	88	89	89	89	89	86	85	85	84	85	87	87	87	86	87	89	85	85	85
800	87	88	87	87	87	83	82	82	81	83	84	87	87	84	87	87	83	83	81
1000	87	88	87	87	87	82	82	84	82	83	83	84	86	83	85	85	84	83	82
1250	86	88	87	86	86	80	80	82	79	78	79	80	85	83	84	84	84	84	82
1600	85	86	85	84	84	77	79	80	77	77	78	81	81	83	82	81	82	82	81
2000	85	86	85	84	83	78	78	81	78	78	79	80	80	79	79	79	79	79	79
2500	83	83	83	83	82	76	78	79	77	80	78	80	80	77	77	77	78	78	78
3150	81	81	82	81	80	73	76	77	77	79	77	79	80	76	77	77	78	78	77
4000	80	80	80	80	78	73	74	77	75	78	75	77	78	74	74	75	76	75	76
5000	74	74	74	74	73	67	67	71	70	72	71	71	72	69	69	69	69	70	70
6300	68	67	69	68	68	62	62	65	63	67	67	66	68	64	64	64	64	65	65
8000	63	63	67	65	62	56	58	61	58	61	63	61	62	60	60	59	60	60	60
10000	67	73	74	72	68	58	62	63	59	59	61	61	61	58	58	58	57	57	56
OVERALL	98	99	98	98	98	94	95	95	95	96	95	95	96	95	97	97	95	95	94

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 76 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	62	62	63	63	63	64	66	69	67	69	70	66	68	68	72	67	66	65	
31.5	71	70	71	69	71	68	70	72	75	76	74	75	73	73	72	72	70	72	
40	68	67	69	69	69	69	71	72	72	73	72	72	72	72	72	72	71	70	
50	69	69	70	70	70	70	74	75	75	74	73	74	73	73	73	73	72	70	
63	75	75	75	75	76	76	77	76	76	76	79	78	78	77	78	77	76	76	
80	78	78	78	80	84	84	83	80	81	88	91	91	90	89	86	86	81	78	
100	94	96	95	99	103	103	102	99	101	109	111	110	109	109	105	105	99	96	
125	79	79	79	80	84	84	83	80	81	90	90	89	89	89	85	85	81	77	
160	83	83	82	79	80	80	80	79	80	84	88	87	88	85	80	80	79	75	
200	90	87	90	87	87	97	98	97	100	106	108	108	108	105	96	90	91	90	
250	83	84	82	83	83	84	84	86	89	92	93	92	91	88	84	83	80	77	
315	90	90	88	90	88	94	94	98	101	104	103	101	96	89	89	88	88	84	
400	87	86	86	85	85	86	91	94	95	100	99	96	93	91	89	85	80	81	
500	87	87	87	87	88	84	86	93	96	99	95	90	85	86	86	84	81	79	
630	89	86	87	86	86	85	85	90	91	97	92	86	85	83	85	83	78	75	
800	89	87	88	86	85	84	84	87	88	92	86	83	83	82	85	83	80	76	
1000	89	87	87	86	86	85	84	86	87	89	84	81	85	83	86	85	81	76	
1250	87	86	85	85	86	86	87	86	87	88	84	80	83	82	85	84	81	76	
1600	85	84	83	84	84	85	87	87	88	87	84	79	84	83	85	85	82	76	
2000	85	84	84	85	86	87	89	90	90	89	83	80	84	84	85	84	83	77	
2500	82	83	83	84	85	86	88	88	89	87	83	78	83	83	84	84	83	77	
3150	84	85	84	85	85	85	87	88	88	86	82	78	83	83	84	84	84	79	
4000	84	85	84	85	86	85	87	87	86	84	83	78	82	83	84	84	84	79	
5000	80	80	80	81	82	82	83	81	81	80	77	73	78	78	79	80	79	76	
6300	74	75	75	76	76	77	78	76	76	75	72	68	72	73	74	74	73	72	
8000	70	70	71	71	72	71	73	73	71	71	66	64	68	69	70	70	69	68	
10000	69	70	70	71	71	70	71	72	69	68	65	63	66	66	67	67	64	63	
OVERALL	100	100	99	101	104	105	105	105	107	112	113	112	112	111	106	106	101	98	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:

IDLE POWER
70% RPM
BOTH ENGINES

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-040
RUN 01

08 MAY 75

PAGE 6

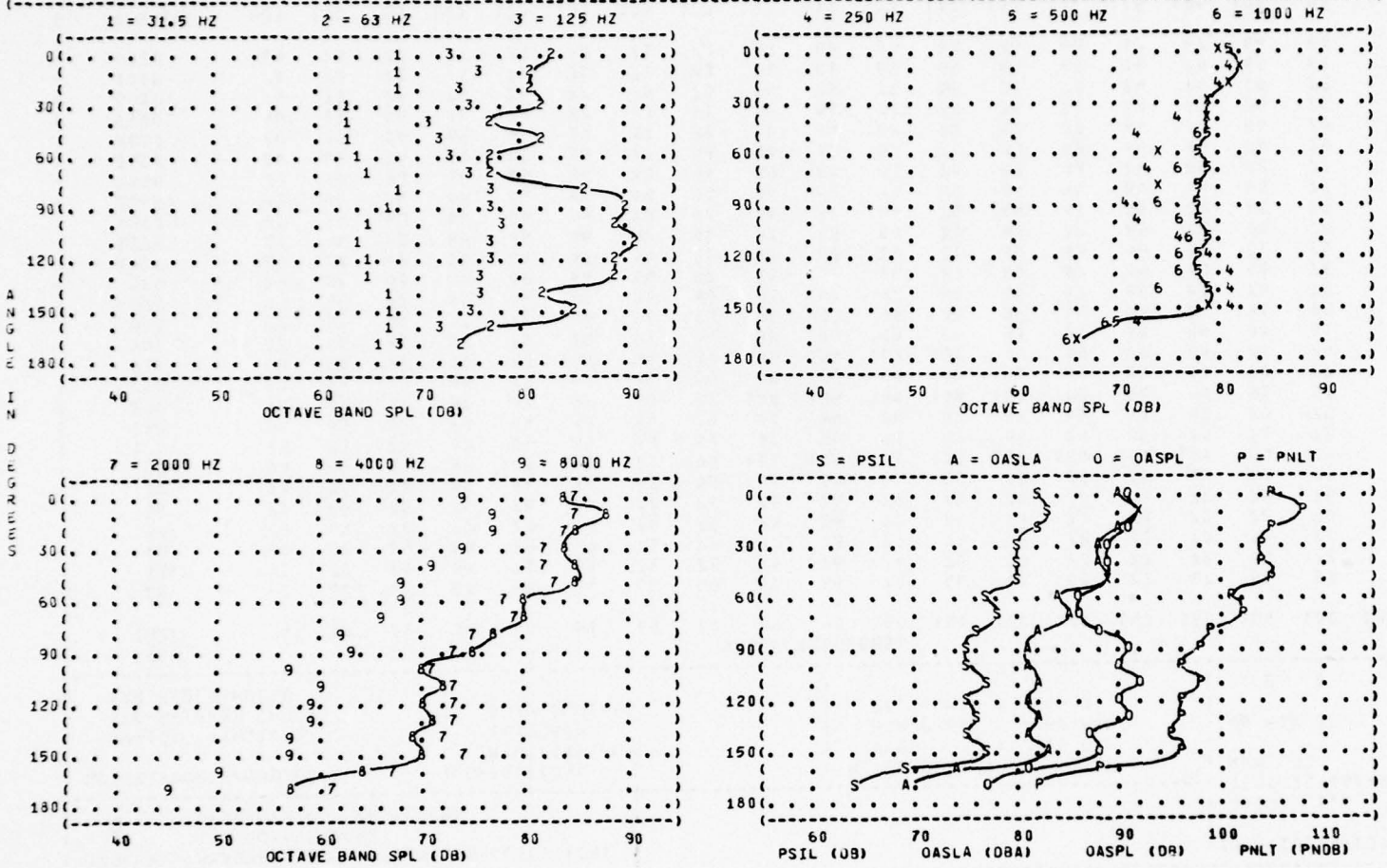


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.+
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 5

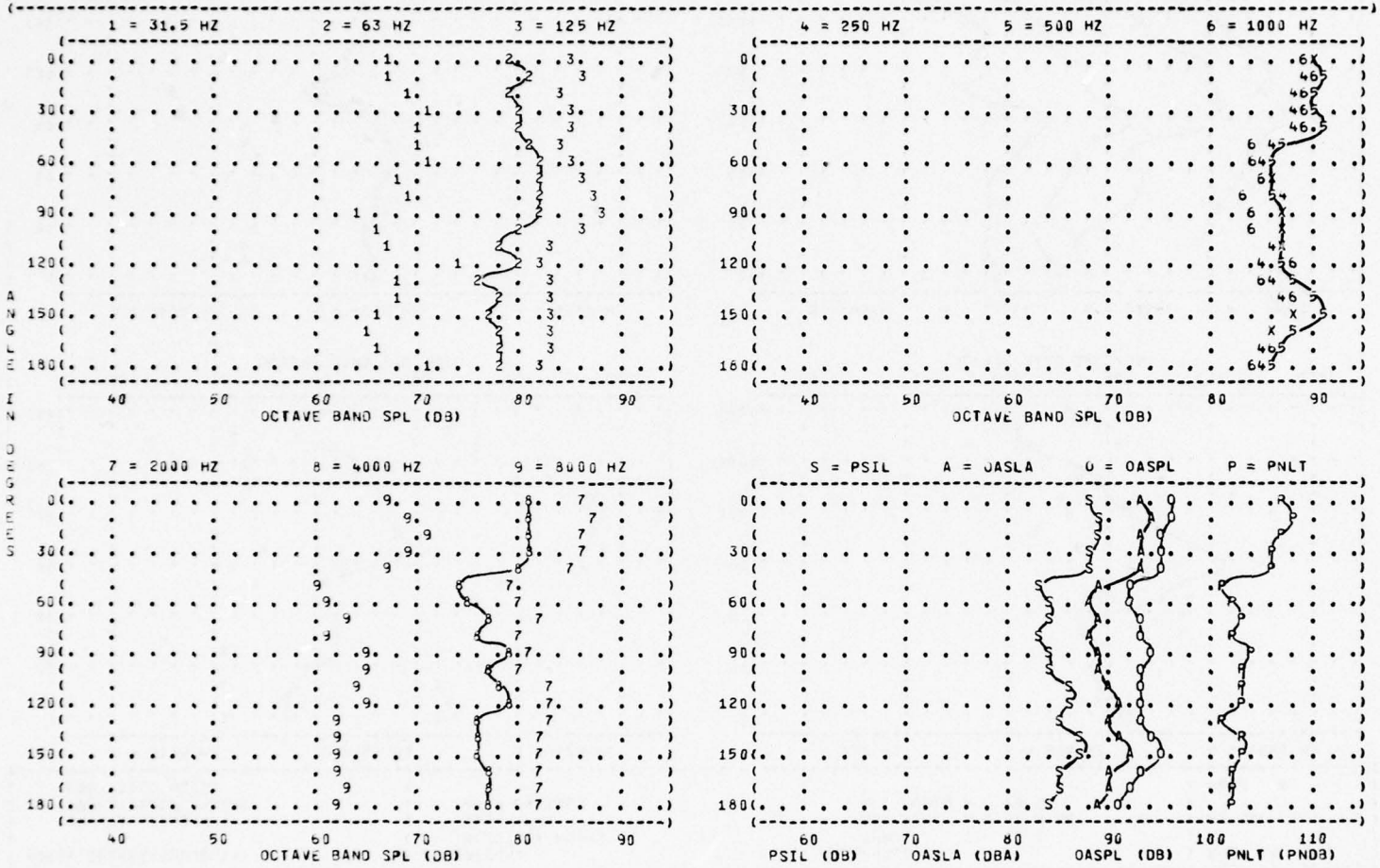


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
101% RPM
BOTH ENGINES

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-040
RUN 03

08 MAY 75

PAGE 6

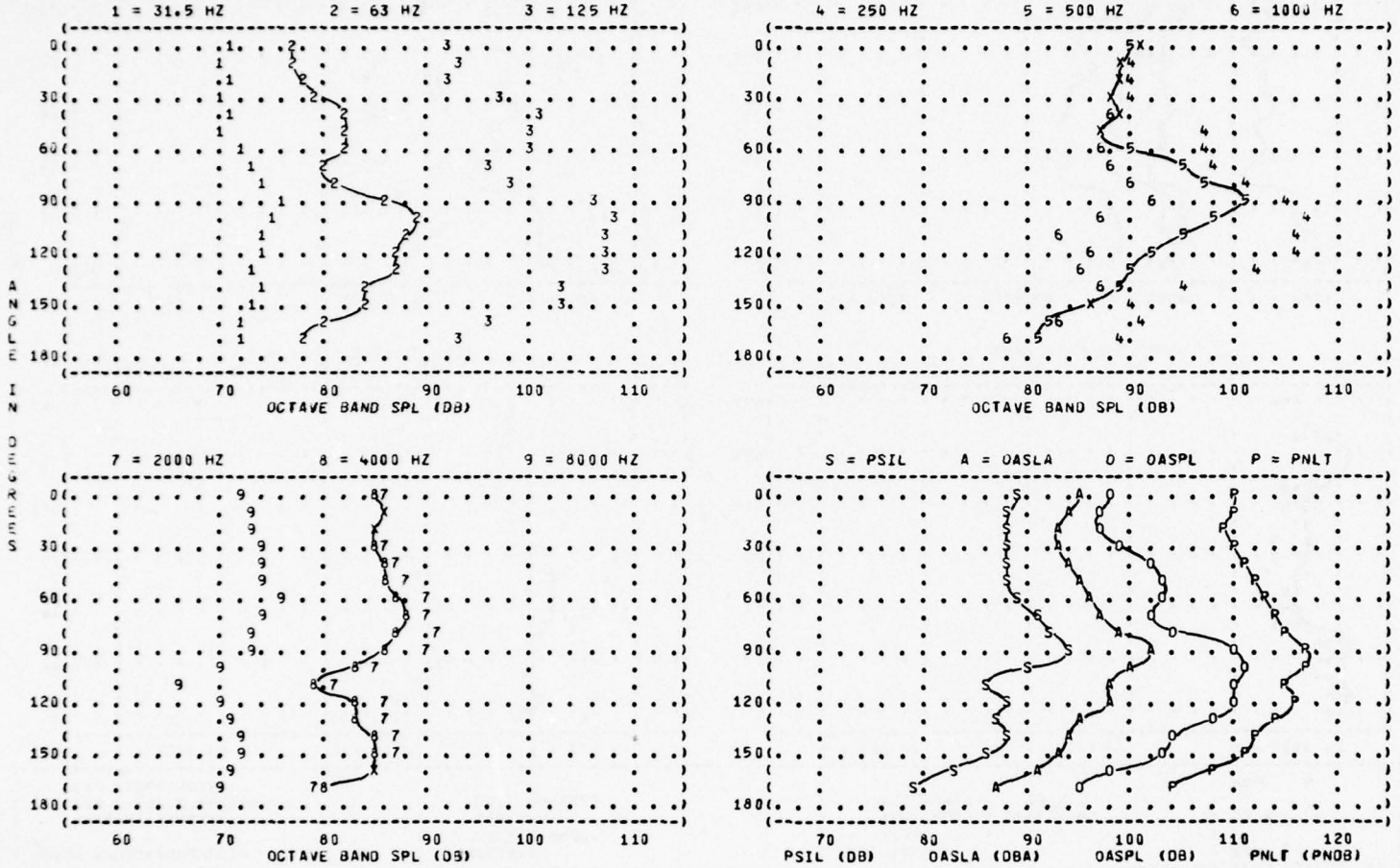


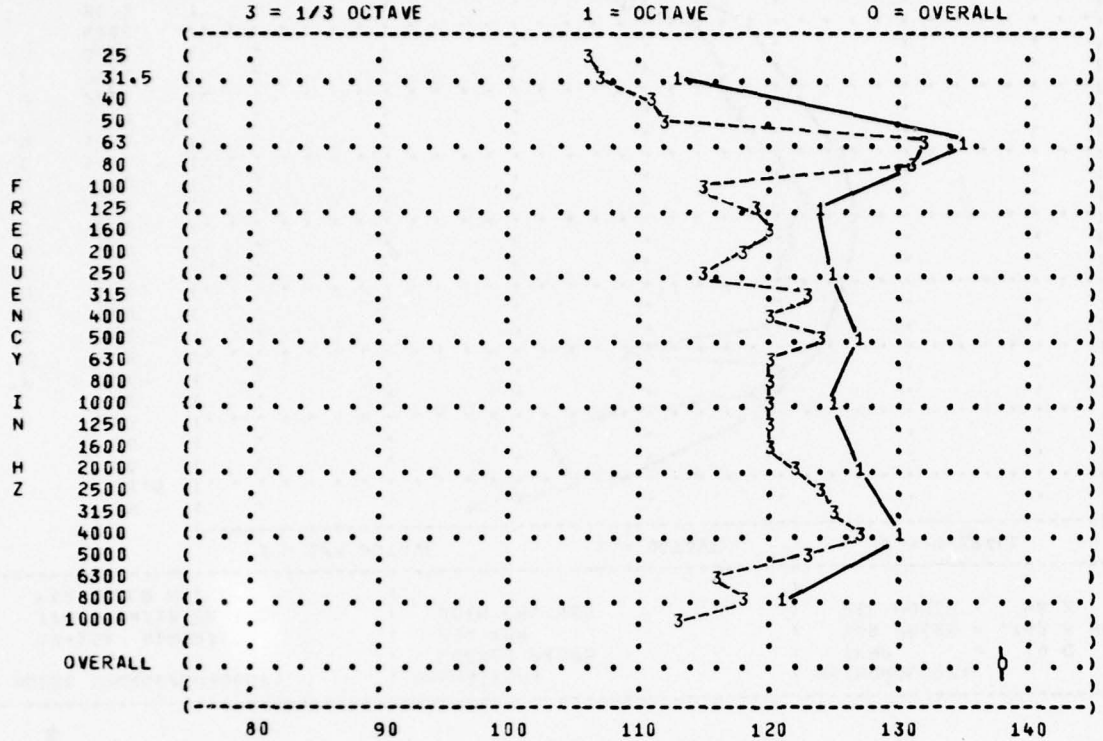
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	106.5	
31.5	106.7	113.4
40	111.0	
50	111.8	
63	132.3	134.6
80	130.5	
100	114.7	
125	119.5	123.6
160	120.5	
200	117.7	
250	115.0	124.9
315	123.4	
400	120.3	
500	123.8	126.5
630	120.1	
800	120.1	
1000	120.2	125.0
1250	120.3	
1600	120.1	
2000	121.6	127.0
2500	124.1	
3150	125.3	
4000	126.5	129.9
5000	123.0	
6300	116.5	
8000	118.2	121.2
10000	113.2	
OVERALL		137.6

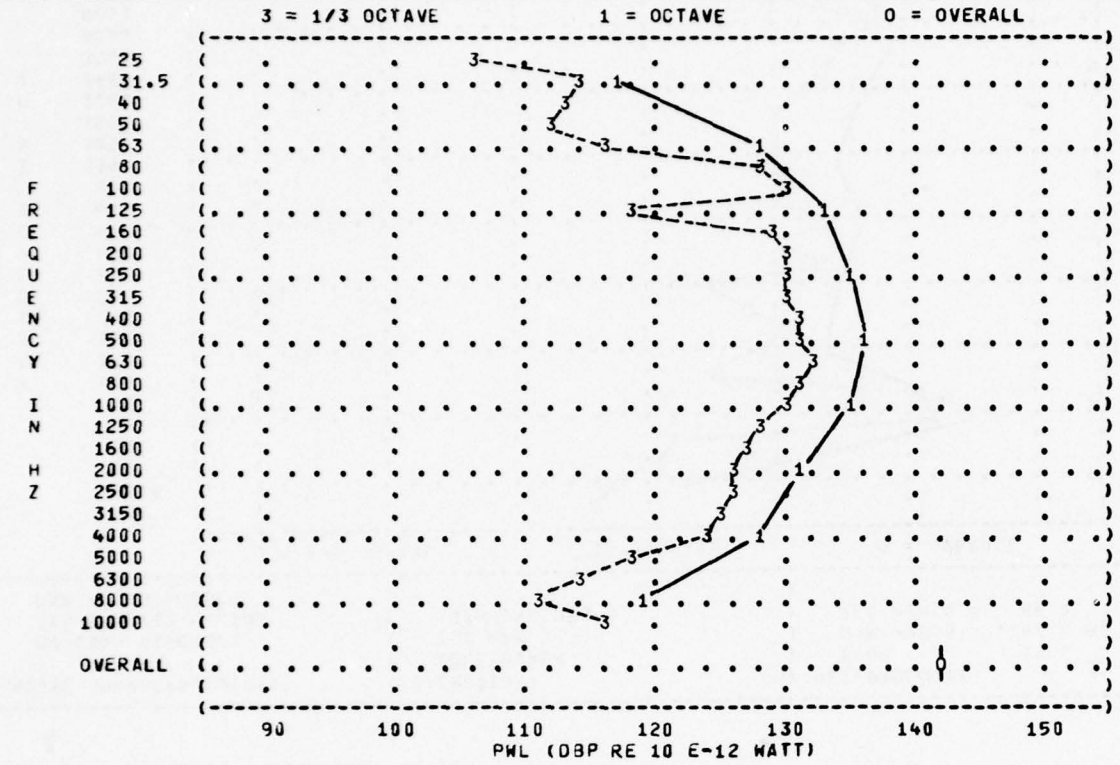
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 3



PWL	1/3 OCTAVE	OCTAVE
	106.2	
	113.6	116.8
	113.3	
	111.8	
	116.5	128.2
	127.8	
	130.0	
	118.3	132.7
	129.1	
	130.2	
	129.6	134.6
	129.7	
	130.9	
	130.8	136.1
	132.2	
	130.6	
	130.0	134.6
	128.5	
	127.0	
	126.4	131.2
	125.7	
	124.8	
	123.8	127.8
	118.3	
	114.1	
	110.7	118.8
	115.9	
		141.6

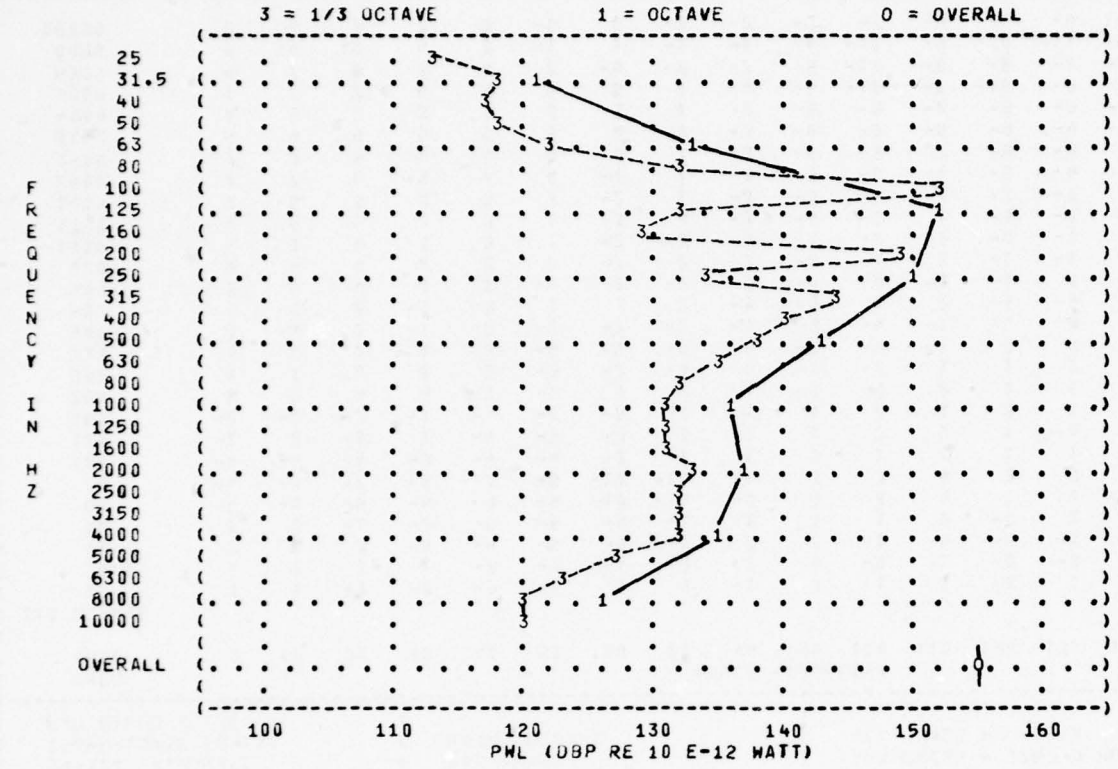
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 3



FREQUENCY	PWL 1/3 OCTAVE	PWL OCTAVE
25	112.9	
31.5	118.2	121.2
40	116.8	
50	118.4	
63	122.2	132.9
80	132.3	
100	151.9	
125	131.9	151.9
160	129.2	
200	149.0	
250	134.3	150.4
315	144.2	
400	139.7	
500	138.1	142.8
630	135.2	
800	131.8	
1000	131.1	136.1
1250	131.0	
1600	131.2	
2000	132.9	136.8
2500	131.7	
3150	131.8	
4000	131.6	135.4
5000	127.3	
6300	123.1	
8000	119.8	126.0
10000	119.9	
OVERALL		154.8

TABLE: 6 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
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	3	1	-1	-3	-0	-1	1	0	-1	-3	-1	1	-2	0	4	2	0	2	
31.5	4	2	3	-1	-2	-1	-1	-2	2	0	-0	-1	-0	-2	0	2	1	2	
40	2	2	3	-3	-5	-3	-3	-1	3	3	-1	-4	-0	-1	1	1	2	-1	
50	5	2	-1	-2	-5	-5	-4	-2	1	3	1	2	-0	1	-0	-2	1	-0	
63	-4	-6	-5	-4	-9	-4	-10	-10	-0	3	3	4	2	3	-5	-2	-10	-13	
80	-4	-7	-7	-5	-10	-5	-10	-10	-1	3	3	4	2	3	-5	-2	-10	-13	
100	-4	-4	-4	-3	-4	-4	-3	-1	1	2	1	2	1	1	0	-0	-1	-3	
125	-2	2	-0	1	-4	-5	-3	0	2	1	3	0	1	-1	1	-2	-6	-10	
160	-2	-0	-2	-1	-4	-3	-2	-1	1	1	2	1	2	1	0	-1	-4	-9	
200	4	2	4	4	-2	-4	0	-2	-1	-3	-0	2	0	0	-1	2	-3	-7	
250	1	1	2	2	0	-2	-2	-3	-0	-3	-2	1	1	2	2	2	-4	-11	
315	3	4	3	1	-2	-6	-5	-5	-5	-7	-9	-3	3	5	5	4	-5	-13	
400	3	4	3	-1	-0	-2	-2	-1	-1	-4	-4	-1	-0	3	3	3	-6	-11	
500	1	1	0	-1	-0	1	1	2	-0	-0	1	2	-1	-4	-2	-2	-9	-13	
630	3	6	4	3	1	-1	-2	-2	-3	-0	-0	-0	-1	0	2	1	-9	-12	
800	3	4	4	2	2	0	-2	-2	-3	-2	1	2	-1	-1	-3	2	-9	-12	
1000	4	5	4	3	3	1	-2	-0	-3	-2	-3	-1	-0	-0	-1	3	-7	-12	
1250	4	6	5	3	3	1	-3	0	-3	-4	-1	1	-3	-2	-2	2	-7	-12	
1600	7	6	5	3	3	3	-2	1	-3	-3	-5	-3	-3	-2	-3	-0	-8	-14	
2000	7	7	6	4	4	4	-1	1	-3	-5	-6	-4	-5	-4	-5	-3	-10	-16	
2500	7	8	6	4	4	5	0	1	-3	-6	-9	-7	-9	-9	-9	-9	-14	-21	
3150	6	9	5	5	5	5	0	0	-3	-6	-9	-8	-9	-9	-10	-9	-15	-22	
4000	4	9	5	3	5	5	1	1	-2	-5	-9	-7	-9	-9	-11	-11	-17	-23	
5000	1	7	7	6	4	5	0	0	-4	-4	-10	-7	-10	-9	-11	-11	-17	-23	
6300	5	7	8	8	4	2	-0	-2	-7	-5	-10	-6	-8	-8	-10	-10	-16	-22	
8000	7	10	10	4	3	-1	1	-1	-5	-4	-12	-9	-10	-11	-13	-13	-20	-25	
10000	5	8	8	7	3	-0	0	-2	-2	-3	-7	-5	-5	-5	-8	-9	-15	-21	
OCTAVE																			
31.5	3	2	2	-3	-3	-2	-1	-1	2	1	-1	-2	-1	-1	1	1	2	0	
63	-4	-6	-6	-5	-10	-5	-10	-10	-1	3	3	4	2	3	-5	-2	-10	-12	
125	-2	0	-1	-0	-4	-4	-3	-0	1	1	2	1	2	-0	1	-1	-4	-8	
250	3	4	3	2	-1	-5	-3	-4	-3	-6	-5	-1	2	4	4	4	-5	-11	
500	2	3	2	0	0	0	-0	1	-1	-1	-0	1	-1	-0	1	0	-8	-12	
1000	4	5	4	3	3	1	-2	-1	-3	-3	-1	1	-1	-1	-2	2	-7	-12	
2000	7	7	6	4	4	4	-0	1	-3	-5	-7	-5	-6	-5	-6	-4	-11	-17	
4000	4	9	5	4	5	5	0	0	-3	-5	-9	-7	-10	-9	-11	-10	-16	-23	
8000	6	9	9	6	3	0	1	-1	-5	-4	-10	-7	-9	-8	-11	-11	-17	-23	
OVERALL	2	3	1	0	-1	0	-4	-3	-1	1	1	2	1	1	-3	-1	-9	-12	

