

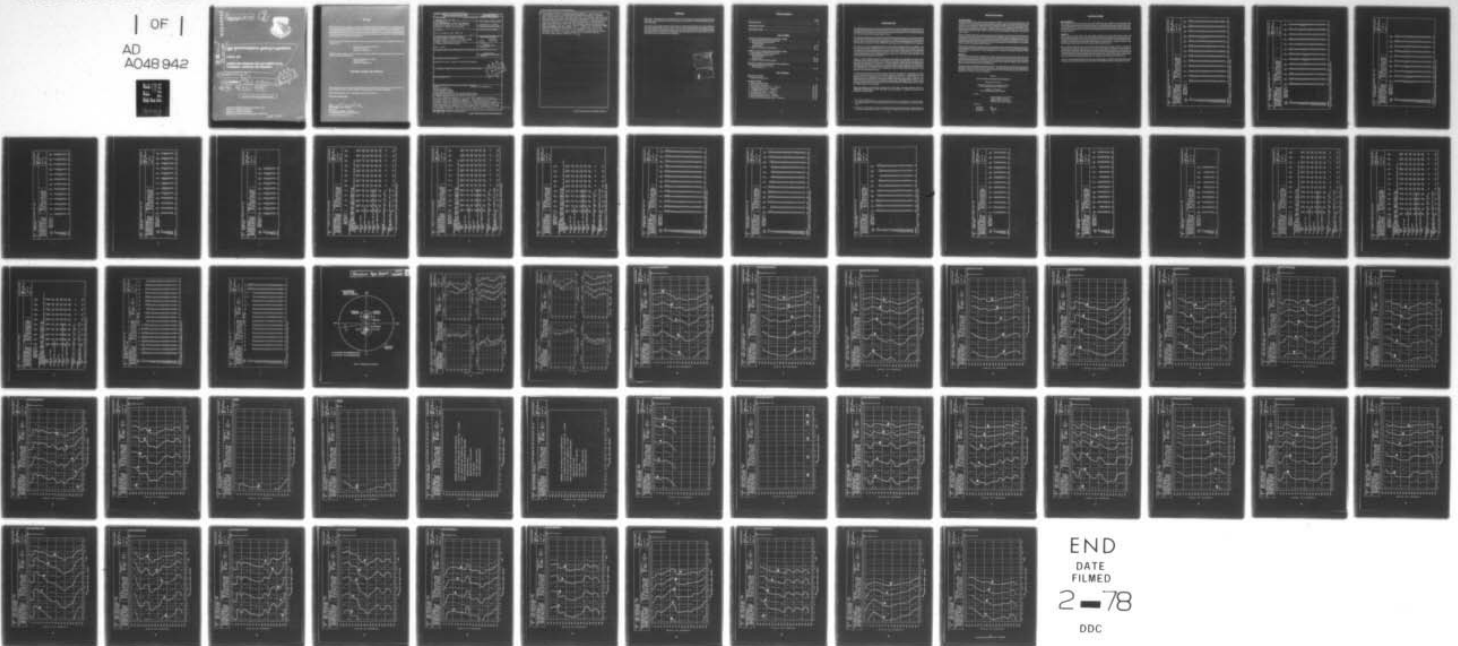
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**USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK**  
  
Volume 104.  
  
A/M32A-60A Generator Set and A/M32C-10 Air  
Conditioner, Combined Unit Operation.

9 Technical rpt.,

11 DEC 1976 10 Nick A. Farinacci

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

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

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

**FOR THE COMMANDER**



HENNING E. VON GIERKE  
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) ➤ The A/M32A-60A Generator Set is a gas turbine engine driven source of electrical power with pneumatic capability. The A/M32C-10 Air Conditioner is a pneumatic-driven air conditioner designed to provide conditioned air to the aircraft's interior during ground servicing. This report provides measured and extrapolated data defining the bioacoustic environments produced by these two units simultaneously operated as a unit outdoors on a concrete apron at normal rated/loaded conditions. Near-field data are reported for 72 locations in a			

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wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 36 locations are normalized to standard meteorological conditions and extrapolated from 20-3000 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, <sup>USAF</sup> Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application, <sup>AMRL-TR-75-50(1) 1975</sup>, 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 acknowledges the efforts of Mr. Robert G. Powell and Mr. Robert A. Lee who assisted in conducting the field measurements, and Mr. John N. Cole who established the data analysis requirements and assisted in the preparation of this report. Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton assisted in the mechanics of data processing, and Mrs. Norma Peachey and Mr. Mike Patterson typed and prepared the graphics.

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## INTRODUCTION

The A/M32A-60A Generator Set, which is manufactured by the HOL-GAR Manufacturing Corporation, is a gas turbine engine-driven source of electric power. This unit also provides pneumatic power to drive the A/M32C-10 Air Conditioner, manufactured by United Aircraft Products, Inc., providing conditioned air to an aircraft's interior during ground servicing.

This volume provides measured and extrapolated data defining the bioacoustic environments produced by these units. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with the combined simultaneous operation of the A/M32A-60A generator set and the A/M32C-10 air conditioner.

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 described the noise produced during *ground operations* of aircraft, ground 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 (15C 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 the updated index as it is generated.

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

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



## NEAR-FIELD NOISE

### MEASUREMENTS

A standard A/M32A-60A Generator Set and a standard A/M32C-10 Air Conditioner (being driven by the generator) were simultaneously operated outdoors on a concrete apron at normal rated conditions. The generator set was loaded at 100 amp, 240 volts AC, 3 phase by an M24T-8 load bank, supplying 40 PSI air to drive the air conditioner, which had an output of 40 lb/min. No significant sound-reflective surfaces were present except the ground plane. The load bank was physically located so as to not interfere with the two unit's noise field. Table 1 notes the surface meteorological conditions at the time of measurement.

Figure 1 identifies 108 noise measurement locations at a height of 1.5 meters above the concrete apron (nominal ear level of ground crew). The 0 degree reference direction passes through the tow bar. The 72 locations on the four inner circles are in the acoustic near-field of the source where the sound wave fronts generally do not spherically diverge and the source appears to be spatially distributed (i.e., not a point source). Consequently, these near-field data cannot be extrapolated to longer distances but do properly define the levels at locations close to the unit.

Table 1 lists the alphabetic designator used on the data pages in this report to identify the test condition. The designator A means test condition A. Such a descriptor is essential in many handbook volumes that involve multiple combinations of location/conditions. It is used in this report to maintain format consistency.

### RESULTS

The measured data presented in Tables 2 and 4 define the sound pressure levels (SPL) produced by the simultaneous operation of the A/M32A-60A and the A/M32C-10 units respectively at the 72 specified, near-field locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures in Tables 3 and 5 which are widely used to assess the effects of noise on personnel and their performance.

For data at other intermediate near-field locations (i.e., for radial distances less than 20 meters) you can interpolate between the 108 measured data points. All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short distances over which the sound is propagated.

TABLE 1

#### TEST CONDITION FOR NOISE MEASUREMENTS

Edwards AFB, 3 June 1975

A/M32A-60A Generator Set, Gas Turbine Engine Driven  
FSN 6115-420-8486, Mfr. Part # 69E39110, and

A/M32C-10 Air Conditioner  
FSN 4120-196-5252, Mfr. Part # UA532888-1

#### Operation

A Generator loaded at 100 amp, 240 VAC,  
3 phase by M24T-8 load bank and  
supplying 40 PSI air to drive the air  
conditioner whose output is 40 lb/min.

#### Meteorology

Temperature	29 C
Bar Pressure	0.693 M Hg
Rel Humidity	24 %

## FAR-FIELD NOISE

### MEASUREMENTS

Noise measurements were also made on the same A/M32A-60A and A/M32C-10 units under the same test conditions at the outer circle locations on Figure 1. These 36 locations are assumed to be in the acoustic far-field of the source where the sound wave fronts spherically diverge and the unit may be regarded as a point noise source. Under these far-field conditions, the measured data can be extrapolated to longer distances.

### RESULTS

Table 6 lists the overall and 1/3 octave band SPL measured at the 36 far-field locations under the meteorological conditions at the time of test. These data were normalized to 30 meters distance and standard meteorological conditions (15C temperature, 70% rel humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 2 which provides a compact summary of the far-field noise characteristics of the two simultaneously operating units.

These measured data were also used to derive sets of equal noise contours (Figures 3 through 9) describing seven different measures of noise as functions of angle and distance from the source for standard day meteorology. Note that Figure 8 contours identify limiting exposure time for personnel. Missing data points on any of the contours are the result of eliminating measured data which contained excessive influence of spurious background noise present at the time of measurement. In some cases, contour levels at these missing data points were estimated and indicated with dashed lines.

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



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:									
1/3 OCTAVE BAND																			
NOISE SOURCE/SUBJECT: ( OPERATIONS: )																			
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )																			
AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )																			
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )																			
NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )																			
FREQ (HZ)	DISTANCE (M)-->	ANGLE (DEG)-->	CONDITION----->	4	20	40	60	80	100	120	140	160	180	200	220	240			
25	85<	90	86<	83<	83<	83<	83<	83<	83<	83<	86<	88<	87<	83<	83<	87<			
31.5	84<	86<	86	84<	82<	82<	82<	82<	82<	80<	82<	85<	86<	82<	82<	84<			
40	85<	85<	87	87	85<	86<	85<	85<	86<	85<	85<	89	87	85<	83<	85<			
50	87	88	89	89	89	89	89	89	89	90	87	88	86	87	86	87			
63	93	92	94	93	93	91	93	93	91	90	90	91	90	89	89	90			
80	96	96	96	96	94	94	94	91	90	88	91	92	92	92	91	92			
100	93	90	90	87	87	87	87	87	87	84	87	89	88	89	86	85			
125	92	91	87	89	93	88	91	91	91	91	95	97	97	98	96	93			
160	92	93	91	90	91	90	91	91	93	95	96	98	100	99	96	95			
200	97	96	95	94	96	96	96	96	96	97	98	99	101	100	97	96			
250	99	99	180	99	99	95	99	96	95	93	96	99	101	97	96	96			
315	93	94	94	92	92	88	92	90	86	88	91	95	98	94	89	85			
400	90	90	92	88	88	87	88	88	87	90	93	98	101	96	91	88			
500	91	91	90	86	85	85	86	85	82	86	86	92	95	90	90	89			
630	88	87	87	86	86	86	86	86	85	86	86	86	92	93	91	90			
800	83	82	84	86	82	83	82	82	83	84	85	85	90	90	88	82			
1000	85	82	84	83	81	80	81	80	80	81	84	84	89	87	82	81			
1250	83	83	81	81	80	79	80	80	79	79	80	82	85	81	81	79			
1600	87	85	85	93	88	81	88	88	81	81	81	82	84	84	83	80			
2000	87	90	87	85	82	80	82	82	80	79	80	82	87	83	81	80			
3150	87	90	89	85	83	81	83	83	81	81	81	84	89	87	83	88			
4000	88	90	88	86	83	82	86	83	82	82	82	85	89	86	83	81			
5000	93	87	86	82	81	80	81	81	80	81	81	85	90	88	84	83			
6300	87	85	83	81	79	79	80	80	80	80	81	85	91	88	84	83			
8000	84	82	83	79	78	79	78	79	79	80	80	82	89	86	82	80			
10000	86	90	88	84	83	82	84	83	82	83	81	83	87	85	83	82			
OVERALL	107	106	106	105	104	103	104	104	103	103	104	107	109	107	104	103			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:									
2 1/3 OCTAVE BAND										OMEGA 3.2									
NOISE SOURCE/SUBJECT: ( OPERATION: )										TEST 75-030-001									
( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )										RUN 02									
( AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )										16 OCT 75									
( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )										PAGE F2									
( NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )																			
FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	2	2	2	2	2	2	2	2	2	2
	ANGLE (DEG)-->	260	200	300	320	340	0	0	20	40	60	80	100	120	140	100	120	140	100
	CONDITION----->	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
25		83<	81<	88<	81<	91	89	85<	85<	85<	88<	86<	90	86<	90	86<	90	86<	90
31.5		82<	82<	85<	82<	85<	88	86<	86<	87	87	89	90	86<	90	88	90	88	91
40		84<	82<	85<	82<	87	88	86<	86<	87	87	89	90	86<	90	88	90	88	91
50		86	87	85	87	88	92	91	91	91	94	92	92	92	92	92	91	92	92
63		90	90	91	93	91	95	97	97	96	94	94	95	95	95	94	94	94	94
80		93	95	96	96	97	98	97	97	96	96	94	93	93	94	94	96	96	96
100		88	91	96	96	98	96	95	95	93	92	90	91	91	91	93	95	95	95
125		90	91	89	90	93	93	93	93	93	93	96	96	96	96	96	96	96	99
160		90	95	95	93	92	97	97	97	97	99	99	99	101	101	101	102	102	102
200		91	89	90	91	92	96	96	96	98	99	98	99	99	99	99	100	100	100
250		95	95	95	96	97	101	99	99	97	97	97	96	96	96	99	99	99	100
315		95	95	96	99	100	103	102	102	100	99	97	97	97	97	97	99	99	100
400		84	86	88	91	93	102	100	100	99	97	96	96	96	96	97	97	97	98
500		89	85	87	90	92	101	101	101	99	97	95	95	95	93	93	91	91	94
630		87	88	90	91	90	96	96	96	96	96	92	92	92	88	88	88	89	94
800		88	87	88	88	86	87	87	85	85	86	87	87	87	87	87	88	88	89
1000		82	83	85	87	86	87	85	85	85	86	87	87	87	87	87	88	88	89
1250		81	80	79	82	84	87	87	87	87	86	85	85	85	85	86	86	86	86
1600		79	77	79	79	82	85	85	85	85	85	83	82	82	82	83	84	84	84
2000		79	79	81	86	88	86	92	92	92	94	89	84	83	82	83	84	84	84
2500		79	80	80	85	87	88	90	90	90	88	84	82	82	82	83	83	82	82
3150		81	82	84	85	87	91	91	91	91	89	86	85	85	86	86	85	85	85
4000		81	82	83	84	88	91	91	91	91	89	88	87	87	87	87	88	88	88
5000		82	82	82	86	85	88	91	91	90	86	85	85	85	85	85	85	85	85
6300		82	80	81	83	83	88	88	88	88	87	85	85	85	85	85	86	87	87
8000		79	79	80	81	83	88	87	87	85	84	84	84	84	84	84	84	86	86
10000		81	82	83	85	87	92	92	92	91	88	88	88	88	89	89	89	89	90
OVERALL		102	103	104	105	106	110	109	108	108	108	107	107	107	107	108	108	109	109

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										
1/3 OCTAVE BAND										
IDENTIFICATION:										
OMEGA 3.2										
TEST 75-030-001										
RUN 03										
10 OCT 75										
PAGE F3										
NOISE SOURCE/SUBJECT: ( OPERATION: )										
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )										
AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )										
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )										
NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )										
FREQ (HZ)	DISTANCE (M)-->	2	2	2	2	2	2	2	2	
ANGLE (DEG)-->	160	180	200	220	240	260	280	300	320	
CONDITION----->	A	A	A	A	A	A	A	A	A	
25	93	87<	88<	86<	85<	83<	83<	83<	85<	86<
31.5	90	87	89	85<	84<	82<	82<	82<	85<	86<
40	93	90	90	88	87	86<	86<	87	85<	88
50	93	91	91	89	89	91	88	88	89	92
63	97	95	93	91	92	93	93	93	96	96
80	98	96	94	92	91	93	93	95	96	97
100	96	94	94	92	93	93	90	90	93	94
125	100	101	99	96	95	96	96	94	93	93
160	103	104	103	102	101	99	99	101	97	96
200	103	104	102	100	99	99	100	99	99	98
250	107	106	105	100	98	96	96	99	98	99
315	104	106	104	99	97	96	97	96	99	102
400	102	103	101	94	92	90	93	95	97	99
500	101	103	99	93	93	92	93	94	96	99
630	94	99	93	92	92	94	93	93	92	93
800	90	93	96	94	92	93	93	94	95	92
1000	88	89	93	89	88	87	85	88	91	90
1250	89	89	88	85	84	84	84	82	85	88
1600	87	86	84	84	84	82	82	83	82	86
2000	86	85	84	83	85	82	82	87	90	88
2500	84	87	84	82	83	83	83	86	87	88
3150	89	91	89	87	87	89	88	89	88	90
4000	90	93	91	87	88	90	88	88	92	91
5000	88	90	90	88	88	87	85	85	88	91
6300	88	91	92	89	88	88	85	85	87	89
8000	88	90	90	88	87	87	85	85	86	88
10000	90	90	90	89	90	88	88	90	91	92
OVERALL	112	113	111	108	107	107	107	107	108	109

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATION:																		
OCTAVE BAND																				
2		OMEGA 3.2																		
		TEST 75-030-001																		
		RUN 01																		
		10 OCT 75																		
		PAGE J1																		
NOISE SOURCE/SUBJECT:		OPERATIONS:																		
( A/M32A-60A GENERATOR SET		( GEN LOADED 100AMP, 240VAC																		
( AND A/M32C-10 AIR COND.		( 3PH, BY M24T-6 LOAD BANK,																		
( COMBINED UNIT OPERATION		( 40 PSI AIR TO A/M32C-10,																		
( NEAR FIELD NOISE LEVELS		( AC AIR OUTPUT 40 LBS/MIN )																		
FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	ANGLE (DEG)-->	0	20	40	60	80	100	120	140	160	160	160	160	160	160	160	160	160	160	160
	CONDITION-->	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
31.5		89	92	92	90	88	89	88	89	93	91	89	89	88	88	88	88	88	88	88
63		98	98	99	98	97	97	96	94	95	95	94	94	94	94	94	94	94	94	94
125		100	98	97	96	96	93	93	96	98	98	99	98	98	98	98	98	98	98	98
250		102	101	101	100	100	99	100	101	103	105	104	104	101	101	101	101	101	101	101
500		99	98	97	94	93	90	93	95	100	103	99	99	95	95	95	95	95	95	95
1000		91	89	90	90	89	88	88	90	90	95	95	95	93	93	93	93	93	93	93
2000		91	91	90	94	89	85	84	85	87	90	87	87	86	84	84	84	84	84	84
4000		95	94	92	89	87	86	86	86	89	94	92	92	88	86	86	86	86	86	86
8000		91	91	90	86	85	85	86	85	87	94	91	91	87	86	86	86	86	86	86
OVERALL		107	106	106	105	104	103	103	104	107	109	107	107	104	107	107	107	107	107	107



MEASURED SOUND PRESSURE LEVEL (DB)											IDENTIFICATION:			
TABLE:	OCTAVE BAND													
2														OMEGA 3.2
														TEST 75-030-001
														RUN 82
														10 OCT 75
														PAGE J2
-----														
NOISE SOURCE/SUBJECT: ( OPERATION: )														
( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )														
( AND A/M32C-18 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )														
( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )														
( NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )														
-----														
FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	2	2	2	2	2
	ANGLE (DEG)-->	260	280	300	320	340	360	0	0	20	40	60	80	100
	CONDITION-->	A	A	A	A	A	A	A	A	A	A	A	A	A
31.5		86	87	91	87	93	93	93	93	91	91	92	92	94
63		95	96	97	98	99	100	100	100	101	100	99	98	98
125		94	97	99	98	100	100	100	100	100	100	100	101	101
250		98	98	99	101	102	106	104	103	104	103	103	102	102
500		91	91	93	95	96	105	104	103	104	101	99	97	97
1000		90	89	91	93	91	95	94	93	93	93	93	92	92
2000		84	83	85	89	91	91	94	93	95	95	91	87	87
4000		86	87	87	90	92	95	96	96	93	91	91	90	91
8000		86	85	86	88	89	94	94	94	91	91	91	91	92
OVERALL		102	103	104	105	106	110	109	108	108	108	107	107	108

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)											
OCTAVE BAND											
NOISE SOURCE/SUBJECT: ( OPERATION: )											
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )											
AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )											
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )											
NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )											
FREQ (HZ)	DISTANCE (M)-->	2	2	2	2	2	2	2	2	2	2
ANGLE (DEG)-->	160	180	200	220	240	260	280	300	320	340	
CONDITION-->	A	A	A	A	A	A	A	A	A	A	
31.5	96	93	94	91	90	89	89	89	90	92	
63	101	99	98	95	95	97	96	97	99	100	
125	105	106	105	103	102	101	101	102	100	99	
250	109	110	108	104	103	102	103	103	103	105	
500	105	107	103	98	97	97	98	99	100	102	
1000	94	95	98	96	94	94	94	95	96	95	
2000	90	91	88	88	89	87	87	90	92	92	
4000	94	96	95	92	92	93	92	92	94	95	
8000	94	95	95	94	93	92	91	92	93	94	
OVERALL	112	113	111	108	107	107	107	107	108	109	

IDENTIFICATION:  
 ) OMEGA 3.2  
 ) TEST 75-030-001  
 ) RUN 03  
 ) 10 OCT 75  
 ) PAGE J3



MEASURES OF HUMAN NOISE EXPOSURE													IDENTIFICATION:		
3															
NOISE SOURCE/SUBJECT: ( OPERATION: )															
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )															
AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )															
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )															
NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )															
DISTANCE (M)--> 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4															
ANGLE (DEG)--> 0 20 40 60 80 100 120 140 160 180 200 220 240															
CONDITION-----> A A A A A A A A A A A A A A A															
HAZARD/PROTECTION															
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR															
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR															
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)															
NO PROTECTION															
OASLC 106 106 105 104 103 102 103 104 107 100 107 104 103 107 104 103															
OASLA 101 101 100 99 97 95 96 97 101 104 101 98 97															
T 25 25 30 36 50 71 60 50 25 15 25 42 50															
MINIMUM QPL EAR MUFFS															
OASLA* 83 82 82 81 80 79 79 81 83 85 83 81 80															
T 571 679 679 807 807 960 960 807 571 404 571 807 960															
AMERICAN OPTICAL 1700 EAR MUFFS															
OASLA* 79 78 78 77 76 75 75 76 79 80 79 76 75															
T 960 960 960 960 960 960 960 960 960 960 960 960 960															
V-51R EAR PLUGS															
OASLA* 78 77 77 75 74 73 74 75 79 81 78 76 74															
T 960 960 960 960 960 960 960 960 960 960 960 960 960															
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS															
OASLA* 63 62 61 60 59 58 59 60 63 65 63 61 59															
T 960 960 960 960 960 960 960 960 960 960 960 960 960															
H-133 GROUND COMMUNICATION UNIT															
OASLA* 73 74 73 72 71 69 70 70 72 75 74 71 70															
T 960 960 960 960 960 960 960 960 960 960 960 960 960															
COMMUNICATION															
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)															
PSIL 94 93 92 92 90 88 88 90 92 96 94 91 89															
ANNOYANCE															
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PND8)															
TONE CORRECTION (C IN DB)															
PNLT 118 117 115 117 114 111 111 113 115 119 116 113 112															
C 2 2 1 3 2 1 1 1 1 2 1 1 2															

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATIONS			
										OMEGA	3.2	TEST 75-030-001	
										RUN	02	10 OCT 75	
										PAGE	M2		
NOISE SOURCE/SUBJECT: ( OPERATION: )													
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )													
AND A/M32C-10 AIR COND. ( 3PH, BY H24T-8 LOAD BANK, )													
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )													
NEAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )													
	DISTANCE (M)-->	4	4	4	4	4	2	2	2	2	2	2	2
	ANGLE (DEG)-->	260	280	300	320	340	0	20	40	60	80	100	120
	CONDITION-->	A	A	A	A	A	A	A	A	A	A	A	A
HAZARD/PROTECTION													
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR													
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR													
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)													
NO PROTECTION													
	OASLC	102	103	104	105	106	110	109	108	106	107	107	109
	OASLA	96	96	97	99	100	105	105	104	103	101	100	102
	T	60	60	50	36	30	13	13	15	16	25	30	21
MINIMUM QPL EAR MUFFS													
	OASLA*	79	80	81	82	83	87	86	85	84	84	84	86
	T	960	960	807	679	571	285	339	404	460	400	480	339
AMERICAN OPTICAL 1700 EAR MUFFS													
	OASLA*	74	75	77	77	79	82	81	80	80	79	79	82
	T	960	960	960	960	960	679	807	960	960	960	960	679
V-51R EAR PLUGS													
	OASLA*	73	73	75	76	77	82	82	80	79	78	77	80
	T	960	960	960	960	960	679	679	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS													
	OASLA*	58	59	60	62	62	66	66	65	64	63	63	65
	T	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT													
	OASLA*	69	70	71	72	73	76	76	76	75	74	74	76
	T	960	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION													
	PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)												
	PSIL	88	88	90	92	93	97	98	96	97	94	92	94
ANNOYANCE													
	PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNOB)												
	TONE CORRECTION (C IN DB)												
	PNLT	111	111	112	115	116	118	120	119	120	117	115	117
	C	1	1	1	1	1	0	1	1	3	2	1	1

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.



