

DTIC FILE COPY

2

AAMRL-TR-89-034



**LATERAL ATTENUATION
OF MILITARY AIRCRAFT
FLIGHT NOISE**

Jerry D. Speakman

BIODYNAMIC ENVIRONMENT BRANCH
BIODYNAMICS & BIOENGINEERING DIVISION
WRIGHT-PATTERSON AIR FORCE BASE, OH 45433-6573

AD-A218 041

DTIC
ELECTE
FEB 20 1990
S D

JULY 1989

FINAL REPORT FOR FIELD TEST AND ANALYSIS: APRIL 1984 - SEPTEMBER 1988

Approved for public release; distribution is unlimited.

HARRY G. ARMSTRONG AEROSPACE MEDICAL RESEARCH LABORATORY
HUMAN SYSTEMS DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6573

90 02 16 016

NOTICES

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

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

National Technical Information Service
5285 Port Royal Road
Springfield VA 22161

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

Defense Technical Information Center
Cameron Station
Alexandria VA 22314

TECHNICAL REVIEW AND APPROVAL
AAMRL-TR-89-034

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

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

FOR THE COMMANDER


JAMES W. BRINKLEY

Director

Biodynamics and Bioengineering Division
Harry G. Armstrong Aerospace Medical Research Laboratory

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED				1b. RESTRICTIVE MARKINGS N/A			
2a. SECURITY CLASSIFICATION AUTHORITY				3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.			
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE				4. PERFORMING ORGANIZATION REPORT NUMBER(S) AAMRL-TR-89-034			
6a. NAME OF PERFORMING ORGANIZATION Harry G. Armstrong, Aerospace Medical Research Laboratory		6b. OFFICE SYMBOL (if applicable) AAMRL/BBE		5. MONITORING ORGANIZATION REPORT NUMBER(S)			
6c. ADDRESS (City, State, and ZIP Code) Wright-Patterson AFB OH 45433-6573				7a. NAME OF MONITORING ORGANIZATION			
7b. ADDRESS (City, State, and ZIP Code)				8a. NAME OF FUNDING / SPONSORING ORGANIZATION			
8b. OFFICE SYMBOL (if applicable)				9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER			
8c. ADDRESS (City, State, and ZIP Code)				10. SOURCE OF FUNDING NUMBERS			
PROGRAM ELEMENT NO.		PROJECT NO.		TASK NO.		WORK UNIT ACCESSION NO.	
62202F		7231		34		12	
11. TITLE (Include Security Classification) Lateral Attenuation of Military Aircraft Flight Noise							
12. PERSONAL AUTHOR(S) Jerry D. Speakman							
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM Apr 84 TO Sep 88		14. DATE OF REPORT (Year, Month, Day) 1989 July		15. PAGE COUNT 60	
16. SUPPLEMENTARY NOTATION							
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)				
FIELD	GROUP	SUB-GROUP	Acoustics, noise, environmental noise, noise model, and community noise exposure.				
20	01						
19. ABSTRACT (Continue on reverse if necessary and identify by block number) This report presents the results of measurements on the noise propagated to the side of military aircraft during a series of controlled level flyovers. Data were acquired on attack/fighter aircraft (A-10A, F-4D, F-5E, F-15, F-16 and F-18); bomber aircraft (B-52G and FB-111); cargo/tanker aircraft (C-18, C-141, KC-10A, KC-135A, and KC-135R); and special purpose aircraft (C-21 and E-3A). In addition to the normal attenuation provided by wave divergence (spherical spreading) and atmospheric absorption, noise propagated laterally to the ground from aircraft during flight is further reduced by the combination of several other frequency dependent phenomena such as ground, meteorological, forward flight, and engine/airplane installation effects. Airbase/airport noise models typically define this extra lateral attenuation for single event measures such as the Sound Exposure Level as a function of the elevation angle as viewed from a given location on the ground. Based on the results of these data, a new algorithm has been developed and incorporated in the Air Force NOISEMAP model. The original equation in NOISEMAP showed no lateral attenuation for							
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS				21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED			
22a. NAME OF RESPONSIBLE INDIVIDUAL JERRY D. SPEAKMAN				22b. TELEPHONE (Include Area Code) (513) 255-3605		22c. OFFICE SYMBOL AAMRL/BBE	

BLOCK 19 ABSTRACT (Continued)

elevation angles greater than about 7 degrees. Although the added attenuation is small (about 2 dB at 7 degrees elevation angle) this new model now shows lateral attenuation effects up to 45 degrees of elevation. This model for military aircraft continues to exhibit considerably lower attenuation than that assumed for civil aircraft operations - probably due to the quite different frequency spectral content of most military aircraft versus that of civil transports.

PREFACE

This study was performed for the Harry G. Armstrong Aerospace Medical Research Laboratory at Wright-Patterson Air Force Base, Ohio, under Project/Task 723134, Exploratory Noise and Sonic Boom Research by the Biodynamic Environment Branch, Biodynamics and Bioengineering Division.

The author gratefully acknowledges Mr. John Cole (retired) for his guidance during this study, Mr. Robert Powell (retired) and Mr. Robert Lee for their assistance in conducting the field measurements, and Mr. Keith Kettler, Mr. Henry Mohlman and Mr. Craig Zielazny of the University of Dayton Research Institute for field test and data processing support.



Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS

	Page
INTRODUCTION	1
FIELD MEASUREMENTS	1-2
DATA ANALYSIS AND RESULTS	2-3
CONCLUSIONS	3-4
REFERENCES	5
APPENDIX A A-10A DATA	A-1 - A-3
APPENDIX B B-52G DATA	B-1 - B-2
APPENDIX C KC-10A DATA	C-1 - C-2
APPENDIX D C-18 DATA	D-1 - D-2
APPENDIX E C-21 DATA	E-1 - E-2
APPENDIX F C-135A DATA	F-1 - F-4
APPENDIX G KC-135R DATA	G-1 - G-2
APPENDIX H C-141 DATA	H-1
APPENDIX I E-3A DATA	I-1 - I-2
APPENDIX J F-4 DATA	J-1 - J-2
APPENDIX K F-5E DATA	K-1
APPENDIX L F-15 DATA	L-1 - L-2
APPENDIX M F-16 DATA	M-1 - M-3
APPENDIX N F-18 DATA	N-1
APPENDIX O FB-111 DATA	O-1 - O-2

LIST OF FIGURES

Number		Page
1.	Microphone Array	6
2.	Elevation Angle Geometry	7
3.	A-10A SEL Lateral Attenuation	8
4.	B-52G SEL Lateral Attenuation	9
5.	KC-10A SEL Lateral Attenuation	10
6.	C-18 SEL Lateral Attenuation	11
7.	C-21 SEL Lateral Attenuation	12
8.	C-135A SEL Lateral Attenuation	13
9.	KC-135R SEL Lateral Attenuation	14
10.	C-141 SEL Lateral Attenuation	15
11.	E-3A SEL Lateral Attenuation	16
12.	F-4 SEL Lateral Attenuation	17
13.	F-5E SEL Lateral Attenuation	18
14.	F-15 SEL Lateral Attenuation	19
15.	F-16 SEL Lateral Attenuation	20
16.	F-18 SEL Lateral Attenuation	21
17.	FB-111 SEL Lateral Attenuation	22
18.	New USAF Lateral Attenuation Model	23
19.	New USAF - Civil Models	24
20.	Comparison of Lateral Attenuation Models	25

INTRODUCTION

Airbase and/or airport noise prediction models such as the Air Force NOISEMAP computer program can be used to forecast the long term noise exposure resulting from the aircraft flight and ground activity at a facility. To calculate the noise exposure at any specified ground position located to the side of a flight path, a variety of noise attenuation mechanisms must be accounted for if the model is to yield answers that are in reasonable agreement with the results of field noise measurements. For such locations the attenuation effects are usually grouped as being due to: (1) wave divergence (spherical spreading), (2) atmospheric absorption, and (3) lateral attenuation (the combined attenuation due to ground, meteorological, forward flight, and engine/airplane installation effects). Because of the complexity of the frequency dependent interaction of these phenomena affecting lateral attenuation, most attempts in recent years (Ref. 1,2,3,4,5,6) to improve the technical basis of the simplified algorithms used in airbase/airport noise models have defined the lateral attenuation as a function of elevation angle in terms of a variety of single event measures such as the Sound Exposure Level (SEL).

For civil aircraft the lateral attenuation model developed by the Society of Automotive Engineers, Inc. A-21 Committee on Aircraft Noise (Ref. 4) is commonly used. Since it was derived mainly from measured lateral attenuation data on civil aircraft, the predicted results generally show good agreement when compared with actual measurements around airports. However the frequency spectra of the noise from most military aircraft is often quite different from that associated with civil transports, therefore a series of field experiments was conducted to develop the data base needed to insure the accurate prediction of the lateral attenuation associated with military aircraft flight operations. This report documents the results of those measurements.

FIELD MEASUREMENTS

Figure 1 shows the layout of microphones used to measure the lateral attenuation of various military aircraft. These measurements were conducted by having the aircraft fly at a constant altitude over the main runway at Wright-Patterson AFB. For each aircraft the test consisted of recording the noise on tape from several flyovers at different engine power/aircraft drag configurations while simultaneously tracking the aircraft position using radar, laser, or photographic equipment. Data were collected on attack/fighter aircraft (A-10A, F-4D, F-5E, F-15, F-16, and F-18); bomber aircraft (B-52G and FB-111); cargo/tanker

aircraft (C-18, C-141, KC-10A, KC-135A, and KC-135R); and special purpose aircraft (C-21 and E-3A).

DATA ANALYSIS AND RESULTS

The tape recordings made at each microphone site during each flyover event were analyzed in terms of the one-third octave band sound pressure level time history, after accounting for the influence of background noise. Depending on the duration of the event, during this first level of data reduction the integration times were varied from 1/8 to 1/2 second to insure a statistically adequate number of samples were obtained for the subsequent computation of the measured Sound Exposure Level. That is, defining the duration as the time between the points on the A-weighted time history that are -10dB down from the maximum value, then whenever the duration was 5 seconds or greater an integration period of 1/2 second was used. For durations between 2 and 5 seconds, an integration period of 1/4 second was used. For durations less than 2 seconds, an integration period of 1/8 second was used.

Computation of the lateral attenuation as a function of elevation angle (Figure 2) in terms of the Sound Exposure Level (SEL) was done for each individual flyover event as follows: (1) The ambient background corrected one-third octave band SPL spectrum measured at a site directly under the aircraft flyover (elevation angle of 90 degrees) at the time of maximum noise was extrapolated to long distances. In this step we accounted for losses due to atmospheric absorption using the coefficients from Reference 7 and for the losses from spherical spreading. Corrections were not made for ground reflection effects. (2) A-weight the resulting spectra to obtain a computed function of maximum A-weighted Sound Level versus propagation distance. (3) Compute the Sound Exposure Level by adding a sound duration correction factor based on 6 times the logarithm of the propagation distance (Reference 8). (4) The lateral attenuation at other elevation angles is simply the difference between this SEL computed for the minimum slant distances to the other microphone sites and the SEL measured at those sites for the flyover event.

The advantages of deriving the lateral attenuation using this technique are that no normalizing adjustments are required to account for differences between flyover events for engine power setting, airspeed, or steep gradients in the absorption or refraction due to vastly different aircraft altitudes. The disadvantage is that a "measured" value of the lateral attenuation is not obtained by direct comparison of the SEL values measured at the same propagation distance where only the elevation angle varies.

which can be done by using different flyover events at different altitudes (provided the aircraft operating conditions are identical and there are no dramatic variations in the atmosphere at the higher altitudes).

Figures 3-17 show the SEL lateral attenuation data for the aircraft types studied in this effort.

Appendices A-0 contain the corresponding data in tabular form as well as other pertinent information for each flyover event.

CONCLUSIONS

Several attempts were made to categorize these lateral attenuation data into different groups or classes to reduce the uncertainty inherent in any subsequent modeling effort. Groupings for single or multiple number of engines, turbojet or turbofan type of engine, fuselage or wing-mounted engines, above or below wing-mounted engines, small or large sized aircraft, fighter or bomber or cargo/utility types of aircraft, etc. were all tried with limited success. Since lateral attenuation is the result of a multitude of quite frequency dependent interactive phenomena, it was unlikely that a simple relationship would exist. Indeed, none was found.

Figure 18 shows a regression line derived from all of the measured data. For graphical presentation purposes, the data points plotted in this figure are the average measured delta SEL values at each elevation angle. This function has been adopted by the Air Force for predicting the lateral attenuation of noise from flight operations around airports and along Military Training Routes. For elevation angles up to 2 degrees, a constant 8.14 dB of attenuation is used. For angles greater than 45 degrees, the lateral attenuation is zero. For angles between 2 and 45 degrees, the lateral attenuation in dB is defined by the relationship:

$$-0.3786 + (17.04/\text{ANGLE}).$$

Figure 19 shows the relatively poor fit of the civil aircraft lateral attenuation model and the measured data from this study.

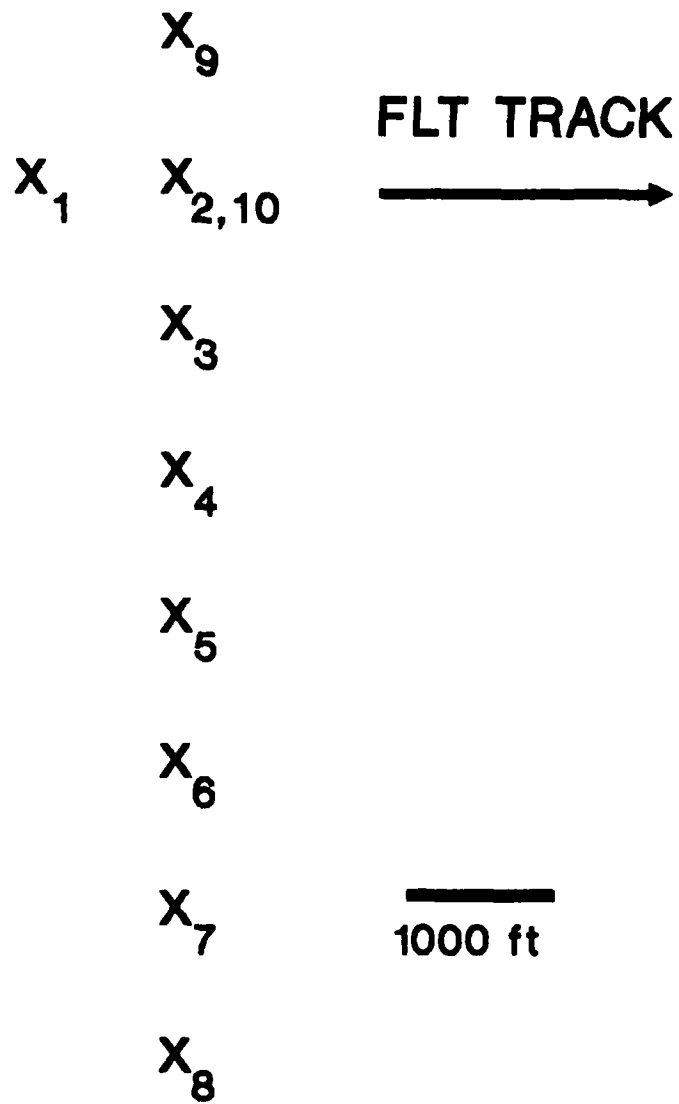
Figure 20 shows the differences between the prior model used for military aircraft, this new military model, and the civil model. The figure shows that comparing the new Air Force model with the original military model: (1) for elevation angles of 2 degrees or less there is virtually no change; (2) for elevation angles between 2 and 6.5 degrees, the new model has less attenuation (i.e. predicted noise levels will be higher using the new model); (3) for

elevation angles between 6.5 and 45 degrees the new model has more attenuation (i.e. predicted noise levels will be lower with the new model); and (4) for elevation angles greater than 45 degrees, there is no change. In addition, the figure clearly shows the lower attenuation (i.e. higher predicted noise levels) at all elevation angles less than 60 degrees when using this new Air Force model versus using the civil model.

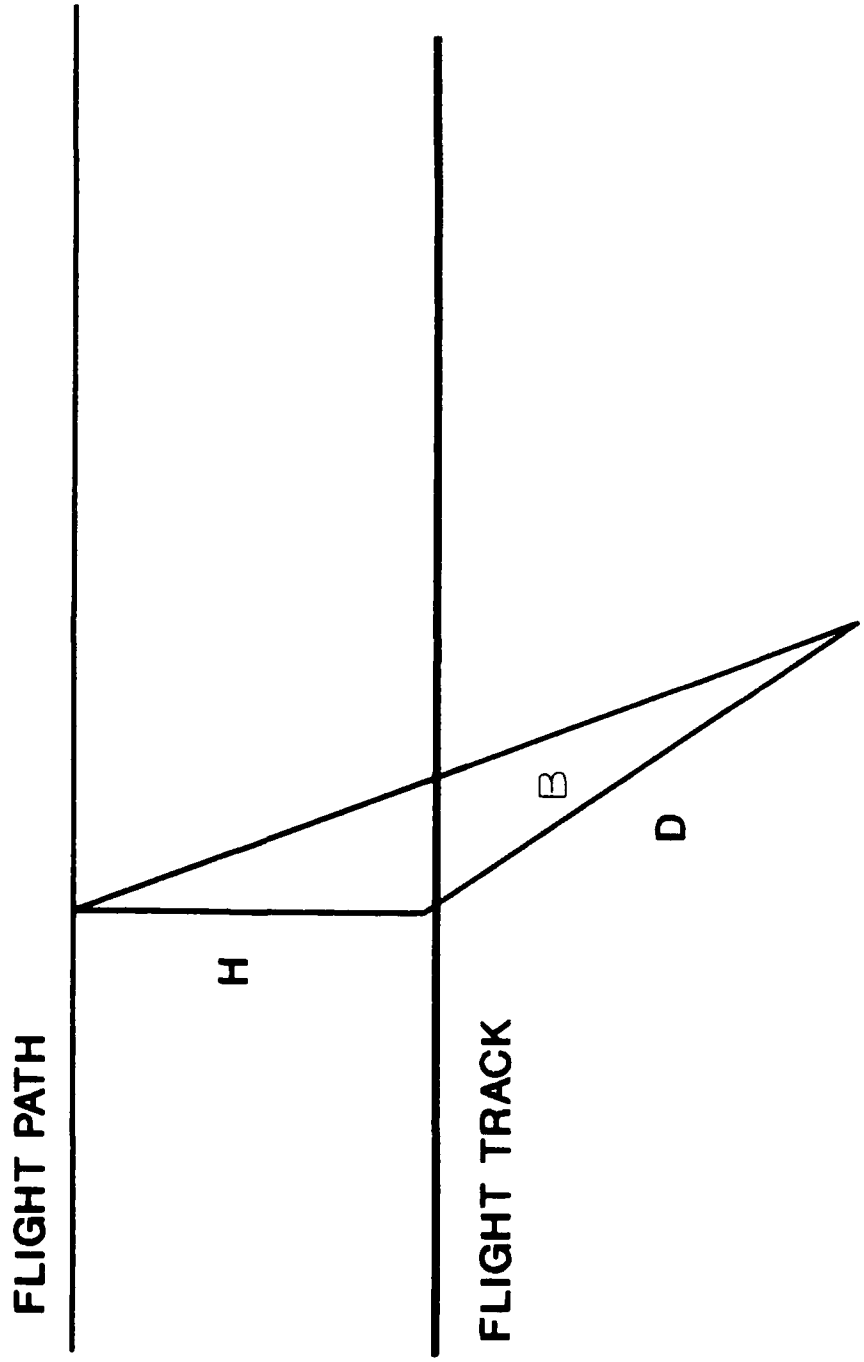
REFERENCES

1. Walker, D. Q., "Aircraft Sideline Noise: A Technical Review and Analysis of Contemporary Data", AMRL-TR-76-115, March 1977.
2. Walker, D. Q., "An Analysis of Aircraft Flyover Noise", AMRL-TR-78-8, April 1978.
3. Bishop, D. E., "Lateral Attenuation of Aircraft Flight Noise", AFAMRL-TR-85-018, March 1985.
4. SAE Aerospace Information Report (AIR) 1751, "Prediction Method for Lateral Attenuation of Airplane Noise During Takeoff and Landing", March 1981.
5. Willshire, W. L., "Assessment of Ground Effects on the Propagation of Aircraft Noise: The T-38A Flight Experiment", NASA TP 1747, 1980.
6. Willshire, W. L., "Lateral Attenuation of High By-Pass Ratio Engined Aircraft Noise", NASA Technical Memorandum 81968, April 1981.
7. SAE Aerospace Recommended Practice (ARP) 866A, "Standard Values of Atmospheric Absorption as a Function of Temperature and Humidity", Revised March 1975.
8. Speakman, J. D., "Effect of Propagation Distance on Aircraft Flyover Sound Duration", AFAMRL-TR-81-28, May 1981.

