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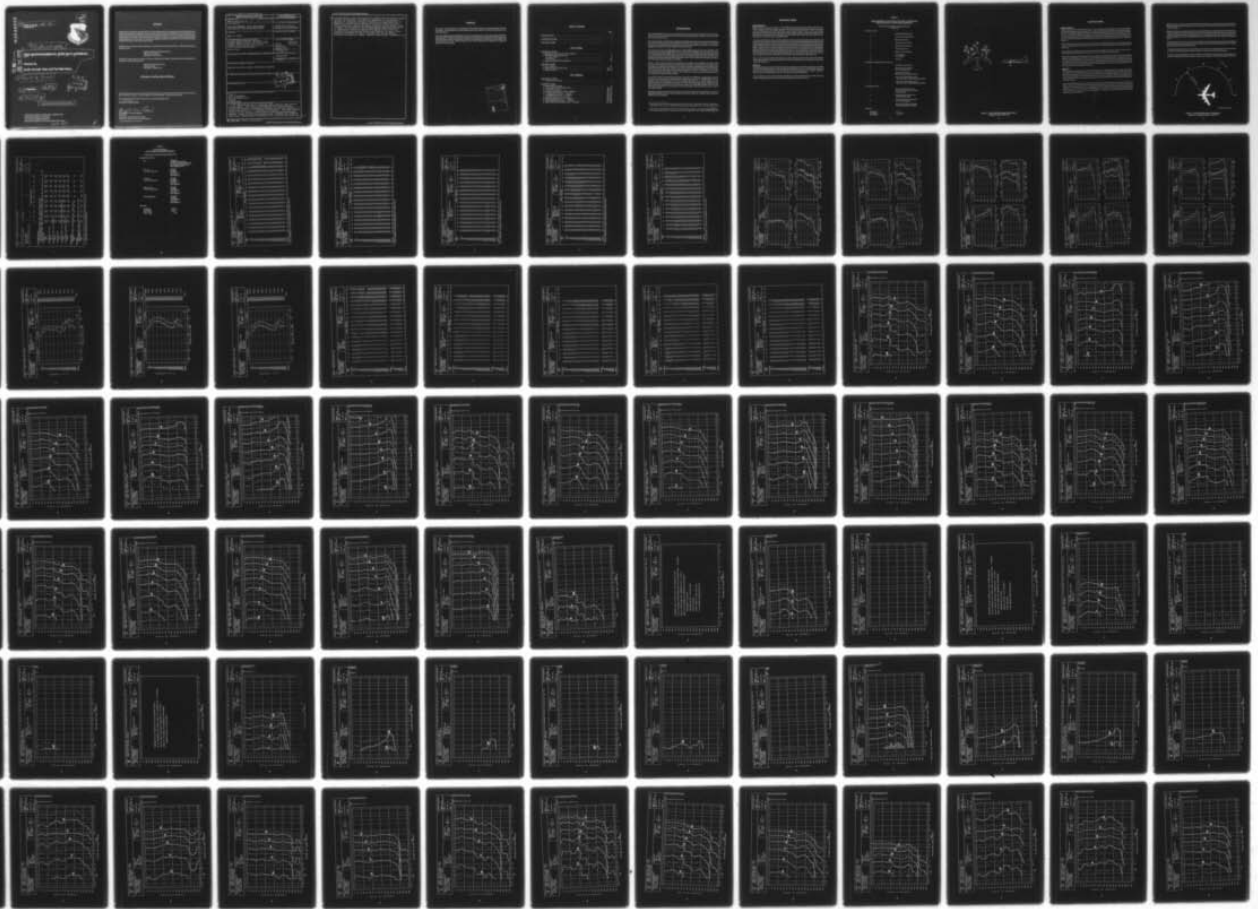
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Volume 82



9 Technical rept.,

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**USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK**  
**Volume 82,**  
**B-52H Aircraft, Near and Far-Field Noise.**

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10 Robert G. Powell

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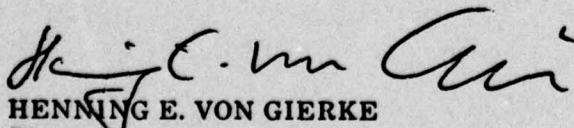
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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER



HENNING E. VON GIERKE  
Director

Biodynamics and Bionics Division  
Aerospace Medical Research Laboratory

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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>The USAF B-52H aircraft is a strategic bomber powered by eight TF33-P-3 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 ten locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and |   |  |

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

## PREFACE

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

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

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## INTRODUCTION

The USAF B-52H Stratofortress is a strategic bomber-type aircraft powered by eight TF33-P-3 turbofan engines. The aircraft was manufactured by the Boeing Company and the engines by United Aircraft, Pratt and Whitney Division.

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 B-52H 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, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15°C temperature, 70% 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.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
  2. Cole, John N., *USAF Bioenvironmental Noise data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.



## NEAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired near-field noise data on the B-52H aircraft during ground runup operations of its turbofan engines and ground support equipment. For these tests the aircraft was located on a parking apron at Wright-Patterson AFB with other aircraft parked nearby. Table 1 gives the surface meteorological conditions and the eight engine, ground support equipment, and 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 crewmember'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 ten near-field locations where ground crew 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 condition A.

### RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the B-52H aircraft at the eight 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**

B-52H Aircraft, Ground Runup, Wright-Patterson AFB,  
 22 August 1973

*Ground Crew Location*

|    |                                |
|----|--------------------------------|
| 1  | Operator MD-3M (Power Unit)    |
| 2  | Operator MA-1A (Generator Set) |
| 3  | Engine #4 Fire Guard           |
| 4  | Engine #5 and 6 Fire Guard     |
| 5  | Engine #7 and 8 Fire Guard     |
| 6  | Engine #3 Fire Guard           |
| 7  | Engine #1 and 2 Fire Guard     |
| 8  | Trim Adjustment                |
| 9  | Trim Personnel                 |
| 10 | Fire Guard                     |

*Aircraft Engine and Support Equipment Operation*

|   |   |
|---|---|
| A | MD-3M Operating (unloaded)  |
| B | MD-3M Operating (loaded) and<br>MA-1A Operating (loaded)                              |
| C | Engine #4 Idle Power and<br>MD-3M and MA-1A Operating (loaded)                        |
| D | Engine #4 80% RPM, Engines 5 and 6<br>Idle Power, MA-1A and MD-3M Operating (loaded)  |
| E | Engine #4 80% RPM, Engines 5 thru 8<br>Idle Power, MA-1A and MD-3M Operating (loaded) |

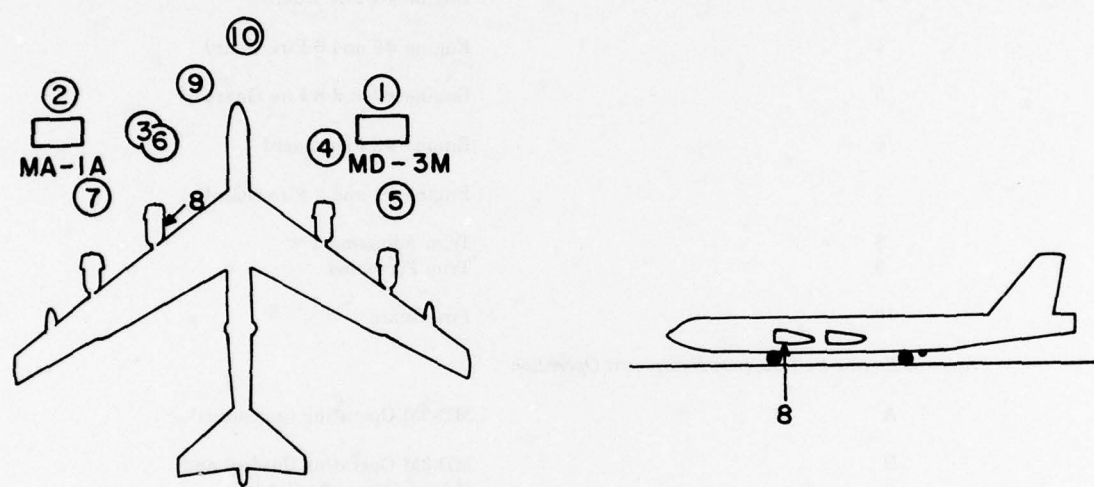
*Aircraft Engine Operation*

|   |  |
|---|--|
| F | Engine 4 80% RPM, Engines 3, 5<br>thru 8 Idle Power, MA-1A and MD-3M<br>Operating (loaded) |
| G | All Engine Idle Power, MA-1A and<br>MD-3M Operating (loaded)                               |
| H | Engine #4 95% RPM, All Others Idle<br>Power, MD-3M (unloaded)                              |
| I | Engine #4 101% RPM, All Others Idle<br>Power, MD-3M Operating (unloaded)                   |

*Meteorology*

|              |            |
|--------------|------------|
| Temperature  | 11.7 C     |
| Bar Pressure | 0.776 M Hg |
| Rel Humidity | 93 %       |

TABLE I  
MEASUREMENT LOCATIONS AND TEST CONDITIONS  
FOR NEAR-FIELD NOISE MEASUREMENTS



**Figure 1. Near-Field Microphone Locations at Wright-Patterson AFB OH**

## FAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired the far-field data during a 1-hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the TF-33-P-3 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both inboard engine pods' exhaust-nozzle exits. The ground runup pad did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

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

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

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source ( $0^\circ$  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 B-52H 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.

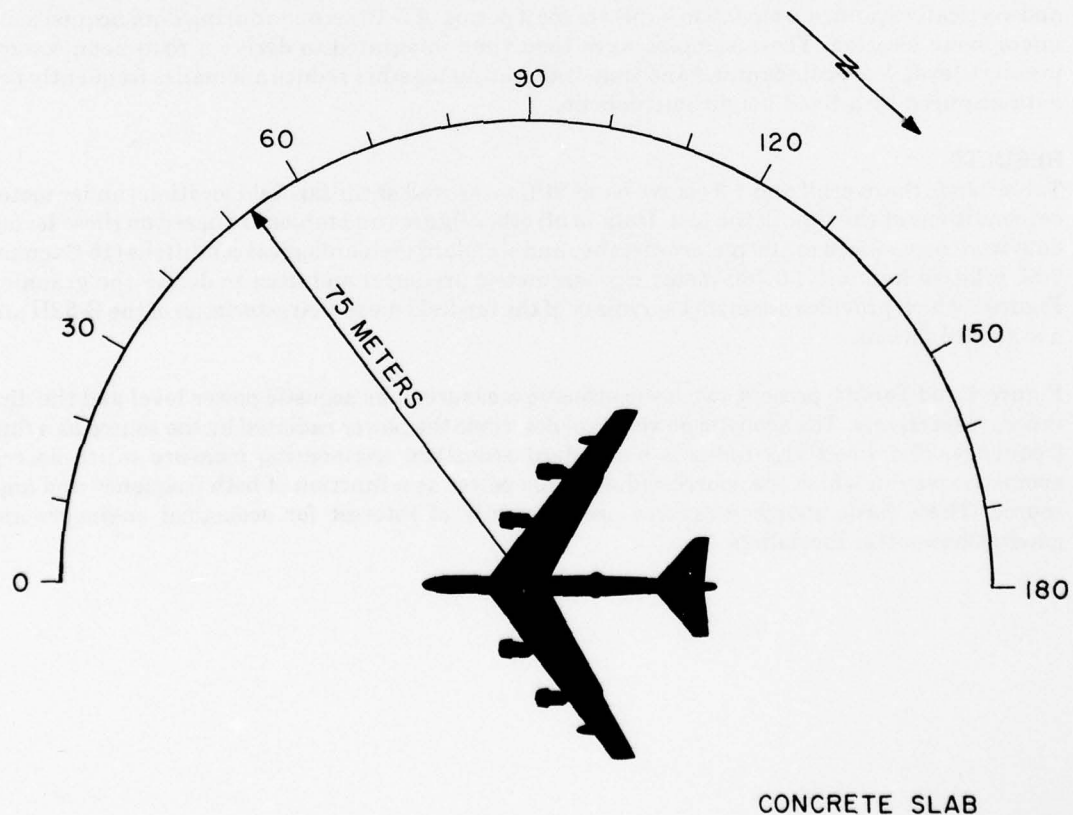
Estimates of the noise levels for intermediate power conditions (e.g., 88% engine core speed) and/or a different number of engines operating (e.g., three engines) can be determined as explained in Volume 1 of this handbook.

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

Except for idle power, data are not always presented beyond the 150 degree location because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these missing angles are 10 to 20 dBA below those at the last measured 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.

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



**Figure 2. Far-Field Microphone Locations on Taxiway at Wright-Patterson AFB, OH**

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |                    |      |     |     |     |     |     |     |     |      |
|---|--------------------|------|-----|-----|-----|-----|-----|-----|-----|------|
| 1/3 OCTAVE BAND                           |                    |      |     |     |     |     |     |     |     |      |
| FREQ<br>(HZ)                              | LOCATION/CONDITION |      |     |     |     |     |     |     |     |      |
|   | 1/A                | 2/B  | 3/C | 4/D | 5/E | 6/F | 7/G | 8/H | 9/I | 10/I |
| 25  | 74<                | 79<  | 77< | 81< | 87  | 86  | 86  | 104 | 95  | 93   |
| 31.5                                      | 77<                | 82<  | 83< | 88  | 90  | 90  | 90  | 107 | 98  | 95   |
| 40  | 85<                | 85<  | 87  | 90  | 93  | 94  | 92  | 107 | 98  | 95   |
| 50  | 95                 | 87   | 88  | 92  | 96  | 98  | 94  | 110 | 100 | 97   |
| 63  | 100                | 91   | 87< | 95  | 95  | 98  | 93  | 112 | 100 | 101  |
| 80  | 83<                | 92   | 89  | 93  | 90  | 96  | 91  | 112 | 103 | 104  |
| 100                                       | 100<               | 92<  | 92< | 97< | 95< | 96< | 92< | 114 | 106 | 104  |
| 125                                       | 104                | 101< | 91< | 99< | 95< | 95< | 92< | 114 | 109 | 107  |
| 160                                       | 102                | 106  | 95  | 96  | 96  | 96  | 93  | 116 | 107 | 106  |
| 200                                       | 101                | 103  | 95  | 93  | 91  | 98  | 91  | 117 | 106 | 105  |
| 250                                       | 101                | 102  | 96  | 96  | 93  | 101 | 93  | 117 | 105 | 103  |
| 315                                       | 94                 | 105  | 98  | 95  | 94  | 104 | 97  | 119 | 105 | 103  |
| 400                                       | 92                 | 108  | 97  | 95  | 96  | 103 | 99  | 122 | 105 | 102  |
| 500                                       | 94                 | 107  | 99  | 98  | 97  | 102 | 99  | 121 | 107 | 102  |
| 630                                       | 94                 | 105  | 101 | 101 | 99  | 105 | 101 | 120 | 107 | 103  |
| 800                                       | 91                 | 102  | 99  | 101 | 99  | 105 | 101 | 120 | 107 | 104  |
| 1000                                      | 94                 | 98   | 109 | 113 | 111 | 115 | 112 | 120 | 110 | 108  |
| 1250                                      | 89                 | 95   | 109 | 111 | 110 | 113 | 110 | 121 | 109 | 107  |
| 1600                                      | 89                 | 94   | 103 | 106 | 103 | 116 | 104 | 122 | 108 | 106  |
| 2000                                      | 87                 | 95   | 108 | 110 | 108 | 125 | 109 | 125 | 109 | 108  |
| 2500                                      | 85                 | 94   | 106 | 108 | 106 | 114 | 106 | 129 | 108 | 106  |
| 3150                                      | 83                 | 95   | 107 | 109 | 109 | 114 | 110 | 136 | 114 | 112  |
| 4000                                      | 82                 | 95   | 104 | 106 | 105 | 117 | 106 | 128 | 111 | 109  |
| 5000                                      | 82                 | 98   | 105 | 107 | 106 | 115 | 106 | 131 | 110 | 107  |
| 6300                                      | 80                 | 98   | 103 | 105 | 102 | 115 | 103 | 135 | 111 | 109  |
| 8000                                      | 77                 | 108  | 105 | 103 | 100 | 115 | 103 | 133 | 111 | 107  |
| 10000                                     | 76                 | 111  | 110 | 102 | 99  | 116 | 104 | 135 | 110 | 106  |
| OVERALL                                   | 110                | 117  | 118 | 119 | 117 | 120 | 118 | 142 | 122 | 120  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

IDENTIFICATION:

OMEGA 3.2  
TEST 73-055-010  
RUN 01  
27 NOV 74  
PAGE F1

NOISE SOURCE/SUBJECT: ( OPERATION: )

8-52H AIRCRAFT

GROUND CREW

NEAR FIELD NOISE LEVELS

LOCATION/CONDITION

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |     | IDENTIFICATION:    |     |     |     |     |     |     |     |      |  |  |
|---|-----|--------------------|-----|-----|-----|-----|-----|-----|-----|------|--|--|
| 2 OCTAVE BAND                             |     | OMEGA 3.2          |     |     |     |     |     |     |     |      |  |  |
|   |     | TEST 73-055-010    |     |     |     |     |     |     |     |      |  |  |
|   |     | RUN 01             |     |     |     |     |     |     |     |      |  |  |
|   |     | 27 NOV 74          |     |     |     |     |     |     |     |      |  |  |
|   |     | PAGE J1            |     |     |     |     |     |     |     |      |  |  |
| NOISE SOURCE/SUBJECT:                     |     | LOCATION/CONDITION |     |     |     |     |     |     |     |      |  |  |
| ( OPERATION:                              |     |                    |     |     |     |     |     |     |     |      |  |  |
| ( )                                       |     |                    |     |     |     |     |     |     |     |      |  |  |
| ( 8-52H AIRCRAFT                          |     |                    |     |     |     |     |     |     |     |      |  |  |
| ( GROUND CREW                             |     |                    |     |     |     |     |     |     |     |      |  |  |
| ( NEAR FIELD NOISE LEVELS                 |     |                    |     |     |     |     |     |     |     |      |  |  |
|   |     |                    |     |     |     |     |     |     |     |      |  |  |
| FREQ (HZ)                                 | 1/A | 2/B                | 3/C | 4/D | 5/E | 6/F | 7/G | 8/H | 9/I | 10/I |  |  |
| 31.5                                      | 86  | 87                 | 88  | 92  | 95  | 96  | 95  | 111 | 102 | 99   |  |  |
| 63  | 101 | 95                 | 93  | 98  | 99  | 102 | 98  | 116 | 106 | 106  |  |  |
| 125                                       | 107 | 107                | 98  | 102 | 100 | 100 | 97  | 120 | 112 | 110  |  |  |
| 250                                       | 104 | 108                | 101 | 99  | 98  | 106 | 99  | 123 | 110 | 108  |  |  |
| 500                                       | 98  | 112                | 104 | 103 | 102 | 108 | 104 | 126 | 111 | 107  |  |  |
| 1000                                      | 96  | 104                | 112 | 115 | 113 | 117 | 115 | 125 | 114 | 112  |  |  |
| 2000                                      | 92  | 99                 | 111 | 113 | 111 | 126 | 111 | 131 | 113 | 111  |  |  |
| 4000                                      | 87  | 101                | 110 | 112 | 112 | 120 | 112 | 138 | 116 | 114  |  |  |
| 8000                                      | 83  | 113                | 112 | 108 | 105 | 120 | 108 | 139 | 115 | 112  |  |  |
| OVERALL                                   | 110 | 117                | 118 | 119 | 117 | 120 | 118 | 142 | 122 | 120  |  |  |

| MEASURES OF HUMAN NOISE EXPOSURE   |     |     |     |     |     |     |     |     |      | IDENTIFICATION: |
|--|-----|-----|-----|-----|-----|-----|-----|-----|------|-----------------|
|  |     |     |     |     |     |     |     |     |      | OMEGA 3.2       |
|  |     |     |     |     |     |     |     |     |      | TEST 73-055-010 |
|  |     |     |     |     |     |     |     |     |      | RUN 01          |
|  |     |     |     |     |     |     |     |     |      | 27 NOV 74       |
|  |     |     |     |     |     |     |     |     |      | PAGE H1         |
|  |     |     |     |     |     |     |     |     |      |                 |
| NOISE SOURCE/SUBJECT:  |     |     |     |     |     |     |     |     |      |                 |
| ( OPERATION:   |     |     |     |     |     |     |     |     |      |                 |
| (  |     |     |     |     |     |     |     |     |      |                 |
| ( B-52H AIRCRAFT   |     |     |     |     |     |     |     |     |      |                 |
| ( GROUND CREW  |     |     |     |     |     |     |     |     |      |                 |
| ( NEAR FIELD NOISE LEVELS  |     |     |     |     |     |     |     |     |      |                 |
|  |     |     |     |     |     |     |     |     |      |                 |
| LOCATION/CONDITION   |     |     |     |     |     |     |     |     |      |                 |
| 1/A  | 2/B | 3/C | 4/D | 5/E | 6/F | 7/G | 8/H | 9/I | 10/J |                 |
| 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 | 116 | 117 | 119 | 117 | 128 | 118 | 140 | 121  | 119             |
| OASLA  | 102 | 114 | 118 | 119 | 118 | 129 | 119 | 142 | 122  | 119             |
| T  | 21  | 2.7 | P   | P   | P   | P   | P   | P   | P    | P               |
| MINIMUM QPL EAR MUFFS  |     |     |     |     |     |     |     |     |      |                 |
| OASLA*   | 87  | 93  | 91  | 91  | 90  | 101 | 91  | 116 | 97   | 94              |
| T  | 285 | 101 | 143 | 143 | 170 | 25  | 143 | P   | 50   | 85              |
| AMERICAN OPTICAL 1700 EAR MUFFS  |     |     |     |     |     |     |     |     |      |                 |
| OASLA*   | 83  | 89  | 86  | 85  | 84  | 95  | 85  | 111 | 92   | 89              |
| T  | 571 | 202 | 339 | 404 | 480 | 71  | 404 | 4.5 | 120  | 202             |
| V-51R EAR PLUGS  |     |     |     |     |     |     |     |     |      |                 |
| OASLA*   | 79  | 89  | 90  | 92  | 90  | 98  | 91  | 111 | 93   | 91              |
| T  | 960 | 202 | 170 | 120 | 170 | 42  | 143 | 4.5 | 101  | 143             |
| AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS                                   |     |     |     |     |     |     |     |     |      |                 |
| OASLA*   | 66  | 75  | 78  | 80  | 78  | 86  | 79  | 100 | 81   | 78              |
| T  | 960 | 960 | 960 | 960 | 960 | 339 | 960 | 30  | 807  | 960             |
| H-133 GROUND COMMUNICATION UNIT  |     |     |     |     |     |     |     |     |      |                 |
| OASLA*   | 77  | 85  | 91  | 93  | 91  | 100 | 92  | 115 | 94   | 92              |
| T  | 960 | 404 | 143 | 101 | 143 | 30  | 120 | 2.2 | 85   | 120             |
| COMMUNICATION  |     |     |     |     |     |     |     |     |      |                 |
| PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)                                       |     |     |     |     |     |     |     |     |      |                 |
| PSIL   | 95  | 105 | 109 | 110 | 109 | 117 | 110 | 127 | 113  | 110             |
| ANNoyANCE  |     |     |     |     |     |     |     |     |      |                 |
| PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)                                   |     |     |     |     |     |     |     |     |      |                 |
| TONE CORRECTION (C IN DB)  |     |     |     |     |     |     |     |     |      |                 |
| PNLT   | 117 | 128 | 132 | 134 | 133 | 146 | 134 | 159 | 138  | 135             |
| C  | 1   | 1   | 2   | 3   | 2   | 3   | 2   | 3   | 1    | 1               |

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



TABLE 4

TEST CONDITIONS  
FOR FAR-FIELD NOISE MEASUREMENTS

B-52H Aircraft, Ground Runups, Wright-Patterson AFB

*Aircraft Engine Operation*

|   |  |
|---|--|
| Idle                                      | All Engines<br>1.05 Effective Pressure Ratio<br>60% RPM, High Pressure Compressor<br>250 C, Exhaust Gas Temperature<br>1000 LBS/HR Fuel Flow |
| 80% runup<br>(All other engines idle)     | #4 Engine<br>1.08 EPR<br>80% RPM, NC<br>300 C, EGT<br>1900 LBS/HR FF   |
| 95% Runup<br>(All other engines idle)     | #4 Engine<br>1.33 EPR<br>95% RPM, NC<br>380 C EGT<br>5000 LBS/HR FF  |
| Maximum Power<br>(All other engines idle) | #4 Engine<br>1.68 EPR<br>104 % RPM NC<br>505 C EGT<br>8700 LBS/HR FF   |
| Normal Rated Thrust                       | All Engines<br>1.62 EPR<br>100 % RPM NC<br>450 C EGT<br>7600 LBS/HR FF   |

*Meteorology*

|              |            |
|--------------|------------|
| Temperature  | 18 C       |
| Bar Pressure | 29.83 M Hg |
| Rel Humidity | 58 %       |
| Wind — Speed | Calm       |

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |     | IDENTIFICATION:       |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
|---|-----|-----------------------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1/3 OCTAVE BAND                           |     | OMEGA 1-4             |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| DISTANCE = 75 METERS                      |     | TEST 75-044-001       |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:                     |     | RUN 01                |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| ( OPERATIONS:                             |     | METEOROLOGY:          |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| ( IDLE                                    |     | TEMP = 18 C           |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| ( 60% RPM                                 |     | BAR PRESS = .758 M HG |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| ( ALL ENGINES                             |     | REL HUMID = 58 %      |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| ( FREE FLOW                               |     | PAGE 2                |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
| FREQ (HZ)                                 | 0   | 10                    | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 25  | 72  | 72                    | 71  | 70  | 70  | 71  | 73  | 73 | 72 | 73 | 75  | 74  | 74  | 74  | 72  | 72  | 73  | 72  | 68  |
| 31.5                                      | 74  | 76                    | 74  | 74  | 77  | 78  | 77  | 77 | 76 | 78 | 78  | 78  | 78  | 78  | 79  | 74  | 73  | 72  | 69  |
| 40  | 76  | 76                    | 78  | 76  | 76  | 76  | 77  | 77 | 78 | 78 | 79  | 80  | 78  | 78  | 77  | 76  | 74  | 71  | 68< |
| 50  | 76  | 78                    | 77  | 76  | 78  | 78  | 78  | 78 | 80 | 80 | 80  | 78  | 79  | 79  | 77  | 72  | 70  | 74  | 69< |
| 63  | 77  | 77                    | 76  | 77  | 76  | 78  | 81  | 79 | 77 | 77 | 75  | 76  | 75  | 75  | 74  | 72< | 70< | 71< | 80  |
| 80  | 75  | 75                    | 74  | 75  | 75  | 75  | 76  | 76 | 77 | 77 | 77  | 76  | 75  | 75  | 74  | 69< | 68< | 70< | 67< |
| 100                                       | 78  | 78                    | 78  | 77  | 78  | 79  | 78  | 80 | 78 | 78 | 76  | 77  | 78  | 76  | 76  | 73  | 68< | 71< | 68< |
| 125                                       | 80  | 80                    | 78  | 78  | 78  | 78  | 78  | 77 | 78 | 80 | 77  | 77  | 77  | 77  | 77  | 72  | 65< | 71  | 62< |
| 160                                       | 80  | 79                    | 80  | 79  | 79  | 79  | 79  | 77 | 78 | 77 | 77  | 77  | 76  | 79  | 77  | 70  | 63< | 67  | 61< |
| 200                                       | 79  | 79                    | 78  | 78  | 78  | 78  | 78  | 80 | 80 | 80 | 79  | 79  | 79  | 79  | 78  | 72  | 59< | 63< | 59< |
| 250                                       | 79  | 80                    | 80  | 79  | 79  | 78  | 80  | 80 | 79 | 80 | 80  | 78  | 78  | 77  | 76  | 72  | 57< | 57< | 59< |
| 315                                       | 77  | 78                    | 78  | 76  | 77  | 75  | 76  | 76 | 76 | 76 | 77  | 78  | 77  | 75  | 73  | 69  | 55< | 55< | 56< |
| 400                                       | 80  | 81                    | 81  | 79  | 79  | 78  | 79  | 77 | 76 | 78 | 76  | 78  | 77  | 76  | 73  | 69  | 59< | 59< | 56< |
| 500                                       | 83  | 83                    | 84  | 83  | 83  | 83  | 82  | 79 | 79 | 79 | 77  | 78  | 77  | 76  | 72  | 69  | 60< | 61< | 57< |
| 630                                       | 84  | 84                    | 86  | 84  | 83  | 84  | 83  | 80 | 78 | 78 | 77  | 78  | 79  | 77  | 74  | 71  | 61  | 61  | 58  |
| 800                                       | 82  | 84                    | 84  | 84  | 82  | 83  | 84  | 78 | 79 | 77 | 77  | 77  | 78  | 76  | 74  | 71  | 60  | 62  | 60  |
| 1000                                      | 93  | 96                    | 94  | 94  | 93  | 95  | 96  | 89 | 90 | 86 | 86  | 85  | 88  | 86  | 84  | 80  | 70  | 73  | 70  |
| 1250                                      | 92  | 96                    | 94  | 96  | 93  | 93  | 96  | 88 | 90 | 85 | 86  | 83  | 86  | 86  | 83  | 78  | 68  | 68  | 66  |
| 1600                                      | 86  | 86                    | 87  | 87  | 85  | 85  | 85  | 81 | 81 | 81 | 78  | 77  | 78  | 75  | 73  | 70  | 61  | 59  | 58  |
| 2000                                      | 91  | 91                    | 92  | 92  | 91  | 89  | 91  | 85 | 85 | 85 | 82  | 81  | 82  | 80  | 78  | 72  | 64  | 64  | 61  |
| 2500                                      | 88  | 89                    | 88  | 89  | 90  | 87  | 88  | 83 | 83 | 83 | 81  | 80  | 81  | 81  | 79  | 76  | 71  | 63  | 62  |
| 3150                                      | 92  | 91                    | 91  | 91  | 91  | 90  | 89  | 87 | 87 | 87 | 83  | 84  | 84  | 85  | 81  | 79  | 74  | 65  | 63  |
| 4000                                      | 87  | 88                    | 88  | 88  | 87  | 85  | 87  | 83 | 83 | 83 | 82  | 82  | 82  | 80  | 77  | 71  | 62  | 60  | 58  |
| 5000                                      | 86  | 86                    | 87  | 86  | 86  | 85  | 85  | 82 | 81 | 79 | 79  | 82  | 82  | 79  | 74  | 69  | 59  | 58  | 55  |
| 6300                                      | 81  | 82                    | 83  | 82  | 82  | 81  | 82  | 79 | 77 | 76 | 76  | 77  | 79  | 74  | 71  | 65  | 54  | 53  | 50  |
| 8000                                      | 78  | 80                    | 79  | 79  | 78  | 78  | 79  | 75 | 74 | 73 | 74  | 75  | 77  | 73  | 69  | 63  | 52  | 50  | 47  |
| 10000                                     | 70  | 71                    | 72  | 72  | 71  | 71  | 72  | 69 | 69 | 68 | 68  | 69  | 72  | 66  | 64  | 56  | 45  | 44  | 41< |
| OVERALL                                   | 100 | 101                   | 101 | 101 | 100 | 100 | 101 | 96 | 96 | 94 | 94  | 94  | 95  | 93  | 91  | 87  | 81  | 82  | 82  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |     | IDENTIFICATION:       |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
|---|-----|-----------------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1/3 OCTAVE BAND                           |     | OMEGA 1.4             |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| DISTANCE = 75 METERS                      |     | TEST 75-044-001       |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| NOISE SOURCE/SUBJECT:                     |     | RUN 02                |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| ( OPERATION: )                            |     | METEOROLOGY:          |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| ( 80% RPM ENGINE RJNUP )                  |     | TEMP = 18 C           |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| ( ENGINE NO. 4 )                          |     | BAR PRESS = .758 H HG |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| ( FREE FLOW )                             |     | REL HUMID = 58 %      |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| ( )                                       |     | PAGE 2                |     |     |     |     |     |     |    |    |     |     |     |     |     |     |     |     |     |  |
| FREQ (HZ)                                 | 0   | 10                    | 20  | 30  | 40  | 50  | 60  | 70  | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |  |
| 25  | 73  | 74                    | 73  | 72  | 74  | 72  | 74  | 75  | 75 | 76 | 75  | 78  | 77  | 77  | 76  | 73  | 73  | 73  |     |  |
| 31.5                                      | 77  | 77                    | 75  | 74  | 77  | 79  | 78  | 78  | 80 | 79 | 82  | 80  | 77  | 80  | 80  | 76  | 72  |     |     |  |
| 40  | 77  | 79                    | 77  | 80  | 80  | 80  | 80  | 78  | 79 | 82 | 84  | 82  | 81  | 82  | 81  | 77  | 71  |     |     |  |
| 50  | 78  | 81                    | 83  | 81  | 81  | 81  | 82  | 82  | 84 | 82 | 83  | 84  | 82  | 81  | 79  | 74  | 68  |     |     |  |
| 63  | 79  | 78                    | 81  | 79  | 80  | 81  | 81  | 82  | 83 | 81 | 83  | 84  | 84  | 82  | 81  | 75  | 72  |     |     |  |
| 80  | 77  | 78                    | 78  | 79  | 79  | 79  | 79  | 80  | 79 | 79 | 80  | 80  | 79  | 79  | 80  | 73  | 67  |     |     |  |
| 100                                       | 80  | 80                    | 81  | 81  | 80  | 80  | 80  | 83  | 81 | 80 | 82  | 81  | 80  | 79  | 78  | 71  | 65  |     |     |  |
| 125                                       | 80  | 81                    | 80  | 80  | 79  | 80  | 79  | 79  | 79 | 81 | 81  | 80  | 79  | 78  | 78  | 71  | 61  |     |     |  |
| 160                                       | 83  | 82                    | 83  | 82  | 81  | 80  | 81  | 81  | 81 | 81 | 82  | 81  | 80  | 79  | 80  | 78  | 71  | 58  |     |  |
| 200                                       | 83  | 83                    | 85  | 83  | 83  | 83  | 82  | 82  | 82 | 83 | 82  | 82  | 82  | 80  | 78  | 73  | 58  |     |     |  |
| 250                                       | 81  | 83                    | 83  | 82  | 83  | 83  | 83  | 83  | 83 | 83 | 84  | 84  | 82  | 78  | 76  | 72  |     |     |     |  |
| 315                                       | 81  | 81                    | 83  | 82  | 81  | 82  | 82  | 81  | 81 | 81 | 81  | 81  | 80  | 79  | 75  | 70  | 59  |     |     |  |
| 400                                       | 83  | 83                    | 84  | 84  | 83  | 83  | 83  | 83  | 83 | 82 | 80  | 80  | 78  | 77  | 73  | 70  | 55  |     |     |  |
| 500                                       | 83  | 83                    | 84  | 84  | 83  | 83  | 81  | 81  | 81 | 80 | 79  | 79  | 79  | 76  | 73  | 68  | 56  |     |     |  |
| 630                                       | 84  | 85                    | 86  | 86  | 84  | 84  | 81  | 82  | 79 | 80 | 79  | 79  | 79  | 77  | 73  | 70  | 57  |     |     |  |
| 800                                       | 84  | 84                    | 84  | 84  | 85  | 84  | 83  | 83  | 80 | 79 | 79  | 79  | 79  | 77  | 73  | 70  | 59  |     |     |  |
| 1000                                      | 93  | 93                    | 92  | 94  | 93  | 91  | 91  | 88  | 87 | 84 | 86  | 87  | 88  | 85  | 81  | 78  | 70  |     |     |  |
| 1250                                      | 93  | 95                    | 93  | 93  | 92  | 92  | 92  | 89  | 87 | 85 | 86  | 88  | 88  | 86  | 81  | 75  | 67  |     |     |  |
| 1600                                      | 98  | 98                    | 98  | 98  | 100 | 100 | 100 | 98  | 91 | 90 | 88  | 90  | 90  | 87  | 81  | 76  | 67  |     |     |  |
| 2000                                      | 98  | 97                    | 98  | 97  | 100 | 101 | 98  | 94  | 90 | 88 | 87  | 87  | 87  | 86  | 80  | 75  | 66  |     |     |  |
| 2500                                      | 90  | 91                    | 90  | 91  | 92  | 90  | 88  | 87  | 84 | 83 | 83  | 84  | 84  | 81  | 76  | 71  | 60  |     |     |  |
| 3150                                      | 94  | 93                    | 94  | 95  | 94  | 93  | 93  | 91  | 89 | 87 | 88  | 88  | 88  | 85  | 78  | 75  | 63  |     |     |  |
| 4000                                      | 92  | 92                    | 92  | 94  | 94  | 92  | 92  | 90  | 88 | 85 | 86  | 86  | 85  | 83  | 78  | 73  | 62  |     |     |  |
| 5000                                      | 90  | 91                    | 90  | 91  | 92  | 91  | 91  | 88  | 86 | 85 | 85  | 85  | 85  | 83  | 78  | 71  | 58  |     |     |  |
| 6300                                      | 86  | 86                    | 87  | 86  | 87  | 87  | 86  | 84  | 82 | 81 | 81  | 82  | 82  | 80  | 75  | 68  | 54  |     |     |  |
| 8000                                      | 84  | 85                    | 85  | 86  | 86  | 86  | 86  | 84  | 82 | 79 | 79  | 79  | 79  | 77  | 73  | 66  | 52  |     |     |  |
| 10000                                     | 78  | 78                    | 78  | 77  | 80  | 80  | 78  | 75  | 74 | 73 | 73  | 73  | 73  | 71  | 66  | 58  | 45  |     |     |  |
| OVERALL                                   | 104 | 103                   | 104 | 104 | 105 | 105 | 104 | 102 | 99 | 97 | 98  | 98  | 98  | 96  | 92  | 87  | 81  |     |     |  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE 1 MEASURED SOUND PRESSURE LEVEL (DB) |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION:       |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-----|-----|-----|-----|-----|-----|
| 1/3 OCTAVE BAND                            |     |     |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4             |     |     |     |     |     |     |
| DISTANCE = 75 METERS                       |     |     |     |     |     |     |     |     |     |     |     |     | TEST 75-044-001       |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:                      |     |     |     |     |     |     |     |     |     |     |     |     | RUN 03                |     |     |     |     |     |     |
| ( OPERATION:                               |     |     |     |     |     |     |     |     |     |     |     |     | METEOROLOGY:          |     |     |     |     |     |     |
| ( 95% RPM ENGINE RUNUP                     |     |     |     |     |     |     |     |     |     |     |     |     | TEMP = 18 C           |     |     |     |     |     |     |
| ( ENGINE NO. 4                             |     |     |     |     |     |     |     |     |     |     |     |     | BAR PRESS = .758 H HG |     |     |     |     |     |     |
| ( FREE FLOW                                |     |     |     |     |     |     |     |     |     |     |     |     | REL HUMID = 58 %      |     |     |     |     |     |     |
| (  |     |     |     |     |     |     |     |     |     |     |     |     | PAGE 2                |     |     |     |     |     |     |
| FREQ                                       |     |     |     |     |     |     |     |     |     |     |     |     | ANGLE (DEGREES)       |     |     |     |     |     |     |
| ( HZ)                                      | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120                   | 130 | 140 | 150 | 160 | 170 | 180 |
| 25   | 79  | 79  | 78  | 79  | 77  | 80  | 81  | 83  | 81  | 83  | 84  | 84  | 87                    | 90  | 90  | 86  |     |     |     |
| 31.5                                       | 82  | 82  | 79  | 79  | 81  | 83  | 84  | 86  | 85  | 87  | 87  | 88  | 89                    | 91  | 91  | 88  |     |     |     |
| 40   | 82  | 82  | 84  | 83  | 85  | 86  | 86  | 88  | 89  | 89  | 89  | 90  | 93                    | 93  | 95  | 92  |     |     |     |
| 50   | 83  | 82  | 85  | 86  | 86  | 86  | 86  | 88  | 89  | 89  | 89  | 92  | 92                    | 96  | 95  | 88  |     |     |     |
| 63   | 85  | 83  | 86  | 85  | 86  | 88  | 88  | 88  | 90  | 90  | 91  | 92  | 96                    | 98  | 99  | 86  |     |     |     |
| 80   | 85  | 85  | 86  | 86  | 86  | 90  | 90  | 89  | 91  | 92  | 94  | 93  | 96                    | 98  | 97  | 83  |     |     |     |
| 100  | 86  | 87  | 87  | 88  | 88  | 89  | 89  | 91  | 92  | 92  | 97  | 94  | 96                    | 96  | 97  | 84  |     |     |     |
| 125  | 88  | 88  | 88  | 88  | 88  | 89  | 90  | 89  | 92  | 92  | 95  | 93  | 96                    | 96  | 94  | 86  |     |     |     |
| 160  | 89  | 89  | 89  | 88  | 89  | 89  | 89  | 91  | 92  | 92  | 93  | 94  | 94                    | 94  | 89  | 81  |     |     |     |
| 200  | 92  | 92  | 91  | 91  | 91  | 93  | 92  | 93  | 92  | 94  | 95  | 95  | 95                    | 95  | 87  | 80  |     |     |     |
| 250  | 89  | 91  | 92  | 93  | 91  | 92  | 93  | 93  | 93  | 92  | 94  | 94  | 93                    | 92  | 85  | 80  |     |     |     |
| 315  | 90  | 93  | 92  | 93  | 94  | 93  | 91  | 92  | 92  | 92  | 92  | 92  | 95                    | 90  | 84  | 77  |     |     |     |
| 400  | 92  | 95  | 95  | 95  | 96  | 94  | 94  | 94  | 93  | 93  | 92  | 91  | 93                    | 88  | 82  | 75  |     |     |     |
| 500  | 90  | 94  | 94  | 92  | 93  | 92  | 92  | 92  | 92  | 90  | 91  | 89  | 91                    | 86  | 80  | 75  |     |     |     |
| 630  | 89  | 92  | 91  | 92  | 92  | 92  | 91  | 89  | 89  | 89  | 89  | 88  | 89                    | 86  | 79  | 74  |     |     |     |
| 800  | 90  | 92  | 92  | 91  | 91  | 91  | 91  | 89  | 88  | 87  | 87  | 88  | 87                    | 83  | 78  | 72  |     |     |     |
| 1000                                       | 96  | 97  | 96  | 96  | 96  | 92  | 92  | 90  | 90  | 88  | 89  | 89  | 89                    | 85  | 81  | 77  |     |     |     |
| 1250                                       | 97  | 97  | 96  | 98  | 97  | 94  | 94  | 91  | 90  | 89  | 89  | 89  | 89                    | 87  | 81  | 75  |     |     |     |
| 1600                                       | 89  | 92  | 94  | 94  | 94  | 93  | 93  | 90  | 89  | 86  | 87  | 86  | 87                    | 82  | 76  | 71  |     |     |     |
| 2000                                       | 94  | 97  | 98  | 98  | 98  | 97  | 96  | 94  | 92  | 90  | 91  | 89  | 89                    | 85  | 78  | 73  |     |     |     |
| 2500                                       | 102 | 103 | 104 | 105 | 103 | 103 | 104 | 100 | 99  | 98  | 98  | 98  | 98                    | 93  | 85  | 79  |     |     |     |
| 3150                                       | 101 | 103 | 104 | 105 | 104 | 105 | 105 | 102 | 101 | 99  | 99  | 100 | 101                   | 97  | 90  | 83  |     |     |     |
| 4000                                       | 92  | 96  | 97  | 97  | 97  | 97  | 97  | 95  | 94  | 90  | 91  | 90  | 90                    | 87  | 82  | 74  |     |     |     |
| 5000                                       | 93  | 97  | 96  | 98  | 99  | 98  | 99  | 97  | 96  | 94  | 94  | 92  | 92                    | 88  | 82  | 74  |     |     |     |
| 6300                                       | 91  | 95  | 95  | 96  | 97  | 97  | 97  | 95  | 95  | 92  | 94  | 92  | 92                    | 90  | 85  | 75  |     |     |     |
| 8000                                       | 88  | 92  | 92  | 94  | 96  | 94  | 95  | 93  | 92  | 90  | 90  | 89  | 90                    | 87  | 81  | 71  |     |     |     |
| 10000                                      | 83  | 86  | 87  | 88  | 89  | 89  | 89  | 88  | 87  | 84  | 85  | 83  | 84                    | 81  | 76  | 67  |     |     |     |
| OVERALL                                    | 107 | 109 | 110 | 110 | 110 | 110 | 110 | 108 | 107 | 106 | 107 | 107 | 108                   | 107 | 105 | 97  |     |     |     |

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE 1 MEASURED SOUND PRESSURE LEVEL (DB) |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION:         |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|
| 1/3 OCTAVE BAND                            |     |     |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4               |     |     |     |     |     |     |
| DISTANCE = 75 METERS                       |     |     |     |     |     |     |     |     |     |     |     |     | TEST 75-044-001         |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:                      |     |     |     |     |     |     |     |     |     |     |     |     | RUN 04                  |     |     |     |     |     |     |
| ( OPERATION:                               |     |     |     |     |     |     |     |     |     |     |     |     | ) METEOROLOGY:          |     |     |     |     |     |     |
| ( MAXIMUM POWER                            |     |     |     |     |     |     |     |     |     |     |     |     | ) TEMP = 18 C           |     |     |     |     |     |     |
| ( 104% RPM                                 |     |     |     |     |     |     |     |     |     |     |     |     | ) BAR PRESS = .758 M HG |     |     |     |     |     |     |
| ( ENGINE NO. 4                             |     |     |     |     |     |     |     |     |     |     |     |     | ) REL HUMID = 58 %      |     |     |     |     |     |     |
| ( FREE FLOW                                |     |     |     |     |     |     |     |     |     |     |     |     | ) PAGE 2                |     |     |     |     |     |     |
| FREQ (HZ)                                  |     |     |     |     |     |     |     |     |     |     |     |     | ANGLE (DEGREES)         |     |     |     |     |     |     |
|  | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120                     | 130 | 140 | 150 | 160 | 170 | 180 |
| 25   | 83  | 83  | 83  | 83  | 82  | 83  | 86  | 88  | 88  | 88  | 88  | 91  | 94                      | 98  | 99  | 96  | 88  |     |     |
| 31.5                                       | 85  | 84  | 83  | 83  | 88  | 89  | 88  | 91  | 90  | 92  | 91  | 93  | 97                      | 98  | 101 | 97  | 85  |     |     |
| 40   | 87  | 86  | 85  | 86  | 88  | 90  | 91  | 91  | 91  | 93  | 92  | 95  | 100                     | 103 | 102 | 101 | 84  |     |     |
| 50   | 88  | 86  | 86  | 90  | 90  | 90  | 91  | 94  | 94  | 94  | 95  | 96  | 100                     | 105 | 104 | 95  | 83  |     |     |
| 63   | 91  | 89  | 91  | 92  | 92  | 95  | 94  | 95  | 96  | 96  | 98  | 100 | 105                     | 108 | 107 | 94  | 80  |     |     |
| 80   | 92  | 90  | 93  | 94  | 94  | 95  | 96  | 97  | 98  | 99  | 100 | 101 | 104                     | 109 | 106 | 91  | 78  |     |     |
| 100  | 94  | 95  | 94  | 95  | 95  | 95  | 97  | 98  | 101 | 100 | 103 | 102 | 105                     | 109 | 103 | 93  | 77  |     |     |
| 125  | 96  | 96  | 94  | 95  | 97  | 97  | 97  | 98  | 100 | 101 | 102 | 103 | 106                     | 109 | 99  | 95  | 75  |     |     |
| 160  | 96  | 95  | 94  | 97  | 97  | 95  | 98  | 98  | 100 | 101 | 102 | 103 | 107                     | 106 | 99  | 93  | 72  |     |     |
| 200  | 98  | 97  | 97  | 97  | 98  | 98  | 100 | 100 | 101 | 100 | 103 | 105 | 108                     | 107 | 97  | 89  | 70  |     |     |
| 250  | 96  | 96  | 96  | 97  | 98  | 99  | 99  | 100 | 101 | 100 | 102 | 103 | 106                     | 106 | 96  | 89  | 67< |     |     |
| 315  | 96  | 95  | 95  | 97  | 98  | 99  | 98  | 98  | 98  | 99  | 99  | 100 | 103                     | 100 | 92  | 86  | 65  |     |     |
| 400  | 95  | 95  | 97  | 97  | 99  | 100 | 100 | 100 | 100 | 99  | 99  | 100 | 104                     | 100 | 90  | 86  | 66  |     |     |
| 500  | 97  | 97  | 97  | 97  | 97  | 99  | 97  | 98  | 97  | 99  | 98  | 98  | 103                     | 97  | 89  | 85  | 65  |     |     |
| 630  | 95  | 96  | 96  | 96  | 97  | 97  | 97  | 97  | 97  | 96  | 97  | 99  | 103                     | 96  | 86  | 83  | 65  |     |     |
| 800  | 96  | 94  | 94  | 96  | 96  | 96  | 96  | 95  | 94  | 95  | 96  | 97  | 99                      | 92  | 85  | 81  | 62  |     |     |
| 1000                                       | 97  | 97  | 96  | 97  | 96  | 97  | 96  | 94  | 94  | 94  | 95  | 97  | 92                      | 84  | 81  | 63  |     |     |     |
| 1250                                       | 97  | 97  | 95  | 97  | 97  | 96  | 96  | 94  | 94  | 94  | 96  | 95  | 92                      | 83  | 79  | 62  |     |     |     |
| 1600                                       | 94  | 93  | 94  | 94  | 94  | 95  | 95  | 94  | 93  | 92  | 93  | 93  | 93                      | 88  | 80  | 74  | 59  |     |     |
| 2000                                       | 96  | 95  | 95  | 95  | 96  | 96  | 96  | 94  | 94  | 93  | 93  | 93  | 88                      | 78  | 73  | 59  |     |     |     |
| 2500                                       | 95  | 94  | 94  | 96  | 95  | 97  | 97  | 96  | 95  | 94  | 93  | 93  | 92                      | 89  | 78  | 73  | 59  |     |     |
| 3150                                       | 98  | 97  | 100 | 99  | 101 | 103 | 102 | 102 | 102 | 102 | 98  | 98  | 98                      | 93  | 83  | 78  | 63  |     |     |
| 4000                                       | 95  | 96  | 96  | 99  | 98  | 100 | 102 | 100 | 99  | 98  | 97  | 97  | 97                      | 93  | 84  | 78  | 63  |     |     |
| 5000                                       | 92  | 92  | 93  | 94  | 94  | 95  | 96  | 95  | 95  | 94  | 93  | 92  | 92                      | 90  | 78  | 73  | 57  |     |     |
| 6300                                       | 92  | 91  | 93  | 94  | 94  | 96  | 97  | 97  | 96  | 96  | 95  | 92  | 91                      | 88  | 79  | 72  | 55  |     |     |
| 8000                                       | 89  | 89  | 89  | 91  | 92  | 94  | 95  | 95  | 94  | 92  | 93  | 91  | 91                      | 90  | 79  | 72  | 55  |     |     |
| 10000                                      | 84  | 83  | 83  | 85  | 86  | 88  | 90  | 90  | 89  | 87  | 88  | 84  | 85                      | 82  | 72  | 65  | 48  |     |     |
| OVERALL                                    | 109 | 108 | 108 | 109 | 110 | 111 | 111 | 111 | 111 | 111 | 112 | 113 | 116                     | 117 | 113 | 106 | 92  |     |     |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB)                        |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION:       |     |     |    |  |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-----|-----|----|--|
| 1/3 OCTAVE BAND  |     |     |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4             |     |     |    |  |
| DISTANCE = 75 METERS   |     |     |     |     |     |     |     |     |     |     |     |     | TEST 75-044-001       |     |     |    |  |
| NOISE SOURCE/SUBJECT:  |     |     |     |     |     |     |     |     |     |     |     |     | RUN 05                |     |     |    |  |
| ( OPERATION: )   |     |     |     |     |     |     |     |     |     |     |     |     | METEOROLOGY:          |     |     |    |  |
| ( NORMAL RATED THRUST )  |     |     |     |     |     |     |     |     |     |     |     |     | TEMP = 18 C           |     |     |    |  |
| ( 100% RPM )   |     |     |     |     |     |     |     |     |     |     |     |     | BAR PRESS = .758 M HG |     |     |    |  |
| ( ALL ENGINES )  |     |     |     |     |     |     |     |     |     |     |     |     | REL HUMID = 58 %      |     |     |    |  |
| ( FREE FLOW )  |     |     |     |     |     |     |     |     |     |     |     |     | PAGE 2                |     |     |    |  |
| FREQ (HZ)  |     |     |     |     |     |     |     |     |     |     |     |     | ANGLE (DEGREES)       |     |     |    |  |
| 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |    |  |
| ( 25   | 91  | 91  | 90  | 90  | 93  | 93  | 93  | 91  | 93  | 95  | 96  | 99  | 104                   | 103 | 97  |    |  |
| ( 31.5   | 93  | 92  | 92  | 95  | 94  | 95  | 96  | 95  | 98  | 98  | 99  | 101 | 105                   | 103 | 95  |    |  |
| ( 40   | 95  | 92  | 94  | 95  | 96  | 98  | 97  | 97  | 99  | 99  | 102 | 105 | 108                   | 104 | 97  |    |  |
| ( 50   | 93  | 93  | 94  | 96  | 97  | 97  | 99  | 99  | 101 | 101 | 101 | 101 | 106                   | 103 | 93  |    |  |
| ( 63   | 97  | 96  | 96  | 98  | 99  | 100 | 100 | 102 | 104 | 103 | 105 | 108 | 112                   | 104 | 94  |    |  |
| ( 80   | 99  | 99  | 99  | 101 | 100 | 102 | 102 | 104 | 104 | 104 | 107 | 110 | 112                   | 104 | 90  |    |  |
| ( 100  | 100 | 100 | 102 | 102 | 102 | 102 | 105 | 106 | 105 | 107 | 107 | 108 | 112                   | 104 | 87  |    |  |
| ( 125  | 102 | 102 | 101 | 102 | 104 | 103 | 104 | 105 | 105 | 105 | 107 | 114 | 114                   | 103 | 85  |    |  |
| ( 160  | 102 | 102 | 103 | 104 | 103 | 105 | 103 | 104 | 106 | 107 | 107 | 112 | 112                   | 101 | 83  |    |  |
| ( 200  | 105 | 104 | 105 | 104 | 105 | 103 | 105 | 105 | 106 | 108 | 109 | 108 | 111                   | 112 | 98  | 80 |  |
| ( 250  | 103 | 104 | 104 | 104 | 103 | 105 | 105 | 105 | 105 | 106 | 107 | 109 | 110                   | 97  | 76  |    |  |
| ( 315  | 103 | 104 | 103 | 105 | 104 | 104 | 105 | 105 | 105 | 106 | 107 | 108 | 109                   | 106 | 94  | 71 |  |
| ( 400  | 104 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 106 | 106 | 107 | 107 | 108                   | 105 | 91  | 71 |  |
| ( 500  | 104 | 104 | 103 | 103 | 103 | 104 | 103 | 104 | 104 | 104 | 106 | 106 | 106                   | 102 | 89  | 70 |  |
| ( 630  | 104 | 103 | 104 | 103 | 103 | 104 | 104 | 104 | 103 | 104 | 104 | 105 | 104                   | 100 | 87  | 71 |  |
| ( 800  | 102 | 102 | 102 | 102 | 101 | 101 | 102 | 102 | 102 | 103 | 102 | 103 | 103                   | 99  | 84  | 70 |  |
| ( 1000   | 101 | 101 | 101 | 100 | 101 | 101 | 102 | 102 | 101 | 102 | 103 | 102 | 101                   | 98  | 83  | 69 |  |
| ( 1250   | 100 | 101 | 100 | 100 | 102 | 102 | 102 | 102 | 101 | 101 | 101 | 100 | 97                    | 81  | 69  |    |  |
| ( 1600   | 100 | 101 | 102 | 100 | 102 | 102 | 101 | 101 | 101 | 101 | 101 | 100 | 98                    | 80  | 67  |    |  |
| ( 2000   | 102 | 102 | 102 | 103 | 103 | 103 | 102 | 102 | 101 | 102 | 102 | 100 | 97                    | 94  | 78  | 66 |  |
| ( 2500   | 102 | 102 | 103 | 102 | 104 | 104 | 103 | 104 | 104 | 104 | 104 | 101 | 98                    | 94  | 79  | 66 |  |
| ( 3150   | 107 | 107 | 107 | 106 | 107 | 108 | 109 | 109 | 110 | 112 | 114 | 111 | 108                   | 101 | 86  | 72 |  |
| ( 4000   | 103 | 104 | 103 | 103 | 103 | 105 | 105 | 107 | 106 | 107 | 108 | 106 | 104                   | 99  | 85  | 70 |  |
| ( 5000   | 101 | 101 | 100 | 101 | 102 | 102 | 103 | 103 | 104 | 104 | 104 | 102 | 99                    | 94  | 80  | 66 |  |
| ( 6300   | 99  | 99  | 100 | 101 | 100 | 102 | 104 | 104 | 105 | 105 | 107 | 105 | 101                   | 96  | 79  | 65 |  |
| ( 8000   | 96  | 96  | 98  | 98  | 98  | 100 | 100 | 102 | 102 | 104 | 104 | 104 | 101                   | 95  | 81  | 65 |  |
| ( 10000  | 92  | 92  | 92  | 93  | 94  | 96  | 97  | 99  | 99  | 101 | 102 | 101 | 96                    | 90  | 76  | 59 |  |
| ( OVERALL  | 116 | 116 | 116 | 116 | 117 | 117 | 118 | 118 | 119 | 120 | 120 | 121 | 122                   | 113 | 103 |    |  |

