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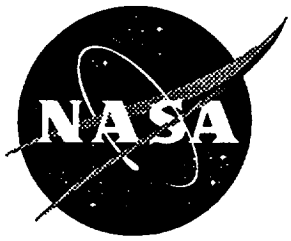

Definition of 1992 Technology Aircraft Noise Levels and the Methodology for Assessing Airplane Noise Impact of Component Noise Reduction Concepts

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3.0 DEFINITION OF 1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

3.1 Airplane Models and Target Noise Levels Defined

Table I summarizes the four airplane configurations comprising the noise assessment models, and Table II lists nominal airplane performance conditions for noise predictions at FAR 36 certification conditions.

Figure 1 shows the target noise levels for the average airplane models—each target defined simply as the "visual average" of measured FAR 36 Stage 3 noise certification EPNL values for the group of airplanes in each size class. The airplanes represented on Figure 1 are as follows: Business Jet —15 different models from 8 manufacturers comprising the world fleet mix in 1992; Small Twin—Boeing 737–300/400/500 and Airbus A320 model; Medium Twin—Boeing 757 and 767 models and Airbus A330; Large Quad—Boeing747; Others—A340 and MD–11.

Several criteria were considered to establish whether specific airplane/engine configurations were to be included within the "1992 technology" definition. These included:

(1) limitation of the study to Stage 3 airplanes, excluding any Stage 2 aircraft refitted with engine hushkit modifications to achieve marginal compliance with Stage 3 standards.

(2) exclusion of any airplane with an initial delivery date more than 10 years prior to the 1992 reference year for this study; this standard excluded the McDonnell–Douglas DC–10 and Lockheed L1011 tri–jets and early versions of the Boeing 747.

(3) consideration of airplane models for which noise certification levels were available before the end of the Task 5 study. The study therefore included consideration of the certification noise levels for the A321–100, A330–300, and A340–200 and –300 models.

(4) anticipation that noise certification levels for the MD90–30 and B777–200 would not be available until after Task 5 completion; accordingly, estimated levels for these aircraft were reviewed but not included in this study.

To facilitate the study, existing engine and airplane performance data for airplane/engine configurations which were fully representative of each airplane size class were used. This strategy avoided the costly work of developing engine and airplane performance data for the hypothetical "average" airplane in each class.

The specified range of engine bypass ratios (BPR) for the AST Noise Reduction Program study was initially defined as 3.0 – 6.0, later amended to 1.5 – 6.0. Obviously, no single set of engine cycle data can represent the extremes of this bypass ratio range; the bypass ratio for the average engine cycle data ranges from 3.5 – 5.0 for the airplane/engine models and flight conditions of the Task 5 noise assessment study. Advanced ducted propeller (ADP) engines, with bypass

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1.0 SUMMARY

Noise reduction concepts for individual components of engine and airplane airframe noise will be defined from the wide range of individual studies being performed within the NASA Advanced Subsonic Technology (AST) Noise Reduction Program. Progress of the AST Noise Reduction Program studies will be assessed in terms of noise reduction impact relative to 1992 noise control technology.

The two major requirements of NAS1–20090 Task 5 were to define: (1) the 1992 technology reference levels of engine component, airframe, and total airplane system noise; and (2) a methodology for assessing the airplane system noise impact of changes to individual noise components.

To support this noise assessment task, reference 1992 technology noise levels are defined for turbofan–powered airplanes in four size classes: a twin–engined business jet; a small, twin–engined commercial transport; a medium–size, twin–engined commercial transport; and a large, four–engined transport. For each airplane, the methodology for assessing the overall airplane system impact of noise reduction concepts is based on detailed noise models that define the independent contributions of airframe noise and the major component sources of engine noise.

The intended application of the noise assessment methodology is demonstrated by estimating the airplane system noise impact of the AST program targets—which have been defined in terms of year 1996 interim goals, year 2000 final goals, and year 2000 minimum success criteria.

Results of the noise assessment examples documented in this report indicate that achievement of the final NASA AST noise reduction program goals for component source noise reduction will provide from 6 – 7 EPNdB reduction in total airplane noise at noise certification conditions.

2.0 BACKGROUND

The overall objective of the noise reduction element of the NASA AST program is to develop technology that can be used to reduce aircraft noise levels by 10 dB relative to 1992 technology.

In order to measure progress toward achieving this overall objective—and to evaluate the results of individual program elements—the following requirements were defined by the Technical Working Group (TWG), a NASA/Industry oversight committee for the AST program. The first requirement of this task was to define reference noise levels representing a benchmark standard of "1992 technology" for selected airplane/engine models. The second requirement was to define a methodology to assess the impact of noise reduction concepts relative to the reference levels.

ratios expected to range from 12 – 18, are clearly outside the scope of this "1992 technology" criterion.

Similarly, engine geometry cannot represent all features of 1992 technology engines, which range from extended to recessed primary nozzle configurations—with or without free or forced mixer exits—combined with short, medium, and full length fan ducts. As indicated in Table I, the Task 5 assessment specifically assumes a 3/4 fan duct configuration with an extended primary duct (ending in a round, conical nozzle exit) for the commercial transport models. For the business jet model, a full length fan duct with an essentially co–planar exit with the primary nozzle has been assumed.

Current engine installations which are fully representative of the 1992 technology category and which were considered in the Task 5 assessment included:

(1) the AlliedSignal TFE731 series for the business jet model;

(2) the CFMI CFM56–3 for the small twin; and

(3) the GE CF6–80C2 and PW 4000 for the medium–sized twin and large quad models.

All of these engines are characterized by conventional fan designs with 33 – 38 blades—in contrast to wide–chord designs, which are characterized by significantly different blade counts in the 22 – 26 range—but are nevertheless also representative of 1992 technology designs.

Blade–to–strut spacing and blade count ratios of fan exit guide vanes to fan blades are assumed to be of optimized design, including compromises for engine length and weight considerations.

3.2 1992 Technology Definition for Lining Designs

The lining attenuations are based on Boeing (1992 technology) designs, double–layer constant depth with laser–drilled buried septum and perforated plate facesheet. (Lining designs in non–Boeing nacelles more commonly feature single–layer, linear facesheet configurations.)

Aft fan duct attenuation spectra for the business jet assessment are summarized in Table III. Because the baseline configuration for the business jet assumed both a hardwall inlet and aft fan duct, the initial installation of the aft duct lining treatment was treated as the 25% lining improvement package for the "interim" and "minimum success" goals assessments. These values were then incremented by 25% to represent the 50% lining improvement package for the "final goals" assessment. An untreated inlet configuration was assumed for all of the business jet assessment exercises.

The inlet and aft duct attenuation spectra for the baseline configurations of the commercial tranport models are summarized in Table IV. These attenuation spectra were: (1) incremented by 25% to represent the 25% lining improvement package for the interim and minimum success

goals assessments, and (2) incremented by 50% to represent the 50% lining improvement package for the final goals assessment.

The EPNL noise reductions attributed to the duct treatments in the baseline configurations for the commercial transport noise assessment models were subsequently normalized in terms of separate evaluations of the delta EPNdB per unit value of the average ratio of the total duct length to its average height. These values are shown in Figure 2 in terms of: (1) delta EPNdB of the Inlet Noise Component per unit L/h of the inlet duct, and (2) delta EPNdB of the Aft Fan Noise Component per unit L/h of the aft fan duct. These data are provided in the form of the parameter established by consensus of TWG representatives as a metric for assessing lining improvements.

3.3 FAR 36 Stage 3 Noise Certification Levels

3.3.1 Component EPNLs — All Models

Predictions of airframe and engine component EPNLs were made using a Boeing Proprietary Modular Component Predictor (MCP) program. For each model, a common adjustment was applied to all of the component noise levels, as required to achieve a match of the total airplane noise prediction to the target EPNL value.

The resulting component EPNL definitions at FAR 36 Stage 3 noise certification conditions are summarized in Table V for all of the airplane models, and these EPNL data are shown in bar graph form in Figure 3. The bar graph comparisons show the expected trend of increasing noise with airplane size for the major components—inlet, aft fan, jet, and airframe—with some variation of the core and turbine noise components.

3.3.2 Noise Spectra at FAR 36 Stage 3 Noise Certification Conditions

The total collection of 1/3 octave band spectrum data for each airplane model at each of the FAR 36 certification conditions is included in this report as Appendix A. Noise versus time array data are also provided in this Appendix.

A representative comparison of total noise spectra for all models is shown in Figure 4. This figure shows the expected general pattern of increasing noise with airplane size.

4.0 NOISE ASSESSMENT METHODOLOGY

4.1 Noise Prediction Programs

The semi-empirical noise prediction methodology used for the business jet assessment was a modified version of a General Aviation Synthesis Program (GASP) (Reference 1). Noise predictions for the commercial transport models were made with a Boeing Proprietary computer program.

As evidenced by the component EPNL data shown in Figure 3, both programs define noise level contributions of each of the major components of total aircraft system noise. Program structure in each case allows for modification of noise outputs by introducing changes in input parameter values or by the direct application of noise level increments.

4.2 Results of Preliminary Assessments

One of the early applications of the noise assessment models was to estimate the airplane noise impact of different combinations of engine and airframe noise reductions. These preliminary estimates were based on an expedient procedure based on logarithmic addition of component EPNL values, with appropriate adjustments. This procedure was validated by good agreement of its results with the results of full spectral assessments for selected test cases.

The procedure was then used to define the relationship shown in Figure 5—the expected impact of engine and airframe noise reductions on total airplane noise. With reference to Figure 5, similar airplane noise impact trends are indicated for all of the airplane models.

5.0 DEMONSTRATION OF ASSESSMENT APPLICATIONS

5.1 Program Goals Defined and Modeled

Table VI summarizes the noise reduction targets of the NASA AST noise reduction program—defined in terms of interim, final, and minimum success criterion goals.

Figure 6 depicts how the baseline and the 25% and 50% increments of nacelle noise reduction effectiveness were modeled in the assessments for the commercial transports. The program goal of 50% improvement in nacelle suppression may involve shaped (directional) inlets and nozzles, inlet boundary layer control, and other features. For this study, however, the "50% improvement" was modeled as an increment in lining effectiveness as depicted in Figure 6.

The more common nacelle configuration for the 1992 technology business jet comprises a hardwall nacelle. Accordingly, the baseline business jet configuration for this study is a hardwall nacelle configuration, and the 25% and 50% noise reduction increments were modeled in a different manner.

For the business jet, the 25% improvement was modeled by the attenuation benefit of a lining treatment package for the aft duct; the 50% overall nacelle suppression improvement was subsequently modeled by incrementing the initial treatment benefit by 25%. As noted in a previous discussion of "1992 technology" as defined for lining design, the initial aft fan duct attenuation spectra for all conditions for the business jet assessment are shown in Table III; for the commercial jet assessments, the initial spectrum corrections applied to account for the lining effects at the sub–component level are shown as negative values in Table IV.

5.2 Assessment of Program Goals

5.2.1 Spectral Assessments for All Airplane Models

Results of the full spectral assessments at the FAR 36 noise certification conditions are listed in Table VII for the business jet. Equivalent data for the commercial jet models are shown in Tables VIII through X.

These illustrations define the component and total airplane noise impact in terms of the noise reduction expected from achievement of the various AST program targets.

These component noise levels listed in Tables VII through X are shown in bar graph form in Figures 7 through 10.

Figures 11 through 14 shows good agreement of these results—from the full spectral assessments of the AST program goals—with the trends predicted by the preliminary assessments that were displayed in Figure 5. This confirms the validity of the data trends shown in Figure 5, so that these trend curves may be used to quickly estimate—for any model—the total airplane noise impact for different combinations of total engine and airframe noise reductions.

A final display of the EPNL values for the AST program goals assessments is provided in Figure 15.

5.2.2 Support of Independent Noise Assessment Capability

Appendix A provides 1/3 octave band spectrum data versus time and/or angular position. These spectral data allow computations of all relevant metrics—dBA, OASPL, PNL, PNLT at the specified time and noise field angle. These metrics are already provided for the baseline data.

Assuming the availability of appropriate noise data processing software, trapezoidal integrations of the noise metric versus time arrays can be performed to define the integrated metrics—e.g., SEL, SENEL and EPNL.

Provision of the full set of component noise spectra and (PNLT versus time arrays) in Appendix A therefore provides the individual investigator with the capability to assess the overall airplane noise impact of changes to specific noise components. Re–computation of component and total airplane noise levels with the modified component defines the impact of the component noise change relative to the given baseline noise levels. Because the change is assessed in terms of noise reduction between two configurations for a given flight condition and propagation path, no specific knowledge of the airplane position and speed or engine thrust is required for this assessment. However, this background information is provided in Table II.

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In order to permit the independent assessment of the noise reduction impact of improved lining attenuations, lining attenuation spectra assumed for the baseline configurations of the airplane/ engine assessment models are provided separately, in Tables III and IV.

6.0 COMMUNITY NOISE ASSESSMENTS

Contour displays for EPNL and SEL are shown for takeoff and approach conditions in Figure 16 for the business jet and in Figure 17 for the small, twin–engine commercial jet model. To define the ground noise pattern for a typical community noise exposure event, the flight conditions for these displays are for takeoff and landing weights for a typical mission rather than at the maximum takeoff and landing weights for certification.

For the business jet model, the GASP program (Reference 1) was used to generate an EPNL and a SEL noise–power–distance table for the baseline configuration. Additional tables were also generated for the AST program goals assessment results but were not used for the initial demonstration of the contour format shown in Figure 16. Mission profiles for the takeoff and approach conditions were generated with a proprietary computer program. The FAA Integrated Noise Model (INM) Version 4.11 (Reference 2) was then used to generate the single–event EPNL and SEL noise contours at the 70, 80, and 90 dB levels, as shown in Figure 16.

For the small twin model, the departure and approach profiles for a representative small twin was selected from the available data in INM. These were combined with the noise–power–distance table of EPNL and SEL values for the baseline configuration, and similar contours (at the 70, 80, and 90 dB levels) were generated with a series of proprietary computer programs.

The estimated benefit of the AST program targets for noise reduction is summarized for each of the models in Tables VIII –X. In order to illustrate the effect of the noise reduction measures on community noise in the contour format, the EPNL noise reductions shown for the cutback condition were translated into reductions of the exposure area for an 80 EPNdB contour for the takeoff condition. The resulting comparison of 80 EPNdB (single–event) contour areas for the baseline configuration and for the program noise reduction targets is illustrated in Figure 18 for the business jet model, and a similar display for the small twin is shown in Figure 19.

These examples for the business jet and small twin models fully demonstrate the potential application of the noise assessment methodology defined by this Task to illustrate changes in noise exposure area in support of community noise assessments.

7.0 CONCLUSIONS

The 1992 technology reference levels have been defined for noise assessment models representing four airplane size classes, and assessment examples are described which fully demonstrate the noise assessment methodology and its applicability to both certification and community noise studies.

As summarized in Figure 5—and as validated by data shown in Figure 11–14, the results of the noise assessment exercises described in this report indicate that achievement of the NASA AST reduction program final goals for source noise reduction and nacelle treatment improvement will provide from 6–7 EPNdB reduction in total airplane system noise at the FAR 36 Stage 3 noise certification conditions.

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2. Fleming, G. G. et al, INM, Integrated Noise Model Version 4.11, User's Guide — Supplement, DOT–VNTSC–FAA–93–19, Volpe National Transportation Systems Center, December 1992. Prepared for DOT/FAA/AEE. Contract FA 465/A4012.

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TABLE I. AIRPLANE/ENGINE DESCRIPTIONS AND REFERENCE CERTIFICATION NOISE LEVELS.

AIRPLANE CATEGORY	AIRPLANE WEIGHTS—KLBS		ENGINE CLASS	1992 TECHNOLOGY NOISE LEVELS EPNLs FOR FAR 36 NOISE CERTIFICATION		
	TAKEOFF	LANDING	SLST—KLBS	CUTBACK	SIDELINE	APPROACH
BUSINESS JET (TWIN)	27.6	23.4	4.3	81.0	89.5	92.0
SMALL TWIN	138.5	115.5	22	87.0	94.0	97.0
MEDIUM–SIZED TWIN	400	320	60	92.0	97.5	99.0
LARGE, 4–ENGINE	850	652	55	101.0	99.0	104.0

ENGINE/NACELLE

FAN DUCT:	BUSINESS JET: ESSENTIALLY CO–PLANAR WITH PRIMARY EXIT. TRANSPORTS: 3/4 LENGTH
LININGS:	BUSINESS JET: NONE TRANSPORTS: INLET AND AFT FAN DUCT, NONE IN PRIMARY TAILPIPE
INSTALLATION:	BUSINESS JET: AFT–FUSELAGE TRANSPORTS: UNDER–WING

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TABLE II. NOMINAL AIRCRAFT PERFORMANCE FOR FAR 36 CERTIFICATION CONDITIONS

Airplane Model	Certification Condition	Thrust (Corr Net)	Altitude	Sideline	True Airspeed	Climb Angle	Engine Pitch	
		lbs (Per Eng)	ft	ft	knots	Degrees	Degrees	
Business Jet (Twin)	Takeoff W/Cutback	2400	2600		160	5.	15.	
	Sideline	3700	1000	1476	160	9.	20.	
	Approach	1200	394		145	–3.	1.	
Small Twin	Takeoff W/Cutback	12500	2100		185	5.	18.	
	Sideline	17500	1000	1476	185	9.	22.	
	Approach	5500	394		150	–3.	2.	
Medium Twin	Takeoff W/Cutback	33000	1800		195	4.	12.	
	Sideline	48500	1000	1476	190	9.	16.	
	Approach	13000	394		160	–3.	1.	
Large Quad	Takeoff W/Cutback	27500	1100.		205	2.	12.	
	Sideline	45500	1000.	1476	205	7.	17.	
	Approach	13500	394		175	–3.	3.	

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Figure 1a. 1992 Technology Aircraft Noise Levels for Average Airplane Models--Cutback.

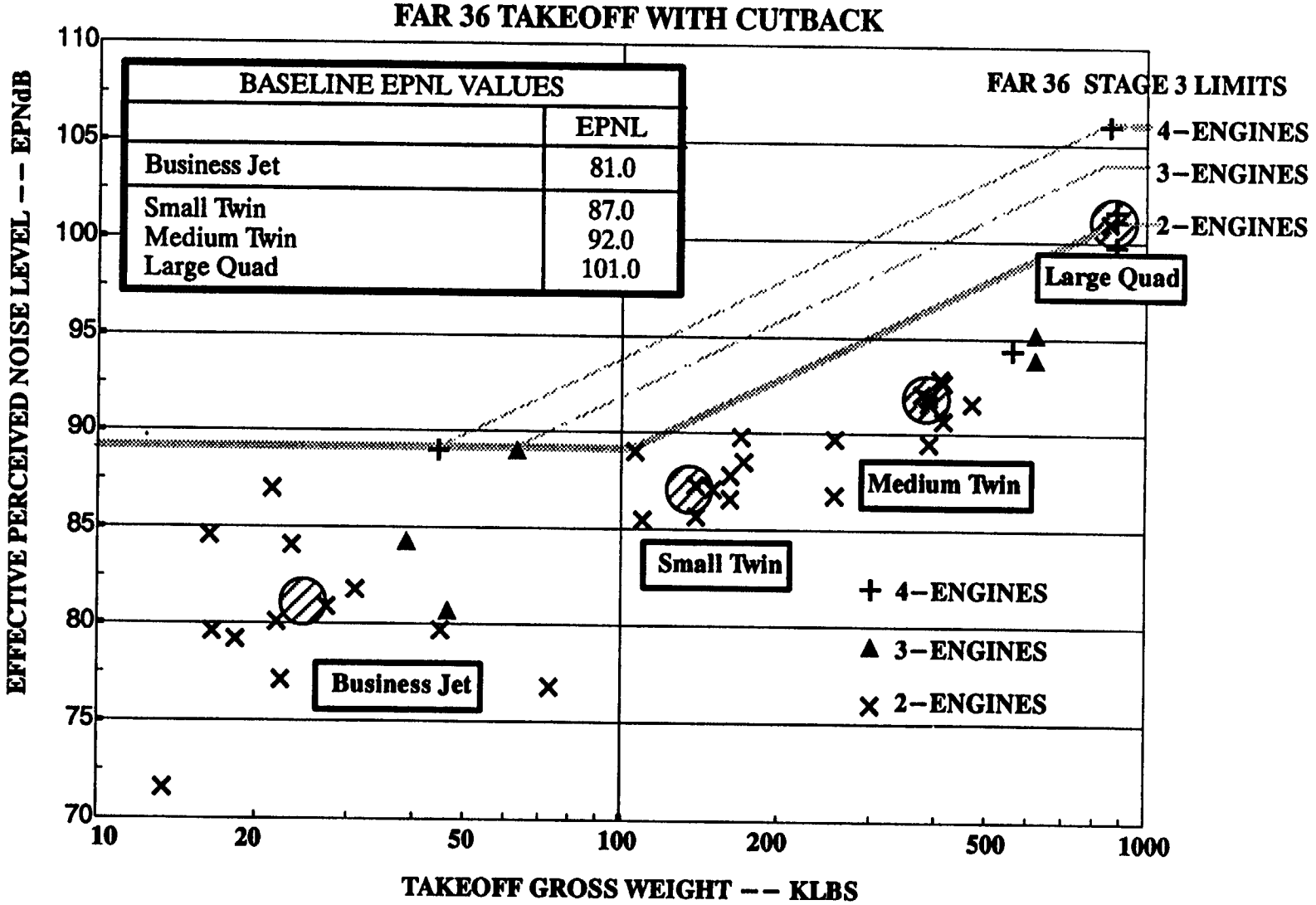

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Figure 1b. 1992 Technology Aircraft Noise Levels for Average Airplane Models--Sideline

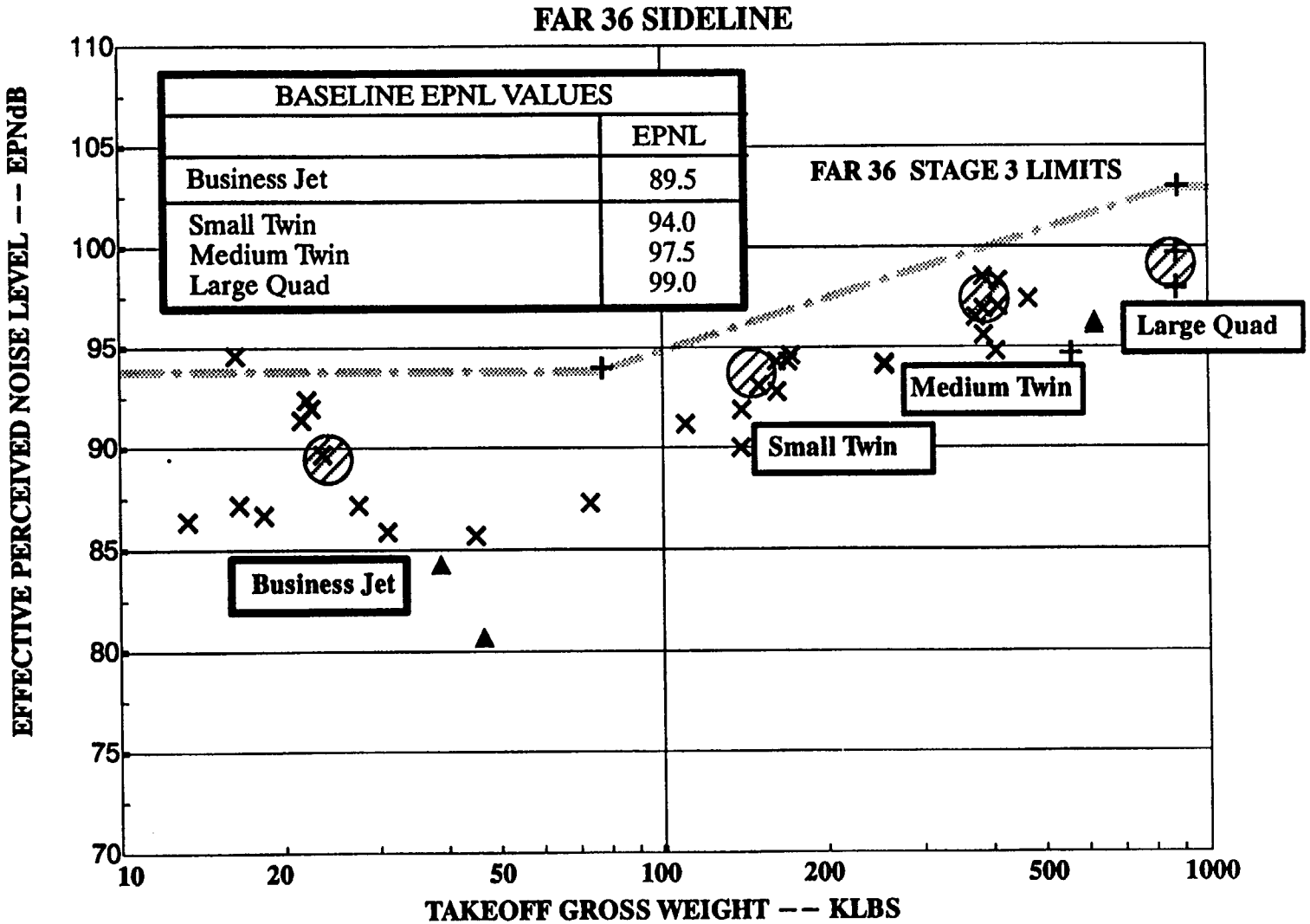

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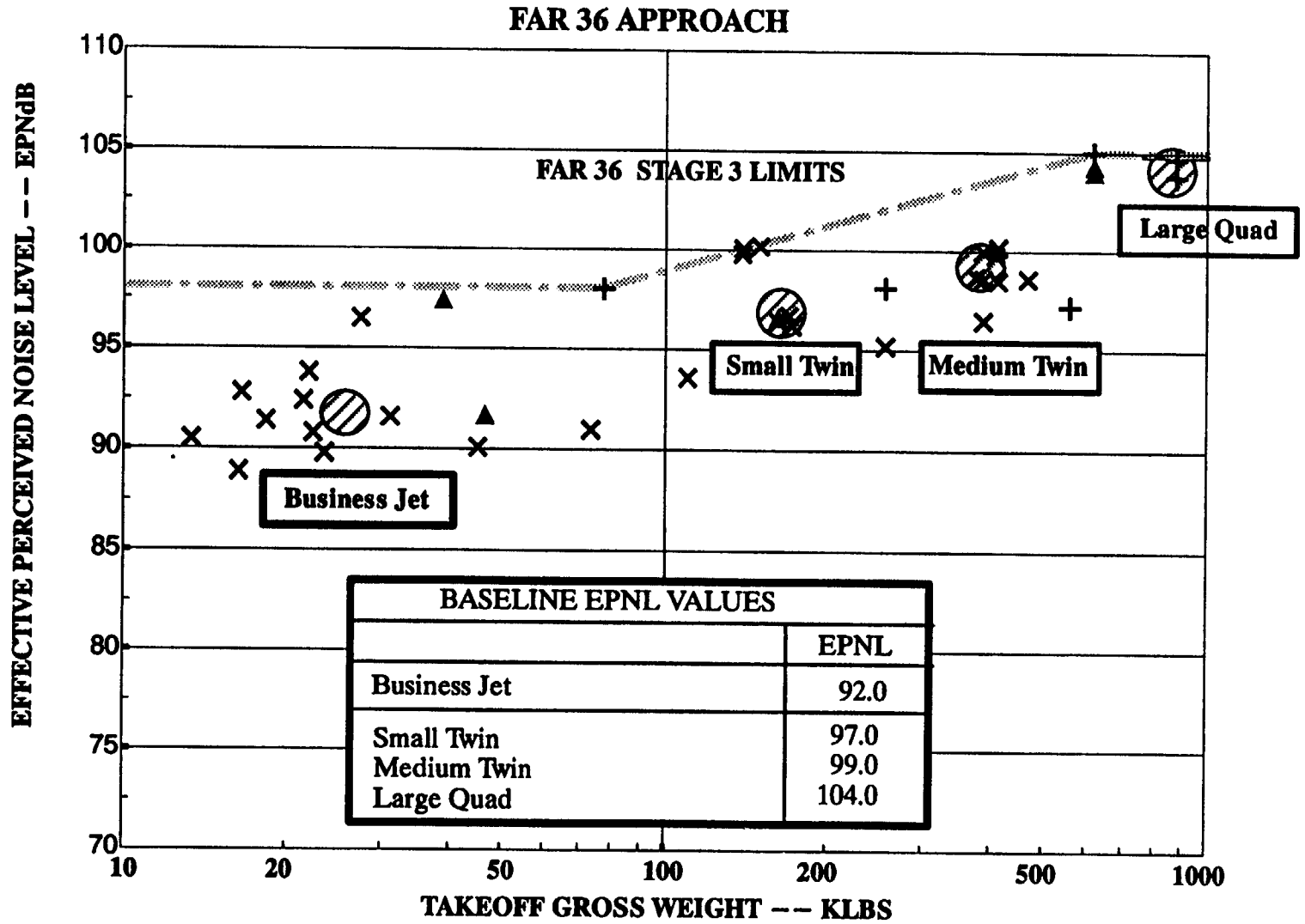
Figure 1c. 1992 Technology Aircraft Noise Levels for Average Airplane Models--Approach.



Aft Fan Noise Attenuation for Intermediate Acoustic Liner, dB																	
	Directivity Angle from Inlet, degrees																
Frequency, Hz	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
500	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	0.3
630	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.9	0.9	0.8	0.8	0.7	0.5	0.4
800	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.1	1.2	1.1	1.0	0.9	0.6	0.5
1000	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.4	1.5	1.5	1.5	1.3	1.1	0.9	0.6
1250	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.9	2.0	2.1	2.0	1.8	1.5	1.2	0.8
1600	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.8	2.9	2.7	2.5	2.1	1.6	1.1
2000	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.0	3.4	3.7	3.9	3.7	3.3	2.8	2.2	1.5
2500	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.9	4.4	4.8	5.0	4.8	4.3	3.7	2.8	2.0
3150	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.9	5.3	5.5	5.3	4.7	4.1	3.1	2.2
4000	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.9	4.4	4.8	5.0	4.8	4.3	3.7	2.8	2.0
5000	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.0	3.4	3.7	3.9	3.7	3.3	2.8	2.2	1.5
6300	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.8	2.9	2.7	2.5	2.1	1.6	1.1
8000	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.9	2.0	2.1	2.0	1.8	1.5	1.2	0.8
10000	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.4	1.5	1.5	1.5	1.3	1.1	0.9	0.6

Table III. Aft Duct Lining Attenuation for Business Jet (25% Improvement Model).

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*SMALL TWIN, BASELINE (TREATED) NACELLE LINING ATTENUATIONS
*FORMAT:  DIRECTIVITY FACTORS, 10 TO 170 DEGREES (DIR)
*24 ONE-THIRD OCTAVE BAND VALUES  (DEL)
*-------------------------------------------------------
*CUTBACK CONDITION
*-------------------------------------------------------
 INLET
     ANGLE   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170
 BROADBAND  0.4  0.4  0.5  0.7  1.0  1.4  1.6  1.6  1.5  1.3  1.1  0.9  0.7  0.5  0.3  0.1  0.1
      TONE  0.4  0.4  0.5  0.7  1.0  1.4  1.6  1.6  1.5  1.3  1.1  0.9  0.7  0.5  0.3  0.1  0.1
   BUZZSAW  0.4  0.5  0.7  0.9  1.0  1.0  1.0  1.0  1.0  1.0  1.0  0.9  0.9  0.9  0.9  0.9  0.8

      BAND   17   18   19   20   21   22   23   24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40
 BROADBAND  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.3 -0.5 -0.9 -1.4 -2.2 -3.2 -4.2 -4.9 -5.0 -4.9 -4.7 -4.4 -4.2 -3.7 -3.1 -2.1
      TONE  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.3 -0.5 -0.9 -1.4 -2.2 -3.2 -4.2 -4.9 -5.0 -6.6 -4.7 -4.4 -4.2 -3.7 -3.1 -2.1
   BUZZSAW  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -2.5 -4.0 -18.5 -24.1 -24.4 -20.4 -12.1 -5.5 -1.3  0.0  0.0  0.0  0.0  0.0  0.0
*-------------------------------------------------------
 AFTFAN
     ANGLE   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170
 BROADBAND  0.1  0.1  0.1  0.1  0.4  0.7  1.0  1.1  1.1  1.1  1.1  1.0  0.9  0.8  0.6  0.5  0.3
      TONE  0.1  0.1  0.1  0.1  0.4  0.7  1.0  1.1  1.1  1.1  1.1  1.0  0.9  0.8  0.6  0.5  0.3

      BAND   17   18   19   20   21   22   23   24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40
 BROADBAND  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.7 -1.3 -2.1 -3.3 -5.3 -8.4 -12.4 -14.1 -11.6 -9.9 -9.0 -7.4 -5.7
      TONE  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.7 -1.3 -2.1 -3.3 -5.3 -8.4 -12.4 -14.1 -11.6 -9.9 -9.0 -7.4 -5.7
*=======================================================
*SIDELINE CONDITION
*-------------------------------------------------------
 INLET
     ANGLE   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170
 BROADBAND  0.4  0.4  0.5  0.7  1.0  1.4  1.6  1.6  1.5  1.3  1.1  0.9  0.7  0.5  0.3  0.1  0.1
      TONE  0.4  0.4  0.5  0.7  1.0  1.4  1.6  1.6  1.5  1.3  1.1  0.9  0.7  0.5  0.3  0.1  0.1
   BUZZSAW  0.4  0.5  0.7  0.9  1.0  1.0  1.0  1.0  1.0  1.0  1.0  0.9  0.9  0.9  0.9  0.9  0.8

      BAND   17   18   19   20   21   22   23   24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40
 BROADBAND  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.8 -1.2 -1.9 -2.8 -3.7 -4.2 -4.3 -4.2 -4.1 -3.8 -3.6 -3.2 -2.7
      TONE  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.8 -1.2 -1.9 -2.8 -3.7 -4.2 -4.3 -5.7 -4.1 -3.8 -3.6 -3.2 -2.7
   BUZZSAW  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -1.7 -5.0 -9.3 -14.6 -19.0 -14.4 -9.2 -5.1 -1.7 -0.6  0.0  0.0  0.0  0.0  0.0  0.0
*-------------------------------------------------------
 AFTFAN
     ANGLE   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170
 BROADBAND  0.1  0.1  0.1  0.1  0.4  0.7  1.0  1.1  1.1  1.1  1.1  1.0  0.9  0.8  0.6  0.5  0.3
      TONE  0.1  0.1  0.1  0.1  0.4  0.7  1.0  1.1  1.1  1.1  1.1  1.0  0.9  0.8  0.6  0.5  0.3

