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Volume 72

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

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Volume 72

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

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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FOR THE COMMANDER



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

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The USAF A-10A aircraft is a close air support/tactical bomber powered by two TF34-GE-100 turbofan engines and with an on-board jet engine (auxiliary powered unit, APU) used to start the turbofan engine. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for five engine/APUpower unit configurations. Near-field data are reported for 15 locations in a wide variety of physical and psychoacoustic measures: overall and band sound

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

PREFACE

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

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Capt. Nick Farinacci and Mr. Robert Lee for their assistance in acquiring the raw data, Maj. Wilbur Sappington and his staff (USAF Hospital/SGPF, Davis-Monthan AFB, Arizona) for additional 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 Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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INTRODUCTION

The USAF A-10A is a close support/tactical bomber-type aircraft powered by two TF34-GE-100 turbofan engines, the major source of ground runup noise. A second source of less importance is the aircraft's on-board auxiliary power unit, a small jet engine used to supply electrical and air power to start the turbofan engines. The aircraft was manufactured by the Northrup Corporation and the engines by General Electric Company.

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 A-10A aircraft. The measured data presented in this volume were acquired by the Aerospace Medical Research Laboratory (AMRL), and the USAF Hospital/SGPF, Davis-Monthan AFB, Arizona.

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

Volume 1 of this handbook discusses the objectives and design of the handbook, 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., in 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 and USAF Hospital/SGPF (Davis-Monthan AFB) acquired near-field noise data on the A-10A aircraft during ground runup operations of its auxiliary power unit (APU) and turbofan engines. For the AMRL tests the aircraft was located on a concrete runup pad at Edwards AFB with no significant reflecting surfaces in the vicinity except the ground plane. The SGPF tests were conducted on the parking apron at Davis-Monthan AFB under normal parking conditions (i.e., other aircraft were parked nearby). Table 1 gives the surface meteorological conditions and the five engine or APU 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. For the AMRL tests he recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the one-third octave band root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. For the SGPF test, the test engineer read octave band sound pressure levels at each location using a GR 1933 octave band analyzer. Figure 1 shows the 15 near-field locations where ground crew are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

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

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the A-10A aircraft at the 15 ground crew locations. This table includes the overall, 1/3 octave band (locations 1 to 10), and octave band (locations 1 through 15) 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

A-10A Aircraft, Ground Runups
Edwards AFB CA, 31 May 1975, Tail # 31664
Davis-Monthan AFB, 19 October 1976, Tail # 750267

Ground Crew Location

1	Marshall
2	Observer
3	Crew Chief on Ladder
4	Wheel Chock Pull
5	Wing Tip
6	Trim Adjustment
7	Observer
8 (Outboard Side of Engine)	Hydraulic Leak Check — Cowling Removed
9 (Between Engine and Fuselage)	Hydraulic Leak Check — Cowling Removed
10	APU Operator (Cockpit Open)
11	APU Drain Check
12	APU Fire Guard
13	Actuator Check
14	Gun Drum Loading
15 (Underneath Engine)	Engine No. 1, Check

Aircraft Engine Condition

A	APU Only, Engines Off
B	Both Engines Idle
C	#1 (Left) Engine Maximum Continuous Power, #2 (Right) Engine Idle
D	#1 Engine Maximum Power, #2 Engine Idle
E	Both Engines Maximum Power

Meteorology

31 May 1975 (Locations 1-9)

Temperature	22 C
Bar Pressure	0.699 M Hg
Rel Humidity	36 %
Wind — Speed	5.1 M/Sec (10 Kts)
— Direction	220 Deg

19 October 1976 (Locations 10-15)

Temperature	28 C
Bar Pressure	0.696 M Hg
Rel Humidity	29 %
Wind — Speed	0-3.6 M/Sec (0-7 Kts)
— Direction	22 Deg

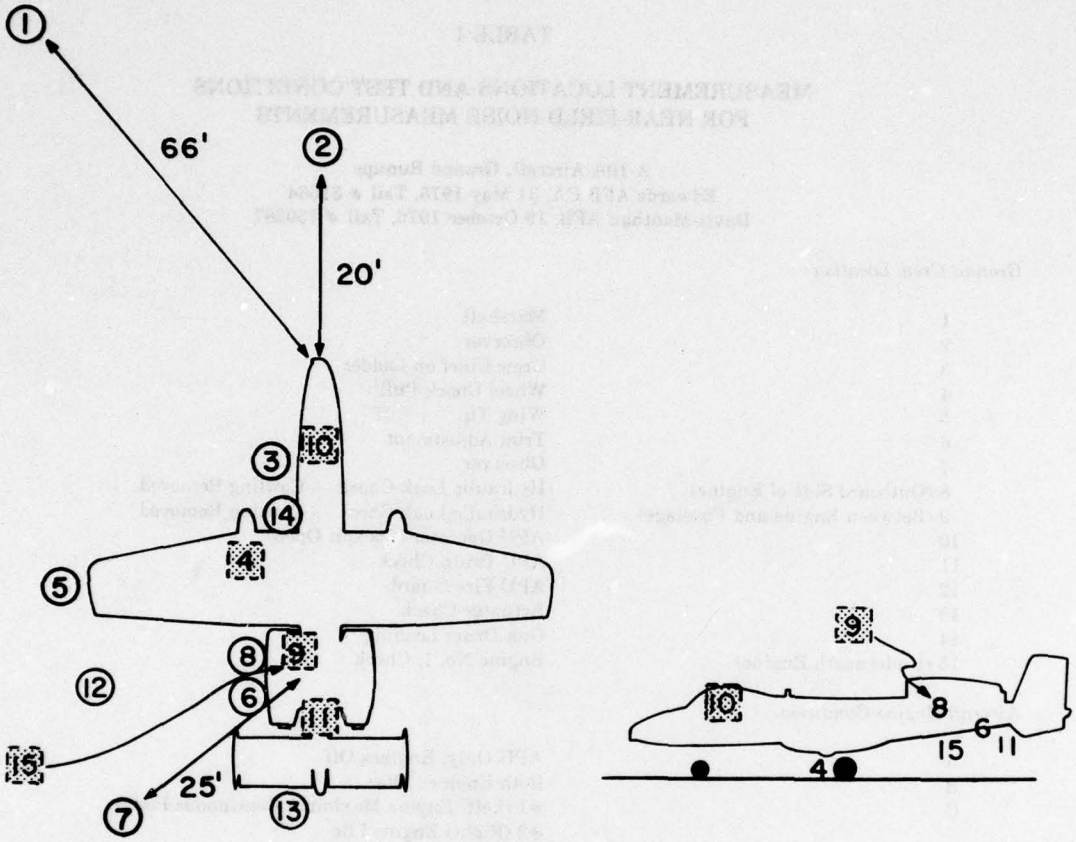


Figure 1. Near-Field Measurement Locations at Pad 18, Edwards AFB CA

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired most near- and all 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 19 microphone measurement sites on each of two semicircles. The center of the 75 meter radius semicircle used in surveying the TF34-GE-100 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits. The center of the 35 meter semicircle used in the noise survey of the auxiliary power unit was on the ground directly below the center of the APU's exhaust-nozzle exit (APU exhausts on left side of fuselage, near engine number 1). The ground runup pad did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

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 38 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 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 scaned 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 A-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 the frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 88% engine core speed) 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.

Since the APU intake is under the aircraft and the exhaust is on the left side of the fuselage, the noise field it produces is asymmetric with respect to the aircraft centerline. Noise from the APU in this report is applicable only to the left side. Because of fuselage shielding, the noise on the right side will be less than the noise presented in this report.

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 higher power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted level for that angle is 10 to 20 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. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low. In a few cases, there are so many data points missing that the octave-band sound pressure level figures have no contours for an entire octave band (e.g., Figure 11, 31.5 Hz band, 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.

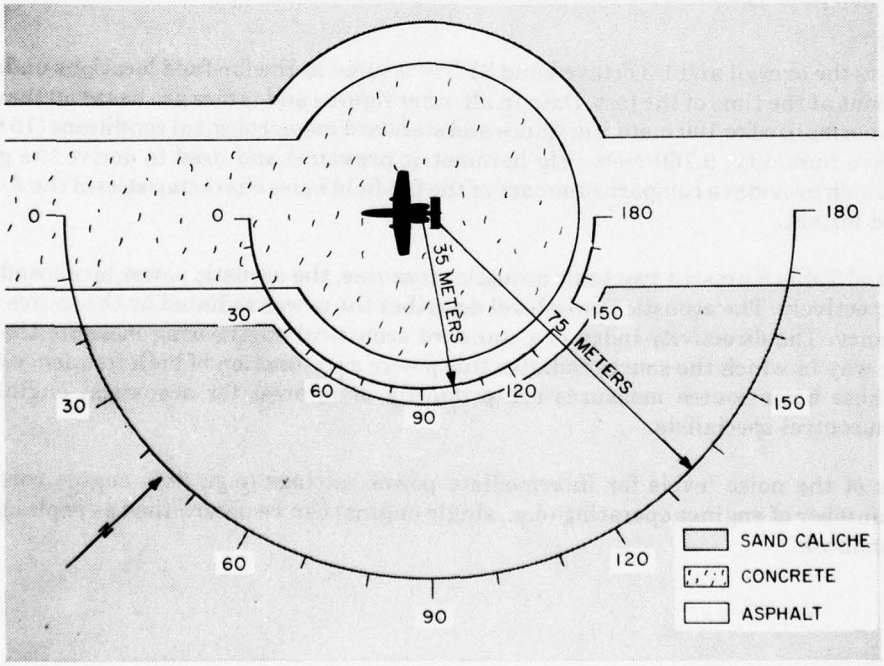


Figure 2. Far-Field Measurement Locations at Pad 18, Edwards AFB CA

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 01
24 JUN 75
PAGE F1

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

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	1/A	2/A	3/A	4/A	5/A	6/A	7/A	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/B
25	83	78	88	78	67<	78	71<	78	84	85	77	64<	81	73<	99
31.5	78	73	87	80	70<	79	73	74	82	78	76	68<	80	74	100
40	73	70	84	79	70	78	72	70	81	76	77	68<	80	73	99
50	67	67	81	81	73	79	75	67	75	72	74	69	77	75	102
63	66	69	79	84	75	84	78	69	73	74	78	71	81	81	102
80	66	69	79	85	78	89	80	71	72	75	78	76	83	82	103
100	67	70	79	85	78	89	82	76	77	78	83	80	91	84	101
125	67	71	82	88	86	92	84	78	78	81	83	80	91	81	100
160	71	73	84	91	86	93	85	77	77	84	79	82	92	79	98
200	75	77	90	90	82	91	84	76	76	85	88	76	92	79	95
250	79	81	95	95	83	96	82	73	71	81	78	70	85	74	93
315	79	81	91	93	86	98	88	72	70	81	77	71	83	78	91
400	75	78	90	95	79	98	92	71	75	83	80	76	88	85	90
500	74	75	89	93	86	96	89	67	77	81	79	76	89	80	90
630	74	75	93	95	87	94	86	72	80	81	80	76	88	78	90
800	70	78	92	96	85	94	89	73	76	84	80	74	84	80	91
1000	70	76	92	95	84	95	88	76	79	84	80	75	85	79	92
1250	75	78	93	94	88	98	88	77	81	86	79	73	85	81	93
1600	77	78	96	94	86	97	88	76	80	87	81	72	85	80	93
2000	73	78	98	93	87	97	87	78	81	89	80	69	83	77	93
2500	75	80	99	95	89	97	86	80	83	89	80	69	81	78	89
3150	78	81	100	97	94	101	90	78	81	87	77	70	83	79	94
4000	81	82	103	100	97	104	92	78	81	91	79	73	86	83	96
5000	81	83	102	100	95	104	93	78	81	89	75	71	83	81	94
6300	81	85	104	105	100	110	97	76	78	87	75	70	82	81	95
8000	80	81	101	97	93	107	96	72	76	86	72	70	82	79	95
10000	81	86	103	104	96	112	100	68	73	84	69	65	78	78	92
OVERALL	91	93	111	111	105	116	105	90	93	99	94	89	100	94	111

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 02
24 JUN 75
PAGE F2

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

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	9/B	1/C	2/C	3/C	4/C	5/C	6/C	7/C	1/D	2/D	3/D	4/D	5/D	6/D	7/D
25	93	78	83	84	90	85	91	96	83	83	85	90	86	93	98
31.5	98	76	79	85	92	85	92	99	79	81	87	93	88	93	100
40	96	77	83	87	94	87	94	99	81	82	88	97	91	94	100
50	96	78	83	88	93	88	95	100	80	82	88	96	90	97	102
63	98	82	86	90	97	92	98	103	82	84	90	95	92	97	102
80	99	80	82	86	89	93	99	99	82	84	88	93	94	101	101
100	102	82	85	87	93	94	106	98	83	87	89	95	97	109	101
125	100	85	85	88	96	93	101	97	87	88	90	100	94	105	99
160	99	84	85	90	96	89	99	101	88	88	93	99	92	102	103
200	98	81	84	91	94	86	102	103	86	87	94	98	90	102	106
250	95	82	84	92	93	85	103	103	87	85	93	96	87	102	107
315	92	82	81	91	90	87	98	99	83	84	92	94	91	103	102
400	90	78	81	89	93	90	99	100	81	83	92	98	96	100	103
500	93	78	83	92	92	92	98	100	80	84	93	98	95	102	104
630	94	77	85	92	93	88	100	98	80	86	93	103	93	108	102
800	93	79	84	92	93	88	102	98	81	89	93	100	98	109	102
1000	93	86	89	93	93	91	106	96	88	88	98	100	99	115	102
1250	93	85	87	94	92	90	103	96	91	93	101	98	97	114	102
1600	92	85	87	96	93	90	104	96	87	88	97	96	94	111	99
2000	94	90	91	101	93	91	106	96	88	92	100	97	94	109	99
2500	93	100	98	109	106	105	119	105	93	96	105	101	98	111	103
3150	91	100	99	110	109	108	122	108	98	104	112	112	109	123	110
4000	96	94	94	104	98	96	111	102	93	98	106	103	103	112	104
5000	96	97	97	107	98	98	112	104	93	98	106	98	98	109	103
6300	95	96	96	107	98	98	112	104	94	97	107	99	102	112	110
8000	96	91	93	104	96	99	111	110	88	95	104	95	100	109	104
10000	92	89	91	103	92	96	109	104	87	94	104	95	99	109	107
OVERALL	110	105	105	116	113	111	125	116	103	108	116	115	113	126	118

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 03
24 JUN 75
PAGE F3

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

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/E	2/E	3/E	4/E	5/E	6/E	7/E
25	81	84	90	95	89	96	101
31.5	81	84	89	97	92	94	101
40	81	86	91	98	92	98	101
50	82	85	91	98	93	99	105
63	85	87	91	98	95	97	104
80	84	87	91	94	98	102	104
100	88	90	92	98	100	111	104
125	91	92	95	102	98	107	102
160	90	91	95	100	96	102	104
200	86	89	93	99	95	102	107
250	87	89	95	98	92	104	107
315	86	87	94	97	90	103	104
400	83	87	94	99	93	103	104
500	81	87	95	98	95	104	104
630	82	88	95	99	96	106	102
800	85	88	96	106	96	115	103
1000	92	92	101	105	100	120	104
1250	92	98	105	102	98	120	104
1600	91	94	101	101	95	114	101
2000	91	95	102	100	95	112	101
2500	96	99	106	105	100	113	104
3150	102	106	111	116	113	121	114
4000	95	101	107	105	102	116	105
5000	94	100	107	101	98	111	104
6300	95	101	107	103	101	114	110
8000	91	98	104	98	99	112	105
10000	90	97	104	98	99	111	107
OVERALL	106	111	117	118	115	127	120

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 01
24 JUN 75
PAGE J1

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

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/A	3/A	4/A	5/A	6/A	7/A	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/B
31.5	84	80	91	84	74	83	77	79	87	86	81	72	85	78	104
63	71	73	84	88	81	90	83	74	78	78	82	78	86	85	107
125	73	76	87	93	89	96	88	82	82	87	86	85	96	86	104
250	83	84	97	98	88	101	90	79	78	87	89	78	93	82	98
500	79	81	96	99	90	101	94	75	82	86	84	81	93	87	95
1000	77	82	97	99	91	101	93	80	84	90	84	79	89	85	96
2000	80	83	102	99	92	101	92	83	86	93	85	75	88	83	97
4000	85	87	107	104	100	108	96	82	85	94	82	76	89	86	99
8000	85	89	107	108	102	115	103	78	81	91	77	74	86	84	99
OVERALL	91	93	111	111	105	116	105	90	93	99	94	89	100	94	111

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 02
24 JUN 75
PAGE J2

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

OPERATION:

FREQ (HZ)	LOCATION/CONDITION													
	9/B	1/C	2/C	3/C	4/C	5/C	6/C	7/C	1/D	2/D	3/D	4/D	5/D	6/D	7/D
31.5	100	82	86	90	97	91	97	103	86	87	92	99	93	98	104
63	102	85	88	93	99	96	102	106	86	88	93	100	97	103	107
125	105	88	90	93	100	97	108	103	91	92	96	103	99	111	106
250	100	86	88	96	97	91	106	106	90	90	98	101	94	107	110
500	97	82	88	96	97	95	104	104	85	89	97	105	100	109	107
1000	97	89	91	98	97	95	108	102	93	95	103	104	103	118	107
2000	98	100	99	110	107	105	120	106	95	98	107	103	100	115	105
4000	99	102	102	112	110	108	123	110	100	105	113	112	110	123	111
8000	99	97	98	110	100	102	115	111	95	100	110	101	105	115	112
OVERALL	110	105	105	116	113	111	125	116	103	108	116	115	113	126	118

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

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 03
24 JUN 75
PAGE J3

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

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/E	2/E	3/E	4/E	5/E	6/E	7/E
31.5	85	89	95	101	96	101	105
63	88	91	96	102	100	104	109
125	94	96	99	105	103	113	108
250	91	93	99	103	97	108	111
500	87	92	99	103	100	109	108
1000	95	99	107	109	103	123	108
2000	98	101	108	107	102	118	107
4000	103	108	114	116	113	123	115
8000	97	103	110	105	105	117	112
OVERALL	106	111	117	118	115	127	120

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

IDENTIFICATION:
OMEGA 3.2
TEST 76-029-001
RUN 01
27 OCT 76
PAGE F1

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

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 10/A	11/A	12/A	13/A	14/A	15/A
31.5	79	88	81	82	79	101
63	80<	92	89	86	83	104
125	80<	99	91	90	87	107
250	90	104	88	99	94	110
500	90	106	93	98	95	110
1000	86	106	88	98	92	109
2000	90	108	91	104	93	117
4000	92	110	96	112	99	124
8000	93	116	98	115	102	125
OVERALL	98	118	102	117	105	128

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

NOTE: DATA PROVIDED BY USAF HOSPITAL/SGPF, DAVIS-MONTHAN AFB AZ.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST 75-037-001
RUN 01

24 JUN 75

PAGE H1

NOISE SOURCE/SUBJECT:

A-10A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE

OPERATION:

LOCATION/CONDITION

	1/A	2/A	3/A	4/A	5/A	6/A	7/A	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/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	90	92	110	109	103	114	103	89	92	98	94	89	100	93	110
OASLA	89	92	111	110	105	115	104	88	91	99	90	84	96	92	105
T	202	120	4.5	5	13	2.2	15	240	143	36	170	480	60	120	13
MINIMUM QPL EAR MUFFS															
OASLA*	65	68	85	85	79	91	80	64	66	73	70	66	77	70	86
T	960	960	404	404	960	143	960	960	960	960	960	960	960	960	339
AMERICAN OPTICAL 1700 EAR MUFFS															
OASLA*	60	63	80	80	73	87	76	59	61	67	65	61	72	65	82
T	960	960	960	960	960	285	960	960	960	960	960	960	960	960	679
V-51R EAR PLUGS															
OASLA*	61	64	81	81	75	86	76	60	63	70	65	59	71	65	78
T	960	960	807	807	960	339	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS															
OASLA*	48	52	69	70	63	75	64	47	50	57	51	46	57	52	66
T	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT															
OASLA*	61	64	82	81	75	86	75	61	64	71	64	57	69	64	79
T	960	960	679	807	960	339	960	960	960	960	960	960	960	960	960
COMMUNICATION															
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)															
PSIL	79	82	98	99	91	101	93	79	84	90	84	78	90	85	96
ANNOYANCE															
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)															
TONE CORRECTION (C IN DB)															
PNLT	104	108	126	127	120	130	118	102	106	113	106	99	112	107	120
C	0	2	1	2	2	1	1	0	1	0	2	1	1	1	0

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 02
24 JUN 75
PAGE H2

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

OPERATION:

	LOCATION/CONDITION														
	9/B	1/C	2/C	3/C	4/C	5/C	6/C	7/C	1/D	2/D	3/D	4/D	5/D	6/D	7/D
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	109	105	104	115	112	110	125	115	103	107	115	114	112	125	117
OASLA	105	106	106	116	113	112	126	115	103	108	116	115	113	126	117
T	13	11	11	P	3.2	3.8	P	2.2	18	8	P	2.2	3.2	P	P
MINIMUM QPL EAR MUFFS															
OASLA*	86	78	79	89	86	84	98	91	77	81	89	88	86	98	93
T	339	960	960	202	339	480	42	143	960	807	202	240	339	42	101
AMERICAN OPTICAL 1700 EAR MUFFS															
OASLA*	82	72	72	82	80	79	92	87	71	75	83	83	81	93	88
T	679	960	960	679	960	960	120	285	960	960	571	571	807	101	240
V-51R EAR PLUGS															
OASLA*	79	74	75	85	82	80	94	86	73	77	86	85	83	97	89
T	960	960	960	404	679	960	85	339	960	960	339	404	571	50	202
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS															
OASLA*	66	62	63	73	69	68	81	74	61	65	73	72	71	84	76
T	960	960	960	960	960	960	807	960	960	960	960	960	960	480	960
H-133 GROUND COMMUNICATION UNIT															
OASLA*	78	80	79	90	88	87	101	88	77	82	90	90	87	101	90
T	960	960	960	170	240	285	25	240	960	679	170	170	285	25	170
COMMUNICATION															
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)															
PSIL	97	90	93	101	100	98	111	104	91	94	102	104	101	114	107
ANNOYANCE															
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)															
TONE CORRECTION (C IN DB)															
PNLT	121	121	121	131	131	129	143	132	120	126	133	134	131	145	134
C	1	2	1	1	3	3	3	2	2	2	2	3	3	4	2

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

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 75-037-001
RUN 03
24 JUN 75
PAGE H3

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

OPERATION:

	LOCATION/CONDITION						
	1/E	2/E	3/E	4/E	5/E	6/E	7/E
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	105	110	116	118	115	127	119
OASLA	106	111	117	119	116	128	119
T	11	4.5	P	P	P	P	P
MINIMUM QPL EAR MUFFS							
OASLA*	79	84	90	91	88	100	94
T	960	480	170	143	240	30	85
AMERICAN OPTICAL 1700 EAR MUFFS							
OASLA*	74	78	84	85	83	94	89
T	960	960	480	404	571	85	202
V-51R EAR PLUGS							
OASLA*	76	80	87	89	85	100	90
T	960	960	285	202	404	30	170
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS							
OASLA*	63	68	75	76	72	88	77
T	960	960	960	960	960	240	960
H-133 GROUND COMMUNICATION UNIT							
OASLA*	80	85	91	94	91	101	93
T	960	404	143	85	143	25	101
COMMUNICATION							
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)							
PSIL	93	97	105	107	101	117	108
ANNOYANCE							
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)							
TONE CORRECTION (C IN DB)							
PNLT	123	128	133	137	135	144	138
C	2	2	2	3	4	2	3

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

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 76-029-001
RUN 01
27 OCT 76
PAGE H1

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

OPERATION:

	LOCATION/CONDITION					
	10/A	11/A	12/A	13/A	14/A	15/A
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	117	101	115	104	126
OASLA	98	118	101	117	104	128
T	42	P	25	P	15	P
MINIMUM QPL EAR MUFFS						
OASLA*	73	92	77	90	79	101
T	960	120	960	170	960	25
AMERICAN OPTICAL 1700 EAR MUFFS						
OASLA*	69	89	73	87	75	97
T	960	202	960	285	960	50
V-51R EAR PLUGS						
OASLA*	70	89	73	87	76	98
T	960	202	960	285	960	42
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS						
OASLA*	56	77	60	74	63	84
T	960	960	960	960	960	480
H-133 GROUND COMMUNICATION UNIT						
OASLA*	67	87	71	85	73	96
T	960	285	960	404	960	60
COMMUNICATION						
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)						
PSIL	89	107	91	100	93	112
ANNOYANCE						
PERCEIVED NOISE LEVEL (PNL IN PNDB)						
PNL	111	130	115	130	118	141

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.
NOTE: DATA PROVIDED BY USAF HOSPITAL/SGPF, DAVIS-MONTHAN AFB AZ.

TABLE 4

TEST CONDITIONS FOR FAR-FIELD NOISE MEASUREMENTS

A-10A Aircraft, Ground Runups, Edwards AFB CA
31 May 1975
Tail # 31664

Aircraft Engine Operation

APU Only	Engines Off
Idle	Both Engines 64 % RPM, Core Speed 25 % RPM, Fan Speed 528 C, Fan Turbine Inlet Temperature 400 LBS/HR, Fuel Flow
Maximum Continuous Power (#2 Engine Idle)	#1 (Left) Engine 91 % RPM, NC 77 % RPM, NF 731 C, FTIT 2100 LBS/HR, FF
Maximum Power (#2 Engine Idle)	#1 (Left) Engine 95 % RPM, NC 84 % RPM, NF 810 C, FTIT 2750 LBS/HR, FF
Maximum Power	Both Engines 94.5 % RPM, NC 84 % RPM, NF 810 C, FTIT 2700 LBS/HR, FF

Meteorology

Temperature	22 C
Bar Pressure	0.699 M Hg
Rel Humidity	36 %
Wind — Speed	5.1 M/Sec (10 Kts)
— Direction	220 Deg.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 35 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

METEOROLOGY:
TEMP = 21 C
BAR PRESS = .699 M HG
REL HUMID = 39 %

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

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

TABLE: 5

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25																			
31.5																			
40																			
50	55<	55<	55<	56<	56<	54<	55<	58<	54<	58<	55<	55<	56<	57<	56<	57<	58<	57<	55<
63	58<	60<	60<	60<	59<	58<	59<	61<	61<	62<	62<	62<	64<	62<	62<	63<	62<	62<	59<
80	61<	62<	63	65	64	61<	60<	60<	60<	61<	66	67	67	67	68	68	67	67	65
100	68	69	68	71	69	68	66	68	66	67	66	69	69	70	71	72	72	72	68
125	74	74	73	69	67	68	69	69	69	70	69	70	70	72	73	72	71	72	70
160	74	73	72	65	65	66	72	73	70	70	71	72	73	71	72	71	69	64	66
200	74	73	70	63	65	69	69	68	69	67	67	72	75	74	70	67	65	67	64
250	67	66	64	62	62	60	60	60	60	58	60	58	60	62	60	59	58	58	56
315	68	67	62	64	61	62	60	62	65	63	62	64	61	64	65	59	60	60	53<
400	71	69	64	67	65	63	61	66	67	65	67	65	62	62	66	61	64	64	59
500	67	65	65	63	61	61	55	57	59	55	58	60	57	60	58	59	58	56	56
630	68	67	68	66	64	61	58	59	59	56	58	61	58	61	59	60	58	57	58
800	69	66	68	70	67	64	63	61	57	58	56	58	57	59	58	56	56	57	59
1000	71	68	67	69	69	67	64	61	58	58	57	58	55	58	58	56	56	58	59
1250	73	71	66	70	67	65	62	60	57	59	59	59	57	55	58	59	57	58	58
1600	73	71	69	72	73	69	65	61	57	60	58	60	58	56	58	59	58	58	58
2000	72	72	69	72	71	68	61	60	57	58	58	61	60	58	58	59	58	58	58
2500	73	73	68	72	70	66	65	61	57	56	58	61	59	61	60	58	58	56	56
3150	72	71	68	69	71	66	63	61	55	57	58	61	59	60	59	60	58	56	57
4000	71	72	68	71	69	67	66	64	58	60	61	64	62	61	61	61	59	58	58
5000	71	70	66	68	67	65	63	59	54	55	58	61	59	60	60	59	57	56	56
6300	68	68	63	67	68	64	62	58	52	54	57	59	57	57	57	58	55	54	54
8000	62	62	59	62	62	59	57	54	46	50	53	58	54	52	53	52	51	48	48
10000	57	56	52	56	55	52	51	48	40	43	46	51	48	47	48	46	44	43	43
OVERALL	84	83	81	82	81	79	78	78	77	77	77	79	79	79	79	78	77	77	75

< 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 75-002-058
RUN 02
07 JUL 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

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<	68<	67<	71<	73<	73<	74<	73<	74<	74<	75	76	76	79	82	85	88	87	
31.5	71	71	71	72	72	73	73	74	73	75	75	76	78	82	86	87	89	89	
40	72	72	71	71	74	74	75	75	77	78	77	78	78	82	87	92	93	91	
50	71	71	71	73	72	73	76	75	77	78	78	82	82	83	87	93	94	93	
63	73	74	74	74	75	75	77	78	80	83	82	84	85	86	90	94	95	92	
80	72	72	73	74	74	75	77	79	78	78	80	81	84	86	90	92	95	91	
100	74	75	77	76	78	78	80	79	80	81	81	83	86	89	92	94	94	92	
125	76	77	76	76	76	77	79	79	78	80	80	83	86	87	91	92	90	89	
160	78	78	75	75	76	75	77	79	78	79	80	83	84	87	89	91	85	84	
200	78	78	75	76	75	77	77	76	78	80	80	81	84	87	87	86	83	80	
250	75	76	77	76	76	77	78	78	77	79	78	81	85	86	86	85	84	77	
315	72	76	76	74	74	73	74	76	76	76	78	79	81	85	83	81	81	73	
400	73	74	73	73	72	72	72	75	73	75	75	77	78	80	80	77	75	70	
500	73	74	75	74	72	72	72	74	72	73	74	75	75	78	75	72	71	66	
630	74	74	75	75	72	73	72	71	72	72	72	73	71	73	71	71	68	65	
800	74	73	75	74	72	73	72	71	71	71	72	71	67	71	70	73	68	65	
1000	76	76	77	77	73	75	73	73	72	72	73	72	71	72	71	74	70	68	
1250	78	75	77	79	73	75	74	73	72	74	74	73	74	74	73	73	70	68	
1600	78	78	78	82	78	80	78	75	73	76	75	75	77	75	74	72	70	68	
2000	81	81	81	82	81	81	79	76	75	78	78	77	78	75	74	74	71	69	
2500	89	87	89	94	92	92	92	88	90	89	96	92	87	87	84	82	80	82	
3150	87	87	89	92	90	92	90	88	88	88	95	91	88	87	85	83	80	82	
4000	84	84	84	85	84	85	83	80	79	81	80	80	82	79	76	77	74	74	
5000	85	85	87	90	86	87	85	82	82	85	86	83	83	80	78	78	75	72	
6300	81	81	86	87	83	84	81	80	79	82	83	80	80	78	77	77	73	71	
8000	74	73	77	79	78	81	79	73	76	78	78	81	80	75	73	72	68	66	
10000	70	69	71	75	72	74	73	69	70	73	73	74	73	70	68	67	63	59	
OVERALL	94	94	95	98	96	97	96	94	94	95	99	97	96	98	100	102	102	100	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 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	69<	69<	70<	70<	74<	73<	77	79	77	75	77	77	80	82	87	89	92	90	
31.5	71	72	73	72	74	73	76	77	75	78	79	78	81	83	89	94	95	93	
40	71	72	72	74	76	74	77	77	78	80	80	83	83	85	91	95	98	94	
50	72	72	73	74	75	75	77	77	78	80	81	83	85	88	92	96	100	95	
63	74	76	74	75	75	78	79	80	81	83	83	85	87	88	94	97	101	94	
80	74	75	77	76	77	78	80	81	82	83	83	86	87	91	94	97	101	94	
100	78	78	80	79	81	82	83	83	83	85	85	88	89	92	97	97	101	94	
125	80	82	80	79	79	80	82	81	82	83	84	88	90	92	96	97	94	91	
160	81	83	80	79	78	79	80	81	82	83	84	86	90	92	95	97	91	87	
200	80	81	79	79	78	80	80	80	80	82	85	86	89	92	94	93	91	83	
250	77	80	81	78	79	79	81	80	80	82	84	85	89	90	91	90	90	82	
315	75	79	80	78	78	77	78	80	78	79	83	84	88	89	89	88	86	77	
400	76	79	78	76	77	75	77	78	75	78	80	81	84	85	85	84	82	74	
500	74	76	77	77	76	76	76	77	75	76	78	78	81	81	80	78	78	71	
630	75	76	76	77	75	76	78	77	74	75	76	78	79	77	78	74	75	72	
800	75	76	78	76	77	78	78	77	75	77	80	80	76	78	80	75	75	71	
1000	76	77	80	81	80	83	83	80	78	80	81	81	80	80	82	78	78	72	
1250	79	83	82	81	82	84	88	84	82	83	83	81	82	84	82	79	79	74	
1600	78	79	81	82	82	83	83	82	79	81	81	80	81	80	80	77	76	75	
2000	79	80	80	85	84	86	85	82	81	83	83	83	80	82	80	81	77	76	
2500	84	84	85	88	86	87	86	84	83	86	86	85	82	80	82	79	79	77	
3150	92	92	91	97	92	98	97	95	94	97	98	96	91	88	90	87	85	86	
4000	83	83	83	87	86	89	90	87	83	84	85	84	82	81	81	79	78	75	
5000	82	81	82	85	83	84	84	82	80	82	82	80	78	78	77	74	73	72	
6300	82	81	82	86	83	86	84	83	83	84	85	83	82	80	81	77	76	72	
8000	75	75	74	78	77	78	77	76	74	76	77	75	73	72	71	69	69	64	
10000	72	72	69	75	74	75	75	73	72	76	75	76	73	71	70	67	66	61	
OVERALL	95	96	95	99	96	100	100	98	97	99	100	100	100	101	104	106	108	103	

< 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 75-002-058
RUN 04
07 JUL 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

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

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

NOISE SOURCE/SUBJECT:

A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:

AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 6

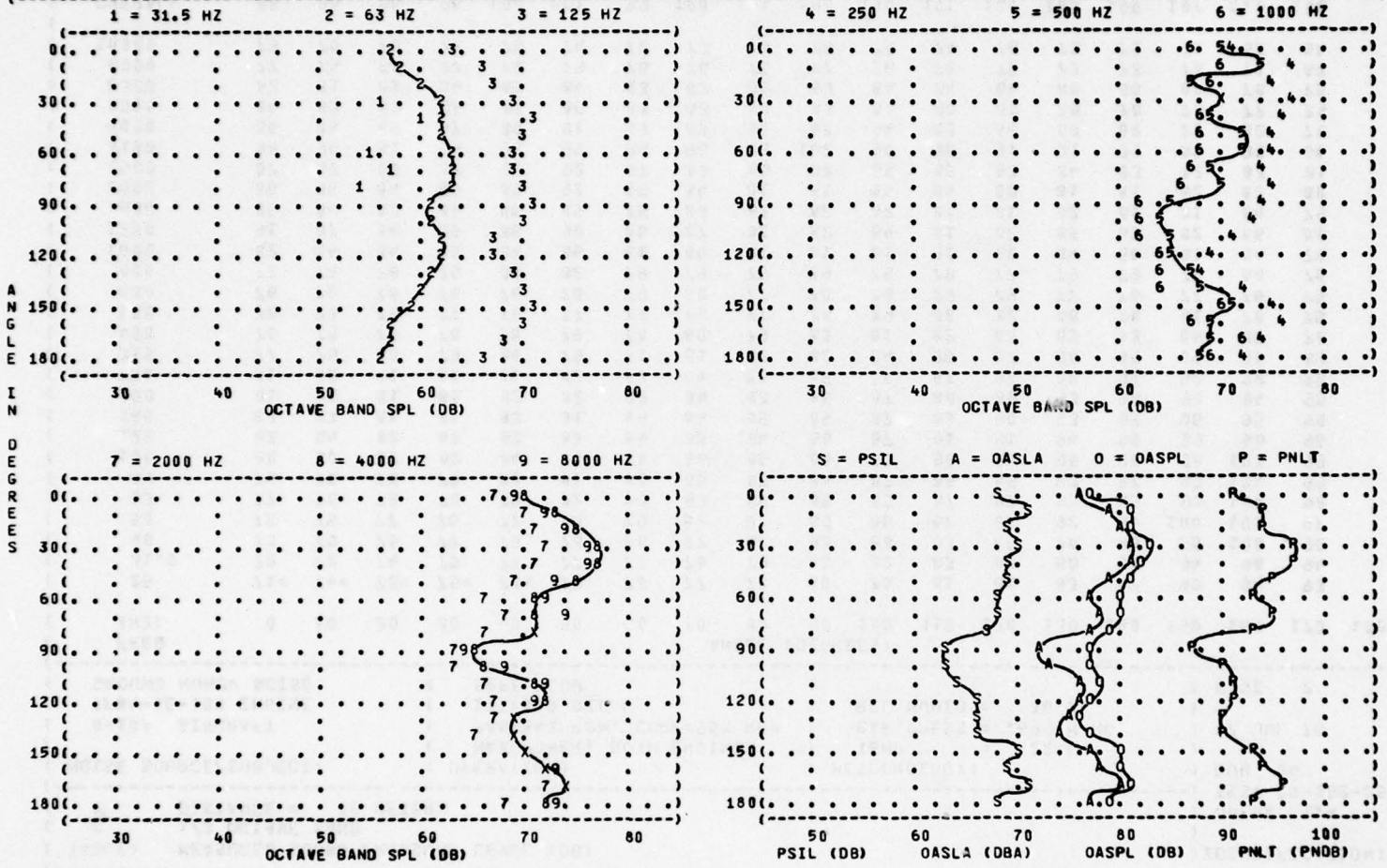


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01

07 JUL 75

PAGE 6

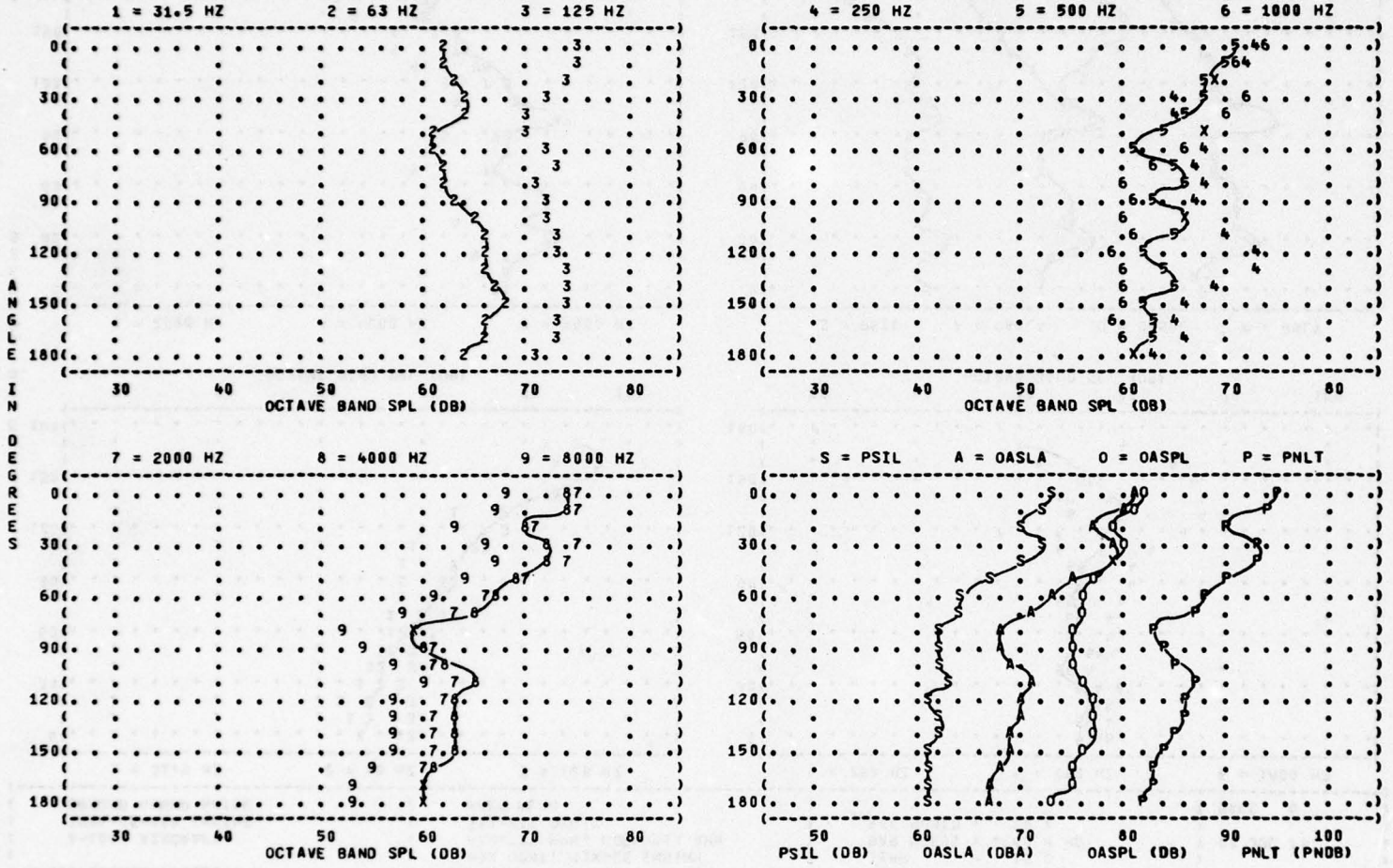


FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 6

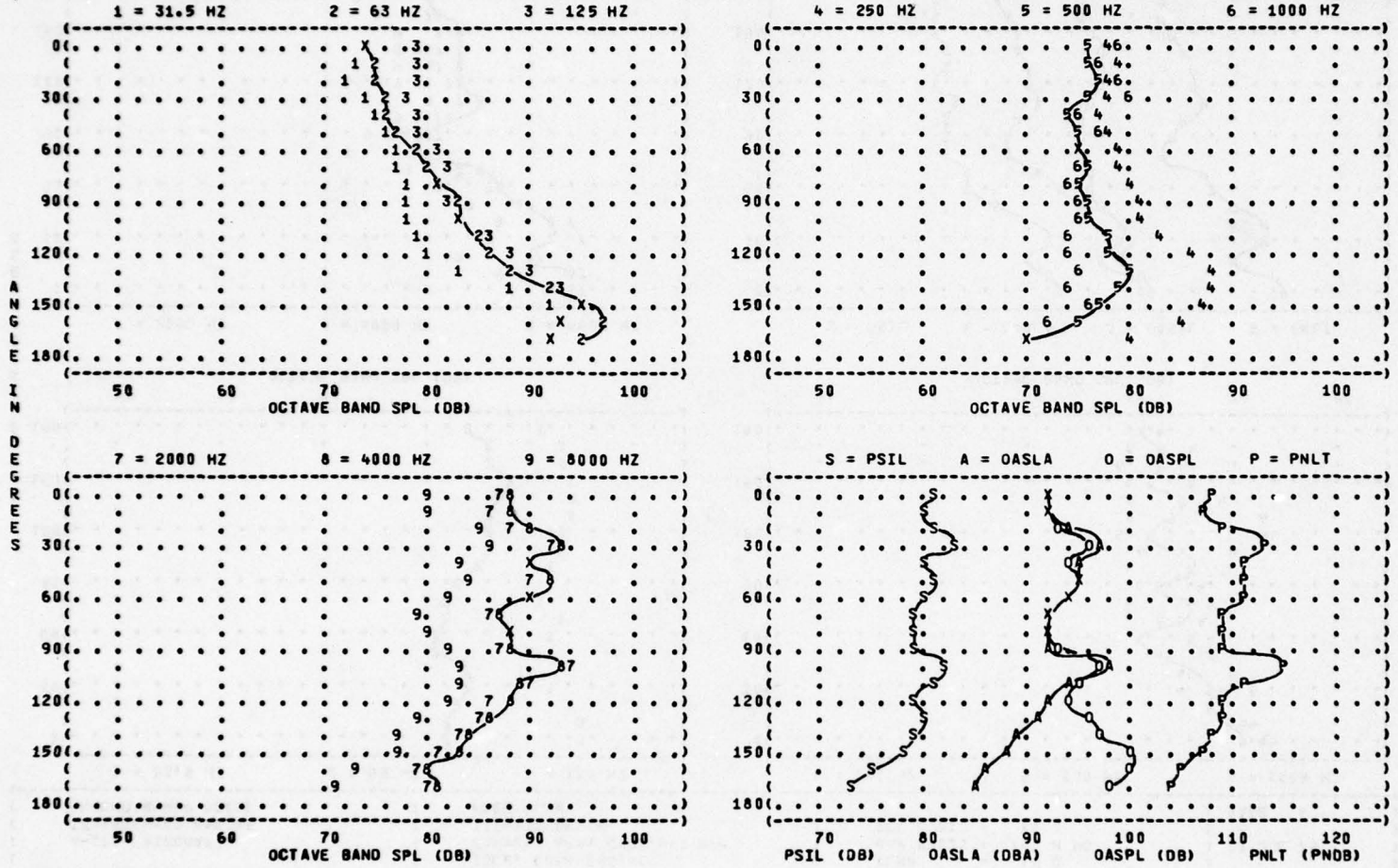


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 6

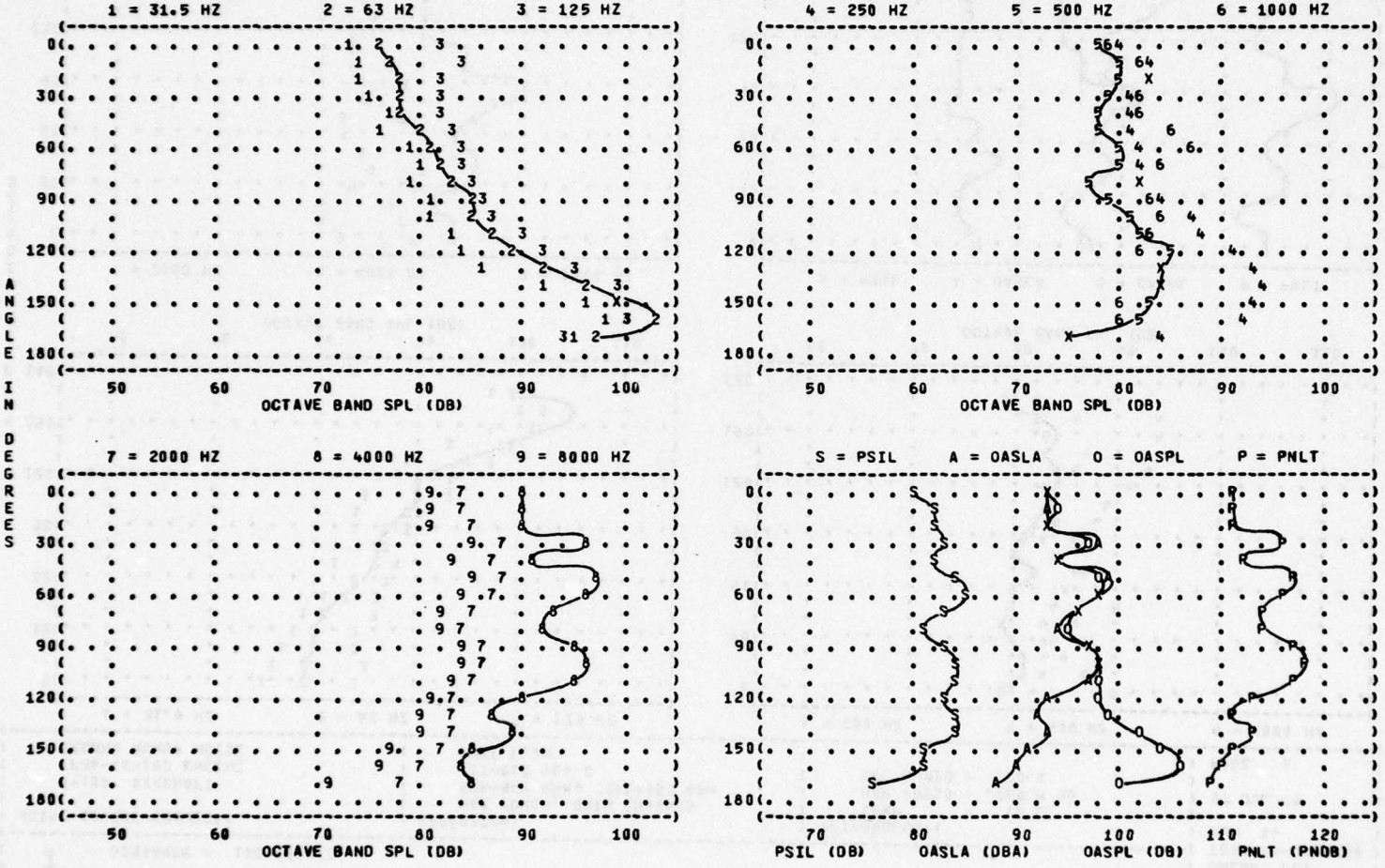


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 6

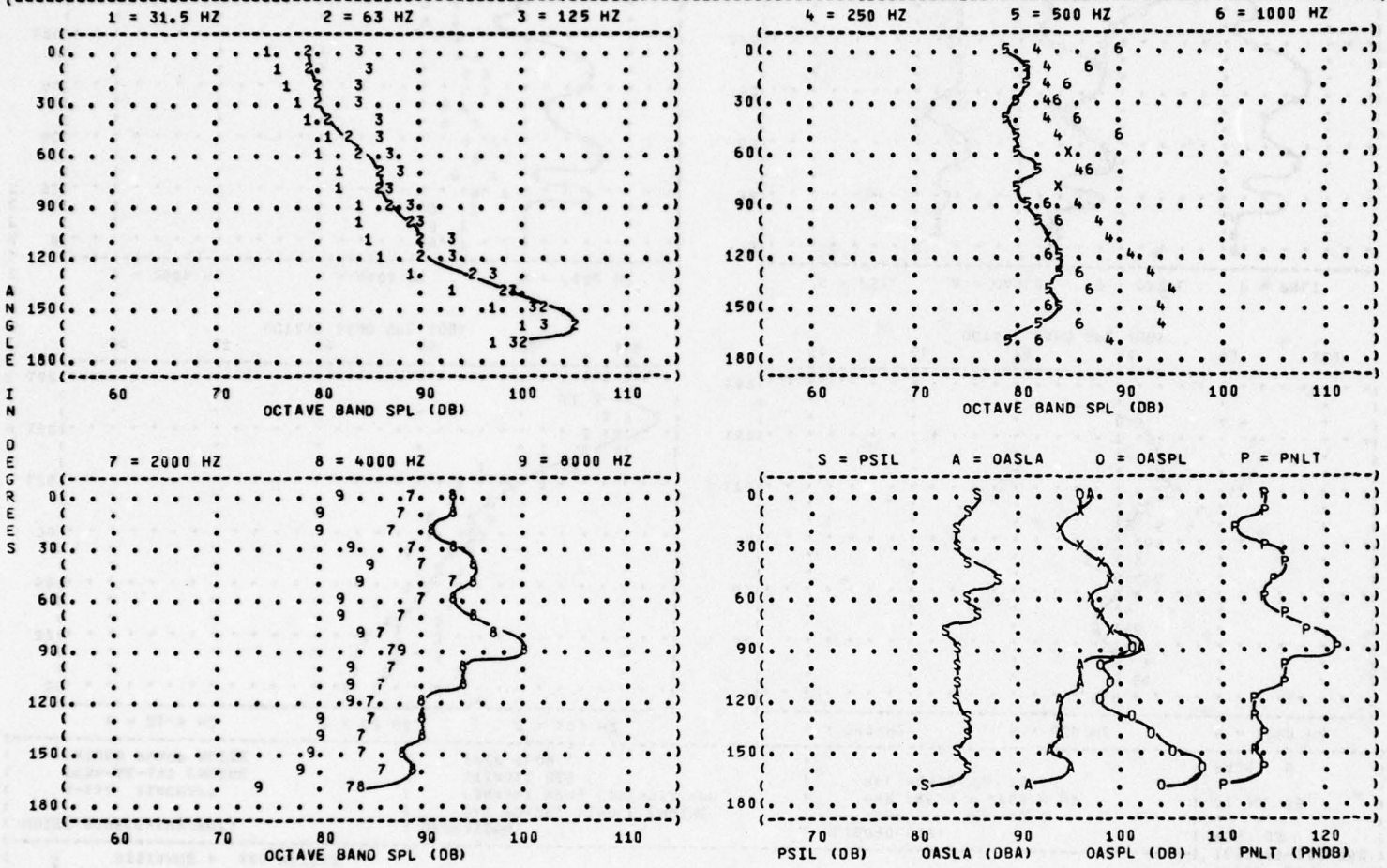


FIGURE: ACOUSTIC POWER LEVEL (PWL)