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

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	0	-0	-0	1	1	2	2	-1	0	-5	-2	-1	-0	-2	3	-2	0	1	7
31.5	-2	-3	1	2	2	1	3	-1	0	-4	-2	-1	0	0	-0	-1	-5	-4	1
40	-2	-1	-1	2	-1	0	-0	-0	-2	-7	-7	-5	8	-3	-4	-6	-5	-4	1
50	2	-1	-5	-1	-4	-3	-3	-3	-3	-5	-4	2	7	4	-3	-4	-3	-2	1
63	-2	-3	-5	-4	-5	-2	-3	-3	-2	-6	-4	-1	8	-1	-4	-4	-5	-4	-2
80	-2	0	-1	0	0	1	2	2	2	2	-0	-3	-5	-5	-2	-3	-2	-2	-3
100	-4	-3	-3	-2	-1	-0	1	2	2	3	1	-3	-5	-5	-2	-2	-3	-3	-5
125	-2	-1	-2	-2	-2	-3	-3	-2	-3	-3	-2	-1	5	5	1	-1	-1	-2	-2
160	3	3	1	1	1	-3	-2	-0	1	2	1	-1	-2	-1	-1	-2	-2	-0	-2
200	-1	-2	-2	-2	-2	-5	-3	-0	1	3	2	2	-1	-1	-2	-4	-5	-4	-5
250	3	3	2	2	1	0	0	-2	0	-1	0	-2	-3	-1	1	2	1	-0	-0
315	5	4	3	3	4	0	-1	-1	-1	-3	-5	-4	-3	1	2	3	1	-1	-1
400	3	3	1	1	2	-2	-1	-1	0	-0	-2	-2	-2	-1	3	3	1	-1	-1
500	2	4	2	2	2	-2	-2	-3	-3	-1	-2	-1	-1	0	3	4	-0	-0	-3
630	1	2	2	2	3	-0	-2	-2	-3	-2	1	0	-0	-1	-0	2	-2	-2	-2
800	2	3	2	2	2	-2	-3	-3	-4	-2	-1	2	2	-1	2	2	-2	-2	-4
1000	2	4	3	2	3	-2	-2	-1	-2	-1	-1	-1	1	-2	1	1	-0	-1	-2
1250	3	5	4	3	3	-2	-3	-1	-4	-4	-4	-2	2	-0	1	1	1	1	-1
1600	4	5	4	3	3	-4	-2	-1	-4	-4	-3	-0	0	2	1	0	1	1	0
2000	5	5	5	4	3	-2	-2	0	-2	-2	-2	0	-1	-2	-1	-1	-1	-1	-1
2500	3	4	4	4	2	-3	-2	-0	-2	1	-1	1	1	-2	-2	-2	-1	-2	-2
3150	3	3	4	3	2	-5	-2	-1	-1	1	-1	1	2	-2	-1	-1	-0	-0	-1
4000	3	3	4	3	1	-4	-3	-0	-2	2	-1	0	1	-3	-2	-2	-1	-1	-1
5000	3	3	3	3	2	-4	-4	-0	-1	1	-0	0	1	-2	-2	-2	-2	-1	-1
6300	2	1	3	2	2	-4	-4	-1	-3	1	1	0	2	-2	-2	-2	-2	-1	-1
8000	2	2	6	4	1	-5	-3	-1	-3	-0	2	-0	1	-2	-2	-2	-2	-1	-1
10000	2	8	9	7	4	-6	-3	-2	-5	-6	-3	-3	-4	-6	-7	-6	-8	-7	-8
OCTAVE																			
31.5	-2	-2	-0	2	1	1	2	-1	-0	-5	-4	-2	5	-1	-1	-3	-4	-3	2
63	-1	0	-1	-0	0	0	1	2	2	2	-1	-2	-1	-4	-2	-3	-2	-2	-3
125	1	1	-1	-0	-0	-1	-0	1	2	3	1	-2	-3	-2	-2	-2	-2	-1	-3
250	3	2	2	1	1	-1	-1	-1	0	1	0	-1	-2	-0	0	1	-0	-2	-2
500	2	3	2	2	2	-1	-2	-2	-2	-1	-1	-1	-1	-0	2	3	-0	-1	-2
1000	3	4	3	3	3	-2	-2	-1	-3	-2	-2	0	2	-1	1	1	-1	-1	-2
2000	4	5	4	3	3	-3	-2	-0	-3	-2	-2	0	0	0	-0	-1	-0	-0	-1
4000	3	3	4	3	2	-4	-2	-0	-1	1	-1	0	1	-2	-2	-1	-1	-1	-1
8000	2	5	7	5	2	-5	-3	-1	-4	-0	0	-1	0	-3	-3	-3	-3	-2	-3
OVERALL	2	3	2	2	2	-1	-1	-1	-1	0	-1	-1	-0	-1	1	1	-1	-1	-2

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 19 C
BAR PRESS = .762 M HG
REL HUMID = 66 %

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	-5	-4	-4	-4	-3	-2	1	-1	1	2	-1	0	0	5	-1	-1	-3	
31.5	-2	-3	-2	-4	-2	-5	-3	-1	2	3	1	2	0	-0	-1	-1	-3	-1	
40	-4	-4	-3	-2	-2	-2	-0	1	1	2	1	0	0	0	1	1	-1	-1	
50	-4	-4	-3	-3	-3	-3	1	2	2	1	0	1	-0	-0	0	0	-1	-3	
63	-2	-2	-2	-2	-1	-1	-0	-1	-1	-1	2	1	1	0	1	-0	-1	-1	
80	-9	-9	-9	-7	-3	-3	-4	-7	-6	1	4	4	3	2	-1	-1	-6	-9	
100	-13	-11	-12	-7	-3	-4	-4	-8	-6	2	4	3	3	3	-1	-1	-8	-11	
125	-8	-8	-7	-6	-3	-3	-4	-6	-5	3	3	3	3	2	-1	-1	-6	-9	
160	-1	-1	-2	-5	-4	-4	-4	-4	-4	0	4	3	4	1	-3	-4	-4	-9	
200	-14	-17	-14	-17	-16	-7	-6	-7	-4	2	5	4	5	1	-7	-13	-13	-14	
250	-6	-5	-7	-6	-6	-5	-5	-3	-0	3	4	3	2	-1	-5	-6	-9	-12	
315	-8	-9	-11	-9	-11	-5	-5	-0	3	5	4	2	-3	-9	-10	-10	-11	-15	
400	-7	-9	-9	-9	-9	-8	-3	-1	0	5	4	2	-1	-3	-5	-9	-14	-13	
500	-5	-5	-6	-6	-5	-9	-7	0	4	7	2	-3	-7	-7	-6	-9	-11	-13	
630	-1	-3	-3	-4	-4	-5	-5	0	1	7	2	-4	-5	-7	-5	-7	-11	-14	
800	2	1	2	-0	-1	-2	-3	0	2	5	-0	-4	-4	-4	-2	-3	-6	-10	
1000	4	1	2	1	0	-1	-1	0	1	3	-2	-5	-0	-2	0	-1	-4	-10	
1250	2	1	-0	0	0	1	2	1	2	2	-1	-6	-2	-3	-0	-1	-4	-9	
1600	-0	-2	-3	-2	-1	0	2	2	3	2	-1	-6	-1	-2	-0	-0	-3	-9	
2000	-2	-3	-3	-2	-1	0	3	3	4	2	-3	-7	-3	-3	-2	-2	-4	-10	
2500	-3	-2	-3	-2	-1	0	2	2	3	2	-3	-7	-3	-2	-2	-1	-2	-8	
3150	-1	-0	-1	-1	0	1	2	3	2	1	-3	-8	-2	-3	-1	-1	-1	-7	
4000	-0	1	-0	0	2	1	2	2	2	-0	-2	-6	-2	-2	-1	-0	-1	-5	
5000	0	-0	0	1	2	2	3	1	1	-0	-3	-7	-2	-2	-1	-0	-1	-4	
6300	-1	-0	-0	1	1	2	3	1	1	0	-3	-7	-3	-2	-1	-1	-2	-3	
8000	-0	-0	1	1	2	0	3	2	0	0	-4	-6	-3	-2	-0	-0	-2	-2	
10000	0	2	2	3	2	1	2	3	0	-1	-3	-6	-3	-2	-1	-2	-4	-5	
OCTAVE																			
31.5	-3	-3	-3	-3	-2	-3	-2	-0	1	2	1	1	0	0	1	-0	-2	-1	
63	-8	-8	-8	-6	-3	-3	-3	-5	-4	1	4	3	2	2	-1	-1	-5	-7	
125	-12	-11	-12	-7	-3	-4	-4	-8	-6	2	4	3	3	3	-1	-1	-8	-11	
250	-12	-13	-13	-13	-14	-6	-5	-4	-1	3	5	4	4	-0	-8	-12	-12	-14	
500	-5	-6	-6	-6	-6	-8	-4	-0	2	6	3	-0	-3	-5	-6	-9	-13	-14	
1000	3	1	1	0	-0	-1	-0	1	2	4	-1	-4	-2	-3	-1	-1	-5	-10	
2000	-2	-2	-3	-2	-1	0	2	3	3	2	-3	-7	-2	-2	-1	-1	-3	-9	
4000	-1	0	-1	0	1	1	2	2	2	0	-2	-7	-2	-2	-1	-1	-1	-6	
8000	-0	0	0	2	1	1	3	2	1	0	-3	-6	-3	-2	-1	-1	-2	-3	
OVERALL	-9	-9	-10	-8	-5	-4	-4	-5	-2	3	4	3	3	1	-3	-4	-9	-12	

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

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 13

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

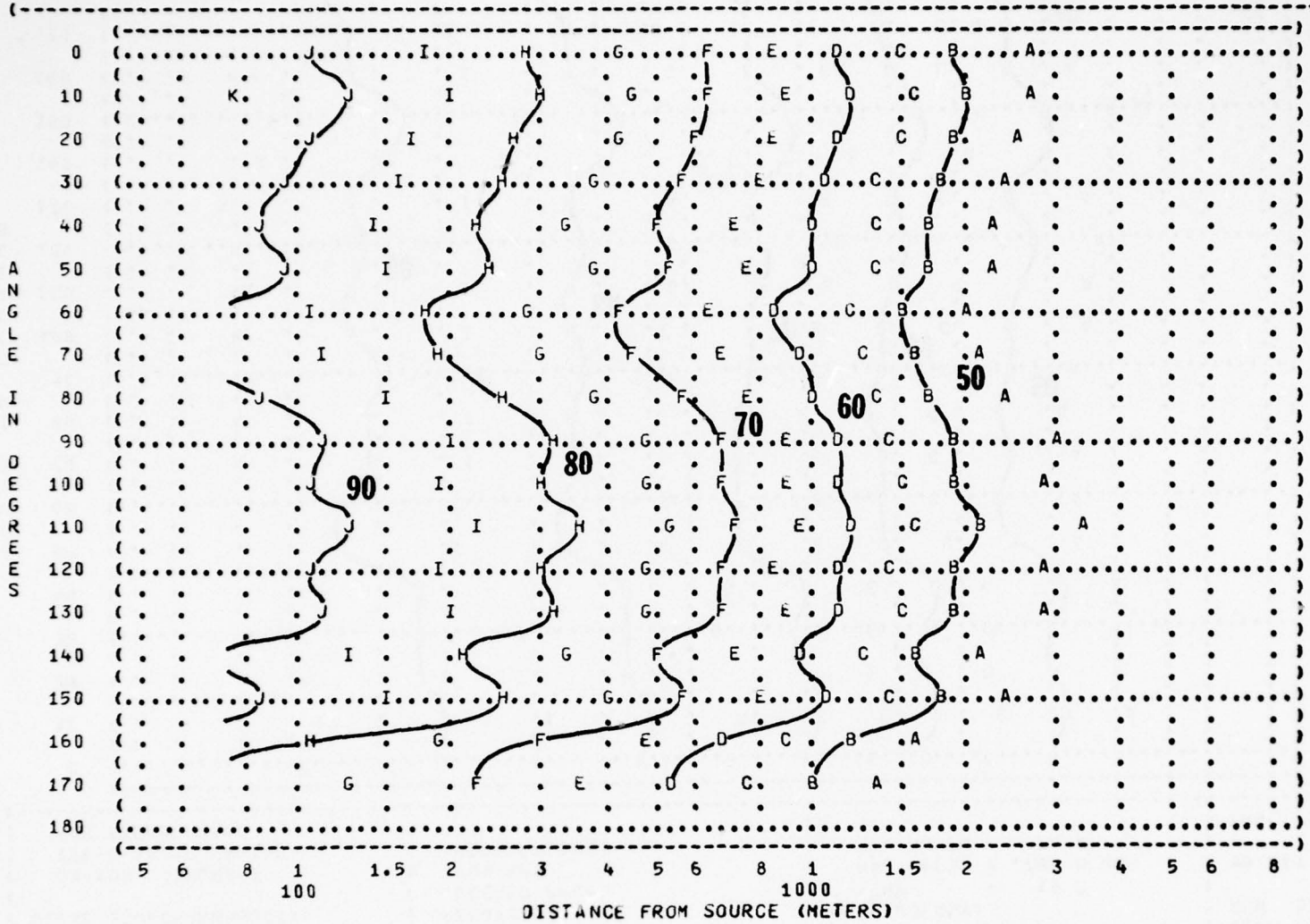


FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

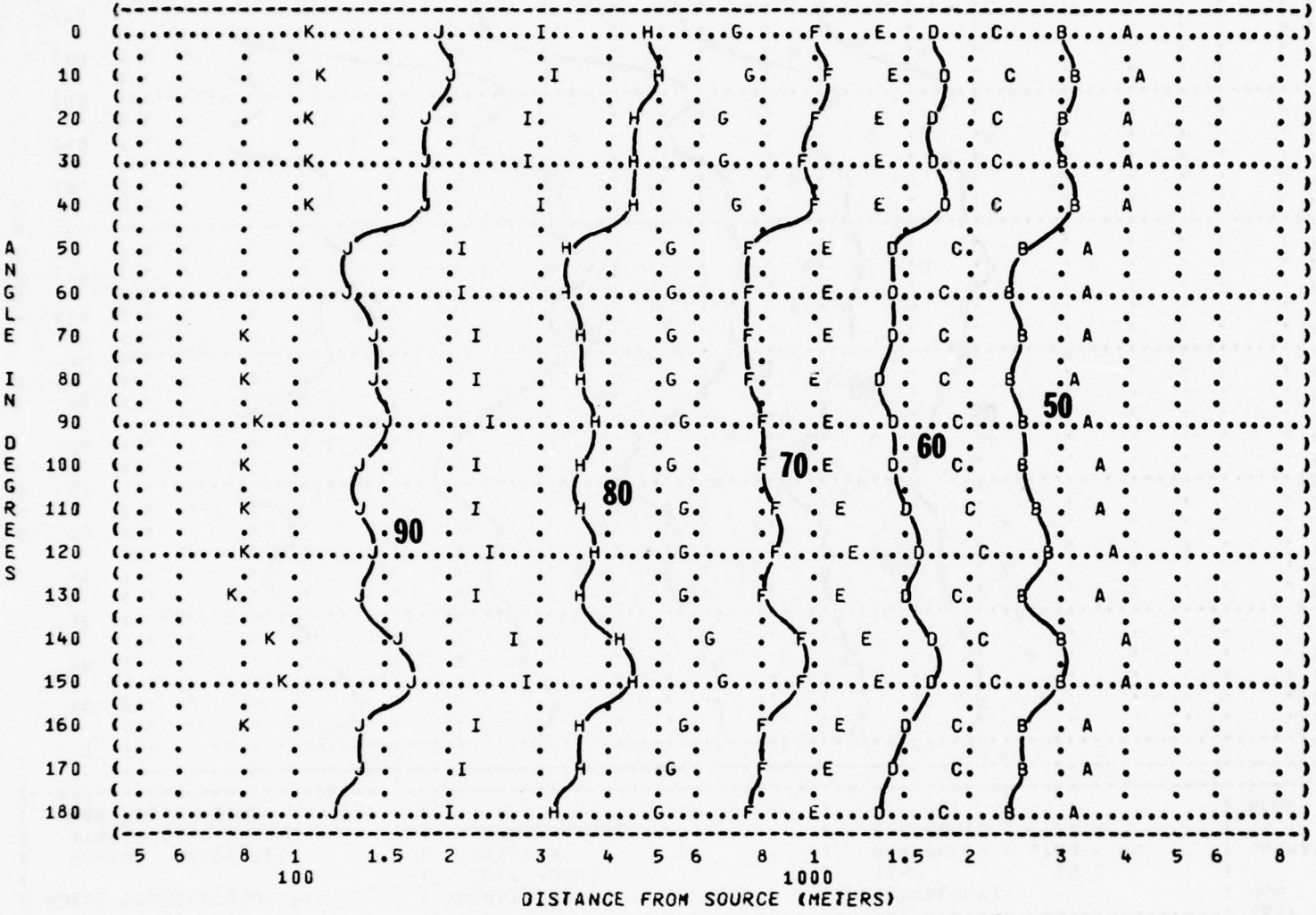


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 13

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
N	110

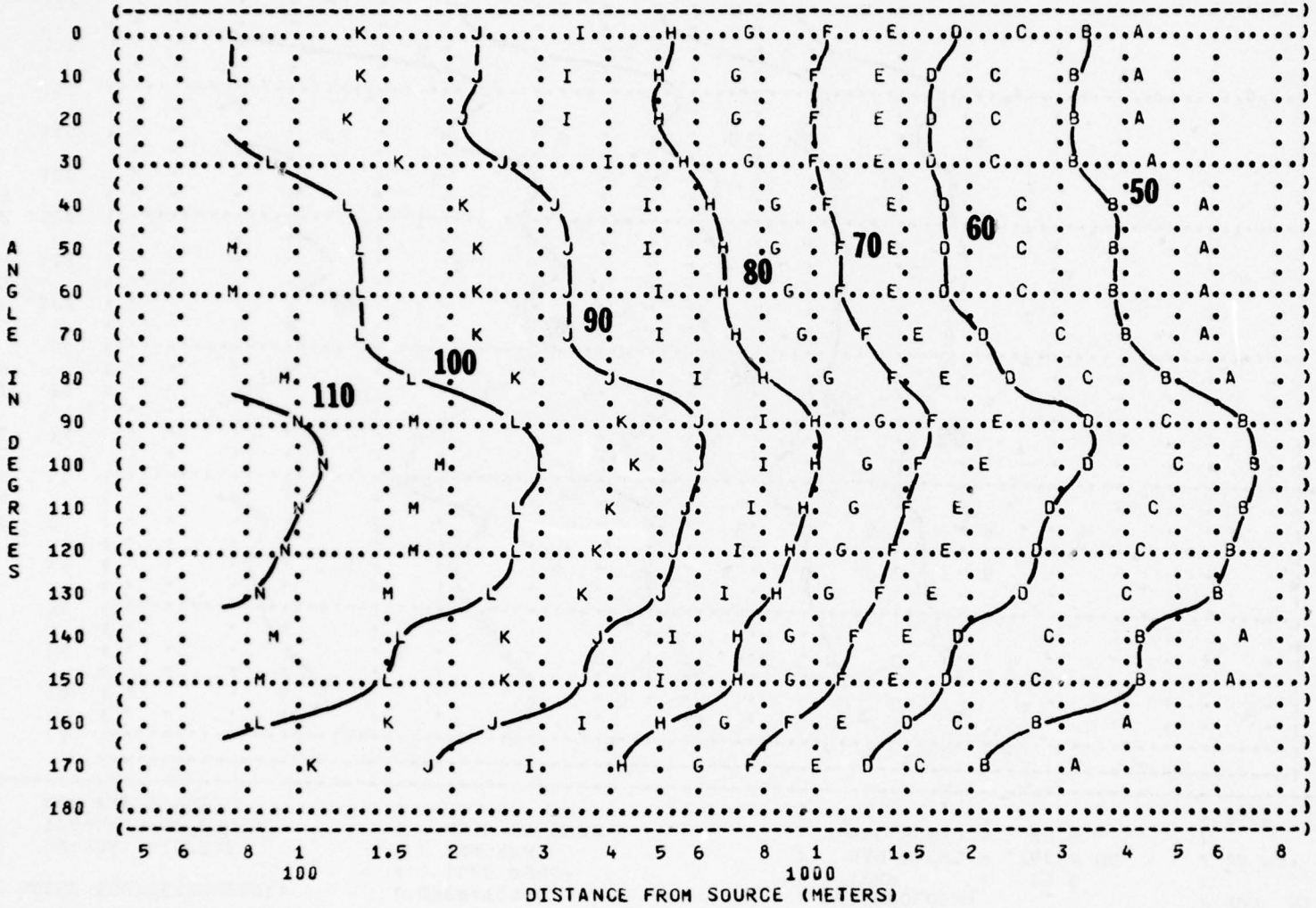


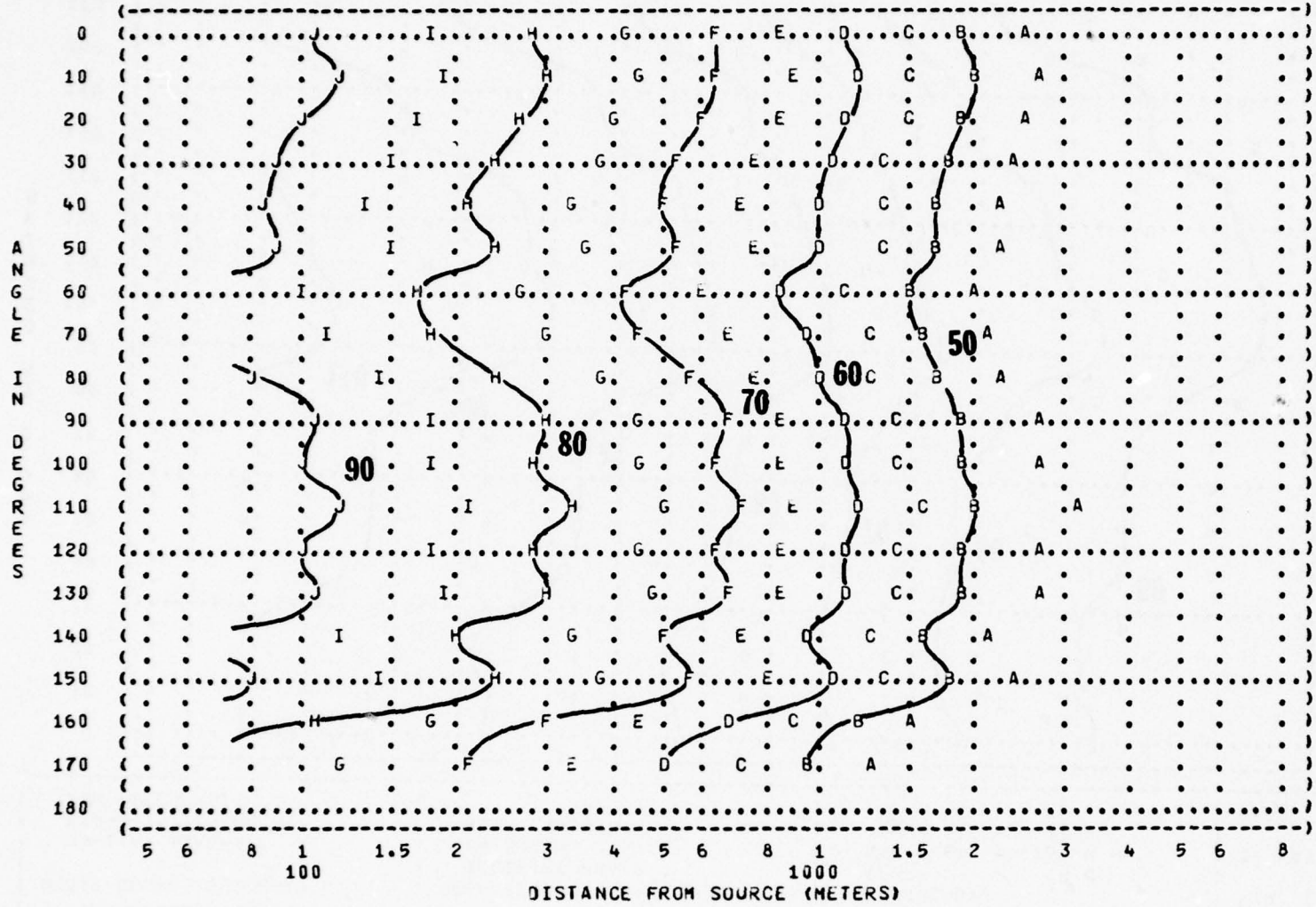
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 14



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

FIGURE: 6

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-040
RUN 02

08 MAY 75

PAGE 14

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

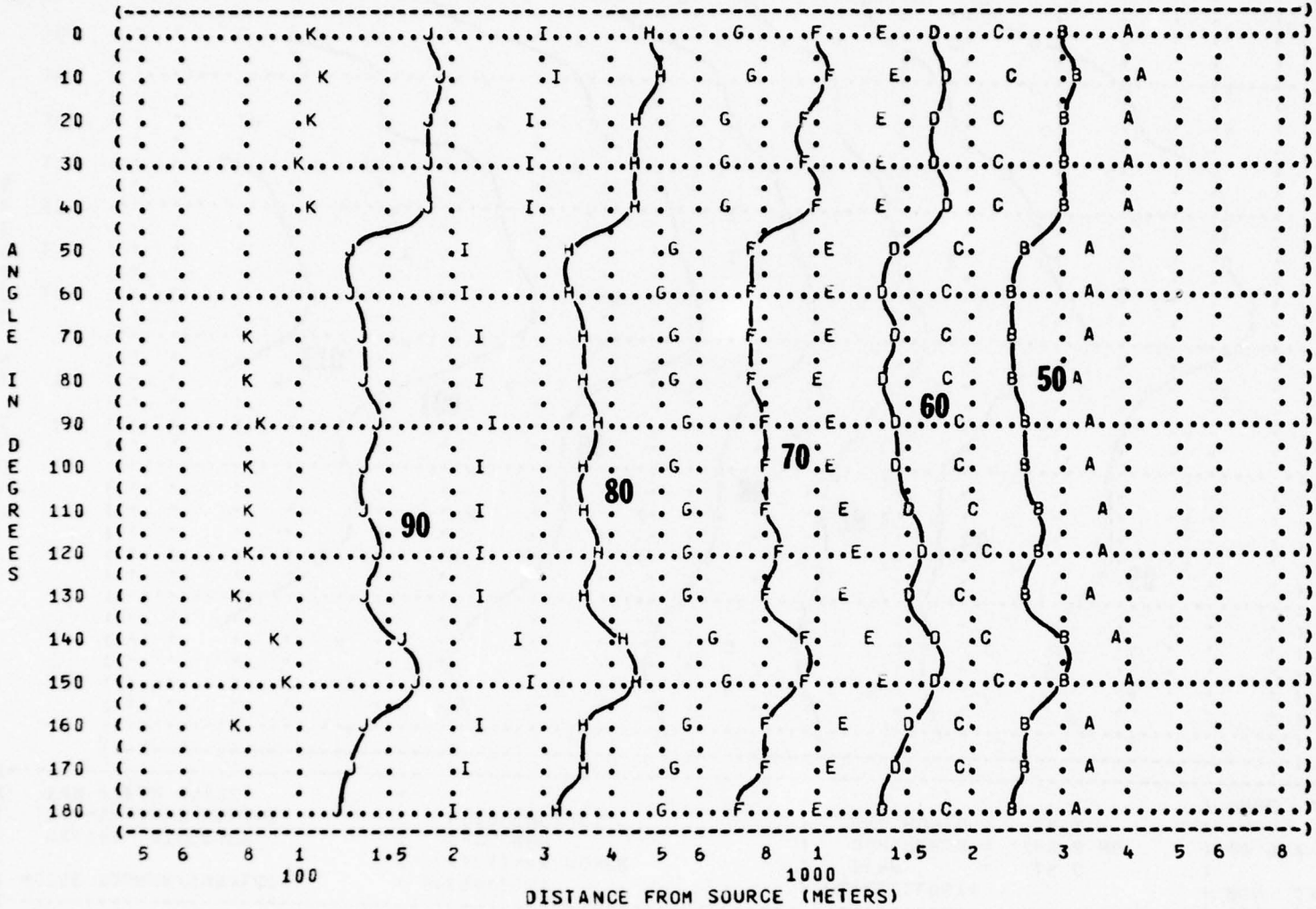


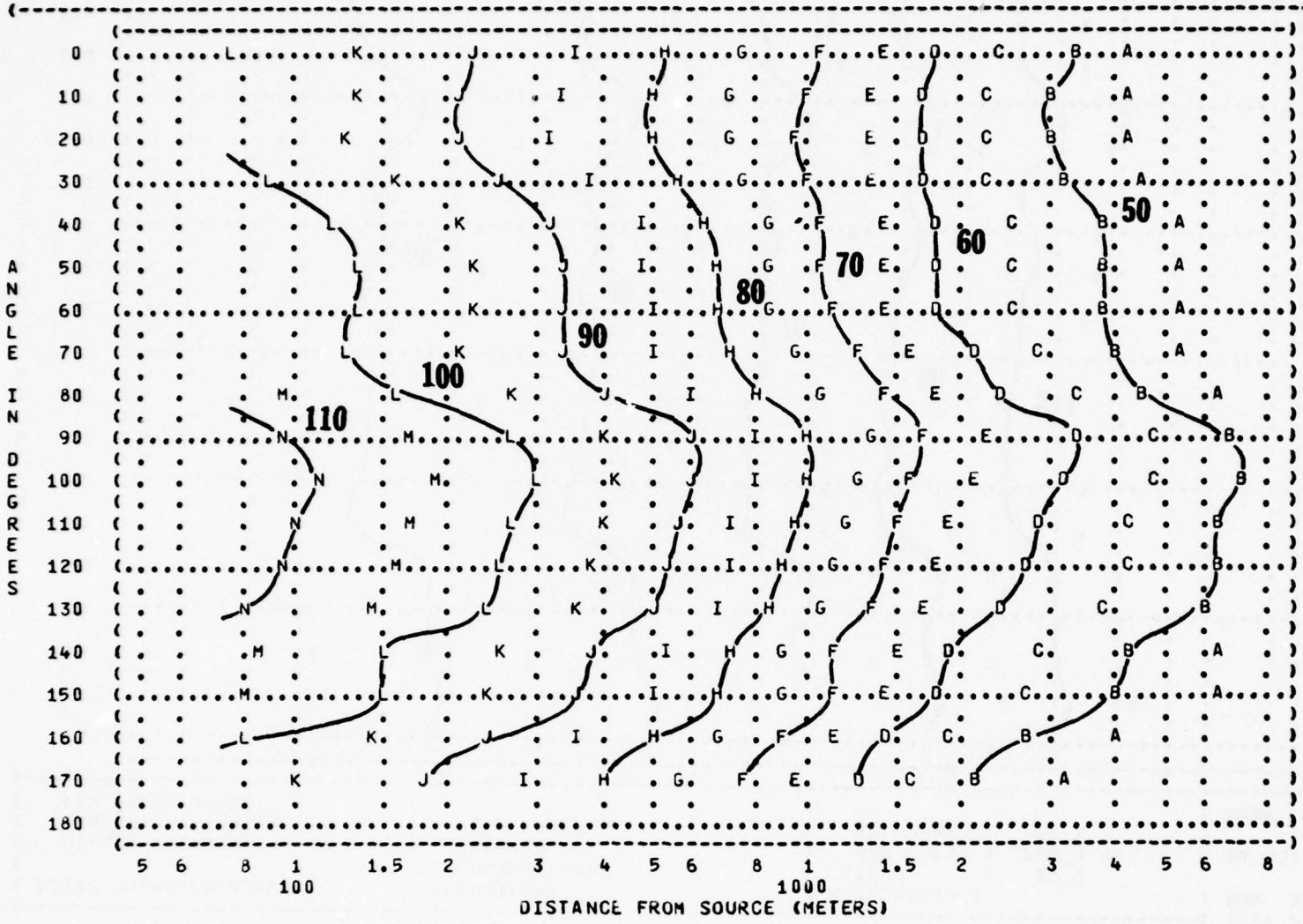
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
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
L	100
M	105
N	110