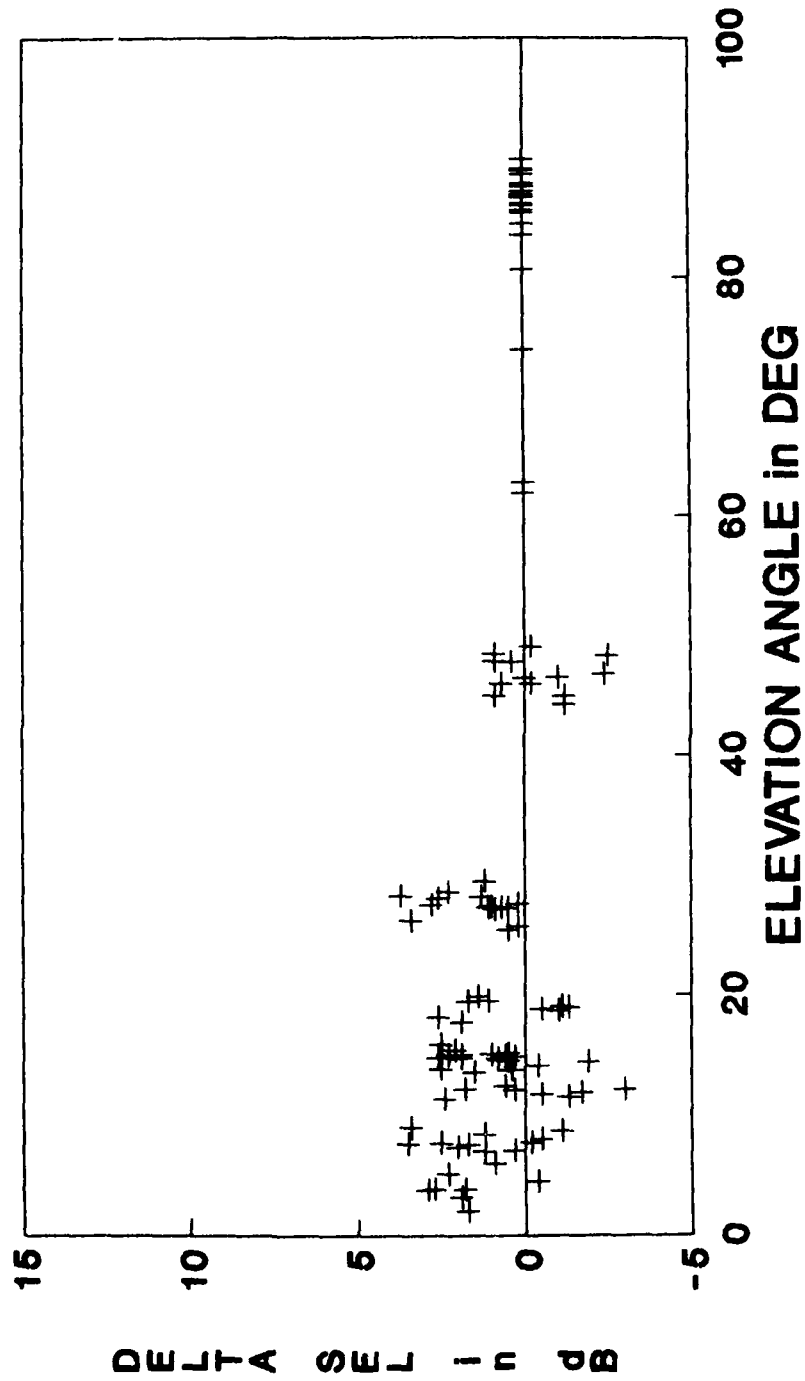
FLYOVER MICROPHONE ARRAY



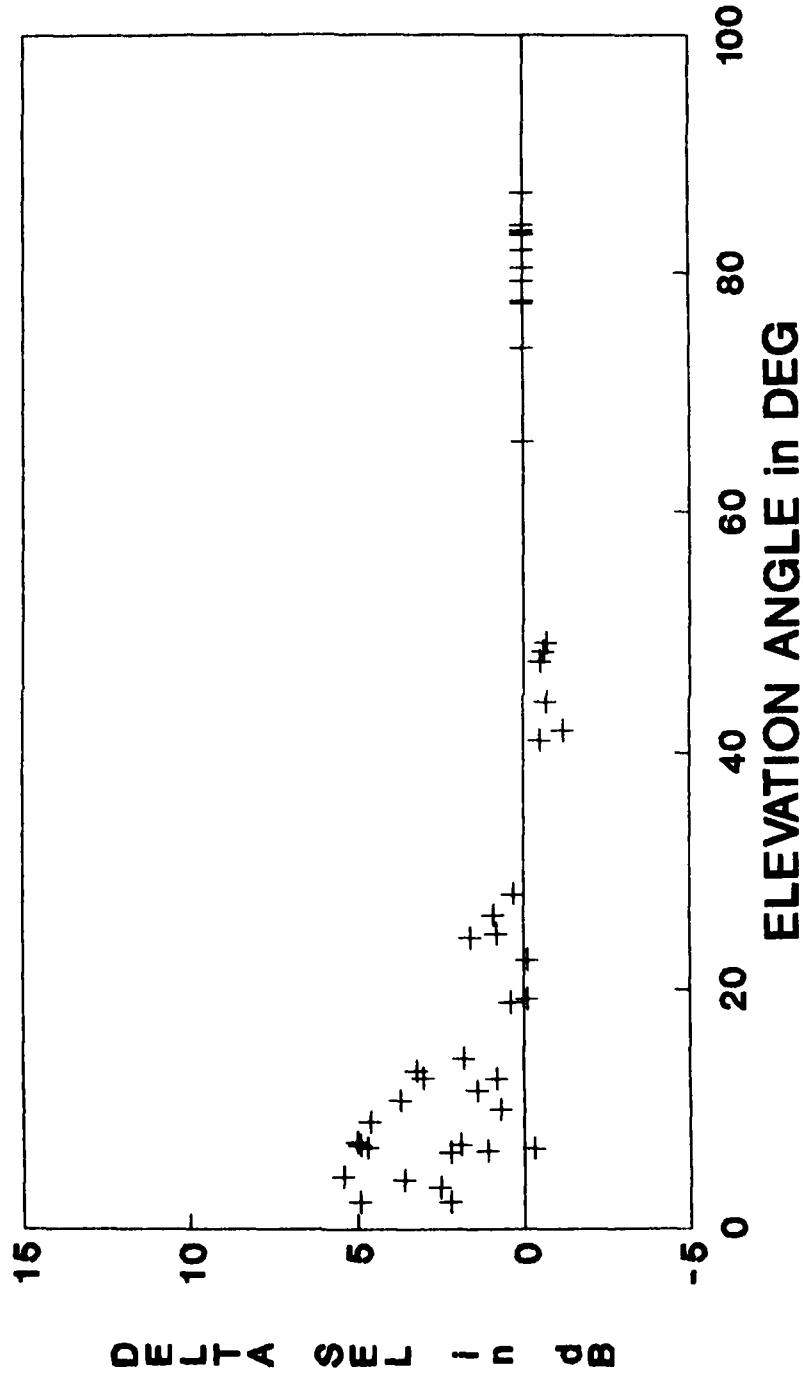
LATERAL ATTENUATION GEOMETRY



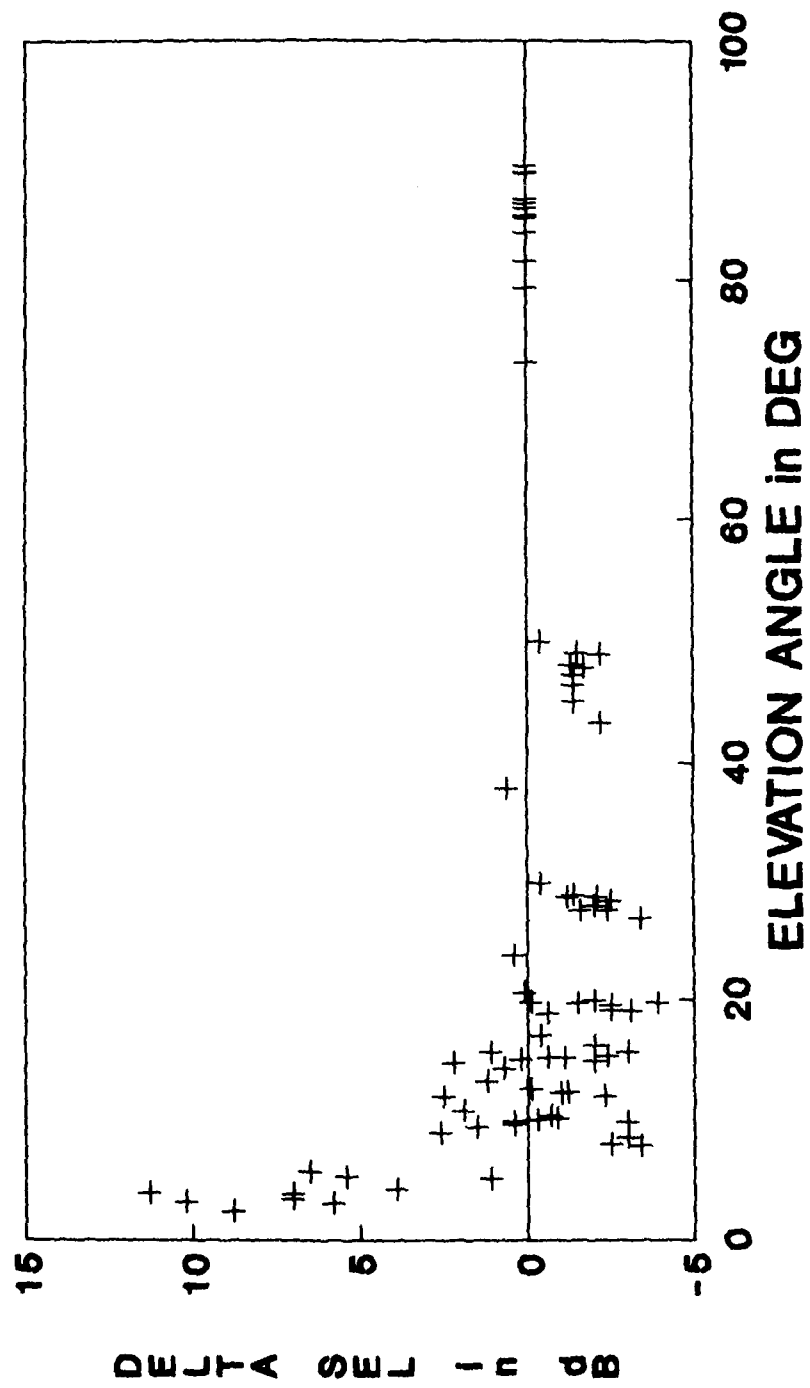
A-10A LATERAL ATTENUATION



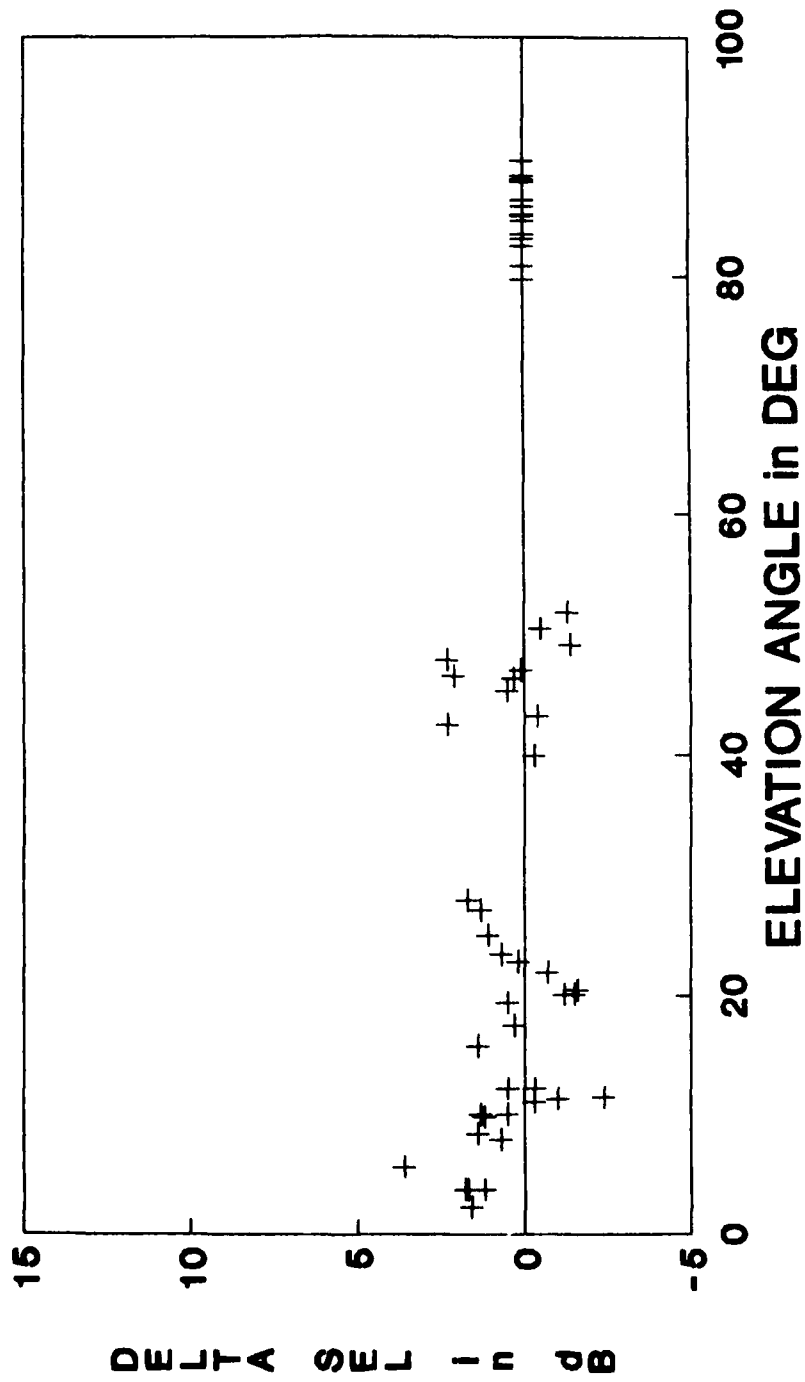
B-52G LATERAL ATTENUATION



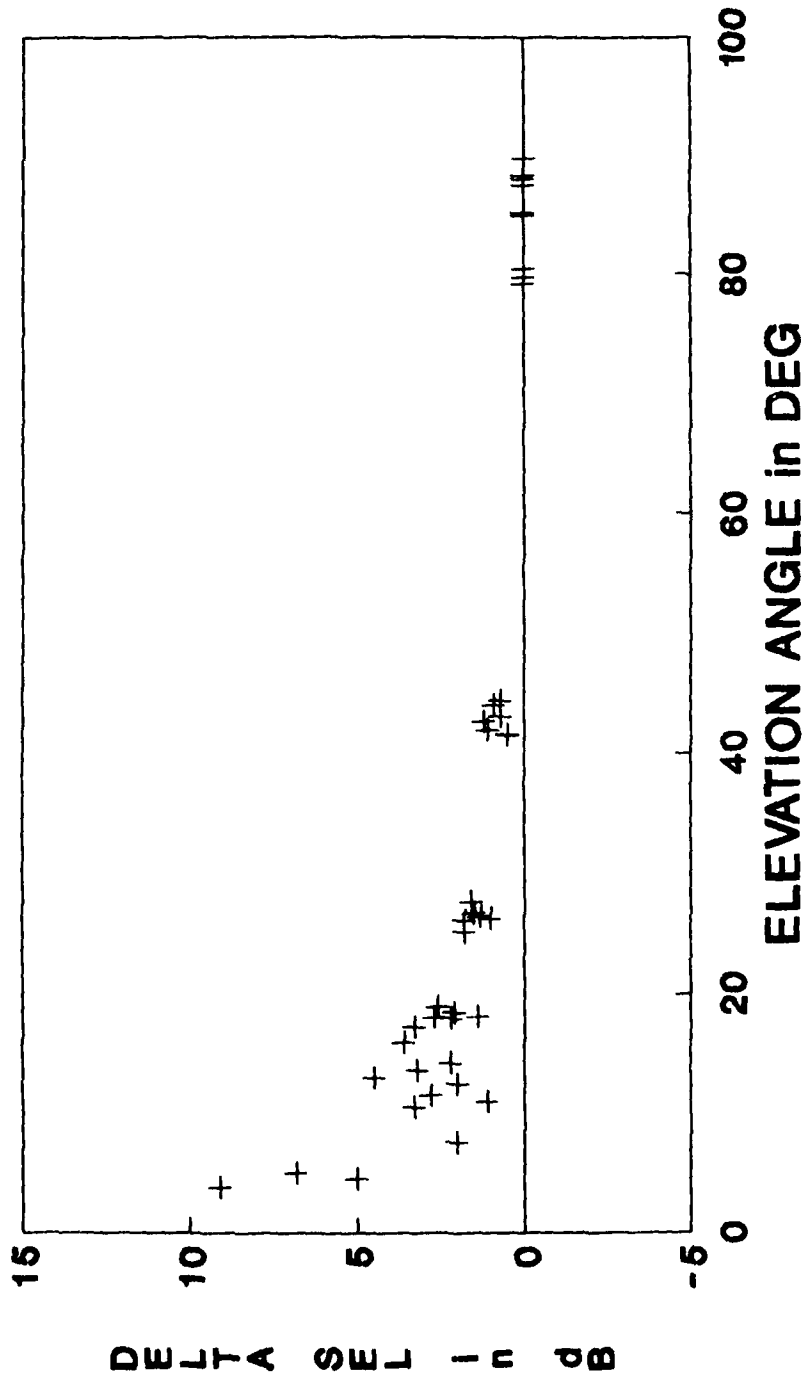
KC-10A LATERAL ATTENUATION



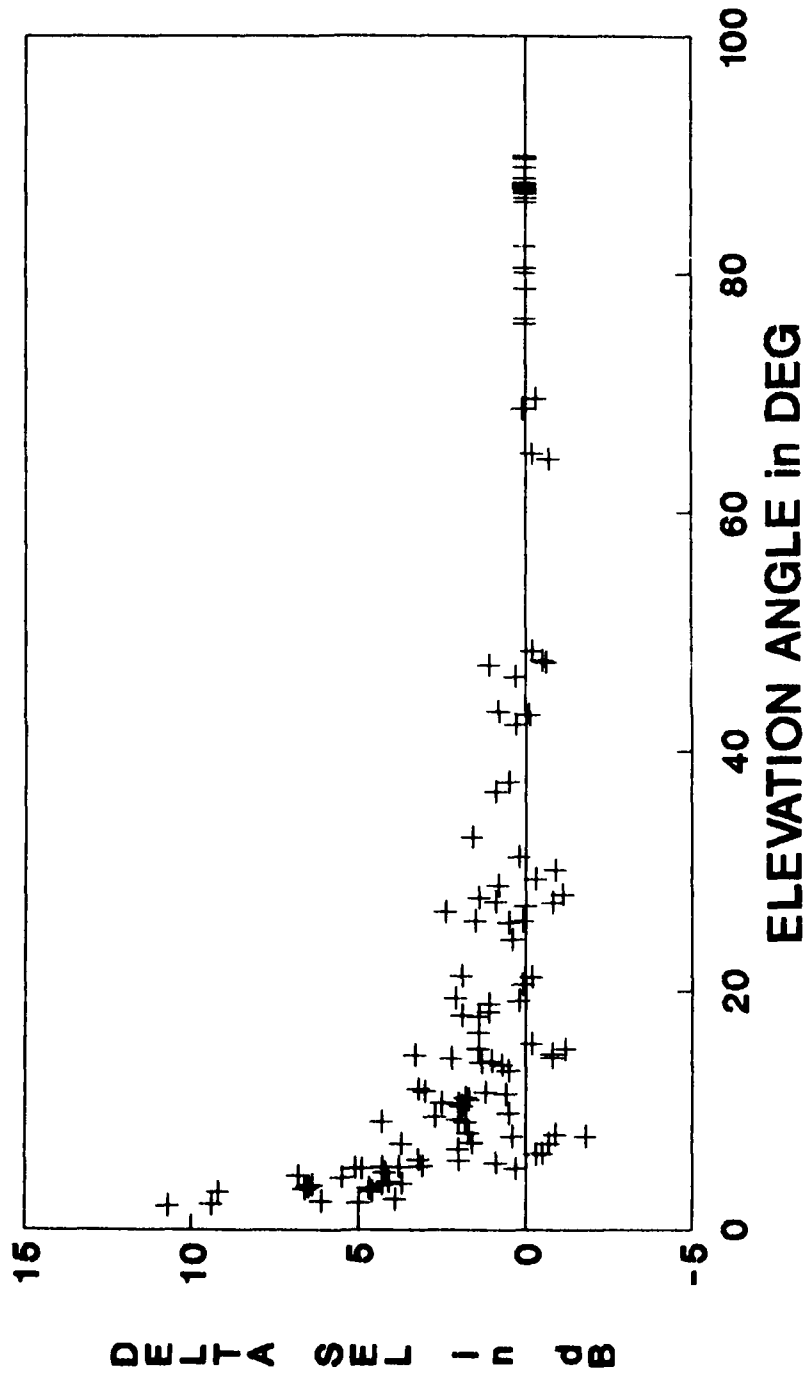
C-18 LATERAL ATTENUATION



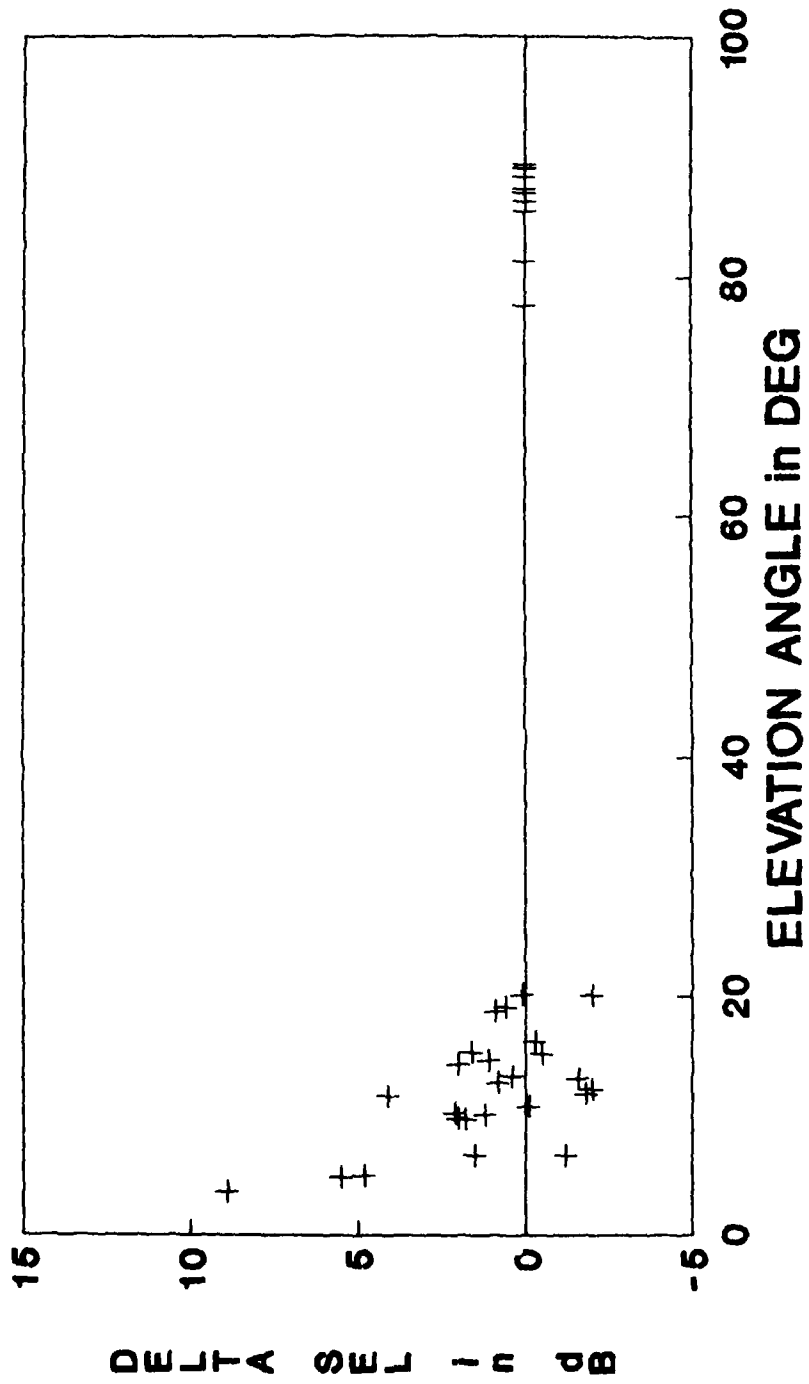
C-21 LATERAL ATTENUATION



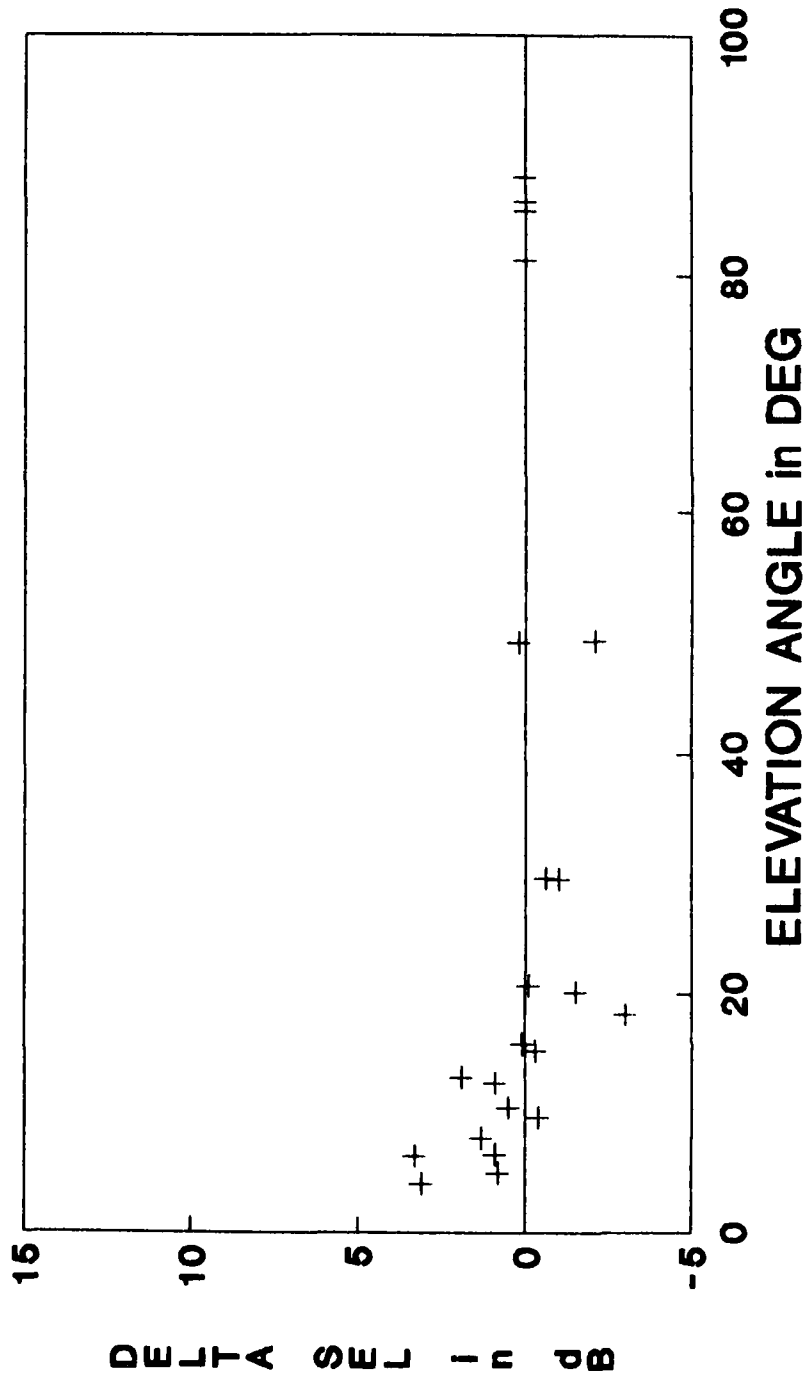
C-135A LATERAL ATTENUATION



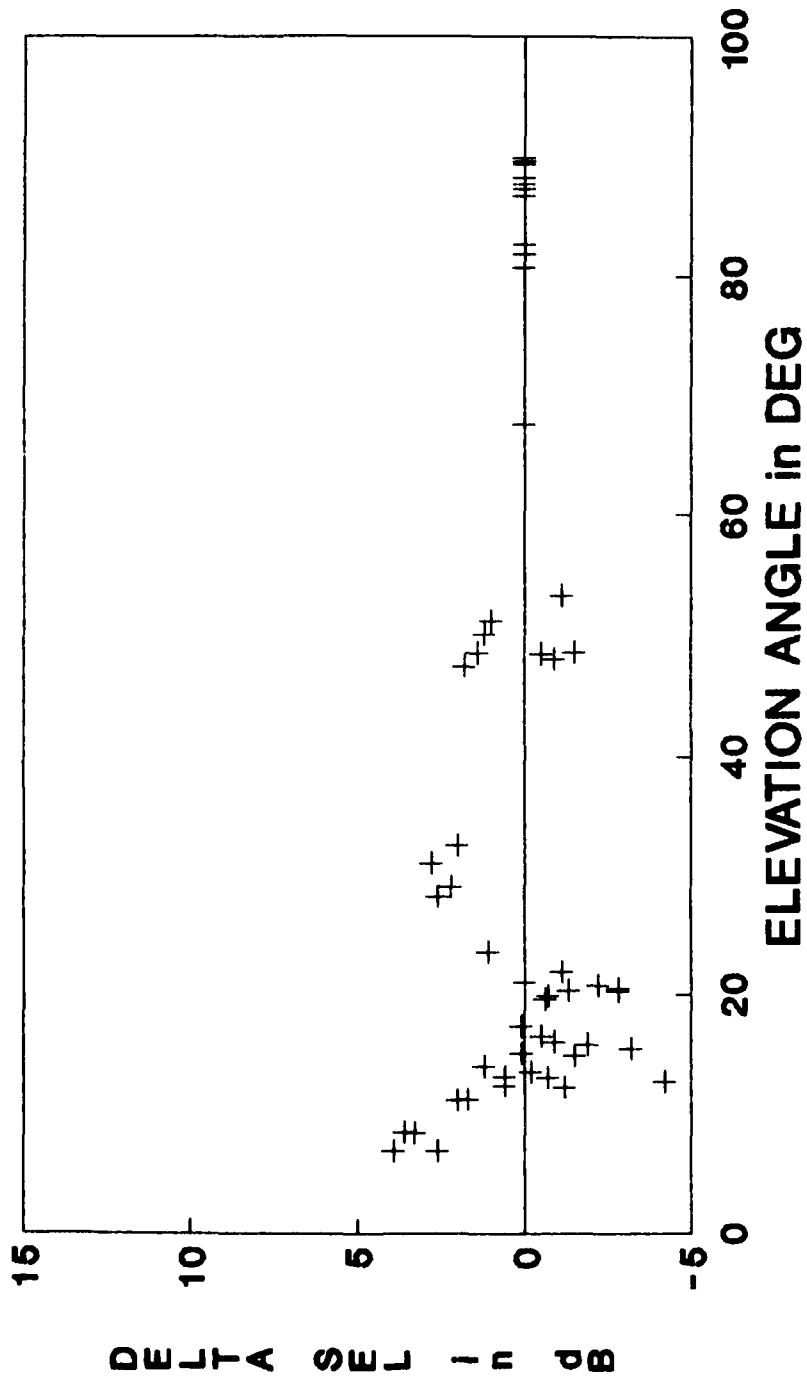
KC-135R LATERAL ATTENUATION



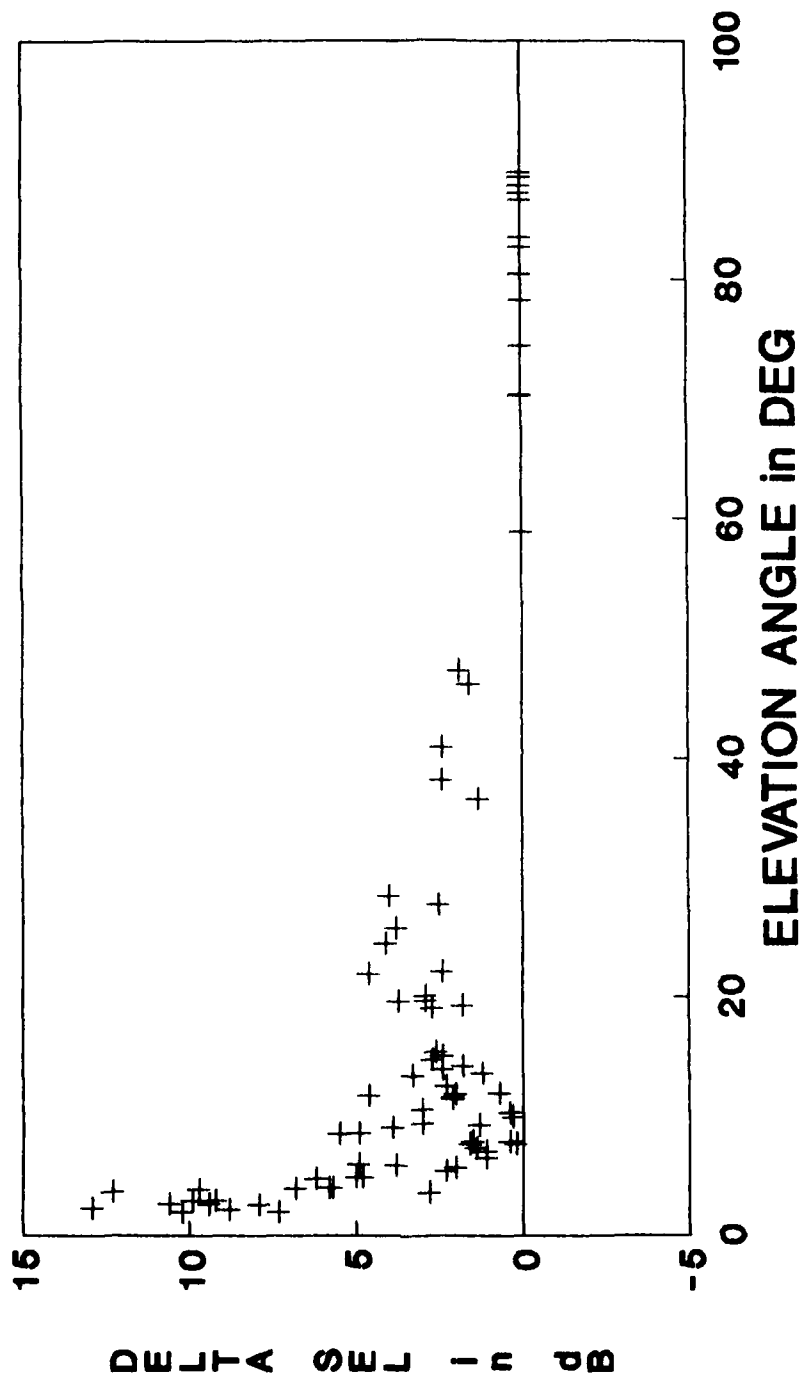
C-141 LATERAL ATTENUATION



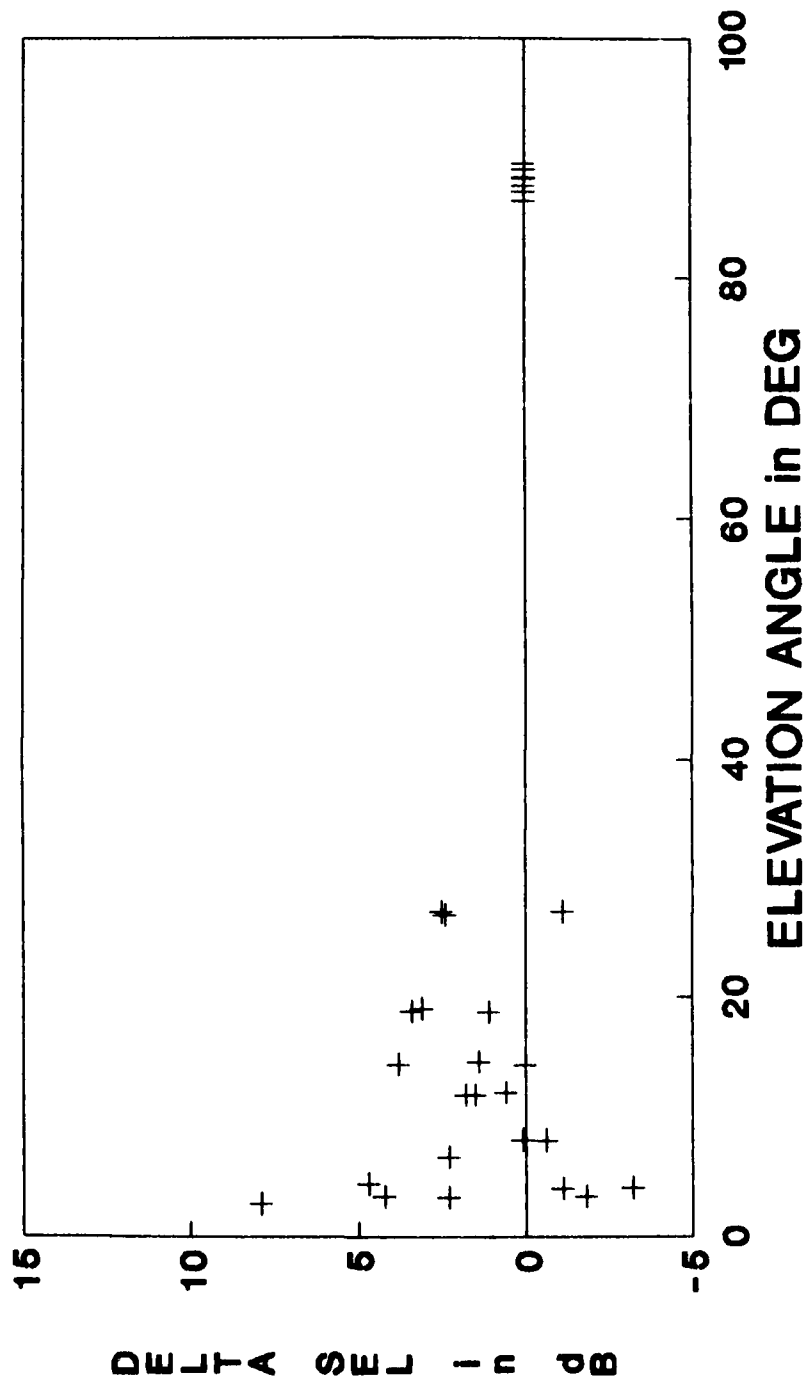
E-3A LATERAL ATTENUATION



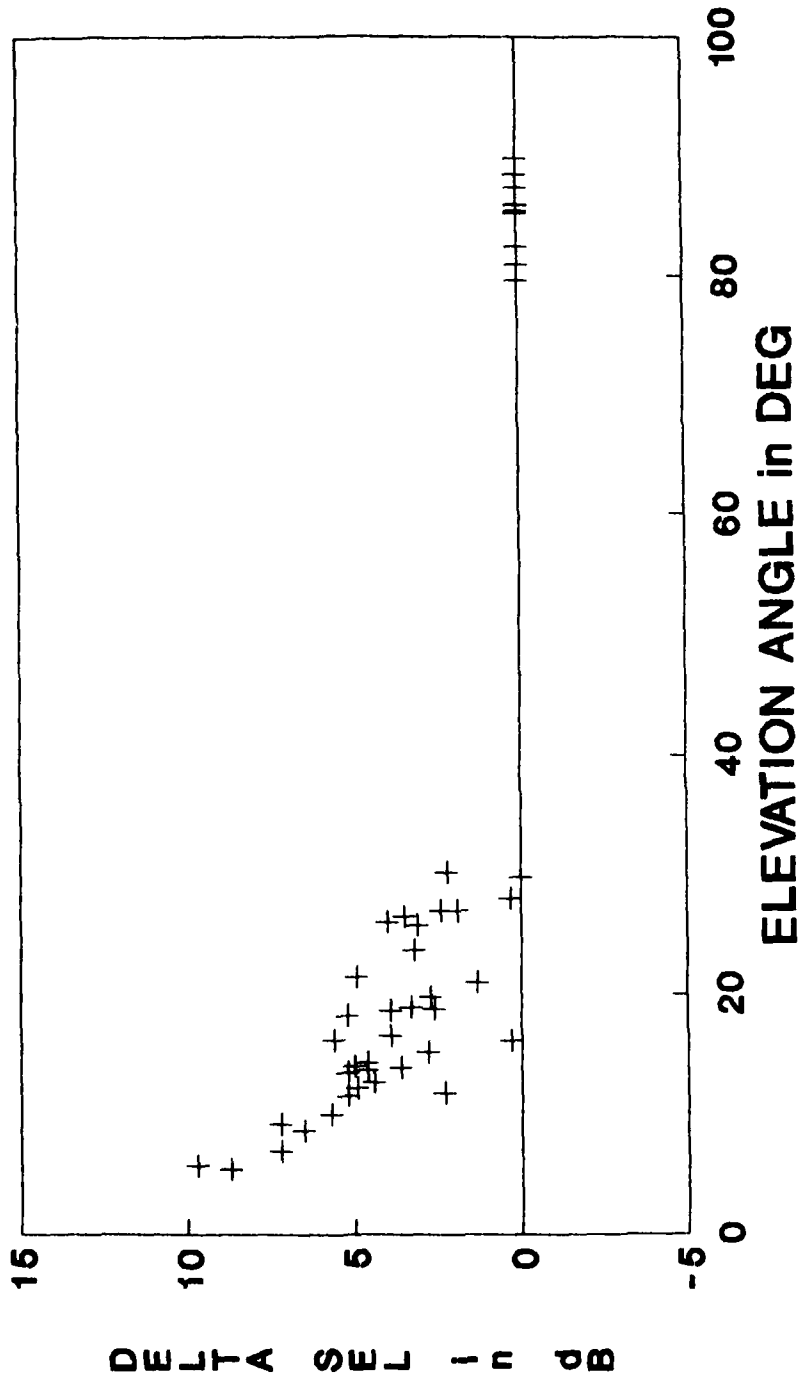
F-4 LATERAL ATTENUATION



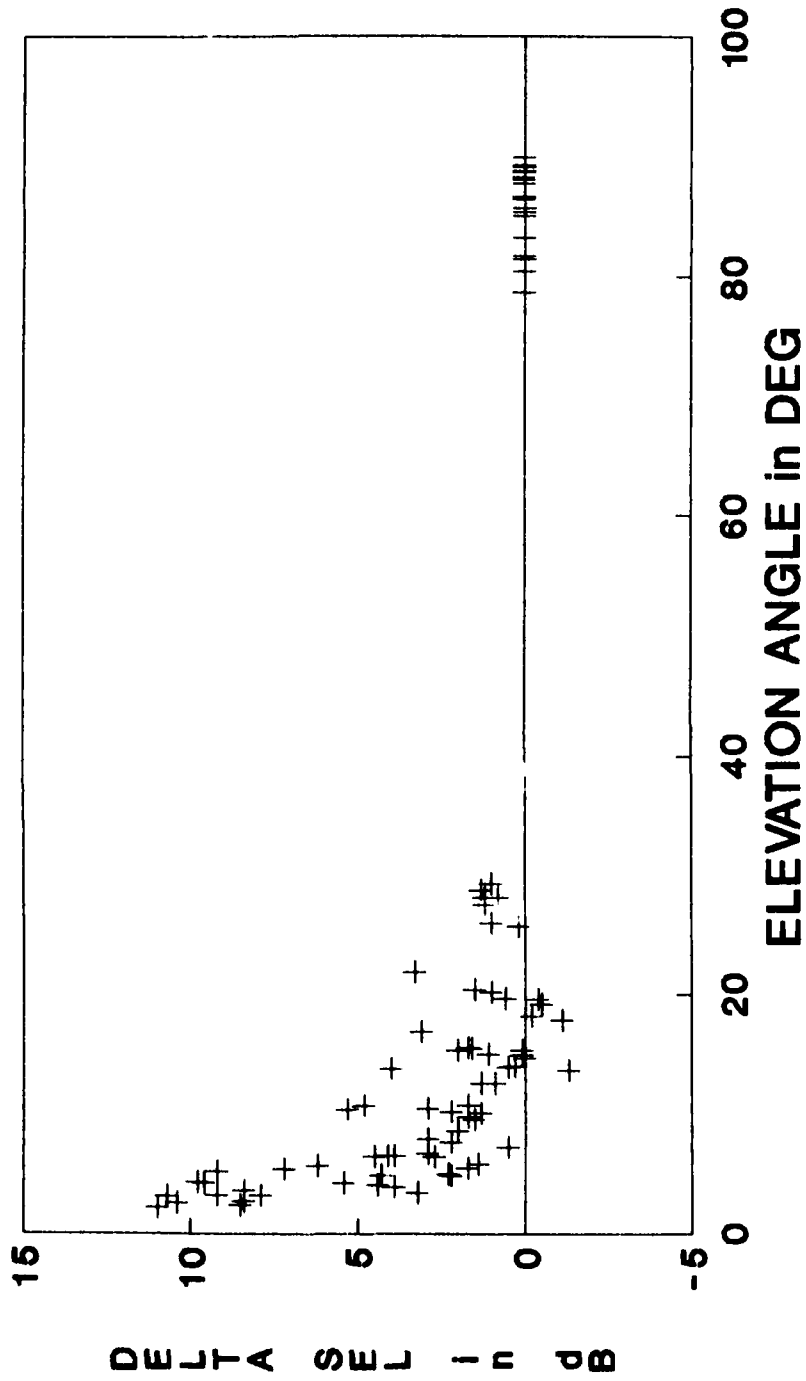
F-5E LATERAL ATTENUATION



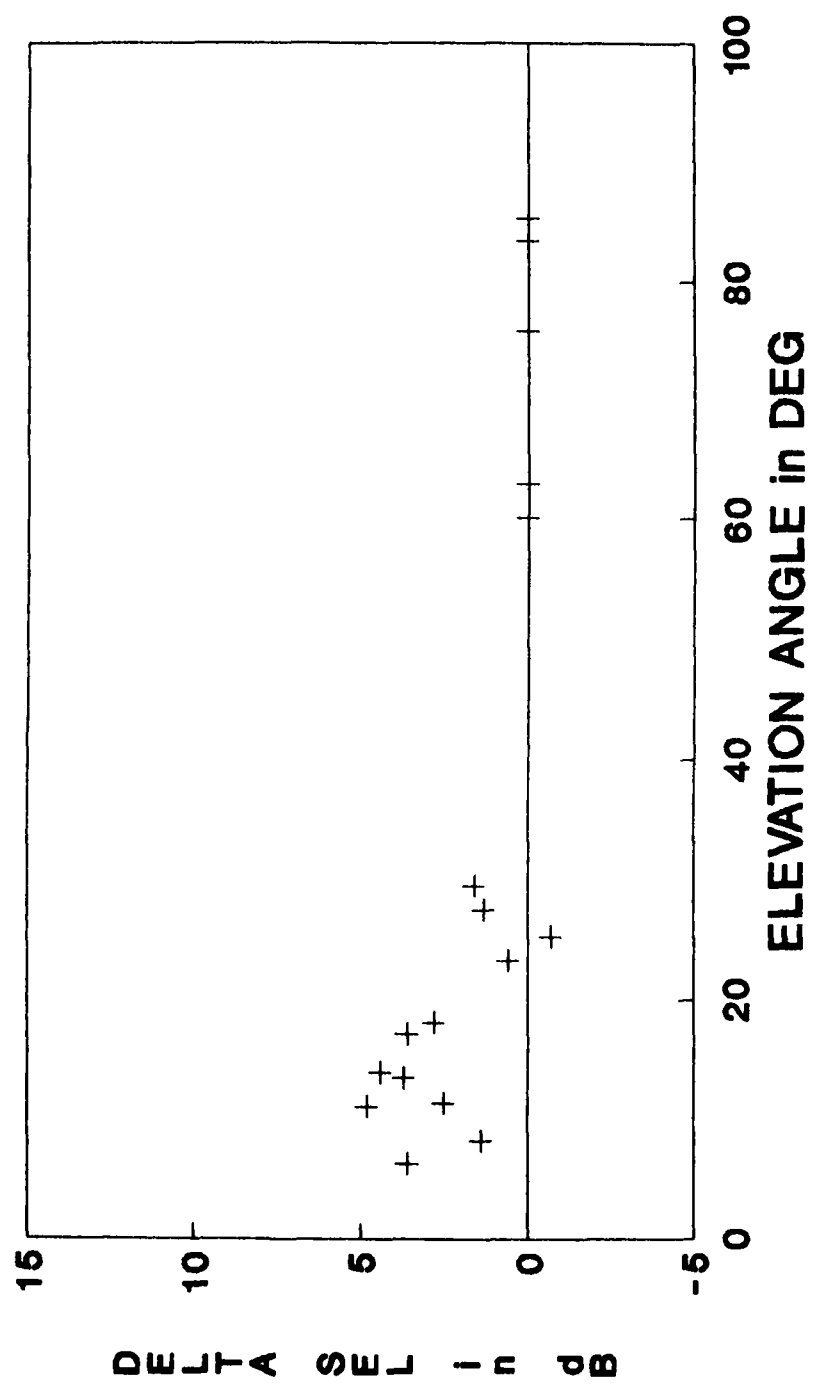
F-15 LATERAL ATTENUATION



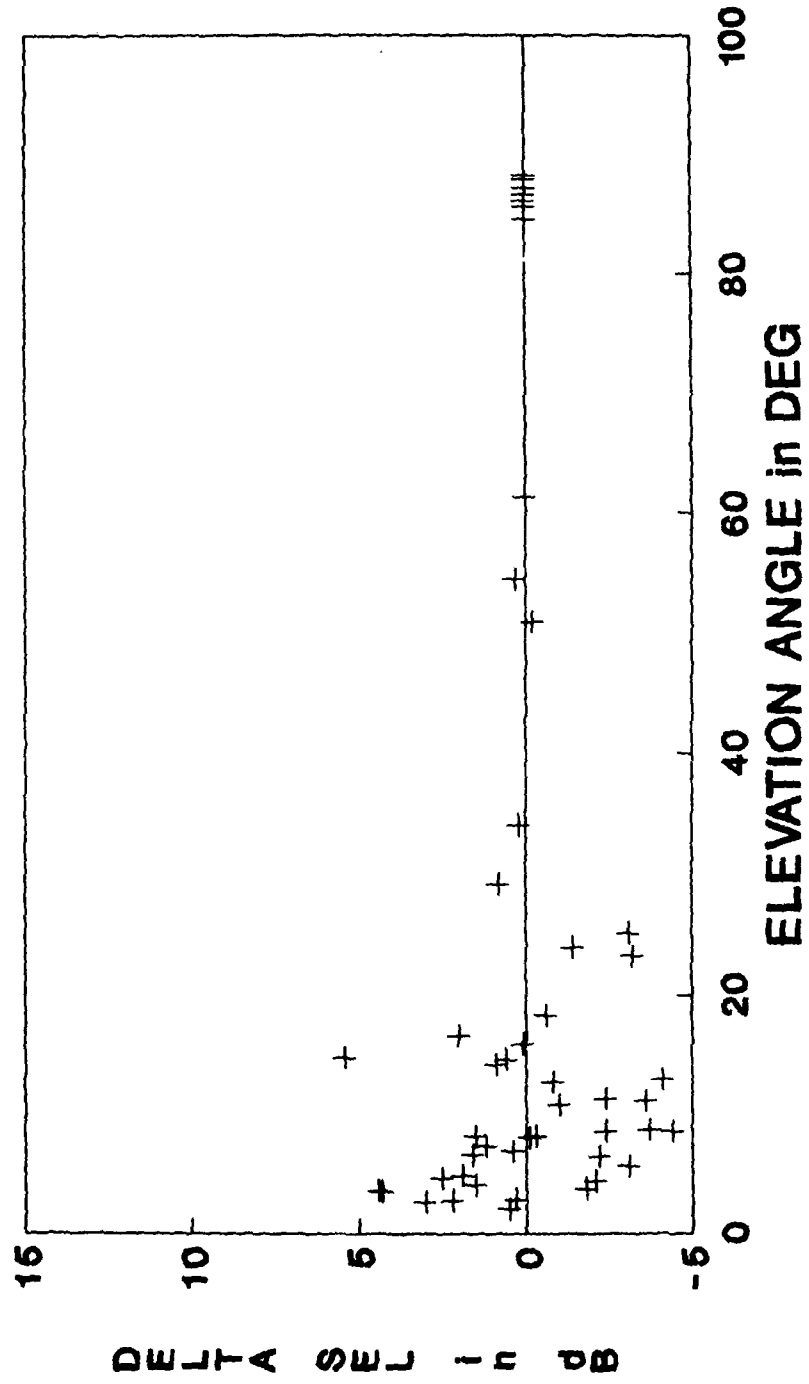
F-16 LATERAL ATTENUATION



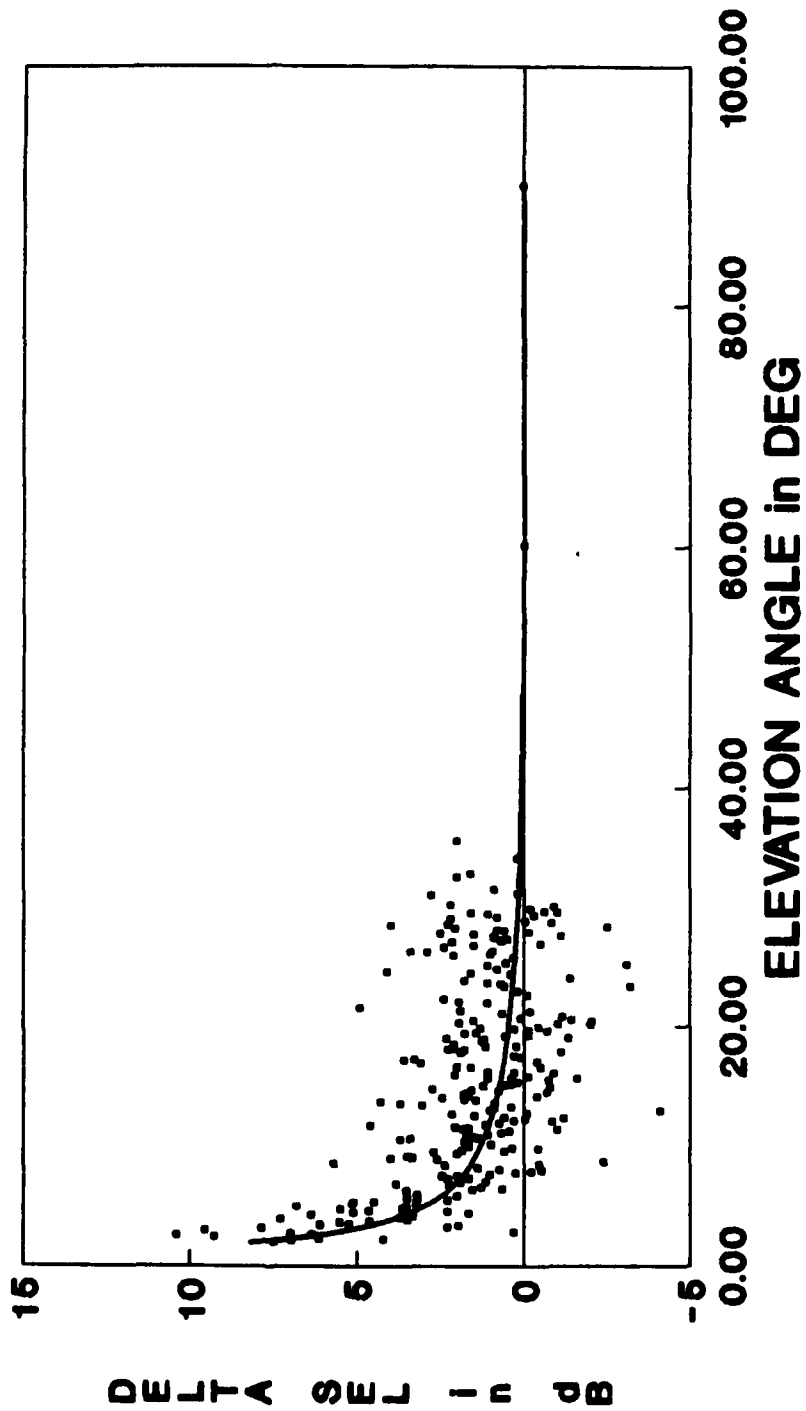
F-18 LATERAL ATTENUATION