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

( ( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS  
 ( ( DISTANCE = 100 METERS  
 ( ( NOISE SOURCE/SUBJECT: ( OPERATION: ( IDENTIFICATION:  
 ( ( B-52H AIRCRAFT ( IDLE ( TEST 75-044-001  
 ( ( TF33-P-3 ENGINE ( 60% RPM ( RUN 01  
 ( ( FAR FIELD NOISE ( ALL ENGINES ( 28 MAY 76  
 ( ( FREE FLOW ( REL HUMID = 70 % ( PAGE 6  
 ( ( METEOROLOGY: ( TEMP = 15 C ( METEOROLOGY: ( 5 = 500 HZ ( 6 = 1000 HZ  
 ( ( BAR PRESS = .760 M HG ( REL HUMID = 70 % ( 4 = 250 HZ ( 5 = 500 HZ ( 6 = 1000 HZ

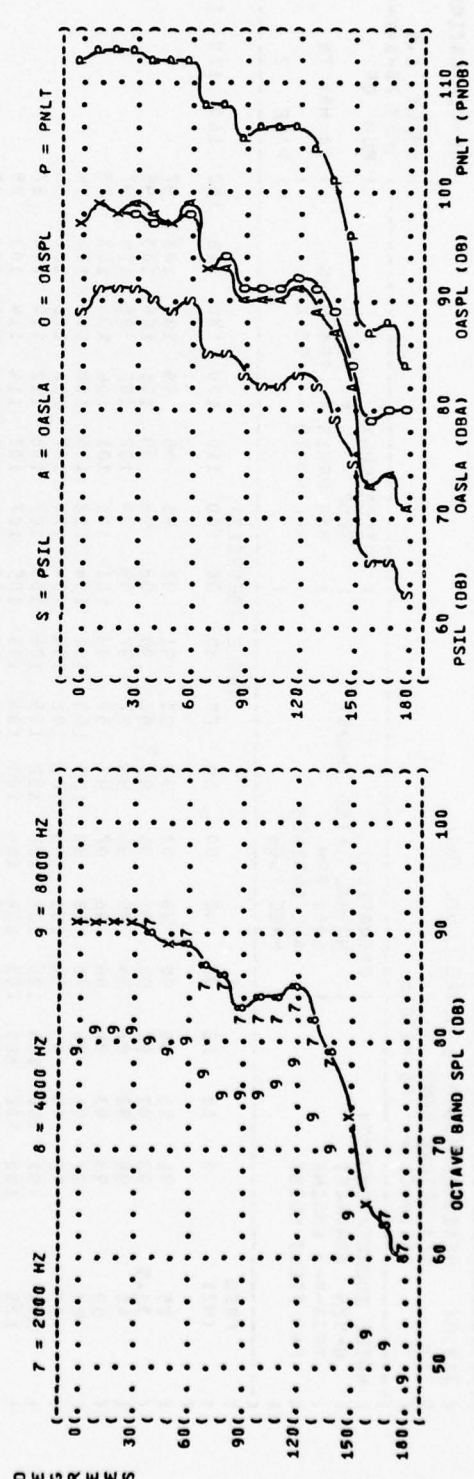
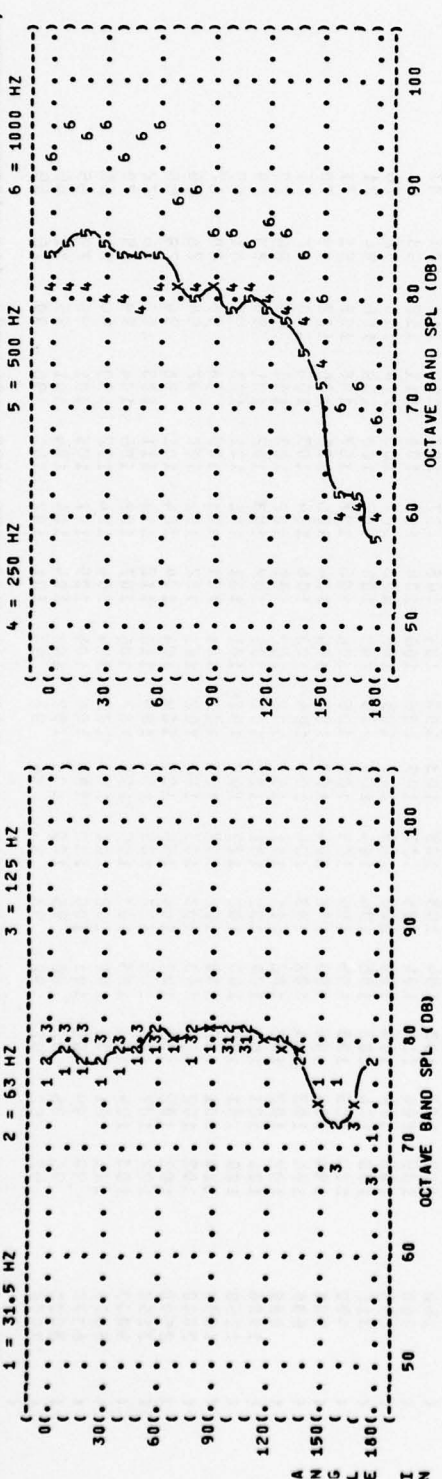


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

- B-52H AIRCRAFT
- TF33-P-3 ENGINE
- FAR FIELD NOISE

OPERATIONS:

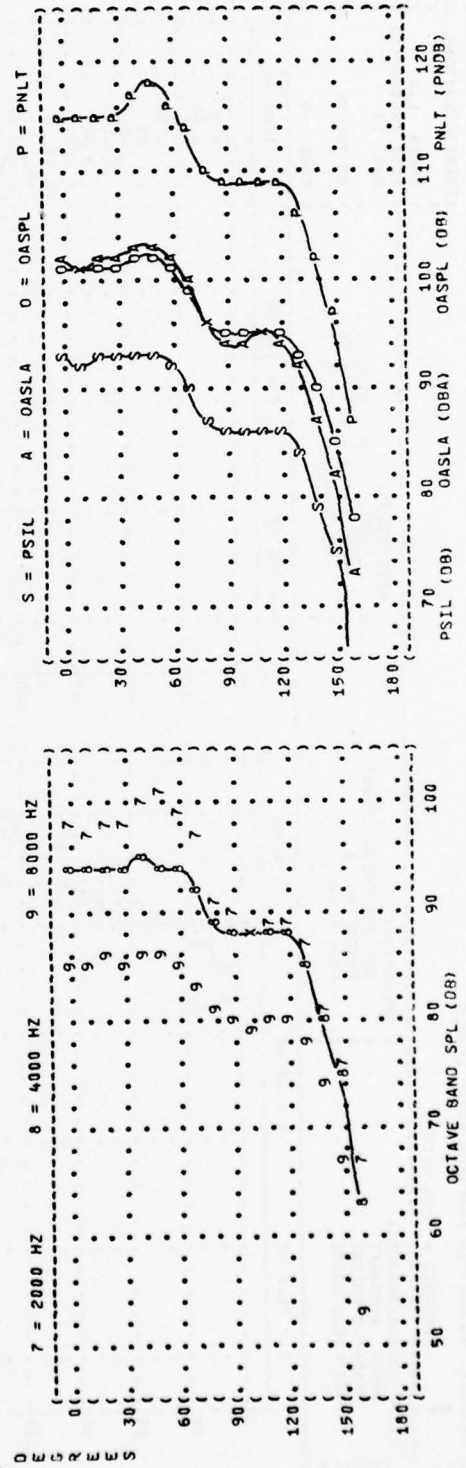
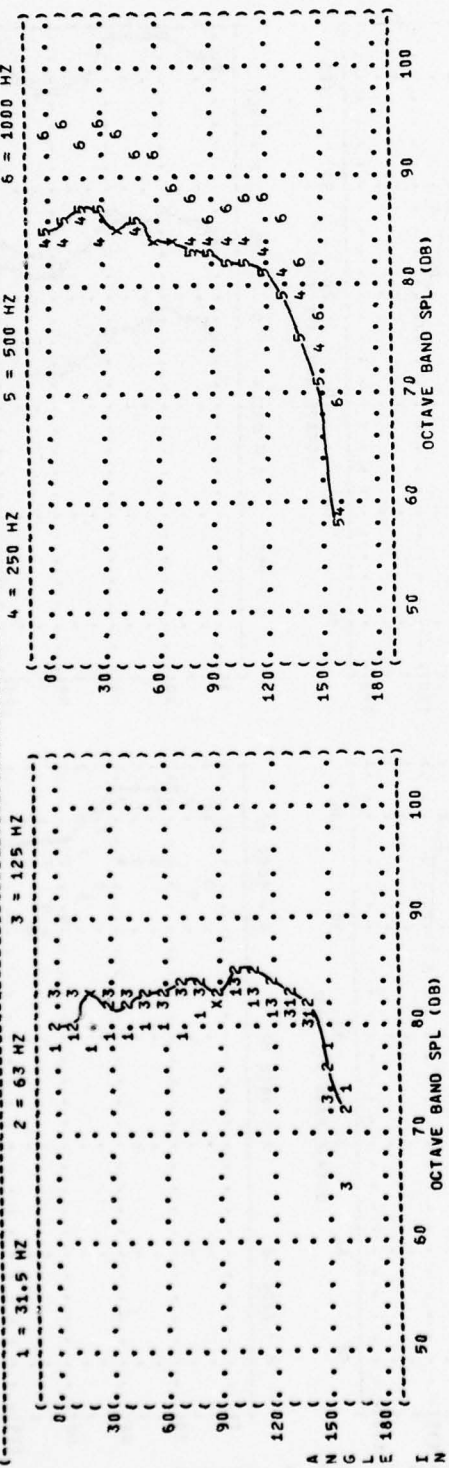
- 60% RPM ENGINE RUNUP
- ENGINE NO. 4
- FREE FLOW

METEOROLOGY:

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

IDENTIFICATION:

- OMEGA 1.4
- TEST 75-044-001
- RUN 02
- 28 MAY 76
- PAGE 6

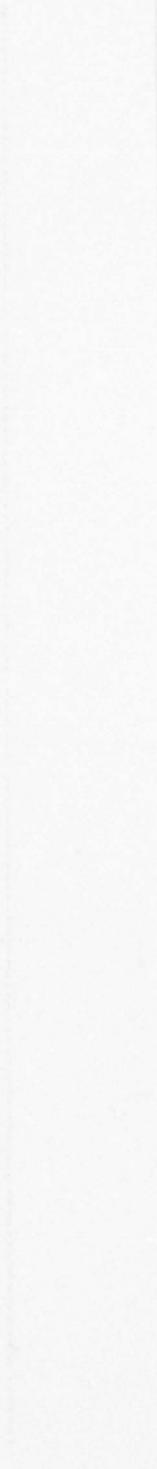
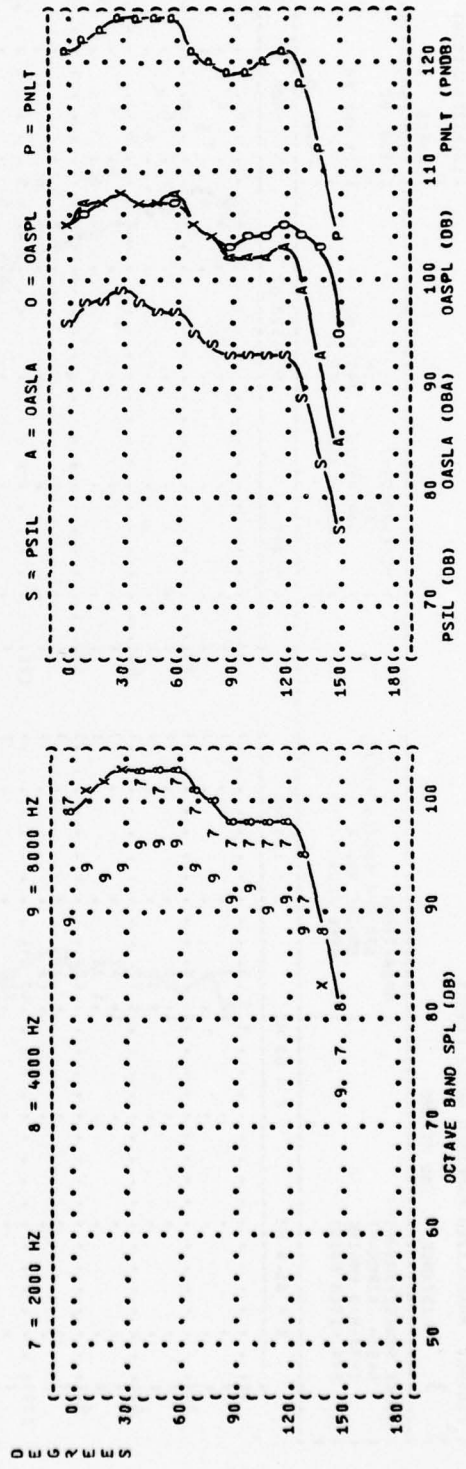
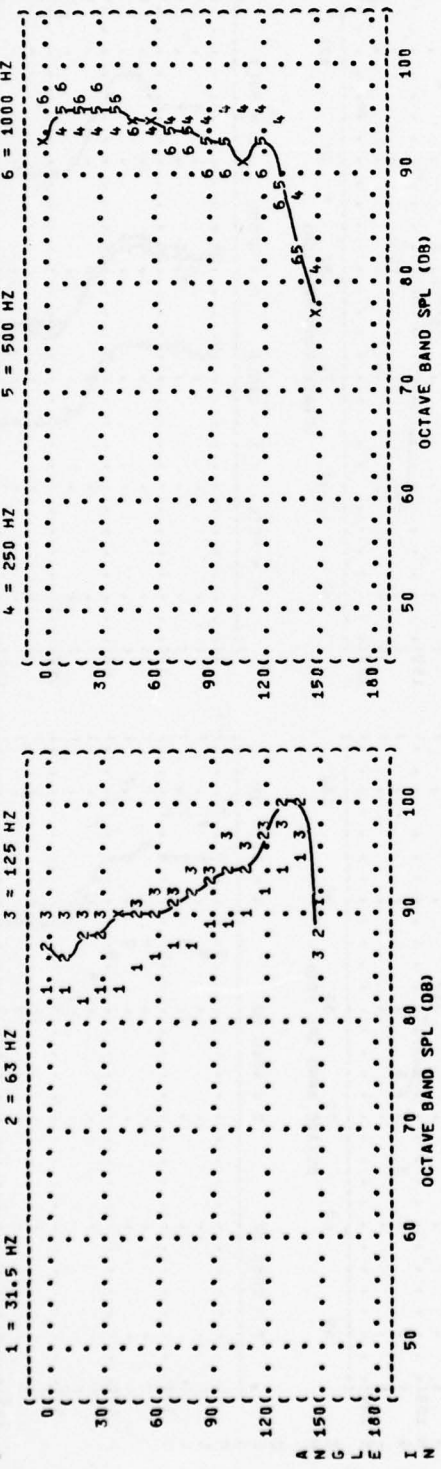




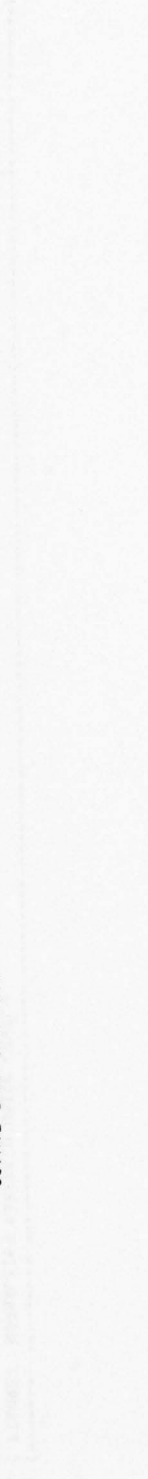
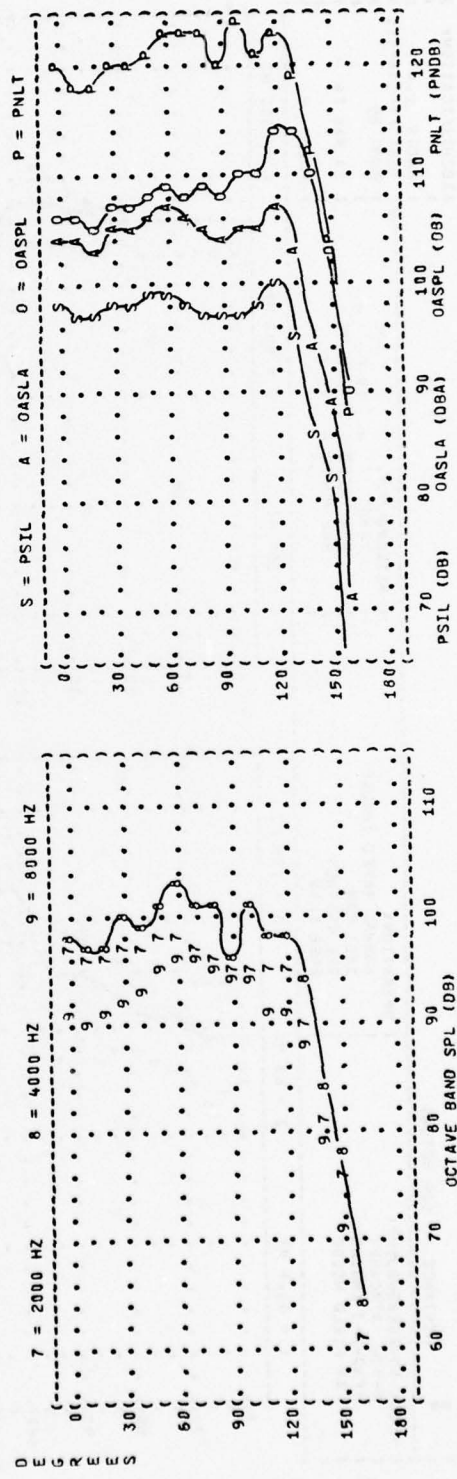
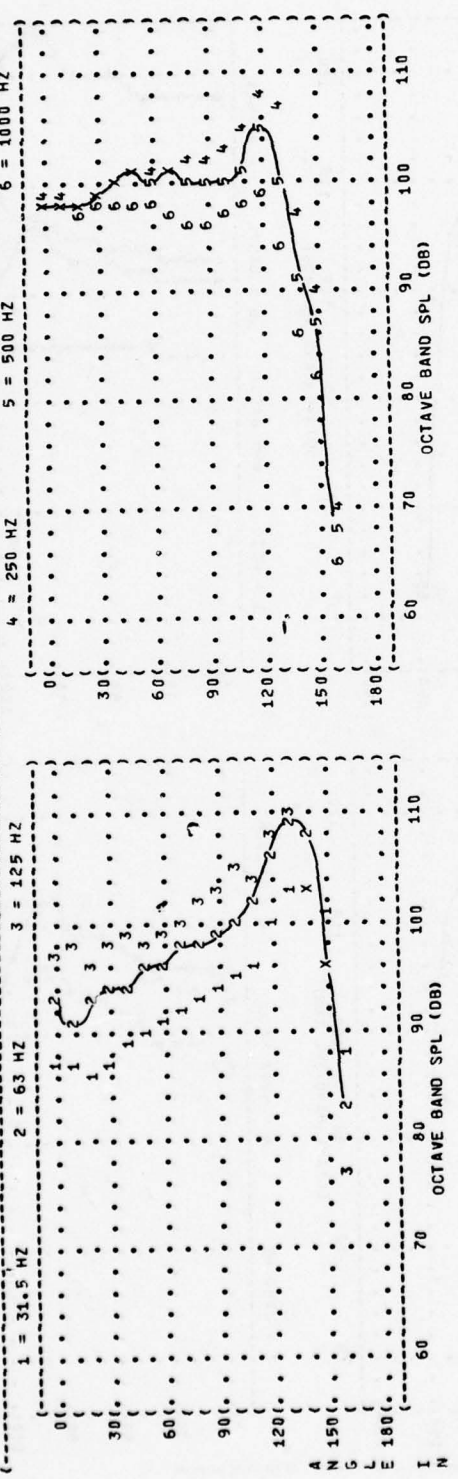
IDENTIFICATION: )  
 ) OMEGA 1.4  
 ) TEST 75-044-001  
 ) RUN 03  
 ) 28 MAY 76  
 ) PAGE 6

DISTANCE = 100 METERS  
 NOISE SOURCE/SUBJECT: )  
 ( OPERATIONS )  
 ( 95% RPM ENGINE RUNUP )  
 ( ENGINE NO. 4 )  
 ( FREE FLOW )  
 FAR FIELD NOISE )

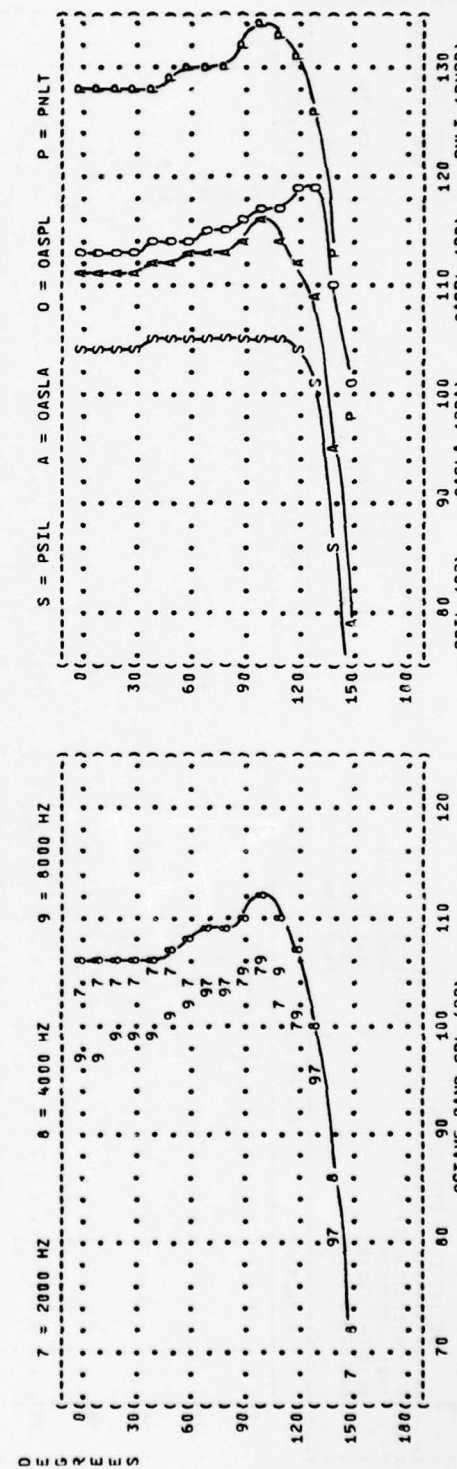
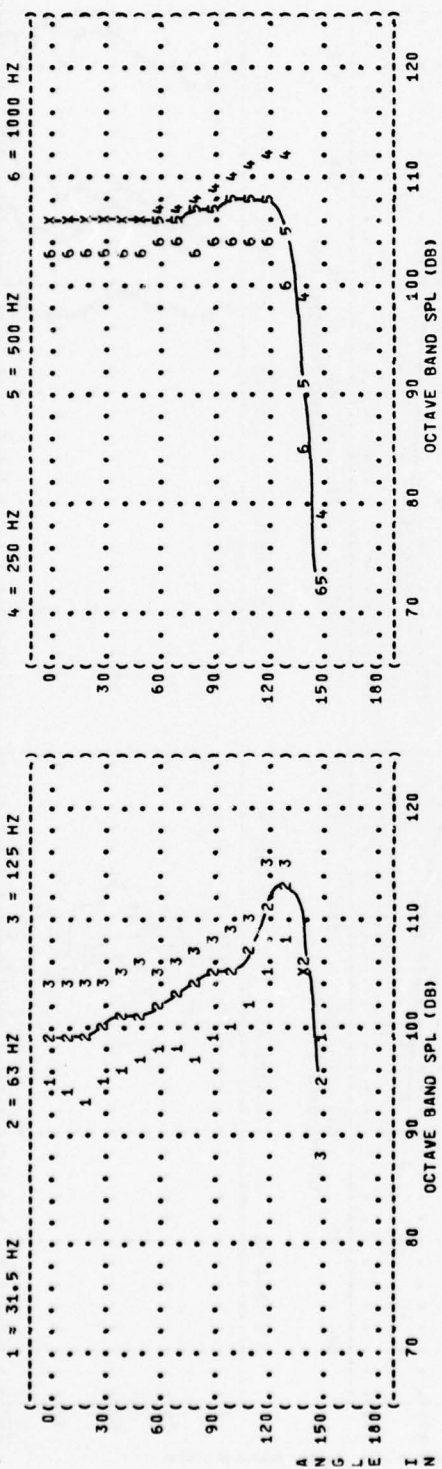
METEOROLOGY: )  
 ) TEMP = 15 C  
 ) BAR PRESS = .760 M HG  
 ) REL HUMID = 70 %



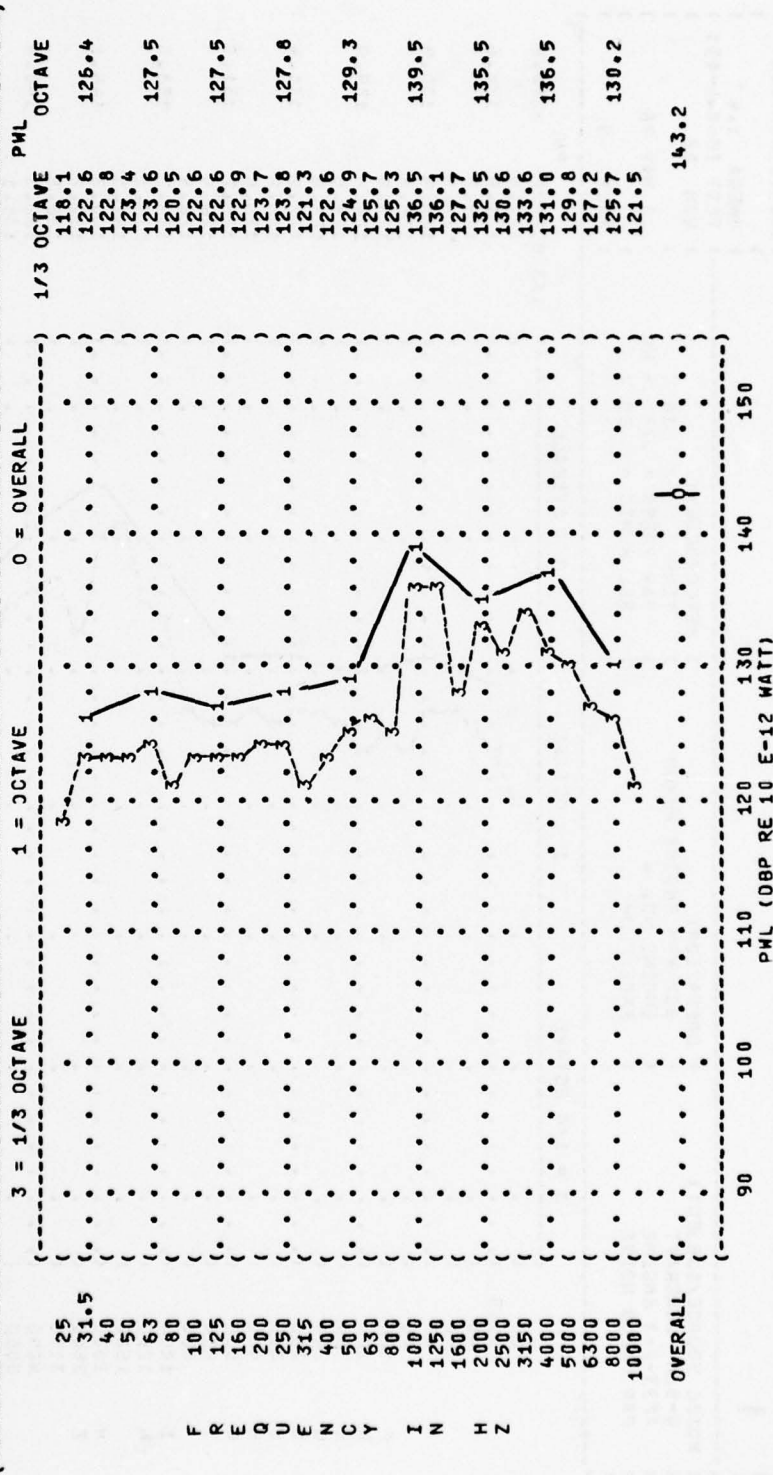
( FIGURE: NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT:  
 ( B-52H AIRCRAFT  
 ( TF33-P-3 ENGINE  
 ( FAR FIELD NOISE  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 6  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 04  
 ( ) 28 MAY 76



( ( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS ) )  
 ( ( 3 DISTANCE = 100 METERS ) )  
 ( ( NOISE SOURCE/SUBJECT: ) )  
 ( ( B-52H AIRCRAFT ) )  
 ( ( TF33-P-3 ENGINE ) )  
 ( ( FAR FIELD NOISE ) )  
 ( ( OPERATION ) )  
 ( ( NORMAL RATED THRUST ) )  
 ( ( 100% RPM ) )  
 ( ( ALL ENGINES ) )  
 ( ( FREE FLOW ) )  
 ( ( METEOROLOGY: ) )  
 ( ( TEMP = 15 C ) )  
 ( ( BAR PRESS = .760 M HG ) )  
 ( ( REL HUMID = 70 % ) )  
 ( ( IDENTIFICATION: ) )  
 ( ( OMEGA 1.4 ) )  
 ( ( TEST 75-044-001 ) )  
 ( ( RUN 05 ) )  
 ( ( 28 MAY 76 ) )  
 ( ( PAGE 6 ) )



( FIGURE: ACOUSTIC POWER LEVEL (PWL) )  
 ( 4 )  
 ( NOISE SOURCE/SUBJECT: )  
 ( B-52H AIRCRAFT )  
 ( TF33-P-3 ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( IDLE )  
 ( 60% RPM )  
 ( ALL ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 18 C )  
 ( BAR PRESS = .758 M HG )  
 ( REL HUMID = 58 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-044-001 )  
 ( RUN 01 )  
 ( 28 MAY 76 )  
 ( PAGE 3 )





) IDENTIFICATION: )  
 ) )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 03 )  
 ) )  
 ) 28 MAY 76 )  
 ) )  
 ) PAGE 3 )  
 ) )

) METEOROLOGY: )  
 ) )  
 ) TEMP = 18 C )  
 ) BAR PRESS = .758 M HG )  
 ) REL HUMID = 58 % )  
 ) )

) OPERATION: )  
 ) )  
 ) 95% RPM ENGINE RUNUP )  
 ) ENGINE NO. 4 )  
 ) FREE FLOW )  
 ) )

) NOISE SOURCE/SUBJECT: )  
 ) )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )  
 ) )

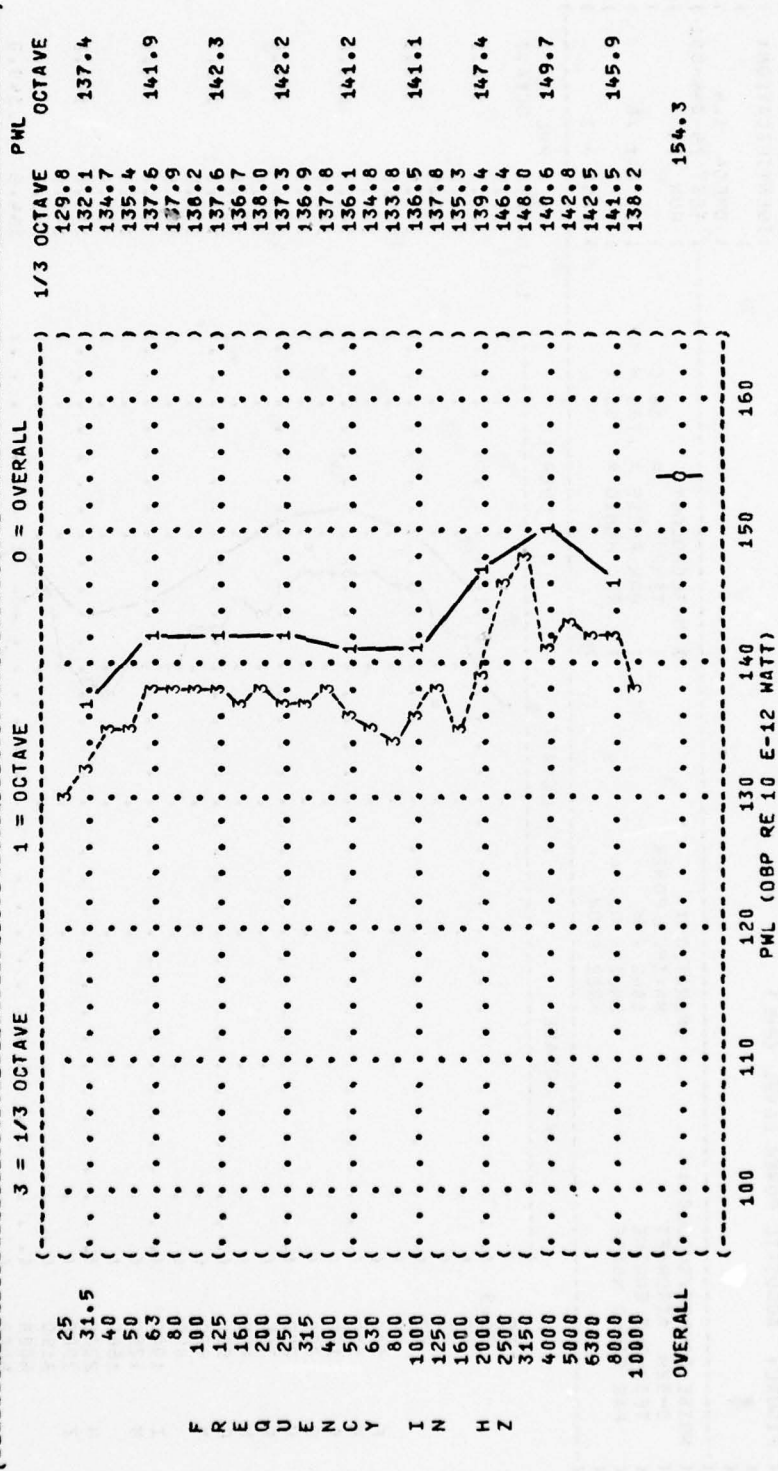
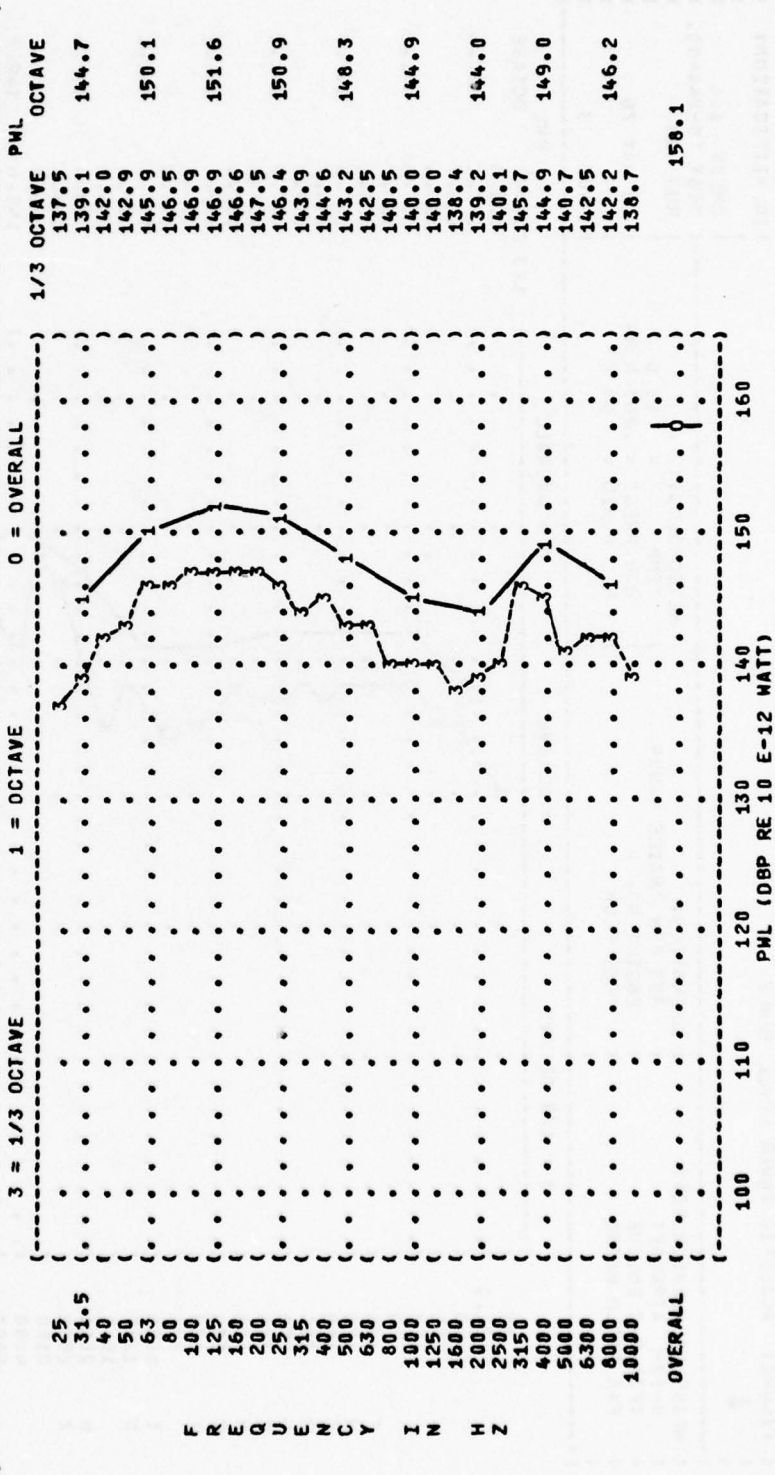


FIGURE: ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION: )  
 )  
 ) OMEGA 1.4  
 ) TEST 75-044-001  
 ) RUN 04  
 ) 28 MAY 76  
 ) PAGE 3

NOISE SOURCE/SUBJECT: )  
 ( OPERATION: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) )  
 ( TF33-P-3 ENGINE ) ) MAXIMUM POWER ) TEMP = 18 C  
 ( FAR FIELD NOISE ) ) 104% RPM ) BAR PRESS = .758 M HG  
 ( ) ) ENGINE NO. 4 ) REL HUMID = 58 %  
 ( ) ) FREE FLOW ) )







| TABLE: DIRECTIVITY INDEX (DB) |    | IDENTIFICATION:       |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
|-------------------------------|----|-----------------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 6                             |    | OMEGA 1.4             |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
|                               |    | TEST 75-044-001       |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
|                               |    | RUN 01                |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| NOISE SOURCE/SUBJECT:         |    | METEOROLOGY: 18 C     |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| ( B-52H AIRCRAFT              |    | TEMP                  |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| ( TF33-P-3 ENGINE             |    | BAR PRESS = .758 M HG |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| ( FAR FIELD NOISE             |    | REL HUMID = 56 %      |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| (                             |    | PAGE 4                |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
|                               |    |                       |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| FREQ (HZ)                     | 0  | 10                    | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |  |
| 1/3 OCTAVE                    |    |                       |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 25                            | -1 | -1                    | -2 | -3 | -3 | -2 | -0 | 0  | -1 | -0 | 2   | 1   | 1   | 1   | -1  | -1  | 0   | -1  | -5  |  |
| 31.5                          | -4 | -1                    | -4 | -4 | -1 | 0  | -0 | -0 | -2 | 0  | 1   | 1   | 1   | 1   | 1   | -3  | -4  | -5  | -8  |  |
| 40                            | -1 | -1                    | 0  | -1 | -1 | -1 | -0 | -0 | 1  | 1  | 1   | 2   | 1   | 1   | -1  | -2  | -3  | -6  | -10 |  |
| 50                            | -2 | -1                    | -2 | -2 | -0 | -0 | -0 | -0 | 2  | 2  | 1   | 1   | 0   | 0   | -2  | -6  | -8  | -4  | -9  |  |
| 63                            | -2 | -2                    | -2 | -2 | -2 | -0 | 2  | 1  | 1  | -1 | 1   | 2   | -0  | -0  | -2  | -6  | -9  | -7  | 2   |  |
| 80                            | -1 | -1                    | -0 | -2 | -0 | -0 | 1  | 1  | 2  | 1  | 0   | 0   | -0  | 0   | -1  | -6  | -8  | -5  | -9  |  |
| 100                           | 0  | 0                     | 0  | -1 | 0  | 2  | 0  | 2  | 1  | 0  | -2  | -1  | 1   | -2  | -2  | -5  | -10 | -6  | -10 |  |
| 125                           | 2  | 2                     | 0  | 0  | 0  | 0  | -1 | 0  | 2  | 2  | -1  | -1  | 1   | -1  | -1  | -5  | -13 | -6  | -15 |  |
| 160                           | 2  | 1                     | 2  | 1  | 1  | 1  | 1  | -1 | 1  | -0 | -1  | -1  | -2  | 1   | -1  | -8  | -15 | -11 | -17 |  |
| 200                           | 1  | 1                     | -0 | -1 | -1 | -1 | 1  | 1  | 2  | 0  | 0   | 0   | 0   | -0  | -0  | -6  | -19 | -16 | -19 |  |
| 250                           | 1  | 1                     | 1  | 1  | 1  | -1 | 2  | 1  | 0  | 1  | 1   | -0  | -0  | -1  | -3  | -6  | -21 | -21 | -19 |  |
| 315                           | 1  | 2                     | 2  | 0  | 1  | -1 | 0  | 0  | 0  | 0  | 1   | 2   | 1   | -1  | -3  | -7  | -21 | -21 | -19 |  |
| 400                           | 2  | 3                     | 3  | 2  | 2  | 1  | 2  | 2  | -0 | -1 | 1   | -2  | -2  | -2  | -5  | -8  | -18 | -21 | -23 |  |
| 500                           | 3  | 3                     | 4  | 3  | 3  | 3  | 2  | 0  | -1 | -1 | -3  | -1  | -3  | -4  | -7  | -10 | -19 | -18 | -23 |  |
| 630                           | 3  | 4                     | 5  | 4  | 2  | 3  | 3  | 0  | -2 | -1 | -3  | -2  | -1  | -4  | -7  | -9  | -19 | -19 | -22 |  |
| 800                           | 4  | 4                     | 4  | 4  | 2  | 3  | 4  | -1 | -1 | -2 | -3  | -3  | -2  | -4  | -6  | -9  | -20 | -18 | -20 |  |
| 1000                          | 2  | 5                     | 3  | 3  | 2  | 3  | 5  | -2 | -1 | -5 | -5  | -6  | -3  | -5  | -7  | -11 | -21 | -18 | -21 |  |
| 1250                          | 1  | 5                     | 4  | 5  | 3  | 2  | 5  | -2 | -1 | -6 | -5  | -8  | -5  | -5  | -8  | -12 | -22 | -21 | -24 |  |
| 1600                          | 4  | 4                     | 5  | 5  | 4  | 4  | 4  | 0  | -1 | -4 | -5  | -5  | -3  | -7  | -9  | -12 | -22 | -22 | -24 |  |
| 2000                          | 5  | 5                     | 5  | 5  | 5  | 2  | 4  | -1 | -2 | -5 | -5  | -5  | -5  | -7  | -8  | -14 | -22 | -22 | -25 |  |
| 2500                          | 4  | 4                     | 4  | 4  | 4  | 2  | 3  | -2 | -1 | -4 | -5  | -3  | -3  | -6  | -9  | -13 | -21 | -22 | -26 |  |
| 3150                          | 5  | 4                     | 4  | 4  | 4  | 3  | 2  | 0  | -0 | -4 | -3  | -2  | -2  | -6  | -8  | -13 | -22 | -24 | -27 |  |
| 4000                          | 3  | 5                     | 4  | 5  | 3  | 2  | 3  | 0  | -1 | -2 | -2  | -2  | -0  | -4  | -7  | -13 | -22 | -24 | -26 |  |
| 5000                          | 3  | 5                     | 5  | 3  | 3  | 3  | 2  | -0 | -1 | -3 | -4  | -1  | -0  | -4  | -8  | -13 | -23 | -24 | -27 |  |
| 6300                          | 2  | 3                     | 4  | 3  | 3  | 2  | 3  | 0  | -2 | -3 | -3  | -2  | 0   | -5  | -8  | -14 | -25 | -26 | -29 |  |
| 8000                          | 2  | 4                     | 4  | 4  | 2  | 2  | 3  | -0 | -2 | -2 | -2  | -0  | 1   | -3  | -7  | -13 | -24 | -26 | -29 |  |
| 10000                         | 1  | 2                     | 2  | 2  | 2  | 1  | 2  | -0 | -1 | -2 | -2  | -0  | 3   | -3  | -6  | -14 | -24 | -25 | -28 |  |
| OCTAVE                        |    |                       |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 31.5                          | -2 | -1                    | -1 | -2 | -1 | -1 | 1  | -0 | -0 | 0  | 1   | 1   | 1   | 1   | 0   | -2  | -3  | -5  | -8  |  |
| 63                            | -2 | -1                    | -2 | -2 | -1 | -0 | 1  | 1  | 1  | 1  | -1  | -1  | 0   | 0   | -2  | -6  | -8  | -5  | -2  |  |
| 125                           | 1  | 1                     | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | -1  | -1  | 0   | -0  | -1  | -6  | -12 | -7  | -13 |  |
| 250                           | 1  | 1                     | 1  | 0  | 0  | -1 | 1  | 1  | 1  | 1  | 1   | 1   | 0   | -1  | -2  | -6  | -20 | -19 | -20 |  |
| 500                           | 3  | 3                     | 5  | 3  | 3  | 3  | 2  | -0 | -1 | -1 | -3  | -1  | -2  | -3  | -6  | -9  | -19 | -19 | -23 |  |
| 1000                          | 2  | 5                     | 4  | 4  | 4  | 5  | -2 | -1 | -5 | -5 | -7  | -7  | -4  | -5  | -7  | -11 | -21 | -19 | -22 |  |
| 2000                          | 4  | 4                     | 5  | 5  | 5  | 3  | 4  | -1 | -4 | -5 | -4  | -5  | -4  | -5  | -9  | -13 | -22 | -22 | -25 |  |
| 4000                          | 4  | 4                     | 4  | 4  | 4  | 2  | 2  | 0  | -1 | -3 | -3  | -2  | -2  | -5  | -8  | -13 | -22 | -24 | -27 |  |
| 8000                          | 2  | 4                     | 4  | 4  | 4  | 2  | 3  | -0 | -2 | -2 | -2  | -0  | 1   | -3  | -7  | -13 | -24 | -26 | -29 |  |
| OVERALL                       | 3  | 4                     | 4  | 4  | 4  | 3  | 4  | -1 | -1 | -3 | -3  | -3  | -3  | -4  | -6  | -10 | -16 | -15 | -15 |  |

| TABLE: DIRECTIVITY INDEX (DB) |                 | IDENTIFICATION:       |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|-------------------------------|-----------------|-----------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6                             |                 | OMEGA 1.4             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | TEST 75-044-001       |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | RUN 02                |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | 28 MAY 76             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | PAGE 4                |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:         |                 | METEOROLOGY:          |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( 8-52H AIRCRAFT              |                 | TEMP = 18 C           |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( TF33-P-3 ENGINE             |                 | BAR PRESS = .758 M HG |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( FAR FIELD NOISE             |                 | REL HUMID = 58 %      |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 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                            |                 | -0                    | -3 | -2 | -3 | -3 | -1 | -0 | -0 | -0 | 1  | 1   | 2   | 2   | 1   | 1   | 1   | -2  | -2  |     |
| 31.5                          |                 | -2                    | -2 | -4 | -5 | -2 | -0 | -1 | -1 | 1  | 1  | 3   | 2   | -2  | 1   | 1   | 0   | -3  | -7  |     |
| 40                            |                 | -4                    | -2 | -4 | -1 | -1 | -1 | -3 | -1 | 2  | 3  | 1   | 0   | 0   | -1  | 0   | -3  | -9  |     |     |
| 50                            |                 | -4                    | -4 | -0 | 1  | -1 | -1 | 0  | 0  | 2  | 1  | 2   | 2   | -0  | -1  | -3  | -7  | -14 |     |     |
| 63                            |                 | -3                    | -4 | -0 | -3 | -2 | -0 | 1  | 1  | 1  | 1  | 2   | 2   | 0   | -1  | -1  | -6  | -10 |     |     |
| 80                            |                 | -2                    | -1 | -1 | -1 | -0 | -0 | 1  | 0  | 0  | 1  | 1   | 1   | 0   | 0   | -1  | -6  | -12 |     |     |
| 100                           |                 | -0                    | -0 | -0 | 1  | 1  | -0 | -0 | 2  | 1  | 2  | 1   | 0   | 0   | -2  | -3  | -9  | -15 |     |     |
| 125                           |                 | 1                     | 2  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 2  | 2   | 1   | -2  | -1  | -1  | -8  | -18 |     |     |
| 160                           |                 | 2                     | 1  | 3  | 1  | 1  | -0 | 1  | 0  | 0  | 2  | 1   | 0   | 0   | -2  | -3  | -9  | -22 |     |     |
| 200                           |                 | 1                     | 1  | 3  | 1  | 1  | 1  | -0 | 1  | 0  | 1  | 0   | 0   | 0   | -2  | -4  | -9  | -23 |     |     |
| 250                           |                 | 1                     | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2   | 2   | -0  | -4  | -6  | -10 | -22 |     |     |
| 315                           |                 | 1                     | 1  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 0   | 0   | -1  | -4  | -5  | -11 | -26 |     |     |
| 400                           |                 | 1                     | 2  | 3  | 3  | 2  | 2  | 1  | 2  | 2  | 1  | -1  | -1  | -4  | -5  | -8  | -11 | -26 |     |     |
| 500                           |                 | 3                     | 2  | 4  | 4  | 2  | 3  | 1  | 1  | 0  | -1 | -1  | -2  | -2  | -5  | -7  | -12 | -25 |     |     |
| 630                           |                 | 3                     | 4  | 5  | 5  | 3  | 3  | 0  | 1  | -2 | -1 | -2  | -2  | -2  | -4  | -8  | -11 | -24 |     |     |
| 800                           |                 | 3                     | 3  | 3  | 3  | 4  | 3  | 2  | 2  | -1 | -2 | -2  | -2  | -2  | -4  | -8  | -11 | -22 |     |     |
| 1000                          |                 | 4                     | 5  | 3  | 5  | 5  | 2  | 2  | -1 | -2 | -5 | -2  | -2  | -1  | -4  | -9  | -15 | -22 |     |     |
| 1250                          |                 | 4                     | 5  | 4  | 6  | 4  | 4  | 4  | 2  | -2 | -4 | -3  | -1  | -2  | -8  | -14 | -19 | -28 |     |     |
| 1600                          |                 | 3                     | 1  | 3  | 3  | 4  | 5  | 4  | 2  | -4 | -5 | -7  | -6  | -5  | -8  | -14 | -19 | -28 |     |     |
| 2000                          |                 | 3                     | 2  | 3  | 2  | 5  | 6  | 4  | -0 | -5 | -6 | -8  | -8  | -8  | -15 | -20 | -28 |     |     |     |
| 2500                          |                 | 4                     | 4  | 4  | 4  | 4  | 4  | 1  | 0  | -3 | -4 | -3  | -3  | -3  | -5  | -10 | -15 | -26 |     |     |
| 3150                          |                 | 3                     | 3  | 3  | 4  | 4  | 3  | 3  | 1  | -2 | -3 | -3  | -2  | -2  | -6  | -12 | -16 | -27 |     |     |
| 4000                          |                 | 3                     | 2  | 3  | 2  | 4  | 5  | 3  | 1  | -1 | -4 | -3  | -3  | -4  | -6  | -11 | -16 | -27 |     |     |
| 5000                          |                 | 3                     | 3  | 3  | 3  | 3  | 3  | 3  | 1  | -2 | -2 | -3  | -3  | -3  | -5  | -10 | -16 | -29 |     |     |
| 6300                          |                 | 3                     | 2  | 4  | 2  | 4  | 4  | 2  | 0  | -1 | -2 | -3  | -2  | -2  | -4  | -9  | -15 | -29 |     |     |
| 8000                          |                 | 3                     | 3  | 3  | 3  | 4  | 4  | 3  | 1  | -2 | -3 | -3  | -3  | -2  | -5  | -8  | -16 | -29 |     |     |
| 10000                         |                 | 3                     | 3  | 3  | 2  | 4  | 4  | 3  | -0 | -2 | -2 | -2  | -3  | -2  | -5  | -10 | -18 | -30 |     |     |
| OCTAVE                        |                 |                       |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 31.5                          |                 | -2                    | -2 | -3 | -2 | -1 | -1 | -1 | -2 | -0 | 1  | 3   | 2   | -0  | 1   | 1   | -3  | -6  |     |     |
| 63                            |                 | -3                    | -3 | -0 | -1 | -1 | -0 | 0  | 1  | 1  | 0  | 2   | 1   | 0   | -1  | -1  | -7  | -11 |     |     |
| 125                           |                 | 1                     | 1  | 1  | 1  | 1  | 0  | 0  | 1  | 0  | 2  | 1   | 0   | -1  | -1  | -2  | -9  | -17 |     |     |
| 250                           |                 | 1                     | 1  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | -0  | -2  | -5  | -10 | -25 |     |     |
| 500                           |                 | 2                     | 3  | 4  | 4  | 2  | 3  | 1  | 1  | 0  | -1 | -1  | -1  | -2  | -4  | -8  | -12 | -25 |     |     |
| 1000                          |                 | 4                     | 5  | 3  | 5  | 4  | 2  | 2  | -0 | -2 | -4 | -3  | -2  | -1  | -4  | -8  | -12 | -25 |     |     |
| 2000                          |                 | 3                     | 2  | 3  | 3  | 5  | 5  | 4  | 1  | -4 | -5 | -7  | -6  | -6  | -8  | -14 | -19 | -28 |     |     |
| 4000                          |                 | 3                     | 3  | 3  | 4  | 4  | 4  | 3  | 1  | -1 | -3 | -3  | -2  | -3  | -6  | -11 | -16 | -27 |     |     |
| 8000                          |                 | 3                     | 3  | 4  | 2  | 4  | 4  | 3  | 0  | -2 | -3 | -3  | -2  | -2  | -4  | -9  | -16 | -29 |     |     |
| OVERALL                       |                 | 3                     | 3  | 3  | 3  | 4  | 4  | 4  | 3  | 1  | -2 | -3  | -3  | -3  | -5  | -9  | -14 | -20 |     |     |

