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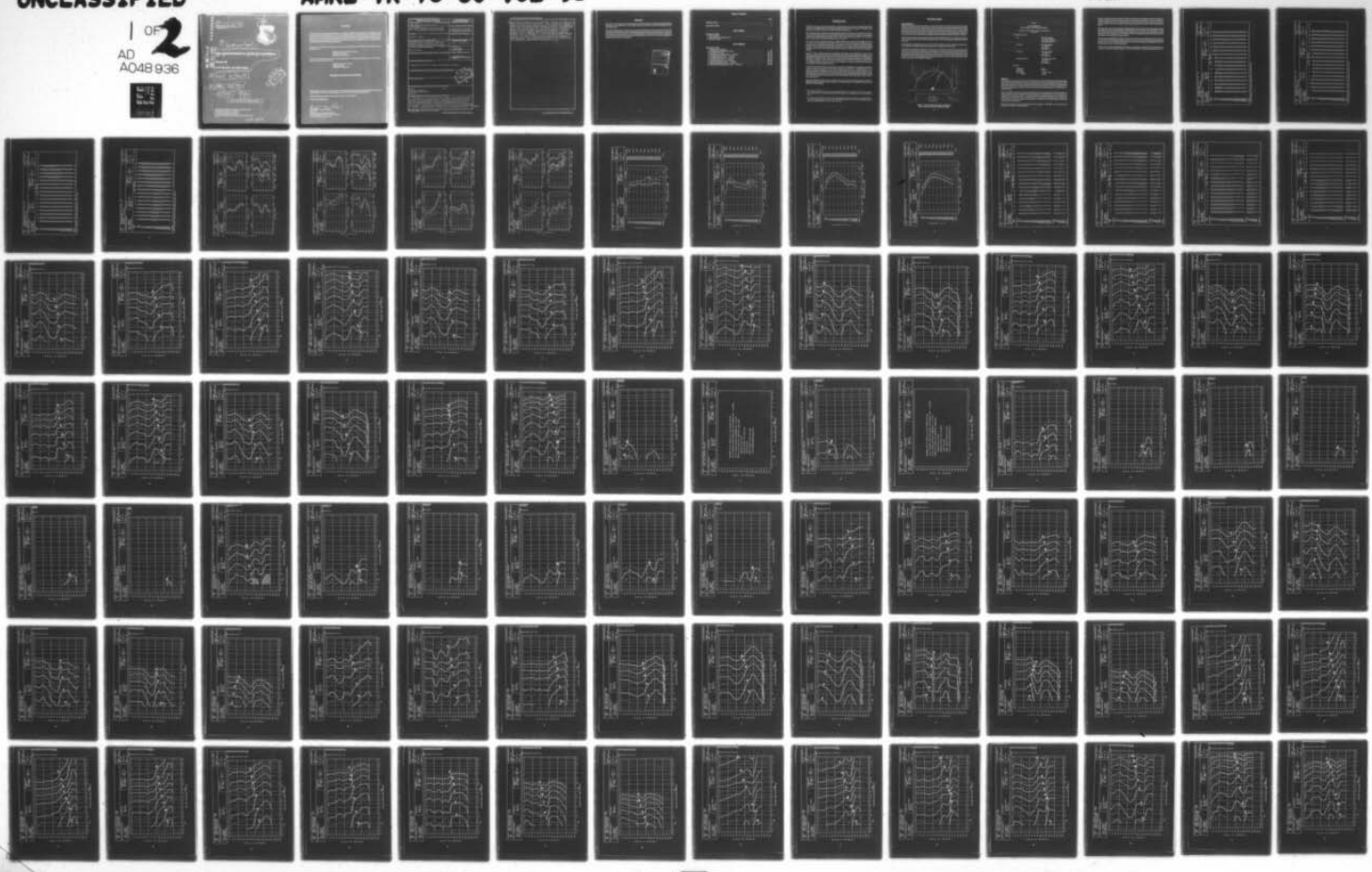

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Robert G. Powell

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
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FOR THE COMMANDER

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

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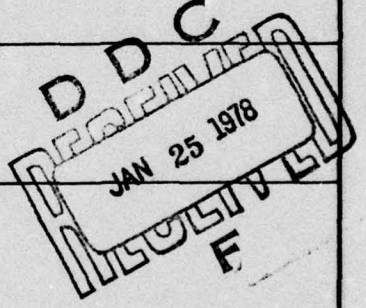

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The USN A-7E is a carrier based, light attack aircraft powered by one TF41-A-2 turbofan engine. This report provides far-field measured and extrapolated data defining both physical and psychoacoustic measures of the bioacoustic environments produced by this aircraft operating on a ground runup pad for four engine/power conditions. Far-field data measured at 17 locations are normalized to standard meteorological conditions and extrapolated from 75-

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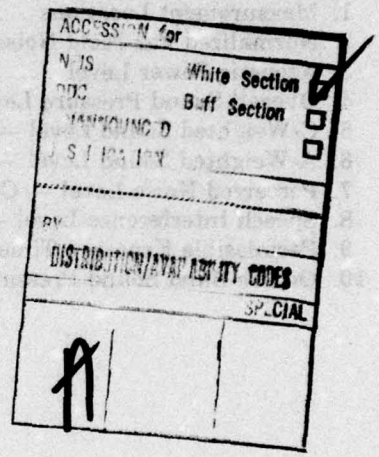
8000 meters to derive sets of equal-value contours as a function of angle and distance from the source. These contours are measures of: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total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

PREFACE

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

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Capt Nick Farinacci, Mr. Harald Hille, and Mr. Jerry Speakman for their assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.



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INTRODUCTION

The USN A-7E is a carrier based, light attack aircraft powered by one TF41-A-2 turbofan engine. The aircraft was manufactured by the Vought Aeronautics Division of Ling, Tempco and Vought and the engines by the Allison Division of the General Motors Corporation.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the A-7E aircraft.

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

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

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

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

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

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise,* AMRL-TR-75-50 (2), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired the far-field data during a 1-hour test period, thus keeping similar meteorological conditions throughout the test. Figure 1 shows the ground runup area (taxiway), ground cover, aircraft orientation and microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the TF41-A-2 engine was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engine's 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 1 provides cockpit readouts of engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of 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 sacanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

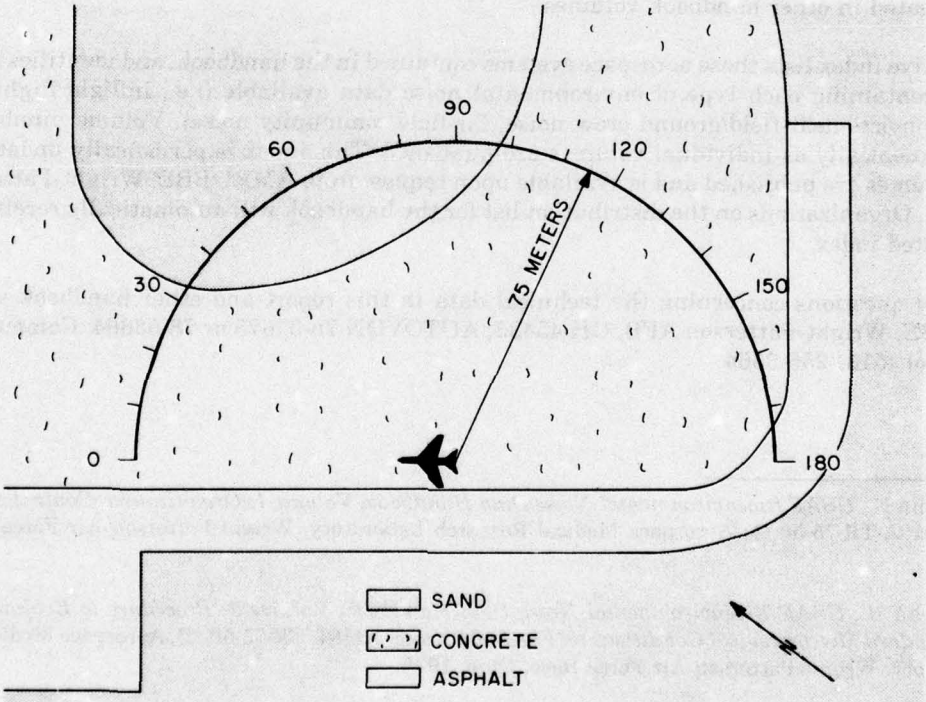


Figure 1. Far-Field Measurement Locations on The Taxiway at ALF, San Clemente Island

TABLE 1

TEST CONDITIONS
FOR FAR/FIELD NOISE MEASUREMENTS

A-7E Aircraft, Ground Runups, ALF, San Clemente Island
15 May 1973

Aircraft Engine Operation	
Idle	EPR Did Not Register 55 % RPM, Core Speed 432 C, Turbine Outlet Temp 1200 LBS/HR, Fuel Flow
70% Runup	EPP Did Not Register 70 % RPM, NC 422 C, TOT 1550 LBS/HR, FF
85% Runup	EPR Did Not Register 85 % RPM, NC 400 C, TOT 3700 LBS/HR, FF
Intermediate (Military)	3.88 Engine Pressure Ratio 94 % RPM, NC 590 C, TOT 9000 LBS/HR, FF
Meteorology	
Temperature	17.8 C
Bar Pressure	0.767 M Hg
Rel Humidity	60 %
Wind — Speed	3.1 M/Sec (6 KTS)
— Direction	350 Deg

RESULTS

Table 2 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 2, which provides a compact summary of far-field noise characteristics of the A-7E aircraft in a standard format.

Figure 3 and Table 3 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 afunction of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this powr as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 90% RPM) can be determined as explained in Volume 1 of this handbook.

Figures 4 through 10 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are, respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170/180 degree locations for the idle and 70% RPM, nor at the 160/170/180 locations for the 85% RPM and the military power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level measured at the preceding microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 2, 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
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

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<	69<	67<	71<	71<	72<		
31.5	66<	66<	66<	67<	66<	65<		65<	66<	67<	67<	69<	71<	73	75	76	76		
40	70<	69<	71<	73<	72<	66<	66<	71<	73<	70<	75	78	79	79	79	81	81		
50	67<	68<	71	71	70	64<	70	71	65<	72	74	72	73	77	77	78	76		
63	67<	69<	71	72	67<	69<	72	68<	70<	71	74	75	76	76	78	79	77		
80	66<	67<	69	68<	65<	69	65<	66<	66<	70	71	76	75	77	79	78	75		
100	68	68	70	69	68	68	68	67	70	72	73	76	77	78	79	78	76		
125	74	71	68	72	69	72	70	71	70	72	77	79	80	80	83	83	78		
160	72	71	65<	72	68	67	67	68	68	71	75	77	78	78	80	79	75		
200	70	71	66	70	68	69	67	70	69	74	78	79	81	79	80	80	76		
250	67	66	71	70	66	67	67	68	69	73	77	79	81	81	78	79	75		
315	67	67	70	69	65	66	63	65	64	68	74	76	78	79	76	75	73		
400	68	69	69	70	68	65	63	65	65	69	74	76	79	77	77	72	73		
500	70	69	70	72	69	66	65	66	66	71	76	79	82	81	77	74	74		
630	72	74	73	72	69	66	64	64	65	69	75	78	80	79	74	73	72		
800	71	72	71	70	69	65	63	63	65	68	74	76	79	76	74	69	69		
1000	75	75	75	75	74	71	66	64	64	67	74	75	79	75	72	68	70		
1250	89	87	90	92	91	88	82	79	76	73	77	79	80	77	74	70	71		
1600	77	76	77	78	76	72	67	66	66	71	77	76	76	73	72	67	70		
2000	80	80	78	81	78	77	69	68	66	69	75	74	76	70	70	67	70		
2500	81	81	81	83	80	78	70	69	65	69	76	76	78	74	70	69	70		
3150	77	77	78	77	78	75	71	66	63	69	77	76	79	73	69	67	66		
4000	78	78	79	78	80	77	73	68	66	72	78	77	79	74	71	66	68		
5000	81	81	81	80	77	77	70	65	62	67	75	74	76	72	69	66	64		
6300	79	79	79	78	78	75	71	65	61	65	72	72	74	71	69	64	62		
8000	79	78	77	75	77	74	69	64	60	64	72	73	75	73	70	65	62		
10000	74	75	73	72	71	69	63	59	57	62	70	69	69	67	65	59	57		
OVERALL	92	91	92	94	93	90	85	83	82	84	89	90	92	91	91	90	88		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 2

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25		66<	66<	65<						68<		67<	70<	70<	74<	76	75<		
31.5	70<	69<	70<	69<	66<	69<	68<	70<	69<	69<	70<	73	76	77	80	80	80		
40	77	76	78	77	74	72<	75	78	77	77	81	81	85	85	86	88	85		
50	87	86	86	85	76	82	86	84	81	88	88	88	92	94	93	95	90		
63	80	79	79	77	75	79	78	76	80	80	82	84	86	88	89	89	85		
80	80	80	79	76	79	80	76	79	78	81	83	86	87	90	91	90	85		
100	78	77	77	76	77	76	78	75	77	72	80	84	86	87	88	89	80		
125	75	73	75	77	75	75	75	76	75	76	81	82	84	86	87	87	76		
160	71	72	75	72	74	71	72	71	72	75	77	79	80	83	85	84	70		
200	71	70	72	70	70	70	70	72	72	75	79	80	82	83	83	82	66		
250	74	73	72	72	71	71	70	71	71	74	78	81	82	83	80	80	61<		
315	73	72	72	73	71	71	69	69	70	75	79	80	84	85	80	80	59<		
400	71	72	71	72	71	68	68	68	70	73	77	80	82	82	79	76	55<		
500	72	72	73	73	71	69	68	70	70	75	79	82	85	83	79	77	57<		
630	72	73	72	73	72	69	68	68	71	76	79	82	84	82	77	77	60		
800	76	78	77	76	75	71	70	67	69	74	78	81	82	78	75	73	57		
1000	79	79	78	76	75	72	70	67	68	73	77	81	81	76	75	74	56		
1250	78	79	77	76	75	70	69	67	67	74	78	81	78	76	74	70	55		
1600	84	86	86	90	86	80	80	73	73	77	80	83	77	75	76	73	57		
2000	91	93	92	93	90	86	86	73	74	79	79	84	77	77	77	75	59		
2500	84	83	82	81	79	77	78	70	68	74	77	81	74	74	71	68	54		
3150	84	84	85	85	85	91	86	77	72	76	80	83	80	76	73	71	57		
4000	85	85	85	84	84	83	80	73	69	76	82	83	83	77	73	71	56		
5000	84	83	82	84	81	80	78	73	68	76	84	86	83	78	74	71	55		
6300	81	81	79	80	79	78	75	69	66	73	78	82	79	76	73	69	54		
8000	79	79	77	78	76	74	71	65	64	71	76	78	77	75	72	67	52		
10000	75	74	73	73	71	70	67	62	62	68	72	74	74	70	68	63	49		
OVERALL	96	97	96	97	94	94	93	89	88	92	94	97	98	98	98	99	93		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2 — MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 2

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	70<	69<	71<	70<	70<	70<	72<	73<	73<	74<	75<	77	80	85	95	90			
31.5	71<	71<	72	72	72	73	74	76	76	76	78	80	84	88	98	93			
40	73<	74	75	74	76	77	77	78	78	81	82	84	89	93	102	97			
50	74	75	76	75	77	76	79	80	80	82	86	89	95	97	106	101			
63	78	78	80	80	81	79	83	84	84	87	90	94	100	104	111	105			
80	78	77	77	78	79	79	81	82	82	86	88	91	96	101	109	103			
100	80	80	80	81	82	82	83	83	85	88	91	94	99	105	111	106			
125	82	81	81	82	82	82	83	85	85	89	93	95	101	106	111	106			
160	84	83	85	83	84	84	84	85	87	89	94	96	100	107	113	108			
200	84	84	85	84	83	84	83	85	86	90	95	97	101	106	113	108			
250	84	85	85	85	84	85	83	86	86	91	96	98	102	106	111	106			
315	84	85	85	85	86	85	84	86	86	92	96	98	102	104	106	101			
400	84	84	85	85	85	86	84	87	87	93	97	99	103	104	104	99			
500	82	84	84	85	85	85	84	86	86	92	96	98	102	103	102	97			
630	80	83	83	83	85	85	83	85	86	93	97	99	101	102	102	97			
800	80	82	82	83	85	84	83	85	85	92	95	97	100	100	101	95			
1000	80	82	82	82	84	84	83	84	84	92	93	96	98	98	99	93			
1250	79	80	81	81	83	83	82	83	83	91	92	94	96	96	96	91			
1600	81	81	82	82	83	84	82	84	83	89	91	92	94	93	92	87			
2000	84	85	85	83	84	83	82	83	82	89	91	92	93	91	89	84			
2500	90	91	90	89	89	90	87	89	87	93	95	91	93	90	86	81			
3150	88	90	87	85	86	87	83	85	83	90	93	93	92	89	84	79			
4000	87	89	86	84	83	83	81	84	81	90	93	93	92	89	85	80			
5000	88	89	89	87	86	85	82	83	81	89	92	92	92	87	84	79			
6300	86	87	86	85	84	84	80	81	80	87	89	89	87	85	80	75			
8000	83	85	83	83	81	80	77	79	79	87	89	89	86	85	79	74			
10000	79	81	78	78	77	77	73	76	75	83	85	86	83	81	75	71			
OVERALL	98	99	98	97	98	98	96	98	98	104	107	109	112	115	120	115			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	77	76	79	79	79	80	81	82	83	84	84	82	79	88	92	93			
31.5	79	79	79	80	82	82	84	83	84	86	87	83	82	91	95	96			
40	82	83	83	83	85	85	85	86	87	89	90	86	88	95	99	100			
50	84	82	83	84	84	84	86	86	88	88	92	88	90	98	102	101			
63	85	85	85	86	87	87	87	89	89	91	93	92	92	102	105	104			
80	86	86	86	87	87	87	87	88	90	93	96	94	96	105	109	106			
100	90	89	89	90	89	90	91	91	93	96	99	98	100	110	112	109			
125	91	91	91	91	91	90	92	92	93	98	102	100	103	112	113	110			
160	95	93	95	93	93	93	92	94	95	99	103	101	105	115	115	112			
200	91	92	94	93	93	92	92	93	94	100	103	102	104	115	115	113			
250	93	96	96	96	94	95	92	95	97	101	105	104	106	114	116	115			
315	98	101	100	99	97	94	94	93	97	103	107	105	107	114	115	116			
400	107	107	108	107	104	99	97	96	98	104	107	106	108	114	115	115			
500	103	105	106	108	105	103	101	98	100	105	108	107	107	113	115	114			
630	100	104	106	108	106	105	103	101	101	106	108	107	107	112	113	113			
800	98	102	103	106	105	105	104	103	104	107	108	106	105	111	111	111			
1000	97	100	101	104	103	103	101	101	104	108	108	105	104	109	111	110			
1250	94	98	99	102	103	102	101	99	102	108	108	104	103	108	109	109			
1600	92	97	98	102	102	103	101	99	102	106	109	102	101	107	108	108			
2000	90	96	96	100	101	101	99	98	101	106	108	102	100	106	107	107			
2500	88	95	95	99	99	100	98	97	100	104	107	101	98	104	105	105			
3150	86	92	93	97	97	98	96	94	98	104	106	101	97	103	105	103			
4000	86	92	92	97	96	99	96	94	98	104	106	101	97	103	105	104			
5000	84	90	91	95	95	96	94	92	97	102	105	99	95	101	103	102			
6300	81	87	88	92	92	94	92	90	94	100	102	96	93	99	101	99			
8000	79	85	86	90	91	92	91	89	93	98	100	94	91	98	100	98			
10000	74	81	82	86	87	89	87	85	90	95	96	92	89	96	98	95			
OVERALL	110	113	113	115	114	113	111	110	112	117	119	116	116	124	125	124			

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 6

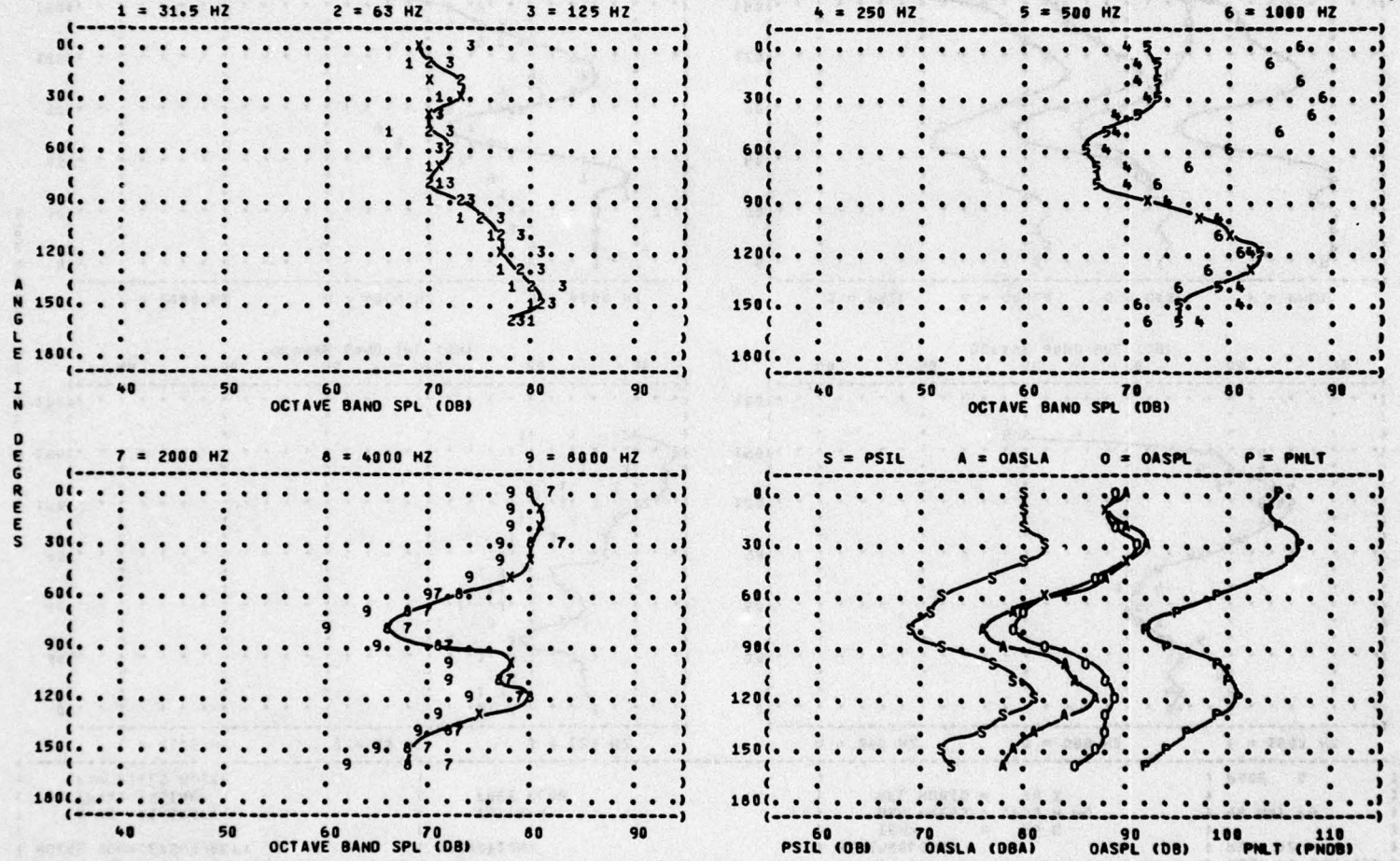


FIGURE: 2 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-085
RUN 02
06 MAY 75
PAGE 6

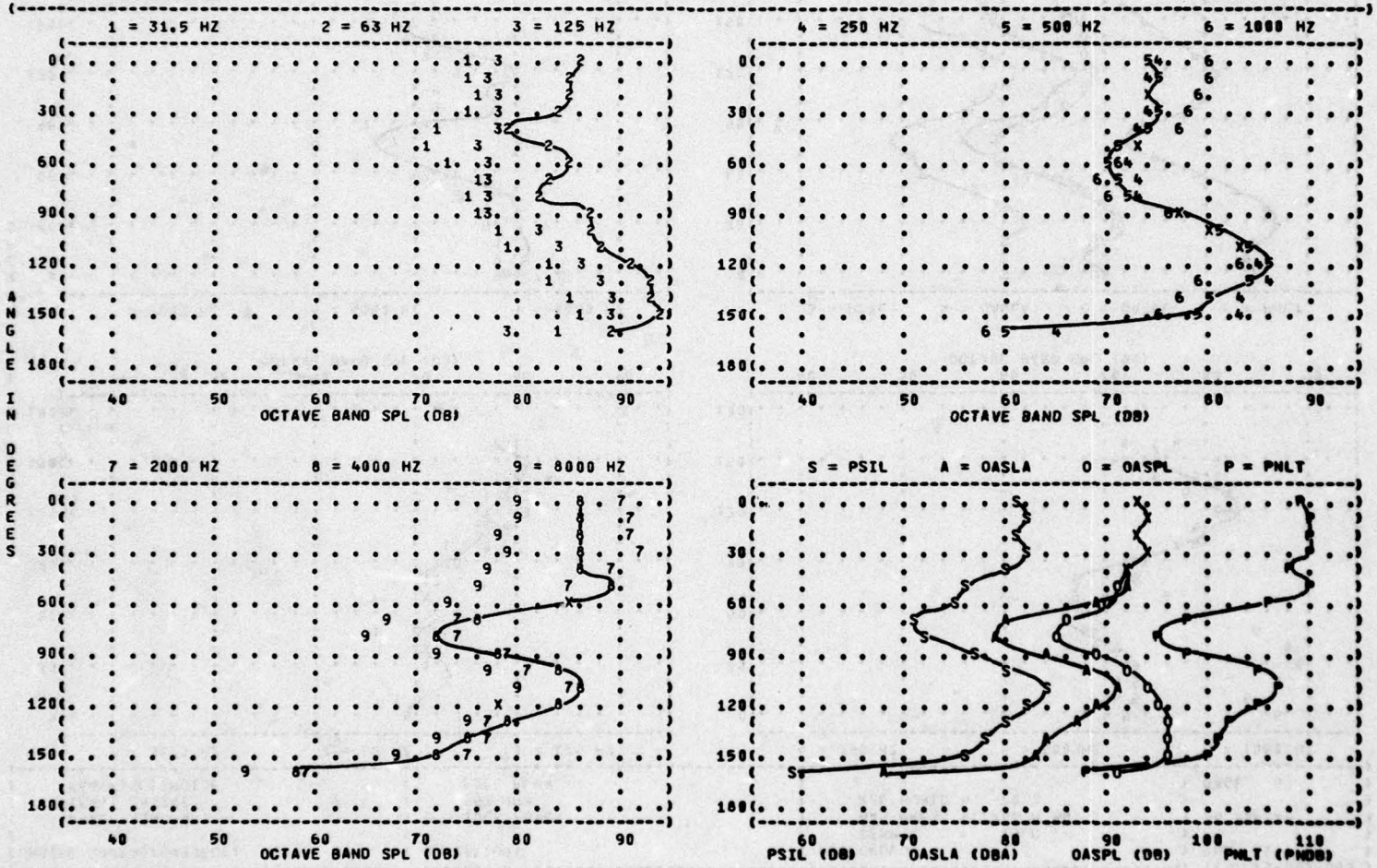


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 6

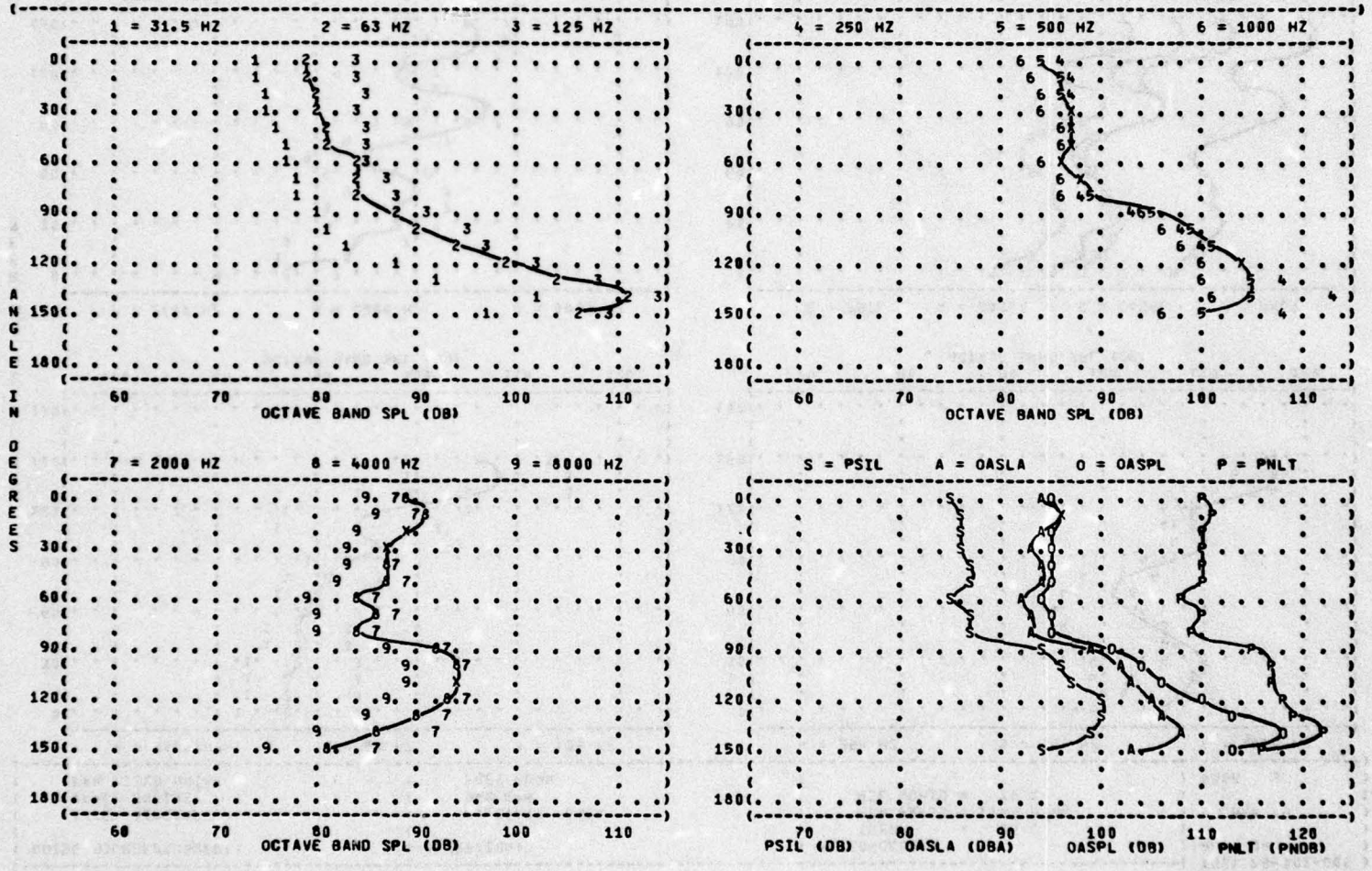


FIGURE: 2 NORMALIZED FARFIELD NOISE LEVELS

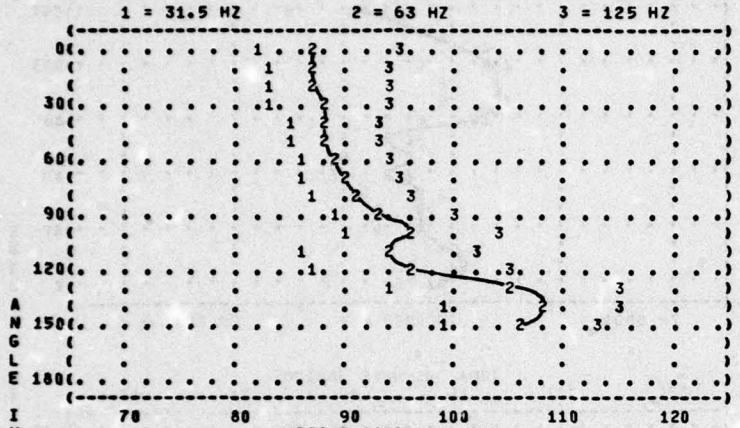
DISTANCE = 100 METERS

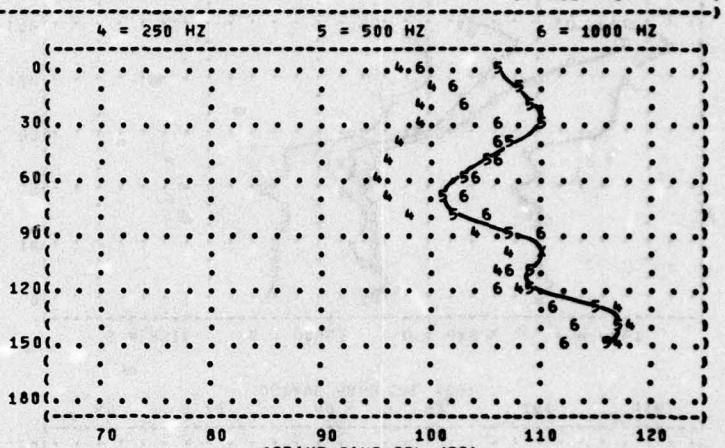
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 6

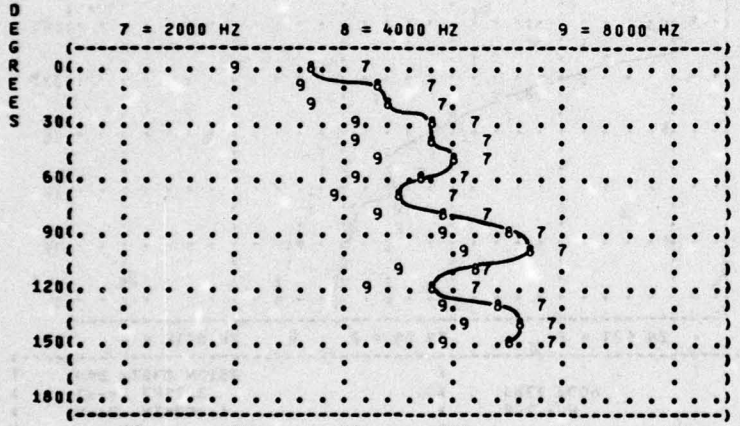
NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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







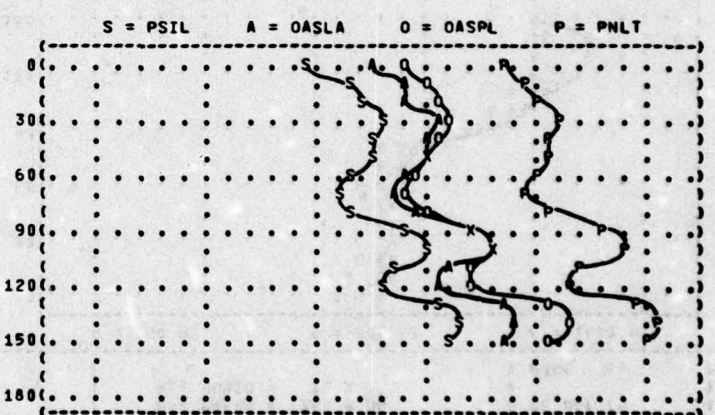


FIGURE: ACOUSTIC POWER LEVEL (PWL)

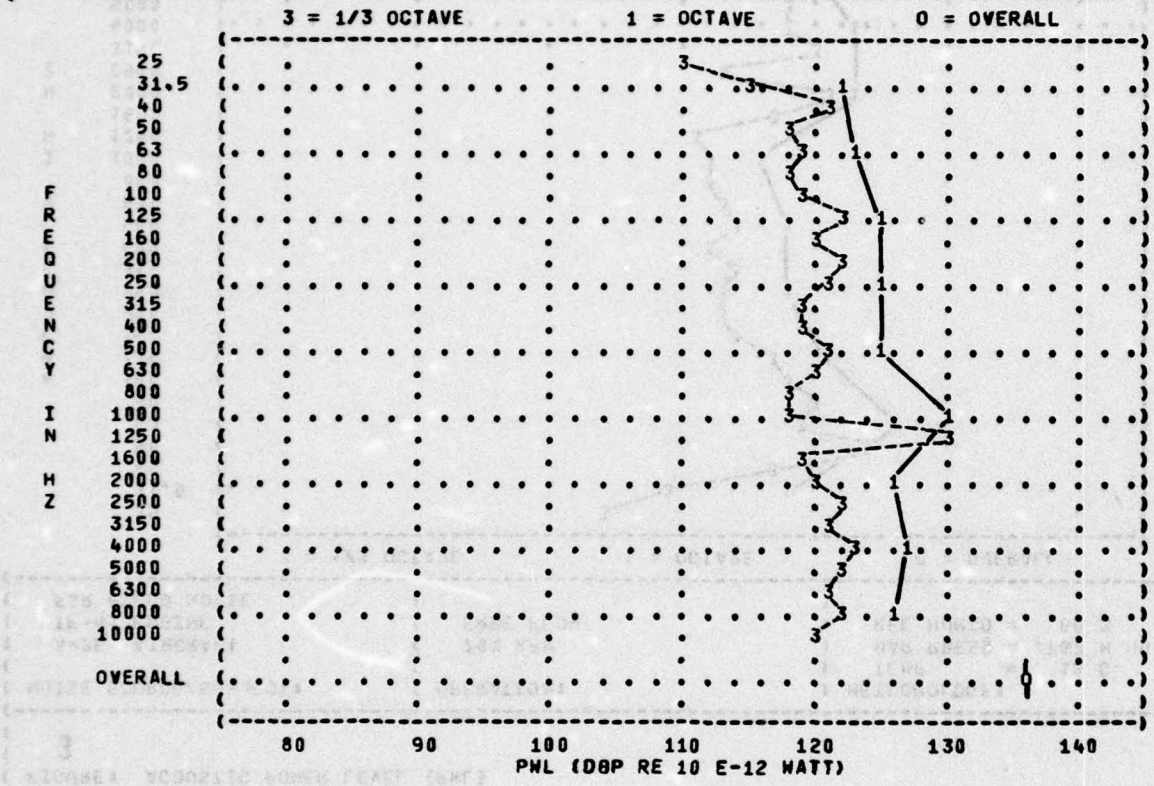
3

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 3

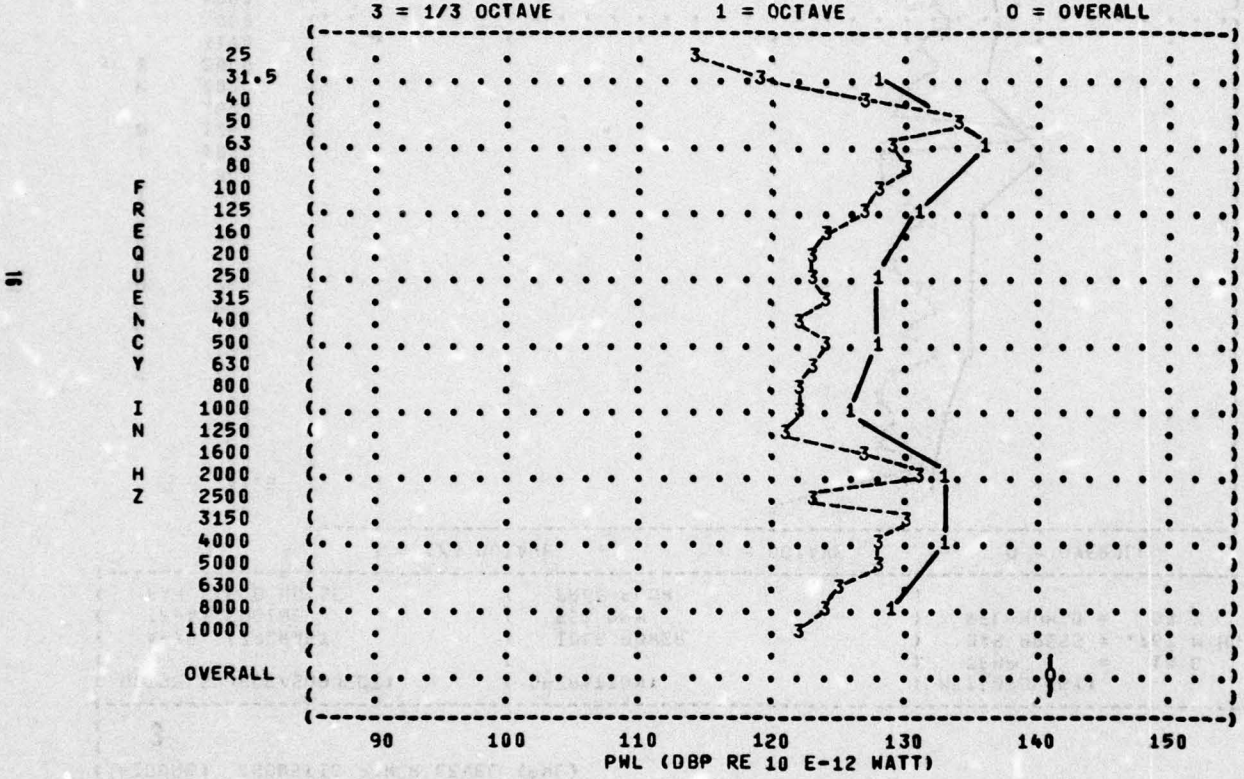


	PWL 1/3 OCTAVE	PWL OCTAVE
25	110.3	
31.5	115.0	122.3
40	121.0	
50	118.4	
63	119.0	123.4
80	118.5	
100	119.3	
125	122.4	125.5
160	119.8	
200	121.6	
250	121.3	125.4
315	118.5	
400	118.6	
500	121.3	124.8
630	119.6	
800	118.2	
1000	118.5	130.4
1250	129.9	
1600	119.5	
2000	120.4	125.7
2500	122.4	
3150	121.1	
4000	122.6	126.7
5000	121.9	
6300	121.3	
8000	122.0	125.9
10000	119.7	
OVERALL		135.7

FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:
A-7E AIRCRAFT	70% RPM	TEMP = 18 C
TF-41 ENGINE	FREE FLOW	BAR PRESS = .767 M HG
FAR FIELD NOISE		REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	113.7	
31.5	119.3	127.6
40	126.7	
50	134.2	
63	129.8	136.5
80	130.1	
100	127.8	
125	126.6	131.1
160	123.5	
200	123.4	
250	123.0	126.2
315	123.8	
400	121.9	
500	123.8	127.9
630	123.4	
800	122.0	
1000	121.7	126.4
1250	121.2	
1600	127.3	
2000	131.1	133.1
2500	123.1	
3150	129.8	
4000	127.8	133.4
5000	128.1	
6300	125.4	
8000	124.3	129.8
10000	122.3	
OVERALL		141.1

FIGURE: ACOUSTIC POWER LEVEL (PWL)

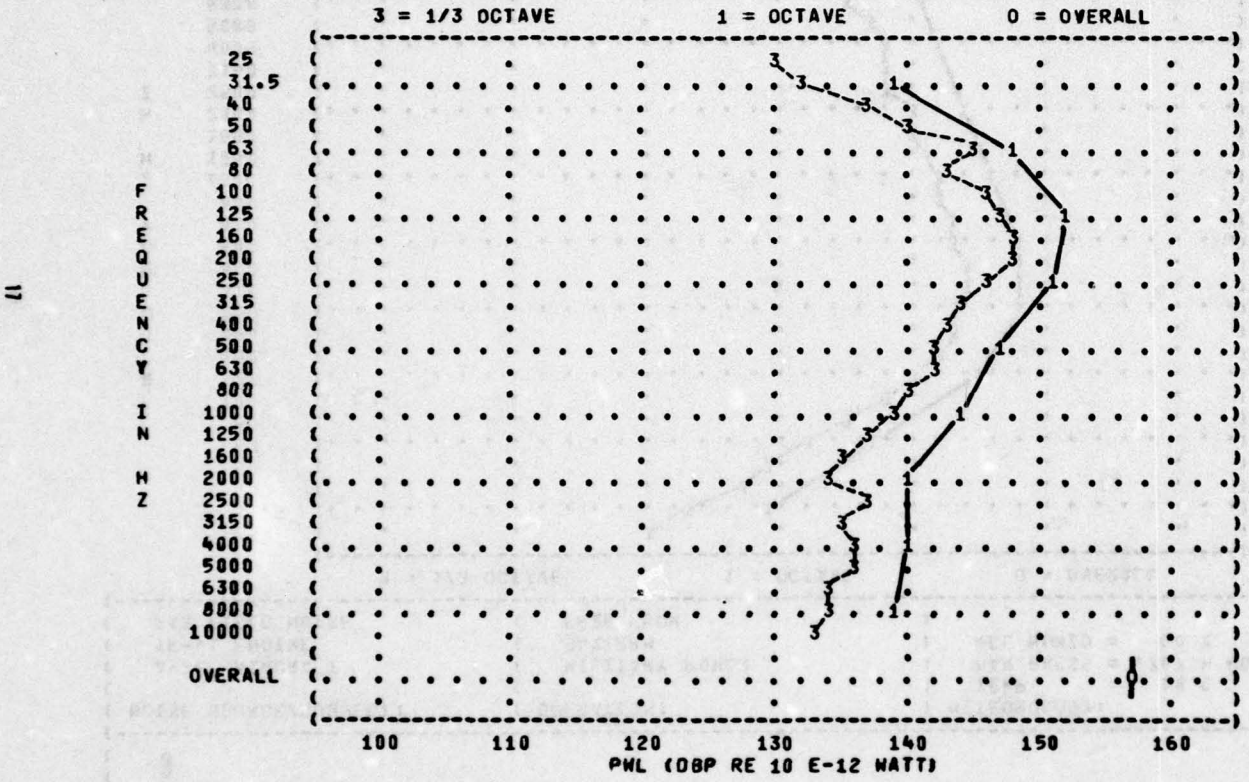
3

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT /
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	129.6	
31.5	132.3	138.7
40	136.8	
50	140.3	
63	145.4	148.2
80	143.3	
100	146.0	
125	146.6	151.7
160	148.0	
200	147.6	
250	146.4	150.9
315	143.7	
400	143.3	
500	142.2	147.3
630	141.9	
800	140.3	
1000	138.6	143.6
1250	137.0	
1600	135.0	
2000	134.2	140.3
2500	136.8	
3150	135.4	
4000	135.6	140.3
5000	135.5	
6300	133.6	
8000	134.4	138.5
10000	133.0	
OVERALL		156.5

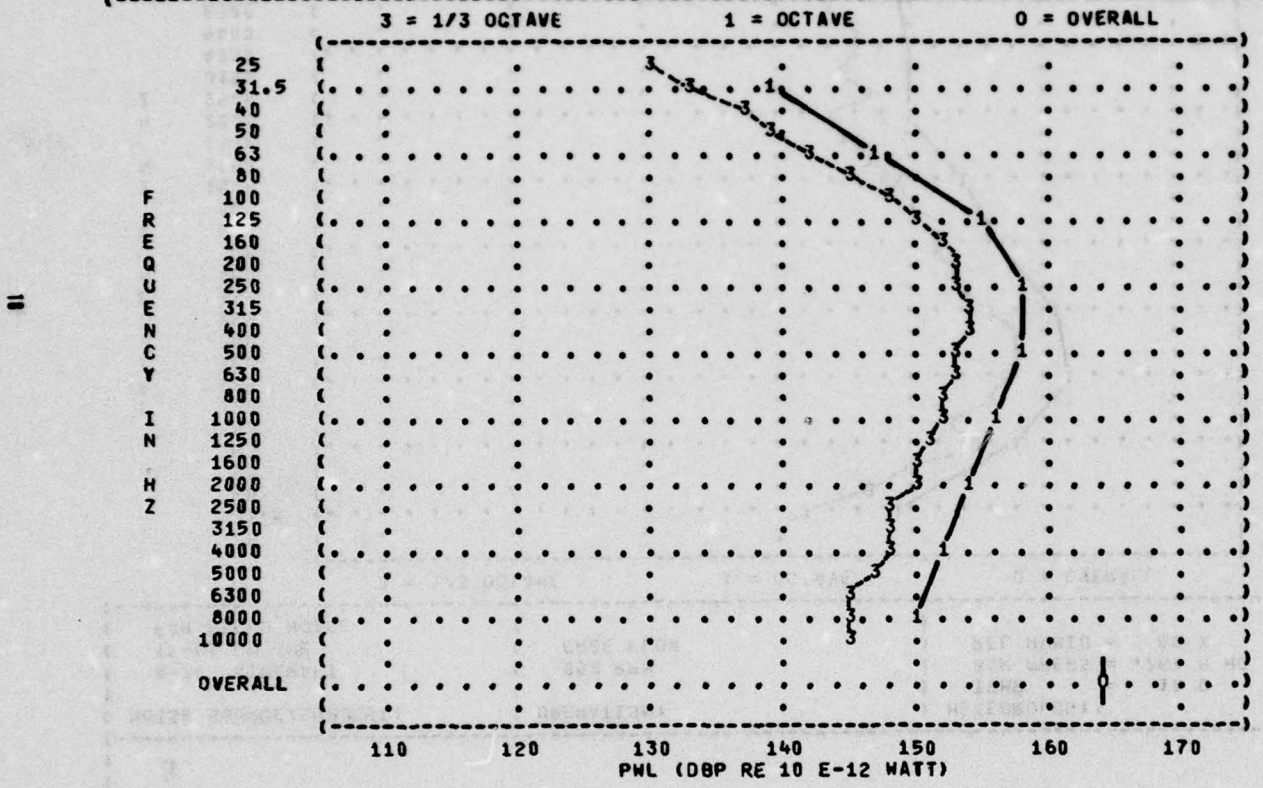
FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-802-005
RUN 04
06 MAY 75
PAGE 3

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	130.3	
31.5	133.1	139.0
40	136.8	
50	139.0	
63	142.0	147.4
80	145.0	
100	148.4	
125	150.0	155.3
160	152.3	
200	152.6	
250	153.5	158.0
315	153.6	
400	153.9	
500	153.5	158.3
630	153.1	
800	152.3	
1000	151.5	156.4
1250	150.8	
1600	150.2	
2000	149.6	154.2
2500	148.2	
3150	147.6	
4000	148.4	152.5
5000	147.0	
6300	145.5	
8000	145.3	149.9
10000	144.7	
OVERALL	164.3	

TABLE: 3 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

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

TABLE: DIRECTIVITY INDEX (DB)

3

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

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

TABLE: DIRECTIVITY INDEX (DI)

3

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-15	-15	-14	-15	-14	-14	-12	-11	-12	-10	-9	-8	-5	1	11	6			
31.5	-16	-16	-15	-15	-15	-14	-14	-11	-11	-11	-9	-8	-4	1	11	6			
40	-18	-17	-16	-17	-16	-14	-14	-13	-13	-10	-10	-8	-2	2	11	6			
50	-22	-20	-20	-20	-19	-19	-16	-15	-16	-13	-9	-6	-1	2	10	5			
63	-23	-22	-21	-20	-20	-21	-17	-17	-16	-13	-11	-6	-1	3	10	5			
80	-20	-21	-21	-20	-19	-19	-17	-16	-16	-12	-10	-7	-2	3	11	5			
100	-21	-21	-21	-19	-19	-18	-18	-17	-16	-13	-9	-7	-2	4	10	5			
125	-20	-20	-20	-19	-20	-19	-18	-17	-16	-12	-8	-6	-1	5	10	5			
160	-19	-20	-18	-19	-19	-19	-19	-18	-16	-14	-9	-7	-3	4	10	5			
200	-19	-18	-18	-19	-19	-18	-19	-17	-16	-12	-7	-5	-2	4	10	5			
250	-17	-16	-16	-16	-17	-16	-18	-15	-15	-10	-5	-3	1	5	10	5			
315	-14	-13	-14	-13	-13	-13	-14	-13	-12	-7	-2	-0	4	6	8	3			
400	-14	-14	-13	-13	-13	-12	-14	-11	-11	-5	-1	1	5	6	6	1			
500	-15	-13	-13	-12	-12	-12	-13	-11	-11	-5	-1	1	5	6	5	0			
630	-16	-14	-13	-13	-11	-12	-13	-11	-10	-3	0	2	5	5	6	0			
800	-15	-13	-13	-12	-10	-11	-12	-10	-10	-3	0	2	5	5	6	0			
1000	-13	-11	-11	-11	-9	-9	-10	-9	-9	-1	0	3	5	5	6	0			
1250	-12	-11	-10	-10	-8	-8	-10	-8	-8	-0	1	3	5	4	5	-1			
1600	-9	-8	-8	-8	-6	-6	-8	-5	-6	-0	2	3	5	4	3	-3			
2000	-5	-4	-4	-5	-5	-5	-7	-5	-6	1	2	4	5	3	1	-4			
2500	-1	1	-1	-2	-1	-0	-3	-2	-4	3	5	1	2	-1	-5	-10			
3150	-1	1	-2	-4	-3	-2	-6	-4	-6	1	4	4	3	0	-5	-10			
4000	-2	0	-3	-5	-5	-5	-8	-5	-7	2	4	5	3	1	-4	-9			
5000	-0	1	1	-1	-2	-3	-6	-5	-7	1	4	4	4	-1	-4	-9			
6300	1	2	1	-1	-1	-1	-5	-5	-5	2	3	4	2	-0	-5	-10			
8000	-1	0	-2	-2	-4	-4	-7	-5	-5	2	4	5	2	0	-6	-11			
10000	-2	-0	-3	-3	-4	-4	-8	-5	-6	2	4	5	2	0	-6	-10			
OCTAVE																			
31.5	-17	-17	-16	-16	-15	-14	-14	-12	-12	-11	-9	-8	-3	1	11	6			
63	-22	-21	-21	-20	-19	-20	-17	-16	-16	-13	-10	-6	-1	3	10	5			
125	-20	-20	-19	-19	-19	-19	-18	-17	-16	-13	-9	-7	-2	4	10	5			
250	-17	-16	-16	-16	-16	-16	-17	-15	-15	-10	-5	-3	1	5	10	5			
500	-15	-13	-13	-13	-12	-12	-14	-11	-11	-5	-0	2	5	6	6	1			
1000	-14	-12	-12	-11	-9	-10	-11	-9	-9	-2	0	2	5	5	5	0			
2000	-3	-2	-3	-4	-3	-3	-5	-4	-5	2	3	2	4	2	0	-5			
4000	-1	1	-1	-3	-3	-3	-6	-4	-7	1	4	4	3	0	-4	-9			
8000	-0	1	-1	-1	-2	-3	-6	-5	-5	2	4	5	2	0	-5	-10			
OVERALL	-14	-12	-13	-14	-13	-13	-15	-13	-13	-7	-4	-2	1	4	9	4			

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

METEOROLOGY:
TEMP = 18 C
BAR PRESS = .767 M HG
REL HUMID = 60 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 4

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

FIGURE 4: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% 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

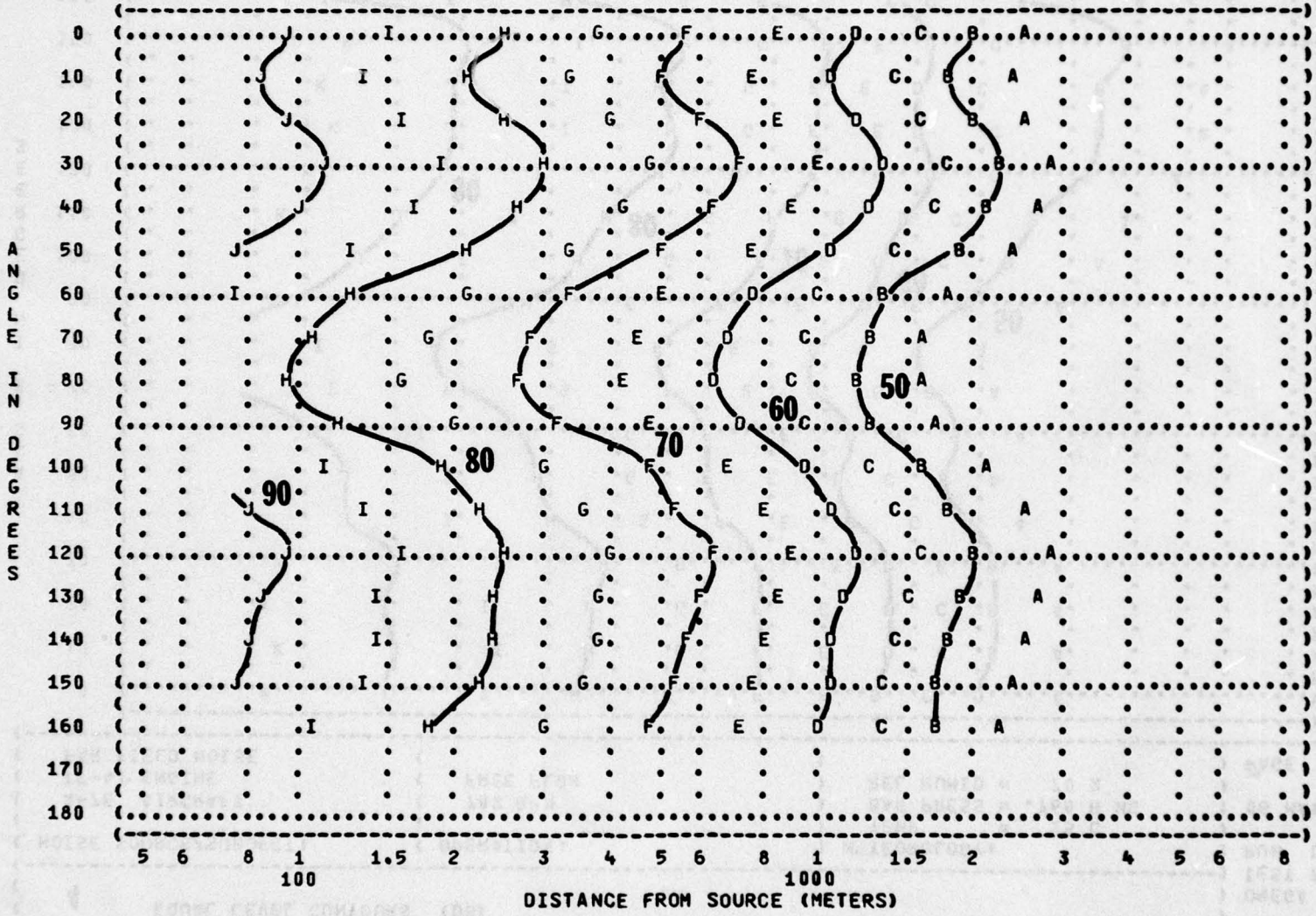


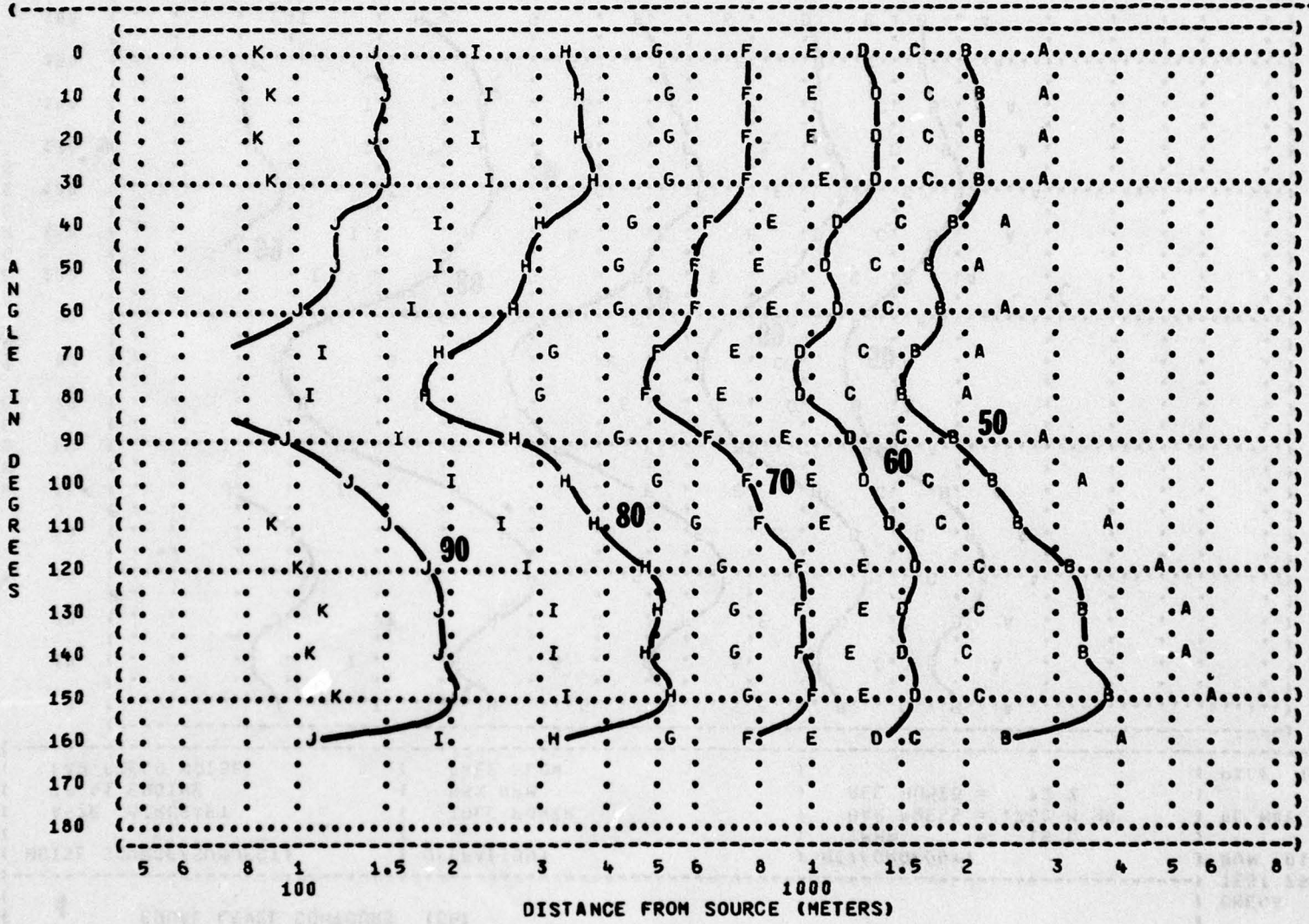
FIGURE: 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

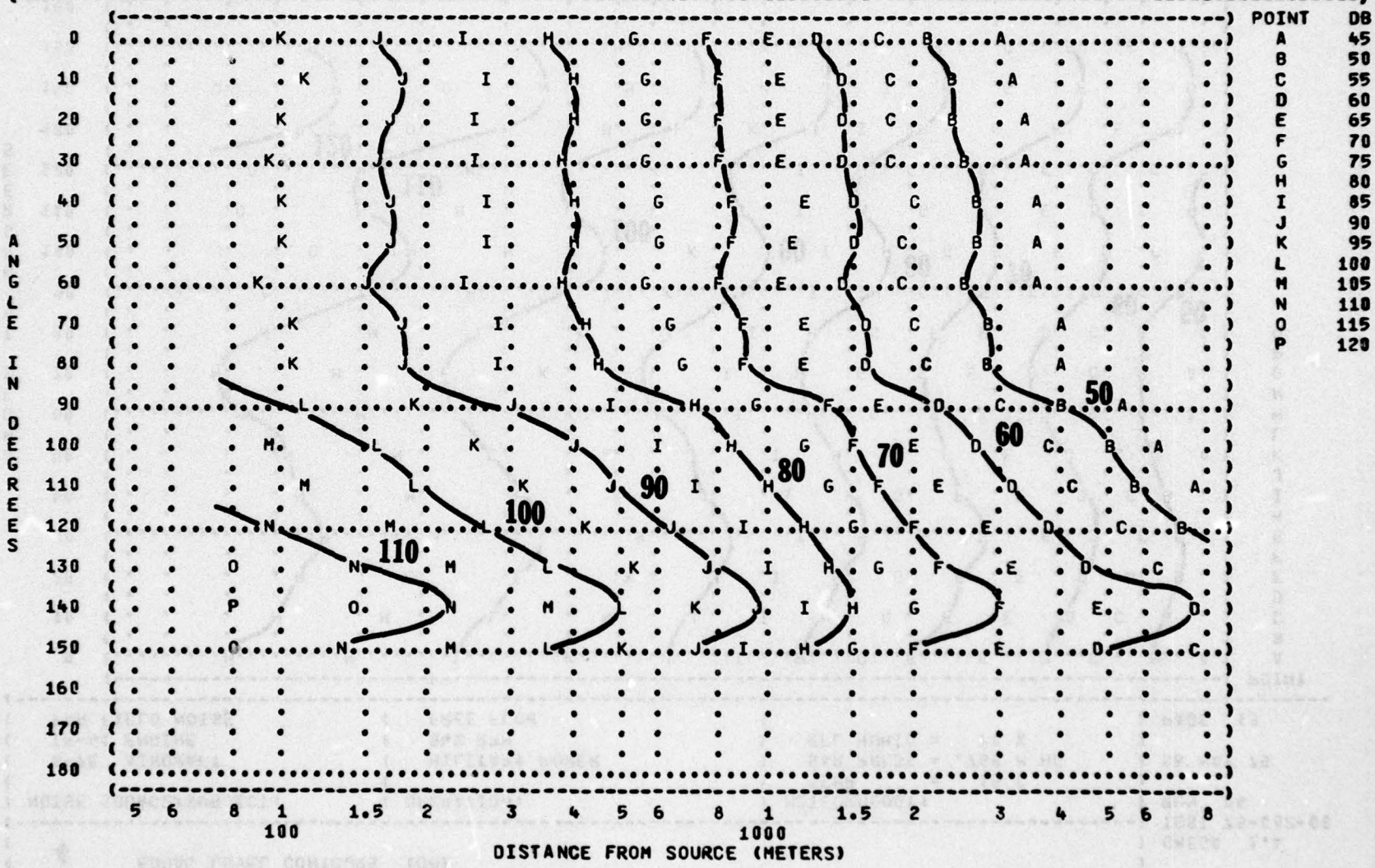
FIGURE 4: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 13



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

FIGURE: 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (D8)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-00
RUN 04
06 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

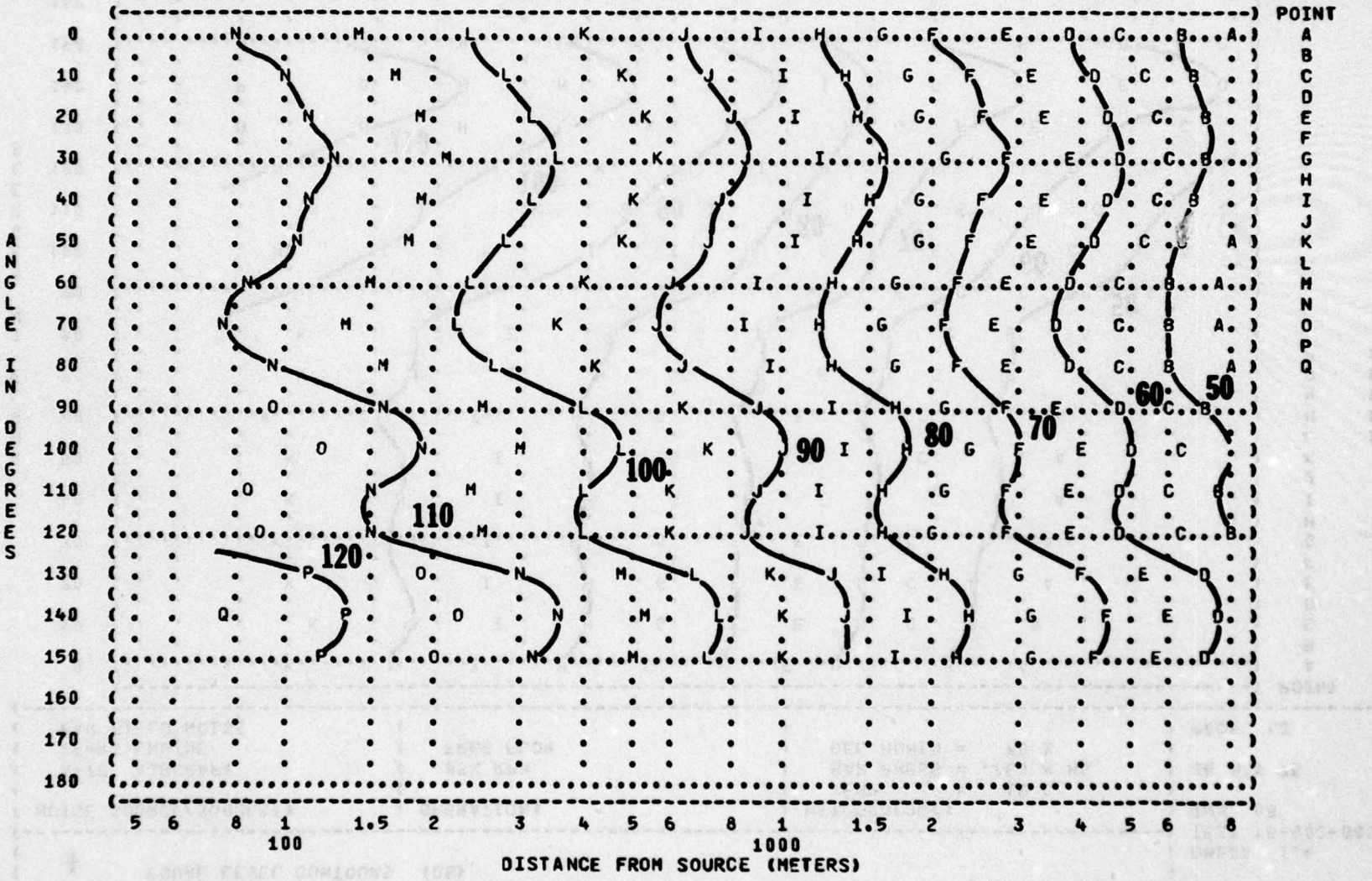


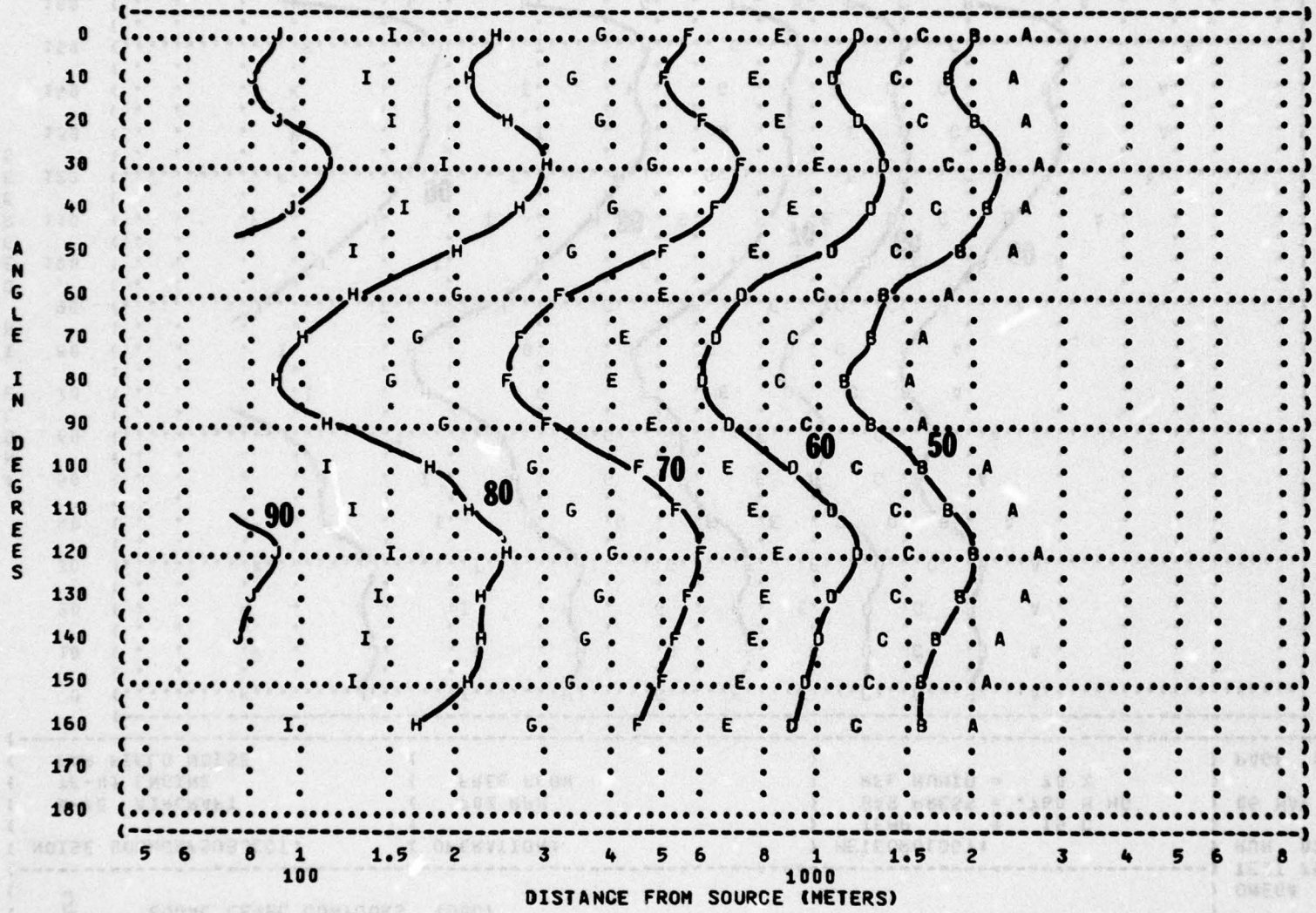
FIGURE 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 14



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

FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

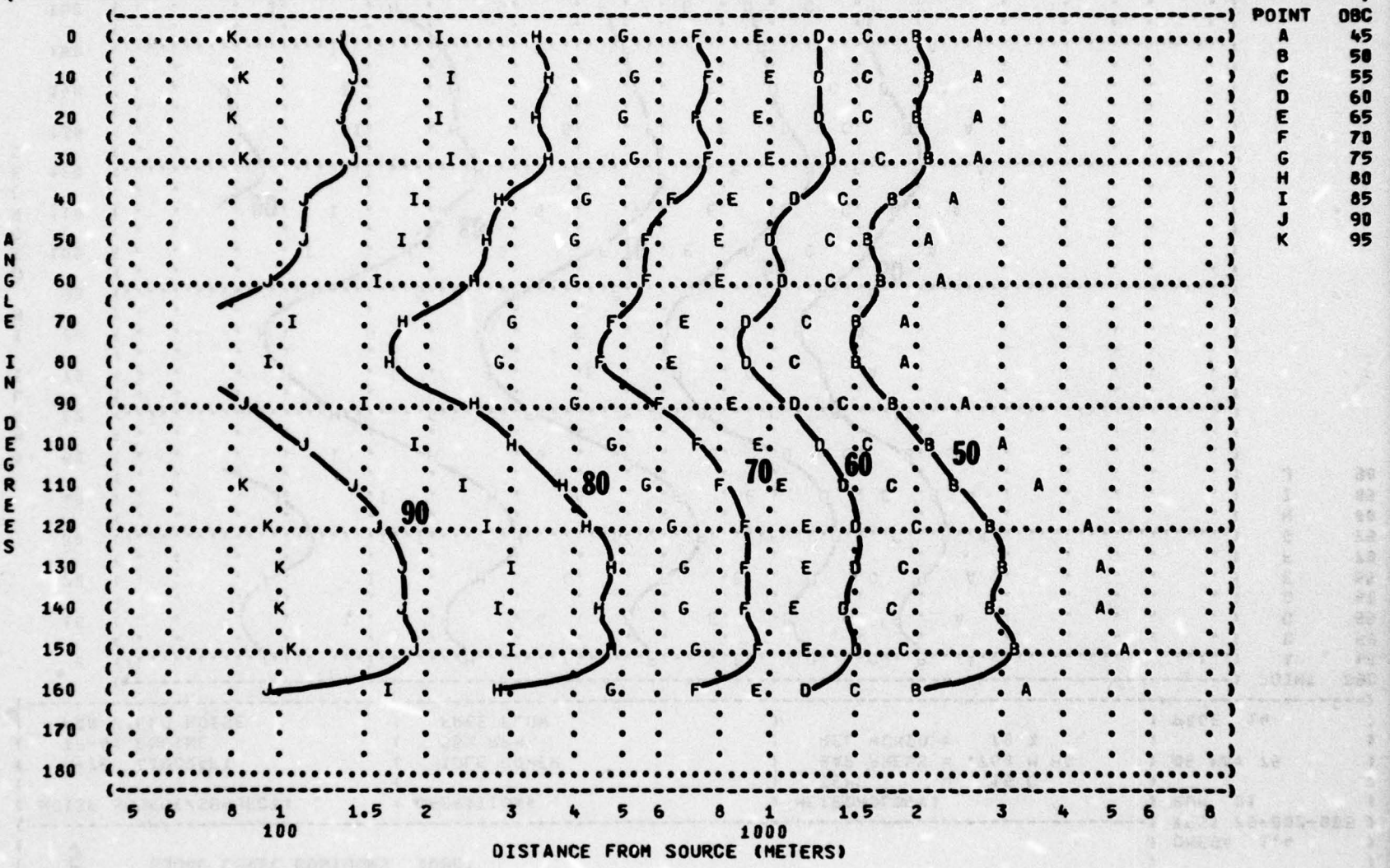


FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
O	115
P	120

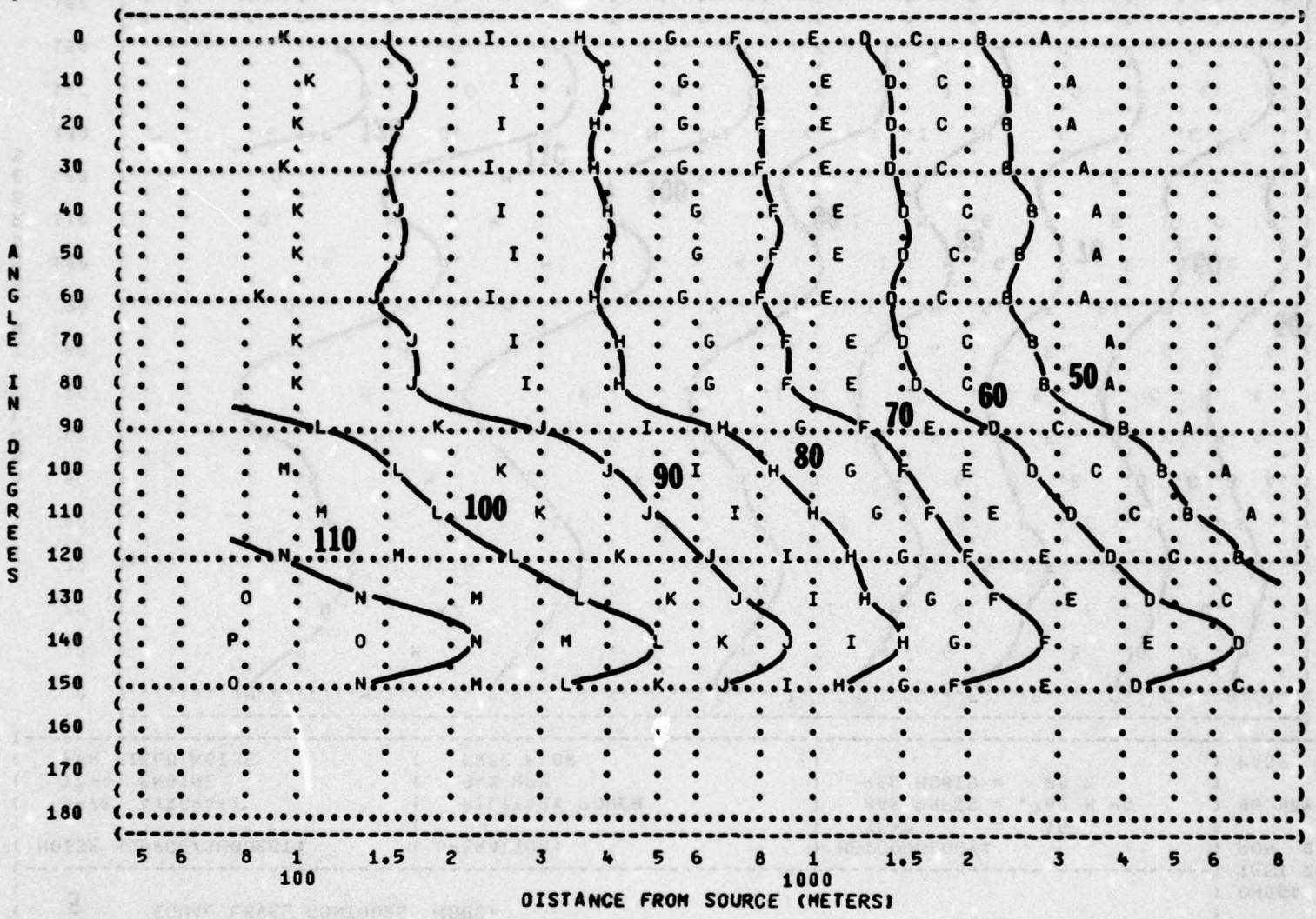


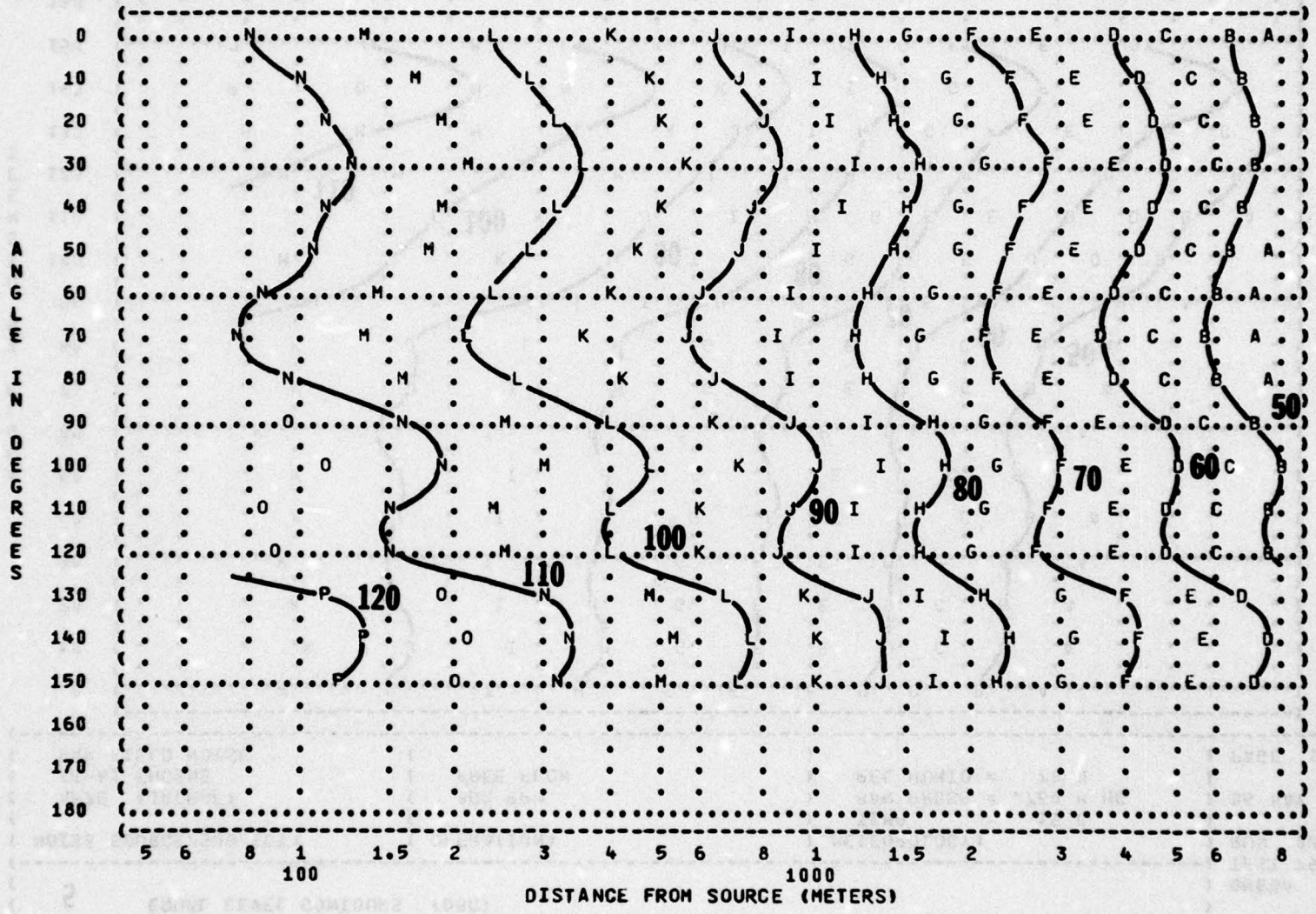
FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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

