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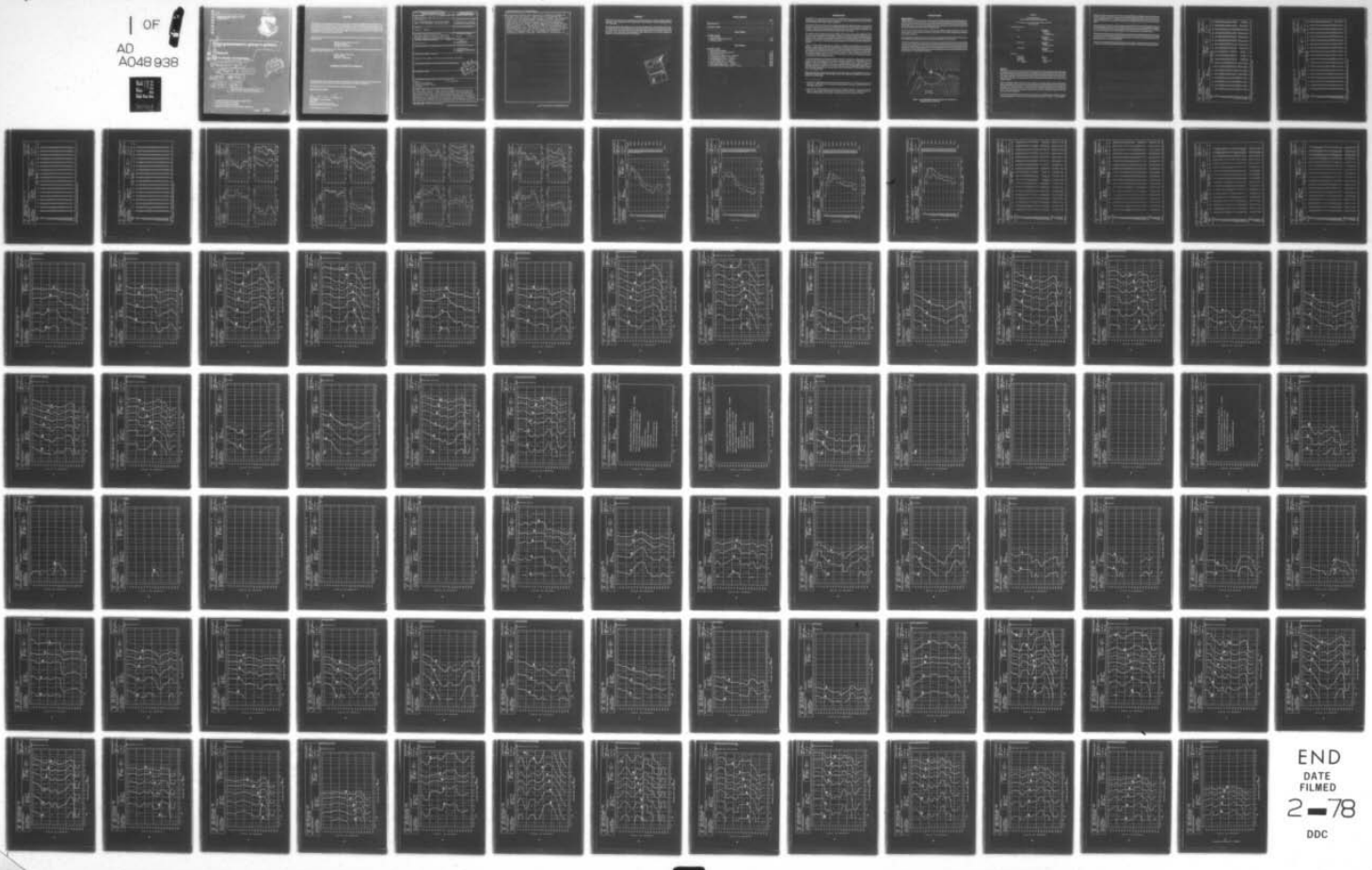

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Robert G. Powell

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AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
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FOR THE COMMANDER

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

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The USAF C-7A is a cargo aircraft powered by two R2000-7M2 reciprocating engines. This report provides far-field measured and extrapolated data defining both physical and psychoacoustic measures of the bioacoustic environments produced by this aircraft operating on a ground runup pad for four engine/power conditions. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to

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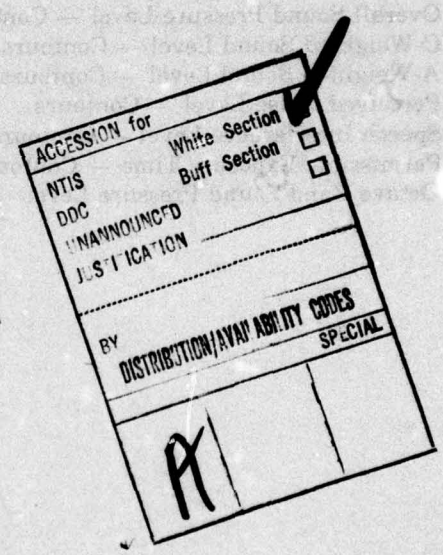
derive sets of equal-value contours as a function of angle and distance from the source. These contours are measures of: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total daily exposure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

PREFACE

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

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Capt. Nick Farinacci, Mr. Jerry Speakman 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. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.



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INTRODUCTION

The USAF C-7A is a cargo aircraft powered by two R-2000-7M2 reciprocating engines. The aircraft was manufactured by DeHavilland Aircraft of Canada Ltd. and the engines by the Pratt and Whitney Aircraft Division of the United Aircraft Corporation.

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

This volume is one of a series published by the AMRL under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of 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% relative humidity, 0.760 meter Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

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

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

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

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

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during a 1-hour test period at Wright-Patterson Air Force Base. Figure 1 shows the ground runup area (taxiway), ground cover, aircraft orientation and 19 microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the R-2000-7M2 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' propeller planes.

Table 1 provides cockpit readouts of engine characteristics (RPM, manifold pressure) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

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

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

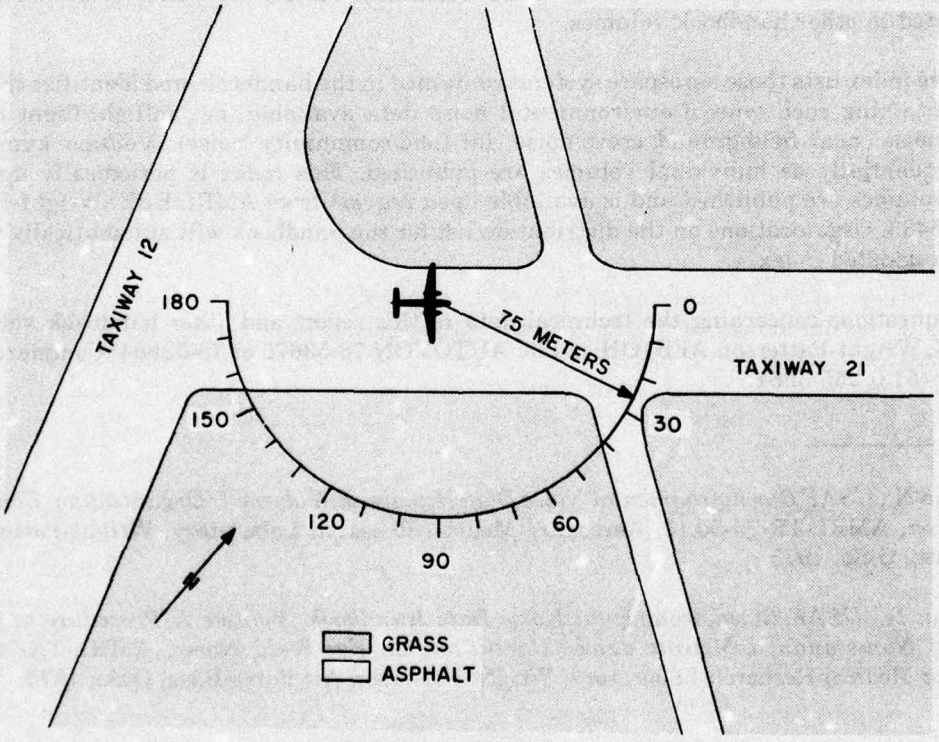

Figure 1. Far-Field Measurement Locations on a Taxiway at Wright-Patterson AFB, OH

TABLE 1

TEST CONDITIONS FOR FAR-FIELD NOISE MEASUREMENTS

C-7A Aircraft, Ground Runups, Wright-Patterson AFB, OH
22 August 1974

Aircraft Engine Operation

Idle	Both Engines 600 RPM 19 Inches Hg, *Manifold Pressure*
Taxi	Both Engines 1000 RPM 30 Inches Hg, MAP
Runup Power	Both Engines 2450 RPM 35 Inches Hg, MAP
Takeoff Power	Both Engines 2675 RPM 50 Inches Hg, MAP

Meteorology

Temperature	26.7 C
Bar Pressure	0.742 M Hg
Rel Humidity	46%
Wind — Speed	2 M/Sec (4 Kts)
— Direction	170 Deg

RESULTS

Table 2 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 2 which provides a compact summary of the far-field noise characteristics of the C-7A aircraft in a standard format.

Figure 3 and Table 3 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that 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 settings (e.g., 1800 RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

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

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 180 degree location for the power runup (2450 RPM) and takeoff power (2675 RPM) settings because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 0 to 5 dBA below the level measured at the 170 degree location.

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

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

TABLE: 2

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
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	71	70	70	69	68	71	69	69	70	71	65<	67	66	68	68	66	62<	61<	65<
31.5	76	75	76	76	75	76	77	76	74	74	71	72	70	72	72	69	67	65	68
40	77	77	78	77	77	78	78	80	80	80	75	75	73	71	71	67<	67	65<	66<
50	71	70	69	70	70	70	73	75	77	77	74	70	68	63<	65<	67	70	68	67
63	66<	66<	67<	66<	65<	67<	70	71	73	73	67<	66<	68<	68<	68<	65<	66<	66<	65<
80	66<	65<	65<	64<	63<	65<	65<	64<	64<	66<	65<	63<	62<	63<	63<	60<	62<	63<	61<
100	65<	66<	63<	63<	66<	69	71	71	70	66<	66<	66<	65<	66<	64<	62<	63<	62<	61<
125	64<	67<	63<	64<	64<	64<	65<	64<	67<	64<	60<	62<	64<	66<	66<	60<	63<	62<	62<
160	63	67	62	64	63	63	61	63	64	60<	59<	59<	60<	64	60<	59<	60<	62	63
200	61	68	61	60	57<	54<	56<	56<	55<	57<	51<	52<	54<	55<	56<	57<	59	57<	59
250	60	64	59	57	55<	52<	51<	50<	49<	50<	46<	48<	52<	53<	55<	55<	59	55<	59
315	60	61	57	56	52<	51<	48<	46<	46<	45<		43<	49<	51<	52<	53<	56	53<	56
400	60	60	58	56	52<	51<	49<	47<	47<	44<	43<	43<	49<	50<	55	57	58	55	57
500	57	57	55	53	51	49<	50<	49<	48<	46<	45<	43<	46<	47<	50<	53	54	52	53
630	53	53	51	51	50	50	50	47<	44<	43<	44<	41<	44<	45<	47<	50	49	46<	48
800	50<	50<	50<	50<	50<	49<	50<	49<	45<	46<	44<	41<	44<	44<	46<	48<	46<	43<	45<
1000	49	48	47	49	50	50	50	50	44<	47<	45<	42<	45<	45<	47	47<	47	42<	43<
1250	51<	50<	49<	49<	50<	50<	49<	48<	44<	46<	43<	42<	45<	46<	47<	47<	50<	42<	43<
1600	51<	52<	50<	50<		49<											50<		
2000	51<	51<	50<	50<	47<	47<	46<	47<					47<	47<	48<	47<	47<		
2500	51<	50<	50<	50<	46<	47<	46<	45<				42<	47<	49<	51<	50<	49<	43<	
3150	49	49	50	49	45<	45<	44<	44<	40<	40<	39<	43<	49	51	53	51	49	43<	40<
4000	48	47	47	46	43	44	43	43	39	40	39	44	52	54	54	52	50	44	41
5000	45	45	44	43	40	40	40	40	36<	36<	37<	44	50	51	48	50	48	43	39
6300	44	44	44	42<	38<	39<	38<	38<	34<	35<	37<	44	52	53	49	49	48	42<	39<
8000	42<	42<	42<	44<	44<	41<	40<	41<	40<			44<	51	53	50	50	49<	43<	39<
10000	42	42	42	42	40	39	39	39	35<	34<	40	45	50	53	49	50	49	44	42
OVERALL	81	81	81	81	81	82	82	83	84	83	79	79	77	77	77	75	76	74	75

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 2

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	78	77	74	76	76	76	76	73	74	75	76	73	71	71	72	72	71	72	72
31.5	71	73	71	70	70	69	72	70	73	72	70	68	67	66	64	64	62<	64	60<
40	80	81	80	78	79	79	79	79	80	79	80	73	67	68	71	71	73	70	69
50	80	80	79	78	77	78	77	79	78	77	75	71	67	70	72	73	76	72	74
63	78	78	78	76	73	72	74	76	79	78	77	70	69	73	74	76	79	77	75
80	79	79	77	76	74	74	74	74	73	75	76	71	70	74	73	74	73	70	68<
100	78	78	79	80	80	79	76	74	76	75	75	73	73	75	75	73	74	72	69
125	79	80	78	78	78	76	74	76	75	75	76	72	73	74	75	74	75	76	71
160	80	80	79	77	75	74	71	74	74	70	70	66	69	70	70	73	73	74	69
200	75	76	76	75	69	66	70	70	68	67	64	62	63	65	66	68	70	71	66
250	76	75	73	72	67	65	67	64	62	61	59	57	61	62	63	65	67	68	64
315	73	72	70	69	64	63	57	56	55	57	55	52<	58	58	60	61	65	66	60
400	75	73	72	69	65	60	57	55	54	56	57	54	56	57	60	63	66	66	60
500	71	69	68	67	62	60	56	54	54	56	57	54	54	55	57	61	63	63	57
630	67	66	66	64	60	59	56	53	53	55	54	53	52	52	54	59	59	60	53
800	64	63	64	63	60	59	58	56	56	57	56	53	52	52	54	57	58	58	52
1000	61	61	61	60	59	57	57	55	55	56	56	54	52	51	53	56	56	57	50
1250	61	61	60	61	59	59	59	57	56	57	55	54	53	52	53	54	54	54	48<
1600	63	62	61	61	58<	57<	57<	56<	56<	55<	54<	52<	52<	52<	52<	53<	51<	52<	
2000	62	61	59	60	57	57<	56<	55<	54<	53<	53<	51<	51<	52<	51<	50<	50<	51<	
2500	60	60	59	60	58	55	54	54	55	54	53<	50<	52<	53	52<	50<	50<	51<	43<
3150	58	57	57	57	54	53	51	52	52	51	51	49	51	54	52	50	49	51	42<
4000	57	57	55	56	53	52	51	51	51	49	50	48	52	56	55	51	51	52	44
5000	54	54	52	52	50	49	48	48	48	45	46	46	50	53	52	49	49	51	42
6300	53	52	51	50	49	47	46	46	47	43	45	46	50	54	51	49	49	50	42<
8000	52	52	51	50	50	47<	46<	46<	47<	43<	44<	47<	49<	56	53	49<	51	51	43<
10000	52	52	50	50	50	48	47	46	46	43	43	47	49	54	53	51	51	52	45
OVERALL	89	89	88	87	86	85	85	86	86	85	85	81	80	82	82	83	84	83	81

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 2

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	67	67	67	69	70	71	72	73	74	72	72	73	71	70	69	68	70	72	
31.5	66	67	68	68	69	71	71	71	72	70	71	71	69	69	67	66	68	70	
40	80	81	82	83	84	84	85	86	85	84	84	84	85	83	82	84	82	78	
50	84	82	82	80	84	85	84	79	81	87	88	88	92	92	86	80	74	75	
63	96	94	94	92	97	98	97	93	95	102	102	103	106	105	100	94	86	87	
80	82	83	82	83	84	85	87	89	91	91	90	89	91	91	88	83	76	79	
100	84	87	91	89	85	86	91	95	94	85	87	90	89	91	89	80	81	82	
125	95	96	99	100	97	96	95	95	97	102	102	102	98	99	97	91	87	88	
160	95	97	94	93	93	92	92	91	95	92	91	91	93	93	92	89	82	82	
200	99	101	99	93	94	90	96	91	97	95	95	94	95	95	97	87	81	82	
250	101	100	97	94	90	90	90	90	88	87	84	81	90	90	89	84	83	86	
315	99	98	93	91	89	87	85	83	82	79	80	81	86	89	89	85	83	85	
400	99	98	94	92	93	89	86	84	81	82	83	84	87	90	92	86	81	85	
500	96	96	93	93	89	88	85	81	84	81	82	84	87	89	92	85	79	84	
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800	92	91	90	88	85	85	86	82	85	82	83	84	85	89	91	83	78	83	
1000	88	88	86	85	82	84	84	81	83	82	82	82	84	86	89	82	75	80	
1250	85	86	85	84	82	83	84	83	85	82	82	82	84	84	87	81	73	78	
1600	84	85	85	85	82	83	85	84	86	82	81	81	86	85	85	79	72	76	
2000	84	84	83	83	82	83	84	83	84	81	81	80	86	85	84	78	71	75	
2500	83	84	82	82	82	82	83	82	82	81	80	80	87	87	85	77	71	75	
3150	81	82	80	80	81	81	83	81	80	79	79	78	85	87	85	75	69	73	
4000	80	81	81	80	81	81	82	80	81	79	78	78	85	87	85	75	69	73	
5000	76	77	77	77	79	78	80	78	78	75	74	74	80	82	80	71	66	68	
6300	75	75	76	75	77	77	78	76	76	73	73	72	77	80	76	68	63	66	
8000	74	75	75	75	77	77	77	76	76	73	73	72	76	79	75	68	63	65	
10000	73	75	75	74	77	77	78	76	76	72	72	73	76	79	75	68	63	65	
OVERALL	107	108	106	104	103	103	103	102	104	106	106	106	108	107	105	99	94	96	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 2

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	77	76	76	76	74	75	76	76	76	80	80	80	80	76	77	73	75	81	
31.5	71	71	70	71	71	73	74	71	76	75	75	74	73	72	71	69	69	79	
40	83	82	80	83	86	85	86	85	87	89	88	88	89	86	84	84	85	82	
50	81	83	80	81	82	83	83	81	83	86	88	88	88	85	81	79	79	77	
63	100	103	98	95	100	102	101	99	101	106	109	109	108	106	101	94	90	87	
80	86	88	85	87	90	92	92	92	91	92	95	96	95	92	89	83	83	77	
100	87	89	89	87	89	91	94	96	90	93	98	94	91	88	89	83	85	81	
125	97	99	102	103	99	94	96	101	101	110	111	104	104	97	97	85	93	85	
160	89	90	96	97	95	94	92	98	96	98	98	96	98	94	91	84	86	84	
200	95	101	103	97	94	94	95	92	99	101	101	102	96	95	89	83	86	83	
250	99	103	96	99	93	95	93	94	96	96	95	94	94	92	89	84	85	88	
315	100	97	98	98	90	91	87	86	90	89	87	92	88	89	84	79	84	84	
400	100	100	98	100	94	91	88	83	88	88	89	93	90	92	82	82	84	86	
500	97	98	99	99	95	89	92	89	89	88	90	93	89	91	82	80	83	85	
630	95	96	95	94	92	88	91	89	91	90	91	96	92	91	83	81	84	86	
800	94	95	93	92	90	88	91	88	91	89	92	96	91	91	84	82	83	85	
1000	91	92	91	89	87	86	90	88	90	89	92	95	89	91	85	82	82	83	
1250	89	89	89	89	85	85	89	88	89	88	91	91	87	89	82	80	79	81	
1600	87	89	89	88	85	87	88	87	89	89	92	93	88	89	83	80	78	81	
2000	86	88	88	88	84	87	88	87	89	88	91	91	88	89	82	78	77	80	
2500	85	87	86	88	83	87	88	88	88	89	91	92	88	88	83	77	77	79	
3150	83	85	85	87	83	87	86	87	87	87	90	90	87	86	82	75	75	77	
4000	83	85	85	87	83	86	86	86	87	87	89	90	86	86	81	74	75	78	
5000	80	82	83	84	81	82	84	83	83	85	85	87	83	83	78	71	73	75	
6300	79	80	81	83	79	80	82	82	81	83	83	85	81	81	76	70	70	72	
8000	79	80	81	83	79	80	82	82	81	82	82	85	81	80	76	70	70	71	
10000	78	80	80	84	80	80	83	81	82	82	83	85	81	81	76	70	71	72	
OVERALL	108	110	109	109	106	105	106	106	107	112	114	112	111	108	104	97	98	97	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 6

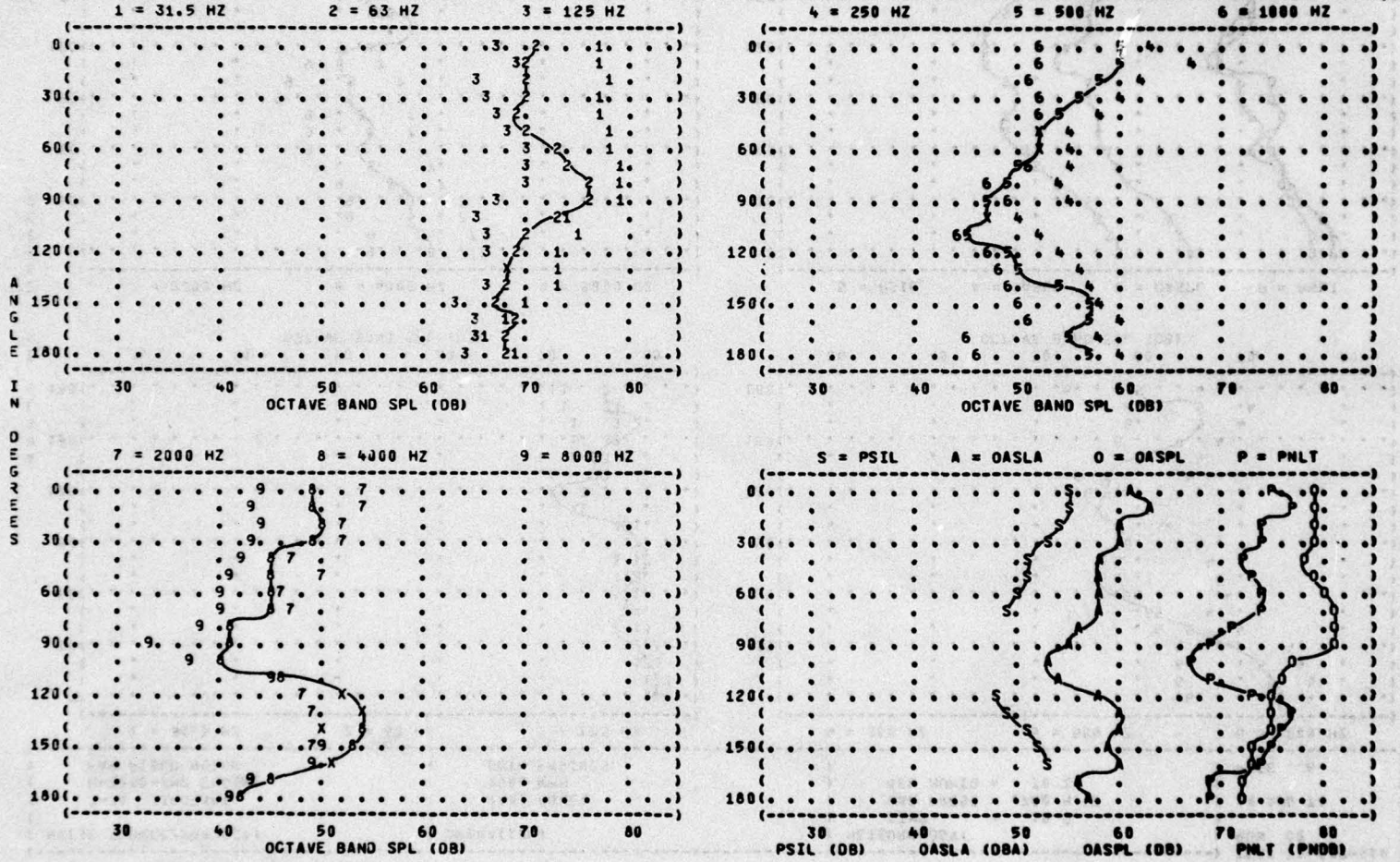


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 6

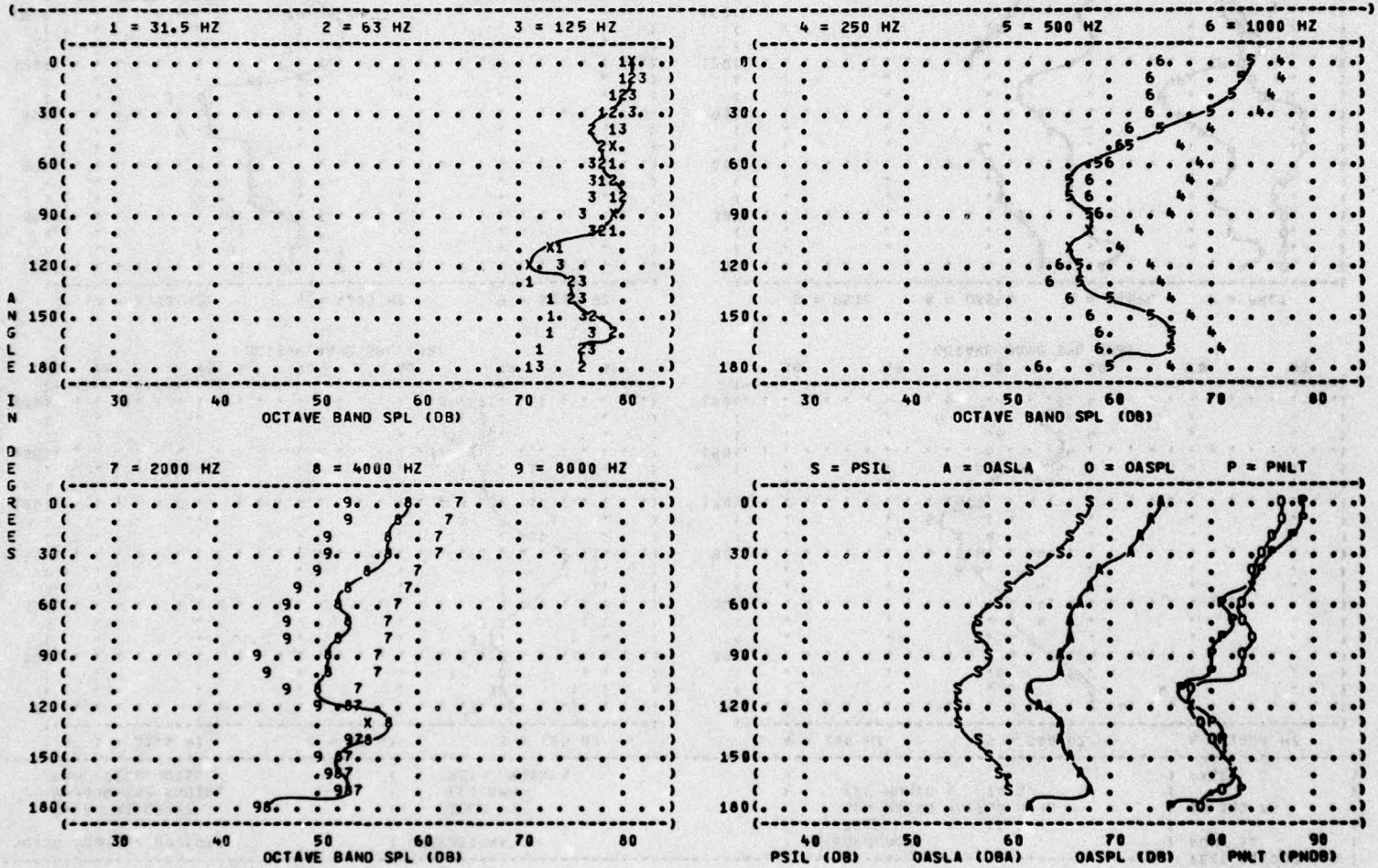


FIGURE: 2 NORMALIZED FARFIELD NOISE LEVELS

DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03

10 AUG 76

PAGE 6

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

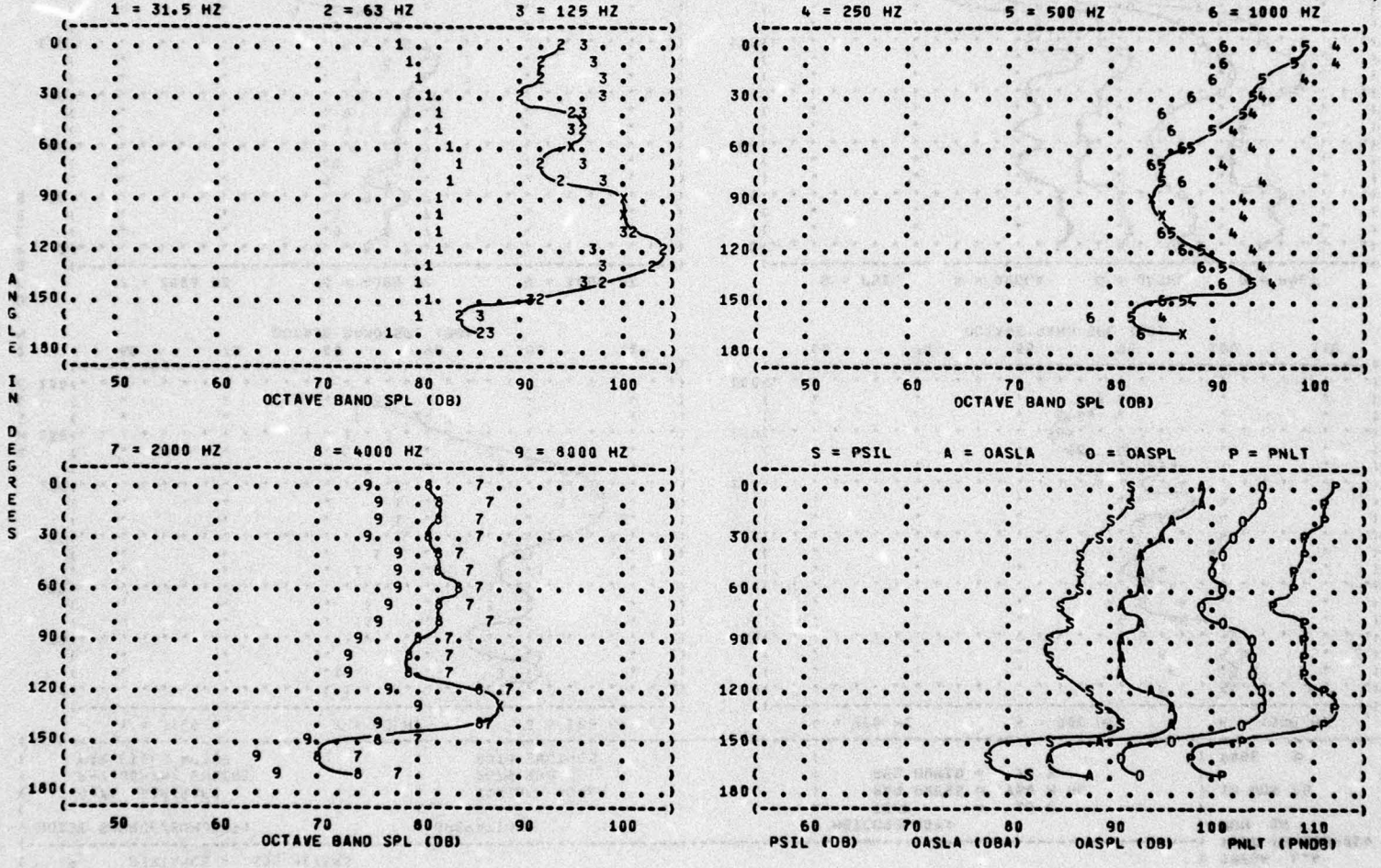


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 6

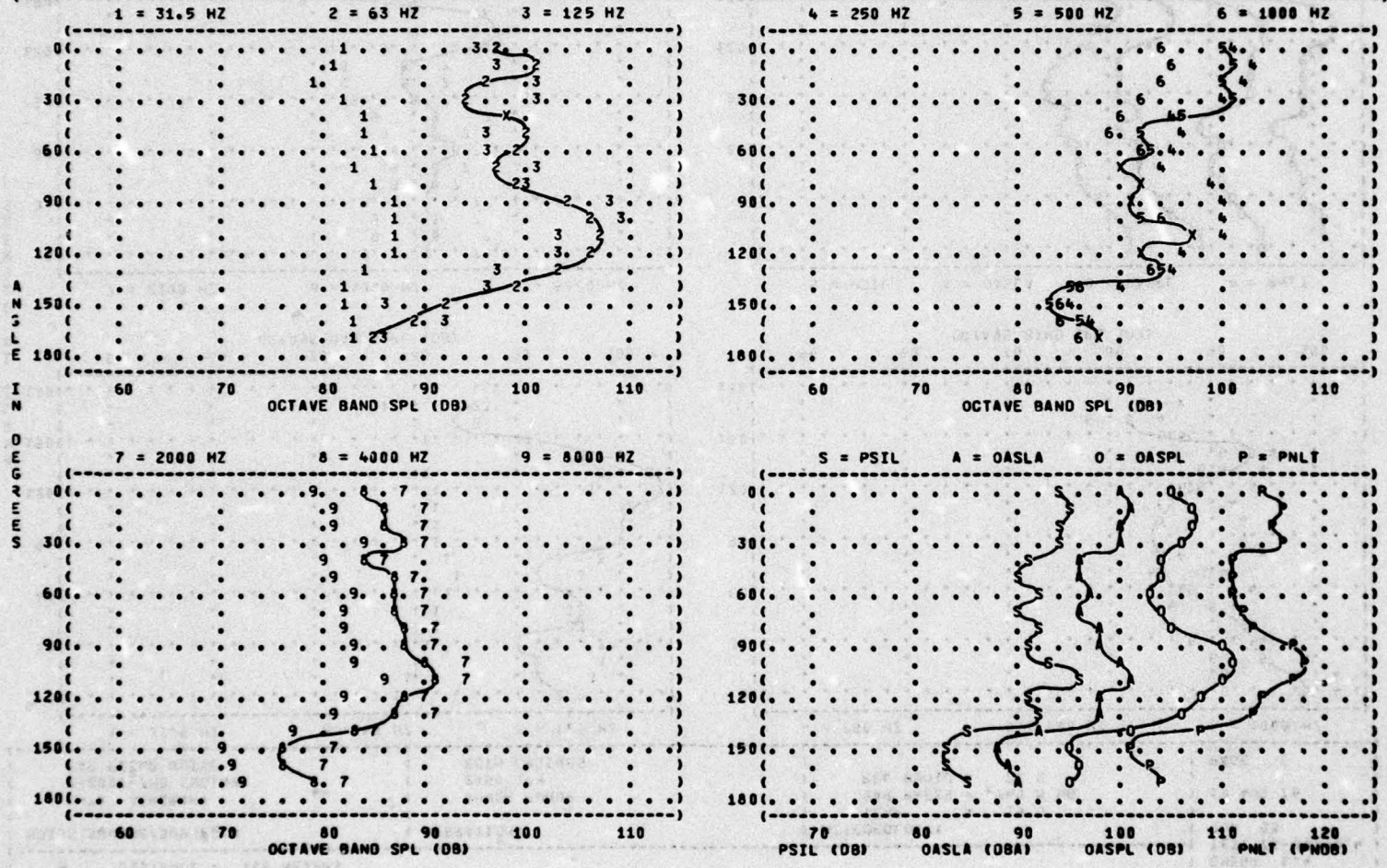


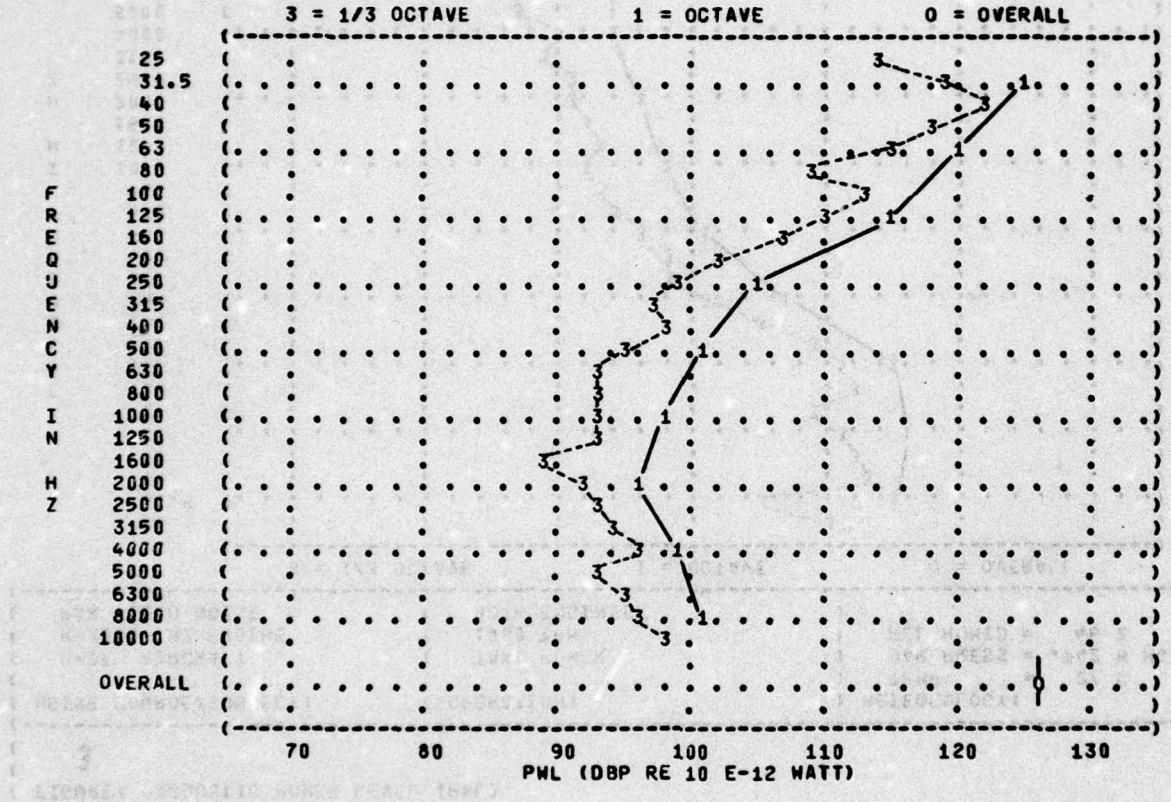
FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	113.8	
31.5	119.3	124.5
40	122.4	
50	118.3	
63	114.5	120.2
80	109.4	
100	113.0	
125	109.7	115.4
160	107.3	
200	102.5	
250	99.3	104.9
315	96.7	
400	97.7	
500	95.4	100.6
630	93.2	
800	93.2	
1000	93.2	98.0
1250	93.3	
1600	88.7	
2000	92.0	96.4
2500	93.1	
3150	94.1	
4000	95.7	99.1
5000	92.9	
6300	94.7	
8000	96.4	101.3
10000	97.9	
OVERALL		126.3

