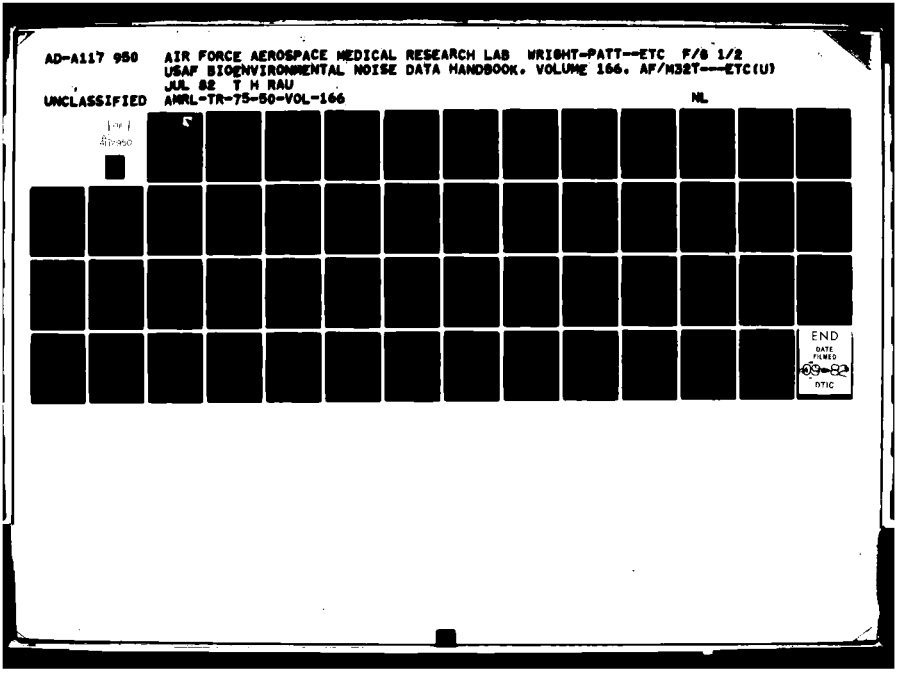
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Volume 166

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 166

AF/M32T-1 Tester, Pressurized Cabin
Leakage, Aircraft

July 1982

Approved for public release; distribution unlimited.

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

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AMRL-TR-75-50, Vol. 166

This report has been reviewed by the Office of Public Affairs (PA) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations.

This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER

HENNING E. VON GIERKE, Dr Ing
Director
Biodynamics and Bioengineering Division
Air Force Aerospace Medical Research Laboratory

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The AF/M32T-1 tester is a gasoline engine driven cabin leakage tester designed to furnish pressurized air to the aircraft at controlled pressures and temperatures during ground pressurization of aircraft cockpits and pressurized compartments. This report provides measured and extrapolated data defining the bioacoustic environments produced by this unit operating outdoors on a concrete apron at normal rated conditions. Near-field data are reported for 37 locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred

speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 36 locations are normalized to standard meteorological conditions and extrapolated from 10 - 1600 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, Air Force Aerospace Medical Research Laboratory, under Project/Task 723107, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John N. Cole for his assistance in preparing this report, Mr. Robert G. Powell for his assistance in acquiring the raw data, Mr. Henry T. Mohlman and Mr. Fred D. Lampley of the University of Dayton for their assistance in the mechanics of data processing, and Mrs. Norma J. Peachey who typed and prepared the graphics.

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INTRODUCTION

The AF/M32T-1 is a gasoline engine-driven cabin leakage tester designed to furnish pressurized air to the aircraft at controlled pressures and temperatures during ground pressurization of aircraft cockpits and pressurized compartments. This unit is manufactured by the Sprague Engineering and Sales Company.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this unit. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with operations of the AF/M32T-1 tester.

This volume is one of a series published by the Air Force Aerospace Medical Research Laboratory (AFAMRL) 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, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Refer to Volume 1 (reference 1) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and indentifies the specific volumes containing each type of environment 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 AFAMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index as it is generated.

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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.

NEAR-FIELD NOISE

MEASUREMENTS

A standard AF/M32T-1 tester was operated outdoors on a concrete apron at a normal rated condition of 2,400 RPM with no significant sound-reflective surfaces present except the ground plane. Table 1 notes the surface meteorological conditions at the time of measurement.

Figure 1 identifies 72 noise measurement locations at a height of 1.5 meters above the concrete apron (nominal ear level of ground crew). The 0 degree reference direction passes through the tow bar. The 36 locations on the two inner circles are in the acoustic near-field of the source where the sound wave fronts generally do not spherically diverge and the source appears to be spatially distributed (i.e., not a point source). Consequently, these near-field data cannot be extrapolated to longer distances but do properly define the levels at locations close to the unit.

Near-field measurements were also made at ear level at the operator control panel. Table 1 lists the numeric/alphabetic designator used on the data pages in this report to identify the operator measurement location and test condition. The designator 1/A means operator location 1 and test condition A. Such a descriptor is essential in many handbook volumes that involve multiple combinations of locations/conditions. It is used in this report to maintain format consistency.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the AF/M32T-1 unit at the 37 specified, near-field locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures in Table 3 which are widely used to assesss the effects of noise on personnel and their performance.

For data at other intermediate near-field locations (i.e., for radial distances less than 10 meters) you can interpolate between the 72 measured data points. 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 distances over which the sound is propagated.

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR OPERATOR NOISE MEASUREMENTS

AF/M32T-1 Tester, Pressurized Cabin Leakage, Aircraft
Tyndall AFB, 19 June 1980
NSN 4920-00-347-9455, Field # J108

Measurement Location		
1	Operator Control Panel	
Operation		
A	2400 RPM	
Meteorology		
Temperature	29	°C
Bar Pressure	.761	M Hg
Rel Humidity	69	%
Wind - Speed	3.1	M/Sec (6 Kts)

FAR-FIELD NOISE

MEASUREMENTS

Noise Measurements were also made on the same AF/M32T-1 unit under the same test conditions at the outer circle locations on Figure 1. These 36 locations are in the acoustic far-field of the source where the sound wave fronts spherically diverge and the unit may be regarded as a point noise source. Under these far-field conditions, the measured data can be extrapolated to longer distances.

RESULTS

Table 4 lists the overall and 1/3 octave band SPL measured at the 36 far-field locations under the meterological conditons at the time of the test. These data were normalized to 10 meters distance and standard meteorological conditons (15C 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 the farfield noise characteristics of the AF/M32T-1 tester in a standard format.

These measured data were also used to derive sets of equal noise contours (Figures 3 through 9) describing seven different measures of noise as a function of angle and distance from the souce for standard day meteorology. Not the Figure 8 contours identify limiting exposure times for personnel. Missing data points on any of the contours are the result of eliminating measured data which contained excessive influence of spurious background noise present at the time of measurement. In some cases contour levels at these missing data points were estimated and indicated with dashed lines.

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

IDENTIFICATION:
OMEGA 3.2
TEST BA-000-001
RUN 01
25 JAN 82
PAGE F1

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

		LOCATION/CONDITION												
	DISTANCE (M)->	4	4	4	4	4	4	4	4	4	4	4	4	4
FREQ	ANGLE (DEG)-->	0	20	40	60	80	100	120	140	160	180	200	220	240
(HZ)	CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	A
25														
31.5														
40														
50		77<	76<	73<		71<	71<		75<	73<	74<	73<	75<	73<
63		92	92	92	91	90	89	89	90	90	90	88	87	86
80		86	86	85	85	84	83	83	84	84	84	83	81	80<
100		77	77	78	80	80	79	77	77	77	77	76	75	74
125		84	83	82	81	80	79	77	77	77	77	76	75	75
160		83	83	82	82	81	81	80	79	80	80	79	77	75
200		83	83	81	79	77	78	80	80	80	80	79	77	76
250		77	76	75	74	75	74	73	74	74	72	73	72	72
315		76	74	77	76	81	79	78	79	78	76	77	77	76
400		75	72	72	72	77	79	80	79	78	80	78	76	76
500		74	75	74	74	75	77	77	77	76	76	77	74	73
630		74	74	76	77	74	76	73	76	76	80	78	76	76
800		75	77	73	73	75	75	74	74	74	73	74	76	73
1000		74	76	73	75	76	74	75	75	72	73	74	76	73
1250		71	71	71	71	70	71	72	72	72	/1	72	72	72
1600		74	74	72	72	73	73	73	72	72	71	72	72	73
2000		73	75	70	70	72	72	73	72	72	73	73	73	73
2500		71	72	70	70	71	72	73	72	72	71	72	73	73
3150		69	71	71	71	72	72	72	72	71	71	72	73	75
4000		66	68	69	70	71	71	70	71	71	70	73	74	75
5000		65	68	68	69	70	72	70	70	70	69	72	73	74
6300		65	65	66	68	69	70	68	69	69	68	70	73	71
8000		63	64	66	66	68	68	67	68	68	66	70	72	71
10000		59	61	61	62	63	64	64	65	65	63	68	68	68
OVERALL		95	95	94	94	93	92	92	93	93	93	92	91	90

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST BA-000-001
RUN 02
25 JAN 82
PAGE F2

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

		LOCATION/CONDITION												
	DISTANCE (M)->	4	4	4	4	4	2	2	2	2	2	2	2	2
FREQ (HZ)	ANGLE (DEG)-->	260	280	300	320	340	0	20	40	60	80	100	120	140
	CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	A
25														81<
31.5							76<	75<	75<					78<
40							75<	73<	75<	73<				81<
50		75<	76<	76<	76<	78<	83	82	81<	79<	76<	73<	75<	77<
63		87	88	89	91	92	101	99	95	92	90	89	89	91
80		80<	81	83	84	86	95	93	90	87	85	84	83	85
100		73	73	73	75	77	89	87	83	83	83	82	80	78
125		78	79	79	82	83	99	97	93	91	89	88	87	86
160		76	76	78	80	82	96	94	91	90	88	87	87	85
200		76	77	79	80	82	92	90	87	86	86	88	88	86
250		74	72	73	74	76	84	82	81	84	86	86	86	84
315		79	75	76	76	78	85	83	87	91	93	93	92	89
400		76	77	75	75	75	80	80	81	81	82	81	83	83
500		75	73	73	74	73	78	79	80	79	79	79	80	81
630		79	74	74	75	76	80	82	80	79	80	81	81	84
800		74	75	75	75	76	81	81	81	78	79	79	80	81
1000		74	73	73	74	75	86	87	79	76	78	79	79	79
1250		71	72	74	73	71	80	78	76	75	76	76	76	77
1600		72	73	74	73	74	78	78	77	76	77	76	77	78
2000		74	73	73	72	73	81	79	77	75	77	77	77	77
2500		75	74	74	72	71	77	77	75	74	76	77	78	77
3150		74	76	76	72	71	75	75	74	74	76	77	78	77
4000		74	75	76	72	69	73	73	73	73	75	77	77	76
5000		73	75	75	71	68	71	73	73	73	75	76	77	75
6300		71	71	72	70	67	71	70	71	71	74	74	75	74
8000		70	71	71	70	66	70	69	70	70	71	72	73	73
10000		66	67	68	66	62	66	66	67	66	67	68	69	70
OVERALL		91	91	92	93	95	105	103	100	98	98	98	98	97

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST BA-000-001
RUN 03
25 JAN 82
PAGE F3

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION CONDITION

FREQ (HZ)	DISTANCE (M)-> / ANGLE (DEG)---> / CONDITION---->	4 160 A	4 180 A	4 200 A	4 220 A	4 240 A	2 260 A	2 280 A	2 300 A	2 320 A	2 340 A	OPERATOR LOCATION TEST CONDITION 1/A
25		79<										
31.5		76<	75<	74<			74<				77<	
40		75<								73<	78<	75<
50		76<	77<	75<	76<	78<	78<	79<	79<	81<	82	79<
63		91	91	88	86	86	86	88	92	96	99	88
80		85	84	82	80<	79<	80<	82	86	90	93	83
100		77	78	78	78	78	77	77	80	84	87	81
125		87	86	86	86	86	88	89	92	95	98	90
160		85	85	85	85	86	87	87	90	92	95	90
200		83	86	85	85	86	85	85	86	86	90	89
250		79	81	80	77	76	76	75	75	78	81	81
315		85	83	80	79	79	80	77	77	79	80	85
400		83	82	81	81	81	79	81	80	81	80	86
500		81	82	82	80	79	79	79	78	81	80	85
630		86	84	81	83	79	78	77	78	81	82	87
800		81	78	80	78	79	79	78	80	82	82	84
1000		79	78	79	78	81	80	83	83	83	79	85
1250		75	75	76	76	77	77	78	77	78	79	85
1600		75	77	76	77	77	78	78	77	78	78	85
2000		76	79	77	77	79	79	78	76	77	79	86
2500		77	77	78	77	80	82	79	77	76	76	87
3150		75	77	78	80	82	83	81	77	76	76	90
4000		75	76	78	80	81	81	80	77	75	75	91
5000		74	75	77	79	79	79	80	77	75	73	89
6300		73	73	76	77	77	77	77	76	74	71	86
8000		74	74	76	77	76	76	76	74	73	70	87
10000		69	71	76	75	73	73	73	71	70	66	83
OVERALL		95	96	95	95	95	95	96	98	100	103	101

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 8A-000-001
RUN 01
25 JAN 82
PAGE J1

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

LOCATION/CONDITION

FREQ (HZ)	DISTANCE (M) ->	4	4	4	4	4	4	4	4	4	4	4	4	4
	ANGLE (DEG) -->	0	20	40	60	80	100	120	140	160	180	200	220	240
	CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	A
31.5														
63		93	93	92	92	91	90	90	91	91	91	89	88	87
125		87	86	86	86	85	84	83	83	83	83	82	80	79
250		84	84	83	81	83	82	82	83	83	82	82	81	80
500		79	78	79	80	80	82	82	82	82	84	82	80	80
1000		78	80	77	78	79	78	79	78	77	77	78	80	77
2000		77	78	76	75	77	77	78	77	77	76	77	77	78
4000		72	74	74	75	76	76	75	76	75	75	77	78	79
8000		67	68	70	71	72	73	71	72	72	71	74	76	75
OVERALL		95	95	94	94	93	92	92	93	93	93	92	91	90

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

IDENTIFICATION: OMEGA 3.2 TEST BA-000-001 RUN 02 25 JAN 82 PAGE J2

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER; PRESSURIZED CABIN; LEAKAGE, AIRCRAFT; NEAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

		LOCATION/CONDITION												
	DISTANCE (M)->	4	4	4	4	4	2	2	2	2	2	2	2	2
FREQ (HZ)	ANGLE (DEG)-->	260	280	300	320	340	0	20	40	60	80	100	120	140
	CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	A
31.5							78	77	78					85
63		88	89	90	92	93	102	100	96	93	91	90	90	92
125		81	81	82	85	86	101	99	96	94	92	91	91	89
250		81	80	81	82	84	93	91	90	93	94	95	4	91
500		81	80	79	79	80	84	85	85	85	85	85	36	88
1000		78	78	79	79	79	88	88	84	81	83	83	83	84
2000		78	78	78	77	77	84	83	81	80	81	81	82	82
4000		79	80	80	76	74	78	79	78	78	80	81	82	81
8000		74	75	75	74	70	74	74	74	74	76	77	78	77
OVERALL		91	91	92	93	95	105	103	100	98	98	98	98	97

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

IDENTIFICATION:
OMEGA 3.2
TEST BA-000-001
RUN 03
25 JAN 82
PAGE J3

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	DISTANCE (M)-> / ANGLE (DEG)--> / CONDITION---->	4 160 A	4 180 A	4 200 A	4 220 A	4 240 A	2 260 A	2 280 A	2 300 A	2 320 A	2 340 A	OPERATOR LOCATION TEST CONDITION 1/A
31.5		82									81	
63		92	92	89	87	87	87	89	93	97	100	90
125		89	89	89	89	89	91	91	94	97	100	93
250		88	88	87	87	87	87	86	87	87	91	91
500		88	87	86	86	84	83	84	84	86	85	91
1000		84	82	83	82	84	84	85	86	86	85	89
2000		81	82	81	82	84	85	83	81	82	82	91
4000		79	81	82	84	85	86	85	82	80	79	95
8000		77	78	81	81	80	80	80	79	77	74	90
OVERALL		95	96	95	95	95	95	96	98	100	103	101

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST BA-000-001
RUN 01

25 JAN 82

PAGE H1

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

	LOCATION/CONDITION												
DISTANCE (M)-->	4	4	4	4	4	4	4	4	4	4	4	4	4
ANGLE (DEG)--->	0	20	40	60	80	100	120	140	160	180	200	220	240
CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	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	94	94	94	93	92	92	92	92	92	92	91	90	89
OASLA	84	85	83	84	85	85	85	85	84	85	85	85	85
T	480	404	571	480	404	404	404	404	480	404	404	404	404
MINIMUM QPL EAR MUFFS													
OASLA*	71	71	70	69	69	68	68	68	68	68	67	66	65
T	960	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS													
OASLA*	68	68	67	66	66	65	65	65	65	65	64	63	62
T	960	960	960	960	960	960	960	960	960	960	960	960	960
V-51R EAR PLUGS													
OASLA*	61	61	60	60	61	61	61	61	61	61	61	60	59
T	960	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS													
OASLA*	50	50	49	49	48	48	48	48	48	48	48	47	46
T	960	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT													
OASLA*	62	62	61	61	60	60	60	60	60	60	59	59	59
T	960	960	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION													
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)													
PSIL	78	79	77	78	79	79	80	79	78	79	79	79	78
ANNOYANCE													
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)													
TONE CORRECTION (C IN DB)													
PNLT	99	100	99	100	100	99	100	100	99	100	100	100	100
C	1	1	1	1	1	0	1	1	1	2	0	1	0

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST BA-008-001
RUN 02
25 JAN 82
PAGE H2