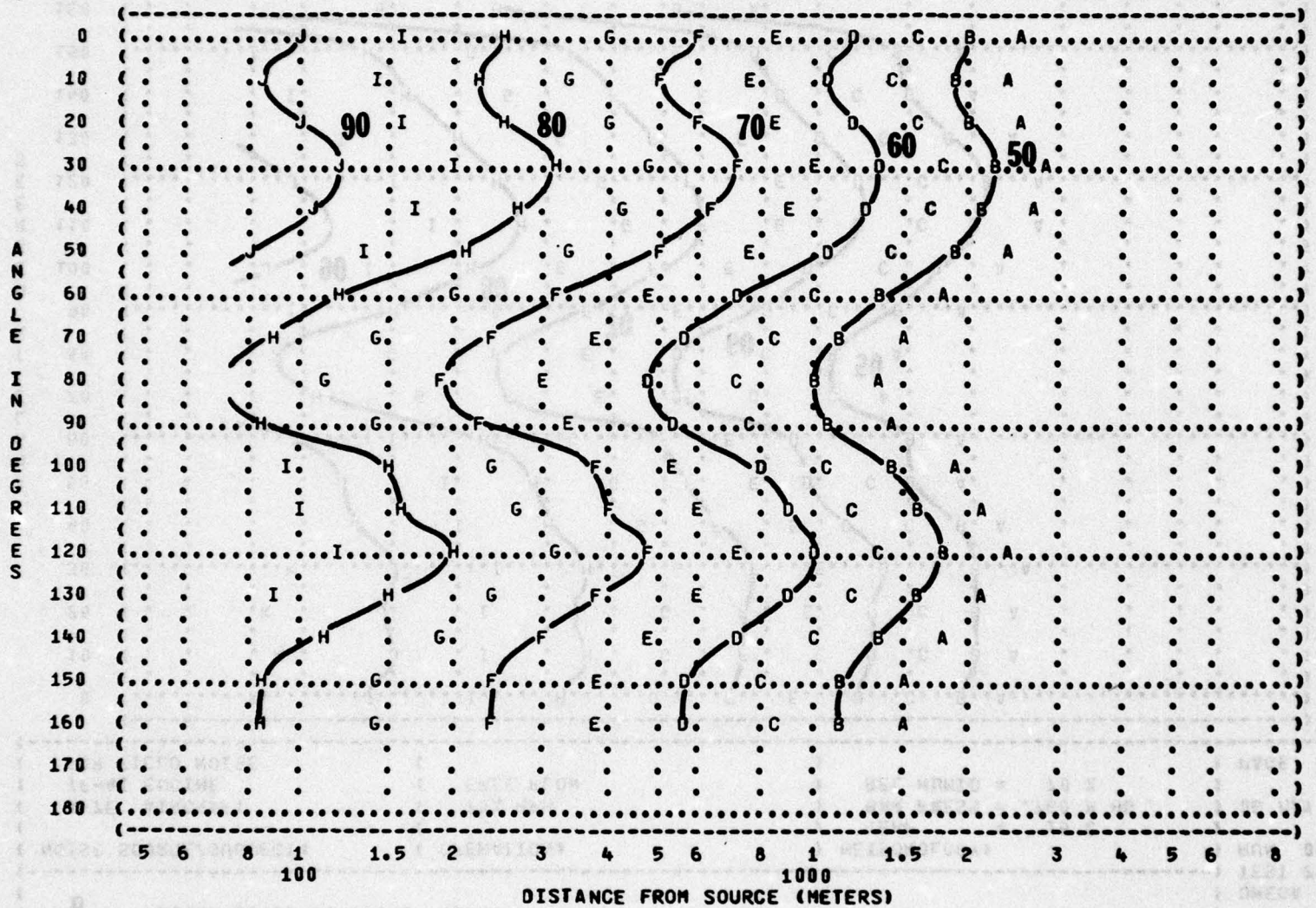
FIGURE 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 15



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

FIGURE: 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

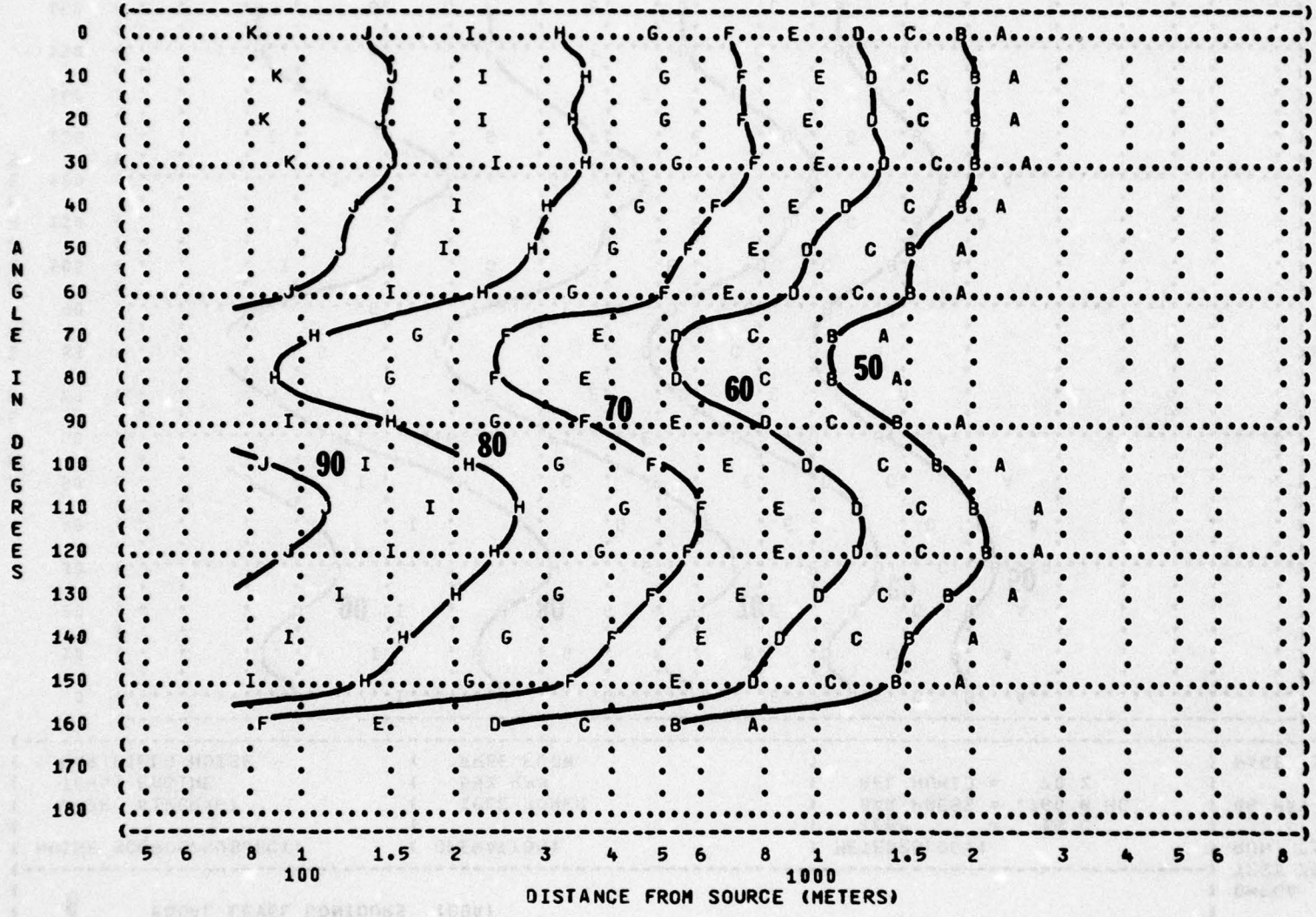


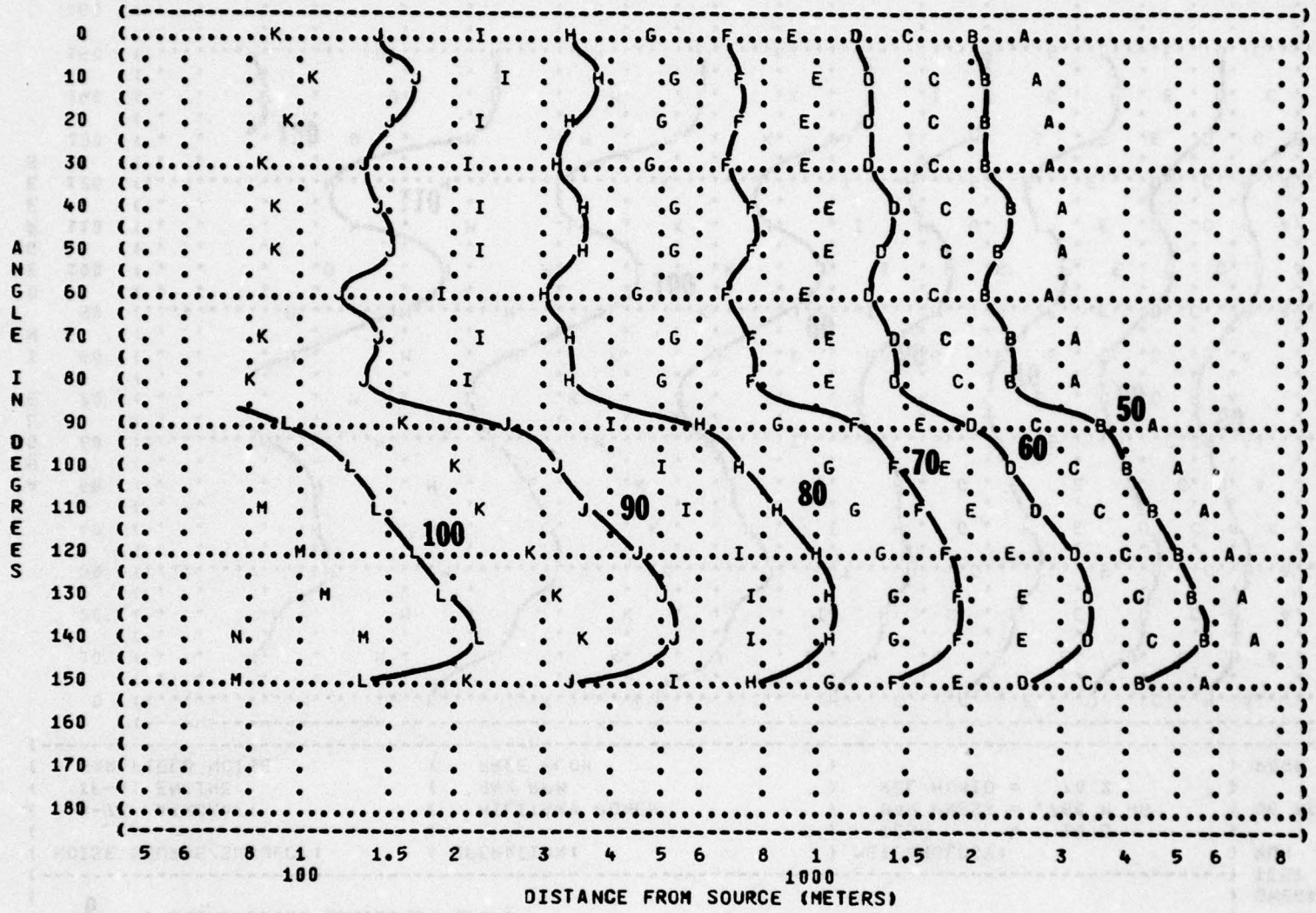
FIGURE 6: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% 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

FIGURE 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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
P	120

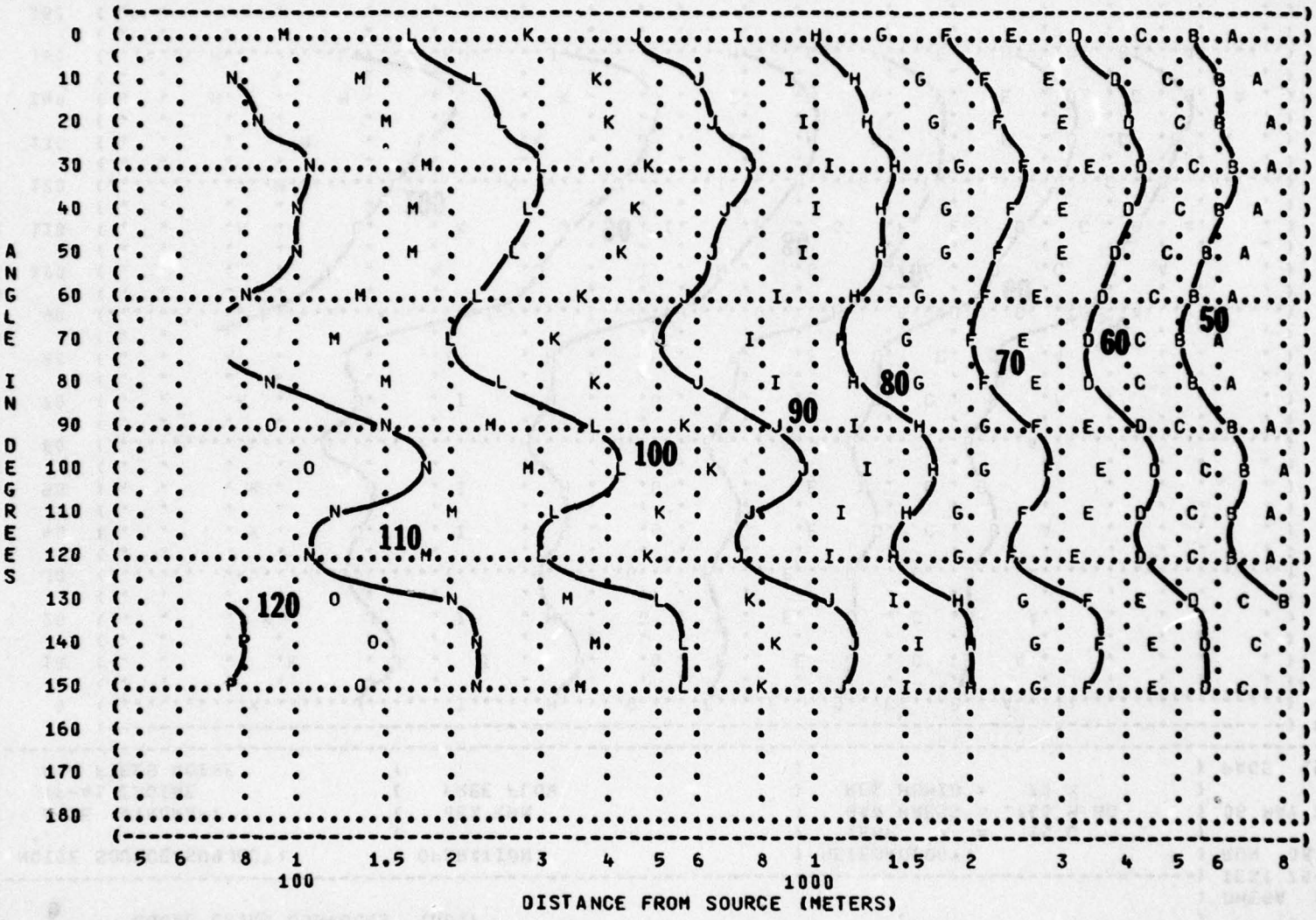


FIGURE 7 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 16

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

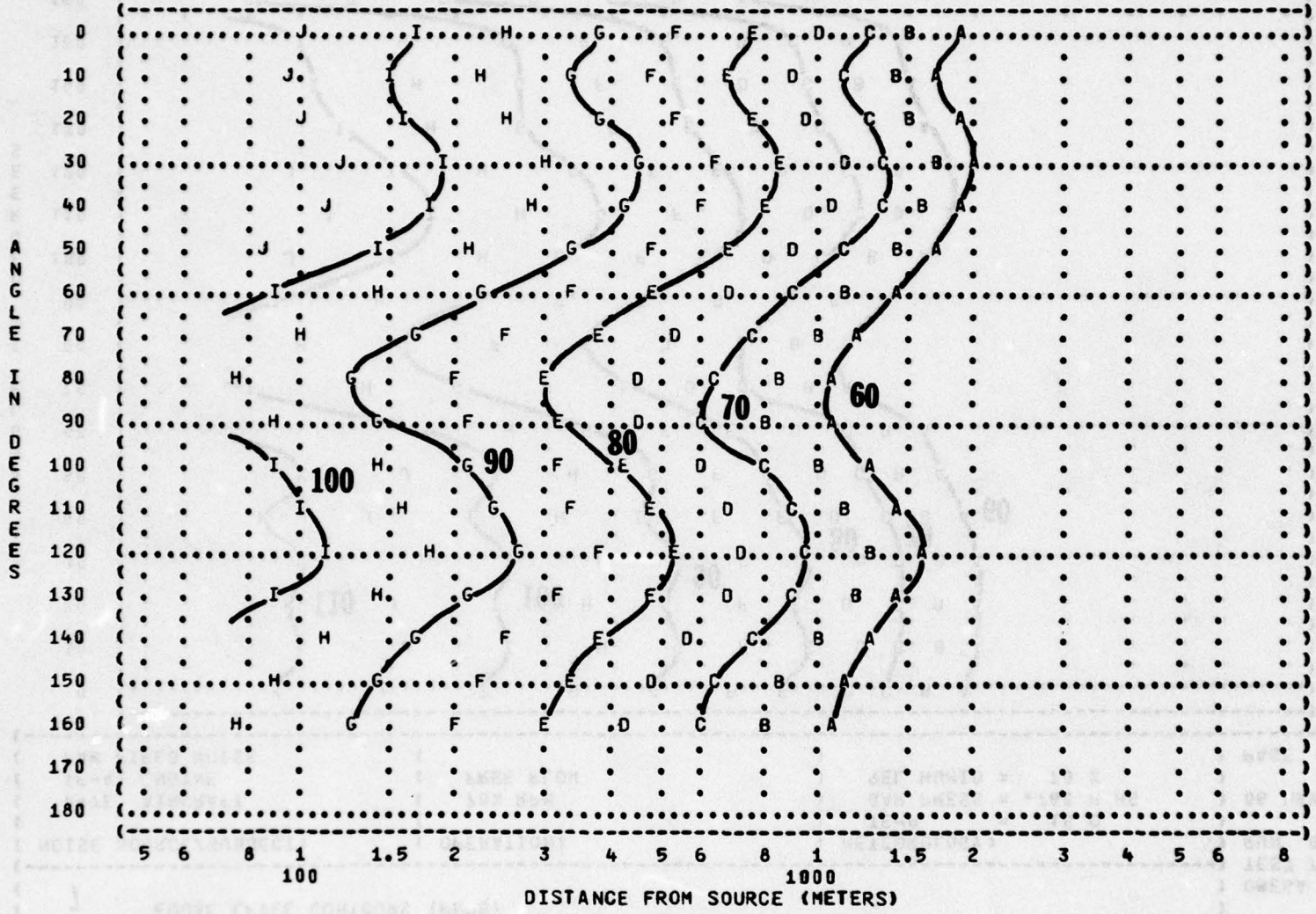


FIGURE 7: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

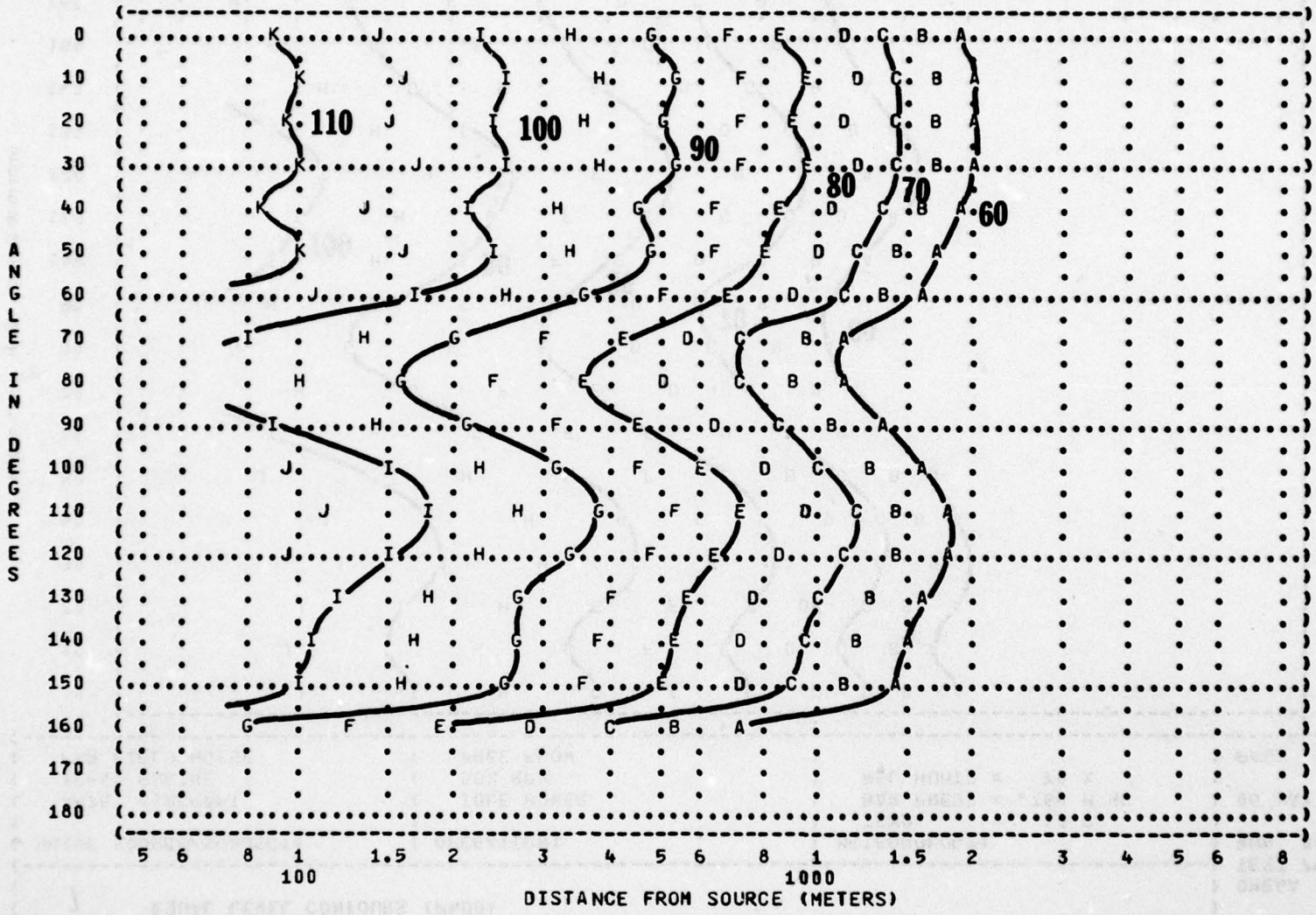


FIGURE 7 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% 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

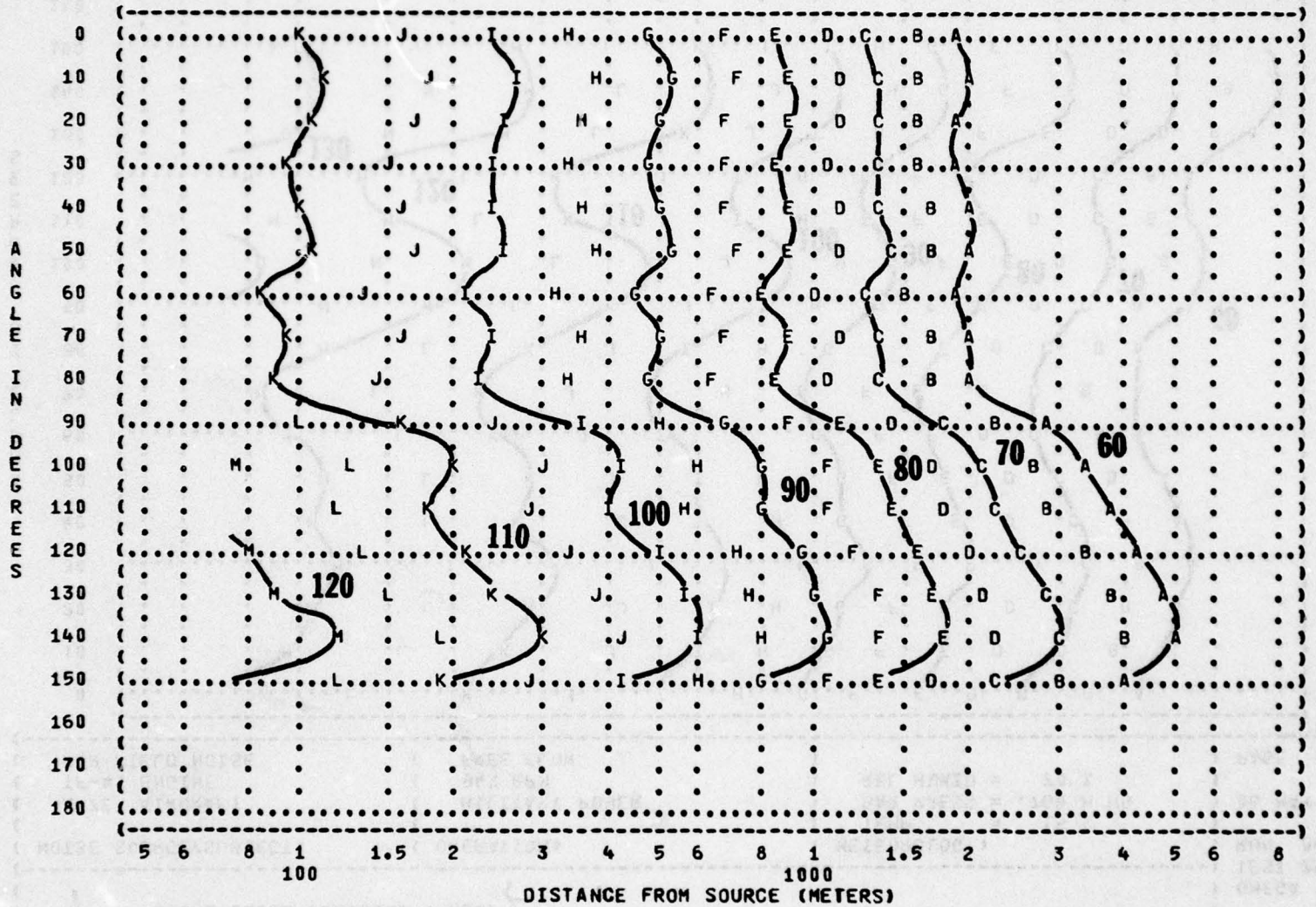


FIGURE 7 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 16

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

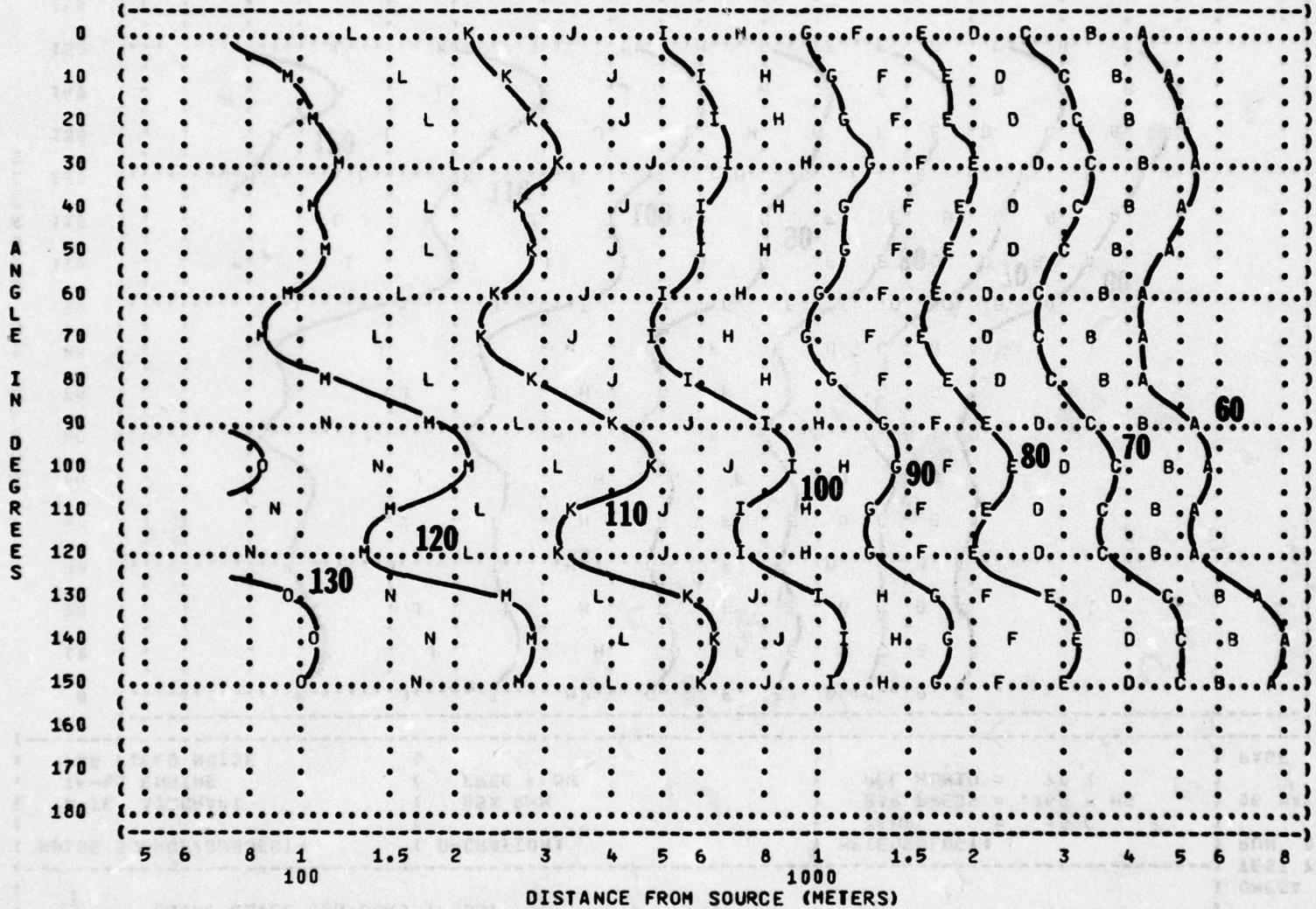


FIGURE: 8 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% 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

