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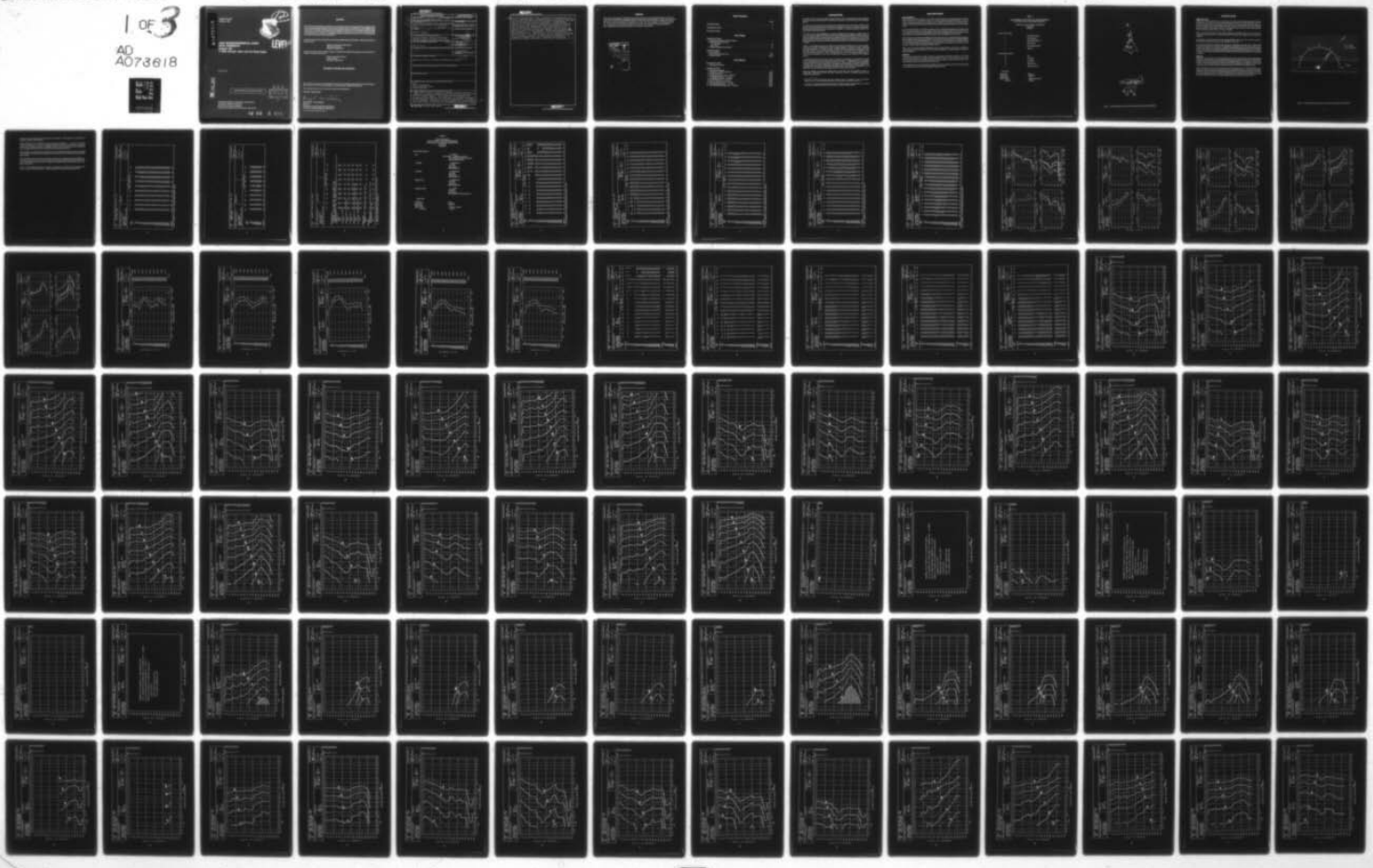

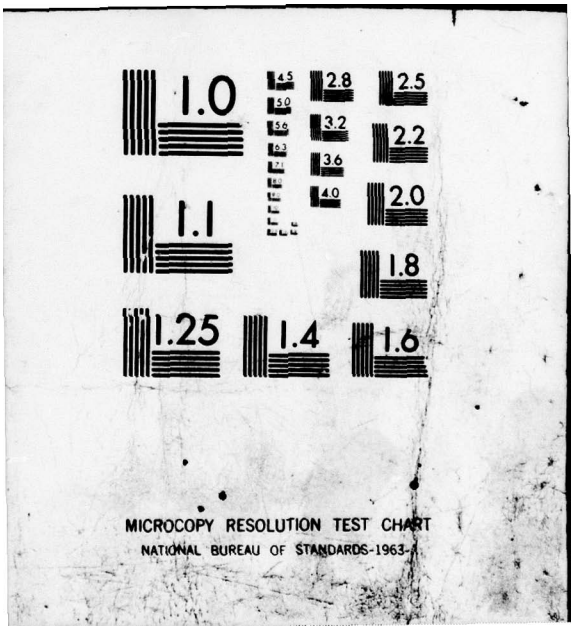
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Volume 138

12 B.S.

LEVEL III

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK
Volume 138
F-102A Aircraft, Near and Far-Field Noise

October 1978

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

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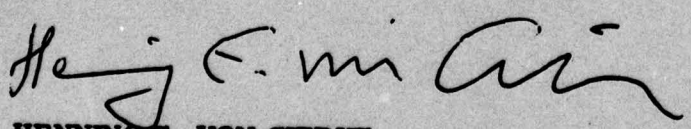

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*:
The USAF F-102A is a remotely controlled aircraft and was a supersonic all-weather fighter-interceptor aircraft powered by one J57-P-23 turbojet engine. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for five engine-power conditions. Near-field data are reported for six locations in a wide variety of physical and psychoacoustic measures: overall

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and band sound 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 723107, Technology to Define and Assess Environmental Quality of Noise, from Air Force Operations. The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Harald Hille for his assistance in acquiring the raw data, Mr. Henry Mohlman, Mr. Keith Kettler and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing and Mrs. Peggy Massie for typing and assistance in preparation of the graphics.

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INTRODUCTION

The USAF F-102A is a remotely controlled aircraft powered by a J57-P-23 turbojet engine. The aircraft was manufactured by the General Dynamics Corporation and the engine by United Aircraft, Pratt and Whitney Division.

This volume provided 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 F-102A aircraft.

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

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

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

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application,* AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise,* AMRL-TR-75-50 (2), AMRL, WPAFB, OH 1975

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the F-102A aircraft during ground runup operations of its turbojet engines. For these tests, the aircraft was located on a concrete trim pad at Tyndall AFB. Table 1 gives the surface meteorological conditions and the engine power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance and engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location.

Figure 1 shows the six numbered near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

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

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-102A aircraft at the six ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

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

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS FOR NEAR-FIELD NOISE MEASUREMENTS

F-102A Aircraft, Ground Runup, Tyndall AFB,
8 June 1978
Tail #62317

Ground Crew Location

1	Electrical Disconnect
2	Trim Adjustment
3	Wheel Chock Removal
4	Pin Pull FLG
5	Leak and Panel Check
6	Marshal

Aircraft Engine Operation

A	Idle
B	75% RPM
C	85% RPM
D	Military Power
E	Afterburner Power

Meteorology

Temperature	26.1 C
Bar Pressure	0.748 M Hg
Rel Humidity	87 %
Wind — Speed	2.8 M/Sec(5.5 KTS)
— Direction	170 Deg.

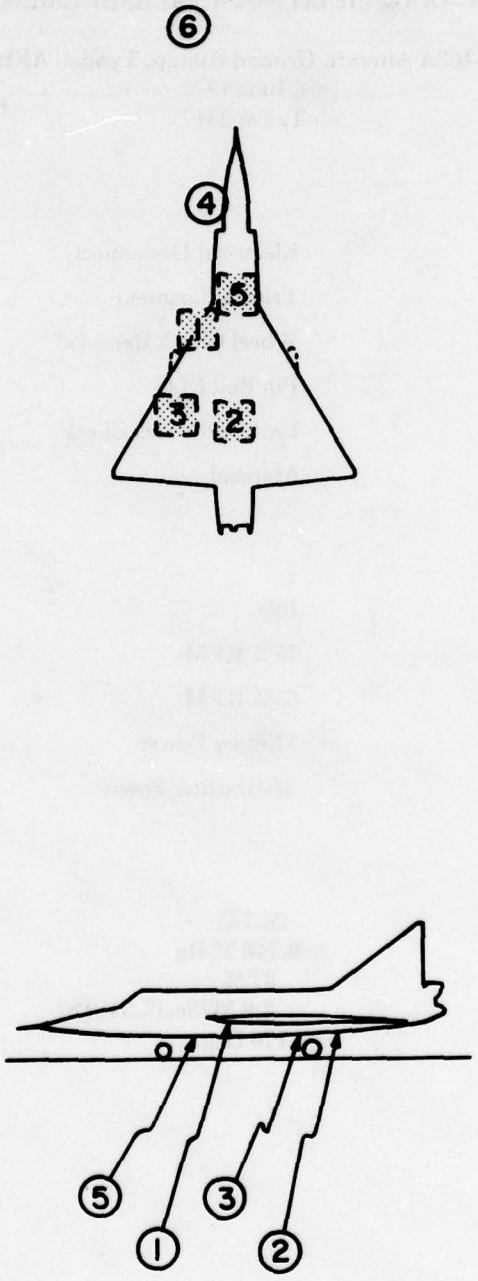


Figure 1. Near-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during a one hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J57-P-23 engine was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engine exhaust nozzle exit. The ground runup area did not have a blast deflector; therefore, the engine's exhaust was in a "free-flow" condition.

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

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

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-102A aircraft in a standard format.

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

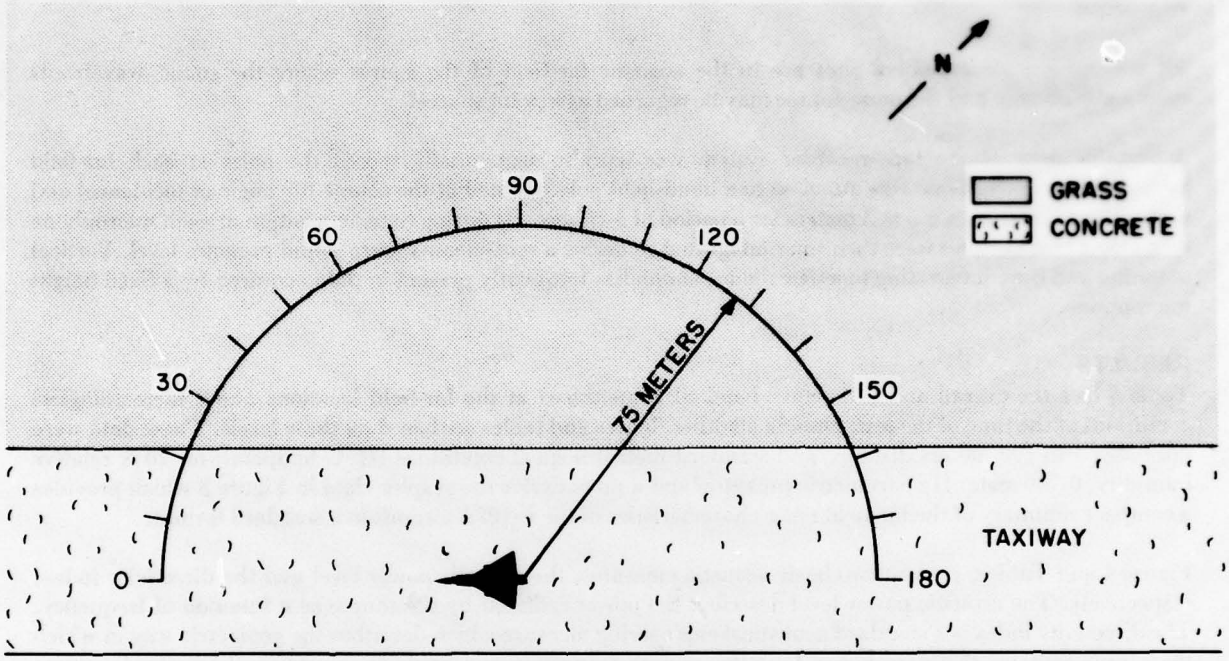


Figure 2. Far-Field Measurement Locations on the Remote Trim Pad at Tyndall AFB FL

Estimates of noise characteristics for intermediate power settings (e.g., 88% 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.

Except for idle power condition no data are presented at the 170 and 180 degree locations because of turbulent air flow behind the aircraft. Typical A-weighted levels for these angles are 10 to 20 dBA below those at the 160 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 (e.g., Table 5 at idle power).

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

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

IDENTIFICATION: OMEGA 3.2 TEST 78-012-001 RUN 01 18 JAN 79 PAGE F1

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A
25	72<	88	86	88	90	91	92	96	99	109
31.5	82	95	89	89	91	90	92	95	99	111
40	73<	87	87	89	88	86	93	97	103	112
50	75<	88	87	86	85	89	95	99	102	113
63	79	90	86	86	87	89	95	100	105	112
80	75<	86	84	85	86	95	96	100	106	116
100	76<	89	91	93	93	107	99	100	111	117
125	75	84	83	85	82	88	98	101	109	117
160	77	83	83	86	86	91	96	104	113	120
200	77	86	85	85	86	95	95	102	112	120
250	81	89	88	87	86	91	94	101	111	118
315	76	91	87	86	88	96	95	101	110	117
400	80	87	86	84	84	91	103	105	113	118
500	84	86	86	86	87	92	97	105	115	119
630	85	86	88	90	95	95	96	104	119	121
800	88	90	89	90	98	98	101	104	120	122
1000	85	87	88	89	95	97	99	104	119	122
1250	85	88	91	93	95	100	109	104	117	121
1600	86	87	86	86	88	98	113	104	115	120
2000	87	87	85	86	88	98	103	109	114	119
2500	92	91	89	90	91	101	102	103	114	119
3150	92	86	85	86	88	99	107	103	113	119
4000	92	85	85	87	89	100	103	106	113	118
5000	89	82	81	83	85	97	102	102	111	116
6300	88	81	80	82	84	96	102	104	110	115
8000	87	78	77	80	81	93	101	103	110	114
10000	84	76	75	77	78	89	102	103	110	112
OVERALL	100	102	101	102	105	112	117	117	128	132

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION: OMEGA 3.2 TEST 78-012-001 RUN 01 18 JAN 79 PAGE J1

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT GROUND CREW NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A
31.5	83	96	92	93	95	94	97	101	105	116
63	82	93	90	90	91	97	100	104	110	119
125	81	91	92	94	94	107	102	107	116	123
250	83	94	91	91	91	99	99	106	116	123
500	88	91	91	92	96	98	104	109	121	124
1000	91	93	94	96	101	103	110	109	124	126
2000	94	94	92	93	94	104	114	111	119	124
4000	96	90	88	90	92	103	109	109	117	122
8000	91	84	82	85	86	98	106	108	115	118
OVERALL	100	102	101	102	105	112	117	117	128	132

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST 78-012-001
RUN 01

18 JAN 79

PAGE H1

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION									
	1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/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	99	101	100	101	104	111	117	117	128	132
OASLA	100	99	98	100	103	110	118	116	127	131
T	30	36	42	30	18	5	P	P	P	P
MINIMUM QPL EAR MUFFS										
OASLA*	73	76	75	76	78	87	90	92	102	107
T	960	960	960	960	960	285	170	120	21	9
AMERICAN OPTICAL 1700 EAR MUFFS										
OASLA*	67	71	71	72	73	82	85	87	96	102
T	960	960	960	960	960	679	404	285	60	21
V-51R EAR PLUGS										
OASLA*	71	73	73	74	78	82	89	89	102	105
T	960	960	960	960	960	679	202	202	21	13
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS										
OASLA*	58	59	59	61	65	69	76	76	88	91
T	960	960	960	960	960	960	960	960	240	143
H-133 GROUND COMMUNICATION UNIT										
OASLA*	73	72	71	73	76	83	90	88	99	103
T	960	960	960	960	960	571	170	240	36	18
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
PSIL	91	93	92	94	97	102	109	110	121	125
ANNOYANCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)										
TONE CORRECTION (C IN DB)										
PNLT	115	115	113	115	116	126	133	132	140	144
C	1	2	1	2	1	2	3	2	1	0

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

TABLE 4

TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS
F-102A Aircraft, Ground Runups, Tyndall AFB TX
8 June 1978
Tail #62317

Aircraft Engine Operation

Idle	57 % RPM
	Not Available Engine Pressure Ratio
	320 C, Fan Exhaust Gas Temperature
	1100 LBS/HR, Fuel Flow
75% RPM	75 % RPM, NC
	1.19 EPR
	320 C, EGT
	2000 LBS/HR, FF
85% RPM	85 % RPM, NC
	1.43 EPR
	398 C, EGT
	3500 LBS/HR, FF
Military Power	96 % RPM, NC
	2.13 EPR
	600 C, EGT
	8500 LBS/HR, FF
Afterburner Power	96 % RPM
	2.14 EPR
	610 C, EGT
	8500 LBS/HR, FF (Plus Afterburner)

Meteorology

Temperature	26.1 C
Bar Pressure	0.748 M Hg
Rel Humidity	87 %
Wind — Speed	2.8 M/Sec (5.5 Kts)
— Direction	170 Deg.

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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<	66<	65<	67<	68<	69<	68<	68<	68<
31.5	64<	63<	63<	64<	65<	65<	64<	64<	64<	63<	65<	67<	67<	68<	70<	70<	70<	66<	68<
40													67<	70<	69<	72<	68<		70<
50												65<	65<	68<	68<	70<	67<		68<
63														69<	71<	71<			
80																73<			
100											70<	71<	72<	72<	73<	74<			
125	63<	64<	65<	65<	65<	65<	66<	68<	67<	67<	69<	69<	70<	72<	70<	72<			
160	67	67	69	68	69	69	70	70	69	69	73	73	74	77	75	74	63<	57<	56<
200	66<	66<	67	67	68	67	68	68	67	69	73	73	74	76	76	69	59<		56<
250	71	70	69	70	70	69	69	68	69	69	72	73	73	74	75	67	58<		59<
315	69	70	69	69	69	67	67	65	65	65	69	70	69	72	67	68	54<		58<
400	71	72	71	70	69	67	66	65	64	64	68	66	65	66	63	64	54<	50<	56<
500	70	71	70	69	68	66	65	63	61	62	64	61	59	62	61	61	53<	48<	53<
630	71	71	69	67	65	64	62	59	57	57	57	55<	59	59	59	59	52<	47<	51<
800	73	73	70	67	66	66	62	61	58	59	58	60	63	61	60	60	54<	44<	53<
1000	73	71	69	67	66	66	62	60	58	60	61	63	66	61	61	60	54	44<	52<
1250	73	68	67	67	65	65	61	60	57	62	65	67	70	64	62	63	56	46<	53<
1600	74	73	71	67	66	68	65	62	61	62	65	67	69	68	64	63	54<	49<	51<
2000	74	73	70	67	67	68	65	64	60	62	64	64	65	64	64	63	54	49<	51
2500	76	76	72	73	73	70	68	67	65	69	70	71	74	73	74	75	65	56	59
3150	77	76	75	73	75	74	68	65	60	62	64	66	68	65	66	66	57	50	58
4000	75	74	73	72	72	72	66	63	59	58	63	63	63	63	63	62	54	51	56
5000	73	72	72	71	70	69	65	61	57	60	64	65	66	63	64	63	53	49	54
6300	72	72	71	70	69	69	63	60	55	56	60	61	62	61	61	60	51	50	53
8000	70	71	70	68	68	68	62	60	55	55	59	60	60	59	60	59	49<	45<	50<
10000	68	69	67	65	66	66	62	60	52	55	60	62	61	59	59	60	49<	45<	48<
OVERALL	85	85	83	82	82	81	79	78	77	78	81	82	83	84	84	83	76	71	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 78-012-001
RUN 02
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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

< 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 78-012-001
RUN 03
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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

< 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 78-012-001
RUN 04
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	75	77	77	77	77	79	81	82	85	85	86	88	91	96	100	102	102		
31.5	77	76	79	77	79	80	81	84	86	87	89	89	93	98	104	106	104		
40	76<	79	79	81	80	82	86	87	88	89	90	92	97	104	107	109	108		
50	78	80	78	82	82	83	86	88	89	91	94	97	102	106	111	112	108		
63	81	80	83	83	83	84	87	90	91	92	94	96	102	109	114	114	109		
80	82	83	84	85	85	87	89	90	91	93	95	97	104	110	116	117	111		
100	85	87	88	88	89	90	91	91	94	94	97	100	105	111	118	119	113		
125	87	88	89	88	89	90	92	93	94	96	99	102	109	114	115	118	112		
160	89	90	92	90	90	91	95	95	97	98	101	105	112	118	116	120	115		
200	90	92	93	91	93	93	96	96	97	98	101	105	111	119	118	115	114		
250	90	94	92	92	93	94	96	96	97	98	102	105	111	115	119	111	113		
315	88	95	92	92	92	95	97	97	97	99	102	105	110	113	116	114	113		
400	88	95	94	93	93	94	97	97	97	98	101	103	105	106	111	114	112		
500	84	94	92	93	93	94	97	95	95	97	99	101	100	107	111	111	110		
630	87	95	93	94	94	94	95	93	93	95	95	96	98	107	109	108	107		
800	88	96	95	98	96	95	95	92	92	95	95	100	103	107	106	104	105		
1000	82	93	94	97	96	95	96	91	92	95	98	103	105	107	106	104	101		
1250	78	90	90	93	94	93	95	94	95	96	101	104	106	107	108	106	102		
1600	78	89	90	92	93	92	95	95	97	99	102	104	106	106	108	107	101		
2000	80	89	89	90	92	92	94	95	97	99	101	103	104	104	106	105	100		
2500	90	92	92	91	92	91	94	93	96	98	101	102	103	104	104	102	98		
3150	82	88	88	89	91	91	94	94	97	99	100	102	103	103	103	104	97		
4000	77	86	86	87	89	90	93	94	97	99	100	102	102	102	103	102	97		
5000	81	86	86	85	87	88	91	92	94	96	97	99	99	99	101	100	95		
6300	77	82	83	83	85	86	91	91	93	95	96	98	98	99	100	99	95		
8000	75	80	81	81	83	85	89	89	92	94	94	97	97	98	98	98	93		
10000	71	76	77	77	79	81	86	86	88	90	92	94	95	96	97	97	91		
OVERALL	99	105	104	105	105	105	108	107	109	110	113	116	120	125	126	127	123		

< 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 78-012-001
RUN 05
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	89	87	90	89	89	89	91	94	94	93	95	100	104	108	112	113	110		
31.5	90	90	89	90	91	91	93	96	97	95	94	102	107	111	114	116	111		
40	91	92	91	91	93	92	94	98	99	97	98	105	111	116	119	116	113		
50	90	91	92	92	93	94	95	99	99	99	100	109	113	118	121	118	113		
63	91	92	92	94	94	94	96	100	100	99	102	111	116	122	122	118	113		
80	94	94	93	95	95	96	96	100	101	102	104	112	118	125	125	120	113		
100	96	95	96	97	97	98	100	101	102	103	107	113	118	124	125	121	114		
125	96	97	98	98	98	99	100	103	104	104	108	117	121	122	125	121	114		
160	99	99	100	99	99	100	101	104	106	106	109	120	126	123	123	122	114		
200	101	99	101	100	101	101	102	104	106	107	111	119	126	125	121	119	112		
250	100	101	100	101	102	103	104	105	106	108	113	119	123	124	120	114	110		
315	97	102	99	100	100	102	102	105	106	105	111	119	124	120	116	112	107		
400	97	103	101	100	101	103	103	104	104	105	110	116	118	114	112	110	105		
500	94	101	98	99	100	101	102	103	102	102	107	113	115	113	112	108	102		
630	94	100	98	99	99	101	102	101	99	100	104	110	113	114	110	104	98		
800	93	100	99	101	101	101	103	101	100	101	102	114	116	114	109	104	99		
1000	90	96	97	101	100	100	101	100	103	103	106	115	116	112	109	104	100		
1250	87	94	94	98	99	100	100	101	106	106	109	115	116	113	110	104	100		
1600	87	94	94	97	99	99	99	104	106	109	112	114	116	112	108	103	98		
2000	88	93	93	96	98	99	98	104	105	109	112	113	115	111	106	102	96		
2500	95	94	93	95	96	98	99	103	105	107	108	112	113	109	105	100	94		
3150	89	92	92	94	96	98	100	103	105	106	107	112	113	109	105	100	95		
4000	86	89	90	92	95	98	99	102	105	105	109	112	112	109	105	100	94		
5000	88	89	88	90	92	96	98	100	102	103	104	109	110	106	102	97	93		
6300	84	85	86	88	90	94	96	98	101	101	104	109	109	106	101	98	94		
8000	82	84	84	86	88	92	94	97	99	99	102	109	108	104	100	96	94		
10000	77	79	80	82	84	88	91	94	97	96	100	107	107	102	98	94	92		
OVERALL	108	111	110	111	112	113	114	116	117	119	122	129	133	133	133	129	123		

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
24 JAN 79
PAGE 6

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

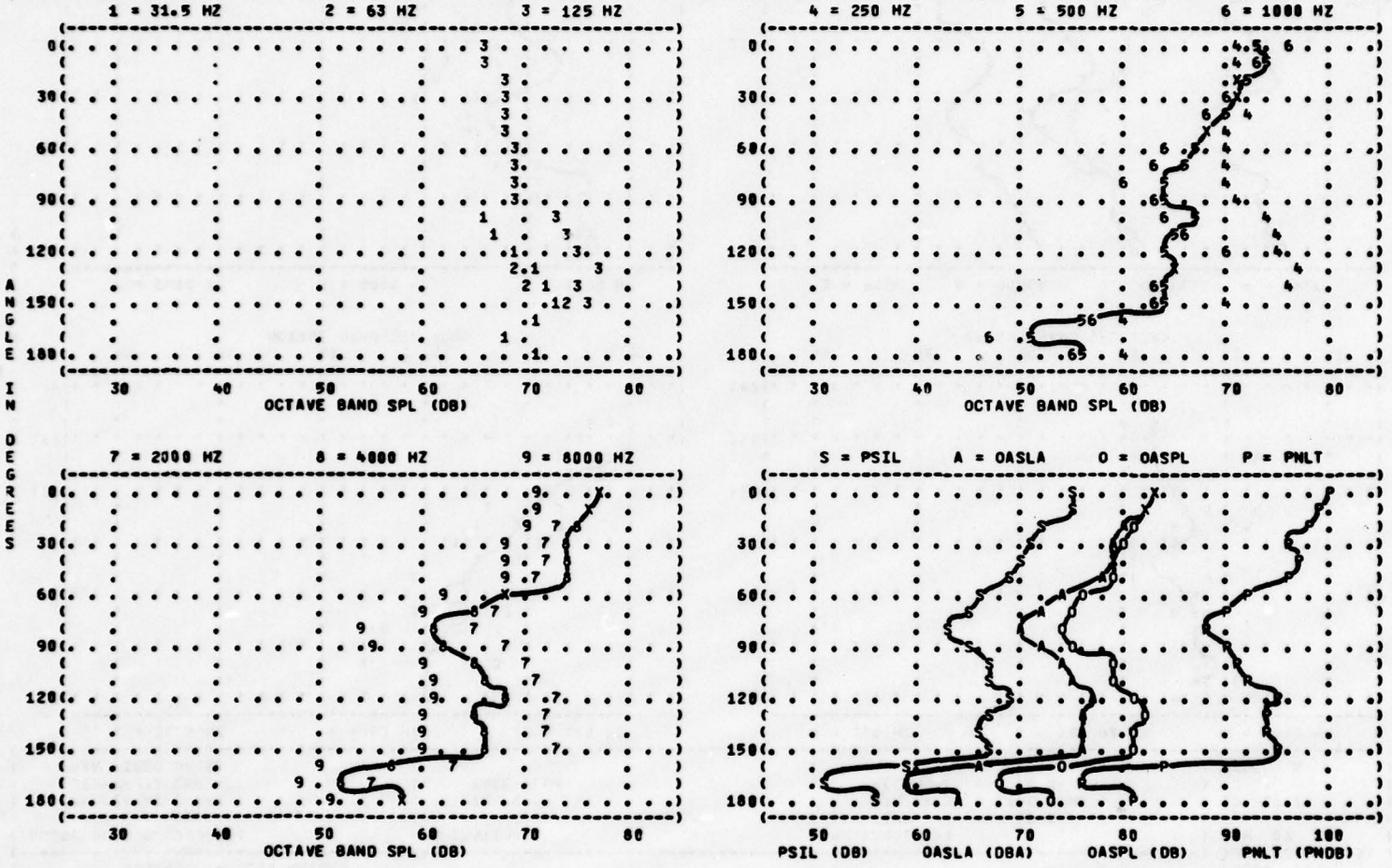


FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 6

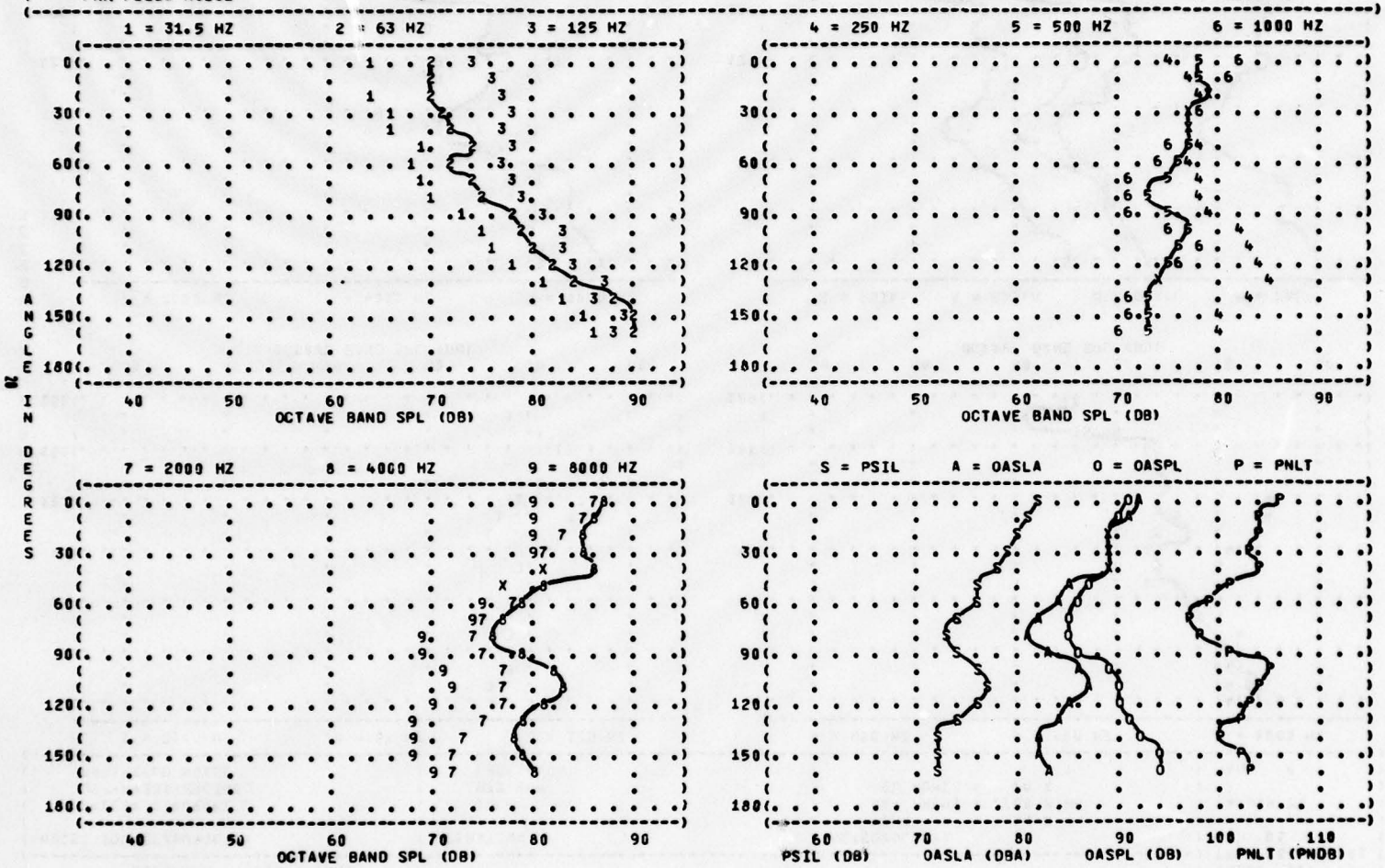


FIGURE: 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 6

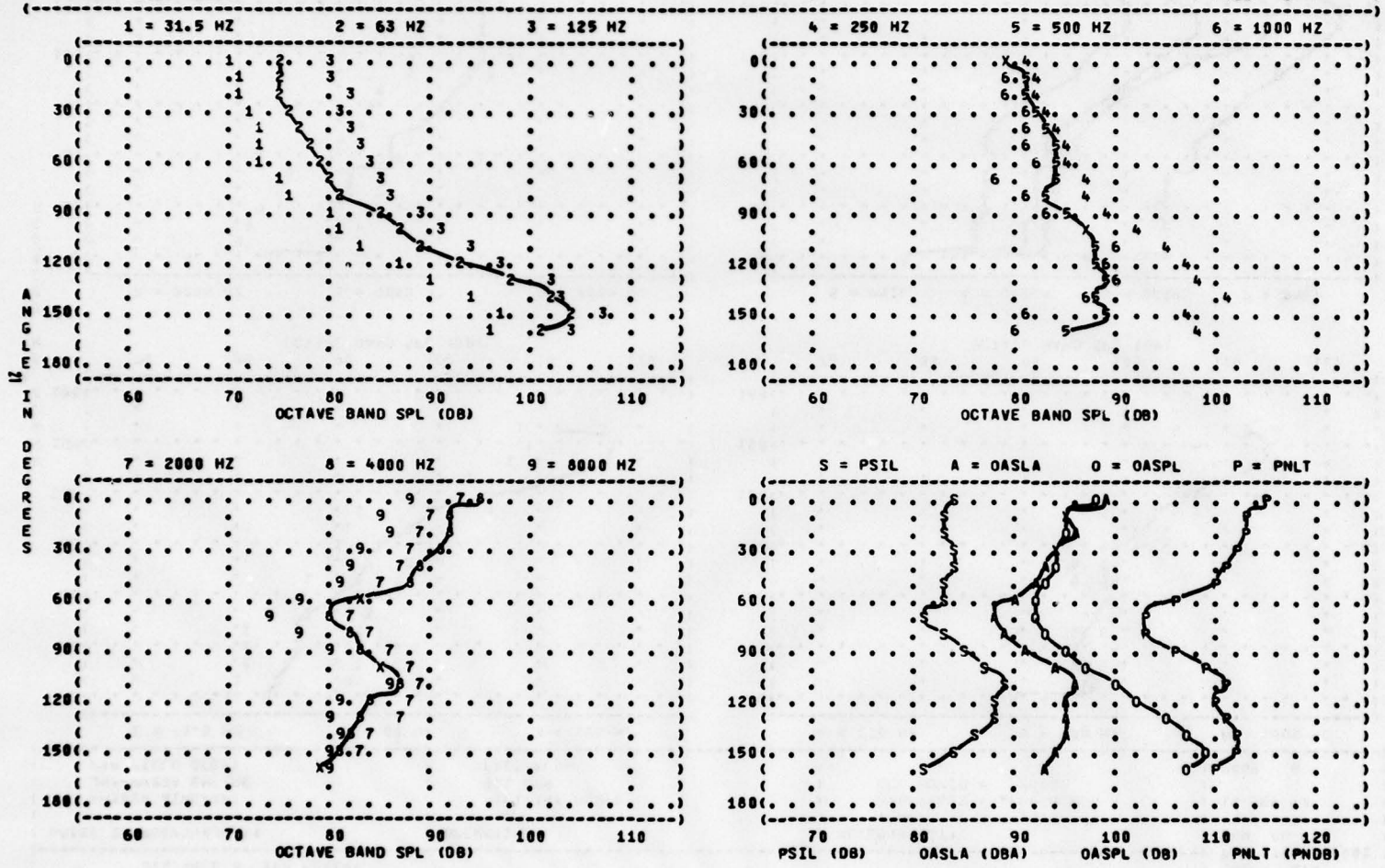


FIGURE 3 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 6

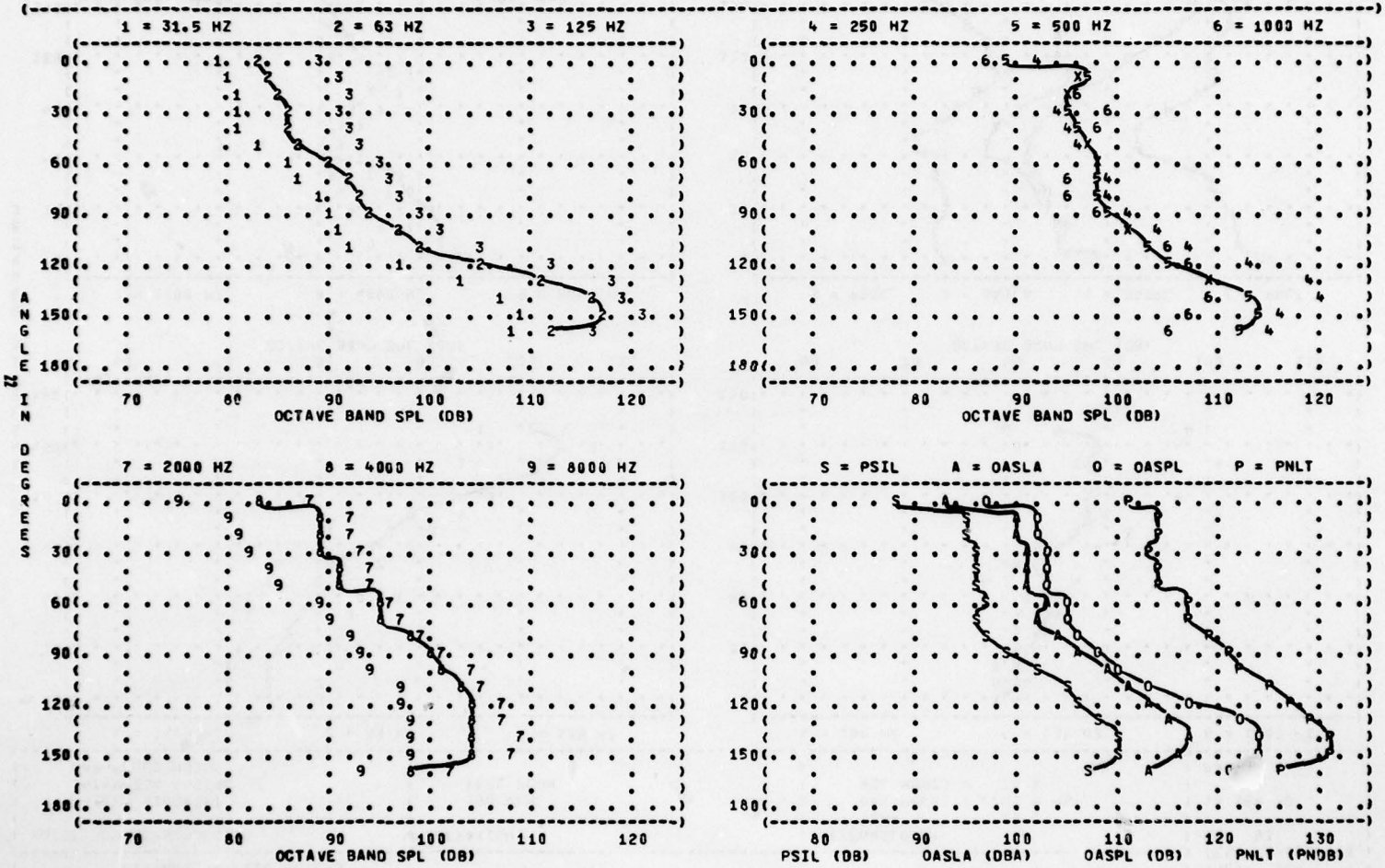


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 6

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

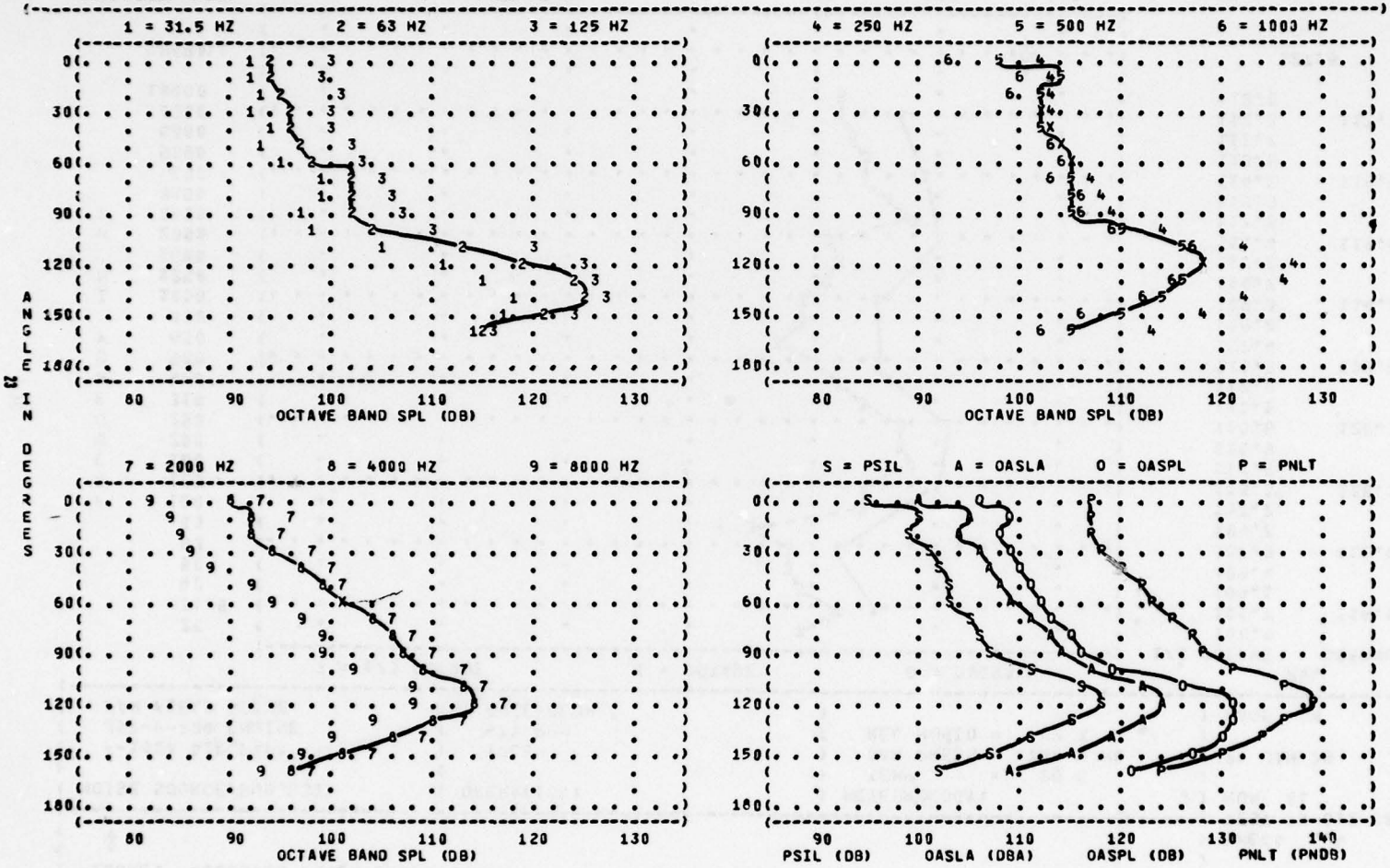


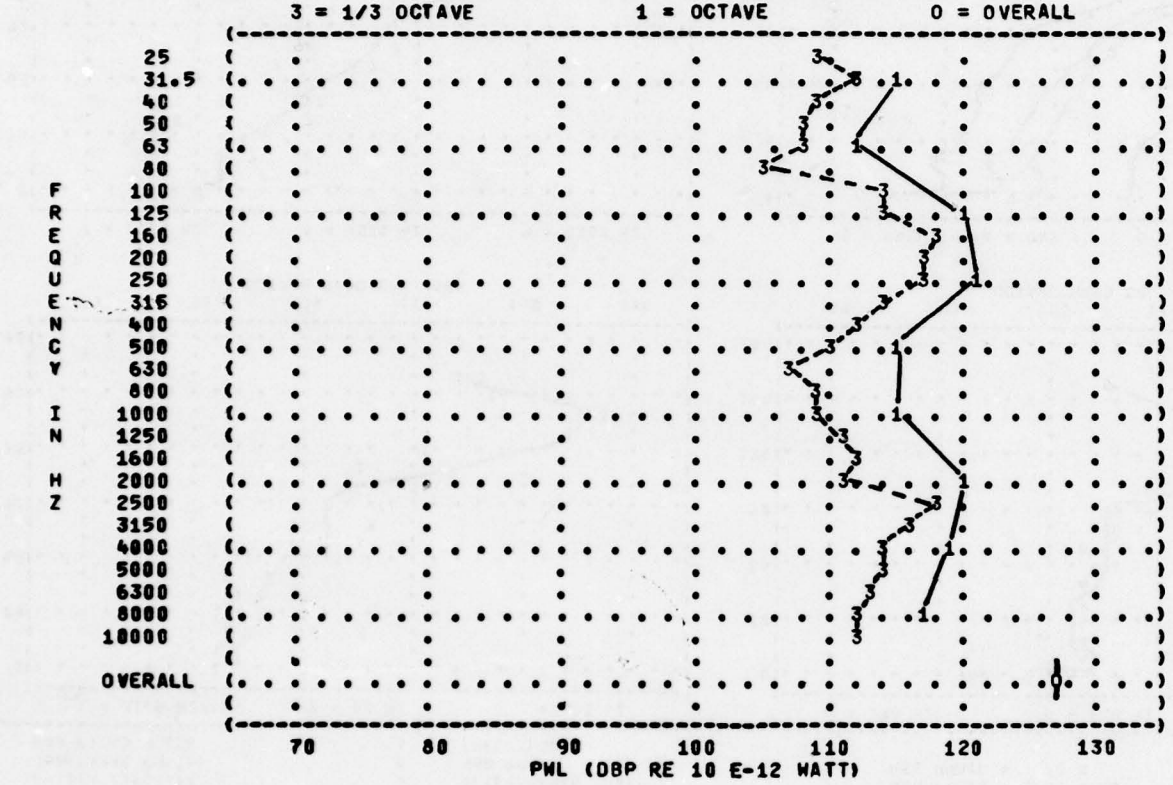
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
24 JAN 79
PAGE 3

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	108.9	
31.5	111.7	114.9
40	109.1	
50	108.4	
63	107.9	112.0
80	104.7	
100	113.7	
125	113.8	120.1
160	117.5	
200	116.9	
250	116.6	120.7
315	113.5	
400	112.0	
500	110.0	115.0
630	107.4	
800	109.2	
1000	109.3	114.6
1250	110.7	
1600	112.2	
2000	111.4	119.6
2500	117.8	
3150	115.9	
4000	114.2	119.5
5000	113.6	
6300	112.7	
8000	112.3	117.2
10000	112.2	
OVERALL		127.5

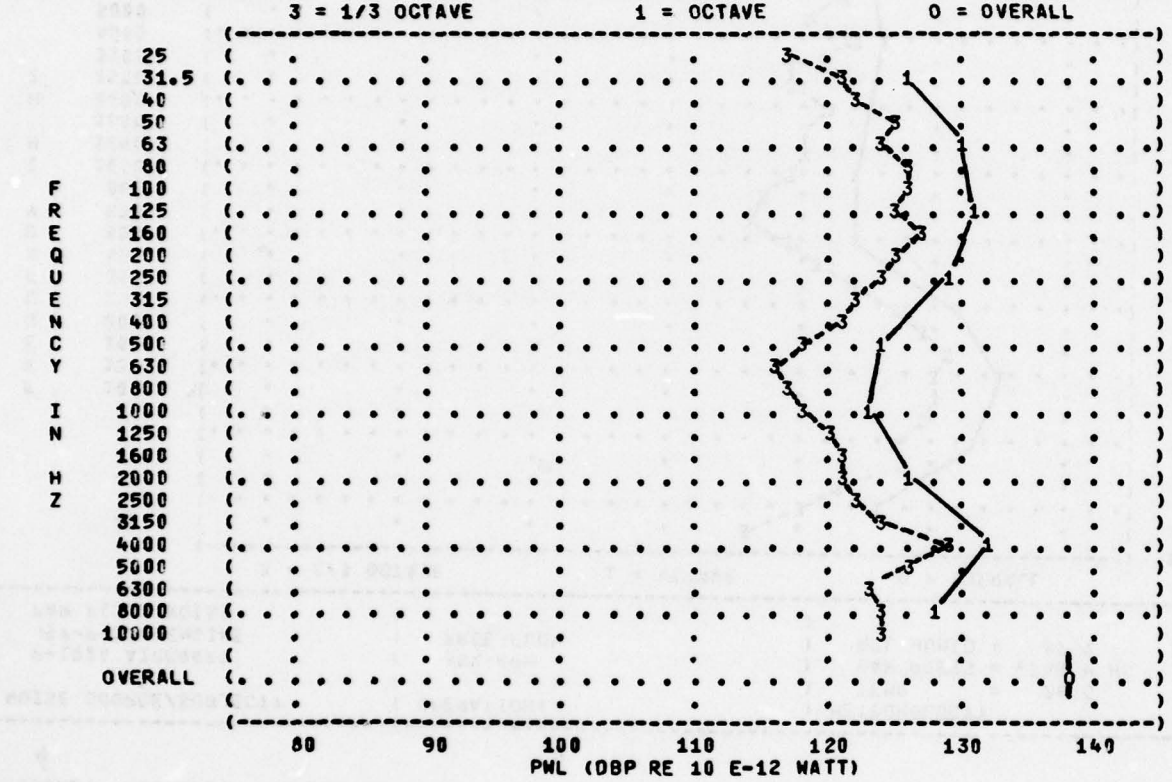
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
24 JAN 79
PAGE 3

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	117.5	
31.5	121.5	125.6
40	122.1	
50	125.5	
63	123.9	130.1
80	126.3	
100	126.2	
125	125.4	130.8
160	126.6	
200	125.1	
250	124.3	128.8
315	122.0	
400	120.7	
500	118.3	123.5
630	115.9	
800	116.5	
1000	118.0	123.4
1250	120.4	
1600	120.8	
2000	121.4	126.2
2500	122.1	
3150	124.5	
4000	128.9	131.7
5000	126.2	
6300	123.4	
8000	123.9	128.5
10000	123.8	
OVERALL		136.0

FREQUENCY (HZ)

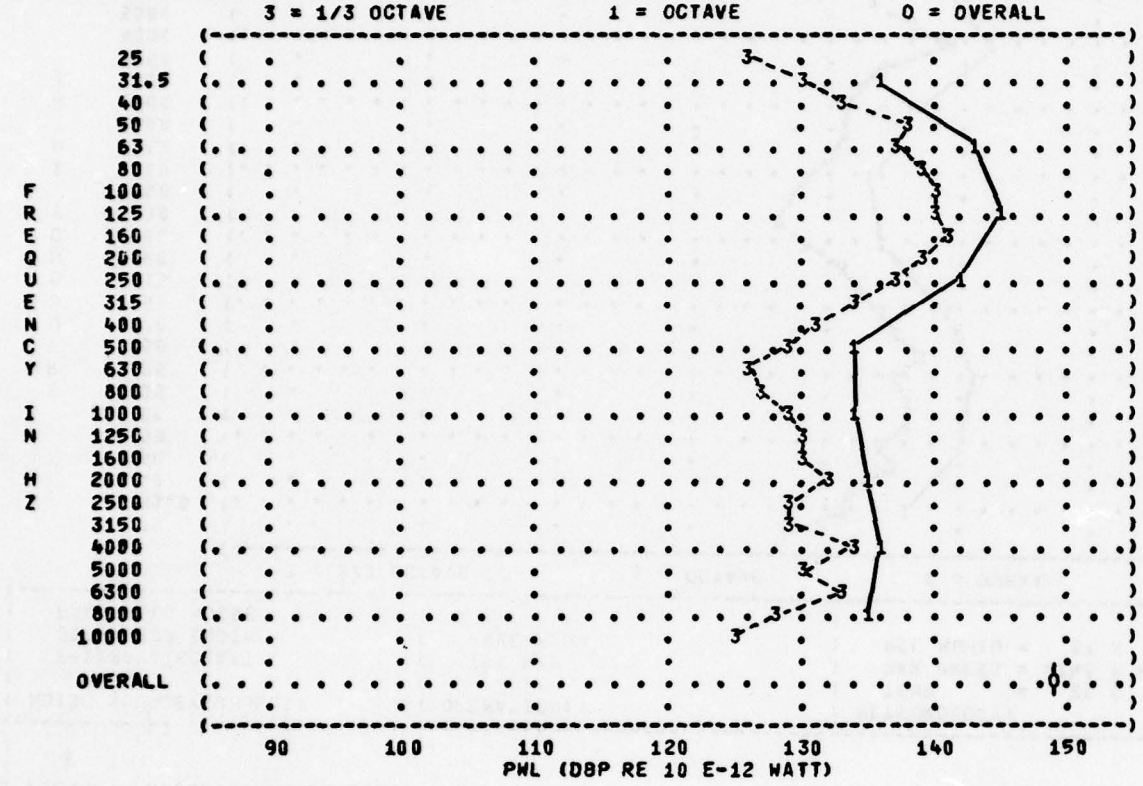
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 3