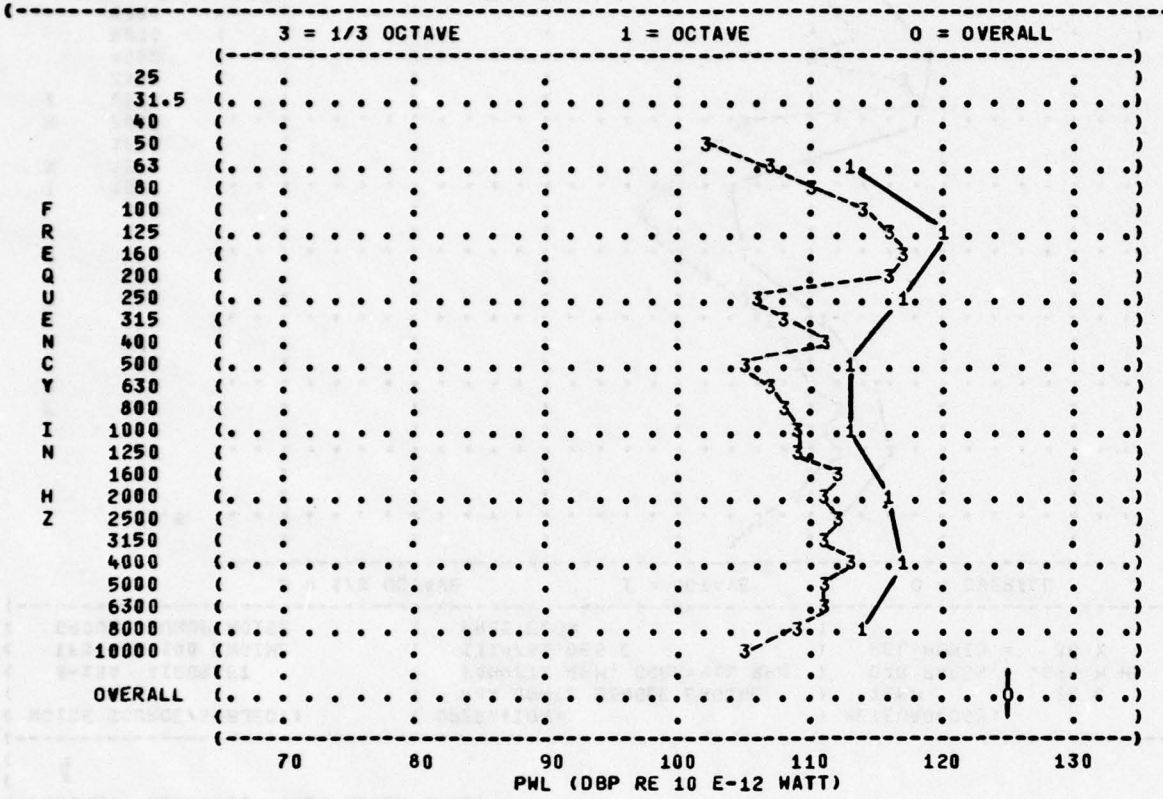
4

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
50	101.8	
63	107.2	112.5
80	110.4	
100	114.4	
125	115.8	120.4
160	116.5	
200	115.7	
250	106.0	116.6
315	108.4	
400	110.7	
500	105.3	113.0
630	106.9	
800	108.4	
1000	109.0	113.5
1250	108.7	
1600	111.9	
2000	111.2	116.3
2500	111.5	
3150	111.2	
4000	113.2	116.7
5000	111.1	
6300	111.4	
8000	108.7	113.9
10000	105.4	
OVERALL		125.2

FREQUENCY IN HZ

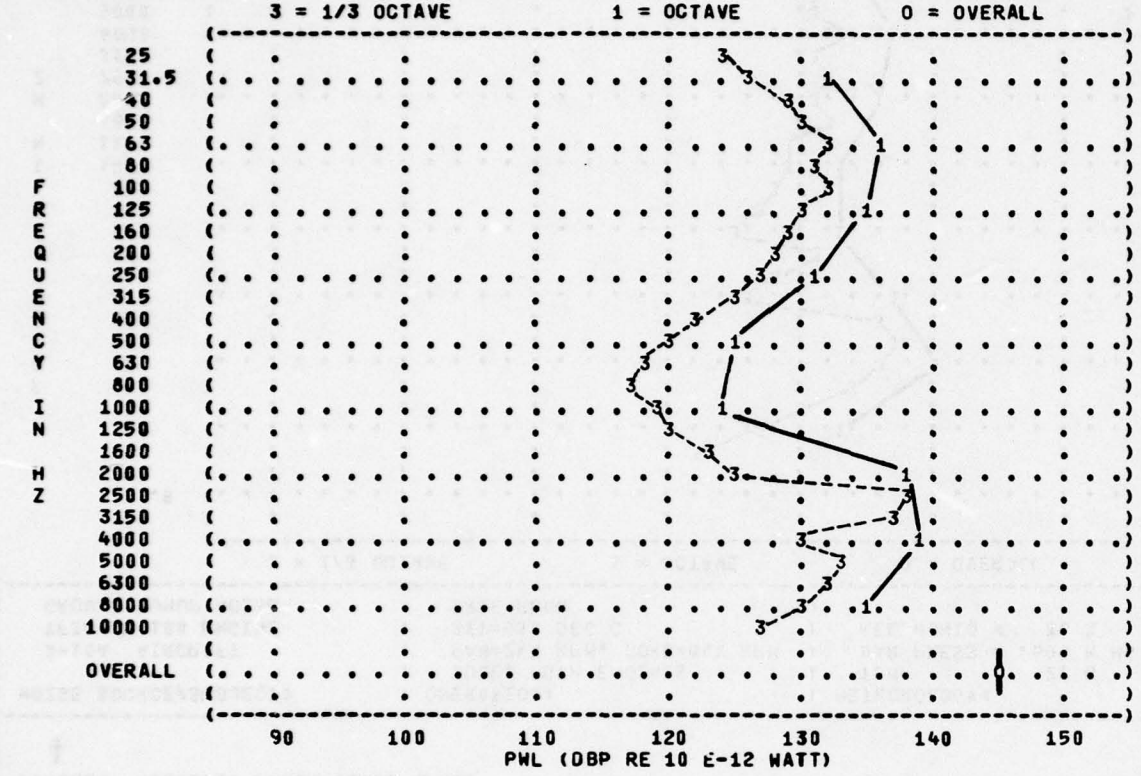
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 3



PWL	1/3 OCTAVE	OCTAVE
	124.2	
	126.1	131.6
	129.0	
	129.9	
	131.7	135.7
	130.9	
	132.0	
	130.4	135.4
	129.1	
	127.6	
	127.0	131.4
	124.7	
	121.6	
	119.8	124.8
	118.0	
	117.4	
	119.0	123.7
	120.0	
	122.9	
	124.5	138.1
	137.8	
	137.2	
	129.6	139.2
	133.2	
	131.8	
	130.1	134.8
	127.1	
	144.5	

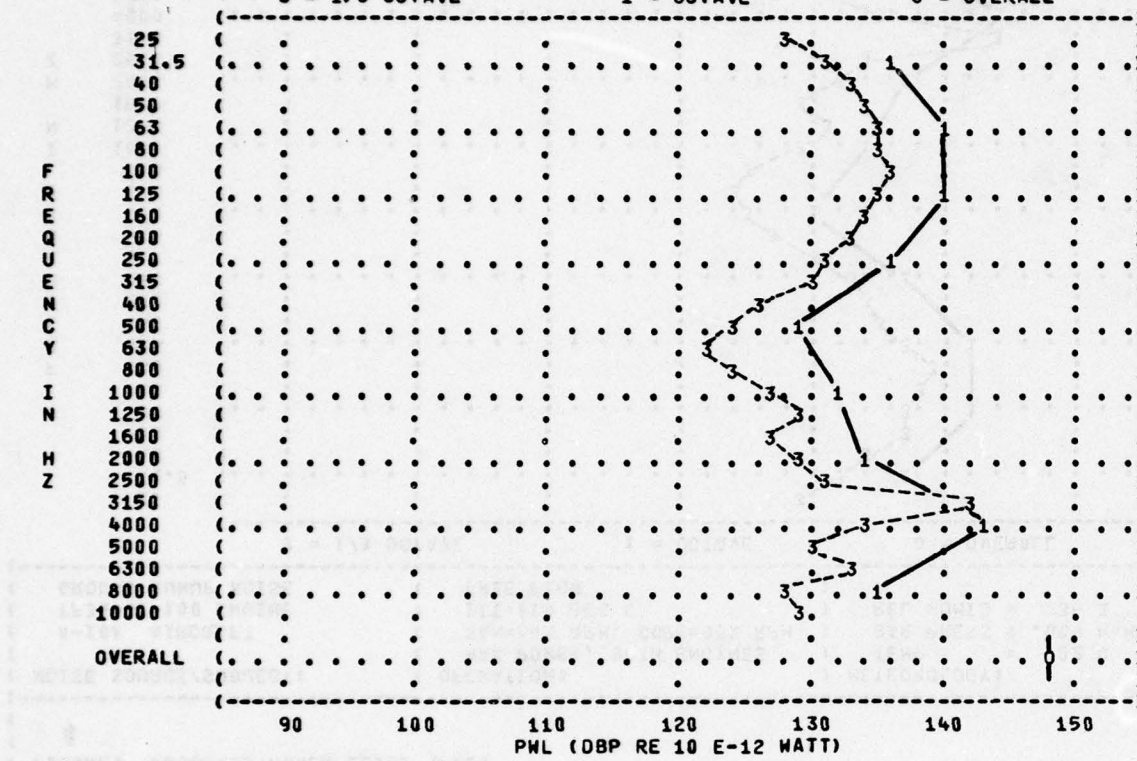
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 3

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	127.8	
31.5	130.7	135.5
40	132.6	
50	134.3	
63	135.1	139.7
80	135.4	
100	136.4	
125	134.9	140.1
160	134.3	
200	132.9	
250	131.3	136.3
315	129.9	
400	126.5	
500	123.6	129.3
630	122.4	
800	123.6	
1000	126.5	131.8
1250	129.2	
1600	127.3	
2000	129.1	134.4
2500	131.5	
3150	142.4	
4000	133.7	143.2
5000	130.2	
6300	133.4	
8000	127.6	135.5
10000	128.9	
OVERALL		147.5

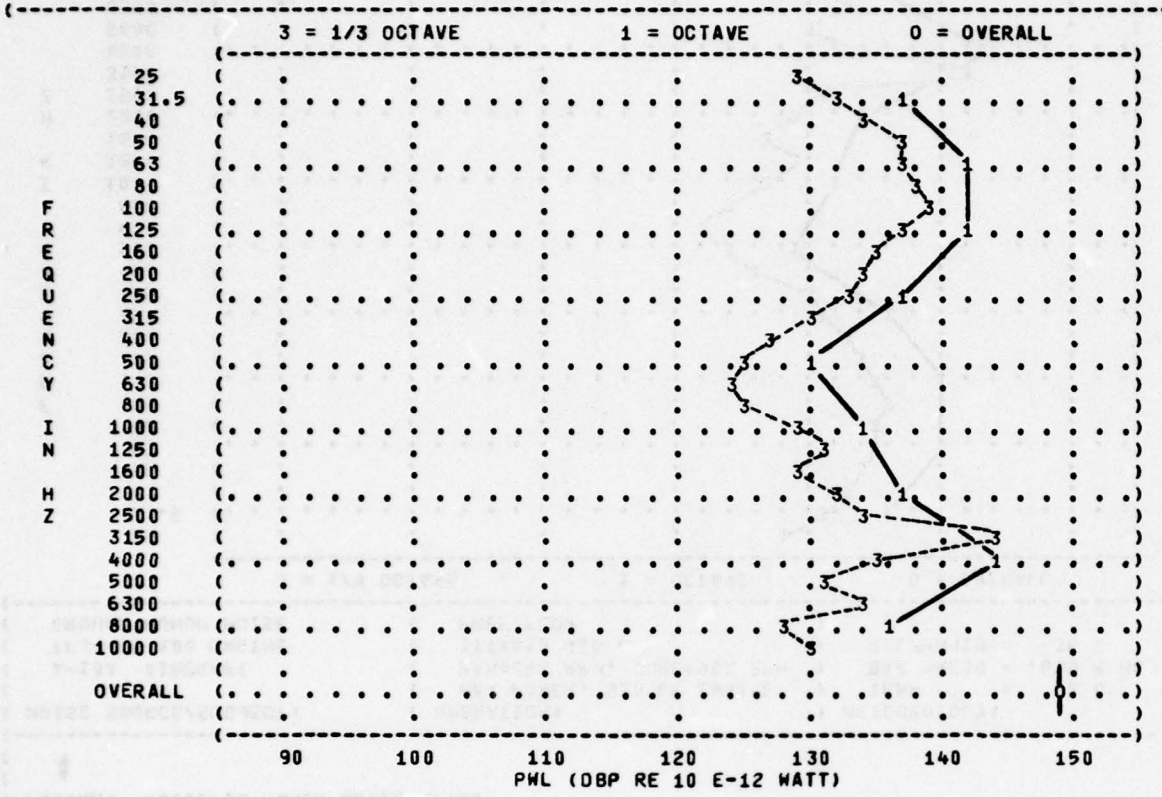
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 3



1/3 OCTAVE	PWL OCTAVE
129.4	
131.9	137.2
134.5	
136.7	
136.9	142.1
138.3	
138.5	
136.8	141.9
135.4	
134.0	
132.5	137.3
130.2	
126.9	
124.6	130.1
123.8	
124.8	
128.9	133.8
131.2	
129.0	
132.1	136.7
133.6	
143.7	
134.7	144.4
131.1	
134.4	
128.1	136.3
129.6	
	149.2

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 4

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-058
RUN 02

07 JUL 75

PAGE 4

NOISE SOURCE/SUBJECT:

A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:

MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

METEOROLOGY:

TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 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	-13	-13	-12	-12	-8	-9	-6	-4	-6	-7	-6	-5	-3	-1	4	7	9	8	
31.5	-14	-13	-12	-13	-11	-12	-9	-8	-10	-7	-6	-7	-4	-2	4	9	10	8	
40	-16	-15	-15	-13	-11	-13	-10	-10	-9	-7	-7	-4	-4	-2	4	8	11	7	
50	-16	-17	-15	-15	-13	-13	-12	-12	-11	-9	-7	-6	-4	-1	3	7	11	7	
63	-16	-14	-16	-15	-14	-11	-11	-10	-8	-7	-7	-5	-2	-2	5	7	11	4	
80	-16	-14	-13	-13	-13	-11	-10	-8	-8	-7	-7	-4	-3	1	4	7	11	4	
100	-13	-12	-11	-12	-9	-9	-8	-8	-8	-6	-6	-3	-2	1	6	6	10	3	
125	-10	-8	-10	-10	-10	-9	-7	-8	-8	-6	-5	-2	1	3	6	8	5	1	
160	-8	-6	-9	-10	-10	-10	-9	-8	-7	-6	-5	-3	2	3	6	8	3	-2	
200	-8	-6	-9	-8	-9	-7	-8	-7	-7	-6	-3	-1	1	5	6	6	4	-4	
250	-9	-6	-4	-7	-7	-7	-4	-6	-6	-4	-1	-1	4	4	5	4	4	-4	
315	-9	-6	-5	-7	-6	-7	-6	-4	-6	-5	-1	0	3	5	5	4	1	-7	
400	-4	-2	-3	-5	-4	-5	-4	-3	-6	-2	-1	0	4	4	4	3	1	-7	
500	-4	-1	-1	-1	-2	-2	-2	-1	-3	-2	1	0	3	3	3	-0	-0	-7	
630	-1	-1	-0	0	-1	-1	2	0	-3	-1	-0	2	2	1	1	-2	-2	-4	
800	-3	-2	0	-1	-1	0	1	-1	-3	-1	2	2	-2	-0	3	-3	-3	-7	
1000	-5	-4	-1	0	-1	3	2	-1	-2	-1	1	1	-1	-0	1	-2	-3	-9	
1250	-4	-0	-1	-2	-1	1	5	1	-1	-0	-0	-2	-1	1	-1	-4	-4	-9	
1600	-3	-2	0	1	1	2	2	1	-2	0	0	-1	0	-1	-1	-4	-5	-6	
2000	-4	-3	-3	3	2	3	2	-1	-1	0	0	1	-3	-1	-2	-2	-6	-7	
2500	-0	-0	0	4	1	3	1	-0	-2	1	1	0	-3	-4	-3	-6	-5	-7	
3150	-3	-3	-4	2	-3	3	2	-0	-1	2	3	1	-4	-7	-5	-8	-10	-9	
4000	-2	-2	-2	1	1	4	5	2	-2	-1	-1	-1	-3	-5	-5	-6	-8	-11	
5000	0	-0	1	4	2	3	3	1	-2	0	0	-2	-3	-4	-4	-7	-8	-10	
6300	-1	-2	-1	3	0	3	1	-0	0	1	2	-0	-1	-3	-2	-6	-7	-11	
8000	-0	-0	-1	3	1	3	2	0	-2	0	1	-0	-2	-4	-4	-7	-7	-11	
10000	-1	-1	-4	1	0	2	2	-1	-1	2	2	2	-1	-2	-4	-7	-8	-13	
OCTAVE																			
31.5	-15	-14	-13	-13	-11	-12	-9	-8	-8	-7	-7	-5	-4	-2	4	8	10	7	
63	-16	-15	-14	-14	-14	-12	-11	-10	-9	-7	-7	-5	-3	-0	4	7	11	5	
125	-10	-8	-10	-11	-10	-9	-8	-8	-8	-6	-5	-3	0	3	6	7	7	2	
250	-8	-6	-6	-8	-7	-7	-6	-6	-6	-5	-2	-1	3	5	6	5	4	-4	
500	-3	-2	-2	-2	-3	-3	-2	-2	-4	-2	-0	1	3	3	3	2	0	-6	
1000	-4	-1	-1	-1	-1	2	4	0	-2	-1	0	0	-1	0	0	-3	-3	-8	
2000	-2	-1	-1	3	1	3	2	-0	-2	1	1	-0	-2	-2	-2	-4	-5	-7	
4000	-3	-3	-4	2	-2	3	2	-0	-1	2	3	1	-4	-7	-5	-8	-9	-9	
8000	-1	-2	-2	2	0	2	1	-0	-0	1	2	0	-1	-3	-3	-6	-7	-12	
OVERALL	-6	-5	-6	-2	-5	-1	-1	-3	-4	-2	-1	-1	-1	0	3	5	7	2	

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

METEOROLOGY:
TEMP = 22 C
BAR PRESS = .699 M HG
REL HUMID = 36 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 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	-12	-9	-10	-9	-11	-5	-6	-7	-5	-4	-5	-3	-3	-0	3	7	10	9	
31.5	-14	-15	-13	-11	-9	-9	-10	-8	-8	-6	-4	-3	-3	-0	4	7	10	8	
40	-16	-14	-14	-12	-11	-11	-11	-7	-7	-6	-6	-6	-4	-1	4	7	11	7	
50	-16	-16	-14	-15	-14	-12	-12	-9	-8	-8	-5	-4	-4	1	3	9	10	6	
63	-15	-14	-13	-13	-12	-10	-9	-8	-7	-7	-7	-4	-5	1	4	6	11	6	
80	-17	-15	-15	-14	-13	-12	-10	-8	-10	-8	-6	-5	-3	-1	4	7	11	6	
100	-13	-13	-11	-11	-9	-9	-9	-7	-7	-5	-5	-3	-2	2	5	5	10	6	
125	-9	-8	-9	-9	-9	-8	-7	-7	-7	-5	-4	-1	-0	3	4	8	7	4	
160	-7	-7	-9	-9	-7	-8	-6	-5	-5	-5	-3	-0	0	3	5	7	5	5	
200	-8	-8	-8	-7	-6	-7	-6	-4	-6	-4	-2	-1	1	4	6	5	5	1	
250	-6	-5	-6	-6	-6	-5	-4	-3	-4	-2	-2	-0	1	3	5	5	5	-2	
315	-8	-5	-5	-5	-5	-5	-3	-3	-5	-3	-1	1	2	3	5	4	3	-2	
400	-4	-2	-2	-3	-3	-3	-3	-1	-3	-1	-1	1	2	3	2	3	0	-3	
500	-2	-1	-1	-2	-2	-2	-2	-0	-2	-1	0	2	3	2	-1	3	-1	-4	
630	-2	0	-0	0	-2	0	1	2	-1	0	-0	1	1	-1	-2	-1	-2	-3	
800	-2	-1	-1	-3	2	3	-0	-0	-0	-0	-0	0	-2	0	0	-2	1	-3	
1000	-1	1	1	-3	1	3	-2	1	-2	-2	-2	-2	-3	1	3	-2	1	-4	
1250	6	2	-1	0	1	5	1	2	-2	-3	-1	-4	-3	0	0	-3	1	-4	
1600	3	1	-0	1	3	2	2	0	-1	-1	-1	-2	-2	-1	-2	-2	2	-3	
2000	-0	-2	-2	0	3	6	4	-1	-4	-4	-1	-2	-4	-5	-4	-4	-3	-6	
2500	0	0	-1	1	1	5	0	1	-1	0	-2	-2	-4	-3	-4	-4	-4	-6	
3150	-2	-2	-5	-2	-0	-1	-2	0	3	6	-1	-1	-5	-5	-5	-7	-6	-11	
4000	-1	-1	-1	1	3	4	3	1	-0	1	-2	-3	-3	-3	-4	-5	-5	-8	
5000	2	-0	0	3	4	4	1	0	-3	0	-2	-2	-2	-3	-5	-4	-6	-8	
6300	-2	-3	-3	-0	1	1	-1	-1	1	5	-0	-0	-0	-4	-4	-4	-6	-9	
8000	1	-2	-2	1	3	3	-0	-0	-0	1	-0	0	-0	-3	-3	-3	-5	-8	
10000	-1	-4	-4	-1	0	-0	-2	-1	1	4	0	0	2	-1	-3	-4	-7	-10	
OCTAVE																			
31.5	-15	-13	-13	-11	-11	-9	-9	-7	-7	-6	-5	-4	-4	-1	4	7	10	8	
63	-16	-15	-14	-14	-13	-11	-10	-8	-8	-8	-6	-5	-4	0	4	7	11	6	
125	-10	-9	-10	-10	-8	-8	-7	-6	-7	-5	-4	-1	-1	3	5	7	8	5	
250	-7	-6	-7	-6	-6	-6	-5	-3	-5	-3	-2	-0	1	4	5	5	5	-0	
500	-3	-1	-1	-2	-3	-2	-2	-0	-2	-1	-0	1	2	2	1	2	-0	-3	
1000	4	1	-0	-1	1	4	-0	2	-2	-2	-1	-2	-3	0	1	-3	1	-4	
2000	1	-0	-1	1	2	5	2	0	-2	-1	-1	-2	-3	-3	-3	-4	-2	-5	
4000	-2	-2	-4	-1	0	-0	-1	0	3	5	-1	-1	-5	-5	-5	-7	-6	-10	
8000	-1	-3	-3	-0	1	1	-1	-1	0	5	-0	-0	-0	-4	-4	-4	-6	-9	
OVERALL	-4	-5	-6	-4	-3	-2	-4	-3	-2	1	-3	-2	-2	0	3	5	8	4	

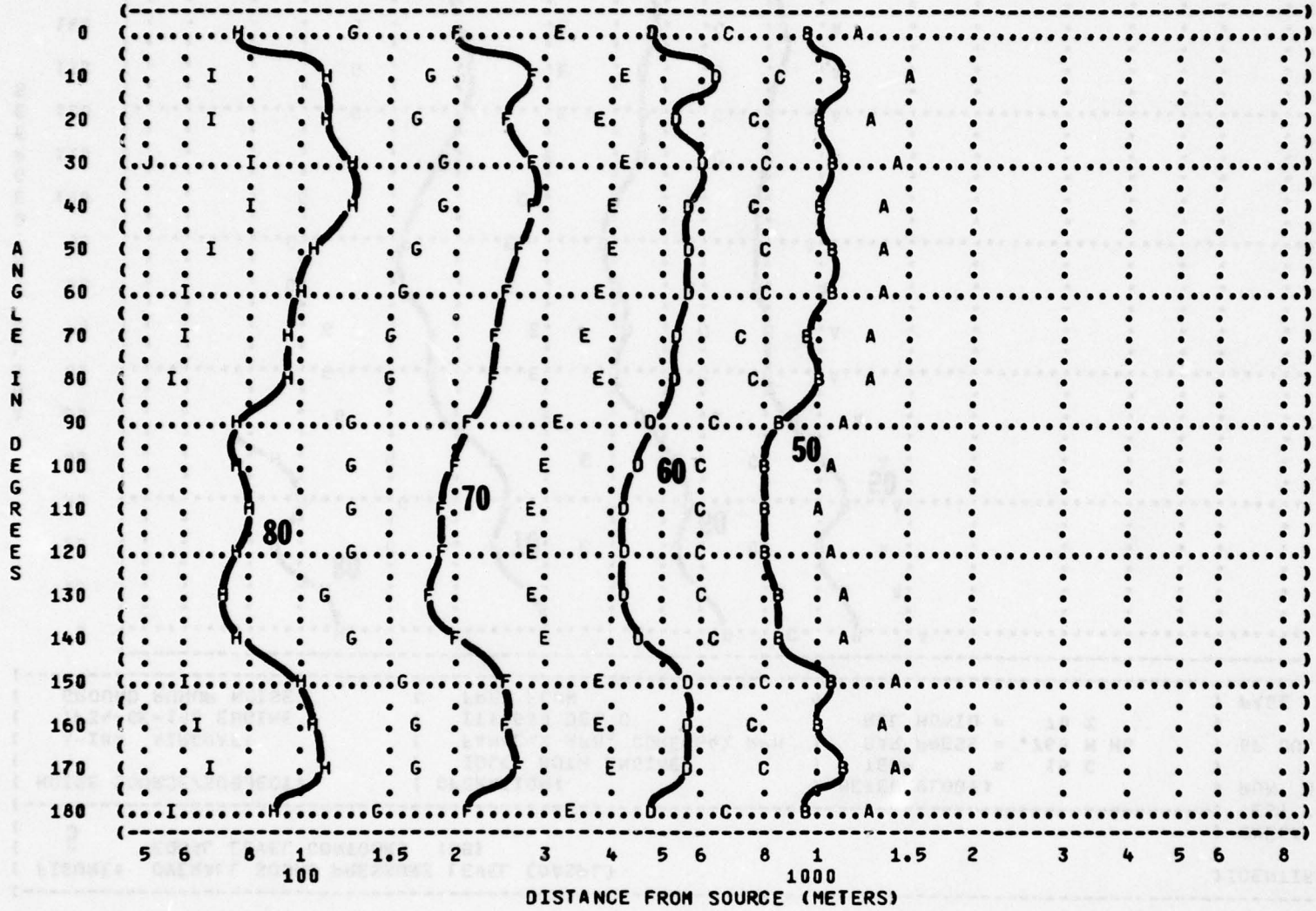
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 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

NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 13

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

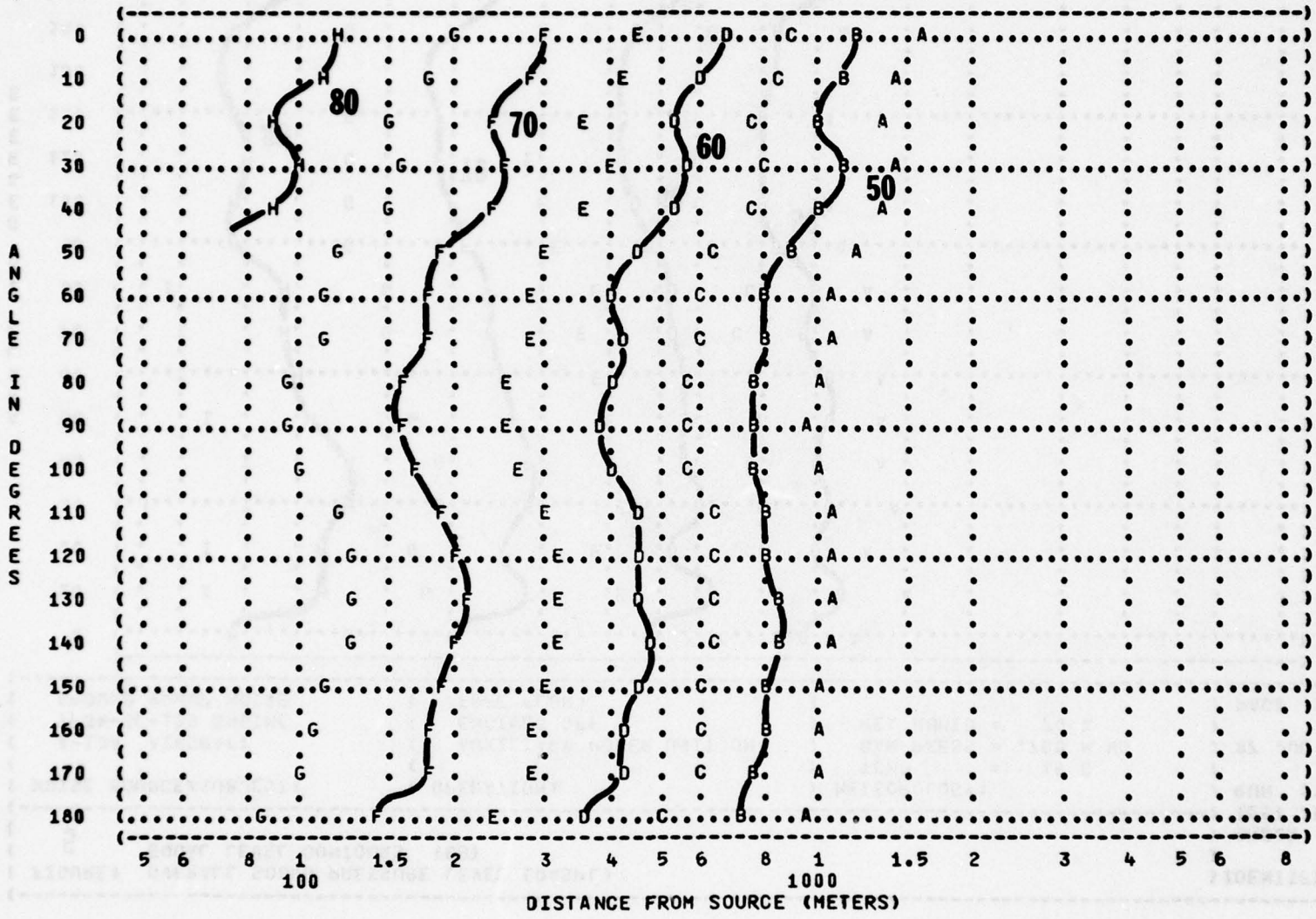


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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

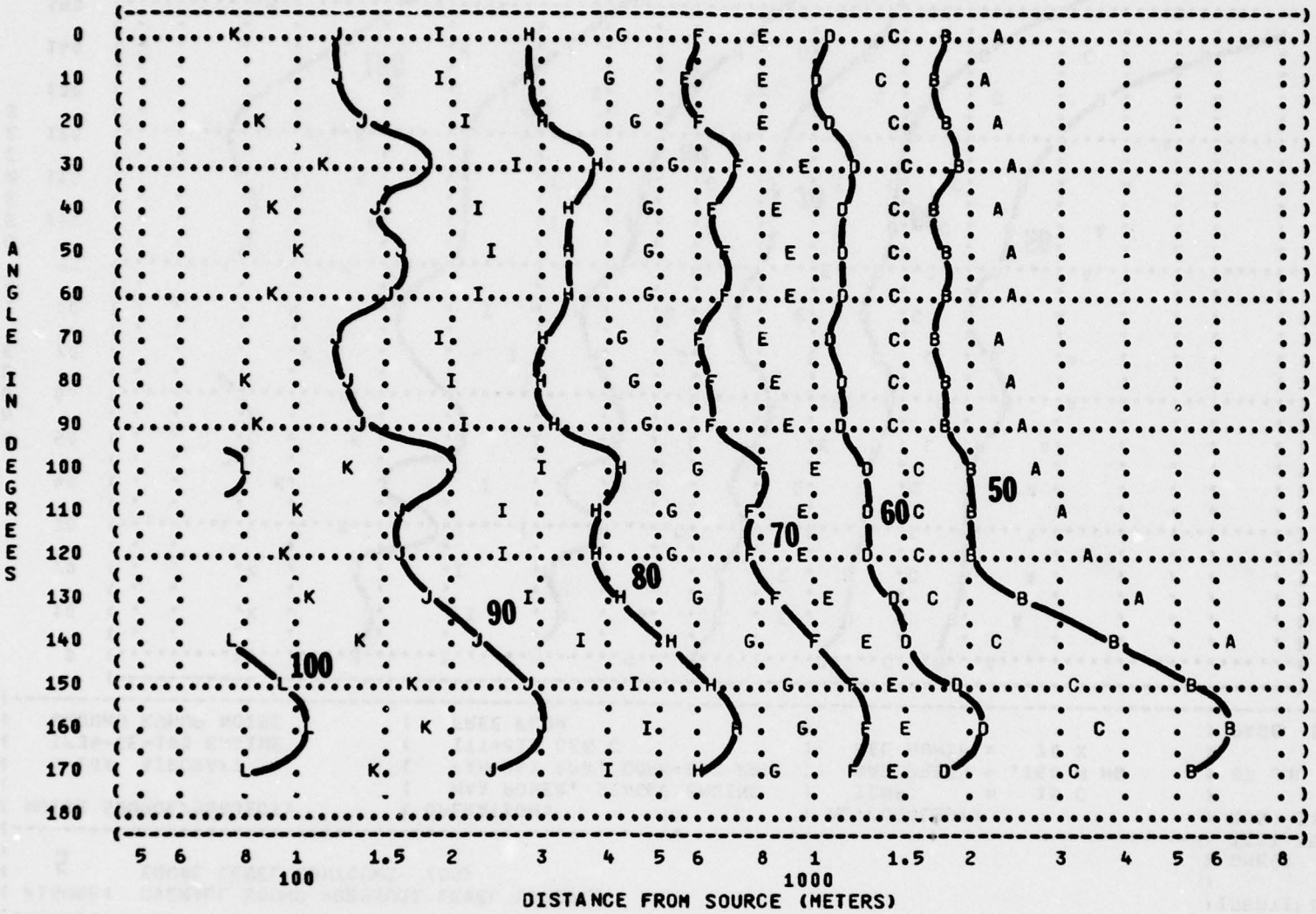


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

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

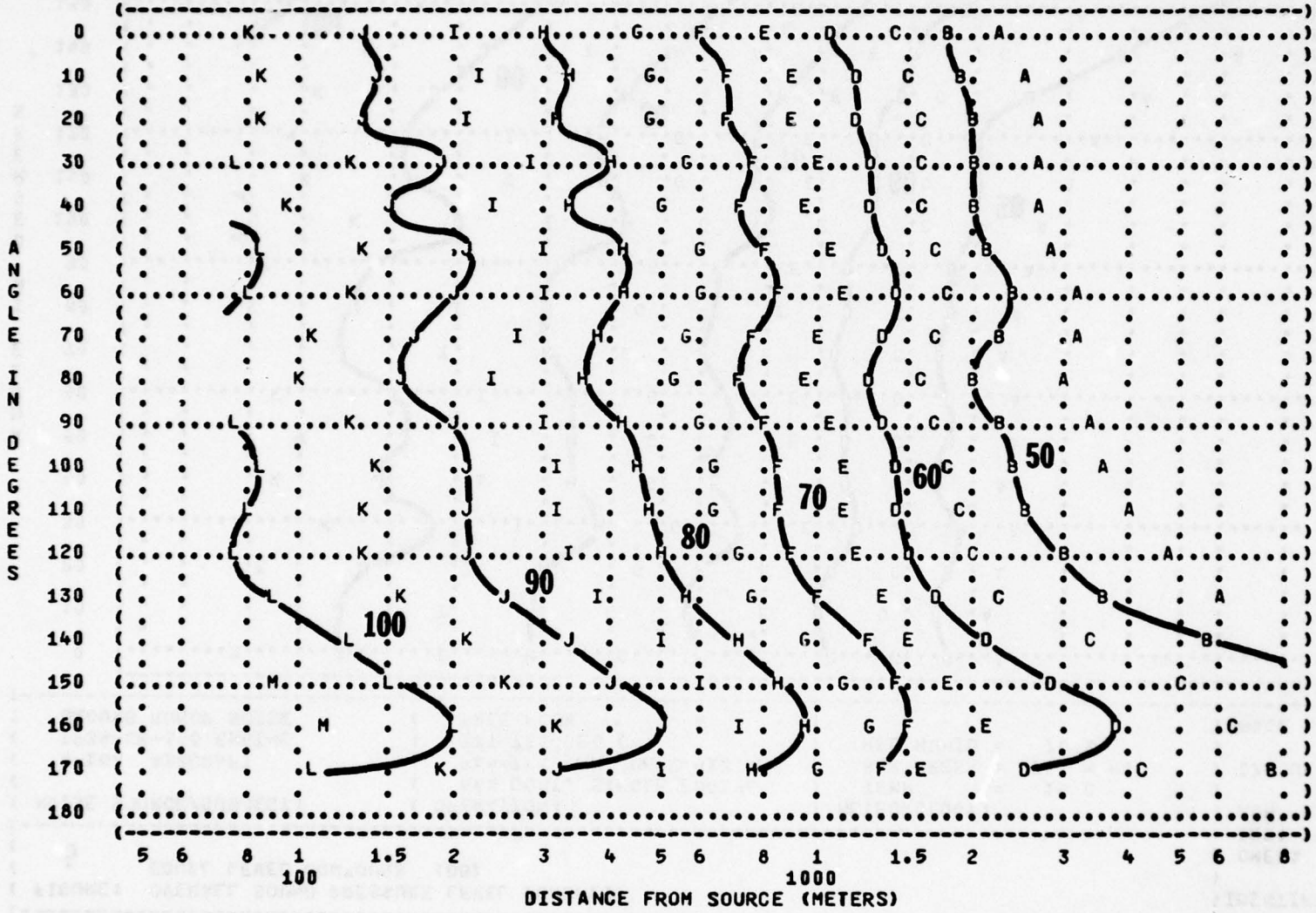


FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110

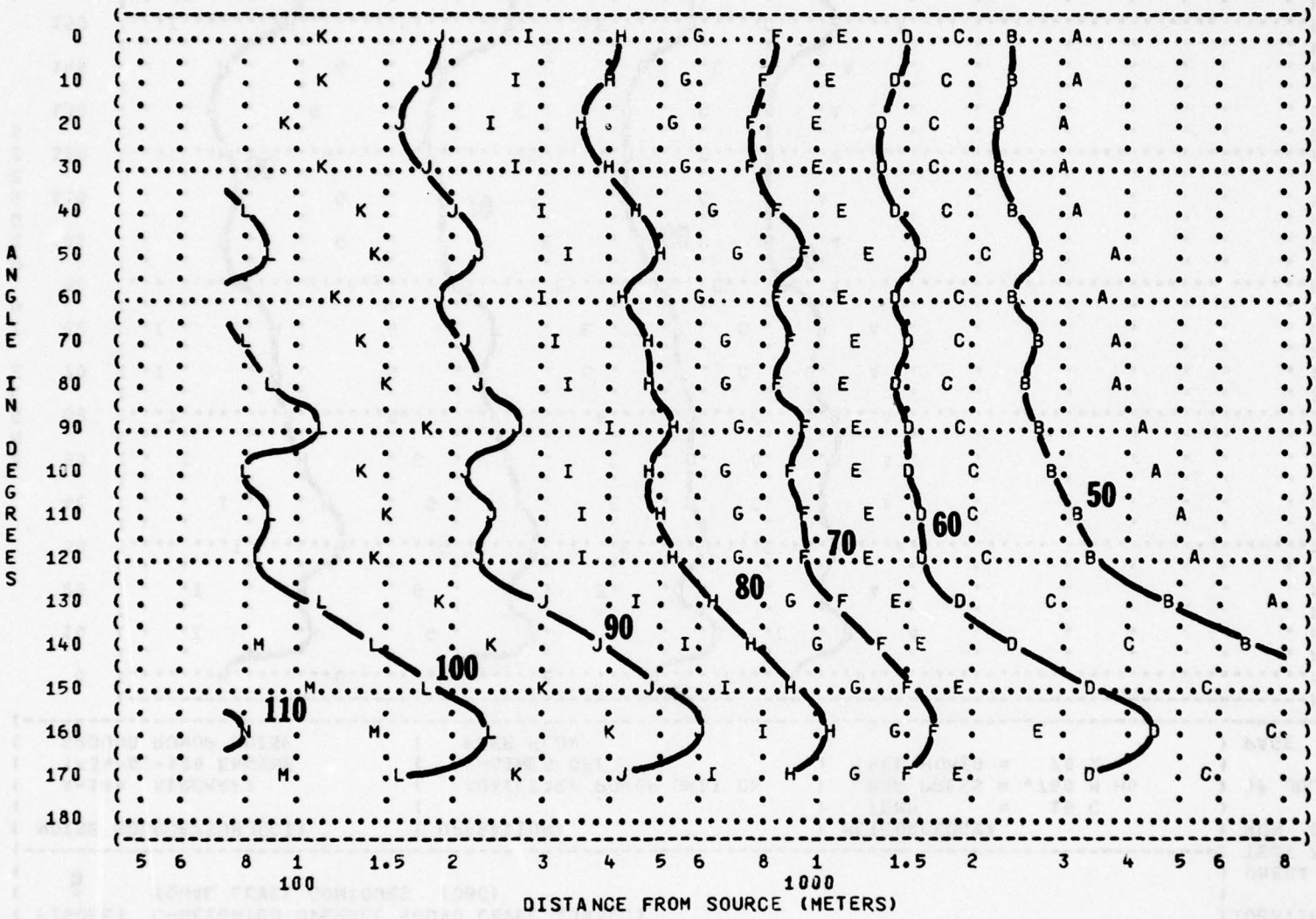


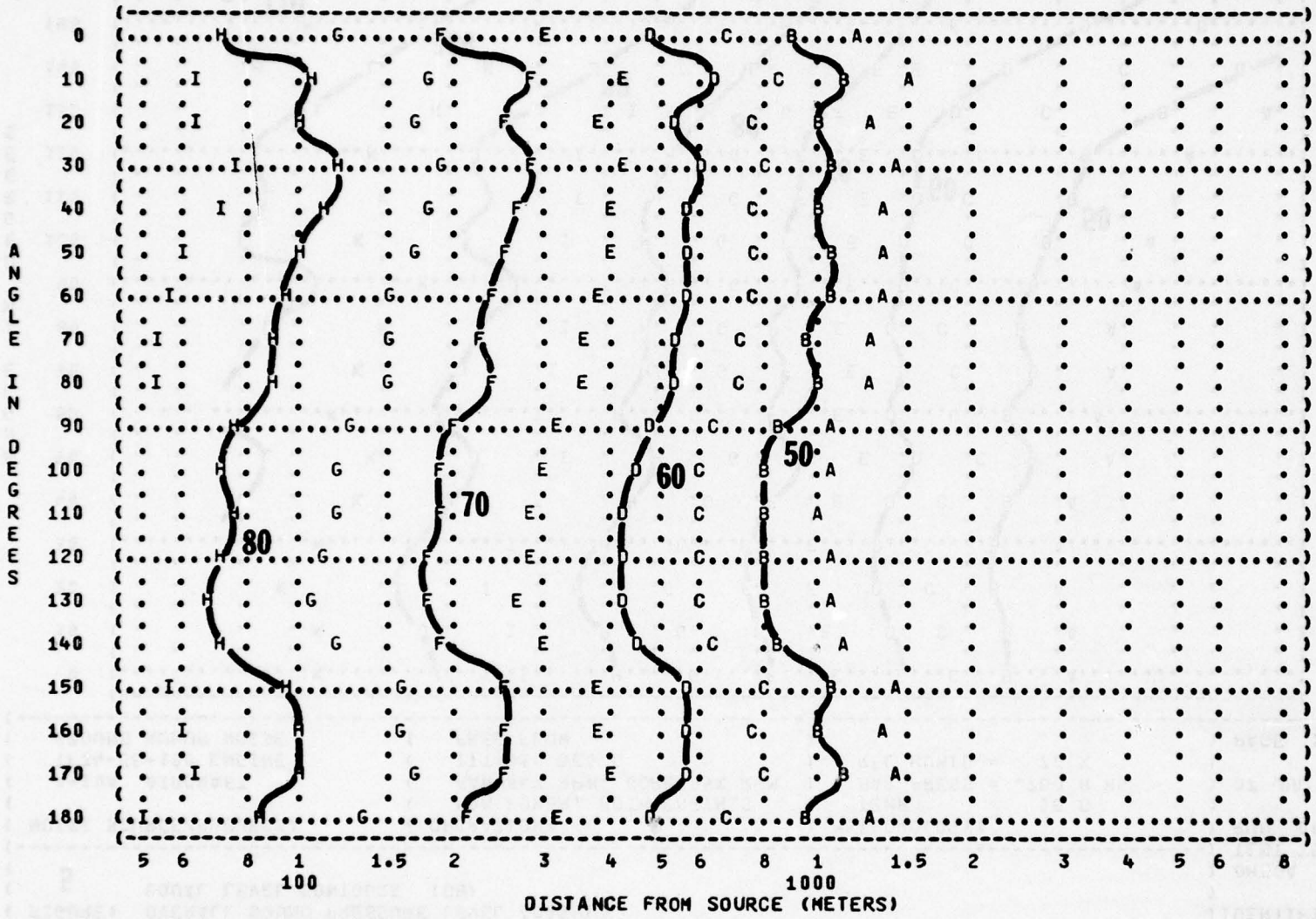
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 14



