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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

VOLUME 65. T-37B AIRCRAFT, NEAR AND FAR-FIELD NOISE

AEROSPACE MEDICAL RESEARCH LABORATORY,
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

NOVEMBER 1975

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Volume 65



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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 65
T-37B AIRCRAFT, NEAR AND FAR-FIELD NOISE

NOVEMBER 1975



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AEROSPACE MEDICAL DIVISION
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The USAF T-37B aircraft is a flight trainer powered by two J69-T-25 turbojet engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup area for three power conditions. Near-field data are reported for four locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for

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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 of Noise and Vibration Environments of Air Force Operations.

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

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INTRODUCTION

The USAF T-37B is a trainer-type aircraft to teach all techniques and maneuvers of fighter aircraft and is powered by two J69-T-25 turbojet engines. The aircraft was manufactured by the Cessna Company and the engines by the Continental Aviation and Engineering 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-37B aircraft.

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

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

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

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

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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), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the T-37B aircraft during ground runup operations of its turbojet engines. For these tests the aircraft was located on a taxiway at Wright-Patterson AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the three engine/power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the four near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult 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-37B aircraft at the four ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

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

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

T-37B Aircraft, Ground Runup, Wright-Patterson AFB, OH
23 August 1972
Tail #74670

Ground Crew Location

1	Engine #1 Start
2	Engine #2 Start
3	Wheel Chock Pull
4	Leak Check/Trim Operation

Aircraft Engine Operation

A	Engine #1 Idle Power
B	Both Engines Idle Power
C	Both Engines Takeoff Rated-Thrust Power

Meteorology

Temperature	25 C
Bar Pressure	.760 M Hg
Rel Humidity	84 %
Wind — Speed	3.6 M/Sec (7 kt)
— Direction	200 Deg

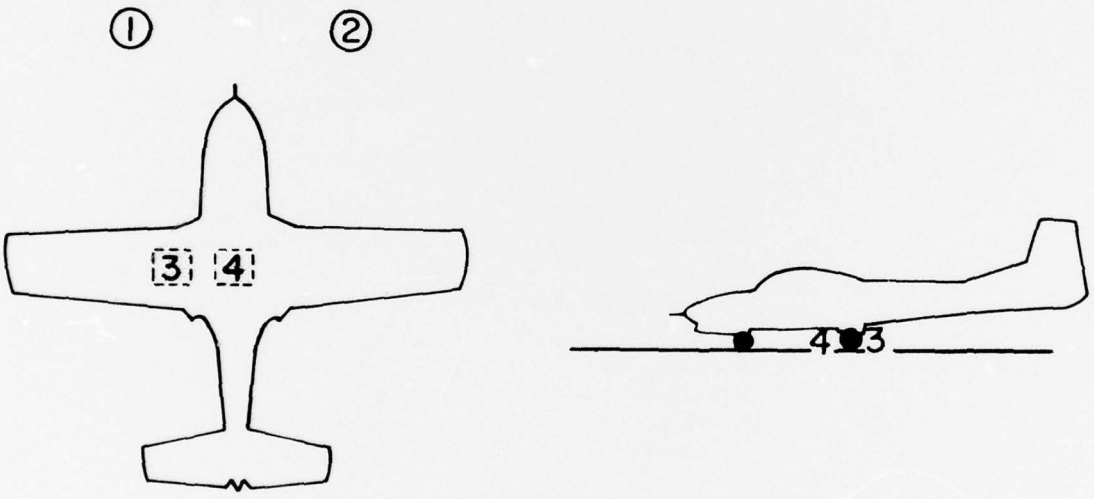


Figure 1. Near-Field Measurement Locations at Intersection of Taxiways 8 and 12, Wright-Patterson AFB, OH

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired both near and far-field data during a 1- 2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J69-T-25 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits.

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

All microphone measurement sites are in the acoustic far-field of their 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.

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-37B 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.

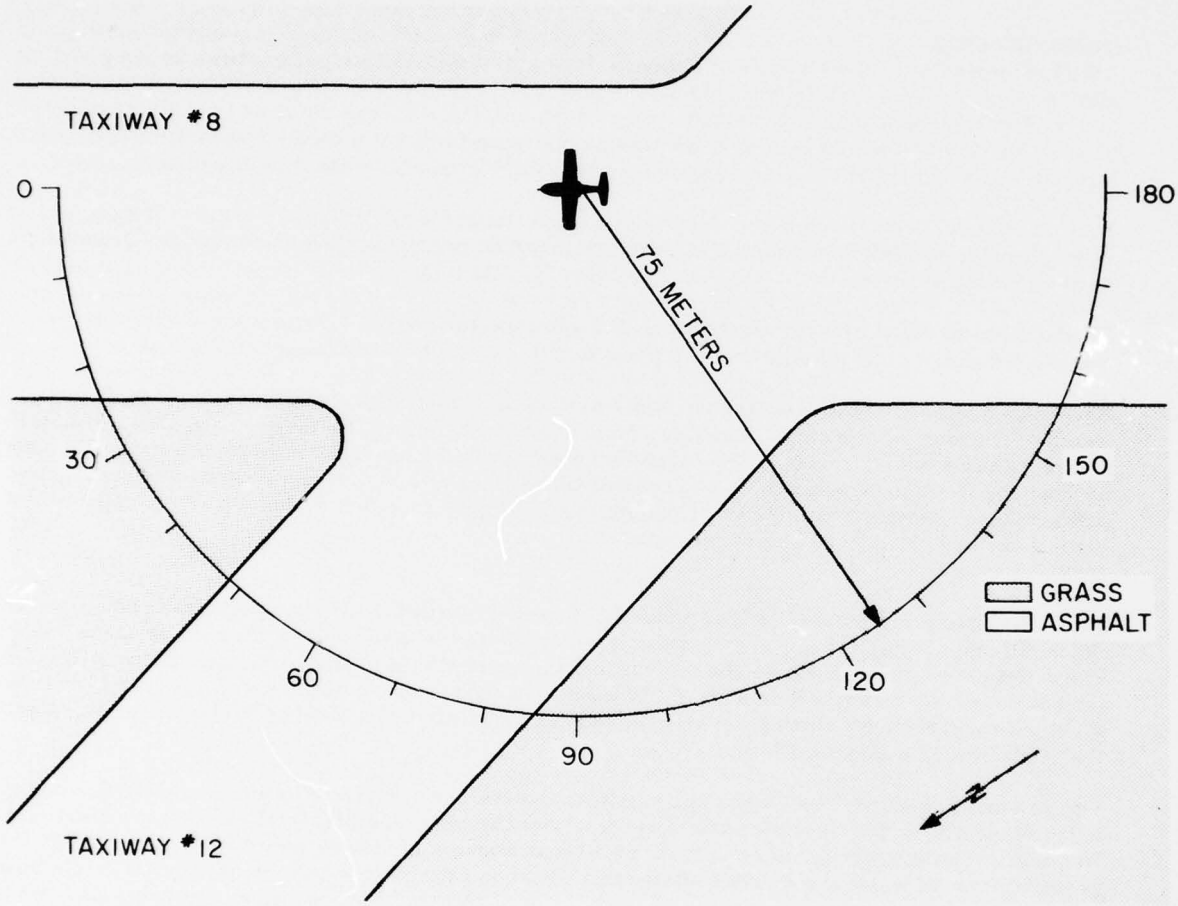


Figure 2. Far-Field Measurement Locations at Intersection of Taxiways 8 and 12, Wright-Patterson AFB, OH

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 locations for the trim-check power setting because of turbulent air flow behind the aircraft.

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 at 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 72-010-010
RUN 01
04 DEC 74
PAGE F1

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/B	3/B	4/B	4/C
25	73	73	86	89	93
31.5	73	83	86	89	96
40	75	86	88	92	101
50	79	80	95	97	104
63	83	85	97	99	105
80	81	81	94	97	105
100	83	83	96	98	104
125	87	86	107	105	106
160	83	83	100	101	106
200	83	84	94	97	109
250	82	84	95	96	113
315	80	82	99	96	112
400	85	86	98	98	114
500	90	91	98	96	113
630	93	93	98	96	112
800	92	93	101	99	115
1000	93	96	103	100	115
1250	96	98	103	101	116
1600	100	102	105	104	116
2000	121	124	123	125	116
2500	111	113	115	116	116
3150	99	100	103	99	115
4000	112	115	111	104	114
5000	103	106	105	100	117
6300	104	109	105	100	114
8000	101	104	102	96	113
10000	100	103	102	94	117
OVERALL	122	125	124	126	127

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 72-010-010
RUN 01
04 DEC 74
PAGE J1

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/B	3/B	4/B	4/C
31.5	78	88	92	95	102
63	86	87	100	102	109
125	89	89	103	107	110
250	87	88	101	101	116
500	95	96	103	101	117
1000	99	101	107	105	120
2000	122	124	123	125	121
4000	113	115	112	106	120
8000	107	111	108	102	119
OVERALL	122	125	124	126	127

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:
OMEGA 3.2
TEST 72-010-010
RUN 01
04 DEC 74
PAGE H1

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION				
	1/A	2/B	3/B	4/B	4/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	122	124	124	125	127
OASLA	123	126	125	127	127
T	P	P	P	P	P
MINIMUM QPL EAR MUFFS					
OASLA*	94	96	96	97	101
T	85	60	60	50	25
AMERICAN OPTICAL 1700 EAR MUFFS					
OASLA*	88	90	90	91	96
T	240	170	170	143	60
V-51R EAR PLUGS					
OASLA*	91	93	93	94	99
T	143	101	101	85	36
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS					
OASLA*	77	79	79	80	86
T	960	960	960	960	339
H-133 GROUND COMMUNICATION UNIT					
OASLA*	95	97	97	98	99
T	71	50	50	42	36
COMMUNICATION					
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)					
PSIL	105	107	111	110	119
ANNOYANCE					
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)					
TONE CORRECTION (C IN DB)					
PNLT	140	143	142	143	140
C	5	5	4	5	0

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

TABLE 4

TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

T-37B Aircraft, Ground Runups, Wright-Patterson AFB, OH
23 August 1972
Tail #74670

Aircraft Engine Operation

Idle	Both Engines
	37 % RPM NC (Core Speed)
	565 C EGT (Exhaust Gas Temperature)
	300 LBS/HR FF (Fuel Flow)
Trim Check Power	Both Engines
	92 % RPM NC
	560 C EGT
	800 LBS/HR FF
Military Power	99.5 % RPM NC
	645 C EGT
	1050 LBS/HR FF

Meteorology

Temperature	25 C
Bar Pressure	0.760 M Hg
Rel Humidity	84 %
Wind	Calm

TABLE: 5

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	73	69	74	64	62	59	60	63	60	62	62	61	61	65	65	72	66	70	66
31.5	73	68	70	62	60		57	59	59	60	57	58	59	63	64	70	63	67	66
40	70	65	67	60	58			58	57	58	57		59	64	61	67	61	65	63
50	65	64	65	59	60	59	60	62	64	62	62	61	65	65	64	67	64	63	60
63	65	66	66	61	64	63	64	64	65	66	64	64	73	68	67	67	65	61	62
80	63	61	64	59	60	60	61	61	61	61	61	59	62	66	67	67	65	59	
100	63	61	62	59	61	63	63	64	65	63	61	67	65	69	70	69	66		
125	64	64	64	64	70	74	76	76	75	70	73	75	77	80	80	77	73	59	
160	65	64	64	63	66	68	70	72	72	70	69	72	72	74	75	73	68	57	
200	67	67	69	67	66	67	67	71	72	70	67	71	70	69	69	71	67	53	
250	66	66	67	66	66	69	68	69	70	67	64	65	65	66	65	67	63	50	
315	67	67	66	64	63	69	69	68	68	66	64	62	60	66	62	64	61	50	
400	67	65	66	64	62	67	66	68	68	69	64	63	63	65	61	62	61	48	
500	66	68	68	64	62	70	68	70	69	69	66	64	64	65	60	59	56	44	
630	69	70	69	66	65	69	68	68	68	69	65	64	65	64	59	57	56	43	
800	71	71	69	66	65	69	68	69	69	69	66	65	67	65	59	57	55	42	
1000	73	74	71	70	69	72	71	74	73	71	68	66	67	64	59	58	55	44	41
1250	76	77	73	73	73	74	73	74	73	70	68	66	66	64	59	60	55	46	44
1600	79	78	73	74	74	73	71	73	71	71	68	65	64	63	59	58	54	45	43
2000	103	101	95	95	93	92	89	92	85	90	82	81	79	82	77	75	71	64	63
2500	92	91	85	86	84	83	80	84	77	81	73	73	70	71	68	66	62	55	53
3150	75	73	68	72	70	73	71	74	67	66	64	62	61	60	57	54	49	43	41
4000	84	87	83	83	80	80	78	79	78	74	65	65	65	65	62	58	53	47	45
5000	76	80	76	77	75	75	74	73	72	70	64	63	61	61	59	55	49	44	41
6300	79	84	77	76	75	76	72	77	72	69	64	60	58	56	55	52	48	43	40
8000	75	78	72	73	72	70	70	70	67	64	61	57	54	54	51	49	44	39	38
10000	70	73	67	67	66	67	65	67	63	61	58	55	54	51	48	46	40	36	36
OVERALL	104	102	96	96	94	93	90	93	88	91	84	84	83	85	84	83	78	74	72

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 75-002-046
RUN 02
09 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	78	67	68	66	66	69	69	64	65	66	75	66	68	69	71	72	70	68	
31.5	78	66	66	68	66	68	69	66	68	67	73	68	70	72	73	76	74	71	
40	75	65	66	67	67	67	70	68	69	69	72	70	72	75	76	79	77	72	
50	72	66	66	68	68	69	70	70	71	72	73	72	75	77	80	81	79	72	
63	71	68	69	70	70	71	72	73	74	74	74	76	79	82	83	84	79	71	
80	70	69	69	71	71	73	73	74	75	74	74	77	81	84	86	86	80	68	
100	71	71	71	72	73	74	76	76	78	77	77	79	84	87	90	89	80	68	
125	72	72	73	73	73	75	76	76	79	80	80	80	85	88	91	90	79	69	
160	72	74	74	74	74	78	79	79	80	80	82	83	86	90	94	92	80	69	
200	74	74	76	75	75	78	79	80	82	82	83	84	87	90	95	93	80	69	
250	79	80	79	78	78	84	84	84	86	88	85	85	89	92	97	95	81	70	
315	80	79	80	79	77	84	85	84	86	88	85	85	84	87	93	92	80	69	
400	80	80	81	79	76	84	85	84	86	88	86	85	86	86	90	90	79	69	
500	78	79	80	77	76	84	85	85	86	89	86	84	87	89	89	86	75	67	
630	79	80	79	78	77	81	83	84	86	89	87	86	87	88	90	84	74	65	
800	78	77	78	77	78	80	83	84	85	87	87	87	88	86	88	82	71	62	
1000	78	77	79	77	79	80	83	85	85	87	89	89	89	87	87	83	71	61	
1250	78	78	78	79	79	80	84	86	85	88	89	89	89	87	87	82	69	60	
1600	76	75	76	77	77	76	81	83	82	84	88	87	87	85	84	80	67	57	
2000	78	75	75	76	77	76	80	81	82	82	88	88	87	86	83	79	66	57	
2500	77	73	74	75	76	75	79	79	81	81	86	86	85	84	81	77	64	55	
3150	78	73	73	73	76	76	78	79	81	82	85	85	84	82	79	75	63	53	
4000	80	72	71	73	77	77	78	78	80	83	82	82	81	79	76	73	61	52	
5000	91	83	84	88	92	88	90	92	89	89	85	84	79	78	76	72	61	52	
6300	81	74	77	80	82	78	81	81	79	81	80	79	75	74	71	68	57	49	
8000	74	72	74	76	76	74	77	77	77	79	79	77	74	71	70	66	55	47	
10000	79	76	76	77	80	78	79	79	80	82	79	77	73	69	67	63	53	46	
OVERALL	94	90	91	92	94	94	96	97	97	99	99	98	99	100	103	101	90	81	

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 75-002-046
RUN 03
09 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

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	63	61	61	64	65	66	67	66	66	69	67	69	70	72	72	74	71	72
31.5	66	65	65	65	68	67	68	70	69	68	70	69	71	74	75	76	75	74	74
40	69	66	68	67	68	69	70	71	70	71	72	72	74	76	79	79	77	74	72
50	70	68	69	68	68	71	72	73	73	73	74	75	77	80	82	83	80	74	69
63	73	71	71	70	73	74	75	75	75	75	76	78	82	83	86	85	81	70	67
80	78	74	72	72	74	75	76	77	77	76	77	79	84	86	88	87	81	63	62
100	75	74	73	74	74	76	79	79	80	79	79	81	86	90	93	90	82	63	60
125	76	75	75	75	75	78	79	80	80	81	82	83	88	92	95	91	82	68	60
160	77	77	77	76	78	80	82	83	81	83	84	85	89	95	98	92	81	71	64
200	78	78	78	78	77	81	82	84	84	84	85	87	90	95	98	91	81	71	66
250	84	85	83	81	81	86	85	87	88	88	88	89	94	98	101	93	84	75	70
315	84	84	84	82	81	87	86	88	88	89	87	88	89	94	97	91	81	73	67
400	83	84	84	82	79	88	88	89	89	89	88	88	92	93	93	91	81	73	68
500	84	85	85	81	79	87	88	89	89	91	89	89	94	96	92	91	80	71	67
630	83	85	84	81	80	85	87	89	89	90	91	90	94	97	94	91	79	70	67
800	83	81	83	82	82	85	87	90	89	90	91	93	93	95	93	91	77	69	65
1000	81	81	83	82	83	86	87	90	90	91	93	94	95	95	93	90	75	69	65
1250	82	81	81	82	83	85	88	90	91	92	94	93	95	94	93	86	74	67	62
1600	80	77	79	82	81	83	84	87	89	90	93	91	93	92	91	83	72	64	60
2000	80	77	79	81	81	82	83	87	87	88	92	91	93	91	91	84	71	63	58
2500	79	75	76	79	79	79	81	85	85	86	88	91	90	89	87	82	69	61	57
3150	78	75	74	77	78	79	80	85	83	84	86	90	87	87	85	81	68	60	56
4000	77	75	72	76	77	80	79	82	80	83	84	88	85	84	82	78	66	58	54
5000	85	80	77	82	80	84	83	83	83	83	85	86	84	83	79	75	64	56	52
6300	87	83	80	83	82	86	84	83	84	83	85	84	82	81	77	70	62	54	50
8000	77	72	73	74	73	76	77	78	80	79	80	82	80	79	75	67	60	51	47
10000	74	71	71	71	72	75	74	76	77	77	78	78	76	75	70	62	56	48	44
OVERALL	95	94	94	93	93	97	98	100	100	101	102	102	104	106	107	102	93	84	81

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
T-378 AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

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	7	4	9	-1	-4	-6	-5	-2	-5	-3	-3	-4	-4	-0	0	7	1	5	1
31.5	11	5	7	-1	-2		-5	-4	-4	-3	-5	-5	-4	0	1	8	1	5	3
40	9	5	6	-0	-2			-3	-3	-2	-3		-2	3	1	7	1	4	3
50	2	1	2	-4	-3	-4	-3	-1	1	-1	-1	-2	2	2	1	4	1	0	-3
63	-1	-1	-0	-5	-3	-3	-3	-3	-1	-0	-2	-2	6	2	0	1	-1	-5	-5
80	-0	-2	1	-3	-3	-3	-2	-1	-1	-1	-1	-4	-0	3	5	5	3	-4	
100	-3	-4	-3	-6	-4	-2	-3	-1	-1	-3	-4	2	-0	4	5	4	1		
125	-11	-12	-12	-12	-5	-2	0	0	-0	-5	-3	-0	1	4	4	2	-3	-17	
160	-6	-7	-7	-8	-5	-3	-1	1	1	-1	-2	1	1	3	4	2	-3	-14	
200	-2	-2	-0	-2	-4	-2	-3	2	3	0	-3	1	1	-0	-0	1	-3	-16	
250	-1	-1	-0	-1	-1	2	1	2	3	0	-3	-2	-2	-1	-2	-0	-4	-17	
315	1	1	0	-2	-3	3	3	2	2	-0	-2	-4	-6	-0	-4	-2	-5	-16	
400	1	-1	0	-2	-3	1	1	2	3	3	-1	-2	-3	-1	-5	-3	-5	-18	
500	-0	1	1	-3	-5	3	1	3	2	2	-0	-3	-3	-1	-7	-8	-11	-23	
630	2	3	2	-1	-2	3	1	2	1	2	-1	-3	-1	-2	-7	-10	-11	-23	
800	4	4	2	-1	-2	2	1	2	2	2	-1	-2	-0	-2	-8	-10	-12	-25	
1000	3	4	1	-0	-1	2	1	4	3	1	-2	-4	-3	-6	-11	-12	-15	-26	-29
1250	5	6	2	2	2	3	2	3	2	-1	-3	-5	-5	-7	-12	-11	-16	-25	-27
1600	9	8	3	3	3	2	1	3	1	0	-2	-5	-6	-8	-11	-13	-17	-25	-27
2000	13	11	5	5	3	2	-1	2	-5	-0	-8	-9	-11	-8	-13	-15	-19	-26	-27
2500	11	10	4	5	3	2	-1	3	-4	-0	-8	-8	-11	-10	-13	-15	-19	-26	-28
3150	6	4	-0	3	1	5	2	5	-1	-2	-5	-6	-7	-9	-12	-15	-19	-25	-28
4000	7	10	6	5	3	3	0	2	0	-4	-12	-12	-13	-12	-16	-19	-24	-31	-32
5000	4	9	5	5	3	3	2	2	0	-2	-8	-9	-11	-11	-13	-17	-22	-28	-31
6300	6	11	4	3	2	3	-1	4	-1	-4	-9	-13	-15	-17	-18	-21	-25	-30	-33
8000	7	10	4	5	4	2	2	2	-1	-4	-7	-11	-14	-14	-17	-19	-24	-29	-30
10000	6	9	4	3	2	3	2	3	-1	-3	-6	-8	-9	-13	-16	-17	-23	-27	-28
OCTAVE																			
31.5	9	4	8	-1	-3		-6	-3	-4	-3	-4	-5	-3	1	1	7	1	5	2
63	-0	-1	1	-4	-3	-3	-3	-2	-1	-1	-2	-3	5	2	2	3	0	-3	-5
125	-8	-9	-9	-10	-5	-2	-0	0	0	-4	-2	0	1	4	4	2	-2	-16	
250	-1	-1	-0	-2	-3	1	1	2	3	0	-3	-0	-1	-0	-1	0	-3	-16	
500	1	2	1	-2	-3	3	1	2	2	2	-1	-3	-2	-1	-6	-6	-8	-21	
1000	4	5	2	1	0	2	2	3	2	1	-2	-4	-3	-5	-11	-11	-15	-25	-29
2000	13	11	4	5	3	2	-1	2	-5	-0	-8	-9	-11	-8	-13	-15	-19	-26	-28
4000	6	9	5	5	3	3	1	2	0	-3	-10	-11	-12	-12	-15	-18	-23	-29	-31
8000	6	11	4	4	2	3	0	4	-1	-4	-8	-12	-14	-16	-18	-20	-24	-29	-31
OVERALL	12	10	4	4	3	2	-1	2	-3	-0	-7	-7	-8	-6	-8	-9	-13	-17	-20

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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	9	-2	-2	-3	-3	-0	-0	-5	-4	-3	5	-3	-2	-0	2	3	1	-1	
31.5	8	-4	-4	-3	-4	-2	-1	-4	-2	-3	2	-2	-0	2	3	5	4	1	
40	3	-7	-6	-5	-5	-5	-2	-4	-3	-3	-0	-2	0	3	4	7	5	0	
50	-2	-9	-8	-6	-7	-5	-5	-5	-3	-3	-2	-2	1	3	6	6	4	-2	
63	-6	-10	-9	-8	-7	-7	-5	-5	-3	-4	-4	-1	1	4	6	7	2	-6	
80	-9	-11	-10	-9	-8	-7	-7	-6	-4	-5	-5	-2	2	4	6	7	0	-12	
100	-11	-12	-11	-10	-9	-8	-7	-6	-4	-5	-6	-3	1	4	8	7	-3	-14	
125	-12	-12	-11	-11	-11	-9	-7	-8	-5	-4	-4	-4	1	5	8	6	-4	-14	
160	-13	-12	-11	-12	-11	-8	-7	-7	-6	-5	-4	-2	0	4	8	6	-6	-17	
200	-13	-12	-11	-12	-11	-8	-8	-6	-5	-5	-4	-2	0	3	8	6	-6	-17	
250	-10	-9	-10	-11	-11	-5	-5	-5	-3	-1	-4	-4	0	3	8	6	-8	-19	
315	-7	-7	-6	-7	-9	-2	-1	-2	-1	1	-1	-2	-3	0	7	6	-6	-17	
400	-6	-6	-5	-7	-10	-2	-1	-2	0	2	-0	-1	0	0	4	4	-7	-17	
500	-8	-7	-5	-8	-10	-2	-1	-1	0	3	0	-2	1	3	3	0	-11	-19	
630	-7	-6	-7	-8	-9	-5	-3	-2	0	3	1	-0	1	2	4	-2	-12	-21	
800	-7	-8	-7	-8	-7	-5	-2	-1	-0	2	2	2	3	1	3	-3	-14	-23	
1000	-8	-9	-7	-8	-7	-6	-2	-1	-1	1	3	3	3	1	2	-3	-15	-24	
1250	-8	-8	-8	-7	-7	-6	-2	-0	-1	2	3	3	3	1	1	-4	-17	-26	
1600	-8	-9	-8	-7	-7	-8	-3	-1	-2	-0	4	3	3	1	0	-4	-17	-27	
2000	-6	-9	-9	-8	-7	-8	-4	-3	-2	-2	4	4	3	2	-1	-5	-18	-27	
2500	-5	-9	-8	-7	-6	-7	-3	-3	-1	-1	4	4	3	2	-1	-5	-18	-27	
3150	-3	-8	-6	-8	-5	-5	-3	-2	-0	1	4	4	3	1	-2	-6	-18	-28	
4000	0	-7	-8	-6	-2	-2	-1	-1	1	4	3	2	1	-0	-4	-7	-19	-28	
5000	3	-5	-4	0	4	1	2	5	1	2	-2	-4	-9	-10	-12	-15	-27	-35	
6300	2	-5	-2	1	3	-1	2	2	0	2	1	0	-4	-5	-8	-11	-22	-30	
8000	-2	-4	-2	-0	-0	-2	1	1	1	3	3	1	-2	-5	-6	-10	-21	-29	
10000	1	-2	-2	-1	2	0	1	1	2	4	1	-1	-5	-9	-11	-15	-25	-32	
OCTAVE																			
31.5	6	-5	-4	-4	-5	-2	-1	-4	-3	-3	2	-2	-0	2	3	5	4	0	
63	-6	-10	-9	-8	-8	-6	-6	-5	-4	-4	-4	-2	2	4	6	7	2	-7	
125	-12	-12	-11	-11	-11	-8	-7	-7	-5	-5	-4	-3	1	4	8	6	-4	-15	
250	-9	-9	-9	-10	-11	-5	-4	-4	-3	-1	-3	-3	-0	2	8	6	-7	-18	
500	-7	-6	-6	-8	-10	-3	-1	-1	0	3	0	-1	1	2	4	2	-9	-19	
1000	-8	-8	-7	-8	-7	-6	-2	-1	-1	2	3	3	3	1	2	-3	-15	-25	
2000	-6	-9	-8	-7	-7	-8	-3	-2	-2	-1	4	4	3	2	-0	-5	-17	-27	
4000	2	-5	-5	-1	3	-0	1	4	1	2	0	-1	-3	-4	-7	-11	-23	-32	
8000	1	-3	-2	-0	2	-1	1	2	1	3	1	0	-3	-6	-8	-11	-22	-31	
OVERALL	-4	-8	-7	-6	-4	-4	-2	-1	-1	1	1	0	1	2	5	3	-8	-17	