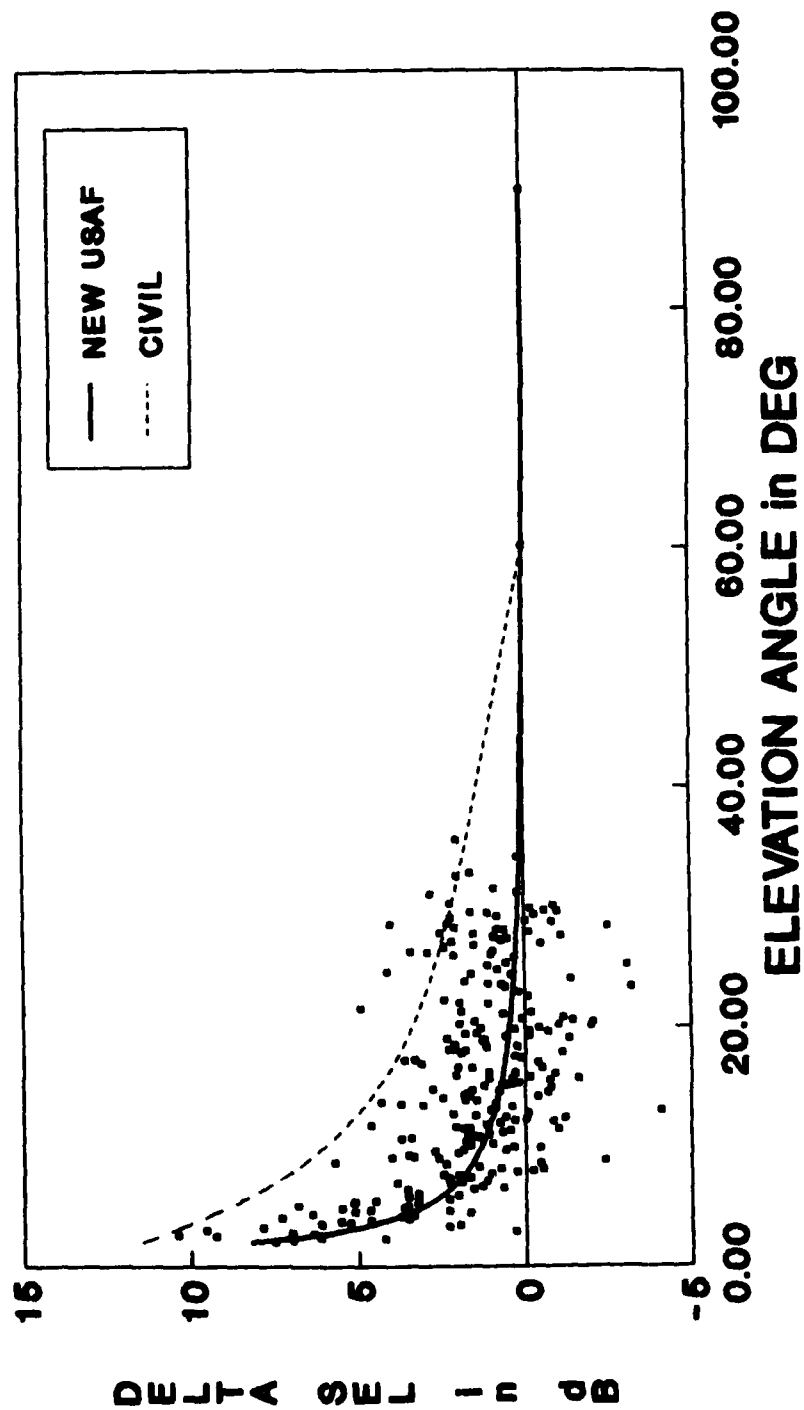
FB-111 LATERAL ATTENUATION



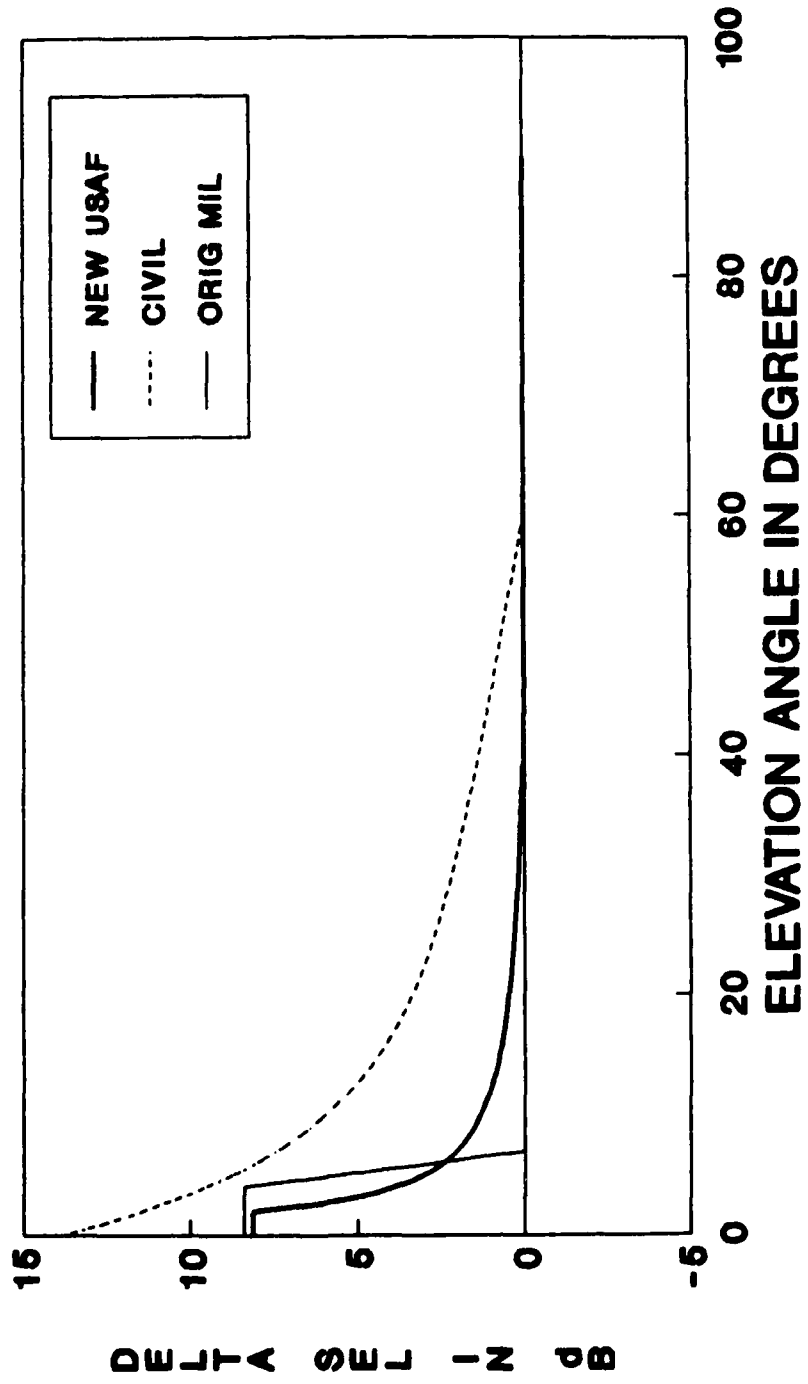
NEW USAF LATERAL ATTENUATION



NEW USAF - CIVIL LATERAL ATTENUATION



MODEL COMPARISON LATERAL ATTENUATION



A-10A

A-10A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 23	2	990	70	94.4	93.3	992	86.0	0.0	94.4	90.9
MAX THRUST	3	990	930	93.2	88.8	1358	46.8	-2.4	90.8	87.4
@ 330kts	4	990	1930	84.1	78.4	2169	27.2	0.9	85.0	81.1
@ 6700 RPM	5	990	2930	81.2	77.7	3093	18.7	-1.0	80.2	76.0
	6	990	3930	77.0	68.1	4053	14.1	-0.4	76.6	72.4
	7	990	4830	75.2	67.7	4930	11.6	-1.3	73.9	69.5
Flt 24	2	990	16	95.9	93.0	990	89.1	0.0	95.9	92.4
MAX THRUST	3	990	1016	93.8	90.4	1419	44.3	-1.2	92.6	88.1
@ 330kts	4	990	2016	84.4	80.8	2246	26.2	3.4	87.8	82.9
@ 6700 RPM	5	990	3016	81.2	75.9	3174	18.2	2.6	83.8	78.9
	6	990	4016	78.2	71.0	4136	13.8	2.5	80.7	76.1
	7	990	4916	75.9	68.7	5015	11.4	2.4	78.3	73.6
Flt 25	2	1044	71	87.5	84.8	1046	86.1	0.0	87.5	84.0
APPROACH	3	1044	929	86.8	80.9	1397	48.3	-2.5	84.3	81.5
@ 150kts	6	1044	3929	67.1	61.4	4065	14.9	0.3	67.4	66.9
@ 5250 RPM	7	1044	4829	66.4	60.3	4941	12.2	-3.0	63.4	63.1