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

NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
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

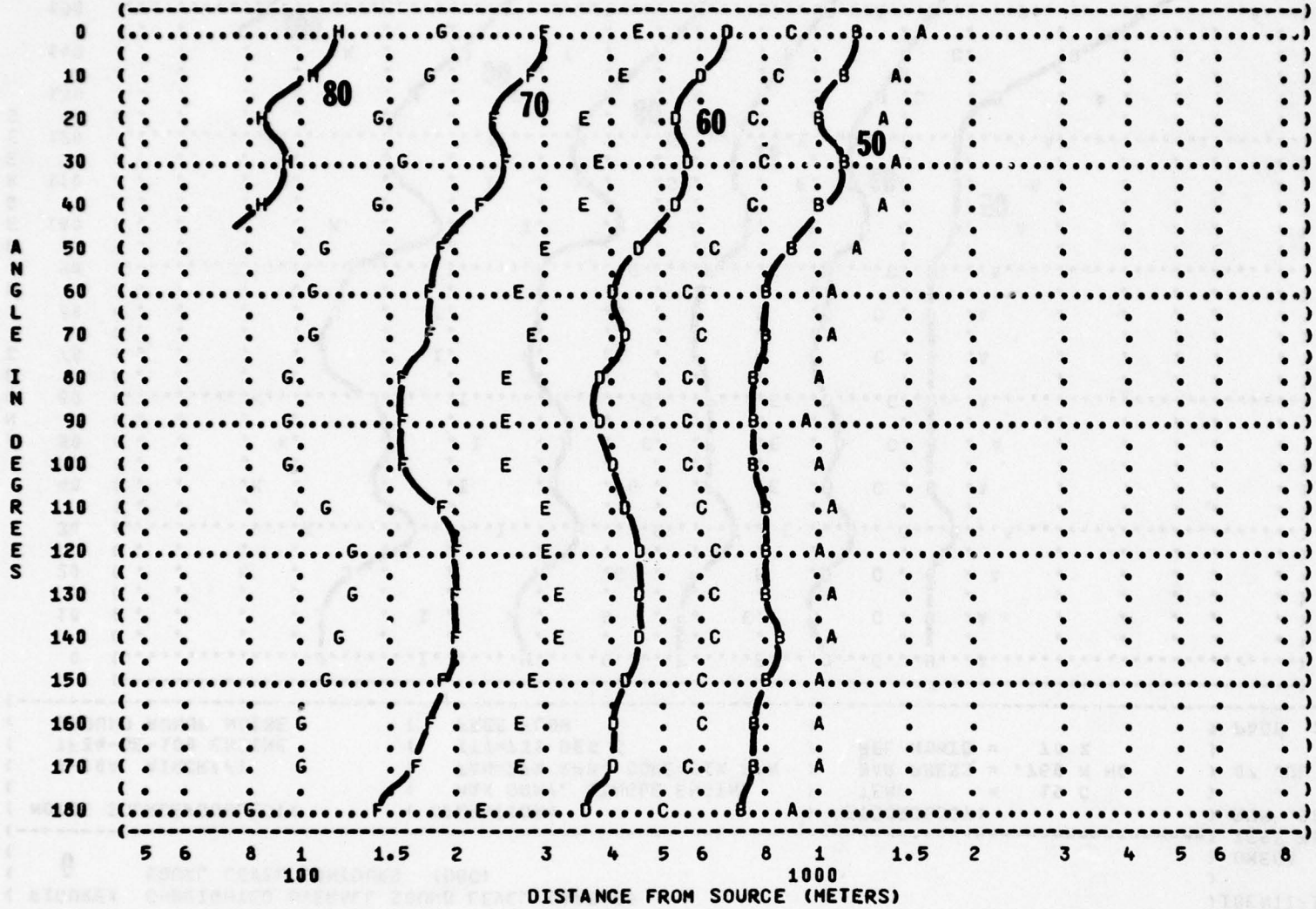


FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
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

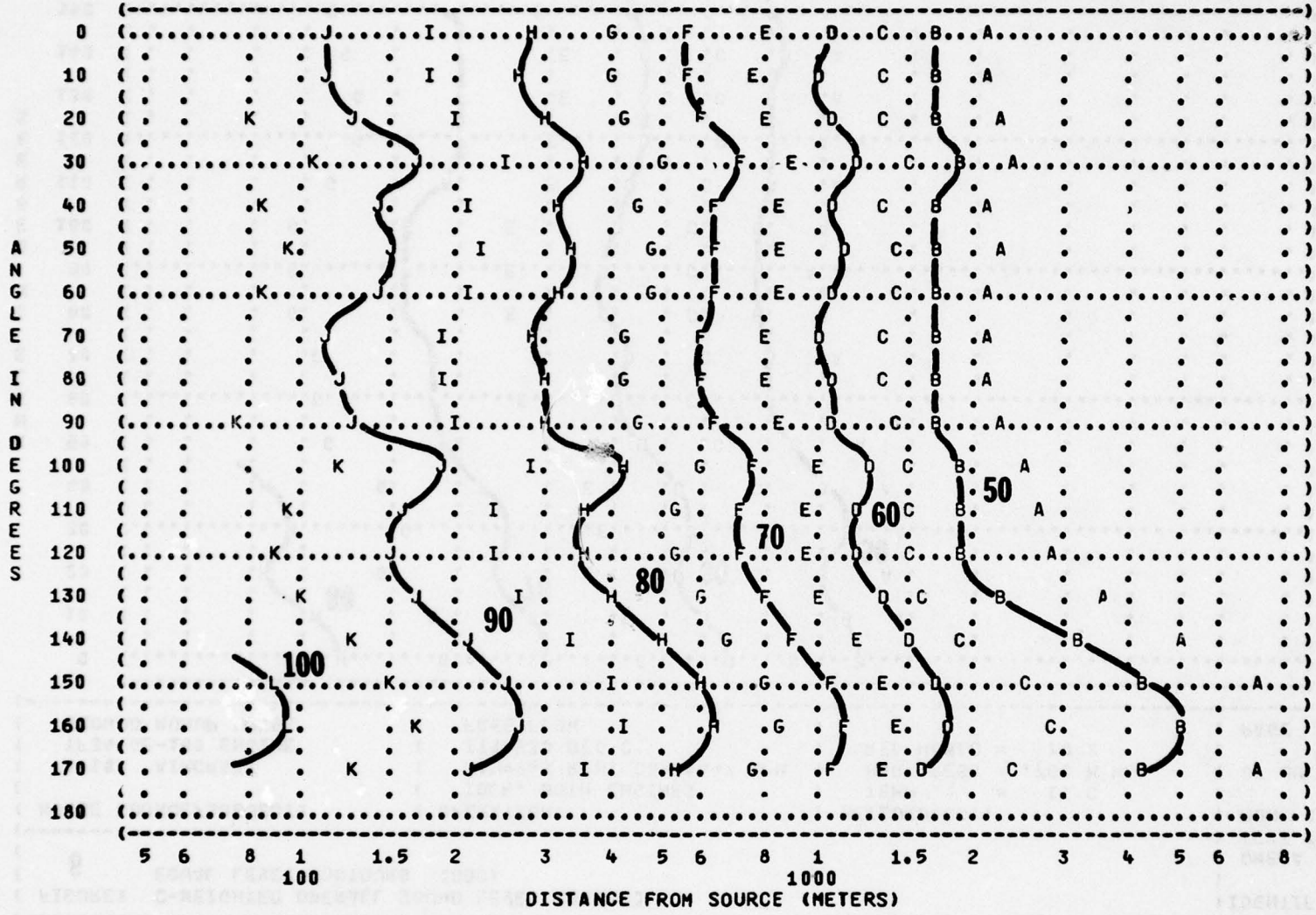


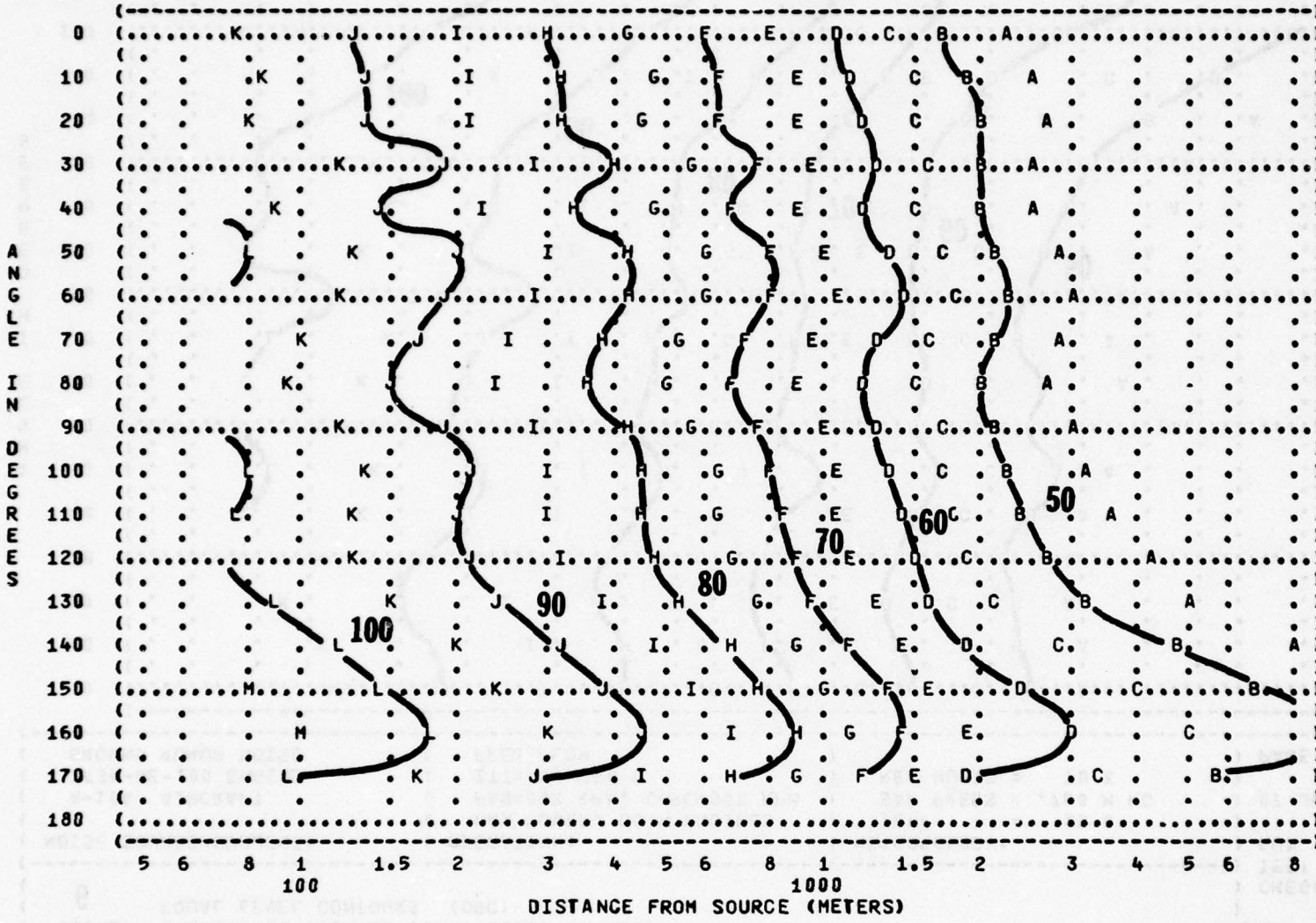
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (OBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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



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

FIGURE: 6

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 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

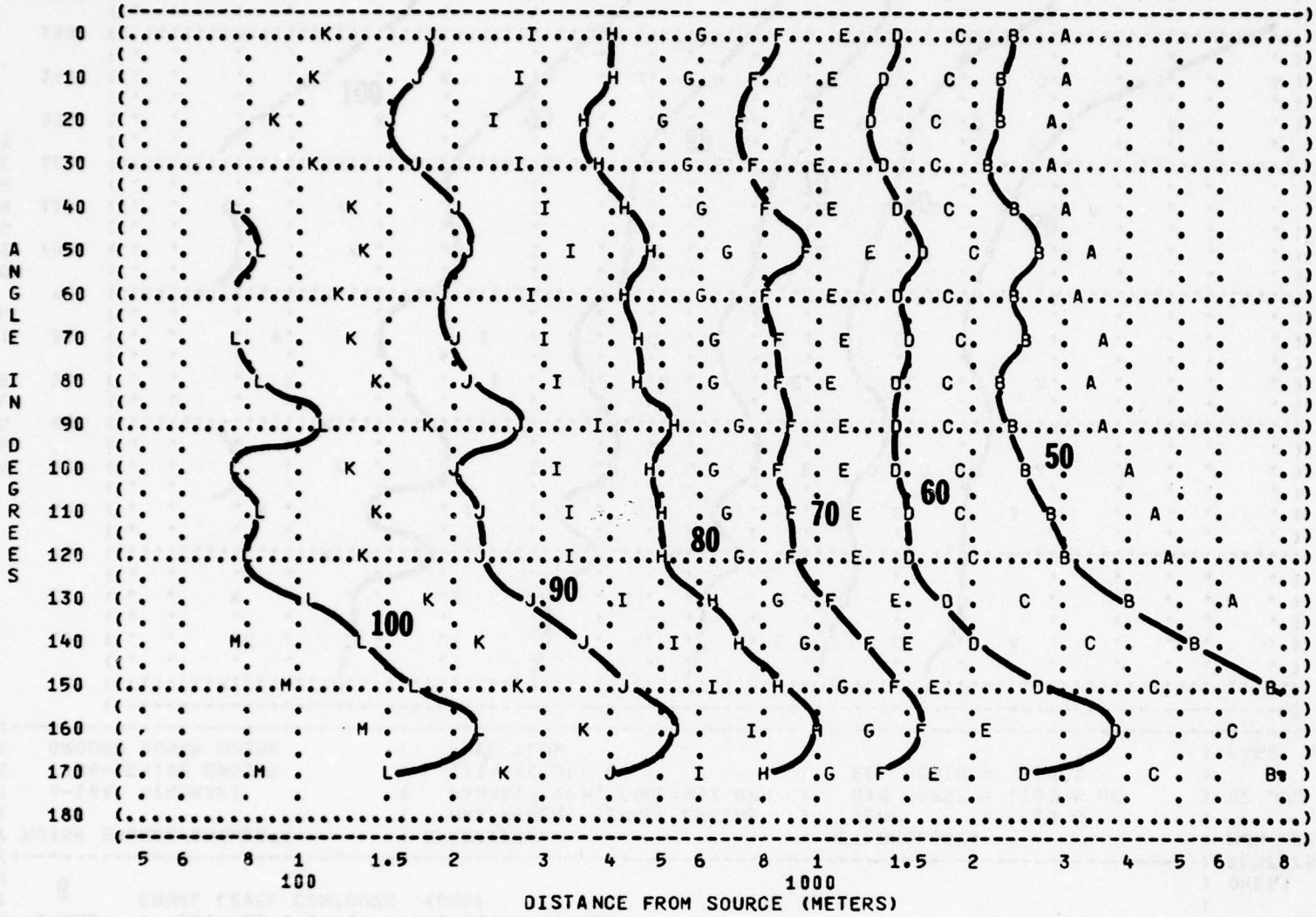


FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

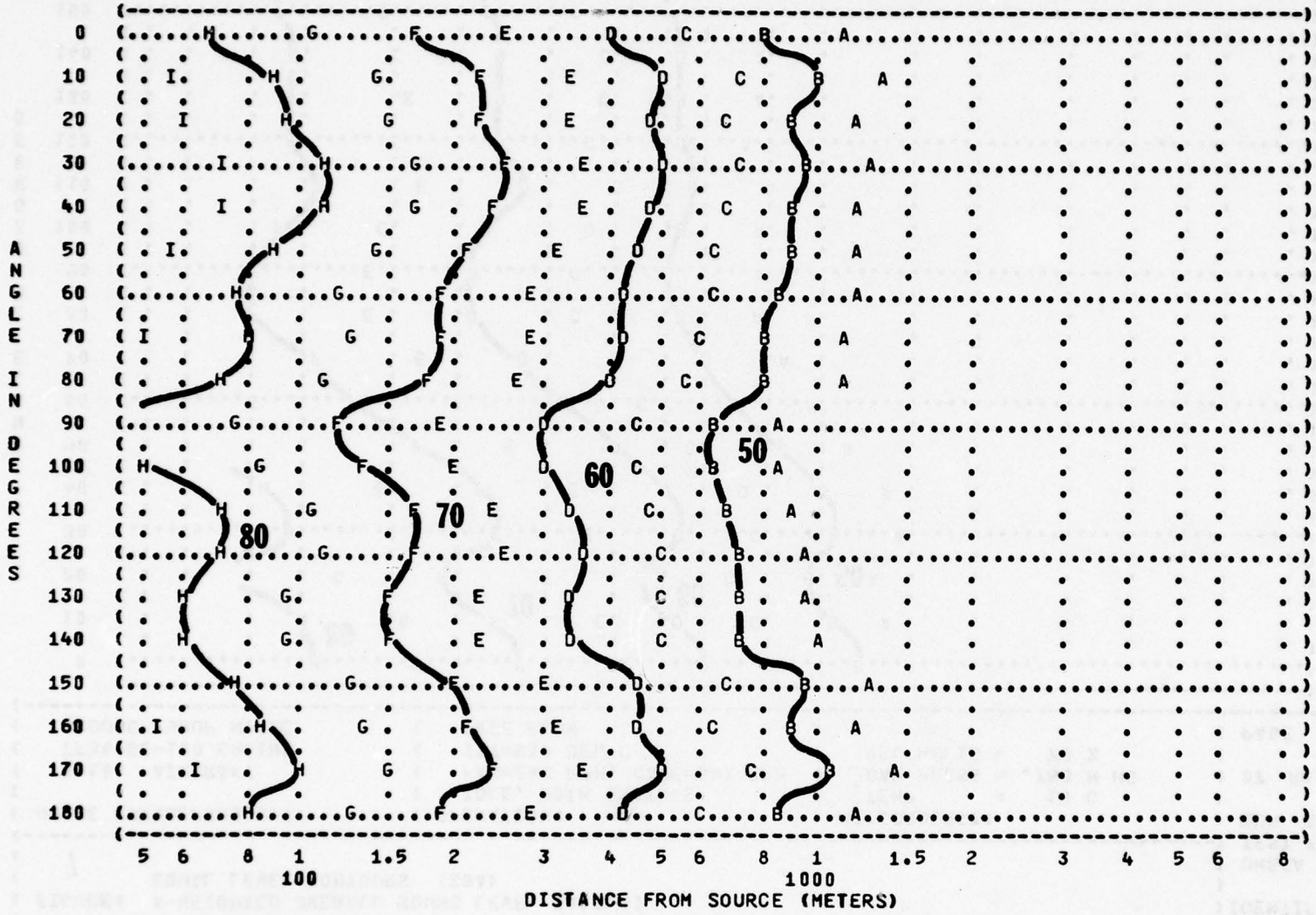
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

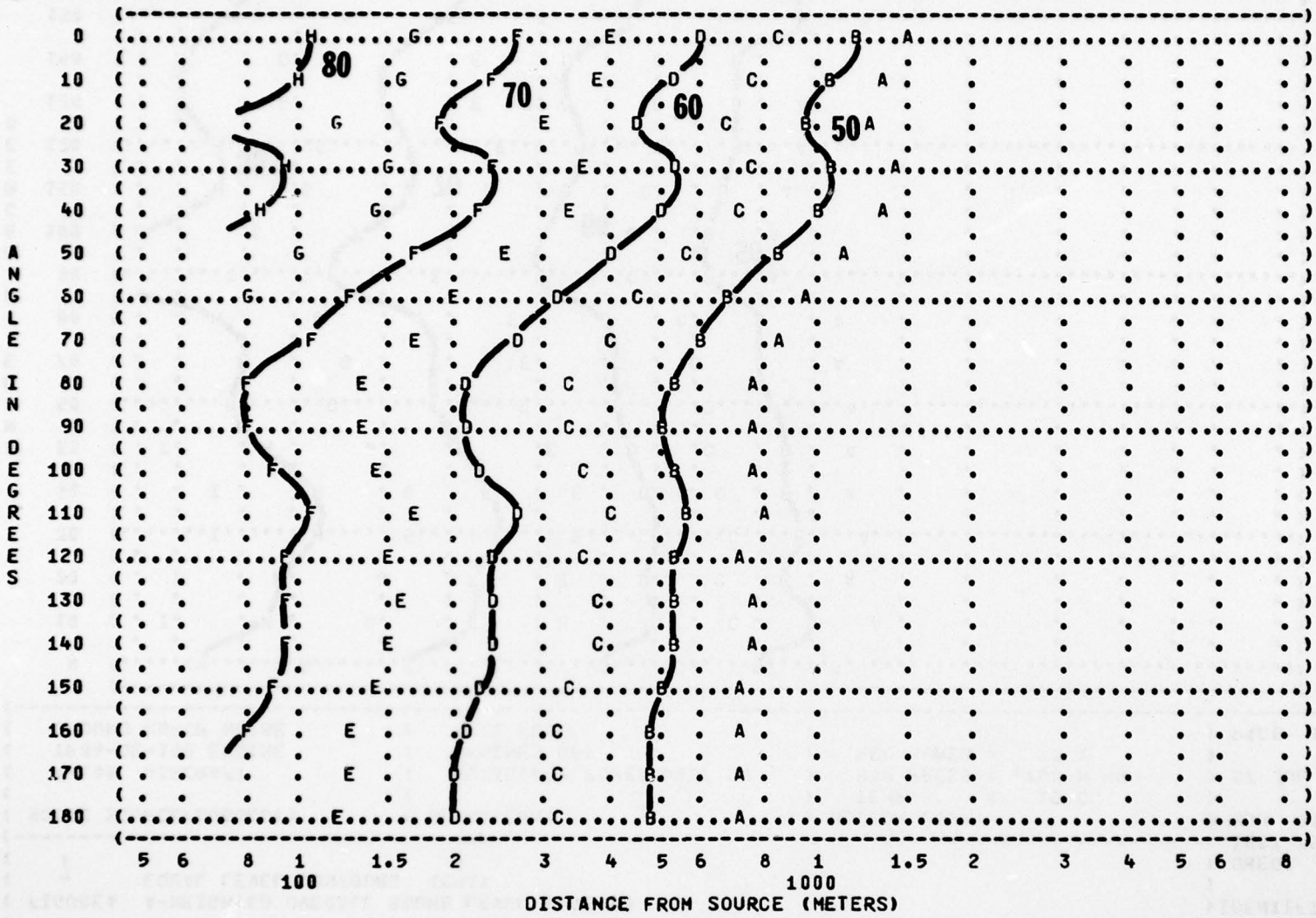
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
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

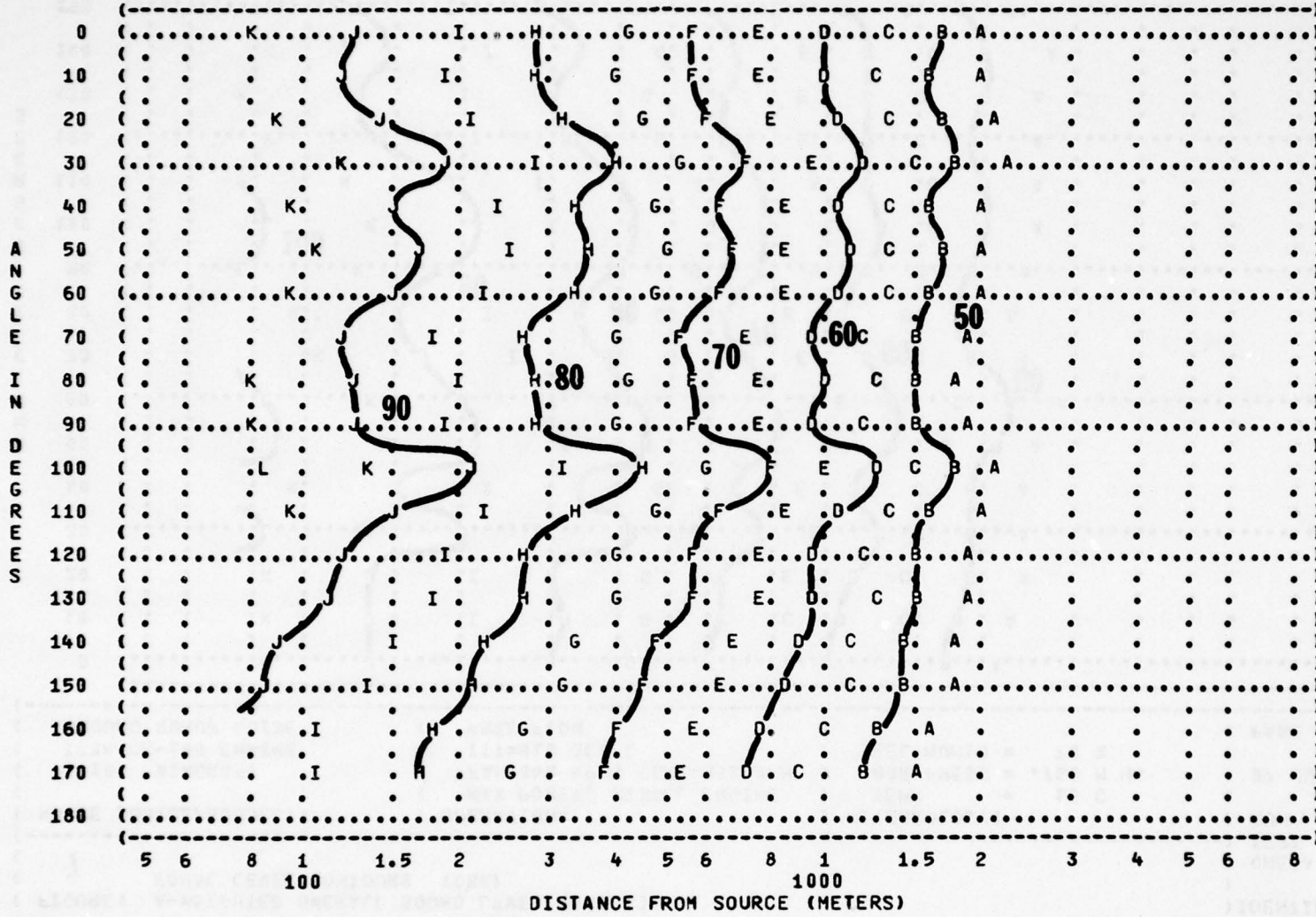
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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

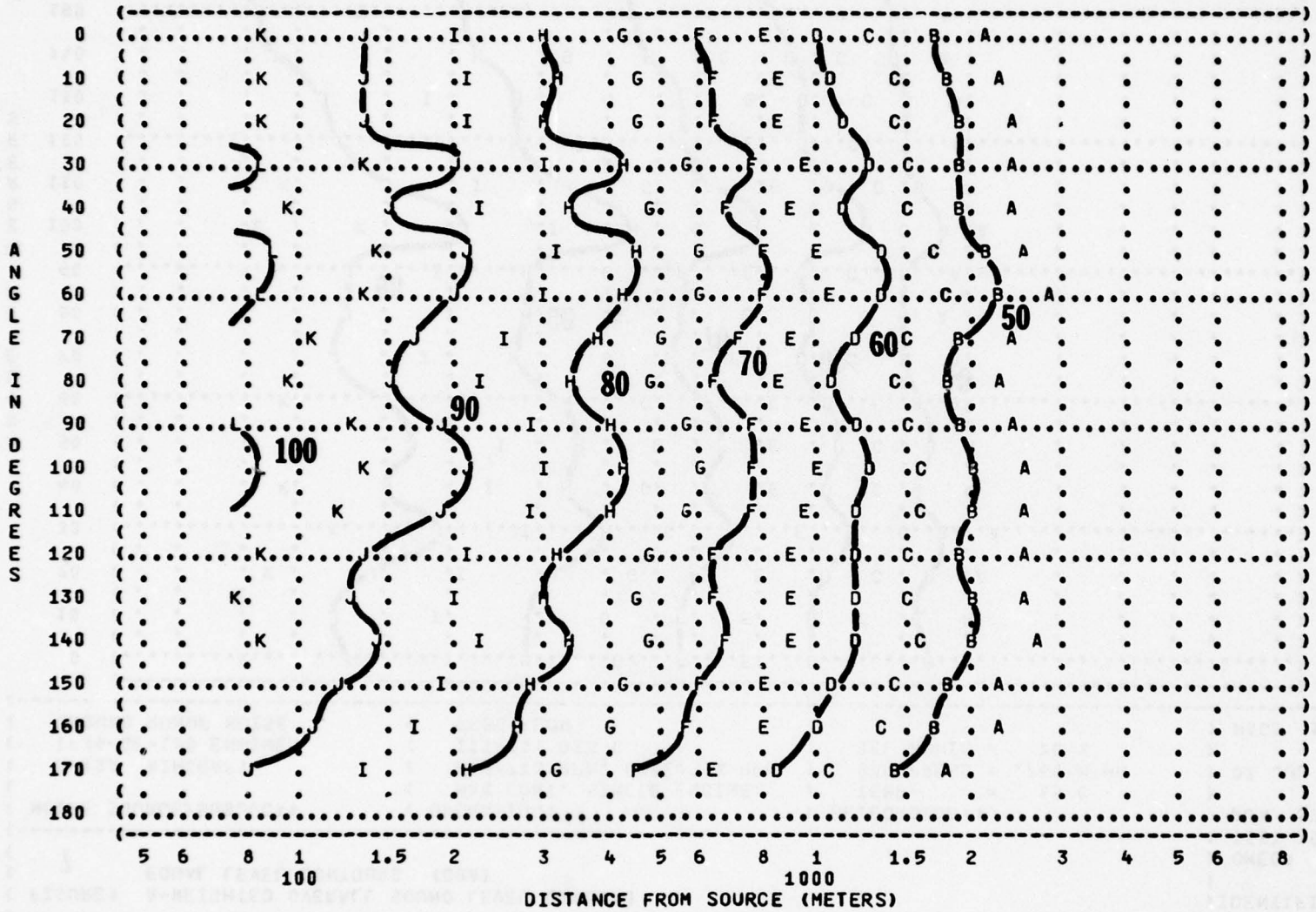
FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

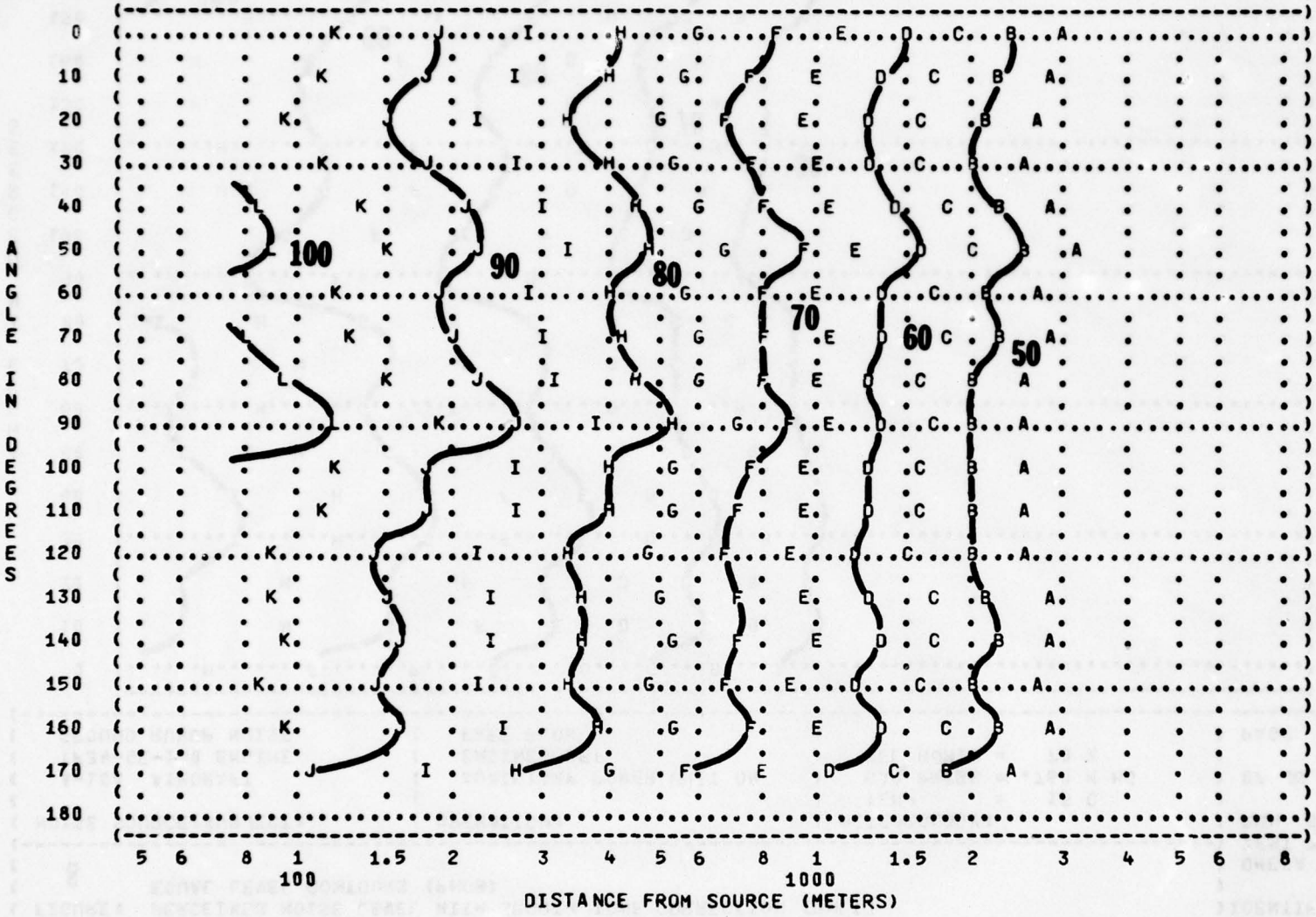
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

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

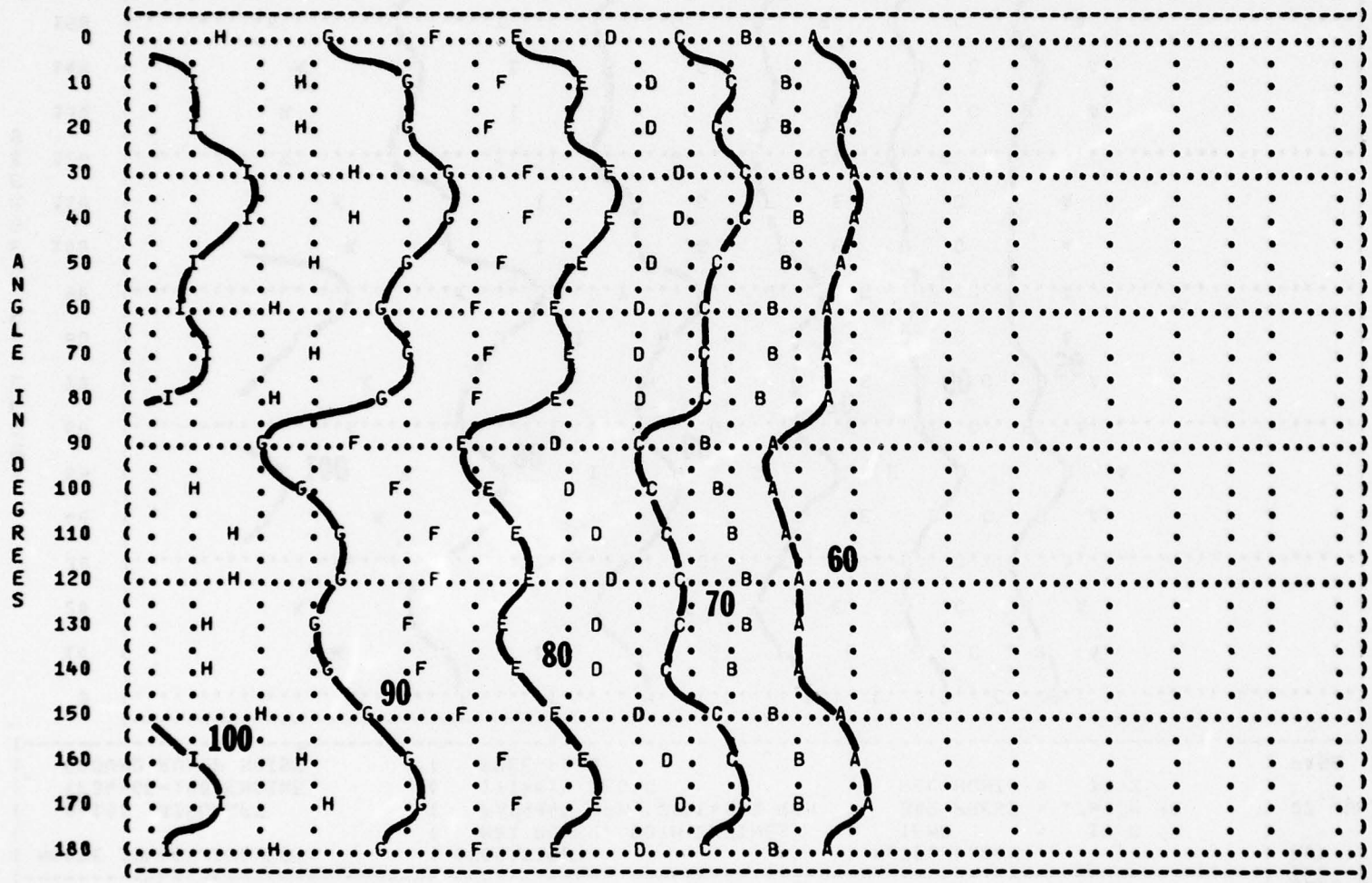
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 16