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	126.4	
31.5	130.0	135.6
40	133.4	
50	137.7	
63	137.1	142.9
80	139.3	
100	140.4	
125	140.5	145.4
160	141.0	
200	139.0	
250	136.5	141.8
315	134.0	
400	131.2	
500	128.7	134.0
630	126.4	
800	127.4	
1000	128.8	133.6
1250	129.9	
1600	130.0	
2000	131.8	135.1
2500	128.5	
3150	129.0	
4000	133.9	136.2
5000	129.6	
6300	132.7	
8000	128.2	134.5
10000	125.1	
OVERALL		149.4

FREQUENCY IN HZ

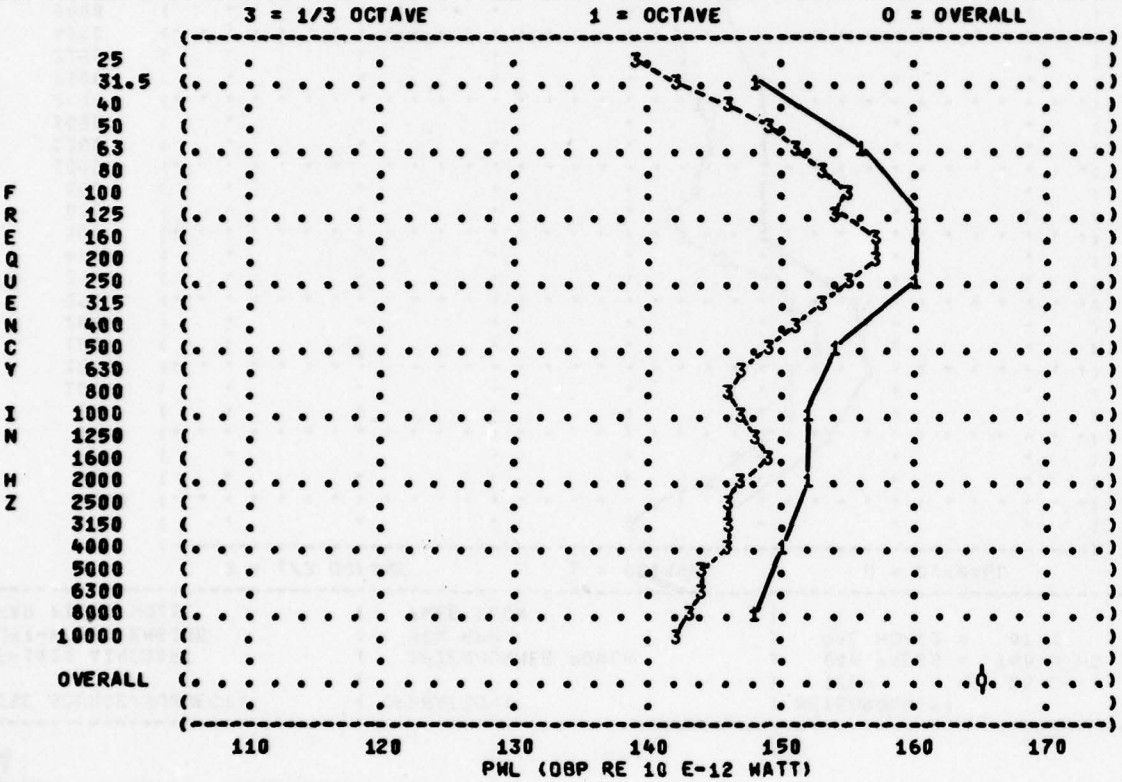
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	139.0	
31.5	142.0	147.9
40	145.7	
50	148.5	
63	150.7	155.8
80	152.8	
100	154.7	
125	154.3	160.1
160	156.6	
200	156.5	
250	155.0	159.9
315	153.5	
400	150.6	
500	149.4	154.1
630	147.3	
800	146.2	
1000	146.8	151.9
1250	148.1	
1600	148.5	
2000	147.1	152.2
2500	146.2	
3150	146.5	
4000	146.3	150.5
5000	143.9	
6300	143.7	
8000	143.0	147.7
10000	142.1	
OVERALL		165.0

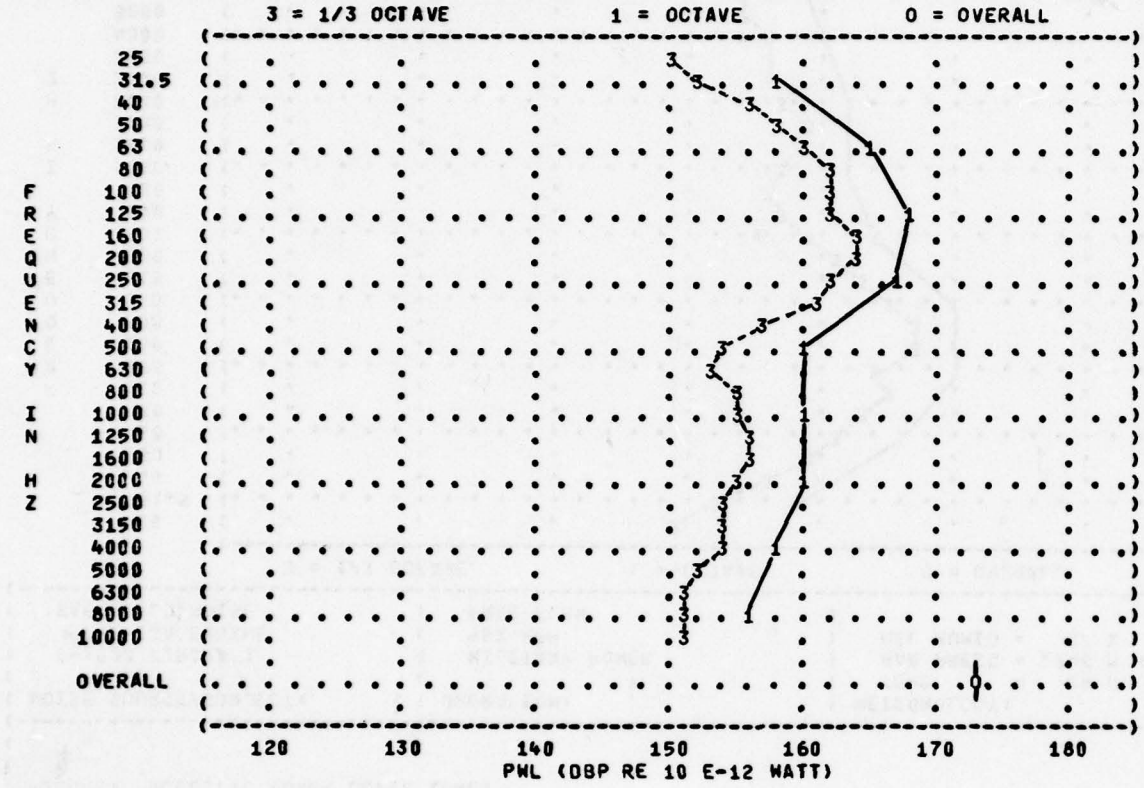
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	149.9	
31.5	152.2	157.9
40	155.5	
50	157.6	
63	159.6	165.0
80	162.2	
100	162.4	
125	162.0	167.8
160	164.2	
200	163.9	
250	162.3	167.4
315	161.3	
400	156.7	
500	154.3	159.7
630	152.9	
800	154.6	
1000	155.1	159.9
1250	155.6	
1600	155.9	
2000	155.0	159.7
2500	153.6	
3150	153.8	
4000	153.9	158.0
5000	151.6	
6300	151.5	
8000	151.4	155.9
10000	150.5	
OVERALL	172.8	

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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											2	3	2	4	4	5	5	4	4
31.5	-3	-4	-3	-3	-2	-2	-2	-2	-2	-3	-1	1	1	1	4	4	4	0	2
40													3	6	6	8	5		6
50												2	2	5	6	8	4		5
63														7	8	8			
80																14			
100											2	3	4	4	5	5			
125	-5	-4	-3	-3	-3	-3	-2	-1	-1	-1	1	1	2	4	2	3			
160	-5	-5	-3	-4	-3	-3	-2	-2	-3	-3	1	1	2	5	3	2	-9	-15	-16
200	-6	-6	-4	-4	-3	-4	-3	-3	-4	-2	1	2	3	5	4	-3	-12		-16
250	0	-2	-2	-1	-1	-2	-2	-3	-2	-2	1	2	2	3	4	-4	-13		-12
315	1	2	1	1	1	-1	-1	-3	-3	-3	1	2	1	4	-1	0	-14		-10
400	4	6	5	4	2	1	0	-1	-3	-2	2	-1	-1	-1	-4	-3	-12	-16	-10
500	6	7	6	5	3	2	0	-1	-3	-2	-1	-3	-5	-2	-3	-4	-11	-16	-12
630	9	9	7	5	3	2	0	-2	-4	-5	-5	-7	-3	-3	-3	-3	-10	-14	-10
800	10	10	7	4	3	3	-2	-3	-6	-4	-5	-3	0	-2	-4	-4	-9	-19	-10
1000	10	7	5	4	3	2	-2	-3	-6	-3	-2	-1	2	-2	-3	-4	-9	-19	-11
1250	9	3	2	3	0	0	-3	-5	-7	-3	0	2	5	-1	-3	-2	-9	-19	-12
1600	8	6	4	1	0	2	-1	-4	-5	-4	-1	1	3	2	-2	-3	-12	-17	-16
2000	9	8	5	2	2	3	0	-1	-5	-3	-1	-2	-1	-1	-1	-2	-12	-16	-14
2500	5	4	1	2	1	-1	-4	-5	-6	-3	-1	0	3	1	3	4	-6	-15	-12
3150	8	7	6	4	6	5	-1	-4	-9	-7	-5	-3	-1	-4	-3	-3	-12	-19	-11
4000	8	7	6	5	5	5	-1	-4	-8	-9	-4	-4	-4	-4	-4	-5	-13	-16	-11
5000	7	6	6	5	4	3	-1	-5	-9	-6	-2	-1	0	-3	-2	-3	-13	-17	-12
6300	8	8	7	5	5	5	-2	-5	-10	-8	-4	-3	-2	-4	-3	-5	-14	-14	-12
8000	7	8	7	5	4	4	-1	-3	-9	-8	-4	-3	-3	-4	-4	-4	-14	-18	-13
10000	6	7	5	3	4	4	0	-2	-10	-7	-2	0	-1	-3	-3	-2	-13	-17	-14
OCTAVE																			
31.5											-1	0	2	4	4	6	4	1	4
63														5	6	10			
125	-6	-6	-4	-5	-4	-4	-3	-3	-3	-3	1	2	3	5	3	3			
250	-1	-2	-2	-1	-1	-2	-2	-3	-3	-2	1	2	2	4	3	-3	-13		-12
500	6	7	5	4	3	1	0	-1	-3	-3	0	-2	-3	-2	-3	-3	-11	-16	-11
1000	9	7	5	3	2	2	-2	-4	-6	-3	-2	0	3	-2	-3	-3	-9	-19	-11
2000	6	6	3	1	1	0	-2	-4	-6	-3	-1	0	3	1	2	2	-7	-16	-13
4000	8	7	6	4	5	4	-1	-4	-9	-7	-4	-3	-1	-4	-3	-3	-12	-18	-11
8000	7	8	6	5	4	4	-1	-4	-9	-8	-4	-2	-2	-4	-3	-4	-14	-16	-13
OVERALL	4	4	2	1	1	0	-2	-4	-5	-4	0	1	2	3	2	2	-5	-11	-6

TABLE: 6 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
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	-8		-9	-6	-8	-7	-9	-6	-7	-5	-3	-1	1	3	4	7	8		
31.5	-13	-12	-13	-11	-10	-9	-11	-9	-7	-5	-4	-2	1	3	5	8	7		
40						-9	-9	-10	-9	-6	-3	-2	-1	3	5	8	9		
50	-14	-13	-13	-10	-10	-10	-10	-9	-7	-4	-3	-2	0	3	5	8	8		
63					-10	-9	-10	-9	-8	-4	-3	-2	-1	3	5	8	8		
80	-10	-10	-10	-9	-10	-7	-9	-8	-8	-4	-3	-2	0	1	5	8	7		
100	-9	-8	-7	-5	-7	-6	-7	-6	-5	-4	-2	-1	1	2	5	7	7		
125	-8	-7	-4	-5	-5	-4	-4	-4	-4	-2	0	0	1	4	3	6	5		
160	-9	-8	-6	-6	-6	-5	-6	-3	-4	-2	1	2	2	4	2	3	2		
200	-7	-5	-4	-5	-4	-4	-5	-4	-3	-2	1	2	3	5	3	-1	1		
250	-6	-4	-3	-3	-4	-3	-3	-2	-3	-1	1	2	3	3	3	-1	-1		
315	-5	-3	-2	-2	-3	-2	-3	-2	-2	0	2	4	3	2	-2	-1	-2		
400	2	1	3	0	0	0	0	-1	-2	-1	2	2	1	-2	-3	-2	-3		
500	3	3	3	2	2	1	1	-1	-3	0	2	-1	-2	-2	-2	-2	-2		
630	2	3	4	3	3	3	2	0	-3	-1	-2	-3	-2	-1	-1	-4	-4		
800	5	5	4	4	2	2	1	-2	-4	-4	-5	2	-1	-1	-3	-5	-3		
1000	6	5	3	2	2	0	-2	-4	-4	-4	0	4	1	0	-3	-3	-6		
1250	8	6	4	3	3	-1	-3	-5	-5	-3	1	3	2	-2	-4	-4	-6		
1600	9	6	5	1	2	-1	-1	-3	-3	-2	0	2	1	-1	-4	-3	-5		
2000	9	8	6	4	3	0	1	-2	-3	-2	-1	-1	-1	-2	-5	-6	-5		
2500	9	9	6	6	5	1	1	-3	-5	-4	-2	-3	-4	-5	-6	-7	-7		
3150	8	7	5	6	6	1	1	-2	-6	-4	-5	-4	-5	-6	-8	-7	-8		
4000	3	4	3	3	4	-1	-4	-5	-5	-1	3	3	0	-3	-3	-2	0		
5000	3	2	3	3	3	-1	-3	-6	-6	-3	-1	3	3	0	-2	-2	-1		
6300	7	6	5	6	7	2	1	-2	-6	-6	-5	-4	-5	-6	-7	-7	-6		
8000	5	5	6	4	6	2	1	-1	-5	-5	-3	-2	-4	-7	-6	-6	-4		
10000	3	4	5	4	6	3	1	0	-4	-5	-4	-2	-4	-6	-6	-6	-4		
OCTAVE																			
31.5	-14		-14	-12	-12	-8	-10	-9	-8	-5	-3	-2	0	3	5	8	8		
63	-12	-12	-12	-11	-10	-9	-10	-8	-8	-4	-3	-2	0	2	5	8	8		
125	-9	-7	-5	-5	-6	-5	-6	-5	-4	-2	0	1	2	4	3	6	5		
250	-6	-4	-3	-4	-4	-3	-4	-3	-3	-1	1	2	3	4	2	-1	0		
500	2	2	3	2	1	1	0	-1	-2	-1	1	1	0	-2	-2	-2	-3		
1000	7	6	4	3	2	0	-1	-4	-4	-4	0	3	1	-1	-4	-4	-5		
2000	9	8	5	4	4	0	0	-3	-3	-3	-1	0	-1	-2	-5	-5	-5		
4000	5	4	3	4	4	0	-2	-5	-5	-2	1	2	0	-2	-3	-2	-1		
8000	6	5	5	5	6	3	1	-1	-5	-5	-4	-3	-4	-6	-6	-7	-4		
OVERALL	2	1	1	0	0	-2	-3	-4	-5	-3	0	1	1	2	2	4	4		

TABLE: DIRECTIVITY INDEX (DI)

6

IDENTIFICATION:

OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

METEOROLOGY:
TEMP = 26 C
BAR PRESS = .748 M HG
REL HUMID = 87 %

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

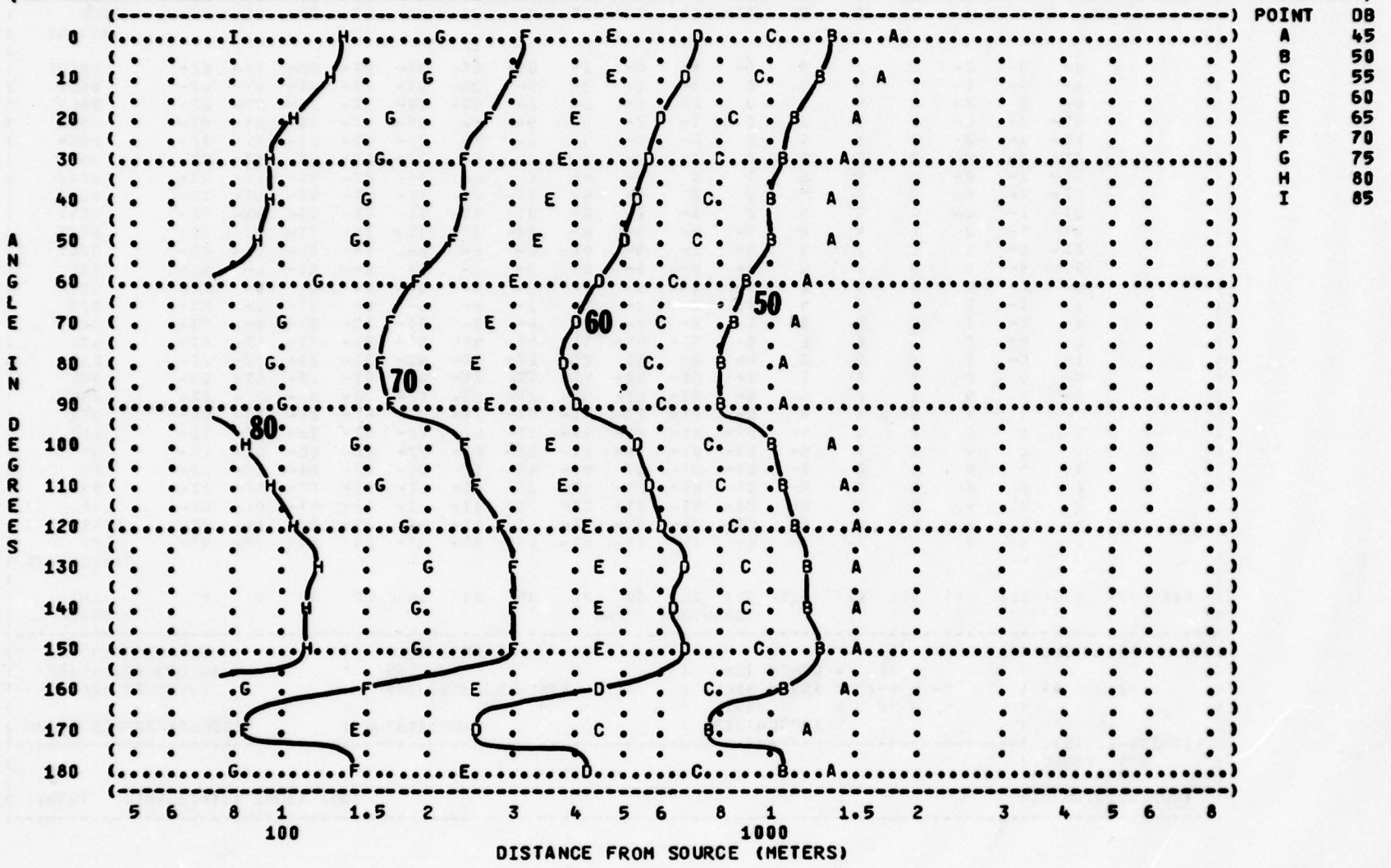
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

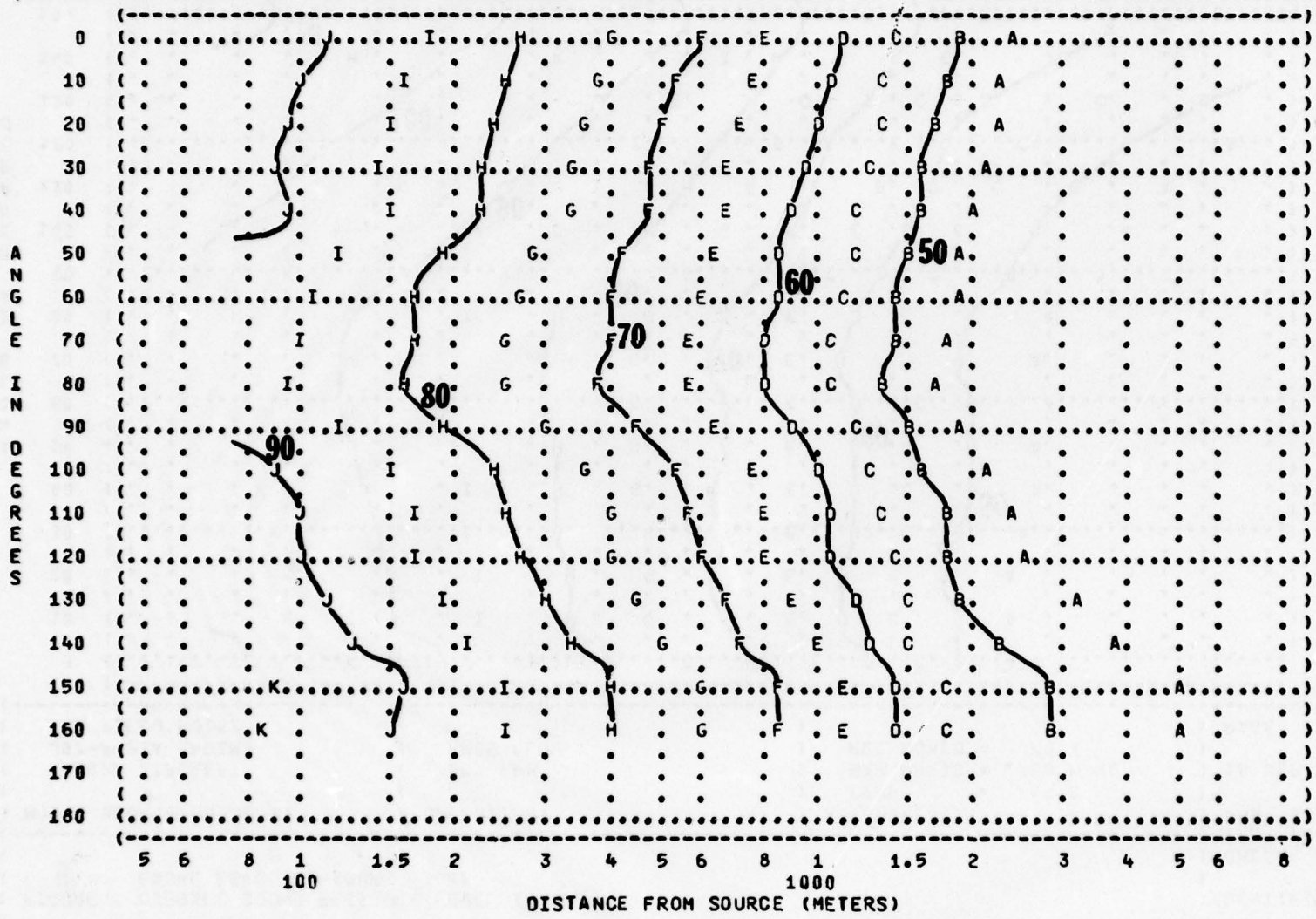
FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 13



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
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

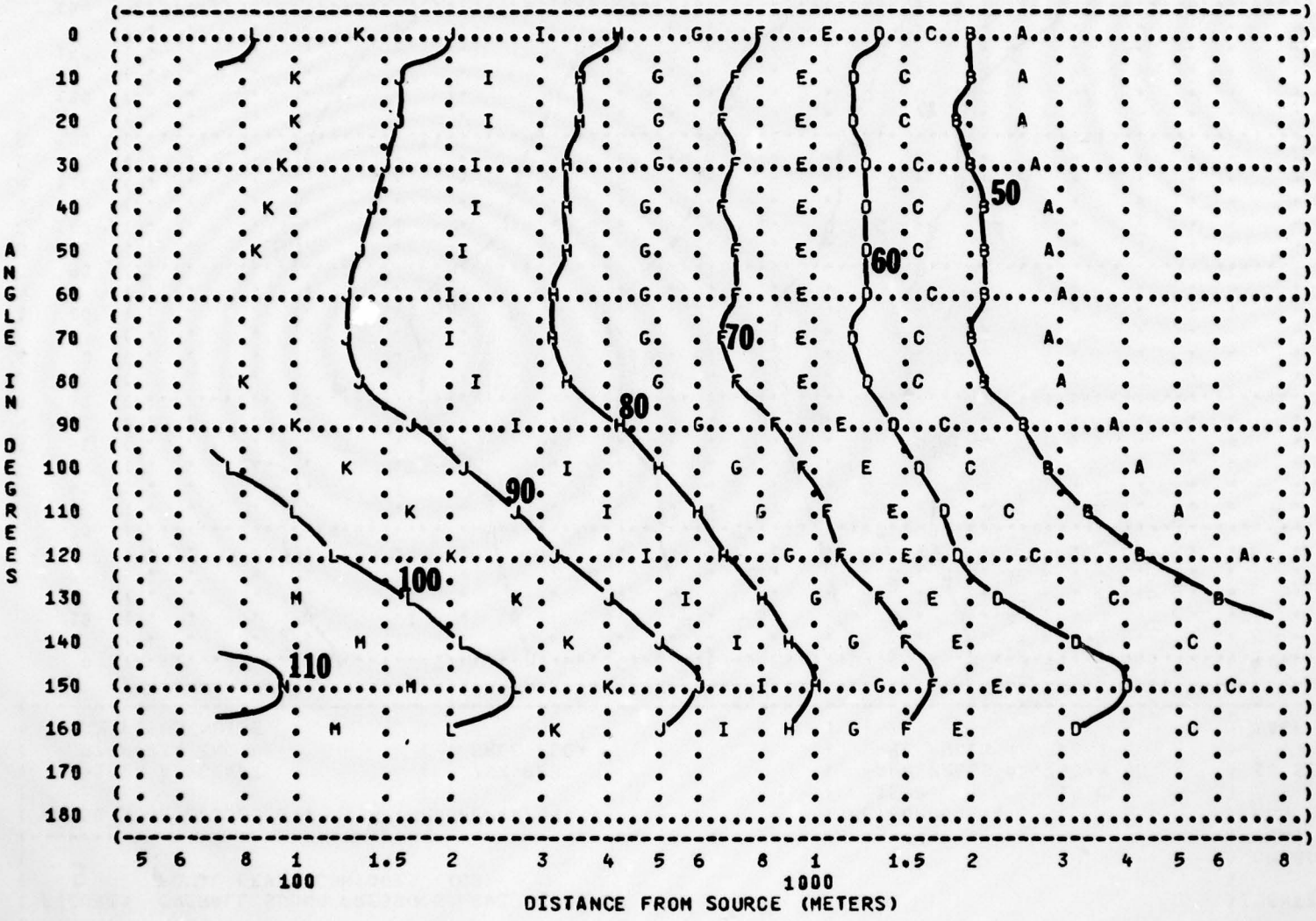


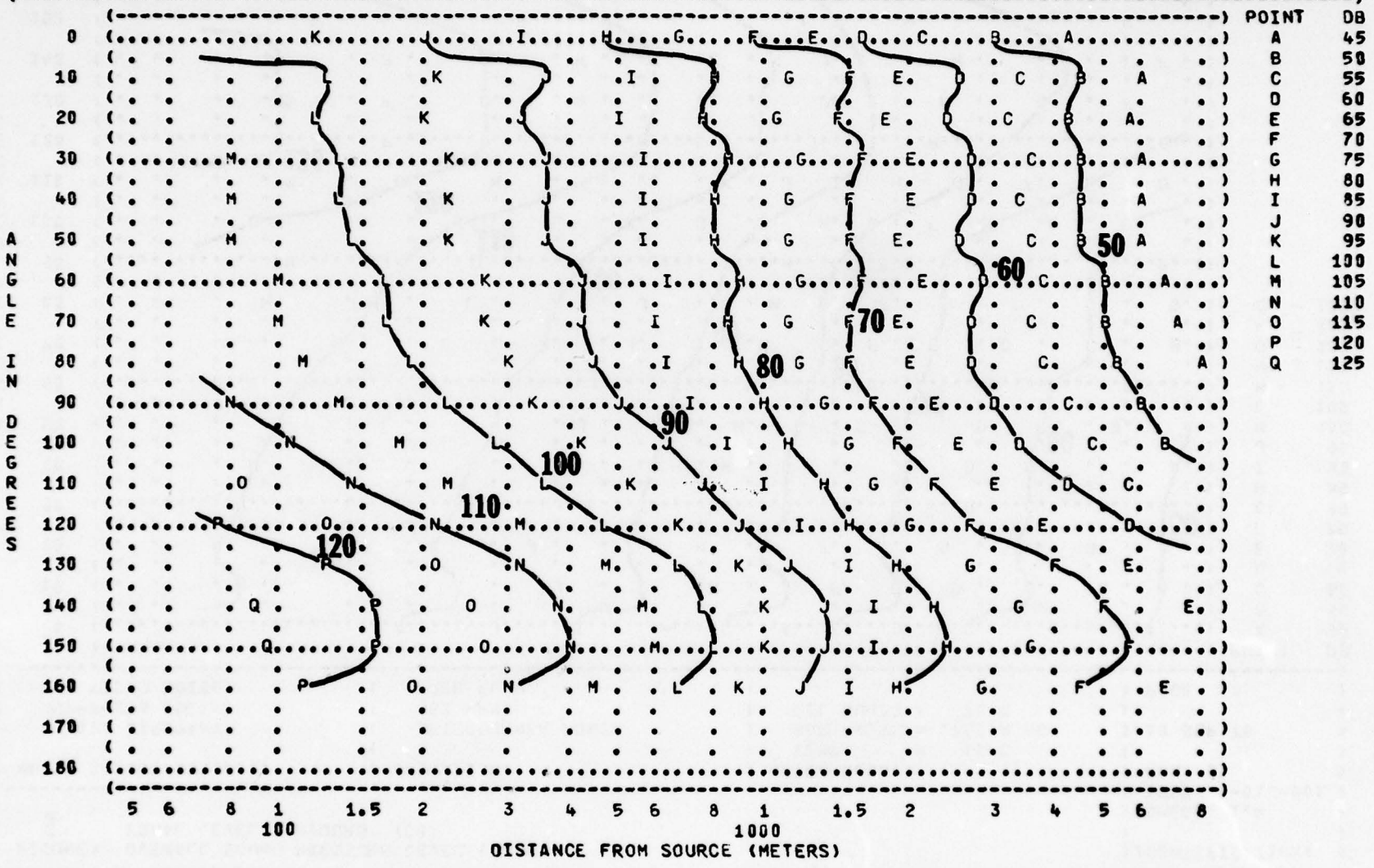
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
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
O	115
P	120
Q	125

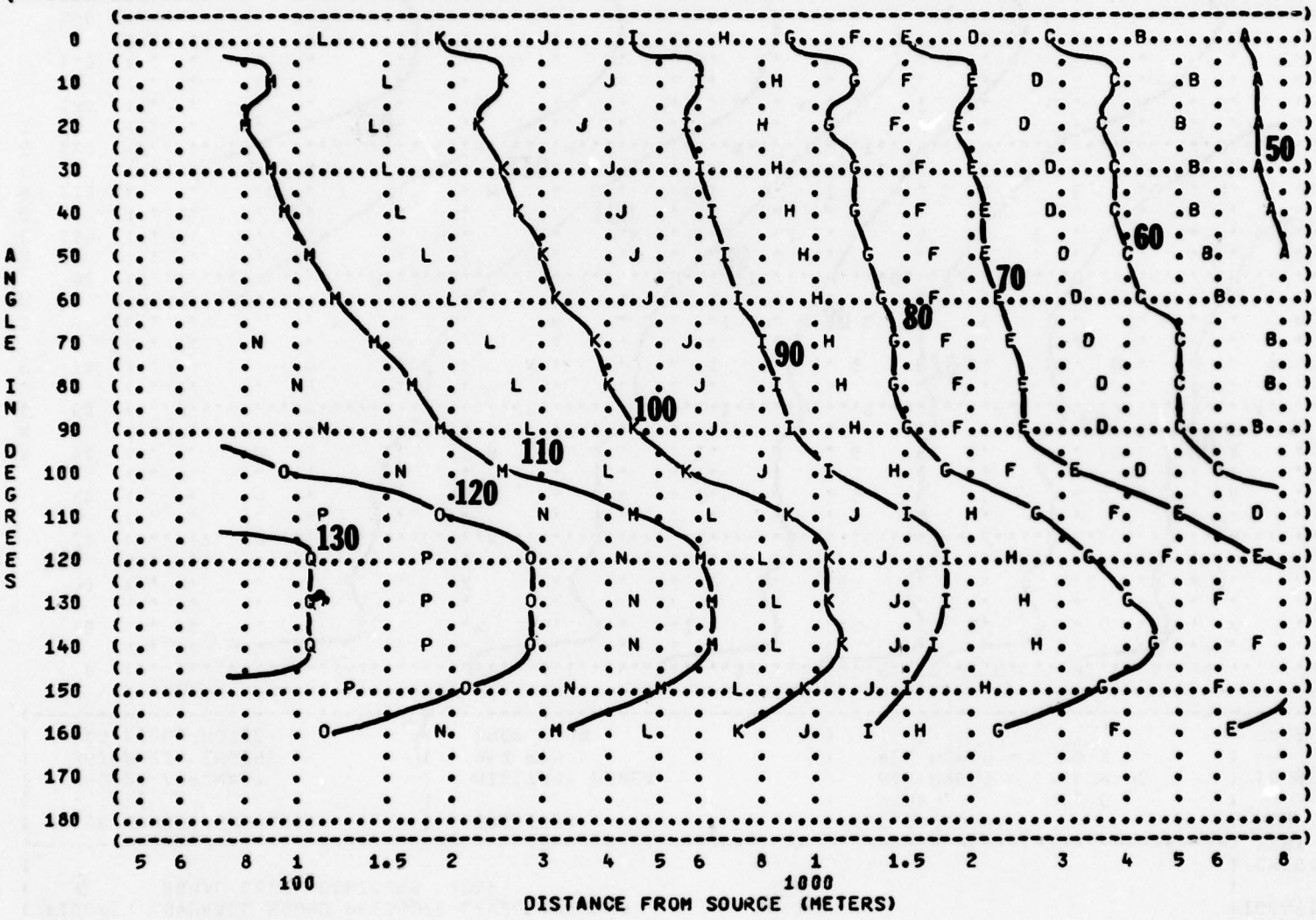
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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



POINT	DB
A	50
B	55
C	60
D	65
E	70
F	75
G	80
H	85
I	90
J	95
K	100
L	105
M	110
N	115
O	120
P	125
Q	130

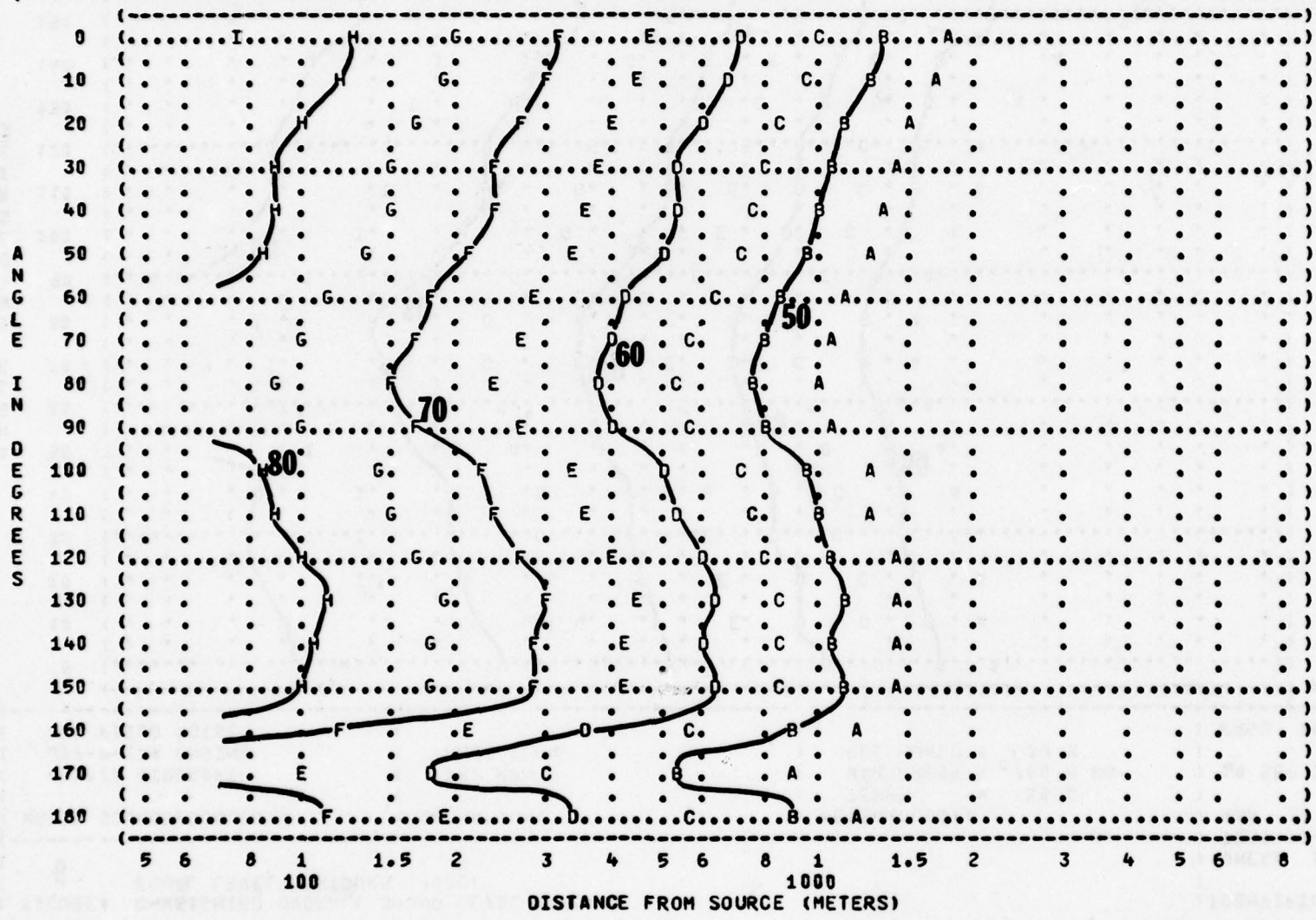
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

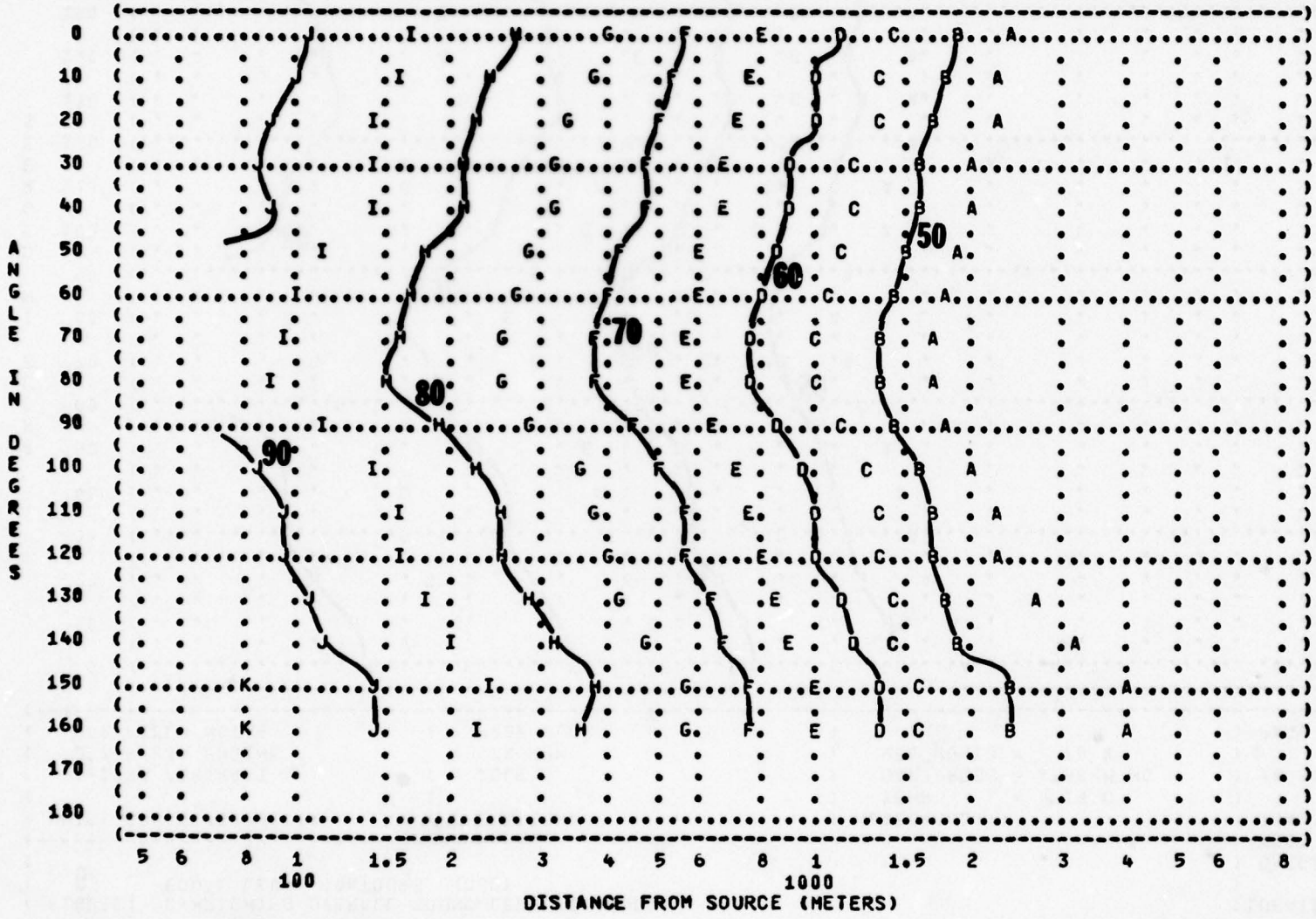
FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 14



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

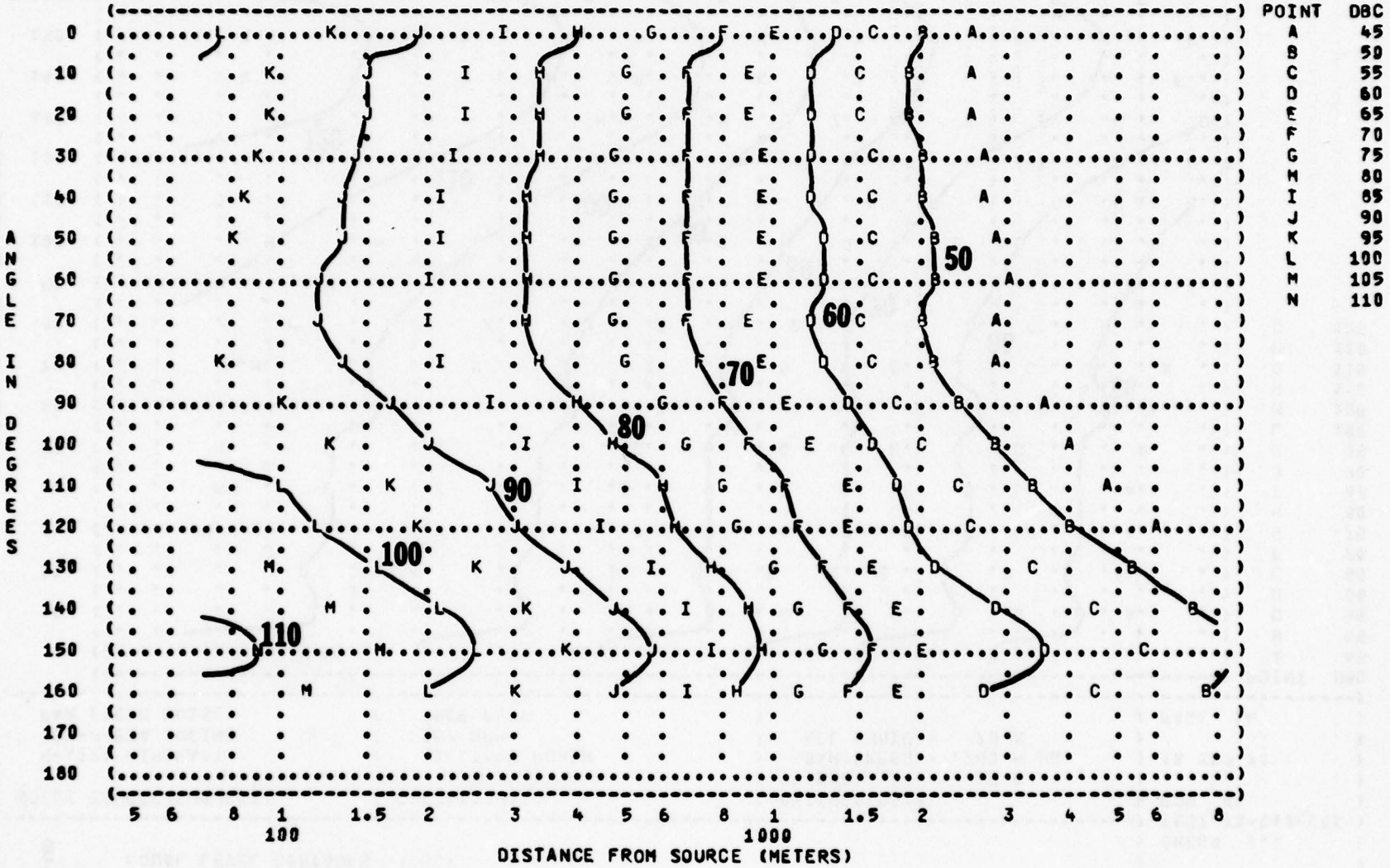
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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



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

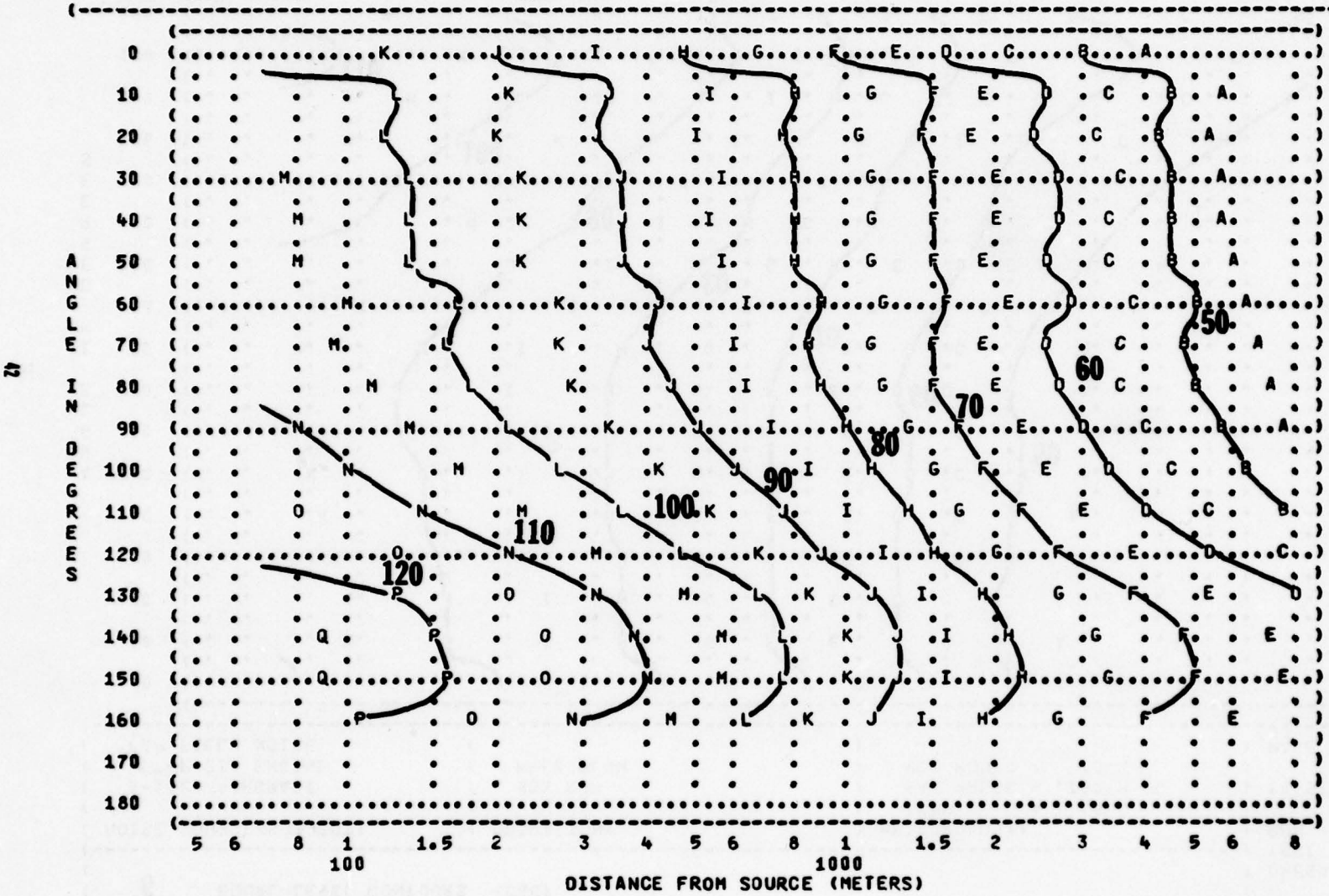
FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

