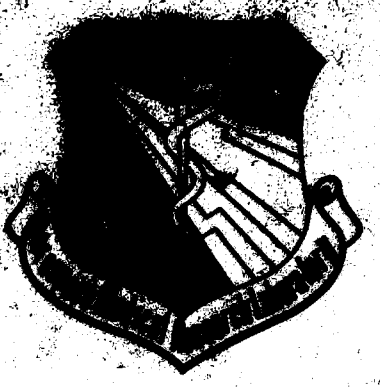
AD-A079 866 AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OH F/G 1/3
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK, VOLUME 120, C-5A AIR--ETC(U)
JUL 79 R G POWELL
UNCLASSIFIED AMRL-TR-75-50-VOL-120 NL

1 OF 2
AD A079866

LEVEL II

AMRL-TR-79-50
Volume 120



AD A079866

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK
Volume 120
C-5A Aircraft, Near and Far-Field Noise

JULY 1979

DDC
RECEIVED
JAN 28 1980
B

DDC FILE COPY

Approved for public release; distribution unlimited.

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

80 1 25 007

NOTICE

When US Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Please do not request copies of this report from Aerospace Medical Research Laboratory. Additional copies may be purchased from:

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161

Federal Government agencies and their contractors registered with Defense Documentation Center should direct requests for copies of this report to:

Defense Documentation Center
Cameron Station
Alexandria, Virginia 22314

TECHNICAL REVIEW AND APPROVAL

This report has been reviewed by the Information Office (OI) 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

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

AIR FORCE/56780/21 December 1979 — 300

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: AMRL-TR-75-50 Vol 120	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER: Technical Report
4. TITLE (and Subtitle): USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK C-5A Aircraft, Near and Far-Field Noise	5. TYPE OF REPORT & PERIOD COVERED: Volume 120 of a series
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Robert G. Powell	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Aerospace Medical Research Laboratory, Aerospace Medical Division, Air Force Systems Command, Wright-Patterson AFB OH 45433	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: 62202F 7231 07 03, 7231 08 07
11. CONTROLLING OFFICE NAME AND ADDRESS: Same as above	12. REPORT DATE: July 1979
	13. NUMBER OF PAGES: 143
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)* 12 143	15. SECURITY CLASS. *(of this report)*: Unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

DDC RECEIVED JAN 28 1980 B

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Noise
Noise Environments
Bioenvironmental Noise
C-5A Aircraft

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

The USAF C-5A is a global, strategic airlift aircraft powered by four TF39-GE-1 turbofan engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for five engine/power configurations. Near-field data are reported for forty-five locations in a wide variety of physical and psychoacoustic measures: overall and band sound levels, preferred speech

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

ØØ9 85Ø

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

PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Access Environmental Quality of Noise From AF Operations and Project/Task 723108, Crew Safety in Operational Noise Environments.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Harald Hille for his assistance in acquiring the raw data, Mr. Henry Mohlman, Mr. Keith Kettler and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing and Mrs. Peggy Massie for assistance in typing and preparation of the graphics.

ACCESSION for
NTIS White Section
DDC Buff Section
UNANNOUNCED
JUSTIFICATION
BY
DISTRIBUTION/AVAILABILITY CODES
Dist. AVAIL. and/or SPECIAL
A

Table of Contents

List of Tables

List of Figures

INTRODUCTION

The USAF C-5A is a global, strategic airlift aircraft powered by four TF39-GE-1 turbofan engines. The aircraft was manufactured by the Lockheed Aircraft Corporation and the engines by the General Electric Company.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the C-5A aircraft.

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

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

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

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.

---

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

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

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the C-5A aircraft during ground runup operations of its turbofan engines. For these tests, the aircraft was located on concrete parking aprons at Wright-Patterson AFB, Altus AFB and Edwards AFB with no significant reflecting surface in the vicinity except the ground plane. Table 1 lists the ground crew locations and gives the engine power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

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

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

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

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the C-5A aircraft at the forty-five ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

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

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS FOR NEAR-FIELD NOISE MEASUREMENTS

C-5A Aircraft, Ground Runup
Edwards AFB, 6 September 1969, Tail #690002
Wright-Patterson AFB, 27 April 1970, Tail #690005
Altus AFB, 14 June 1978, Tail #690025

Ground Crew Location

1	Engine #1 Start
2	Engine #2 Start
3	Engine #2 and 4 Start
4	Scanner Area
5	NLG, Wheel Well, Forward Part
6	NLG, Wheel Well, Aft Part
7	Chock Removal, Forward MLG, Forward Tires
8	Chock Removal, Forward MLG, Aft Tires
9	Chock Removal, Aft MLG, Forward Tires
10	Chock Removal, Aft MLG, Aft Tires
11	Wing Walker
12	Engine Trim
13	APU Troubleshoot
14	APU Leak Test
15	Marshal/Telephone Talker
16	PTU Leak Test
17	SPR Refueling Receptacles
18	Hydraulic Leak Test, Forward MLG Pod, Forward End
19	Hydraulic Leak Test, Forward MLG Pod, Aft End
20	Hydraulic Leak Test, Aft MLG Pod, Forward End
21	Hydraulic Leak Test, Aft MLG Pod, Aft End
22	Ladder
23	Engine Observation
24	Hydraulic Leak Check
25	APU/ATM Noise At 20 Ft. Radius, 10°
26	APU/ATM Noise At 20 Ft. Radius, 30°
27	APU/ATM Noise At 20 Ft. Radius, 60°
28	APU/ATM Noise At 20 Ft. Radius, 90°
29	APU/ATM Noise At 20 Ft. Radius, 120°
30	APU/ATM Noise At 20 Ft. Radius, 150°
31	Right Aft MLG, Left Aft Tire
32	Right Aft MLG, Between Aft Tires
33	Right Aft MLG, Right Aft Tire
34	Right Aft MLG, Left Forward Tire
35	Right Aft MLG, Right Forward Tire
36	Right Aft MLG, 5-10 Ft. To Right
37	Right Aft MLG, Under TIS Exhaust
38	Right Aft MLG, 3-5 Ft. Forward TIS Exhaust
39	Right Forward MLG, Left Aft Tire
40	Right Forward MLG, Right Aft Tire
41	Right Forward MLG, Left Forward Tire
42	Right Forward MLG, Right Forward Tire
43	Left Forward MLG, Right Aft Tire
44	Left Aft MLG, Right Forward Tire
45	Left Aft MLG, Right Aft Tire

Aircraft Engine and Power Unit Operations

A	Engine #1 Idle, APU and ATM ON
B	Engine #1 & 2 Idle, APU and ATM ON
C	Engine #1, 2, and 3 Idle, APU and ATM ON

D	All Engines Idle, APU and ATM ON
E	All Engines 2.0 EPR, APU and ATM ON
F	Engine #3 Idle, APU and ATM ON
G	Engine #3 2.3 EPR, APU and ATM ON
H	Engine #3 4.26 EPR, APU and ATM ON
I	APU On, All Engines OFF
J	PTU ON (Flaps Operated To Load PTU), Engines OFF
K	ATM and APU ON, All Engines OFF
L	Tire Inflation System ON, All Engines OFF
M	Engines #2 and 3 Idle, APU ON

ABBREVIATIONS

APU — Auxiliary Power Unit
ATM — Air Turbine Motor
EPR — Engine Pressure Ratio
NLG — Nose Landing Gear
MLG — Main Landing Gear
PTU — Power Transfer Unit
TIS — Tire Inflation System
SPR — Single Point Refueling

Meteorology

Altus AFB, Location 15 and 22 through 30

Temperature	27.8 C
Bar Pressure	0.727 M Hg
Rel Humidity	54 %
Wind — Speed	3.6 M/Sec (7 KTS)
— Direction	160 Deg

Edwards AFB, All Remaining Locations

Temperature	27 C
Bar Pressure	0.699 M Hg
Rel Humidity	33 %

Wright-Patterson AFB, Location 31 through 45

Temperature	21 C
Bar Pressure	0.760 M Hg
Rel Humidity	73 %
Wind — Speed	3.6 M/Sec (7 KTS)

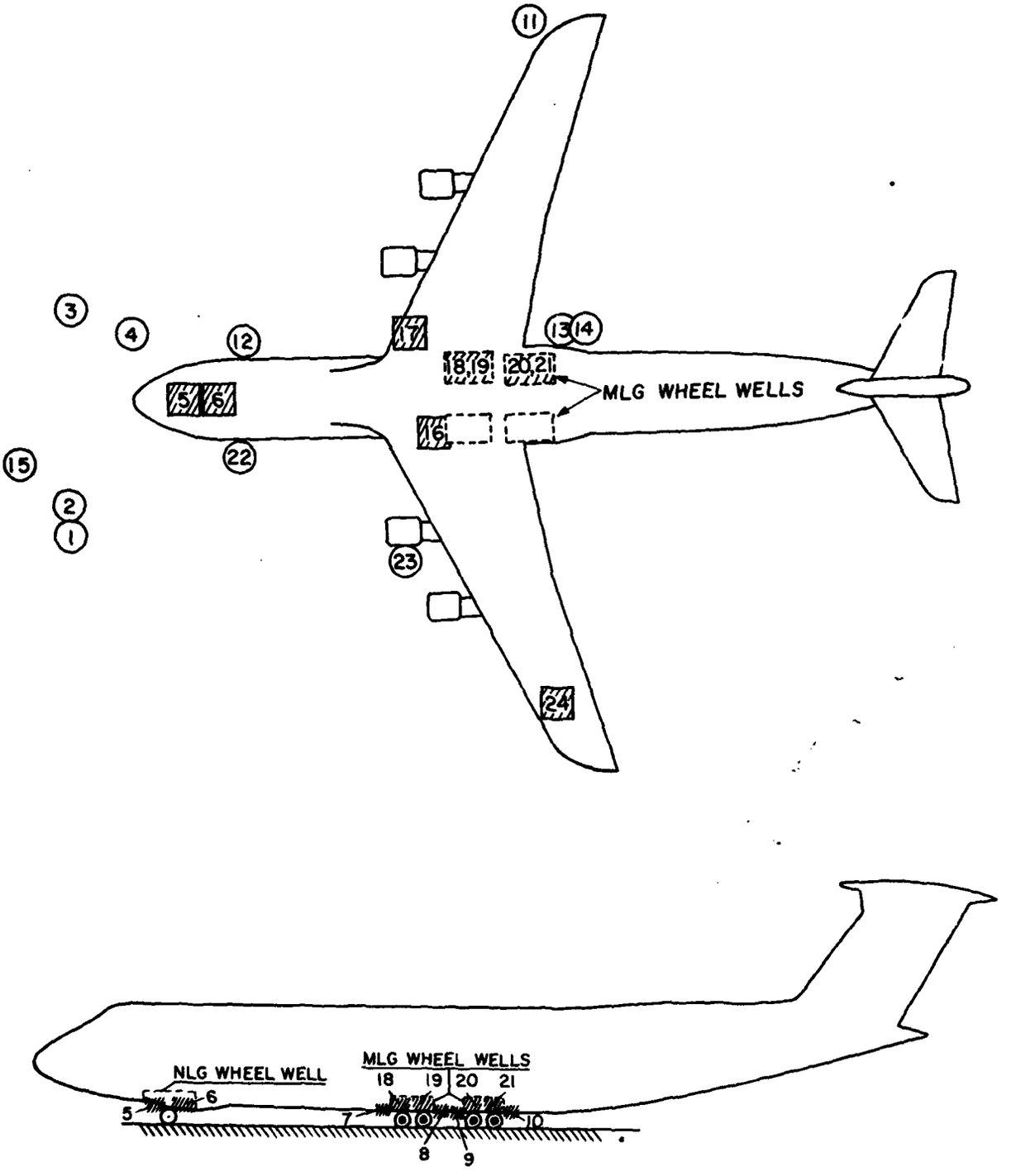


Figure 1. Near-Field Measurement Locations, Plan and Elevation View

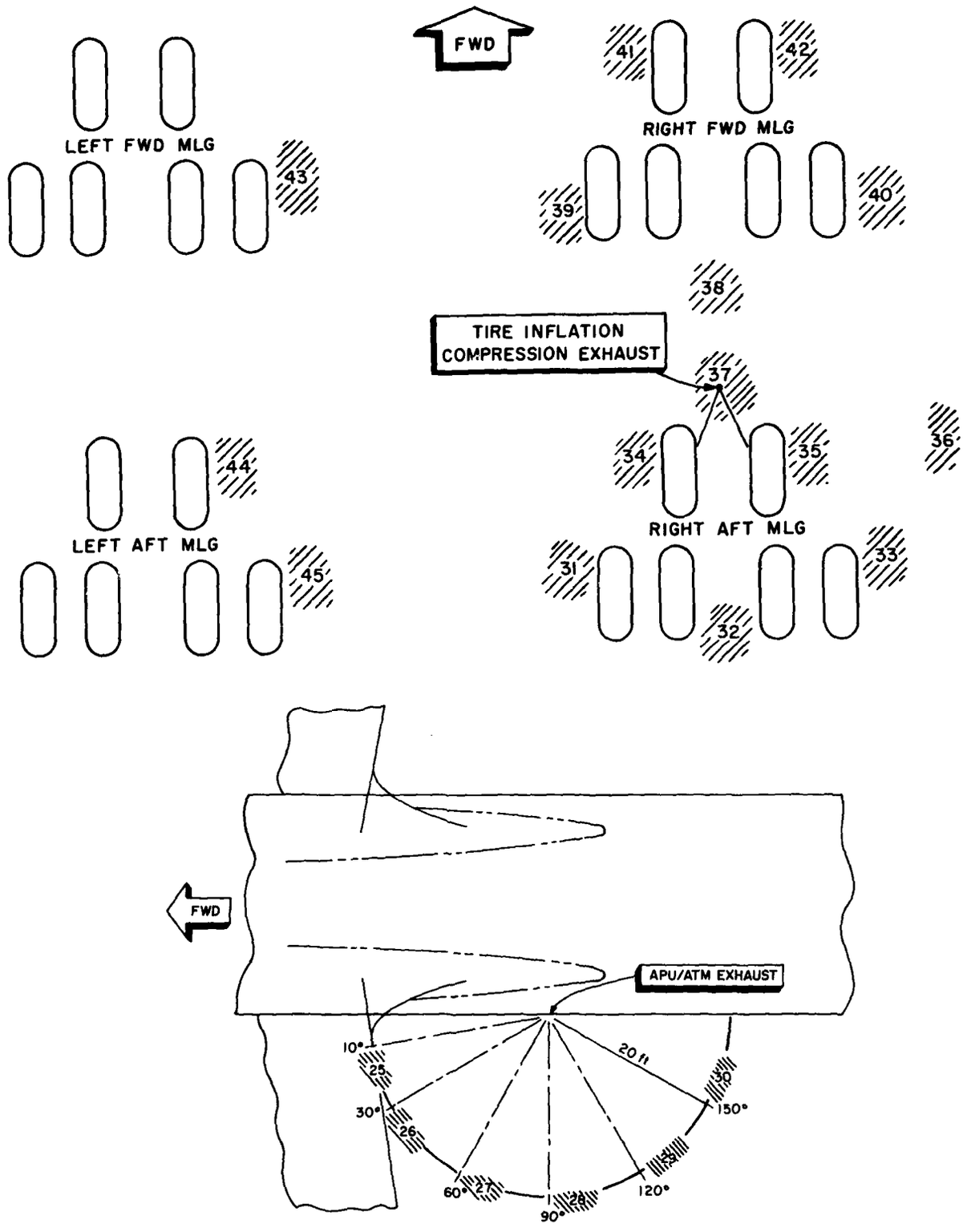


Figure 1. Near-Field Measurement Locations Around Tires and APU/ATM Exhaust

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during a one hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover (short grass), aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 100 meter radius semicircle used in surveying the TF39-GE-1 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the inboard engines' exhaust-nozzle exits. The ground runup area did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

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

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

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

RESULTS

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

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

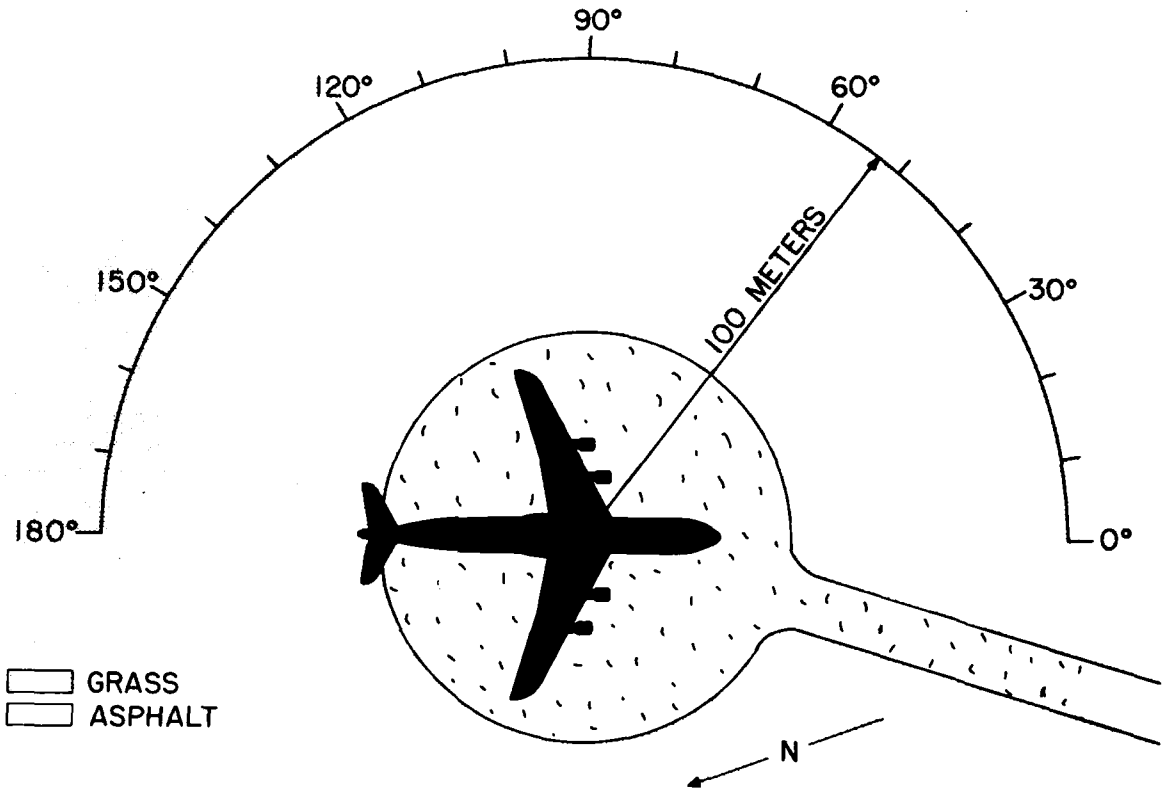


Figure 2. Far-Field Measurement Locations at Altus AFB OK

Estimates of noise characteristics for intermediate power settings (e.g., 88% engine) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

No data are presented at the 180 degree location for idle power nor at the 170 and 180 degree locations for all other power settings because of turbulent air flow behind the aircraft. Typical A-weighted levels for these angles are 5 to 15 dBA below those at the 160 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at idle power).

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

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

IDENTIFICATION: OMEGA 3.2 TEST 69-013-050 RUN 01 18 JAN 79 PAGE F1

NOISE SOURCE/SUBJECT: C-5A AIRCRAFT; GROUND CREW; NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	1/A	2/B	3/C	3/D	4/D	4/E	5/D	6/D	7/D	8/D	9/D	10/D	11/D	11/E
25	63	68	72	72	72	81	85	85	85	85	85	85	80	91
31.5	64	71	74	74	75	84	86	85	87	87	85	86	81	92
40	68	72	73	75	74	85	90	85	87	88	89	87	82	94
50	67	73	74	75	76	88	91	84	85	88	86	85	81	95
63	70	75	75	76	78	88	91	85	86	90	86	86	81	95
80	72	76	77	79	78	88	81	84	85	84	85	84	79	93
100	73	90	89	90	86	87	78	83	98	96	92	95	83	91
125	71	77	79	79	79	92	79	82	89	88	88	88	79	91
160	71	73	76	79	79	88	79	83	91	89	89	90	82	91
200	73	76	79	80	80	88	80	86	93	92	93	91	83	91
250	75	78	80	80	80	88	81	84	95	93	93	93	82	88
315	78	80	84	84	83	88	86	88	96	96	95	95	83	89
400	73	76	82	85	83	85	90	91	97	96	96	97	85	91
500	83	93	93	94	92	87	100	101	109	105	109	107	95	93
630	77	85	88	90	89	92	94	95	101	100	102	102	88	94
800	84	86	89	89	88	98	93	95	103	100	101	99	86	99
1000	87	91	92	93	93	107	97	99	105	104	103	102	93	109
1250	82	87	89	90	92	113	94	95	101	101	100	100	90	115
1600	84	88	91	92	83	112	98	99	103	104	104	101	93	106
2000	84	88	90	91	93	103	95	96	99	99	100	100	88	105
2500	82	86	89	90	91	106	93	94	97	97	97	97	85	109
3150	83	87	89	90	90	103	92	94	97	96	96	96	85	106
4000	87	92	93	96	97	105	96	97	101	101	101	101	90	107
5000	83	86	87	90	92	103	93	94	100	99	99	99	85	103
6300	78	83	84	85	86	102	89	90	98	98	98	98	82	102
8000	76	80	82	83	86	101	87	88	96	95	94	97	79	102
10000	74	78	80	79	83	99	84	86	97	98	101	104	78	99
12500	67	73	75	75	78	95	79	81	93	94	97	100	85	96
16000	63	70	72	72	75	82	76	78	92	92	92	94	71	96
OVERALL	95	100	101	103	103	118	107	108	114	113	114	113	102	119

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-050
RUN 02
18 JAN 79
PAGE F2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	12/F	12/G	12/H	13/I	14/I	16/J	17/I	18/I	19/I	20/I	21/I
25	80	98	98	79	83	72	71	76	75	76	76
31.5	81	97	99	81	84	68	73	77	74	77	80
40	82	100	100	83	89	80	72	78	76	81	81
50	81	101	99	89	97	80	74	80	74	86	85
63	82	101	101	91	99	80	77	81	75	88	87
80	81	101	102	88	96	83	78	84	80	88	85
100	83	102	105	94	97	86	79	86	81	86	87
125	83	99	104	94	95	88	80	82	81	88	90
160	85	101	106	94	96	88	80	83	83	88	88
200	87	102	107	93	99	92	85	90	91	87	90
250	89	103	109	94	96	99	92	90	94	88	87
315	91	107	108	96	96	90	95	92	94	91	89
400	93	106	110	98	95	88	84	91	89	88	87
500	104	107	109	98	98	91	82	82	84	88	87
630	99	107	109	98	102	97	88	86	86	89	90
800	97	110	114	98	100	116	100	99	99	95	97
1000	100	116	121	97	100	105	87	87	88	89	89
1250	97	117	120	97	99	94	82	86	87	89	89
1600	100	125	120	97	98	103	84	86	87	88	90
2000	97	121	124	98	100	97	81	85	85	88	89
2500	95	119	120	98	100	108	84	88	87	89	89
3150	96	122	120	101	101	100	82	83	85	88	89
4000	100	120	122	108	108	98	85	87	88	94	95
5000	97	121	120	104	105	96	83	85	86	91	91
6300	94	119	121	105	105	95	92	94	97	92	93
8000	93	119	120	107	108	94	86	88	90	92	92
10000	94	118	119	117	117	94	92	93	93	101	102
12500	92	115	117	112	112	94	86	86	88	95	95
16000	90	116	118	111	110	90	80	82	84	97	91
OVERALL	110	131	132	120	120	117	103	103	104	106	106

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 78-015-001
RUN 01
18 JAN 79
PAGE F1

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 15/M	15/G	22/M	23/M	24/M
25		89	74<	78<	78<
31.5	71<	93	76<	80	79
40	71<	94	77<	81	80
50	70<	95	73<	79	78
63	77	94	80	86	89
80	70<	97	76	81	76
100	75<	100	84	100	93
125	71<	96	73<	86	80
160	71	97	74	83	76
200	74	93	77	86	81
250	76	93	79	87	82
315	80	94	86	88	84
400	77	93	84	90	85
500	85	92	100	109	97
630	88	94	95	91	90
800	83	98	89	90	87
1000	89	100	94	99	94
1250	89	105	93	94	90
1600	87	110	95	99	96
2000	89	120	94	96	92
2500	90	110	93	94	90
3150	88	106	94	94	90
4000	91	112	100	100	95
5000	88	107	93	96	91
6300	80	107	90	92	87
8000	82	104	88	91	85
10000	79	102	86	91	88
OVERALL	99	122	106	112	104

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 78-015-001
RUN 02
18 JAN 79
PAGE F2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 25/K	26/K	27/K	28/K	29/K	30/K
25	77<	80<	74<	74<	76<	75<
31.5	77<	79	76<	76<	75<	76<
40	79	78	77<	77<	76<	76<
50	81	79	78	77	77	77
63	79	79	81	81	80	81
80	77	76	78	78	78	77
100	82	80	81	79	80	79
125	81	81	80	78	79	79
160	83	83	84	83	82	82
200	86	87	88	88	87	86
250	86	87	88	88	87	87
315	88	89	88	88	90	88
400	88	90	91	90	90	89
500	88	89	90	90	89	88
630	96	92	91	90	90	89
800	95	100	97	91	92	95
1000	92	94	93	92	91	92
1250	92	93	94	93	92	93
1600	93	93	92	93	91	91
2000	92	92	94	95	95	94
2500	94	94	96	97	97	96
3150	93	94	97	99	100	98
4000	94	96	99	102	105	102
5000	95	96	99	103	106	102
6300	99	102	105	107	109	104
8000	102	104	107	108	107	103
10000	114	114	117	121	118	114
OVERALL	114	115	118	121	119	116

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 69-813-058
RUN 04
18 JAN 79
PAGE F4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	31/L	32/L	33/L	34/L	35/L	36/L	37/L	38/L	39/L	40/L	41/L	42/L	43/L	44/L	45/L
25	84	87	82	88	88	78	84	80	80	77	79	76	78	77	82
31.5	84	86	84	87	86	79	85	80	78	78	79	77	75	77	79
40	80	86	82	85	85	79	84	80	81	78	80	77	75	80	81
50	81	85	84	84	86	81	83	82	81	80	77	80	80	77	80
63	81	87	83	86	85	81	85	84	80	80	79	81	79	79	80
80	82	89	84	84	86		86	83	81			83	82		85
100	84	87	86	84	86		84	87					84	84	86
125	84	86	86	85	85	81	86	86	82	82	82	82	82	84	85
160	82	85	83	88	87	83	90	90	84	80	85	80	82	81	83
200	85	87	84	92	88	86	90	91	88	81	87	81	85	83	85
250	86	89	86	92	90	87	92	92	87	85	86	82	83	86	83
315	89	92	87	92	91	87	92	92	87	86	88	85	83	85	85
400	92	92	92	95	96	90	96	93	92	89	89	88	85	87	88
500	93	93	92	96	96	89	96	94	91	89	88	87	89	88	90
630	94	93	95	98	98	91	98	96	94	90	90	89	89	89	91
800	94	95	92	99	98	91	98	96	93	90	90	88	90	91	93
1000	97	96	95	101	103	93	102	99	95	93	93	91	92	92	95
1250	98	97	96	103	103	95	103	99	95	93	93	92	94	94	96
1600	98	98	95	104	104	96	103	100	96	94	95	93	95	95	96
2000	101	100	98	106	106	98	107	104	100	96	98	96	97	97	100
2500	104	103	100	110	109	100	109	105	102	99	100	98	100	99	102
3150	105	104	103	111	111	102	110	106	103	100	101	99	101	101	104
4000	107	105	104	114	112	103	111	107	104	101	102	100	101	101	105
5000	107	107	106	115	113	105	112	108	105	102	103	101	103	102	106
6300	106	104	104	113	113	103	111	107	104	100	101	99	100	101	104
8000	106	104	104	113	114	104	111	106	104	100	102	99	101	101	105
10000	104	103	103	112	113	103	110	104	102	99	99	98	98	98	103
12500	101	99	101	110	111	101	109	101	99	95	95	94	95	96	101
16000	100	97	100	109	111	100	108	99	97	93	93	92	92	93	99
OVERALL	115	114	113	122	122	113	120	116	113	110	111	109	110	110	114

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-050
RUN 01
18 JAN 79
PAGE J1

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 1/A	2/B	3/C	3/D	4/D	4/E	5/D	6/D	7/D	8/D	9/D	10/D	11/D	11/E
31.5	70	75	78	79	79	88	92	90	91	92	91	91	86	97
63	75	79	80	82	82	93	94	89	90	92	90	90	85	99
125	77	90	90	91	87	94	83	87	99	97	95	97	86	96
250	80	83	86	86	86	93	88	91	99	99	98	98	87	94
500	84	94	95	96	94	94	101	102	110	107	110	109	96	98
1000	89	93	95	95	96	114	99	101	108	106	106	105	95	116
2000	88	92	95	96	96	113	101	102	105	106	106	105	95	112
4000	89	94	95	98	99	109	99	100	104	104	104	104	92	110
8000	81	86	87	88	91	105	92	93	102	102	103	105	85	106
16000	68	75	77	77	80	95	81	83	96	96	98	101	85	99
OVERALL	95	100	101	103	103	118	107	108	114	113	114	113	102	119

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

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-050
RUN 02

18 JAN 79

PAGE J2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 12/F	12/G	12/H	13/I	14/I	16/J	17/I	18/I	19/I	20/I	21/I
31.5	86	103	104	86	91	81	77	82	80	83	84
63	86	106	105	94	102	86	81	87	82	92	90
125	89	106	110	99	101	92	84	89	87	92	93
250	94	109	113	99	102	100	97	95	98	94	94
500	106	112	114	103	104	99	90	93	92	93	93
1000	103	120	124	102	104	116	100	99	99	96	98
2000	103	127	127	103	104	109	88	91	91	93	94
4000	103	126	126	110	110	103	88	90	91	96	97
8000	98	123	125	117	117	99	95	97	99	102	102
16000	94	119	121	115	114	95	87	87	89	99	96
OVERALL	110	131	132	120	120	117	103	103	104	106	106

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

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

IDENTIFICATION:
OMEGA 3.2
TEST 78-015-001
RUN 01

18 JAN 79

FREQ (HZ)	LOCATION/CONDITION 15/M	15/G	22/M	23/M	24/M
31.5	74	97	81	84	84
63	78	100	82	88	90
125	77	103	85	100	93
250	82	98	87	92	87
500	90	98	102	109	98
1000	93	107	97	101	96
2000	93	121	99	102	98
4000	94	114	102	102	97
8000	85	109	93	96	91
OVERALL	99	122	106	112	104

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

IDENTIFICATION: OMEGA 3.2 TEST 78-015-001 RUN 02 18 JAN 79 PAGE J2

NOISE SOURCE/SUBJECT: C-5A AIRCRAFT GROUND CREW NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION 25/K	26/K	27/K	28/K	29/K	30/K
31.5	83	84	81	81	81	80
63	84	83	84	83	83	83
125	87	86	87	85	85	85
250	91	93	93	93	93	92
500	97	95	95	94	94	93
1000	98	102	100	97	96	98
2000	97	98	99	100	100	98
4000	99	100	103	106	109	105
8000	114	115	117	121	119	115
OVERALL	114	115	118	121	119	116