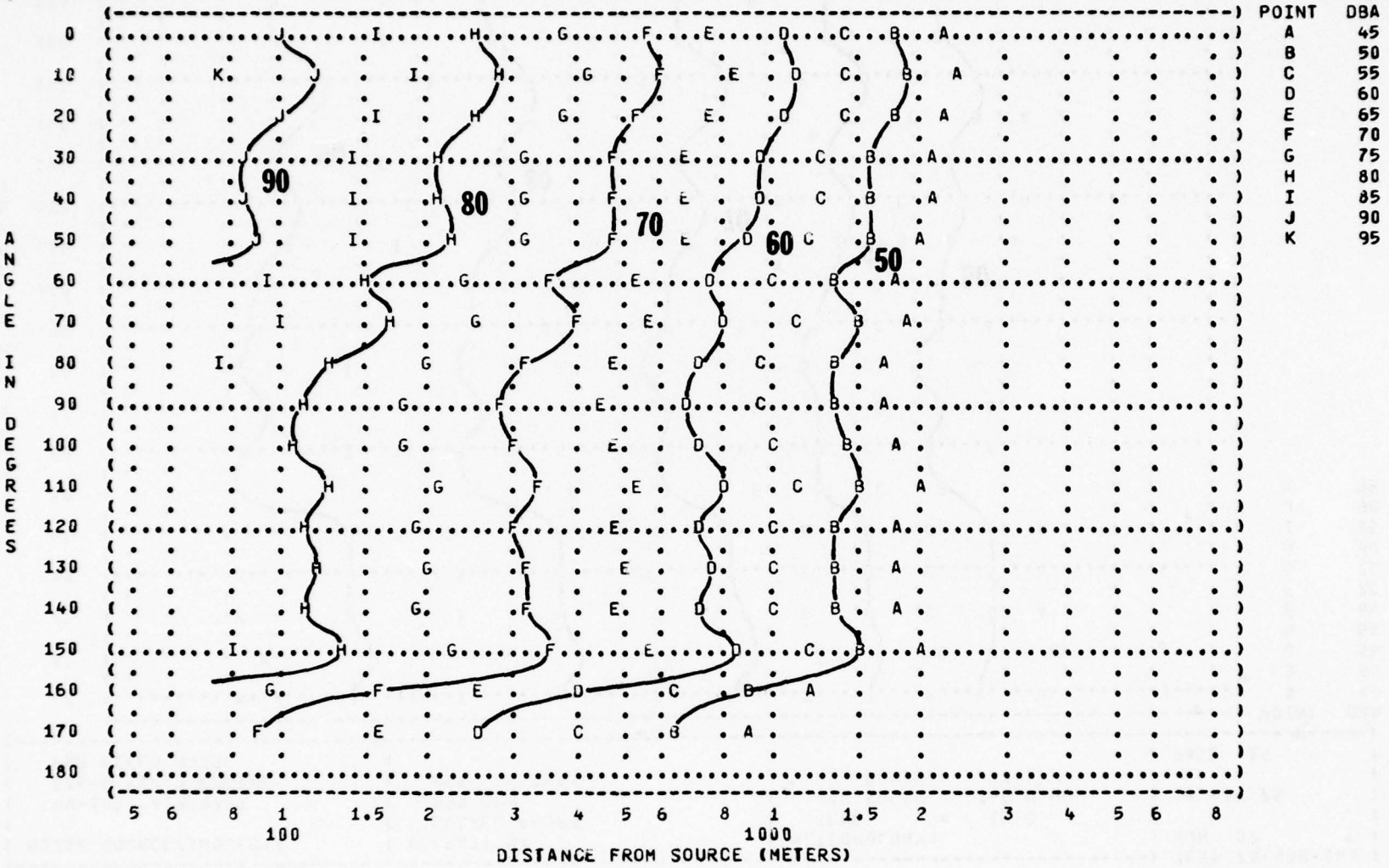
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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
J	90
K	95

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

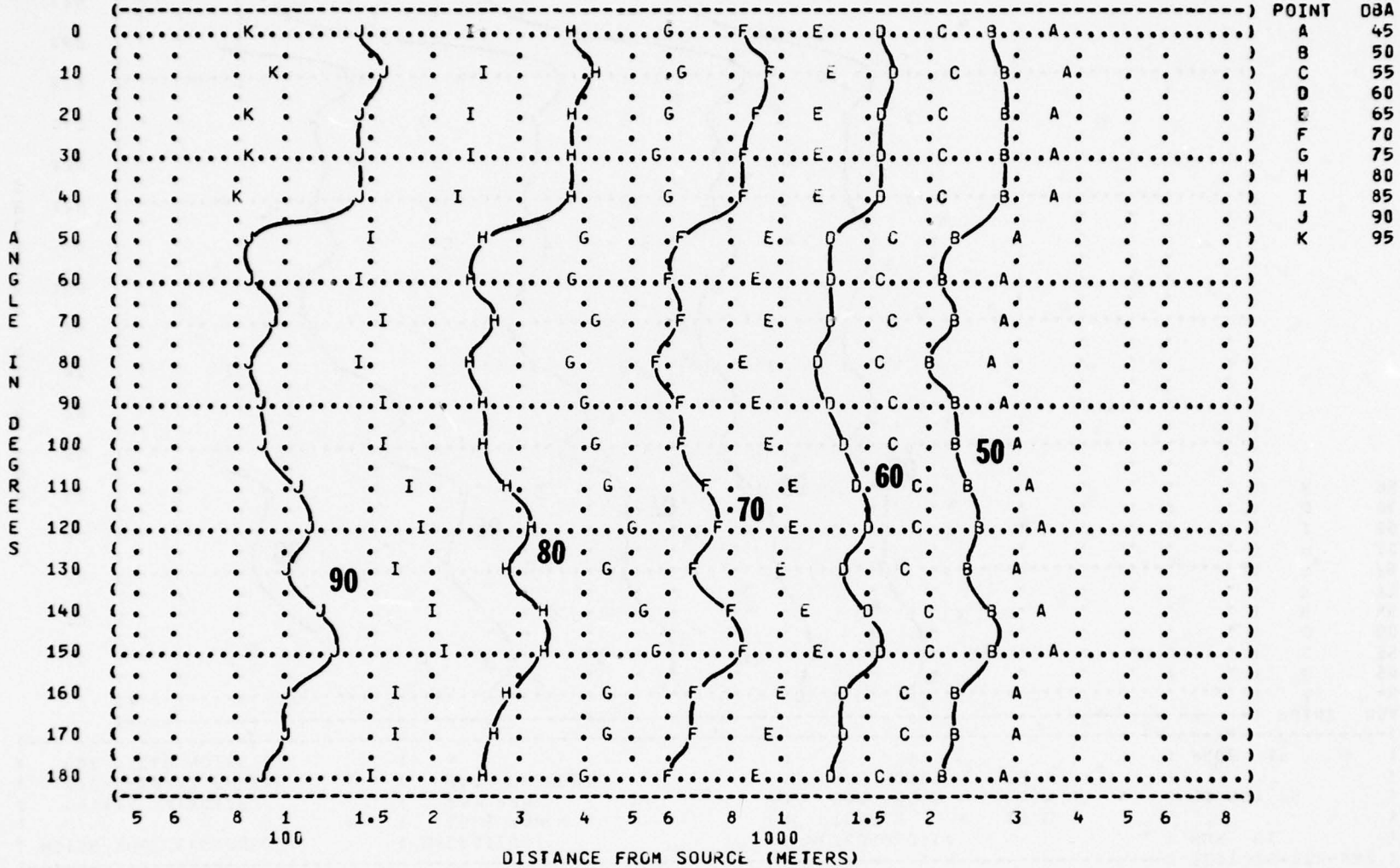


FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
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

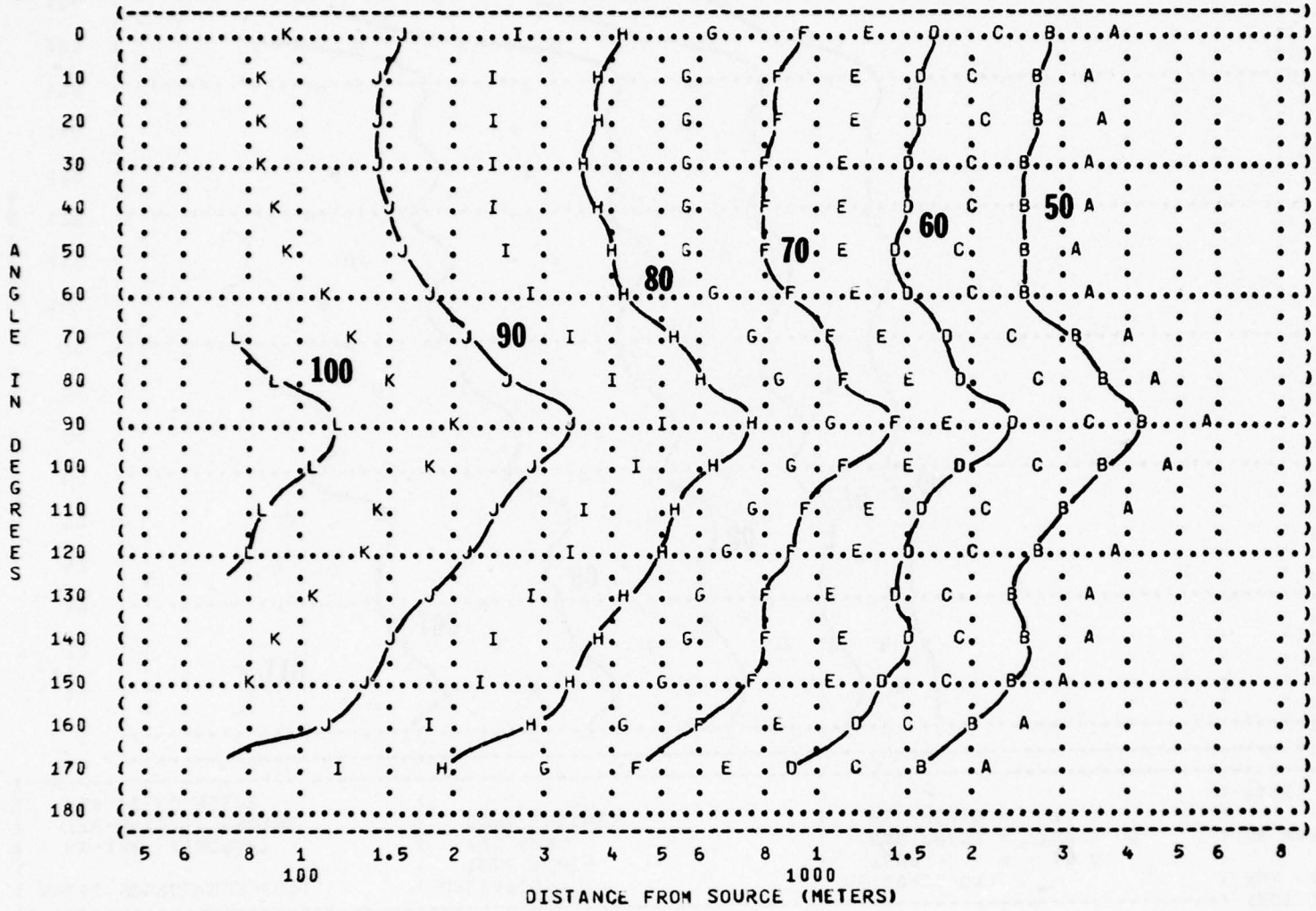


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

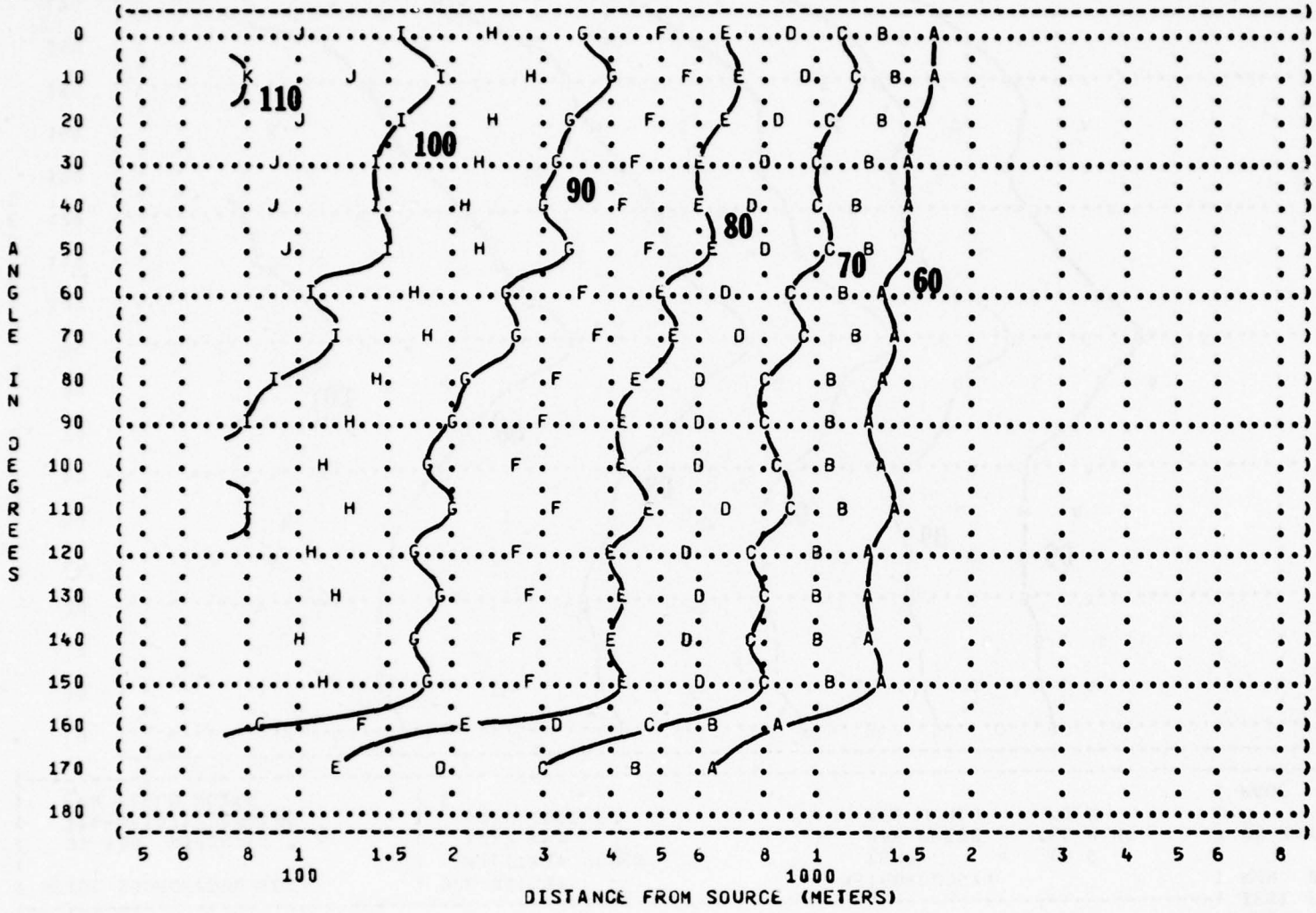


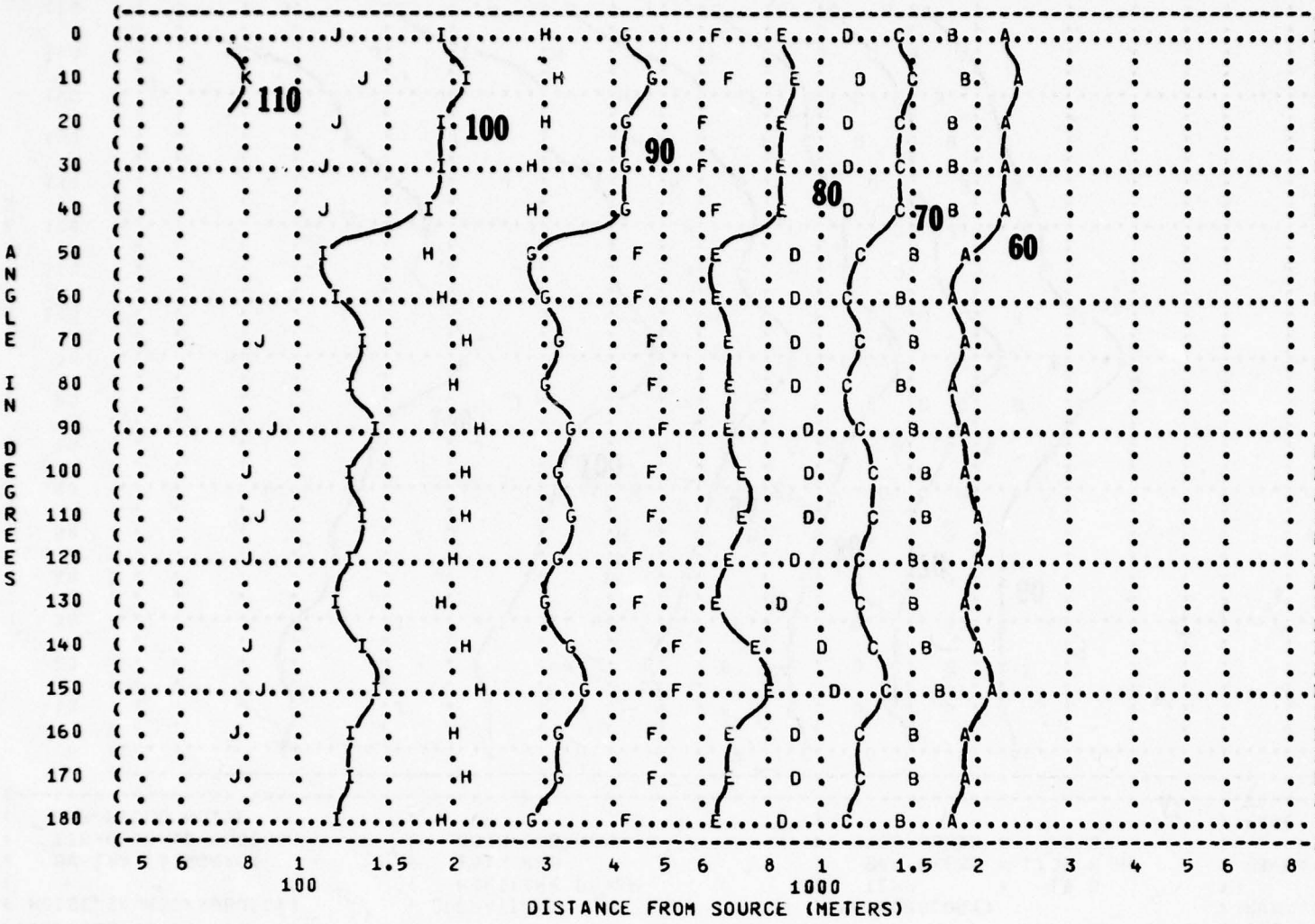
FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 16



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 75-002-040
RUN 03
08 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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
L	115
M	120

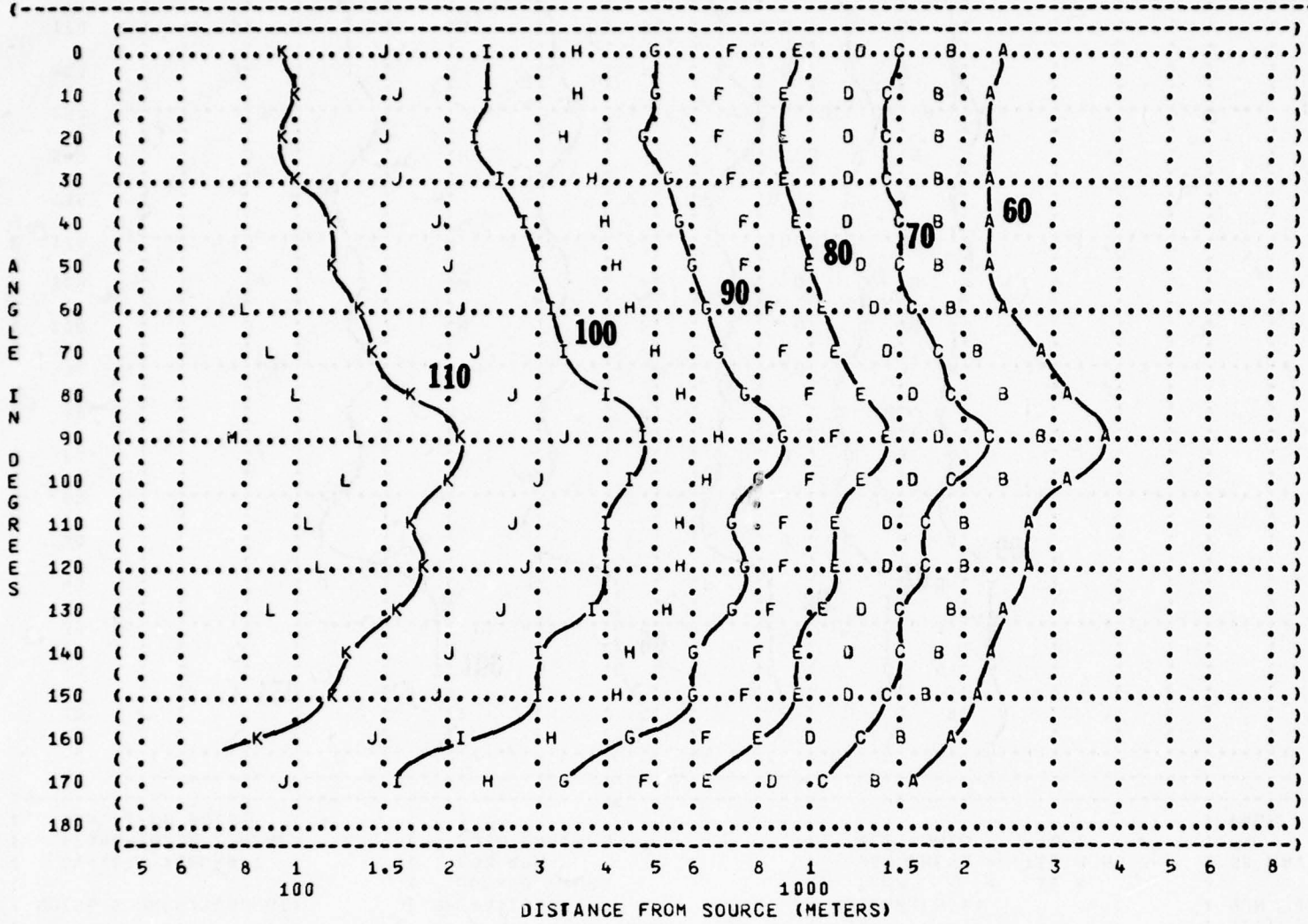


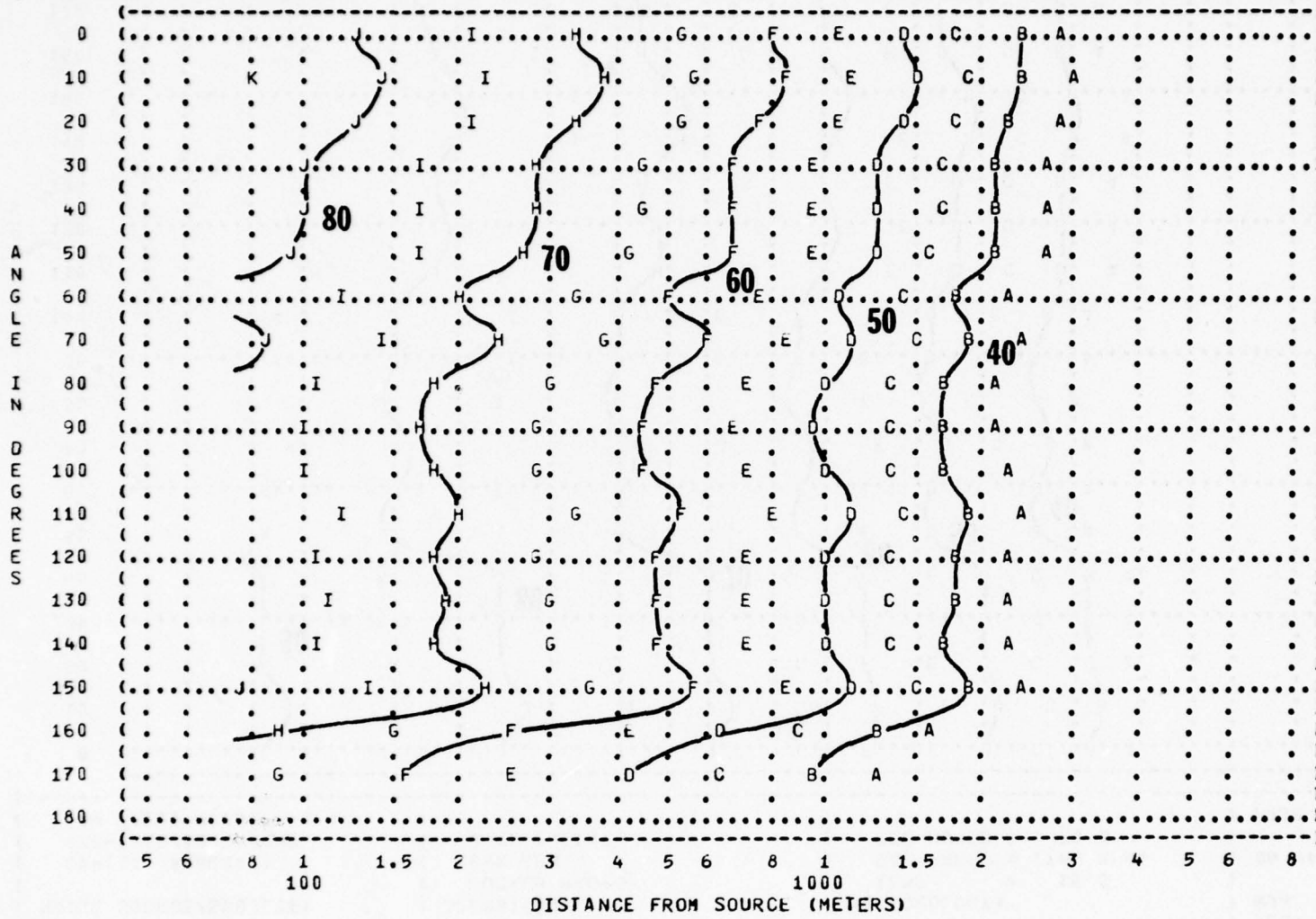
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