POINT	DBC
A	50
B	55
C	60
D	65
E	70
F	75
G	80
H	85
I	90
J	95
K	100
L	105
M	110
N	115
O	120
P	125
Q	130

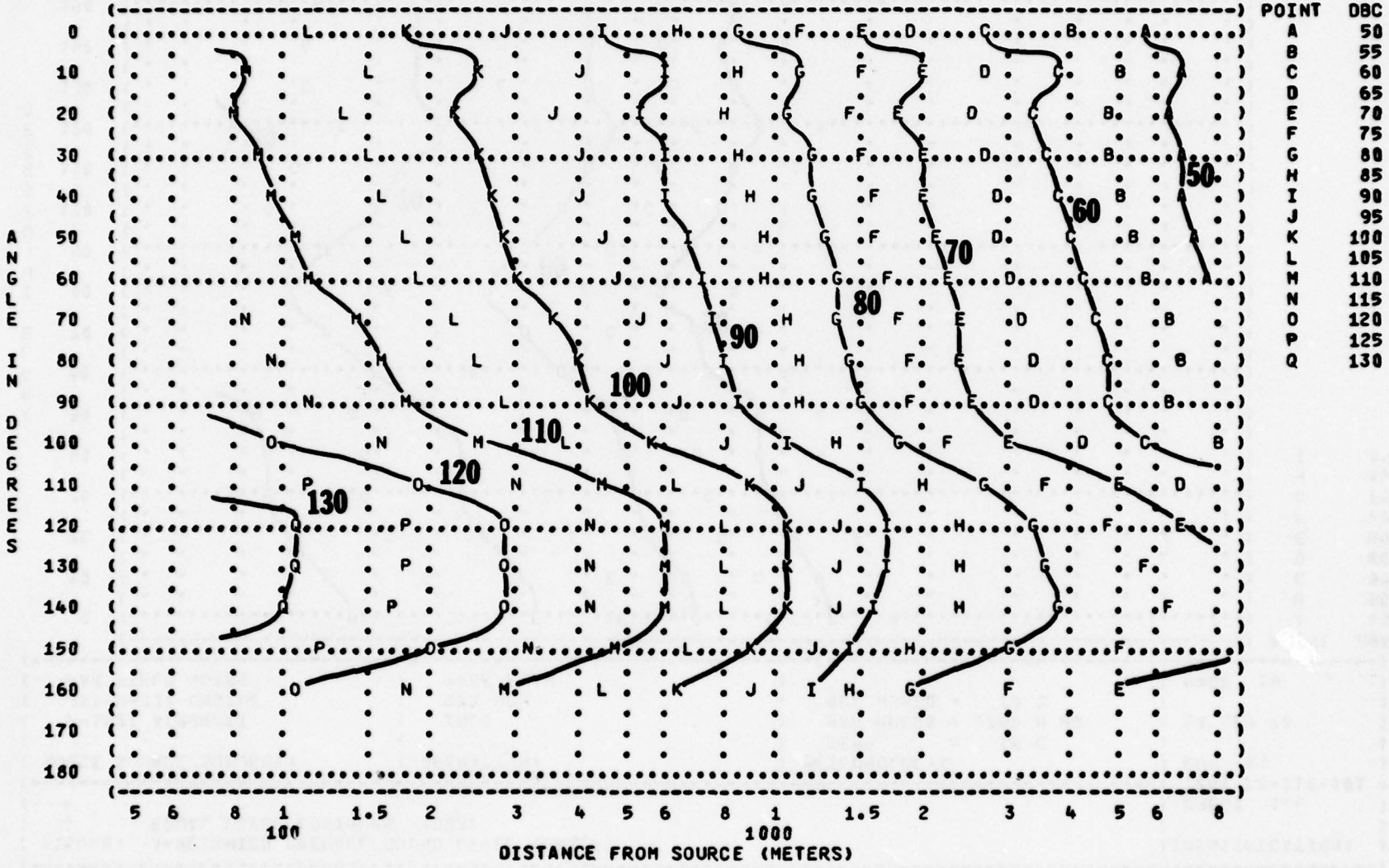


FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

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

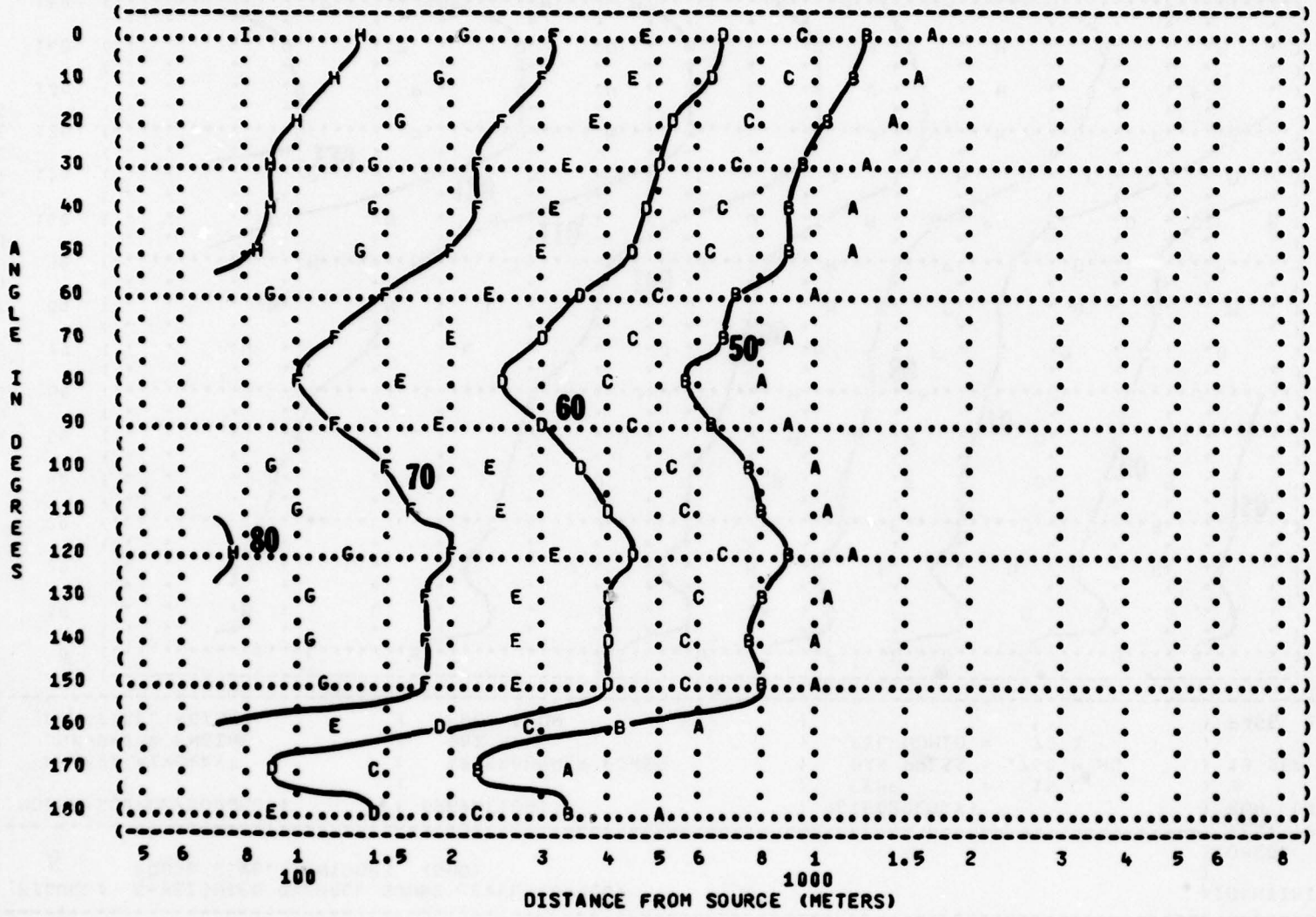


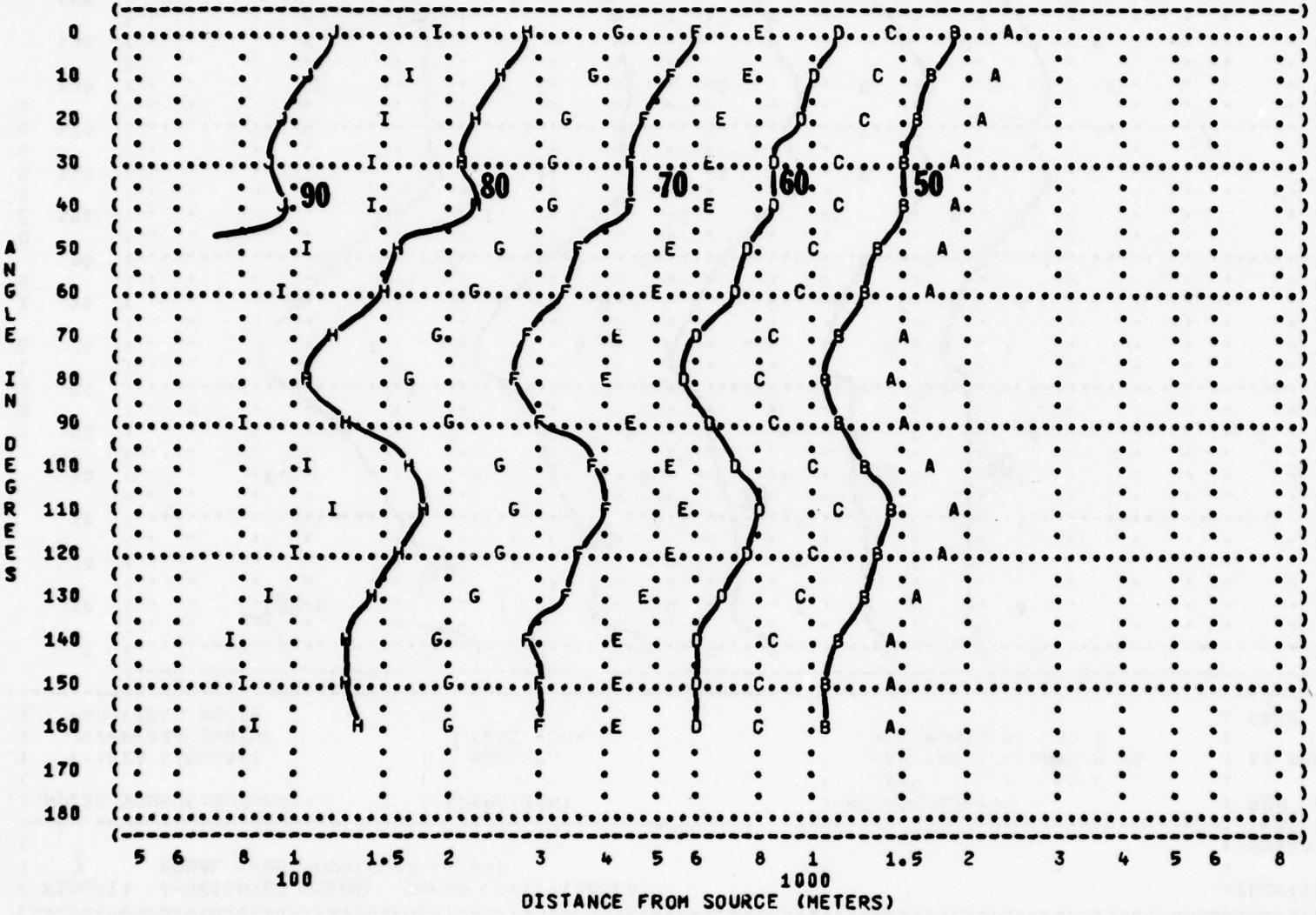
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-C12-001
RUN 02
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
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

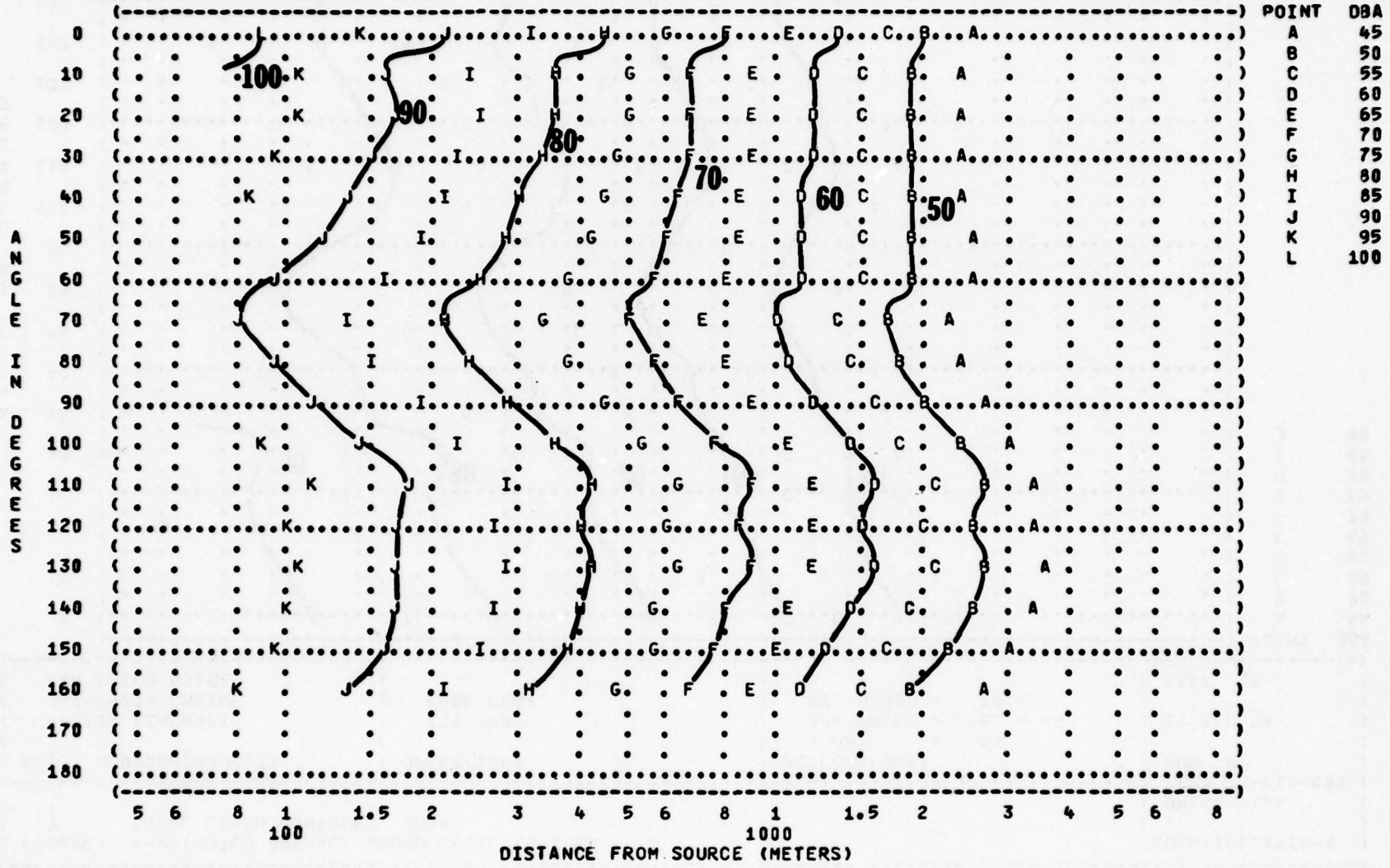
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
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 78-012-001
RUN 04
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115

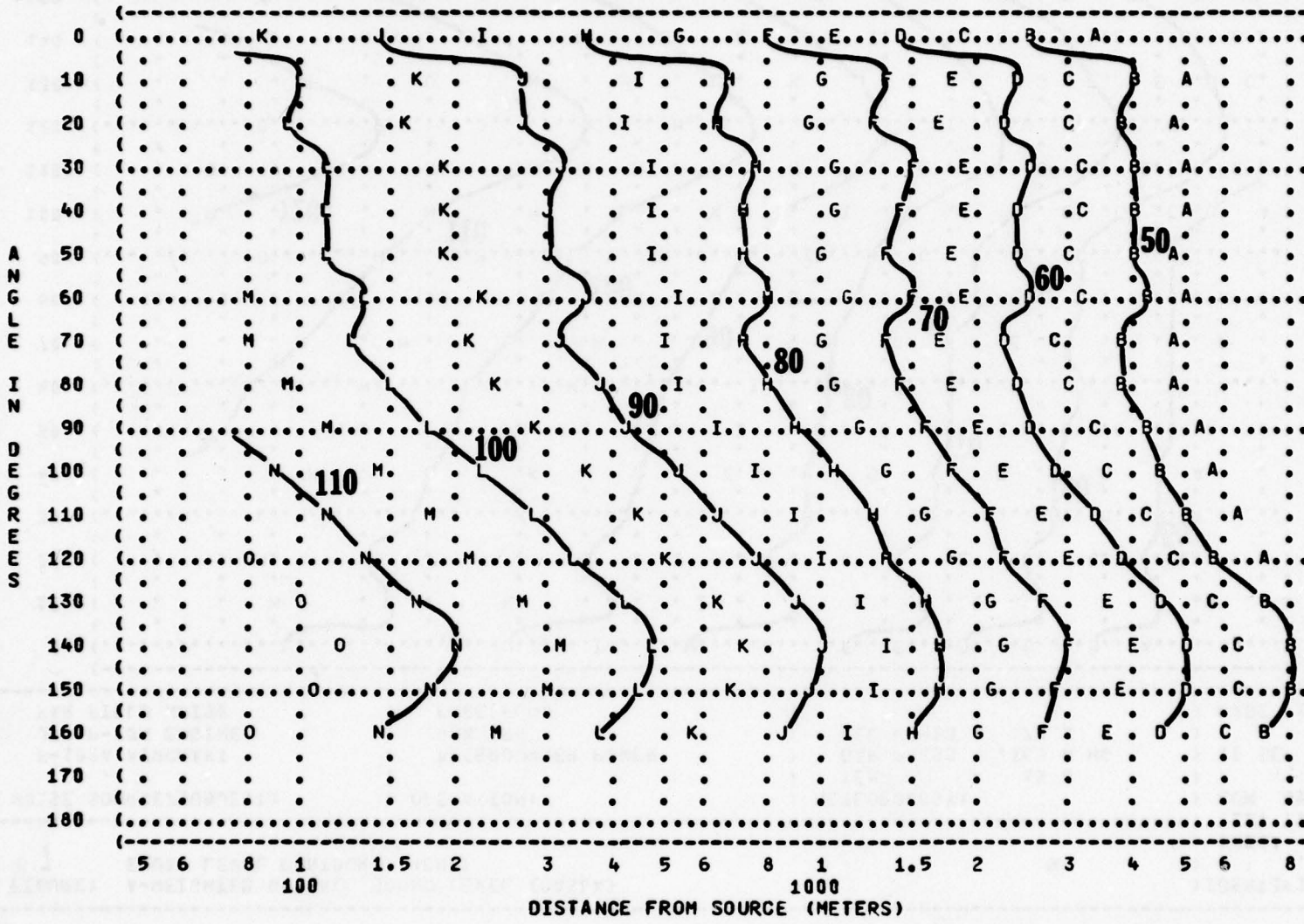


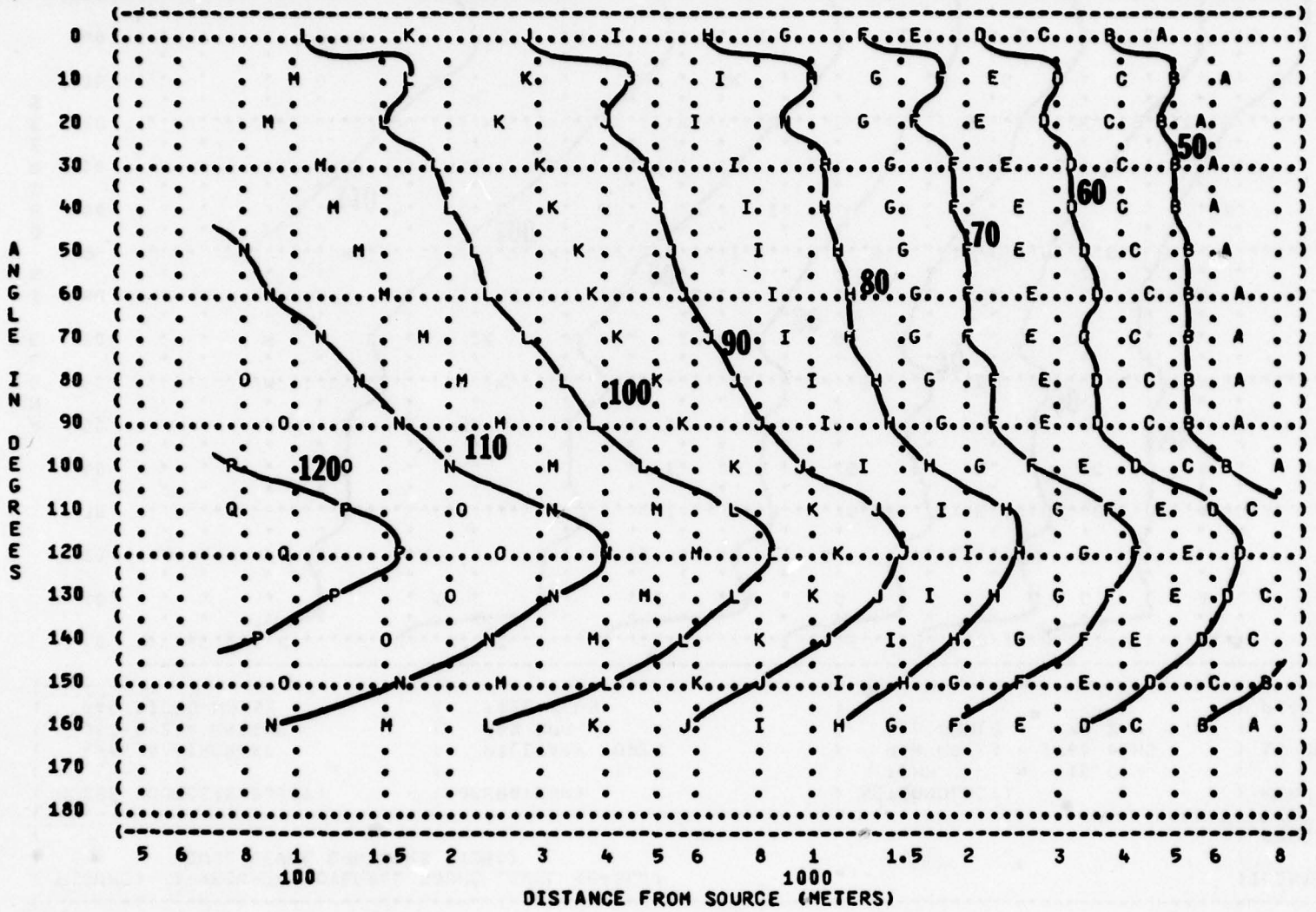
FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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



POINT	OBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115
P	120
Q	125

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

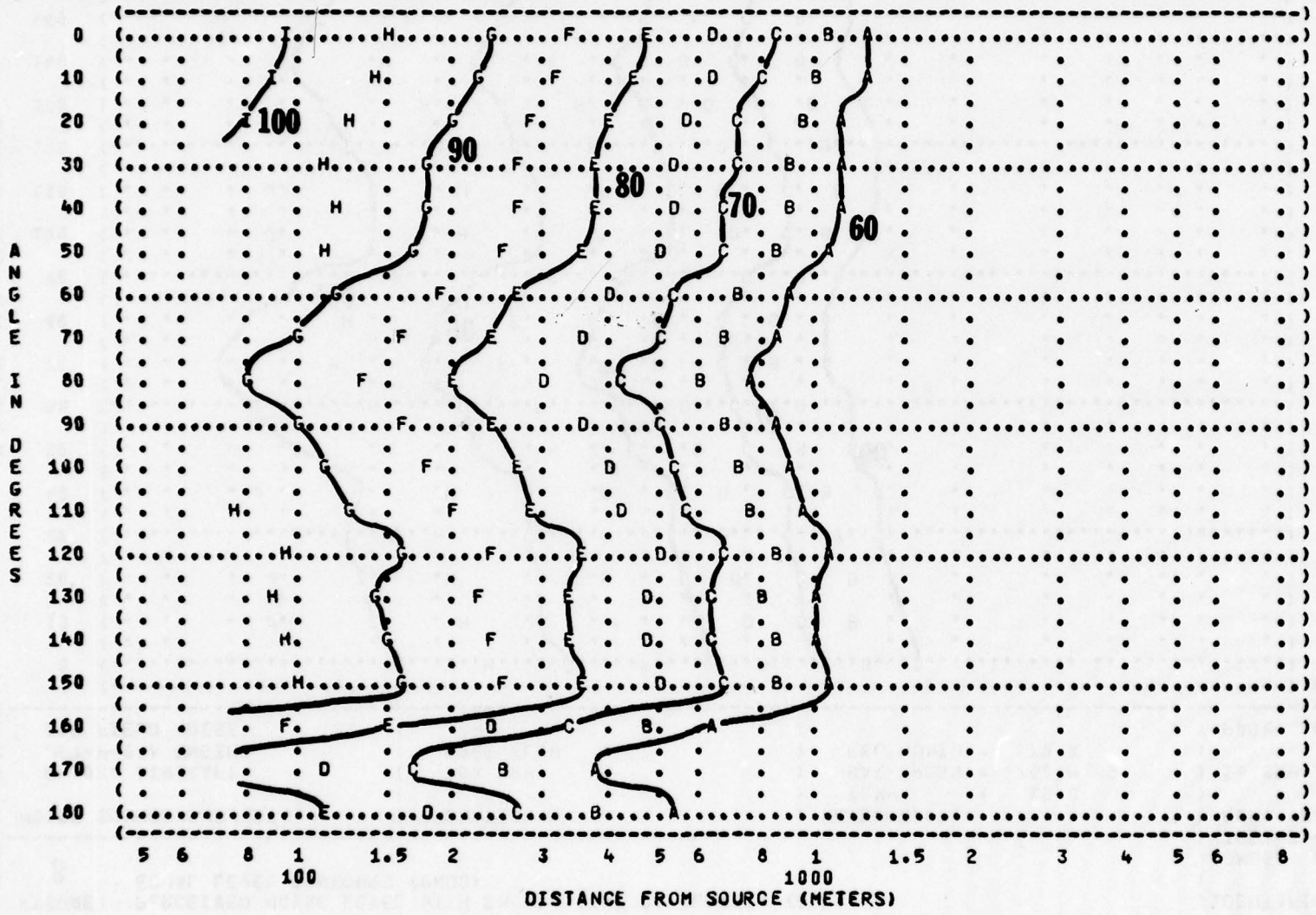


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
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

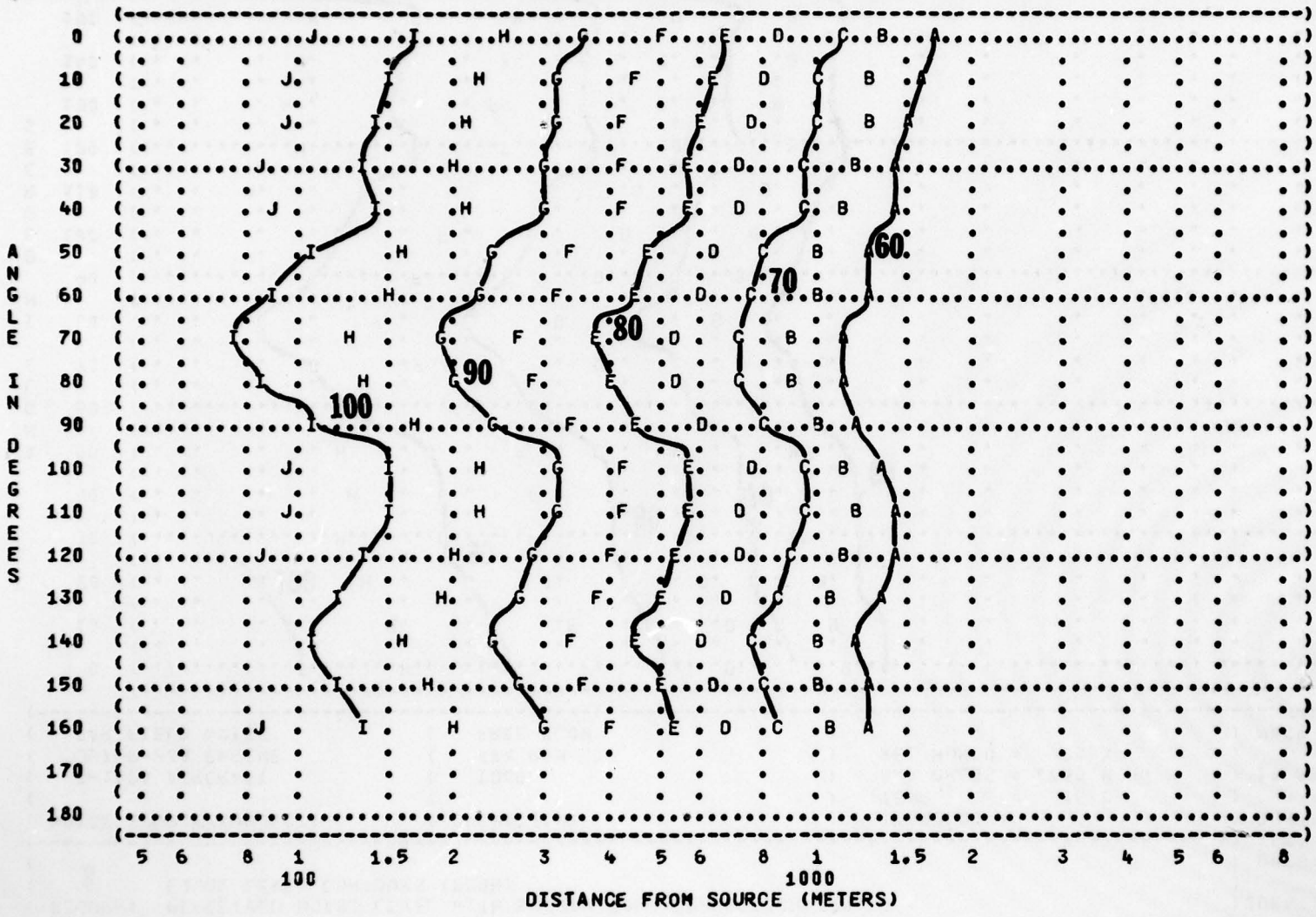


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
24 JAN 79
PAGE 16

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

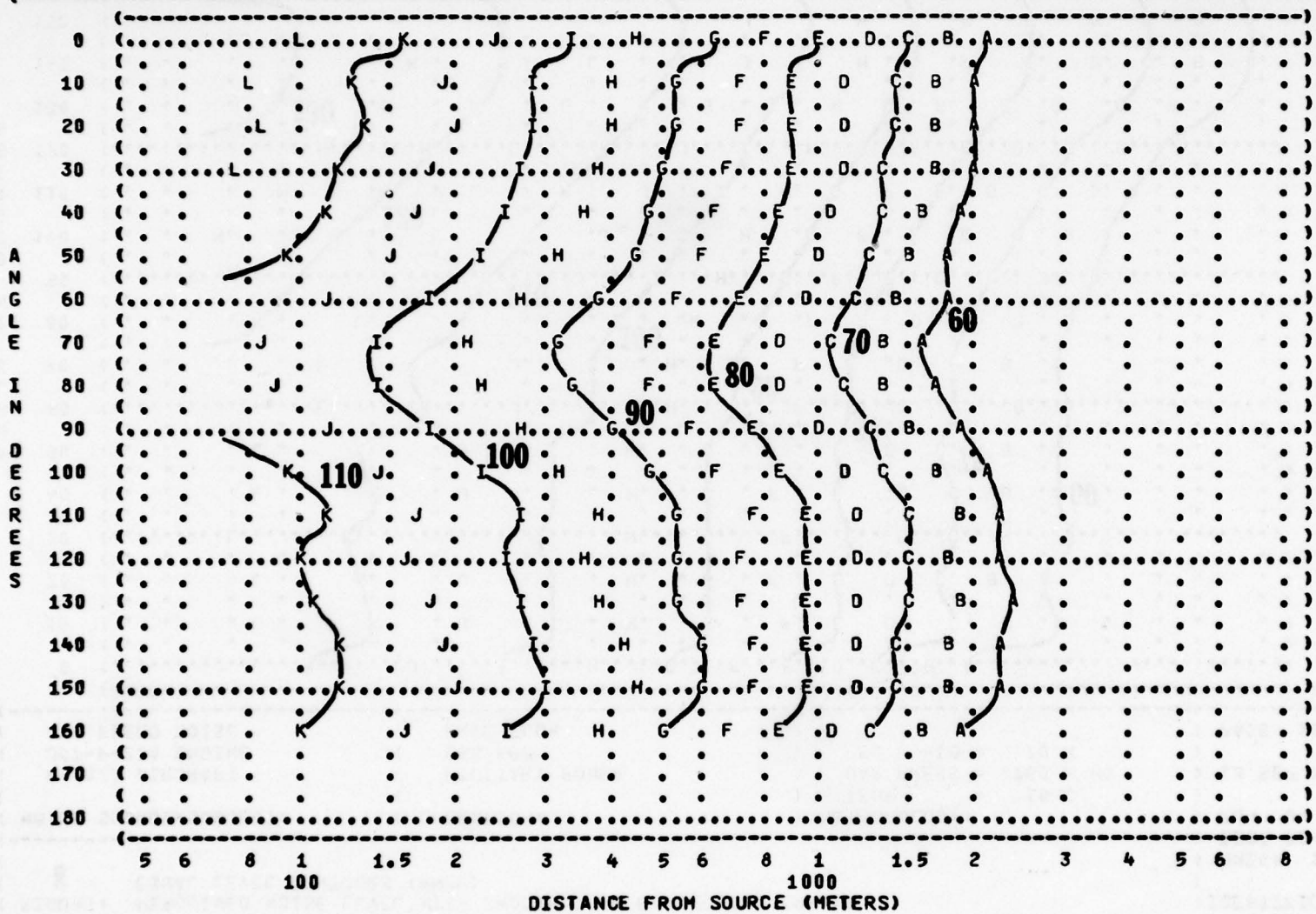


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
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
N	125
O	130

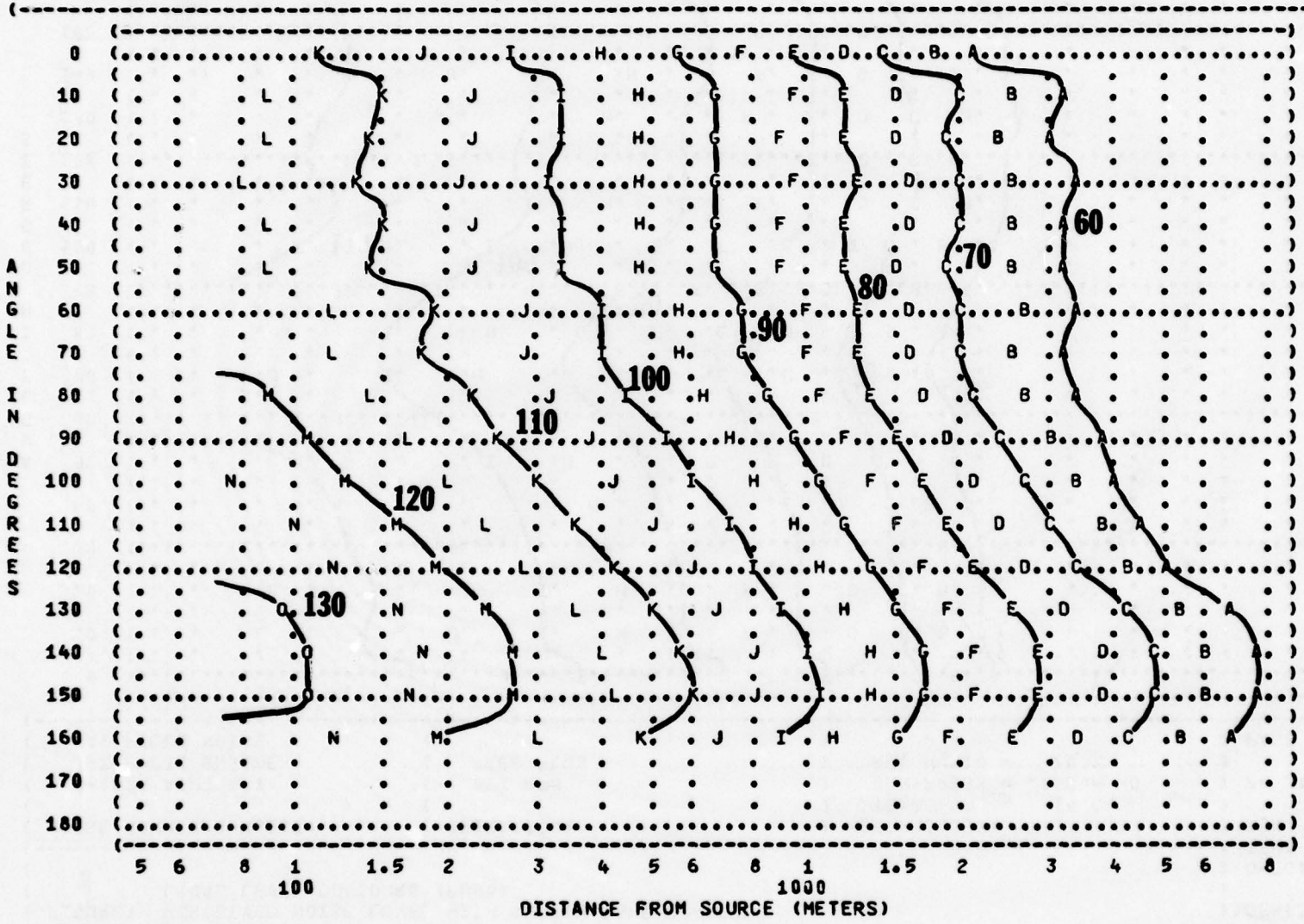


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
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
N	125
O	130
P	135
Q	140

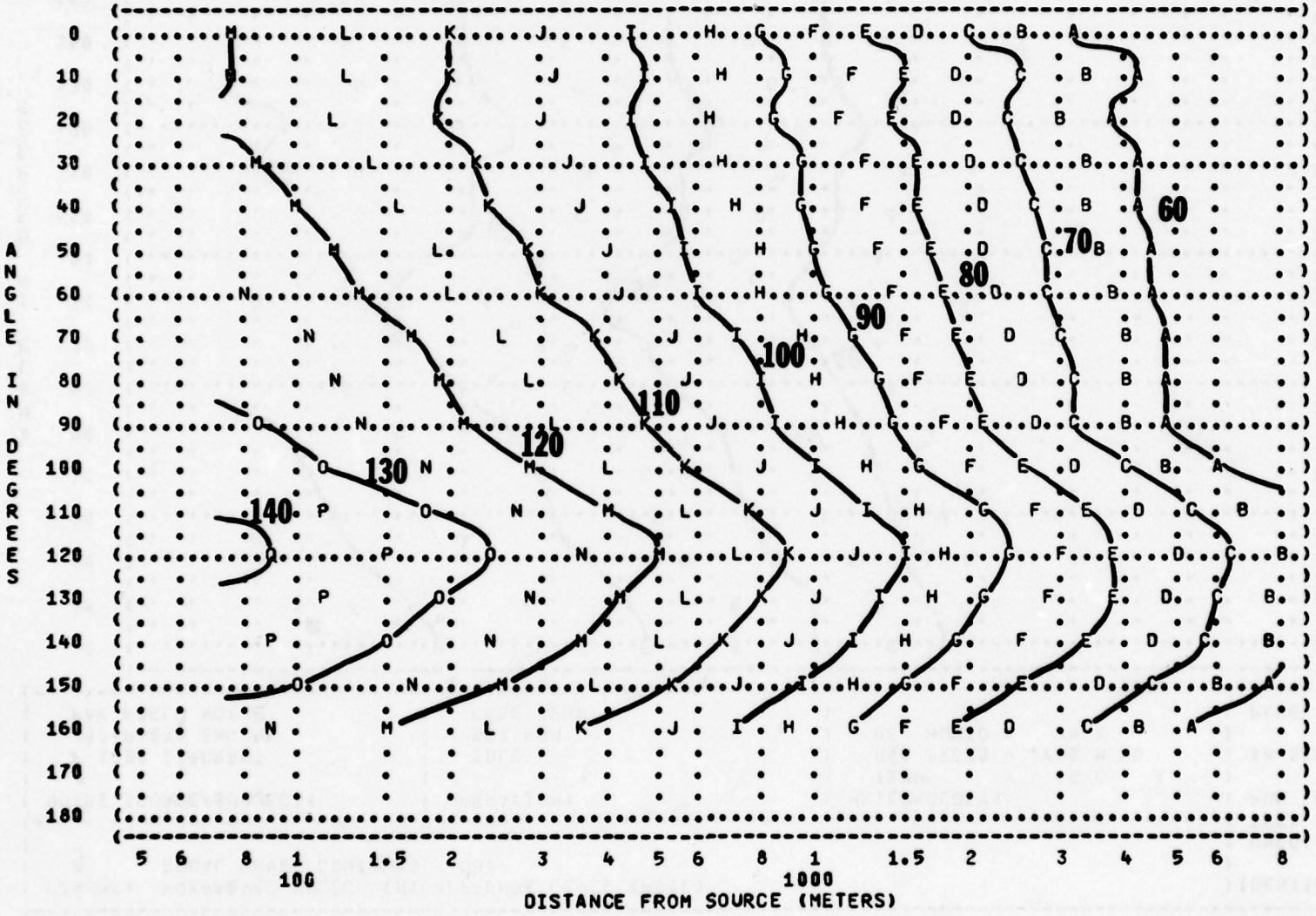


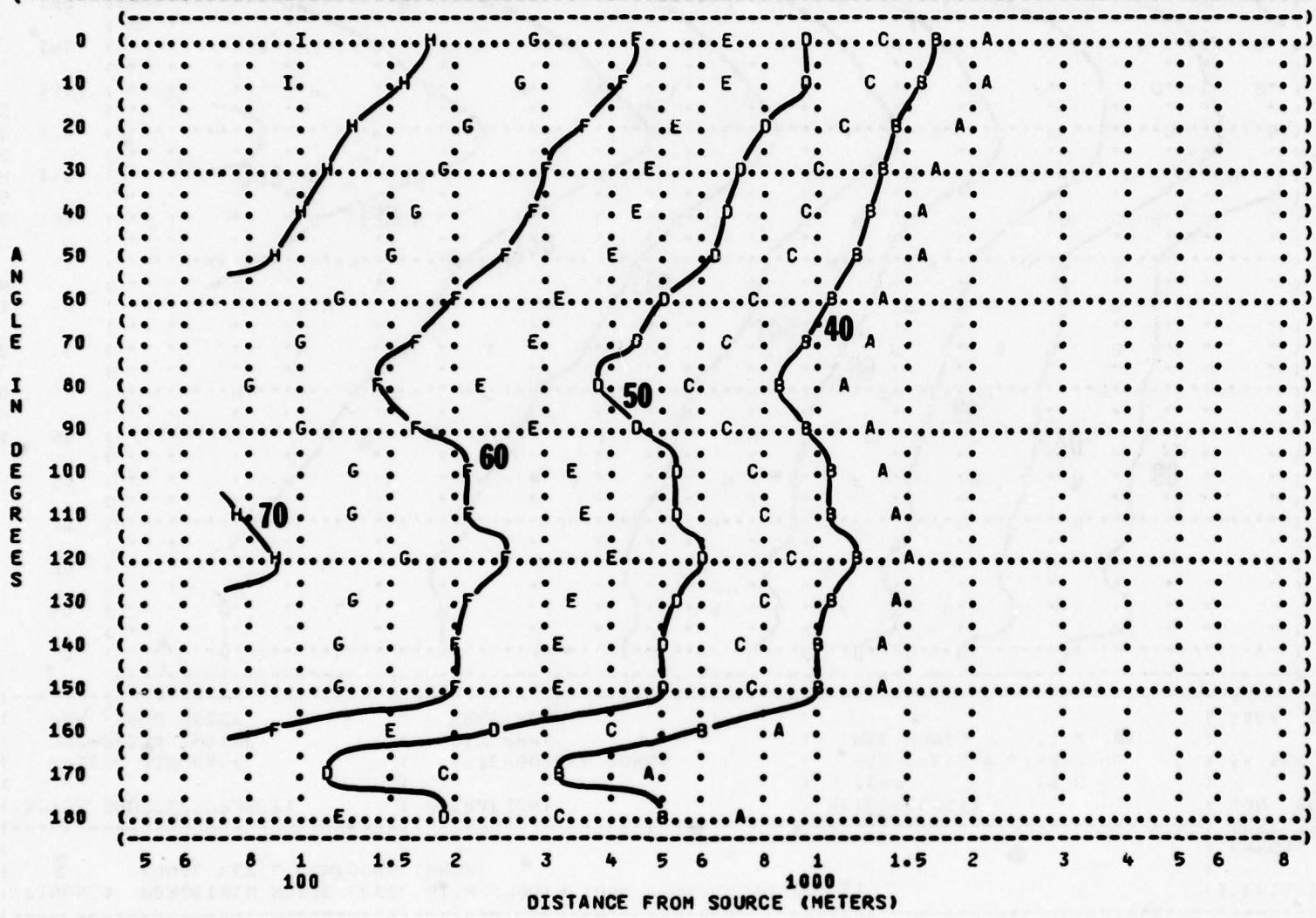
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

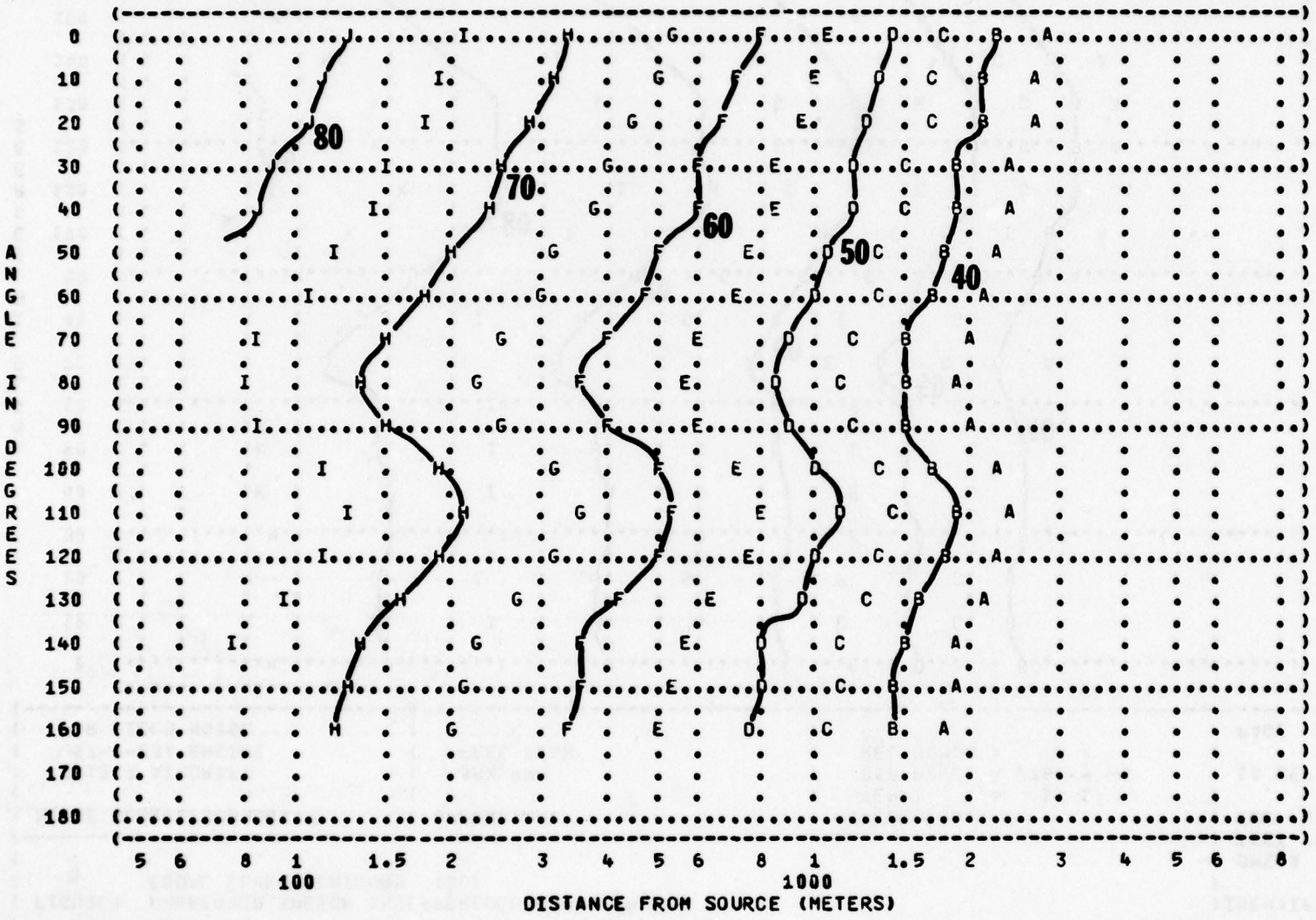
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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



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

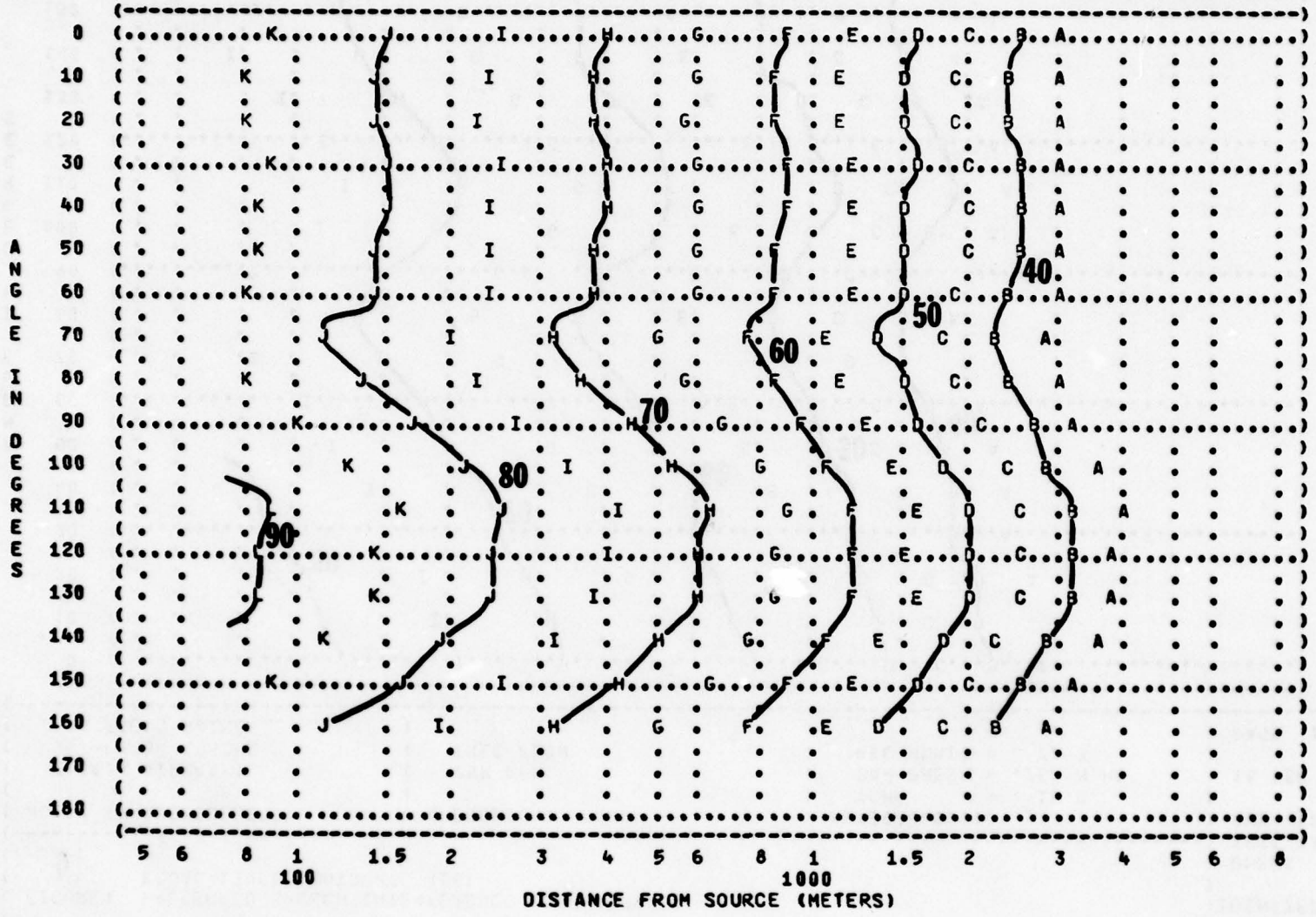
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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