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

	LOCATION/CONDITION												
DISTANCE (M)-->	4	4	4	4	4	2	2	2	2	2	2	2	2
ANGLE (DEG)--->	260	280	300	320	340	0	20	40	60	80	100	120	140
CONDITION---->	A	A	A	A	A	A	A	A	A	A	A	A	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	90	91	92	93	94	104	102	100	98	98	98	97	97
OASLA	86	86	86	84	85	93	92	90	89	91	91	91	91
T	339	339	339	480	404	101	120	170	202	143	143	143	143
MINIMUM QPL EAR MUFFS													
OASLA*	66	67	68	69	70	82	80	77	75	75	74	74	73
T	960	960	960	960	960	679	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS													
OASLA*	63	63	64	66	67	78	76	73	71	71	70	70	69
T	960	960	960	960	960	960	960	960	960	960	960	960	960
V-51R EAR PLUGS													
OASLA*	61	60	60	60	61	70	69	67	67	68	69	68	68
T	960	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS													
OASLA*	47	47	48	49	50	60	58	55	54	53	53	53	53
T	960	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT													
OASLA*	59	60	60	61	61	72	70	67	65	65	65	65	64
T	960	960	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION													
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)													
PSIL	79	79	79	78	79	85	85	83	82	83	83	84	84
ANNOYANCE													
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)													
TONE CORRECTION (C IN DB)													
PNLT	102	102	102	100	100	110	109	105	106	107	108	107	106
C	1	1	1	1	1	2	2	1	1	2	2	1	1

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

IDENTIFICATION:

OMEGA 3.2
TEST BA-000-001
RUN 03
25 JAN 82
PAGE H3

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION										
DISTANCE (M)-->	4	4	4	4	4	2	2	2	2	2	OPERATOR LOCATION
ANGLE (DEG)--->	160	180	200	220	240	260	280	300	320	340	TEST CONDITION
CONDITION---->	A	A	A	A	A	A	A	A	A	A	1/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	96	96	95	94	94	95	96	97	100	103	100
OASLA	90	90	90	90	91	91	91	90	91	91	99
T	170	170	170	170	143	143	143	170	143	143	36
MINIMUM QPL EAR MUFFS											
OASLA*	72	72	71	71	71	72	72	75	77	80	76
T	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS											
OASLA*	68	68	67	66	67	67	68	70	73	76	71
T	960	960	960	960	960	960	960	960	960	960	960
V-51R EAR PLUGS											
OASLA*	66	66	65	65	65	65	65	66	67	68	71
T	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS											
OASLA*	53	52	52	51	52	52	53	54	56	58	58
T	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT											
OASLA*	63	64	63	63	65	65	65	66	68	70	71
T	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION											
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)											
PSIL	84	84	83	83	84	84	84	83	84	84	90
ANNOYANCE											
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)											
TONE CORRECTION (C IN DB)											
PNLT	105	106	105	107	107	108	108	106	106	108	115
C	2	1	1	1	1	1	2	2	1	1	1

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: 4

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 10 METERS

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 2

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

METEOROLOGY:
TEMP = 29 C
BAR PRESS = .761 M HG
REL HUMID = 69 %

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<	77<													
31.5																			
40																			
50							72<							72<					
63	86	86	87	87	86	85	86	85	85	85	84	84	84	84	84	84	84	84	84
80	81	80<	79<	80<	79<	79<	79<	79<	80<	79<	79<	78<	79<	79<	80<	79<	79<	79<	79<
100	74	73	73	73	73	74	75	74	74	74	73	73	72<	72	72	73	72	73	72
125	82	83	83	82	81	82	81	81	80	79	78	77	76	74	73	73	72	73	73
160	80	81	81	80	80	79	78	80	79	79	79	78	77	75	75	74	74	74	74
200	75	76	75	75	73	72	73	73	72	73	74	75	75	74	71	69	68	67<	69
250	69	68	71	74	72	74	73	72	74	74	73	72	71	71	70	70	68	66	67
315	74	73	76	80	78	80	78	78	80	81	79	78	77	76	77	77	75	73	69
400	68	68	67	67	68	67	67	69	68	68	68	68	68	68	68	68	67	65	66
500	66	65	66	67	64	65	65	64	66	65	66	65	65	65	66	66	67	66	65
630	68	68	71	70	69	69	67	67	68	68	67	68	67	66	68	69	73	72	67
800	70	72	72	73	69	68	66	65	67	68	67	66	66	66	66	67	67	65	65
1000	69	71	71	72	68	70	67	68	65	71	70	68	68	66	66	66	67	66	66
1250	63	67	67	64	64	63	62	62	62	63	64	63	63	64	63	64	64	63	63
1600	68	66	65	66	63	65	64	63	63	62	62	63	63	63	65	63	63	63	63
2000	65	66	65	64	62	62	62	60	62	63	63	62	64	64	63	63	63	62	63
2500	61	61	61	61	59	58	60	60	60	61	62	62	61	63	62	62	60	60	60
3150	60	62	61	61	60	59	60	60	61	61	61	61	61	62	61	61	60	59	60
4000	60	61	59	60	61	60	61	61	62	63	61	61	61	61	62	62	61	60	60
5000	58	58	59	61	58	58	59	60	60	60	61	59	59	60	61	61	60	58	59
6300	57	57	57	58	57	56	58	58	59	59	59	58	58	58	58	59	57	58	57
8000	56	56	57	57	58	56	58	58	59	59	59	58	58	59	59	60	59	59	58
10000	50	50	50	50	51	50	51	53	53	53	53	53	54	55	56	56	55	54	53
OVERALL	90	90	90	90	90	89	89	89	89	89	88	88	87	87	87	87	87	87	86

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 4

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 10 METERS

IDENTIFICATION:
OMEGA 1.4
TEST BA-080-001
RUN 02
25 JAN 82
PAGE 2

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

METEOROLOGY:
TEMP = 29 C
BAR PRESS = .761 M HG
REL HUMID = 69 %

FREQ (HZ)	ANGLE (DEGREES) 190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350
25																	
31.5																	
40																	
50																	
63	83	82<	81<	82<	82<	81<	82<	82<	83	84	84	85	85	85	86	86	86
80	78<	77<	77<	76<	76<	75<	75<	75<	76<	77<	77<	78<	78<	79<	80<	80<	81
100	71<	71<	73	70<	72	71<	69<	69<	69<	69<	71<	71<	72	73	73	73	73
125	73	73	72	71<	72	76	77	78	79	80	80	80	80	80	82	81	82
160	74	73	71	71	71	74	75	75	76	76	76	77	77	78	79	80	80
200	69	69	70	74	72	70	70	69	70	71	70	71	72	73	73	74	74
250	68	69	71	69	67	66	69	68	67	68	66	67	68	69	67	68	69
315	70	72	72	66	68	69	73	72	71	69	68	70	72	72	72	73	75
400	65	66	67	65	67	69	68	67	67	68	67	66	68	66	67	67	67
500	67	68	67	70	66	65	65	67	64	65	63	64	65	66	65	65	66
630	71	73	71	73	70	67	69	69	68	68	67	68	68	69	68	69	69
800	67	68	70	66	68	67	66	67	67	67	66	70	67	70	71	69	70
1000	66	66	66	70	70	69	66	69	68	66	66	67	67	71	68	69	70
1250	62	64	63	64	63	64	62	61	62	62	63	65	64	65	64	65	64
1600	62	62	62	66	65	64	64	62	63	62	63	66	64	66	65	66	65
2000	64	66	67	65	65	64	63	64	65	64	65	66	66	65	65	66	66
2500	62	62	62	63	63	64	64	64	64	64	63	65	64	66	63	62	60
3150	61	62	62	65	65	66	66	64	65	67	66	67	64	65	63	62	61
4000	62	65	66	66	66	68	66	67	68	69	69	69	67	66	64	63	61
5000	59	61	64	68	65	66	65	64	65	67	67	66	66	65	64	61	59
6300	59	61	63	65	63	63	62	62	62	64	63	64	64	65	62	60	58
8000	59	62	64	65	63	64	64	64	64	65	64	63	64	64	62	60	57
10000	55	59	59	61	60	61	60	58	58	60	59	59	58	60	58	55	51
OVERALL	86	85	85	85	85	83	85	86	86	87	87	88	88	88	89	89	89

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

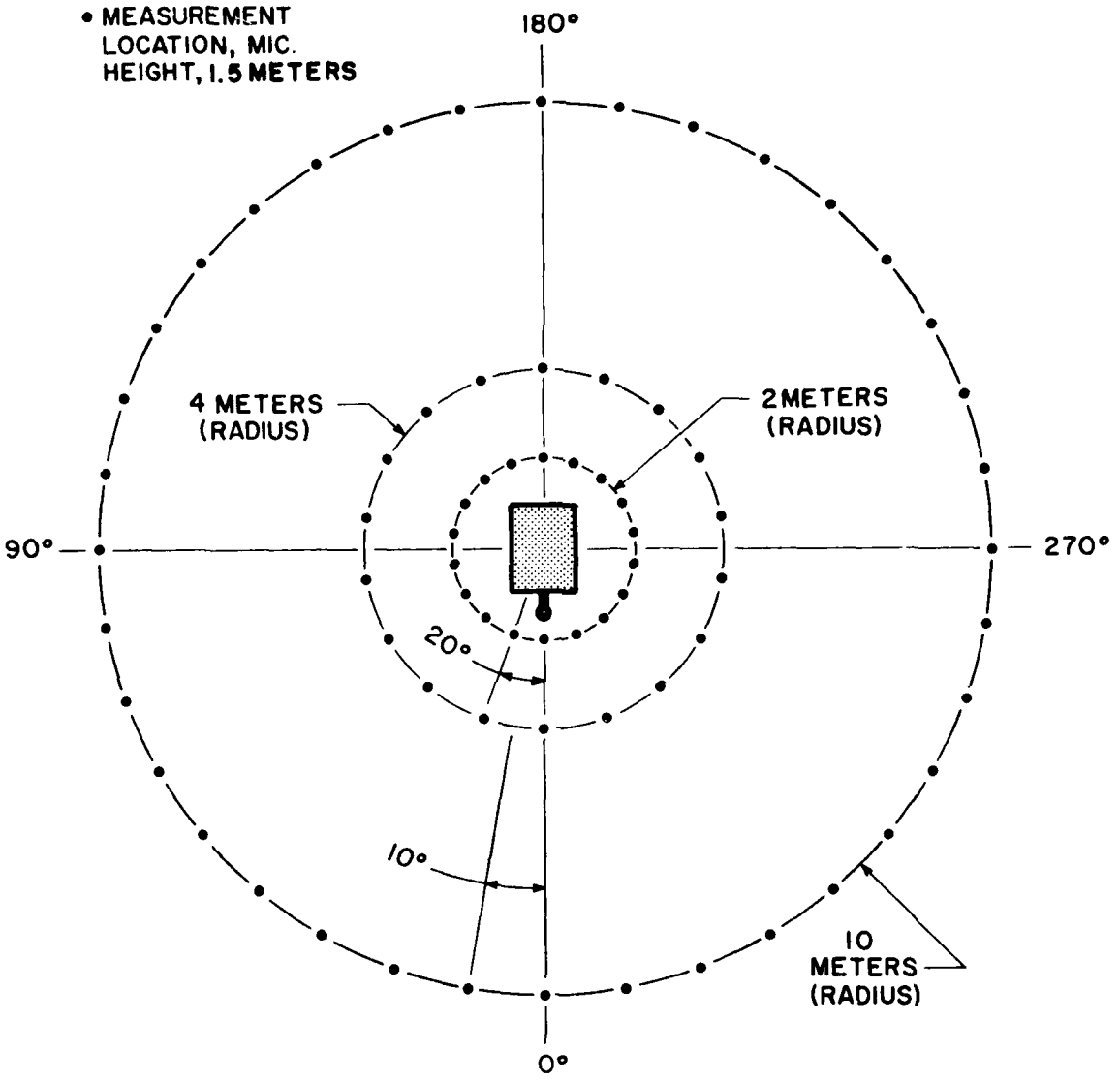


Figure 1. Measurement Locations

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 10 METERS

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 4

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

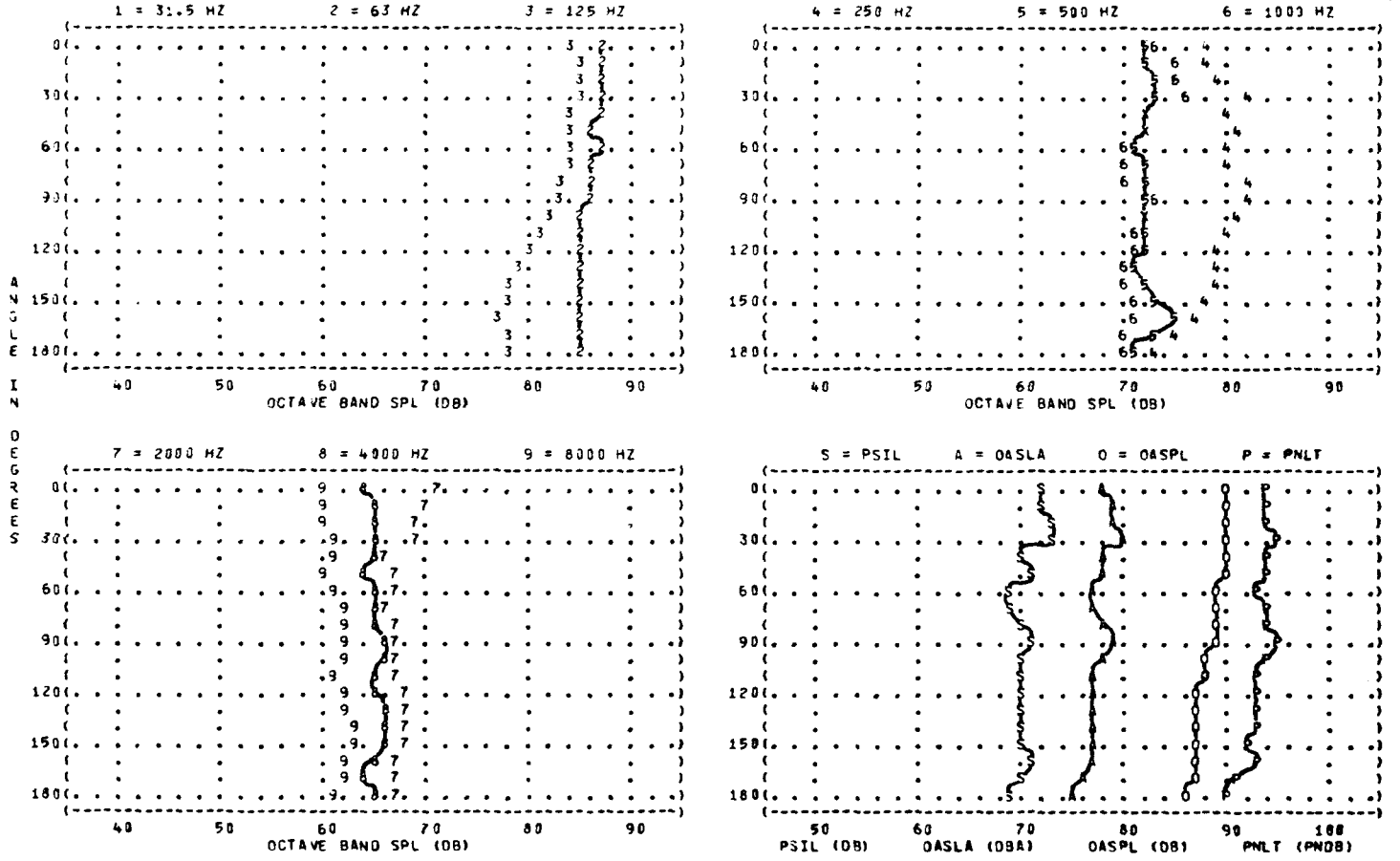


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2

DISTANCE = 10 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 84-000-001
RUN 02
25 JAN 82
PAGE 4