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

IDENTIFICATION: OMEGA 3.2 TEST 69-013-050 RUN 04 18 JAN 79 PAGE J4

NOISE SOURCE/SUBJECT: C-5A AIRCRAFT GROUND CREW NEAR FIELD NOISE LEVELS

OPERATION:

FREQ (HZ)	LOCATION/CONDITION														
	31/L	32/L	33/L	34/L	35/L	36/L	37/L	38/L	39/L	40/L	41/L	42/L	43/L	44/L	45/L
31.5	88	91	88	92	91	83	89	85	85	82	84	81	81	83	86
63	86	92	88	98	90	84	90	88	85	83	81	86	85	81	87
125	88	91	90	91	91	85	92	93	86	84	87	84	88	88	90
250	92	95	91	97	95	91	96	96	92	89	92	88	89	90	89
500	98	97	98	101	102	95	102	99	97	94	94	93	93	93	95
1000	101	101	99	106	107	98	106	103	99	97	97	95	97	97	100
2000	106	106	103	112	112	103	112	108	105	102	103	101	103	102	105
4000	111	110	109	118	117	108	116	112	109	106	107	105	107	106	110
8000	110	108	108	117	118	108	115	111	108	104	106	103	105	105	109
16000	104	101	104	113	114	104	112	103	101	97	97	96	97	98	103
OVERALL	115	114	113	122	122	113	120	116	113	110	111	109	110	110	114

TABLE: 3 — MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-058
RUN 01

18 JAN 79

PAGE H1

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

	1/A	2/B	3/C	3/D	4/D	4/E	5/D	6/D	7/D	8/D	9/D	10/D	11/D	11/E
HAZARD/PROTECTION														
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR														
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR														
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)														
NO PROTECTION														
OASLC	94	100	101	103	103	117	106	108	114	112	113	113	101	116
OASLA	95	99	101	103	103	118	106	107	113	112	113	112	101	119
T	71	36	25	18	18	P	11	9	3.2	3.8	3.2	3.8	25	P
MINIMUM QPL EAR MUFFS														
OASLA*	68	75	76	77	76	89	81	82	89	87	89	88	76	90
T	960	960	960	960	960	202	807	679	202	285	202	240	960	170
AMERICAN OPTICAL 1700 EAR MUFFS														
OASLA*	62	69	70	71	70	83	75	76	83	81	83	83	70	85
T	960	960	960	960	960	571	960	960	571	807	571	571	960	404
V-51R EAR PLUGS														
OASLA*	68	73	74	76	76	90	80	81	88	86	87	86	75	92
T	960	960	960	960	960	170	960	807	240	339	285	339	960	120
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS														
OASLA*	54	59	60	61	62	78	66	67	74	72	73	73	61	80
T	960	960	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT														
OASLA*	67	71	73	74	75	91	78	79	84	84	84	83	73	92
T	960	960	960	960	960	143	960	960	480	480	480	571	960	120
COMMUNICATION														
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)														
PSIL	87	93	95	96	95	107	101	102	108	106	107	106	95	109
ANNOYANCE														
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)														
TONE CORRECTION (C IN DB)														
PNLT	111	118	118	119	120	130	122	123	129	127	128	128	116	133
C	3	4	3	2	2	1	3	3	3	2	3	2	3	3

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

TABLE: 3 — MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-058
RUN 02
18 JAN 79
PAGE M2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

	12/F	12/G	12/H	13/I	14/I	16/J	17/I	18/I	19/I	20/I	21/I
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	110	130	131	116	117	117	103	103	104	104	104
OASLA	110	132	132	118	118	117	101	102	103	104	105
T	5	P	P	P	P	P	25	21	18	15	13
MINIMUM QPL EAR MUFFS											
OASLA*	85	104	105	96	96	89	77	78	79	82	81
T	404	15	13	60	60	202	960	960	960	679	807
AMERICAN OPTICAL 1700 EAR MUFFS											
OASLA*	79	99	100	93	93	83	73	73	74	78	78
T	960	36	30	101	101	571	960	960	960	960	960
V-51R EAR PLUGS											
OASLA*	84	102	103	90	91	92	77	77	77	78	78
T	480	21	18	170	143	120	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS											
OASLA*	69	89	91	80	80	79	64	63	64	66	66
T	960	202	143	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT											
OASLA*	81	104	104	90	90	90	73	74	74	76	77
T	807	15	13	170	170	170	960	960	960	960	960
COMMUNICATION											
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)											
PSIL	104	120	122	102	104	100	93	94	94	94	95
ANNOYANCE											
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)											
TONE CORRECTION (C IN DB)											
PNLT	125	146	146	132	132	132	117	119	120	119	121
C	3	2	1	2	2	5	4	4	3	2	2

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

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 78-015-081
RUN 01
18 JAN 79
PAGE H1

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION				
	15/M	15/G	22/M	23/M	24/M
HAZARD/PROTECTION					
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR					
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR					
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)					
NO PROTECTION					
OASLC	99	122	106	111	104
OASLA	99	123	106	110	103
T	36	P	11	5	18
MINIMUM QPL EAR MUFFS					
OASLA*	72	94	80	87	79
T	960	85	960	285	960
AMERICAN OPTICAL 1700 EAR MUFFS					
OASLA*	65	88	74	82	73
T	960	240	960	679	960
V-51R EAR PLUGS					
OASLA*	72	91	80	85	77
T	960	143	960	404	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS					
OASLA*	58	78	64	70	63
T	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT					
OASLA*	72	94	77	80	75
T	960	85	960	960	960
COMMUNICATION					
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)					
PSIL	92	108	99	104	97
ANNOYANCE					
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)					
TONE CORRECTION (C IN DB)					
PNLT	114	139	124	128	120
C	2	3	4	6	3

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

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION: OMEGA 3.2 TEST 78-015-001 RUN 02 18 JAN 79 PAGE H2

NOISE SOURCE/SUBJECT: C-5A AIRCRAFT GROUND CREW NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION					
	25/K	26/K	27/K	28/K	29/K	30/K
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	111	112	114	117	116	112
OASLA	112	113	116	119	118	114
T	3.8	3.2	P	P	P	2.7
MINIMUM QPL EAR MUFFS						
OASLA*	90	90	93	96	94	91
T	170	170	101	60	85	143
AMERICAN OPTICAL 1700 EAR MUFFS						
OASLA*	87	88	90	94	92	88
T	285	240	170	85	120	240
V-51R EAR PLUGS						
OASLA*	84	85	87	91	89	85
T	480	404	285	143	202	404
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS						
OASLA*	75	75	78	81	79	76
T	960	960	960	807	960	960
H-133 GROUND COMMUNICATION UNIT						
OASLA*	84	85	87	91	89	85
T	480	404	285	143	202	404
COMMUNICATION						
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)						
PSIL	98	98	98	97	97	97
ANNOYANCE						
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)						
TONE CORRECTION (C IN DB)						
PNLT	126	128	129	133	131	128
C	2	2	2	2	2	2

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

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 69-013-050
RUN 04
18 JAN 79
PAGE H4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

	31/L	32/L	33/L	34/L	35/L	36/L	37/L	38/L	39/L	40/L	41/L	42/L	43/L	44/L	45/L
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	114	113	112	120	120	111	119	115	112	108	109	107	109	109	112
OASLA	115	114	113	122	122	112	120	116	113	110	111	109	110	110	114
T	2.2	2.7	3.2	P	P	3.8	P	P	3.2	5	4.5	6	5	5	2.7
MINIMUM QPL EAR MUFFS															
OASLA*	89	88	88	96	97	87	95	90	87	84	84	83	84	84	88
T	202	240	240	60	50	285	71	170	285	480	480	571	480	480	240
AMERICAN OPTICAL 1700 EAR MUFFS															
OASLA*	84	82	83	92	93	83	90	84	82	78	79	77	78	79	83
T	480	679	571	120	101	571	170	480	679	960	960	960	960	960	571
V-51R EAR PLUGS															
OASLA*	85	84	84	92	92	83	90	86	83	80	81	79	80	80	84
T	404	480	480	120	120	571	170	339	571	960	807	960	960	960	480
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS															
OASLA*	73	72	72	81	81	71	79	74	71	68	69	67	68	68	72
T	960	960	960	807	807	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT															
OASLA*	87	86	85	94	93	84	92	88	85	82	83	81	83	82	86
T	285	339	404	85	101	480	120	240	404	679	571	807	571	679	339
COMMUNICATION															
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)															
PSIL	102	101	100	107	107	99	107	104	100	98	98	96	97	97	100
ANNOYANCE															
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)															
TONE CORRECTION (C IN DB)															
PNLT	129	128	128	135	134	129	133	129	127	126	127	122	124	123	127
C	0	0	1	0	0	3	0	0	1	3	3	0	0	0	0

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

TABLE 4

TEST CONDITIONS FOR FAR-FIELD NOISE MEASUREMENTS

C-5A Aircraft, Ground Runups, Altus AFB OK
14 June 1978
Tail #690025

Aircraft Engine Operation

Idle	Engine Nos. 2 and 3 Only
	64 % RPM NC (Core Speed)
	23 % RPM NF (Fan Speed)
	410 C TIT (Turbine Inlet Temperature)
	No Register EPR (Engine Pressure Ratio)
	1200 LBS/HR FF (Fuel Flow)
1.6 EPR Runup	Engine Nos. 2 and 3 Only
	77 % RPM NC
	42 % RPM NF
	450 C TIT
	1.60 EPR
	2200 LBS/HR FF
2.5 EPR Runup	Engine Nos. 2 and 3 Only
	85 % RPM NC
	63 % RPM NF
	570 C TIT
	2.50 EPR
	4800 LBS/HR FF
3.5 EPR Runup	Engine Nos. 2 and 3 Only
	90 % RPM NC
	78 % RPM NF
	710 C TIT
	3.50 EPR
	8000 LBS/HR FF
Takeoff Rated Thrust	Engine Nos. 2 and 3 Only
	96 % RPM NC
	90 % RPM NF
	810 C TIT
	4.40 EPR
	11000 LBS/HR FF

Meteorology

Temperature	27.8 C
Bar Pressure	0.727 M Hg
Rel Humidity	54 %
Wind — Speed	3.6 M/Sec (7 Kts)
— Direction	160 Deg

TABLE 5 MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25																		74<	
31.5								71<	70<	69<	71<					68<		73<	
40								71<		68<	71<	69<	68<	67<		71<	68<	69<	
50	64<	63<	64<	64<	65<		63<	71<	64<	66<	67<	65<	66<	68<	65<	71<	66<	69<	
63	71<	70<	74	68<	73	70<	73	77	71<	76	77	78	74	75	78	75	78	71<	
80	64<	64<	70<	71	69<	65<	67<	72	63<	67<	64<	65<	64<	69<	65<	67<	67<	65<	
100	75<	69<	66<	67<	72<	73<	75<	76<	75<	78	78	80	82	74<	76<	77	75<	68<	
125	66<							71<		66<	65<	66<	68<	68<	66<	67<			
160	64<	64<	64<	61<	63<	62<	63<	70	63<	64<	63<	63<	62<	66<	63<	67<	63<	59<	
200	68	68	65	63	67	66	68	67	67	66	66	68	64	68	64	64	64	58<	
250	68	67	67	64	66	65	66	69	68	69	66	66	64	65	62	64	62	54<	
315	72	72	71	66	67	66	65	68	70	69	66	65	63	66	61	62	62	57<	
400	72	70	70	64	66	64	63	69	69	68	64	61	61	64	64	63	61	58	
500	80	74	74	75	73	76	72	76	77	77	75	72	76	77	81	77	73	71	
630	81	75	72	69	71	71	70	70	72	70	69	67	71	72	74	76	71	73	
800	75	73	72	68	71	70	71	67	67	64	64	65	65	68	68	66	63	60	
1000	79	80	77	75	77	74	79	71	75	69	71	73	75	76	72	71	69	64	
1250	79	77	76	72	74	73	74	69	69	67	69	70	71	72	71	71	68	65	
1600	79	79	77	76	79	81	84	75	75	77	73	77	79	80	76	74	70	66	
2000	82	81	79	75	77	76	74	74	71	71	69	73	72	74	74	71	68	65	
2500	81	79	78	74	76	75	73	71	68	68	67	72	71	71	72	70	68	65	
3150	83	81	78	75	76	77	74	73	69	68	68	71	71	72	73	69	67	65	
4000	86	85	82	77	80	80	77	77	71	70	71	74	73	74	77	72	70	67	
5000	78	77	75	72	75	76	73	72	67	67	67	70	70	70	71	68	66	63	
6300	74	72	70	68	69	71	68	67	64	64	63	67	66	66	68	64	62	60	
8000	72	69	67	66	66	68	65	64	62	62	62	63	63	63	64	62	59	57	
10000	66	65	63	63	64	64	63	64	68	66	66	66	65	66	66	66	63	60	
OVERALL	92	90	88	85	87	88	88	86	85	85	85	86	87	86	87	85	83	82	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION: OMEGA 1.4 / TEST 78-015-001 / RUN 02 / 18 SEP 78 / PAGE 2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	74<	74<	74<	75<	76<	75<	76<	78<	81<	81<	83	82<	85	85	87	87	85		
31.5	74<	74<	75<	75<	76<	78	80	81	83	83	84	84	85	85	87	87	84		
40	74<	76<	75<	78<	79	80	81	80	84	85	86	88	88	88	88	89	85		
50	78	78	77	79	83	82	80	82	86	85	85	84	84	86	86	87	82		
63	80	78	80	81	81	85	85	83	82	84	84	86	86	86	85	84	81		
80	80	80	80	80	81	84	85	82	81	83	84	86	85	86	86	84	80		
100	79	80	79	81	81	83	82	81	81	81	79	84	83	85	88	84	79		
125	79	80	79	80	80	81	81	80	82	77	78	79	81	83	85	82	78		
160	77	79	78	77	78	77	79	78	80	79	78	79	79	81	81	79	75		
200	75	77	75	76	77	76	77	76	75	75	76	76	75	77	76	75	70		
250	73	75	74	76	77	77	77	76	76	75	75	75	74	75	75	71	68		
315	73	75	72	76	78	78	78	75	76	75	74	74	72	73	74	69	68		
400	74	75	74	76	78	77	77	77	77	73	72	72	72	71	72	68	68		
500	76	74	74	77	78	77	76	75	73	72	71	71	72	71	71	68	66		
630	77	77	76	79	80	78	77	77	75	73	72	73	74	73	72	69	67		
800	81	82	82	84	85	81	81	84	81	78	80	81	79	77	76	73	71		
1000	84	84	84	86	89	84	86	89	86	83	85	85	83	80	80	77	74		
1250	92	92	92	94	95	90	92	91	91	91	91	94	95	93	92	86	84		
1600	99	99	99	100	103	97	100	99	99	98	94	98	101	100	100	95	93		
2000	91	92	91	93	93	94	94	97	95	93	91	93	92	91	90	85	83		
2500	93	94	92	92	92	93	94	93	93	92	91	93	93	91	89	84	82		
3150	92	94	93	95	97	96	96	96	95	94	93	98	98	97	96	92	89		
4000	91	93	91	92	94	93	93	95	93	93	92	95	93	93	91	85	84		
5000	88	90	88	90	91	91	92	92	91	91	89	92	91	91	90	85	83		
6300	88	88	86	88	89	90	90	90	89	90	87	90	90	89	87	83	81		
8000	85	85	83	84	85	86	88	88	88	87	84	88	87	87	85	80	79		
10000	80	80	78	79	80	82	82	83	83	82	79	83	82	81	79	75	73		
OVERALL	102	103	102	104	106	103	105	105	104	103	101	105	105	104	104	100	97		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5 — MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 6

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

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

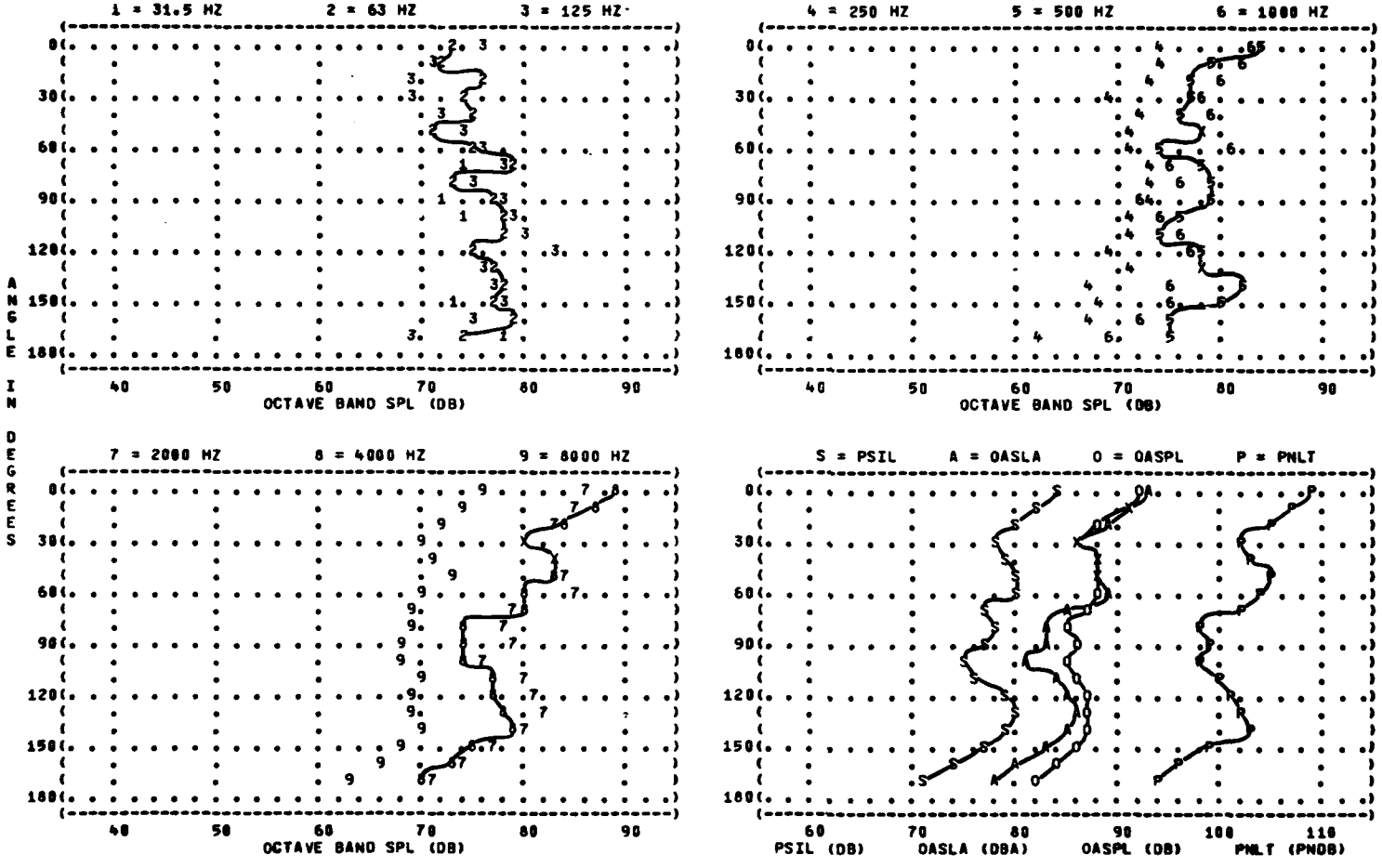


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:

77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 78-015-001
RUN 02

18 SEP 78

PAGE 6

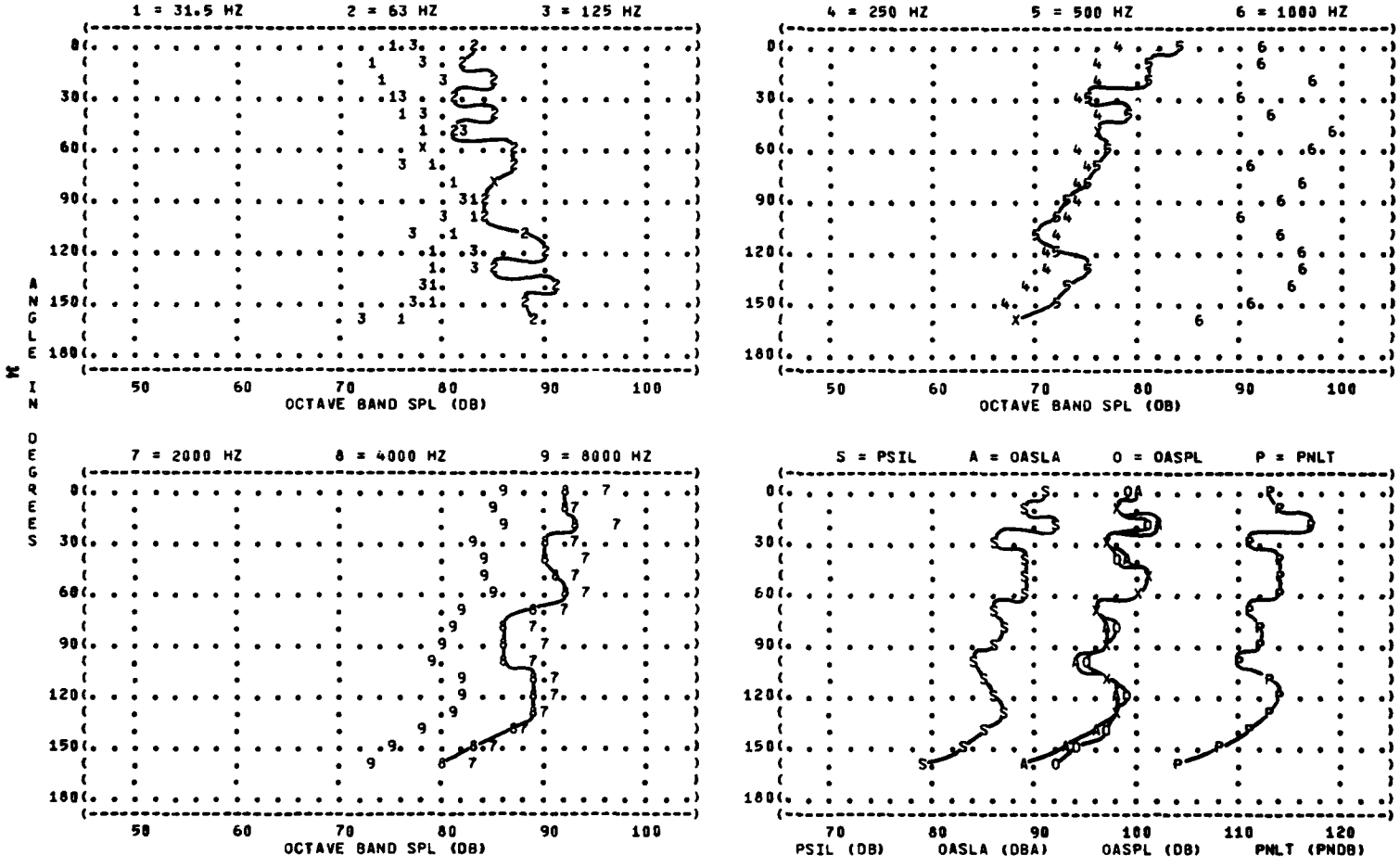


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:

85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 78-015-001
RUN 03

24 JAN 79

PAGE 6

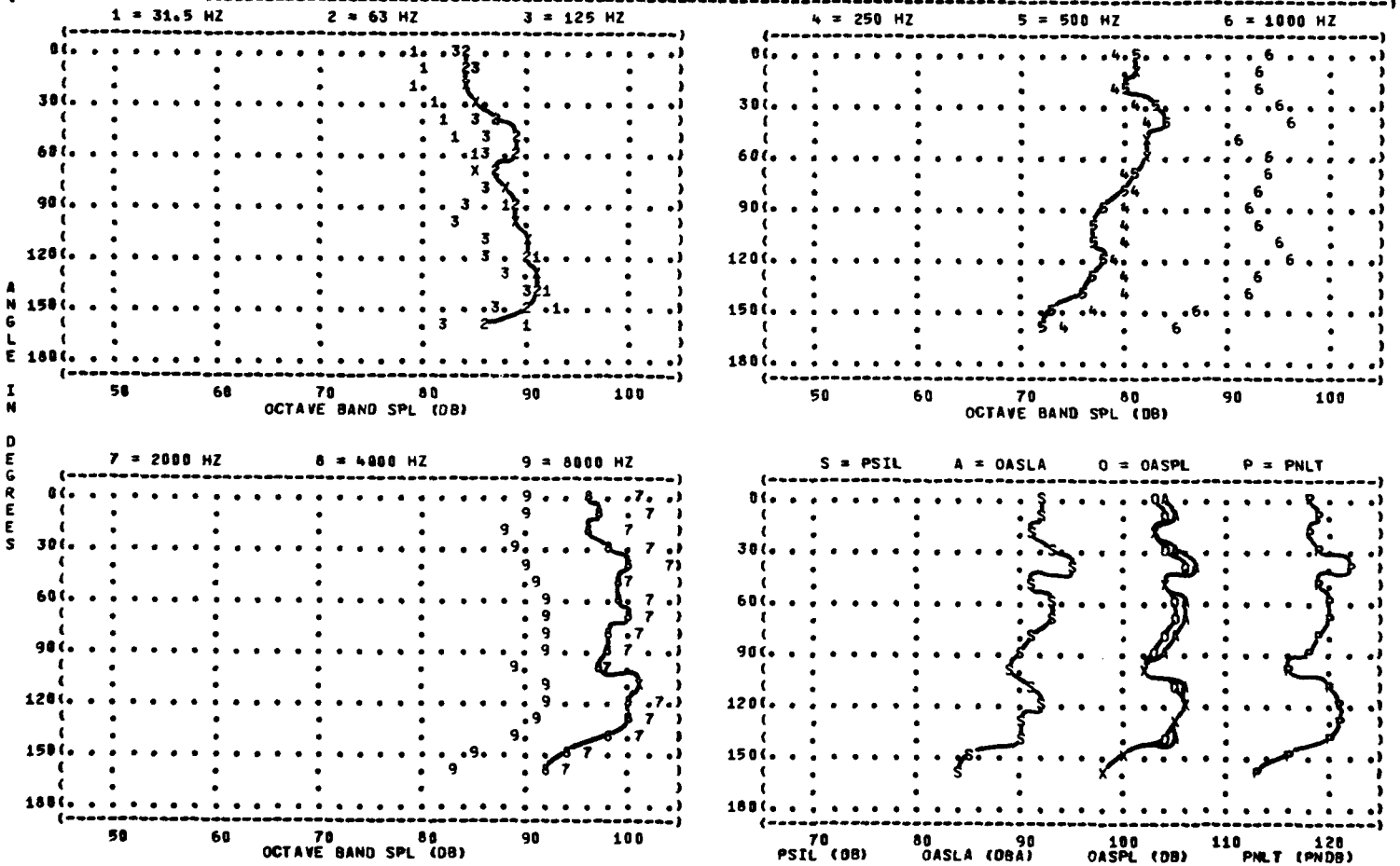


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 6

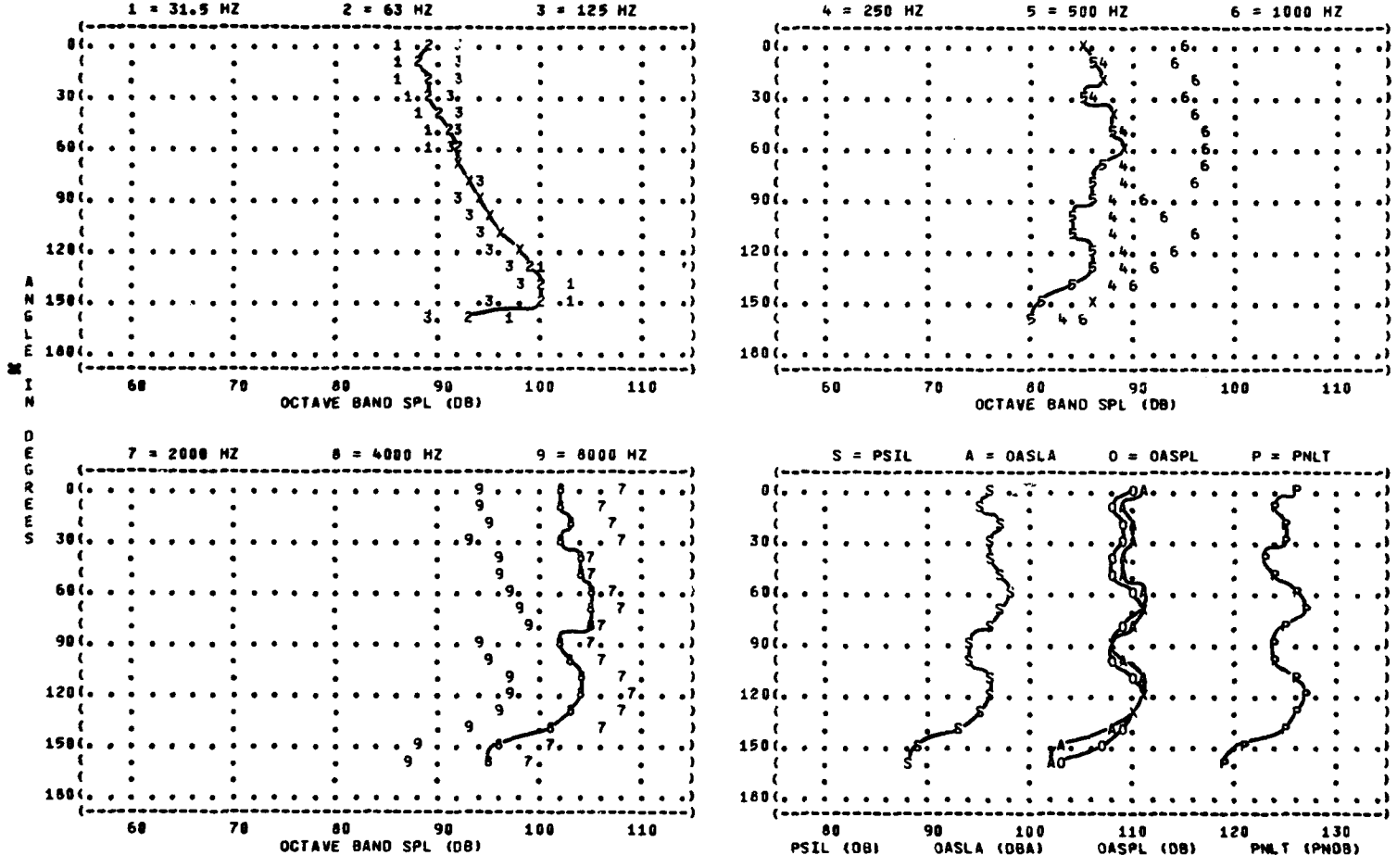


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:

MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

OMEGA 1.4
TEST 78-015-001
RUN 05

18 SEP 78

PAGE 6

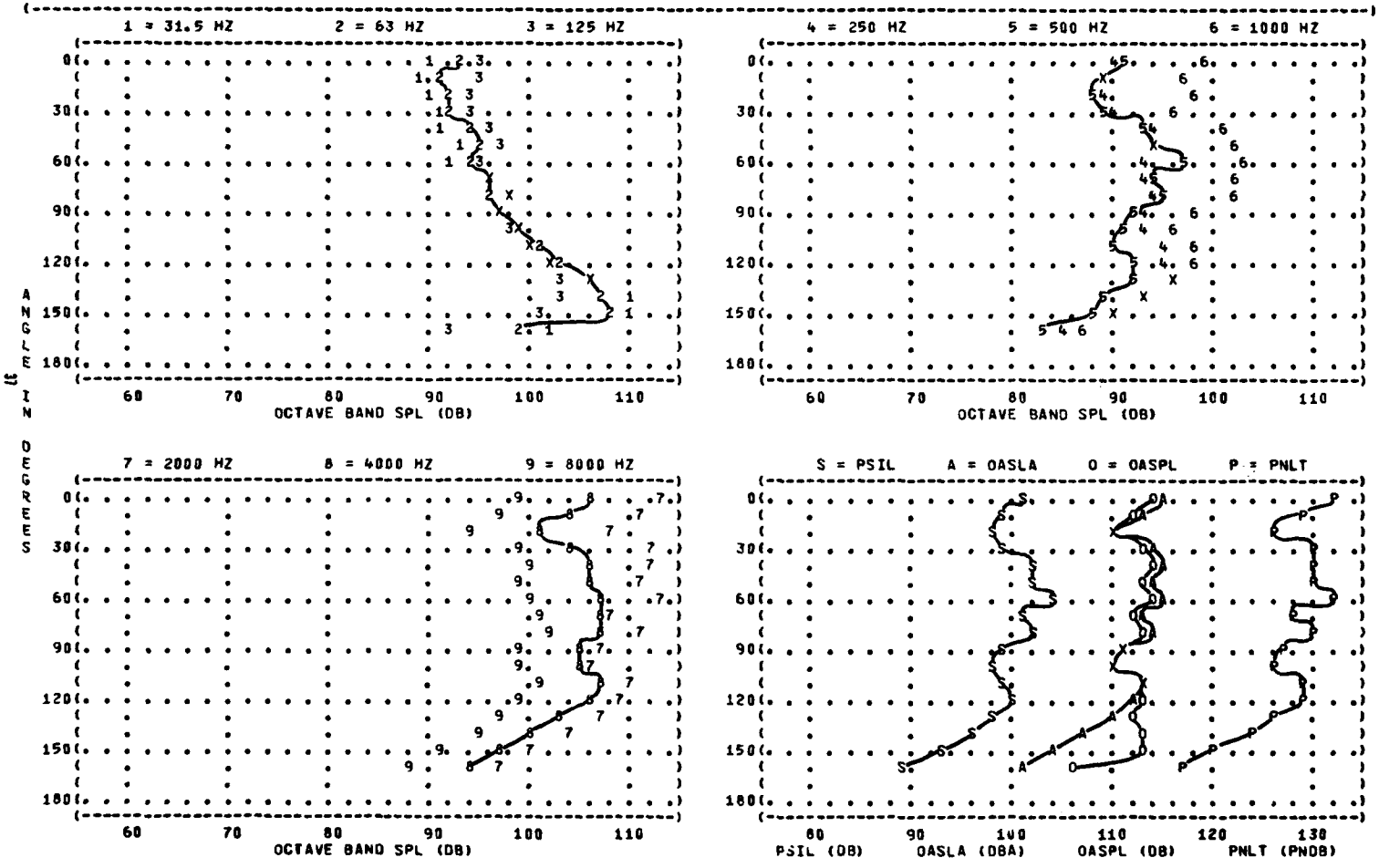


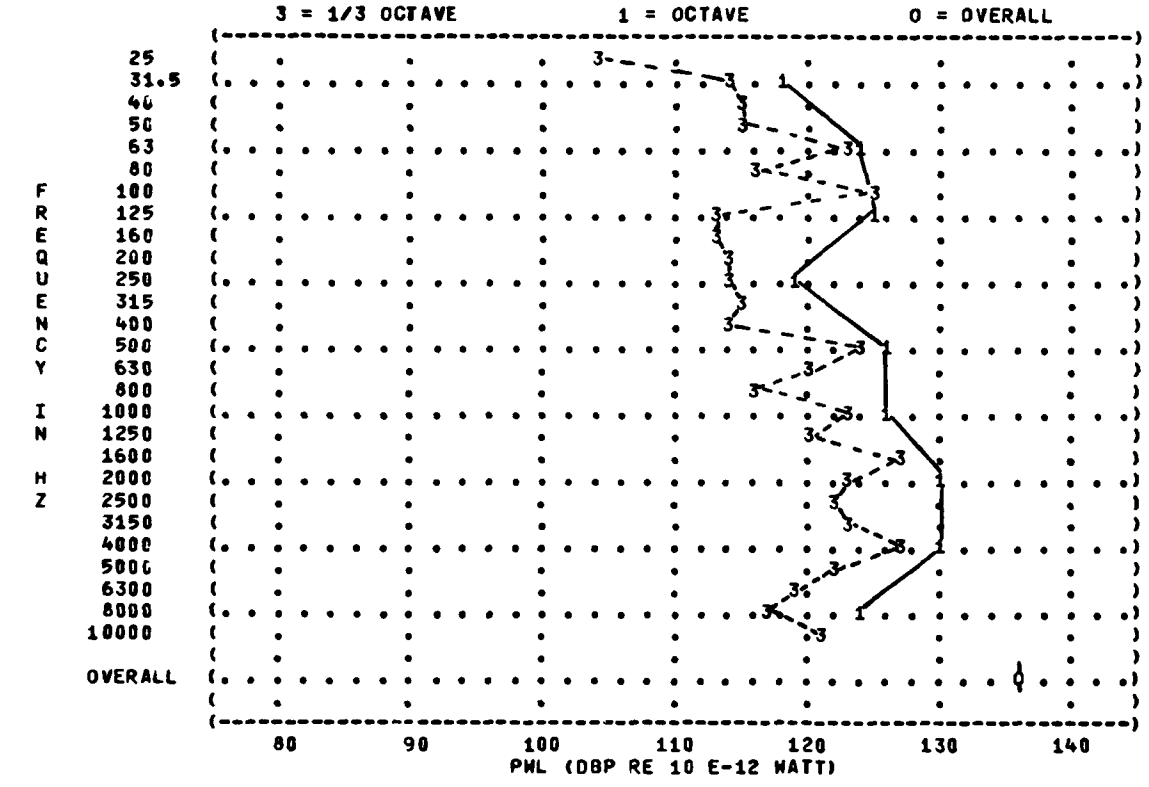
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	103.9	
31.5	114.2	117.8
40	115.1	
50	114.6	
63	123.2	124.4
80	115.6	
100	124.9	
125	113.3	125.5
160	112.5	
200	114.3	
250	114.3	119.3
315	114.8	
400	113.9	
500	124.3	125.9
630	119.8	
800	116.5	
1000	123.2	125.5
1250	120.2	
1600	127.4	
2000	123.3	129.6
2500	121.9	
3150	123.2	
4000	127.1	129.5
5000	122.3	
6300	119.0	
8000	117.5	124.0
10000	120.6	
OVERALL	135.5	

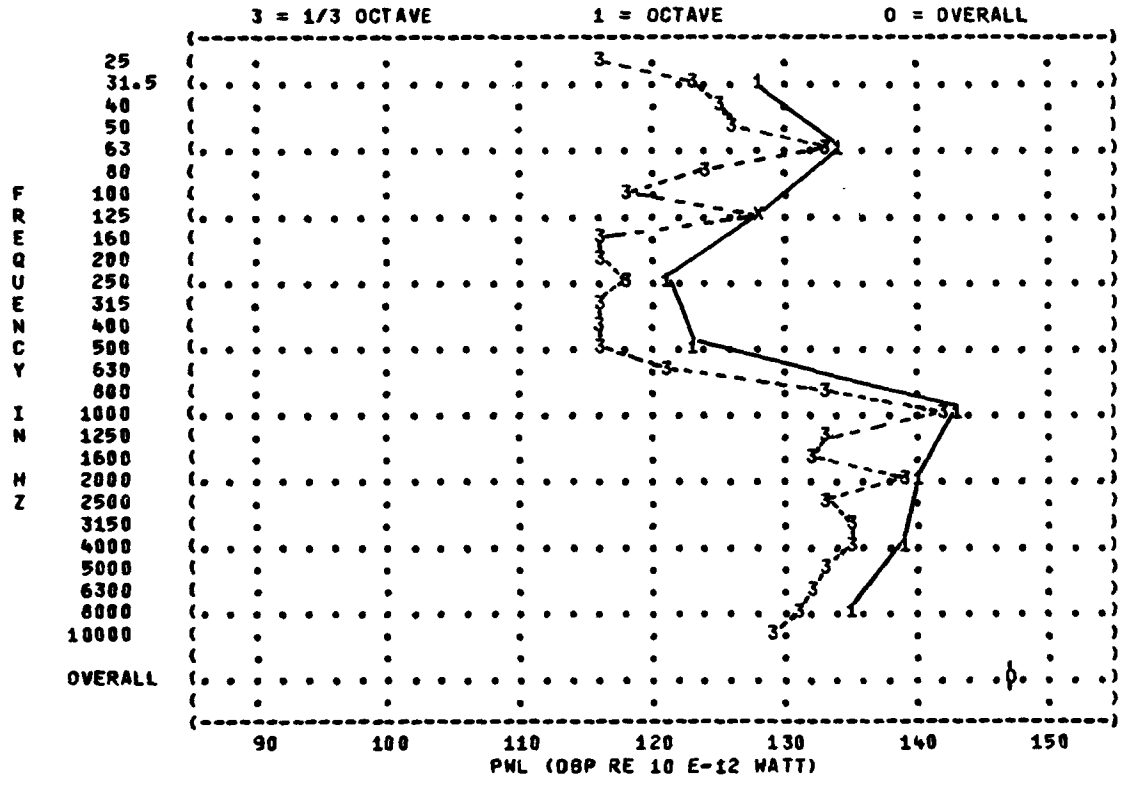
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	116.1	
31.5	123.1	127.7
40	125.4	
50	125.9	
63	133.1	134.3
80	124.0	
100	117.7	
125	127.6	128.3
160	115.9	
200	115.9	
250	117.7	121.4
315	116.2	
400	116.2	
500	116.4	123.3
630	121.1	
800	132.8	
1000	142.2	143.1
1250	132.6	
1600	131.8	
2000	138.6	140.4
2500	133.4	
3150	135.1	
4000	134.6	139.0
5000	132.5	
6300	131.7	
8000	130.6	135.3
10000	128.9	
OVERALL		146.7

FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

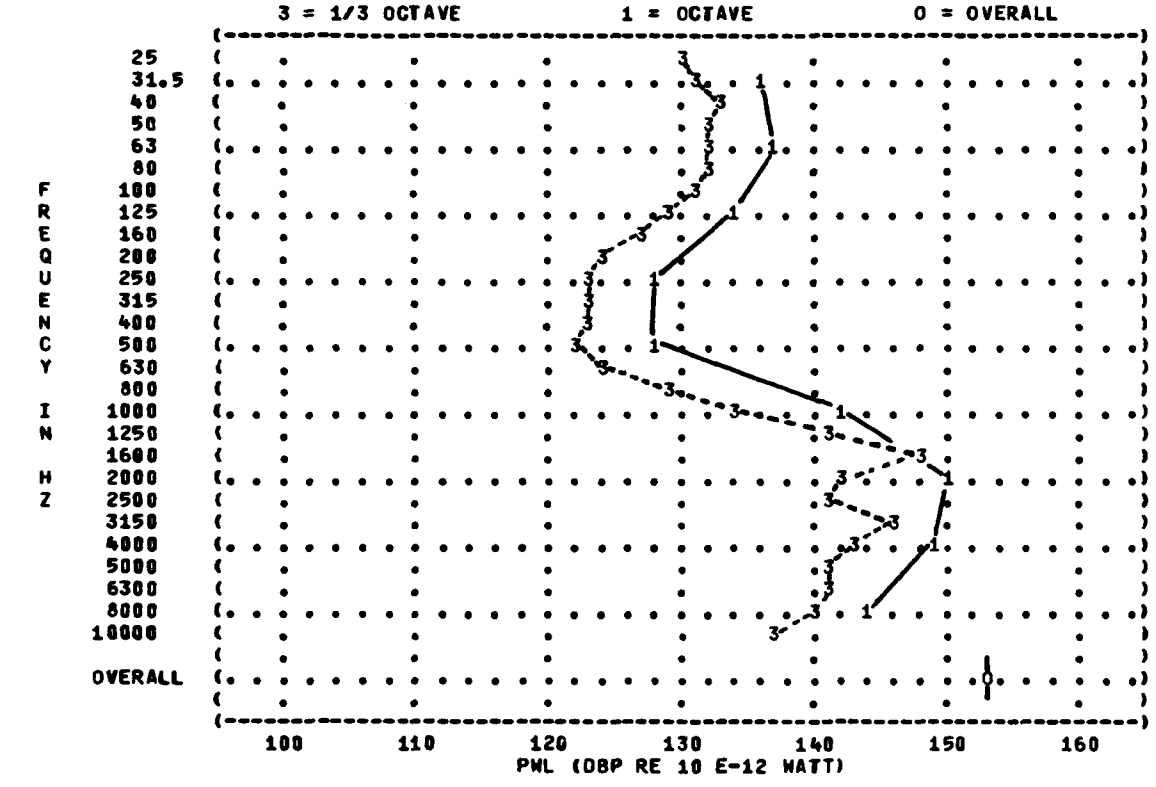
IDENTIFICATION:

OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 3

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	130.4	
31.5	131.1	136.5
40	133.1	
50	131.9	
63	132.0	136.7
80	131.8	
100	130.7	
125	128.9	133.9
160	126.9	
200	123.8	
250	123.4	128.2
315	123.2	
400	122.9	
500	122.0	127.7
630	123.6	
800	129.5	
1000	133.8	141.9
1250	140.8	
1600	148.1	
2000	142.4	149.8
2500	141.4	
3150	145.7	
4000	143.4	148.6
5000	141.4	
6300	140.7	
8000	139.5	144.0
10000	136.6	
OVERALL	153.5	

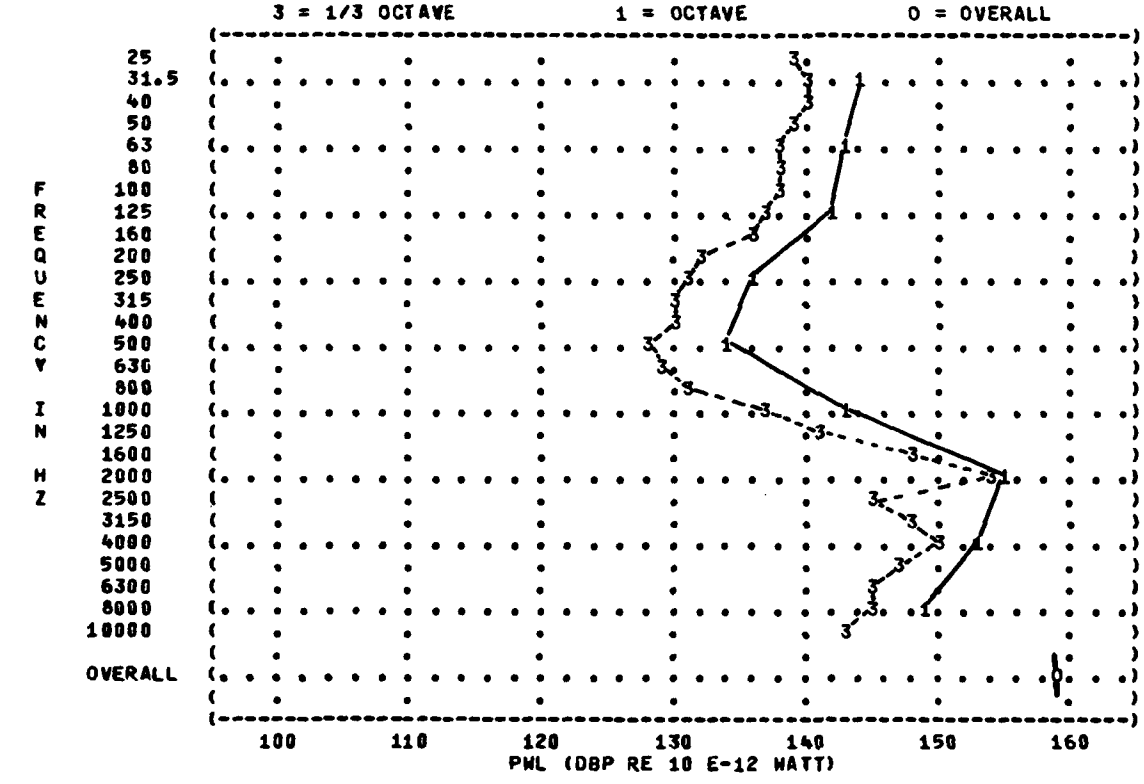
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-081
RUN 04
18 SEP 78
PAGE 3



1/3 OCTAVE	PWL OCTAVE
138.8	
139.6	144.3
140.8	
139.2	
137.9	143.2
138.0	
137.9	
136.6	141.6
135.7	
132.3	
131.4	136.0
129.6	
130.4	
128.0	133.9
128.5	
130.6	
136.7	143.0
141.4	
148.2	
153.8	155.3
145.2	
148.3	
150.1	153.4
146.6	
145.5	
144.9	149.3
142.6	
	158.6

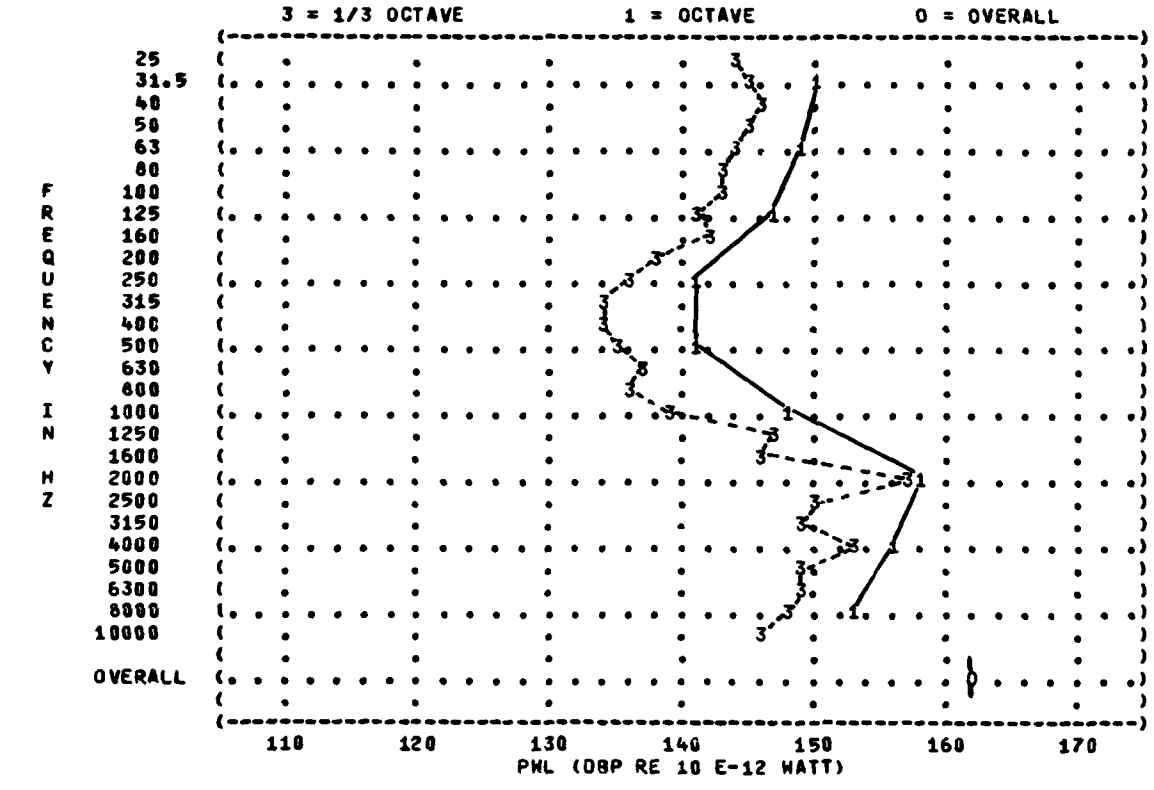
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 3

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %



	PWL	
	1/3 OCTAVE	OCTAVE
25	143.6	
31.5	145.5	150.0
40	146.2	
50	145.3	
63	144.2	149.0
80	142.8	
100	142.8	
125	140.7	146.7
160	142.1	
200	138.5	
250	136.0	141.3
315	133.9	
400	134.2	
500	135.4	140.6
630	137.3	
800	136.0	
1000	138.8	147.6
1250	146.6	
1600	146.3	
2000	157.0	158.1
2500	150.2	
3150	148.9	
4000	153.1	155.5
5000	148.7	
6300	149.8	
8000	147.7	152.5
10000	146.8	
OVERALL		161.7

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

TABLE: 6 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79

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

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 4

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

METEOROLOGY:
TEMP = 28 C
BAR PRESS = .727 M HG
REL HUMID = 54 %

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

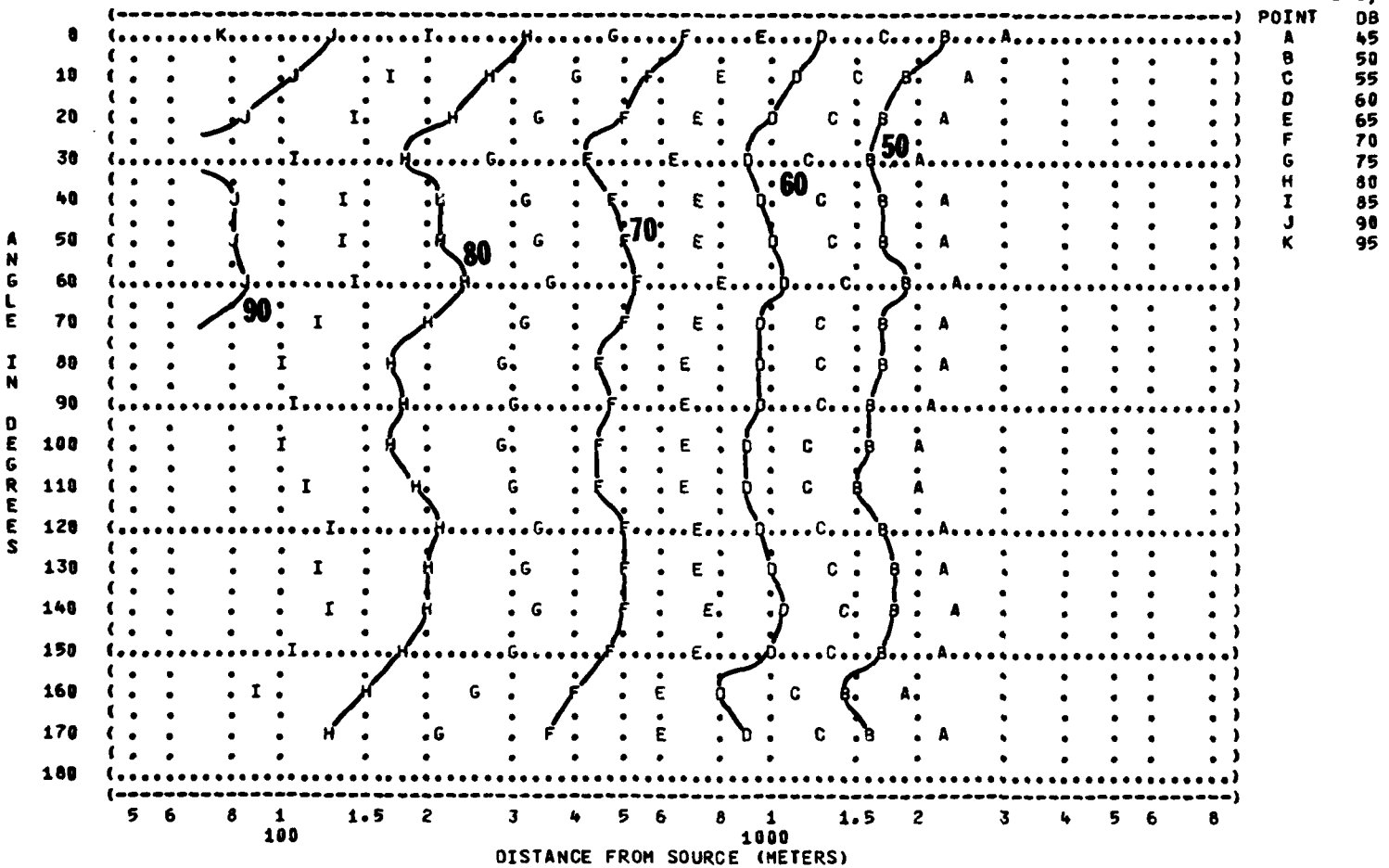
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
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

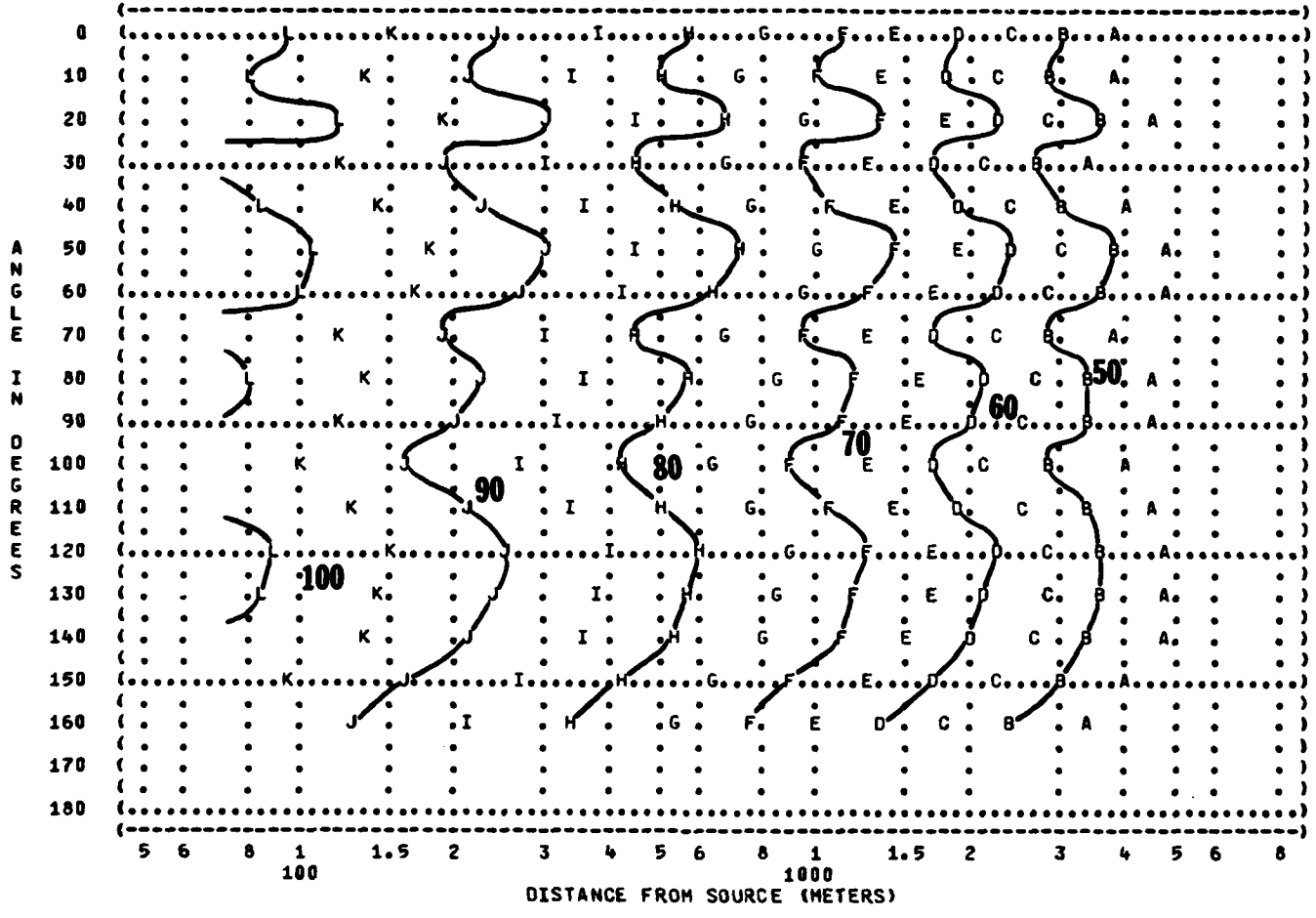
FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 13