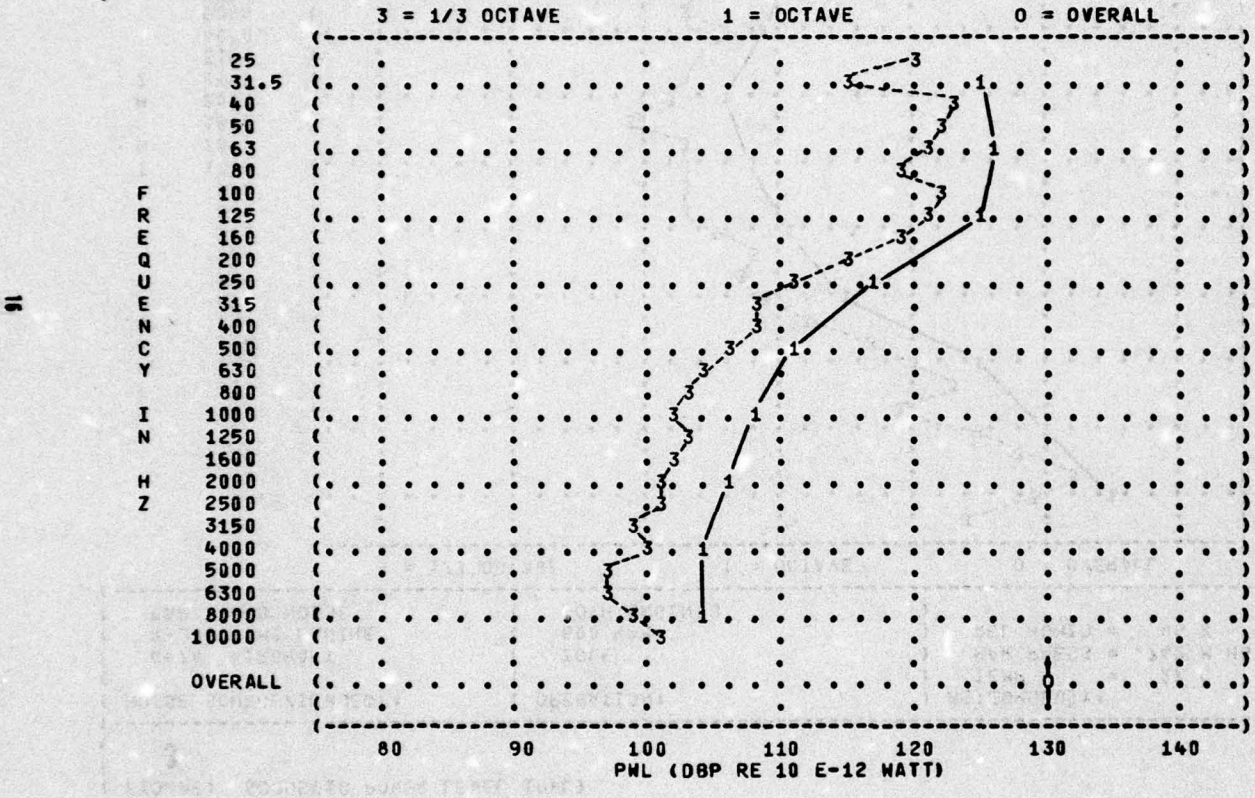
FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2800-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	119.6	
31.5	115.3	125.1
40	123.0	
50	121.7	
63	121.1	125.6
80	119.5	
100	121.7	
125	120.8	125.3
160	118.6	
200	114.6	
250	111.4	116.9
315	107.9	
400	105.4	
500	106.0	111.2
630	103.8	
800	103.4	
1000	102.2	107.6
1250	102.7	
1600	102.1	
2000	101.2	106.3
2500	101.3	
3150	99.4	
4000	99.7	103.7
5000	97.2	
6300	97.4	
8000	99.3	104.3
10000	101.0	
OVERALL		130.4

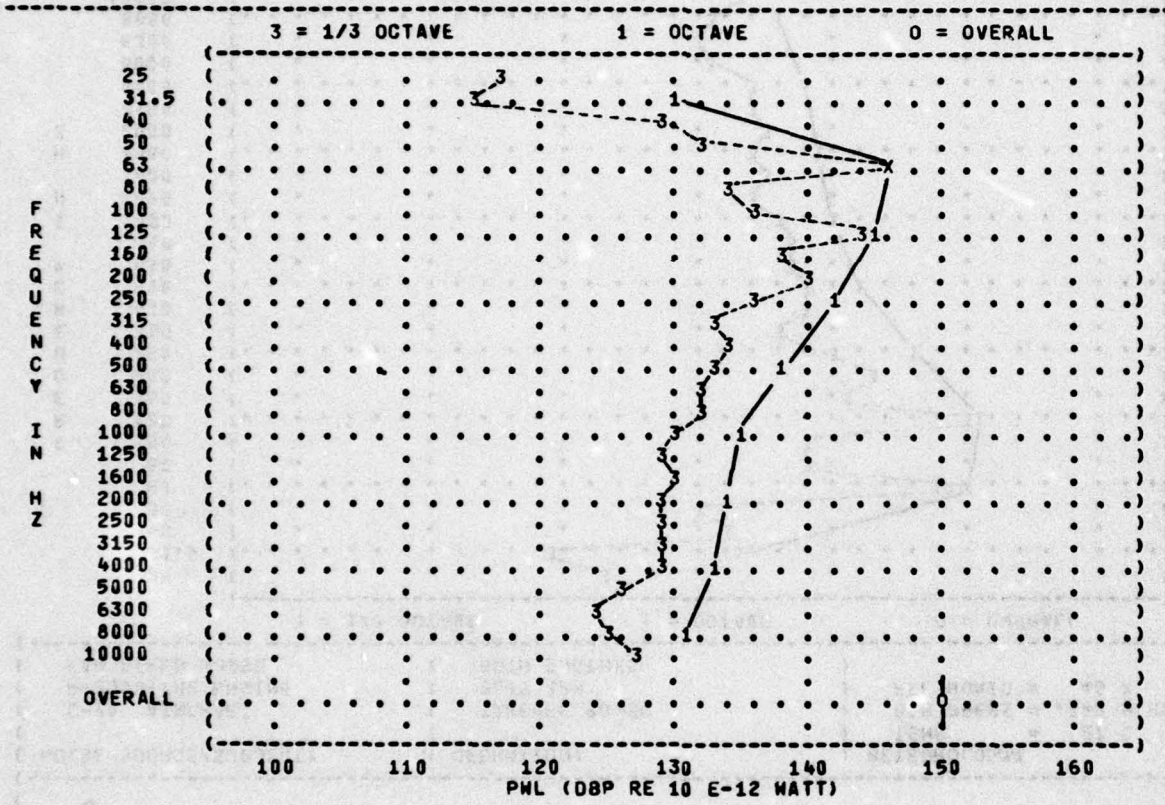
FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	116.8	
31.5	115.4	129.9
40	129.5	
50	132.3	
63	146.1	146.5
80	134.1	
100	135.5	
125	144.0	145.4
160	137.7	
200	140.3	
250	135.6	142.1
315	132.8	
400	134.3	
500	133.3	138.1
630	132.0	
800	131.8	
1000	129.8	135.2
1250	129.3	
1600	129.7	
2000	129.2	134.2
2500	129.5	
3150	128.7	
4000	129.1	132.8
5000	125.6	
6300	124.3	
8000	125.2	130.5
10000	127.2	
OVERALL		150.5

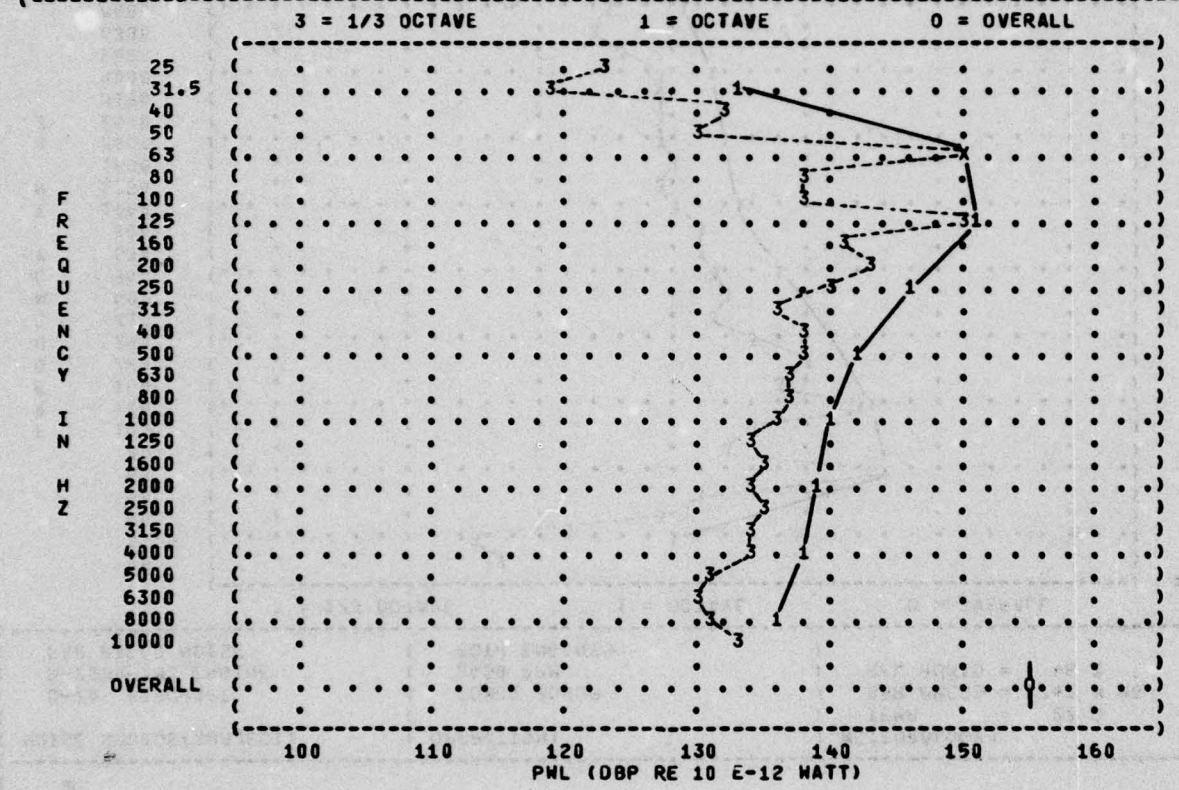
FIGURE: 3 ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 3

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	123.1	
31.5	118.9	132.7
40	132.0	
50	130.0	
63	150.1	150.4
80	137.6	
100	138.2	
125	149.7	150.6
160	141.3	
200	143.4	
250	140.3	145.7
315	136.4	
400	137.7	
500	137.5	142.2
630	137.1	
800	136.8	
1000	135.7	140.4
1250	134.1	
1600	134.9	
2000	134.4	139.4
2500	134.6	
3150	133.7	
4000	133.8	137.8
5000	131.0	
6300	130.1	
8000	131.1	136.5
10000	133.3	
OVERALL		154.9

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-082-014
RUN 01
10 AUG 76
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	2	2	2	0	-0	2	1	0	1	2	-4	-2	-2	-1	-1	-3	-7	-7	-4
31.5	2	1	2	2	1	2	3	2	0	-0	-3	-2	-4	-2	-2	-5	-7	-9	-6
40	-0	-0	1	0	0	1	1	3	3	3	-2	-2	-4	-6	-6	-10	-10	-12	-11
50	-2	-3	-4	-3	-3	-3	0	2	4	4	1	-3	-5	-10	-8	-6	-3	-5	-6
63	-3	-3	-2	-3	-4	-2	1	2	4	4	-2	-3	-1	-1	-1	-4	-3	-3	-4
80	2	1	1	-0	-1	1	1	0	0	2	1	-1	-2	-1	-1	-4	-2	-1	-2
100	-3	-2	-4	-4	-1	1	3	4	3	-1	-2	-1	-3	-1	-4	-6	-4	-5	-7
125	0	3	-1	-0	-0	-0	1	-0	2	-0	-5	-2	-1	2	2	-4	-1	-2	-3
160	1	5	0	2	1	1	-1	1	2	-2	-3	-3	-2	2	-2	-3	-1	0	1
200	4	11	4	3	-0	-3	-1	-1	-2	-0	-6	-4	-3	-2	-1	0	2	0	2
250	6	10	5	4	1	-2	-3	-4	-5	-4	-8	-5	-2	-1	2	1	5	2	5
315	8	10	5	5	1	-0	-4	-6	-6	-6		-8	-2	-0	1	2	5	2	4
400	7	7	6	3	0	-1	-3	-5	-5	-8	-9	-9	-3	-2	3	5	6	3	5
500	7	7	5	3	1	-1	0	-1	-2	-4	-4	-7	-3	-2	0	3	4	2	3
630	6	6	4	4	2	2	2	-0	-4	-5	-4	-7	-3	-3	-1	2	1	-2	0
800	3	2	2	3	2	2	3	2	-2	-1	-3	-7	-3	-3	-1	0	-1	-4	-2
1000	2	1	-0	1	2	3	3	2	-3	-1	-2	-5	-2	-2	-0	-1	-0	-6	-4
1250	3	3	1	2	2	3	2	1	-3	-1	-4	-5	-2	-1	-0	-0	3	-5	-5
1600	9	9	7	8		6											7		
2000	6	6	5	4	1	1	0	1					1	1	2	1	1		
2500	4	3	4	3	-0	0	-1	-1				-4	1	3	5	3	2	-3	
3150	2	2	2	2	-2	-2	-3	-3	-7	-7	-8	-4	1	4	5	4	2	-4	-7
4000	-1	-1	-1	-2	-5	-4	-5	-5	-9	-8	-9	-4	3	6	5	4	2	-4	-7
5000	-0	-1	-1	-2	-5	-5	-5	-6	-10	-9	-8	-2	5	5	3	5	3	-3	-6
6300	-3	-2	-2	-4	-8	-7	-8	-8	-12	-12	-9	-2	5	7	3	3	2	-4	-7
8000	-4	-5	-4	-3	-3	-3	-7	-5	-6			-3	4	7	4	4	2	-4	-7
10000	-4	-4	-5	-5	-7	-7	-7	-7	-11	-12	-7	-1	4	7	3	4	3	-3	-5
OCTAVE																			
31.5	1	1	1	1	0	2	2	2	2	2	-2	-2	-4	-4	-4	-7	-8	-10	-8
63	-2	-2	-3	-3	-3	-2	0	2	4	4	1	-3	-3	-5	-4	-5	-3	-4	-5
125	-1	1	-2	-2	-1	1	2	3	3	-1	-2	-2	-2	0	-1	-5	-3	-3	-3
250	6	10	5	4	1	-2	-2	-2	-3	-2	-7	-5	-3	-1	0	1	3	1	3
500	7	7	5	3	1	-0	-1	-3	-4	-6	-6	-8	-3	-2	2	4	5	2	4
1000	3	2	1	2	2	2	3	2	-3	-1	-3	-6	-3	-2	-1	-0	1	-5	-3
2000	6	6	5	5	-0	2	-1	-1					0	1	3	2	3		
4000	0	0	0	-0	-4	-4	-4	-4	-8	-8	-9	-3	3	5	5	4	2	-4	-7
8000	-3	-4	-4	-4	-5	-6	-7	-7	-9	-14	-9	-2	5	7	3	4	3	-3	-6
OVERALL	0	0	0	0	-0	1	1	2	3	2	-2	-2	-4	-3	-4	-6	-5	-7	-6

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
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	4	3	-0	1	1	2	2	-1	-0	0	1	-2	-4	-3	-2	-2	-3	-2	-3
31.5	1	3	1	0	0	-1	2	0	3	2	0	-2	-3	-4	-6	-6	-8	-6	-10
40	2	3	2	0	1	1	1	1	2	2	2	-5	-10	-9	-7	-7	-5	-8	-9
50	3	4	3	2	1	2	1	3	2	1	-2	-5	-9	-7	-4	-3	-0	-4	-2
63	3	2	2	-0	-3	-4	-2	1	3	2	1	-5	-6	-3	-2	-0	4	1	-0
80	5	5	3	2	-0	-0	0	0	-1	1	2	-3	-4	-0	-1	-0	-1	-4	-6
100	1	2	3	3	4	3	0	-2	-0	-1	-1	-4	-3	-1	-1	-3	-2	-4	-7
125	4	5	3	3	2	1	-2	1	-0	-1	0	-3	-3	-2	-0	-1	-0	1	-5
160	7	7	6	4	2	1	-2	1	0	-3	-3	-7	-4	-3	-3	0	0	0	-4
200	6	7	7	6	0	-4	1	0	-1	-2	-5	-8	-6	-5	-4	-1	0	2	-3
250	10	9	7	6	1	-1	1	-2	-4	-5	-7	-9	-5	-4	-3	-1	1	2	-2
315	11	10	8	6	2	0	-5	-6	-7	-5	-7	-10	-5	-4	-3	-1	3	3	-2
400	12	10	9	6	2	-3	-6	-8	-9	-7	-6	-9	-7	-6	-3	-0	3	3	-3
500	10	9	8	7	2	-1	-5	-6	-6	-5	-4	-6	-6	-5	-4	1	2	3	-3
630	9	8	8	6	2	0	-2	-5	-6	-3	-4	-6	-6	-6	-4	1	1	2	-5
800	6	6	6	5	2	1	1	-2	-2	-1	-2	-5	-5	-6	-3	-0	0	0	-6
1000	5	5	4	4	2	1	1	-1	-1	-0	-1	-2	-4	-6	-3	-1	-0	0	-6
1250	5	4	3	4	3	2	2	-0	-1	-0	-1	-3	-4	-4	-4	-3	-2	-2	-9
1600	7	6	5	5	2	1	1	-0	-0	-1	-1	-4	-4	-4	-4	-3	-5	-4	
2000	7	6	4	5	2	2	1	0	-1	-2	-2	-4	-3	-3	-3	-5	-5	-4	
2500	5	5	4	5	3	1	-0	-0	1	-1	-2	-4	-3	-2	-3	-5	-5	-4	-12
3150	5	5	4	5	2	1	-1	-0	-1	-2	-2	-3	-1	2	-0	-3	-3	-2	-10
4000	5	4	3	3	1	-1	-1	-1	-1	-4	-3	-4	-1	4	3	-2	-1	-0	-8
5000	4	4	3	2	0	-1	-2	-2	-1	-5	-3	-3	0	4	3	-1	-0	1	-8
6300	4	3	2	1	0	-2	-3	-3	-2	-6	-4	-3	1	5	2	-0	0	1	-7
8000	3	3	1	1	1	-2	-3	-3	-3	-7	-5	-3	-0	6	3	-0	1	2	-7
10000	3	3	1	1	1	-1	-3	-3	-3	-6	-6	-2	-0	5	4	1	2	3	-4
OCTAVE																			
31.5	3	3	1	1	1	1	2	1	2	1	2	-3	-6	-6	-5	-5	-4	-5	-6
63	3	4	3	1	-0	-0	-0	2	2	1	0	-5	-6	-3	-2	-1	1	-1	-2
125	4	4	4	3	3	2	-1	-0	-0	-1	-1	-4	-3	-2	-1	-2	-1	-1	-5
250	8	8	7	6	1	-2	0	-1	-2	-3	-6	-8	-5	-4	-3	-1	1	2	-3
500	11	9	8	6	2	-1	-5	-7	-7	-5	-5	-7	-7	-6	-4	0	3	3	-4
1000	6	5	5	4	2	1	1	-1	-1	-0	-1	-3	-5	-5	-3	-1	-1	-0	-7
2000	6	6	4	5	2	2	0	-0	-0	-1	-2	-4	-3	-3	-3	-4	-5	-4	
4000	5	4	3	4	1	-0	-1	-1	-1	-3	-2	-4	-1	3	2	-2	-2	-1	-9
8000	3	3	1	1	1	-2	-3	-3	-3	-6	-5	-2	-0	6	3	0	1	2	-6
OVERALL	4	4	3	2	1	1	0	1	1	1	0	-4	-5	-3	-2	-2	-0	-2	-4

TABLE: 3 DIRECTIVITY INDEX (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 4

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

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

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

METEOROLOGY:
TEMP = 27 C
BAR PRESS = .742 M HG
REL HUMID = 46 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
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	-1	-1	-2	-1	-3	-2	-2	-2	-1	2	2	2	2	-2	-1	-5	-3	4	
31.5	-3	-3	-3	-2	-2	-0	1	-2	3	2	2	0	-1	-1	-3	-4	-4	6	
40	-3	-4	-7	-3	-0	-0	-0	-2	-0	2	1	2	3	-1	-3	-3	-2	-5	
50	-3	-2	-5	-3	-2	-1	-2	-4	-2	1	3	4	3	1	-3	-5	-5	-7	
63	-5	-2	-6	-9	-5	-3	-3	-6	-4	1	4	4	3	1	-4	-11	-15	-18	
80	-6	-4	-7	-5	-3	0	0	-0	-2	-0	3	4	2	-0	-4	-9	-9	-15	
100	-6	-4	-3	-6	-3	-2	1	4	-3	1	5	1	-2	-4	-4	-10	-8	-12	
125	-8	-6	-2	-1	-5	-10	-9	-4	-3	5	6	0	-0	-7	-8	-20	-12	-19	
160	-7	-6	0	1	-1	-2	-4	2	-0	2	2	0	2	-2	-5	-12	-10	-12	
200	-3	3	5	-1	-4	-4	-3	-6	1	3	3	4	-2	-3	-9	-15	-12	-15	
250	4	8	1	4	-2	1	-2	-1	1	1	1	-1	-0	-3	-6	-11	-10	-6	
315	9	6	7	7	-1	0	-4	-5	-1	-2	-4	1	-3	-2	-7	-12	-7	-7	
400	8	8	6	8	2	-1	-4	-9	-4	-4	-4	1	-3	-1	-10	-10	-8	-6	
500	5	6	7	7	3	-3	0	-3	-3	-4	-2	1	-3	-1	-10	-12	-9	-7	
630	4	4	4	3	1	-4	-0	-3	-1	-2	-1	5	0	-0	-8	-11	-8	-6	
800	3	4	2	1	-1	-3	0	-3	-0	-2	1	5	-0	-0	-7	-9	-8	-6	
1000	1	2	1	-1	-3	-4	0	-2	-0	-1	2	5	-1	1	-5	-8	-8	-7	
1250	0	1	1	0	-4	-3	0	-1	1	-0	3	3	-1	0	-6	-8	-9	-7	
1600	-2	-0	-0	-1	-4	-2	-1	-2	0	0	3	4	-1	0	-6	-9	-11	-8	
2000	-2	-0	-0	-0	-4	-1	-0	-1	1	0	3	3	-0	1	-6	-10	-11	-8	
2500	-3	-1	-2	-0	-5	-1	-0	-0	0	1	3	4	0	-0	-5	-11	-11	-9	
3150	-4	-2	-2	-0	-4	0	-1	-0	-0	0	3	3	0	-1	-5	-12	-12	-10	
4000	-3	-2	-1	0	-3	-0	-0	-1	0	1	2	4	-0	-0	-5	-12	-11	-9	
5000	-3	-1	-1	1	-3	-1	1	-1	-0	1	2	4	-0	-1	-5	-12	-11	-9	
6300	-3	-1	-1	2	-2	-1	1	1	-0	1	2	4	-1	-1	-5	-12	-11	-9	
8000	-3	-1	-1	2	-2	-1	1	0	-0	0	1	4	-0	-1	-5	-12	-11	-10	
10000	-3	-2	-1	2	-2	-1	1	-0	0	0	1	4	-1	-1	-5	-12	-10	-10	
OCTAVE																			
31.5	-3	-4	-6	-3	-1	-0	-0	-2	-0	2	2	2	2	-1	-3	-3	-2	-2	
63	-5	-2	-6	-9	-5	-2	-3	-5	-4	1	4	4	3	1	-4	-10	-14	-17	
125	-7	-6	-2	-1	-4	-7	-6	-2	-3	5	6	0	0	-6	-7	-17	-11	-17	
250	3	6	5	3	-3	-1	-3	-4	1	2	2	2	-2	-3	-8	-13	-10	-10	
500	6	6	6	7	2	-2	-1	-4	-2	-3	-2	2	-2	-1	-9	-11	-8	-6	
1000	2	3	2	0	-2	-3	0	-2	0	-1	2	5	-1	1	-6	-8	-8	-6	
2000	-2	-1	-1	-1	-4	-1	-0	-1	0	0	3	4	-0	0	-6	-10	-11	-8	
4000	-3	-2	-1	0	-4	-0	-0	-1	-0	1	3	4	0	-1	-5	-12	-11	-9	
8000	-3	-1	-1	2	-2	-1	1	0	-0	1	1	4	-0	-1	-5	-12	-11	-10	
OVERALL	-1	1	-0	-1	-3	-3	-3	-3	-2	3	4	3	1	-1	-6	-12	-11	-12	

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 13

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

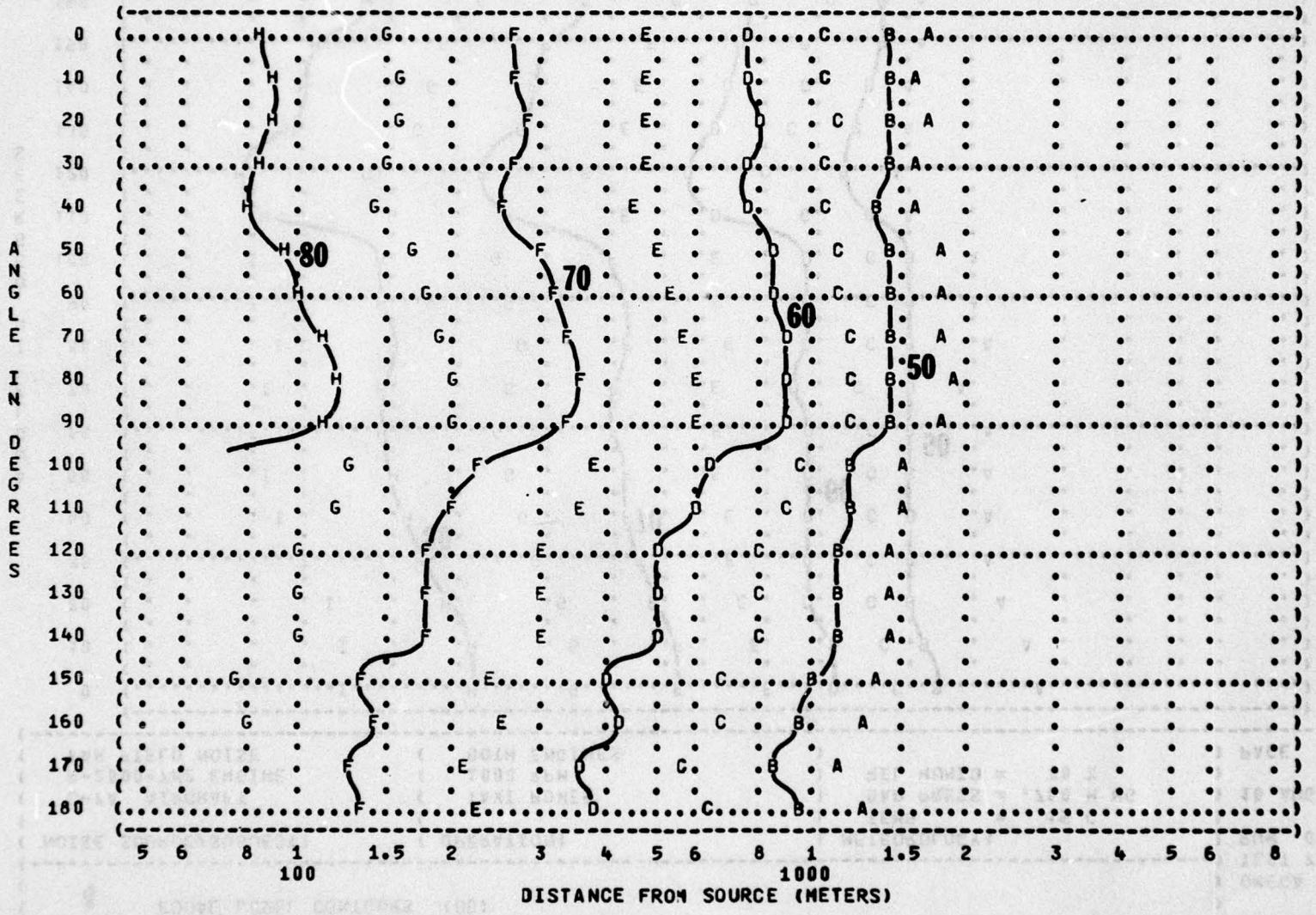


FIGURE 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

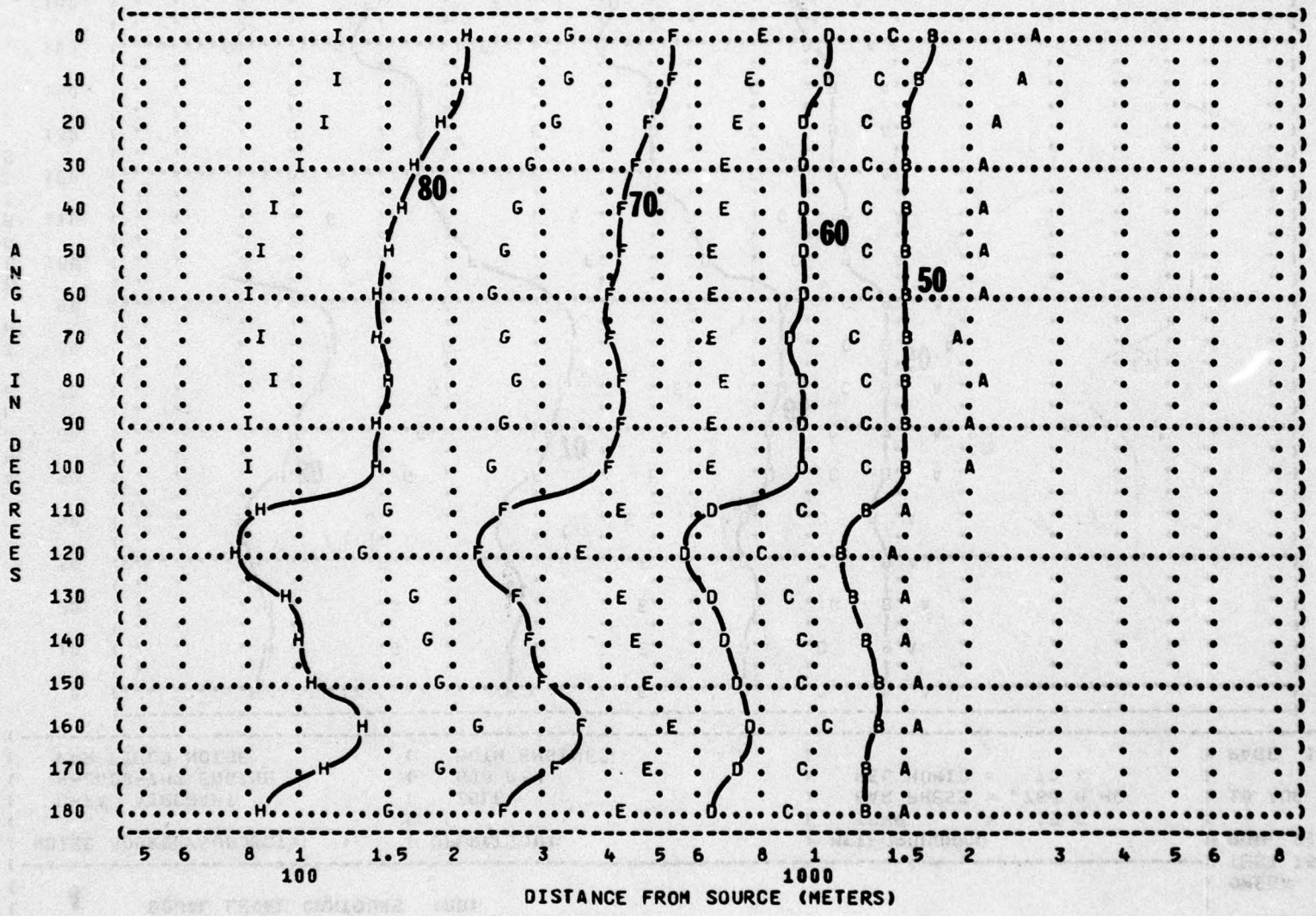


FIGURE 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

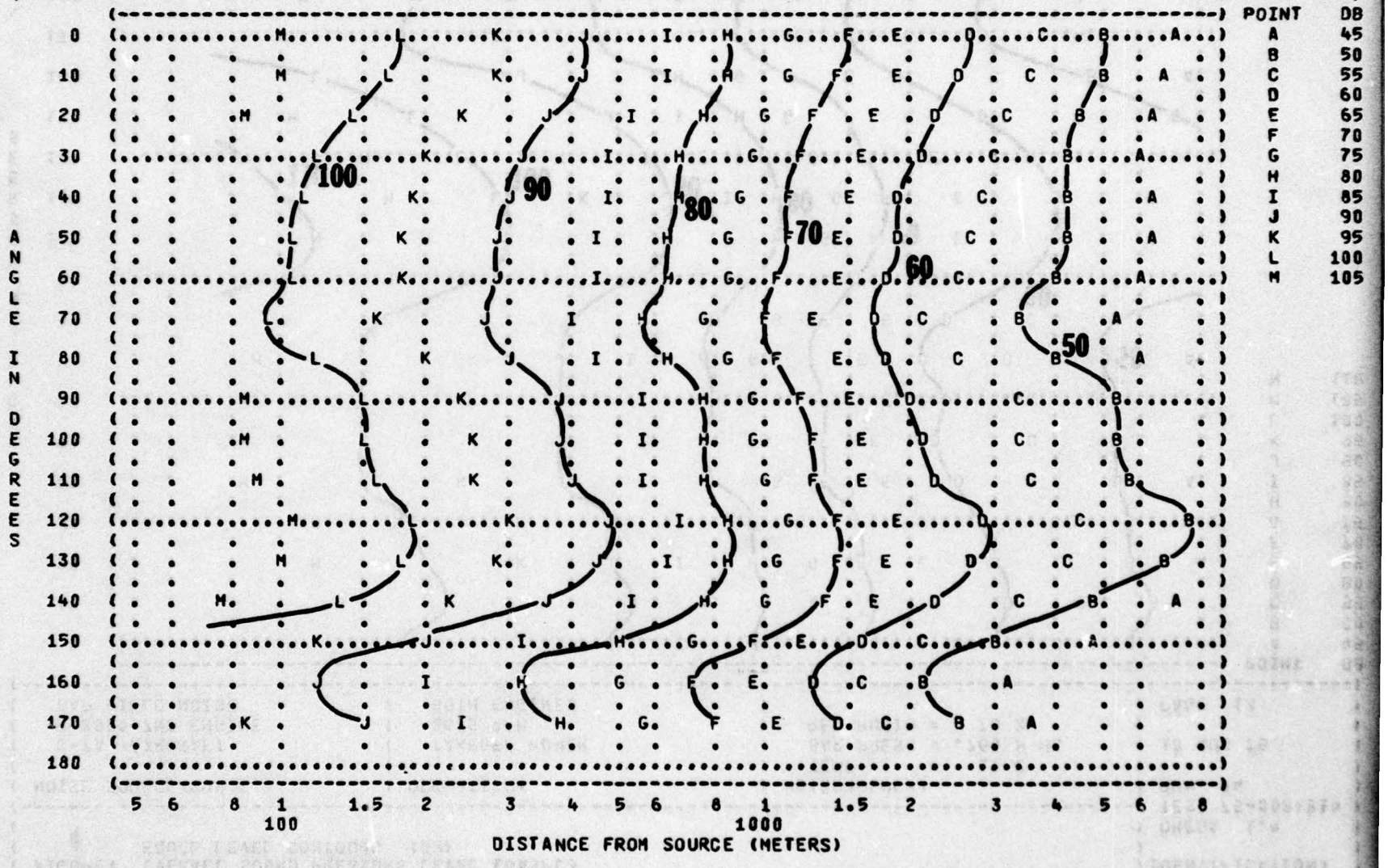


FIGURE 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-302-014
RUN 04
10 AUG 76
PAGE 13