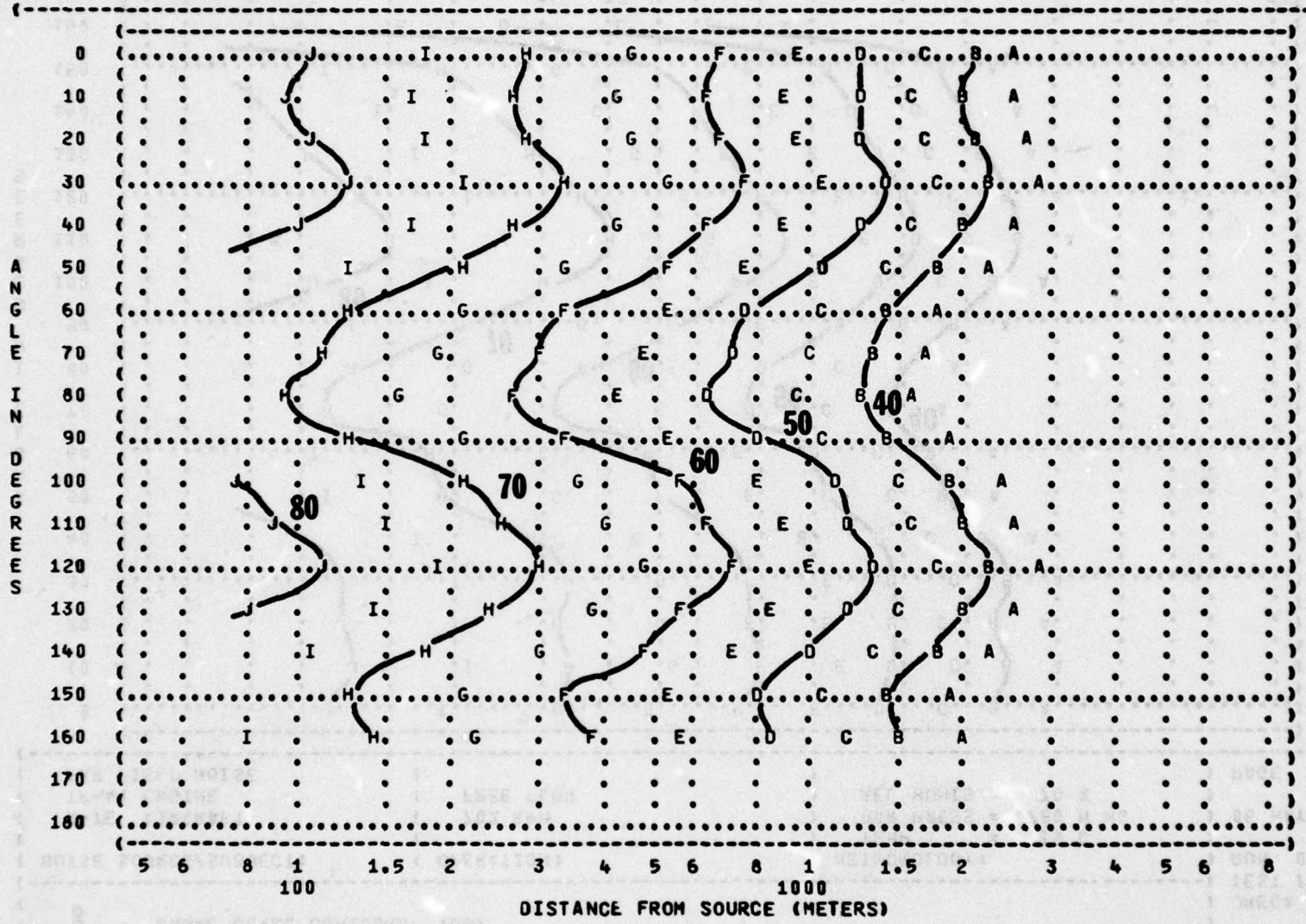


FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

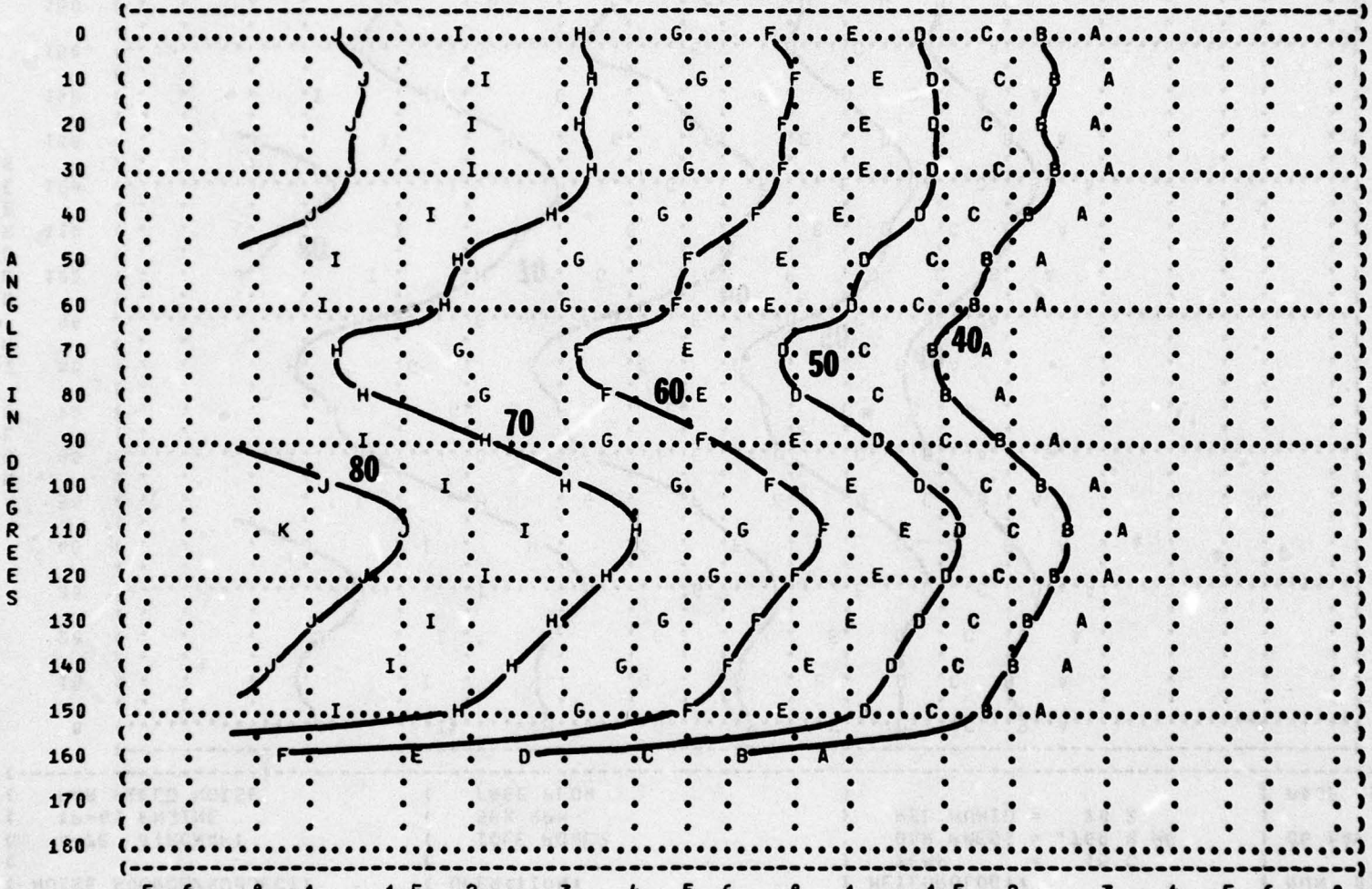


FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
M	95
N	100

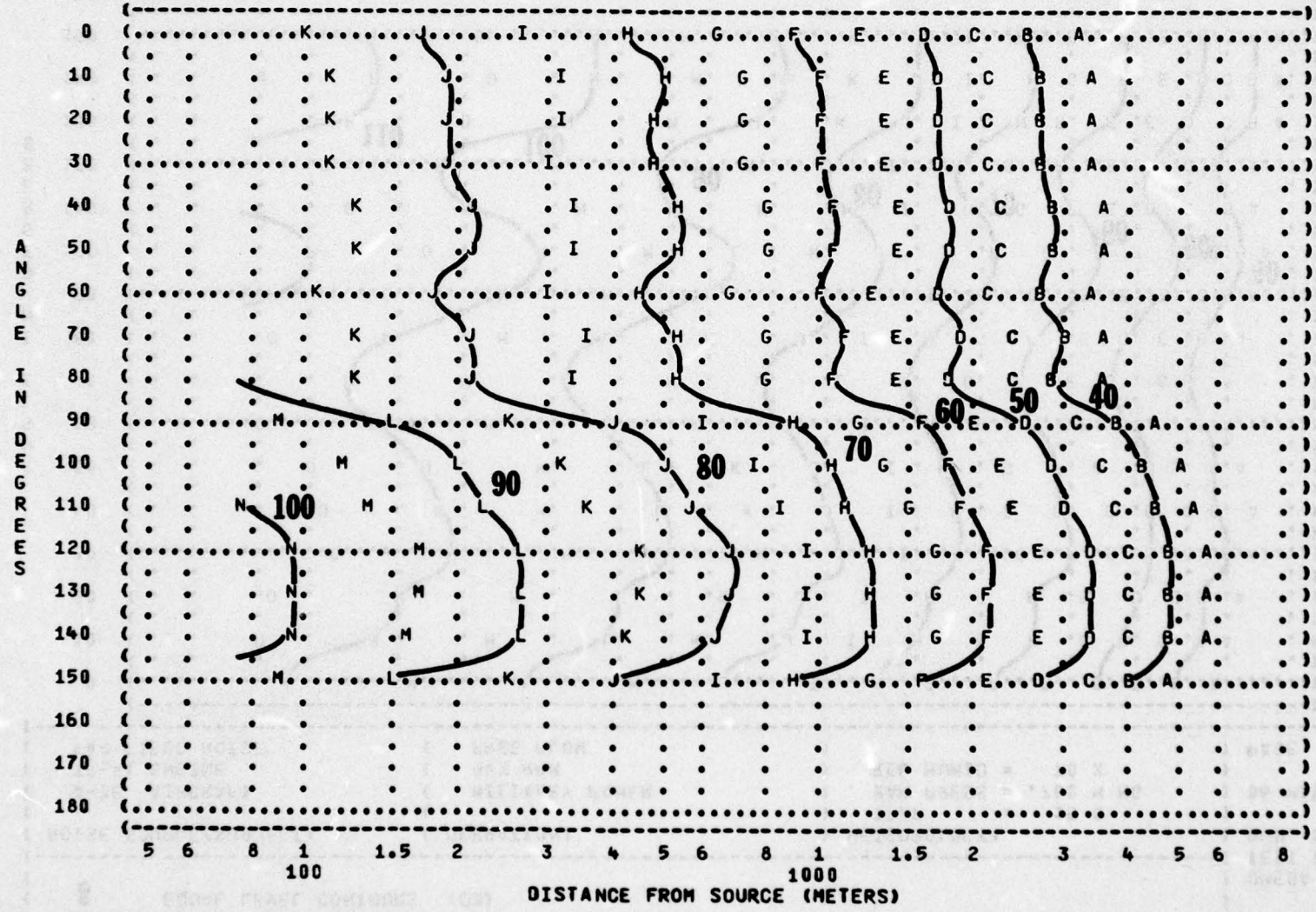


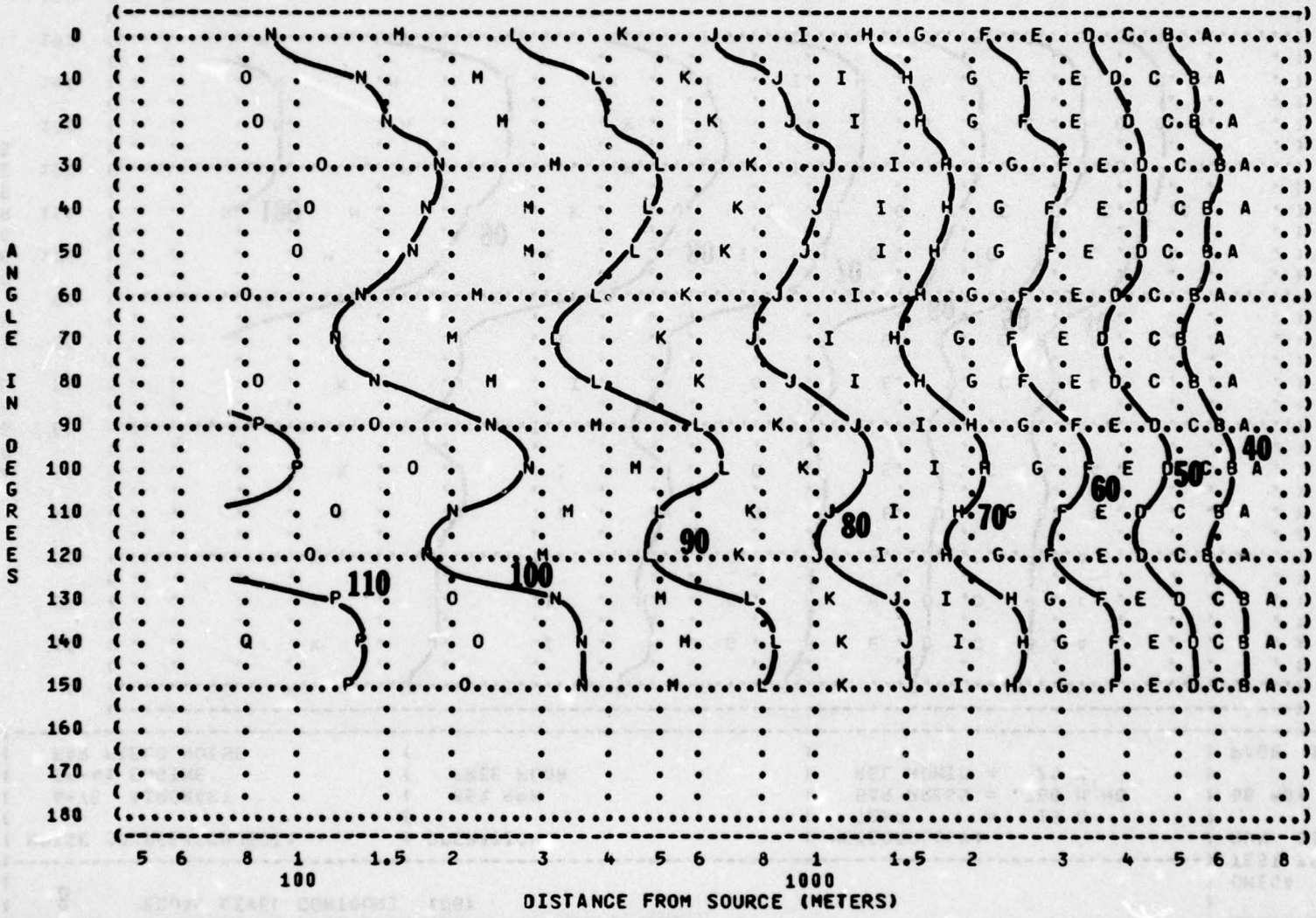
FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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

FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

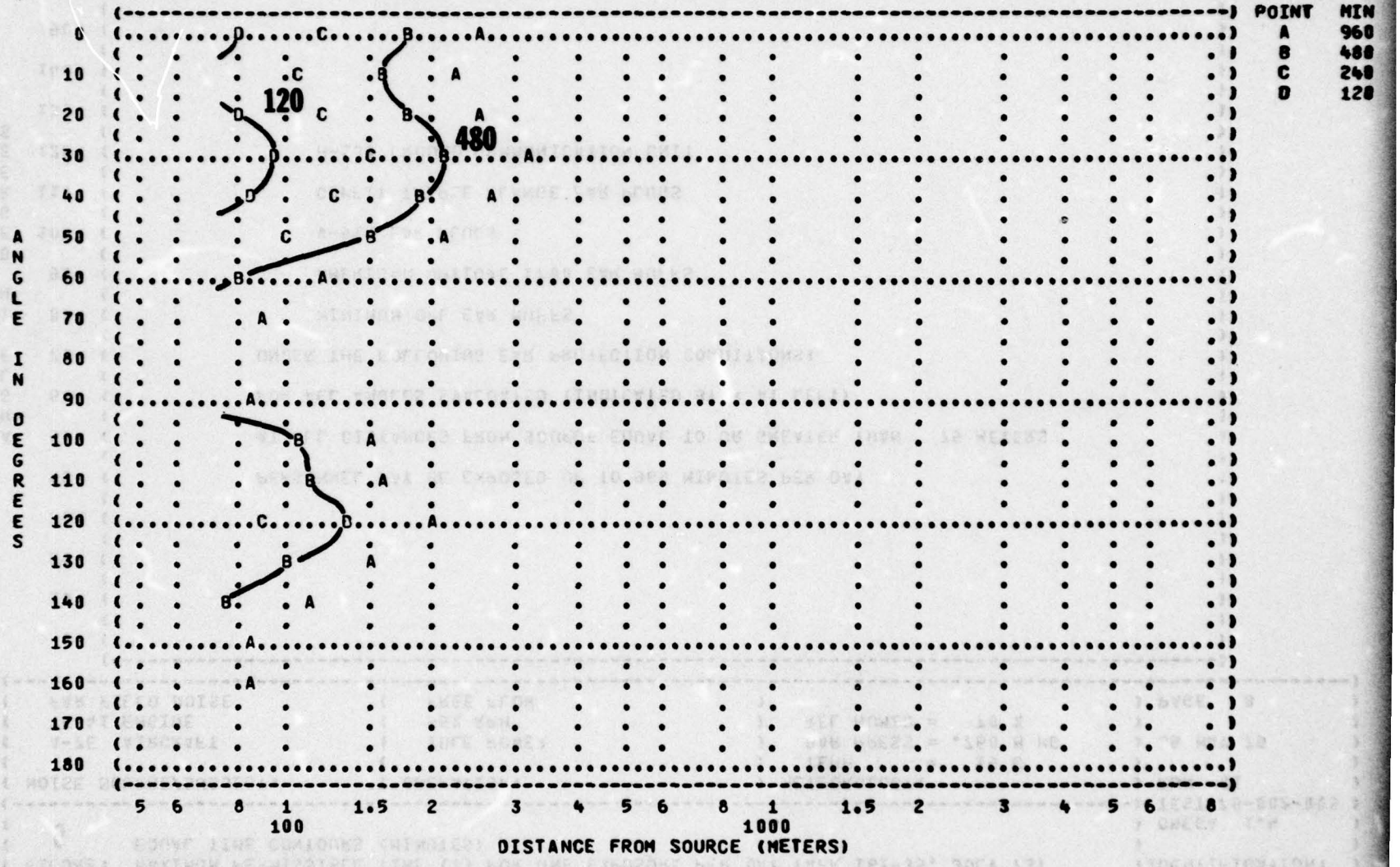


FIGURE: 9	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)	IDENTIFICATION:
NOISE SOURCE/SUBJECT: A-7E AIRCRAFT TF-41 ENGINE FAR FIELD NOISE	OPERATION: IDLE POWER 55% RPM FREE FLOW	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %	OMEGA 1.4 TEST 75-002-005 RUN 01 06 MAY 75 PAGE 8

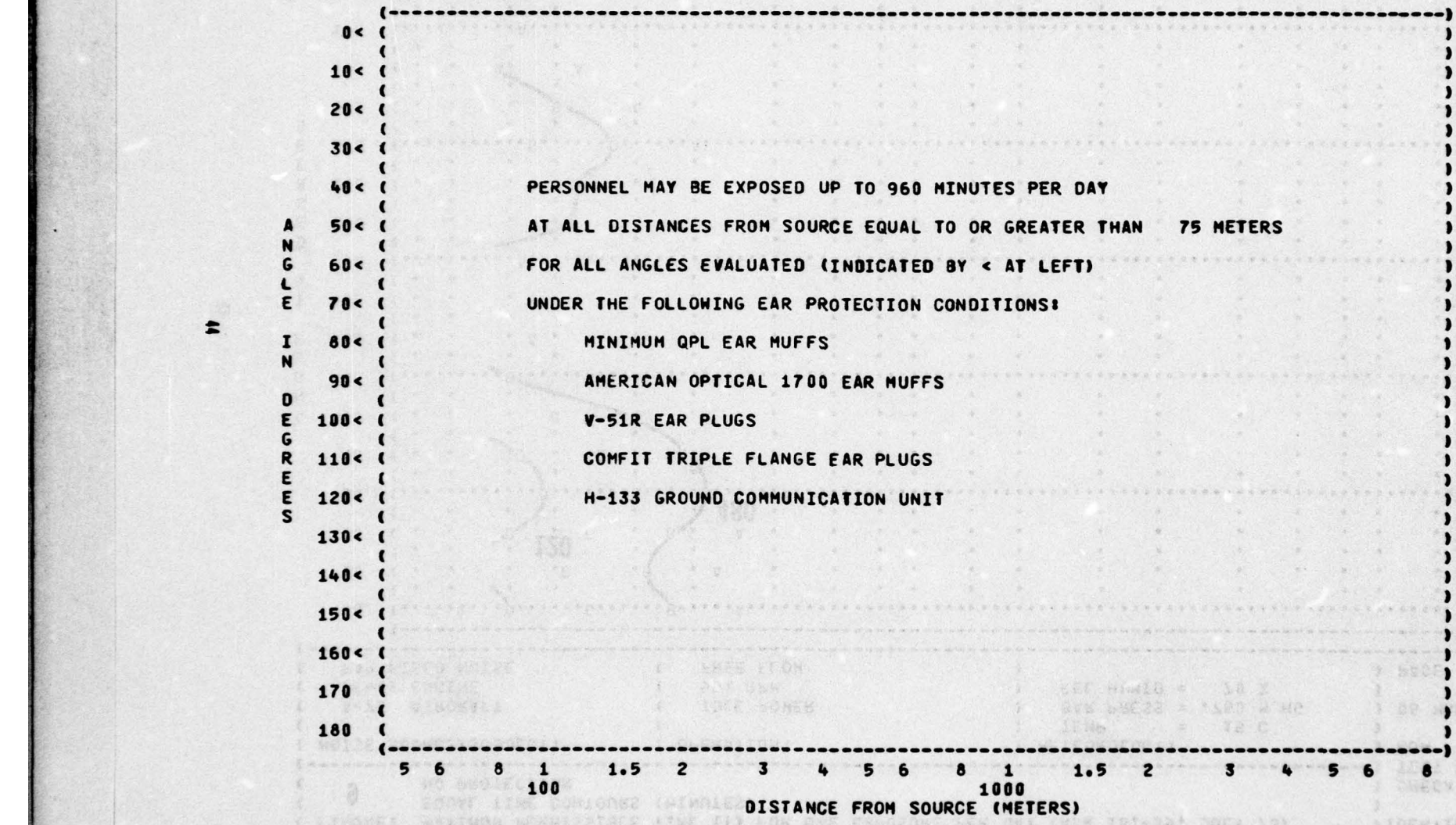


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 7

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

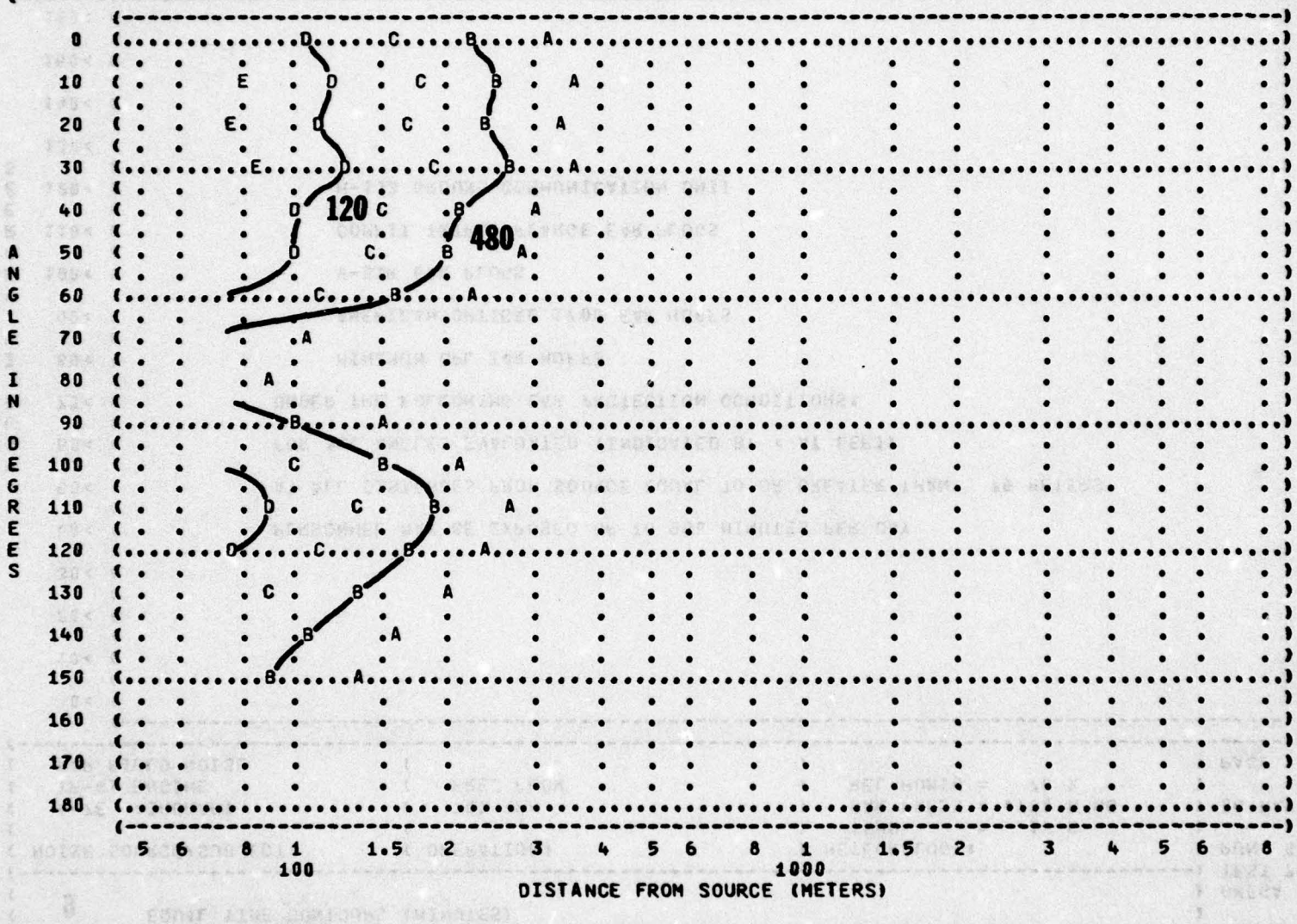


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

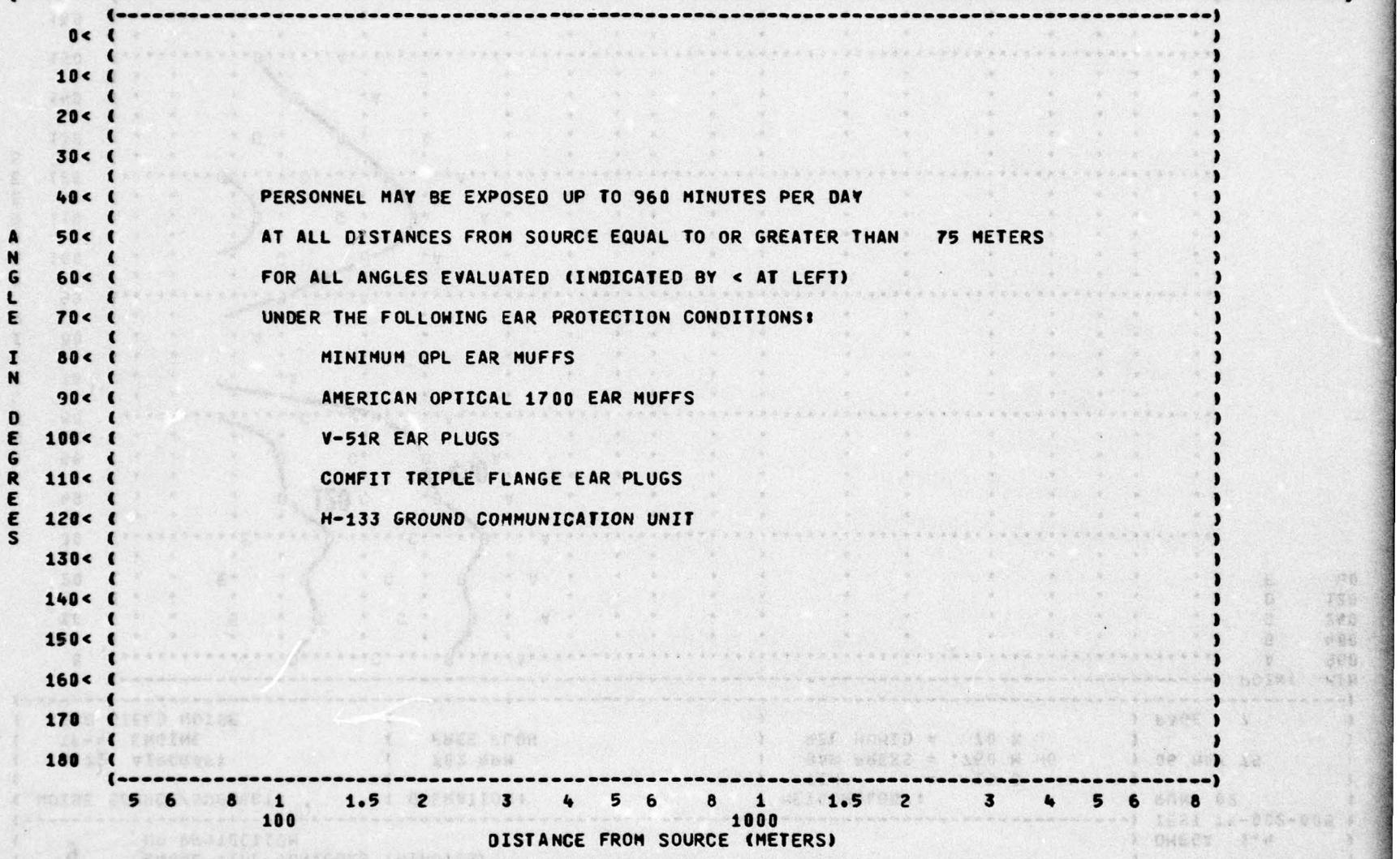


FIGURE: 9

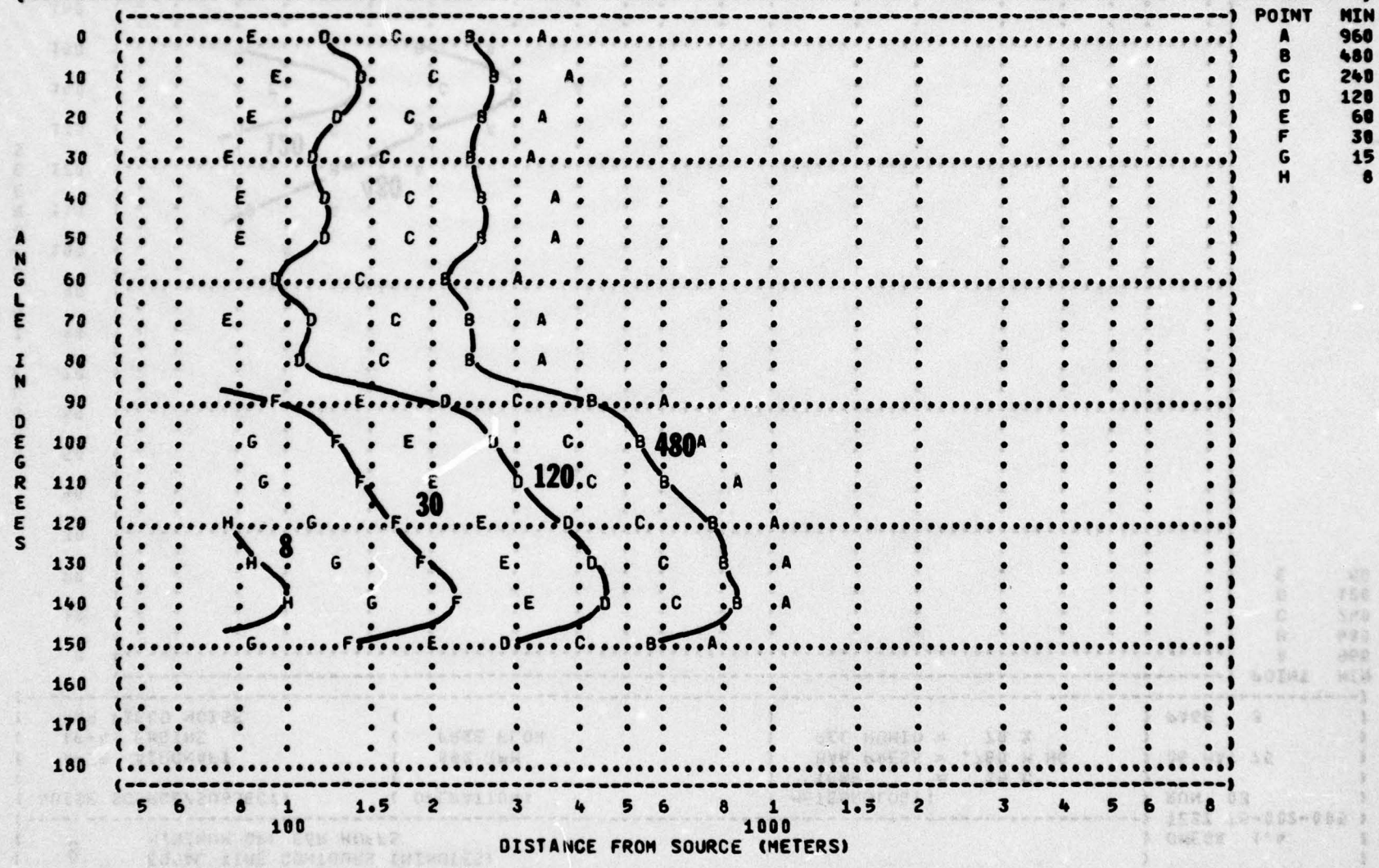
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
G	15
H	8

FIGURE: 9

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-085
RUN 03
06 MAY 75
PAGE 8