TABLE: MEASURES OF HUMAN NOISE EXPOSURE

NOISE SOURCE/SUBJECT:		OPERATION:										IDENTIFICATIONS		
A/M32A-60A GENERATOR SET	(	GEN LOADED 100AMP, 240VAC												OMEGA 3.2
AND A/M32C-10 AIR COND.	(	3PH, BY M24T-8 LOAD BANK,												TEST 75-030-001
COMBINED UNIT OPERATION	(	40 PSI AIR TO A/M32C-10,												RUN 03
NEAR FIELD NOISE LEVELS	(	AC AIR OUTPUT 40 LBS/MIN												10 OCT 75
	(													PAGE H3
			2	2	2	2	2	2	2	2	2	2	2	
			160	180	200	220	240	260	280	300	320	340		
			A	A	A	A	A	A	A	A	A	A		
HAZARD/PROTECTION														
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR														
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR														
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)														
NO PROTECTION														
			112	113	111	108	107	106	107	107	108	109		
			105	107	105	102	101	101	101	101	103	104		
			13	9	13	21	25	25	25	25	18	15		
MINIMUM OPT EAR MUFFS														
			89	90	88	85	84	83	84	84	84	85		
			202	170	240	404	480	571	480	480	480	404		
AMERICAN OPTICAL 1700 EAR MUFFS														
			85	85	84	81	79	79	79	80	80	81		
			404	404	400	807	960	960	960	960	960	807		
V-51R EAR PLUGS														
			84	85	83	79	78	77	78	78	79	81		
			480	404	571	960	960	960	960	960	960	807		
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS														
			68	69	68	64	63	63	63	64	65	65		
			960	960	960	960	960	960	960	960	960	960		
M-133 GROUND COMMUNICATION UNIT														
			78	79	78	75	74	74	74	75	75	76		
			960	960	960	960	960	960	960	960	960	960		
COMMUNICATION														
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)														
			96	98	97	94	93	93	93	95	96	96		
ANNoyANCE														
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PHNDB)														
TONE CORRECTION (C IN DB)														
			120	121	120	117	116	116	115	117	119	119		
			1	0	1	1	1	0	0	1	2	1		
			1	0	1	1	1	0	0	1	2	1		

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)											IDENTIFICATIONS:			
1/3 OCTAVE BAND														
NOISE SOURCE/SUBJECT: ( OPERATION: )														
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )														
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )														
COMBINED UNIT OPERATION ( 3PH, BY M24T-8 LOAD BANK, )														
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )														
DISTANCE (M)-->														
ANGLE (DEG)-->														
CONDITION----->														
FREQ (HZ)	0	20	40	60	80	100	120	140	160	180	200	220	240	
25	79<	83<	84<	83<	83<	80<	76<	80<	83<	83<	81<	80<	79<	4
31.5	78<	82<	83<	83<	77<	78<	77<	79<	83<	80<	83<	79<	76<	4
40	76<	79<	79<	80<	80<	80<	79<	82<	84<	82<	83<	81<	79<	4
50	78<	82<	83<	83<	82<	84	84	85	86	87	86	83<	81<	4
63	83	84	87	87	88	88	87	90	91	91	91	90	86	4
80	90	88	89	91	93	94	95	95	96	96	97	96	92	4
100	90	88	88	93	93	94	96	96	98	98	95	96	95	4
125	90	86	87	92	91	91	92	91	93	94	93	92	89	4
160	92	89	91	94	96	94	95	96	95	94	94	92	93	4
200	85	84	86	88	90	90	89	90	88	88	86	86	87	4
250	81	80	84	85	85	85	85	90	93	96	91	87	85	4
315	84	82	82	85	85	85	91	95	98	99	97	93	88	4
400	77	78	82	83	83	85	88	93	93	93	91	91	87	4
500	76	77	83	86	90	89	91	96	94	91	90	91	88	4
630	78	77	85	84	87	88	87	87	90	92	85	86	90	4
800	75	79	81	79	83	80	82	82	87	87	85	87	88	4
1000	77	76	77	77	76	76	78	79	80	81	81	84	80	4
1250	74	77	77	77	78	76	78	79	82	80	80	81	80	4
1600	74	74	76	76	79	76	79	79	80	79	78	79	79	4
2000	79	77	79	76	78	79	81	82	85	81	80	85	83	4
2500	78	76	78	77	77	77	81	83	84	82	83	84	82	4
3150	79	78	78	79	78	79	81	81	85	83	84	83	82	4
4000	77	76	77	77	79	80	83	86	87	84	84	83	82	4
5000	58	82	77	77	77	79	84	88	90	89	85	83	81	4
6300	76	76	76	76	76	77	83	84	85	84	80	81	78	4
8000	73	73	74	74	74	75	81	82	84	81	79	78	77	4
10000	75	73	79	78	81	81	87	88	90	84	84	84	81	4
OVERALL	98	97	98	100	101	101	103	104	105	106	104	103	101	4

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

1/3 DELTA 8000  
 1/3 DELTA 2000 SURGEONE GENERAL 1000  
 1/3 DELTA 8000  
 1/3 DELTA 2000 SURGEONE GENERAL 1000



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION										
4 1/3 OCTAVE BAND																				
NOISE SOURCE/SUBJECT: ( OPERATION: )																				
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )																				
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )																				
COMBINED UNIT OPERATION ( 3PH, BY M24T-6 LOAD BANK, )																				
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )																				
FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	2	2	2	2	2	2	2	2	2	2	2
	ANGLE (DEG)-->	260	280	300	320	340	0	20	40	60	80	100	120	140	160	180	200	220	240	260
	CONDITION-->	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
25		79<	81<	85<	85<	85<	81<	79<	77<	77<	77<	77<	77<	77<	77<	77<	77<	77<	77<	77<
31.5		76<	77<	80<	80<	80<	79<	78<	78<	78<	78<	78<	78<	78<	78<	78<	78<	78<	78<	78<
40		83<	80<	80<	80<	80<	81<	80<	80<	80<	80<	80<	80<	80<	80<	80<	80<	80<	80<	80<
63		88	86	83	83	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
80		92	92	91	90	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
100		93	92	93	89	89	90	90	90	90	90	90	90	90	90	90	90	90	90	90
125		93	92	94	93	90	91	90	89	90	90	90	90	90	90	90	90	90	90	90
160		87	87	87	86	84	87	87	86	86	86	86	86	86	86	86	86	86	86	86
200		85	82	83	83	81	84	83	83	83	83	83	83	83	83	83	83	83	83	83
315		88	86	84	87	82	83	83	82	84	86	88	88	88	88	88	88	88	88	88
400		85	85	84	83	78	81	82	81	86	88	89	89	89	89	89	89	89	89	89
500		88	87	84	84	78	83	80	82	87	90	91	92	92	92	92	92	92	92	92
630		89	85	83	83	79	78	79	82	86	86	85	86	86	86	86	86	86	86	86
800		88	84	83	81	77	80	81	80	83	83	81	83	83	83	83	83	83	83	83
1000		79	79	78	78	73	82	85	78	78	77	78	78	78	78	78	78	78	78	78
1250		80	78	79	77	71	78	83	75	78	76	76	76	76	76	76	76	76	76	76
1600		77	76	75	74	72	75	78	75	75	75	75	75	75	75	75	75	75	75	75
2000		82	77	76	77	76	83	86	83	79	75	78	78	78	78	78	78	78	78	78
2500		82	78	76	76	76	84	84	81	78	78	80	80	80	80	80	80	80	80	80
3150		82	79	74	76	76	84	85	82	80	78	81	81	81	81	81	81	81	81	81
4000		80	81	75	75	75	82	83	78	80	78	81	81	81	81	81	81	81	81	81
5000		79	77	79	79	74	84	85	82	85	78	79	79	79	79	79	79	79	79	79
6300		76	75	73	74	74	84	83	78	81	77	78	78	78	78	78	78	78	78	78
8000		74	73	70	73	72	80	80	75	77	75	75	75	75	75	75	75	75	75	75
10000		79	78	73	72	71	78	75	75	80	81	80	80	80	80	80	80	80	80	80
OVERALL		101	100	100	96	97	99	99	98	100	101	101	101	102	102	102	102	102	102	102

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

IDENTIFICATION: OMEGA 3.2 TEST 75-030-001 RUN 05 10 OCT 75 PAGE F2

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATIONS:															
4 1/3 OCTAVE BAND		OMEGA 3.2 TEST 75-038-001 RUN 06 18 OCT 75 PAGE F3															
NOISE SOURCE/SUBJECT: ( OPERATION: )																	
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )																	
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )																	
COMBINED UNIT OPERATION ( 3PH, BY M24T-8 LOAD BANK, )																	
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )																	
FREQ (HZ)	DISTANCE (M)-->	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	ANGLE (DEG)-->	160	180	200	220	240	260	280	300	320	340						
	CONDITION----->	A	A	A	A	A	A	A	A	A	A						
25		81<	80<	80<	77<	77<	77<	76<	81<	76<	79<						
31.5		79<	80<	80<	77<	77<	77<	76<	81<	76<	79<						
40		81<	84<	83<	83<	81<	81<	82<	84<	81<	81<						
50		82<	83<	86	82<	81<	81<	86	84	84	85						
63		87	89	88	87	88	87	86	91	89	89						
80		92	91	92	93	90	91	91	92	90	90						
100		92	91	92	93	92	92	92	92	90	90						
125		90	89	89	90	89	89	90	89	89	89						
160		94	95	93	92	90	92	89	88	86	86						
200		94	93	92	90	90	92	89	88	86	86						
250		91	90	89	88	85	84	85	85	83	85						
315		92	92	90	92	88	88	87	84	84	85						
400		90	92	92	89	90	86	87	86	86	85						
500		90	90	90	91	91	89	87	88	88	86						
630		84	86	83	84	83	85	86	82	80	78						
800		85	85	82	82	81	80	84	81	81	77						
1000		78	78	78	81	79	80	78	78	77	75						
1250		82	80	78	78	79	78	78	77	78	80						
1600		80	79	76	78	79	76	75	77	75	76						
2000		81	80	80	78	78	77	78	79	77	79						
2500		83	80	80	81	78	78	76	77	75	78						
3150		86	82	84	83	81	80	80	80	77	79						
4000		88	84	84	85	81	79	80	80	78	79						
5000		95	86	86	86	82	78	76	79	85	80						
6300		91	84	85	86	81	77	77	78	79	80						
8000		86	82	82	83	79	76	75	76	74	76						
10000		91	88	88	87	84	82	81	80	74	76						
OVERALL		103	102	102	102	100	100	100	99	98	98						

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



TABLE 1		MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:				
OCTAVE BAND		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
NOISE SOURCE/SUBJECT:		( OPERATION:										OMEGA 3.2				
A/M32C-10 AIR CONDITIONER		( AC AIR OUTPUT 40LBS/MIN,										TEST 75-030-001				
AND A/M32A-68A GEN. SET		( GEN LOADED 100AMP, 240VAC										RUN 04				
COMBINED UNIT OPERATION		( 3PH, BY M24T-6 LOAD BANK,										10 OCT 75				
NEAR FIELD NOISE LEVELS		( 40 PSI AIR TO A/M32C-10										PAGE J1				
DISTANCE (M)-->		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
ANGLE (DEG)-->		0	20	40	60	80	100	120	140	160	180	200	220	240		
CONDITION----->		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
FREQ (HZ)		83	86	87	87	86	84	83	85	88	87	87	87	85	83	
31.5		91	90	92	93	94	93	95	96	97	98	98	98	97	93	
63		95	93	94	98	98	98	99	100	99	101	99	99	98	98	
125		88	87	90	92	92	92	94	97	99	101	98	94	91		
250		82	82	88	89	92	92	94	98	98	97	94	95	93		
500		80	82	83	83	85	82	84	85	89	88	87	89	89		
1000		82	81	82	81	83	82	85	86	88	86	86	88	86		
2000		84	84	82	83	83	84	87	90	92	90	89	88	86		
4000		80	79	81	81	82	83	89	90	92	88	86	86	83		
8000		98	97	98	100	101	101	103	104	105	106	104	104	183	101	
OVERALL																

MEASUREMENTS MADE AT THE FOLLOWING LOCATIONS:

1. 100 FT. FROM THE AIR CONDITIONER

2. 100 FT. FROM THE GENERATOR

3. 100 FT. FROM THE LOAD BANK

4. 100 FT. FROM THE AIR CONDITIONER AND GENERATOR

5. 100 FT. FROM THE LOAD BANK AND GENERATOR

6. 100 FT. FROM THE AIR CONDITIONER, GENERATOR AND LOAD BANK

7. 100 FT. FROM THE AIR CONDITIONER, GENERATOR AND LOAD BANK

8. 100 FT. FROM THE AIR CONDITIONER, GENERATOR AND LOAD BANK

9. 100 FT. FROM THE AIR CONDITIONER, GENERATOR AND LOAD BANK

10. 100 FT. FROM THE AIR CONDITIONER, GENERATOR AND LOAD BANK

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	
OCTAVE BAND																	
NOISE SOURCE/SUBJECT: ( OPERATION: )																	
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )																	
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )																	
COMBINED UNIT OPERATION ( 3PH, BY M24T-6 LOAD BANK, )																	
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )																	
IDENTIFICATION:																	
OMEGA 3.2																	
TEST 75-030-001																	
RUN 05																	
10 OCT 75																	
PAGE J2																	
FREQ (HZ)	DISTANCE (M)-->	ANGLE (DEG)---->	CONDITION----->	4	280	300	320	340	2	20	40	60	80	100	120	140	
31.5				83	84	84	86	87	85	81	91	91	91	91	82	88	86
63				94	93	92	91	91	91	91	94	96	97	97	92	93	93
125				96	96	97	95	94	96	95	94	92	97	98	98	97	97
250				91	90	85	90	87	90	89	89	92	93	94	94	94	95
500				92	90	88	88	83	86	85	86	91	93	93	93	94	94
1000				89	86	85	83	79	85	88	83	85	84	84	84	85	86
2000				85	82	80	81	79	86	89	85	82	81	83	83	84	84
4000				85	84	81	82	81	88	89	86	87	83	85	85	89	91
8000				81	80	77	78	77	86	85	81	84	83	83	83	90	90
OVERALL				101	100	100	98	97	99	99	97	100	100	100	101	102	102



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		OCTAVE BAND		IDENTIFICATION:						
4				OMEGA 3.2						
				TEST 75-030-001						
				RUN 06						
				10 OCT 75						
				PAGE J3						
NOISE SOURCE/SUBJECT: ( OPERATION: )										
( A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )										
( AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )										
( COMBINED UNIT OPERATION ( 3PH, BY M24T-8 LOAD BANK, )										
( NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )										
DISTANCE (M)--> 2 2 2 2 2 2 2 2 2 2 2 2										
ANGLE (DEG)--> 160 180 180 200 220 240 260 280 300 320 340										
CONDITION-----> A A A A A A A A A A A										
FREQ (HZ)		85	87	86	84	80	93	92	91	82
31.5		93	93	94	94	92	95	96	94	90
63		97	97	96	97	95	94	96	94	95
125		97	97	95	95	93	94	92	89	90
250		94	95	94	93	94	91	90	90	89
500		87	87	84	85	84	84	84	84	82
1000		86	84	84	84	83	82	81	80	82
2000		96	89	90	89	86	83	84	86	84
4000		94	90	90	90	87	84	83	81	82
8000										
OVERALL		103	102	102	102	100	100	100	98	98

MEASURES OF HUMAN NOISE EXPOSURE											IDENTIFICATIONS	
5											OMEGA 3.2	
NOISE SOURCE/SUBJECT: ( OPERATION )											TEST 75-030-001	
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )											RUN 04	
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )											10 OCT 75	
COMBINED UNIT OPERATION ( 3PH, BY M24T-8 LOAD BANK, )											PAGE H1	
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )												
HAZARD/PROTECTION												
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR												
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR												
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)												
NO PROTECTION												
MINIMUM QPL EAR MUFFS												
OASLA*												
AMERICAN OPTICAL 1700 EAR MUFFS												
V-51R EAR PLUGS												
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS												
H-133 GROUND COMMUNICATION UNIT												
COMMUNICATION												
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)												
PSIL												
ANNOYANCE												
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)												
TONE CORRECTION (C IN DB)												
PNLT												
C												

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.





MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:									
5										OMEGA 3.2									
NOISE SOURCE/SUBJECT: ( OPERATION: )										TEST 75-030-001									
A/M32C-10 AIR CONDITIONER ( AC AIR OUTPUT 40LBS/MIN, )										RUN 06									
AND A/M32A-60A GEN. SET ( GEN LOADED 100AMP, 240VAC )										10 OCT 75									
COMBINED UNIT OPERATION ( 3PH, BY M24T-8 LOAD BANK, )										PAGE M3									
NEAR FIELD NOISE LEVELS ( 40 PSI AIR TO A/M32C-10 )																			
DISTANCE (M)--> 2 2 2 2 2 2 2 2 2 2										2 2 2 2 2 2 2 2 2 2									
ANGLE (DEG)--> 160 180 200 220 240 260 280 300 320 340										340 320 300 280 260 240 220 200 180 160									
CONDITION-->>> A A A A A A A A A A										A A A A A A A A A A									
HAZARD/PROTECTION																			
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR																			
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR																			
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)																			
NO PROTECTION																			
OASLC																			
OASLA																			
T																			
MINIMUM QPL EAR MUFFS																			
OASLA*																			
T																			
AMERICAN OPTICAL 1700 EAR MUFFS																			
OASLA*																			
T																			
V-51R EAR PLUGS																			
OASLA*																			
T																			
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS																			
OASLA*																			
T																			
H-133 GROUND COMMUNICATION UNIT																			
OASLA*																			
T																			
COMMUNICATION																			
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)																			
PSIL																			
ANNNOYANCE																			
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNOB)																			
TONE CORRECTION (C IN DB)																			
PNLT																			
C																			

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.



TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATION:																		
1/3 OCTAVE BAND		OMEGA 1.4																		
DISTANCE = 20 METERS		TEST 75-030-001																		
NOISE SOURCE/SUBJECT:		RUN 01																		
( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )		TEMP = 29 C																		
( AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )		BAR PRESS = .693 M HG																		
( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )		REL HUMID = 24 %																		
( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )		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	82<	80<	79<	81<	81<	80<	80<	79<	79<	79<	79<	76<	76<	75<	74<	75<	76<	76<	75<	80<
31.5	80<	80<	80<	79<	79<	78<	78<	77<	77<	77<	77<	79<	79<	79<	79<	78<	78<	78<	78<	80<
40	80<	78<	80<	80<	80<	79<	78<	78<	77<	77<	77<	77<	77<	76<	77<	77<	77<	77<	77<	82<
50	75<	77<	77<	77<	77<	76<	76<	76<	75<	75<	75<	79<	79<	79<	79<	79<	79<	79<	79<	82<
63	79<	77<	78<	78<	79<	79<	79<	78<	77<	77<	77<	77<	77<	77<	77<	77<	77<	77<	77<	82<
80	82	82	79<	83	83	82	82	82	81	81	81	81	81	81	81	81	81	81	81	85
100	85	85	81	84	87	84	83	83	80	79	81	81	80	79	79	79	79	79	79	85
125	84	82	80	84	84	83	83	83	83	82	86	85	82	81	81	81	81	81	81	86
160	86	84	82	88	85	84	83	83	83	82	86	85	82	81	81	81	81	81	81	86
200	78	76	79	81	78	78	79	79	79	79	79	79	79	79	79	79	79	79	79	85
250	80	78	81	83	81	80	80	80	81	81	81	81	81	81	81	81	81	81	81	86
315	83	82	86	87	85	83	82	82	81	81	81	80	77	77	77	77	77	77	77	84
400	77	75	82	81	80	79	78	77	75	74	74	72	71	71	71	71	71	71	71	84
500	78	77	83	81	81	81	80	77	76	76	77	75	72	71	68	69	76	81	82	82
630	71	72	79	77	76	74	73	71	71	70	70	70	72	68	74	76	74	77	82	83
800	68	67	74	70	72	71	71	71	71	71	69	69	73	71	76	74	76	79	84	84
1000	65	64	68	68	69	68	67	66	64	64	68	66	69	68	71	73	73	72	78	78
1250	61	62	68	67	70	68	66	64	63	63	65	66	67	65	66	65	67	68	71	71
1600	58	65	66	66	66	68	67	64	63	64	63	64	62	63	65	65	68	68	71	71
2000	62	67	69	69	68	68	68	68	69	76	69	69	69	69	65	68	68	69	68	70
2500	65	68	72	72	72	71	71	71	71	71	70	69	67	68	67	66	69	70	72	73
3150	67	65	72	71	72	74	75	75	78	71	71	71	70	71	71	71	71	70	72	73
4000	66	69	71	71	73	74	75	77	74	74	72	72	73	72	72	71	70	72	75	76
5000	65	69	69	68	67	67	67	67	66	66	66	68	67	69	72	71	73	74	74	79
6300	63	66	67	68	67	66	65	65	64	63	64	65	66	67	69	69	69	71	73	74
8000	58	64	66	67	68	66	64	63	64	64	64	65	65	65	65	65	65	67	68	70
10000	60	65	67	72	70	69	67	66	65	65	66	66	67	68	68	68	68	70	72	71
OVERALL	93	92	93	95	94	93	92	91	90	91	91	89	89	89	89	90	92	93	94	95