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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	-6	-5	-7	-7	-4	-3	-3	-1	-2	-2	1	-2	0	2	4	4	5	2	3
31.5	-5	-6	-6	-6	-3	-4	-3	-1	-2	-3	-1	-2	0	3	4	5	4	3	3
40	-5	-7	-6	-6	-5	-4	-3	-3	-4	-2	-2	-1	1	3	5	5	3	1	-1
50	-7	-9	-7	-8	-8	-6	-4	-4	-4	-4	-3	-2	1	4	6	6	3	-2	-8
63	-7	-8	-9	-9	-7	-6	-5	-4	-4	-4	-4	-2	2	4	6	6	1	-10	-12
80	-3	-7	-10	-9	-7	-7	-6	-5	-5	-5	-5	-3	2	5	7	5	-1	-18	-19
100	-10	-11	-11	-11	-11	-9	-6	-5	-5	-5	-6	-3	2	5	8	5	-3	-22	-25
125	-11	-12	-11	-11	-11	-9	-7	-6	-6	-5	-5	-3	1	6	8	4	-5	-18	-27
160	-12	-12	-12	-13	-11	-9	-7	-6	-8	-6	-5	-4	-0	6	9	3	-7	-18	-25
200	-12	-11	-11	-11	-12	-9	-7	-5	-5	-6	-5	-2	1	6	9	1	-8	-18	-24
250	-9	-7	-10	-11	-11	-6	-7	-6	-4	-4	-4	-3	1	5	9	0	-8	-17	-22
315	-6	-5	-6	-7	-9	-3	-3	-2	-2	-0	-2	-2	-0	5	7	1	-8	-17	-22
400	-6	-5	-5	-7	-10	-1	-1	-0	-0	-0	-1	-1	3	4	4	2	-8	-16	-21
500	-6	-5	-5	-9	-11	-3	-3	-1	-1	0	-1	-1	4	6	1	1	-10	-20	-23
630	-7	-6	-7	-9	-11	-5	-4	-1	-1	-0	0	-0	3	6	3	0	-12	-21	-23
800	-8	-9	-7	-9	-8	-5	-4	-1	-1	-1	1	3	3	4	2	1	-14	-21	-25
1000	-10	-11	-8	-9	-8	-6	-4	-1	-1	-0	1	3	4	4	2	-1	-16	-23	-27
1250	-10	-11	-10	-9	-8	-7	-4	-1	-1	1	2	2	4	3	1	-5	-17	-24	-29
1600	-10	-13	-10	-7	-8	-6	-5	-2	-1	0	4	2	4	3	1	-6	-18	-26	-29
2000	-8	-12	-10	-7	-7	-7	-5	-2	-1	-0	3	3	4	3	2	-5	-17	-25	-30
2500	-7	-11	-10	-7	-7	-7	-5	-1	-1	-0	2	5	4	3	1	-4	-17	-25	-29
3150	-7	-10	-10	-8	-7	-6	-5	-0	-2	-1	1	5	3	2	0	-3	-17	-24	-29
4000	-5	-8	-11	-7	-6	-3	-4	-1	-3	0	1	5	2	1	-1	-4	-17	-25	-29
5000	2	-3	-6	-1	-3	1	-0	-0	0	0	2	3	1	0	-4	-8	-19	-27	-31
6300	4	-0	-3	0	-1	3	1	0	1	-0	2	1	-1	-2	-6	-13	-21	-29	-33
8000	-1	-6	-5	-4	-5	-2	-1	0	2	1	2	4	2	1	-3	-11	-18	-27	-31
10000	-1	-5	-5	-4	-4	-1	-1	1	1	1	3	3	1	-1	-5	-13	-20	-28	-32
OCTAVE																			
31.5	-5	-6	-6	-6	-4	-4	-3	-2	-3	-2	-1	-2	1	3	5	5	4	2	2
63	-4	-8	-9	-9	-7	-6	-5	-4	-4	-5	-4	-2	2	4	7	6	1	-8	-13
125	-11	-12	-11	-12	-11	-9	-7	-6	-6	-6	-5	-3	1	6	9	4	-5	-19	-25
250	-8	-7	-8	-10	-11	-5	-6	-4	-4	-3	-4	-3	1	5	8	1	-8	-17	-23
500	-7	-5	-6	-9	-11	-3	-3	-1	-1	-0	-1	-1	3	5	3	1	-10	-19	-23
1000	-9	-10	-8	-9	-8	-6	-4	-1	-1	0	2	2	3	4	2	-1	-15	-23	-27
2000	-9	-12	-10	-7	-8	-7	-5	-2	-1	-0	3	3	4	3	2	-5	-17	-26	-30
4000	-2	-6	-8	-4	-5	-2	-3	-0	-1	-0	2	5	2	1	-1	-5	-18	-25	-29
8000	3	-1	-4	-1	-2	2	1	0	1	0	2	2	0	-1	-5	-12	-20	-28	-32
OVERALL	-7	-8	-8	-8	-9	-5	-4	-2	-2	-1	0	1	3	4	5	0	-9	-18	-21

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01

09 MAY 75

PAGE 6

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

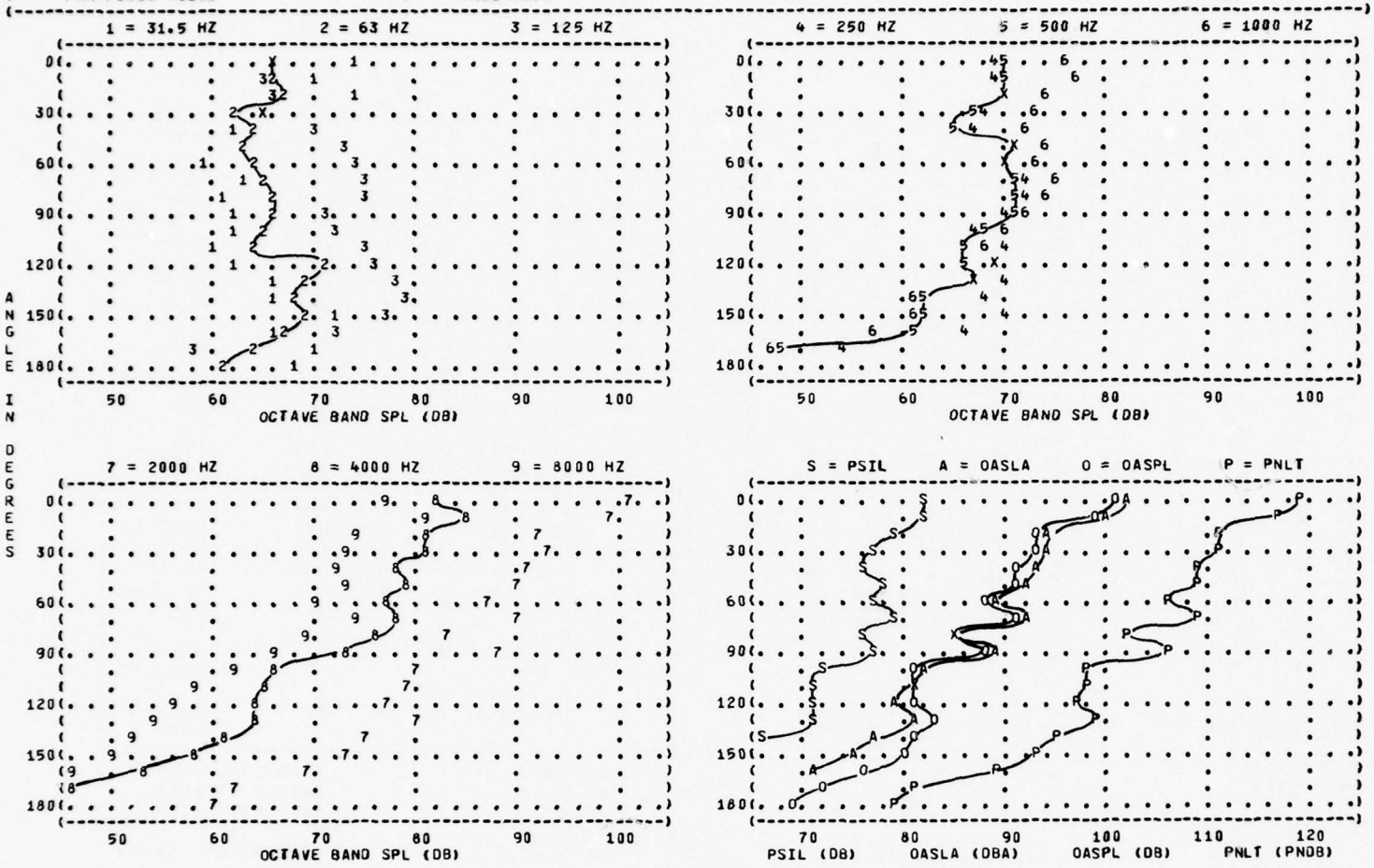


FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:

TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-046
RUN 02

09 MAY 75

PAGE 6

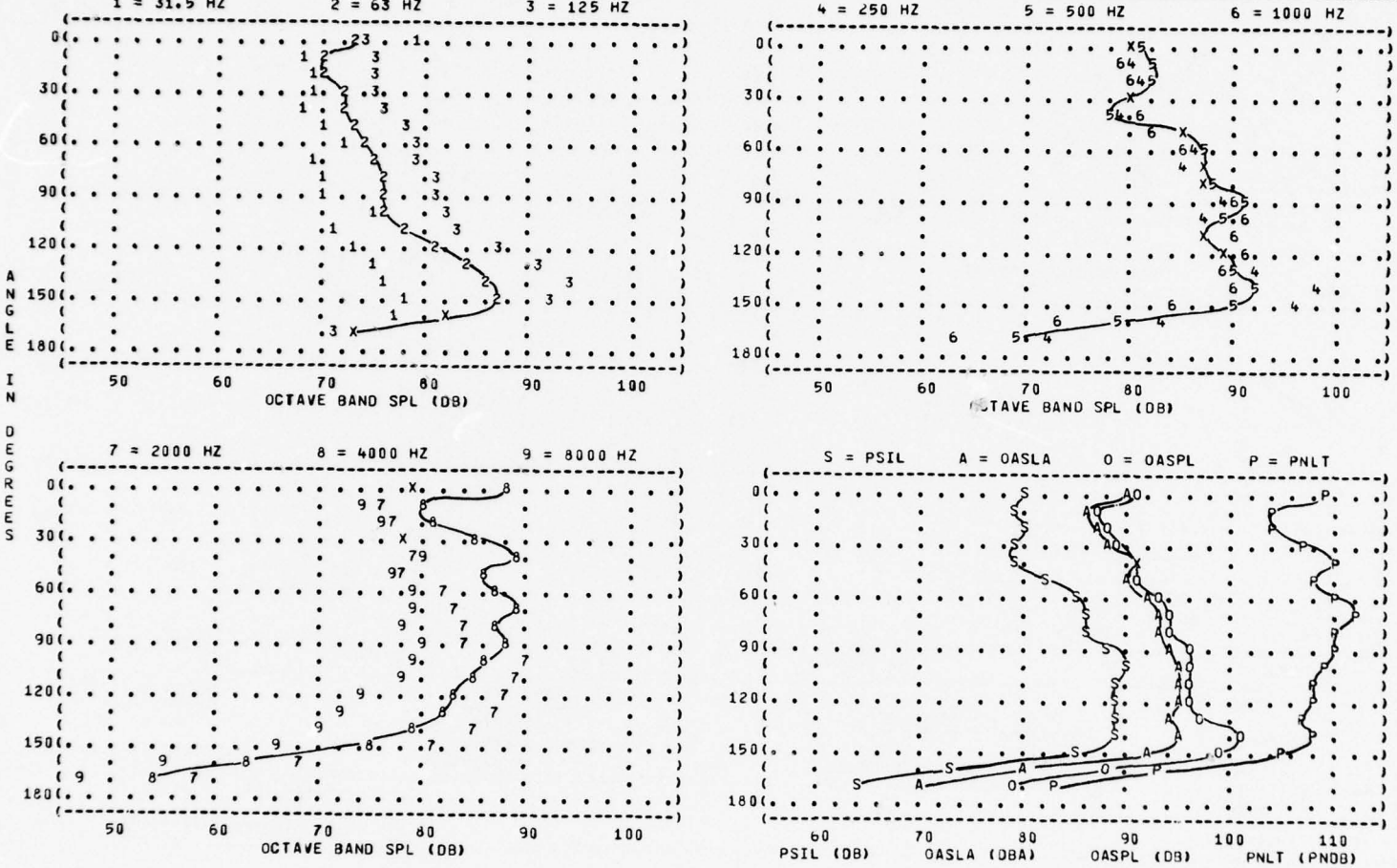


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-046
RUN 03

09 MAY 75

PAGE 6

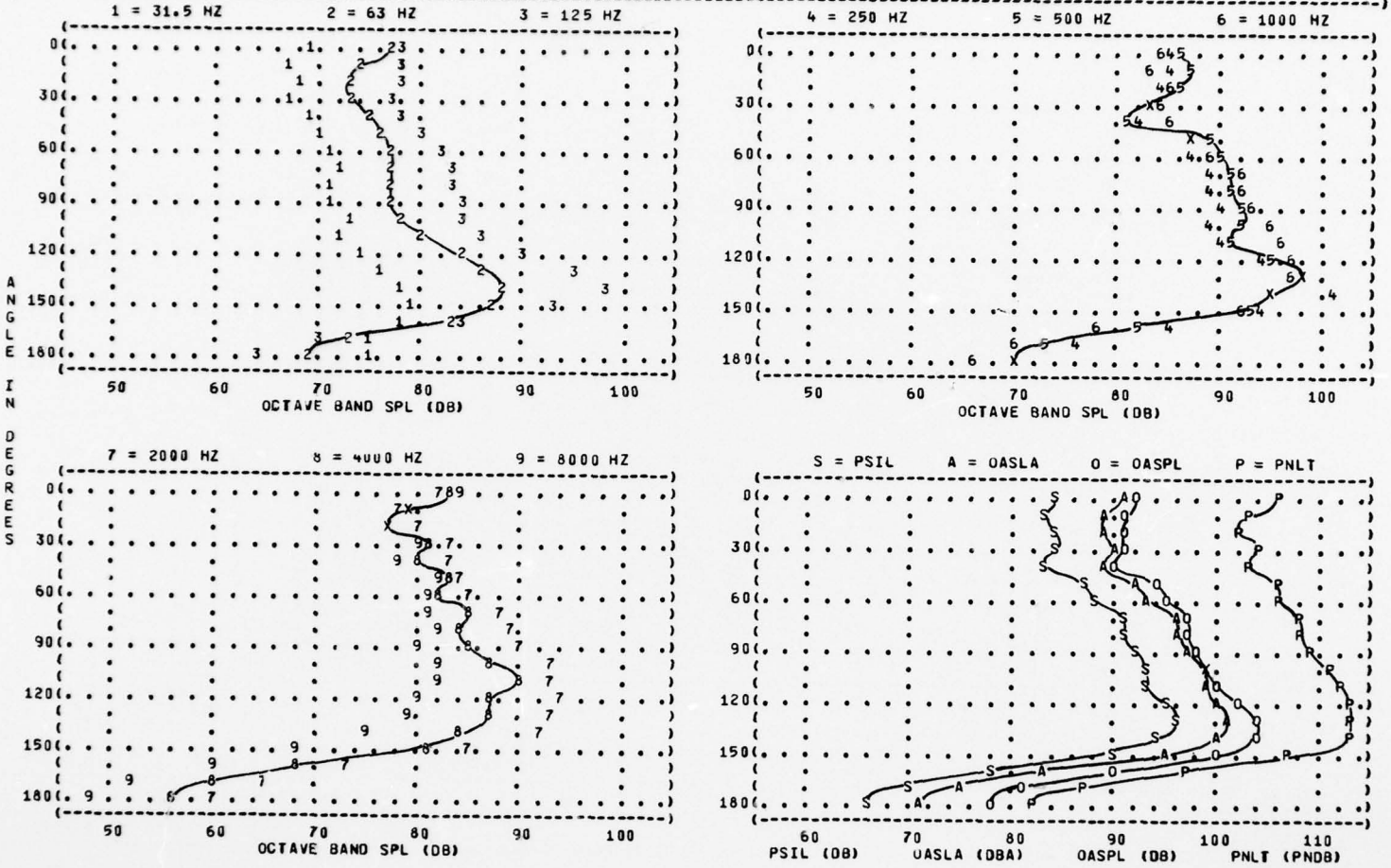


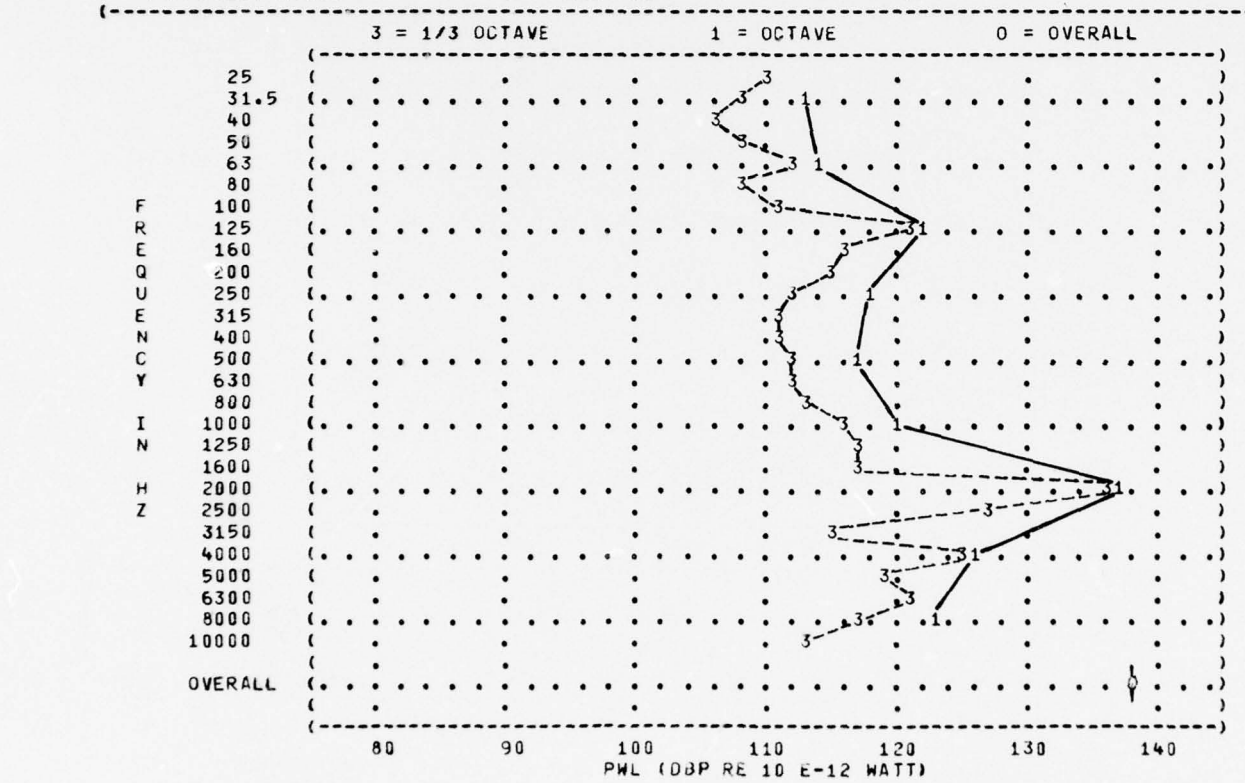
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 3



1/3 OCTAVE	PWL OCTAVE
110.5	
107.8	113.2
105.5	
108.2	
111.6	114.4
108.1	
110.5	
120.6	122.3
116.2	
114.7	
112.2	117.8
111.3	
111.1	
112.3	116.6
112.0	
112.7	
115.6	120.1
116.7	
116.6	
136.2	136.8
127.3	
115.2	
124.6	126.1
119.1	
120.8	
116.8	122.8
113.4	
	137.6

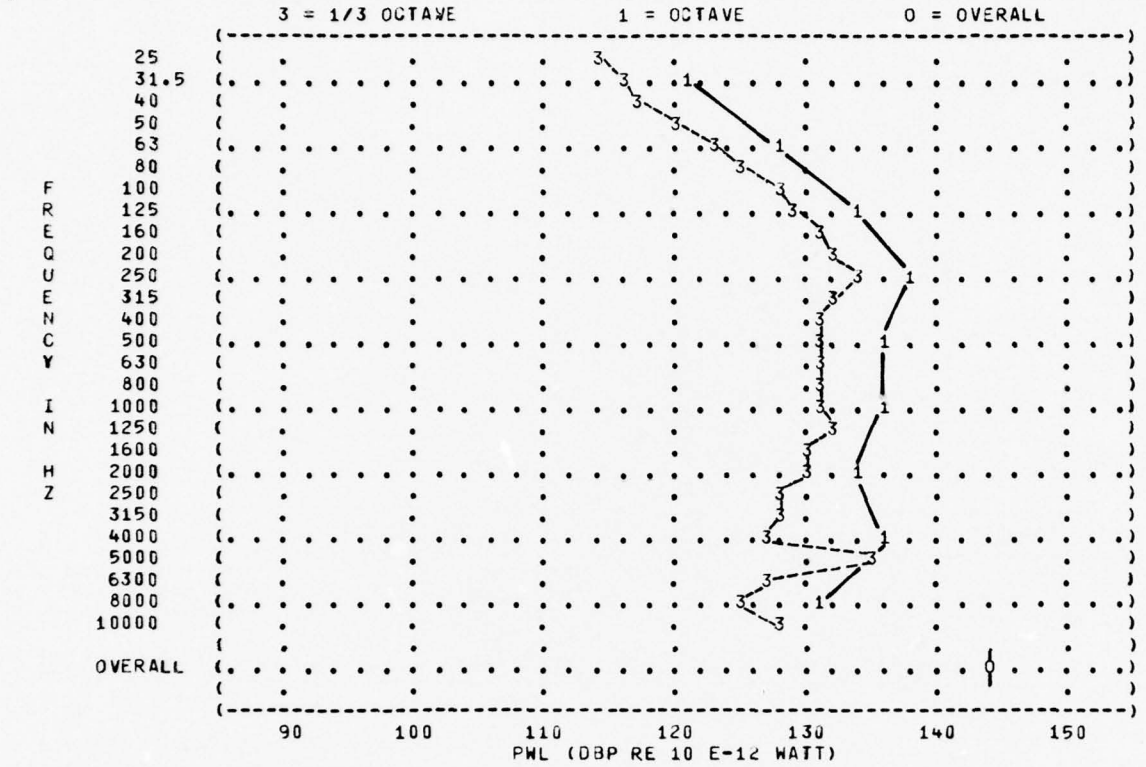
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 3

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %



	PWL	
	1/3 OCTAVE	OCTAVE
25	114.5	
31.5	115.6	120.7
40	117.3	
50	119.7	
63	122.7	127.6
80	124.6	
100	127.5	
125	128.9	134.1
160	130.9	
200	131.7	
250	134.3	137.6
315	131.9	
400	131.3	
500	131.2	136.1
630	131.4	
800	130.6	
1000	131.5	136.1
1250	131.9	
1600	129.8	
2000	130.0	134.2
2500	128.3	
3150	127.7	
4000	126.7	136.2
5000	134.9	
6300	126.9	
8000	124.8	131.5
10000	127.8	
OVERALL		144.0

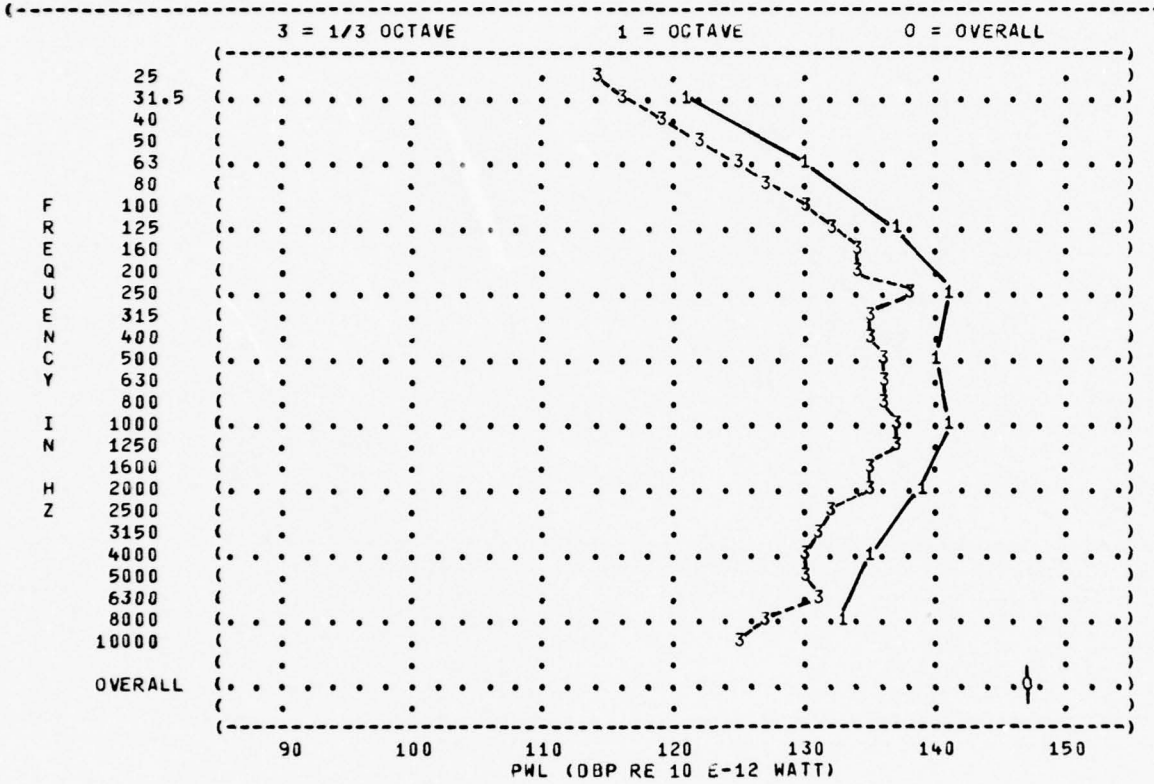
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 25 C
BAR PRESS = .760 M HG
REL HUMID = 84 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 3



1/3 OCTAVE	PWL OCTAVE
113.6	
116.3	121.4
118.7	
121.6	
124.6	129.5
126.7	
129.9	
131.9	137.1
134.1	
134.5	
137.6	140.6
134.9	
134.5	
135.8	140.3
136.1	
136.1	
136.9	141.4
137.0	
135.2	
134.7	139.0
132.4	
131.4	
129.8	135.3
130.4	
130.9	
126.9	133.1
125.3	
	147.5

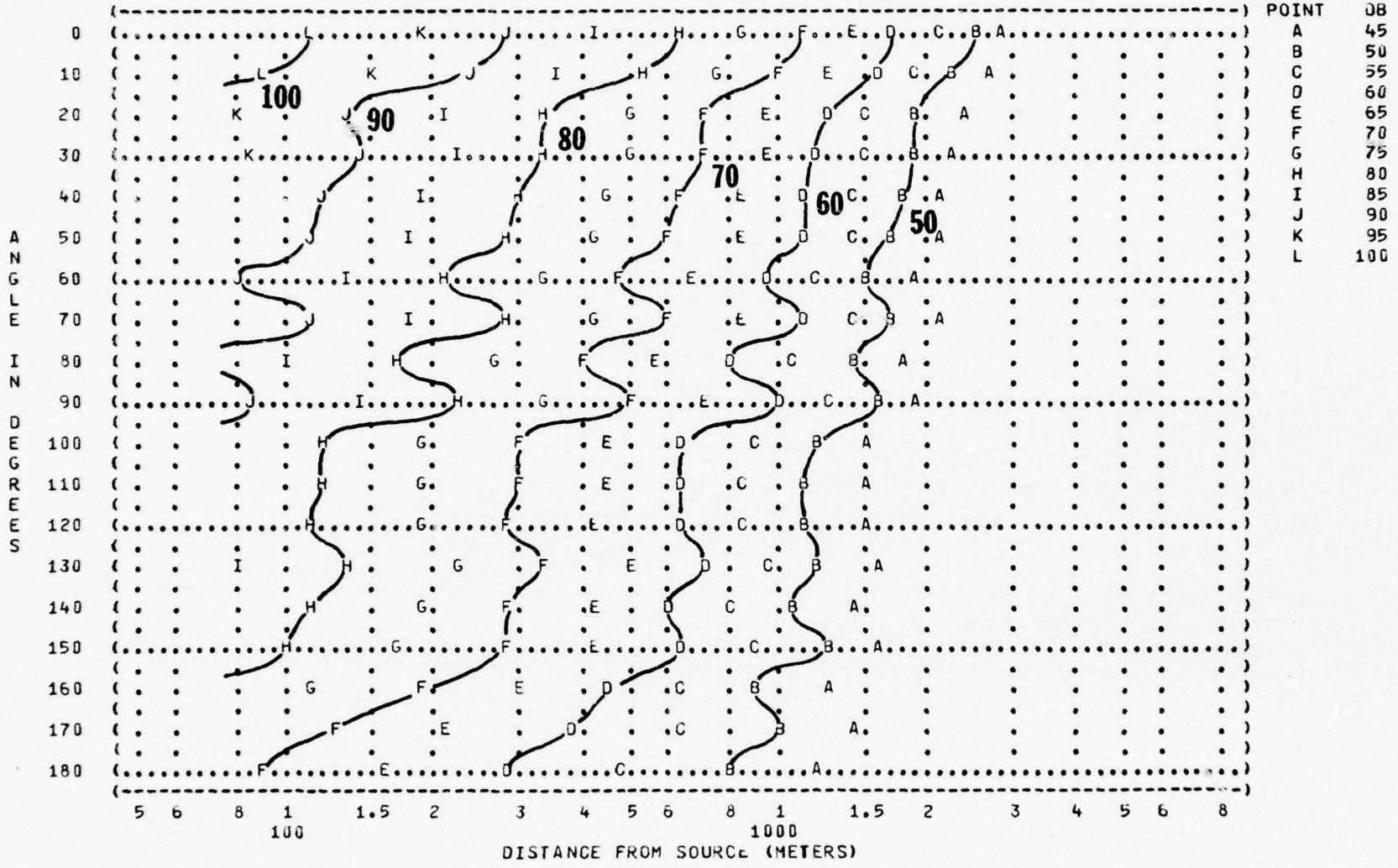
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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 75-002-046
RUN 02
09 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM .
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