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

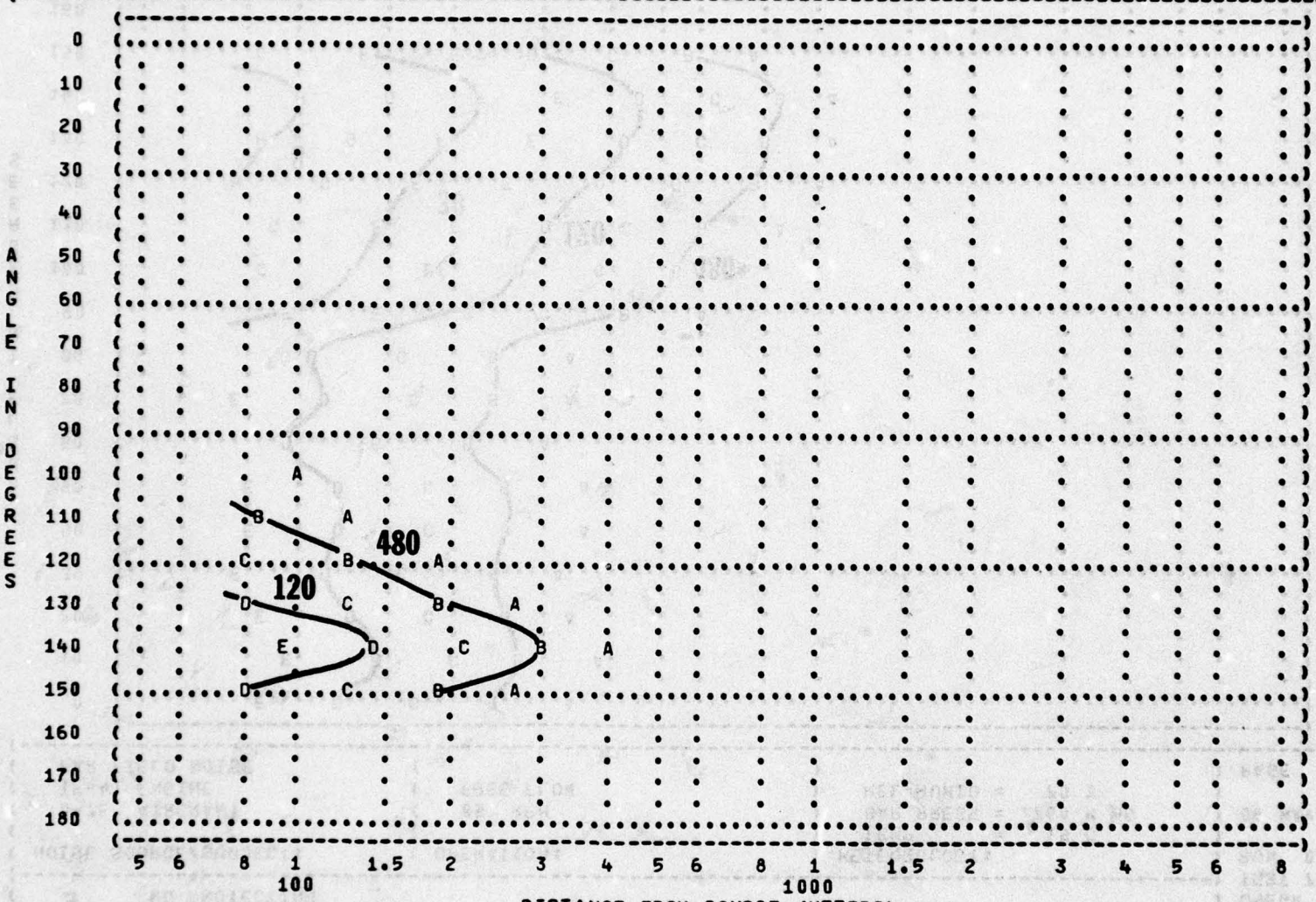


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 9

POINT	MIN
A	960
B	480
C	240
D	120

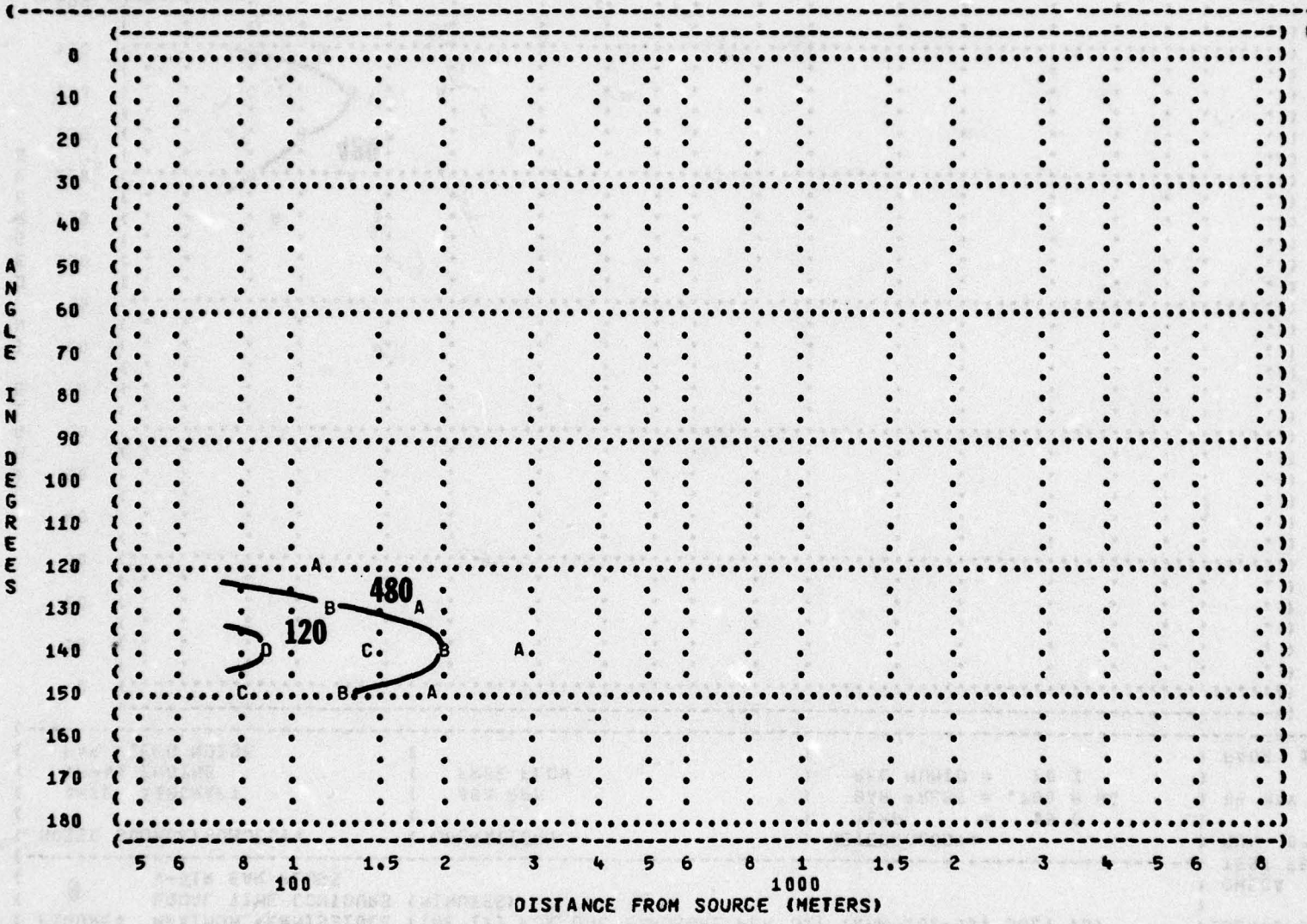


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 10

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
FREE FLOW

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

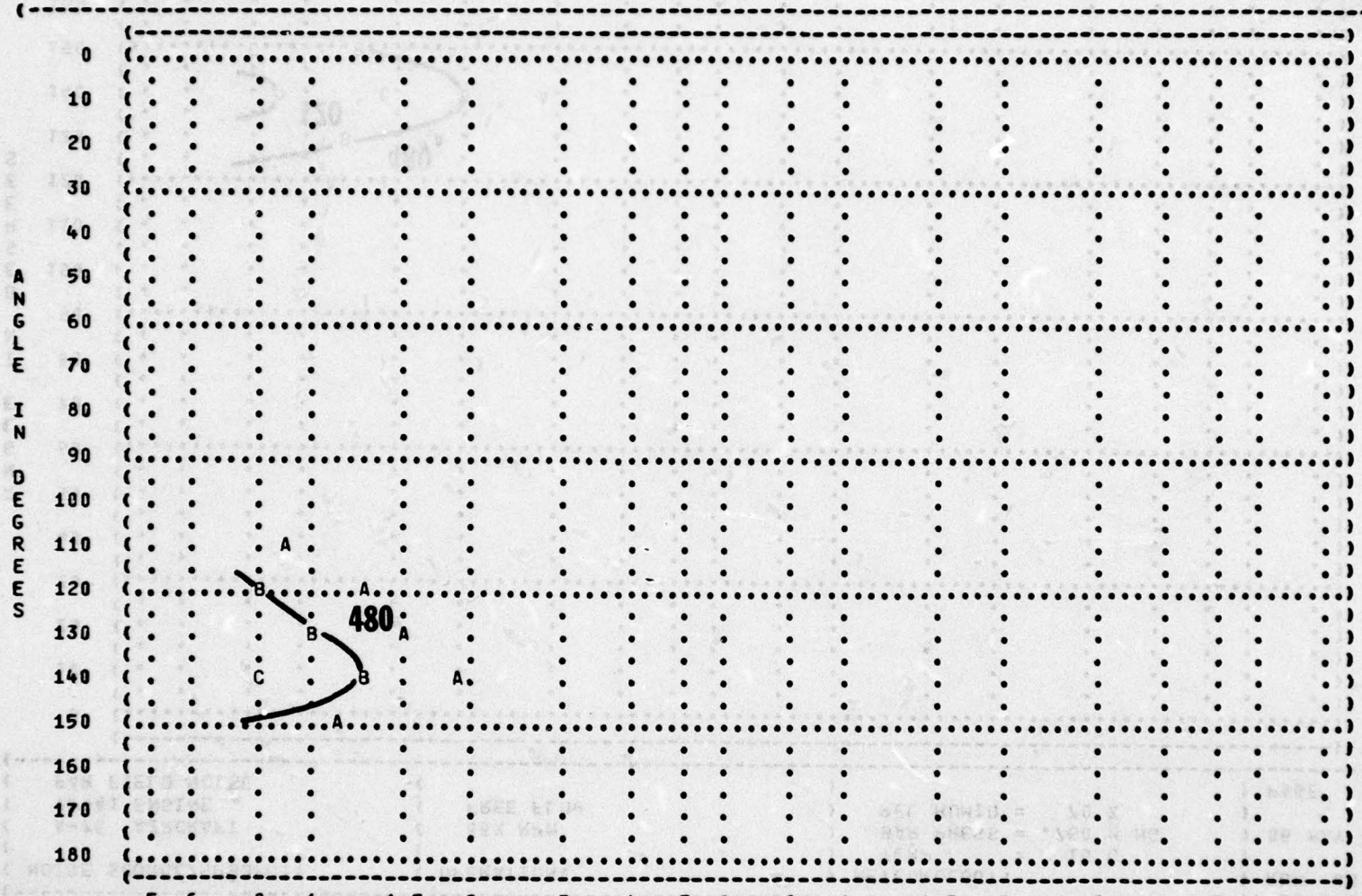


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 11

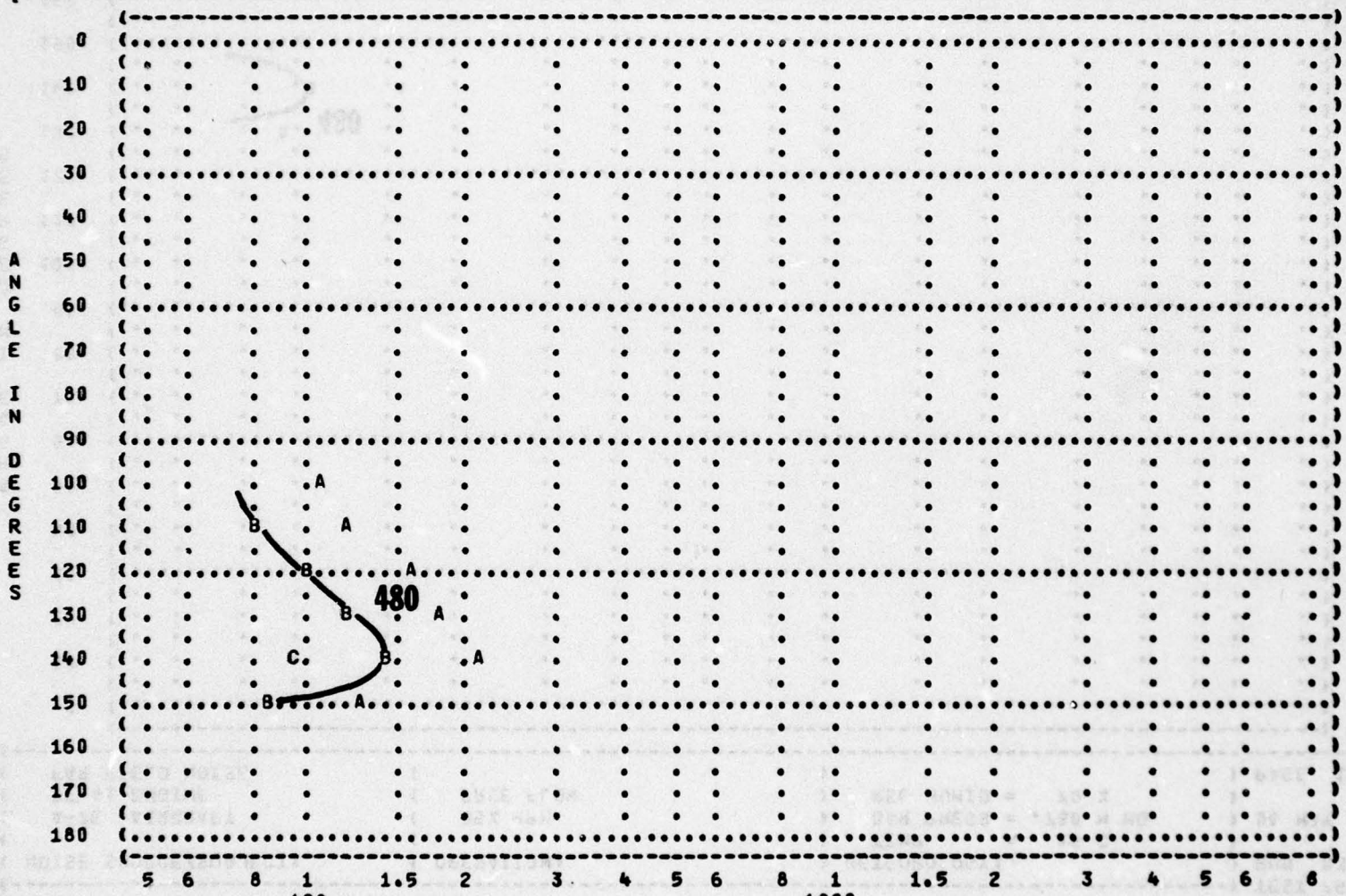


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 12

POINT	MIN
A	960
B	480

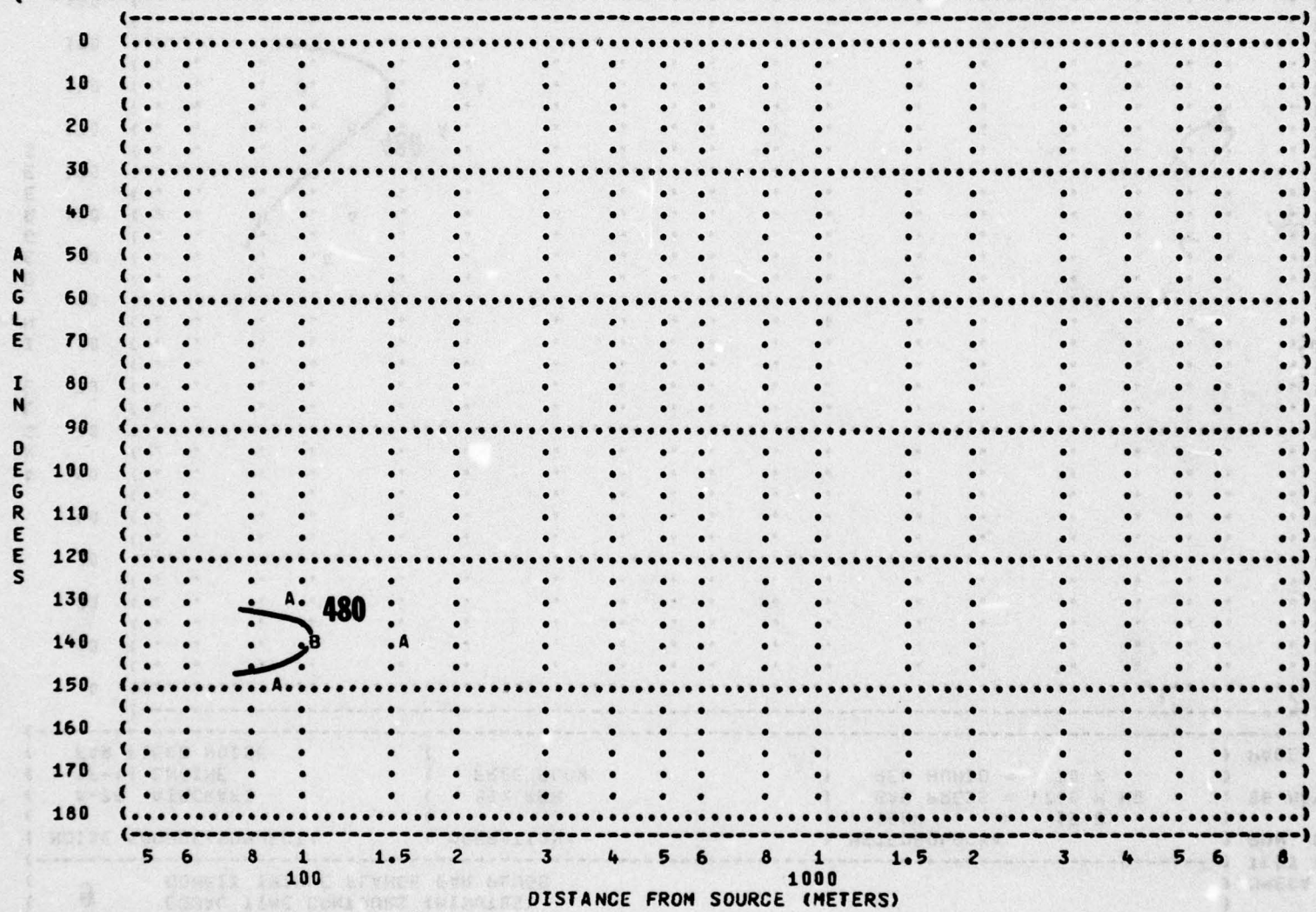


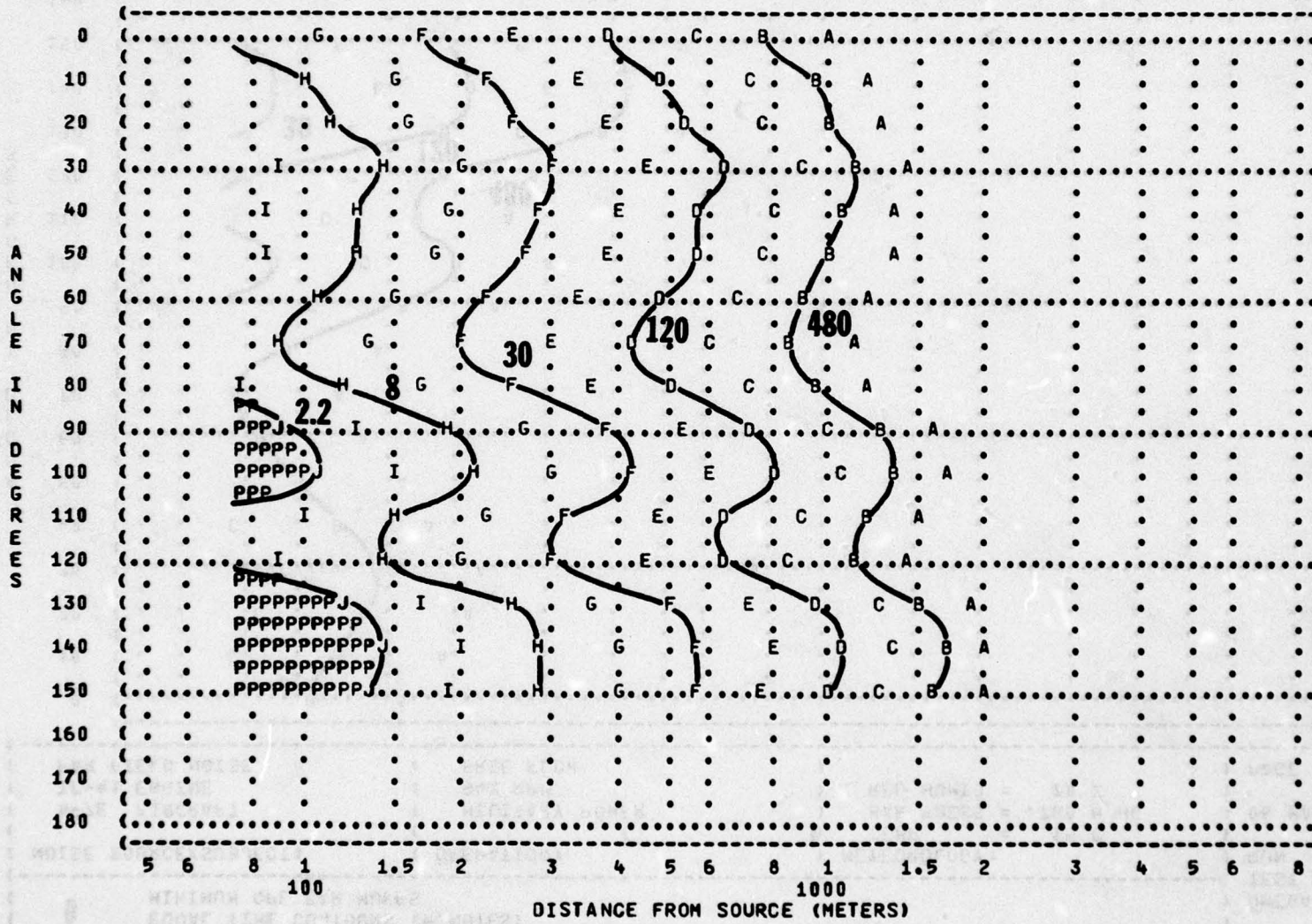
FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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: 9

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

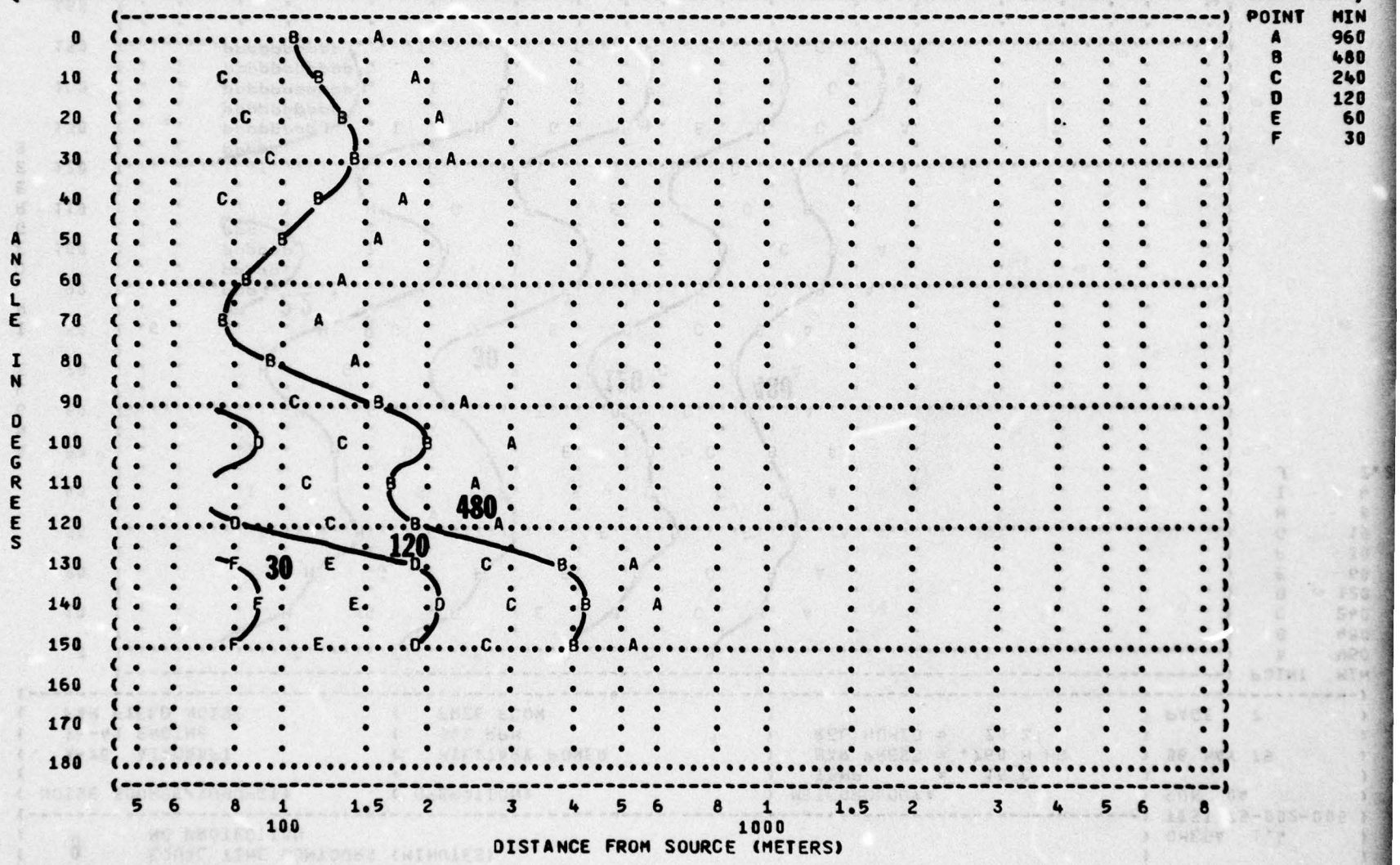


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 9

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

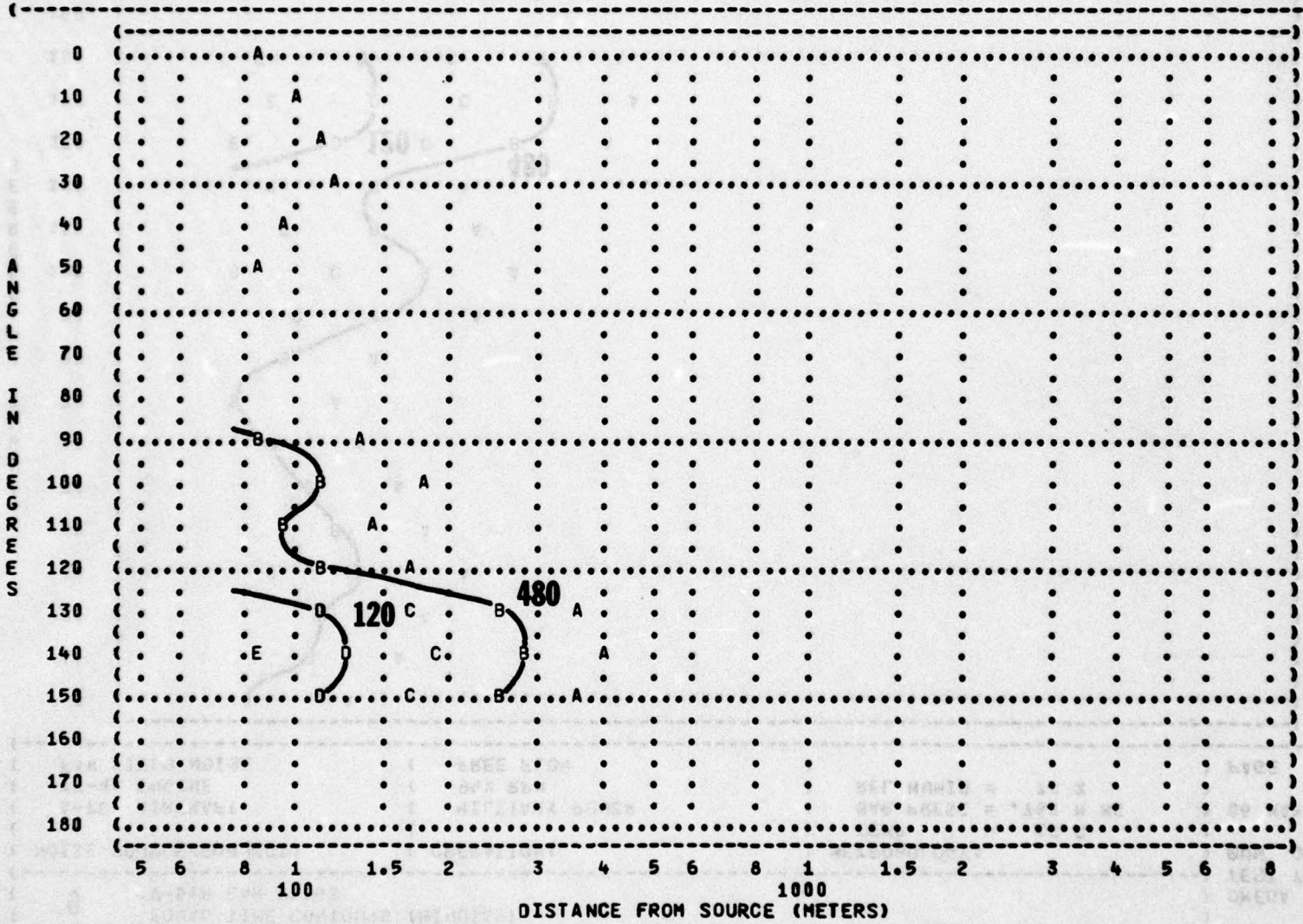


FIGURE: 9

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 10

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

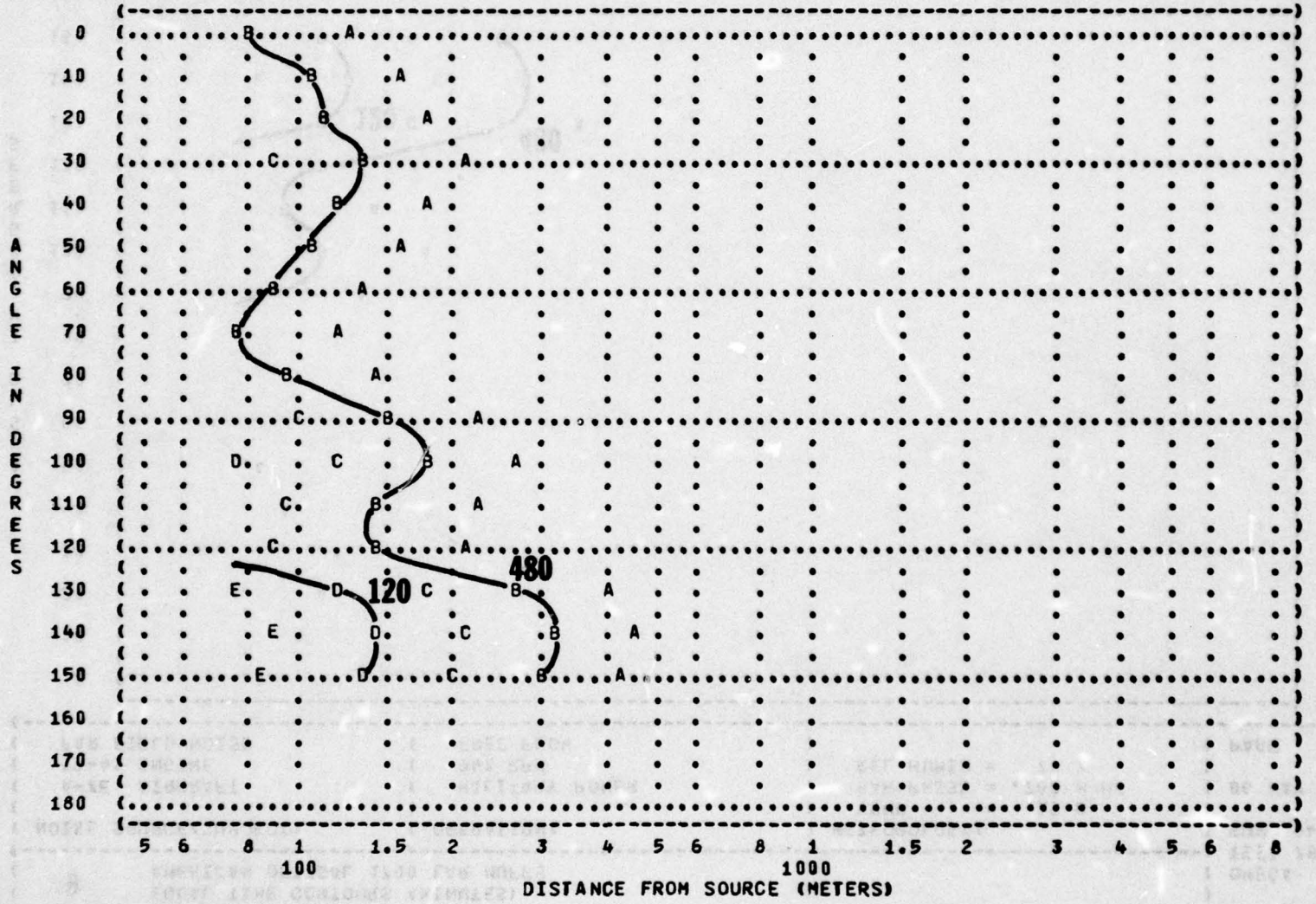


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 11

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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

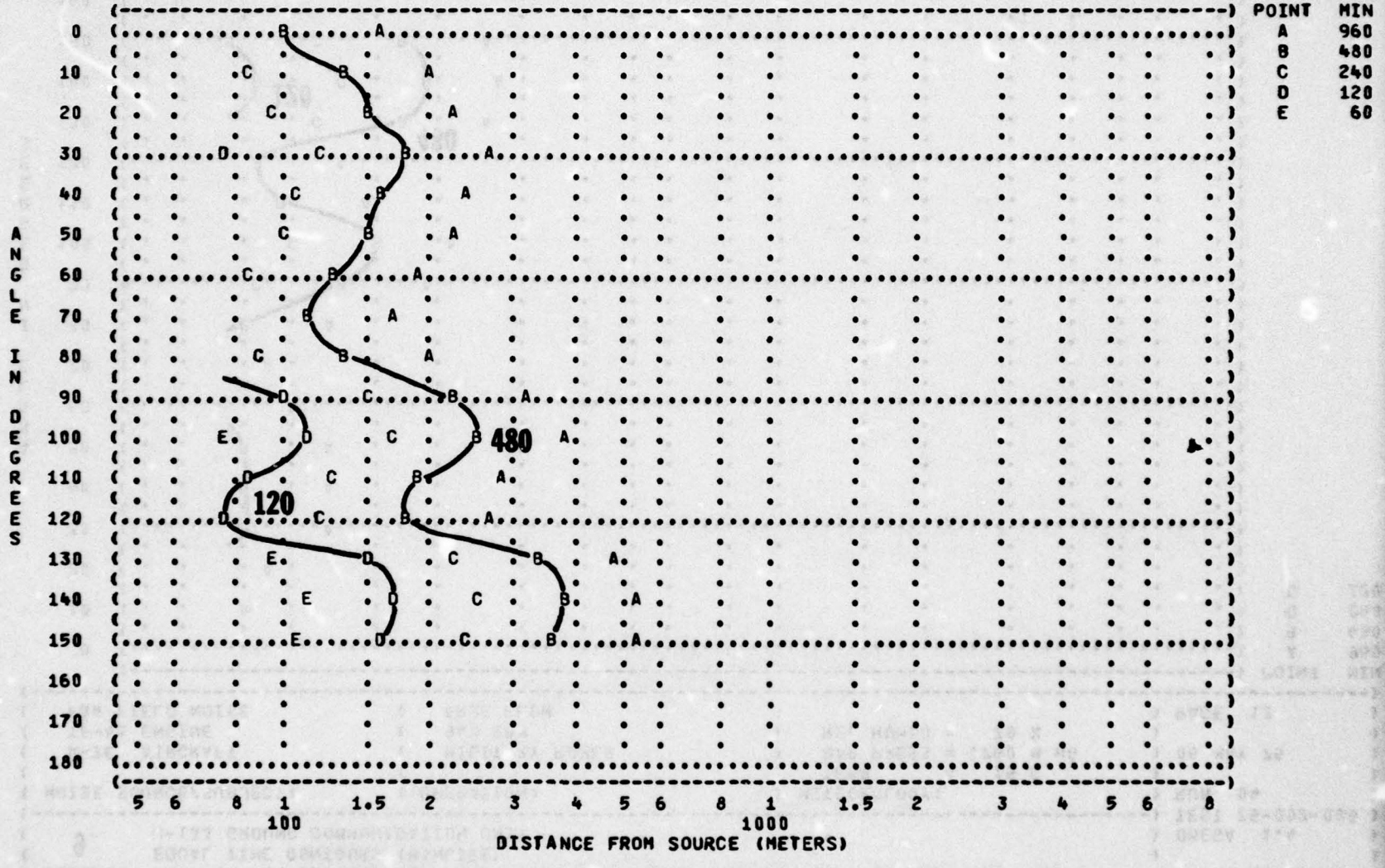


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 12

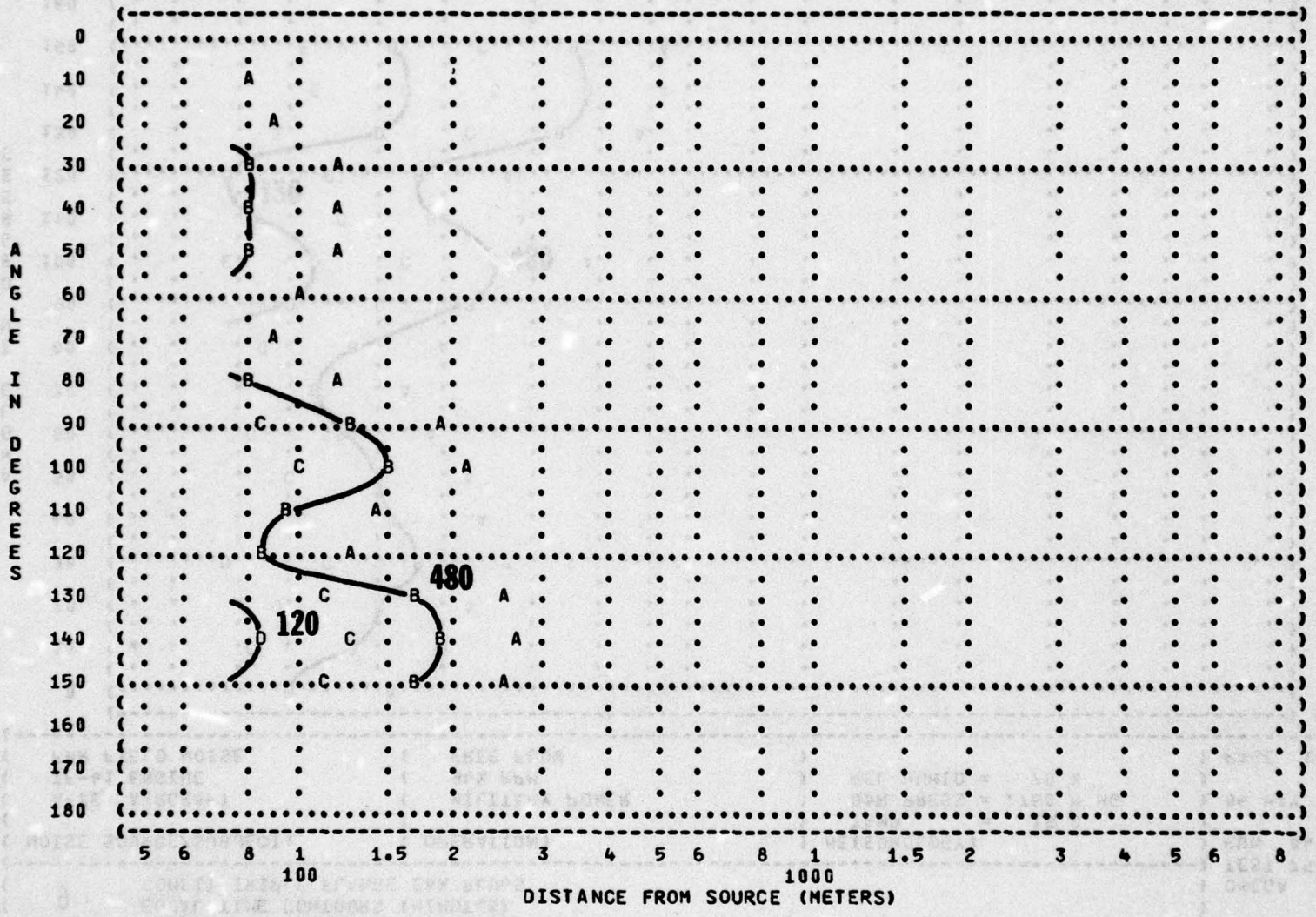


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 18

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

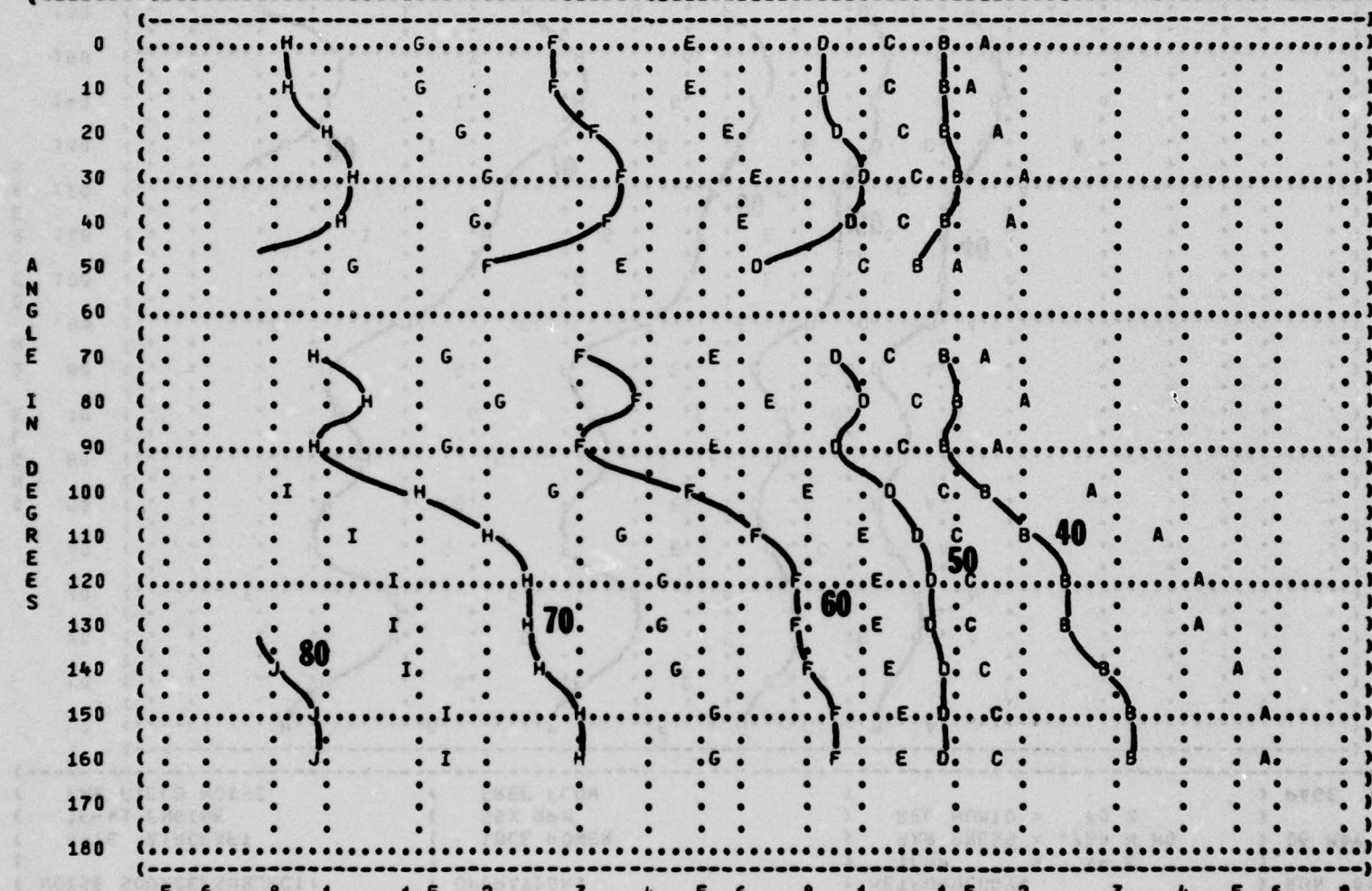


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 19

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

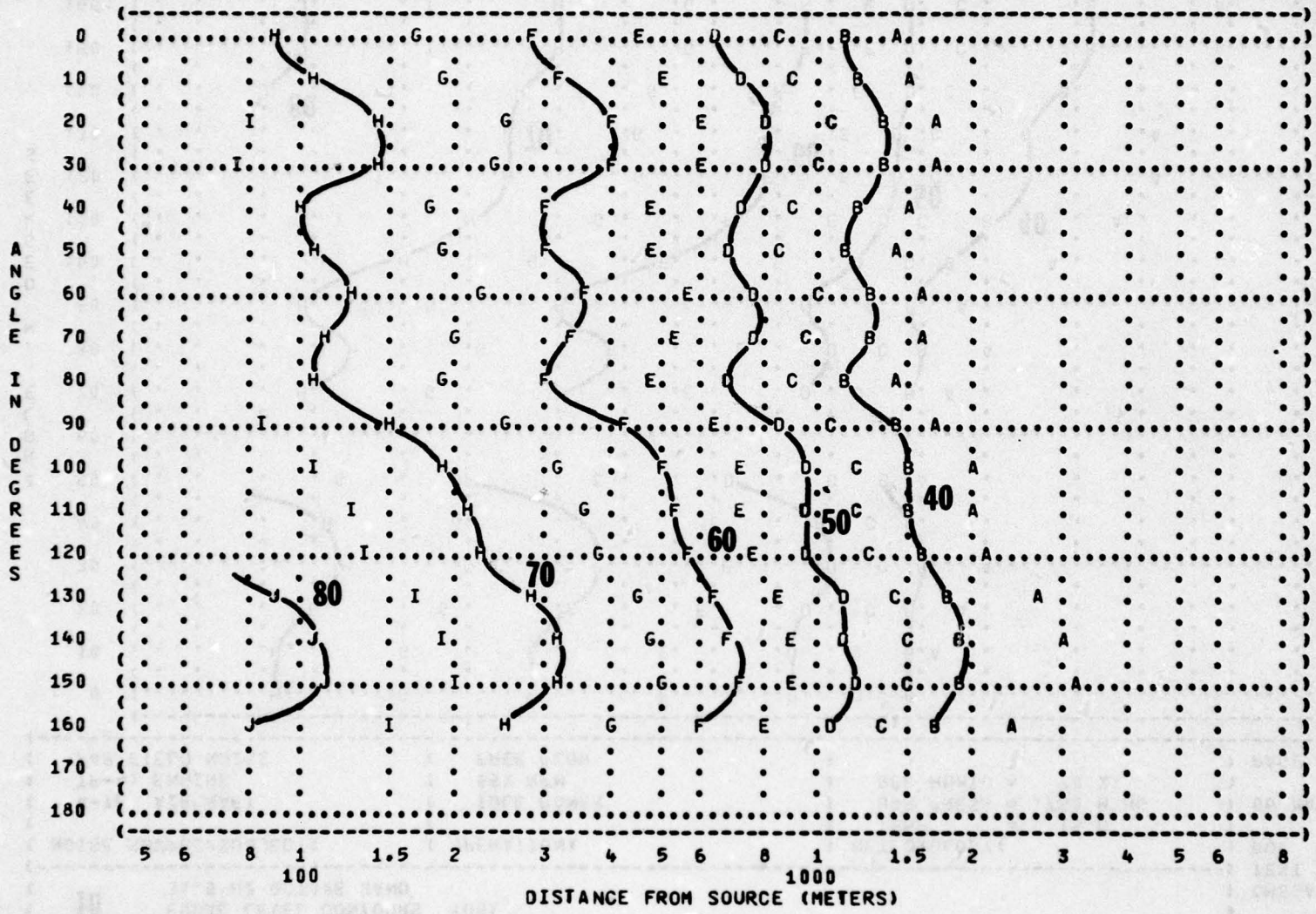


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 20

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

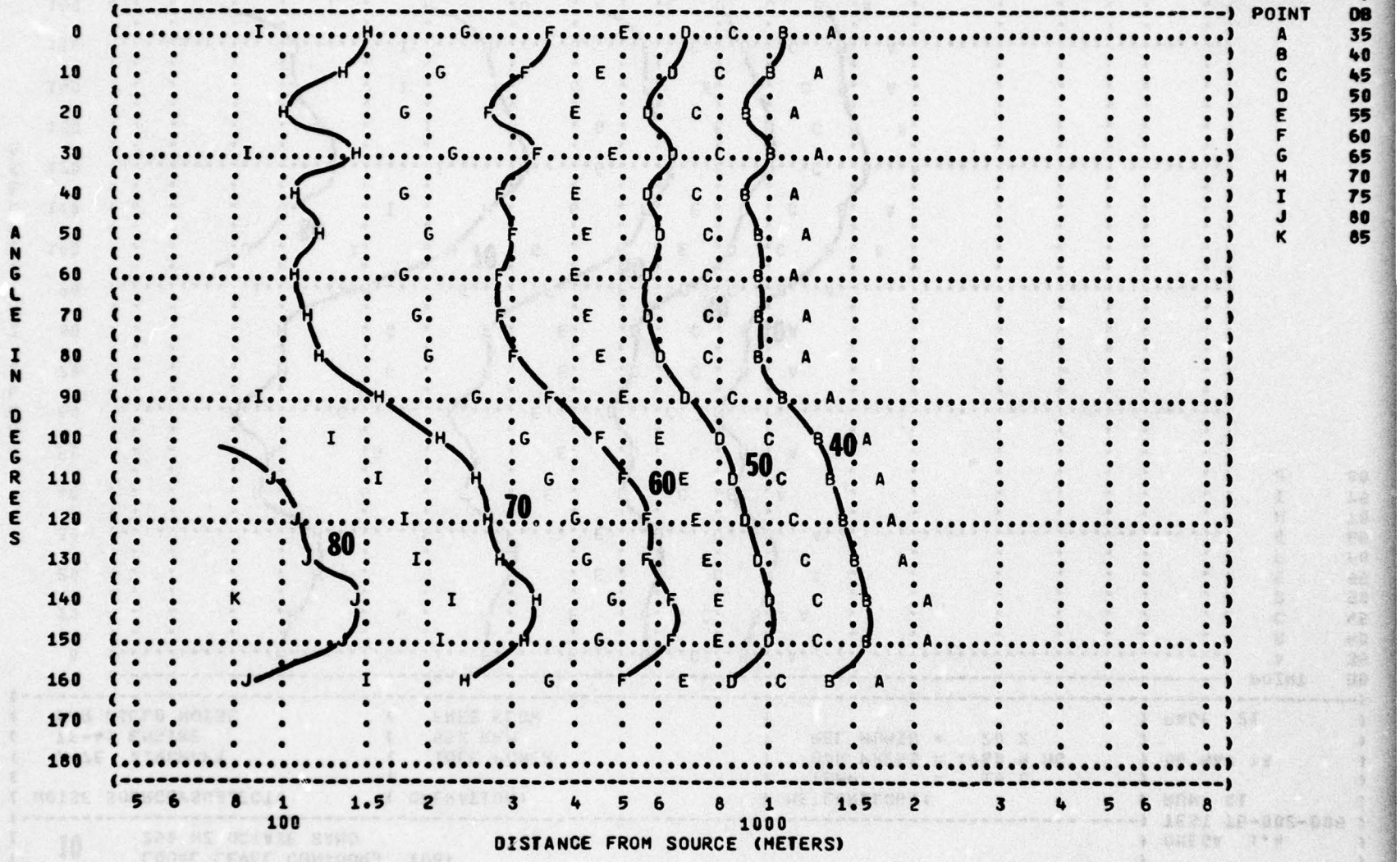


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 21

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% 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