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 1		MEASURED SOUND PRESSURE LEVEL (DB)													IDENTIFICATION:				
1/3 OCTAVE BAND															OMEGA 1-4				
DISTANCE = 20 METERS															TEST 75-030-001				
NOISE SOURCE/SUBJECT:		METEOROLOGY:													RUN 02				
( OPERATION:															15 OCT 75				
( GEN LOADED 100AMP, 240VAC		TEMP = 29 C																	
( A/M32A-60A GENERATOR SET		BAR PRESS = .693 H MG																	
( AND A/M32C-10 AIR COND.		REL HUMID = 24 %																	
( COMBINED UNIT OPERATION															PAGE 2				
( 40 PSI AIR TO A/M32C-10,																			
( FAR FIELD NOISE LEVELS																			
( AC AIR OUTPUT 40 LBS/MIN																			
		ANGLE (DEGREES)																	
FREQ (HZ)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
25																			
31.5																			
40																			
50																			
63																			
80																			
100																			
125																			
160																			
200																			
250																			
315																			
400																			
500																			
630																			
800																			
1000																			
1250																			
1600																			
2000																			
2500																			
3150																			
4000																			
5000																			
6300																			
8000																			
10000																			
OVERALL	94	93	92	91	91	91	90	91	91	92	93	92	93	94	94	94	95	93	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



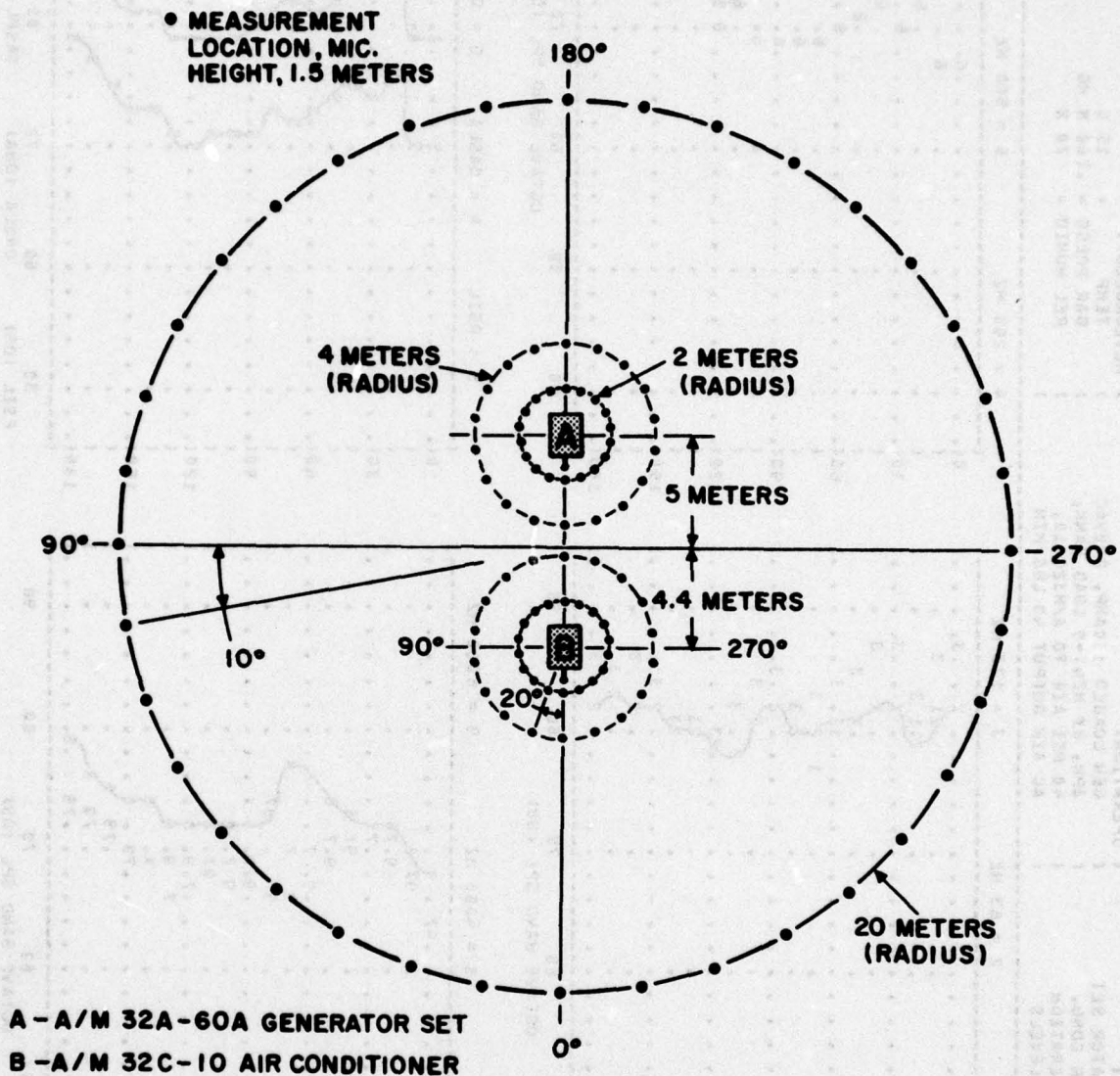


Figure 1. Measurement Locations

FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

**2** DISTANCE = 30 METERS

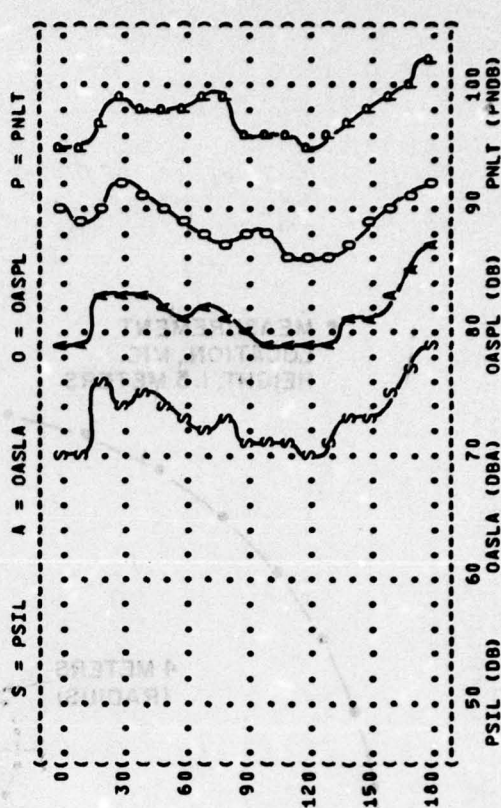
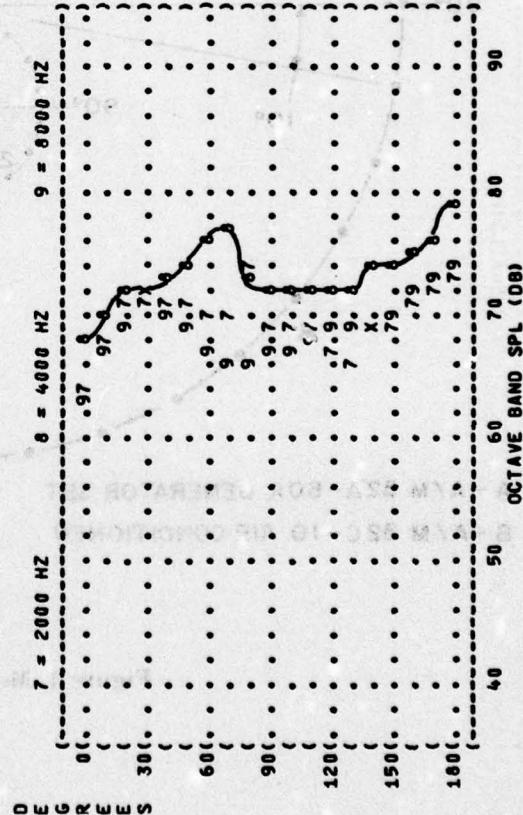
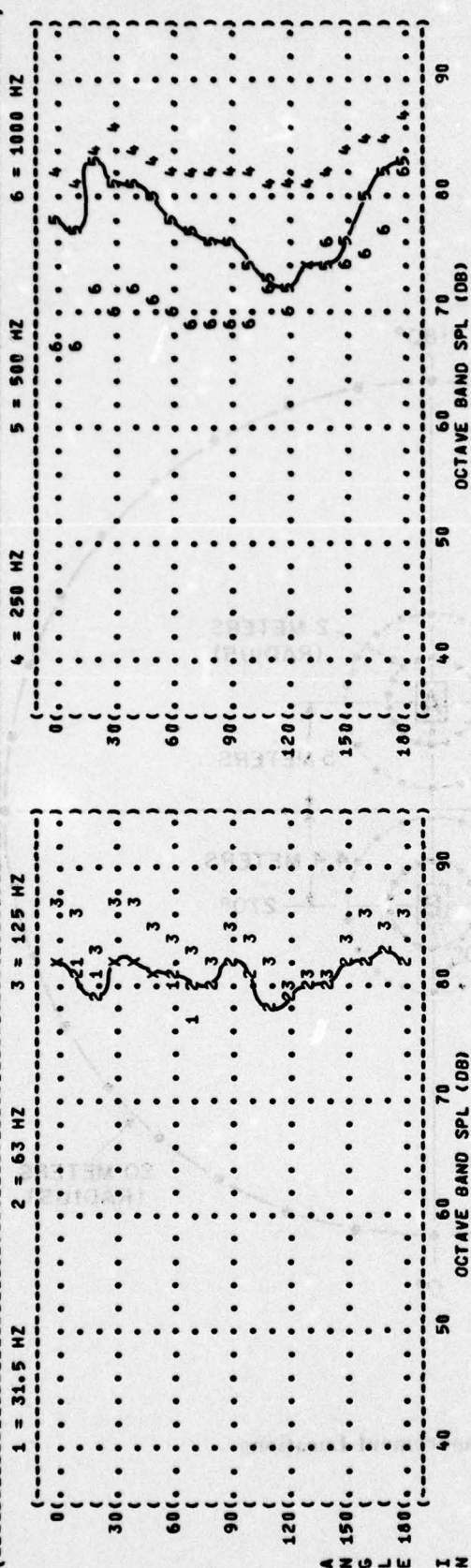
IDENTIFICATION:  
OMEGA 1.4  
TEST 75-030-001  
RUN 01  
15 OCT 75  
PAGE 4

NOISE SOURCE/SUBJECT:  
A/M32A-60A GENERATOR SET  
AND A/M32C-10 AIR COND.  
COMBINED UNIT OPERATION  
FAR FIELD NOISE LEVELS

OPERATIONS:  
GEN LOADED 100AMP, 240VAC  
3PH, BY H24T-8 LOAD BANK,  
40 PSI AIR TO A/M32C-10,  
AC AIR OUTPUT 40 LBS/MIN

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

4 = 250 HZ 5 = 500 HZ 6 = 1000 HZ





( ( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS  
 ( ( DISTANCE = 30 METERS  
 ( ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( ( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC  
 ( ( AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK,  
 ( ( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10,  
 ( ( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN  
 ( ( METEOROLOGY: ( TEMPERATURE = 15 C  
 ( ( BAR PRESS = .760 M HG  
 ( ( REL HUMID = 70 %  
 ( ( PAGE 4  
 ( ( IDENTIFICATION: ( OMEGA 1.4  
 ( ( TEST 75-030-001  
 ( ( RUN 02  
 ( ( 15 OCT 75  
 ( ( 6 = 1000 HZ

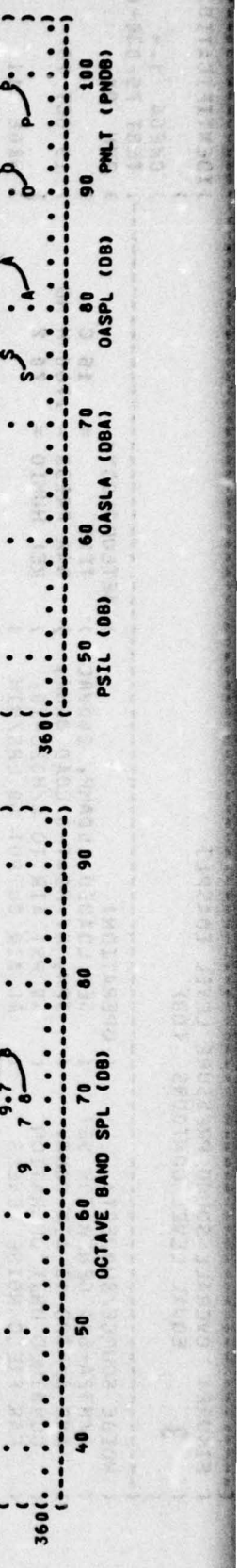
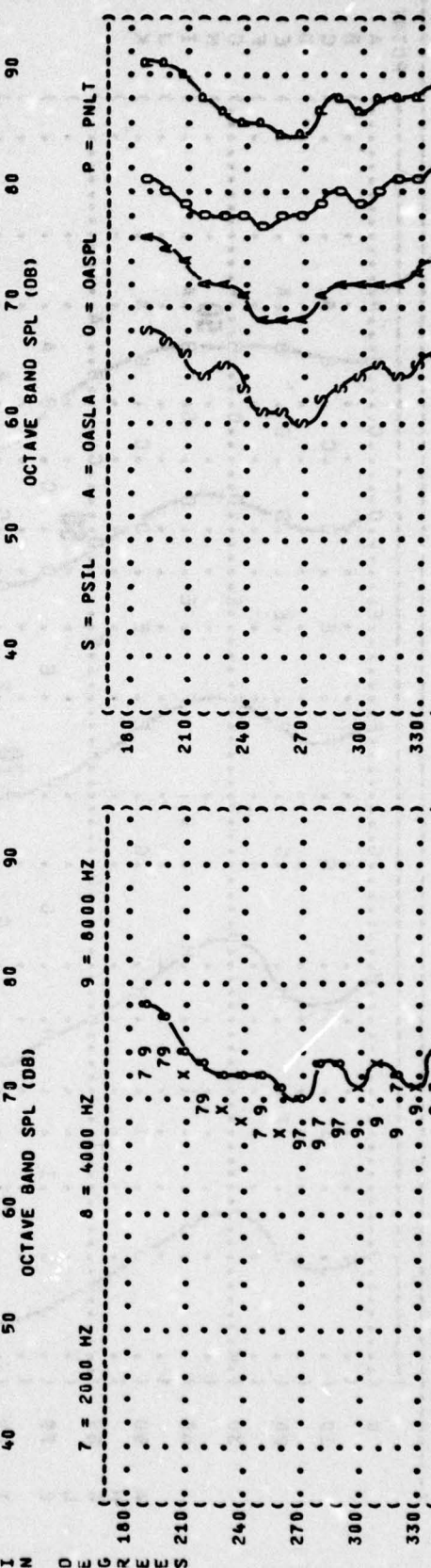
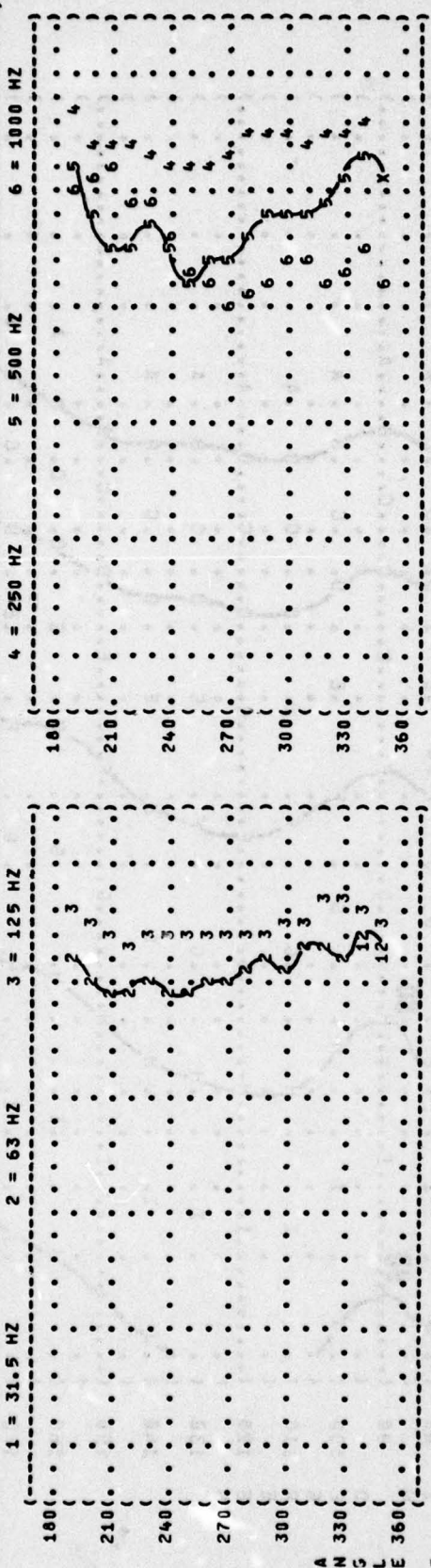
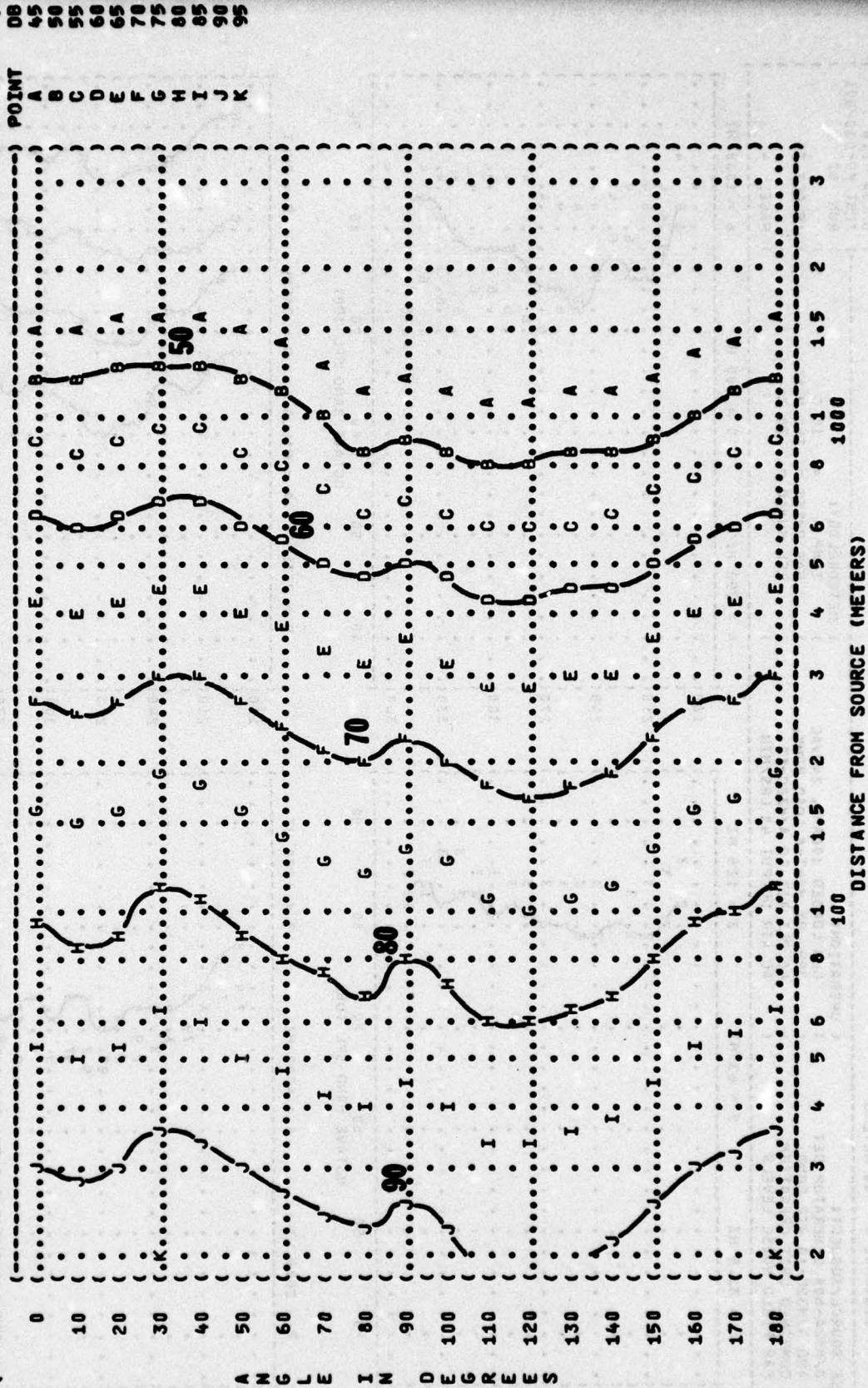


FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)  
 3 EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-030-001  
 RUN 01  
 15 OCT 75  
 PAGE 11



A M G L E I W D E G R E S

POINT

DB 45 50 55 60 65 70 75 80 85 90 95

DISTANCE FROM SOURCE (METERS)

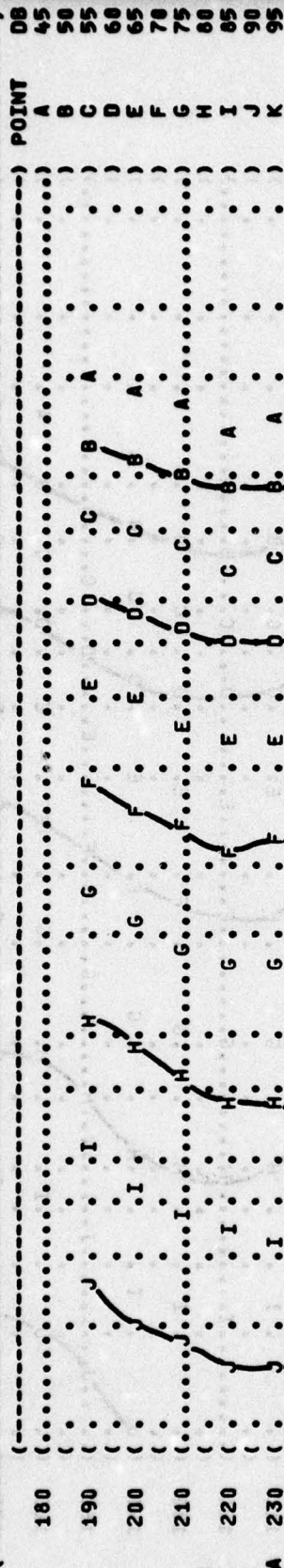


FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)  
 EQUAL LEVEL CONTOURS (DB)

3

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-6 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )

IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 02 )  
 ) 15 OCT 75 )  
 ) PAGE 11 )