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

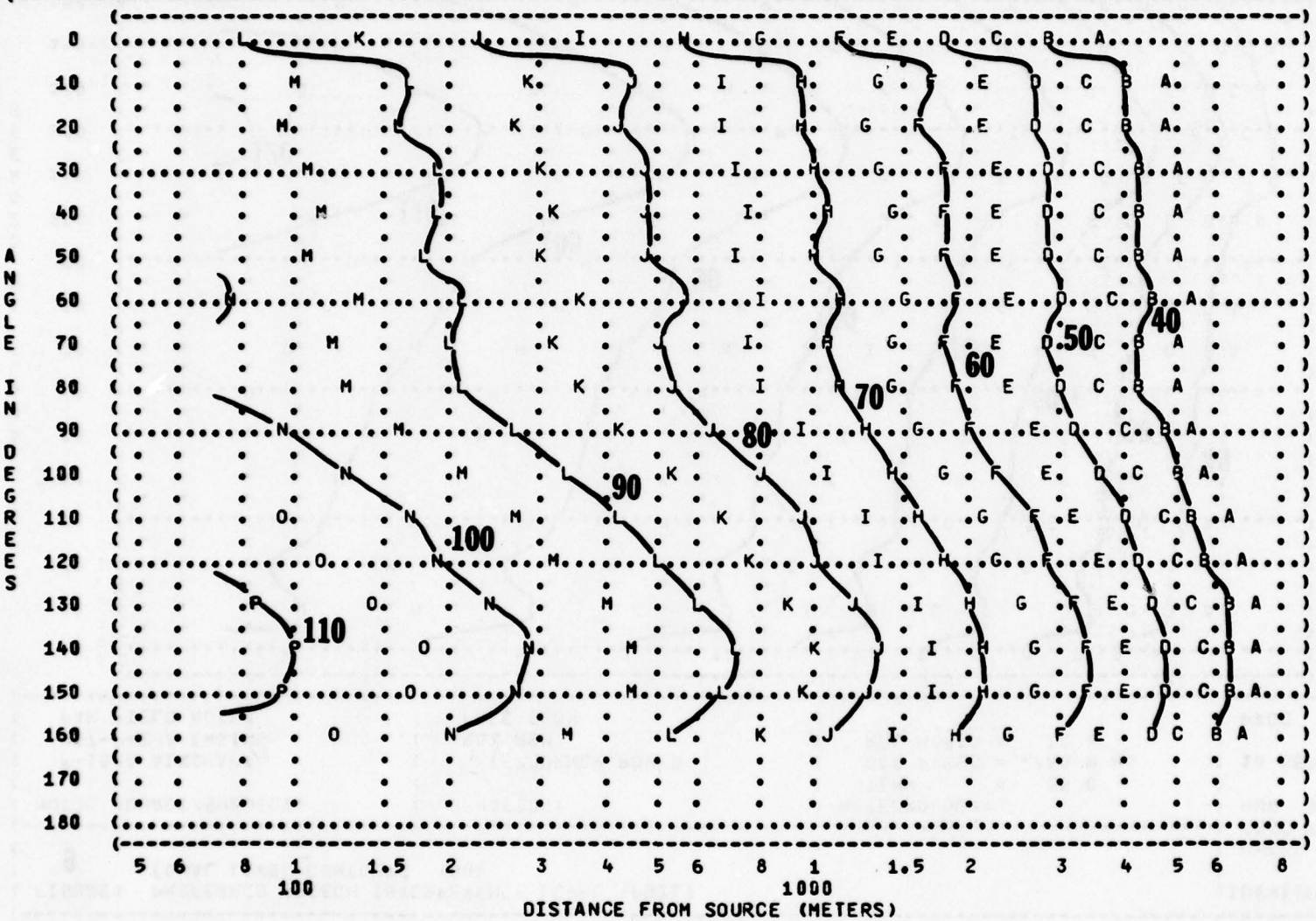
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
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
P	110

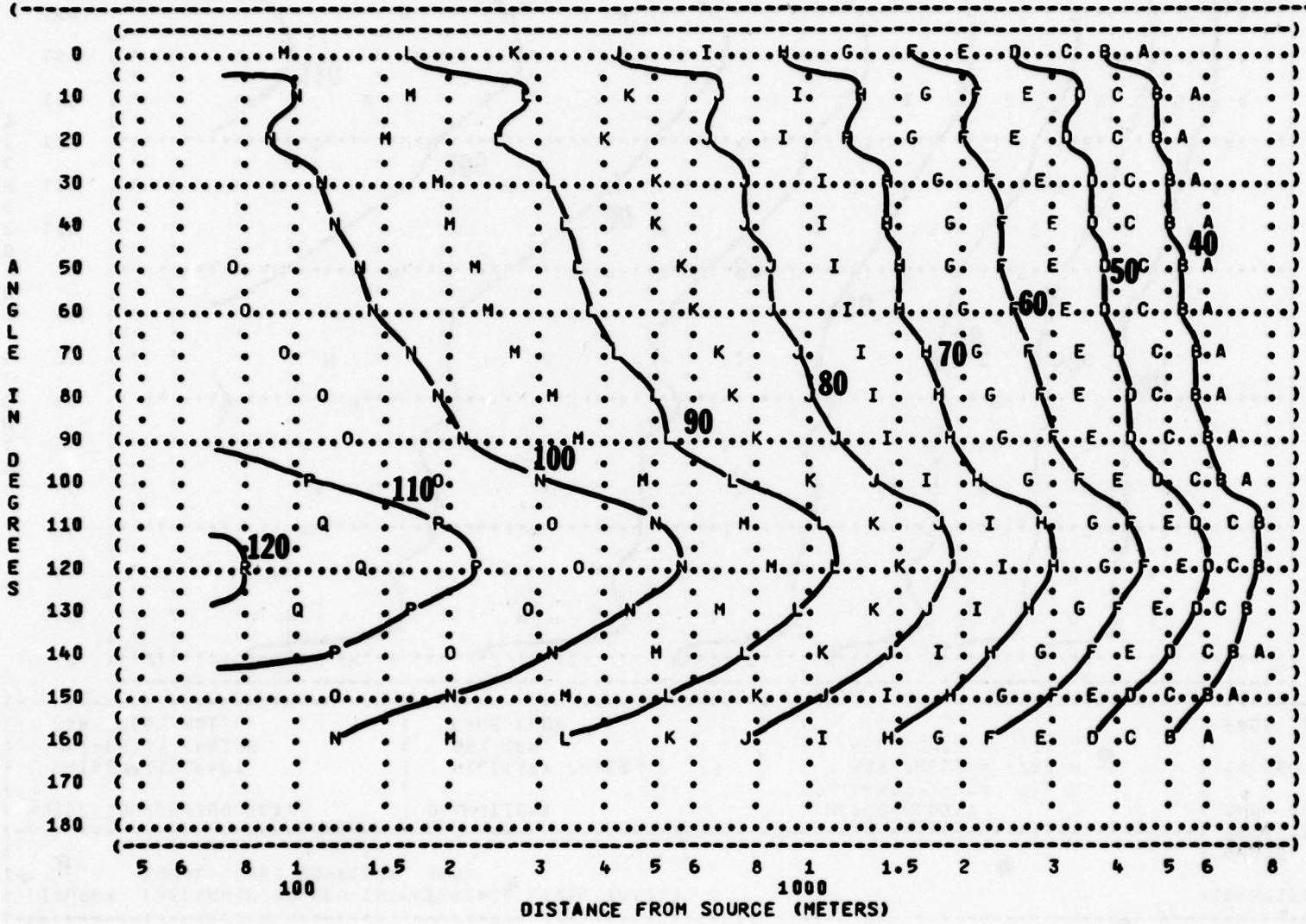
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
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
P	110
Q	115
R	120

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 78-012-001
RUN 01
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

POINT	MIN
A	960
B	480

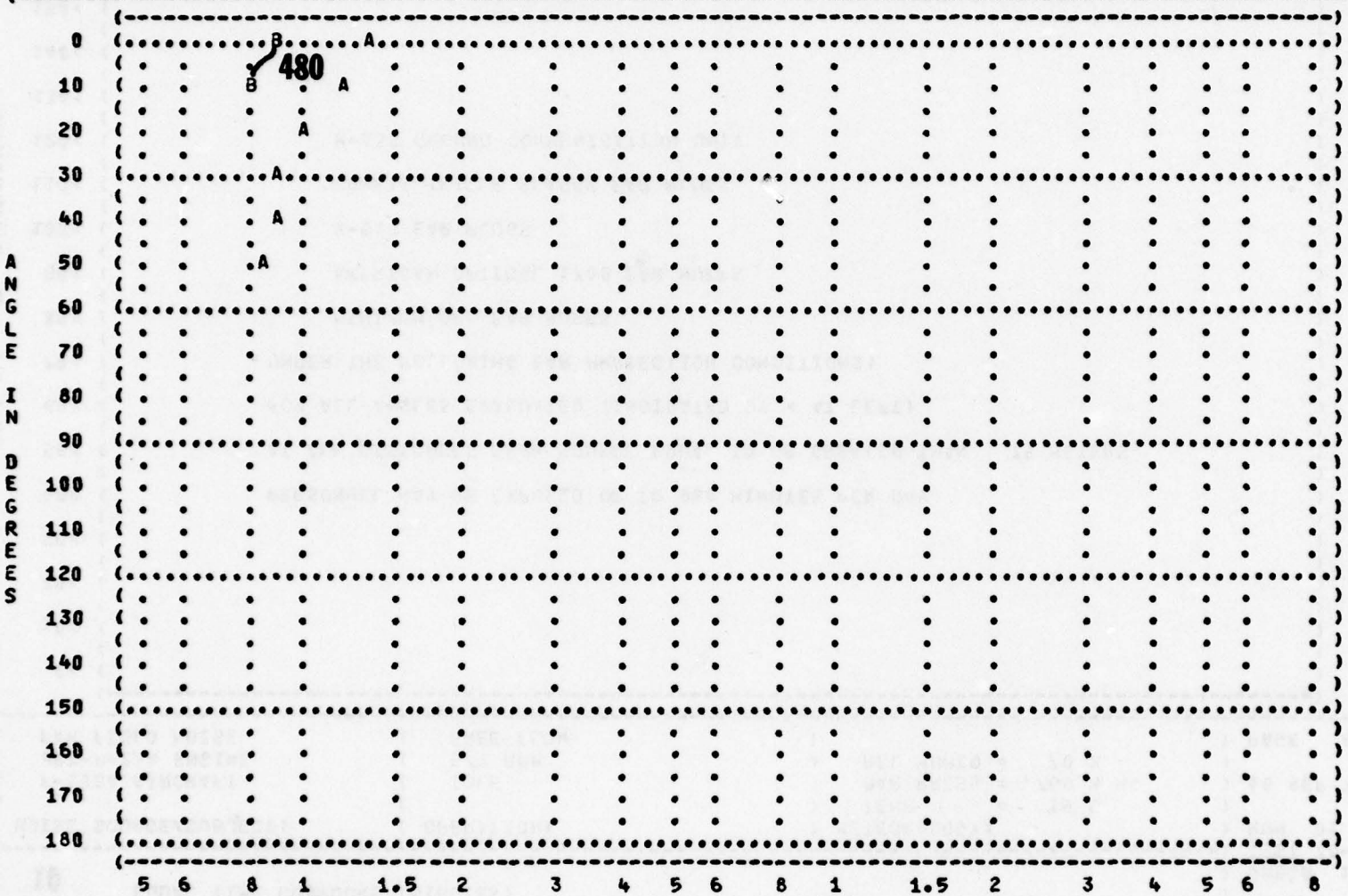


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

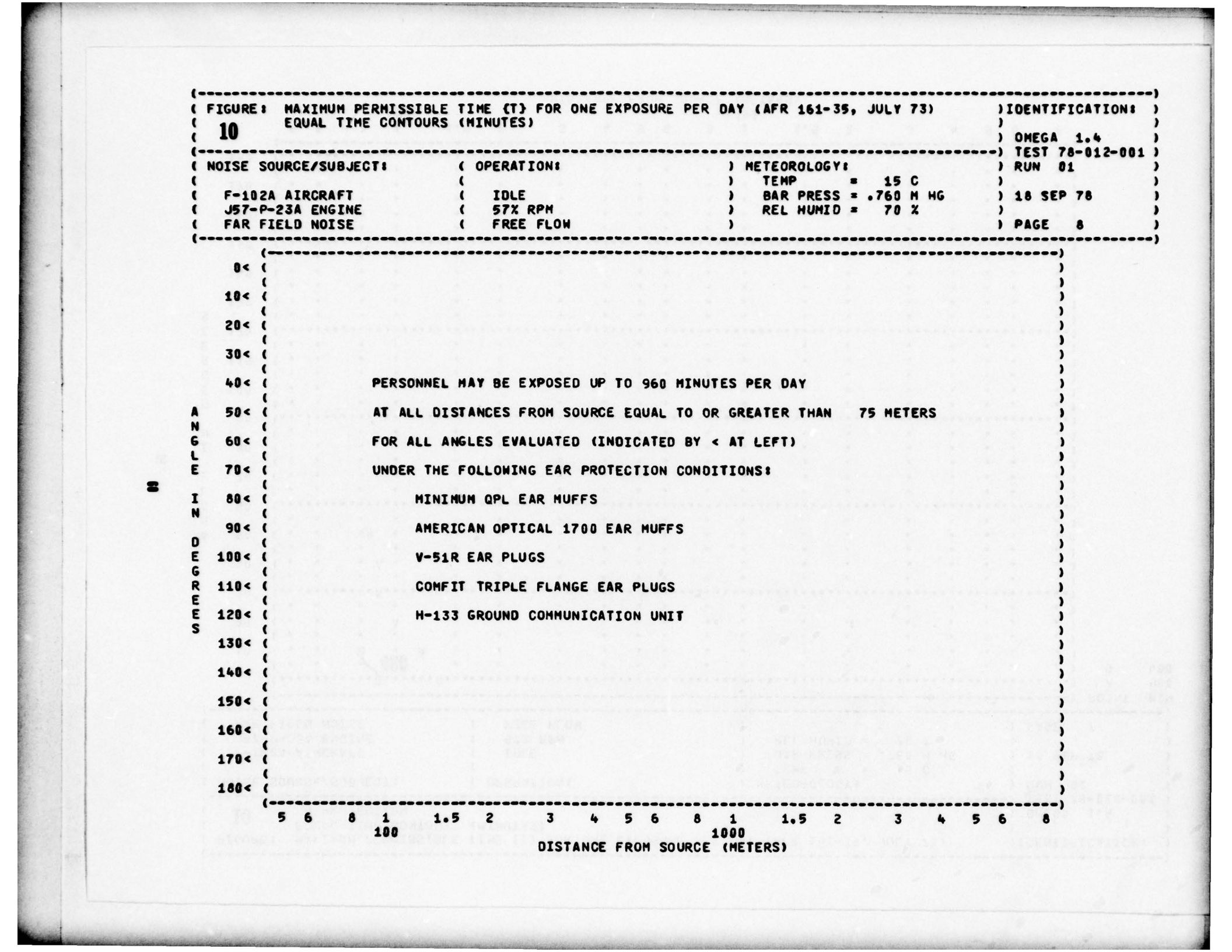


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
ONEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 7

POINT	MIN
A	960
B	480
C	240
D	120

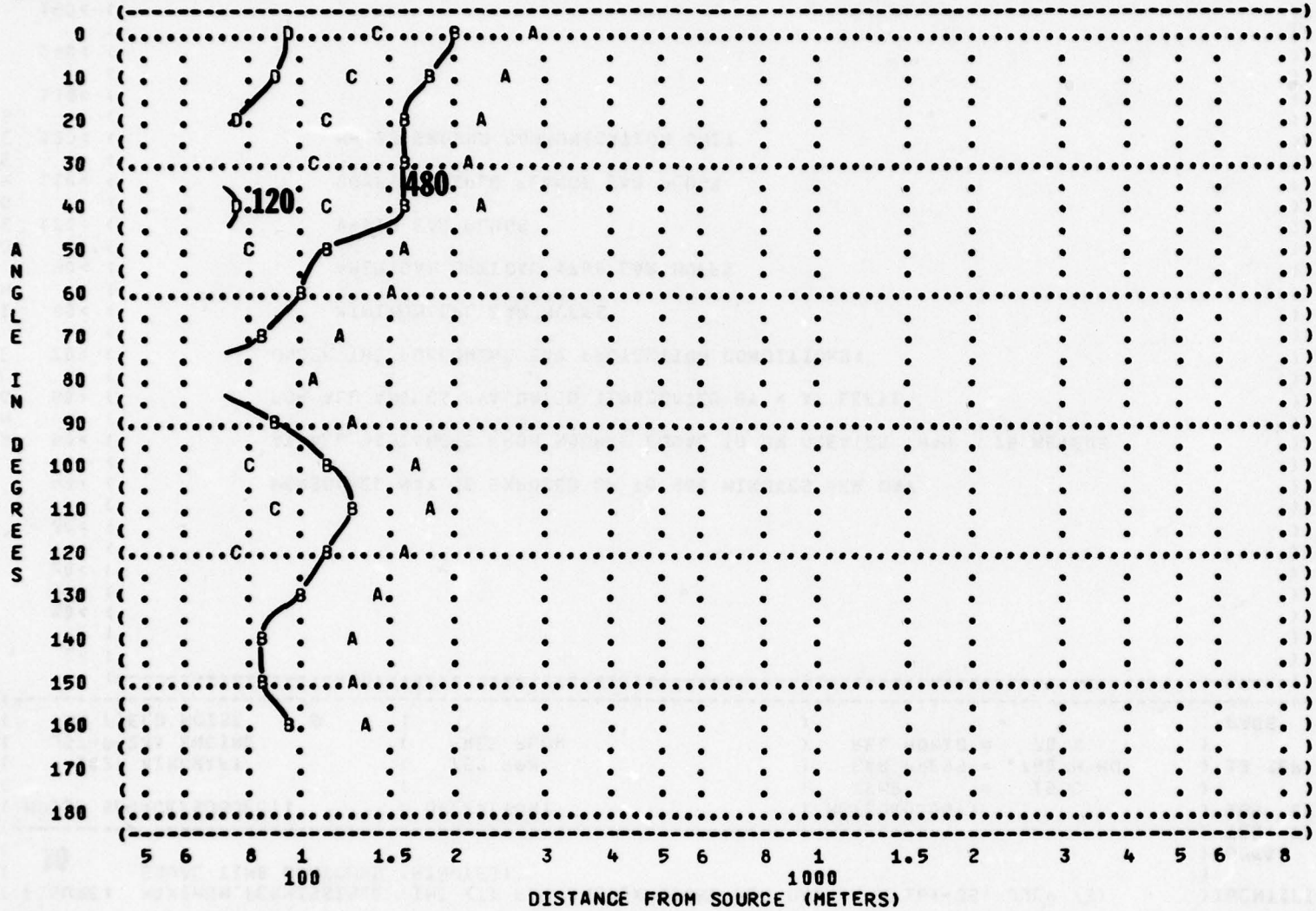


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

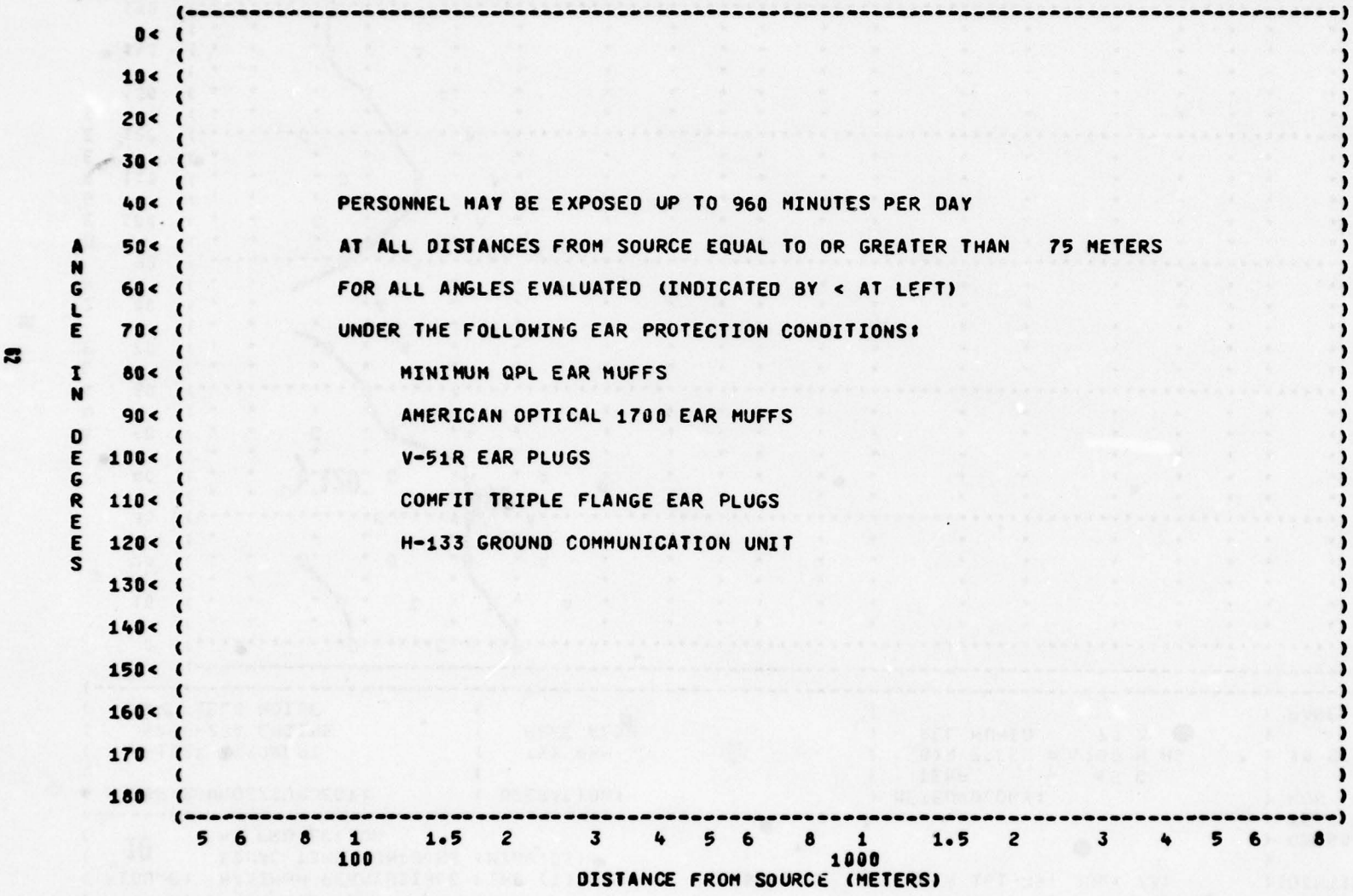


FIGURE: 10

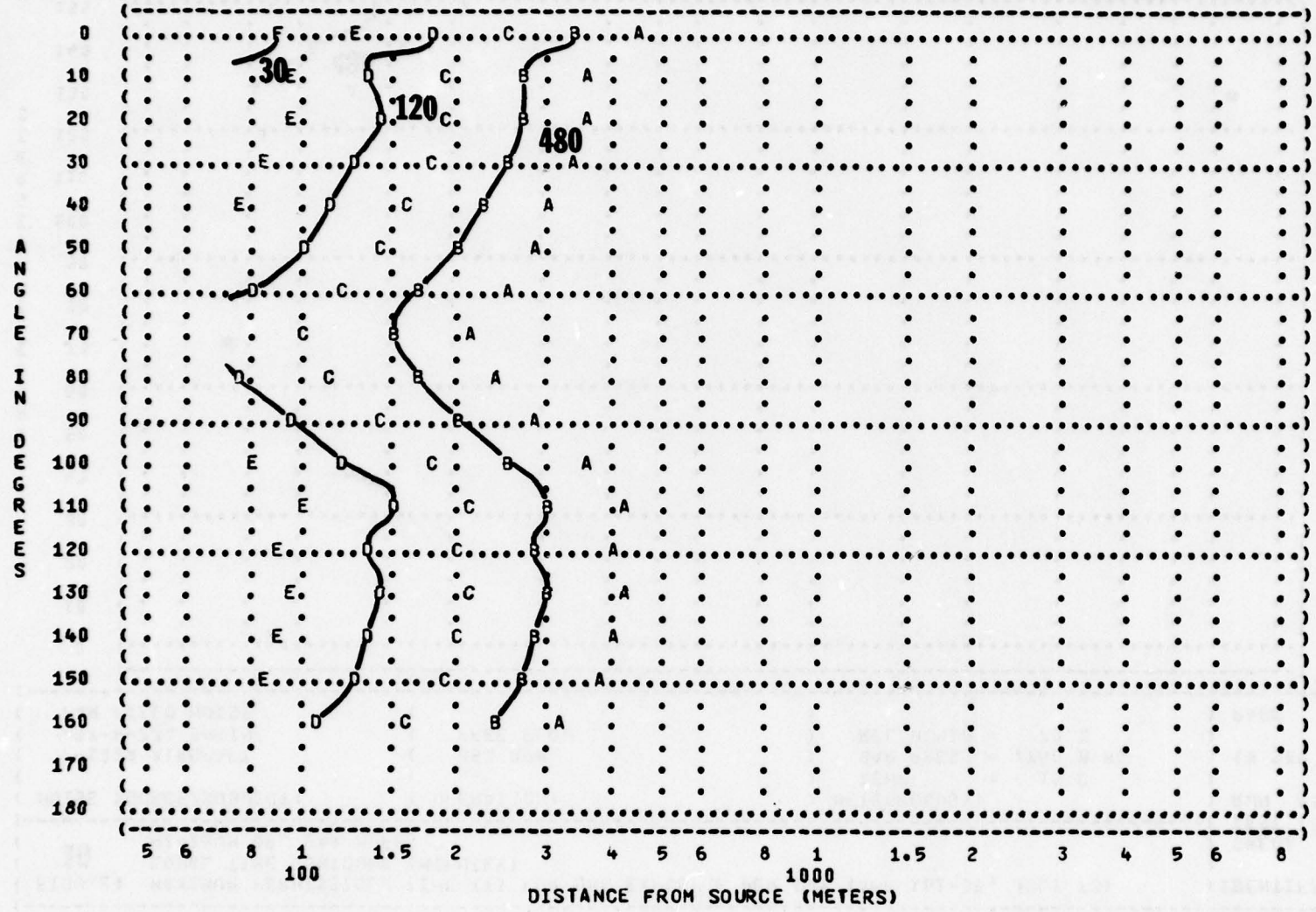
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
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:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 8

POINT	MIN
A	960
B	480
C	240

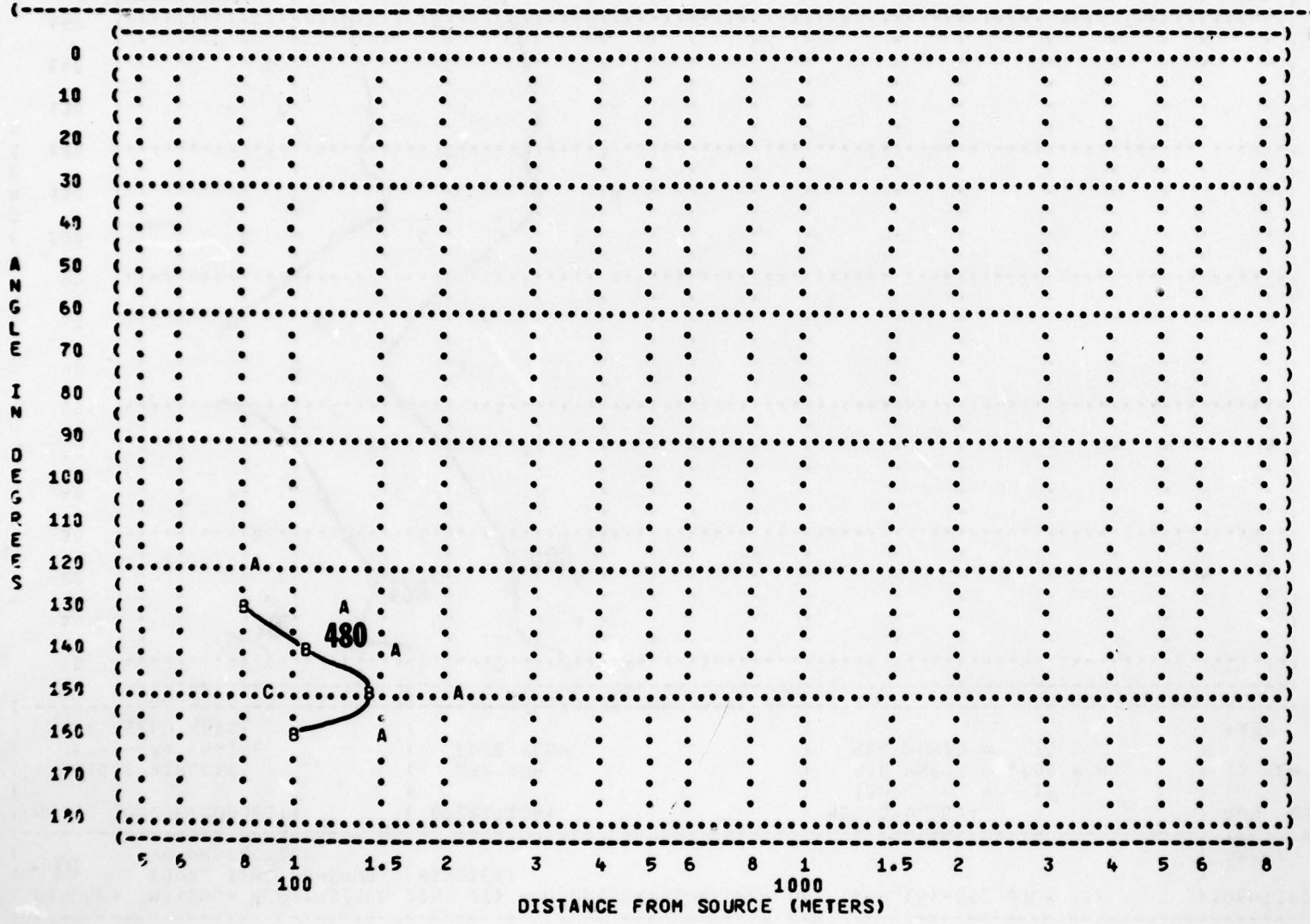


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 9

POINT	MIN
A	960
B	480

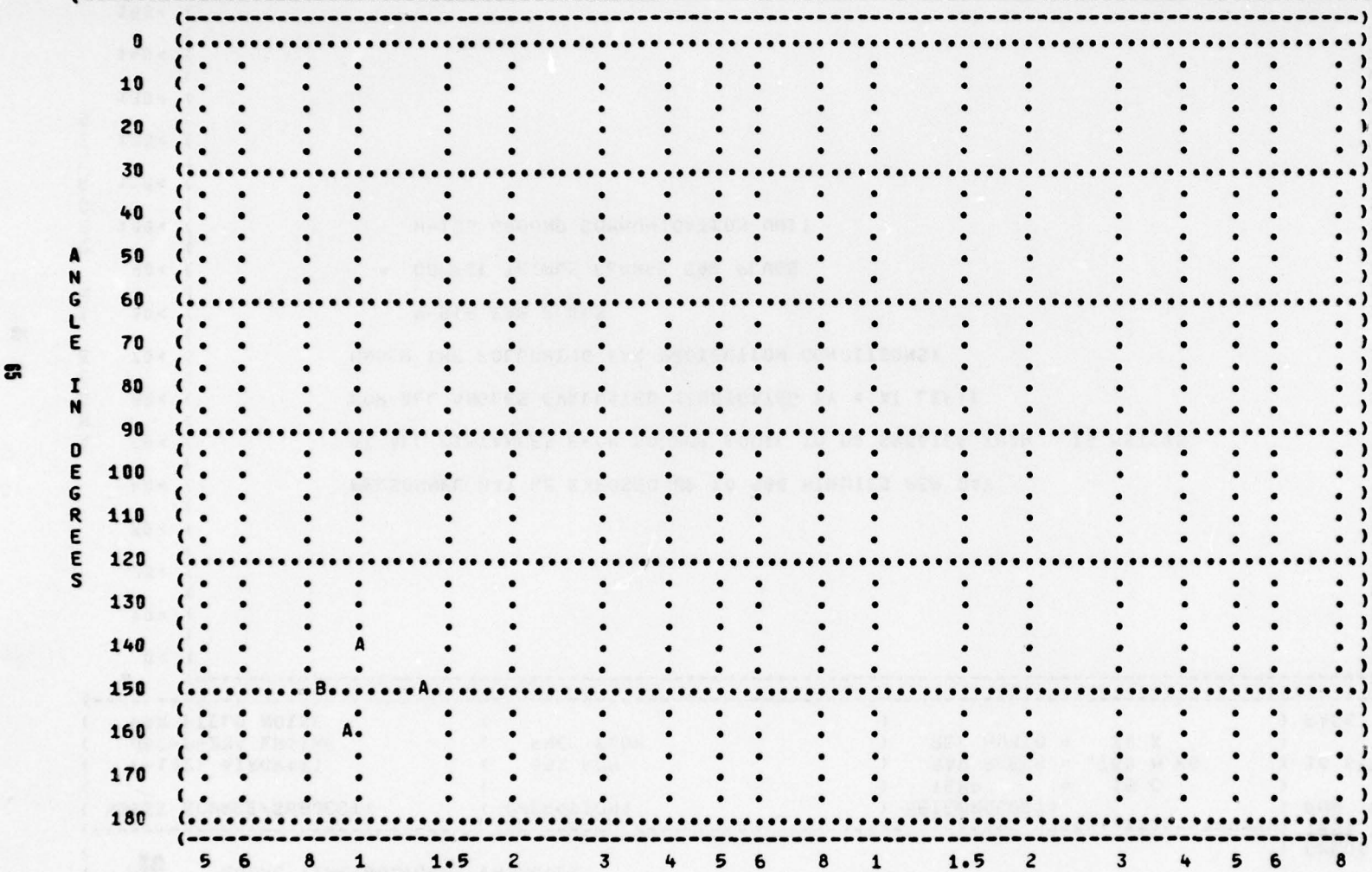


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 10

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

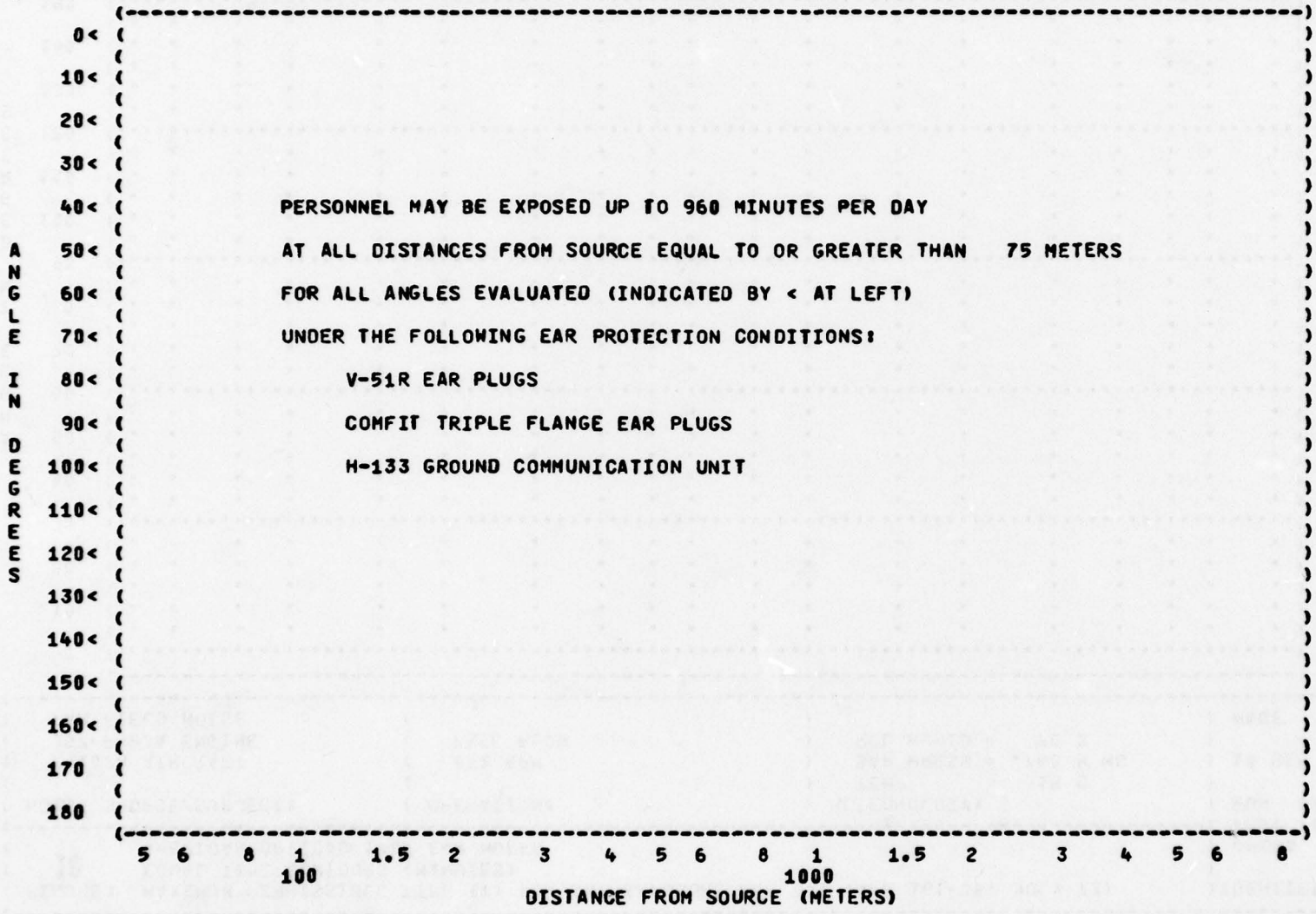


FIGURE: 10

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

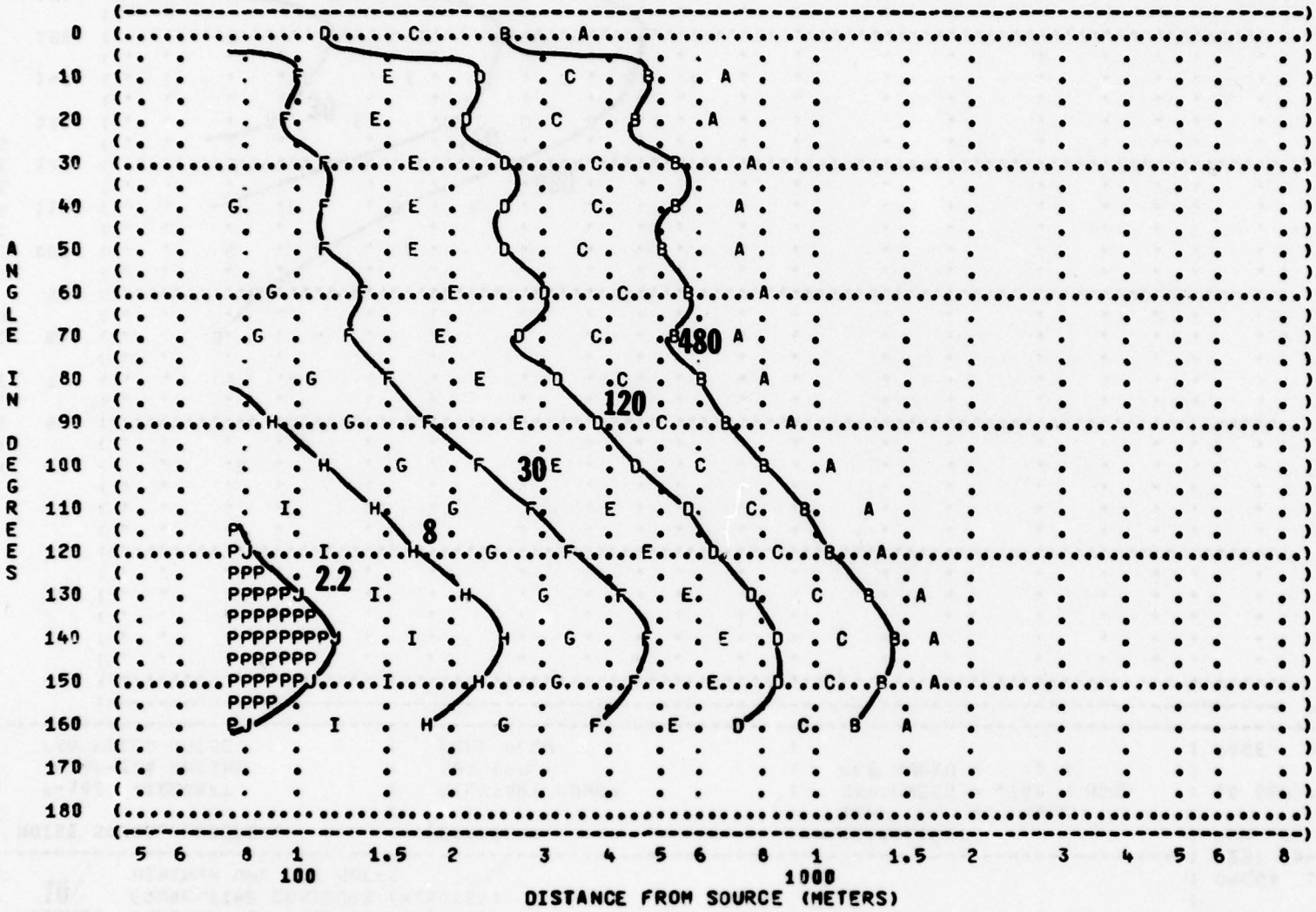
IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
24 JAN 79
PAGE 7