| TABLE: DIRECTIVITY INDEX (DB) |                 | IDENTIFICATION:                        |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|-------------------------------|-----------------|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6                             |                 | OMEGA 1.4<br>TEST 75-044-001<br>RUN 03 |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:         |                 | METEOROLOGY:                           |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( B-52H AIRCRAFT )            |                 | TEMP = 18 C                            |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( TF33-P-3 ENGINE )           |                 | BAR PRESS = .758 M HG                  |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( FAR FIELD NOISE )           |                 | REL HUMID = 58 %                       |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | PAGE 4                                 |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| FREQ (HZ)                     | ANGLE (DEGREES) | 0                                      | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 1/3 OCTAVE                    |                 |  |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 25                            |                 | -6                                     | -6 | -6 | -6 | -7 | -4 | -4 | -1 | -3 | -2 | -0  | -0  | 2   | 2   | 5   | 6   | 1   | 1   |     |
| 31.5                          |                 | -5                                     | -5 | -8 | -8 | -6 | -4 | -3 | -1 | -2 | 0  | 0   | 0   | 1   | 2   | 4   | 4   | 4   | 1   |     |
| 40                            |                 | -8                                     | -8 | -8 | -6 | -6 | -4 | -3 | -4 | -2 | -1 | -1  | 1   | 3   | 3   | 5   | 5   | 2   | 2   |     |
| 50                            |                 | -7                                     | -8 | -6 | -4 | -4 | -4 | -4 | -2 | -1 | -1 | -1  | 1   | 1   | 6   | 4   | 4   | 7   | -7  |     |
| 63                            |                 | -8                                     | -9 | -7 | -8 | -6 | -5 | -5 | -5 | -2 | -2 | -2  | -1  | 3   | 5   | 7   | 7   | -7  | -7  |     |
| 80                            |                 | -8                                     | -8 | -7 | -6 | -3 | -3 | -3 | -3 | -2 | -1 | 1   | 1   | 3   | 5   | 4   | 4   | -10 | -10 |     |
| 100                           |                 | -7                                     | -6 | -6 | -5 | -5 | -4 | -4 | -2 | -1 | 4  | 1   | 4   | 3   | 3   | 4   | 4   | -9  | -9  |     |
| 125                           |                 | -5                                     | -5 | -5 | -5 | -4 | -3 | -3 | -3 | -0 | -1 | 3   | 1   | 4   | 3   | 2   | 2   | -6  | -6  |     |
| 160                           |                 | -2                                     | -2 | -3 | -2 | -4 | -2 | -2 | -1 | 0  | 0  | 2   | 2   | 2   | 3   | 3   | 3   | -3  | -10 |     |
| 200                           |                 | -0                                     | -1 | -2 | -2 | -0 | -0 | -0 | -0 | -1 | 1  | 2   | 2   | 2   | 2   | 2   | 2   | -6  | -13 |     |
| 250                           |                 | -3                                     | -1 | -0 | 1  | -1 | 0  | 1  | 1  | 1  | 0  | 2   | 2   | 2   | 1   | 0   | -7  | -12 | -12 |     |
| 315                           |                 | -2                                     | 1  | 1  | 1  | 2  | 1  | 1  | 1  | 0  | 0  | 0   | 0   | 0   | 3   | 3   | -2  | -8  | -15 |     |
| 400                           |                 | -0                                     | 3  | 3  | 3  | 3  | 1  | 1  | 0  | 1  | 1  | -1  | -2  | 0   | 0   | -4  | -10 | -17 | -15 |     |
| 500                           |                 | -1                                     | 3  | 3  | 3  | 1  | 2  | 2  | 1  | 2  | 1  | -0  | -0  | 0   | -5  | -11 | -16 | -16 | -16 |     |
| 630                           |                 | -0                                     | 3  | 1  | 3  | 3  | 2  | 2  | 1  | -0 | -1 | -1  | -1  | -0  | -4  | -10 | -15 | -15 | -15 |     |
| 800                           |                 | 1                                      | 4  | 3  | 3  | 2  | 2  | 3  | 1  | -1 | -1 | -1  | -1  | -2  | -6  | -10 | -16 | -16 | -16 |     |
| 1000                          |                 | 5                                      | 6  | 5  | 5  | 5  | 1  | 1  | -1 | -1 | -3 | -2  | -2  | -2  | -4  | -5  | -11 | -17 | -14 |     |
| 1250                          |                 | 4                                      | 5  | 4  | 6  | 5  | 2  | 2  | -2 | -2 | -4 | -3  | -2  | -4  | -5  | -11 | -17 | -17 | -17 |     |
| 1600                          |                 | -0                                     | 3  | 4  | 4  | 4  | 3  | 3  | 0  | -1 | -4 | -2  | -4  | -3  | -7  | -13 | -19 | -19 | -19 |     |
| 2000                          |                 | 1                                      | 3  | 4  | 5  | 5  | 3  | 2  | 1  | -2 | -3 | -3  | -4  | -5  | -8  | -16 | -21 | -21 | -21 |     |
| 2500                          |                 | 2                                      | 3  | 4  | 5  | 3  | 3  | 4  | 0  | -1 | -2 | -2  | -2  | -2  | -7  | -15 | -21 | -21 | -21 |     |
| 3150                          |                 | -0                                     | 1  | 2  | 3  | 3  | 3  | 3  | 0  | -1 | -2 | -2  | -2  | -1  | -4  | -11 | -19 | -19 | -19 |     |
| 4000                          |                 | -1                                     | 2  | 3  | 4  | 3  | 3  | 3  | 2  | 1  | -3 | -3  | -3  | -3  | -7  | -13 | -21 | -21 | -21 |     |
| 5000                          |                 | -3                                     | 2  | 1  | 3  | 4  | 3  | 4  | 2  | 1  | -2 | -2  | -2  | -4  | -7  | -13 | -21 | -21 | -21 |     |
| 6300                          |                 | -3                                     | 1  | 1  | 2  | 3  | 3  | 3  | 1  | 1  | -2 | -0  | -2  | -2  | -4  | -9  | -19 | -19 | -19 |     |
| 8000                          |                 | -4                                     | 1  | 1  | 2  | 4  | 2  | 4  | 1  | 1  | -1 | -1  | -3  | -2  | -5  | -11 | -21 | -21 | -21 |     |
| 10000                         |                 | -3                                     | 0  | 1  | 2  | 3  | 3  | 3  | 2  | 1  | -2 | -1  | -3  | -2  | -5  | -10 | -19 | -19 | -19 |     |
| OCTAVE                        |                 |  |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 31.5                          |                 | -7                                     | -7 | -8 | -6 | -6 | -4 | -3 | -2 | -2 | -0 | -0  | 1   | 3   | 4   | 5   | 2   | 2   | 2   |     |
| 63                            |                 | -7                                     | -8 | -6 | -6 | -4 | -4 | -4 | -3 | -2 | -2 | -0  | 0   | 3   | 5   | 5   | -6  | -6  | -6  |     |
| 125                           |                 | -5                                     | -4 | -4 | -4 | -4 | -3 | -3 | -2 | -0 | -1 | 3   | 1   | 3   | 3   | 2   | -8  | -8  | -8  |     |
| 250                           |                 | -1                                     | -0 | -1 | 0  | -0 | 0  | 0  | 0  | 0  | 0  | 1   | 1   | 2   | 0   | -7  | -13 | -13 | -13 |     |
| 500                           |                 | 0                                      | 3  | 3  | 2  | 3  | 2  | 2  | 1  | 1  | 0  | -1  | -2  | -3  | 0   | -4  | -10 | -16 | -16 |     |
| 1000                          |                 | 4                                      | 5  | 5  | 5  | 5  | 2  | 2  | -1 | -1 | -3 | -2  | -2  | -3  | -5  | -11 | -15 | -15 | -15 |     |
| 2000                          |                 | 1                                      | 3  | 4  | 5  | 3  | 3  | 3  | 4  | 0  | -3 | -2  | -2  | -2  | -4  | -9  | -15 | -15 | -15 |     |
| 4000                          |                 | -1                                     | 2  | 2  | 3  | 3  | 3  | 3  | 2  | 1  | -2 | -2  | -2  | -3  | -7  | -13 | -21 | -21 | -21 |     |
| 6300                          |                 | -3                                     | 1  | 1  | 2  | 3  | 3  | 3  | 1  | 1  | -2 | -0  | -2  | -2  | -4  | -9  | -19 | -19 | -19 |     |
| 8000                          |                 | -4                                     | 1  | 1  | 2  | 4  | 2  | 4  | 1  | 1  | -1 | -1  | -3  | -2  | -5  | -11 | -21 | -21 | -21 |     |
| 10000                         |                 | -3                                     | 0  | 1  | 2  | 3  | 3  | 3  | 2  | 1  | -2 | -1  | -3  | -2  | -5  | -10 | -19 | -19 | -19 |     |
| OVERALL                       |                 | -0                                     | 1  | 2  | 3  | 2  | 2  | 2  | 0  | -0 | -2 | -1  | -1  | -0  | -1  | -2  | -11 | -11 | -11 |     |

| TABLE: DIRECTIVITY INDEX (DB) |                 | IDENTIFICATION:         |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|-------------------------------|-----------------|-------------------------|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6                             |                 | OMEGA 1.4               |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | TEST 75-044-001         |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 | RUN 04                  |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:         |                 | METEOROLOGY:            |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( B-52H AIRCRAFT              |                 | ( TEMP = 18 C           |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( TF33-P-3 ENGINE             |                 | ( BAR PRESS = .758 M HG |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| ( FAR FIELD NOISE             |                 | ( REL HUMID = 58 %      |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| (                             |                 | ( PAGE 4                |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
|                               |                 |                         |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| FREQ (HZ)                     | 0               | 10                      | 20  | 30  | 40  | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 1/3 OCTAVE                    | ANGLE (DEGREES) |                         |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 25                            | -11             | -9                      | -9  | -9  | -10 | -9 | -6 | -4 | -4 | -4 | -4  | -1  | 2   | 6   | 7   | 4   | 4   | -4  | -4  |
| 31.5                          | -9              | -10                     | -11 | -11 | -6  | -5 | -6 | -3 | -4 | -2 | -3  | -1  | 3   | 4   | 7   | 3   | 4   | -9  | -9  |
| 40                            | -10             | -10                     | -12 | -10 | -9  | -9 | -6 | -6 | -4 | -4 | -4  | -1  | 3   | 6   | 5   | 4   | 4   | -13 | -9  |
| 50                            | -10             | -11                     | -12 | -8  | -8  | -8 | -7 | -4 | -4 | -3 | -2  | -1  | 2   | 7   | 6   | -3  | -3  | -15 | -15 |
| 63                            | -10             | -11                     | -10 | -9  | -9  | -5 | -7 | -6 | -5 | -5 | -2  | -1  | 4   | 7   | 6   | -6  | -6  | -21 | -21 |
| 80                            | -9              | -11                     | -9  | -8  | -7  | -6 | -6 | -4 | -3 | -3 | -1  | 0   | 3   | 7   | 4   | -10 | -23 | -24 | -24 |
| 100                           | -7              | -6                      | -8  | -6  | -6  | -5 | -5 | -3 | -0 | -1 | 1   | 0   | 3   | 7   | 1   | -9  | -24 | -24 | -24 |
| 125                           | -6              | -6                      | -8  | -6  | -5  | -5 | -5 | -3 | -2 | -2 | 1   | 0   | 5   | 7   | -2  | -7  | -26 | -26 | -26 |
| 160                           | -6              | -6                      | -8  | -4  | -5  | -6 | -3 | -3 | -2 | -2 | 0   | 1   | 6   | 4   | -2  | -9  | -29 | -29 | -29 |
| 200                           | -4              | -4                      | -6  | -6  | -4  | -4 | -3 | -3 | -1 | -2 | 0   | 2   | 5   | 5   | -6  | -14 | -32 | -32 | -32 |
| 250                           | -5              | -5                      | -4  | -3  | -3  | -2 | -2 | -1 | -1 | 0  | 1   | 2   | 5   | 5   | -5  | -12 | -34 | -34 | -34 |
| 315                           | -3              | -3                      | -3  | -1  | -0  | 0  | 0  | 0  | 0  | 0  | 0   | 1   | 4   | 2   | -7  | -13 | -33 | -33 | -33 |
| 400                           | -4              | -4                      | -4  | -2  | -1  | 1  | 0  | 1  | 1  | -1 | -1  | 1   | 5   | 0   | -9  | -13 | -33 | -33 | -33 |
| 500                           | -1              | -1                      | -1  | -1  | -1  | 1  | 1  | 0  | -1 | -1 | 1   | 1   | 5   | -1  | -9  | -14 | -32 | -32 | -32 |
| 630                           | -2              | -1                      | -1  | -1  | -0  | 0  | 0  | 0  | -1 | -1 | 0   | 2   | 6   | -1  | -11 | -14 | -32 | -32 | -32 |
| 800                           | 1               | -1                      | -1  | 1   | 1   | 1  | 1  | 0  | -1 | 0  | 1   | 2   | 4   | -3  | -10 | -14 | -33 | -33 | -33 |
| 1000                          | 2               | 2                       | 1   | 2   | 1   | 2  | 1  | 0  | -1 | -1 | 1   | 1   | 2   | -2  | -10 | -14 | -31 | -31 | -31 |
| 1250                          | 3               | 3                       | 1   | 3   | 1   | 3  | 1  | -1 | -1 | -1 | 1   | 1   | 1   | -2  | -11 | -15 | -32 | -32 | -32 |
| 1600                          | 1               | 0                       | 1   | 1   | 1   | 1  | 3  | 1  | 0  | 0  | 0   | 0   | 0   | -5  | -13 | -18 | -33 | -33 | -33 |
| 2000                          | 2               | 2                       | 2   | 2   | 2   | 3  | 2  | 1  | 0  | -0 | -1  | -1  | -1  | -6  | -15 | -20 | -34 | -34 | -34 |
| 2500                          | 2               | -0                      | 2   | 2   | 1   | 3  | 3  | 2  | 2  | 0  | -1  | -1  | -1  | -5  | -16 | -21 | -35 | -35 | -35 |
| 3150                          | -1              | -2                      | -2  | 1   | -0  | 2  | 4  | 3  | 3  | 3  | 3   | -1  | -1  | -5  | -14 | -20 | -35 | -35 | -35 |
| 4000                          | -2              | -2                      | -2  | 1   | 1   | 2  | 4  | 2  | 1  | 0  | 0   | -1  | -1  | -5  | -14 | -20 | -35 | -35 | -35 |
| 5000                          | -1              | -1                      | -0  | 1   | 1   | 2  | 3  | 2  | 2  | 1  | 0   | -1  | -1  | -3  | -15 | -20 | -36 | -36 | -36 |
| 6300                          | -2              | -3                      | -1  | -0  | -0  | 2  | 3  | 3  | 2  | 2  | 1   | -2  | -3  | -6  | -15 | -22 | -39 | -39 | -39 |
| 8000                          | -3              | -3                      | -3  | -1  | -0  | 2  | 3  | 3  | 2  | -0 | 0   | -2  | -1  | -2  | -13 | -20 | -37 | -37 | -37 |
| 10000                         | -3              | -3                      | -3  | -2  | -0  | 1  | 3  | 3  | 3  | 0  | 1   | -3  | -2  | -5  | -14 | -22 | -38 | -38 | -38 |
| OCTAVE                        | ANGLE (DEGREES) |                         |     |     |     |    |    |    |    |    |     |     |     |     |     |     |     |     |     |
| 31.5                          | -10             | -10                     | -11 | -10 | -8  | -7 | -6 | -5 | -4 | -3 | -2  | -1  | 3   | 6   | 6   | 4   | 4   | -9  | -9  |
| 63                            | -9              | -11                     | -10 | -8  | -8  | -5 | -6 | -5 | -4 | -3 | -2  | 1   | 3   | 7   | 5   | -6  | -19 | -19 | -19 |
| 125                           | -6              | -6                      | -8  | -6  | -5  | -5 | -4 | -4 | -2 | -1 | 1   | 1   | 5   | 6   | -1  | -8  | -26 | -26 | -26 |
| 250                           | -4              | -4                      | -5  | -4  | -3  | -2 | -2 | -1 | -1 | -1 | 0   | 2   | 5   | 4   | -6  | -13 | -33 | -33 | -33 |
| 500                           | -2              | -2                      | -2  | -2  | -1  | 1  | -0 | 0  | 0  | -0 | -0  | 1   | 5   | -0  | -10 | -13 | -33 | -33 | -33 |
| 1000                          | 2               | 2                       | 0   | 2   | 2   | 1  | 1  | 1  | 0  | -1 | -0  | 1   | 3   | -2  | -11 | -14 | -32 | -32 | -32 |
| 2000                          | 2               | 1                       | 1   | 2   | 2   | 3  | 3  | 1  | 1  | -0 | -1  | -1  | -1  | -5  | -15 | -20 | -34 | -34 | -34 |
| 4000                          | -1              | -2                      | -2  | -1  | 0   | 2  | 4  | 2  | 2  | -3 | 2   | -1  | -1  | -5  | -15 | -22 | -39 | -39 | -39 |
| 8000                          | -2              | -3                      | -3  | -3  | -1  | -0 | 2  | 3  | 2  | -0 | 0   | -2  | -1  | -2  | -13 | -20 | -37 | -37 | -37 |
| 10000                         | -2              | -3                      | -2  | -1  | -0  | 2  | 3  | 3  | 2  | -0 | 1   | -2  | -2  | -5  | -14 | -22 | -38 | -38 | -38 |
| OVERALL                       | -4              | -4                      | -4  | -4  | -3  | -2 | -1 | -1 | -1 | -1 | 0   | 1   | 4   | 5   | 0   | -7  | -20 | -20 | -20 |

| TABLE: DIRECTIVITY INDEX (DB) |    |    |    |    |    |    |    |    |    |    |     |     | IDENTIFICATION:         |     |     |     |     |     |     |  |
|-------------------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-------------------------|-----|-----|-----|-----|-----|-----|--|
|                               |    |    |    |    |    |    |    |    |    |    |     |     | ) OMEGA 1.4             |     |     |     |     |     |     |  |
|                               |    |    |    |    |    |    |    |    |    |    |     |     | ) TEST 75-044-001       |     |     |     |     |     |     |  |
|                               |    |    |    |    |    |    |    |    |    |    |     |     | ) RUN 05                |     |     |     |     |     |     |  |
| NOISE SOURCE/SUBJECT:         |    |    |    |    |    |    |    |    |    |    |     |     | ) METEOROLOGY:          |     |     |     |     |     |     |  |
| ( B-52H AIRCRAFT              |    |    |    |    |    |    |    |    |    |    |     |     | ) TEMP = 18 C           |     |     |     |     |     |     |  |
| ( TF33-P-3 ENGINE             |    |    |    |    |    |    |    |    |    |    |     |     | ) BAR PRESS = .758 M HG |     |     |     |     |     |     |  |
| ( FAR FIELD NOISE             |    |    |    |    |    |    |    |    |    |    |     |     | ) REL HUMID = 58 %      |     |     |     |     |     |     |  |
| (                             |    |    |    |    |    |    |    |    |    |    |     |     | ) PAGE 4                |     |     |     |     |     |     |  |
|                               |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
| FREQ                          | 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120                     | 130 | 140 | 150 | 160 | 170 | 180 |  |
| ( HZ)                         |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
| ANGLE (DEGREES)               |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
|                               |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
| 1/3 OCTAVE                    |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
| 25                            | -6 | -6 | -7 | -7 | -7 | -4 | -4 | -4 | -6 | -4 | -2  | -1  | 2                       | 7   | 6   | 0   |     |     |     |  |
| 31.5                          | -6 | -7 | -7 | -4 | -4 | -4 | -4 | -2 | -4 | -1 | -1  | 0   | 3                       | 6   | 4   | -3  |     |     |     |  |
| 40                            | -6 | -9 | -9 | -7 | -6 | -5 | -3 | -4 | -4 | -2 | -2  | 1   | 4                       | 7   | 3   | -4  |     |     |     |  |
| 50                            | -8 | -8 | -7 | -5 | -5 | -4 | -4 | -2 | -2 | 0  | 0   | -0  | 5                       | 5   | 2   | -8  |     |     |     |  |
| 63                            | -7 | -8 | -7 | -6 | -6 | -4 | -4 | -4 | -2 | -2 | -2  | 1   | 4                       | 8   | 0   | -10 |     |     |     |  |
| 80                            | -7 | -7 | -6 | -6 | -5 | -5 | -5 | -2 | -1 | -2 | -0  | 1   | 5                       | 7   | -2  | -15 |     |     |     |  |
| 100                           | -6 | -7 | -7 | -5 | -5 | -5 | -5 | -2 | -1 | -2 | -0  | 1   | 5                       | 7   | -3  | -20 |     |     |     |  |
| 125                           | -5 | -5 | -7 | -5 | -4 | -4 | -4 | -4 | -3 | -2 | -1  | 0   | 7                       | 6   | -5  | -22 |     |     |     |  |
| 160                           | -4 | -4 | -3 | -3 | -3 | -2 | -3 | -3 | -3 | -1 | 0   | 1   | 5                       | 6   | -6  | -23 |     |     |     |  |
| 200                           | -3 | -4 | -3 | -4 | -3 | -4 | -3 | -2 | -1 | 1  | 1   | 1   | 4                       | 5   | -9  | -27 |     |     |     |  |
| 250                           | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | -0 | 1   | 2   | 3                       | 4   | -9  | -30 |     |     |     |  |
| 315                           | -2 | -2 | -2 | -1 | -2 | -2 | -1 | -0 | -0 | 1  | 2   | 2   | 3                       | 3   | 1   | -12 | -34 |     |     |  |
| 400                           | -1 | -0 | -0 | -0 | -0 | -0 | -0 | -0 | 0  | 1  | 2   | 2   | 3                       | 3   | 0   | -14 | -34 |     |     |  |
| 500                           | 0  | 0  | -0 | -0 | -0 | 0  | 0  | 0  | 0  | 1  | 2   | 2   | 3                       | 2   | -1  | -15 | -33 |     |     |  |
| 630                           | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 0  | 1  | 1   | 2   | 1                       | 1   | -3  | -16 | -32 |     |     |  |
| 800                           | 0  | 1  | 1  | 1  | -0 | -0 | 1  | 1  | 1  | 1  | 1   | 2   | 1                       | 1   | -2  | -17 | -31 |     |     |  |
| 1000                          | 0  | 0  | 0  | -0 | 0  | 0  | 1  | 1  | 0  | 2  | 2   | 1   | 1                       | 1   | -3  | -18 | -31 |     |     |  |
| 1250                          | -0 | 1  | 0  | 0  | 1  | 1  | 2  | 2  | 1  | 1  | 1   | 1   | 0                       | 0   | -19 | -31 |     |     |     |  |
| 1600                          | 0  | 1  | 2  | 1  | 2  | 2  | 1  | 1  | 1  | 1  | 1   | 0   | -1                      | -5  | -20 | -33 |     |     |     |  |
| 2000                          | 1  | 1  | 1  | 2  | 2  | 3  | 1  | 1  | -0 | 2  | 2   | -1  | -4                      | -6  | -23 | -35 |     |     |     |  |
| 2500                          | -0 | -0 | 1  | -0 | 2  | 2  | 1  | 2  | 2  | 2  | 2   | -1  | -4                      | -8  | -23 | -36 |     |     |     |  |
| 3150                          | -3 | -3 | -3 | -3 | -2 | -2 | 0  | -0 | 0  | 2  | 5   | 2   | -1                      | -9  | -23 | -37 |     |     |     |  |
| 4000                          | -2 | -1 | -2 | -2 | -2 | 0  | -0 | 2  | 1  | 2  | 3   | 1   | -1                      | -6  | -20 | -35 |     |     |     |  |
| 5000                          | -1 | -1 | -1 | -1 | -0 | 0  | 1  | 2  | 2  | 2  | 4   | 2   | -2                      | -7  | -22 | -36 |     |     |     |  |
| 6300                          | -4 | -4 | -3 | -2 | -3 | -1 | 1  | 1  | 2  | 2  | 4   | 2   | -2                      | -7  | -24 | -38 |     |     |     |  |
| 8000                          | -5 | -5 | -3 | -3 | -3 | -1 | -0 | 1  | 1  | 3  | 3   | 3   | 0                       | -6  | -20 | -36 |     |     |     |  |
| 10000                         | -6 | -6 | -6 | -6 | -5 | -3 | -1 | -0 | 1  | 3  | 5   | 3   | -1                      | -8  | -22 | -38 |     |     |     |  |
| OCTAVE                        |    |    |    |    |    |    |    |    |    |    |     |     |                         |     |     |     |     |     |     |  |
| 31.5                          | -6 | -8 | -8 | -7 | -5 | -5 | -4 | -3 | -4 | -2 | -2  | 1   | 3                       | 7   | 4   | -3  |     |     |     |  |
| 63                            | -7 | -7 | -7 | -6 | -5 | -5 | -4 | -3 | -2 | -1 | -1  | 1   | 5                       | 7   | 0   | -11 |     |     |     |  |
| 125                           | -5 | -6 | -5 | -5 | -5 | -4 | -4 | -3 | -2 | -2 | 0   | 0   | 6                       | 6   | -5  | -22 |     |     |     |  |
| 250                           | -2 | -3 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | 0  | 1   | 2   | 4                       | 4   | -10 | -29 |     |     |     |  |
| 500                           | -0 | -0 | -0 | -0 | -0 | 0  | 0  | 0  | 1  | 1  | 2   | 2   | 2                       | -1  | -15 | -33 |     |     |     |  |
| 1000                          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 1  | 1   | 1   | 1                       | -3  | -18 | -31 |     |     |     |  |
| 2000                          | 0  | 1  | 1  | 1  | 2  | 2  | 1  | 1  | 1  | 2  | 2   | -1  | -3                      | -7  | -22 | -34 |     |     |     |  |
| 4000                          | -2 | -2 | -2 | -2 | -2 | -1 | 0  | 1  | 1  | 2  | 4   | 2   | -1                      | -8  | -22 | -36 |     |     |     |  |
| 8000                          | -5 | -5 | -3 | -3 | -3 | -1 | 0  | 1  | 2  | 3  | 4   | 3   | -1                      | -7  | -22 | -36 |     |     |     |  |
| OVERALL                       | -3 | -3 | -2 | -2 | -2 | -2 | -1 | -1 | -0 | 1  | 2   | 1   | 3                       | 3   | -5  | -15 |     |     |     |  |

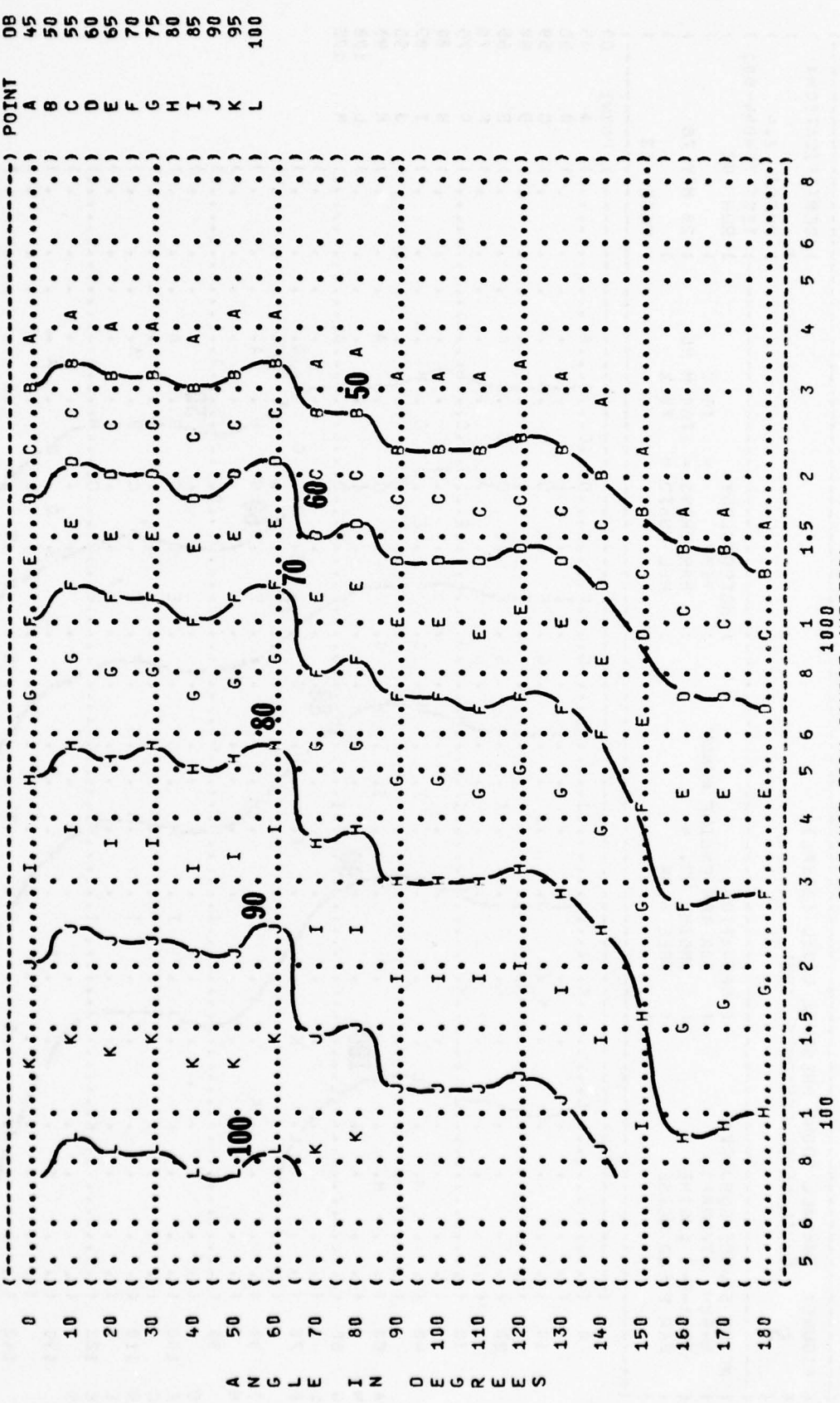
FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)  
EQUAL LEVEL CONTOURS (DB)  
**5**

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 01  
28 MAY 76  
PAGE 13

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

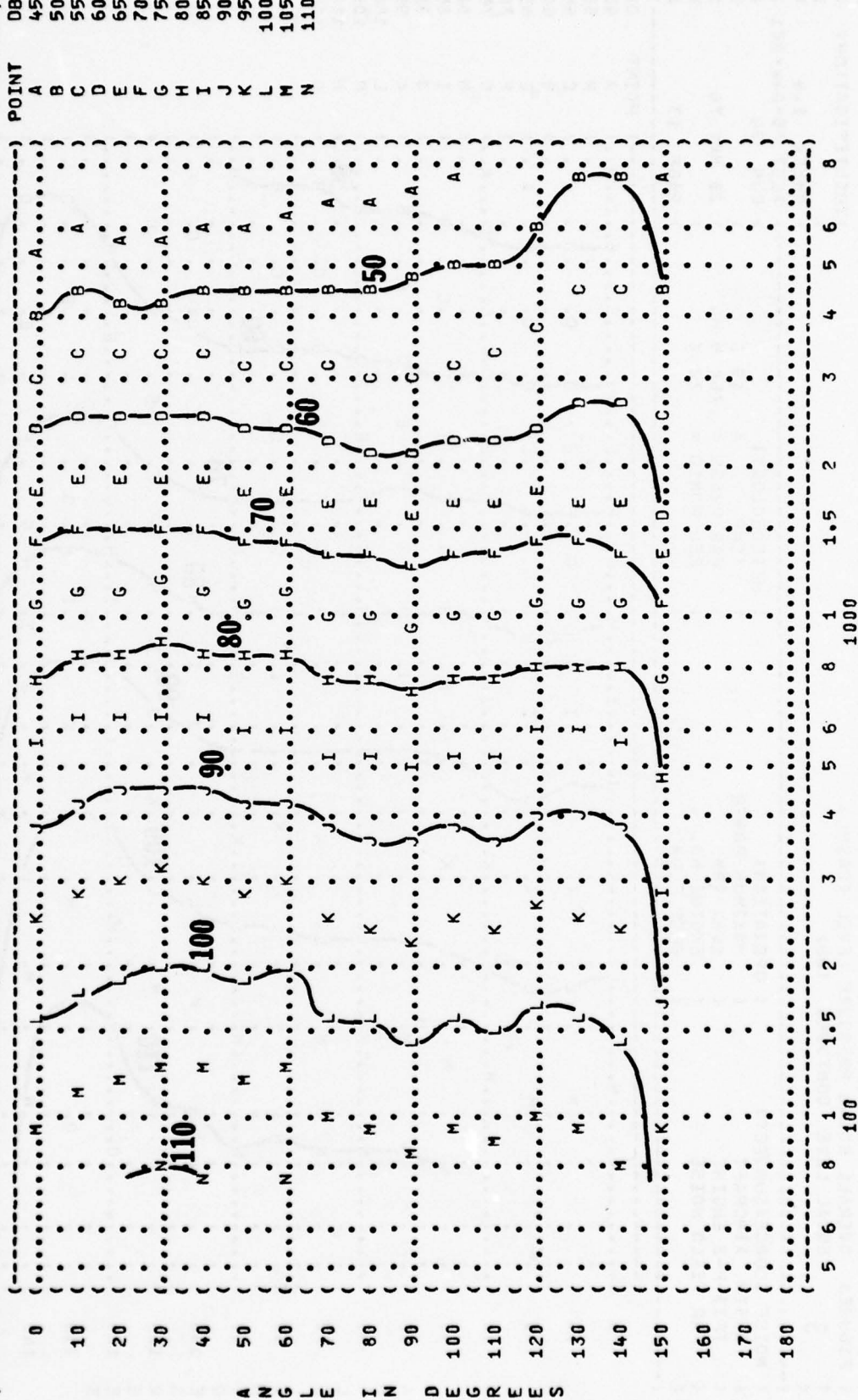
OPERATION:  
IDLE  
60% RPM  
ALL ENGINES  
FREE FLOW

NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE





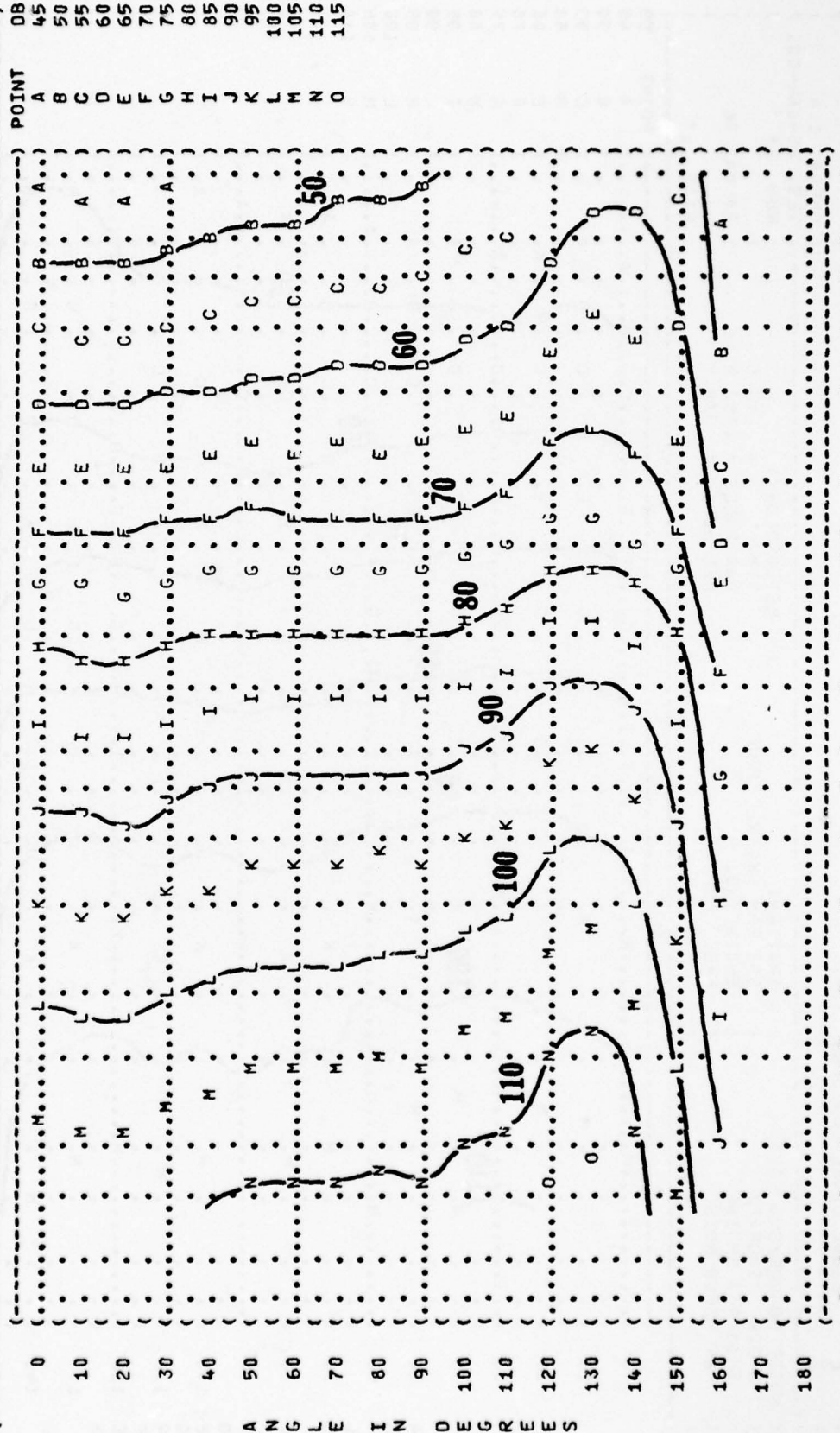
( FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL) )  
 ( 5 EQUAL LEVEL CONTOURS (DB) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 03 )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 28 MAY 76 )  
 ( ) PAGE 13 )  
 ( ) )



DISTANCE FROM SOURCE (METERS)



( FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL) )  
 ( 5 EQUAL LEVEL CONTOURS (DB) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) REL HUMID = 70 % )  
 ( ) FREE FLOW ) ) PAGE 13 )



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

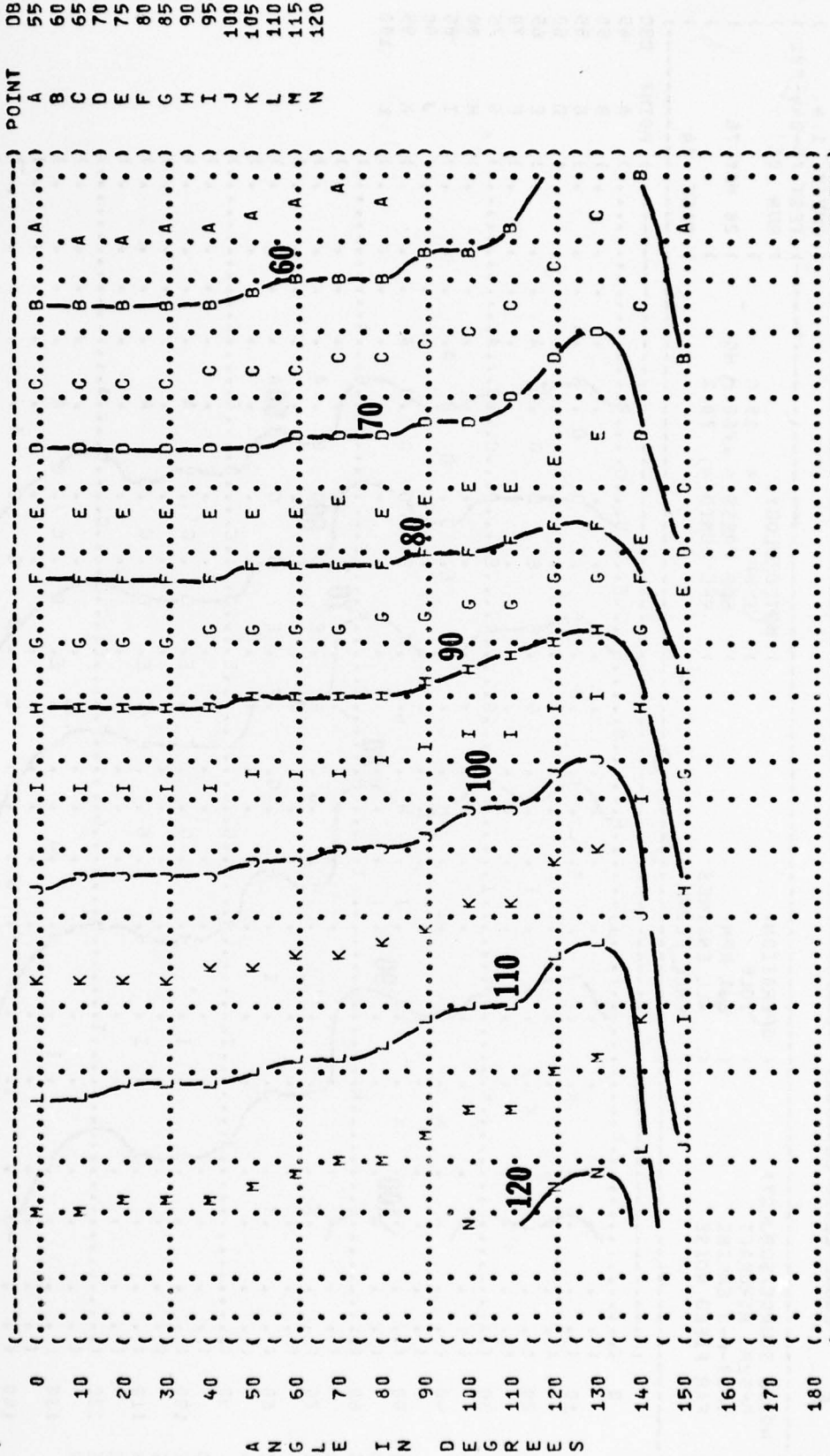
FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION: OMEGA 1.4  
TEST 75-044-001  
RUN 05

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

OPERATION: NORMAL RATED THRUST  
100% RPM  
ALL ENGINES  
FREE FLOW

NOISE SOURCE/SUBJECT: B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE



DISTANCE FROM SOURCE (METERS)



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

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 02  
 28 MAY 76  
 PAGE 14

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

OPERATION:  
 80% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

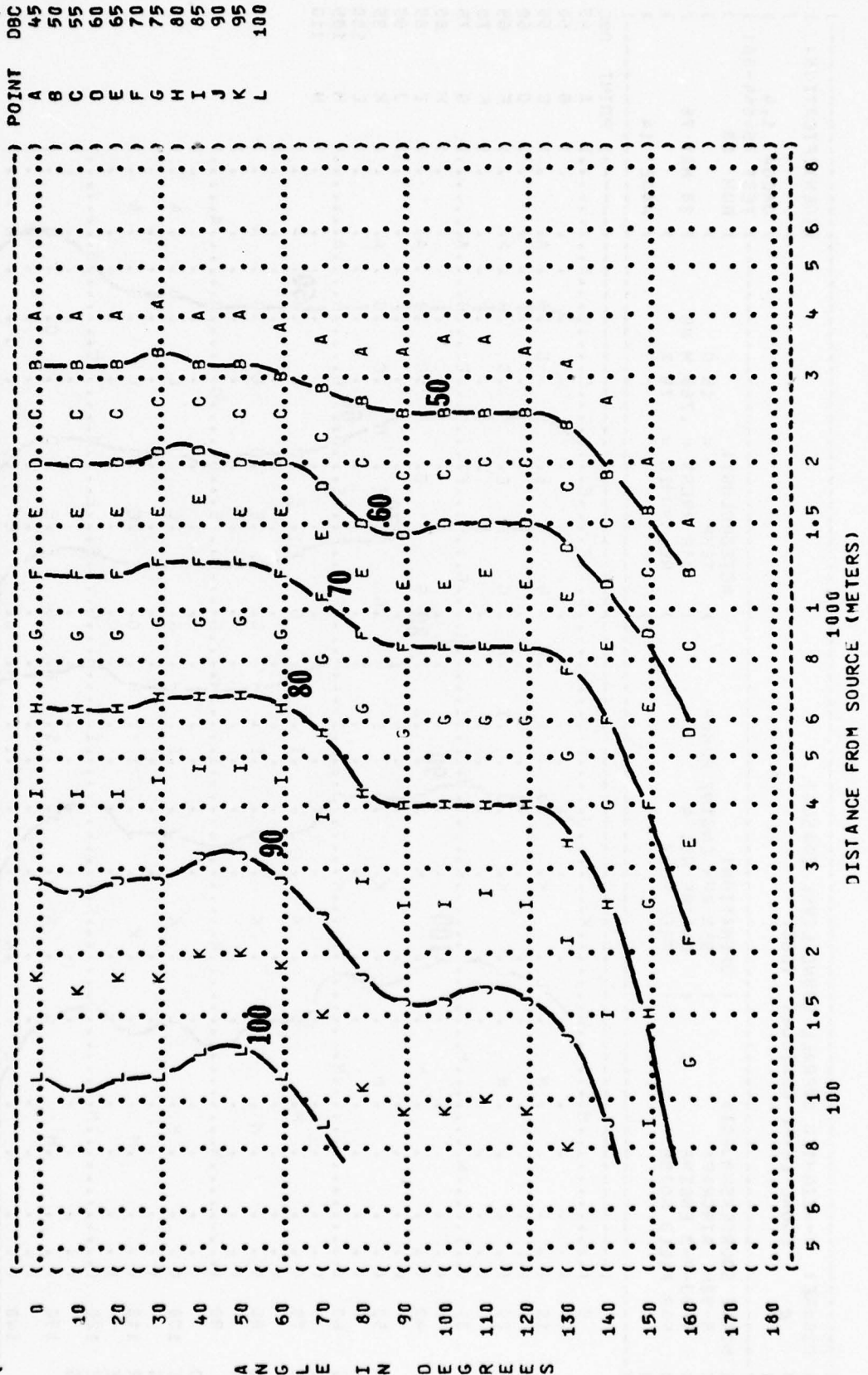
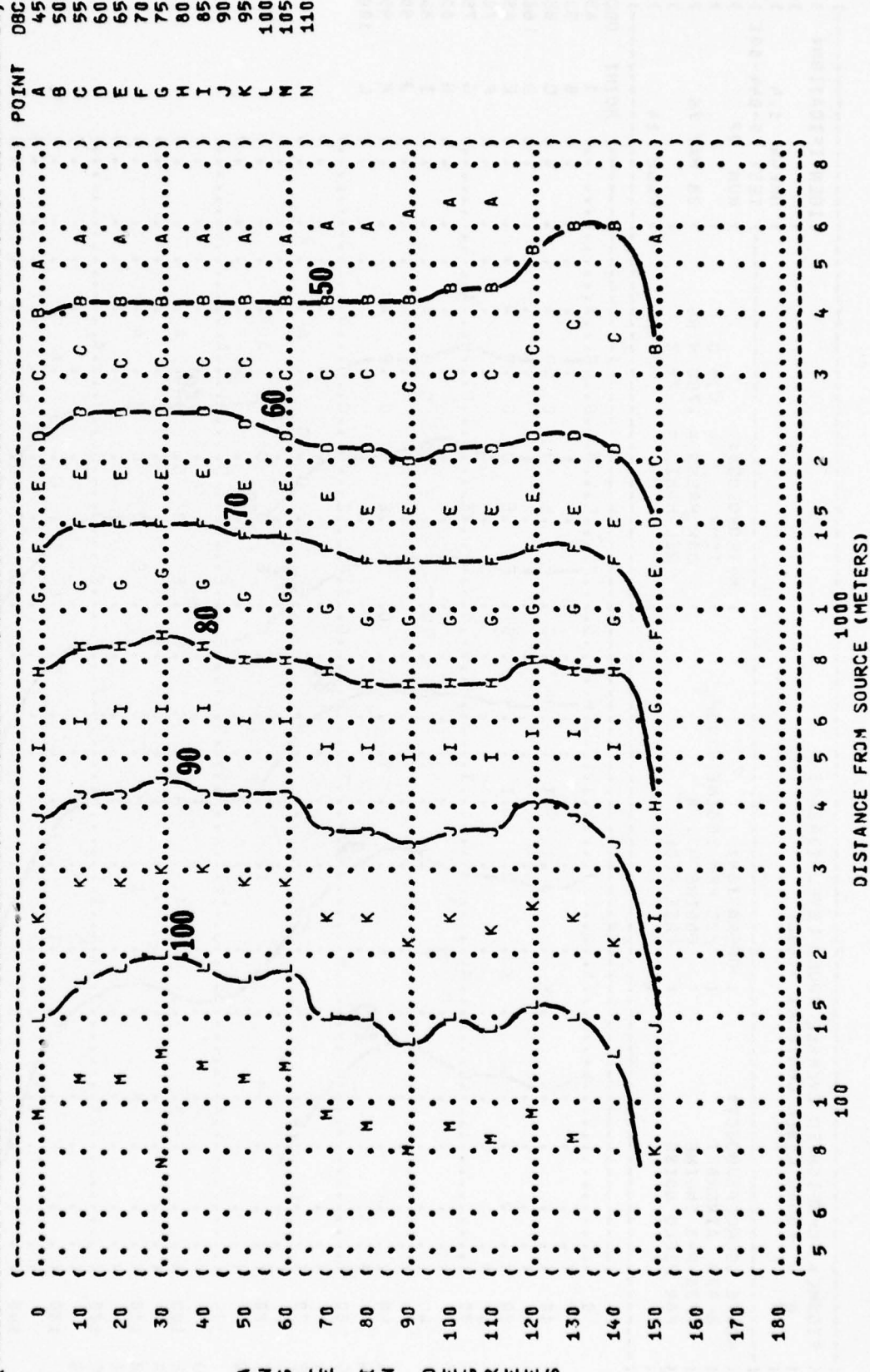


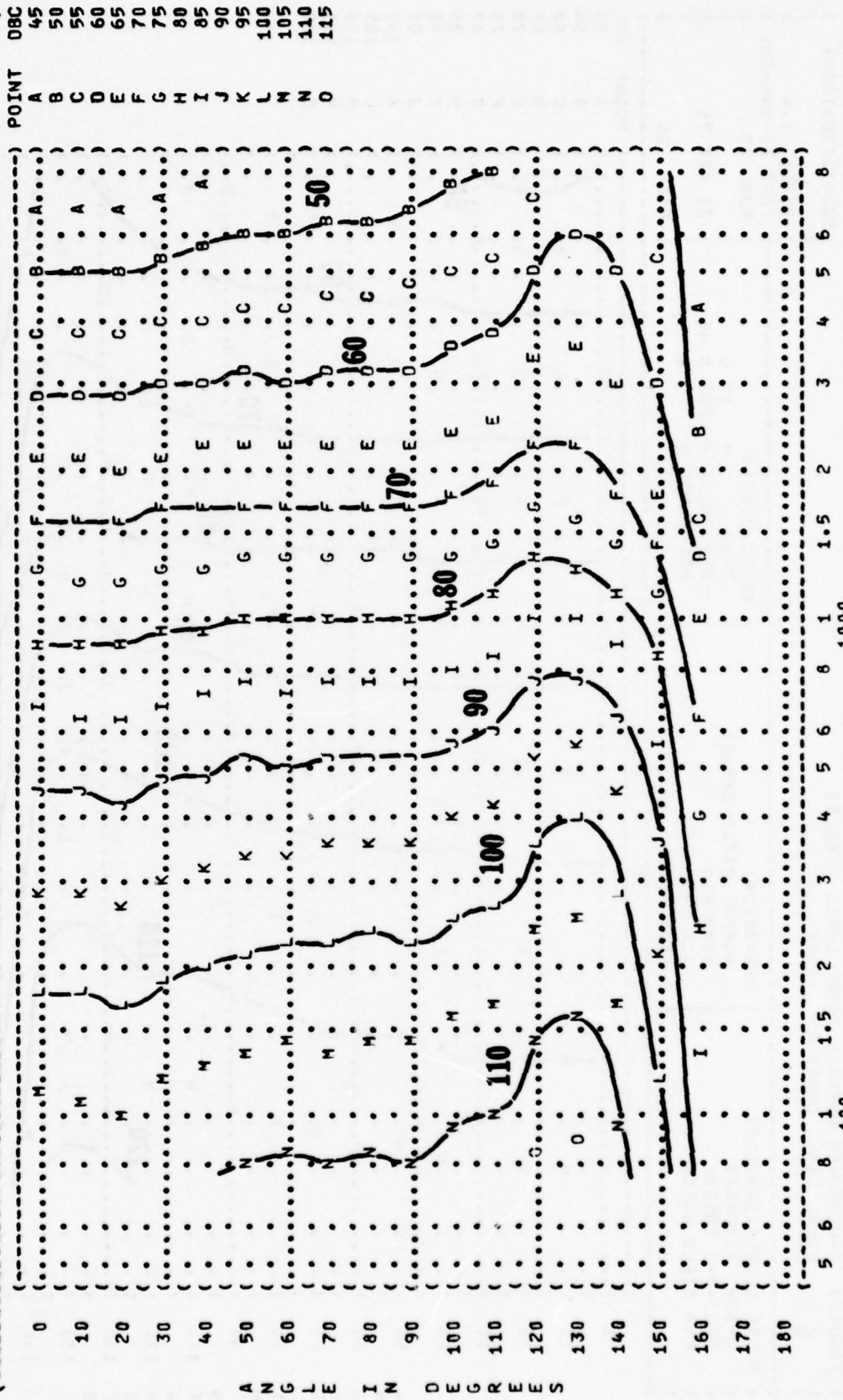
FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION: OMEGA 1.4  
 TEST 75-044-001  
 RUN 03  
 METEOROLOGY: TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION: 95% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW  
 NOISE SOURCE/SUBJECT: B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE  
 28 MAY 76  
 PAGE 14



DISTANCE FROM SOURCE (METERS)

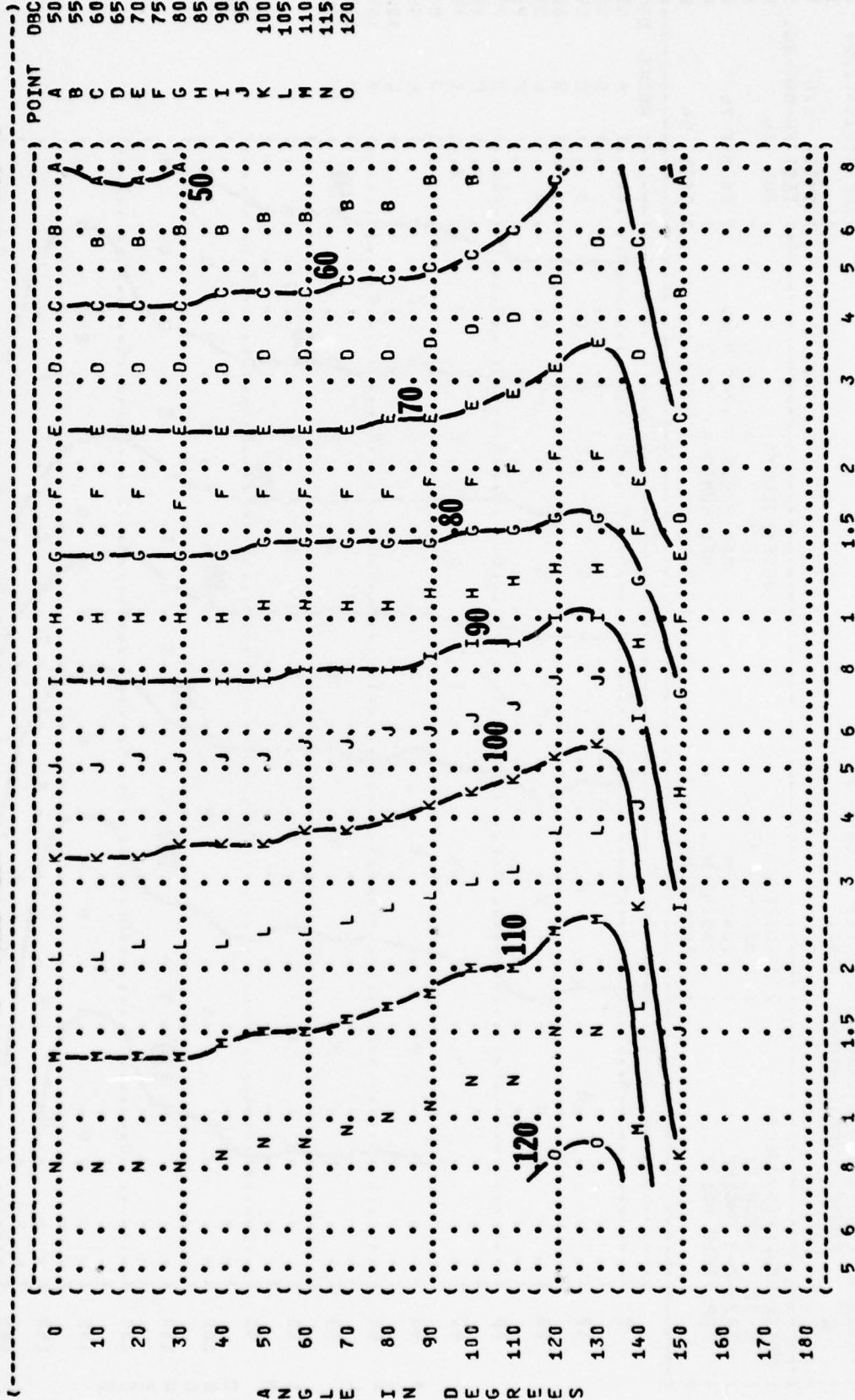
IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-044-001 )  
 RUN 04 )  
 METEOROLOGY: )  
 TEMP = 15 C )  
 BAR PRESS = .760 M HG )  
 REL HUMID = 70 % )  
 OPERATION: )  
 MAXIMUM POWER )  
 104% RPM )  
 ENGINE NO. 4 )  
 FREE FLOW )



DISTANCE FROM SOURCE (METERS)

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

IDENTIFICATION: OMEGA 1.4 TEST 75-044-001 RUN 05  
 METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %  
 OPERATION: NORMAL RATED THRUST  
 AIRCRAFT: B-52H 100% RPM ALL ENGINES FREE FLOW