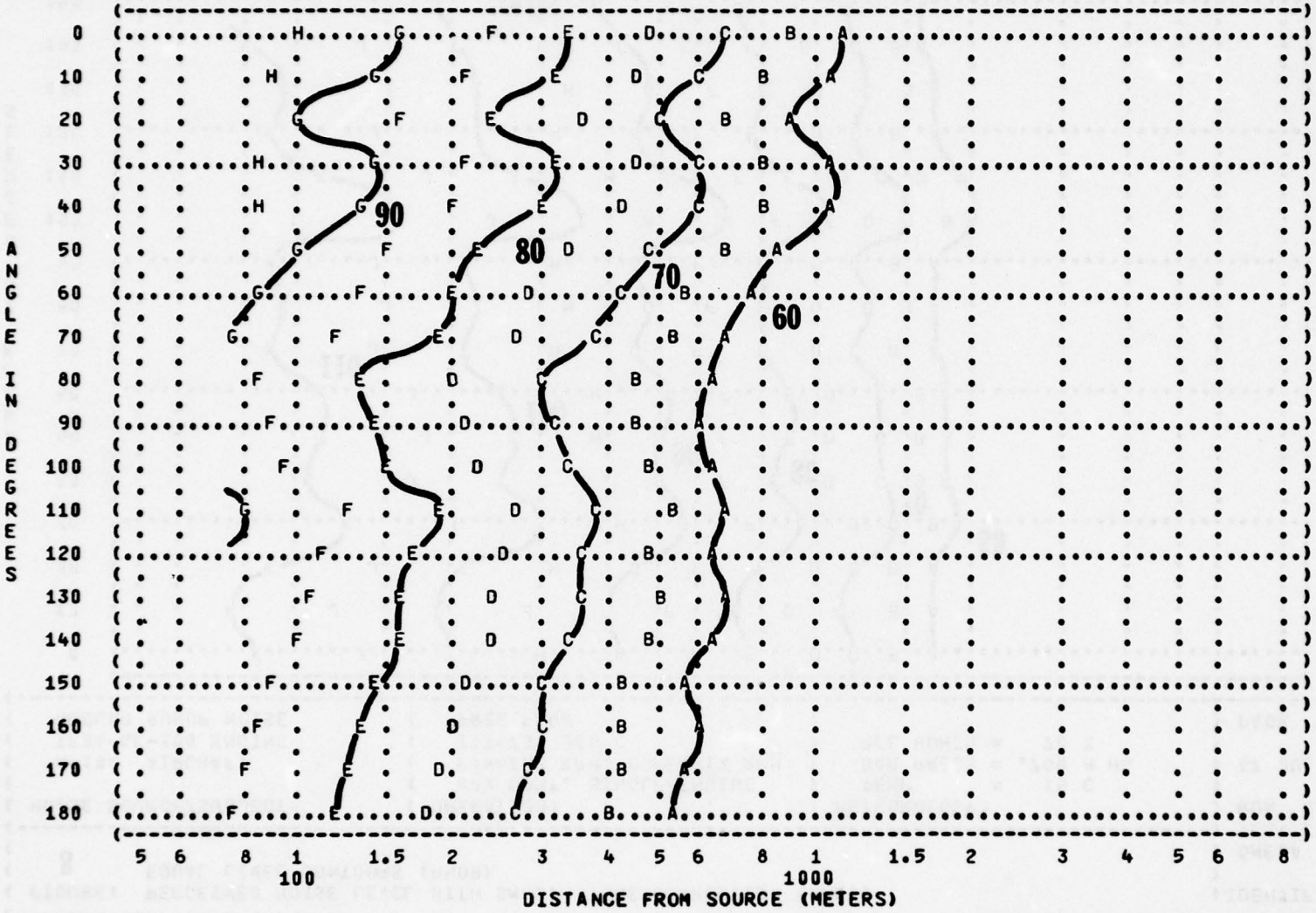


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 16

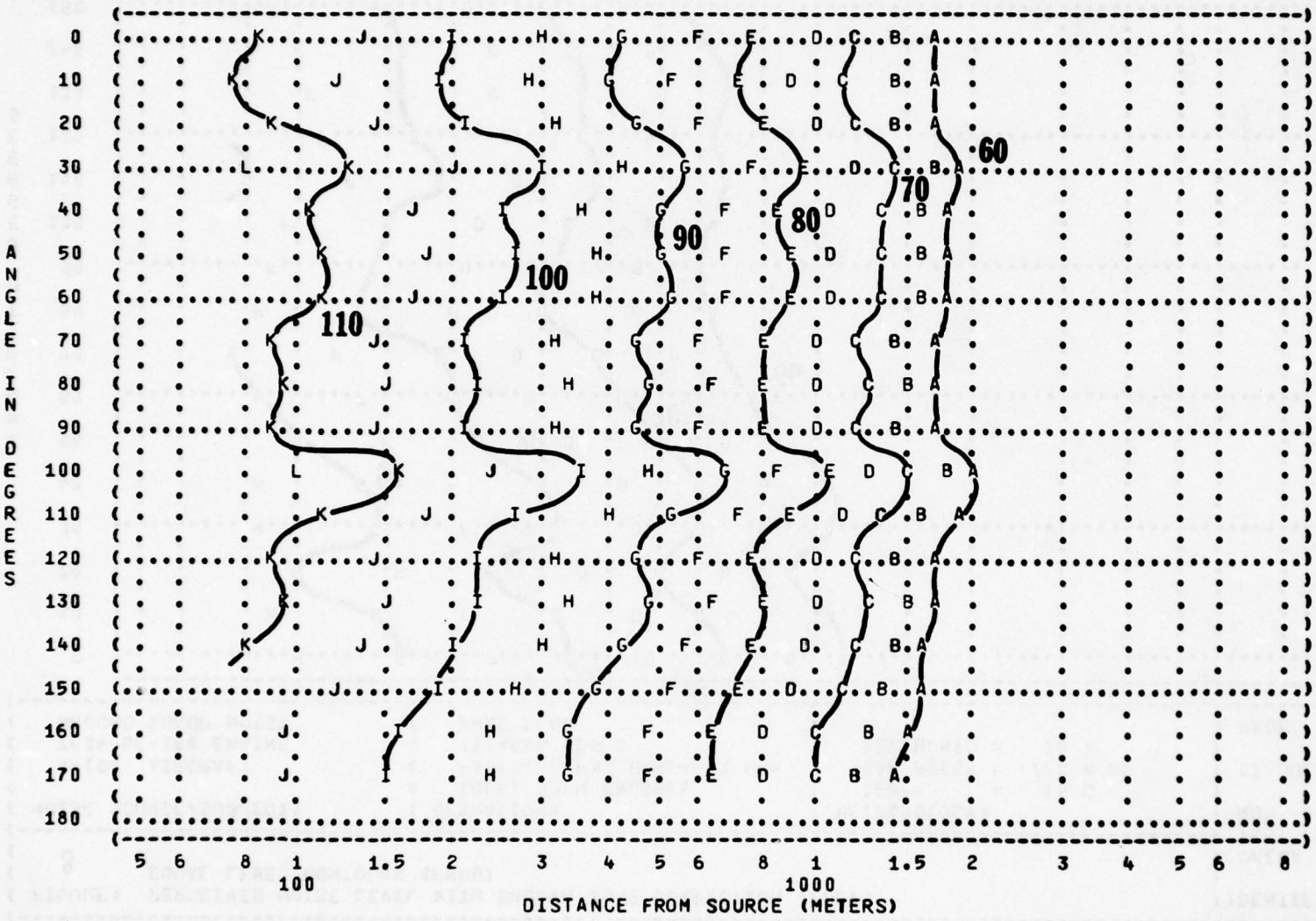


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

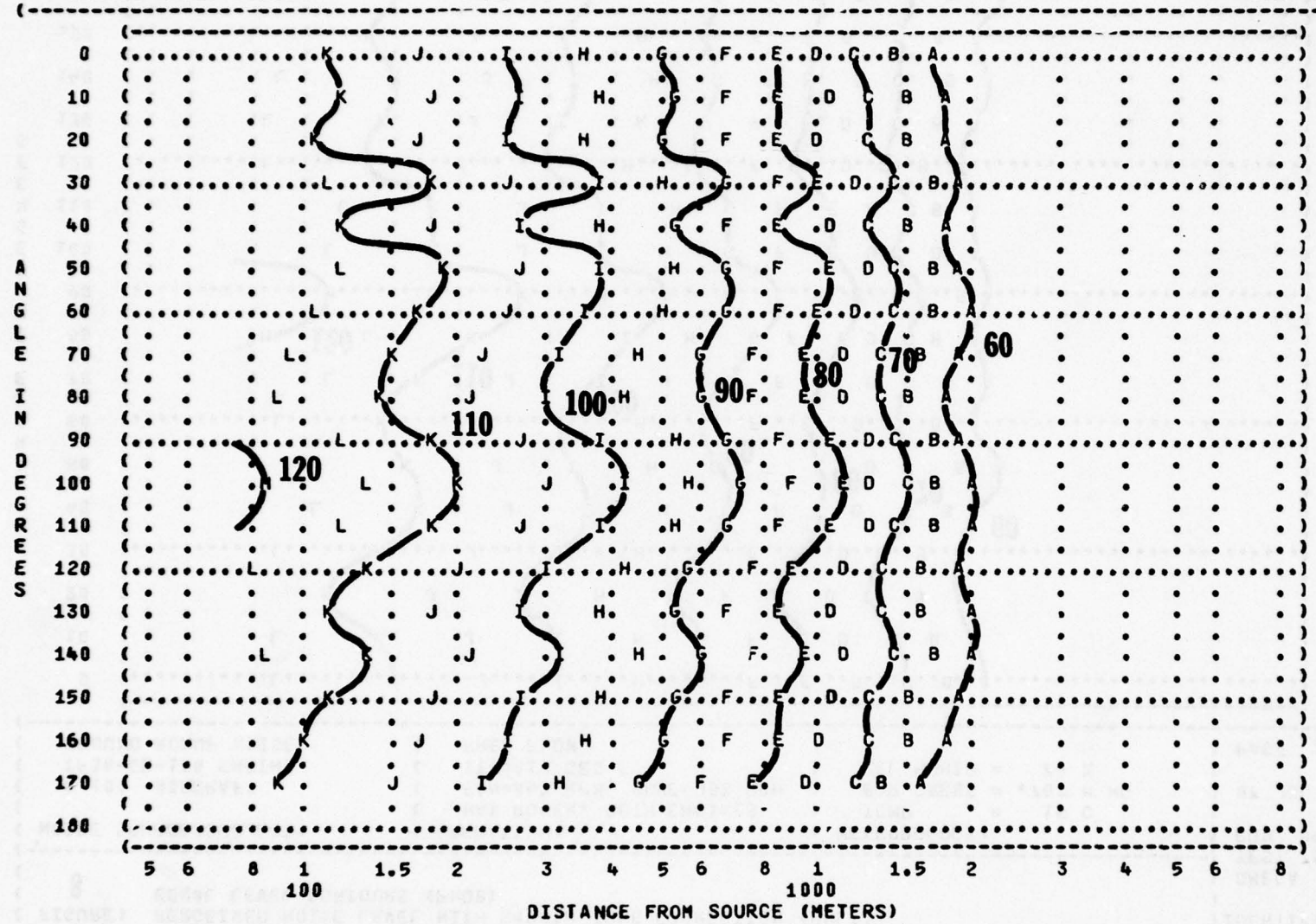


FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

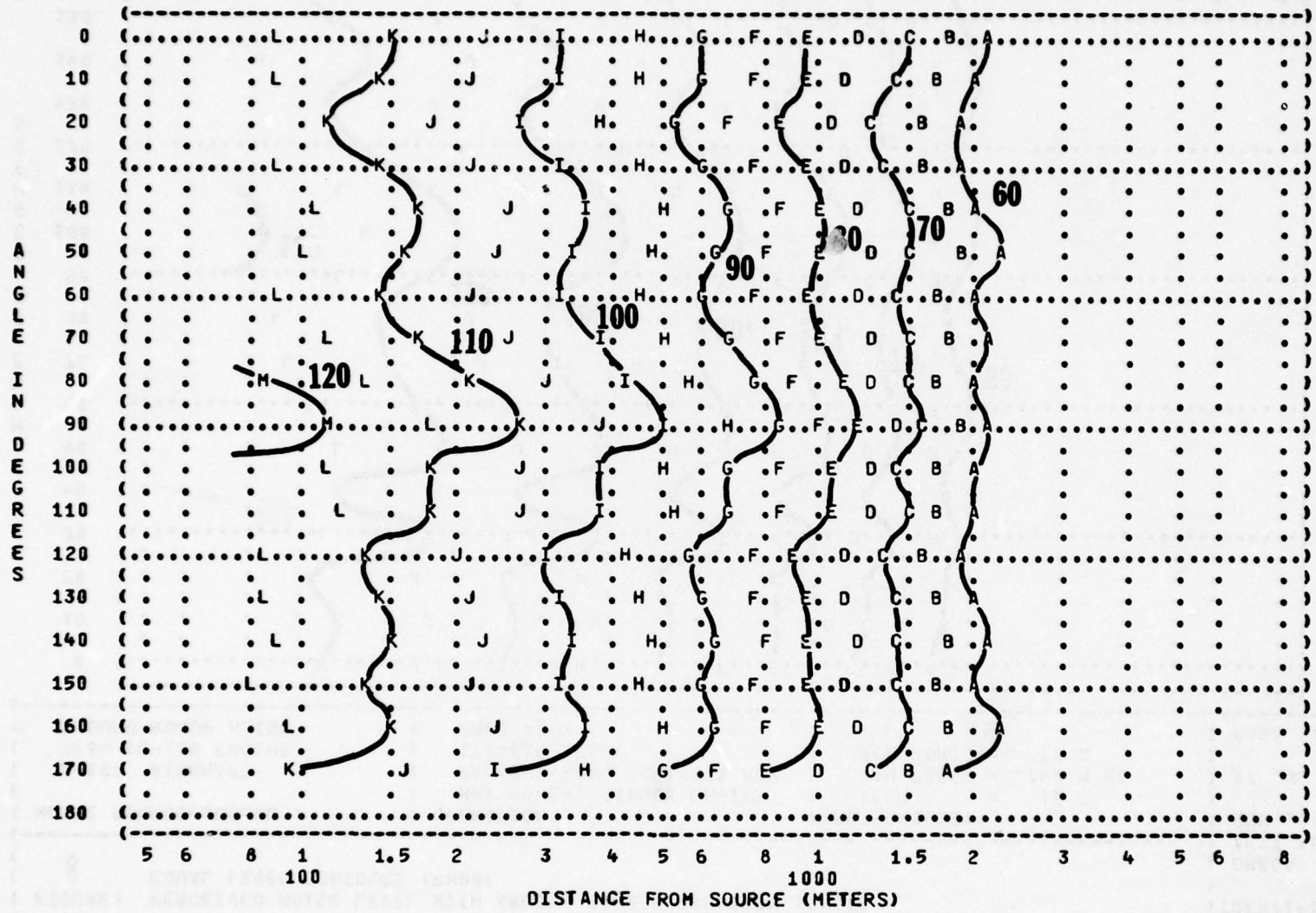


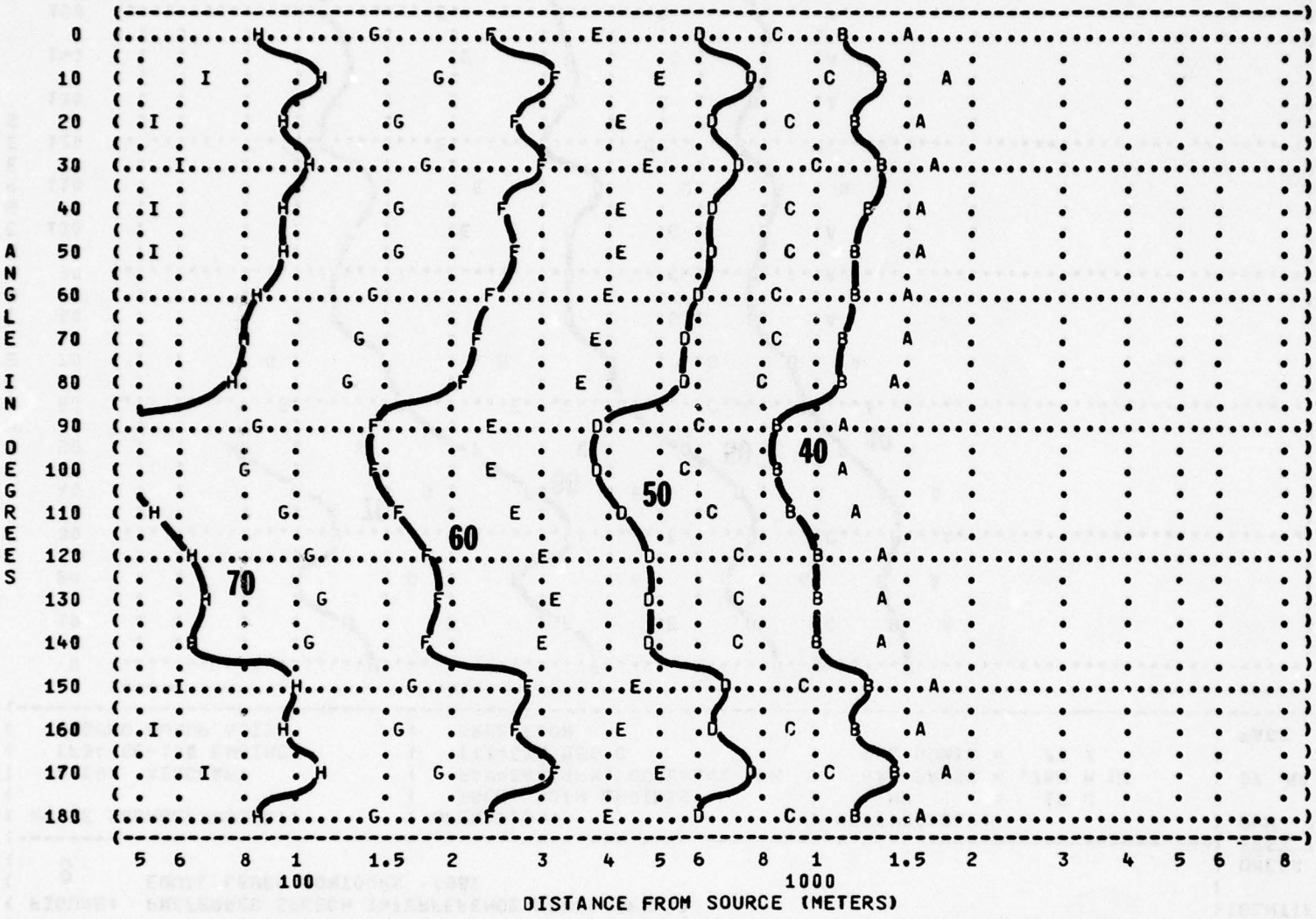
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

IDENTIFICATION: OMEGA 1.4 TEST 75-002-058 RUN 01 07 JUL 75 PAGE 17

NOISE SOURCE/SUBJECT: A-10A AIRCRAFT TF34-GE-100 ENGINE GROUND RUNUP NOISE

OPERATION: IDLE, BOTH ENGINES FAN=24% RPM, CORE=64% RPM ITT=530 DEG C 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

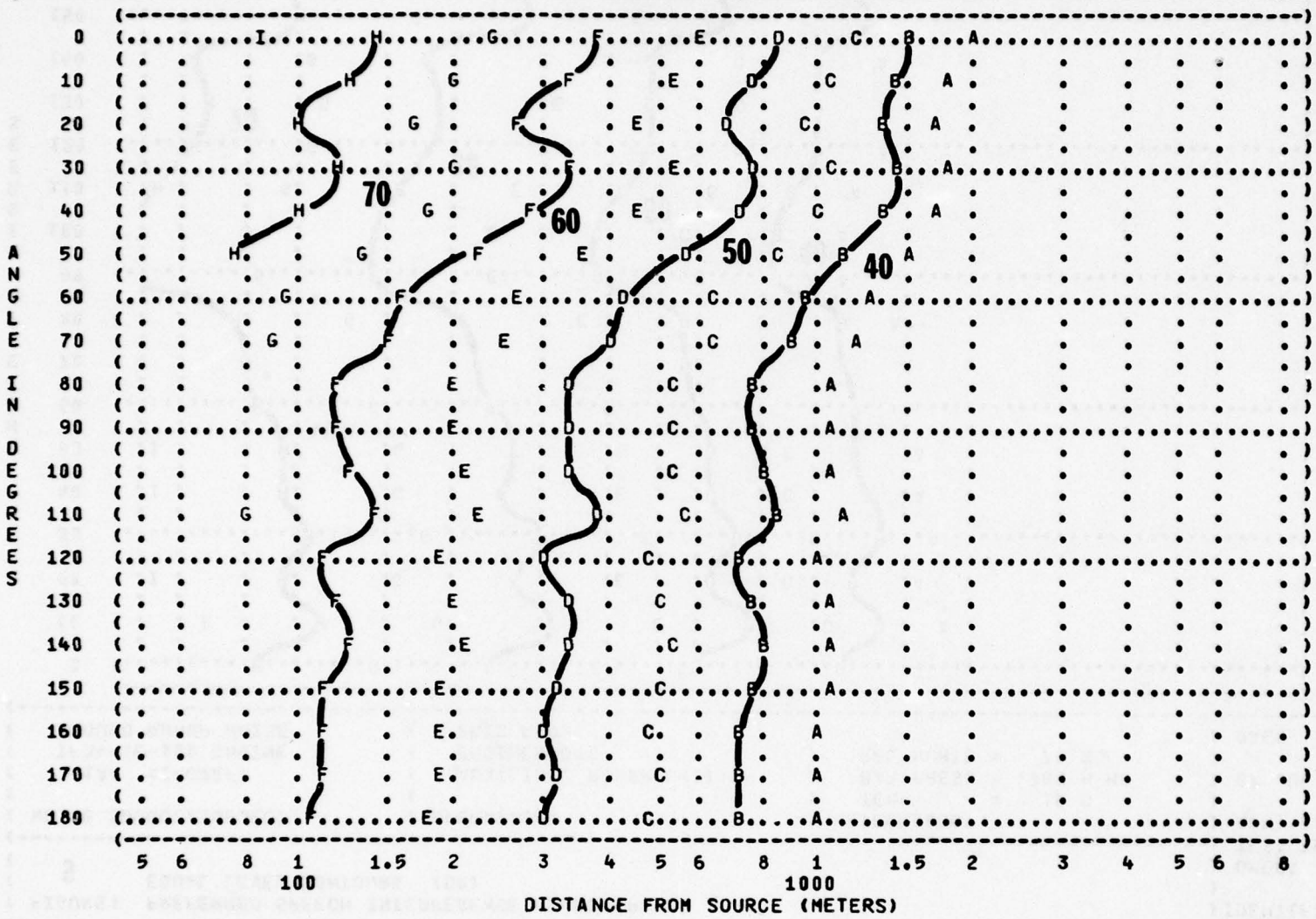


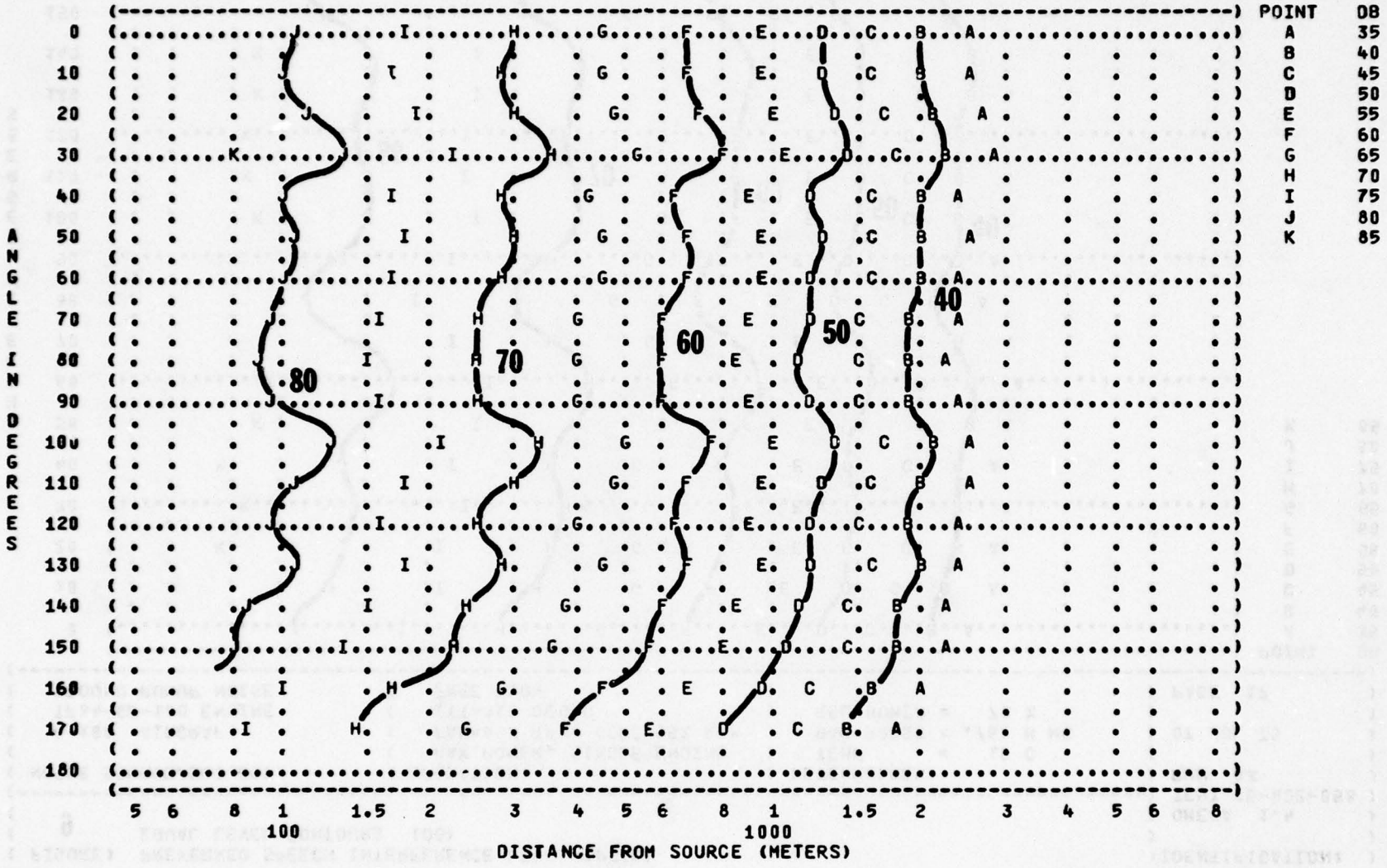
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
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

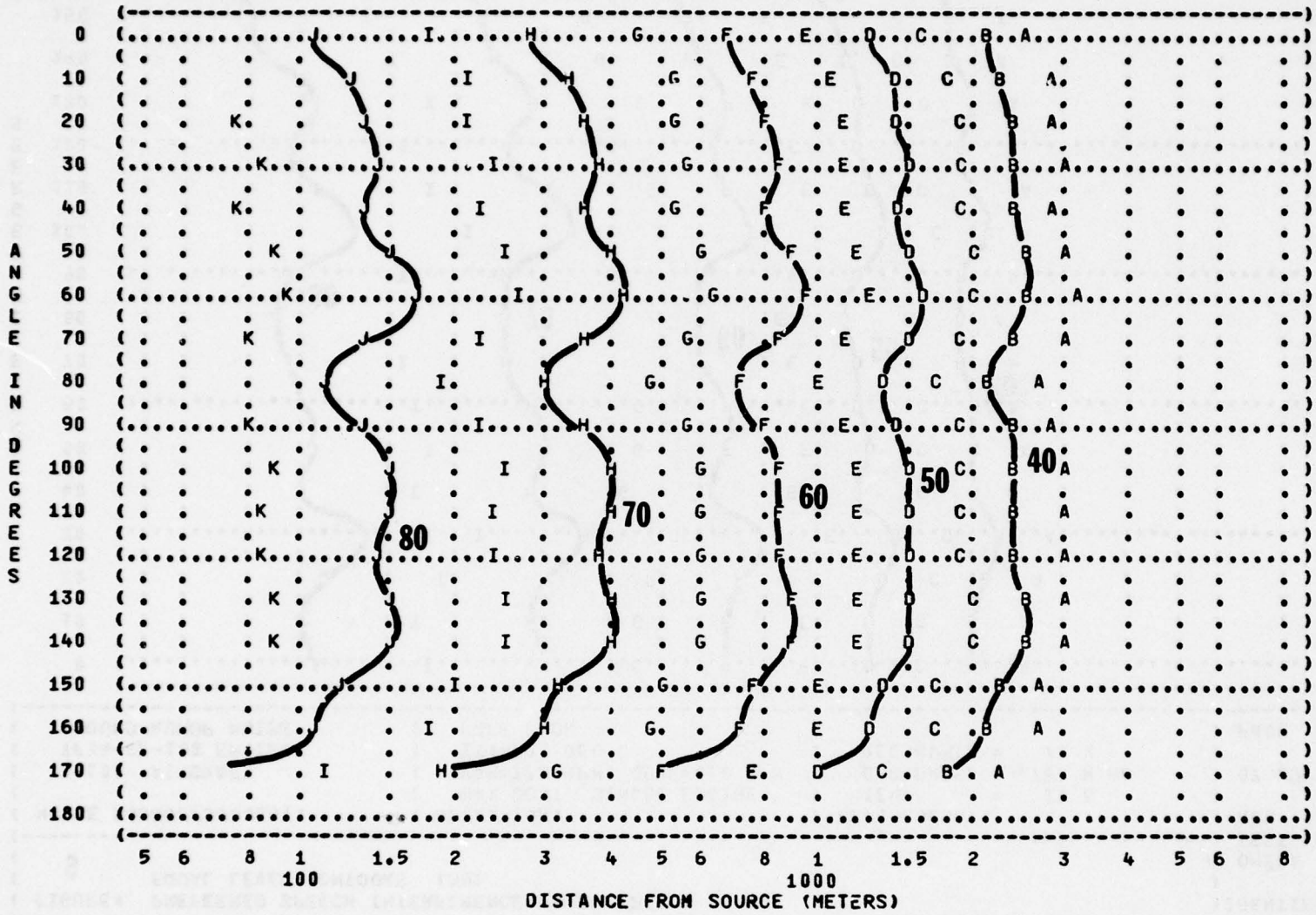
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

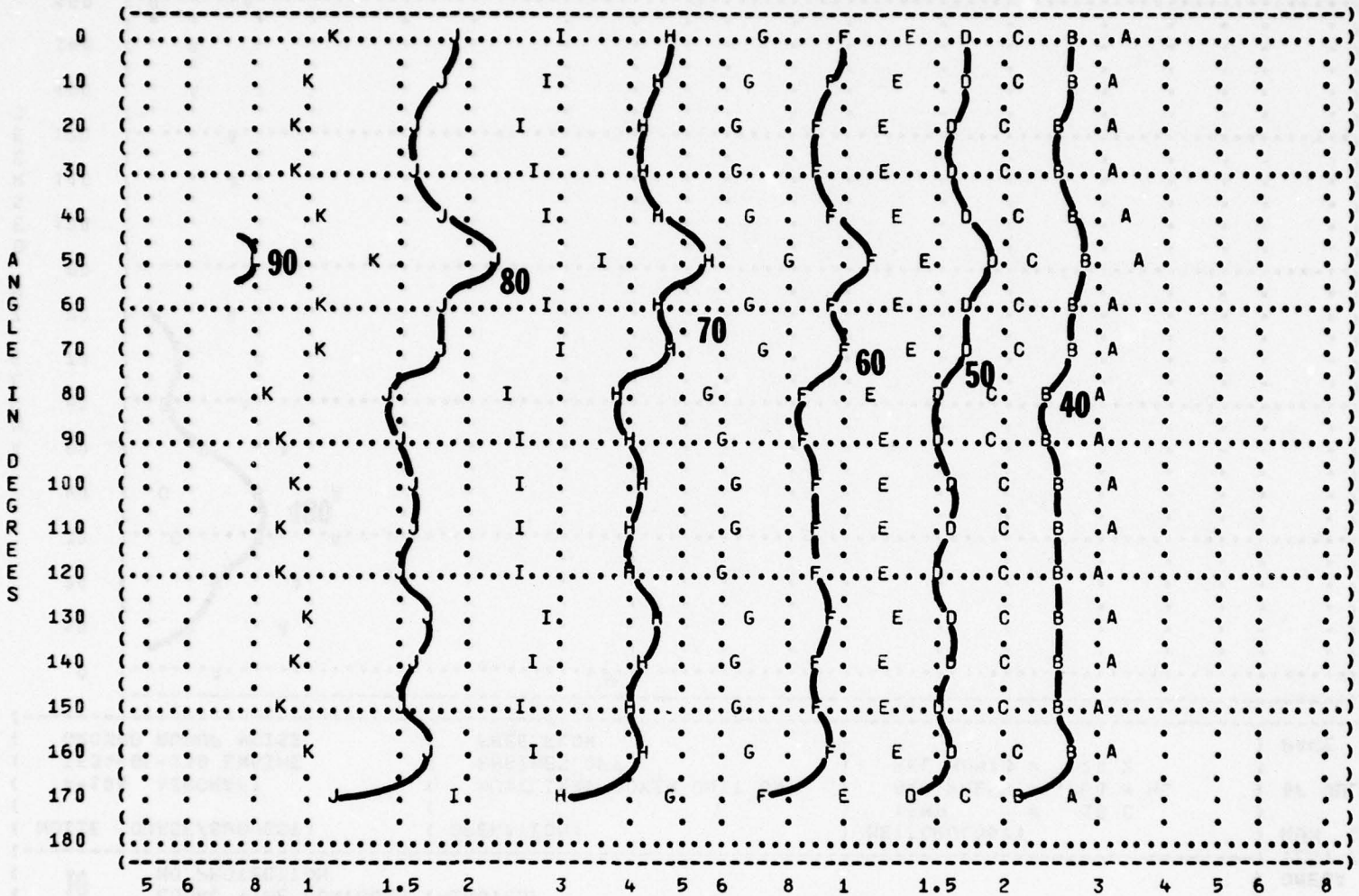


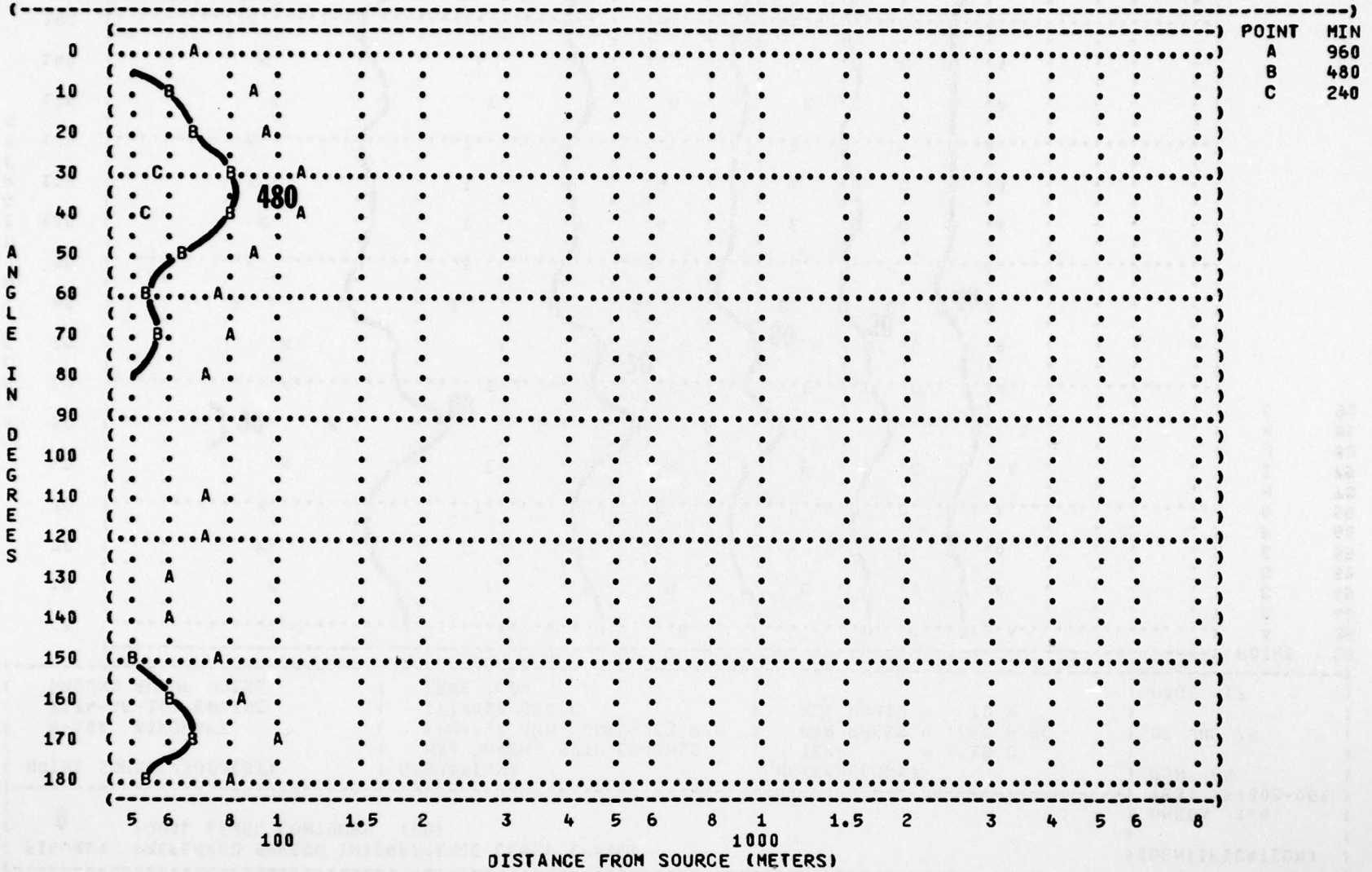
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 7



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

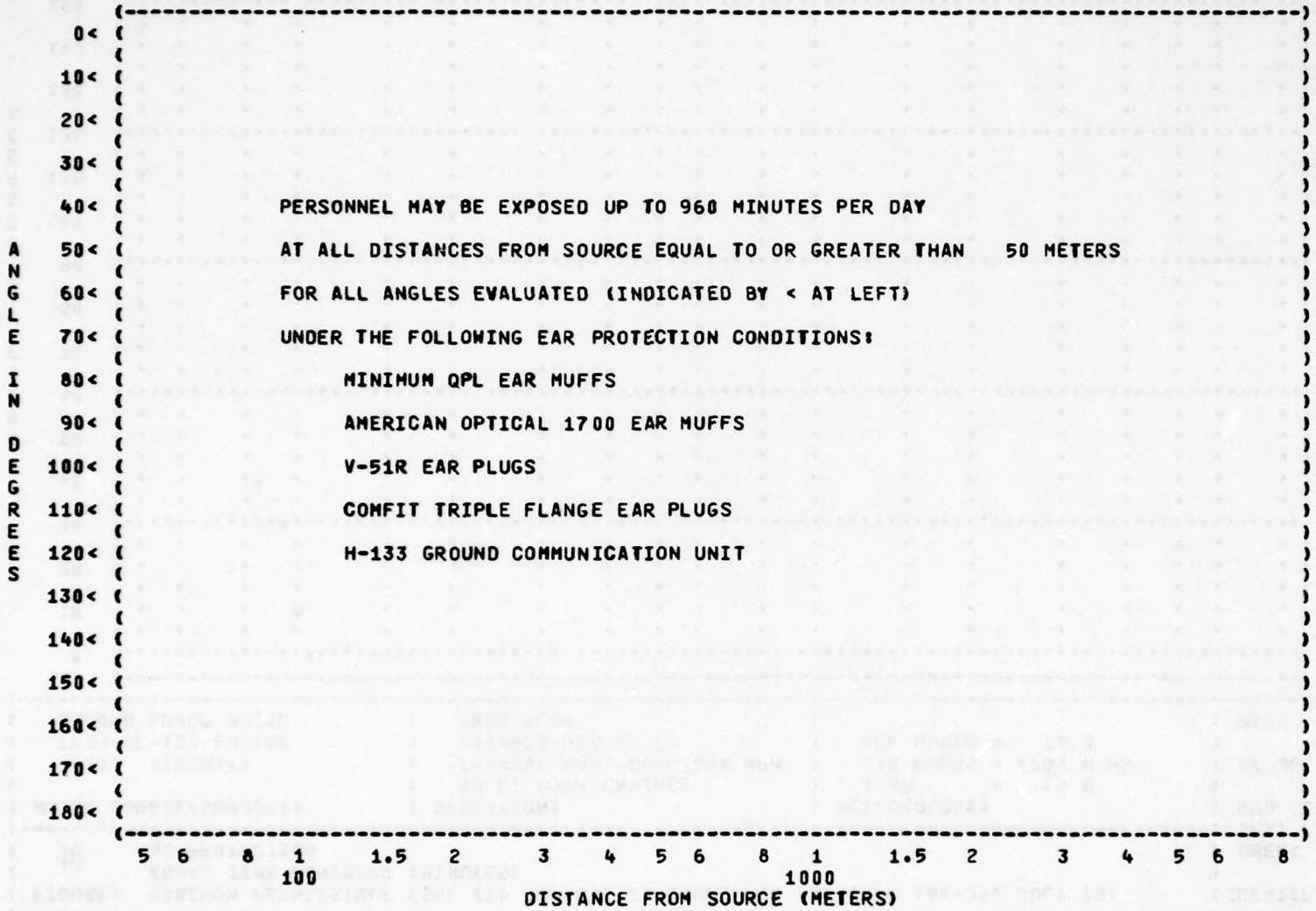
FIGURE 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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 75-002-058
RUN 01
07 JUL 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

POINT	MIN
A	960

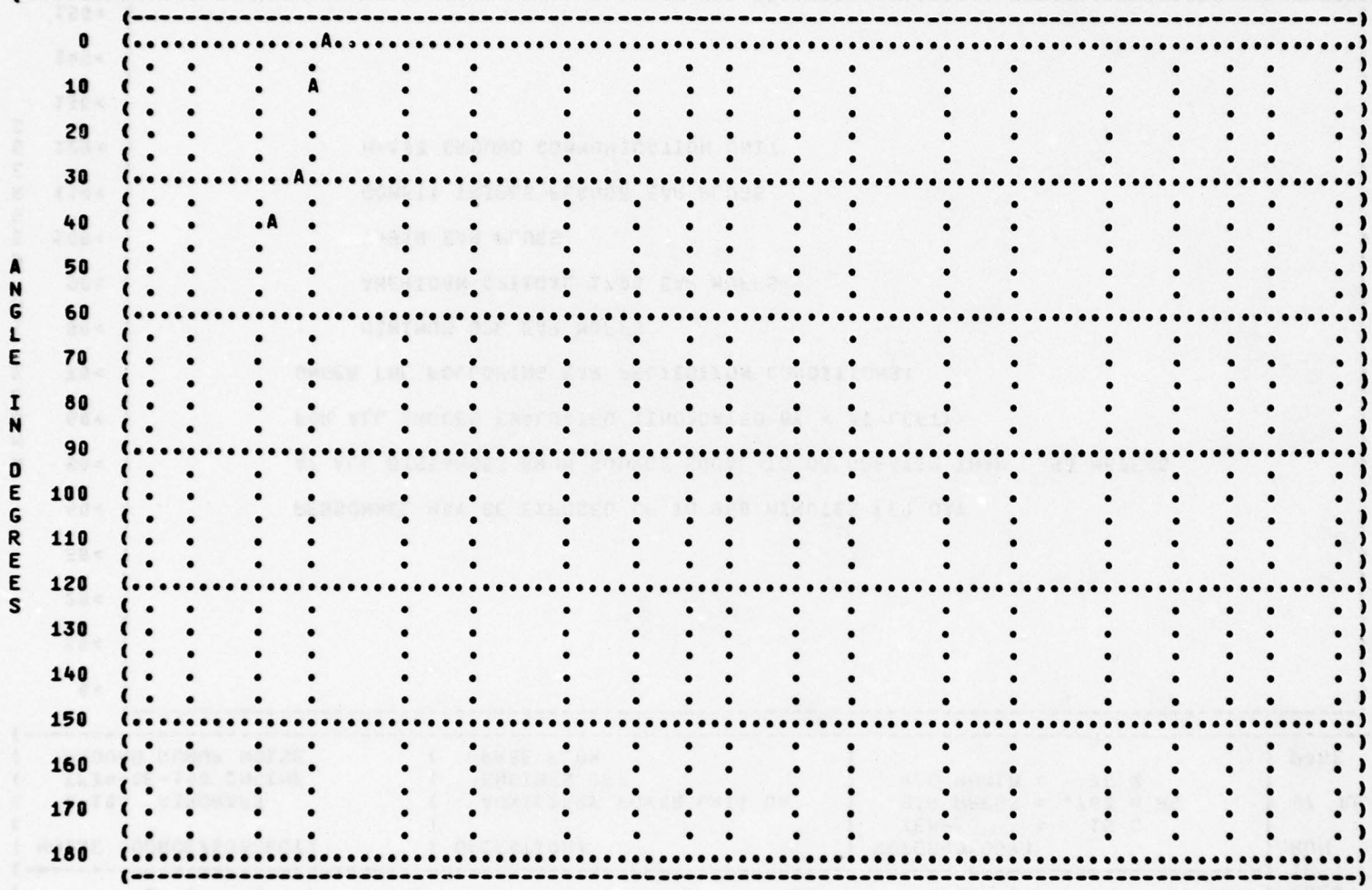


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

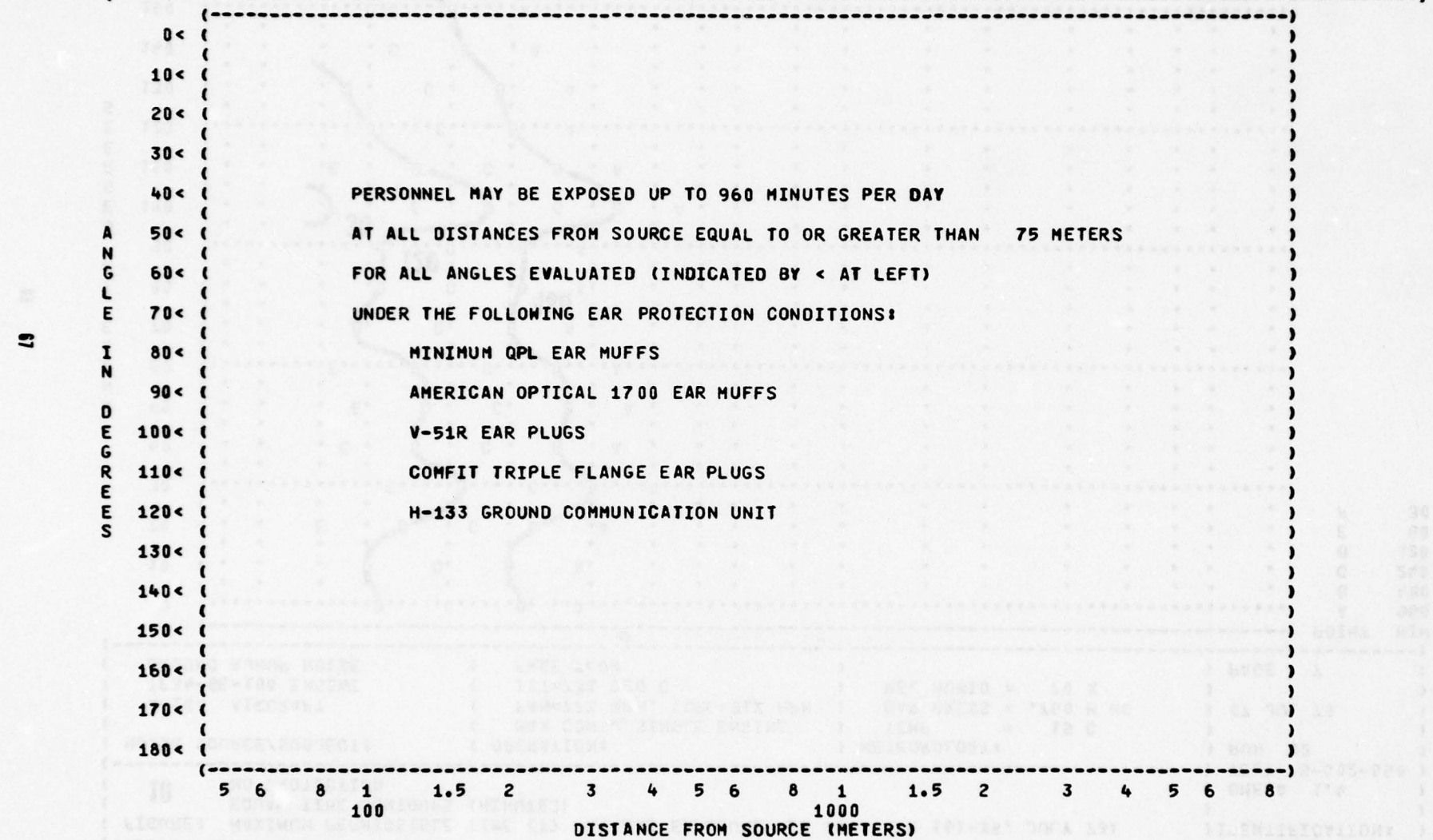


FIGURE: 10

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 75-002-058
RUN 02
07 JUL 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
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

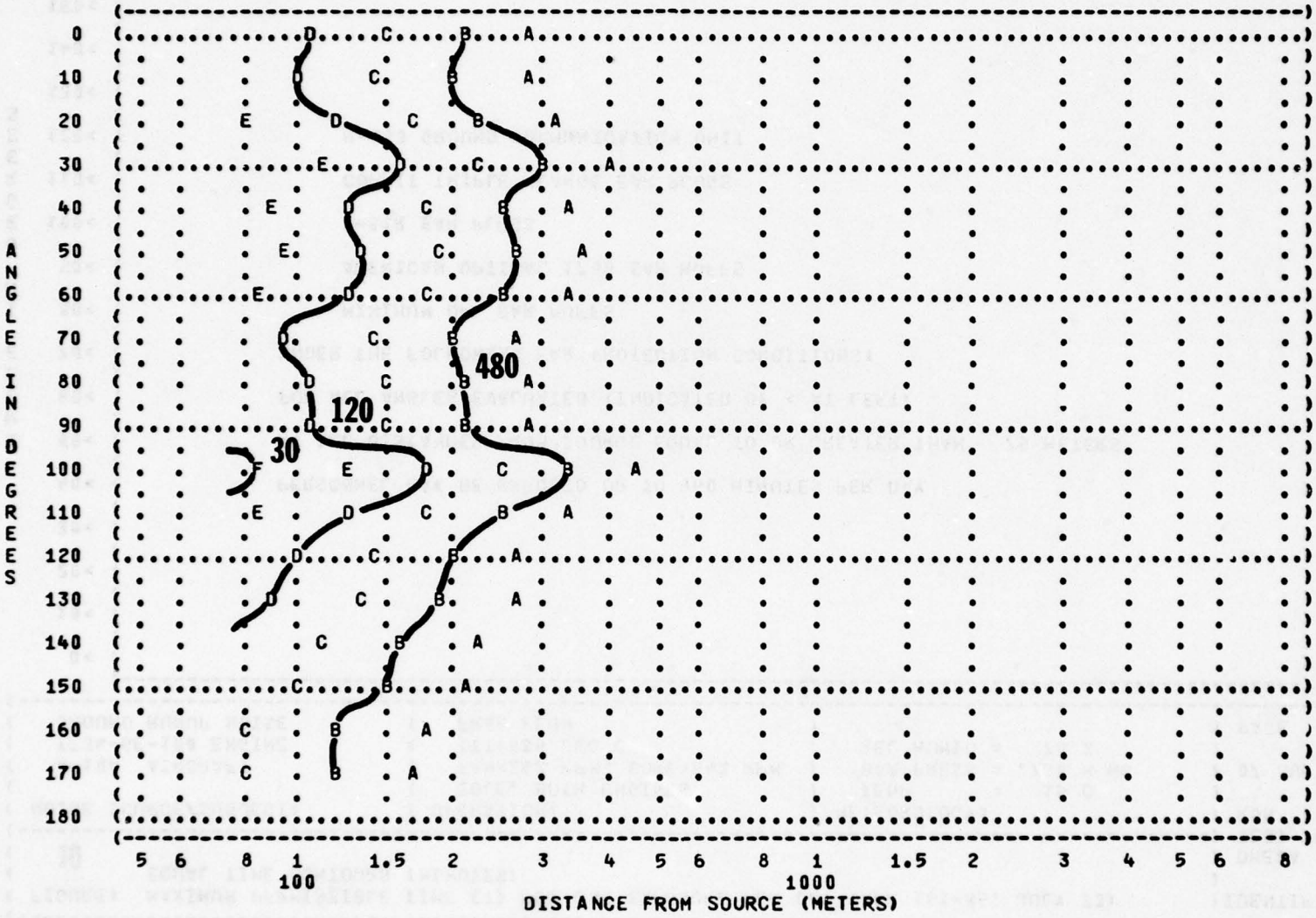


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

10

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

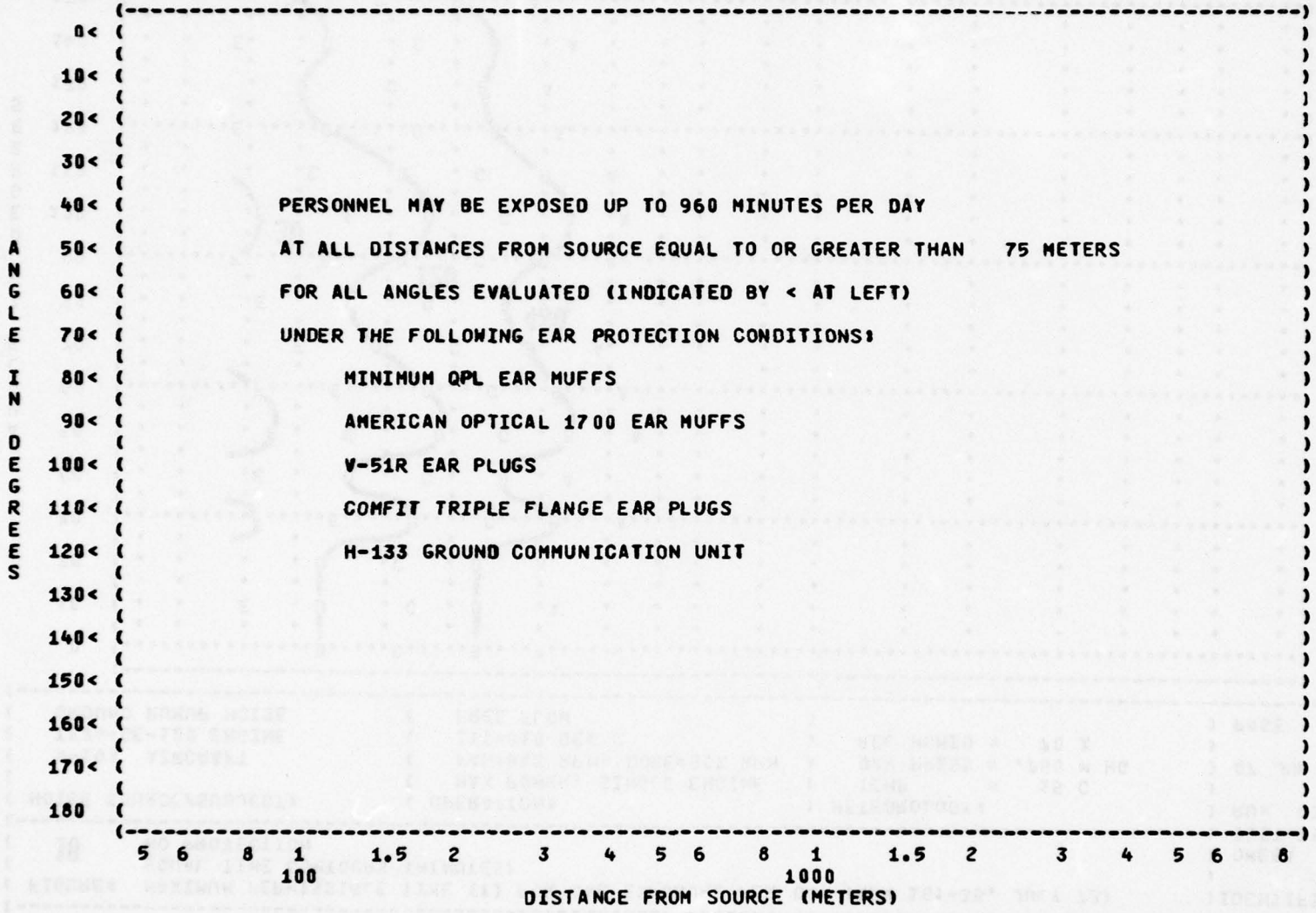


FIGURE: 10

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 75-002-058
RUN 03
07 JUL 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