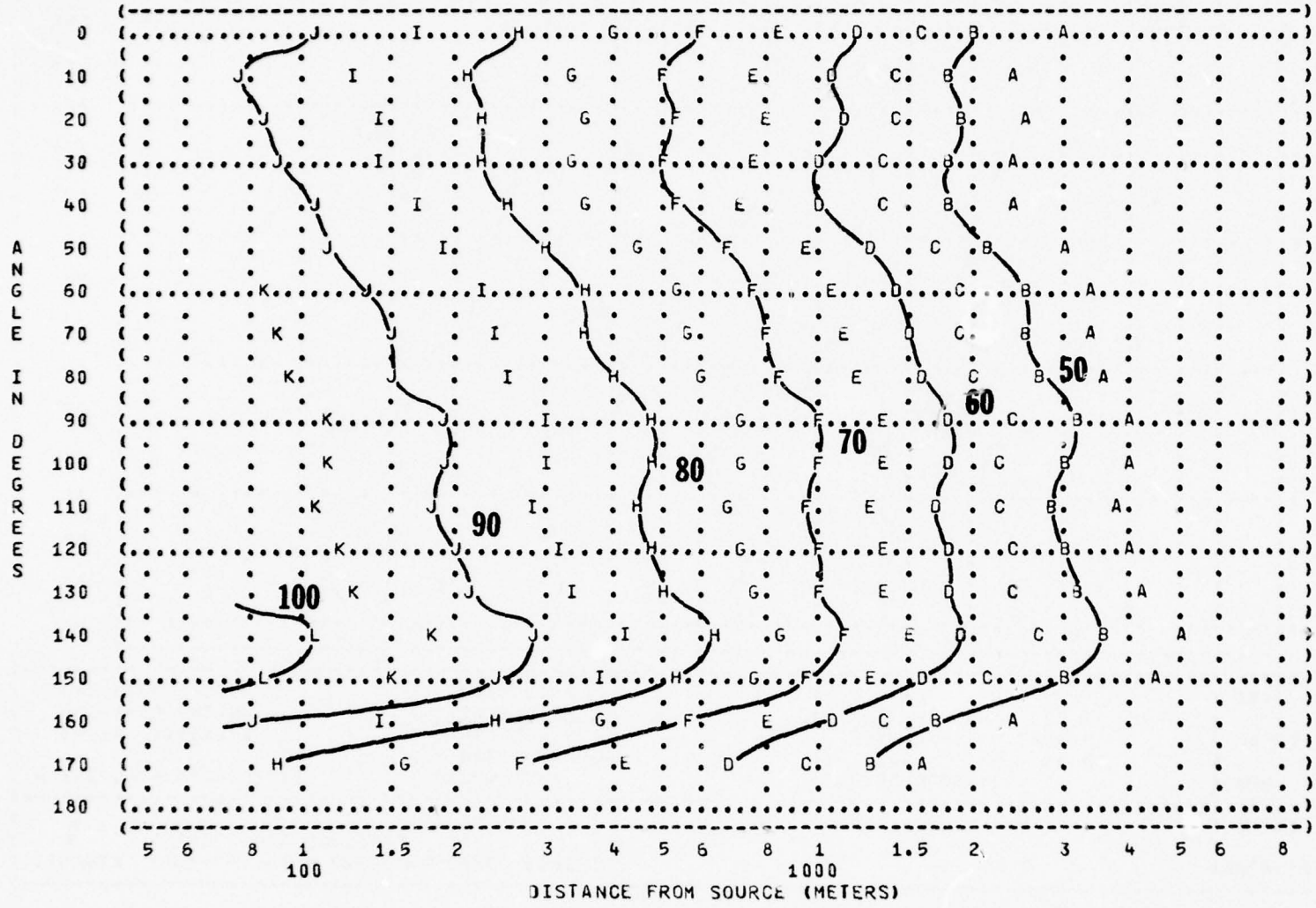


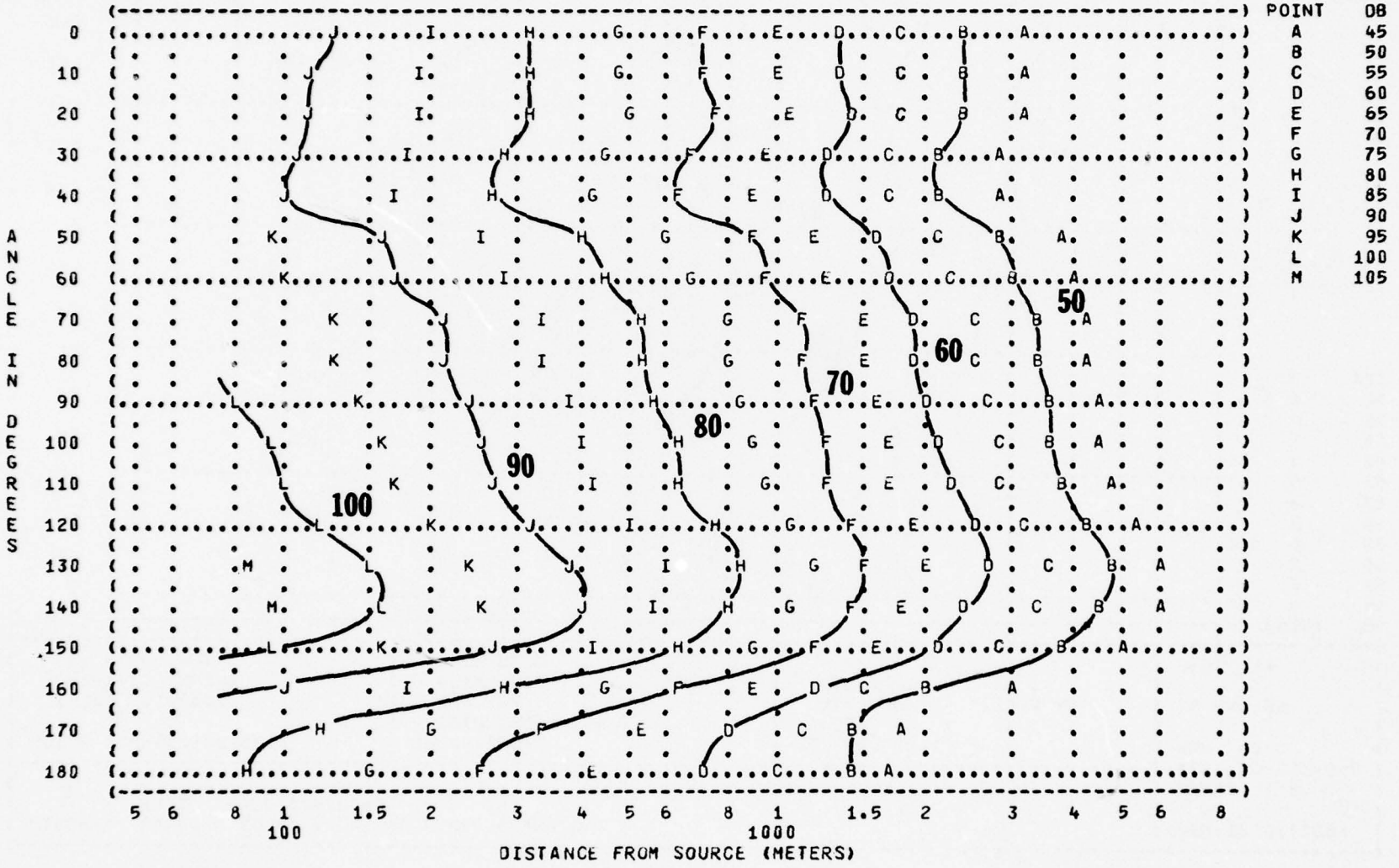
FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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

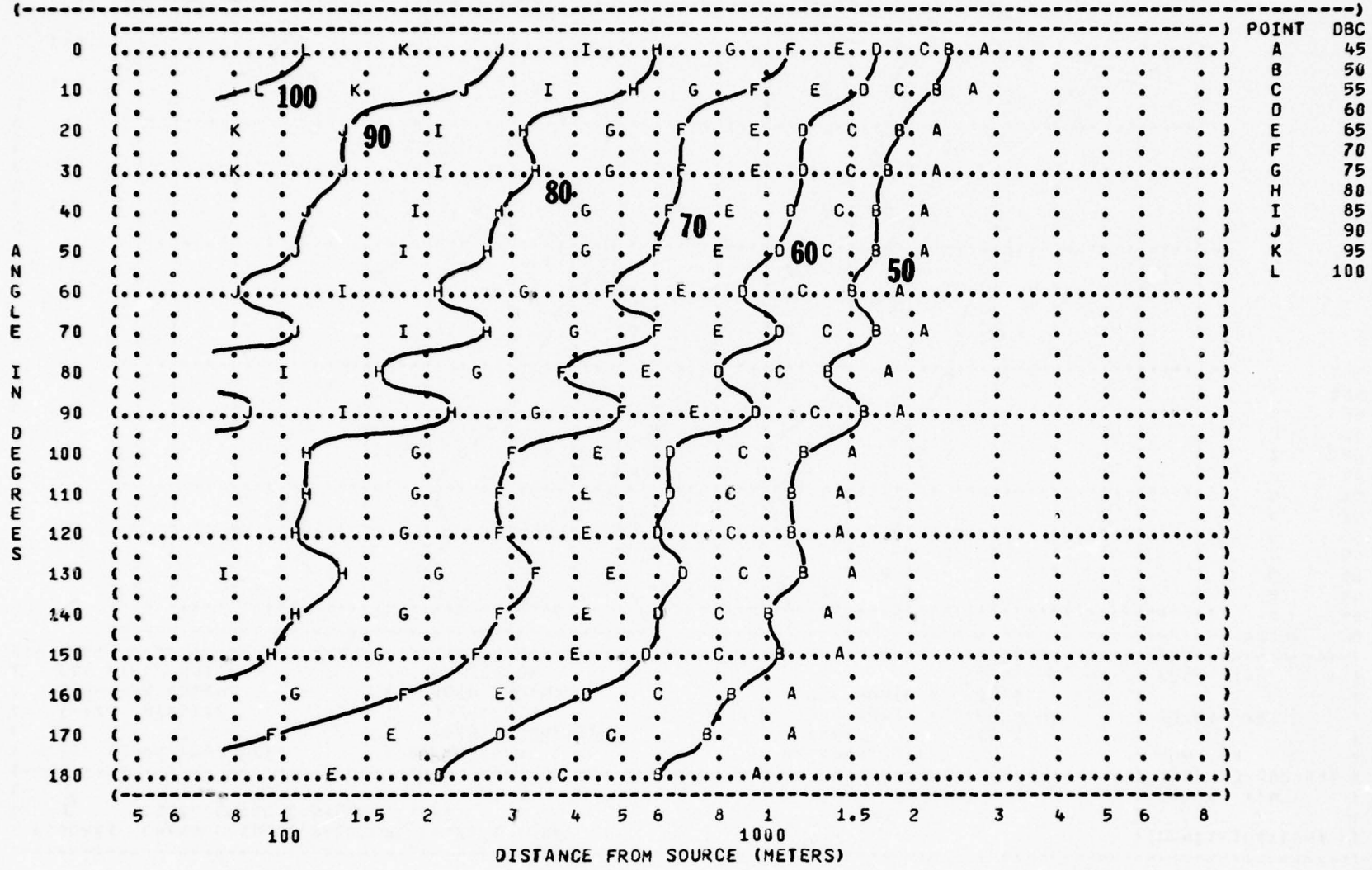
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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 75-002-046
RUN 02
09 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
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

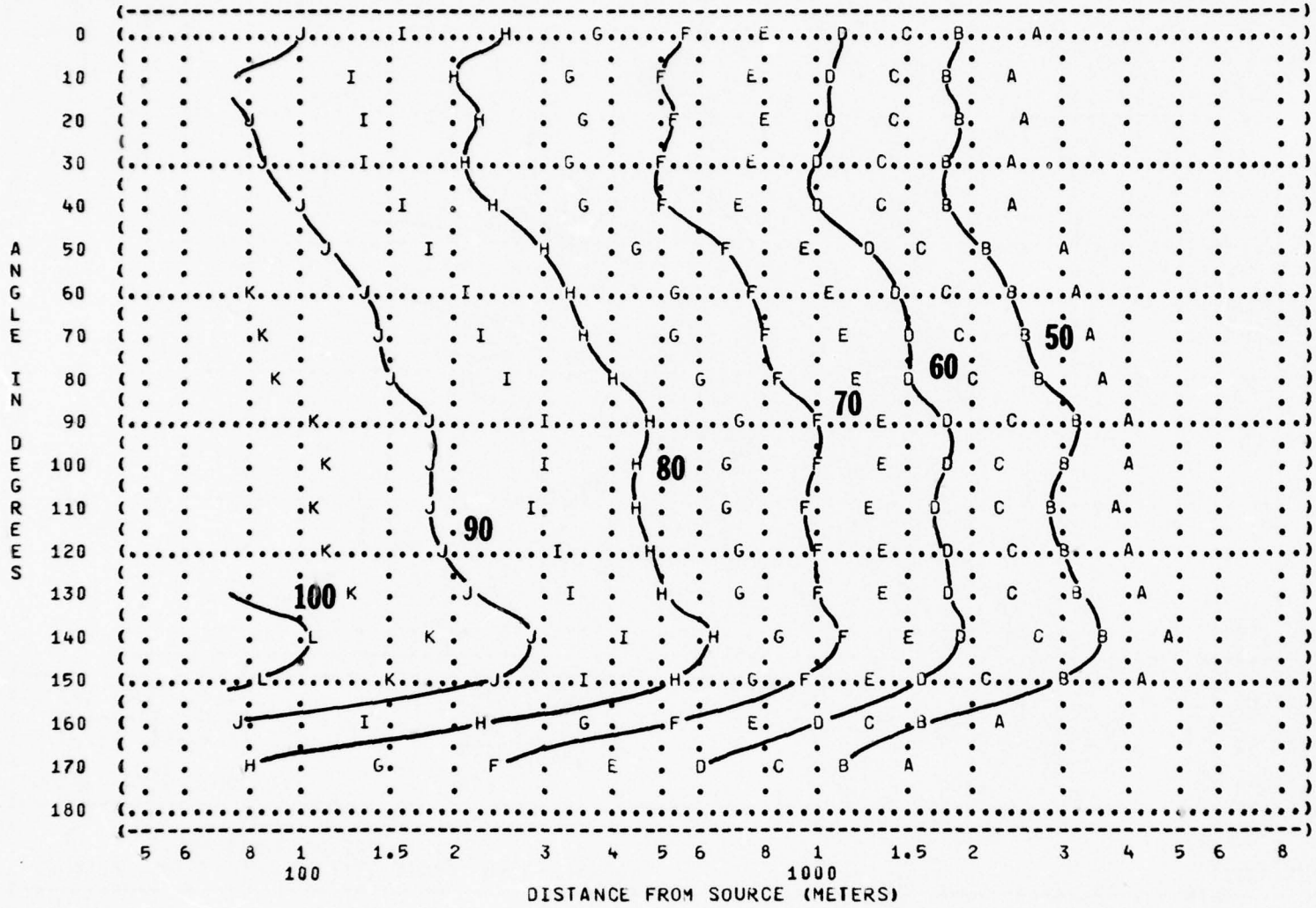


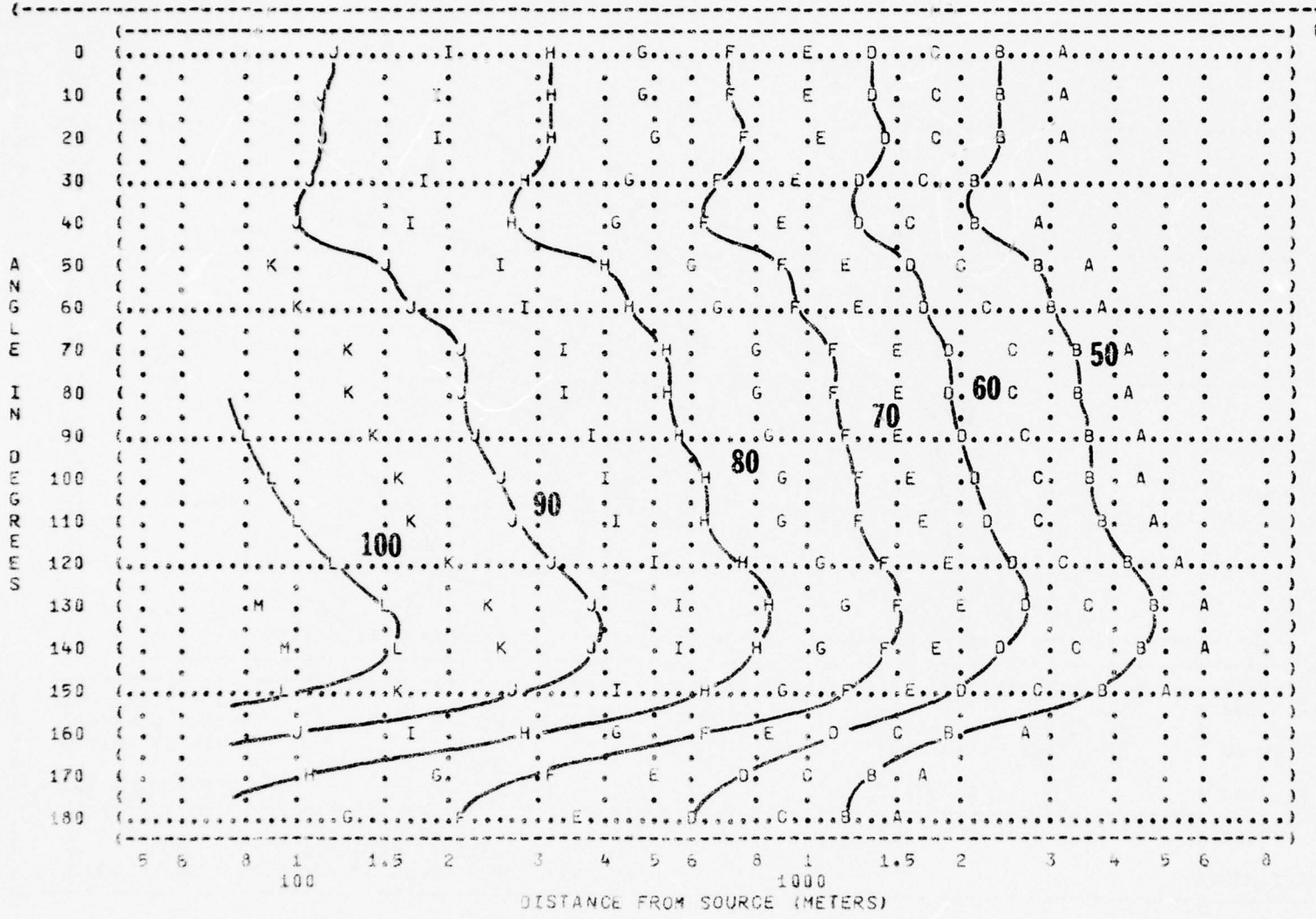
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
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

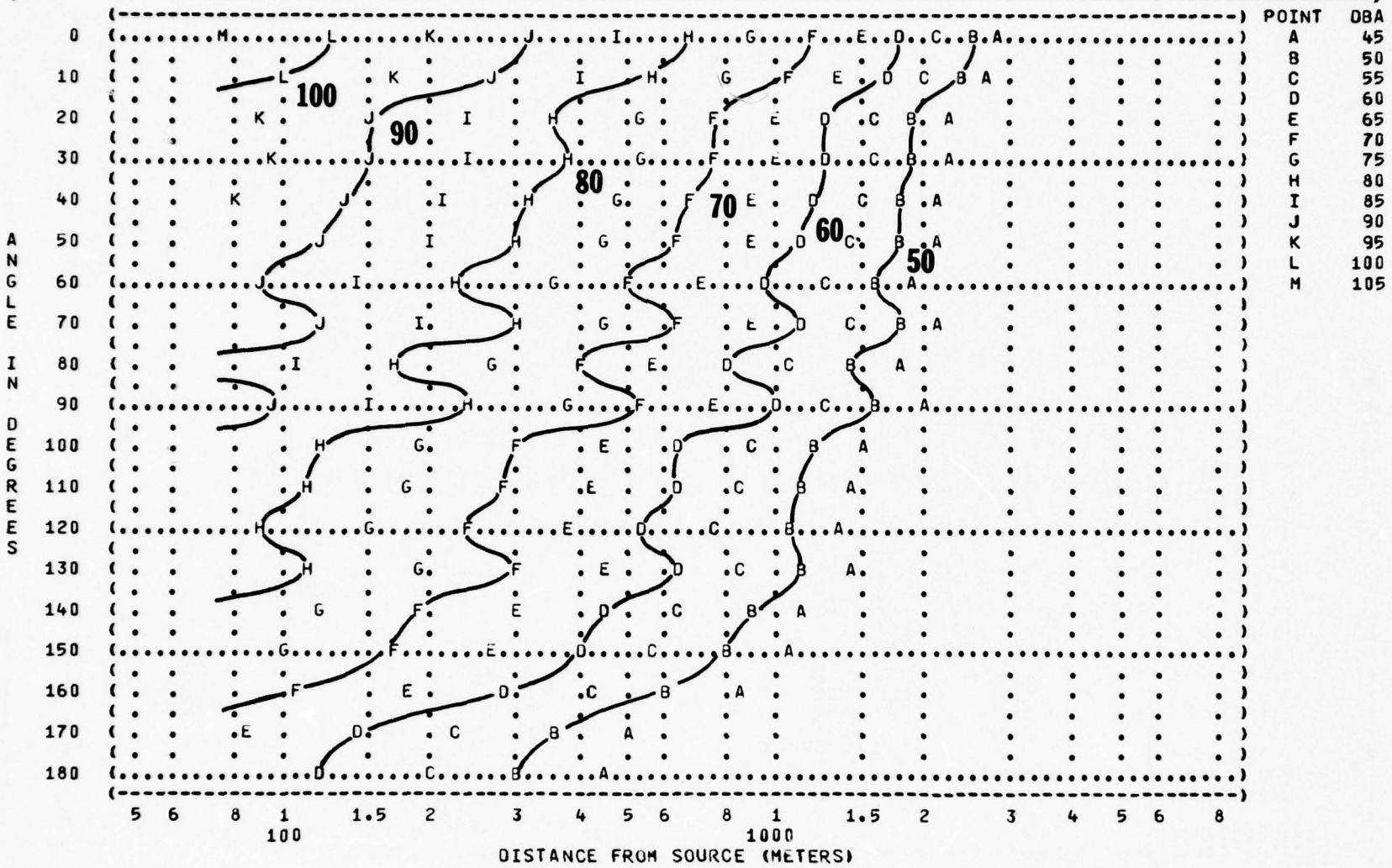
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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
J	90
K	95
L	100
M	105

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

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
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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

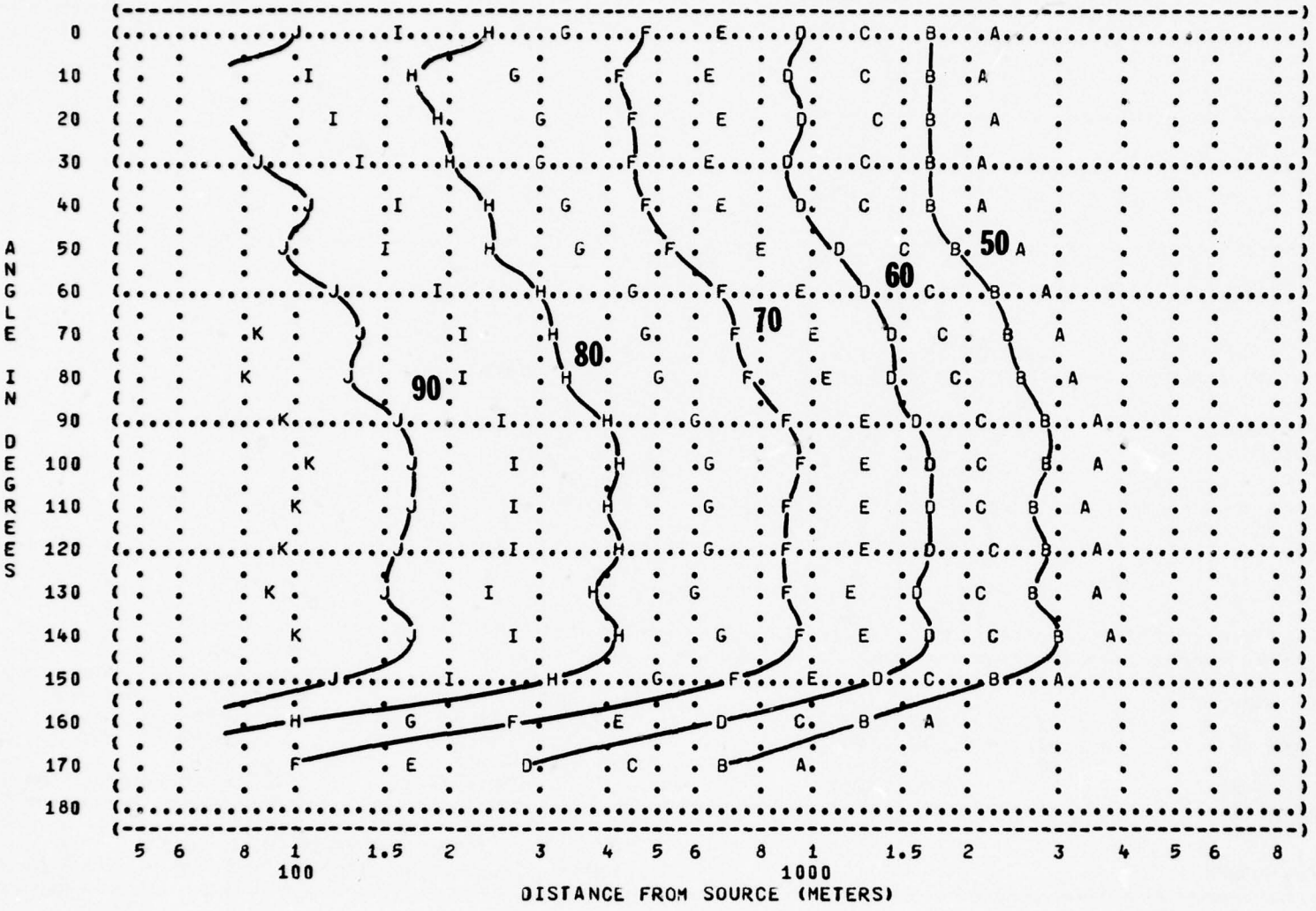


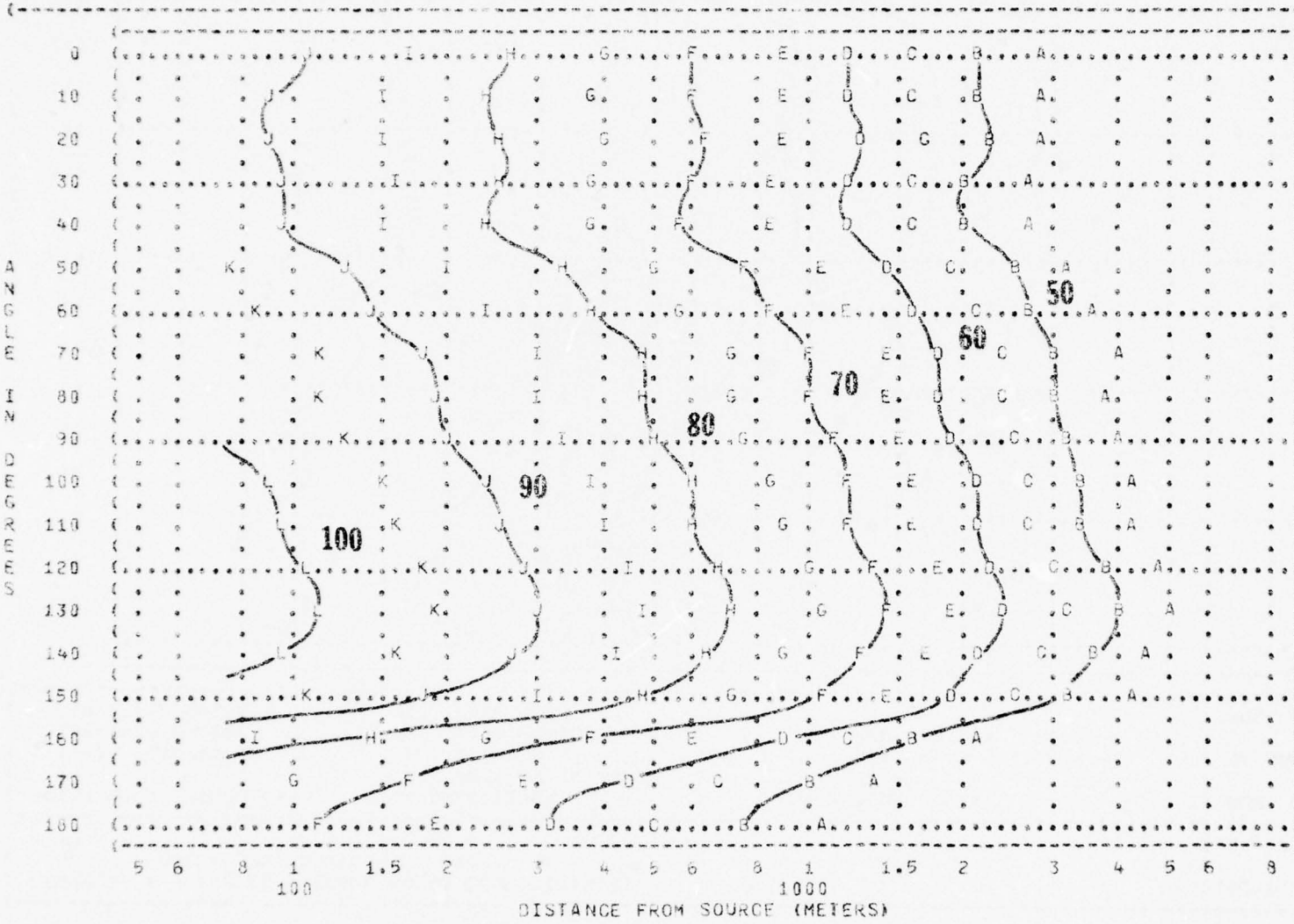
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (OBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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



POINT	OBA
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 75-002-046
RUN 01
09 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
I-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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
L	115
M	120