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8
I	4
J	2.2



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

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

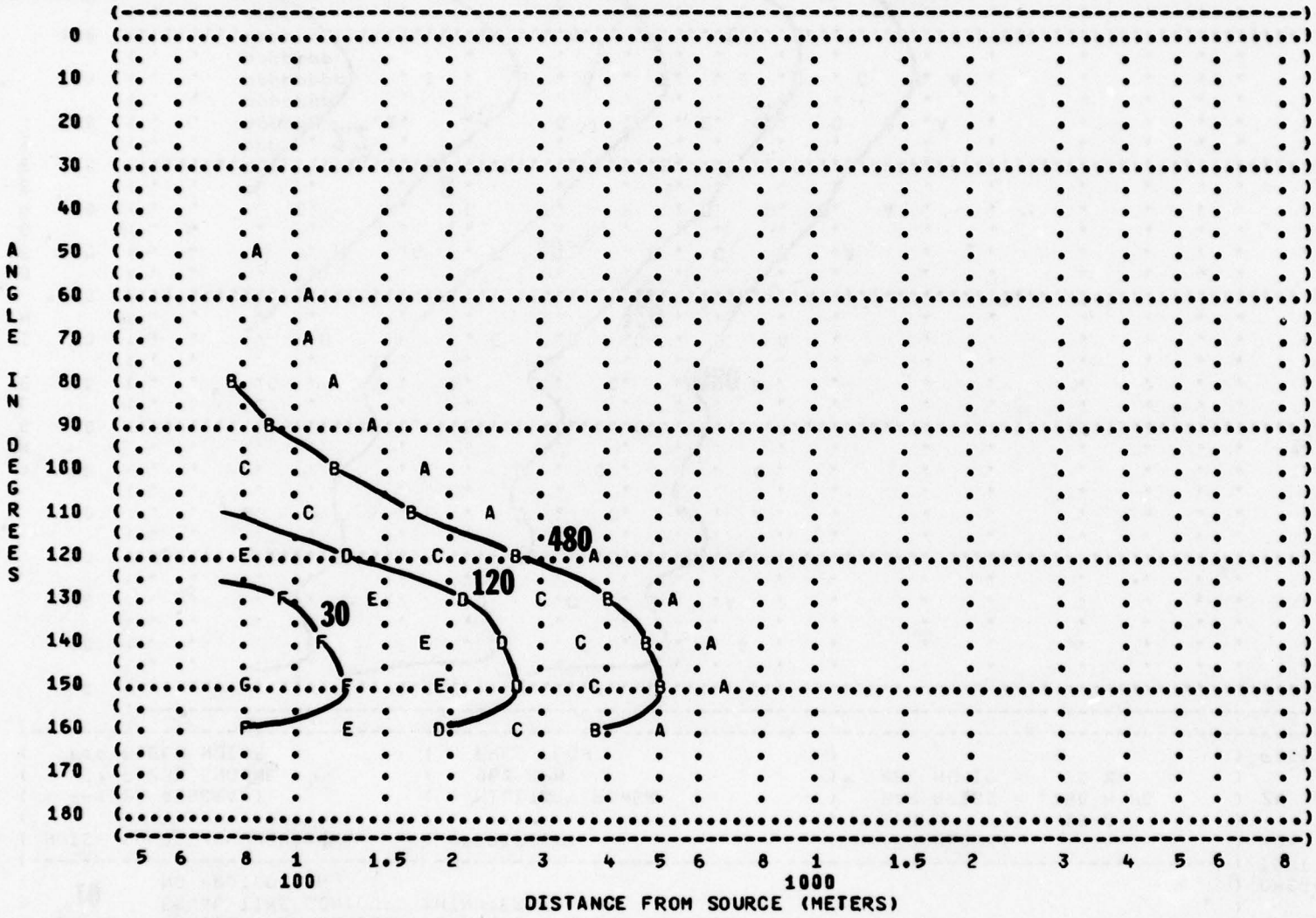


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 9

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

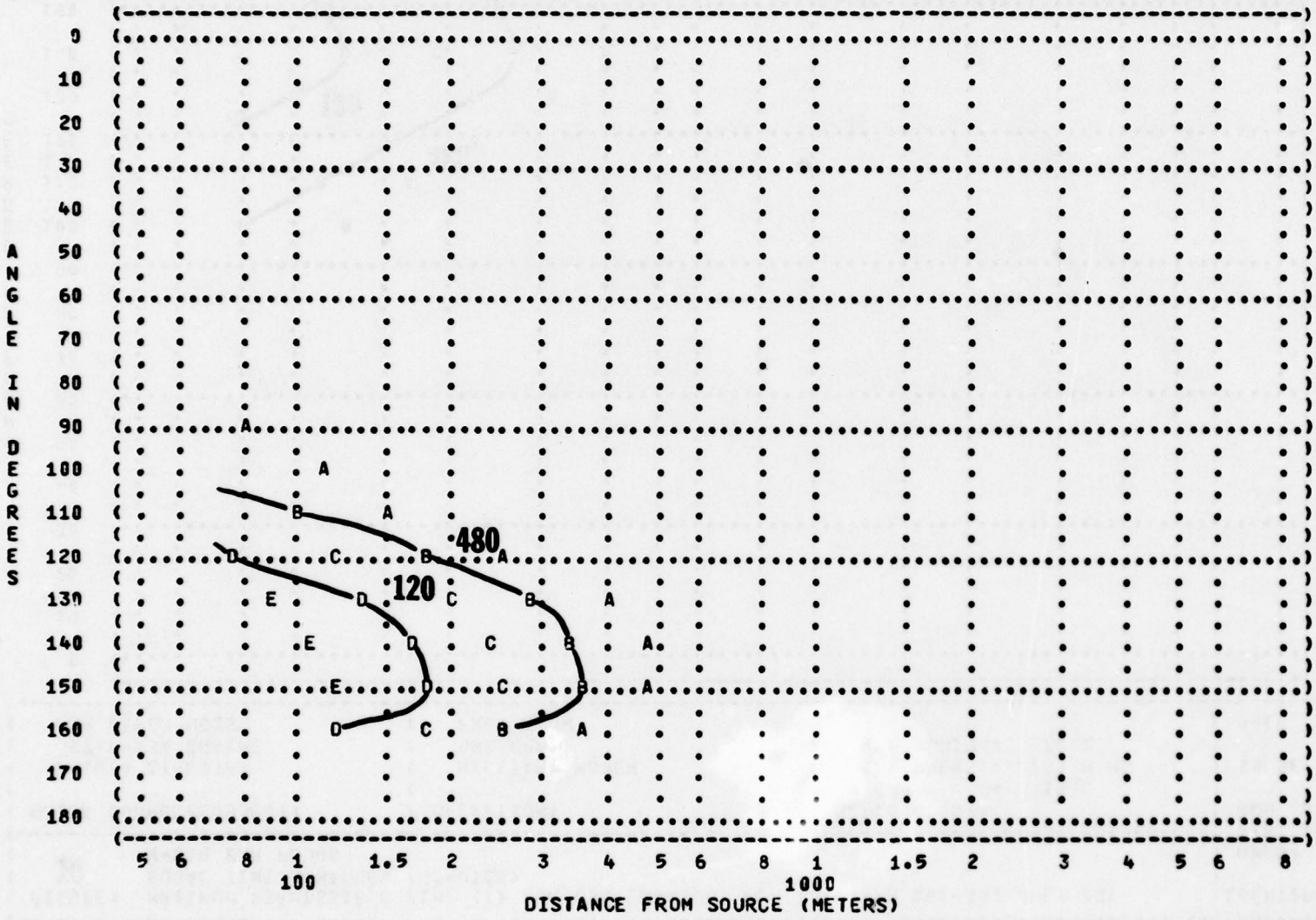


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 10

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

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

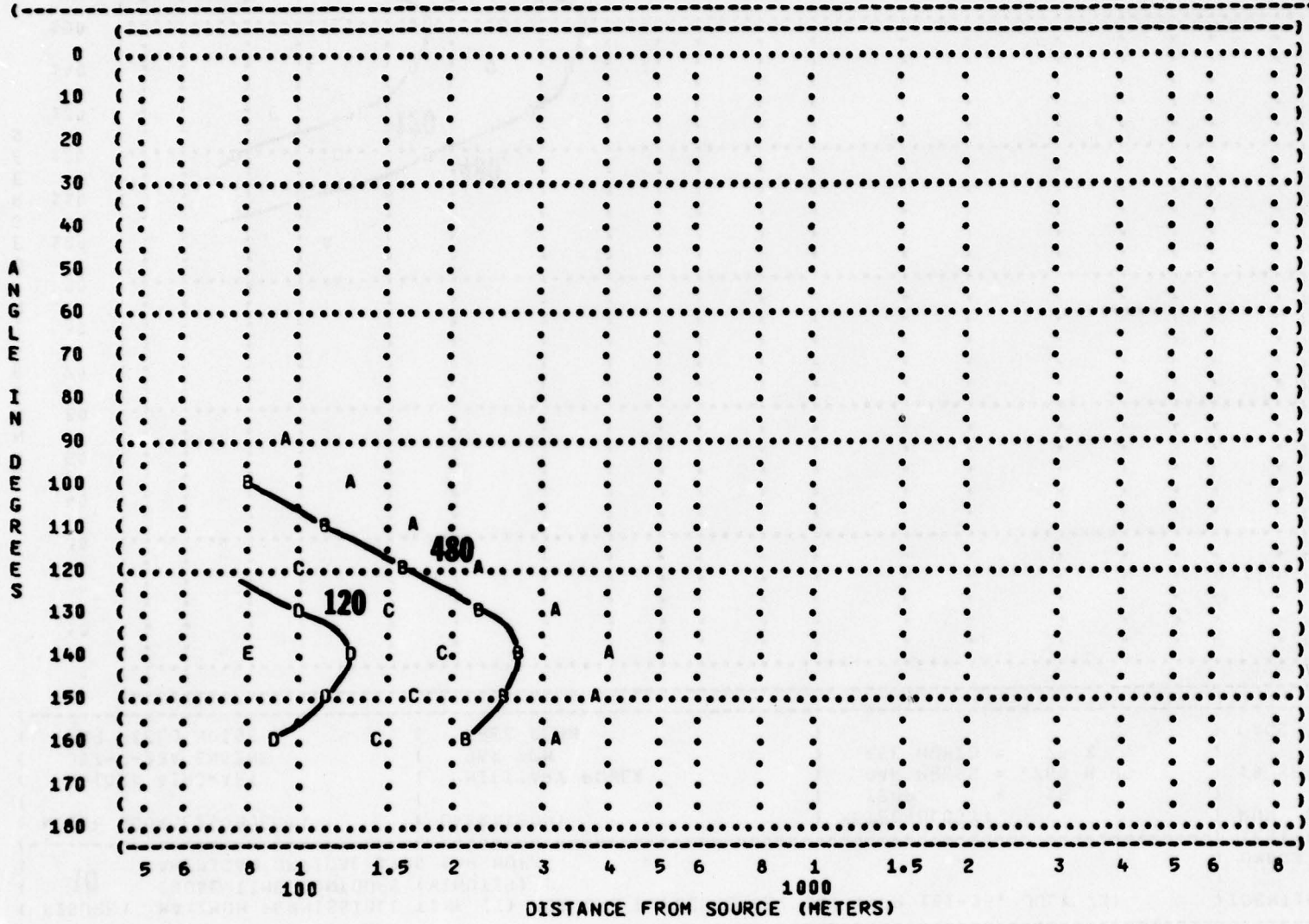


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 11

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

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

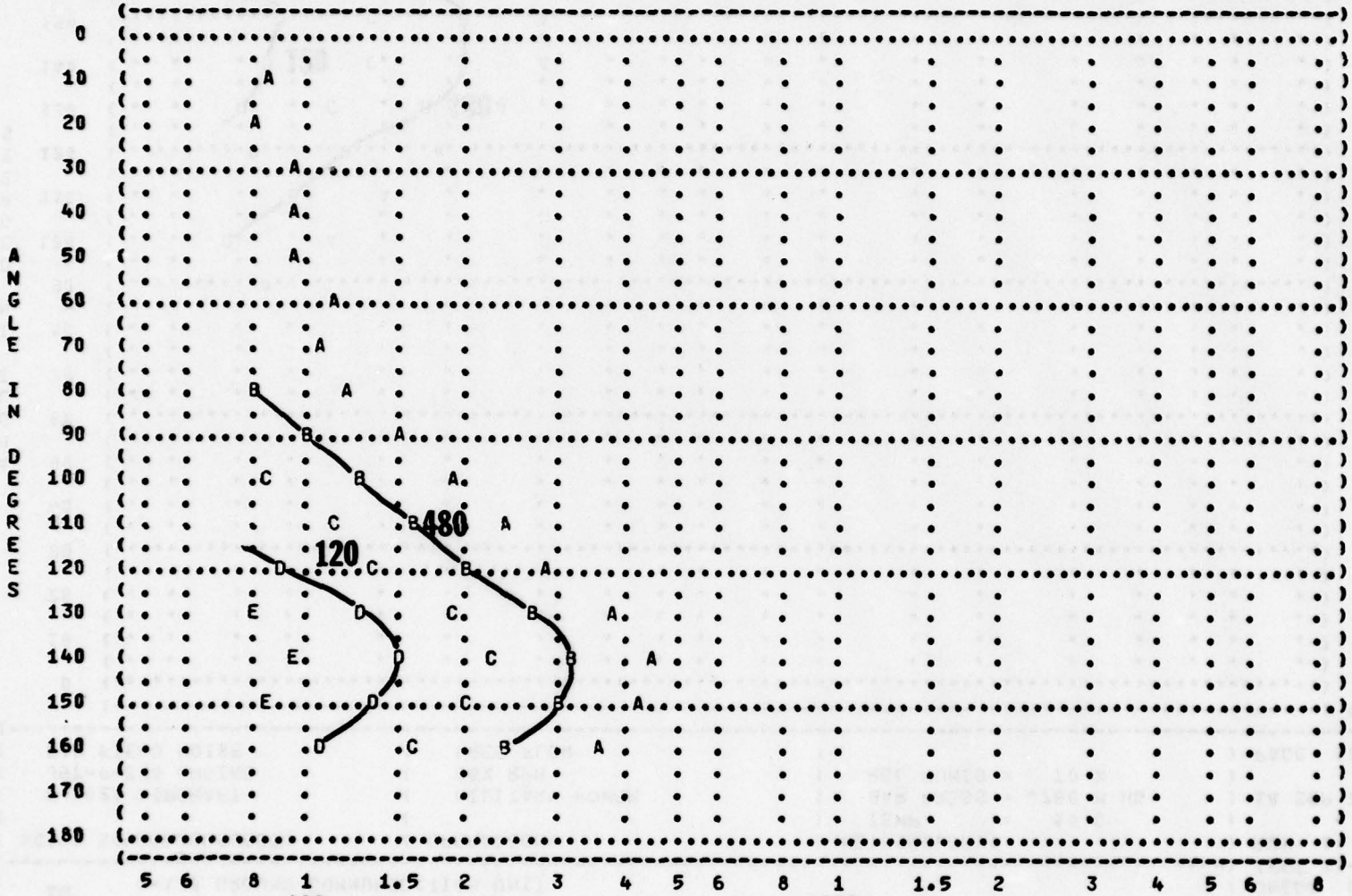


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 12

POINT	MIN
A	960
B	480
C	240
D	120

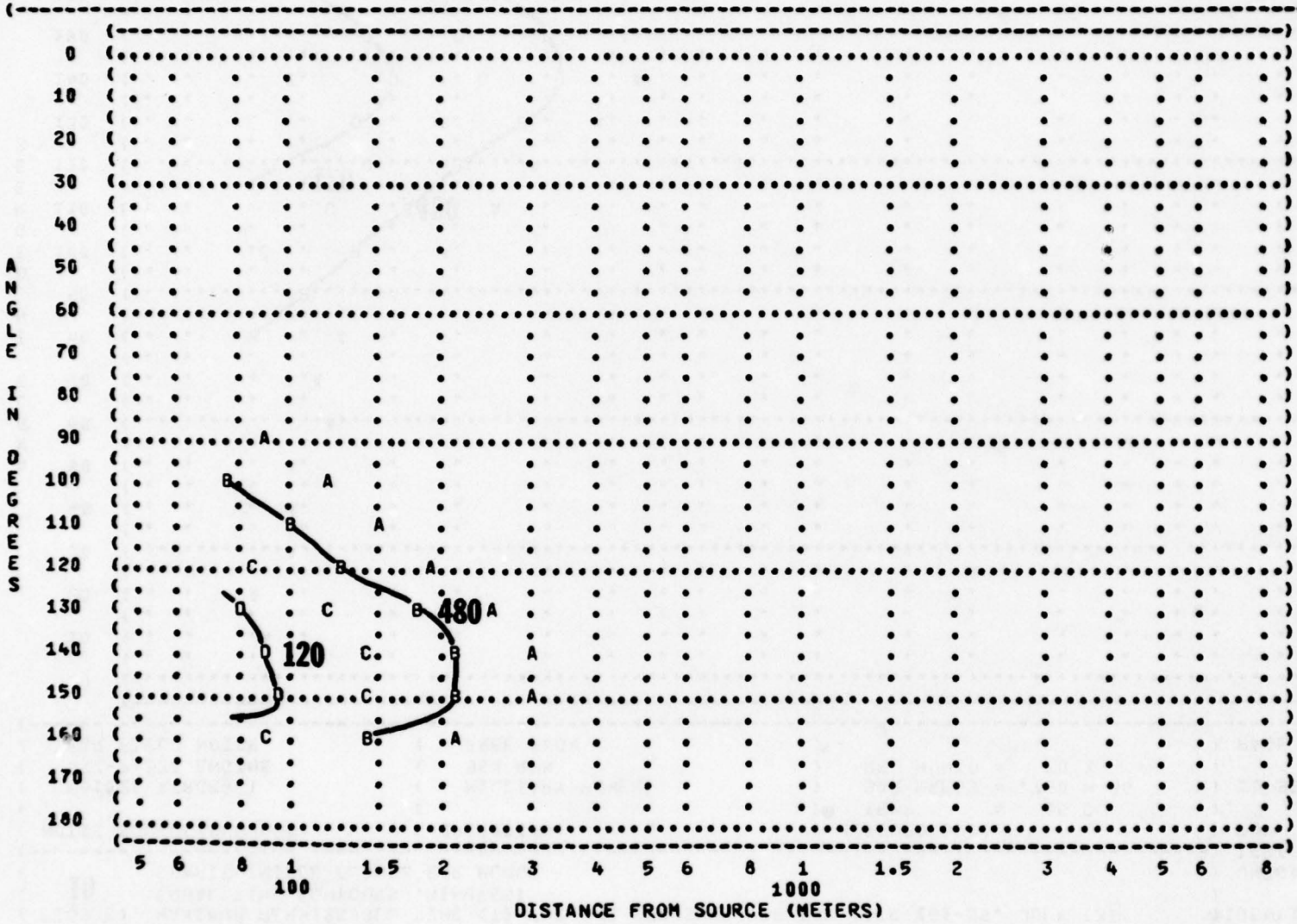


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

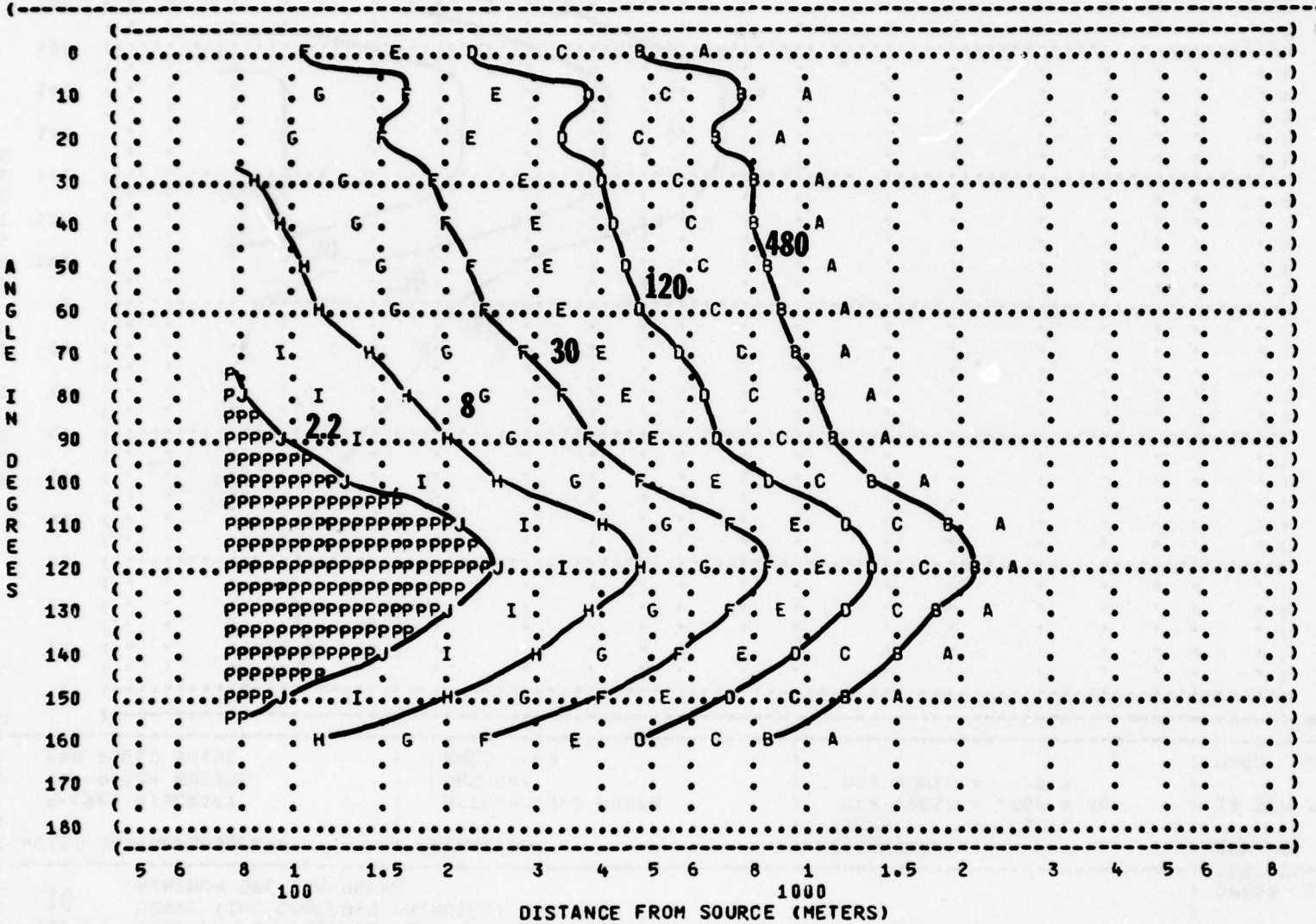
IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8
I	4
J	2.2



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8

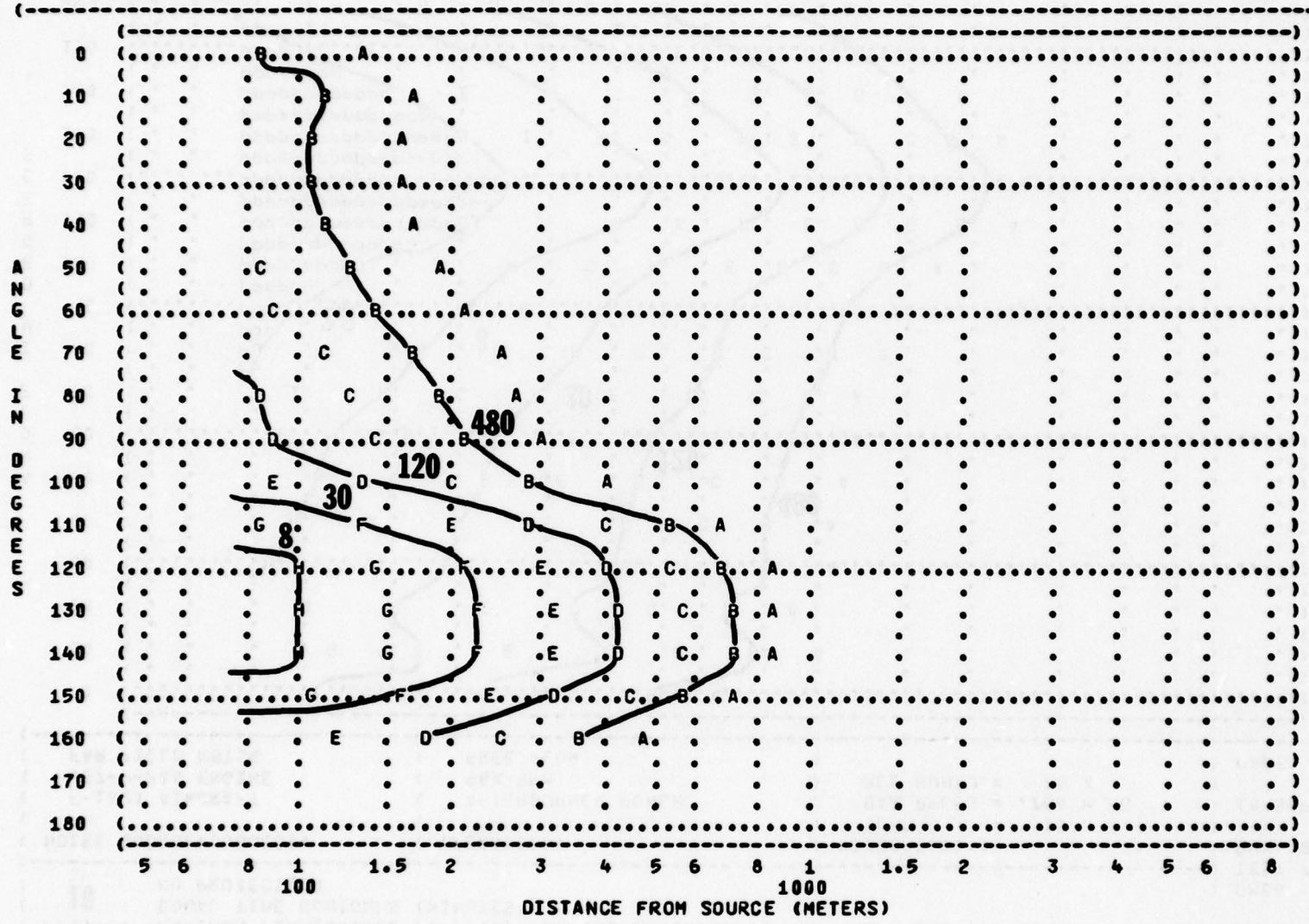


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

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

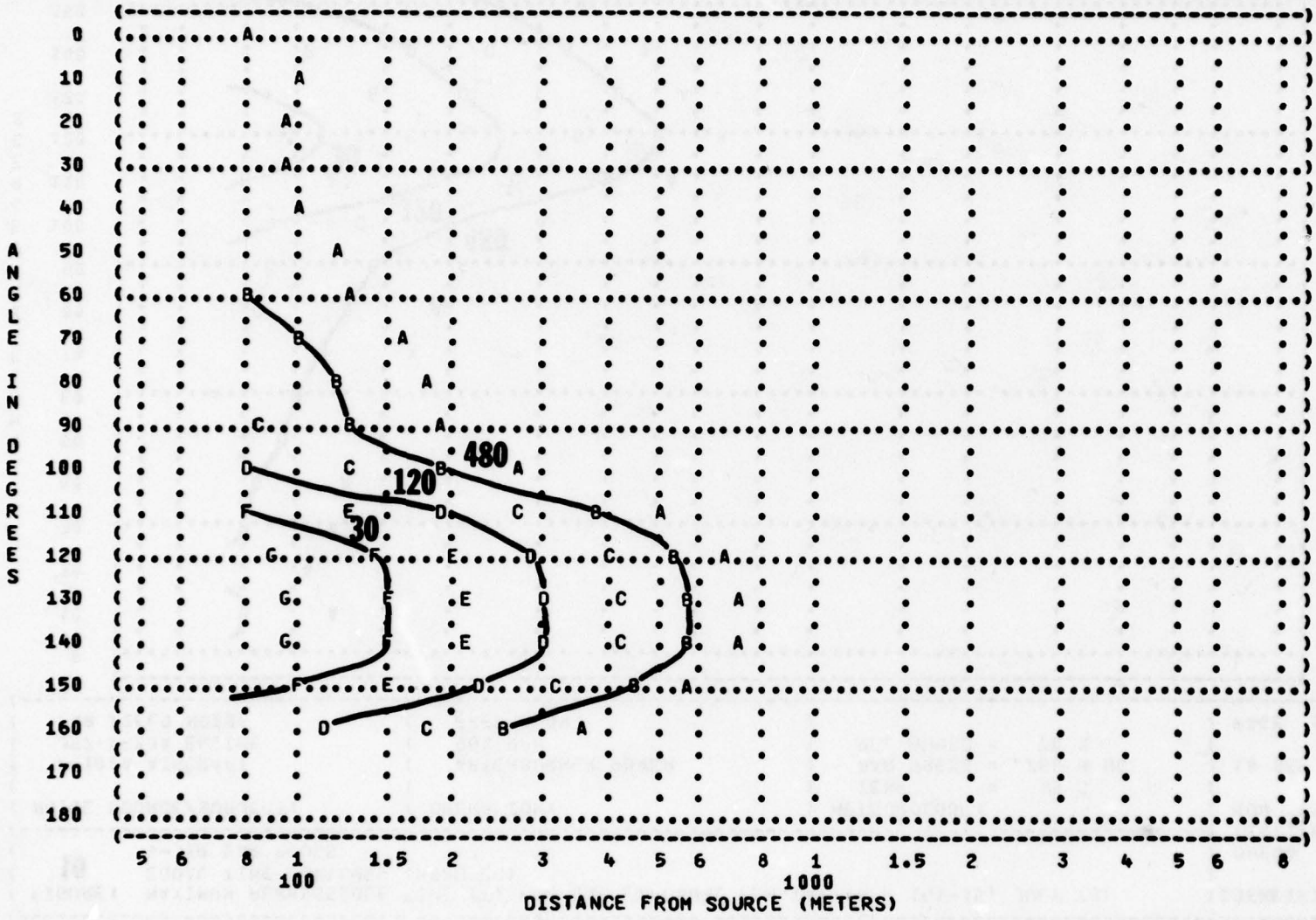


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 10

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

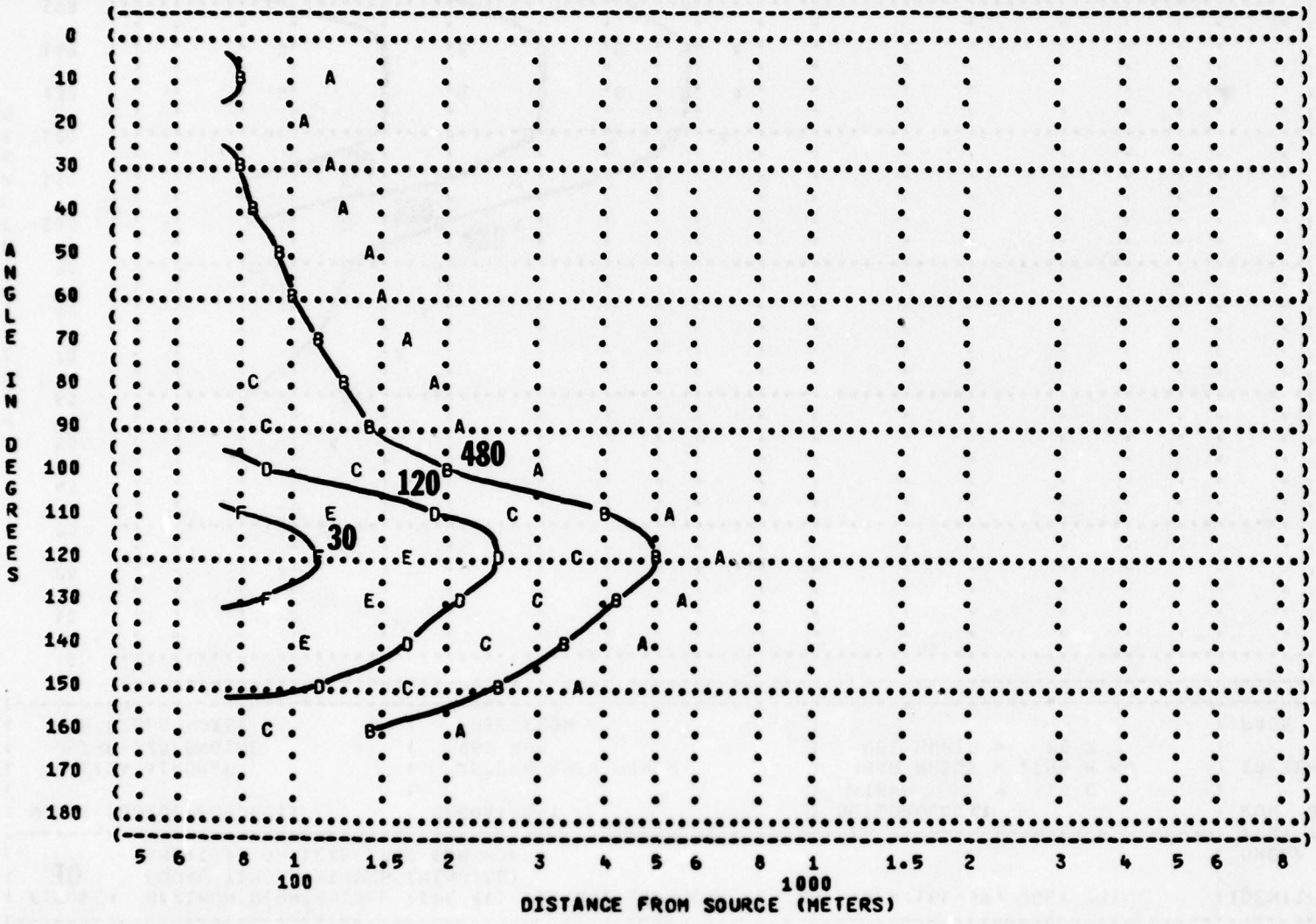


FIGURE: 10

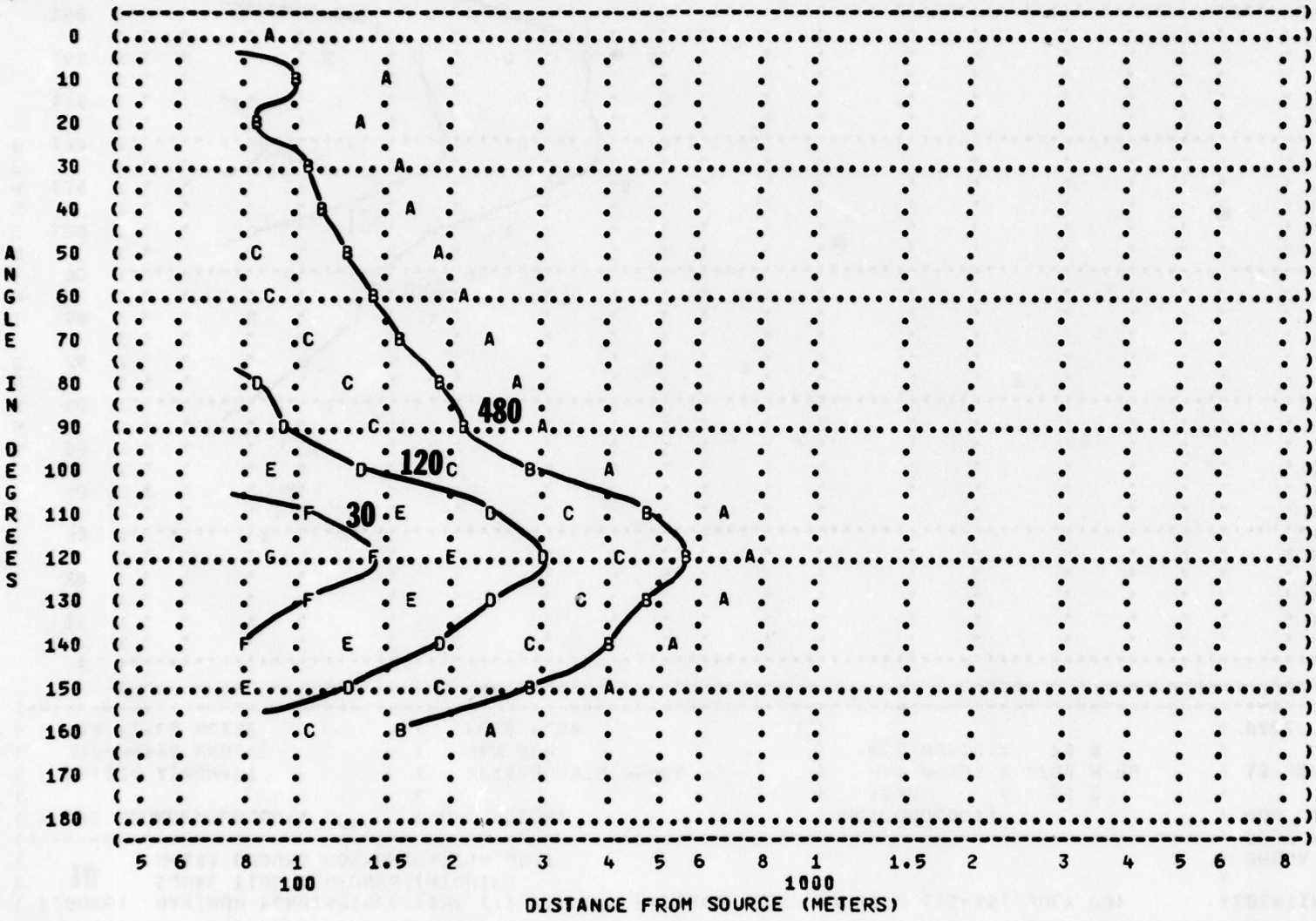
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 11

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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



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

FIGURE: 10

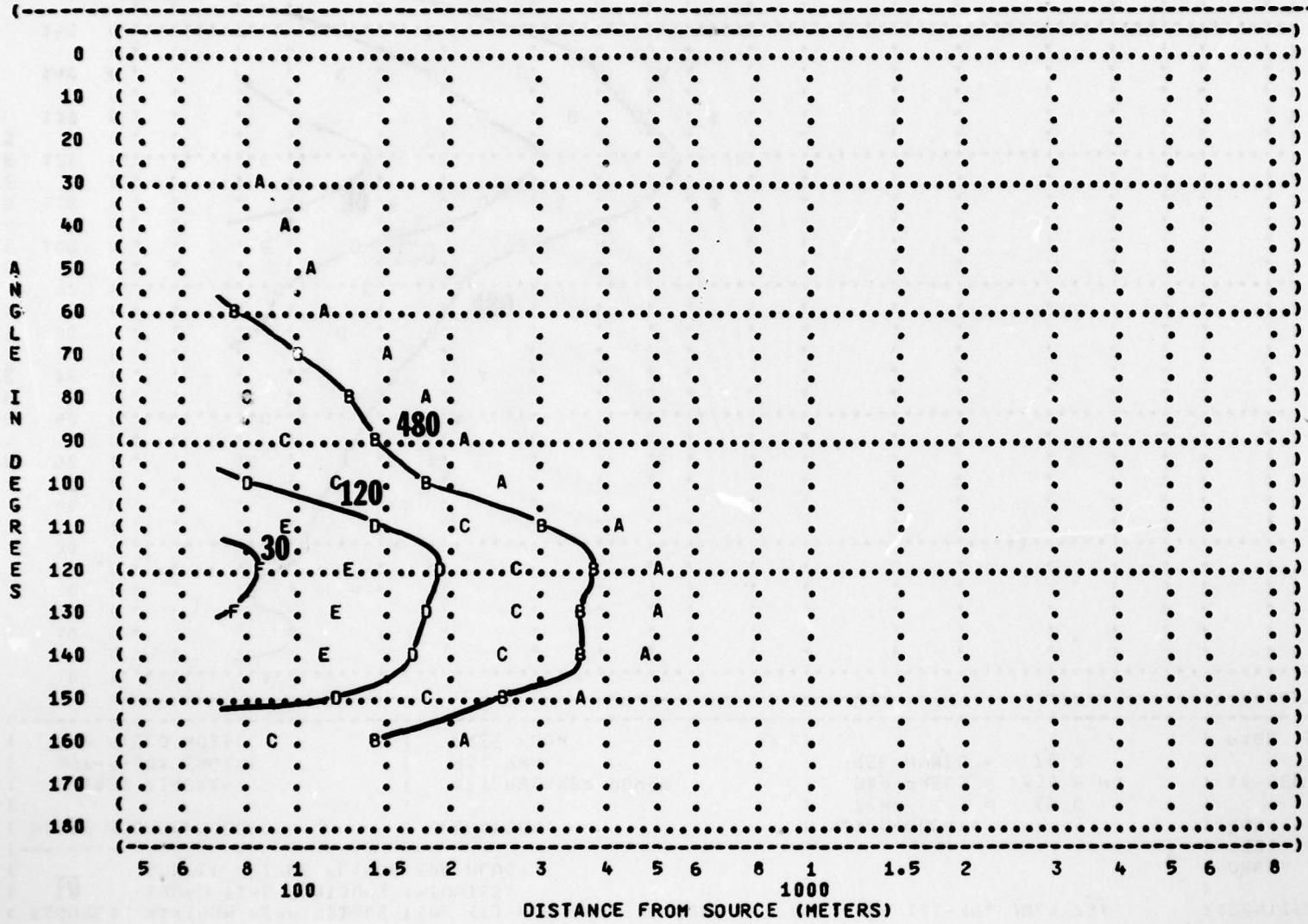
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 12

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
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 11

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
24 JAN 79
PAGE 18

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

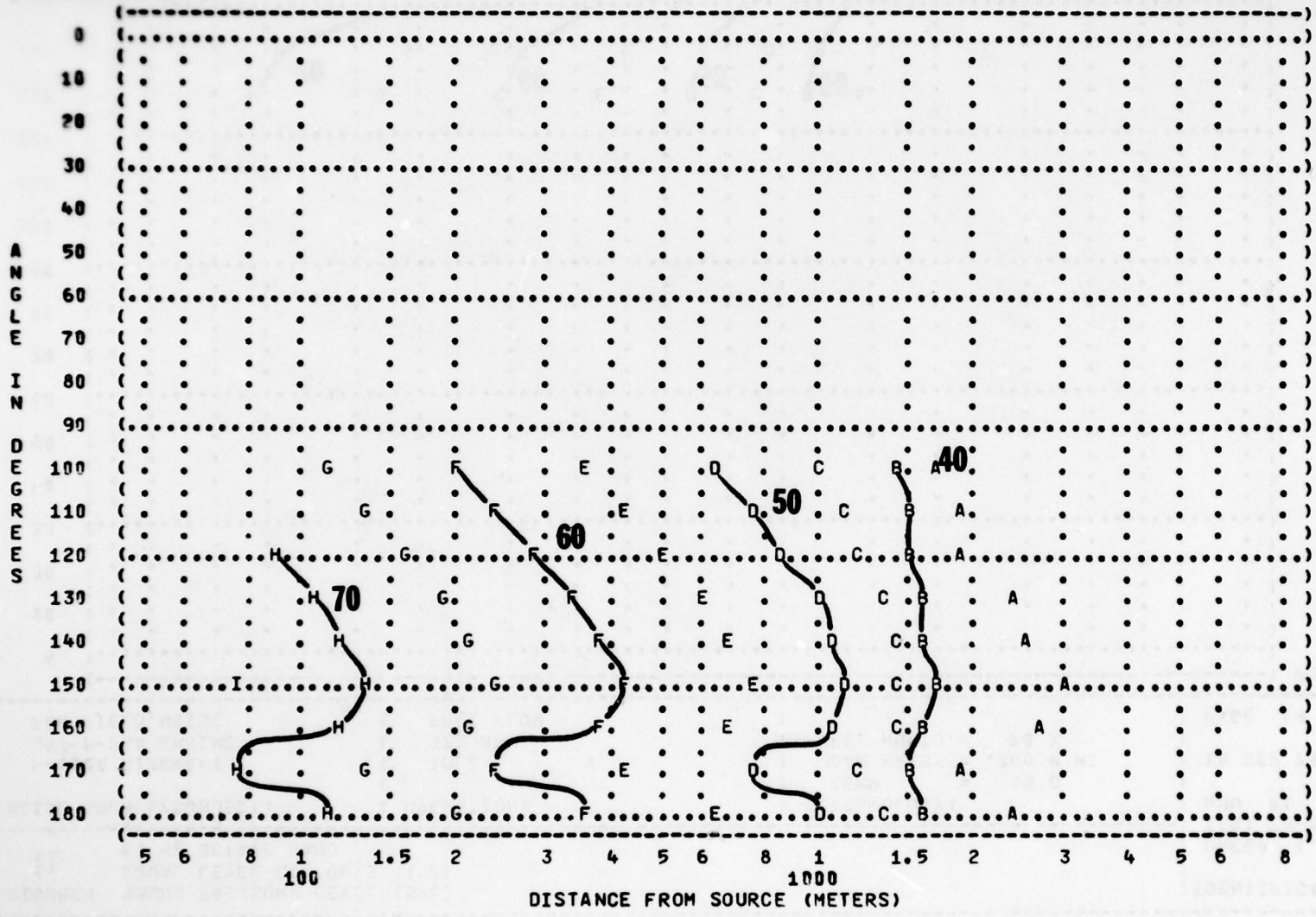


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 19

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

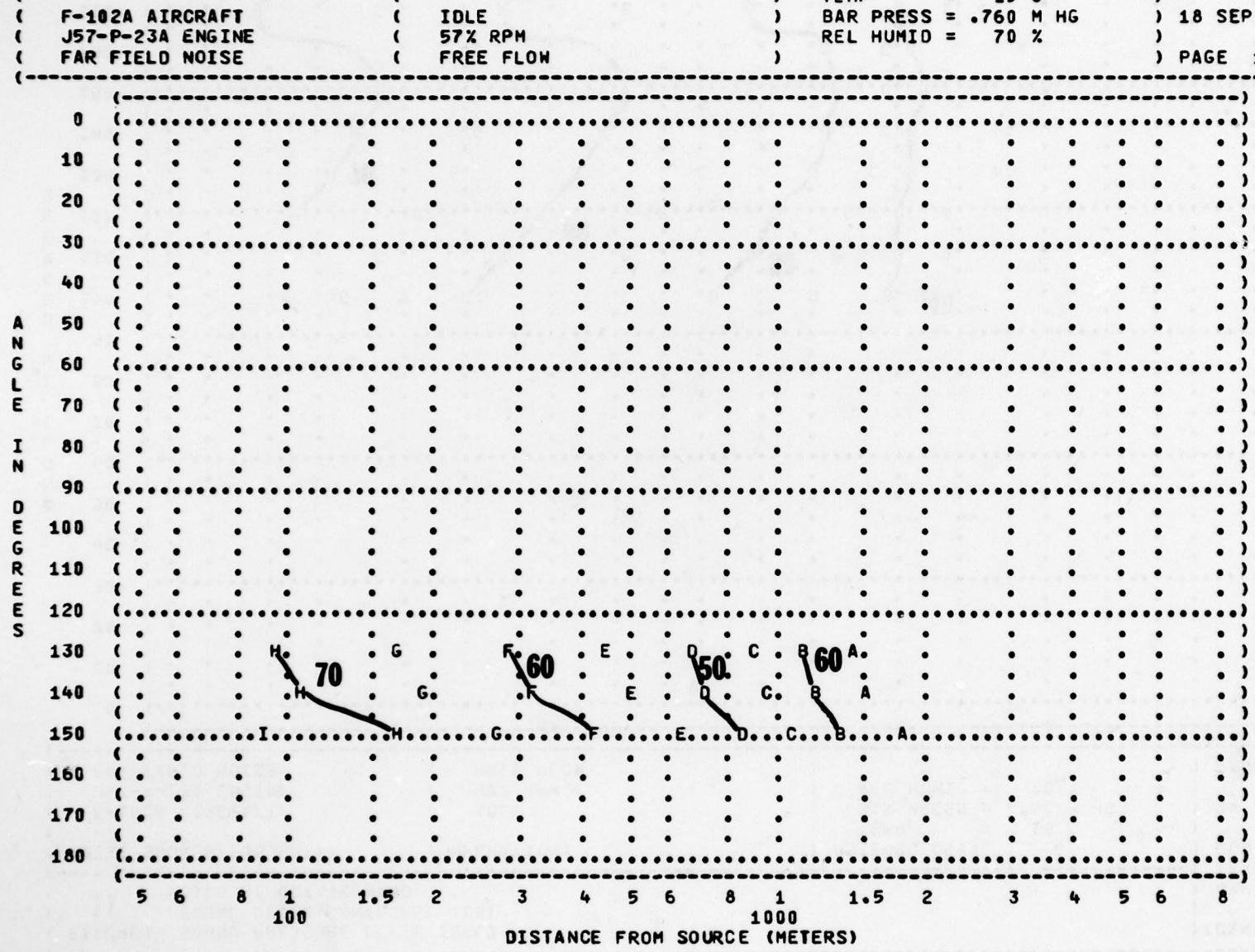


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
24 JAN 79
PAGE 20

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

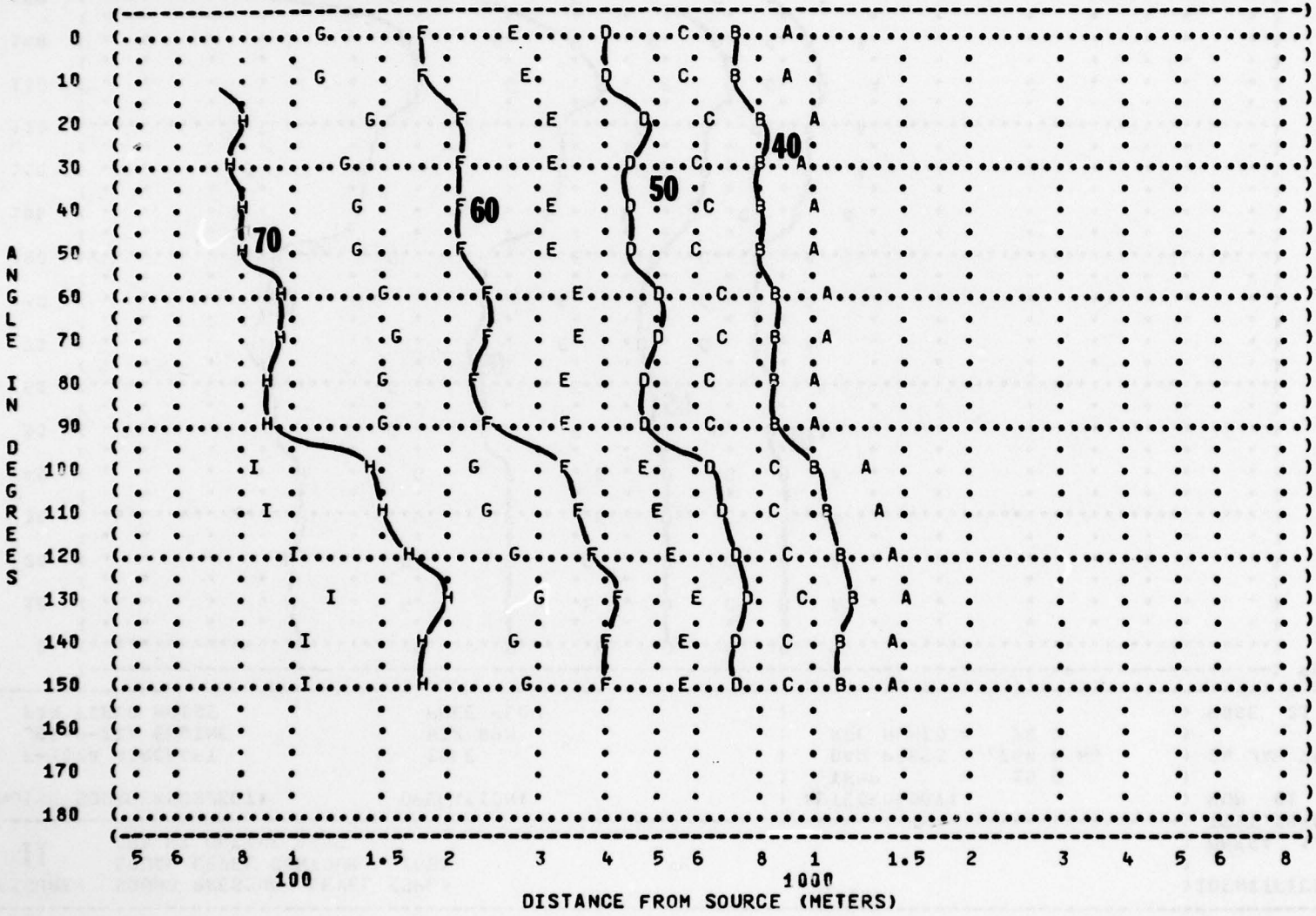


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
24 JAN 79
PAGE 21

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

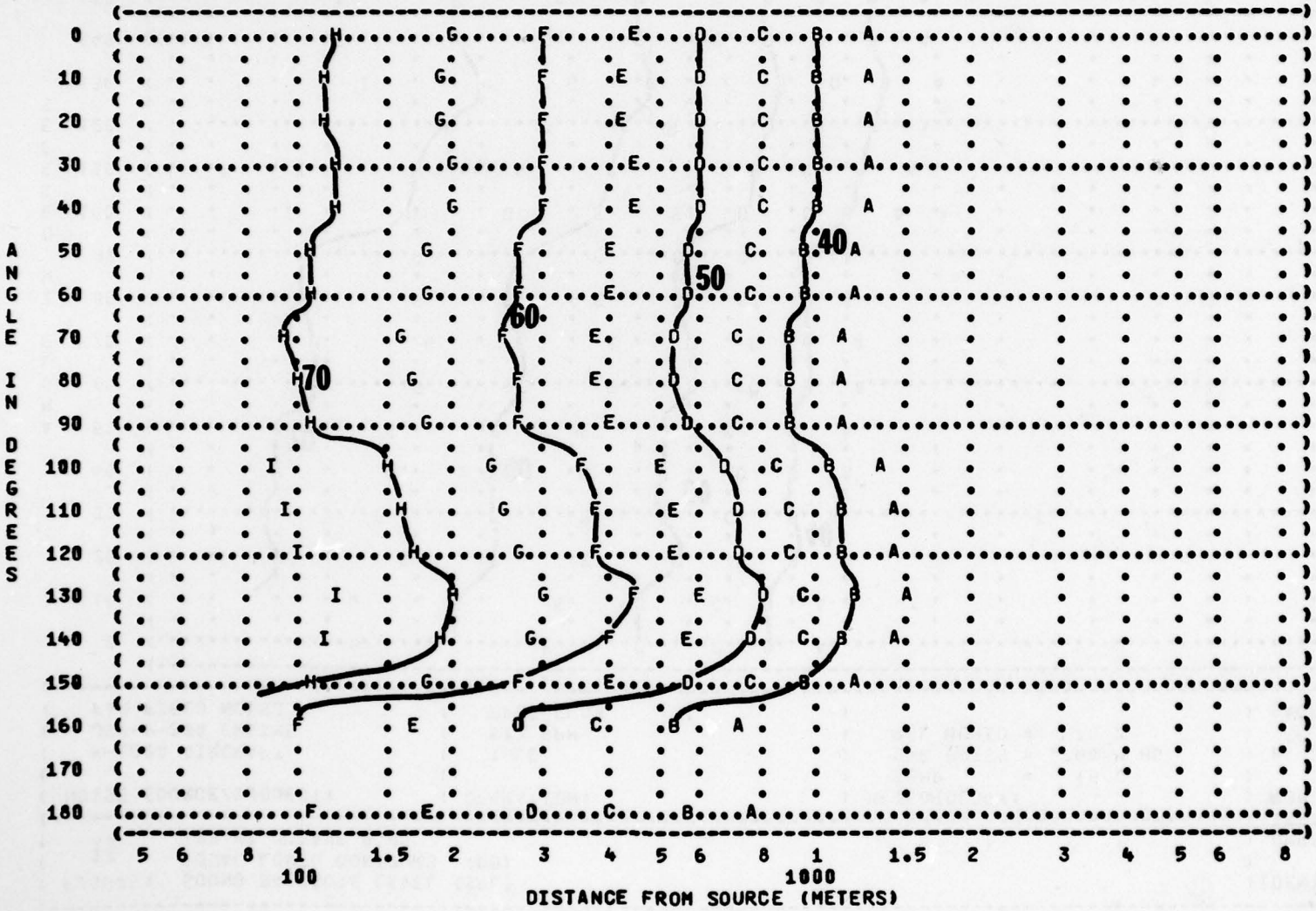


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 22

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

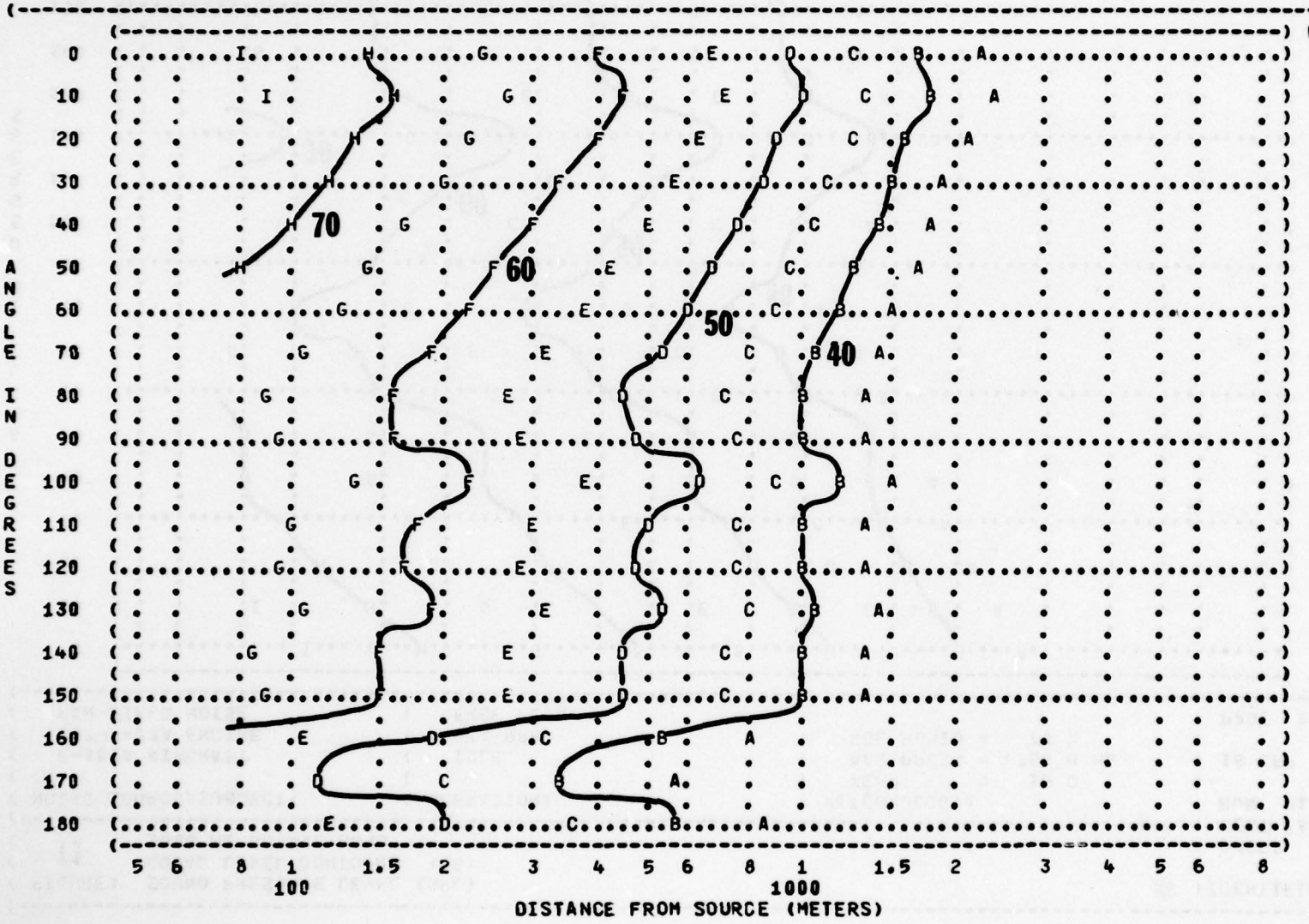


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 78-012-001 RUN 01 18 SEP 78 PAGE 23

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

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

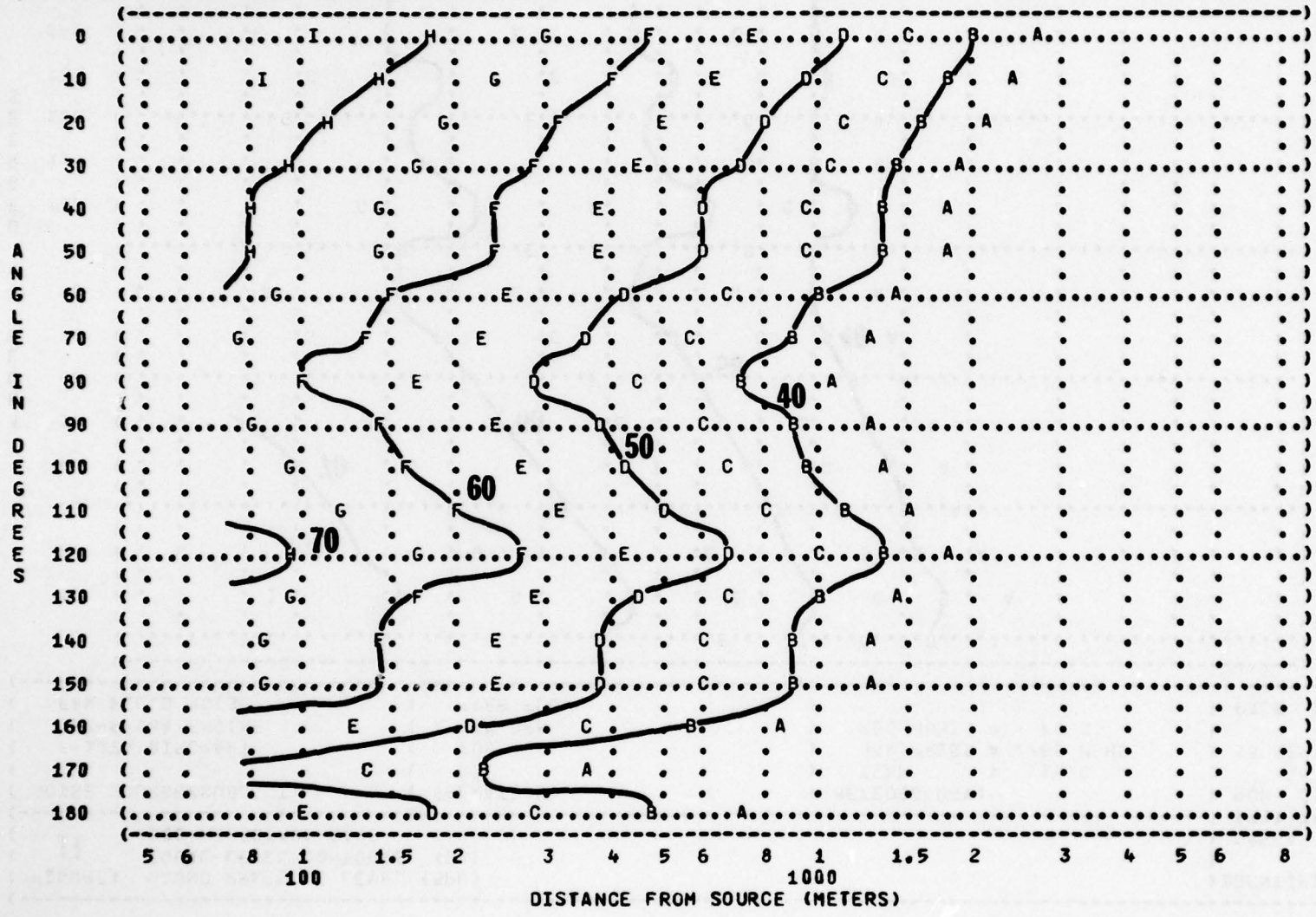


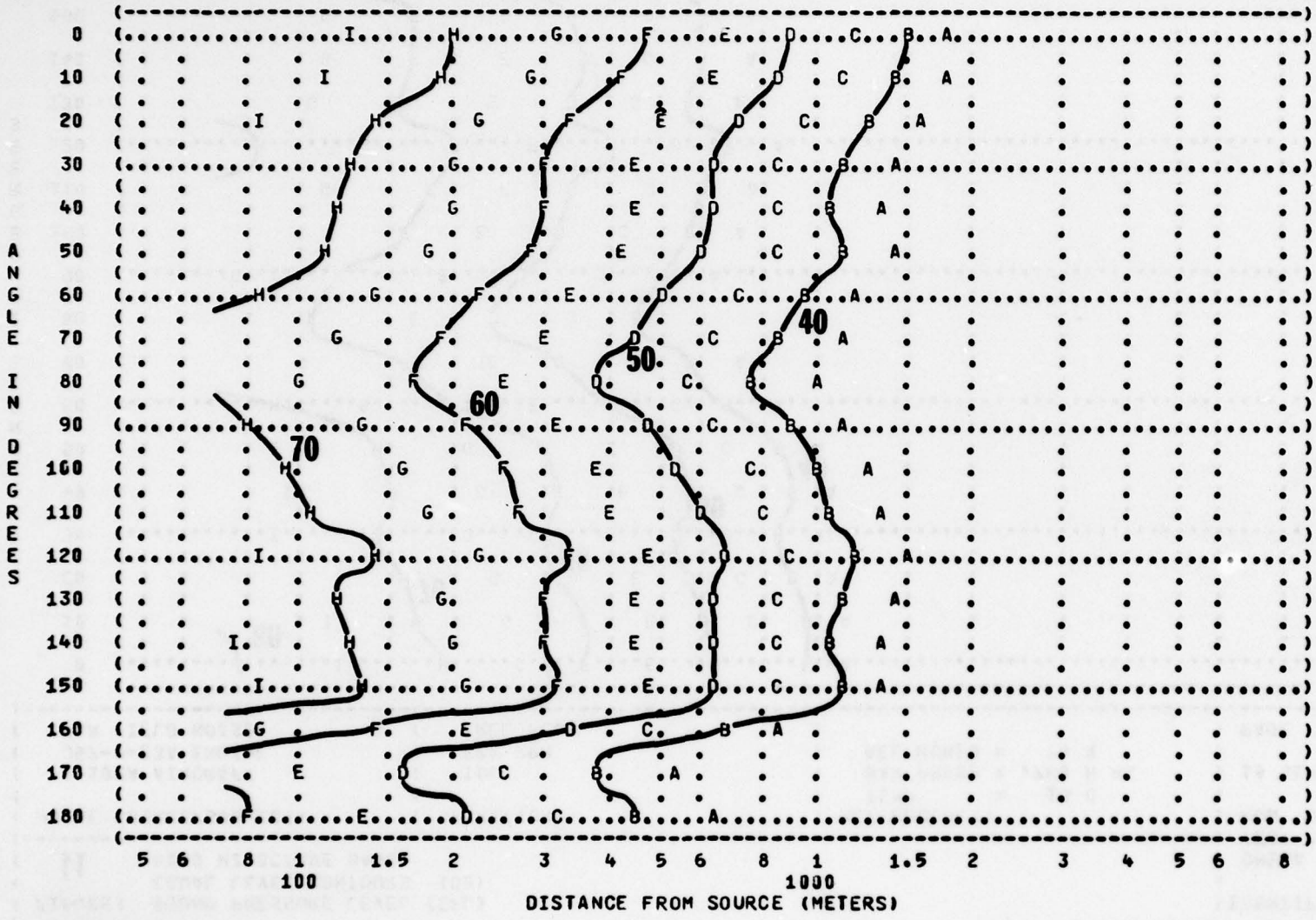
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 24