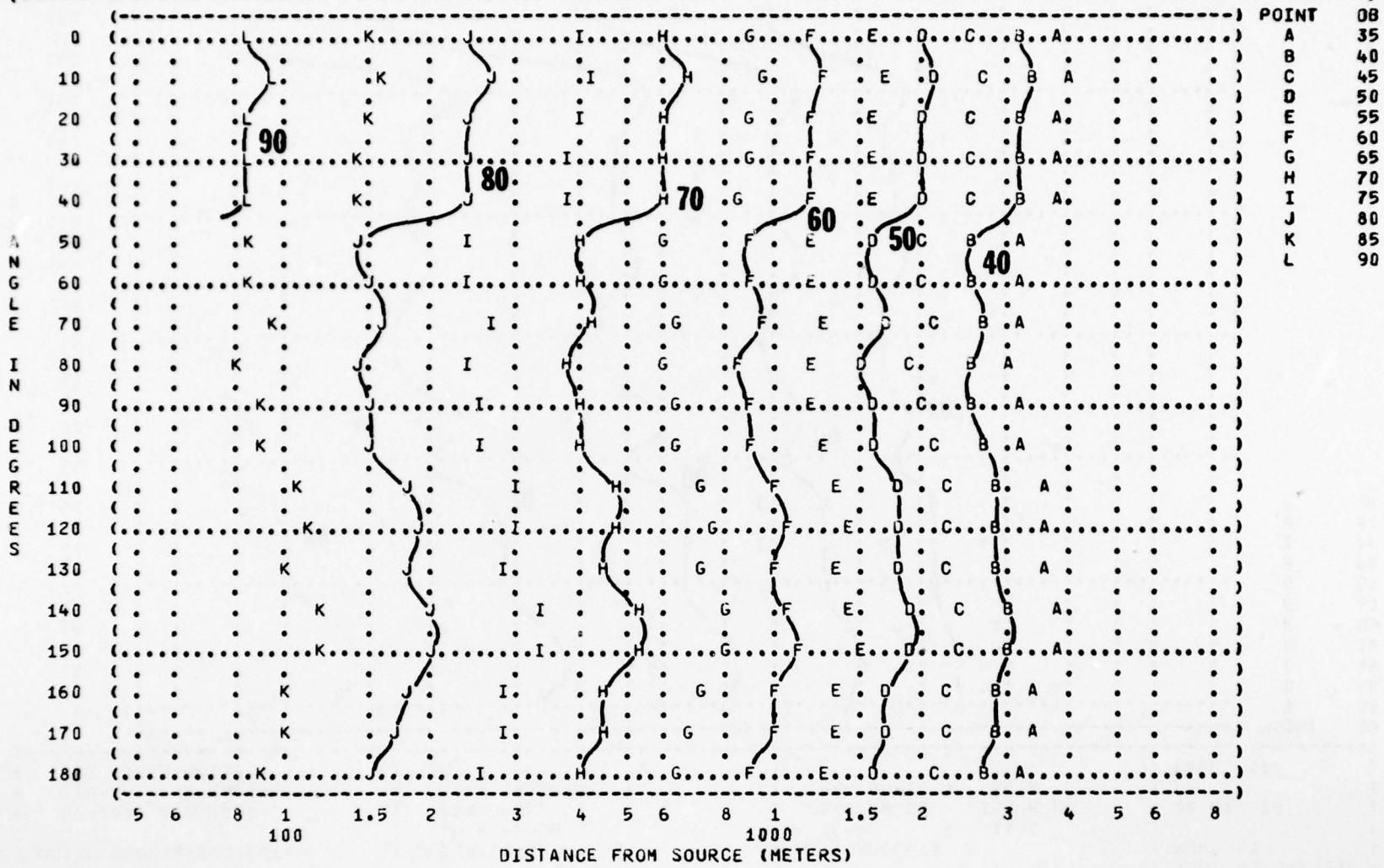
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 17



POINT 08
A 35
B 40
C 45
D 50
E 55
F 60
G 65
H 70
I 75
J 80
K 85
L 90

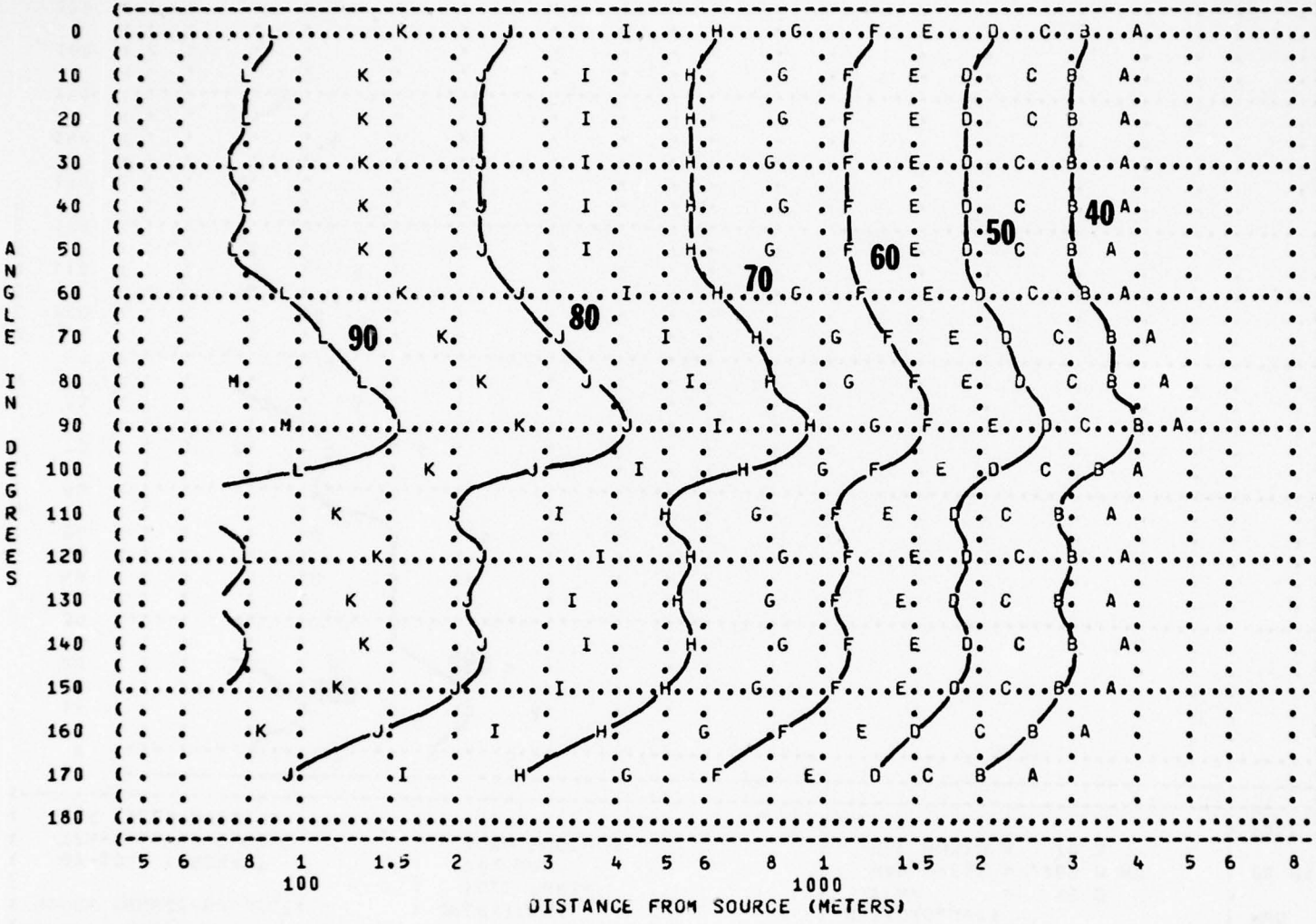
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
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

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:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 7

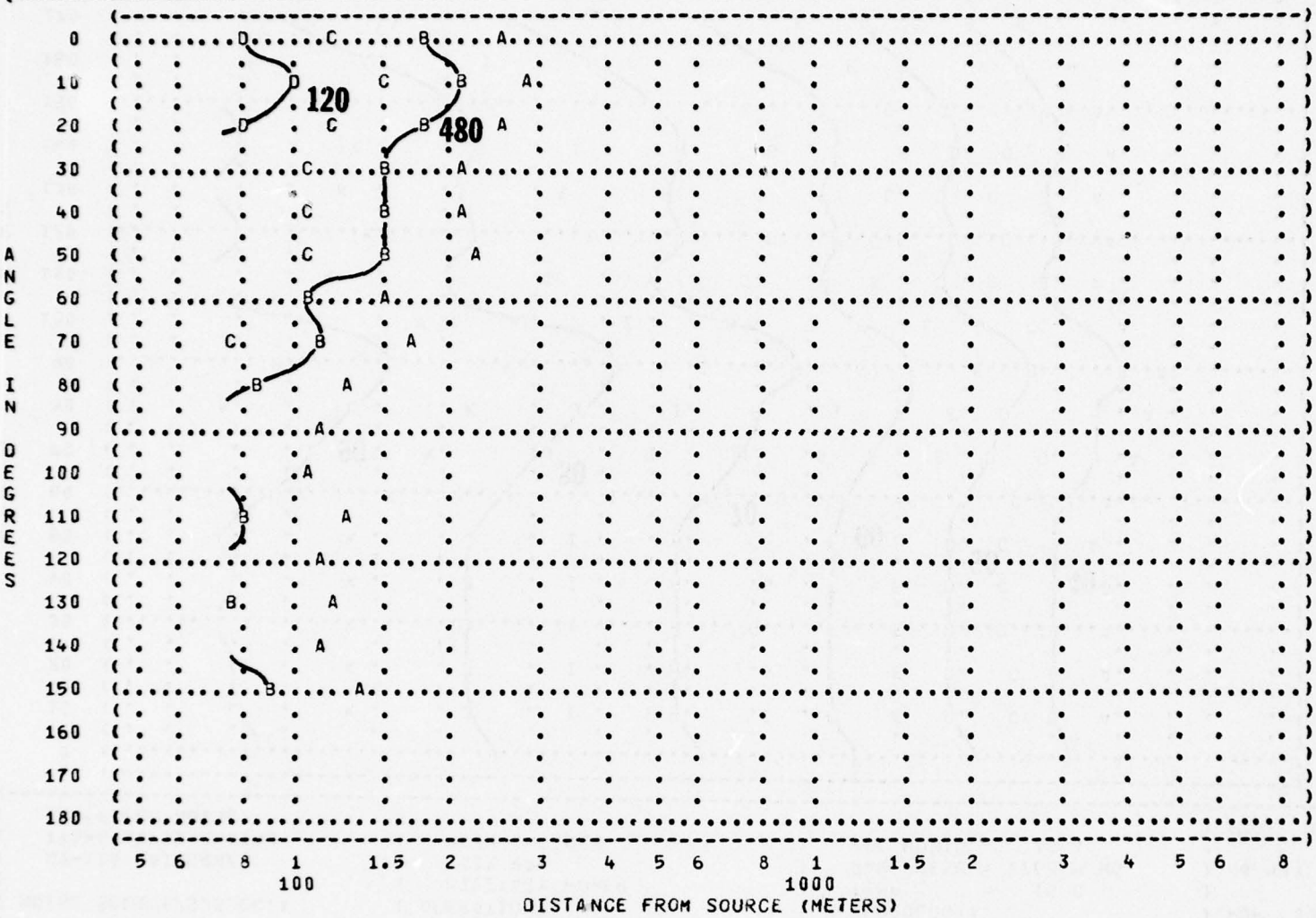


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

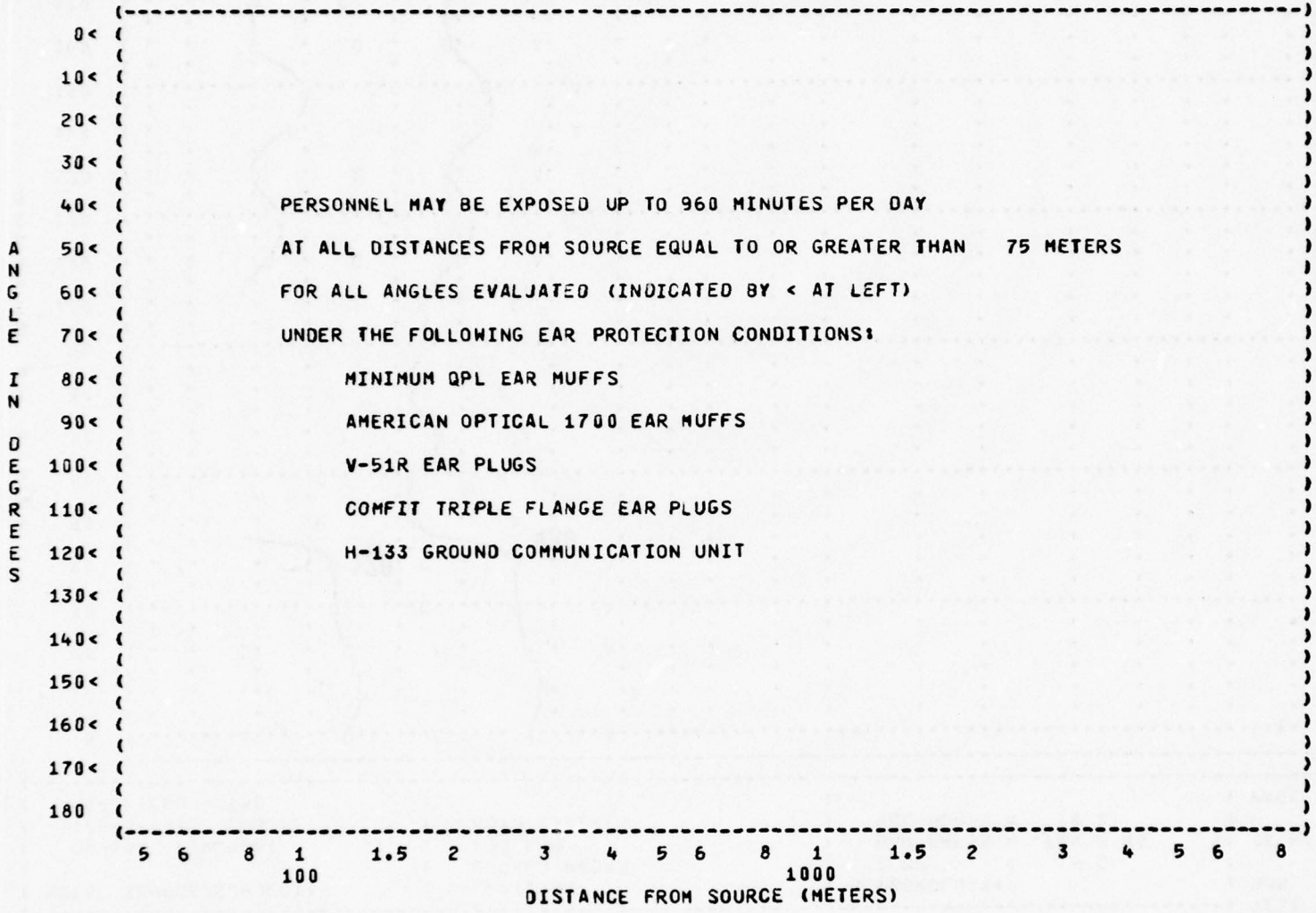


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JUL 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

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

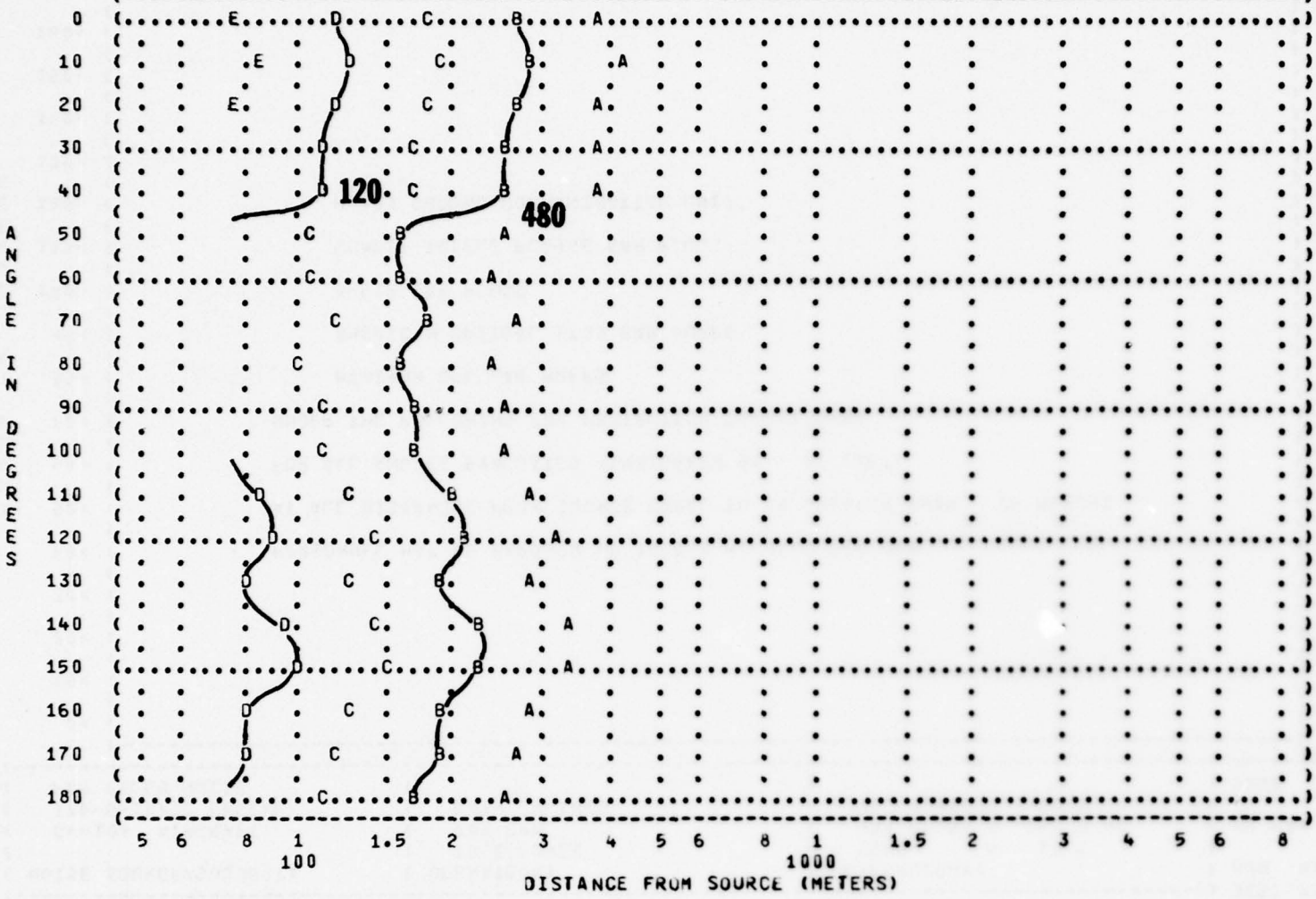


FIGURE: 10	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)	IDENTIFICATION:
NOISE SOURCE/SUBJECT: OV-10A AIRCRAFT T76-G-10/12 ENGINE FAR FIELD NOISE	OPERATION: LOCKED PROPS 89% RPM BOTH ENGINES	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %	OMEGA 1.4 TEST 75-002-040 RUN 02 08 MAY 75 PAGE 8