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

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

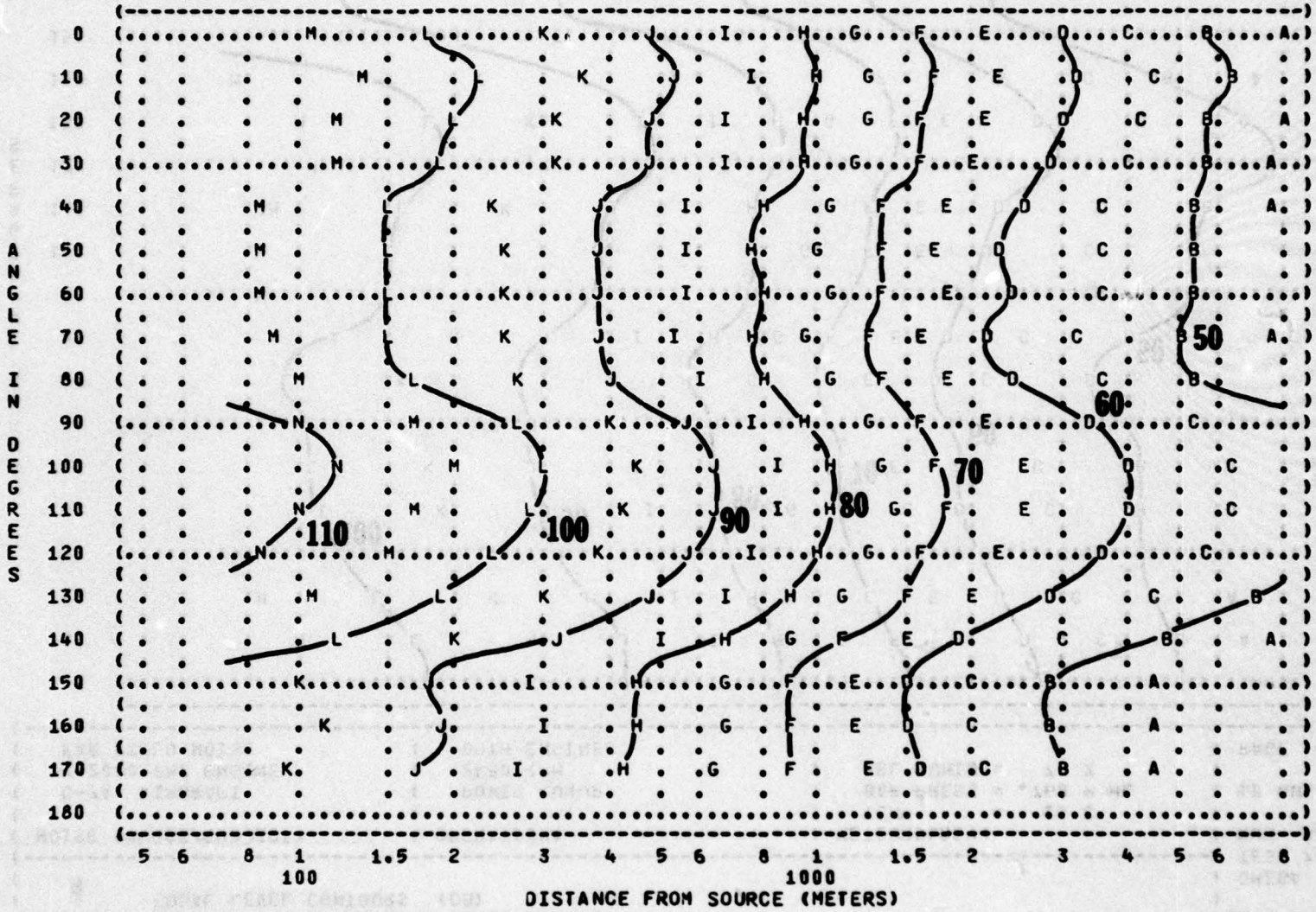


FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

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

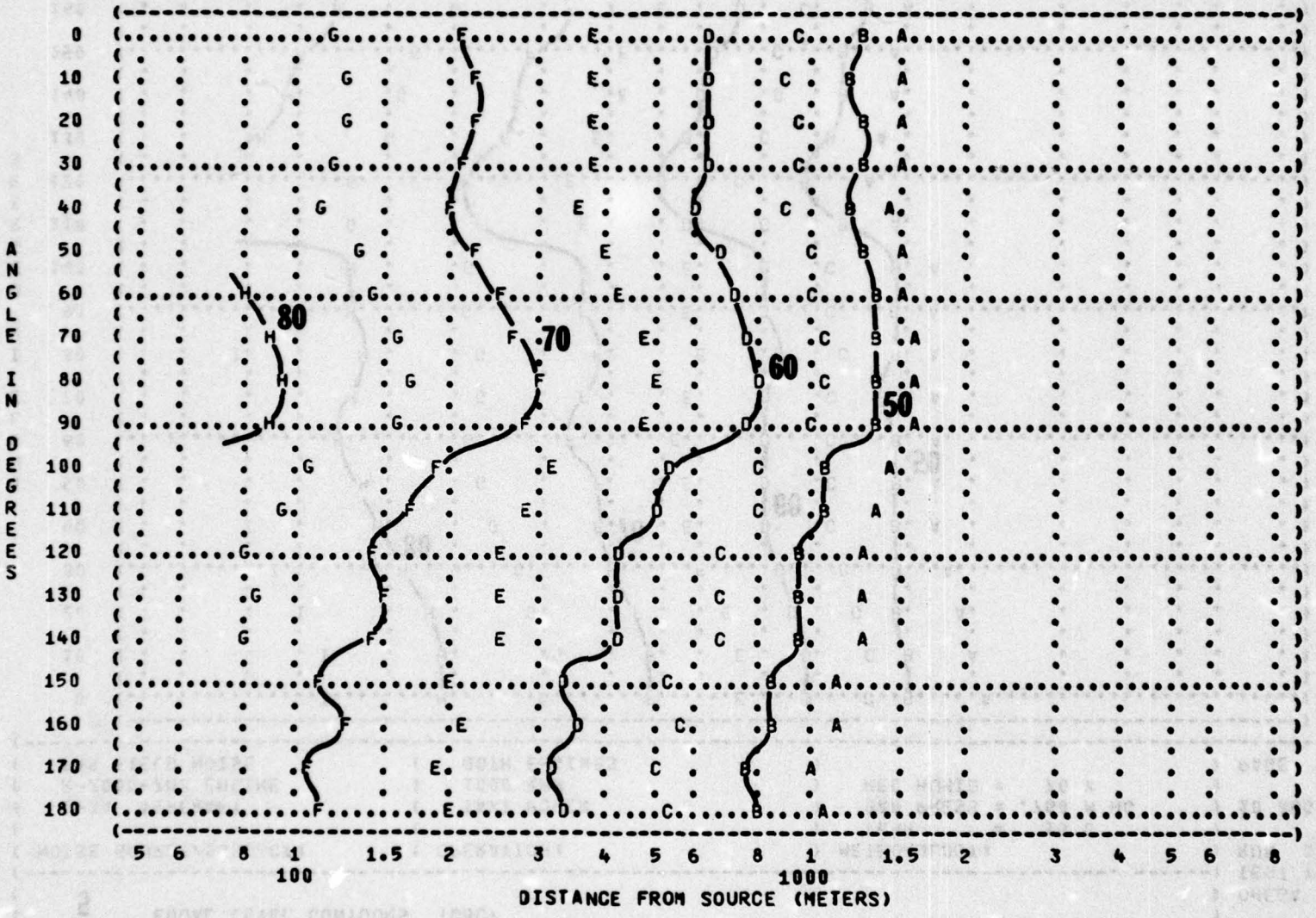


FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

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

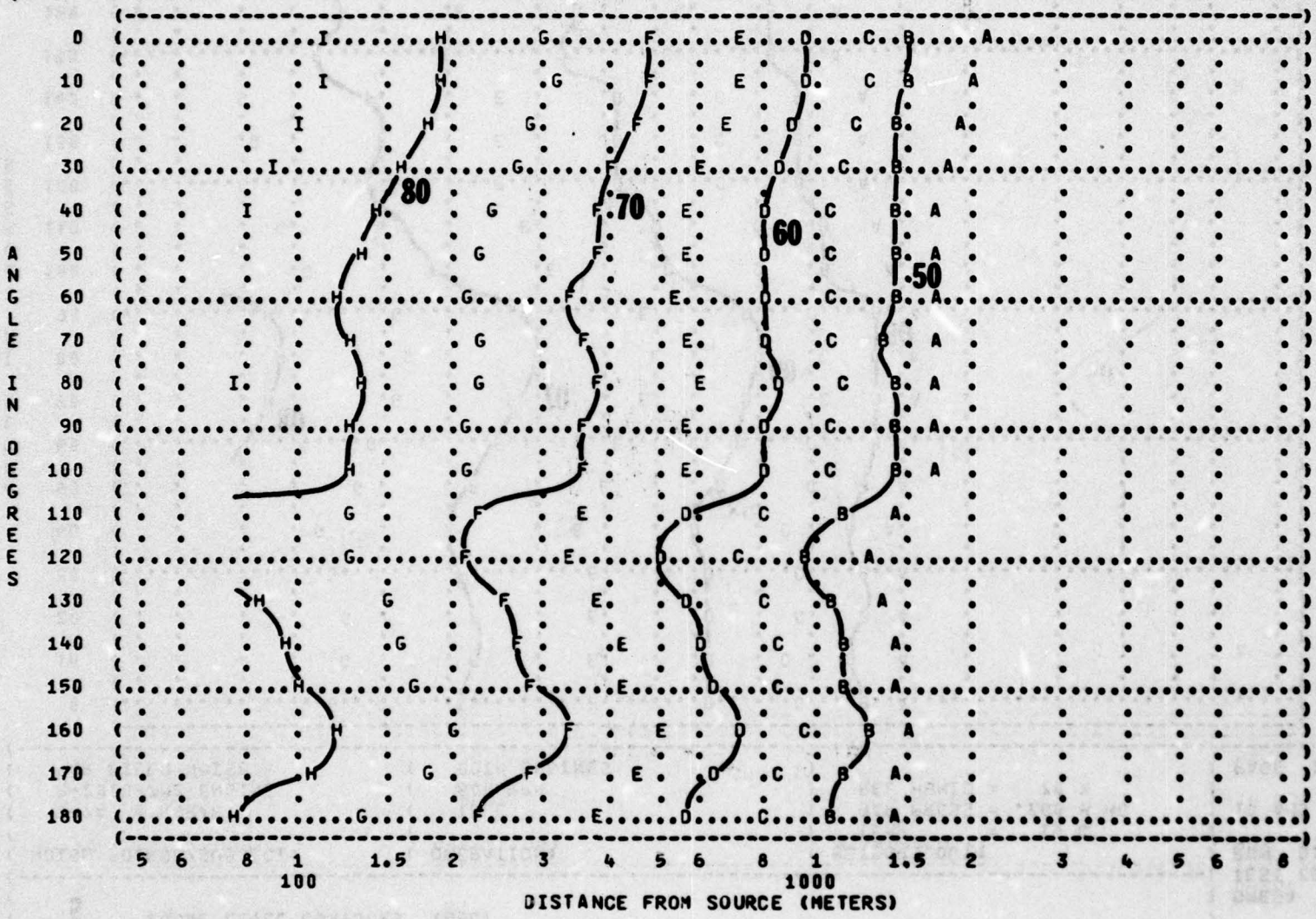


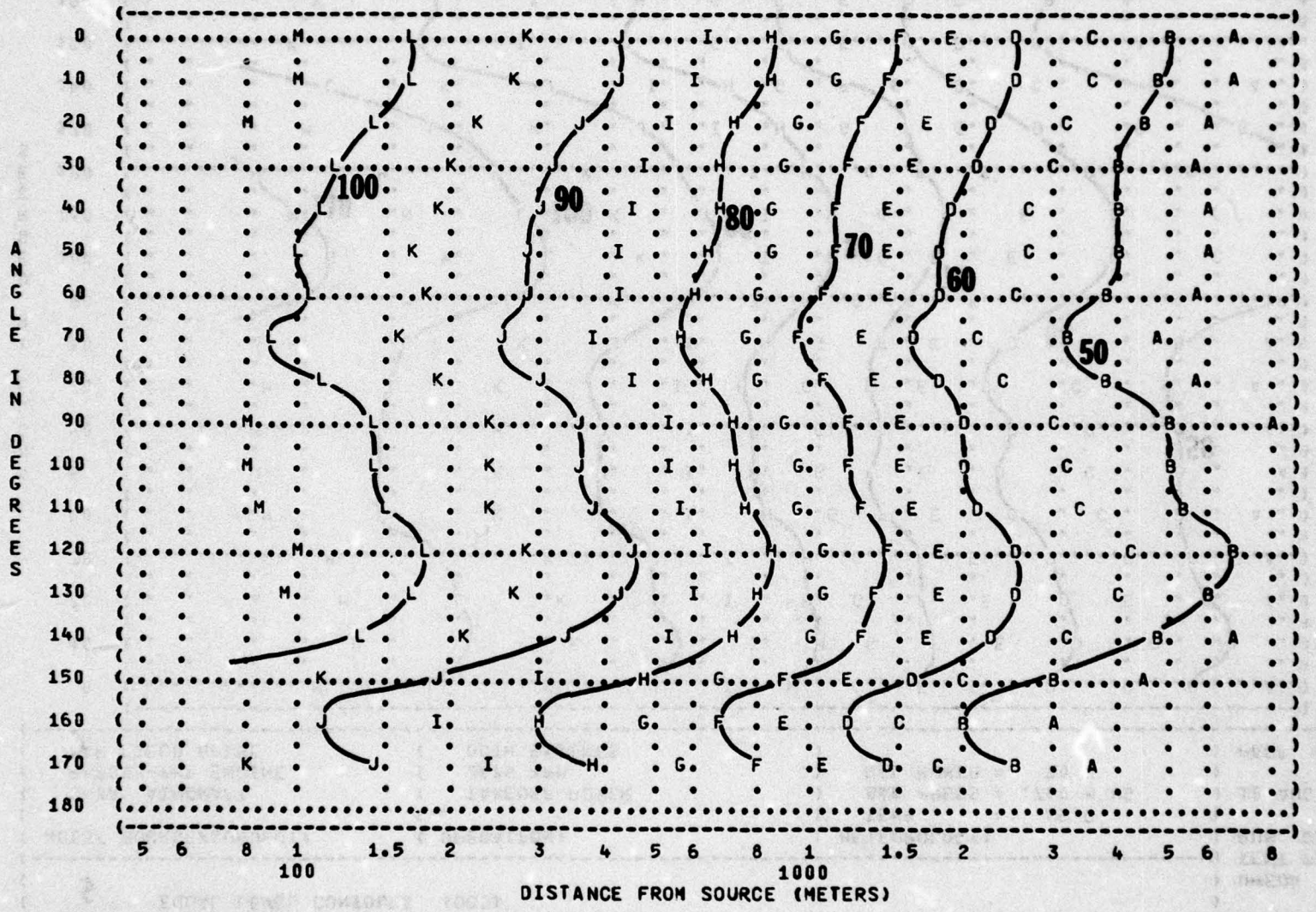
FIGURE 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 14

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

POINT	DB
A	4
B	5
C	5
D	6
E	6
F	7
G	7
H	8
I	8
J	9
K	9
L	10
M	10
N	11

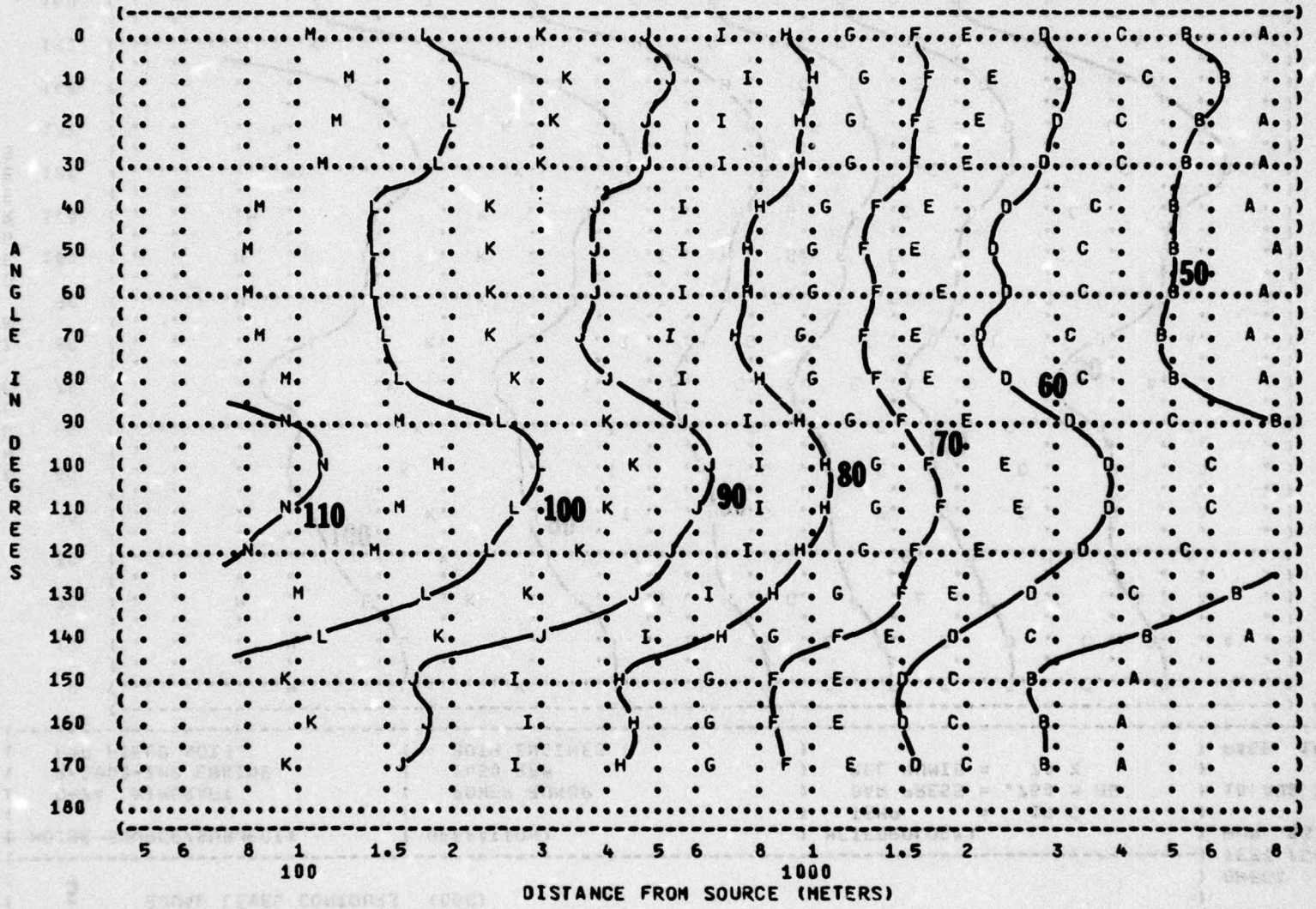


FIGURE: 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 15

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

POINT	DBA
A	45
B	50
C	55
D	60
E	65

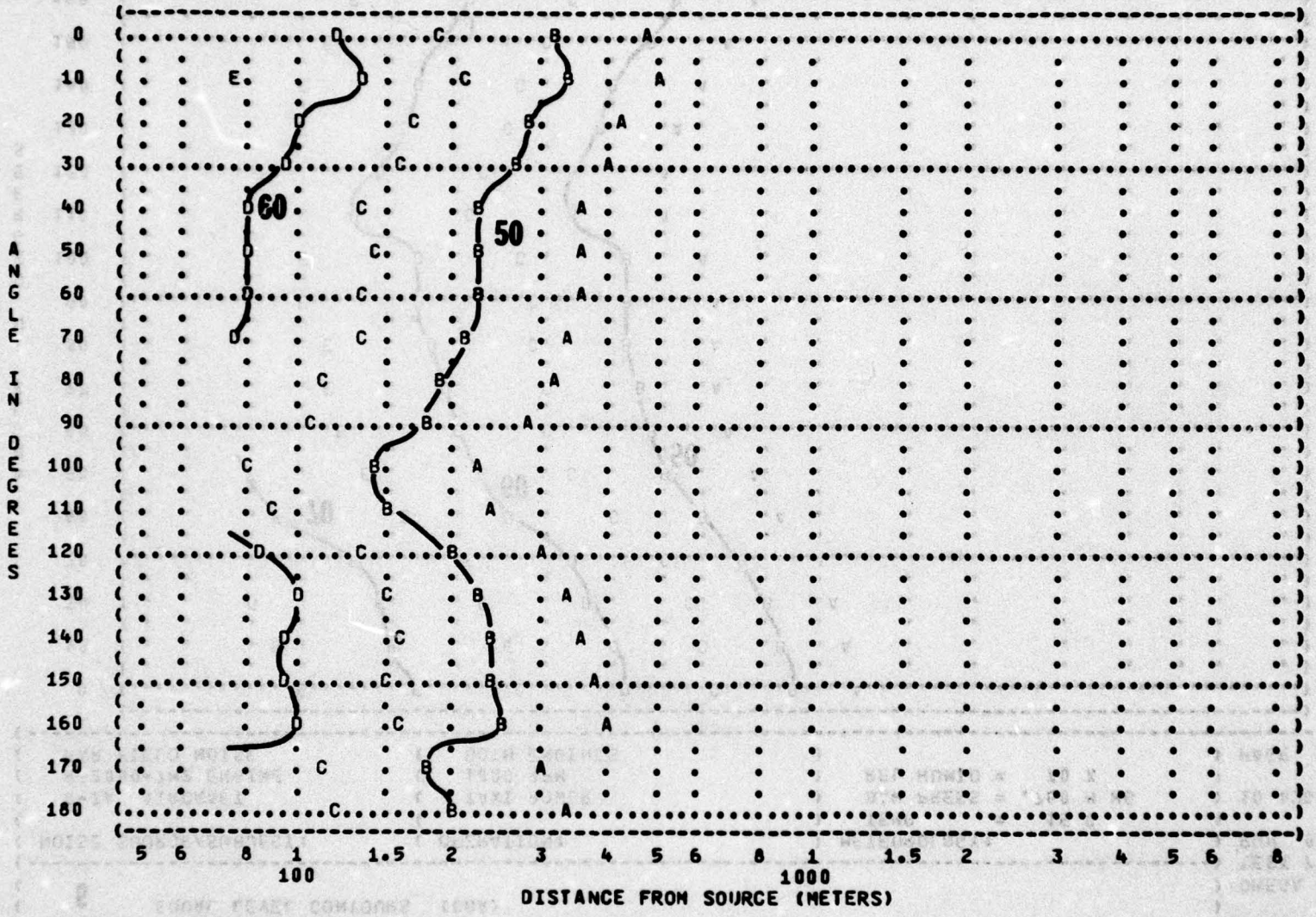


FIGURE: 6

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 15

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75

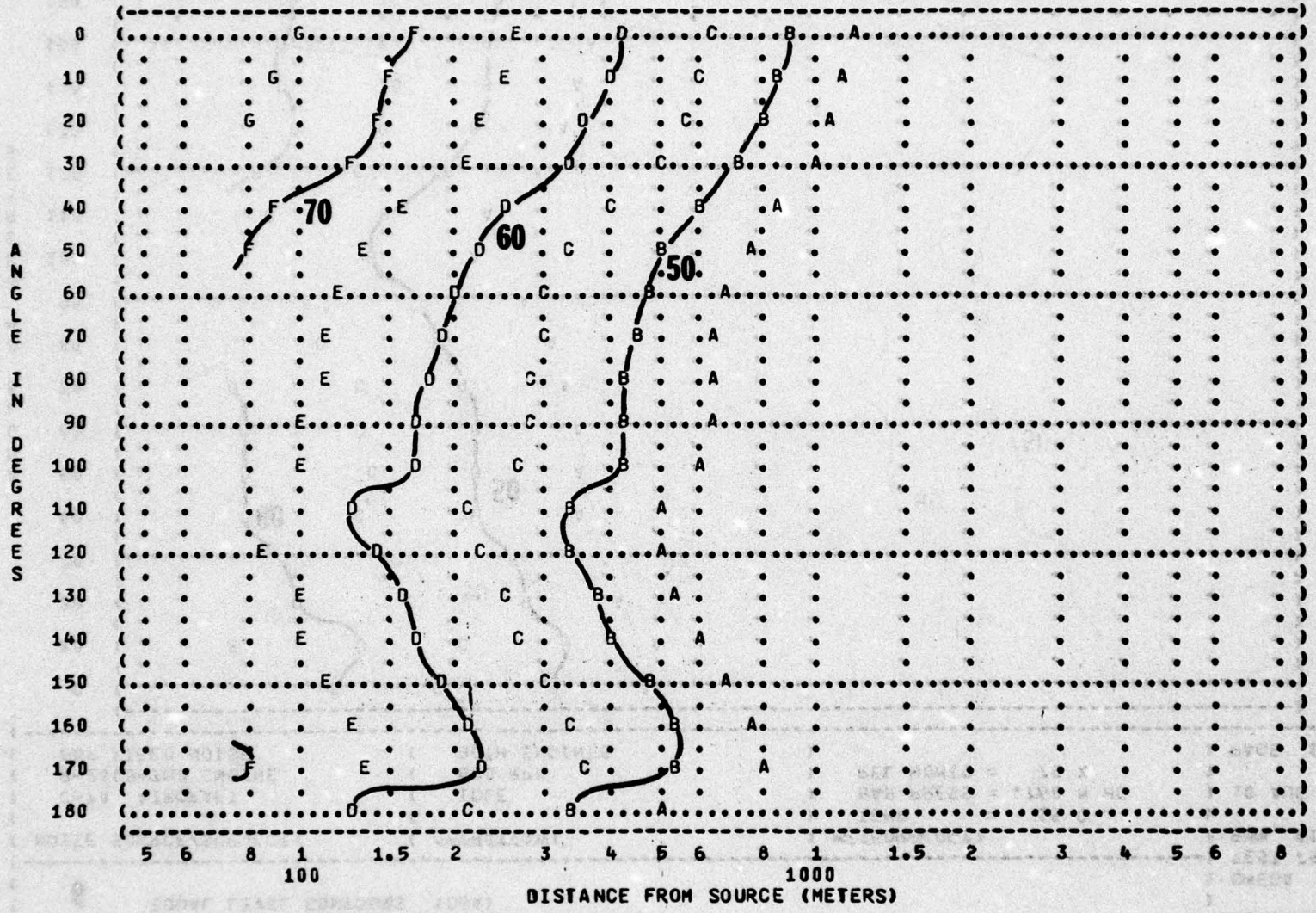


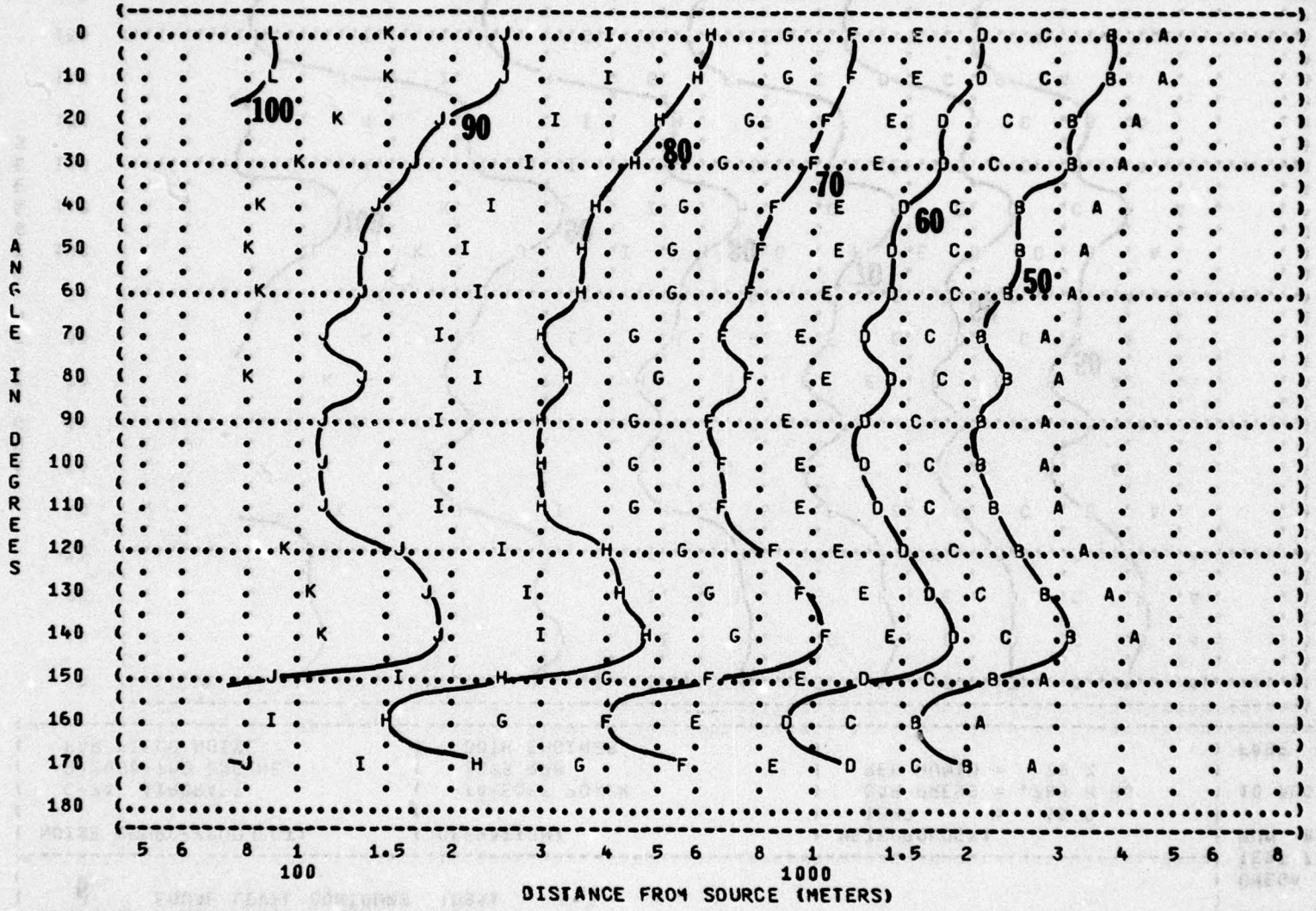
FIGURE: 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 15

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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



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

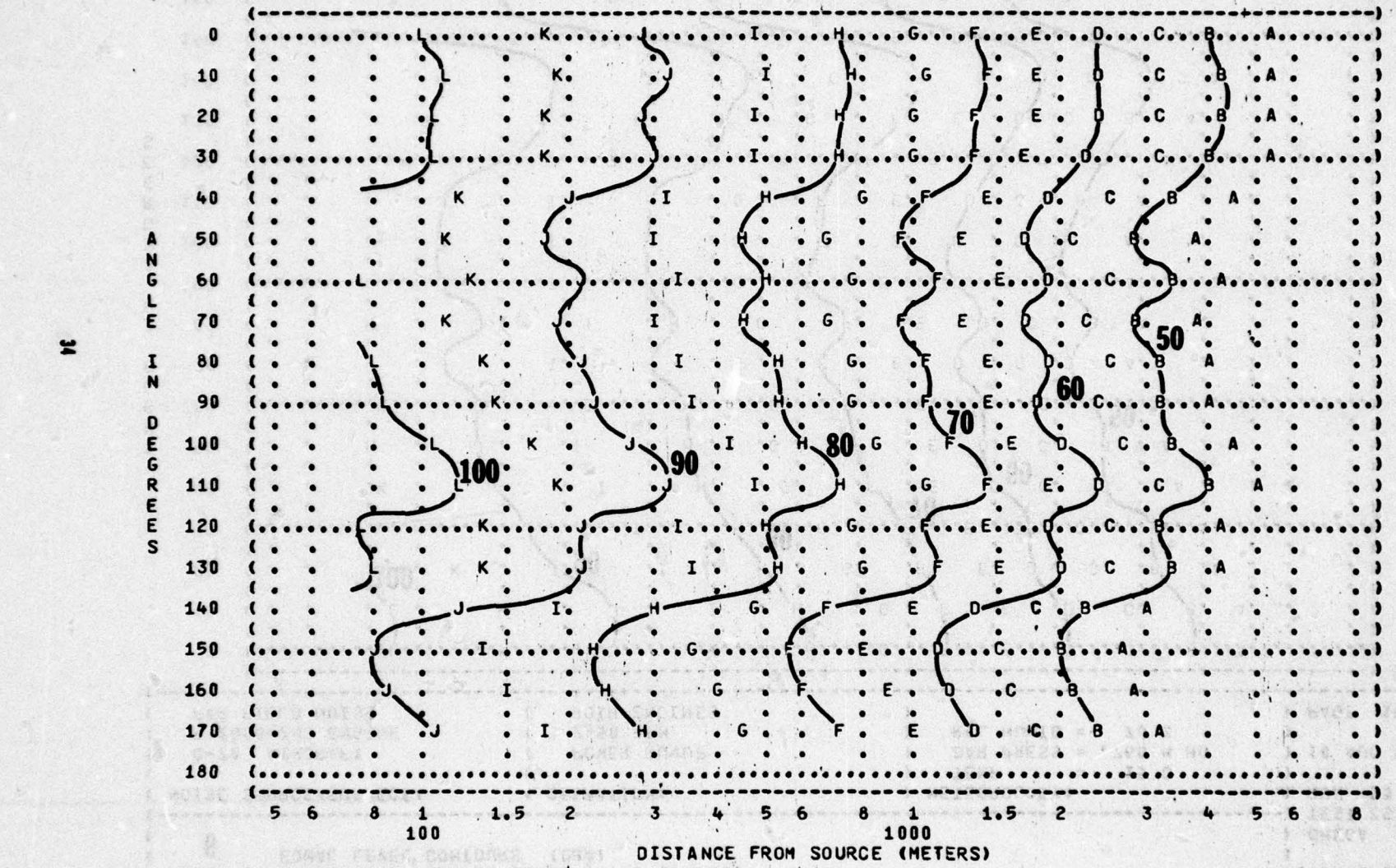
FIGURE: 6 — A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 15



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

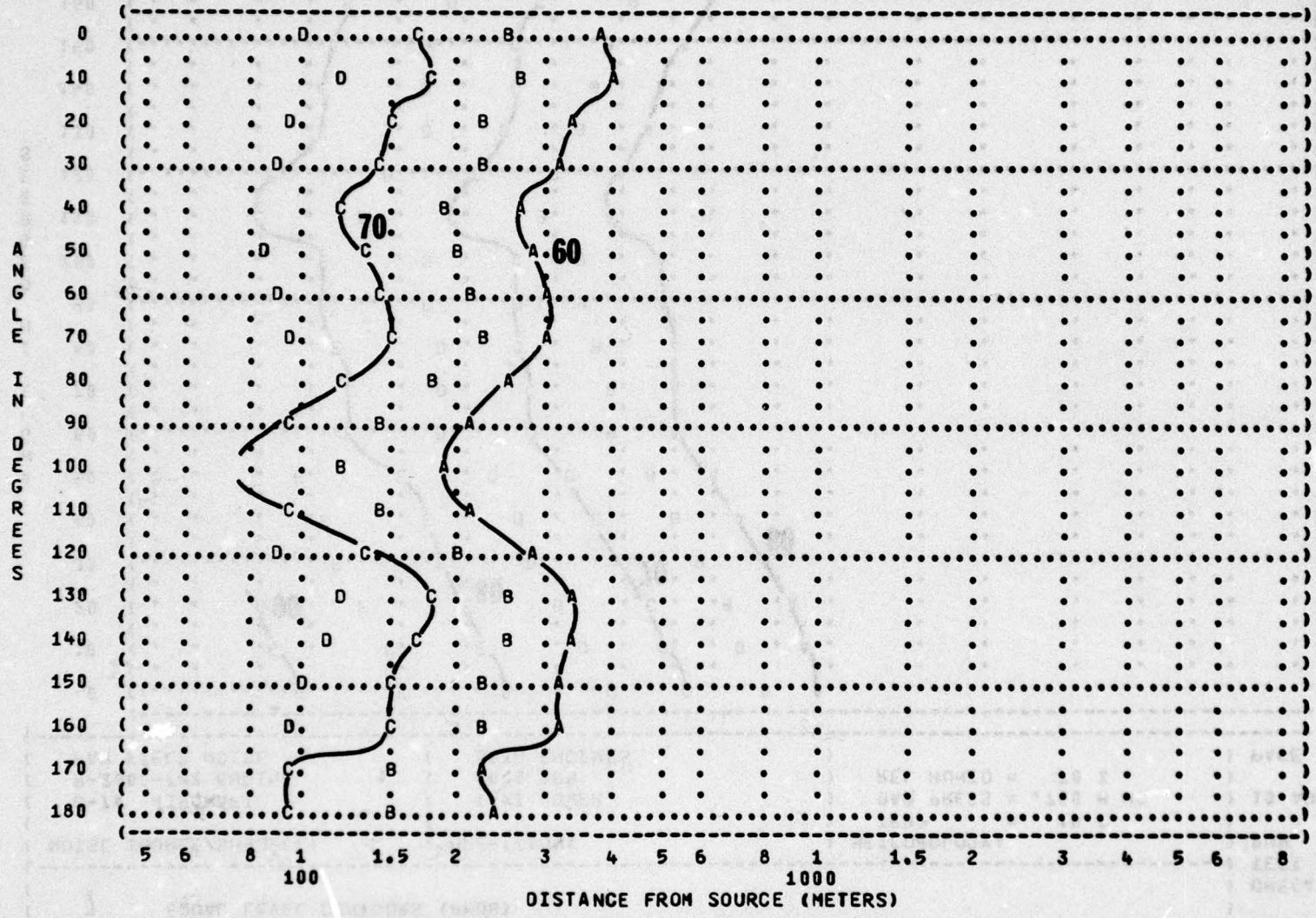


FIGURE: 7 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 16

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

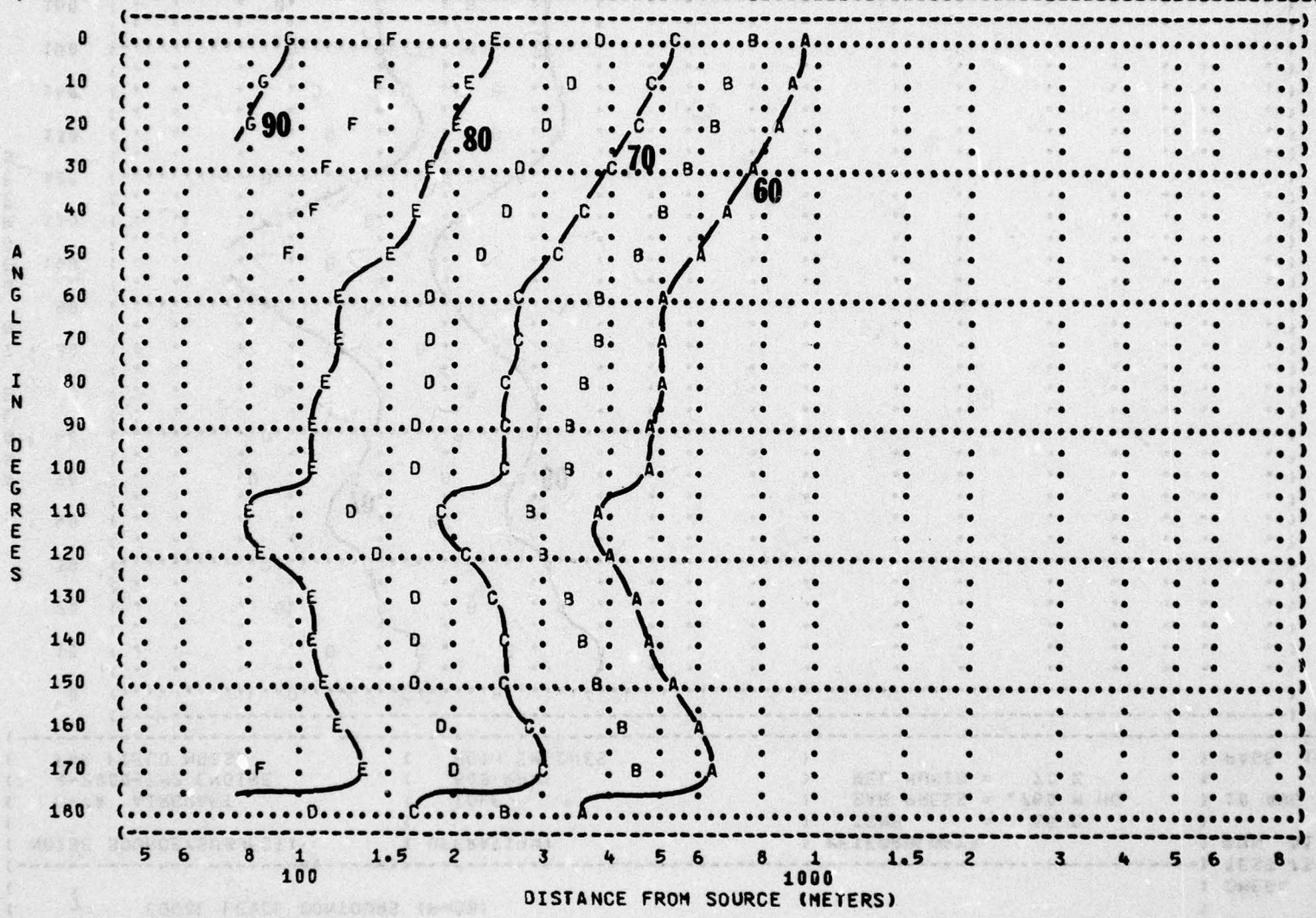


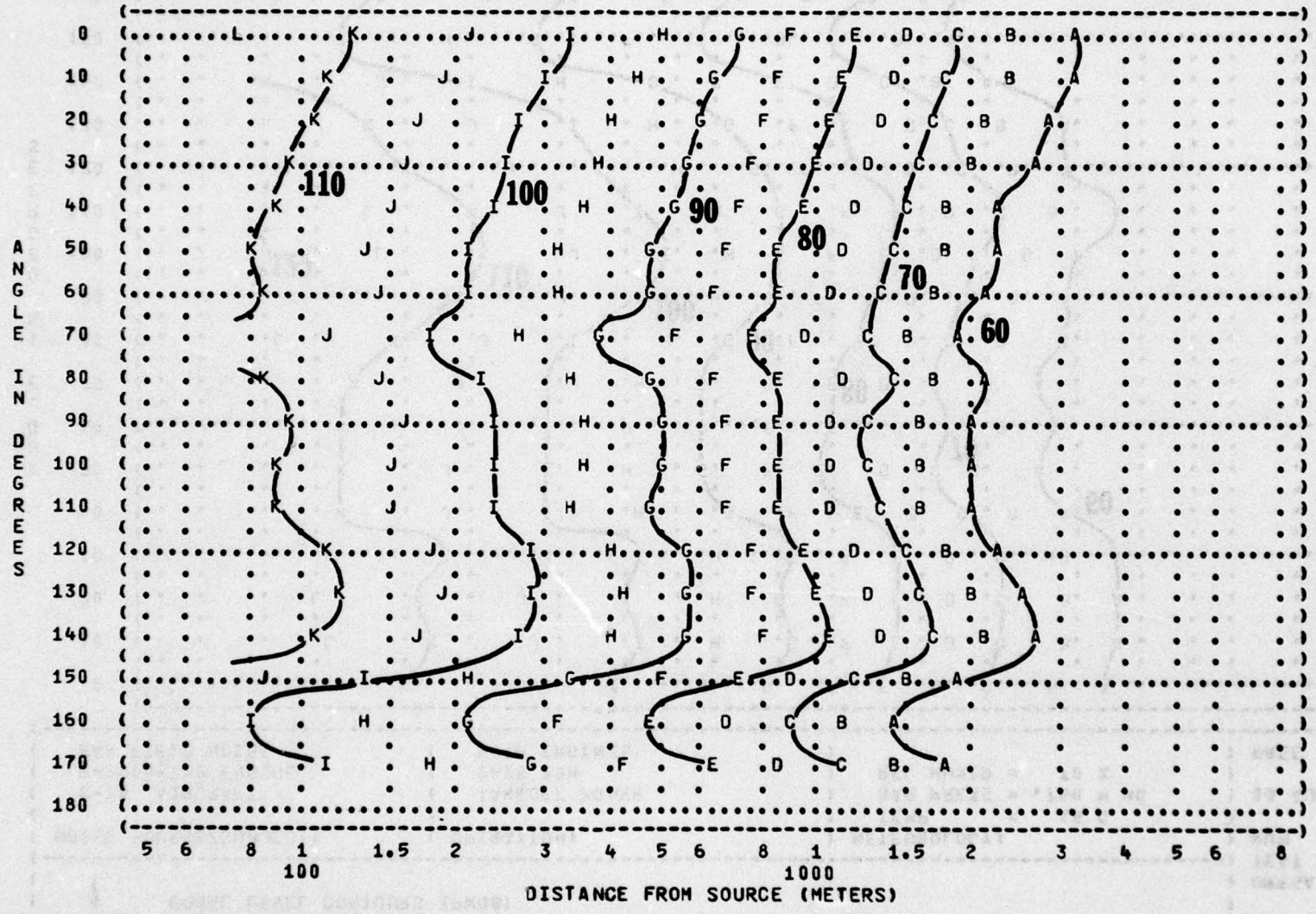
FIGURE: 7 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 16