Flt 26	2	1009	43	88.5	85.0	1010	87.6	0.0	88.5	85.0
APPROACH	3	1009	957	85.9	84.0	1391	46.5	-1.0	84.9	82.0
@ 155kts	4	1009	1957	77.8	72.7	2202	27.3	0.7	78.5	75.9
@ 5250 RPM	5	1009	2957	73.2	66.1	3124	18.8	-0.5	72.7	70.3
Flt 27	2	1030	3	89.5	89.9	1030	89.8	0.0	89.5	86.0
PATTERN	3	1030	997	86.1	80.9	1433	45.9	-0.2	85.9	83.0
@ 250kts	4	1030	1997	78.8	72.8	2247	27.3	1.1	79.9	77.3
@ 5320 RPM	5	1030	2997	75.7	67.3	3169	19.0	-1.3	74.4	72.2
	6	1030	3997	71.8	63.9	4128	14.5	-1.9	69.9	68.7
	7	1030	4897	67.9	60.7	5004	11.9	-1.7	66.2	64.6
Flt 29	2	1074	27	90.4	87.6	1074	88.6	0.0	90.4	86.9
PATTERN	3	1074	973	85.9	79.9	1449	47.8	0.9	86.8	83.3
@ 250kts	4	1074	1973	78.5	72.1	2246	28.6	2.3	80.8	76.6
@ 5320 RPM	5	1074	2973	74.5	69.1	3161	19.9	1.4	75.9	71.3
	6	1074	3973	71.4	65.4	4116	15.1	1.0	72.4	67.5
	7	1074	4873	69.1	61.8	4990	12.4	0.6	69.7	64.5
Flt 30	2	1044	40	94.0	90.4	1045	87.8	0.0	94.0	90.5
NORMAL THRUST	4	1044	1960	82.7	75.7	2221	28.0	2.6	85.3	81.9
@ 315kts	5	1044	2960	78.8	73.5	3139	19.4	1.7	80.5	77.2
@ 6200 RPM	6	1044	3960	75.9	68.5	4095	14.8	0.8	76.7	73.8
	7	1044	4860	73.5	67.2	4971	12.1	0.3	73.8	70.4