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 13

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

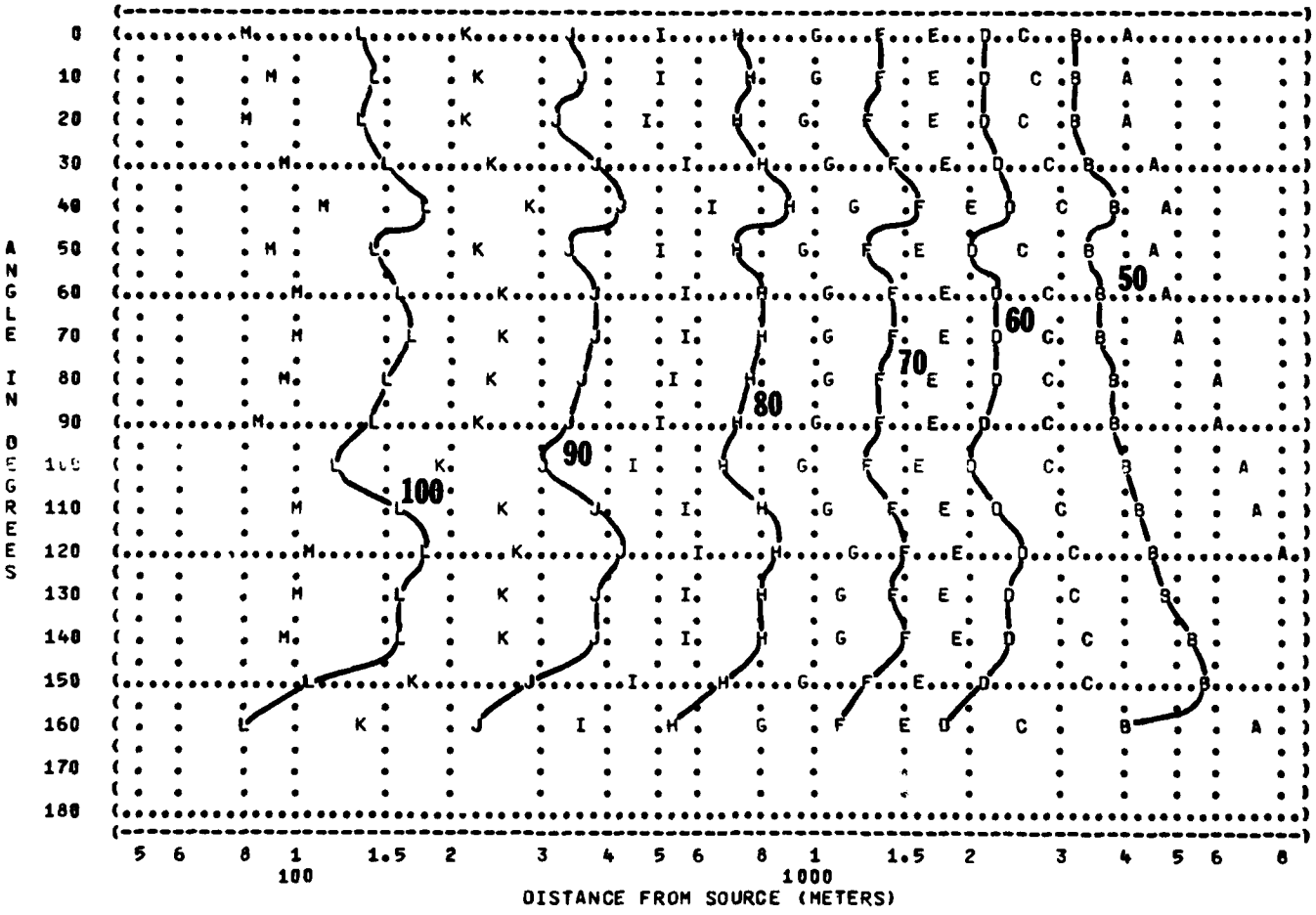


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

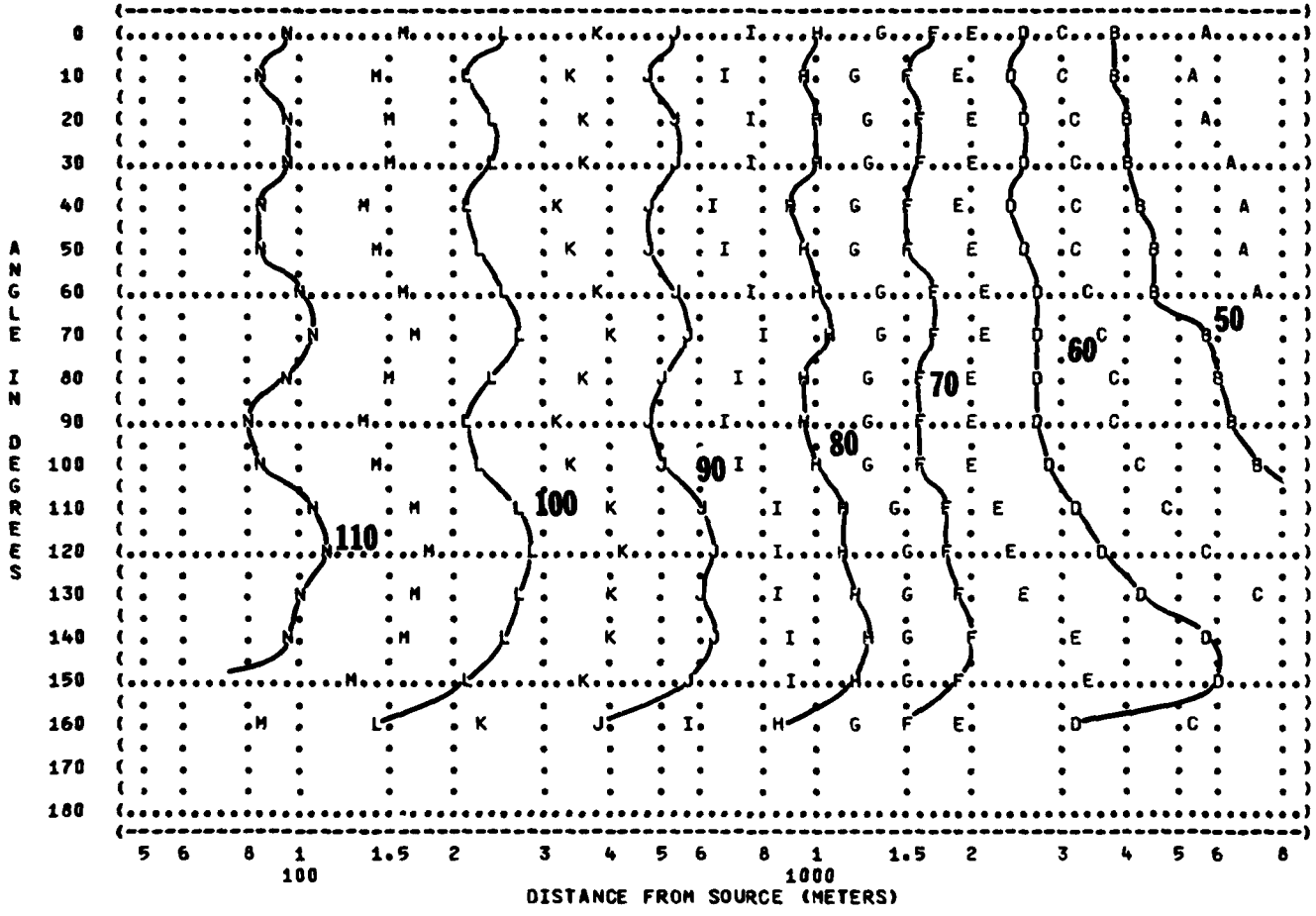


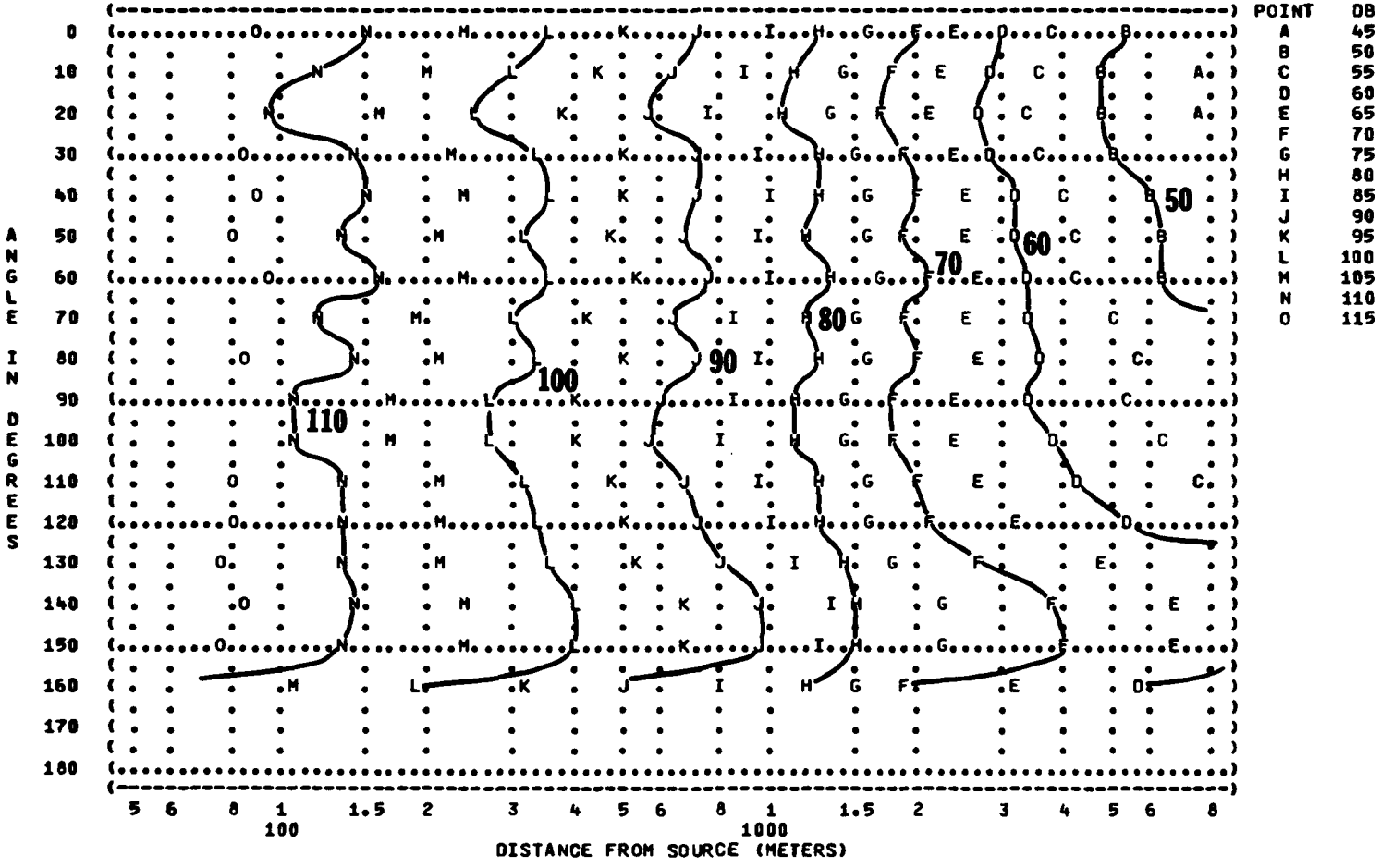
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
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

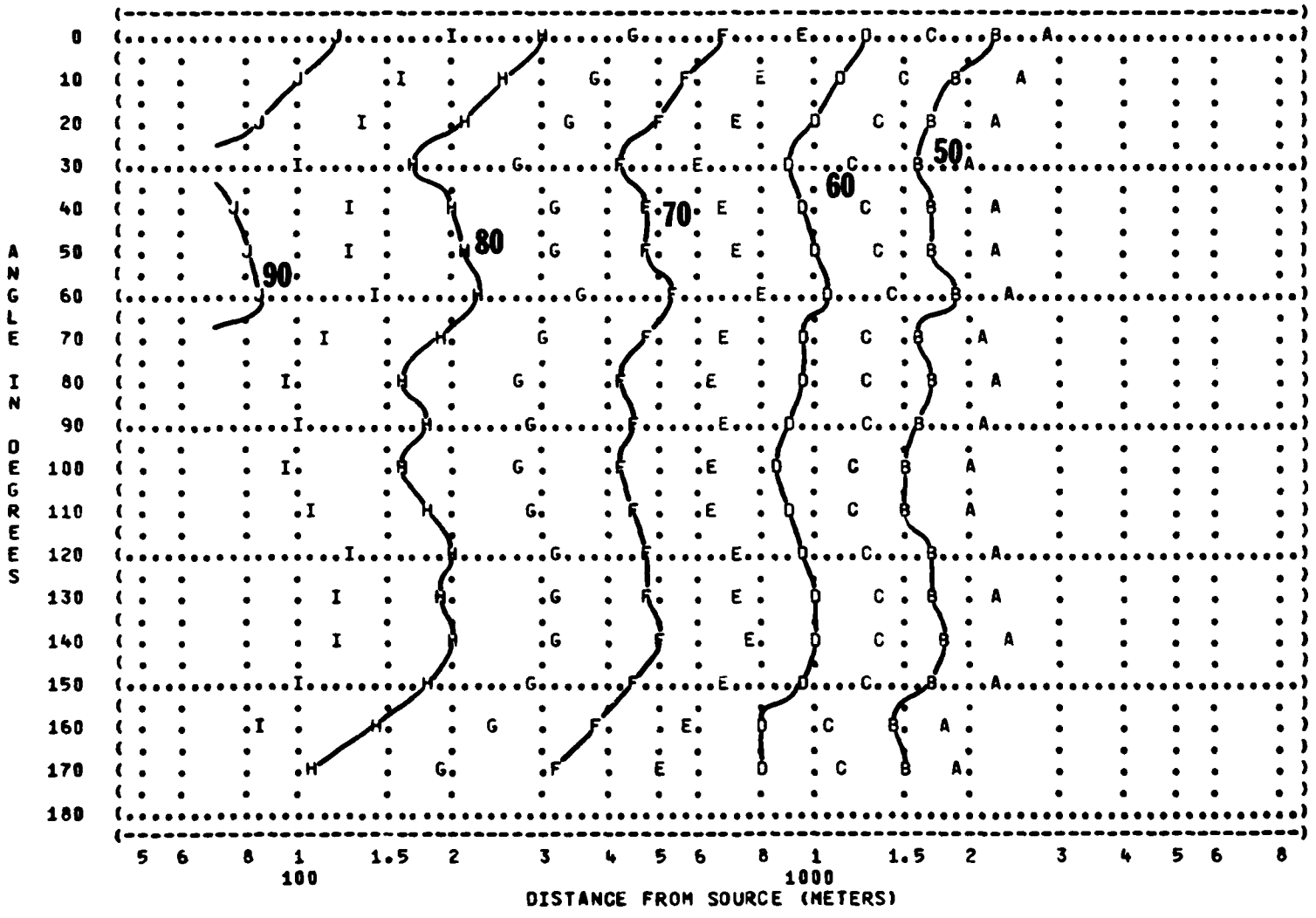


FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

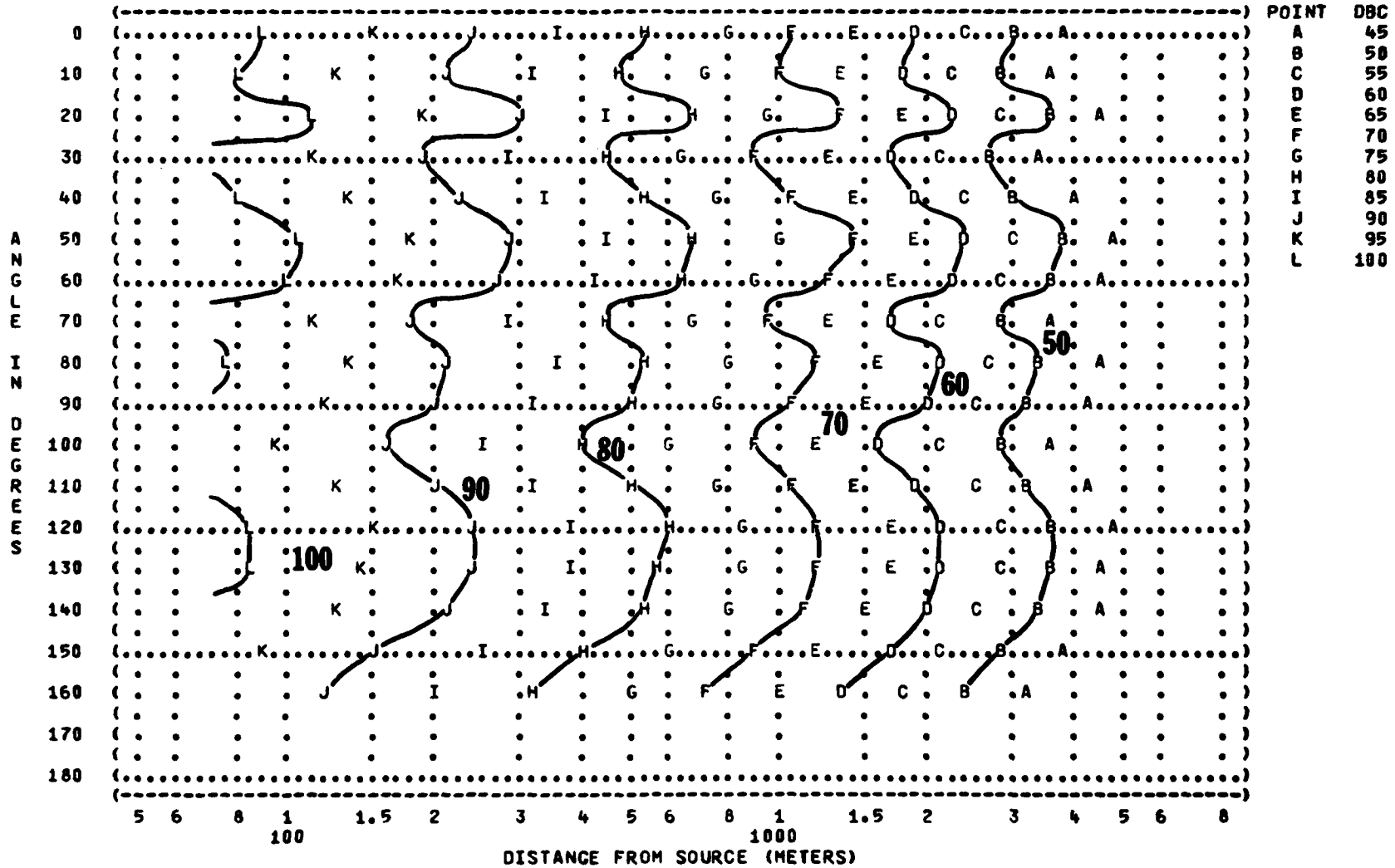


FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 14

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

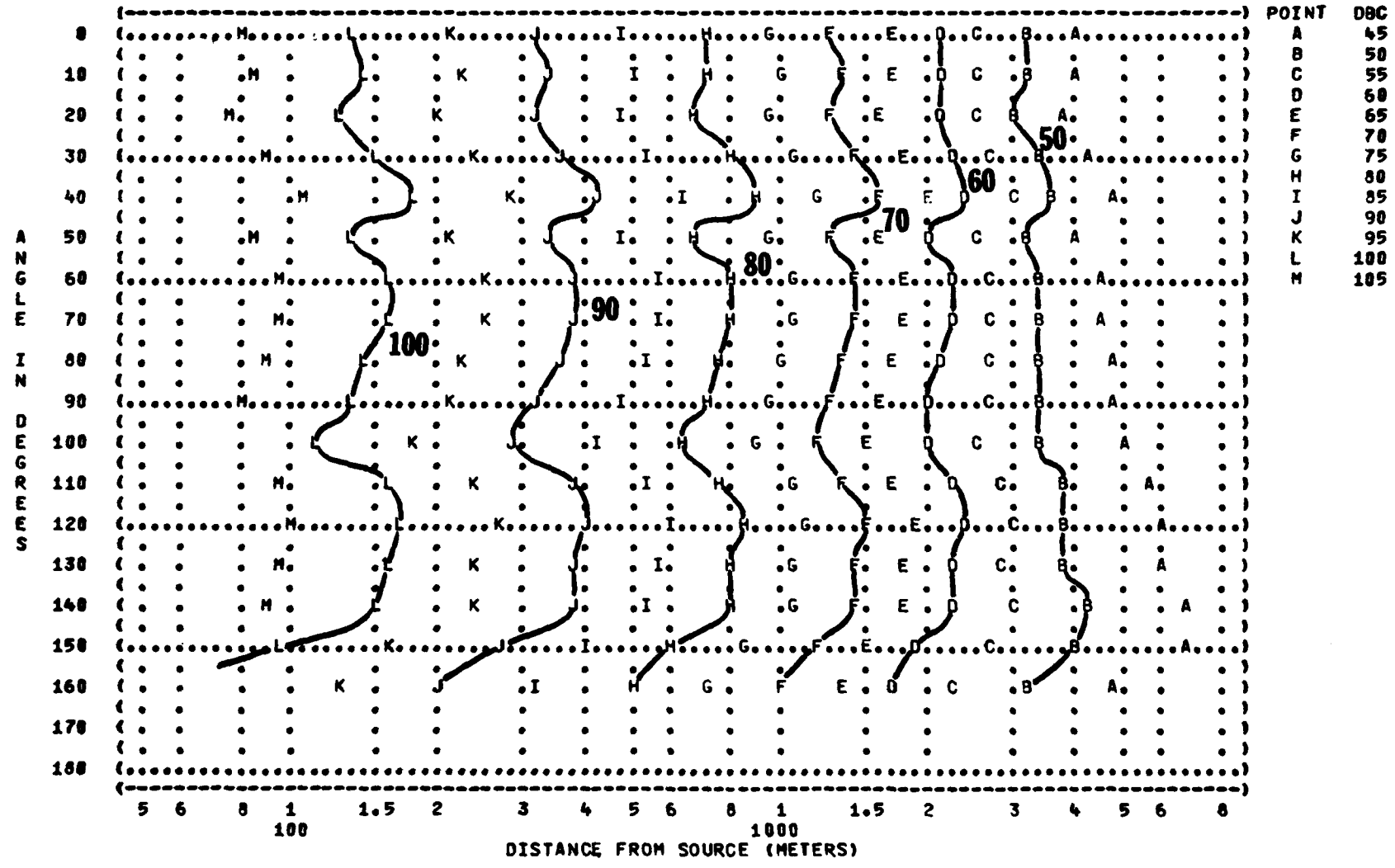


FIGURE 6: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

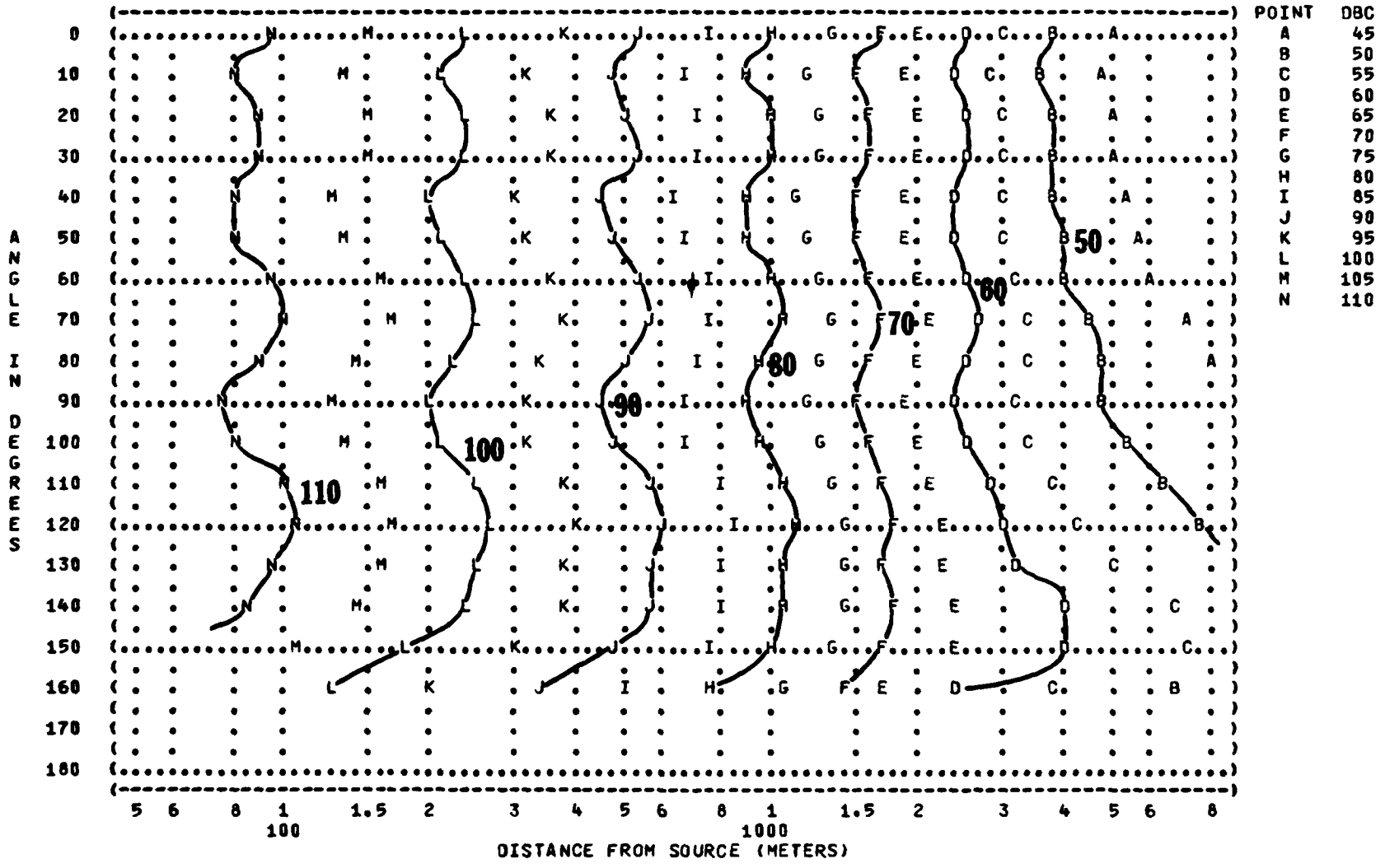


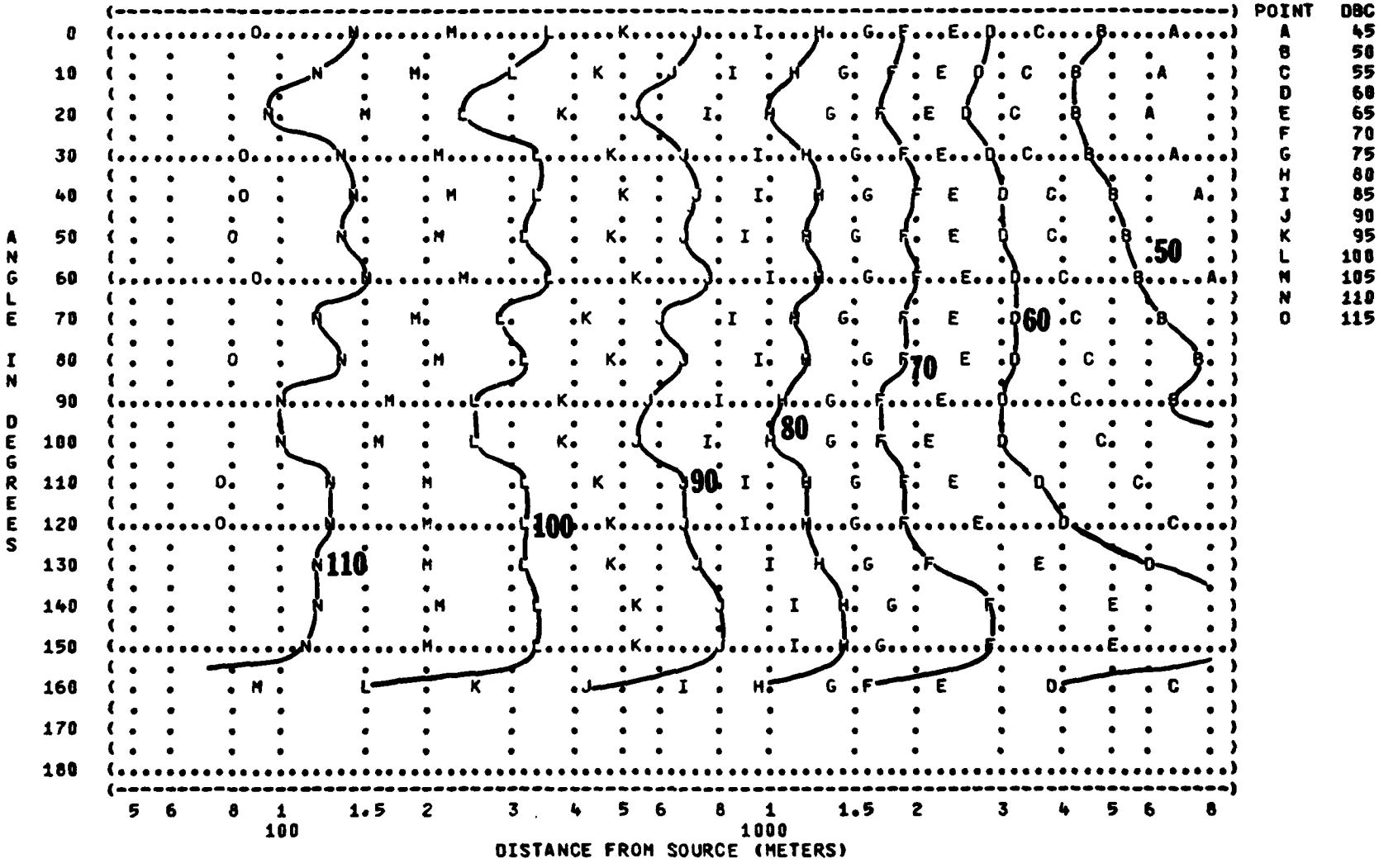
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