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

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

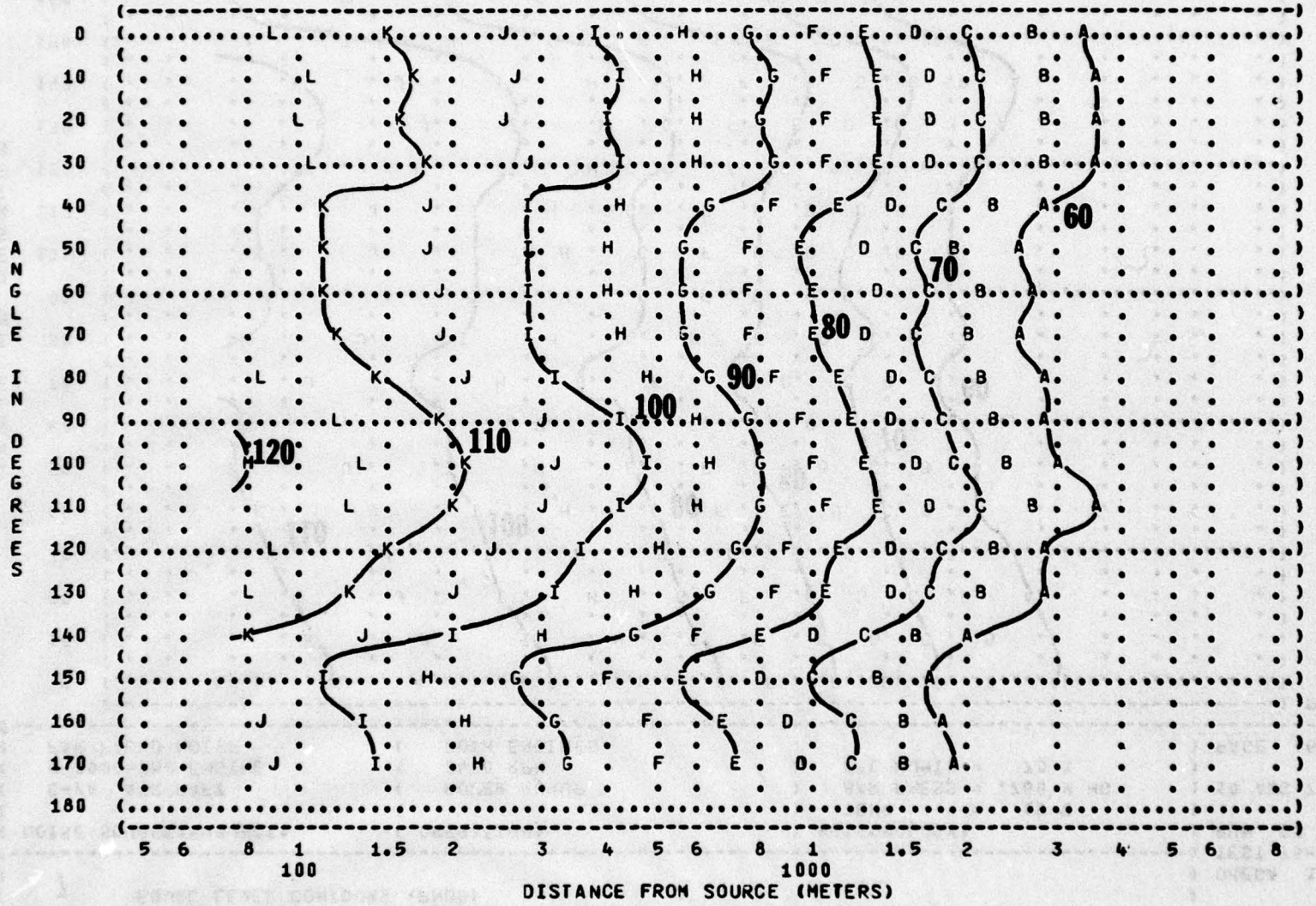


FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 17

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

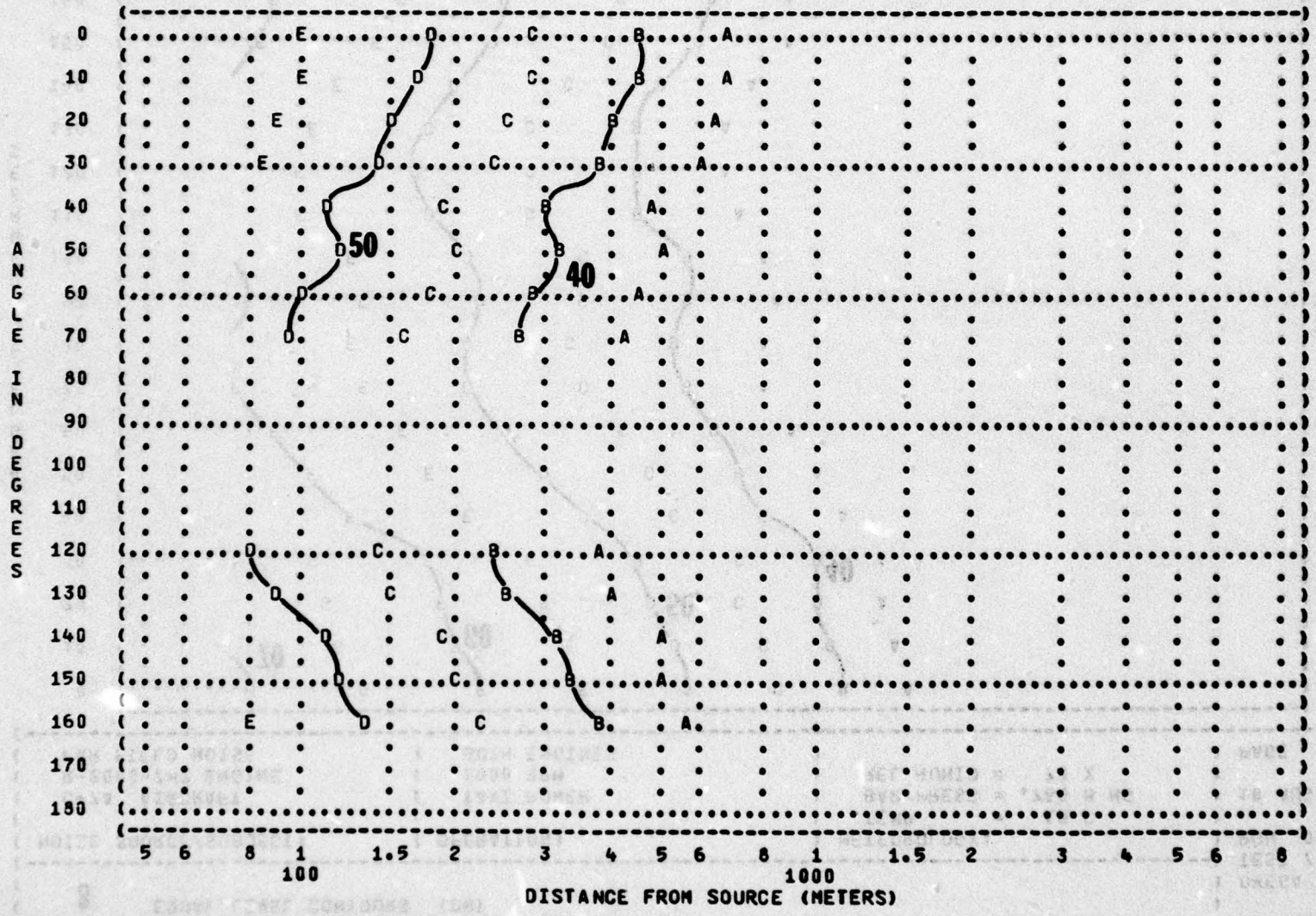


FIGURE: 8 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 17

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

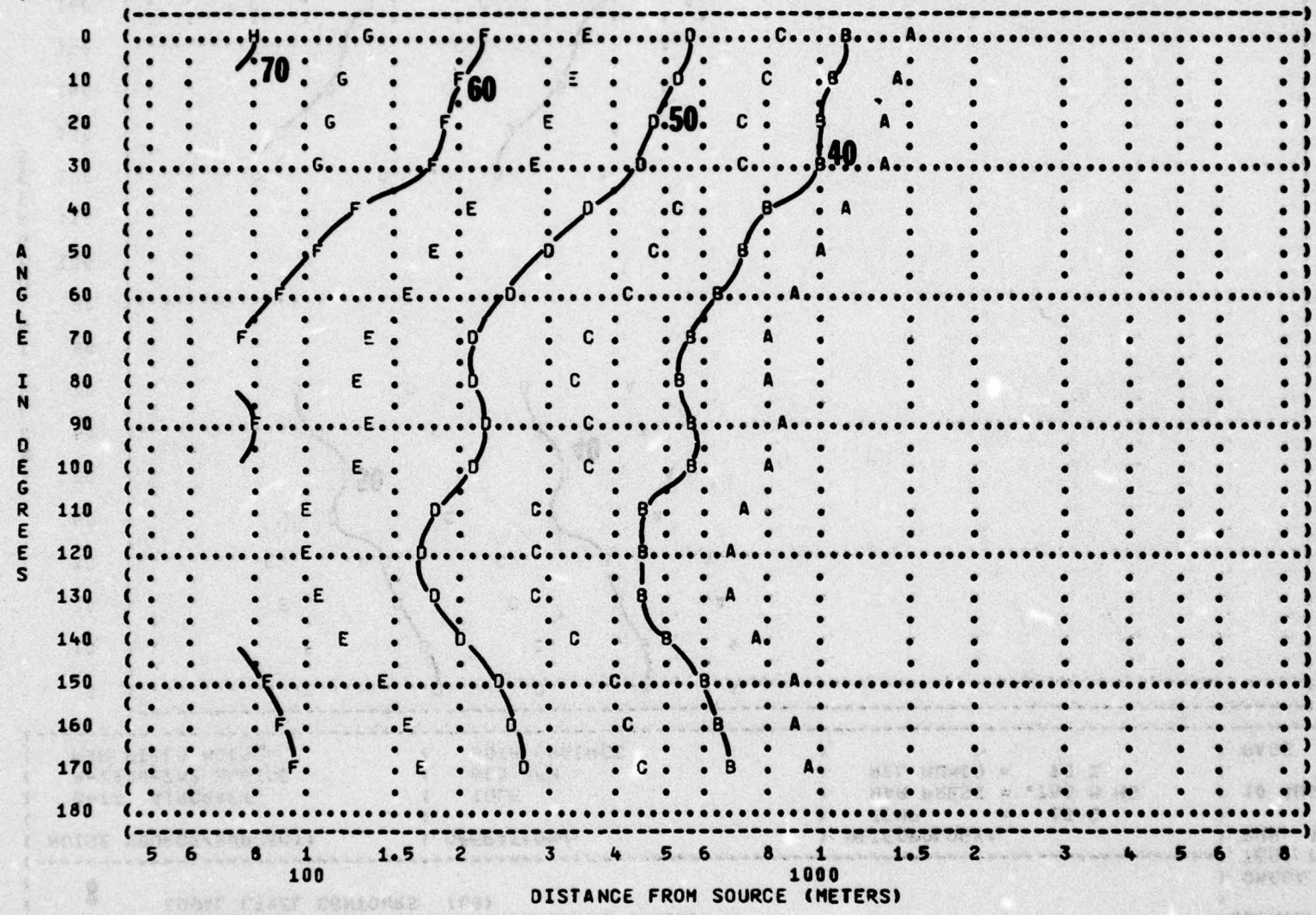


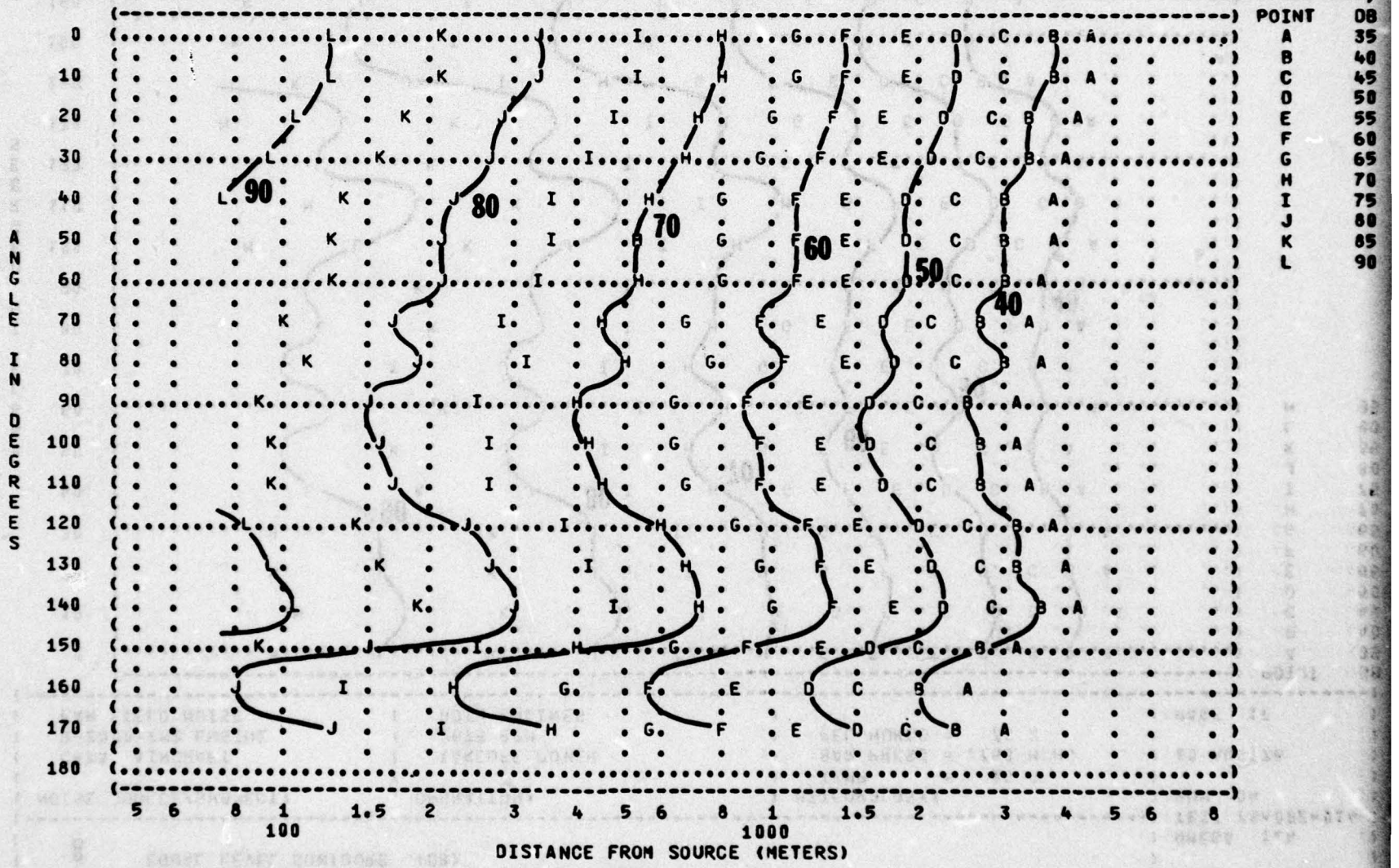
FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 17

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 17

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

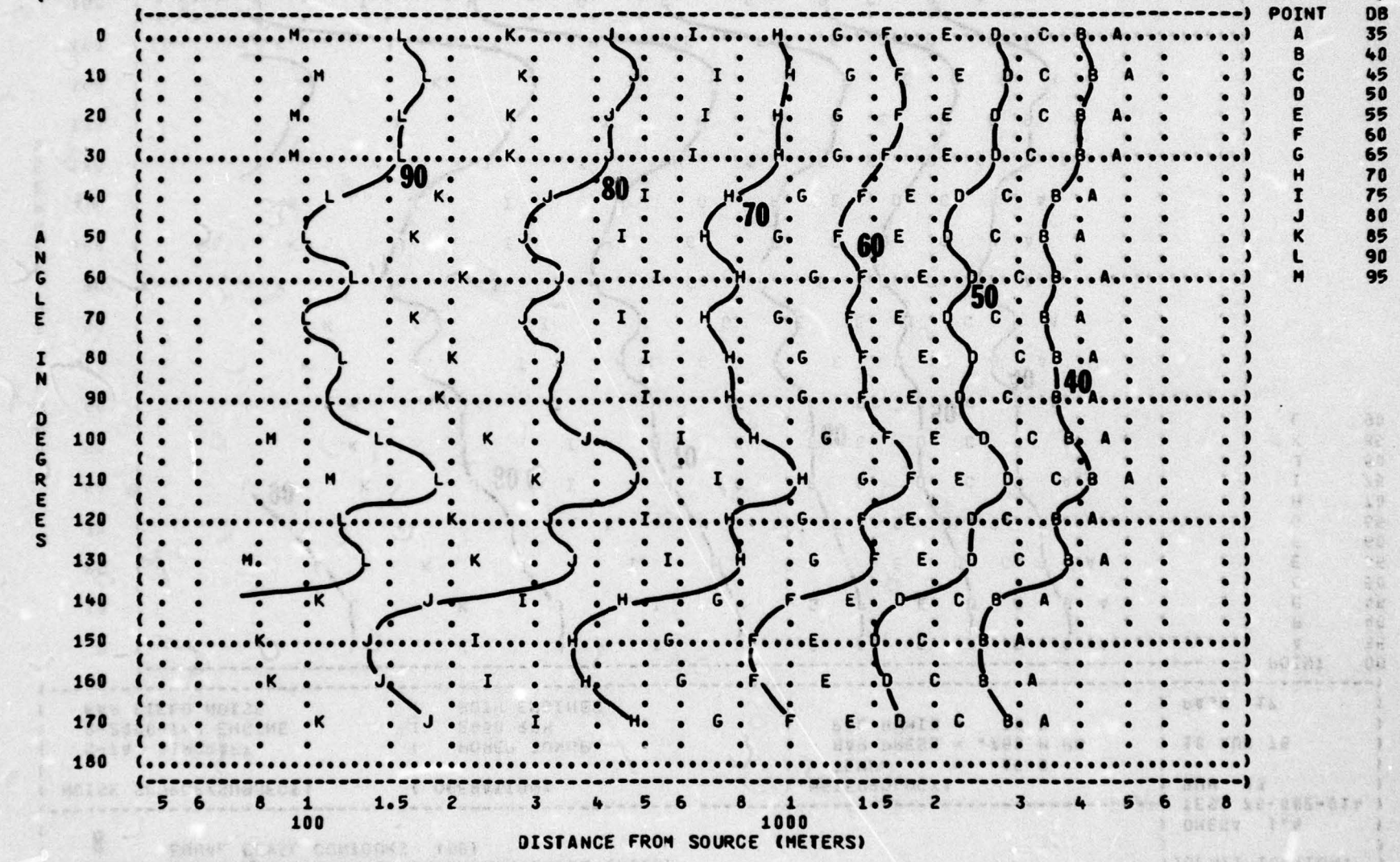


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-802-014
RUN 01
10 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

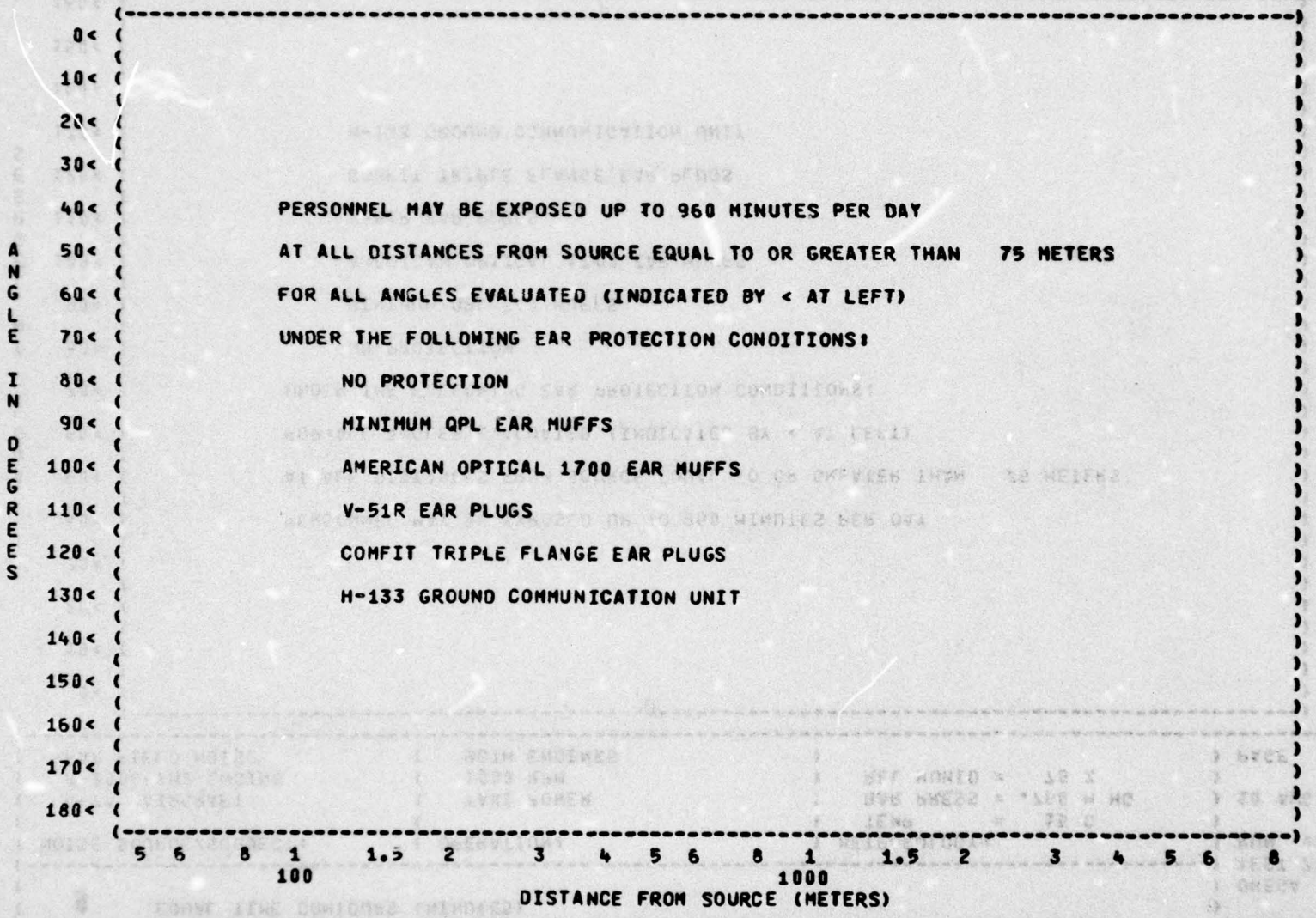


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

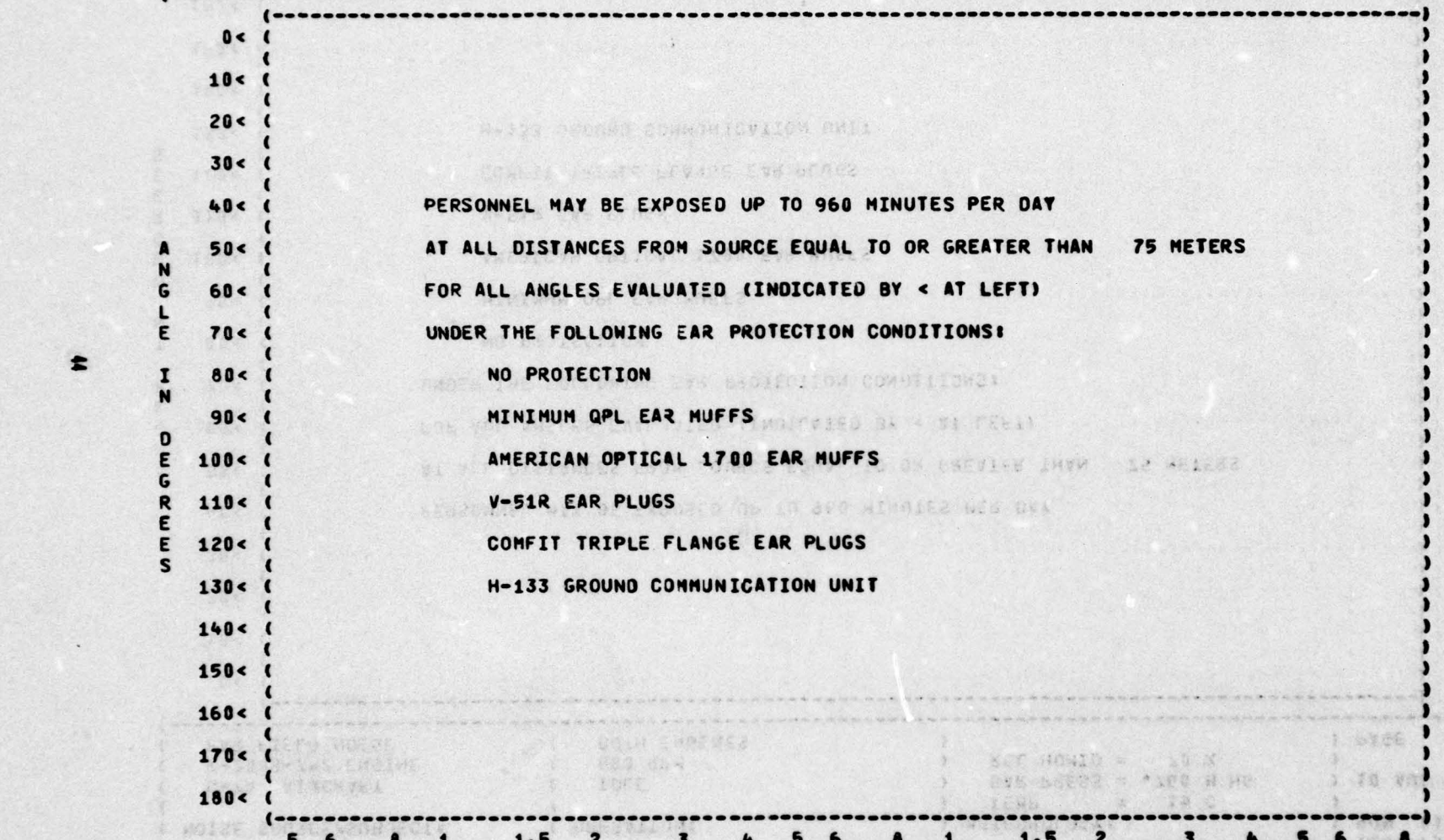


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
ONEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

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

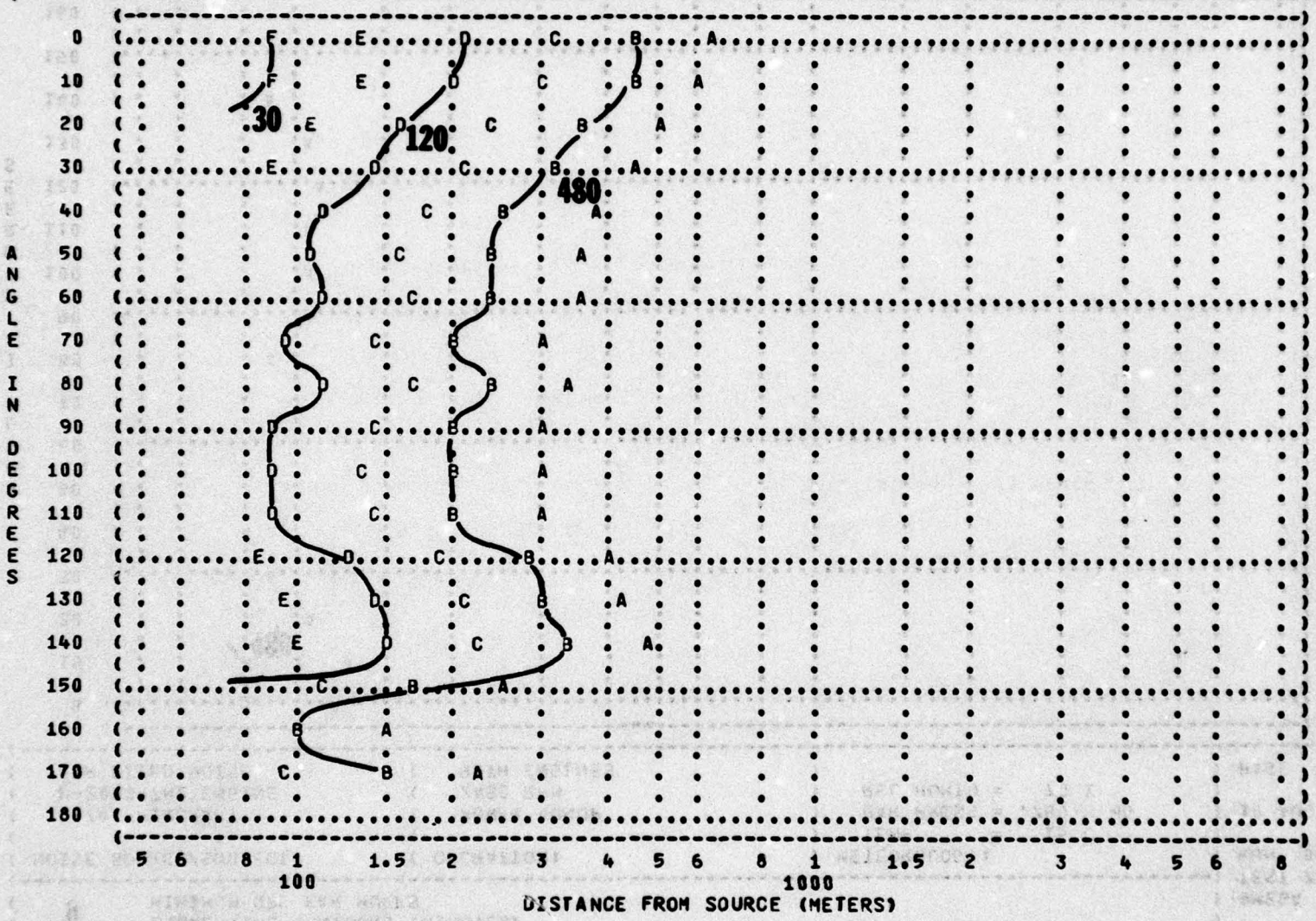


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 8

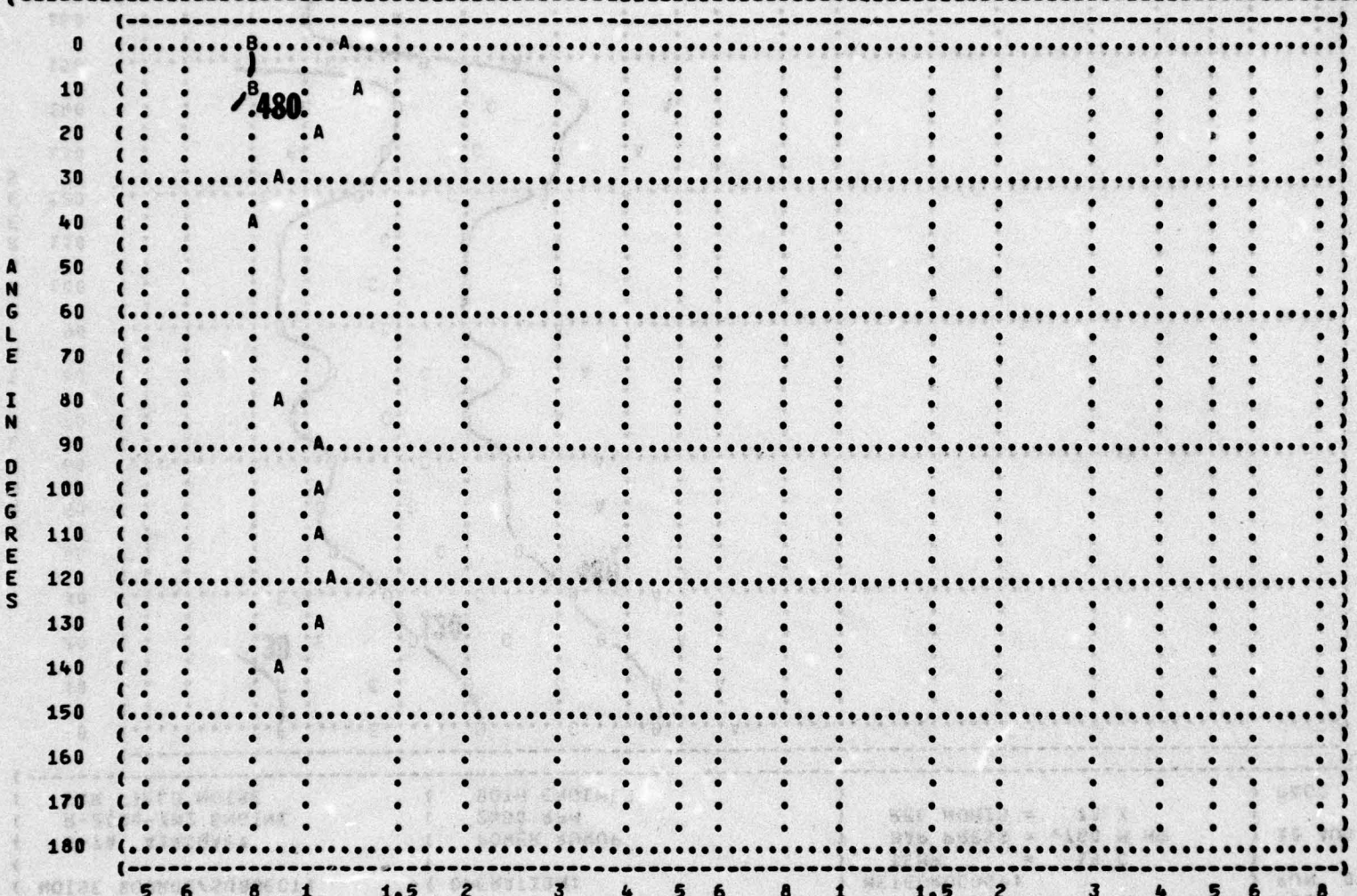


FIGURE: 9	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) EQUAL TIME CONTOURS (MINUTES) AMERICAN OPTICAL 1700 EAR MUFFS	IDENTIFICATION: OMEGA 1.4 TEST 75-002-014 RUN 03 10 AUG 76 PAGE 9
NOISE SOURCE/SUBJECT: C-7A AIRCRAFT R-2000-7M2 ENGINE FAR FIELD NOISE	OPERATION: POWER RUNUP 2450 RPM BOTH ENGINES	METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %