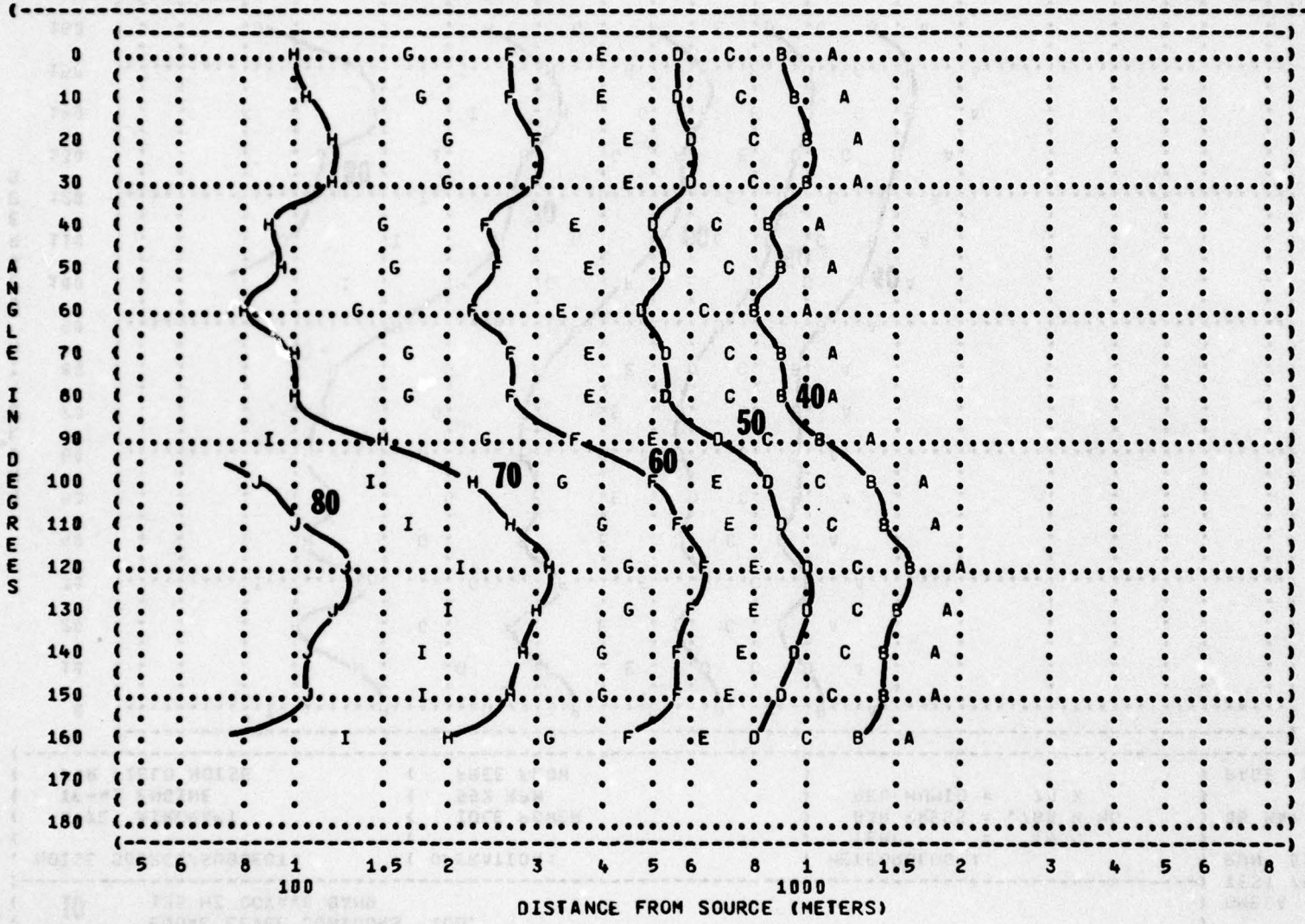


FIGURE: 10

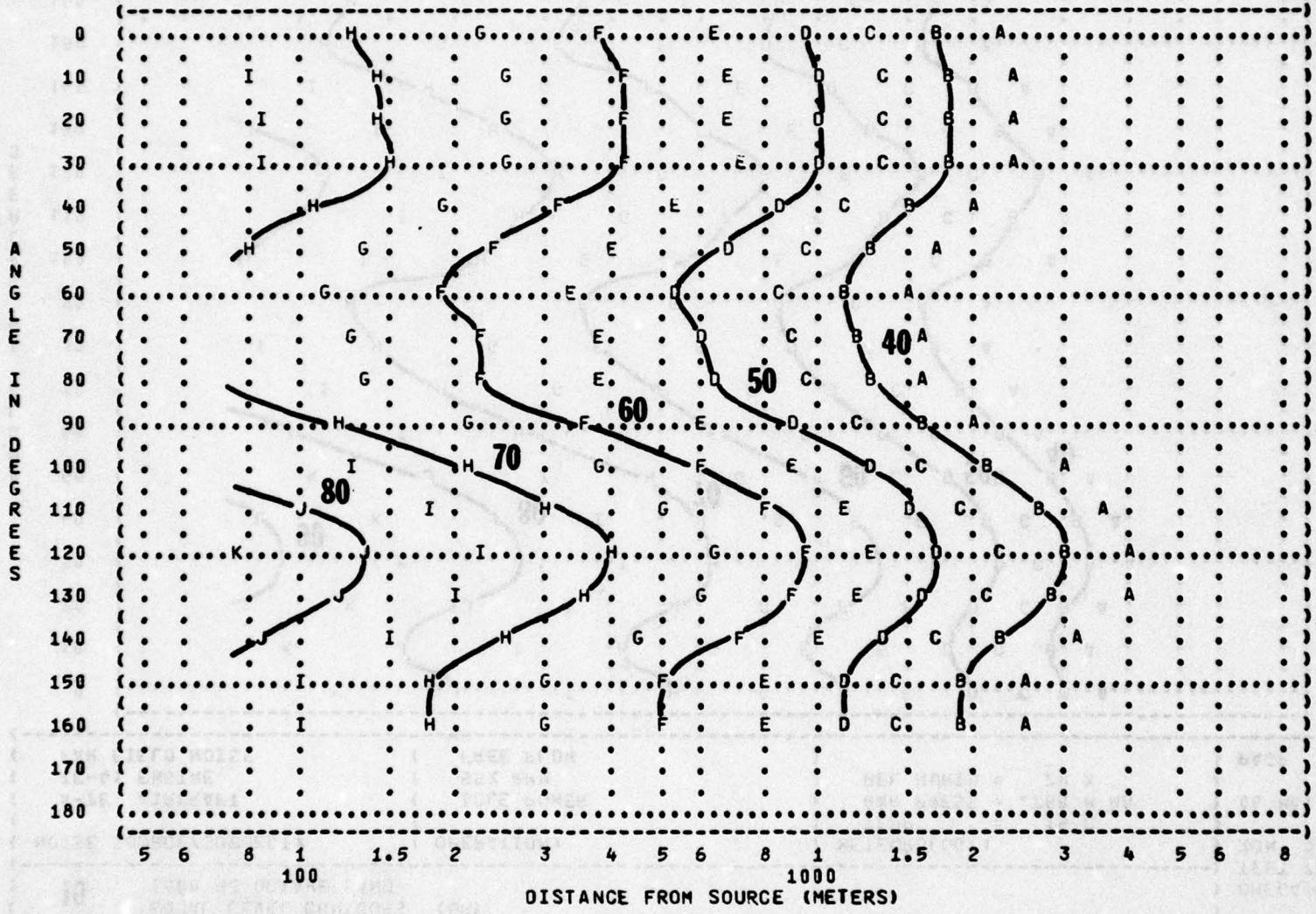
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 22



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

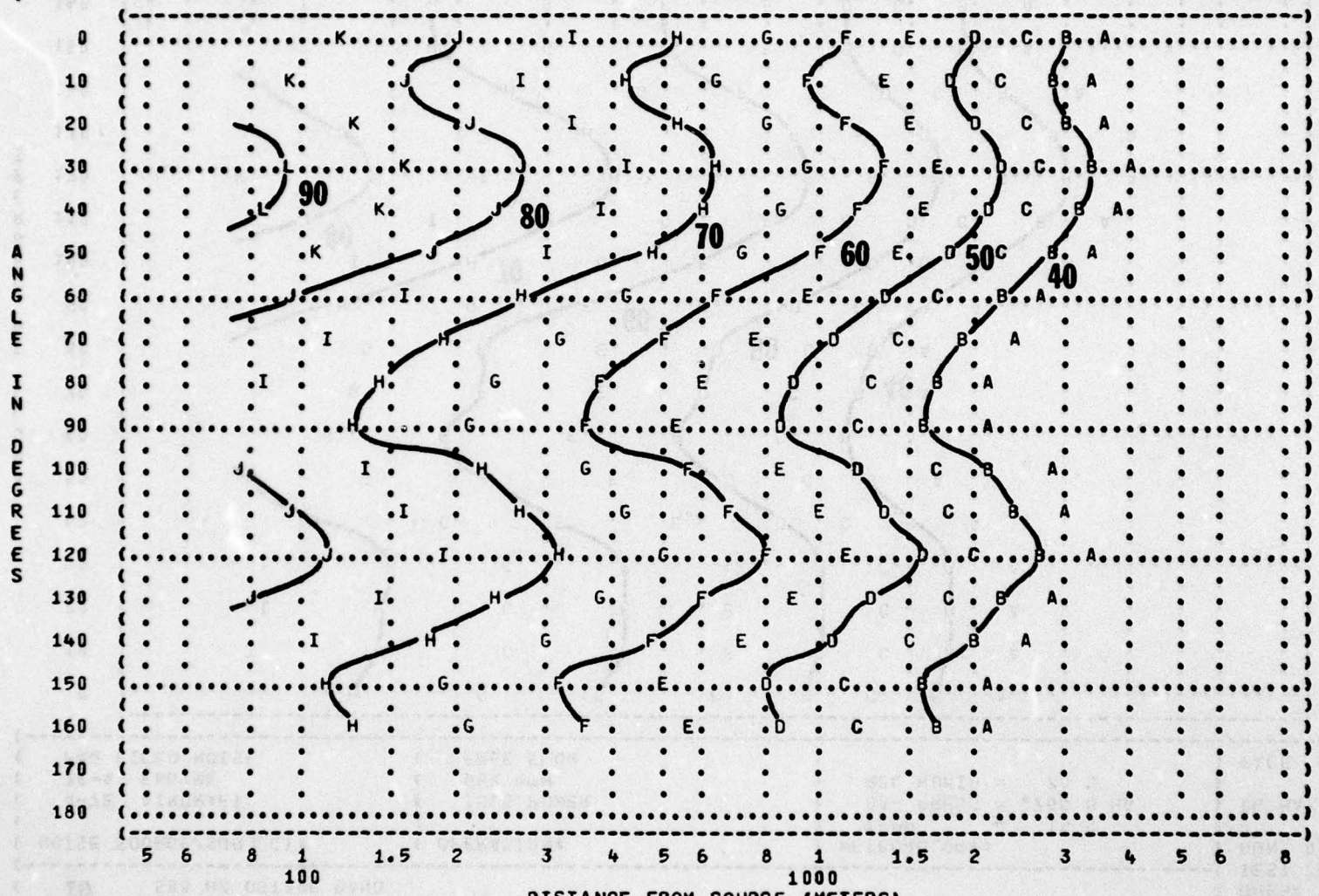
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 23



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

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 24

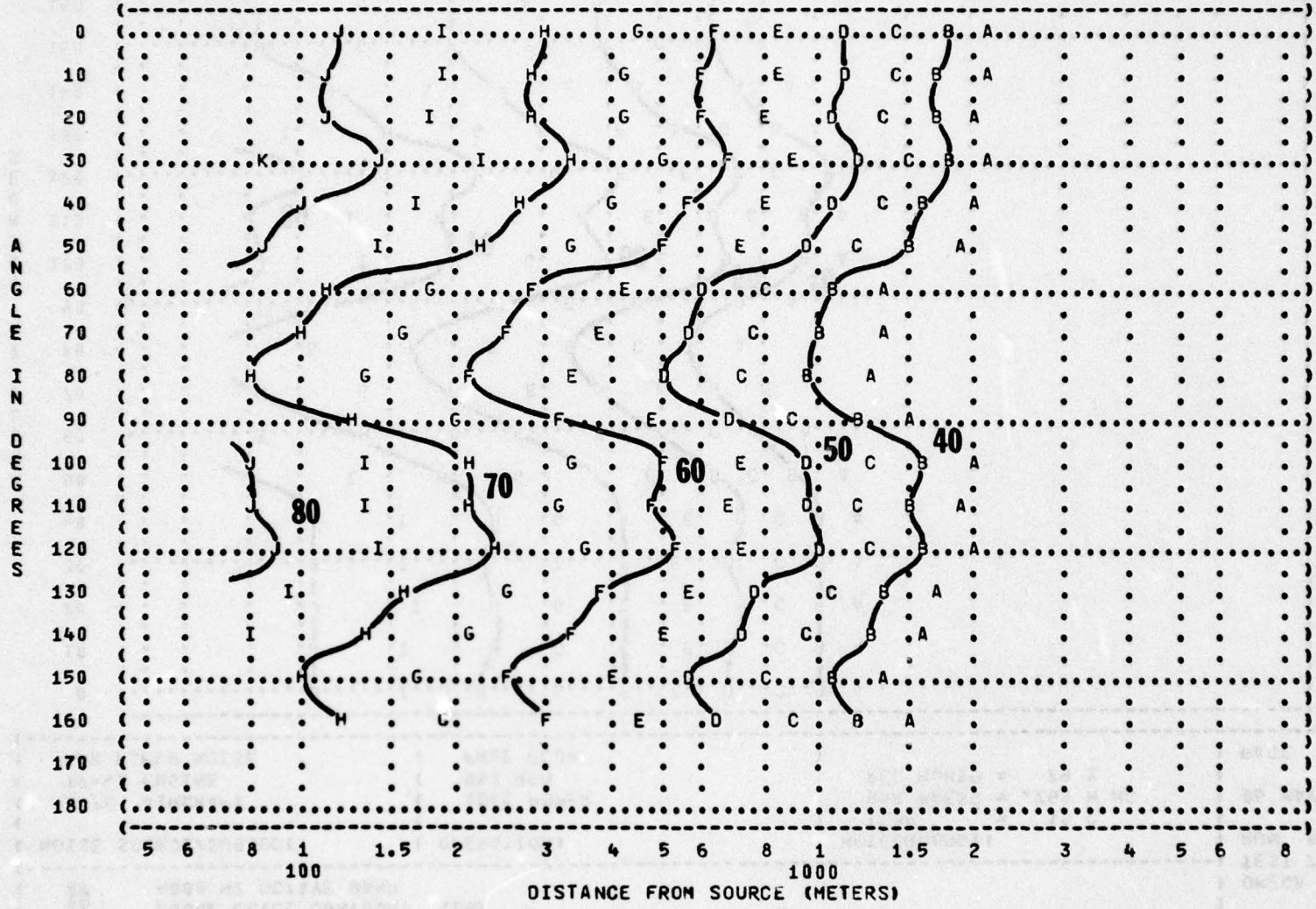


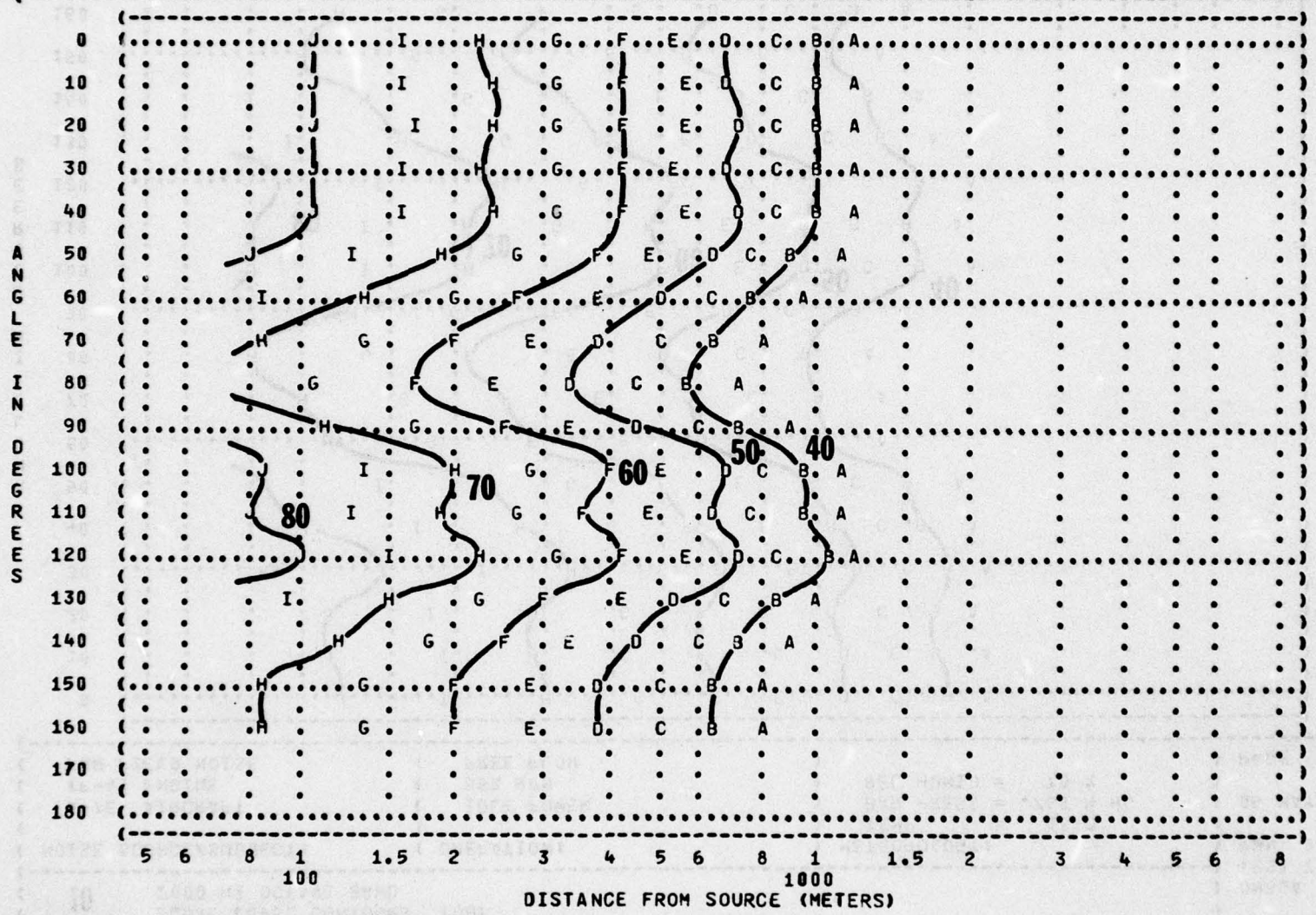
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 25



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

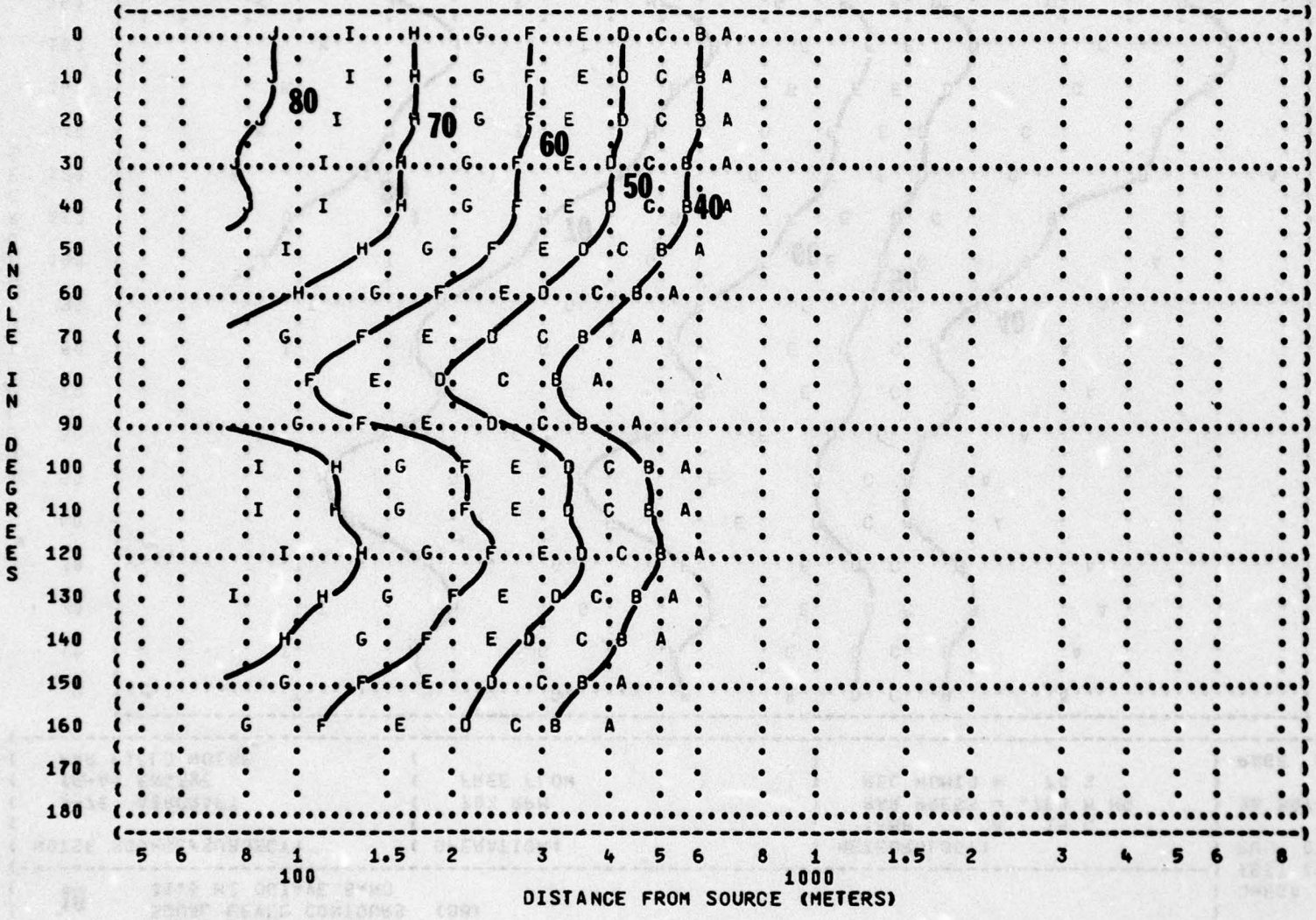
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 01
06 MAY 75
PAGE 26

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE POWER
55% 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: 10

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 18

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

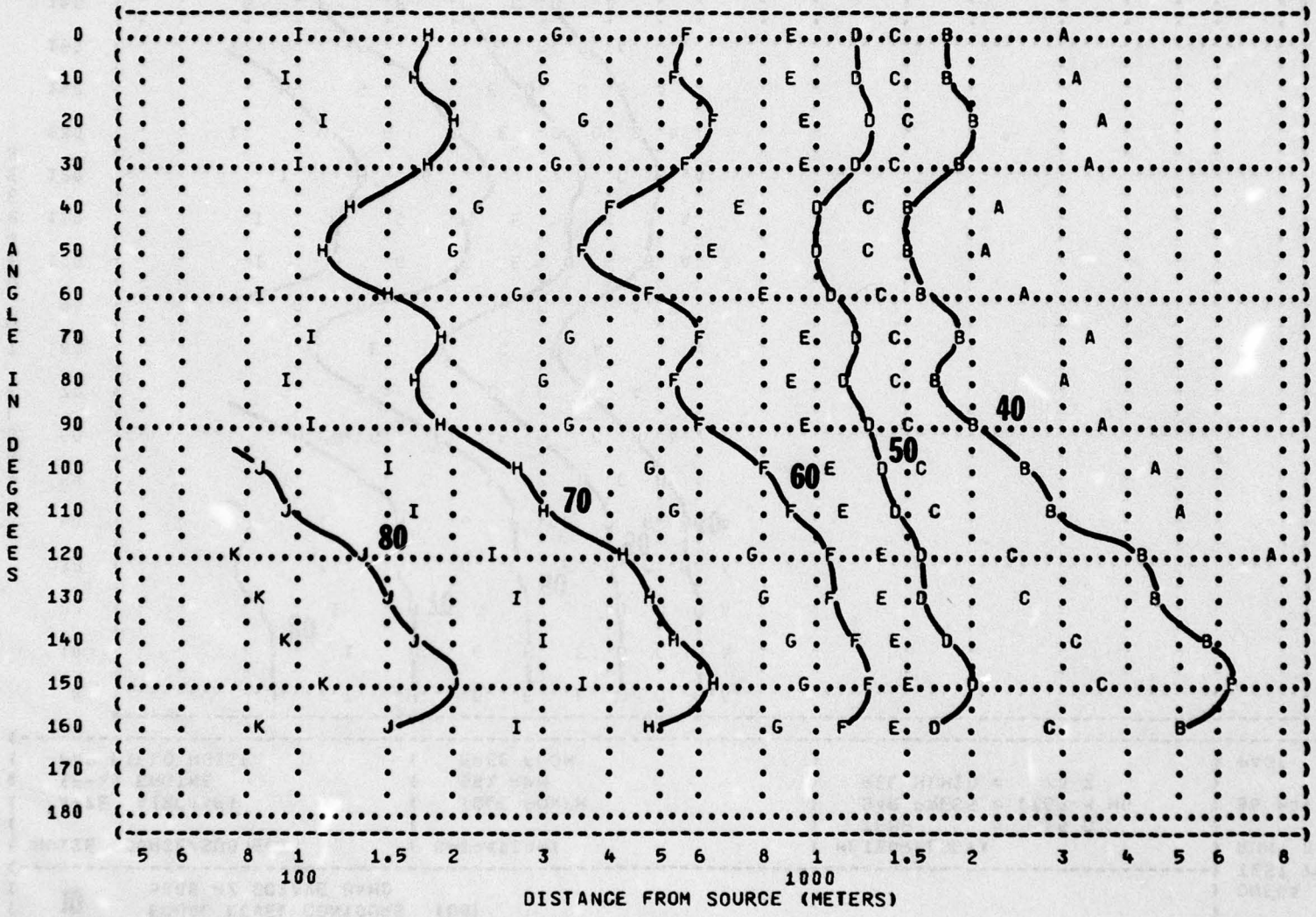


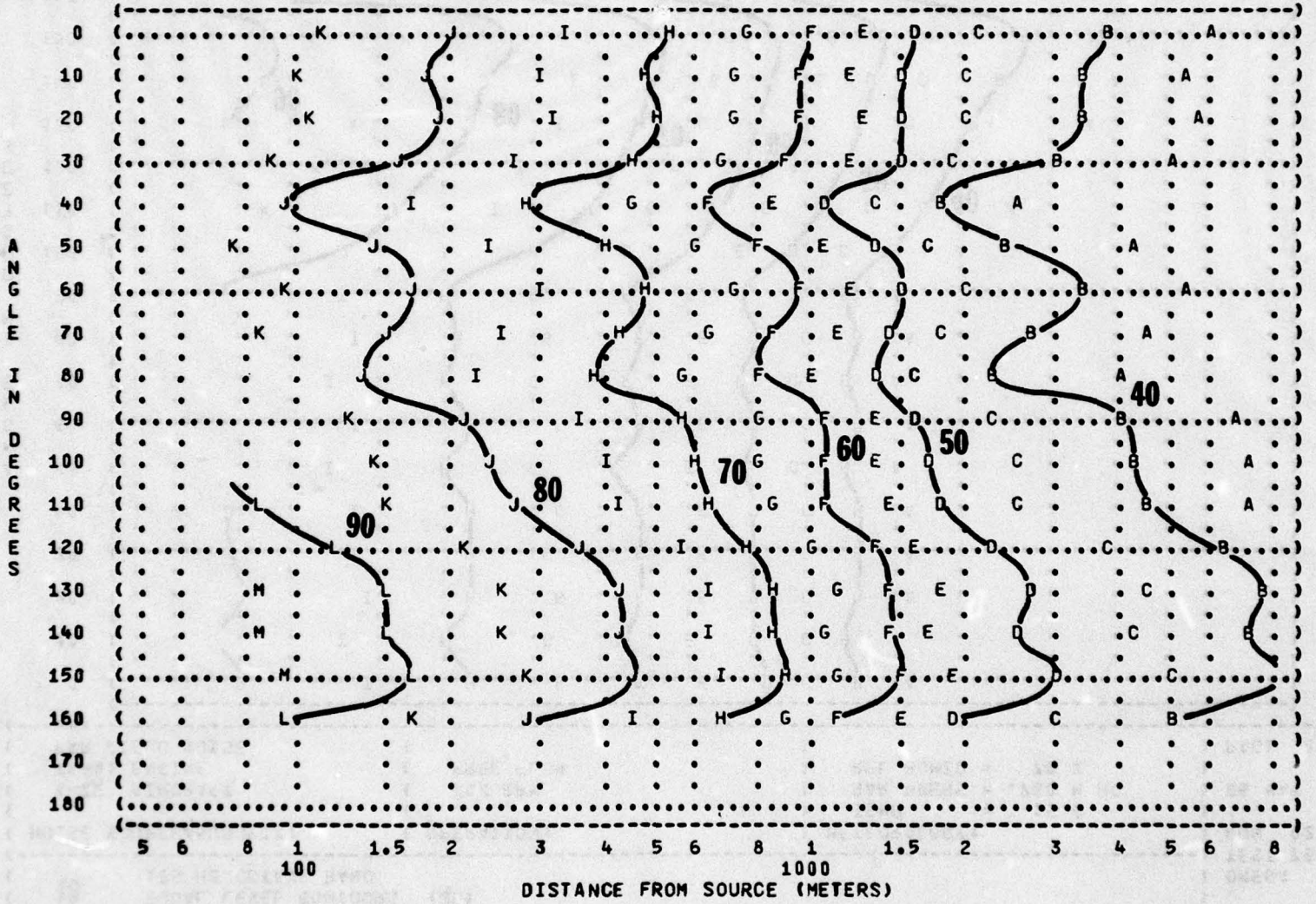
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-005 RUN 02 06 MAY 75 PAGE 19

NOISE SOURCE/SUBJECT: A-7E AIRCRAFT, TF-41 ENGINE, FAR FIELD NOISE

OPERATION: 70% 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

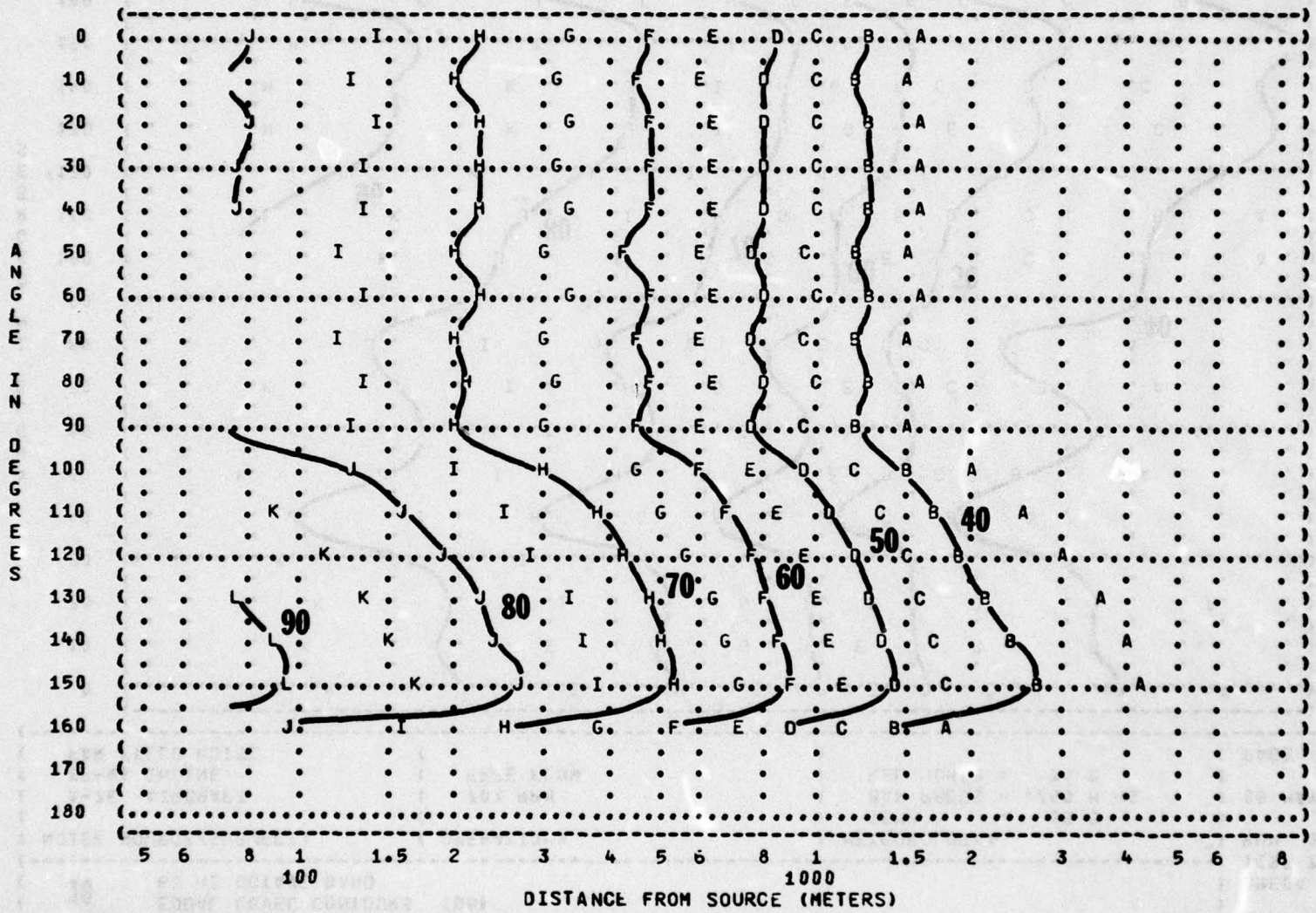
FIGURE 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 20



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

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 21

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

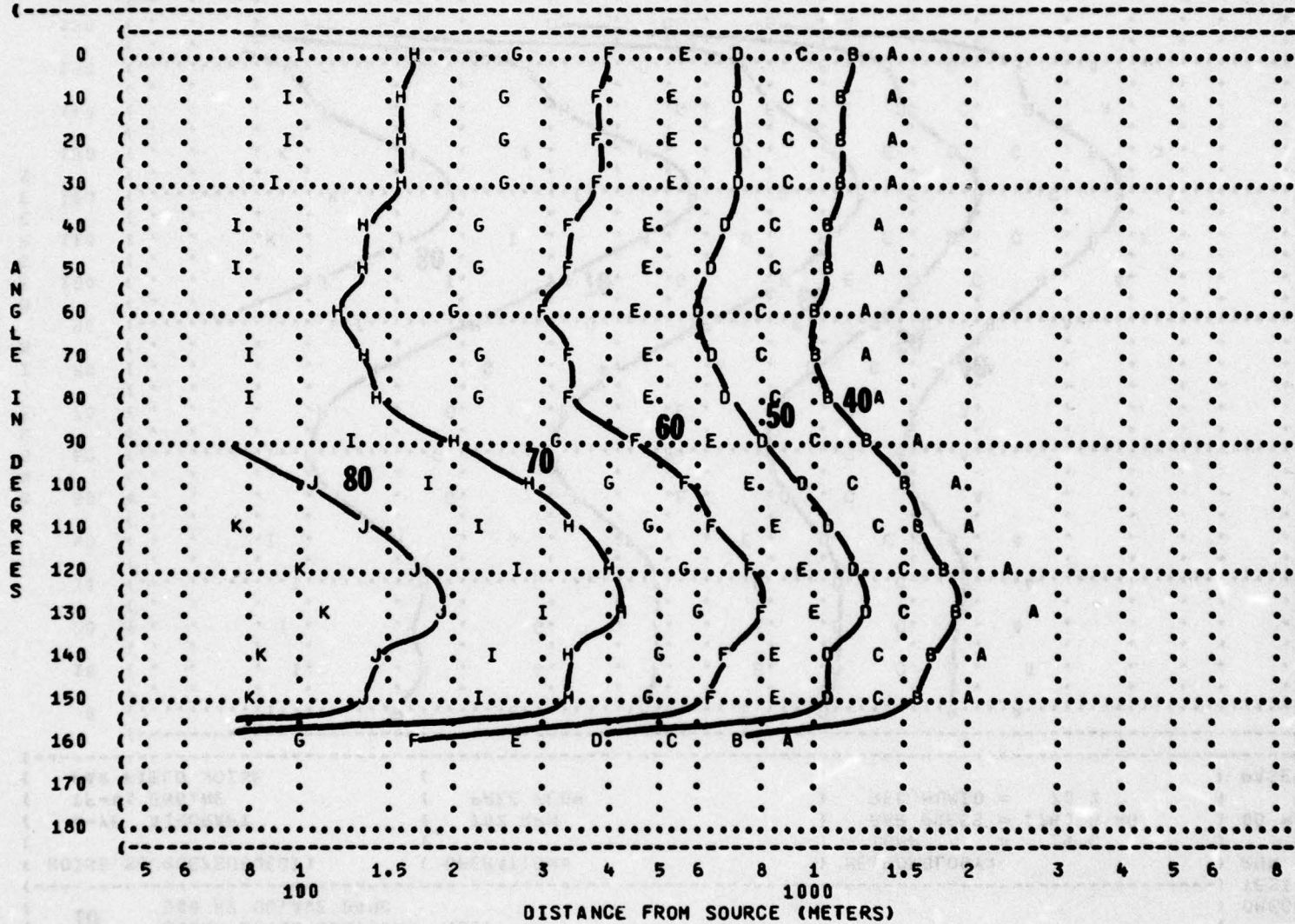


FIGURE 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
ONEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 22

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

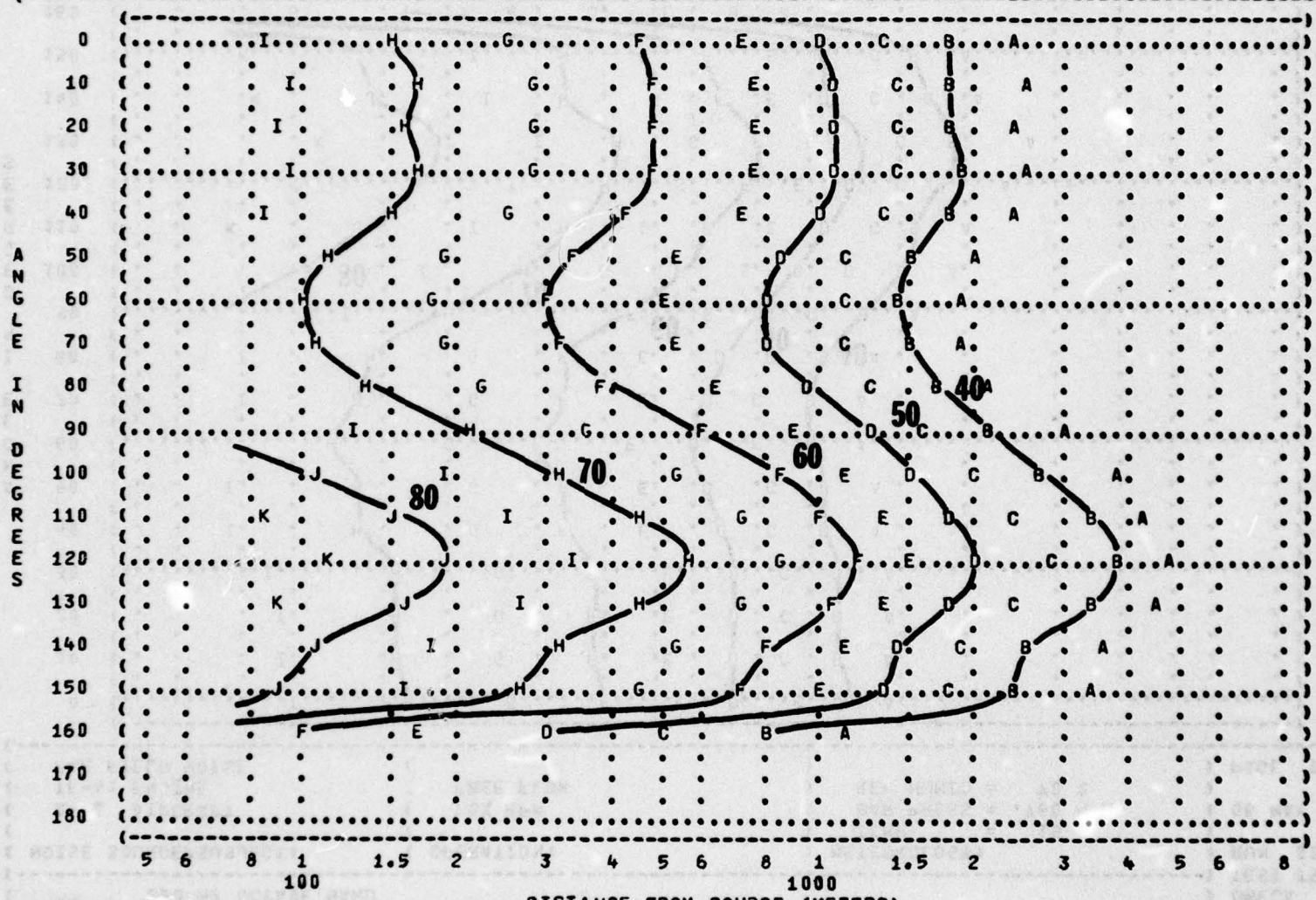


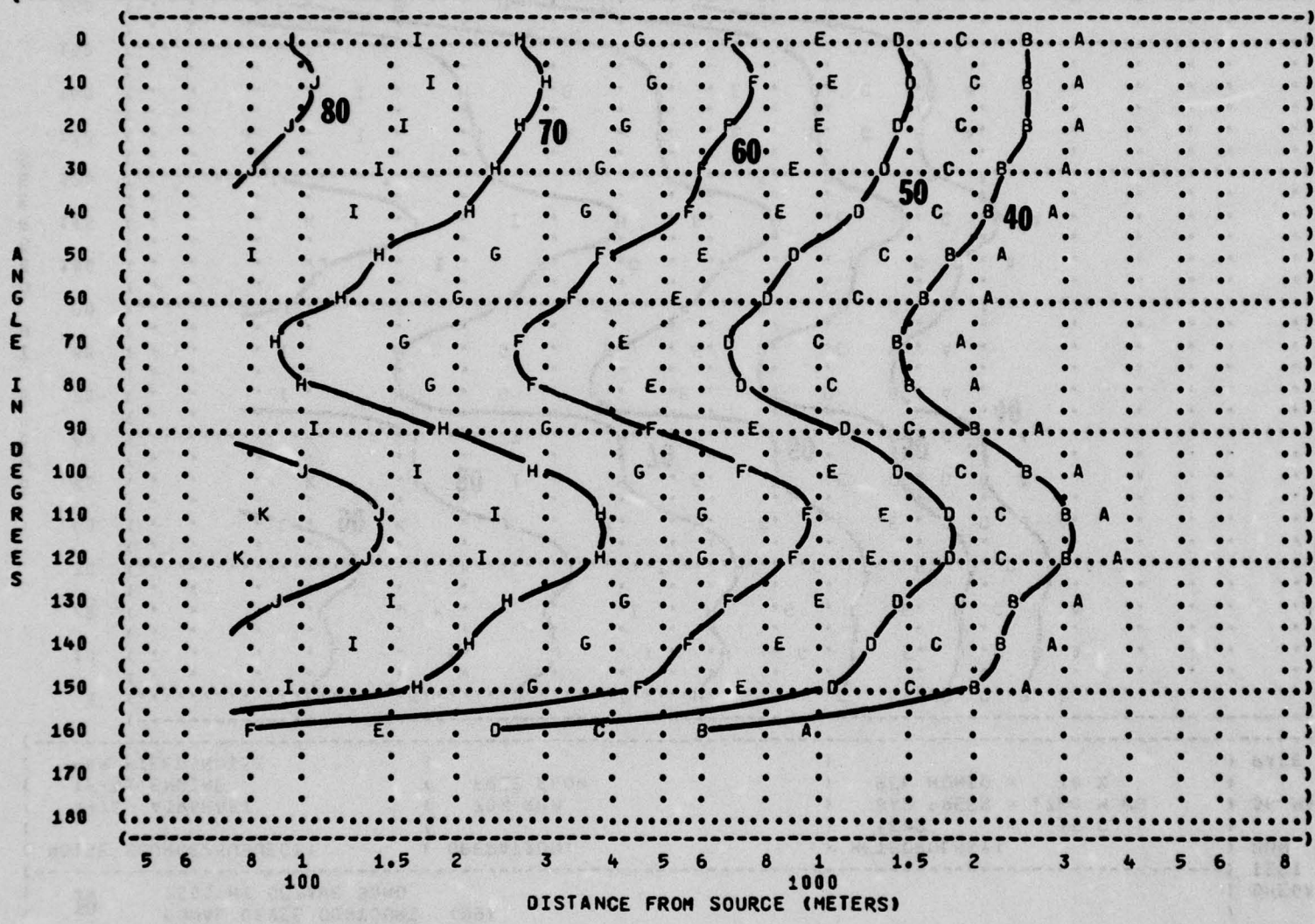
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 23