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

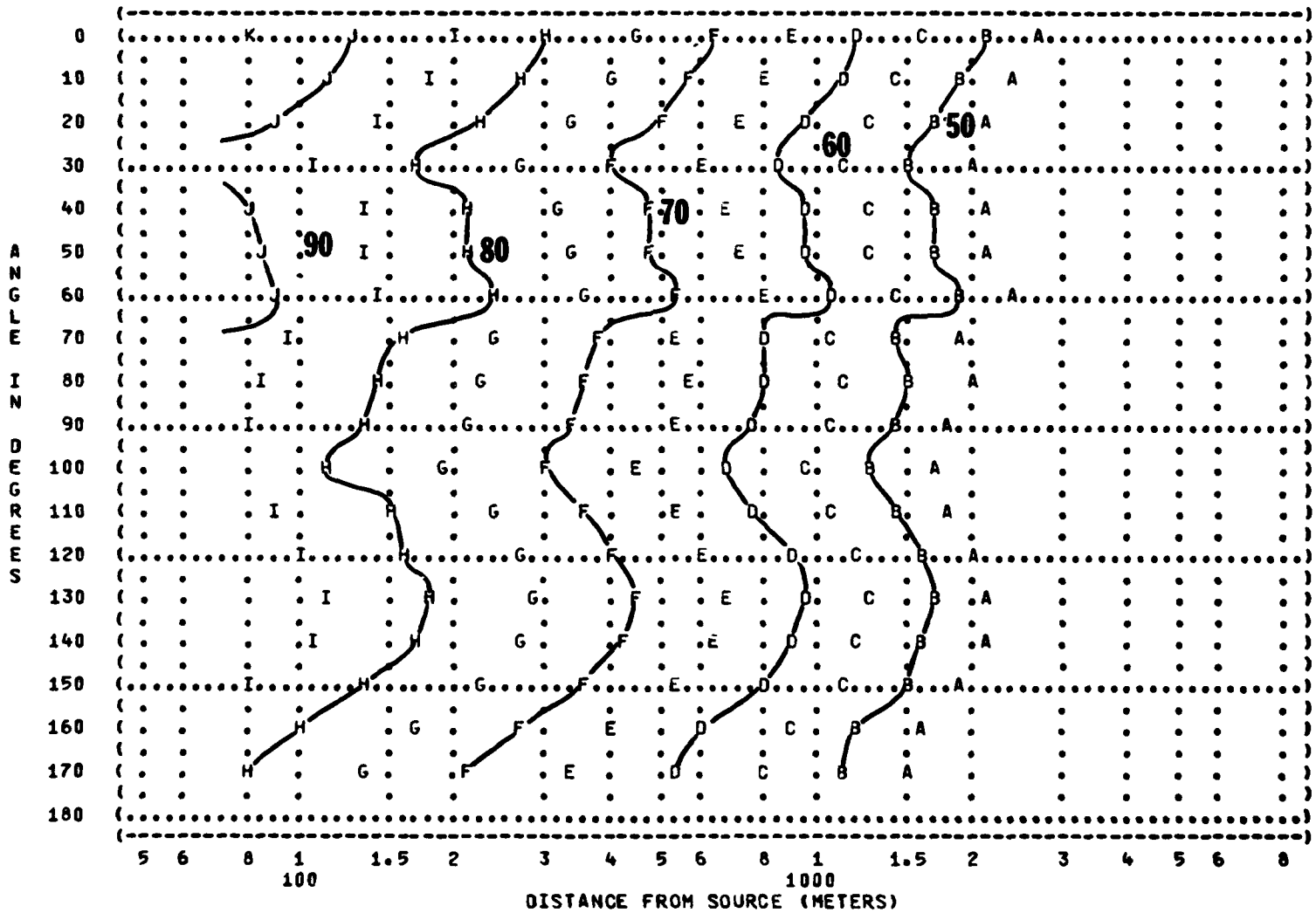


FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

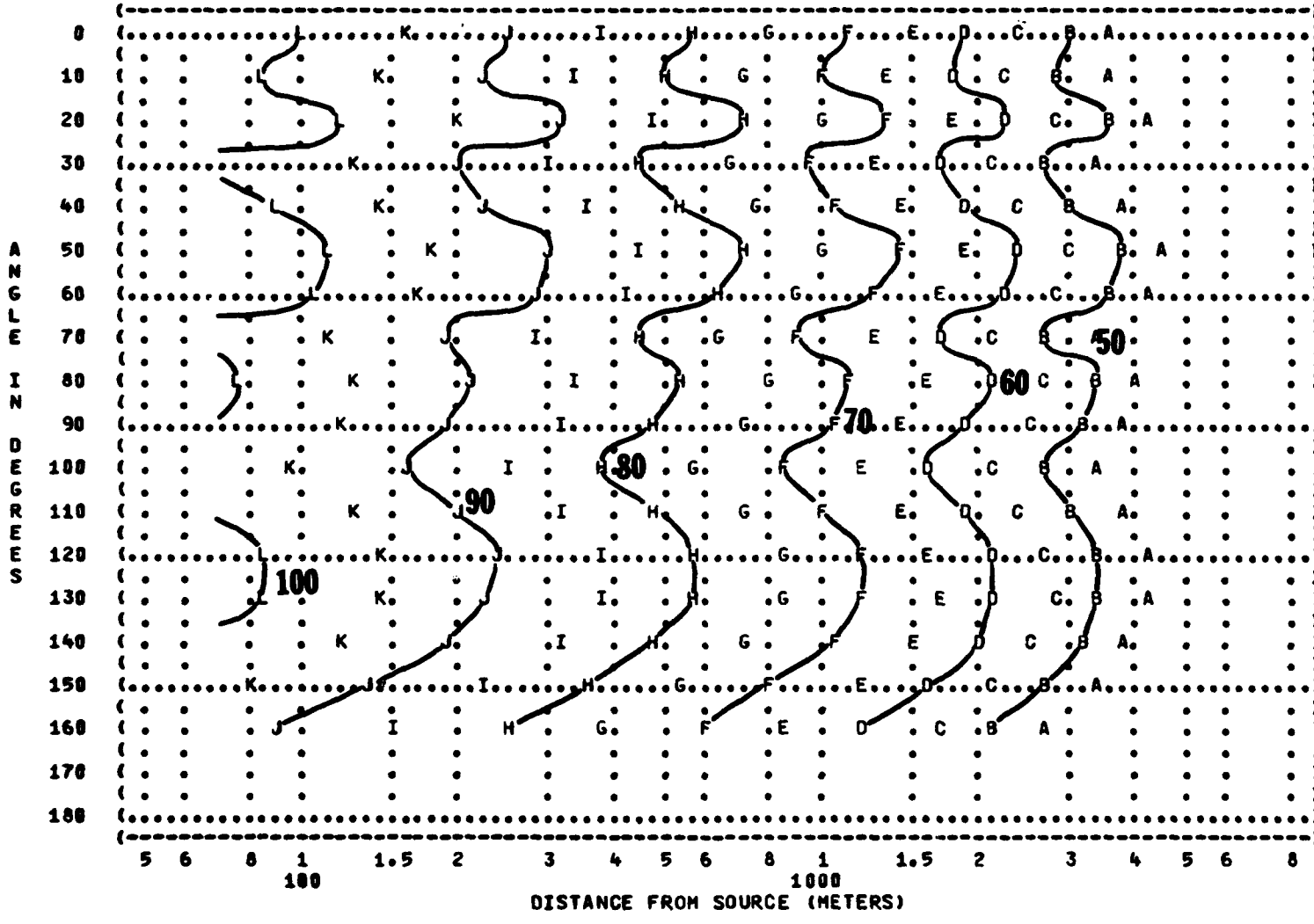


FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 15

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

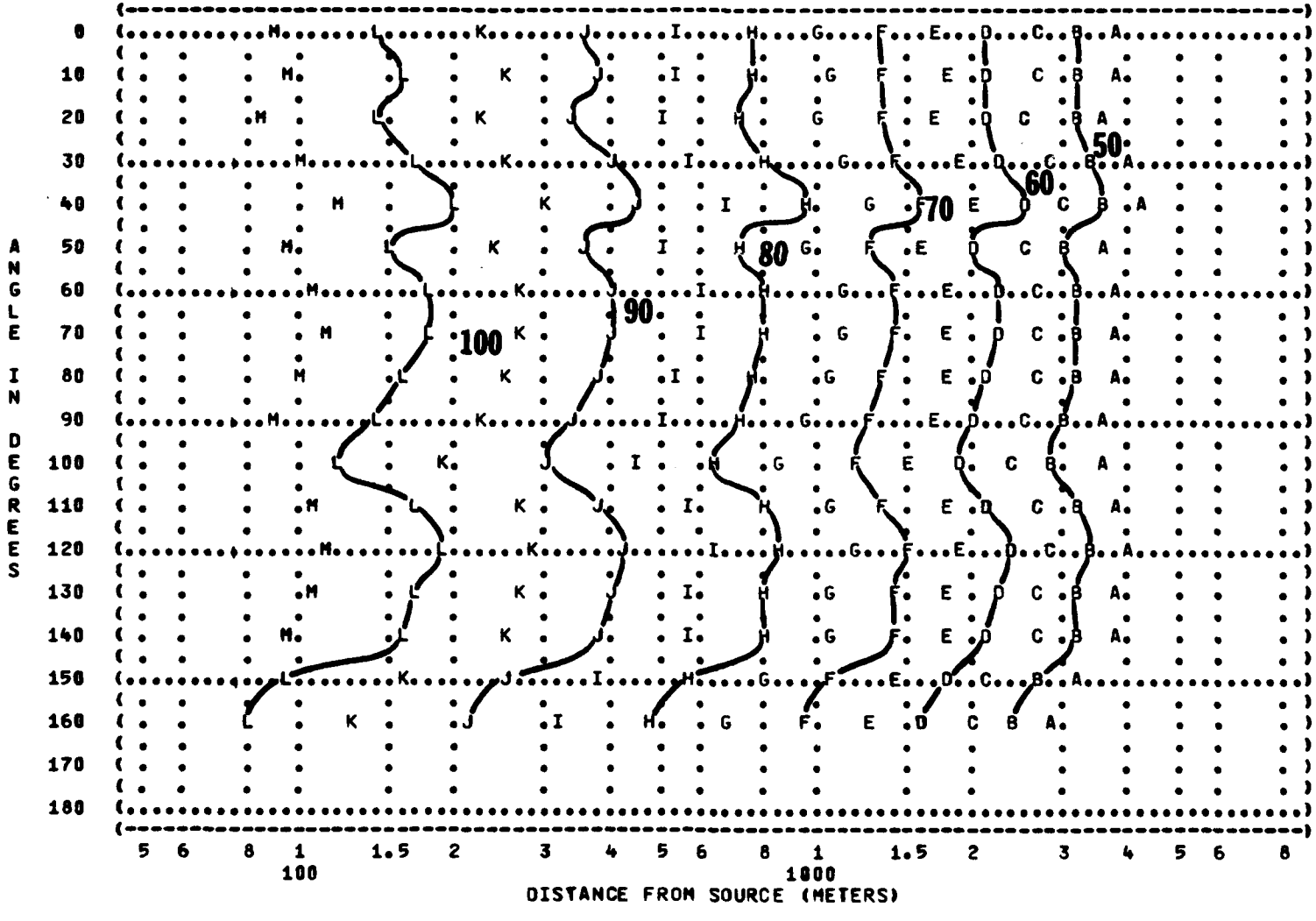


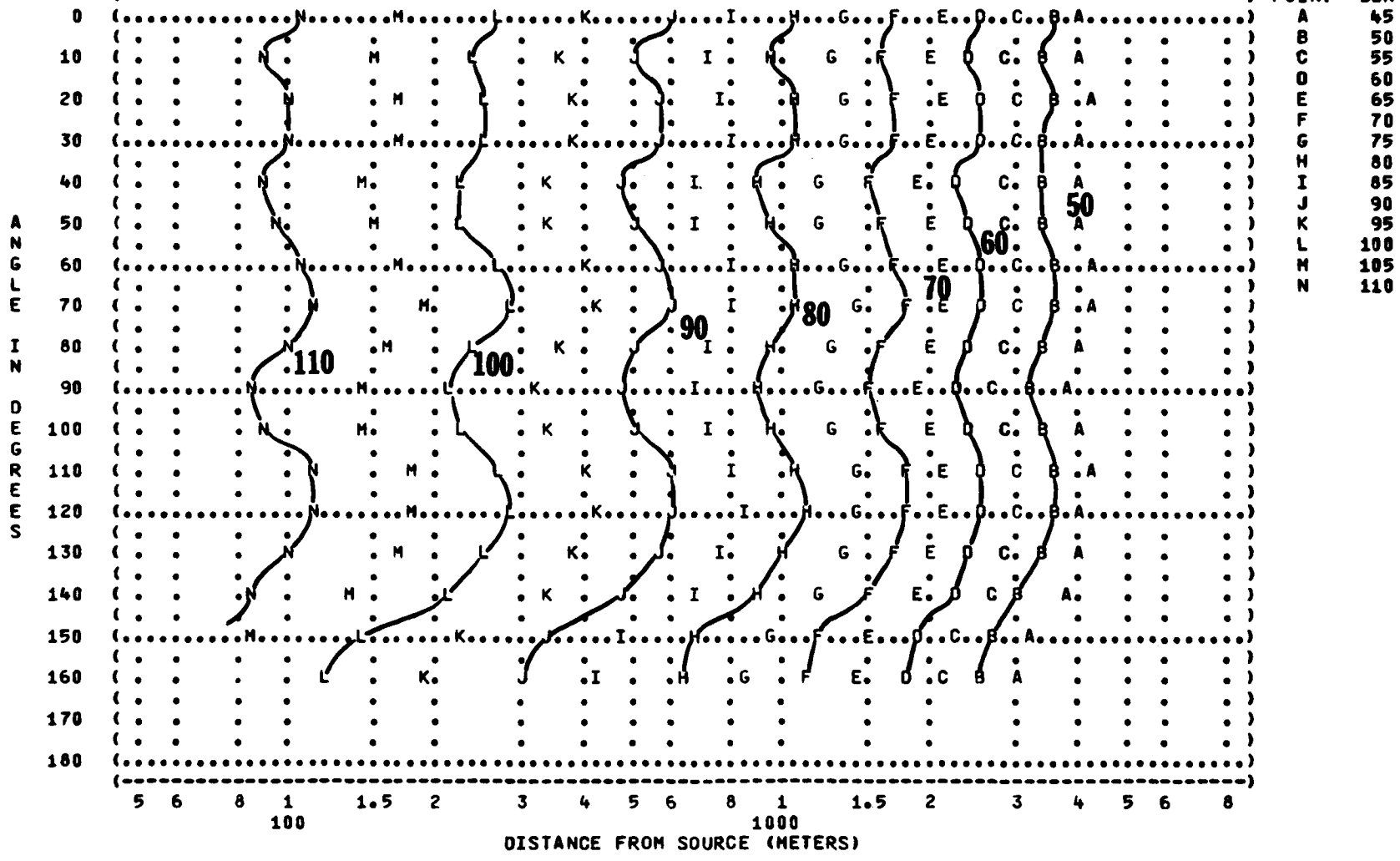
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
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

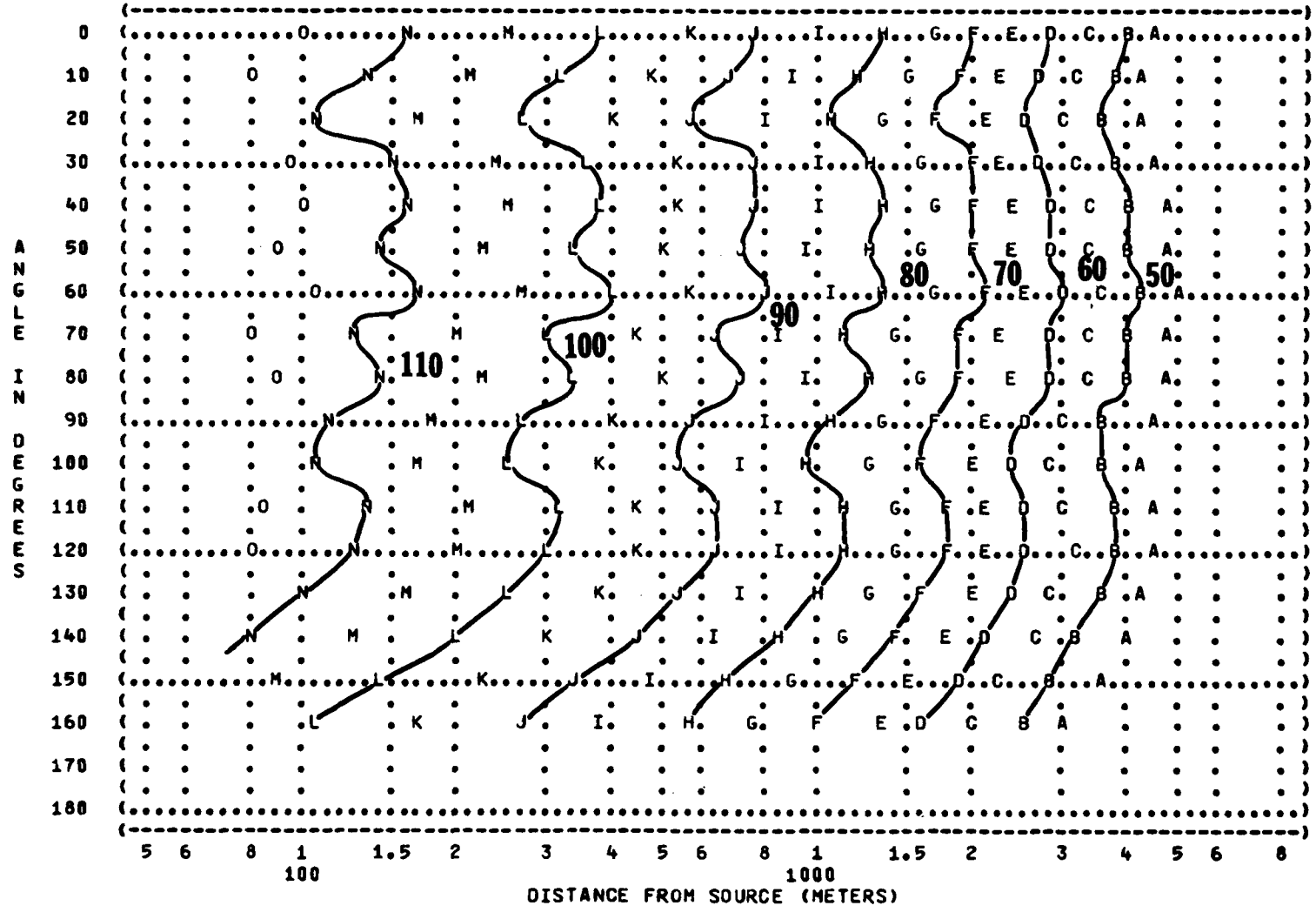
FIGURE: 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
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