A-10A

A-10A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 31 NORMAL THRUST @ 320kts @ 6200 RPM	2	1044	52	93.9	91.4	1045	87.1	0.0	93.9	90.4
	3	1044	948	90.6	85.7	1410	47.8	0.4	91.0	87.2
	4	1044	1948	82.5	78.5	2210	28.2	3.7	86.2	82.2
	5	1044	2948	80.9	74.7	3127	19.5	1.1	82.0	78.2
	6	1044	3948	76.1	70.4	4084	14.8	2.6	78.7	75.3
	7	1044	4848	74.3	68.2	4959	12.2	1.8	76.1	72.8
	Flt 32 NORMAL THRUST @ 315kts @ 6200 RPM	2	314	18	101.7	104.3	315	86.7	0.0	101.7
3		314	982	89.1	87.3	1031	17.7	1.9	91.0	88.6
4		314	1982	79.5	77.9	2007	9.0	3.4	82.9	79.6
5		314	2982	76.1	70.1	2998	6.0	0.9	77.0	73.7
6		314	3982	73.1	67.5	3994	4.5	-0.4	72.7	69.6
Flt 33 NORMAL THRUST @ 300kts @ 6200 RPM	2	1030	20	93.1	91.7	1030	88.9	0.0	93.1	89.6
	3	1030	980	89.7	88.5	1422	46.4	0.0	89.7	86.5
	4	1030	1980	81.5	77.8	2232	27.5	2.8	84.3	81.0
	5	1030	2980	80.5	73.9	3153	19.1	-1.1	79.4	76.4
	Flt 34 NORMAL THRUST @ 320kts @ 6200 RPM	2	266	10	103.5	105.0	266	87.8	0.0	103.5
3		266	990	89.8	88.2	1025	15.0	1.9	91.7	88.7
4		266	1990	80.4	77.3	2008	7.6	3.5	83.9	79.5
5		266	2990	76.4	74.5	3002	5.1	2.3	78.7	73.9
6		266	3990	73.2	67.8	3999	3.8	1.8	75.0	70.0
7		266	4890	70.5	63.6	4897	3.1	1.9	72.4	66.8
FLT 39 INTERMEDIATE @ 327 kts @ 5546 RPM		2	1055	61	92.0	88.1	1057	86.7	0.0	92.0
	3	1059	1061	87.4	81.9	1499	44.9	0.9	88.3	84.8
	6	1053	4061	74.2	67.3	4195	14.5	0.5	74.7	71.1
	7	1053	5061	72.3	66.0	5169	11.8	-0.5	71.8	67.5
	9	1059	939	88.0	83.6	1415	48.4	0.9	88.9	85.5
FLT 40 INTERMEDIATE @ 330 kts @ 5759 RPM	2	1065	72	91.8	88.2	1067	86.1	0.0	91.8	88.7
	3	1070	1072	89.3	83.9	1515	44.9	-1.2	88.1	84.4
	4	1070	2072	82.0	74.5	2332	27.3	1.0	83.0	78.8
	9	1070	928	89.1	84.3	1416	49.1	-0.2	88.9	85.1
FLT 41 INTERMEDIATE @ 325 kts @ 5617 RPM	2	497	40	96.7	95.5	499	85.4	0.0	96.7	95.2
	3	501	1040	88.7	85.7	1154	25.7	0.2	88.9	85.4
	4	501	2040	82.0	76.8	2101	13.8	0.4	82.4	78.0
	6	495	4040	73.2	67.2	4070	7.0	1.2	74.4	70.0
	9	501	960	89.4	86.2	1083	27.6	0.2	89.6	86.2
FLT 42 INTERMEDIATE @ 323 kts @ 5546 RPM	2	489	38	96.8	97.2	490	85.6	0.0	96.8	95.5
	3	494	1038	88.2	83.8	1150	25.5	0.5	88.7	85.3
	9	494	962	88.9	84.7	1081	27.2	0.5	89.4	86.2

A-10A

A-10A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 43 INTERMEDIATE @ 320 kts @ 5333 RPM	2	271	31	101.1	102.1	273	83.5	0.0	101.1	100.9
	3	276	1031	88.6	85.5	1067	15.0	0.6	89.2	85.6
	4	276	2031	81.4	75.9	2050	7.7	-0.2	81.2	77.4
	6	270	4031	71.2	65.0	4040	3.8	2.7	73.9	68.9
	9	276	969	87.2	83.3	1008	15.9	2.5	89.7	86.3
FLT 44 INTERMEDIATE @ 318 kts @ 5333 RPM	2	265	26	100.6	101.5	266	84.4	0.0	100.6	100.6
	3	269	1026	87.7	82.5	1061	14.7	0.8	88.5	85.2
	4	269	2026	79.8	74.1	2044	7.6	1.7	81.5	77.0
	6	263	4026	70.4	64.3	4035	3.7	2.9	73.3	68.7
	9	269	974	87.0	83.5	1010	15.4	2.1	89.1	85.8
FLT 46 INTERMEDIATE @ 330 kts @ 5333 RPM	2	142	41	105.4	108.6	148	73.9	0.0	105.4	105.4
	3	147	1041	89.0	85.6	1051	8.0	-0.5	88.5	84.8
	6	140	4041	71.2	64.6	4043	2.0	1.7	72.9	67.4
	9	147	959	90.5	86.6	970	8.7	-1.1	89.4	85.9
	FLY 47 INTERMEDIATE @ 319 kts @ 5333 RPM	2	134	69	104.0	106.7	151	62.8	0.0	104.0
3	138	1069	86.5	81.7	1078	7.4	2.0	88.5	84.4	
9	138	931	88.6	86.5	941	8.4	1.2	89.8	86.0	
FLT 48 INTERMEDIATE @ 323 kts @ 5333 RPM	2	127	68	104.6	107.6	144	61.8	0.0	104.6	104.6
	3	132	1068	87.1	85.0	1076	7.0	0.3	87.4	83.7
	FLY 50 INTERMEDIATE @ 322 kts @ 5333 RPM	2	248	41	101.5	102.9	251	80.6	0.0	101.5
3	252	1041	87.6	83.8	1071	13.6	1.5	89.1	85.5	
4	252	2041	81.0	75.6	2056	7.0	1.2	82.2	77.5	
9	252	959	88.0	83.8	992	14.7	1.9	89.9	86.4	
FLT 51 INTERMEDIATE @ 322 kts @ 5404 RPM	2	544	27	96.6	95.7	545	87.2	0.0	96.6	94.9
	3	549	1027	88.1	84.5	1165	28.1	1.3	89.4	85.9
	4	549	2027	82.5	75.3	2100	15.2	0.5	83.0	78.8
	6	542	4027	72.4	64.0	4063	7.7	2.5	74.9	70.8
	9	549	973	88.7	83.8	1117	29.4	1.2	89.9	86.4
FLT 52 INTERMEDIATE @ 325 kts @ 5475 RPM	2	1090	59	91.8	87.9	1092	86.9	0.0	91.8	88.6
	3	1095	1059	87.7	82.9	1523	46.0	0.7	88.4	84.6
	6	1089	4059	73.6	66.2	4203	15.0	2.3	75.9	72.0
	9	1095	941	88.9	84.0	1444	49.3	0.0	88.9	85.2

B-52G

B-52G	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 22	2	994	113	101.8	96.7	1000	83.5	0.0	101.8	97.4
TR ROUTE	3	999	887	99.9	94.2	1336	48.4	-0.6	99.3	94.2
@ 353 kts	5	994	2887	90.8	83.8	3053	19.0	0.4	91.2	85.8
@ 1.50 EPR	6	993	3887	86.6	82.3	4012	14.3	1.8	88.4	83.2
	9	999	1113	99.5	94.1	1496	41.9	-1.2	98.3	93.1
FLT 23	2	1026	57	100.3	96.2	1028	86.8	0.0	100.3	95.2
TR ROUTE	3	1031	943	98.3	93.0	1397	47.6	-0.5	97.8	92.2
@ 340 kts	5	1026	2943	90.2	84.0	3117	19.2	-0.1	90.1	84.5
@ 1.50 EPR	9	1031	1057	98.0	92.2	1477	44.3	-0.7	97.3	91.7
FLT 24	2	431	51	107.2	105.7	434	83.3	0.0	107.2	105.3
TR ROUTE	3	436	949	99.1	95.1	1044	24.7	0.8	99.9	95.0
@ 342 kts	9	436	1051	99.3	95.2	1138	22.5	-0.1	99.2	94.1
@ 1.70 EPR										
FLT 26	2	488	82	106.5	103.8	493	80.4	0.0	106.5	104.6
TR ROUTE	3	490	918	100.0	95.7	1041	28.1	0.3	100.3	95.8
@ 348 kts	5	484	3218	82.4	77.6	3948	7.0	4.9	87.3	82.0
@ 1.50 EPR	9	490	1.82	97.5	91.6	1188	24.4	1.6	99.1	94.2
FLT 27	2	179	40	109.6	111.0	183	77.4	0.0	109.6	109.6
TR ROUTE	3	163	961	91.2	89.5	978	10.8	3.7	94.9	90.9
@ 345 kts	5	179	2961	81.1	75.4	2966	3.5	2.5	83.6	78.2
@ 1.20 EPR	9	183	1040	93.5	89.6	1056	10.0	0.7	94.2	90.0
FLT 28	2	227	27	107.5	108.3	229	83.2	0.0	107.5	107.5
TR ROUTE	3	231	973	91.9	88.1	1000	13.4	3.2	95.1	91.0
@ 336 kts	5	226	2973	78.8	72.3	2982	4.3	5.4	84.2	79.2
@ 1.30 EPR	9	231	1027	93.8	89.5	1053	12.7	0.8	94.6	90.4
FLT 29	2	117	22	110.8	113.0	119	79.4	0.0	110.8	110.8
TR ROUTE	3	121	978	87.8	85.8	985	7.1	1.9	89.7	84.6
@ 333 kts	5	116	2978	75.6	68.3	2980	2.2	2.2	77.8	70.9
@ 1.80 EPR	9	121	1022	89.5	87.9	1029	6.8	-0.3	89.2	84.1
FLT 32	2	116	52	111.6	114.2	127	65.9	0.0	111.6	111.6
TR ROUTE	3	121	948	88.9	87.6	956	1.3	5.0	93.9	90.1
@ 347 kts	5	116	2948	76.9	71.3	2950	2.3	4.9	81.8	76.4
@ 1.70 EPR	9	121	1052	91.7	89.3	1059	6.6	1.1	92.8	88.7
FLT 33	1	123	36	112.8	115.3	128	73.7	0.0	112.8	112.8
TR ROUTE	3	116	968	90.3	87.3	975	6.8	4.7	95.0	89.8
@ 333 kts	9	116	1032	94.3	90.8	1038	6.4	2.2	96.5	89.0
@ 1.40 EPR										

B-526

B-526	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 34	2	210	46	111.7	112.7	215	77.6	0.0	111.7	111.7
TR ROUTE	3	215	954	96.0	92.7	978	12.7	3.0	99.0	93.9
@ 338 kts	5	210	2954	84.8	80.0	2961	4.1	3.6	88.4	81.8
@ 1.50 EPR	9	215	1046	96.9	94.1	1068	11.6	1.4	98.3	92.9
FLT 35	2	465	49	109.0	107.0	468	84.0	0.0	109.0	106.8
TR ROUTE	3	469	951	101.3	97.5	1060	26.3	0.9	102.2	97.2
@ 335 kts	5	465	2951	87.9	81.5	2987	9.0	4.6	92.5	86.4
@ 1.50 EPR										
FLT 36	2	989	141	100.7	95.0	999	81.9	0.0	100.7	95.8
TR ROUTE	3	994	859	99.1	93.4	1314	49.2	-0.7	98.4	92.9
@ 349 kts	9	994	1141	97.8	91.4	1513	41.1	-0.5	97.3	91.6
@ 1.60 EPR										

KC-10A

KC-10A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 1 TAKEDOFF PWR @ 227 kts @ 110 % RPM	2	1117	118	95.9	89.1	1123	84.0	0.0	95.9	91.4
	3	1121	1118	94.1	86.1	1583	45.1	-1.4	92.7	87.5
	4	1121	2118	90.4	82.3	2396	27.9	-2.0	88.4	82.7
	5	1117	3118	86.4	77.7	3312	19.7	-1.5	84.9	79.0
	6	1115	4118	84.1	75.6	4266	15.2	-0.6	83.5	77.7
	7	1115	5118	80.9	76.1	5238	12.3	-1.2	79.7	73.2
	8	1095	6118	78.6	70.5	6215	10.1	-0.9	77.7	70.2
	Flt 2 TAKEDOFF PWR @ 233 kts @ 110 % RPM	2	1011	307	98.3	91.5	1057	73.1	0.0	98.3
3		1015	1307	93.6	85.5	1655	37.8	0.6	94.2	88.0
4		1015	2307	89.6	79.9	2520	23.7	0.4	90.0	82.9
5		1011	3307	87.1	77.8	3458	17.0	-0.4	86.7	79.2
6		1009	4307	82.9	75.6	4424	13.2	1.2	84.1	76.0
7		1009	5307	80.0	69.6	5402	10.8	1.9	81.9	73.2
8		989	6307	77.4	70.2	6384	8.9	2.6	80.0	70.8
Flt 3 TAKEDOFF PWR @ 232 kts @ 110 % RPM		2	1103	70	97.0	89.7	1105	86.4	0.0	97.0
	3	1107	930	95.0	87.1	1446	50.0	-0.4	94.6	89.1
	4	1107	1930	90.8	81.2	2225	29.8	-0.4	90.4	84.3
	5	1103	2930	86.8	78.3	3131	20.6	0.1	86.9	80.4
	6	1101	3930	83.1	76.8	4081	15.7	1.1	84.2	77.5
	7	1101	4930	81.8	74.3	5051	12.6	-0.1	81.7	74.8
	8	1081	5930	80.4	70.9	6028	10.3	-0.7	79.7	72.4
	Flt 4 APPROACH PWR @ 146 kts @ 80.2 % RPM	2	1041	60	89.7	82.1	1043	86.7	0.0	89.7
3		1046	940	87.6	78.8	1406	48.1	-1.3	86.3	81.7
4		1046	1940	83.4	74.5	2204	28.3	-2.5	80.9	75.2
5		1041	2940	79.4	70.0	3119	19.5	-2.5	76.9	70.3
6		1039	3940	71.9	61.1	4075	14.8	2.2	74.1	67.2
7		1040	4940	69.0	57.8	5048	11.9	2.5	71.5	64.3
Flt 5 APPROACH PWR @ 165 kts @ 77.8 % RPM		2	1035	9	89.5	80.6	1035	89.5	0.0	89.5
	3	1039	991	87.2	78.3	1436	46.4	-1.4	85.8	81.0
	4	1039	1991	82.8	72.7	2246	27.6	-2.4	80.4	74.3
	5	1035	2991	78.9	68.8	3165	19.1	-2.5	76.4	69.3
	8	1013	5991	68.7	61.4	6076	9.6	0.4	69.1	60.5
Flt 6 INTERMEDIATE @ 210 kts @ 90.0 % RPM	2	1000	70	93.5	86.0	1002	86.0	0.0	93.5	89.4
	3	1005	930	91.6	83.6	1369	47.2	-1.4	90.2	85.0
	4	1005	1930	86.8	78.8	2176	27.5	-1.6	85.2	78.8
	5	1000	2930	82.0	74.6	3096	18.8	-0.6	81.4	74.4
	6	999	3930	77.9	70.4	4055	14.3	0.7	78.6	71.2
	8	978	5930	72.5	61.3	6010	9.4	1.5	74.0	65.9

KC-10A

KC-10A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 7	2	1050	85	93.0	85.4	1053	85.4	0.0	93.0	88.8
INTERMEDIATE	3	1055	915	91.5	83.4	1397	49.1	-1.5	90.0	84.9
@ 210 kts	4	1055	1915	86.5	77.4	2186	28.9	-1.4	85.1	79.0
@ 90.3 % RPM	5	1050	2915	81.3	72.6	3098	19.8	-0.1	81.2	74.4
	6	1049	3915	78.2	67.8	4053	15.0	0.2	78.4	71.2
	8	1028	5915	73.3	62.3	6004	9.9	0.4	73.7	65.7
Flt 8	2	1043	88	94.6	88.3	1047	85.2	0.0	94.6	90.6
MIL POWER	3	1048	913	94.0	86.0	1390	48.9	-2.2	91.8	87.2
@ 219 kts	4	1047	1913	89.0	80.2	2181	28.7	-2.1	86.9	81.9
@ 100 % RPM	5	1043	2913	86.5	78.8	3094	19.7	-3.9	82.6	77.5
	6	1041	3913	81.3	71.8	4049	14.9	-2.0	79.3	74.2
	7	1041	4913	78.6	72.1	5022	12.0	-2.3	76.3	71.0
	8	1021	5913	77.0	66.4	6001	9.8	-3.0	74.0	68.3
Flt 9	2	1080	19	94.7	87.7	1080	89.0	0.0	94.7	89.7
MIL POWER	3	1085	982	93.4	84.7	1463	47.9	-1.7	91.7	85.8
@ 224 kts	4	1085	1982	88.5	80.6	2260	28.7	-1.2	87.3	80.3
@ 100 % RPM	5	1080	2982	85.5	76.6	3172	19.9	-2.0	83.5	76.0
	6	1078	3982	81.9	73.2	4125	15.1	-1.1	80.8	72.8
	7	1079	4982	79.2	69.6	5098	12.2	-1.0	78.2	69.9
	8	1058	5982	76.4	69.0	6075	10.0	-0.3	76.1	67.6
Flt 10	2	1091	162	81.2	75.5	1103	81.6	0.0	81.2	77.1
PATTERN	3	1096	1162	79.3	74.0	1597	43.3	-2.2	77.1	71.8
@ 201 kts	4	1096	2162	75.6	69.5	2424	26.9	-3.4	72.2	65.8
@ 60 % RPM	5	1091	3162	71.8	61.5	3345	19.0	-3.1	68.7	61.6
Flt 11	2	270	5	104.7	101.8	270	88.9	0.0	104.7	104.4
MIL POWER	3	275	1005	94.6	88.9	1042	15.3	-2.4	92.2	87.1
@ 235 kts	4	275	2005	88.5	81.4	2024	7.8	-3.4	85.1	78.0
@ 100 % RPM	5	270	3005	79.8	71.5	3017	5.1	1.1	80.9	73.1
	6	268	4005	70.8	63.8	4014	3.8	7.0	77.8	69.6
	7	269	5005	69.3	61.2	5012	3.1	5.8	75.1	66.4
Flt 12	2	273	5	104.5	101.8	273	89.0	0.0	104.5	104.1
MIL POWER	3	278	995	95.3	90.3	1033	15.6	-3.0	92.3	87.4
@ 242 kts	4	278	1995	88.3	81.8	2014	7.9	-2.5	85.8	79.1
@ 100 % RPM	5	273	2995	76.1	69.5	3007	5.2	5.4	81.5	74.3
	6	272	3995	67.1	56.2	4004	3.9	11.3	78.4	70.9
	7	272	4995	65.5	57.3	5002	3.1	10.2	75.7	67.8
	8	252	5995	64.7	55.4	6000	2.4	8.8	73.5	65.3
Flt 13	2	302	57	104.2	101.7	307	79.3	0.0	104.2	103.2
MIL POWER	3	307	1057	94.2	90.1	1101	16.2	-2.0	92.2	87.1
@ 233 kts	4	307	2057	88.8	83.1	2080	8.5	-3.0	85.8	79.1
@ 100 % RPM	5	302	3057	75.1	67.4	3072	5.6	6.5	81.6	74.2
	6	301	4057	74.7	71.1	4068	4.2	3.9	78.6	70.9
	7	301	5057	69.0	60.6	5066	3.4	7.0	76.0	67.8