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

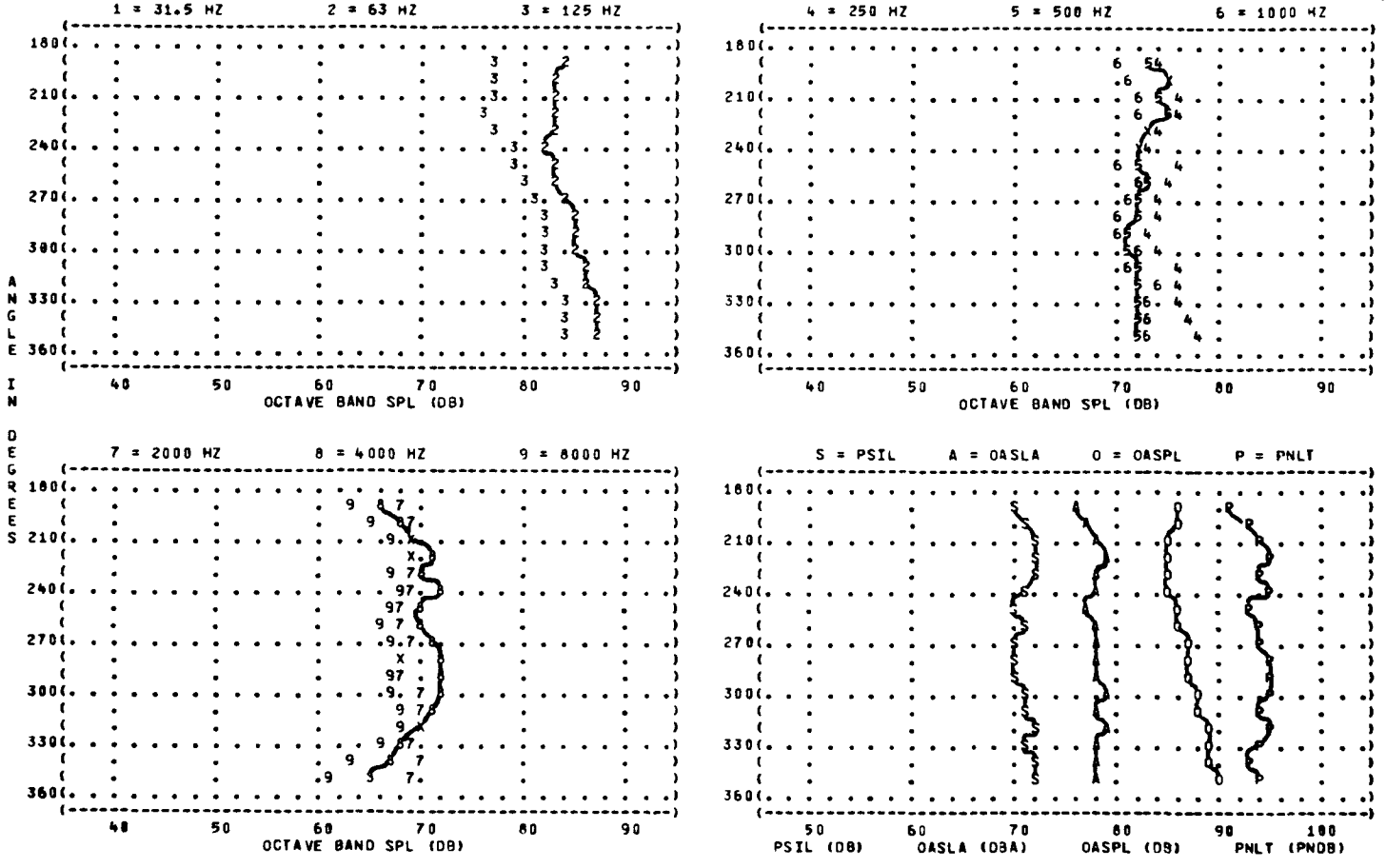


FIGURE 3 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 11

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

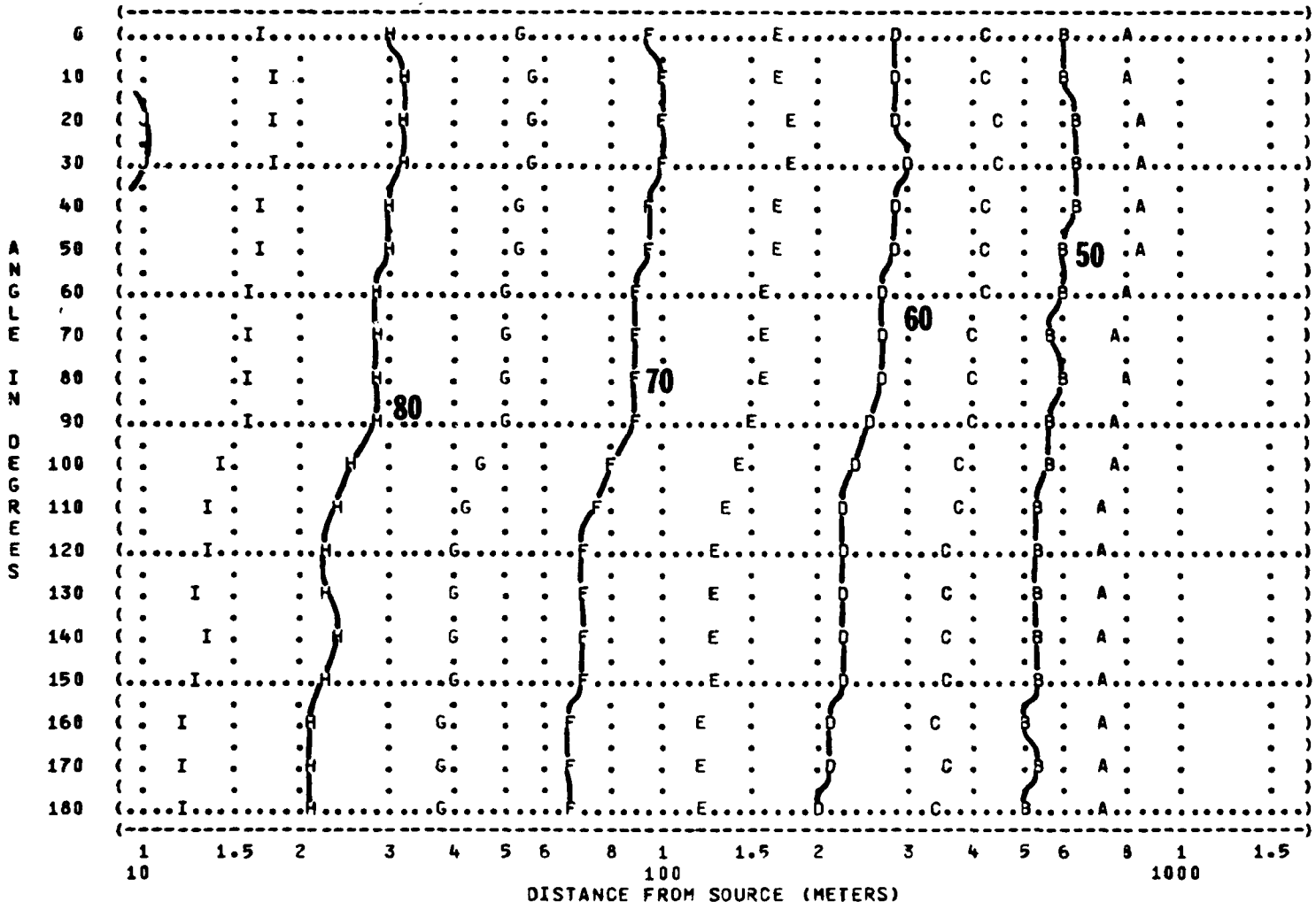


FIGURE: 3 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST BA-008-001
RUN 02
25 JAN 82
PAGE 11

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

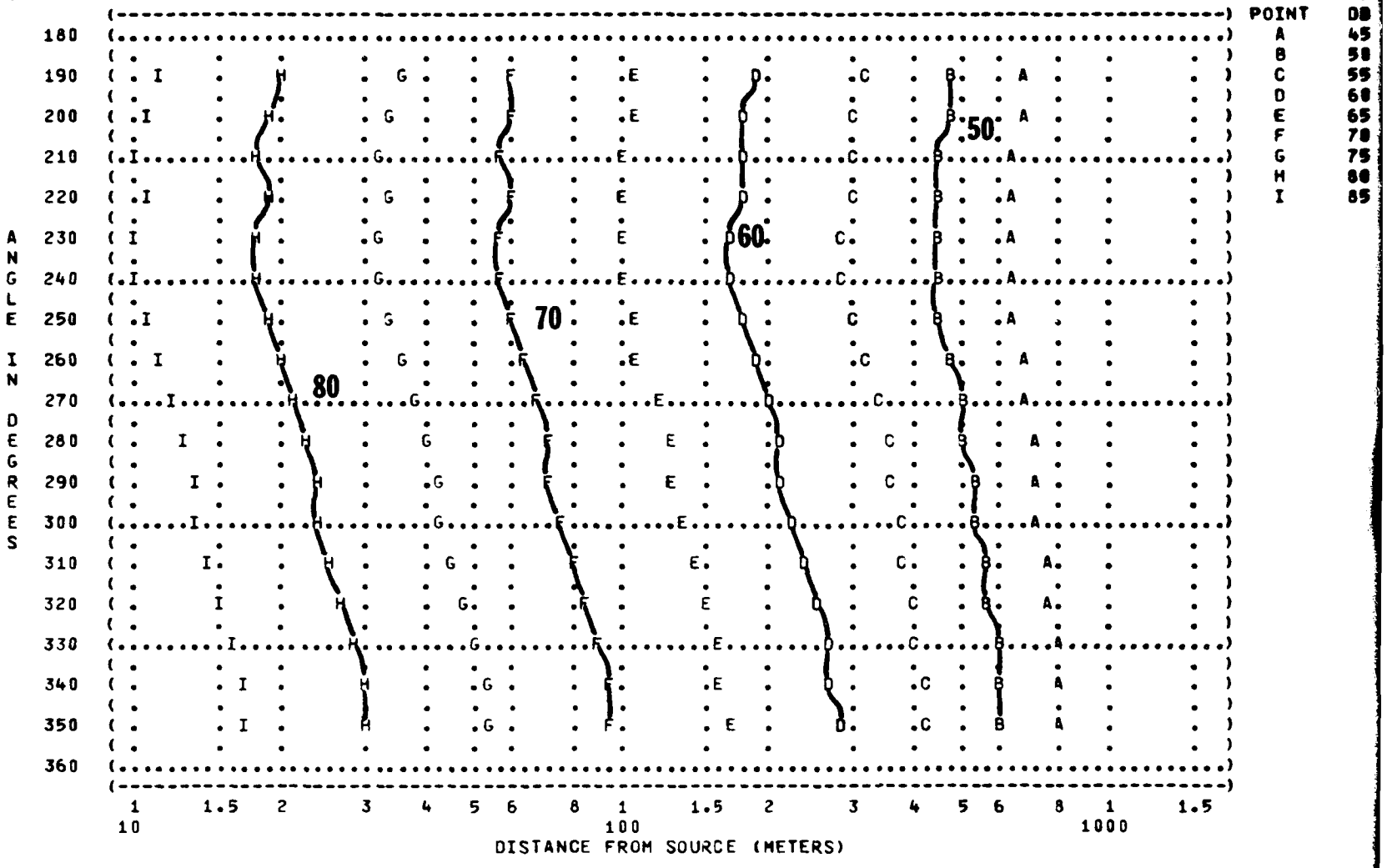


FIGURE: 4 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-081
RUN 01
25 JAN 82
PAGE 12

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

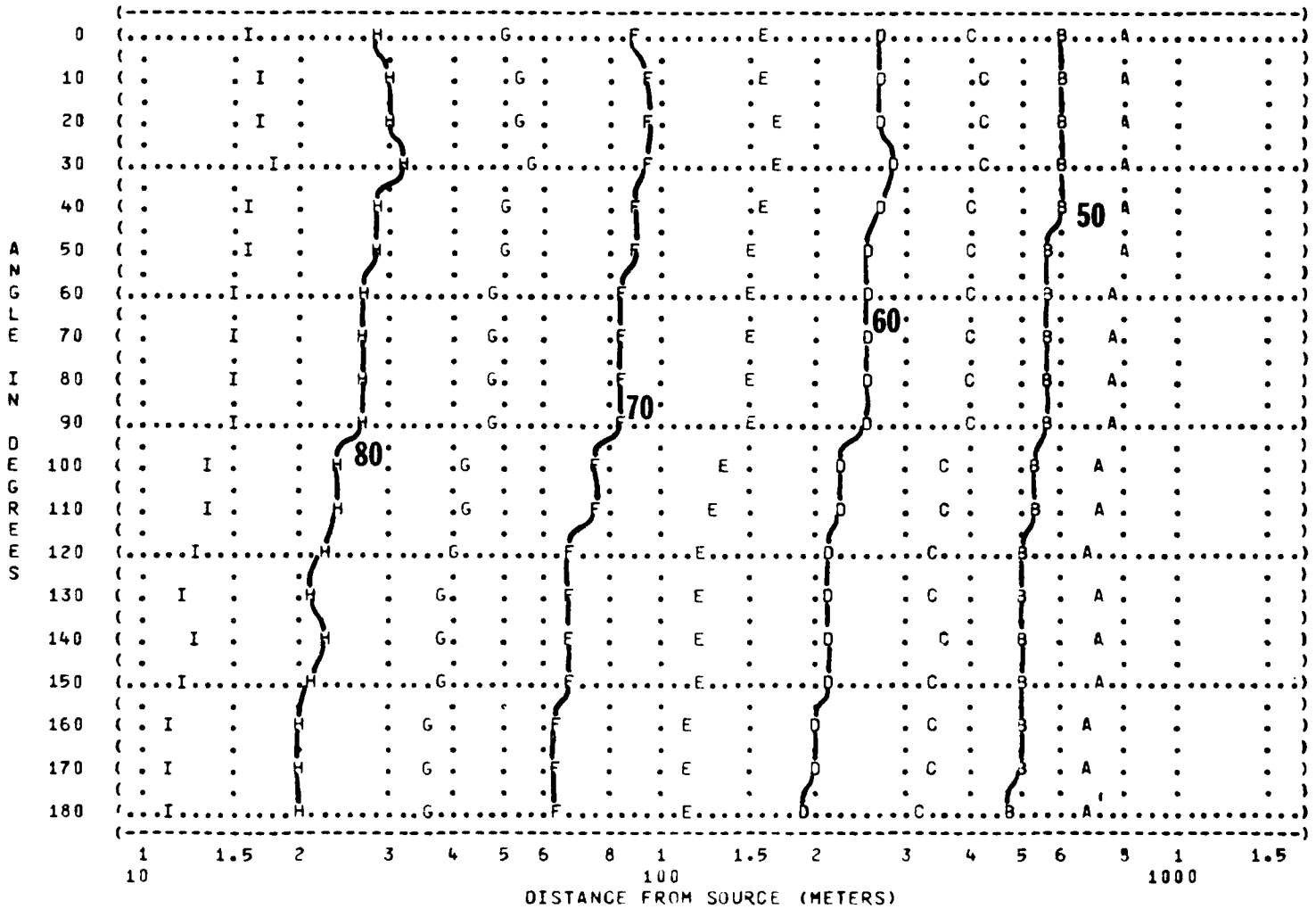


FIGURE: 4 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 12

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

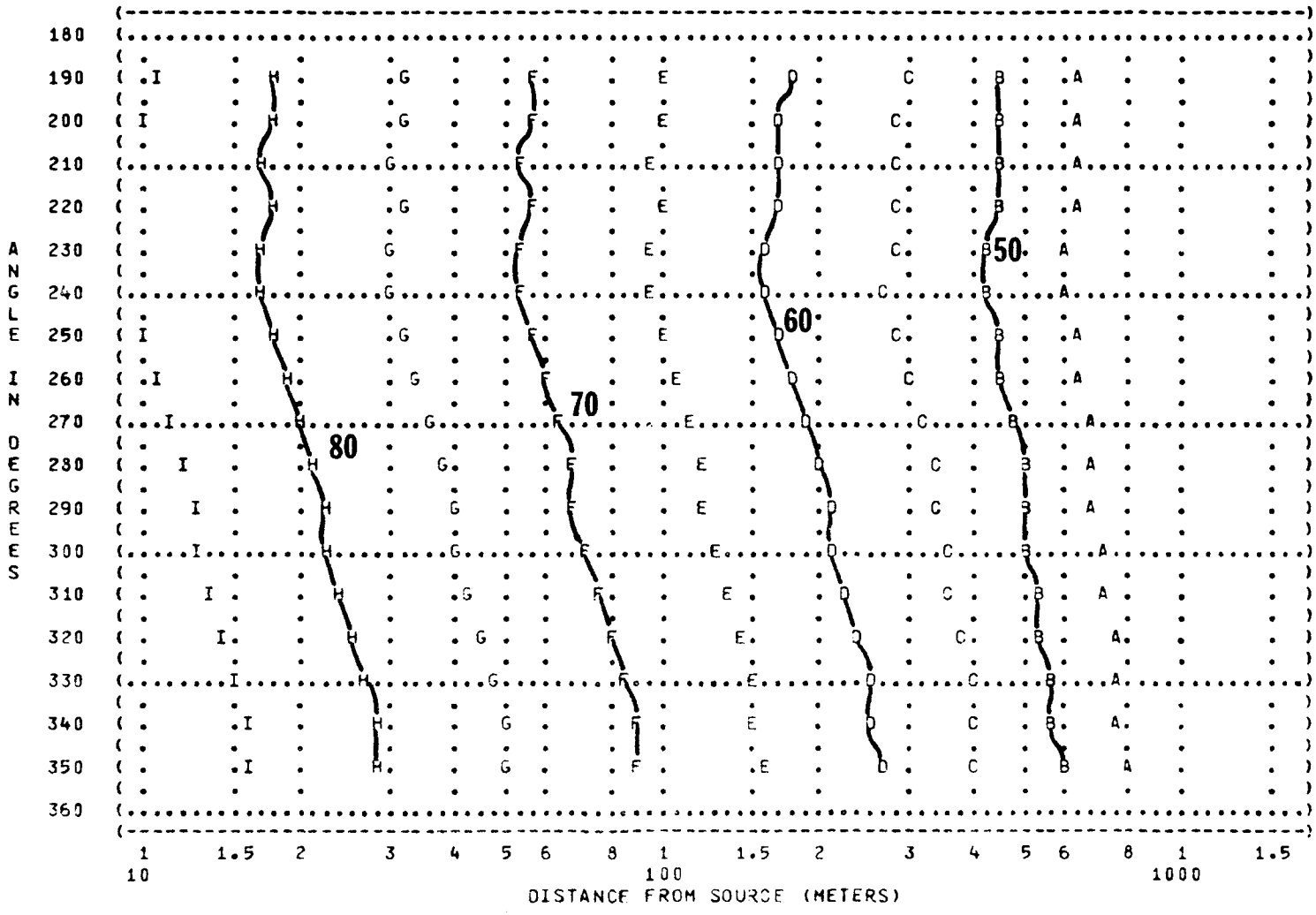


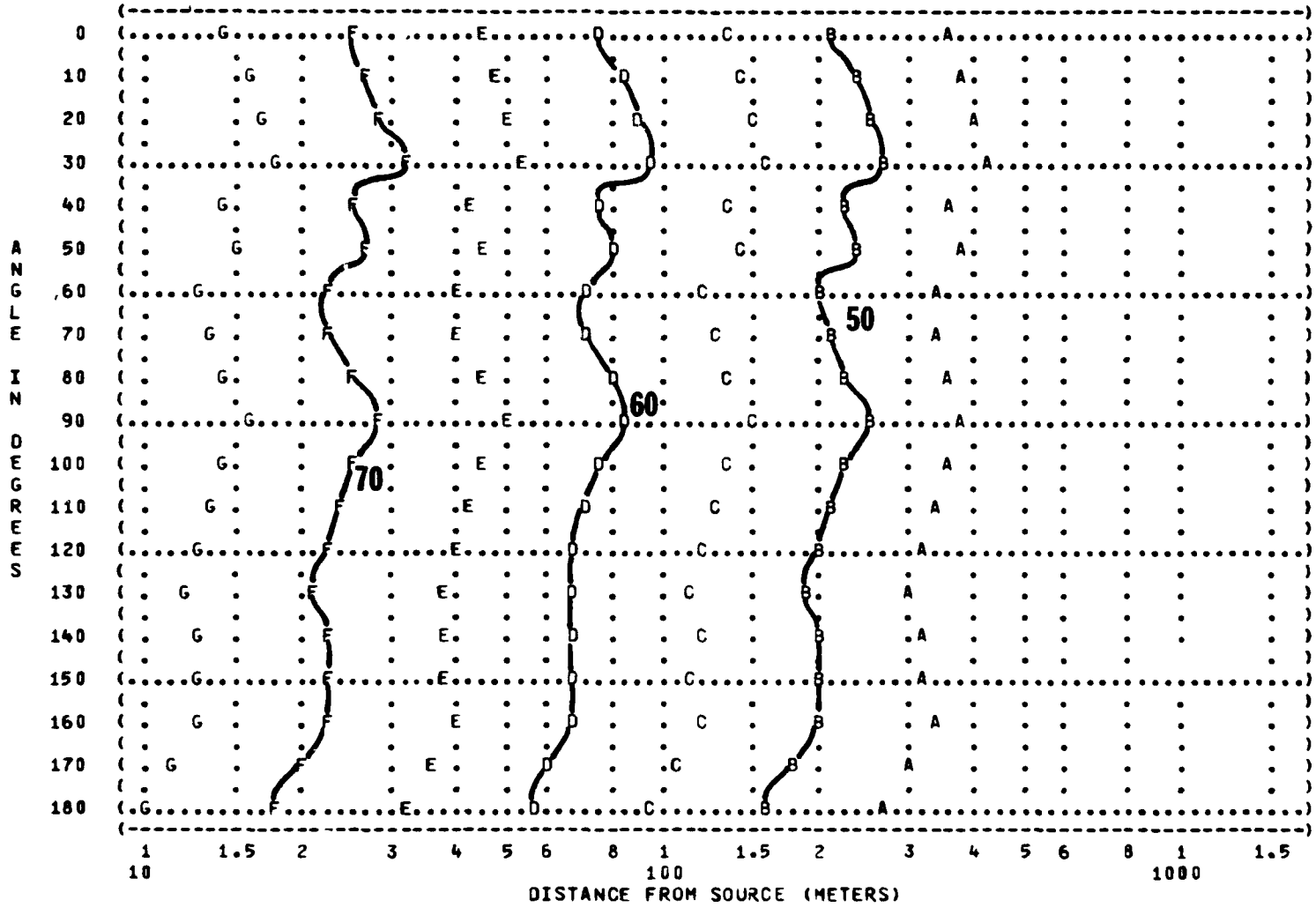
FIGURE 5 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 13