      BAND   17   18   19   20   21   22   23   24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40
 BROADBAND  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.7 -1.3 -2.1 -3.4 -5.5 -8.6 -12.3 -13.6 -11.4 -9.9 -9.0 -7.4
      TONE  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0 -0.1 -0.2 -0.4 -0.7 -1.3 -2.1 -3.4 -5.5 -8.6 -12.3 -13.6 -11.4 -9.9 -9.0 -7.4
```

Table IVa. Lining Attenuations for Small-Twin Baseline Configuration—delta dB.

1992 Technology Aircraft Noise Levels

*APPROACH CONDITION

INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.7	-1.1	-1.8	-2.8	-4.0	-5.3	-6.1	-6.3	-6.2	-5.9	-5.6	-5.3	-4.7	-3.9	-2.7	-1.3
TONE	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.7	-1.1	-1.8	-2.8	-4.0	-5.3	-6.1	-6.3	-8.3	-5.9	-5.6	-5.3	-4.7	-3.9	-2.7	-1.3
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AFTFAN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.6	-1.1	-1.9	-3.0	-5.1	-8.2	-12.7	-15.5	-12.2	-10.4	-9.3	-7.3	-5.4	-4.2
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.6	-1.1	-1.9	-3.0	-5.1	-8.2	-12.7	-15.5	-12.2	-10.4	-9.3	-7.3	-5.4	-4.2

Table IVa. Concluded

1992 Technology Aircraft Noise Levels

*MEDIUM TWIN BASELINE (TREATED) NACELLE LINING ATTENUAIIONS
*FORMAT: DIRECTIVITY FACTORS 10 TO 170 DEGREES
*24 ONE-THIRD OCTAVE BAND VALUES

CUTBACK CONDITION

INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.5	-0.8	-1.4	-2.1	-3.0	-3.8	-4.3	-4.3	-4.2	-4.1	-3.9	-3.8	-3.4	-2.8	-1.6	-0.5
TONE	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.5	-0.8	-1.4	-2.1	-3.0	-3.8	-4.3	-4.3	-4.2	-4.1	-3.9	-3.8	-3.4	-2.8	-1.6	-0.5
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.1	-3.9	-7.6	-11.0	-13.4	-15.0	-12.8	-9.3	-6.1	-3.6	-1.4	0.0	0.0	0.0	0.0

AFTFAN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.4	-0.7	-1.2	-1.9	-3.0	-4.7	-6.4	-6.8	-6.1	-5.6	-5.0	-4.1
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.4	-0.7	-1.2	-1.9	-3.0	-4.7	-6.4	-6.8	-6.1	-5.6	-5.0	-4.1

SIDELINE CONDITION

INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.4	-0.7	-1.1	-1.7	-2.5	-3.2	-3.5	-3.6	-3.5	-3.4	-3.3	-3.1	-2.8	-2.3	-1.3
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.4	-0.7	-1.1	-1.7	-2.5	-3.2	-3.5	-3.6	-3.5	-3.4	-3.3	-3.1	-2.8	-2.3	-1.3
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-5.4	-6.3	-4.1	-2.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0

AFTFAN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.7	-1.2	-1.9	-3.1	-4.7	-6.3	-6.5	-5.9	-5.5	-5.4
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.7	-1.2	-1.9	-3.1	-4.7	-6.3	-6.5	-5.9	-5.5	-5.4

Table IVb. Lining Attenuations for Medium-Twin Baseline Configuration—delta dB.

1992 Technology Aircraft Noise Levels

APPROACH CONDITION

INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.6	-1.1	-1.8	-2.7	-3.9	-5.0	-5.6	-5.7	-5.6	-5.4	-5.2	-4.9	-4.5	-3.7	-2.1	-0.7	-0.4
TONE	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.6	-1.1	-1.8	-2.7	-3.9	-5.0	-5.6	-5.7	-5.6	-5.4	-5.2	-4.9	-4.5	-3.7	-2.1	-0.7	-0.4
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AFTFAN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.5	-0.9	-1.5	-2.4	-3.9	-6.3	-9.3-	10.5	-8.7	-7.6	-6.9	-5.5	-3.9
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.5	-0.9	-1.5	-2.4	-3.9	-6.3	-9.3	-10.5	-8.7	-7.6	-6.9	-5.5	-3.9

Table IVb. Concluded

*LARGE QUAD BASELINE (TREAT4ED) NACELLE LINING ATTENUATIONS
*FORMAT: DIRECTIVITY FACTORS 10 TO 170 DEGREES
*24 ONE-THIRD OCTAVE BAND VALUES
*===
*CUTBACK CONDITION
*---
INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.5	-0.9	-1.4	-2.2	-3.1	-4.0	-4.5	-4.6	-4.5	-4.3	-4.2	-4.0	-3.6	-2.9	-1.7	-0.6
TONE	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.5	-0.9	-1.4	-2.2	-3.1	-4.0	-4.5	-4.6	-4.5	-4.3	-4.2	-4.0	-3.6	-2.9	-1.7	-0.6
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.3	-9.4	-14.6	-18.0	-19.2	-16.8	-11.5	-6.4	-2.7	0.0	0.0	0.0	0.0	0.0

*---
AFTFN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.8	-1.3	-2.1	-3.4	-5.2	-7.3	-7.8	-6.7	-6.0	-5.5	-4.6
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.8	-1.3	-2.1	-3.4	-5.2	-7.3	-7.8	-6.7	-6.0	-5.5	-4.6

*===
*SIDELINE CONDITION
*---
INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.7	-1.2	-1.8	-2.6	-3.3	-3.7	-3.7	-3.7	-3.5	-3.4	-3.2	-2.9	-2.4	-1.4	-0.5
TONE	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.7	-1.2	-1.8	-2.6	-3.3	-3.7	-3.7	-3.7	-3.5	-3.4	-3.2	-2.9	-2.4	-1.4	-0.5
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.1	-3.5	-6.7	-7.8	-5.6	-3.7	-1.5	-0.2	0.0	0.0	0.0	0.0	0.0

*---
AFTFN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.5	-0.8	-1.4	-2.2	-3.5	-5.3	-7.0	-7.3	-6.5	-6.0	-5.5	-4.5
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.5	-0.8	-1.4	-2.2	-3.5	-5.3	-7.0	-7.3	-6.5	-6.0	-5.5	-4.5

Table IVc. Lining Attenuations for Large-Quad Baseline Configuration—delta dB.

1992 Technology Aircraft Noise Levels

APPROACH CONDITION

INLET

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
TONE	0.4	0.4	0.5	0.7	1.0	1.4	1.6	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.1	0.1
BUZZSAW	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8

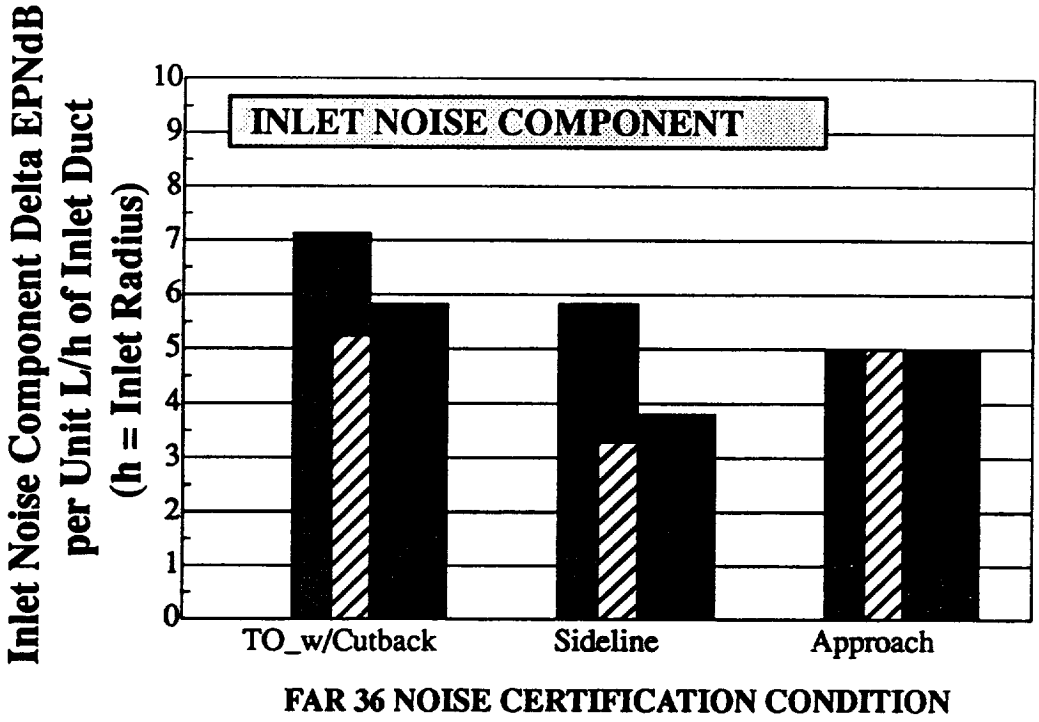
BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	3	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.6	-1.1	-1.7	-2.7	-3.9	-5.0	-5.5	-5.6	-5.5	-5.3	-5.1	-4.9	-4.4	-3.6	-2.1	-0.7	-0.4
TONE	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.6	-1.1	-1.7	-2.7	-3.9	-5.0	-5.5	-5.6	-5.5	-5.3	-5.1	-4.9	-4.4	-3.6	-2.1	-0.7	-0.4
BUZZSAW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AFTFN

ANGLE	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
BROADBAND	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3
TONE	0.1	0.1	0.1	0.1	0.4	0.7	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3

BAND	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BROADBAND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.6	-1.1	-1.7	-2.7	-4.4	-7.0	-10.3	-11.6	-9.5	-8.2	-7.4	-6.0	-4.5
TONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.6	-1.1	-1.7	-2.7	-4.4	-7.0	-10.3	-11.6	-9.5	-8.2	-7.4	-6.0	-4.5

Table IVc. Concluded



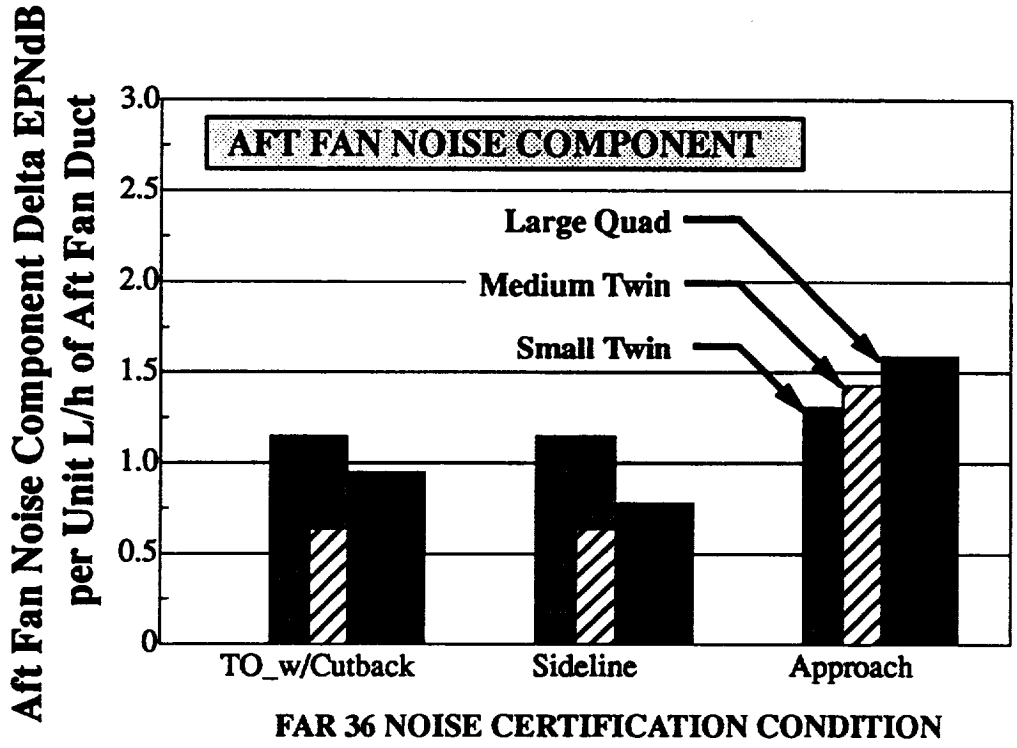


Figure 2. Lining Effectiveness (1992 Technology).

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

COMPONENT EPNL VALUES FOR FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS												
A/P MODEL	BUSINESS JET			SMALL TWIN			MEDIUM TWIN			LARGE QUAD		
CONDITION	TO/CB	SL	APP	TO/CB	SL	APP	TO/CB	SL	APP	TO/CB	SL	APP
COMPONENT	EPNL — EPNdB			EPNL — EPNdB			EPNL — EPNdB			EPNL — EPNdB		
Inlet	53.4	66.5	76.5	73.3	79.6	91.9	84.5	86.6	94.6	94.0	89.3	99.2
Aftfan	69.8	77.6	86.2	80.0	82.9	88.8	86.6	92.2	92.5	96.0	93.3	97.2
Core	70.1	76.1	77.3	75.3	81.4	79.4	73.2	77.8	73.8	79.7	80.2	78.2
Turbine	57.2	61.3	77.6	40.8	47.5	71.8	63.8	64.0	76.4	77.5	68.2	82.1
Jet	78.6	86.6	81.2	81.8	91.6	82.3	84.5	92.8	78.7	88.5	93.7	83.2
Total Engine	80.4	89.2	89.8	86.4	93.7	95.3	91.6	97.4	97.4	100.1	98.7	102.1
Airframe	71.7	72.3	86.5	77.0	81.1	91.5	80.3	82.2	93.1	90.9	88.6	98.1
Total Airplane	81.0	89.5	92.0	87.0	94.0	97.0	92.0	97.5	99.0	101.0	99.0	104.0

TABLE V.

1992 TECHNOLOGY NOISE LEVELS FOR BASELINE CONFIGURATIONS—ALL MODELS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

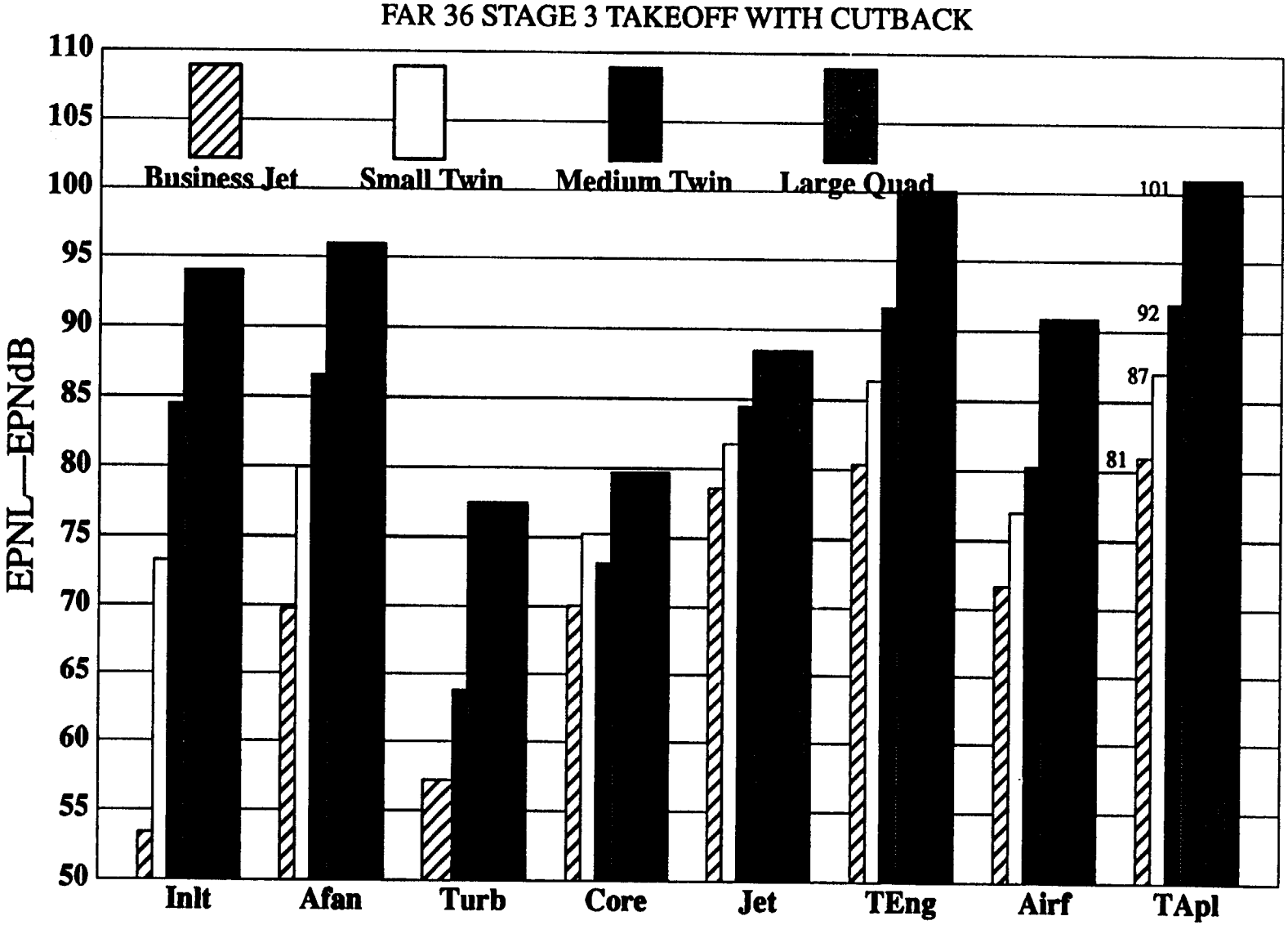


Figure 3a. Summary Comparison of Component EPNLs—All Airplane Models—Cutback.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

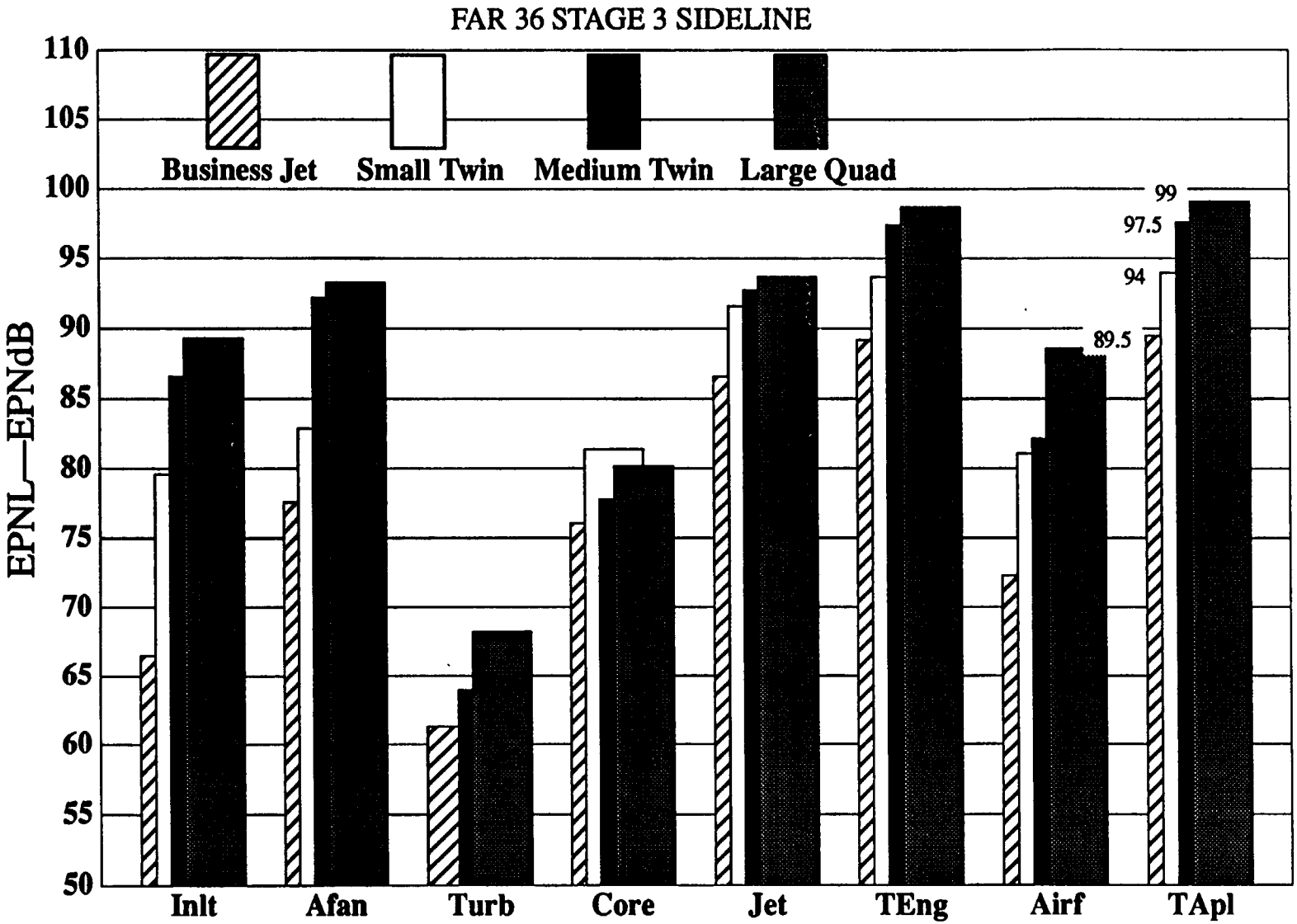


Figure 3b. Summary Comparison of Component EPNLs—All Airplane Models—Sideline.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

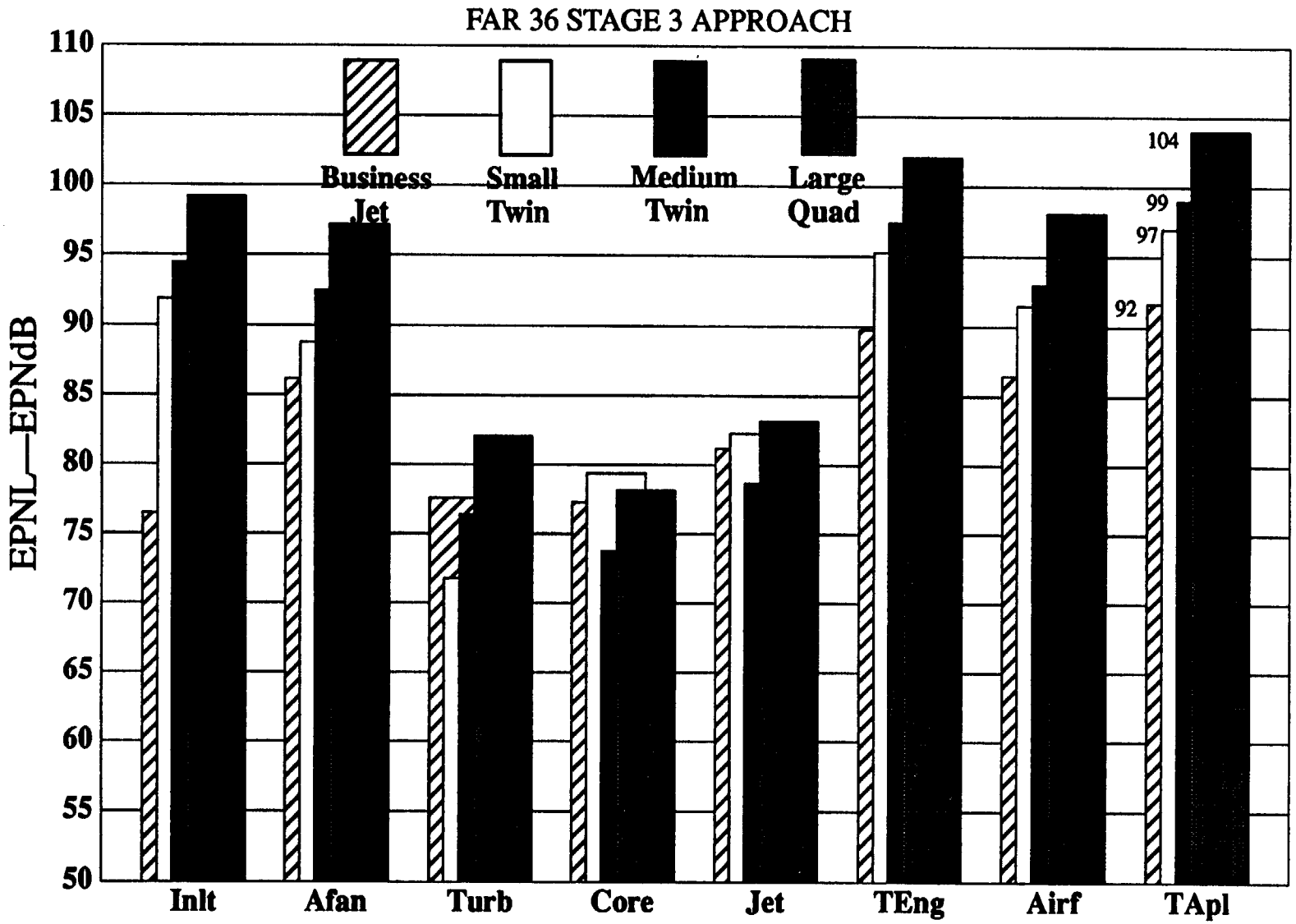


Figure 3c. Summary Comparison of Component EPNLs—All Airplane Models—Approach.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

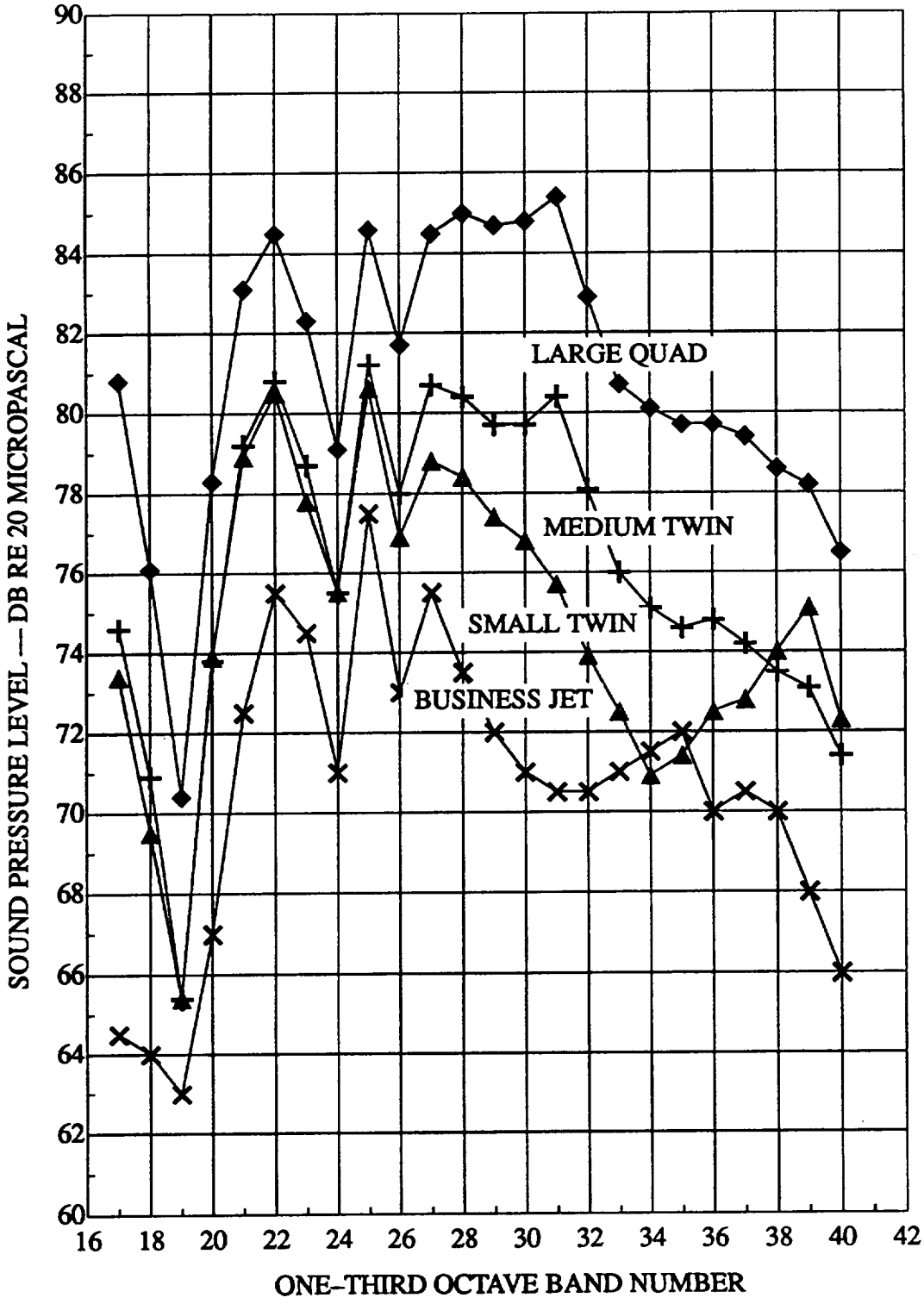


Figure 4. Approach Noise Spectrum at 120 Degrees—All Models

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

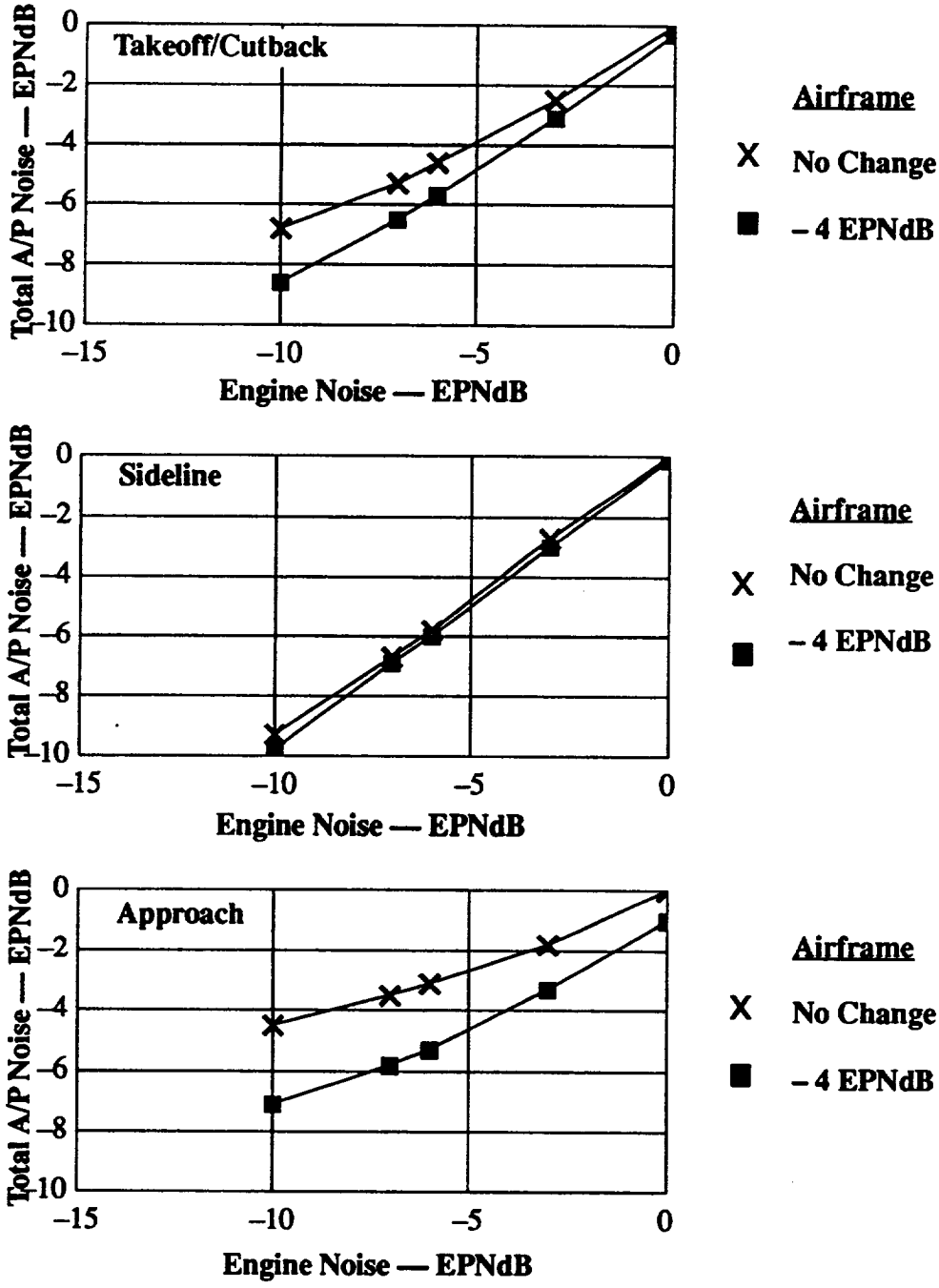


Figure 5a. Estimated Impact of Engine/Airframe Noise Reduction on Total Airplane Noise—Twin-Engine Business Jet.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

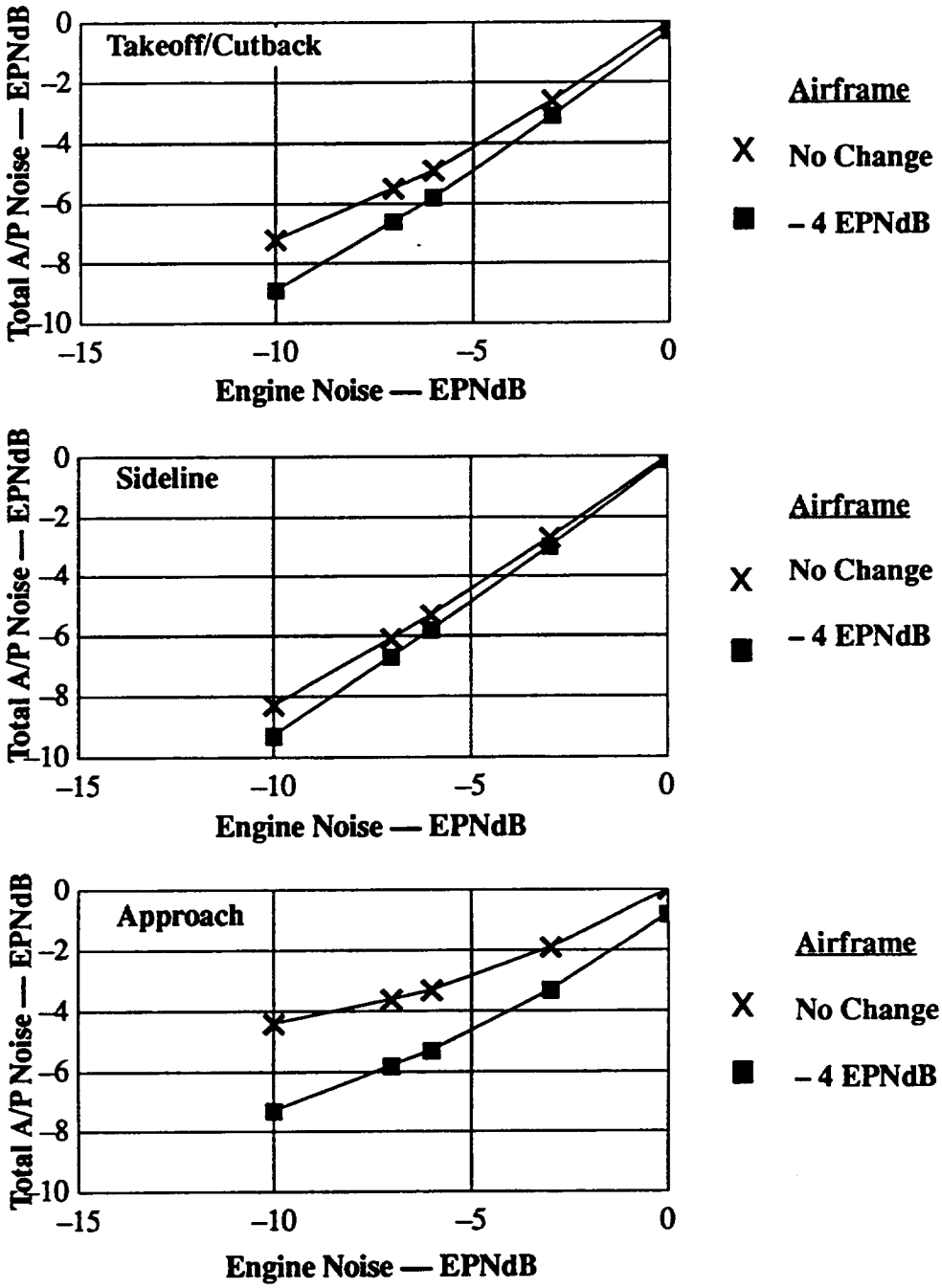


Figure 5b. Estimated Impact of Engine/Airframe Noise Reduction on Total Airplane Noise—Twin-Engine Small Commercial Transport.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

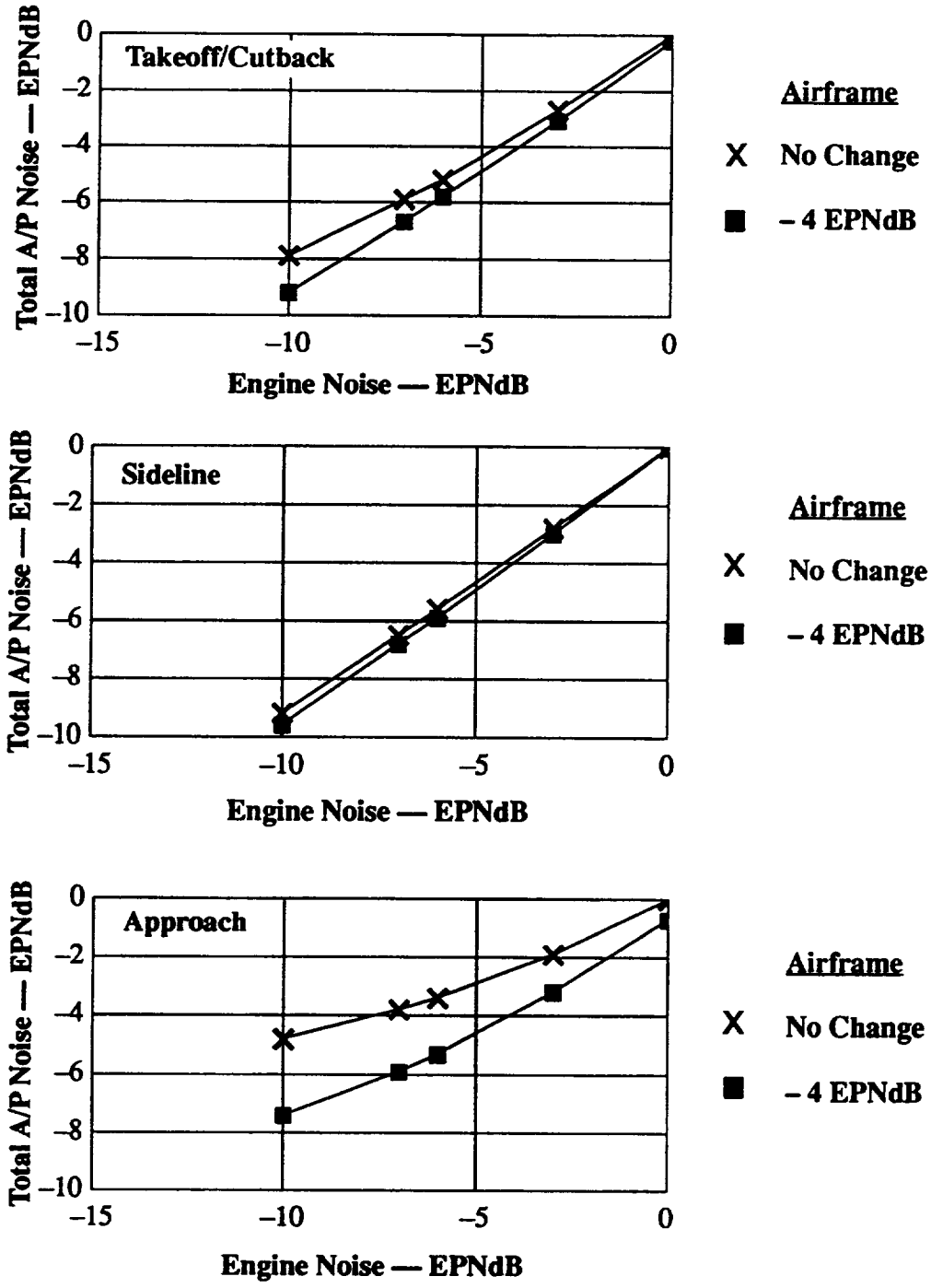


Figure 5c. Estimated Impact of Engine/Airframe Noise Reduction on Total Airplane Noise—Twin–Engine Medium–Sized Commercial Transport.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

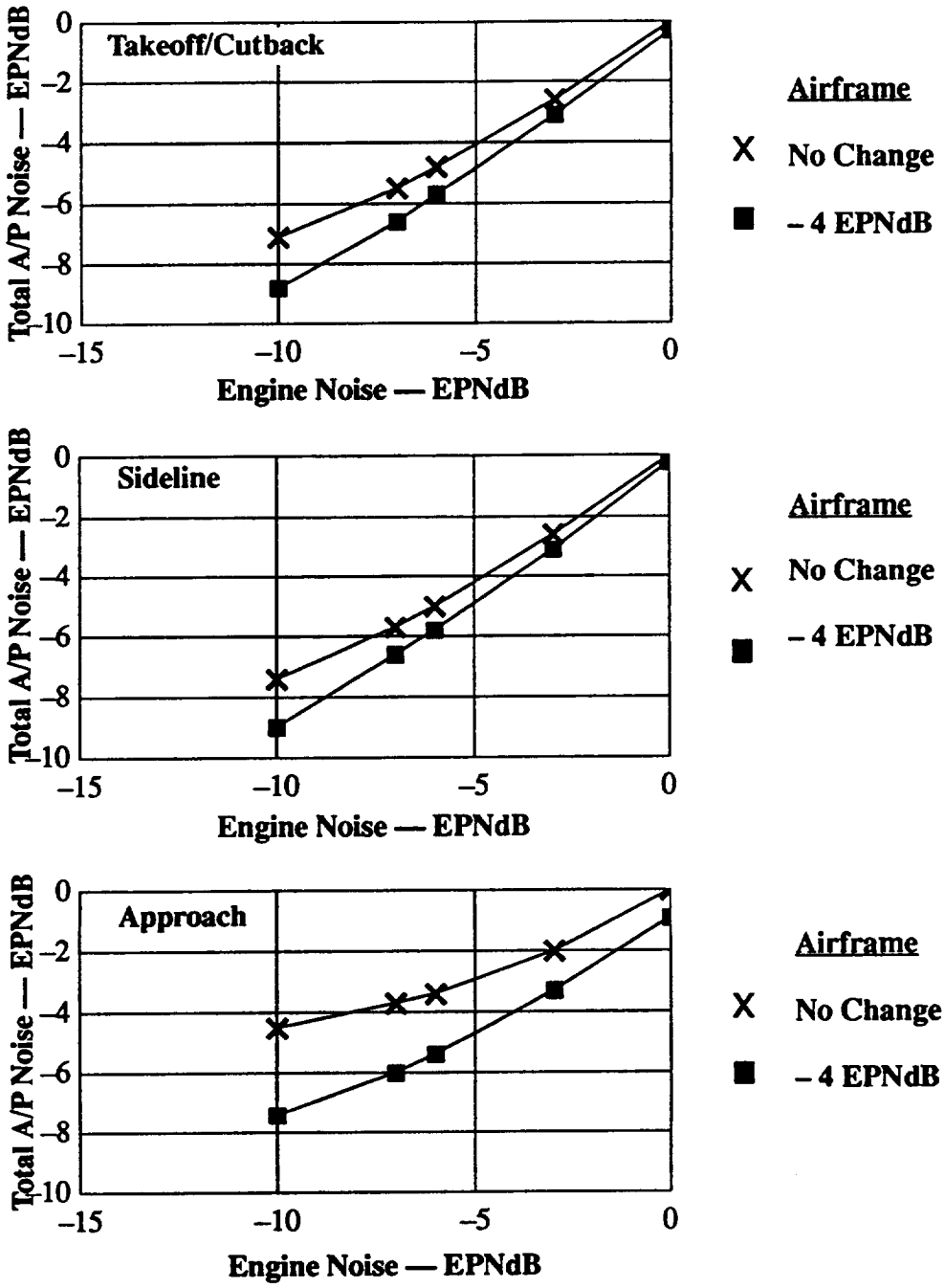


Figure 5d. Estimated Impact of Engine and Airframe Noise Reduction on Total Airplane Noise—Four–Engine Large Commerical Transport.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VI. NASA AST Noise Reduction Program Targets.

BASELINE	INTERIM (YEAR 1996) GOALS	FINAL (YEAR 2000) GOALS	MINIMUM SUCCESS CRITERIA
	– 3dB TO FAN – 3dB TO JET	–6dB TO ENGINE NOISE	–4dB TO ENGINE NOISE
	25% IMPROVEMENT OF NACELLE REDUCTION	50% IMPROVEMENT OF NACELLE REDUCTION	25% IMPROVEMENT OF NACELLE REDUCTION
Business Jet: Hardwall	For Business Jet: Aft–Duct Lining Treatment Addition to Hardwall Nacelle	For Business Jet: 25% Increment of Aft–Duct Lining Treatment Benefit	For Business Jet: Aft–Duct Lining Treatment Addition to Hardwall Nacelle
Commercial Transport Models Treated Inlet and Aft Fan Duct	For Commercial Transports: Modeled as 25% Increment of Attenuation Benefit of Existing Linings.	For Commercial Transports: Modeled as 50% Increment of Attenuation Benefit of Existing Linings.	For Commercial Transports: Modeled as 25% Increment of Attenuation Benefit of Existing Linings.
		–4dB TO AIRFRAME	–2dB TO AIRFRAME

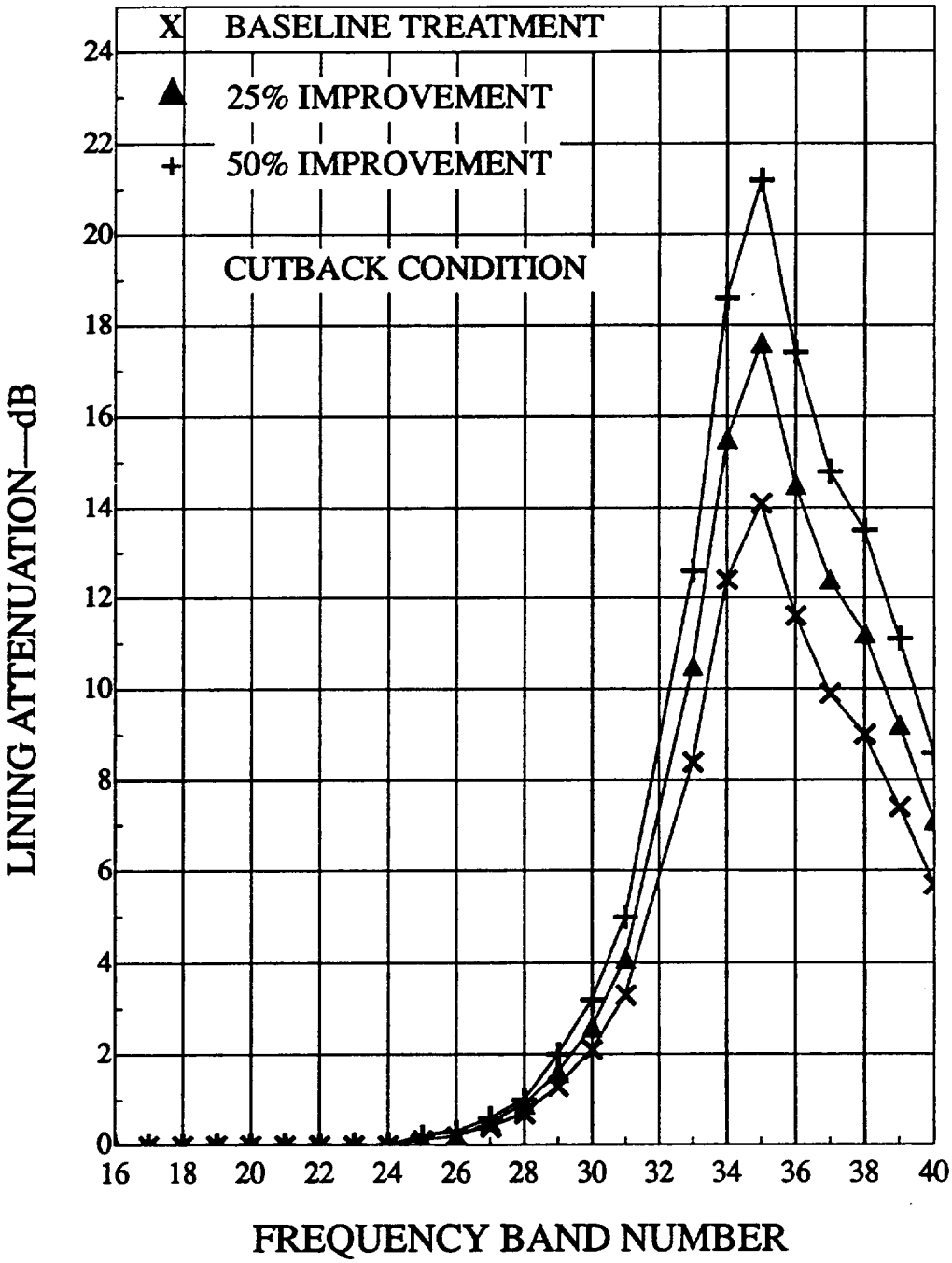


Figure 6. Aft–Duct Lining Attenuation Example—Small, Twin–Engine Airplane Model.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIa. EPNL Summary, Baseline and Program Goals, Business Jet—Cutback.

	EPNdB		EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	B/L	IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET		53.4	49.5	–3.9	45.7	–7.7	48.2	–5.2
AFTFAN		69.8	64.6	–5.2	60.9	–8.8	63.5	–6.3
CORE		57.2	57.2	—	50.3	–6.9	52.7	–4.5
TURBINE		70.1	70.1	—	63.7	–6.4	65.8	–4.3
JET		78.6	75.4	–3.2	72.2	–6.4	74.3	–4.3
TOTAL ENG		80.4	77.6	–2.8	73.6	–6.8	75.8	–4.6
AIRFRAME		71.7	71.7	—	67.4	–4.3	69.5	–2.2
TOTAL A/P		81.0	78.7	–2.3	74.7	–6.3	76.9	–4.1
DELTAS				–2.3		–6.3		–4.1

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIb. EPNL Summary, Baseline and Program Goals, Business Jet—Sideline.

	EPNdB		EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW B/L		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	66.5		62.9	–3.6	60.0	–6.5	62.2	–4.3
AFTFAN	77.6		71.7	–5.9	68.0	–9.5	70.7	–6.9
CORE	61.3		61.1	—	54.8	–6.5	57.0	–4.3
TURBINE	76.1		76.0	–0.1	69.8	–6.3	71.9	–4.2
JET	86.6		83.5	–3.1	80.4	–6.2	82.5	–4.1
TOTAL ENG	89.2		85.6	–3.6	81.9	–7.3	84.2	–5.0
AIRFRAME	72.3		72.3	—	68.1	–4.2	70.3	–2.0
TOTAL A/P	89.4		85.9	–3.5	82.2	–7.2	84.4	–5.0
DELTAS				–3.5		–7.2		–5.0

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIc. EPNL Summary, Baseline and Program Goals, Business Jet—Approach.

	EPNdB		EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	B/L	IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET		76.5	73.5	–3.0	70.4	–6.1	72.5	–4.0
AFTFAN		86.2	80.3	–5.9	76.5	–9.7	79.3	–6.9
CORE		77.6	77.6	—	71.5	–6.1	73.5	–4.1
TURBINE		77.3	77.3	—	71.1	–6.2	73.1	–4.2
JET		81.2	78.0	–3.2	74.9	–6.3	77.0	–4.2
TOTAL ENG		89.8	86.0	–3.8	81.5	–8.3	83.9	–5.9
AIRFRAME		86.5	86.5	—	82.4	–4.1	84.4	–2.1
TOTAL A/P		91.7	89.5	–2.2	85.3	–6.4	87.6	–4.1
DELTAS				–2.2		–6.4		–4.1

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIIa. EPNL Summary, Baseline and Program Goals, Small Twin—Cutback.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	B/L TRT		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	81.0	73.3	–7.7	70.4	–2.9	65.6	–7.7	69.4	–3.9
AFTFAN	86.8	80.0	–6.8	75.6	–4.4	71.3	–8.7	74.6	–5.4
CORE	75.3	75.3	—	75.3	—	69.1	–6.2	71.2	–4.1
TURBINE	40.8	40.8	—	40.8	—	33.1	–7.7	35.7	–5.1
JET	81.8	81.8	—	78.6	–3.2	75.4	–6.4	77.5	–4.3
TOTAL ENG	90.8	86.4	–4.4	83.7	–2.7	79.5	–6.9	82.0	–4.4
AIRFRAME	77.0	77.0	—	77.0	—	72.9	–4.1	74.9	–2.1
TOTAL A/P	91.0	87.0	–4.0	84.5	–2.5	80.4	–6.6	82.8	–4.2
DELTAS			–4.0		–2.5		–6.6		–4.2

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIIb. EPNL Summary, Baseline and Program Goals, Small Twin—Sideline.

	EPNdB HW	EPNdB B/L TRT	Delta	EPNdB IG	Delta RE: B/L	EPNdB FG	Delta RE: B/L	EPNdB MS	Delta RE: B/L
INLET	85.9	79.6	–6.3	75.9	–3.7	71.7	–7.9	74.9	–4.7
AFTFAN	89.7	82.9	–6.8	78.8	–4.1	74.8	–8.1	77.8	–5.1
CORE	81.4	81.4	—	81.4	—	75.2	–6.2	77.2	–4.2
TURBINE	47.5	47.5	—	47.5	—	40.6	–6.9	43.0	–4.5
JET	91.6	91.6	—	88.5	–3.1	85.4	–6.2	87.5	–4.1
TOTAL ENG	96.2	93.7	–2.5	90.9	–2.8	87.1	–6.6	89.5	–4.2
AIRFRAME	81.1	81.1	—	81.1	—	76.9	–4.2	79.0	–2.1
TOTAL A/P	96.3	94.0	–2.3	91.2	–2.8	87.5	–6.5	89.8	–4.2
DELTAS			–2.3		–2.8		–6.5		–4.2

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table VIIIc. EPNL Summary, Baseline and Program Goals, Small Twin—Approach.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	TRT, B/L		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	97.3	91.9	–5.4	87.6	–4.3	83.6	–8.3	86.6	–5.3
AFTFAN	96.5	88.8	–7.7	84.2	–4.6	79.7	–9.1	83.2	–5.6
CORE	79.4	79.4	—	79.4	—	73.2	–6.2	75.3	–4.1
TURBINE	71.8	71.8	—	71.8	—	65.8	–6.0	67.8	–4.0
JET	82.3	82.3	—	79.1	–3.2	75.9	–6.4	78.0	–4.3
TOTAL ENG	101.1	95.3	–5.8	91.4	–3.9	87.0	–8.3	90.1	–5.2
AIRFRAME	91.5	91.5	—	91.5	—	87.4	–4.1	89.5	–2.0
TOTAL A/P	101.9	97.0	–3.9	94.8	–2.2	90.6	–6.4	93.1	–3.9
DELTAS			–3.9		–2.2		–6.4		–3.9

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table IXa. EPNL Summary, Baseline and Program Goals, Medium Twin—Cutback.									
	EPNdB HW	EPNdB B/L TRT	Delta	EPNdB IG	Delta RE: B/L	EPNdB FG	Delta RE: B/L	EPNdB MS	Delta RE: B/L
INLET	88.9	84.5	–4.4	81.4	–3.1	76.6	–7.9	80.4	–4.1
AFTFAN	89.3	86.6	–2.7	82.7	–3.9	79.0	–7.6	81.7	–4.9
CORE	73.2	73.2	—	73.2	—	66.9	–6.3	69.0	–4.2
TURBINE	63.8	63.8	—	63.8	—	57.3	–6.5	59.5	–4.3
JET	84.5	84.5	—	81.3	–3.2	78.1	–6.4	80.3	–4.2
TOTAL ENG	94.5	91.6	–2.9	88.3	–3.3	84.3	–7.3	87.1	–4.5
AIRFRAME	80.3	80.3	—	80.3	—	76.1	–4.2	78.2	–2.1
TOTAL A/P	94.8	92.0	–2.8	89.1	–2.9	85.0	–7.0	87.8	–4.2
DELTAS			–2.8		–2.9		–7.0		–4.2

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table IXb. EPNL Summary, Baseline and Program Goals, Medium Twin—Sideline.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	B/L TRT		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	89.4	86.6	–2.8	83.0	–3.6	79.5	–7.1	81.9	–4.7
AFTFAN	94.9	92.2	–2.7	88.5	–3.7	84.9	–7.3	87.5	–4.7
CORE	77.8	77.8	—	77.8	—	71.5	–6.3	73.6	–4.2
TURBINE	64.0	64.0	—	64.0	—	57.6	–6.4	59.8	–4.2
JET	92.8	92.8	—	89.7	–3.1	86.5	–6.3	88.6	–4.2
TOTAL ENG	99.2	97.4	–1.8	93.9	–3.5	90.4	–7.0	92.8	–4.6
AIRFRAME	82.2	82.2	—	82.2	—	78.0	–4.2	80.1	–2.1
TOTAL A/P	99.3	97.5	–1.8	94.3	–3.2	90.8	–6.7	93.1	–4.4
DELTAS			–1.8		–3.2		–6.7		–4.4
HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS									

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table IXc. EPNL Summary, Baseline and Program Goals, Medium Twin—Approach.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	TRT, B/L		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	98.8	94.6	–4.2	90.6	–4.0	86.7	–7.9	89.6	–5.0
AFTFAN	98.5	92.5	–6.0	88.3	–4.2	84.1	–8.4	87.3	–5.2
CORE	73.8	73.8	—	73.8	—	67.7	–6.1	69.7	–4.1
TURBINE	76.4	76.4	—	76.4	—	70.3	–6.1	72.4	–4.0
JET	78.7	78.7	—	75.4	–3.3	72.2	–6.5	74.4	–4.3
TOTAL ENG	102.2	97.4	–4.8	93.5	–3.9	89.4	–8.0	92.4	–5.0
AIRFRAME	93.1	93.1	—	93.1	—	89.0	–4.1	91.1	–2.0
TOTAL A/P	103.3	99.0	–4.3	96.3	–2.7	92.1	–6.9	94.7	–4.3
DELTAS			–4.3		–2.7		–6.9		–4.3

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table Xa. EPNL Summary, Baseline and Program Goals, Large Quad—Cutback.

	EPNdB HW	EPNdB B/L TRT	Delta	EPNdB IG	Delta RE: B/L	EPNdB FG	Delta RE: B/L	EPNdB MS	Delta RE: B/L
INLET	98.9	94.0	–4.9	89.9	–4.1	85.7	–8.3	88.8	–5.2
AFTFAN	100.0	96.0	–4.0	92.2	–3.8	88.3	–7.7	91.2	–4.8
CORE	79.7	79.7	—	79.7	—	73.5	–6.2	75.6	–4.1
TURBINE	77.5	77.5	—	77.5	—	71.5	–6.0	73.5	–4.0
JET	88.5	88.5	—	85.4	–3.1	82.2	–6.3	84.4	–4.1
TOTAL ENG	104.0	100.1	–3.9	96.4	–3.7	92.5	–7.6	95.3	–4.8
AIRFRAME	90.9	90.9	—	90.9	—	86.8	–4.1	88.9	–2.0
TOTAL A/P	104.7	101.0	–3.7	98.0	–3.0	93.9	–7.1	96.6	–4.4
DELTAS			–3.7		–3.0		–7.1		–4.4

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table Xb. EPNL Summary, Baseline and Program Goals, Large Quad—Sideline.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	B/L TRT		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	92.5	89.3	–3.2	85.7	–3.6	82.1	–7.2	84.7	–4.6
AFTFAN	96.6	93.3	–3.3	89.5	–3.8	85.6	–7.7	88.5	–4.8
CORE	80.2	80.2	—	80.2	—	73.9	–6.3	76.0	–4.2
TURBINE	68.2	68.2	—	68.2	—	62.1	–6.1	64.2	–4.0
JET	93.7	93.7	—	90.5	–3.2	87.4	–6.3	89.4	–4.3
TOTAL ENG	101.0	98.7	–2.3	95.2	–3.5	91.6	–7.1	94.1	–4.6
AIRFRAME	88.6	88.6	—	88.6	—	84.5	–4.1	86.5	–2.1
TOTAL A/P	101.3	99.1	–2.2	96.2	–2.9	92.4	–6.7	94.9	–4.2
DELTAS			–2.2		–2.9		–6.7		–4.2

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Table Xc. EPNL Summary, Baseline and Program Goals, Large Quad—Approach.									
	EPNdB	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta	EPNdB	Delta
	HW	TRT, B/L		IG	RE: B/L	FG	RE: B/L	MS	RE: B/L
INLET	103.4	99.2	–4.2	95.3	–3.9	91.4	–7.8	94.3	–4.9
AFTFAN	103.8	97.1	–6.7	92.8	–4.3	88.6	–8.5	91.8	–5.3
CORE	78.2	78.2	—	78.2	—	72.0	–6.2	74.1	–4.1
TURBINE	82.1	82.1	—	82.1	—	76.1	–6.0	78.1	–4.0
JET	83.2	83.2	—	80.0	–3.2	76.8	–6.4	79.0	–4.2
TOTAL ENG	107.2	102.1	–5.1	98.2	–3.9	94.1	–8.0	97.0	–5.1
AIRFRAME	98.1	98.1	—	98.1	—	94.1	–4.0	96.1	–2.0
TOTAL A/P	108.3	104.0	–4.3	101.3	–2.7	97.2	–6.8	99.7	–4.3
DELTAS			–4.3		–2.7		–6.8		–4.3

HW—HARDWALL; TRT, B/L—TREATED, BASELINE; IG—INTERIM GOALS; FG—FINAL GOALS; MS—MINIMUM SUCCESS

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 7a. Component EPNLs for Business Jet, Baseline and Program Goals—Cutback.

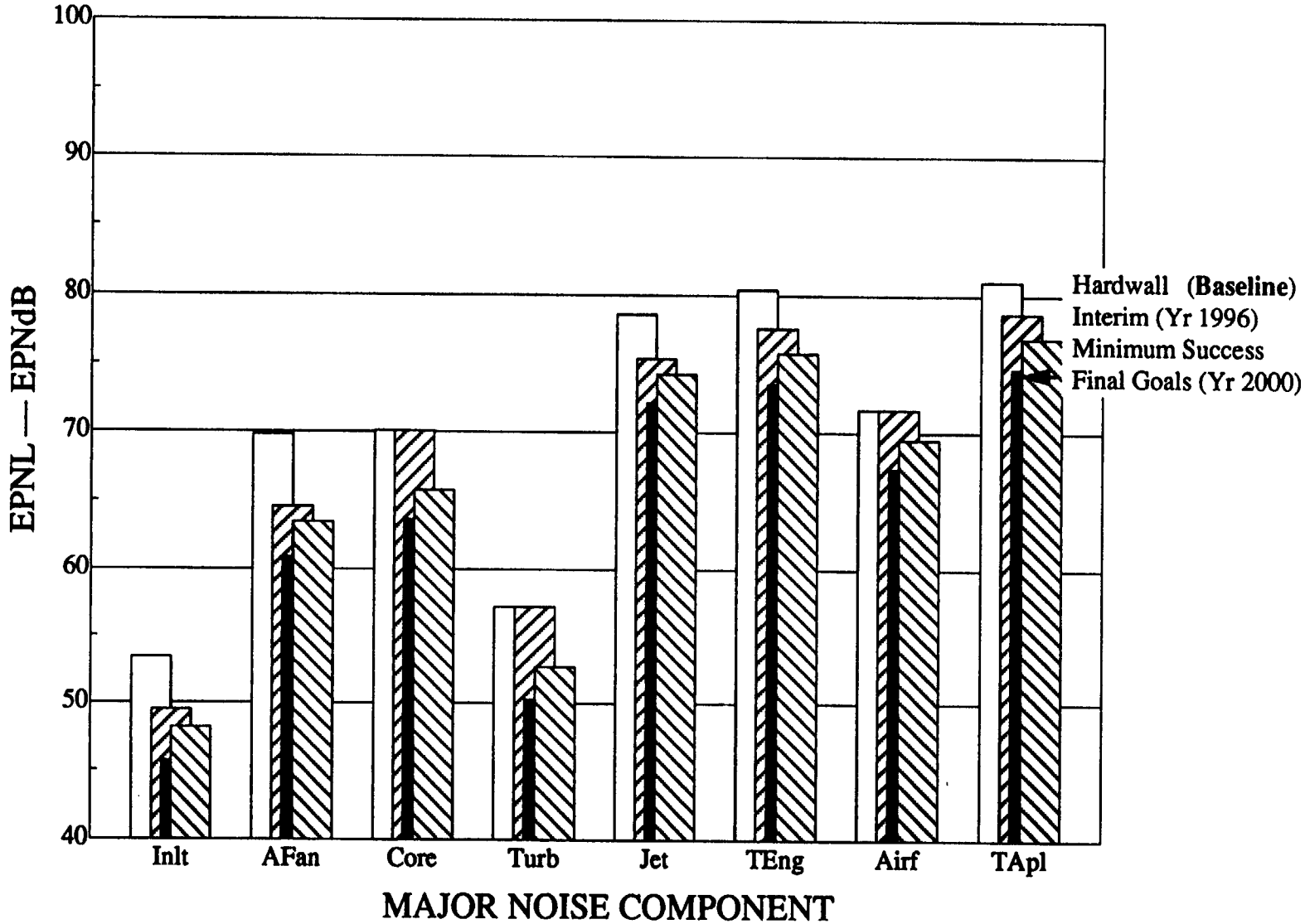
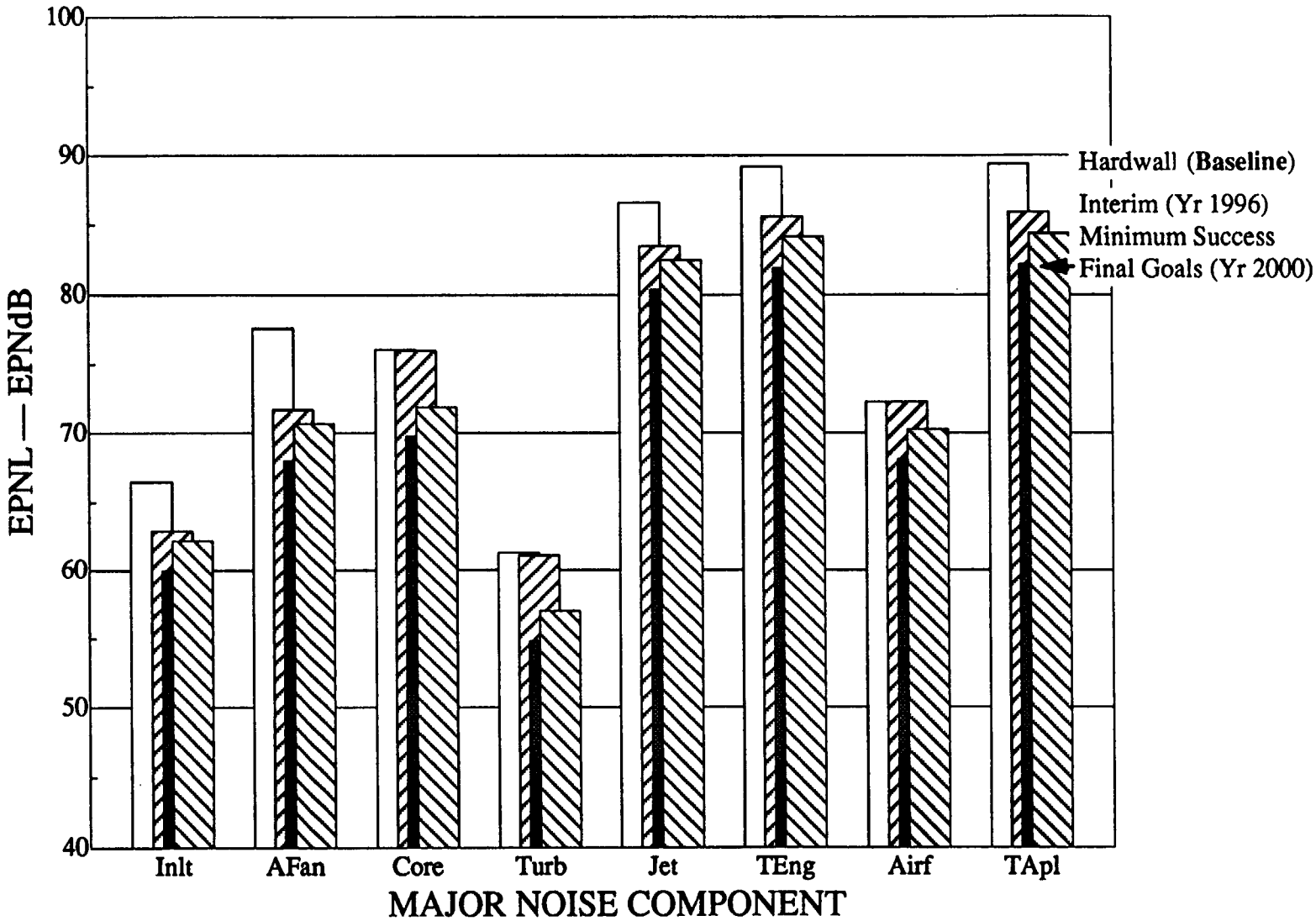


Figure 7b. Component EPNLs for Business Jet, Baseline and Program Goals—Sideline.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 7c. Component EPNLs for Business Jet, Baseline and Program Goals—Approach.

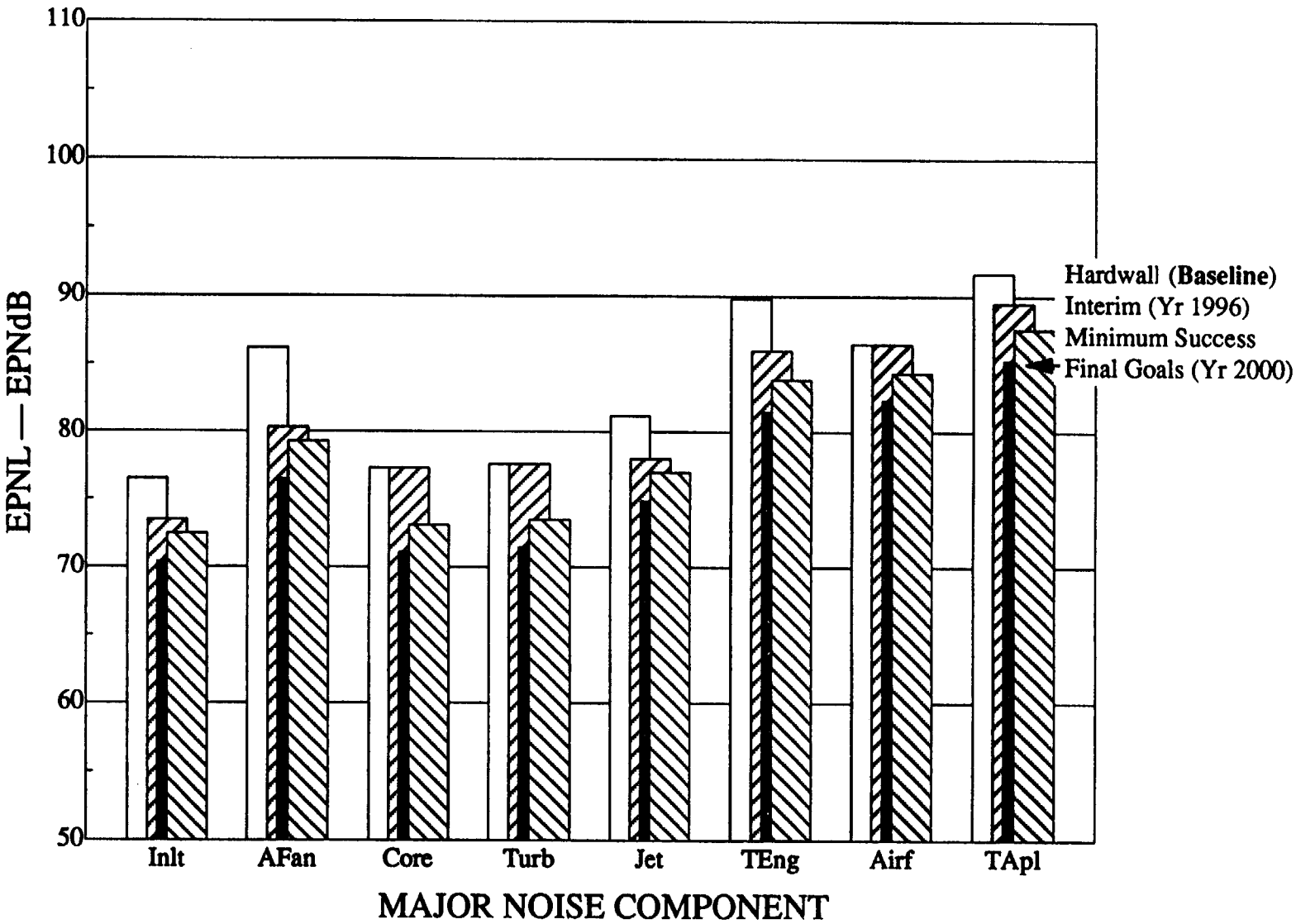
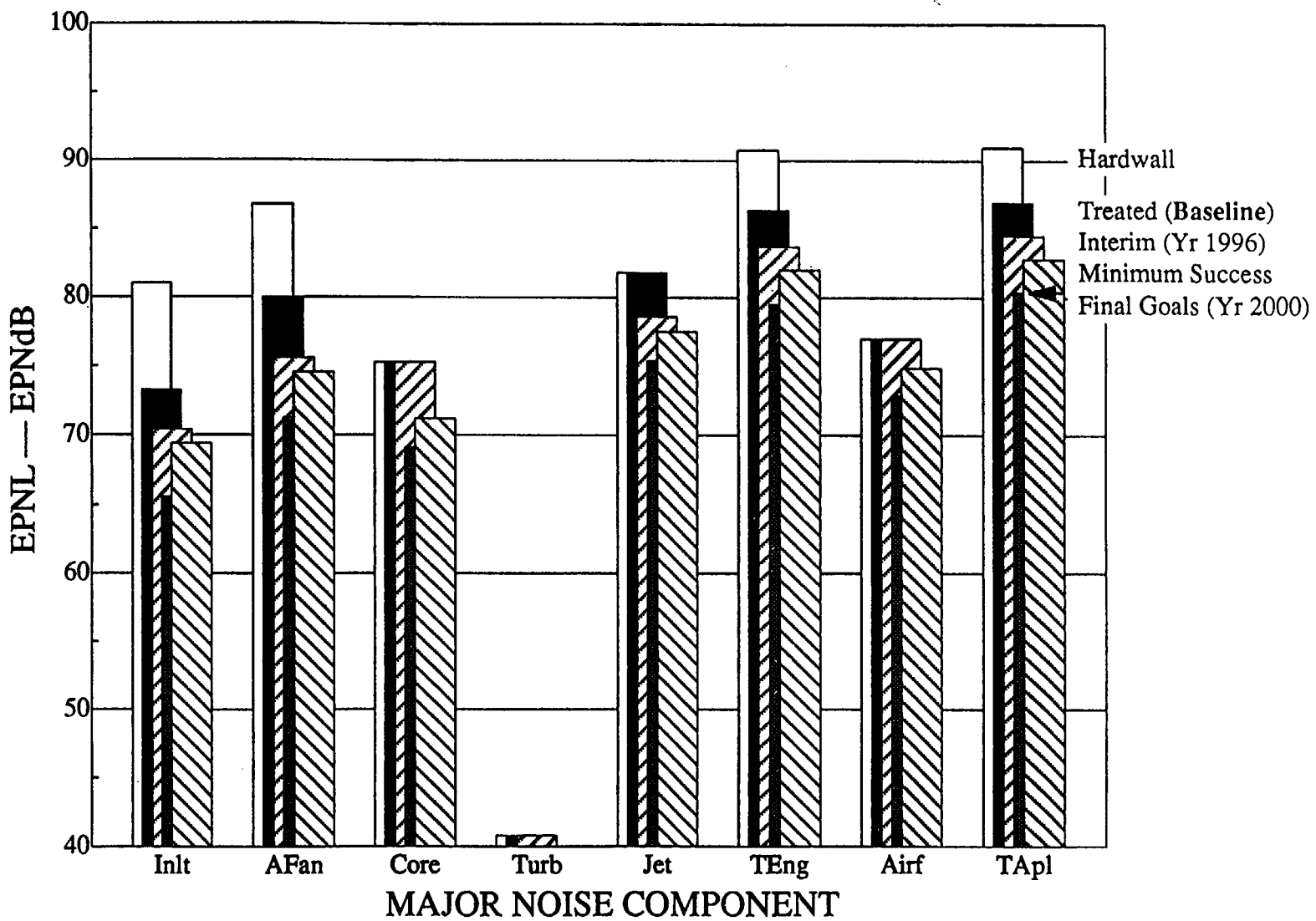


Figure 8a. Component EPNLs for Small Twin, Baseline and Program Goals—Cutback.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 8b. Component EPNLs for Small Twin, Baseline and Program Goals—Sideline.

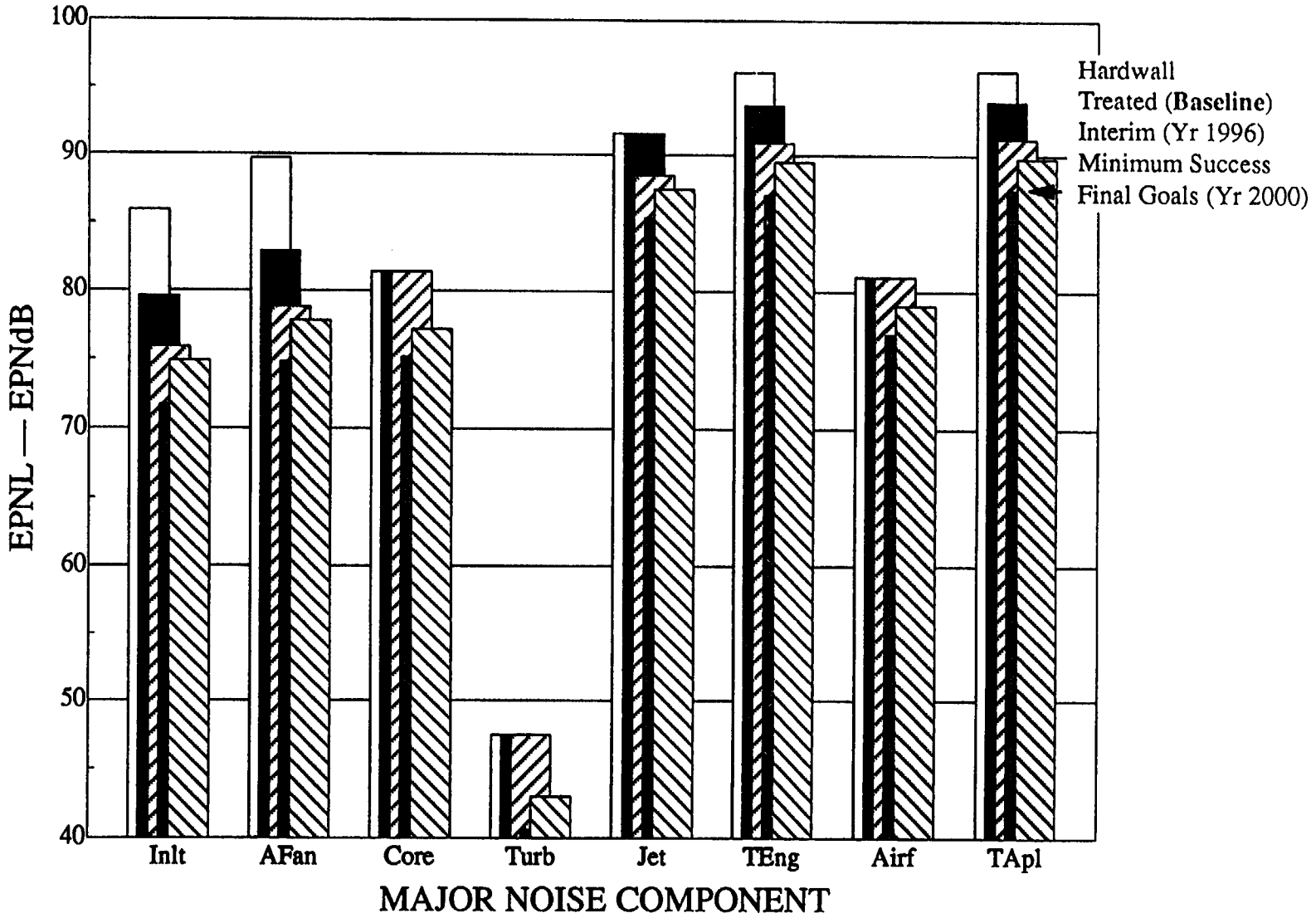
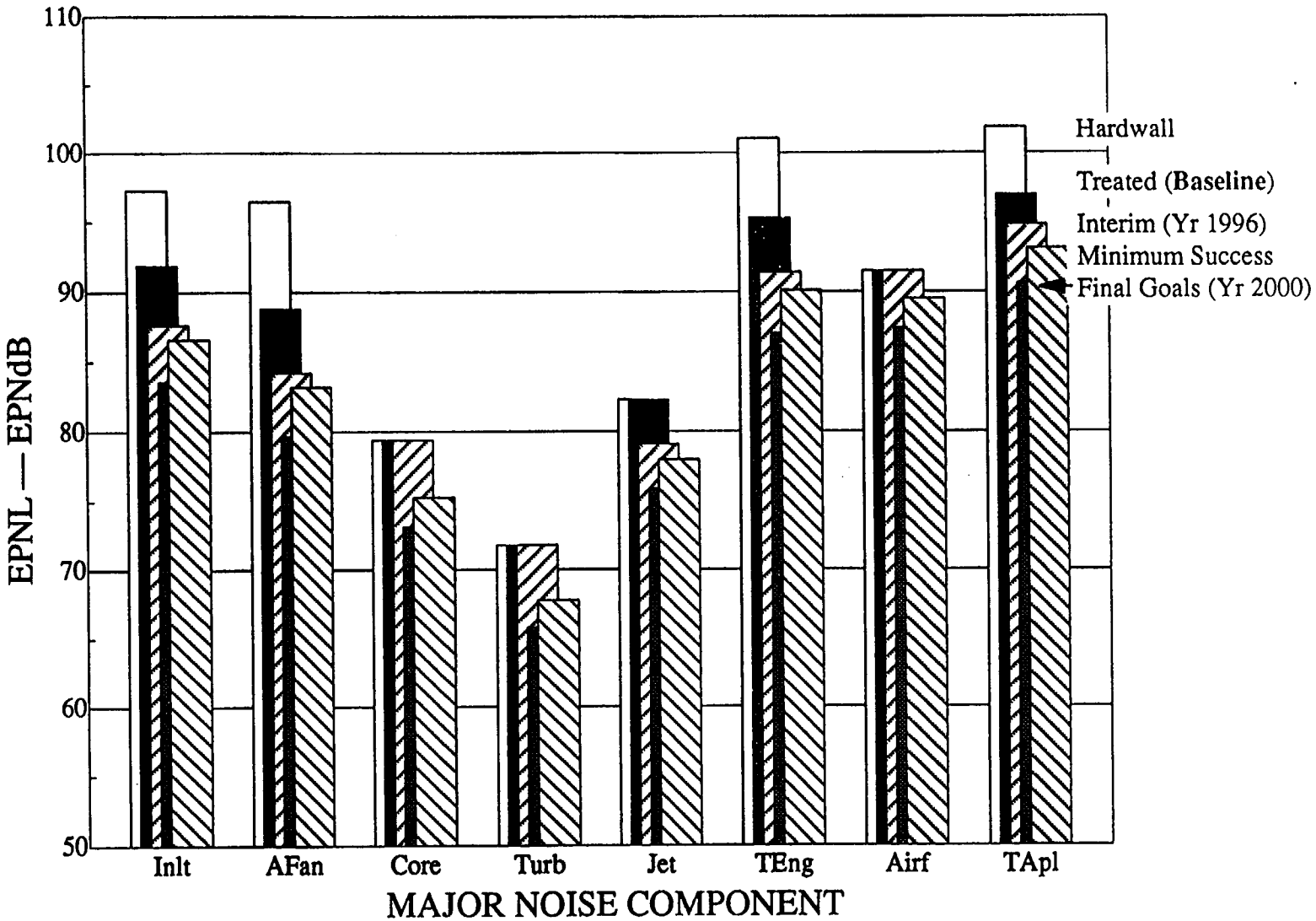


Figure 8c. Component EPNLs for Small Twin, Baseline and Program Goals—Approach.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 9a. Component EPNLs for Medium Twin, Baseline and Program Goals—Cutback.

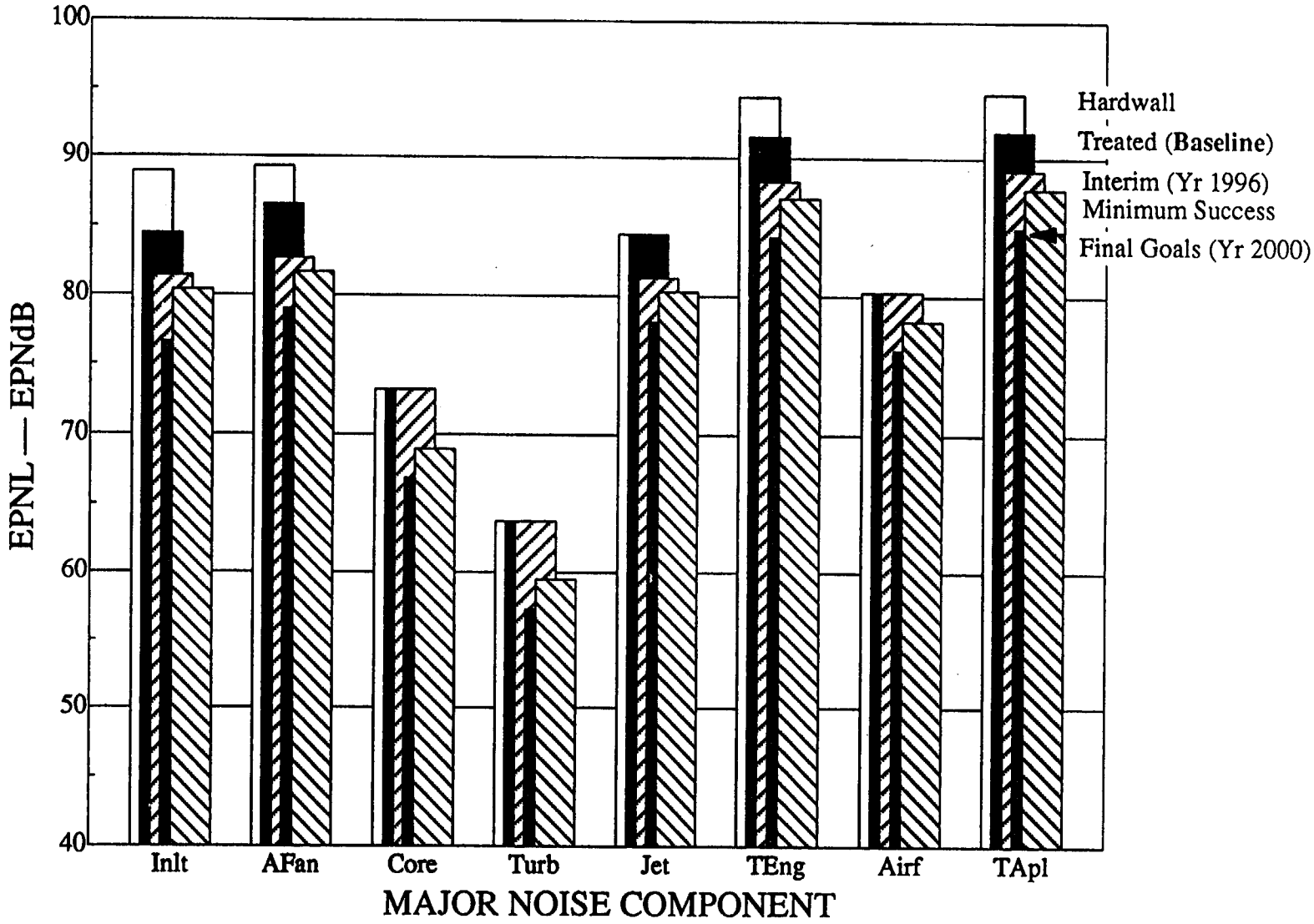