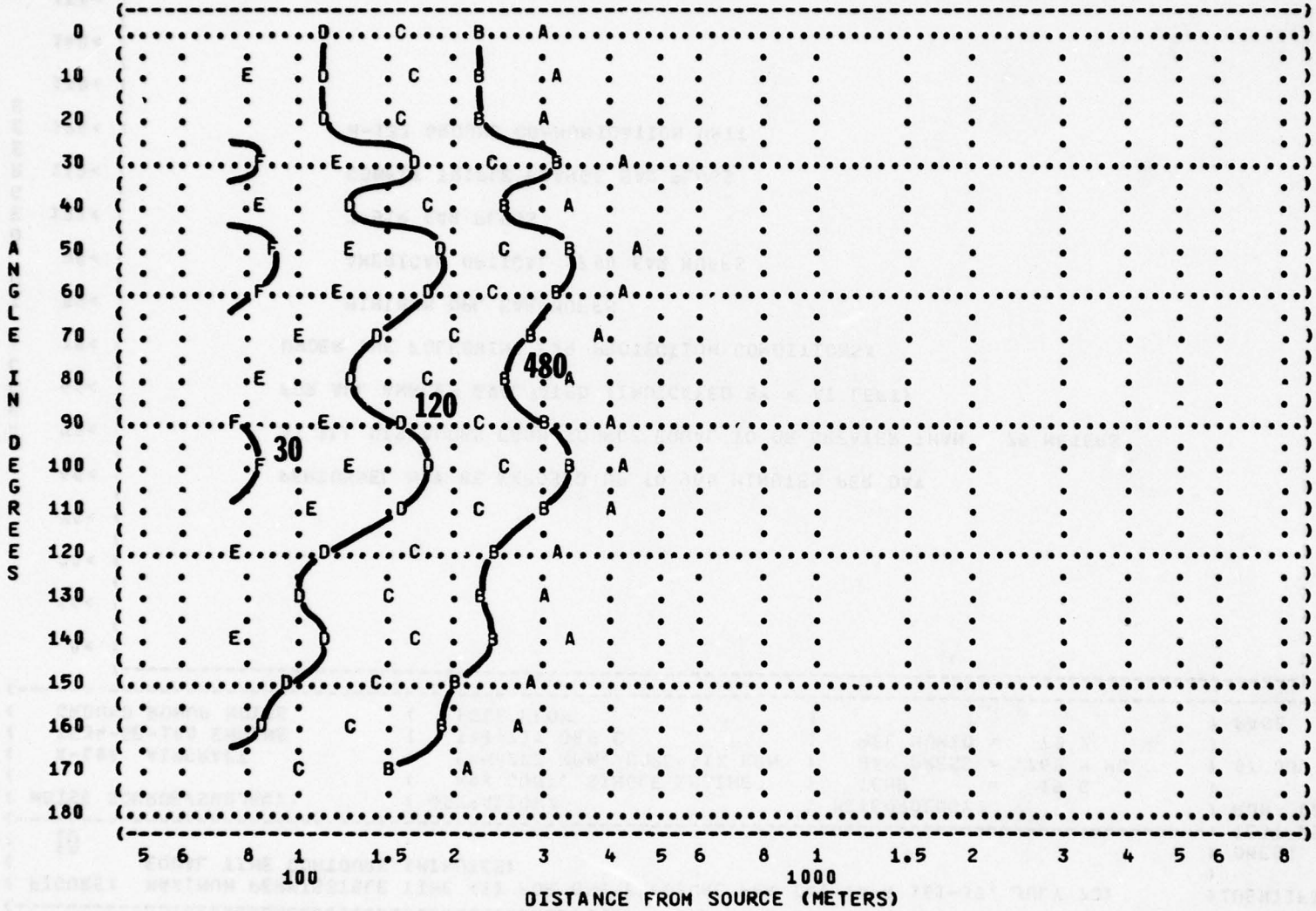


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 8

POINT	MIN
A	960
B	480

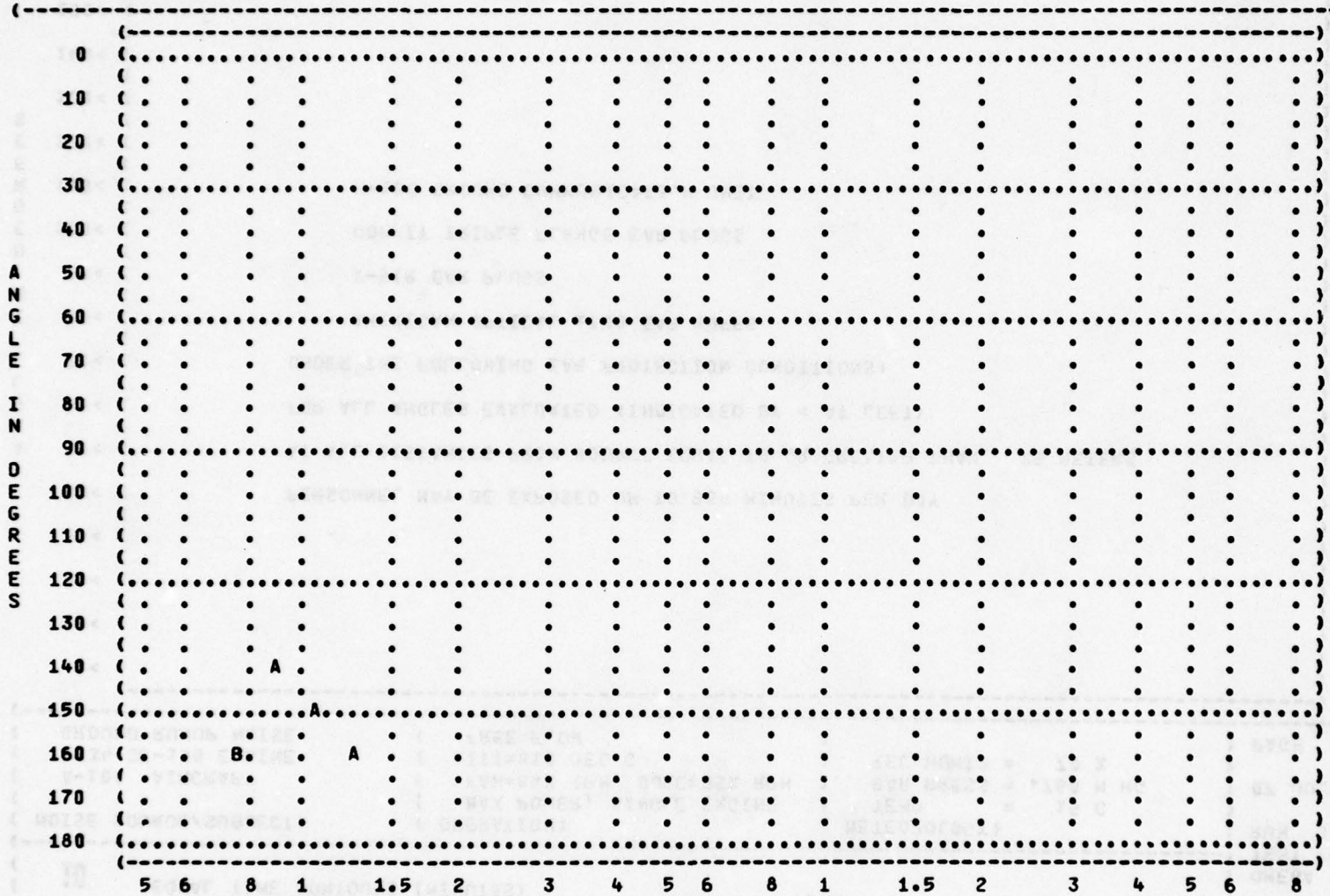


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 9

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

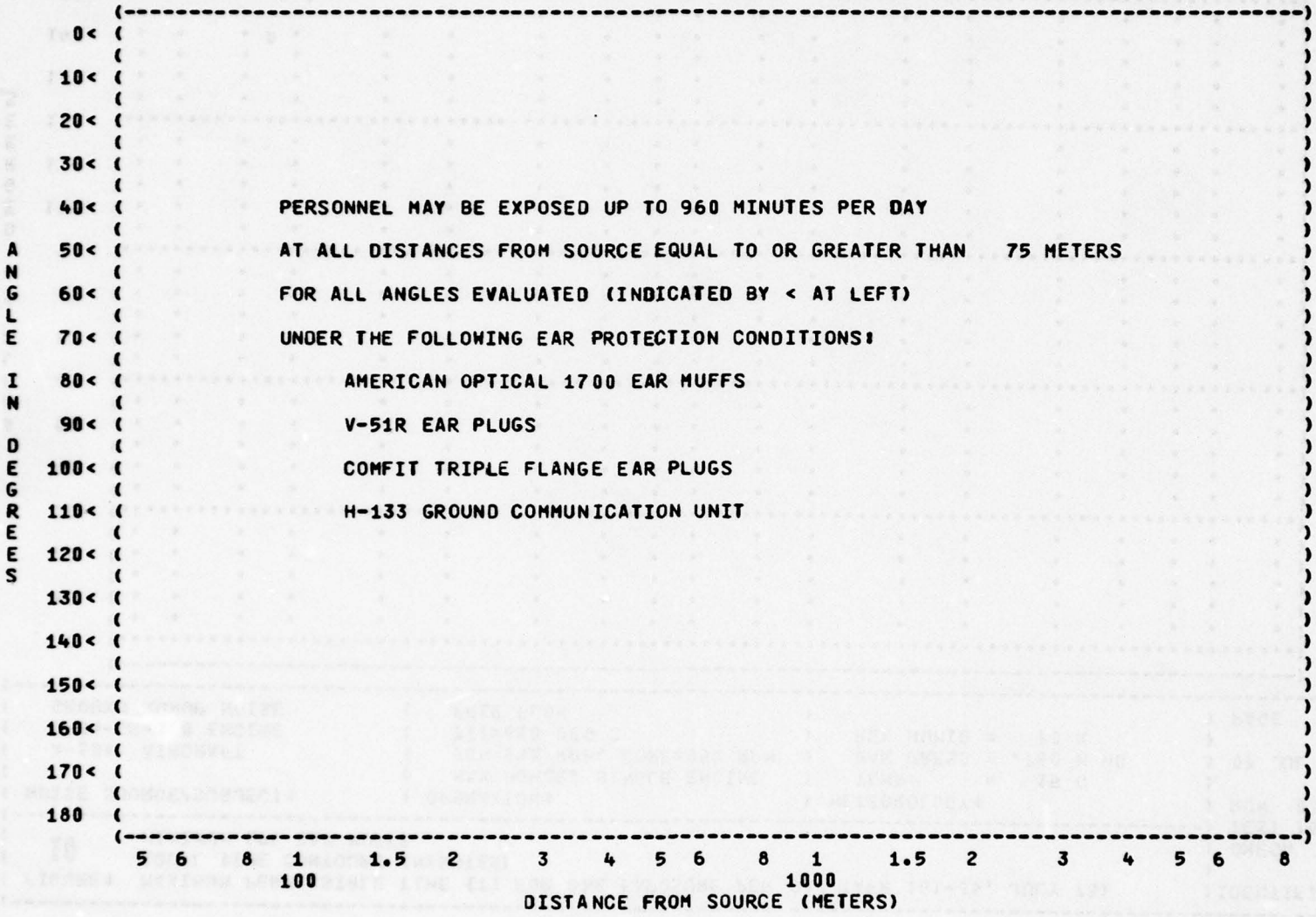


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 7

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

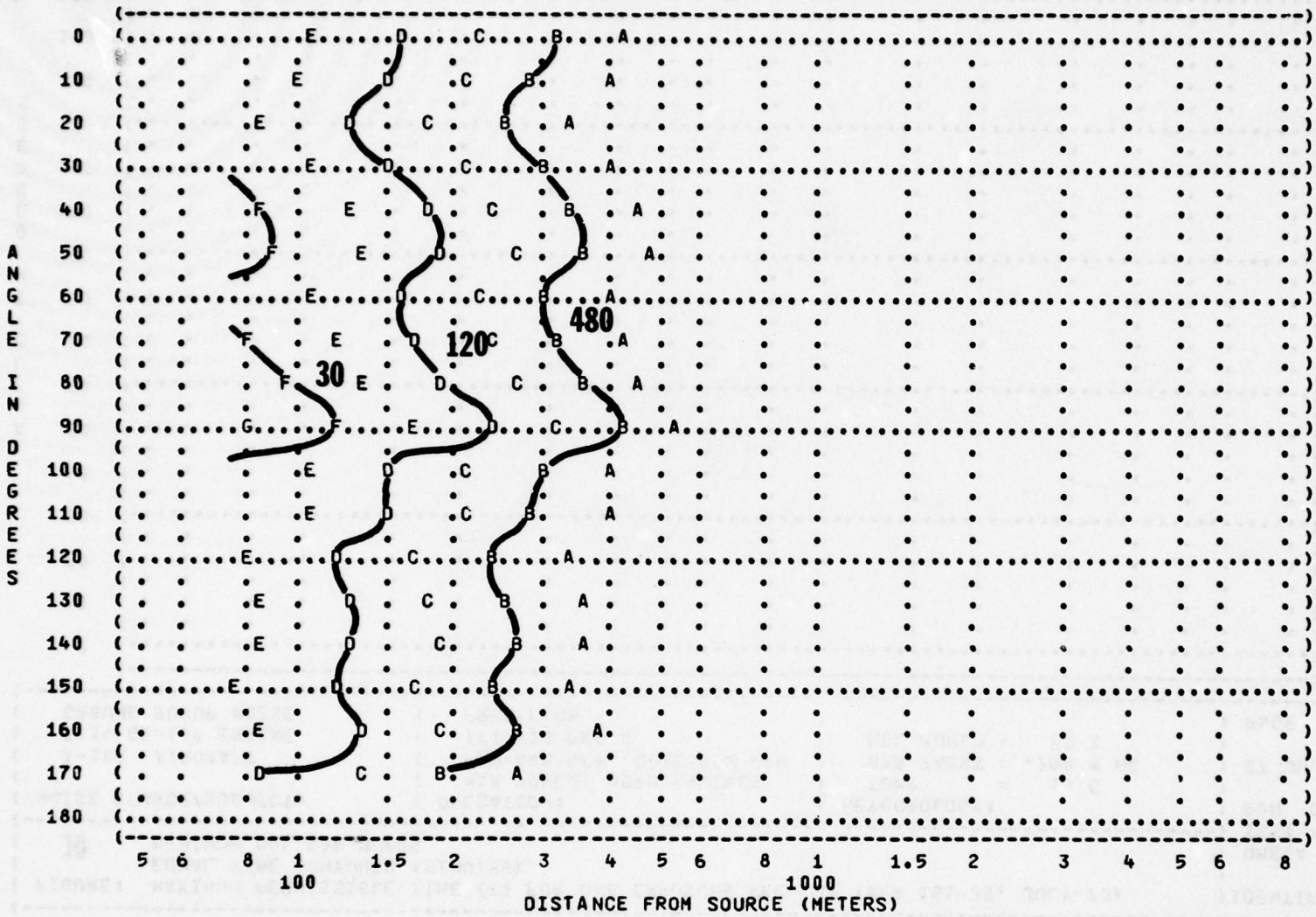


FIGURE: 10

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:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 8

POINT	MIN
A	960
B	480

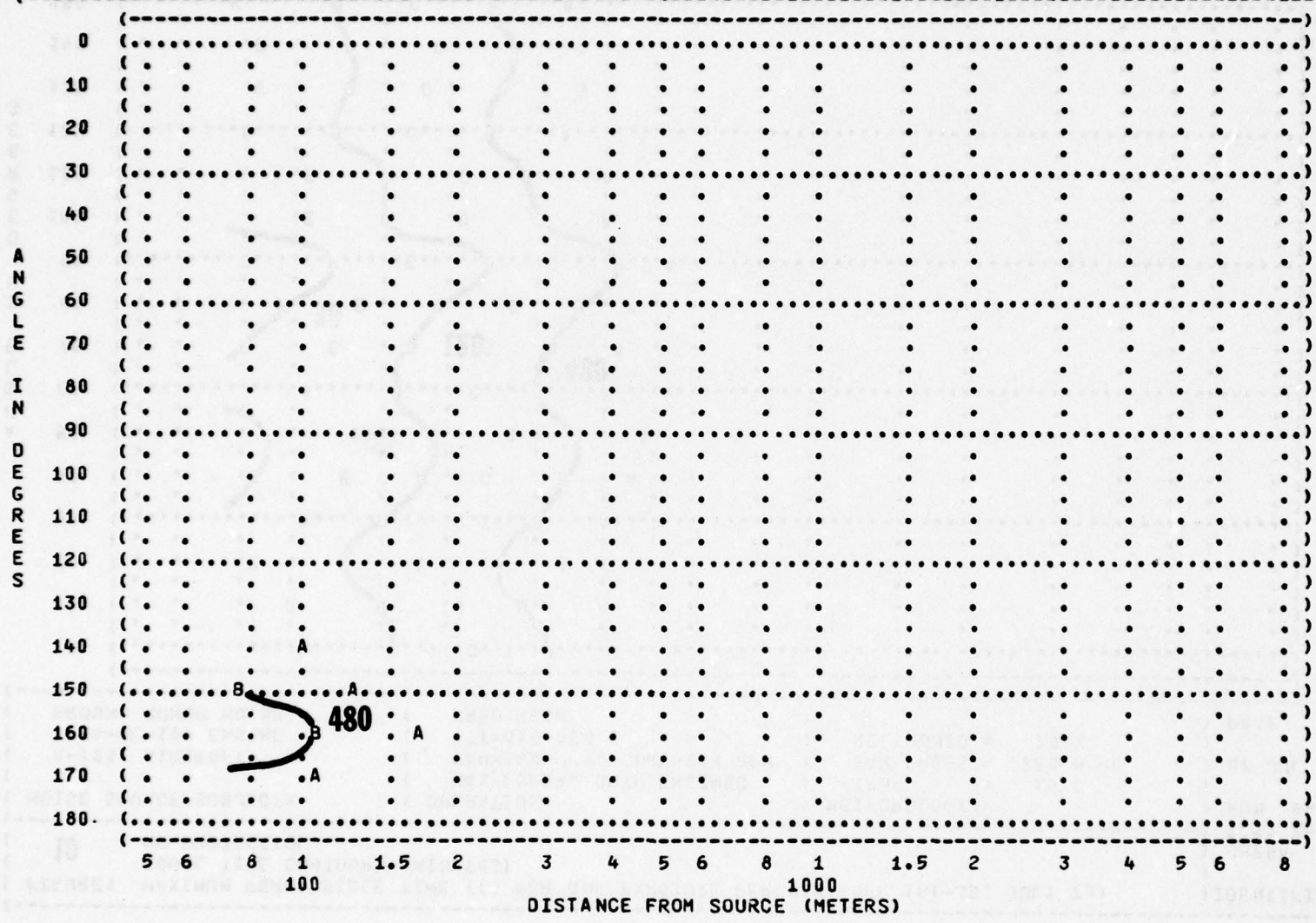


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
10 AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 9

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

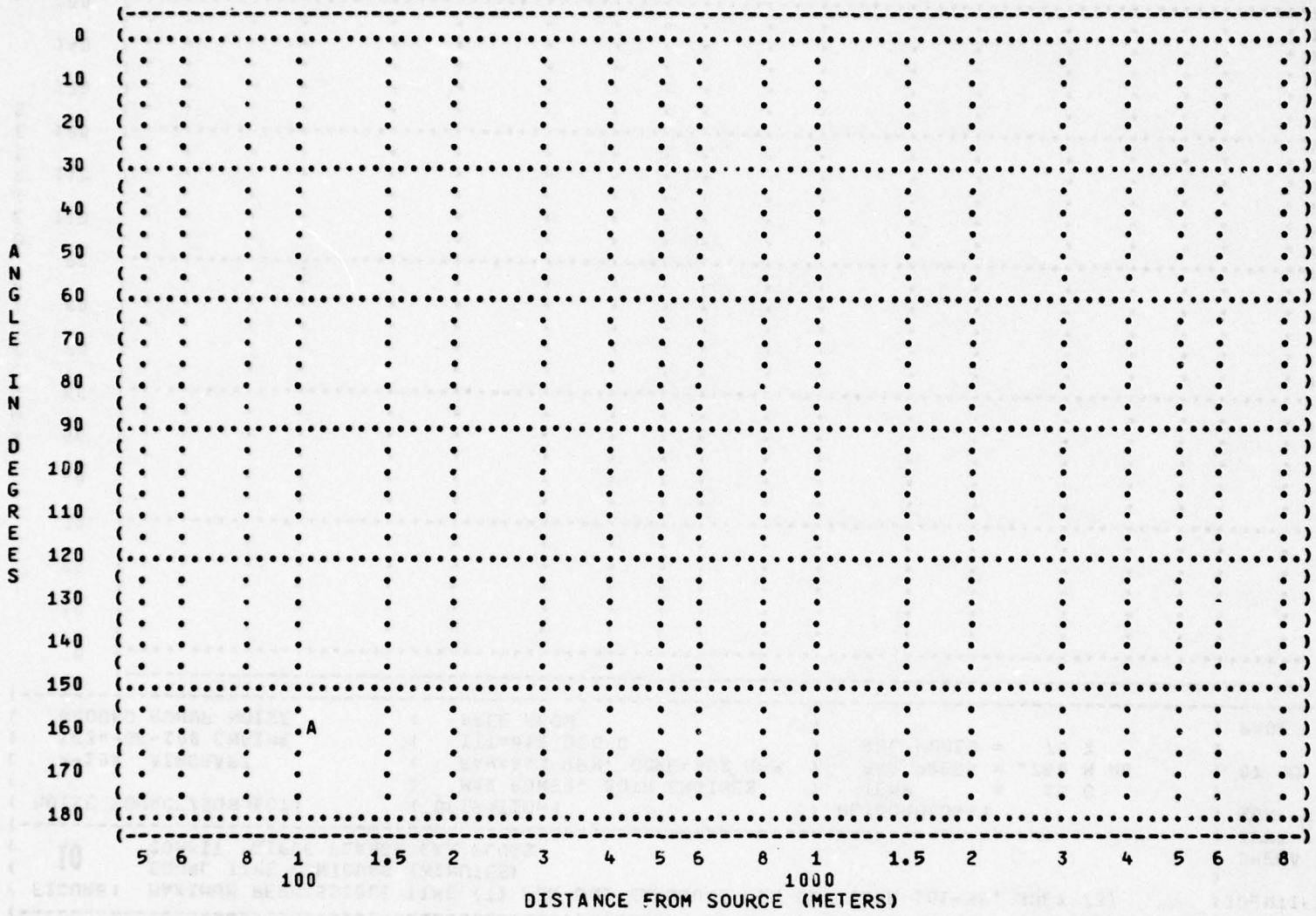


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 10

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

POINT MIN
A 960

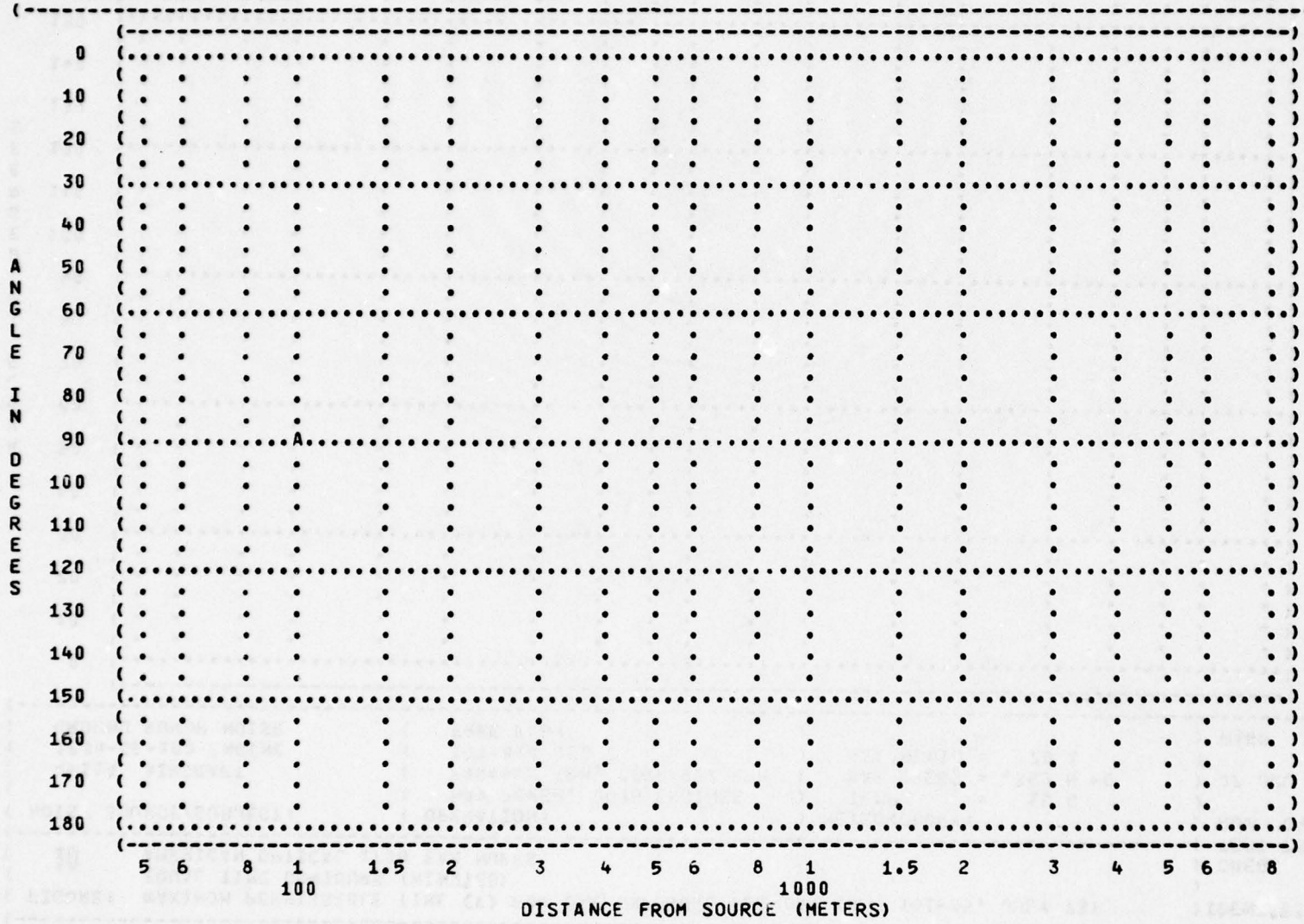


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
PAGE 11

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

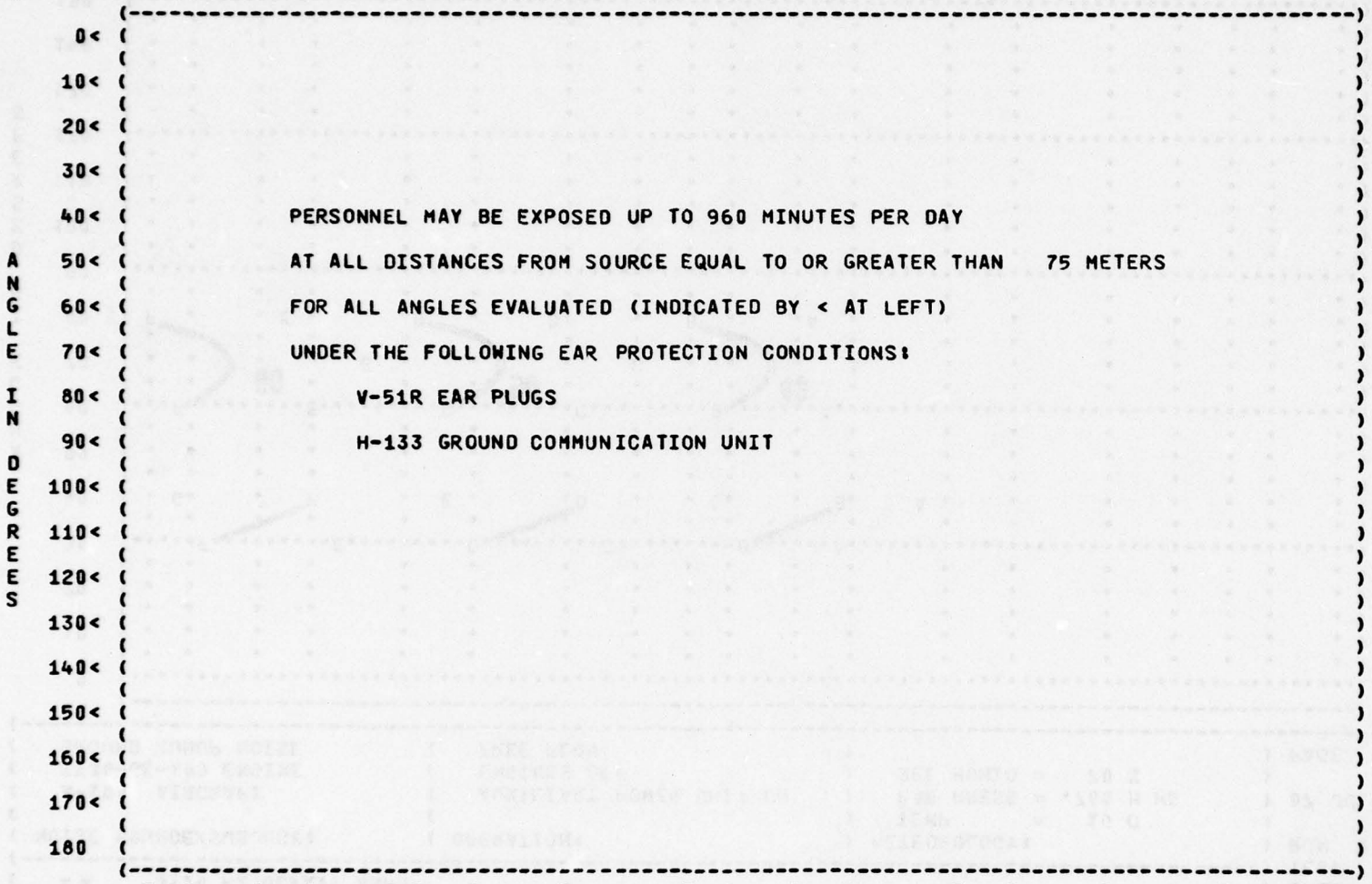


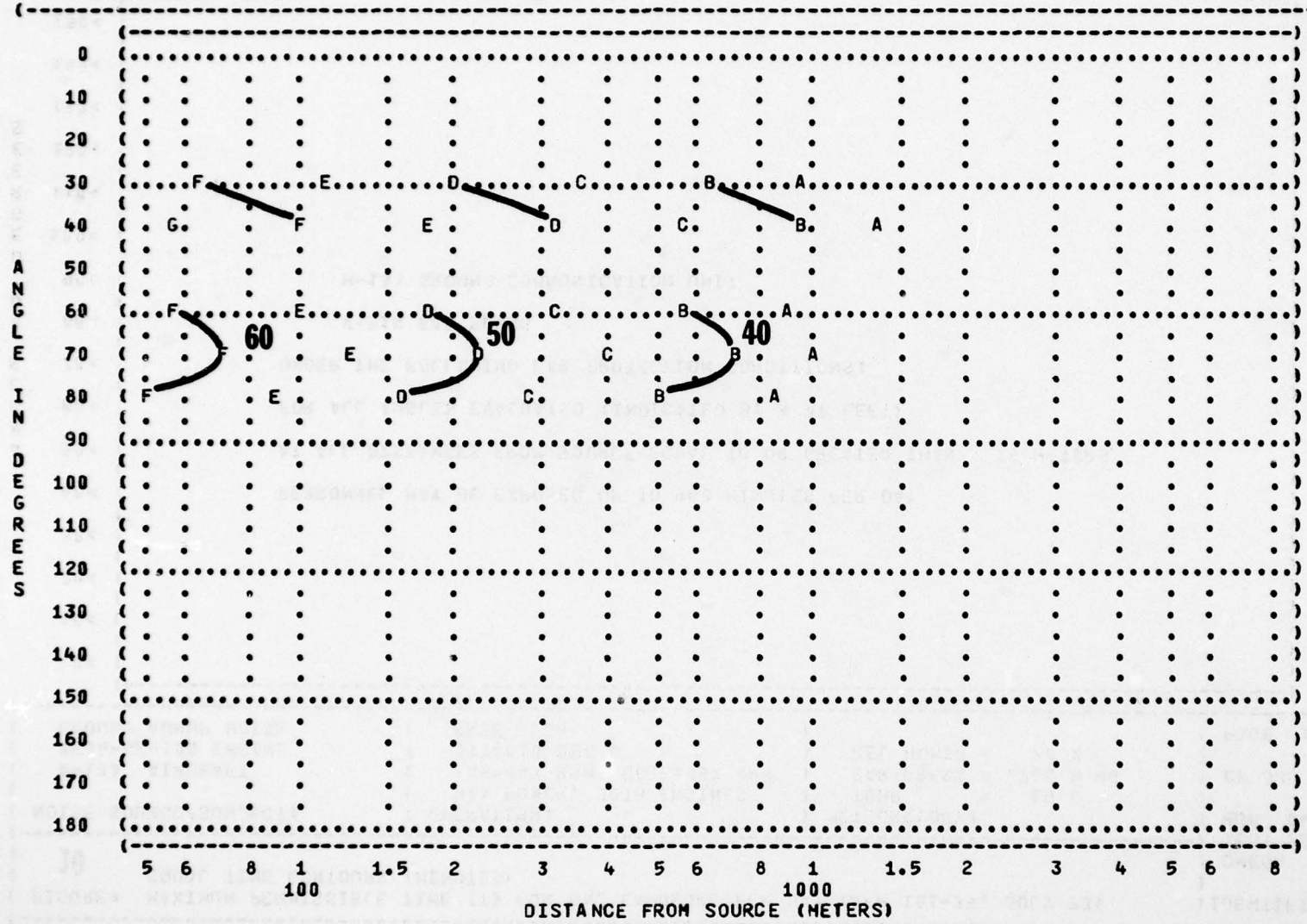
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 18



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

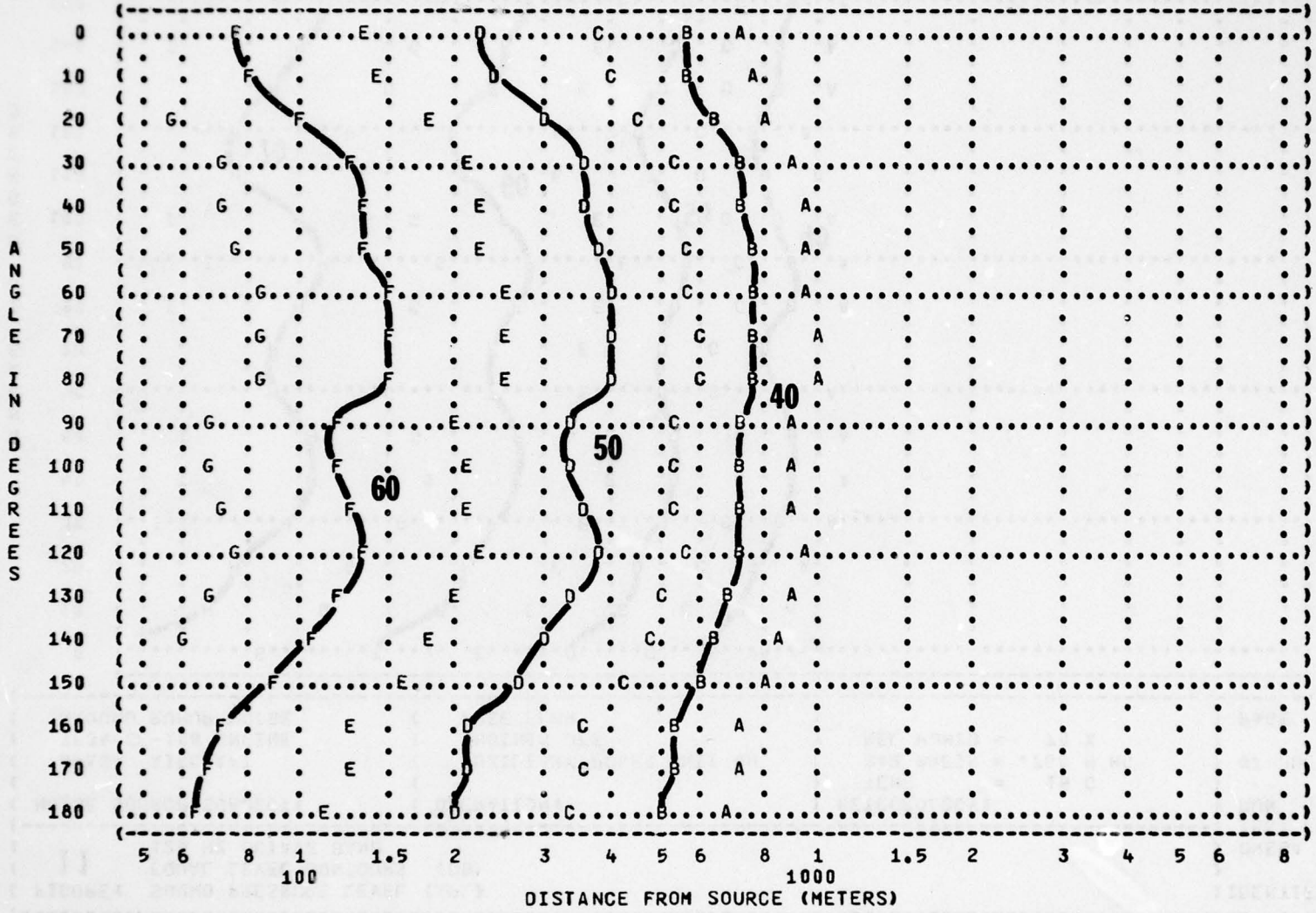
NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 19

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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

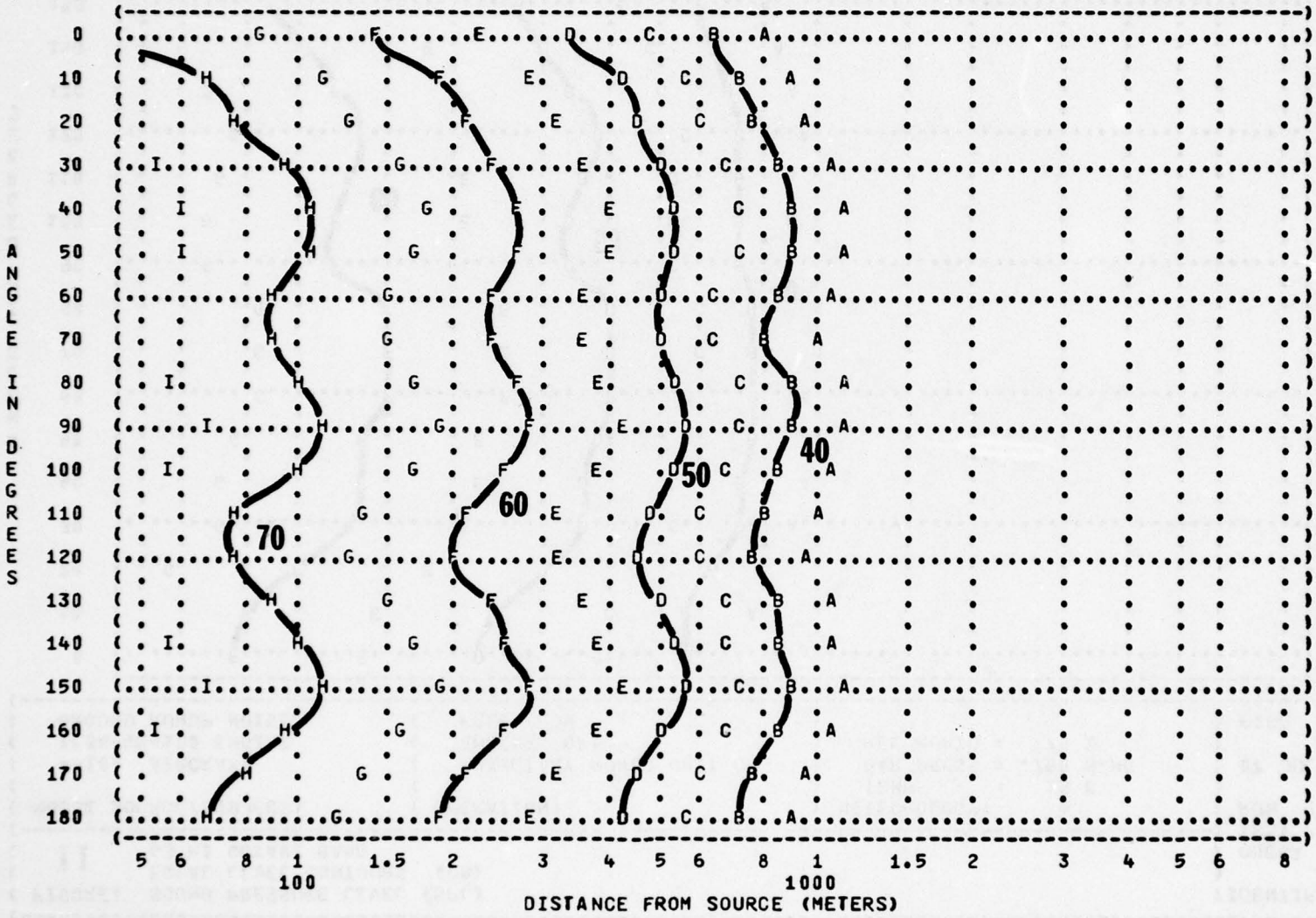
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 20



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

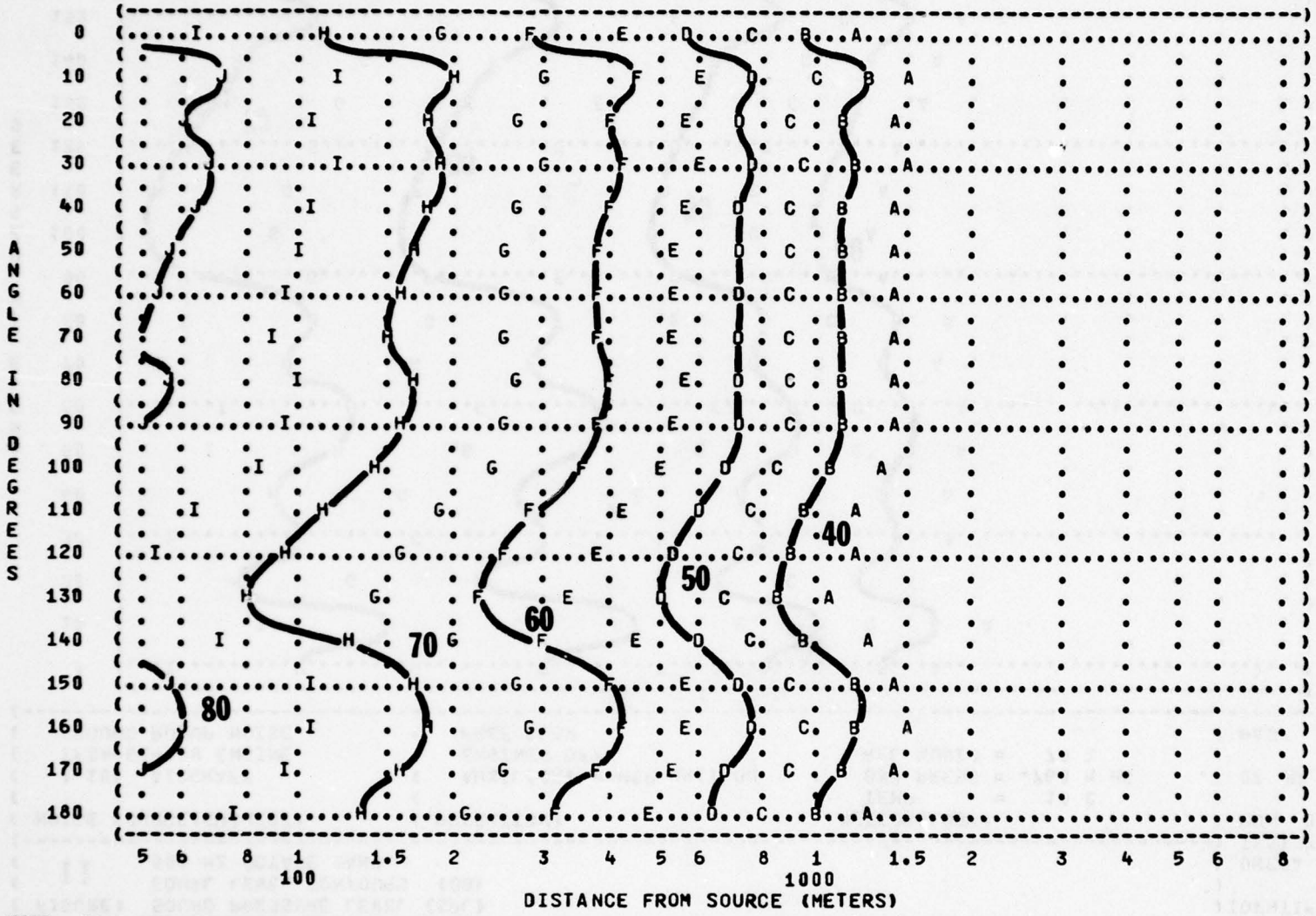
NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

FIGURE: 11

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

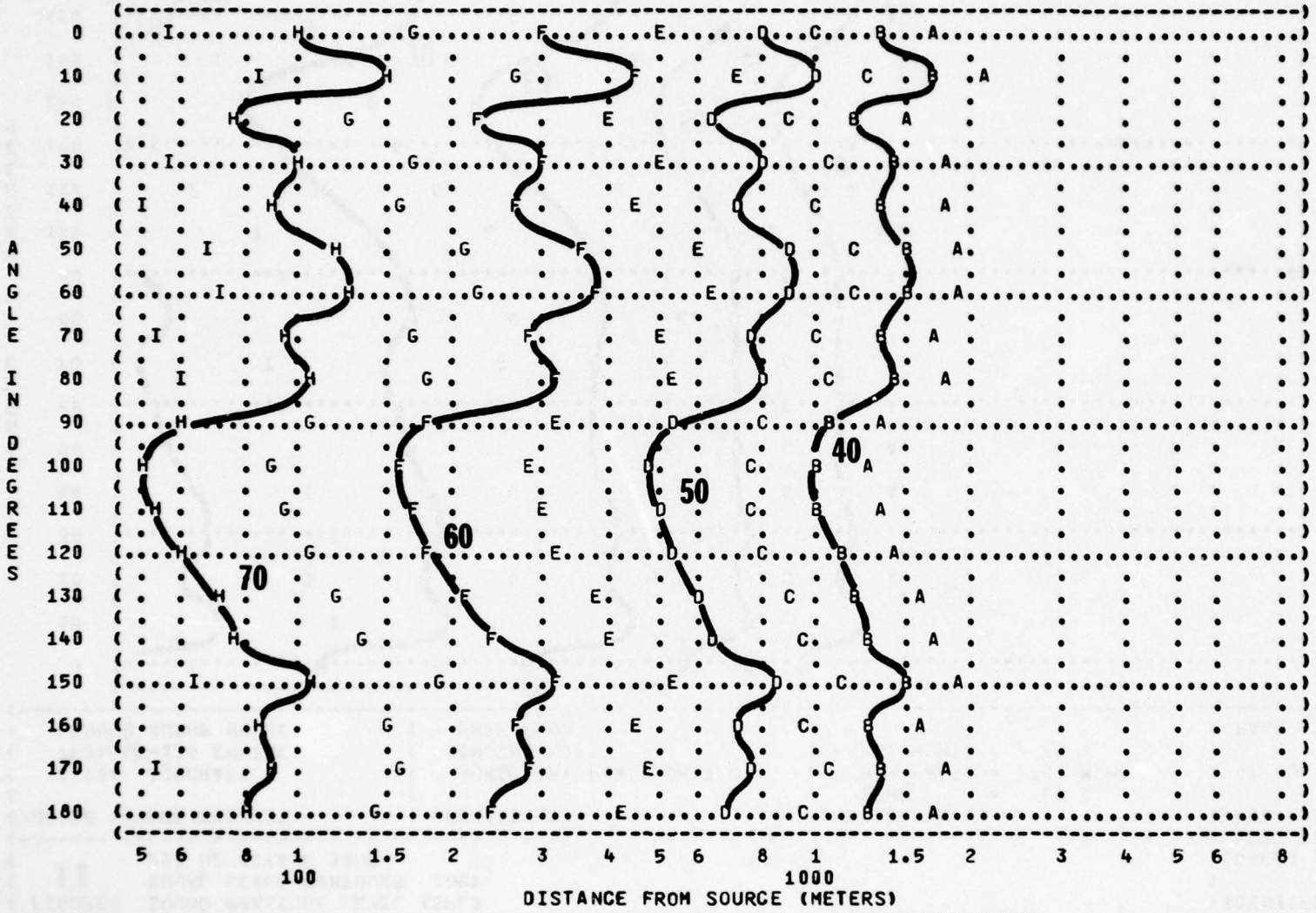
NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 22

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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

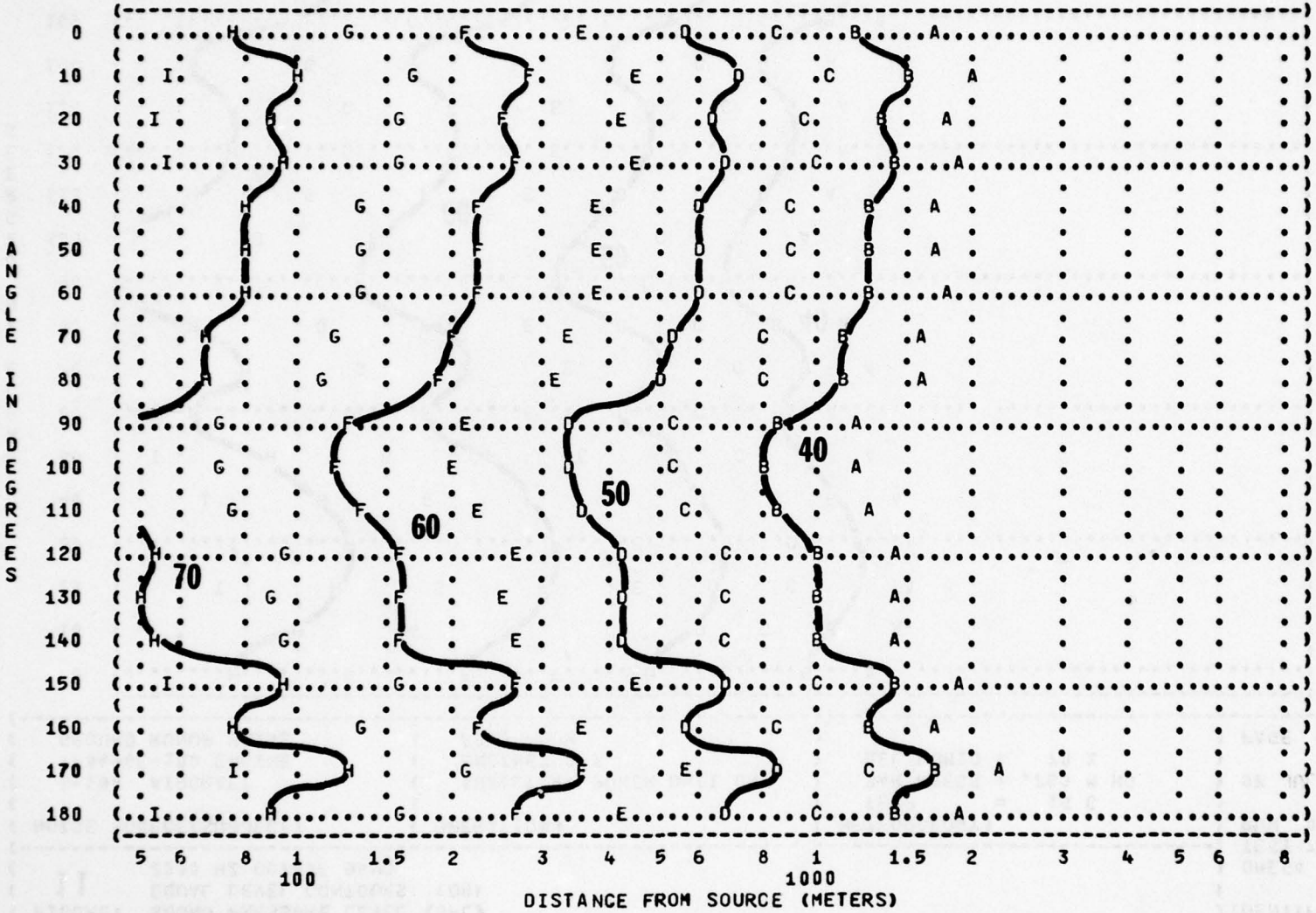
NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 23