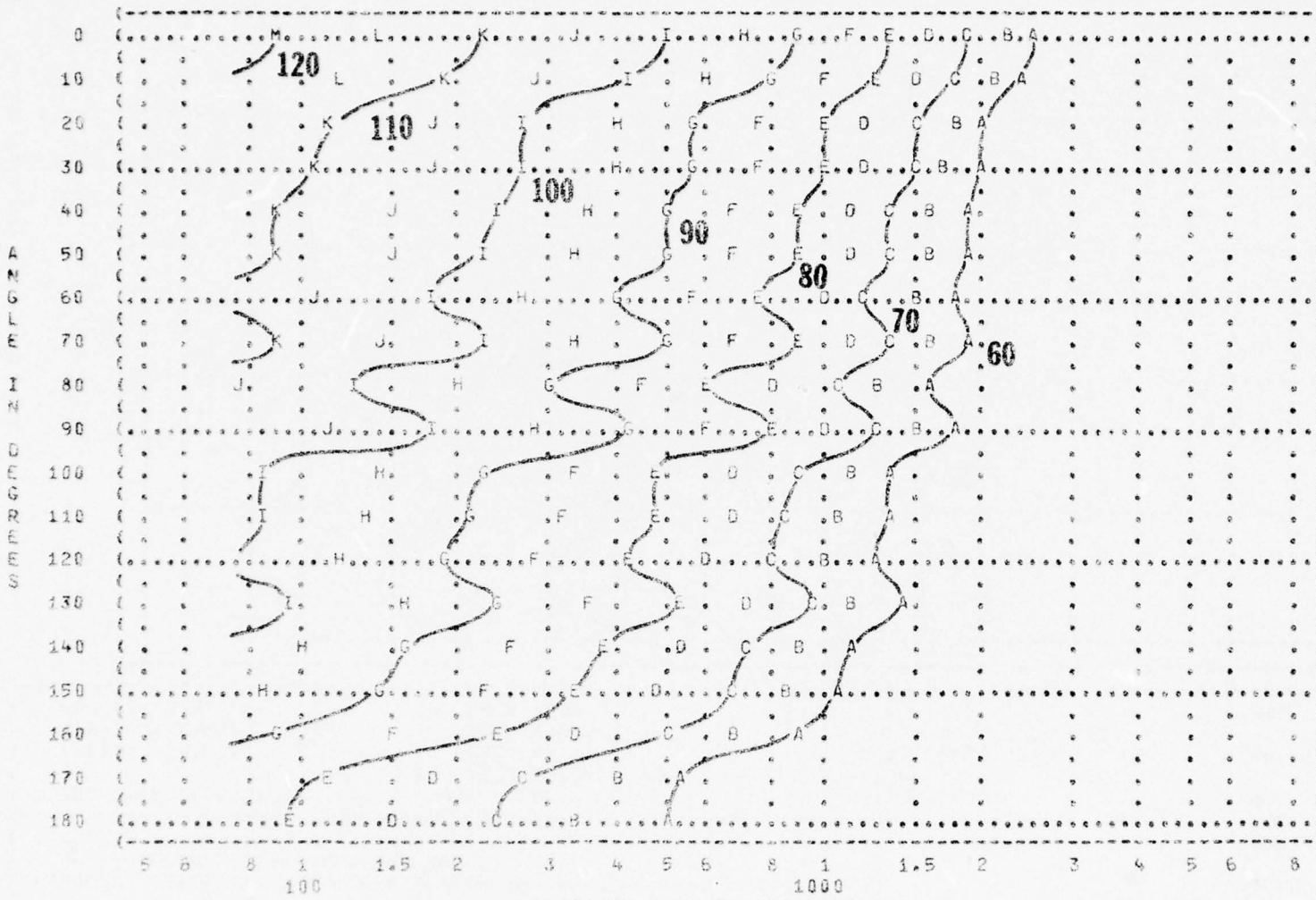


FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
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
L	115

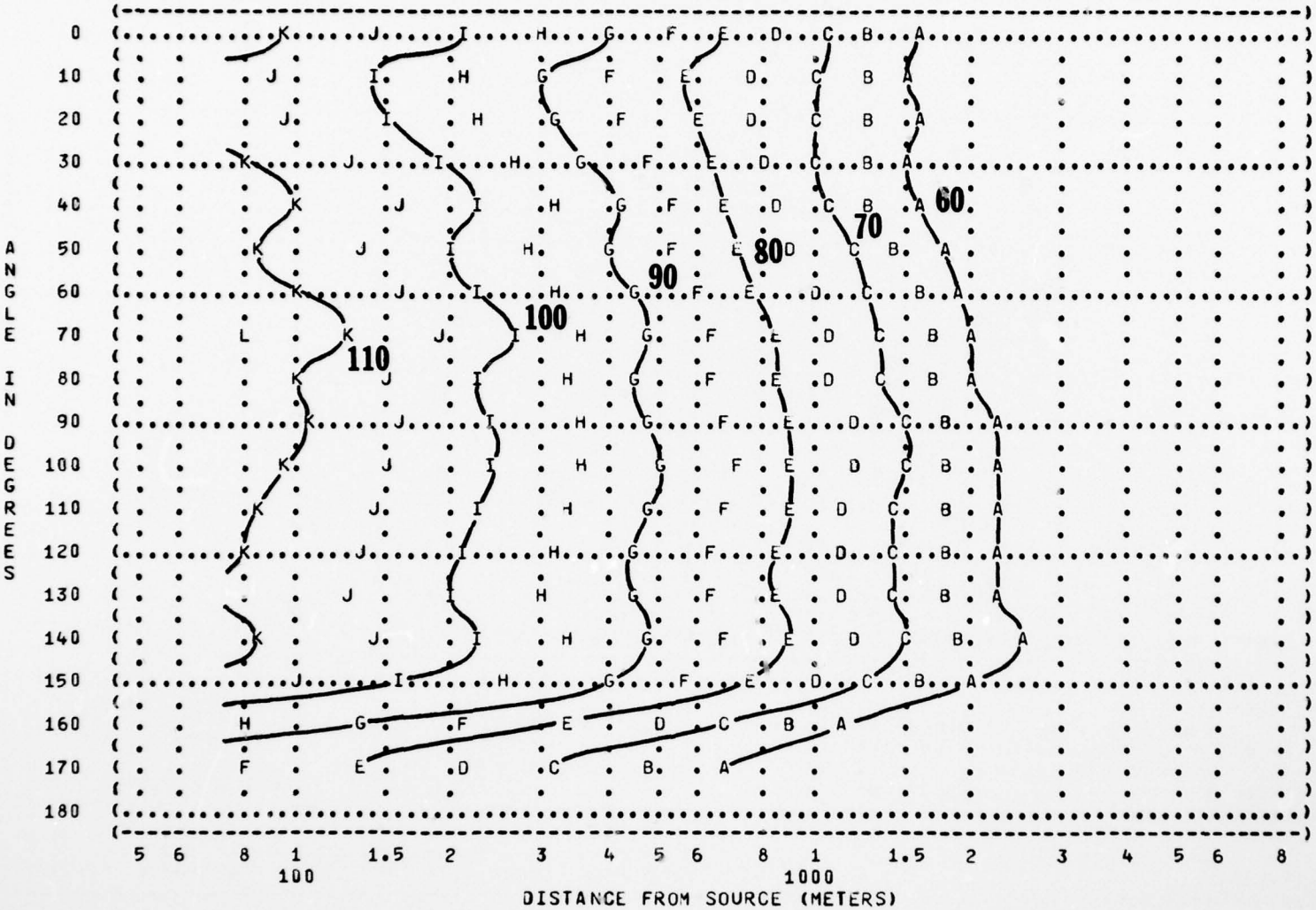


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
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
L	115

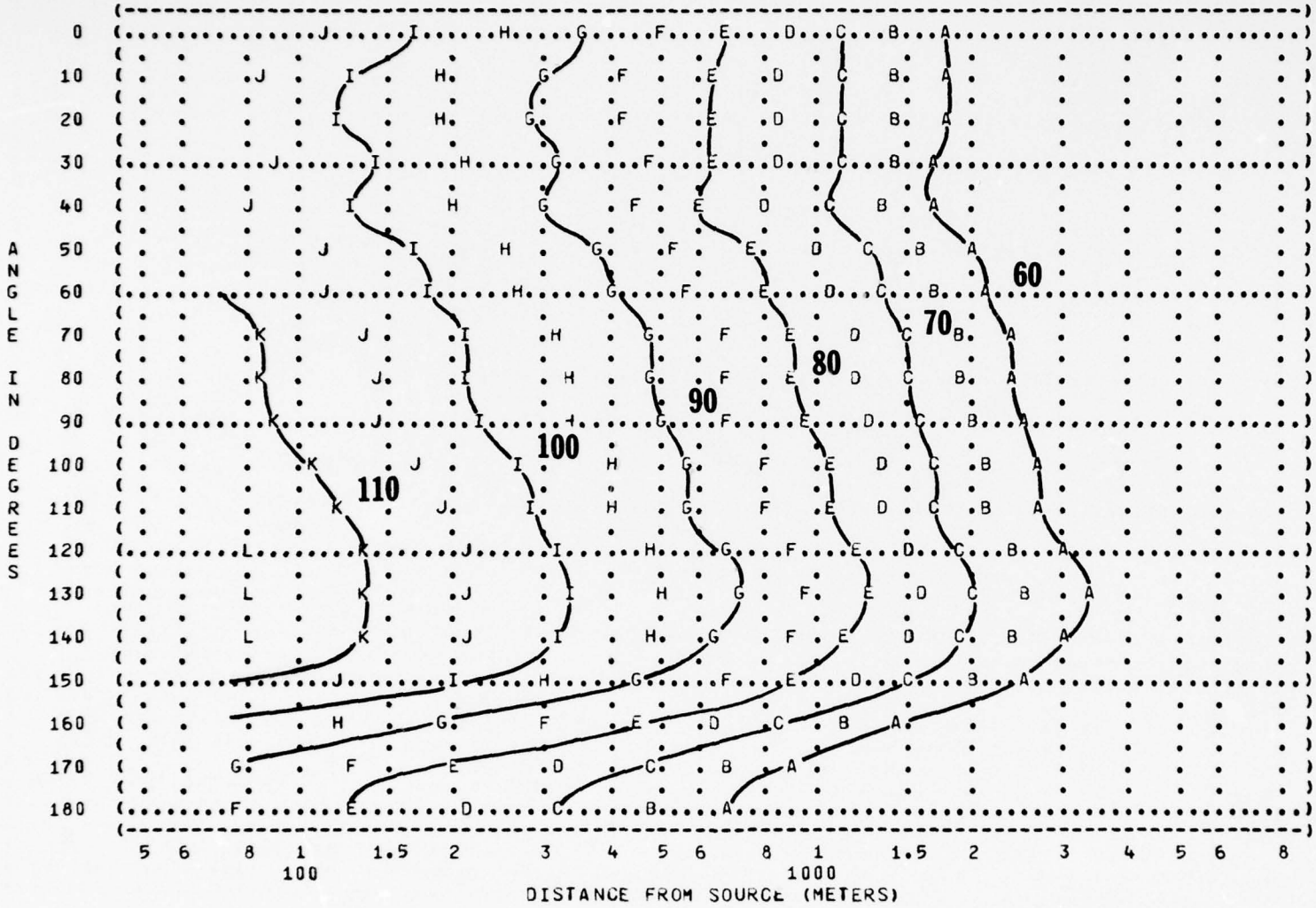


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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

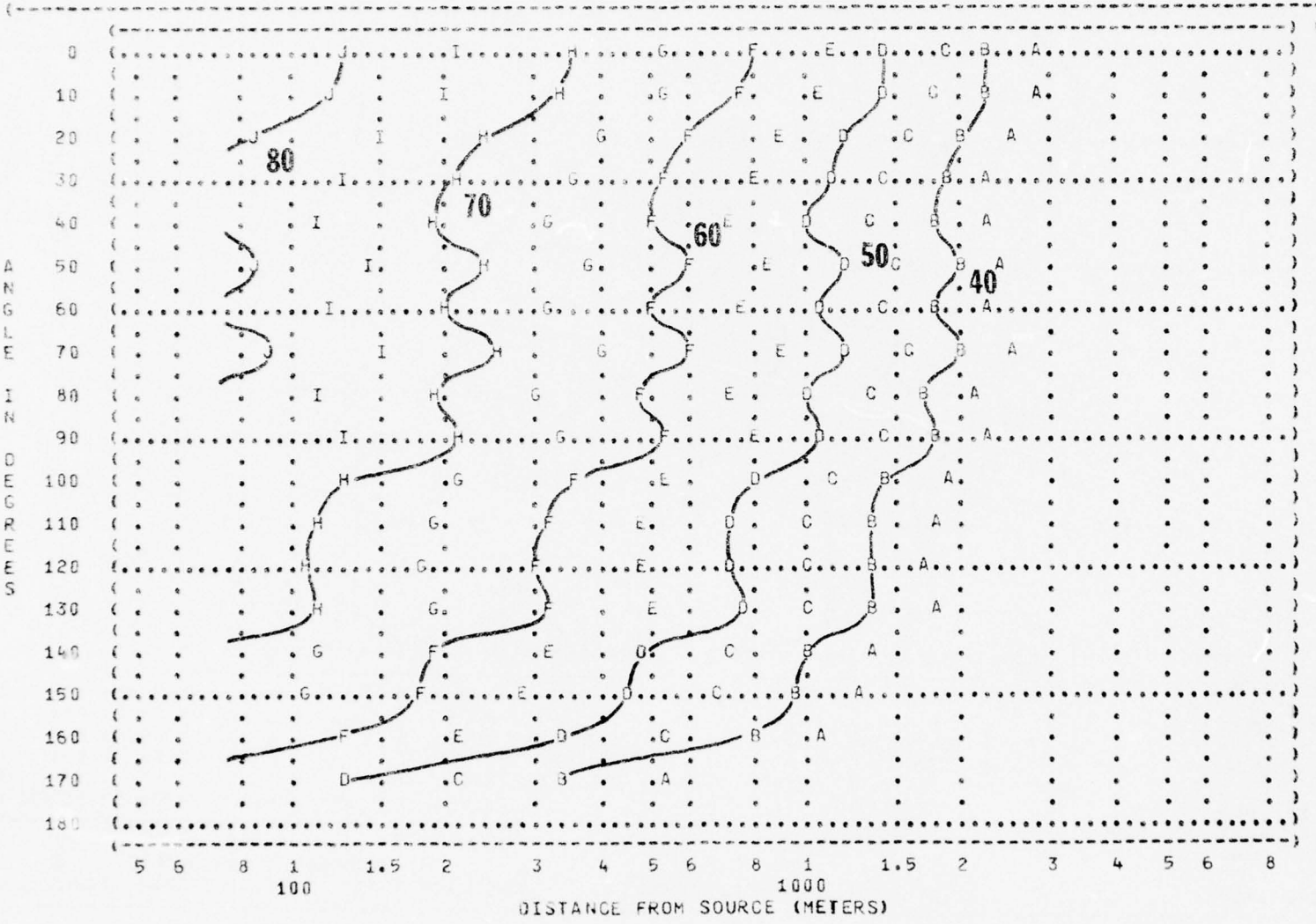


FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
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

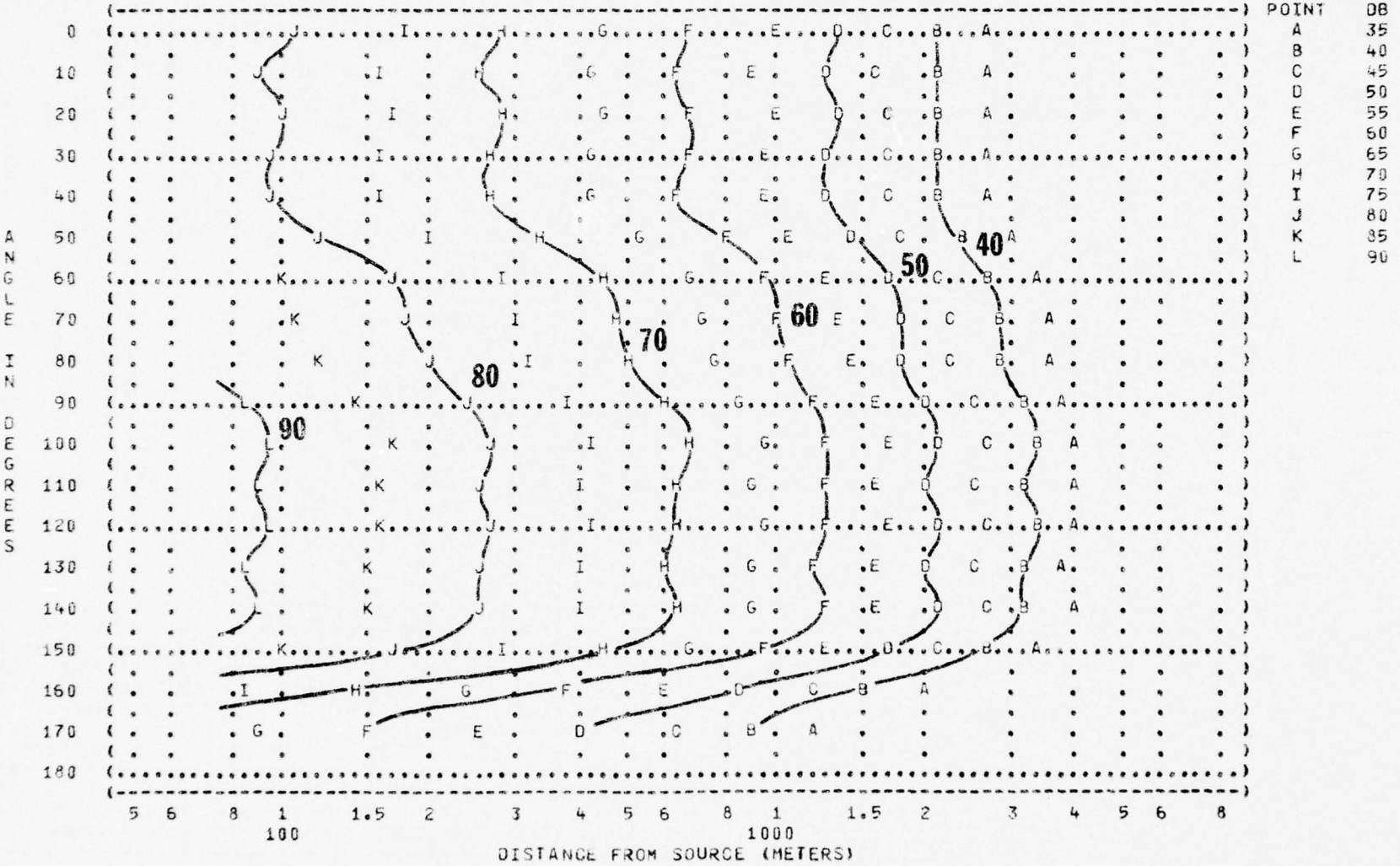


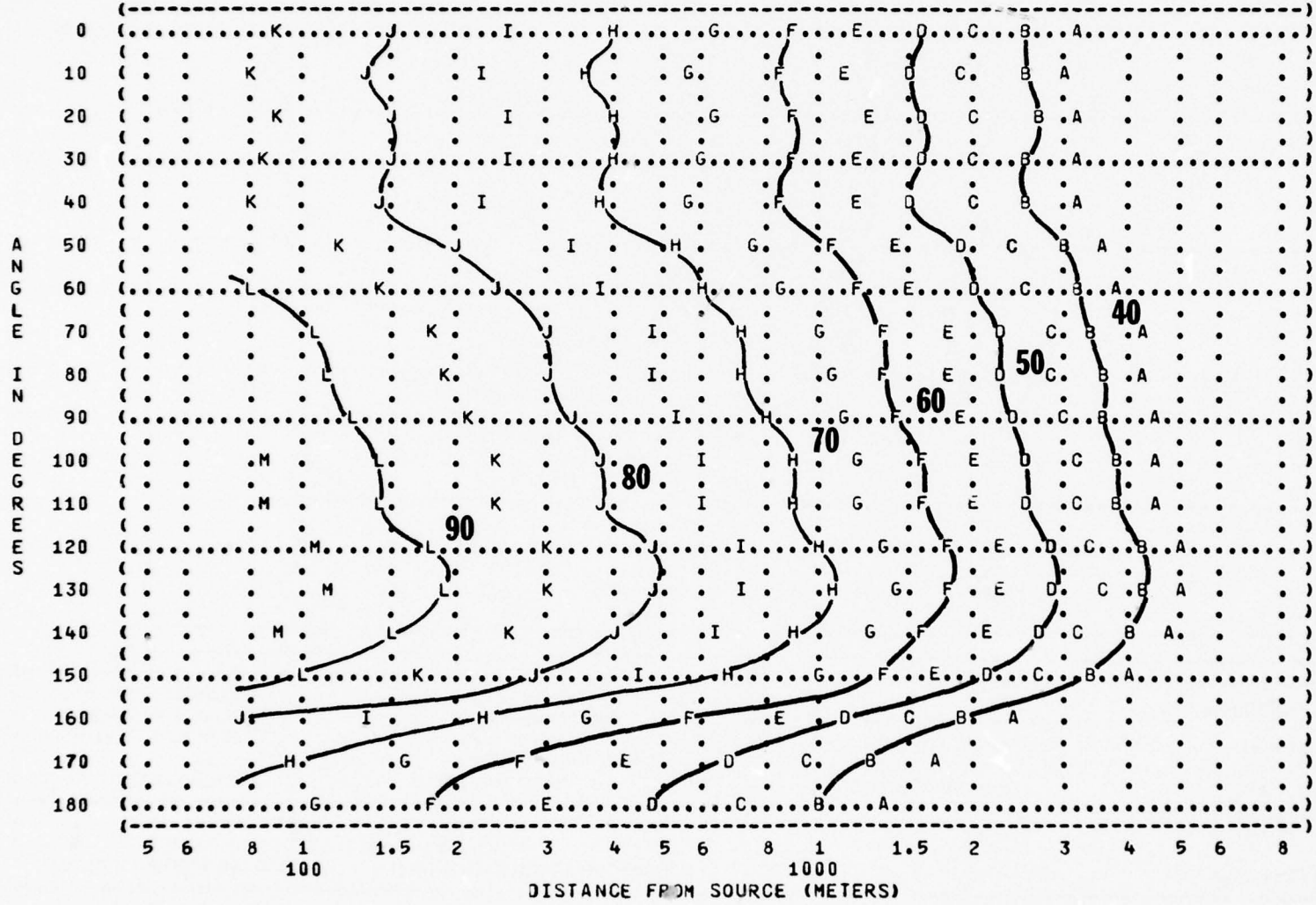
FIGURE: 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
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
09 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

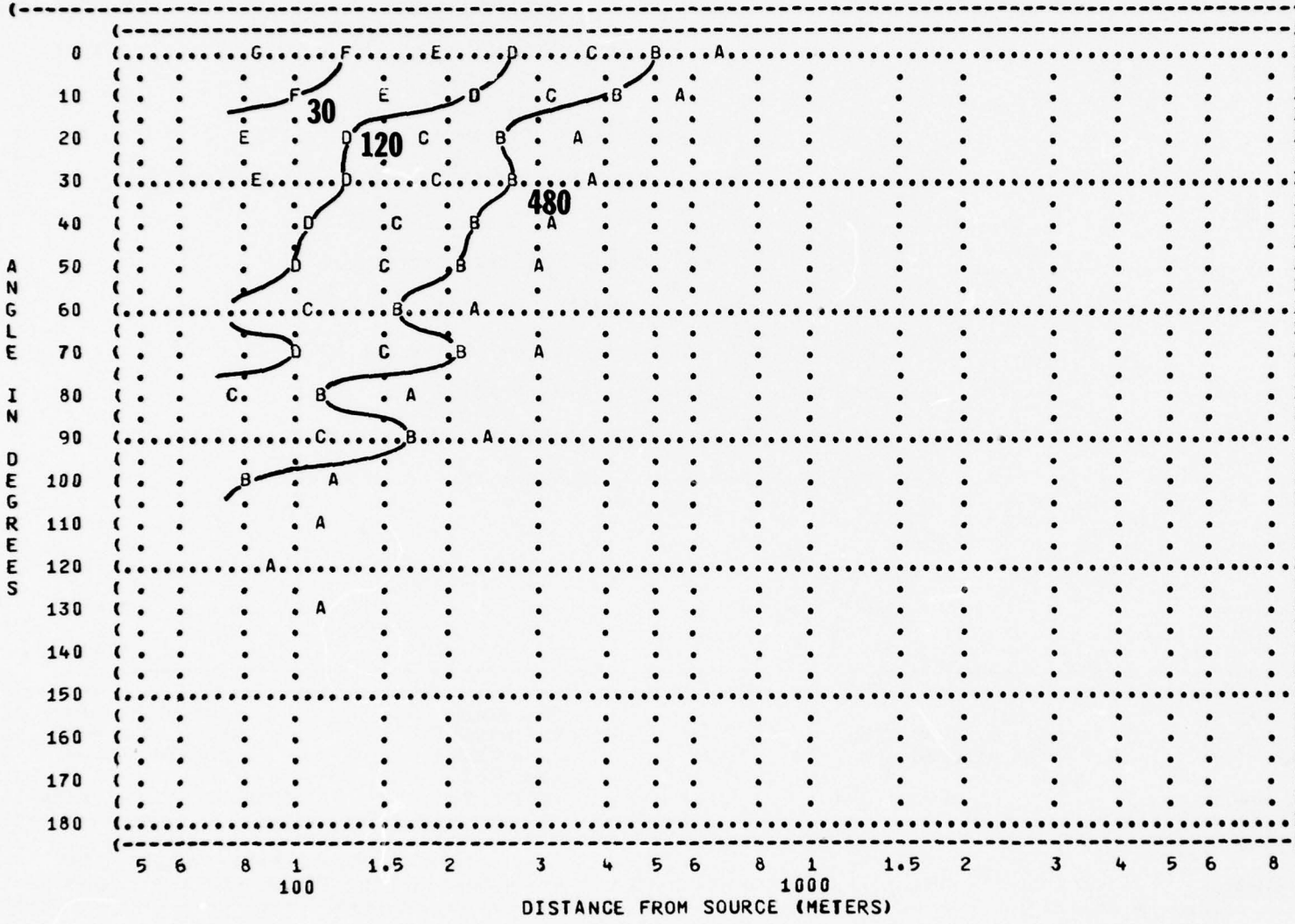
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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
F	30
G	15

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 75-002-046
RUN 01
09 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

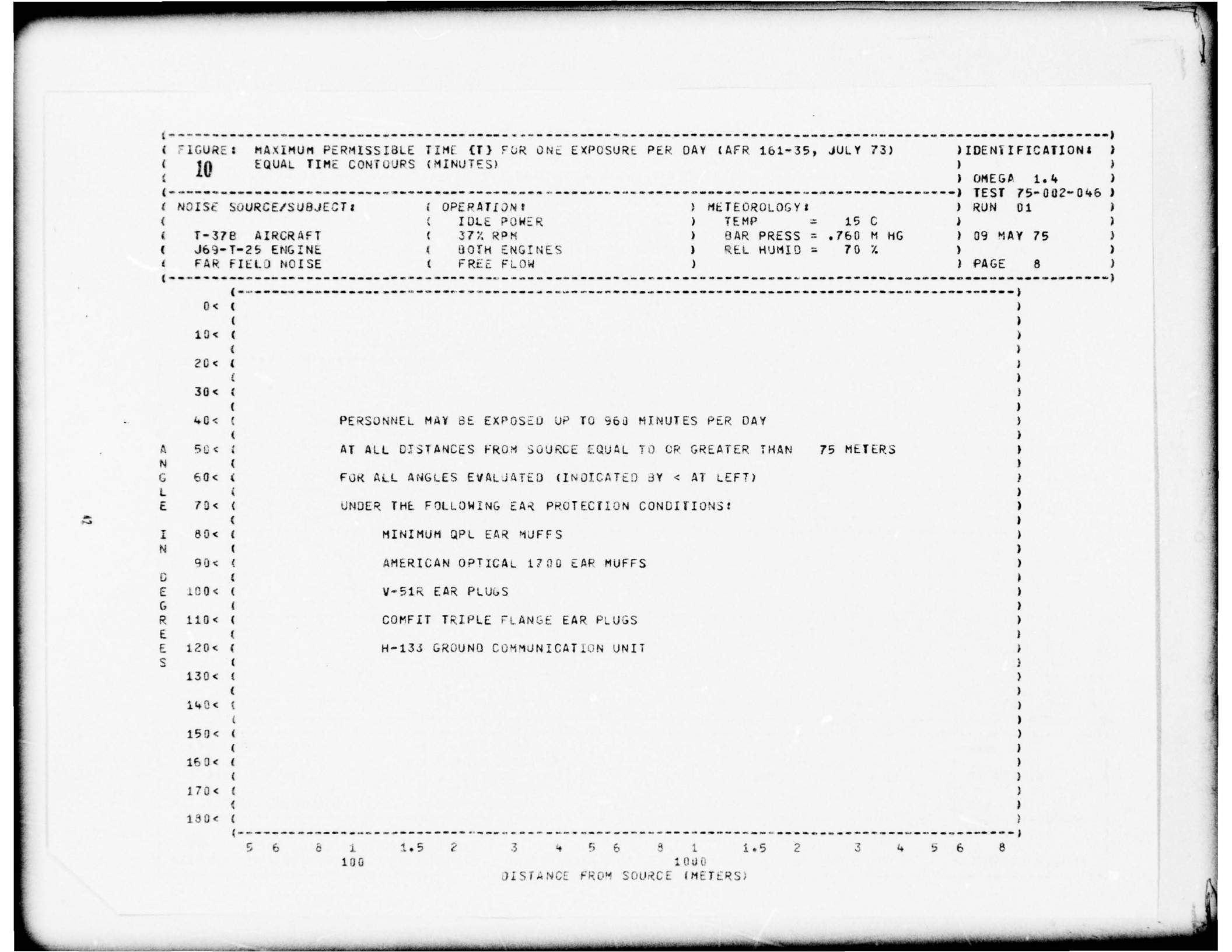


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
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