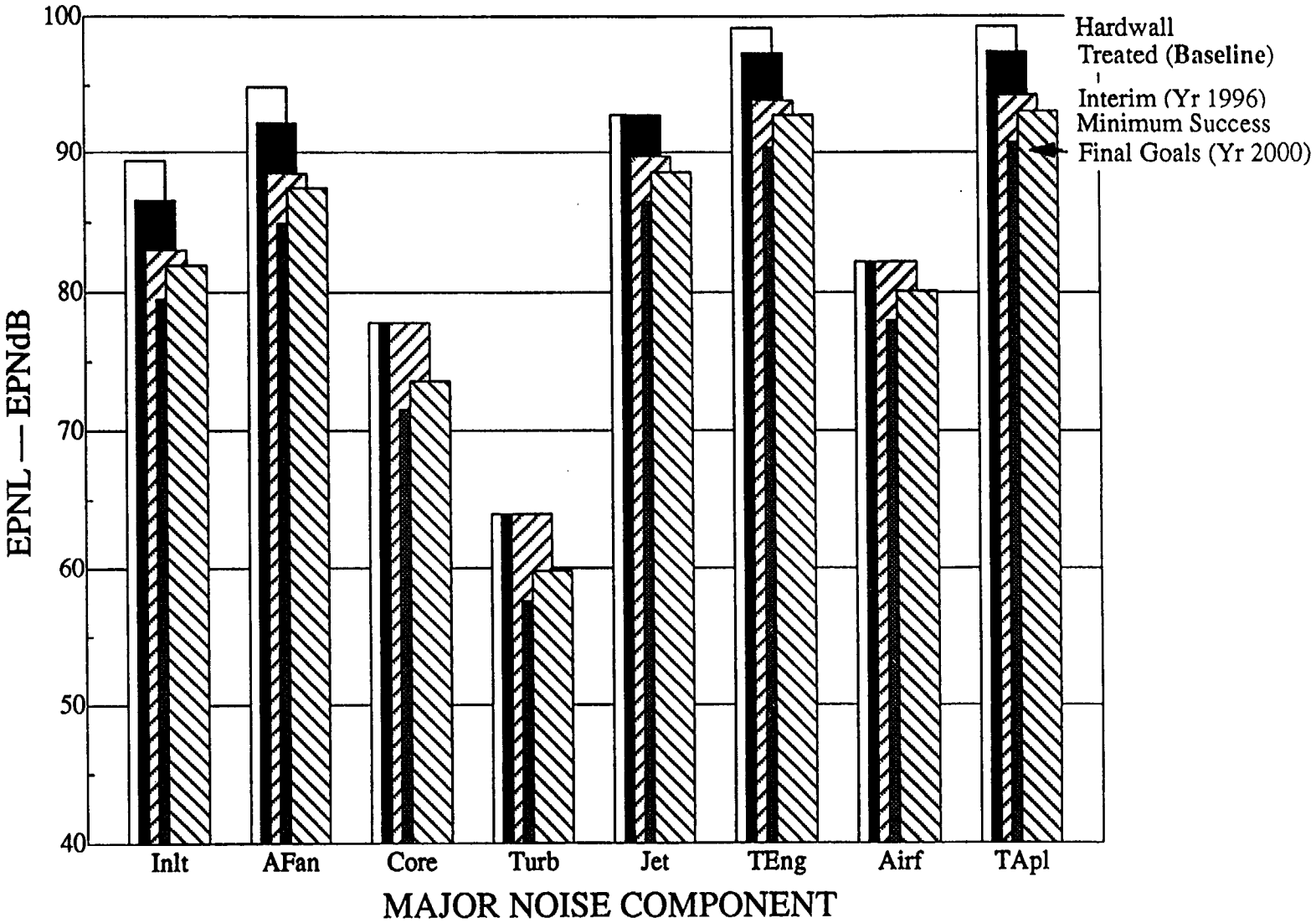


Figure 9b. Component EPNLs for Medium Twin, Baseline and Program Goals—Sideline.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 9c. Component EPNLs for Medium Twin, Baseline and Program Goals—Approach.

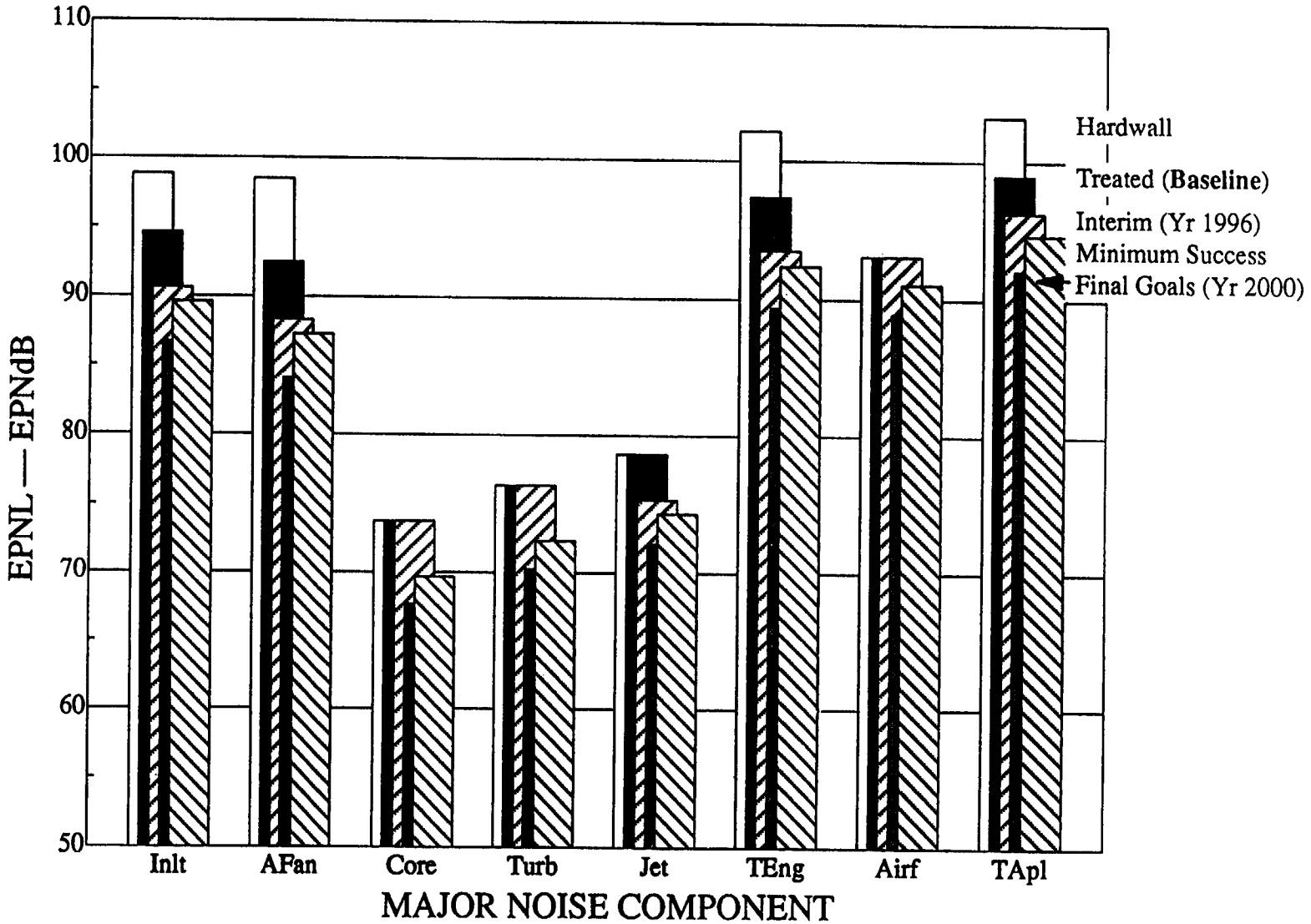
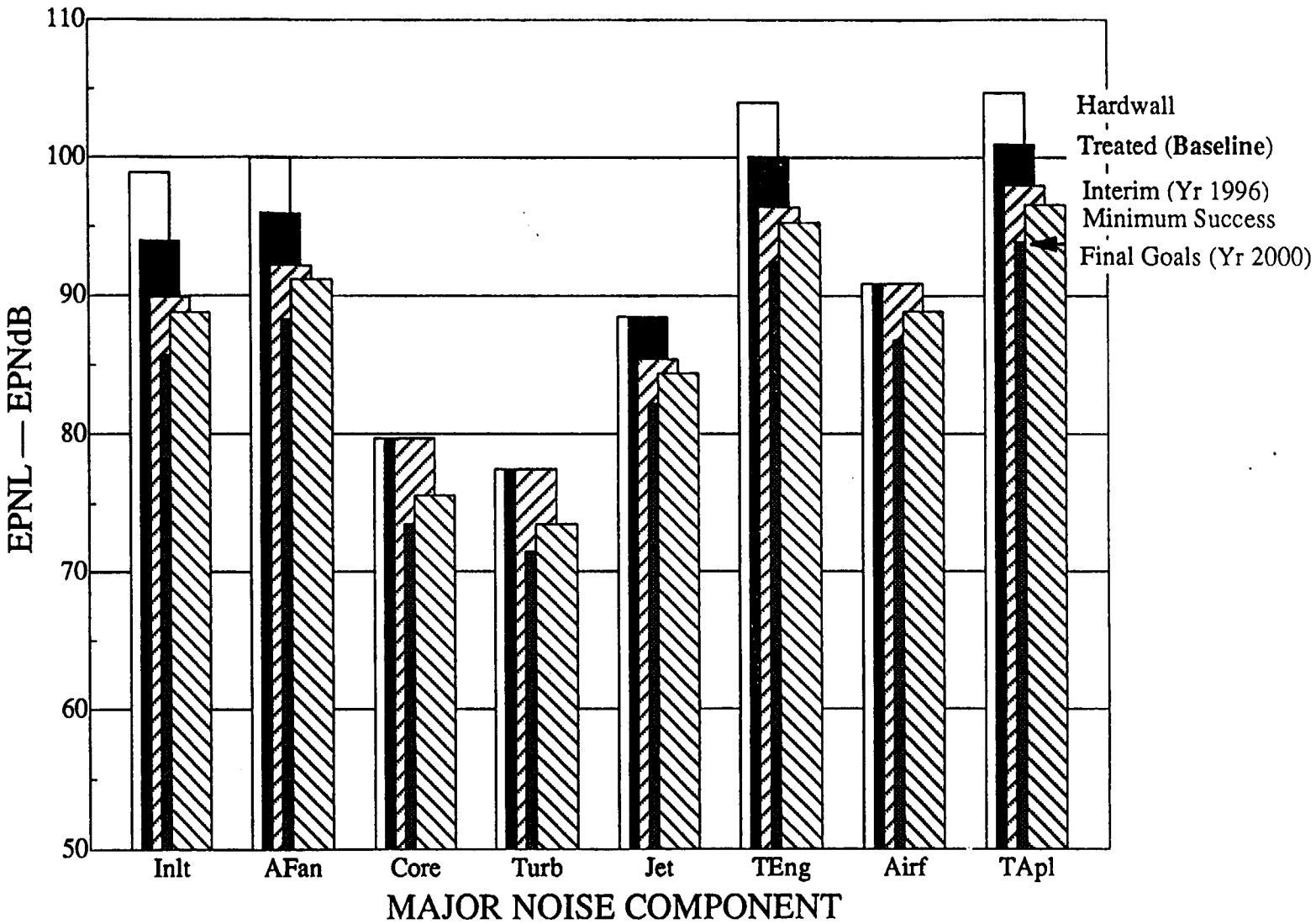


Figure 10a. Component EPNLs for Large Quad, Baseline and Program Goals—Cutback.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 10b. Component EPNLs for Large Quad, Baseline and Program Goals—Sideline.

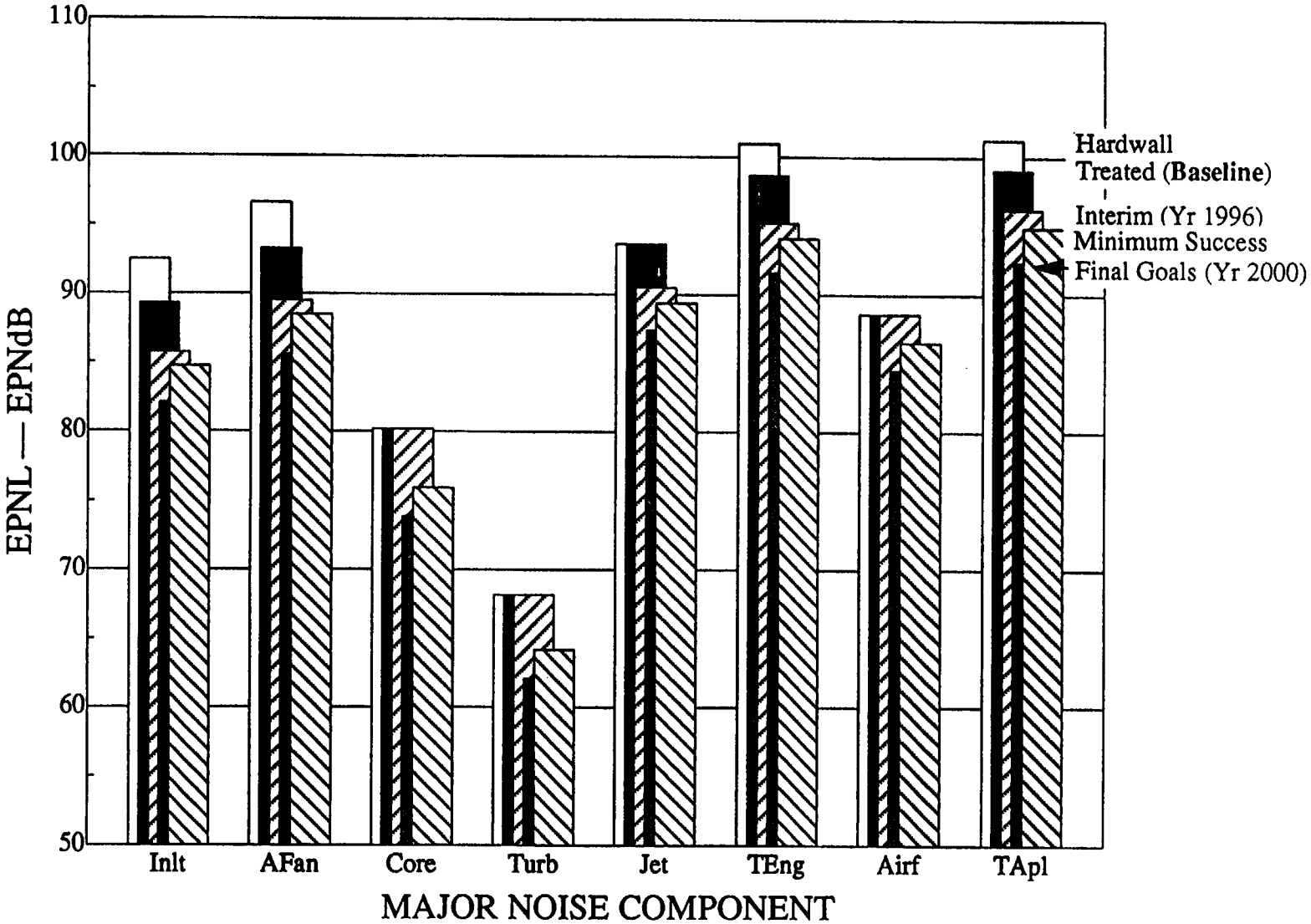
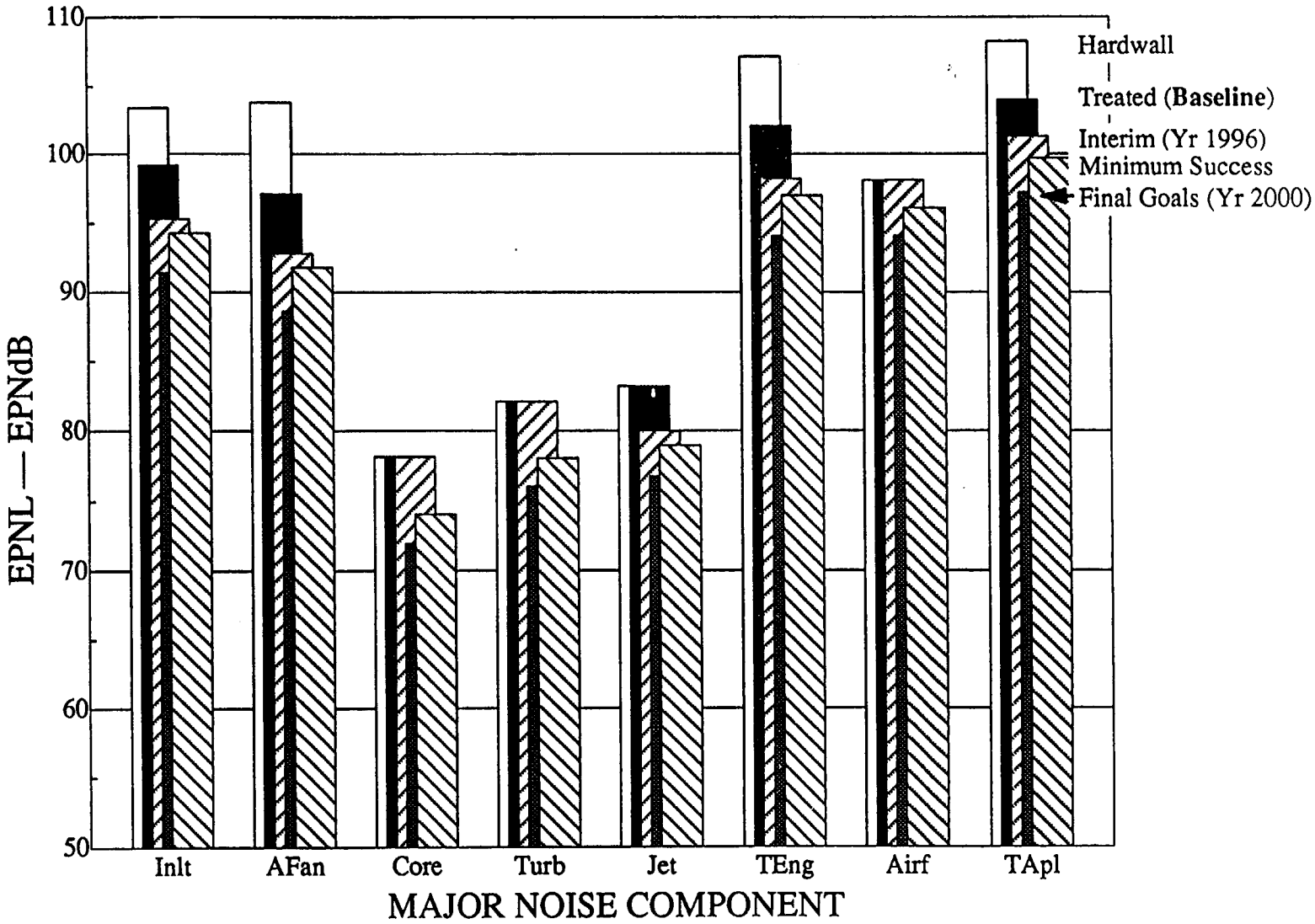


Figure 10c. Component EPNLs for Large Quad, Baseline and Program Goals—Approach.



FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

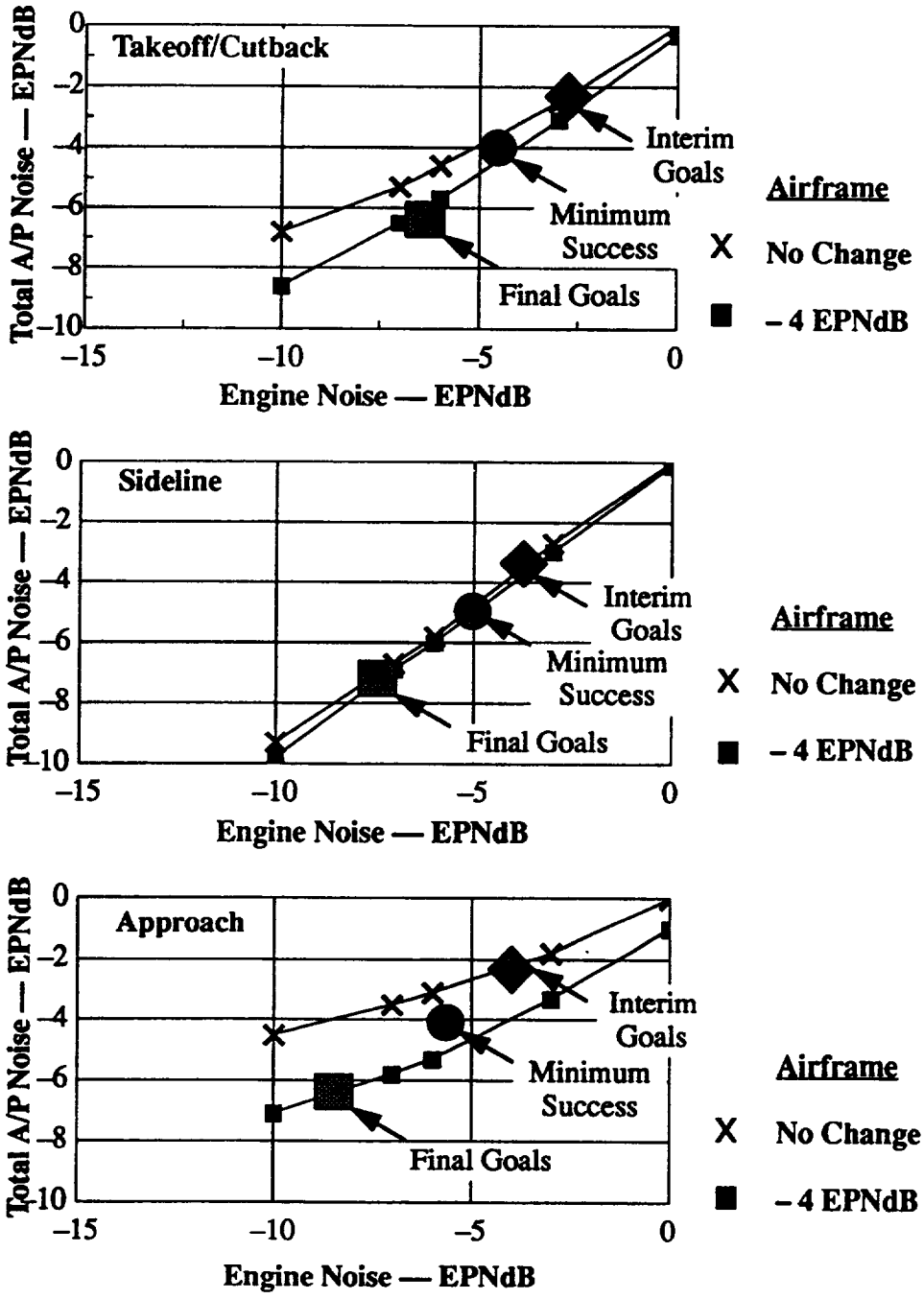


Figure 11. Estimated Impact of Engine and Airframe Noise Reduction on Total Airplane Noise, Business Jet.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

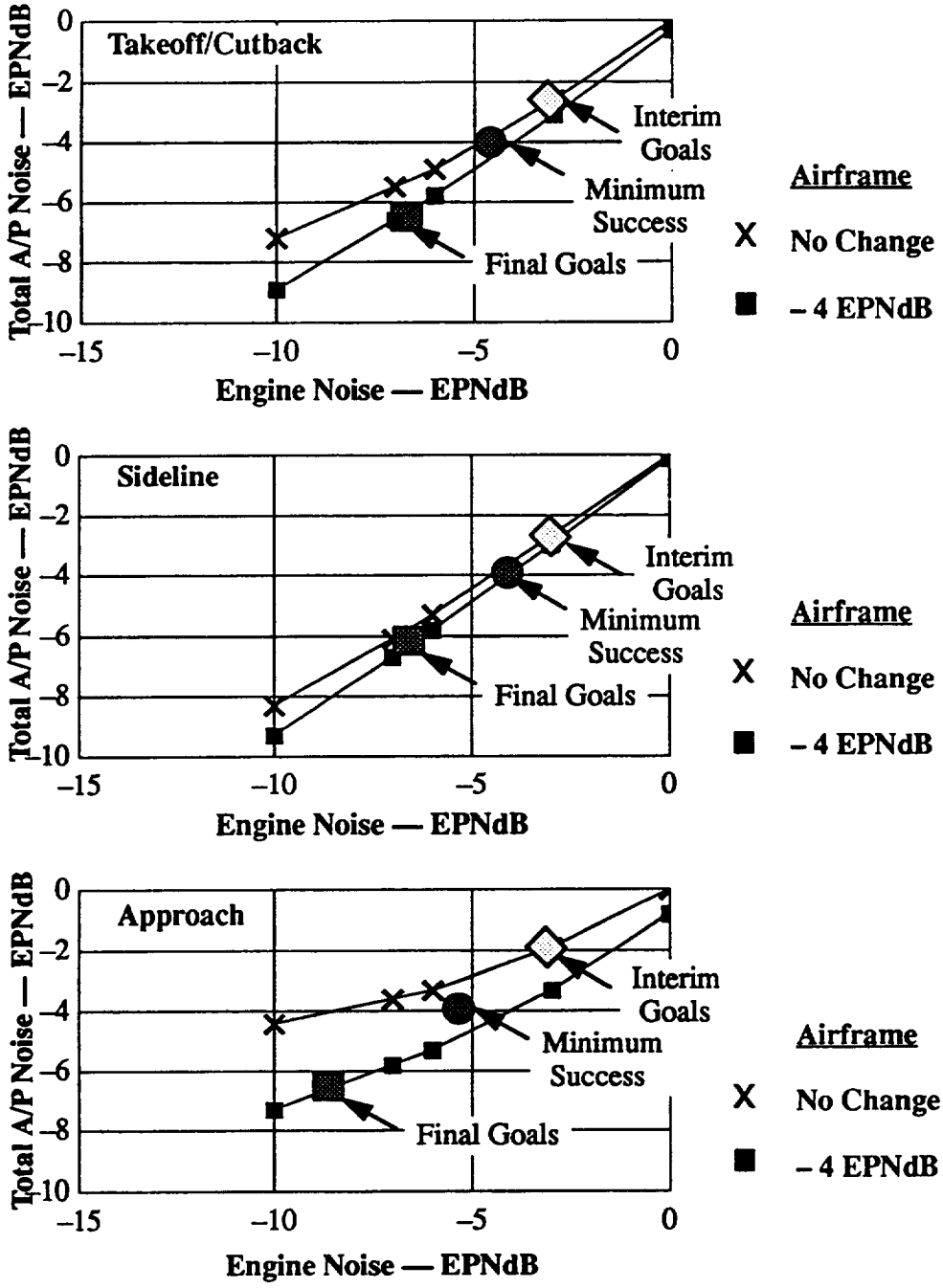


Figure 12. Estimated Impact of Engine and Airframe Noise Reduction on Total Airplane Noise, Small Twin.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

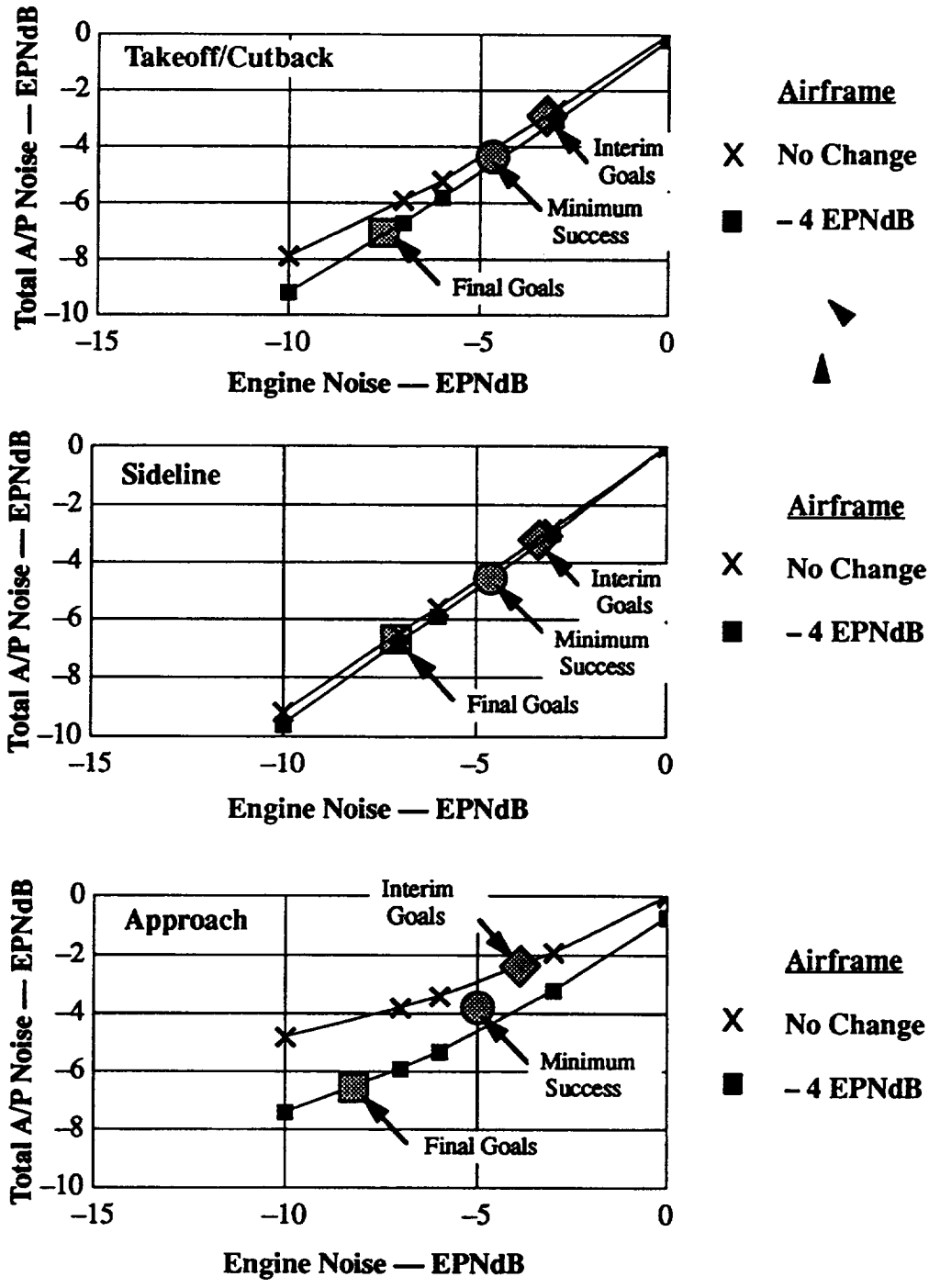


Figure 13. Estimated Impact of Engine/Airframe Noise Reduction on Total Airplane Noise—Twin-Engine Medium-Sized Commercial Transport.

FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS

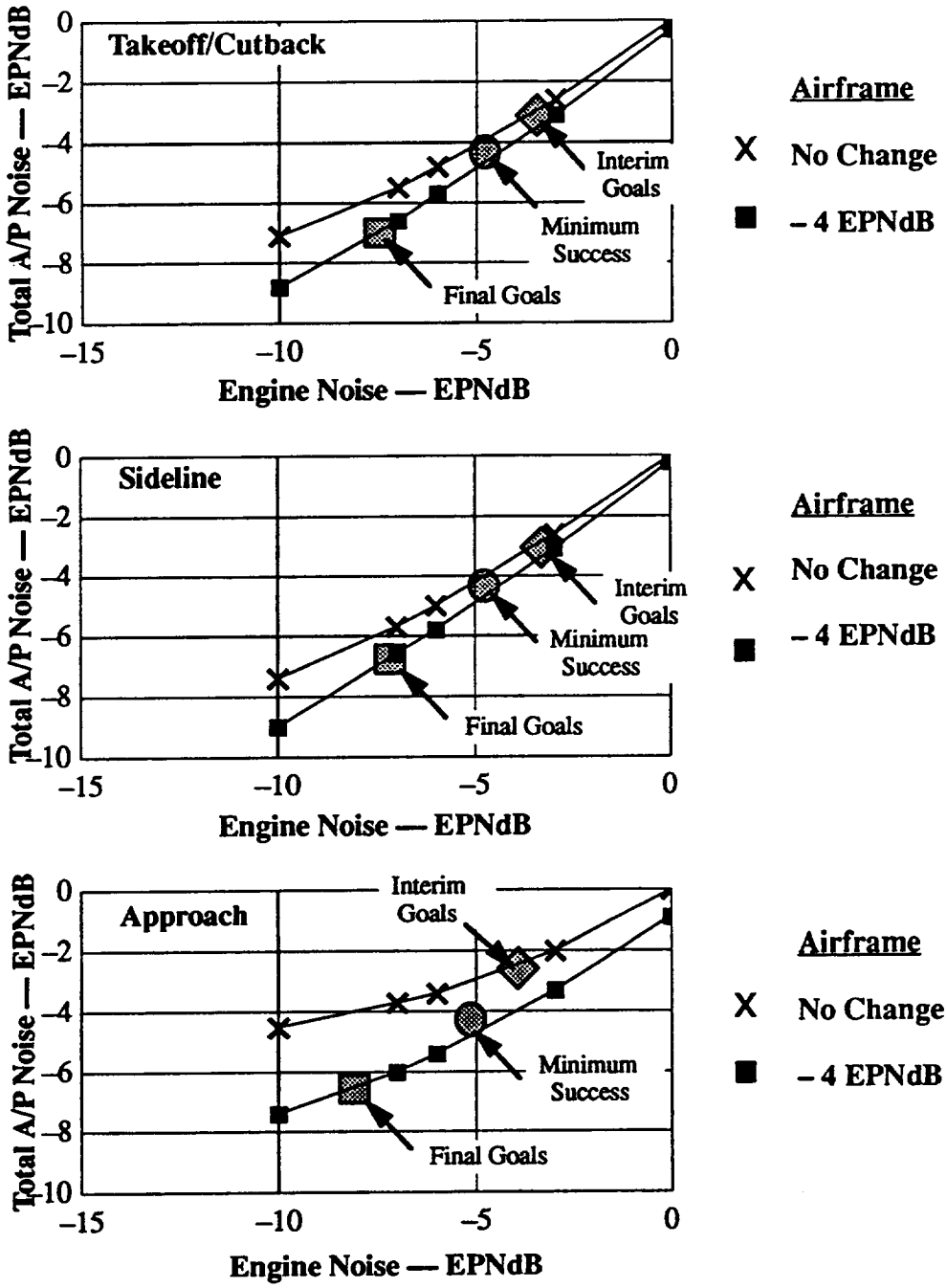
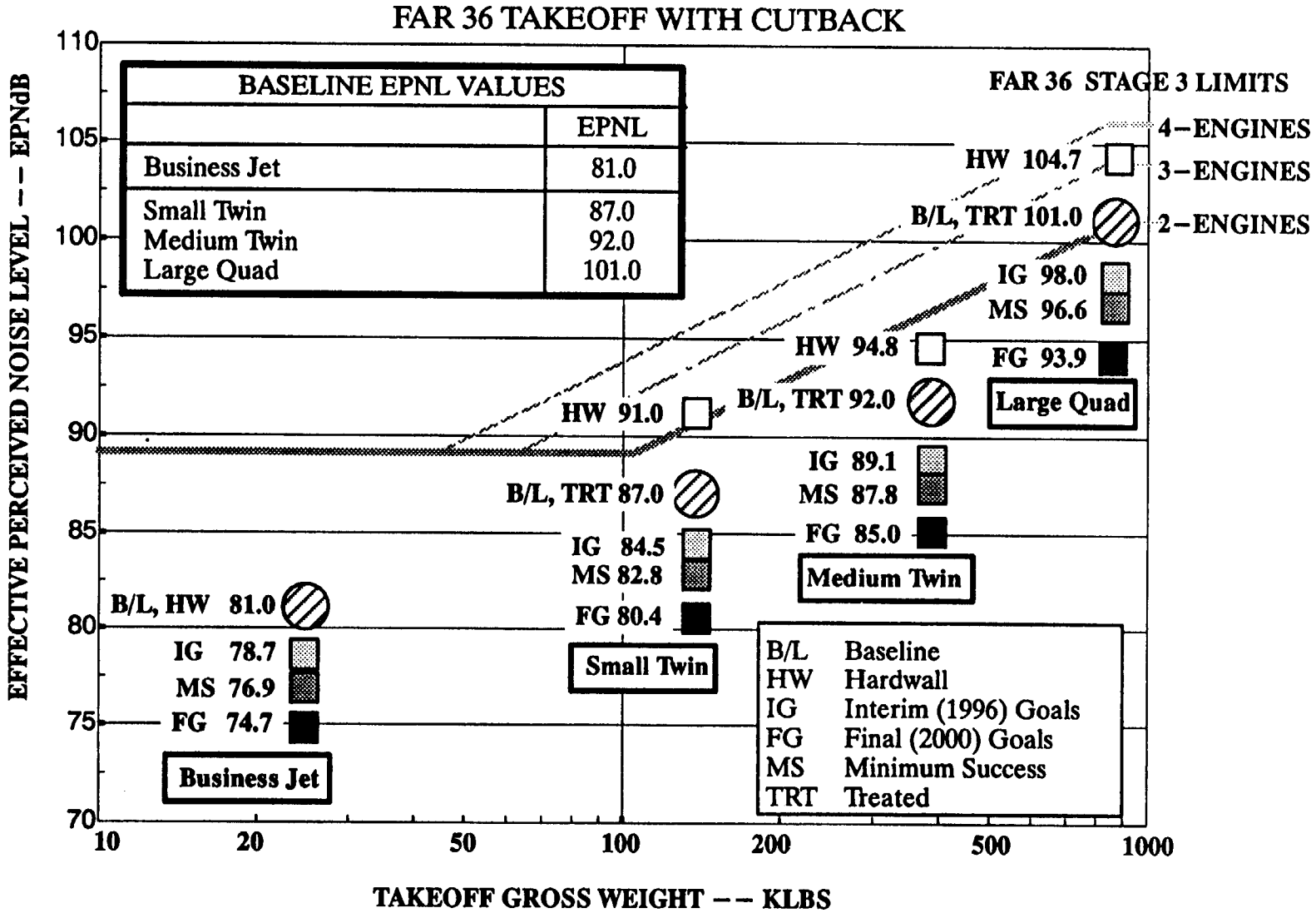


Figure 14. Estimated Impact of Engine and Airframe Noise Reduction on Total Airplane Noise—Four-Engine Large Commerical Transport.

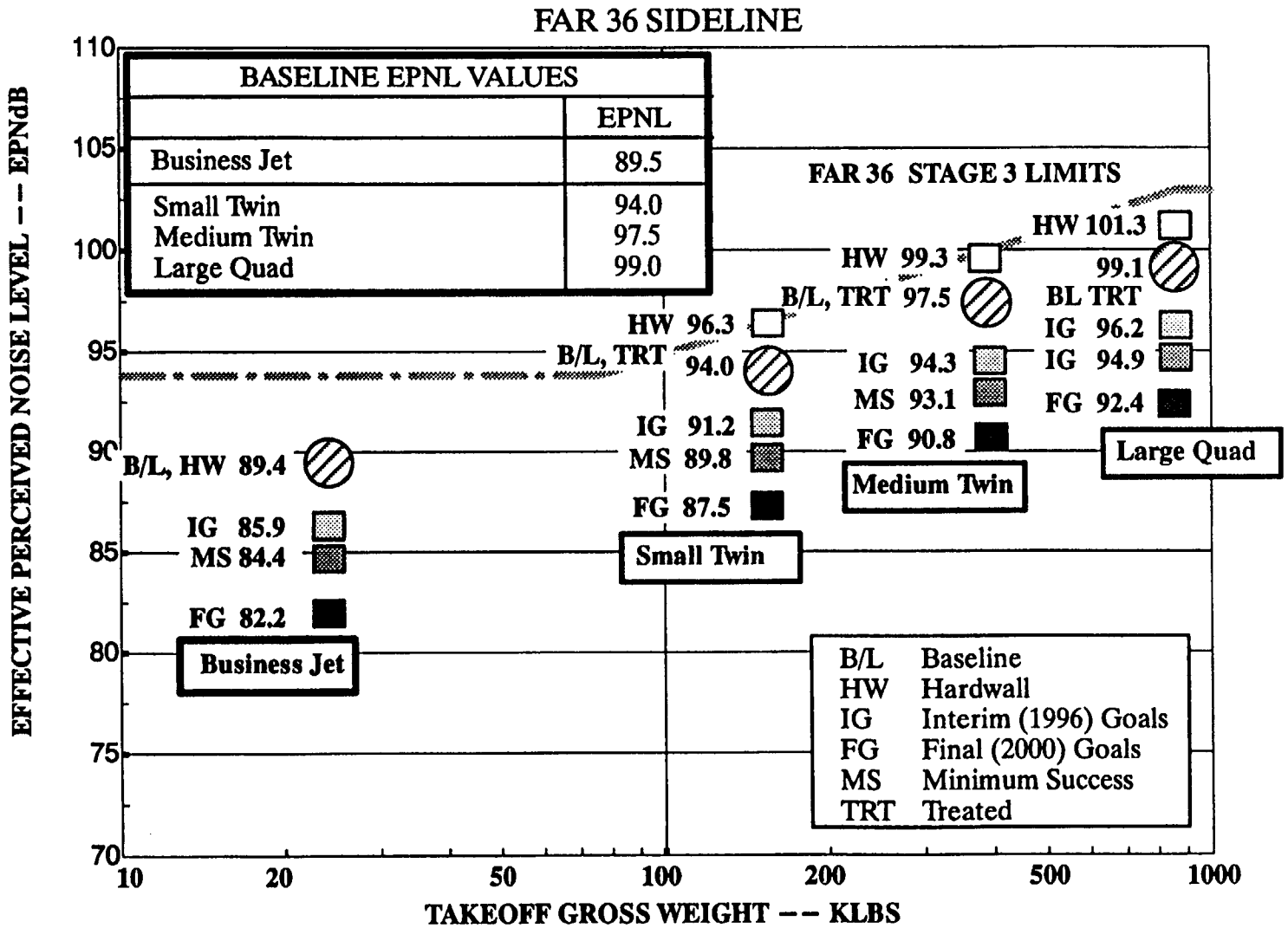
1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 15a. Noise Reductions for Program Goals, All Airplane Models--Cutback.



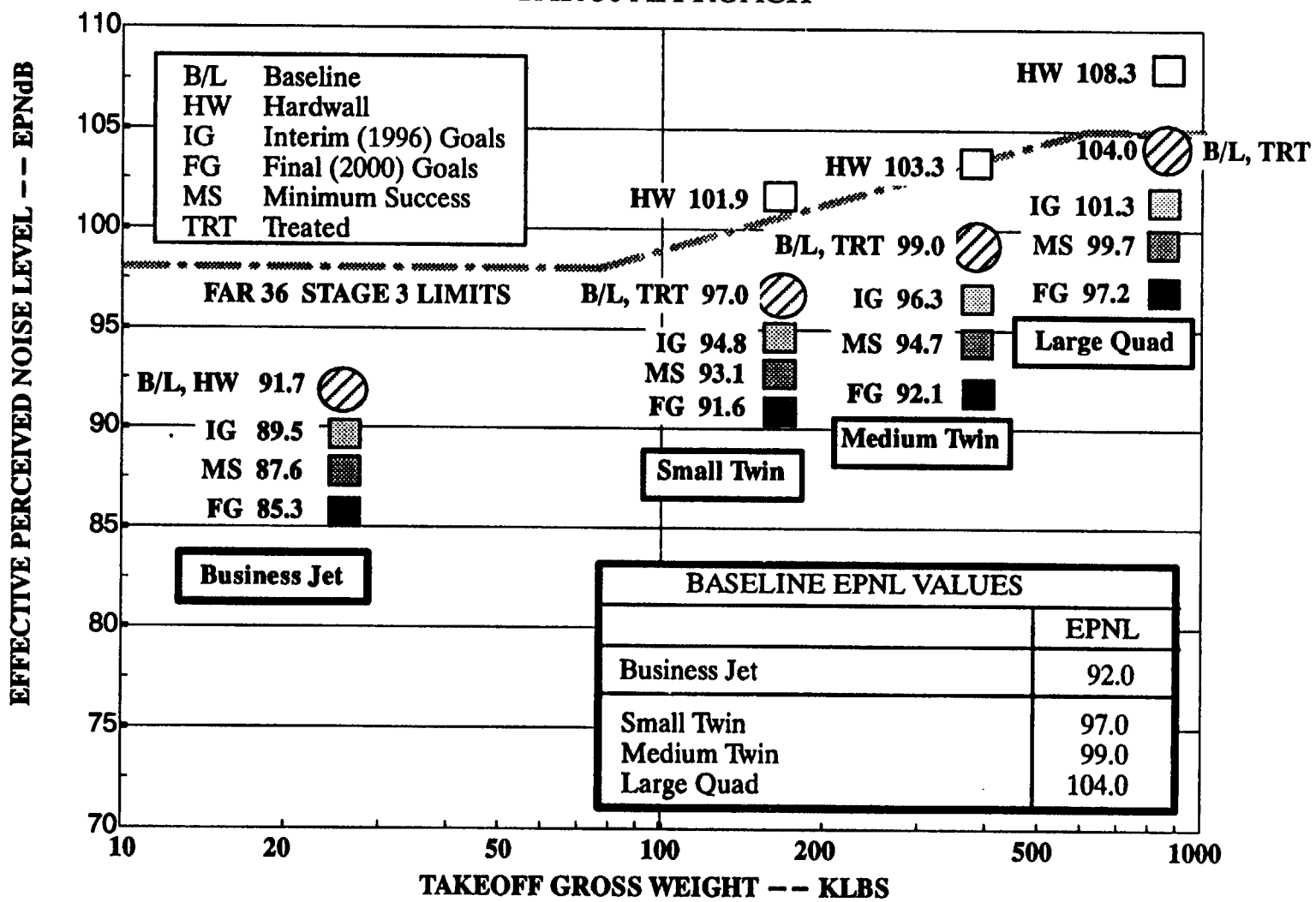
1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 15b. Noise Reductions for Program Goals, All Airplane Models – – Sideline.



1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

Figure 15c. Noise Reductions for Program Goals, All Airplane Models--Approach.



1992 Technology Aircraft Noise Levels

FLIGHT →

Figure 16a. Contours for Business Jet Model – Takeoff EPNL.

BUSINESS JET: 1992 TECHNOLOGY AIRCRAFT
EPNL TAKEOFF CONTOURS
METRIC = EPNL 70.00 80.00 90.00
AREA(SQ MI) = 20.26 4.66 1.06

8000.0 ft

1992 Technology Aircraft Noise Levels

Figure 16b. Contours for Business Jet Model – Takeoff SEL.

BUSINESS JET: 1992 TECHNOLOGY AIRCRAFT
SEL TAKEOFF CONTOURS

METRIC = SEL	70.00	80.00	90.00
AREA(SQ MI) =	21.91	3.90	0.69

8000 0 ft

1992 Technology Aircraft Noise Levels

FLIGHT →

Figure 16c. Contours for Business Jet Model – Approach EPNL.

BUSINESS JET: 1992 TECHNOLOGY AIRCRAFT
EPNL APPROACH CONTOURS

METRIC = EPNL	70.00	80.00	90.00
AREA(SQ MI) =	9.08	2.43	0.37

8000.0 ft

1992 Technology Aircraft Noise Levels

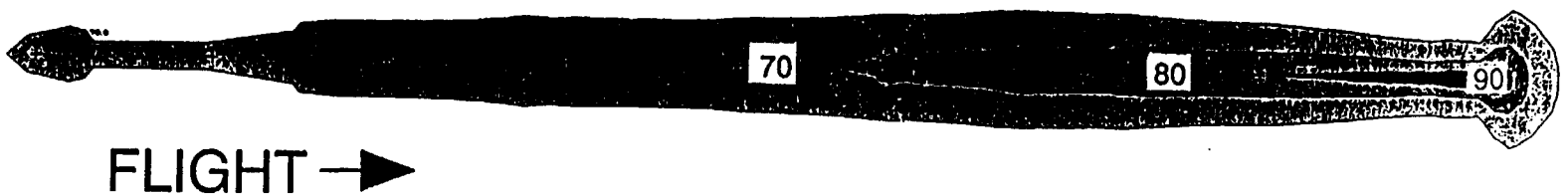


Figure 16d. Contours for Business Jet Model – Approach SEL.

BUSINESS JET: 1992 TECHNOLOGY AIRCRAFT
SEL APPROACH CONTOURS
METRIC = SEL
AREA(SQ MI) = 70.00 80.00 90.00
9.46 1.98 0.21

8000.0 ft

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

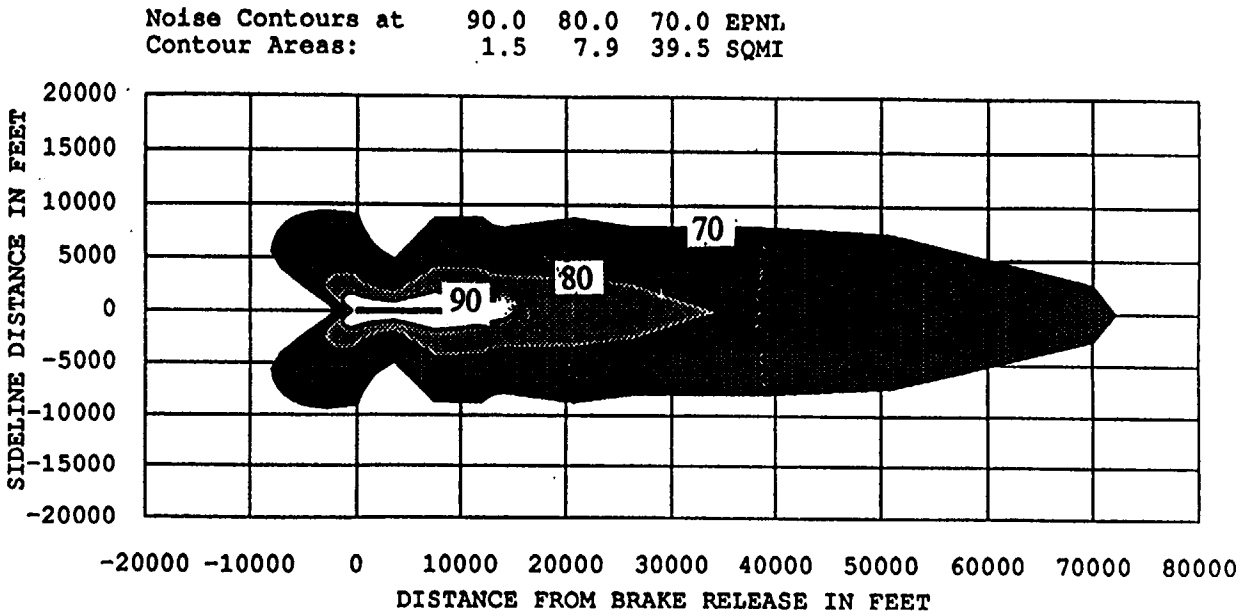


Figure 17a. Contours for Small Twin Model—Takeoff EPNL.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

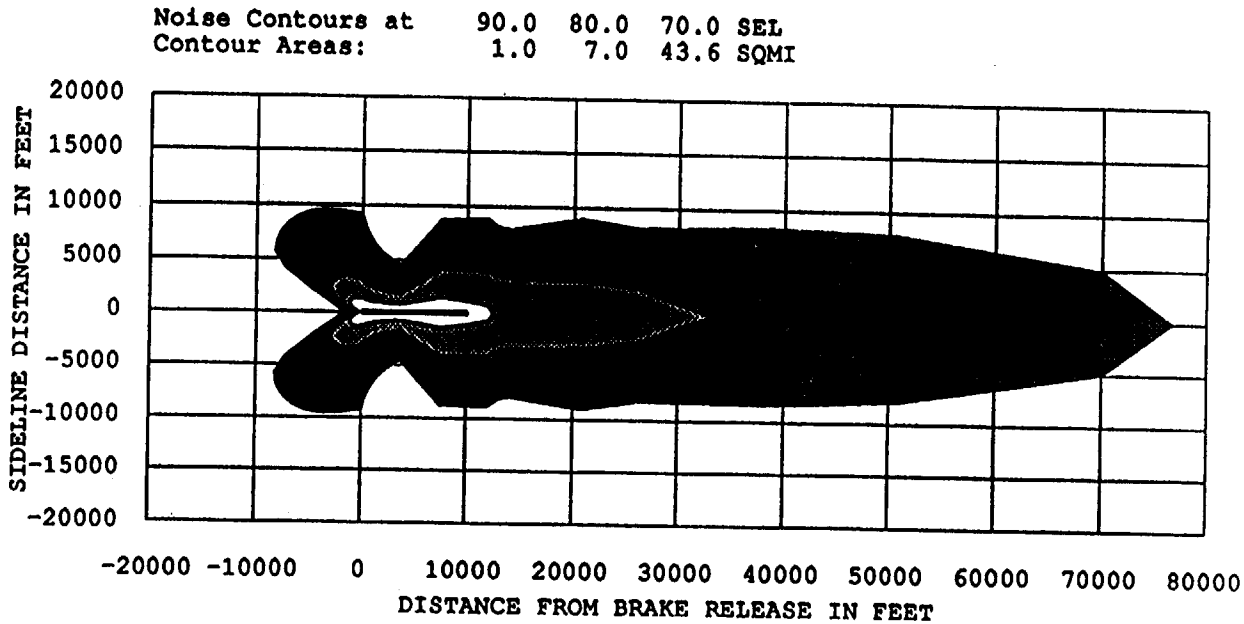


Figure 17b. Contours for Small Twin Model—Takeoff SEL.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

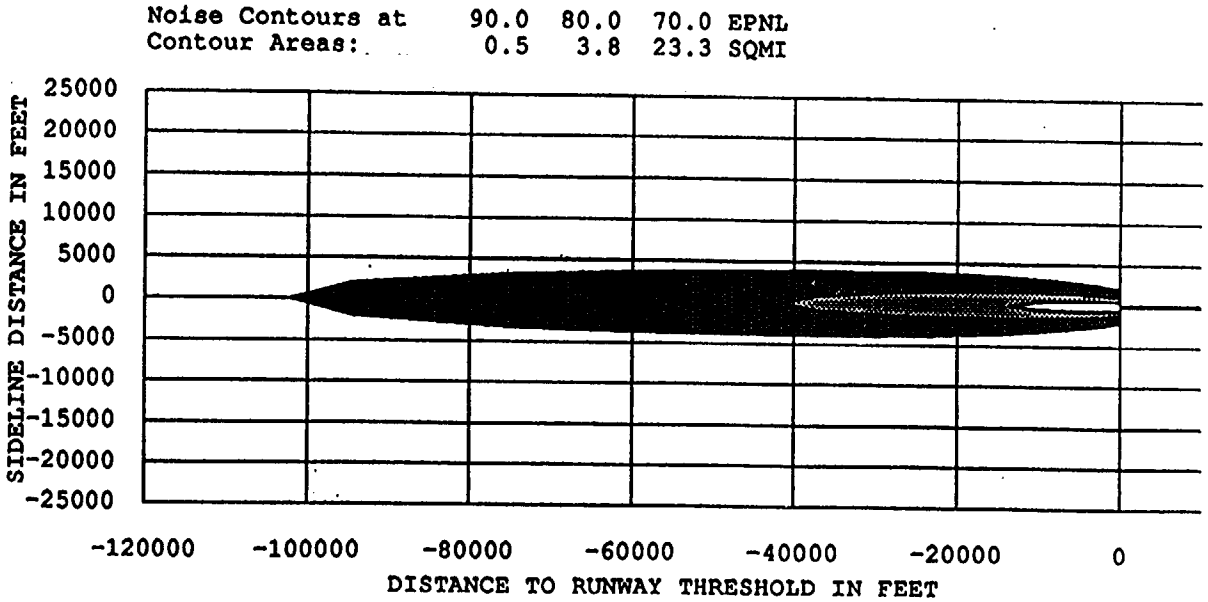


Figure 17c. Contours for Small Twin Model—Approach EPNL.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

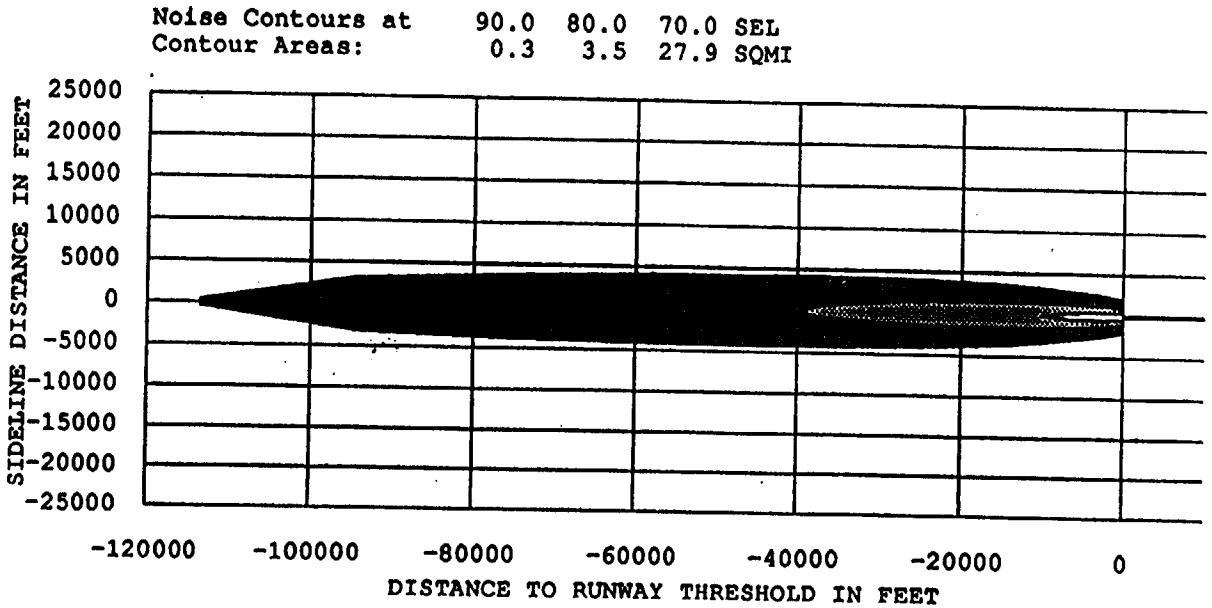


Figure 17d. Contours for Small Twin Model—Approach SEL.

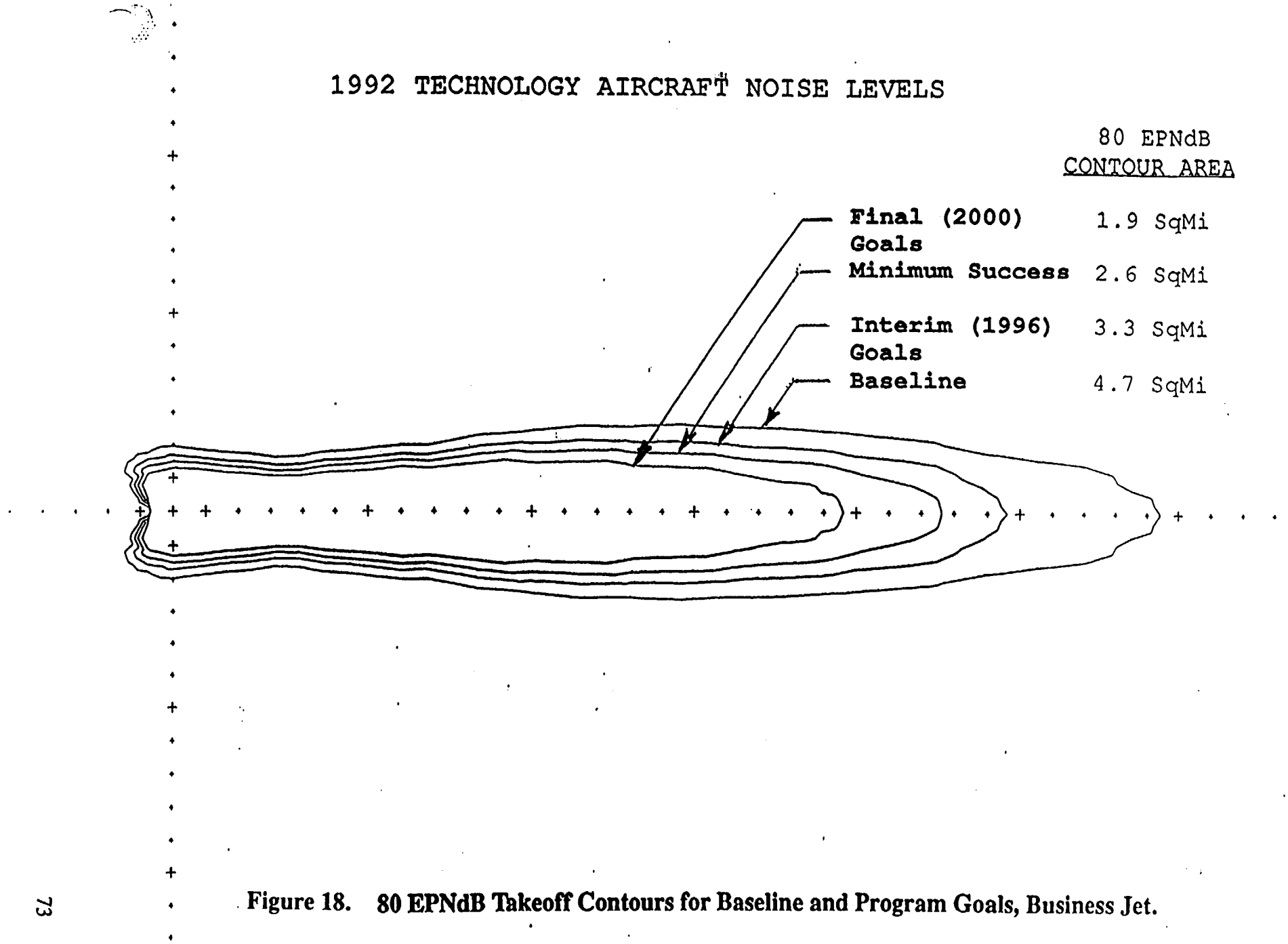


Figure 18. 80 EPNdB Takeoff Contours for Baseline and Program Goals, Business Jet.

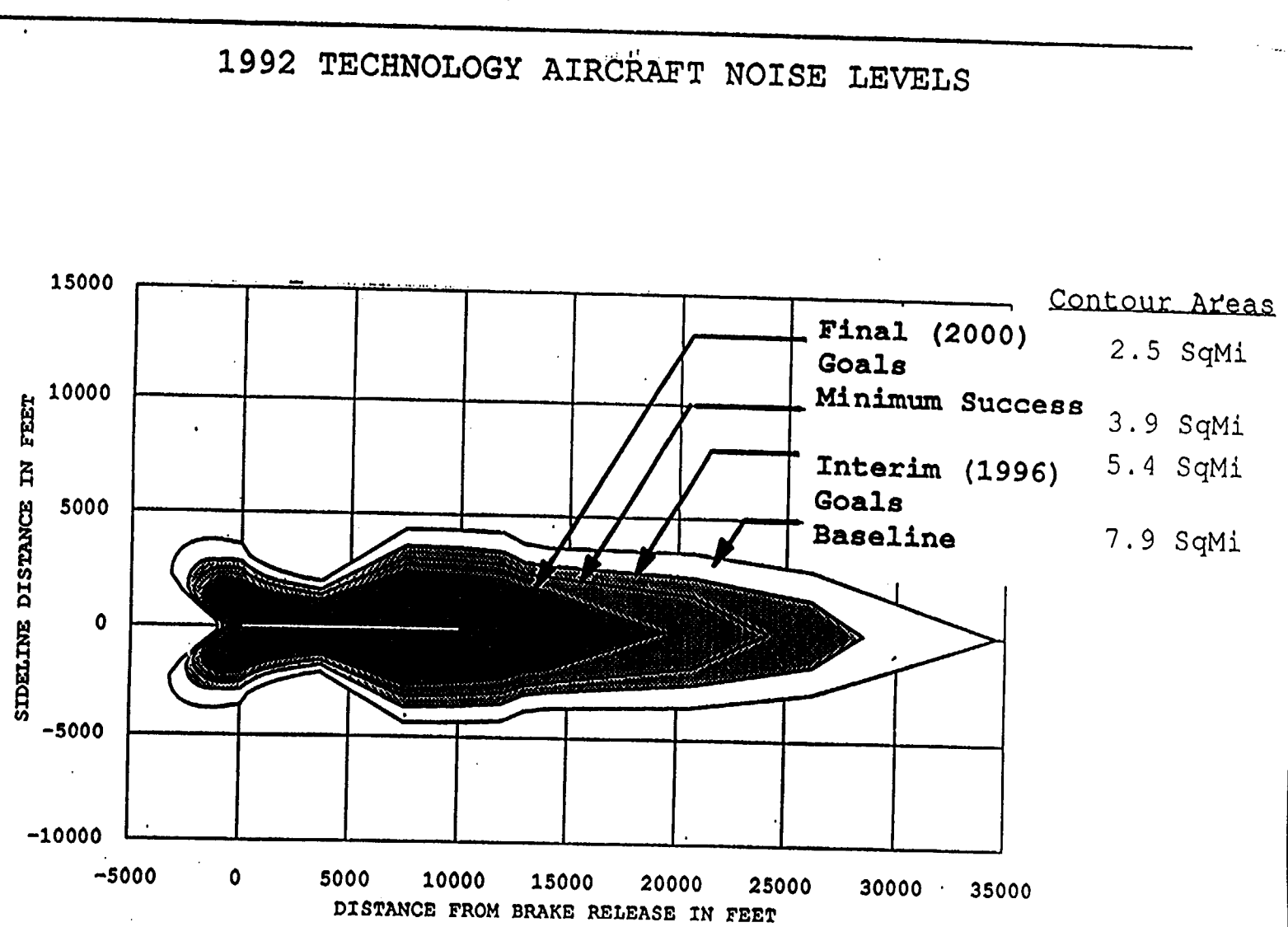


Figure 19. 80 EPNdB Takeoff Contours for Baseline and Program Goals, Small Twin.

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

GLOSSARY of SELECTED TERMS

Afan	Aft fan noise component
Airf	Airframe noise component
DBA	A–weighted sound level noise metric(dBA)
DBD	D–weighted sound level noise metric (dBD)
EMANG	Noise emission angle
Inlt	Inlet noise component
L / H	The ratio of duct length to duct height.
OBPNL	Perceived Noise Level (PNL) calculated with octave bands.
SLST	Sea level static thrust.
TApl	Total airplane noise
Teng	Total engine noise
Turb	Turbine noise component

1992 TECHNOLOGY AIRCRAFT NOISE LEVELS

APPENDIX A.

ONE–THIRD OCTAVE BAND COMPONENT NOISE SPECTRA AND PNLT VERSUS NOISE EMISSION ANGLE (FOR BASELINE CONFIGURATIONS OF ALL AIRPLANE MODELS AT FAR 36 STAGE 3 NOISE CERTIFICATION CONDITIONS)

ORDER OF COMPONENT SPECTRA

A/P MODEL	BUSINESS JET	SMALL TWIN	MEDIUM TWIN	LARGE QUAD
		Airframe		
	Inlet	Inlet	Inlet	Inlet
	Aftfan	Aftfan	Aftfan	Aftfan
	Core	Core	Turbine	Turbine
	Turbine	Turbine	Core	Core
	Jet	Jet	Jet	Jet
	Airframe		Airframe	Airframe
	Total	Total	Total	Total

NOTE: These data will also be provided by electronic transmission or computer floppy disk.

File: SPECTRA.TXT - Business Jet Component Spectra at 4' Microphone for FAA Certification Conditions

Cutback Takeoff

50.0 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	8.6	0.0	25.3	20.6	46.8	49.3	51.3
18	11.1	0.0	28.0	20.7	48.0	49.7	52.0
19	13.2	1.0	30.6	20.3	48.3	49.4	52.0
20	14.0	2.6	31.8	18.7	47.0	48.1	50.6
21	14.3	3.5	32.0	16.8	45.1	46.4	48.9
22	18.6	8.4	36.1	19.0	47.3	48.8	51.3
23	26.1	16.5	43.3	24.4	52.4	54.4	56.7
24	30.8	21.7	47.6	27.4	55.0	57.5	59.7
25	31.7	23.1	47.8	26.8	53.7	56.5	58.7
26	28.0	19.7	42.9	21.6	47.6	50.0	52.5
27	35.5	27.4	48.4	27.6	52.6	54.7	57.4
28	34.7	26.6	44.0	25.5	49.3	51.1	53.9
29	36.7	28.7	42.2	26.4	48.8	50.3	53.1
30	37.3	28.6	37.9	25.2	46.2	47.3	50.3
31	37.5	28.6	33.6	24.1	43.8	44.8	48.0
32	32.2	27.0	27.5	22.0	39.9	40.7	43.9
33	30.3	25.7	21.8	20.6	36.4	37.1	40.5
34	26.6	22.6	14.1	18.2	31.2	31.9	35.6
35	18.5	18.1	4.7	15.1	24.7	25.4	29.1
36	10.9	12.7	0.0	11.0	16.8	15.5	21.1
37	8.4	11.2	0.0	8.8	11.6	8.4	17.0
38	0.0	0.0	0.0	0.5	0.4	0.0	7.9
39	0.0	0.0	0.0	0.0	0.0	0.0	7.8
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

60.1 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	7.8	0.0	27.0	21.8	48.0	49.7	51.9
18	9.4	2.6	29.2	21.4	48.6	49.4	52.1
19	10.1	4.5	30.8	19.9	48.0	48.2	51.1
20	10.1	5.6	31.4	17.8	46.1	46.4	49.3
21	14.6	11.1	36.2	20.5	48.9	49.4	52.2
22	21.9	19.2	43.4	26.0	54.3	55.0	57.8
23	26.9	25.1	48.4	29.2	57.2	58.4	61.1
24	28.0	26.8	49.1	28.8	56.3	57.9	60.5
25	24.0	23.3	44.5	23.3	50.3	51.9	54.7
26	32.3	32.0	51.6	30.2	56.3	57.5	60.6
27	31.2	31.0	48.1	27.6	52.6	53.5	56.8
28	35.2	35.0	48.4	30.2	54.2	54.7	58.0
29	35.3	35.0	44.4	29.1	51.6	51.8	55.2
30	36.8	35.4	40.7	28.5	49.6	49.5	53.0
31	36.3	35.4	36.4	27.4	47.3	46.9	50.6
32	31.8	34.7	31.1	26.3	44.2	43.6	47.5
33	30.2	33.4	25.4	24.9	40.8	39.8	44.1
34	26.7	31.0	18.4	23.4	36.4	35.4	39.9
35	18.9	27.3	9.8	21.3	30.8	29.2	34.5
36	12.7	23.4	0.2	18.2	23.9	20.4	28.2
37	9.6	21.6	0.0	16.6	19.4	14.1	25.0
38	0.0	10.7	0.0	9.8	9.8	2.8	15.4
39	0.0	0.0	0.0	0.0	0.0	0.0	7.8
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

69.9 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	6.4	4.0	28.0	22.4	48.7	49.1	51.9
18	7.2	6.4	29.8	21.4	48.7	48.3	51.6
19	6.9	7.8	30.8	19.3	47.4	46.5	50.1
20	9.5	11.6	34.1	20.1	48.5	47.6	51.2
21	16.4	19.7	41.4	25.4	54.0	53.2	56.8
22	22.2	26.6	47.4	29.5	58.0	57.6	61.0
23	24.6	29.9	49.9	30.5	58.7	58.7	62.0
24	21.7	27.7	46.8	26.1	53.9	54.2	57.4
25	26.7	33.2	51.0	29.7	56.8	56.9	60.4
26	29.4	36.2	52.4	30.8	57.1	56.9	60.7
27	31.5	38.0	51.2	31.2	56.4	55.9	59.9
28	31.9	38.6	48.1	30.4	54.5	53.6	57.7
29	34.4	40.5	46.0	31.2	53.9	52.5	56.8
30	37.1	41.1	42.5	30.6	52.2	50.4	54.9
31	33.8	41.1	38.0	29.8	49.8	47.7	52.5
32	31.0	40.6	33.1	28.8	47.0	44.4	49.7
33	30.6	39.6	27.8	28.0	44.0	41.3	47.0
34	25.2	37.4	20.7	26.8	39.8	36.9	43.2
35	17.6	33.9	12.7	25.6	34.8	30.5	38.5
36	14.1	32.3	4.0	22.7	28.5	22.4	34.5
37	7.0	27.8	0.0	21.5	24.4	16.5	30.3
38	0.0	19.6	0.0	15.5	15.7	6.2	22.3
39	0.0	9.8	0.0	5.8	3.2	0.0	12.7
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

79.4 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	2.8	7.3	28.7	22.7	49.1	48.1	51.7
18	2.9	9.1	30.1	21.1	48.7	46.8	50.9
19	3.1	11.1	31.7	19.6	48.0	45.7	50.1
20	8.5	17.8	37.9	23.4	52.1	49.8	54.3
21	15.0	25.6	44.9	28.5	57.3	55.2	59.5
22	19.2	31.1	49.4	31.2	59.9	58.1	62.3
23	19.4	32.1	49.6	29.9	58.3	56.9	61.0
24	17.3	30.8	47.3	26.4	54.5	53.1	57.3
25	25.2	39.1	54.3	32.8	60.3	58.6	63.2
26	23.3	37.4	50.8	29.3	55.9	54.0	58.8
27	28.8	42.6	52.9	33.1	58.7	56.4	61.4
28	29.7	43.6	50.2	32.8	57.3	54.6	59.8
29	31.3	44.4	46.8	32.5	55.6	52.2	57.8
30	33.8	45.0	43.3	31.9	53.9	50.1	56.0
31	30.2	45.3	39.2	31.6	52.0	47.7	54.2
32	28.0	44.9	34.3	30.7	49.2	44.4	51.7
33	27.5	43.9	28.9	30.0	46.2	41.2	49.1
34	21.8	42.1	22.2	29.3	42.5	36.8	46.0
35	14.5	38.9	14.4	28.3	37.6	30.3	41.8
36	12.8	37.5	6.1	25.6	31.7	22.8	38.8
37	5.2	32.7	0.0	24.6	27.8	17.1	34.5
38	0.0	25.6	0.0	19.2	19.7	7.5	27.4
39	0.0	16.5	0.0	10.4	8.1	0.0	18.2
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

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90.4 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	10.3	31.2	23.0	49.7	46.5	51.4
18	0.0	11.8	32.2	21.0	48.9	44.9	50.4
19	0.0	15.4	35.4	21.3	49.9	45.6	51.4
20	6.3	23.3	42.7	26.3	55.3	51.0	56.8
21	12.0	30.3	49.0	30.6	59.7	55.6	61.4
22	14.9	34.5	52.2	32.0	61.0	57.3	62.9
23	12.8	33.3	50.2	28.5	57.4	53.8	59.5
24	16.2	37.4	53.2	30.5	58.9	55.3	61.3
25	20.6	42.1	56.5	33.4	61.2	57.3	63.6
26	21.4	43.0	55.5	32.5	59.4	55.2	62.0
27	23.4	44.6	53.7	32.7	58.7	54.0	61.0
28	25.6	46.9	52.2	33.8	58.6	53.4	60.6
29	28.0	48.2	49.3	34.0	57.5	51.6	59.3
30	29.8	48.6	45.6	33.2	55.6	49.1	57.4
31	25.9	49.0	41.5	33.0	53.8	46.7	55.8
32	24.1	48.5	36.6	32.2	51.0	43.4	53.5
33	23.6	47.6	31.3	31.8	48.2	40.2	51.4
34	17.6	45.8	24.5	31.2	44.5	35.3	48.5
35	11.8	43.0	17.0	30.5	39.9	29.0	45.0
36	9.6	41.7	8.9	28.0	34.3	21.8	42.6
37	1.5	36.6	2.2	27.0	30.4	16.2	37.9
38	0.0	30.2	0.0	21.9	22.7	7.0	31.4
39	0.0	21.6	0.0	13.6	11.6	0.0	22.6
40	0.0	5.6	0.0	0.8	0.0	0.0	9.5

99.1 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	12.1	33.2	26.1	50.2	44.8	51.4
18	0.0	13.5	34.2	24.1	49.3	43.3	50.4
19	0.0	18.1	38.5	25.4	51.5	45.2	52.6
20	4.9	26.1	45.8	30.6	57.0	50.7	58.2
21	10.2	32.8	51.7	34.5	61.0	55.0	62.4
22	12.3	36.2	54.2	35.3	61.7	55.9	63.3
23	9.3	34.1	51.2	30.9	57.1	51.6	59.0
24	15.2	40.6	56.6	35.4	61.1	55.4	63.3
25	17.6	43.3	57.8	36.2	61.3	55.4	63.7
26	20.4	45.9	58.4	37.1	61.5	55.2	63.9
27	21.3	46.4	55.3	36.2	59.6	52.9	61.7
28	23.9	48.8	53.9	37.5	59.7	52.3	61.5
29	26.3	50.0	51.0	37.6	58.5	50.3	60.2
30	27.5	50.3	47.0	36.7	56.5	47.5	58.2
31	23.5	50.8	43.0	36.7	54.8	45.2	56.8
32	22.1	50.3	38.1	35.9	52.1	41.7	54.7
33	21.6	49.4	32.7	35.6	49.3	38.4	52.7
34	15.8	47.6	26.0	35.2	45.7	33.3	50.0
35	10.0	45.1	18.5	34.5	41.2	27.1	46.9
36	6.0	43.4	10.6	32.0	35.6	20.0	44.3
37	0.0	38.4	3.8	31.0	31.8	14.6	39.8
38	0.0	32.2	0.0	26.0	24.2	5.4	33.7
39	0.0	23.5	0.0	17.8	13.2	0.0	24.9
40	0.0	7.8	0.0	5.3	0.0	0.0	11.3

110.8 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	13.6	35.9	28.1	51.2	42.5	51.8
18	0.0	15.0	37.0	26.1	50.3	41.1	51.0
19	0.0	20.0	41.5	27.8	52.9	43.4	53.6
20	0.0	28.0	48.8	33.0	58.4	49.0	59.3
21	0.0	34.5	54.5	36.8	62.3	53.3	63.4
22	0.0	37.5	56.6	37.2	62.8	53.9	64.2
23	0.0	35.1	53.3	32.6	58.0	49.2	59.7
24	5.2	42.4	59.4	37.8	62.8	53.9	64.8
25	8.0	44.3	59.7	37.9	62.1	53.1	64.5
26	12.5	47.5	60.7	39.5	62.9	53.5	65.3
27	14.3	47.8	57.3	38.4	60.8	50.8	62.9
28	17.9	50.1	55.7	39.6	60.7	50.1	62.5
29	21.3	51.1	52.6	39.5	59.4	47.8	60.9
30	22.8	51.4	48.6	38.8	57.4	45.0	59.1
31	19.8	51.9	44.6	38.7	55.7	42.3	57.6
32	19.6	51.2	39.5	37.9	52.8	38.6	55.4
33	19.2	50.3	34.1	37.8	50.0	35.0	53.4
34	12.9	48.5	27.2	37.4	46.3	29.6	50.8
35	6.8	46.2	19.8	36.6	41.8	23.5	47.9
36	0.7	43.3	11.7	33.9	36.0	16.3	44.5
37	0.0	38.8	4.8	32.8	32.2	11.0	40.5
38	0.0	32.8	0.0	27.7	24.5	1.7	34.4
39	0.0	23.4	0.0	19.4	13.3	0.0	25.2
40	0.0	7.7	0.0	6.7	0.0	0.0	11.6

119.0 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	14.2	37.6	27.1	52.1	40.5	52.6
18	0.0	15.7	38.6	25.1	51.3	39.3	51.8
19	0.0	20.1	42.6	26.4	53.5	41.3	54.1
20	0.0	28.0	49.8	31.5	59.3	47.0	60.0
21	0.0	34.7	55.7	35.5	63.8	51.4	64.6
22	0.0	38.0	58.0	36.2	64.9	52.3	65.9
23	0.0	35.8	54.9	31.9	60.5	47.8	61.8
24	3.5	42.2	60.1	36.3	64.4	51.7	66.0
25	7.1	44.9	61.2	37.1	64.2	51.7	66.2
26	11.0	47.4	61.3	38.0	63.7	51.3	65.9
27	12.8	47.8	57.9	37.1	61.3	48.8	63.3
28	16.6	50.2	56.4	38.3	60.9	47.9	62.6
29	20.2	51.2	53.2	38.3	59.2	45.6	60.8
30	20.8	51.3	49.1	37.4	56.7	42.5	58.5
31	18.1	51.8	45.0	37.3	54.7	39.7	56.9
32	18.1	51.1	39.9	36.6	51.5	35.7	54.6
33	16.9	50.0	34.2	36.4	48.3	31.7	52.5
34	10.4	48.0	27.3	36.0	44.4	26.3	49.8
35	4.1	45.7	19.8	34.9	39.6	20.2	46.9
36	0.0	42.2	11.5	32.1	33.7	12.9	43.1
37	0.0	37.9	4.4	30.9	29.7	7.5	39.2
38	0.0	31.7	0.0	25.5	21.6	0.0	32.9
39	0.0	21.6	0.0	16.8	10.1	0.0	23.1
40	0.0	5.7	0.0	3.6	0.0	0.0	10.0

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131.1 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	14.3	36.1	22.5	58.5	37.6	58.5
18	0.0	15.8	37.3	20.7	57.6	36.8	57.6
19	0.0	18.6	39.5	20.3	57.7	37.3	57.8
20	0.0	26.1	46.3	25.1	63.0	42.7	63.1
21	0.0	33.4	52.8	29.7	67.6	47.7	67.8
22	0.0	37.6	56.1	31.4	68.6	49.5	68.9
23	0.0	36.9	54.4	28.5	64.6	46.6	65.1
24	0.0	39.2	55.5	28.9	63.6	46.5	64.3
25	6.1	45.1	59.7	33.0	65.5	49.6	66.6
26	7.1	44.5	56.5	30.9	61.1	46.2	62.6
27	10.9	47.1	55.2	32.1	60.1	45.7	61.6
28	14.4	48.9	53.1	32.9	58.3	44.2	60.0
29	17.8	49.7	49.7	32.5	55.8	41.5	57.7
30	17.6	50.1	45.7	32.0	53.2	38.5	55.5
31	15.1	50.1	41.2	31.6	50.4	34.9	53.6
32	15.1	49.1	35.8	30.6	46.6	30.5	51.2
33	12.8	47.9	29.9	30.4	43.2	26.1	49.3
34	6.1	45.6	22.7	29.9	38.8	20.7	46.6
35	0.0	43.1	14.9	28.3	33.4	14.3	43.7
36	0.0	38.5	6.1	24.9	26.8	6.6	38.9
37	0.0	34.3	0.0	23.4	22.3	1.0	34.9
38	0.0	27.5	0.0	17.4	13.5	0.0	28.0
39	0.0	15.9	0.0	7.6	0.8	0.0	16.9
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

149.5 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	7.9	30.6	13.4	61.3	35.9	61.3
18	0.0	10.4	32.7	12.4	61.3	35.5	61.3
19	0.0	11.3	33.1	10.4	59.9	33.9	59.9
20	0.0	14.0	35.1	10.4	60.0	34.4	60.1
21	0.0	22.2	42.3	15.8	64.9	40.0	65.0
22	0.0	28.7	48.0	19.9	67.7	44.1	67.8
23	0.0	32.1	50.4	21.2	66.7	44.8	66.9
24	0.0	30.2	47.2	17.4	60.2	40.2	60.5
25	0.0	34.0	49.2	19.3	59.3	41.0	59.8
26	4.4	37.7	49.8	21.6	58.7	41.8	59.4
27	5.7	37.9	46.3	20.6	54.9	38.9	55.6
28	8.6	38.8	43.1	20.4	51.7	36.3	52.6
29	12.9	40.0	40.1	20.3	49.2	34.3	50.3
30	9.8	40.0	35.7	19.6	45.9	31.3	47.3
31	8.6	39.6	30.9	18.8	42.2	27.8	44.4
32	8.6	38.0	24.8	17.4	37.4	23.2	40.9
33	3.5	36.1	18.1	16.6	32.8	17.9	37.9
34	0.0	32.6	9.9	15.3	27.0	11.2	33.8
35	0.0	29.9	1.1	12.2	19.9	3.3	30.4
36	0.0	22.0	0.0	7.3	11.3	0.0	22.6
37	0.0	17.8	0.0	4.8	5.5	0.0	18.4
38	0.0	8.8	0.0	0.0	0.0	0.0	11.0
39	0.0	0.0	0.0	0.0	0.0	0.0	7.8
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

140.7 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	11.9	33.8	17.7	62.4	36.0	62.4
18	0.0	13.9	35.4	16.2	61.3	35.5	61.3
19	0.0	15.1	36.0	14.4	59.4	34.5	59.5
20	0.0	21.0	41.2	17.6	62.3	38.2	62.4
21	0.0	29.1	48.4	22.9	67.3	43.9	67.3
22	0.0	34.4	52.8	25.7	69.1	46.9	69.2
23	0.0	35.7	53.2	25.0	66.8	45.9	67.0
24	0.0	33.3	49.4	20.6	60.5	40.9	60.8
25	4.0	41.7	56.2	27.2	64.6	46.5	65.3
26	3.8	39.9	51.3	23.9	58.7	41.9	59.5
27	9.9	44.9	52.7	27.6	59.8	43.7	60.8
28	12.3	45.3	49.0	27.0	56.4	40.6	57.5
29	15.9	45.7	45.3	26.1	53.3	37.7	54.6
30	13.1	45.7	40.8	25.4	50.0	34.3	51.9
31	12.3	46.0	36.7	25.2	47.2	31.0	49.9
32	12.5	44.6	30.9	24.0	42.8	26.3	47.0
33	8.2	43.1	24.6	23.6	38.8	21.6	44.6
34	1.6	40.2	16.9	22.8	33.6	15.6	41.2
35	0.0	38.1	8.9	20.5	27.5	8.8	38.5
36	0.0	31.4	0.0	16.5	20.0	0.4	31.9
37	0.0	27.7	0.0	14.5	14.9	0.0	28.1
38	0.0	20.0	0.0	7.6	4.8	0.0	20.5
39	0.0	6.3	0.0	0.0	0.0	0.0	9.7
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

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Sideline

50.9 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	19.2	0.6	33.9	24.8	53.3	53.2	56.3
18	21.9	4.7	37.1	25.4	55.1	54.0	57.6
19	24.7	8.6	40.6	25.9	56.4	54.7	58.7
20	27.1	11.9	43.4	25.9	56.7	55.0	59.1
21	29.2	14.6	45.5	25.8	56.7	55.1	59.2
22	30.3	16.2	46.2	24.7	55.7	54.2	58.3
23	31.1	17.3	46.4	23.2	53.8	52.9	56.8
24	30.9	17.1	45.4	20.9	51.1	50.5	54.4
25	35.3	21.4	48.4	23.1	52.7	52.4	56.4
26	42.7	28.2	53.7	28.1	56.9	56.1	60.6
27	47.5	32.2	55.5	30.4	58.2	57.1	62.0
28	48.5	32.0	51.7	28.9	55.6	54.1	59.3
29	48.7	31.4	47.1	27.1	52.4	50.6	56.2
30	49.2	33.2	44.7	27.8	51.7	49.5	55.5
31	49.8	32.7	40.0	26.2	48.9	46.5	53.6
32	50.3	32.7	35.5	25.8	46.6	44.0	52.6
33	46.5	31.9	30.3	24.7	43.5	40.8	49.1
34	45.1	30.2	24.1	23.3	39.9	37.2	46.9
35	42.2	27.5	16.4	21.9	35.3	32.4	43.5
36	33.9	24.1	8.3	20.3	30.0	25.2	36.1
37	28.9	24.0	2.0	20.0	26.1	19.5	32.1
38	23.1	23.5	0.0	15.3	18.6	10.3	27.4
39	6.5	4.9	0.0	7.3	7.7	0.0	13.2
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

60.5 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	19.9	6.2	36.2	26.7	55.3	54.2	57.8
18	22.4	10.2	39.4	27.3	57.0	54.9	59.1
19	24.8	13.9	42.7	27.5	58.1	55.5	60.1
20	26.7	16.9	45.2	27.3	58.3	55.5	60.3
21	28.0	19.0	46.6	26.6	57.7	55.1	59.8
22	28.0	19.6	46.4	24.5	55.6	53.2	57.9
23	28.7	20.7	46.5	23.1	53.8	51.9	56.5
24	34.1	26.3	51.2	26.5	56.9	55.3	59.8
25	40.8	32.9	56.6	31.1	61.0	59.4	64.1
26	45.5	37.2	59.3	33.7	62.7	60.6	65.9
27	46.3	37.2	56.9	32.0	60.1	57.6	63.3
28	45.3	35.1	51.1	28.7	55.6	52.8	58.6
29	50.4	40.1	52.1	32.5	58.1	54.9	60.9
30	48.9	39.9	47.6	31.2	55.4	51.8	58.1
31	51.2	41.1	44.5	31.3	54.3	50.4	57.4
32	50.3	40.6	39.5	30.4	51.5	47.4	55.1
33	46.9	40.0	34.6	29.7	48.8	44.4	52.2
34	46.0	38.7	28.7	28.8	45.5	41.0	49.9
35	42.8	36.7	21.6	28.1	41.6	36.4	46.3
36	34.5	33.5	14.0	27.0	36.7	29.6	40.5
37	30.2	35.1	8.0	26.9	33.2	24.3	38.6
38	23.5	32.9	0.0	23.0	26.6	16.0	34.6
39	8.6	16.7	0.0	16.3	16.9	4.6	21.8
40	0.0	6.4	0.0	6.0	3.8	0.0	11.4

69.7 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	19.8	11.0	37.8	27.9	56.7	54.3	58.7
18	22.1	14.9	41.1	28.4	58.3	55.0	60.0
19	24.1	18.4	44.2	28.4	59.2	55.4	60.8
20	25.3	20.8	46.0	27.8	59.0	55.0	60.6
21	25.7	22.1	46.7	26.4	57.8	53.9	59.5
22	25.3	22.6	46.2	24.0	55.4	51.8	57.3
23	29.8	27.6	50.4	26.6	57.8	54.6	60.0
24	36.6	34.8	56.6	31.7	62.4	59.4	64.9
25	41.6	39.8	60.3	34.7	64.9	61.6	67.5
26	43.4	41.3	60.2	34.4	63.7	60.1	66.5
27	40.4	37.6	53.5	29.1	57.6	53.6	60.2
28	49.3	44.8	57.2	35.1	62.4	58.1	64.8
29	47.5	44.6	52.9	33.9	59.8	54.9	61.9
30	48.5	46.0	50.2	34.0	58.8	53.5	60.8
31	50.5	46.2	45.9	33.4	56.8	51.0	59.0
32	47.6	46.1	41.4	32.9	54.4	48.2	56.6
33	45.8	45.7	36.6	32.2	51.9	45.5	54.3
34	45.9	44.7	30.8	31.9	49.0	42.4	52.3
35	40.6	42.8	23.9	31.4	45.2	37.1	48.5
36	32.8	38.8	16.8	30.8	40.6	30.7	43.7
37	30.2	45.4	10.9	30.5	37.4	25.8	46.3
38	20.0	35.7	1.4	27.2	31.1	17.9	37.5
39	8.3	25.4	0.0	21.3	22.3	7.4	28.3
40	0.0	15.9	0.0	12.0	10.2	0.0	18.3

80.6 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	16.4	15.5	39.5	29.0	58.1	53.9	59.6
18	18.4	19.2	42.7	29.2	59.6	54.4	60.8