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 24

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% 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

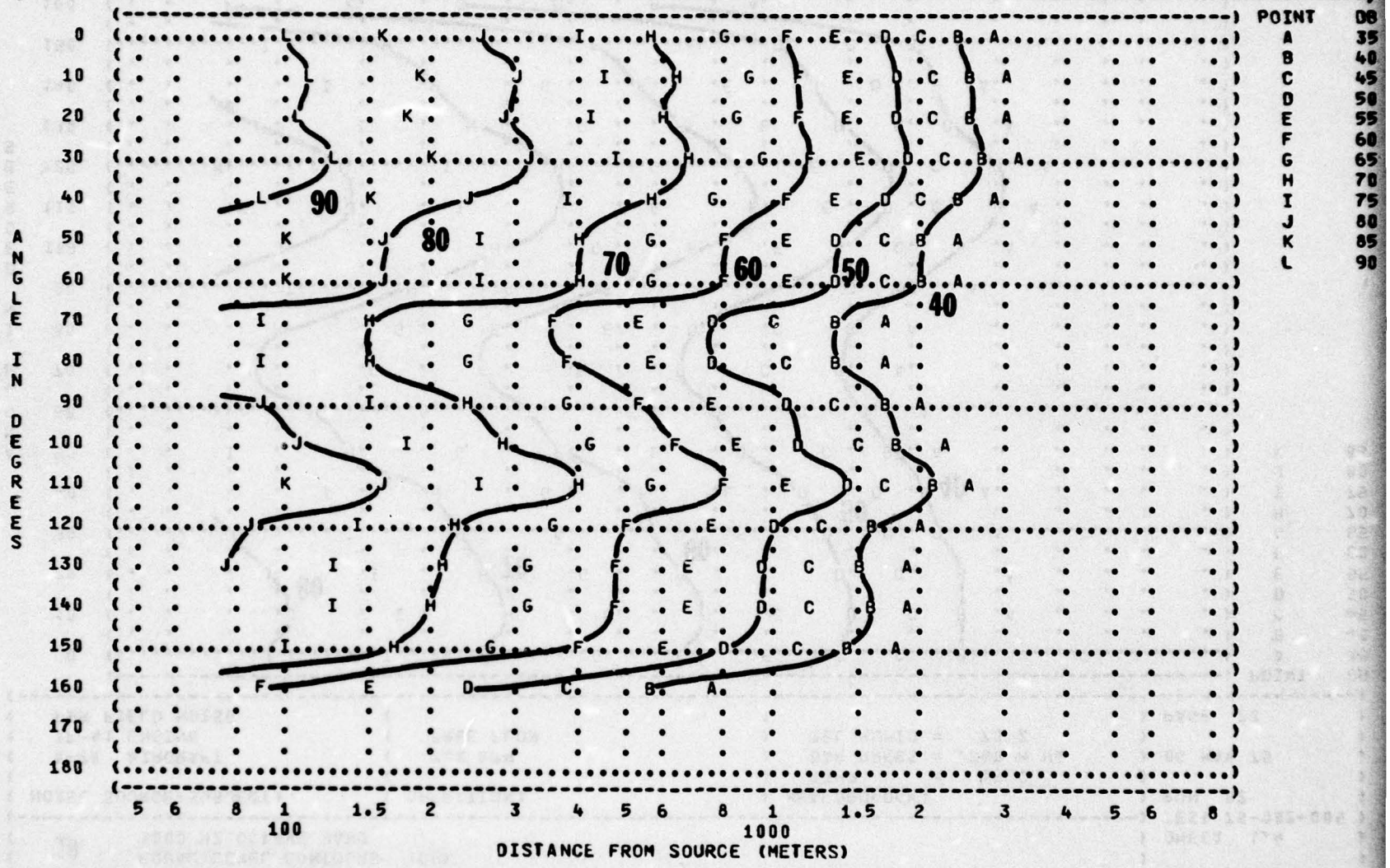


FIGURE: 10

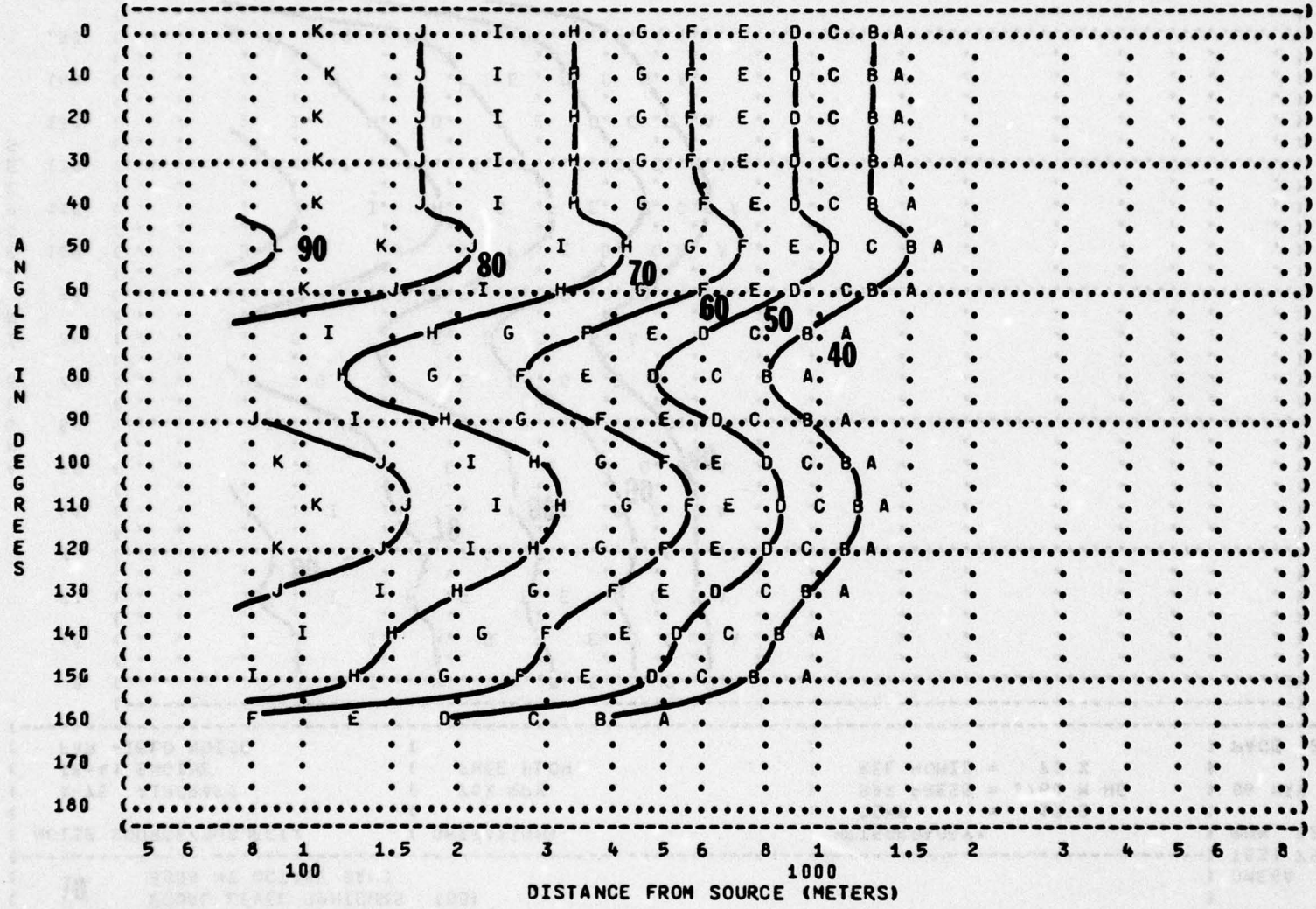
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 25



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

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
70% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 02
06 MAY 75
PAGE 26

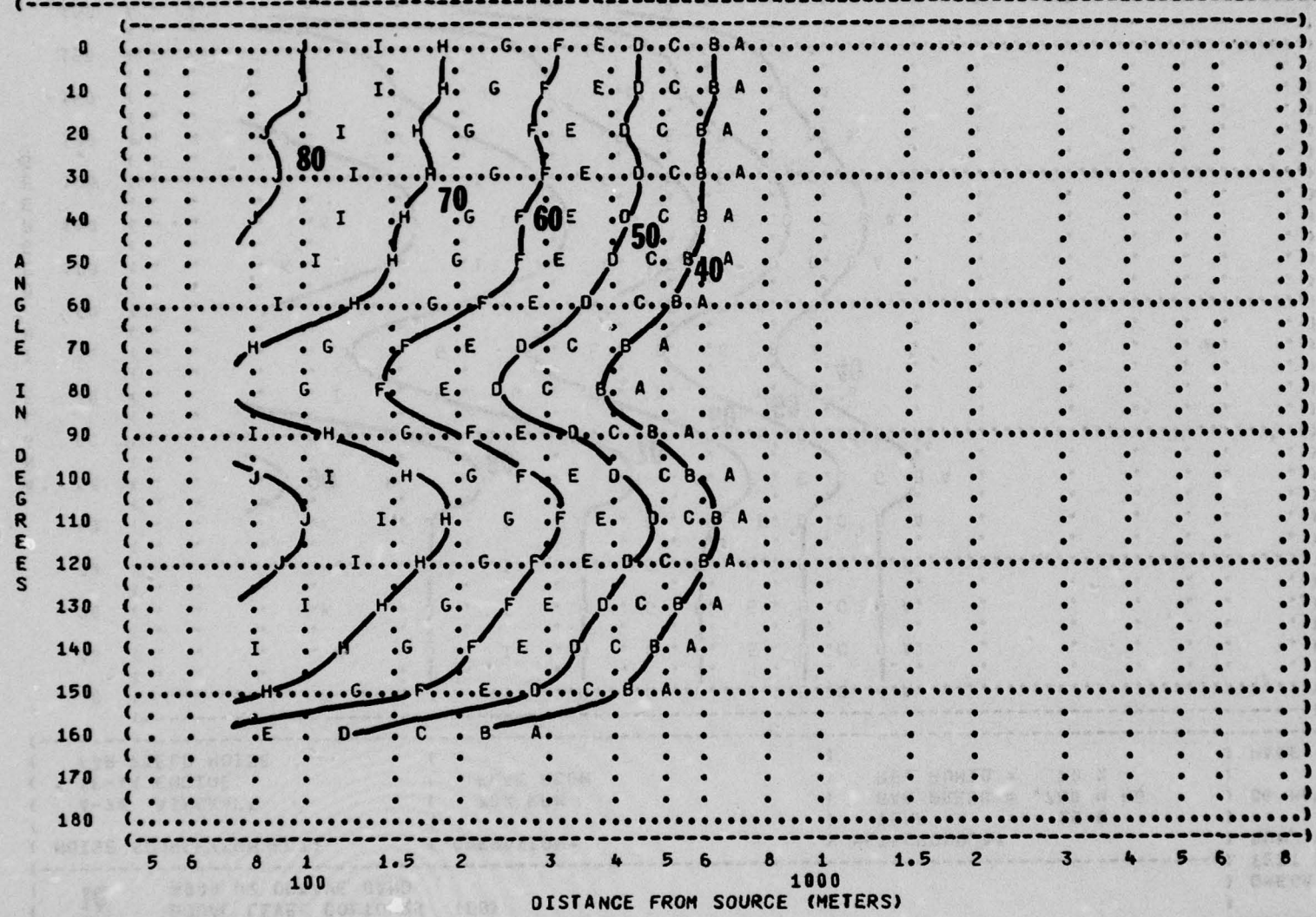


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 18

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
M	95
N	100

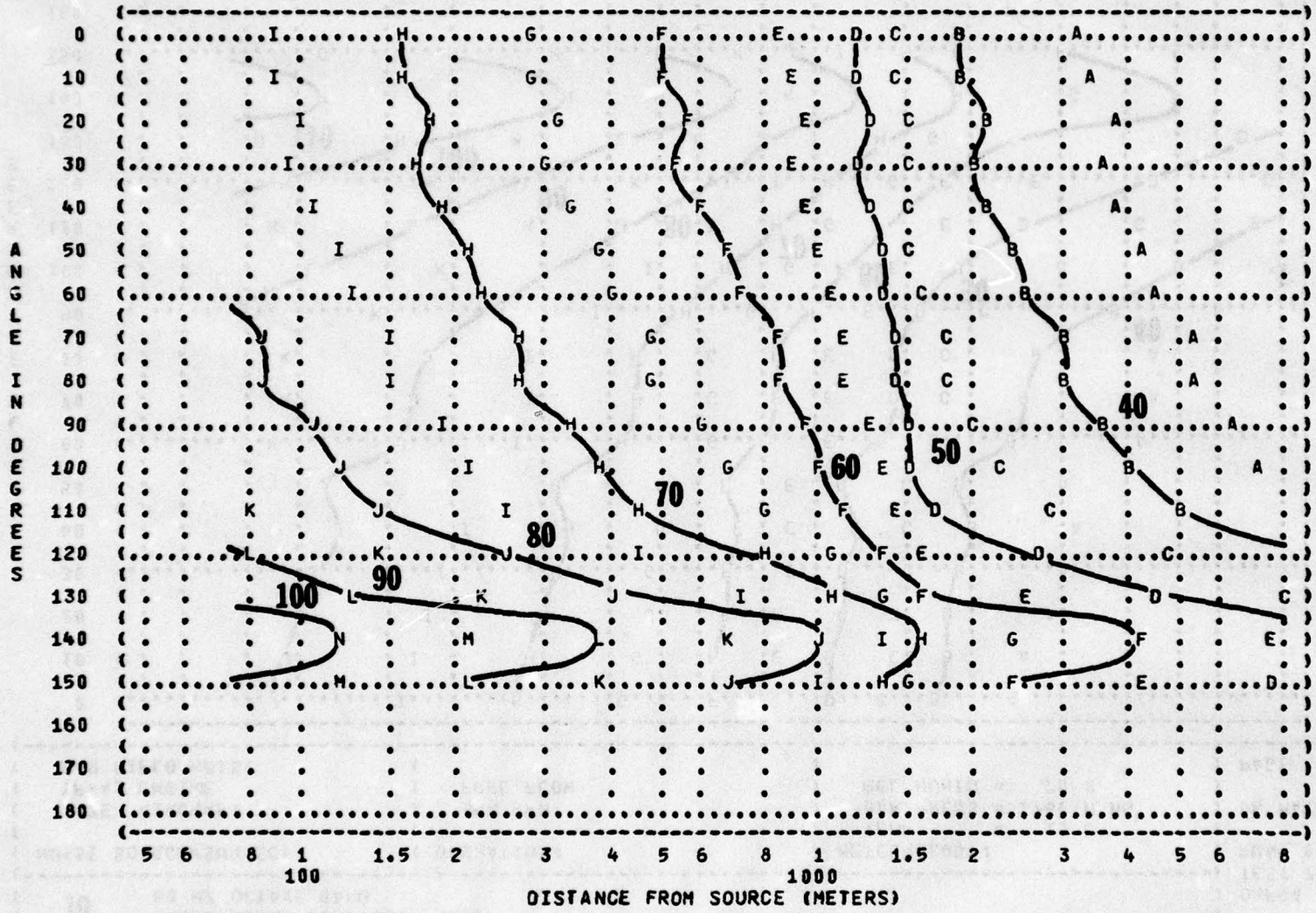
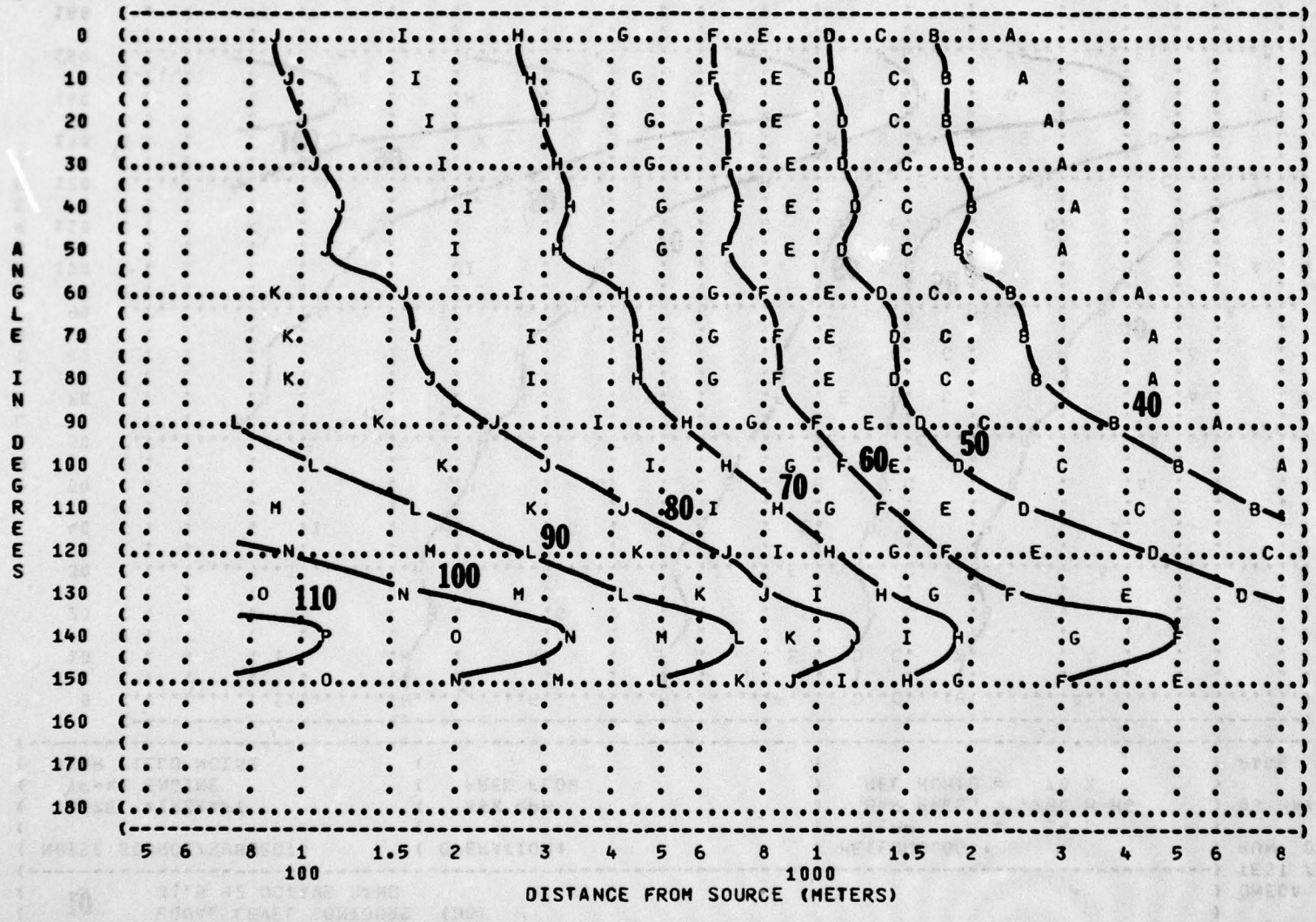


FIGURE:	SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND	IDENTIFICATION:
10		OMEGA 1.4 TEST 75-002-005 RUN 03 06 MAY 75 PAGE 19

NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:
A-7E AIRCRAFT TF-41 ENGINE FAR FIELD NOISE	85% RPM FREE FLOW	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

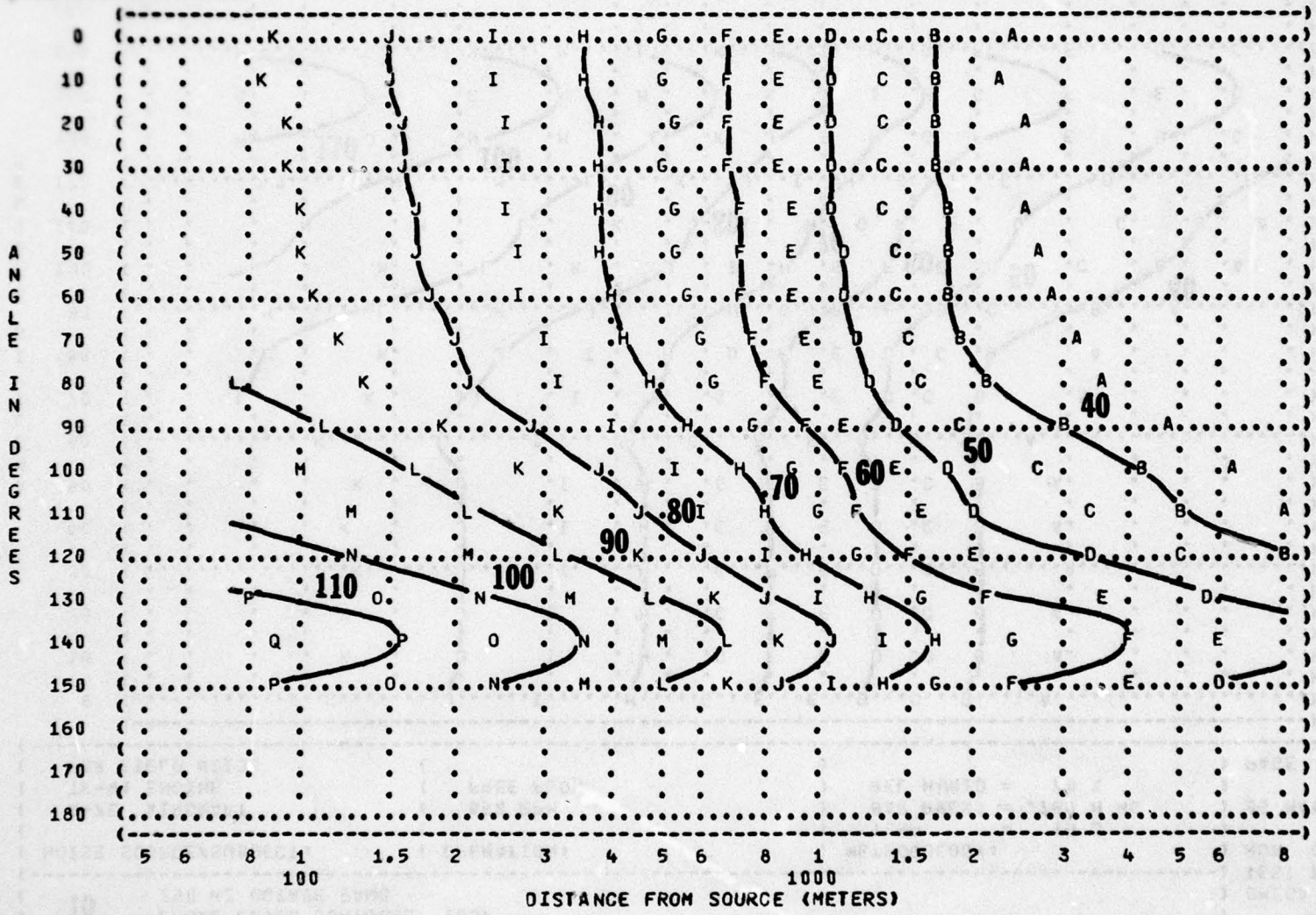
FIGURE 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 20

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
M	95
N	100
O	105
P	110
Q	115

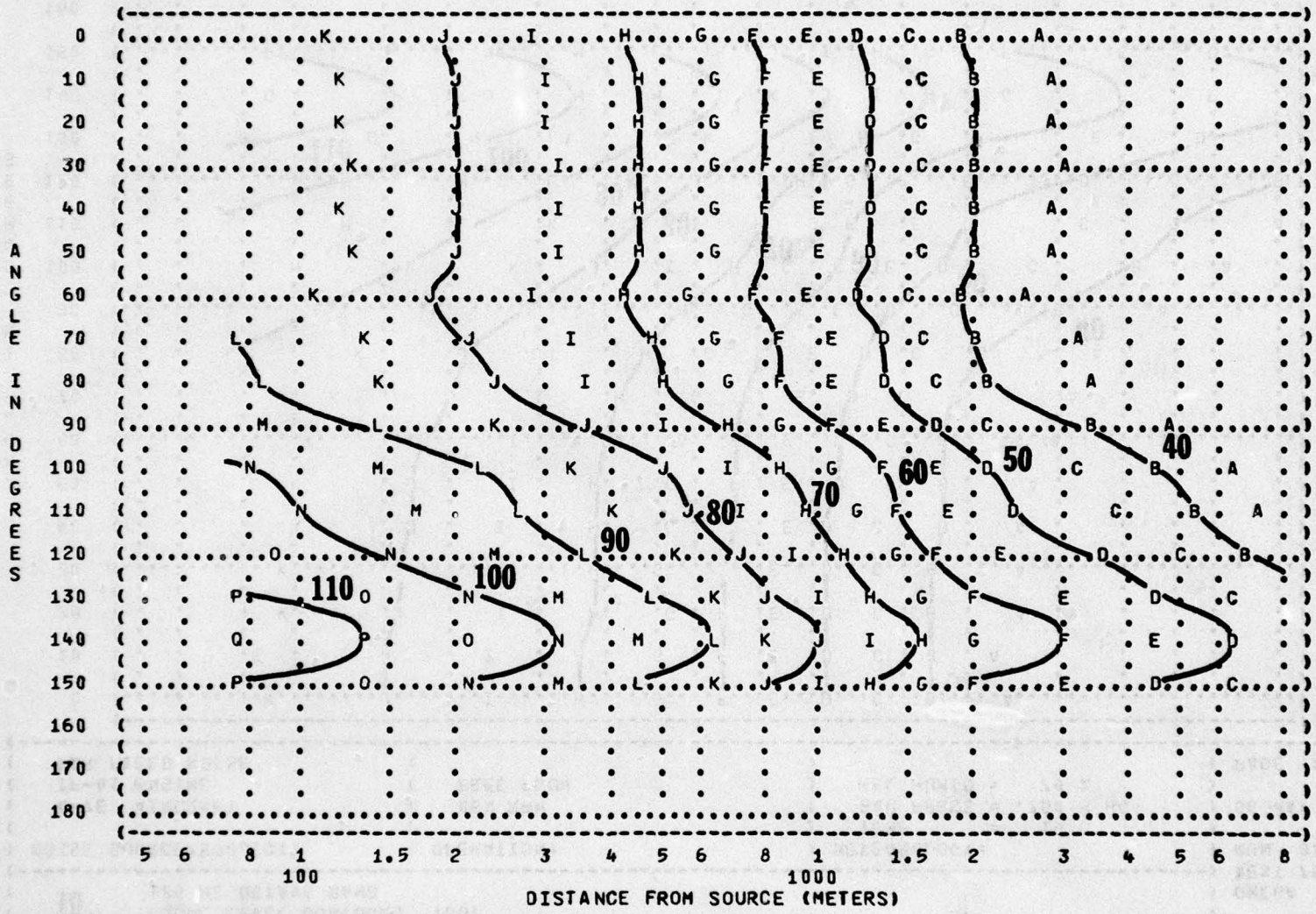
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 21



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

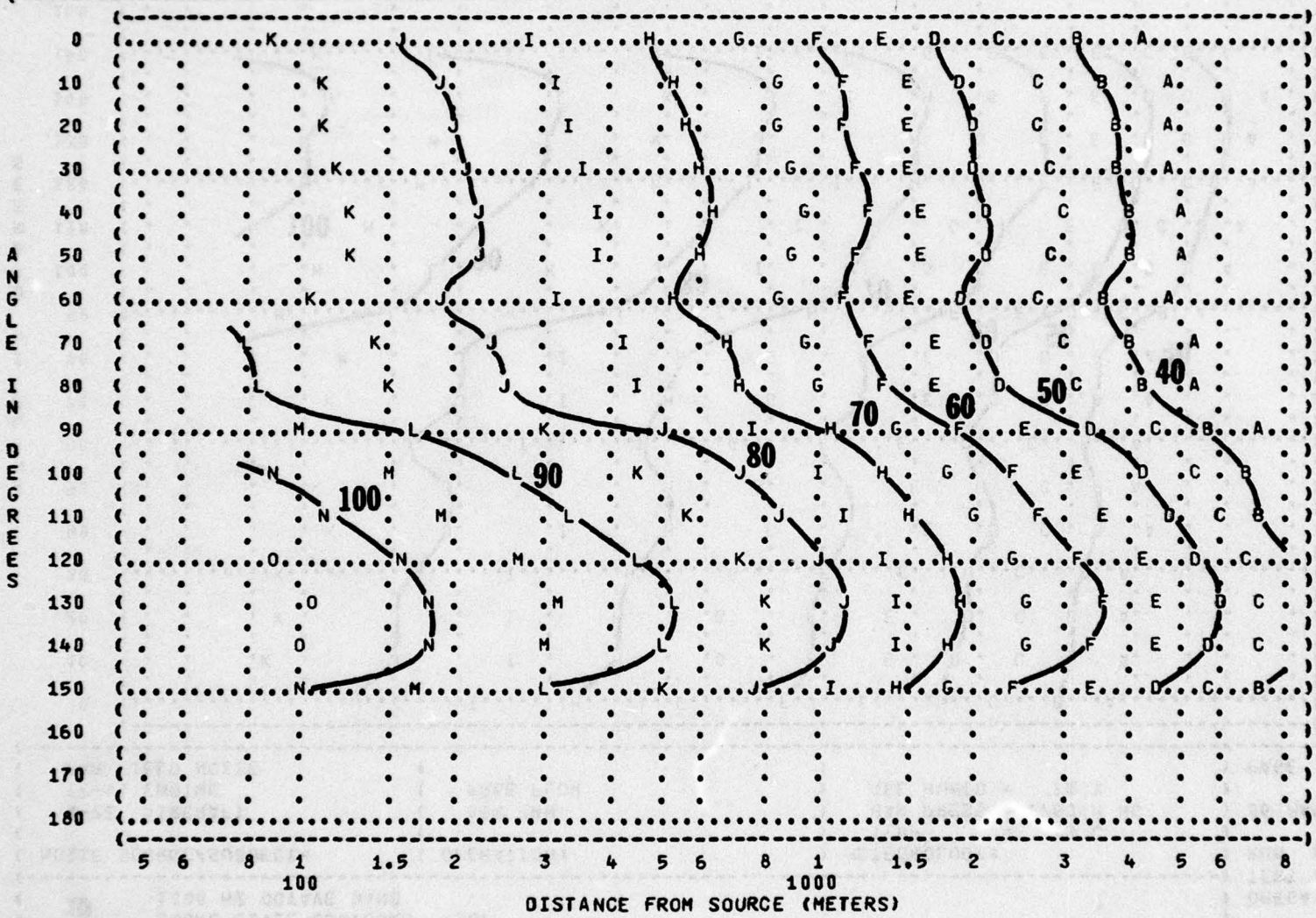
FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 22



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

FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 23

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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
M	95
N	100

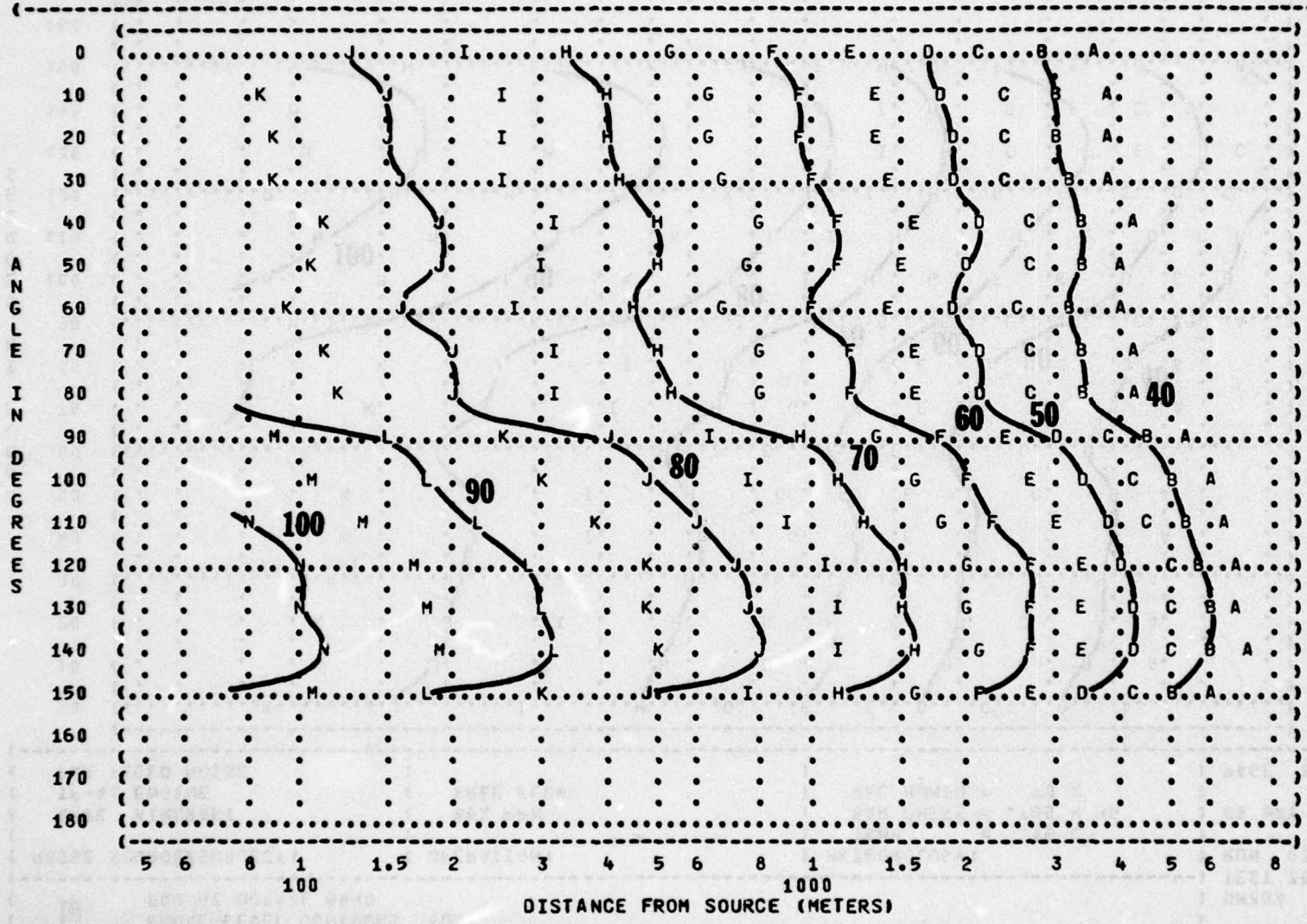


FIGURE: 10

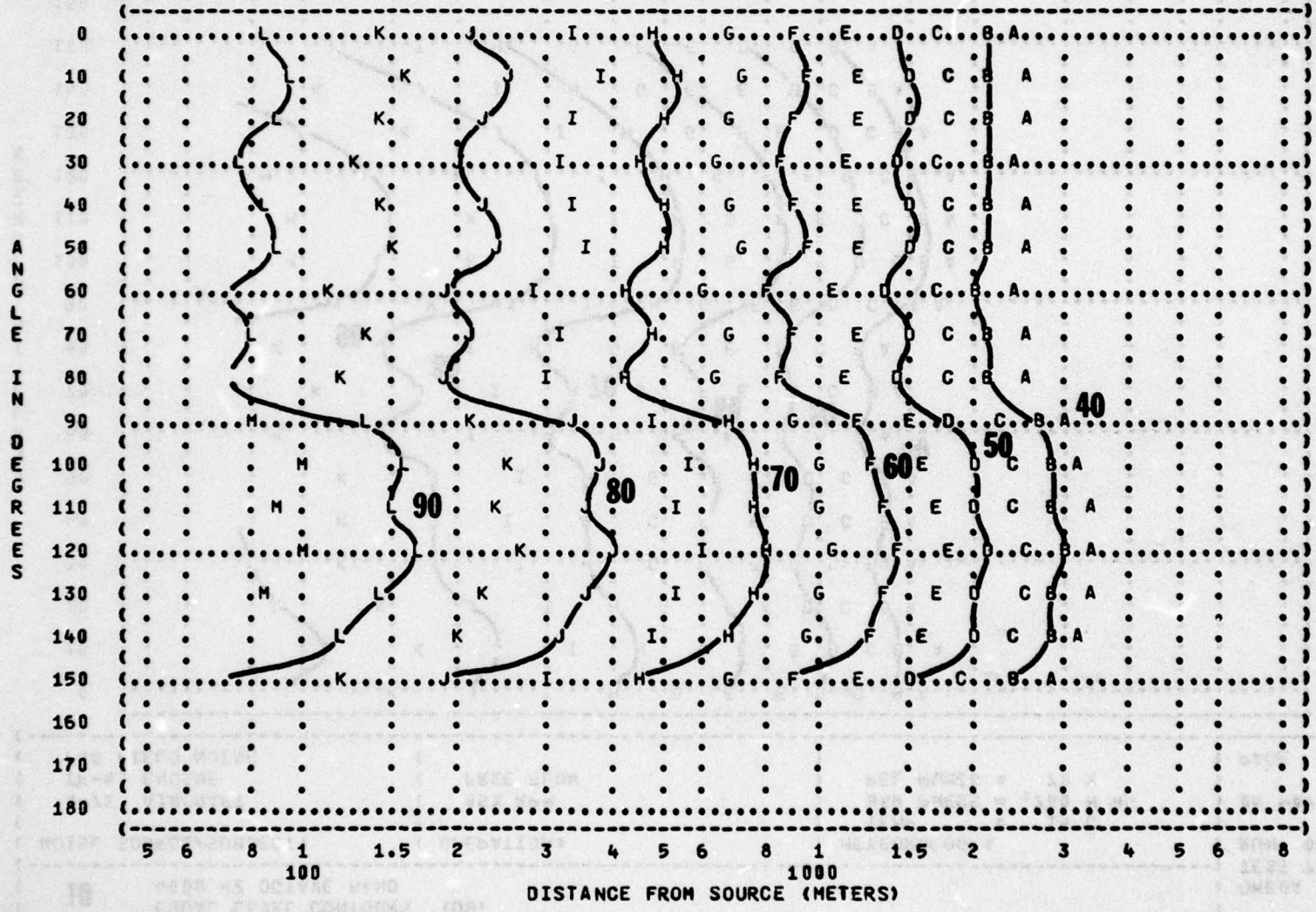
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 24