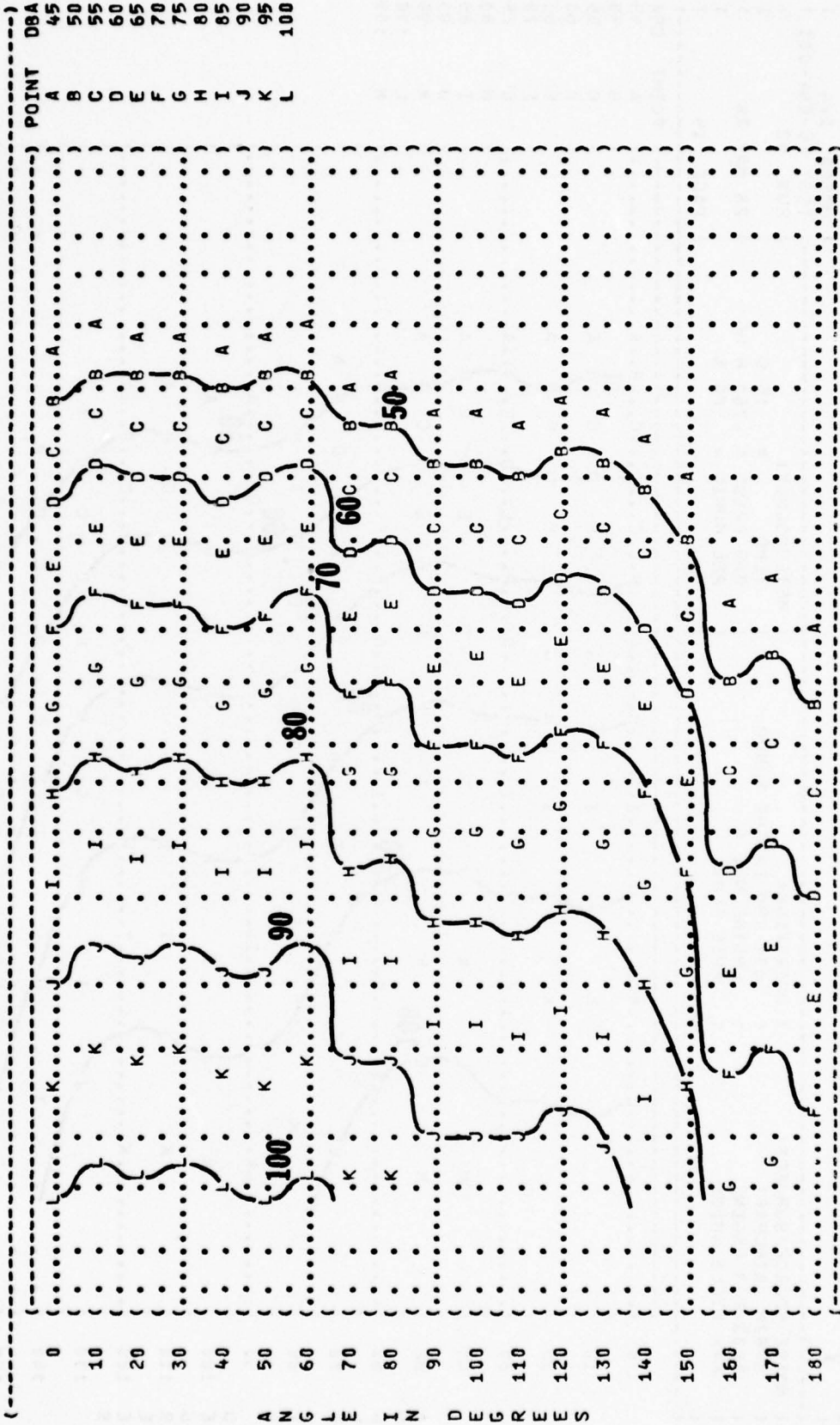


POINT DBC  
 A 50  
 B 55  
 C 60  
 D 65  
 E 70  
 F 75  
 G 80  
 H 85  
 I 90  
 J 95  
 K 100  
 L 105  
 M 110  
 N 115  
 O 120

DISTANCE FROM SOURCE (METERS)

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

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 01  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION:  
 IDLE  
 60% RPM  
 ALL ENGINES  
 FREE FLOW



DISTANCE FROM SOURCE (METERS)



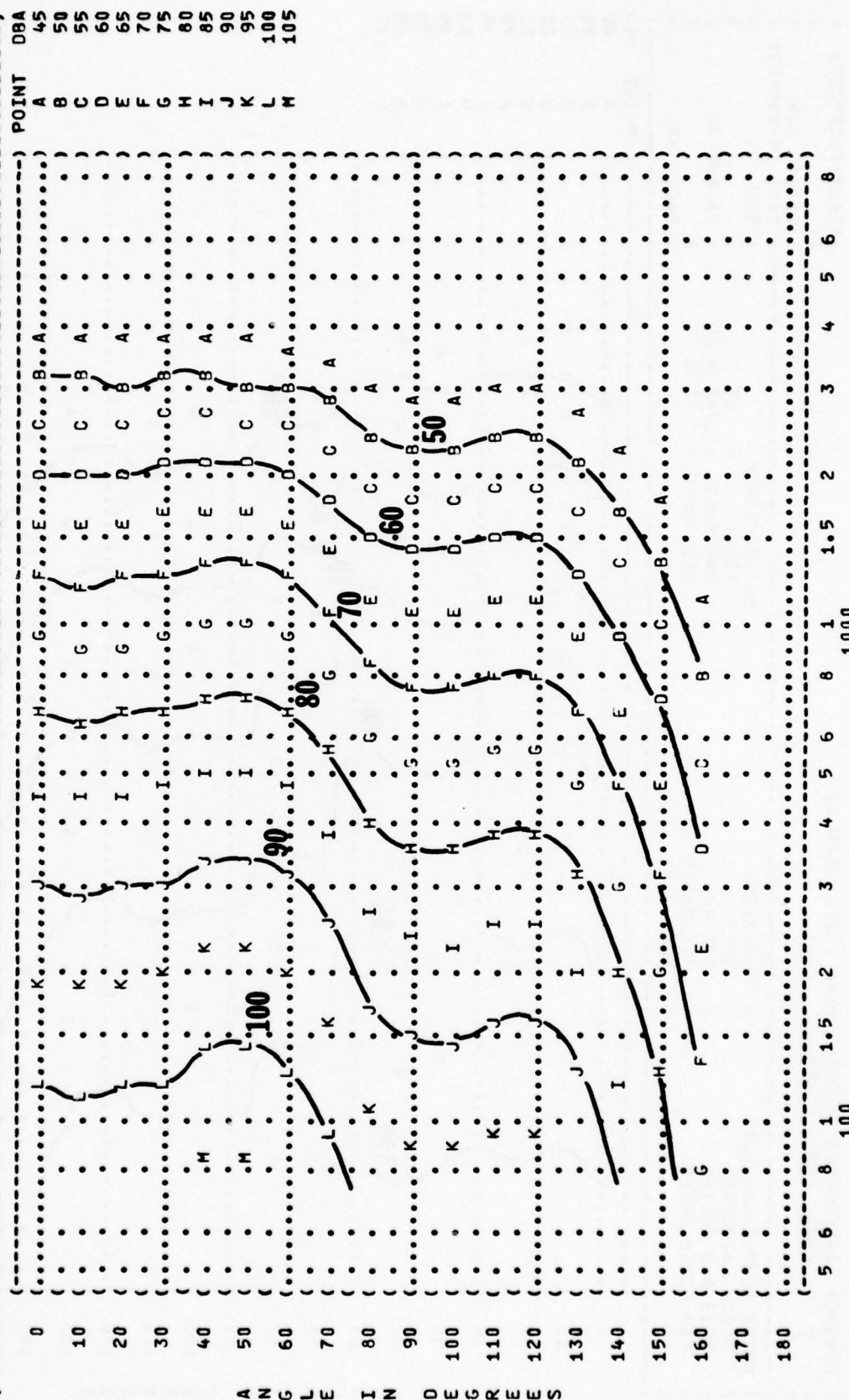
FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 02  
 28 MAY 76  
 PAGE 15

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

OPERATION:  
 80% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE



DISTANCE FROM SOURCE (METERS)

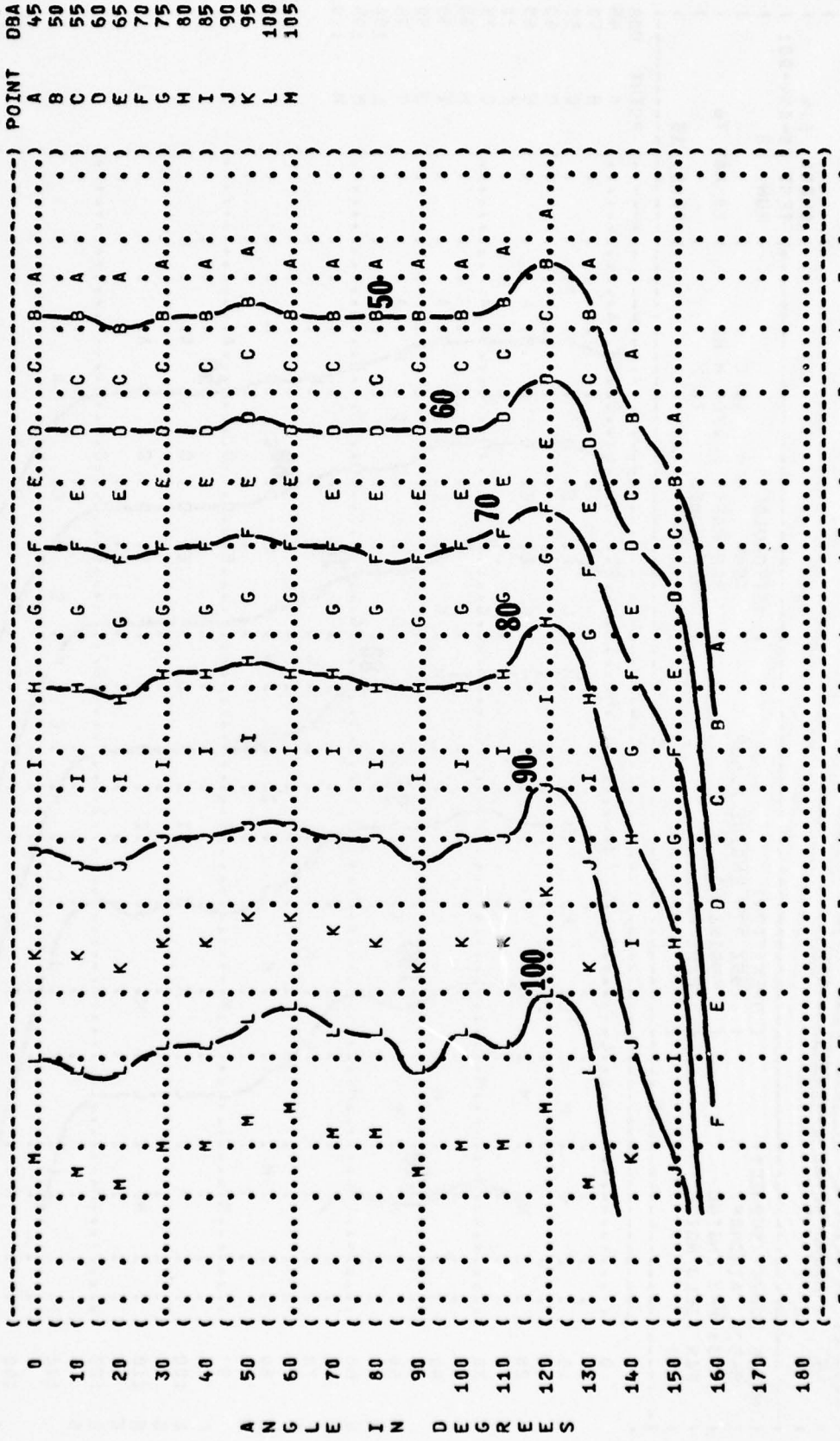


IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 04  
 28 MAY 76  
 PAGE 15

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

OPERATIONS:  
 MAXIMUM POWER  
 104% RPM  
 ENGINE NO. 4  
 FREE FLOW

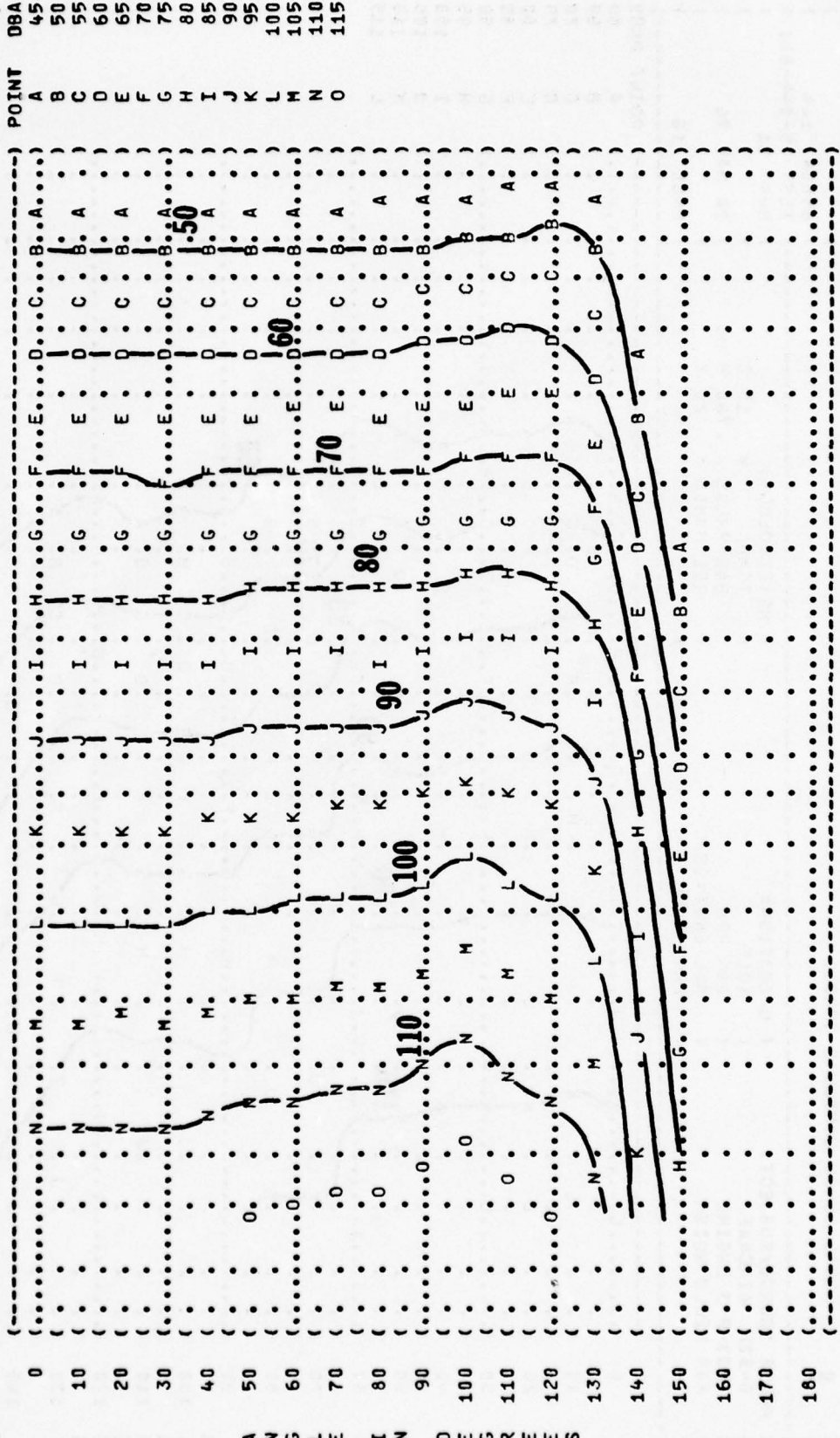
NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE



DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

) IDENTIFICATION: )  
 ) )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 05 )  
 ) )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) )  
 ) PAGE 15 )



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

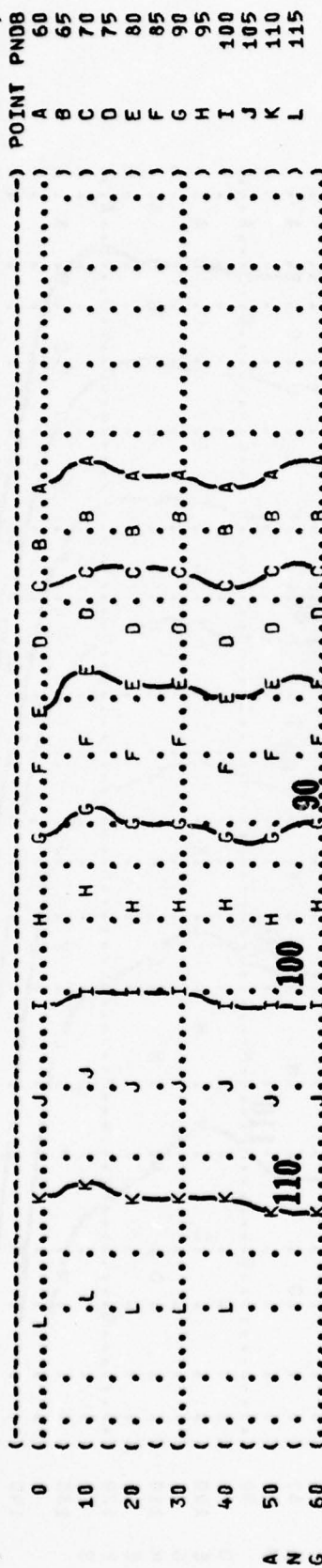
DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

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

IDENTIFICATION: )  
OMEGA 1.4 )  
TEST 75-044-001 )  
RUN 01 )  
METEOROLOGY: )  
TEMP = 15 C )  
BAR PRESS = .760 M HG )  
REL HUMID = 70 % )  
OPERATION: )  
IDLE )  
60% RPM )  
ALL ENGINES )  
FREE FLOW )

NOISE SOURCE/SUBJECT: )  
B-52H AIRCRAFT )  
TF33-P-3 ENGINE )  
FAR FIELD NOISE )



DISTANCE FROM SOURCE (METERS)

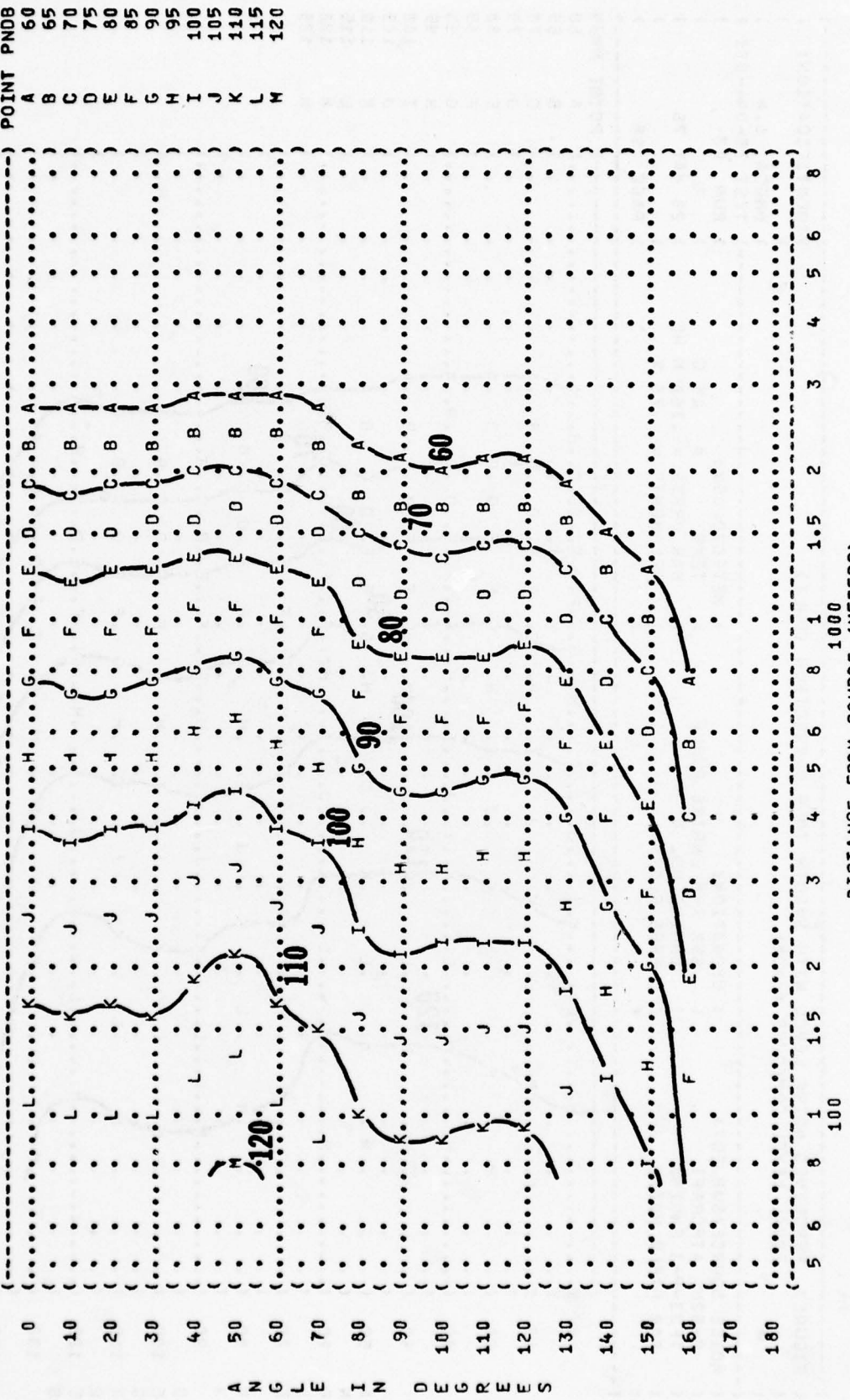
FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 02  
 28 MAY 76  
 PAGE 16

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

OPERATION:  
 80% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW

SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

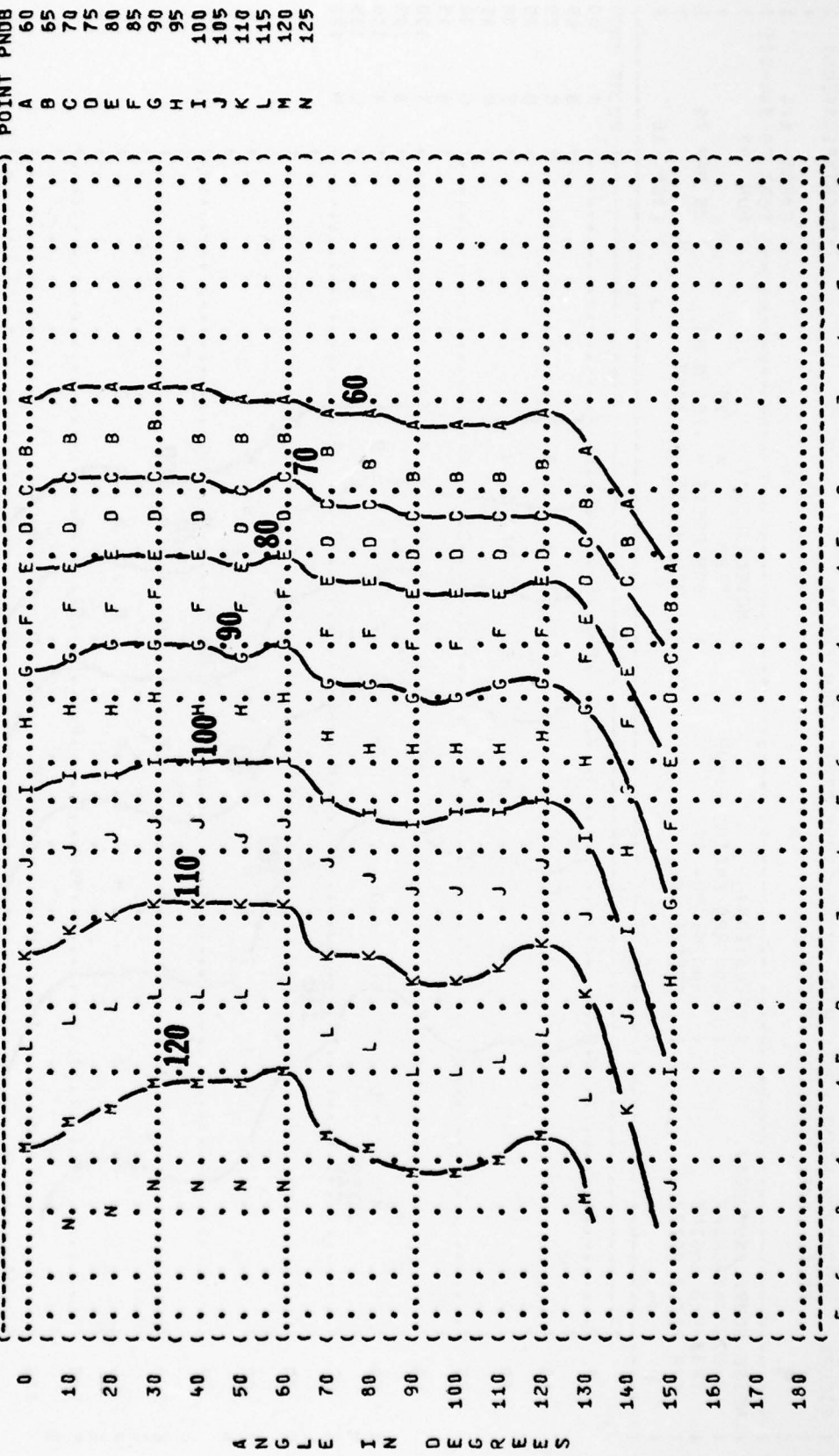


A N G L E I N D E R E E S

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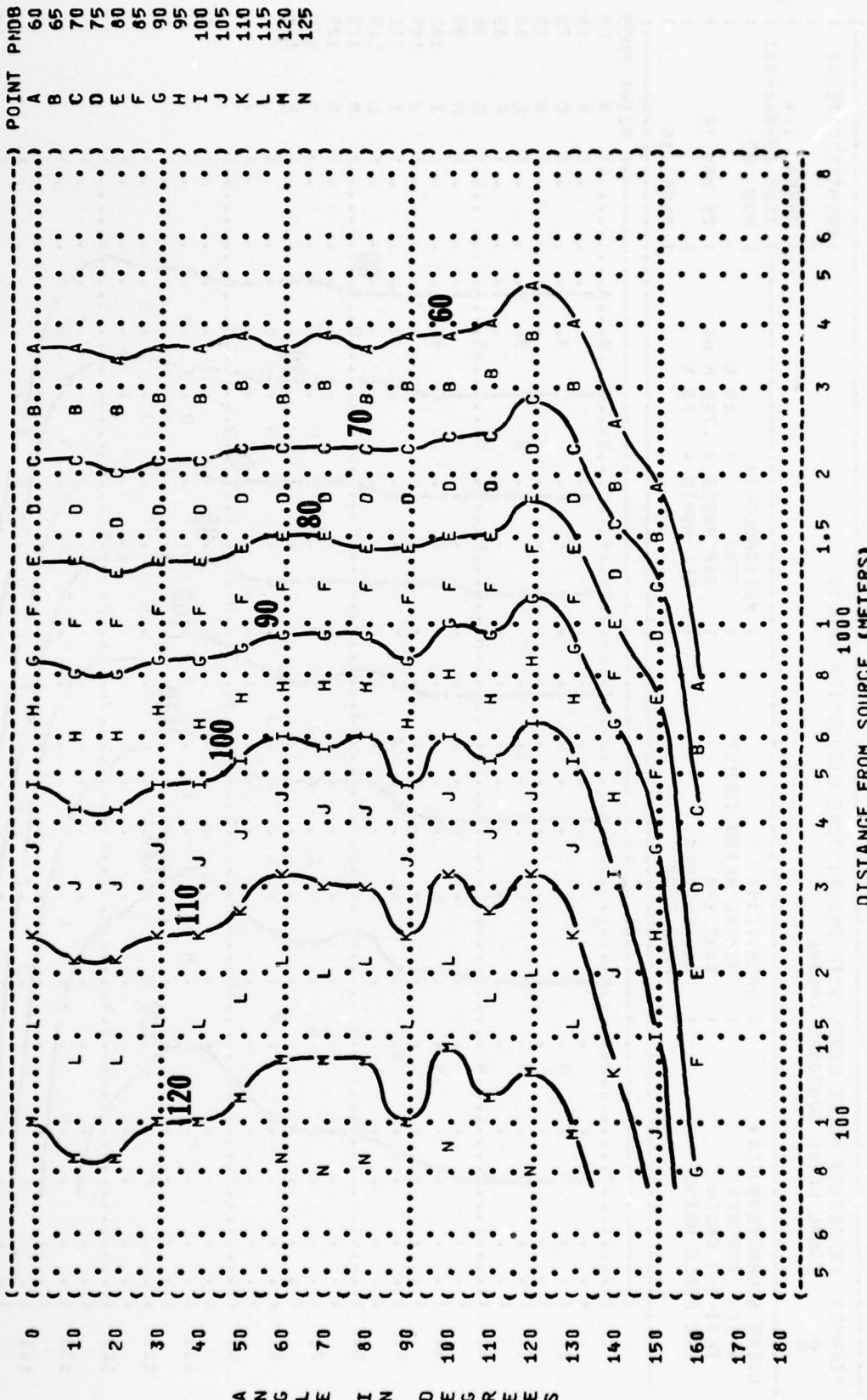
IDENTIFICATION:
OMEGA 1.4
TEST 75-044-001
RUN 03
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:
95% RPM ENGINE RUNUP
ENGINE NO. 4
FREE FLOW
NOISE SOURCE/SUBJECT:
B-52H AIRCRAFT
TF33-P-3 ENGINE
FAR FIELD NOISE
PAGE 16

```



5 6 8 1 1.5 2 3 4 5 6 8  
 100  
 1000  
 DISTANCE FROM SOURCE (METERS)

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 04 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) PAGE 16 )  
 )  
 ) OPERATION: )  
 ) MAXIMUM POWER )  
 ) 104% RPM )  
 ) ENGINE NO. 4 )  
 ) FREE FLOW )  
 )  
 ) NOISE SOURCE/SUBJECT: )  
 ) 8-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )



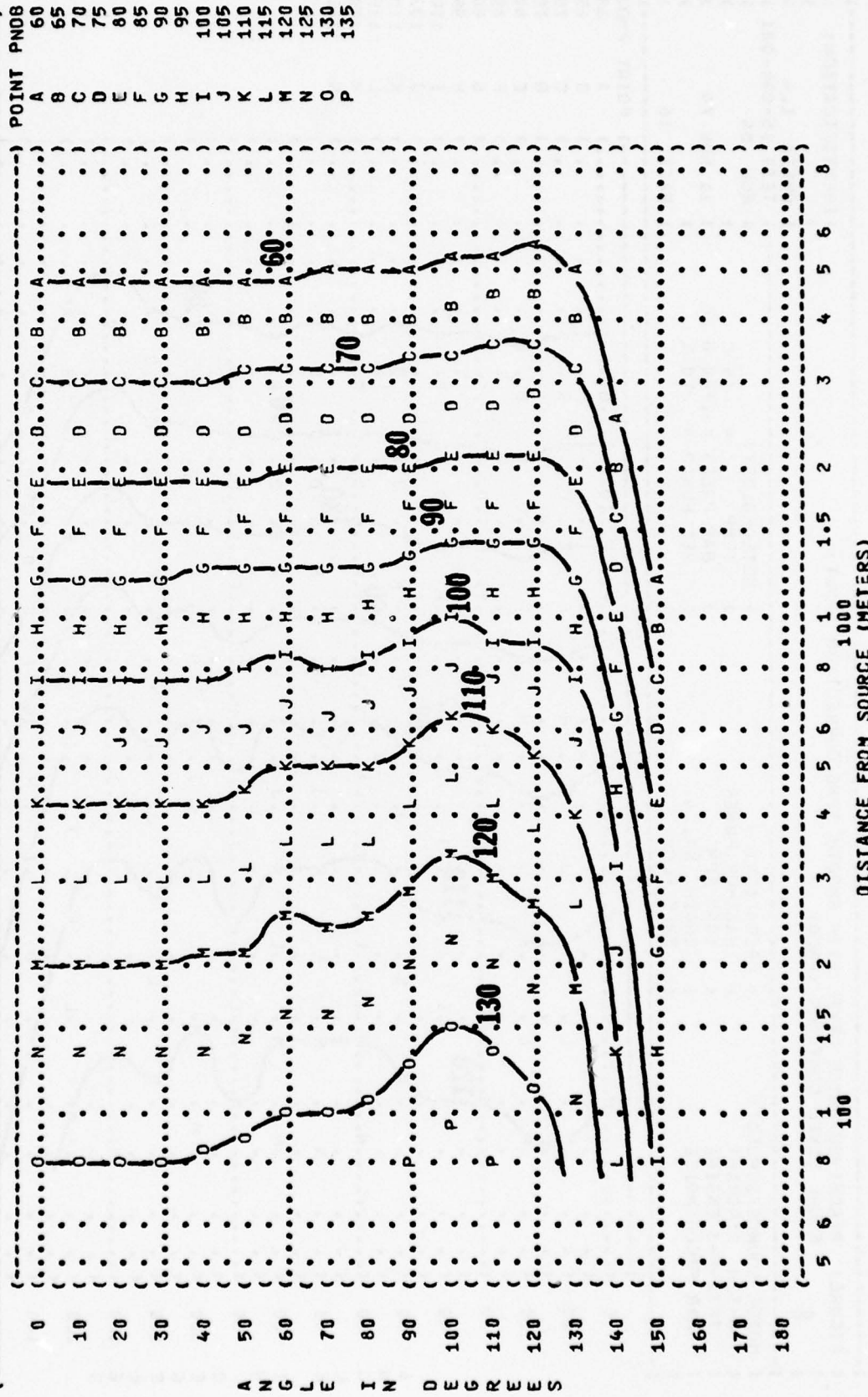


IDENTIFICATIONS:  
 ) OMEGA 1.4  
 ) TEST 75-044-001  
 ) RUN 05  
 ) 28 MAY 76  
 ) PAGE 16  
 )

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

OPERATION:  
 ( NORMAL RATED THRUST  
 ( 100% RPM  
 ( ALL ENGINES  
 ( FREE FLOW

NOISE SOURCE/SUBJECT:  
 ( B-52H AIRCRAFT  
 ( TF33-P-3 ENGINE  
 ( FAR FIELD NOISE

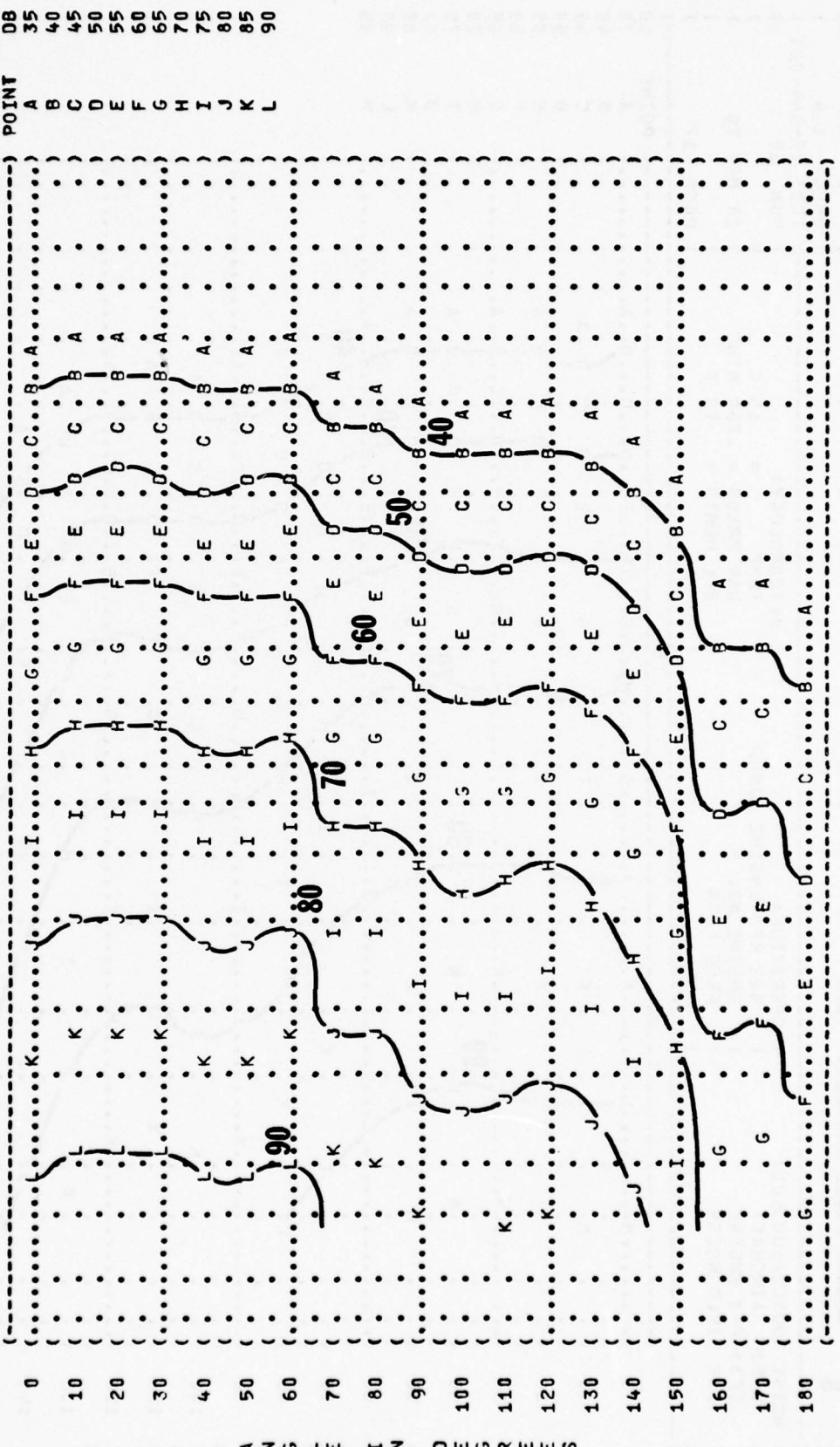


IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 01  
 28 MAY 76  
 PAGE 17

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

OPERATION:  
 ( IDLE  
 ( 60% RPM  
 ( ALL ENGINES  
 ( FREE FLOW

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE



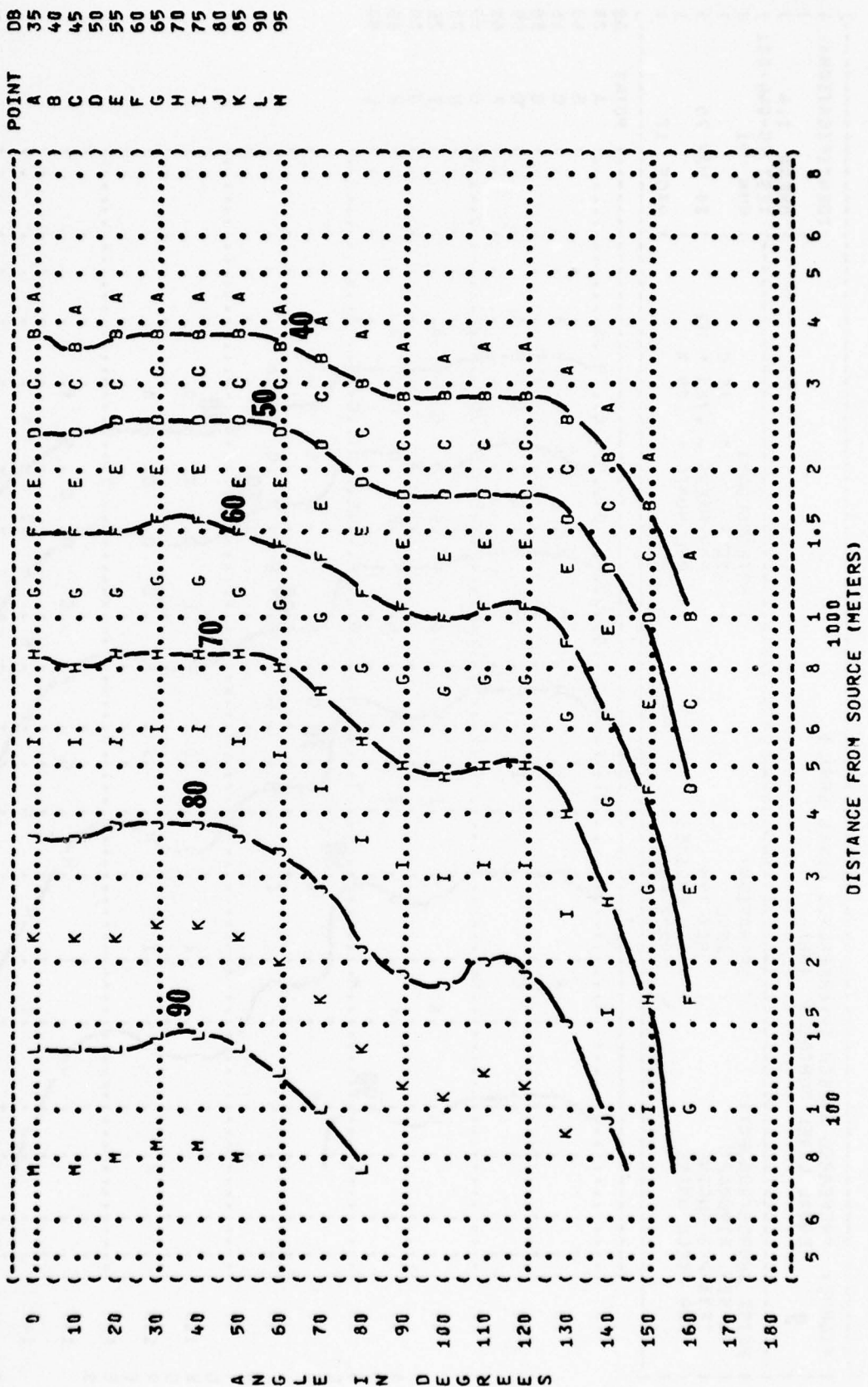
DISTANCE FROM SOURCE (METERS)

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

) NOISE SOURCE/SUBJECT: ) OPERATION:  
( B-52H AIRCRAFT ( 80% RPM ENGINE RJNUP  
( TF33-P-3 ENGINE ( ENGINE NO. 4  
( FAR FIELD NOISE ( FREE FLOW

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

) IDENTIFICATION: )  
) )  
) OMEGA 1.4 )  
) TEST 75-044-001 )  
) RUN 02 )  
) 28 MAY 76 )  
) PAGE 17 )



A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

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

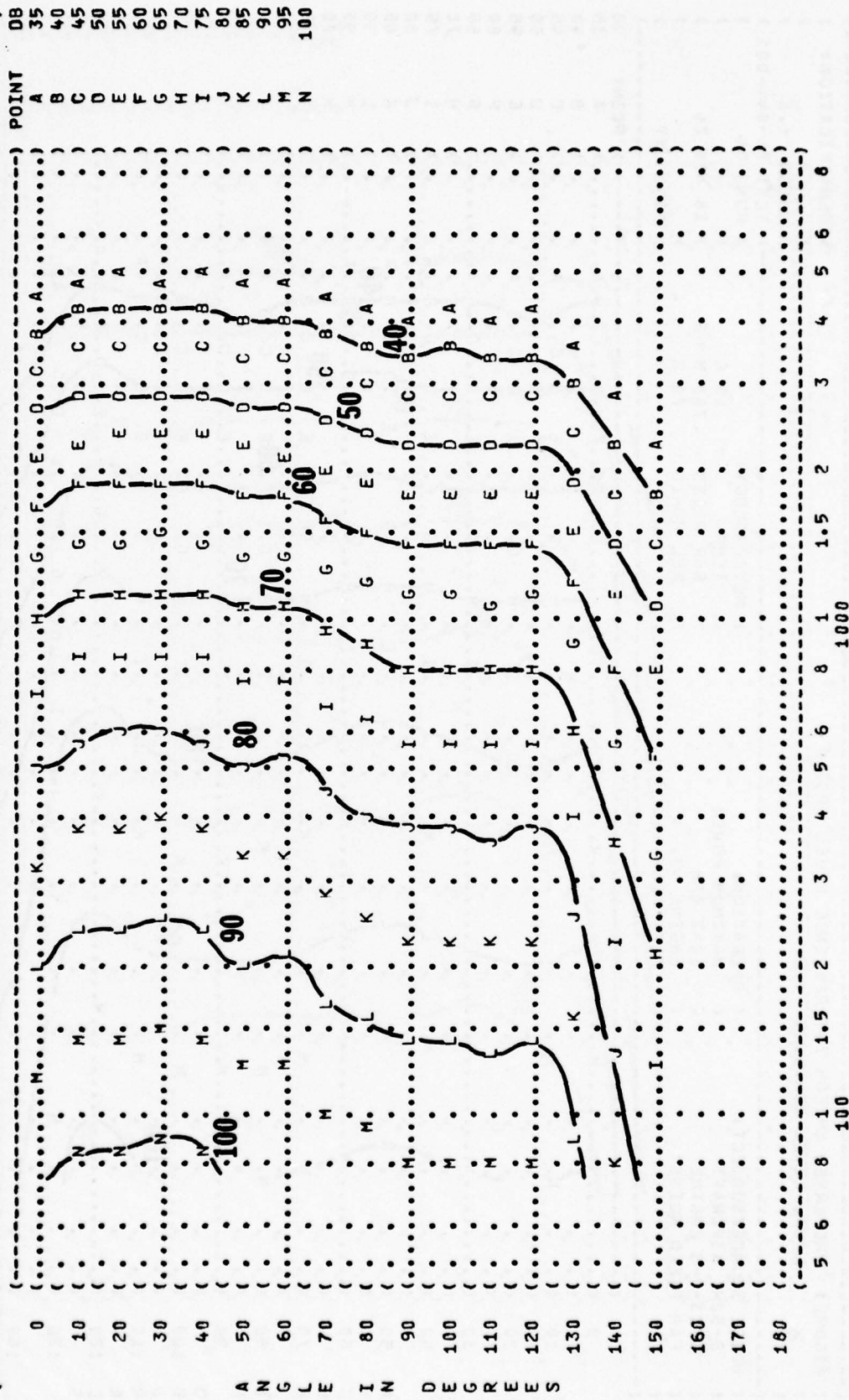
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IDENTIFICATION: OMEGA 1.4  
 TEST 75-044-001  
 RUN 03  
 28 MAY 76  
 PAGE 17

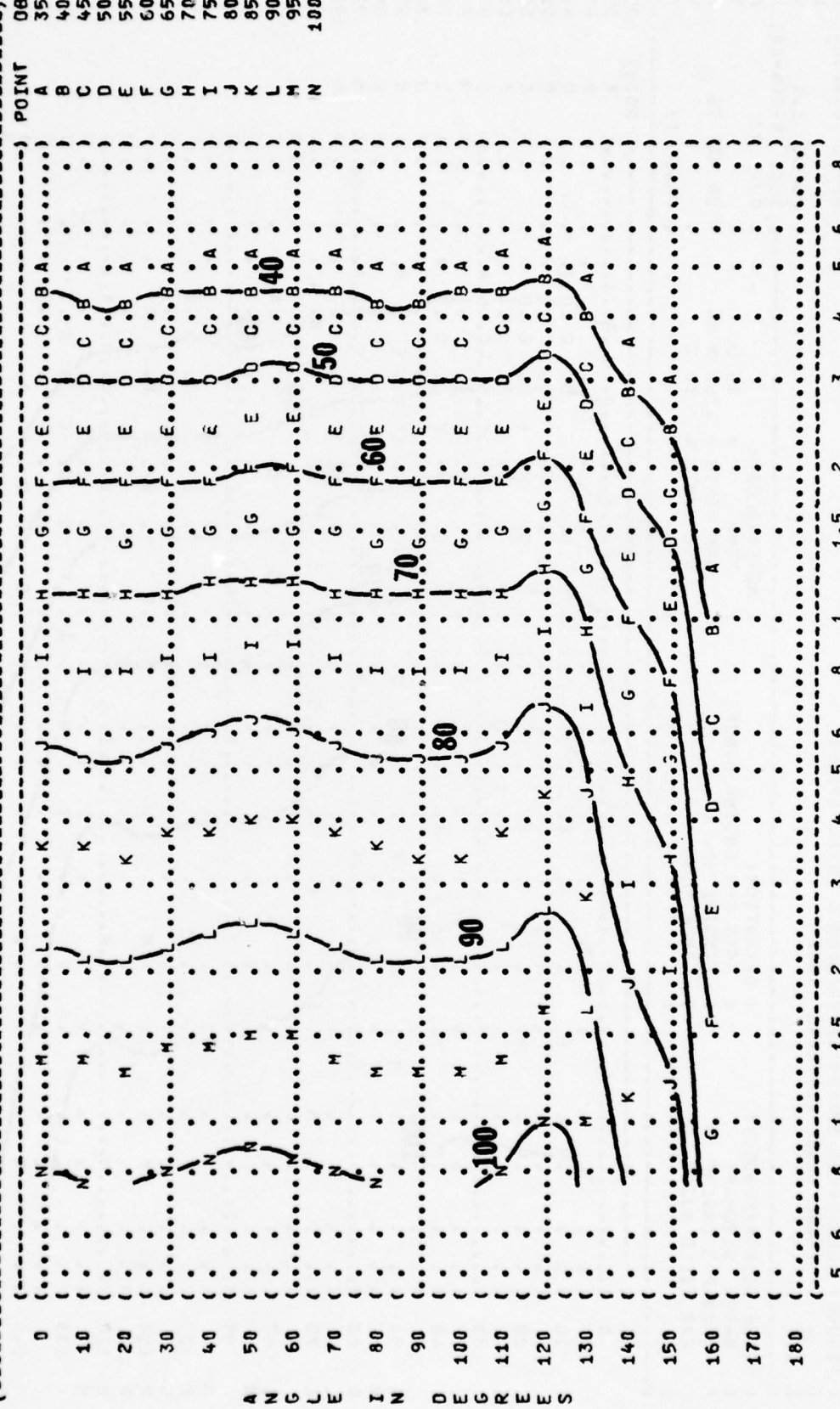
METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

OPERATION:  
 95% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

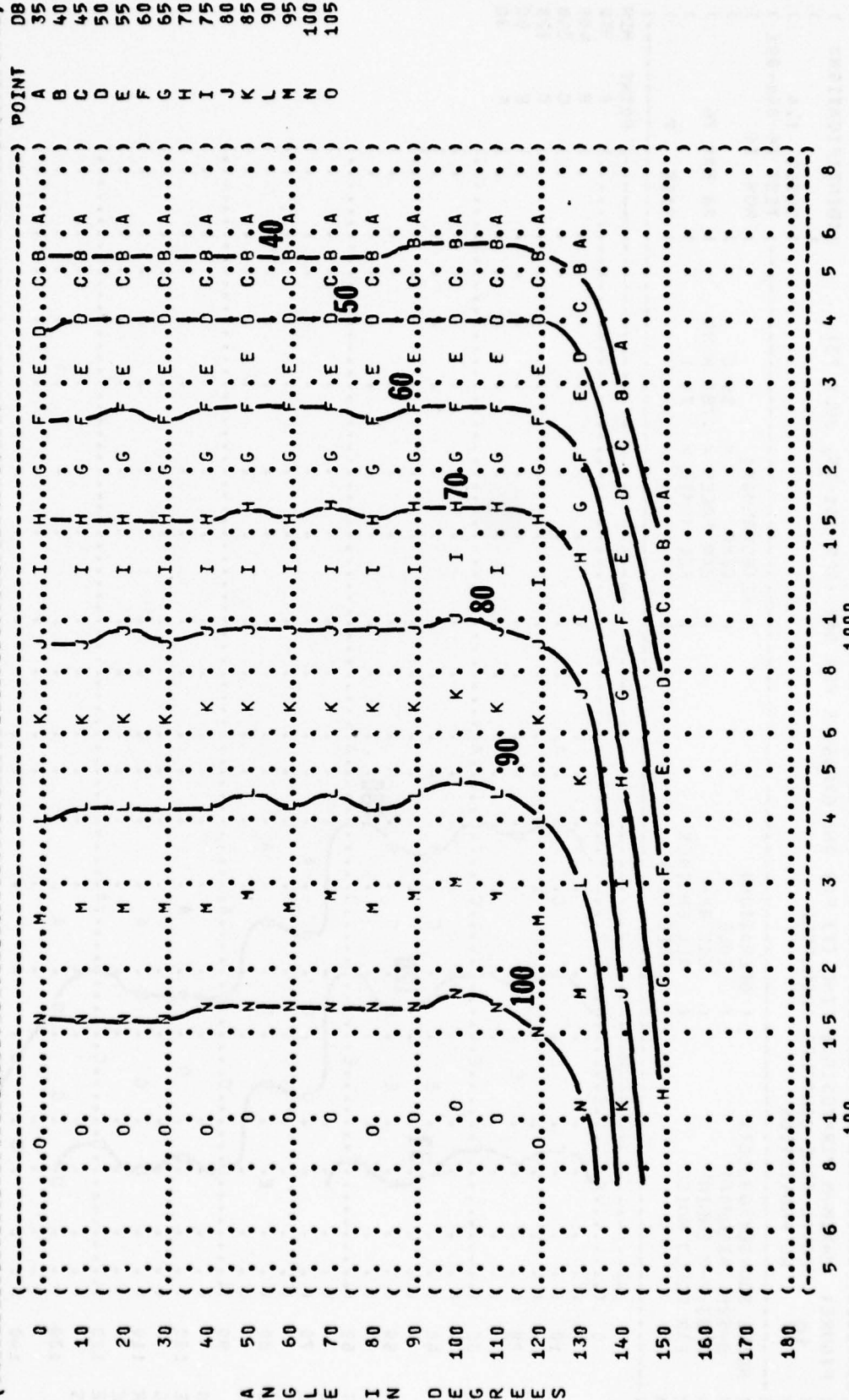


( FIGURE 1 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) REL HUMID = 70 % )  
 ( ) ENGINE NO. 4 )  
 ( ) FREE FLOW )  
 ( ) PAGE 17 )

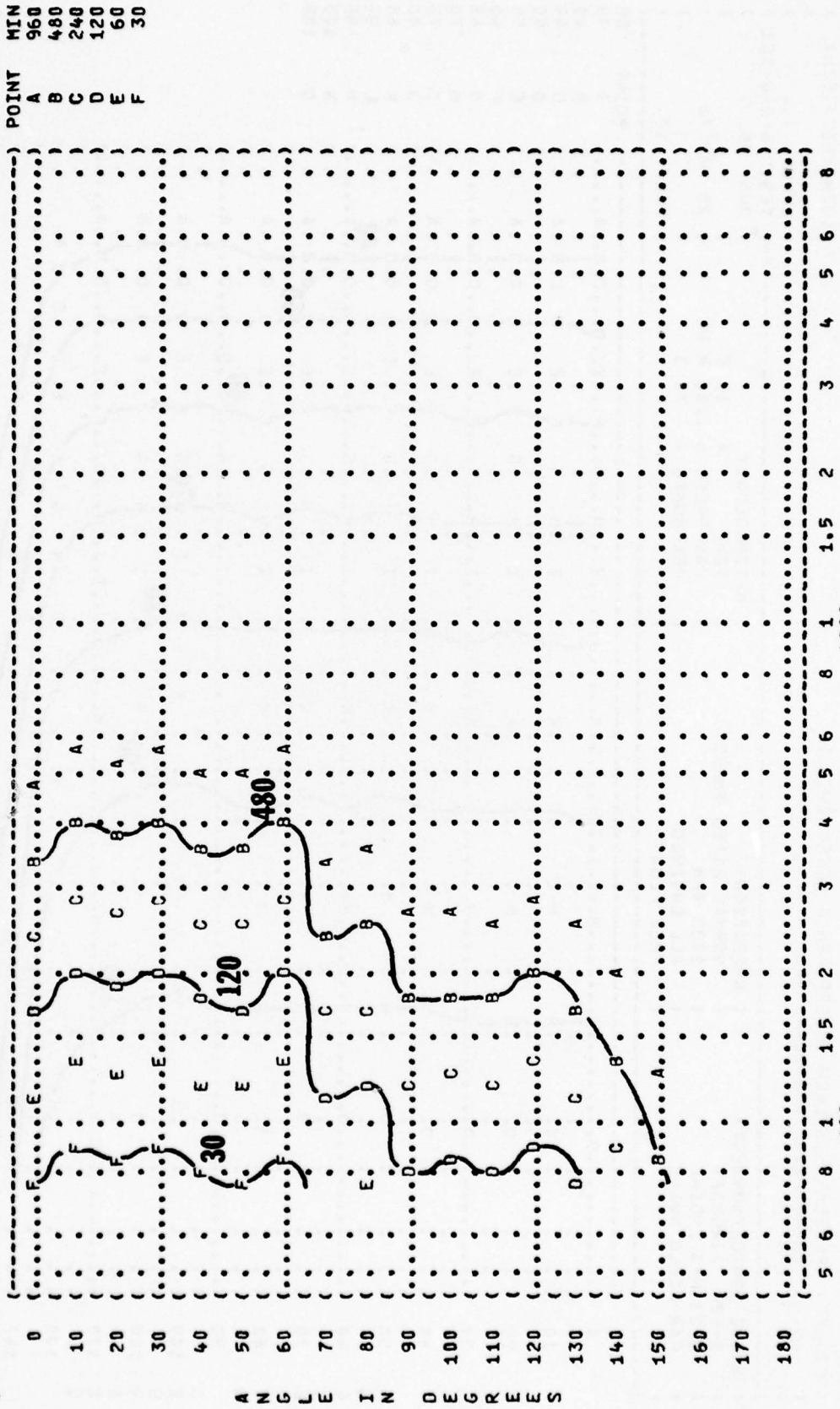


DISTANCE FROM SOURCE (METERS)

( FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( ) IDENTIFICATION# )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 05  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 17  
 ( ) OPERATION: )  
 ( ) NORMAL RATED THRUST  
 ( ) 100% RPM  
 ( ) ALL ENGINES  
 ( ) FREE FLOW



( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( NO PROTECTION ) )  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) ( IOLE ) ( TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) ( 60% RPM ) ( BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ( ALL ENGINES ) ( REL HUMID = 70 % )  
 ( ) ( FREE FLOW ) ( ) ( PAGE 7 ) )



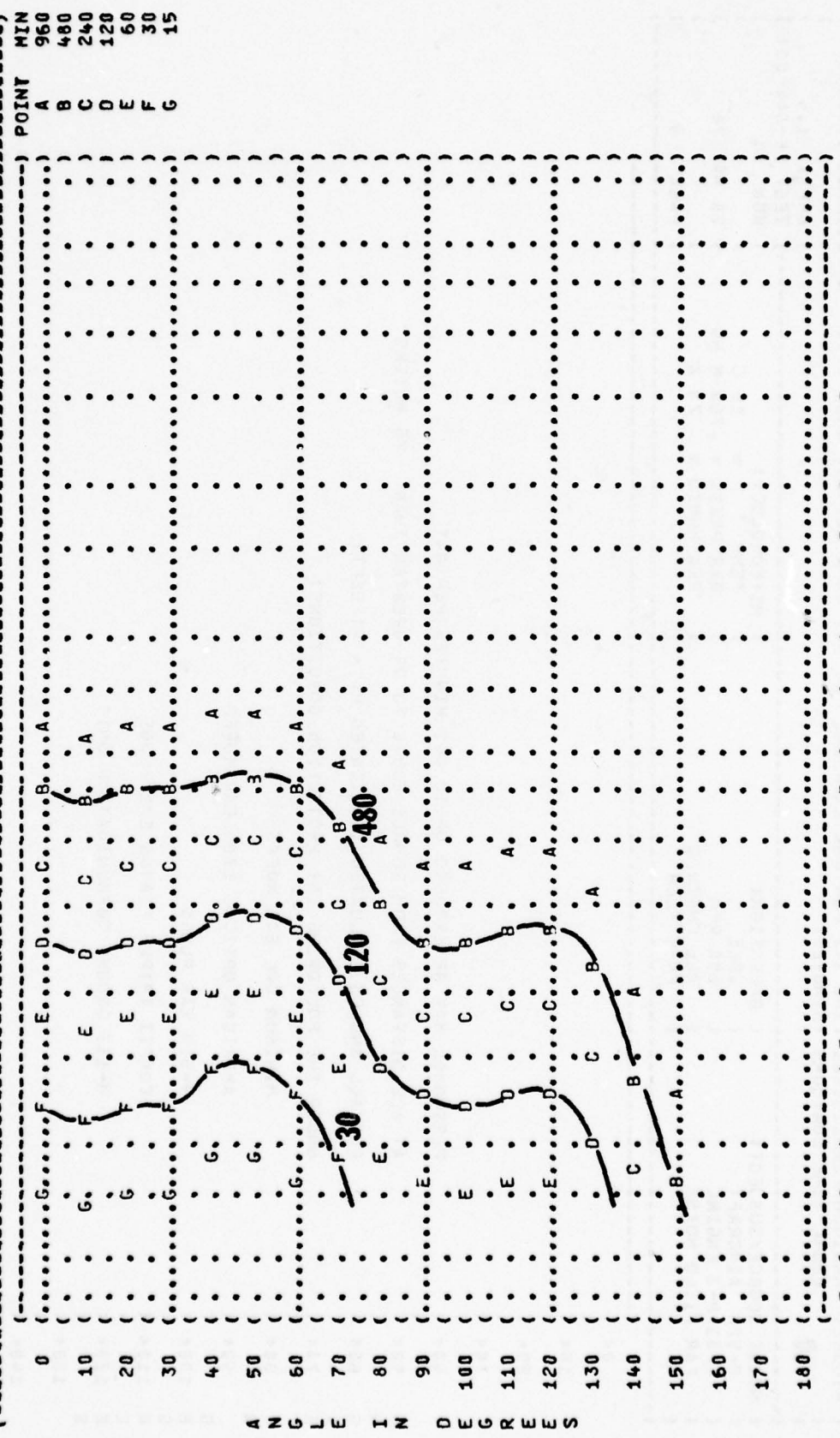
A N G L E I N D E G R E E S





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( ) FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
( ) IDENTIFICATION:
( ) OMEGA 1.4
( ) TEST 75-044-001
( ) RUN 02
( ) PAGE 7
( ) METEOROLOGY:
( ) TEMP = 15 C
( ) BAR PRESS = .760 M HG
( ) REL HUMID = 70 %
( ) OPERATION:
( ) 80% RPM ENGINE RUNUP
( ) ENGINE NO. 4
( ) FREE FLOW
( ) NOISE SOURCE/SUBJECT:
( ) B-52H AIRCRAFT
( ) TF33-P-3 ENGINE
( ) FAR FIELD NOISE
  