19	19.9	22.3	45.4	29.0	60.3	54.5	61.4
20	20.3	24.1	46.7	27.8	59.6	53.7	60.8
21	19.8	24.9	46.7	25.8	57.8	52.1	59.1
22	21.7	27.8	48.6	25.9	57.9	52.4	59.3
23	28.5	35.3	55.3	31.1	62.9	57.7	64.6
24	34.1	41.4	60.4	35.1	66.5	61.3	68.4
25	37.0	44.4	62.1	36.3	67.1	61.5	69.1
26	35.2	42.3	58.2	32.3	62.4	56.5	64.6
27	39.5	46.0	58.7	34.6	63.7	57.4	65.7
28	44.4	49.5	58.5	36.8	64.8	58.0	66.5
29	42.6	49.7	54.6	36.0	62.7	55.1	64.1
30	43.3	50.4	51.1	35.4	61.1	53.0	62.4
31	45.8	51.1	47.4	35.5	59.6	51.0	61.1
32	42.4	51.2	43.1	35.2	57.5	48.4	59.0
33	41.1	50.7	38.2	34.6	55.0	45.6	57.0
34	41.1	49.8	32.3	34.5	52.2	42.0	54.7
35	35.1	48.0	25.7	34.3	48.6	36.8	51.7
36	27.7	44.7	18.9	33.9	44.2	30.7	47.8
37	25.6	51.2	13.0	33.6	41.1	25.9	51.7
38	15.2	40.0	3.8	30.6	35.3	18.4	41.7
39	5.5	31.8	0.0	25.2	27.0	8.4	33.7
40	0.0	22.9	0.0	16.7	15.7	0.0	24.5

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88.6 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	14.2	18.1	41.7	29.5	59.1	53.1	60.1
18	15.9	21.7	44.8	29.6	60.5	53.5	61.4
19	17.2	24.6	47.3	29.2	61.0	53.5	61.9
20	17.2	26.0	48.2	27.7	60.0	52.4	61.0
21	16.7	26.7	48.1	25.7	58.2	50.8	59.3
22	20.7	31.8	52.2	28.0	60.5	53.3	61.8
23	27.5	39.3	58.9	33.3	65.6	58.6	67.1
24	32.4	44.6	63.2	36.5	68.5	61.4	70.3
25	34.1	46.4	63.6	36.4	67.9	60.3	69.8
26	31.1	43.0	58.4	31.2	61.9	54.0	64.0
27	39.4	50.6	62.6	37.4	67.3	58.8	69.1
28	40.4	50.4	58.5	35.9	64.6	55.7	66.1
29	40.6	52.8	56.8	37.3	64.7	55.0	66.0
30	41.3	53.2	53.0	36.4	62.9	52.5	64.1
31	43.5	53.9	49.2	36.5	61.5	50.4	62.7
32	39.7	53.7	44.7	36.0	59.0	47.4	60.5
33	39.1	53.6	40.1	35.9	57.0	45.0	59.0
34	38.8	52.5	34.1	35.8	54.1	41.0	56.7
35	32.3	50.7	27.5	35.7	50.6	35.7	53.8
36	25.2	48.1	20.9	35.4	46.3	29.8	50.5
37	22.7	54.2	14.9	35.0	43.3	25.0	54.6
38	12.8	42.2	5.9	32.2	37.6	17.7	43.8
39	3.6	35.0	0.0	27.0	29.4	7.9	36.6
40	0.0	26.3	0.0	18.7	18.4	0.0	27.6

109.2 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	22.0	46.8	35.0	61.4	49.4	61.8
18	0.0	25.4	49.8	35.0	62.6	50.0	63.1
19	0.0	27.9	51.9	34.3	63.0	49.8	63.5
20	0.0	28.8	52.2	32.4	61.8	48.4	62.4
21	0.0	30.2	52.8	31.1	60.8	47.5	61.6
22	5.6	37.4	59.0	35.6	65.5	52.3	66.6
23	12.7	44.4	65.0	40.4	70.3	56.9	71.6
24	17.6	48.6	68.1	42.6	72.3	58.6	73.9
25	18.5	48.5	66.5	40.7	69.8	55.8	71.6
26	19.5	48.0	63.8	38.5	66.8	52.5	68.7
27	28.4	55.0	67.1	44.1	71.4	56.5	73.0
28	27.5	52.7	60.9	40.7	66.7	51.1	67.9
29	30.0	56.0	60.0	42.9	67.7	51.1	68.7
30	32.5	56.7	56.4	42.5	66.2	48.7	67.1
31	34.3	57.0	52.3	42.4	64.3	46.1	65.4
32	31.9	57.2	48.1	42.3	62.2	43.2	63.6
33	32.4	56.5	42.9	41.9	59.8	39.8	61.6
34	32.2	55.6	36.9	42.2	57.0	35.4	59.5
35	25.9	53.6	30.4	42.1	53.3	30.2	56.7
36	19.7	52.5	23.6	41.4	48.9	24.2	54.3
37	15.6	55.3	17.5	41.0	45.9	19.7	55.9
38	7.0	43.7	8.3	38.1	40.0	12.2	46.0
39	0.0	37.5	0.0	32.7	31.7	2.3	39.5
40	0.0	27.8	0.0	24.2	20.5	0.0	30.0

101.1 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	21.0	45.0	33.7	60.5	51.1	61.1
18	0.0	24.4	48.0	33.7	61.8	51.6	62.3
19	0.0	27.0	50.2	33.0	62.1	51.5	62.7
20	0.0	28.1	50.6	31.2	60.9	50.1	61.6
21	0.0	29.3	51.0	29.7	59.6	48.9	60.5
22	6.3	36.1	56.9	33.8	63.8	53.3	64.9
23	13.6	43.2	63.1	38.7	68.6	58.2	70.0
24	18.6	47.7	66.5	41.2	70.8	60.0	72.4
25	19.9	48.0	65.3	39.7	68.7	57.6	70.6
26	19.9	46.6	61.9	36.5	64.8	53.4	66.8
27	29.3	54.2	65.9	42.7	70.1	58.1	71.8
28	28.8	51.8	59.7	39.2	65.5	52.7	66.8
29	31.2	55.3	59.0	41.6	66.7	53.0	67.8
30	33.5	56.0	55.4	41.1	65.3	50.7	66.3
31	35.8	56.4	51.4	41.0	63.6	48.2	64.7
32	33.3	56.5	47.0	40.8	61.4	45.3	62.9
33	33.7	56.1	42.1	40.5	59.2	42.4	61.1
34	34.0	55.1	36.2	40.7	56.4	38.1	59.0
35	28.0	53.3	29.7	40.7	52.9	32.8	56.2
36	21.9	51.6	23.0	40.2	48.6	27.0	53.6
37	18.5	56.0	16.9	39.8	45.6	22.3	56.5
38	9.6	43.8	7.9	37.0	39.9	15.0	45.9
39	0.3	37.6	0.0	31.8	31.8	5.2	39.4
40	0.0	28.5	0.0	23.6	20.7	0.0	30.3

120.3 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	22.5	48.6	33.5	64.1	46.4	64.3
18	0.0	25.9	51.6	33.5	65.5	47.2	65.7
19	0.0	28.3	53.6	32.7	65.9	47.2	66.2
20	0.0	29.3	53.8	30.9	64.7	45.9	65.1
21	0.0	30.6	54.3	29.5	63.9	45.0	64.4
22	3.5	37.4	60.2	33.8	68.6	49.5	69.3
23	10.7	44.4	66.3	38.6	73.5	54.1	74.3
24	15.7	48.7	69.4	41.0	75.4	56.0	76.4
25	16.9	48.8	67.8	39.2	72.7	53.4	74.0
26	17.4	47.7	64.3	36.5	68.4	49.4	69.9
27	26.6	54.9	67.8	42.4	72.7	53.7	74.0
28	25.2	52.5	61.4	38.8	67.3	47.9	68.4
29	27.9	55.8	60.5	41.1	67.7	47.9	68.7
30	30.5	56.4	56.8	40.6	65.6	45.3	66.6
31	31.5	56.7	52.6	40.5	63.3	42.3	64.5
32	29.3	56.6	48.1	40.2	60.7	39.0	62.3
33	30.0	55.9	42.8	39.9	57.8	35.3	60.1
34	28.8	54.8	36.7	40.1	54.7	30.8	57.9
35	22.2	52.6	30.1	40.0	50.7	25.5	54.9
36	15.8	51.9	23.0	38.9	45.9	19.4	53.1
37	11.0	52.5	16.7	38.4	42.7	14.8	53.1
38	2.6	41.9	7.2	35.1	36.4	7.1	43.6
39	0.0	35.3	0.0	29.2	27.6	0.0	36.8
40	0.0	24.5	0.0	20.1	15.6	0.0	26.3

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129.6 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	22.0	46.6	29.2	69.0	43.5	69.0
18	0.0	25.5	49.7	29.2	70.7	44.6	70.7
19	0.0	28.0	51.7	28.6	70.8	44.8	70.9
20	0.0	29.1	52.1	26.9	69.4	43.7	69.5
21	0.0	30.0	52.2	25.2	67.9	42.4	68.1
22	0.7	35.8	57.0	28.4	71.1	45.8	71.3
23	8.2	43.0	63.3	33.5	75.4	50.8	75.7
24	13.7	47.8	66.8	36.3	77.0	53.2	77.4
25	15.8	48.7	66.0	35.4	74.5	51.4	75.1
26	14.4	45.7	60.4	30.8	67.7	45.5	68.5
27	24.3	53.6	64.6	37.5	72.0	50.4	72.8
28	23.1	51.7	58.7	34.5	66.6	45.1	67.4
29	25.8	54.7	57.5	36.3	66.2	44.6	67.0
30	28.2	54.9	53.4	35.7	63.4	41.5	64.4
31	28.6	55.3	49.2	35.6	60.9	38.3	62.2
32	26.3	54.7	44.2	34.9	57.5	34.3	59.5
33	27.3	54.2	39.1	34.9	54.6	30.7	57.6
34	25.0	52.6	32.5	34.7	50.8	25.9	54.9
35	18.4	50.4	25.9	34.6	46.6	20.6	52.0
36	11.5	49.8	18.4	32.9	41.3	14.3	50.5
37	6.4	48.8	11.8	32.2	37.6	9.5	49.2
38	0.0	38.5	1.9	28.4	30.7	1.3	39.5
39	0.0	31.2	0.0	21.8	21.0	0.0	32.1
40	0.0	19.1	0.0	11.7	7.7	0.0	20.2

139.4 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	19.0	43.4	23.3	72.1	40.8	72.1
18	0.0	22.6	46.7	23.5	73.3	42.0	73.3
19	0.0	25.3	48.8	23.1	73.4	42.4	73.5
20	0.0	26.6	49.4	21.7	72.2	41.5	72.2
21	0.0	27.4	49.3	19.8	70.0	40.0	70.1
22	0.0	30.8	51.9	20.8	70.8	41.1	70.9
23	4.4	38.3	58.3	26.1	75.0	46.3	75.1
24	10.7	43.8	62.5	29.7	76.8	49.3	77.0
25	14.2	46.0	63.2	30.1	75.0	48.7	75.3
26	12.4	42.6	56.7	25.1	67.5	42.4	67.8
27	20.6	48.3	58.7	29.6	69.3	45.0	69.7
28	21.2	49.6	56.0	29.9	66.7	42.8	67.2
29	22.7	50.4	52.6	29.3	63.9	40.2	64.4
30	25.4	50.4	48.1	28.6	60.6	36.8	61.3
31	24.0	50.8	44.2	28.6	57.9	33.6	58.9
32	23.0	50.1	39.1	27.8	54.2	29.7	55.8
33	23.9	49.0	33.1	27.3	50.5	25.3	52.9
34	19.5	47.3	26.5	27.1	46.3	20.4	49.9
35	13.0	43.9	19.6	26.6	41.3	14.6	45.9
36	5.7	45.6	11.3	24.0	35.1	7.7	46.0
37	0.1	39.5	4.3	23.1	30.9	2.6	40.2
38	0.0	31.6	0.0	18.5	22.9	0.0	32.3
39	0.0	22.7	0.0	10.6	11.7	0.0	23.3
40	0.0	7.9	0.0	0.0	0.0	0.0	10.5

149.4 DEGREES

17	0.0	13.3	38.7	17.1	71.1	39.3	71.1
18	0.0	17.1	42.1	17.5	71.9	40.2	71.9
19	0.0	19.9	44.4	17.4	72.6	40.5	72.6
20	0.0	21.6	45.3	16.3	71.9	40.0	71.9
21	0.0	22.8	45.6	14.8	70.3	38.7	70.3
22	0.0	23.3	45.2	12.9	67.8	36.7	67.8
23	0.0	29.5	50.5	17.0	70.4	40.3	70.5
24	6.0	36.0	55.6	21.6	72.6	44.1	72.7
25	11.1	39.9	57.8	23.6	71.8	45.0	72.0
26	12.3	39.4	54.2	21.7	66.9	41.5	67.2
27	12.7	37.3	48.4	18.3	60.7	36.3	61.0
28	18.4	43.9	50.9	23.9	63.4	39.5	63.7
29	17.7	42.3	45.1	21.0	58.0	34.7	58.3
30	21.2	43.0	41.4	21.0	55.3	32.4	55.7
31	18.8	43.0	36.9	20.5	51.9	29.2	52.6
32	17.4	41.6	31.1	19.0	47.3	24.8	48.4
33	18.2	40.3	25.0	18.6	43.3	20.2	45.2
34	12.6	37.8	17.6	17.6	38.2	14.2	41.1
35	5.4	33.7	10.0	16.4	32.3	7.5	36.2
36	0.0	35.1	0.7	12.7	24.9	0.0	35.5
37	0.0	27.1	0.0	11.3	20.0	0.0	28.0
38	0.0	18.2	0.0	5.1	10.3	0.0	19.2
39	0.0	7.1	0.0	0.0	0.0	0.0	10.1
40	0.0	0.0	0.0	0.0	0.0	0.0	7.8

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Approach

30.8 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	17.2	0.0	32.9	30.8	56.6	63.1	64.0
18	20.9	0.0	35.6	31.0	57.1	63.4	64.3
19	24.0	2.5	38.3	30.7	56.8	63.3	64.2
20	26.2	4.5	40.1	29.5	55.5	62.4	63.3
21	27.1	5.4	40.4	27.6	53.3	60.7	61.5
22	31.1	9.4	43.6	28.9	54.2	62.3	62.9
23	39.3	17.6	50.9	34.4	58.9	68.0	68.6
24	45.3	23.6	56.0	38.2	61.9	71.7	72.3
25	48.0	26.4	57.7	38.9	61.5	72.3	72.8
26	45.1	23.6	53.4	34.2	55.7	66.5	67.1
27	51.8	30.4	58.3	39.3	59.3	70.1	70.8
28	53.5	32.2	56.5	39.7	58.1	69.0	69.7
29	55.2	34.0	54.5	40.3	57.0	68.0	68.7
30	56.2	35.2	51.6	40.5	55.4	66.4	67.2
31	57.4	36.6	48.8	40.7	54.2	65.3	66.3
32	58.0	37.4	45.1	41.0	52.3	63.7	65.0
33	58.2	37.9	41.2	41.8	50.3	61.8	63.7
34	58.0	38.1	36.9	43.1	48.3	60.1	62.4
35	57.5	38.0	31.6	44.5	45.9	58.0	61.0
36	58.0	40.4	25.9	44.7	43.0	53.9	59.7
37	54.7	36.1	21.4	45.6	40.8	49.8	56.5
38	52.2	34.4	15.0	44.5	37.4	44.7	53.7
39	49.1	32.7	7.0	42.5	32.7	38.3	50.4
40	42.3	25.8	0.0	38.9	26.7	30.3	44.3

40.3 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	18.5	1.8	35.1	33.0	58.4	64.8	65.7
18	21.6	4.6	37.4	32.7	58.3	64.6	65.5
19	23.7	6.6	39.1	31.4	57.1	63.5	64.4
20	24.9	7.8	40.0	29.4	55.0	61.8	62.7
21	29.1	12.2	43.8	31.0	56.2	63.6	64.4
22	37.4	20.7	51.4	36.8	61.6	69.6	70.3
23	43.6	27.1	56.9	40.5	64.5	73.5	74.1
24	46.1	29.9	58.8	41.1	64.3	74.1	74.7
25	43.0	27.2	54.9	36.3	58.5	69.1	69.6
26	50.2	34.8	61.0	42.0	63.1	73.6	74.2
27	51.4	36.4	60.5	42.0	61.6	72.1	72.8
28	53.7	39.3	59.8	43.5	61.5	72.1	72.8
29	54.1	40.3	57.0	43.3	59.5	70.4	71.0
30	55.2	42.0	54.6	44.0	58.6	69.3	69.9
31	55.8	43.4	51.7	44.2	57.3	68.1	68.8
32	55.8	44.1	47.9	44.6	55.5	66.5	67.2
33	55.8	45.0	44.4	45.8	53.8	64.9	65.8
34	55.1	45.2	40.0	47.2	51.8	63.2	64.2
35	54.4	45.6	35.0	48.8	49.7	61.3	62.6
36	54.6	47.9	29.7	49.4	47.2	57.2	60.0
37	51.0	43.9	25.4	50.4	45.2	53.3	57.1
38	48.8	42.9	19.4	49.8	42.2	48.6	54.5
39	46.0	41.8	12.3	48.7	38.4	43.1	51.9
40	40.1	36.1	4.5	46.2	33.5	36.2	48.0

47.6 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	17.4	5.3	36.3	34.0	59.2	65.3	66.2
18	19.9	7.8	38.1	33.3	58.7	64.7	65.7
19	21.2	9.3	39.2	31.3	56.8	63.0	63.9
20	23.6	11.8	41.4	30.7	56.0	62.6	63.5
21	30.9	19.4	48.3	35.5	60.5	67.6	68.4
22	38.2	27.1	55.2	40.5	65.0	72.8	73.5
23	42.5	31.8	58.9	42.5	66.3	75.0	75.7
24	41.9	31.6	57.9	40.2	63.2	72.7	73.3
25	42.8	33.1	58.2	39.6	61.6	71.8	72.4
26	49.0	40.0	63.5	44.7	65.5	75.6	76.2
27	47.4	39.1	60.4	42.1	61.5	71.6	72.3
28	50.4	42.9	60.5	44.6	62.3	72.6	73.2
29	51.5	44.8	58.6	45.4	61.4	71.7	72.3
30	52.2	46.4	55.9	45.8	60.2	70.4	71.0
31	52.8	47.9	53.2	46.2	59.1	69.4	70.0
32	52.6	48.7	49.4	46.7	57.3	67.7	68.3
33	52.4	49.4	45.8	47.9	55.6	66.1	66.8
34	51.8	49.8	41.6	49.6	53.8	64.5	65.4
35	51.4	50.6	36.6	51.2	51.8	62.5	63.6
36	51.6	52.4	31.6	51.9	49.4	58.3	60.9
37	47.8	48.7	27.3	53.0	47.5	54.6	58.3
38	46.1	48.2	21.6	52.7	44.8	50.2	56.3
39	43.6	47.1	14.8	51.8	41.3	45.0	54.3
40	38.1	42.1	7.5	49.9	36.9	38.6	51.2

57.6 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	14.9	9.9	37.6	35.0	59.9	65.3	66.4
18	16.6	11.9	38.8	33.6	58.7	64.1	65.2
19	17.7	13.3	39.9	31.7	56.8	62.4	63.5
20	23.4	19.5	45.6	34.6	59.6	65.6	66.7
21	31.0	27.5	53.0	39.9	64.7	71.2	72.1
22	36.6	33.7	58.3	43.3	67.7	74.9	75.7
23	38.3	36.0	59.7	43.1	66.7	74.8	75.5
24	35.1	33.5	56.2	38.4	61.2	70.1	70.7
25	43.2	42.4	64.0	45.4	67.1	76.5	77.2
26	42.0	42.1	62.0	43.2	63.8	73.0	73.8
27	46.6	47.5	65.0	47.1	66.2	75.5	76.3
28	46.5	48.4	62.1	46.6	64.1	73.6	74.3
29	47.4	50.3	60.1	47.3	63.1	72.6	73.3
30	47.9	51.7	57.3	47.7	61.8	71.2	71.9
31	48.5	53.2	54.6	48.2	60.9	70.2	70.9
32	48.2	54.1	50.9	48.8	59.1	68.4	69.2
33	48.2	55.0	47.4	50.4	57.6	67.0	67.9
34	47.5	55.3	43.1	52.0	55.8	65.3	66.3
35	47.8	56.6	38.2	53.7	53.9	62.9	64.7
36	47.6	57.6	33.3	54.6	51.7	58.8	62.6
37	43.7	54.4	29.1	55.6	49.9	55.2	60.4
38	42.5	54.3	23.5	55.5	47.4	51.0	59.1
39	40.0	53.0	17.1	54.9	44.2	46.1	57.7
40	35.7	48.8	10.1	53.5	40.2	40.3	55.1

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70.9 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	10.1	15.6	38.8	35.7	60.4	64.5	66.0
18	11.2	17.2	39.8	33.8	58.8	62.9	64.3
19	13.9	20.5	42.7	33.7	58.7	63.1	64.4
20	21.4	28.6	50.3	38.8	63.7	68.5	69.8
21	27.9	35.8	56.8	43.3	67.9	73.2	74.4
22	31.7	40.5	60.5	45.1	69.2	75.3	76.3
23	30.3	39.8	59.0	42.1	65.5	72.4	73.4
24	32.7	43.1	61.4	43.2	65.9	73.4	74.3
25	37.8	49.1	66.1	47.3	68.9	76.6	77.6
26	37.2	49.5	64.9	45.9	66.3	74.0	75.1
27	39.1	52.3	64.6	47.2	66.2	74.0	75.1
28	40.7	54.9	63.6	48.5	65.9	73.8	74.9
29	41.6	56.9	61.4	49.4	64.9	72.7	73.8
30	42.2	58.4	58.8	49.6	63.9	71.4	72.5
31	42.4	59.6	55.6	50.0	62.6	69.9	71.2
32	42.3	60.6	52.1	51.0	61.0	68.2	69.7
33	42.2	61.4	48.6	52.5	59.5	66.9	68.7
34	41.1	61.4	44.1	54.6	57.8	65.0	67.4
35	44.1	64.7	39.4	56.0	56.0	61.8	67.2
36	40.2	62.3	34.8	57.1	53.8	58.0	64.9
37	38.6	61.2	30.4	57.9	52.1	54.6	63.8
38	39.4	61.7	24.8	58.1	49.7	50.5	63.7
39	36.3	58.8	19.0	57.6	46.8	45.8	61.5
40	34.0	56.4	11.8	56.6	43.1	40.4	59.7

87.4 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	2.8	21.2	41.6	36.5	61.1	62.8	65.1
18	3.5	22.6	42.6	34.5	59.4	61.1	63.4
19	7.6	27.5	47.1	36.0	60.9	63.1	65.2
20	15.1	35.8	54.8	41.3	66.2	68.8	70.8
21	20.9	42.4	60.6	45.2	69.8	73.0	74.9
22	23.5	45.9	63.2	46.0	70.1	74.1	75.8
23	20.4	43.8	60.2	41.6	65.0	69.6	71.3
24	26.6	50.9	66.3	46.6	69.2	74.2	75.9
25	28.4	53.6	67.6	47.5	69.0	74.2	76.0
26	30.6	56.9	69.1	48.9	69.3	74.5	76.6
27	30.5	57.7	66.6	48.4	67.4	72.6	74.6
28	32.4	60.6	65.7	50.0	67.4	72.6	74.6
29	33.2	62.5	63.4	50.8	66.4	71.3	73.4
30	33.4	63.7	60.4	50.8	65.2	69.6	72.0
31	33.8	65.0	57.3	51.5	64.1	68.2	71.2
32	33.7	66.0	53.9	52.7	62.5	66.4	70.3
33	33.5	66.7	50.1	54.4	61.0	64.8	69.7
34	32.9	67.1	45.6	56.6	59.4	62.3	69.1
35	37.3	70.1	40.9	57.8	57.6	58.9	70.9
36	32.9	67.0	36.5	58.9	55.5	55.3	68.1
37	32.5	66.7	32.0	59.7	53.8	51.9	67.8
38	33.7	67.1	26.4	60.0	51.6	48.0	68.0
39	29.8	64.0	20.8	59.6	48.7	43.5	65.5
40	28.3	62.0	13.5	59.0	45.3	38.3	63.8

105.0 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	25.3	46.5	41.7	62.2	60.3	64.4
18	0.0	26.8	47.5	39.8	60.5	58.8	62.9
19	0.0	30.8	51.1	40.5	61.3	60.1	64.0
20	0.0	38.9	58.6	45.8	66.5	65.9	69.6
21	0.0	45.8	64.7	49.9	70.4	70.4	74.0
22	3.5	49.8	67.7	51.3	71.2	71.9	75.4
23	1.8	48.1	65.2	47.4	66.7	68.0	71.6
24	7.2	53.5	69.4	50.7	69.2	70.8	74.7
25	11.4	57.8	72.1	53.1	70.6	72.3	76.6
26	13.3	59.6	71.9	53.3	69.5	71.3	75.9
27	14.6	60.9	69.6	53.3	68.2	69.8	74.3
28	17.4	63.8	68.6	54.9	68.2	69.6	74.1
29	19.4	65.7	66.3	55.8	67.4	68.3	73.1
30	20.4	66.8	63.2	55.7	66.0	66.3	71.9
31	21.8	68.1	60.0	56.6	65.0	64.7	71.4
32	22.8	69.2	56.7	58.1	63.5	62.7	71.3
33	23.3	69.7	52.7	59.8	61.9	60.6	71.2
34	24.5	70.4	48.0	61.8	60.3	57.6	71.5
35	28.0	72.3	43.4	63.0	58.5	54.2	73.0
36	22.9	69.4	39.0	64.0	56.4	50.6	70.7
37	23.4	69.5	34.3	64.7	54.7	47.5	70.9
38	24.2	69.4	28.7	65.0	52.4	43.5	70.8
39	20.1	66.4	23.0	64.7	49.5	39.0	68.7
40	18.7	64.3	15.5	64.5	46.0	33.9	67.4

120.8 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	27.4	50.1	41.7	63.6	57.3	64.7
18	0.0	29.2	51.6	40.2	62.6	56.5	63.8
19	0.0	30.8	52.7	38.6	61.4	55.7	62.9
20	0.0	37.5	58.7	42.5	65.4	60.1	67.2
21	0.0	45.3	65.7	47.6	70.3	65.7	72.6
22	0.0	50.9	70.3	50.6	72.7	68.9	75.7
23	0.0	51.9	70.4	49.5	70.6	67.6	74.5
24	0.0	50.4	67.7	45.9	65.9	63.6	70.8
25	2.0	59.2	74.9	53.0	71.5	69.8	77.5
26	0.3	57.6	70.9	49.7	66.7	65.2	73.2
27	6.0	63.2	72.8	54.0	69.4	67.9	75.6
28	7.2	64.4	70.1	54.1	67.6	65.9	73.6
29	8.5	65.8	67.2	54.3	66.0	63.8	71.9
30	9.8	67.1	64.2	54.6	64.7	61.9	71.0
31	11.1	68.3	60.9	55.6	63.4	59.9	70.6
32	12.0	69.2	57.5	57.1	61.8	57.5	70.6
33	12.5	69.7	53.3	58.9	60.1	55.0	70.7
34	15.0	70.7	48.7	60.9	58.5	51.9	71.4
35	17.4	71.4	43.9	61.9	56.4	48.6	72.0
36	11.4	69.2	39.5	62.7	54.3	45.2	70.2
37	13.0	69.3	34.7	63.4	52.6	42.0	70.4
38	13.3	68.5	29.0	63.5	50.1	38.1	69.7
39	8.7	65.8	23.0	63.1	47.1	33.5	67.7
40	7.3	63.2	15.3	63.1	43.4	28.3	66.2

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133.3 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	27.0	48.2	36.8	67.3	54.5	67.6
18	0.0	29.6	50.4	36.0	67.0	54.7	67.3
19	0.0	30.7	51.0	34.0	65.1	53.6	65.6
20	0.0	33.2	52.8	33.7	64.4	53.9	65.1
21	0.0	41.0	59.7	38.8	68.6	59.4	69.6
22	0.0	48.3	66.1	43.6	72.2	64.4	73.7
23	0.0	52.1	69.0	45.3	72.2	66.0	74.6
24	0.0	51.3	66.9	42.6	67.4	62.8	71.0
25	0.0	53.9	67.9	43.3	66.0	62.6	70.9
26	0.0	59.6	70.9	47.5	67.9	65.4	73.6
27	0.0	59.1	66.6	45.7	63.9	61.8	69.8
28	0.0	61.8	65.4	47.3	63.2	61.2	69.3
29	0.0	63.8	63.2	48.2	62.0	59.8	68.5
30	0.8	65.1	60.1	48.5	60.4	57.7	67.8
31	2.0	66.3	56.9	49.6	58.8	55.3	67.8
32	2.7	67.0	53.1	51.0	56.8	52.6	67.8
33	2.7	67.3	48.8	52.8	54.9	49.7	67.8
34	7.9	68.7	44.1	54.5	53.0	46.8	69.0
35	7.2	68.4	39.5	55.6	50.9	43.6	68.7
36	1.7	66.6	34.8	56.2	48.4	40.1	67.1
37	4.7	66.8	29.8	56.8	46.5	36.9	67.2
38	2.8	65.3	24.1	56.7	43.8	32.9	65.9
39	0.0	62.7	17.6	56.1	40.3	28.1	63.6
40	0.0	59.5	9.6	55.8	36.2	22.5	61.1

149.2 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	20.8	42.8	28.5	69.8	52.8	69.9
18	0.0	24.4	46.0	28.7	69.9	53.5	70.0
19	0.0	26.8	48.0	28.2	69.1	53.4	69.3
20	0.0	28.1	48.5	26.7	66.5	52.4	66.8
21	0.0	29.2	48.7	25.0	63.0	51.0	63.4
22	0.0	34.7	53.3	28.1	63.9	54.1	64.7
23	0.0	42.1	59.7	33.4	66.6	58.8	68.0
24	0.0	47.2	63.5	36.5	67.2	61.2	69.5
25	0.0	48.7	63.4	36.2	64.1	59.8	67.6
26	0.0	45.5	57.1	31.6	56.7	53.6	61.0
27	0.0	53.8	61.7	38.6	61.1	58.8	65.8
28	0.0	52.7	56.5	36.4	56.1	54.3	61.2
29	0.0	55.9	55.6	38.3	55.7	54.3	61.4
30	0.0	56.7	52.0	38.4	53.3	52.1	60.0
31	0.0	57.8	48.6	39.5	51.2	50.0	59.6
32	0.0	58.2	44.6	40.7	48.5	47.4	59.1
33	0.0	58.6	40.3	43.0	46.5	44.7	59.2
34	0.0	60.4	35.3	44.0	43.9	41.0	60.7
35	0.0	58.6	30.7	45.1	41.2	37.4	58.9
36	0.0	57.1	25.4	45.0	38.0	33.3	57.4
37	0.0	57.4	20.2	45.7	35.7	29.9	57.7
38	0.0	54.7	14.3	45.0	32.1	25.2	55.2
39	0.0	52.0	6.8	43.8	27.6	19.7	52.6
40	0.0	47.5	0.0	42.6	22.1	12.9	48.7

142.4 DEGREES

BAND	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
17	0.0	24.2	45.6	32.1	69.6	53.1	69.7
18	0.0	27.4	48.4	31.9	69.4	53.8	69.6
19	0.0	29.2	49.7	30.7	68.1	53.3	68.3
20	0.0	29.9	49.7	28.7	65.1	51.8	65.4
21	0.0	34.0	52.8	29.9	64.9	53.4	65.4
22	0.0	42.1	60.1	35.6	68.8	59.3	69.8
23	0.0	48.1	65.1	39.5	70.4	62.8	72.1
24	0.0	50.9	66.6	40.4	68.8	63.1	71.6
25	0.0	48.3	62.4	36.0	61.9	57.7	66.0
26	0.0	54.7	65.8	40.9	64.2	61.2	69.1
27	0.0	56.8	64.2	41.6	62.4	60.1	67.7
28	0.0	58.8	62.1	42.6	60.7	58.7	66.4
29	0.0	59.7	58.9	42.2	58.2	56.2	64.5
30	0.0	61.0	55.8	42.7	56.5	54.3	63.8
31	0.0	62.3	52.7	44.0	54.7	52.1	63.7
32	0.0	62.7	48.6	45.1	52.2	49.3	63.4
33	0.0	63.0	44.3	47.3	50.3	46.5	63.5
34	3.5	65.0	39.6	48.7	48.1	43.4	65.2
35	0.0	63.3	34.9	49.7	45.5	39.8	63.6
36	0.0	62.1	30.0	49.9	42.8	36.2	62.4
37	0.0	62.3	24.8	50.6	40.6	32.9	62.6
38	0.0	60.1	19.1	50.3	37.5	28.6	60.5
39	0.0	57.6	12.0	49.3	33.5	23.5	58.2
40	0.0	53.7	3.6	48.7	28.7	17.4	54.9

File: PNLT.TXT - Business Jet Component PNLT at 4' Microphone for FAA Certification Conditions

Cutback

EMANG	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
48.8	51.4	42.4	56.8	38.7	64.9	67.1	69.8
50.0	51.3	44.2	57.6	39.8	65.6	67.2	70.2
51.2	50.8	45.6	58.2	40.6	66.2	67.6	70.9
52.5	50.7	46.9	58.7	41.4	66.7	68.0	71.4
53.9	50.6	48.2	59.2	42.2	67.1	68.3	71.8
55.3	50.6	49.6	59.4	42.9	67.5	68.6	72.1
56.8	50.5	50.9	59.5	43.8	67.8	68.8	72.3
58.4	50.3	52.2	60.2	44.4	68.5	69.3	73.0
60.1	49.9	53.6	60.9	45.2	69.1	69.7	73.5
61.9	49.5	54.7	61.4	46.0	69.7	69.9	73.9
63.7	49.2	55.8	61.8	46.8	70.1	70.1	74.2