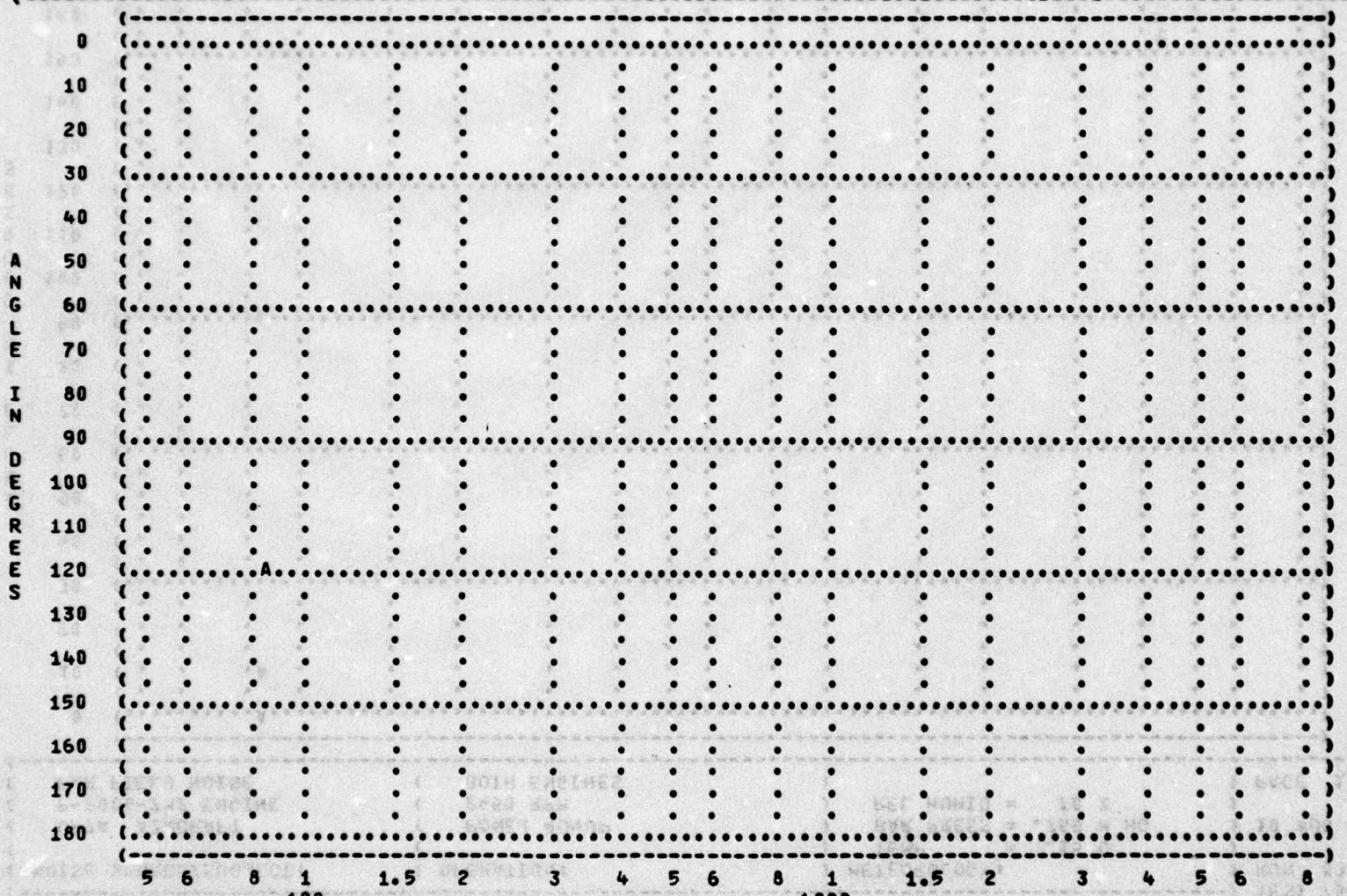


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 10

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

POINT	MIN
A	960

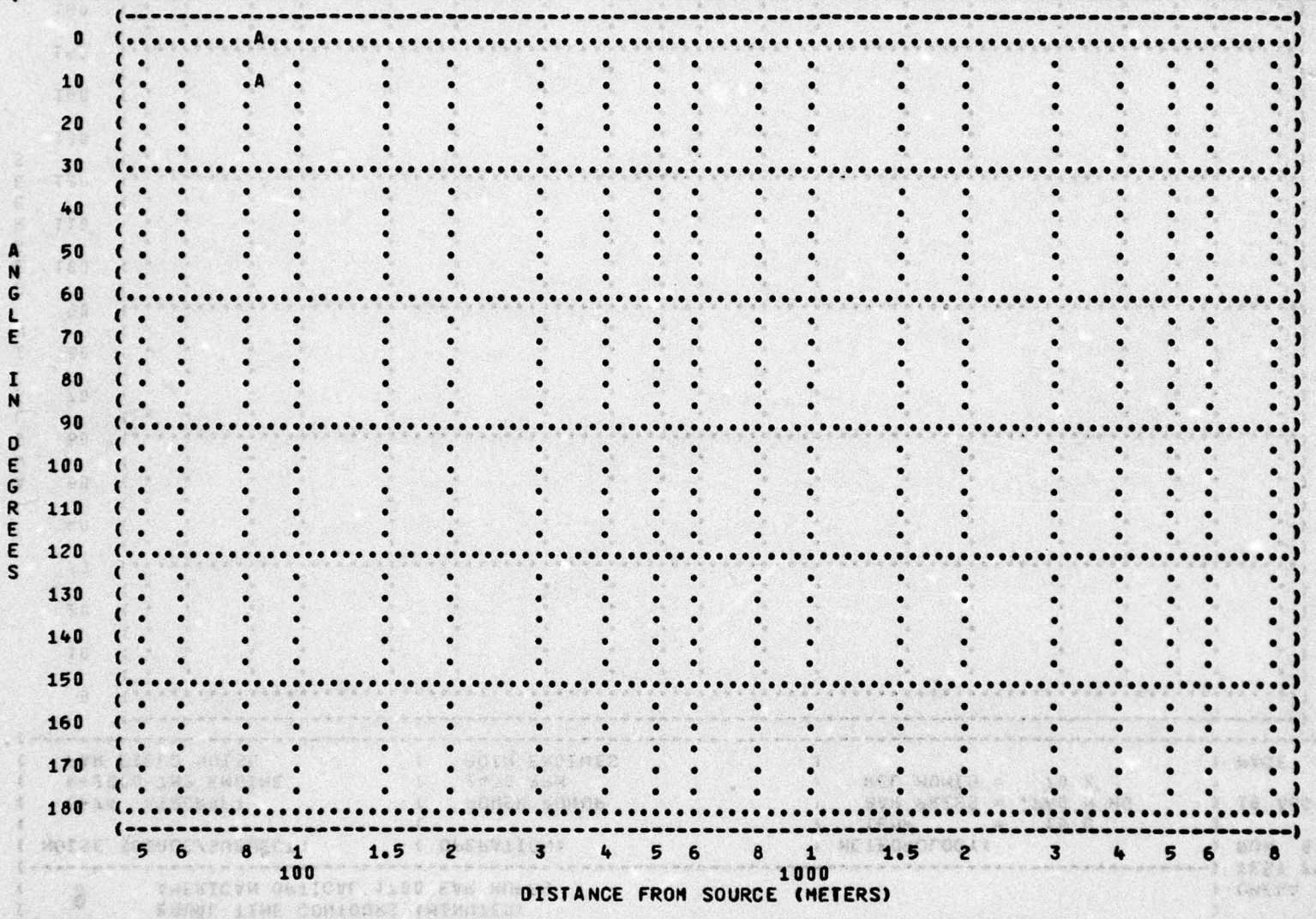


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 11

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

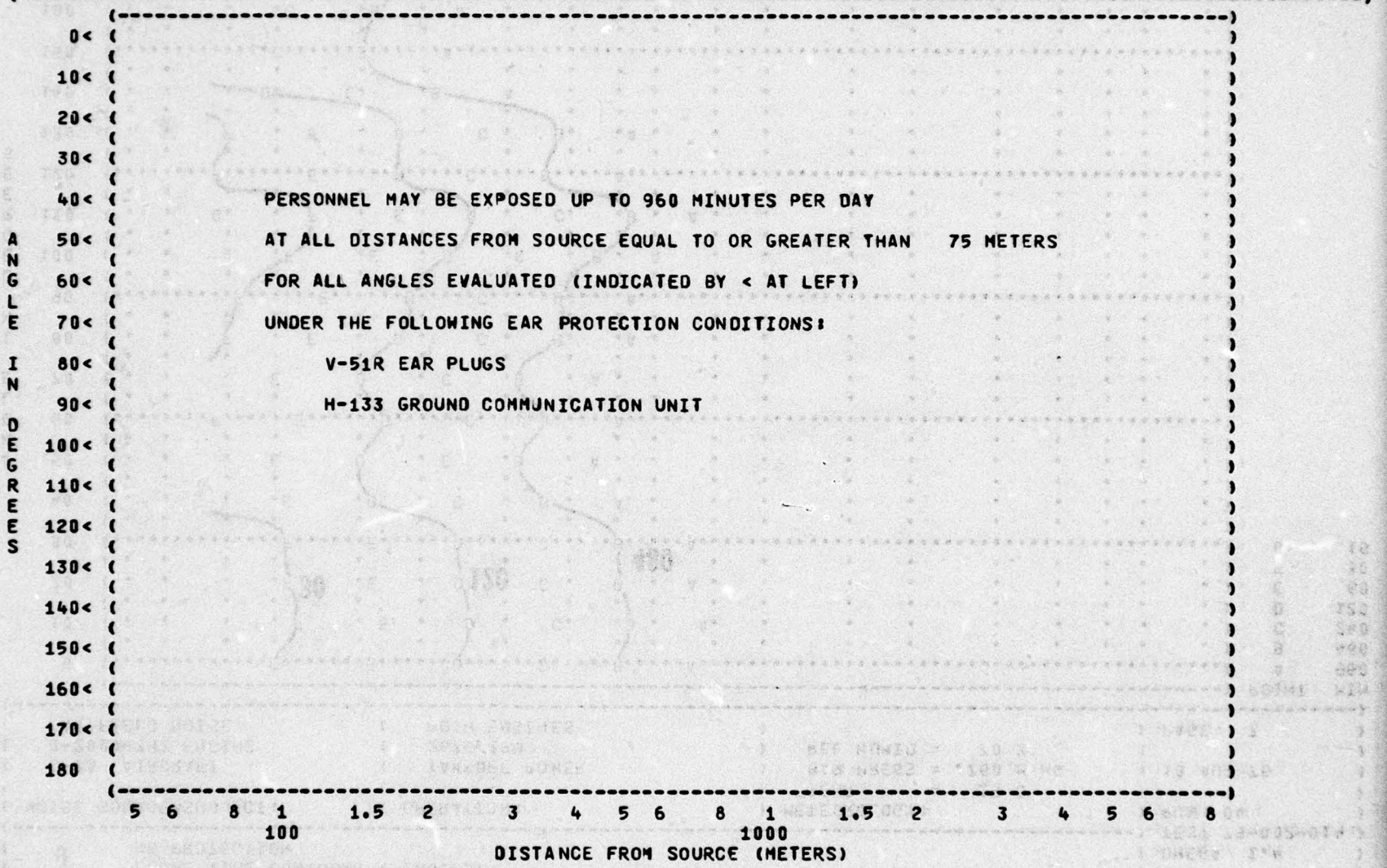


FIGURE: 9

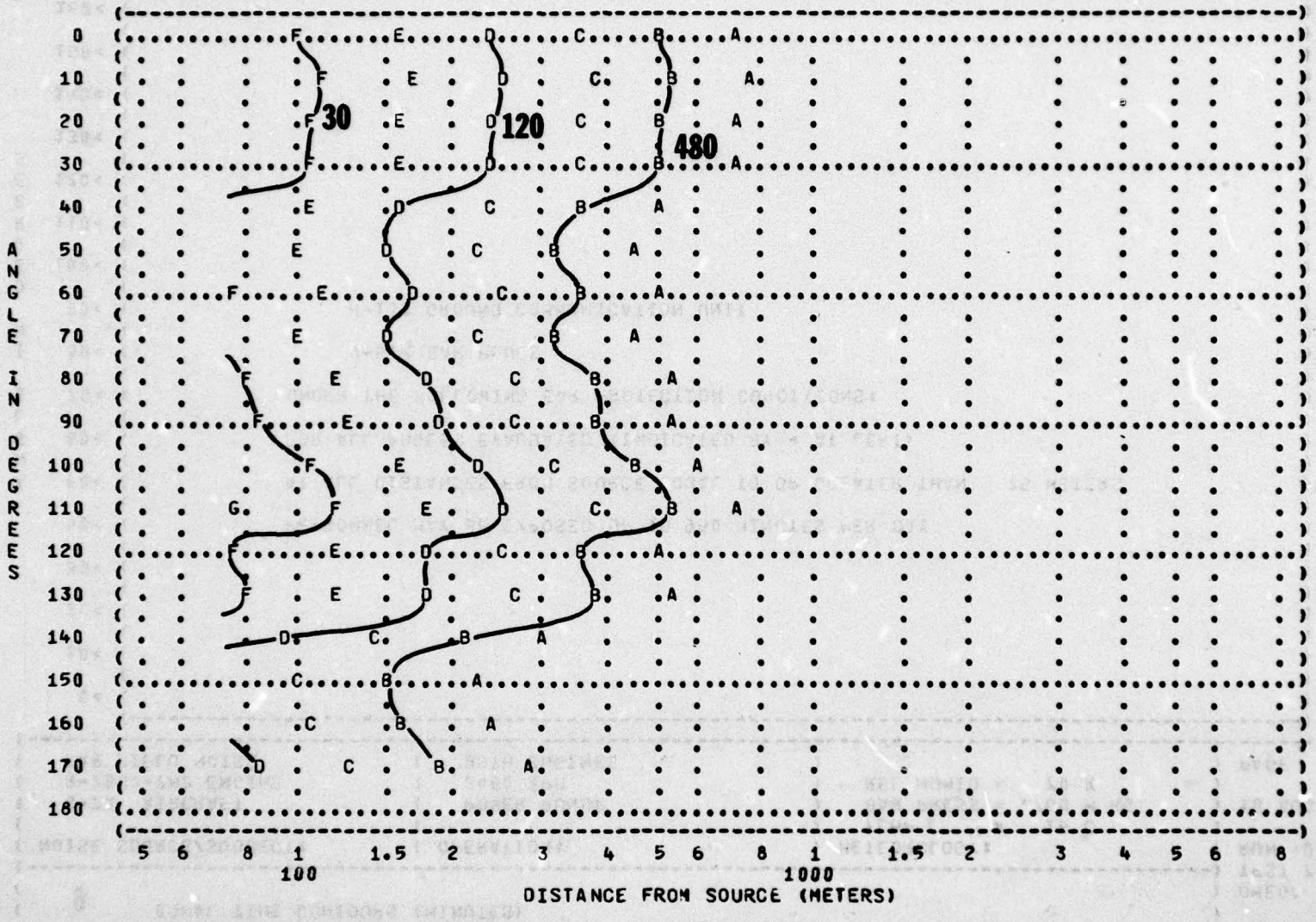
MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 7

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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



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

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 8

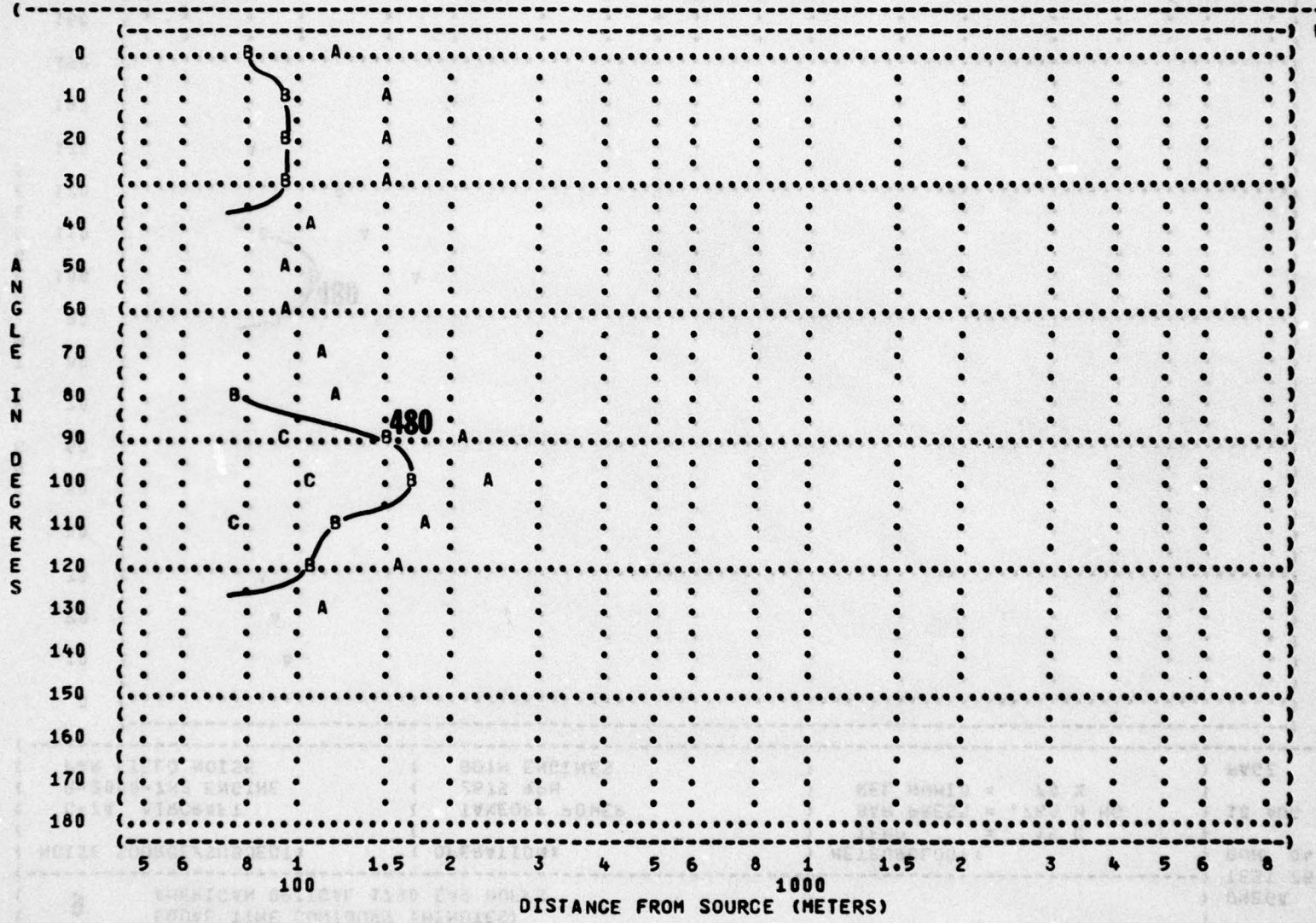


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 9

POINT	MIN
A	960
B	480

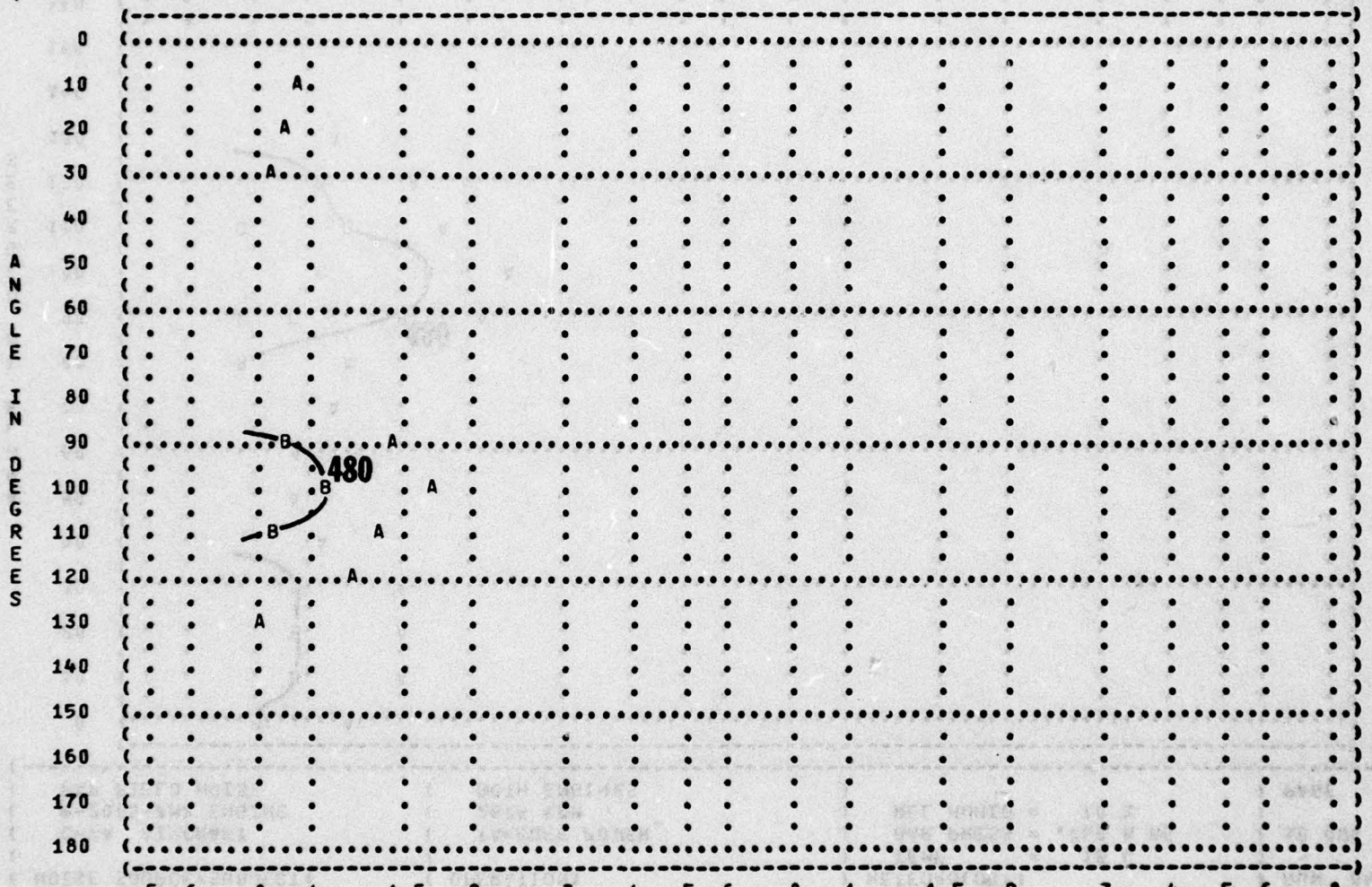


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 10

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

POINT	MIN
A	960

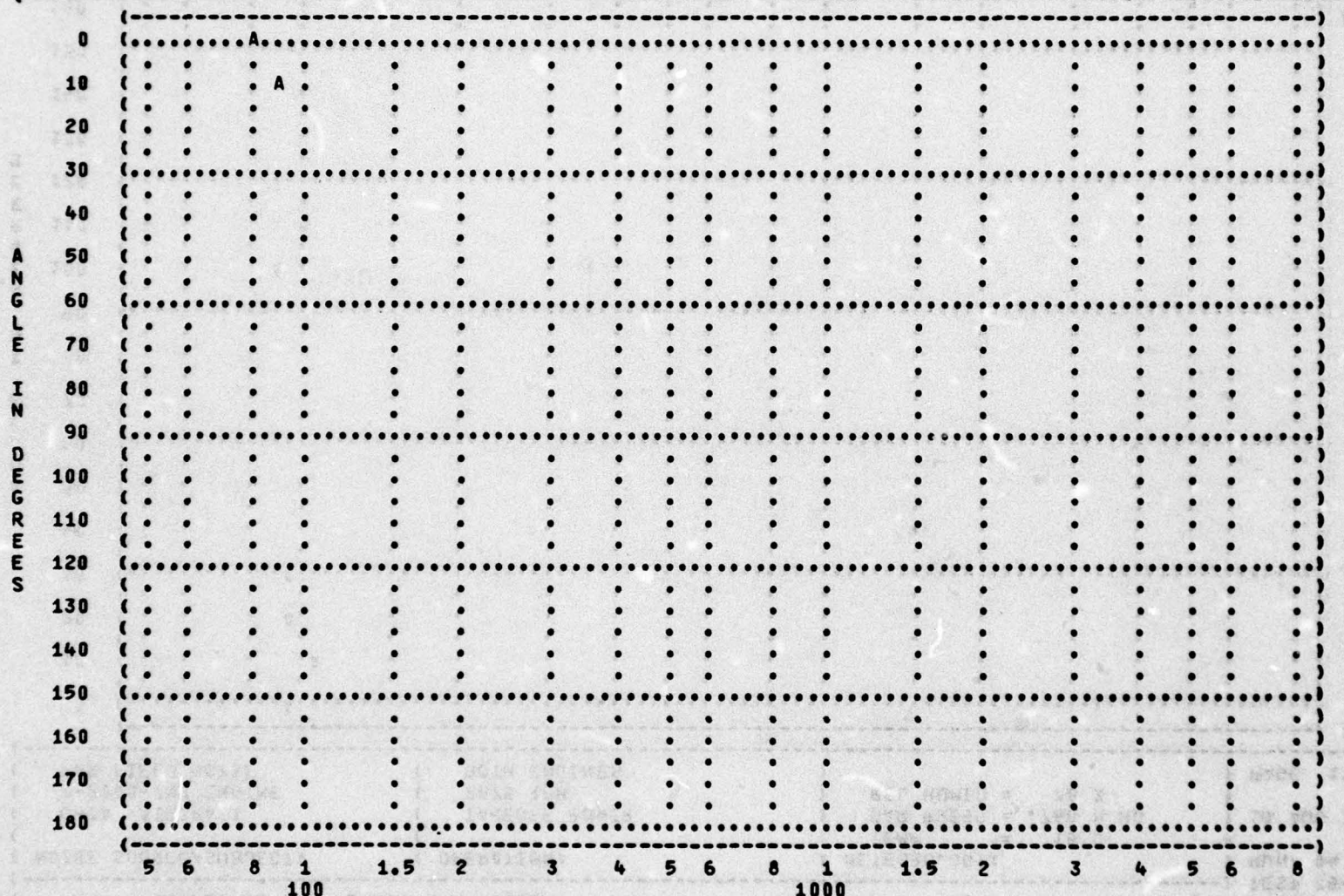


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04

10 AUG 76

PAGE 11

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

POINT	MIN
A	960

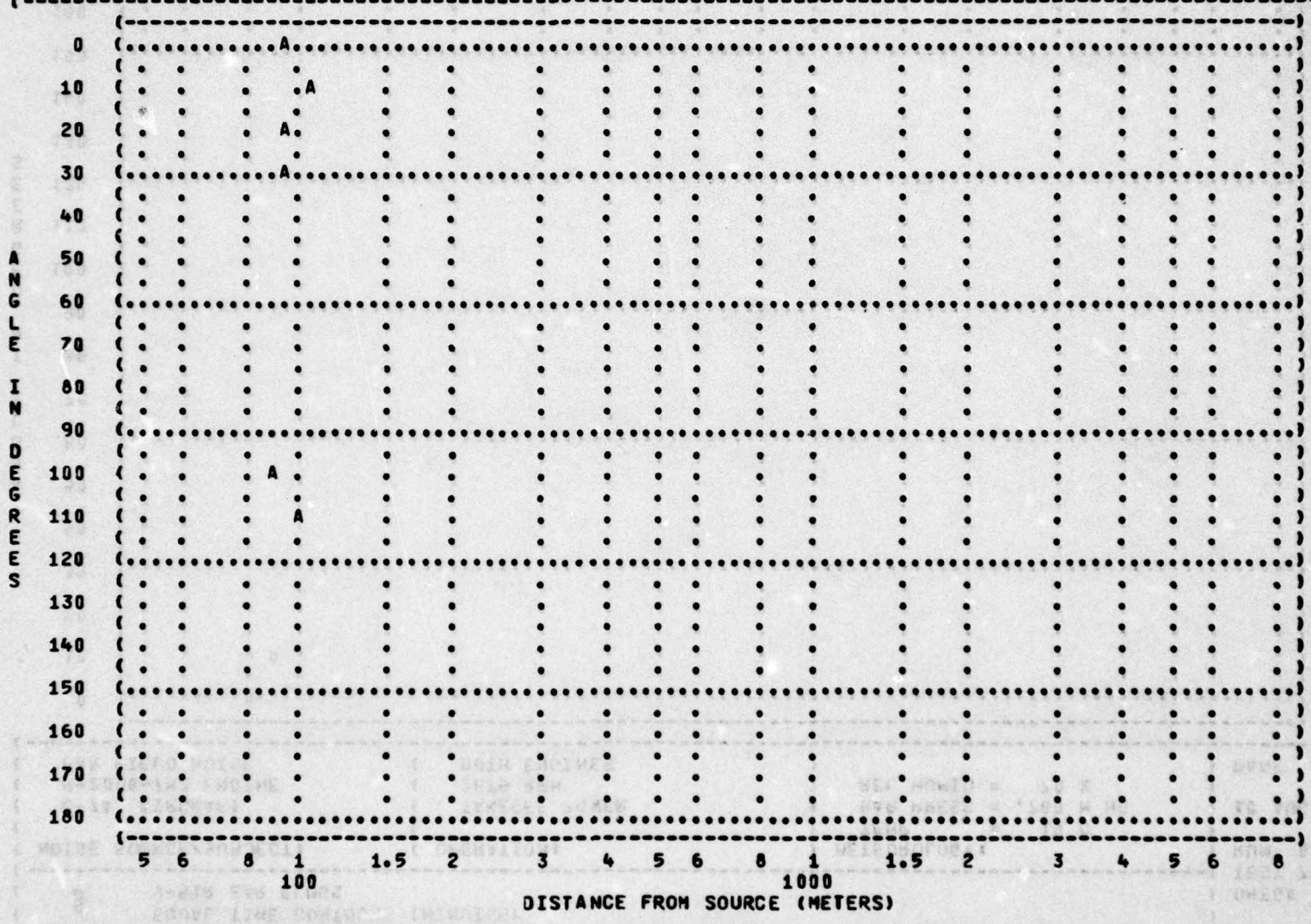


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 12

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

POINT	MIN
A	960

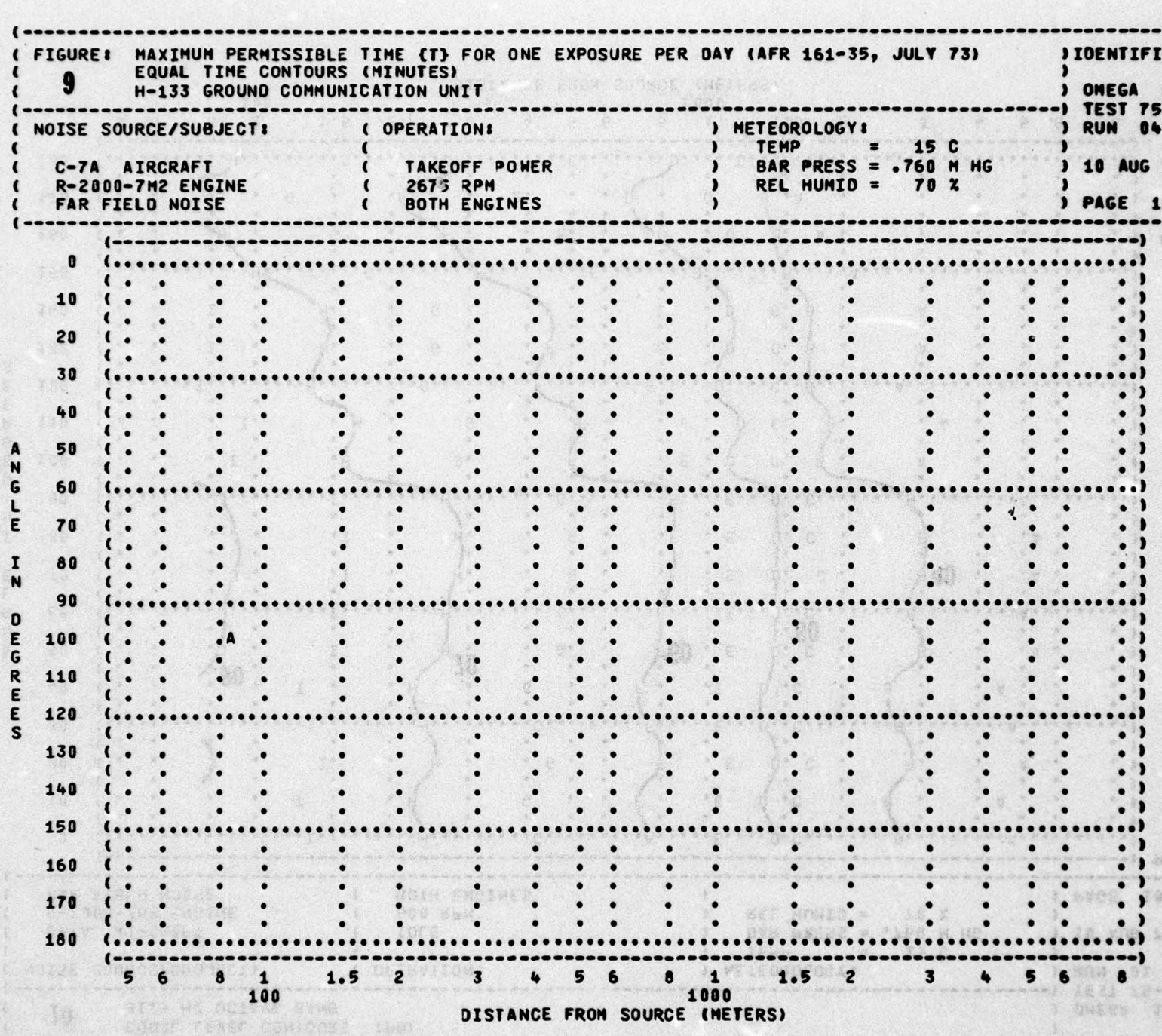


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 18

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

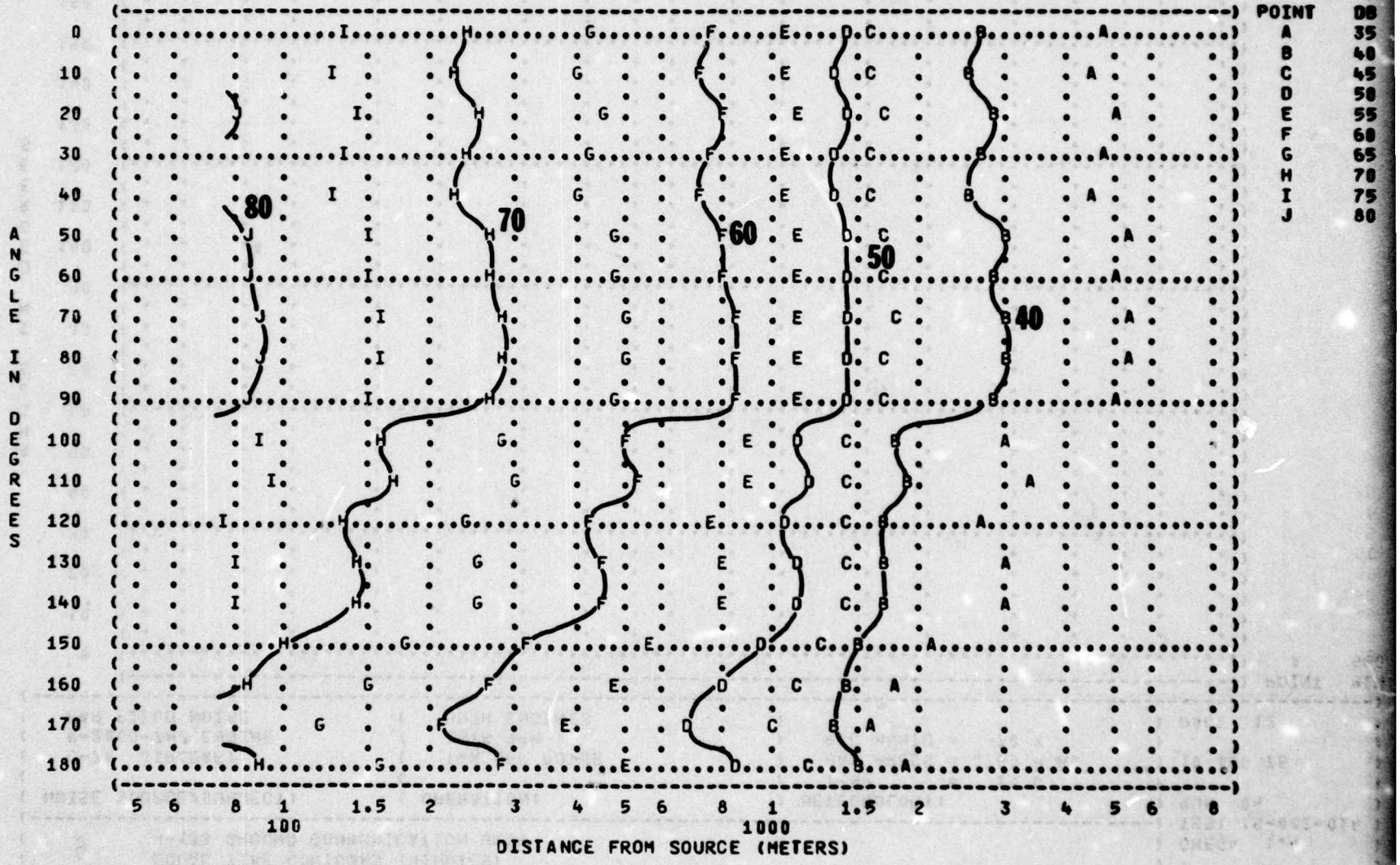


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-014 RUN 01 10 AUG 76 PAGE 19