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

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

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 01
18 SEP 78
PAGE 25

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

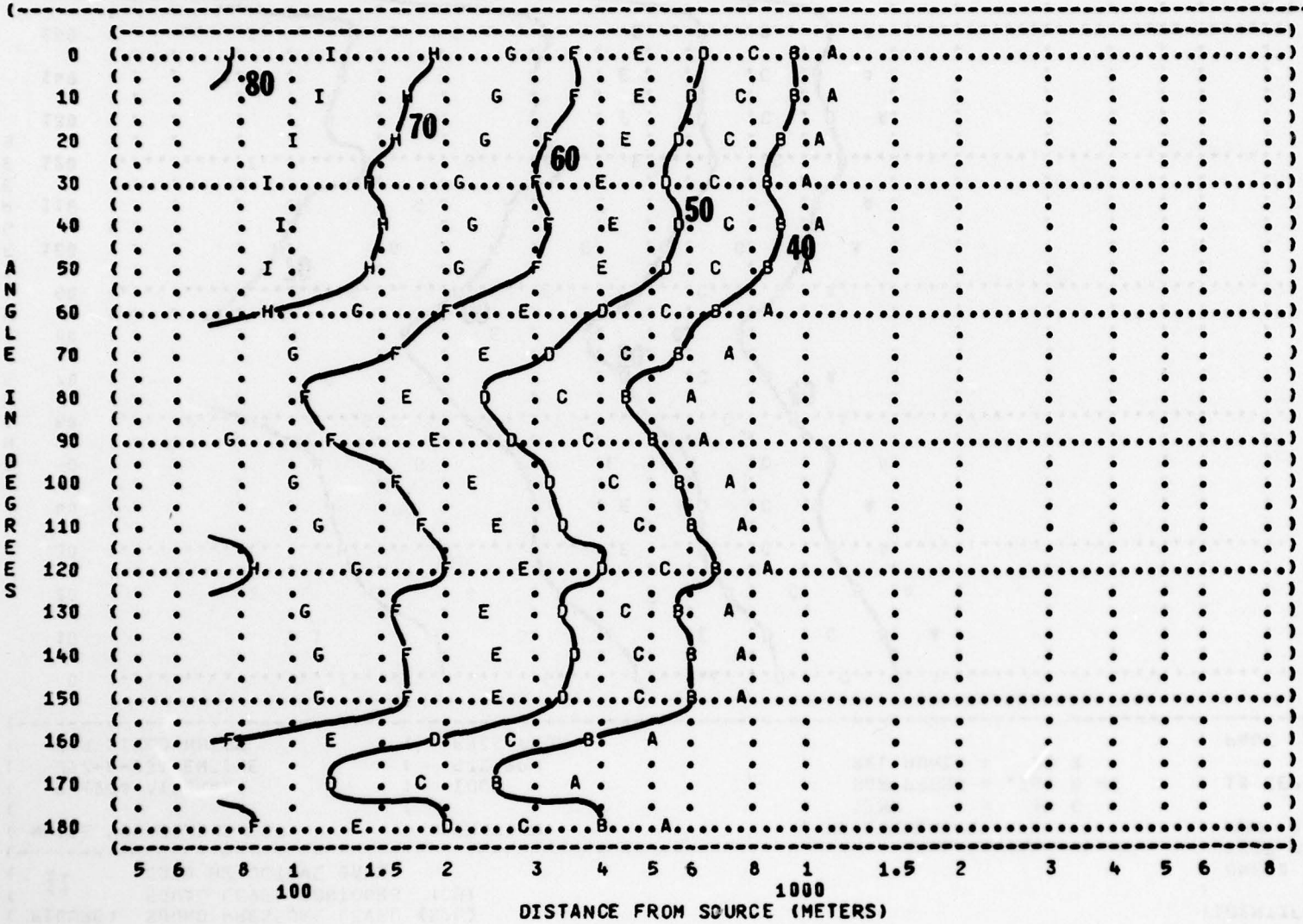


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-C01
RUN 01
18 SEP 78
PAGE 26

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
57% RPM
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

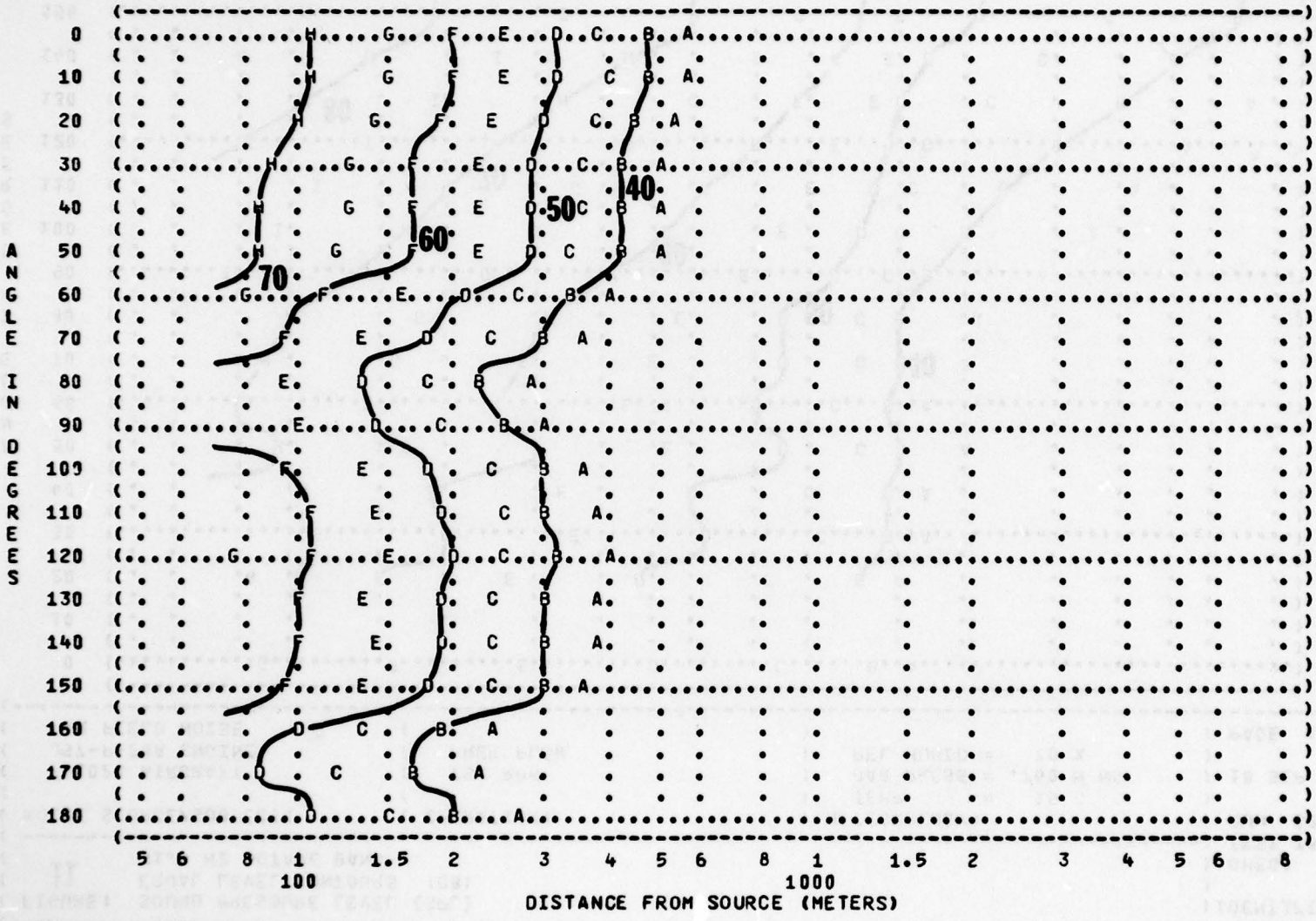


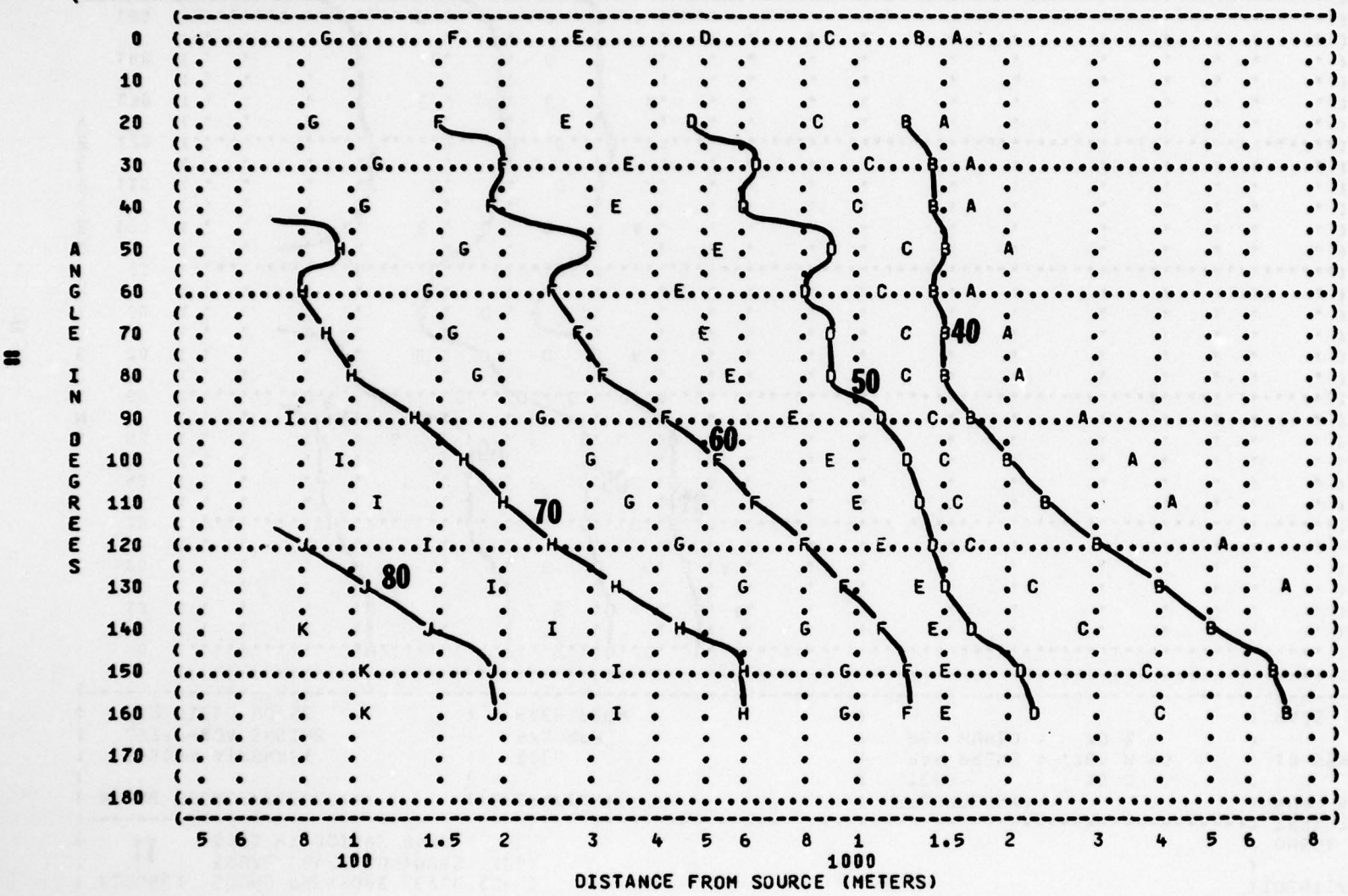
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 18

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
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

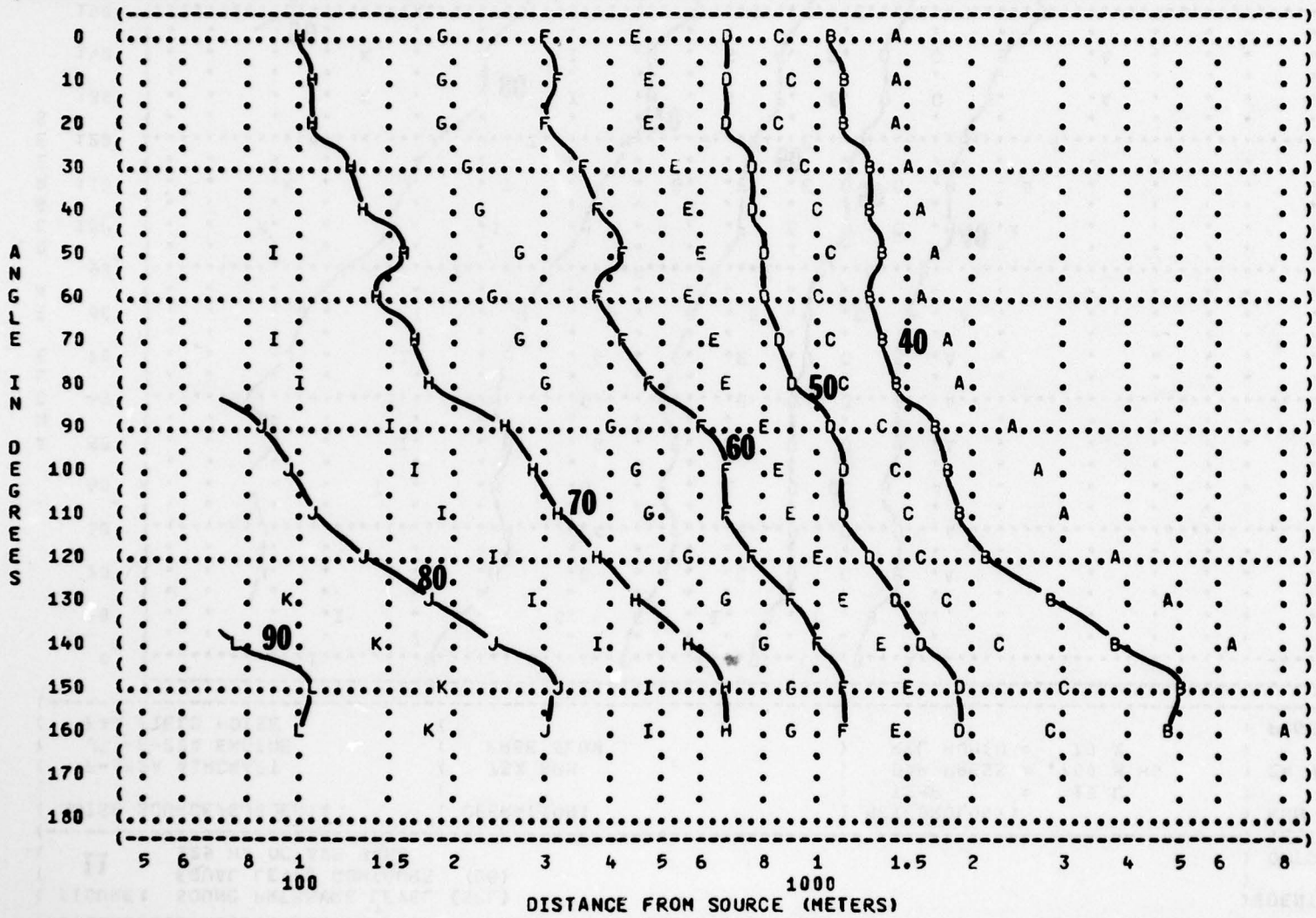
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 19



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

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

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
24 JAN 79
PAGE 20

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

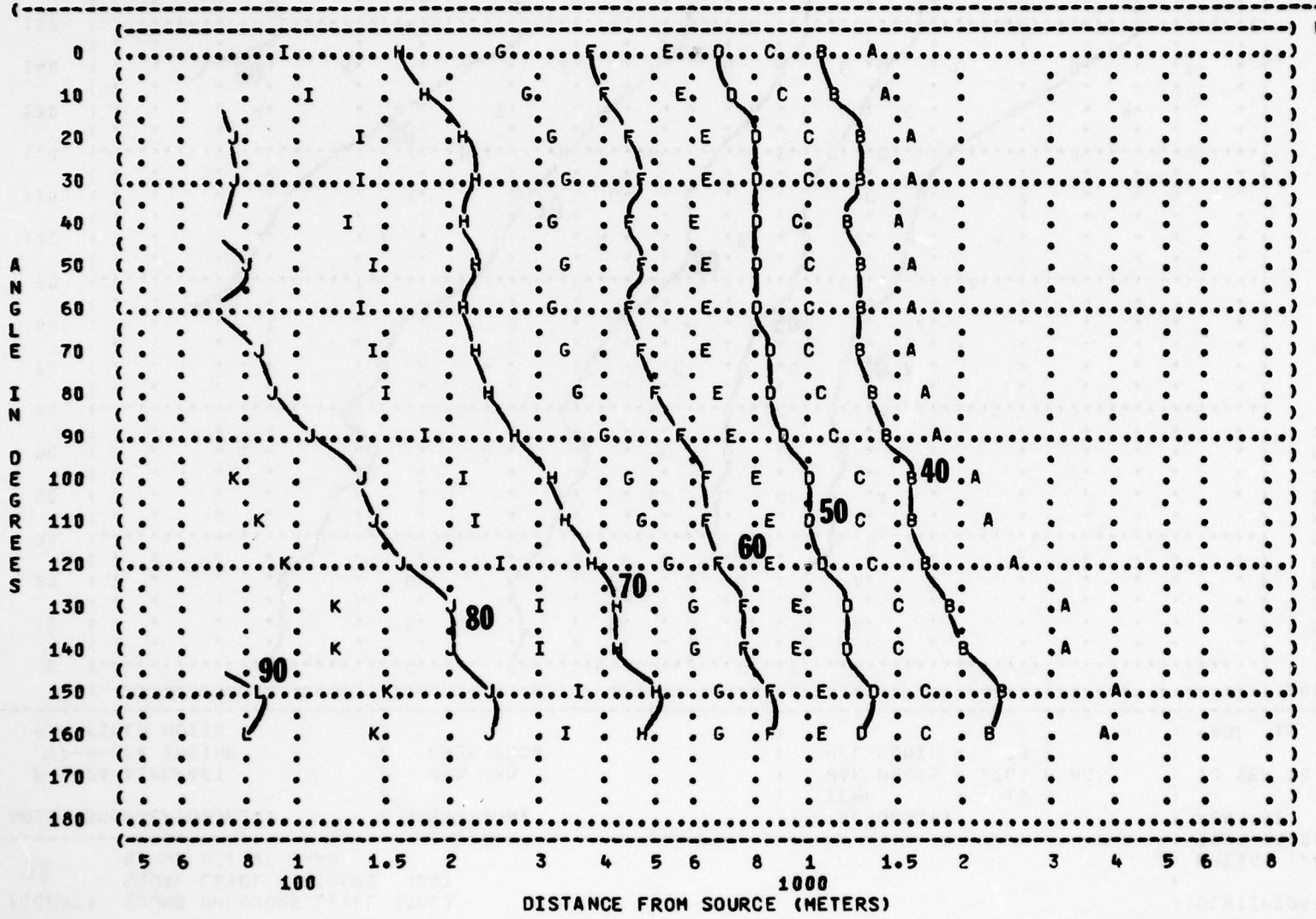


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 21

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

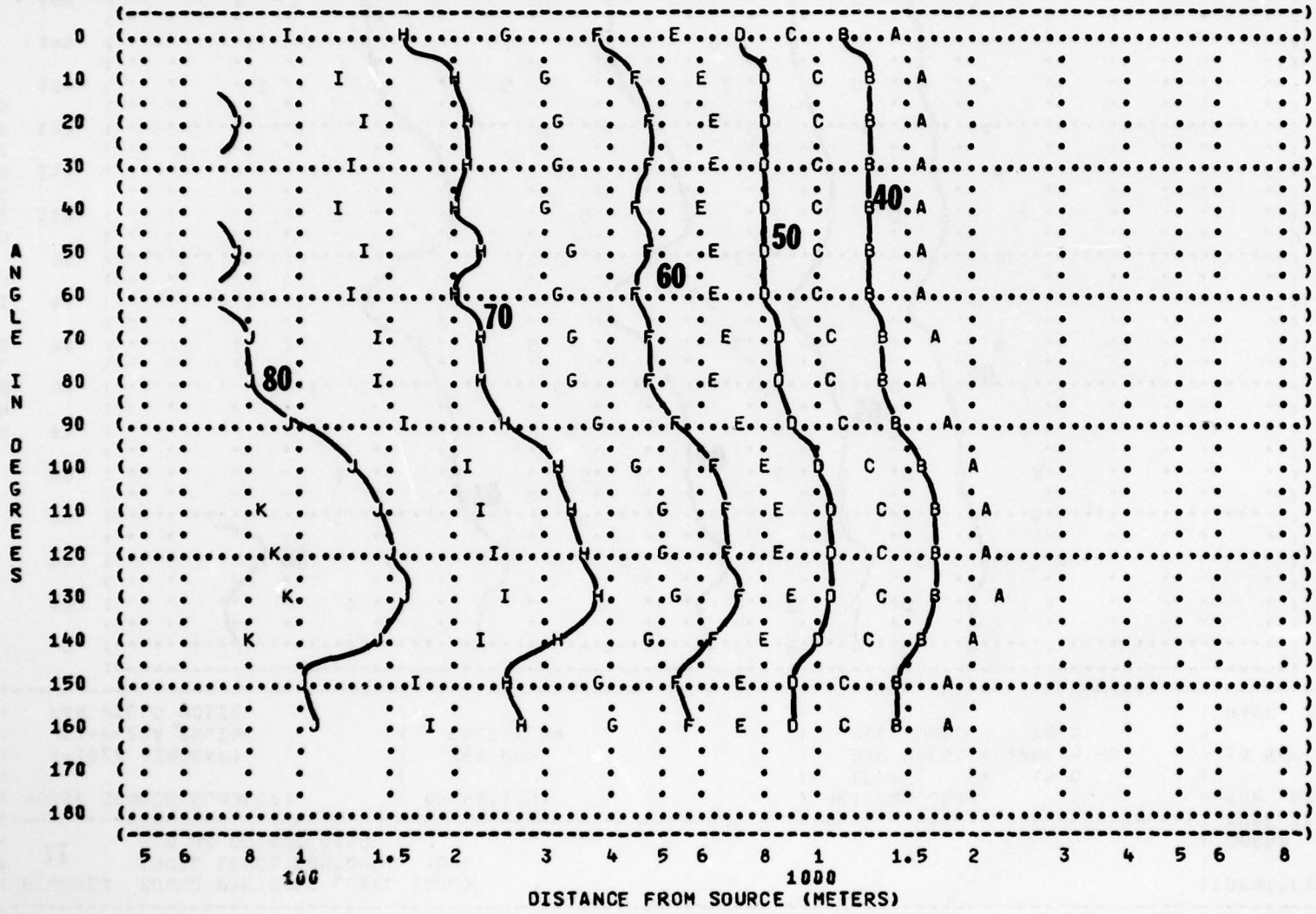


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

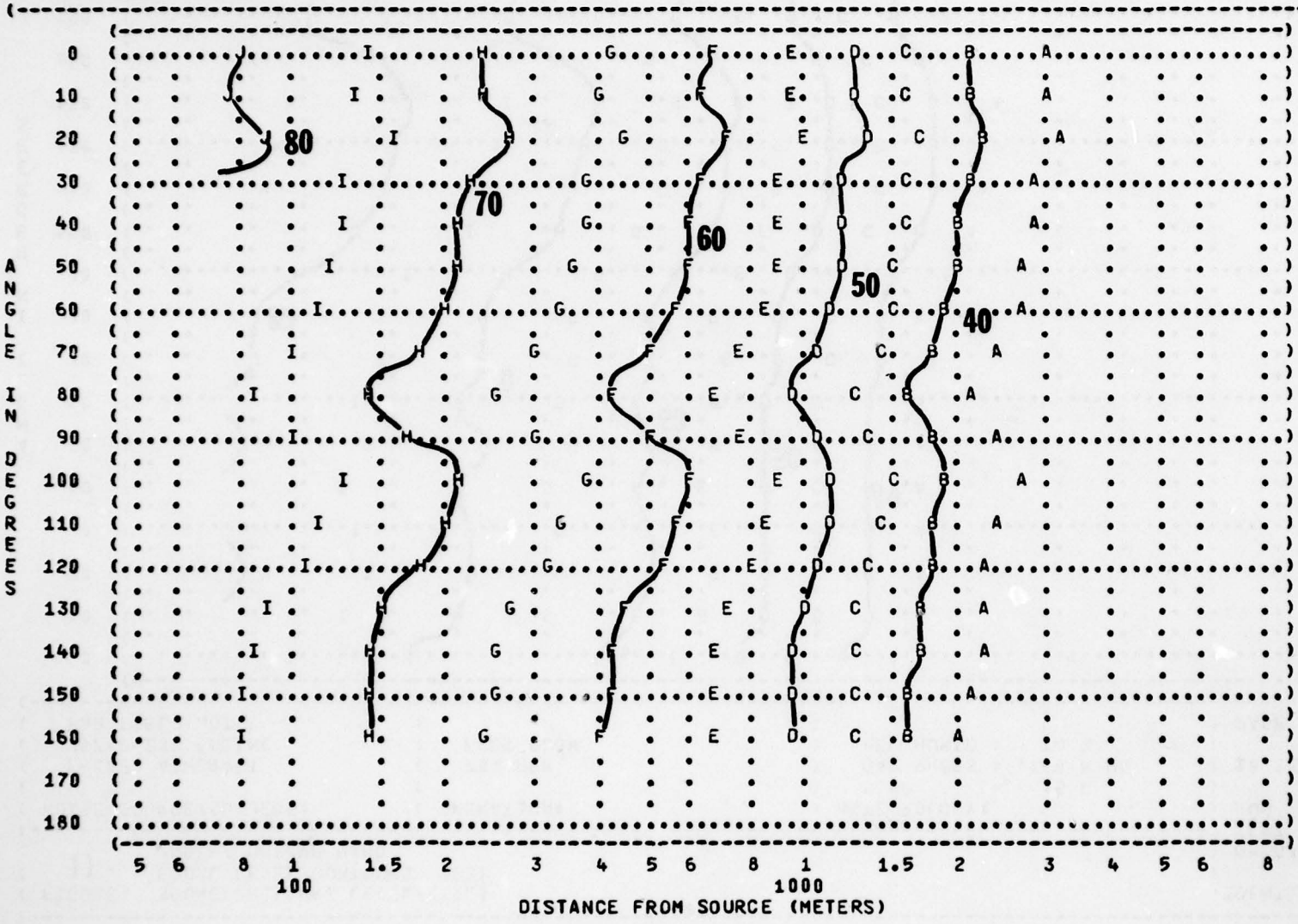
NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 22

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



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2 OF 3
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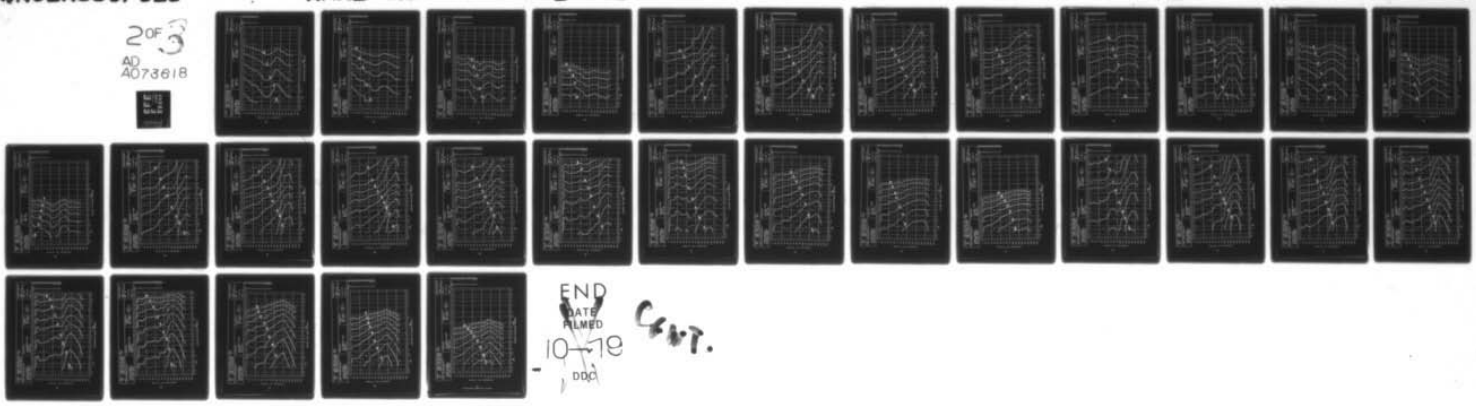

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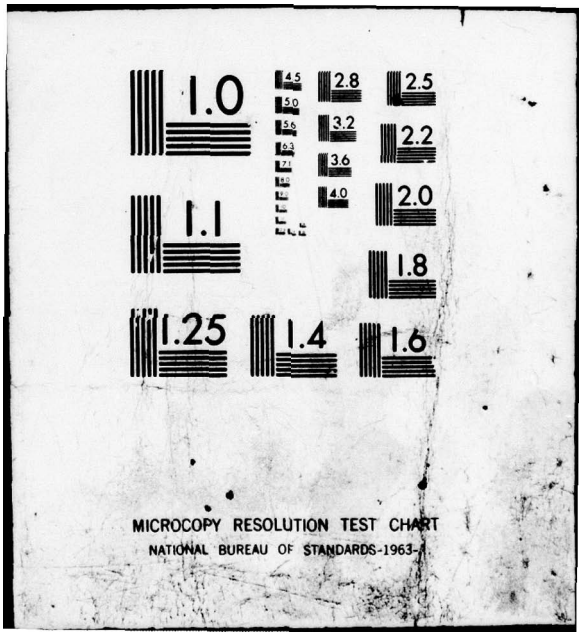
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1.1
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1.8
2.0
2.2
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2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 23

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

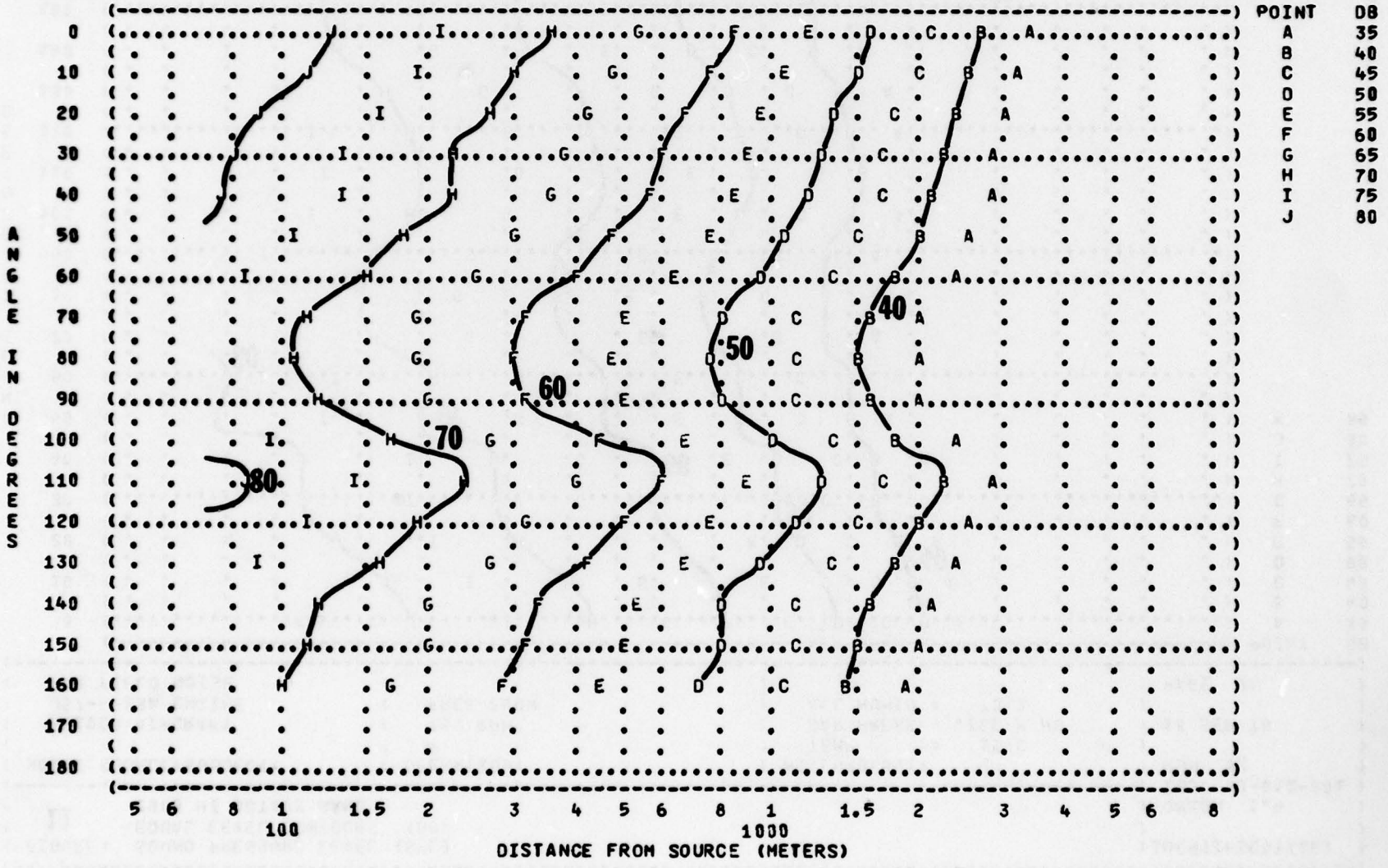


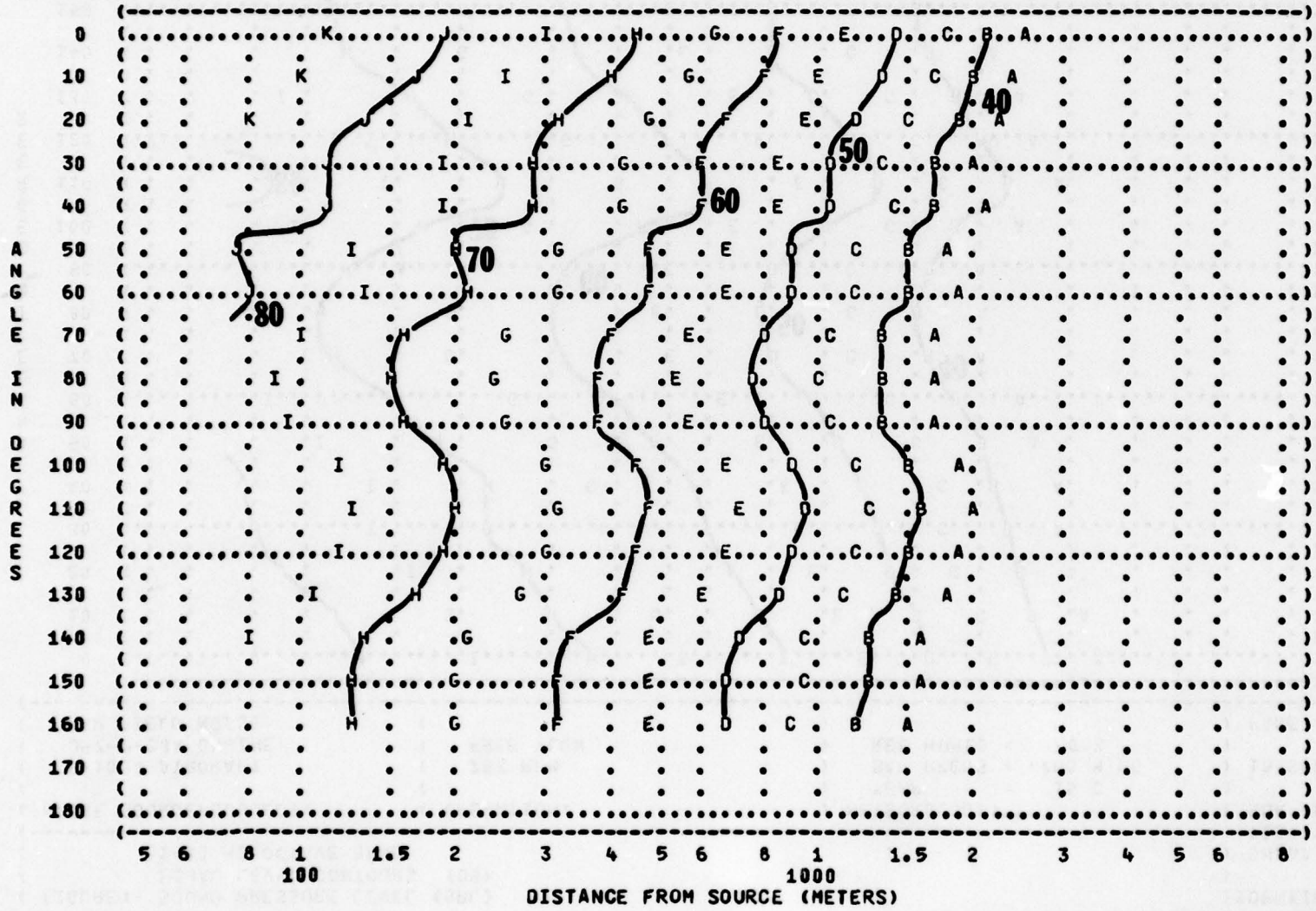
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 24

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
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) 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 25

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

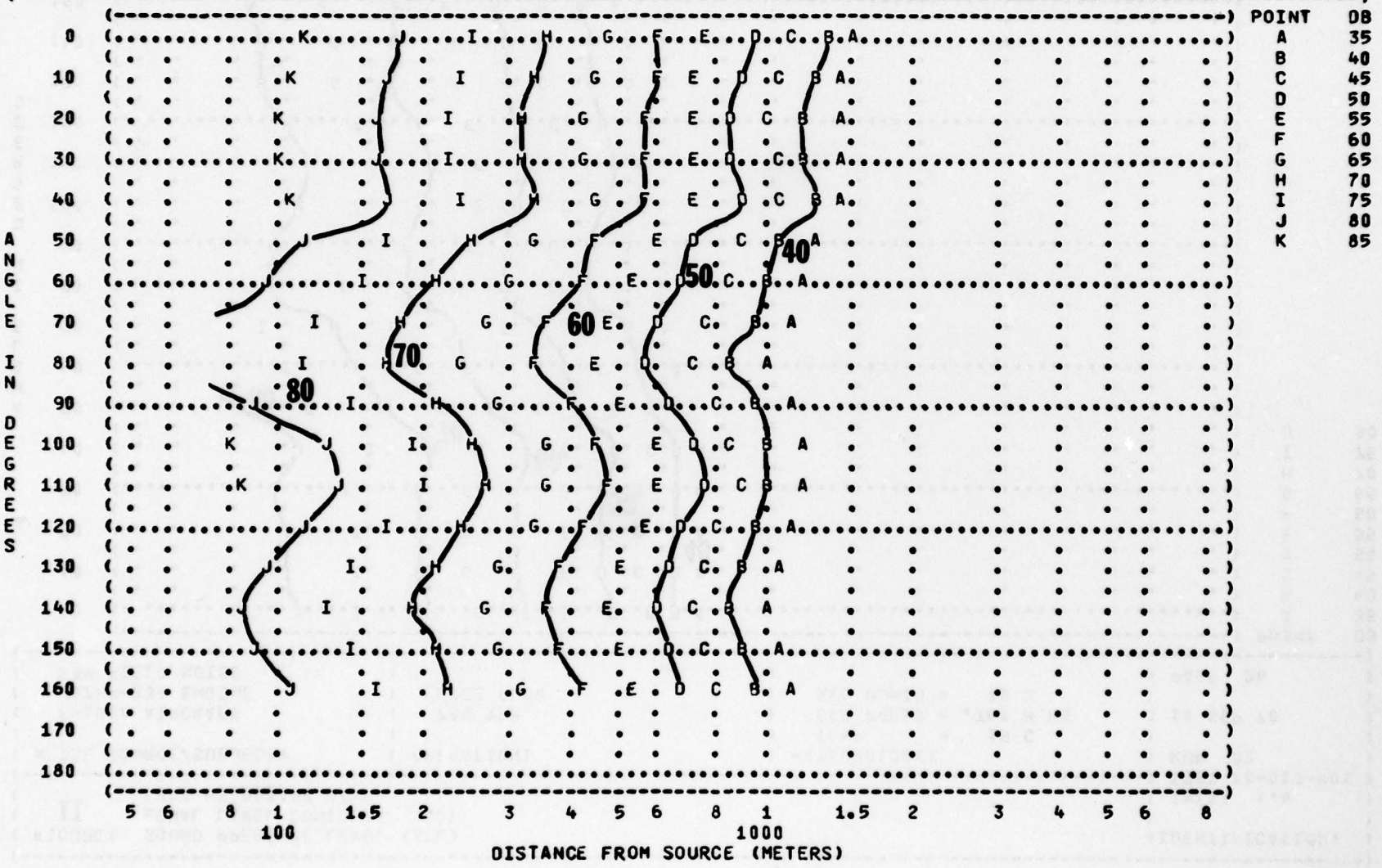


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
75% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 02
18 SEP 78
PAGE 26

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

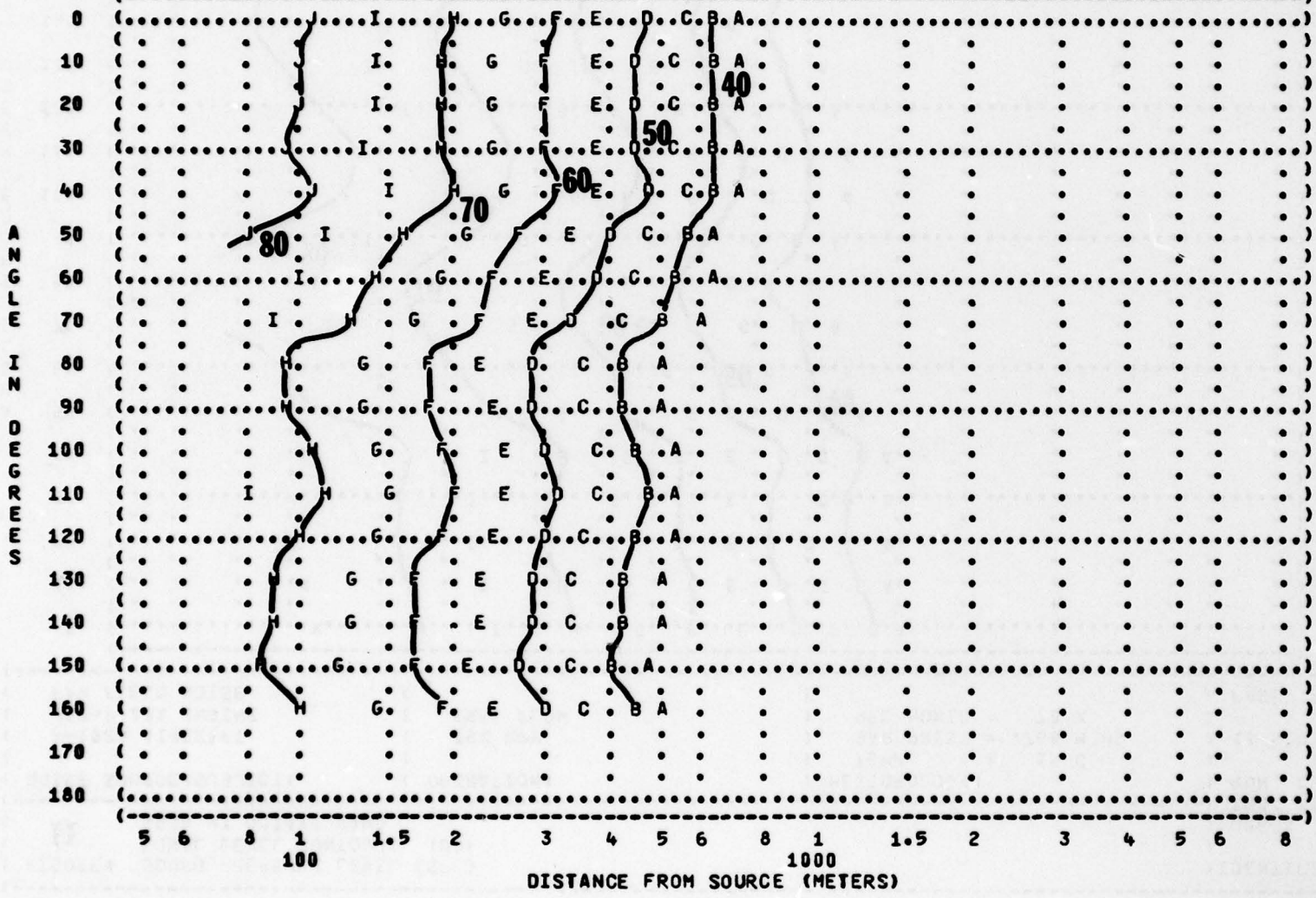


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 18

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

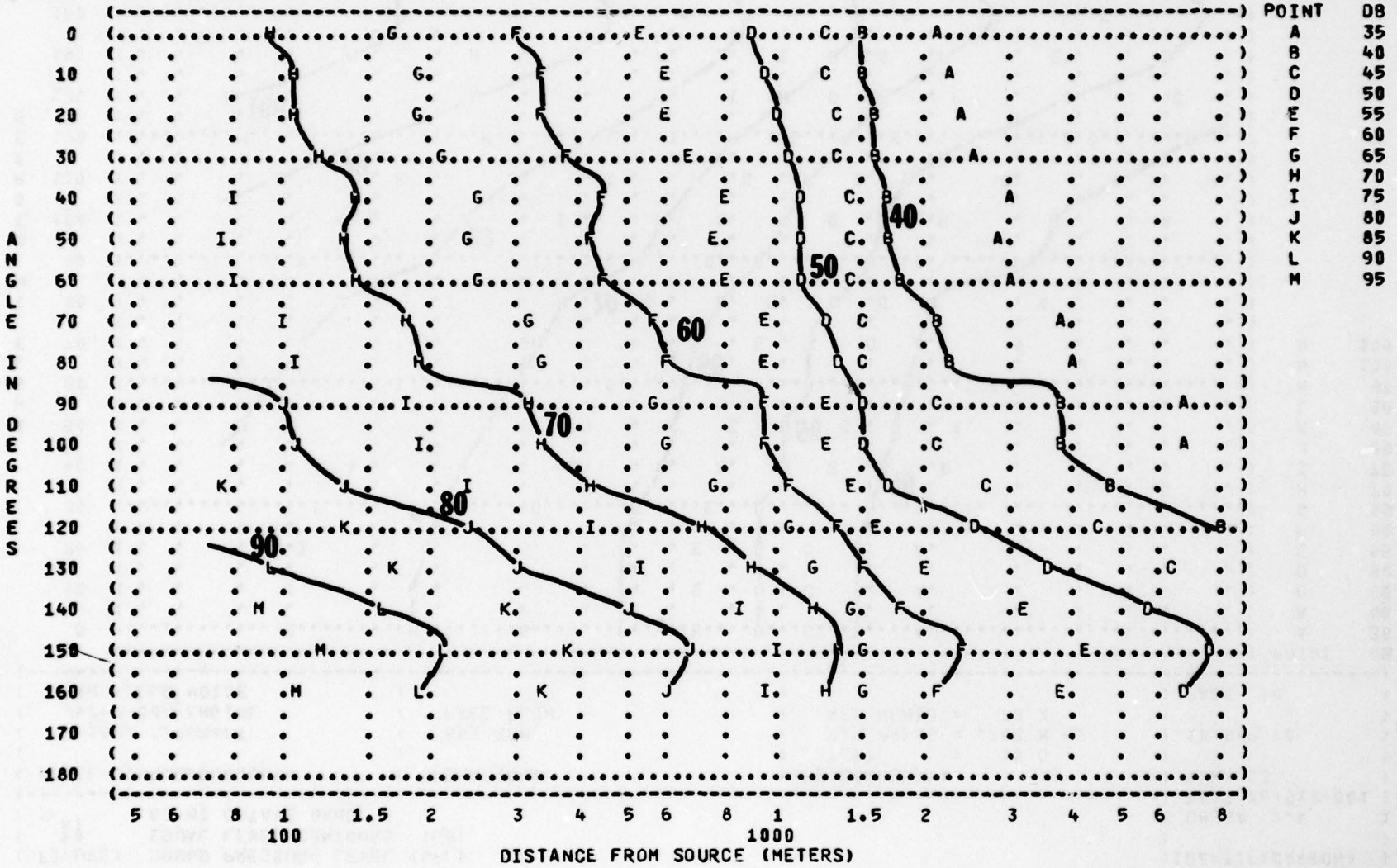


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 19

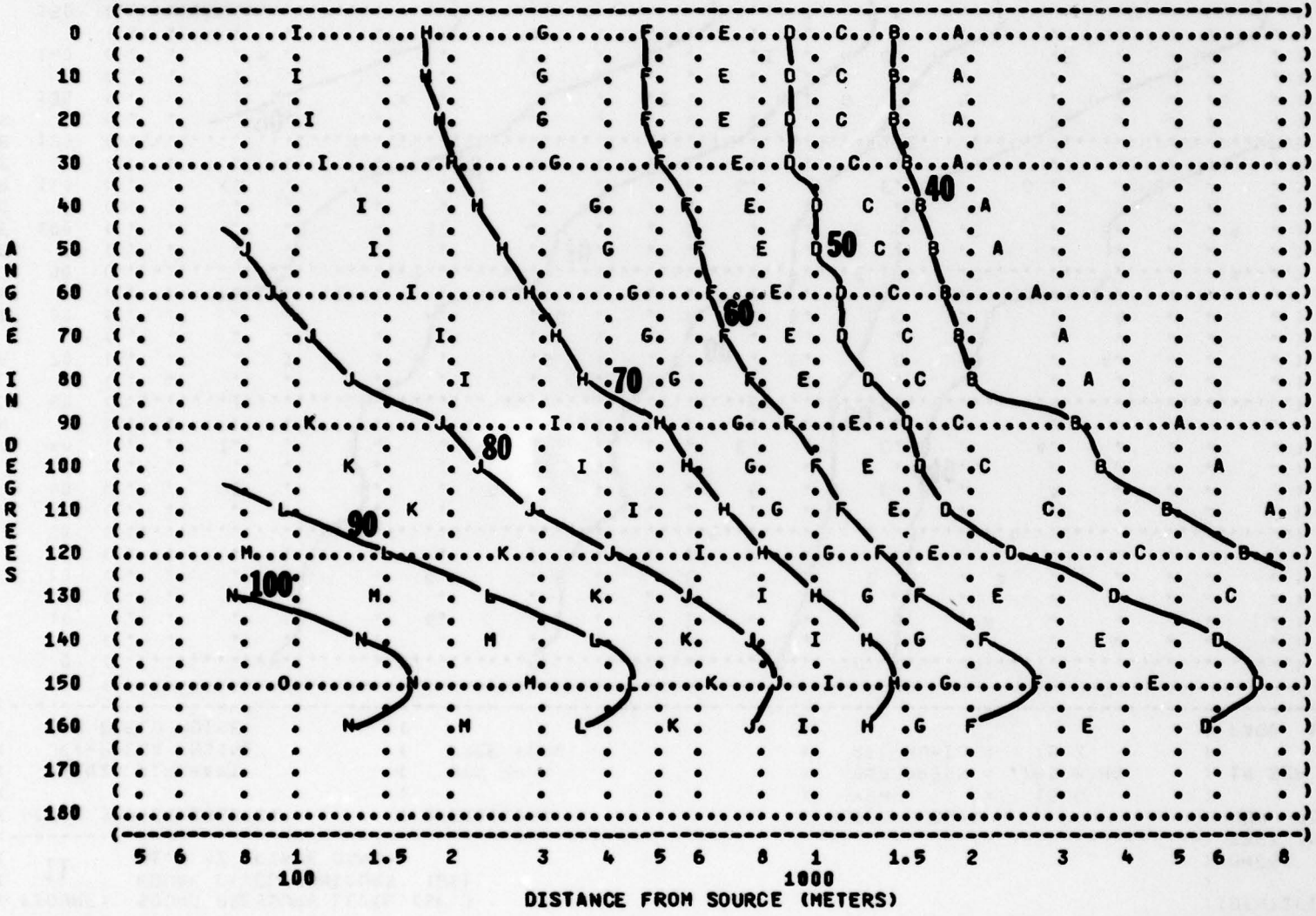


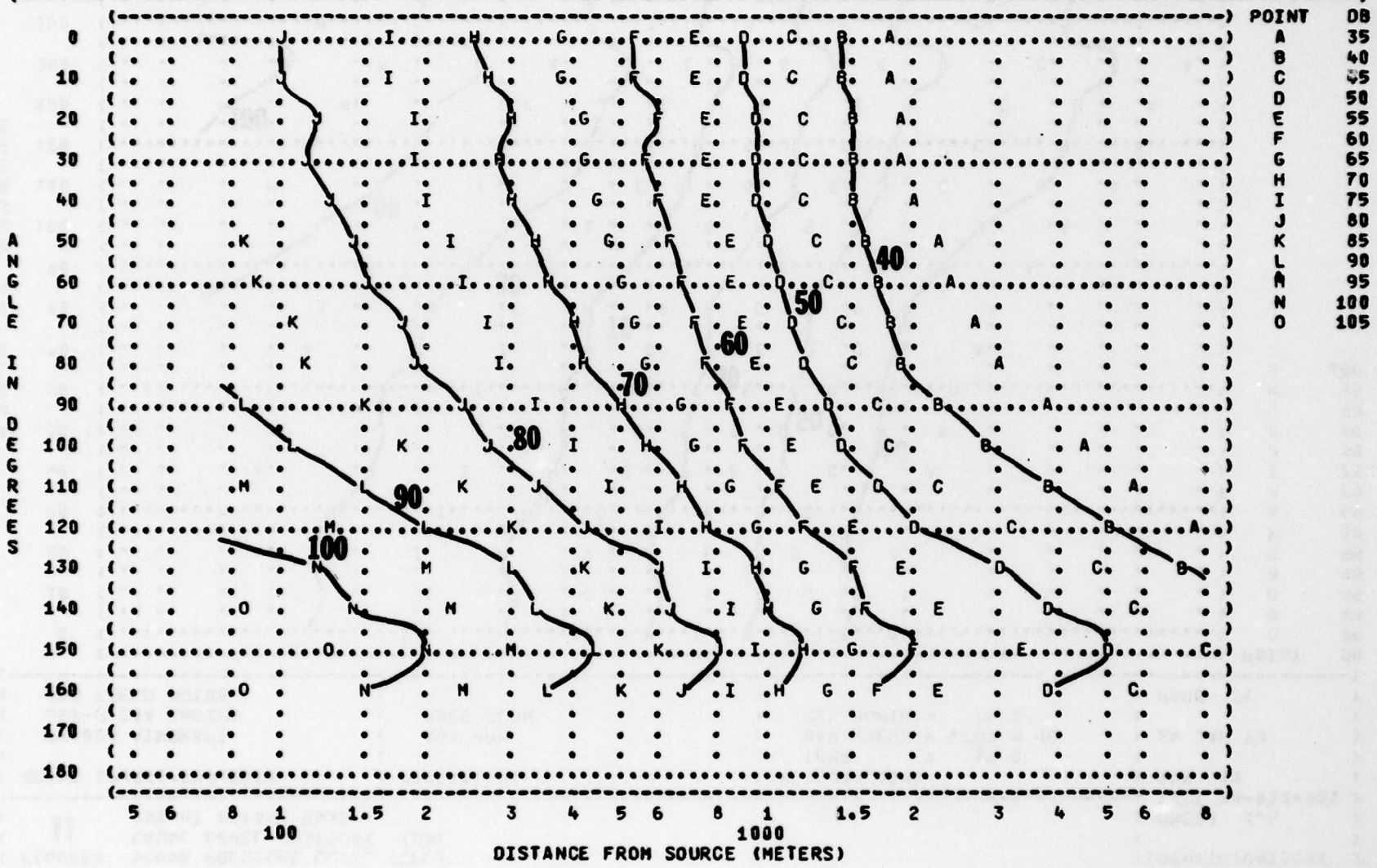
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