```



DISTANCE FROM SOURCE (METERS)

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

( NOISE SOURCE/SUBJECT: ) )  
 ( B-52H AIRCRAFT ) )  
 ( TF33-P-3 ENGINE ) )  
 ( FAR FIELD NOISE ) )

( OPERATION: ) )  
 ( 80% RPM ENGINE RJNUP ) )  
 ( ENGINE NO. 4 ) )  
 ( FREE FLOW ) )

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

( RUN 02 ) )  
 ( 28 MAY 76 ) )  
 ( PAGE 8 ) )

|     | POINT A | MIN | 960 |
|-----|---------|-----|-----|
| 0   | .A      | .   | .   |
| 10  | .A      | .   | .   |
| 20  | .A      | .   | .   |
| 30  | .A      | .   | .   |
| 40  | .A      | .   | .   |
| 50  | .A      | .   | .   |
| 60  | .A      | .   | .   |
| 70  | .       | .   | .   |
| 80  | .       | .   | .   |
| 90  | .       | .   | .   |
| 100 | .       | .   | .   |
| 110 | .       | .   | .   |
| 120 | .       | .   | .   |
| 130 | .       | .   | .   |
| 140 | .       | .   | .   |
| 150 | .       | .   | .   |
| 160 | .       | .   | .   |
| 170 | .       | .   | .   |
| 180 | .       | .   | .   |

5 6 8 1 1.5 2 3 4 5 6 8 1000  
 100  
 DISTANCE FROM SOURCE (METERS)

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

( ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( ( OPERATION: ) ) )  
 ( ( 80% RPM ENGINE RUNUP ) TEMP = 15 C )  
 ( ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( ( FREE FLOW ) REL HUMID = 70 % )  
 ( ( ) ) )  
 ( ( ) ) )  
 ( ( ) ) )

( ( OMEGA 1.4 ) )  
 ( ( TEST 75-044-001 ) )  
 ( ( RUN 02 ) )  
 ( ( 28 MAY 76 ) )  
 ( ( PAGE 9 ) ) )

0 < ( ( ) )  
 10 < ( ( ) )  
 20 < ( ( ) )  
 30 < ( ( ) )  
 40 < ( ( ) )  
 50 < ( ( ) )  
 60 < ( ( ) )  
 70 < ( ( ) )  
 80 < ( ( ) )  
 90 < ( ( ) )  
 100 < ( ( ) )  
 110 < ( ( ) )  
 120 < ( ( ) )  
 130 < ( ( ) )  
 140 < ( ( ) )  
 150 < ( ( ) )  
 160 < ( ( ) )  
 170 < ( ( ) )  
 180 < ( ( ) )

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY

AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS

AMERICAN OPTICAL 1700 EAR MUFFS

V-51R EAR PLUGS

H-133 GROUND COMMUNICATION UNIT

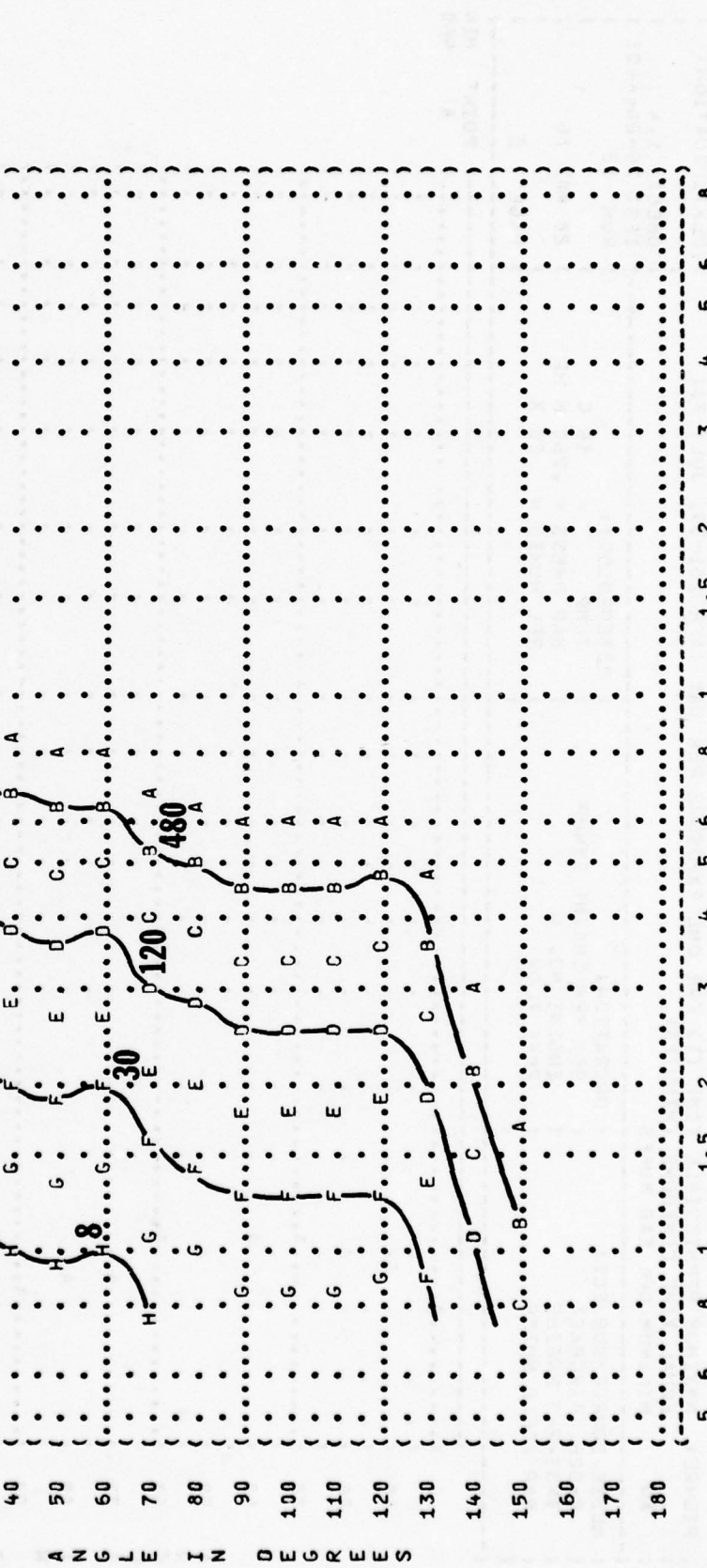
A  
N  
G  
L  
E  
  
I  
N  
D  
E  
G  
R  
E  
E  
S

5 6 8 1 1.5 2 3 4 5 6 8 100  
 1 1.5 2 3 4 5 6 8 1000  
 DISTANCE FROM SOURCE (METERS)

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( NO PROTECTION ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 03 )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 28 MAY 76 )  
 ( ) PAGE 7 )  
 ( ) )

( NOISE SOURCE/SUBJECT: )  
 ( B-52H AIRCRAFT )  
 ( TF33-P-3 ENGINE )  
 ( FAR FIELD NOISE )

( OPERATION: )  
 ( 95% RPM ENGINE RJNUP )  
 ( ENGINE NO. 4 )  
 ( FREE FLOW )



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

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( MINIMUM QPL EAR MUFFS ) ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 03 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) ENGINE NO. 4 ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) FREE FLOW ) REL HUMID = 70 % )  
 ( ) ) ) PAGE 8 )  
 ( ) ) ) ) )

|     | 0 | 1 | 1.5 | 2 | 3 | 4 | 5 | 6 | 8 | 1000 | 1.5 | 2 | 3 | 4 | 5 | 6 | 8 |
|-----|---|---|-----|---|---|---|---|---|---|------|-----|---|---|---|---|---|---|
| A   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| N   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| G   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| L   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| E   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| I   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| M   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| O   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| E   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| G   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| R   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| E   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| E   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| S   | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 100 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 110 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 120 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 130 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 140 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 150 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 160 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 170 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |
| 180 | A | A | A   | A | A | A | A | A | A | A    | A   | A | A | A | A | A | A |

POINT MIN 960  
 A  
 DISTANCE FROM SOURCE (METERS)

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

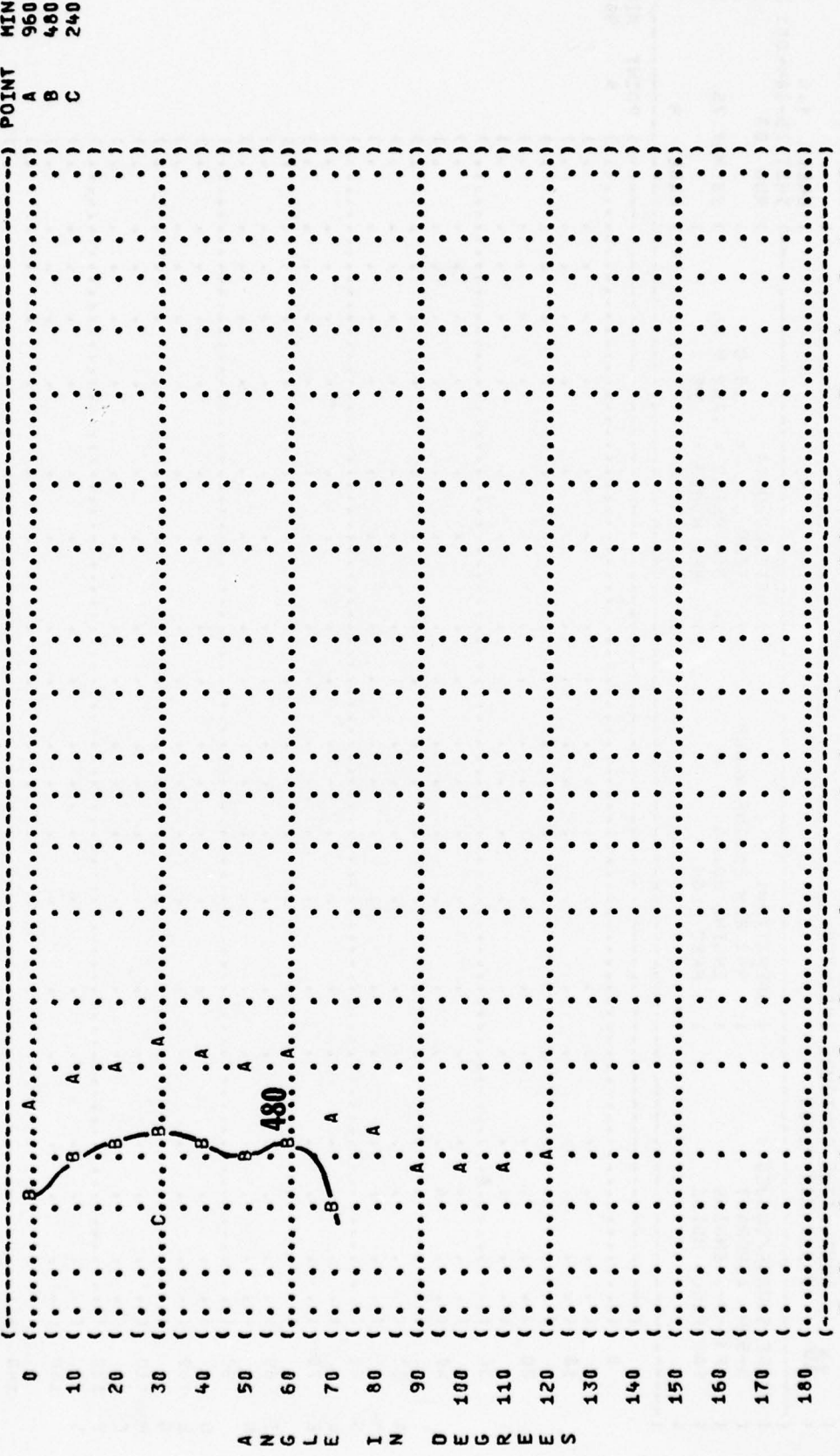
NOISE SOURCE/SUBJECT: )  
 OPERATION: ) METEOROLOGY: )  
 ( 95% RPM ENGINE RJNUP ) TEMP = 15 C )  
 ( ENGINE NO. 4 ) BAR PRESS = .760 M HG )  
 ( FREE FLOW ) ) REL HUMID = 70 % )  
 ( ) ) )  
 ( ) ) )  
 ( ) ) )

| POINT | MIN | MIN | MIN | MIN | MIN | MIN | MIN | MIN | MIN | MIN |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A     | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 |
| 0     |     |     |     |     |     |     |     |     |     |     |
| 10    |     |     |     |     |     |     |     |     |     |     |
| 20    |     |     |     |     |     |     |     |     |     |     |
| 30    |     |     |     |     |     |     |     |     |     |     |
| 40    |     |     |     |     |     |     |     |     |     |     |
| 50    |     |     |     |     |     |     |     |     |     |     |
| 60    |     |     |     |     |     |     |     |     |     |     |
| 70    |     |     |     |     |     |     |     |     |     |     |
| 80    |     |     |     |     |     |     |     |     |     |     |
| 90    |     |     |     |     |     |     |     |     |     |     |
| 100   |     |     |     |     |     |     |     |     |     |     |
| 110   |     |     |     |     |     |     |     |     |     |     |
| 120   |     |     |     |     |     |     |     |     |     |     |
| 130   |     |     |     |     |     |     |     |     |     |     |
| 140   |     |     |     |     |     |     |     |     |     |     |
| 150   |     |     |     |     |     |     |     |     |     |     |
| 160   |     |     |     |     |     |     |     |     |     |     |
| 170   |     |     |     |     |     |     |     |     |     |     |
| 180   |     |     |     |     |     |     |     |     |     |     |

DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( COMFIT TRIPLE FLANGE EAR PLUGS ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 03 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) ENGINE NO. 4 ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) FREE FLOW ) REL HUMID = 70 % )  
 ( ) ) PAGE 10 )  
 ( ) ) )

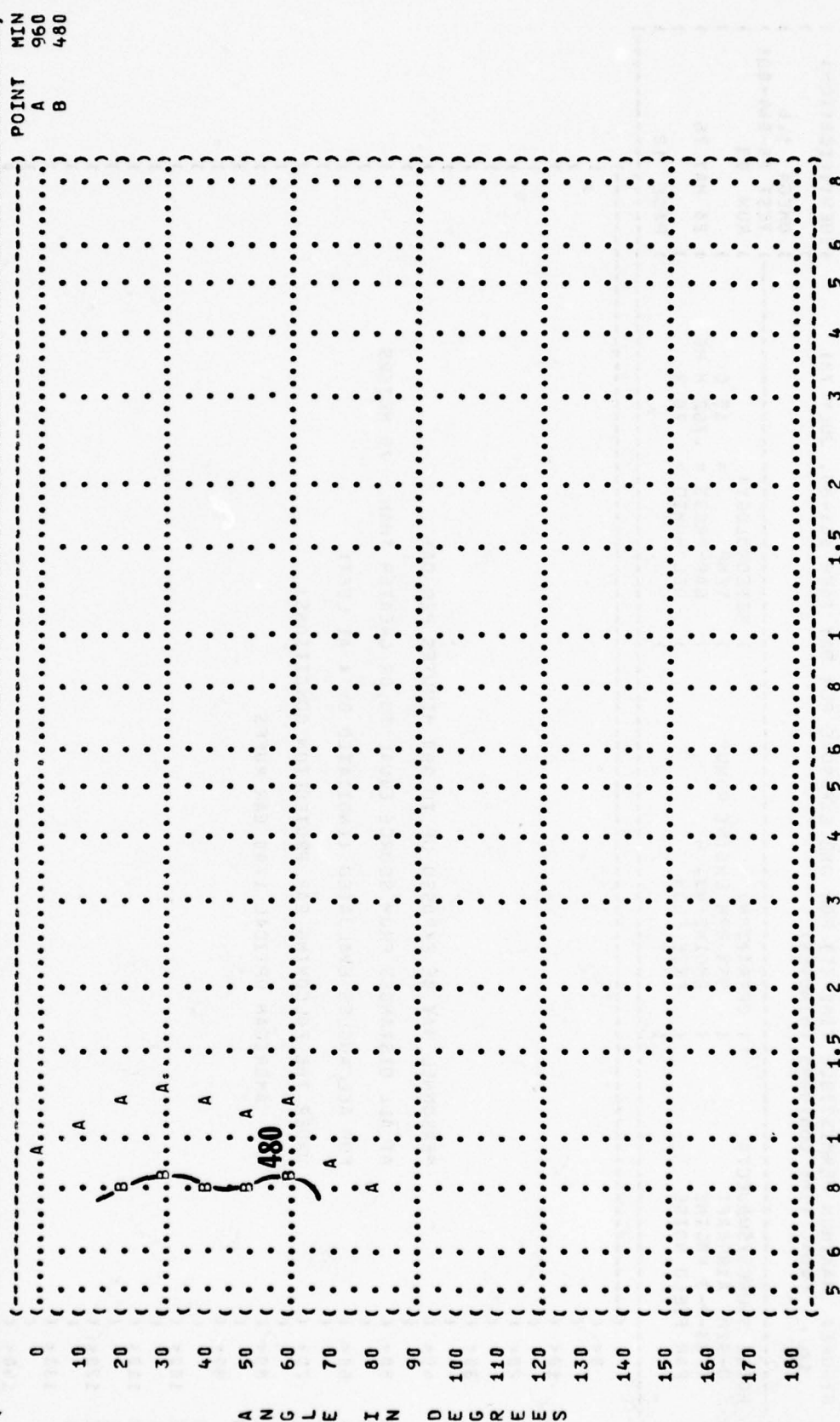


A N G L E I N D E G R E E S

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 03 )  
 ) 28 MAY 76 )  
 ) PAGE 11 )  
 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 )  
 ) OPERATION: )  
 ) 95% RPM ENGINE RUNUP )  
 ) ENGINE NO. 4 )  
 ) FREE FLOW )  
 )  
 ) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )

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

**10**



DISTANCE FROM SOURCE (METERS)

1000

100



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

10

EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION: OMEGA 1.4  
 TEST 75-044-001  
 RUN 03  
 28 MAY 76  
 PAGE 12

NOISE SOURCE/SUBJECT: OPERATIONS: METEOROLOGY:  
 8-52H AIRCRAFT ( 95% RPM ENGINE RUNUP ) TEMP = 15 C  
 TF33-P-3 ENGINE ( ENGINE NO. 4 ) BAR PRESS = .760 M HG  
 FAR FIELD NOISE ( FREE FLOW ) REL HUMID = 70 %

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
 AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
 FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

AMERICAN OPTICAL 1700 EAR MUFFS

A N G L E I N D E X

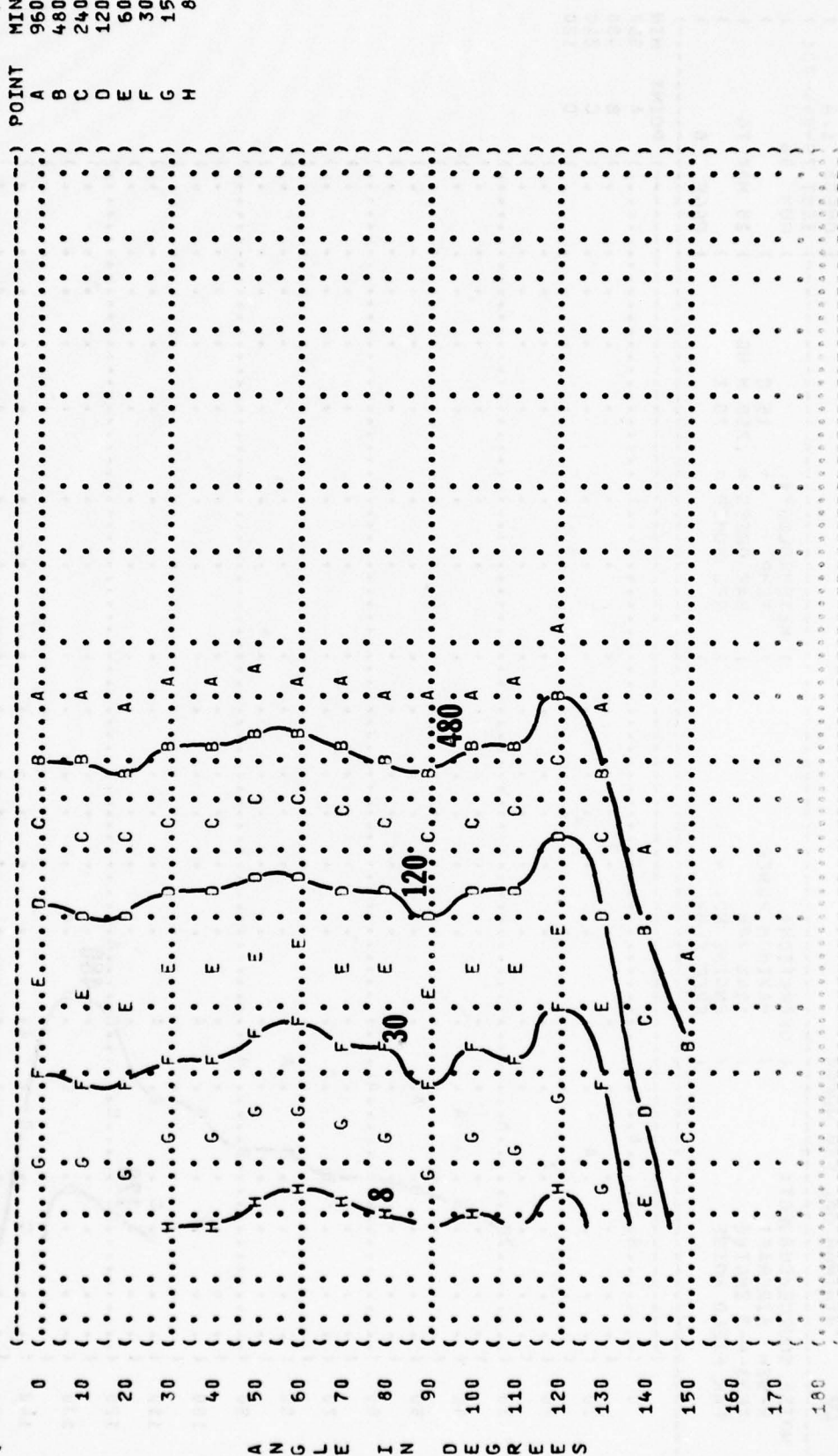
0< 10< 20< 30< 40< 50< 60< 70< 80< 90< 100< 110< 120< 130< 140< 150< 160 170 180

5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8  
 100 1000

DISTANCE FROM SOURCE (METERS)

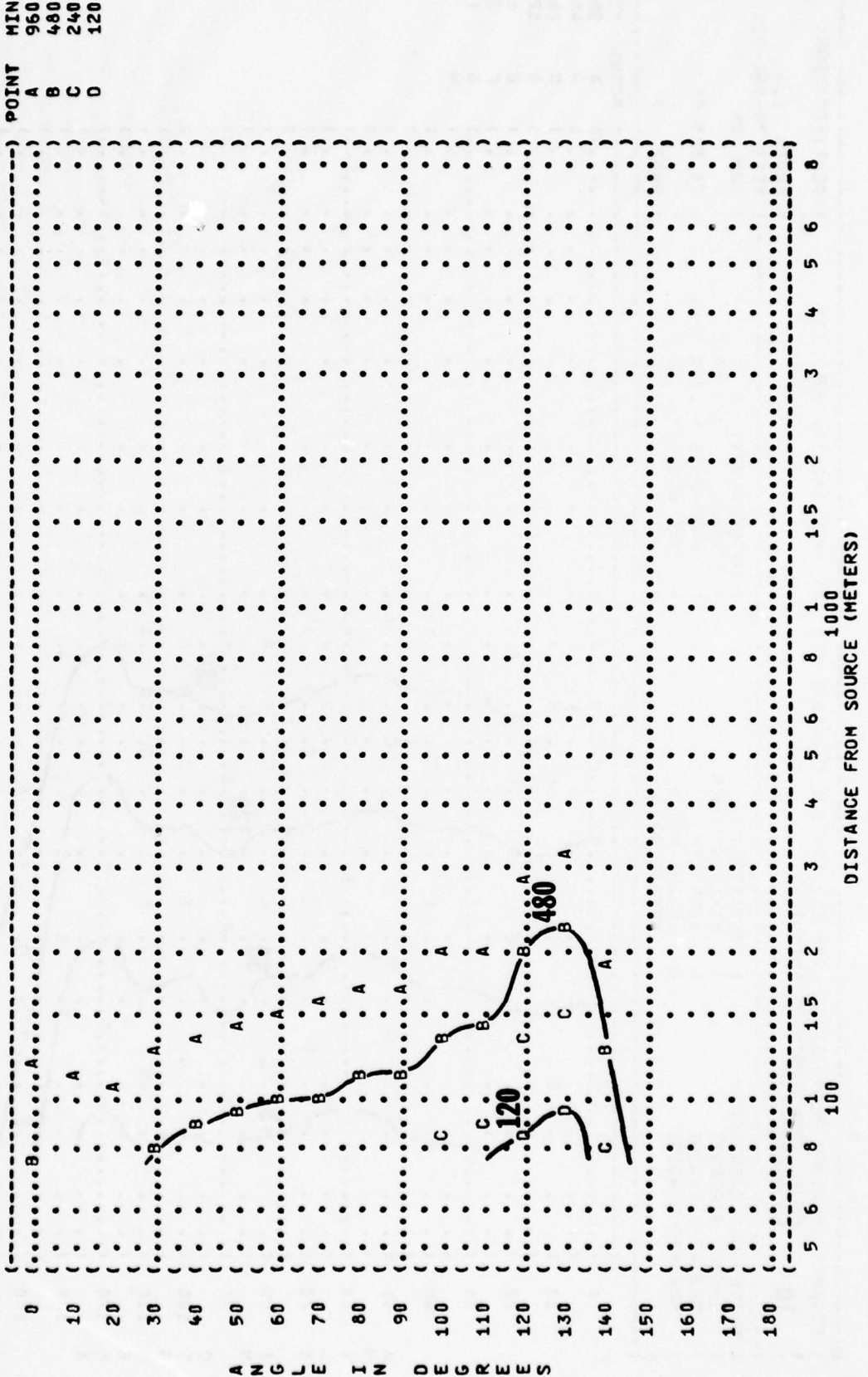
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION: OMEGA 1.4  
 TEST 75-044-001  
 RUN 04  
 28 MAY 76  
 PAGE 7  
 METEOROLOGY: TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

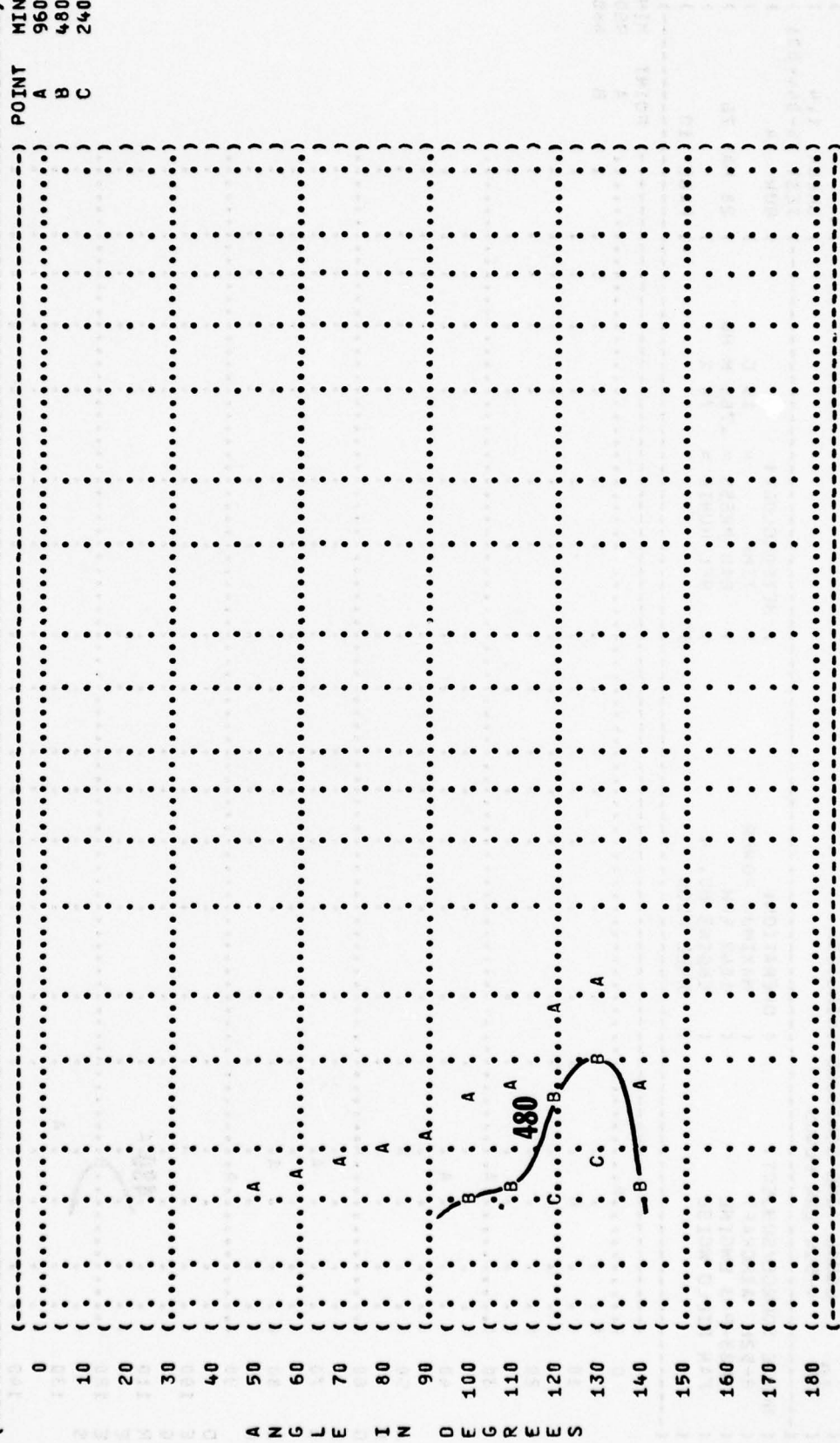


DISTANCE FROM SOURCE (METERS)

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( 10 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( MINIMUM QPL EAR MUFFS ) )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ) ENGINE NO. 4 ) 28 MAY 76 )  
 ( ) ) FREE FLOW ) PAGE 8 ) )



( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( AMERICAN OPTICAL 1700 EAR MUFFS ) )  
 ( 10 ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) 104% RPH ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ( ENGINE NO. 4 ) REL HUMID = 70 % )  
 ( ) FREE FLOW ) PAGE 9 )

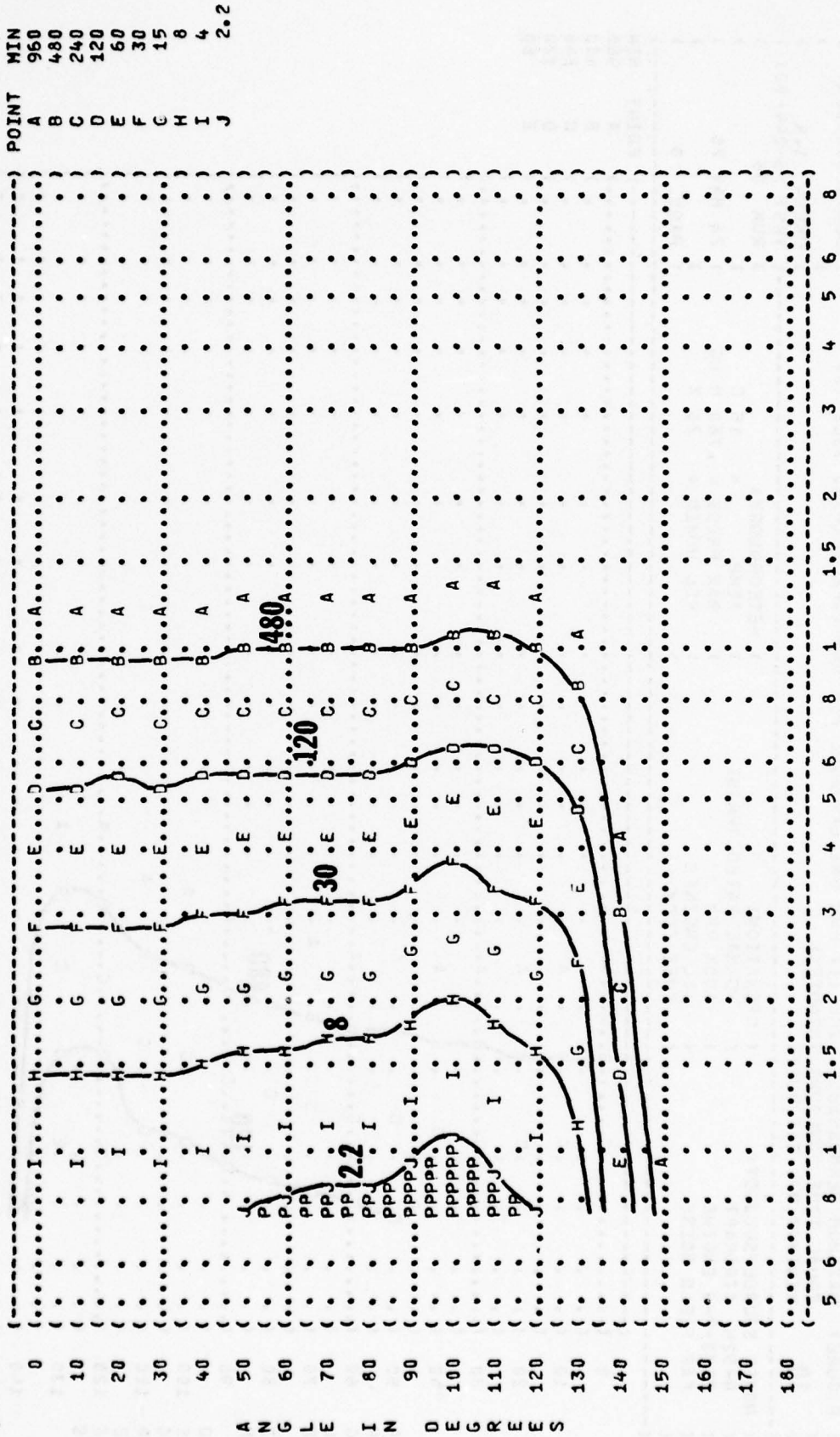








( FIGURES: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) ) OMEGA 1.4 )  
 ( NO PROTECTION ) TEST 75-044-001 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) NORMAL RATED THRUST ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) 100% RPM ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ALL ENGINES ) REL HUMID = 70 % )  
 ( FREE FLOW ) ) PAGE 7 )

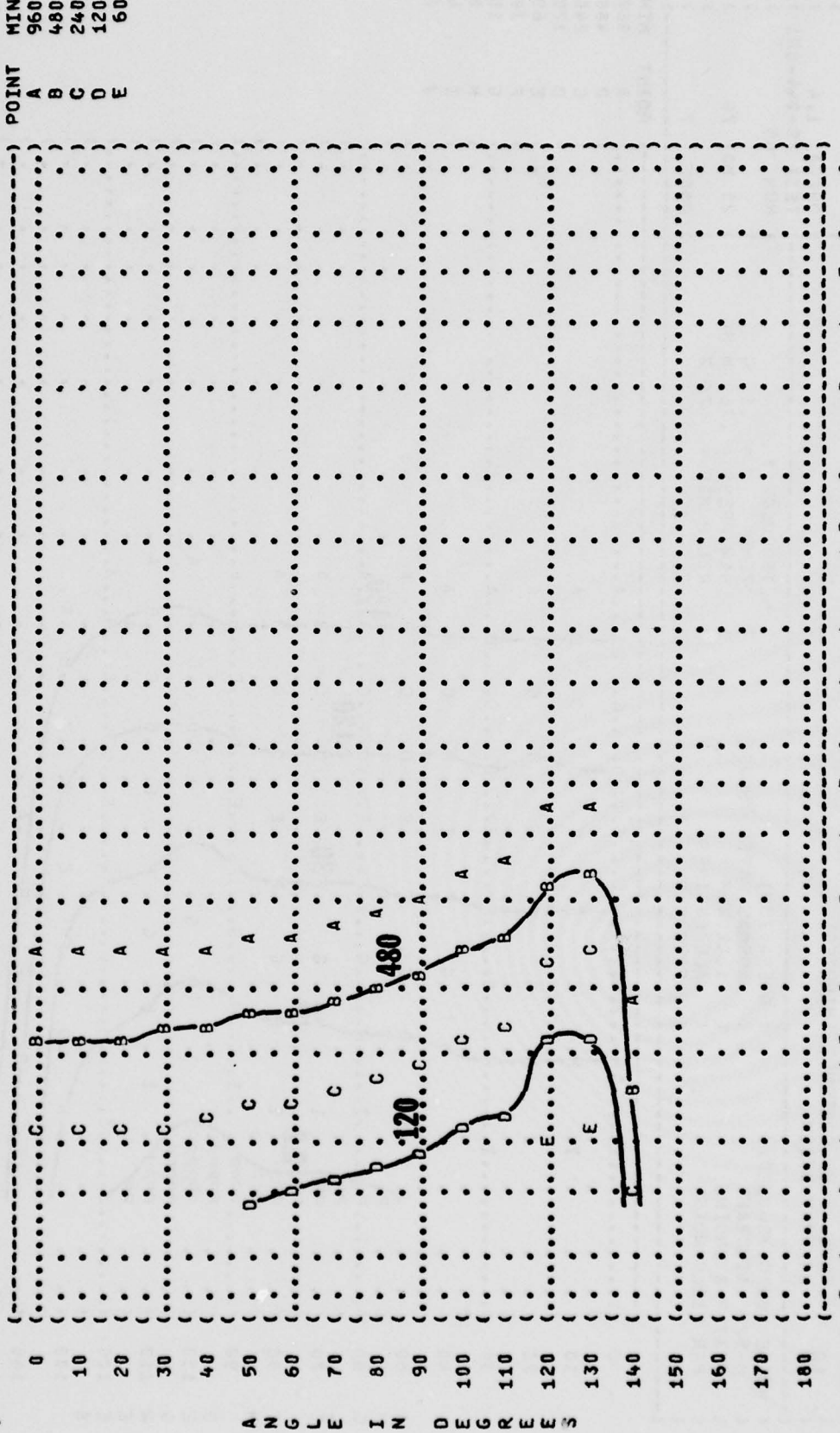


DISTANCE FROM SOURCE (METERS)

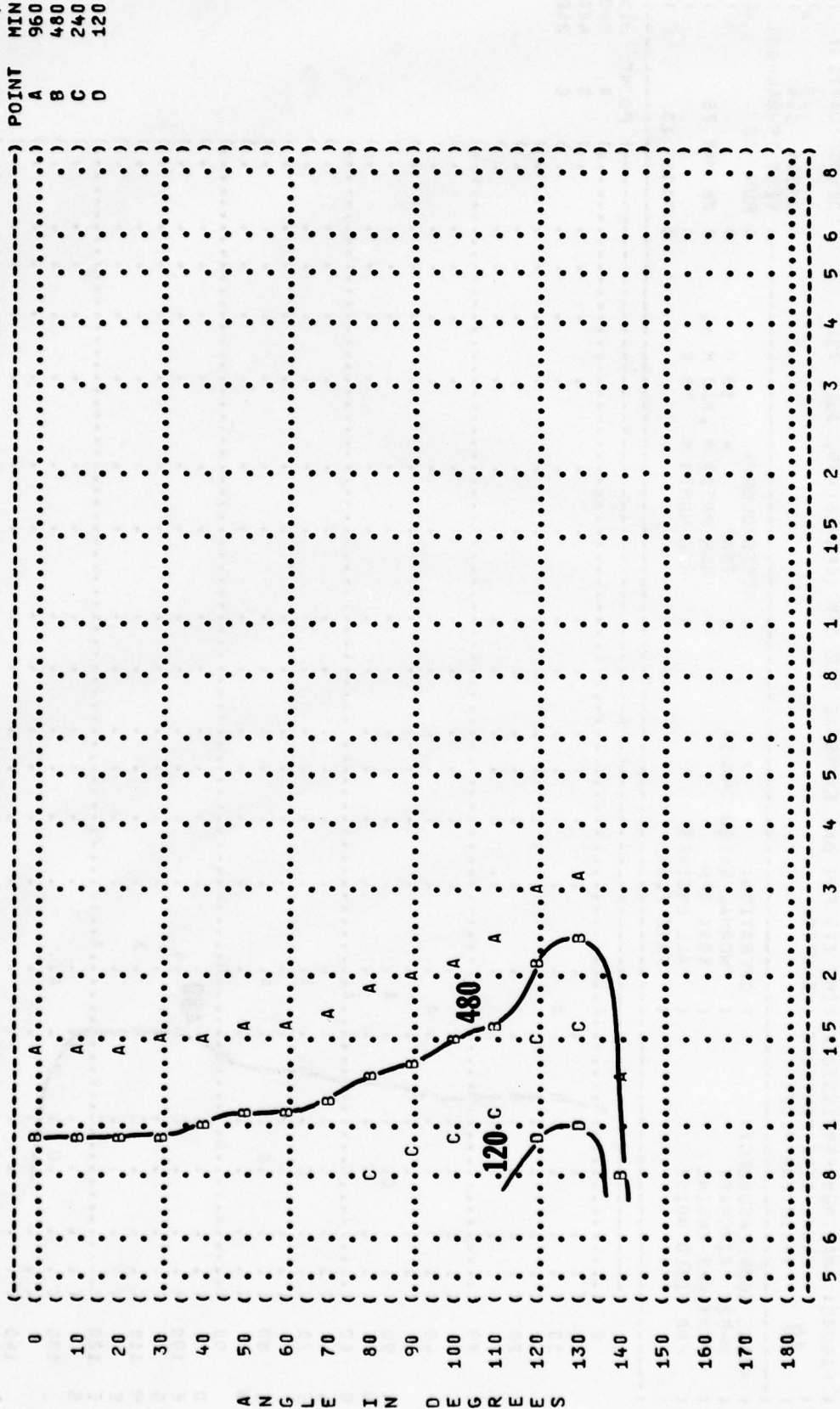
P ADDITIONAL EAR PROTECTION REQUIRED.



( ( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( ( **10** MINIMUM QPL EAR MUFFS ) ) OMEGA 1.4  
 ( ( NOISE SOURCE/SUBJECT: ) ) TEST 75-044-001  
 ( ( B-52H AIRCRAFT ) ) RUN 05  
 ( ( TF33-P-3 ENGINE ) ) METEOROLOGY: )  
 ( ( FAR FIELD NOISE ) ) TEMP = 15 C )  
 ( ( ) ) BAR PRESS = .760 M HG )  
 ( ( ) ) REL HUMID = 70 % )  
 ( ( ) ) PAGE 8 )

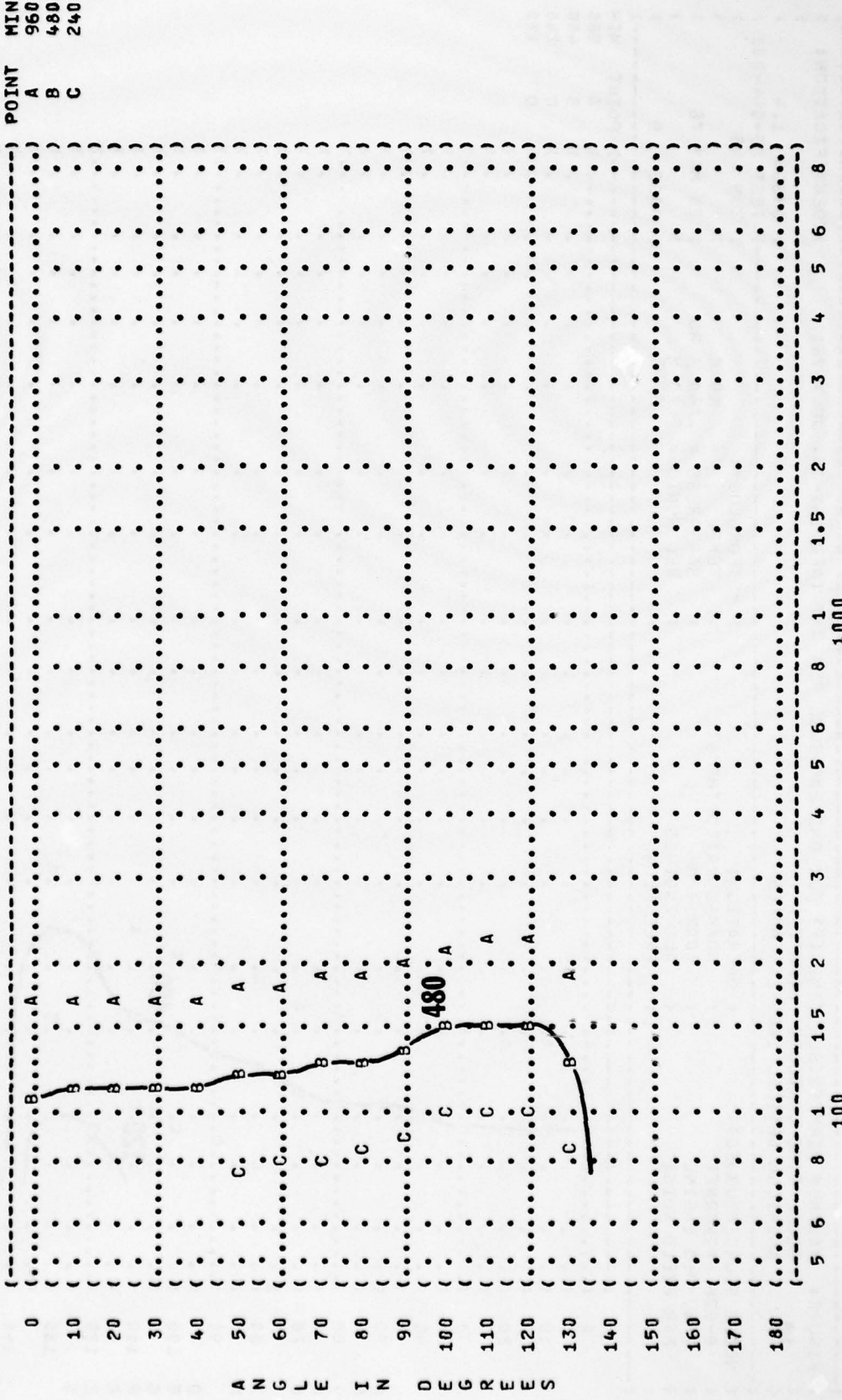


( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( AMERICAN OPTICAL 1700 EAR MUFFS ) )  
 ( **10** ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 05 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ALL ENGINES )  
 ( ) FREE FLOW ) )  
 ( ) PAGE 9 ) )



DISTANCE FROM SOURCE (METERS)

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( **10** V-51R EAR PLUGS ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 05 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) REL HUMID = 70 % )  
 ( ) ALL ENGINES ) 28 MAY 76 )  
 ( ) FREE FLOW ) PAGE 10 )



100 MINIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

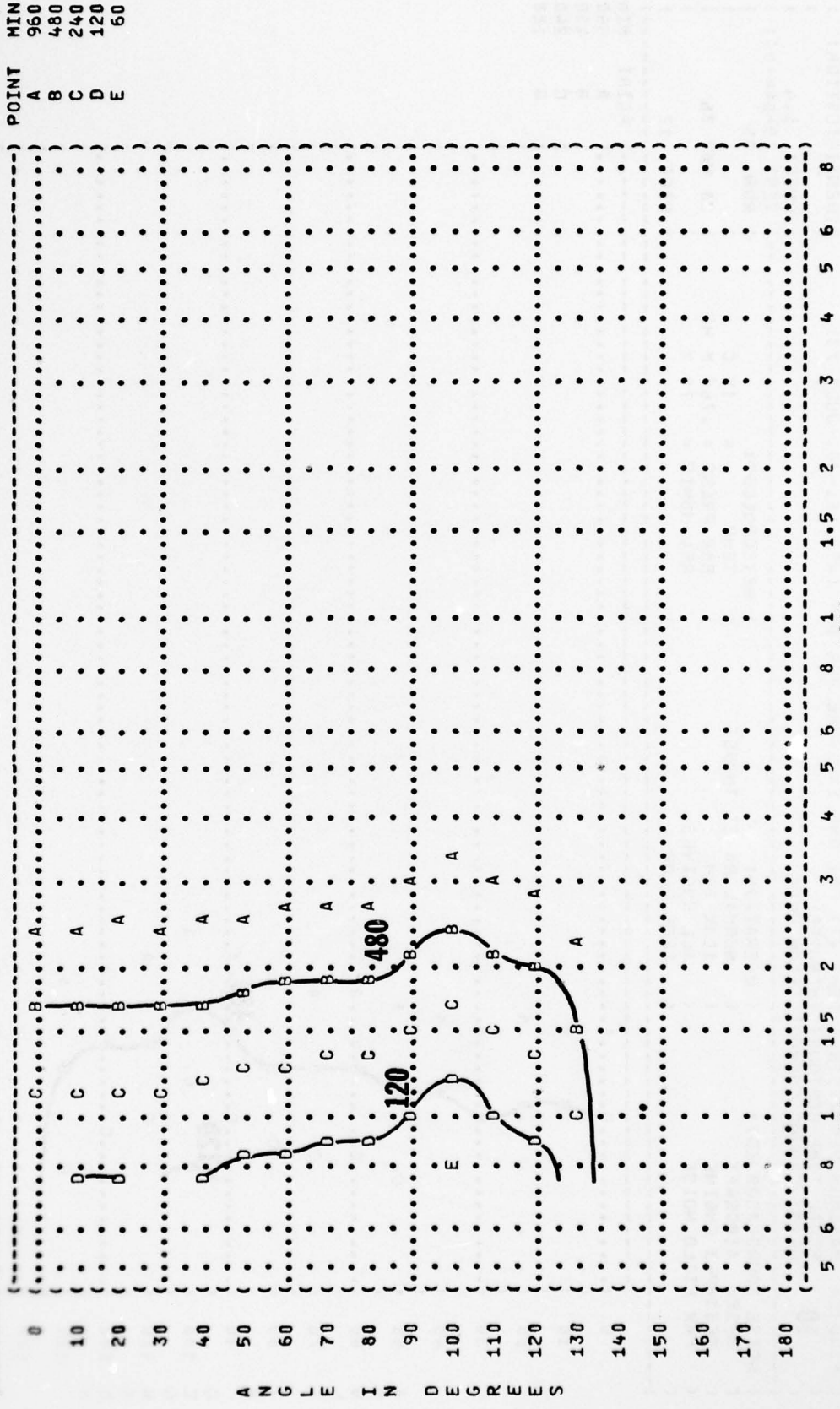
EQUAL TIME CONTOURS (MINUTES)  
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE