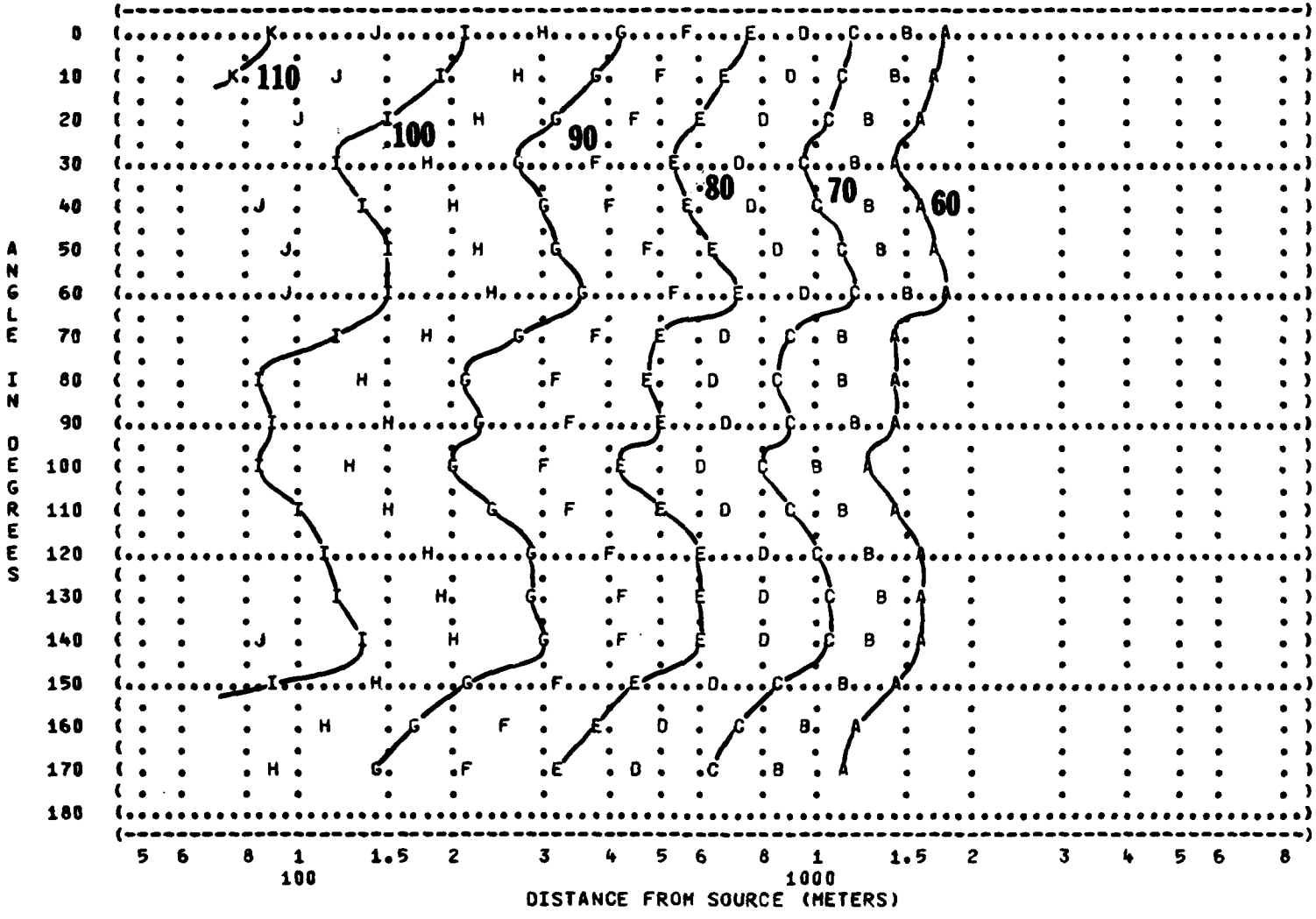


FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

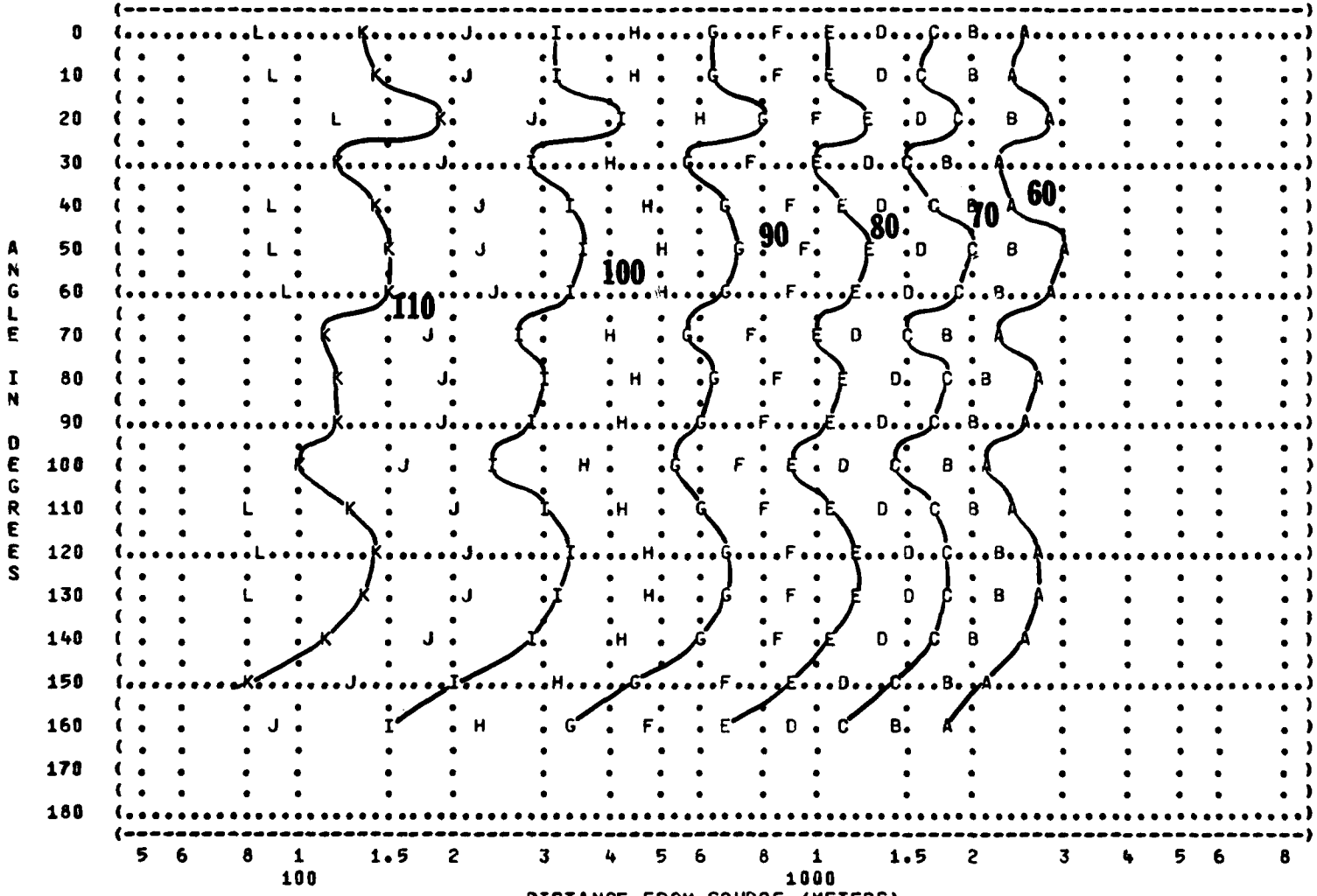


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 16

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

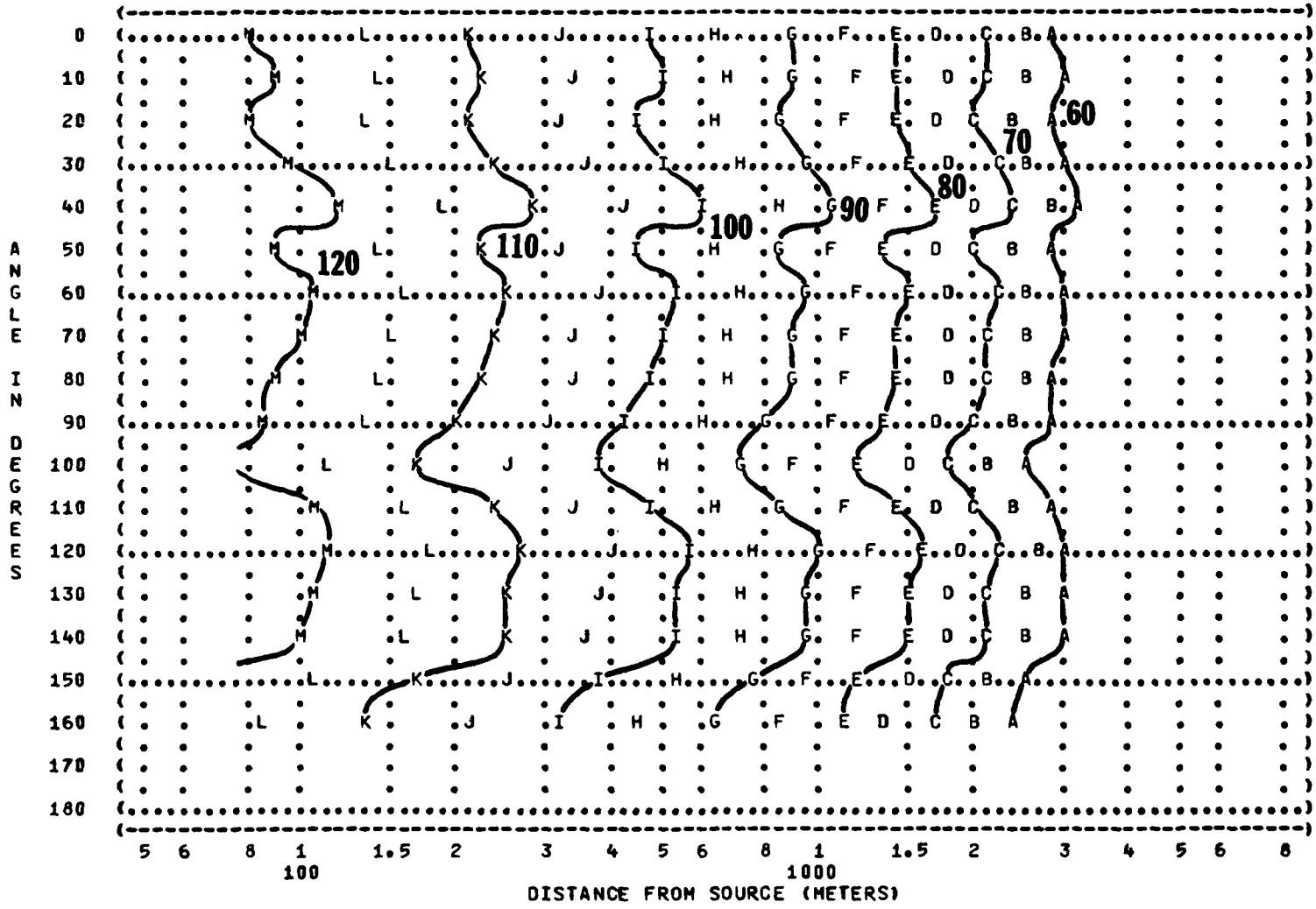


FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

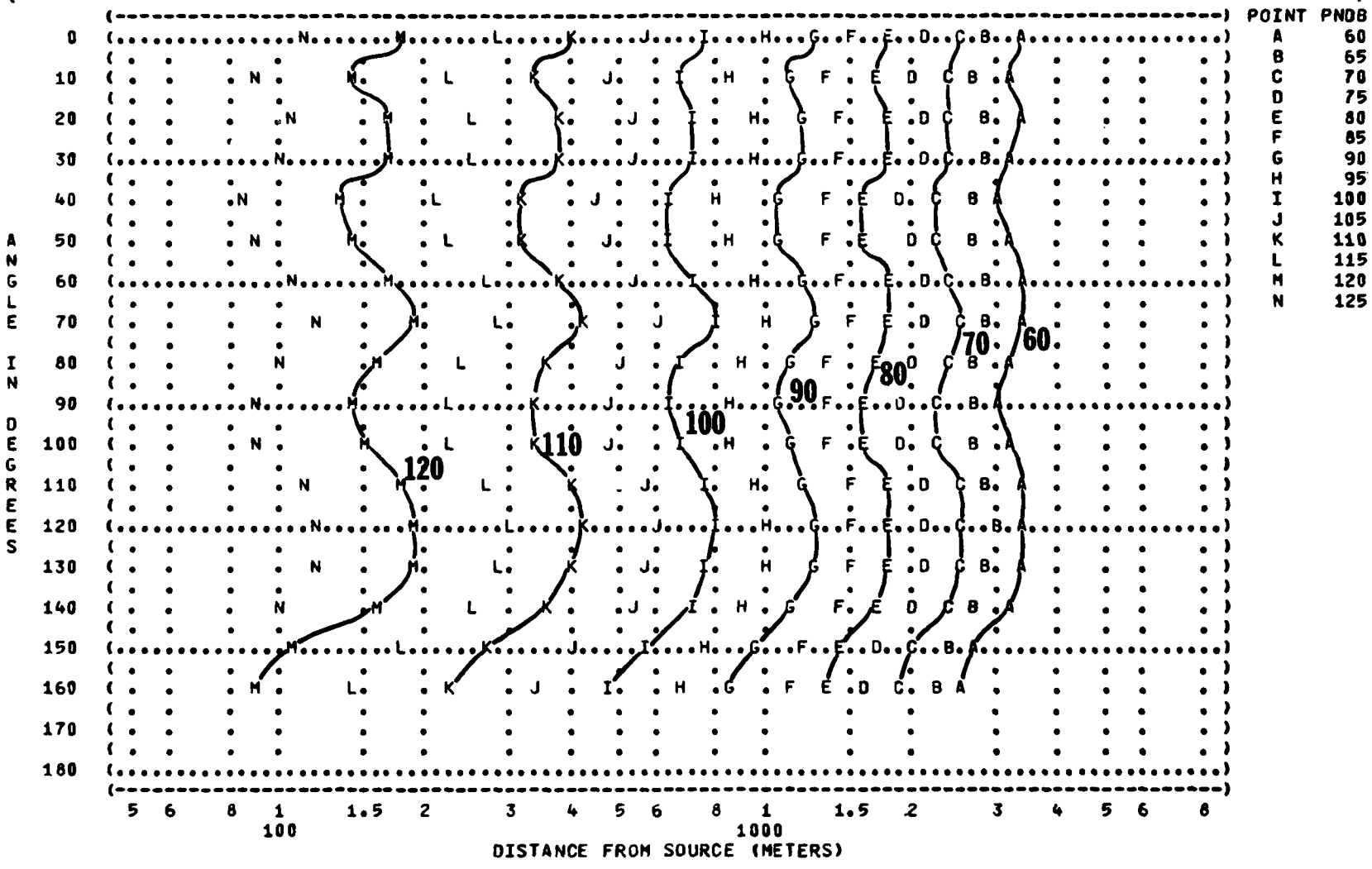


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

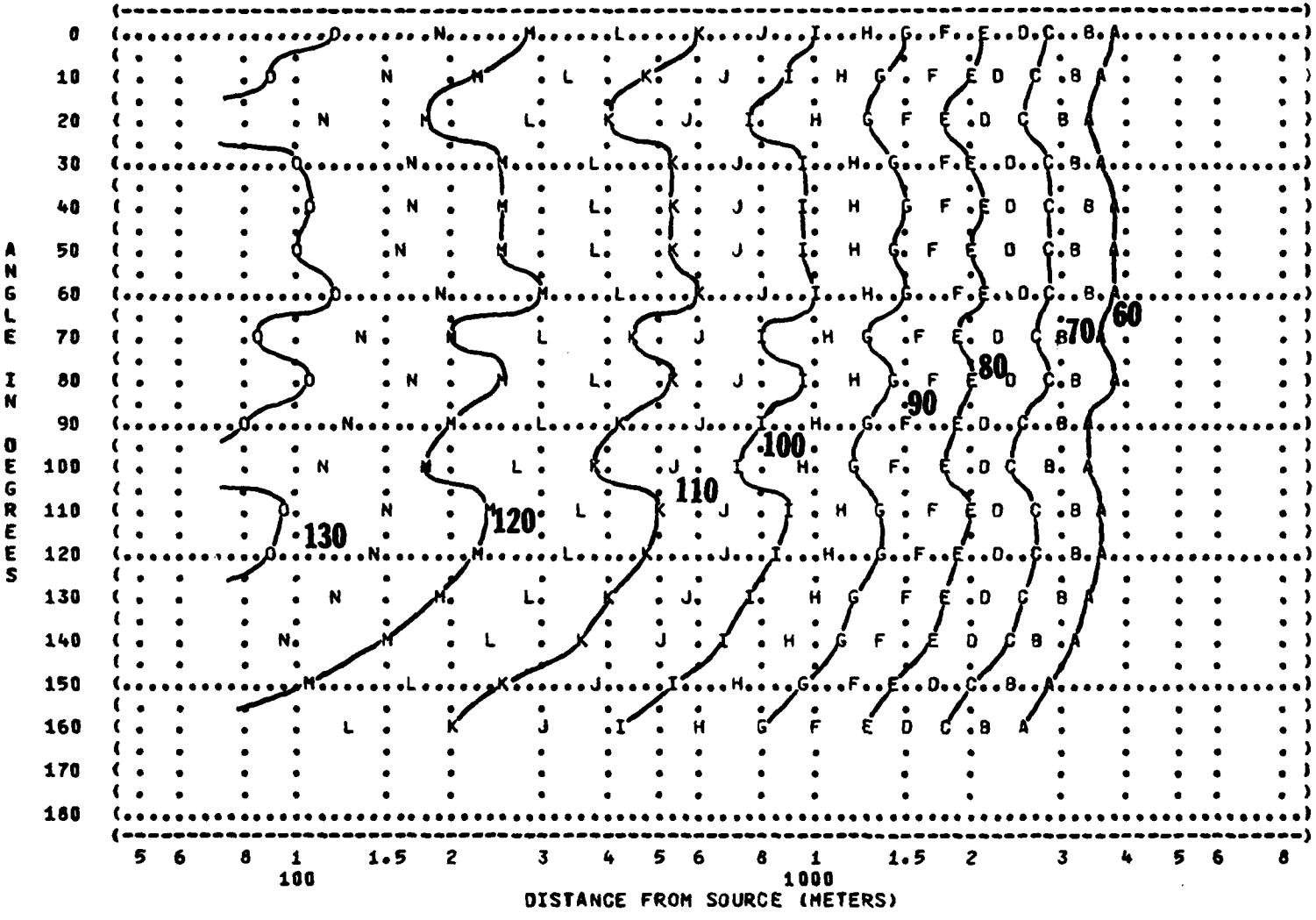


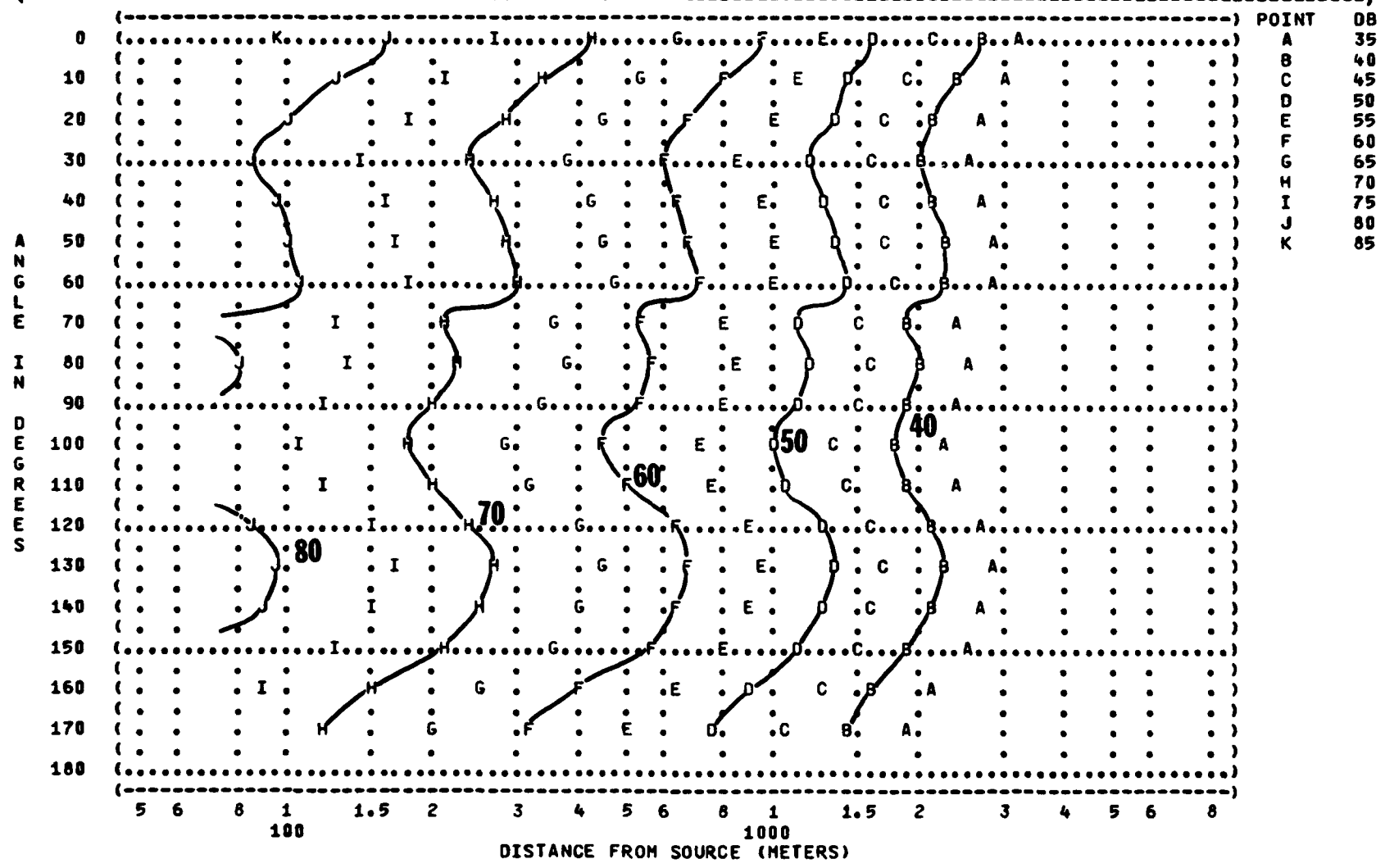
FIGURE: 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

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



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

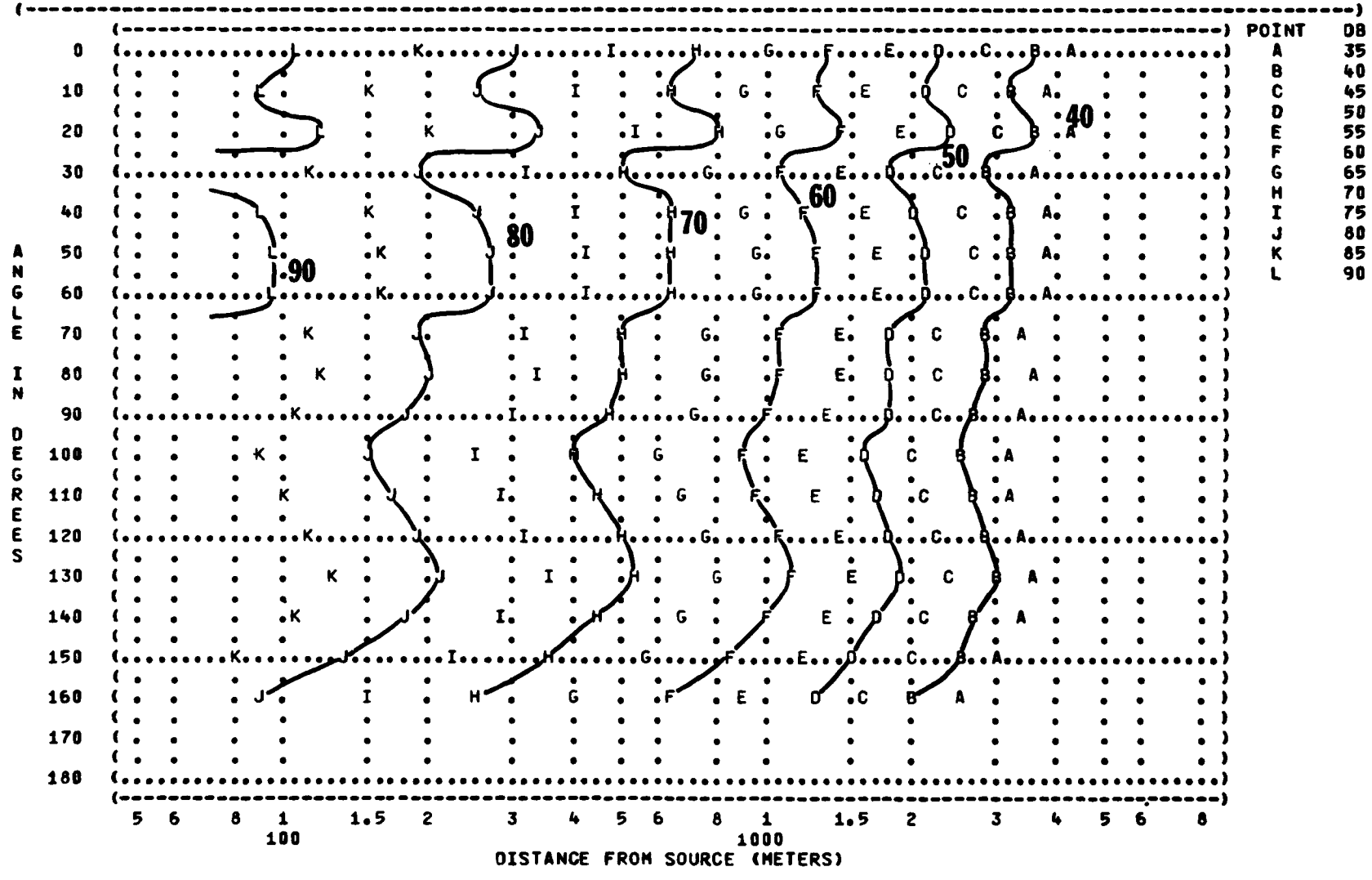
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 17

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
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

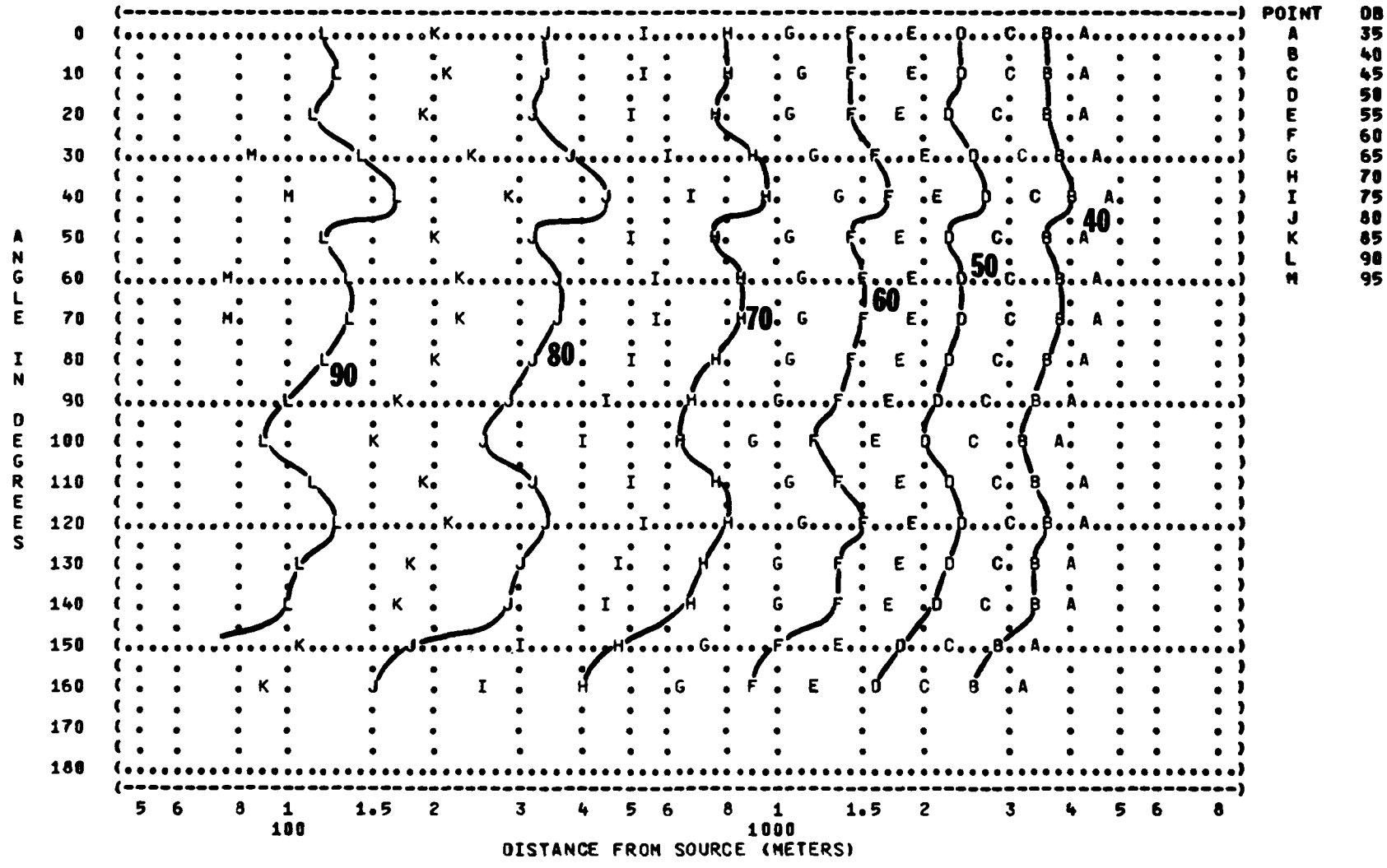


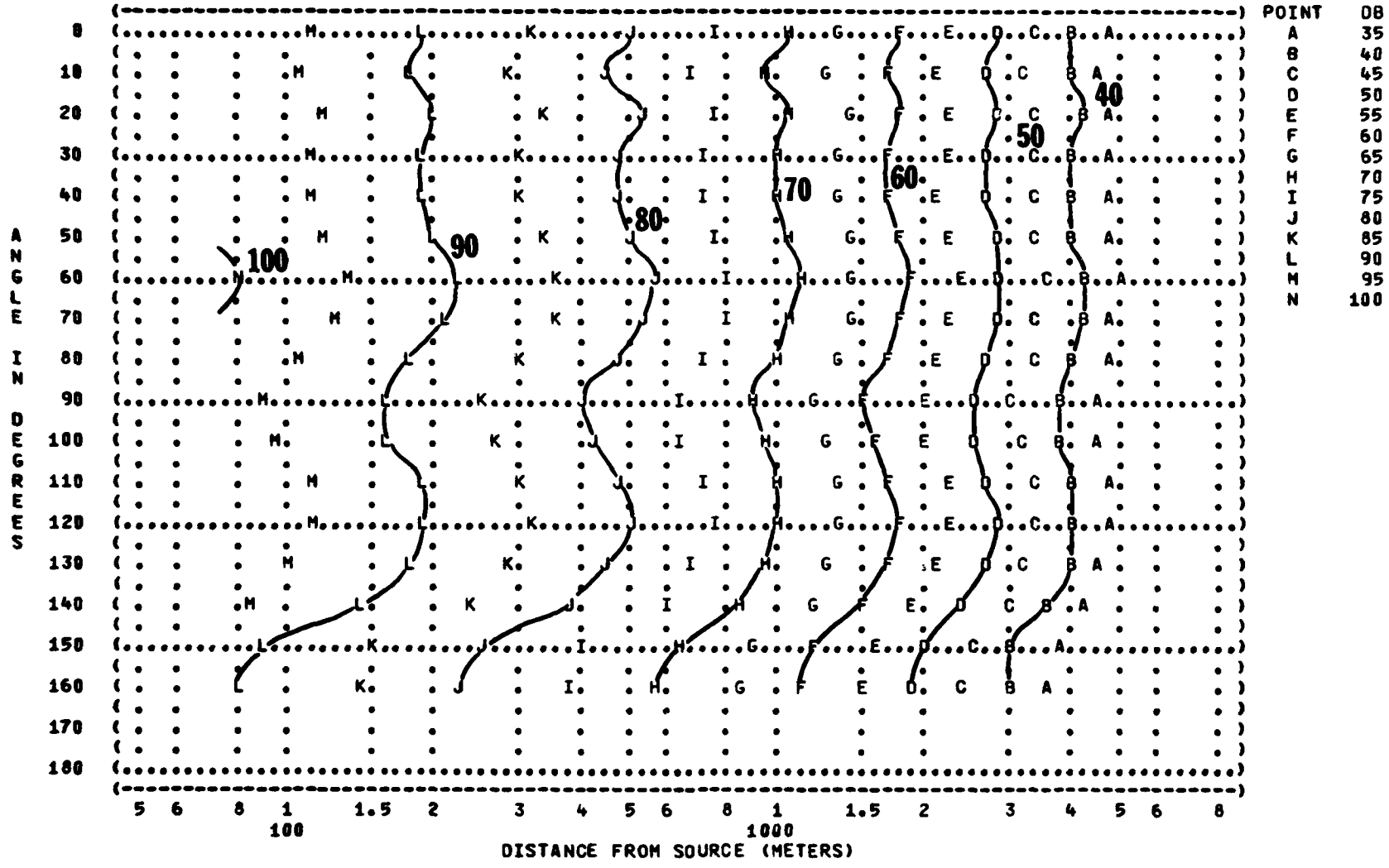
FIGURE 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
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 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

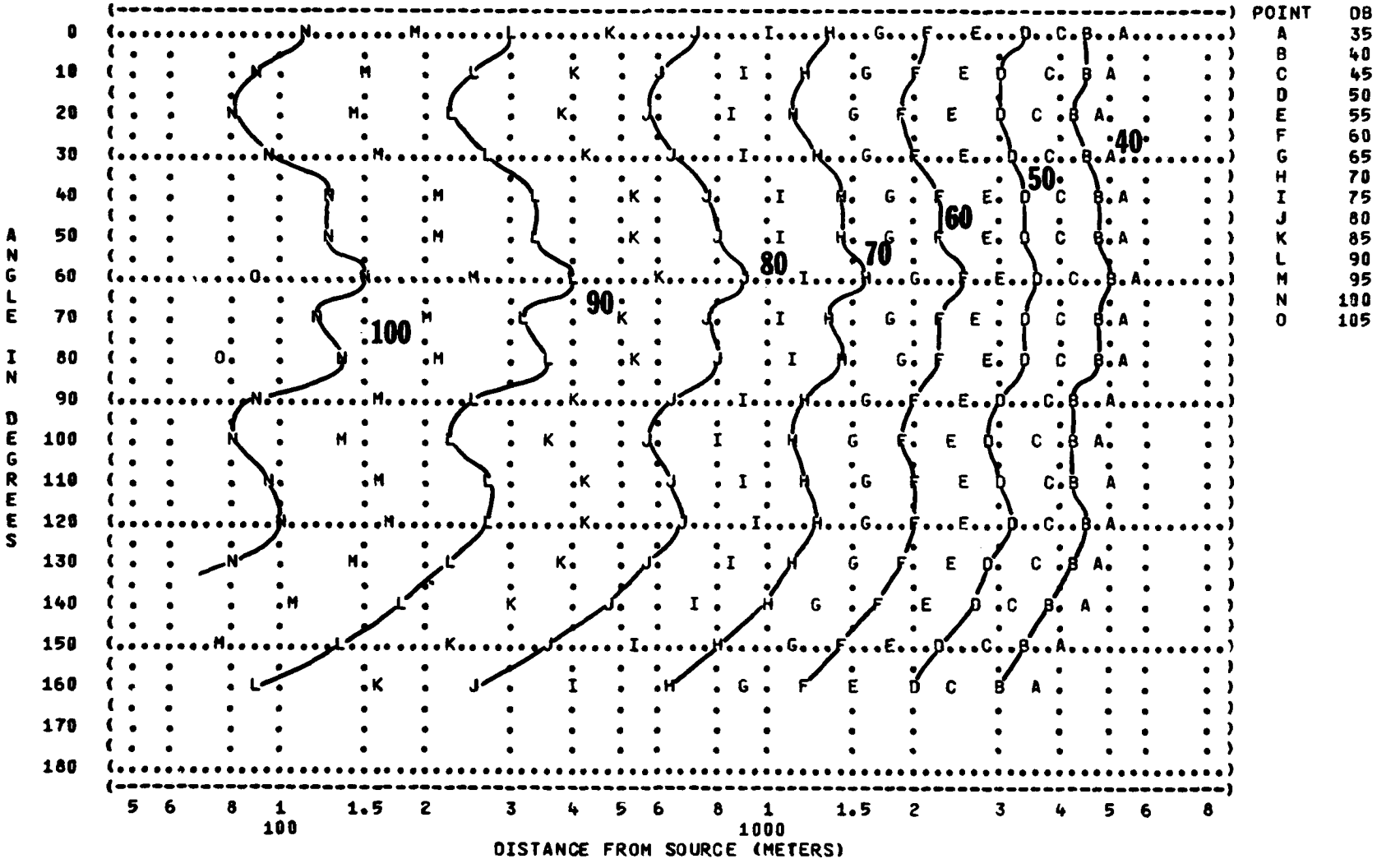


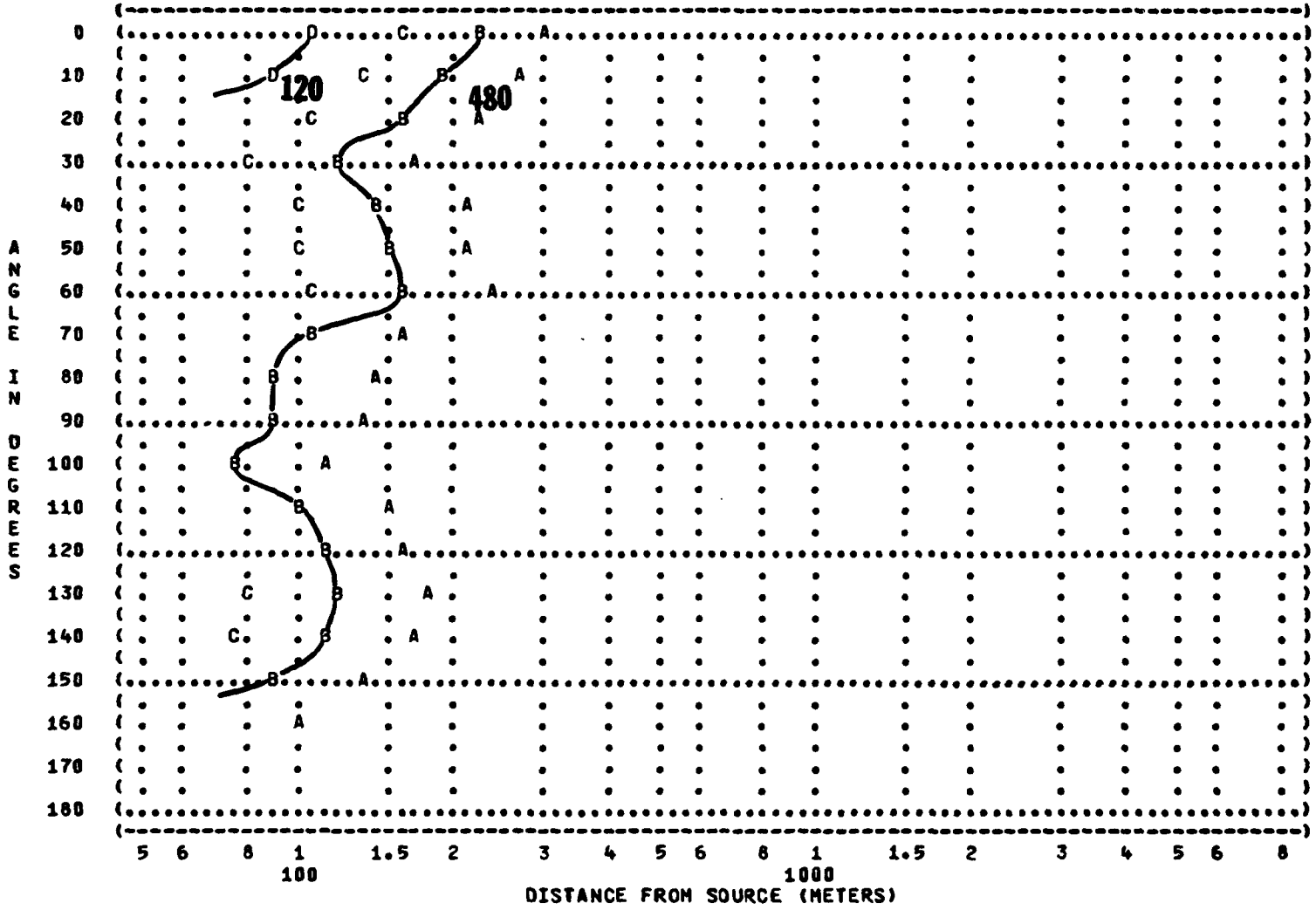
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

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



POINT	MIN
A	960
B	480
C	240
D	120

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 01
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
IDLE, 64% RPM
TWO ENGINES (INBOARD)
FREE FLOW

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

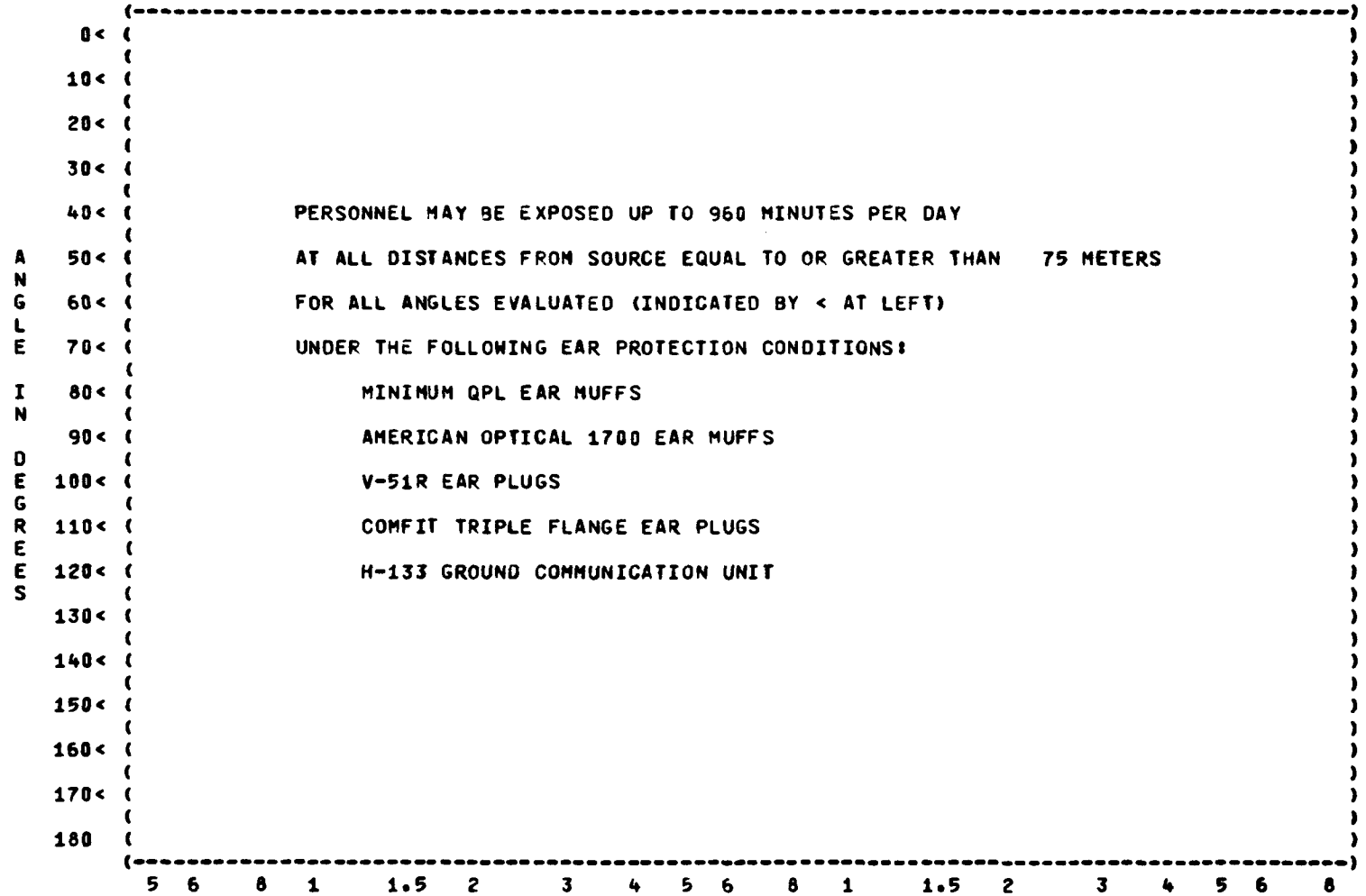


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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