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

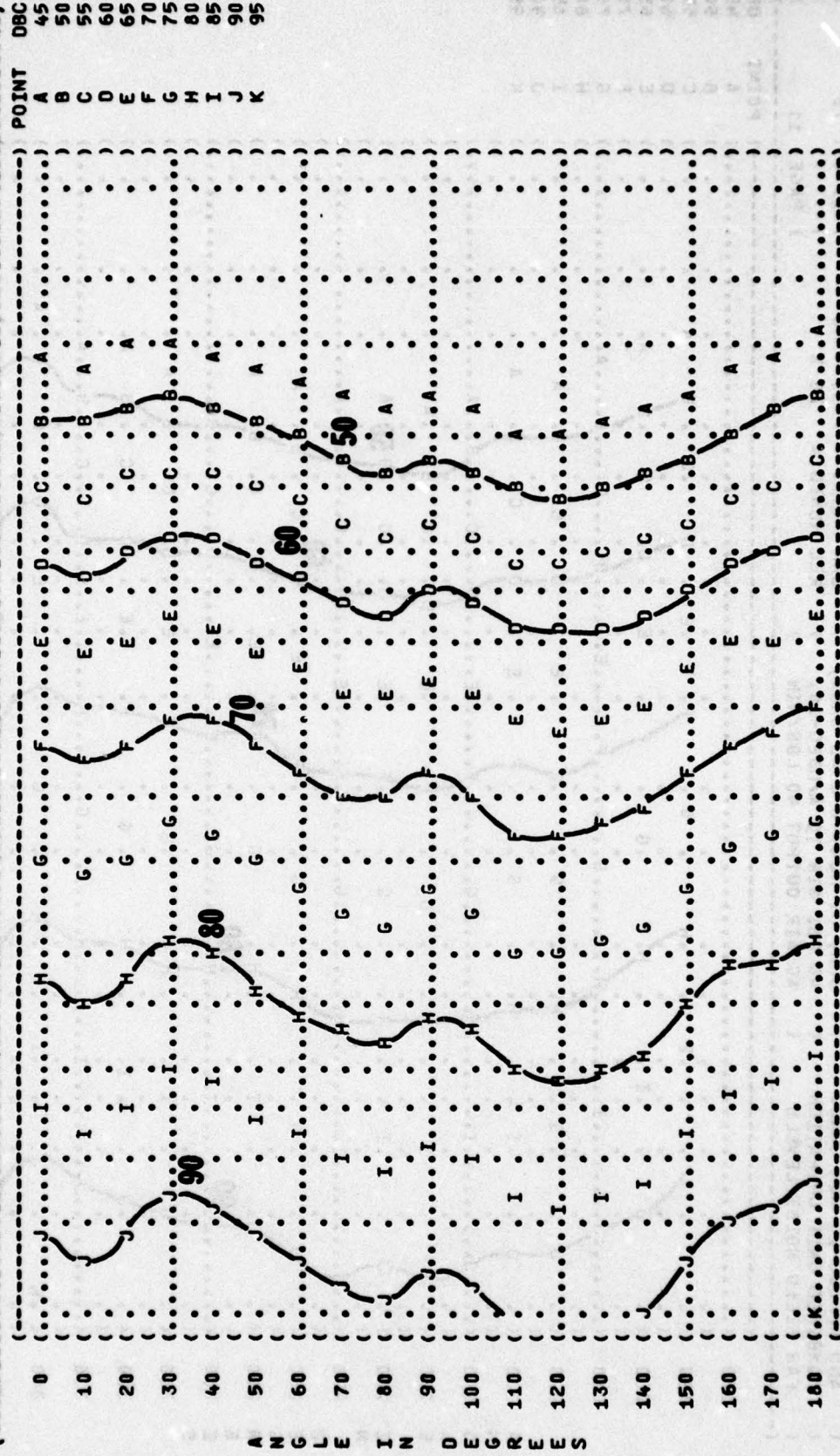
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DISTANCE FROM SOURCE (METERS)

EDWIN TEST COMPANY  
 STROUS & METCALO BASKET COMPANY (OFFICE)

FIGURE 1 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION: OMEGA 1.4  
 TEST 75-030-001  
 RUN 01  
 METEOROLOGY: TEMPERATURE = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION: GEN LOADED 100AMP, 240VAC  
 3PH, BY M24T-8 LOAD BANK,  
 40 PSI AIR TO A/M32C-10,  
 AC AIR OUTPUT 40 LBS/MIN



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

2 3 4 5 6 8 10 15 20 30 40 50 60 80 100 150 200

DISTANCE FROM SOURCE (METERS)

ANGL EINS DEGR EES



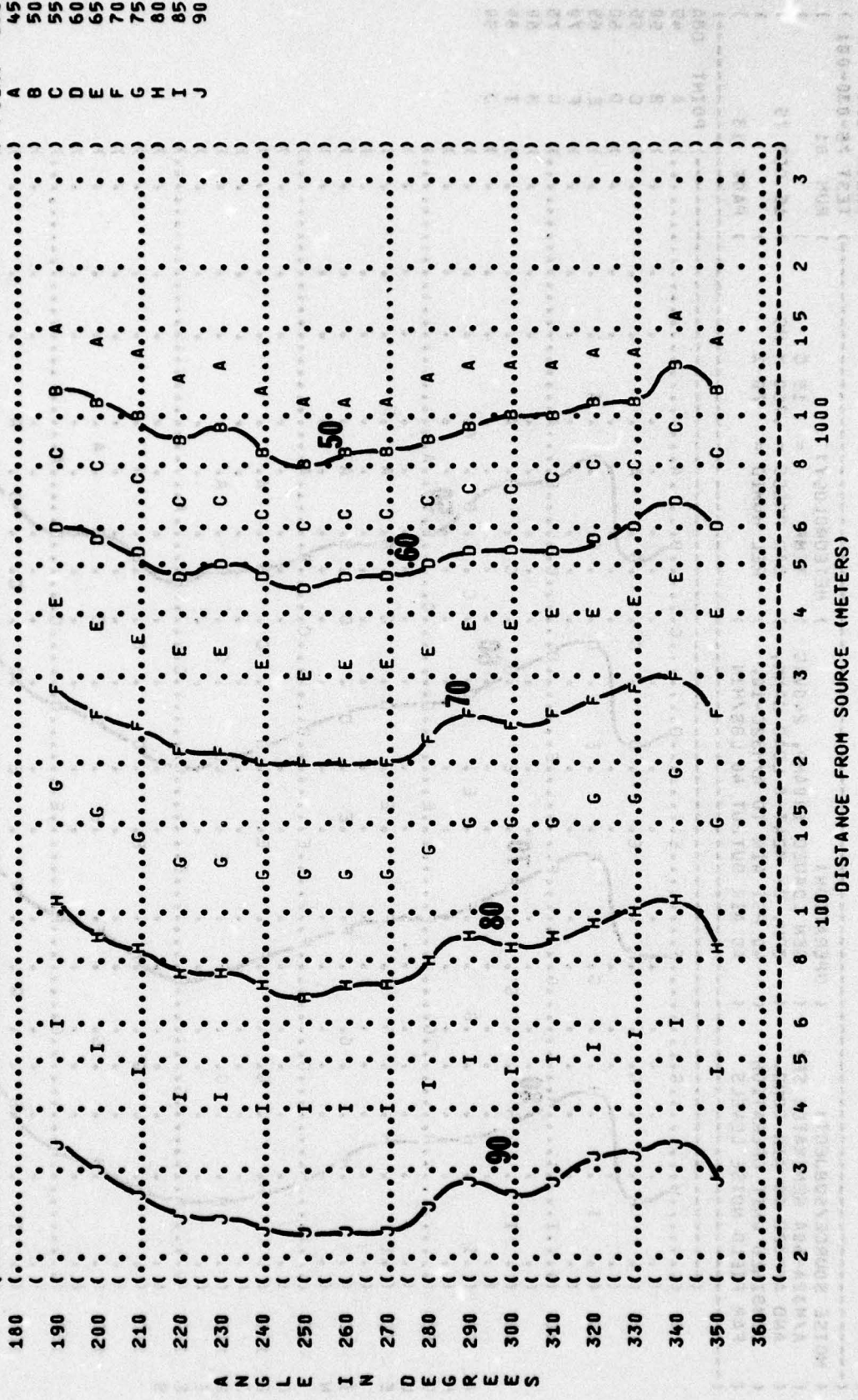
FIGURE 4 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION: OMEGA 1.4  
 TEST 75-030-001  
 RUN 02  
 15 OCT 75  
 PAGE 12

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

OPERATION:  
 GEN LOADED 100AMP, 2+0VAC  
 3PH, BY M24T-8 LOAD BANK,  
 40 PSI AIR TO A/M32C-10,  
 AC AIR OUTPUT 40 LBS/MIN

NOISE SOURCE/SUBJECT:  
 A/M32A-60A GENERATOR SET  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 FAR FIELD NOISE LEVELS



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

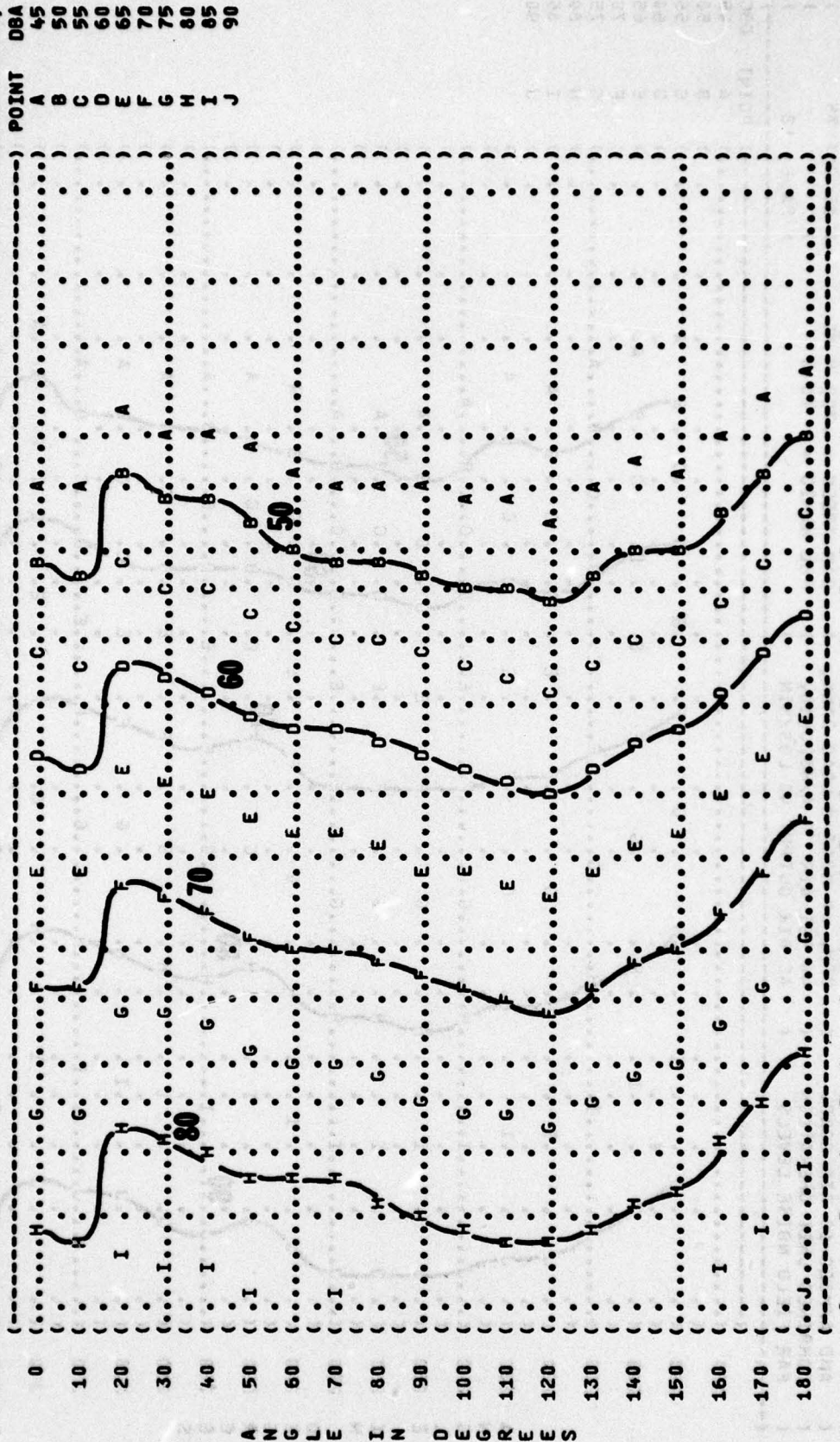
FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)  
 EQUAL LEVEL CONTOURS (DBA)

5

NOISE SOURCE/SUBJECT: ( OPERATION: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )  
 AND A/M32C-10 AIR COND. ( 3PH, BY H247-6 LOAD BANK, )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

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

IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-030-001 )  
 RUN 01 )  
 15 OCT 75 )  
 PAGE 13 )



DISTANCE FROM SOURCE (METERS)

0 10 20 30 40 50 60 70 80 90 100 150 200 300 400 500 600 800 1000

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

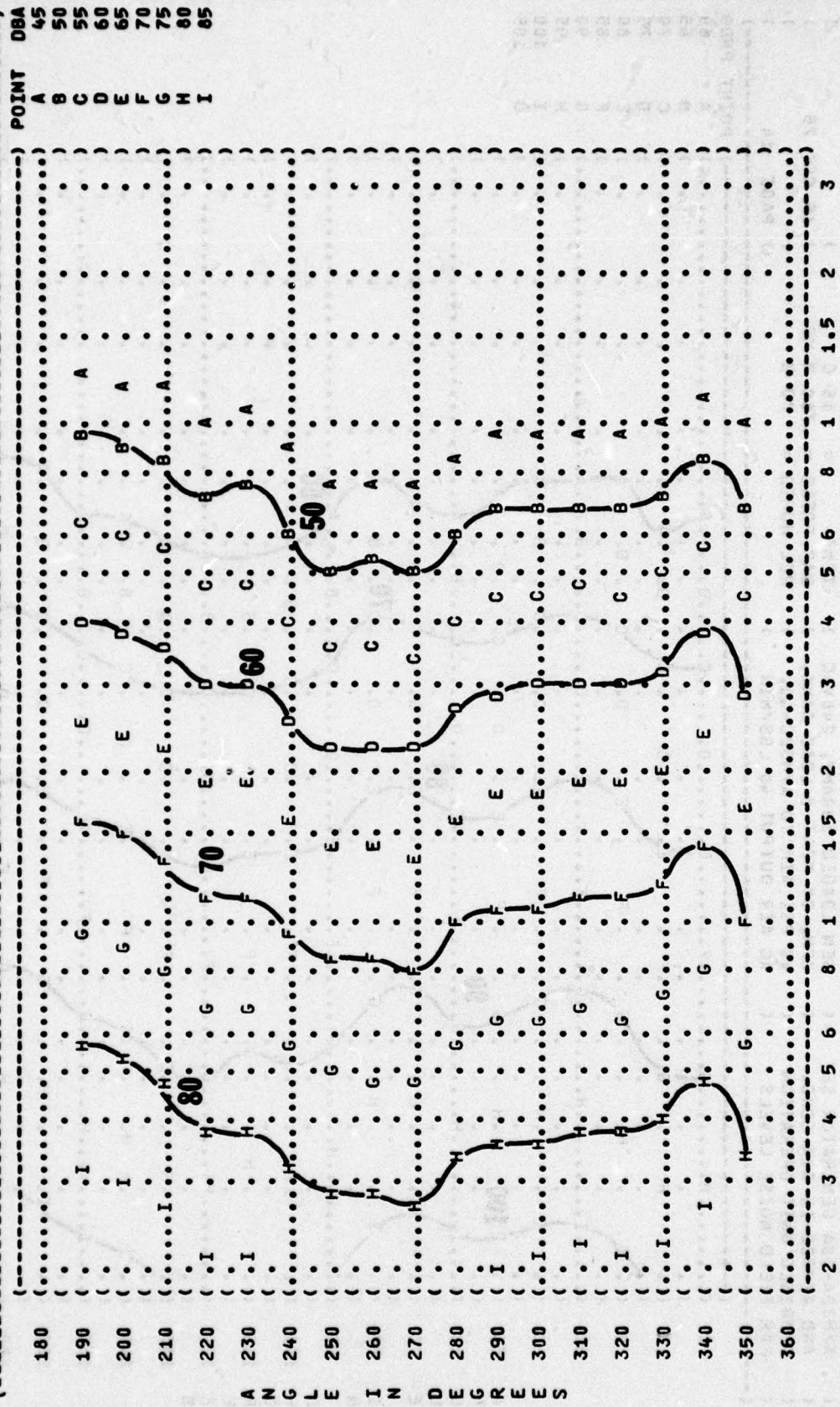
A N G L E I N D E G R E E S



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

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-6 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )

IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-030-001 )  
 RUN 02 )  
 15 OCT 75 )  
 PAGE 13 )



DISTANCE FROM SOURCE (METERS)

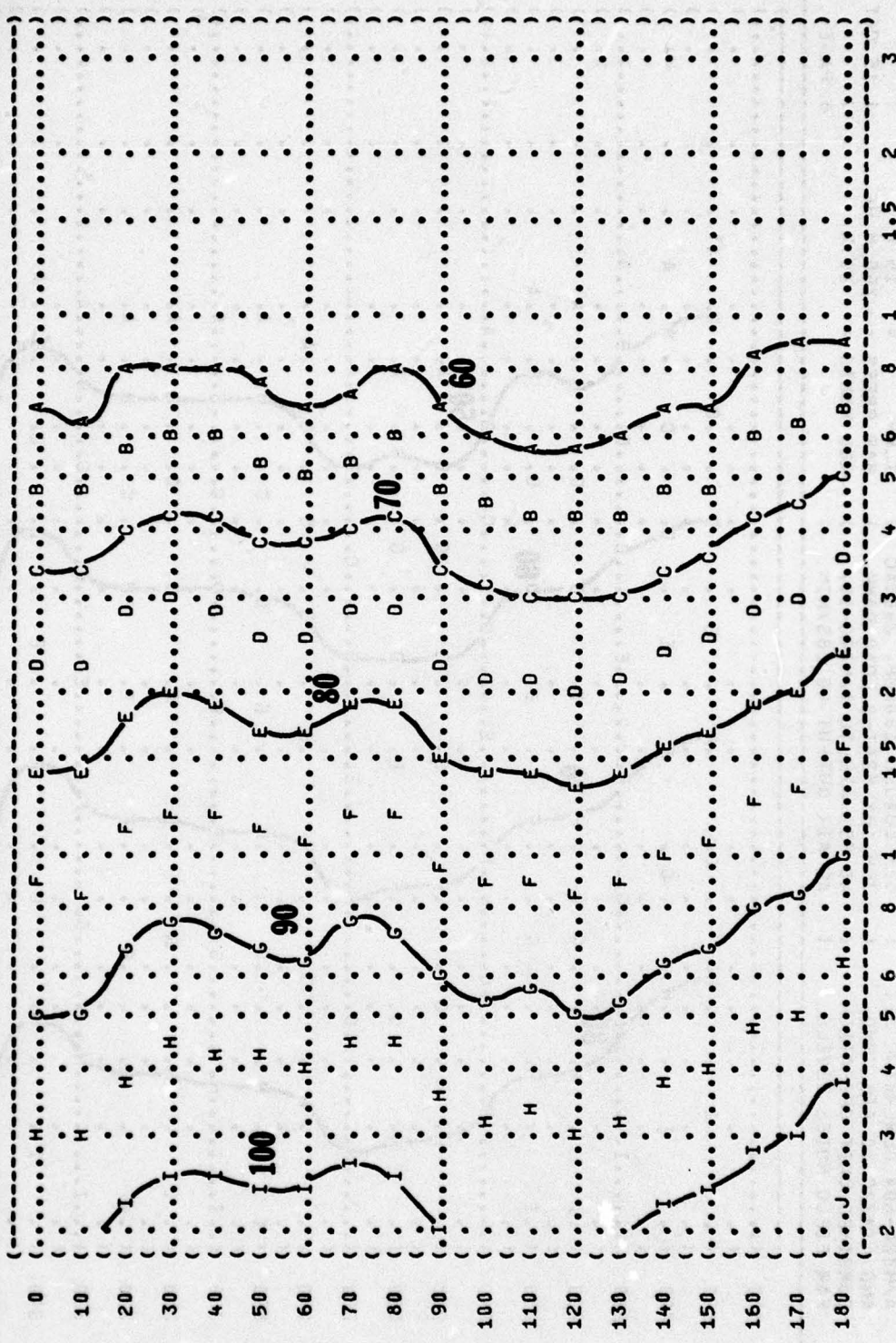
FIGURE: PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT)  
 EQUAL LEVEL CONTOURS (PNDB)

6

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )

IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 01 )  
 ) 15 OCT 75 )  
 ) PAGE 14 )

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

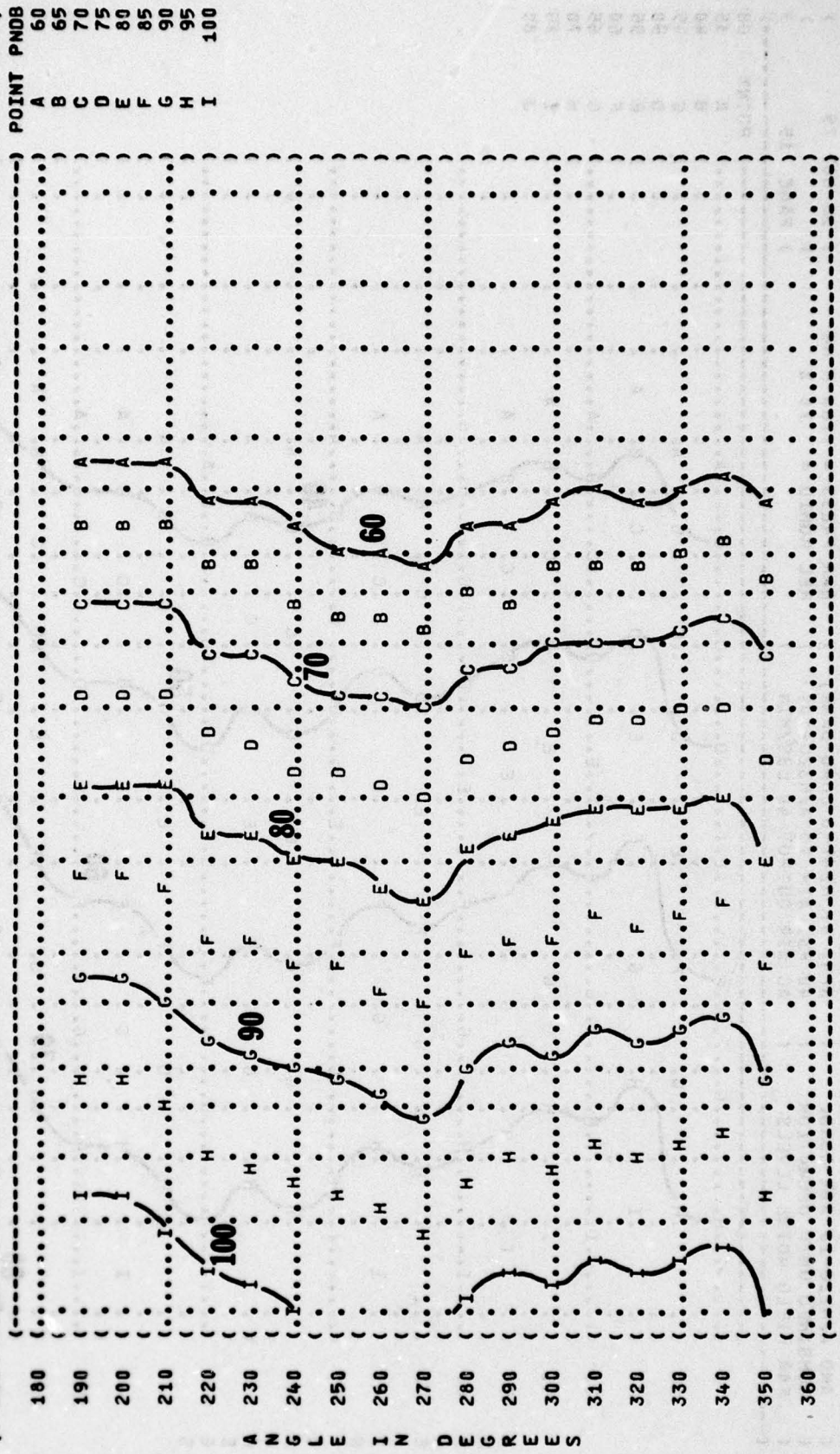


DISTANCE FROM SOURCE (METERS)