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

FIGURE: 5 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 13

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

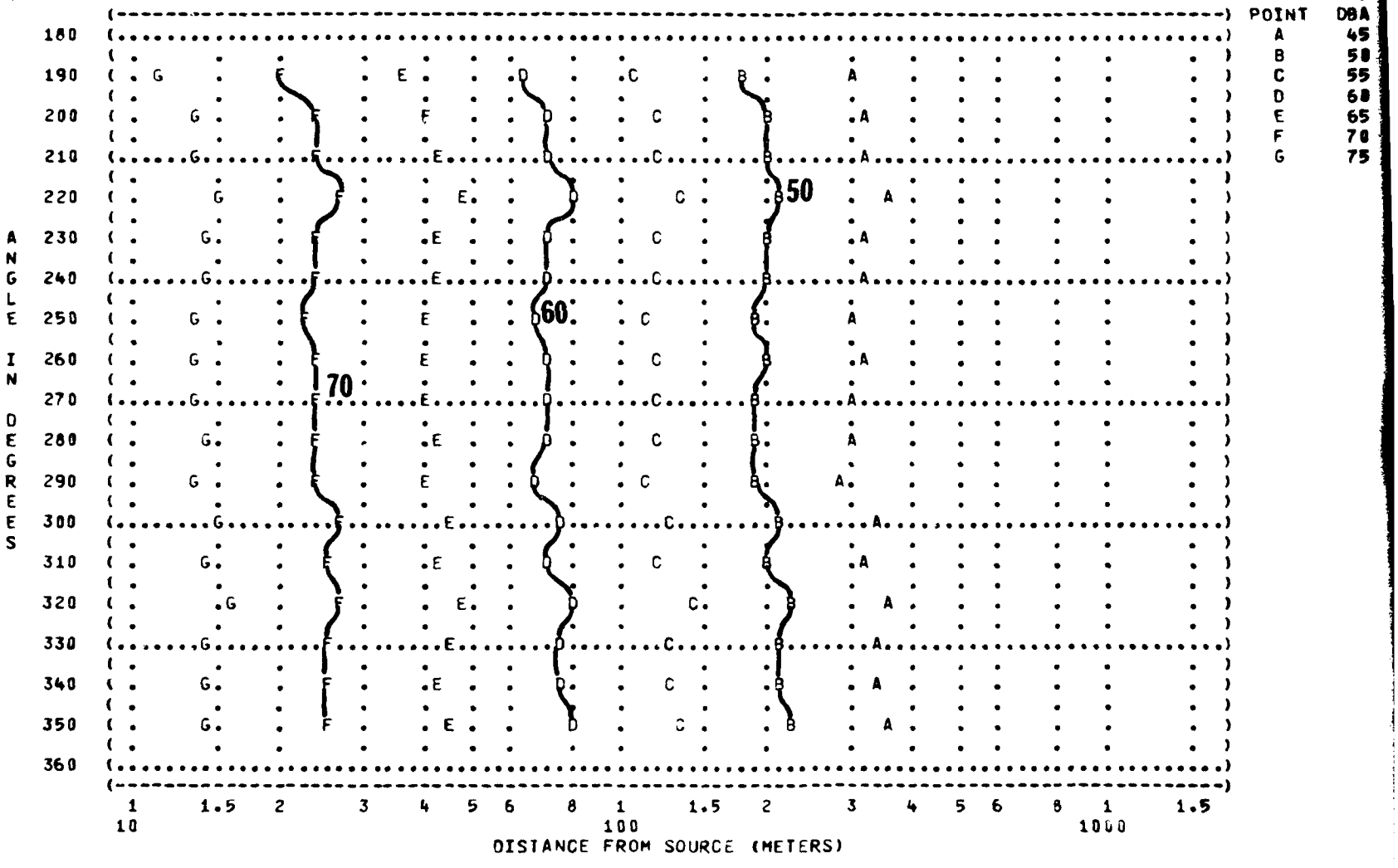


FIGURE: 6 PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 14

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

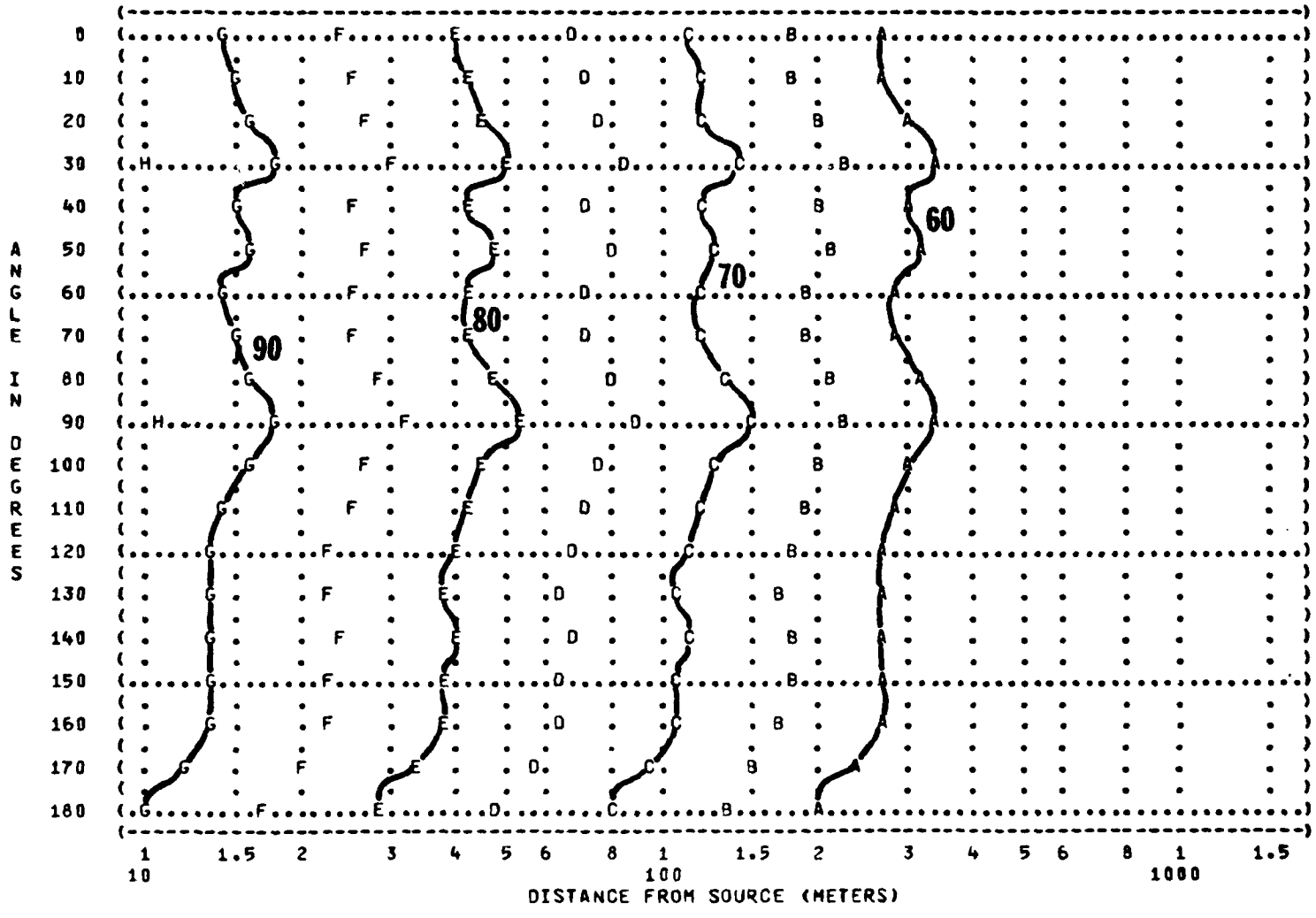


FIGURE 6: PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 8A-000-001
RUN 02
25 JAN 82
PAGE 14

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

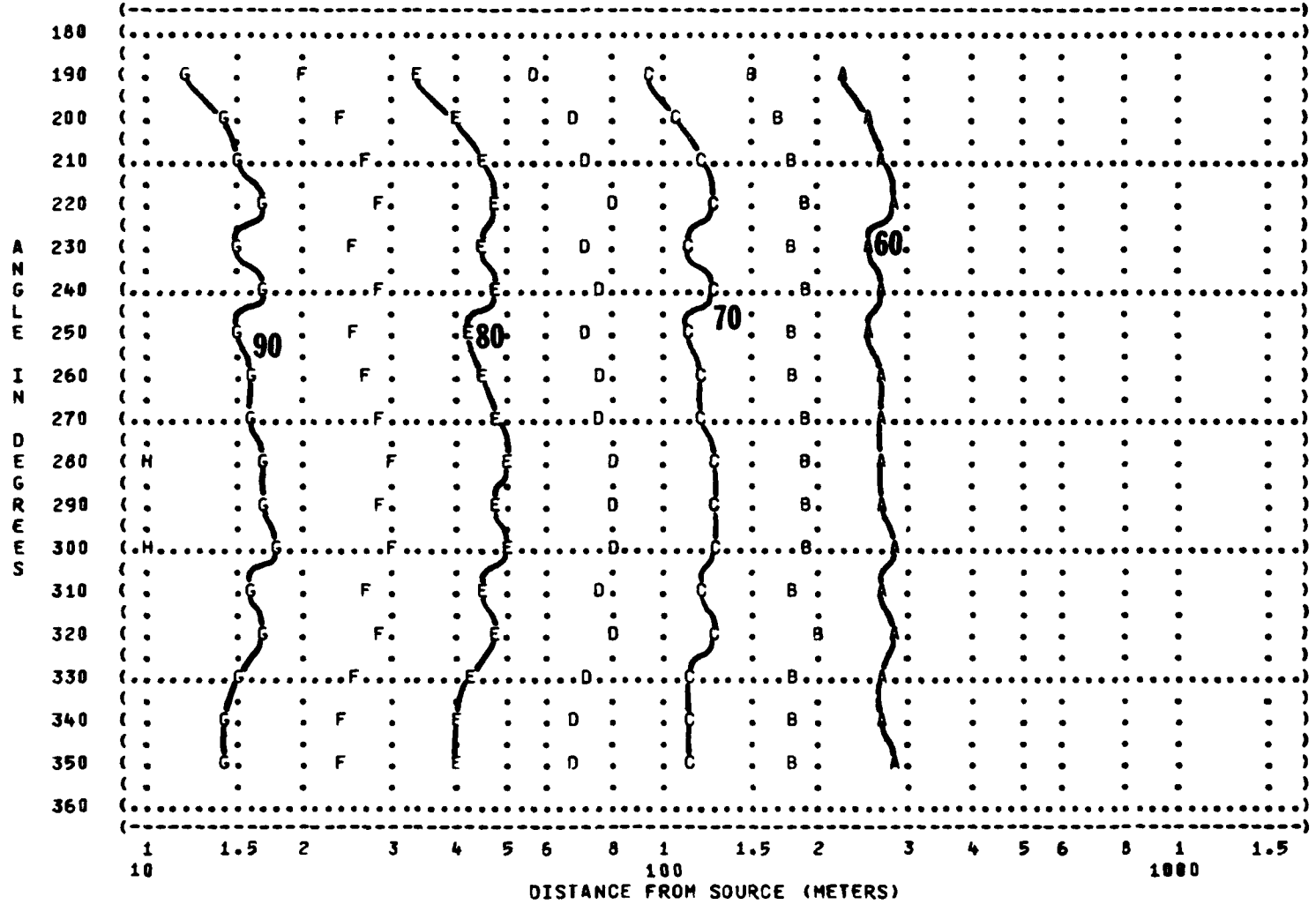


FIGURE 7 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST BA-80D-001
RUN 01
25 JAN 82
PAGE 15

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

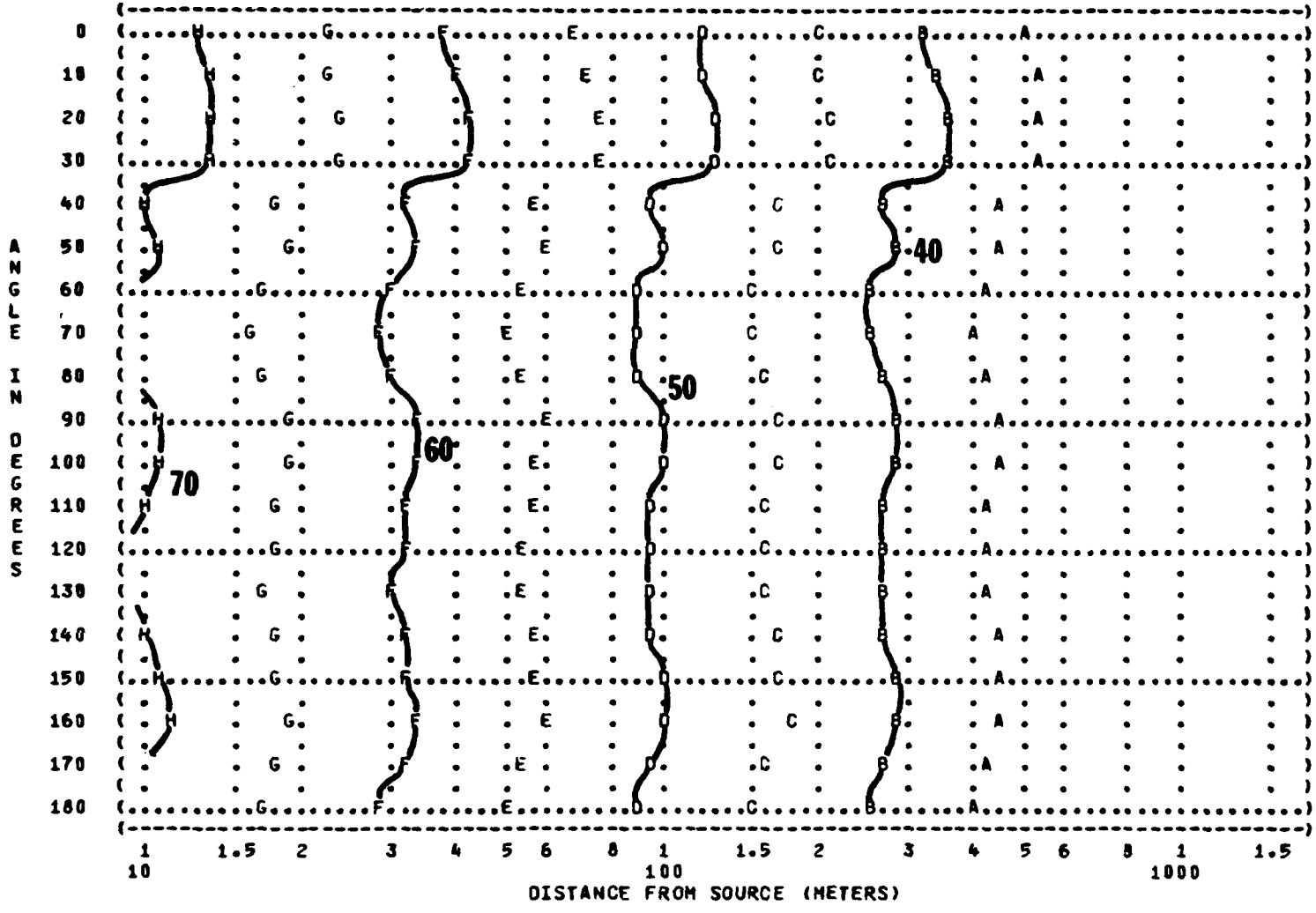


FIGURE 7 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 15

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

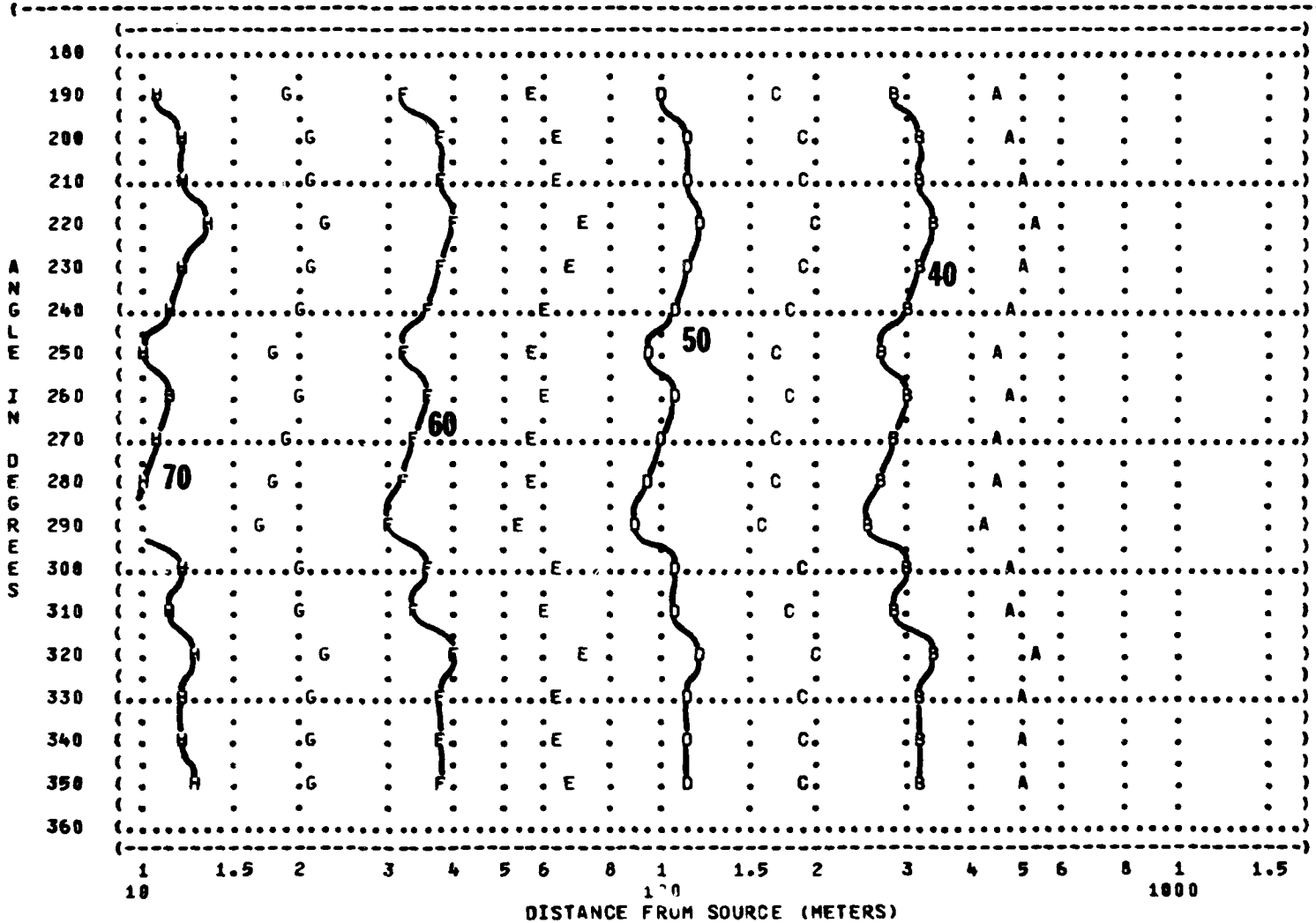


FIGURE 8 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST BA-080-001
RUN 01
25 JAN 82
PAGE 5