OPERATION:  
( NORMAL RATED THRUST  
( 100% RPM  
( ALL ENGINES  
( FREE FLOW

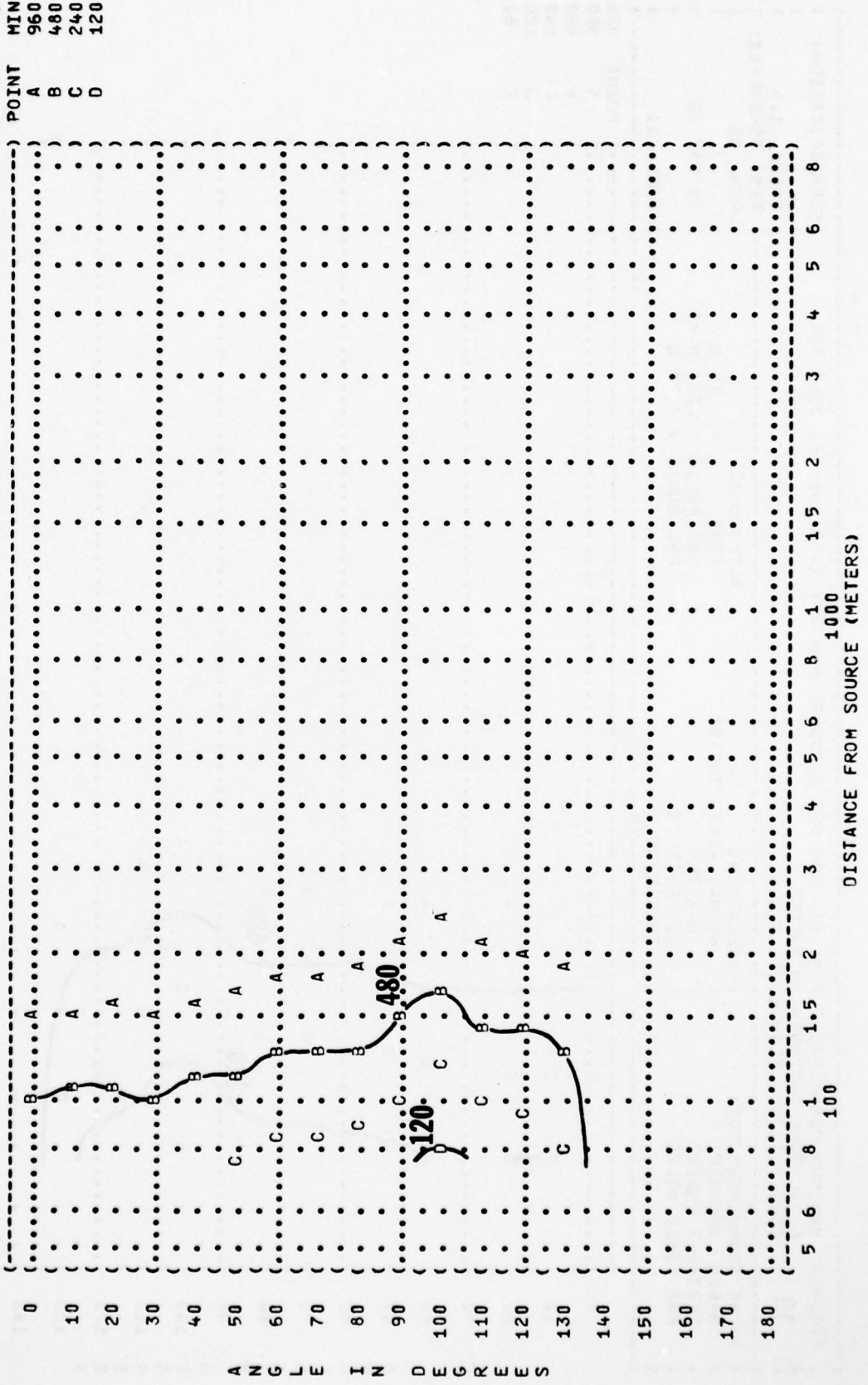
METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 05  
20 MAY 76  
PAGE 11



DISTANCE FROM SOURCE (METERS)

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( H-133 GROUND COMMUNICATION UNIT ) OMEGA 1.4 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) TEST 75-044-001 )  
 ( B-52H AIRCRAFT ) ( OPERATION: ) RUN 05 )  
 ( TF33-P-3 ENGINE ) ( NORMAL RATED THRUST ) TEMP = 15 C )  
 ( FAR FIELD NOISE ) ( 100% RPM ) BAR PRESS = .760 M HG )  
 ( ) ( ALL ENGINES ) REL HUMID = 70 % )  
 ( ) ( FREE FLOW ) ) PAGE 12 )



A N G L E I N D E R E E S

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

**11**

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 01

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

OPERATION:  
 IDLE  
 60% RPM  
 ALL ENGINES  
 FREE FLOW

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

PAGE 18

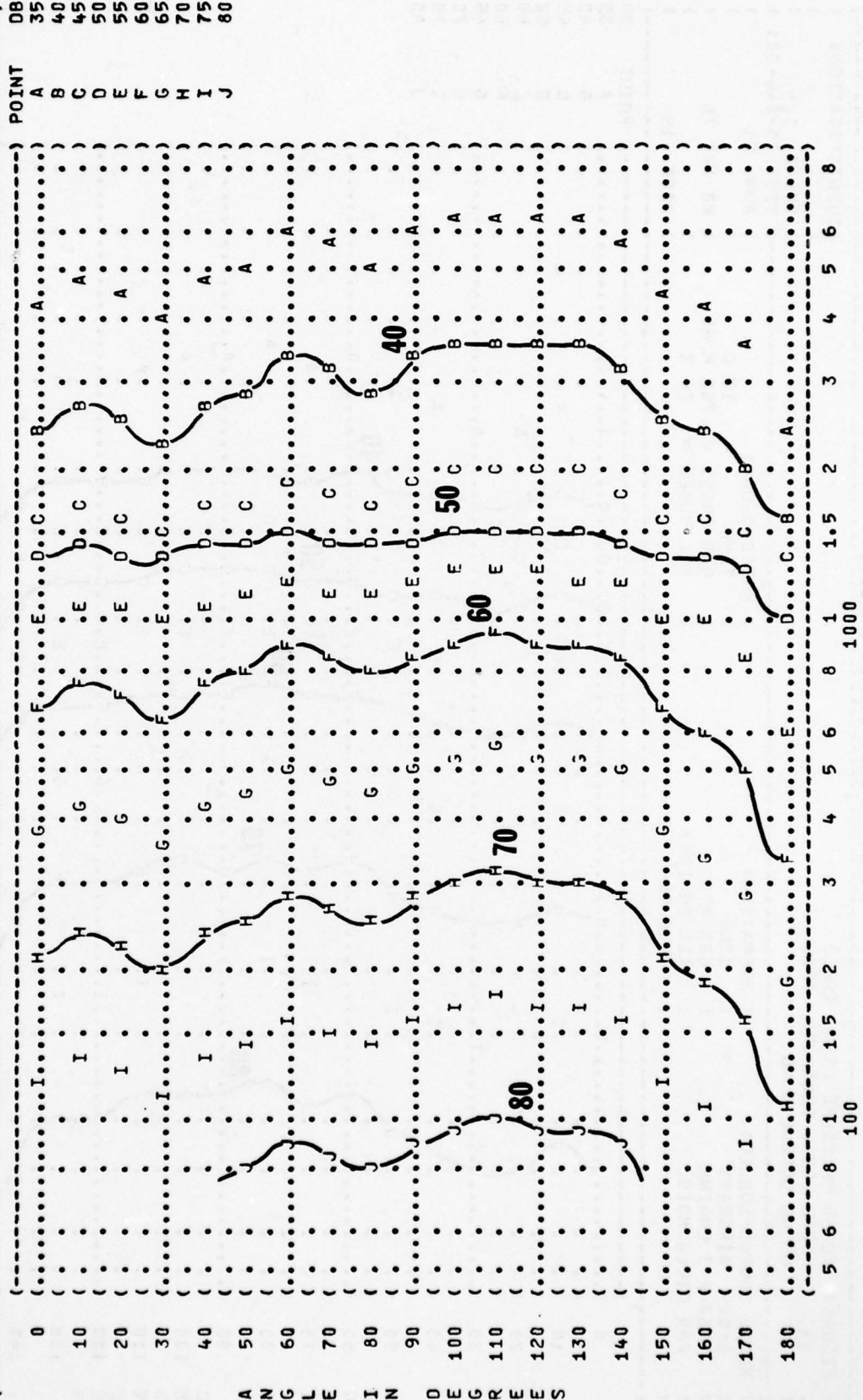


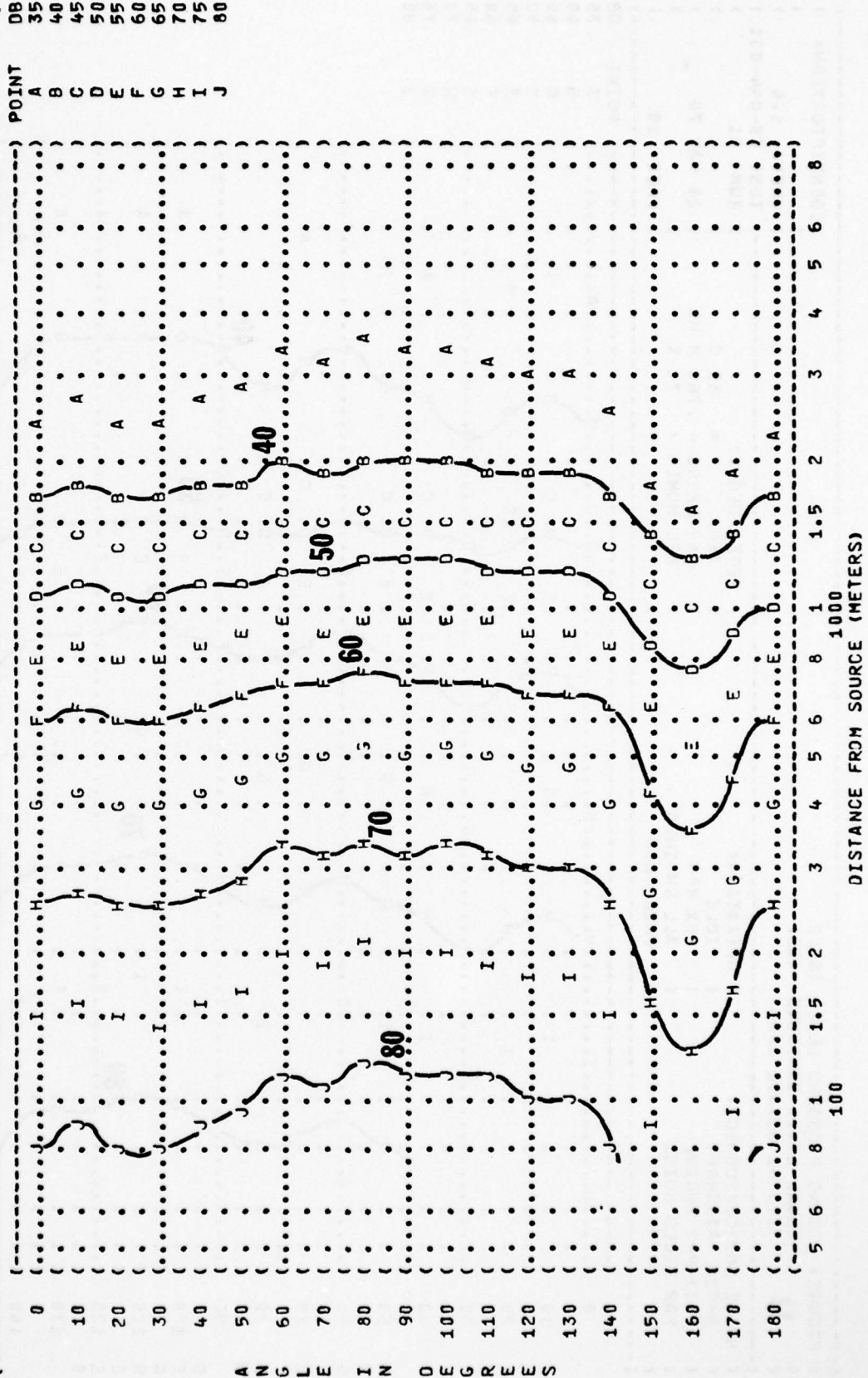
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4  
 TEST 75-044-001  
 RUN 01  
 28 MAY 76  
 PAGE 19

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

OPERATION: IDLE  
 60% RPM  
 ALL ENGINES  
 FREE FLOW

NOISE SOURCE/SUBJECT: B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

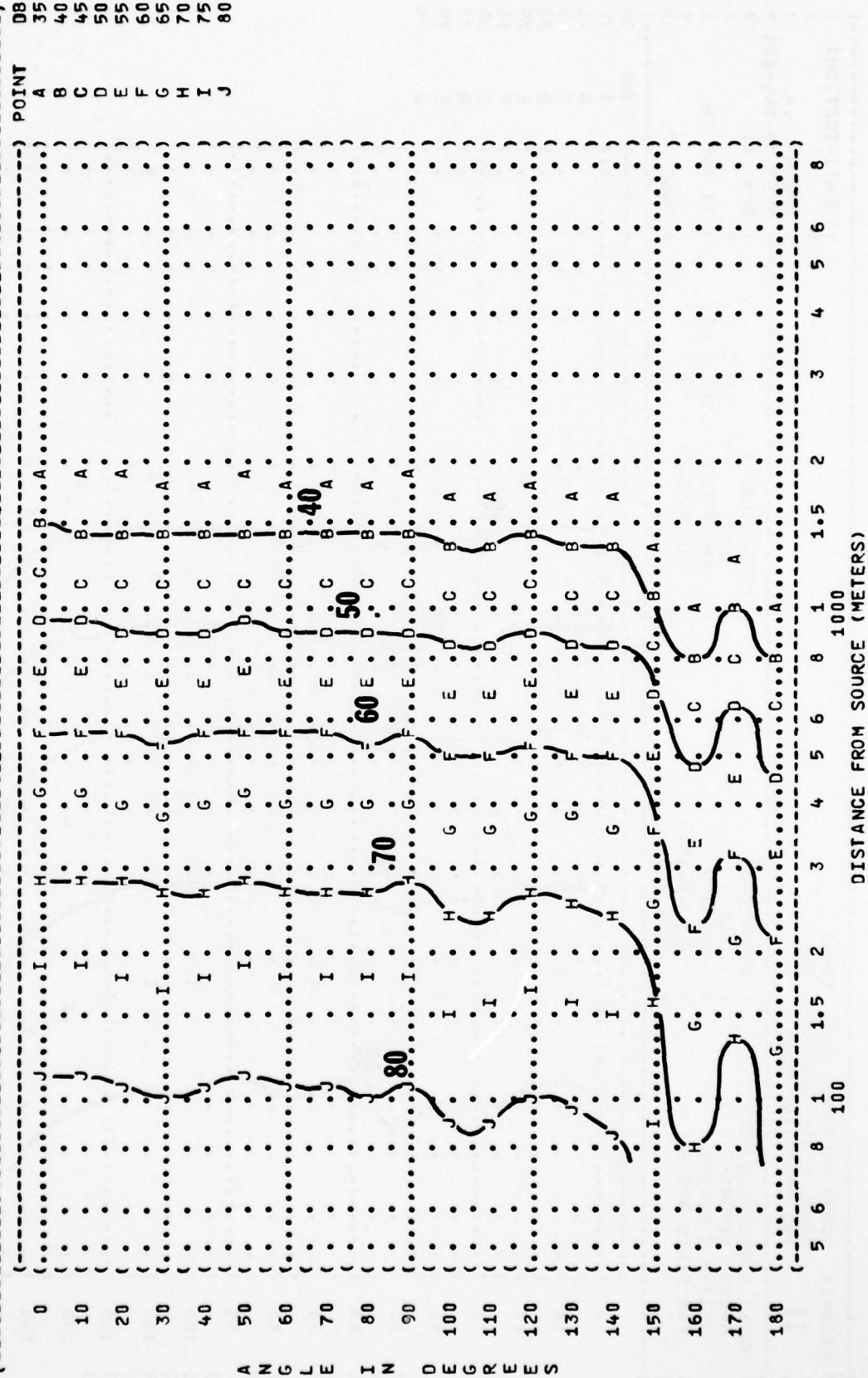


) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 01 )  
 ) 28 MAY 76 )  
 ) PAGE 20 )

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

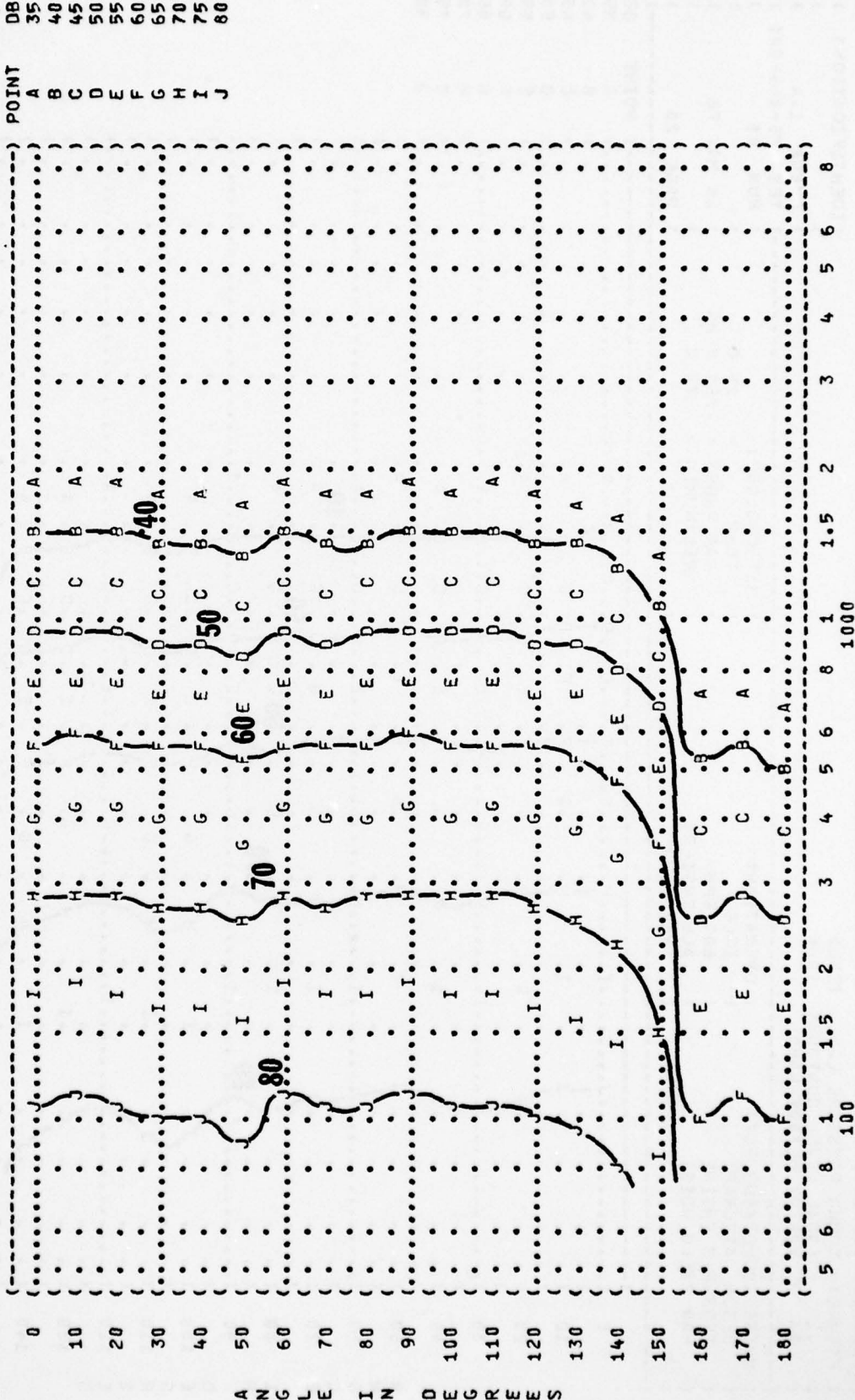
) OPERATION: )  
 ) ( IDLE )  
 ) ( 60% RPM )  
 ) ( ALL ENGINES )  
 ) ( FREE FLOW )

) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )





) IDENTIFICATION: )  
 ) )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 01 )  
 ) )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) )  
 ) 28 MAY 76 )  
 ) )  
 ) PAGE 21 )  
 ) )



DISTANCE FROM SOURCE (METERS)

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

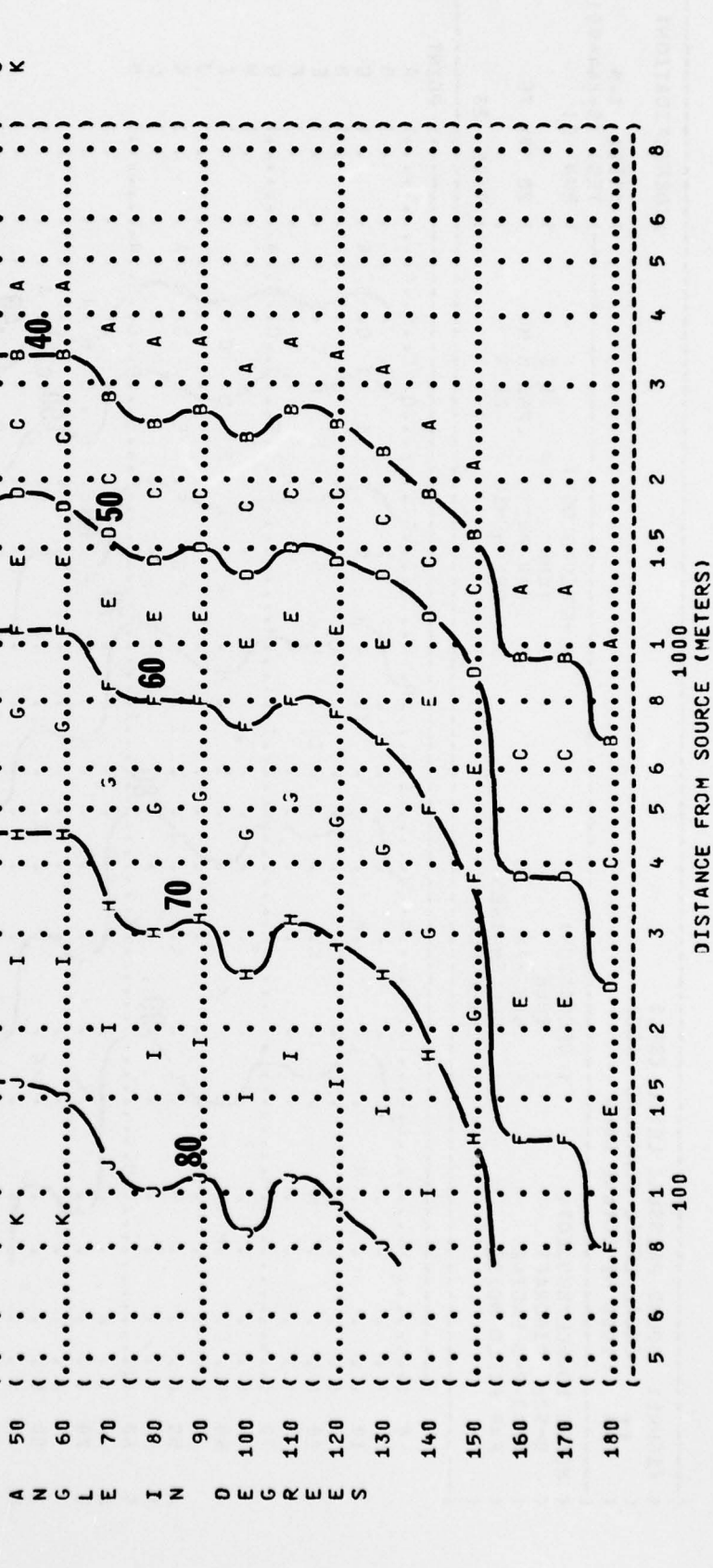
NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

OPERATION:  
 ( ) IDLE  
 ( ) 60% RPM  
 ( ) ALL ENGINES  
 ( ) FREE FLOW

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

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 01  
 28 MAY 76  
 PAGE 22

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

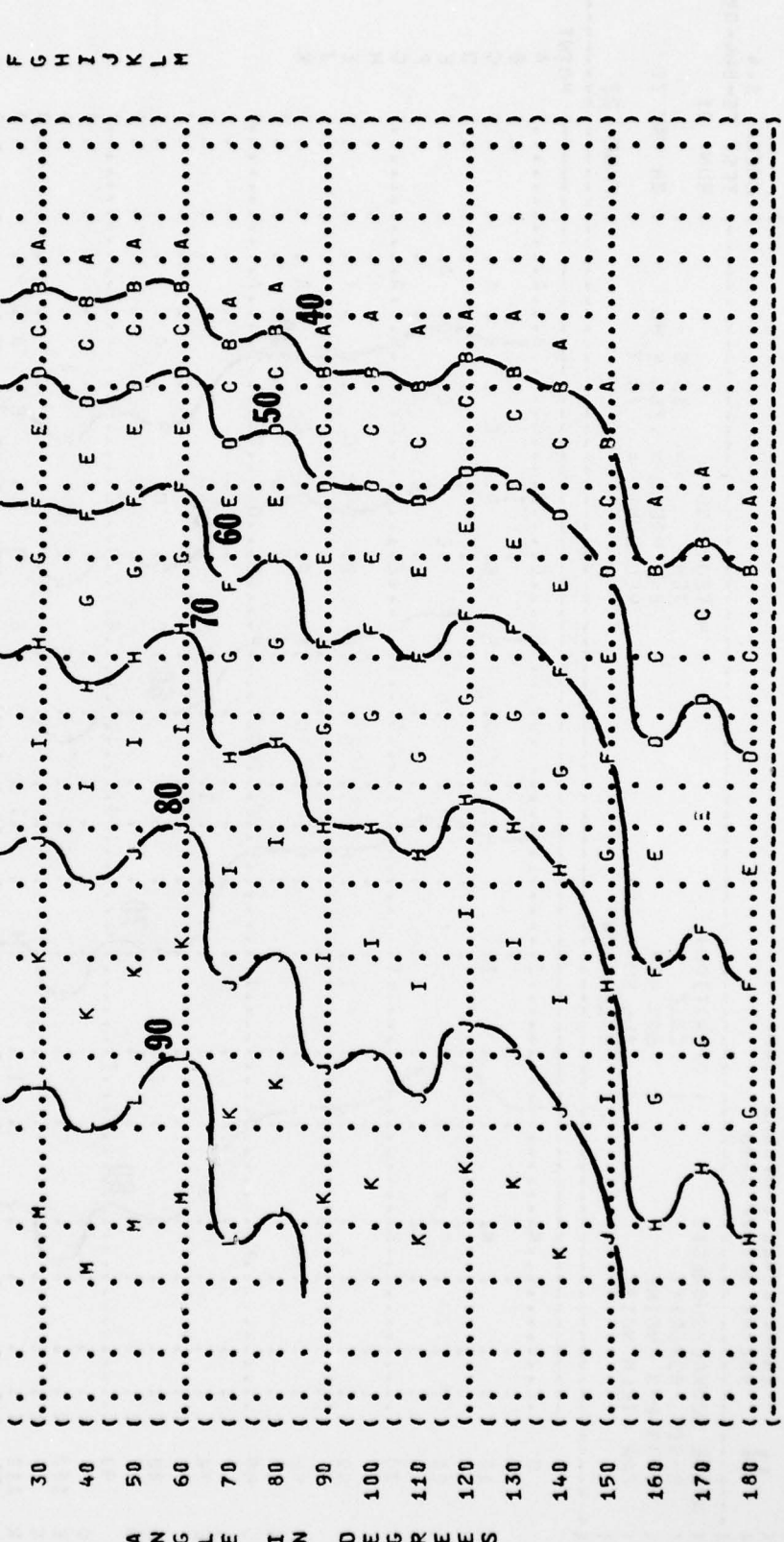


( FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 1000 HZ OCTAVE BAND

( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( B-52H AIRCRAFT ( IDLE  
 ( TF33-P-3 ENGINE ( 60% RPM  
 ( FAR FIELD NOISE ( ALL ENGINES  
 ( ( FREE FLOW

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

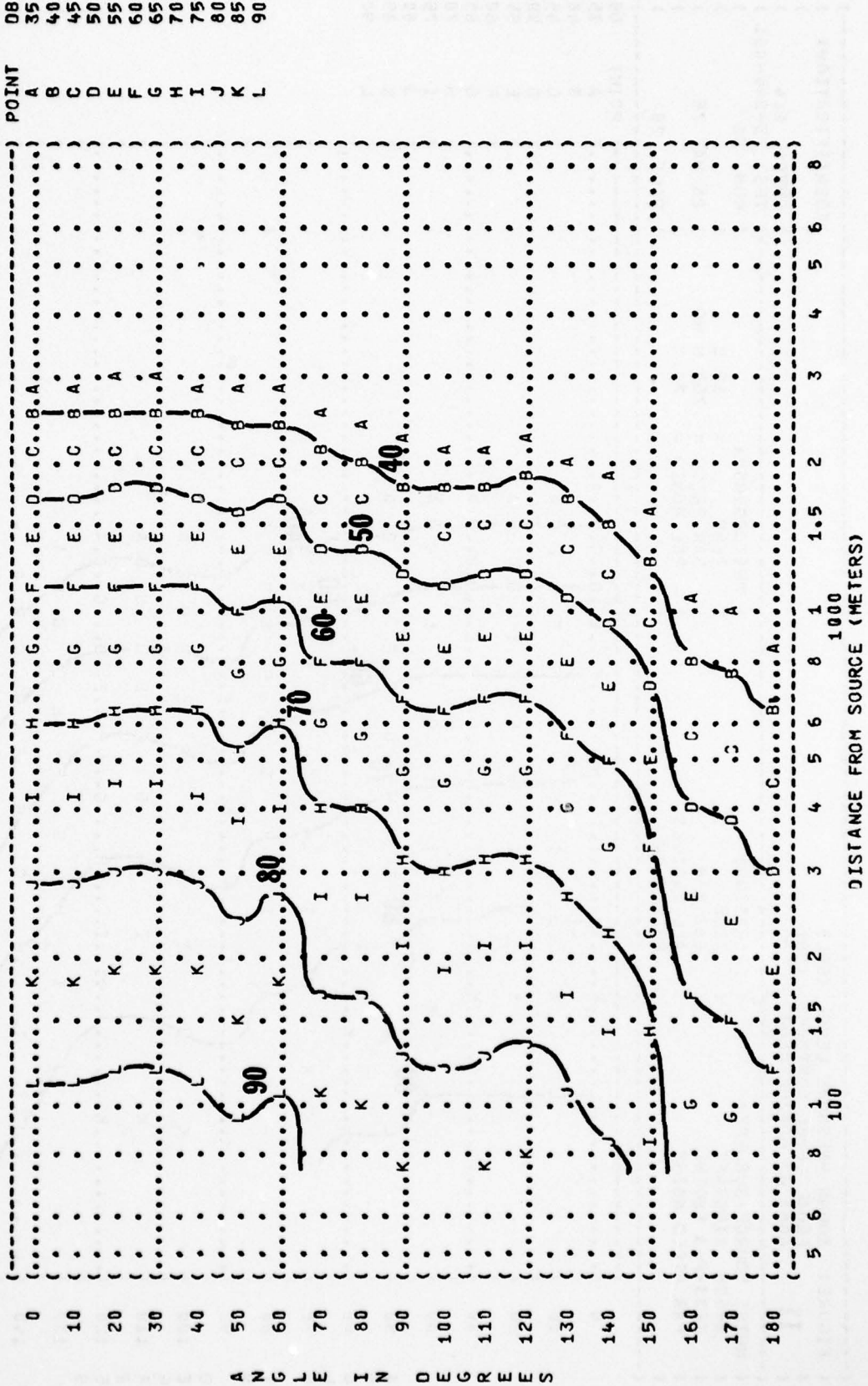
( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-044-001  
 ( RUN 01  
 ( 28 MAY 76  
 ( PAGE 23



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

DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( 11 EQUAL LEVEL CONTOURS (DB) ) OMEGA 1.4 )  
 ( 2000 HZ OCTAVE BAND ) TEST 75-044-001 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( B-52H AIRCRAFT ) TEMP = 15 C )  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ) ALL ENGINES )  
 ( FREE FLOW ) REL HUMID = 70 % )  
 ( ) RUN 01 )  
 ( ) 28 MAY 76 )  
 ( ) PAGE 24 )



A N G L E I N D E G R E E S

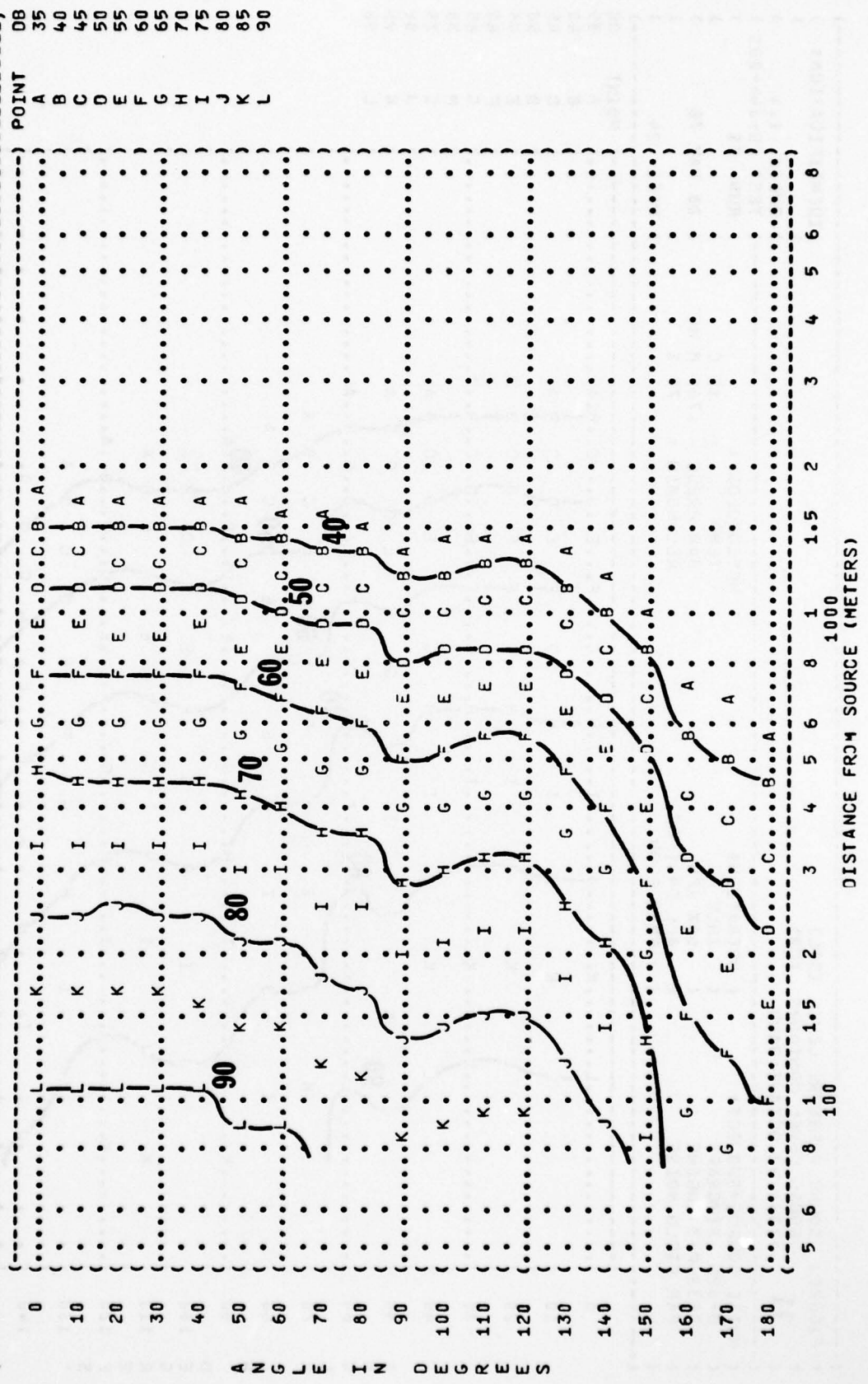
DISTANCE FROM SOURCE (METERS)

FIGURE 1 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

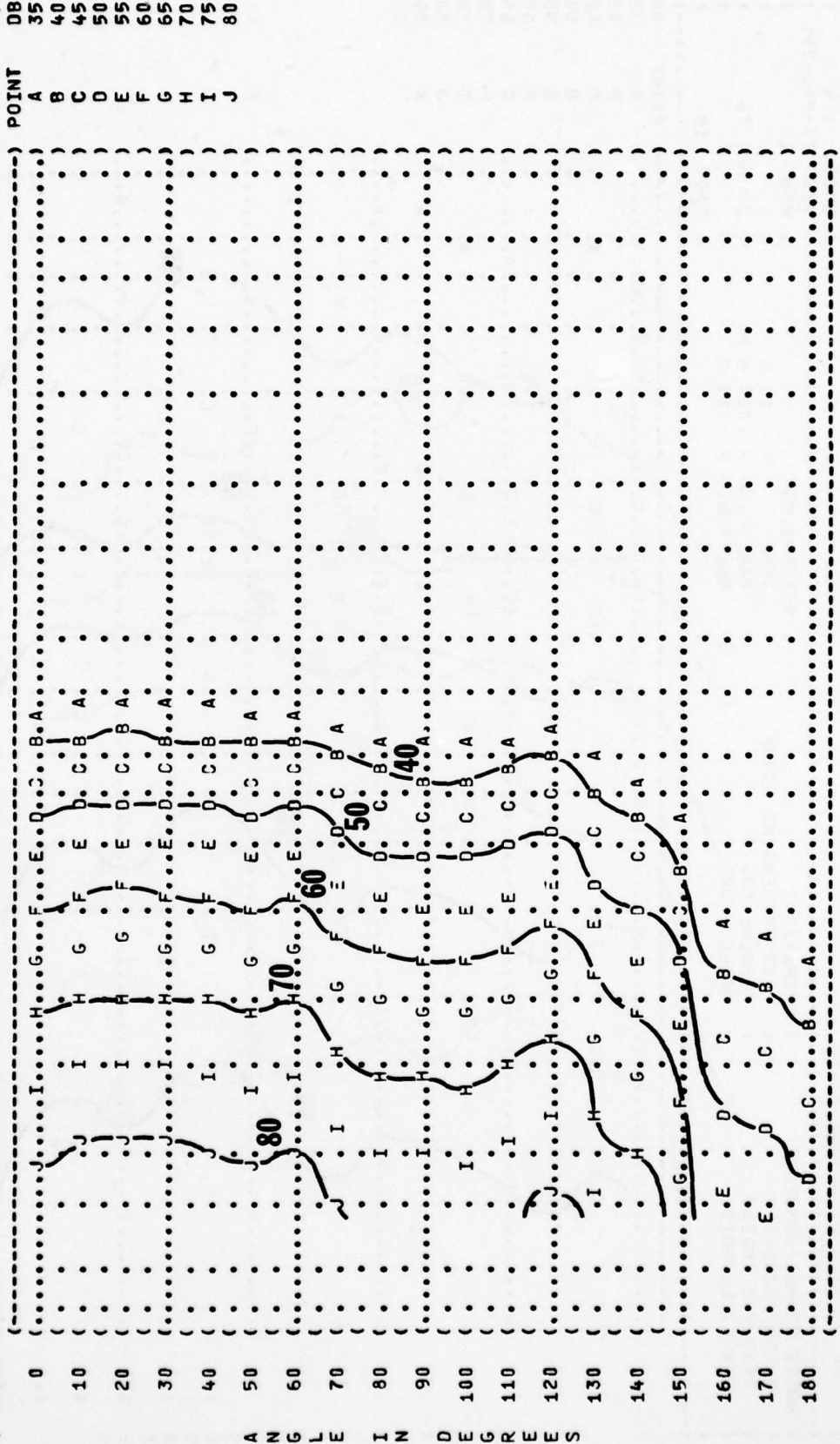
IDENTIFICATION: OMEGA 1.4 TEST 75-044-001 RUN 01

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: TEMP = 15 C  
 B-52H AIRCRAFT ( IDLE  
 TF33-P-3 ENGINE ( 60% RPM BAR PRESS = .760 M HG  
 FAR FIELD NOISE ( ALL ENGINES REL HUMID = 70 %  
 ( FREE FLOW )

PAGE 25



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( **11**  
 ( NOISE SOURCE/SUBJECT:  
 ( B-52H AIRCRAFT  
 ( TF33-P-3 ENGINE  
 ( FAR FIELD NOISE  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 01  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 26  
 ( ) POINT DB  
 ( ) A 35  
 ( ) B 40  
 ( ) C 45  
 ( ) D 50  
 ( ) E 55  
 ( ) F 60  
 ( ) G 65  
 ( ) H 70  
 ( ) I 75  
 ( ) J 80



A  
 N  
 G  
 L  
 E  
 I  
 N  
 D  
 E  
 G  
 R  
 E  
 E  
 S

DISTANCE FROM SOURCE (METERS)

IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-044-001 )  
 RUN 02 )  
 METEOROLOGY: )  
 TEMP = 15 C )  
 BAR PRESS = .760 M HG )  
 REL HUMID = 70 % )  
 OPERATION: )  
 80% RPM ENGINE RUNUP )  
 ENGINE NO. 4 )  
 FREE FLOW )  
 NOISE SOURCE/SUBJECT: )  
 B-52H AIRCRAFT )  
 TF33-P-3 ENGINE )  
 FAR FIELD NOISE )  
 PAGE 18 )

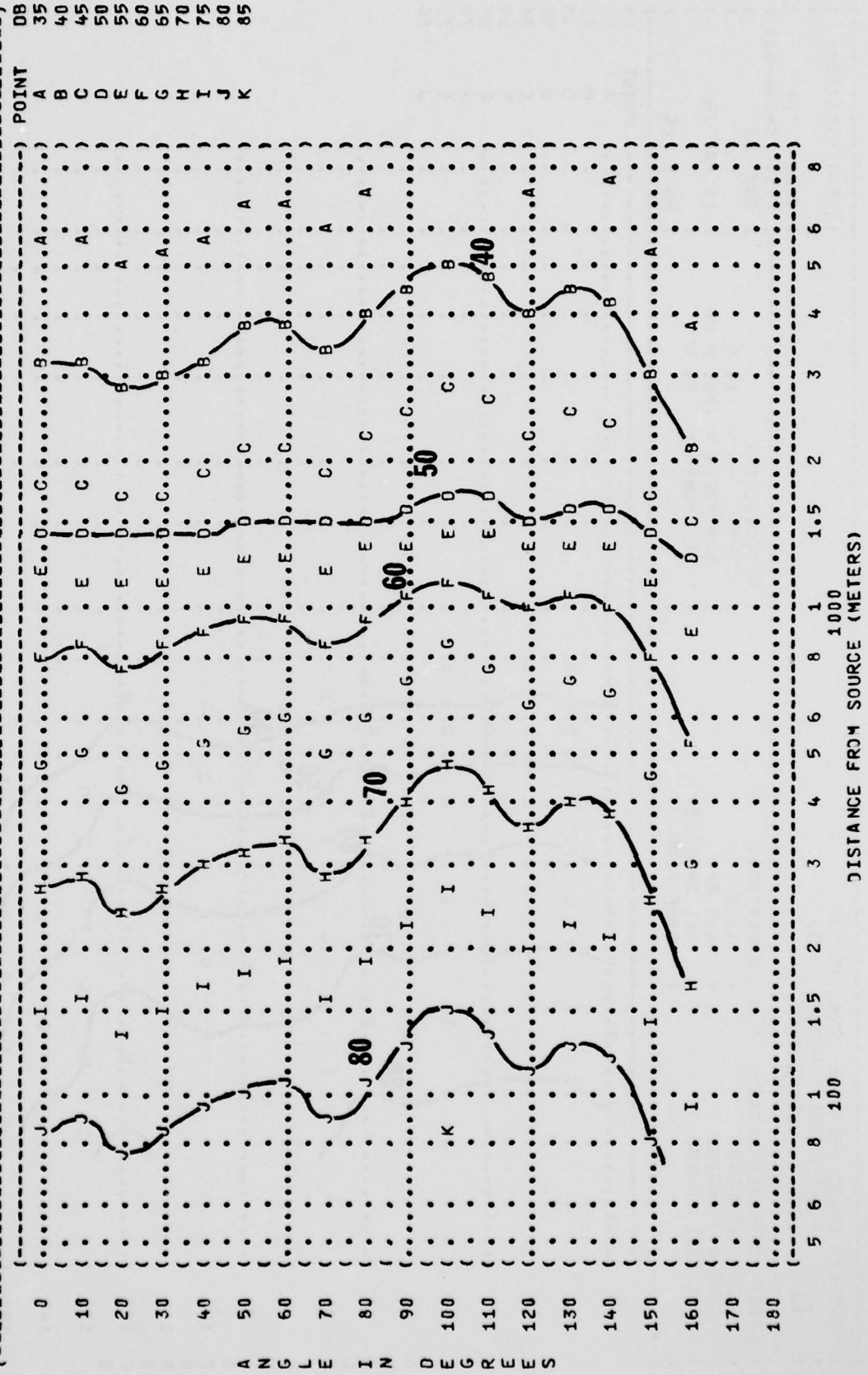


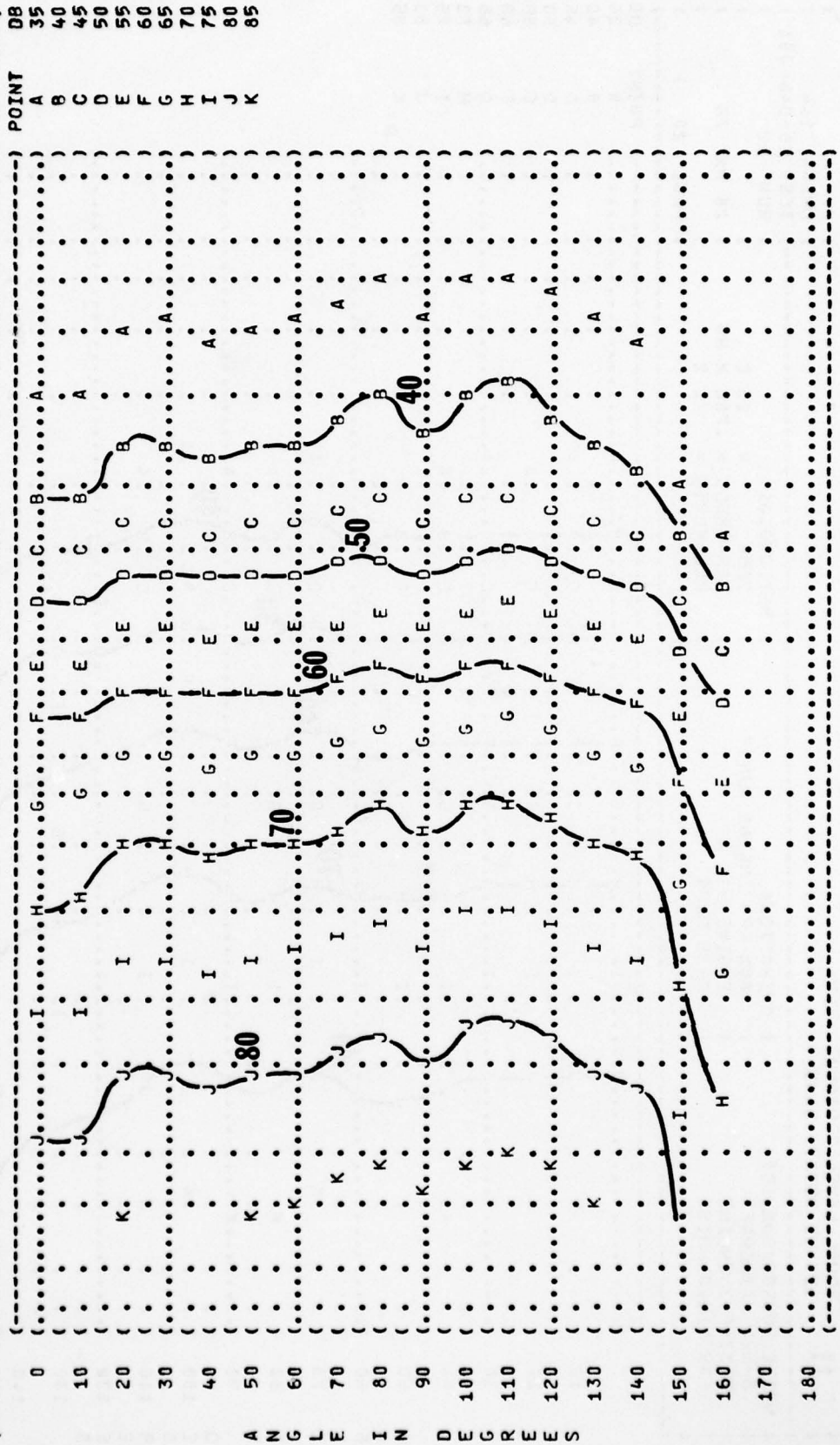
FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 31.5 HZ OCTAVE BAND

DISTANCE FROM SOURCE (METERS)

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 02 )  
 ) 28 MAY 76 )  
 ) PAGE 19 )  
 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 )  
 ) OPERATION: )  
 ) 80% RPM ENGINE RUNUP )  
 ) ENGINE NO. 4 )  
 ) FREE FLOW )  
 )  
 ) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )  
 )

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

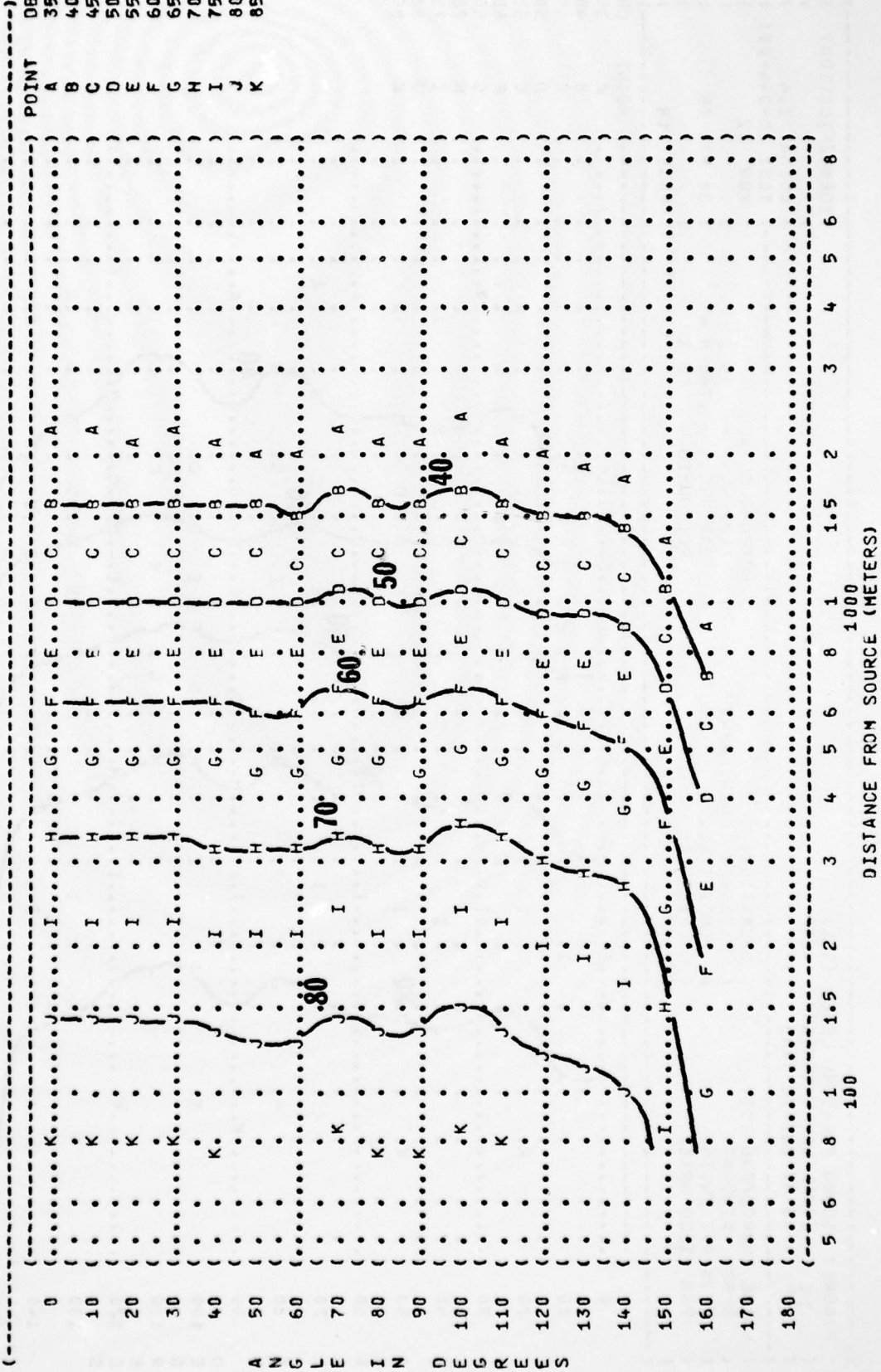
11



DISTANCE FROM SOURCE (METERS)



( ( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( ( 11 EQUAL LEVEL CONTOURS (DB) ) )  
 ( ( 125 HZ OCTAVE BAND ) )  
 ( ( NOISE SOURCE/SUBJECT: ) )  
 ( ( 8-52H AIRCRAFT ) )  
 ( ( TF33-P-3 ENGINE ) )  
 ( ( FAR FIELD NOISE ) )  
 ( ( OPERATION: ) )  
 ( ( 80% RPM ENGINE RUNUP ) )  
 ( ( ENGINE NO. 4 ) )  
 ( ( FREE FLOW ) )  
 ( ( METEOROLOGY: ) )  
 ( ( TEMP = 15 C ) )  
 ( ( BAR PRESS = .760 M HG ) )  
 ( ( REL HUMID = 70 % ) )  
 ( ( TEST 75-044-001 ) )  
 ( ( RUN 02 ) )  
 ( ( 20 MAY 76 ) )  
 ( ( PAGE 20 ) )



AD-A048 929

AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 82. B-52H AIR--ETC(U)  
FEB 77 R G POWELL

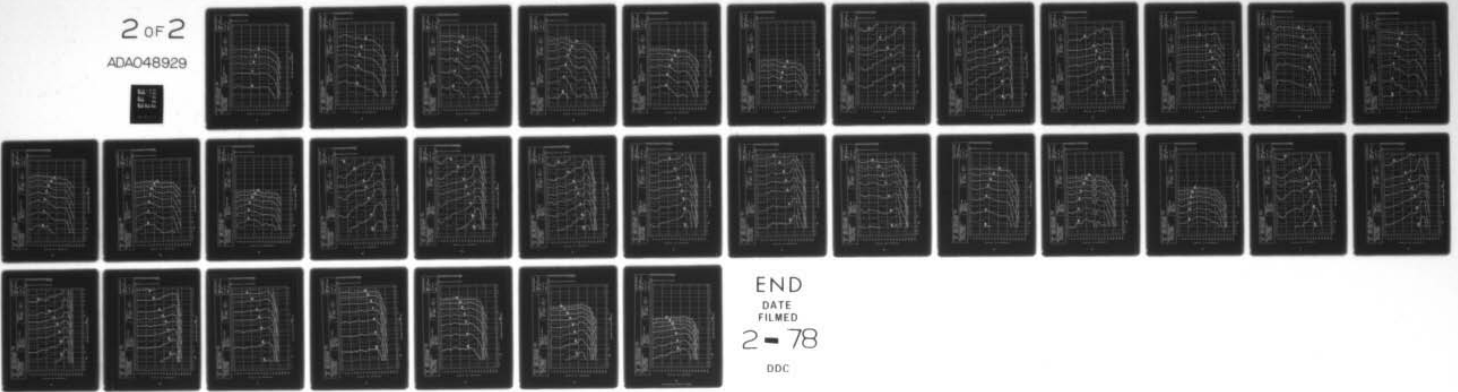
UNCLASSIFIED

AMRL-TR-75-50-VOL-82

NL

2 of 2

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END  
DATE  
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2 - 78  
DDC

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

11

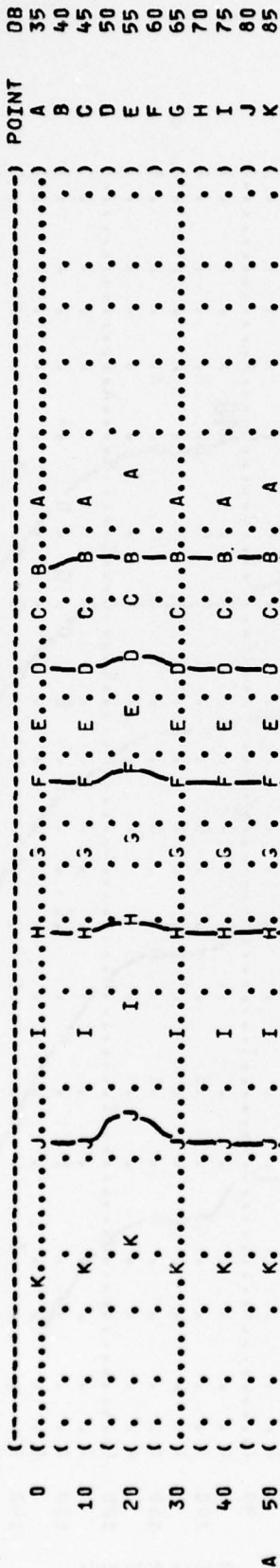
IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 02

NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE

OPERATION:  
80% RPM ENGINE RUNUP  
ENGINE NO. 4  
FREE FLOW

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

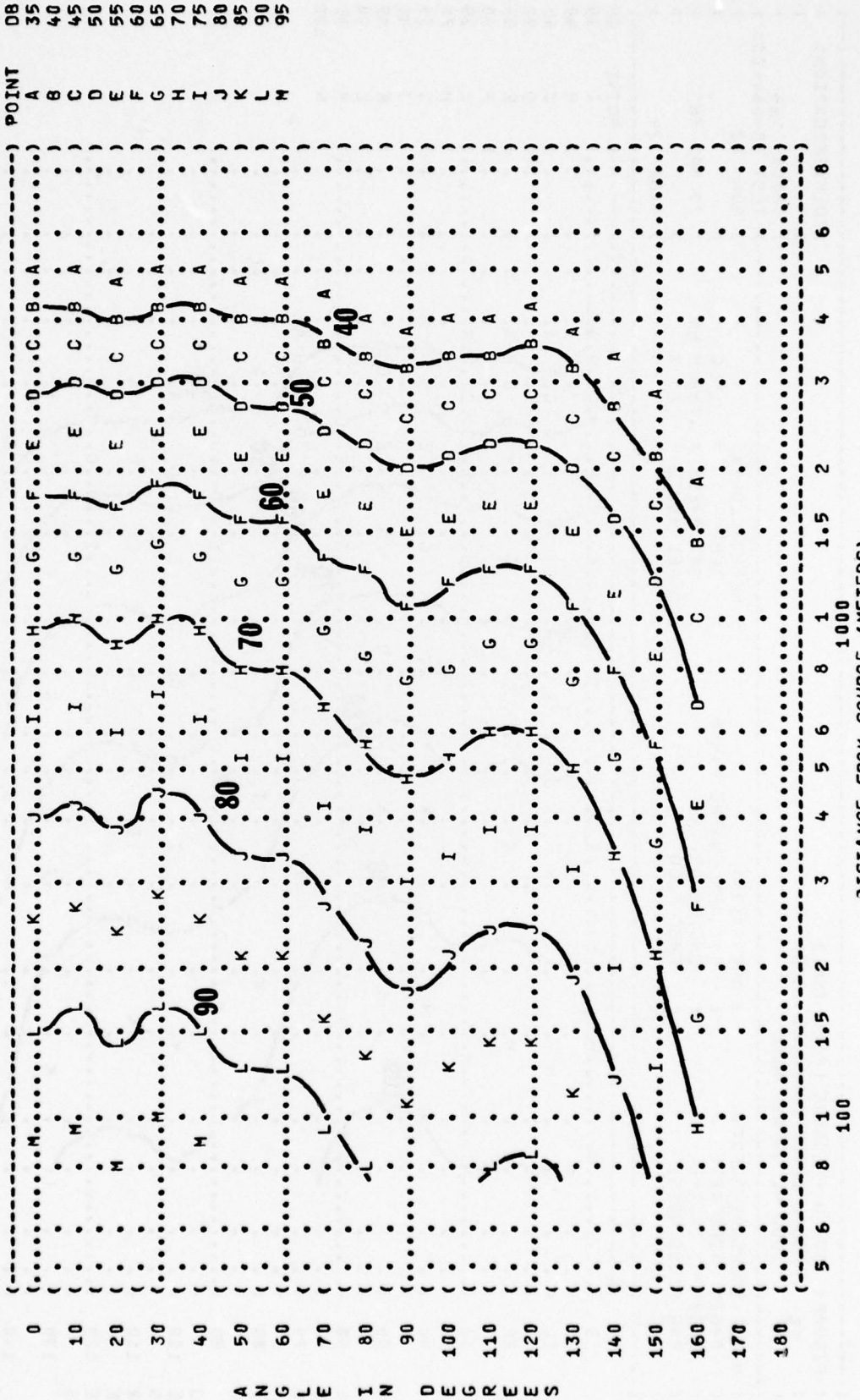
PAGE 21



DISTANCE FROM SOURCE (METERS)



) IDENTIFICATION:  
 )  
 ) OMEGA 1.4  
 ) TEST 75-044-001  
 ) RUN 02  
 )  
 ) NOISE SOURCE/SUBJECT: METEOROLOGY: = 15 C  
 ) B-52H AIRCRAFT ) TEMP  
 ) TF33-P-3 ENGINE ) BAR PRESS = .760 M HG  
 ) FAR FIELD NOISE ) REL HUMID = 70 %  
 ) PAGE 23

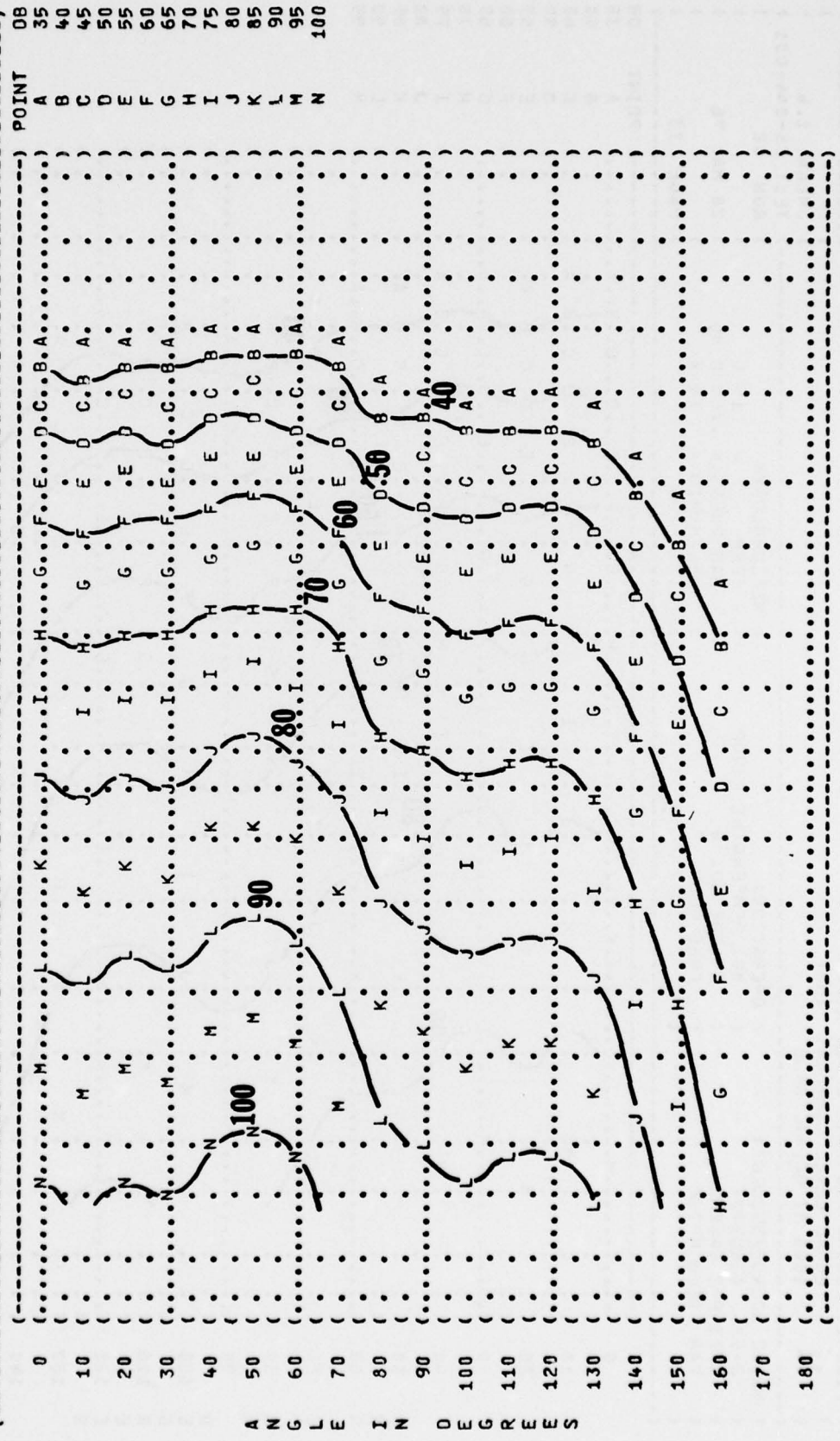


A N G L E I N D E G R E E S

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

11

IDENTIFICATION: OMEGA 1.4  
TEST 75-044-001  
RUN 02  
METEOROLOGY: TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %  
OPERATION: 80% RPM ENGINE RUNUP  
ENGINE NO. 4  
FREE FLOW  
NOISE SOURCE/SUBJECT: B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE



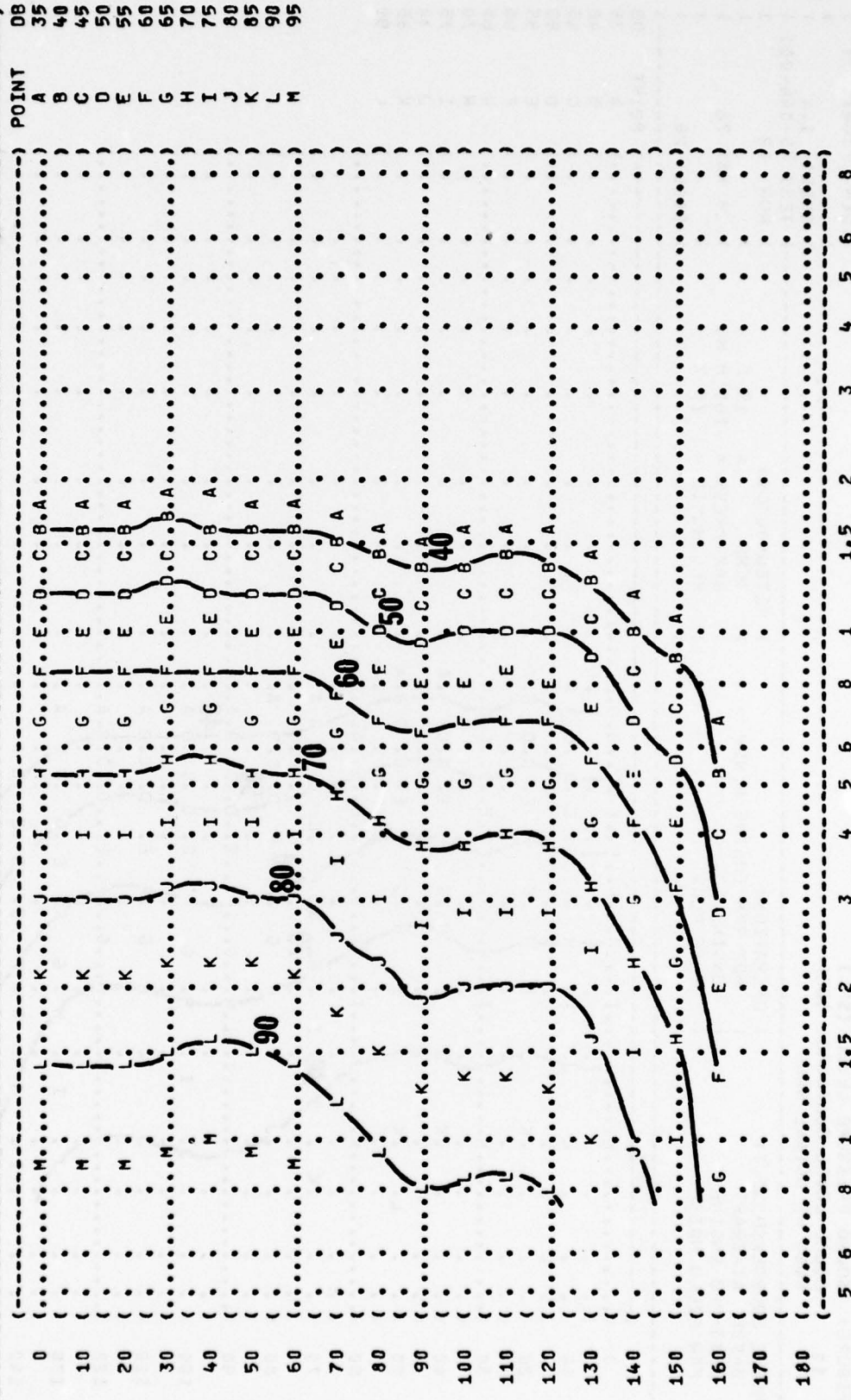
5 6 8 1 1.5 2 3 4 5 6 8  
100  
1000  
DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

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

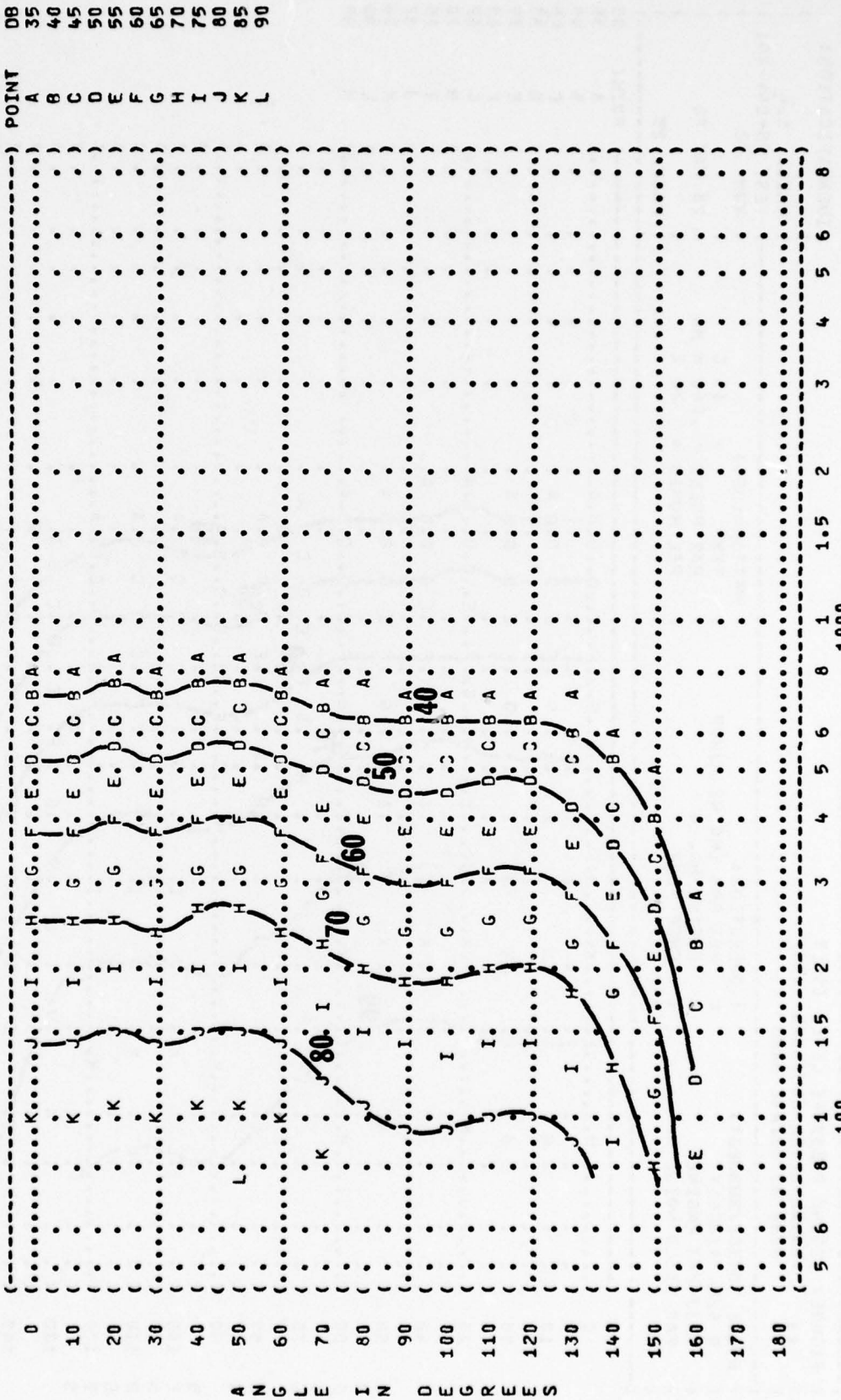
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IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 02  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION:  
 80% RPM ENGINE RJNUP  
 ENGINE NO. 4  
 FREE FLOW  
 28 MAY 76  
 PAGE 25



DISTANCE FROM SOURCE (METERS)

) IDENTIFICATION: )  
 ) )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 02 )  
 ) )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) )  
 ) PAGE 26 )  
 ) )

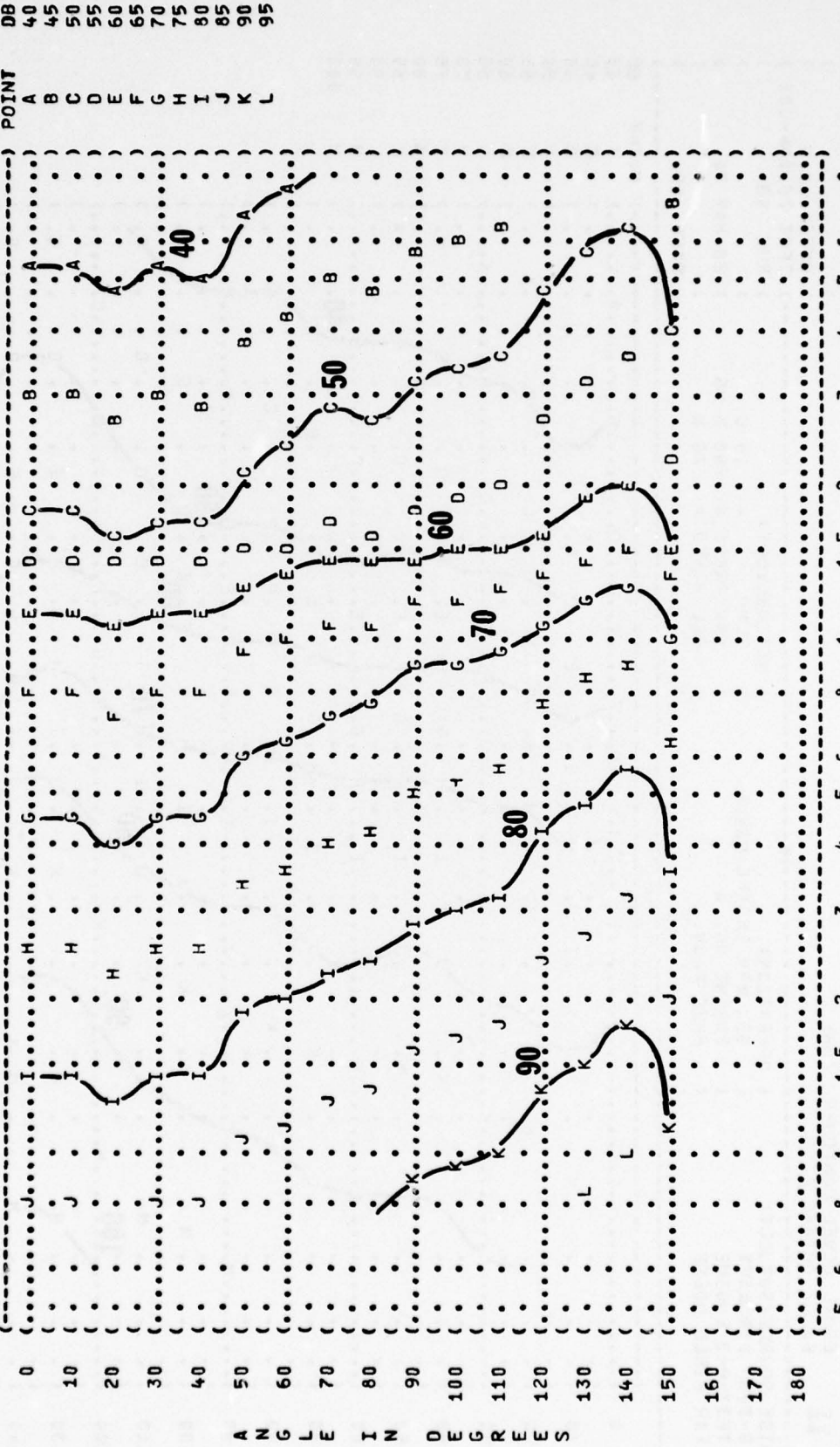


DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S  
 35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 31.5 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( OPERATION: ( 95% RPM ENGINE RJNUP  
 ( B-52H AIRCRAFT ( ENGINE NO. 4  
 ( TF33-P-3 ENGINE ( FREE FLOW  
 ( FAR FIELD NOISE ( )  
 ( )  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( )  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 03  
 ( ) 28 MAY 76  
 ( ) PAGE 18  
 ( )

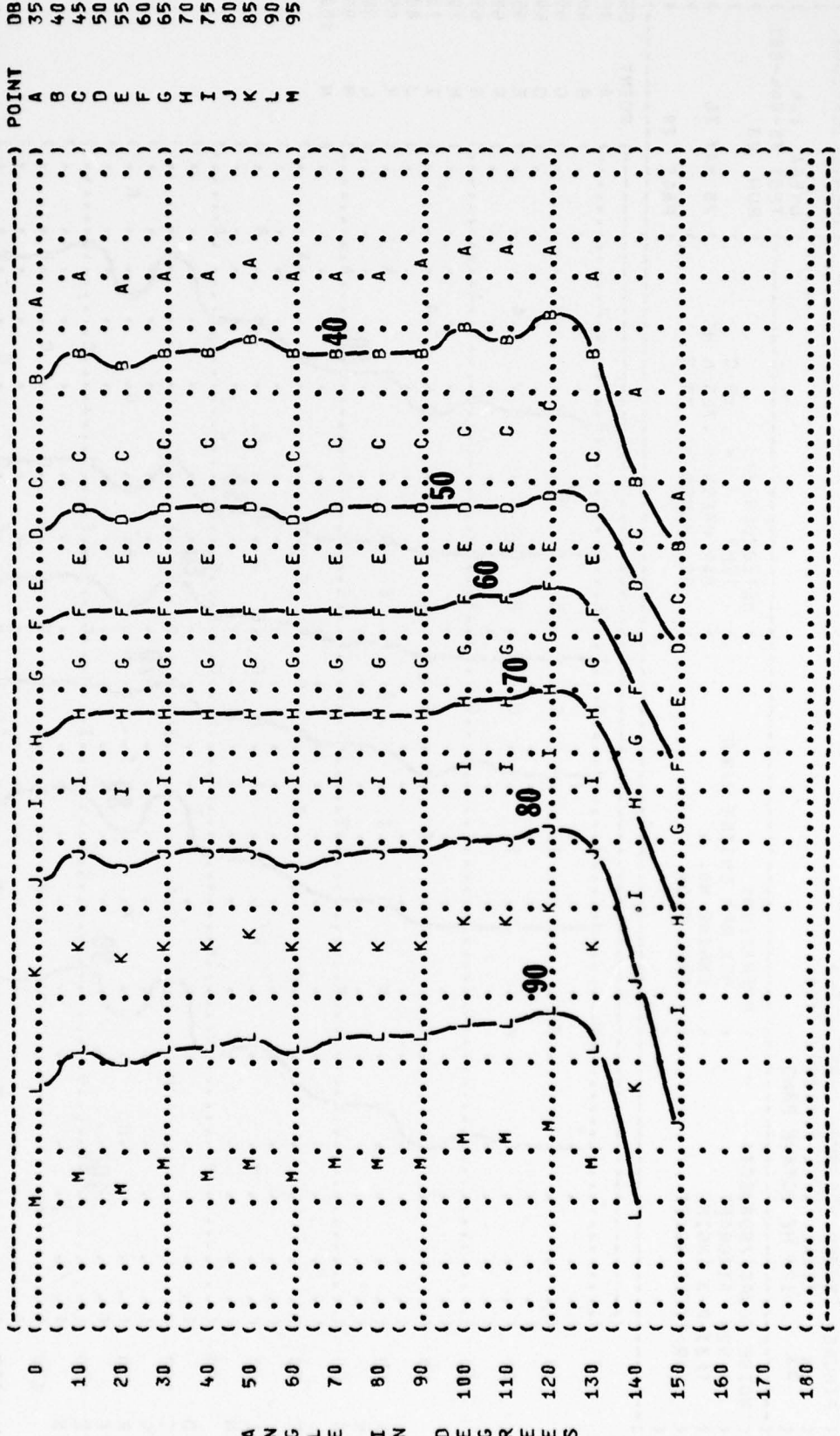


A N G L E I N D E G R E E S





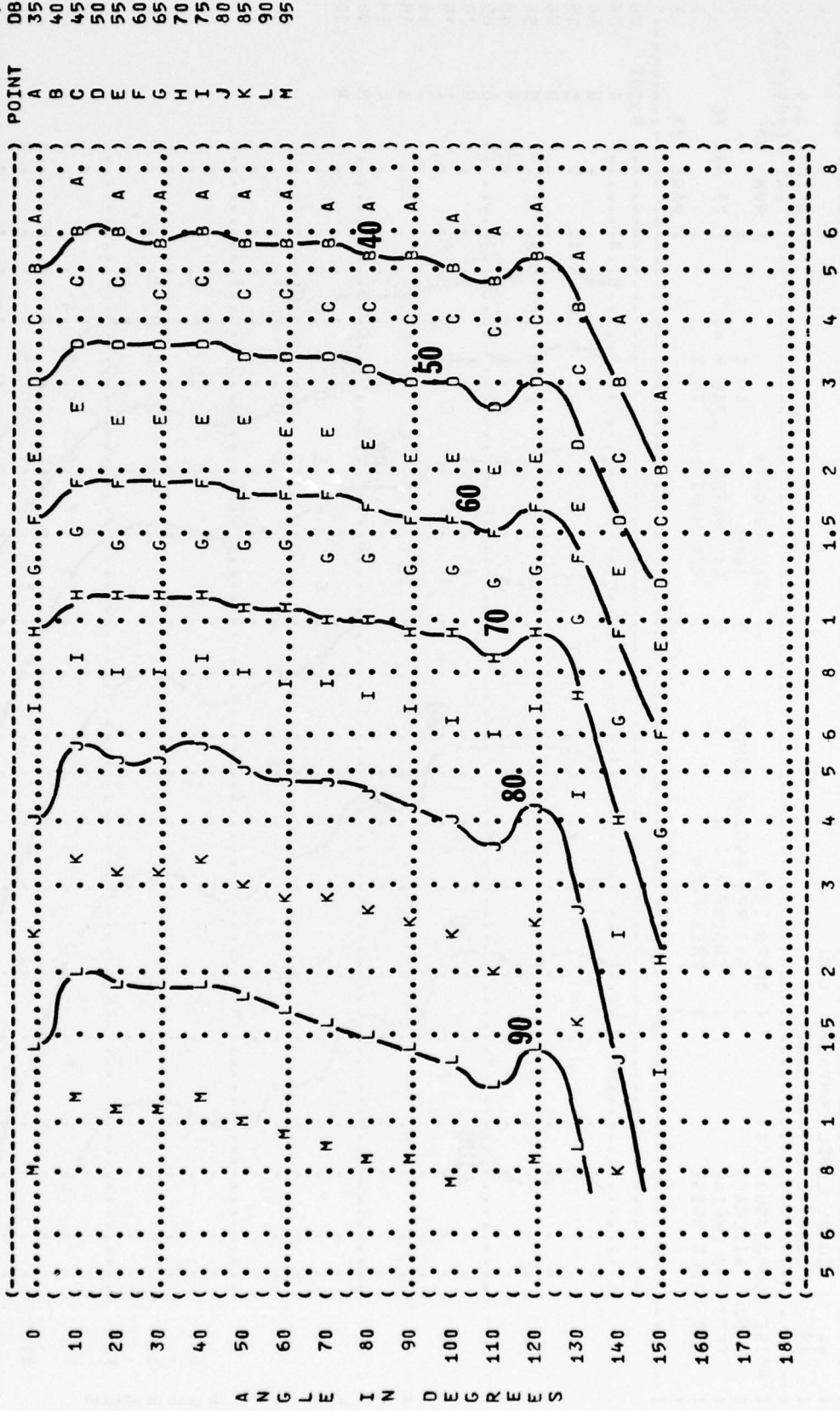
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 250 HZ OCTAVE BAND  
 ( ) IDENTIFICATION:  
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 ( ) TEST 75-044-001  
 ( ) RUN 03  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 28 MAY 76  
 ( ) PAGE 21  
 ( )



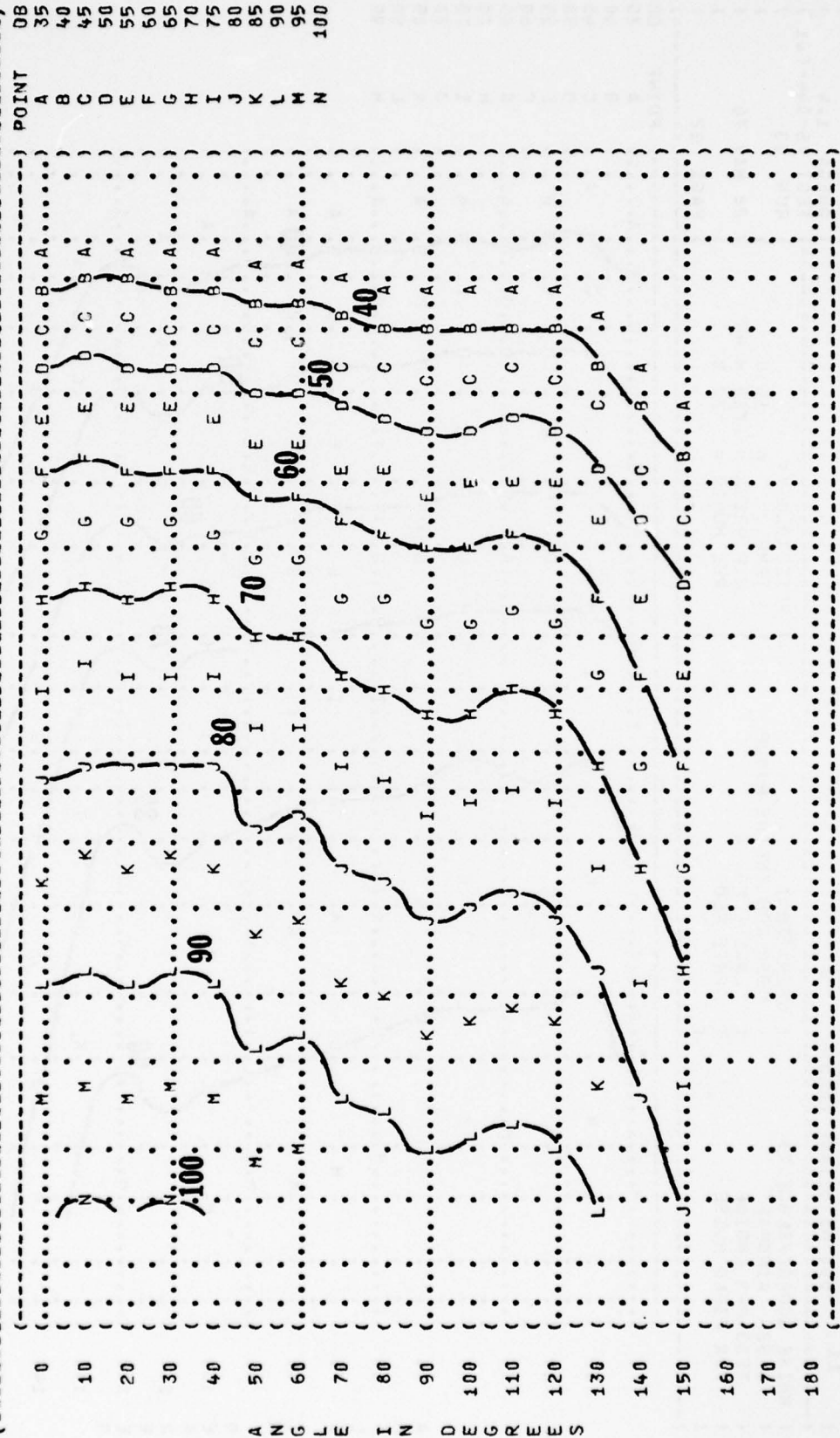
( ) POINT DB  
 ( ) A 35  
 ( ) B 40  
 ( ) C 45  
 ( ) D 50  
 ( ) E 55  
 ( ) F 60  
 ( ) G 65  
 ( ) H 70  
 ( ) I 75  
 ( ) J 80  
 ( ) K 85  
 ( ) L 90  
 ( ) M 95

DISTANCE FROM SOURCE (METERS)  
 100  
 1000

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 500 HZ OCTAVE BAND  
 ( IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 03  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY:  
 ( B-52H AIRCRAFT ) TEMP = 15 C  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ) REL HUMID = 70 %  
 ( ) )  
 ( ) PAGE 22  
 ( ) )



IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 03  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 PAGE 23



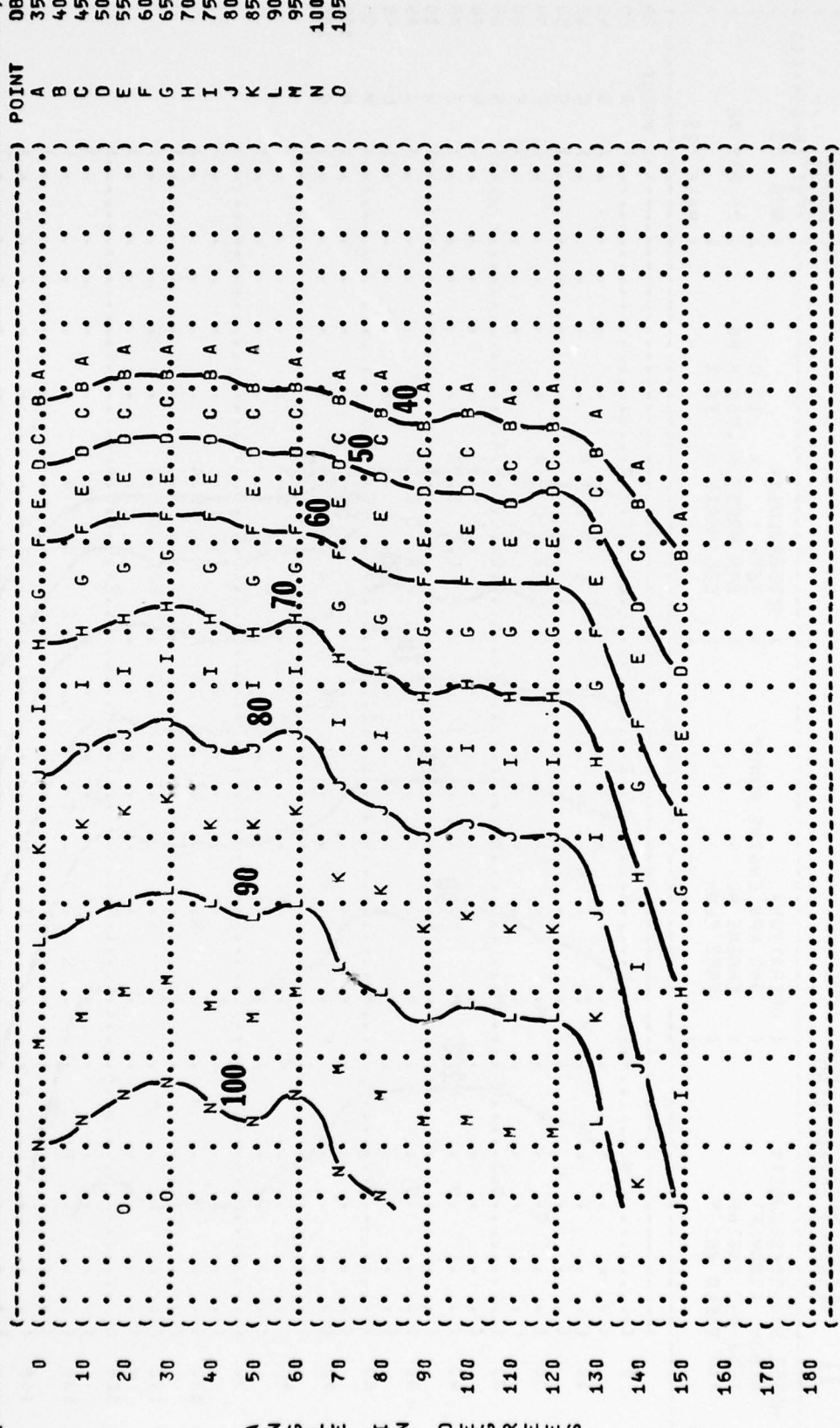
POINT  
 A 35  
 B 40  
 C 45  
 D 50  
 E 55  
 F 60  
 G 65  
 H 70  
 I 75  
 J 80  
 K 85  
 L 90  
 M 95  
 N 100

FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 1000 HZ OCTAVE BAND  
 11  
 NOISE SOURCE/SUBJECT:  
 R-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE  
 OPERATION:  
 95% RPM ENGINE RUNUP  
 ENGINE NO. 4  
 FREE FLOW

A N G L E I N D E G R E E S

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

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 03  
METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %  
OPERATION:  
95% RPM ENGINE RJNUP  
ENGINE NO. 4  
FREE FLOW



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

DISTANCE FROM SOURCE (METERS)

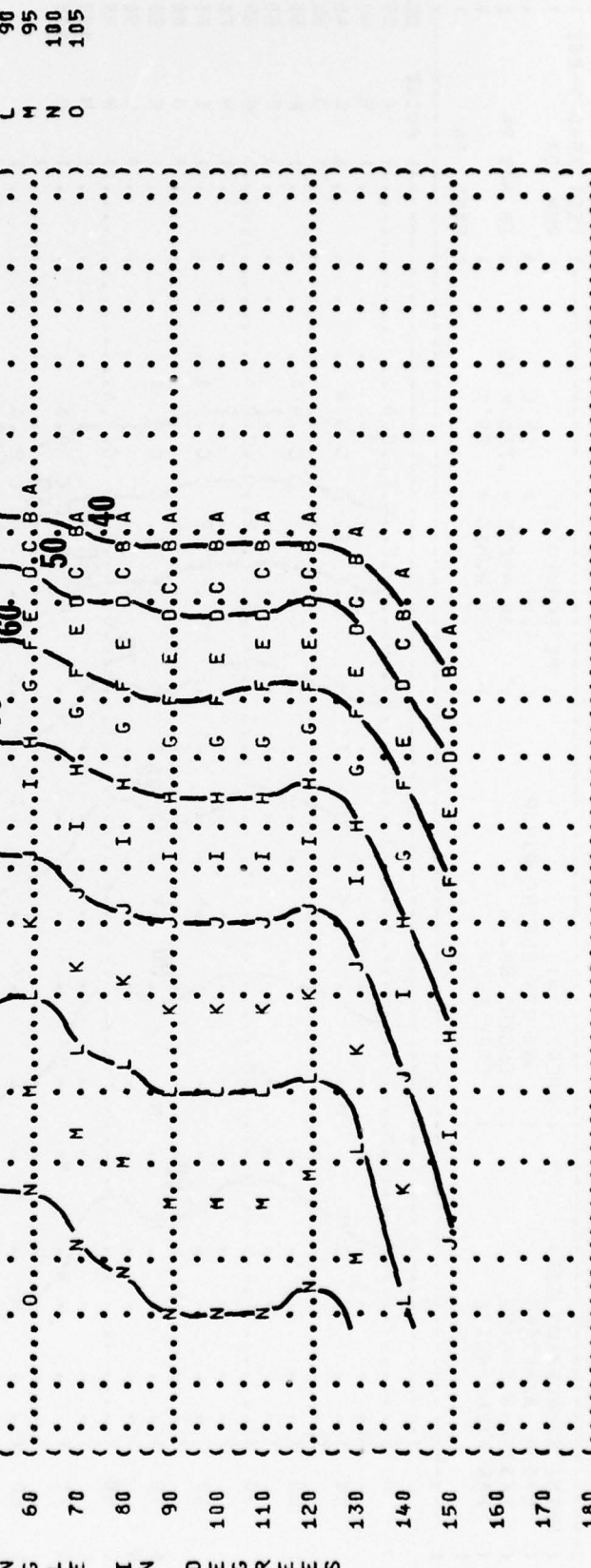
FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE

OPERATION:  
95% RPM ENGINE RJNUP  
ENGINE NO. 4  
FREE FLOW

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

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 03  
28 MAY 76  
PAGE 25



POINT  
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

DB  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95  
100  
105

DISTANCE FROM SOURCE (METERS)

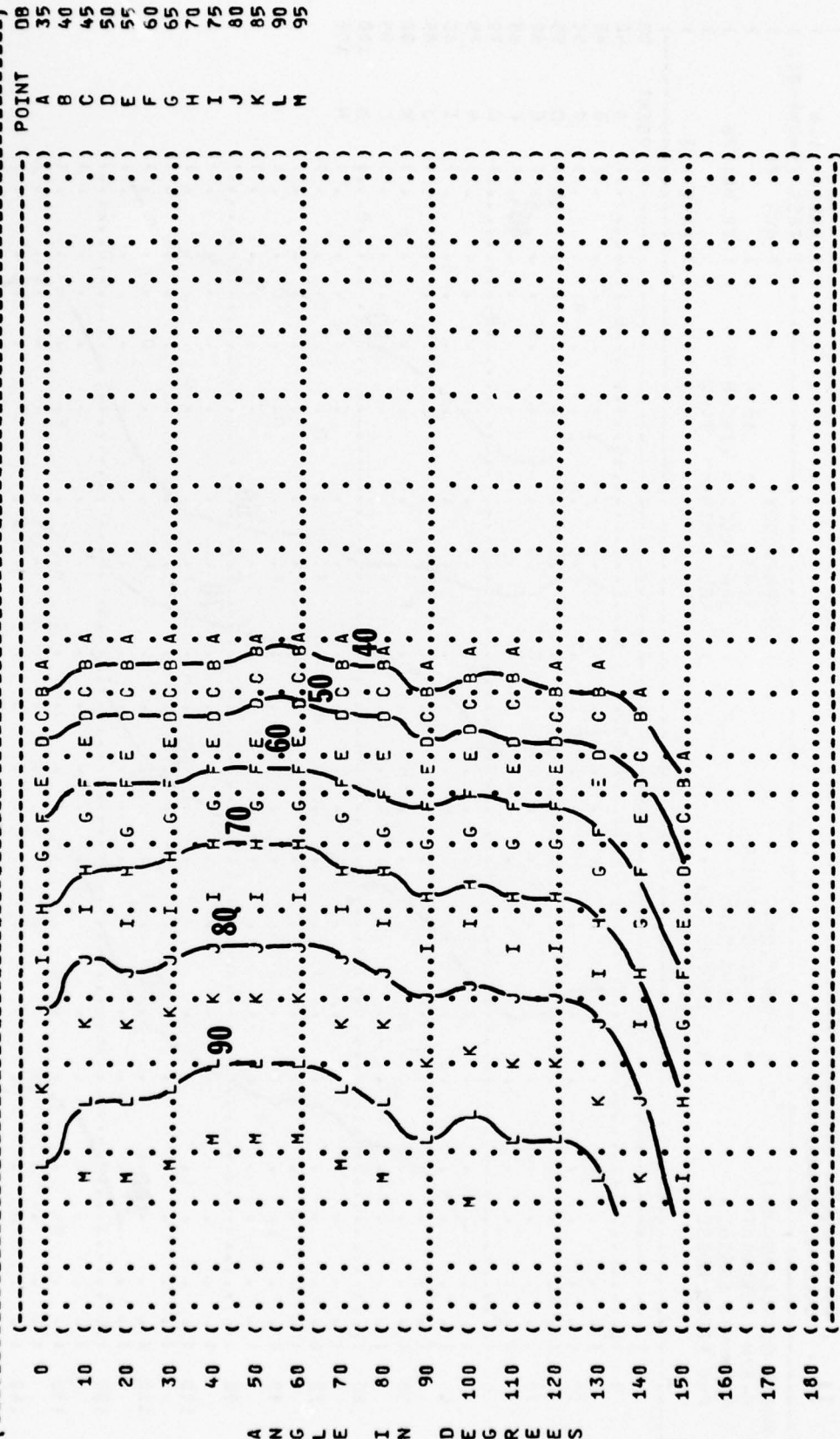
100

1000



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

IDENTIFICATION: OMEGA 1.4 TEST 75-044-001 RUN 03  
 METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %  
 OPERATION: 95% RPM ENGINE RJNUP  
 SUBJECT: B-52H AIRCRAFT TF33-P-3 ENGINE FAR FIELD NOISE



5 6 8 1 1.5 2 3 4 5 6 8 100 1000  
 DISTANCE FROM SOURCE (METERS)

FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUIL LEVEL CONTOURS (DB)  
31.5 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE

OPERATION:  
MAXIMUM POWER  
104% RPM  
ENGINE NO. 4  
FREE FLOW

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

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 04  
28 MAY 76  
PAGE 18

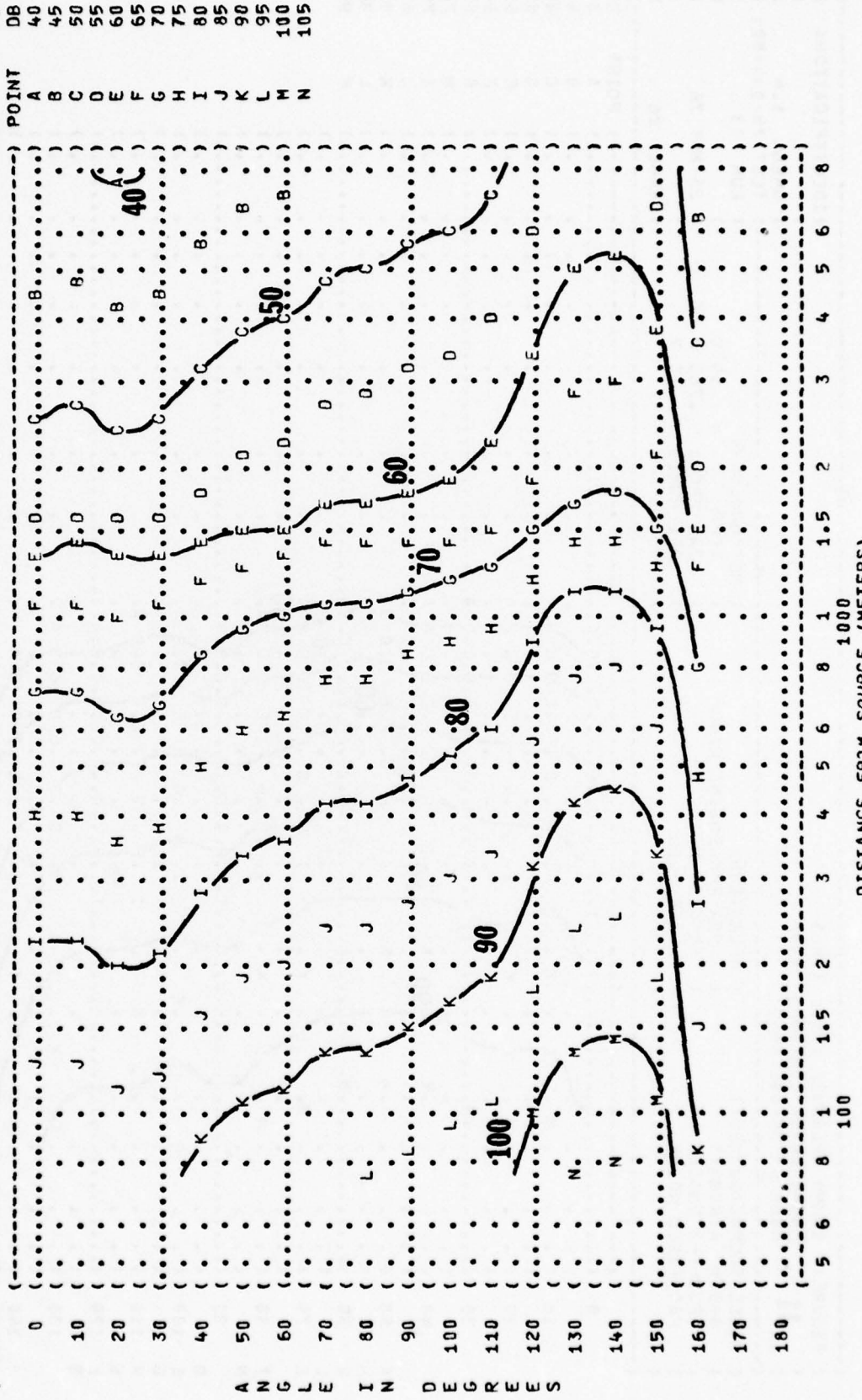


FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
63 HZ OCTAVE BAND

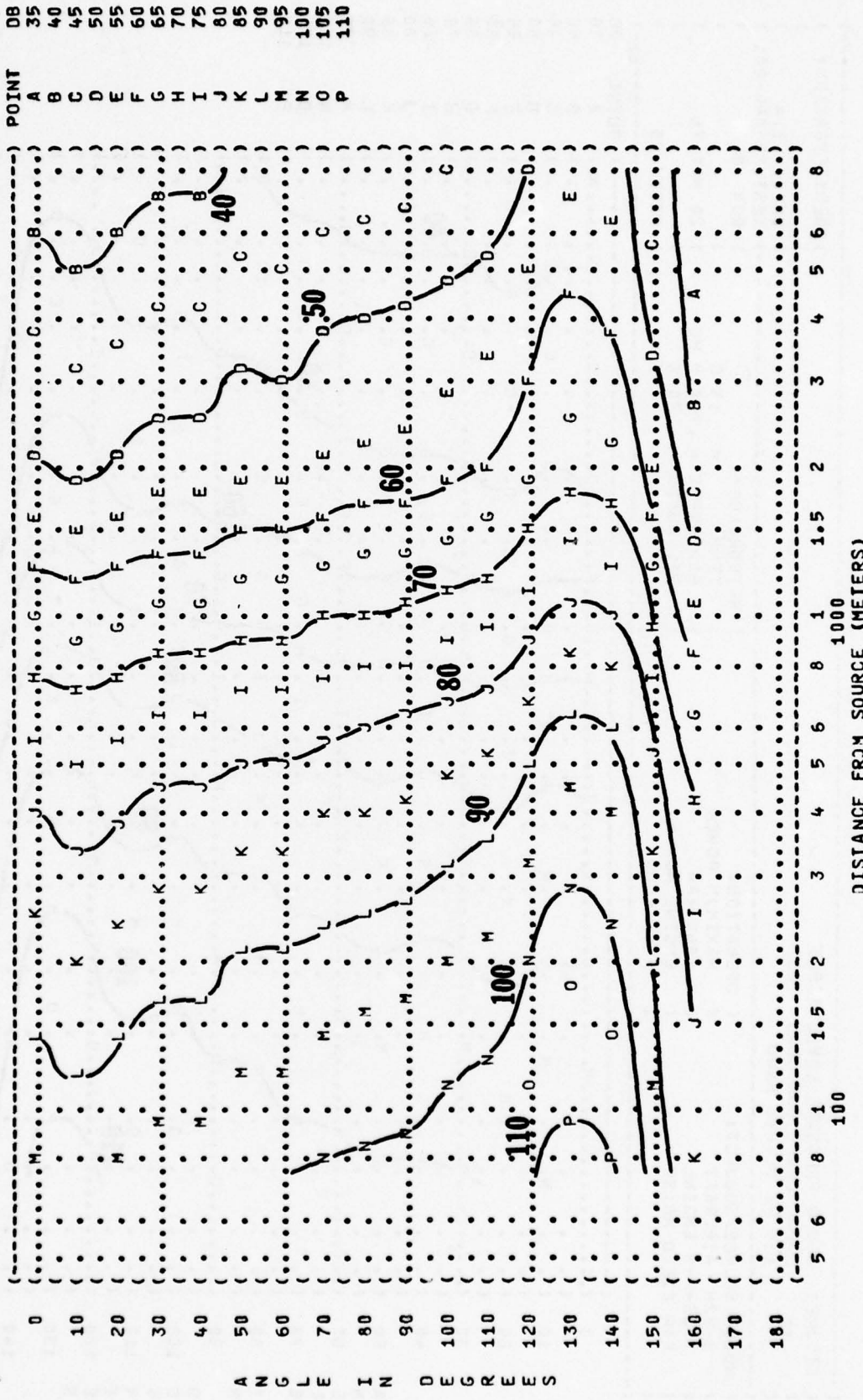
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NOISE SOURCE/SUBJECT:  
B-52H AIRCRAFT  
TF33-P-3 ENGINE  
FAR FIELD NOISE

OPERATION:  
MAXIMUM POWER  
104% RPM  
ENGINE NO. 4  
FREE FLOW

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

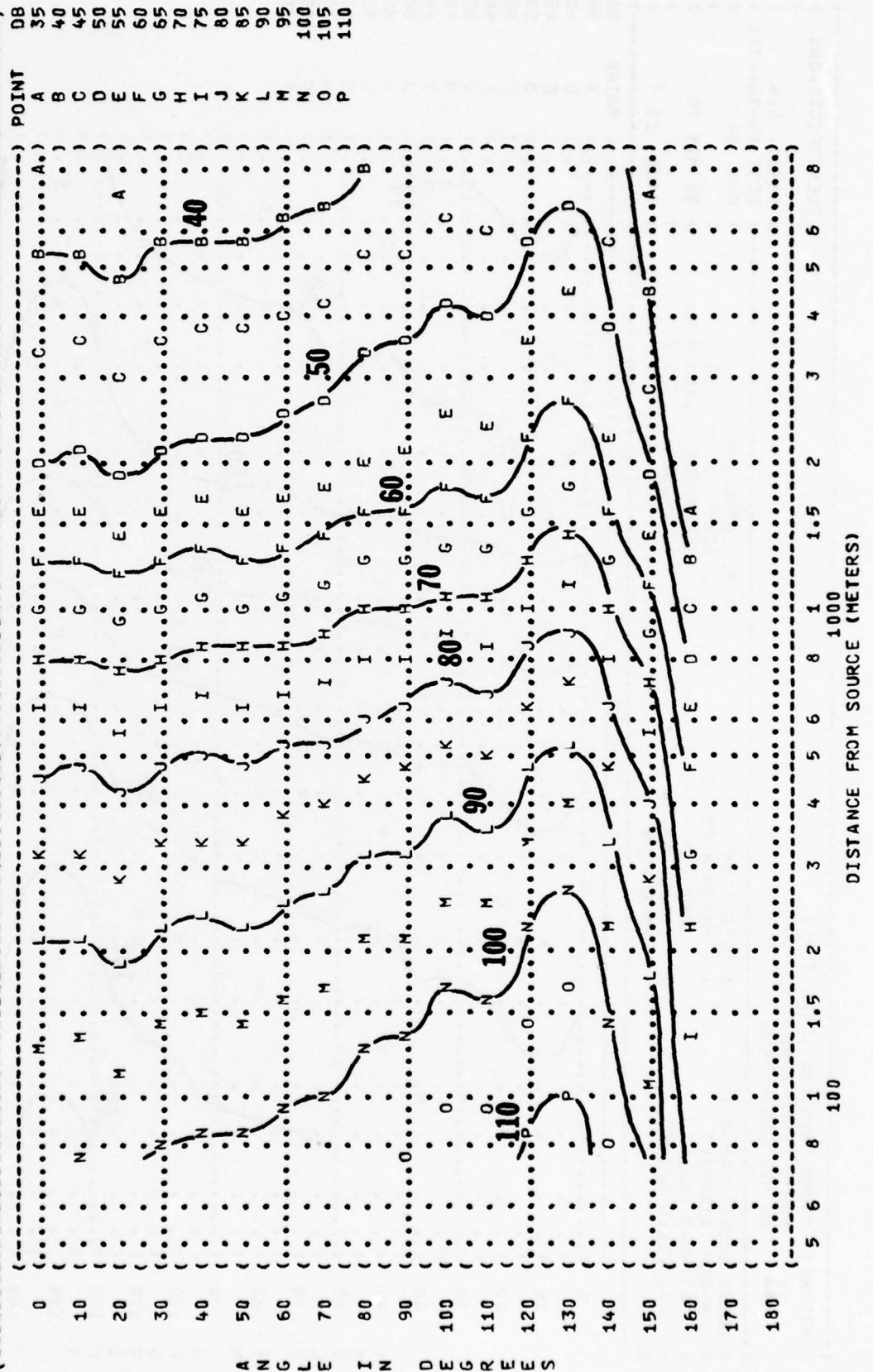
IDENTIFICATION:  
OMEGA 1.4  
TEST 75-044-001  
RUN 04  
28 MAY 76  
PAGE 19



) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 04 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) PAGE 20 )  
 )  
 ) OPERATION: )  
 ) MAXIMJM POWER )  
 ) 104% RPM )  
 ) ENGINE NO. 4 )  
 ) FREE FLOW )  
 )  
 ) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )