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



IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-030-001  
 RUN 02  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 OPERATION:  
 GEN LOADED 100AMP, 240VAC  
 3PH, BY M24T-8 LOAD BANK,  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 40 PSI AIR TO A/M32C-10,  
 FAR FIELD NOISE LEVELS  
 AC AIR OUTPUT 40 LBS/MIN



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

FIGURE 1 PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT)  
 EQUAL LEVEL CONTOURS (PNDB)  
 6  
 NOISE SOURCE/SUBJECT:  
 A/M32A-60A GENERATOR SET  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 FAR FIELD NOISE LEVELS  
 OPERATION:  
 GEN LOADED 100AMP, 240VAC  
 3PH, BY M24T-8 LOAD BANK,  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 40 PSI AIR TO A/M32C-10,  
 AC AIR OUTPUT 40 LBS/MIN  
 METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %  
 POINT PNDB  
 A 60  
 B 65  
 C 70  
 D 75  
 E 80  
 F 85  
 G 90  
 H 95  
 I 100  
 DISTANCE FROM SOURCE (METERS)

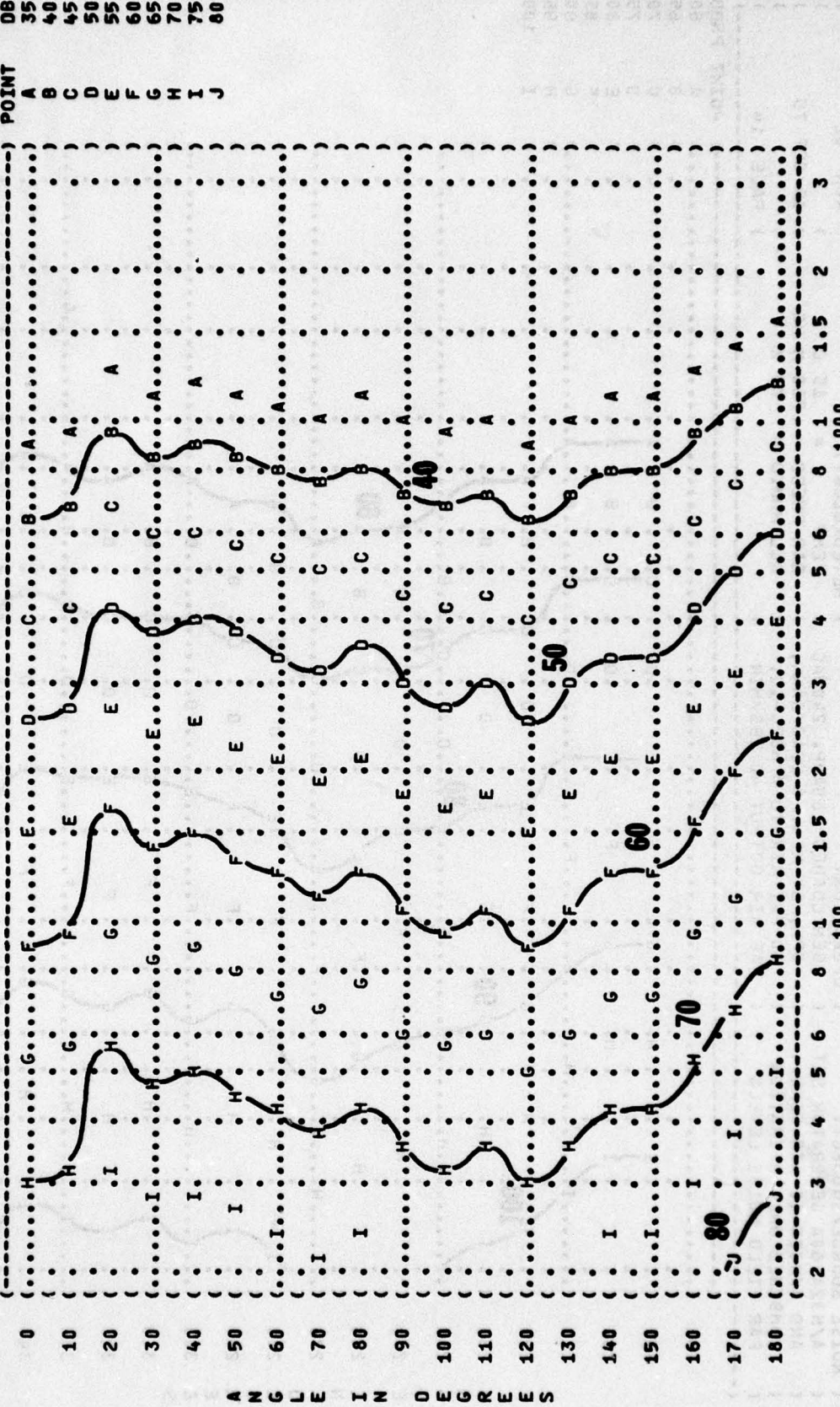
FIGURE 7  
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)  
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION: OMEGA 1.4  
TEST 75-030-001  
RUN 01  
15 OCT 75  
PAGE 15

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

OPERATIONS: GEN LOADED 100AMP, 240VAC  
3PH, BY M24T-8 LOAD BANK,  
40 PSI AIR TO A/M32C-10,  
AC AIR OUTPUT 40 LBS/MIN

NOISE SOURCE/SUBJECT: A/M32A-60A GENERATOR SET  
AND A/M32C-10 AIR COND.  
COMBINED UNIT OPERATION  
FAR FIELD NOISE LEVELS



POINT  
A  
B  
C  
D  
E  
F  
G  
H  
I  
J

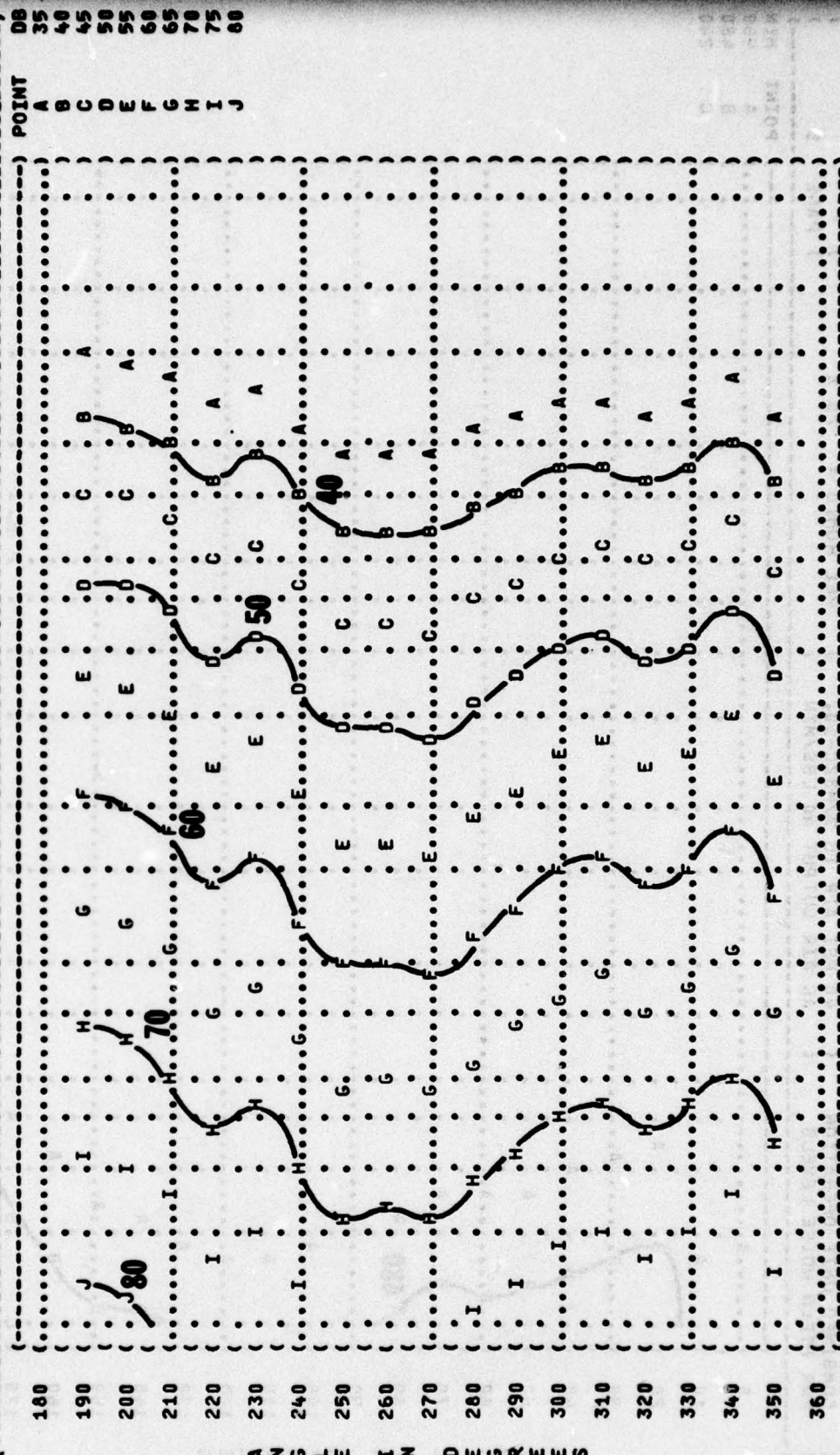


IDENTIFICATION: OMEGA 1.4  
 TEST 75-030-001  
 RUN 02  
 15 OCT 75  
 PAGE 15

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

OPERATION:  
 GEN LOADED 100AMP, 240VAC  
 3PH, BY M24T-8 LOAD BANK,  
 40 PSI AIR TO A/M32C-10,  
 AC AIR OUTPUT 40 LBS/MIN

NOISE SOURCE/SUBJECT:  
 A/M32A-60A GENERATOR SET  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 FAR FIELD NOISE LEVELS



ANGLE FROM SOURCE (METERS)  
 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3

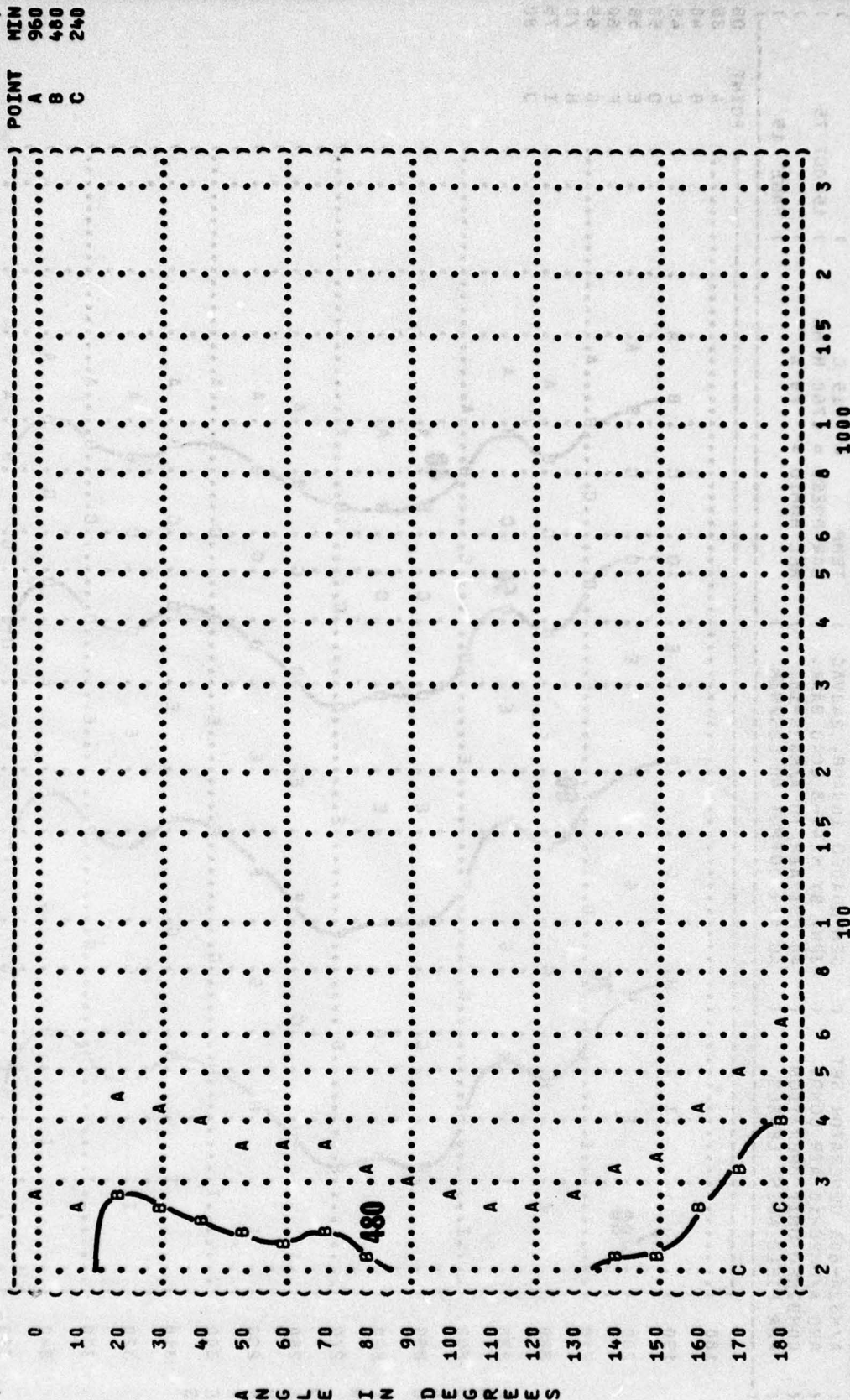
DISTANCE FROM SOURCE (METERS)  
 100 1000

) IDENTIFICATIONS )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 01 )  
 ) 15 OCT 75 )  
 ) PAGE 5 )

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

) OPERATION: )  
 ) GEN LOADED 100AMP, 240VAC )  
 ) 3PH, BY M24T-8 LOAD BANK, )  
 ) 40 PSI AIR TO A/M32C-10, )  
 ) AC AIR OUTPUT 40 LBS/MIN )

) NOISE SOURCE/SUBJECT: )  
 ) A/M32A-60A GENERATOR SET )  
 ) AND A/M32C-10 AIR COND. )  
 ) COMBINED UNIT OPERATION )  
 ) FAR FIELD NOISE LEVELS )

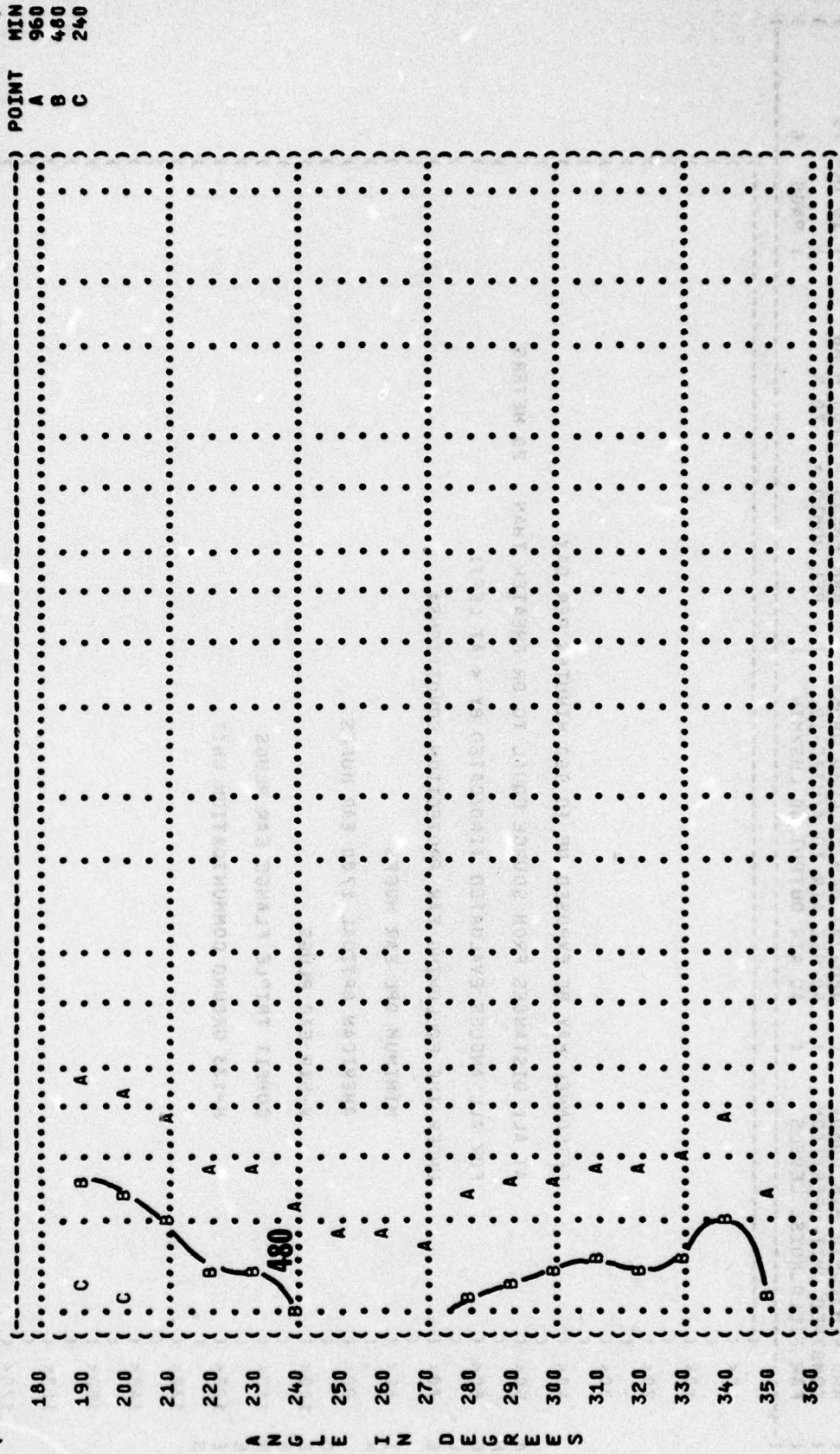


DISTANCE FROM SOURCE (METERS)

ANGLE IN DEGREES



( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( 8 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( NO PROTECTION ) )  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( A/M32A-60A GENERATOR SET ) ( GEN LOADED 100AMP, 240VAC ) ( TEMP = 15 C )  
 ( AND A/M32C-10 AIR COND. ) ( 3PH, BY M24T-8 LOAD BANK, ) ( BAR PRESS = .760 M HG )  
 ( COMBINED UNIT OPERATION ) ( 40 PSI AIR TO A/M32C-10, ) ( REL HUMID = 70 % )  
 ( FAR FIELD NOISE LEVELS ) ( AC AIR OUTPUT 40 LBS/MIN ) ( PAGE 5 )



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

A N G L E I N D E R E E S  
 NOTE: THE ABOVE IS A PLOT OF THE MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) FOR THE SPECIFIED NOISE SOURCE AND OPERATING CONDITIONS. THE ABOVE IS A PLOT OF THE MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) FOR THE SPECIFIED NOISE SOURCE AND OPERATING CONDITIONS.

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

8

IDENTIFICATION: OMEGA 1.4

TEST 75-030-001

RUN 01

15 OCT 75

PAGE 6

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:

A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C

AND A/M32C-10 AIR COND. ( 3PH, BY M24T-6 LOAD BANK, ) BAR PRESS = .760 H HG

COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 %

FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

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 20 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
- COMFIT TRIPLE FLANGE EAR PLUGS
- H-133 GROUND COMMUNICATION UNIT

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

100 1000

DISTANCE FROM SOURCE (METERS)



8  
FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)  
IDENTIFICATION:  
OMEGA 1.4  
TEST 75-030-001  
RUN 02  
15 OCT 75  
PAGE 6

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C  
AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG  
COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 %  
FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

180  
190<  
200<  
210<  
220<  
230<  
240<  
250<  
260<  
270<  
280<  
290<  
300<  
310<  
320<  
330<  
340<  
350<  
360

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 20 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

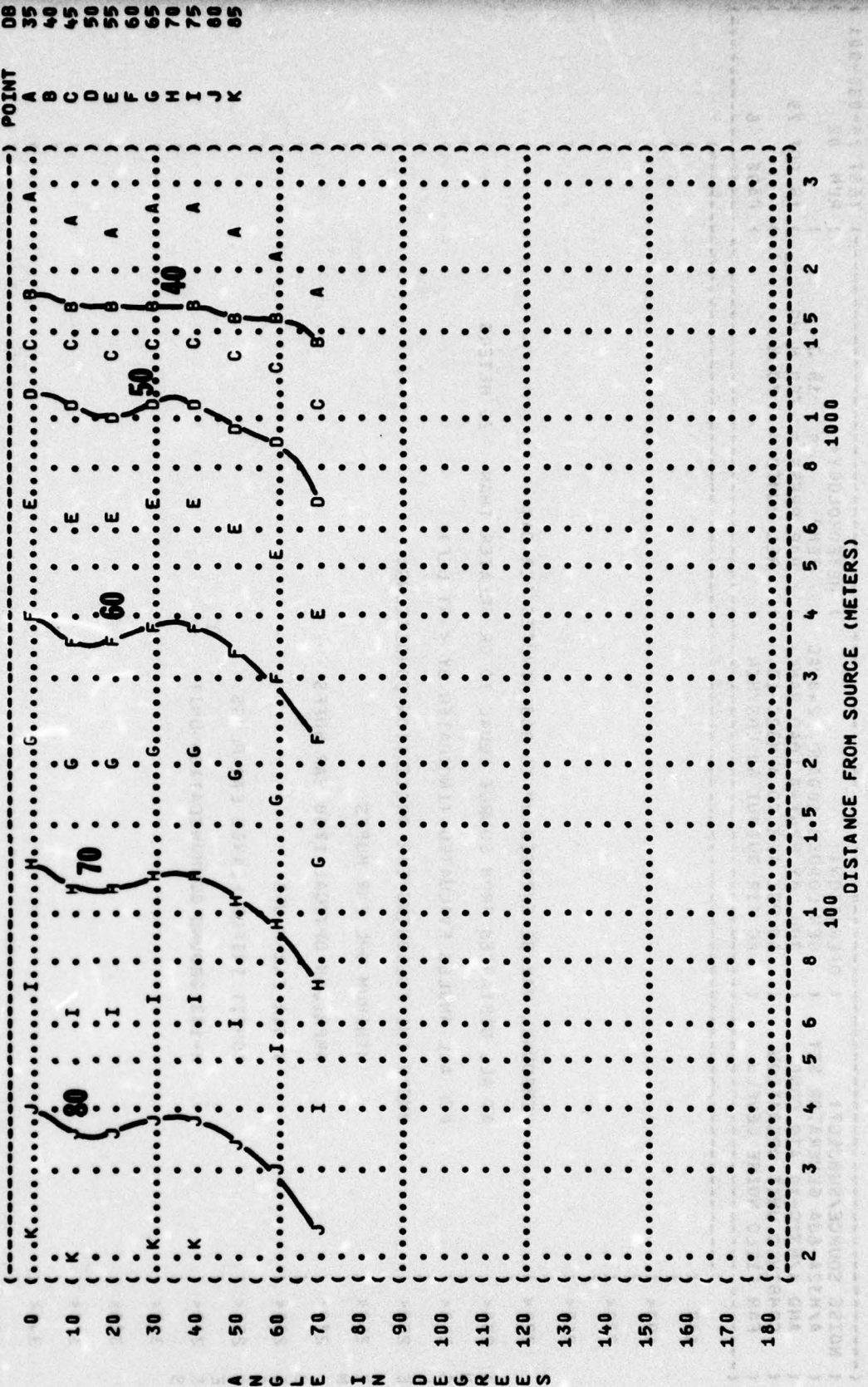
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