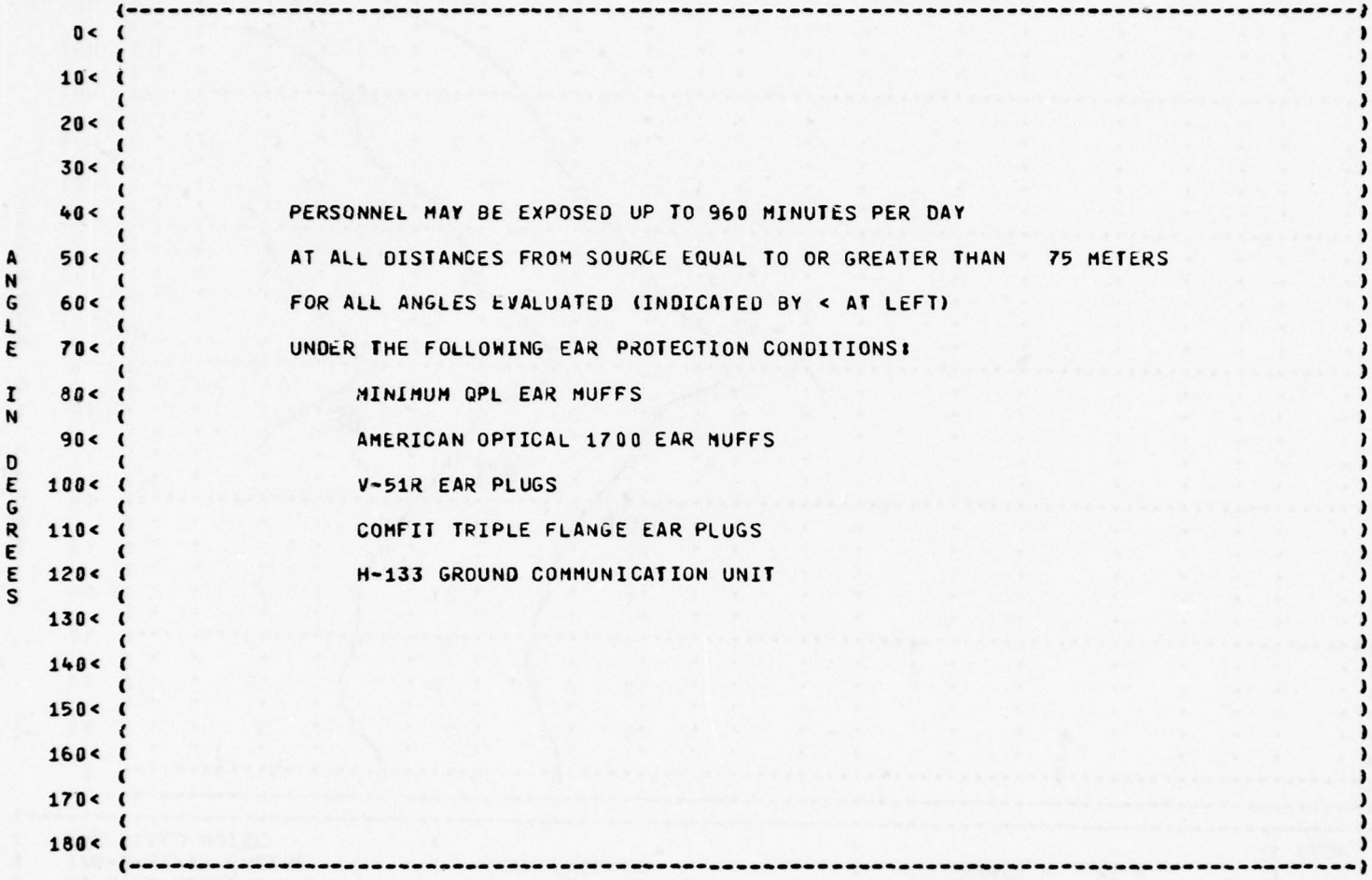


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15

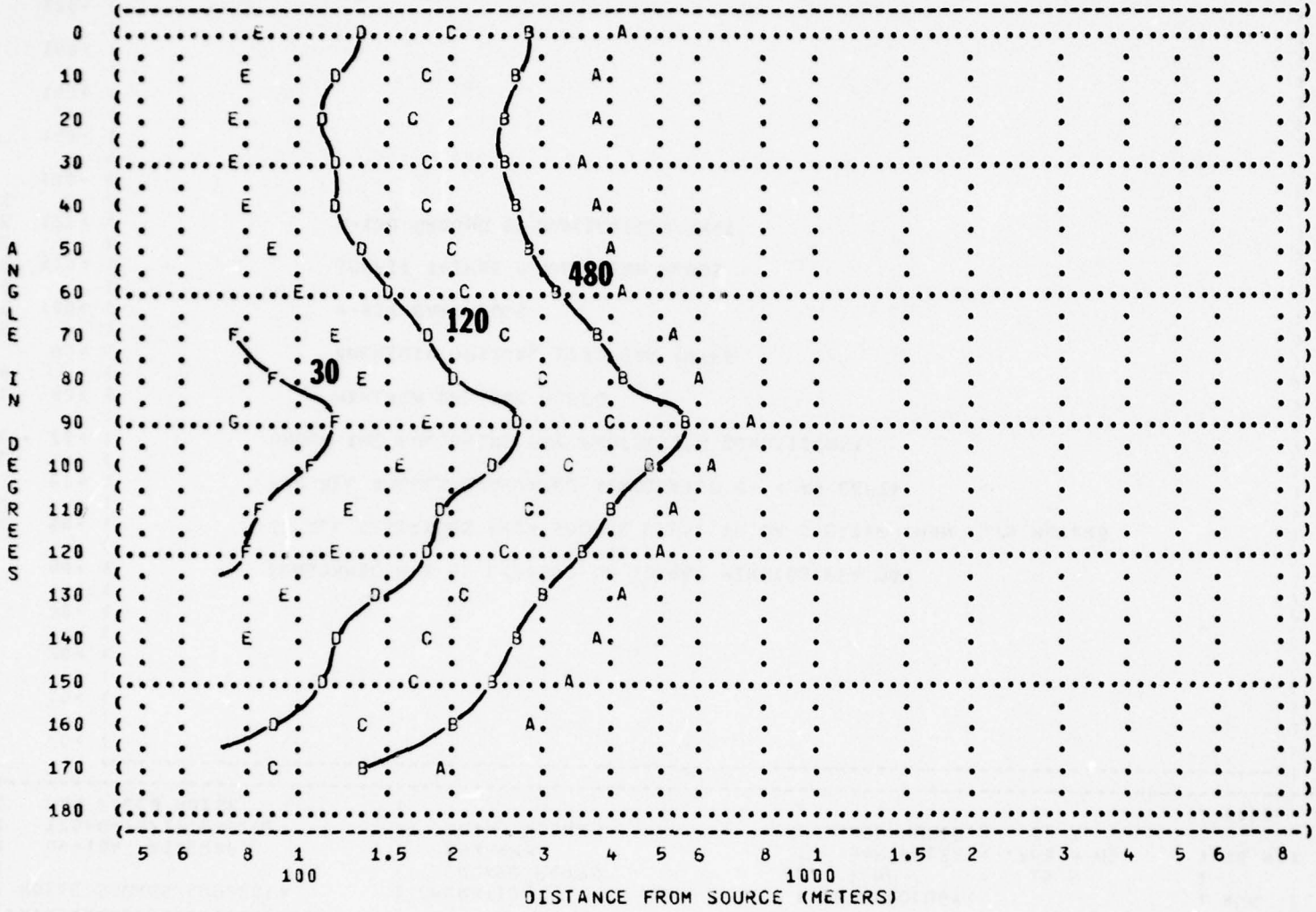


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 8

POINT	MIN
A	960
B	480
C	240

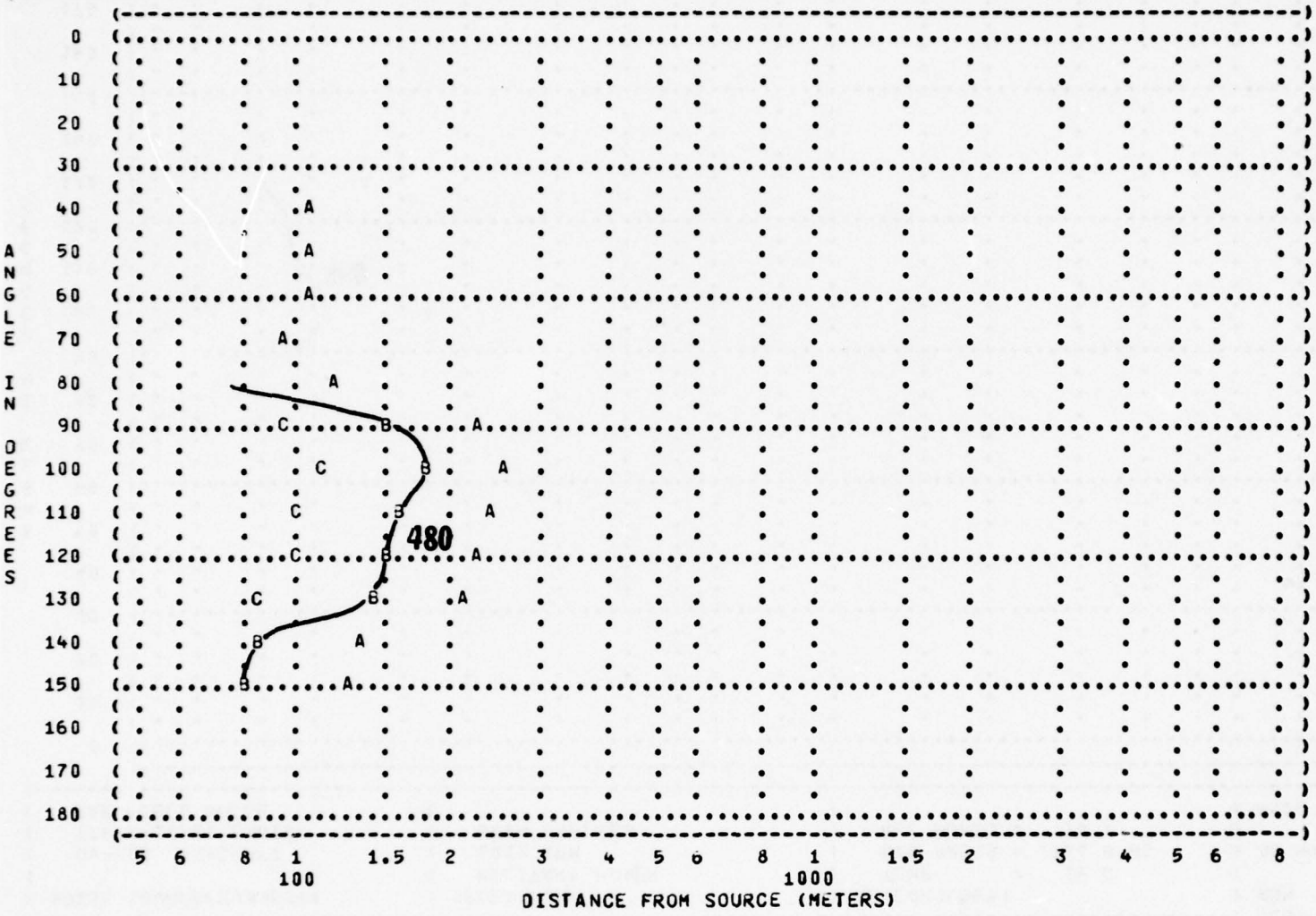


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 9

POINT	MIN
A	960
B	480

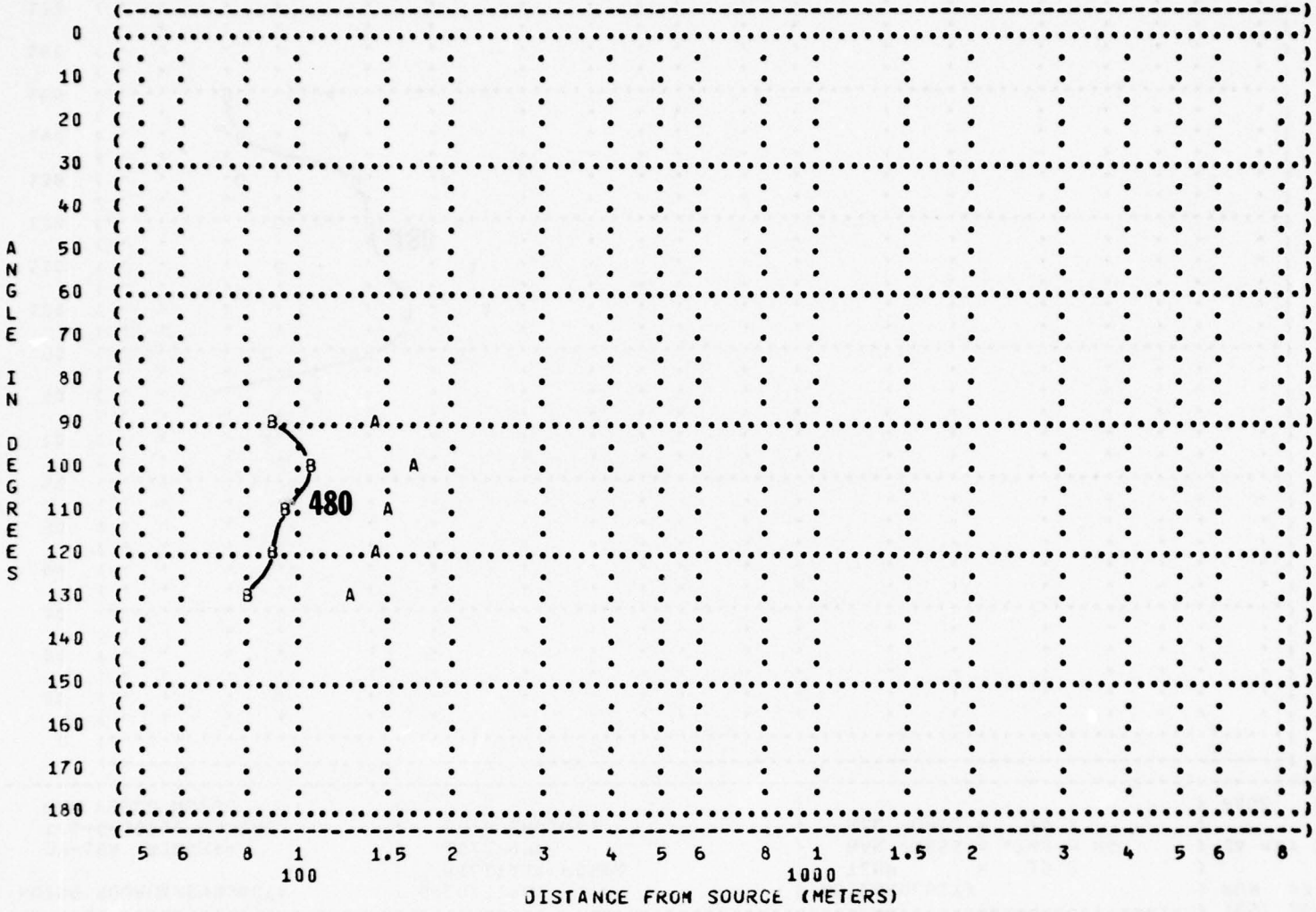


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 10

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

POINT	MIN
A	960

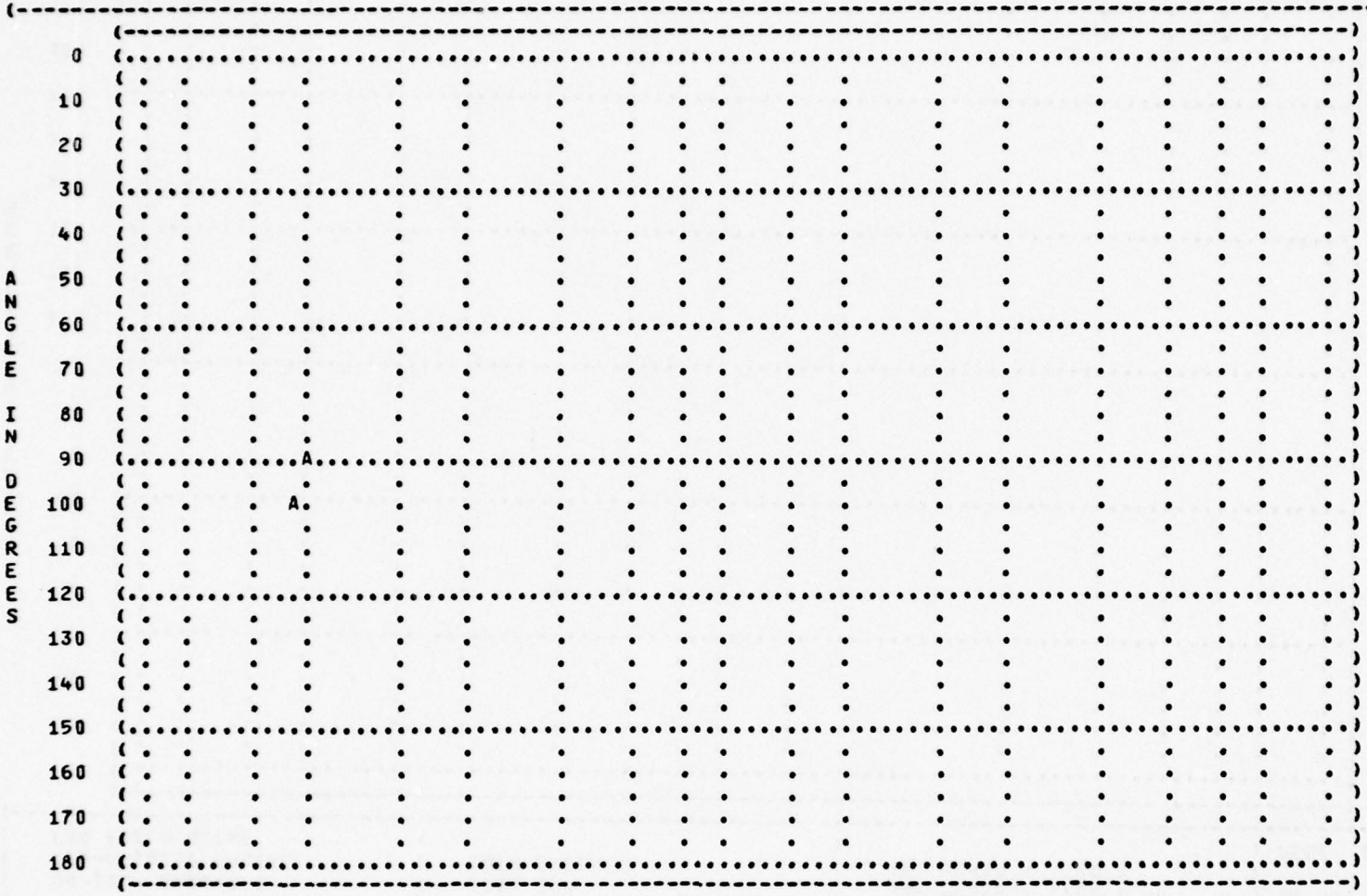


FIGURE: 10

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:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 11

POINT MIN
A 960

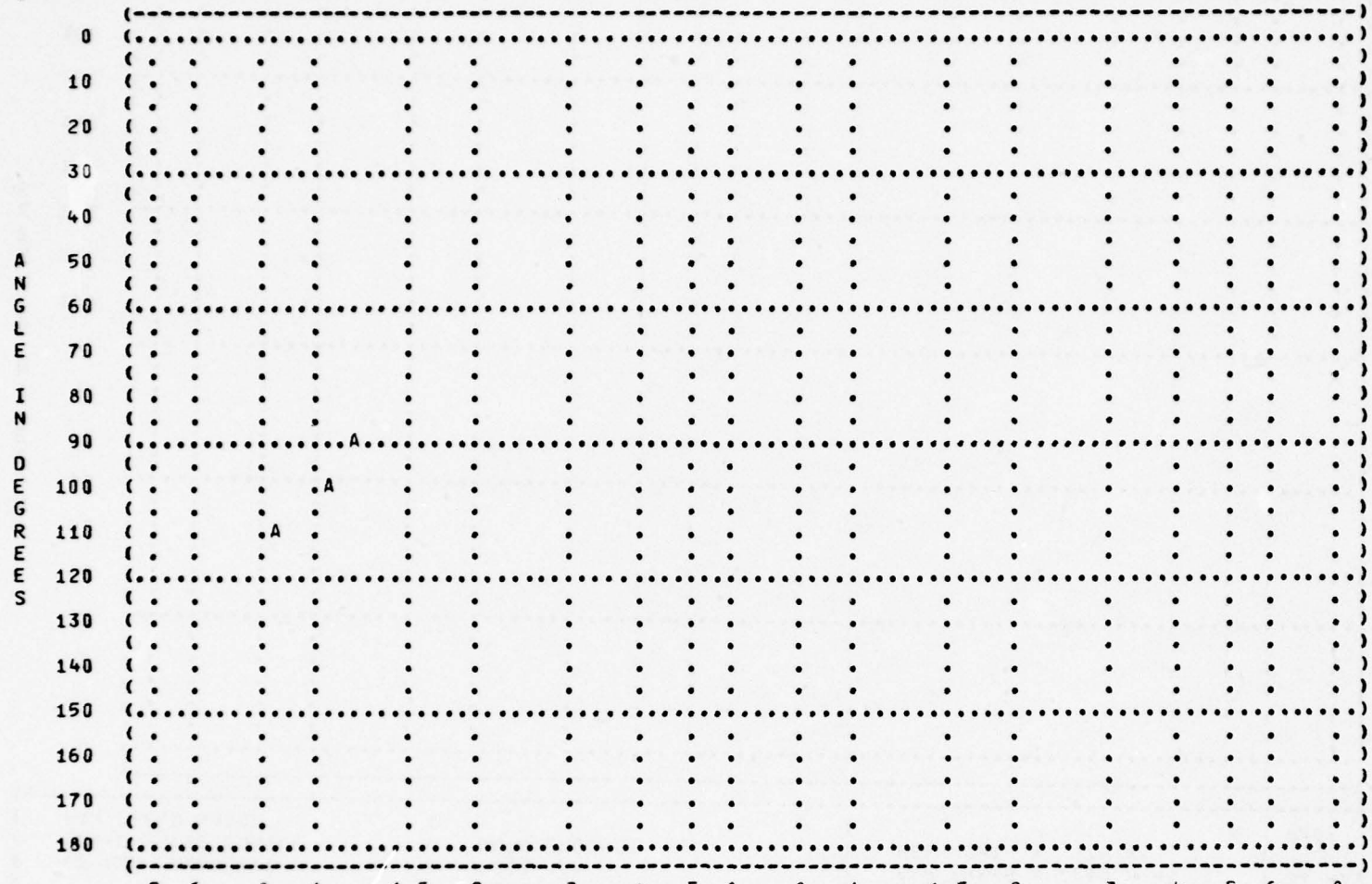


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 12

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

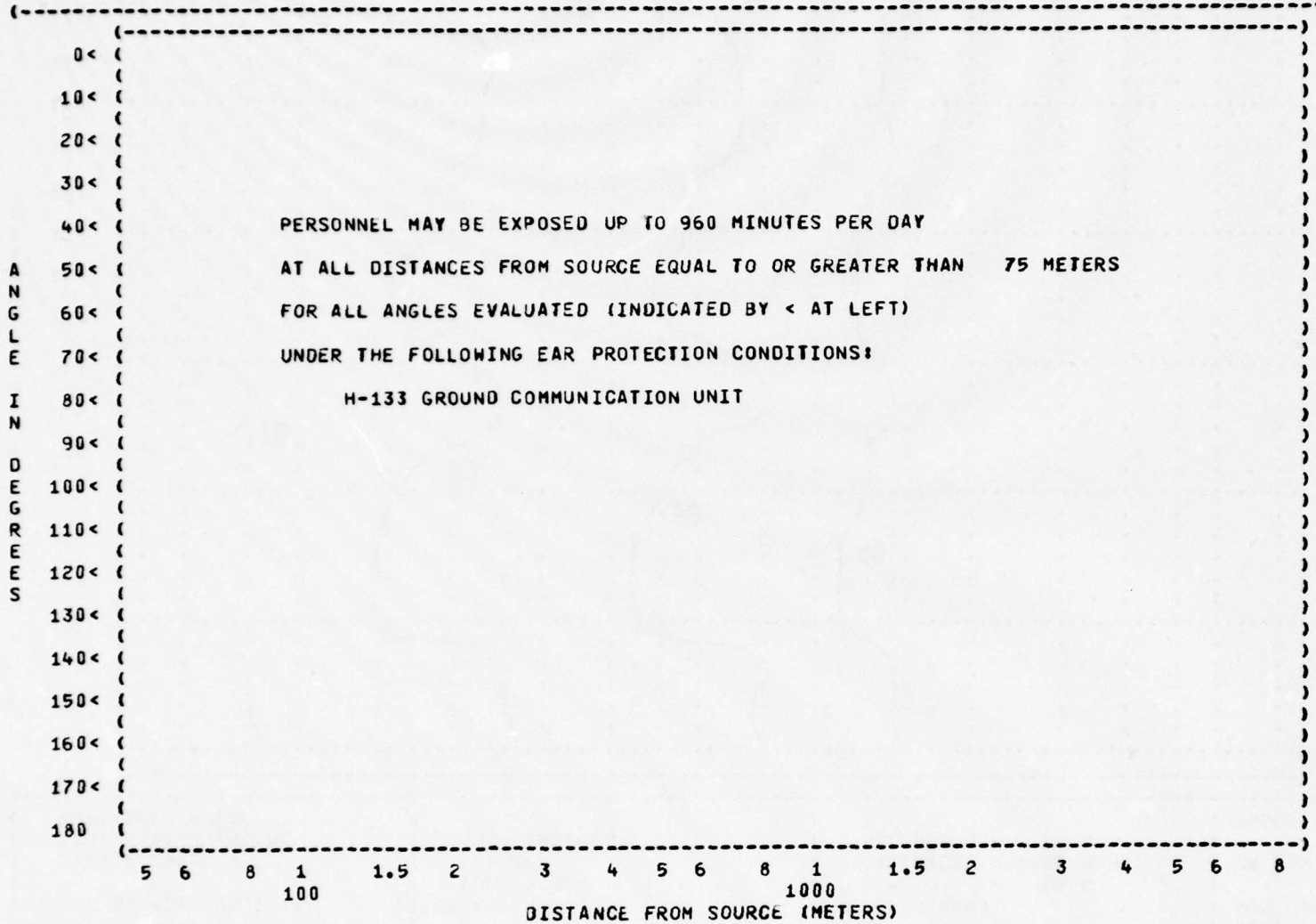


FIGURE: 11

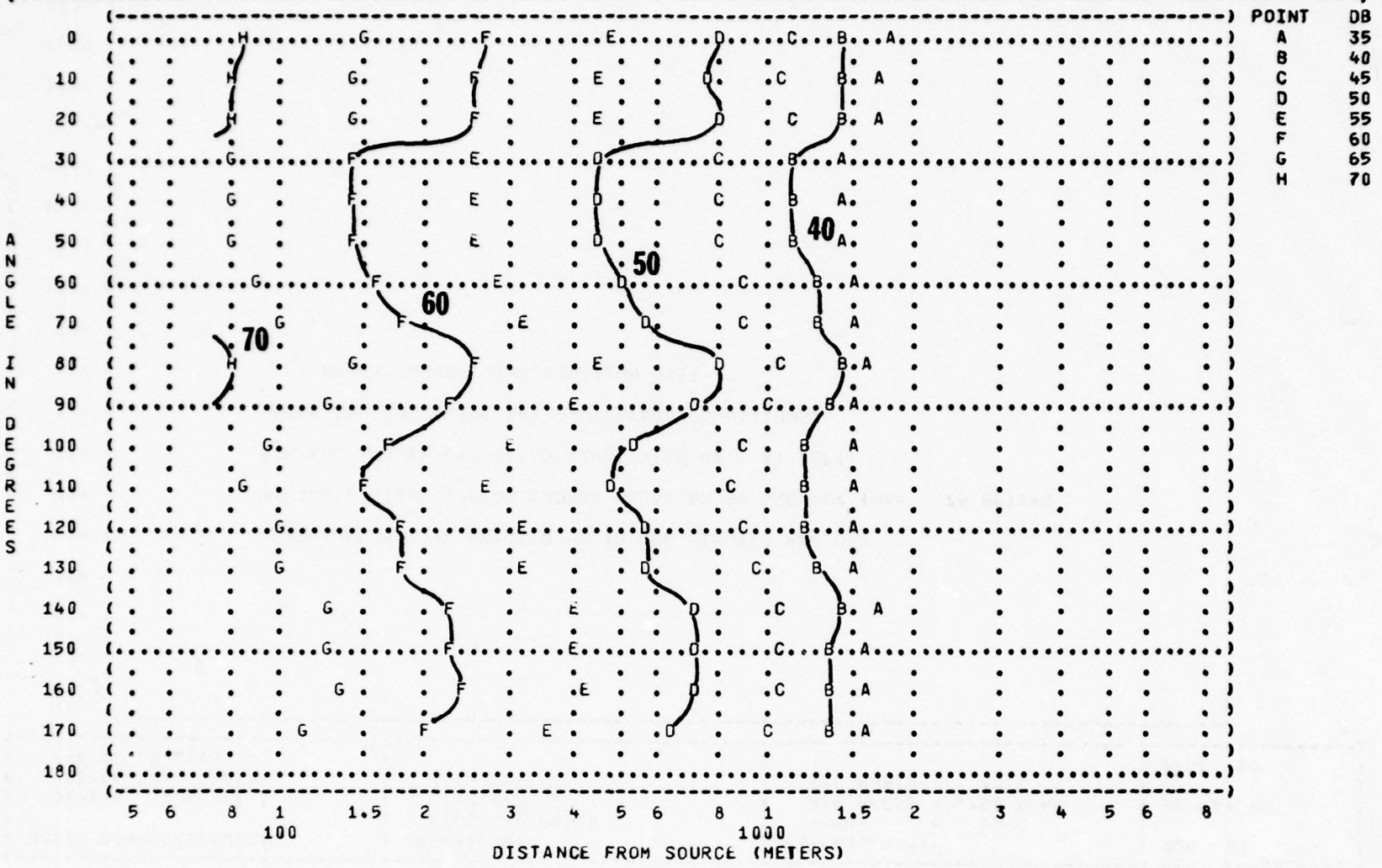
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 18



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) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
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

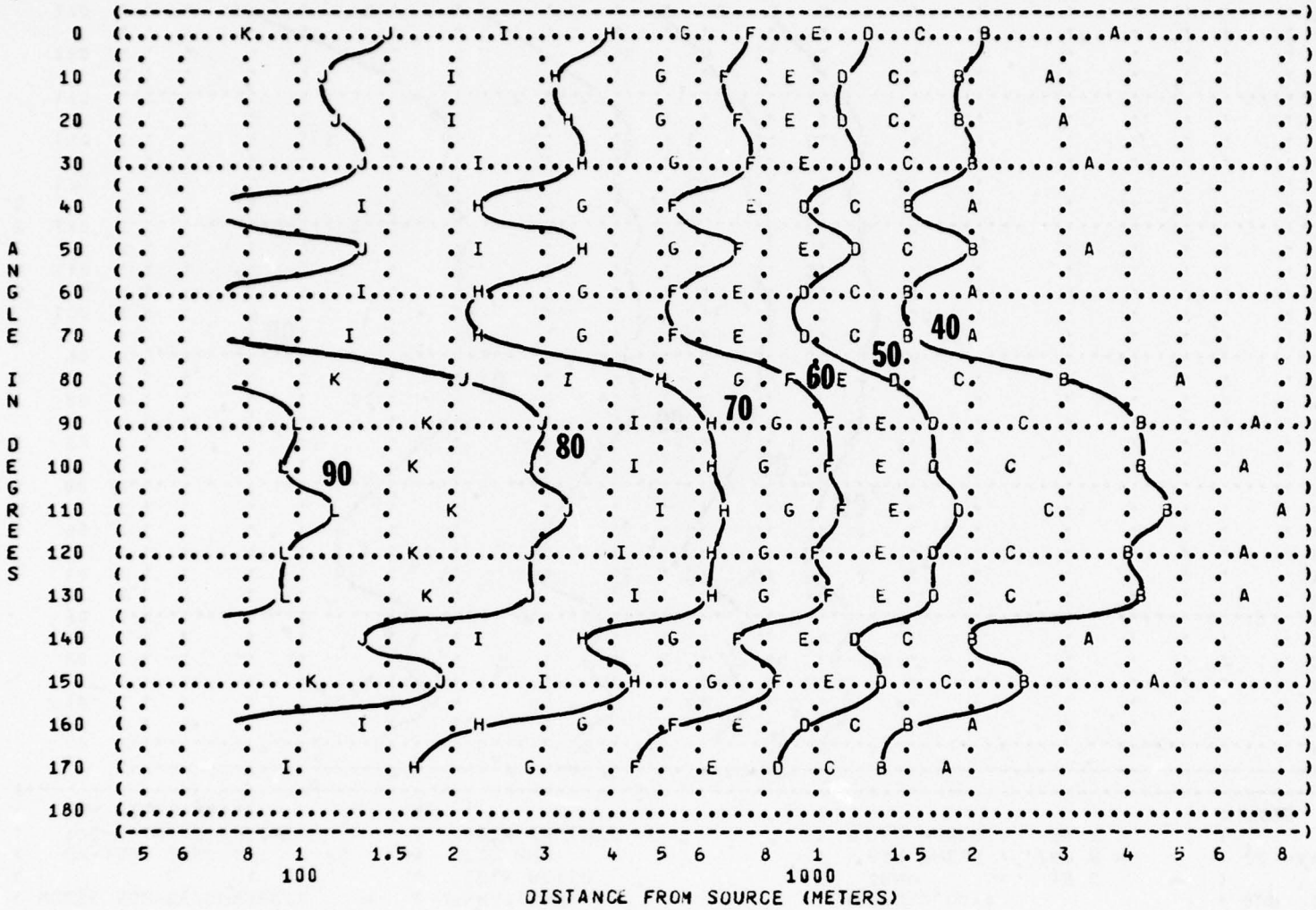


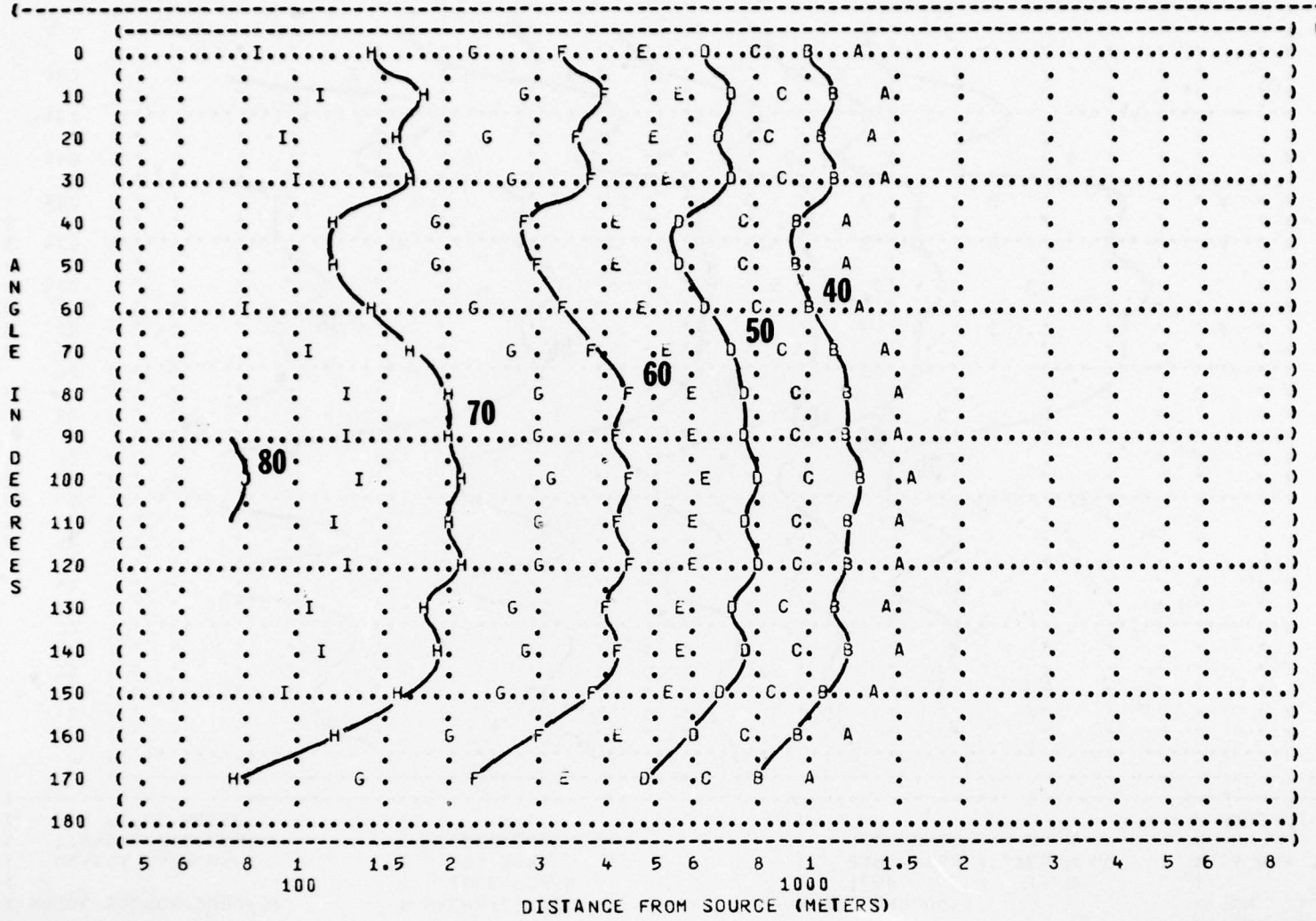
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 20



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) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 21