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

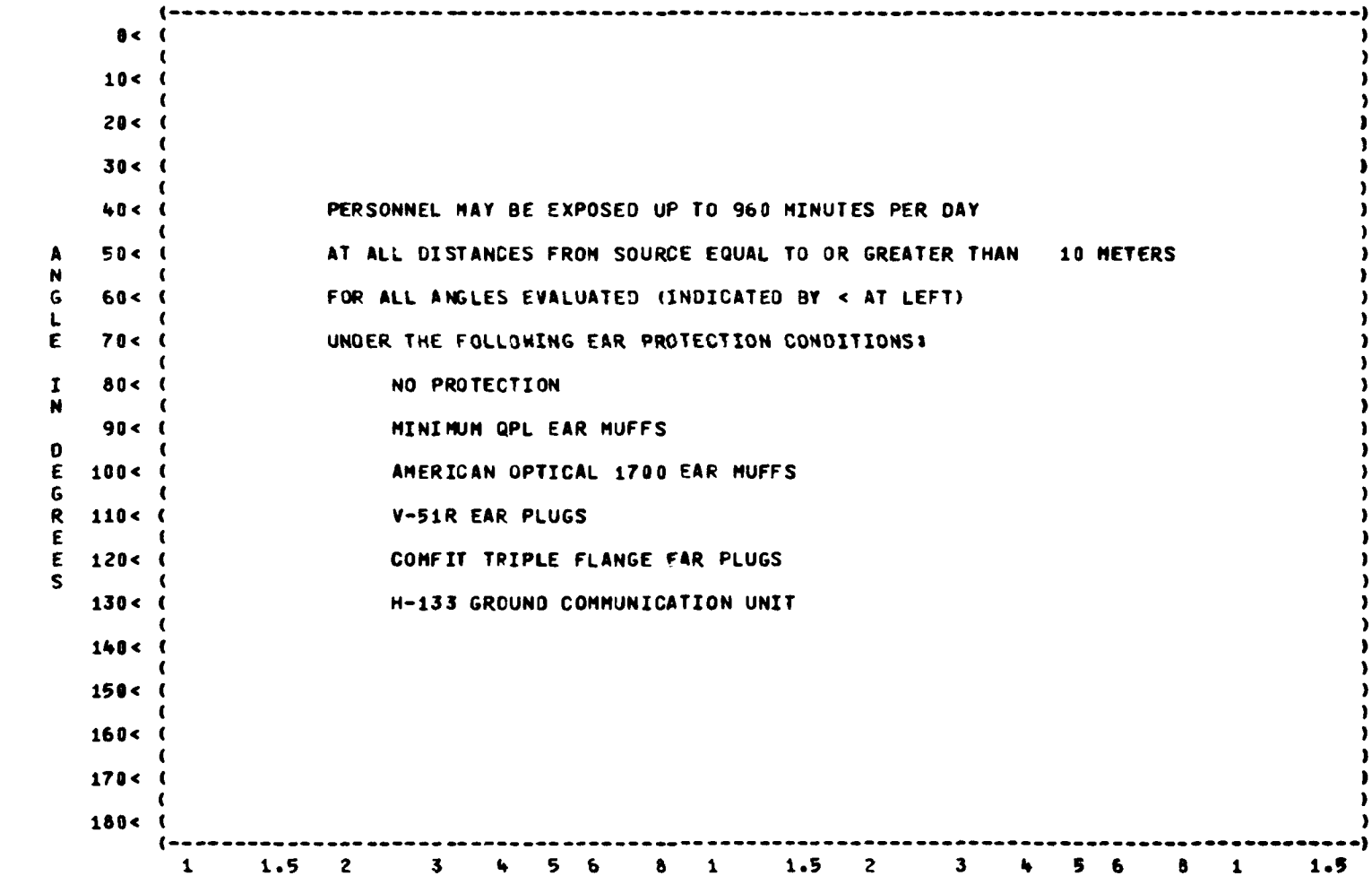


FIGURE 8	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)	IDENTIFICATION:
NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS	OPERATION: 2400 RPM	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %	OMEGA 1.4 TEST BA-000-001 RUN 02 25 JAN 82 PAGE 5

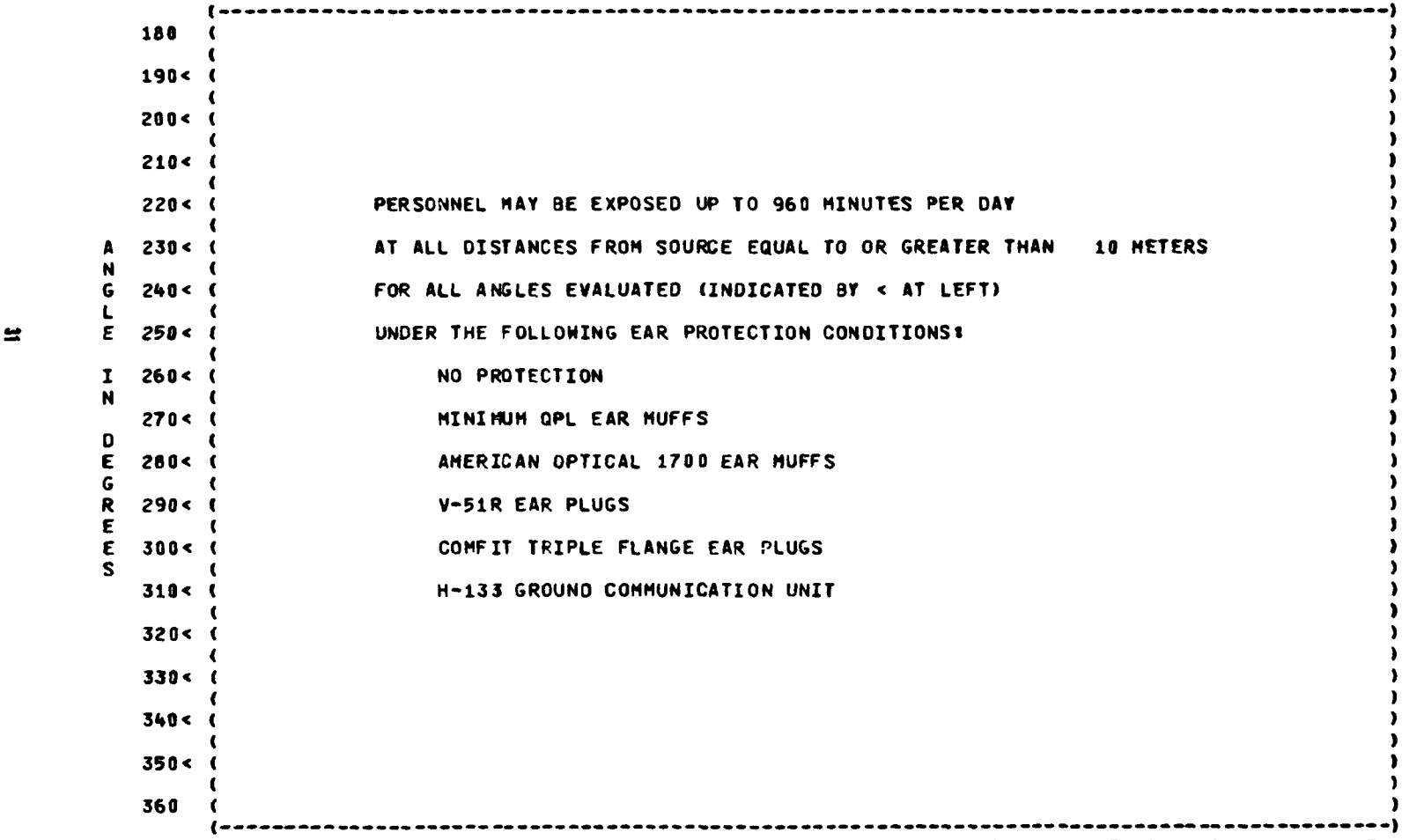


FIGURE: 9	SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND			IDENTIFICATION: OMEGA 1.4 TEST BA-008-001
NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS	OPERATION: 2400 RPM	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %		RUN 01 25 JAN 82 PAGE 16

NO CONTOUR DATA---EITHER NO INPUT DATA WERE COMPUTED (=9999.0)
OR MINIMUM CONTOUR LEVEL REQUESTED IS GREATER THAN MAXIMUM COMPUTED LEVEL.

FIGURE: 9 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND				IDENTIFICATION:
NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS	OPERATION: 2400 RPM	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %		OMEGA 1.4 TEST BA-000-001 RUN 02 25 JAN 82 PAGE 16

NO CONTOUR DATA---EITHER NO INPUT DATA WERE COMPUTED (=9999.0)
OR MINIMUM CONTOUR LEVEL REQUESTED IS GREATER THAN MAXIMUM COMPUTED LEVEL.

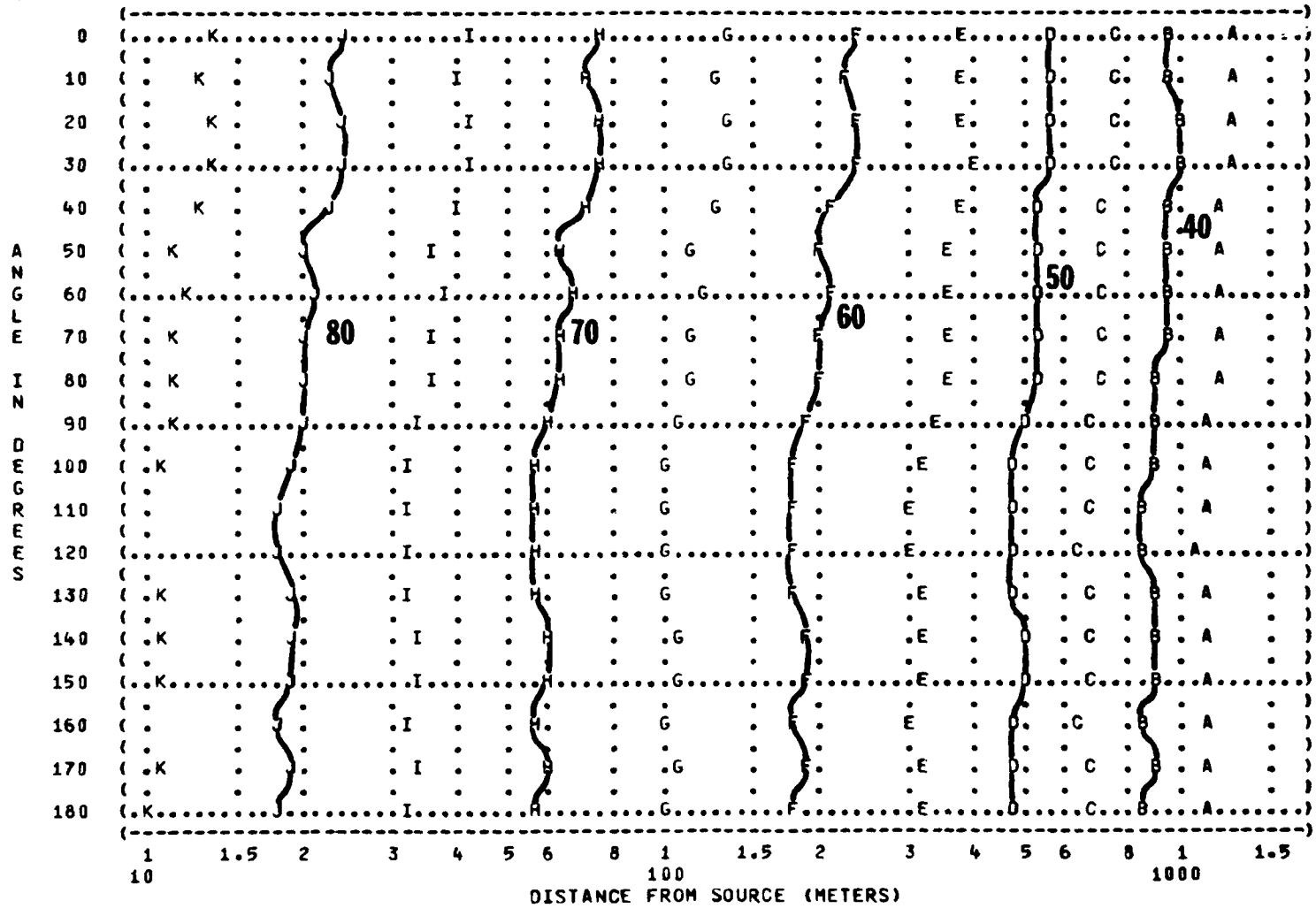
FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-008-001
RUN 01
25 JAN 82
PAGE 17



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

FIGURE 9 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST BA-008-081
RUN 02
25 JAN 82
PAGE 17