- MINIMUM QPL EAR MUFFS
- AMERICAN OPTICAL 1700 EAR MUFFS
- V-51R EAR PLUGS
- COMFIT TRIPLE FLANGE EAR PLUGS
- H-133 GROUND COMMUNICATION UNIT

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

68  
90  
120  
150  
180  
210  
240  
270  
300  
330  
360  
390  
420  
450  
480  
510  
540  
570  
600  
630  
660  
690  
720  
750  
780  
810  
840  
870  
900  
930  
960  
990  
1020  
1050  
1080  
1110  
1140  
1170  
1200

( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( 9 EQUAL LEVEL CONTOURS (DB) ) )  
 ( 31.5 HZ OCTAVE BAND ) )  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 ( AND A/M32C-10 AIR COND. ( 3PM, BY M24T-6 LOAD BANK, ) BAR PRESS = .760 M HG )  
 ( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 ( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) ) PAGE 16 )  
 ( TEST 75-030-001 ) RUN 01 )  
 ( ) 15 OCT 75 )  
 ( ) )



DISTANCE FROM SOURCE (METERS)



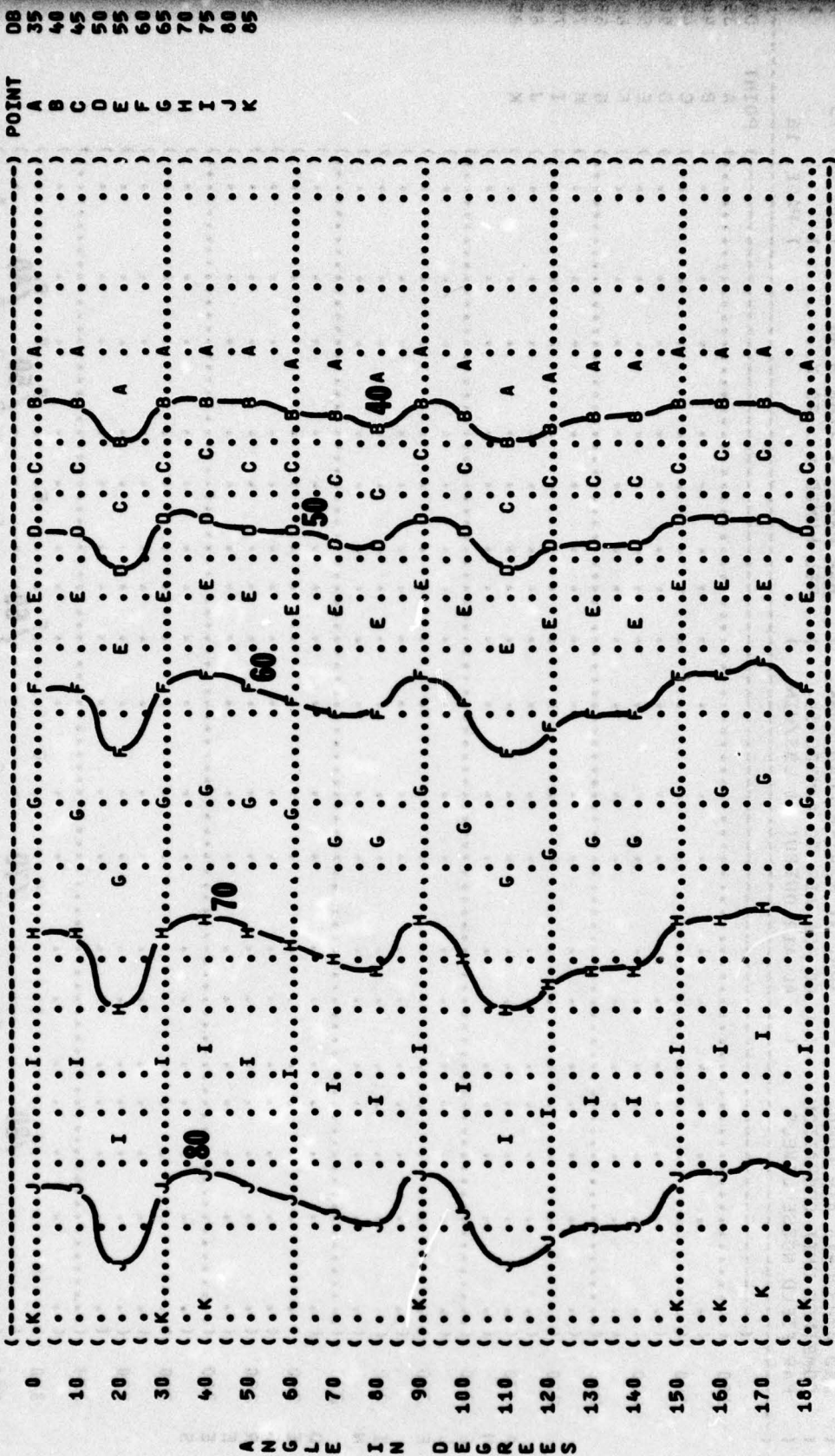
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 9 EQUAL LEVEL CONTOURS (DB)  
 ( 31.5 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
 ( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C  
 ( AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG  
 ( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 %  
 ( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-030-001  
 ( ) RUN 02  
 ( ) 15 OCT 75  
 ( ) PAGE 16  
 ( ) )

DB	POINT	A	B	C	D	E	F	G	H	I	J	K
160												
190												
200												
210												
220												
230												
240												
250												
260												
270												
280												
290												
300												
310												
320												
330												
340												
350												
360												

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  
 35 40 45 50 55 60 65 70 75 80 85

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 01 )  
 ) 15 OCT 75 )  
 ) PAGE 17 )  
 ) METEOROLOGY: )  
 ) TEMP = 15 C )  
 ) BAR PRESS = .760 M HG )  
 ) REL HUMID = 70 % )  
 ) OPERATION: )  
 ) GEN LOADED 100AMP, 240VAC )  
 ) 3PH, BY M24T-8 LOAD BANK, )  
 ) 40 PSI AIR TO A/M32C-10, )  
 ) AC AIR OUTPUT 40 LBS/MIN )  
 )  
 ) NOISE SOURCE/SUBJECT: )  
 ) A/M32A-60A GENERATOR SET )  
 ) AND A/M32C-10 AIR COND. )  
 ) COMBINED UNIT OPERATION )  
 ) FAR FIELD NOISE LEVELS )  
 ) AC AIR OUTPUT 40 LBS/MIN )



) POINT )  
 ) A )  
 ) B )  
 ) C )  
 ) D )  
 ) E )  
 ) F )  
 ) G )  
 ) H )  
 ) I )  
 ) J )  
 ) K )

DISTANCE FROM SOURCE (METERS)

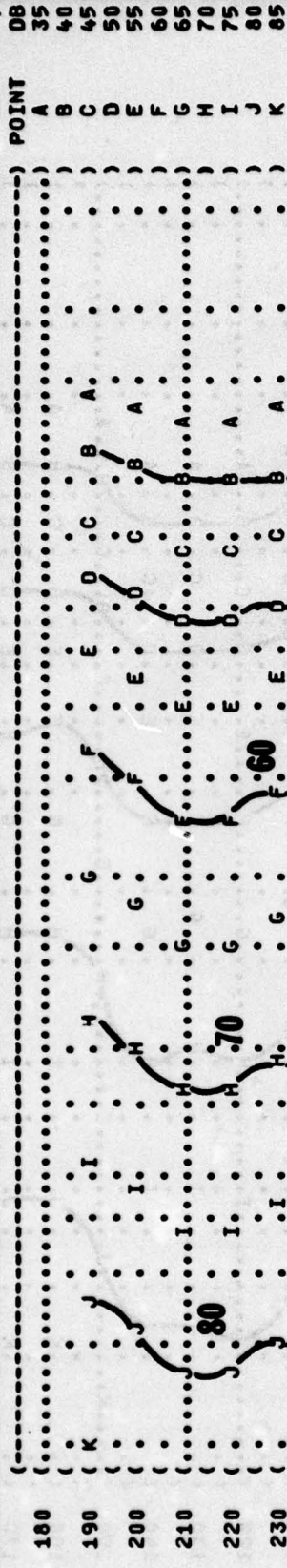
DB 35  
 40  
 45  
 50  
 55  
 60  
 65  
 70  
 75  
 80  
 85

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



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

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )



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

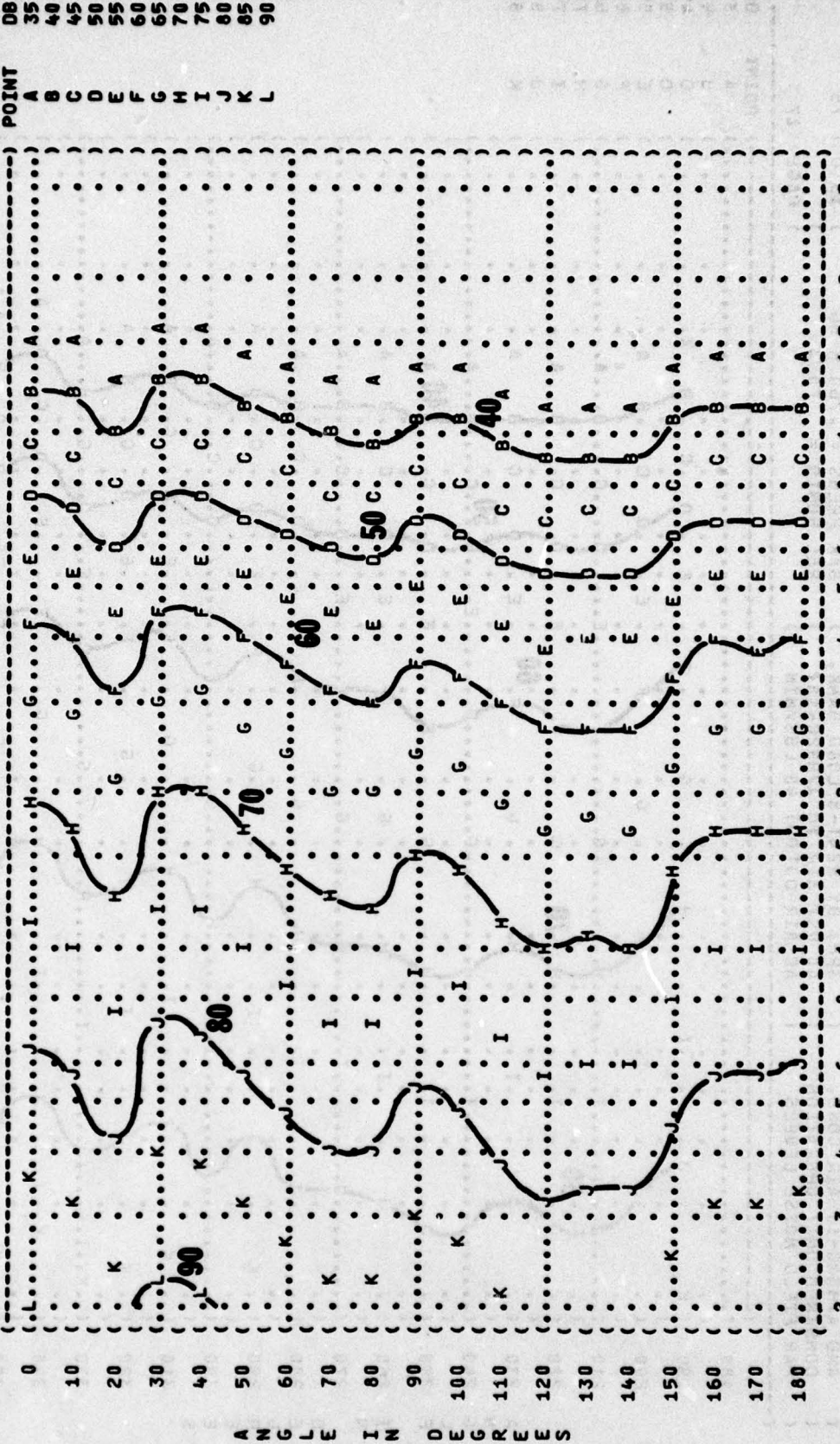
DISTANCE FROM SOURCE (METERS)

IDENTIFICATION: )  
 ) OMEGA 1.4  
 ) TEST 75-030-001  
 ) RUN 02  
 ) 15 OCT 75  
 ) PAGE 17

FIGURE 1 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 % )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) )

IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-030-001 )  
 RUN 01 )  
 15 OCT 75 )  
 PAGE 18 )



DISTANCE FROM SOURCE (METERS)

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

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



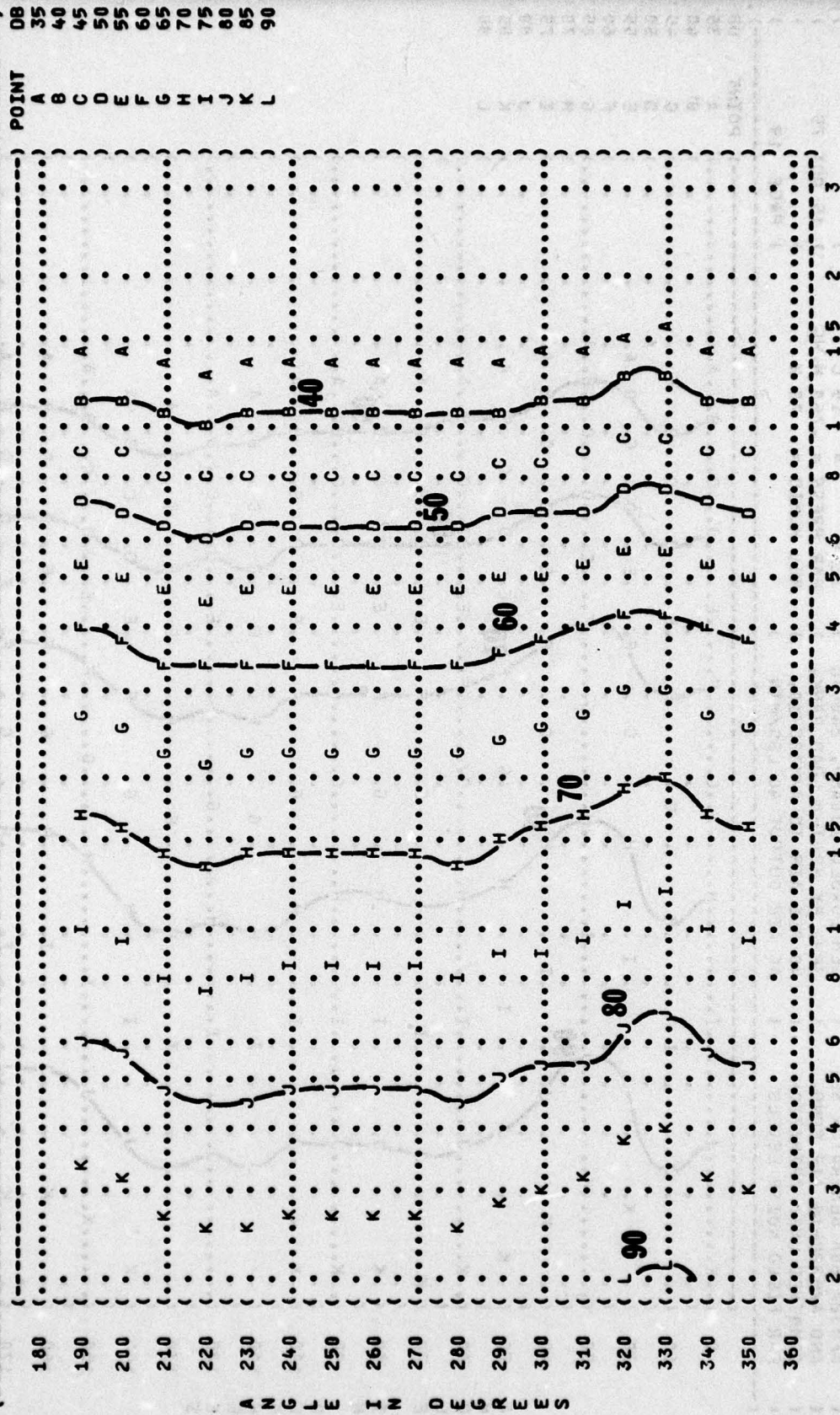
FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
125 HZ OCTAVE BAND

IDENTIFICATION: )  
OMEGA 1.4  
TEST 75-030-001  
RUN 02

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

OPERATION: )  
GEN LOADED 100AMP, 240VAC  
3PH, BY M24T-6 LOAD BANK,  
40 PSI AIR TO A/M32C-10,  
AC AIR OUTPUT 40 LBS/MIN

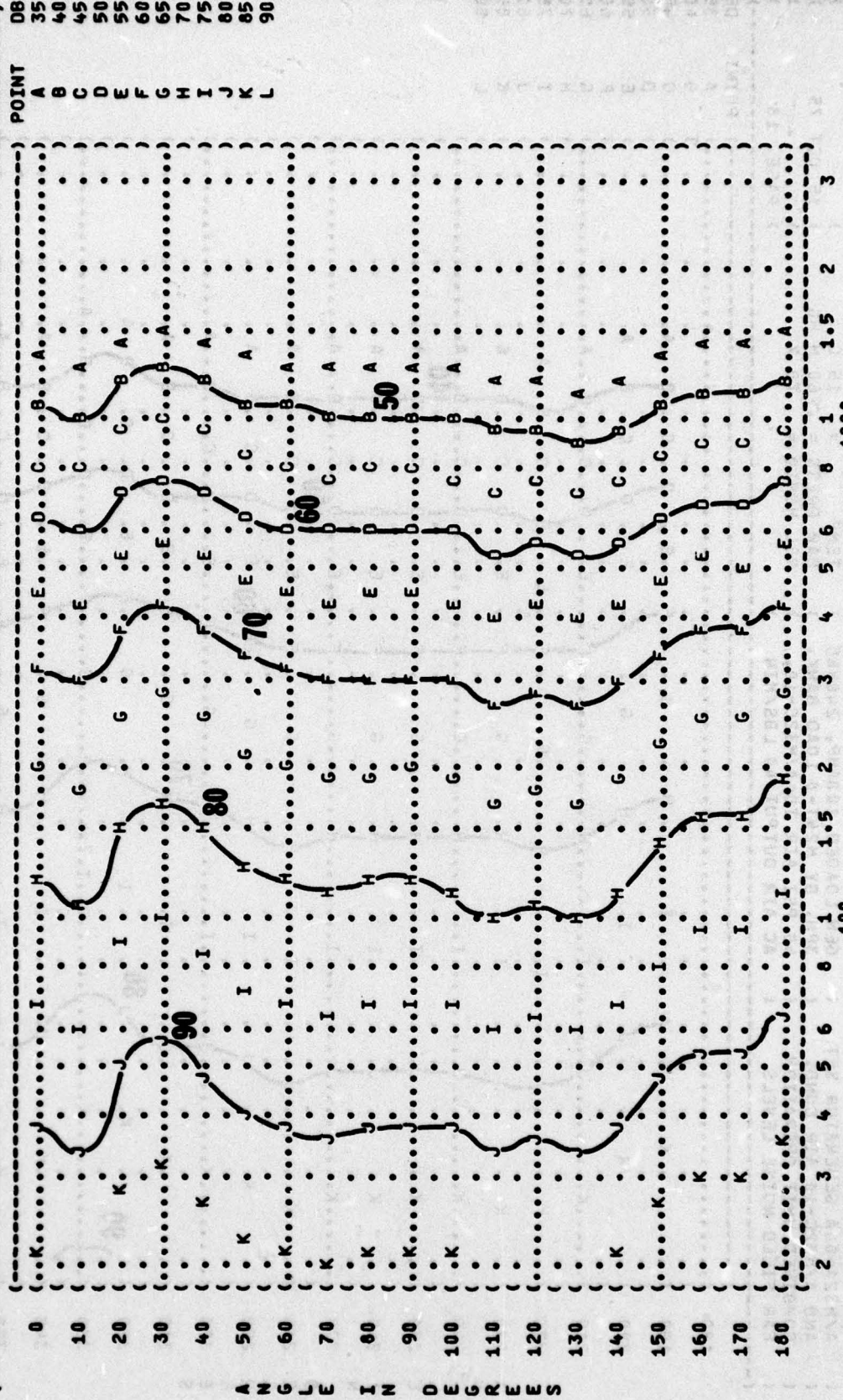
NOISE SOURCE/SUBJECT: )  
A/M32A-60A GENERATOR SET  
AND A/M32C-10 AIR COND.  
COMBINED UNIT OPERATION  
FAR FIELD NOISE LEVELS



DISTANCE FROM SOURCE (METERS)

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

(-----)  
 ( FIGURE 3 SOUND PRESSURE LEVEL (SPL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( 9 250 HZ OCTAVE BAND )  
 (-----)  
 ( NOISE SOURCE/SUBJECT )  
 ( A/M32A-60A GENERATOR SET ( OPERATION )  
 ( 3PH, BY M24T-8 LOAD BANK, ( GEN LOADED 100AMP, 240VAC )  
 ( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ( BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN ) ( REL HUMID = 70 % )  
 (-----)  
 ( METEOROLOGY:  
 ( TEMPERATURE = 15 C )  
 ( RUN 01 )  
 ( TEST 75-030-001 )  
 ( IDENTIFICATION:  
 ( OMEGA 1.4 )  
 ( PAGE 19 )  
 (-----)