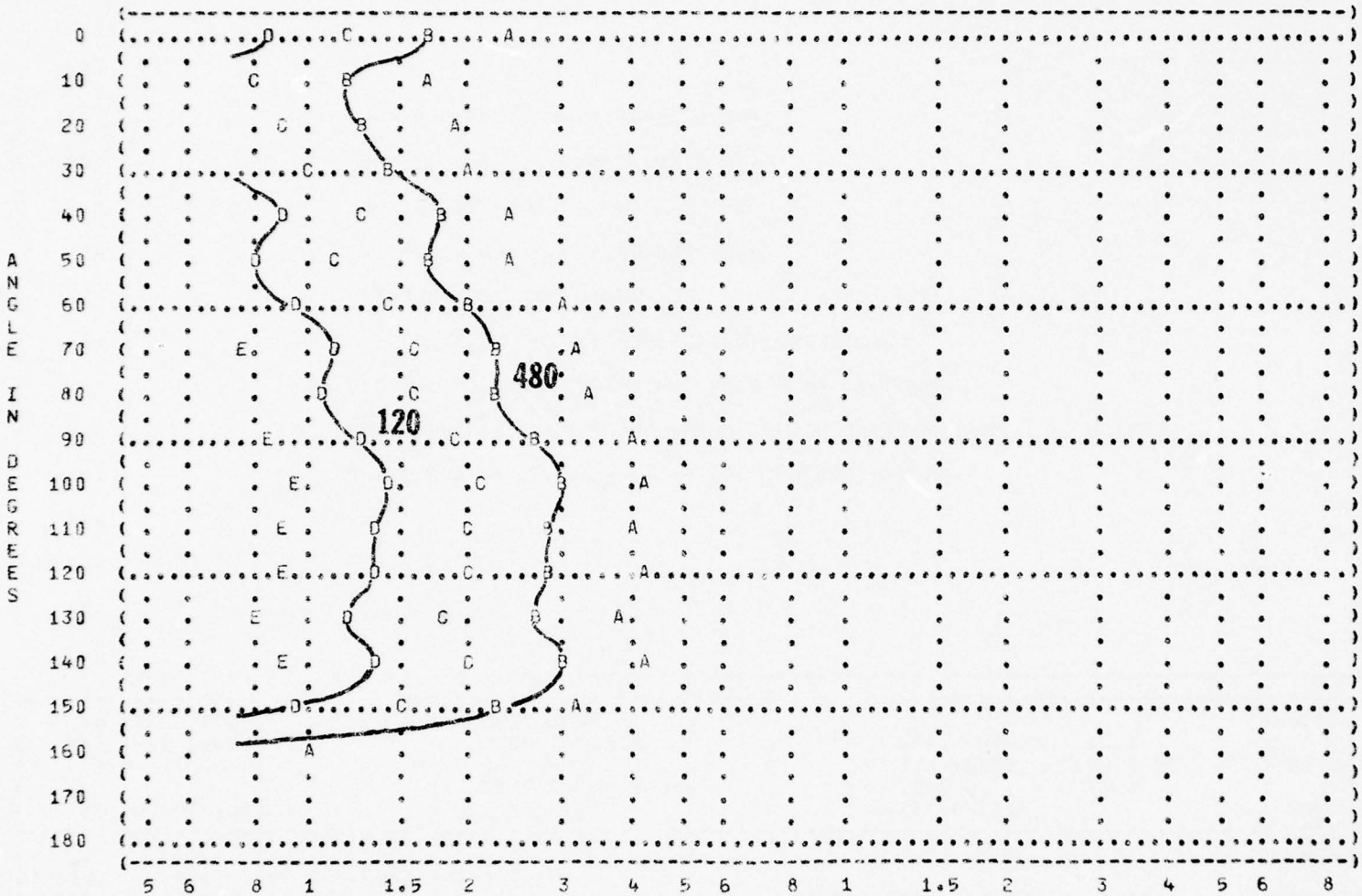


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

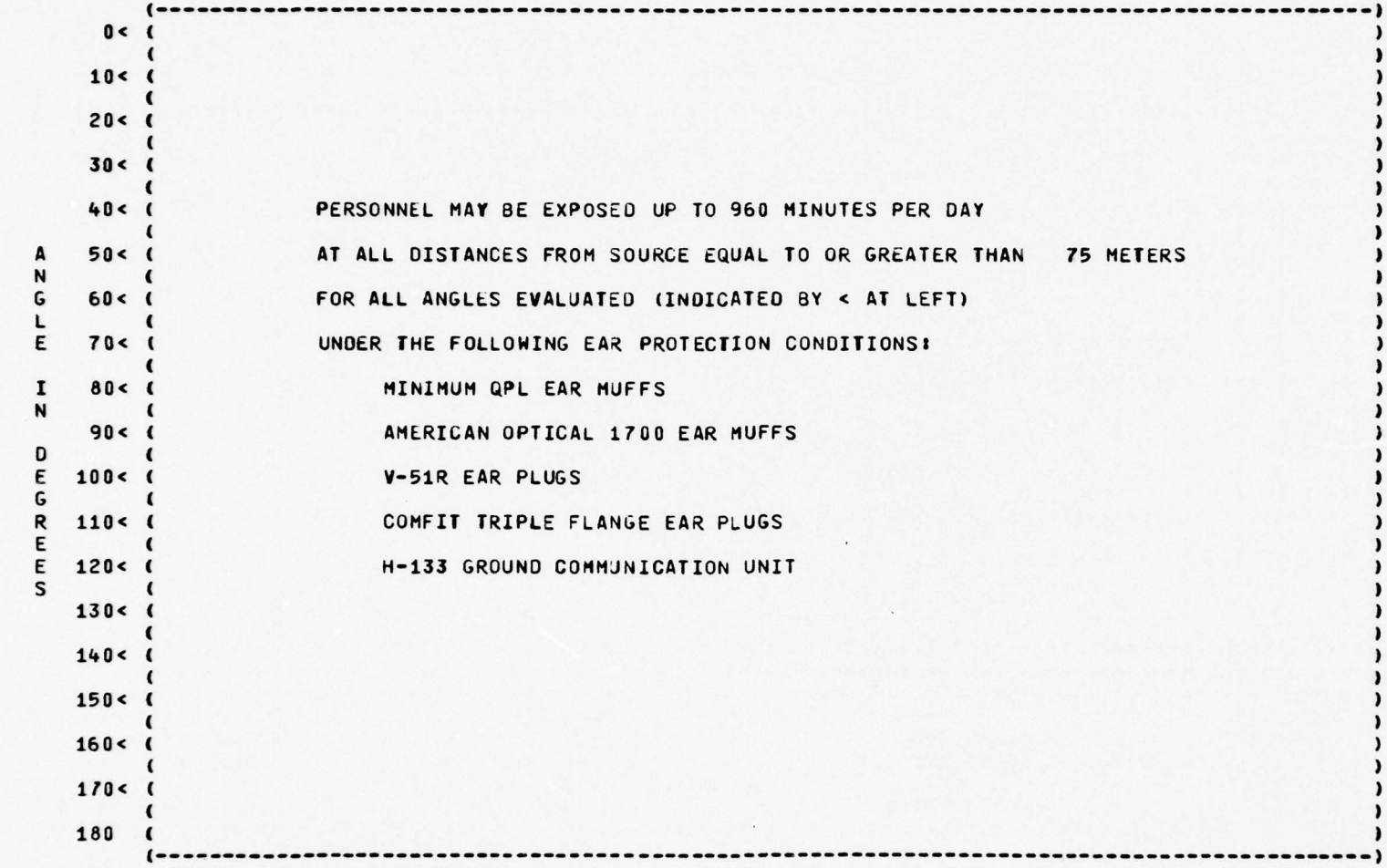


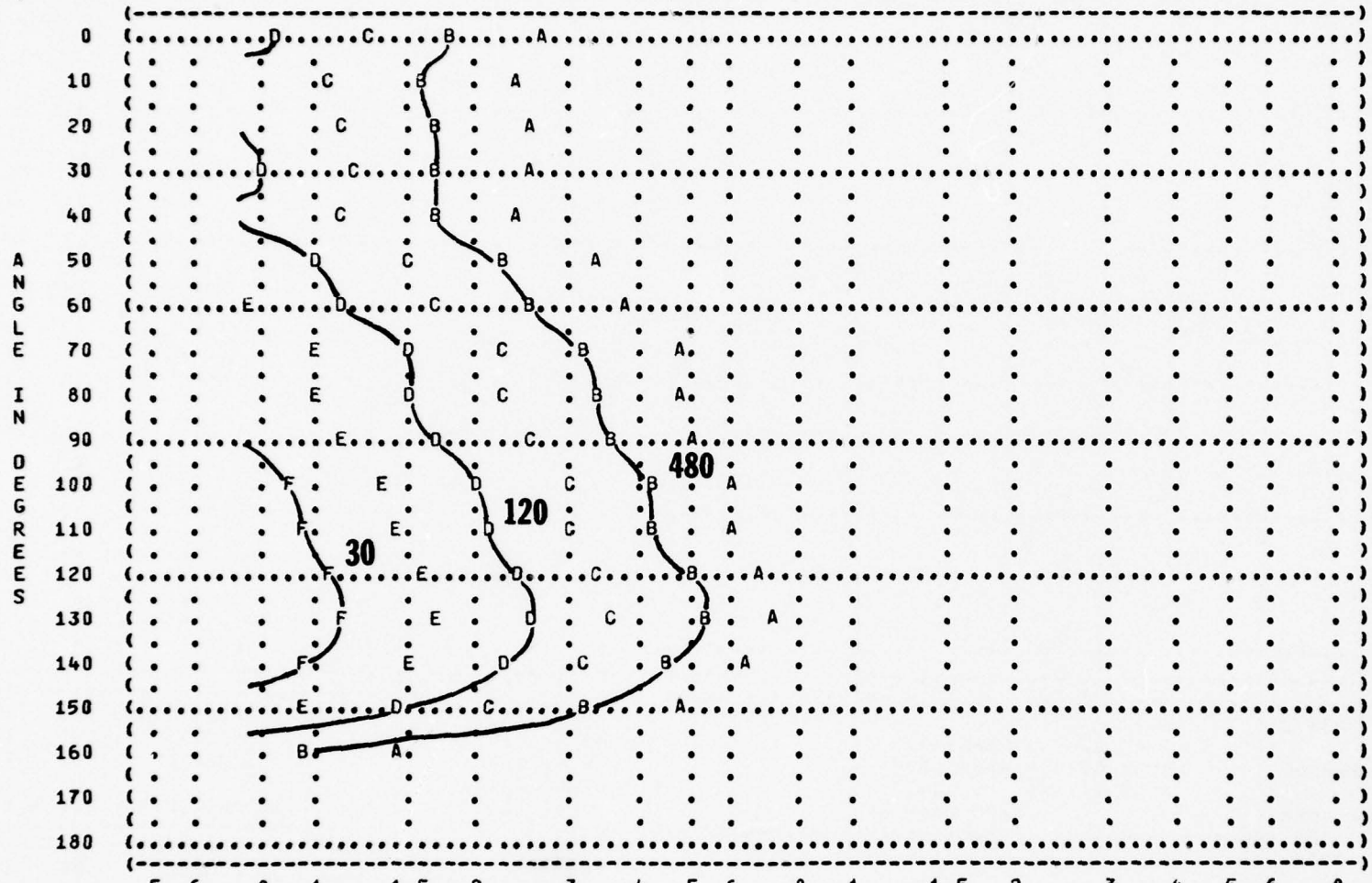
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
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
F	30

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

POINT	MIN
A	960

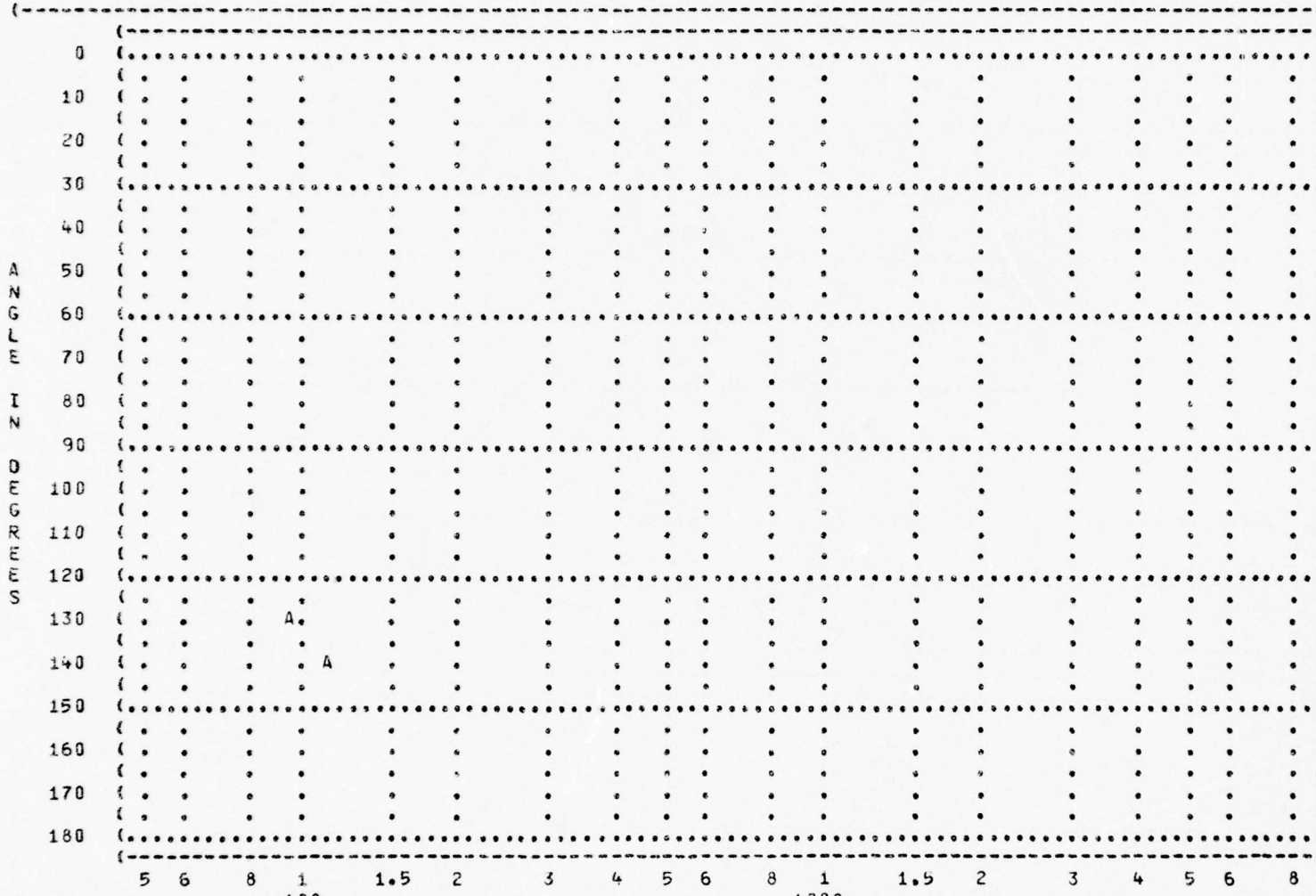


FIGURE: **10**

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 9

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

POINT MIN
A 960

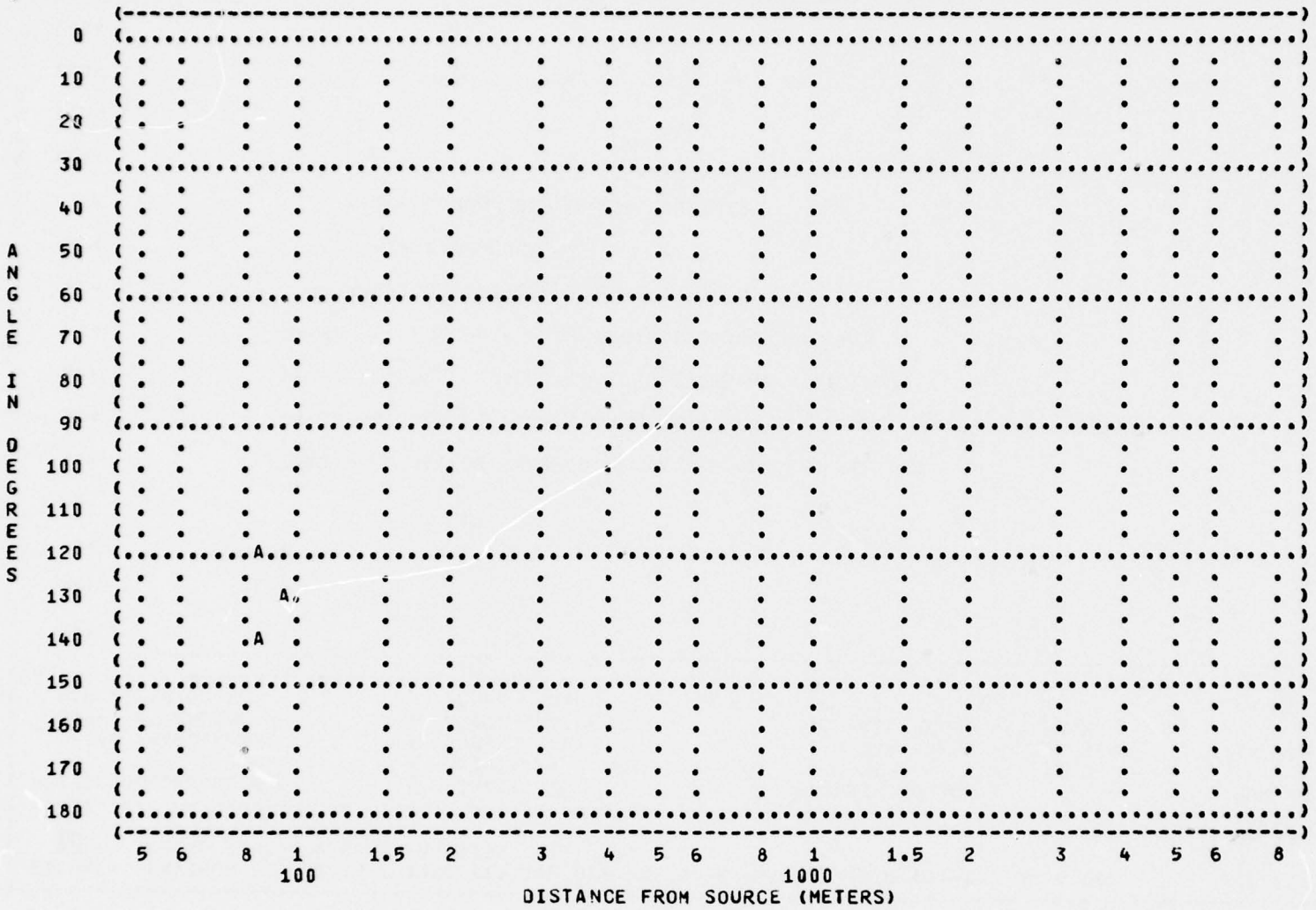


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 MAY 75
PAGE 10

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

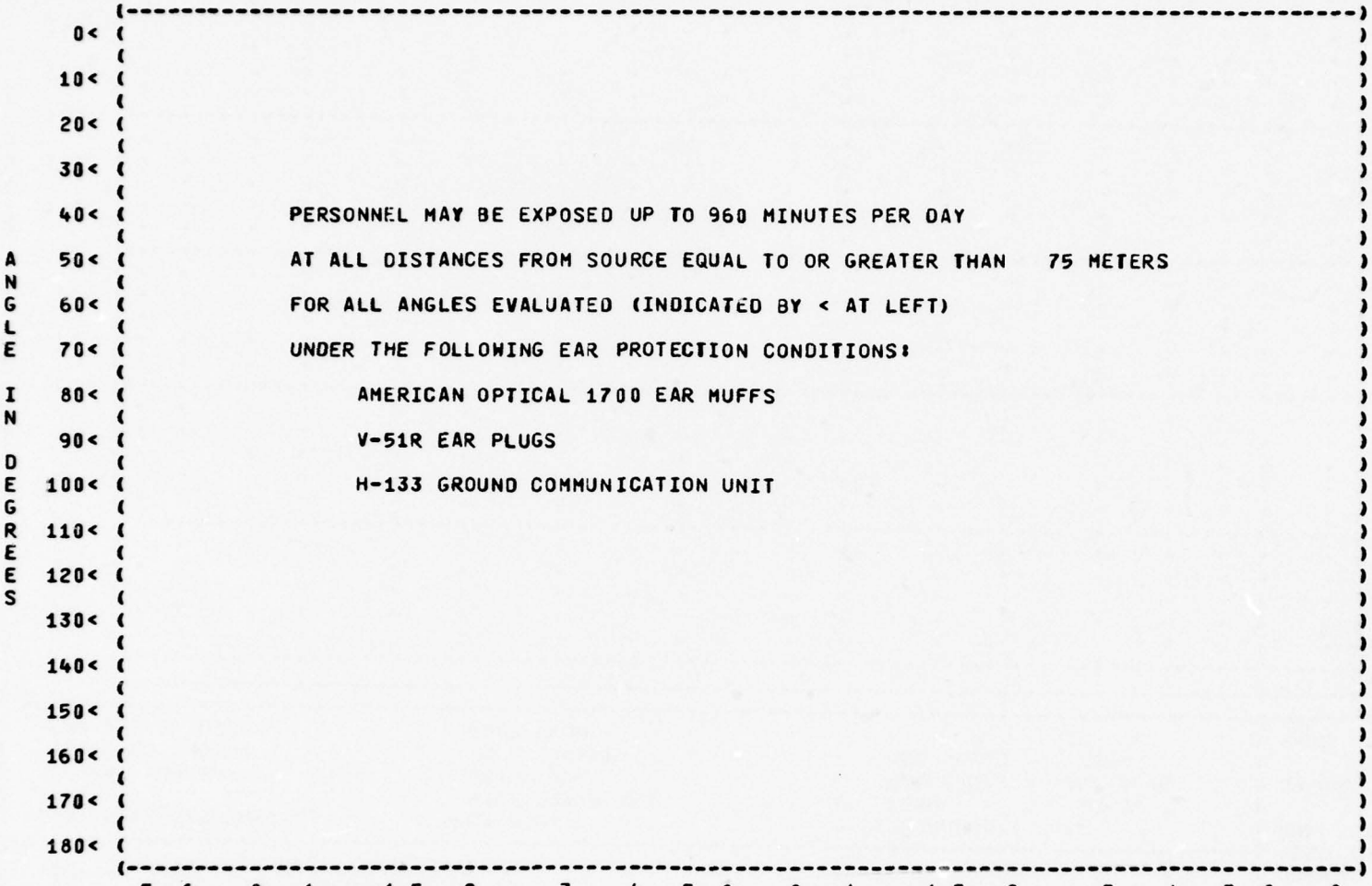


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 18

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

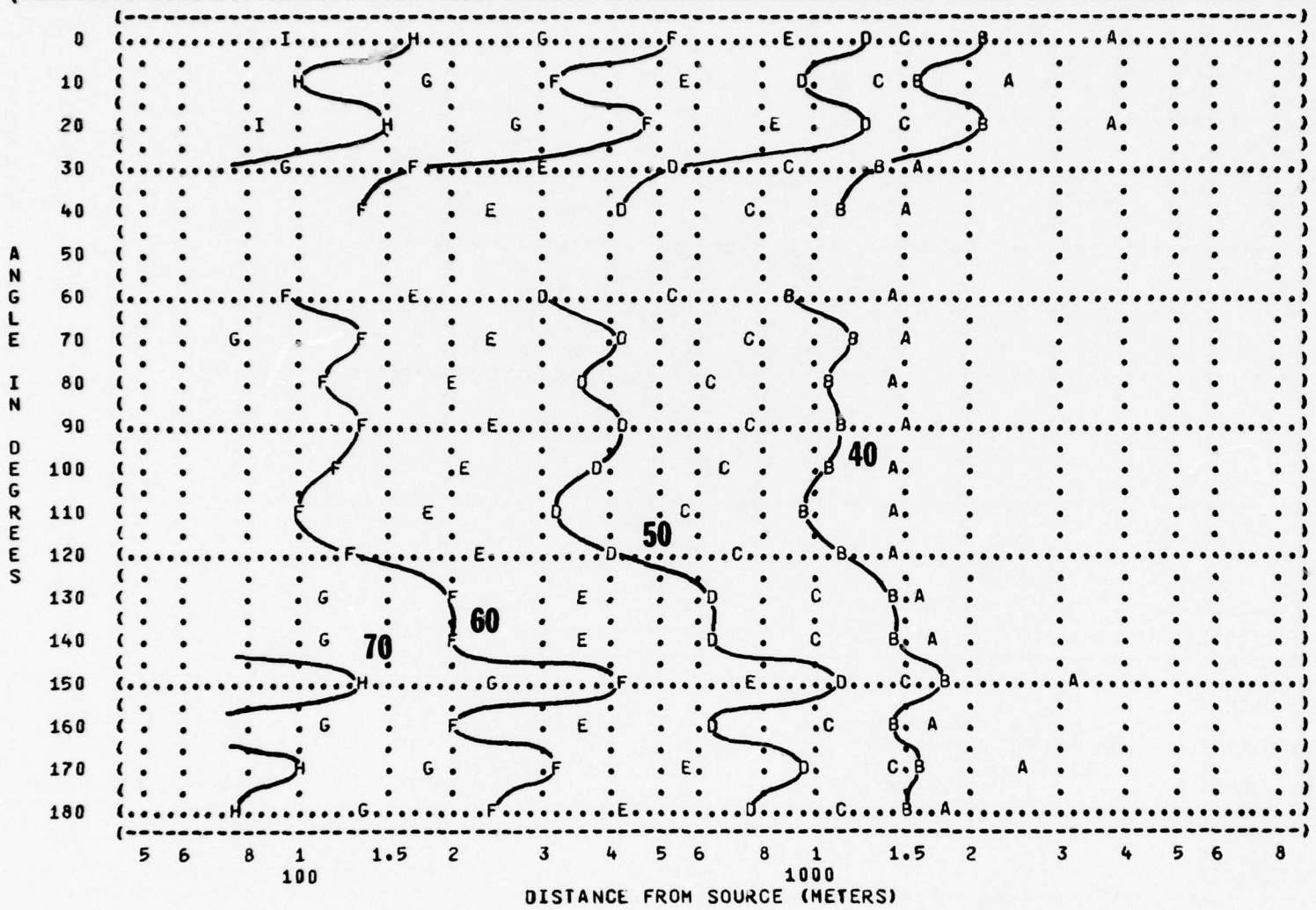


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 19

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

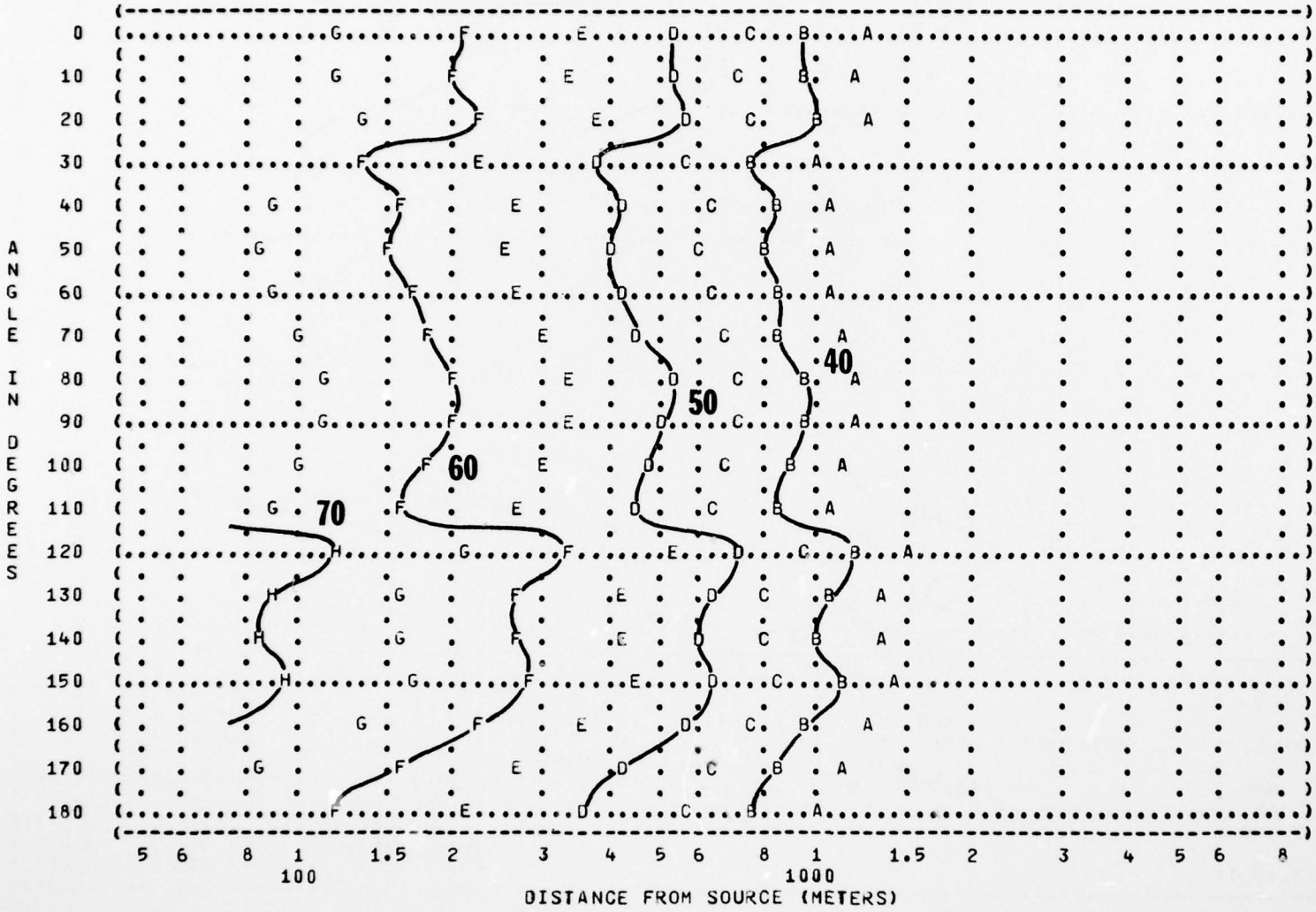


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 20

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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