65.7	49.0	56.8	62.1	47.6	70.5	70.1	74.3
67.7	49.0	57.9	62.3	48.3	70.8	70.1	74.4
69.9	49.8	59.2	62.5	49.0	71.0	69.9	74.6
72.1	48.6	60.3	62.6	49.7	71.5	69.8	74.8
74.5	47.6	61.5	63.0	50.3	72.0	69.9	75.3
76.9	46.5	62.7	63.3	51.0	72.5	69.9	75.6
79.4	45.6	64.1	63.5	51.5	72.9	69.9	75.9
82.1	44.5	65.1	64.0	52.2	73.3	69.8	76.3
84.8	43.3	66.1	64.7	52.6	73.7	69.6	76.7
87.5	42.0	67.1	65.3	53.2	74.1	69.3	77.0
90.4	40.6	68.0	66.2	53.8	74.4	68.9	77.3
93.2	39.6	68.7	67.1	55.2	74.9	68.6	77.8
96.2	38.6	69.3	67.9	56.6	75.4	68.3	78.3
99.1	37.5	69.8	68.6	58.0	75.8	67.9	78.7
102.0	36.4	70.2	69.3	58.9	76.2	67.4	79.0
105.0	35.1	70.4	69.9	59.5	76.5	66.9	79.3
107.9	34.1	70.6	70.4	60.0	76.8	66.3	79.6
110.8	31.3	70.7	70.9	60.2	77.0	65.7	79.8
113.6	30.3	70.6	71.2	59.7	77.2	64.9	79.9
116.3	29.2	70.5	71.4	59.2	77.3	64.2	80.0
119.0	27.9	70.3	71.6	58.6	77.4	63.3	80.1
121.6	26.0	70.0	71.2	57.5	77.2	62.5	79.8
124.1	24.2	69.7	70.3	56.2	77.1	61.5	79.5
126.5	22.9	69.3	69.5	54.8	77.0	60.6	79.4
128.8	21.5	68.8	68.9	53.4	77.0	59.9	79.2
131.1	20.0	68.0	68.2	51.8	76.9	59.2	79.0
133.2	17.6	67.1	67.4	50.1	76.8	58.5	78.7
135.2	14.1	66.2	66.6	48.3	76.6	57.7	78.4
137.1	13.3	65.3	65.8	46.7	76.4	56.9	78.0
139.0	10.7	64.4	65.0	44.7	76.2	56.1	77.7
140.7	7.7	63.4	64.1	43.0	75.9	55.4	77.2
142.4	0.0	62.2	63.2	41.5	75.5	54.7	76.6
143.9	0.1	61.0	62.2	39.8	75.2	54.0	76.2
145.4	0.7	59.7	61.2	38.2	74.8	53.3	75.8
146.9	0.7	58.5	60.2	36.5	74.5	52.8	75.4
148.2	0.7	57.4	59.7	34.7	74.1	52.5	75.1
149.5	0.1	56.2	59.1	32.8	73.8	52.0	74.7
150.7	0.1	55.1	58.5	31.2	73.2	51.6	74.0
151.9	0.1	54.0	57.8	29.0	72.4	51.3	73.2
153.0	0.1	52.9	57.1	27.6	71.6	51.0	72.4
154.0	0.1	51.9	56.4	26.3	70.7	50.7	71.6
155.0	0.1	50.8	55.7	24.4	70.0	50.3	70.9
156.0	0.0	49.6	55.0	21.8	69.2	49.9	70.2
156.9	0.0	48.5	54.3	20.5	68.5	49.5	69.4

File: PNLT.TXT - Business Jet Component PNLT at 4' Microphone for FAA Certification Conditions

1992 Technology Baseline - Business Jet - PNLT time histories by noise component

Approach

EMANG	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
27.6	80.4	59.0	68.4	65.2	74.5	85.4	87.5
30.8	80.1	62.1	69.9	67.3	75.8	86.5	88.4
34.9	79.0	65.6	71.9	69.6	77.6	88.1	89.5
40.3	77.6	69.8	73.0	72.1	79.2	89.5	90.6
47.6	74.6	74.3	74.9	74.6	81.2	90.9	92.1
57.6	70.7	79.0	76.7	77.2	82.8	91.6	93.1
70.9	67.0	86.7	77.7	79.6	84.7	91.5	94.5
87.4	59.7	92.2	80.8	81.4	86.3	90.1	96.5
105.0	47.6	93.9	84.0	86.5	87.2	86.8	97.9
120.8	33.3	93.3	85.4	85.3	86.5	82.7	97.1
133.3	14.8	90.6	81.9	78.7	83.9	78.8	94.1
142.4	1.2	86.2	77.3	72.5	81.3	75.1	90.1
149.2	0.0	81.5	73.2	67.5	78.6	72.6	86.1

Sideline

EMANG	INLET	AFTFAN	CORE	TURBINE	JET	AIRFRAME	TOTAL A/P
50.9	67.6	52.4	64.8	44.7	71.4	69.8	76.2
53.1	67.7	54.5	65.8	46.5	72.5	70.5	77.0
55.4	67.7	56.8	66.6	48.1	73.5	71.3	77.8
57.8	67.8	59.0	67.7	49.7	74.7	72.1	78.8
60.5	67.7	61.1	68.7	51.3	75.8	72.8	79.6
63.4	67.3	63.8	69.3	52.6	76.6	73.1	80.0
66.4	67.0	66.4	69.9	53.8	77.4	73.2	81.6
69.7	67.3	69.5	70.2	54.9	78.0	73.2	82.7
73.1	66.0	71.6	70.4	55.9	78.9	73.4	83.5
76.8	64.4	73.4	70.9	56.9	79.8	73.4	84.4
80.6	62.6	75.2	71.5	57.7	80.6	73.3	85.2
84.6	60.4	76.7	72.4	58.5	81.3	72.9	86.0
88.6	60.2	78.2	73.6	59.1	82.3	72.5	87.0
92.8	59.3	79.2	74.7	60.7	83.2	72.1	87.8
96.9	58.6	79.8	75.7	62.6	84.0	71.6	88.5
101.1	53.4	80.2	76.6	64.1	84.7	70.9	89.1
105.2	51.9	80.2	77.3	65.0	85.3	70.0	89.5
109.2	51.0	80.0	77.9	65.6	85.8	69.1	89.7
113.0	49.8	79.7	78.3	65.2	86.1	68.0	89.9
116.7	48.6	79.3	78.6	64.3	86.4	66.9	90.0
120.3	47.2	78.7	78.7	63.3	86.8	65.8	90.1
123.6	45.8	77.3	77.7	61.4	87.0	64.6	89.5
126.7	44.2	76.6	76.6	59.6	87.2	63.4	89.4
129.6	42.8	75.8	75.5	57.7	87.3	62.2	89.4
132.3	41.4	74.1	74.5	55.5	87.2	60.9	88.8
134.8	40.3	72.4	73.5	53.2	87.1	59.8	88.1
137.2	39.1	72.0	72.5	51.1	86.9	58.8	87.8
139.4	38.5	70.9	71.5	49.0	86.7	57.8	88.4
141.4	37.0	69.4	70.4	46.9	86.1	57.0	87.9
143.2	35.8	67.9	69.3	44.7	85.4	56.2	87.1
145.0	34.7	66.4	68.3	42.7	84.7	55.4	86.4
146.6	33.2	65.0	67.2	40.6	83.9	54.6	85.0
148.1	31.9	63.5	66.1	38.6	83.2	53.8	84.2
149.4	30.5	62.1	65.1	36.8	82.5	53.1	83.5
150.7	28.8	60.7	64.2	34.9	81.7	52.4	82.6
151.9	26.7	59.4	63.2	33.1	80.8	51.8	81.8
153.0	24.5	58.2	62.3	31.4	80.0	51.3	80.9
154.1	22.4	56.9	61.4	29.2	79.2	50.6	80.0

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
AIRFRAME
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
AIRFRAME

SPECTRUM	FREQUENCY (HZ) 50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	39.7	40.8	41.8	42.5	43.1	43.2	42.6	41.7	40.2	37.8	34.5	30.0	24.0	15.9	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	48.8	50.0	51.0	51.9	52.4	52.0	50.2	46.7	39.9	46.2	50.4	50.8	46.6	39.4	41.4	33.1	29.9	21.1	10.3	0.0	0.0	0.0	0.0	0.0
3	51.6	52.8	53.3	53.0	51.5	46.4	46.7	54.4	58.5	58.2	52.8	53.7	53.6	50.9	47.5	45.0	40.6	34.9	28.0	19.4	13.5	0.8	0.0	0.0
4	52.6	53.1	52.4	49.9	44.7	52.7	58.5	61.0	59.4	54.5	59.4	55.1	56.9	54.9	52.5	49.7	46.2	41.6	36.1	29.4	24.7	14.7	0.6	0.0
5	52.6	52.2	49.6	44.5	52.4	59.3	61.8	60.5	55.9	61.4	57.5	59.6	58.1	56.2	54.5	52.3	49.3	45.3	40.6	34.9	30.8	22.4	10.5	0.0
6	51.9	50.2	45.2	49.3	57.4	61.7	61.5	56.7	61.2	60.4	61.1	58.8	58.8	57.1	55.8	53.8	51.0	47.4	43.2	38.1	34.3	26.9	16.3	1.4
7	50.8	47.8	44.1	53.5	59.5	62.0	59.6	57.4	62.6	58.8	60.7	60.0	58.5	57.5	56.3	54.4	51.8	48.5	44.5	39.8	36.3	29.3	19.6	5.9
8	49.5	45.5	46.6	55.3	60.4	61.4	57.2	59.9	61.8	60.8	59.0	59.2	58.6	57.6	56.4	54.7	52.1	48.9	45.1	40.6	37.2	30.6	21.4	8.3
9	48.4	43.8	47.7	55.8	60.3	60.6	55.8	60.5	60.6	61.3	59.3	59.4	58.2	57.3	56.1	54.4	51.9	48.7	45.0	40.5	37.2	30.7	21.7	8.9
10	47.5	42.8	47.3	55.2	59.6	59.8	54.9	59.9	59.6	60.5	58.7	58.7	57.5	56.5	55.3	53.6	51.1	47.9	44.2	39.7	36.4	29.9	20.8	7.9
11	46.9	42.5	45.4	53.7	58.4	59.1	54.4	58.4	59.1	59.3	57.4	57.6	56.4	55.4	54.2	52.4	49.8	46.6	42.7	38.1	34.7	28.0	18.6	5.3
12	46.5	42.9	42.0	50.9	56.5	58.1	54.7	55.3	58.7	56.1	56.1	56.0	54.8	53.8	52.5	50.6	47.9	44.5	40.5	35.6	32.0	24.9	14.9	0.7
13	46.1	43.8	38.6	46.7	53.5	56.7	55.3	51.1	57.0	53.4	56.0	54.5	52.9	51.8	50.4	48.3	45.4	41.7	37.3	32.0	28.2	20.4	9.4	0.0
14	45.4	44.3	40.2	39.6	48.5	54.0	54.9	51.5	52.0	54.4	51.6	51.0	50.6	49.1	47.5	45.2	41.9	37.8	32.8	26.8	22.5	13.6	0.9	0.0
15	44.1	44.0	42.3	37.8	39.5	48.3	52.1	52.4	47.5	50.4	50.2	48.9	46.6	45.6	43.4	40.6	36.8	31.9	25.9	18.5	13.5	2.6	0.0	0.0
16	41.6	42.2	42.1	40.8	37.0	35.7	43.5	48.1	48.7	44.0	43.5	45.0	41.2	39.2	37.2	33.1	28.1	21.7	13.8	3.9	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
AIRFRAME

MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	51.74	47.30	315	47.30	0	48.73	40.74	47.71
2	-15.98	30.00	17.00	7117.60	61.12	62.43	630	64.14	1250	62.77	53.84	57.78
3	-9.53	40.00	27.00	4583.80	65.45	69.84	400	69.84	0	69.59	60.44	64.09
4	-6.31	50.00	37.00	3457.80	68.01	72.80	500	72.80	0	72.36	63.57	67.24
5	-4.23	60.00	47.00	2845.40	69.55	75.04	400	75.04	0	74.93	65.31	69.05
6	-2.67	70.00	57.00	2481.30	70.36	75.87	500	75.87	0	75.90	66.21	70.08
7	-1.37	80.00	67.00	2260.70	70.55	76.24	315	76.24	0	76.14	66.48	70.43
8	-0.20	90.00	77.00	2135.70	70.47	76.32	400	76.32	0	76.31	66.39	70.45
9	0.94	100.00	87.00	2083.80	70.27	76.30	400	76.30	0	76.10	66.24	70.27
10	2.12	110.00	97.00	2096.60	69.51	75.51	400	75.51	0	75.31	65.48	69.50
11	3.40	120.00	107.00	2176.10	68.44	74.28	400	74.28	0	74.09	64.35	68.36
12	4.89	130.00	117.00	2335.50	66.84	72.24	315	72.24	0	72.20	62.66	66.63
13	6.75	140.00	127.00	2605.70	65.13	70.33	500	70.33	0	70.27	60.89	64.73
14	9.26	150.00	137.00	3051.30	62.71	67.75	400	67.75	0	67.52	58.13	62.03
15	13.04	160.00	147.00	3820.80	59.81	63.66	400	63.66	0	63.98	54.95	58.81
16	19.78	170.00	157.00	5325.80	55.29	57.99	315	57.99	0	57.84	49.82	53.81

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM -	70.55	76.32		76.32				
TIME -	-1.37	-0.20		-0.20		76.31	66.48	70.45
						-0.20	-1.37	-0.20

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 77.03 EPNDB
SEL = 77.34 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
INLET
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	11.0	13.3	15.5	33.7	19.9	21.8	25.4	24.8	25.8	26.0	25.2	23.1	19.5	13.8	6.7	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2	18.5	21.1	23.6	43.9	28.1	29.6	32.8	28.8	24.6	33.3	40.0	42.8	40.9	35.6	39.5	33.0	31.9	25.6	17.6	14.4	5.1	3.4	3.3	3.3
3	22.2	24.7	26.7	47.5	28.2	24.9	31.0	37.5	44.2	46.2	43.1	46.5	48.5	47.5	45.7	45.0	42.5	39.3	35.0	36.0	25.2	15.4	4.7	3.3
4	24.4	26.3	27.1	47.2	22.7	32.5	45.0	45.3	46.5	43.7	50.8	48.7	52.5	51.8	50.7	49.4	47.6	45.7	42.8	44.9	36.0	28.8	19.0	4.3
5	24.6	25.6	24.5	42.5	30.5	39.3	48.8	45.9	42.7	50.7	48.8	52.9	53.0	52.1	51.4	50.2	48.8	47.6	52.2	41.9	40.3	36.9	25.1	10.9
6	23.2	22.9	43.3	25.2	34.8	47.5	43.1	41.3	47.3	48.6	51.4	51.0	52.3	51.4	50.8	49.7	48.7	47.9	52.2	43.2	42.0	39.3	28.6	16.7
7	20.5	18.9	42.9	27.7	35.3	48.1	39.6	40.8	47.1	45.2	49.1	50.3	50.0	49.7	49.3	48.5	48.1	47.5	51.4	43.1	42.0	39.7	29.4	18.8
8	15.7	13.3	44.0	25.7	32.4	45.8	33.4	40.3	42.6	43.3	43.5	45.5	46.0	45.7	45.8	45.4	45.6	45.1	48.5	40.4	39.3	37.0	26.9	17.1
9	11.3	8.8	41.8	22.5	28.6	41.6	28.3	37.4	37.8	40.1	40.0	42.1	41.8	41.7	42.0	42.0	42.4	41.9	45.2	37.1	35.9	33.6	25.1	12.3
10	7.9	6.0	38.0	18.4	24.2	37.4	27.7	30.8	33.2	35.5	35.6	37.6	37.4	37.5	38.1	38.3	38.7	43.8	35.6	33.0	34.0	27.0	20.3	8.2
11	5.6	31.3	6.2	13.4	33.7	21.9	23.6	26.6	28.4	30.5	30.6	32.6	32.6	32.9	34.1	34.5	34.5	39.5	30.9	28.1	28.8	21.4	14.3	4.8
12	4.3	28.5	4.0	8.1	28.5	17.3	20.5	20.0	24.2	23.6	25.6	27.4	27.6	28.0	29.4	29.8	29.6	34.4	25.4	22.4	22.8	14.6	7.0	3.5
13	3.7	26.1	3.4	4.5	22.2	12.4	17.7	12.4	18.7	17.2	21.7	22.2	22.2	22.6	24.1	24.4	23.9	28.4	19.0	15.7	15.3	7.7	3.9	3.3
14	3.5	23.2	3.4	3.4	14.0	7.3	13.9	9.6	10.5	14.4	13.9	15.1	16.3	16.6	18.2	18.2	17.2	21.3	11.7	8.3	6.6	3.9	3.3	3.3
15	3.4	19.4	3.4	3.3	5.4	3.9	8.5	7.5	5.3	7.9	9.3	9.9	9.6	10.4	11.4	11.0	9.7	12.1	5.2	3.9	3.6	3.3	3.3	3.3
16	3.3	14.3	3.3	3.3	3.9	3.4	3.4	4.2	4.5	3.9	4.2	5.2	4.6	4.6	5.3	4.7	4.0	3.5	3.4	3.3	3.3	3.3	3.3	3.3

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	36.78	30.29	400	30.29	0	34.33	28.68	33.74
2	-15.98	30.00	17.00	7117.60	49.52	53.64	630	55.37	1250	53.90	46.79	49.29
3	-9.53	40.00	27.00	4583.80	56.31	63.64	1600	65.40	4000	64.26	54.80	58.55
4	-6.31	50.00	37.00	3457.80	60.28	69.13	4000	70.97	4000	69.54	59.40	64.05
5	-4.23	60.00	47.00	2845.40	61.72	73.28	3150	75.77	3150	72.29	61.03	67.09
6	-2.67	70.00	57.00	2481.30	61.38	73.35	3150	75.57	3150	72.39	60.71	67.11
7	-1.37	80.00	67.00	2260.70	60.16	72.47	3150	74.50	3150	71.58	59.52	66.31
8	-0.20	90.00	77.00	2135.70	56.90	69.40	3150	71.32	3150	68.50	56.23	63.42
9	0.94	100.00	87.00	2083.80	53.39	65.89	3150	67.79	3150	64.92	52.74	60.09
10	2.12	110.00	97.00	2096.60	49.71	62.40	2500	64.62	2500	60.84	49.37	56.85
11	3.40	120.00	107.00	2176.10	45.19	57.55	2500	59.82	2500	56.22	44.99	52.43
12	4.89	130.00	117.00	2335.50	40.23	51.72	2500	51.72	0	50.30	39.94	47.28
13	6.75	140.00	127.00	2605.70	34.91	44.76	2500	44.76	0	43.93	34.22	41.31
14	9.26	150.00	137.00	3051.30	29.12	34.83	2500	34.83	0	34.89	27.63	34.41
15	13.04	160.00	147.00	3820.80	23.55	20.09	2500	20.09	0	21.58	20.58	26.90
16	19.78	170.00	157.00	5325.80	19.23	0.00	0	0.00	0	12.25	15.77	22.58

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	61.72	73.35	75.77	72.39	61.03	67.11
TIME	-4.23	-2.67	-4.23	-2.67	-4.23	-2.67

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 73.33 EPNDB
SEL = 69.65 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
AFTFAN
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	3.7	4.3	5.2	6.7	8.5	10.4	12.3	13.8	14.8	15.2	14.7	12.9	9.8	6.1	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2	6.2	8.5	11.2	14.2	16.8	18.8	19.9	18.8	14.8	23.7	30.6	33.5	31.6	26.6	30.7	24.6	23.6	17.2	9.4	4.2	3.5	3.3	3.3	3.3
3	9.6	12.7	15.4	17.6	18.4	15.8	18.8	28.9	35.5	38.1	35.3	38.8	40.8	40.4	39.0	38.8	36.6	33.1	28.1	22.2	17.7	8.7	3.6	3.3
4	12.8	15.6	17.3	17.3	14.5	24.7	33.3	38.2	39.2	37.1	44.5	42.6	46.5	46.5	46.0	44.9	43.0	39.6	34.9	31.3	27.6	20.6	10.1	3.6
5	17.7	19.8	19.5	17.0	27.0	36.4	41.6	42.7	40.7	48.9	47.5	51.9	52.3	52.2	52.0	51.2	48.9	45.1	42.4	35.5	35.0	31.6	20.9	8.6
6	21.7	22.5	20.0	26.4	36.7	43.4	46.0	43.6	50.6	52.4	55.4	55.4	57.1	57.0	56.7	55.4	52.6	48.1	45.1	39.2	39.6	37.2	28.3	17.8
7	24.7	24.2	22.9	34.6	42.8	47.7	48.0	48.2	55.9	54.6	58.8	60.1	60.4	60.8	60.4	58.9	55.7	50.8	48.4	43.5	44.2	41.6	34.5	25.0
8	26.7	25.1	28.6	39.5	46.8	50.3	48.6	53.7	58.0	59.4	59.9	62.0	63.1	63.4	63.0	61.2	57.8	52.9	50.2	47.4	48.0	45.2	38.9	30.0
9	28.1	25.9	32.1	42.5	49.2	51.9	49.6	56.7	59.2	62.2	62.3	64.4	64.7	65.0	64.4	62.5	58.8	53.7	51.0	49.7	50.2	47.3	41.7	32.4
10	28.8	26.4	33.3	43.4	49.9	52.5	50.1	57.5	59.5	62.6	62.8	64.7	65.0	65.1	64.3	62.1	58.2	54.4	50.4	50.2	51.4	47.0	42.0	32.4
11	28.7	26.5	31.8	42.3	49.2	52.1	49.9	56.3	59.2	61.5	61.6	63.7	63.9	64.0	63.1	60.8	56.9	54.3	50.6	49.9	51.0	46.0	40.7	30.2
12	28.0	26.7	28.0	39.1	46.9	50.7	49.8	52.7	58.3	57.7	59.7	61.5	61.7	61.7	60.7	58.3	54.6	51.9	49.2	47.9	48.5	43.1	37.0	25.3
13	26.6	26.6	23.7	33.9	42.9	48.3	49.3	47.3	55.4	53.8	58.4	58.8	58.7	58.6	57.5	55.0	51.3	48.5	46.1	44.1	43.6	38.0	30.4	16.9
14	24.3	25.5	23.7	25.2	36.2	43.9	47.3	46.1	48.7	53.1	52.4	53.7	54.8	54.5	53.5	51.2	47.8	45.2	42.3	39.1	37.6	31.2	21.1	7.2
15	21.8	23.9	24.4	22.1	25.9	36.8	43.1	45.6	42.8	47.6	49.4	50.2	49.4	49.7	48.2	45.6	42.0	38.8	35.2	30.3	27.8	19.3	8.0	3.4
16	17.7	20.5	22.6	23.5	21.8	22.5	32.8	39.6	42.3	39.6	41.2	44.7	42.7	42.1	41.2	37.9	34.2	29.0	23.6	16.2	11.8	4.6	3.3	3.3

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	23.42	0.00	0	0.00	0	16.07	19.33	24.72
2	-15.98	30.00	17.00	7117.60	38.85	41.76	630	41.76	0	42.74	37.69	40.07
3	-9.53	40.00	27.00	4583.80	48.33	56.03	1600	56.03	0	56.64	47.72	51.47
4	-6.31	50.00	37.00	3457.80	54.21	62.70	2000	62.70	0	63.08	53.83	57.76
5	-4.23	60.00	47.00	2845.40	60.42	69.22	1600	69.22	0	69.57	59.97	63.88
6	-2.67	70.00	57.00	2481.30	65.06	73.68	1600	73.68	0	73.89	64.44	67.95
7	-1.37	80.00	67.00	2260.70	68.73	77.38	1600	77.57	6300	77.58	68.06	71.43
8	-0.20	90.00	77.00	2135.70	71.19	79.96	1600	79.96	0	80.06	70.48	73.81
9	0.94	100.00	87.00	2083.80	72.97	81.57	1600	81.57	0	81.58	72.10	75.31
10	2.12	110.00	97.00	2096.60	73.14	81.56	1600	82.43	5000	81.54	72.16	75.36
11	3.40	120.00	107.00	2176.10	72.09	80.55	1600	81.56	5000	80.55	71.08	74.45
12	4.89	130.00	117.00	2335.50	69.81	78.15	1600	79.15	5000	78.22	68.77	72.18
13	6.75	140.00	127.00	2605.70	66.91	74.77	1600	74.90	5000	74.85	65.77	69.02
14	9.26	150.00	137.00	3051.30	62.73	70.63	1600	70.72	5000	70.66	61.62	64.99
15	13.04	160.00	147.00	3820.80	58.08	64.85	1600	64.85	0	64.89	56.67	59.63
16	19.78	170.00	157.00	5325.80	51.42	56.90	630	56.90	0	56.82	49.69	52.31

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	73.14	81.57		82.43		81.58	72.16	75.36
TIME	2.12	0.94		2.12		0.94	2.12	2.12

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 79.96 EPNDB
SEL = 80.14 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
CORE
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	13.0	15.5	18.0	20.4	22.5	24.5	26.2	27.5	27.8	26.9	24.7	20.1	12.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	22.9	25.5	28.1	30.5	32.6	34.1	34.7	33.3	28.2	36.0	41.3	41.4	36.0	27.0	26.6	15.7	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	28.2	30.8	32.8	34.1	34.3	31.0	33.6	43.5	49.2	50.3	45.9	46.5	45.0	40.5	34.5	29.5	22.9	15.4	6.6	0.0	0.0	0.0	0.0	0.0
4	31.8	33.8	34.6	33.7	30.1	40.0	48.1	52.8	52.7	49.0	55.0	50.0	50.3	46.4	41.3	36.0	30.3	23.9	16.5	7.8	1.3	0.0	0.0	0.0
5	34.4	35.4	34.3	30.8	40.3	49.1	53.9	54.7	51.5	58.2	55.1	56.2	53.1	49.3	44.8	40.0	34.8	29.0	22.4	14.8	8.9	0.0	0.0	0.0
6	36.1	35.9	32.4	38.1	47.8	54.0	56.1	53.2	59.0	59.3	60.4	57.1	55.3	51.5	47.3	42.8	37.9	32.4	26.3	19.3	13.8	4.9	0.0	0.0
7	37.5	36.0	33.8	44.8	52.4	56.8	56.7	56.2	62.6	59.8	61.6	59.8	56.6	53.2	49.1	44.7	39.9	34.7	28.9	22.2	16.9	8.6	0.0	0.0
8	38.7	36.1	38.7	49.0	55.7	58.6	56.7	60.9	63.8	63.6	61.4	60.3	57.9	54.4	50.3	46.0	41.3	36.2	30.5	24.1	18.9	10.9	0.4	0.0
9	40.0	36.8	42.2	51.9	58.0	60.2	57.7	63.7	64.7	66.2	63.3	62.1	58.9	55.1	51.1	46.8	42.2	37.1	31.5	25.2	20.1	12.1	1.8	0.0
10	41.5	38.3	44.3	53.8	59.8	61.9	59.2	65.3	65.9	67.1	64.2	62.8	59.4	55.6	51.6	47.2	42.6	37.6	31.9	25.6	20.4	12.5	2.1	0.0
11	42.4	39.4	43.9	53.8	60.1	62.6	59.9	65.0	66.4	66.6	63.5	62.2	58.6	54.8	50.7	46.4	41.7	36.5	30.8	24.3	19.1	10.9	0.3	0.0
12	41.1	38.9	39.5	50.0	57.2	60.7	59.1	60.7	64.7	61.8	60.5	58.7	55.1	51.2	47.0	42.6	37.8	32.5	26.5	19.7	14.4	5.8	0.0	0.0
13	38.7	37.8	34.1	43.8	52.2	57.3	57.5	54.2	60.7	56.5	57.7	54.5	50.3	46.2	41.9	37.3	32.3	26.7	20.4	13.2	7.6	0.0	0.0	0.0
14	35.3	35.7	33.1	34.1	44.6	52.1	54.4	51.8	52.9	54.4	50.2	47.8	44.5	40.2	35.7	30.8	25.5	19.4	12.6	4.6	0.0	0.0	0.0	0.0
15	31.5	32.8	32.6	29.7	33.1	43.7	48.9	50.0	45.5	47.3	45.6	42.5	37.3	33.4	28.4	23.0	17.1	10.3	2.4	0.0	0.0	0.0	0.0	0.0
16	26.4	28.4	29.8	30.1	27.9	28.5	37.6	42.9	44.0	38.1	36.0	35.6	28.8	23.9	19.1	12.4	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	35.02	30.52	400	30.52	0	31.02	28.13	33.32
2	-15.98	30.00	17.00	7117.60	46.88	48.92	630	48.92	0	49.78	43.41	45.90
3	-9.53	40.00	27.00	4583.80	55.51	58.97	400	58.97	0	59.15	51.67	54.91
4	-6.31	50.00	37.00	3457.80	60.52	64.52	500	64.52	0	64.19	56.72	59.85
5	-4.23	60.00	47.00	2845.40	64.01	68.35	400	68.35	0	68.42	60.20	63.31
6	-2.67	70.00	57.00	2481.30	66.78	71.09	500	71.09	0	71.22	62.80	66.08
7	-1.37	80.00	67.00	2260.70	68.78	72.88	500	72.88	0	73.03	64.60	68.00
8	-0.20	90.00	77.00	2135.70	70.45	74.74	400	74.74	0	74.63	65.88	69.59
9	0.94	100.00	87.00	2083.80	72.30	76.78	400	76.78	0	76.54	67.59	71.40
10	2.12	110.00	97.00	2096.60	73.43	77.75	400	77.75	0	77.49	68.47	72.44
11	3.40	120.00	107.00	2176.10	73.29	77.33	400	77.33	0	77.06	68.04	72.20
12	4.89	130.00	117.00	2335.50	70.29	73.86	315	73.86	0	73.42	64.70	69.06
13	6.75	140.00	127.00	2605.70	66.27	69.39	315	69.39	0	69.00	60.56	64.97
14	9.26	150.00	137.00	3051.30	61.17	63.88	400	63.88	0	63.69	54.98	59.75
15	13.04	160.00	147.00	3820.80	55.58	56.74	400	56.74	0	57.05	49.22	54.14
16	19.78	170.00	157.00	5325.80	48.45	48.96	315	48.96	0	48.63	42.07	47.19

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	73.43	77.75		77.75		77.49	68.47	72.44
TIME	2.12	2.12		2.12		2.12	2.12	2.12

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 75.34 EPNDB
SEL = 76.38 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
TURBINE
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.3	3.3	3.3
5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.6	3.7	3.9	3.9	4.3	4.0	3.5	3.3
6	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.6	3.9	4.4	5.1	5.9	6.3	7.7	7.2	5.3	3.6
7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.7	4.2	5.1	6.5	8.2	9.7	10.8	13.1	12.8	10.3	5.5
8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.8	4.4	5.6	7.5	9.9	12.3	14.4	15.8	18.5	18.5	16.1	9.5
9	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.8	4.5	5.9	8.1	10.8	13.8	16.5	18.8	20.4	23.3	23.4	21.1	13.8
10	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.7	4.6	5.8	8.2	11.2	14.5	17.6	20.5	22.8	24.4	27.3	27.4	24.7	30.1
11	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.7	4.0	5.4	7.3	10.2	13.6	17.0	20.2	23.0	25.2	26.7	29.5	29.4	26.0	32.4