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

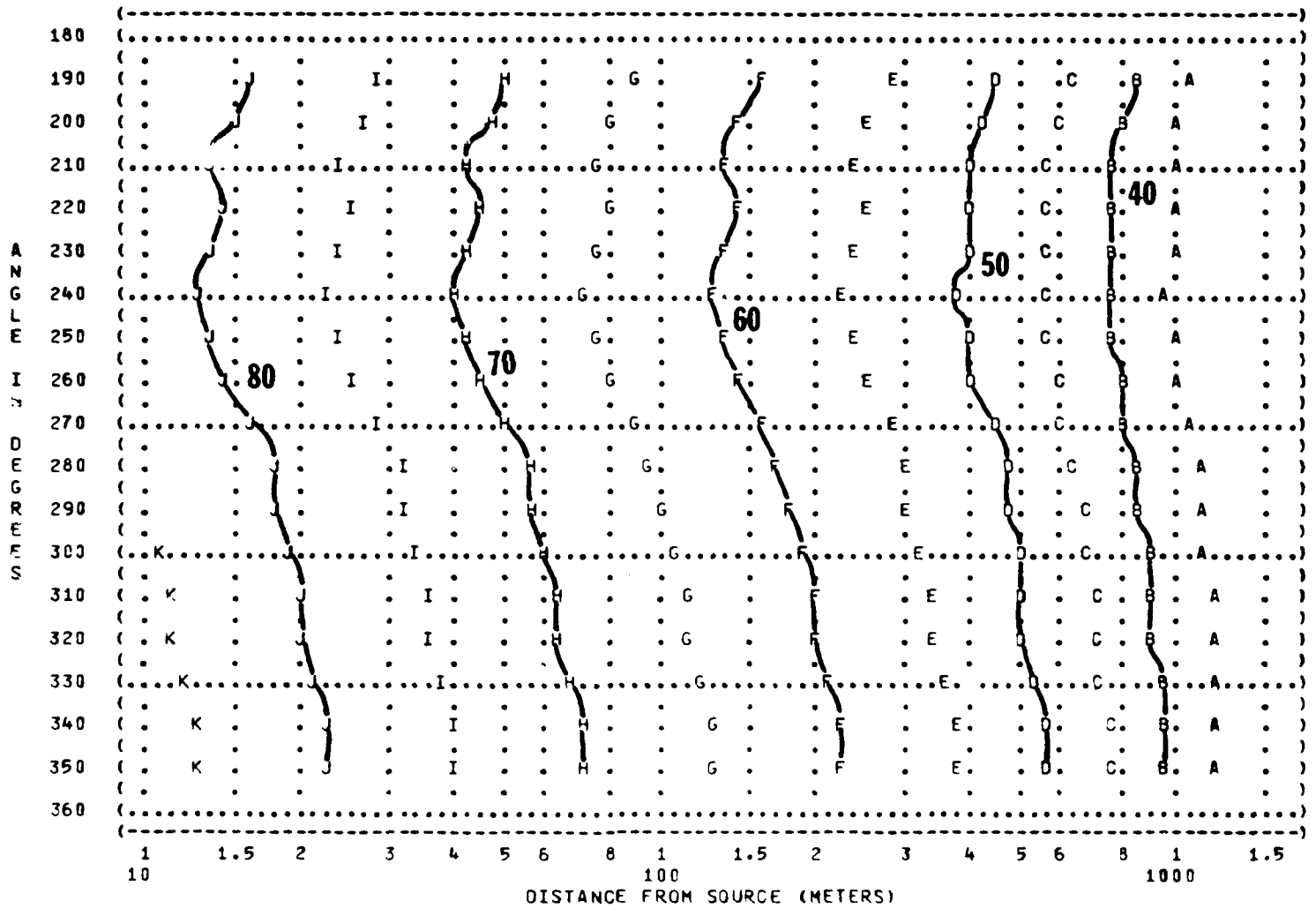


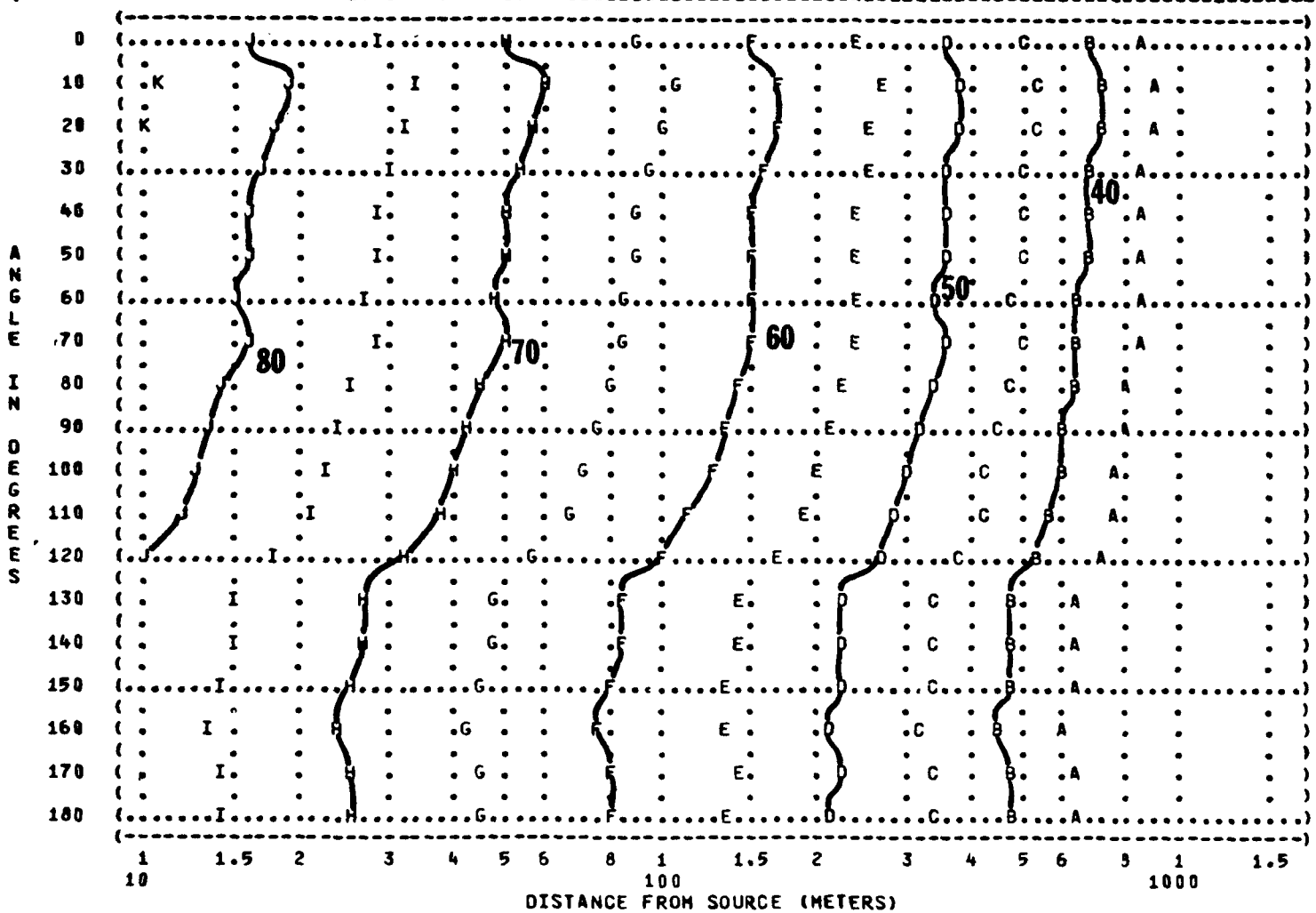
FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

IDENTIFICATION: OMEGA 1.4; TEST BA-080-001; RUN 01; 25 JAN 82; 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 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 18

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

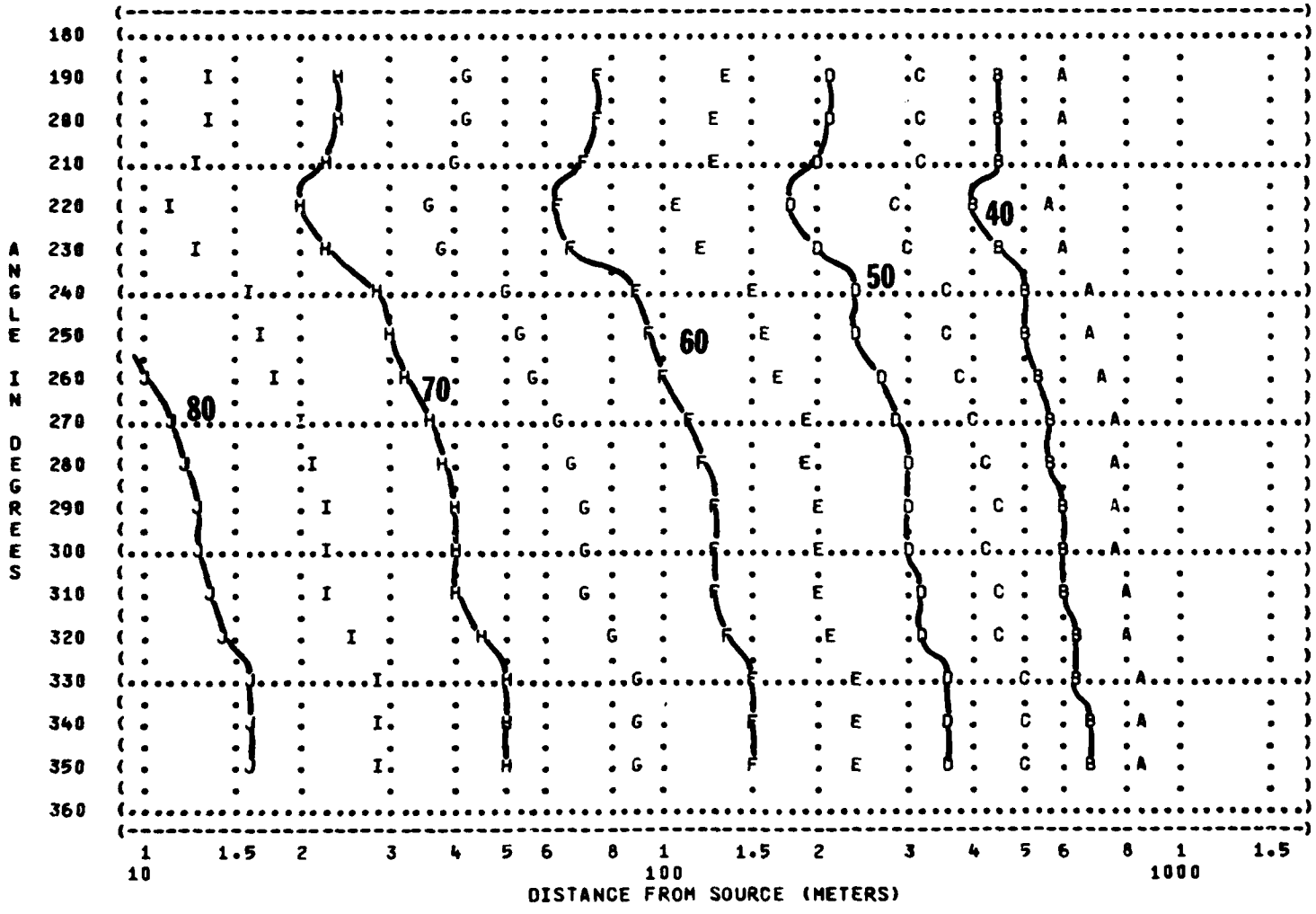


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

IDENTIFICATION: OMEGA 1.4; TEST BA-000-001; RUN 01; 25 JAN 82; PAGE 19

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

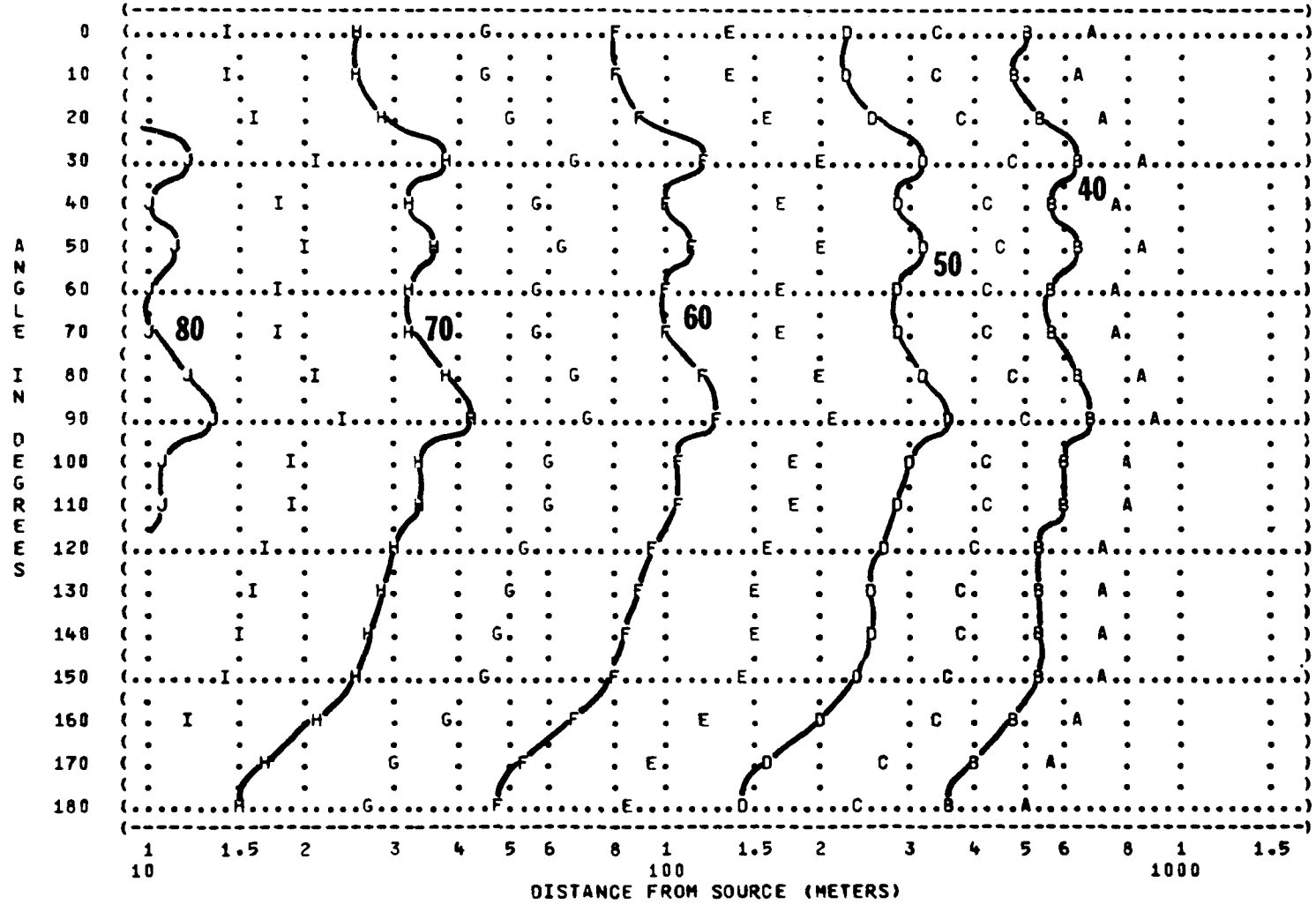


FIGURE 9 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST BA-080-001
RUN 02
25 JAN 82
PAGE 19