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

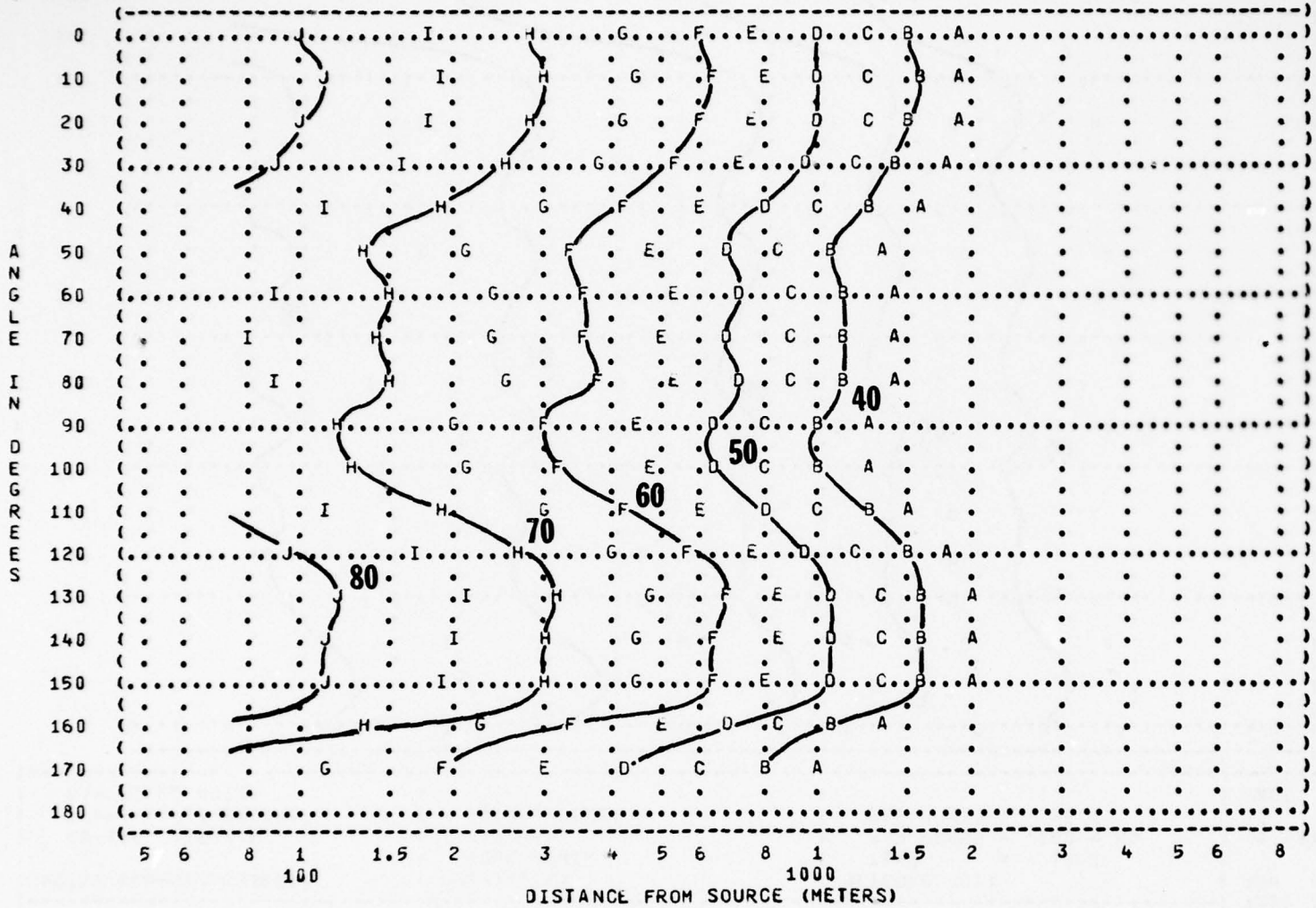


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 22

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

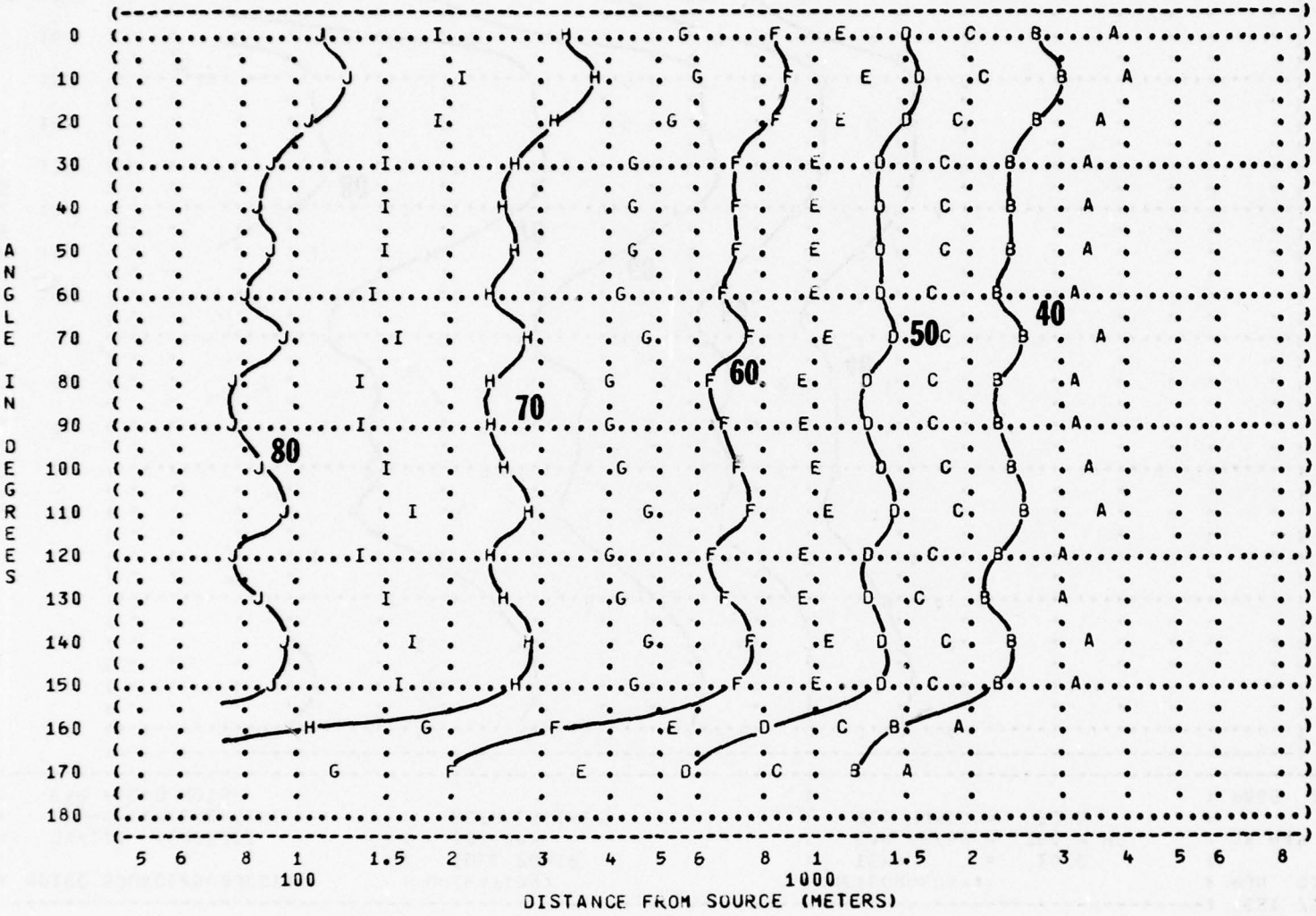


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
PAGE 23

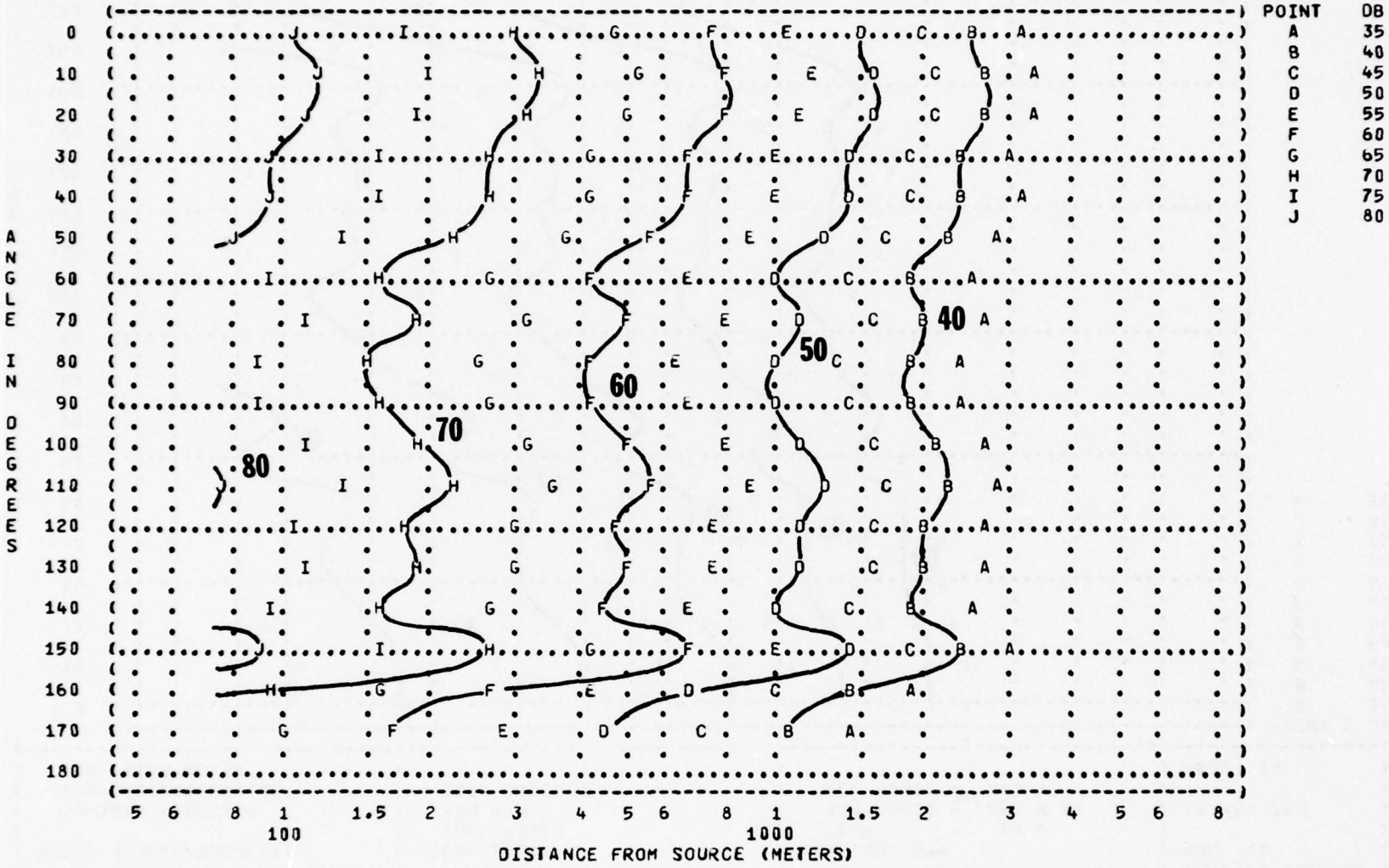


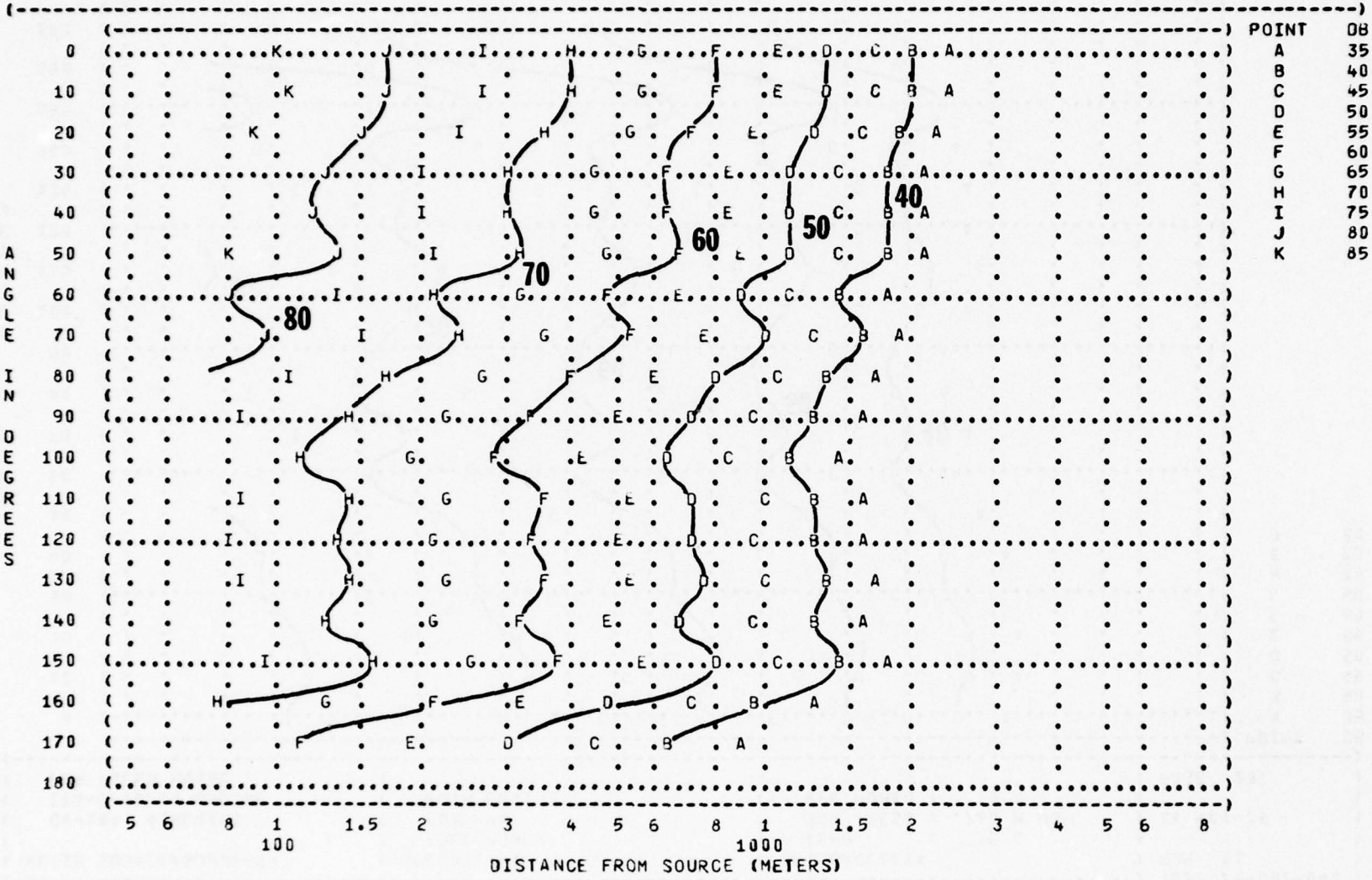
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
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

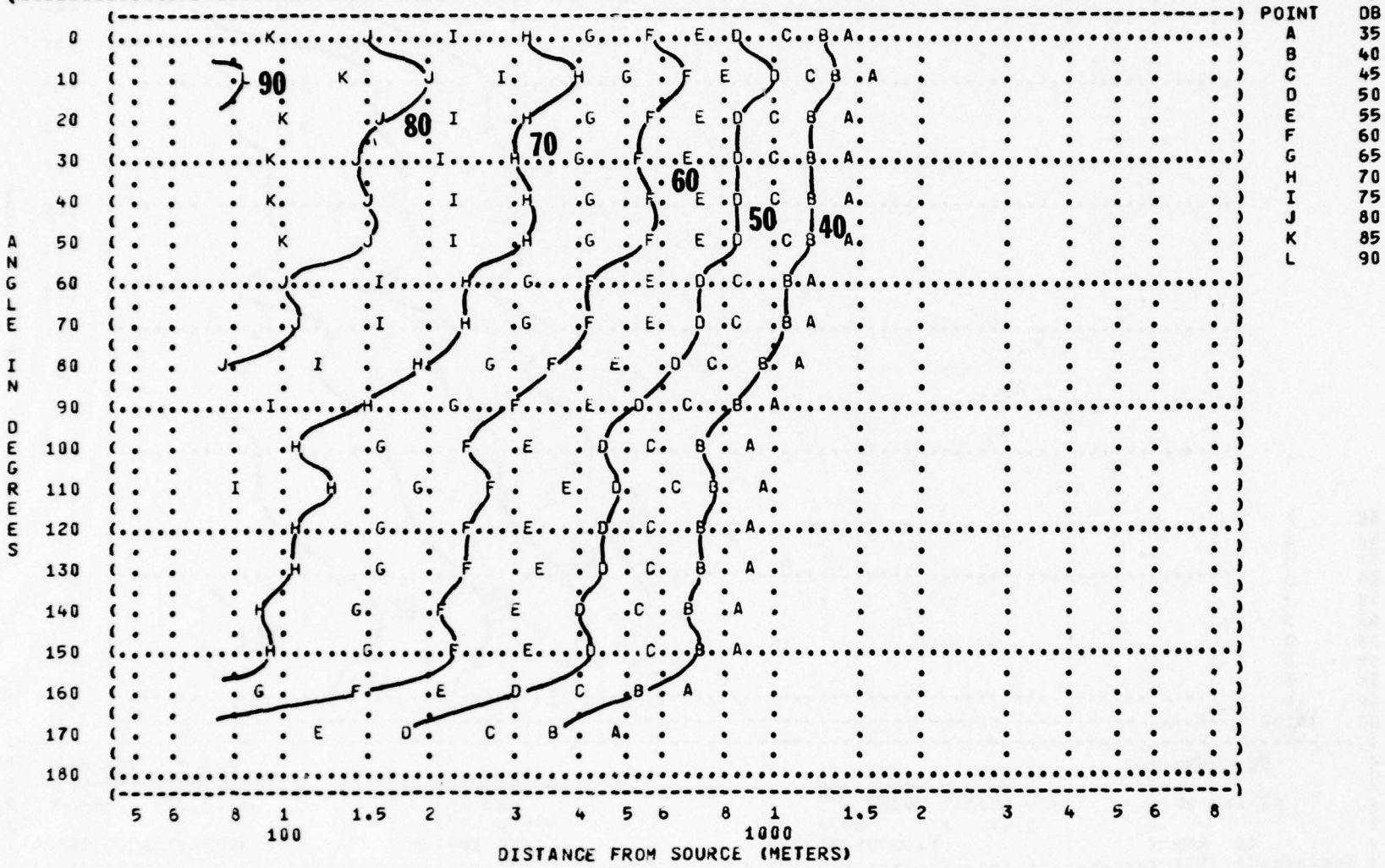
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
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

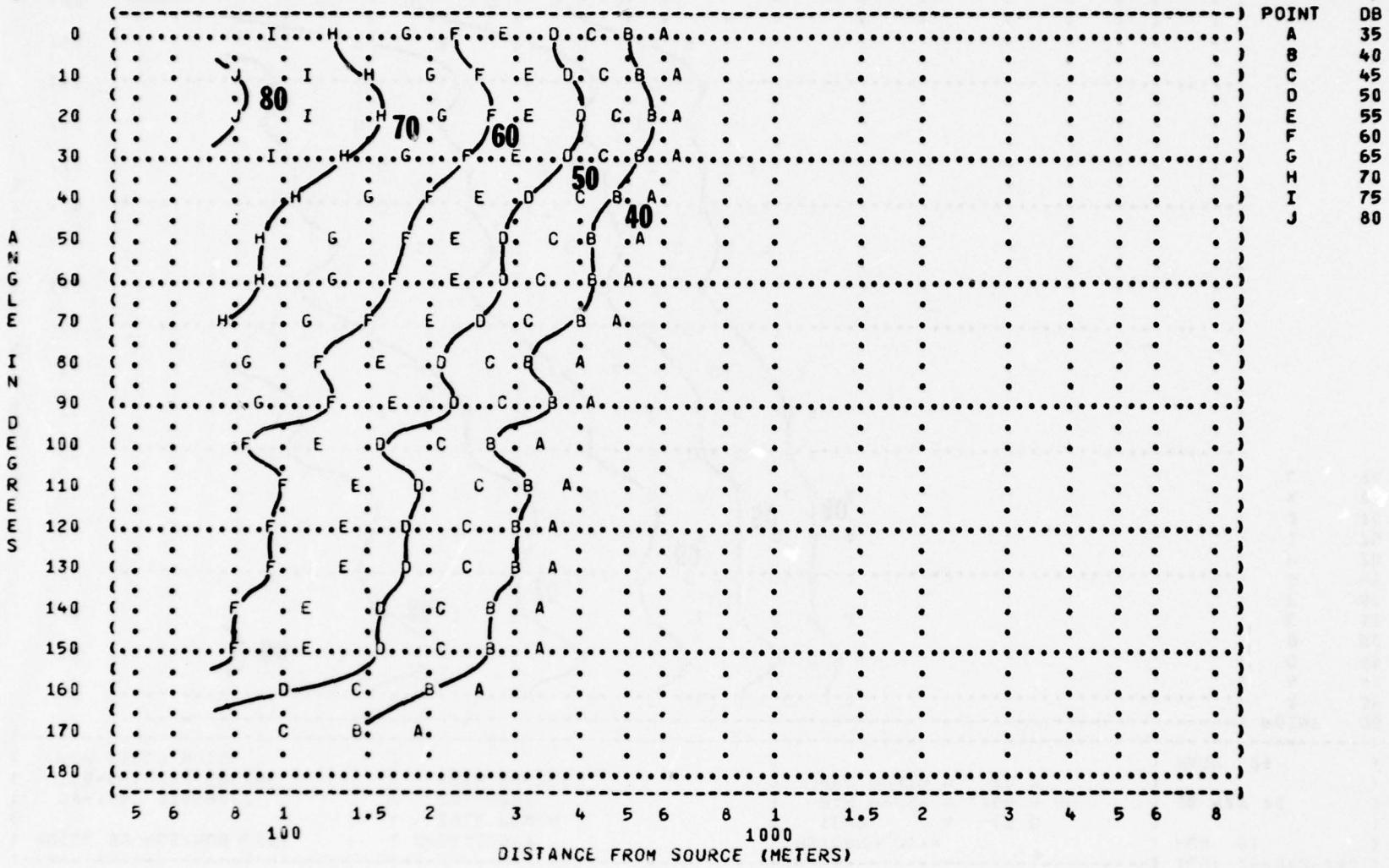
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
70% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 01
08 MAY 75
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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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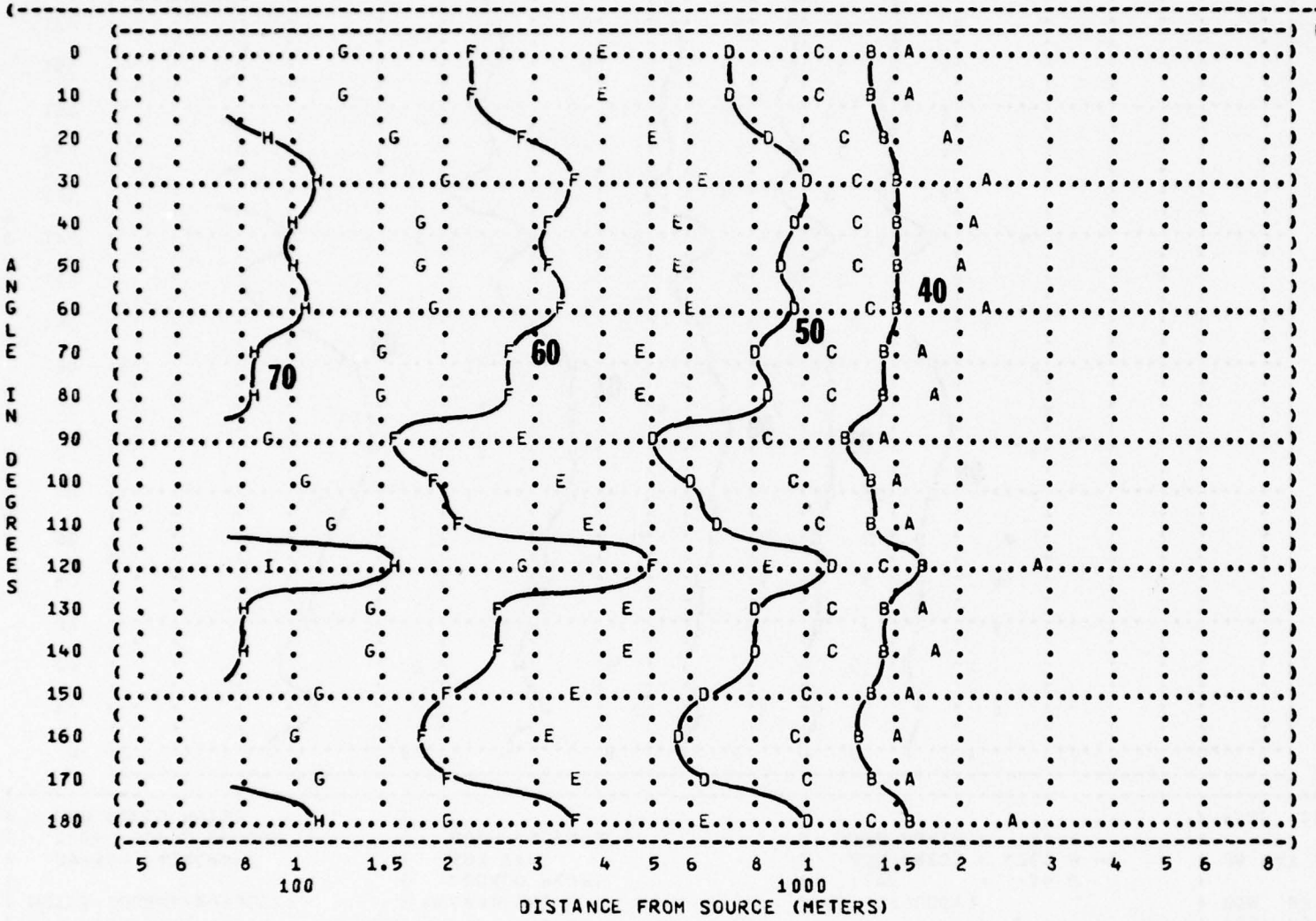
NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

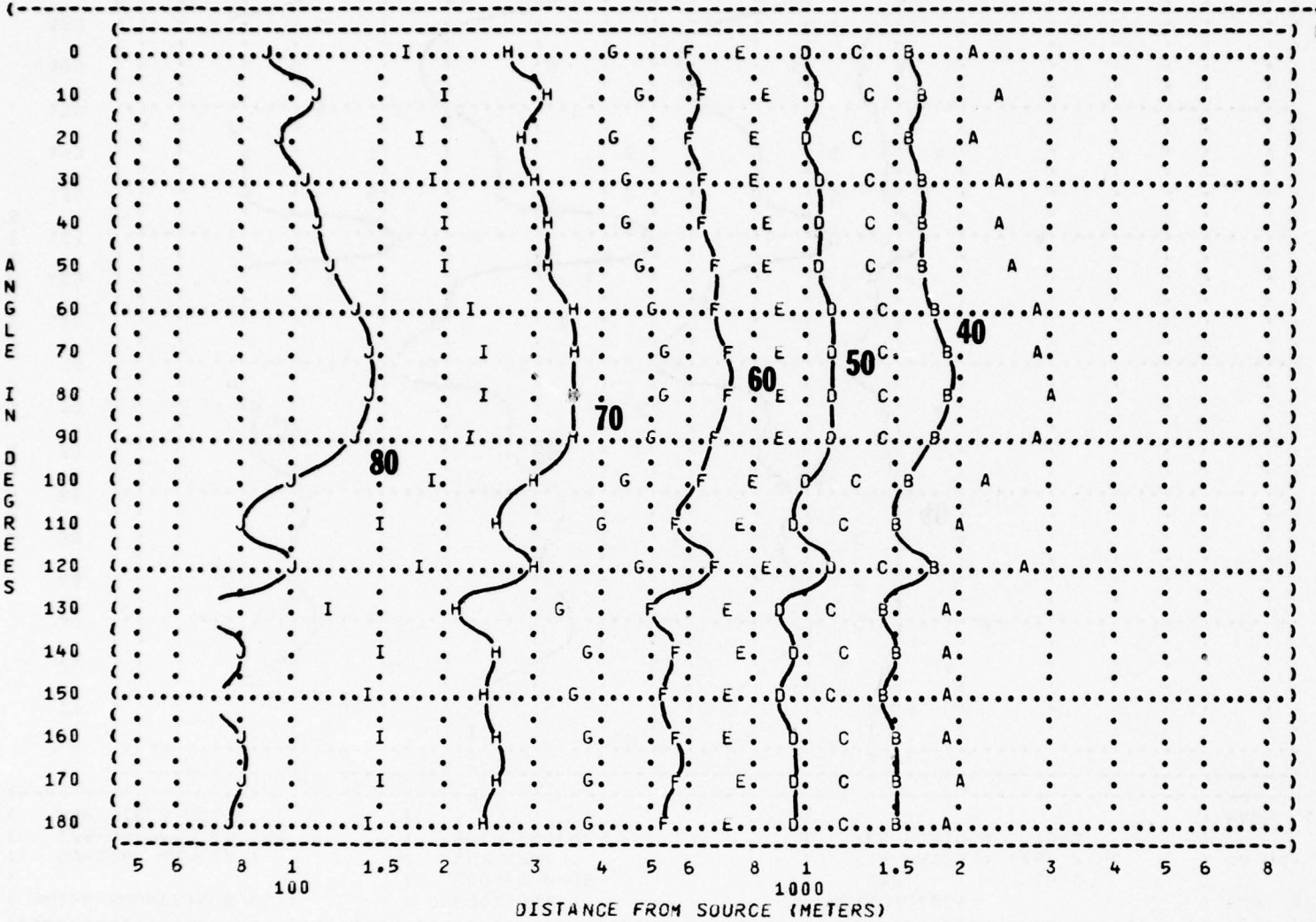


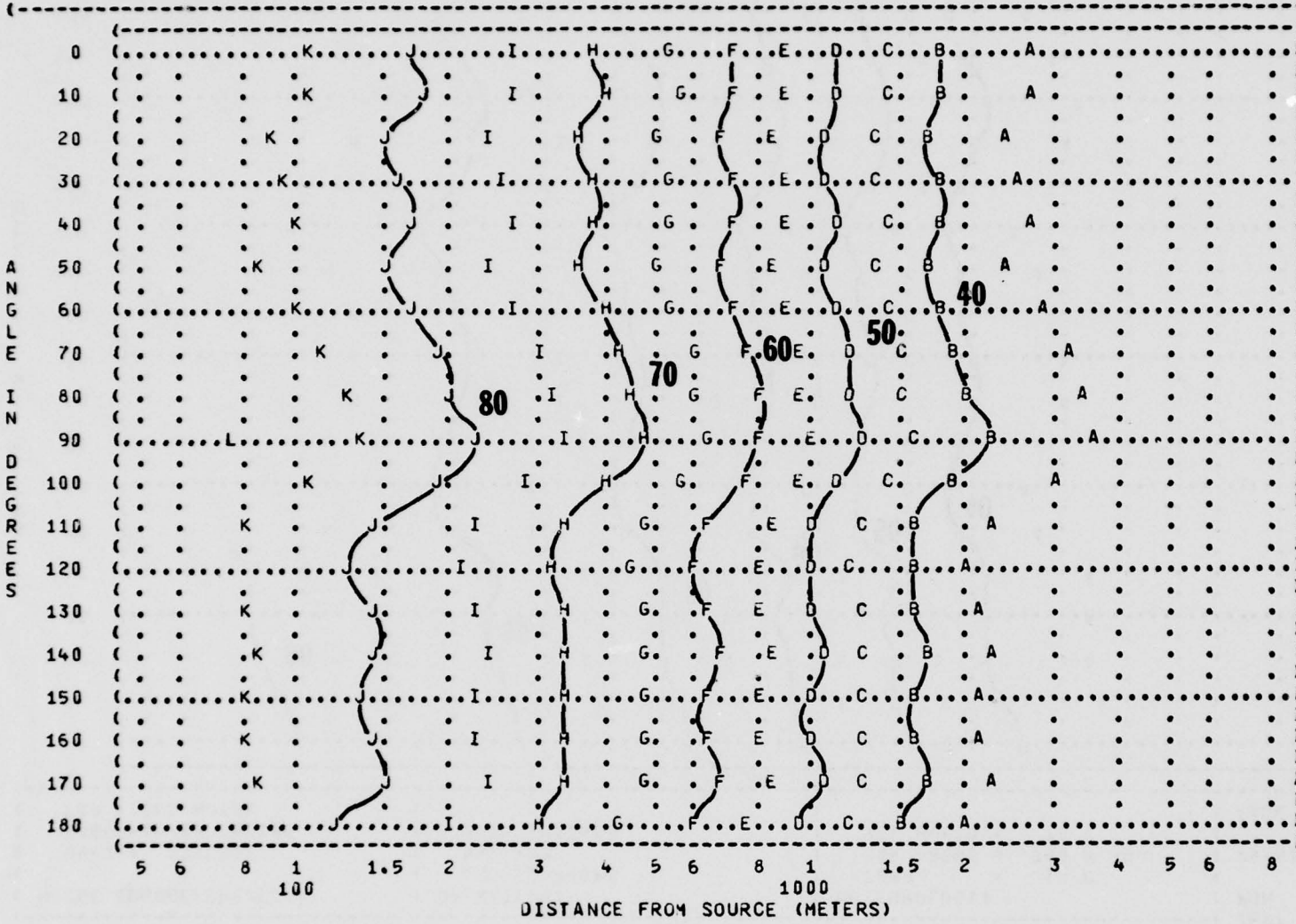
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 21