12	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.6	4.2	5.3	7.2	9.9	12.9	15.8	18.4	20.4	21.6	24.2	23.7	19.5	22.8
13	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.6	4.0	4.9	6.4	8.4	10.7	12.8	14.3	15.0	17.3	16.1	11.1	10.0
14	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.8	4.3	5.1	6.2	7.2	7.9	7.9	9.3	7.7	4.5	3.4
15	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.6	3.8	4.0	4.0	3.8	4.0	3.6	3.3	3.3
16	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
TURBINE

MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	17.10	0.00	0	0.00	0	12.19	15.03	22.21
2	-15.98	30.00	17.00	7117.60	17.10	0.00	0	0.00	0	12.19	15.03	22.21
3	-9.53	40.00	27.00	4583.80	17.10	0.00	0	0.00	0	12.19	15.03	22.21
4	-6.31	50.00	37.00	3457.80	17.12	0.00	0	0.00	0	12.19	15.03	22.21
5	-4.23	60.00	47.00	2845.40	17.28	0.00	0	0.00	0	12.36	15.07	22.27
6	-2.67	70.00	57.00	2481.30	18.18	14.81	3150	14.81	0	13.49	15.36	22.69
7	-1.37	80.00	67.00	2260.70	20.87	24.48	5000	24.48	0	20.08	16.82	24.67
8	-0.20	90.00	77.00	2135.70	25.10	32.56	5000	32.56	0	26.75	20.40	28.82
9	0.94	100.00	87.00	2083.80	29.50	38.69	5000	38.74	8000	34.10	25.13	33.79
10	2.12	110.00	97.00	2096.60	34.94	44.28	5000	45.63	10000	39.99	29.69	38.41
11	3.40	120.00	107.00	2176.10	37.09	46.92	5000	48.56	10000	45.04	34.52	42.87
12	4.89	130.00	117.00	2335.50	30.80	40.27	5000	41.52	10000	47.43	36.70	45.08
13	6.75	140.00	127.00	2605.70	23.97	31.34	5000	31.34	0	41.45	30.86	39.55
14	9.26	150.00	137.00	3051.30	18.89	17.92	3150	17.92	0	32.88	24.07	32.83
15	13.04	160.00	147.00	3820.80	17.28	6.78	3150	6.78	0	23.11	17.99	26.13
16	19.78	170.00	157.00	5325.80	17.10	0.00	0	0.00	0	13.31	15.37	22.69
									0	12.19	15.03	22.21

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	37.09	46.92		48.56		47.43	36.70	45.08
TIME	3.40	3.40		3.40		3.40	3.40	3.40

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 42.18 EPNDB
SEL = 41.11 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK --02-27-95
JET
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	48.6	49.4	49.9	50.0	49.6	48.8	47.5	45.5	42.9	39.5	35.3	29.9	22.9	13.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	56.2	57.1	57.7	57.9	57.4	56.2	53.7	49.1	41.2	46.6	49.8	49.3	44.1	35.7	36.7	27.5	23.8	14.6	3.3	0.0	0.0	0.0	0.0	0.0
3	59.4	60.2	60.2	59.3	56.9	50.9	50.5	57.2	60.2	58.9	52.5	52.6	51.3	47.5	43.0	39.7	34.8	28.7	21.2	11.7	5.0	0.0	0.0	0.0
4	60.8	61.0	59.8	56.7	50.6	57.8	62.8	64.3	61.6	55.7	59.7	54.5	55.1	52.0	48.5	44.8	40.7	35.8	29.7	22.0	16.5	5.6	0.0	0.0
5	61.2	60.5	57.3	51.6	58.6	64.7	66.5	64.2	58.5	63.0	58.2	59.3	56.6	53.6	50.8	47.7	44.1	39.7	34.3	27.7	22.7	13.3	0.2	0.0
6	61.8	59.9	54.4	57.9	65.1	68.6	67.8	61.9	65.3	63.6	63.3	60.1	58.9	56.2	53.7	50.8	47.3	43.3	38.3	32.3	27.6	19.1	7.3	0.0
7	62.1	58.8	54.7	63.5	68.7	70.4	67.4	64.1	68.3	63.5	64.5	62.8	60.2	58.1	55.7	52.9	49.6	45.7	41.0	35.2	30.7	22.6	11.6	0.0
8	61.7	57.5	58.2	66.3	70.6	70.9	66.0	67.7	68.5	66.5	63.8	63.0	61.3	59.1	56.7	54.0	50.7	46.9	42.3	36.6	32.2	24.3	13.6	0.0
9	61.8	57.0	60.6	68.1	71.8	71.3	65.8	69.4	68.3	68.1	65.0	64.1	61.6	59.4	57.0	54.2	50.9	47.1	42.4	36.8	32.3	24.5	13.8	0.0
10	63.0	58.1	62.2	69.5	73.0	72.2	66.6	70.3	68.7	68.3	65.2	63.9	61.3	58.9	56.3	53.4	50.1	46.1	41.4	35.6	30.9	22.9	12.1	0.0
11	65.8	61.1	63.4	70.9	74.3	73.8	68.0	70.5	69.5	67.9	64.3	62.9	59.9	57.3	54.6	51.6	48.1	44.0	39.0	32.9	27.9	19.5	8.2	0.0
12	69.5	65.2	63.3	70.9	74.6	74.7	69.6	68.0	69.1	64.1	61.9	59.8	56.8	54.3	51.6	48.5	44.8	40.3	34.9	28.2	22.8	13.7	1.4	0.0
13	71.7	68.2	61.4	67.4	71.6	72.4	68.3	61.0	63.8	57.6	58.2	55.4	52.5	50.1	47.3	43.8	39.6	34.4	28.3	20.7	14.6	4.4	0.0	0.0
14	71.3	68.5	62.0	58.4	63.7	65.7	63.2	56.5	54.5	55.2	51.2	49.3	47.4	44.3	40.7	36.5	31.4	25.3	18.1	9.3	2.1	0.0	0.0	0.0
15	70.2	67.7	62.9	54.5	51.7	56.0	56.2	53.9	47.0	48.3	46.3	43.3	38.8	35.4	30.7	25.3	19.0	11.5	2.6	0.0	0.0	0.0	0.0	0.0
16	67.4	65.4	62.1	56.8	48.1	41.7	44.9	45.6	43.7	36.8	34.0	33.0	26.2	21.0	15.7	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
JET

MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	58.12	52.03	200	52.03	0	53.45	44.30	52.61
2	-15.98	30.00	17.00	7117.60	65.67	62.79	500	65.93	1250	63.32	53.53	60.07
3	-9.53	40.00	27.00	4583.80	68.74	70.28	400	70.28	0	69.96	60.07	65.06
4	-6.31	50.00	37.00	3457.80	71.08	73.77	250	73.77	0	73.91	63.44	68.45
5	-4.23	60.00	47.00	2845.40	72.79	75.83	400	75.83	0	76.00	65.37	70.42
6	-2.67	70.00	57.00	2481.30	75.04	78.08	200	78.08	0	78.28	67.71	72.75
7	-1.37	80.00	67.00	2260.70	76.77	80.28	315	80.28	0	79.96	69.40	74.45
8	-0.20	90.00	77.00	2135.70	77.76	81.10	315	81.10	0	80.86	70.23	75.38
9	0.94	100.00	87.00	2083.80	78.63	81.95	400	81.95	0	81.60	71.01	76.17
10	2.12	110.00	97.00	2096.60	79.44	82.18	400	82.18	0	81.98	71.18	76.67
11	3.40	120.00	107.00	2176.10	80.41	82.21	160	82.21	0	82.18	70.98	77.14
12	4.89	130.00	117.00	2335.50	80.59	81.67	160	81.67	0	81.39	69.45	76.58
13	6.75	140.00	127.00	2605.70	78.60	78.27	160	78.27	0	77.99	65.55	73.44
14	9.26	150.00	137.00	3051.30	75.10	71.59	160	71.59	0	71.69	59.49	67.83
15	13.04	160.00	147.00	3820.80	73.01	64.15	200	64.15	0	65.61	53.17	63.23
16	19.78	170.00	157.00	5325.80	70.51	57.64	80	57.64	0	60.00	46.82	59.83

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	80.59	82.21		82.21		82.18	71.18	77.14
TIME	4.89	3.40		3.40		3.40	2.12	3.40

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 81.80 EPNDB
SEL = 80.58 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
TOTAL
*

SMALL TWIN AIRPLANE MODEL
CUTBACK CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	49.1	50.0	50.5	50.8	50.5	49.9	48.8	47.1	44.9	42.0	38.4	33.6	27.5	19.8	11.3	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
2	56.9	57.9	58.5	59.0	58.6	57.6	55.4	51.2	43.8	49.7	53.6	53.8	49.5	42.3	44.6	36.9	34.8	27.6	19.1	15.2	8.9	8.1	8.1	8.1
3	60.1	60.9	61.0	60.5	58.0	52.3	52.1	59.2	62.7	62.0	56.3	57.1	56.8	54.1	50.9	49.1	45.7	41.6	36.6	36.3	26.2	16.6	8.7	8.1
4	61.4	61.7	60.5	57.9	51.6	59.0	64.3	66.2	64.1	58.8	63.6	59.0	60.6	58.5	56.2	53.9	51.2	48.1	44.3	45.2	36.9	29.6	19.7	8.5
5	61.8	61.1	58.0	52.8	59.6	65.9	68.0	66.1	61.0	66.3	62.3	64.0	62.2	60.3	58.6	56.8	54.3	51.3	53.0	43.6	41.8	38.2	26.6	13.4
6	62.2	60.4	55.2	58.5	65.9	69.6	69.0	63.5	67.5	66.5	67.0	64.4	64.1	62.3	61.0	59.1	56.5	53.1	53.5	45.7	44.5	41.6	31.6	20.4
7	62.4	59.2	55.4	64.0	69.3	71.2	68.4	65.6	70.4	66.3	68.0	67.0	65.3	64.3	63.1	61.3	58.4	54.6	54.0	47.5	46.8	44.0	35.8	26.0
8	62.0	57.8	58.7	66.7	71.1	71.6	67.0	69.2	70.7	69.5	67.5	67.4	66.8	65.9	64.8	62.9	59.7	55.5	53.5	49.2	49.0	46.0	39.3	30.3
9	62.0	57.2	60.9	68.5	72.3	72.0	66.9	71.0	70.7	71.4	69.0	68.9	67.7	66.9	65.8	63.8	60.3	55.8	53.2	50.6	50.6	47.6	41.9	32.5
10	63.2	58.3	62.4	69.8	73.4	72.9	67.6	71.9	71.2	71.7	69.3	69.1	67.7	66.8	65.6	63.3	59.6	56.1	51.9	50.8	51.7	47.2	42.1	34.4
11	65.9	61.2	63.5	71.1	74.6	74.3	68.8	71.9	71.7	71.1	68.4	68.2	66.6	65.7	64.3	62.0	58.2	55.5	51.6	50.3	51.2	46.2	40.9	34.5
12	69.5	65.2	63.4	71.0	74.8	75.0	70.1	69.0	71.0	67.1	66.0	65.5	64.1	63.3	61.9	59.5	55.9	53.0	49.9	48.2	48.6	43.2	37.1	27.3
13	71.7	68.2	61.4	67.5	71.7	72.7	68.9	62.3	66.5	61.7	63.7	62.2	60.9	60.1	58.7	56.2	52.6	49.5	46.7	44.4	43.7	38.1	30.5	17.9
14	71.3	68.5	62.0	58.5	63.9	66.2	64.4	58.9	58.5	60.4	57.4	57.0	57.0	56.0	54.7	52.3	48.9	46.0	42.8	39.4	37.7	31.3	21.3	9.8
15	70.2	67.7	62.9	54.6	52.0	56.9	58.3	57.4	52.1	54.6	54.3	53.5	51.6	51.3	49.5	46.8	43.2	39.6	35.7	30.6	28.0	19.6	10.3	8.1
16	67.4	65.4	62.1	56.9	48.5	42.9	47.9	51.1	51.5	46.6	46.2	48.2	45.2	44.0	42.7	39.2	35.2	29.8	24.1	16.9	13.0	8.6	8.1	8.1

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- CUTBACK -- 02-27-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-39.55	20.00	7.00	17075.50	59.07	54.59	250	54.59	0	55.90	46.05	53.91
2	-15.98	30.00	17.00	7117.60	67.10	67.11	630	68.78	1250	67.33	57.35	62.43
3	-9.53	40.00	27.00	4583.80	70.73	74.84	400	74.84	0	74.43	64.20	68.41
4	-6.31	50.00	37.00	3457.80	73.35	78.34	250	79.88	4000	78.26	67.83	72.15
5	-4.23	60.00	47.00	2845.40	75.20	81.02	400	82.87	3150	80.95	70.06	74.59
6	-2.67	70.00	57.00	2481.30	77.17	82.75	500	84.11	3150	82.85	72.03	76.48
7	-1.37	80.00	67.00	2260.70	78.75	84.53	315	84.85	3150	84.30	73.68	78.02
8	-0.20	90.00	77.00	2135.70	79.80	85.61	400	85.61	0	85.42	74.82	79.08
9	0.94	100.00	87.00	2083.80	80.81	86.89	400	86.89	0	86.64	75.91	80.04
10	2.12	110.00	97.00	2096.60	81.45	87.23	400	88.03	5000	86.92	76.05	80.33
11	3.40	120.00	107.00	2176.10	81.88	86.93	400	87.89	5000	86.55	75.37	80.14
12	4.89	130.00	117.00	2335.50	81.45	85.40	160	86.34	5000	85.09	73.25	78.74
13	6.75	140.00	127.00	2605.70	79.29	82.26	160	82.35	5000	81.77	69.88	75.59
14	9.26	150.00	137.00	3051.30	75.73	76.81	400	76.86	5000	76.79	65.19	70.71
15	13.04	160.00	147.00	3820.80	73.42	71.20	400	71.20	0	71.42	60.29	66.07
16	19.78	170.00	157.00	5325.80	70.72	64.85	315	64.85	0	65.41	54.04	61.54

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	81.88	87.23		88.03		86.92	76.05	80.33
TIME	3.40	2.12		2.12		2.12	2.12	2.12

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 87.01 EPNDB
SEL = 85.06 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
AIRFRAME
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	54.0	55.4	56.7	57.8	58.9	59.6	59.7	59.9	59.6	58.8	57.0	54.3	50.0	42.6	38.6	43.2	42.1	36.1	24.0	15.8	10.9	0.0	0.0	0.0
2	56.6	57.9	59.1	60.1	61.1	61.2	60.7	59.3	55.5	48.8	55.4	60.0	61.0	57.4	51.1	54.3	46.8	45.3	39.0	31.2	26.4	16.1	1.5	0.0
3	57.6	58.9	60.0	60.6	60.9	59.5	55.9	50.5	58.4	63.6	64.9	61.8	57.4	61.4	55.9	56.5	53.3	48.5	44.0	38.4	34.3	26.0	14.3	0.0
4	58.1	59.3	59.9	59.9	58.8	54.2	52.3	60.7	65.5	66.1	62.0	61.2	63.4	59.9	59.3	57.8	54.8	51.3	47.2	42.3	38.7	31.5	21.5	7.1
5	58.2	58.9	59.1	58.2	55.0	51.4	60.0	65.2	66.8	63.6	61.2	65.1	61.0	61.8	60.9	58.5	55.9	52.7	49.0	44.5	41.2	34.6	25.5	12.7
6	57.7	58.2	57.8	55.7	50.7	56.7	63.2	66.4	65.6	60.0	65.0	62.5	63.9	61.9	60.9	58.8	56.3	53.3	49.8	45.5	42.4	36.2	27.7	15.7
7	57.1	57.4	56.4	53.1	49.9	59.4	64.5	66.3	63.6	61.7	65.5	61.4	62.5	62.0	60.3	58.7	56.4	53.4	50.0	45.9	42.8	36.8	28.6	17.0
8	56.4	56.4	54.9	50.8	51.4	60.4	64.6	65.4	61.1	63.2	64.2	62.4	60.8	60.7	59.8	58.2	55.8	52.9	49.5	45.4	42.3	36.4	28.2	16.7
9	55.4	55.3	53.6	49.2	51.3	60.1	64.0	64.3	59.5	62.9	62.8	62.3	60.4	60.4	58.8	57.2	54.8	51.8	48.3	44.2	41.1	35.1	26.7	15.0
10	54.3	54.3	52.6	48.3	49.8	58.7	62.7	63.2	58.5	61.5	61.8	60.8	59.0	58.7	57.4	55.7	53.2	50.2	46.5	42.2	39.0	32.7	23.9	11.6
11	52.9	53.0	51.8	48.0	46.6	56.0	60.7	61.9	58.3	58.6	60.8	57.7	57.2	57.0	55.4	53.6	51.0	47.7	43.9	39.2	35.8	29.0	19.5	6.1
12	51.3	51.8	51.0	48.4	43.4	52.1	57.7	60.1	58.2	54.0	58.9	54.4	56.5	55.1	52.9	50.9	48.0	44.4	40.1	34.9	31.1	23.4	12.7	0.0
13	49.4	50.0	49.8	48.3	44.2	44.9	52.7	57.0	57.3	52.1	54.0	54.4	52.9	50.0	49.2	46.9	43.6	39.3	34.3	28.1	23.7	14.6	1.7	0.0
14	46.2	47.2	47.6	47.2	45.4	39.7	42.9	50.1	53.4	52.5	46.4	49.5	47.5	46.9	42.9	40.7	35.8	30.4	23.8	15.5	9.9	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	68.96	71.36	400	72.26	1600	71.22	61.17	66.51
2	-7.39	40.00	30.90	3596.30	70.65	74.94	800	76.72	1600	74.78	65.37	68.79
3	-4.92	50.00	41.30	2802.50	72.25	78.16	500	79.74	1000	78.12	68.31	71.70
4	-3.25	60.00	51.50	2361.60	73.32	79.75	400	79.75	0	79.38	69.63	73.33
5	-1.94	70.00	61.70	2099.30	73.93	80.18	315	80.18	0	80.05	70.37	74.22
6	-0.82	80.00	71.90	1945.20	74.09	80.37	500	80.37	0	80.39	70.64	74.49
7	0.24	90.00	82.10	1866.90	73.88	80.46	500	80.46	0	80.36	70.32	74.36
8	1.29	100.00	92.20	1850.50	73.29	79.68	500	79.68	0	79.81	69.63	73.77
9	2.41	110.00	102.40	1893.50	72.52	78.70	1600	78.70	0	78.88	68.90	72.90
10	3.68	120.00	112.60	2003.30	71.22	77.25	500	77.25	0	77.34	67.49	71.49
11	5.23	130.00	122.90	2201.80	69.44	75.42	500	75.42	0	75.18	65.55	69.53
12	7.28	140.00	133.20	2537.60	67.35	72.94	500	72.94	0	72.45	63.40	67.16
13	10.34	150.00	143.80	3128.30	64.45	69.25	315	69.25	0	68.88	60.10	63.84
14	16.01	160.00	154.90	4354.40	60.18	64.23	400	64.23	0	64.14	55.36	58.97

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	74.09	80.46		80.46		80.39	70.64	74.49
TIME	-0.82	0.24		0.24		-0.82	-0.82	-0.82

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 81.08 EPNDB
SEL = 80.80 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL --SIDELINE -- 02-27-95
INLET
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	21.1	23.9	26.7	53.3	32.1	34.7	46.5	39.5	47.9	57.0	55.4	51.0	44.8	38.3	36.1	42.7	44.1	40.4	30.5	31.6	22.4	10.6	5.8	5.7
2	24.7	27.4	30.1	57.5	35.3	37.4	49.2	39.9	45.5	47.9	54.6	56.6	55.8	53.5	49.0	54.0	49.0	49.7	45.6	46.6	37.8	30.3	20.3	6.7
3	27.0	29.7	32.3	60.0	36.4	36.9	46.4	32.5	50.3	64.3	65.7	59.1	52.9	58.2	54.4	56.7	55.8	53.0	50.5	53.2	45.5	40.1	32.7	17.3
4	27.8	30.4	32.4	60.0	34.6	31.9	43.5	42.9	58.1	67.5	62.6	58.1	58.7	56.3	57.1	57.1	56.2	54.4	52.3	54.8	48.4	44.1	38.3	24.7
5	27.2	29.3	31.0	58.6	30.1	28.5	51.4	46.8	59.5	65.1	61.0	60.9	55.2	57.1	57.5	56.8	56.2	54.4	52.4	54.8	49.0	45.4	40.4	29.1
6	25.1	27.1	28.1	56.9	24.3	32.1	55.2	60.0	47.8	62.2	64.5	57.3	56.7	55.8	56.5	56.5	55.8	53.8	56.6	49.2	48.3	46.5	39.1	29.6
7	20.8	22.5	57.5	21.4	19.8	50.6	38.5	58.4	65.7	62.5	62.4	53.1	51.9	53.1	53.5	54.4	53.5	51.0	53.2	46.0	45.1	43.3	36.0	26.6
8	16.5	17.8	52.5	15.6	17.5	48.1	34.7	53.9	59.7	60.3	56.5	49.5	46.2	48.5	49.7	50.7	49.4	46.9	49.2	42.0	41.2	39.3	31.8	22.1
9	12.1	13.2	47.5	10.9	13.8	44.0	29.9	49.1	54.4	55.3	50.1	44.8	42.2	44.6	45.3	45.9	44.4	41.9	44.4	37.0	36.1	33.9	26.9	15.1
10	8.7	9.4	42.6	8.0	9.6	38.7	24.4	44.1	49.7	49.7	45.1	39.9	37.9	39.9	40.9	40.9	38.8	36.3	38.8	31.2	30.2	27.5	19.6	9.2
11	6.7	7.1	38.0	6.7	6.7	32.3	38.6	21.5	45.7	42.3	39.4	32.4	32.5	34.7	35.4	35.0	32.6	35.1	27.3	24.4	24.6	18.6	11.2	6.2
12	6.0	35.7	6.2	6.1	17.3	7.5	31.8	44.3	16.2	33.4	32.9	24.9	28.2	29.1	29.4	28.4	25.7	28.0	19.8	16.5	15.9	10.5	6.5	5.7
13	5.8	30.3	5.9	5.9	14.7	5.9	23.2	37.4	11.8	27.3	23.7	20.8	21.2	20.7	22.3	20.8	17.7	19.4	11.4	8.7	7.7	6.1	5.7	5.7
14	5.7	23.9	5.7	5.8	12.6	5.7	11.2	27.0	7.4	23.6	12.7	12.6	13.0	14.5	13.3	12.0	8.8	7.1	6.1	5.8	5.7	5.7	5.7	5.7

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	61.49	67.10	400	70.77	4000	67.19	57.38	61.57
2	-7.39	40.00	30.90	3596.30	64.32	72.53	1600	74.20	1600	73.15	62.48	67.08
3	-4.92	50.00	41.30	2802.50	70.39	78.09	500	79.82	4000	78.14	67.92	72.78
4	-3.25	60.00	51.50	2361.60	71.22	79.71	400	81.19	4000	79.41	68.59	73.88
5	-1.94	70.00	61.70	2099.30	70.30	79.13	4000	80.50	4000	79.07	68.06	73.51
6	-0.82	80.00	71.90	1945.20	69.97	79.55	3150	81.25	3150	79.06	67.73	73.43
7	0.24	90.00	82.10	1866.90	70.14	77.32	315	78.88	3150	77.24	66.29	71.87
8	1.29	100.00	92.20	1850.50	65.58	73.15	400	74.73	3150	72.96	61.94	67.59
9	2.41	110.00	102.40	1893.50	60.46	68.08	3150	69.73	3150	67.81	56.92	62.57
10	3.68	120.00	112.60	2003.30	55.36	62.53	3150	64.21	3150	62.30	51.79	57.25
11	5.23	130.00	122.90	2201.80	49.90	56.51	2500	56.51	0	56.33	46.06	51.58
12	7.28	140.00	133.20	2537.60	46.12	49.79	250	49.79	0	49.51	40.23	46.10
13	10.34	150.00	143.80	3128.30	39.27	40.14	250	40.14	0	40.71	32.93	38.73
14	16.01	160.00	154.90	4354.40	30.74	24.99	400	24.99	0	29.90	24.75	30.20

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	71.22	79.71		81.25		79.41	68.59	73.88
TIME	-3.25	-3.25		-0.82		-3.25	-3.25	-3.25

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 79.55 EPNDB
SEL = 77.04 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
AFTFAN
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	9.0	11.6	14.7	18.1	21.5	24.7	27.6	30.3	32.7	34.8	36.0	35.9	33.9	28.9	27.1	34.0	35.4	31.7	21.7	15.9	13.3	6.5	5.7	5.7
2	12.4	15.8	19.3	22.7	26.1	28.8	31.0	32.2	31.0	27.3	36.8	43.9	47.3	45.9	41.9	47.2	42.3	43.0	38.8	34.1	30.0	22.3	11.3	5.9
3	15.8	19.4	22.9	26.0	28.7	29.8	29.0	26.2	36.6	44.8	49.0	48.2	46.1	52.2	48.9	51.4	50.2	47.0	43.6	40.9	36.2	30.9	23.9	10.0
4	21.2	24.9	27.9	30.4	31.7	29.6	30.5	41.4	48.8	52.3	50.9	52.5	56.8	55.3	56.6	56.5	55.0	52.4	48.5	46.0	41.4	37.8	33.1	19.7
5	26.0	29.3	31.9	33.5	32.6	31.5	42.9	50.5	54.8	54.3	54.5	60.7	58.6	61.3	61.8	60.6	58.9	55.6	50.9	48.3	44.4	42.0	38.3	28.2
6	29.7	32.7	34.7	35.1	32.4	40.8	50.1	55.7	57.5	54.6	62.1	61.9	65.1	64.8	65.1	64.0	61.9	58.2	55.4	48.6	48.3	47.8	41.0	33.5
7	32.3	35.1	36.5	35.7	34.6	46.7	54.4	58.6	58.5	59.3	65.4	63.5	66.4	67.6	67.1	66.3	64.0	60.2	57.2	51.1	51.7	50.8	44.5	37.3
8	34.0	36.5	37.4	35.8	38.4	49.9	56.7	59.9	58.2	62.9	66.1	66.6	66.6	68.1	68.2	67.3	64.7	60.7	57.3	52.2	53.4	52.1	46.0	38.8
9	34.2	36.5	37.2	35.1	39.4	50.6	57.1	59.8	57.6	63.4	65.5	67.1	66.9	68.4	67.7	66.4	63.6	59.4	56.4	51.9	52.9	51.4	45.9	36.9
10	33.0	35.3	36.1	34.1	37.8	49.0	55.6	58.5	56.3	61.6	64.0	65.2	65.1	66.1	65.8	64.4	61.5	57.5	54.7	51.0	51.5	49.7	43.7	33.4
11	30.8	33.3	34.5	33.0	33.7	45.5	52.7	56.3	55.1	57.6	62.0	60.9	62.2	63.4	62.7	61.1	58.3	55.0	50.4	48.2	49.3	44.4	38.5	27.3
12	27.9	30.7	32.4	31.9	29.1	40.1	48.2	53.0	53.5	51.5	58.5	56.1	59.9	59.8	58.6	56.9	53.9	50.5	46.0	43.5	43.6	38.0	30.7	17.5
13	24.2	27.2	29.3	30.0	28.1	31.1	41.4	48.0	50.6	47.6	51.8	54.2	54.4	53.0	53.4	51.7	48.7	45.4	40.5	37.1	36.3	28.8	19.1	7.3
14	19.7	23.0	25.8	27.5	27.8	24.4	30.1	39.6	45.3	46.4	42.5	47.6	47.5	48.4	45.8	44.1	40.0	35.6	29.6	24.1	21.5	12.2	6.2	5.7

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	44.21	52.80	2000	53.95	2000	52.89	42.89	48.16
2	-7.39	40.00	30.90	3596.30	53.88	63.50	1600	65.20	1600	64.10	53.98	58.96
3	-4.92	50.00	41.30	2802.50	59.04	69.07	2000	70.63	1000	69.42	59.10	64.26
4	-3.25	60.00	51.50	2361.60	64.64	74.54	2000	74.54	0	74.93	64.61	69.54
5	-1.94	70.00	61.70	2099.30	69.18	78.68	2000	78.68	0	79.10	69.04	73.38
6	-0.82	80.00	71.90	1945.20	72.85	82.13	1600	82.33	6300	82.55	72.62	76.69
7	0.24	90.00	82.10	1866.90	75.10	84.55	1600	84.74	6300	84.85	74.80	78.86
8	1.29	100.00	92.20	1850.50	76.14	85.63	1600	85.80	6300	85.83	75.72	79.69
9	2.41	110.00	102.40	1893.50	75.94	85.04	1600	85.12	6300	85.19	75.40	79.05
10	3.68	120.00	112.60	2003.30	74.05	83.17	1600	83.17	0	83.30	73.44	77.16
11	5.23	130.00	122.90	2201.80	71.02	79.90	1600	80.90	5000	80.09	70.37	74.07
12	7.28	140.00	133.20	2537.60	67.29	75.58	1600	76.48	5000	75.76	66.57	69.95
13	10.34	150.00	143.80	3128.30	62.15	70.14	1600	70.14	0	70.36	61.25	64.69
14	16.01	160.00	154.90	4354.40	55.67	62.05	1600	62.05	0	62.29	54.48	57.18

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	76.14	85.63		85.80		85.83	75.72	79.69
TIME	1.29	1.29		1.29		1.29	1.29	1.29

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 82.94 EPNDB
SEL = 83.04 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
CORE
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
CORE

SPECTRUM	FREQUENCY (HZ)																							
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	31.8	34.7	37.5	40.2	42.9	45.5	47.9	50.3	51.7	52.3	51.6	48.6	42.9	33.8	27.3	29.4	26.2	18.3	4.2	0.0	0.0	0.0	0.0	0.0
2	36.9	39.7	42.4	45.0	47.6	49.7	51.4	52.2	50.0	44.6	52.2	56.3	55.9	50.5	41.5	42.2	32.6	29.2	21.0	11.3	4.7	0.0	0.0	0.0
3	40.6	43.3	46.0	48.2	50.0	50.6	49.3	46.1	55.4	61.9	64.1	60.1	54.2	56.3	48.1	46.1	40.8	34.2	27.8	20.2	14.4	4.6	0.0	0.0
4	43.6	46.3	48.3	49.9	50.5	47.8	48.2	58.6	64.8	66.6	63.0	61.2	61.9	56.3	52.9	48.8	43.7	38.4	32.4	25.6	20.2	11.6	0.2	0.0
5	46.2	48.4	50.1	50.8	49.2	47.5	58.4	65.4	68.3	66.1	63.8	66.7	60.9	59.5	55.7	50.7	46.1	41.0	35.4	29.0	23.9	15.9	5.6	0.0