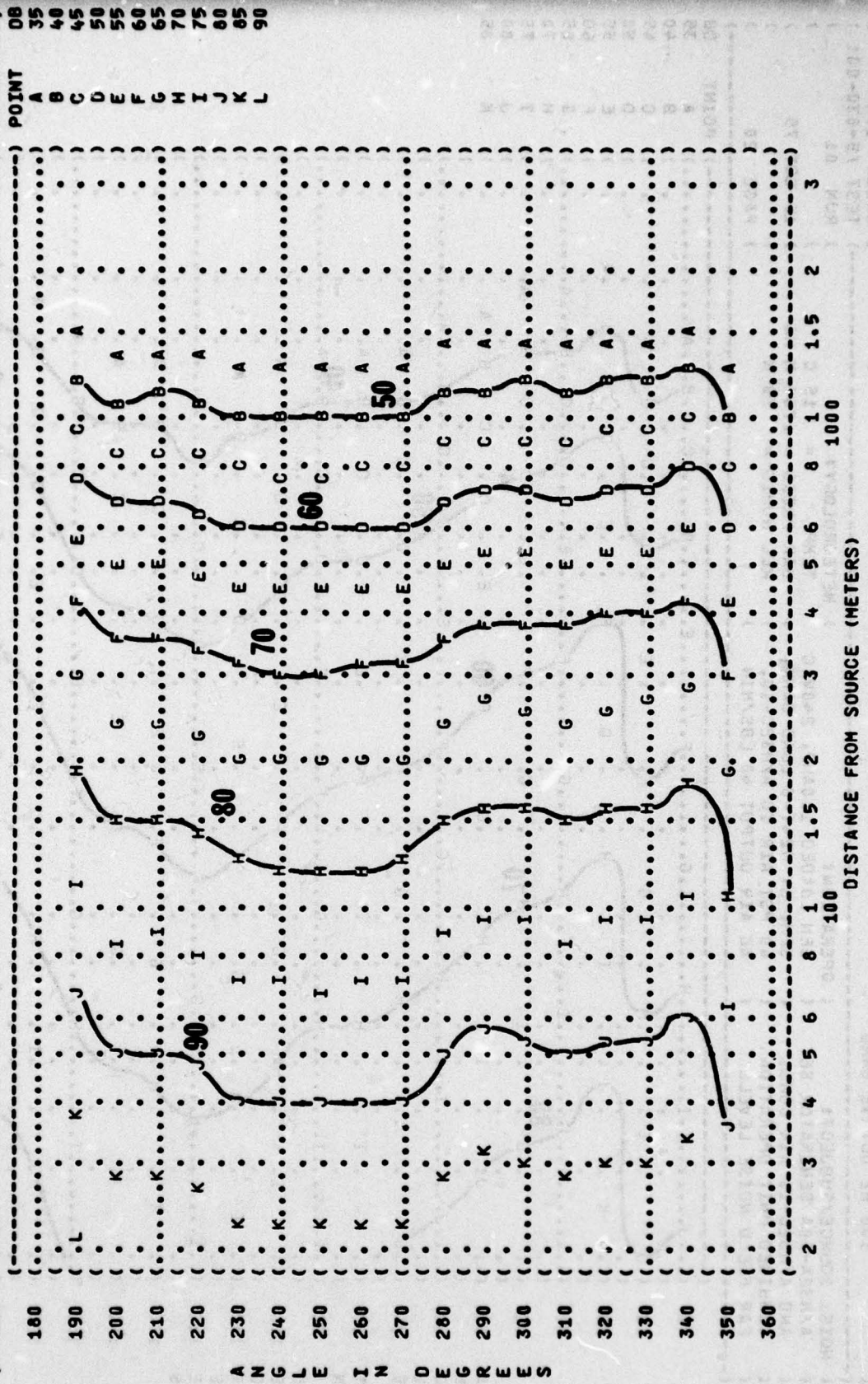
DISTANCE FROM SOURCE (METERS)  
 2 3 4 5 6 8 100 1.5 2 3 4 5 6 8 100 1.5 2 3



FIGURE 1 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 %  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

IDENTIFICATION: )  
 OMEGA 1.4  
 TEST 75-030-001  
 RUN 02  
 15 OCT 75  
 PAGE 19



DISTANCE FROM SOURCE (METERS)

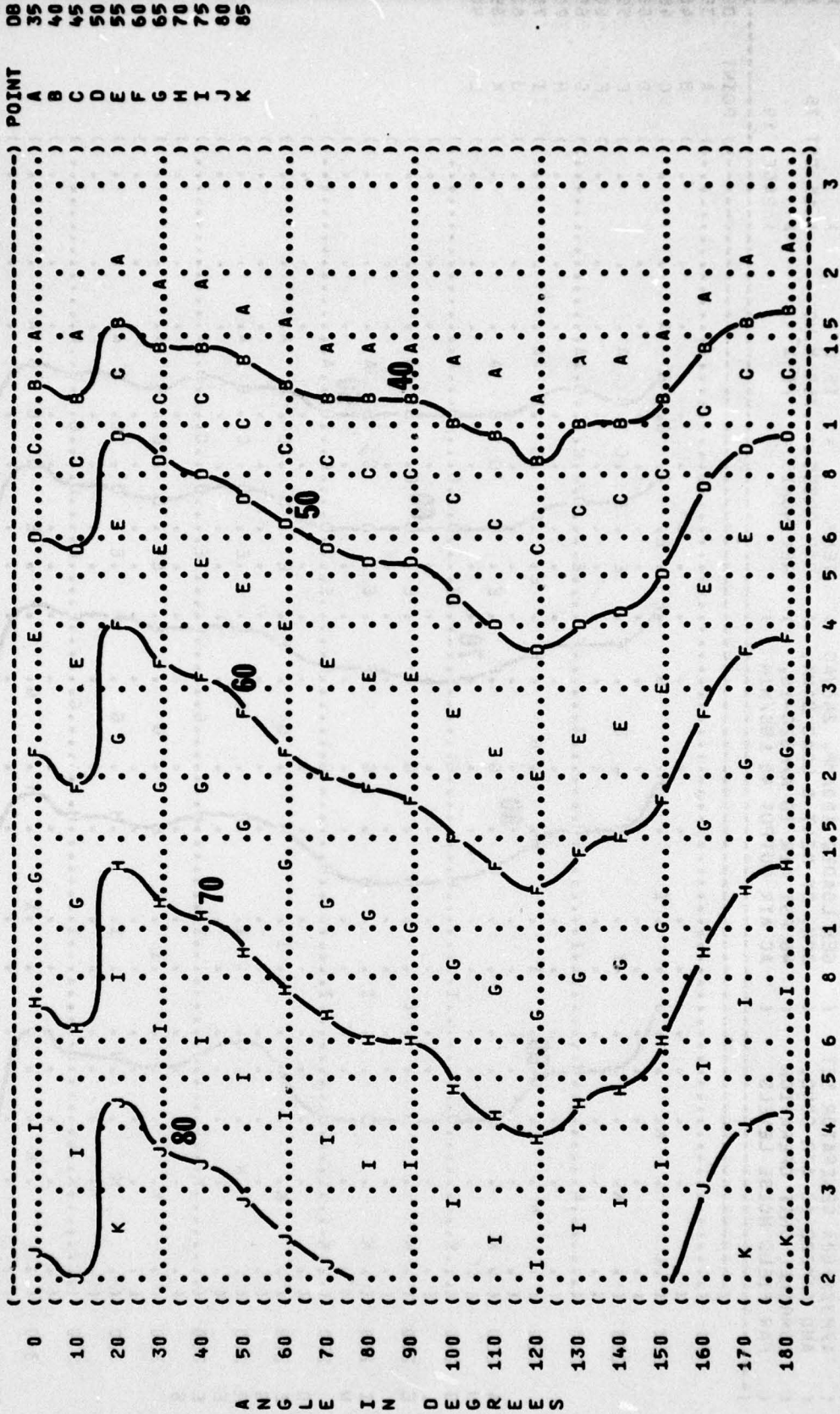
FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:  
A/M32A-60A GENERATOR SET  
AND A/M32C-10 AIR COND.  
COMBINED UNIT OPERATION  
FAR FIELD NOISE LEVELS

OPERATION:  
GEN LOADED 100AMP, 240VAC  
3PH, BY M24T-8 LOAD BANK,  
40 PSI AIR TO A/M32C-10,  
AC AIR OUTPUT 40 LBS/MIN

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

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-030-001  
RUN 01  
15 OCT 75  
PAGE 20



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



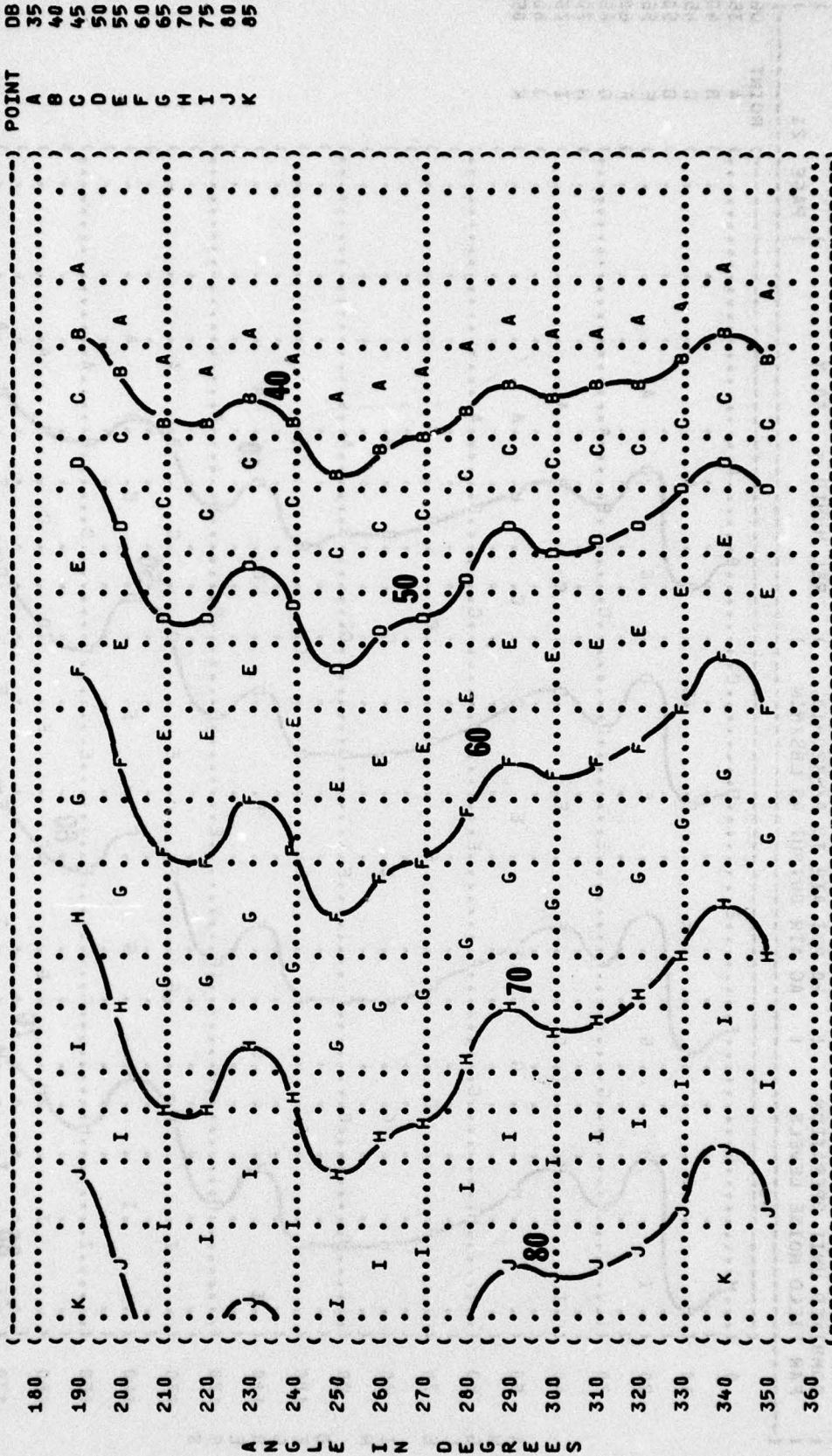
( ( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( ( EQUAL LEVEL CONTOURS (DB)  
 ( ( 500 HZ OCTAVE BAND

( IDENTIFICATION:  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-030-001

( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC  
 ( AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK,  
 ( COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10,  
 ( FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

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

( ) RUN 02  
 ( ) 15 OCT 75  
 ( ) PAGE 20



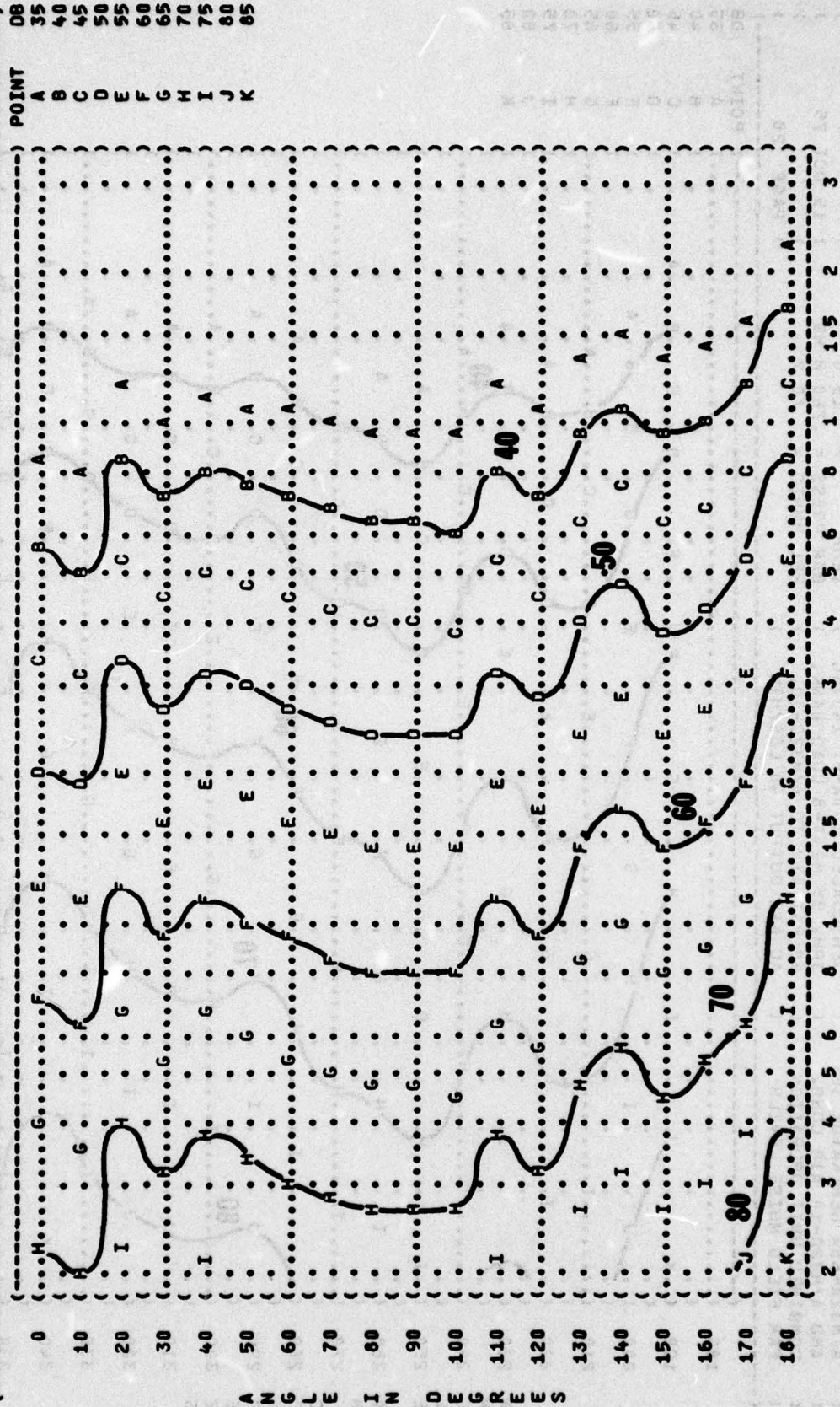
( ( 2 3 4 5 6 8 1 1.5 2 3  
 ( ( 100 1000  
 ( ( DISTANCE FROM SOURCE (METERS)

) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 01 )  
 ) 15 OCT 75 )  
 ) PAGE 21 )

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

) OPERATION: )  
 ) GEN LOADED 100AMP, 240VAC )  
 ) 3PH, BY M24T-8 LOAD BANK, )  
 ) 40 PSI AIR TO A/M32C-10, )  
 ) AC AIR OUTPUT 40 LBS/MIN )

) NOISE SOURCE/SUBJECT: )  
 ) A/M32A-60A GENERATOR SET )  
 ) AND A/M32C-10 AIR COND. )  
 ) COMBINED UNIT OPERATION )  
 ) FAR FIELD NOISE LEVELS )



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

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

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

DISTANCE FROM SOURCE (METERS)

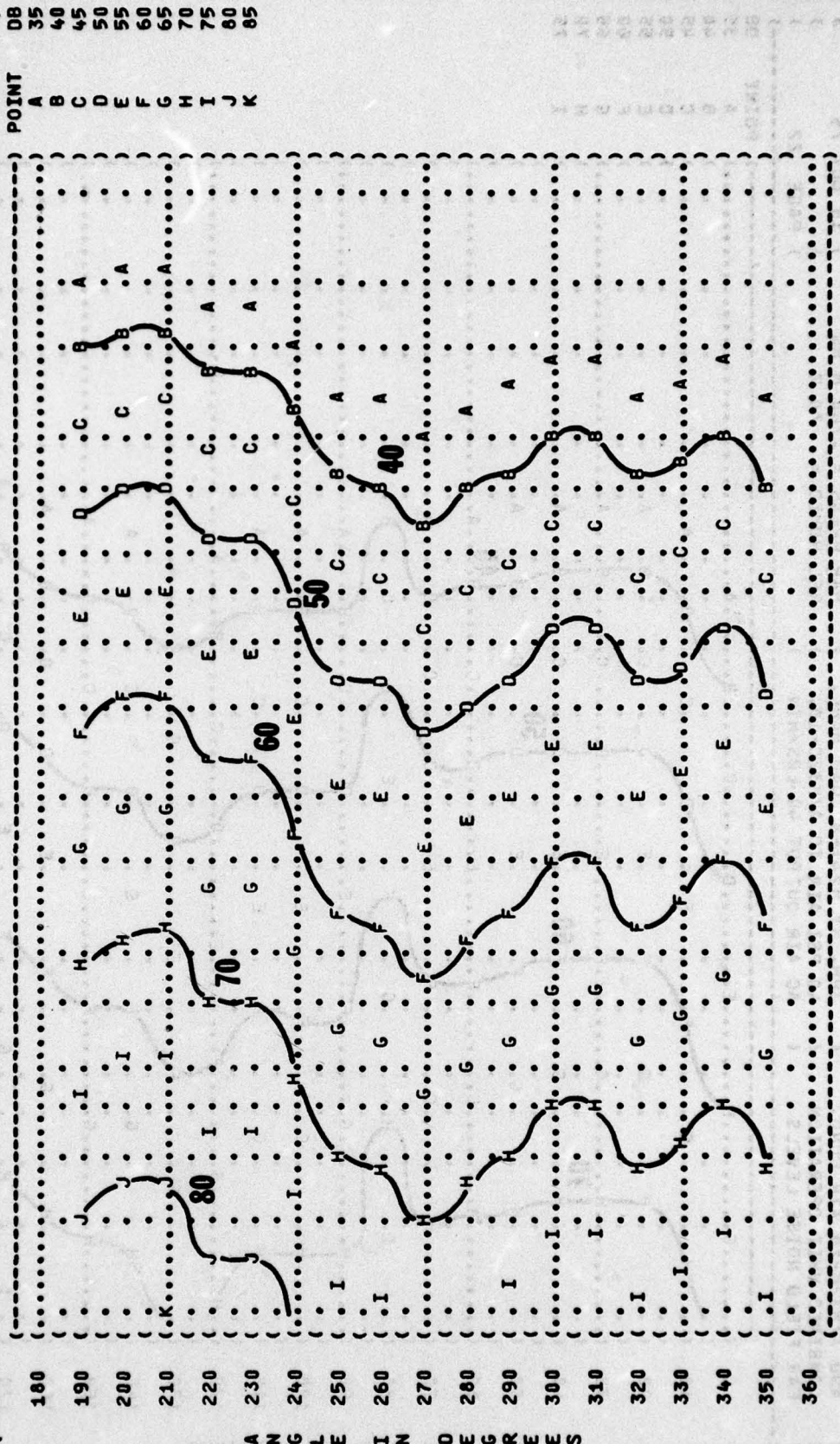


IDENTIFICATION: OMEGA 1.4  
 TEST 75-030-001  
 RUN 02  
 15 OCT 75  
 PAGE 21

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

OPERATION:  
 GEN LOADED 100AMP, 240VAC  
 3PH, BY M24T-8 LOAD BANK,  
 40 PSI AIR TO A/M32C-10,  
 AC AIR OUTPUT 40 LBS/MIN

NOISE SOURCE/SUBJECT:  
 A/M32A-60 GENERATOR SET  
 AND A/M32C-10 AIR COND.  
 COMBINED UNIT OPERATION  
 FAR FIELD NOISE LEVELS



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

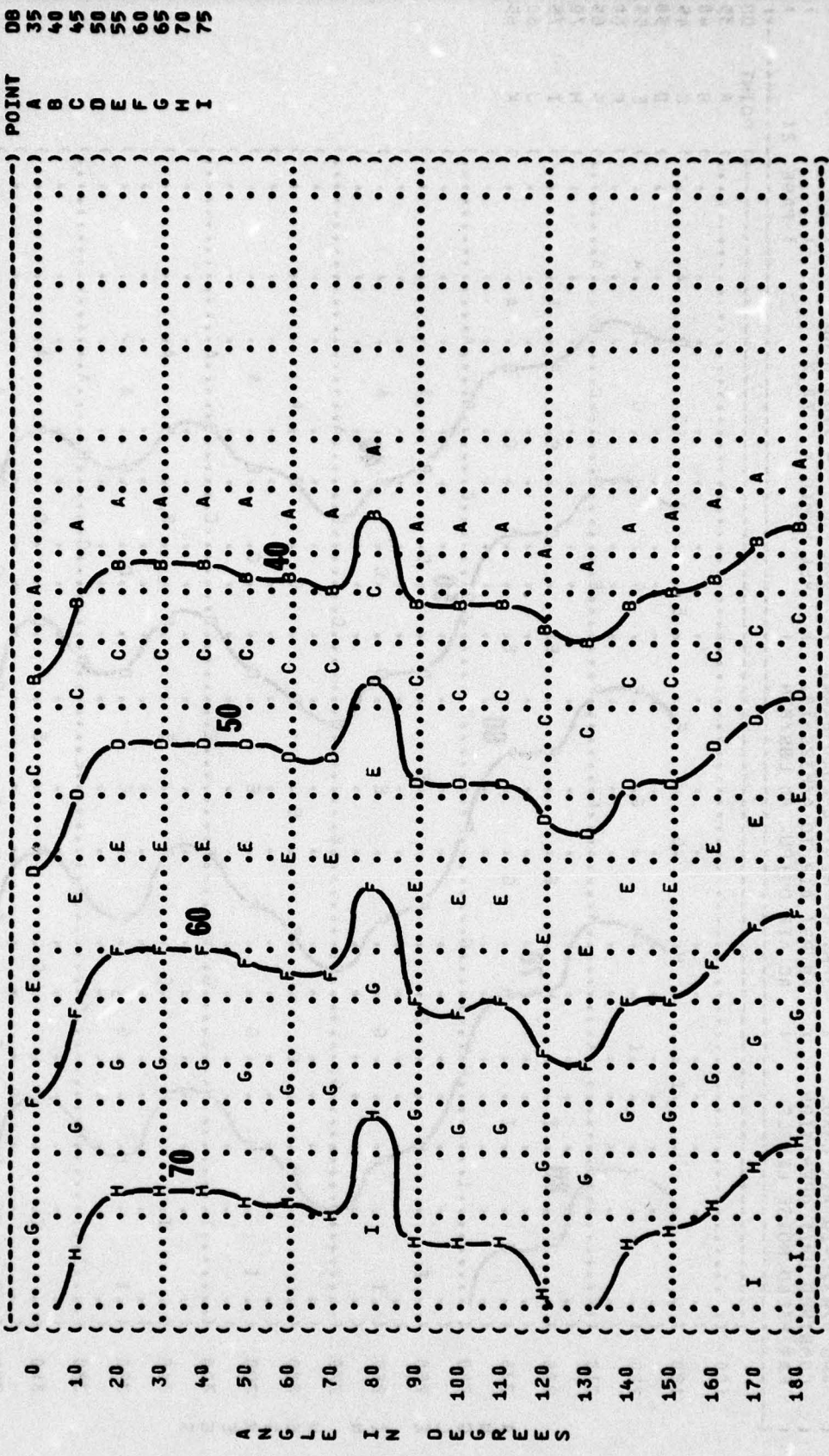
FIGURE 1 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-030-001 RUN 01 15 OCT 75 PAGE 22