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

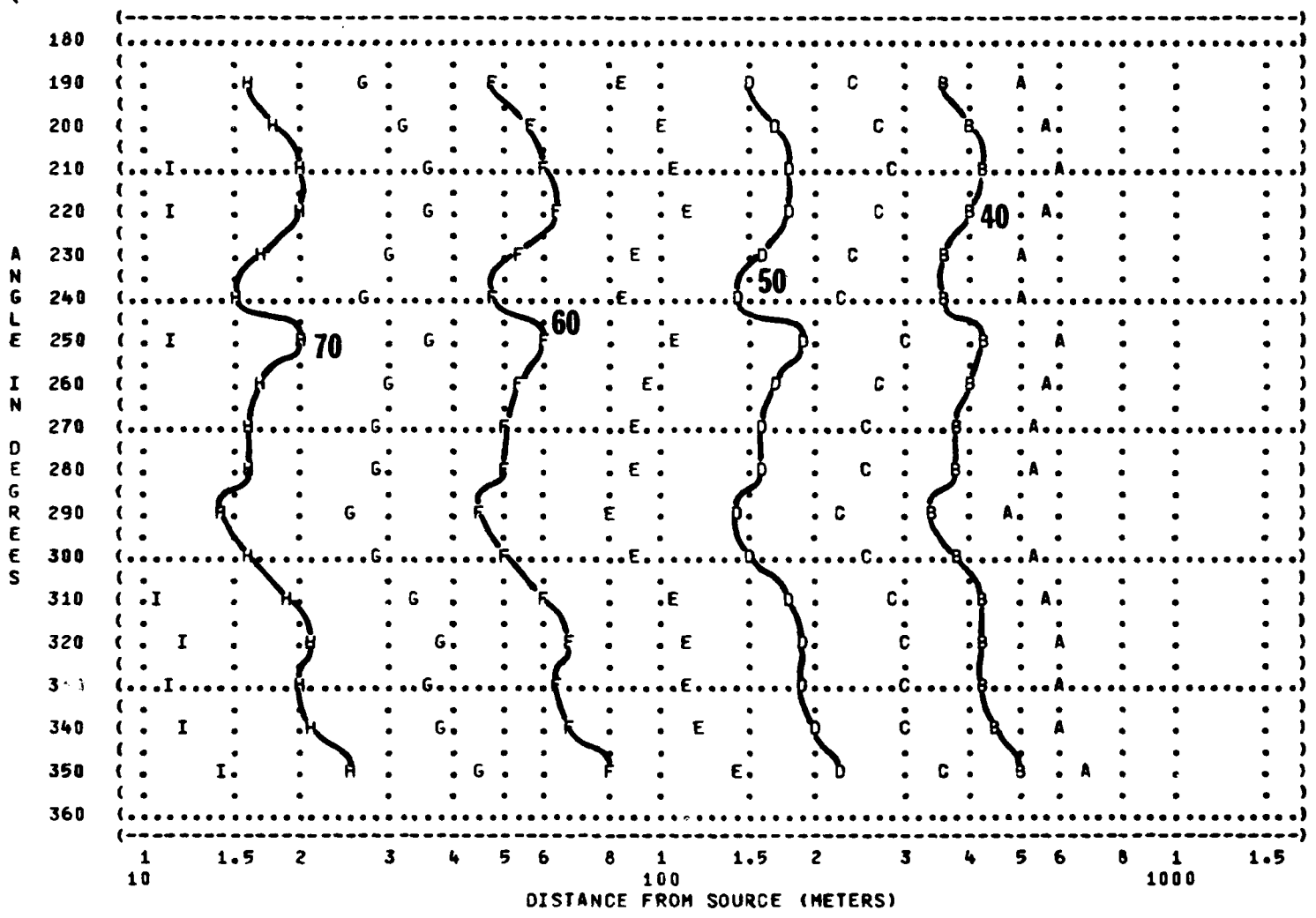


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 20

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

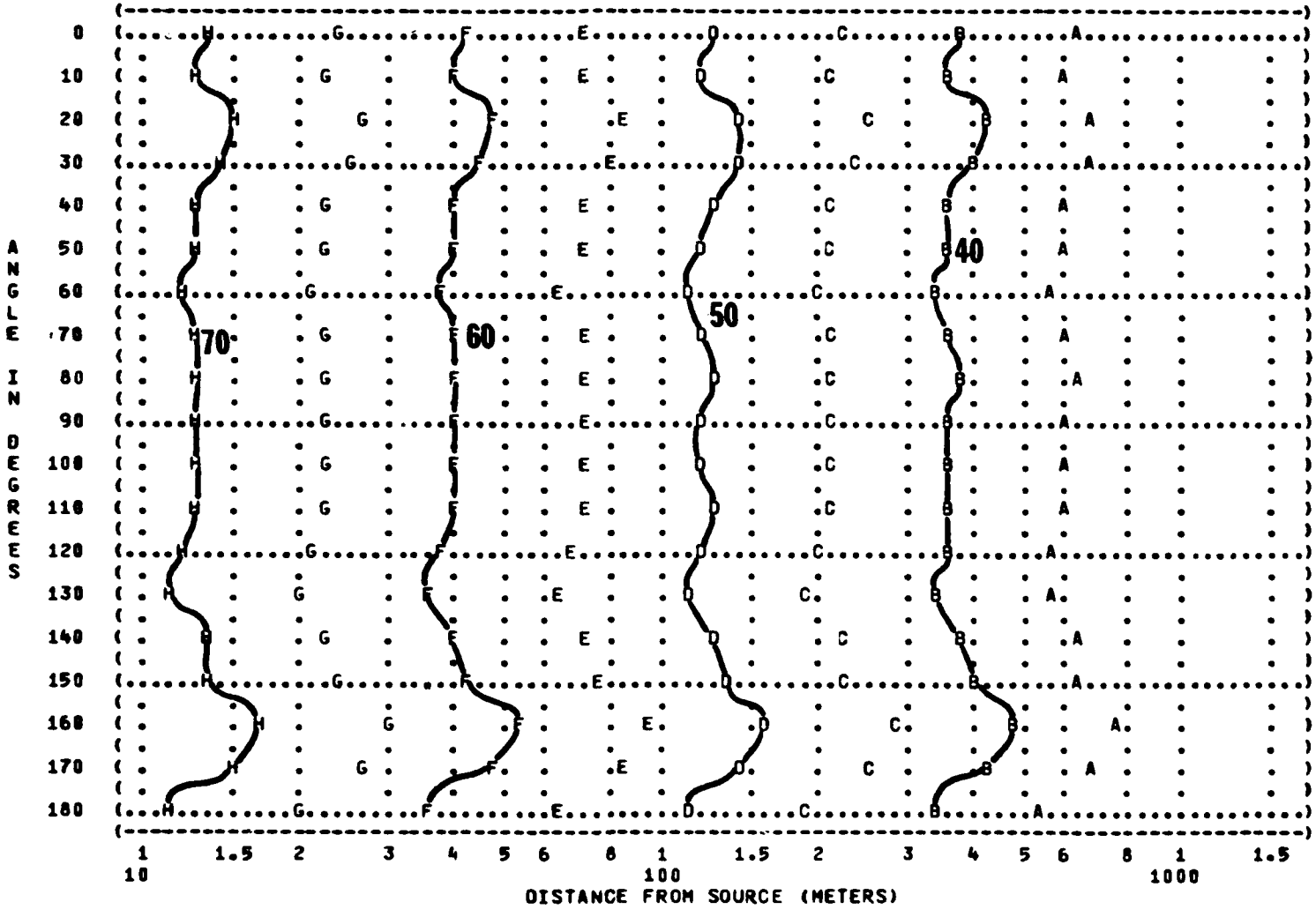


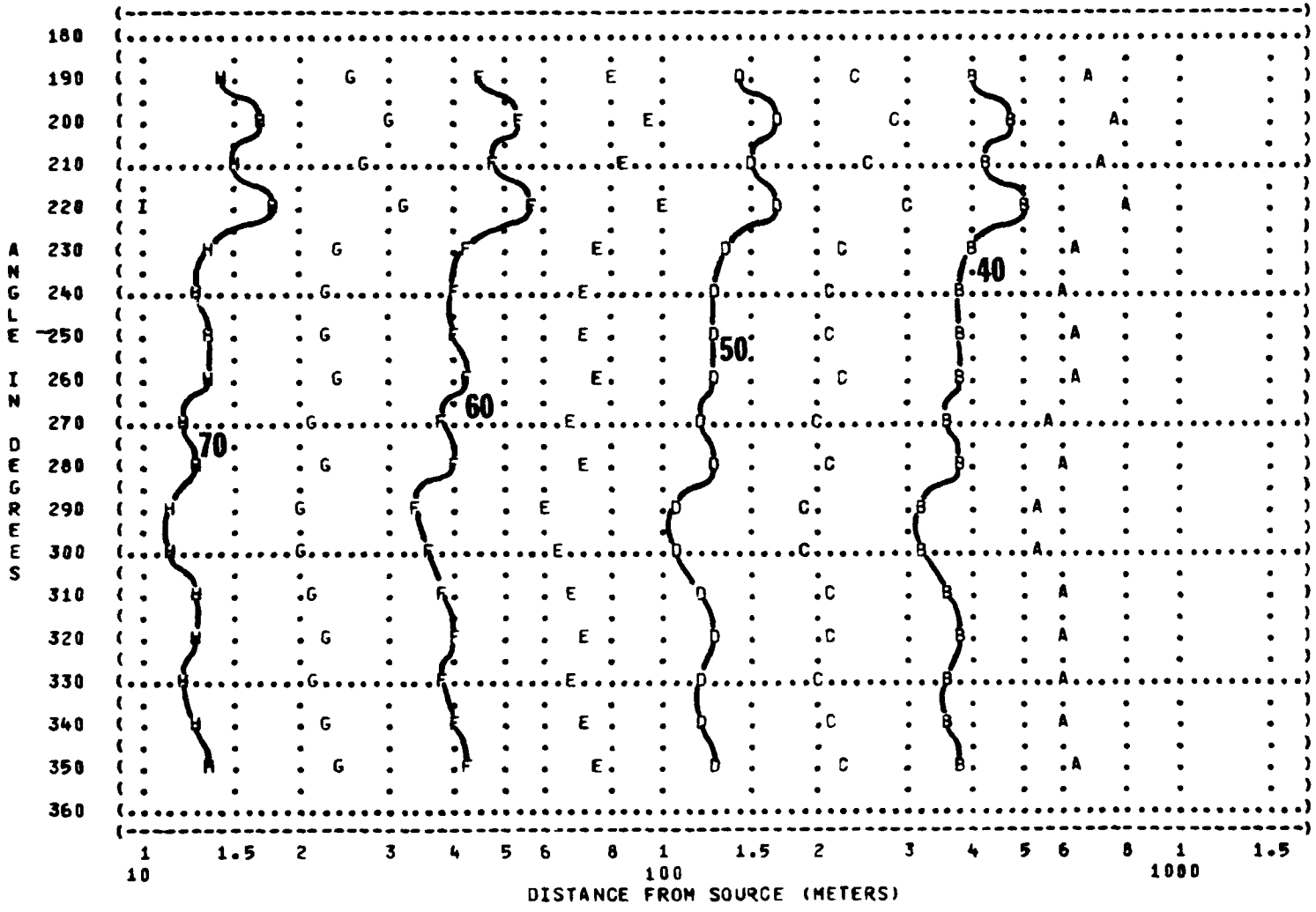
FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 20



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

FIGURE: 9

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (D3)
1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 21

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

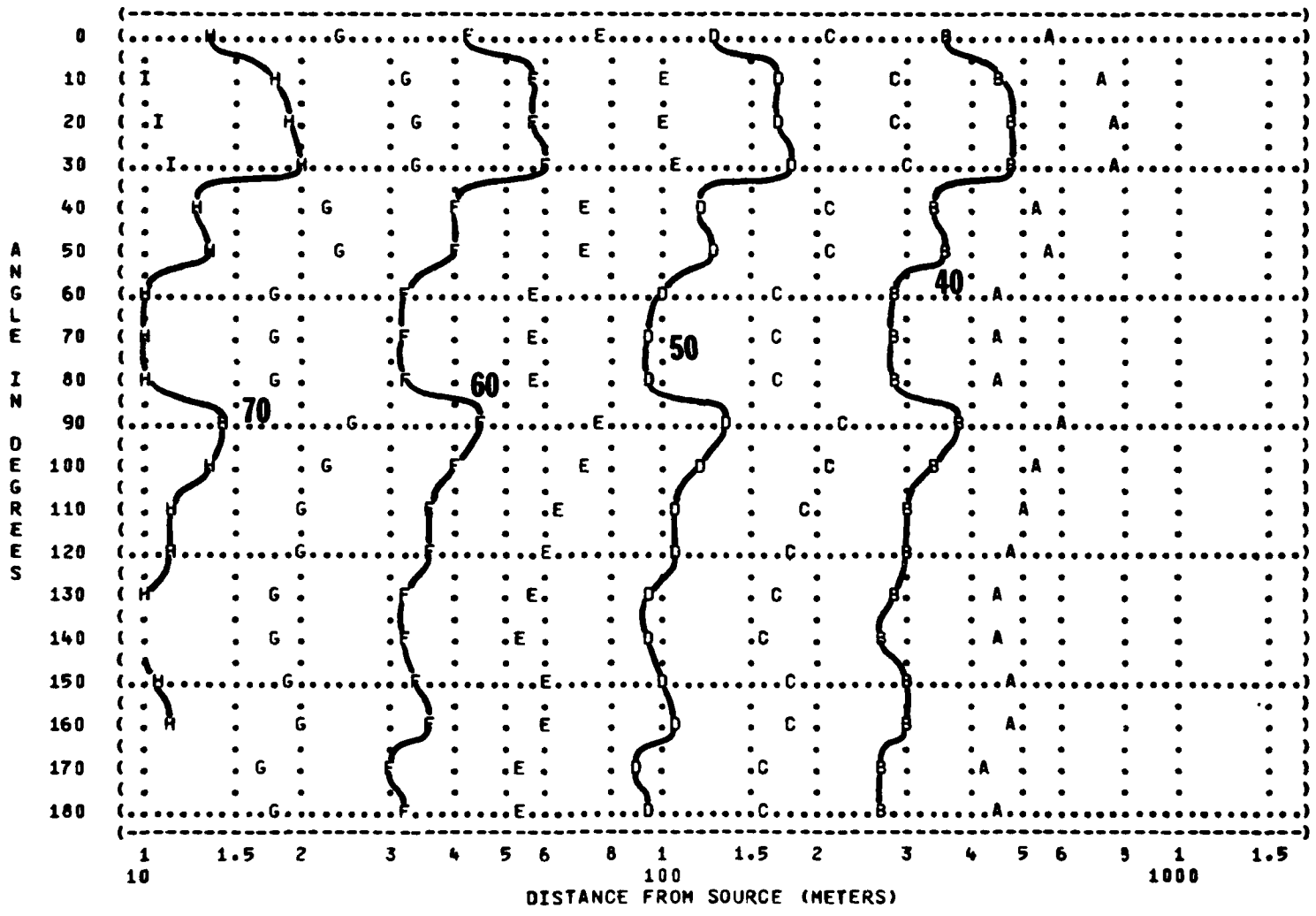


FIGURE 9 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
ONEGA 1.4
TEST BA-008-081
RUN 02
25 JAN 82
PAGE 21

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

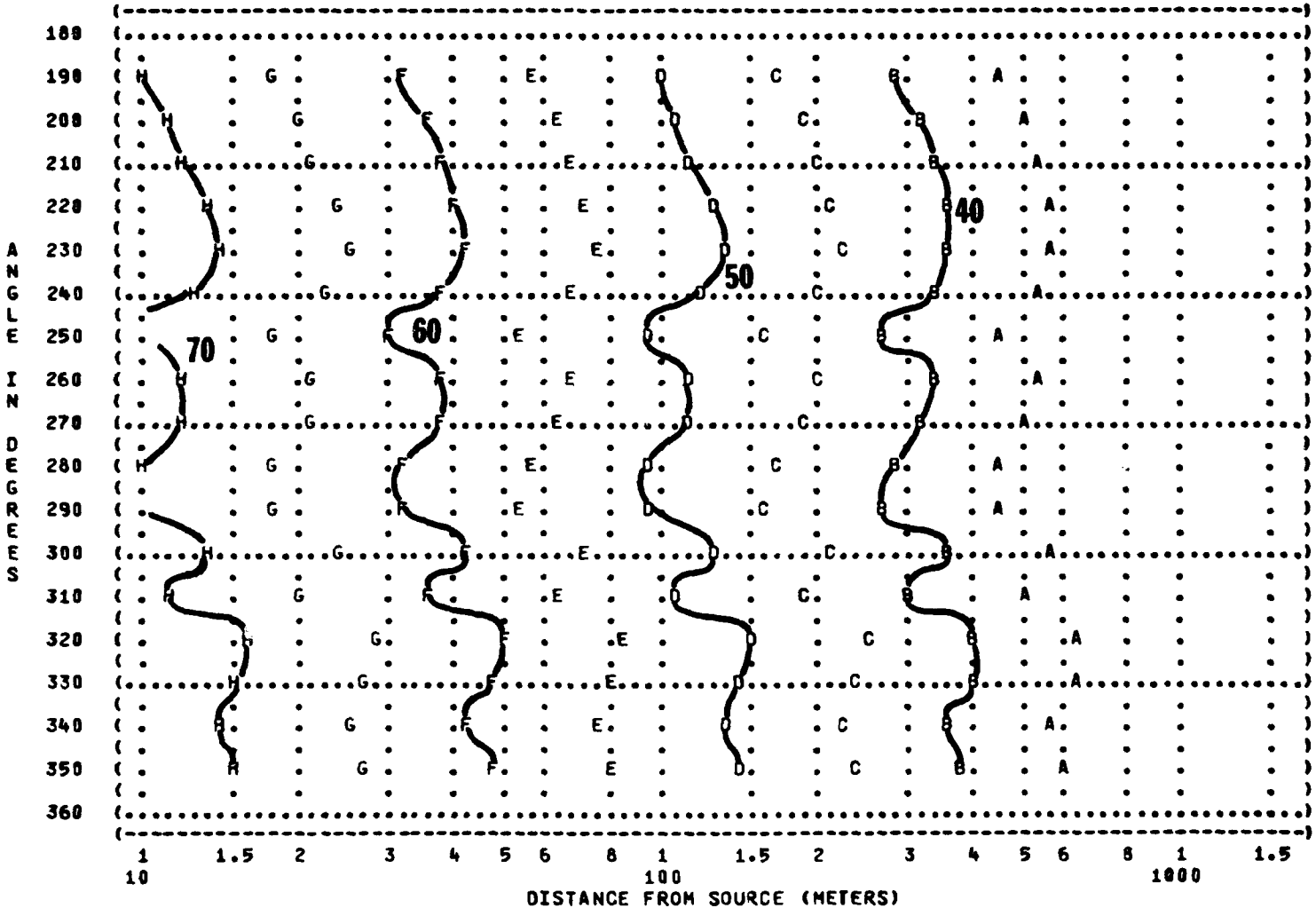


FIGURE: 9

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 01
25 JAN 82
PAGE 22

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

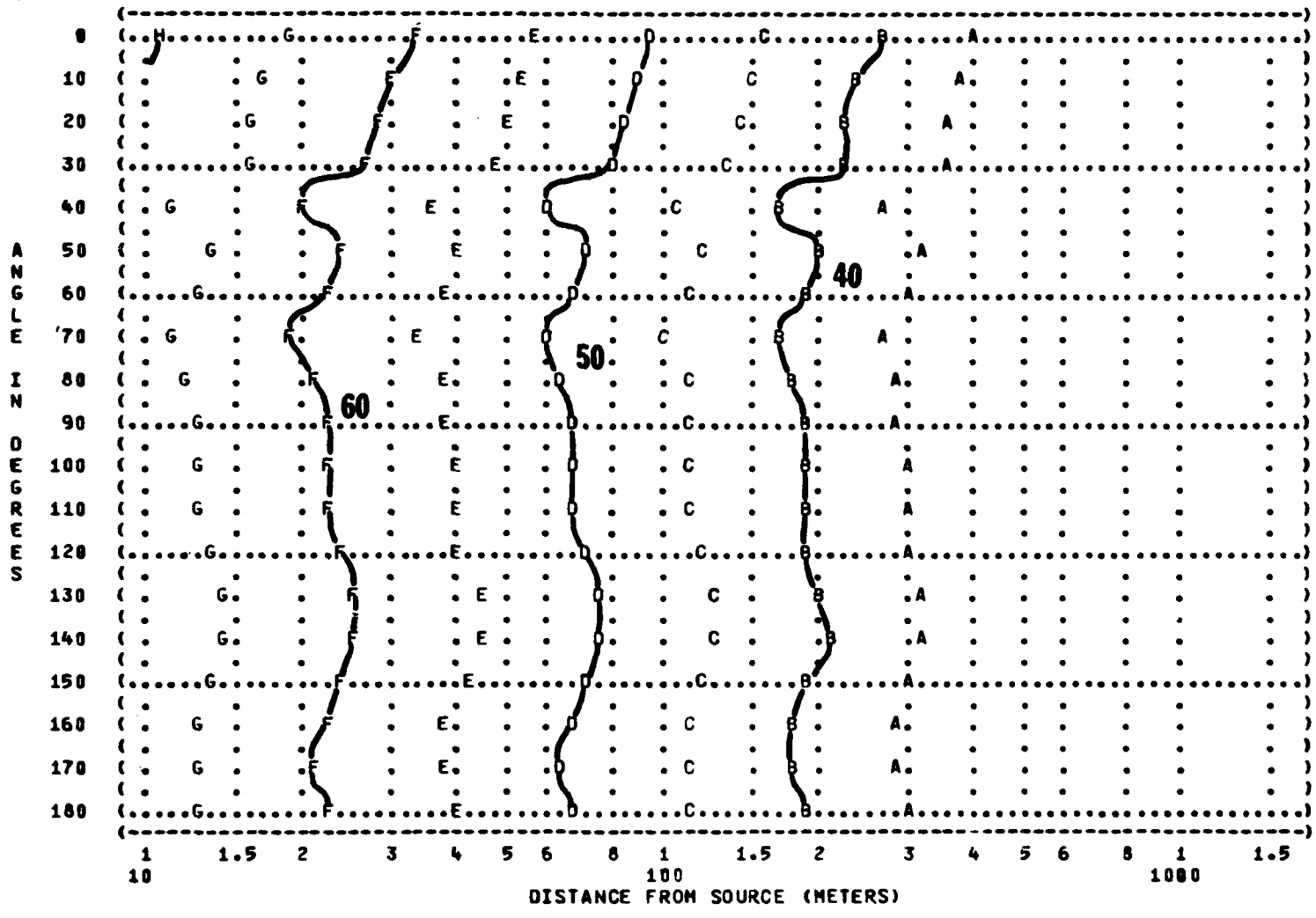


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
AF/M32T-1 TESTER,
PRESSURIZED CABIN
LEAKAGE, AIRCRAFT
FAR FIELD NOISE LEVELS