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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

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

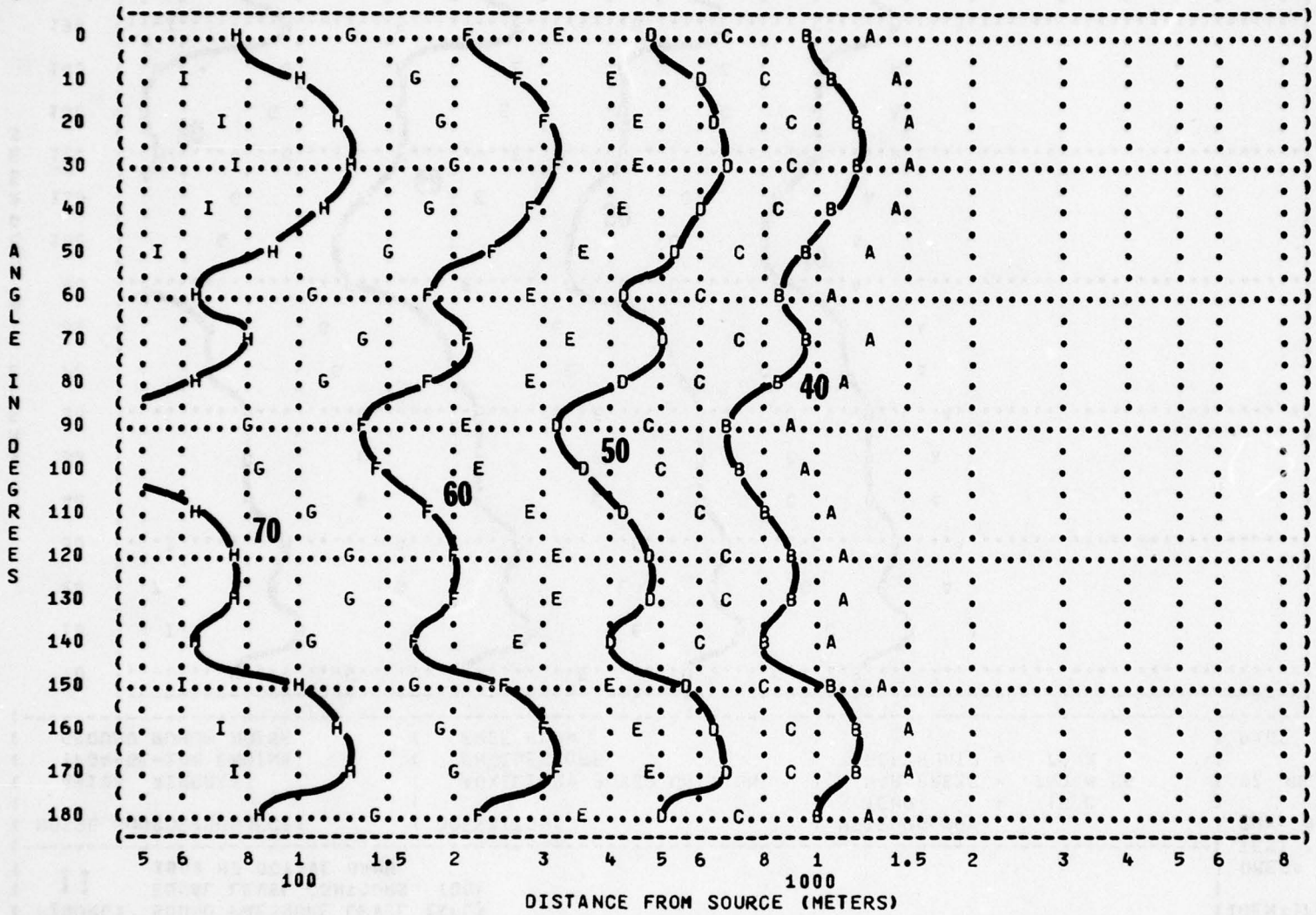
IDENTIFICATION: OMEGA 1.4 TEST 75-002-057 RUN 01 07 JUL 75 PAGE 24

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
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



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

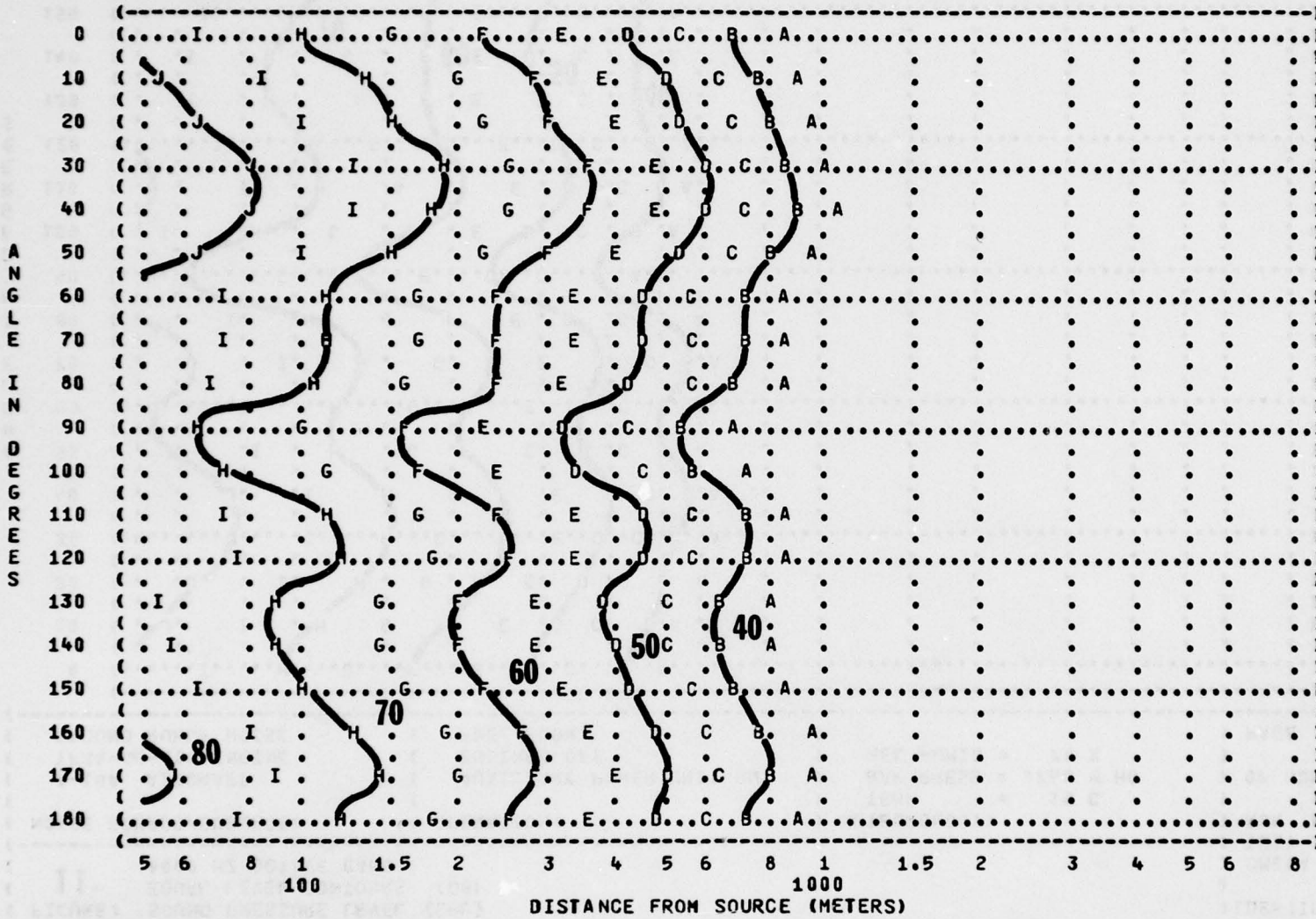
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 25



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

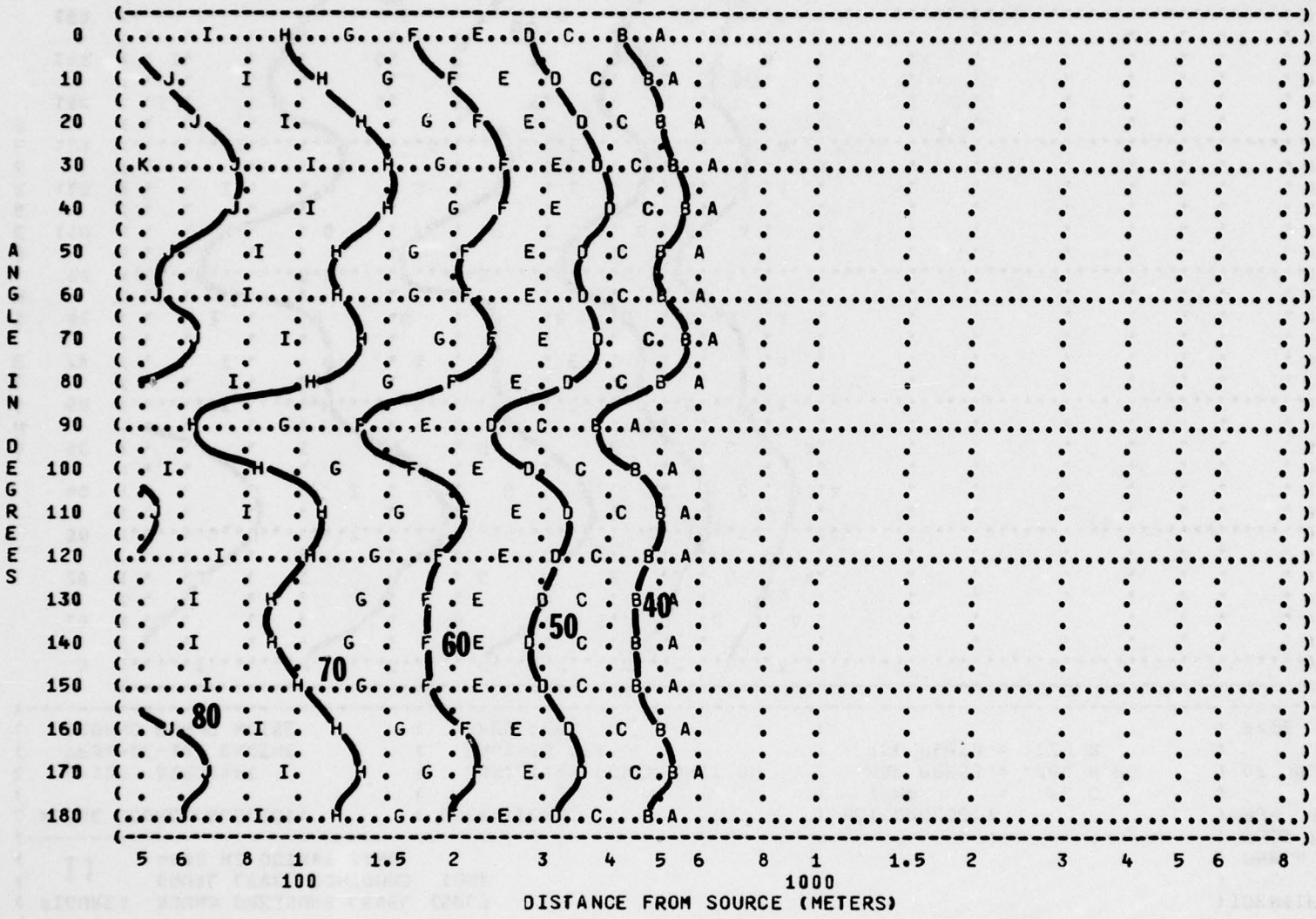
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
AUXILIARY POWER UNIT ON
ENGINES OFF
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-057
RUN 01
07 JUL 75
PAGE 26



NOTE: DATA ARE APPLICABLE ONLY FOR LEFT SIDE OF AIRCRAFT BECAUSE APU IS AN ASYMMETRICAL SOURCE.

FIGURE: 11

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 19

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

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

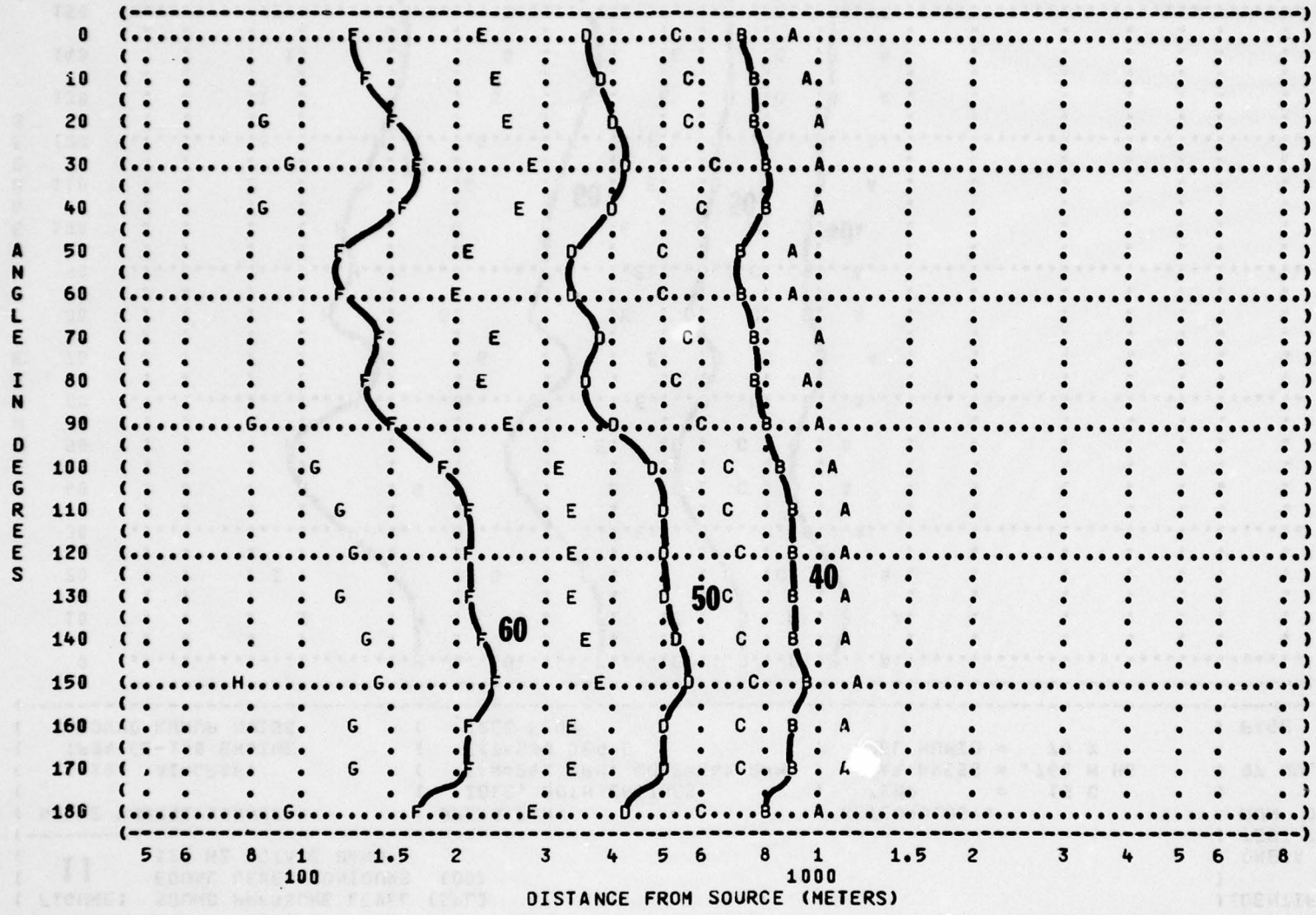


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 20

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
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

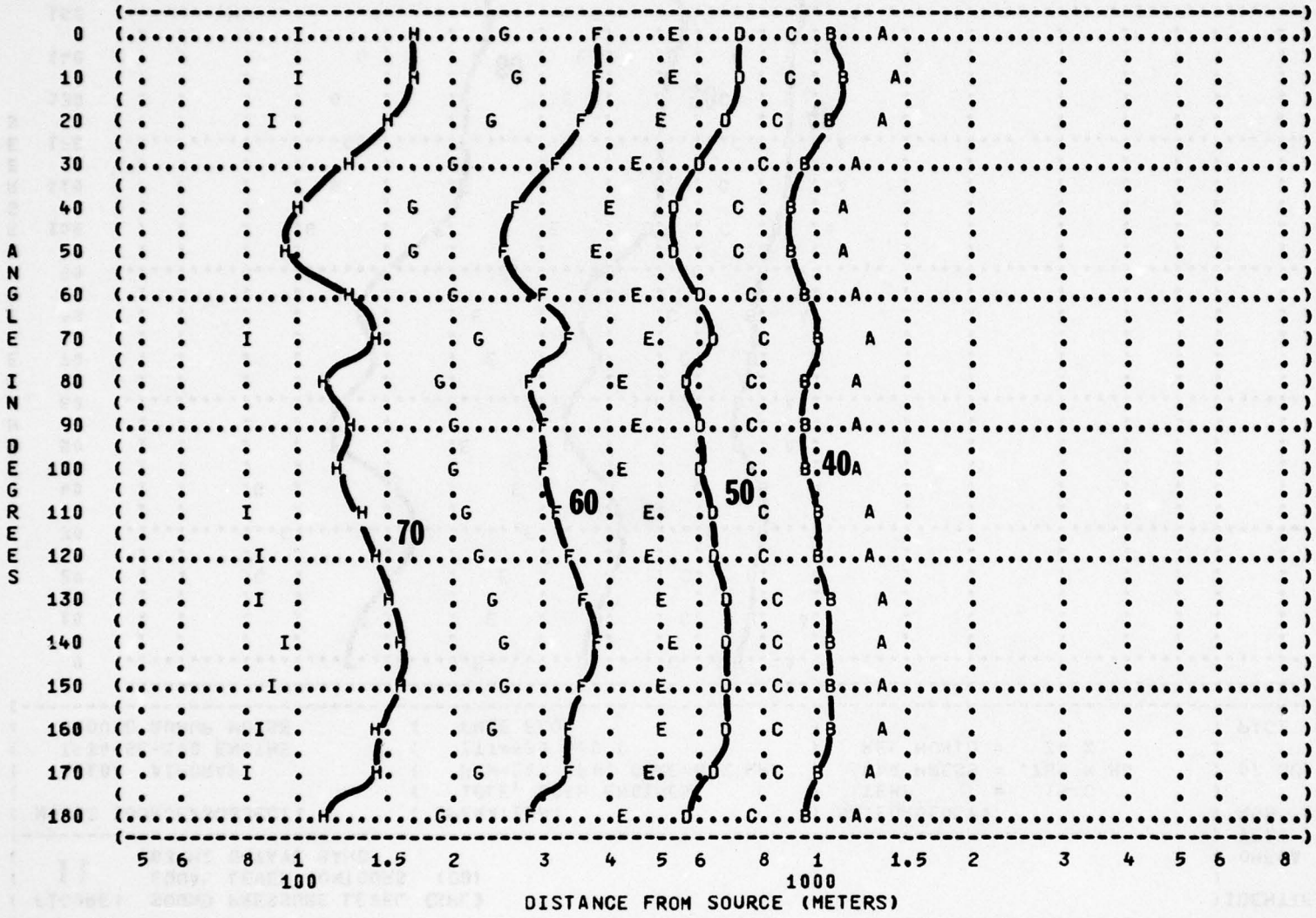


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 21

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

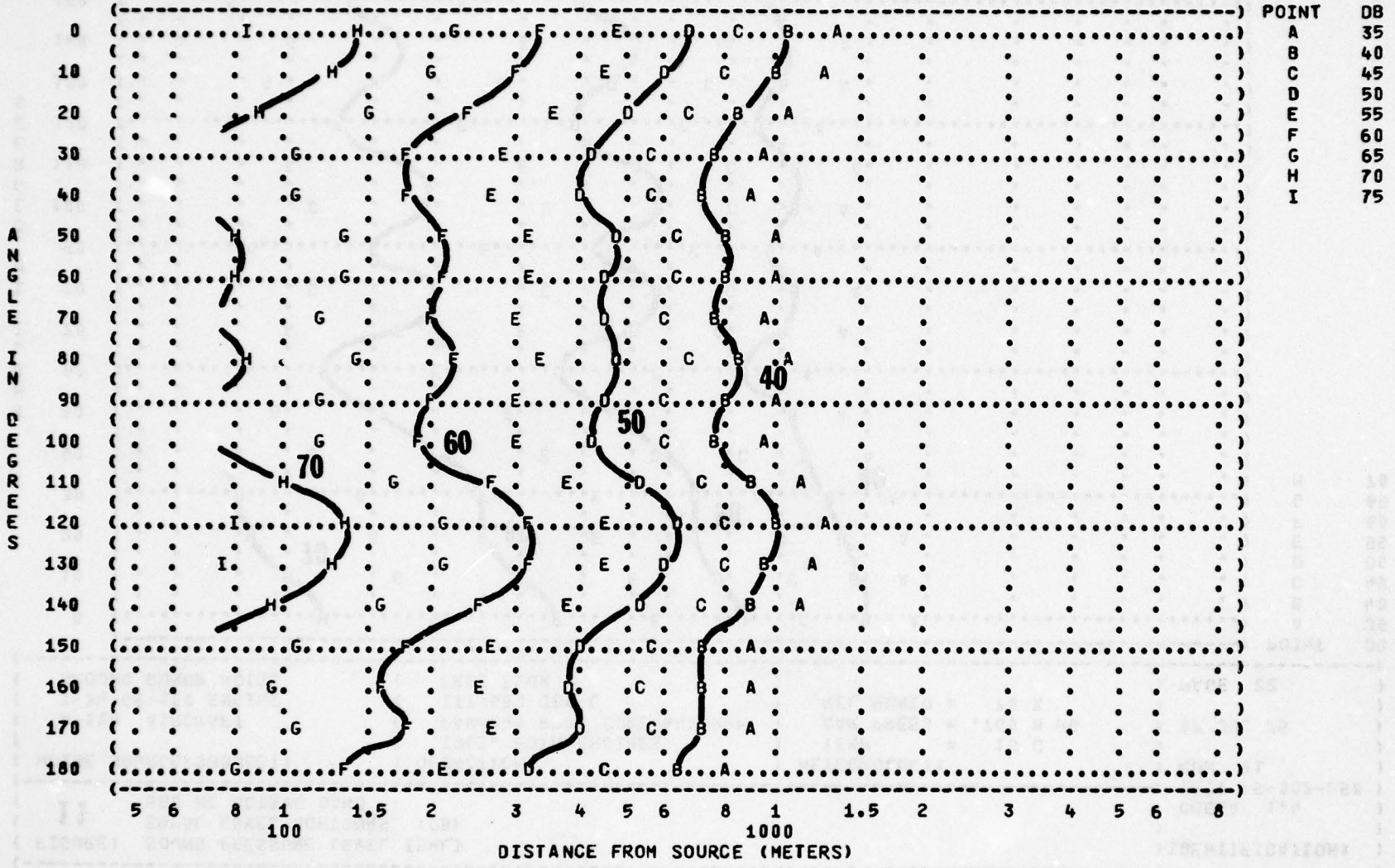


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 22

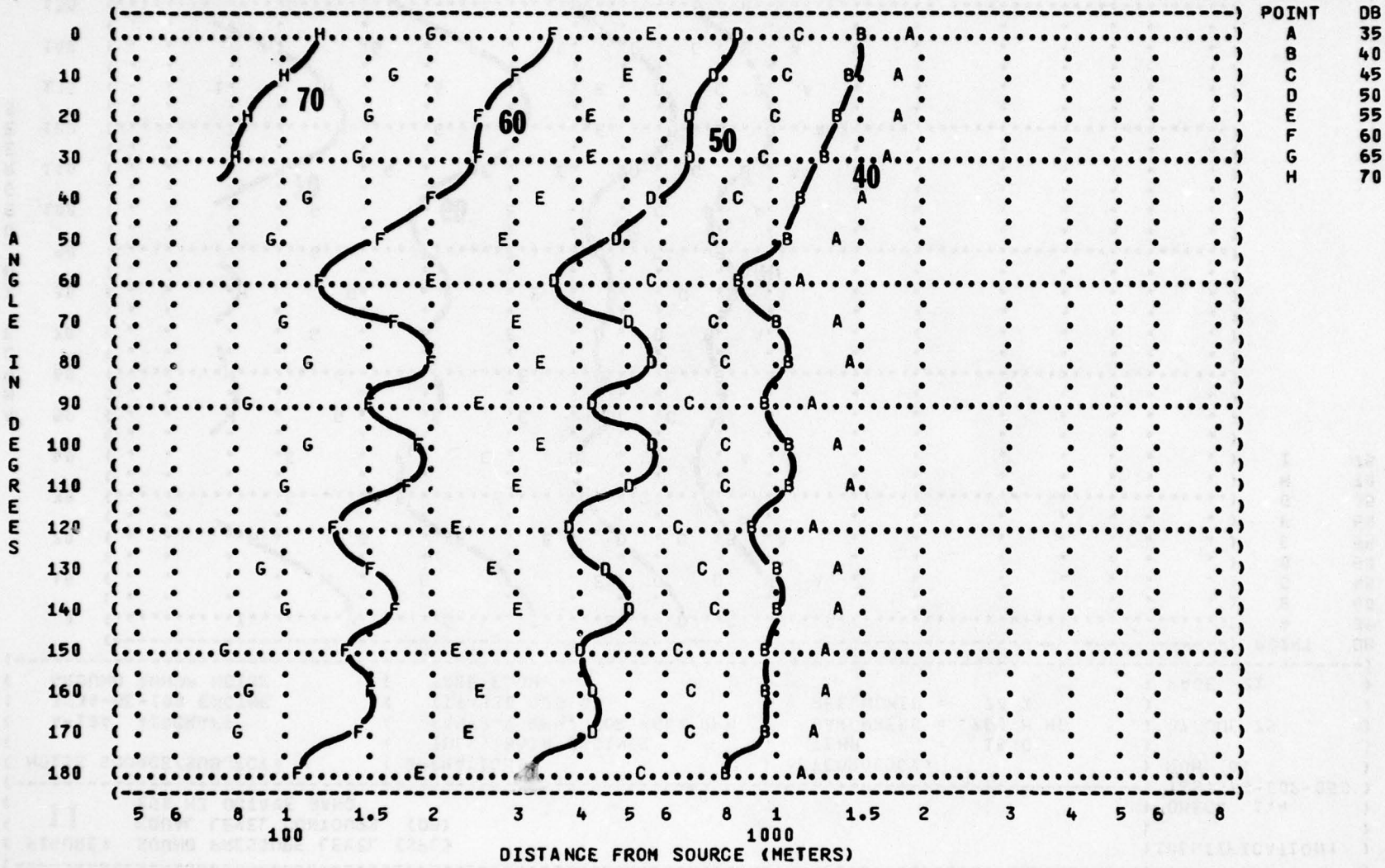


FIGURE: 11

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 23

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

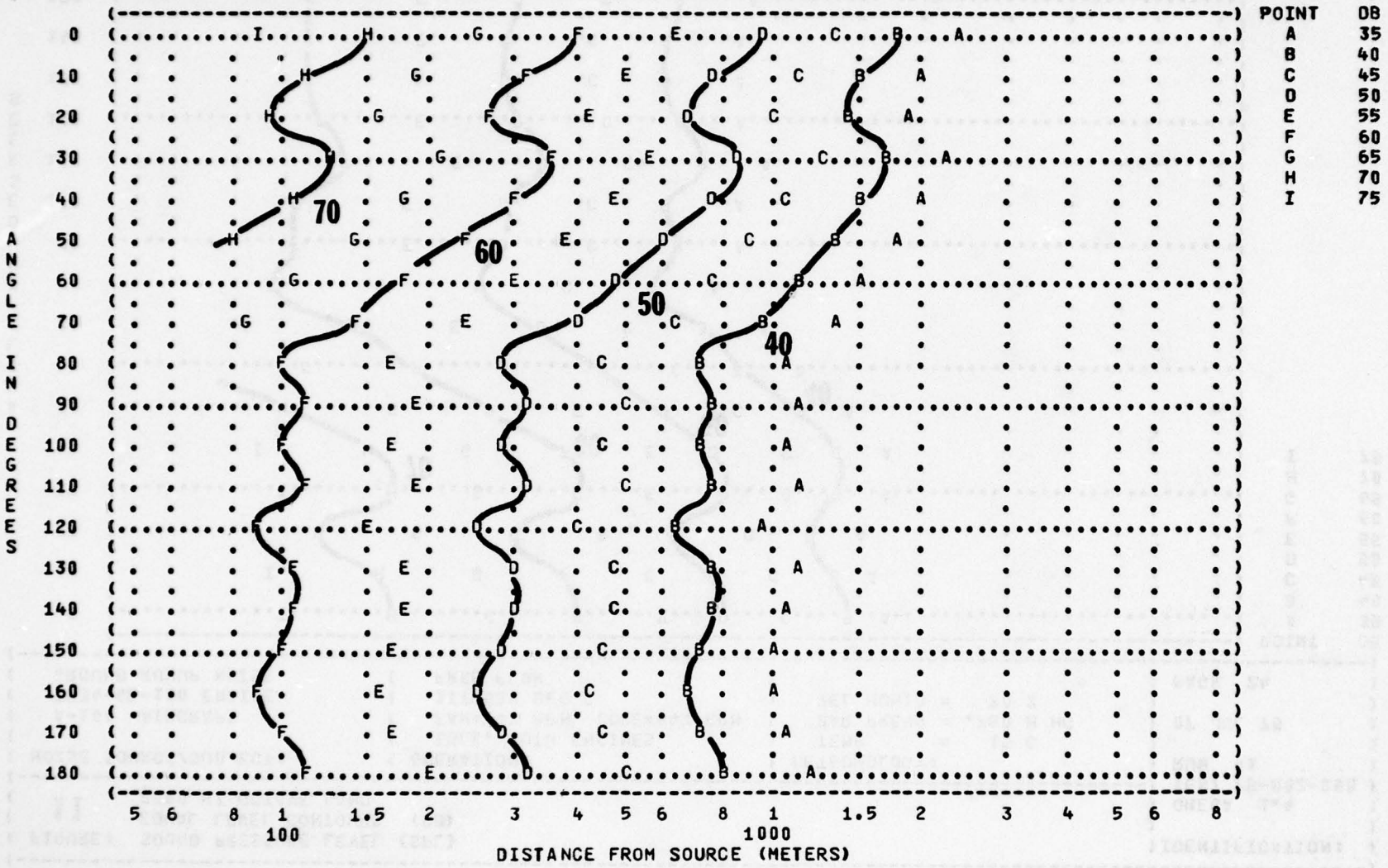


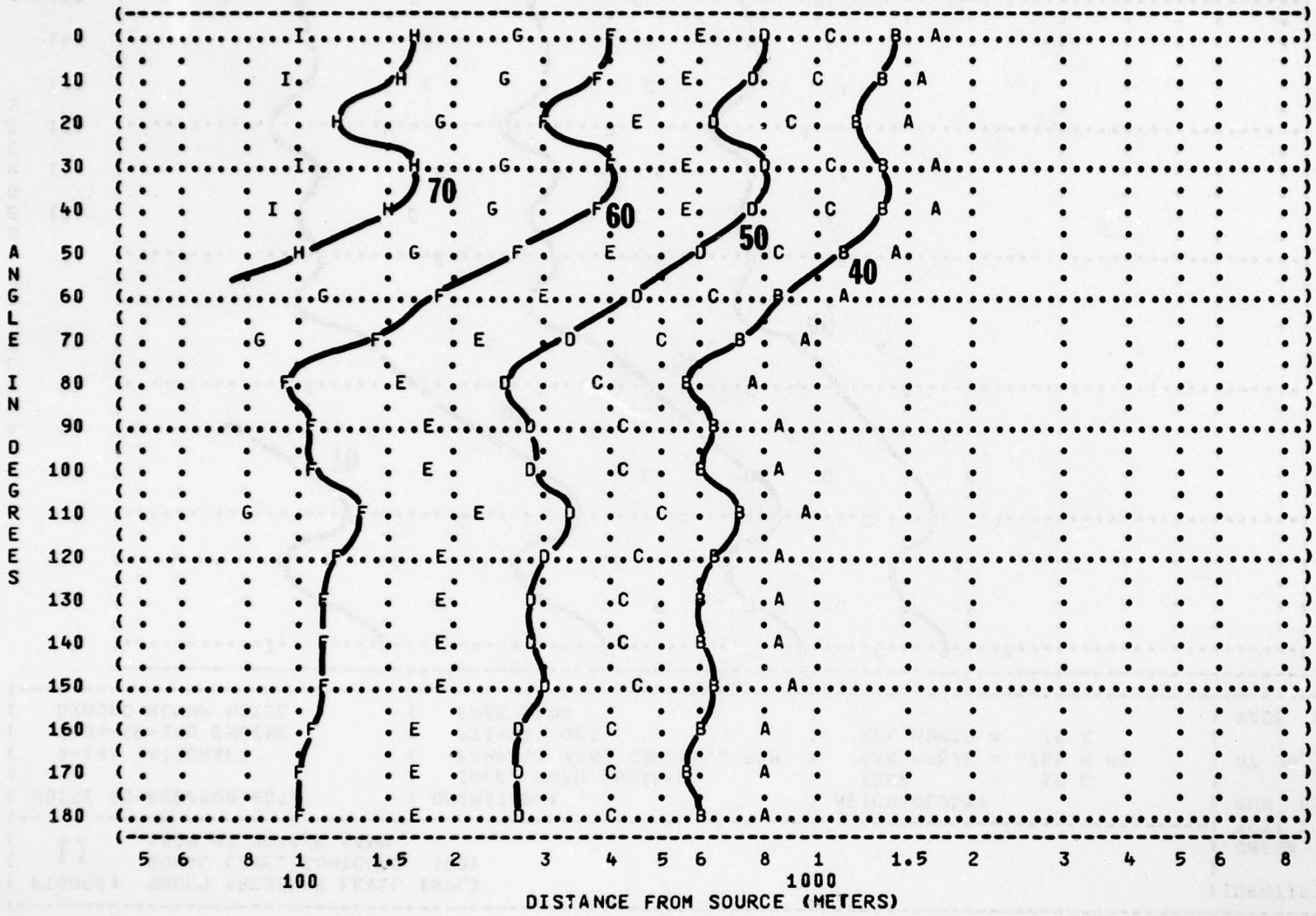
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 24

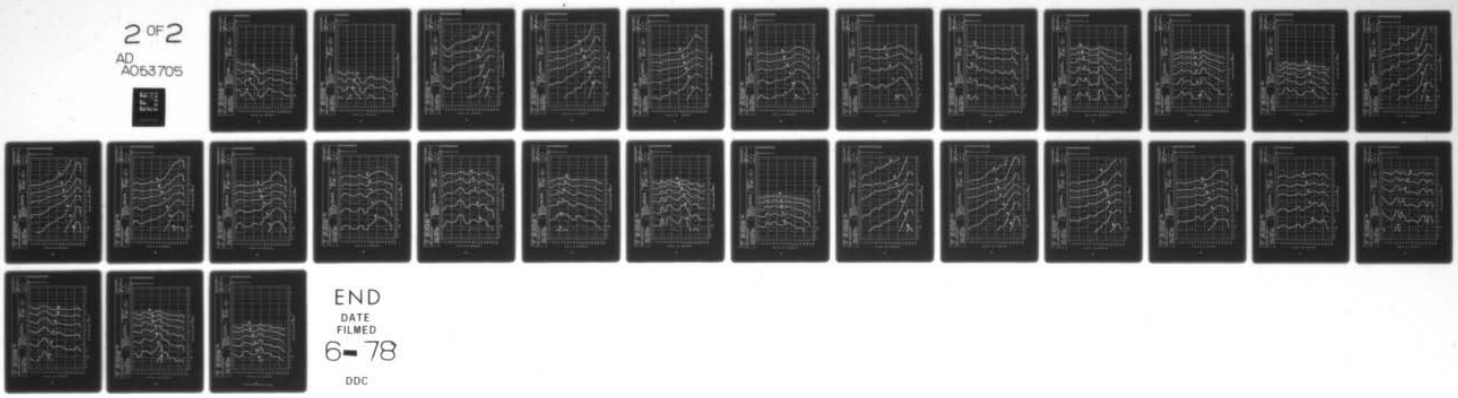


POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

AD-A053 705 AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 1/2
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 72. A-10A AIR--ETC(U)
JAN 77 R G POWELL

UNCLASSIFIED AMRL-TR-75-50-VOL-72 NL

2 OF 2
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FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 25

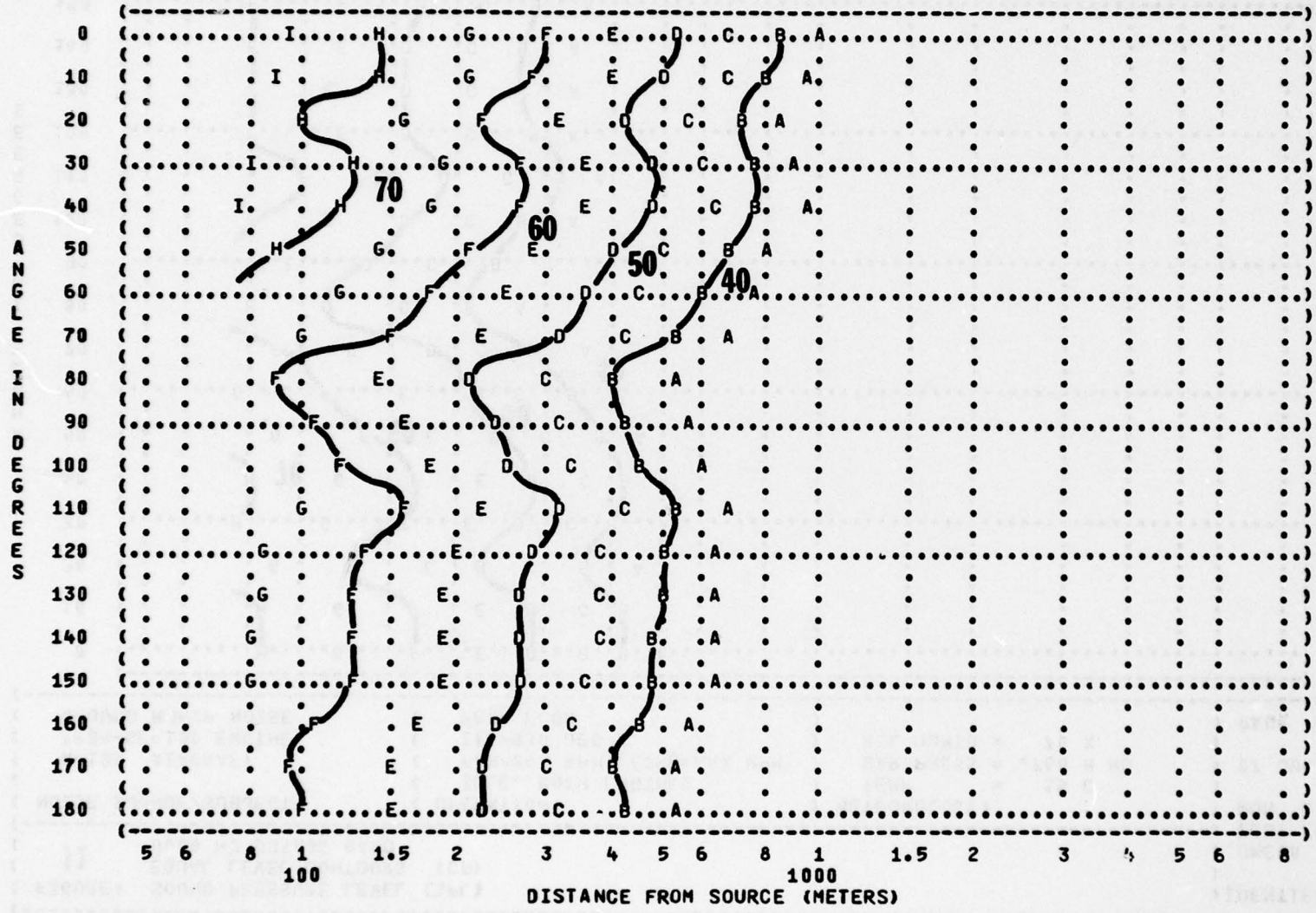


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 01
07 JUL 75
PAGE 26

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
IDLE, BOTH ENGINES
FAN=24% RPM, CORE=64% RPM
ITT=530 DEG C
FREE FLOW

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

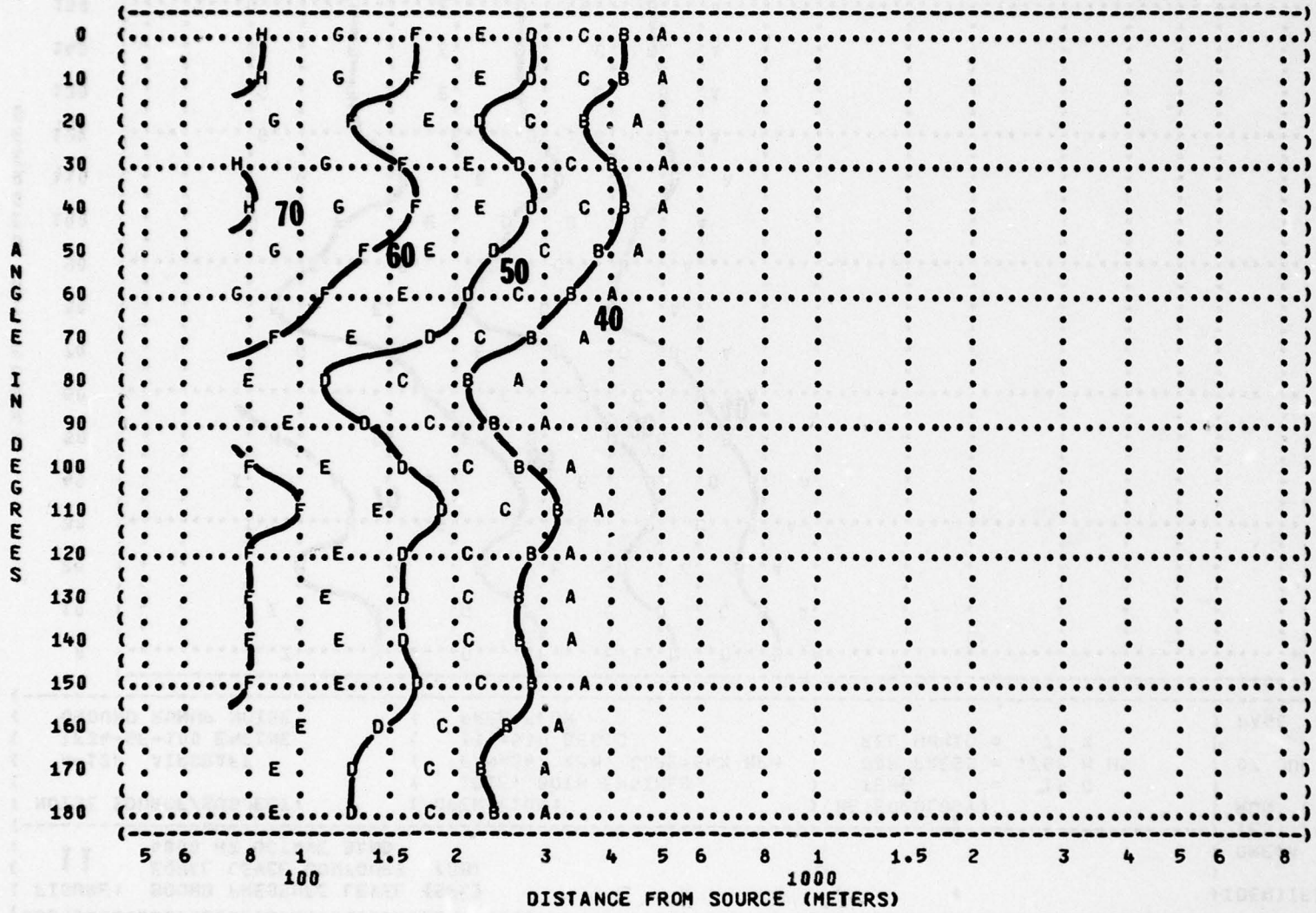


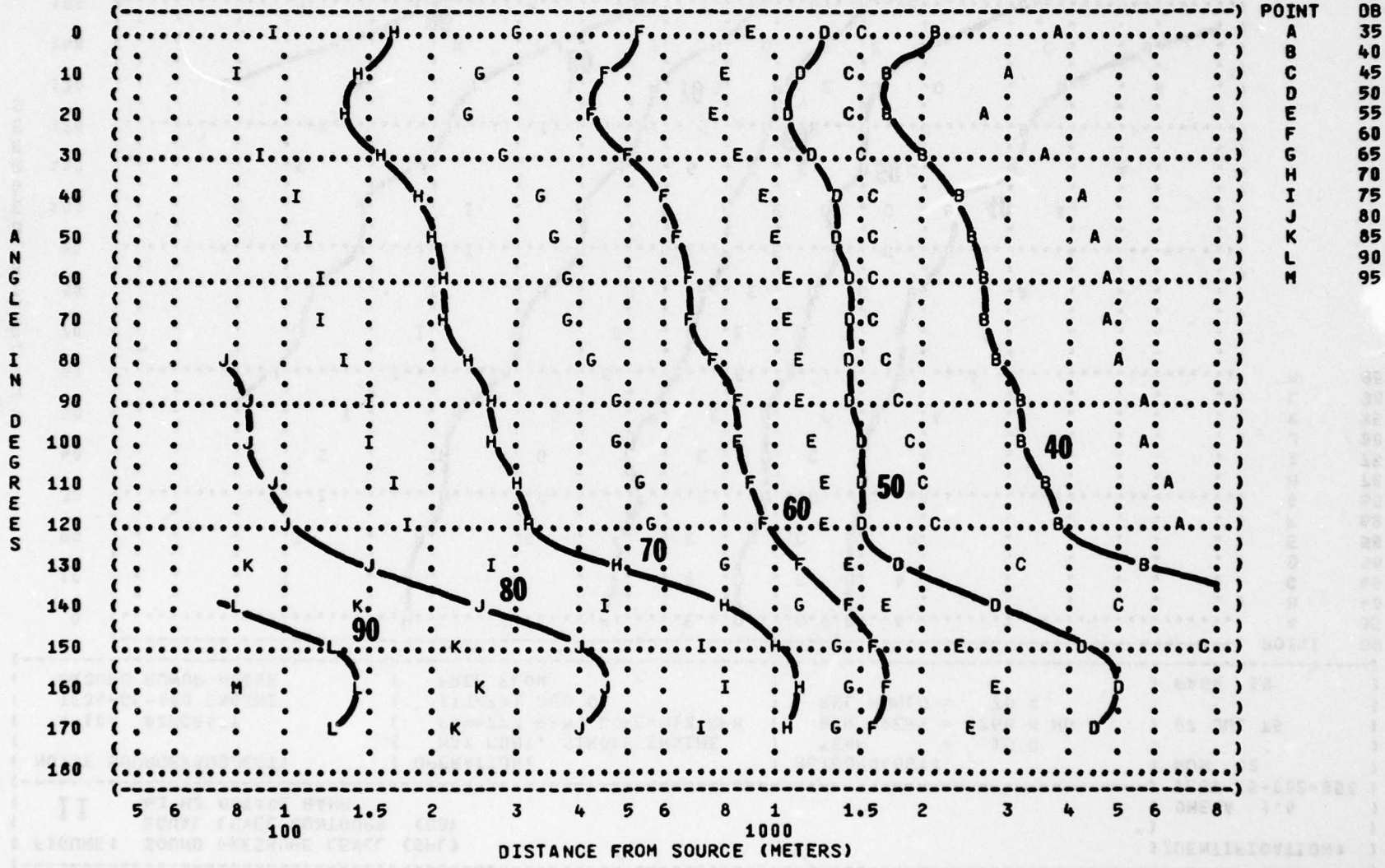
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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
K	85
L	90
M	95