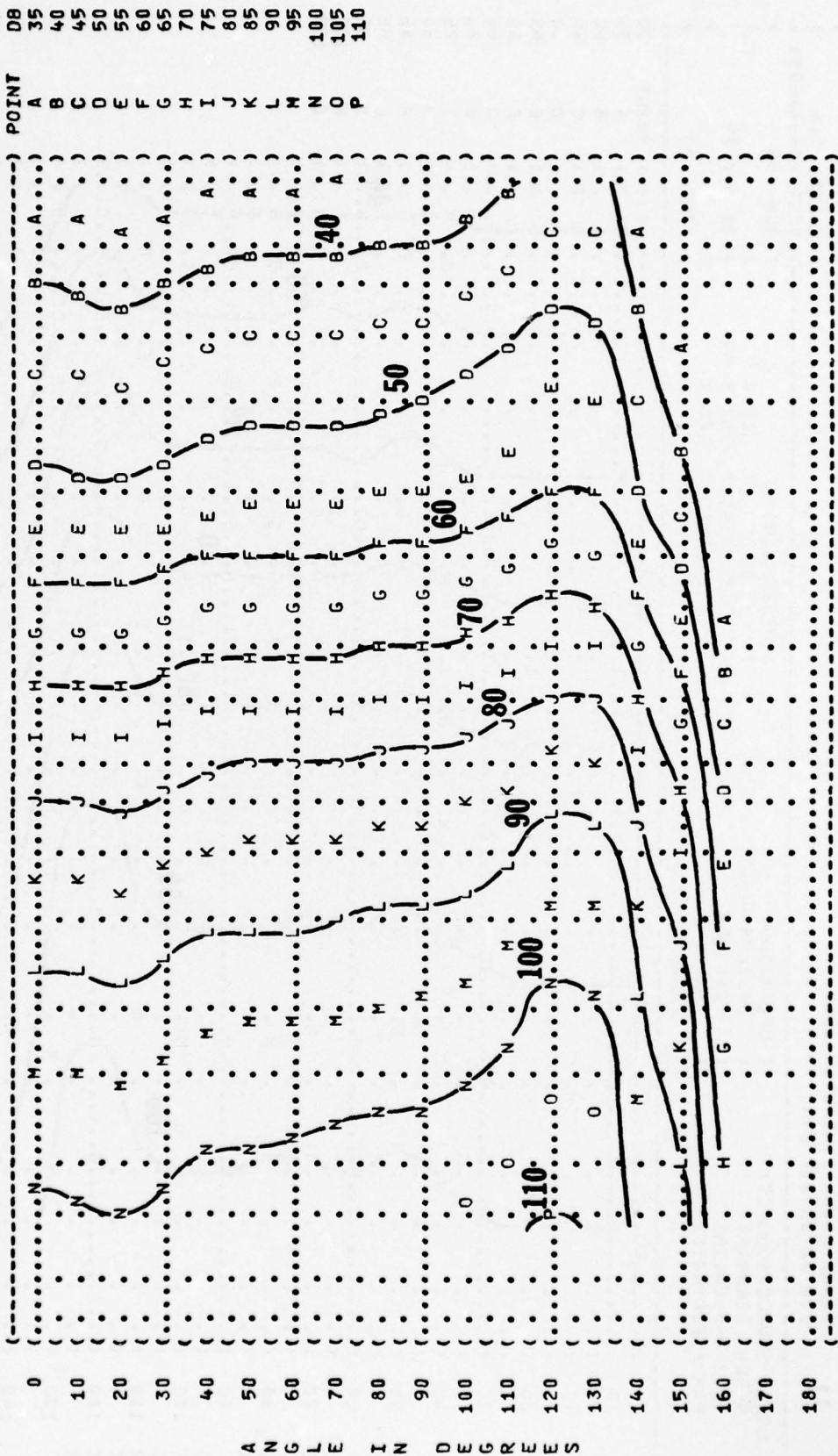
) FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ) EQUAL LEVEL CONTOURS (DB)  
 ) 125 HZ OCTAVE BAND )

11



DISTANCE FROM SOURCE (METERS)

( ( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( ( 11 EQUAL LEVEL CONTOURS (DB) ) )  
 ( ( 250 HZ OCTAVE BAND ) )  
 ( ( NOISE SOURCE/SUBJECT: ) )  
 ( ( B-52H AIRCRAFT ) )  
 ( ( TF33-P-3 ENGINE ) )  
 ( ( FAR FIELD NOISE ) )  
 ( ( OPERATION: ) )  
 ( ( MAXIMUM POWER ) )  
 ( ( 104% RPM ) )  
 ( ( ENGINE N.J. 4 ) )  
 ( ( FREE FLOW ) )  
 ( ( METEOROLOGY: ) )  
 ( ( TEMP = 15 C ) )  
 ( ( BAR PRESS = .760 M HG ) )  
 ( ( REL HUMID = 70 % ) )  
 ( ( TEST 75-044-001 ) )  
 ( ( RUN 04 ) )  
 ( ( 28 MAY 76 ) )  
 ( ( PAGE 21 ) )  
 )



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

DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 500 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( 8-52H AIRCRAFT  
 ( TF33-P-3 ENGINE  
 ( FAR FIELD NOISE  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) OPERATION:  
 ( ) MAXIMUM POWER  
 ( ) 104% RPM  
 ( ) ENGINE NO. 4  
 ( ) FREE FLOW  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-044-001  
 ( ) RUN 04  
 ( ) 28 MAY 76  
 ( ) PAGE 22

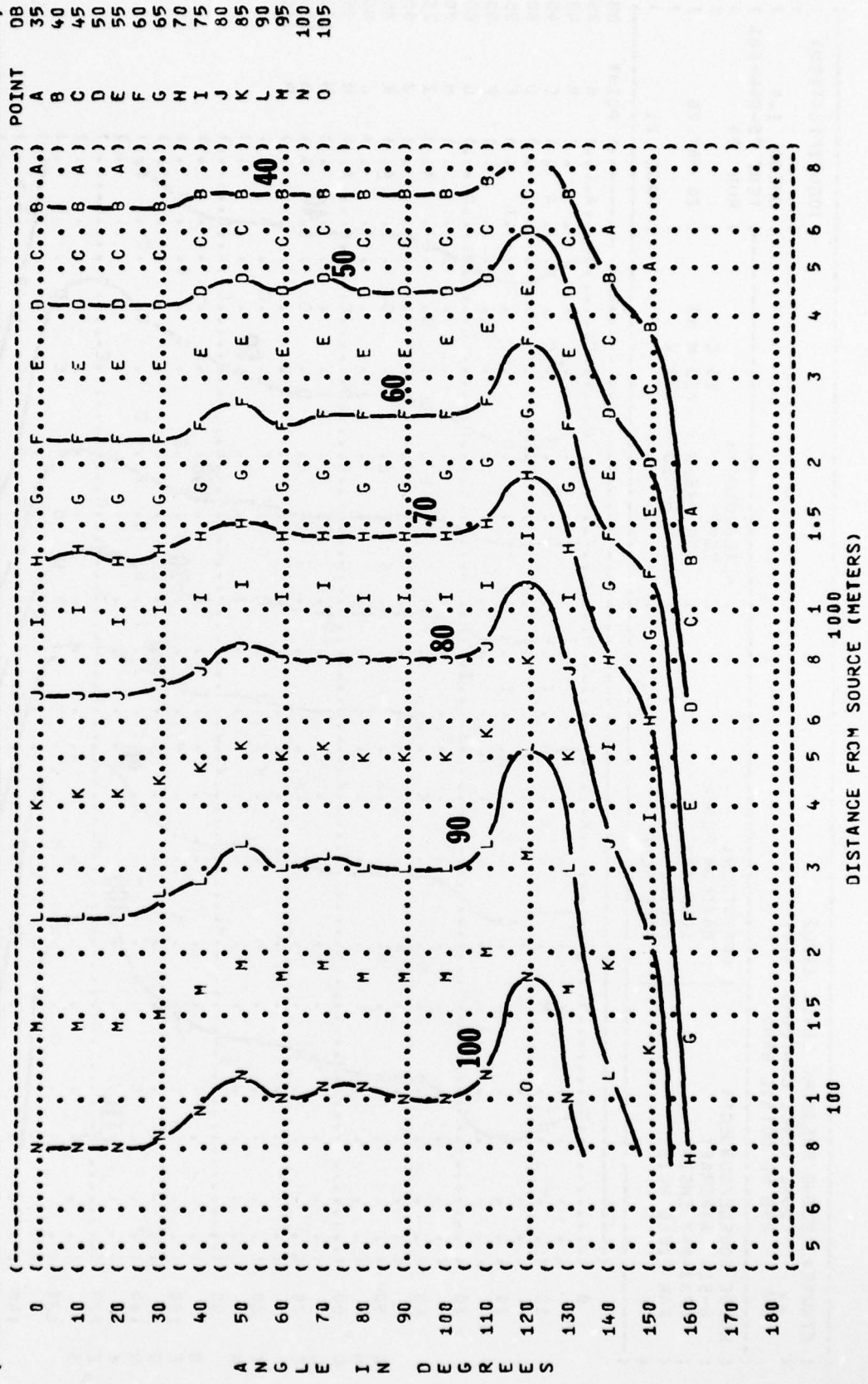


FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 1000 HZ OCTAVE BAND

**11**

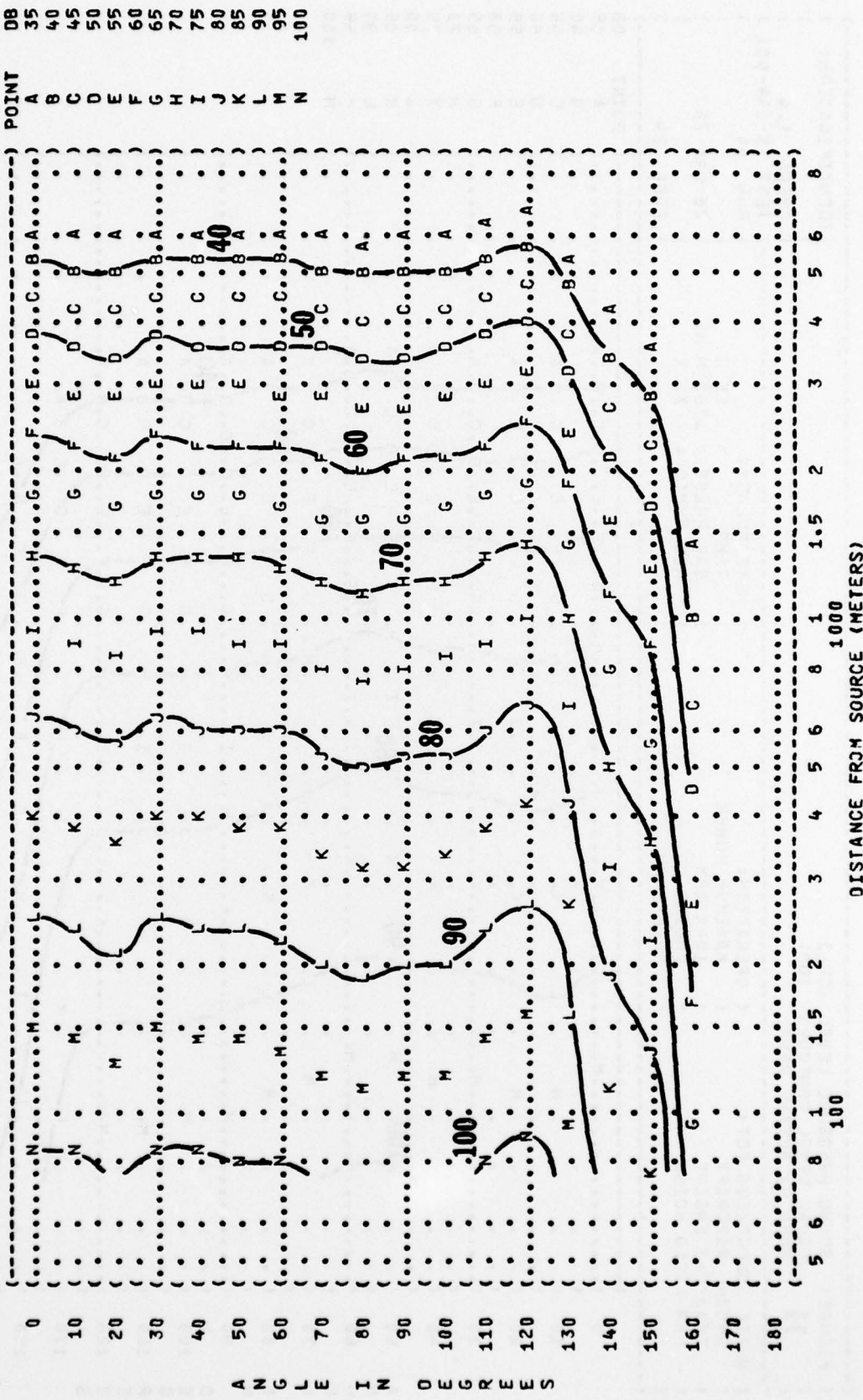
IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 04

NOISE SOURCE/SUBJECT:  
 B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

OPERATION:  
 MAXIMUM POWER  
 104% RPM  
 ENGINE NC. 4  
 FREE FLOW

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

28 MAY 76  
 PAGE 23



DISTANCE FROM SOURCE (METERS)





IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 04  
 28 MAY 76  
 PAGE 25  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION:  
 MAXIMUM POWER  
 104% RPM  
 ENGINE NC. 4  
 FREE FLOW

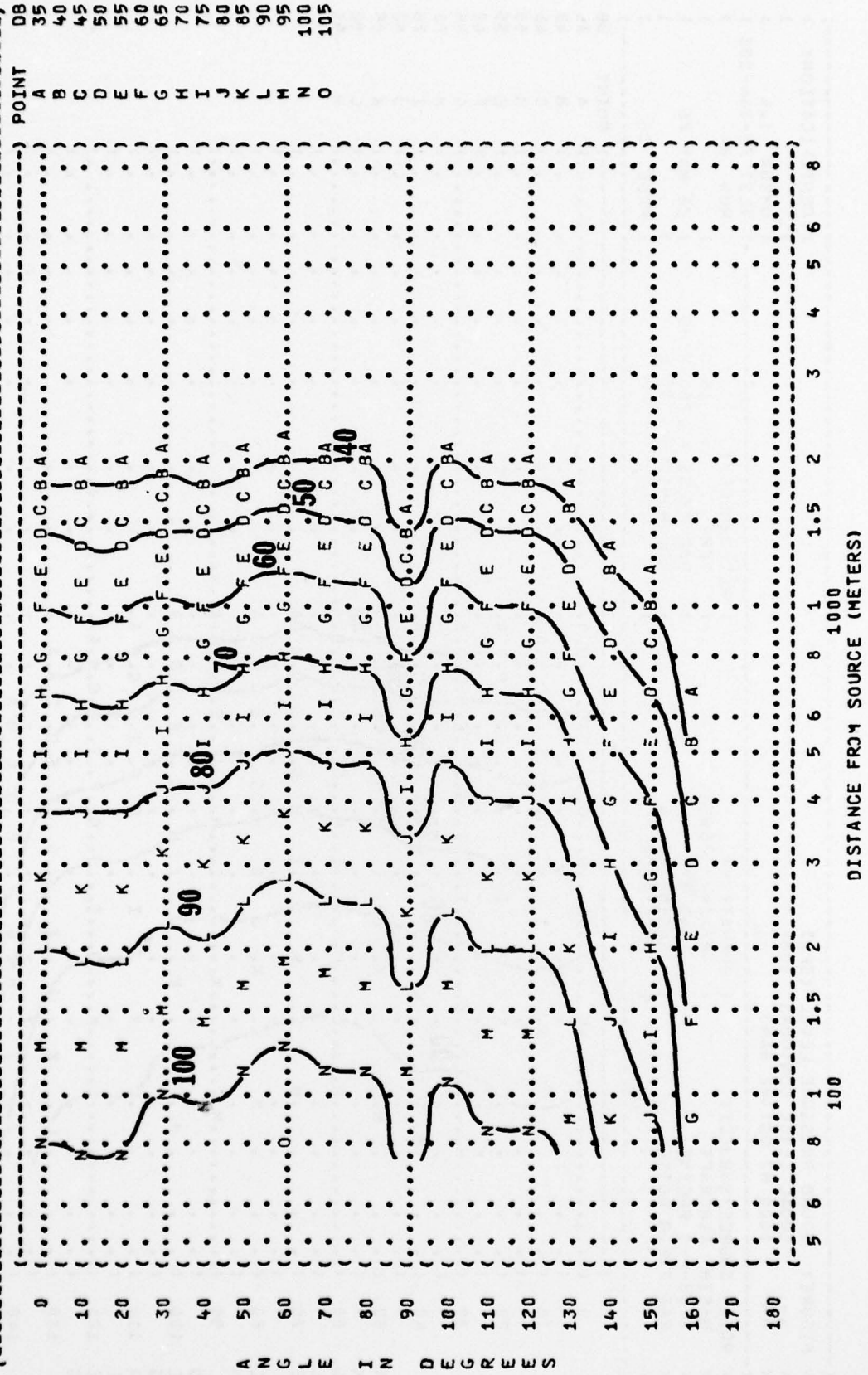


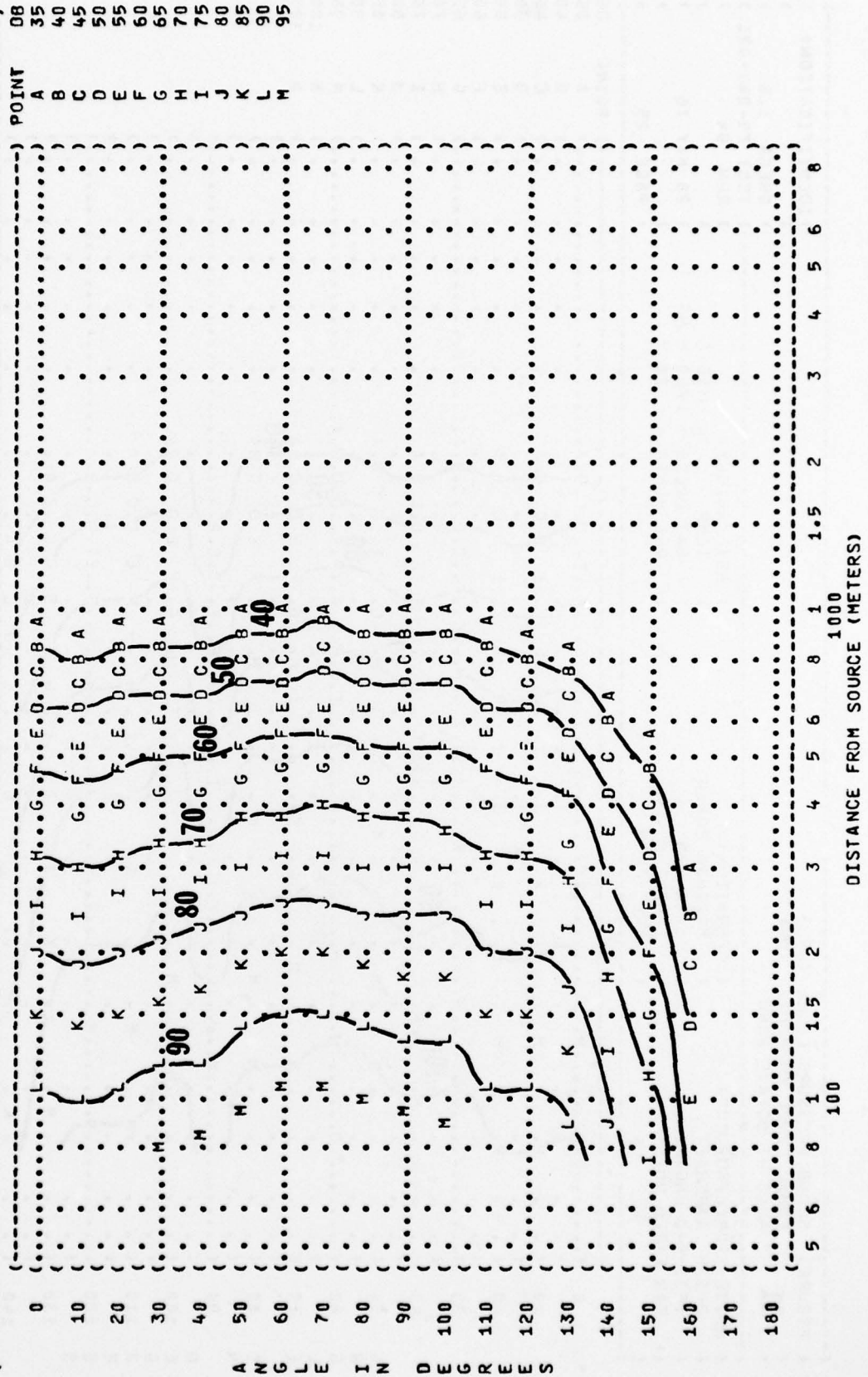
FIGURE: SOUND PRESSURE LEVEL {SPL} EQUAL LEVEL CONTOURS (DB)  
**11** 8000 HZ OCTAVE BAND

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-044-001  
 RUN 04  
 28 MAY 76  
 PAGE 26

NOISE SOURCE/SUBJECT: B-52H AIRCRAFT  
 TF33-P-3 ENGINE  
 FAR FIELD NOISE

OPERATION: MAXIMUM POWER  
 104% RPM  
 ENGINE NO. 4  
 FREE FLOW

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

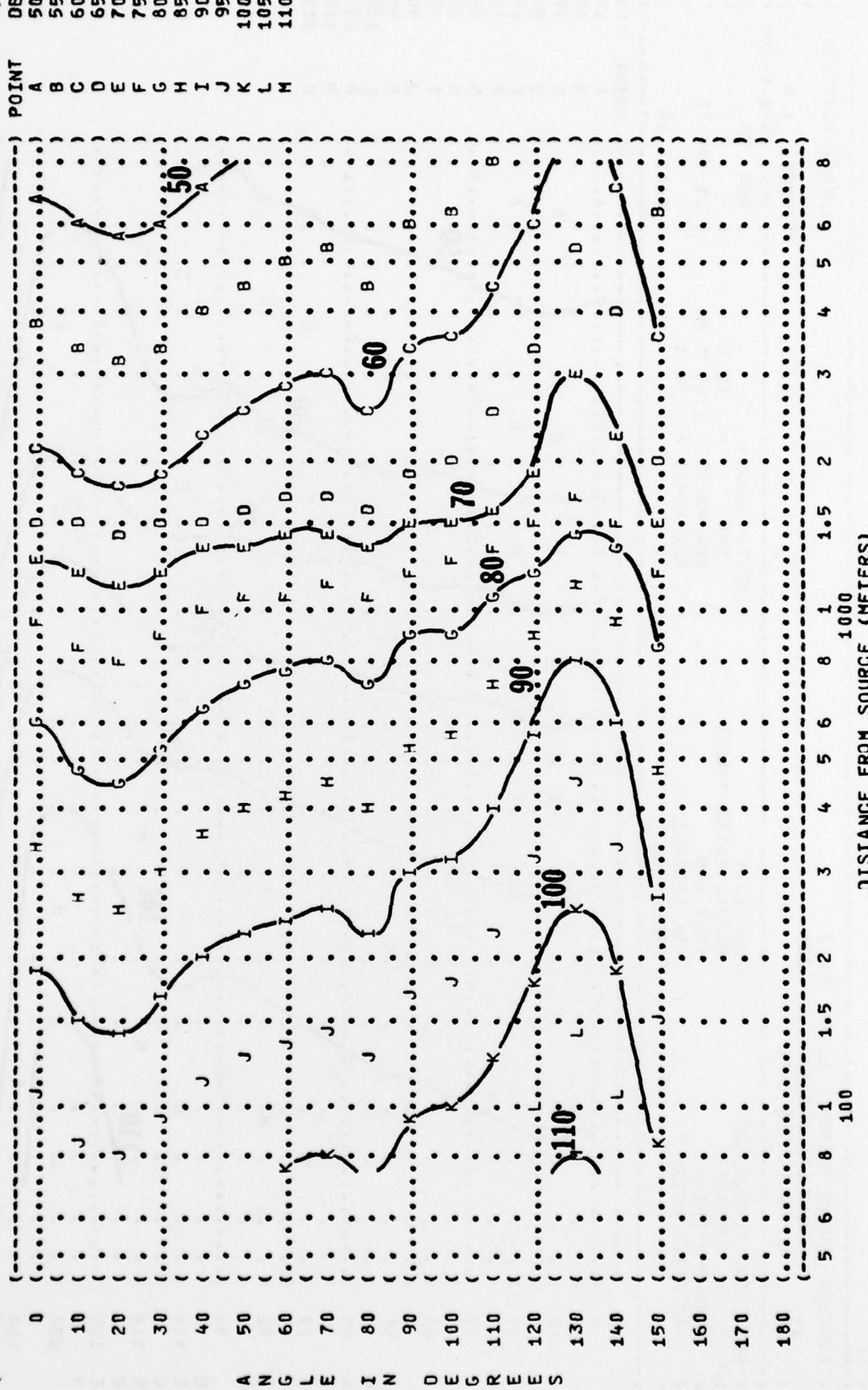


) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 05 )  
 ) 28 MAY 76 )  
 ) PAGE 18 )

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

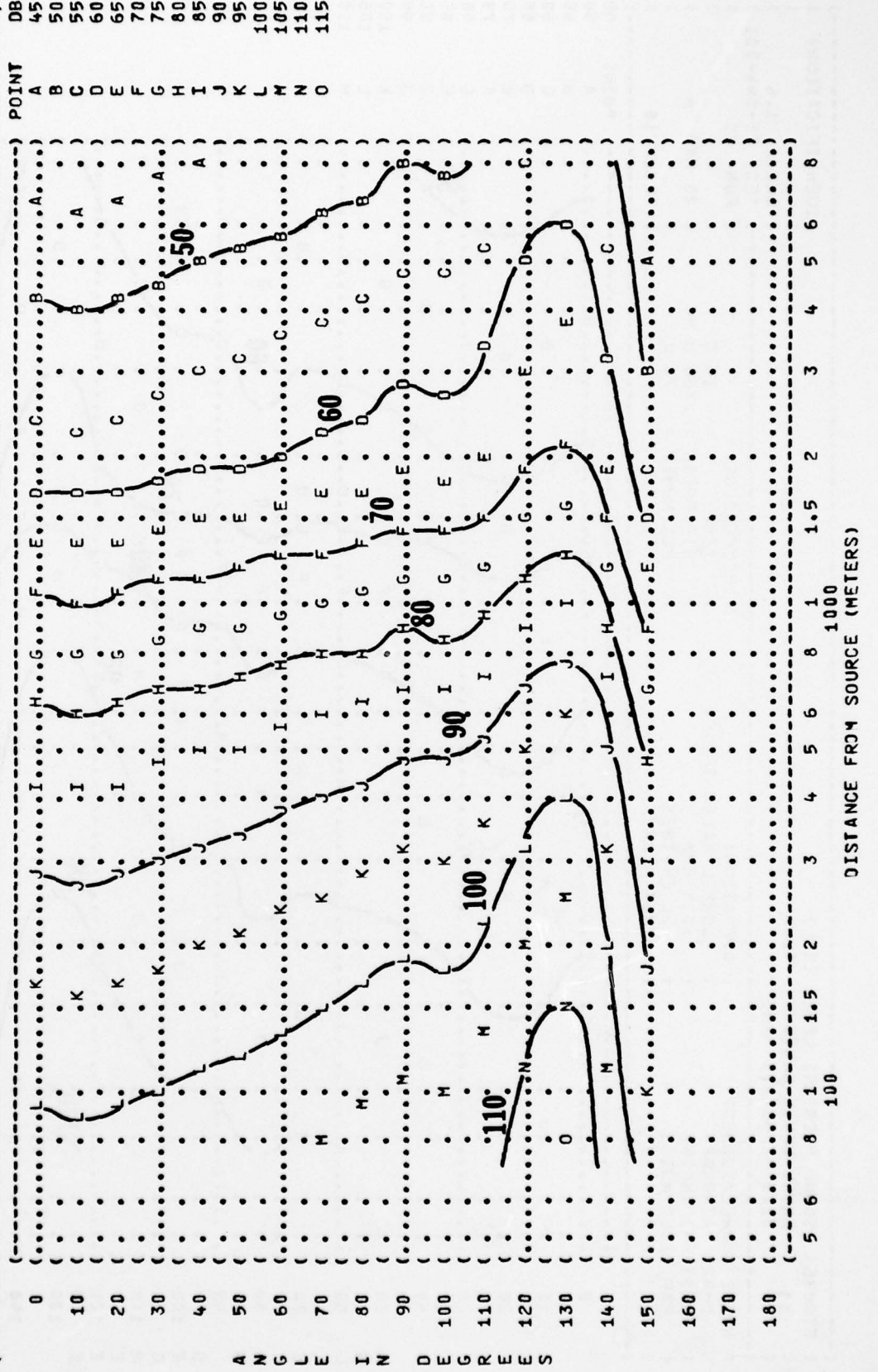
) OPERATION: )  
 ) NORMAL RATED THRUST )  
 ) 100% RPM )  
 ) ALL ENGINES )  
 ) FREE FLOW )

) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )



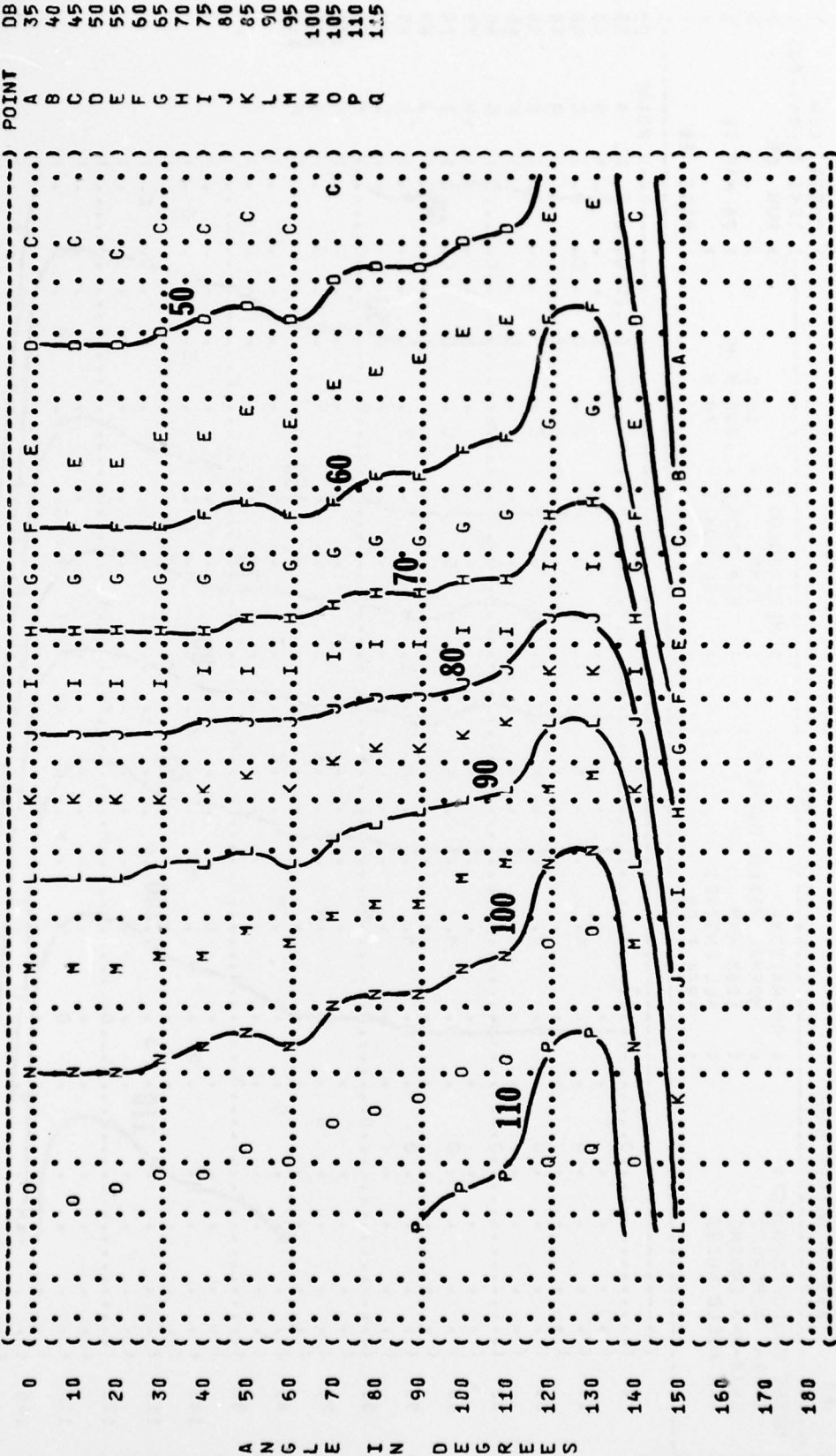
) 5 6 0 1 1.5 2 3 4 5 6 8  
 ) 100  
 ) 1000  
 ) DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( EQUAL LEVEL CONTOURS (DB) ) )  
 ( 11 63 HZ OCTAVE BAND ) OMEGA 1.4 )  
 ( NOISE SOURCE/SUBJECT: ) TEST 75-044-001 )  
 ( B-52H AIRCRAFT ) RUN 05 )  
 ( TF33-P-3 ENGINE ) )  
 ( FAR FIELD NOISE ) 20 MAY 76 )  
 ( ) REL HUMID = 70 % )  
 ( ) ) PAGE 19 )  
 ( ) ) )

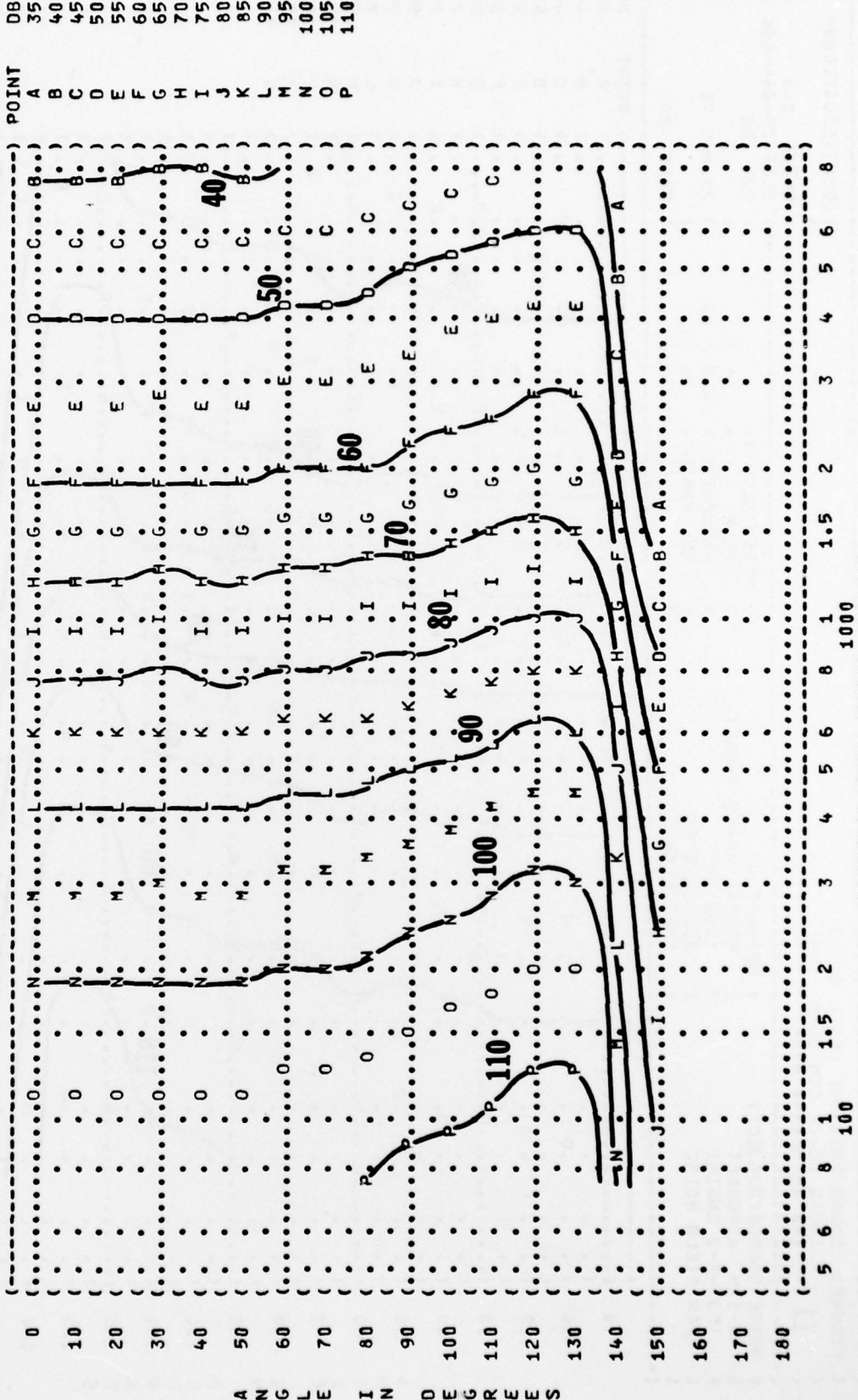


DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 EQUAL LEVEL CONTOURS (DB)  
 125 HZ OCTAVE BAND  
**11**  
 NOISE SOURCE/SUBJECT:  
 ( OPERATION:  
 ( NORMAL RATED THRUST  
 ( 100% RPM  
 ( ALL ENGINES  
 ( FREE FLOW  
 ( METEROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-044-001  
 ( RUN 05  
 ( 28 MAY 76  
 ( PAGE 20



( FIGURE: SOUND PRESSURE LEVEL {SPL} )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-044-001 )  
 ( ) RUN 05 )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 28 MAY 76 )  
 ( ) PAGE 21 )  
 ( ) )

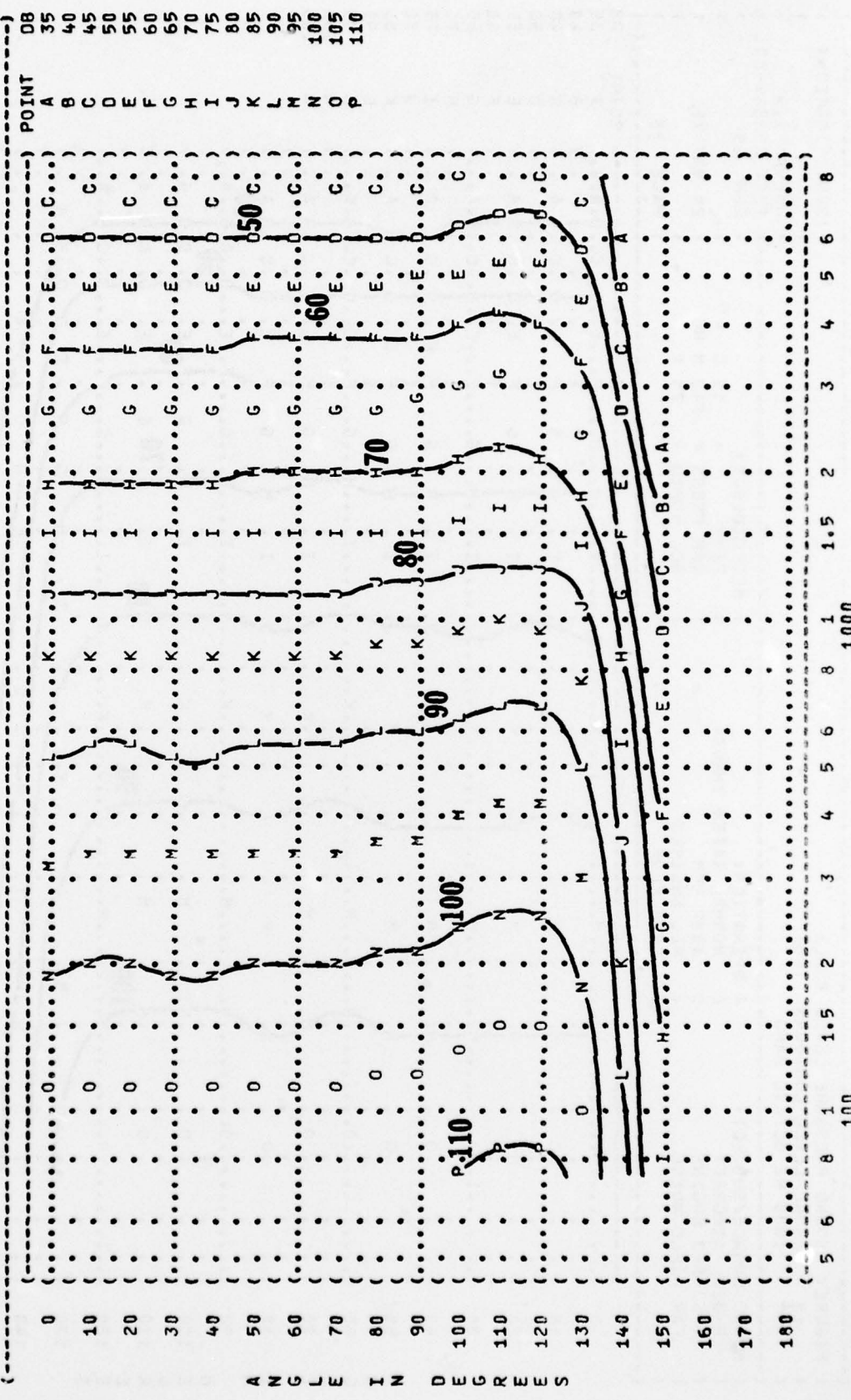


) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 05 )  
 ) 28 MAY 76 )  
 ) PAGE 22 )

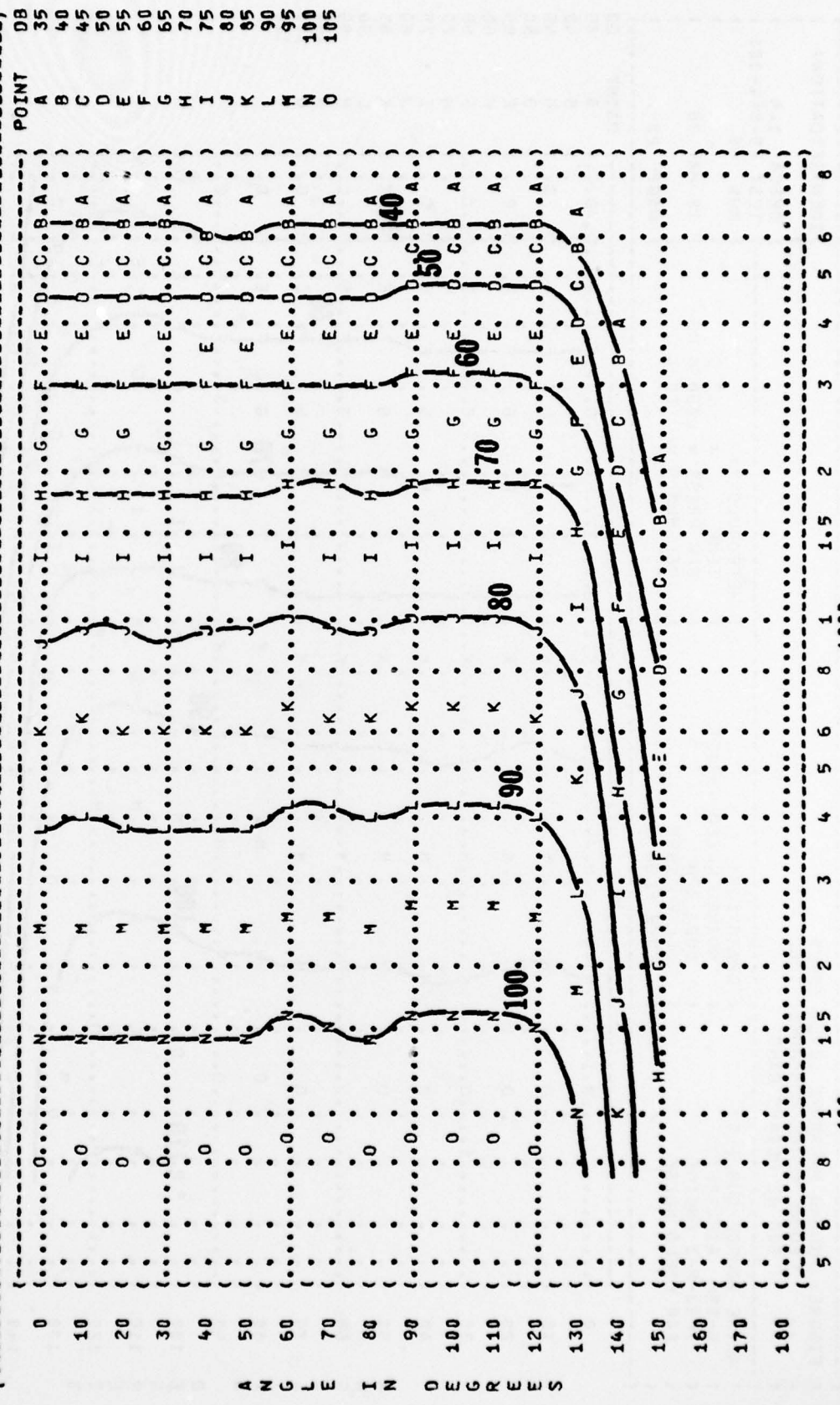
) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )

) OPERATION: )  
 ) NORMAL RATED THRUST )  
 ) 100% RPM )  
 ) ALL ENGINES )  
 ) FREE FLOW )

) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )



( ( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( ( EQUAL LEVEL CONTOURS (DB)  
 ( ( 1000 HZ OCTAVE BAND  
 ( ( IDENTIFICATION: )  
 ( ( ) OMEGA 1.4  
 ( ( ) TEST 75-044-001  
 ( ( ) RUN 05  
 ( ( NOISE SOURCE/SUBJECT: ) METEOROLOGY:  
 ( ( B-52H AIRCRAFT ) TEMP = 15 C  
 ( ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG  
 ( ( FAR FIELD NOISE ) REL HUMID = 70 %  
 ( ( ) FREE FLOW )  
 ( ( ) PAGE 23 )

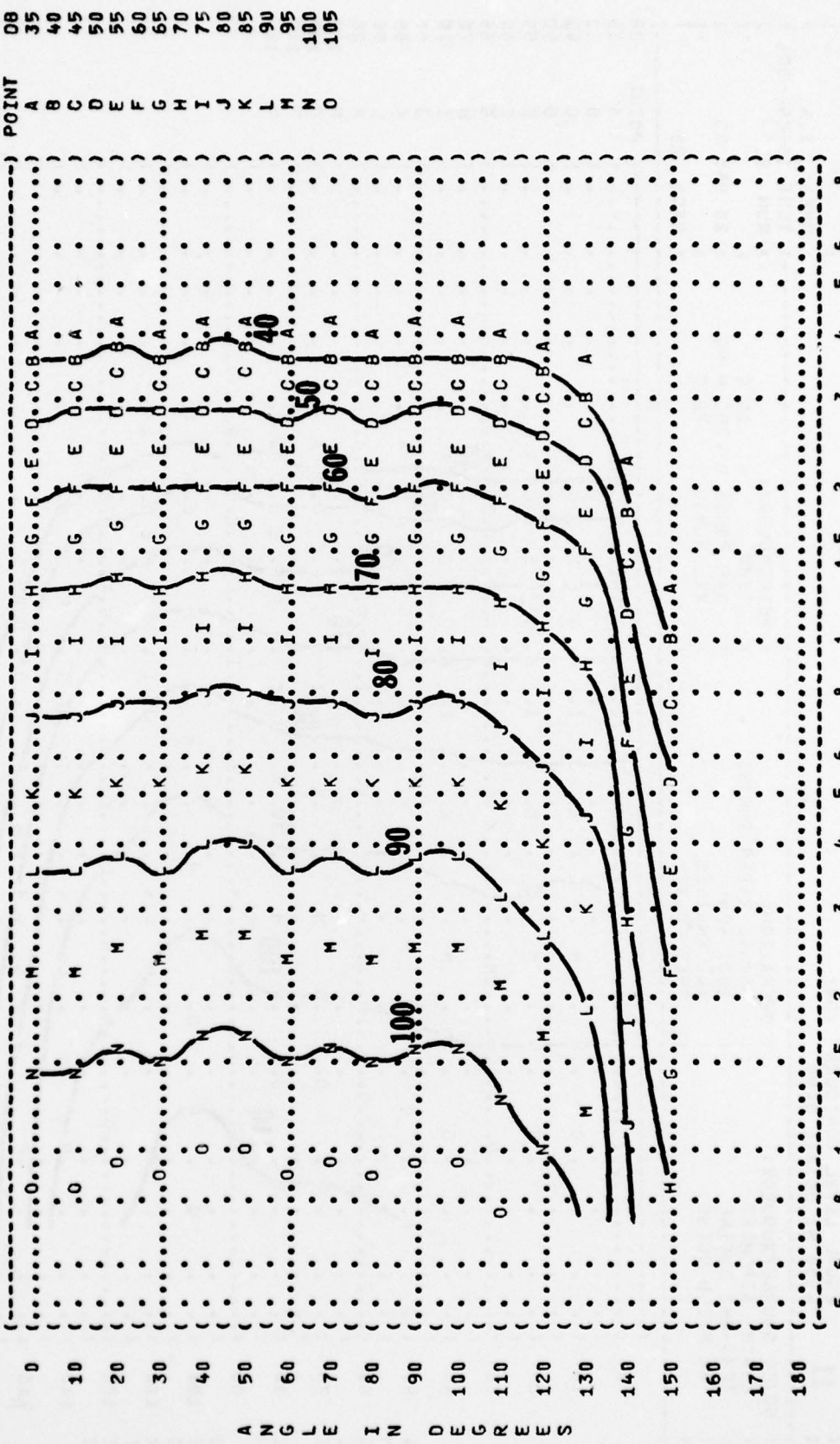


A N G L E I N O E G R E E S

DISTANCE FROM SOURCE (METERS)



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 2000 HZ OCTAVE BAND ) IDENTIFICATIONS )  
 ( ) ) OMEGA 1.4  
 ( TEST 75-044-001 )  
 ( ) ) RUN 05  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY:  
 ( 8-52H AIRCRAFT ) TEMP = 15 C  
 ( TF33-P-3 ENGINE ) BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ) ALL ENGINES ) REL HUMID = 70 %  
 ( ) FREE FLOW ) ) PAGE 24



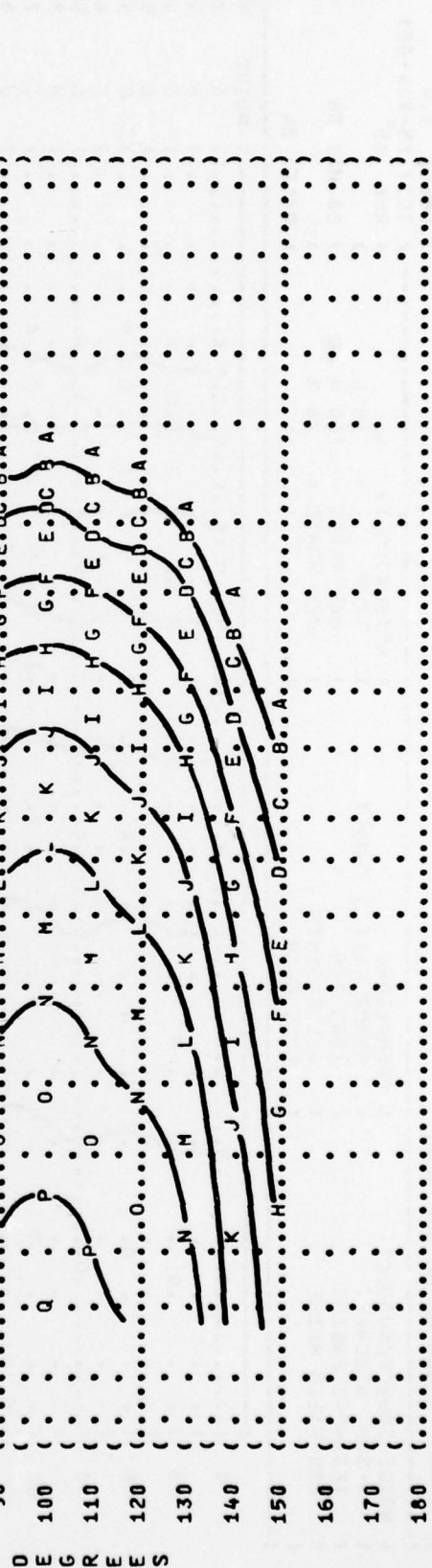
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 4000 HZ OCTAVE BAND

( NOISE SOURCE/SUBJECT:  
 ( B-52H AIRCRAFT  
 ( TF33-P-3 ENGINE  
 ( FAR FIELD NOISE

( OPERATION:  
 ( NORMAL RATED THRUST  
 ( 100% RPM  
 ( ALL ENGINES  
 ( FREE FLOW

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

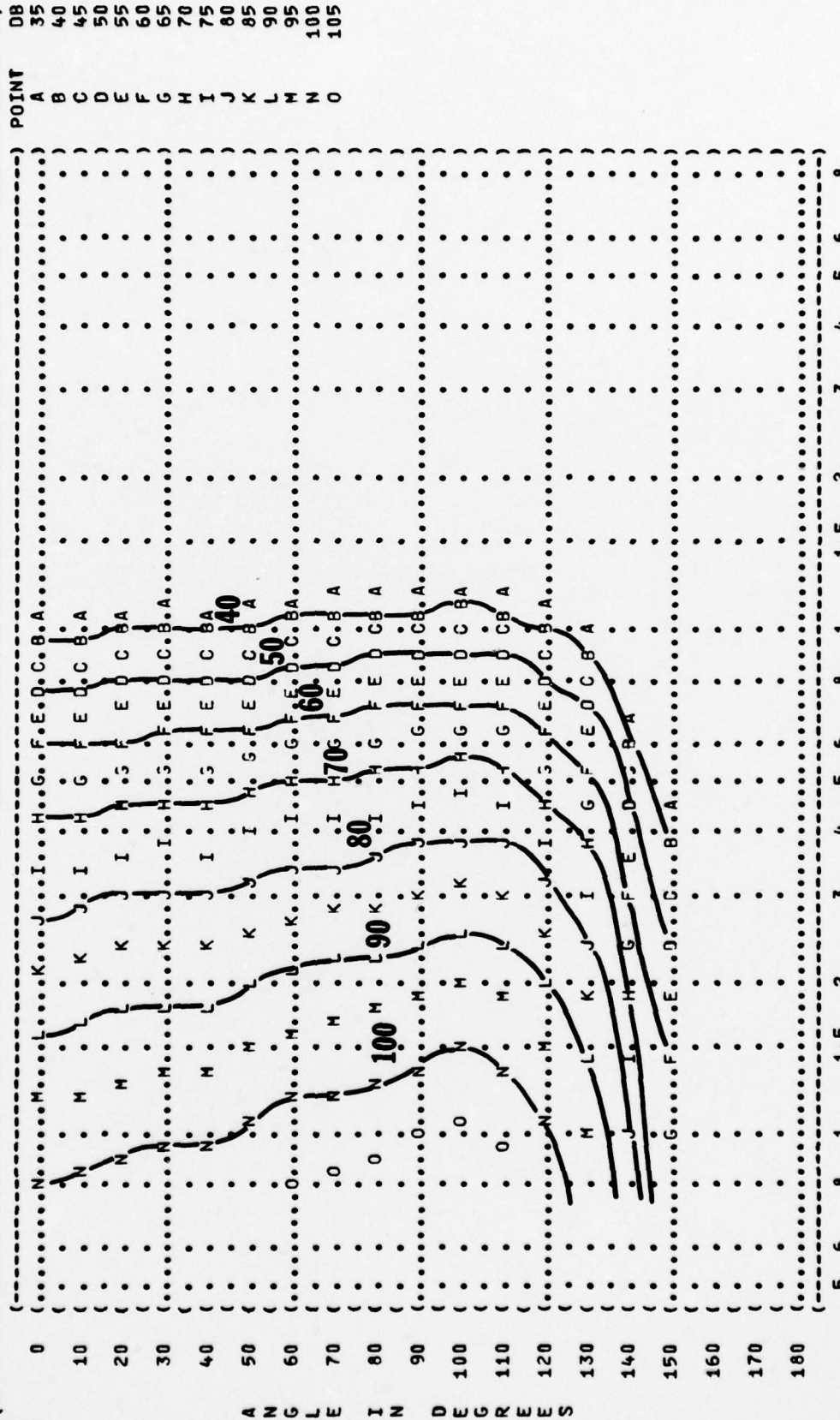
( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-044-001  
 ( RUN 05  
 ( 28 MAY 76  
 ( PAGE 25



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

DISTANCE FROM SOURCE (METERS)

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-044-001 )  
 ) RUN 05 )  
 ) 28 MAY 76 )  
 ) PAGE 26 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) OPERATION: )  
 ) NORMAL RATED THRUST )  
 ) 100% RPM )  
 ) ALL ENGINES )  
 ) FREE FLOW )  
 ) NOISE SOURCE/SUBJECT: )  
 ) B-52H AIRCRAFT )  
 ) TF33-P-3 ENGINE )  
 ) FAR FIELD NOISE )



A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)