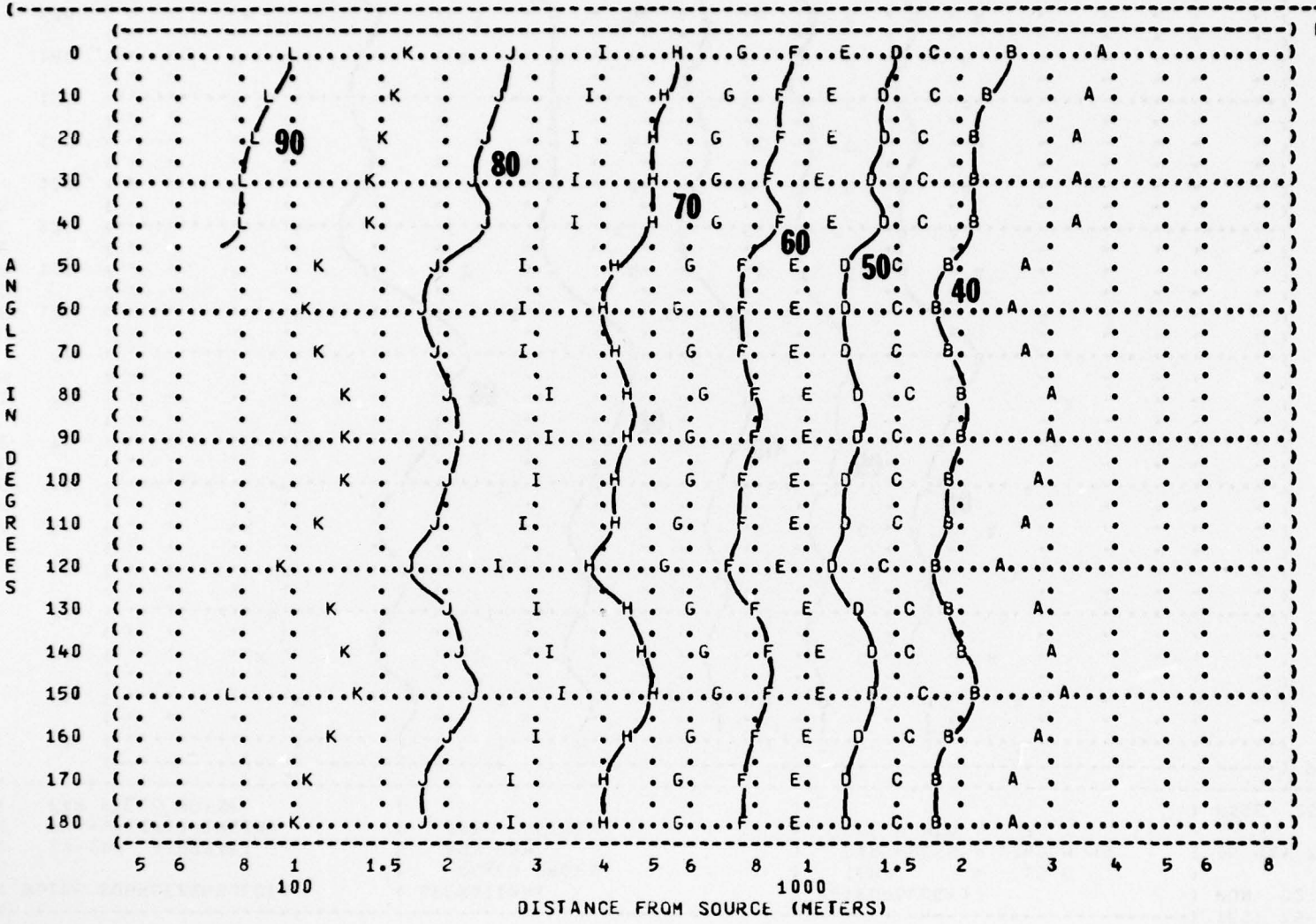


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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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

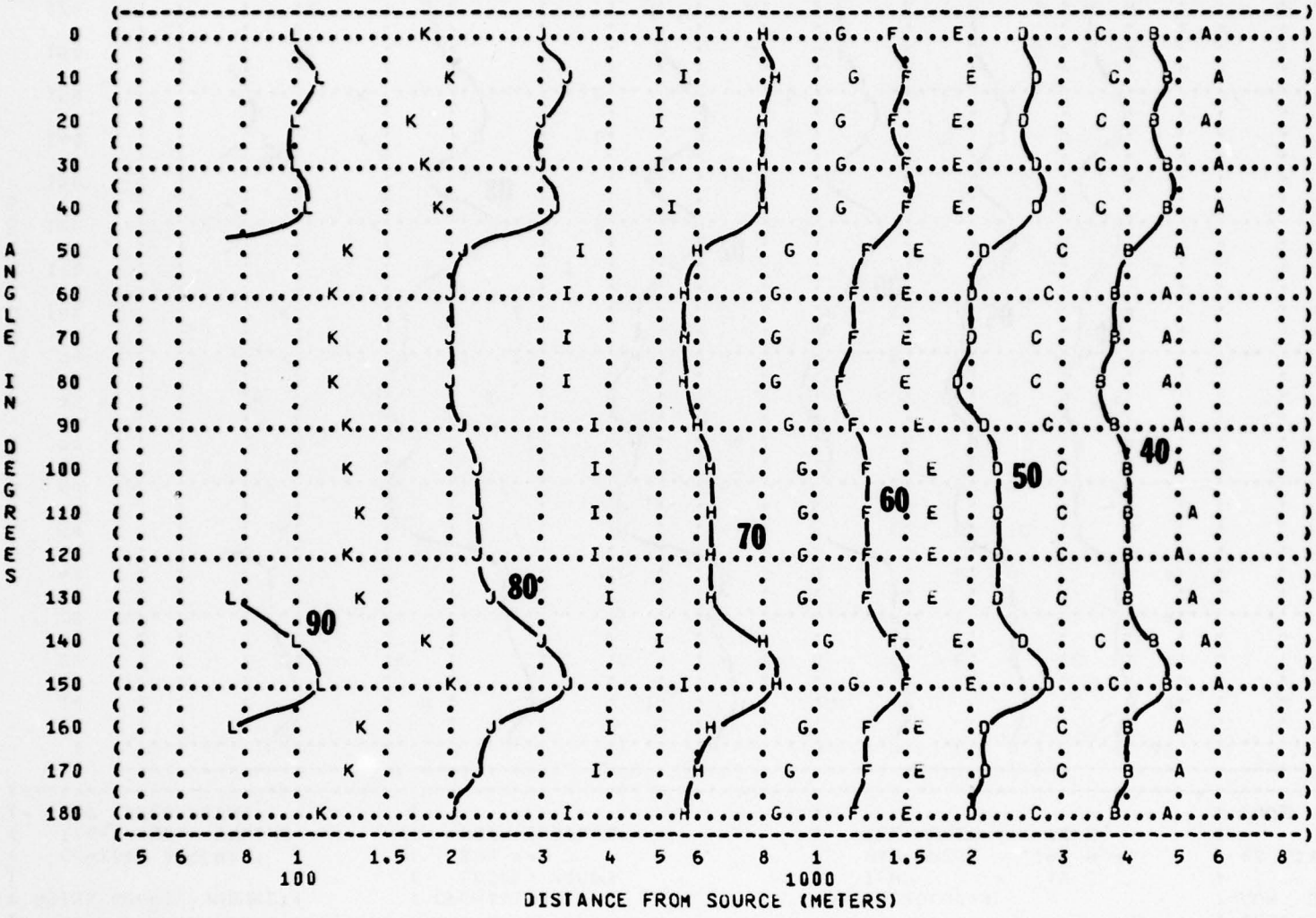


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
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
L	90

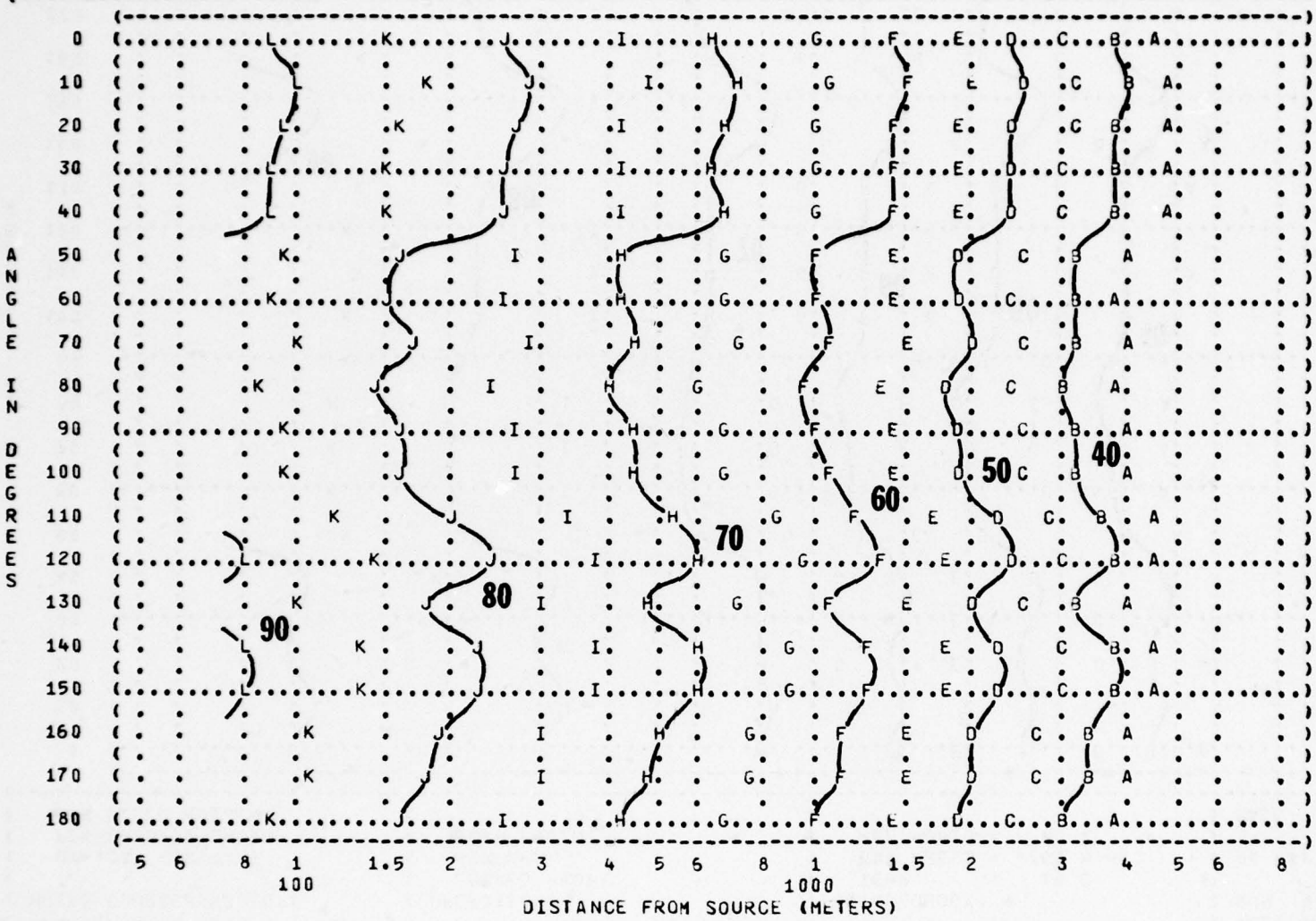


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
ONEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 24

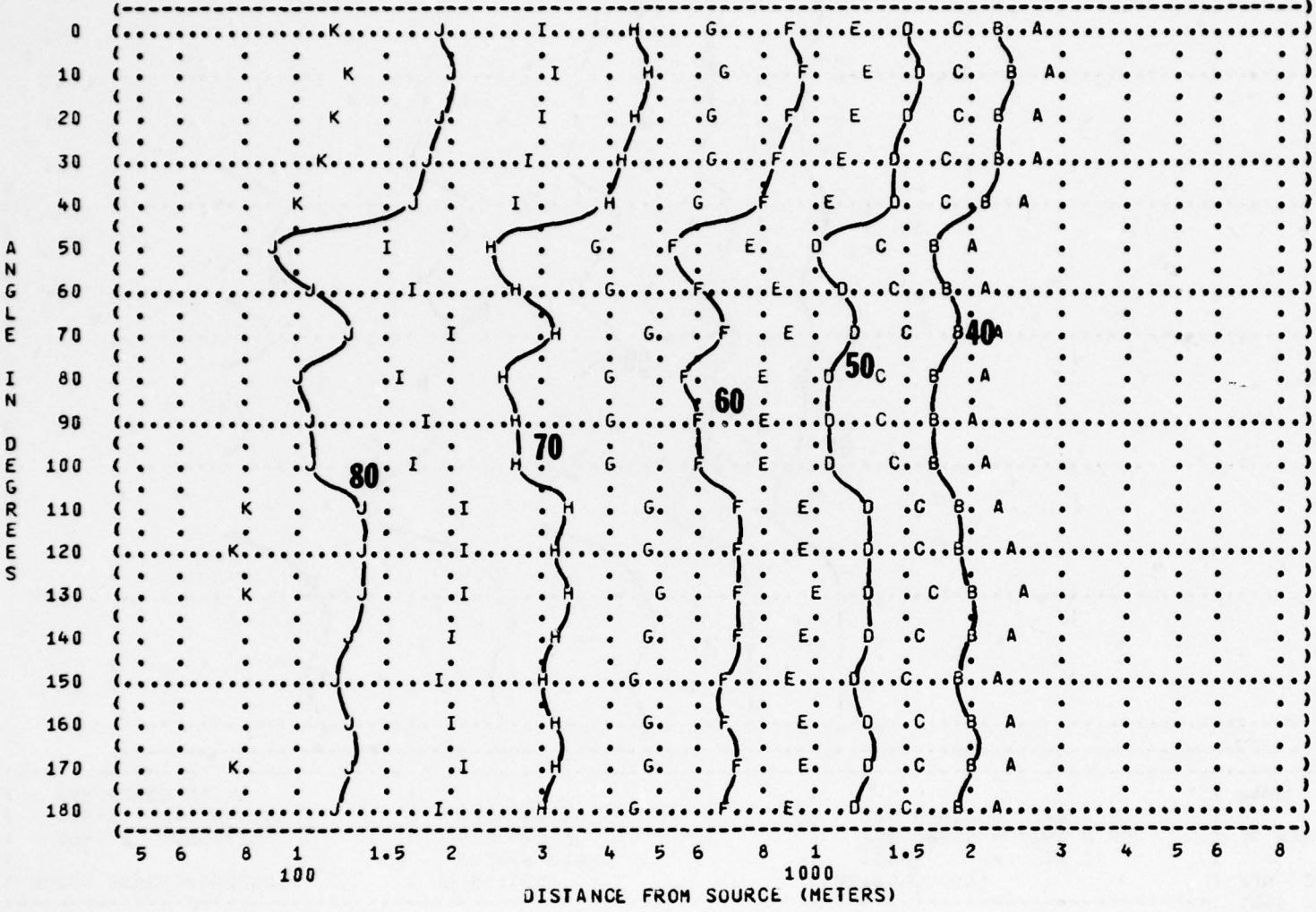


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 25

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

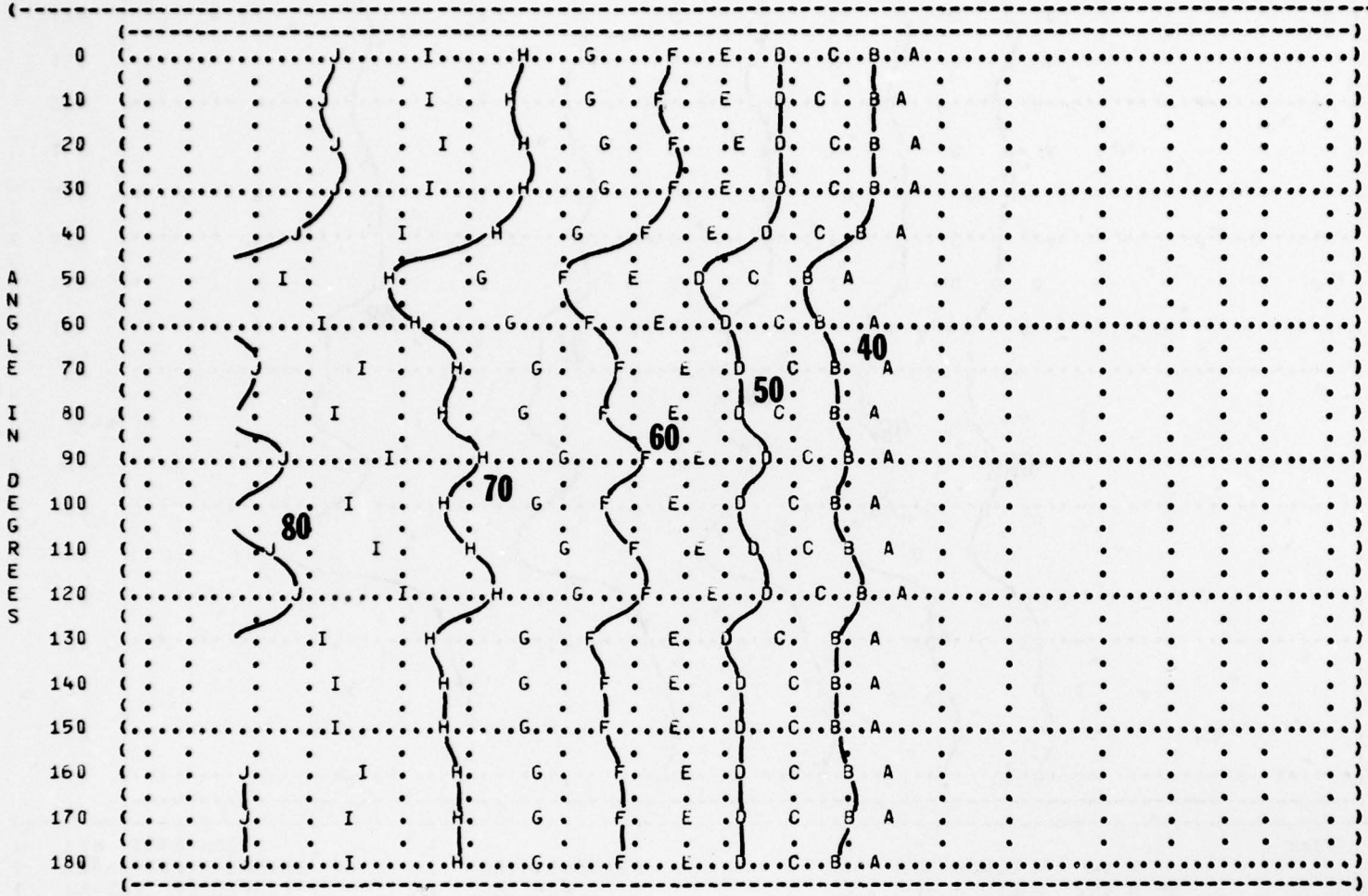


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
LOCKED PROPS
89% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 02
08 MAY 75
PAGE 26