6	48.3	50.2	51.3	50.8	47.5	55.3	64.2	68.9	69.3	64.6	69.4	65.7	65.2	60.7	56.9	52.2	47.7	42.8	37.4	31.3	26.3	18.7	8.9	0.0
7	50.0	51.8	52.3	50.6	48.9	60.5	67.8	71.0	69.3	68.3	71.4	65.9	65.1	61.9	57.4	53.2	48.8	44.0	38.6	32.6	27.8	20.4	10.9	0.0
8	51.6	53.0	53.1	50.6	52.7	63.7	70.2	72.1	68.7	71.5	71.4	68.3	64.6	61.6	57.9	53.7	49.3	44.5	39.1	33.2	28.3	21.0	11.5	0.0
9	52.7	54.0	53.8	51.0	54.7	65.4	71.3	72.8	68.8	72.5	71.2	69.1	65.1	62.2	57.7	53.5	49.1	44.2	38.9	32.8	27.9	20.4	10.8	0.0
10	52.5	53.9	53.8	51.0	54.2	65.0	70.8	72.3	68.4	71.3	70.3	67.7	63.5	60.2	56.2	51.9	47.4	42.4	36.9	30.7	25.6	17.9	7.9	0.0
11	49.6	51.2	51.5	49.3	49.5	60.9	67.2	69.4	66.4	66.2	67.1	62.3	59.2	56.2	51.8	47.4	42.7	37.5	31.8	25.2	20.0	11.8	1.0	0.0
12	45.6	47.5	48.3	47.3	43.9	54.6	61.7	65.0	63.7	58.7	62.2	55.9	55.2	50.9	45.9	41.4	36.4	30.9	24.7	17.6	12.0	3.0	0.0	0.0
13	40.9	43.0	44.3	44.4	41.9	44.6	53.8	58.8	59.6	53.5	54.0	52.5	48.1	42.4	38.7	33.9	28.4	22.4	15.4	7.3	1.1	0.0	0.0	0.0
14	35.0	37.5	39.4	40.6	40.4	36.6	41.2	49.1	52.9	50.8	43.1	44.4	39.5	35.9	29.2	24.4	17.5	10.1	1.6	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	59.05	61.64	400	61.64	0	62.05	53.94	58.02
2	-7.39	40.00	30.90	3596.30	62.49	66.80	630	68.52	1600	66.68	59.56	61.60
3	-4.92	50.00	41.30	2802.50	68.31	73.30	500	75.01	1000	73.28	65.18	67.91
4	-3.25	60.00	51.50	2361.60	71.58	76.49	400	76.49	0	76.34	67.90	71.11
5	-1.94	70.00	61.70	2099.30	74.02	78.18	315	78.18	0	78.26	70.05	73.42
6	-0.82	80.00	71.90	1945.20	76.05	80.50	500	80.50	0	80.16	71.91	75.34
7	0.24	90.00	82.10	1866.90	77.71	82.27	500	82.27	0	81.93	73.18	76.90
8	1.29	100.00	92.20	1850.50	78.88	82.97	400	82.97	0	83.16	74.06	77.97
9	2.41	110.00	102.40	1893.50	79.52	83.67	400	83.67	0	83.70	74.54	78.53
10	3.68	120.00	112.60	2003.30	78.70	82.52	400	82.52	0	82.58	73.44	77.62
11	5.23	130.00	122.90	2201.80	75.13	78.36	500	78.36	0	78.38	69.53	73.97
12	7.28	140.00	133.20	2537.60	70.34	73.09	250	73.09	0	73.34	64.54	69.16
13	10.34	150.00	143.80	3128.30	64.45	67.20	315	67.20	0	66.81	58.57	63.30
14	16.01	160.00	154.90	4354.40	57.13	59.22	315	59.22	0	58.79	51.33	56.04

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	79.52	83.67		83.67		83.70	74.54	78.53
TIME	2.41	2.41		2.41		2.41	2.41	2.41

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 81.36 EPNDB
SEL = 82.45 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
TURBINE
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
2	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
3	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.9	6.0	6.1	6.2	6.5	6.2	5.9	5.7
4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	5.9	6.2	6.6	7.3	8.0	8.5	10.0	9.6	8.0	6.2
5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	6.0	6.6	7.3	8.6	10.3	12.0	13.3	15.8	15.8	13.8	9.0
6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	6.2	6.7	8.0	9.7	12.1	14.6	16.9	18.7	21.6	22.0	20.3	14.5
7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.9	6.0	6.8	8.3	10.2	13.1	16.1	19.1	21.7	23.6	26.7	27.3	25.8	19.7
8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	6.2	6.7	7.7	10.2	13.3	16.7	20.1	23.2	25.8	27.8	31.0	31.6	30.1	23.6
9	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	6.0	6.7	8.0	9.6	13.3	16.4	20.0	23.4	26.5	29.1	31.1	34.2	34.7	32.6	25.7
10	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	6.2	7.2	8.9	10.8	14.6	18.1	21.8	25.1	28.1	30.6	32.4	35.4	35.6	32.8	25.0
11	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	6.4	6.7	8.1	10.8	13.6	16.8	19.9	22.7	24.9	26.3	29.0	28.8	24.9	16.2
12	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.9	5.9	6.7	7.8	9.2	11.4	13.8	16.0	17.6	18.5	20.8	19.8	14.7	13.5
13	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.9	6.0	6.6	7.4	8.4	9.4	10.0	9.9	11.1	9.5	6.6	5.7
14	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	5.9	6.0	6.0	6.0	5.9	5.9	5.8	5.7	5.7

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	19.50	12.92	3150	12.92	0	18.85	17.43	24.61
2	-7.39	40.00	30.90	3596.30	19.50	12.92	3150	12.92	0	18.85	17.43	24.61
3	-4.92	50.00	41.30	2802.50	19.63	14.94	3150	14.94	0	19.76	17.68	24.97
4	-3.25	60.00	51.50	2361.60	20.54	18.71	5000	18.71	0	23.99	19.14	26.93
5	-1.94	70.00	61.70	2099.30	23.53	28.84	5000	28.84	0	30.89	23.04	31.43
6	-0.82	80.00	71.90	1945.20	28.30	36.66	5000	36.66	0	38.02	28.25	36.83
7	0.24	90.00	82.10	1866.90	33.15	42.98	5000	42.98	0	43.85	33.22	41.83
8	1.29	100.00	92.20	1850.50	37.31	48.09	5000	48.09	0	48.28	37.43	46.06
9	2.41	110.00	102.40	1893.50	40.32	51.56	5000	51.56	0	51.89	40.51	49.20
10	3.68	120.00	112.60	2003.30	41.30	52.80	5000	52.80	0	53.21	41.59	50.36
11	5.23	130.00	122.90	2201.80	34.86	45.77	5000	45.77	0	46.65	35.23	44.09
12	7.28	140.00	133.20	2537.60	27.30	35.57	5000	35.57	0	37.40	27.47	36.25
13	10.34	150.00	143.80	3128.30	21.08	21.26	3150	21.26	0	26.01	20.09	28.17
14	16.01	160.00	154.90	4354.40	19.58	13.39	3150	13.39	0	19.27	17.59	24.81

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	41.30	52.80		52.80		53.21	41.59	50.36
TIME	3.68	3.68		3.68		3.68	3.68	3.68

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 47.54 EPNDB
SEL = 46.66 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
JET
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	64.9	66.2	67.3	68.0	68.5	68.5	68.2	67.5	66.4	64.8	62.3	58.8	53.5	45.1	40.0	43.8	42.2	35.7	23.0	13.9	8.3	0.0	0.0	0.0
2	68.0	69.2	70.1	70.7	71.0	70.6	69.6	67.3	62.7	55.2	61.1	64.9	64.9	60.3	52.8	55.1	47.1	45.2	38.3	29.6	24.0	12.8	0.0	0.0
3	69.6	70.7	71.6	71.8	71.4	69.4	65.3	59.1	66.2	70.6	71.2	67.2	61.8	64.7	58.2	57.9	54.1	48.8	43.7	37.1	32.2	23.0	10.1	0.0
4	70.5	71.7	71.9	71.5	69.8	64.6	62.2	69.8	73.7	73.6	68.6	67.0	68.2	63.6	61.9	59.4	55.8	51.9	47.1	41.3	36.8	28.6	17.3	1.5
5	72.3	72.9	72.8	71.5	67.7	63.5	71.6	76.0	76.8	72.8	69.6	72.7	67.5	67.3	65.2	61.9	58.7	55.0	50.5	45.1	40.8	33.3	22.9	8.5
6	73.4	73.9	73.2	70.8	65.2	70.5	76.6	79.0	77.3	70.9	75.2	71.9	72.1	69.0	66.9	63.8	60.7	57.1	52.8	47.5	43.3	36.1	26.2	12.6
7	74.0	74.3	73.1	69.4	65.6	74.6	79.2	80.2	76.6	73.9	76.9	71.9	71.9	70.3	67.4	64.8	61.7	58.1	53.8	48.6	44.4	37.3	27.6	14.3
8	74.6	74.6	73.0	68.6	68.5	76.9	80.6	80.5	75.3	76.5	76.6	73.9	71.0	69.7	67.5	64.8	61.6	58.0	53.6	48.3	44.0	36.8	27.1	13.7
9	75.6	75.5	73.6	68.8	70.2	78.2	81.5	80.8	74.9	77.2	76.0	74.2	70.9	69.5	66.4	63.5	60.3	56.4	51.9	46.5	42.0	34.5	24.4	10.7
10	77.7	77.6	75.6	70.6	71.1	78.8	82.0	81.2	75.2	76.6	75.3	72.7	69.1	67.0	64.1	61.0	57.6	53.6	48.8	42.9	38.1	30.1	19.4	4.7
11	80.2	80.0	78.1	73.2	70.1	77.8	81.2	80.6	75.1	73.2	73.3	68.1	65.5	63.5	60.4	57.2	53.5	49.1	43.8	37.3	31.9	23.1	11.2	0.0
12	81.4	81.0	79.0	74.5	67.2	73.4	76.9	76.9	72.4	65.8	68.6	62.2	62.5	59.4	55.5	51.8	47.5	42.3	36.1	28.6	22.4	12.2	0.0	0.0
13	79.9	79.1	77.0	73.0	65.9	63.9	69.6	71.6	70.0	63.1	63.1	61.4	57.4	52.0	48.5	43.8	38.3	31.9	24.3	15.2	7.8	0.0	0.0	0.0
14	76.9	76.0	73.8	70.1	64.7	55.9	57.0	62.3	63.9	60.9	52.4	52.9	47.7	43.7	36.4	30.8	23.1	14.7	4.8	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	77.44	77.94	250	78.74	1600	78.56	67.39	73.77
2	-7.39	40.00	30.90	3596.30	79.37	80.72	200	82.43	1600	81.09	70.03	75.19
3	-4.92	50.00	41.30	2802.50	80.70	84.25	500	85.82	1000	84.31	73.44	77.55
4	-3.25	60.00	51.50	2361.60	81.76	86.27	400	86.27	0	85.90	75.19	79.43
5	-1.94	70.00	61.70	2099.30	83.87	88.65	315	88.65	0	88.26	77.62	82.00
6	-0.82	80.00	71.90	1945.20	85.65	90.49	250	90.49	0	90.37	79.54	83.95
7	0.24	90.00	82.10	1866.90	86.75	91.61	250	91.61	0	91.53	80.47	85.08
8	1.29	100.00	92.20	1850.50	87.40	91.99	250	91.99	0	92.02	80.82	85.59
9	2.41	110.00	102.40	1893.50	87.92	92.04	250	92.04	0	92.21	80.83	85.81
10	3.68	120.00	112.60	2003.30	88.41	91.78	250	91.78	0	92.04	80.15	85.70
11	5.23	130.00	122.90	2201.80	88.43	90.53	250	90.53	0	90.84	78.23	84.59
12	7.28	140.00	133.20	2537.60	87.24	86.94	250	86.94	0	87.23	74.11	81.27
13	10.34	150.00	143.80	3128.30	84.70	81.85	250	81.85	0	82.33	69.65	77.25
14	16.01	160.00	154.90	4354.40	81.23	74.69	315	74.69	0	76.15	63.01	72.25

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	88.43	92.04		92.04		92.21	80.83	85.81
TIME	5.23	2.41		2.41		2.41	2.41	2.41

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 91.65 EPNDB
SEL = 89.98 DB

MAR. 03, 1995.

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
TOTAL
*

SMALL TWIN AIRPLANE MODEL
SIDELINE CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	65.2	66.6	67.7	68.5	69.0	69.0	68.8	68.3	67.4	66.5	64.3	60.9	55.8	47.8	43.5	48.3	48.0	43.1	32.4	31.9	23.4	13.0	10.5	10.5
2	68.3	69.5	70.4	71.3	71.4	71.1	70.2	68.1	63.7	57.0	63.2	67.0	67.1	63.0	56.3	59.6	53.0	52.6	47.7	47.0	38.9	31.2	21.0	10.9
3	69.9	71.0	71.9	72.4	71.8	69.9	65.9	59.9	67.3	72.6	73.5	69.4	64.1	67.5	61.7	62.3	59.9	56.0	52.7	53.7	46.4	40.8	33.3	18.3
4	70.8	72.0	72.2	72.1	70.2	65.1	62.8	70.6	74.9	75.7	71.1	69.3	70.6	66.5	65.5	64.0	61.6	58.7	55.4	55.7	49.8	45.3	39.5	26.0
5	72.5	73.1	73.0	71.9	68.0	63.9	72.1	76.7	77.8	74.6	71.6	74.6	69.6	69.8	68.4	66.0	63.7	60.6	56.9	56.3	51.2	47.5	42.6	31.8
6	73.5	74.0	73.4	71.1	65.4	70.8	77.1	79.7	78.2	72.6	76.9	73.6	74.1	71.5	70.1	68.0	65.6	62.2	60.4	54.0	52.4	50.5	43.4	35.1
7	74.1	74.4	73.3	69.6	65.8	74.9	79.7	80.9	77.8	75.5	78.5	73.7	74.0	73.0	71.0	69.3	66.7	63.1	60.3	54.5	53.6	51.8	45.3	37.8
8	74.7	74.7	73.2	68.7	68.7	77.2	81.1	81.2	76.5	78.1	78.2	75.8	73.3	72.7	71.4	69.7	66.9	63.2	59.8	54.6	54.4	52.6	46.4	39.1
9	75.7	75.6	73.7	68.9	70.4	78.5	82.0	81.6	76.0	78.7	77.7	76.2	73.3	72.7	70.7	68.7	65.8	61.8	58.4	53.7	53.6	51.8	46.2	37.3
10	77.7	77.6	75.7	70.7	71.2	79.0	82.4	81.8	76.2	77.9	76.9	74.6	71.6	70.4	68.7	66.6	63.5	59.6	56.3	52.2	52.1	50.0	44.1	34.0
11	80.2	80.0	78.1	73.2	70.2	77.9	81.4	81.0	75.8	74.2	74.7	70.0	68.2	67.3	65.4	63.2	60.2	56.7	52.1	49.1	49.6	44.7	38.8	27.7
12	81.4	81.0	79.0	74.5	67.2	73.5	77.1	77.3	73.1	66.9	70.2	64.4	65.5	63.6	61.2	58.9	55.7	52.0	47.4	44.2	43.9	38.2	30.9	19.2
13	79.9	79.1	77.0	73.0	65.9	64.0	69.8	72.0	70.6	64.0	64.3	63.2	60.4	56.8	55.8	53.5	50.2	46.5	41.5	37.7	36.6	29.0	19.6	11.1
14	76.9	76.0	73.8	70.1	64.8	56.1	57.3	62.8	64.6	62.0	54.1	55.7	52.6	51.6	48.0	45.9	41.5	36.8	30.7	24.8	22.0	13.9	10.6	10.5

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- SIDELINE -- 02-27-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-11.99	30.00	20.40	5304.70	78.17	79.84	400	80.54	1600	80.10	68.81	74.83
2	-7.39	40.00	30.90	3596.30	80.12	83.09	800	84.74	1600	83.24	72.16	76.81
3	-4.92	50.00	41.30	2802.50	81.84	87.32	500	88.85	1000	87.23	75.93	79.98
4	-3.25	60.00	51.50	2361.60	83.05	89.34	400	90.37	4000	88.92	77.67	81.92
5	-1.94	70.00	61.70	2099.30	84.95	91.01	315	91.17	8000	90.47	79.70	84.00
6	-0.82	80.00	71.90	1945.20	86.65	92.59	250	92.67	6300	92.44	81.50	85.79
7	0.24	90.00	82.10	1866.90	87.78	93.72	250	93.74	6300	93.57	82.49	86.90
8	1.29	100.00	92.20	1850.50	88.41	94.18	250	94.18	0	94.08	82.88	87.39
9	2.41	110.00	102.40	1893.50	88.85	94.22	250	94.22	0	94.26	82.85	87.44
10	3.68	120.00	112.60	2003.30	89.06	93.82	250	93.82	0	93.92	81.86	86.96
11	5.23	130.00	122.90	2201.80	88.75	92.32	250	93.12	5000	92.46	79.54	85.41
12	7.28	140.00	133.20	2537.60	87.42	88.77	250	88.97	5000	88.90	75.48	81.97
13	10.34	150.00	143.80	3128.30	84.81	83.83	250	83.83	0	84.07	70.90	77.83
14	16.01	160.00	154.90	4354.40	81.29	76.95	315	76.95	0	77.79	64.41	72.68

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	89.06	94.22		94.22		94.26	82.88	87.44
TIME	3.68	2.41		2.41		2.41	1.29	2.41

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 94.02 EPNDB
SEL = 91.86 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
AIRFRAME
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	49.5	50.5	51.3	52.2	52.6	52.8	52.4	51.5	49.1	44.0	38.0	45.0	48.7	48.3	43.4	37.1	37.6	28.5	24.5	15.9	9.4	0.0	0.0	0.0
2	61.9	62.9	63.6	64.0	63.3	60.7	55.4	57.3	64.7	68.2	67.5	61.8	65.2	64.2	63.4	60.6	59.3	56.4	53.5	50.0	47.3	42.3	35.4	25.7
3	66.6	67.0	66.7	65.4	61.2	60.7	68.7	73.2	73.8	69.1	70.4	72.2	70.4	69.1	69.2	67.6	65.9	64.1	61.9	59.4	57.2	53.7	49.0	42.5
4	67.7	67.3	65.4	60.8	63.0	71.4	75.3	75.4	70.4	74.1	73.9	73.9	72.3	72.6	71.4	70.2	68.7	67.1	65.3	63.2	61.2	58.3	54.5	49.4
5	67.4	66.1	61.7	61.8	70.2	75.4	76.2	72.6	73.7	75.8	73.9	73.4	73.7	73.2	72.6	71.4	70.1	68.6	67.0	65.0	63.2	60.6	57.3	52.9
6	66.7	64.1	58.8	67.3	73.7	76.6	75.1	71.1	76.9	73.2	76.2	75.3	74.2	73.8	73.2	72.1	70.8	69.4	67.8	66.0	64.3	61.8	58.8	54.8
7	65.9	62.0	61.6	70.3	75.5	76.8	73.3	74.3	77.3	75.1	75.0	75.4	74.9	74.4	73.9	72.8	71.5	70.1	68.5	66.8	65.1	62.8	59.9	56.2
8	65.1	60.5	63.7	71.9	76.3	76.6	71.9	76.2	76.5	77.0	75.3	75.9	75.1	74.7	74.1	73.0	71.8	70.4	68.9	67.1	65.5	63.2	60.4	56.8
9	64.9	60.0	64.8	72.6	76.6	76.5	71.7	76.8	76.2	77.4	75.8	76.1	75.4	74.9	74.4	73.3	72.0	70.6	69.1	67.4	65.7	63.4	60.7	57.2
10	64.7	59.9	64.1	72.1	76.3	76.3	71.6	76.4	76.1	77.0	75.3	75.8	75.1	74.6	74.1	72.9	71.7	70.2	68.7	67.0	65.3	63.1	60.3	56.9
11	64.8	60.6	61.9	70.6	75.4	76.2	72.0	74.8	76.4	75.6	74.0	74.6	74.5	74.0	73.5	72.4	71.0	69.6	68.1	66.4	64.6	62.3	59.5	56.0
12	65.2	62.1	58.5	67.9	73.7	75.9	73.6	71.5	76.5	72.8	74.9	74.6	73.7	73.3	72.7	71.6	70.2	68.8	67.2	65.4	63.7	61.3	58.4	54.7
13	65.2	63.5	58.4	62.7	70.4	74.5	74.5	69.6	74.1	73.3	74.4	72.6	73.1	72.0	71.4	70.3	68.9	67.4	65.8	63.9	62.1	59.6	56.6	52.7
14	65.0	64.5	61.8	56.8	64.4	71.2	73.8	72.5	67.9	73.6	70.0	72.6	71.7	70.6	69.8	68.6	67.2	65.6	63.9	61.9	60.0	57.4	54.0	49.7
15	63.9	64.3	63.6	61.2	55.8	63.6	69.6	72.2	70.6	65.8	71.2	67.6	70.2	69.0	67.8	66.3	64.7	63.0	61.1	58.9	56.9	53.9	50.1	45.1
16	61.6	62.8	63.2	63.1	61.5	56.4	56.5	64.4	68.7	68.9	64.2	65.6	66.8	65.0	63.5	62.6	61.0	59.1	56.9	54.3	52.0	48.4	43.7	37.3
17	57.6	58.9	59.9	61.0	61.4	61.1	59.8	56.7	50.2	56.2	61.7	63.6	61.5	55.6	60.2	55.4	56.1	52.6	49.5	45.6	42.7	37.7	30.8	21.2

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	61.79	63.20	800	65.46	2000	63.41	54.30	58.68
2	-4.42	20.00	15.00	1504.80	76.04	83.08	400	83.08	0	82.95	72.63	76.59
3	-2.46	30.00	25.00	921.60	81.79	89.81	2500	89.81	0	89.86	78.71	83.33
4	-1.55	40.00	35.00	679.00	84.25	92.81	2500	92.81	0	92.77	81.28	86.14
5	-1.00	50.00	45.00	550.80	85.20	94.20	2500	94.20	0	94.11	82.25	87.39
6	-0.59	60.00	55.00	475.40	85.98	95.03	2500	95.03	0	94.90	83.07	88.19
7	-0.27	70.00	65.00	429.70	86.50	95.73	2500	95.73	0	95.54	83.59	88.81
8	0.02	80.00	75.00	403.20	86.89	96.10	2500	96.10	0	95.87	83.94	89.16
9	0.29	90.00	85.00	391.00	87.13	96.33	2500	96.33	0	96.11	84.20	89.40
10	0.56	100.00	95.00	391.00	86.81	95.97	2500	95.97	0	95.76	83.86	89.04
11	0.86	110.00	105.00	403.20	86.08	95.28	2500	95.28	0	95.09	83.13	88.36
12	1.19	120.00	115.00	429.70	85.37	94.45	2500	94.45	0	94.30	82.46	87.59
13	1.59	130.00	125.00	475.40	84.16	93.09	2500	93.09	0	93.00	81.27	86.30
14	2.13	140.00	135.00	550.80	82.57	91.26	2500	91.26	0	91.25	79.70	84.59
15	2.91	150.00	145.00	679.00	80.33	88.66	2500	88.66	0	88.66	77.49	82.16
16	4.24	160.00	155.00	921.60	76.91	84.70	2500	84.70	0	84.92	73.86	78.36
17	7.24	170.00	165.00	1504.80	72.01	78.77	2000	80.33	1250	78.66	68.30	72.29

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	87.13	96.33		96.33		
TIME	0.29	0.29		0.29	96.11	84.20	89.40
					0.29	0.29	0.29

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 91.52 EPNDB
SEL = 89.84 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
INLET
*

* SMALL TWIN AIRPLANE MODEL
* APPROACH CONDITION
* INLET

SPECTRUM	FREQUENCY (HZ)																							
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	24.8	27.6	30.3	33.0	35.5	38.0	39.9	41.4	41.7	38.8	35.1	44.4	49.8	51.1	48.0	43.6	46.3	42.3	37.6	31.3	28.7	16.7	3.7	2.0
2	34.1	36.7	39.3	41.4	42.7	42.4	39.4	43.7	53.7	59.4	61.1	57.7	62.7	63.5	64.5	63.6	64.6	66.8	63.4	62.2	63.2	58.5	52.8	43.5
3	38.0	40.1	41.6	42.0	39.8	41.5	51.9	58.7	61.8	59.4	62.9	67.0	66.7	67.0	68.7	69.0	69.7	72.9	70.3	70.1	71.6	68.5	64.9	58.9
4	40.0	41.4	41.2	38.3	42.5	53.1	59.3	61.8	59.3	65.1	67.0	69.0	68.7	70.4	70.6	71.1	72.0	75.2	73.3	73.5	75.1	72.6	70.1	65.7
5	40.9	41.3	38.7	40.5	50.9	58.3	61.4	60.1	63.6	67.6	67.7	68.9	70.1	70.7	71.1	71.6	72.5	75.5	74.2	74.7	76.2	74.3	72.3	69.1
6	40.5	39.5	36.0	46.2	54.5	59.6	60.4	58.7	66.6	64.7	69.5	69.8	69.2	69.3	69.3	69.7	70.7	73.4	72.7	73.5	75.1	73.3	72.1	69.9
7	38.6	36.3	37.6	48.0	55.2	58.6	57.3	60.6	65.4	65.1	66.5	67.8	67.5	67.3	67.1	67.6	68.7	71.3	70.9	71.7	73.4	72.4	70.2	69.2
8	35.7	32.6	37.6	47.4	53.8	56.3	53.7	60.2	62.3	64.5	64.3	65.6	65.1	64.8	64.7	65.4	66.6	69.2	68.8	69.7	71.3	70.2	68.1	67.3
9	31.1	27.8	34.2	43.7	49.6	51.7	49.1	56.3	57.4	60.4	60.3	61.3	60.8	60.6	60.6	61.5	64.6	63.9	65.0	66.8	66.4	65.8	64.4	62.4
10	26.7	23.6	29.4	39.0	45.1	47.3	44.8	51.7	53.1	55.8	55.7	57.0	56.6	56.7	57.1	58.0	61.2	60.3	61.3	63.1	62.4	61.5	59.9	57.5
11	22.7	20.1	23.0	33.3	40.0	43.0	41.0	45.9	49.1	50.3	50.1	51.7	52.3	52.7	53.2	54.3	57.4	56.4	57.3	58.9	57.8	56.8	54.9	52.0
12	18.8	17.3	15.4	26.3	33.9	38.3	38.2	38.1	45.0	43.2	46.8	47.7	47.7	48.3	49.0	50.1	53.3	52.2	53.0	54.3	52.8	51.6	49.4	45.9
13	14.7	14.5	11.4	16.9	26.5	32.7	34.8	31.9	38.3	39.6	42.3	41.8	43.4	43.6	44.5	45.7	48.8	47.5	48.1	49.2	47.3	45.9	43.3	39.2
14	10.5	11.4	10.5	7.8	16.2	25.0	29.8	30.4	27.8	35.6	33.8	37.9	38.4	38.6	39.5	40.7	43.8	42.2	42.7	43.4	41.7	38.5	36.2	31.4
15	6.3	7.6	8.4	7.8	5.5	13.3	21.2	25.7	26.3	23.7	30.9	29.1	33.2	33.7	34.2	35.0	38.1	36.1	36.4	36.8	34.6	30.9	27.9	22.3
16	3.3	4.2	5.2	6.0	6.3	4.7	6.0	13.9	20.1	22.6	19.9	23.3	26.4	26.3	26.7	31.2	28.6	28.7	29.7	27.5	25.8	21.7	16.5	10.6
17	2.2	2.4	2.7	3.2	4.0	4.7	5.2	4.6	3.2	7.0	13.1	16.8	16.6	12.6	18.8	19.3	19.1	17.7	17.6	14.4	11.7	7.2	3.7	2.2

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	56.71	65.22	2000	66.34	2000	64.90	56.31	60.05
2	-4.42	20.00	15.00	1504.80	74.29	87.28	2500	88.18	5000	86.42	74.73	82.23
3	-2.46	30.00	25.00	921.60	80.44	93.81	2500	94.74	2500	93.60	80.93	89.05
4	-1.55	40.00	35.00	679.00	83.42	96.66	2500	97.36	2500	96.79	83.83	92.06
5	-1.00	50.00	45.00	550.80	84.43	97.76	5000	97.76	0	97.90	84.74	92.99
6	-0.59	60.00	55.00	475.40	83.39	96.76	5000	96.76	0	96.86	83.48	91.63
7	-0.27	70.00	65.00	429.70	81.70	95.10	5000	95.10	0	95.16	81.72	89.88
8	0.02	80.00	75.00	403.20	79.60	93.01	5000	93.01	0	93.07	79.59	87.79
9	0.29	90.00	85.00	391.00	75.53	89.16	4000	89.16	0	89.05	75.59	83.80
10	0.56	100.00	95.00	391.00	71.55	85.27	4000	85.27	0	85.13	71.72	79.98
11	0.86	110.00	105.00	403.20	67.17	80.91	4000	80.91	0	80.76	67.47	75.75
12	1.19	120.00	115.00	429.70	62.55	76.20	4000	76.20	0	76.12	62.94	71.20
13	1.59	130.00	125.00	475.40	57.54	71.01	4000	71.01	0	70.96	57.98	66.18
14	2.13	140.00	135.00	550.80	52.00	65.05	4000	65.10	2000	65.10	52.51	60.62
15	2.91	150.00	145.00	679.00	45.81	58.28	4000	58.98	2000	58.38	46.36	54.26
16	4.24	160.00	155.00	921.60	38.35	49.96	3150	49.96	0	50.17	38.90	46.44
17	7.24	170.00	165.00	1504.80	27.55	34.37	3150	34.37	0	35.46	27.90	34.83

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	84.43	97.76		97.76		
TIME	-1.00	-1.00		-1.00		
					97.90	84.74	92.99
					-1.00	-1.00	-1.00

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 91.86 EPNDB
SEL = 88.36 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
AFTFAN