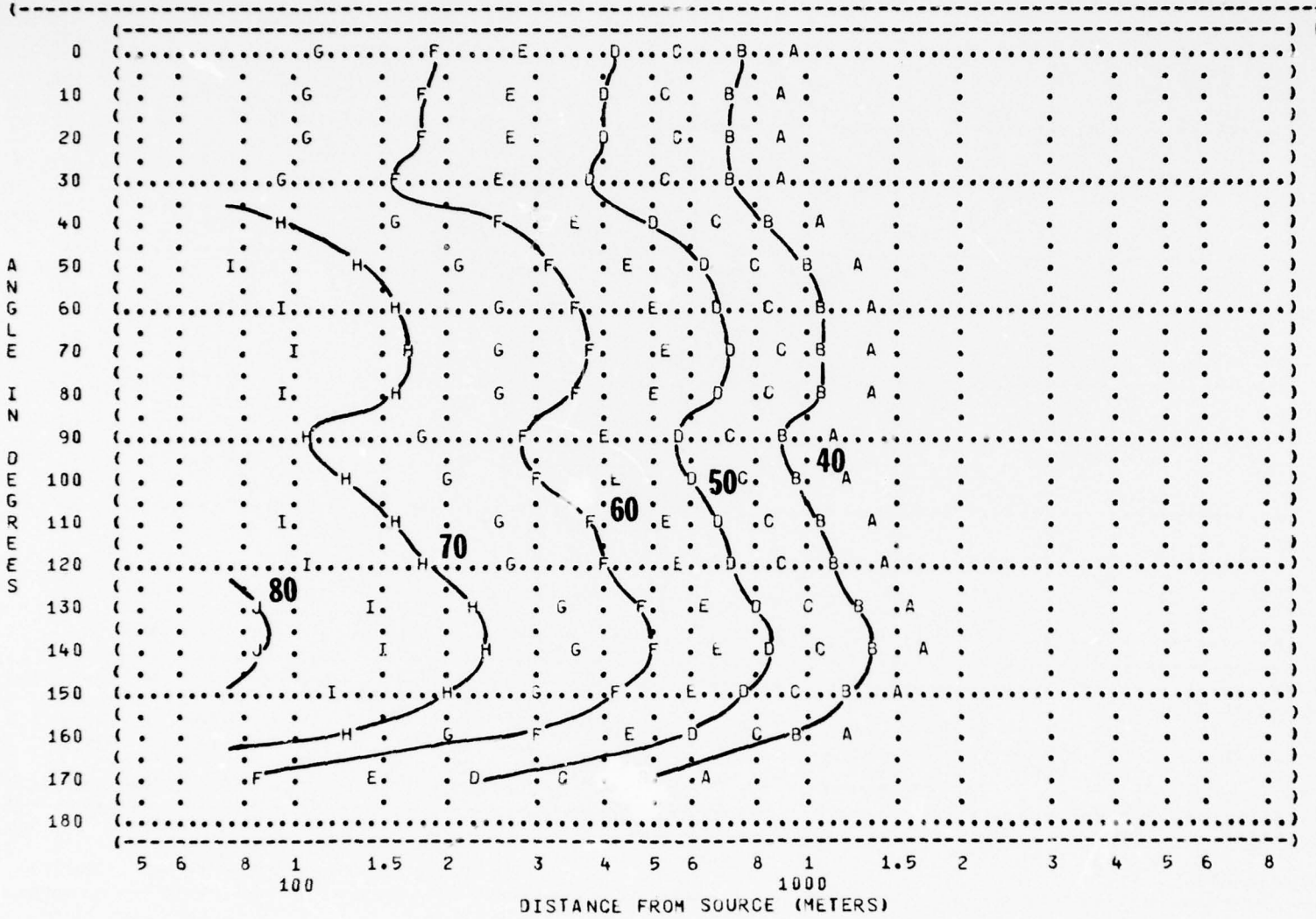


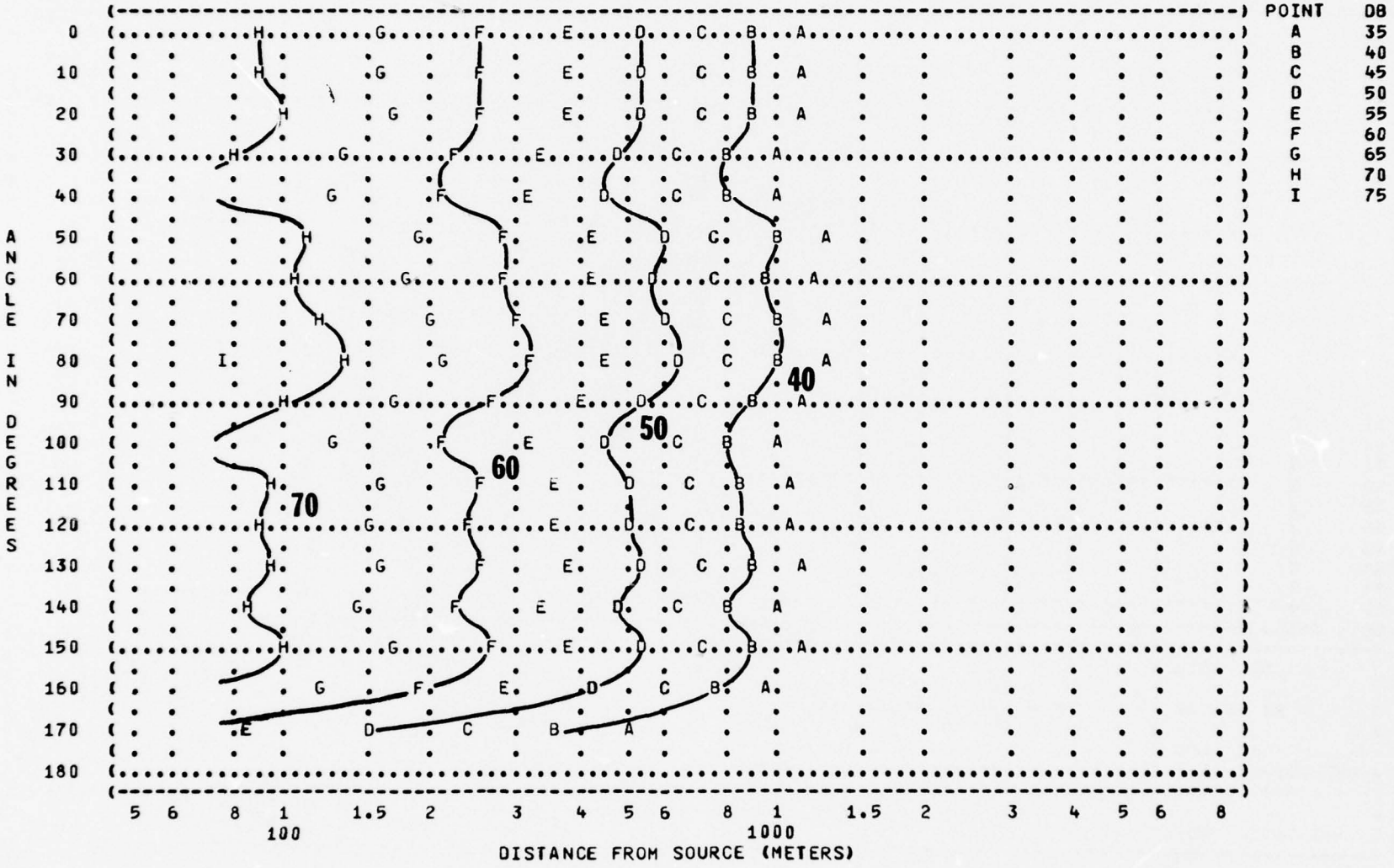
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 21



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) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 22

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

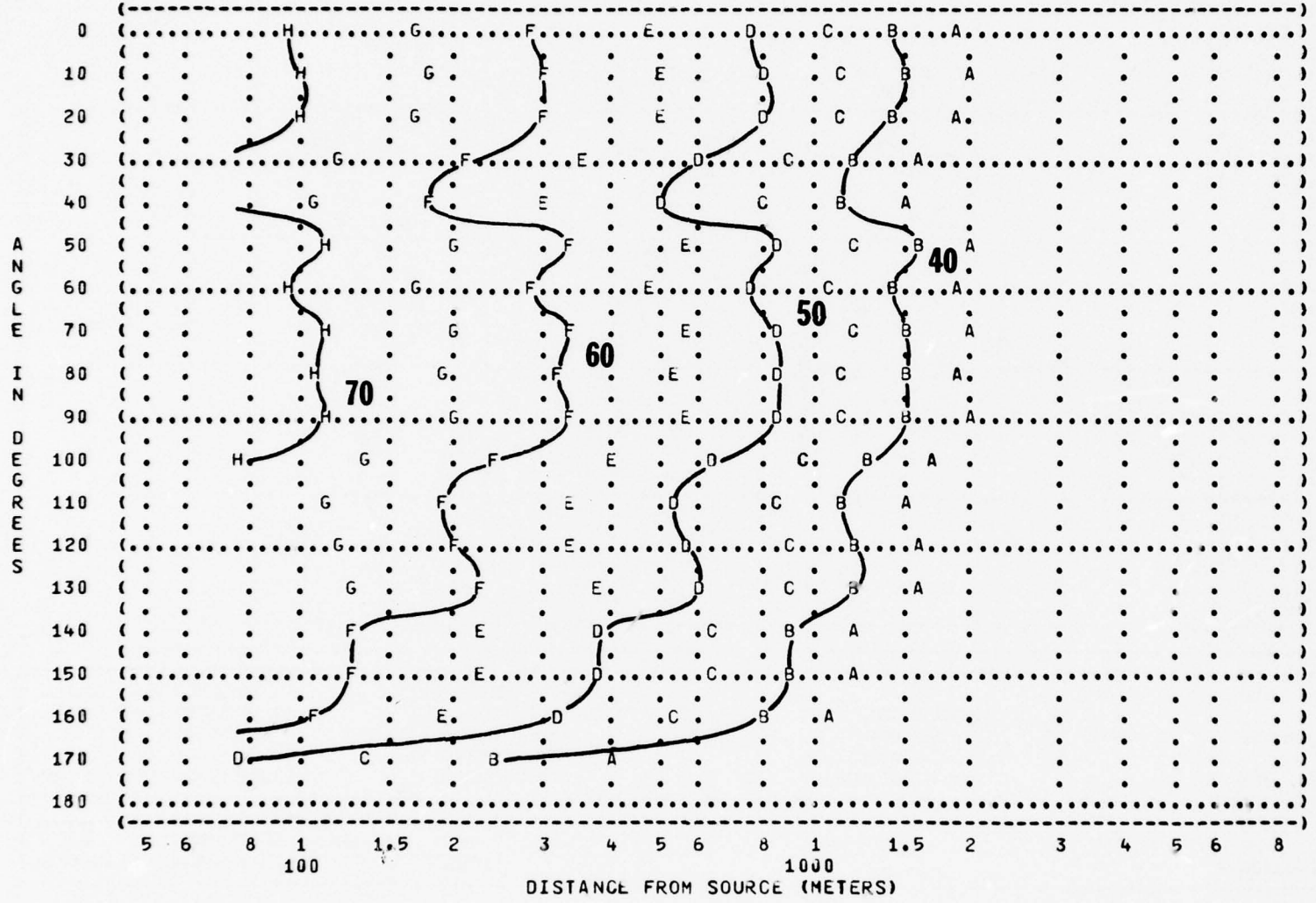


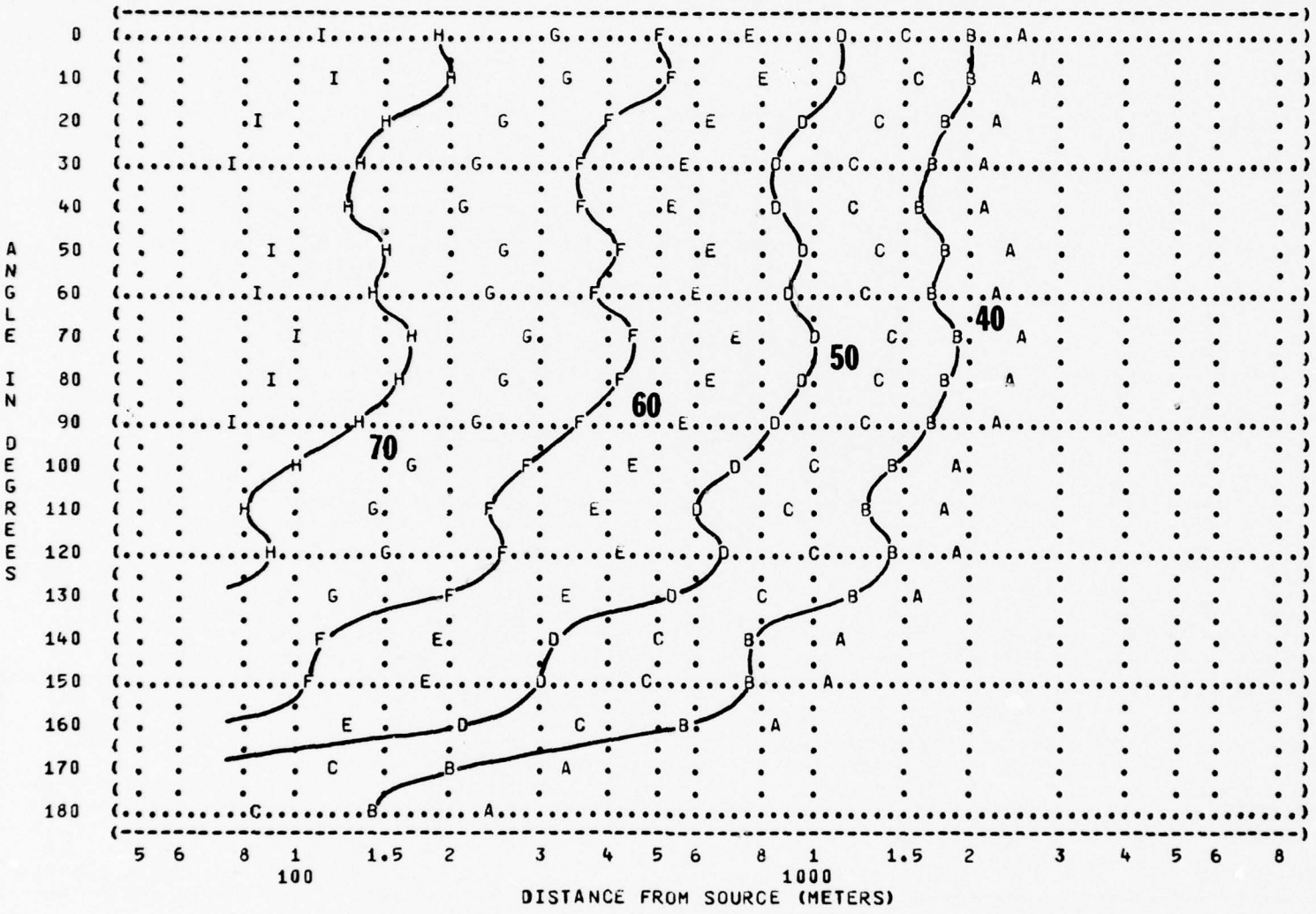
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 23

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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

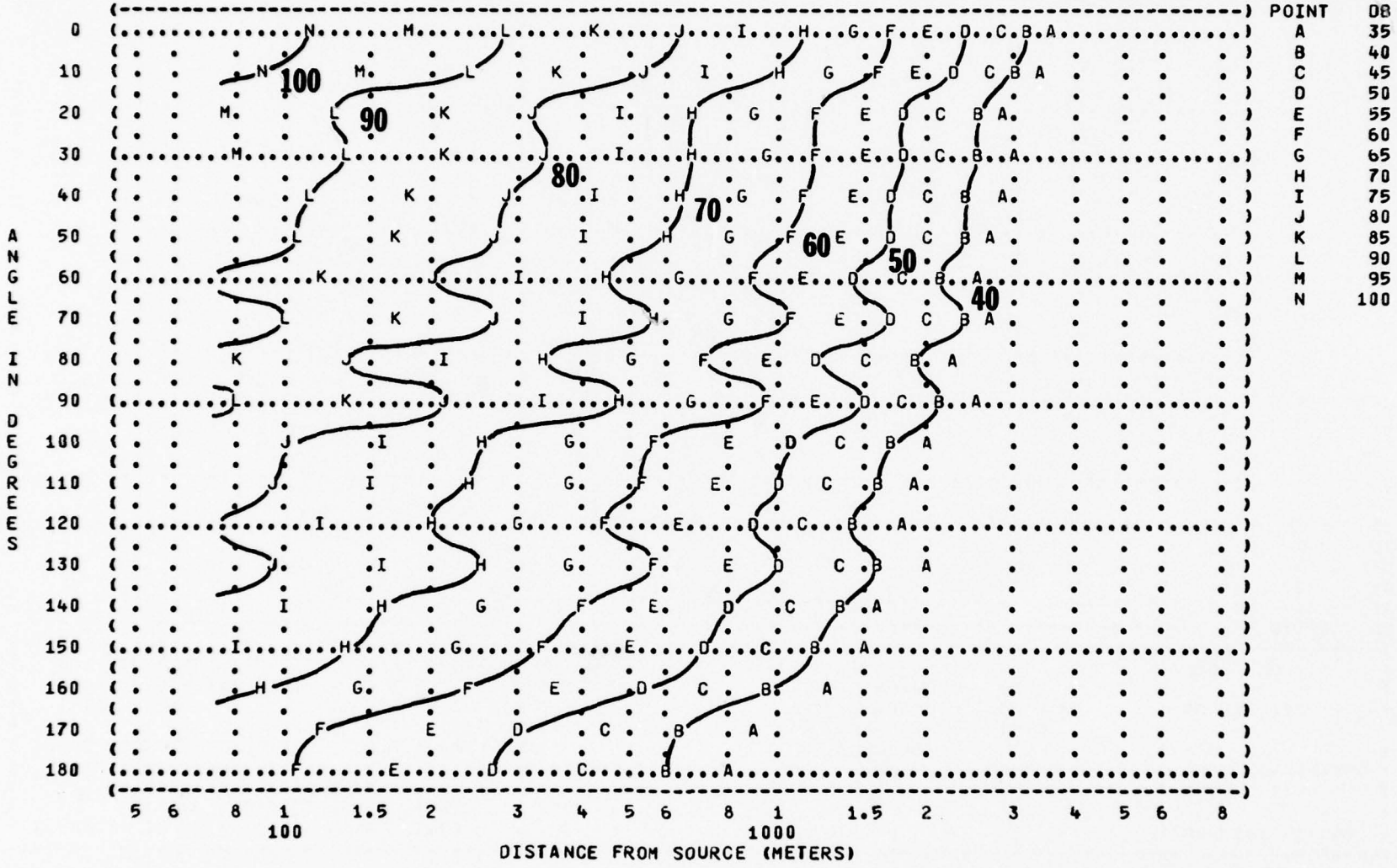
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 24

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 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

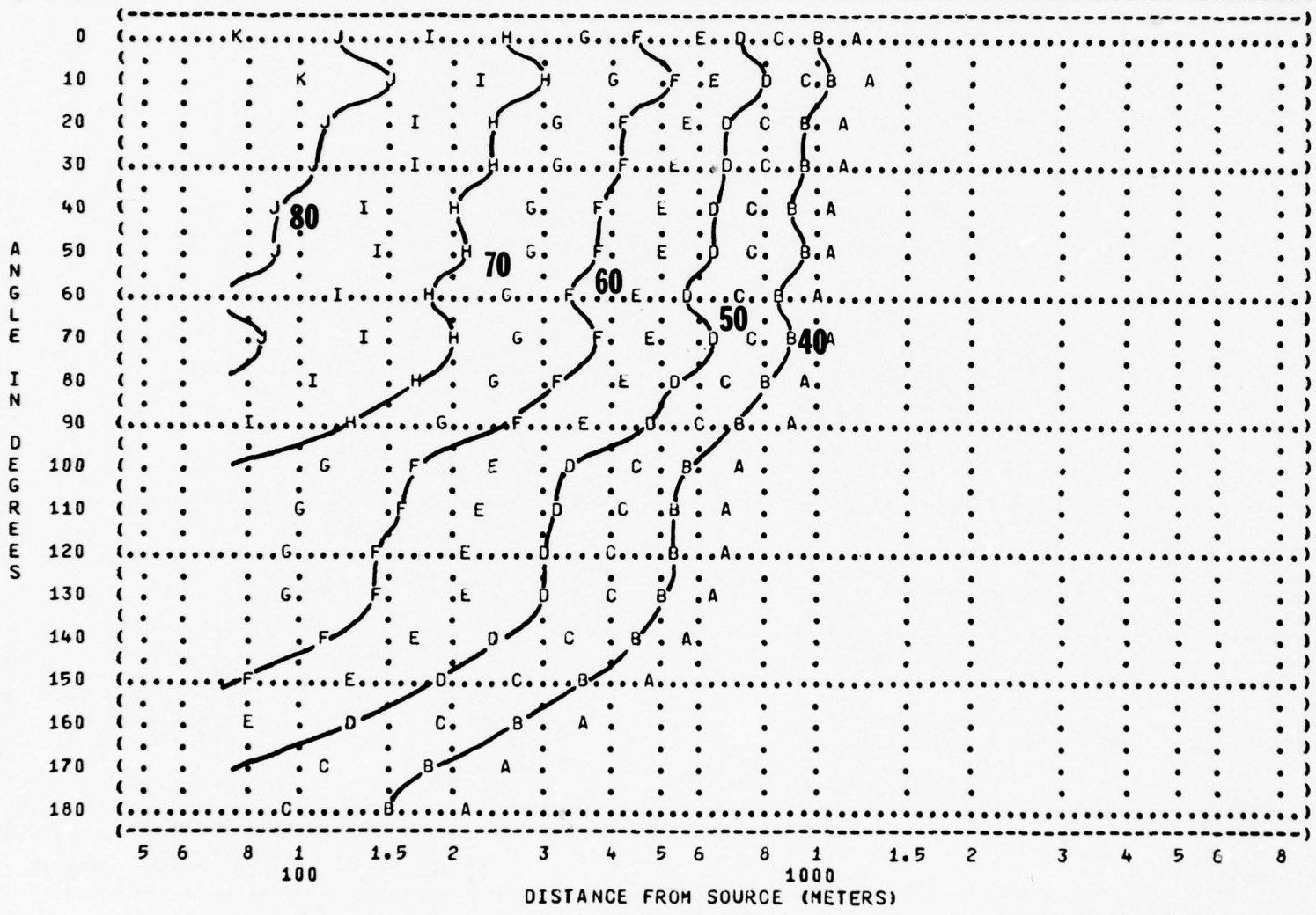


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 01
09 MAY 75
PAGE 26

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
37% RPM
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

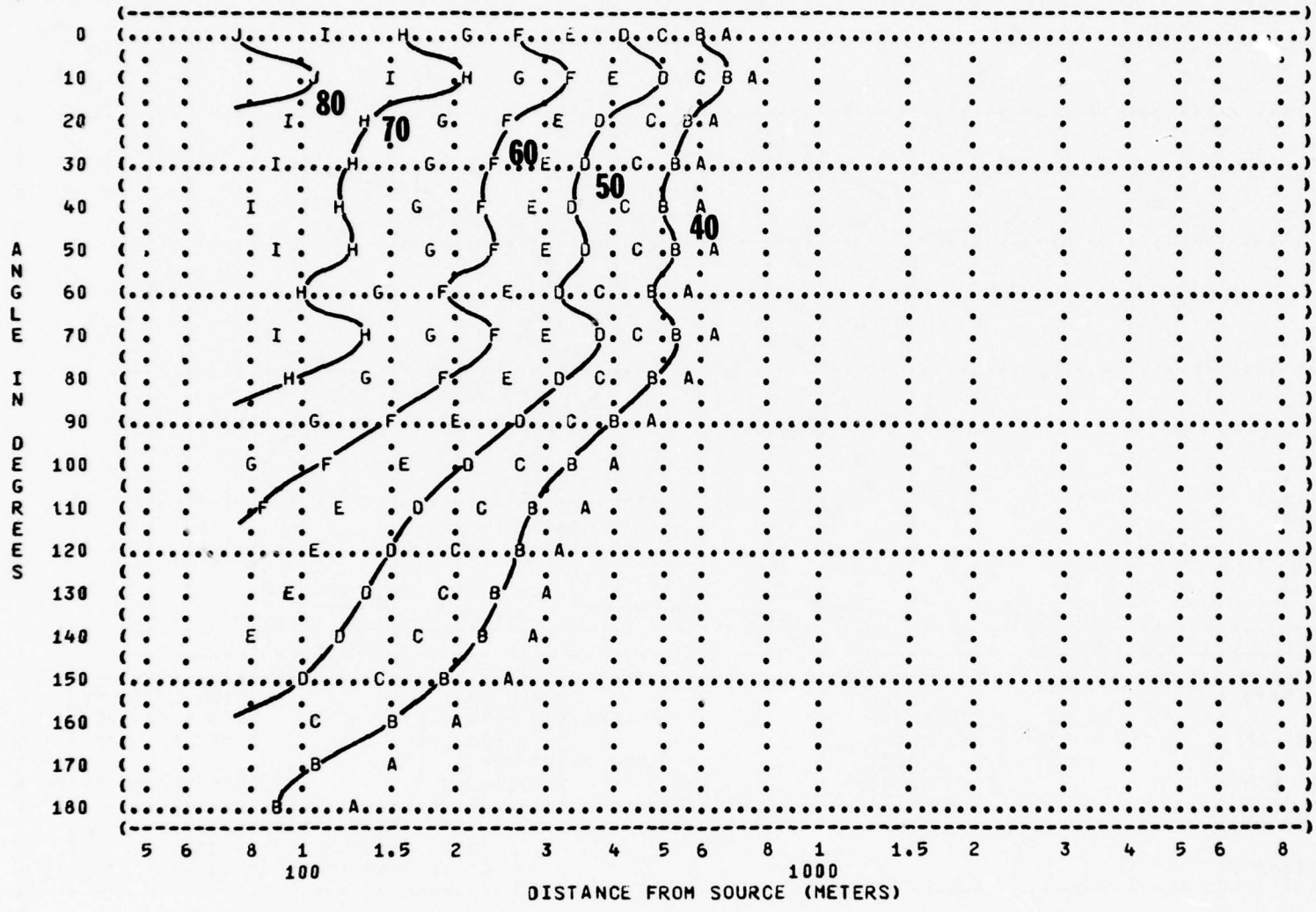


FIGURE: 11

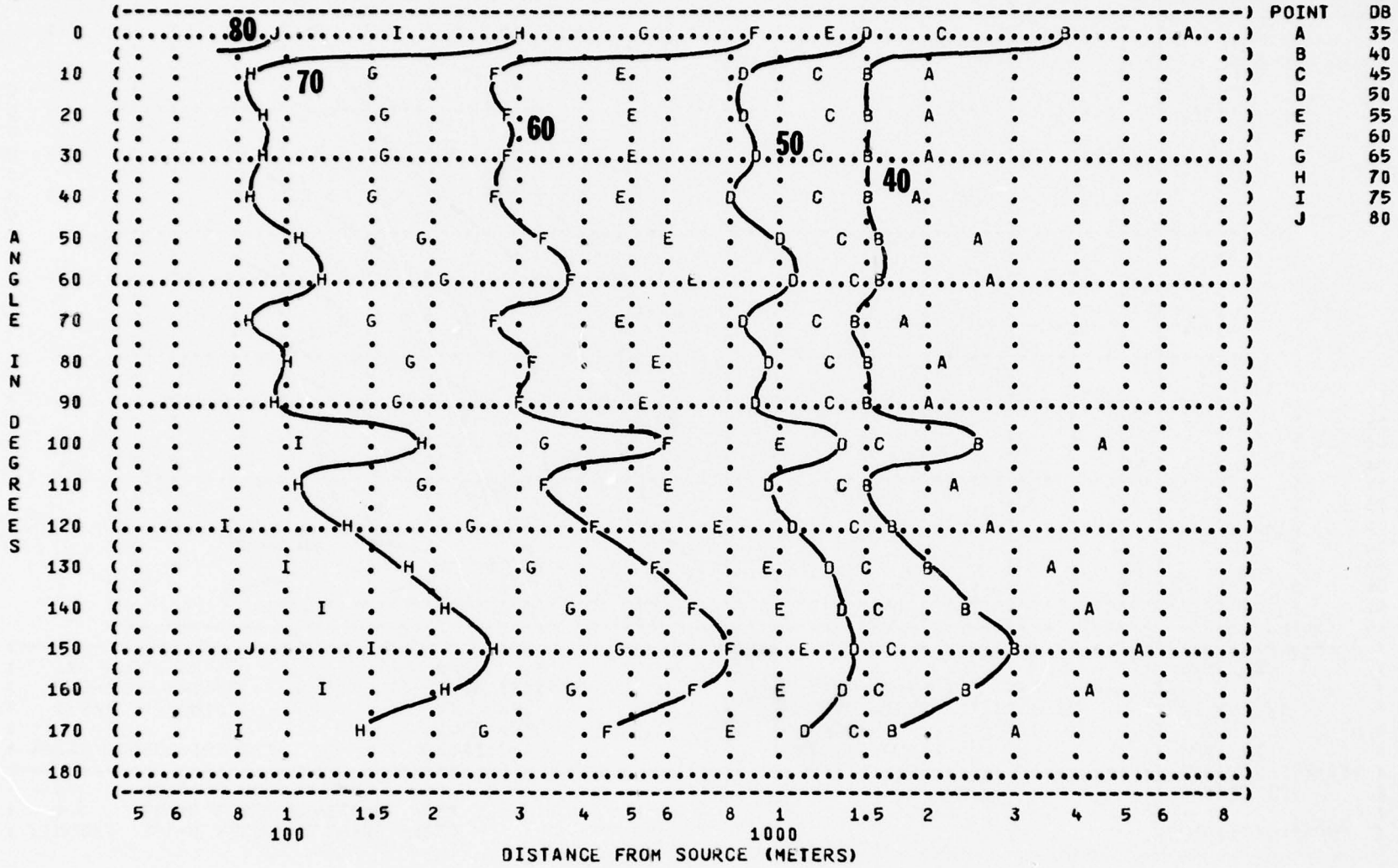
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
PAGE 18



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) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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