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

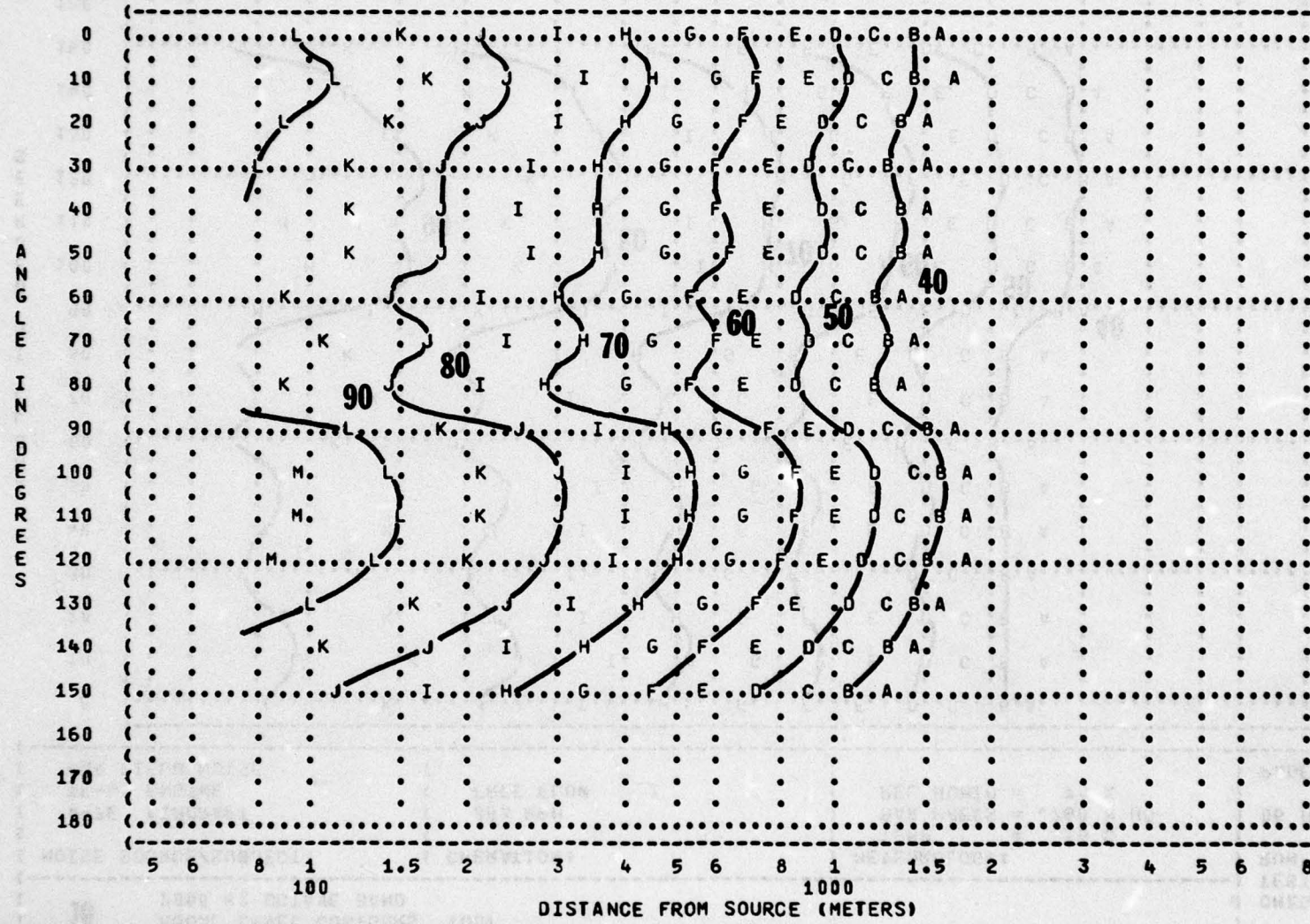
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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 75-002-005
RUN 03
06 MAY 75
PAGE 25



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

FIGURE: 10

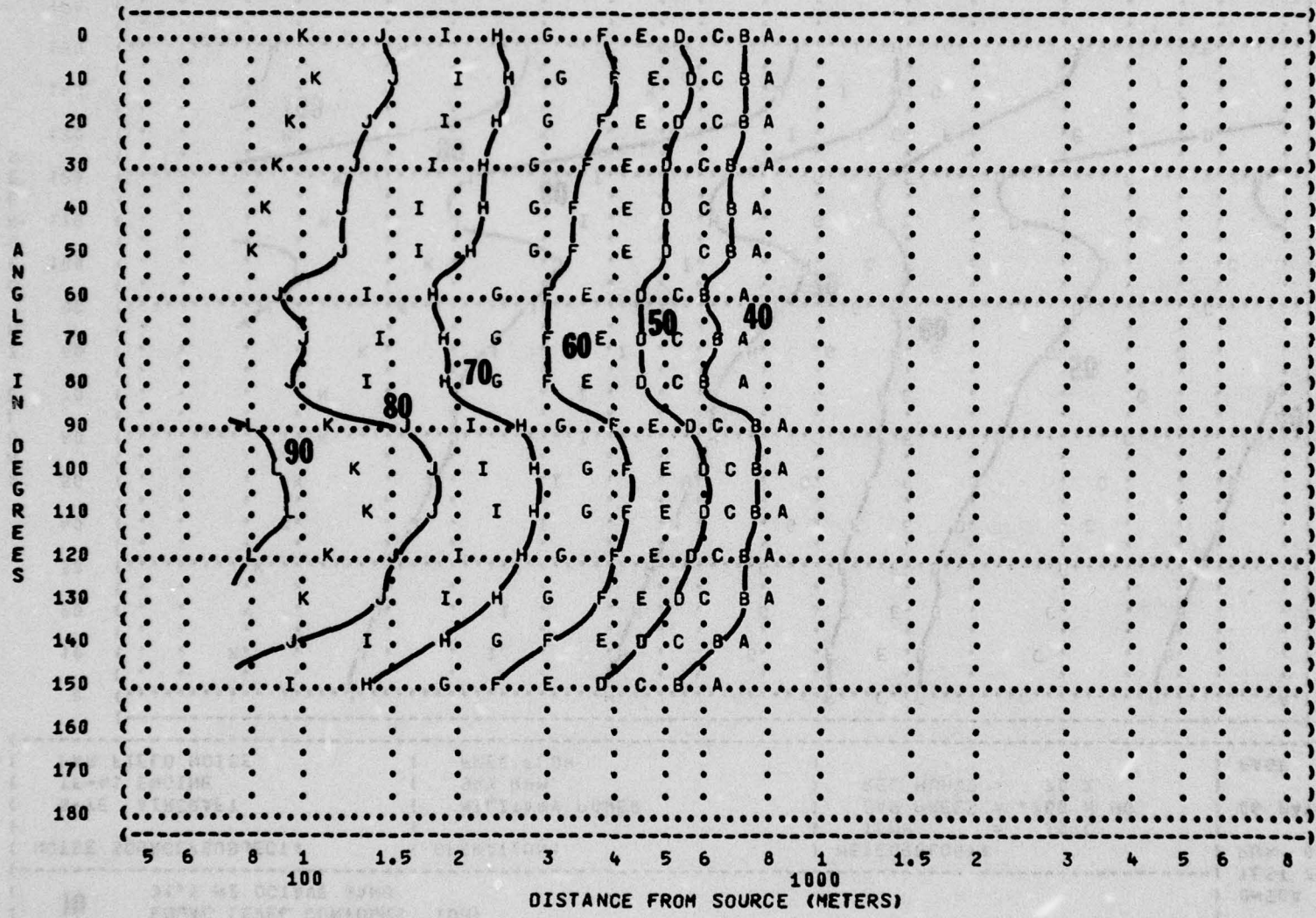
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 03
06 MAY 75
PAGE 26

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 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: 10

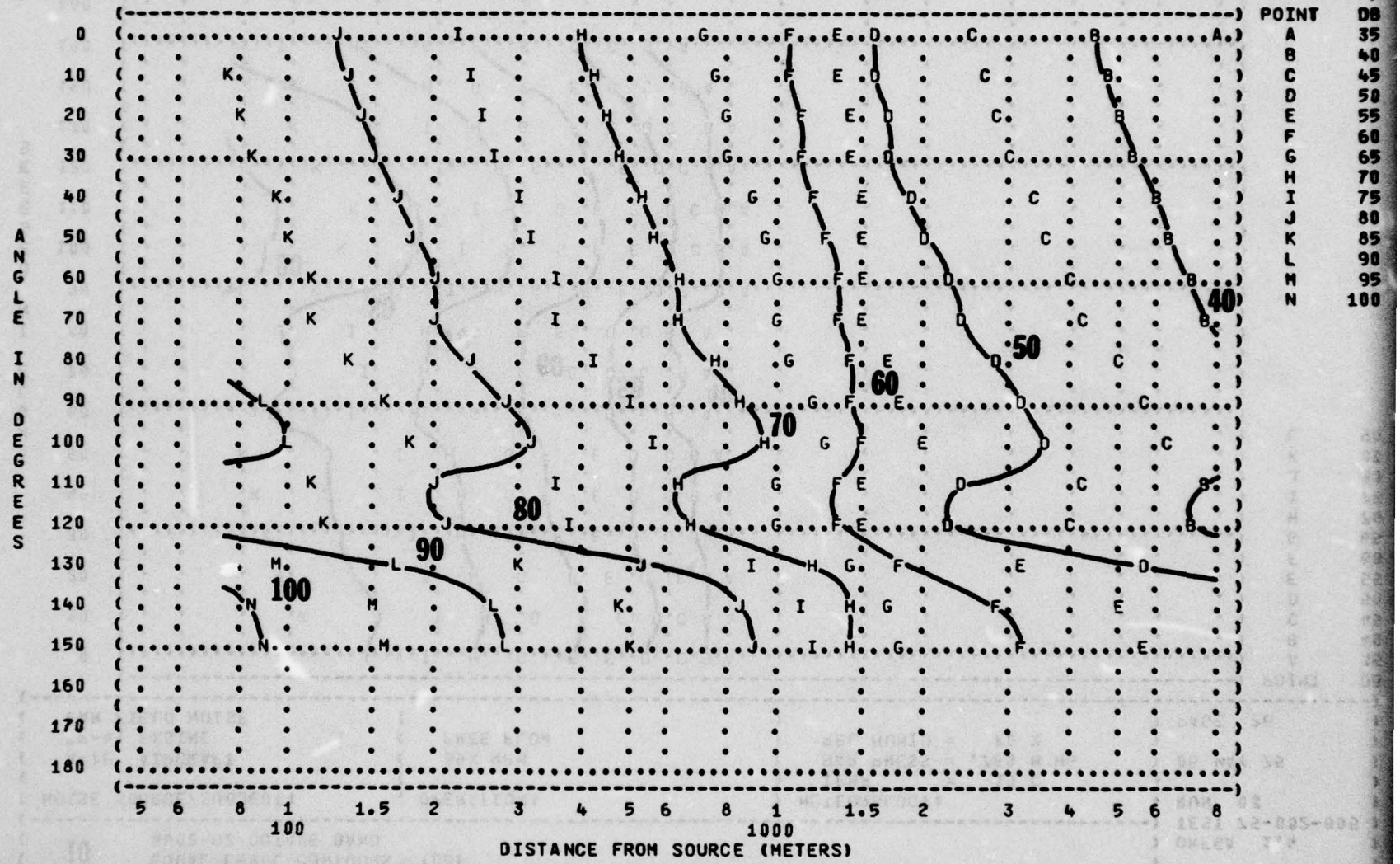
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 18



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

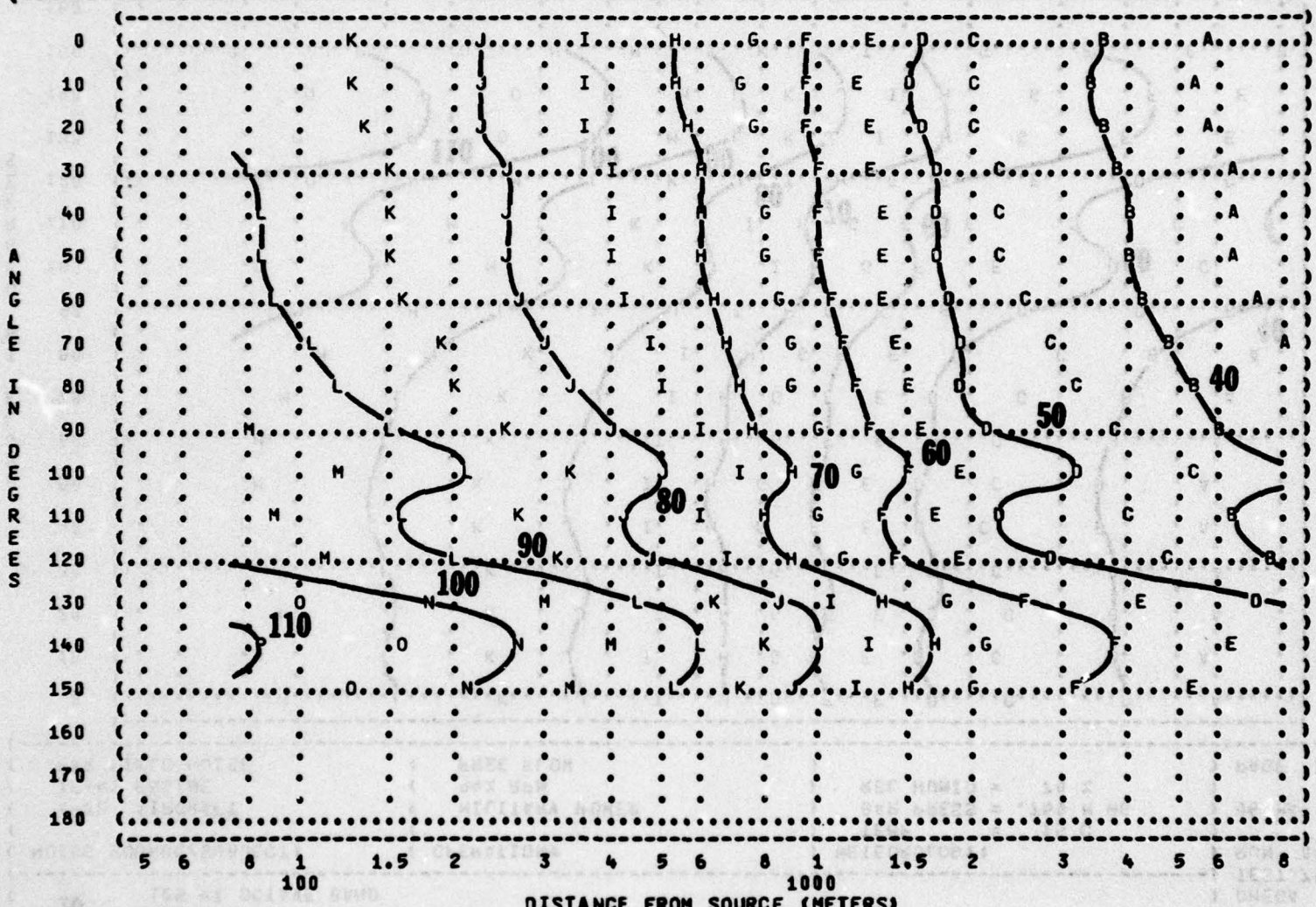
FIGURE 10: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 19

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% 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: 10

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

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 20

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

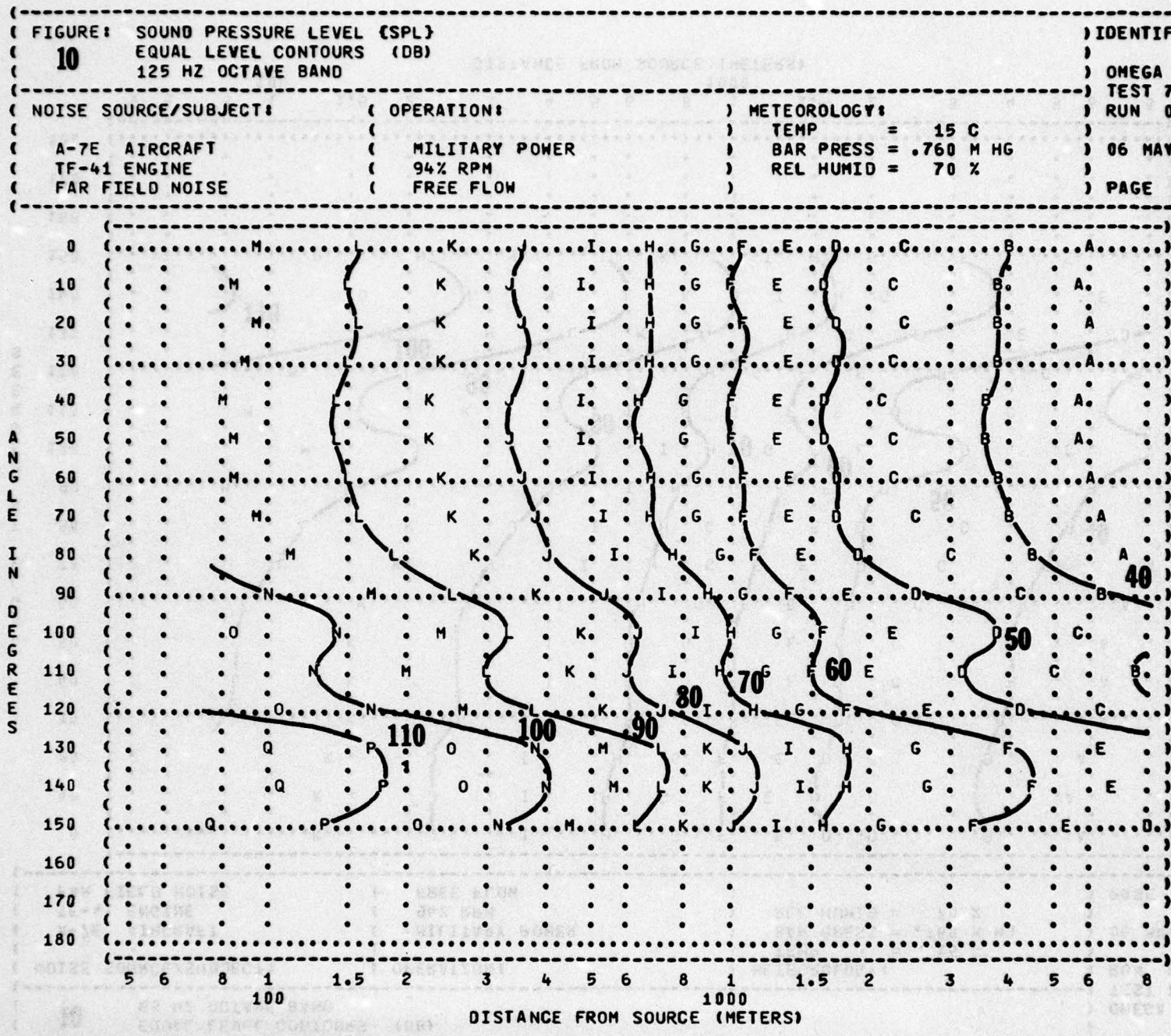


FIGURE: 10

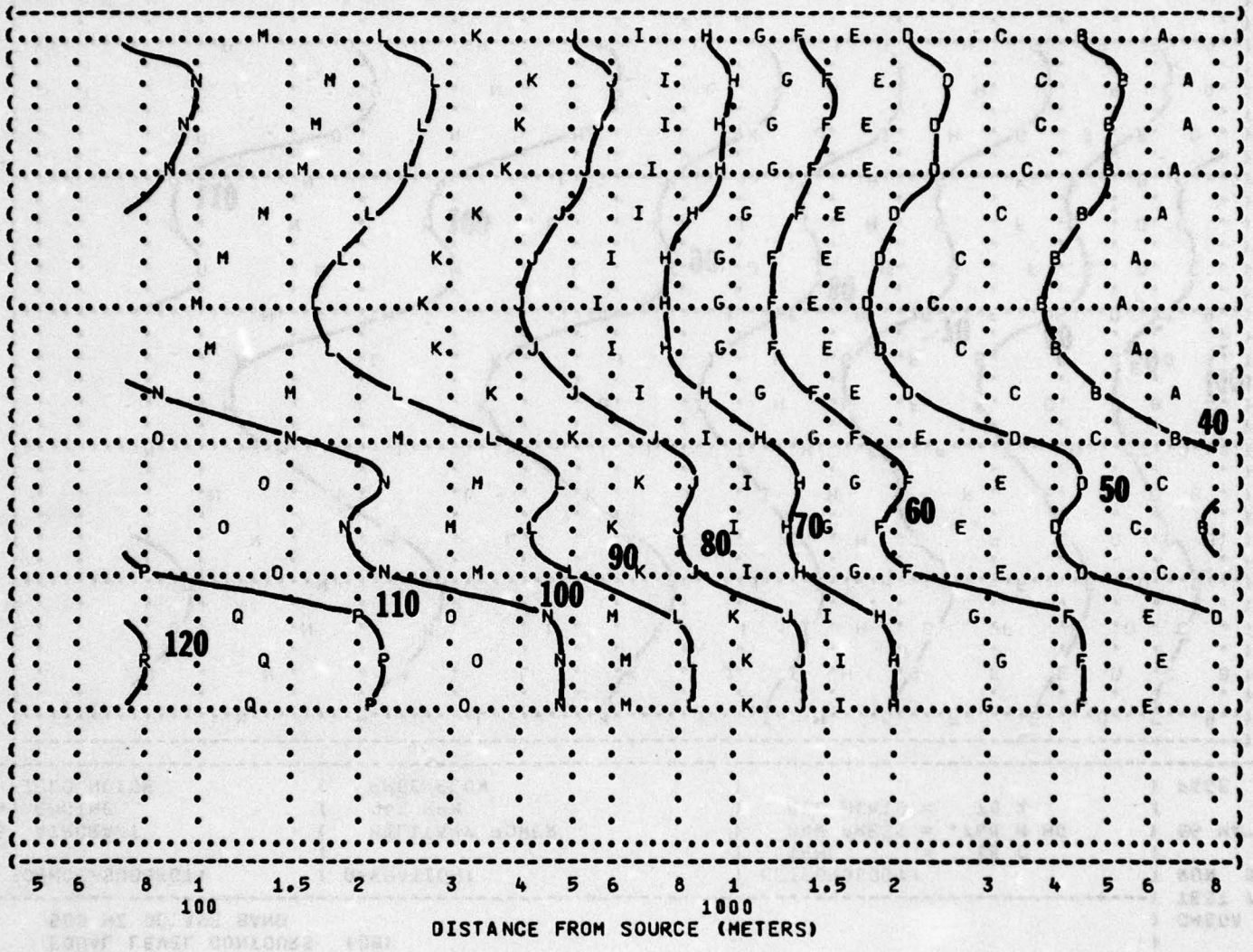
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 21



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

FIGURE: 11

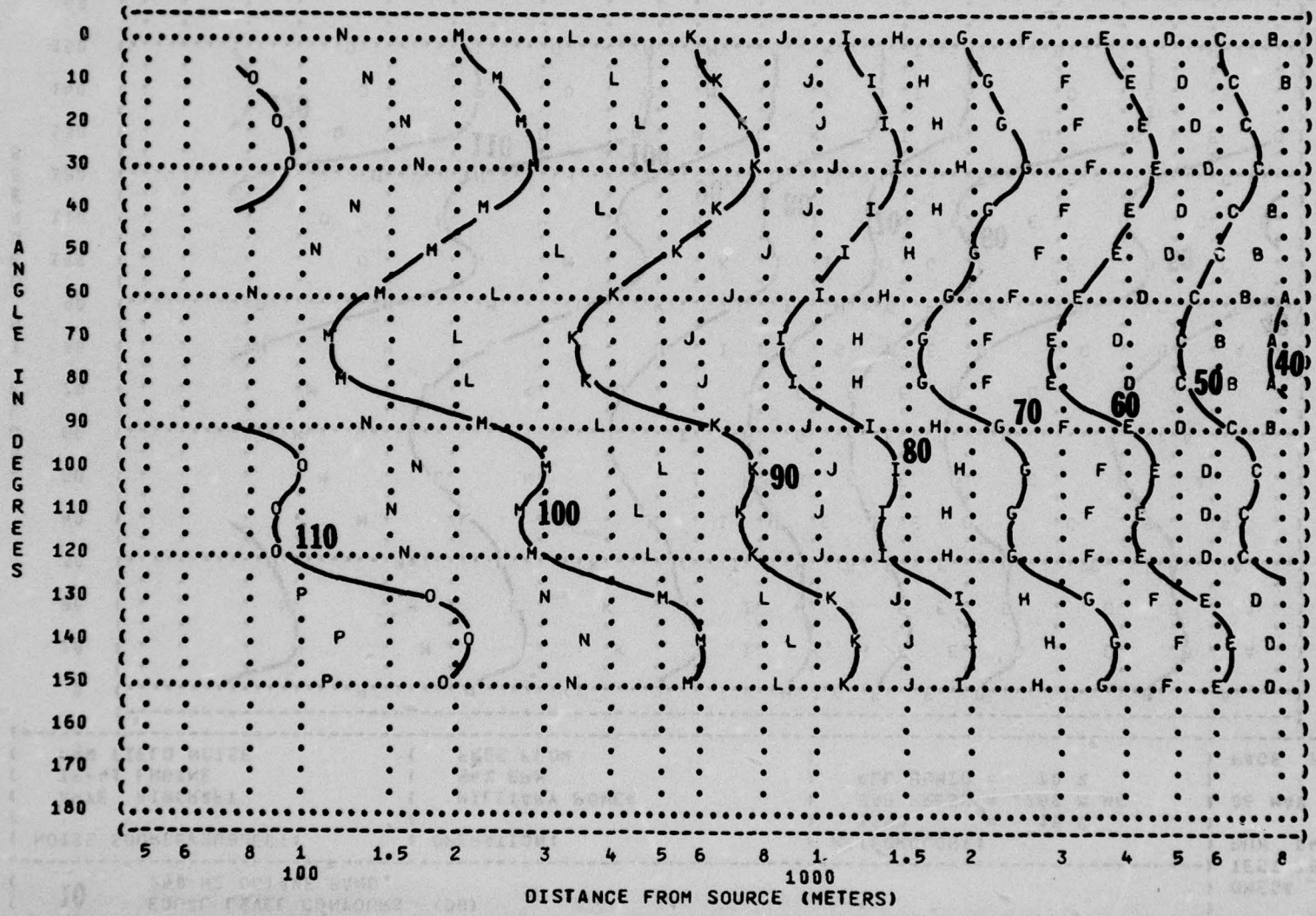
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 22



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

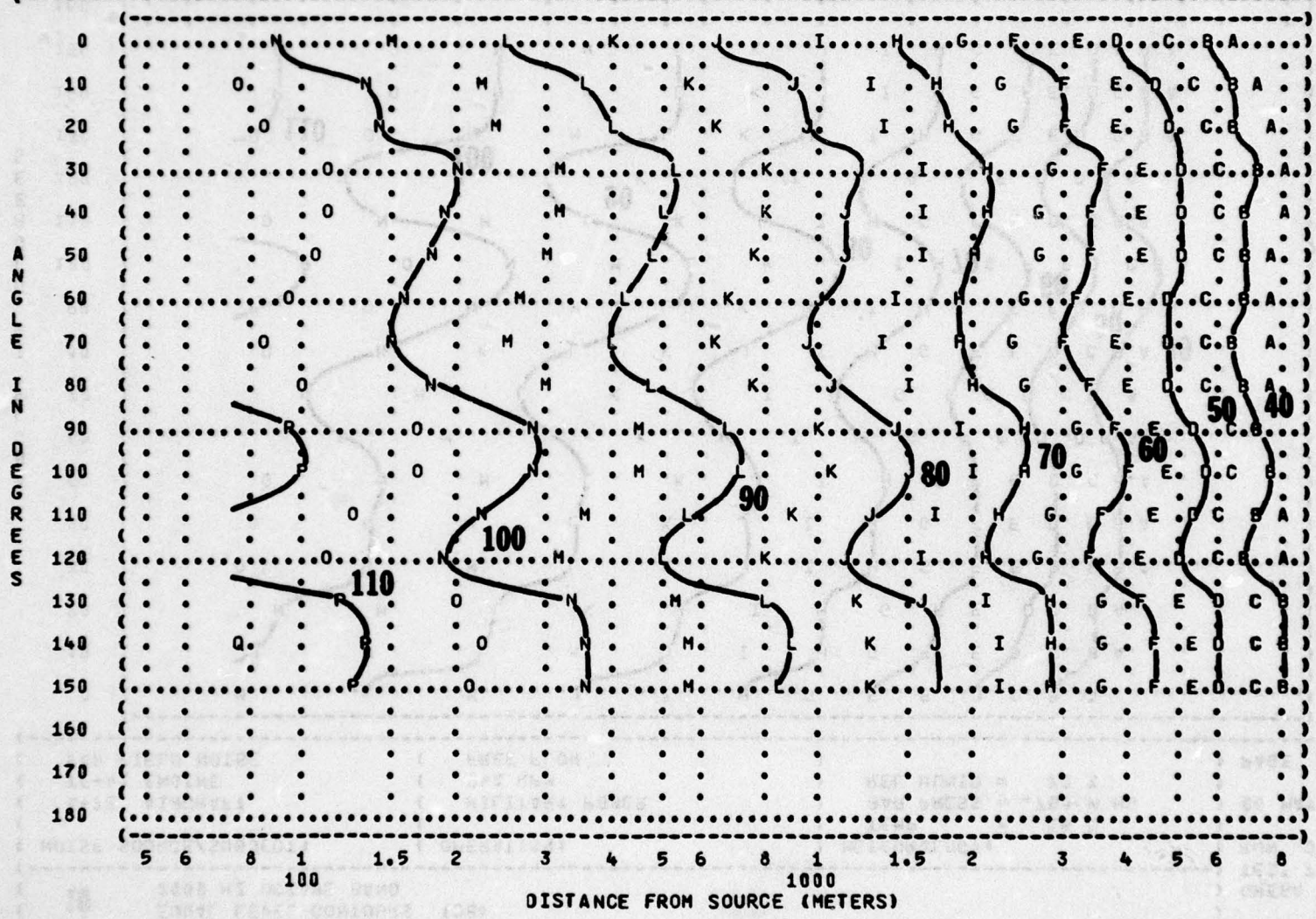
FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 23



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

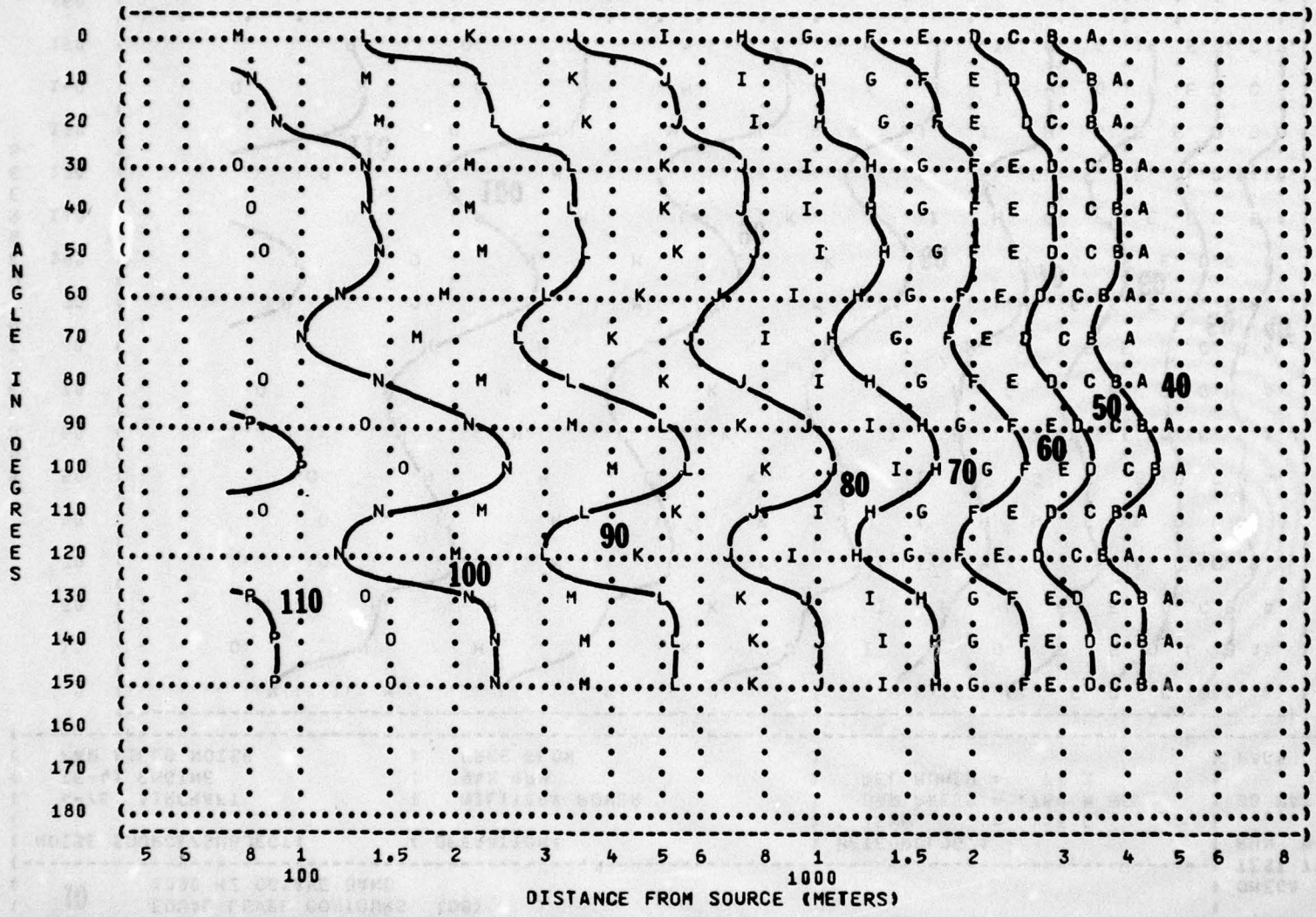
FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 24

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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



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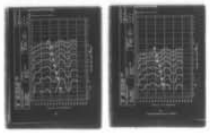
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

AD-A048 936 AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 96. A-7E AIRC--ETC(U)
JUN 77 R G POWELL
UNCLASSIFIED AMRL-TR-75-50-VOL-96 NL

2 OF 2
AD
A048 936



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DATE
FILMED
2-78
DDC

FIGURE: 10

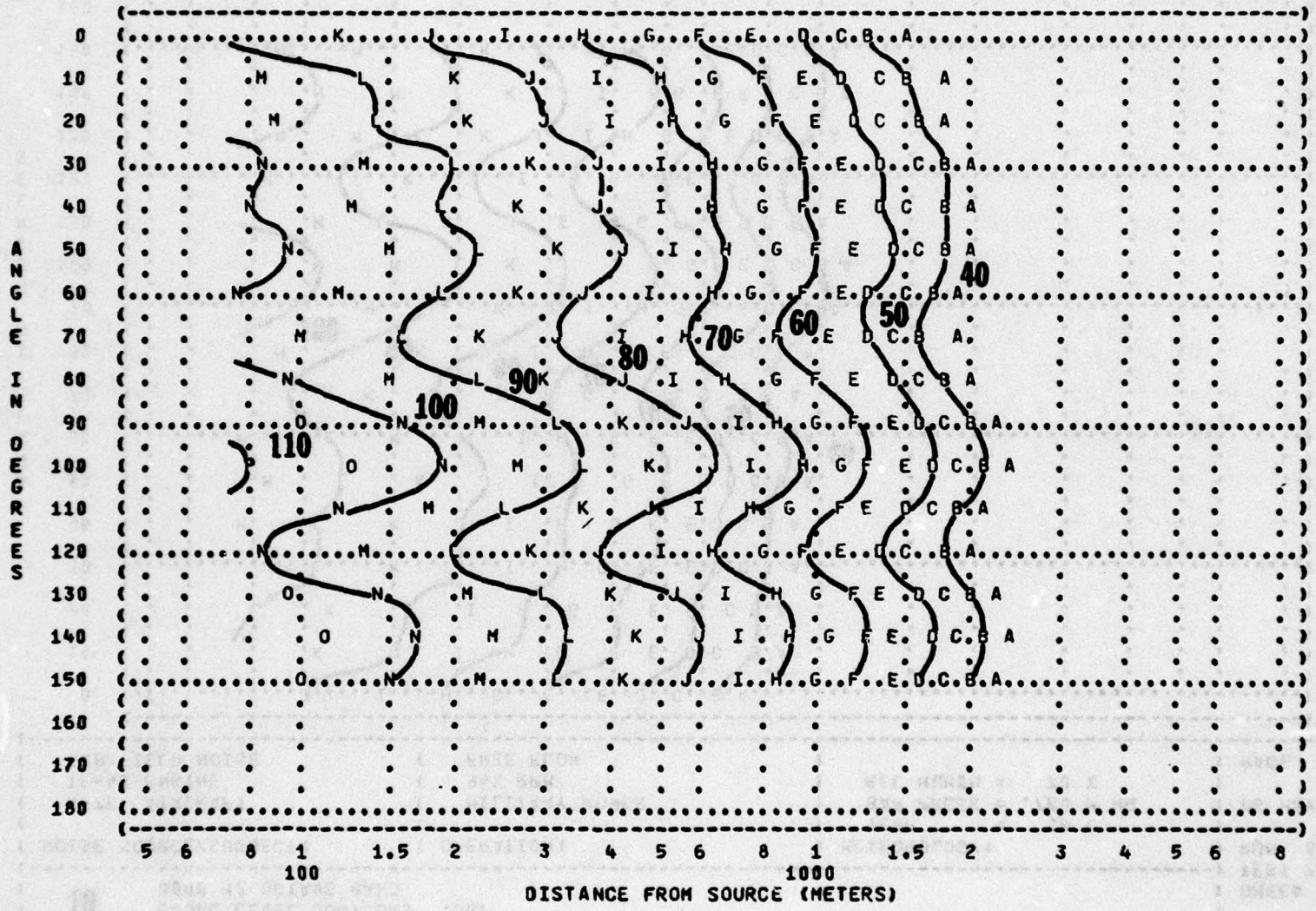
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 25



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

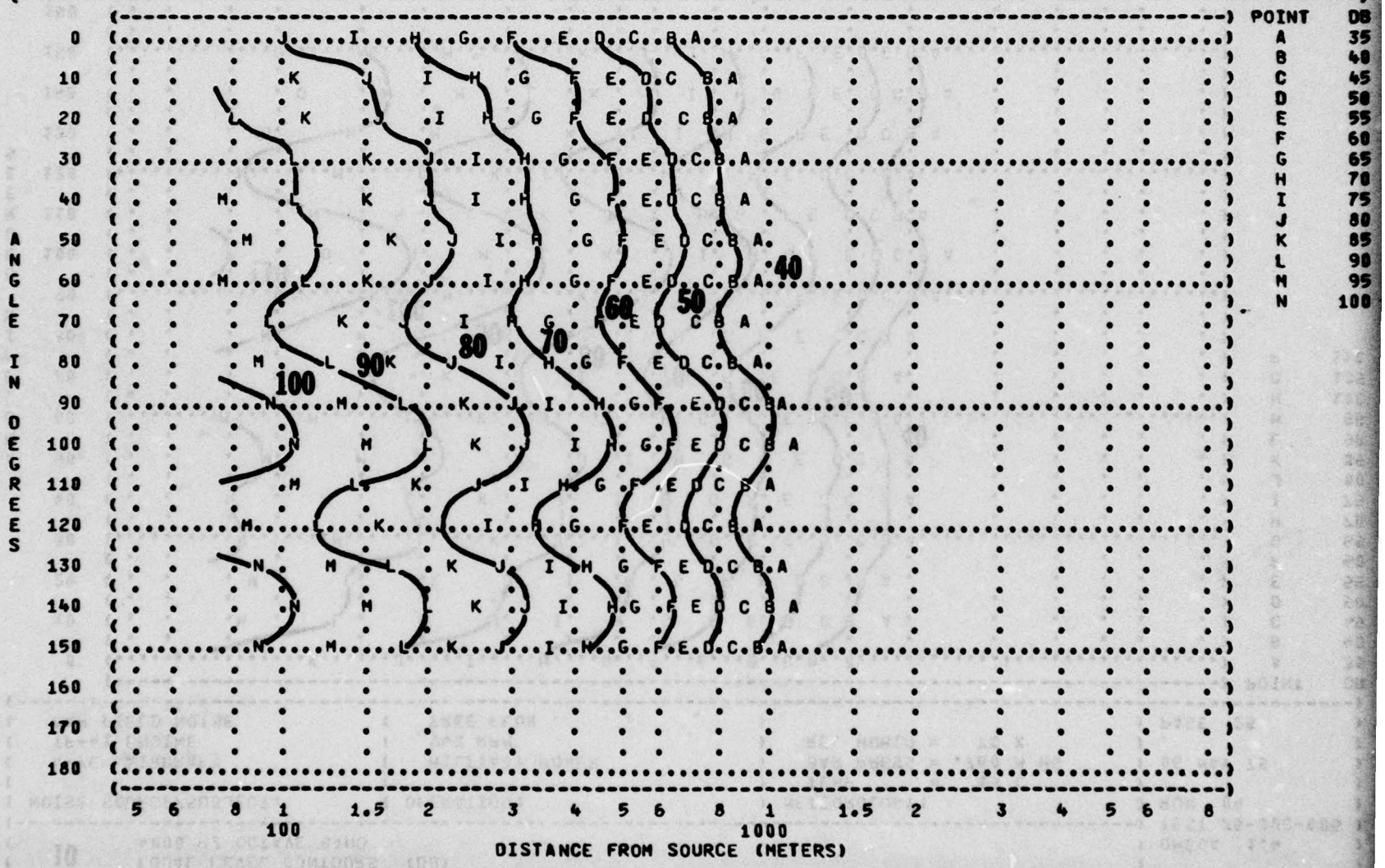
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-7E AIRCRAFT
TF-41 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
94% RPM
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-005
RUN 04
06 MAY 75
PAGE 26



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