C-18

C-18	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 1 TAKEOFF @ 285kts @ 1.84 EPR	2	1142	97	101.8	97.1	1146	85.1	0.0	101.8	98.4
	3	1147	903	100.4	95.3	1460	51.8	-1.3	99.1	95.3
	9	1147	1097	97.8	91.9	1587	46.3	0.3	98.1	94.2
Flt 2 TAKEOFF @ 280kts @ 1.84 EPR	2	1056	169	102.3	97.2	1069	80.9	0.0	102.3	98.8
	5	1056	2831	92.1	83.6	3022	20.5	-1.6	90.5	85.4
	8	1035	5831	82.3	73.2	5922	10.1	0.5	82.8	77.4
Flt 3 TAKEOFF @ 274kts @ 1.84 EPR	2	1072	67	102.4	97.4	1074	86.4	0.0	102.4	98.8
	3	1077	933	100.8	95.5	1425	49.1	-1.4	99.4	95.0
	5	1072	2933	91.7	82.5	3123	20.1	-1.2	90.5	84.2
	7	1071	4933	84.8	76.6	5048	12.2	0.5	85.3	78.2
	8	1051	5933	82.1	72.7	6025	10.0	1.3	83.4	75.9
	9	1077	1067	98.2	92.2	1516	45.3	0.5	98.7	94.2
Flt 4 CRUISE @ 280kts @ 1.12 EPR	2	1056	6	98.1	97.4	1056	89.7	0.0	98.1	96.0
	3	1060	1006	92.3	88.7	1461	46.5	2.1	94.4	91.8
	5	1056	3006	81.9	76.8	3186	19.4	0.5	82.4	81.0
Flt 5 CRUISE @ 271kts @ 1.12 EPR	2	995	94	98.2	97.9	999	84.6	0.0	98.2	96.5
	3	999	1094	91.7	88.8	1481	42.4	2.3	94.0	91.3
	9	999	906	92.7	89.2	1349	47.8	2.3	95.0	92.3
Flt 6 APPROACH @ 144kts @ 1.28 EPR	2	1052	127	100.7	94.6	1060	83.1	0.0	100.7	98.4
	3	1057	873	98.3	92.9	1371	50.4	-0.5	97.8	94.9
	5	1052	2873	87.8	79.9	3060	20.1	-1.5	86.3	84.0
	9	1057	1127	96.8	88.9	1545	43.2	-0.4	96.4	93.5
Flt 7 APPROACH @ 139kts @ 1.26 EPR	2	934	123	102.3	95.6	942	82.5	0.0	102.3	100.2
	3	939	877	98.7	93.4	1285	47.0	0.1	98.8	95.9
	9	939	1123	97.6	89.4	1464	39.9	-0.3	97.3	94.4
Flt 8 APPROACH @ 157kts @ 1.26 EPR	2	517	17	108.5	105.3	517	88.1	0.0	108.5	108.4
	3	521	983	99.2	93.8	1113	27.9	1.7	100.9	98.6
	5	517	2983	85.7	77.0	3027	9.8	1.2	86.9	84.7
	9	521	1017	99.3	94.1	1143	27.1	1.3	100.6	98.2

C-18	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 9	2	413	36	109.8	106.6	415	85.0	0.0	109.8	109.7
APPROACH	3	418	964	99.9	94.0	1051	23.4	0.7	100.6	98.3
@ 152kts	5	413	2964	85.3	76.9	2993	7.9	0.7	86.0	83.3
@ 1.28 EPR	9	418	1036	100.6	93.6	1117	22.0	-0.7	99.9	97.4
Flt 10	2	438	50	109.0	106.1	441	83.5	0.0	109.0	109.0
APPROACH	3	443	950	99.5	94.6	1048	25.0	1.1	100.6	98.3
@ 148kts	5	438	2950	84.6	74.2	2982	8.4	1.4	86.0	83.1
@ 1.26 EPR	9	443	1050	99.4	91.1	1140	22.9	0.2	99.6	97.1
Flt 11	2	293	53	111.8	111.2	298	79.7	0.0	111.8	111.8
APPROACH	3	298	947	100.5	96.9	993	17.5	0.3	100.8	98.8
@ 154kts	5	293	2947	82.5	74.6	2962	5.7	3.6	86.1	83.1
@ 1.25 EPR	9	298	1053	98.3	91.3	1094	15.8	1.4	99.7	97.4
Flt 12	2	187	7	114.6	114.2	187	87.9	0.0	114.6	114.6
APPROACH	3	202	993	100.7	95.6	1013	11.5	-2.4	98.3	96.1
@ 150kts	5	197	2993	80.3	72.6	2999	3.8	1.2	81.5	78.1
@ 1.25 EPR	7	196	4993	71.5	67.3	4997	2.2	1.6	73.1	68.3
	9	202	1007	99.1	92.1	1027	11.3	-1.0	98.1	95.8
Flt 13	2	213	6	114.0	113.7	213	88.4	0.0	114.0	114.0
APPROACH	5	194	2984	81.5	71.8	2990	3.7	1.8	83.3	80.2
@ 158kts	9	218	1006	99.3	92.4	1029	12.2	-0.3	99.0	96.7
@ 1.25 EPR										
Flt 14	2	194	14	114.8	114.7	195	85.9	0.0	114.8	114.8
APPROACH	5	194	2986	80.8	71.6	2992	3.7	1.7	82.5	79.5
@ 156kts	9	199	1014	99.2	93.3	1033	11.1	-0.3	98.9	96.7
@ 1.26 EPR										

C-21	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-6 SEL
Flt 2	2	988	29	91.6	85.5	988	88.3	0.0	91.6	88.6
TAKEDOFF	4	993	1971	82.7	75.3	2207	26.7	1.5	84.2	79.3
@ 296 kts	5	988	2971	78.6	70.8	3131	18.4	2.1	80.7	75.8
@ 96.0 % RPM	9	993	1029	87.5	80.5	1430	44.0	0.9	88.4	83.7
Flt 3	2	998	89	92.8	86.3	1002	84.9	0.0	92.8	88.5
TAKEDOFF	4	1002	1912	84.4	77.0	2159	27.7	1.6	86.0	80.9
@ 244 kts	5	998	2912	79.8	69.8	3078	18.9	2.6	82.4	77.4
@ 96.0 % RPM	7	996	4912	74.0	66.9	5012	11.5	2.8	76.8	72.3
	9	1002	1089	88.4	80.5	1480	42.6	1.2	89.6	84.6
Flt 6	2	1065	193	92.4	85.8	1082	79.7	0.0	92.4	87.4
TAKEDOFF	7	1063	4807	75.7	67.6	4923	12.5	2.0	77.7	72.6
@ 251 kts	9	1070	1193	88.0	79.7	1603	41.9	1.1	89.1	83.6
@ 96.2 % RPM										
Flt 9	2	951	81	83.4	76.7	954	85.1	0.0	83.4	79.5
INTERMEDIATE	4	956	1919	74.9	65.5	2144	26.5	1.3	76.2	71.2
@ 252 kts	5	951	2919	69.9	61.3	3070	18.0	2.7	72.6	67.6
@ 80.0 % RPM	9	956	1081	79.4	72.0	1443	41.5	0.5	79.9	75.1
Flt 10	2	238	40	99.0	98.4	241	80.5	0.0	99.0	99.0
TAKEDOFF	5	238	3040	70.8	63.2	3049	4.5	5.0	75.8	70.4
@ 245 kts	9	243	960	85.1	79.4	990	14.2	2.2	87.3	83.0
@ 96.0 % RPM										
Flt 11	2	267	51	99.9	99.0	272	79.2	0.0	99.9	99.6
TAKEDOFF	4	271	2051	80.9	73.3	2069	7.5	2.0	82.9	77.5
@ 260 kts	5	266	3051	71.9	66.7	3063	5.0	6.8	78.7	73.3
@ 96.0 % RPM	6	265	4051	66.4	58.7	4060	3.7	9.1	75.5	70.3
	9	271	949	86.1	80.6	987	15.9	3.6	89.7	85.2
Flt 12	2	961	33	91.9	85.8	962	88.0	0.0	91.9	88.4
TAKEDOFF	4	965	1967	82.2	74.3	2191	26.1	1.8	84.0	79.5
@ 287 kts	5	961	2967	77.8	67.9	3119	17.9	2.2	80.0	75.7
@ 96.0 % RPM	6	959	3967	73.9	65.4	4081	13.6	3.2	77.1	73.0
	7	959	4967	73.3	66.0	5059	10.9	1.1	74.4	70.5
	9	965	1033	87.7	80.3	1414	43.1	0.7	88.4	84.2

C-21	SITE	-----MEASURED-----						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Fit 13	2	916	40	93.3	86.9	917	87.5	0.0	93.3	89.1
TAKEOFF	4	921	1960	83.8	77.0	2166	25.2	1.8	85.6	80.4
@ 240 kts	5	916	2960	78.7	70.3	3098	17.2	3.3	82.0	76.8
@ 96.0 % RPM	6	915	3960	74.6	65.8	4064	13.0	4.5	79.1	74.2
	7	915	4960	73.2	65.0	5044	10.5	3.3	76.5	71.8
	9	921	1040	89.3	82.5	1389	41.5	0.5	89.8	84.7
Fit 15	2	979	5	83.0	76.5	979	89.7	0.0	83.0	79.0
INTERMEDIATE	4	984	1995	74.6	65.9	2224	26.3	1.0	75.6	70.5
@ 242 kts	5	979	2995	70.5	62.0	3151	18.1	1.4	71.9	66.9
@ 80.0 % RPM	9	984	1005	79.2	71.9	1407	44.4	0.7	79.9	75.1

C-135A

C-135A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
FLT 1	2	570	100	107.8	102.7	579	80.0	0.0	107.8	105.7
APPROACH	3	570	1100	100.5	93.3	1239	27.4	0.9	101.4	96.5
@ 165 kts	4	570	2100	94.9	86.2	2176	15.2	1.4	96.3	91.0
@ 1.75 EPR	5	570	3100	90.5	79.8	3152	10.4	1.9	92.4	87.3
	6	570	4100	89.1	80.1	4139	7.9	0.4	89.5	84.7
	7	570	5100	87.4	76.5	5132	6.4	-0.3	87.1	82.3
	8	555	6100	79.9	72.5	6125	5.2	4.9	84.8	80.1
	9	580	900	101.1	95.6	1071	32.8	1.6	102.7	100.2
Flt 2	2	570	40	107.8	101.8	571	86.0	0.0	107.8	105.5
APPROACH	3	570	1040	100.9	94.0	1186	28.7	0.8	101.7	96.8
@ 160 kts	4	570	2040	96.6	87.6	2118	15.6	-0.2	96.4	91.0
@ 1.75 EPR	5	570	3040	90.3	83.0	3093	10.6	2.0	92.3	87.0
	6	570	4040	90.3	80.8	4080	8.0	-0.9	89.4	84.2
	7	570	5040	87.1	77.9	5072	6.5	-0.5	86.6	81.5
	8	555	6040	79.4	70.1	6065	5.3	5.1	84.5	79.3
	9	580	960	102.0	94.3	1122	31.1	0.2	102.2	97.5
Flt 4	2	240	10	113.0	111.2	240	87.6	0.0	113.0	113.0
APPROACH	3	240	1010	101.1	94.8	1038	13.4	0.5	101.6	96.6
@ 170 kts	4	240	2010	93.9	86.2	2024	6.8	2.0	95.9	90.1
@ 1.75 EPR	5	240	3010	85.2	78.2	3020	4.6	6.8	92.0	86.3
	6	240	4010	82.6	71.5	4017	3.4	6.6	89.2	83.7
	8	225	6010	75.2	62.7	6014	2.1	9.4	84.6	79.3
	9	250	990	100.7	94.6	1021	14.2	1.0	101.7	96.8
Flt 6	2	250	50	111.6	109.3	255	78.7	0.0	111.6	111.6
APPROACH	3	250	950	101.9	93.6	982	14.7	-0.8	101.1	96.5
@ 160 kts	4	250	1950	95.4	88.8	1966	7.3	-0.7	94.7	89.2
@ 1.75 EPR	5	250	2950	86.2	81.2	2961	4.8	4.2	90.4	84.9
	6	250	3950	80.7	73.8	3958	3.6	6.5	87.2	81.8
	8	235	5950	77.3	62.9	5955	2.3	5.0	82.3	76.5
Flt 7	2	285	50	111.5	108.3	289	80.0	0.0	111.5	111.5
APPROACH	3	285	1050	101.5	94.0	1088	15.2	-1.2	100.3	95.0
@ 160 kts	4	285	2050	95.9	88.1	2070	7.9	-1.8	94.1	87.7
@ 1.75 EPR	5	285	3050	85.9	79.2	3063	5.3	3.8	89.7	83.2
	6	285	4050	82.3	73.3	4060	4.0	4.1	86.4	79.8
	7	285	5050	79.0	66.7	5058	3.2	4.6	83.6	76.6
	8	270	6050	77.2	65.5	6056	2.6	3.9	81.1	74.0

C-135A

C-135A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0		
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL	
Flt 8 APPROACH @ 160 kts @ 1.75 EPR	2	2300	100	98.0	86.6	2302	87.5	0.0	98.0	91.3	
	3	2300	1100	97.7	86.9	2550	64.4	-0.7	97.0	90.2	
	4	2300	2100	95.6	84.0	3114	47.6	-0.5	95.1	88.2	
	5	2300	3100	92.2	79.6	3860	36.6	0.9	93.1	86.1	
	6	2300	4100	91.2	80.0	4701	29.3	-0.3	90.9	83.9	
	7	2300	5100	88.7	77.6	5595	24.3	0.4	89.1	81.8	
	8	2285	6100	87.3	76.7	6514	20.5	0.1	87.4	79.9	
	9	2310	900	97.2	86	2479	68.7	0.1	97.3	90.5	
	Flt 9 APPROACH @ 160 kts @ 1.75 EPR	2	2375	110	97.8	86.6	2378	87.3	0.0	97.8	91.2
3		2375	1110	97.0	86.6	2622	65.0	-0.2	96.8	90.1	
4		2375	2110	95.1	83.9	3177	48.4	-0.2	94.9	88.1	
5		2375	3110	92.3	82.8	3913	37.4	0.5	92.8	86.0	
6		2375	4110	91.6	79.0	4747	30.0	-0.9	90.7	83.9	
8		2360	6110	87.3	74.2	6550	21.1	-0.2	87.1	79.8	
9		2385	890	97.3	85.9	2546	69.5	-0.3	97.0	90.3	
Flt 21 TAKEDOFF @ 270kts @ 2.46 EPR		2	1022	20	114.6	106.5	1022	88.9	0.0	114.6	108.1
		3	1022	980	111.8	103.7	1416	46.2	0.3	112.1	105.1
	4	1022	1980	109.1	99.3	2228	27.3	-0.8	108.3	100.8	
	5	1022	2980	104.2	96.9	3150	18.9	1.1	105.3	97.5	
	6	1022	3980	100.7	90.9	4109	14.4	2.2	102.9	95.1	
	7	1022	4980	97.9	91.7	5084	11.6	3.0	100.9	93.0	
	Flt 22 TAKEDOFF @ 254kts @ 2.45 EPR	2	1036	50	114.7	107.2	1037	87.2	0.0	114.7	108.0
3		1036	950	113.0	104.2	1406	47.5	-0.6	112.4	105.2	
4		1036	1950	109.6	99.0	2208	28.0	-1.1	108.5	100.9	
5		1036	2950	103.2	93.9	3127	19.4	2.1	105.3	97.5	
6		1036	3950	99.5	90.6	4084	14.7	3.3	102.8	95.0	
7		1036	4950	97.6	89.9	5057	11.8	3.2	100.8	92.8	
Flt 23 TAKEDOFF @ 190kts @ 2.45 EPR		2	520	18	121.8	115.0	520	88.0	0.0	121.8	118.6
	3	520	1018	115.5	107.5	1143	27.1	0.0	115.5	110.1	
	4	520	2018	111.1	102.3	2084	14.4	-0.8	110.3	104.4	
	5	520	3018	106.1	101.0	3062	9.8	0.5	106.6	100.8	
	6	520	4018	102.3	94.4	4052	7.4	1.6	103.9	98.3	
	7	520	5018	98.4	88.1	5045	5.9	3.2	101.6	96.1	
	Flt 24 TAKEDOFF @ 200kts @ 2.48 EPR	2	276	68	125.1	121.8	284	76.2	0.0	125.1	124.7
5		276	3068	104.0	95.6	3080	5.1	0.3	104.3	98.9	
6		276	4068	97.6	89.0	4077	3.9	3.7	101.3	96.1	
7		276	5068	89.7	84.1	5076	3.1	9.2	98.9	93.7	

C-135A

C-135A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 25	2	1036	141	117.3	108.4	1046	82.2	0.0	117.3	110.4
TAKEDOFF	3	1036	1141	113.7	104.3	1541	42.2	0.3	114.0	106.2
@ 194kts	4	1036	2141	109.9	100.0	2378	25.8	0.1	110.0	101.5
@ 2.48 EPR	5	1036	3141	105.8	95.3	3307	18.3	1.1	106.9	97.9
	6	1036	4141	103.0	93.2	4269	14.0	1.3	104.3	95.1
	7	1036	5141	101.6	91.9	5244	11.4	0.6	102.2	92.7
Flt 33	2	991	57	113.9	104.9	993	86.7	0.0	113.9	109.6
APPRODACH	3	996	1057	109.8	102.6	1452	43.3	0.8	110.6	105.9
@ 153kts	4	996	2057	104.9	94.7	2285	25.8	1.5	106.4	101.6
@ 2.15 EPR	5	991	3057	101.1	91.6	3214	18.0	1.9	103.0	98.5
	8	970	6057	91.3	79.6	6134	9.1	4.3	95.6	91.9
Flt 34	2	990	64	112.6	104.4	992	86.3	0.0	112.6	107.7
APPRODACH	3	994	1064	109.5	100.9	1456	43.1	-0.1	109.4	103.8
@ 145kts	4	994	2064	104.7	94.8	2291	25.7	0.5	105.2	99.4
@ 2.10 EPR	5	990	3064	100.4	91.5	3220	17.9	1.4	101.8	96.1
	8	968	6064	92.9	83.4	6141	9.1	1.8	94.7	89.1
Flt 35	2	483	25	114.9	107.9	484	87.0	0.0	114.9	112.5
APPRODACH	3	488	975	106.3	98.2	1090	26.6	2.4	108.7	104.0
@ 138kts	4	488	1975	102.7	93.9	2034	13.9	0.7	103.4	98.2
@ 2.00 EPR	5	483	2975	97.6	90.6	3014	9.2	2.0	99.6	94.6
	8	462	5975	86.6	77.5	5993	4.4	5.5	92.1	88.1
Flt 36	2	383	1	117.1	111.3	383	89.9	0.0	117.1	115.3
APPRODACH	3	388	1001	107.1	98.9	1074	21.2	1.9	109.0	103.8
@ 143kts	4	388	2001	101.6	92.6	2038	11.0	1.7	103.3	97.2
@ 2.00 EPR	5	383	3001	95.8	87.2	3025	7.3	3.7	99.5	93.3
	8	361	6001	87.3	77.5	6012	3.4	4.7	92.0	85.7
Flt 37	2	271	69	117.2	112.4	280	75.7	0.0	117.2	116.6
APPRODACH	3	276	931	106.3	99.4	971	16.5	1.4	107.7	102.5
@ 131kts	4	276	1931	99.1	90.6	1951	8.1	1.7	100.8	95.5
@ 1.90 EPR	5	271	2931	93.4	87.8	2944	5.3	4.3	97.7	91.5
	8	250	5931	84.0	70.2	5936	2.4	6.1	90.1	84.0
Flt 38	2	199	1	118.2	114.6	199	89.7	0.0	118.2	118.1
APPRODACH	3	204	1000	104.1	96.6	1021	11.5	1.2	105.3	100.3
@ 138kts	4	204	2000	97.3	90.6	2010	5.8	2.0	99.3	93.2
@ 1.89 EPR	5	199	3000	90.8	82.4	3007	3.8	4.3	95.1	88.9
Flt 39	2	197	33	118.9	115.4	200	80.5	0.0	118.9	118.9
APPRODACH	3	202	1033	104.4	97.7	1053	11.1	1.8	106.2	100.9
@ 137kts	4	202	2033	99.4	91.9	2043	5.7	0.9	100.3	94.1
@ 1.90 EPR	5	197	3033	90.0	82.0	3039	3.7	6.4	96.4	90.1
	8	208	6033	78.0	66.6	6037	2.0	10.7	88.7	82.5