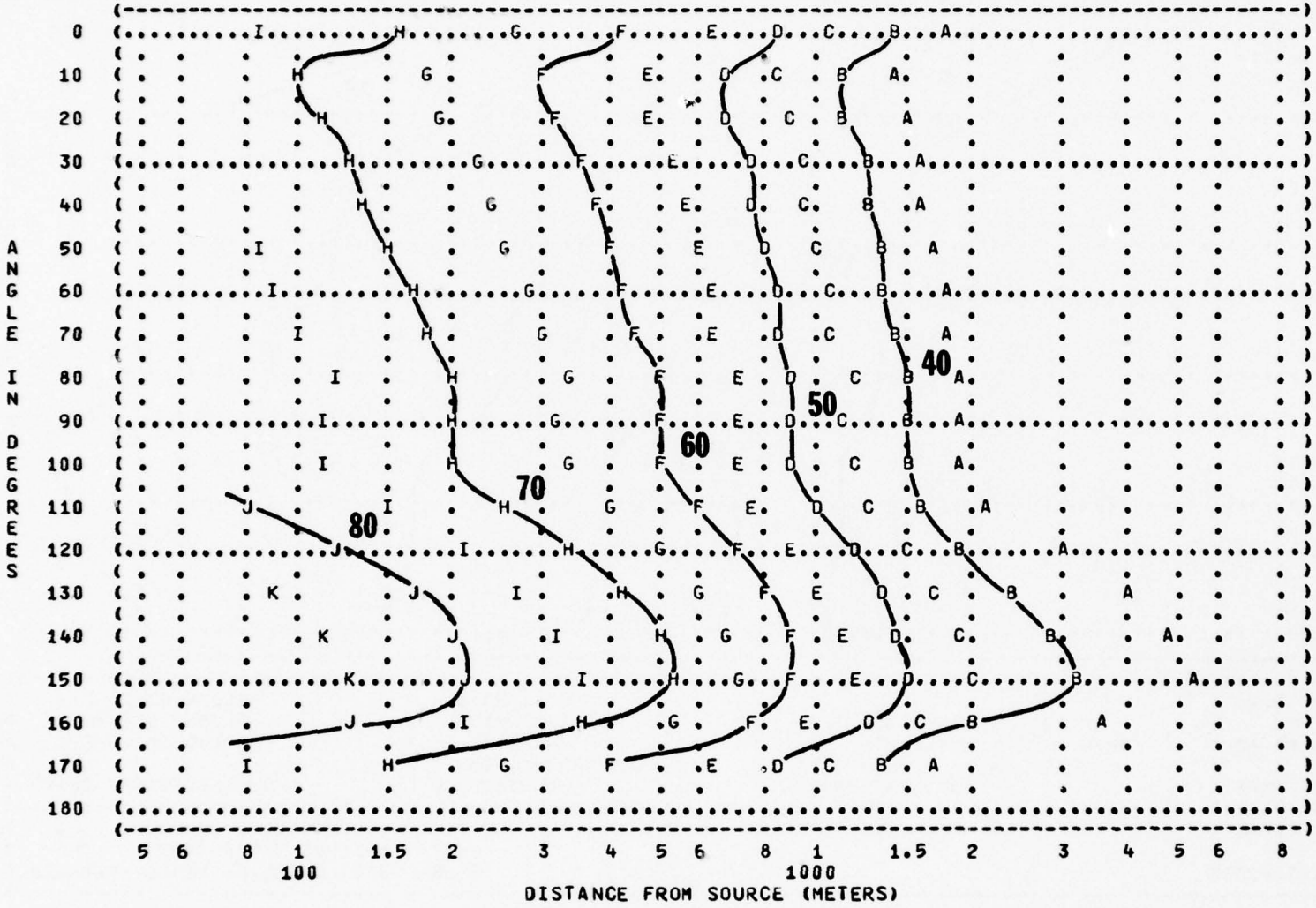


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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

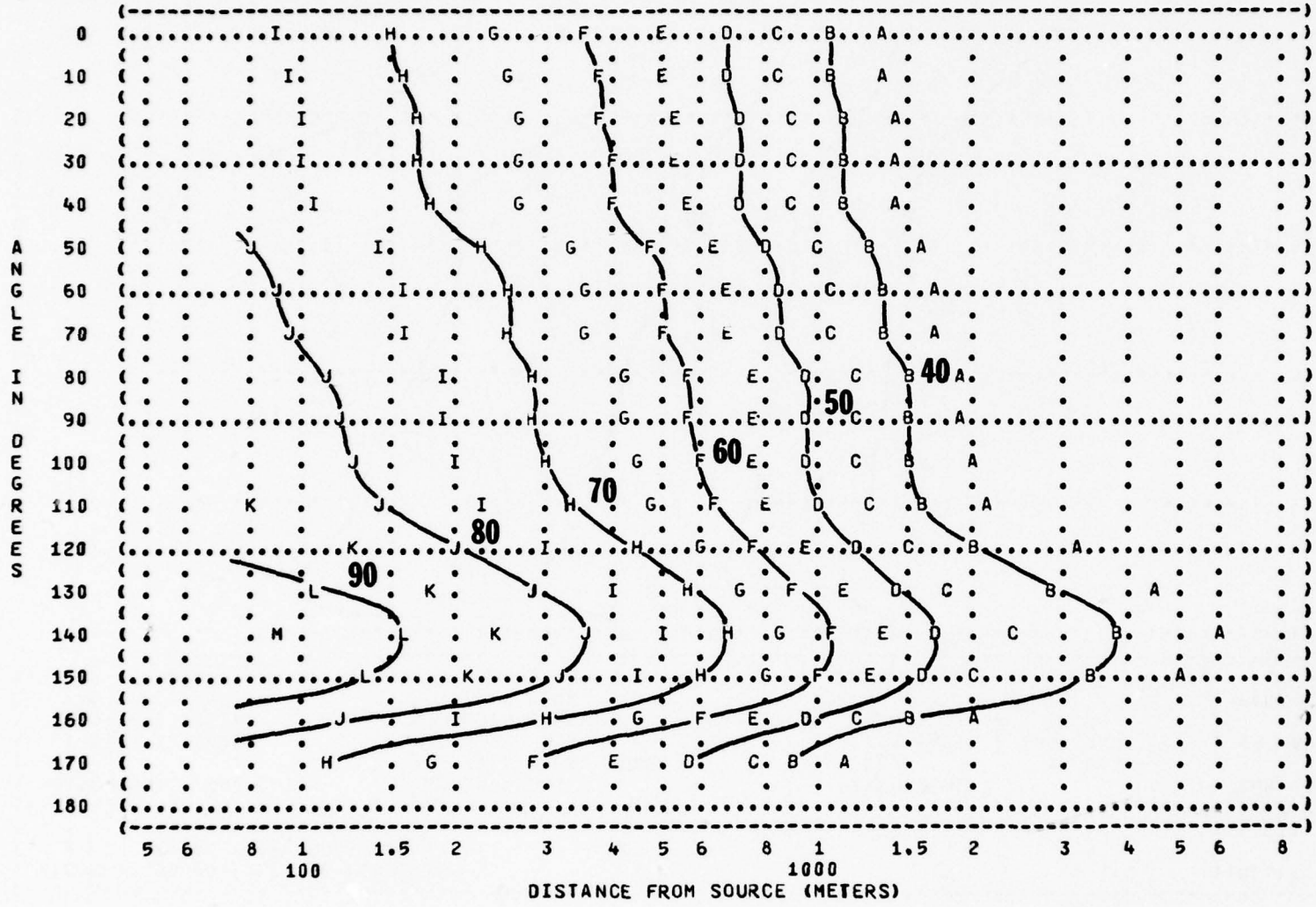


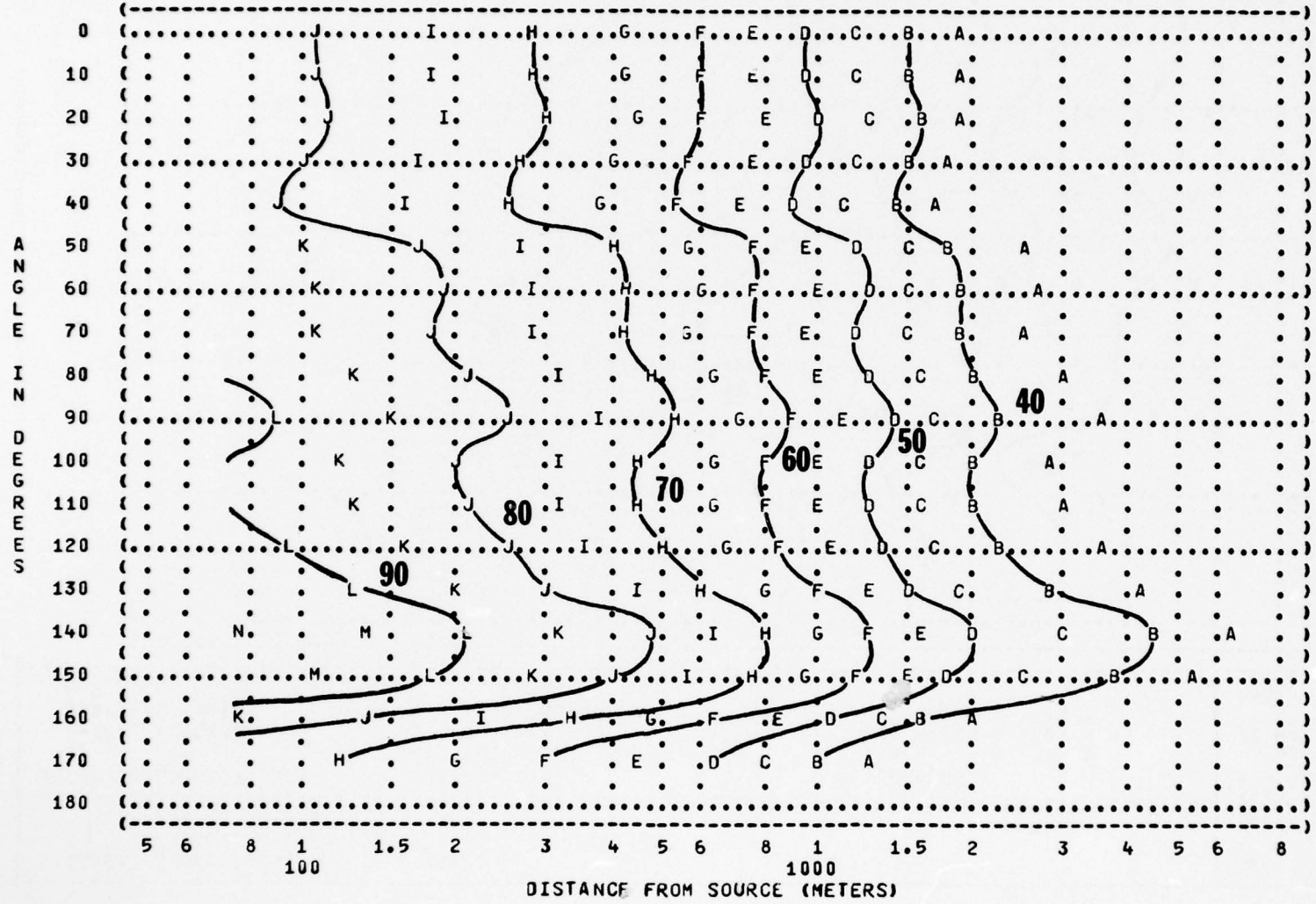
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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
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-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
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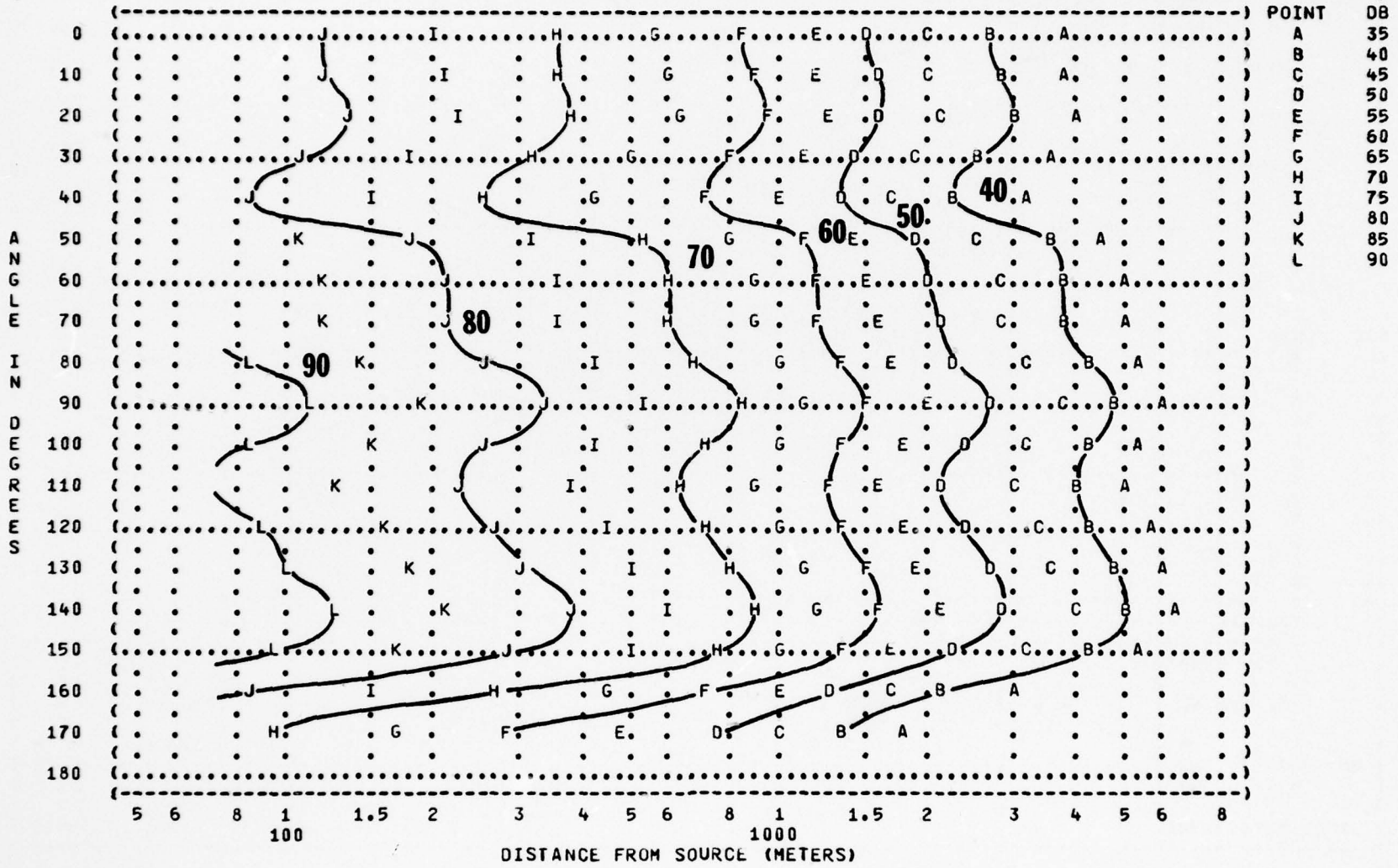


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
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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

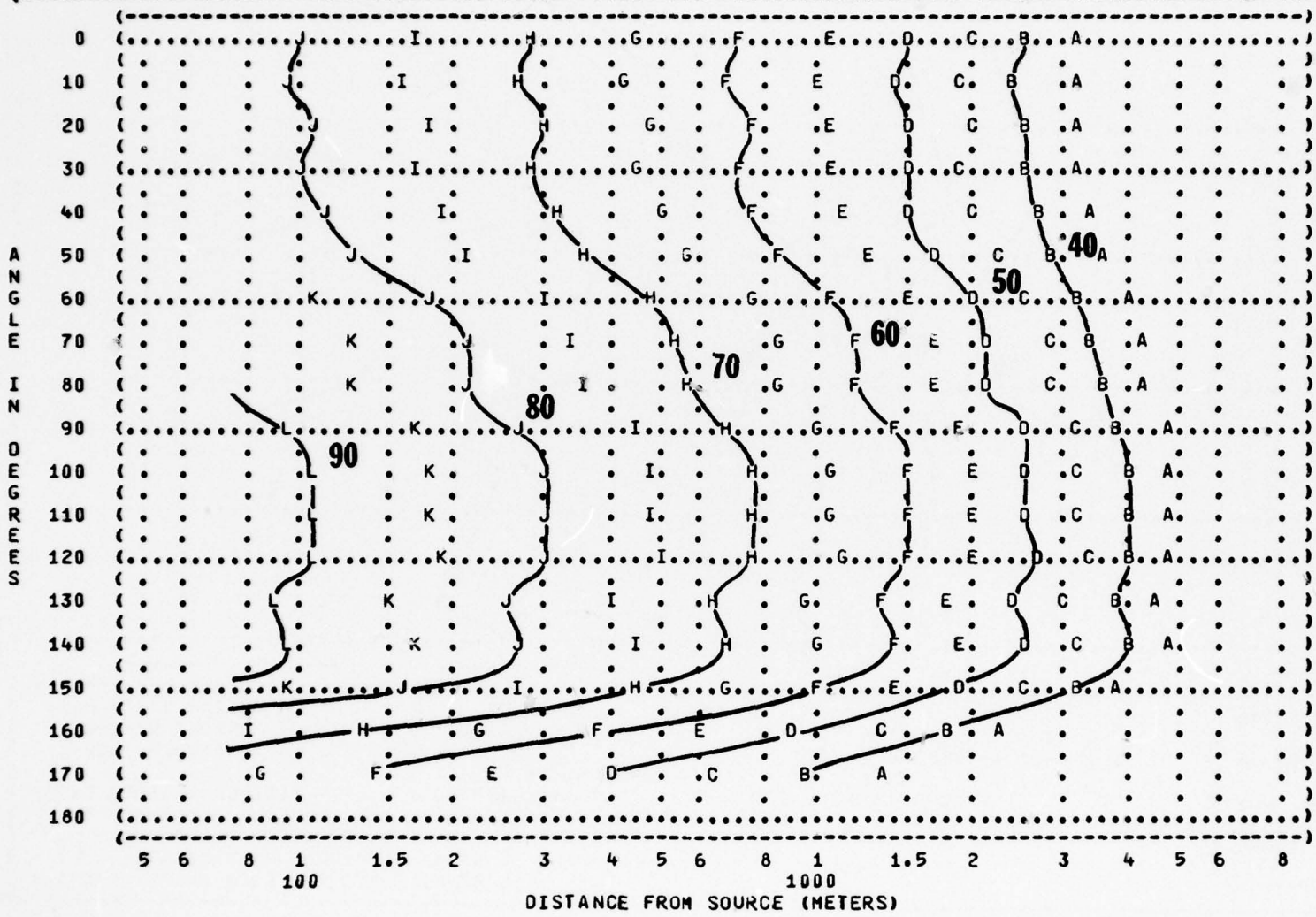


FIGURE 11: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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

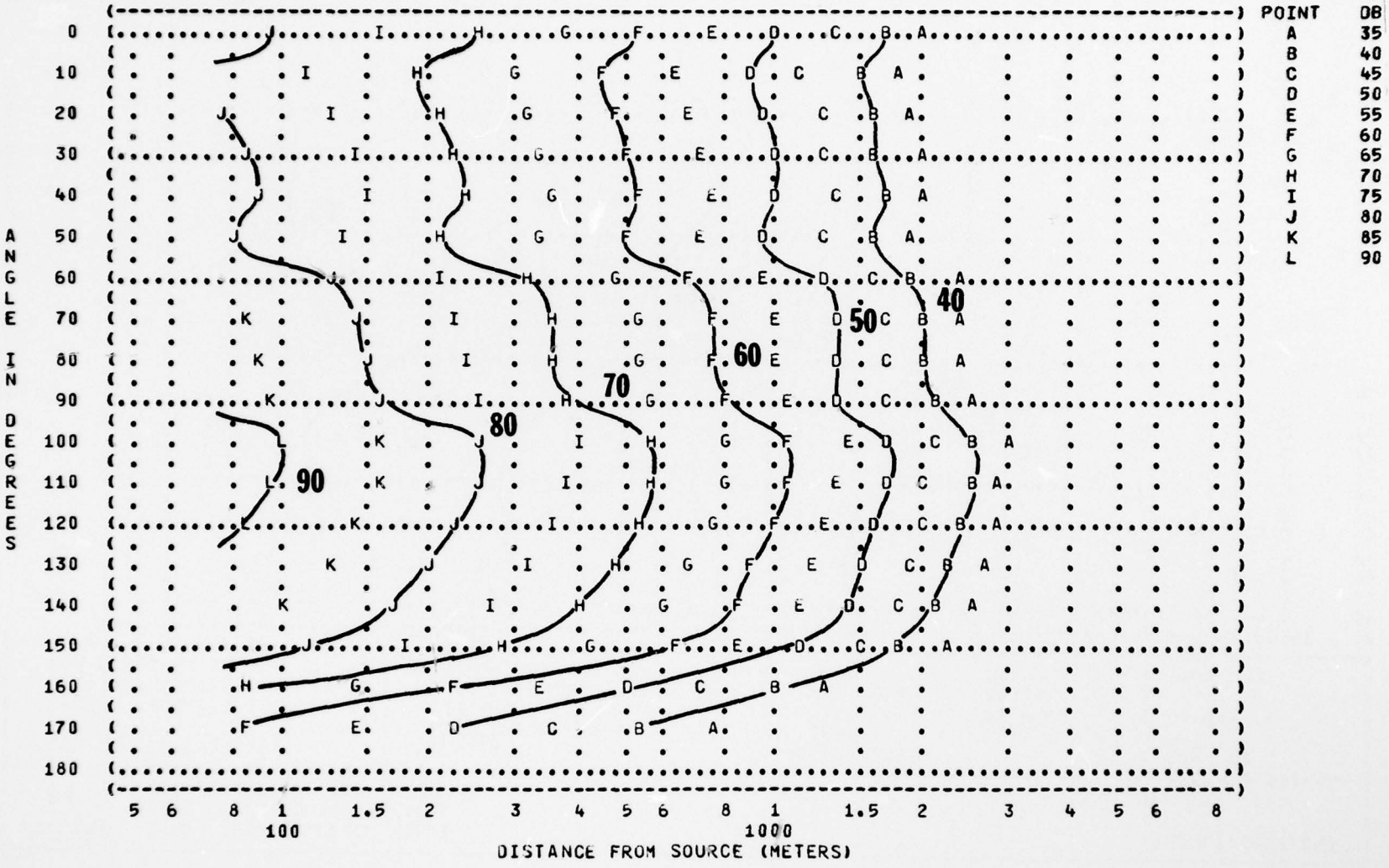


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 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

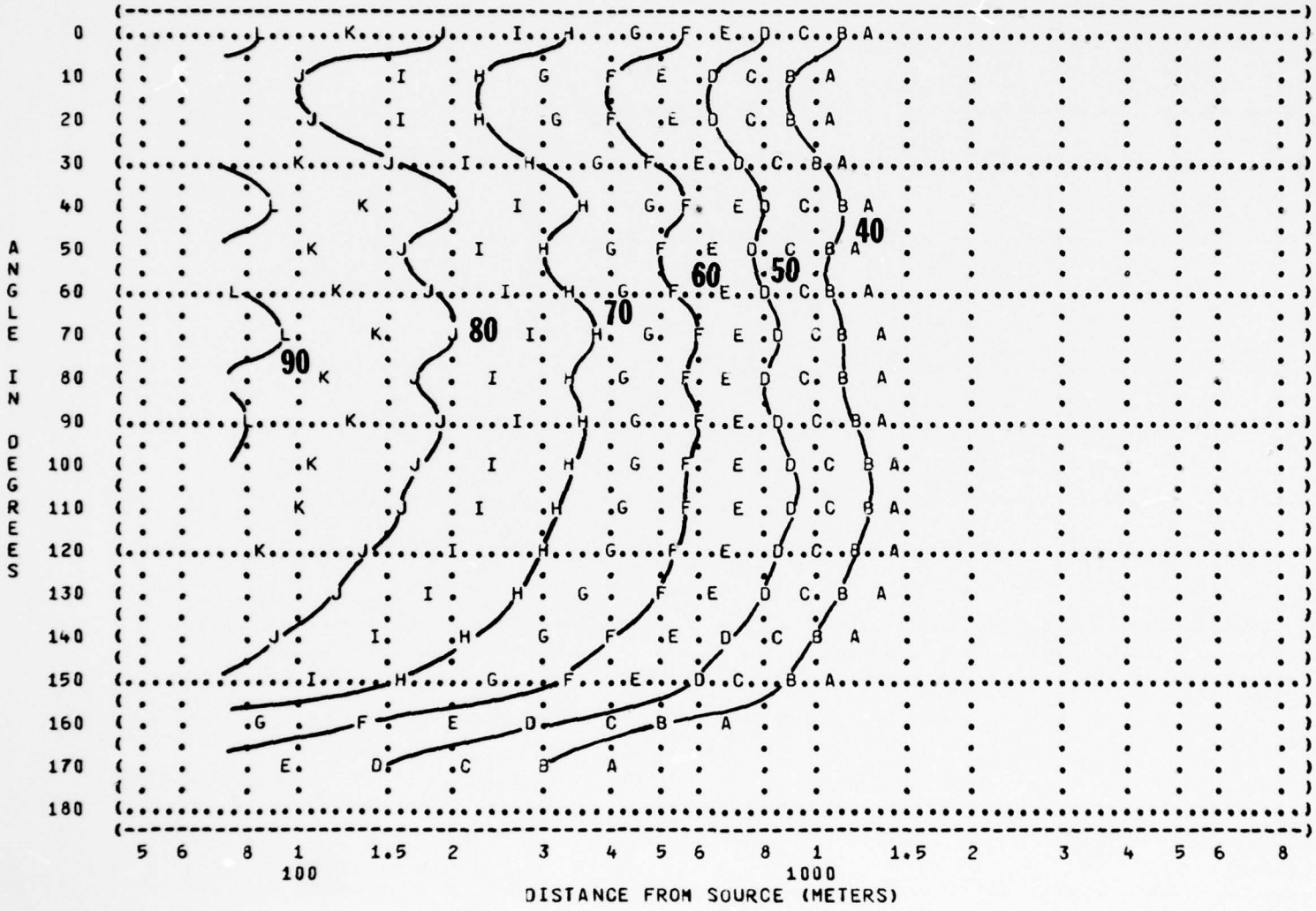


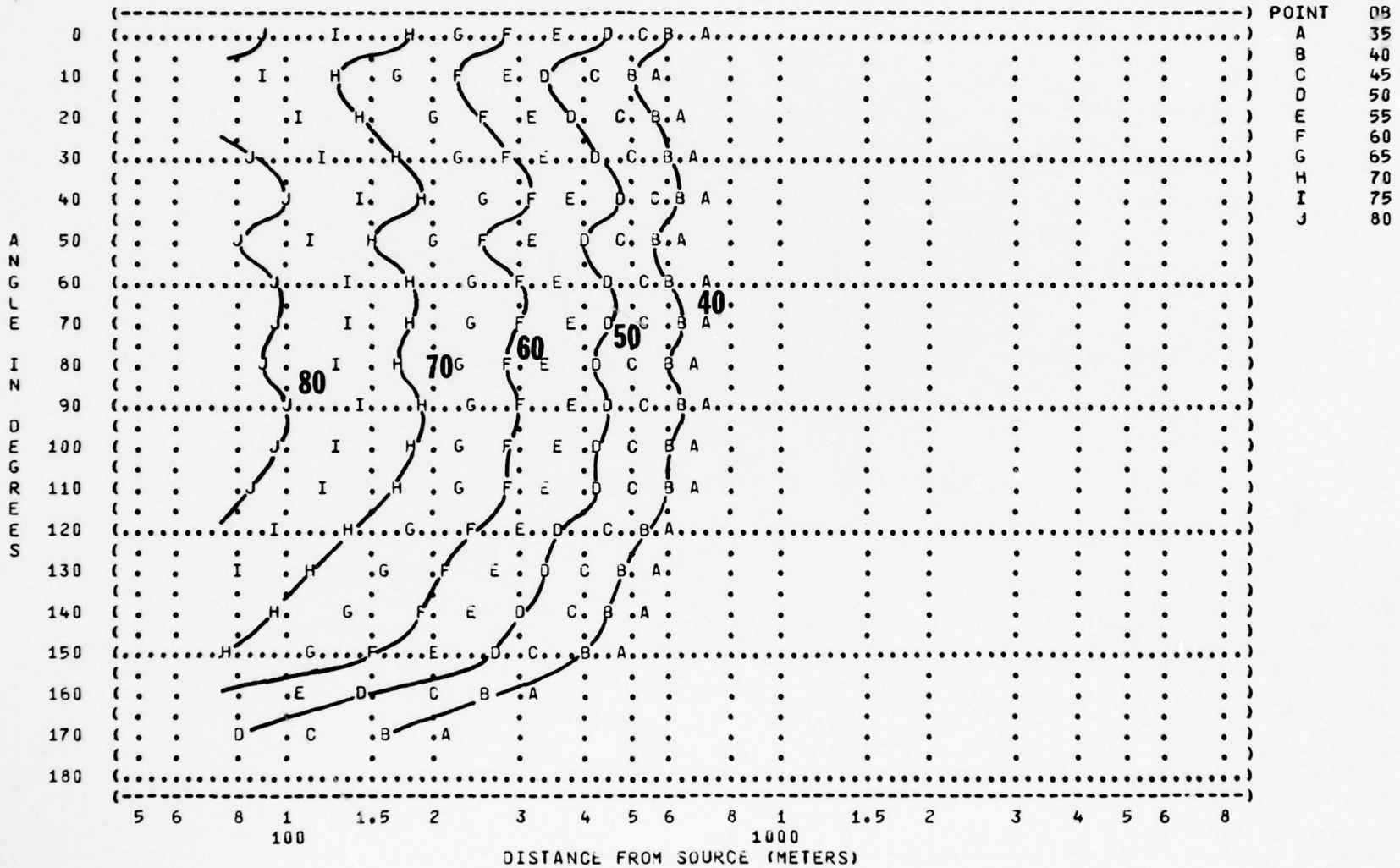
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 02
09 MAY 75
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NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
TRIM CHECK POWER
92% RPM
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) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
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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