NOISE SOURCE/SUBJECT: C-7A AIRCRAFT, R-2000-7M2 ENGINE, FAR FIELD NOISE

OPERATION: IDLE, 600 RPM, BOTH ENGINES

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

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

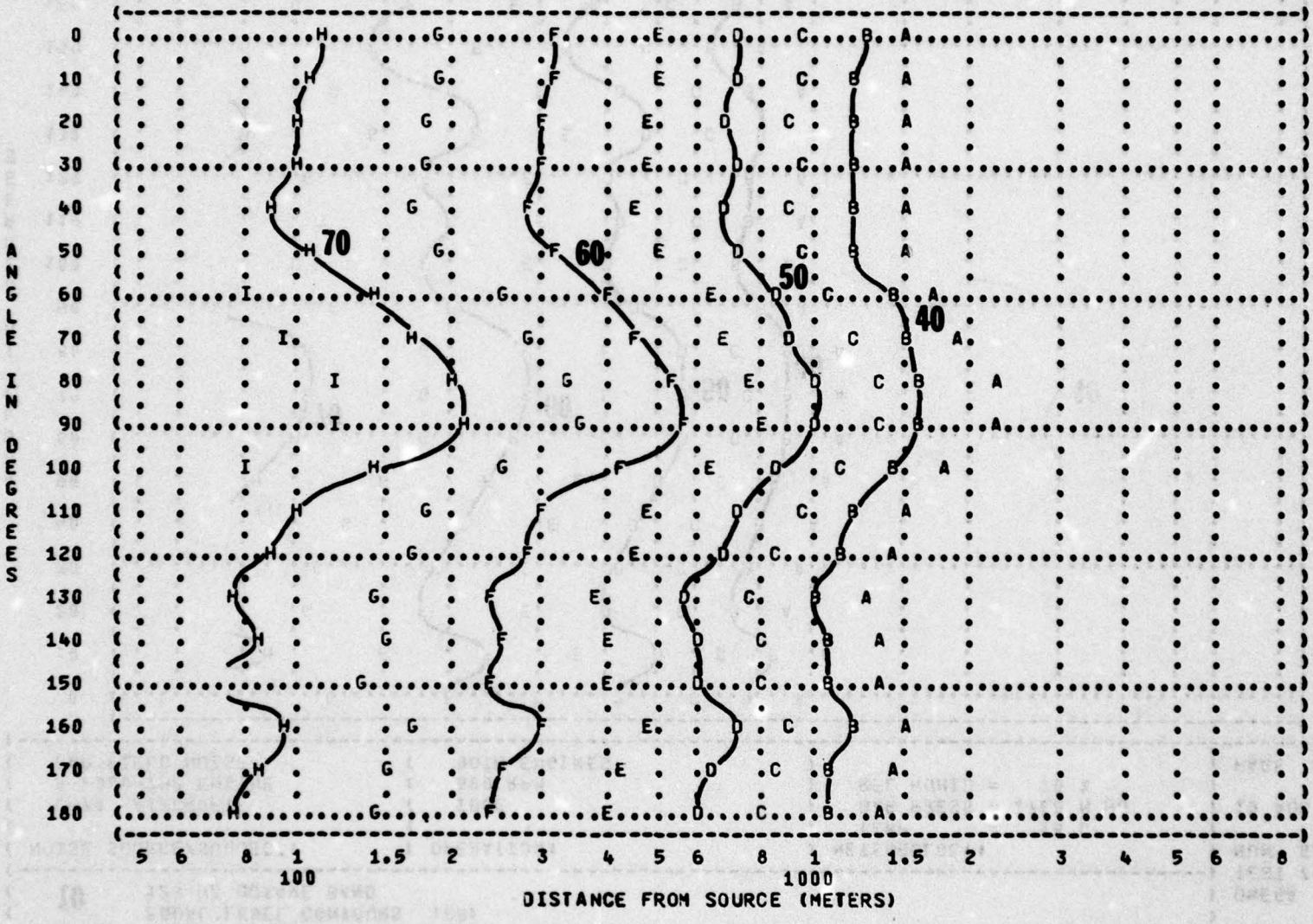


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 20

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

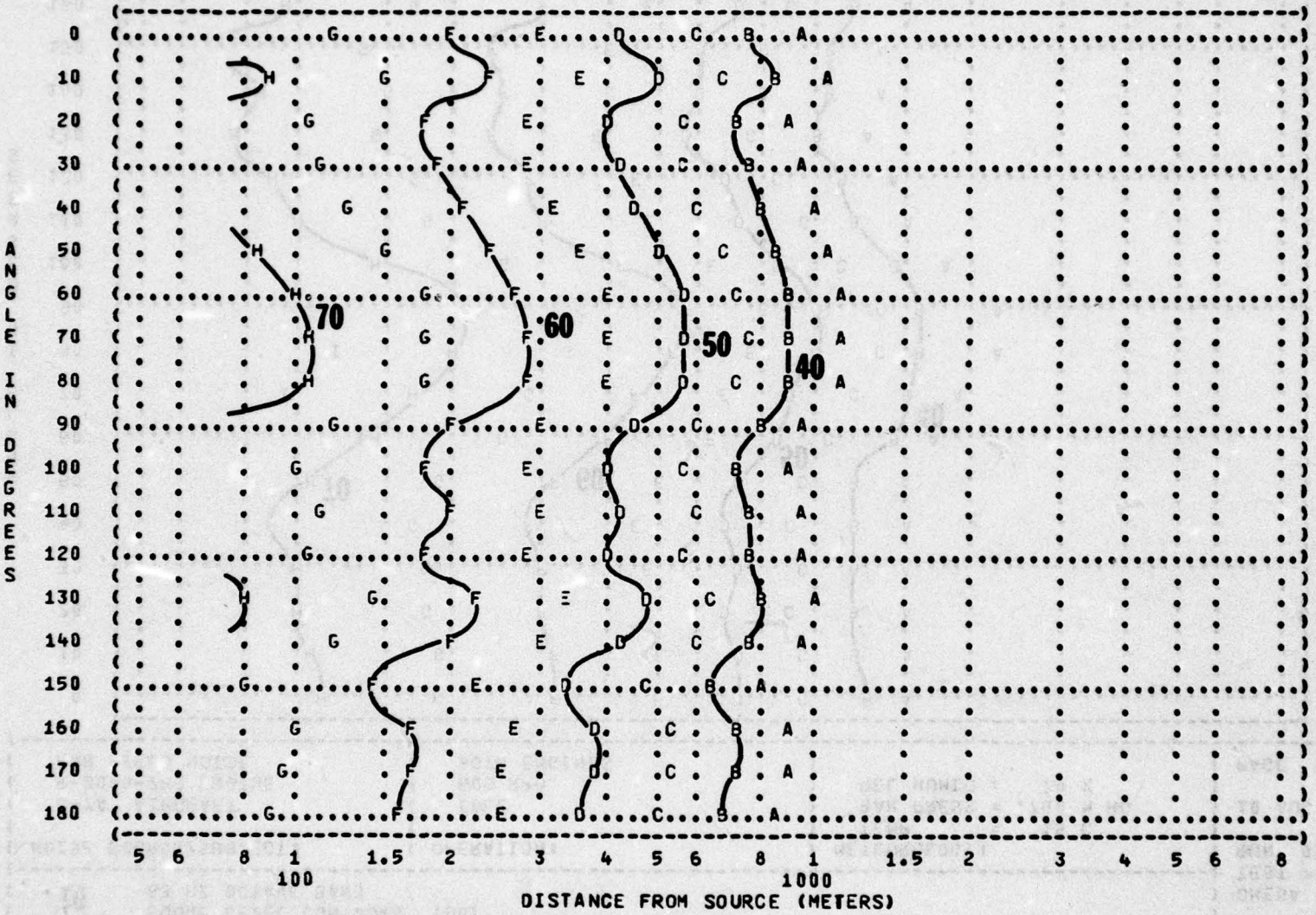


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 21

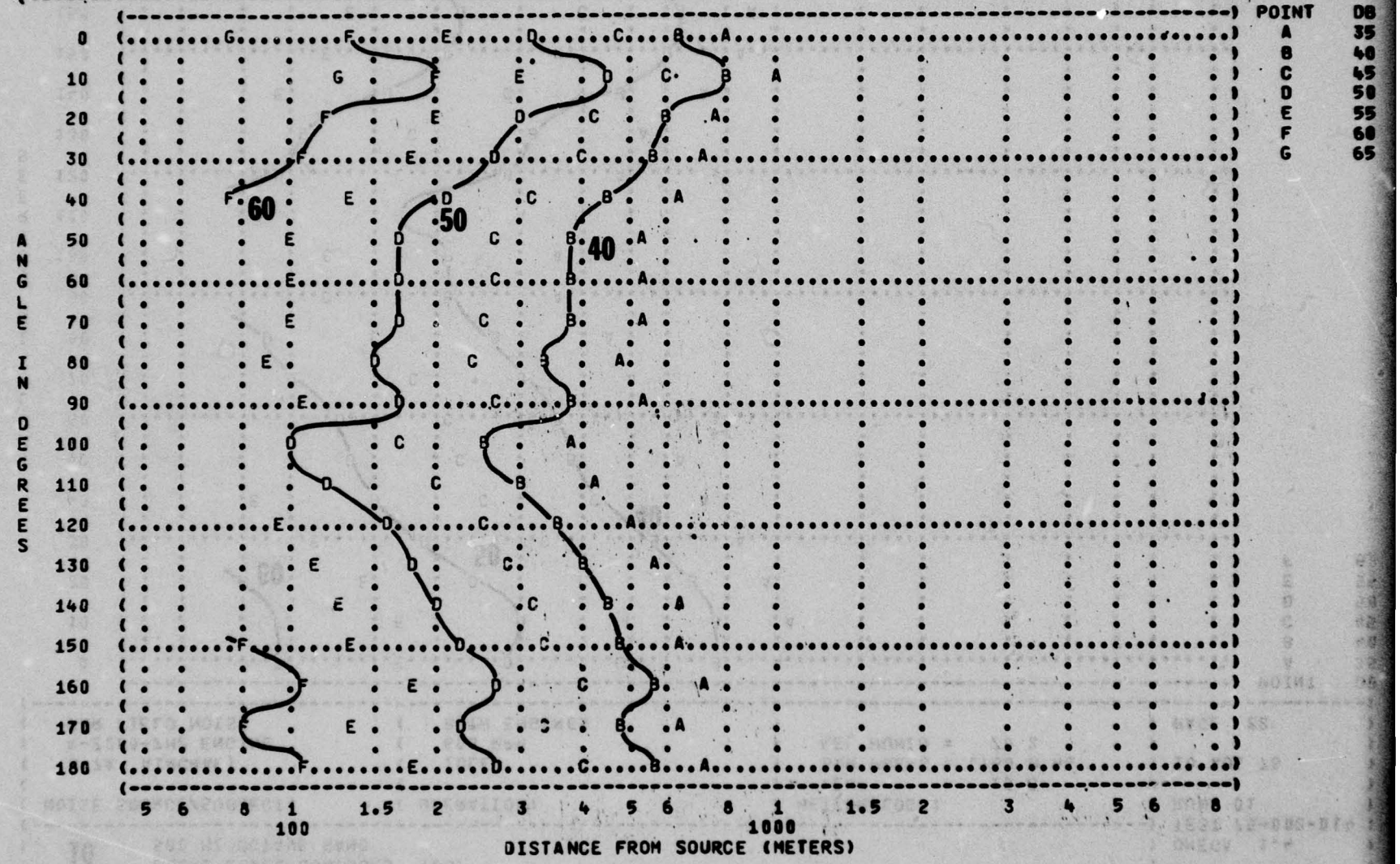


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 22

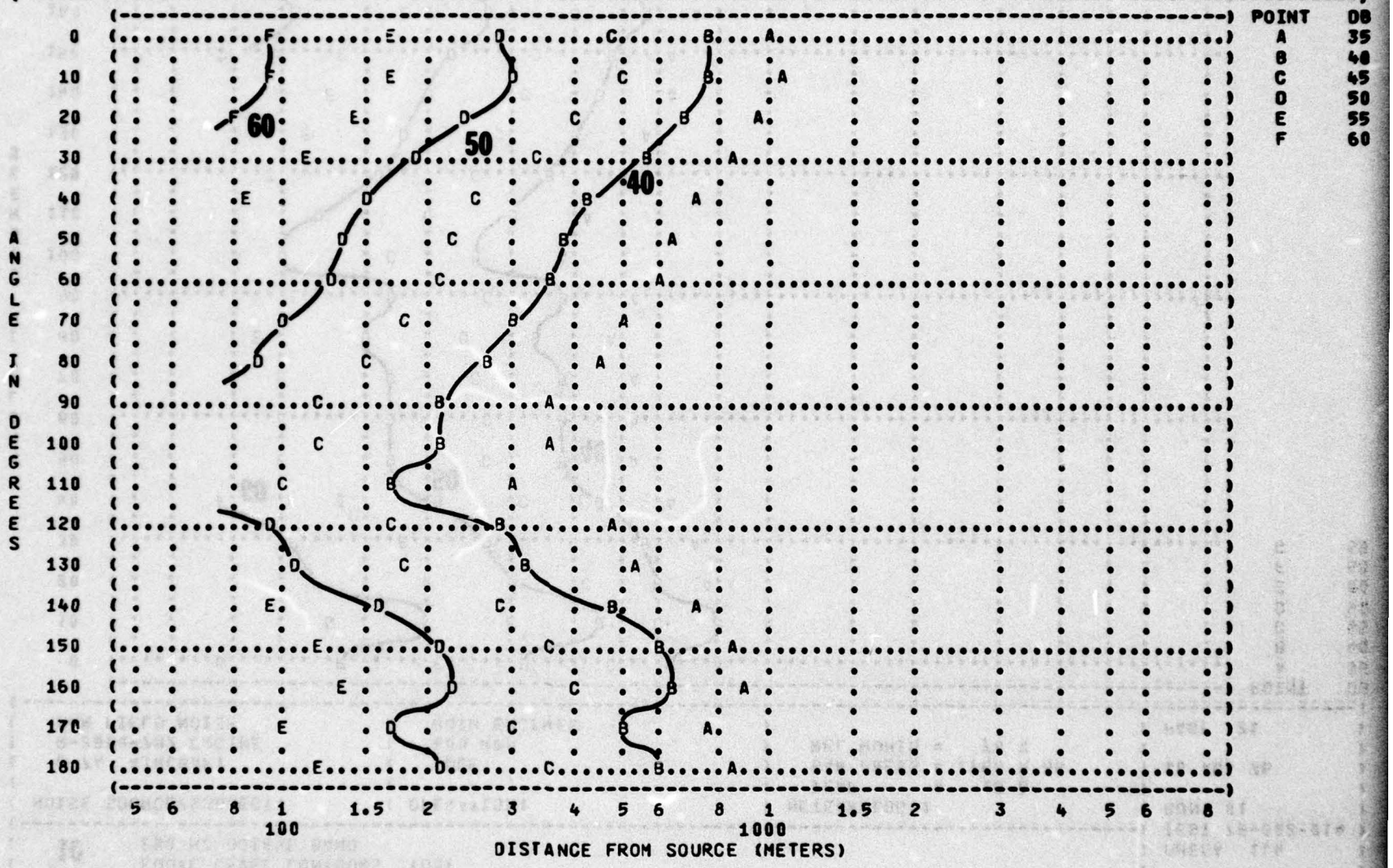


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 23

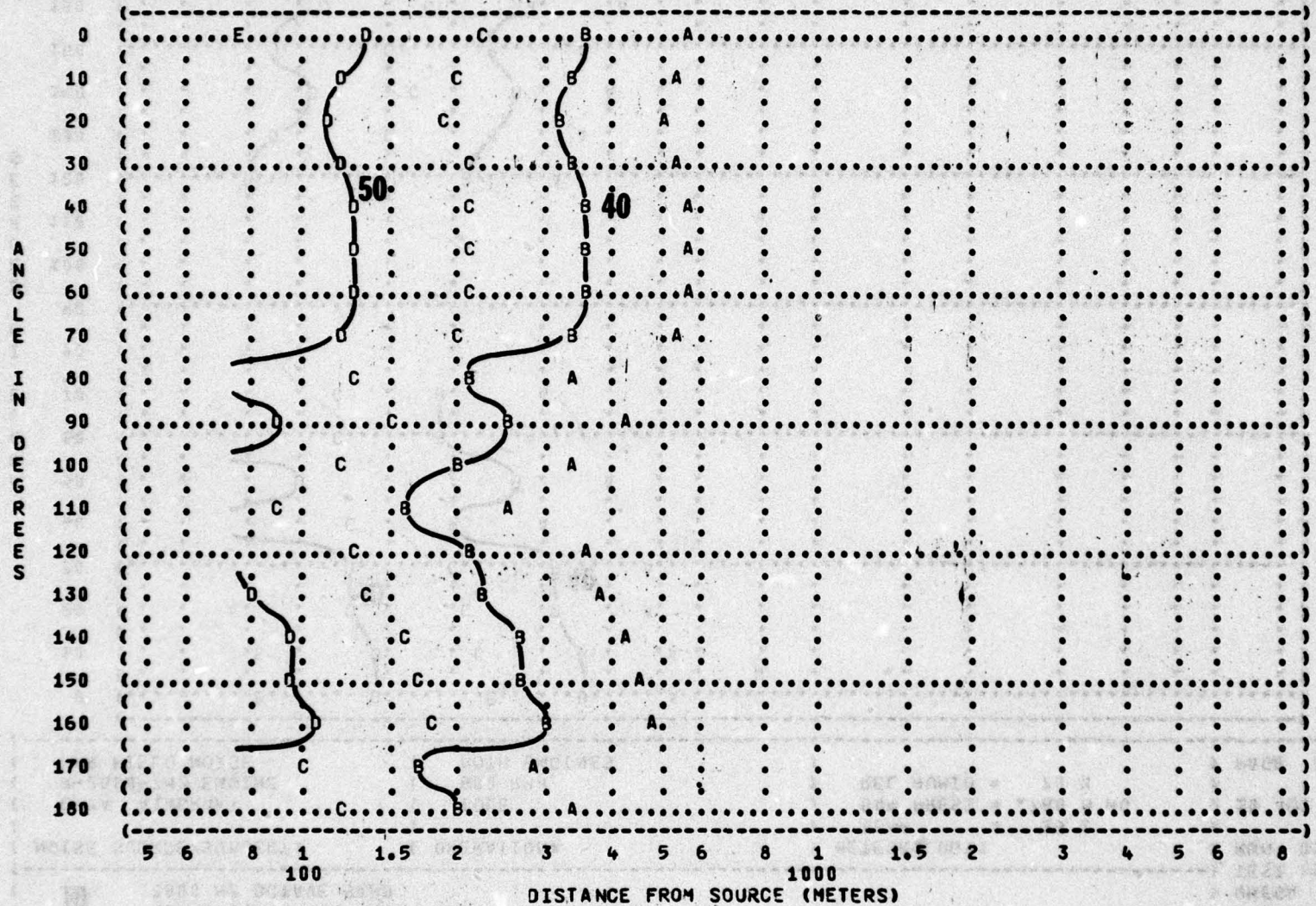


FIGURE: 10 — SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 24

POINT	DB
A	35
B	40
C	45
D	50
E	55

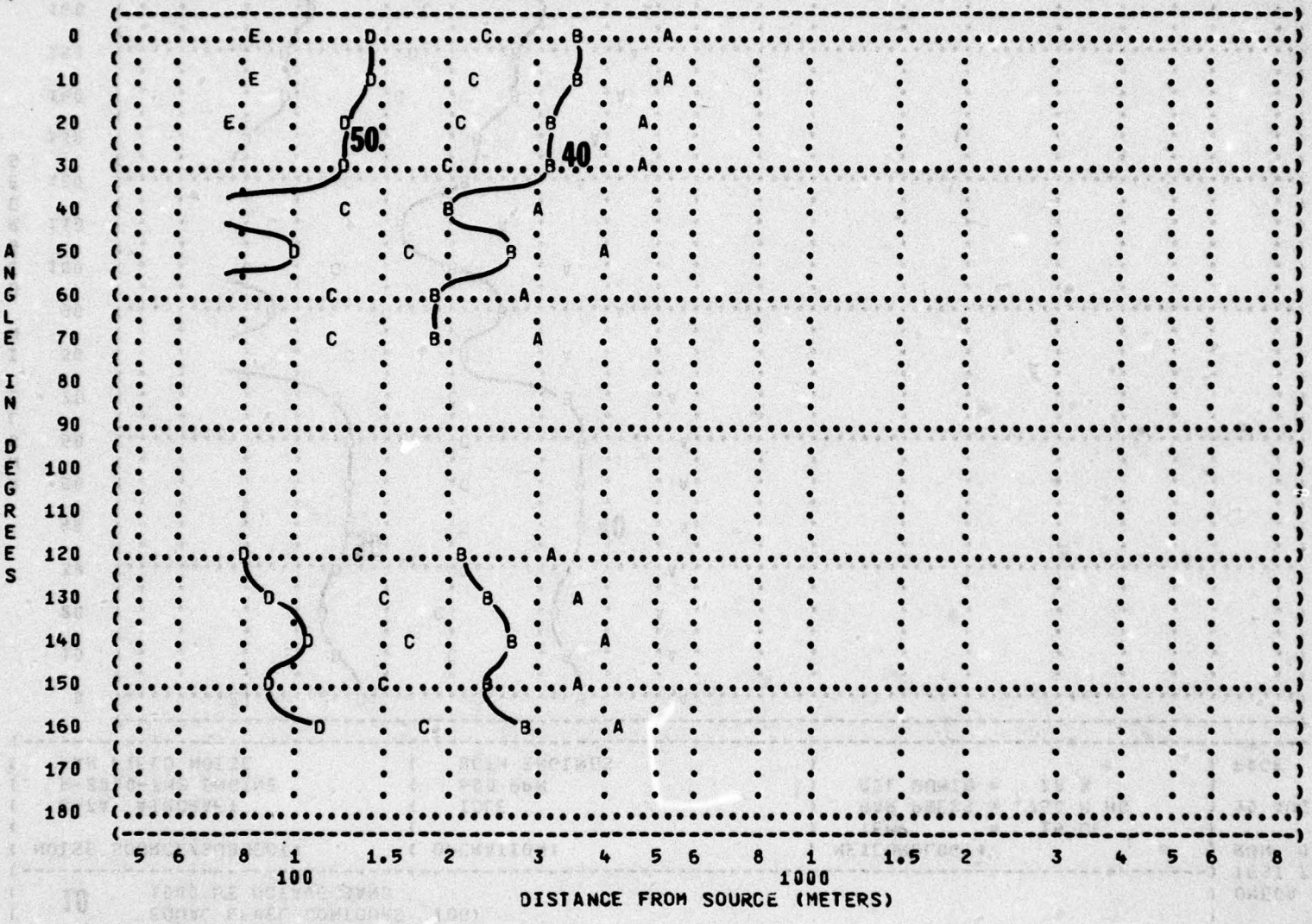


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 25

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

POINT	DB
A	35
B	40
C	45
D	50
E	55

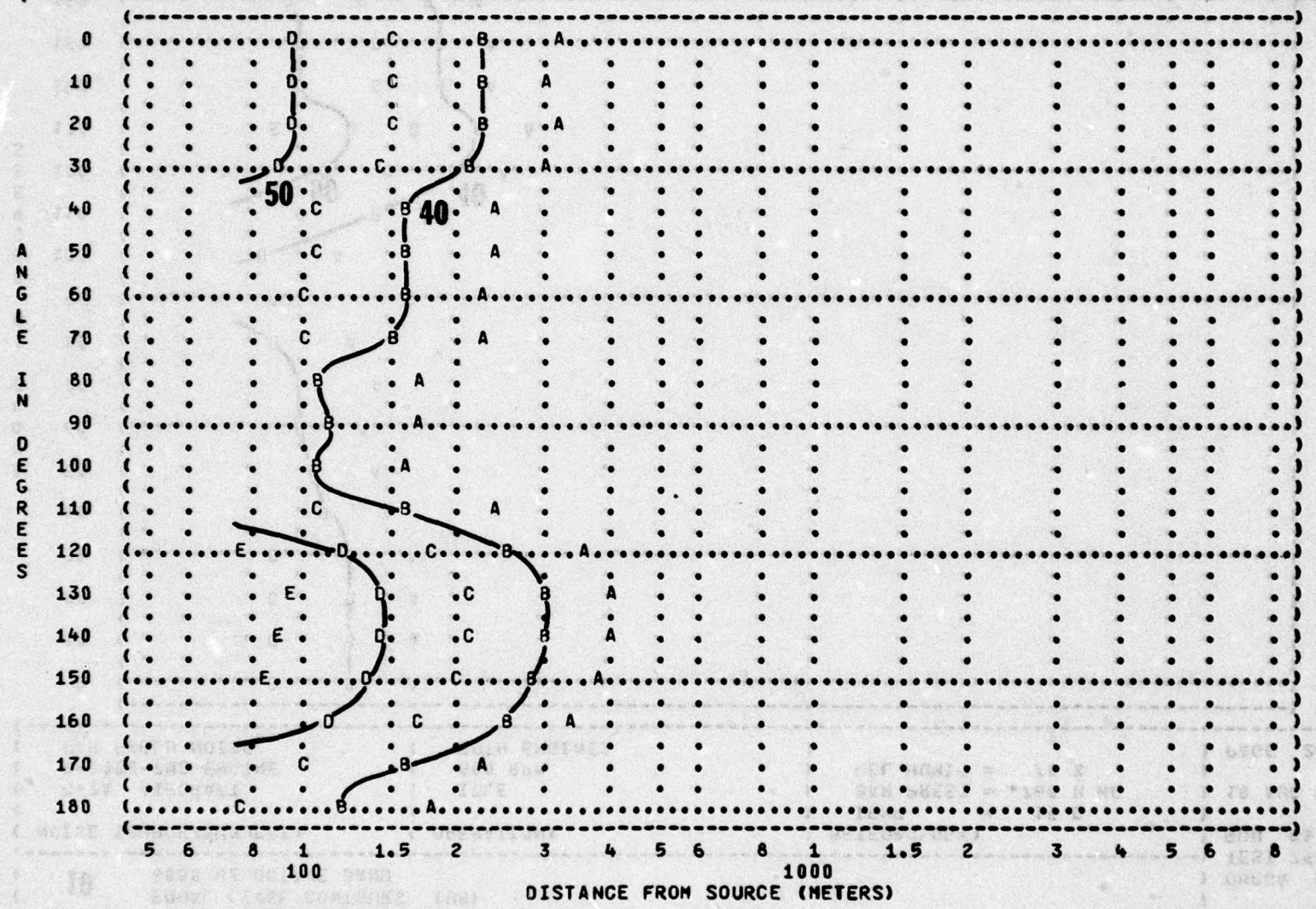


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
600 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 01
10 AUG 76
PAGE 26

POINT	DB
A	35
B	40
C	45
D	50
E	55

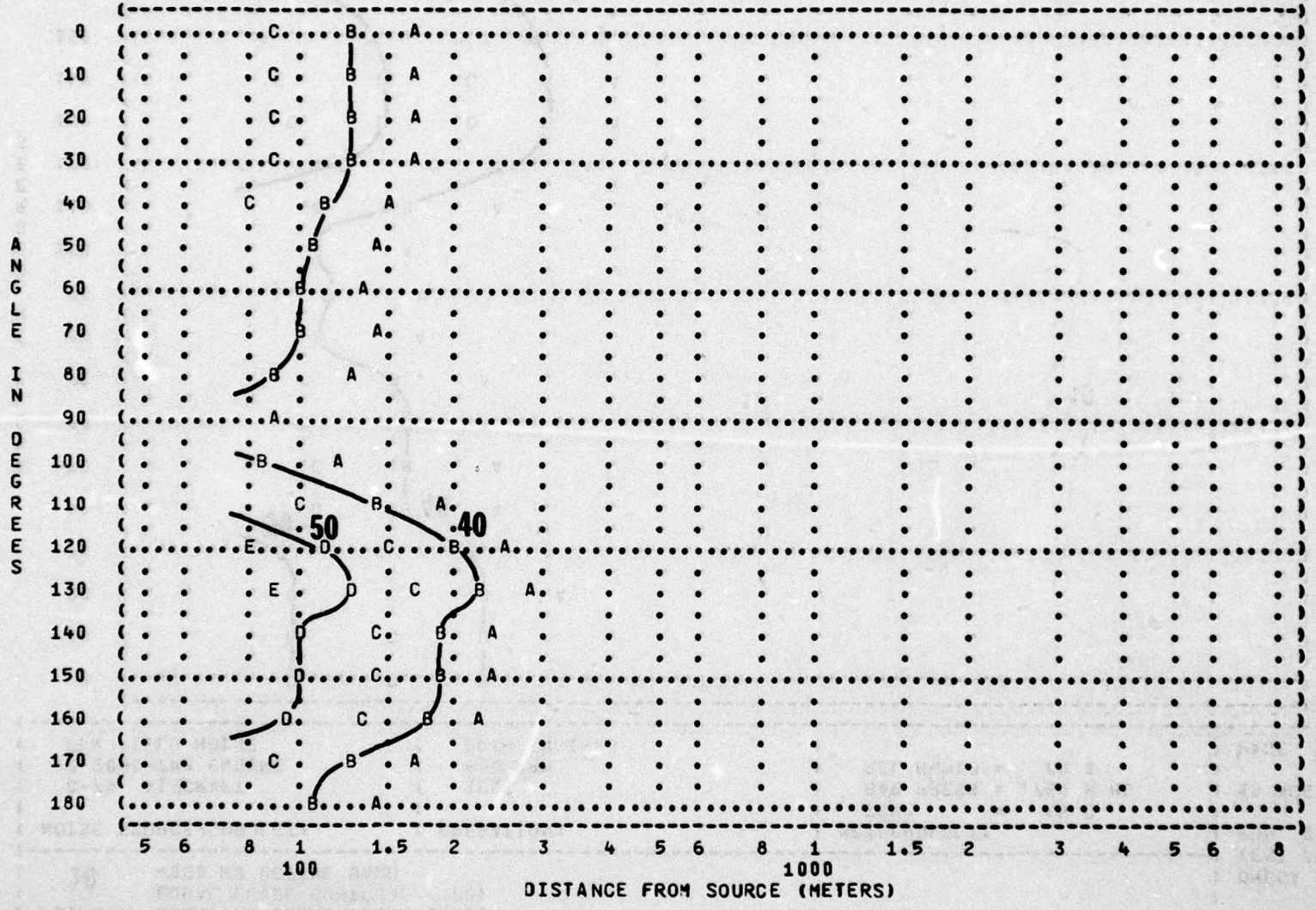


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 18

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

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

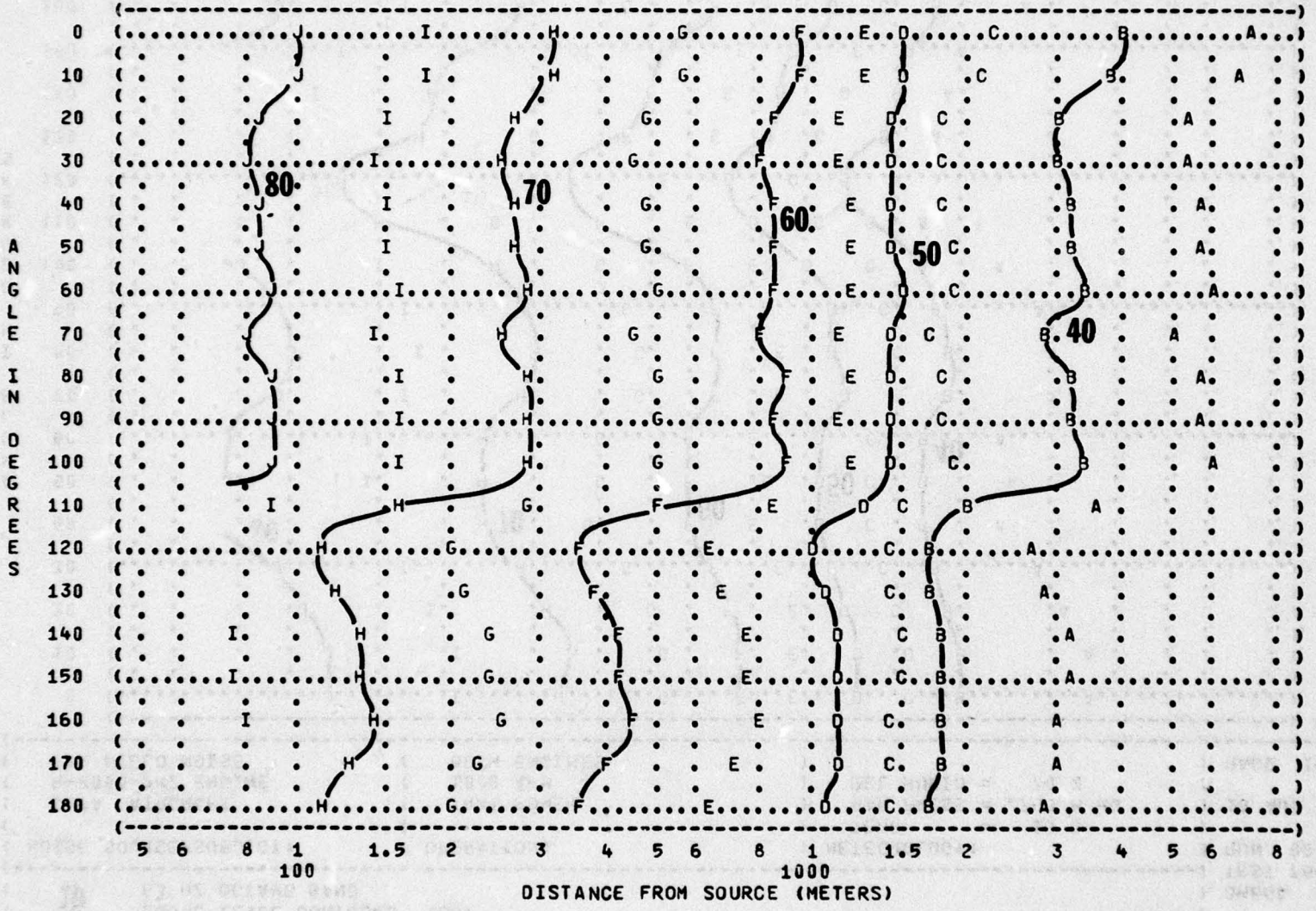


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 19

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

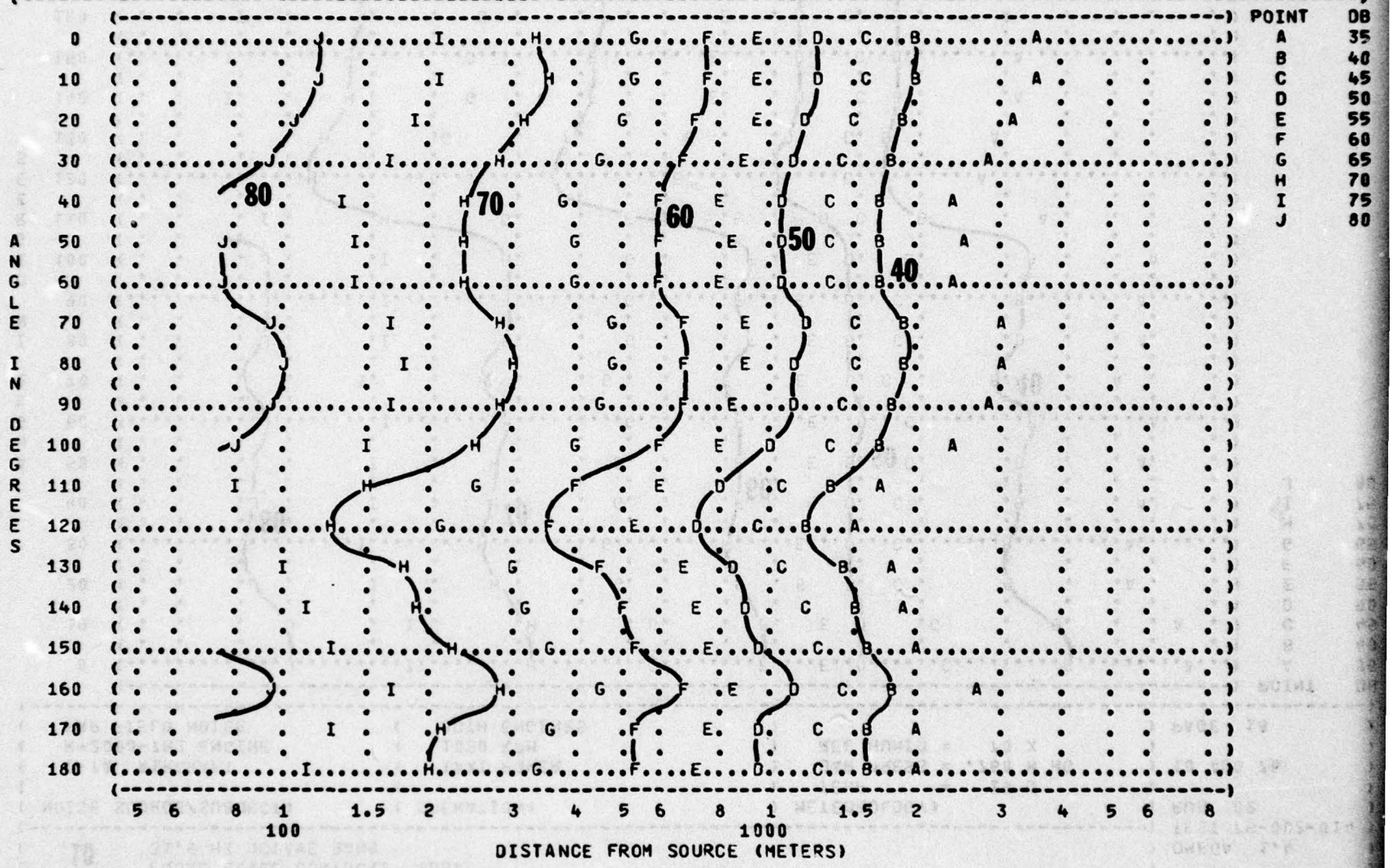


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 20

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

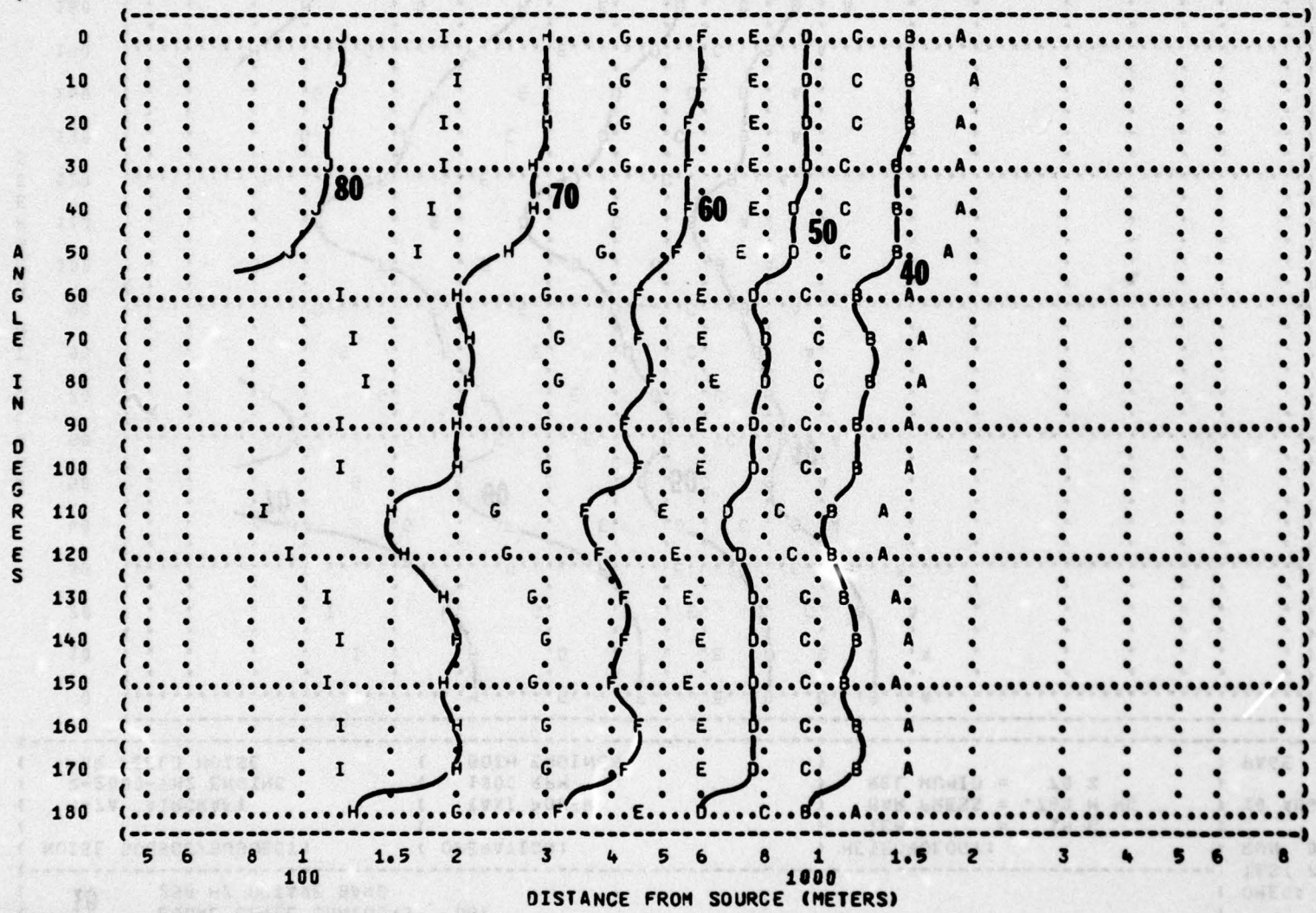


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 21

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

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

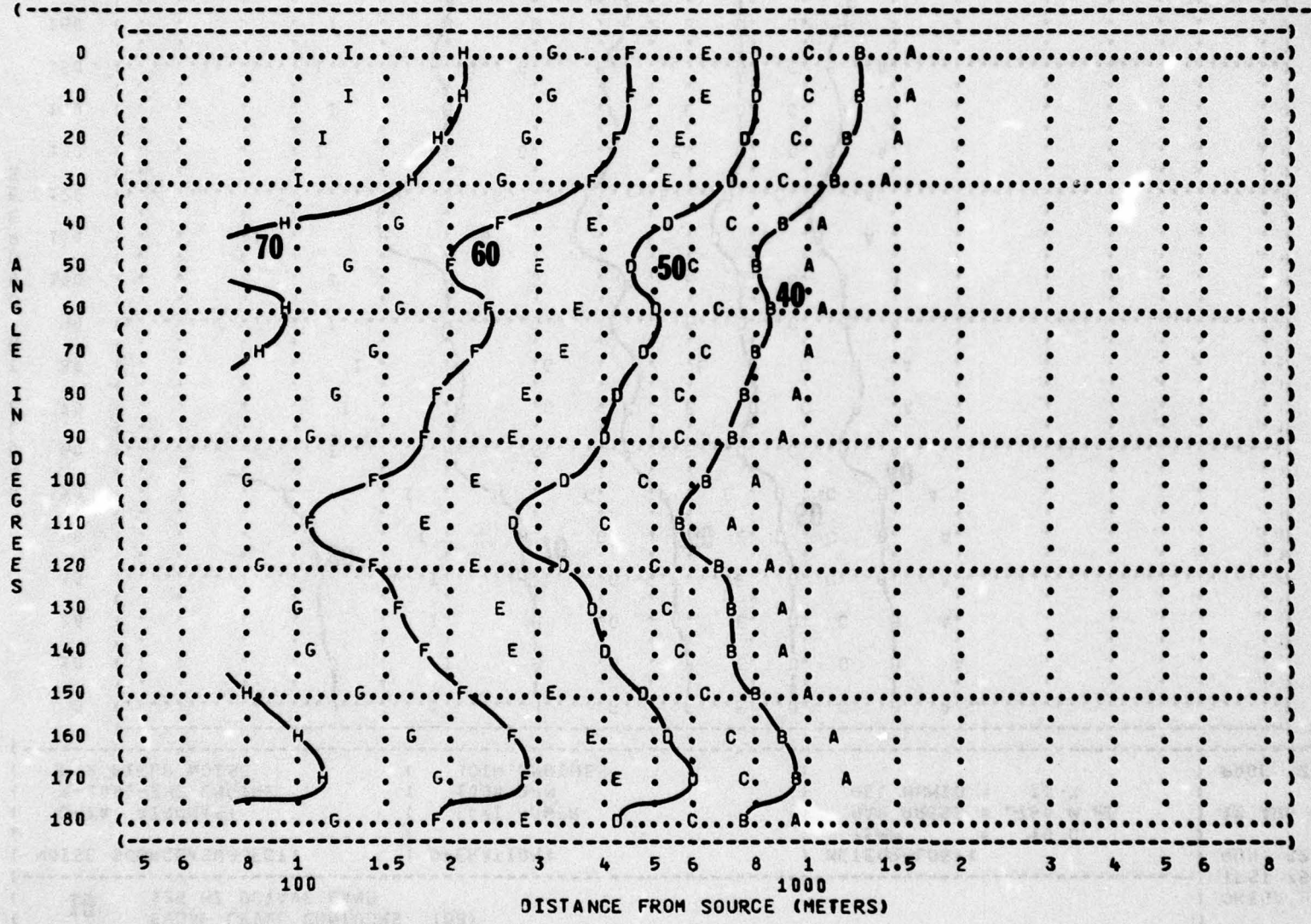


FIGURE: 10

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02

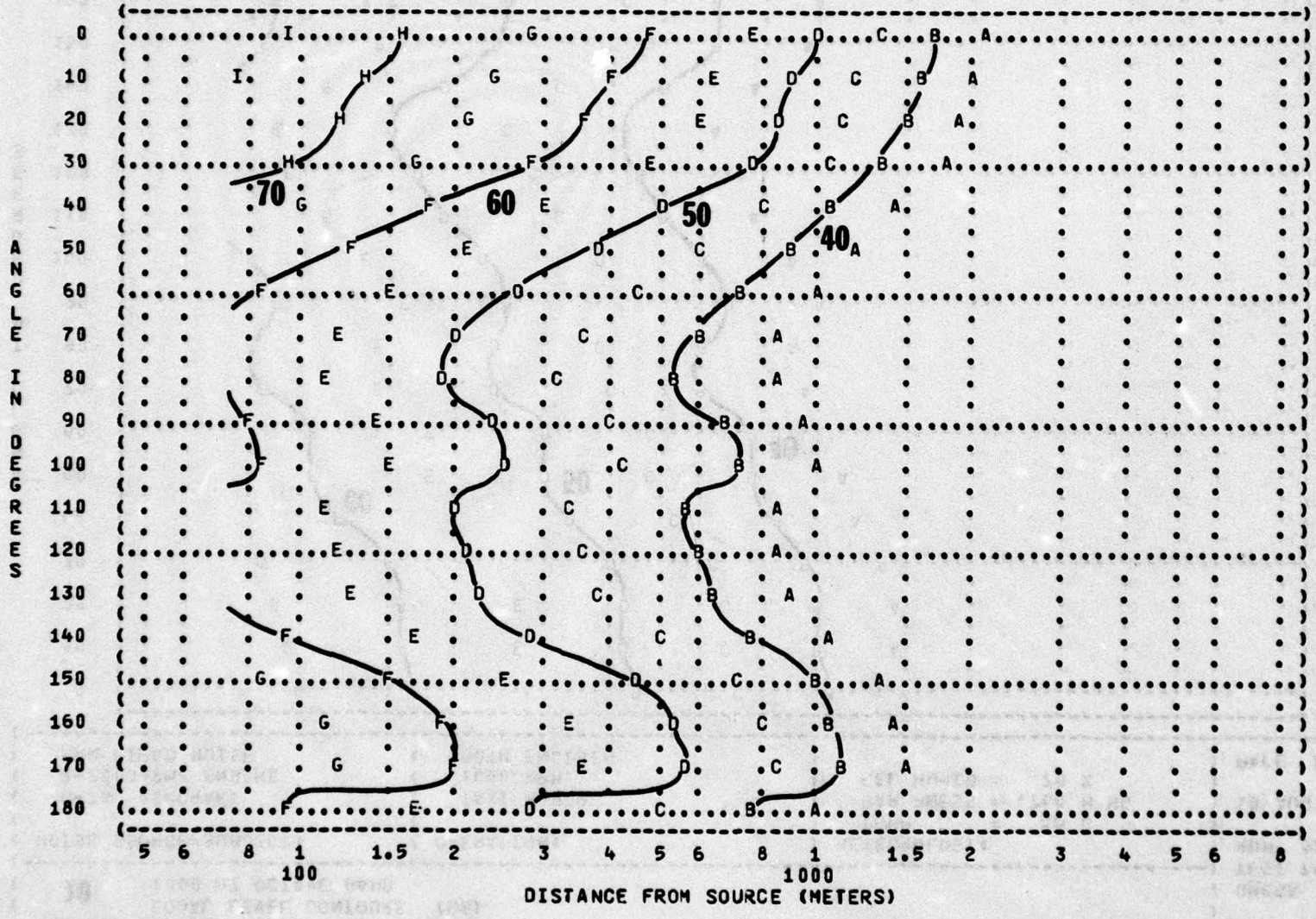
10 AUG 76

PAGE 22

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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



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

FIGURE: 10

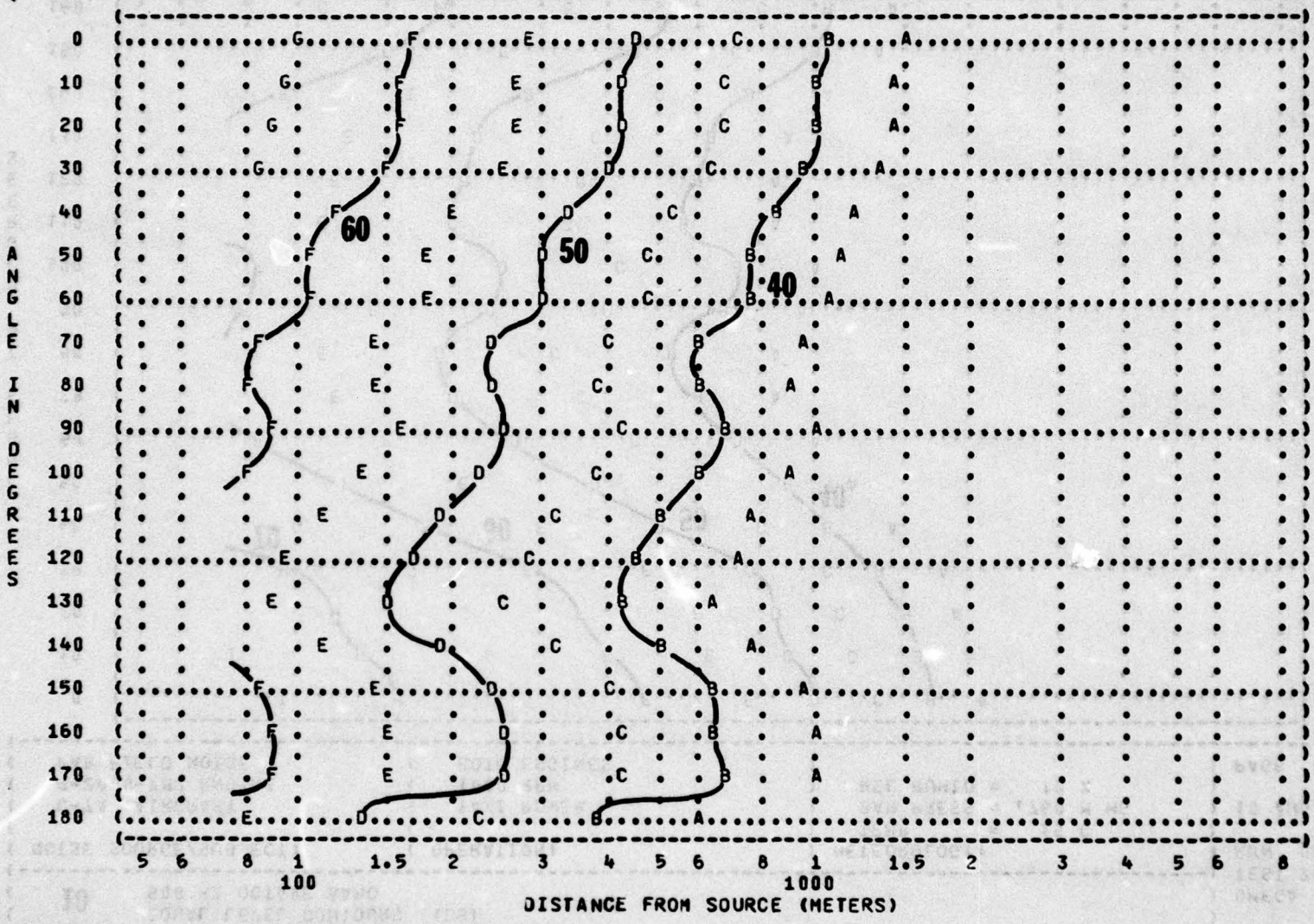
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 23