C-135A

C-135A	SITE	-----MEASURED-----						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 40	2	183	1	116.9	113.6	183	89.7	0.0	116.9	116.9
APPROACH	3	188	999	101.2	93.0	1017	10.7	2.5	103.7	98.4
@ 130kts	4	188	1999	94.5	89.9	2008	5.4	3.1	97.6	91.3
@ 1.80 EPR										
Flt 41	2	1020	51	109.4	101.1	1021	87.1	0.0	109.4	105.0
APPROACH	3	1025	949	105.7	96.0	1397	47.2	1.1	106.8	101.9
@ 136kts	4	1025	1949	101.1	91.5	2202	27.7	1.4	102.5	97.7
@ 1.90 EPR	5	1025	2949	98.8	88.9	3122	19.2	0.2	99.0	94.4
	8	999	5949	88.8	78.2	6032	9.5	2.7	91.5	87.6

KC-135R

KC-135R	SITE	-----MEASURED-----						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 1	2	1060	85	90.8	85.4	1063	85.4	0.0	90.8	84.1
MRT POWER	5	1060	2907	83.8	75.0	3094	20.0	-2.0	81.8	73.9
@ 289 kts	6	1058	3907	80.0	72.0	4048	15.2	-0.5	79.5	71.5
@ 89.9 % RPM	7	1058	4907	79.3	71.0	5020	12.2	-2.0	77.3	69.3
	8	1038	5907	74.3	67.5	5998	10.0	1.2	75.5	67.5
Flt 2	2	1140	75	90.9	84.6	1142	86.2	0.0	90.9	84.0
MRT POWER	6	1139	3925	80.0	71.7	4087	16.2	-0.3	79.7	72.2
@ 268 kts	7	1139	4925	79.0	70.7	5055	13.0	-1.6	77.4	69.9
@ 89.6 % RPM	8	1119	5925	75.6	65.8	6030	10.7	-0.1	75.5	68.1
Flt 3	2	1039	18	91.0	85.8	1039	89.0	0.0	91.0	84.2
MRT POWER	6	1038	3982	80.3	73.2	4115	14.6	1.1	81.4	71.6
@ 280 kts	7	1038	4982	78.7	74.6	5089	11.8	-1.8	76.9	69.3
@ 89.4 % RPM	8	1018	5982	73.0	64.2	6068	9.7	2.0	75.0	67.5
Flt 4	2	1086	32	90.0	82.0	1086	88.3	0.0	90.0	85.1
APPROACH	5	1086	2968	80.0	70.4	3160	20.1	0.1	80.1	74.0
@ 157 kts	6	1084	3968	75.8	67.2	4113	15.3	1.6	77.4	71.4
@ 68.0 % RPM	8	1064	5968	71.0	63.0	6062	10.1	2.1	73.1	67.1
Flt 6	2	1031	49	89.8	82.3	1032	87.3	0.0	89.8	84.8
APPROACH	5	1031	3049	78.4	69.4	3219	18.7	0.9	79.3	73.5
@ 157 kts	6	1030	4049	74.7	64.5	4178	14.3	2.0	76.7	71.0
@ 65.0 % RPM	7	1030	5049	70.2	66.0	5153	11.5	4.1	74.3	68.6
Flt 8	2	1031	17	88.8	83.2	1031	89.1	0.0	88.8	83.2
INTERMEDIATE	5	1031	2983	78.0	70.6	3156	19.1	0.6	78.6	71.7
@ 262 kts	8	1009	5983	69.5	64.2	6067	9.6	1.8	71.3	64.6
@ 80.3 % RPM										
Flt 10	2	248	3	101.8	101.1	248	89.3	0.0	101.8	101.7
MRT POWER	5	259	3011	72.7	64.8	3022	4.9	4.8	77.5	71.8
@ 283 kts										
@ 90.0 % RPM										
Flt 11	1	261	14	100.5	99.1	261	86.9	0.0	100.5	100.3
MRT POWER	5	248	2998	72.1	66.8	3008	4.7	5.5	77.6	70.9
@ 295 kts	6	246	3998	64.6	56.9	4006	3.5	8.9	73.5	67.7
@ 90.0 % RPM										

KC-135R

KC-135R	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 12	2	223	34	99.6	96.6	226	81.3	0.0	99.6	99.6
APPROACH	3	228	966	86.7	80.0	993	13.3	0.4	87.1	82.2
@ 146 kts	4	228	1966	82.0	75.3	1979	6.6	-1.2	80.8	74.6
@ 60.0 % RPM										
Flt 13	2	233	51	100.2	97.3	239	77.7	0.0	100.2	100.2
APPROACH	3	237	1051	86.6	78.3	1077	12.7	0.8	87.4	81.6
@ 162 kts	4	237	2051	79.9	74.1	2065	6.6	1.5	81.4	74.6
@ 66.0 % RPM										

C-141

C-141	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 21	2	1119	36	101.4	95.9	1120	88.2	0.0	101.4	101.3
NRT POWER	3	1119	964	100.8	93.8	1477	49.3	-2.1	98.7	93.3
@ 270kts	4	1119	1964	95.0	88.0	2260	29.7	-0.6	94.4	87.7
@ 1.74 EPR	5	1119	2964	90.9	83.8	3168	20.7	-0.1	90.8	83.2
	6	1119	3964	88.1	81.6	4119	15.8	0.1	88.2	80.0
	7	1119	4864	84.2	77.0	4991	13.0	1.9	86.1	77.4
Flt 22	2	347	53	109.7	108.6	351	81.3	0.0	109.7	109.7
NRT POWER	3	347	1053	102.4	99.5	1109	18.2	-3.0	99.4	95.8
@ 270kts	4	347	2053	92.9	86.8	2082	9.6	-0.4	92.5	87.9
@ 1.74 EPR	5	347	3053	87.0	79.1	3073	6.5	0.9	87.9	82.9
	6	347	4053	83.9	76.0	4068	4.9	0.8	84.7	79.6
	7	347	4953	79.1	73.9	4965	4.0	3.1	82.2	77.0
Flt 23	2	1071	73	101.6	94.5	1073	86.1	0.0	101.6	101.5
NRT POWER	3	1071	927	98.7	92.7	1416	49.1	0.2	98.9	94.3
@ 240kts	5	1071	2927	90.2	81.7	3117	20.1	-1.5	88.7	83.1
@ 1.70 EPR	6	1071	3927	85.9	76.9	4070	15.3	-0.3	85.6	79.7
	7	1071	4827	82.2	74.8	4944	12.5	0.9	83.1	76.9
Flt 24	2	542	44	106.8	103.2	544	85.4	0.0	106.8	106.8
NRT POWER	3	542	956	100.9	94.7	1099	29.6	-1.0	99.9	96.1
@ 235kts	5	542	2956	88.3	80.6	3005	10.4	0.5	88.8	82.5
@ 1.70 EPR	6	542	3956	84.4	79.5	3993	7.8	1.3	85.7	78.9
	7	542	4886	80.2	71.9	4916	6.3	3.3	83.5	76.2

E-3A

E-3A	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0		
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL	
Flt 1 PATTERN @ 205kts @ 1.10 EPR	2	1055	31	98.6	96.0	1055	88.3	0.0	98.6	96.5	
	3	1055	969	93.3	90.3	1432	47.4	1.8	95.1	92.3	
	4	1055	1969	86.2	80.5	2234	28.2	2.6	88.8	86.4	
	5	1055	2969	83.5	78.7	3151	19.6	-0.6	82.9	81.1	
	6	1055	3969	79.4	71.2	4107	14.9	-1.5	77.9	77.3	
	7	1055	4869	74.9	67.6	4982	12.2	-1.2	73.7	73.5	
	Flt 2 PATTERN @ 207kts @ 1.13 EPR	2	1106	7	97.0	94.3	1106	89.6	0.0	97.0	94.7
3		1106	993	94.4	89.8	1486	48.1	-0.9	93.5	90.7	
4		1106	1993	85.0	79.1	2279	29.0	2.2	87.2	84.8	
5		1106	2993	84.1	80.8	3191	20.3	-2.8	81.3	79.5	
6		1106	3993	79.5	71.8	4143	15.5	-3.2	76.3	75.6	
7		1106	4893	76.4	68.9	5016	12.7	-4.2	72.2	71.6	
Flt 3 INTERMEDIATE @ 233kts @ 1.50 EPR		2	1136	2	101.5	97.0	1136	89.9	0.0	101.5	98.6
	3	1136	1002	99.5	93.7	1515	48.6	-1.5	98.0	94.7	
	5	1136	3002	89.6	83.2	3210	20.7	-2.2	87.4	82.9	
	6	1136	4002	85.9	76.6	4160	15.8	-1.9	84.0	79.0	
	7	1136	4902	82.1	73.5	5032	13.0	-0.7	81.4	75.7	
	Flt 4 INTERMEDIATE @ 240kts @ 1.50 EPR	2	1145	146	101.1	96.6	1154	82.7	0.0	101.1	97.9
		3	1145	854	99.8	95.2	1428	53.3	-1.1	98.7	95.1
5		1145	2845	89.6	80.8	3067	21.9	-1.1	88.5	83.6	
6		1145	3854	85.6	77.9	4020	16.5	-0.5	85.1	79.9	
7		1145	4746	82.7	75.6	4882	13.6	-0.2	82.5	77.0	
Flt 5 APPROACH @ 150kts @ 1.47 EPR		2	1115	12	104.4	98.6	1115	89.4	0.0	104.4	101.7
		3	1115	988	101.1	93.6	1490	48.5	-0.5	100.6	97.5
	5	1115	2988	91.5	80.2	3189	20.5	-2.8	88.7	84.4	
	Flt 6 APPROACH @ 150kts @ 1.42 EPR	2	1063	60	104.4	98.1	1065	86.8	0.0	104.4	101.6
		3	1063	940	99.6	92.4	1419	48.5	1.4	101.0	97.6
		5	1063	2940	90.8	79.6	3126	19.9	-0.7	90.1	85.5
		6	1063	3940	86.6	75.1	4081	15.1	0.1	86.7	81.6
7		1063	4840	83.4	72.2	4955	12.4	0.6	84.0	78.5	
Flt 7 TAKEDOFF @ 190kts @ 1.83 EPR		2	1056	150	107.8	99.9	1067	81.9	0.0	107.8	103.7
		3	1056	850	104.4	97.1	1356	51.2	1.0	105.4	100.7
	5	1056	2850	98.0	89.2	3039	20.3	-1.3	96.7	90.5	

E-3A

E-3A	SITE	-----MEASURED-----						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 8	2	1106	458	107.1	99.0	1197	67.5	0.0	107.1	102.1
TAKEDOFF	5	1106	2542	97.5	88.2	2772	23.5	1.1	98.6	92.5
@ 200kts	6	1106	3542	95.4	86.5	3711	17.3	0.1	95.5	89.2
@ 1.83 EPR	7	1106	4442	91.9	81.6	4578	14.0	1.2	93.1	86.6
Flt 9	2	1133	52	107.7	99.9	1134	87.4	0.0	107.7	103.3
TAKEDOFF	3	1133	948	103.9	98.3	1477	50.1	1.2	105.1	100.0
@ 198kts	5	1133	2948	96.8	90.3	3158	21.0	0.0	96.8	90.0
@ 1.83 EPR	6	1133	3948	94.9	85.1	4107	16.0	-0.9	94.0	87.0
	7	1133	4848	91.2	80.3	4979	13.2	0.6	91.8	84.5
Flt 10	2	577	94	112.5	108.6	585	80.7	0.0	112.5	108.6
TAKEDOFF	3	577	906	105.3	100.8	1074	32.5	2.0	107.3	101.5
@ 205kts	5	577	2906	95.7	86.5	2963	11.2	1.7	97.4	90.3
@ 1.83 EPR	6	577	3906	90.8	82.1	3948	8.4	3.6	94.4	87.3
	7	577	4806	89.3	80.2	4841	6.8	2.6	91.9	84.7
Flt 11	2	587	23	112.3	108.5	587	87.8	0.0	112.3	109.0
TAKEDOFF	3	587	977	104.5	99.0	1140	31.0	2.8	107.3	101.5
@ 201kts	5	587	2977	95.4	89.3	3034	11.2	2.0	97.4	90.3
@ 1.84 EPR	6	587	3977	91.1	83.4	4020	8.4	3.3	94.4	87.3
	7	587	4877	88.0	77.7	4912	6.9	3.9	91.9	84.7

F-4

F-4	SITE	-----MEASURED-----						LAT ATTN	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)	DELTA SEL	A-6 SEL	G-6 SEL
FLT 1	2	720	27	109.3	105.3	721	87.9	0.0	109.3	103.5
PATTERN	4	725	2027	96.6	88.5	2153	19.7	3.7	100.3	92.7
@ 208 kts	5	720	3027	93.4	86.9	3111	13.4	3.3	96.7	89.1
@ 87.0% RPM										
FLT 2	2	1058	20	107.2	105.8	1058	88.9	0.0	107.2	103.0
INTERMEDIATE	3	1063	1020	102.7	99.9	1473	46.2	1.6	104.3	99.8
@ 499 kts	4	1063	2020	97.3	93.4	2283	27.8	2.5	99.8	95.6
@ 90.0% RPM	5	1058	3020	94.2	87.7	3200	19.3	1.8	96.0	92.2
	6	1057	4020	90.2	83.1	4157	14.7	2.7	92.9	89.6
	7	1057	5020	89.4	83.2	5130	11.9	0.7	90.1	86.9
	9	1063	980	102.5	101.1	1446	47.3	1.9	104.4	100.0
FLT 3	2	425	55	116.5	117.1	429	82.6	0.0	116.5	114.4
INTERMEDIATE	3	430	1055	106.2	104.2	1139	22.2	2.4	108.6	103.9
@ 503 kts	4	430	2055	101.1	96.5	2100	11.8	2.0	103.1	98.1
@ 98.0% RPM	5	425	3055	97.6	91.6	3084	7.9	1.5	99.1	94.4
	6	423	4055	91.3	86.5	4077	6.0	4.9	96.2	91.8
	7	424	5055	87.2	80.5	5073	4.8	6.2	93.4	89.3
	9	430	945	105.3	103.7	1038	24.5	4.1	109.4	104.8
FLT 4	2	506	58	113.3	114.2	509	83.5	0.0	113.3	110.5
INTERMEDIATE	3	511	1058	102.7	99.7	1175	25.8	3.8	106.5	101.9
@ 489 kts	4	511	2058	98.7	94.1	2120	13.9	2.4	101.1	96.5
@ 92.0% RPM	5	506	3058	94.2	88.5	3100	9.4	3.0	97.2	93.0
	6	505	4058	93.0	86.6	4089	7.1	1.1	94.1	90.4
	7	505	5058	89.3	82.6	5083	5.7	2.0	91.3	87.8
	9	511	942	103.3	102.2	1072	28.5	4.0	107.3	102.8
FLT 5	2	208	43	121.5	124.2	212	78.3	0.0	121.5	121.6
INTERMEDIATE	3	213	1043	106.9	105.8	1065	11.5	2.1	109.0	104.0
@ 471 kts	4	213	2043	99.2	95.5	2054	6.0	3.8	103.0	97.6
@ 99.0% RPM	5	208	3043	89.1	85.1	3050	3.9	9.7	98.8	93.7
	6	207	4043	85.8	79.4	4048	2.9	9.9	95.7	90.8
	7	207	5043	79.9	72.4	5047	2.4	12.9	92.8	88.1
	9	213	957	107.4	105.2	980	12.5	2.3	109.7	104.9
FLT 6	2	260	44	119.9	122.0	264	80.4	0.0	119.9	119.7
INTERMEDIATE	3	264	1044	107.1	105.5	1077	14.2	1.8	108.9	103.9
@ 489 kts	4	264	2044	101.6	99.0	2061	7.4	1.4	103.0	97.5
@ 98.0% RPM	5	260	3044	93.9	87.5	3055	4.9	5.0	98.9	93.6
	6	258	4044	83.5	82.8	4052	3.7	12.3	95.8	90.8
	7	258	5044	83.8	78.9	5051	2.9	9.2	93.0	88.1
	9	264	956	107.0	105.7	992	15.4	2.6	109.6	104.7

J-1

F-4

F-4	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 7	2	140	50	117.6	122.3	149	70.3	0.0	117.6	117.6
INTERMEDIATE	3	145	1050	101.9	99.9	1060	7.9	0.4	102.3	97.9
@ 497 kts	4	145	2050	89.9	88.3	2055	4.0	5.8	95.7	91.1
@ 89.0% RPM	5	140	3050	80.4	73.8	3053	2.6	10.6	91.0	86.9
	9	145	962	98.2	95.5	973	8.6	4.9	103.1	98.8
FLT 8	2	138	49	117.7	122.3	146	70.5	0.0	117.7	117.7
INTERMEDIATE	3	142	1049	100.8	98.8	1059	7.7	1.6	102.4	98.3
@ 466 kts	4	142	2049	89.0	87.2	2054	4.0	6.8	95.8	91.5
@ 87.0% RPM	6	142	4049	77.2	69.1	4051	2.0	10.2	87.4	84.0
	9	142	951	97.8	95.1	962	8.5	5.5	103.3	99.4
FLT 9	2	141	85	118.4	122.6	165	58.9	0.0	118.4	118.4
INTERMEDIATE	3	146	1085	103.4	100.1	1095	7.7	0.2	103.6	99.2
@ 473 kts	4	146	2085	91.6	87.0	2090	4.0	5.7	97.3	92.7
@ 90.0% RPM	5	141	3085	84.9	82.3	3088	2.6	7.9	92.8	88.5
	6	140	4085	81.9	77.0	4087	2.0	7.3	89.2	85.4
	9	146	915	101.2	98.4	927	9.1	3.9	105.1	101.0
FLT 10	2	191	53	121.5	124.1	198	74.5	0.0	121.5	121.6
INTERMEDIATE	3	196	1053	105.5	103.6	1071	10.5	3.0	108.5	103.3
@ 462 kts	4	196	2053	100.2	99.6	2062	5.5	2.3	102.5	96.8
@ 95.0% RPM	5	191	3053	95.5	93.4	3059	3.6	2.8	98.3	92.9
	6	189	4053	85.6	81.5	4057	2.7	9.4	95.0	89.9
	7	190	5053	83.4	79.7	5057	2.2	8.8	92.2	87.3
	9	196	947	104.8	102.8	967	11.7	4.6	109.4	104.4
FLT 11	2	347	17	116.9	117.5	347	87.2	0.0	116.9	115.9
INTERMEDIATE	3	352	1017	105.2	102.4	1076	19.1	2.7	107.9	103.4
@ 483 kts	4	352	2017	101.7	96.1	2047	9.9	0.3	102.0	97.1
@ 96.0% RPM	5	347	3017	96.7	91.7	3037	6.6	1.1	97.8	93.3
	6	346	4017	89.9	84.9	4032	4.9	4.8	94.7	90.5
	9	352	983	105.2	105.0	1044	19.7	2.9	108.1	103.7
FLT 12	2	821	49	110.0	110.6	822	86.6	0.0	110.0	106.0
INTERMEDIATE	3	826	1049	103.3	102.5	1335	38.2	2.4	105.7	101.1
@ 493 kts	4	826	2048	96.4	92.6	2208	22.0	4.6	101.0	96.5
@ 90.0% RPM	5	821	3048	94.8	90.1	3157	15.1	2.4	97.2	93.1
	6	820	4048	92.0	86.3	4130	11.5	2.1	94.1	90.6
	7	820	5048	89.9	83.1	5114	9.2	1.3	91.2	88.1
	9	826	951	103.7	102.4	1260	41.0	2.4	106.1	101.5
FLT 13	2	723	19	110.4	104.9	723	88.5	0.0	110.4	107.8
PATTERN	3	728	981	104.1	96.0	1222	36.6	1.3	105.4	101.7
@ 208 kts	4	727	1981	96.9	88.9	2110	20.2	2.9	99.8	96.0
@ 86.0% RPM	5	723	2981	94.0	88.8	3067	13.6	1.2	95.2	91.6
	6	721	3981	91.3	81.3	4046	10.3	0.4	91.7	88.4
	9	728	1019	103.2	95.5	1252	35.5	2.0	105.2	101.4

F-5E

F-5E	SITE	MEASURED						DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 21 MIL POWER @ 365 kts @100 % RPM	1	1028	30	105.8	104.1	1028	88.3	0.0	105.8	101.6
	4	1036	2025	99.5	91.8	2275	27.1	-1.1	98.4	93.6
Flt 22 MIL POWER @ 390 kts @100 % RPM	1	1051	43	105.2	101.3	1052	87.7	0.0	105.2	100.5
	5	1031	3031	93.8	88.3	3202	18.8	1.1	94.9	89.7
	6	1031	4031	92.2	85.4	4161	14.3	0.0	92.2	87.3
	7	1031	4931	88.0	79.5	5038	11.8	1.8	89.8	85.1
Flt 24 AFTERBURNER @ 400 kts @100 % RPM	1	1060	67	112.2	111.5	1062	86.4	0.0	112.2	107.0
	4	1060	2067	102.4	95.7	2323	27.1	2.5	104.9	98.4
	5	1060	3067	98.4	93.7	3245	19.1	3.1	101.5	94.9
	6	1060	4067	97.4	91.0	4203	14.6	1.4	98.8	92.1
	7	1060	4967	95.9	87.3	5079	12.0	0.6	96.5	89.7
Flt 25 AFTERBURNER @ 340 kts @100 % RPM	1	1027	50	112.0	110.7	1028	87.2	0.0	112.0	105.1
	4	1039	2050	102.7	100.2	2298	26.9	2.4	105.1	97.0
	5	1039	3050	98.6	92.8	3222	18.8	3.4	102.0	93.6
	6	1039	4050	95.5	87.4	4181	14.4	3.8	99.3	91.0