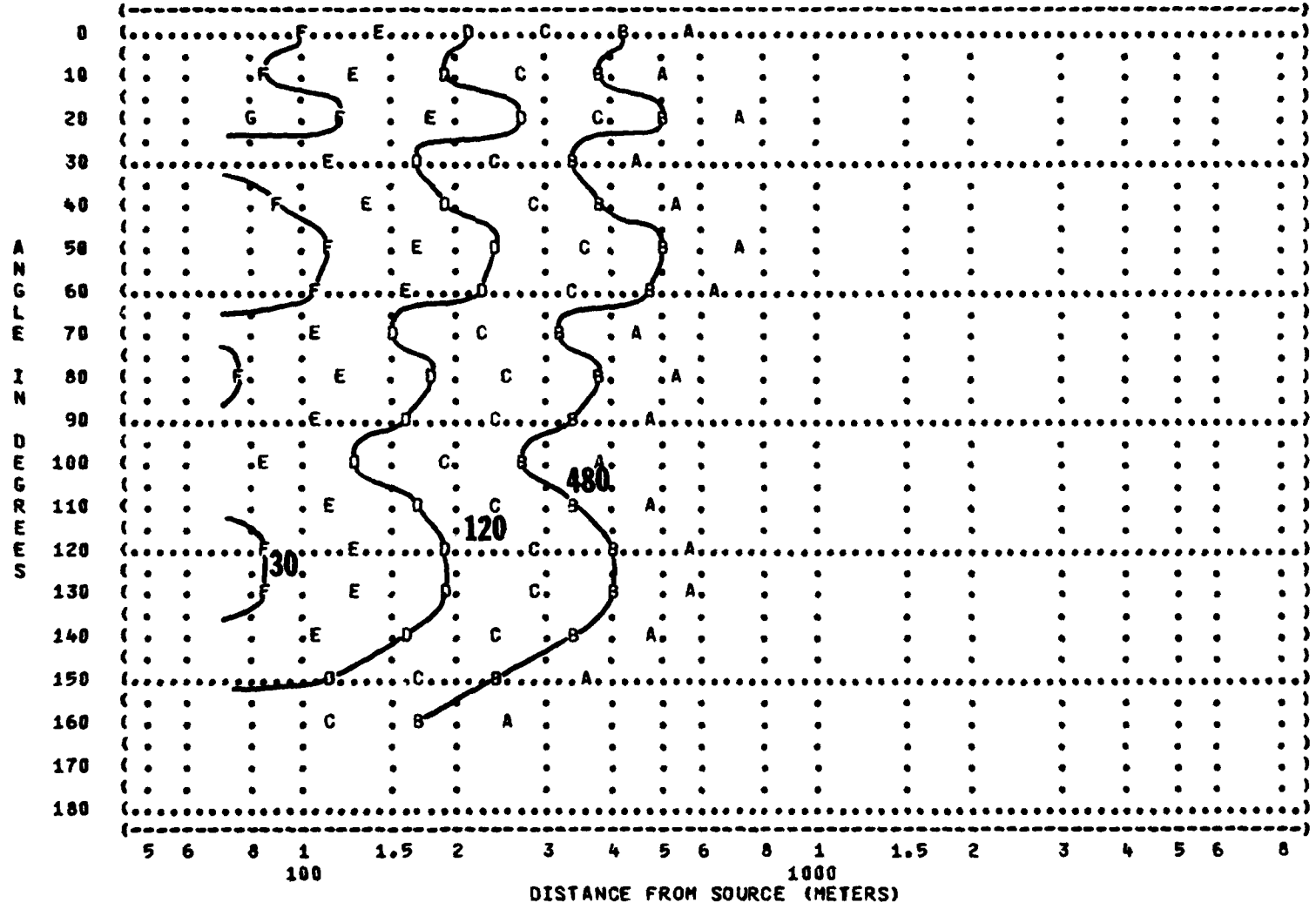


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

POINT	MIN
A	960

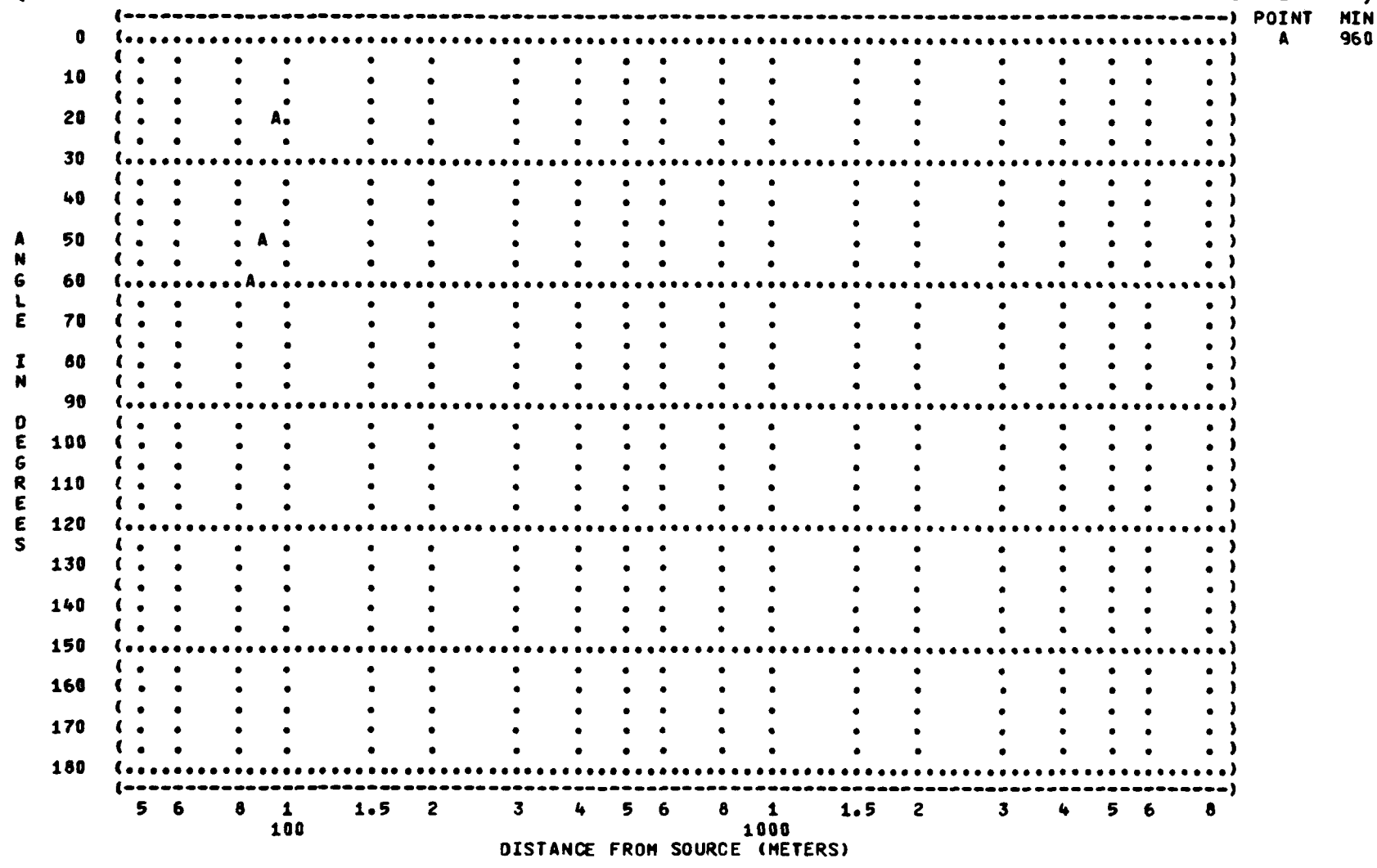


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 02
18 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
77% RPM, 1.6 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

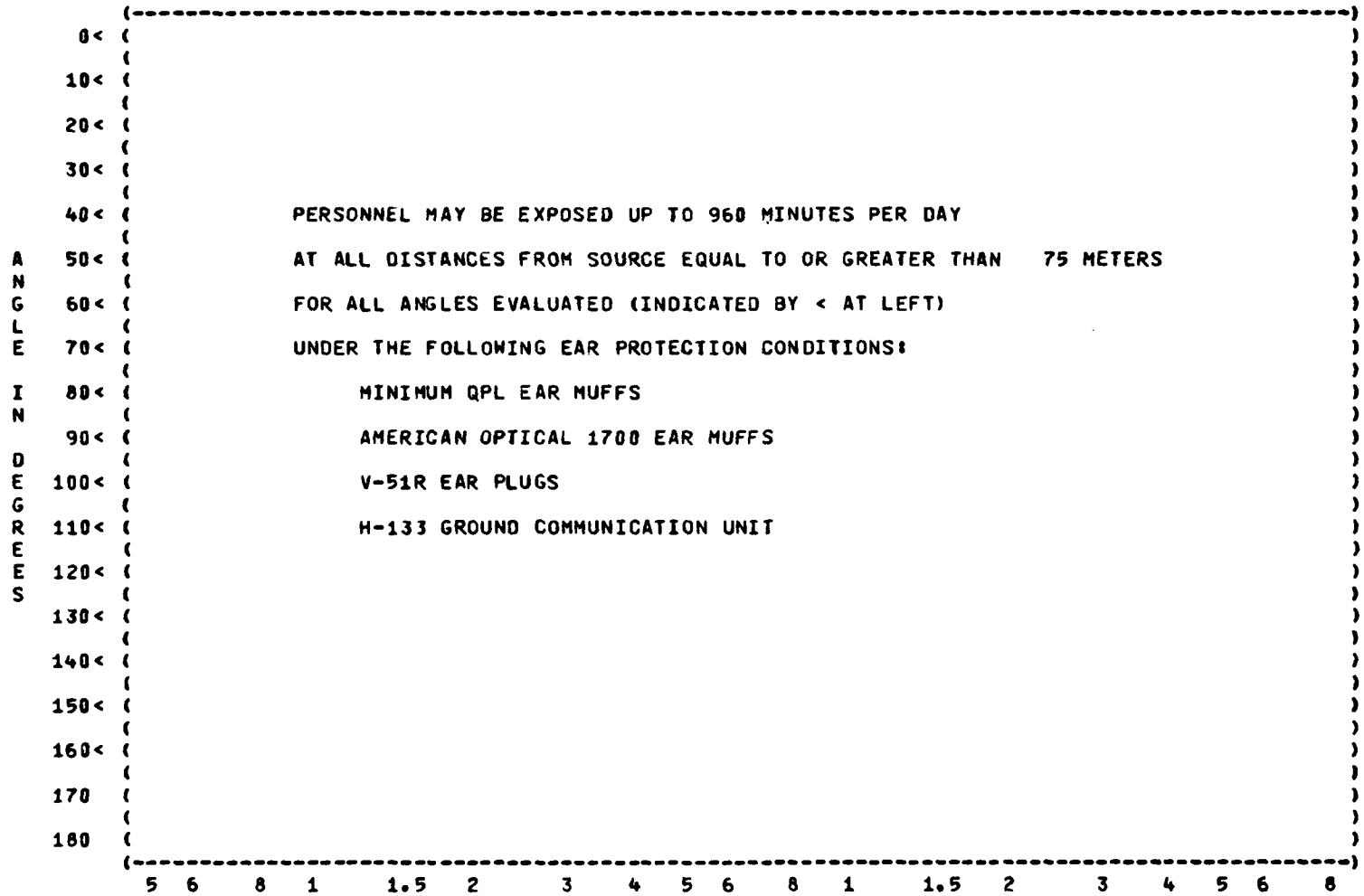


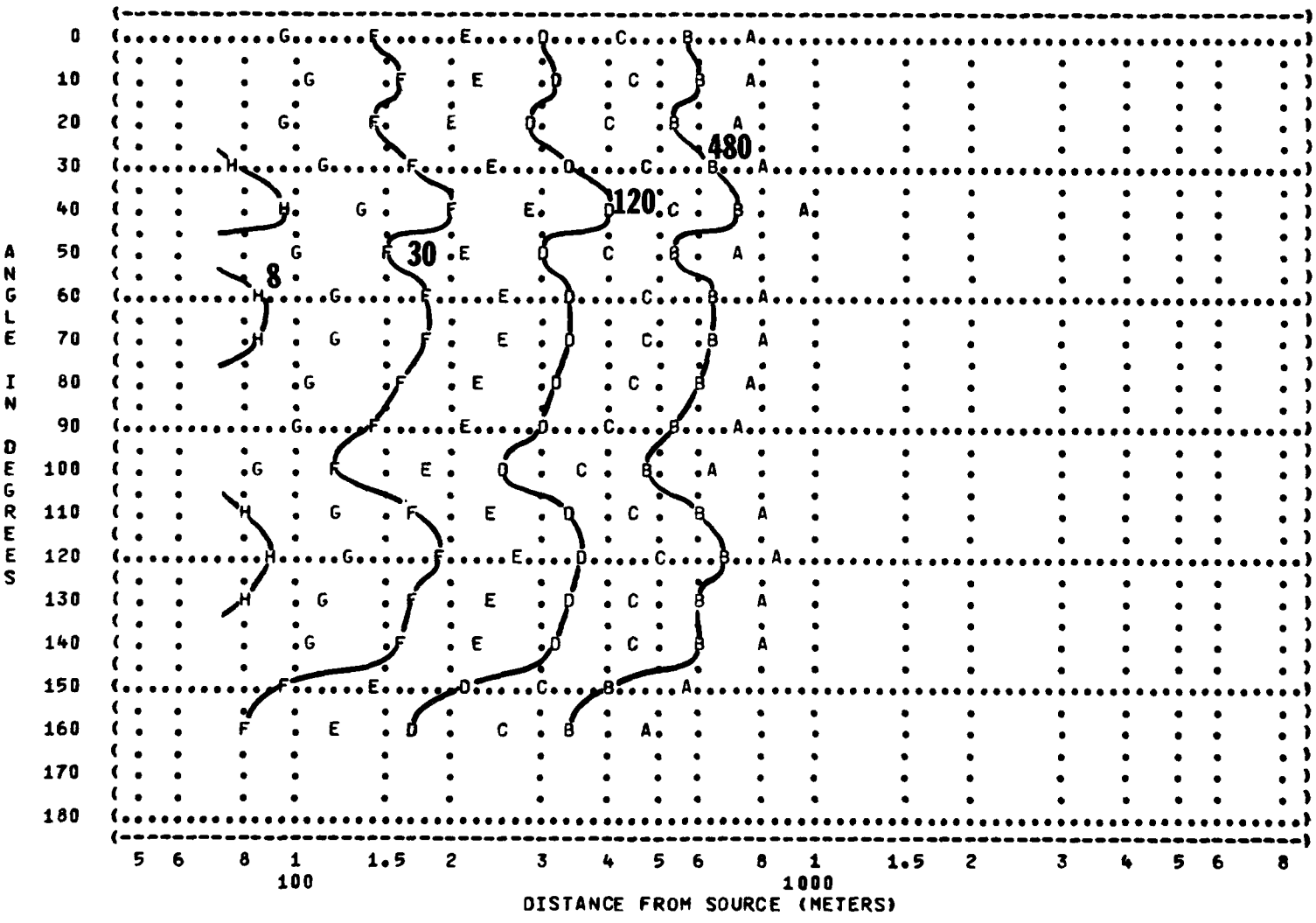
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 7

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
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

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 8

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

POINT MIN
A 960

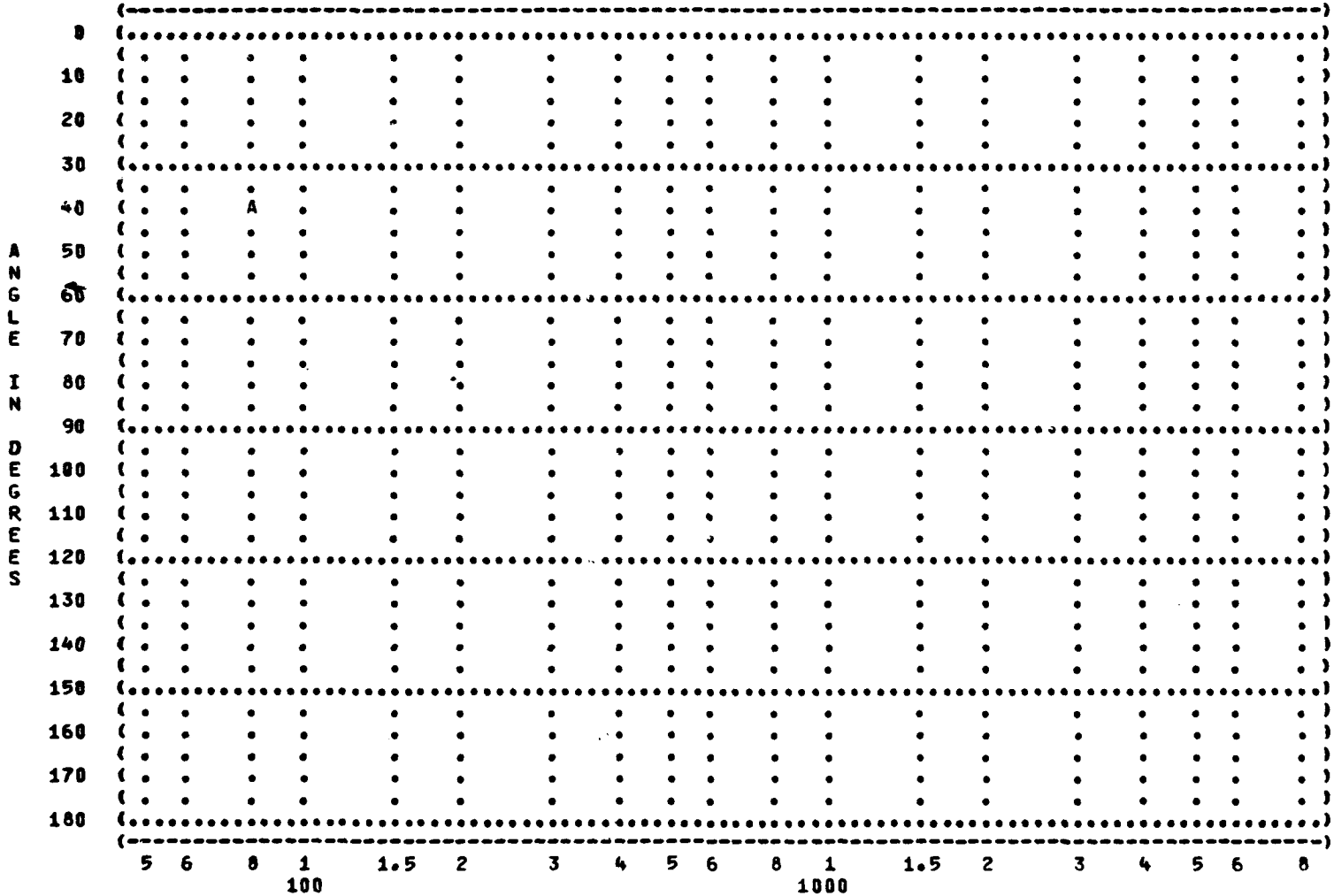


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 9

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

POINT	MIN
A	960
B	480

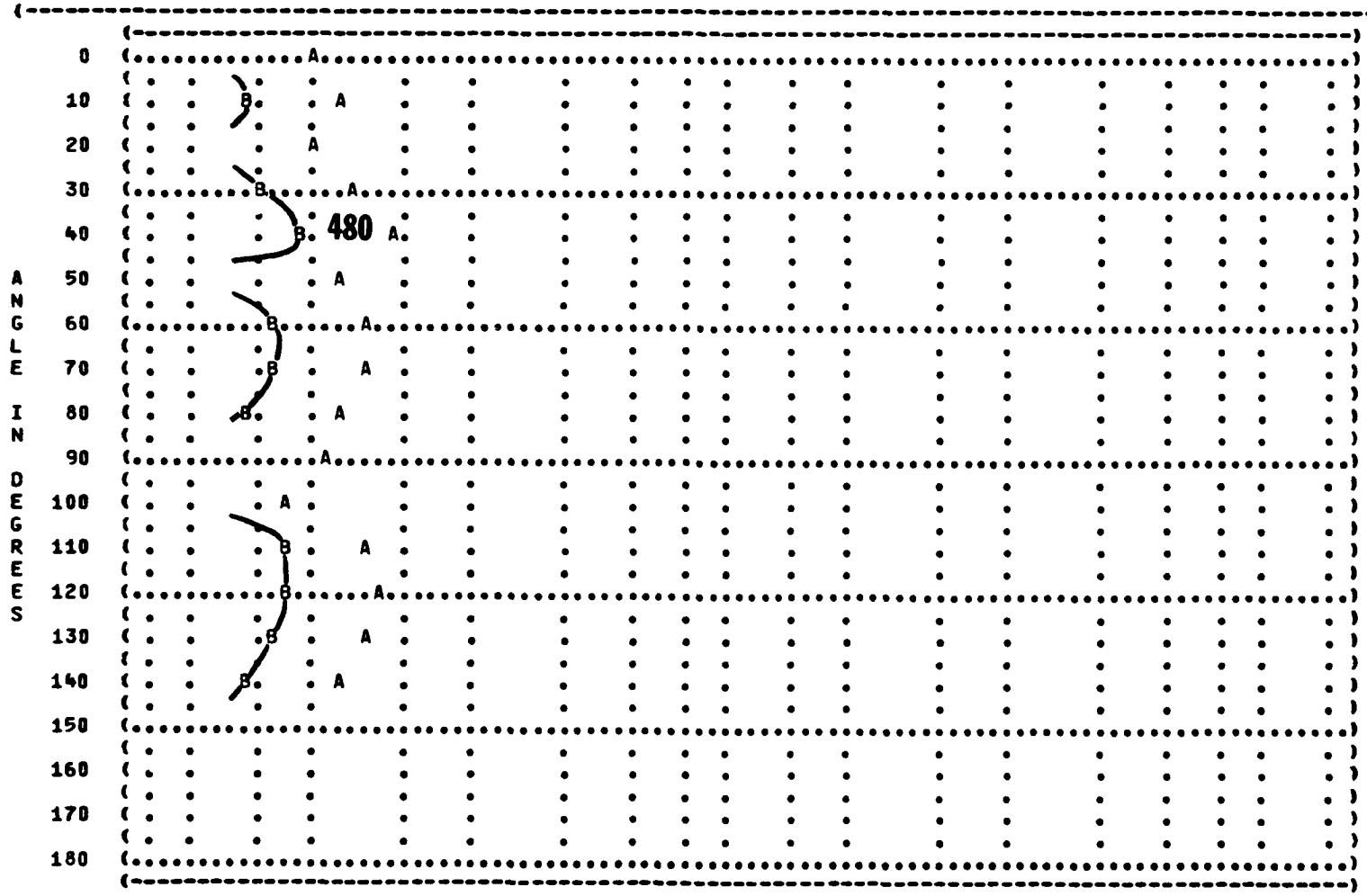


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
85% RPM, 2.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 03
24 JAN 79
PAGE 10

POINT A MIN 960

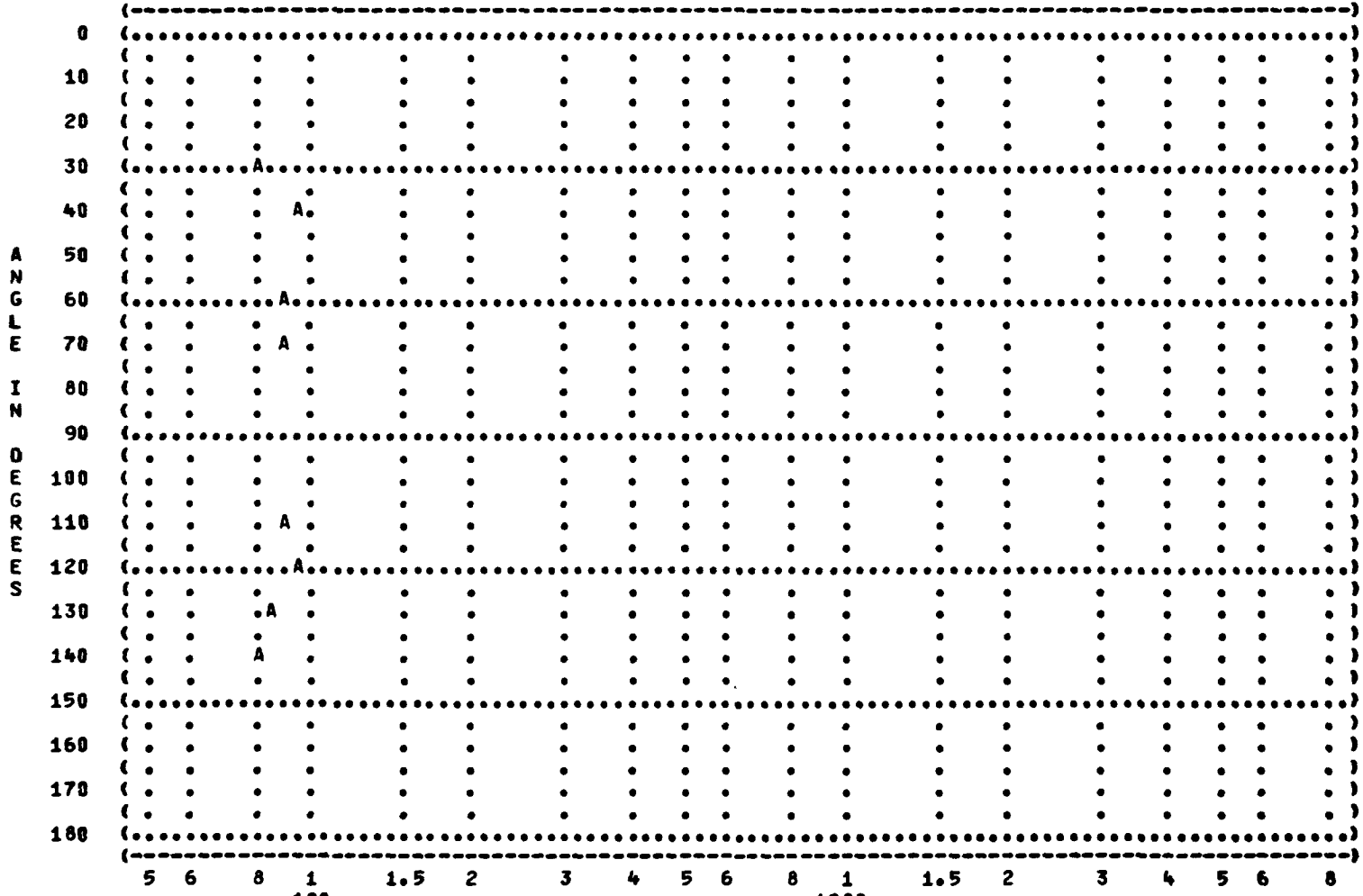


FIGURE: 10	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)	IDENTIFICATION:
NOISE SOURCE/SUBJECT: C-5A AIRCRAFT TF39-GE-1 FAR FIELD NOISE	OPERATION: 85% RPM, 2.5 EPR TWO ENGINES (INBOARD) FREE FLOW	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %	OMEGA 1.4 TEST 78-015-001 RUN 03 24 JAN 79 PAGE 11