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

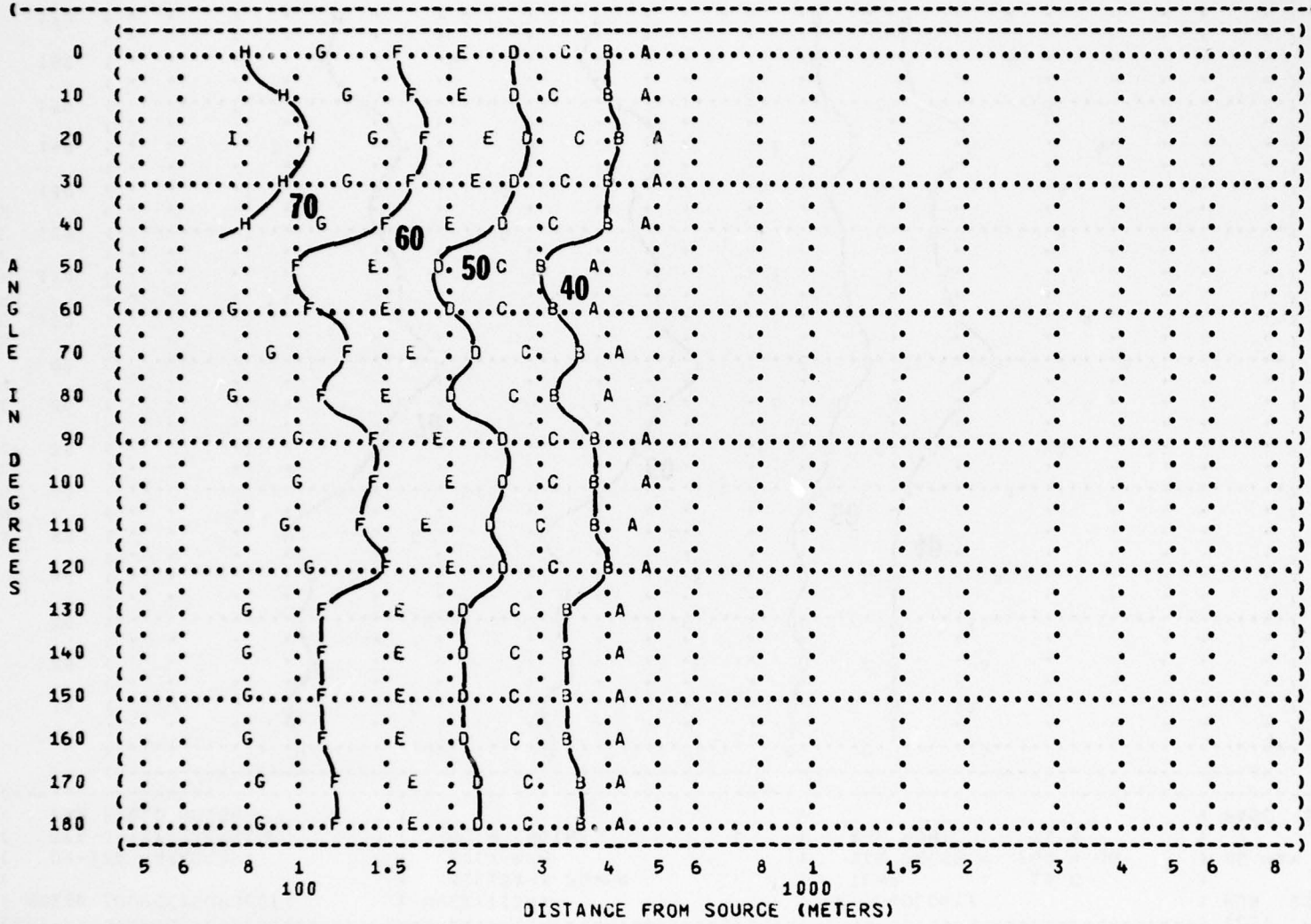


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 18

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

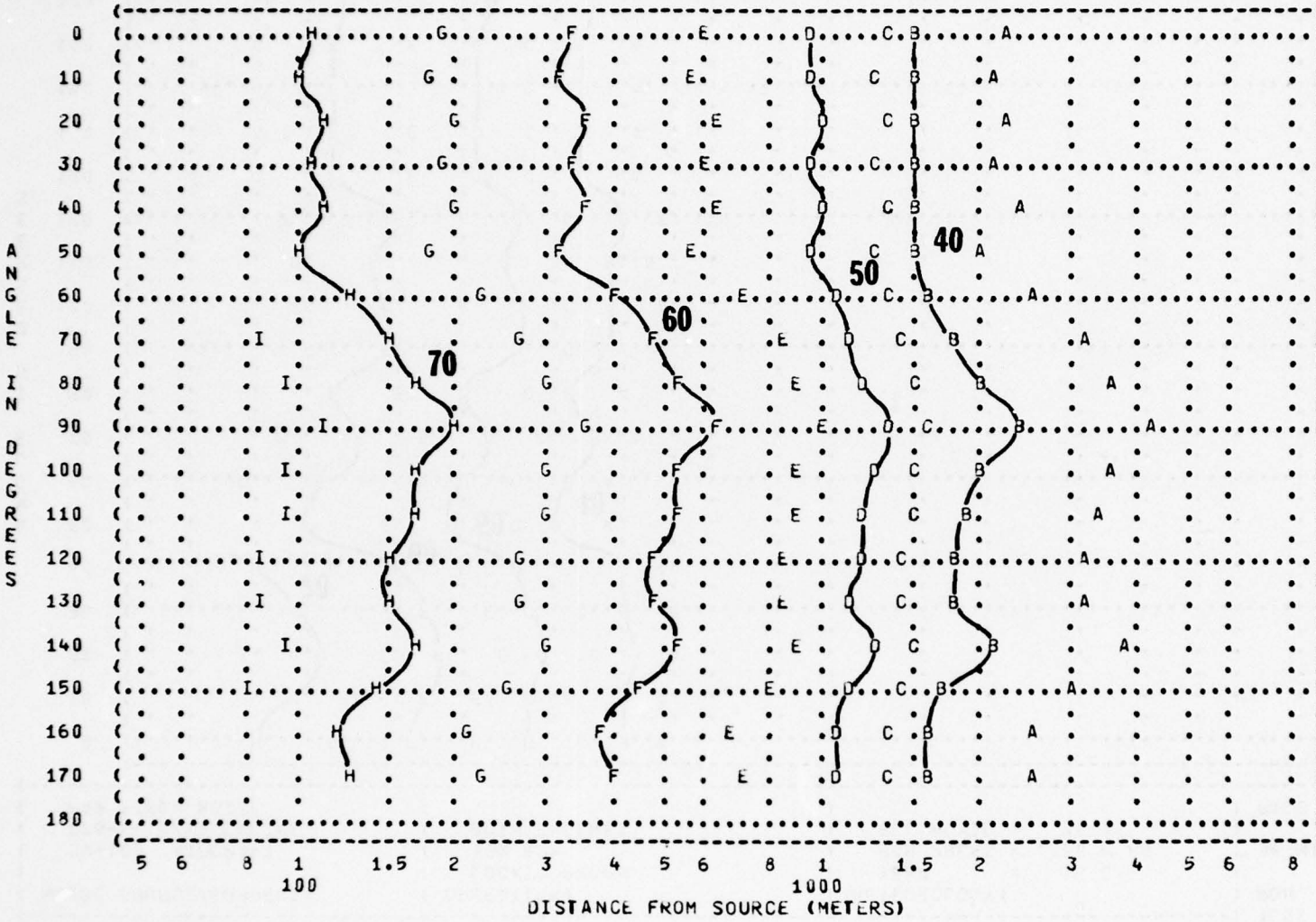


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 19

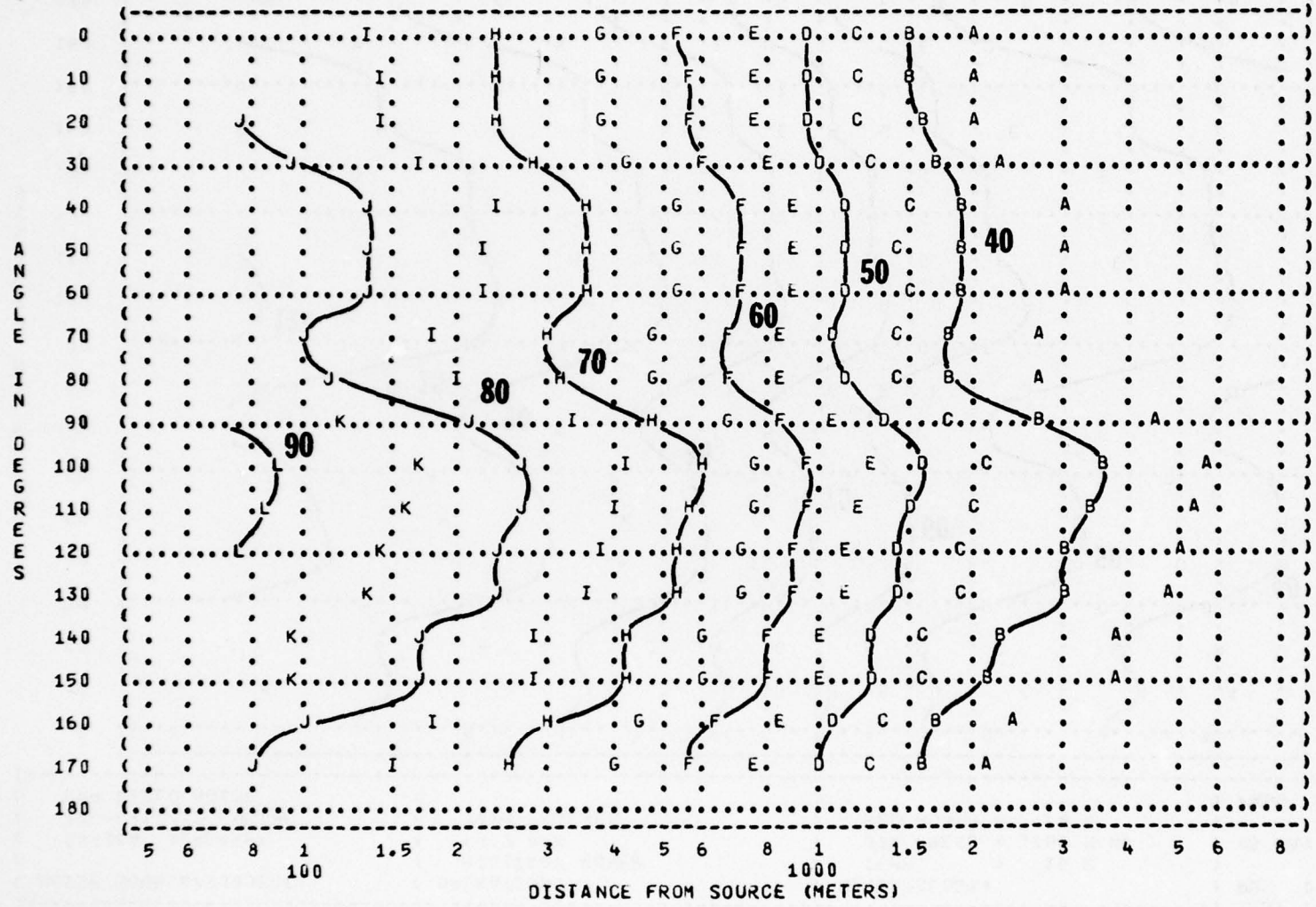


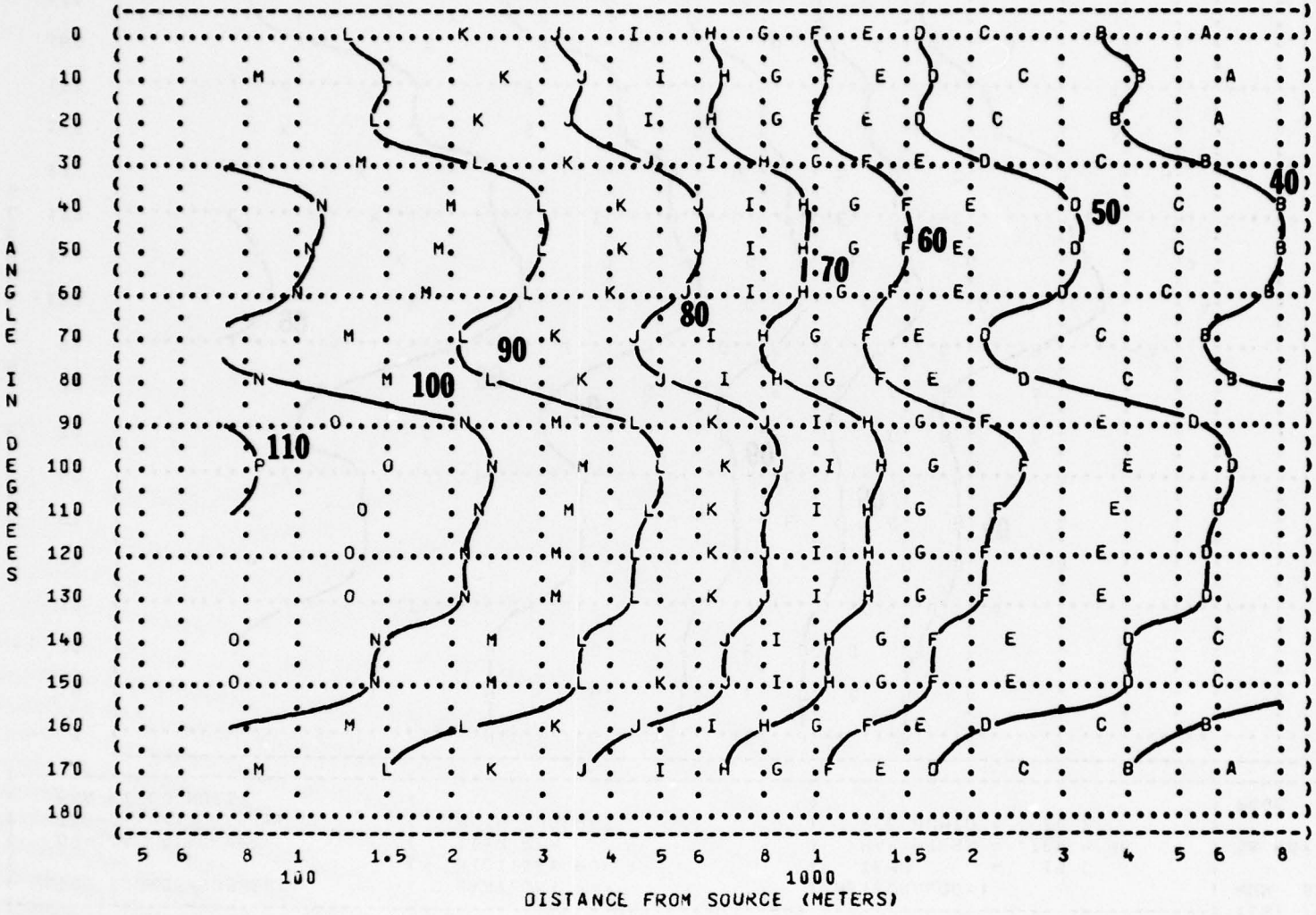
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
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
N	100
O	105
P	110

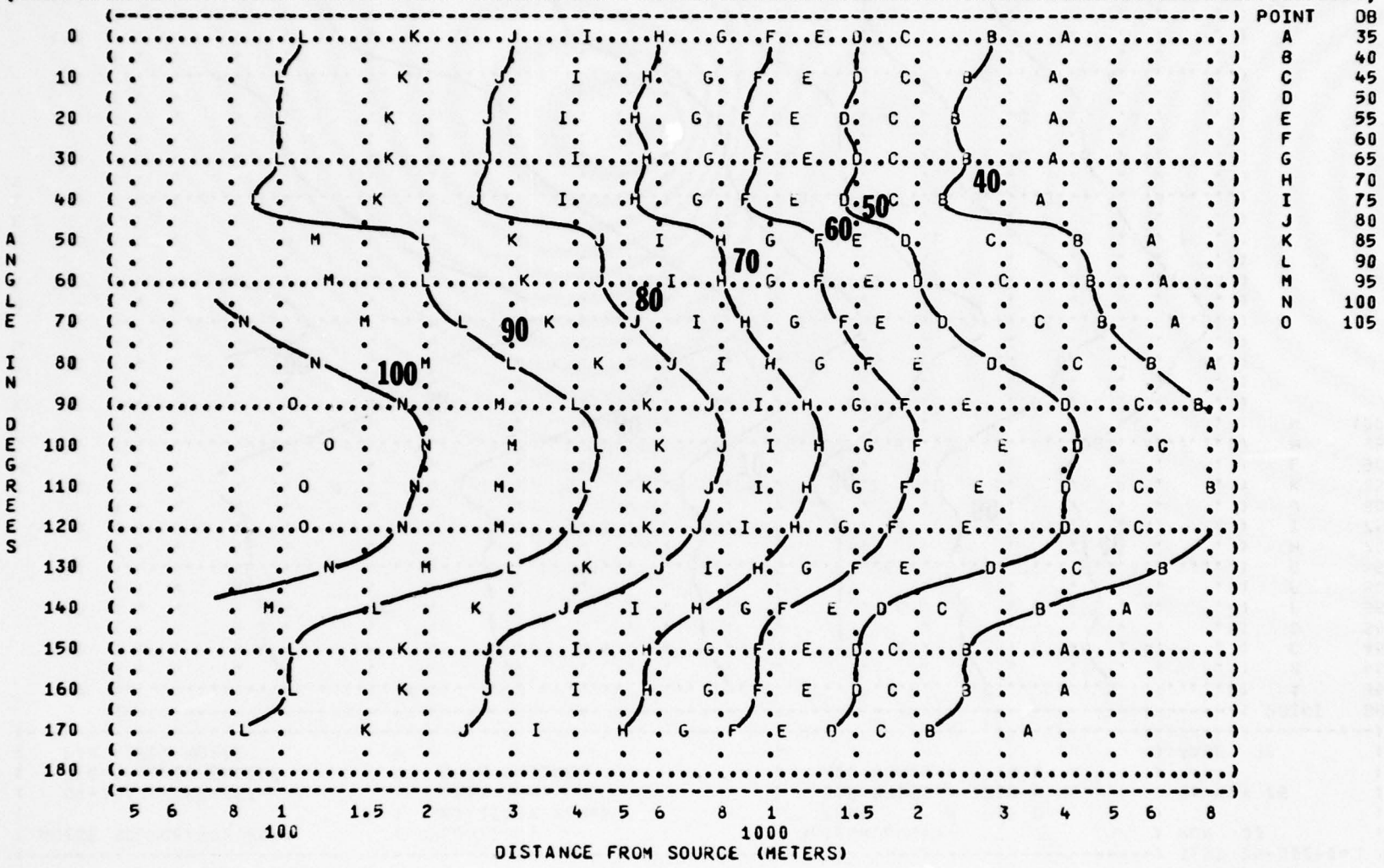
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 21

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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
O	105

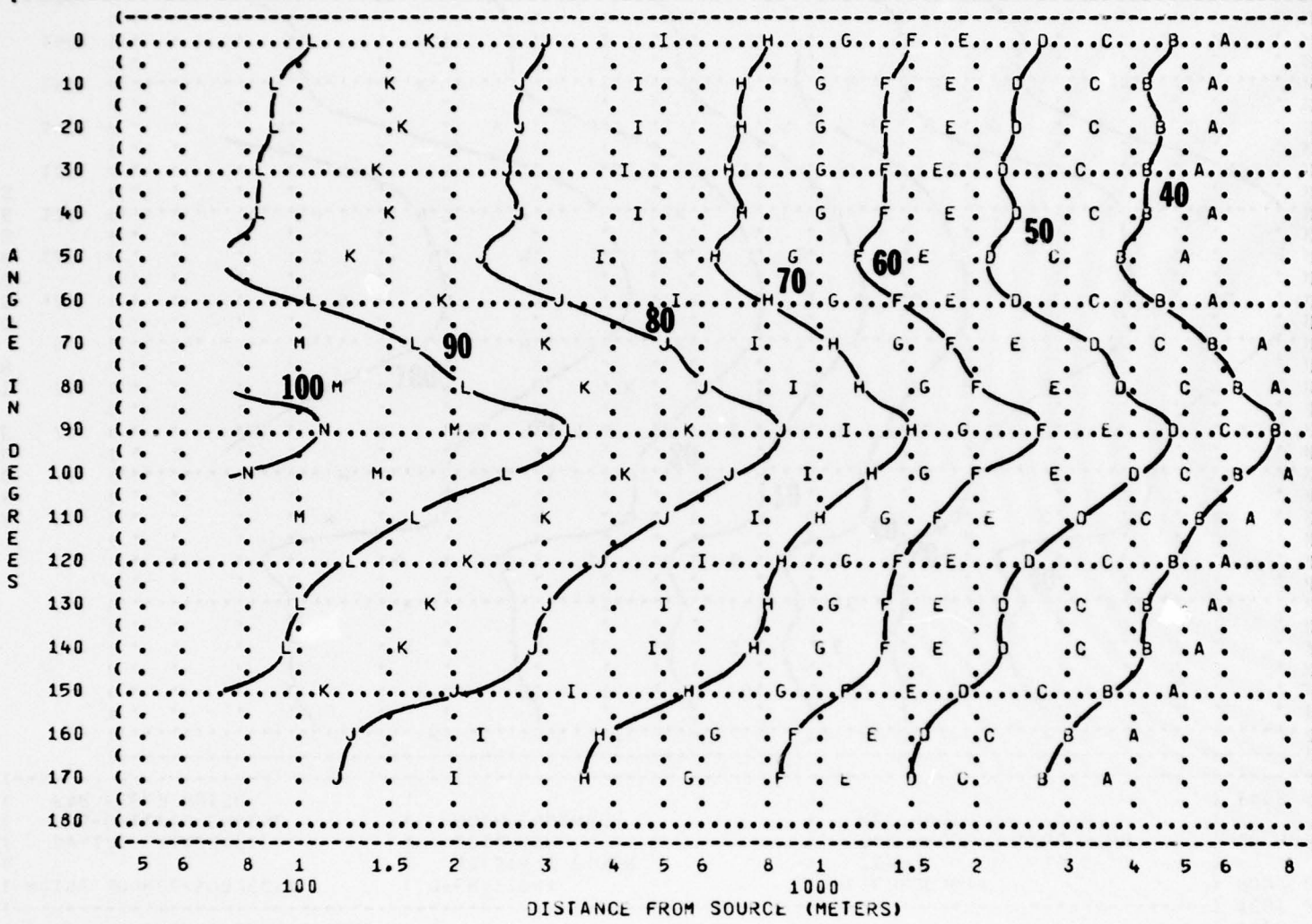
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-040 RUN 03 08 MAY 75 PAGE 22

NOISE SOURCE/SUBJECT: OV-10A AIRCRAFT; T76-G-10/12 ENGINE; FAR FIELD NOISE

OPERATION: MILITARY POWER; 101% RPM; BOTH ENGINES

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) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03

08 MAY 75

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
L	90

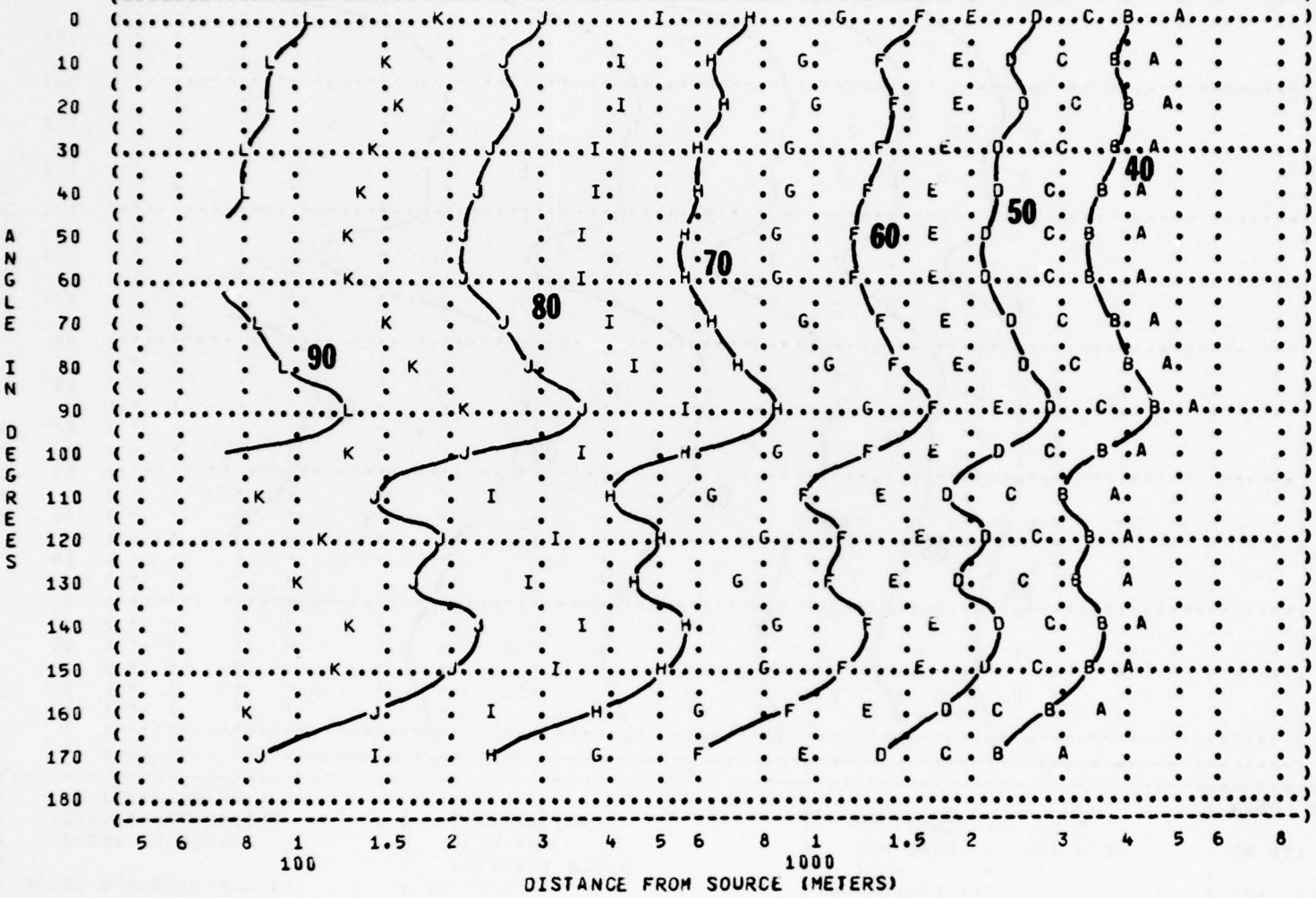


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 24

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

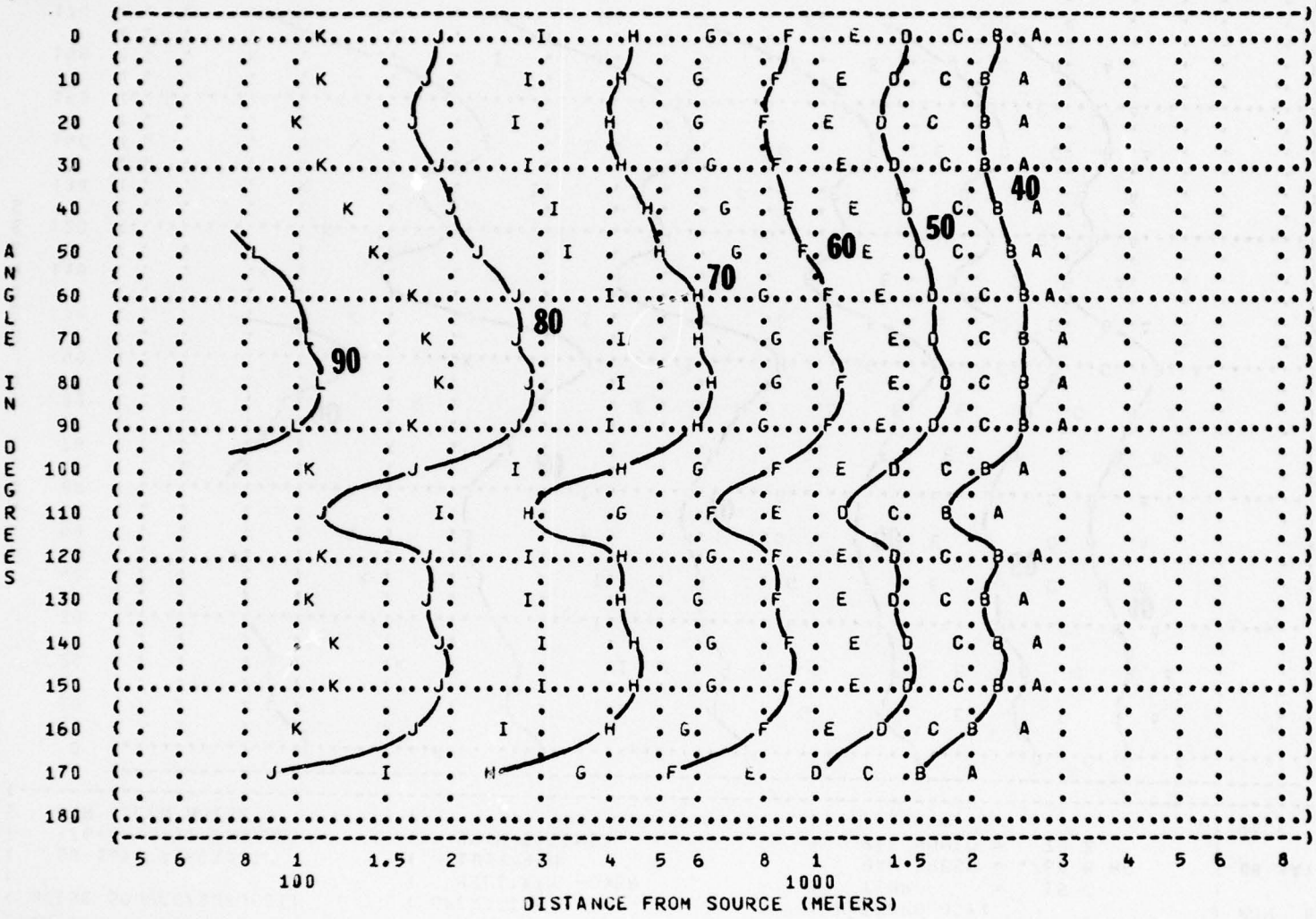


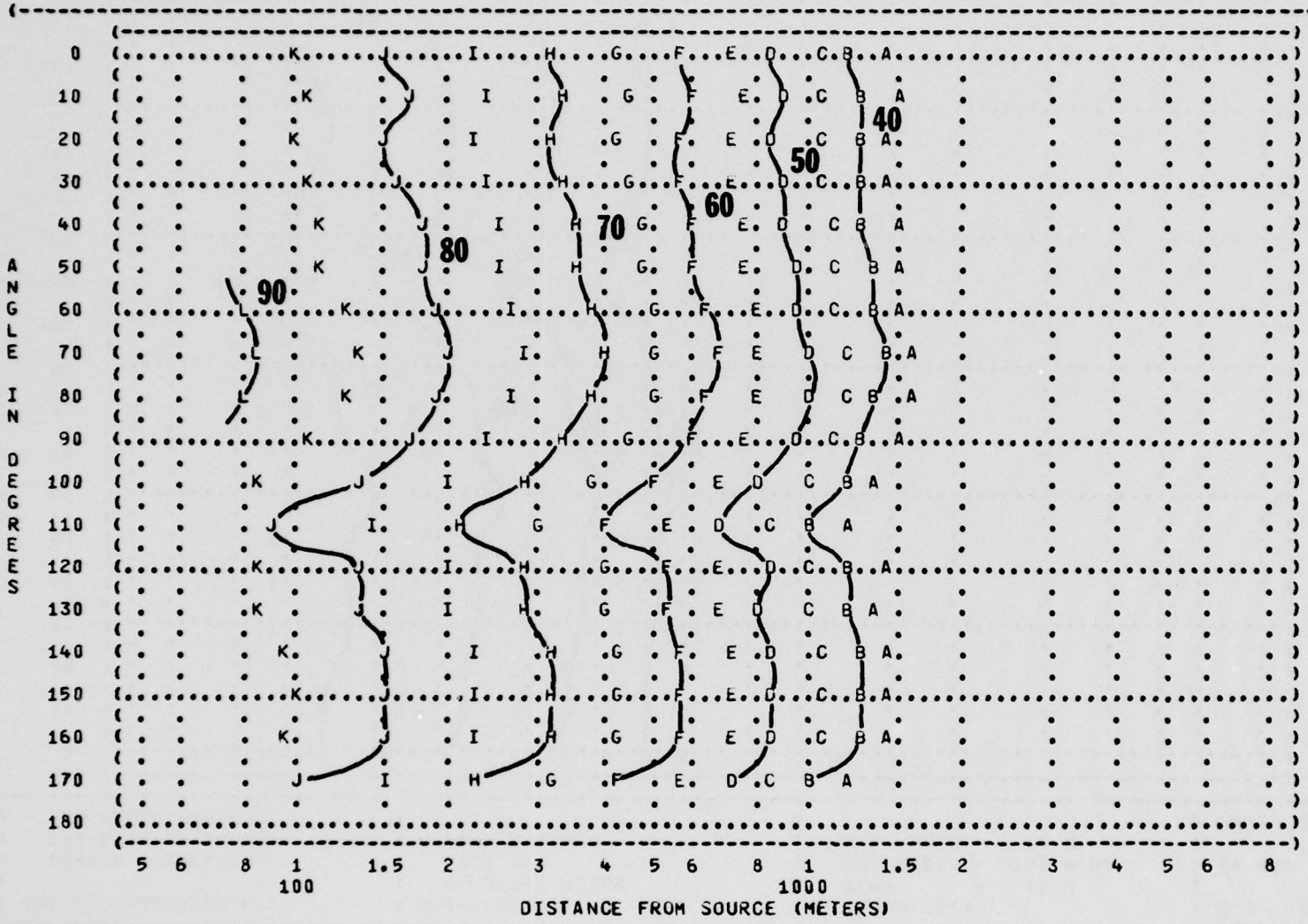
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
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

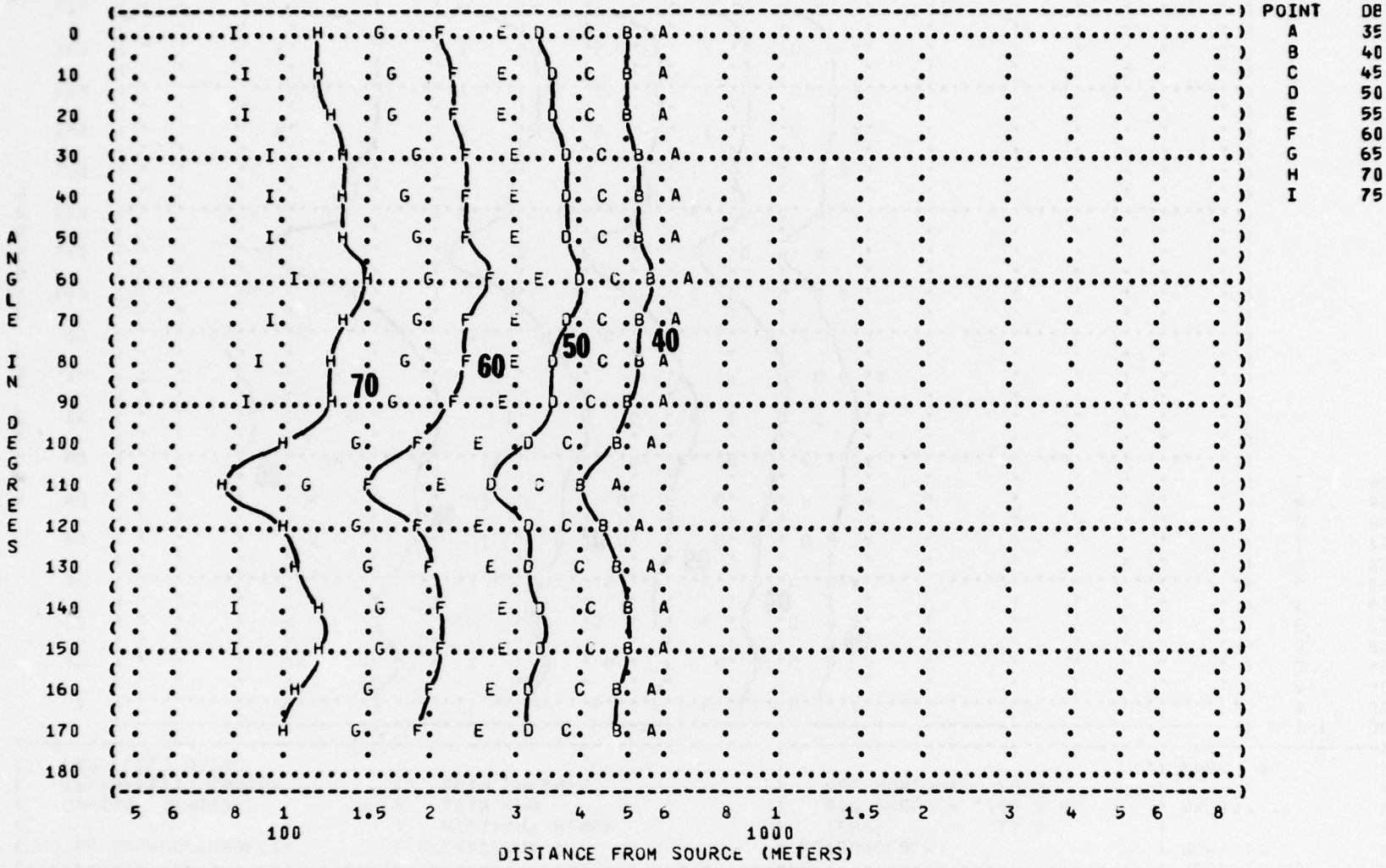
NOISE SOURCE/SUBJECT:
OV-10A AIRCRAFT
T76-G-10/12 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
101% RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-040
RUN 03
08 MAY 75
PAGE 26

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



*U.S.Government Printing Office: 1977 — 757-080/230