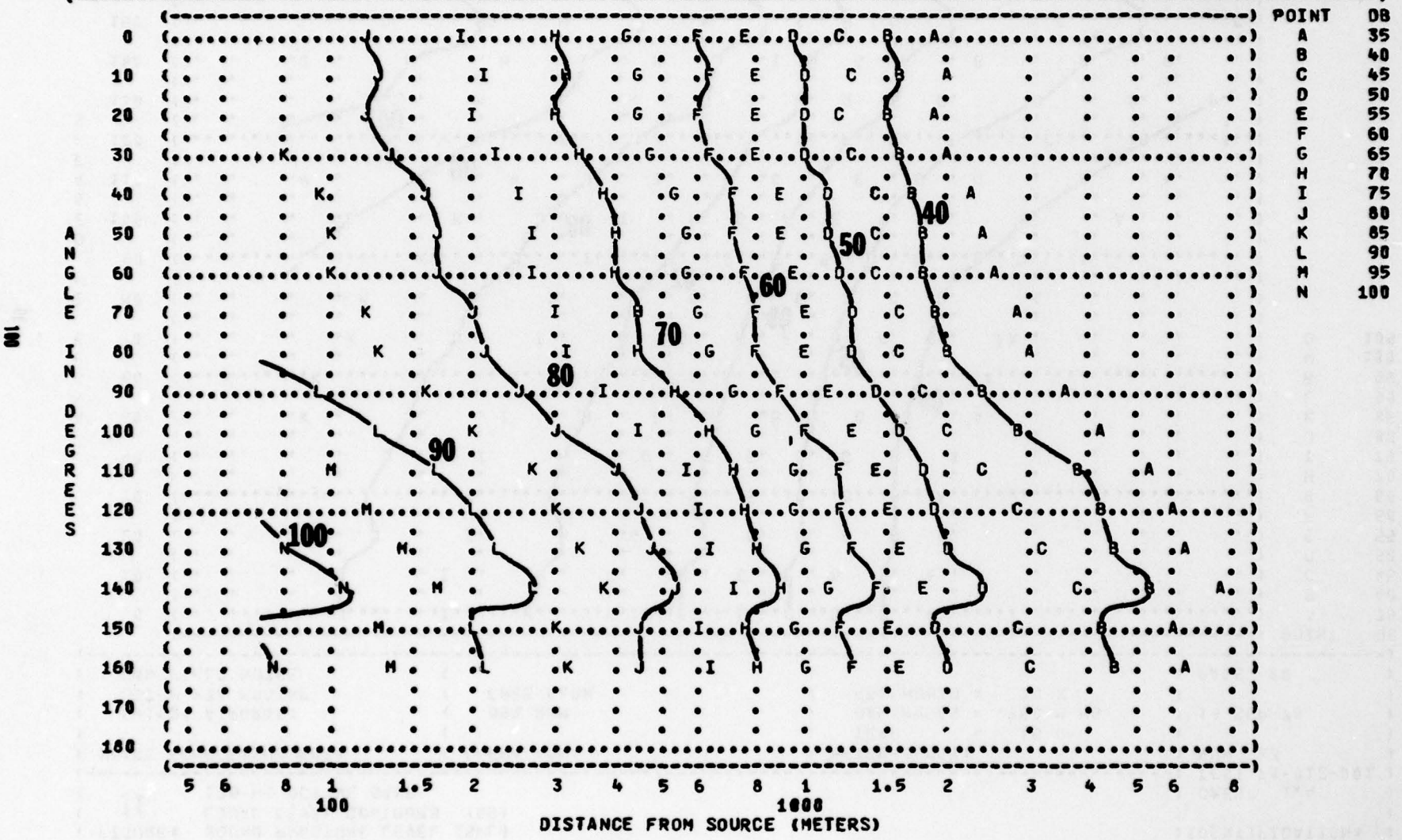
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
24 JAN 79
PAGE 21



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

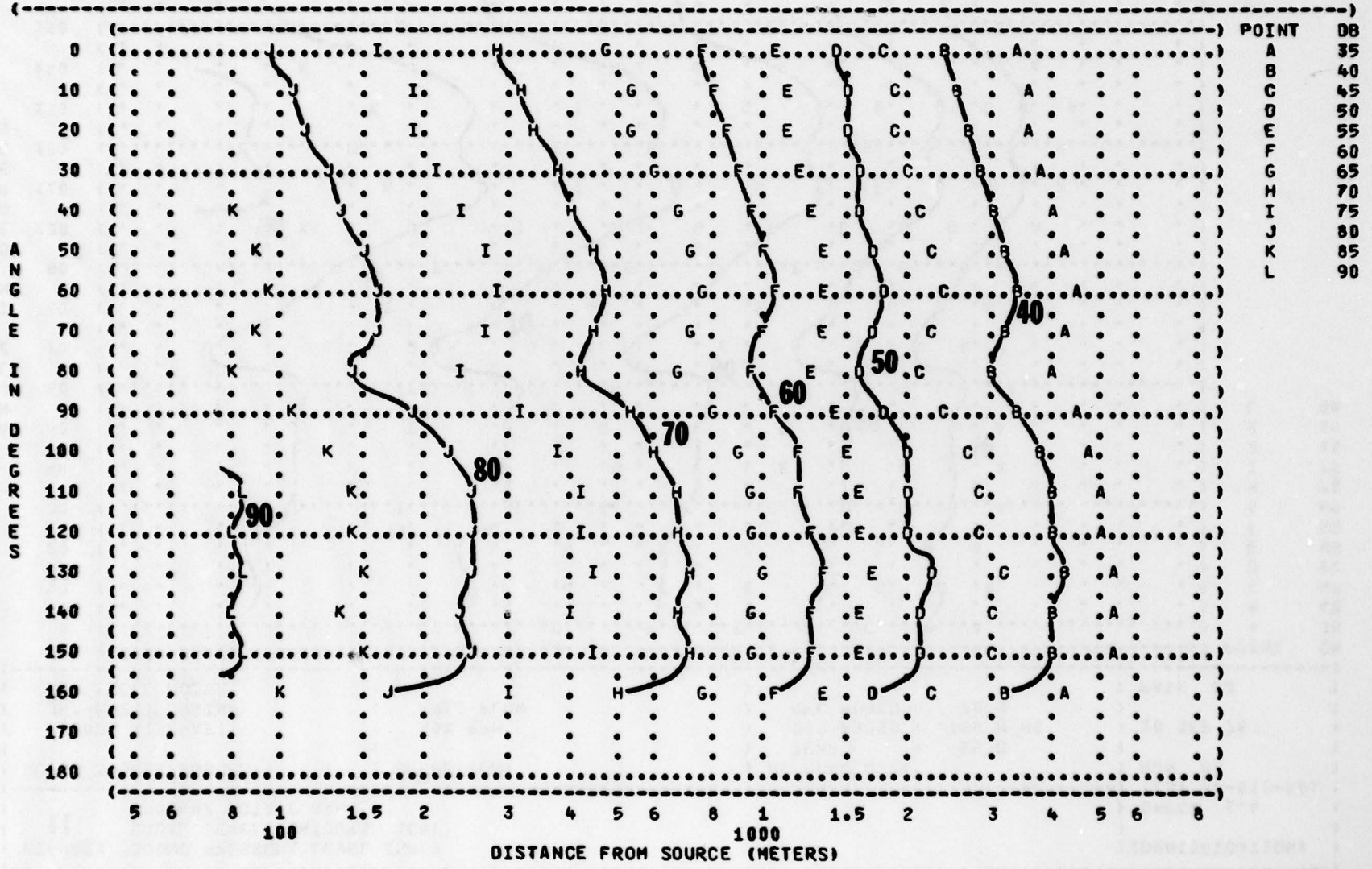
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATIONS:
OMEGA 1.4
TEST 78-012-001
RUN 03
24 JAN 79
PAGE 22

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 23

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

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

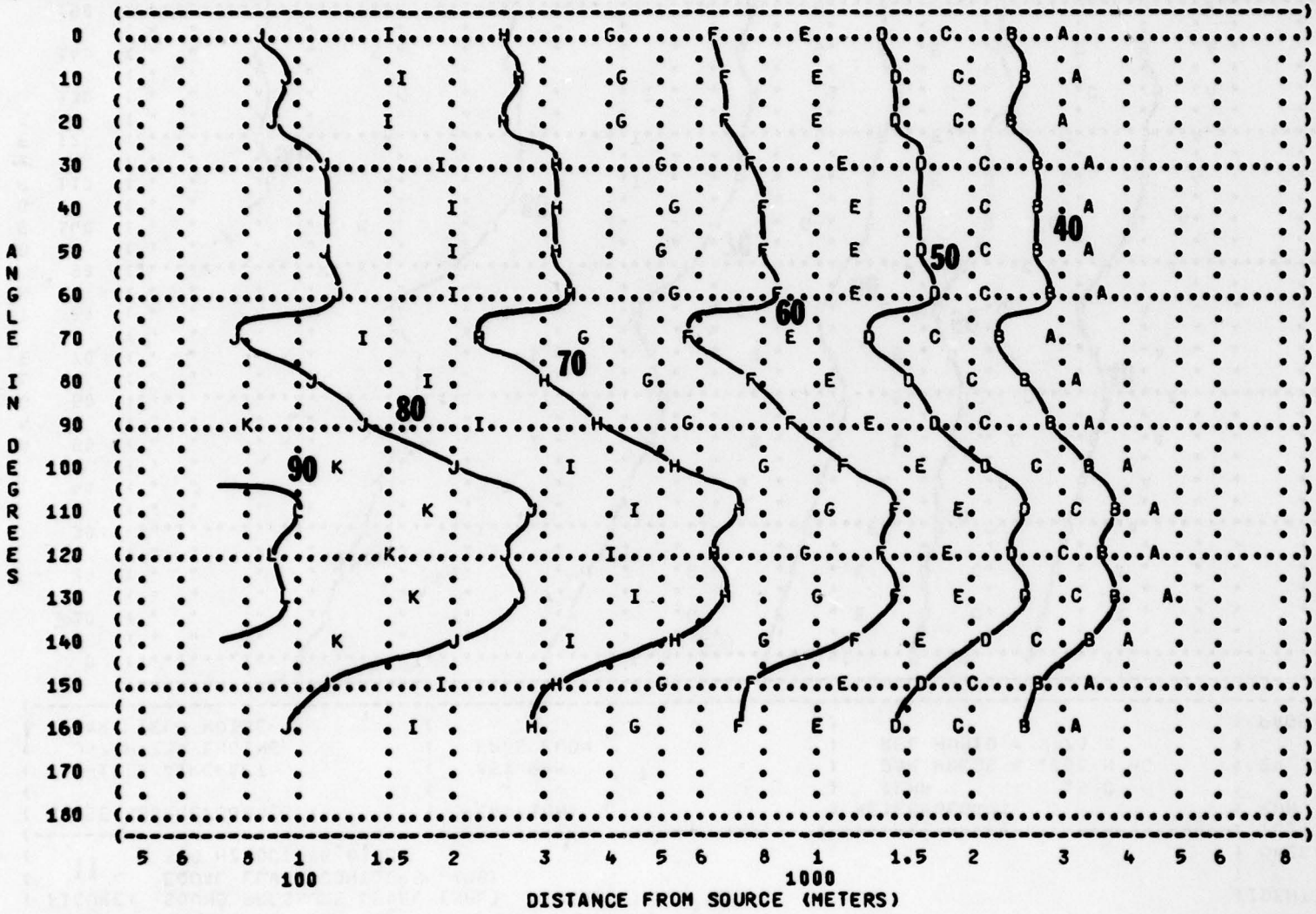


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
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

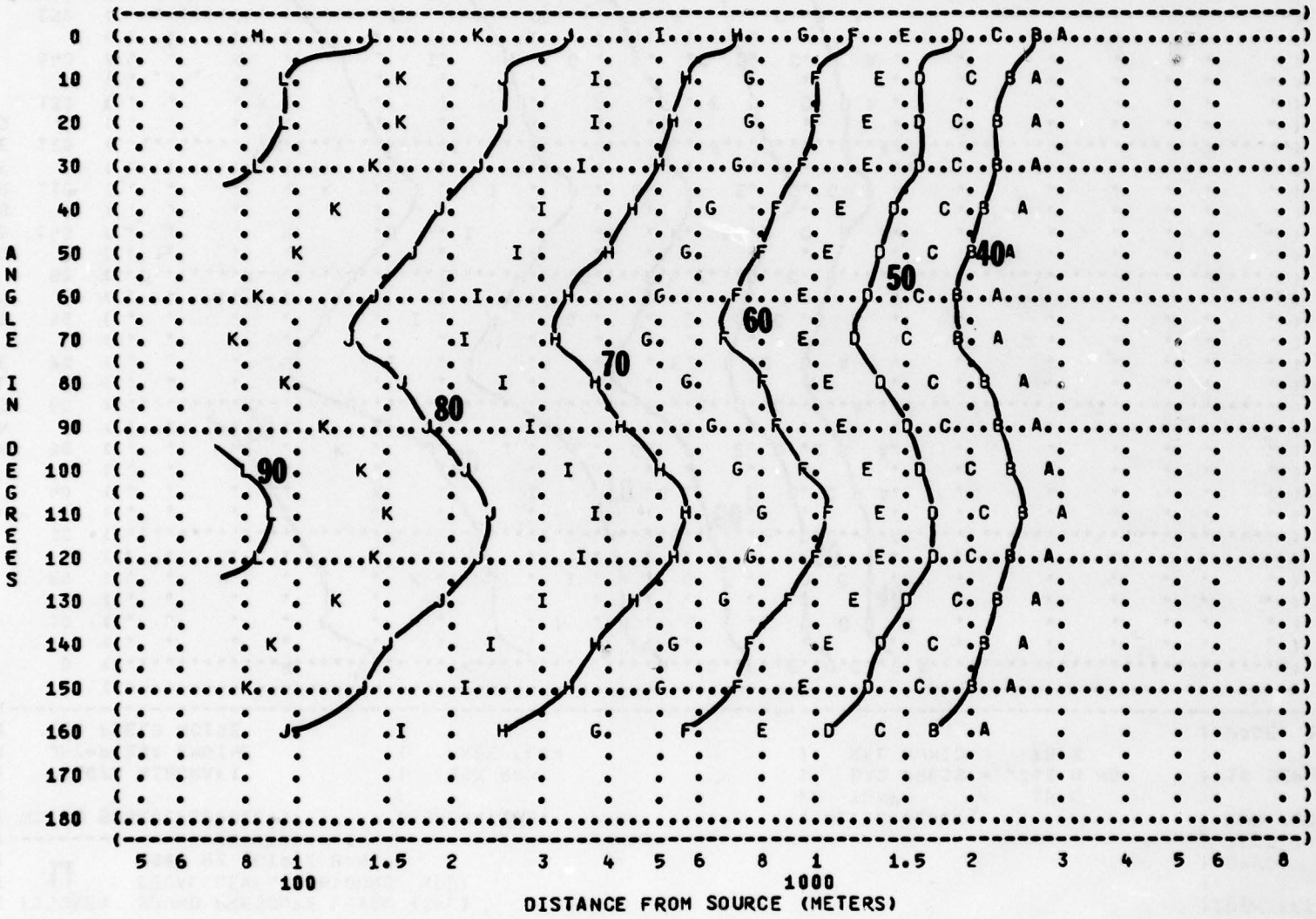


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 03
18 SEP 78
PAGE 25

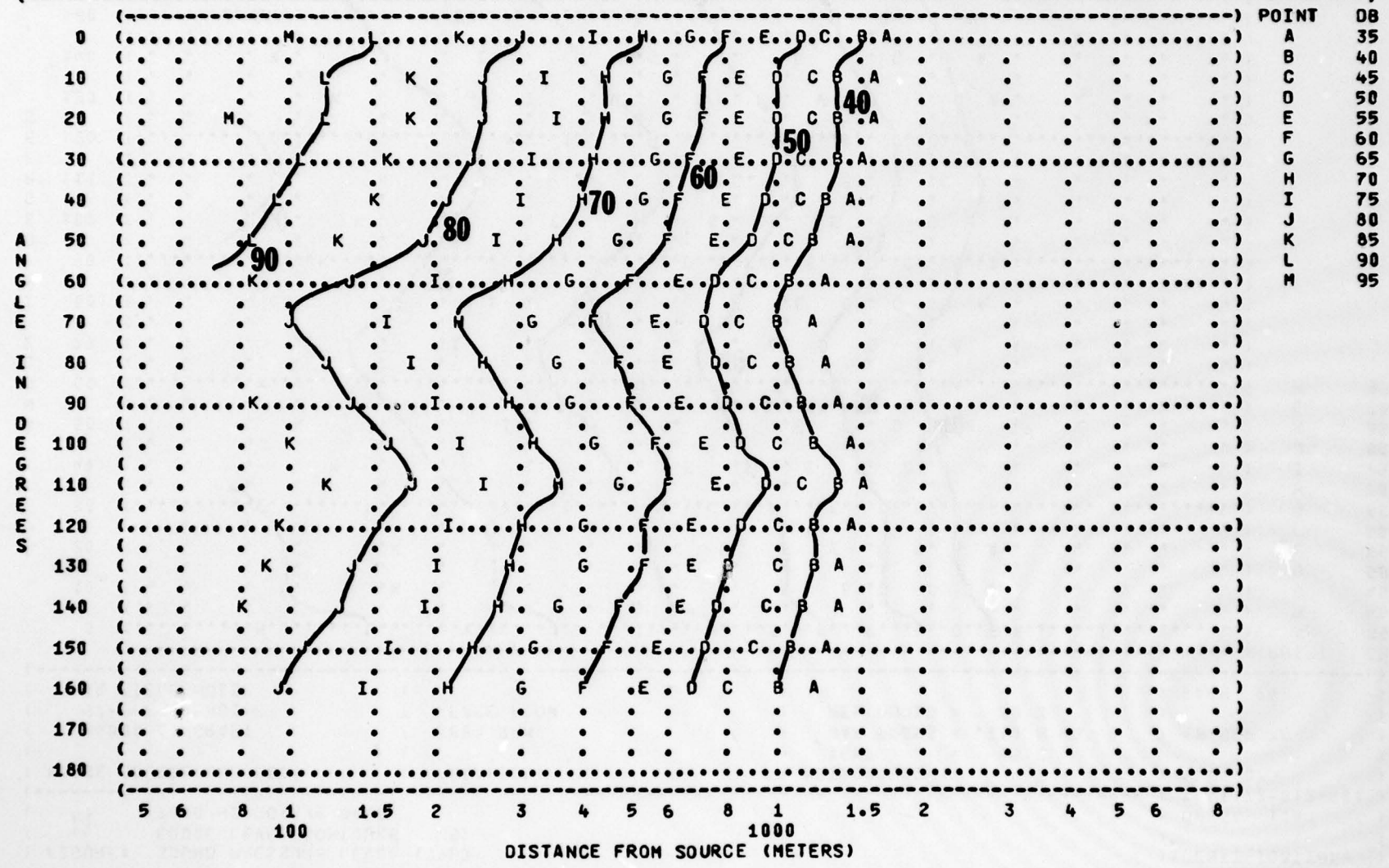


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 78-012-001 RUN 03 18 SEP 78 PAGE 25

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT J57-P-23A ENGINE FAR FIELD NOISE

OPERATION: 85% RPM FREE FLOW

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

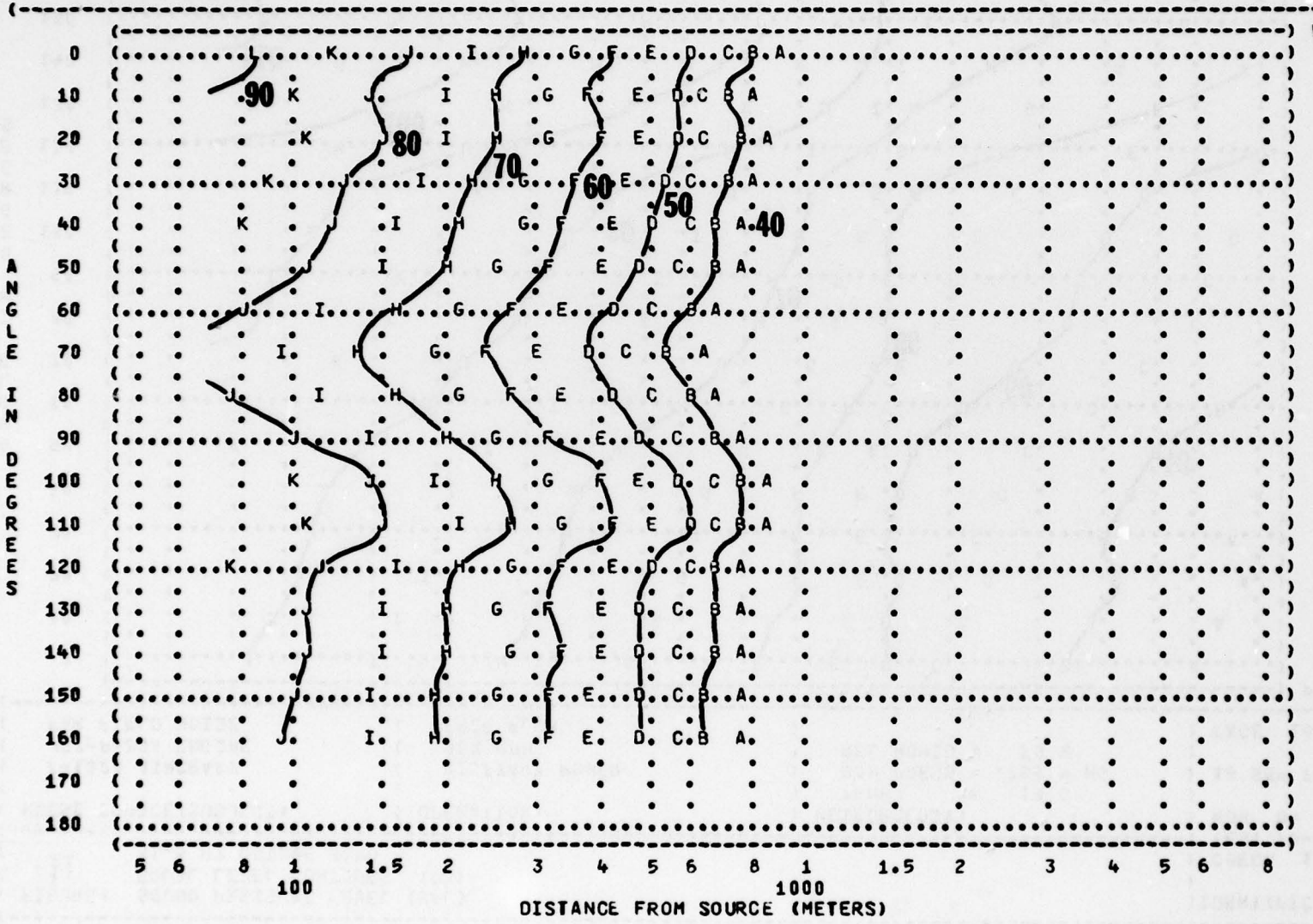


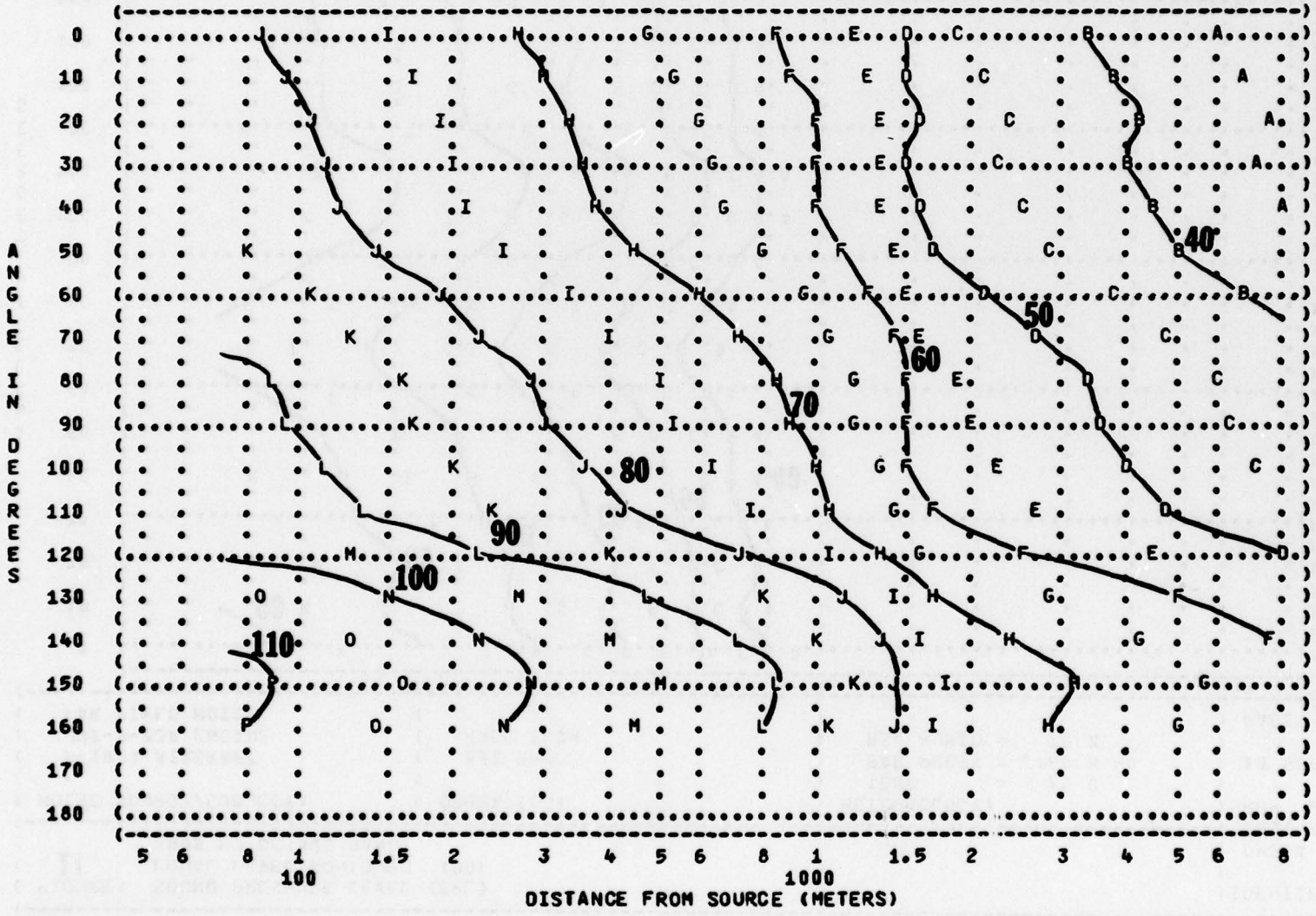
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
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
N	100
O	105
P	110

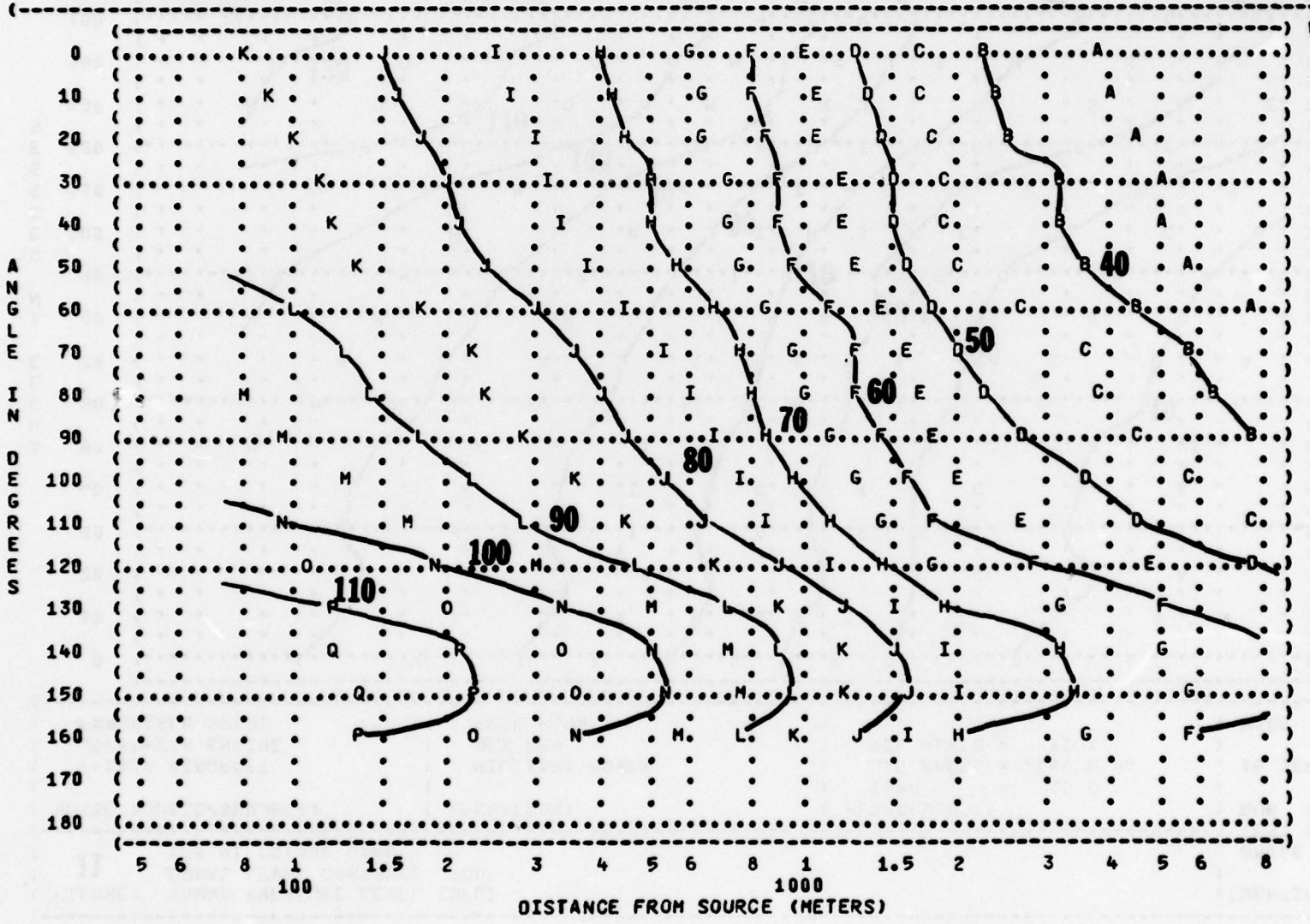
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 19



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

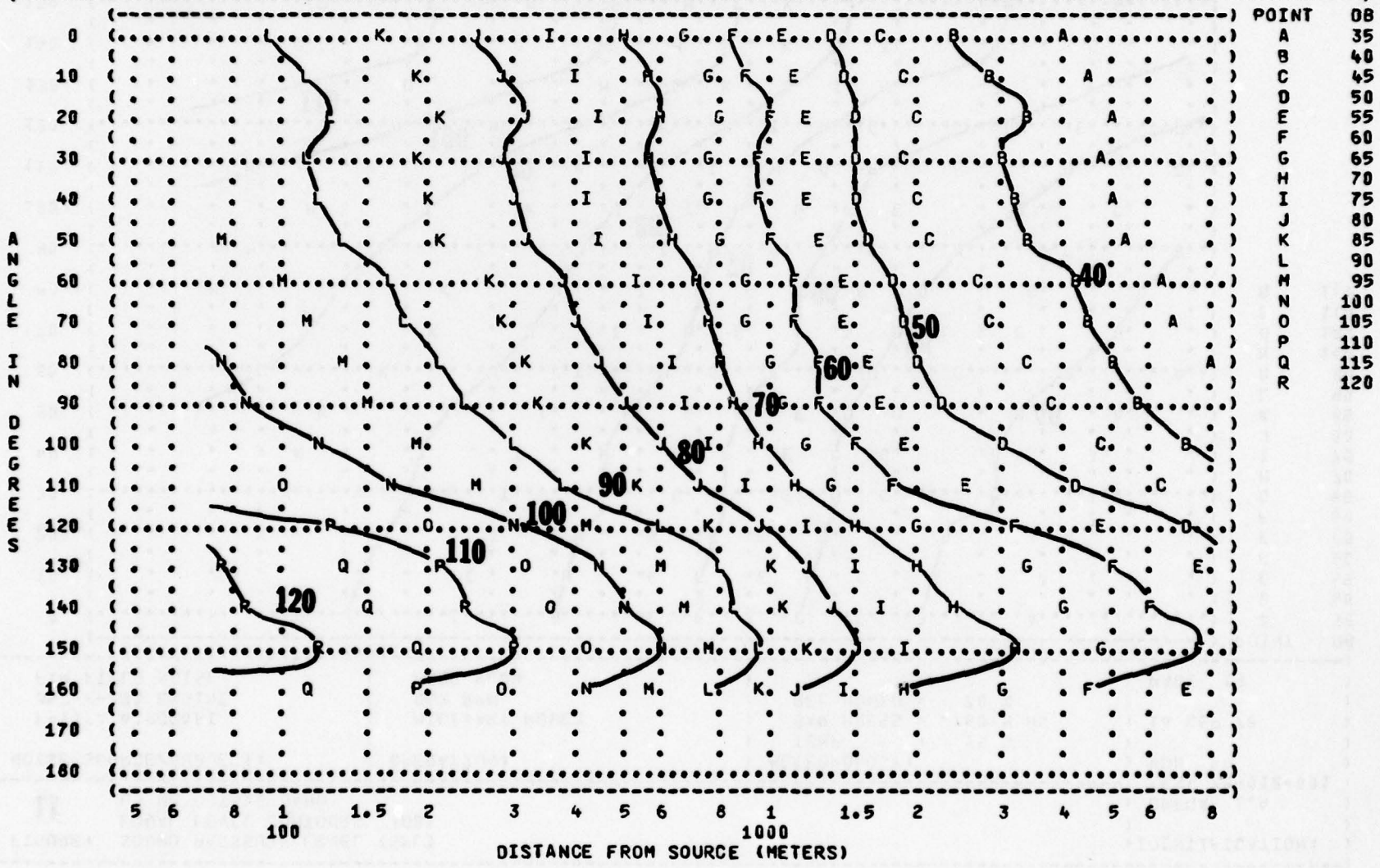
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 20

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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



POINT DB

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115
R	120

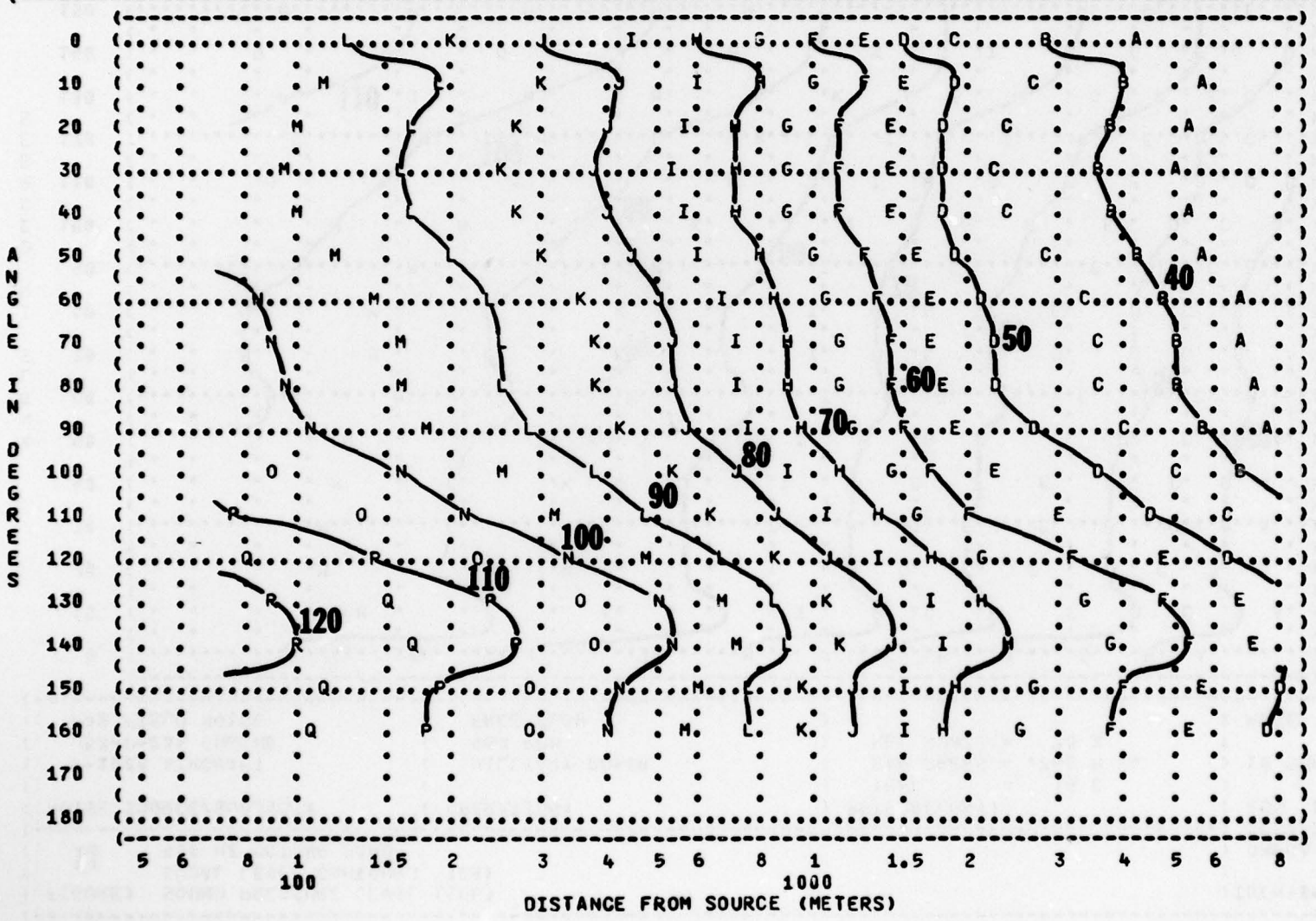
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 78-012-001 RUN 04 18 SEP 78 PAGE 21

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT J57-P-23A ENGINE FAR FIELD NOISE

OPERATION: MILITARY POWER 96% RPM 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
P	110
Q	115
R	120

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

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 22

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

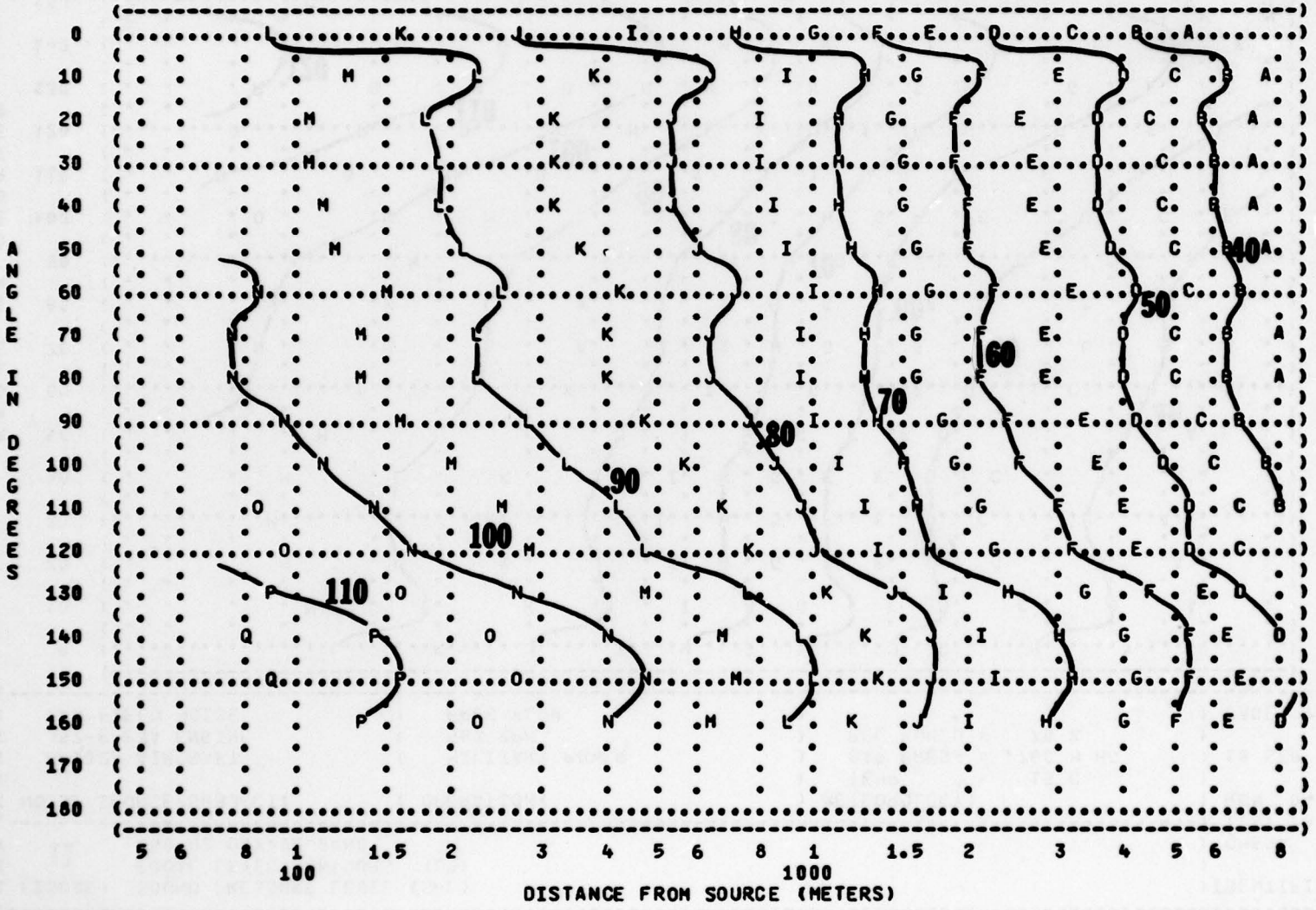


FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 23

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
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
P	110

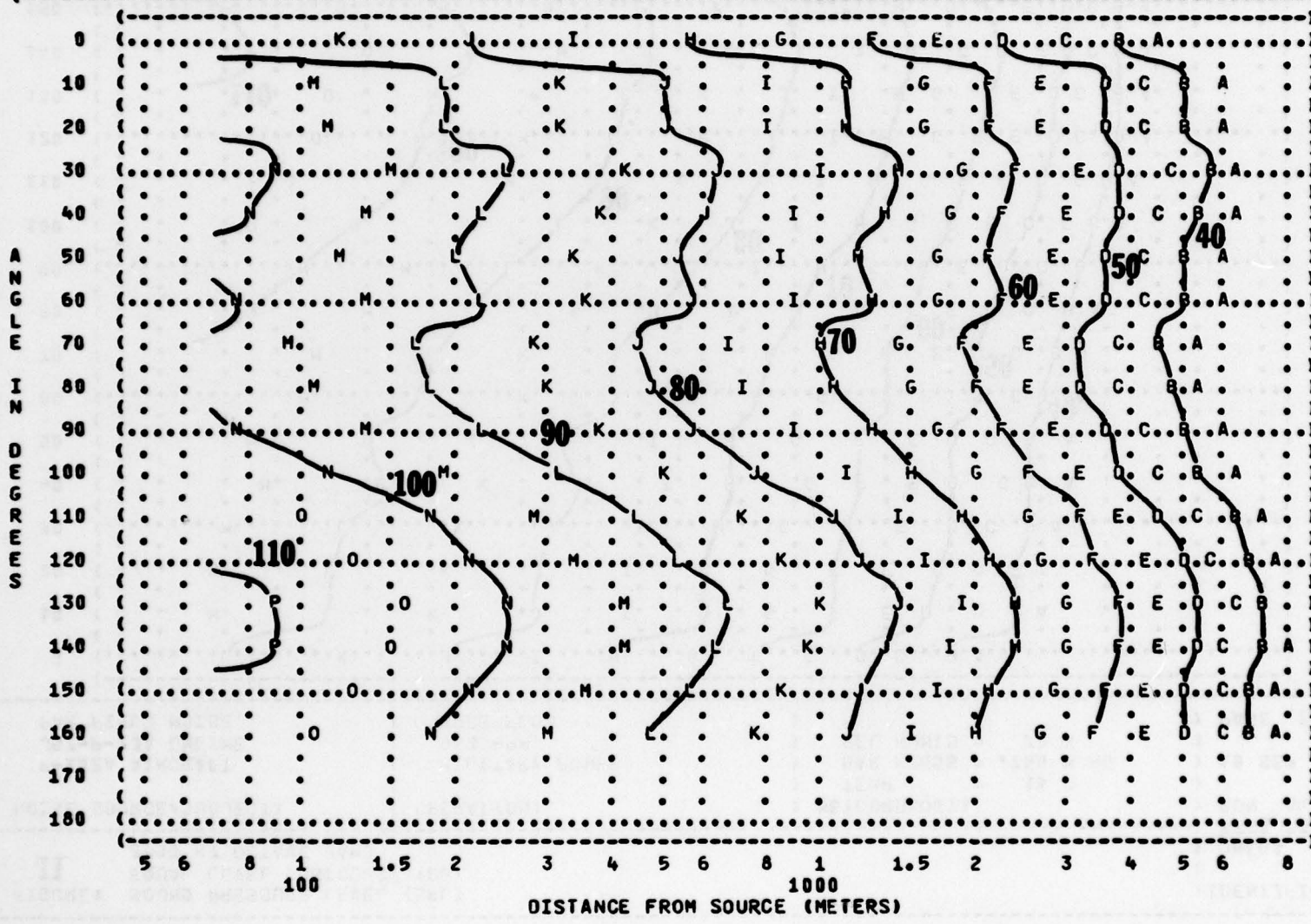


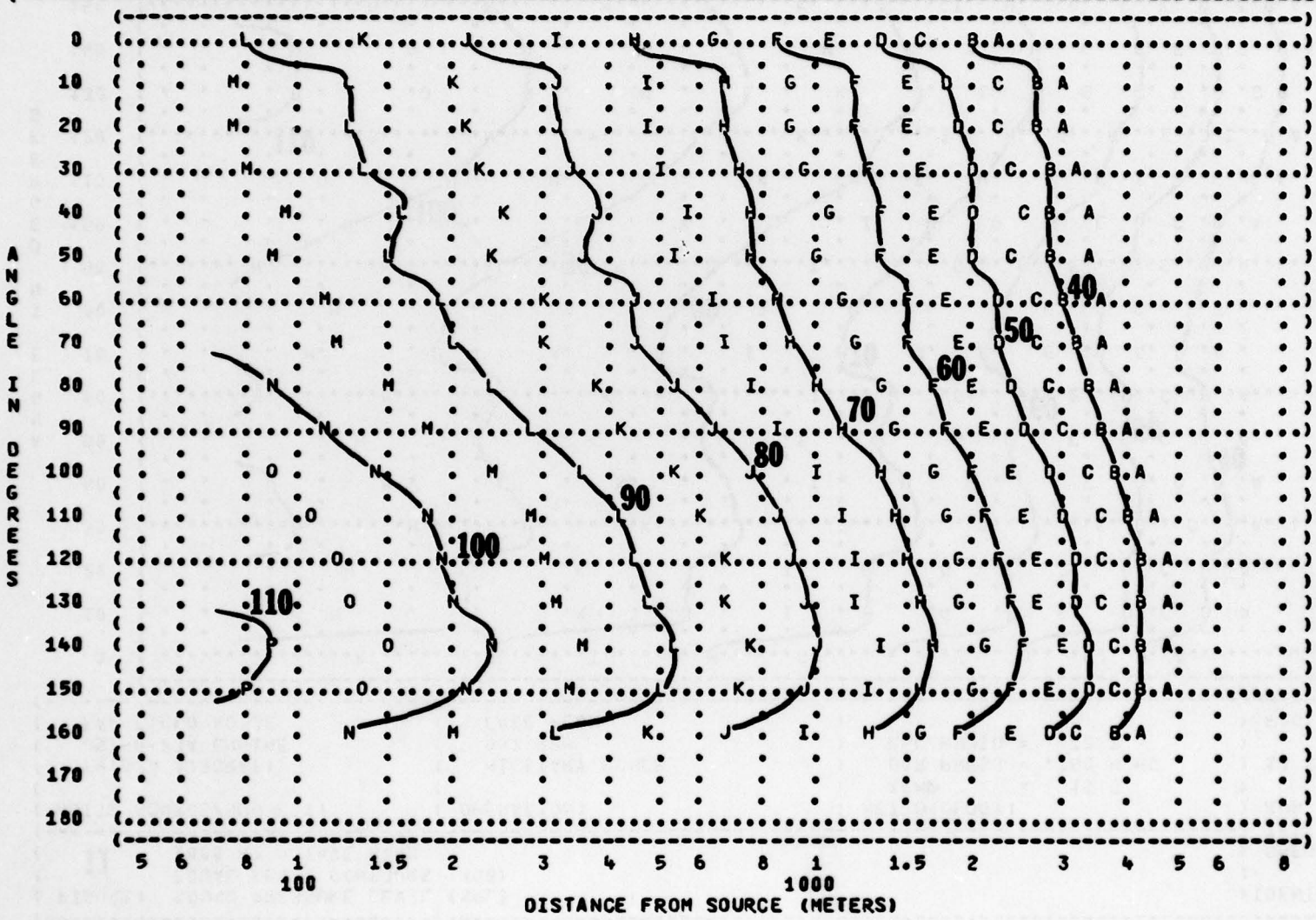
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 78-012-001 RUN 04 18 SEP 78 PAGE 24