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 19

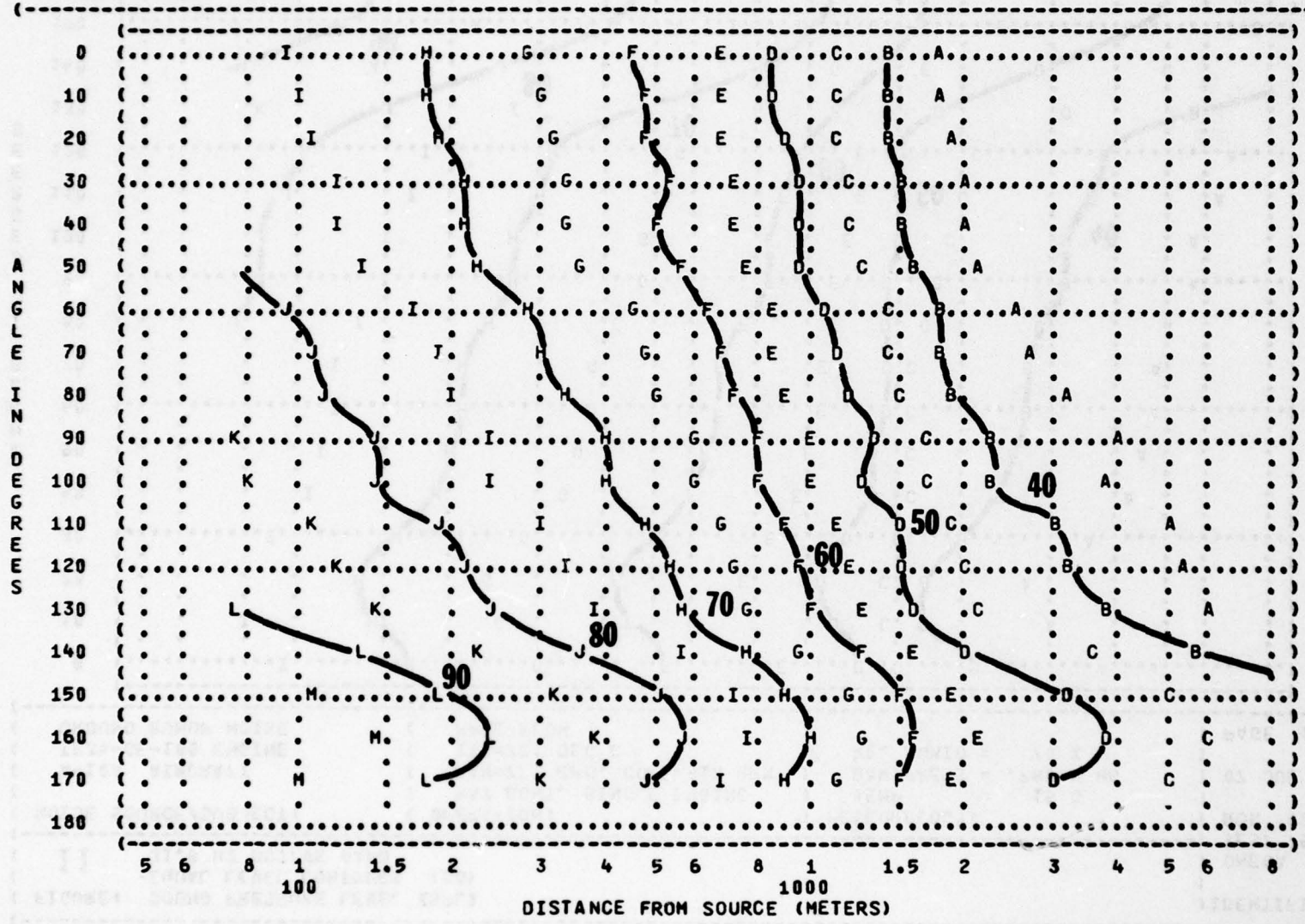


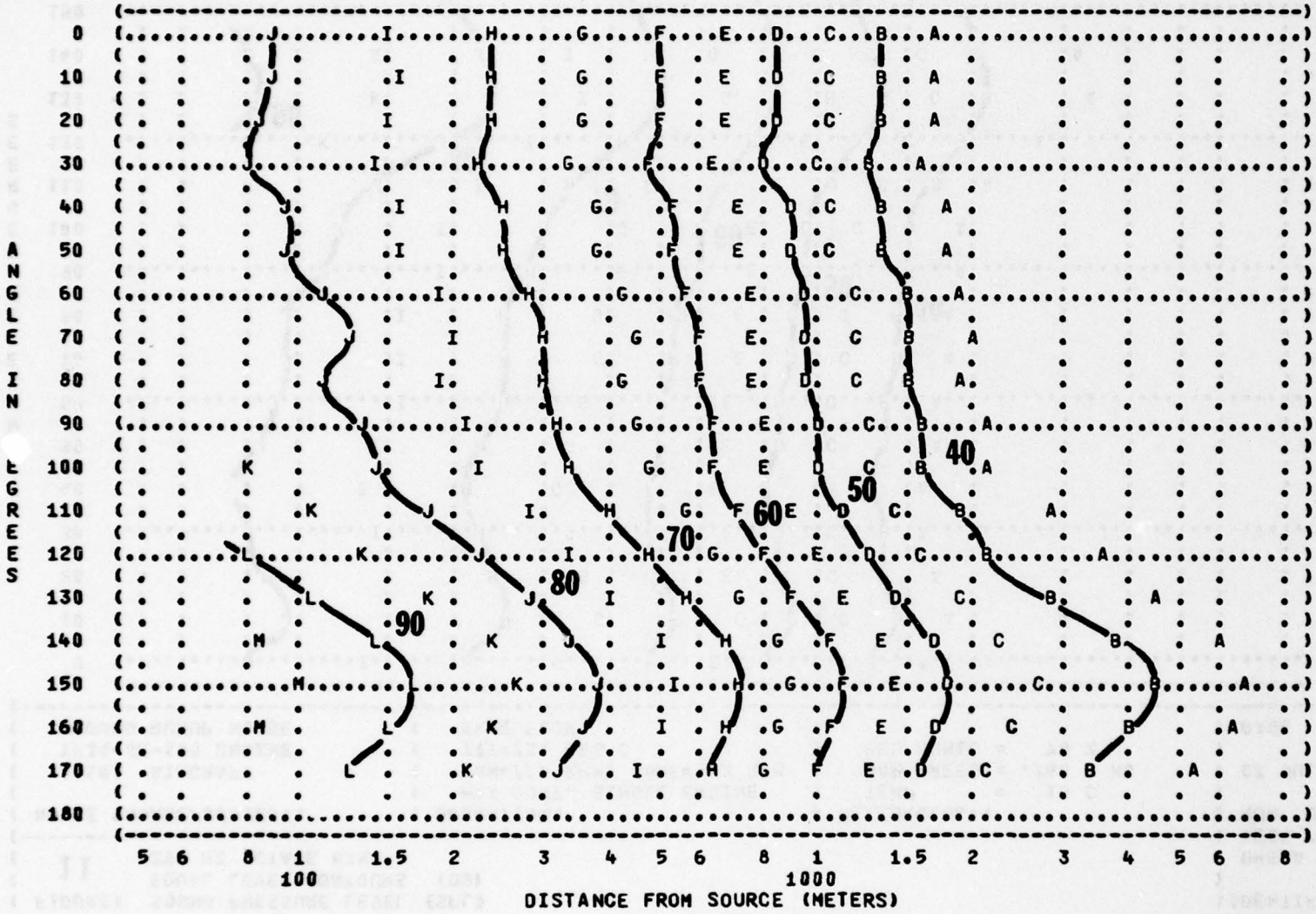
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 21

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

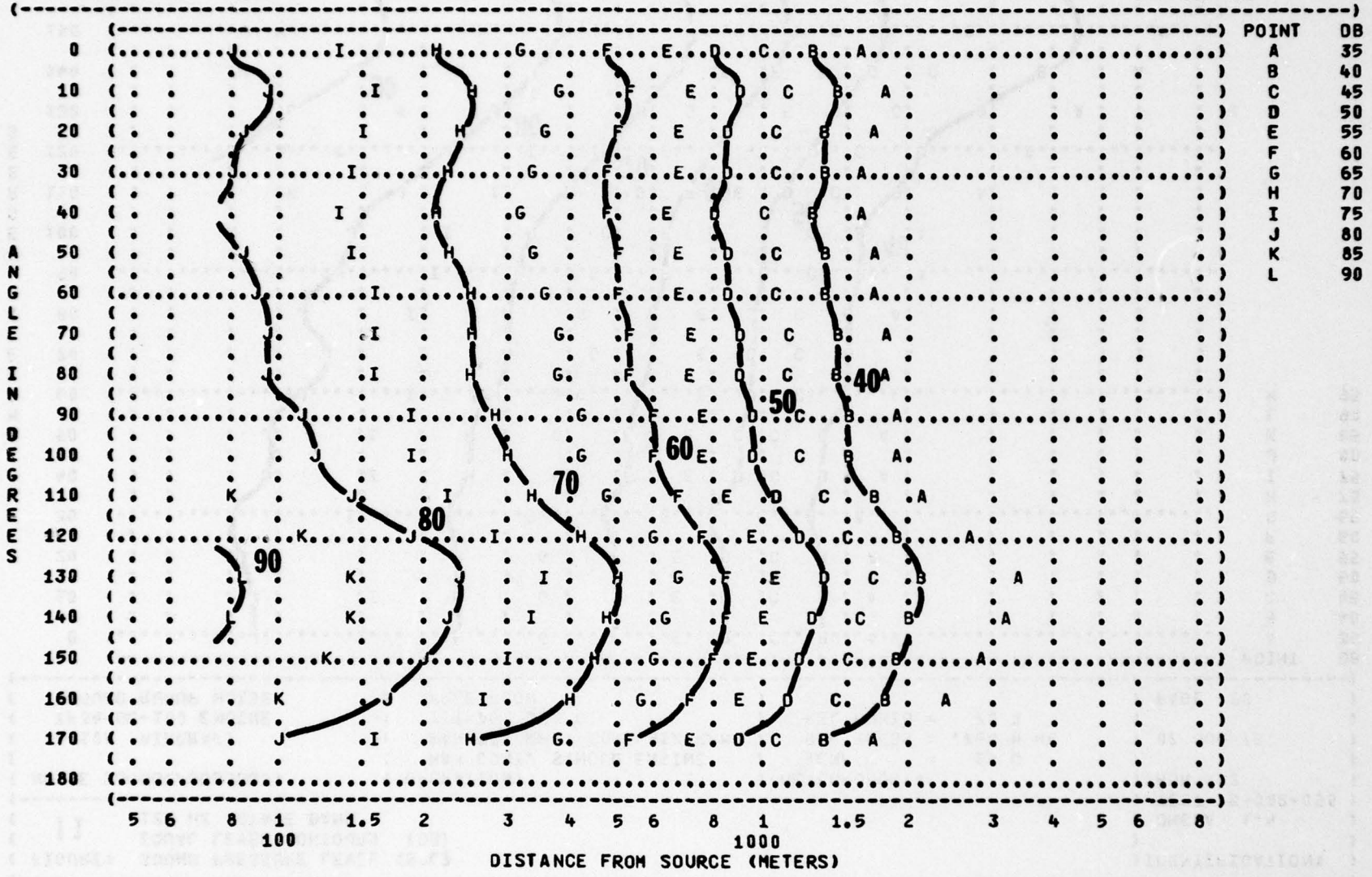


FIGURE: 11

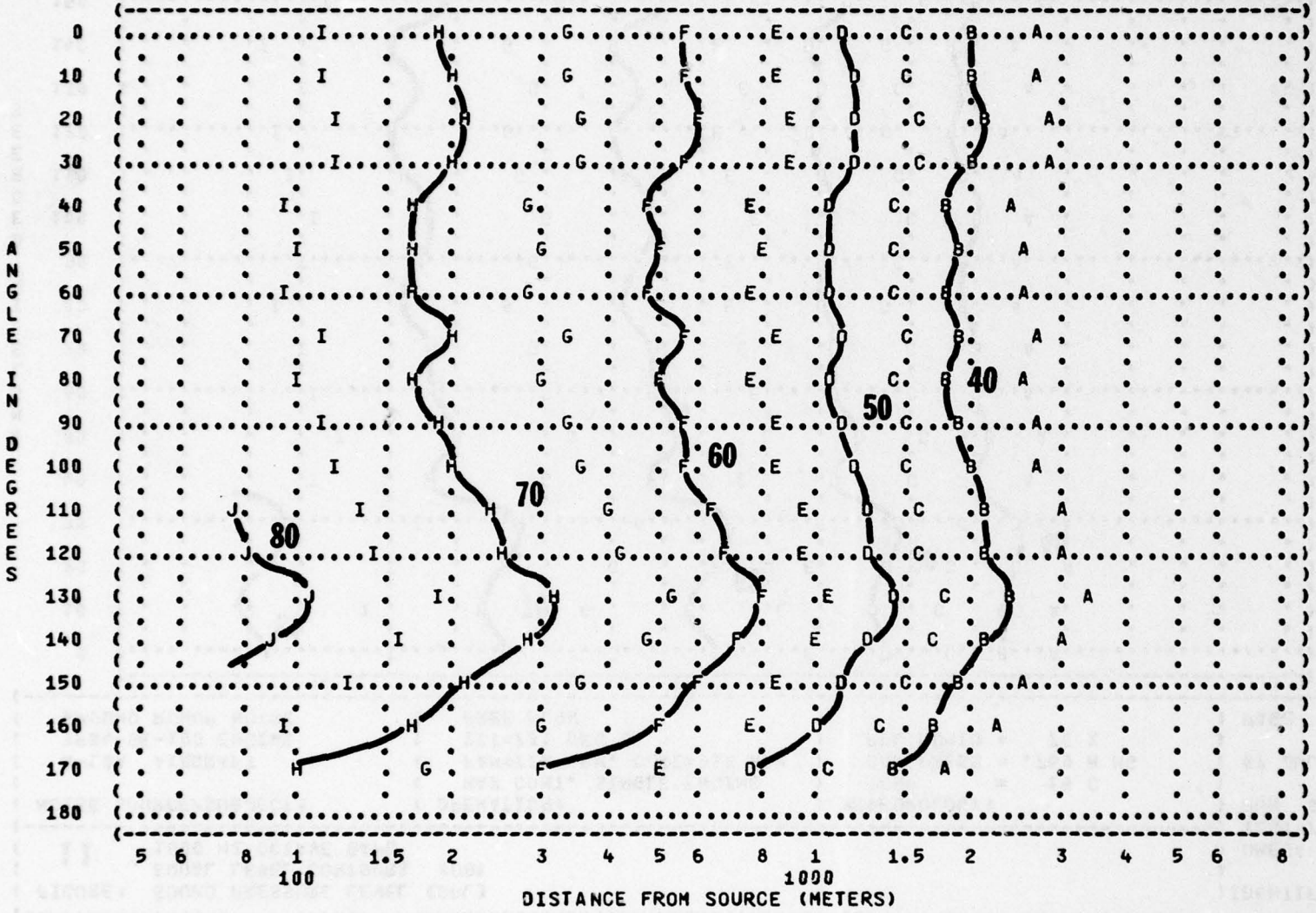
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 22

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
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

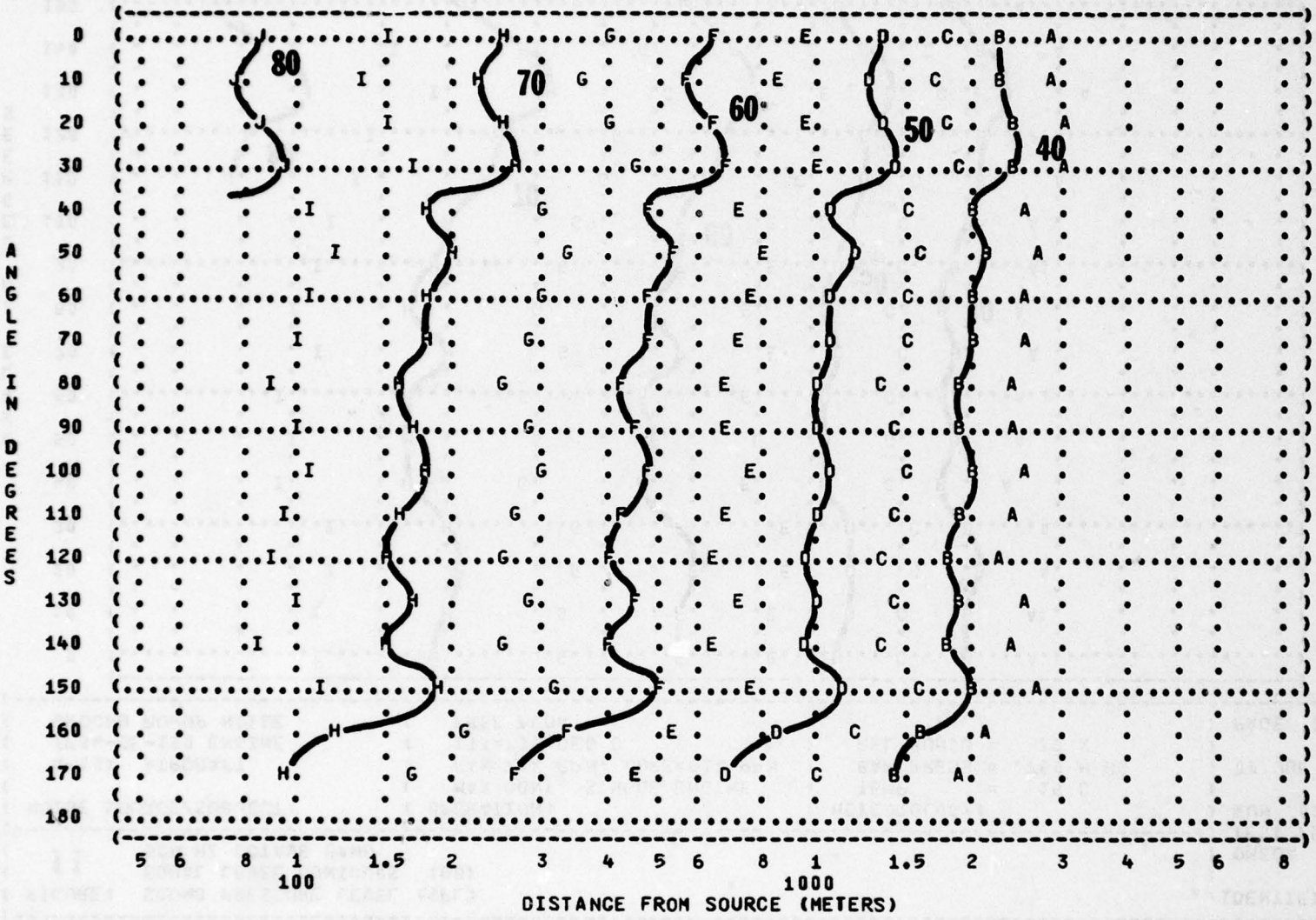
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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

FIGURE: 11

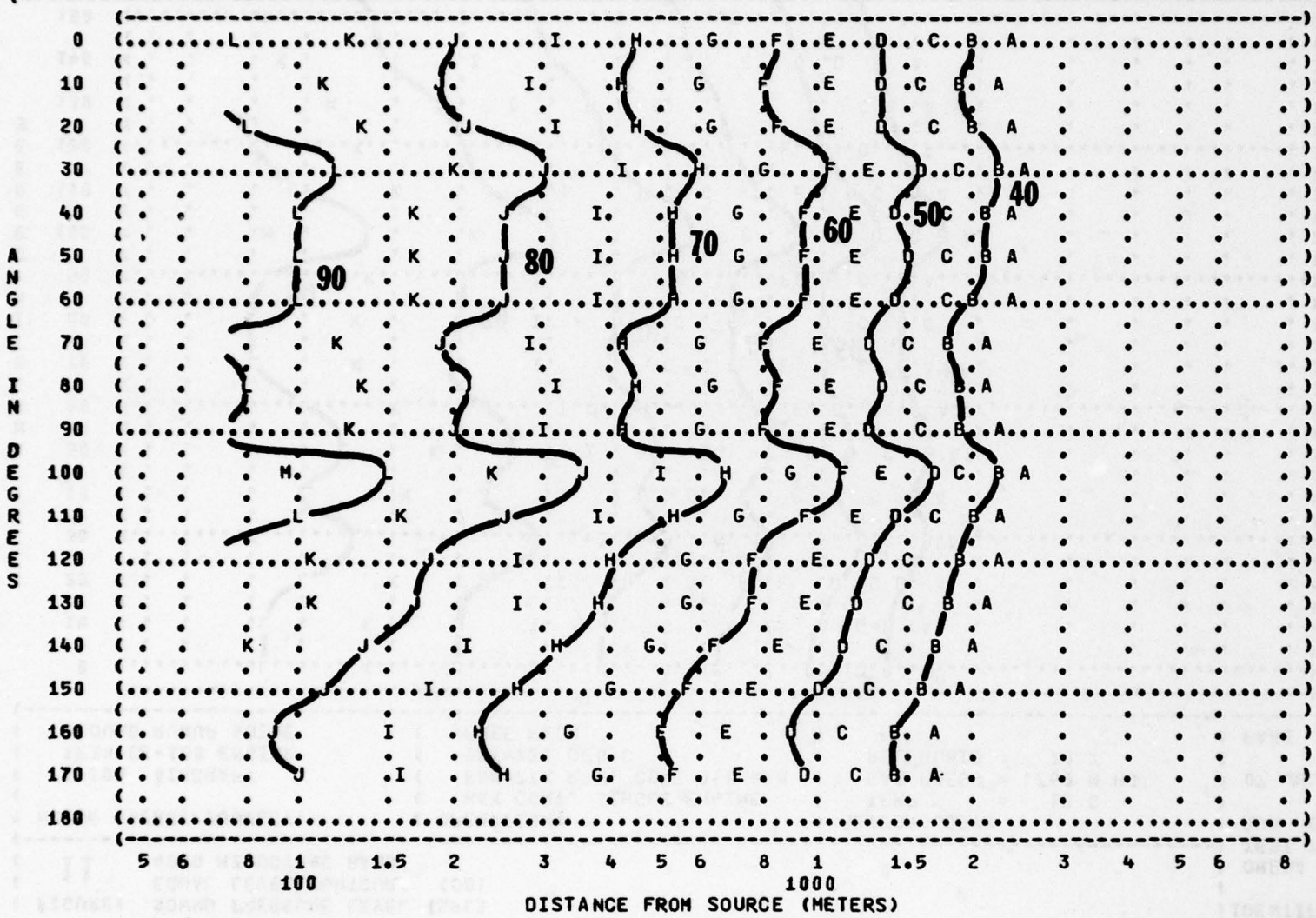
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 75
PAGE 25

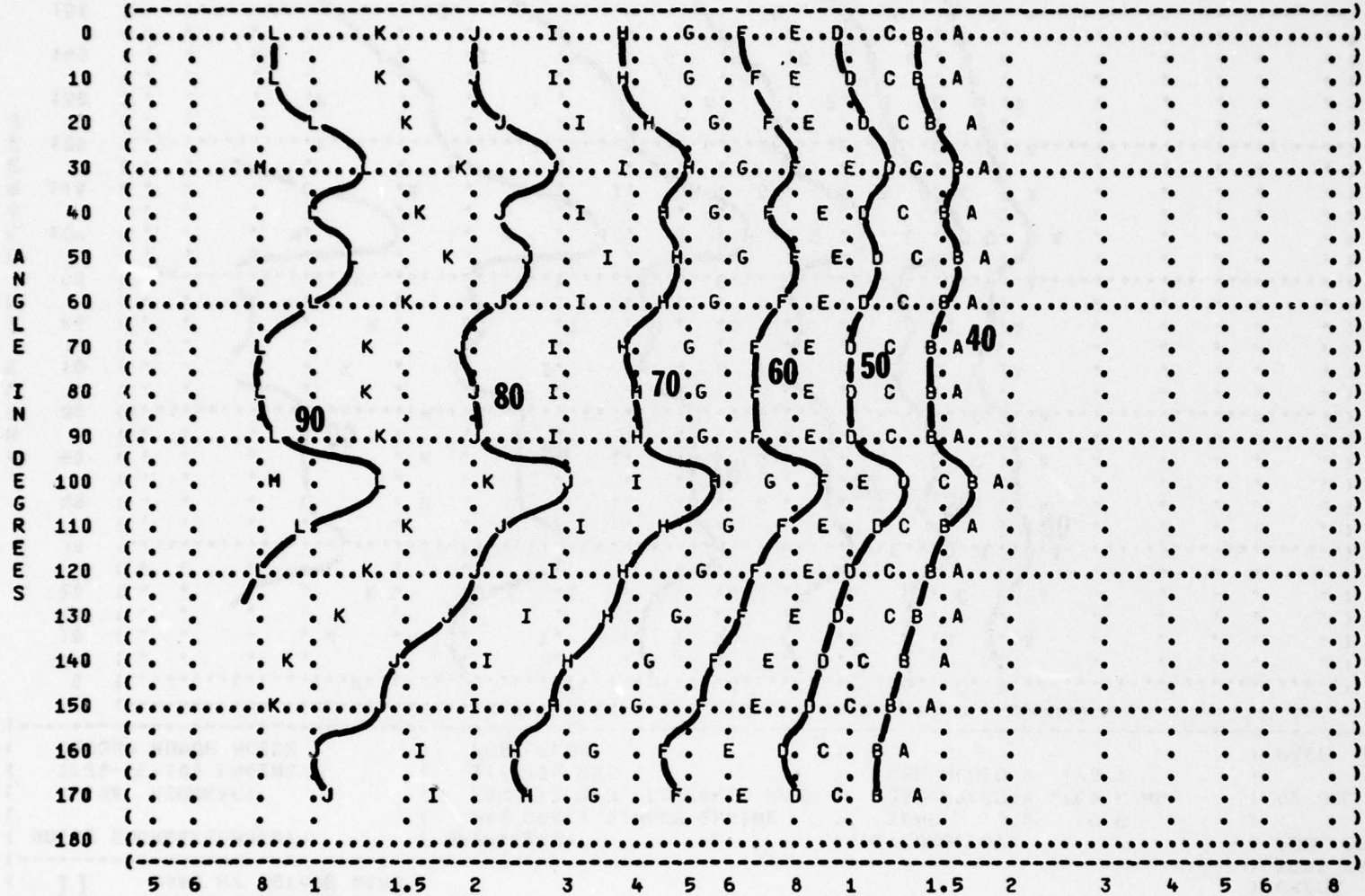


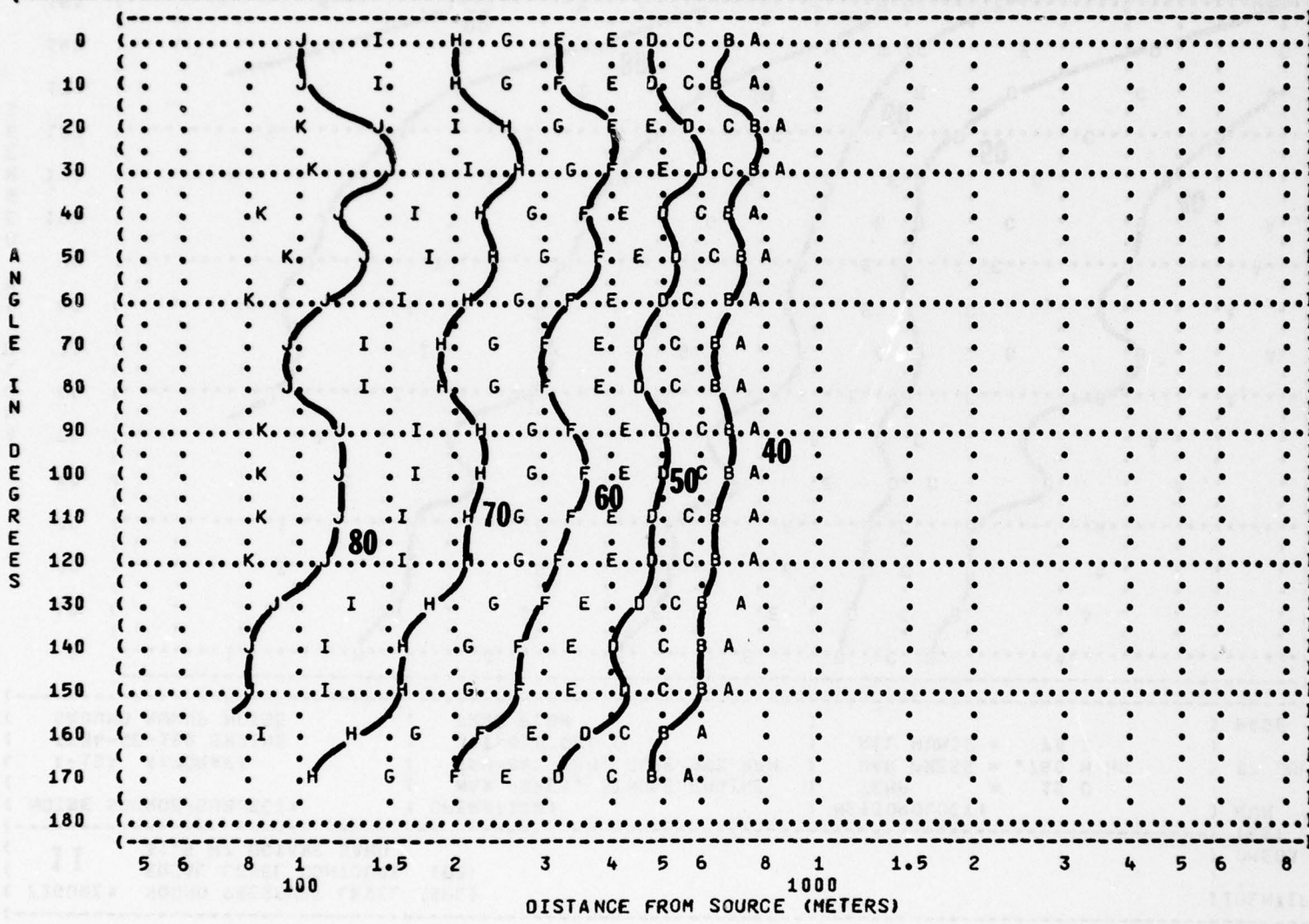
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX CONT. SINGLE ENGINE
FAN=77% RPM, CORE=91% RPM
ITT=731 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 02
07 JUL 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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
PAGE 18

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

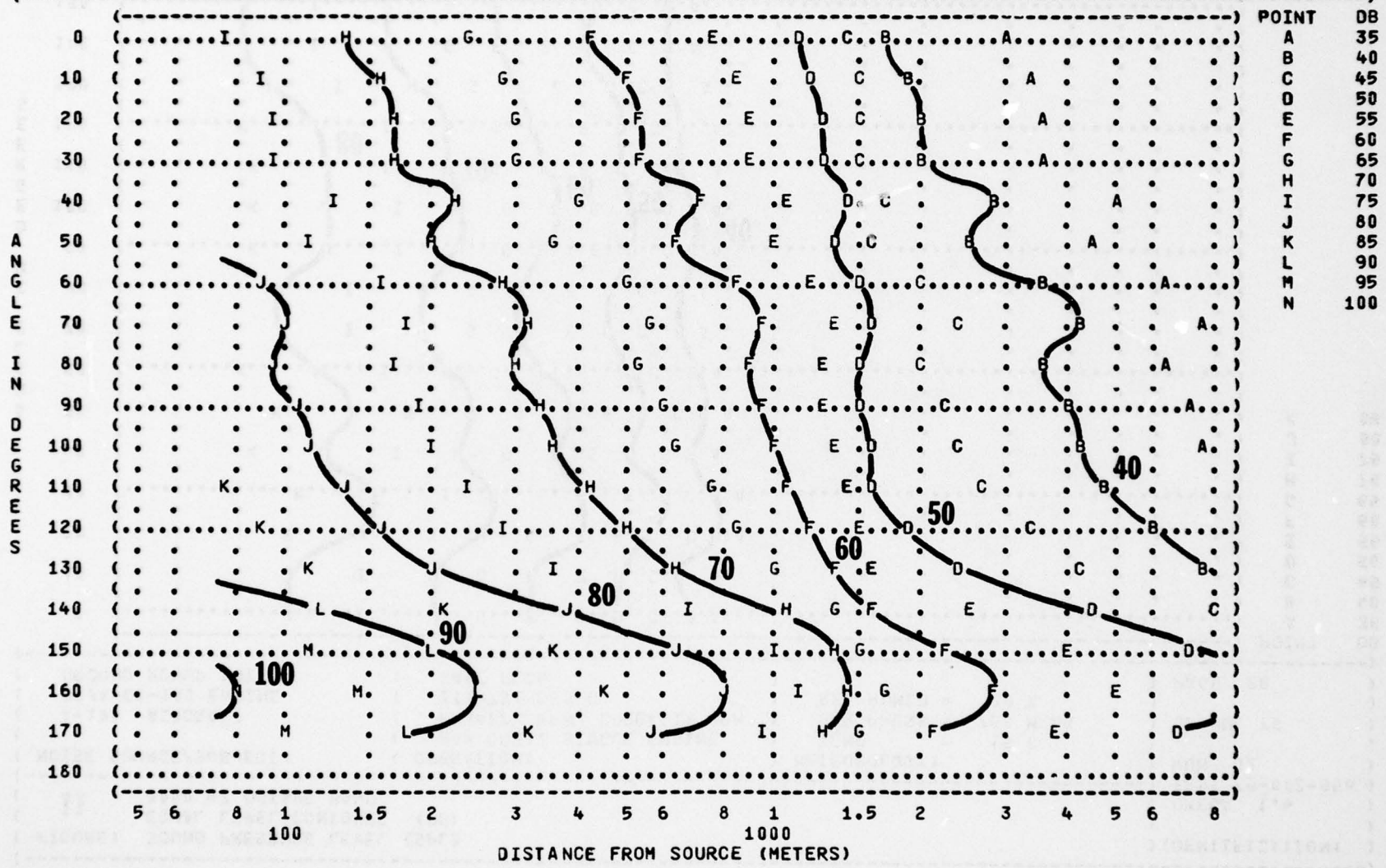


FIGURE: 11

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 03
07 JUL 75
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NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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
O	105

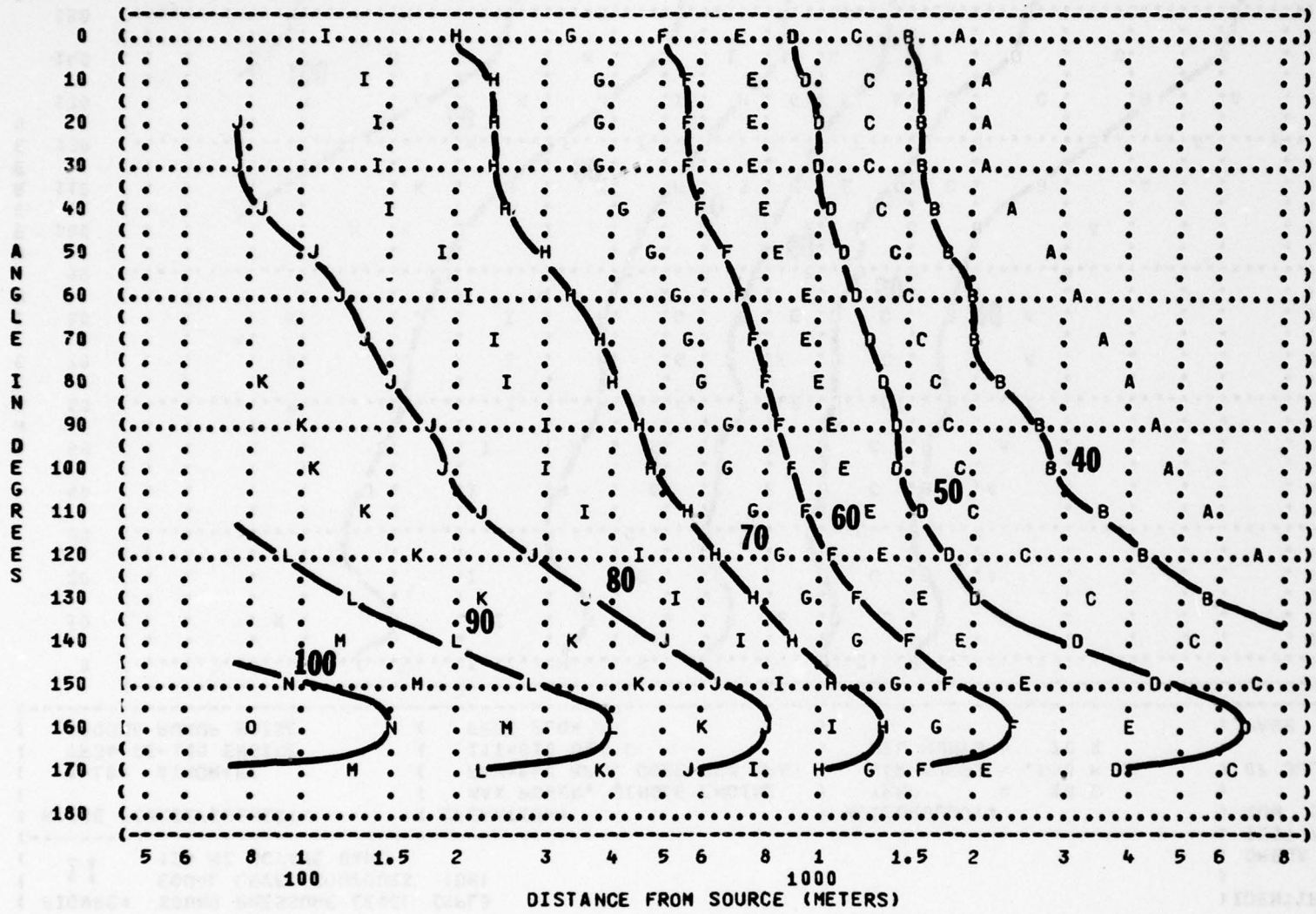


FIGURE: 11

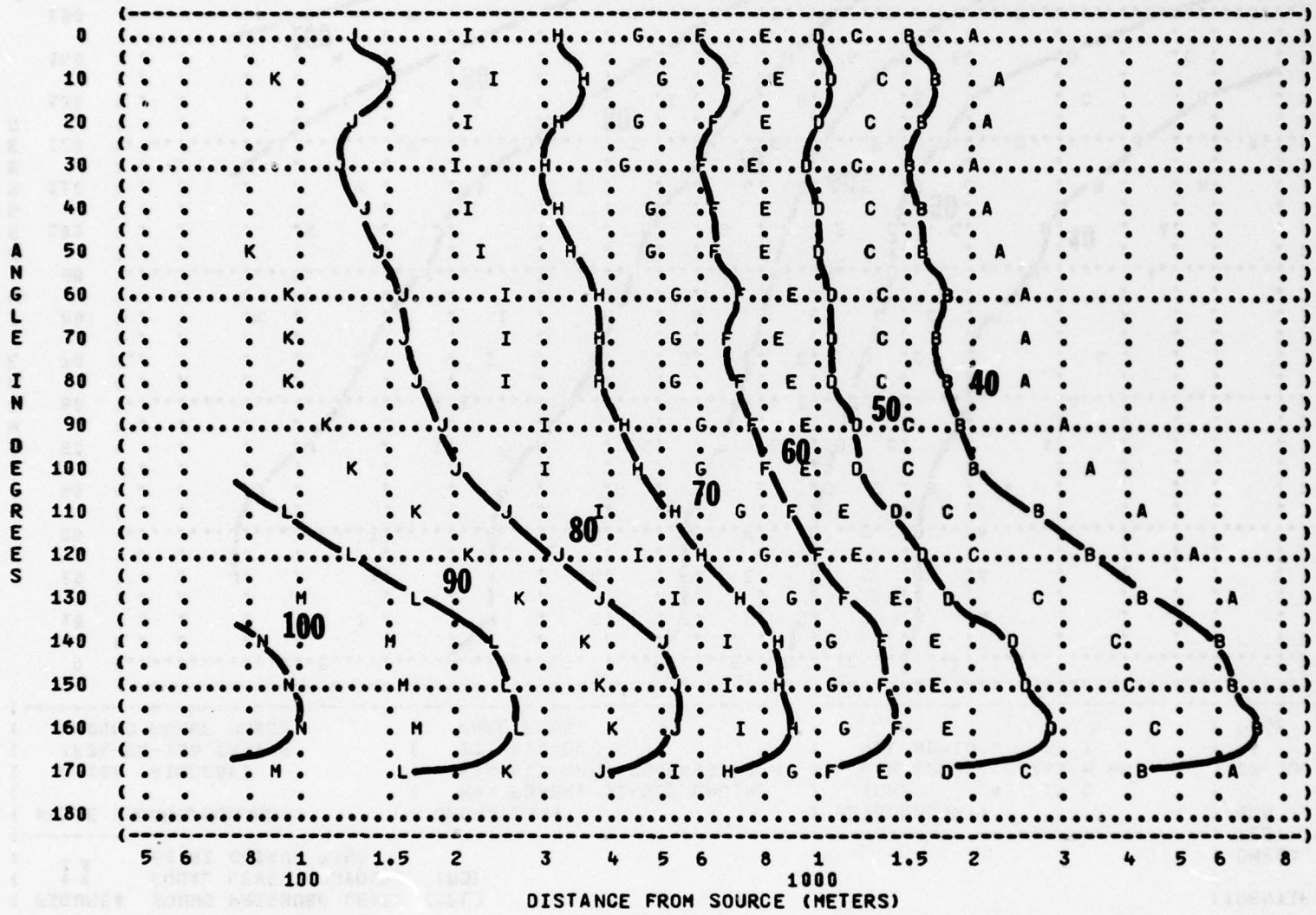
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

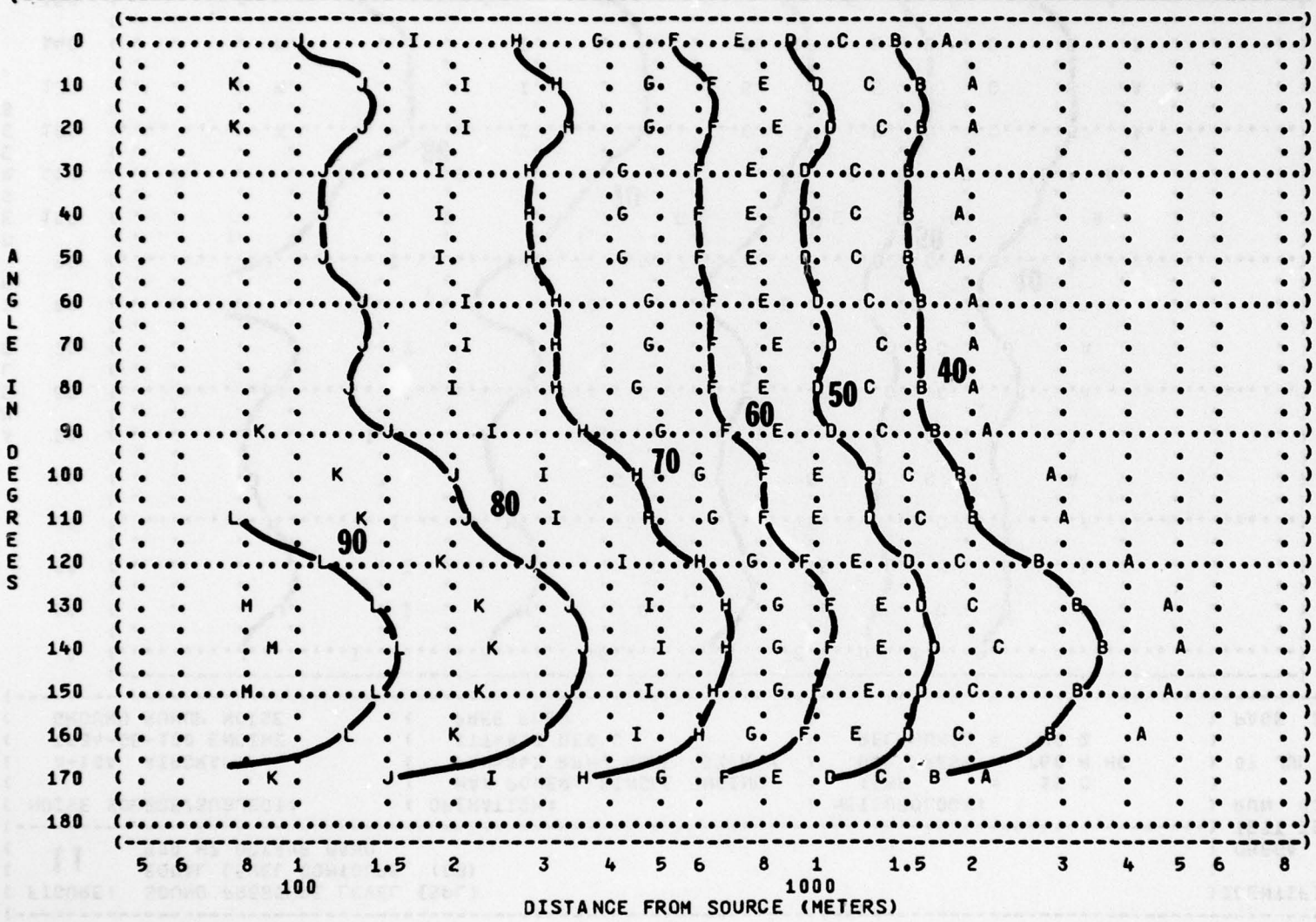
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
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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

FIGURE: 11

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

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
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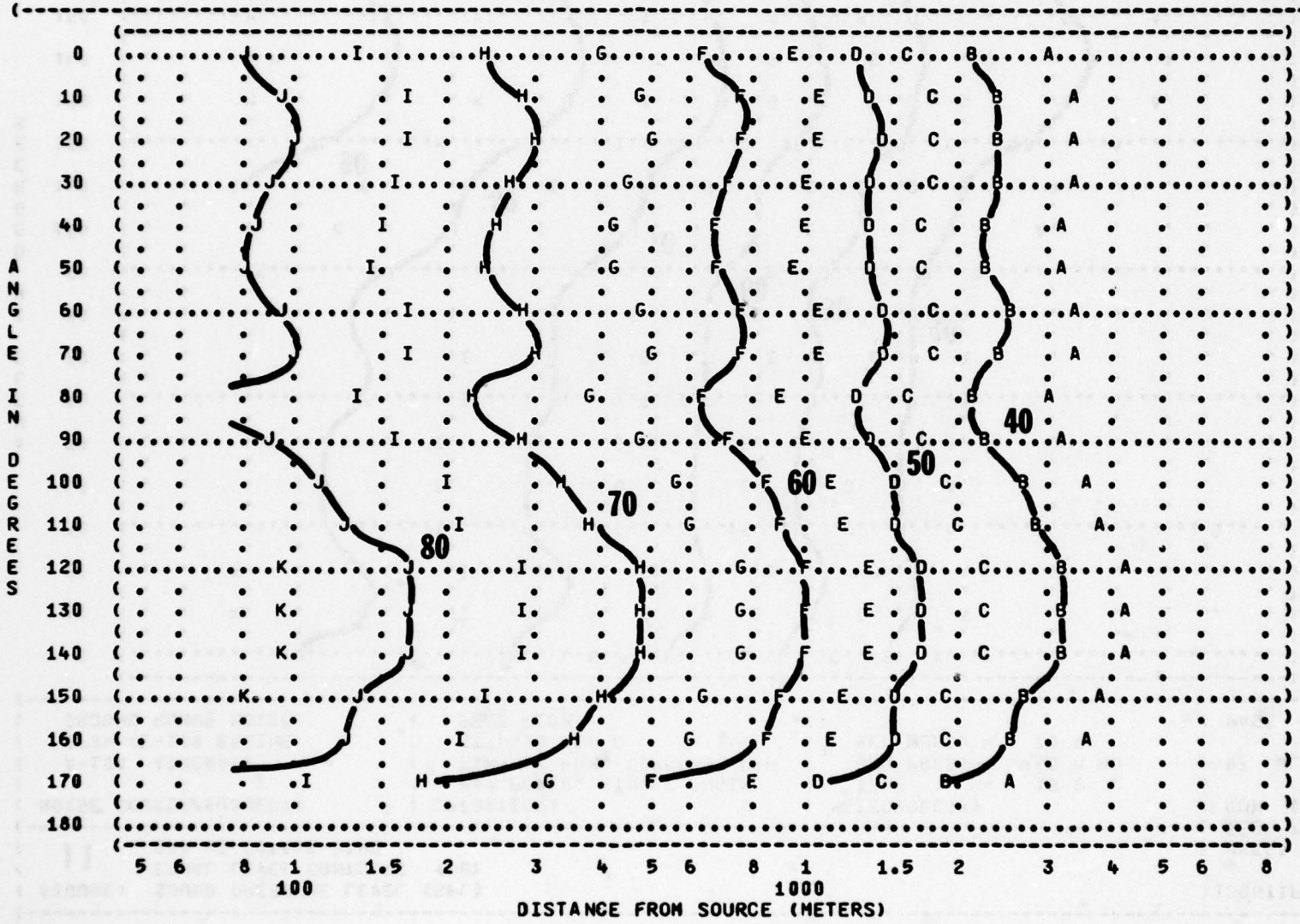