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

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 24

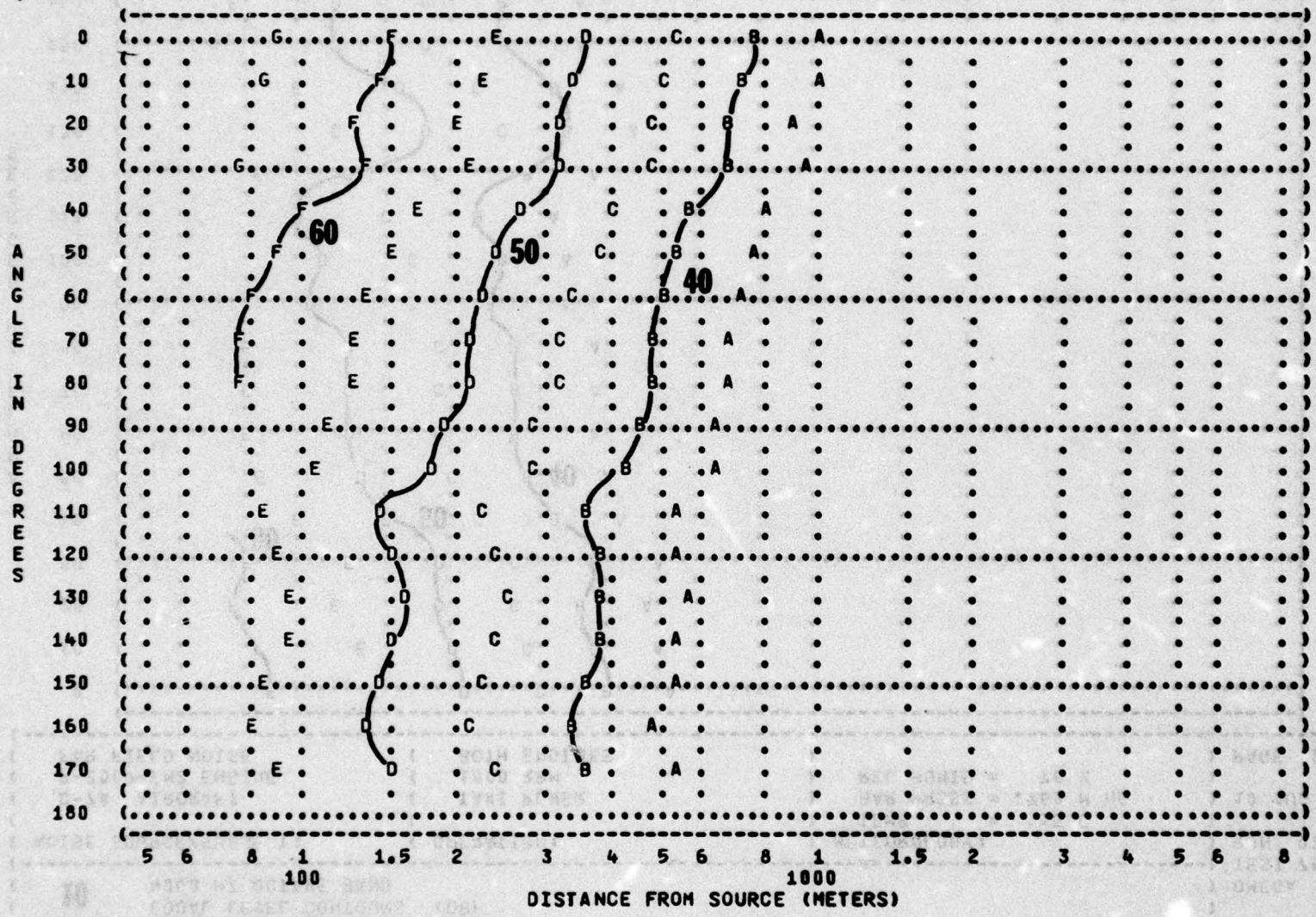


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 25

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

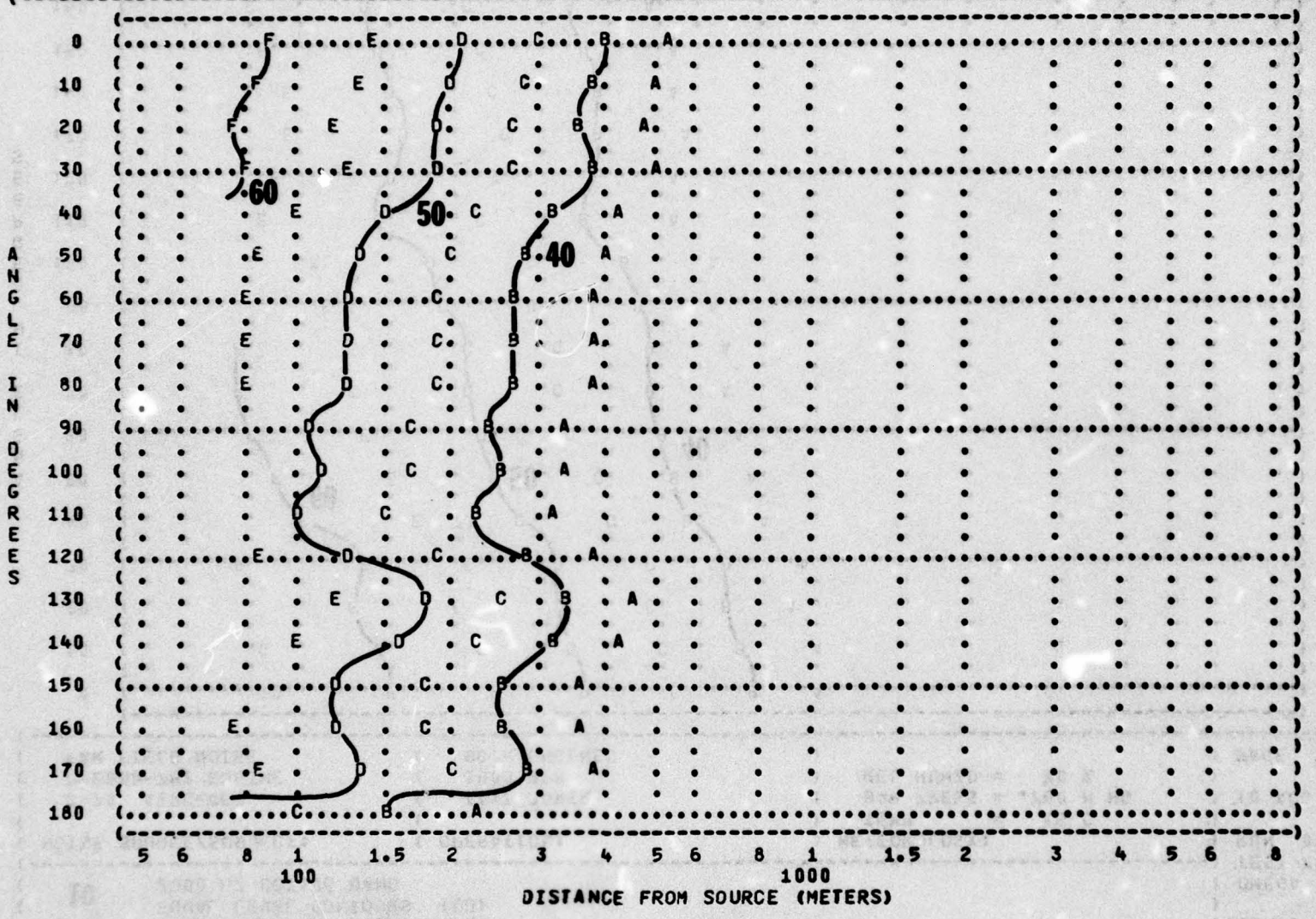


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAXI POWER
1000 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 02
10 AUG 76
PAGE 26

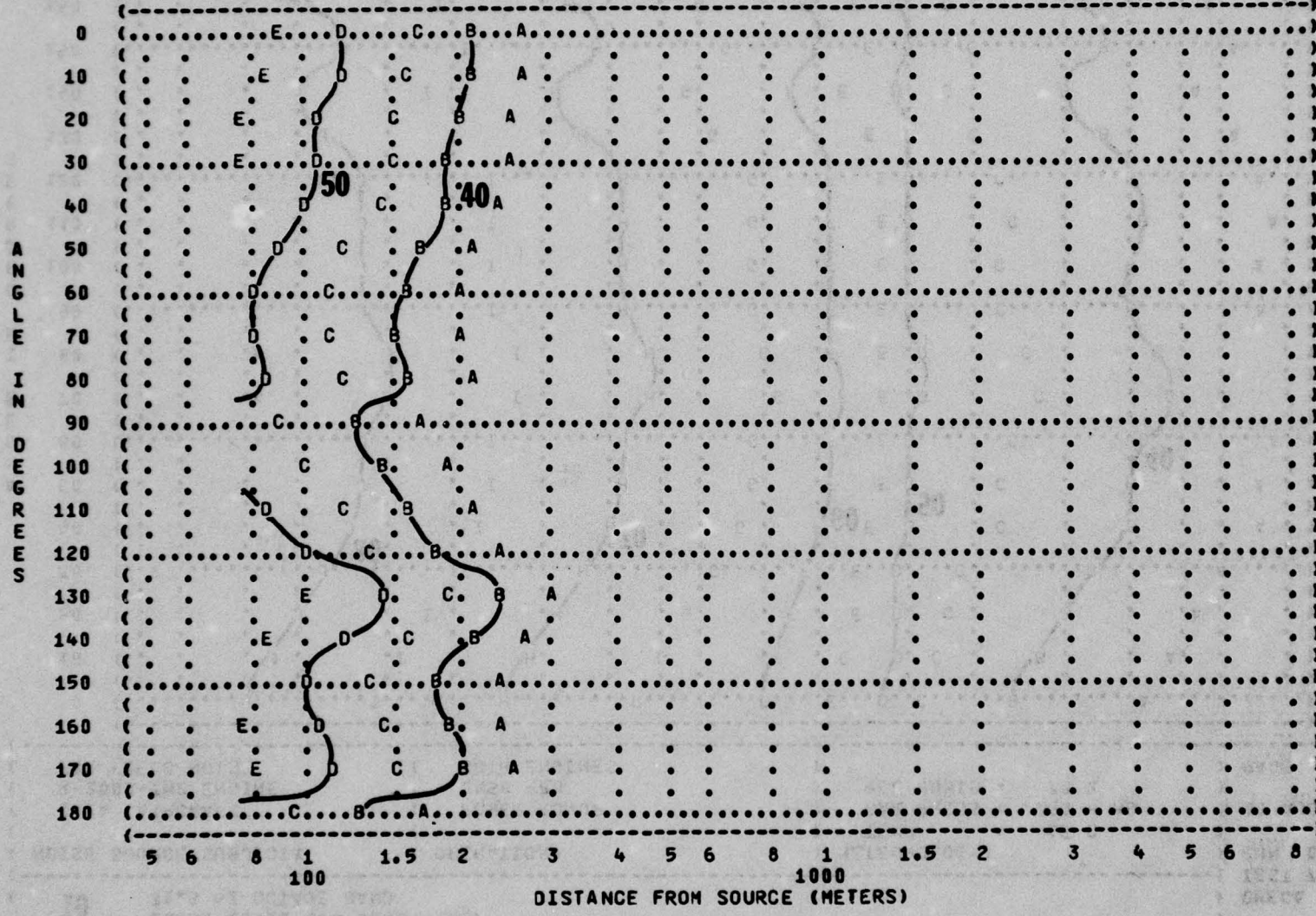


FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 18

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

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

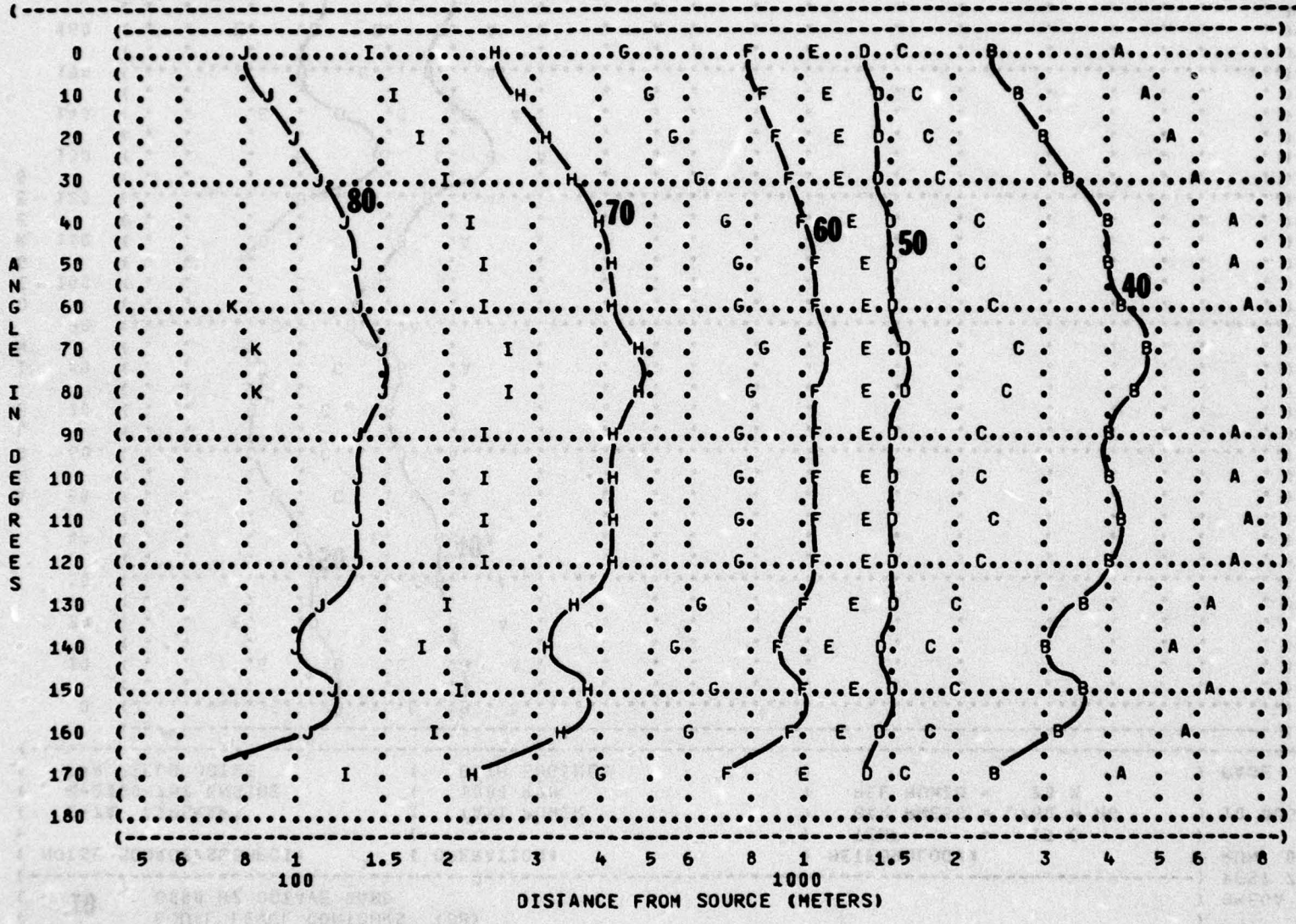


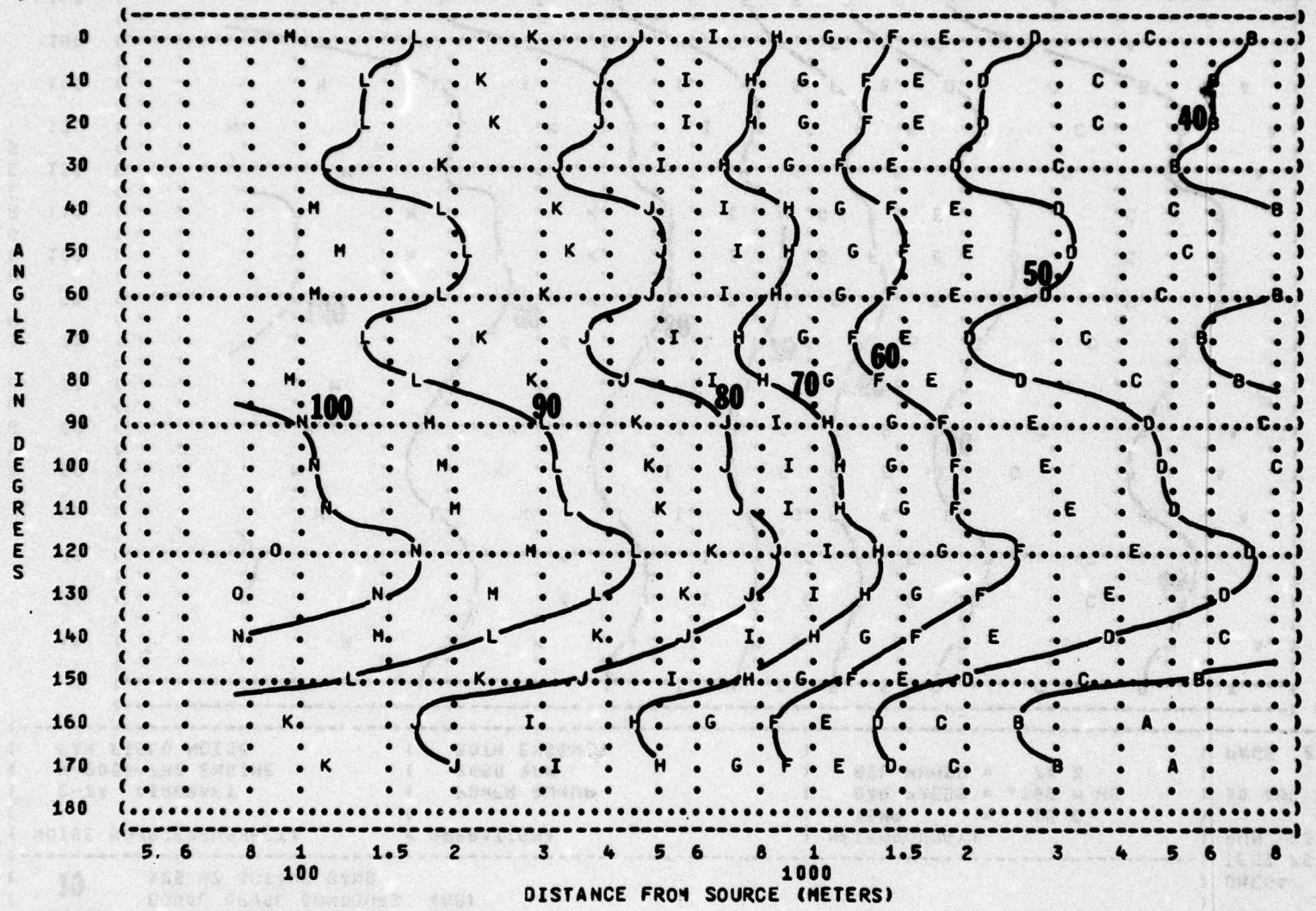
FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 19



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

FIGURE: 10

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

NOISE SOURCE/SUBJECT:

C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:

POWER RUNUP
2450 RPM
BOTH ENGINES

METEOROLOGY:

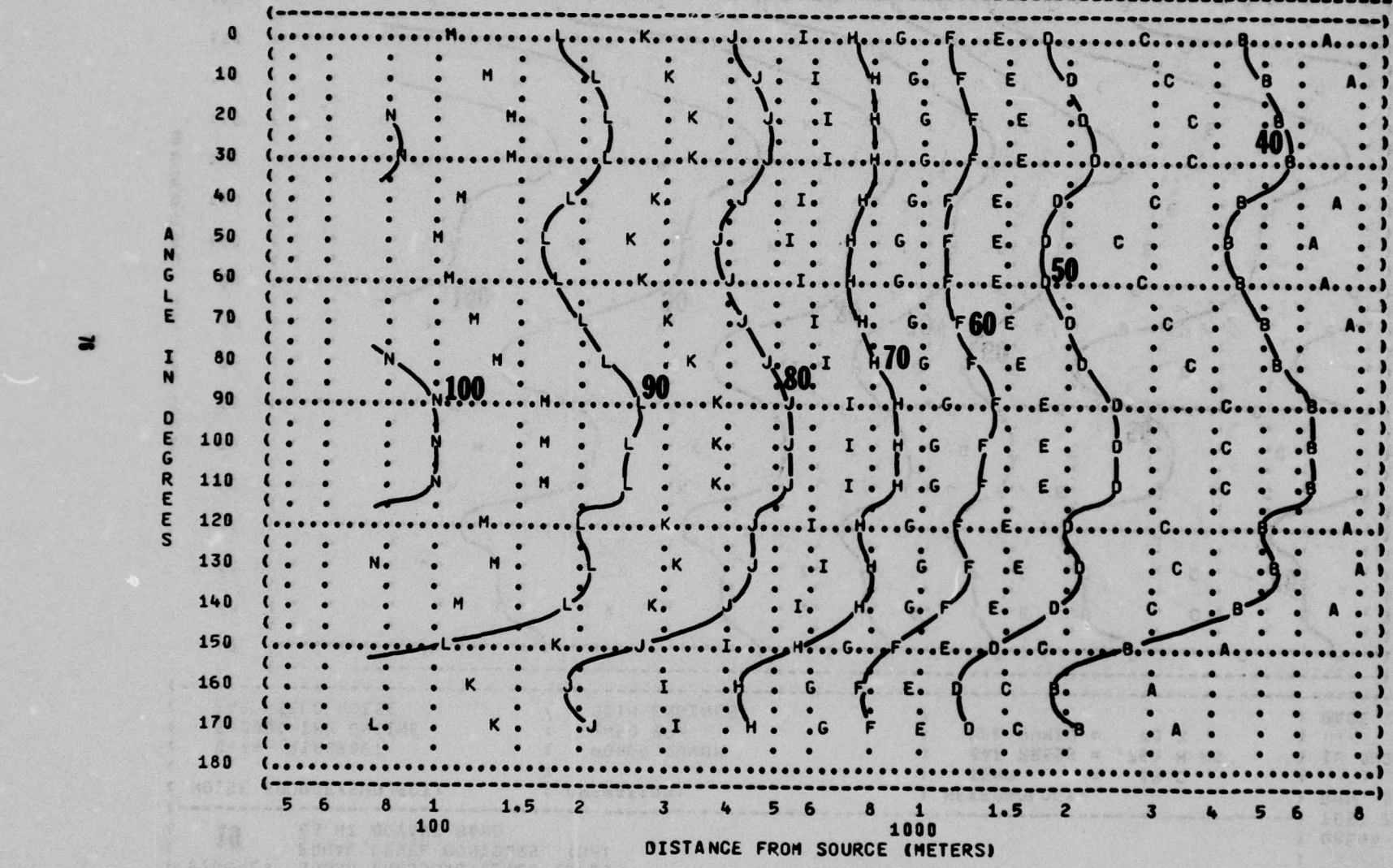
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-014
RUN 03

10 AUG 76

PAGE 20



POINT

POINT	D
A	3
B	4
C	4
D	5
E	5
F	6
G	6
H	7
I	7
J	8
K	8
L	9
M	9
N	10

FIGURE: 10

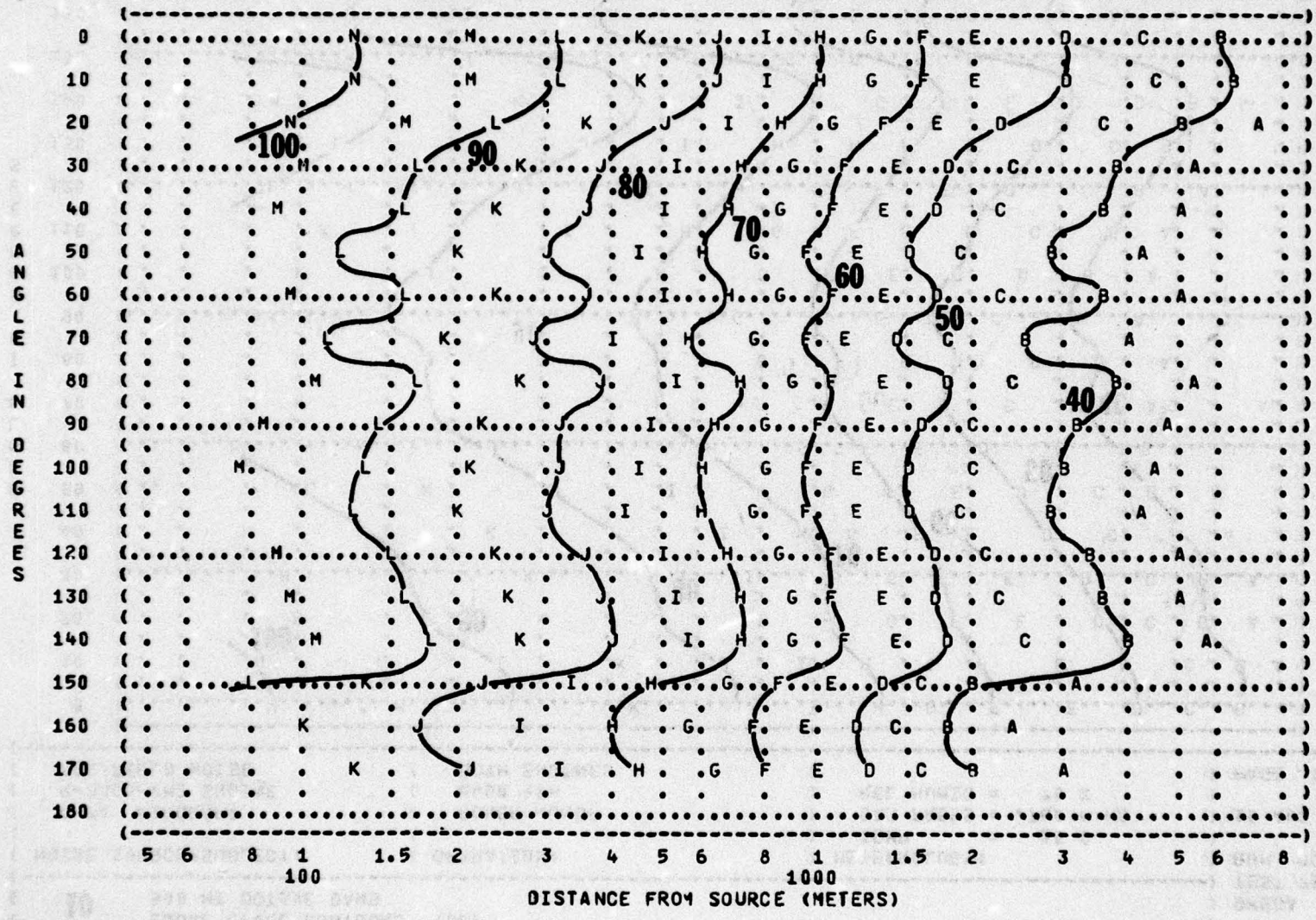
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 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

FIGURE: 10

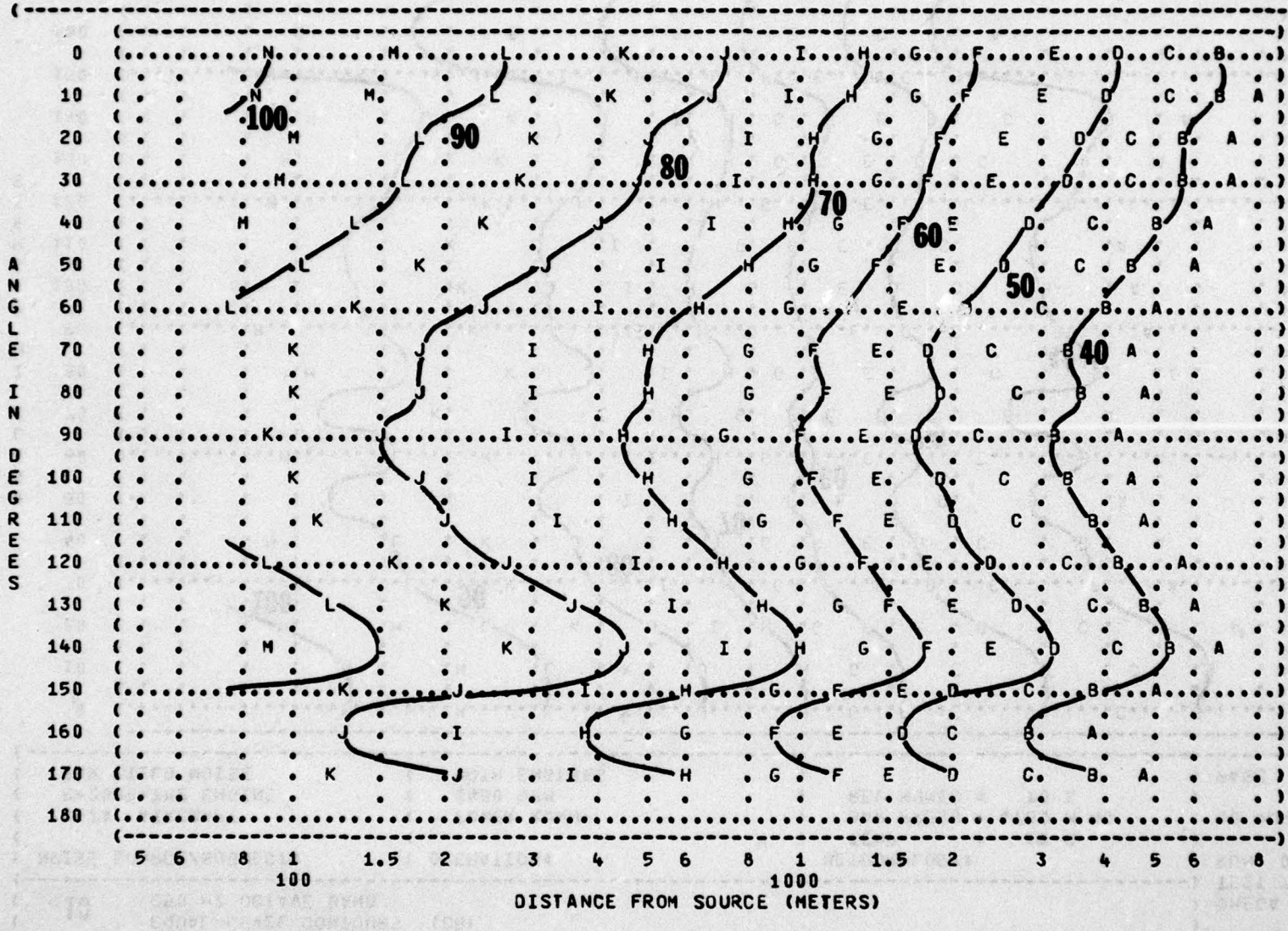
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 22



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

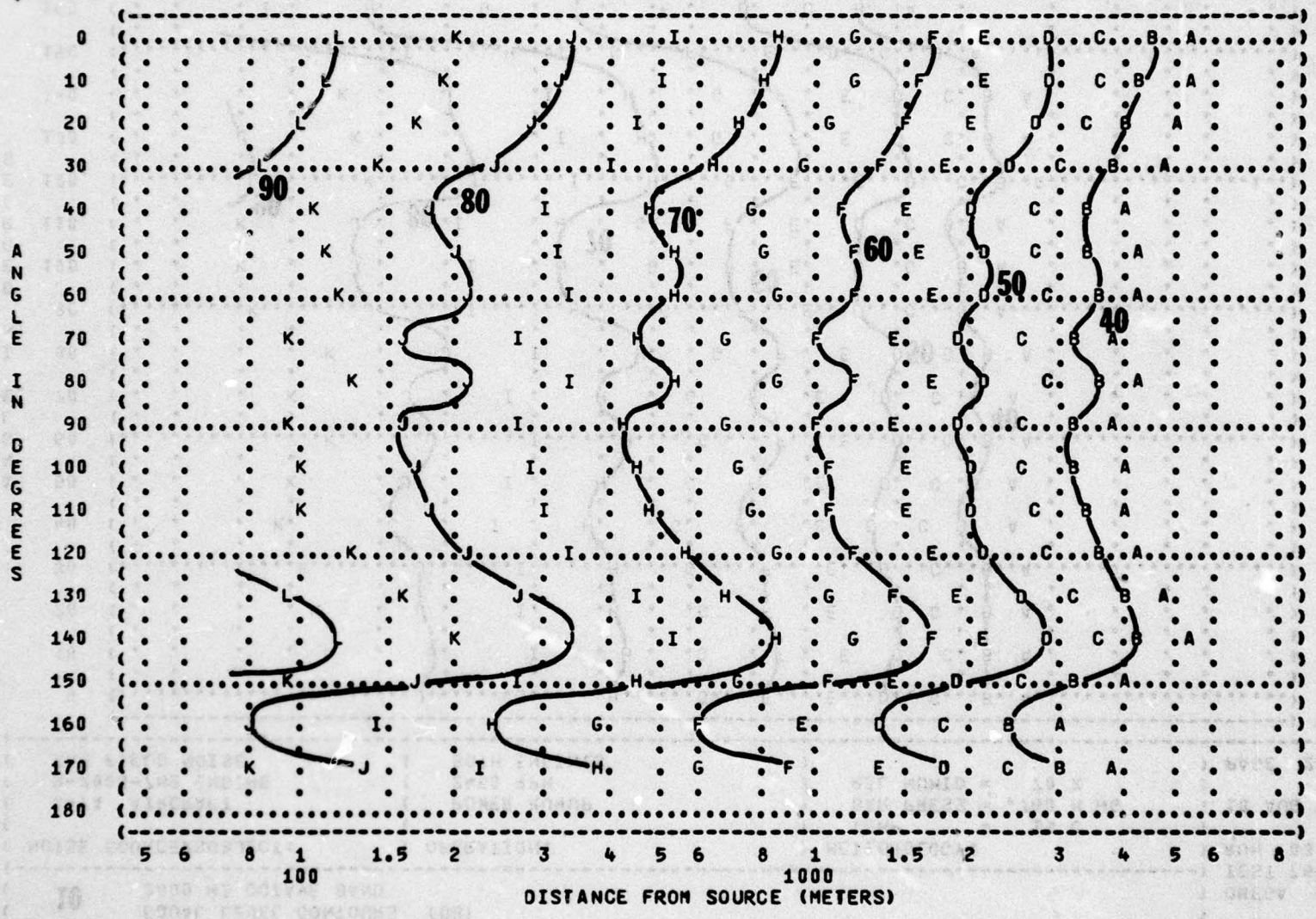
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-014 RUN 03 10 AUG 76 PAGE 23

NOISE SOURCE/SUBJECT: C-7A AIRCRAFT; R-2000-7M2 ENGINE; FAR FIELD NOISE

OPERATION: POWER RUNUP; 2450 RPM; BOTH ENGINES

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



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

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 24

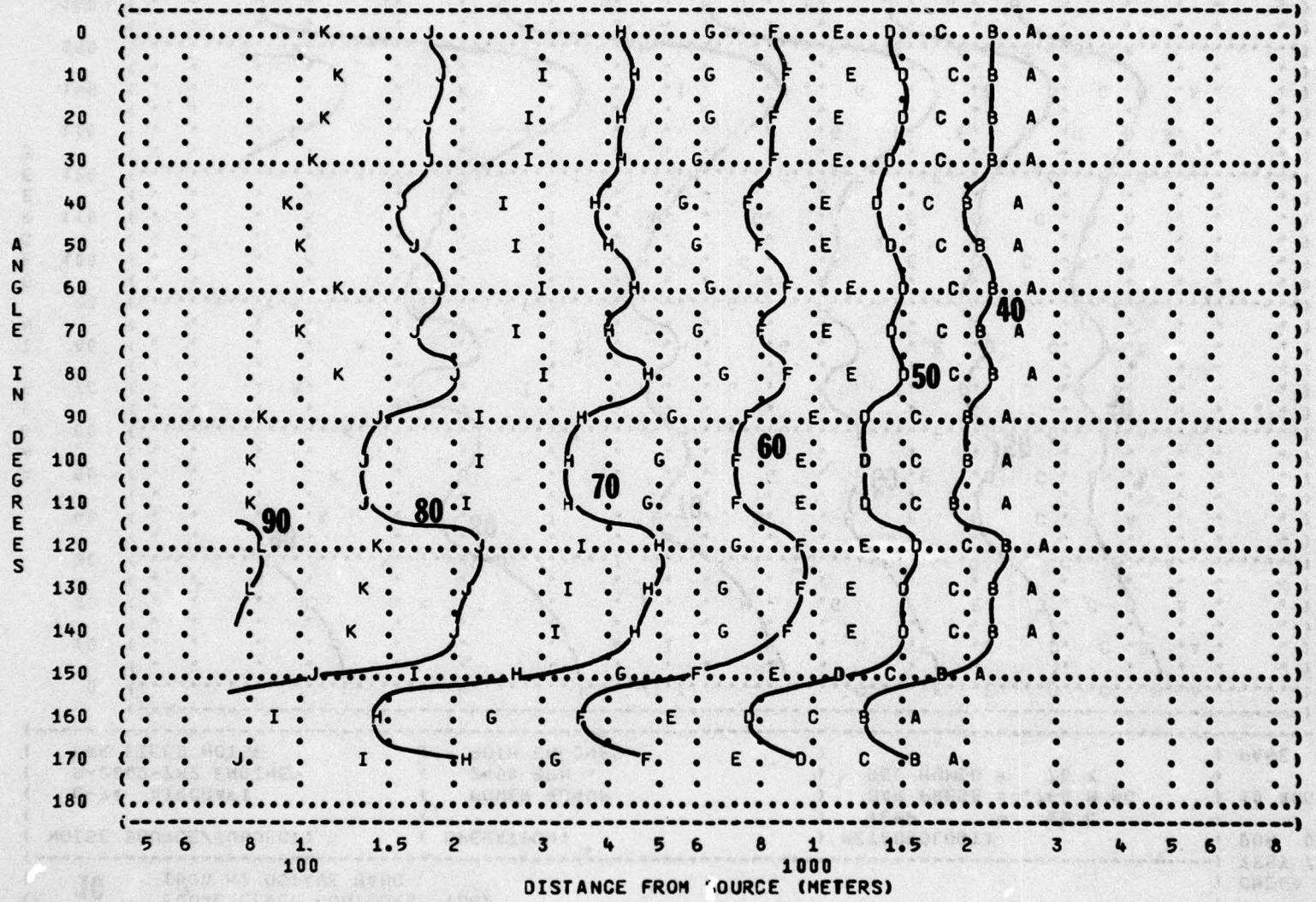


FIGURE: 10

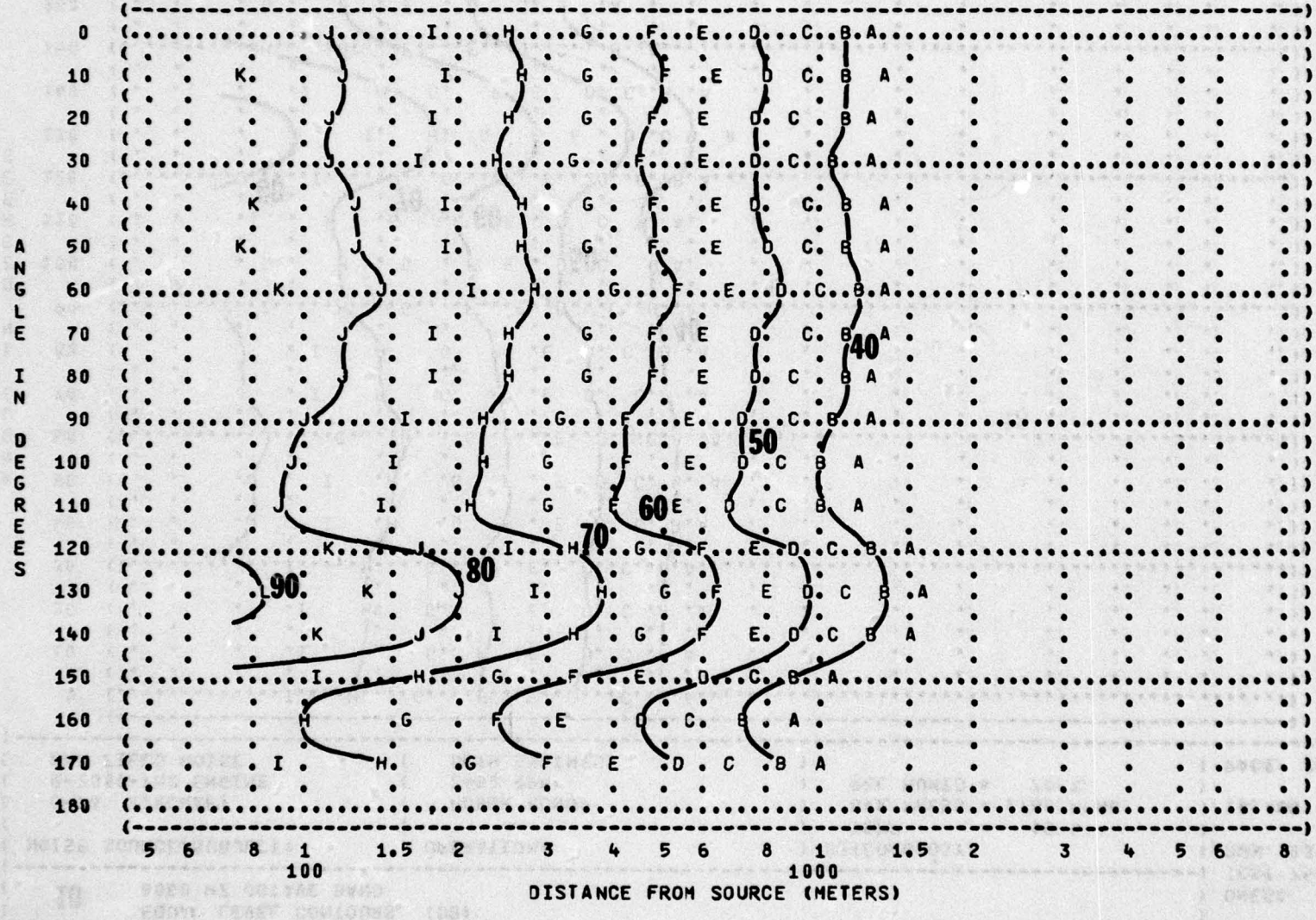
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 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