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT J57-P-23A ENGINE FAR FIELD NOISE

OPERATION: MILITARY POWER 96% RPM 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
P	110

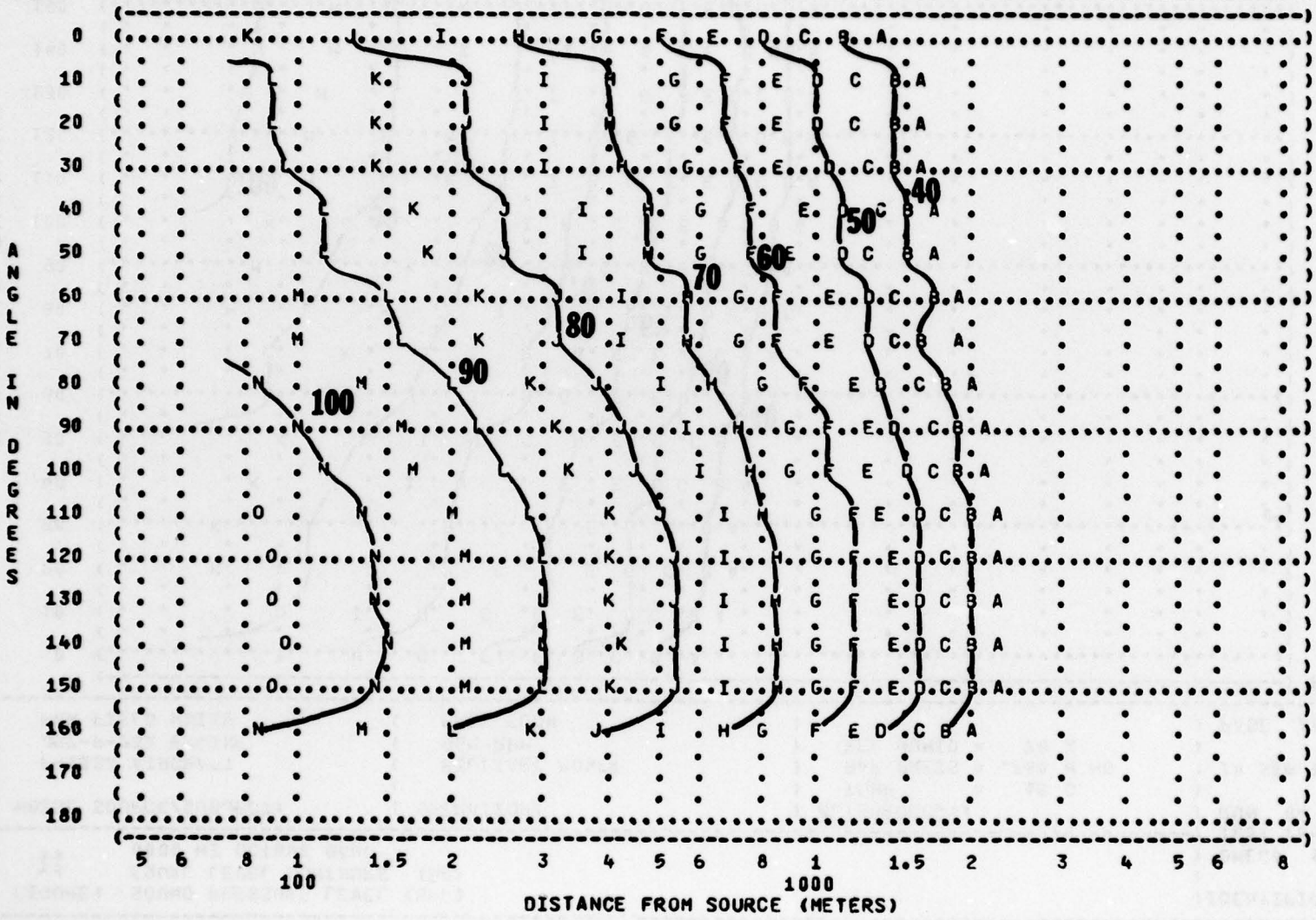
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
PAGE 25



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

FIGURE: 11

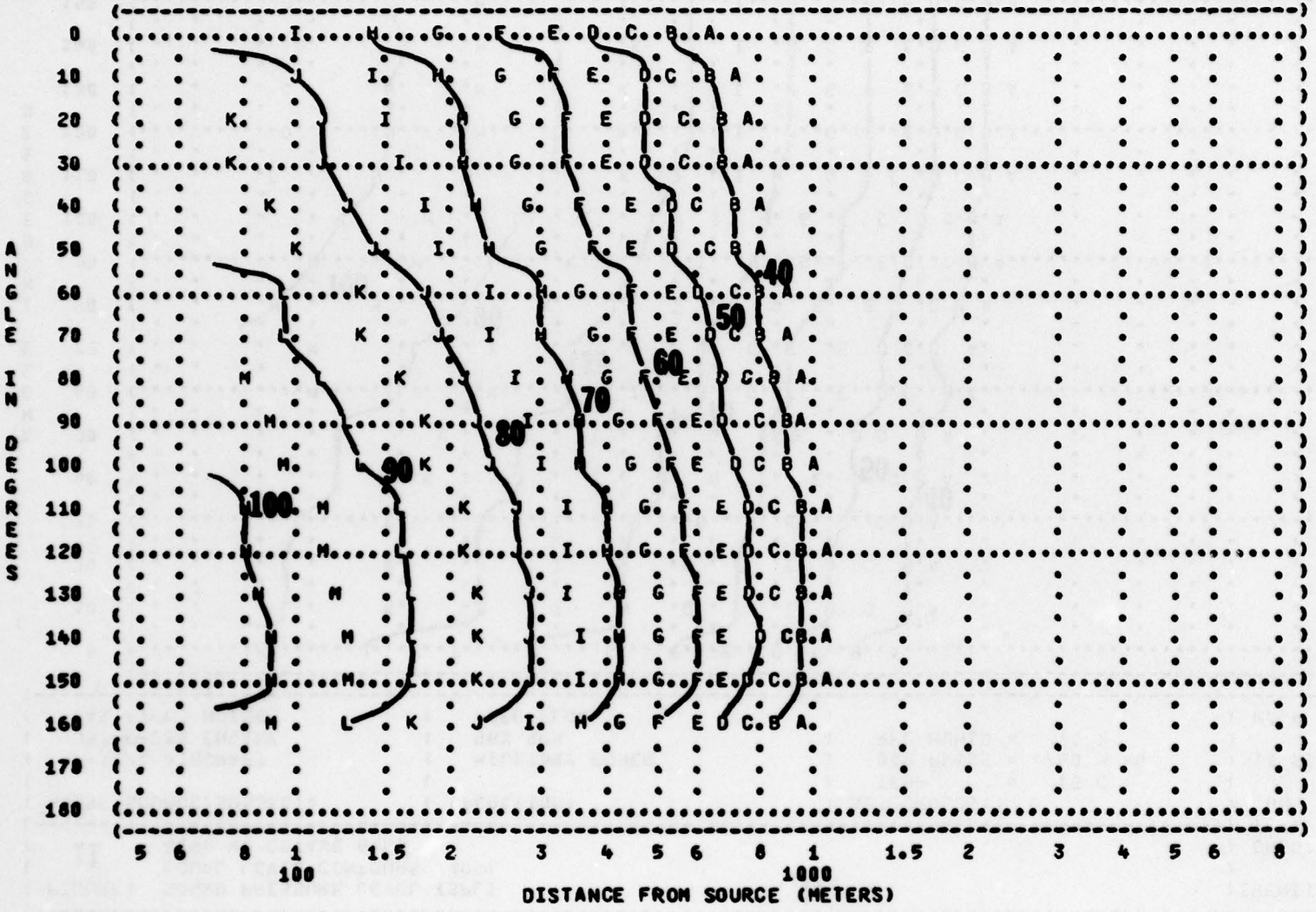
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 04
18 SEP 78
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
L	90
M	95
N	100

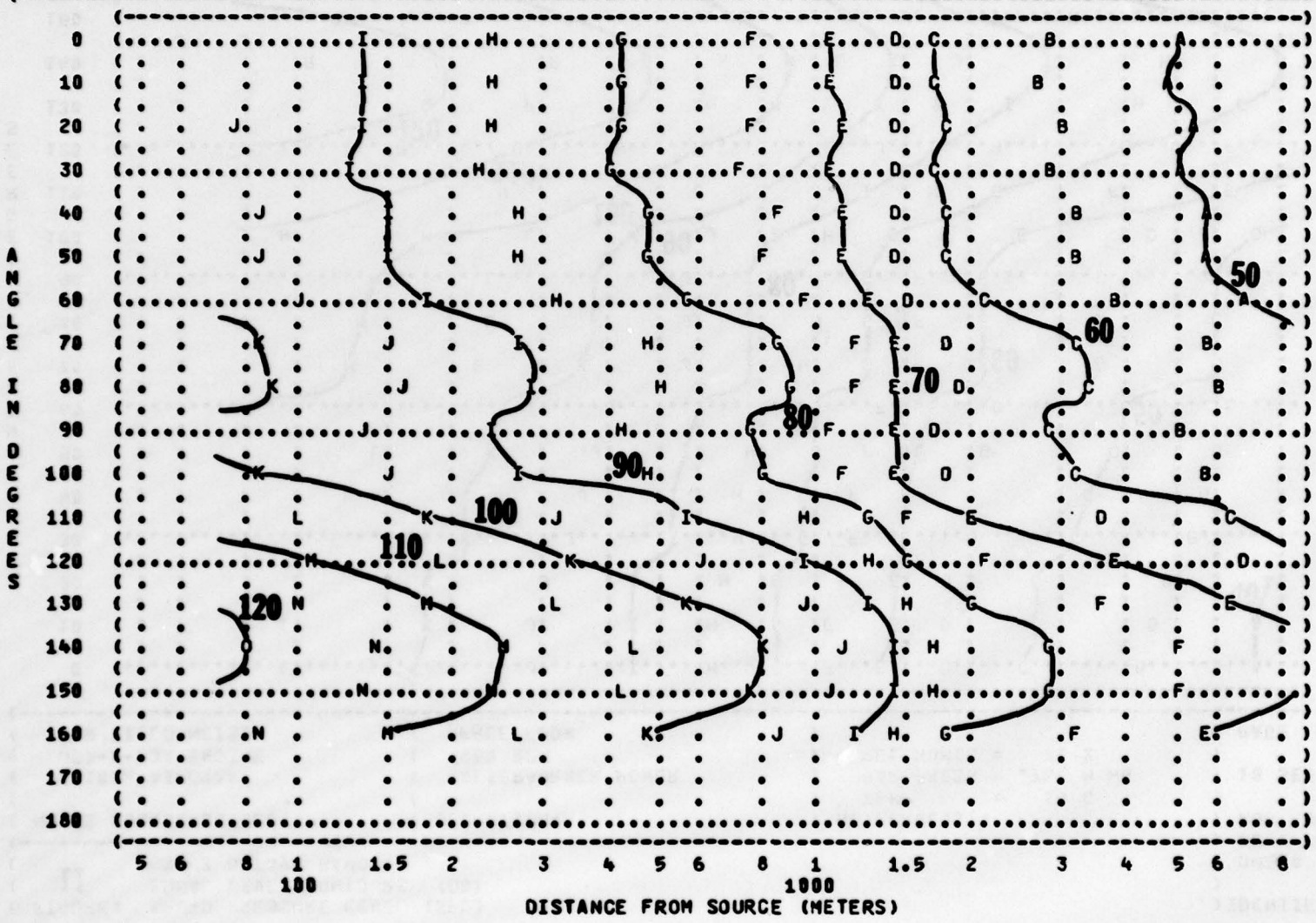
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 78-012-001 RUN 05 18 SEP 78 PAGE 18

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT J57-P-23A ENGINE FAR FIELD NOISE

OPERATION: AFTERBURNER POWER 96% RPM FREE FLOW

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



POINT	DB
A	50
B	55
C	60
D	65
E	70
F	75
G	80
H	85
I	90
J	95
K	100
L	105
M	110
N	115
O	120

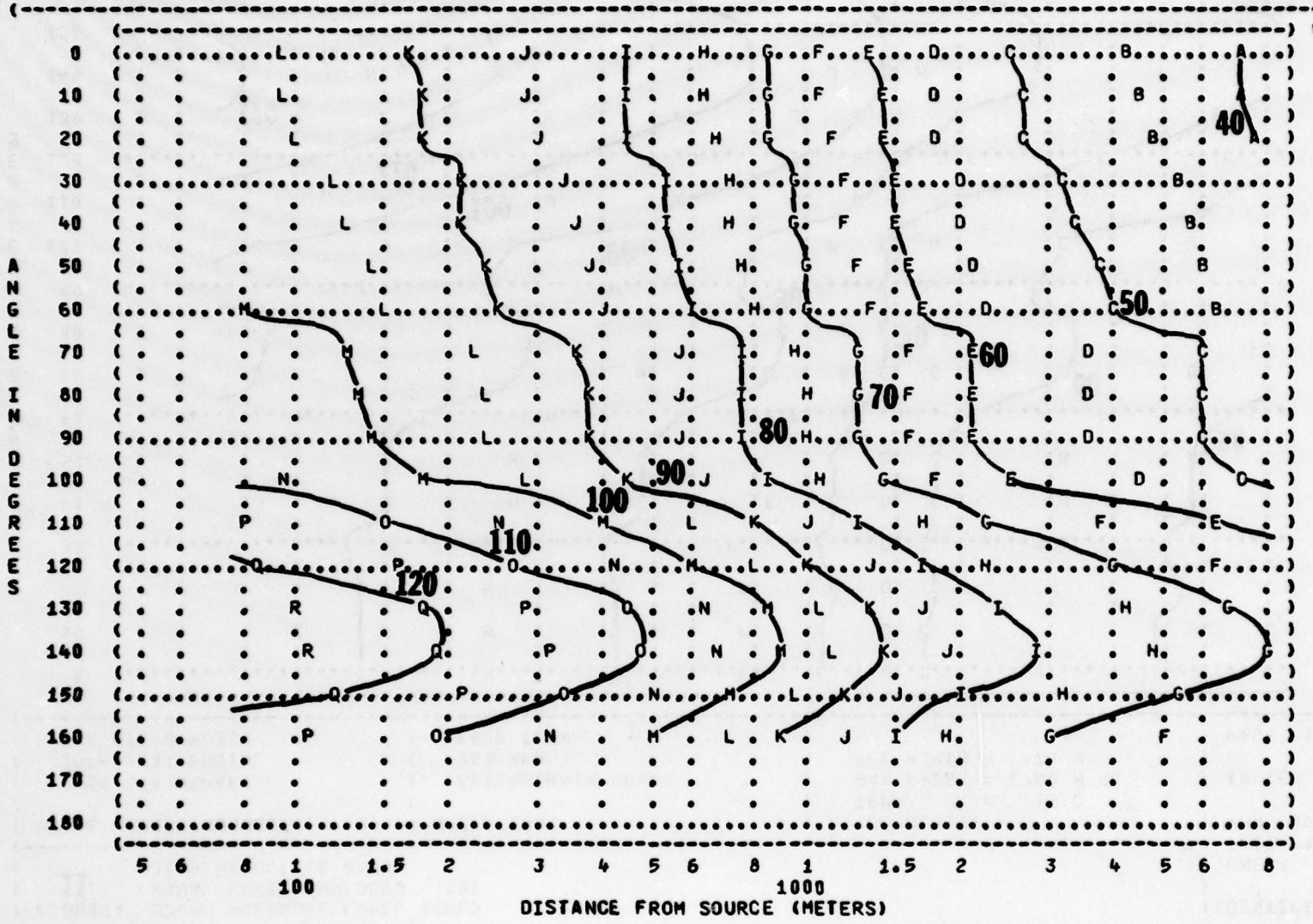
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 19



POINT	DB
A	40
B	45
C	50
D	55
E	60
F	65
G	70
H	75
I	80
J	85
K	90
L	95
M	100
N	105
O	110
P	115
Q	120
R	125

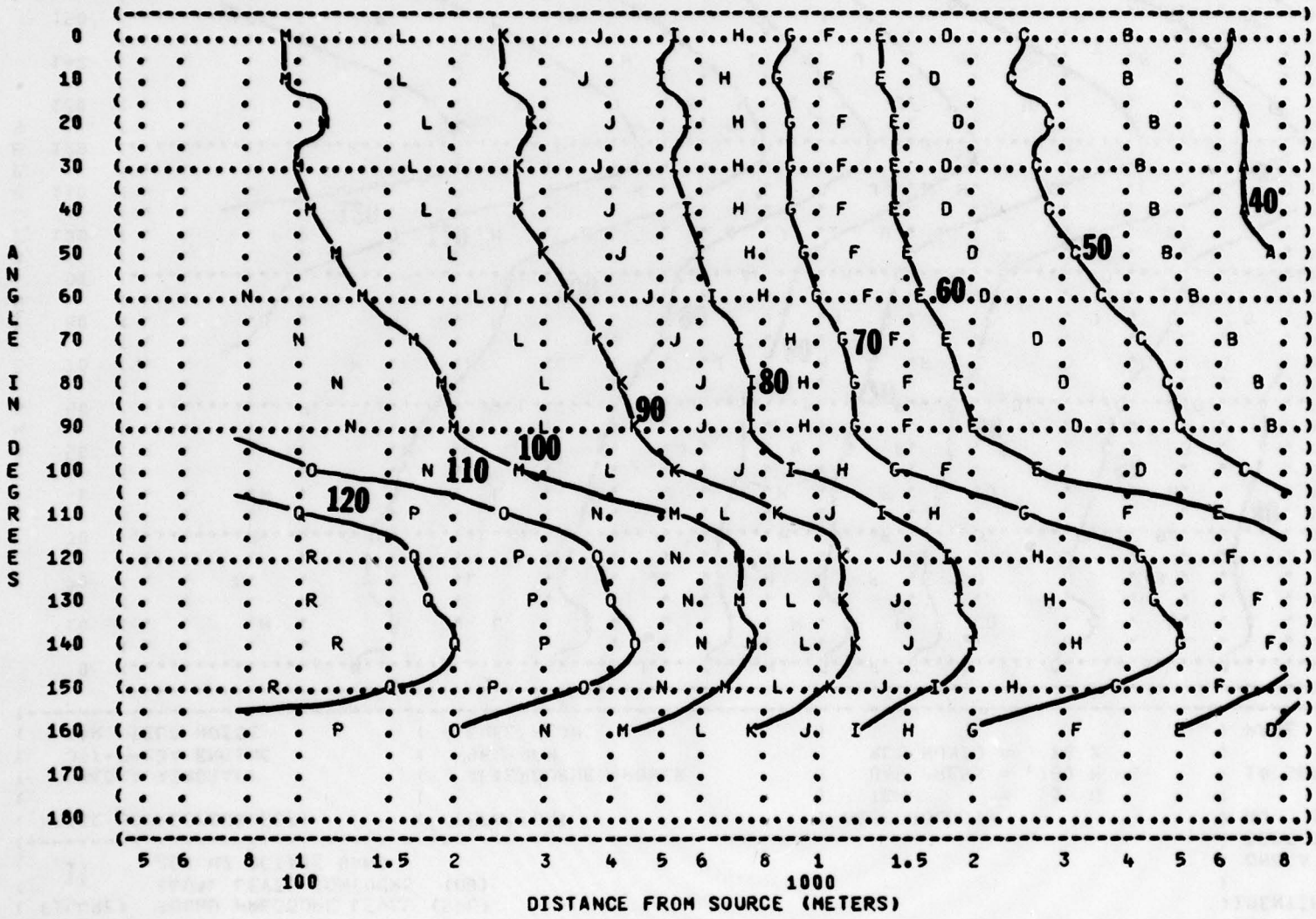
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 20



POINT	DB
A	40
B	45
C	50
D	55
E	60
F	65
G	70
H	75
I	80
J	85
K	90
L	95
M	100
N	105
O	110
P	115
Q	120
R	125

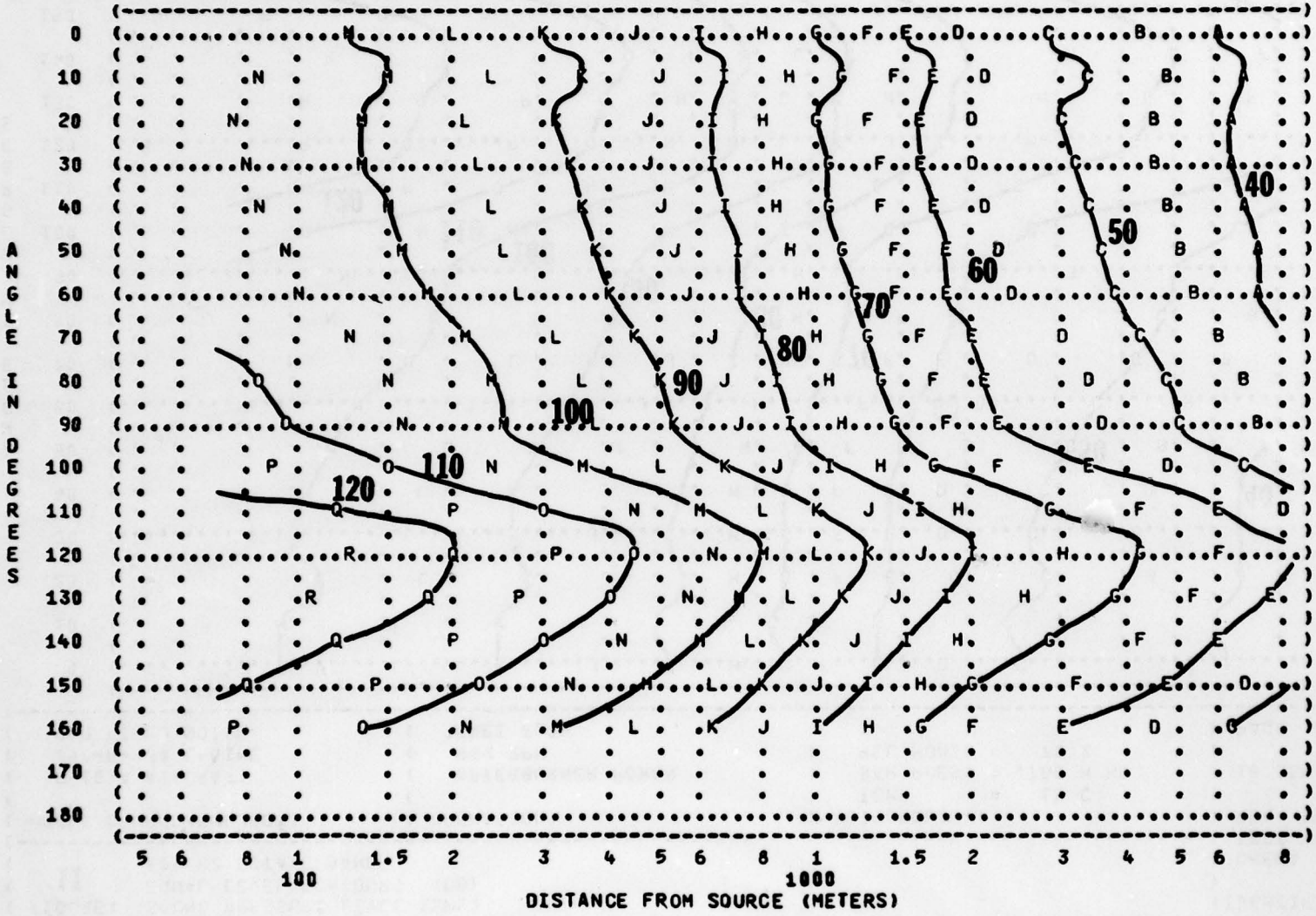
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 21



POINT	DB
A	40
B	45
C	50
D	55
E	60
F	65
G	70
H	75
I	80
J	85
K	90
L	95
M	100
N	105
O	110
P	115
Q	120
R	125

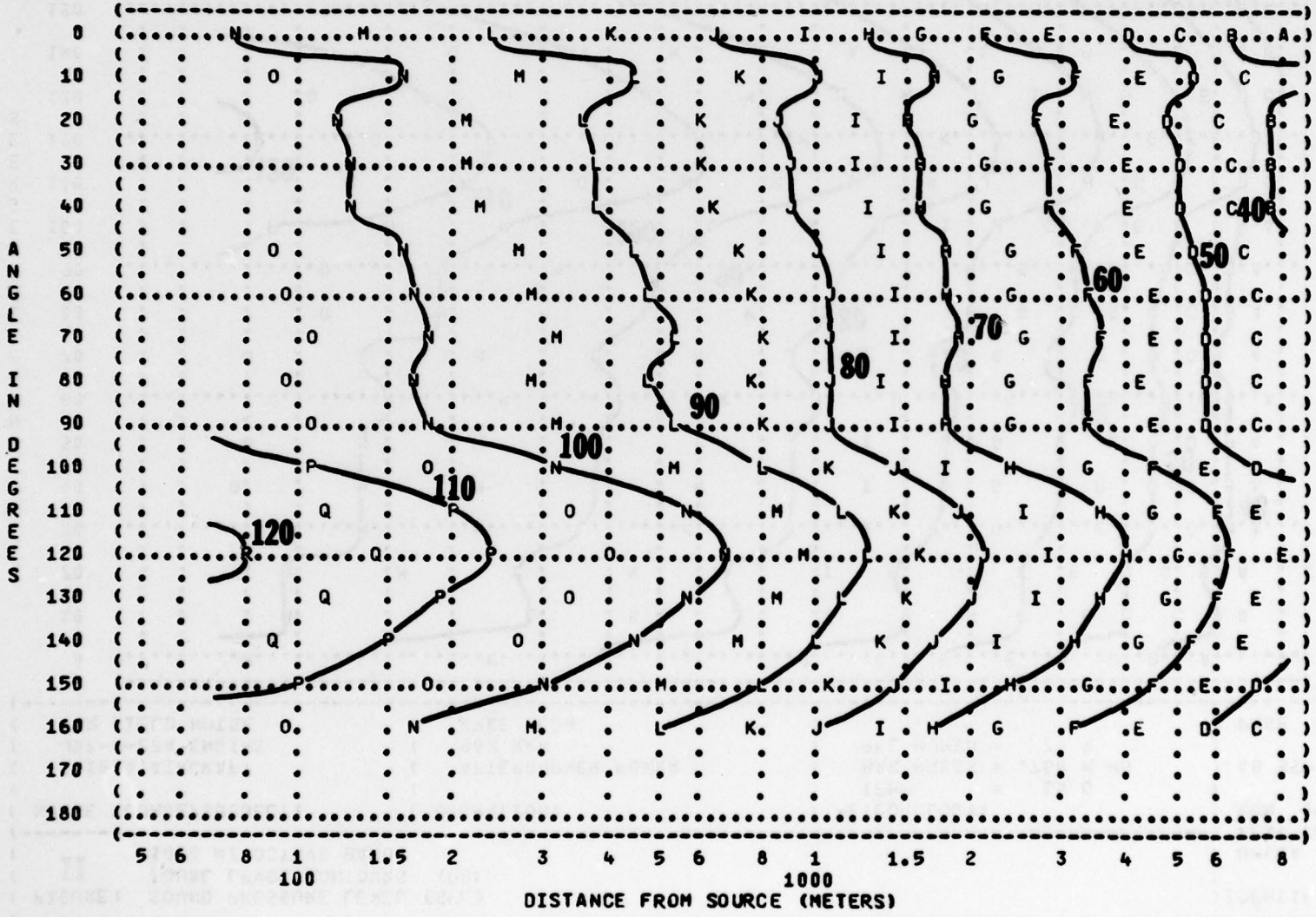
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 22

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
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
P	110
Q	115
R	120

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 23

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
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
P	110
Q	115
R	120

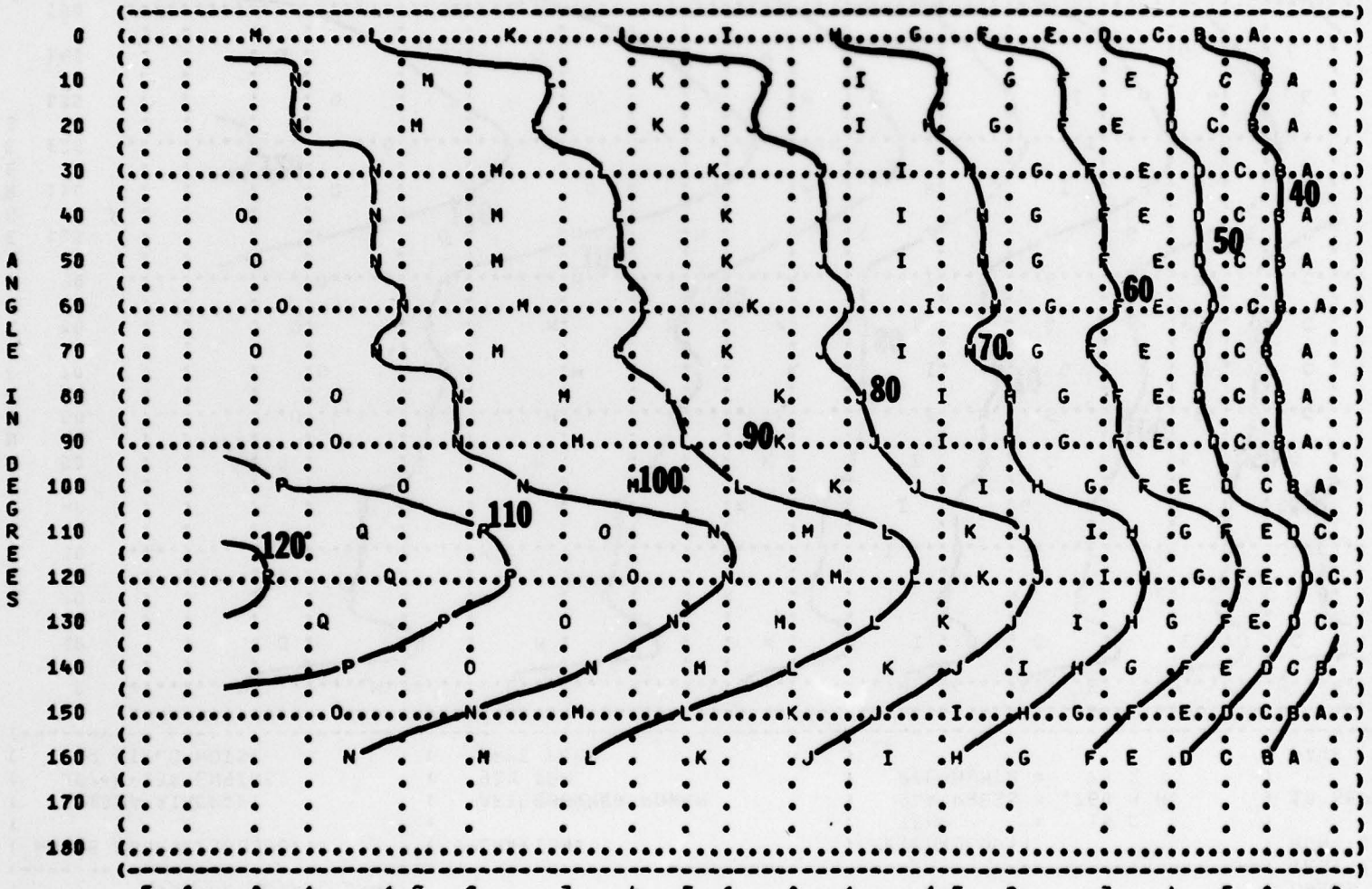


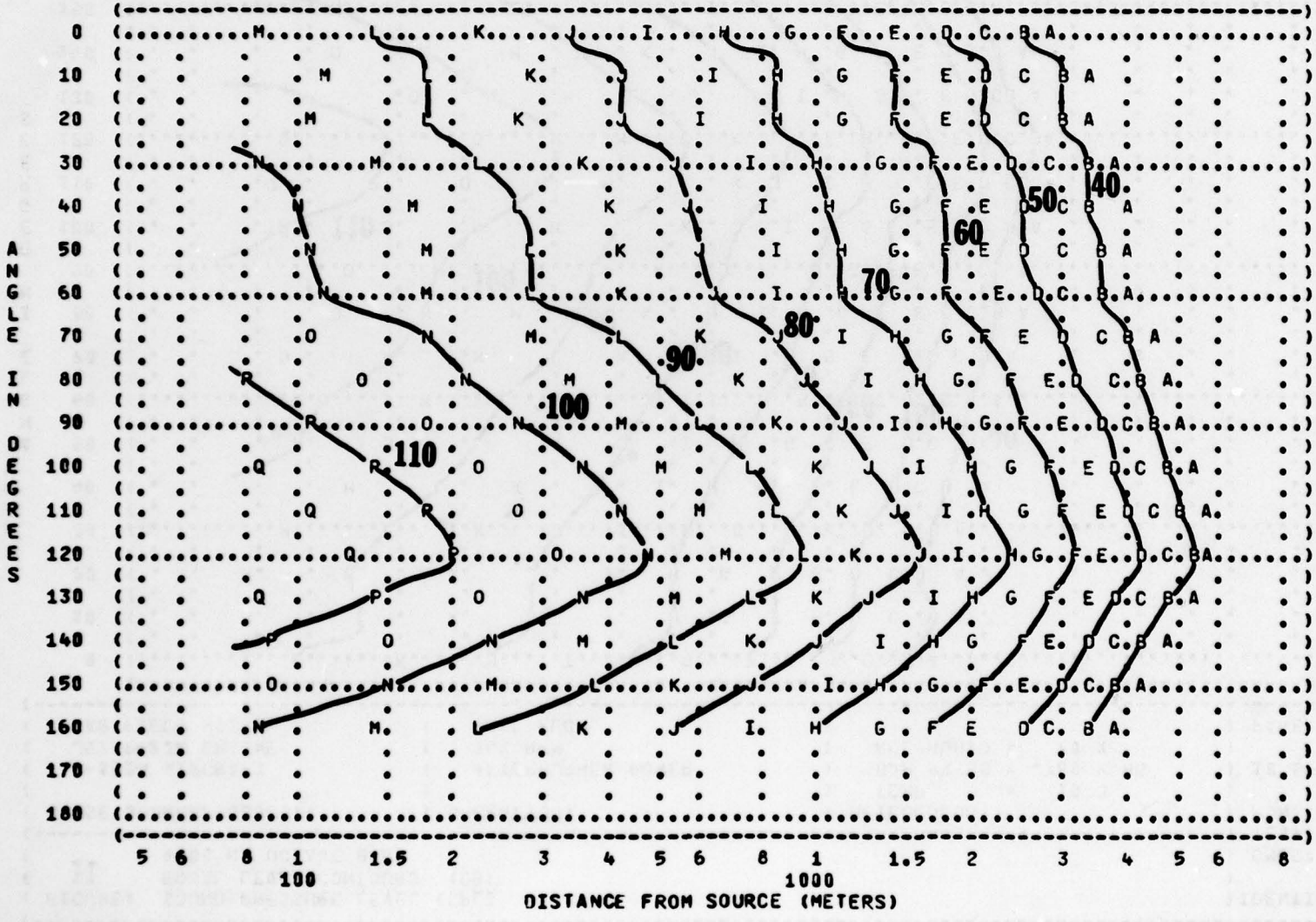
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
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
N	100
O	105
P	110
Q	115

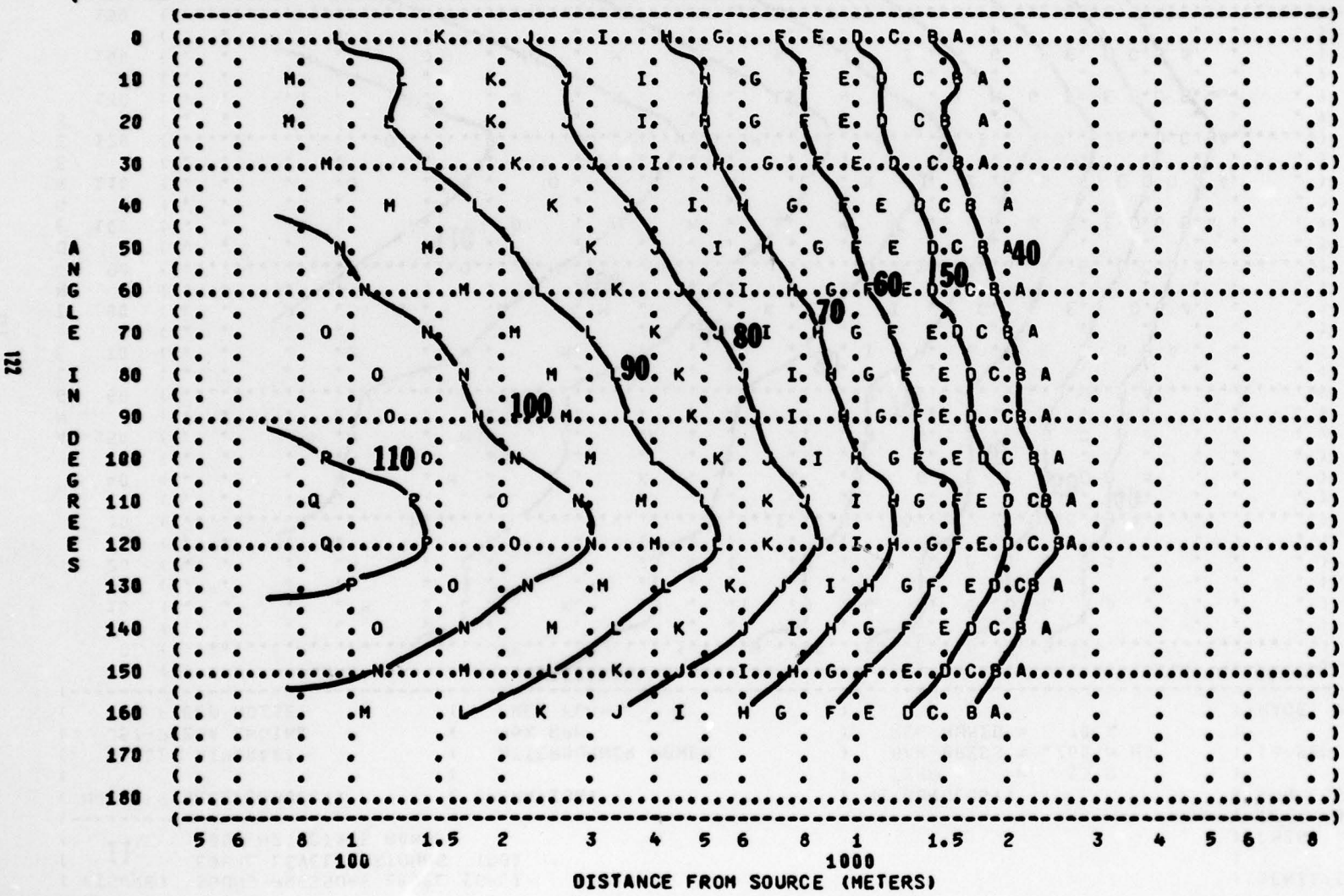
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
18 SEP 78
PAGE 25



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

FIGURE: 11

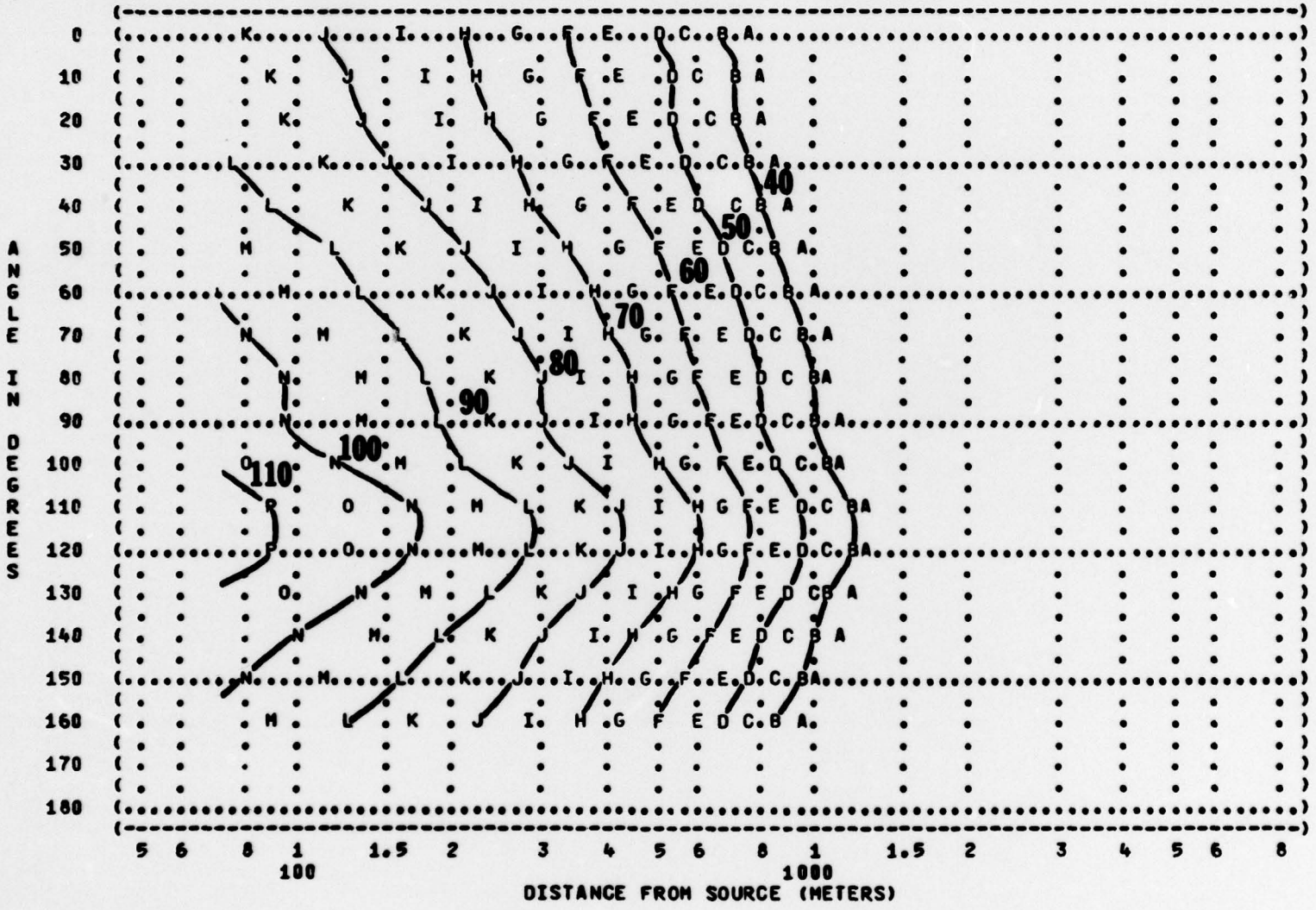
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-012-001
RUN 05
24 JAN 79
PAGE 26

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
J57-P-23A ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
FREE FLOW

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



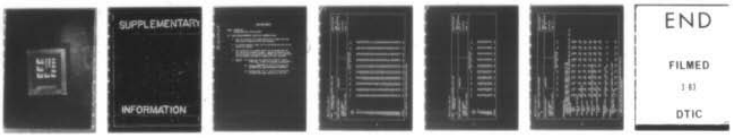
POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

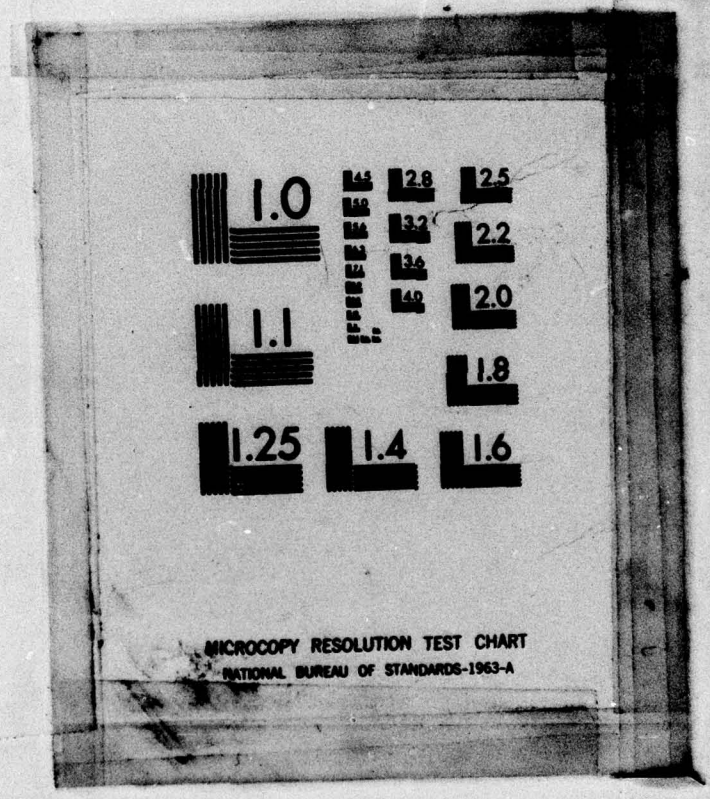
*U.S.Government Printing Office: 1979 — 657-002/33

AD-A073 618 USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK VOLUME 138 F-102A AIRCRAFT NEAR.. (U) AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OH R G POWELL OCT 78

3/3

UNCLASSIFIED AMRL-TR-75-50-VOL-138 F/G 1/3 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

SUPPLEMENTARY

INFORMATION

AD-A013 618

NOTE AND ERRATA

FROM: AFAMRL/BBE
Wright-Patterson AFB OH 45433

TO: USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK USERS

1. This box contains 19 volumes (Batch #7) of AMRL-TR-75-50, USAF Bioenvironmental Noise Data Handbook.

2. An updated Handbook Index will be published and sent to you within six months.

3. This office will no longer publish or be responsible for any additional handbook volumes. Questions concerning any data published in the handbook by AFAMRL will be answered by calling AUTOVON 785-3605 or commercial (513) 255-3605.

4. ERRATA: (1) A pen and ink change to Volume 62, page 4, first line, change "helicopter" to "aircraft".

(2) Replace pages 10, 11, and 12 of Volume 119 (C-135B) with pages enclosed in this box.

(3) Replace pages 10, 11, and 12 of Volume 138 (F-102A) with pages enclosed in this box.

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

IDENTIFICATION:
OMEGA 3.2
TEST 78-012-001
RUN 01
28 SEP 82
PAGE F1

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A
25	90	91	92	96	99	109	88	88	86	72<
31.5	91	90	92	95	99	111	89	95	89	82
40	88	86	93	97	103	112	89	87	87	73<
50	85	89	95	99	102	113	86	88	87	75<
63	87	89	95	100	105	112	86	90	86	79
80	86	95	96	100	106	116	85	86	84	75<
100	93	107	99	100	111	117	93	89	91	76<
125	82	88	90	101	109	117	85	84	83	75
160	86	91	96	104	113	120	86	83	83	77
200	86	95	95	102	112	120	85	86	85	77
250	86	91	94	101	111	118	87	89	88	81
315	88	96	95	101	110	117	86	91	87	76
400	84	91	103	105	113	118	84	87	86	80
500	87	92	97	105	115	119	86	86	86	84
630	95	95	96	104	119	121	90	86	88	85
800	98	98	101	104	120	122	90	90	89	88
1000	95	97	99	104	119	122	89	87	88	85
1250	95	100	109	104	117	121	93	88	91	85
1600	88	98	113	104	115	120	86	87	86	86
2000	88	98	103	109	114	119	86	87	85	87
2500	91	101	102	103	114	119	90	91	89	92
3150	88	99	107	103	113	119	86	86	85	92
4000	89	100	103	106	113	118	87	85	85	92
5000	85	97	102	102	111	116	83	82	81	89
6300	84	96	102	104	110	115	82	81	80	88
8000	81	93	101	103	110	114	80	78	77	87
10000	78	89	102	103	110	112	77	76	75	84
OVERALL	105	112	117	117	128	132	102	102	101	100

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 78-012-001
RUN 01
28 SEP 82
PAGE J1

NOISE SOURCE/SUBJECT:
F-102A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/A
31.5	95	94	97	101	105	116	93	96	92	83
63	91	97	100	104	110	119	90	93	90	82
125	94	107	102	107	116	123	94	91	92	81
250	91	99	99	106	116	123	91	94	91	83
500	96	98	104	109	121	124	92	91	91	88
1000	101	103	110	109	124	126	96	93	94	91
2000	94	104	114	111	119	124	93	94	92	94
4000	92	103	109	109	117	122	90	90	88	96
8000	86	98	106	108	115	118	85	84	82	91
OVERALL	105	112	117	117	128	132	102	102	101	100

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION: OMEGA 9.2 TEST 78-012-001 RUN 01 28 SEP 82 PAGE H1

NOISE SOURCE/SUBJECT: F-102A AIRCRAFT GROUND CREW NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION									
	1/A	2/A	2/B	2/C	2/D	2/E	3/A	4/A	5/A	6/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	104	111	117	117	128	132	101	101	100	99
OASLA	103	110	118	116	127	131	100	99	98	100
T	18	5	P	P	P	P	30	36	42	30
MINIMUM GPL EAR MUFFS										
OASLA*	78	87	90	92	102	107	76	76	75	73
T	960	285	170	120	21	9	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS										
OASLA*	73	82	85	87	96	102	72	71	71	67
T	960	679	404	285	60	21	960	960	960	960
V-51R EAR PLUGS										
OASLA*	78	82	89	89	102	105	74	73	73	71
T	960	679	202	202	21	13	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS										
OASLA*	65	69	76	76	88	91	61	59	59	58
T	960	960	960	960	240	143	960	960	960	960
H-133 GROUND COMMUNICATION UNIT										
OASLA*	76	83	90	88	99	103	73	72	71	73
T	960	571	170	240	36	18	960	960	960	960
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
PSIL	97	102	109	110	121	125	94	93	92	91
ANNOYANCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)										
TONE CORRECTION (C IN DB)										
PNLT	116	126	133	132	140	144	115	115	113	115
C	1	2	3	2	1	0	2	2	1	1

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