OPERATION:
2400 RPM

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

IDENTIFICATION:
OMEGA 1.4
TEST BA-000-001
RUN 02
25 JAN 82
PAGE 22

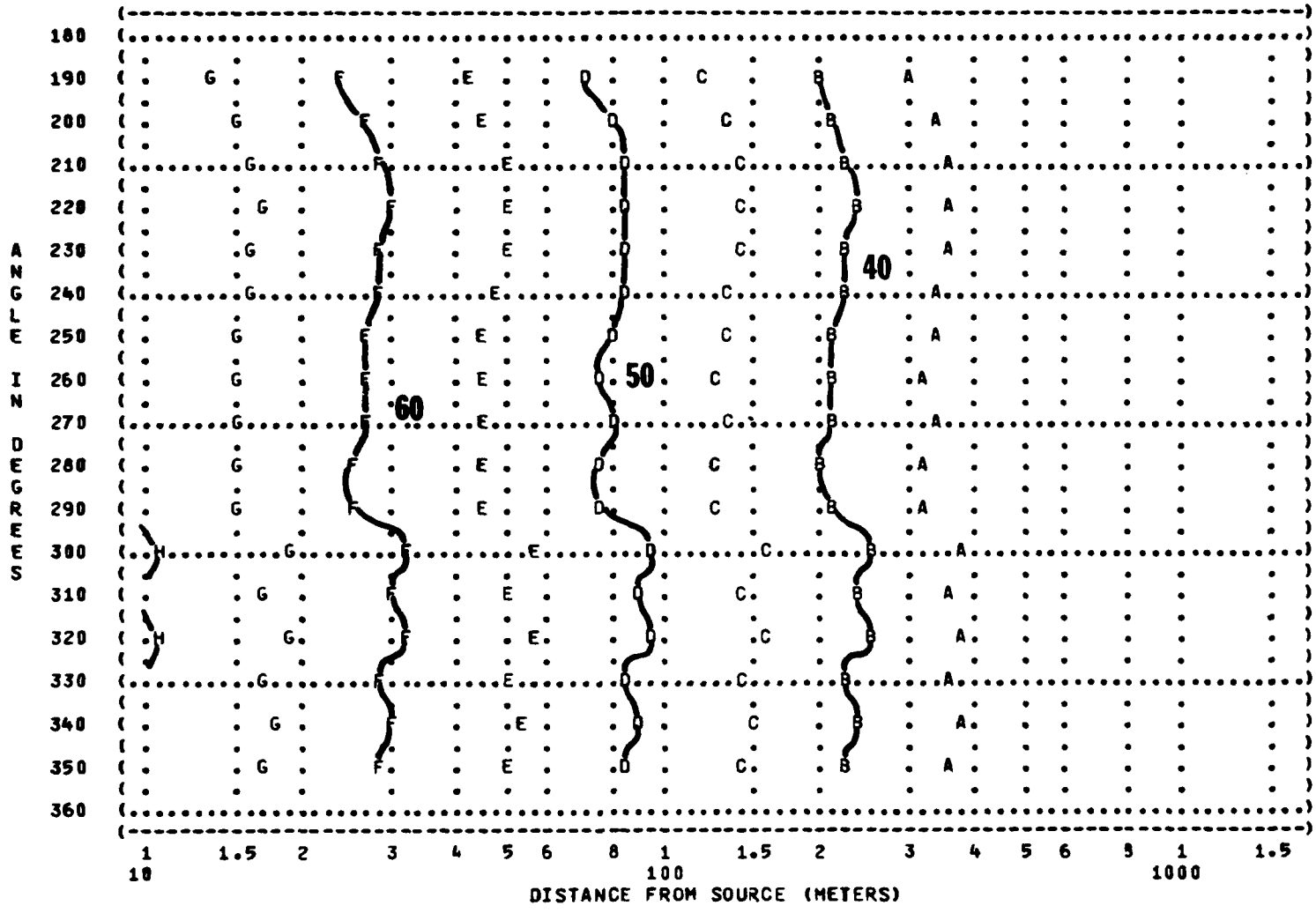


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST BA-000-001 RUN 01 25 JAN 82 PAGE 23

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

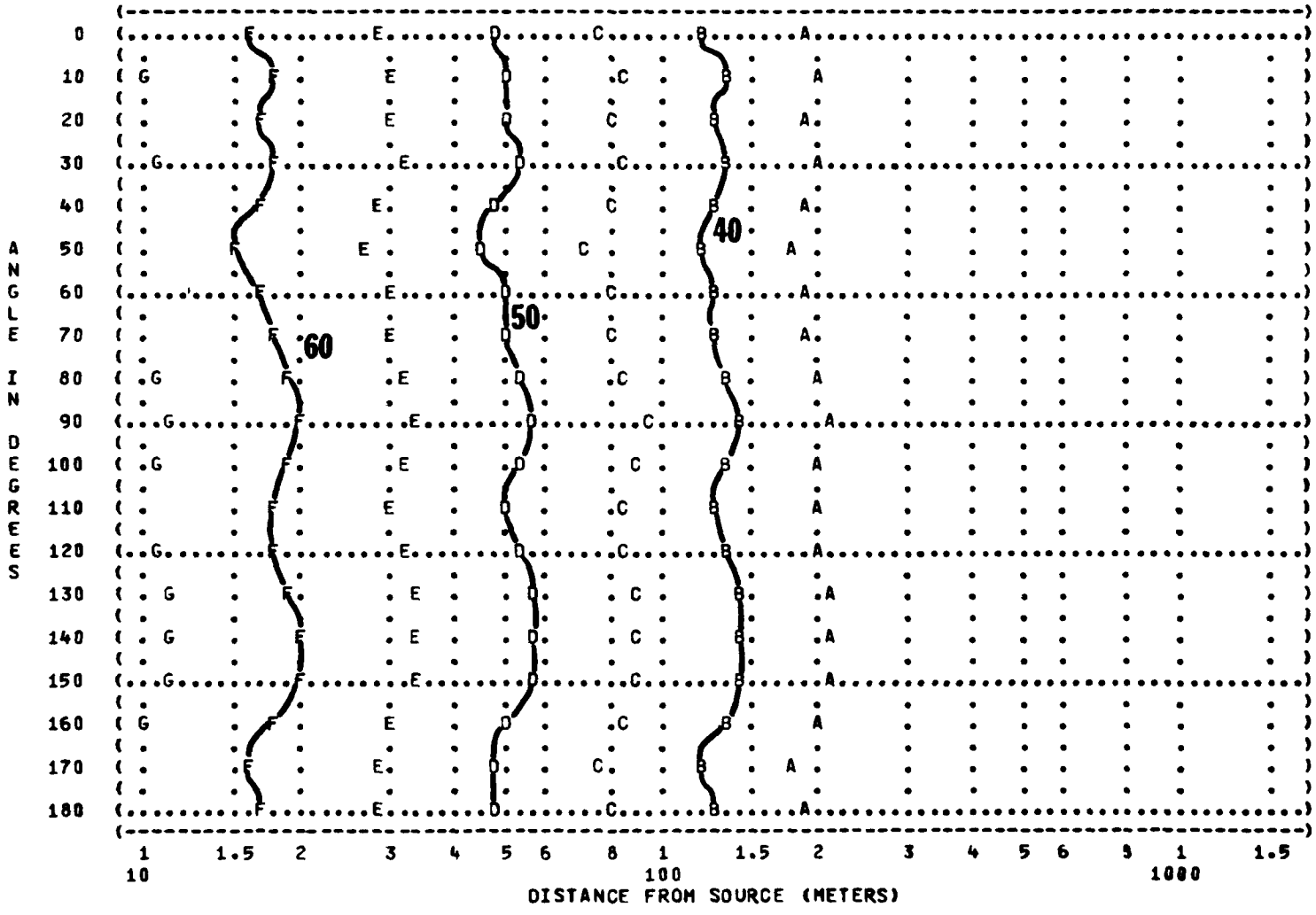


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

IDENTIFICATION: OMEGA 1.4; TEST BA-080-001; RUN 02; 25 JAN 82; PAGE 23

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

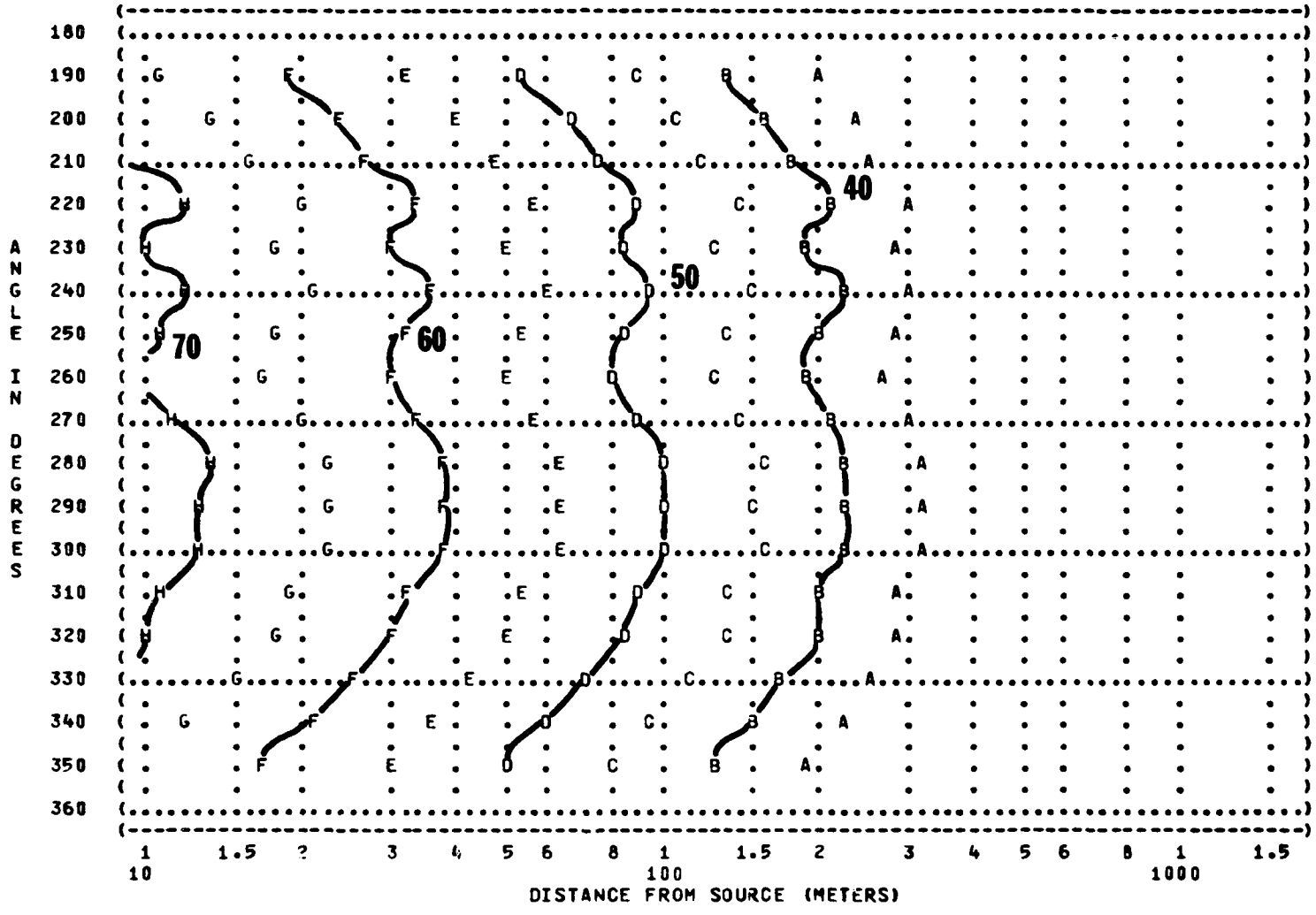


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 6000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

IDENTIFICATION: OMEGA 1.4; TEST BA-000-001; RUN 01; 25 JAN 82

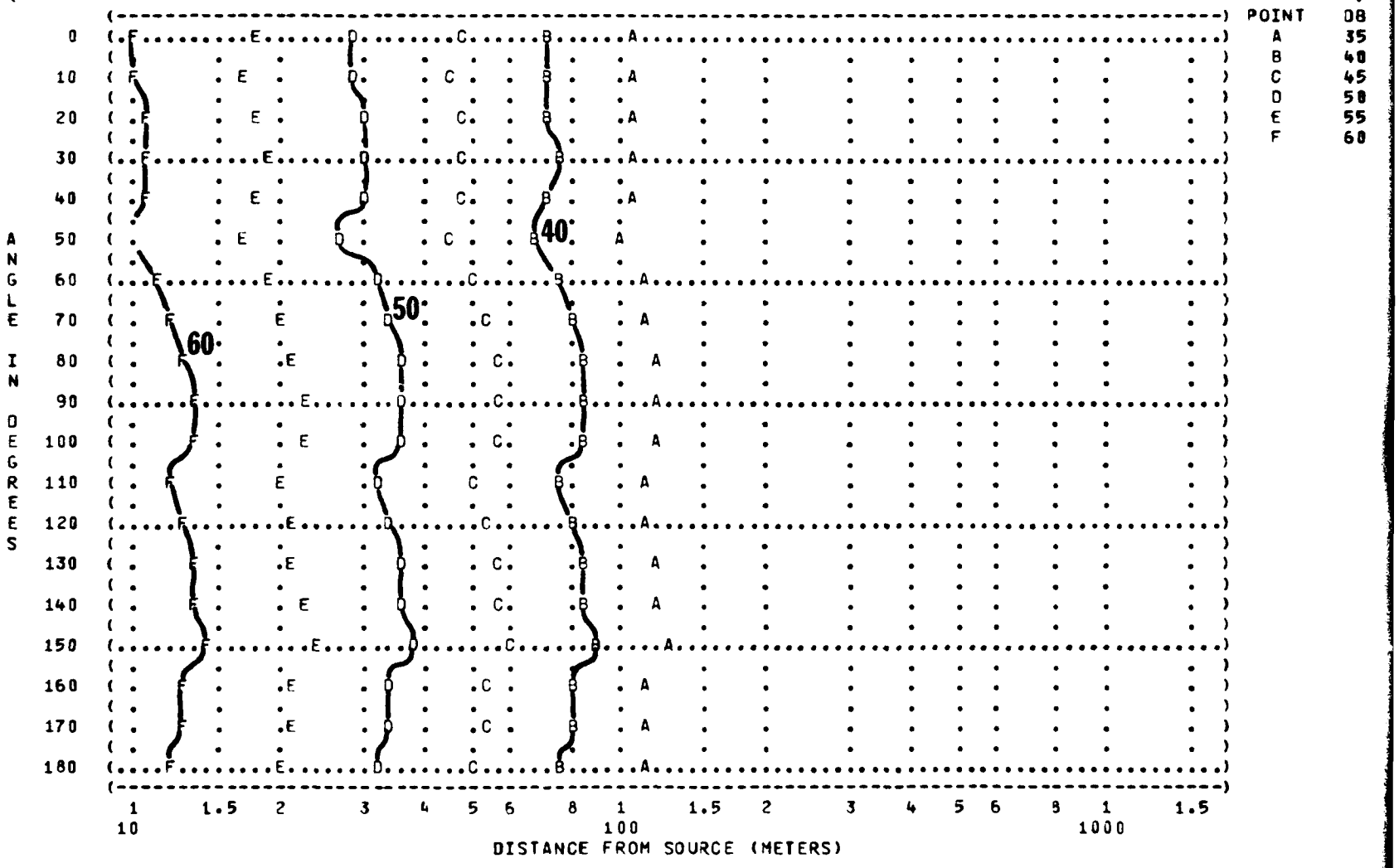


FIGURE 9: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

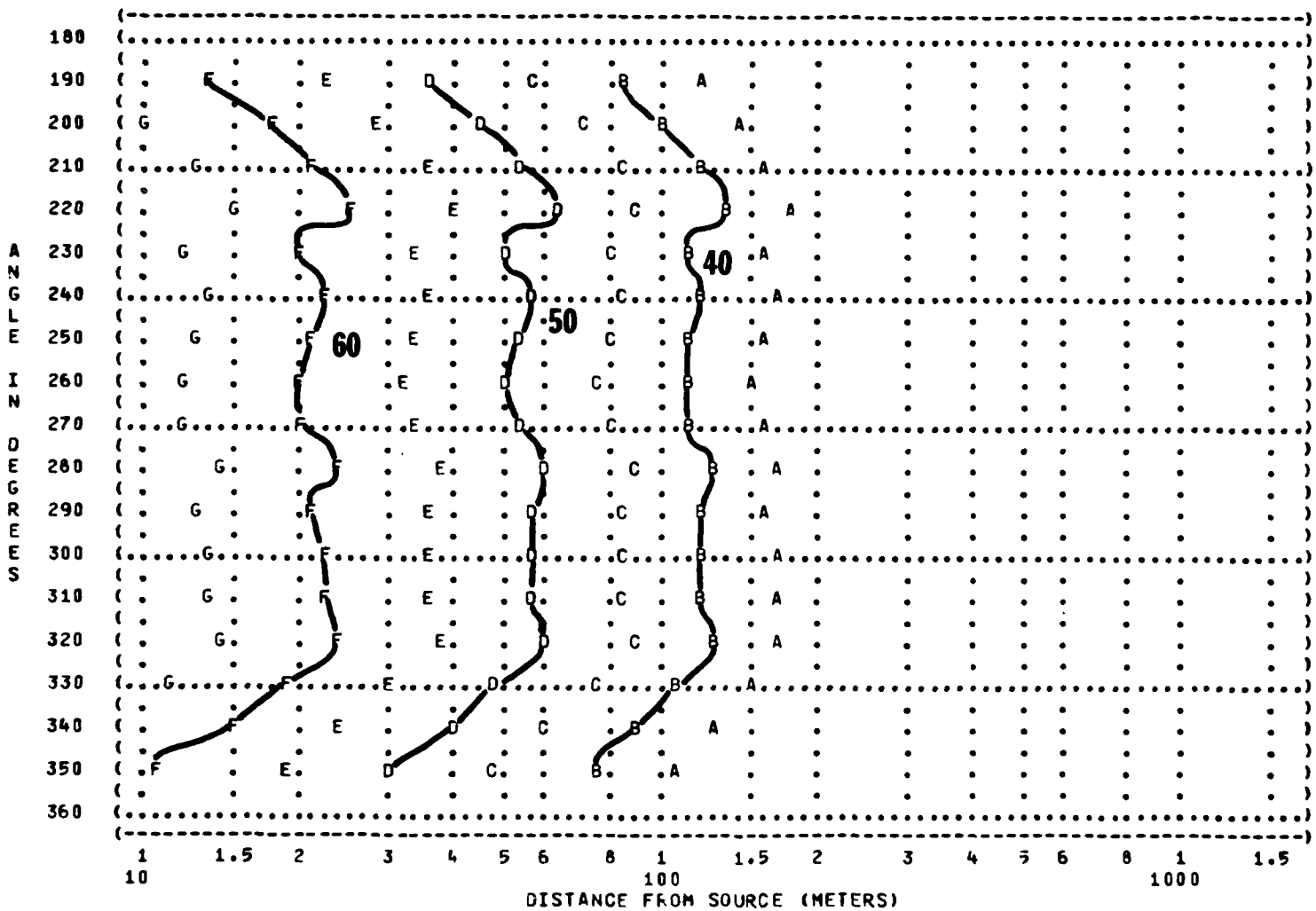
NOISE SOURCE/SUBJECT: AF/M32T-1 TESTER, PRESSURIZED CABIN LEAKAGE, AIRCRAFT FAR FIELD NOISE LEVELS

OPERATION: 2400 RPM

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

IDENTIFICATION: OMEGA 1.4; TEST BA-080-001; RUN 02; 25 JAN 82; PAGE 24

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

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