F-15

F-15	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
Flt 21 MIL POWER @ 350 kts @ 90 % RPM	2	852	60	111.3	106.9	854	86.0	0.0	111.3	104.8
	4	852	1940	100.8	96.1	2119	23.7	3.2	104.0	95.4
	5	852	2940	95.2	88.6	3061	16.2	5.6	100.8	91.7
	6	852	3940	93.4	88.5	4031	12.2	4.9	98.3	89.0
	7	852	4840	90.7	85.3	4914	10.0	5.7	96.4	86.9
Flt 22 MIL POWER @ 380 kts @ 91 % RPM	2	1031	136	111.9	107.2	1040	82.5	0.0	111.9	104.8
	4	1031	2136	102.2	96.0	2372	25.8	3.1	105.3	96.7
	5	1031	3136	97.2	89.0	3301	18.2	5.2	102.4	93.4
	6	1031	4136	95.1	87.1	4263	14.0	5.0	100.1	91.1
	7	1031	5036	93.1	85.3	5140	11.6	5.2	98.3	89.0
Flt 23 MIL POWER @ 380 kts @ 91 % RPM	2	1042	87	111.8	107.8	1046	85.2	0.0	111.8	103.9
	4	1042	2087	101.9	93.6	2333	26.5	3.5	105.4	95.9
	5	1042	3087	98.5	90.7	3258	18.7	3.9	102.4	92.7
	6	1042	4087	95.4	85.4	4218	14.3	4.6	100.0	90.2
Flt 24 AFTERBURNER @ 450 kts @ 91 % RPM	2	1214	87	115.6	114.6	1217	85.9	0.0	115.6	109.6
	4	1214	2087	107.8	105.5	2414	30.2	2.2	110.0	102.3
	5	1214	3087	102.2	100.9	3317	21.5	4.9	107.1	99.0
	6	1214	4087	100.8	96.1	4263	16.5	3.9	104.7	96.4
	7	1214	4982	98.3	93.9	5128	13.7	4.6	102.9	94.2
Flt 25 AFTERBURNER @ 480 kts @ 91 % RPM	2	1110	89	116.5	114.4	1114	85.4	0.0	116.5	109.4
	4	1110	2089	110.1	107.0	2366	28.0	0.3	110.4	101.3
	5	1110	3089	104.9	100.2	3282	19.8	2.7	107.6	98.0
	6	1110	4089	102.5	94.5	4237	15.2	2.8	105.3	95.5
Flt 26 AFTERBURNER @ 472 kts @ 91 % RPM	2	1162	30	116.1	115.5	1162	88.5	0.0	116.1	109.8
	4	1162	2030	110.0	105.8	2339	29.8	0.0	110.0	102.5
	5	1162	3030	105.6	102.7	3245	21.0	1.3	106.9	99.1
	6	1162	4030	104.2	96.5	4194	16.1	0.3	104.5	96.5
Flt 27 APPROACH @ 175 kts @ 77 % RPM	2	1043	47	92.6	85.8	1044	87.4	0.0	92.6	85.5
	4	1043	2047	83.9	75.1	2297	27.0	2.4	86.3	78.3
	5	1043	3047	80.0	69.7	3221	18.9	3.3	83.3	75.0
Flt 28 APPROACH @ 160 kts @ 77 % RPM	2	1000	45	92.2	85.8	1001	87.4	0.0	92.2	82.7
	4	1000	2045	82.1	74.2	2276	26.1	4.0	86.1	74.9
	6	1000	4045	77.5	65.7	4167	13.9	3.6	81.1	69.3

F-15

F-15	SITE	-----MEASURED-----						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 29	2	1020	2	89.4	84.6	1020	89.9	0.0	89.4	82.3
CRUISE	4	1020	2002	80.9	73.1	2247	27.0	1.9	82.8	74.1
@ 290 kts	5	1020	3002	76.9	69.5	3171	18.8	2.6	79.5	70.3
@ 76 % RPM	7	1020	4902	72.8	65.5	5007	11.8	2.3	75.1	64.8
Flt 31	2	468	86	116.5	115.2	476	79.6	0.0	116.5	111.4
MIL POWER	4	468	2086	100.5	93.0	2138	12.6	4.4	104.9	95.5
@ 380 kts	5	468	3086	95.0	86.4	3121	8.6	6.5	101.5	91.8
@ 91 % RPM	7	468	4986	88.3	80.5	5008	5.4	8.7	97.0	86.9
Flt 32	2	497	79	115.7	115.0	503	81.0	0.0	115.7	110.0
MIL POWER	4	497	2079	99.8	94.9	2138	13.4	5.2	105.0	95.9
@ 360 kts	5	497	3079	94.5	86.9	3119	9.2	7.2	101.7	92.5
@ 91 % RPM	6	497	4079	92.2	84.5	4109	6.9	7.2	99.4	90.0
	7	497	4979	87.7	81.7	5004	5.7	9.7	97.4	88.0

F-16	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 2	2	1012	83	114.3	111.1	1015	85.3	0.0	114.3	108.3
AFTERBURNER	4	1016	2083	106.1	100.3	2318	26.0	1.0	107.1	99.4
@ 367kts	5	1011	3083	104.0	96.3	3245	18.2	-0.2	103.8	95.8
@ 92% RPM	6	1010	4083	100.7	94.9	4206	13.9	0.5	101.2	93.1
Flt 3	2	986	62	114.4	111.7	988	86.4	0.0	114.4	109.1
AFTERBURNER	4	991	2062	106.4	101.6	2288	25.7	0.2	106.6	99.5
@ 362kts	5	986	3062	104.3	97.0	3217	17.8	-1.1	103.2	95.7
@ 92% RPM	6	984	4062	101.8	94.5	4179	13.6	-1.3	100.5	92.8
Flt 4	2	1055	32	108.0	102.6	1055	88.3	0.0	108.0	104.4
INTER-MIL	4	1059	2032	98.8	92.2	2291	27.5	1.2	100.0	96.1
@ 363kts	5	1055	3032	96.5	87.6	3210	19.2	-0.5	96.0	92.5
@ 92% RPM	6	1053	4032	92.8	82.9	4167	14.6	0.0	92.8	89.8
Flt 8	2	1067	3	107.4	102.4	1067	89.8	0.0	107.4	103.9
INTER-MIL	4	1072	1997	99.0	91.3	2267	28.2	0.8	99.8	95.9
@ 369kts	5	1067	2997	96.1	87.1	3181	19.6	-0.4	95.7	92.3
@ 92% RPM	6	1065	3997	92.4	82.6	4136	14.9	0.1	92.5	89.5
Flt 9	2	358	6	104.9	100.6	358	89.0	0.0	104.9	103.3
INTERMEDIATE	4	363	1994	85.1	76.8	2027	10.3	5.3	90.4	84.1
@ 213kts	6	357	3994	74.2	66.3	4010	5.1	9.2	83.4	76.8
@ 85% RPM										
Flt 10	2	371	9	105.1	101.0	371	88.6	0.0	105.1	101.8
INTERMEDIATE	4	376	2009	86.7	82.0	2044	10.6	4.8	91.5	81.4
@ 240kts										
@ 85% RPM										
Flt 11	2	368	28	106.3	103.3	369	85.6	0.0	106.3	103.7
INTERMEDIATE	4	373	1972	90.7	84.9	2007	10.7	1.7	92.4	84.7
@ 242kts	6	367	3973	78.1	73.8	3990	5.3	7.2	85.3	76.9
@ 85% RPM										
Flt 12	2	1076	15	105.6	100.0	1076	89.2	0.0	105.6	99.7
TAKEOFF	4	1081	2015	97.4	89.1	2287	28.2	1.2	98.6	91.2
@ 365kts	5	1076	3015	94.6	86.9	3201	19.6	0.6	95.2	87.3
@ 90% RPM	6	1075	4015	91.3	82.5	4156	15.0	1.1	92.4	84.2

F-16	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 53	2	1247	108	101.9	99.3	1252	85.1	0.0	101.9	97.5
INTERMEDIATE	5	1247	3108	88.1	83.3	3349	21.9	3.3	91.4	87.5
@ 528 kts	6	1245	4108	85.3	79.5	4293	16.9	3.1	88.4	84.9
@ 84.0% RPM	7	1246	5108	81.4	73.4	5258	13.7	4.0	85.4	82.3
FLT 54	2	1118	38	97.1	94.4	1119	88.1	0.0	97.1	93.7
INTERMEDIATE	4	1123	2038	87.9	81.9	2327	28.9	1.3	89.2	85.7
@ 495 kts	5	1118	3038	84.1	77.1	3237	20.2	1.0	85.1	81.9
@ 84.0% RPM	6	1116	4038	80.1	72.9	4189	15.4	1.6	81.7	79.0
	7	1117	5038	77.7	70.0	5160	12.5	0.9	78.6	76.2
FLT 55	2	562	67	102.4	103.6	566	83.2	0.0	102.4	100.4
INTERMEDIATE	4	566	2067	88.0	83.0	2143	15.3	2.0	90.0	86.1
@ 510 kts	5	562	3067	82.5	76.4	3118	10.4	2.9	85.4	82.0
@ 84.0% RPM	6	560	4067	79.1	73.3	4105	7.8	2.9	82.0	79.1
	7	560	5067	76.0	68.9	5098	6.3	2.7	78.7	76.3
FLT 56	2	511	77	99.9	101.2	517	81.4	0.0	99.9	98.3
INTERMEDIATE	4	516	2077	85.8	80.8	2140	14.0	0.3	86.1	81.7
@ 485 kts	5	511	3077	80.0	73.5	3119	9.4	1.5	81.5	77.3
@ 83.0% RPM	6	509	4077	77.7	71.9	4109	7.1	0.5	78.2	74.3
	7	510	5077	73.8	67.7	5103	5.7	1.4	75.2	71.4
FLT 57	2	345	14	104.5	106.8	345	87.7	0.0	104.5	103.9
INTERMEDIATE	4	349	1986	87.3	82.2	2016	10.0	1.3	88.6	84.7
@ 500 kts	5	345	2986	81.0	75.3	3006	6.6	2.9	83.9	80.4
@ 84.0% RPM	6	343	3986	77.9	70.7	4001	4.9	2.3	80.2	77.2
	7	343	4986	72.5	68.0	4998	3.9	4.4	76.9	74.2
FLT 58	2	335	1	104.3	106.8	335	89.8	0.0	104.3	103.6
INTERMEDIATE	4	340	1999	86.7	82.4	2028	9.7	1.7	88.4	84.3
@ 489 kts	5	335	2999	79.6	74.6	3018	6.4	4.1	83.7	80.0
@ 84.0% RPM	6	333	3999	75.9	71.5	4013	4.8	4.3	80.2	77.0
	7	334	4999	73.0	66.6	5010	3.8	3.9	76.9	74.1
FLT 59	2	218	19	112.4	116.1	219	85.0	0.0	112.4	112.4
INTERMEDIATE	4	223	2019	89.4	84.1	2031	6.3	4.5	93.9	89.4
@ 498 kts	5	218	3019	79.7	74.0	3027	4.1	9.6	89.3	85.3
@ 84.0% RPM	6	216	4019	74.9	72.1	4025	3.1	10.7	85.6	82.0
FLT 60	2	221	13	108.7	112.2	221	86.6	0.0	108.7	108.7
INTERMEDIATE	4	225	2013	86.5	81.3	2026	6.4	3.9	90.4	86.2
@ 480 kts	5	221	3013	76.0	73.9	3021	4.2	9.8	85.8	82.2
@ 84.0% RPM	6	219	4013	72.9	68.8	4019	3.1	9.2	82.1	79.0
	7	219	5013	68.4	64.1	5018	2.5	10.4	78.8	76.2

F-16

F-16	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 61	2	166	28	109.6	113.8	168	80.4	0.0	109.6	109.6
INTERMEDIATE	4	170	2028	85.9	82.0	2035	4.8	2.2	88.1	83.9
@ 500 kts	5	166	3028	75.2	71.8	3033	3.1	7.9	83.1	79.3
@ 84.0% RPM	6	164	4028	70.7	67.8	4031	2.3	8.5	79.2	75.9
FLT 62	2	189	38	108.5	112.2	193	78.6	0.0	108.5	108.5
INTERMEDIATE	4	193	2038	86.8	81.7	2047	5.4	1.7	88.5	84.3
@ 497 kts	5	189	3038	75.3	69.9	3044	3.6	8.4	83.7	79.9
@ 84.0% RPM	6	187	4038	71.6	66.6	4042	2.7	8.4	80.0	76.7
	7	187	5038	65.5	60.6	5041	2.1	11.0	76.5	73.6
FLT 63	2	293	7	105.3	108.0	293	88.6	0.0	105.3	104.9
INTERMEDIATE	4	297	1993	86.7	80.5	2015	8.5	2.0	88.7	84.5
@ 490 kts	5	292	2993	77.9	71.4	3007	5.6	6.2	84.1	80.3
@ 84.0% RPM	6	291	3993	75.1	72.1	4004	4.2	5.4	80.5	77.3
	7	291	4993	74.1	67.9	5001	3.3	3.2	77.3	74.4
FLT 64	2	523	76	100.9	100.5	528	81.7	0.0	100.9	99.0
INTERMEDIATE	4	527	1924	88.5	83.1	1995	15.3	0.1	88.6	84.5
@ 475 kts	5	523	2924	81.8	77.1	2970	10.1	2.2	84.0	80.2
@ 84.8% RPM	6	521	3924	78.1	71.6	3958	7.6	2.2	80.3	77.0
FLT 65	2	1107	25	97.9	96.4	1107	88.7	0.0	97.9	94.0
INTERMEDIATE	4	1112	1975	89.5	85.1	2267	29.4	1.0	90.5	86.5
@ 519 kts	5	1107	2975	84.9	78.1	3174	20.4	1.5	86.4	82.8
@ 84.0% RPM	6	1105	3975	81.4	73.5	4126	15.5	1.7	83.1	79.9
	7	1106	4975	78.5	70.7	5096	12.5	1.3	79.8	77.1

F-18

F-18	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-G SEL	G-G SEL
Flt 3 MIL POWER @ 337 kts @ 101 % RPM	1	1067	547	114.1	107.5	1199	62.9	0.0	114.1	107.4
	4	1063	2473	106.2	98.7	2692	23.3	0.6	106.8	100.4
	5	1065	3453	100.3	93.0	3614	17.1	3.6	103.9	97.6
	6	1066	4433	97.7	91.7	4559	13.5	3.7	101.4	95.1
	7	1067	5414	94.3	88.3	5518	11.1	4.8	99.1	92.8
Flt 6 APPROACH @ 147 kts @ 85.8 % RPM	2	1071	124	108.7	100.6	1078	83.4	0.0	108.7	102.9
	4	1067	2053	100.6	89.8	2314	27.5	1.3	101.9	95.1
Flt 8 MIL POWER @ 335 kts @ 101 % RPM	2	456	262	118.5	115.1	526	60.1	0.0	118.5	117.2
	5	460	3188	99.2	93.4	3221	8.2	1.4	100.6	97.9
	6	462	4168	93.7	87.6	4194	6.3	3.6	97.3	95.3
Flt 9 MIL POWER @ 378 kts @ 101 % RPM	1	1038	264	114.6	109.0	1071	75.7	0.0	114.6	110.4
	4	1036	2197	107.2	99.9	2429	25.2	-0.7	106.5	101.5
	5	1037	3174	100.3	92.8	3339	18.1	2.8	103.1	98.3
	6	1038	4151	95.9	89.6	4279	14.0	4.4	100.3	95.7
	7	1038	5131	95.4	87.5	5235	11.4	2.5	97.9	93.3
Flt 10 APPROACH @ 148 kts @ 86.6 % RPM	2	1150	94	109.1	101.4	1154	85.3	0.0	109.1	103.0
	4	1152	2036	101.3	91.8	2339	29.5	1.6	102.9	95.9

FB-111	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 14	2	1302	65	103.6	102.6	1304	87.1	0.0	103.6	98.7
INTERMEDIATE	3	1307	935	101.5	100.4	1607	54.4	0.3	101.8	97.0
@ 505 kts	4	1307	1935	98.0	94.8	2335	34.0	0.2	98.2	93.5
@ 90.0% RPM	5	1302	2935	96.1	91.2	3211	23.9	-1.4	94.7	90.5
@ 45 deg WS	6	1301	3935	92.5	91.0	4144	18.3	-0.6	91.9	88.1
	7	1301	4935	83.7	80.1	5104	14.8	5.4	89.1	85.8
	9	1307	1065	101.5	97.9	1686	50.8	-0.2	101.3	96.5
FLT 15	2	444	43	108.4	108.7	446	84.5	0.0	108.4	106.5
INTERMEDIATE	3	448	957	104.6	103.6	1057	25.1	-3.1	101.5	97.5
@ 513 kts	4	448	1957	99.9	98.8	2008	12.9	-4.1	95.8	91.3
@ 95.0% RPM	5	443	2957	96.2	94.5	2990	8.5	-4.4	91.8	87.7
@ 45 deg WS	6	442	3957	90.9	88.6	3982	6.4	-2.2	88.7	85.1
	9	448	1043	104.1	104.6	1135	23.2	-3.2	100.9	96.7
FLT 16	2	252	15	112.2	116.2	252	86.6	0.0	112.2	112.2
INTERMEDIATE	3	257	1015	100.6	101.2	1047	14.2	0.9	101.5	97.8
@ 519 kts	4	257	2015	94.5	94.0	2031	7.3	1.2	95.7	91.6
@ 92.0% RPM	5	252	3015	89.6	86.6	3026	4.8	1.9	91.5	88.0
@ 45 deg WS	6	250	4015	83.8	80.4	4023	3.6	4.4	88.2	85.3
	9	257	985	101.2	102.9	1018	14.6	0.6	101.8	98.0
FLT 17	2	136	5	113.6	118.7	136	87.9	0.0	113.6	113.6
INTERMEDIATE	3	141	1005	97.9	97.4	1015	8.0	-0.1	97.8	94.2
@ 516 kts	4	141	2005	89.1	88.2	2010	4.0	1.5	90.6	86.5
@ 91.0% RPM	5	136	3005	82.7	77.2	3008	2.6	3.0	85.7	81.9
@ 48 deg WS		141	995	98.2	97.2	1005	8.1	-0.3	97.9	94.4
FLT 18	2	192	6	118.2	121.8	192	88.2	0.0	118.2	118.2
MILITARY	3	197	1006	109.1	111.0	1025	11.1	-3.6	105.5	100.7
@ 546 kts	4	197	2006	102.5	100.2	2016	5.6	-3.1	99.4	93.8
@ 95.0% RPM	5	192	3006	97.0	93.8	3012	3.7	-1.8	95.2	89.9
@ 54 deg WS	6	191	4006	89.9	85.9	4011	2.7	2.2	92.1	87.1
	9	197	994	108.0	107.9	1013	11.2	-2.4	105.6	100.8
FLT 19	2	146	10	117.6	121.9	146	86.1	0.0	117.6	117.6
MILITARY	3	151	991	106.6	108.1	1002	8.7	-3.7	102.9	98.0
@ 550 kts	4	151	1991	98.4	99.9	1997	4.3	-2.1	96.3	90.9
@ 95.0% RPM	5	146	2991	91.4	90.3	2995	2.8	0.3	91.7	86.7
@ 54 deg WS	6	144	3991	87.6	87.1	3994	2.1	0.5	88.1	83.5
	9	151	1010	105.1	107.2	1021	8.5	-2.4	102.7	97.8

FB-111

FB-111	SITE	MEASURED						LAT ATTN DELTA SEL	NOISEFILE 6.0	
		ALT (FT)	OFFSET (FT)	SEL (dB)	ALM (dB)	RANGE (FT)	ANGLE (DEG)		A-6 SEL	G-6 SEL
FLT 20	2	252	138	118.8	122.5	287	61.3	0.0	118.8	118.0
MILITARY	3	257	1138	109.3	110.6	1167	12.7	-0.8	108.5	102.8
@ 561 kts	4	257	2138	103.0	104.3	2153	6.9	0.4	103.4	97.3
@ 100.0% RPM	5	252	3138	97.3	95.1	3148	4.6	2.5	99.8	93.9
@ 54 deg WS	6	250	4138	92.7	92.6	4146	3.5	4.3	97.0	91.6
	9	257	862	108.6	109.3	899	16.6	2.0	110.6	105.5
FLT 21	2	579	45	114.2	116.0	581	85.6	0.0	114.2	111.1
MILITARY	3	584	1045	107.8	108.3	1197	29.2	0.8	108.6	103.6
@ 547 kts	4	584	2045	103.6	101.5	2127	15.9	0.1	103.7	98.4
@ 99.0% RPM	5	579	3045	101.0	99.4	3100	10.8	-1.0	100.0	95.0
@ 54 deg WS	6	577	4045	95.6	93.2	4086	8.1	1.5	97.1	92.6
	7	577	5045	92.9	89.8	5078	6.5	1.6	94.5	90.5
	9	584	955	108.3	108.1	1119	31.4	0.9	109.2	104.3