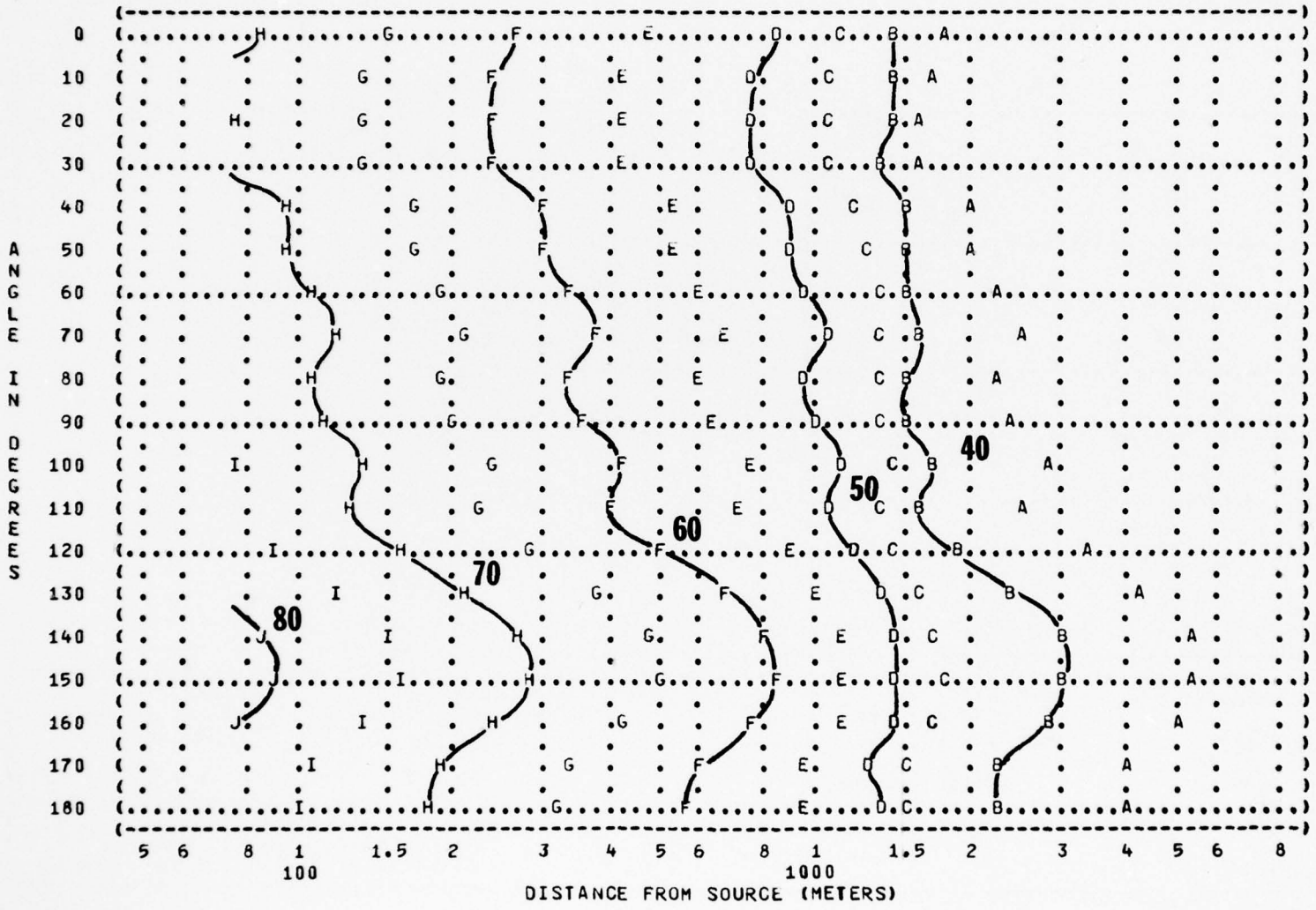


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
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09 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

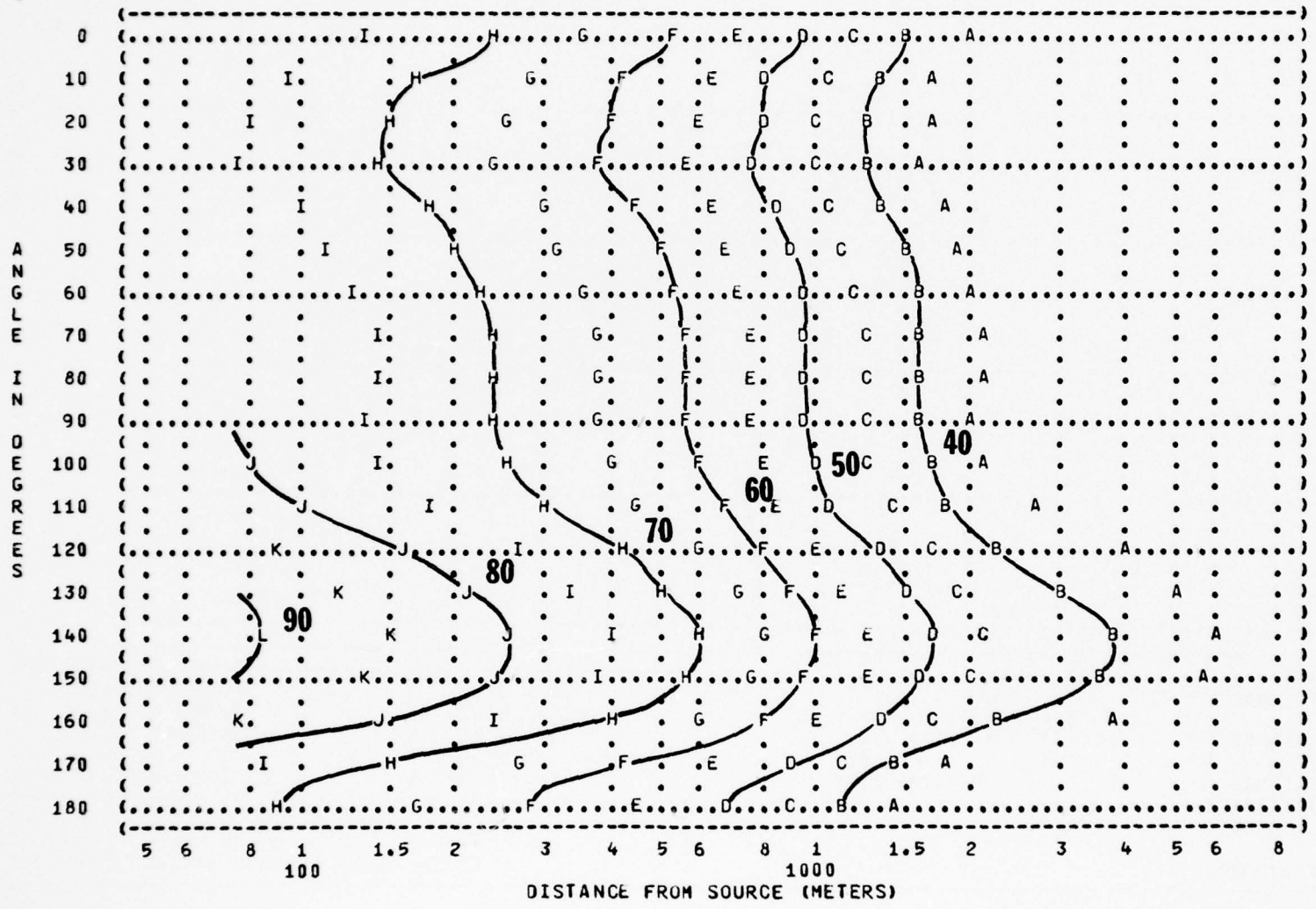


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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

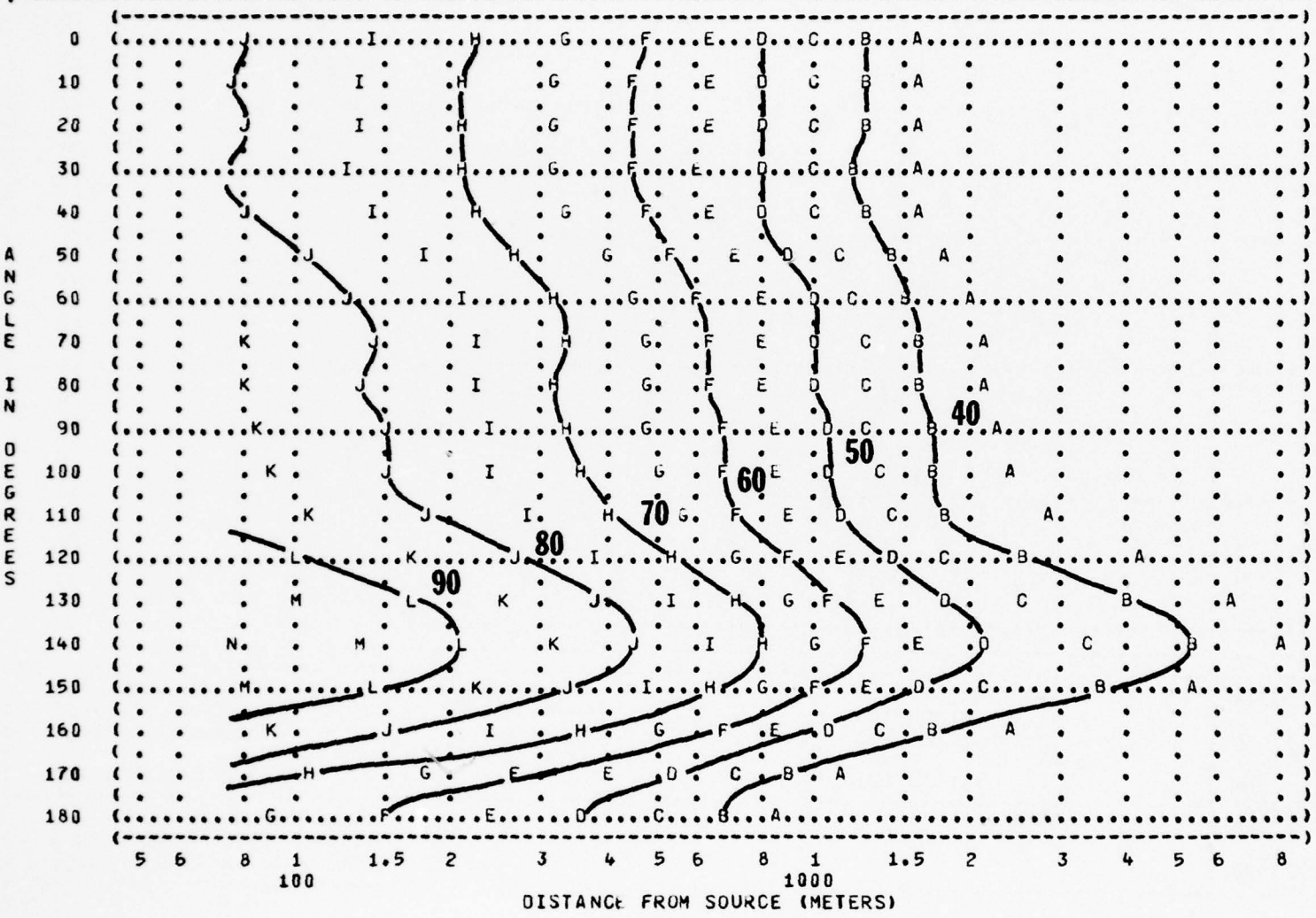


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
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09 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
K	85
L	90
M	95
N	100

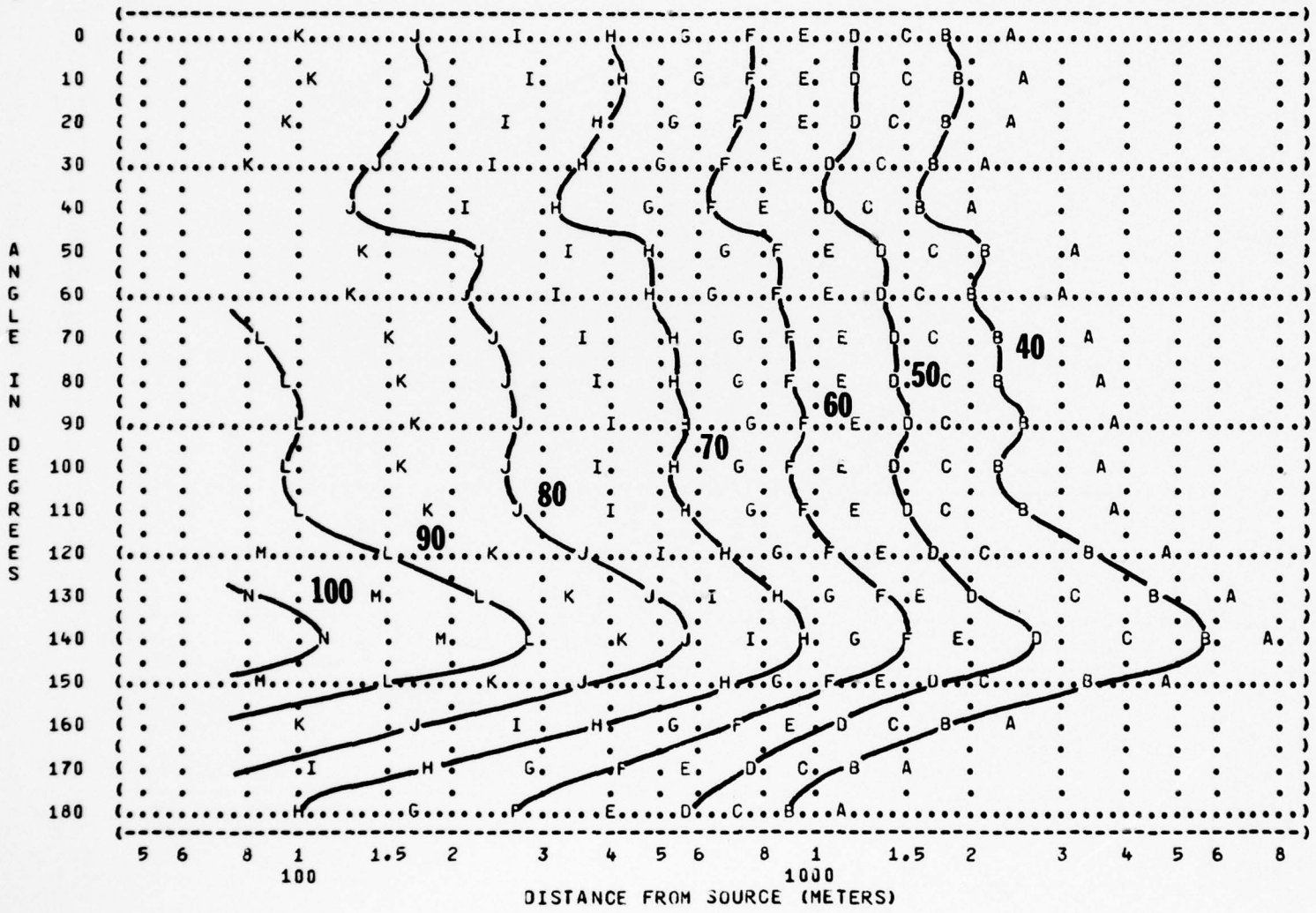


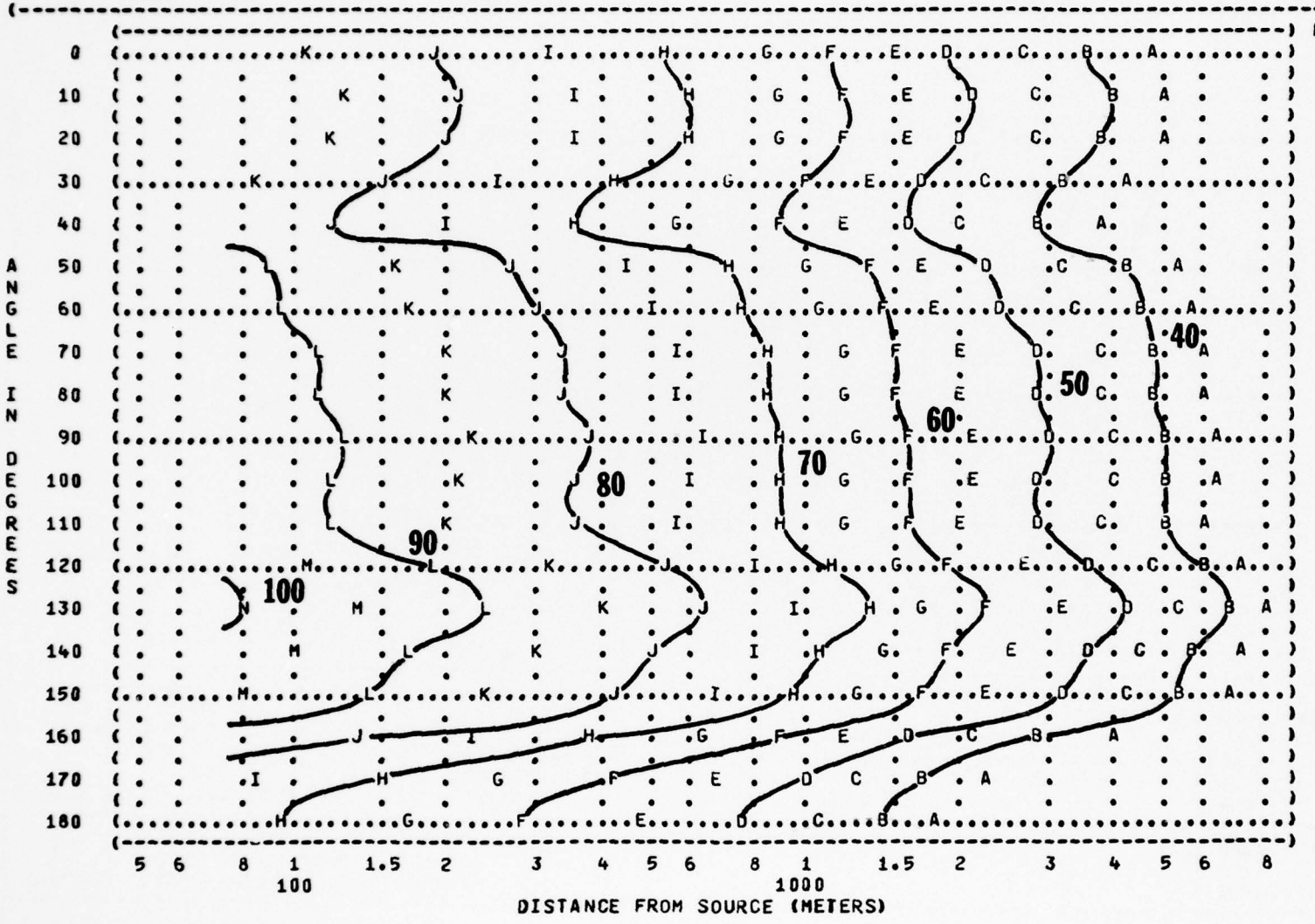
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
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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
M	95
N	100

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

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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
M	95

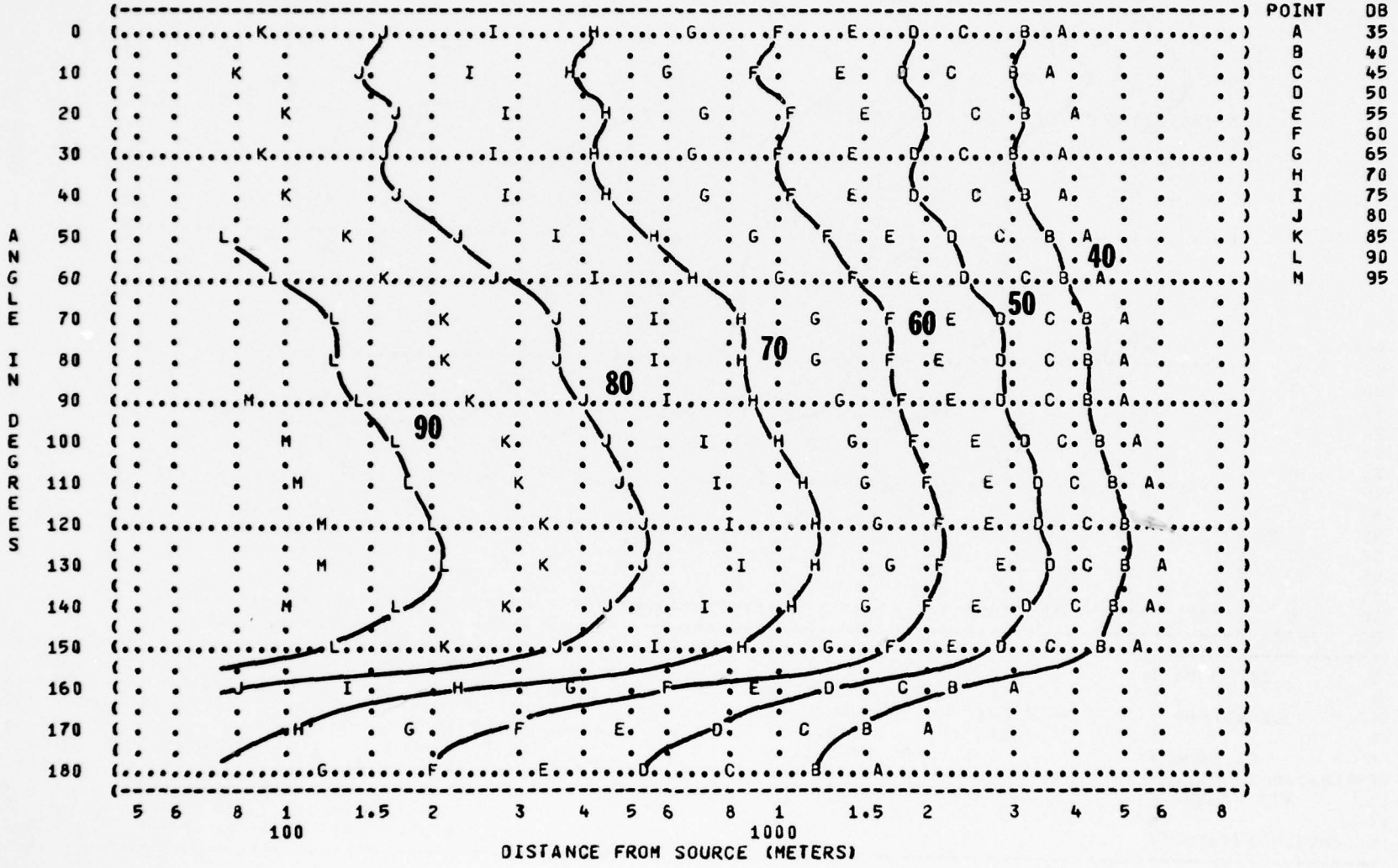


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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
L	90
M	95

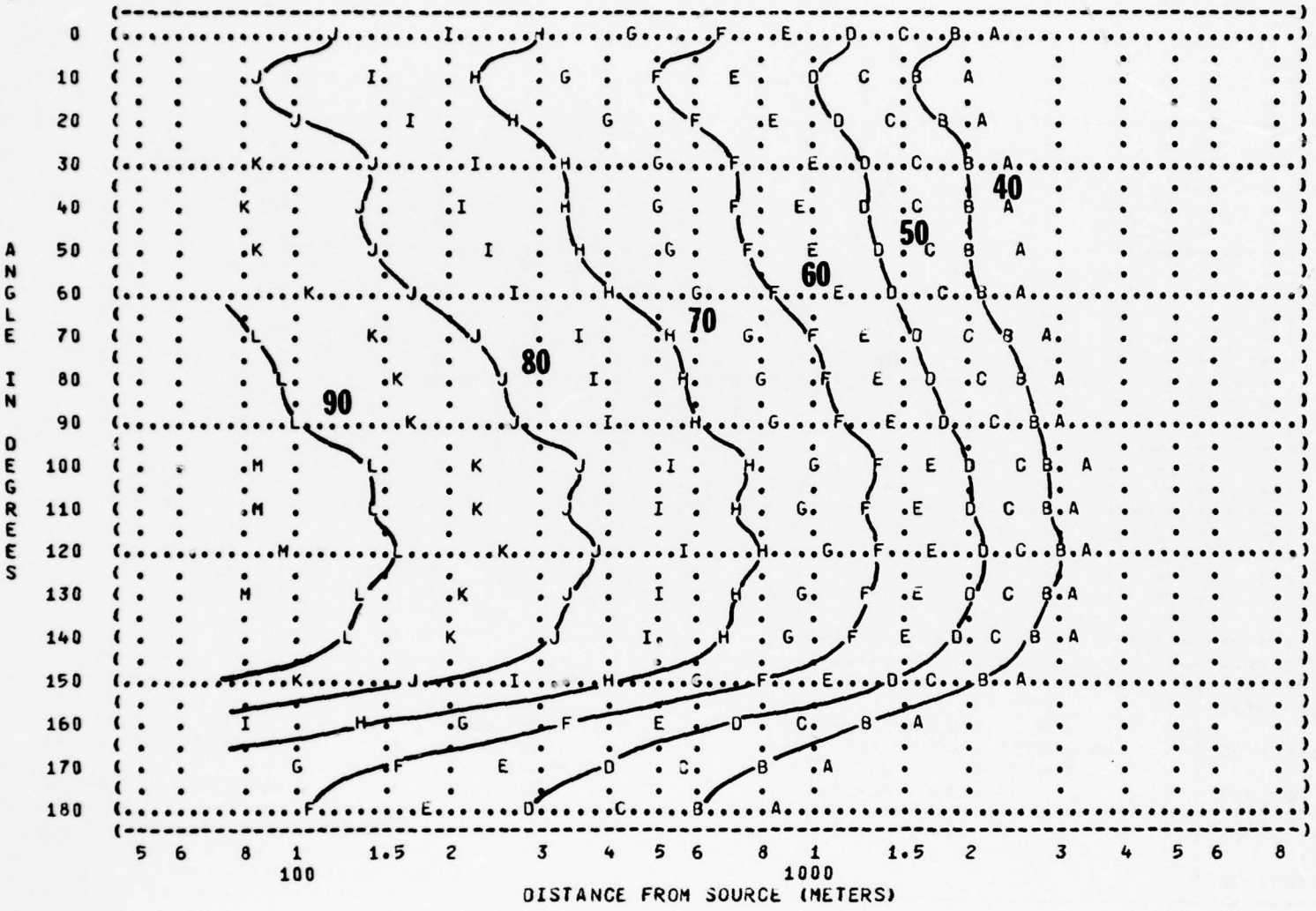


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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

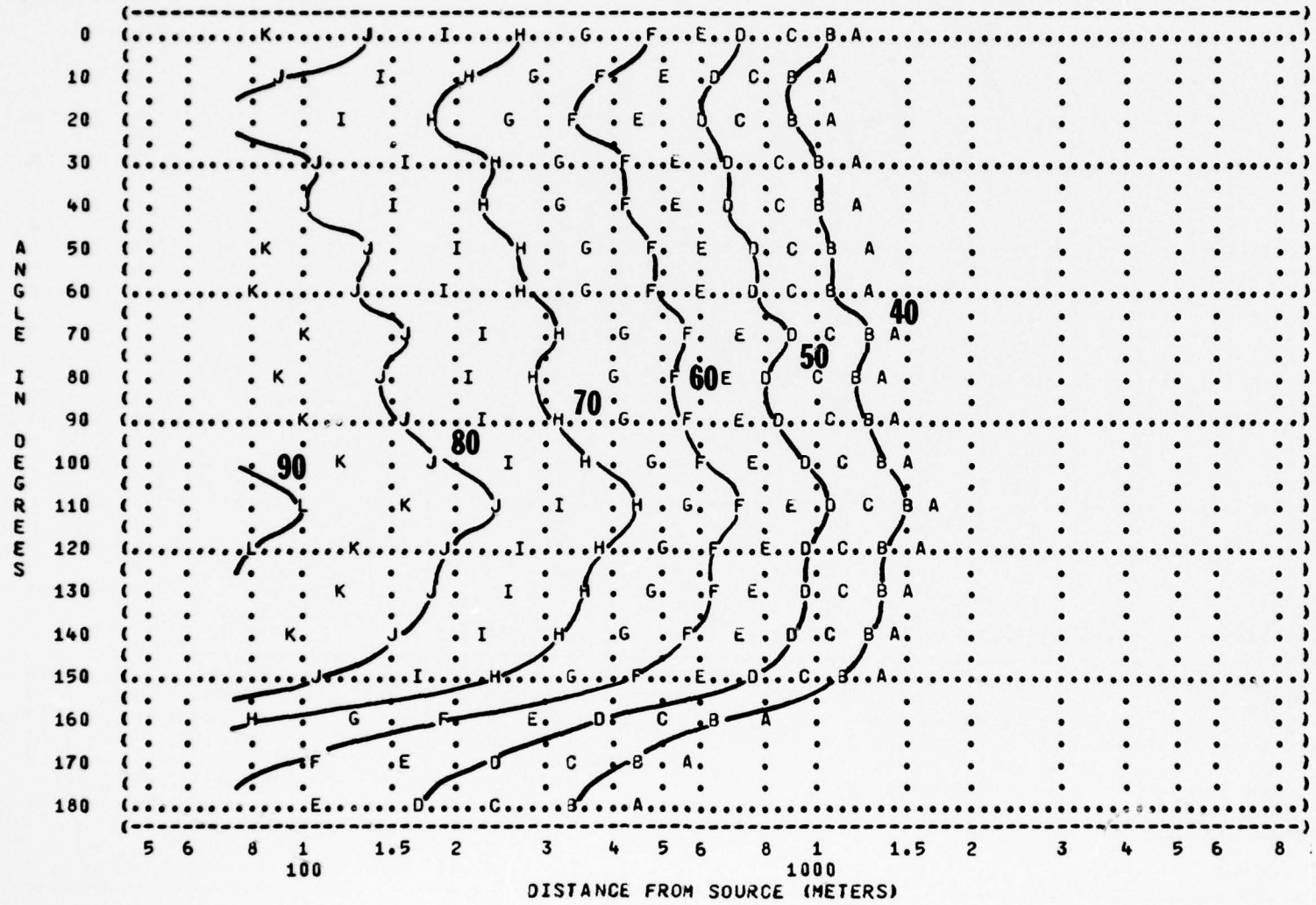


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
T-37B AIRCRAFT
J69-T-25 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
99.5% RPM
BOTH ENGINES
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-046
RUN 03
09 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
K	85