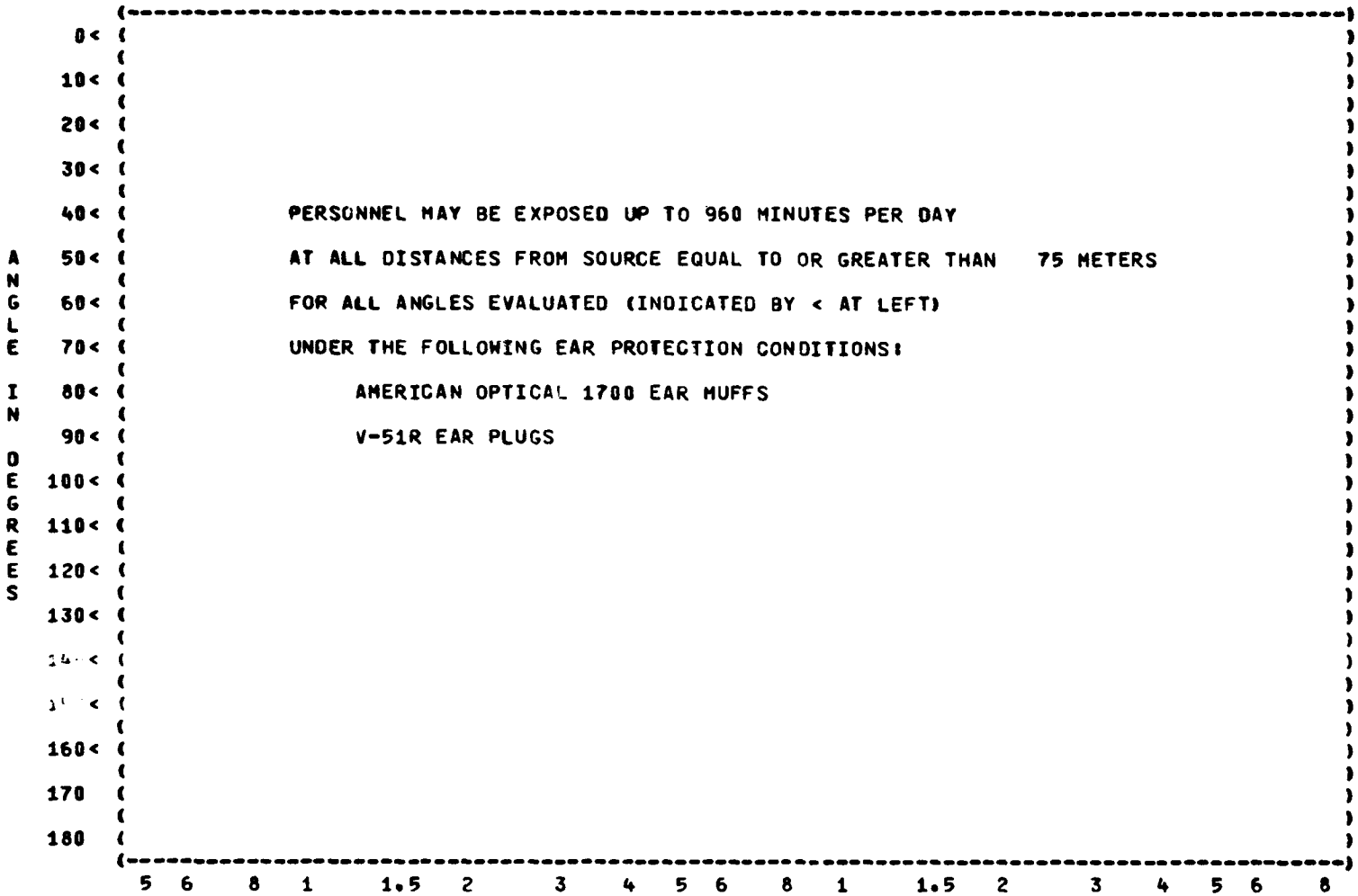


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 7

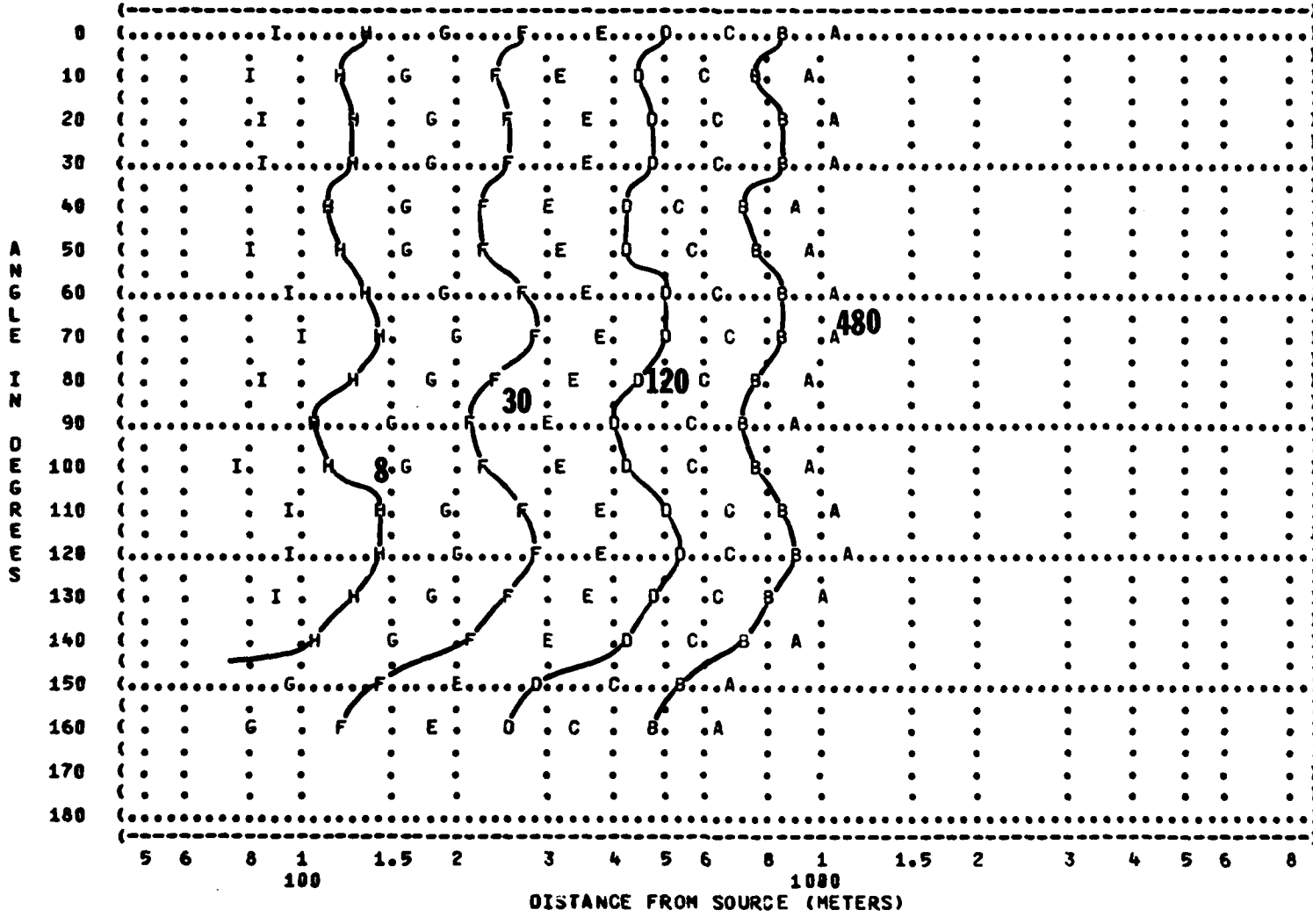


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 8

POINT	MIN
A	960
B	480

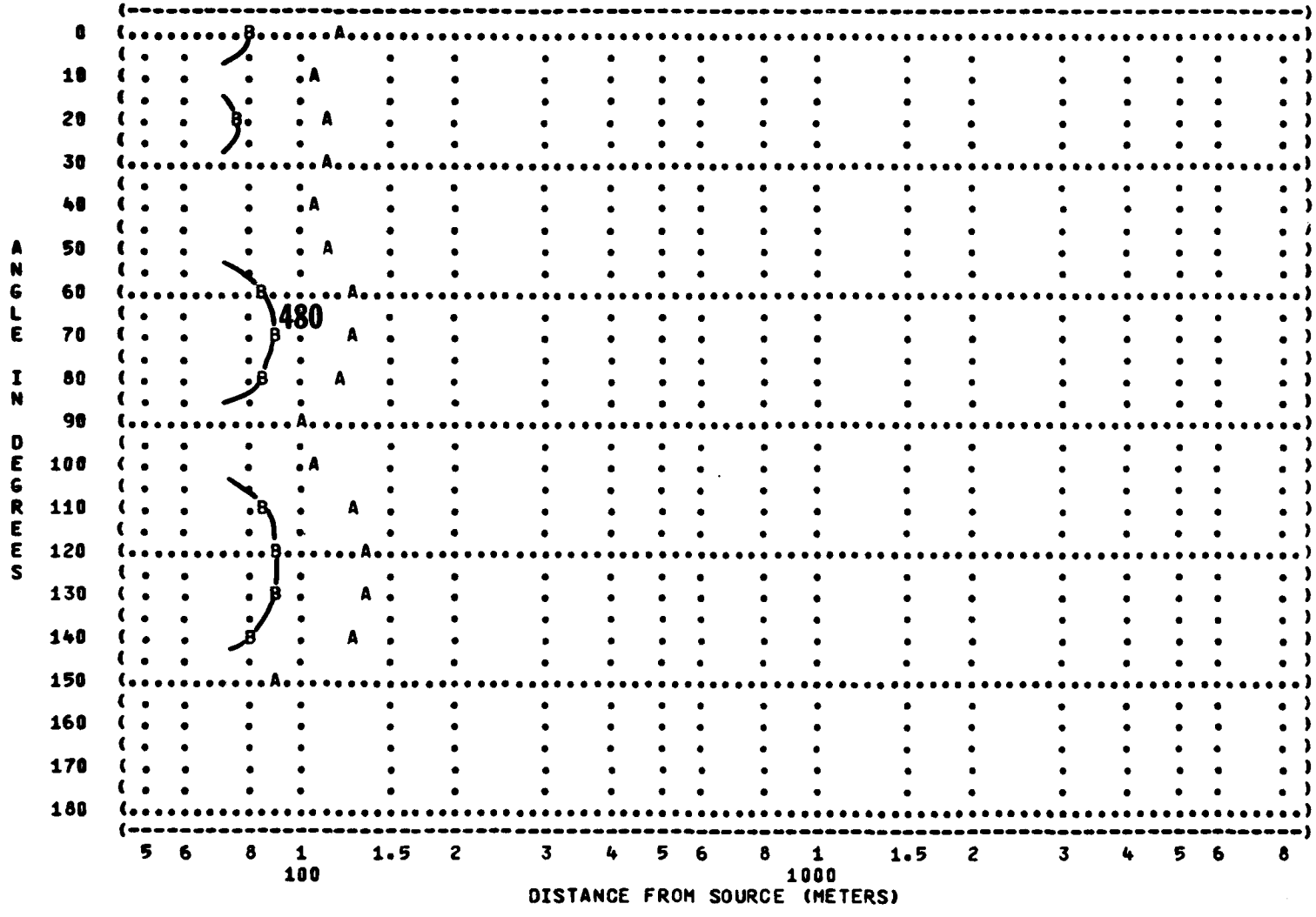


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

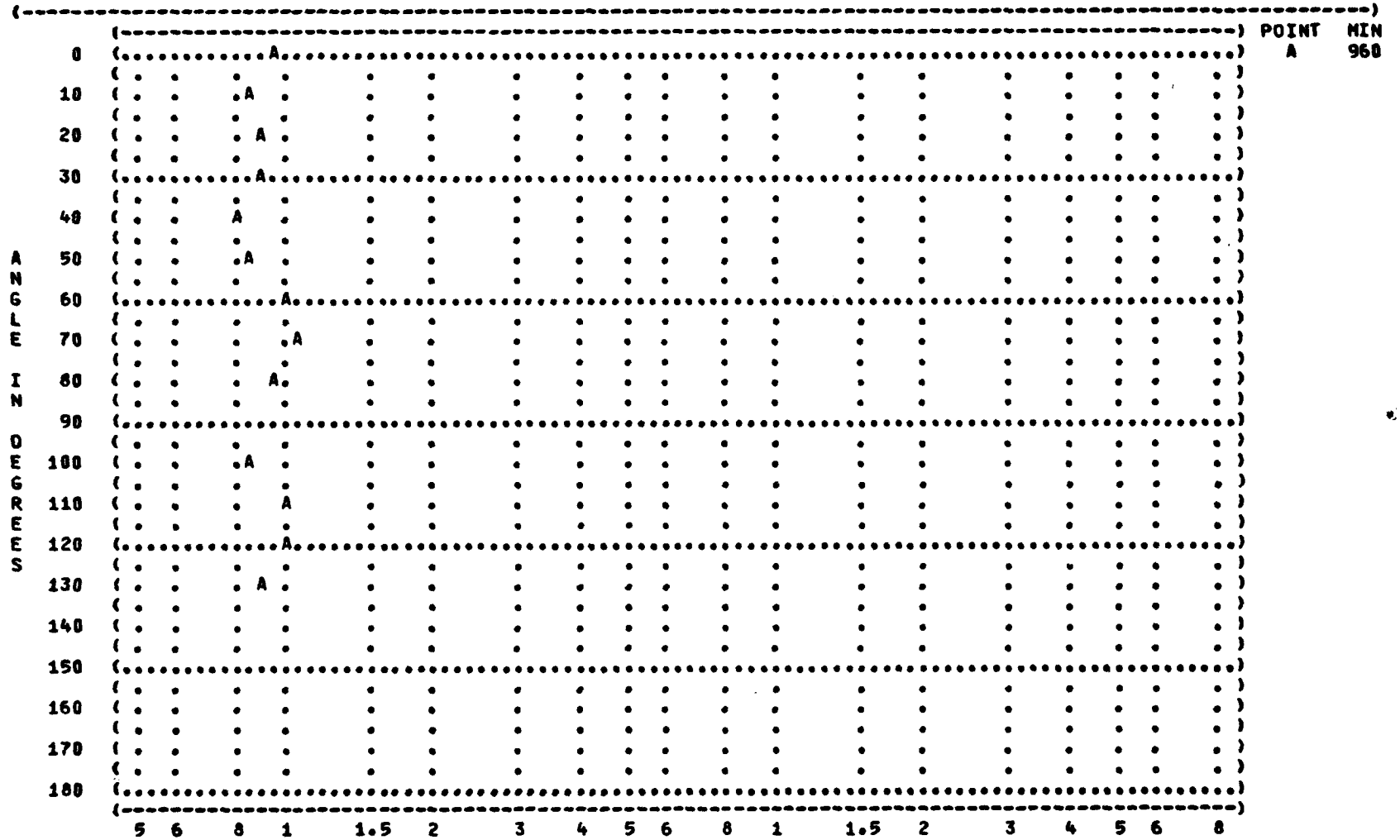


FIGURE 10

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

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 10

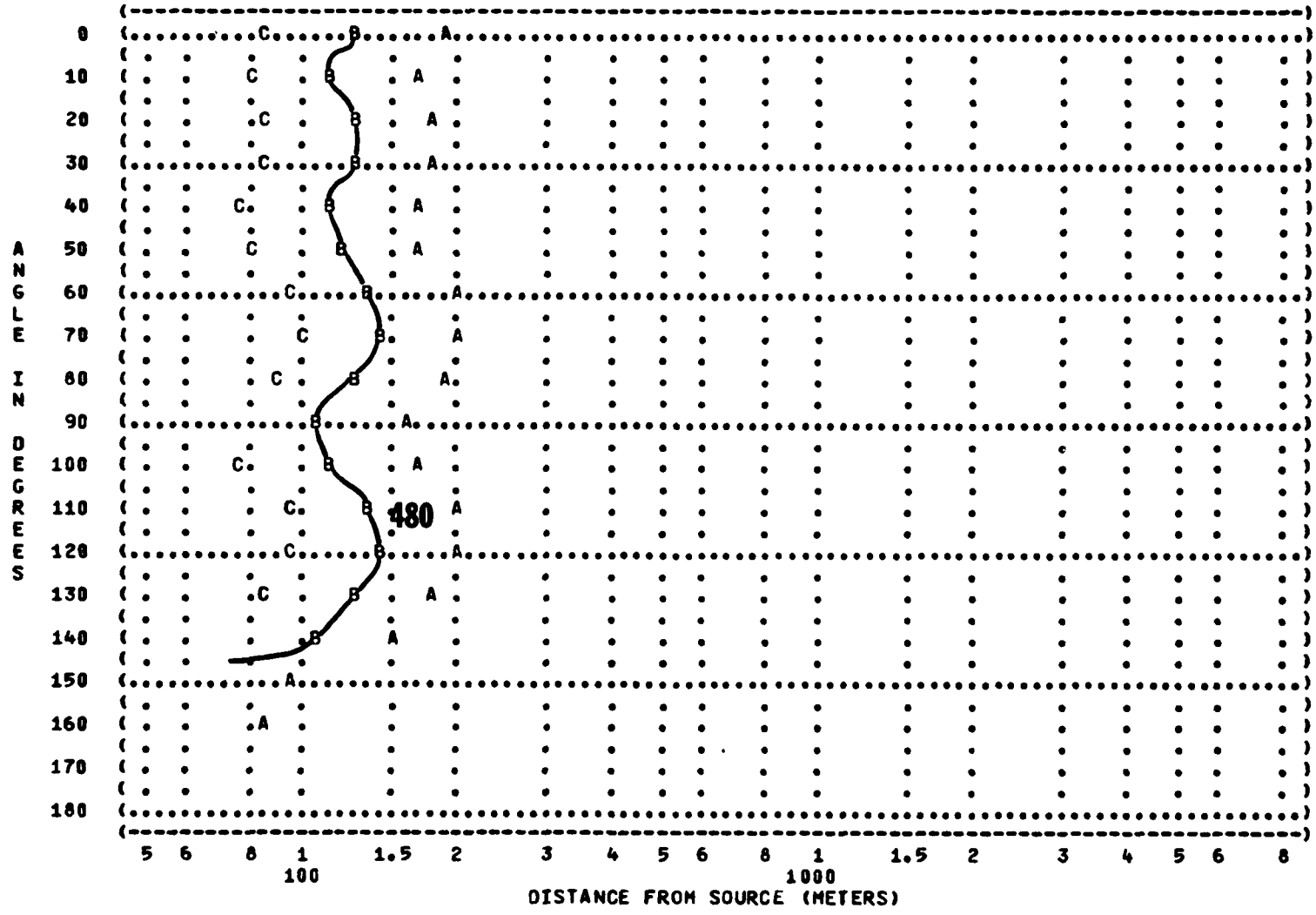


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
90% RPM, 3.5 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 04
18 SEP 78
PAGE 11

POINT	MIN
A	960
B	480

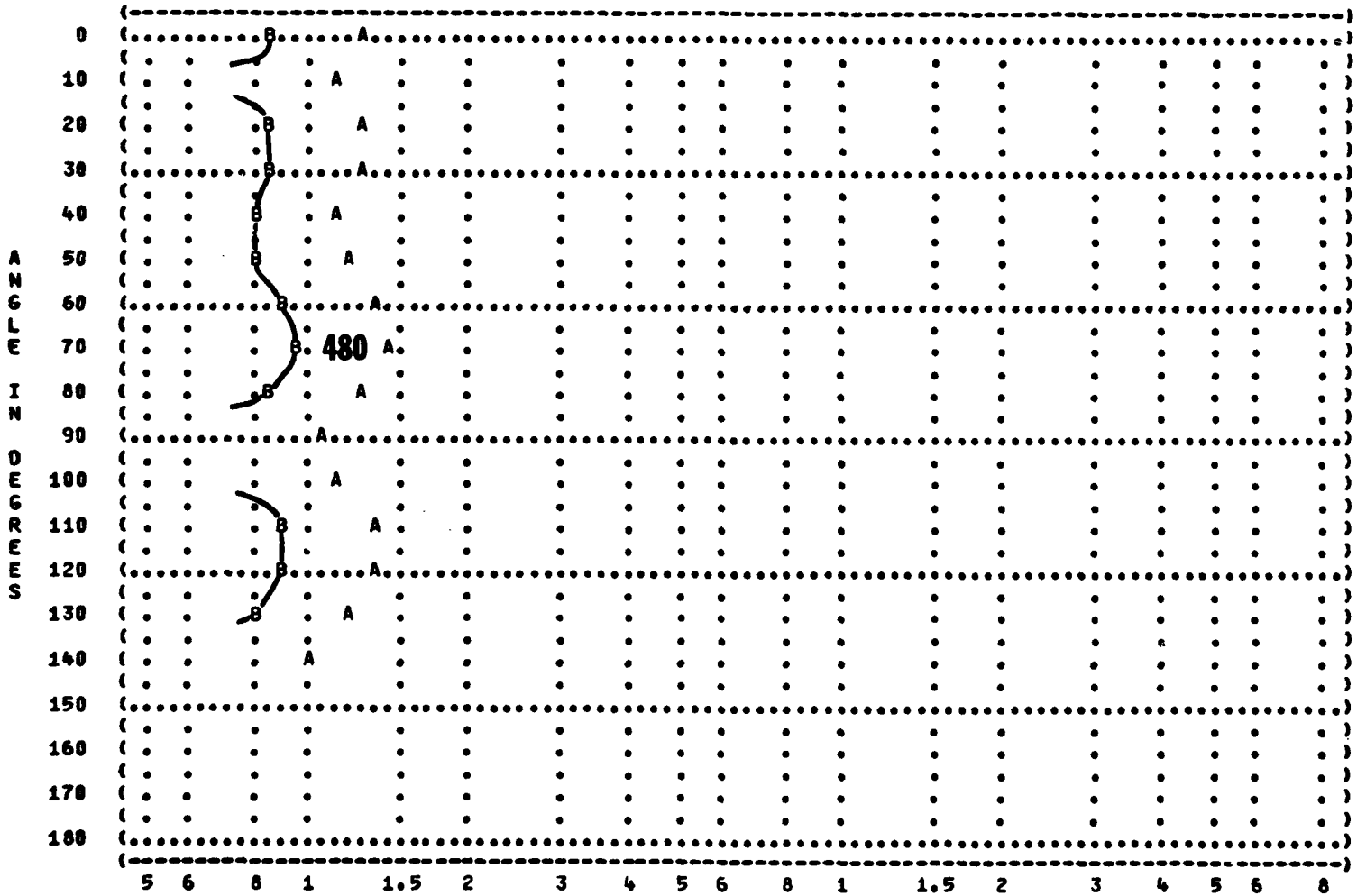


FIGURE: 10	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES)		IDENTIFICATION:
			OMEGA 1.4
NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:	TEST 78-015-001
		TEMP = 15 C	RUN 04
C-5A AIRCRAFT	90% RPM, 3.5 EPR	BAR PRESS = .760 M HG	18 SEP 78
TF39-GE-1	TWO ENGINES (INBOARD)	REL HUMID = 70 %	
FAR FIELD NOISE	FREE FLOW		PAGE 12

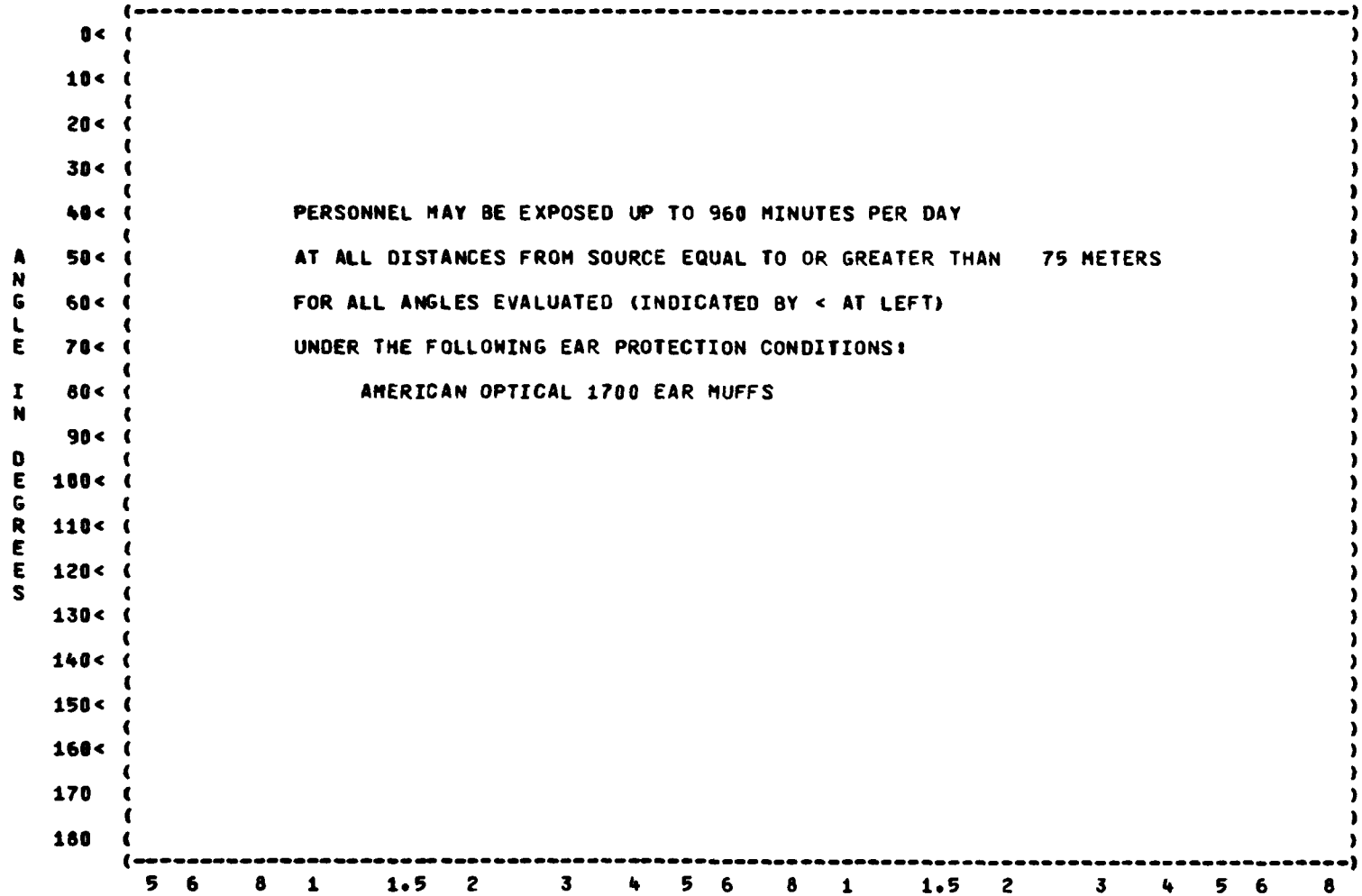


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

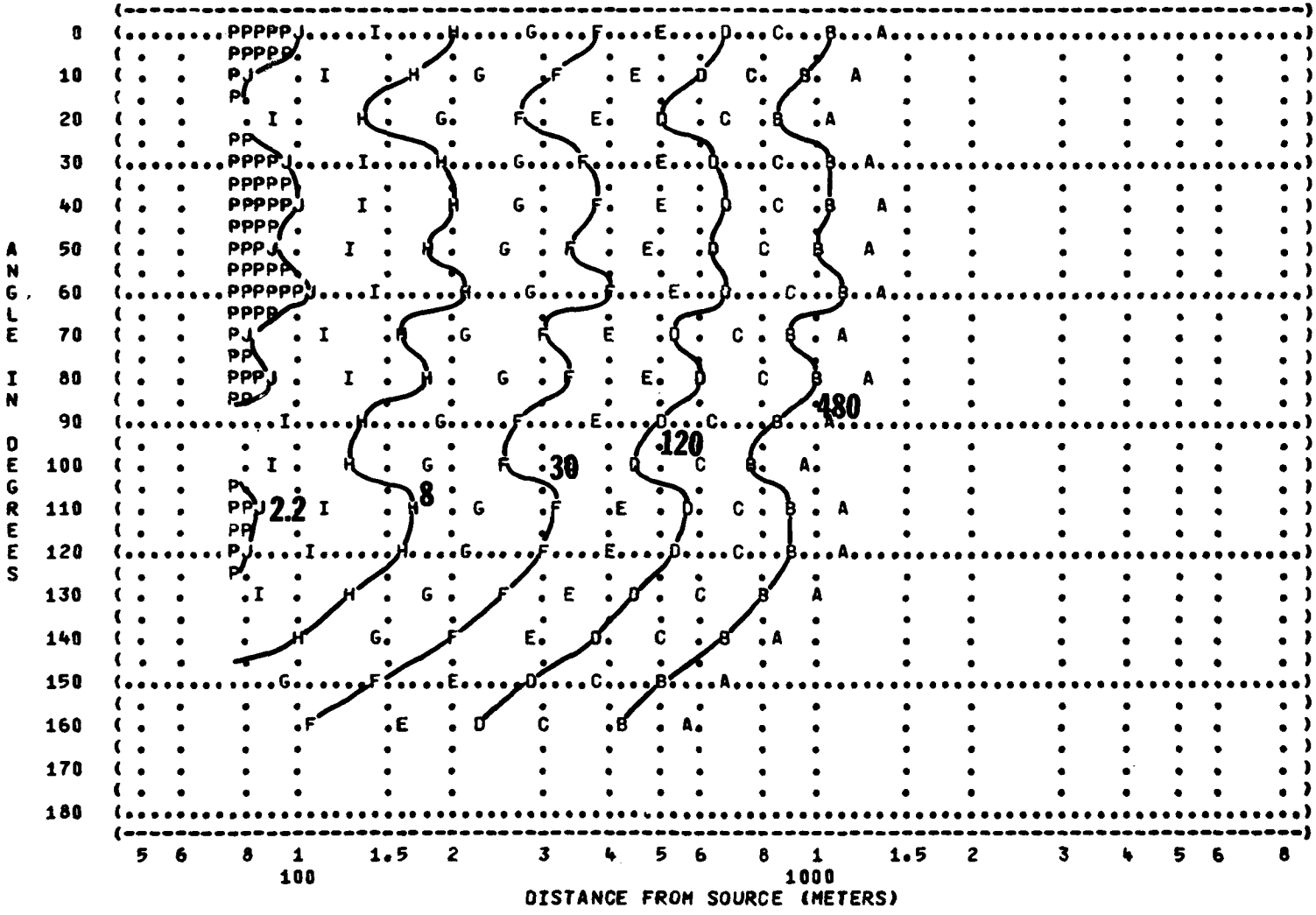
IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

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



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 8

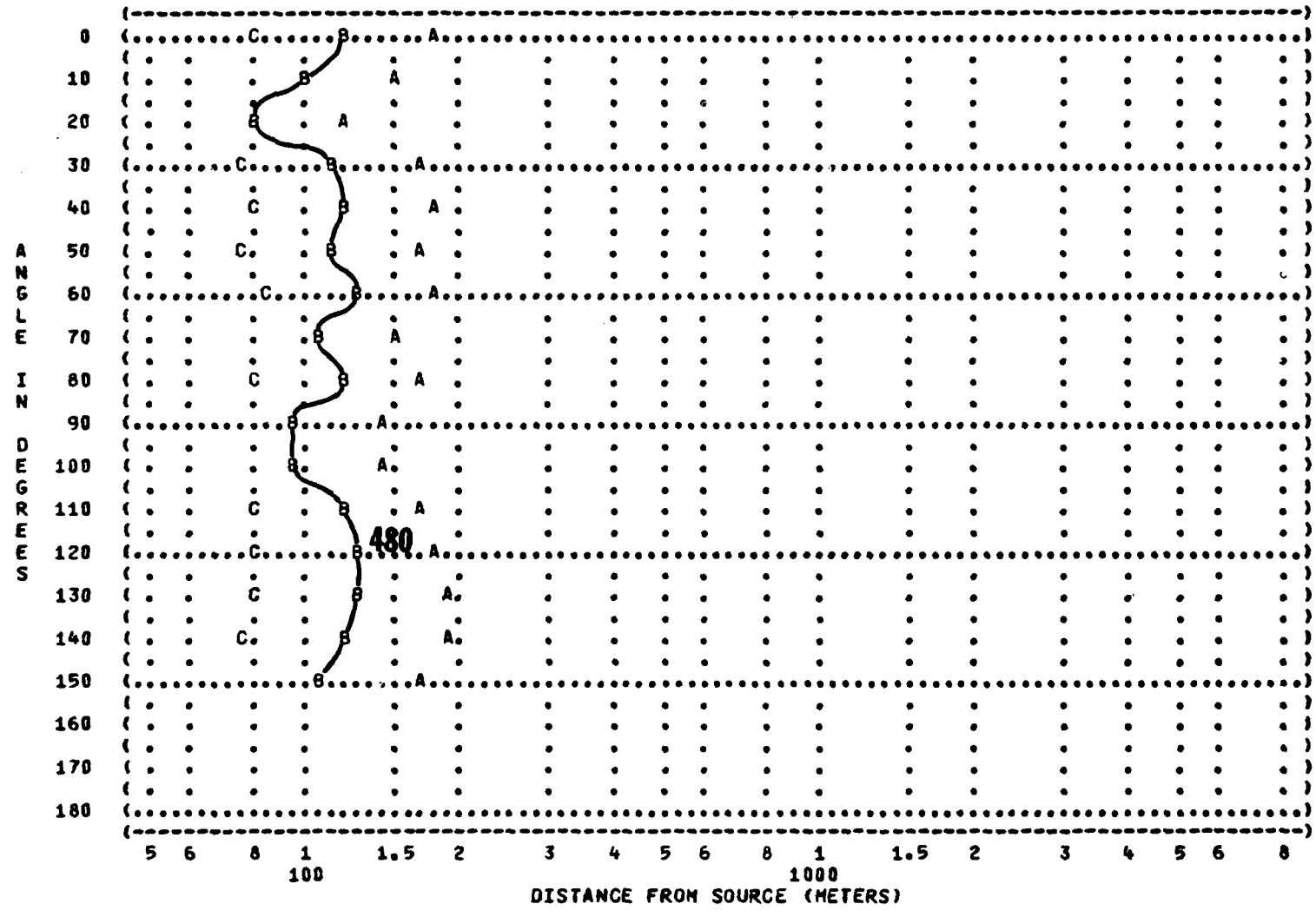


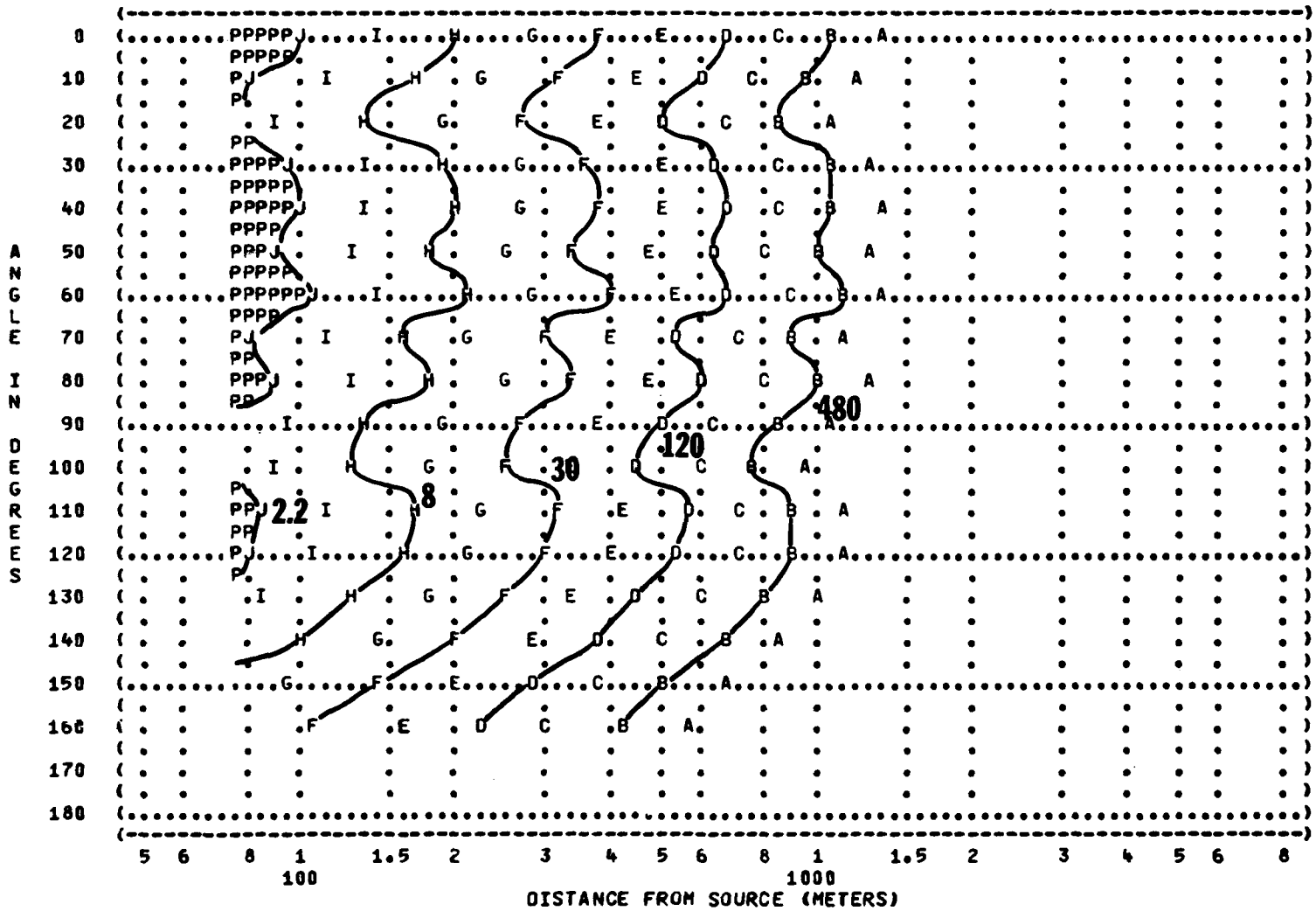
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 7



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-5A AIRCRAFT
TF39-GE-1
FAR FIELD NOISE

OPERATION:
MAXIMUM POWER
96% RPM, 4.40 EPR
TWO ENGINES (INBOARD)
FREE FLOW

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

IDENTIFICATION:
OMEGA 1.4
TEST 78-015-001
RUN 05
18 SEP 78
PAGE 8

POINT	MIN
A	960
B	480
C	240