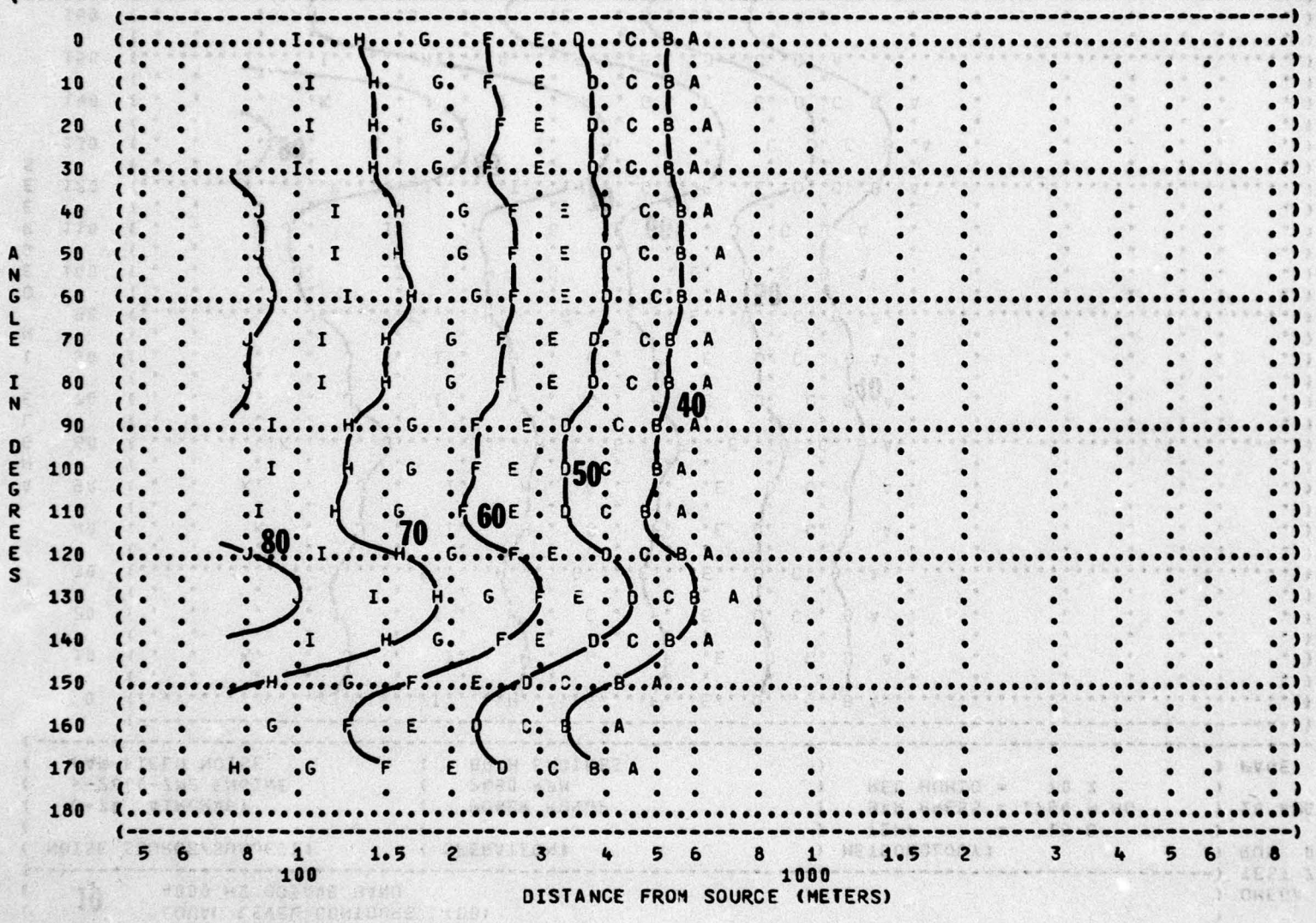
FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 03
10 AUG 76
PAGE 26

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
POWER RUNUP
2450 RPM
BOTH ENGINES

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



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

FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 18

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

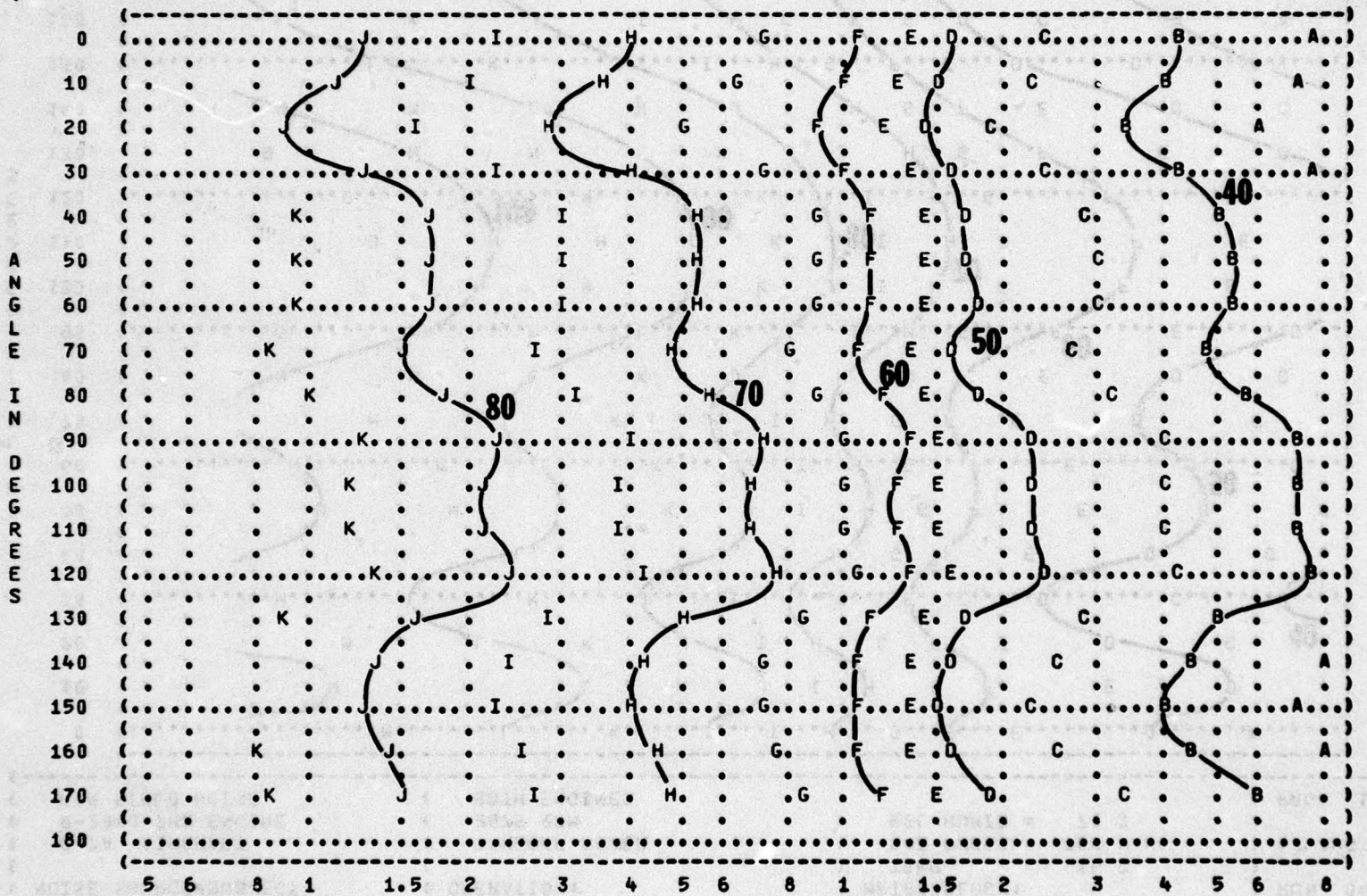


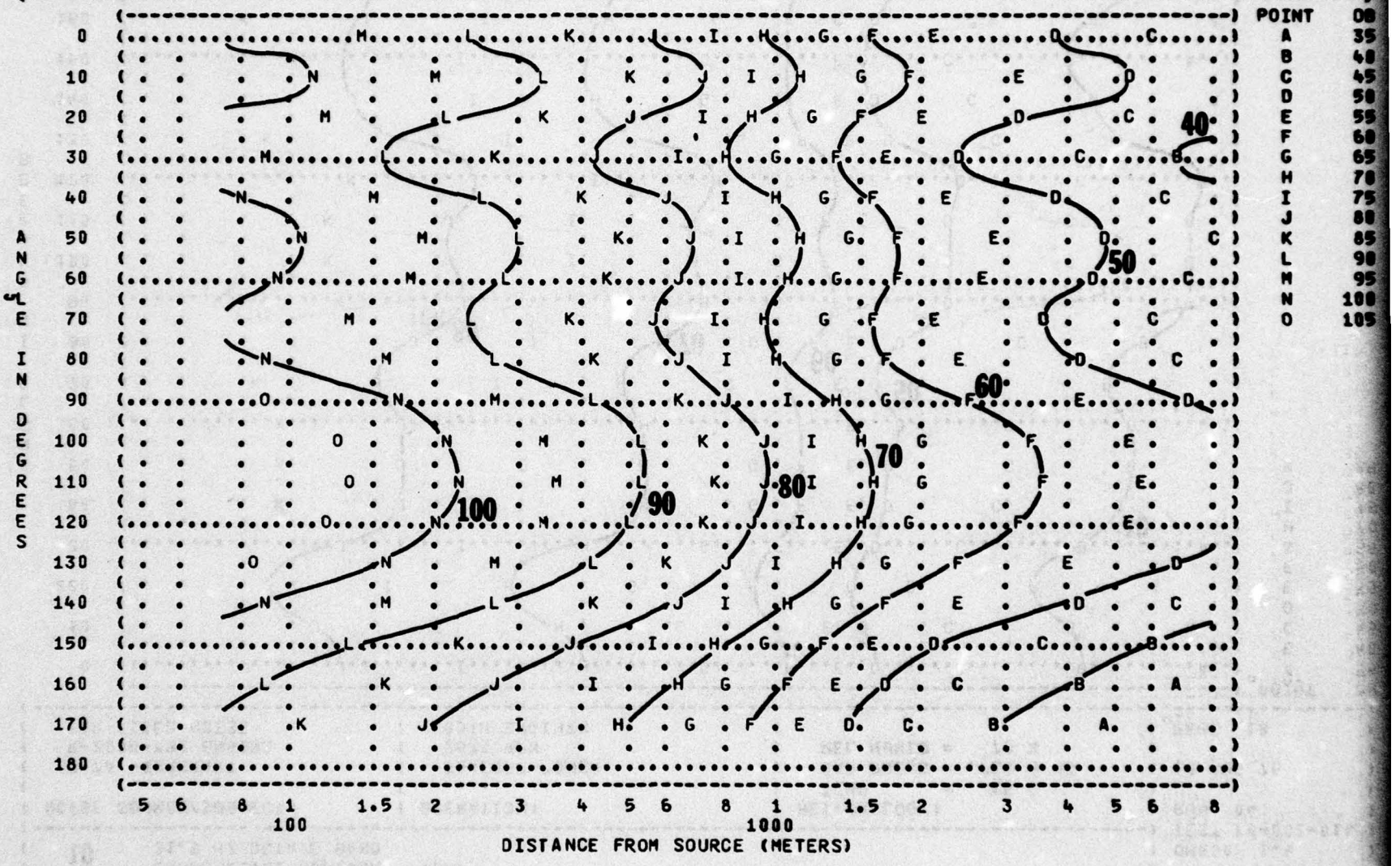
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 19



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

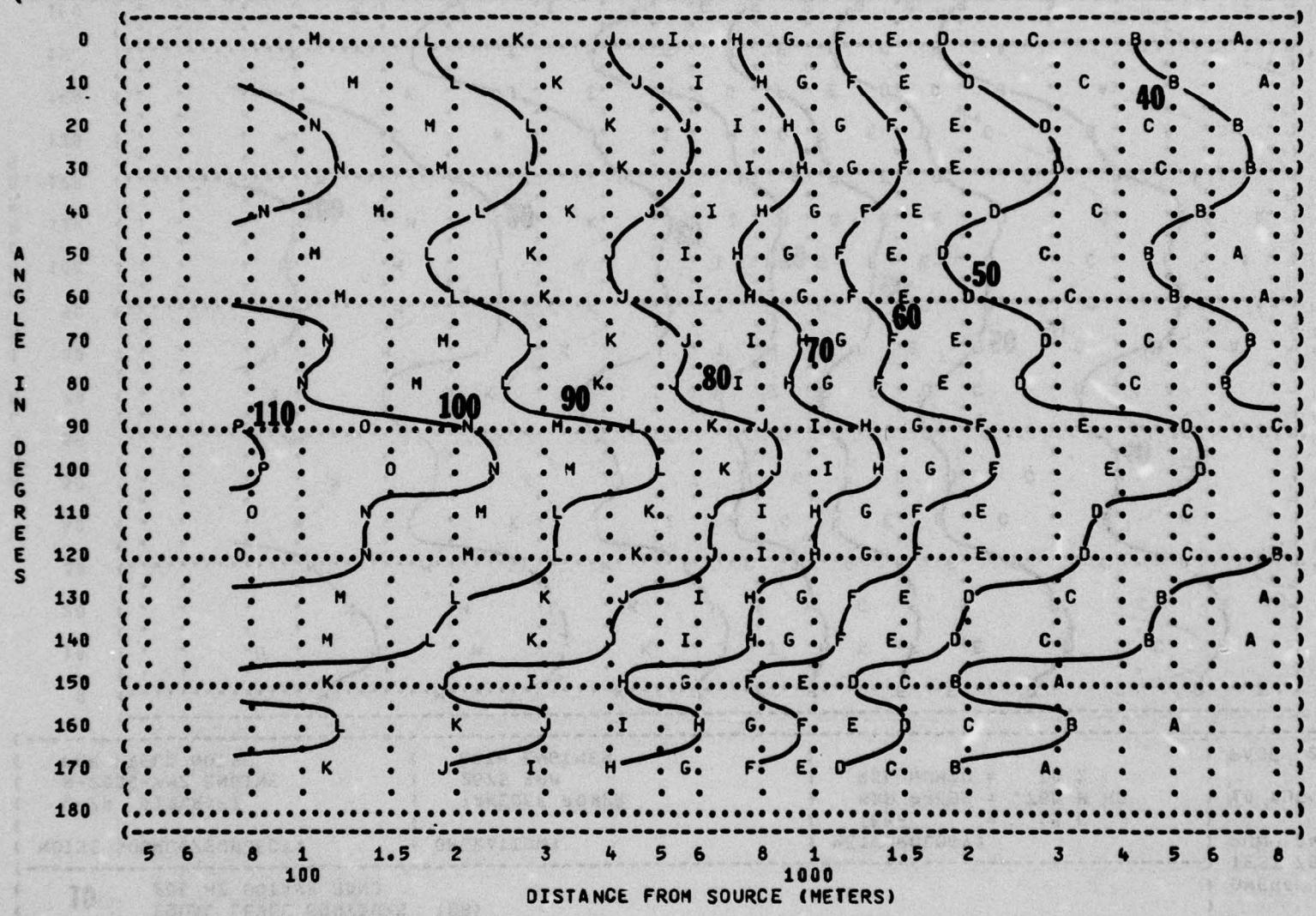
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 20



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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 21

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

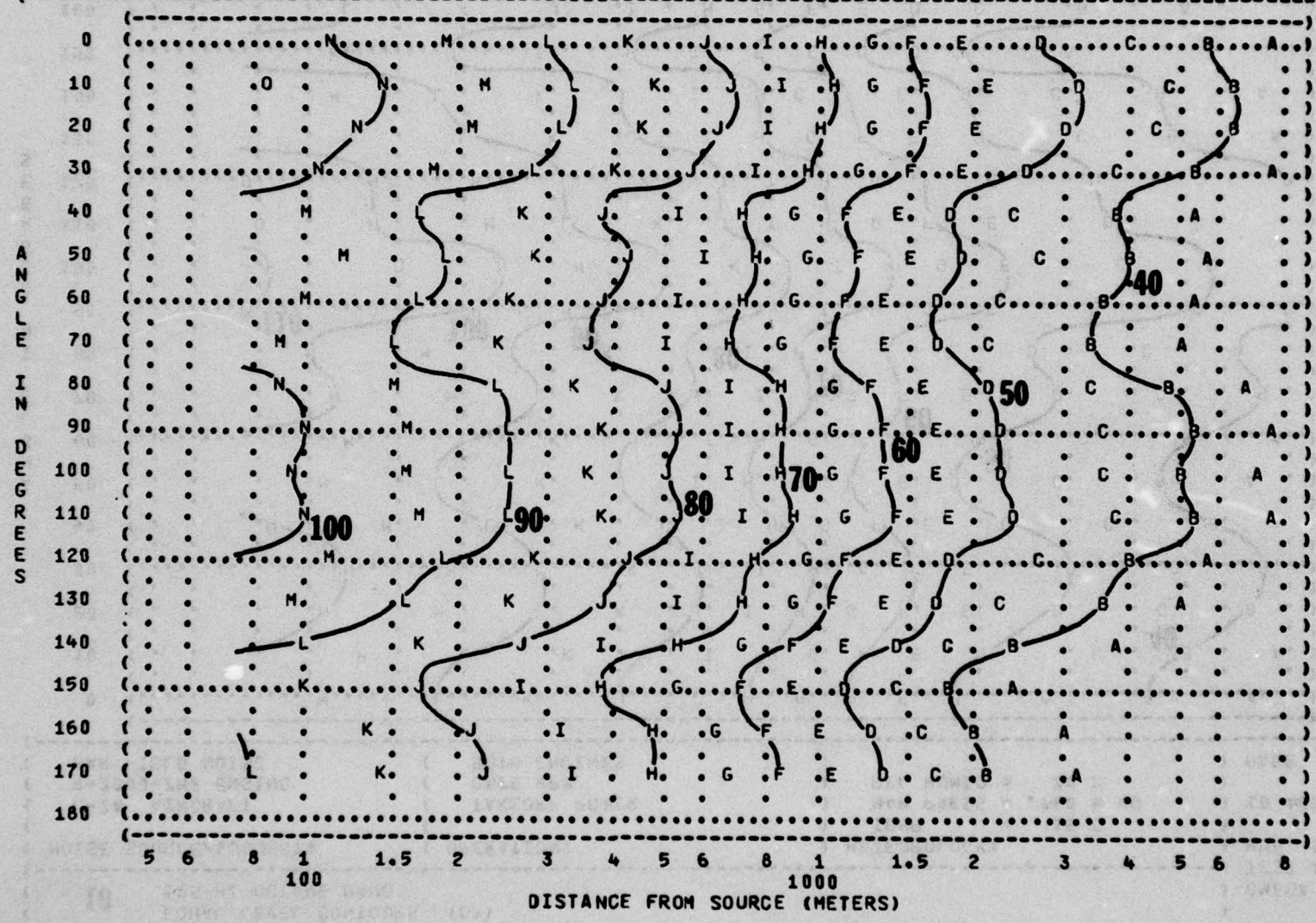


FIGURE: 10

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

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 22

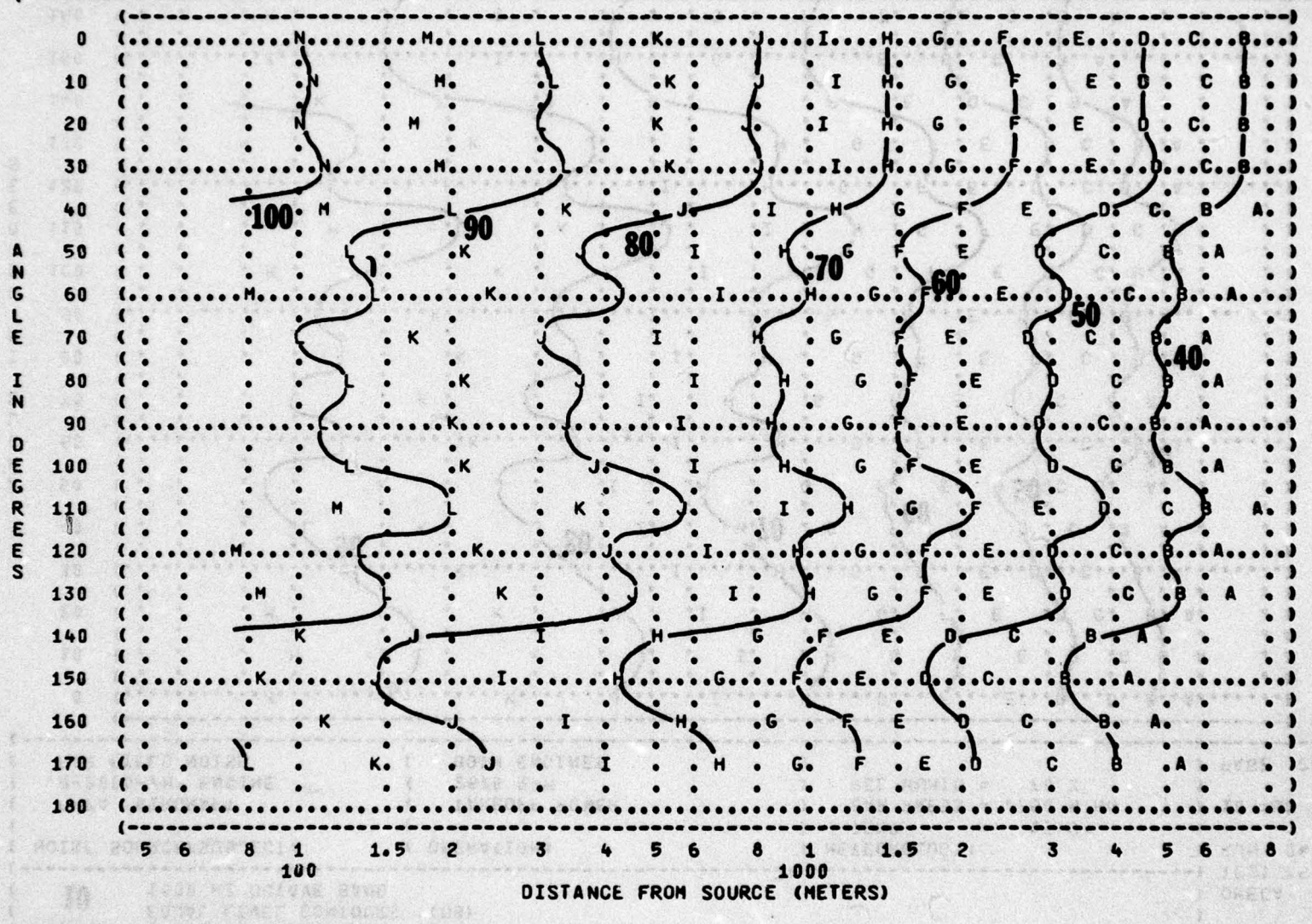


FIGURE: 10

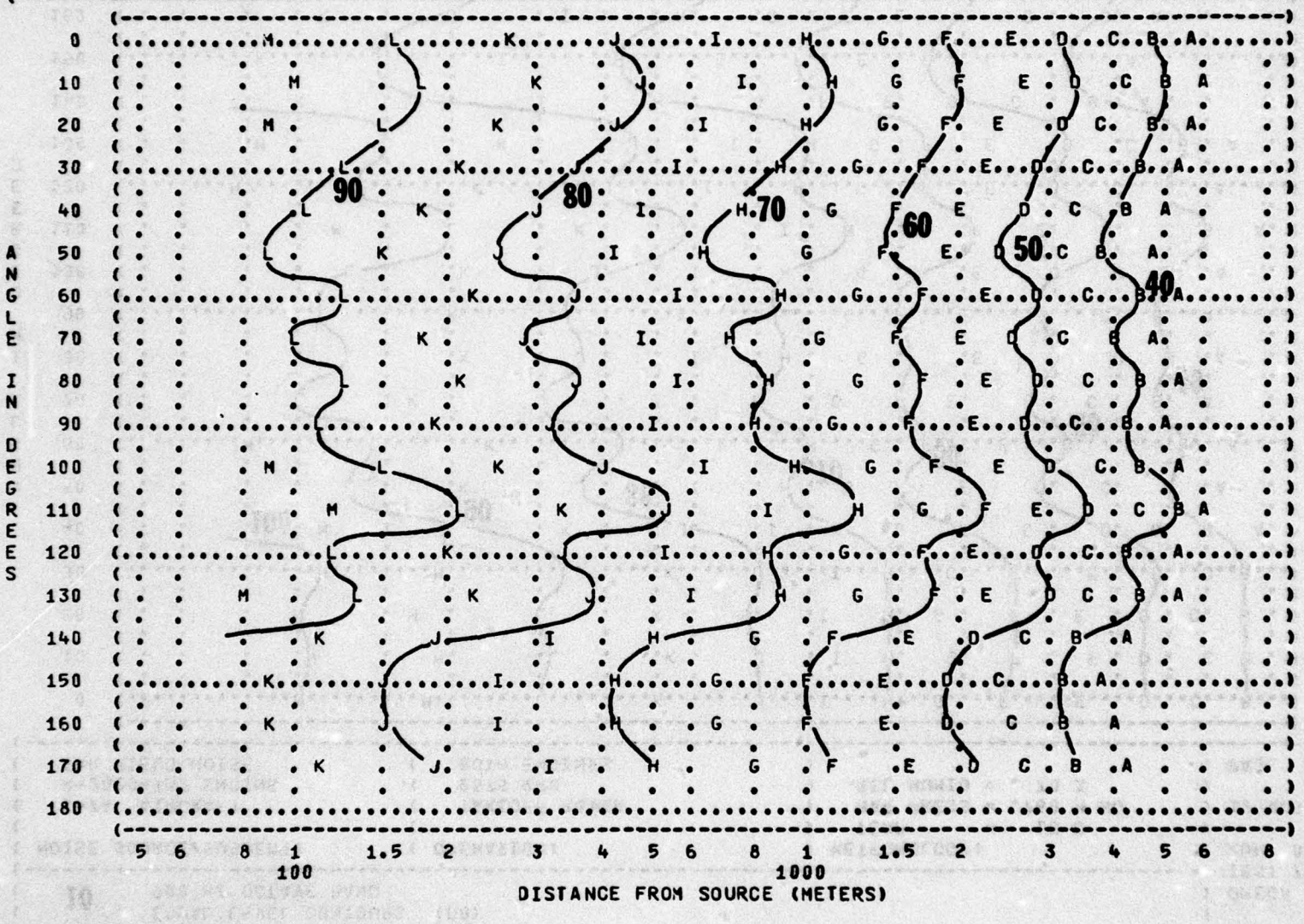
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 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

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 24

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

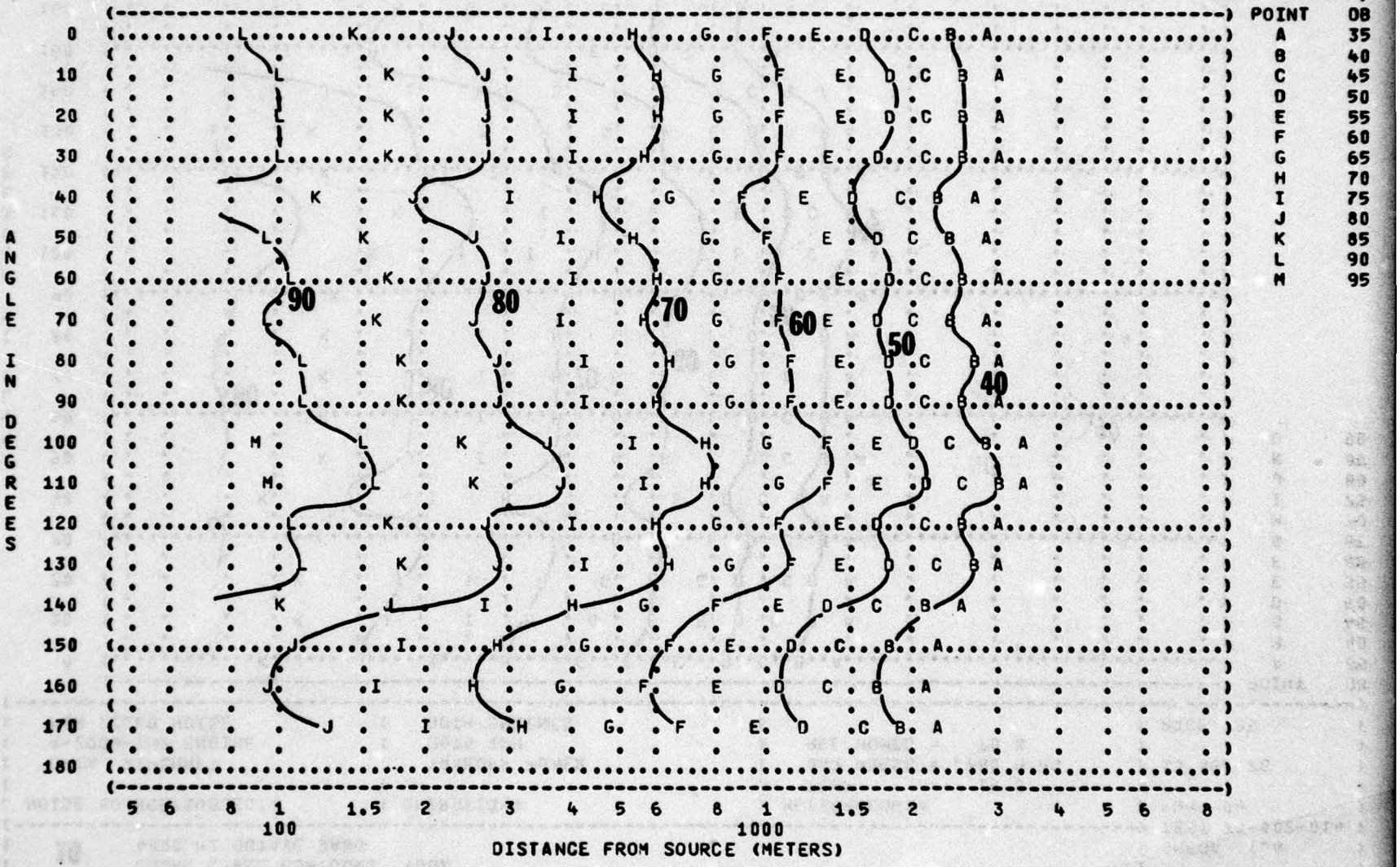


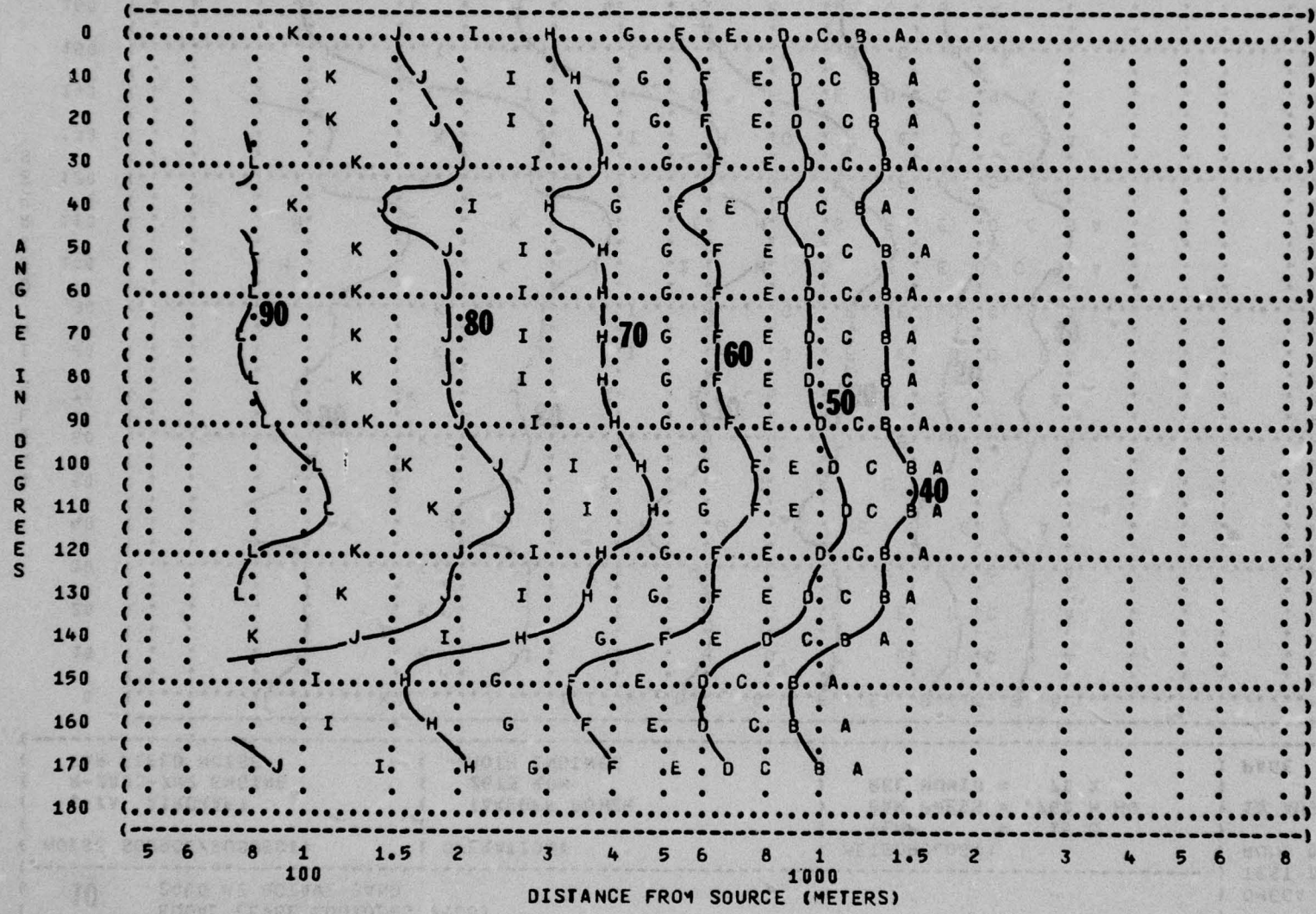
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 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

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

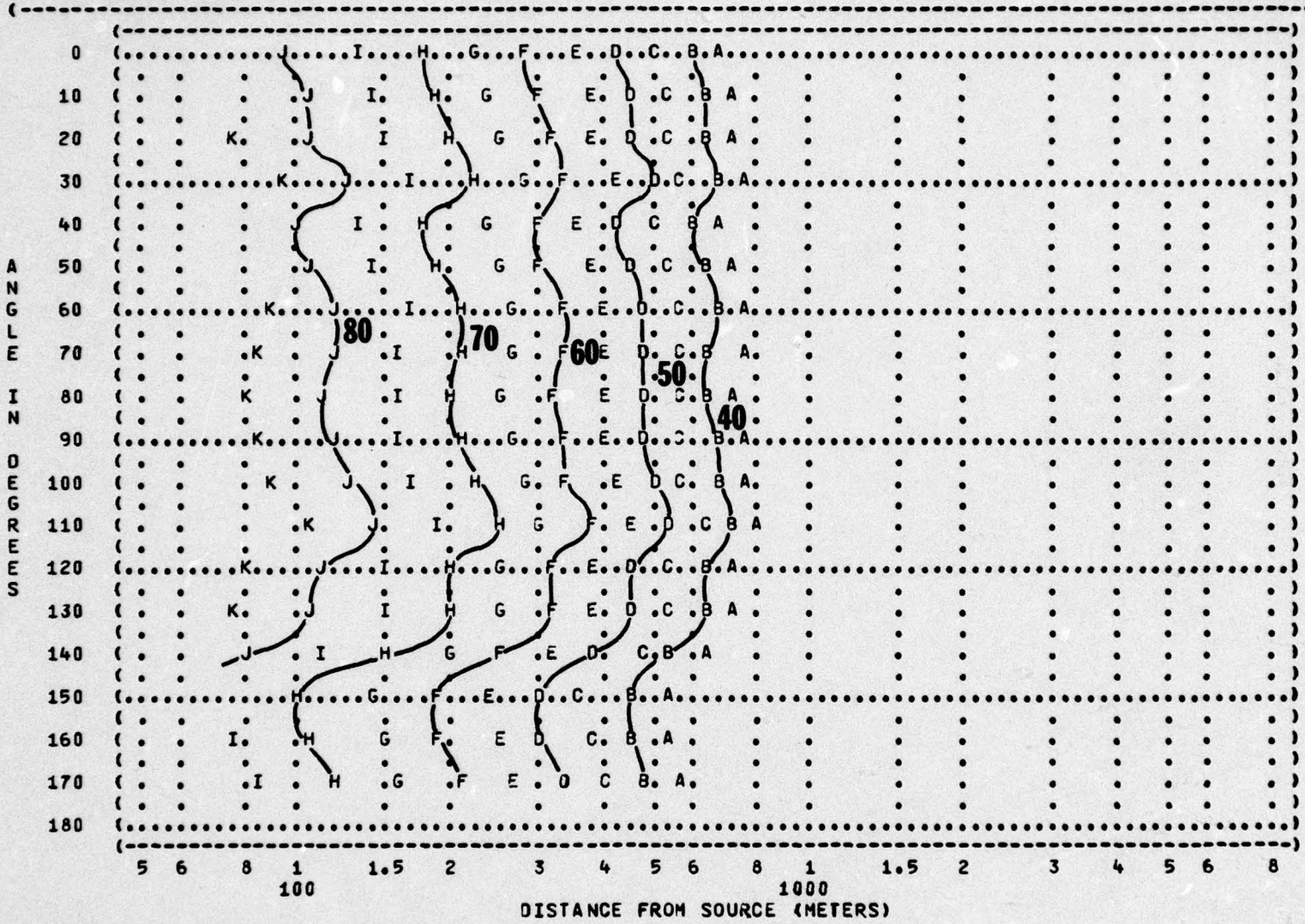
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-014
RUN 04
10 AUG 76
PAGE 26

NOISE SOURCE/SUBJECT:
C-7A AIRCRAFT
R-2000-7M2 ENGINE
FAR FIELD NOISE

OPERATION:
TAKEOFF POWER
2675 RPM
BOTH ENGINES

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

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



*U.S.Government Printing Office: 1977 — 757-080/235