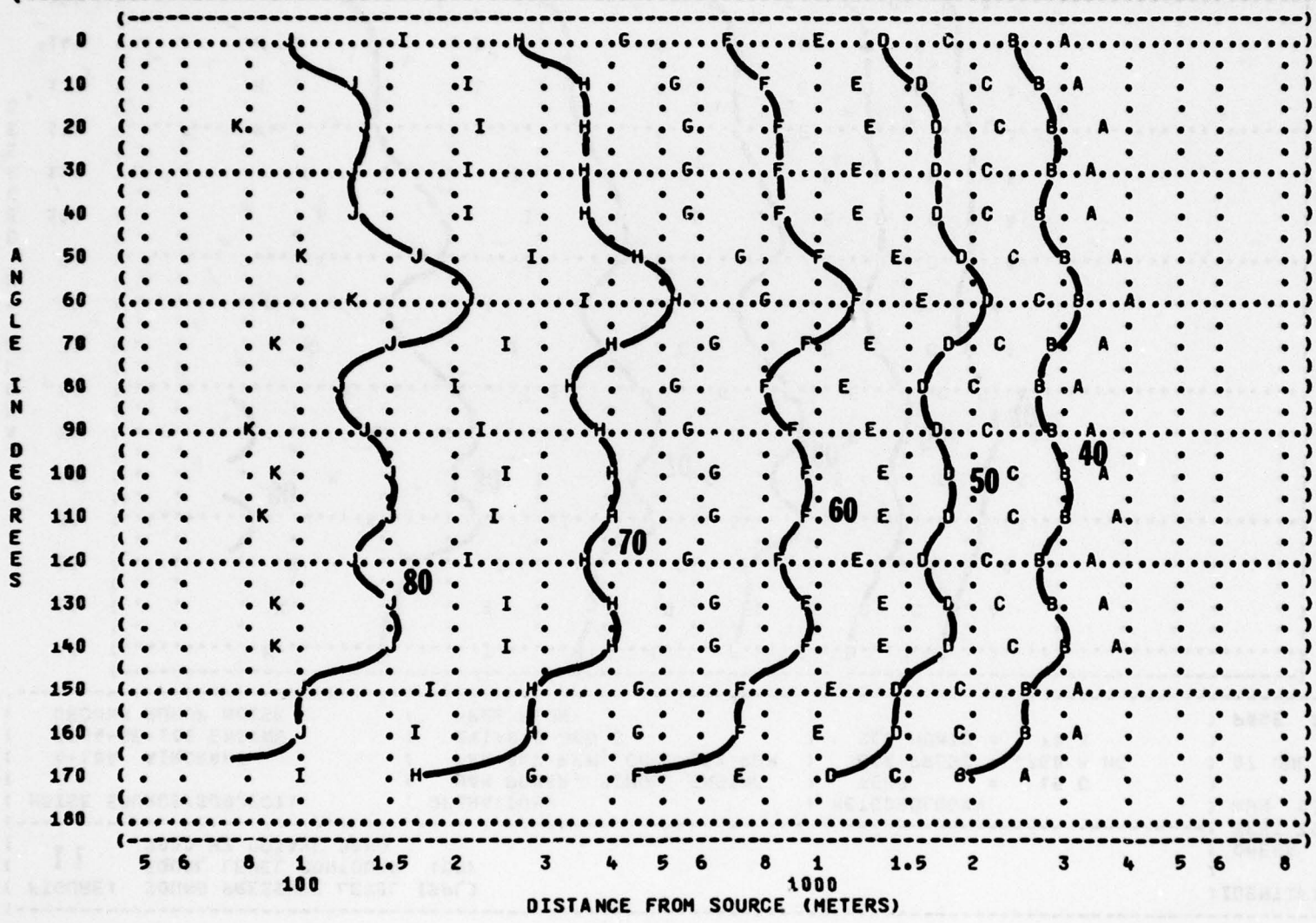
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
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NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

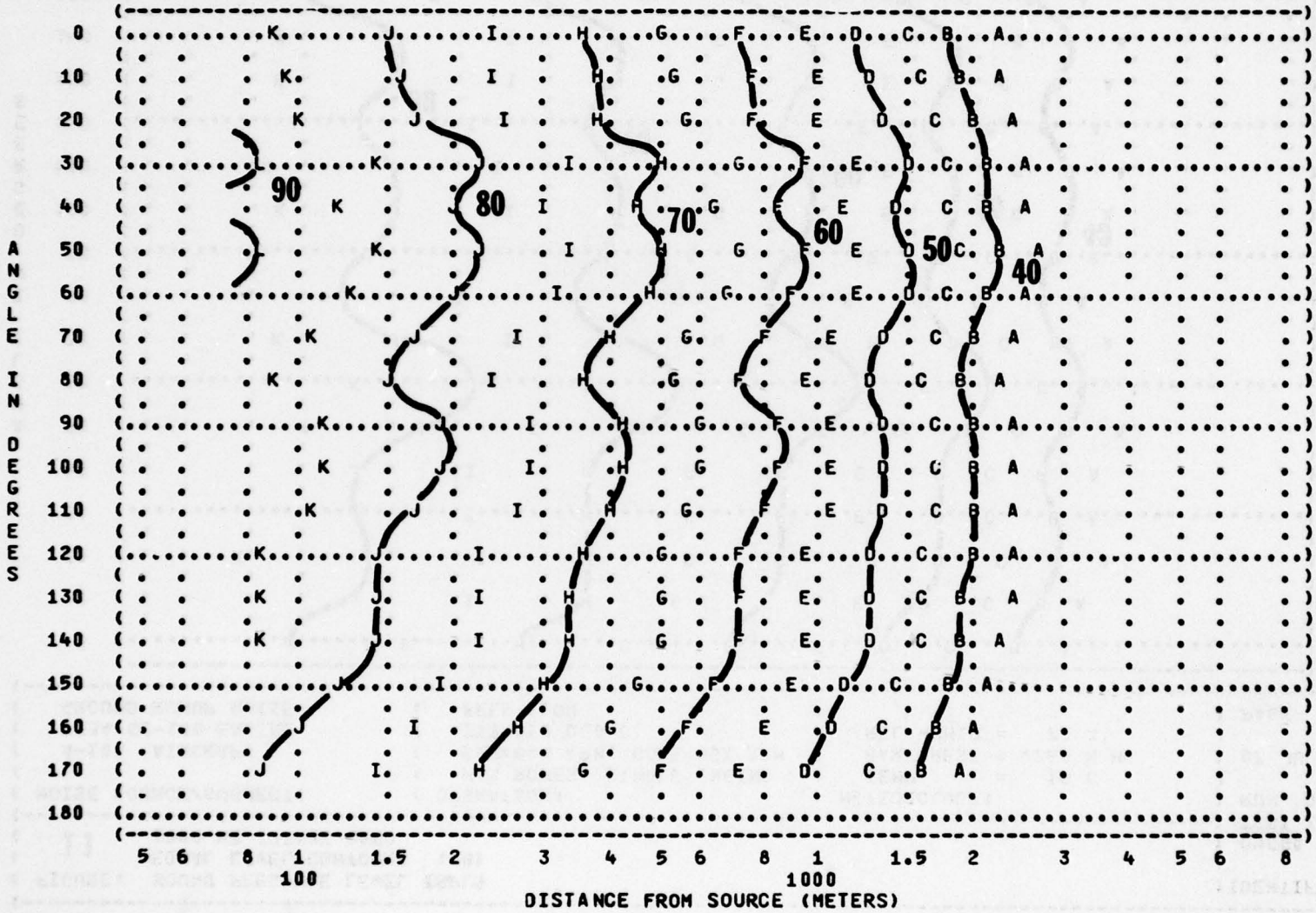
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

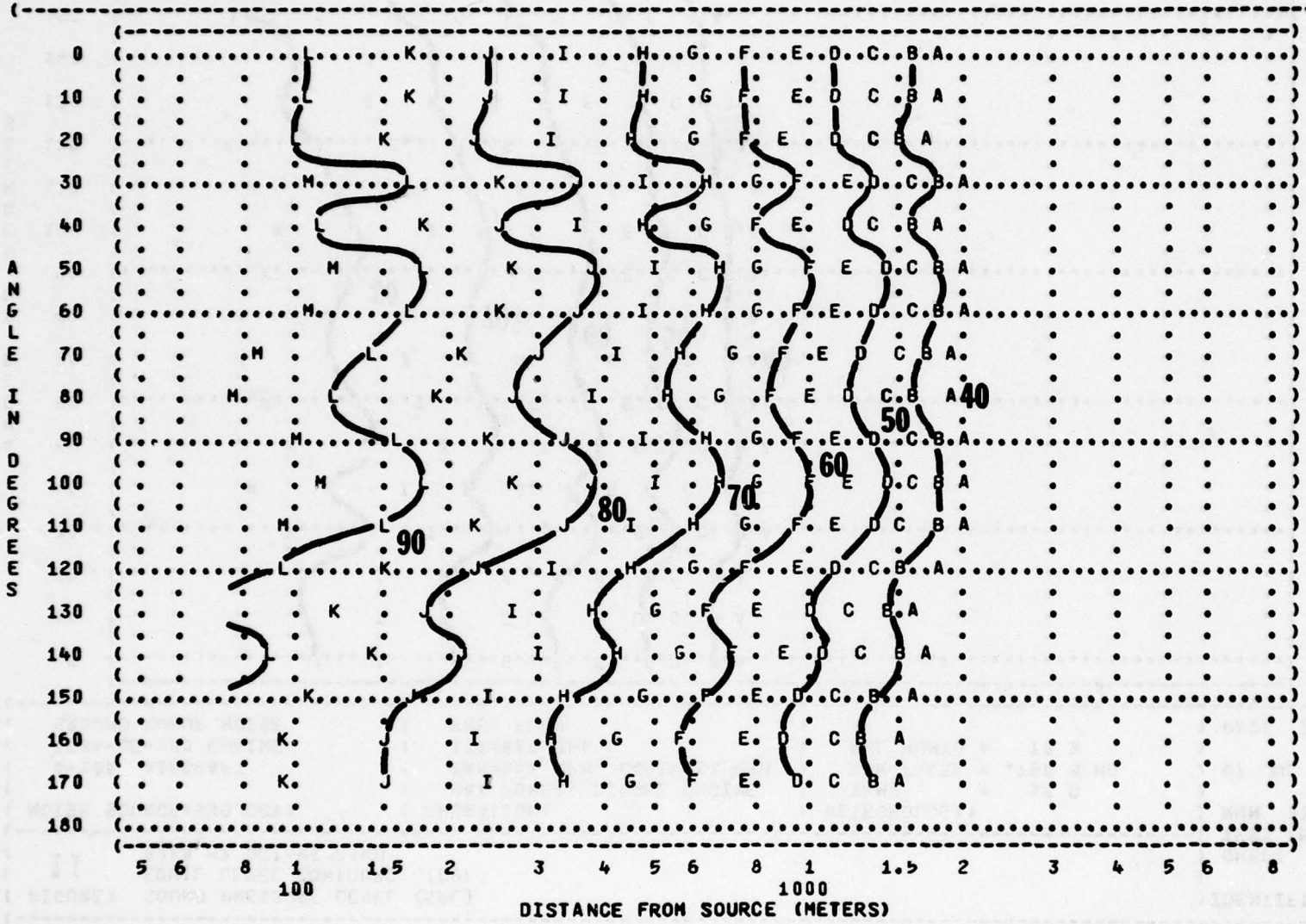
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

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

IDENTIFICATION: OMEGA 1.4 TEST 75-002-058 RUN 03 07 JUL 75 PAGE 26

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, SINGLE ENGINE
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

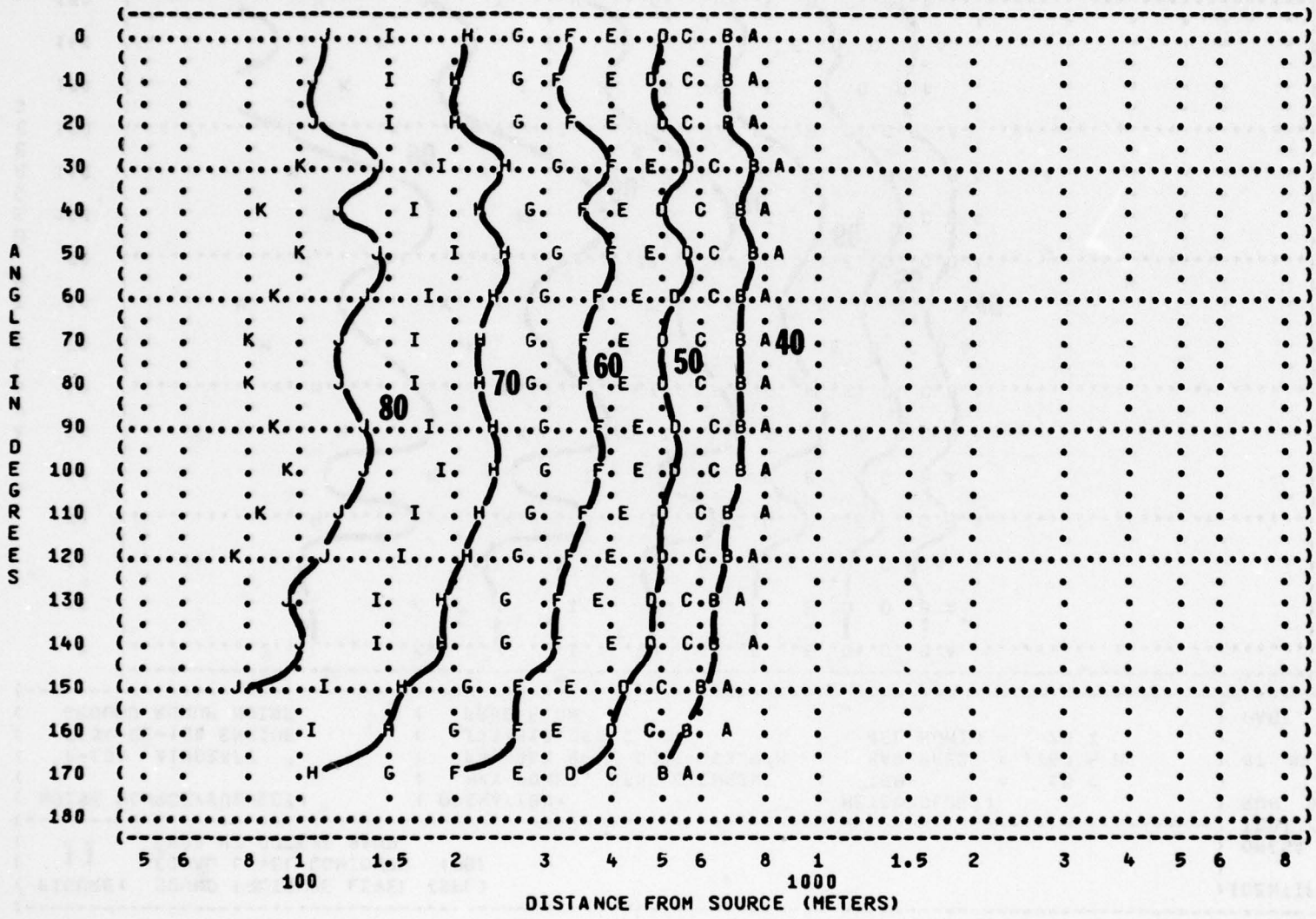


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

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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

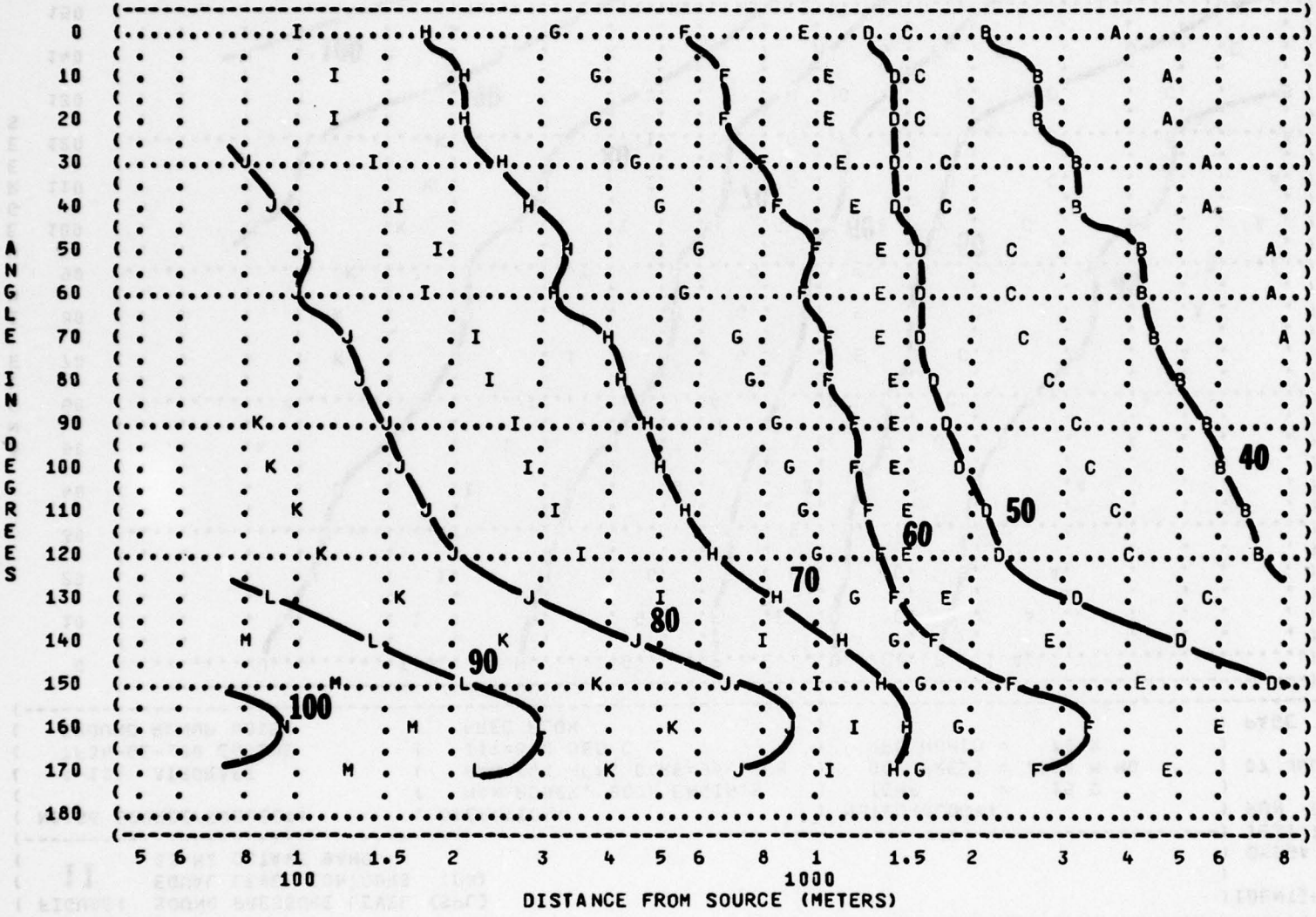


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
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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
O	105

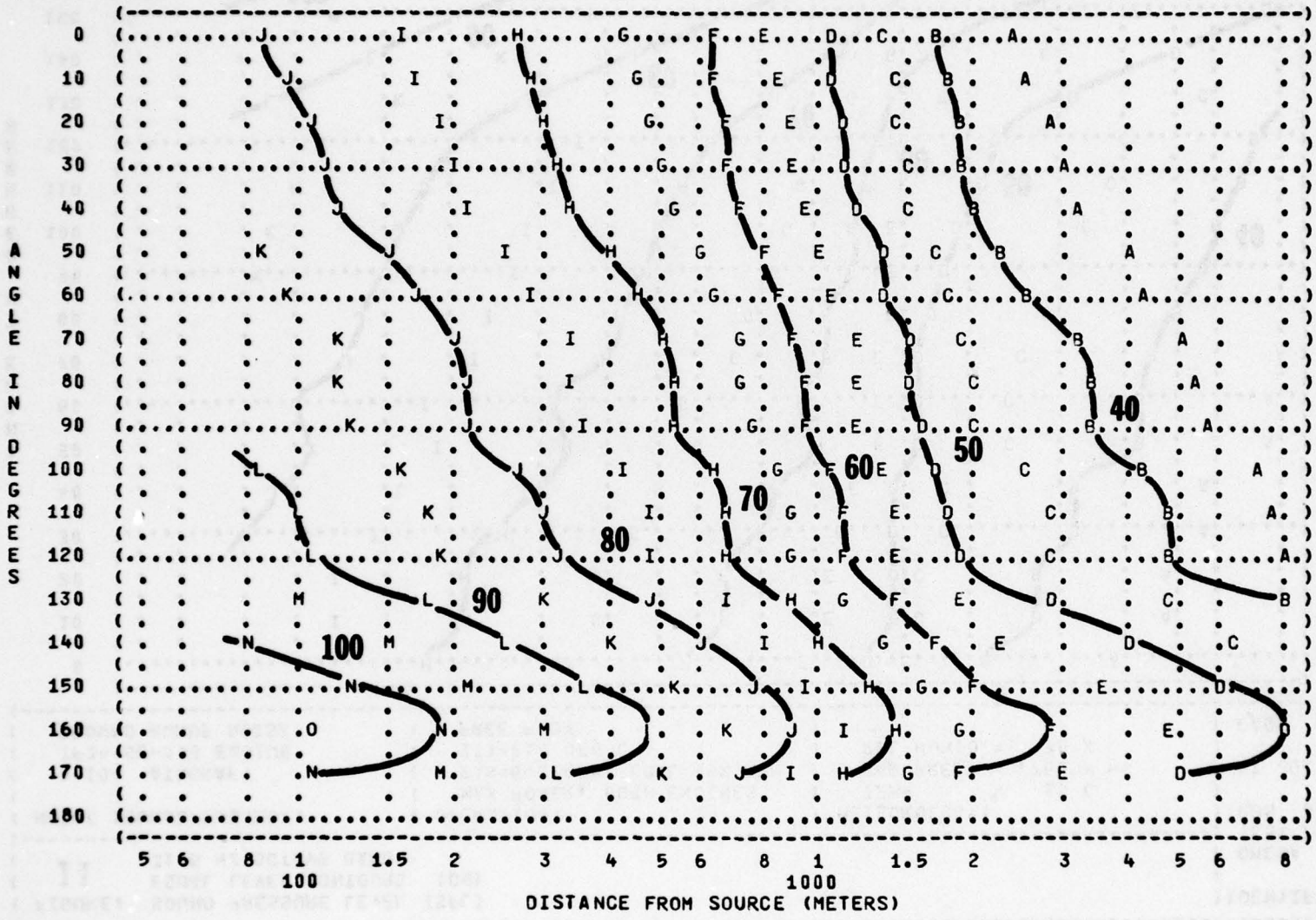


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
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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

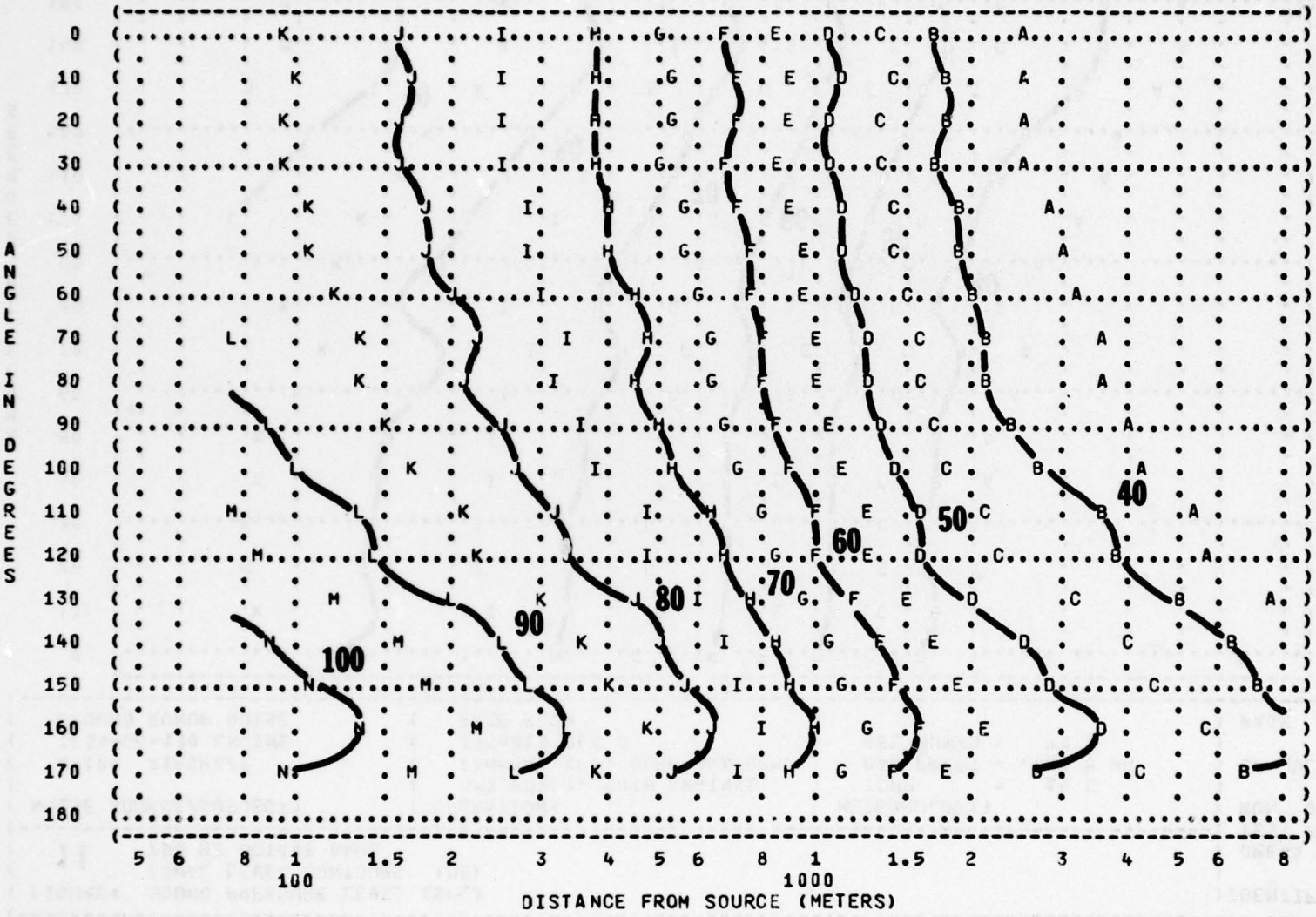


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
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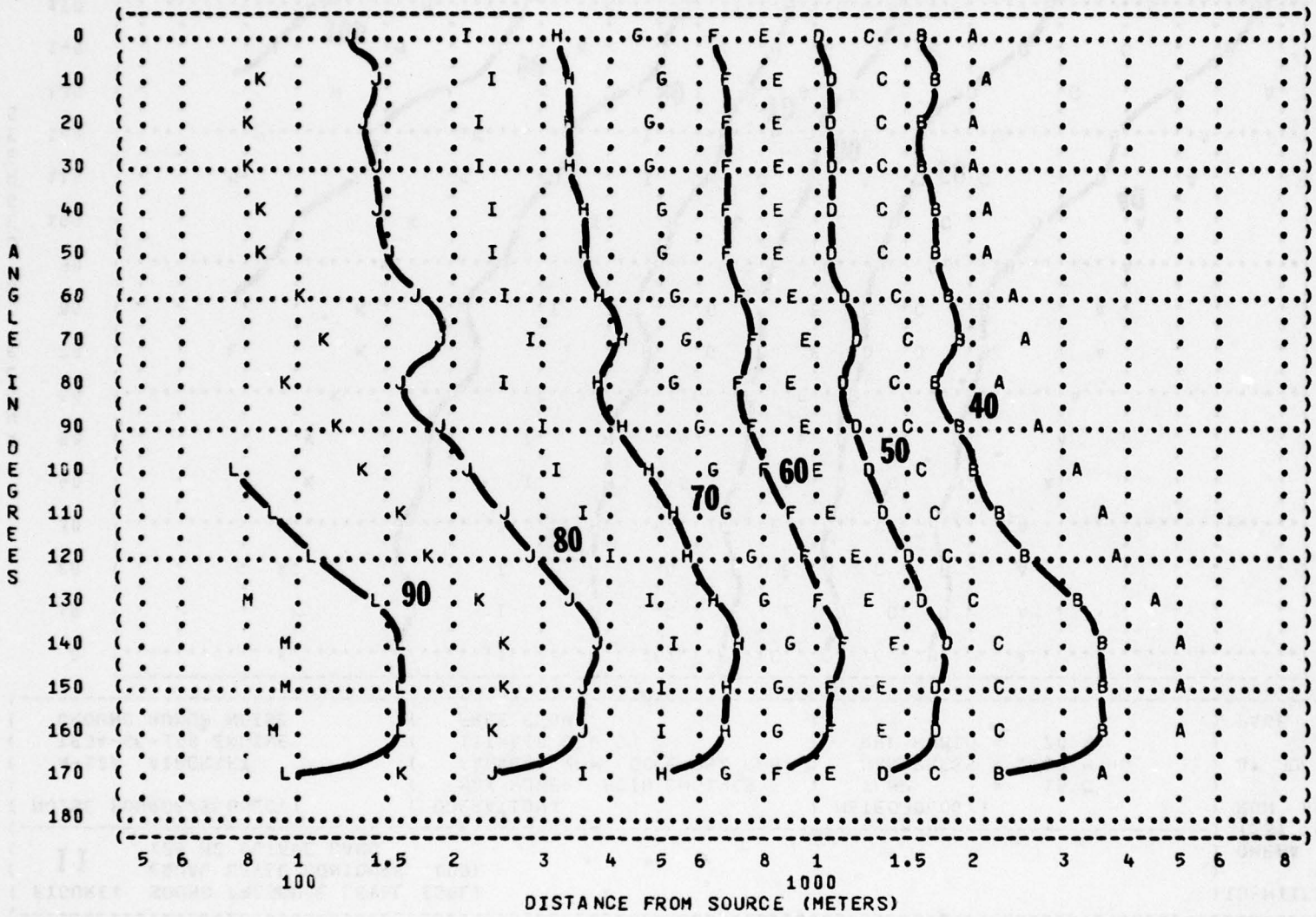


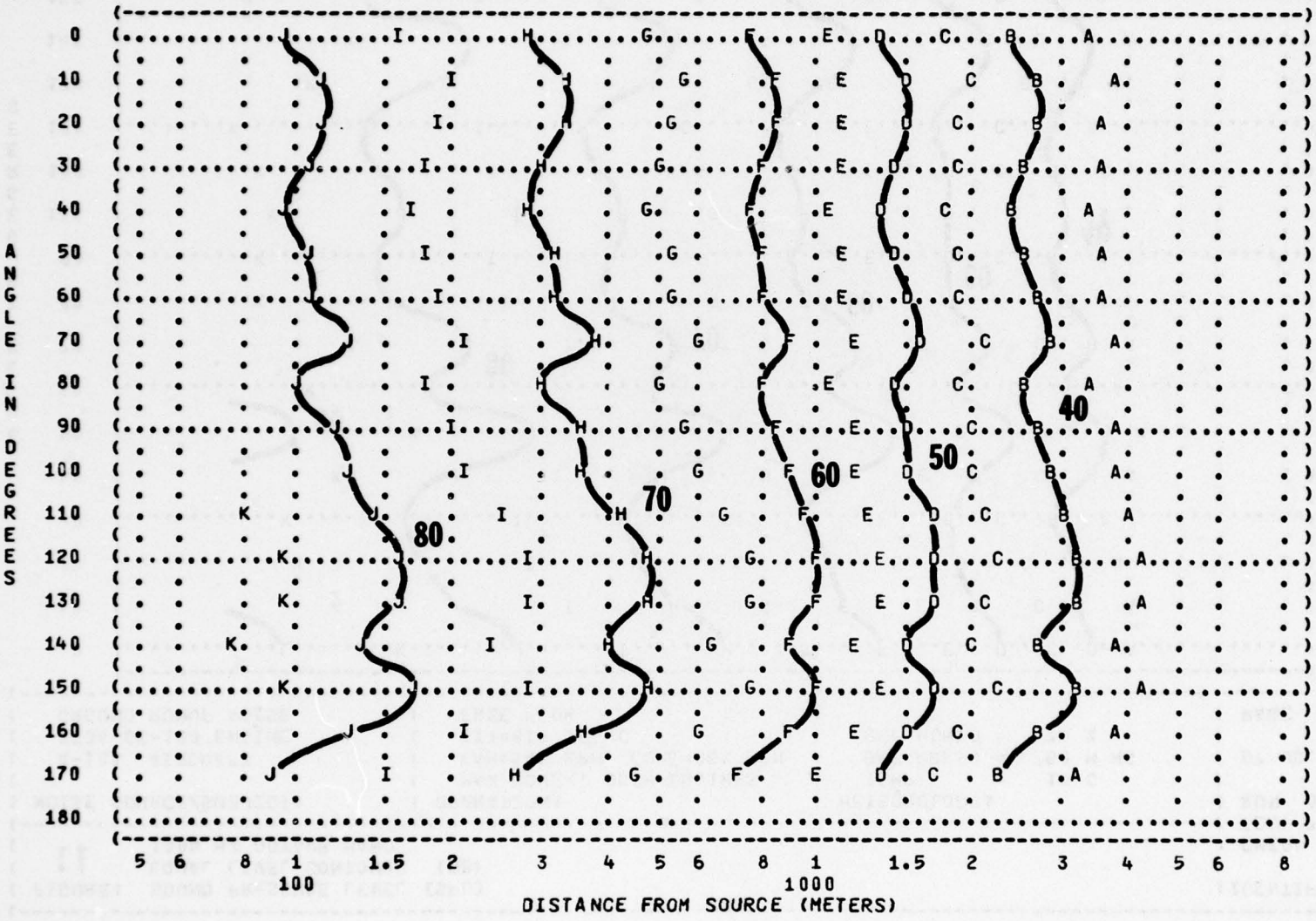
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
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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

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

IDENTIFICATION:
OMEGA 1.4
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NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

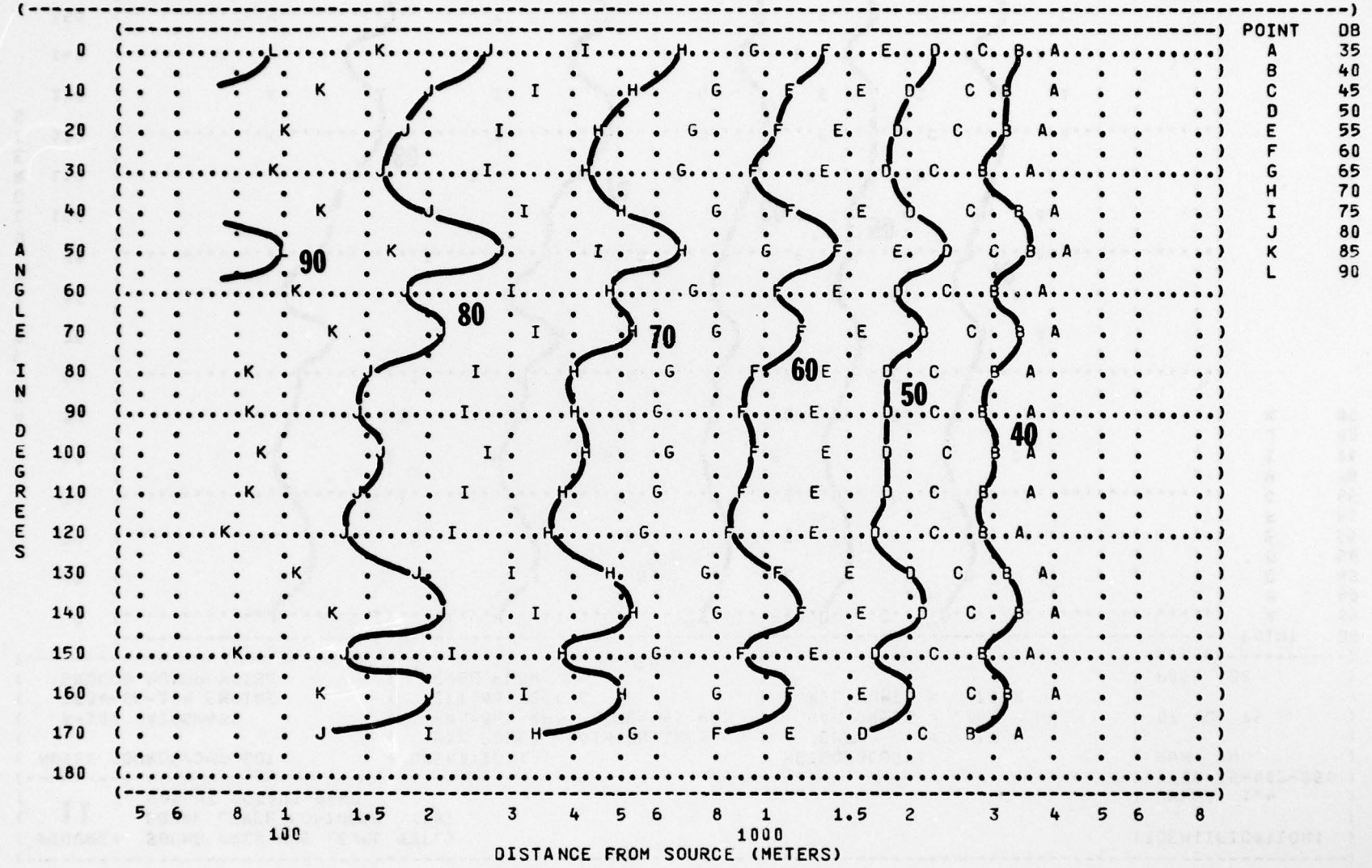


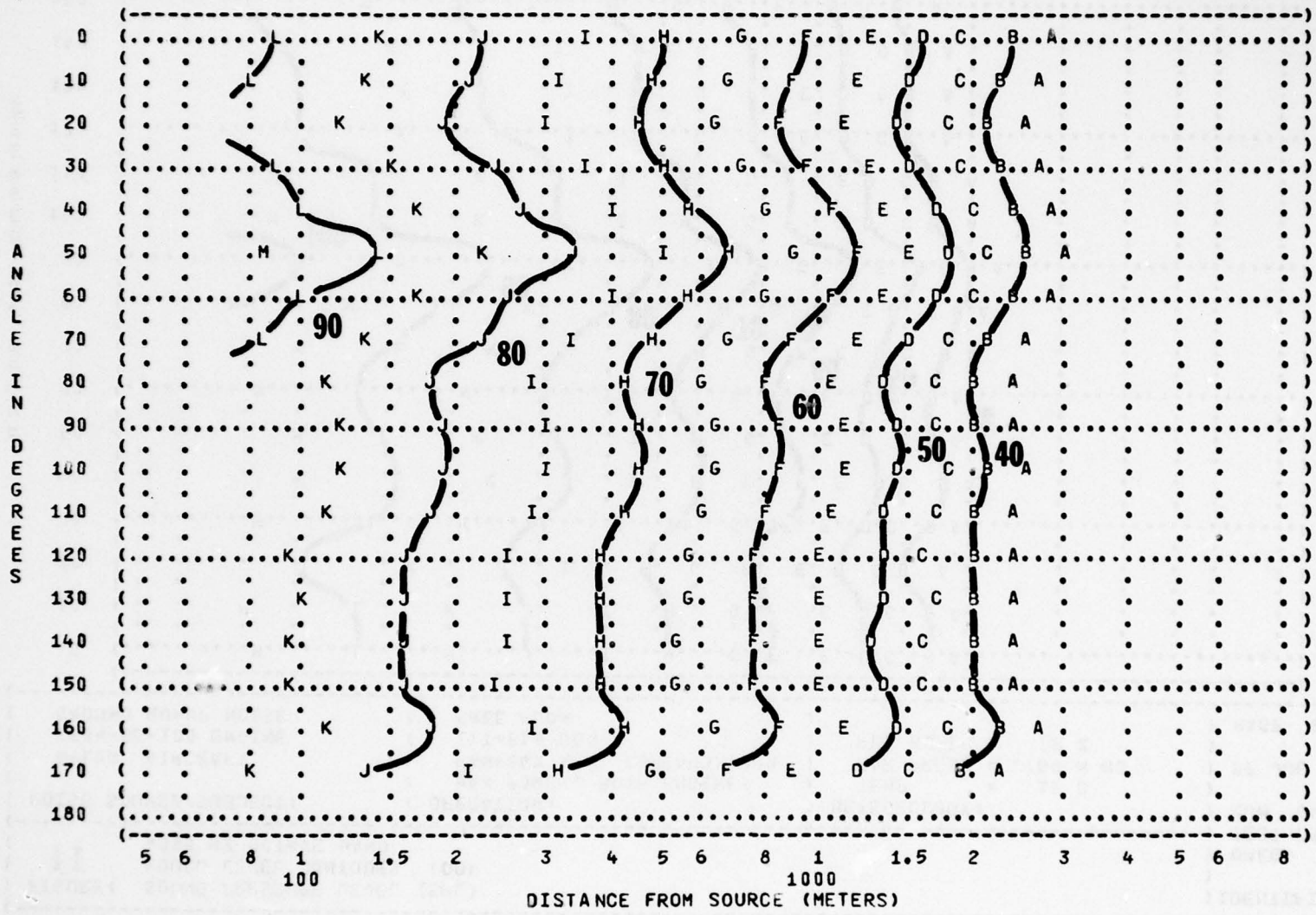
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
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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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-058
RUN 04
07 JUL 75
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NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
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

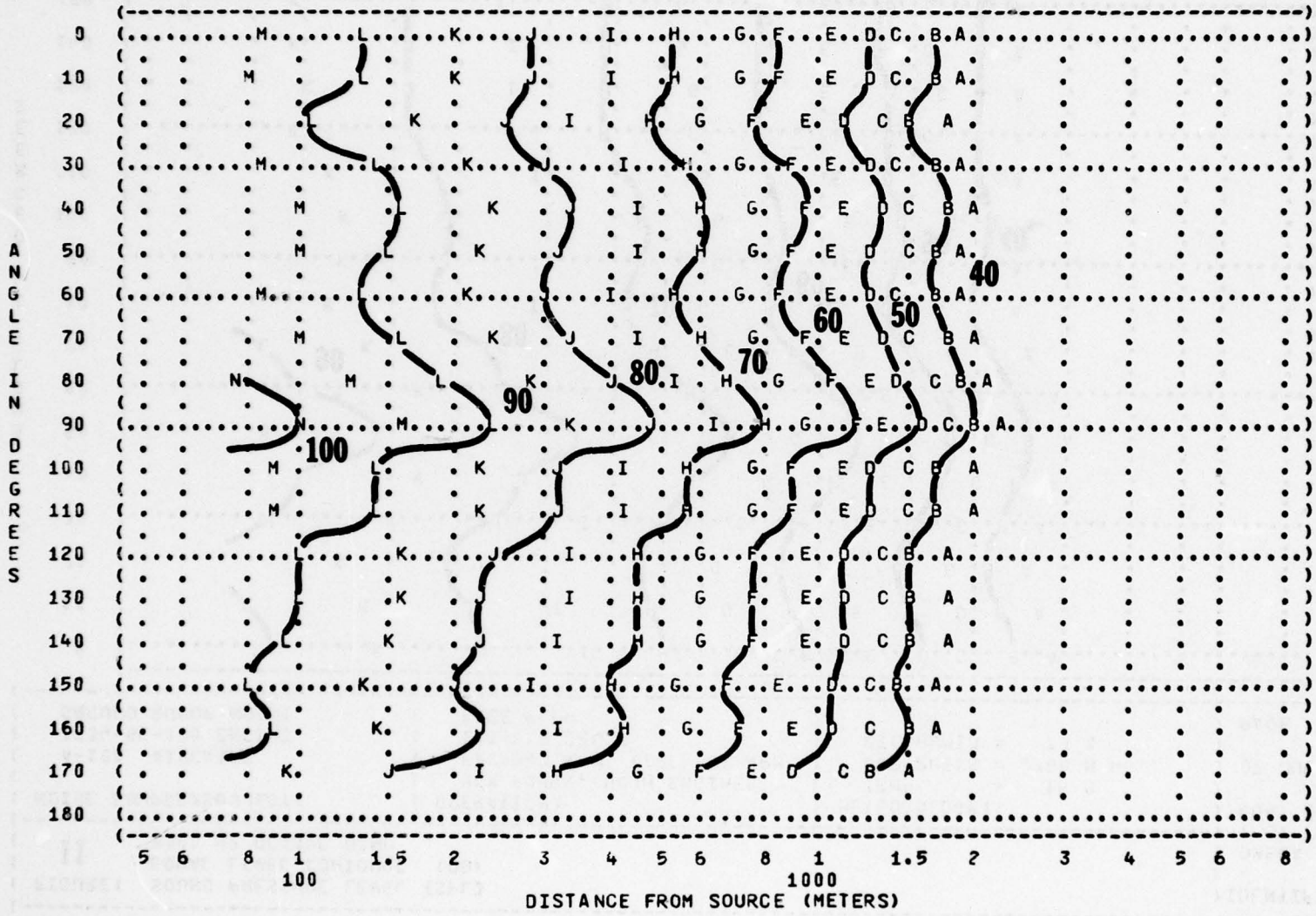


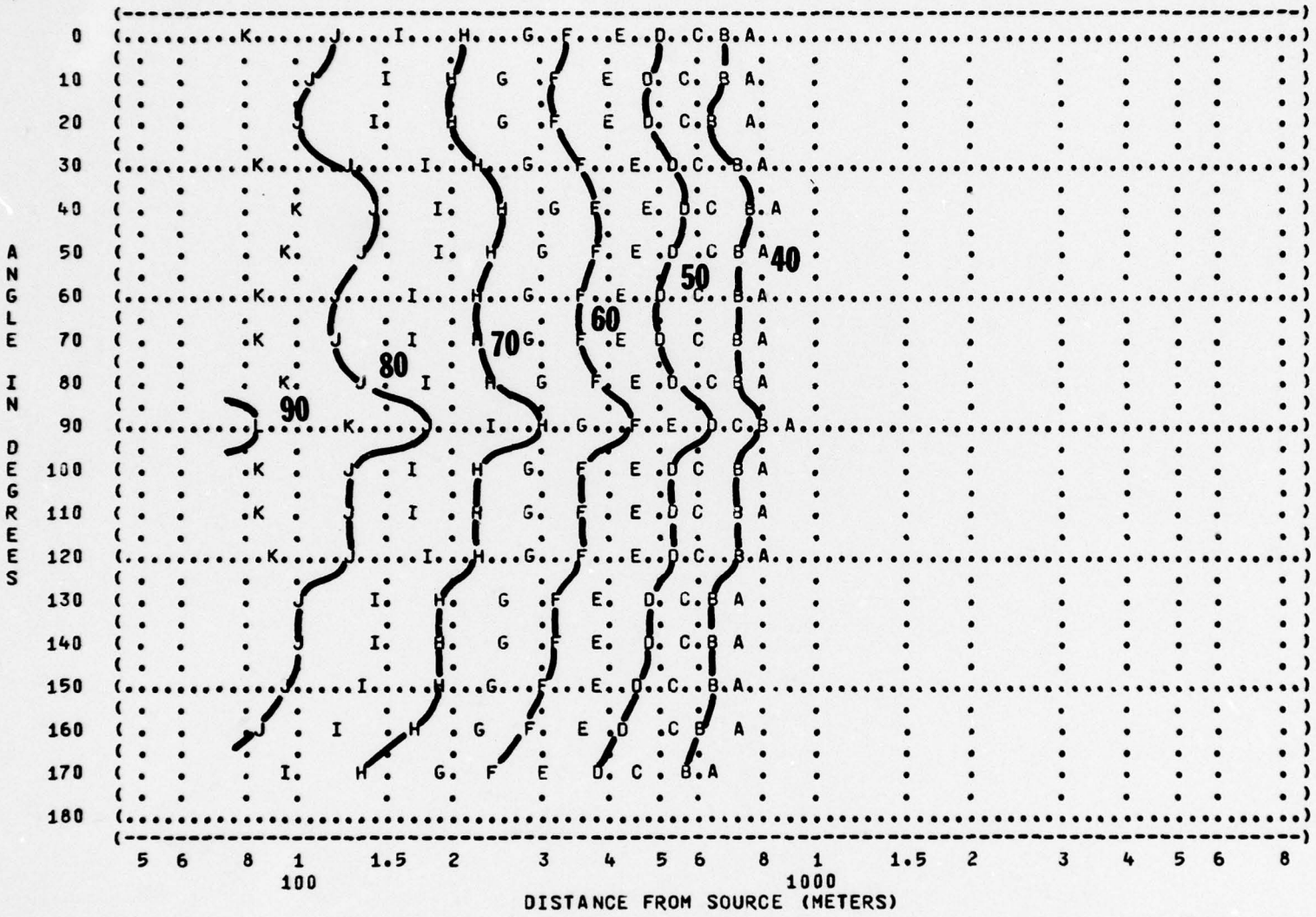
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-10A AIRCRAFT
TF34-GE-100 ENGINE
GROUND RUNUP NOISE

OPERATION:
MAX POWER, BOTH ENGINES
FAN=84% RPM, CORE=95% RPM
ITT=810 DEG C
FREE FLOW

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

IDENTIFICATION:
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