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

OPERATION: GEN LOADED 100AMP, 240VAC 3PH, BY M24T-8 LOAD BANK, 40 PSI AIR TO A/M32C-10, AC AIR OUTPUT 40 LBS/MIN

NOISE SOURCE/SUBJECT: A/M32A-60A GENERATOR SET AND A/M32C-10 AIR COND. COMBINED UNIT OPERATION FAR FIELD NOISE LEVELS



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

IDENTIFICATION: OMEGA 1.4 TEST 75-030-001 RUN 02

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: TEMPERATURE = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %

A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )

AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )

COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )

FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

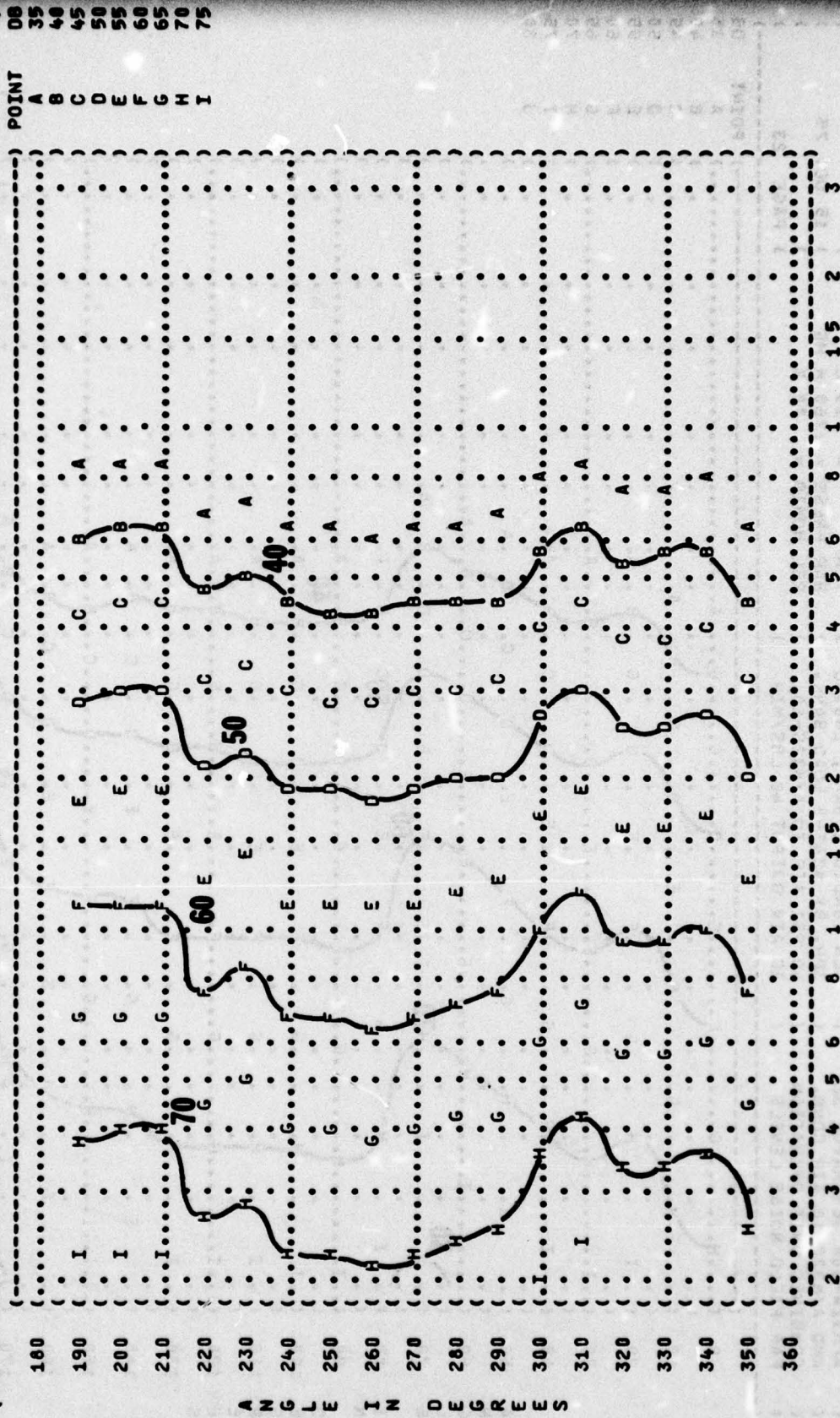


FIGURE: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY:  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC ) TEMP = 15 C  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, ) BAR PRESS = .760 M HG  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, ) REL HUMID = 70 %  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

IDENTIFICATIONS:  
 OMEGA 1.4  
 TEST 75-030-001  
 RUN 01  
 15 OCT 75  
 PAGE 23

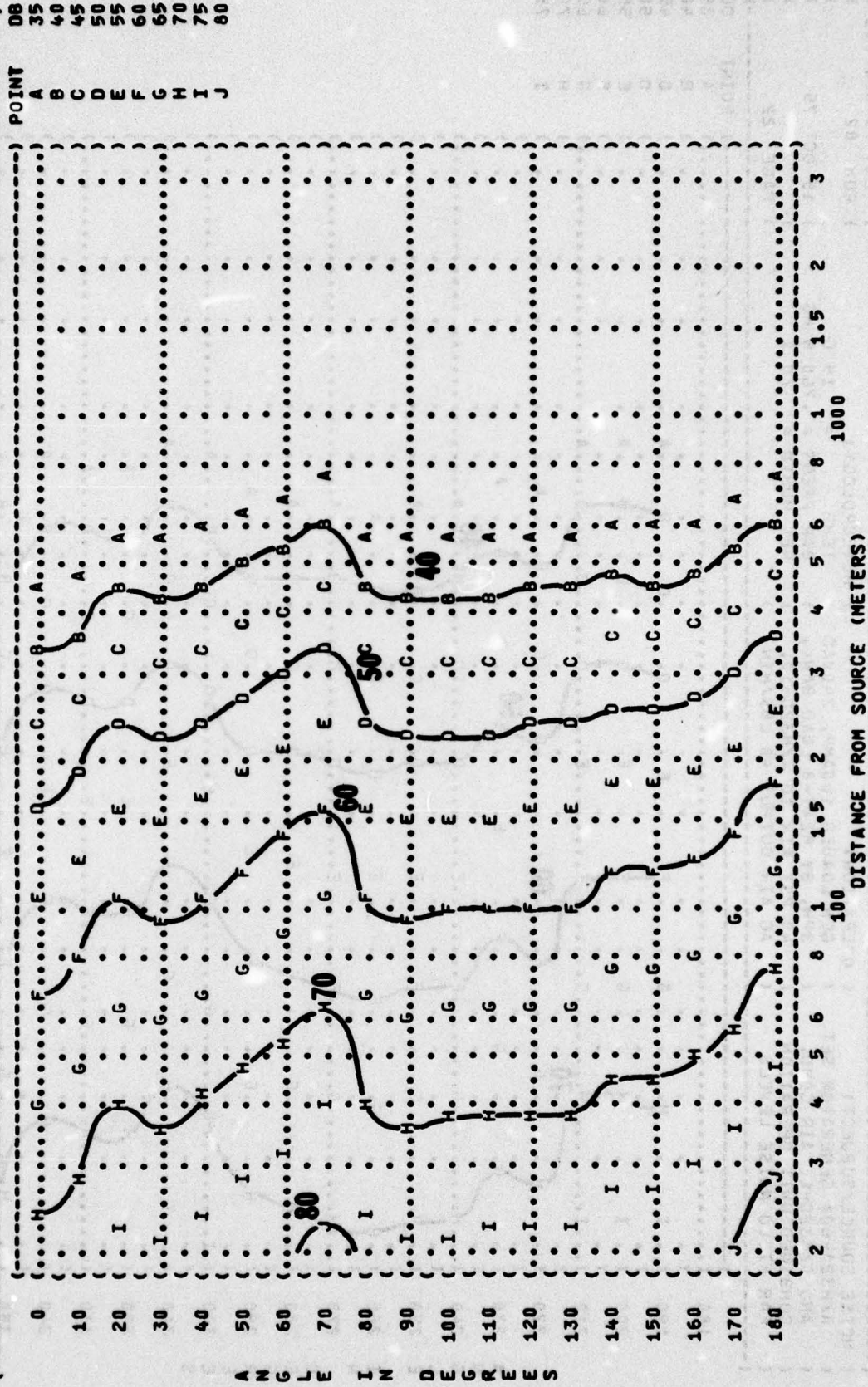




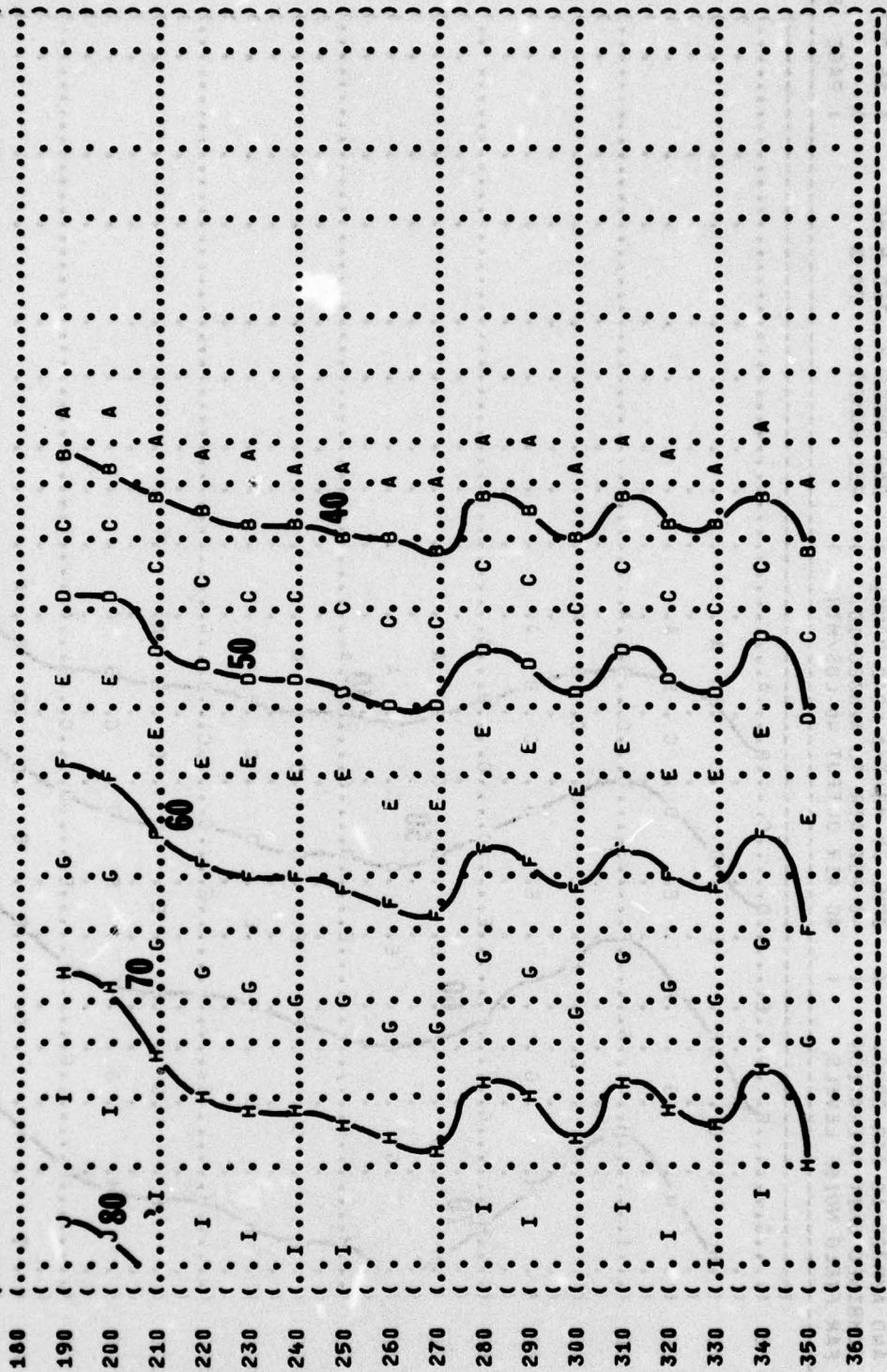
FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 4000 HZ OCTAVE BAND

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-030-001  
 RUN 02

NOISE SOURCE/SUBJECT: ( OPERATION:  
 A/M32A-60A GENERATOR SET ( GEN LOADED 100AMP, 240VAC )  
 AND A/M32C-10 AIR COND. ( 3PH, BY M24T-8 LOAD BANK, )  
 COMBINED UNIT OPERATION ( 40 PSI AIR TO A/M32C-10, )  
 FAR FIELD NOISE LEVELS ( AC AIR OUTPUT 40 LBS/MIN )

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

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

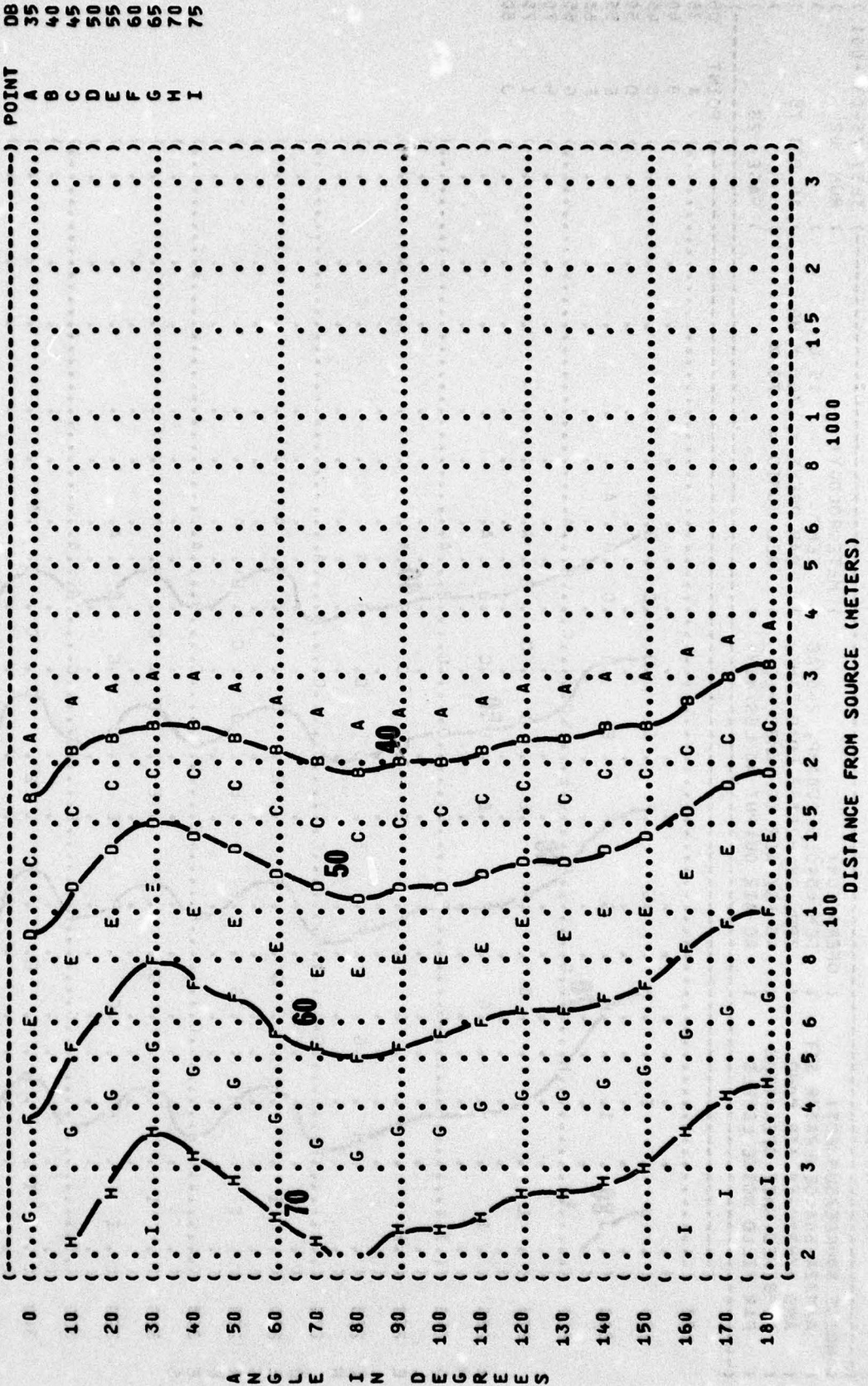


2 3 4 5 6 8 1 1.5 2 3 4 5 6 8 100 1000 1.5 2 3

DISTANCE FROM SOURCE (METERS)

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

IDENTIFICATION: )  
 OMEGA 1.4 )  
 TEST 75-030-001 )  
 RUN 01 )  
 METEOROLOGY: )  
 TEMP = 15 C )  
 BAR PRESS = .760 M HG )  
 REL HUMID = 70 % )  
 OPERATION: )  
 GEN LOADED 100AMP, 240VAC )  
 3PH, 3Y M24T-6 LOAD BANK, )  
 40 PSI AIR TO A/M32C-10, )  
 AC AIR OUTPUT 40 LBS/MIN )



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

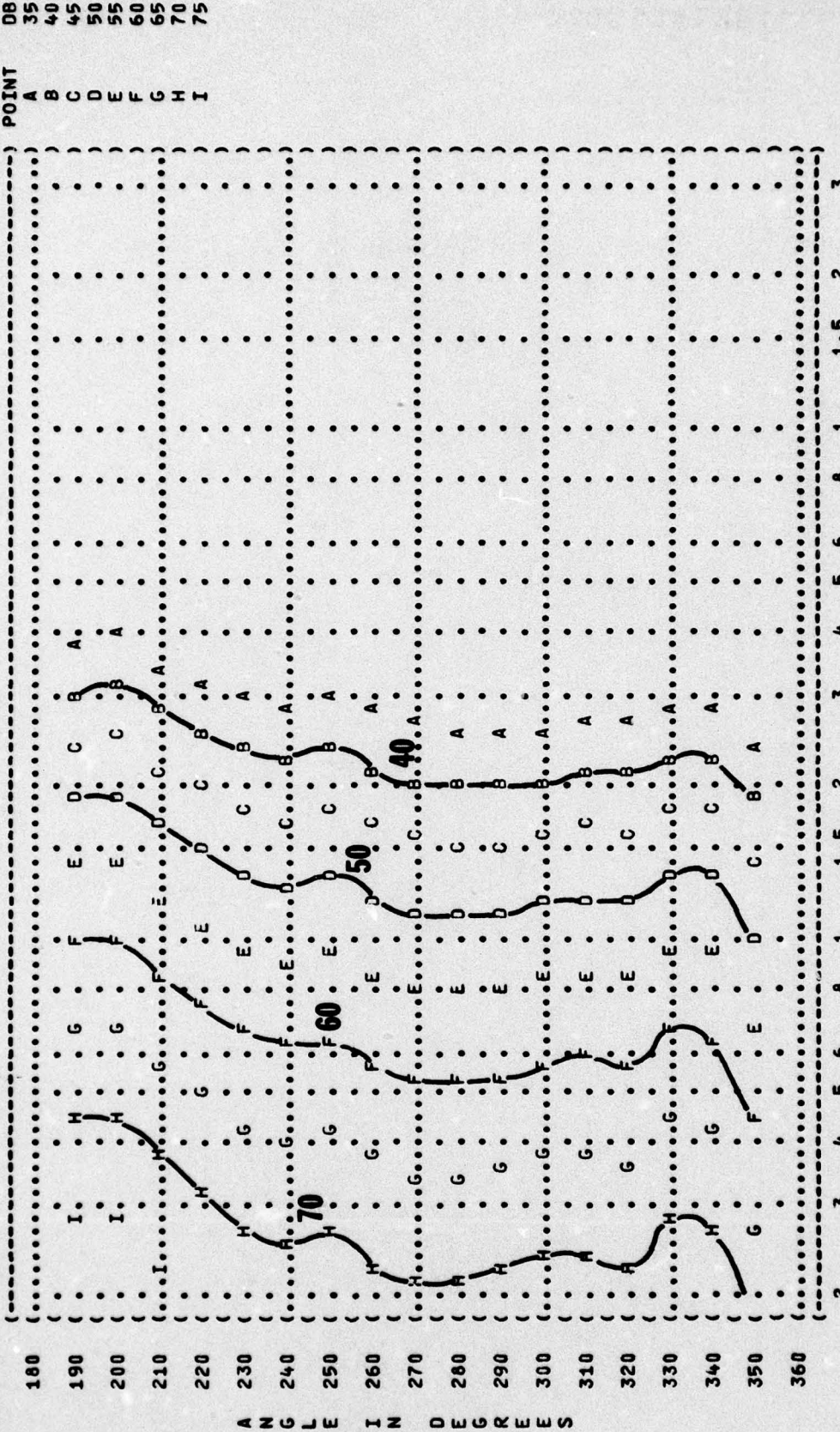


) IDENTIFICATION: )  
 ) OMEGA 1.4 )  
 ) TEST 75-030-001 )  
 ) RUN 02 )  
 ) 15 OCT 75 )  
 ) PAGE 24 )  
 ) POINT DB  
 ) A 35  
 ) B 40  
 ) C 45  
 ) D 50  
 ) E 55  
 ) F 60  
 ) G 65  
 ) H 70  
 ) I 75

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

) OPERATION: )  
 ) GEN LOADED 100AMP, 240VAC )  
 ) 3PH, 8Y M24T-8 LOAD BANK, )  
 ) 40 PSI AIR TO A/M32C-10, )  
 ) AC AIR OUTPUT 40 LBS/MIN )

) NOISE SOURCE/SUBJECT: )  
 ) A/M32A-60A GENERATOR SET )  
 ) AND A/M32C-10 AIR COND. )  
 ) COMBINED UNIT OPERATION )  
 ) FAR FIELD NOISE LEVELS )



) 8000 HZ OCTAVE BAND )  
 ) SOUND PRESSURE LEVEL (SPL) )  
 ) EQUAL LEVEL CONTOURS (DB) )  
 ) FIGURE 1

DISTANCE FROM SOURCE (METERS)

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