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.2	2.5	3.1	4.1	5.6	7.5	9.1	10.5	10.9	8.6	6.1	13.4	19.0	20.6	17.7	13.5	15.7	9.0	7.1	3.8	2.7	2.1	2.0	2.0
2	5.9	8.4	11.2	13.7	15.5	15.5	12.9	17.2	27.3	33.1	34.8	31.3	36.8	37.9	39.0	38.2	38.7	38.3	36.2	34.8	34.7	31.1	26.5	18.9
3	10.5	13.2	15.4	16.3	14.7	16.8	27.2	34.3	37.6	35.4	38.9	42.9	43.2	43.9	46.0	46.3	46.5	48.0	45.9	45.5	46.4	43.7	41.6	37.1
4	14.0	16.1	16.7	14.5	19.1	30.1	36.5	39.2	36.9	43.0	45.1	47.2	47.8	50.0	50.7	51.4	51.8	54.7	51.7	51.7	53.7	50.7	50.0	46.6
5	19.6	20.8	19.0	21.4	32.3	40.1	43.4	42.3	46.1	50.4	50.8	52.4	54.5	55.7	56.6	56.6	56.0	58.0	54.7	55.7	58.3	56.1	56.4	54.1
6	25.1	25.1	22.3	33.0	41.9	47.3	48.3	46.9	55.2	53.7	58.9	60.0	60.5	61.5	61.8	61.0	59.3	60.5	57.4	59.2	62.1	60.6	61.7	60.3
7	28.9	27.5	29.5	40.5	48.1	51.9	50.9	54.5	59.7	59.8	61.7	64.0	64.8	65.4	65.0	63.3	60.3	60.8	58.4	60.9	64.0	64.5	64.1	64.3
8	32.7	30.5	36.1	46.5	53.3	56.1	53.9	60.7	63.2	65.9	66.1	68.5	68.9	69.3	68.5	66.4	62.8	63.1	62.0	64.5	66.7	67.9	68.3	68.4
9	35.3	32.9	40.0	50.0	56.4	58.7	56.5	63.9	65.5	68.8	69.0	71.1	71.4	71.8	70.8	68.4	66.0	61.8	65.2	68.2	68.6	70.6	71.4	70.9
10	37.9	35.6	42.0	52.1	58.7	61.1	58.9	66.0	67.8	70.8	70.9	73.1	73.3	73.5	72.2	69.7	66.8	63.7	67.5	70.0	70.7	72.6	73.3	72.7
11	39.6	37.8	41.4	52.2	59.2	62.4	60.7	65.8	69.4	70.7	70.8	73.0	73.8	73.8	72.3	69.5	67.0	64.8	68.2	70.6	71.4	73.2	73.8	72.8
12	40.7	39.9	38.5	50.1	58.1	62.8	62.9	62.9	70.0	68.3	72.2	73.5	73.5	73.4	71.9	69.3	67.9	66.1	69.0	71.2	71.7	73.3	73.5	72.0
13	40.7	41.2	38.3	44.7	54.7	61.2	63.5	60.8	67.3	68.6	71.4	71.1	72.5	71.8	70.5	68.0	67.4	66.0	68.4	70.4	70.7	72.0	71.7	69.7
14	39.8	41.5	41.0	38.1	48.0	57.2	62.1	62.9	60.3	68.0	66.2	70.3	70.4	69.6	68.3	66.0	64.8	64.9	66.8	68.0	68.9	69.0	68.5	66.0
15	37.1	39.7	41.2	40.9	37.7	47.8	56.2	60.8	61.3	58.5	65.7	63.8	67.5	67.0	65.7	63.8	62.9	63.3	64.5	64.9	65.4	64.9	63.6	60.3
16	32.6	35.9	38.5	40.5	41.1	38.3	40.8	50.7	57.0	59.2	56.4	59.4	62.0	60.9	59.6	59.1	57.5	58.3	59.2	58.4	58.8	57.6	55.0	50.4
17	25.7	29.2	32.4	35.5	38.1	40.2	41.3	40.1	35.7	43.8	51.3	54.9	54.3	49.5	54.8	51.3	52.5	51.5	51.1	48.7	48.1	45.1	40.0	32.1

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	26.20	25.21	2000	25.21	0	28.19	25.75	29.36
2	-4.42	20.00	15.00	1504.80	47.69	59.30	2500	59.30	0	58.88	48.05	54.87
3	-2.46	30.00	25.00	921.60	56.40	69.25	2500	69.25	0	69.16	56.87	64.59
4	-1.55	40.00	35.00	679.00	62.50	75.77	2500	76.73	2500	75.50	62.96	70.96
5	-1.00	50.00	45.00	550.80	67.43	80.32	5000	81.09	2500	80.14	67.63	75.11
6	-0.59	60.00	55.00	475.40	72.18	84.65	5000	84.65	0	84.40	72.03	78.84
7	-0.27	70.00	65.00	429.70	75.20	87.14	5000	87.14	0	86.79	74.74	80.92
8	0.02	80.00	75.00	403.20	79.02	90.56	6300	90.56	0	90.26	78.35	84.28
9	0.29	90.00	85.00	391.00	81.59	93.14	6300	93.14	0	92.87	80.86	86.82
10	0.56	100.00	95.00	391.00	83.43	95.04	6300	95.04	0	94.79	82.64	88.69
11	0.86	110.00	105.00	403.20	83.77	95.53	6300	95.53	0	95.30	82.99	89.19
12	1.19	120.00	115.00	429.70	83.74	95.63	6300	95.63	0	95.55	83.03	89.47
13	1.59	130.00	125.00	475.40	82.41	94.54	4000	94.54	0	94.45	81.78	88.43
14	2.13	140.00	135.00	550.80	80.06	92.17	4000	92.17	0	92.23	79.51	86.21
15	2.91	150.00	145.00	679.00	76.68	88.90	4000	88.90	0	89.00	76.37	83.18
16	4.24	160.00	155.00	921.60	70.75	82.87	3150	82.87	0	82.88	70.47	77.20
17	7.24	170.00	165.00	1504.80	62.89	74.16	3150	75.63	1250	73.95	62.80	69.02

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	83.77	95.63		95.63		95.55	83.03	89.47
TIME	0.86	1.19		1.19		1.19	1.19	1.19

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 88.78 EPNDB
SEL = 86.24 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
CORE
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	16.5	19.3	22.0	24.7	27.2	29.7	31.6	33.1	32.6	28.9	23.9	30.1	32.4	30.3	22.7	14.1	12.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0
2	27.6	30.3	32.8	34.9	36.3	35.9	32.9	37.2	46.4	51.3	51.7	45.1	47.1	44.4	40.9	35.9	32.5	27.5	22.6	17.2	12.7	6.2	0.0	0.0
3	33.3	35.4	36.9	37.3	35.1	36.8	47.1	54.0	56.3	53.0	55.2	56.1	52.8	49.7	47.1	43.3	39.6	35.7	31.6	27.2	23.3	18.2	12.2	4.9
4	36.9	38.2	38.0	35.1	39.3	50.0	56.2	58.6	55.3	60.3	60.8	59.9	56.7	55.1	51.2	47.8	44.3	40.6	36.8	32.8	29.1	24.7	19.6	13.6
5	39.3	39.6	37.0	38.9	49.3	56.7	59.8	58.3	61.1	64.4	63.0	61.4	60.1	57.6	54.4	51.0	47.6	44.0	40.4	36.6	33.1	29.0	24.3	19.0
6	41.2	40.3	36.8	46.9	55.3	60.4	61.2	59.2	66.6	64.1	67.3	65.3	62.5	60.0	56.7	53.4	50.0	46.6	43.0	39.3	35.9	32.0	27.6	22.7
7	42.7	40.4	41.7	52.1	59.3	62.8	61.6	64.5	68.9	67.8	67.6	66.8	64.5	61.7	58.5	55.2	51.9	48.5	45.0	41.4	38.0	34.2	30.0	25.3
8	44.1	41.1	46.0	55.9	62.2	64.7	62.3	68.3	70.0	71.5	69.3	68.7	66.1	63.1	59.9	56.6	53.3	49.9	46.5	42.9	39.6	35.8	31.7	27.2
9	45.8	42.5	49.0	58.4	64.4	66.5	64.1	70.6	71.3	73.4	71.0	70.0	67.3	64.2	61.0	57.7	54.4	51.1	47.6	44.1	40.7	37.0	33.0	28.5
10	47.8	44.6	50.4	60.1	66.2	68.4	65.9	72.1	73.1	74.6	72.0	71.1	68.2	65.1	61.8	58.6	55.2	51.9	48.5	44.9	41.6	37.8	33.8	29.4
11	50.1	47.5	50.5	60.7	67.5	70.4	68.3	72.5	75.2	74.9	72.1	71.2	68.9	65.7	62.5	59.2	55.9	52.5	49.0	45.5	42.1	38.4	34.3	29.8
12	51.6	50.0	48.1	59.1	66.8	71.2	70.9	70.0	76.1	72.5	73.4	71.6	68.3	65.1	61.9	58.6	55.2	51.8	48.3	44.8	41.3	37.5	33.4	28.7
13	50.3	50.1	46.7	52.6	62.3	68.6	70.3	66.7	72.1	71.2	71.1	67.6	65.6	61.8	58.5	55.2	51.8	48.4	44.8	41.2	37.7	33.8	29.5	24.5
14	47.7	48.8	47.7	44.3	53.9	62.9	67.2	67.0	63.3	68.7	63.8	64.7	61.2	57.3	53.9	50.5	47.1	43.6	39.9	36.1	32.6	28.5	23.9	18.5
15	43.8	45.8	46.8	46.0	42.5	52.5	60.1	63.7	63.1	57.7	61.8	56.4	56.3	52.4	48.5	44.8	41.3	37.6	33.8	29.8	26.2	21.7	16.6	10.6
16	38.9	41.5	43.6	45.1	45.5	42.5	44.2	53.1	58.3	57.8	51.8	51.3	49.8	45.2	41.1	38.0	34.4	30.6	26.4	22.0	18.1	13.1	7.1	0.0
17	32.1	34.9	37.6	40.3	42.6	44.5	44.7	42.6	36.9	42.2	46.3	46.4	41.5	32.8	34.7	27.8	26.5	21.1	16.0	10.3	5.8	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	40.95	40.77	800	40.77	0	41.54	36.71	39.67
2	-4.42	20.00	15.00	1504.80	56.80	61.64	500	61.64	0	61.84	53.80	56.62
3	-2.46	30.00	25.00	921.60	63.15	68.05	630	68.05	0	68.05	59.90	62.90
4	-1.55	40.00	35.00	679.00	67.70	73.02	500	73.02	0	73.23	64.43	67.45
5	-1.00	50.00	45.00	550.80	70.70	76.51	400	76.51	0	76.40	67.22	70.44
6	-0.59	60.00	55.00	475.40	73.66	79.42	500	79.42	0	79.29	70.18	73.34
7	-0.27	70.00	65.00	429.70	75.70	81.05	400	81.05	0	81.25	71.93	75.30
8	0.02	80.00	75.00	403.20	77.89	83.65	400	83.65	0	83.47	73.91	77.41
9	0.29	90.00	85.00	391.00	79.56	85.33	400	85.33	0	85.10	75.40	79.00
10	0.56	100.00	95.00	391.00	80.90	86.56	400	86.56	0	86.31	76.54	80.26
11	0.86	110.00	105.00	403.20	81.78	87.21	400	87.21	0	86.92	77.13	81.04
12	1.19	120.00	115.00	429.70	81.74	86.96	315	86.96	0	86.58	77.00	80.90
13	1.59	130.00	125.00	475.40	78.99	83.70	400	83.70	0	83.83	74.12	78.09
14	2.13	140.00	135.00	550.80	74.75	79.80	400	79.80	0	79.44	69.72	73.77
15	2.91	150.00	145.00	679.00	69.55	73.51	500	73.51	0	73.38	64.38	68.61
16	4.24	160.00	155.00	921.60	63.18	67.62	400	67.62	0	67.17	58.33	62.44
17	7.24	170.00	165.00	1504.80	53.86	56.94	630	60.47	1250	57.49	49.07	52.35

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	81.78	87.21		87.21		
TIME	0.86	0.86		0.86	86.92	77.13	81.04
					0.86	0.86	0.86

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 79.38 EPNDB
SEL = 79.58 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
TURBINE
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.5	3.1	3.8	5.3	6.1	5.0	3.1
3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.9	4.1	6.2	9.0	12.0	15.8	18.6	18.6	17.2
4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.7	3.6	5.5	8.6	12.3	16.2	20.1	24.4	27.7	28.4	28.4
5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.8	4.1	6.5	10.0	14.1	18.4	22.7	26.8	31.3	34.7	35.8	36.3
6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.5	3.1	4.3	7.0	10.7	15.0	19.5	24.0	28.4	32.8	37.3	40.6	41.8	42.7
7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.9	4.6	7.2	11.0	15.4	20.0	24.6	29.2	33.7	38.1	42.7	45.7	47.0	48.1
8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	3.2	4.3	7.6	11.0	15.4	20.0	24.7	29.4	34.0	38.5	43.0	47.6	50.4	51.6	52.9
9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.9	4.9	6.9	11.2	15.1	19.7	24.4	29.1	33.8	38.5	43.0	47.5	52.2	54.6	59.3	52.6
10	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.9	4.2	7.3	10.0	15.0	19.1	23.8	28.6	33.3	38.0	42.7	47.2	51.7	56.2	58.4	63.2	55.5
11	2.0	2.0	2.0	2.0	2.1	2.3	2.4	3.6	6.6	9.8	12.7	18.1	23.0	27.7	32.5	37.2	41.9	46.5	51.1	55.5	59.6	61.7	66.7	57.9
12	2.0	2.0	2.0	2.0	2.2	2.7	3.0	3.6	9.2	10.2	16.7	21.5	25.5	30.3	35.0	39.7	44.4	49.0	53.5	57.9	61.8	63.6	69.6	58.8
13	2.0	2.0	2.0	2.0	2.0	2.3	2.6	2.6	5.4	8.2	13.4	16.5	21.8	26.0	30.7	35.4	40.0	44.6	49.1	53.4	56.9	58.5	62.8	52.6
14	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.5	2.5	5.8	6.7	13.0	16.9	20.9	25.5	30.1	34.6	39.1	43.5	47.7	50.9	52.2	54.6	45.1
15	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.4	5.3	6.1	12.0	15.8	19.8	24.1	28.5	32.9	37.1	41.1	44.0	44.8	45.4	36.1
16	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.4	3.5	6.5	9.0	12.3	17.0	21.3	25.3	29.2	32.8	35.3	35.5	34.0	24.2
17	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.5	2.9	2.8	6.6	7.4	12.9	15.4	18.2	20.5	22.3	21.0	16.3	6.1

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	15.80	0.00	0	0.00	0	9.90	13.73	20.91
2	-4.42	20.00	15.00	1504.80	16.63	0.00	0	0.00	0	13.71	15.01	22.57
3	-2.46	30.00	25.00	921.60	24.65	29.73	6300	29.73	0	30.88	23.97	31.87
4	-1.55	40.00	35.00	679.00	33.88	41.66	6300	41.66	0	40.98	33.10	40.81
5	-1.00	50.00	45.00	550.80	41.20	49.91	6300	49.91	0	49.26	40.31	47.92
6	-0.59	60.00	55.00	475.40	47.29	56.36	6300	56.36	0	56.56	46.37	53.93
7	-0.27	70.00	65.00	429.70	52.57	61.86	6300	61.86	0	61.99	51.62	59.20
8	0.02	80.00	75.00	403.20	57.31	66.70	6300	66.70	0	66.76	56.37	63.96
9	0.29	90.00	85.00	391.00	61.97	71.96	8000	72.91	8000	71.41	61.28	68.86
10	0.56	100.00	95.00	391.00	65.78	75.90	8000	76.95	8000	75.29	65.13	72.76
11	0.86	110.00	105.00	403.20	69.16	79.41	8000	80.56	8000	78.70	68.55	76.21
12	1.19	120.00	115.00	429.70	71.66	82.04	8000	83.44	8000	81.20	71.03	78.65
13	1.59	130.00	125.00	475.40	65.60	75.99	8000	77.20	8000	75.31	65.14	73.03
14	2.13	140.00	135.00	550.80	58.47	68.90	6300	69.89	8000	68.85	58.21	66.40
15	2.91	150.00	145.00	679.00	50.61	61.47	5000	62.29	8000	61.82	50.57	59.04
16	4.24	160.00	155.00	921.60	41.15	52.16	5000	52.16	0	52.47	41.33	50.09
17	7.24	170.00	165.00	1504.80	27.84	37.00	5000	37.00	0	38.76	28.25	37.30

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	71.66	82.04		83.44		81.20	71.03	78.65
TIME	1.19	1.19		1.19		1.19	1.19	1.19

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 71.85 EPNDB
SEL = 69.73 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- -02-27-95
JET
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	55.9	56.4	56.5	56.4	55.8	54.9	53.2	50.8	47.1	40.7	33.4	39.3	41.8	40.4	34.6	27.9	27.9	18.2	13.4	3.9	0.0	0.0	0.0	0.0
2	64.7	65.1	65.1	64.3	62.6	58.8	52.2	52.7	58.8	61.0	59.1	52.2	54.3	52.4	50.7	47.5	45.8	42.3	38.7	34.3	30.6	24.5	16.3	5.1
3	68.1	68.0	66.9	64.4	59.1	57.5	64.2	67.3	66.6	60.7	60.6	61.2	58.2	55.9	55.1	53.0	51.0	48.6	45.7	42.3	39.2	34.6	28.5	20.5
4	69.5	68.5	65.8	60.1	61.2	68.5	71.1	69.9	63.5	65.9	64.5	63.2	60.4	59.6	57.5	55.8	53.9	51.7	49.2	46.1	43.3	39.2	34.0	27.3
5	69.7	67.8	62.6	61.7	69.0	73.0	72.6	67.5	67.4	68.1	65.0	63.2	62.2	60.7	59.1	57.5	55.6	53.6	51.1	48.3	45.6	41.8	37.0	31.0
6	69.5	66.3	60.3	67.6	72.9	74.7	71.9	66.4	70.9	65.9	67.6	65.5	63.1	61.7	60.1	58.5	56.7	54.6	52.3	49.5	46.8	43.2	38.7	33.1
7	69.3	64.8	63.6	71.2	75.3	75.5	70.7	70.4	72.0	68.6	67.2	66.3	64.5	63.0	61.4	59.8	58.0	56.0	53.6	50.9	48.2	44.7	40.4	35.0
8	69.2	63.9	66.4	73.5	76.8	76.0	70.1	73.0	72.0	71.2	68.3	67.7	65.6	64.1	62.5	60.8	59.0	57.0	54.6	51.9	49.2	45.7	41.4	36.1
9	69.1	63.7	67.6	74.3	77.3	76.0	70.1	73.8	71.9	71.8	69.0	68.1	66.1	64.6	63.0	61.3	59.5	57.4	55.0	52.2	49.5	45.9	41.6	36.3
10	69.2	63.9	67.3	74.2	77.3	76.3	70.3	73.7	72.2	71.7	68.9	68.1	66.1	64.5	62.9	61.2	59.3	57.1	54.7	51.8	49.0	45.4	41.0	35.7
11	70.3	65.6	66.1	73.6	77.2	76.8	71.3	72.6	72.7	70.6	67.5	66.8	65.3	63.7	62.1	60.3	58.3	56.1	53.5	50.6	47.7	43.9	39.4	33.9
12	72.7	68.8	64.3	72.4	76.8	77.6	73.7	69.7	73.0	67.5	67.9	66.1	63.7	62.1	60.4	58.6	56.5	54.2	51.5	48.4	45.3	41.3	36.6	30.8
13	75.5	72.7	66.3	68.9	74.9	77.1	74.8	67.5	69.6	66.6	65.7	62.3	61.4	59.3	57.7	55.8	53.6	51.1	48.1	44.7	41.4	37.1	31.9	25.6
14	77.1	75.1	70.3	62.9	68.1	72.1	71.6	67.0	59.5	63.0	57.9	59.6	57.6	55.5	53.6	51.5	49.0	46.1	42.8	39.0	35.2	30.4	24.6	17.7
15	75.8	73.9	70.3	64.4	55.3	59.1	61.1	60.4	56.9	51.1	55.7	51.3	52.7	50.3	47.6	44.8	41.9	38.5	34.6	30.2	25.9	20.3	13.7	5.6
16	73.2	71.2	67.7	62.9	56.3	46.0	41.9	47.3	50.5	49.8	44.2	44.4	44.1	40.6	37.3	34.7	31.2	27.1	22.4	17.0	11.9	5.2	0.0	0.0
17	68.5	66.5	63.5	59.7	54.7	48.6	41.8	34.7	26.2	30.8	34.8	35.1	31.0	22.9	25.0	18.0	16.2	10.0	3.7	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	64.52	61.02	200	61.02	0	61.81	50.67	58.59
2	-4.42	20.00	15.00	1504.80	72.73	74.67	400	74.67	0	74.37	62.90	68.07
3	-2.46	30.00	25.00	921.60	76.00	79.52	315	79.52	0	79.41	67.62	72.85
4	-1.55	40.00	35.00	679.00	78.22	82.48	200	82.48	0	82.62	70.40	75.77
5	-1.00	50.00	45.00	550.80	79.67	84.20	200	84.20	0	84.11	71.74	77.36
6	-0.59	60.00	55.00	475.40	80.82	85.08	160	85.08	0	84.98	72.90	78.48
7	-0.27	70.00	65.00	429.70	82.05	86.38	315	86.38	0	86.08	74.03	79.70
8	0.02	80.00	75.00	403.20	83.18	87.41	400	87.41	0	87.12	75.23	80.83
9	0.29	90.00	85.00	391.00	83.59	87.90	400	87.90	0	87.52	75.68	81.23
10	0.56	100.00	95.00	391.00	83.63	87.81	400	87.81	0	87.49	75.66	81.23
11	0.86	110.00	105.00	403.20	83.50	87.39	160	87.39	0	87.06	74.97	80.81
12	1.19	120.00	115.00	429.70	83.56	86.99	160	86.99	0	86.58	74.17	80.37
13	1.59	130.00	125.00	475.40	83.16	85.55	160	85.55	0	85.33	72.23	79.05
14	2.13	140.00	135.00	550.80	81.59	81.55	200	81.55	0	81.59	67.92	75.28
15	2.91	150.00	145.00	679.00	79.09	73.95	63	73.95	0	75.15	61.16	69.75
16	4.24	160.00	155.00	921.60	76.31	67.41	63	67.41	0	69.33	54.18	65.75
17	7.24	170.00	165.00	1504.80	71.79	59.11	80	59.11	0	61.49	47.75	61.23

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	83.63	87.90		87.90		87.52	75.68	81.23
TIME	0.56	0.29		0.29		0.29	0.29	0.29

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 82.28 EPNDB
SEL = 79.85 DB

MAR. 03, 1995.

NASA AST TASK5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
TOTAL
*

SMALL TWIN AIRPLANE MODEL
APPROACH CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	56.8	57.4	57.7	57.8	57.5	57.0	56.0	54.4	51.7	46.6	40.8	48.4	52.7	53.2	49.5	44.6	46.9	42.5	37.8	31.4	28.8	17.0	7.4	6.8
2	66.5	67.2	67.4	67.2	66.0	62.9	57.2	58.8	66.0	69.5	69.0	63.6	67.4	67.1	67.1	65.4	65.8	67.2	63.8	62.5	63.3	58.6	52.9	43.6
3	70.4	70.5	69.8	68.0	63.3	62.4	70.1	74.4	74.8	70.2	71.6	73.7	72.2	71.4	72.1	71.5	71.3	73.5	70.9	70.5	71.8	68.7	65.0	59.0
4	71.7	71.0	68.6	63.5	65.2	73.3	76.8	76.7	71.6	75.3	75.3	75.5	74.2	74.8	74.2	73.8	73.7	75.9	74.0	73.9	75.3	72.8	70.3	65.9
5	71.7	70.1	65.2	64.8	72.7	77.5	77.9	74.1	75.1	77.3	75.5	75.2	75.6	75.4	75.1	74.7	74.6	76.4	75.0	75.2	76.5	74.5	72.5	69.3
6	71.3	68.4	62.6	70.5	76.4	78.9	77.0	72.8	78.5	74.8	78.0	77.1	76.0	75.6	75.1	74.4	74.0	75.1	74.0	74.4	75.7	73.8	72.7	70.5
7	70.9	66.6	65.8	73.8	78.5	79.4	75.5	76.2	79.1	77.0	76.9	77.2	76.6	76.0	75.4	74.5	73.7	74.0	73.1	73.2	74.4	73.5	71.5	70.6
8	70.6	65.6	68.3	75.8	79.7	79.5	74.5	78.5	78.7	79.3	77.5	78.0	77.1	76.6	75.9	74.7	73.5	73.4	72.4	72.4	73.4	72.8	71.6	71.1
9	70.5	65.3	69.5	76.6	80.1	79.5	74.5	79.4	78.7	80.0	78.3	78.5	77.7	77.2	76.4	75.0	73.8	72.1	71.8	72.3	71.9	72.5	72.7	71.7
10	70.5	65.4	69.1	76.4	80.1	79.7	74.8	79.4	79.2	80.3	78.5	78.9	78.1	77.6	76.7	75.0	73.4	71.6	71.7	72.4	72.4	73.5	74.1	73.0
11	71.4	66.9	67.6	75.5	79.7	80.1	75.7	78.5	80.2	79.6	77.7	78.3	78.0	77.4	76.3	74.5	72.8	71.2	71.5	72.3	72.6	73.9	74.8	73.1
12	73.4	69.7	65.4	73.9	78.9	80.5	77.8	75.5	80.6	76.9	78.8	78.4	77.4	76.8	75.7	73.9	72.5	70.9	71.4	72.5	72.8	74.0	75.1	72.3
13	75.9	73.2	67.0	69.9	76.4	79.4	78.5	73.1	77.5	76.7	77.6	75.9	76.4	75.2	74.2	72.5	71.4	69.9	70.4	71.4	71.4	72.4	72.4	69.9
14	77.4	75.5	70.9	63.9	69.8	75.0	76.6	74.7	70.1	75.9	72.4	75.2	74.4	73.3	72.3	70.6	69.3	68.3	68.6	69.0	69.5	69.4	68.8	66.1
15	76.1	74.4	71.2	66.2	58.7	65.2	70.7	73.3	71.9	67.2	72.7	69.4	72.2	71.2	69.9	68.3	66.9	66.2	66.2	65.9	66.0	65.3	63.9	60.4
16	73.5	71.8	69.0	66.1	62.8	57.0	57.0	65.0	69.4	69.7	65.1	66.7	68.1	66.5	65.0	64.2	62.6	61.7	61.2	59.8	59.6	58.1	55.3	50.6
17	68.8	67.2	65.1	63.4	62.3	61.5	60.1	57.0	50.6	56.6	62.2	64.2	62.3	56.6	61.3	56.8	57.7	55.1	53.4	50.4	49.2	45.8	40.5	32.5

NASA AST TASK 5 -- SMALL TWIN AIRPLANE MODEL -- APPROACH -- 02-27-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-13.84	10.00	5.00	4468.60	66.83	69.80	2000	70.92	2000	69.43	59.13	63.95
2	-4.42	20.00	15.00	1504.80	79.36	90.19	2500	91.02	5000	89.37	77.01	83.42
3	-2.46	30.00	25.00	921.60	84.83	96.76	2500	96.83	2500	96.39	83.13	90.19
4	-1.55	40.00	35.00	679.00	87.48	99.60	2500	99.60	0	99.53	85.93	93.16
5	-1.00	50.00	45.00	550.80	88.56	100.62	5000	100.62	0	100.73	86.92	94.21
6	-0.59	60.00	55.00	475.40	88.90	100.35	5000	100.35	0	100.41	86.73	93.59
7	-0.27	70.00	65.00	429.70	89.17	99.96	5000	99.96	0	99.92	86.51	92.98
8	0.02	80.00	75.00	403.20	89.69	99.79	4000	99.79	0	99.74	86.68	92.72
9	0.29	90.00	85.00	391.00	90.07	99.87	4000	99.87	0	99.61	86.94	92.58
10	0.56	100.00	95.00	391.00	90.30	100.08	4000	100.08	0	99.86	87.22	92.78
11	0.86	110.00	105.00	403.20	90.13	99.96	4000	99.96	0	99.76	86.99	92.66
12	1.19	120.00	115.00	429.70	89.88	99.81	4000	99.81	0	99.68	86.70	92.50
13	1.59	130.00	125.00	475.40	88.61	98.50	4000	98.50	0	98.41	85.20	91.11
14	2.13	140.00	135.00	550.80	86.60	96.15	4000	96.15	0	96.21	82.99	88.86
15	2.91	150.00	145.00	679.00	83.89	93.01	3150	93.01	0	92.99	80.16	85.91
16	4.24	160.00	155.00	921.60	80.25	88.04	3150	88.04	0	87.91	75.61	81.03
17	7.24	170.00	165.00	1504.80	75.21	81.05	2000	82.59	1250	81.02	69.45	74.22

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	90.30	100.62		100.62		100.73	87.22	94.21
TIME	0.56	-1.00		-1.00		-1.00	0.56	-1.00

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 97.01 EPNDB
SEL = 93.63 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
INLET
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	20.5	23.2	33.0	28.3	30.7	37.3	37.1	35.8	48.8	43.4	35.6	41.1	43.5	42.0	36.8	29.4	29.4	28.2	12.3	3.2	1.2	1.2	1.2	1.2
2	25.5	28.1	38.7	32.6	33.8	38.5	33.3	33.6	57,6	60.7	58.7	51.8	52.9	51.1	49.6	46.9	45.4	51.4	37.0	30.3	24.0	8.8	1.3	1.2
3	28.5	42.6	32.0	32.3	38.7	31.2	45.2	52.2	66.8	62.0	60.7	61.4	56.7	54.5	54.6	53.2	52.0	59.7	47.2	42.8	39.2	27.5	13.5	1.5
4	30.1	44.7	31.2	28.3	41.7	42.6	53.4	56.1	65.5	68.5	66.0	64.1	59.4	57.9	56.8	56.0	55.4	63.5	52.1	49.0	46.5	37.3	26.1	8.5
5	29.8	43.9	27.6	28.9	49.4	46.8	54.8	53.8	68.9	70.6	65.9	63.7	60.3	57.7	56.8	56.0	55.8	63.9	53.4	50.9	49.3	41.1	32.1	17.6
6	28.3	40.8	23.7	33.5	51.8	47.1	52.6	50.9	71.2	66.4	67.0	63.5	58.8	56.6	55.6	55.1	55.0	63.2	53.2	51.2	49.9	43.7	32.9	21.8
7	25.4	38.9	23.9	34.4	53.6	54.0	43.9	53.5	71.8	67.5	65.6	62.5	57.5	55.0	53.8	53.5	63.2	53.1	52.0	52.3	47.1	43.0	34.3	21.4
8	41.4	17.6	22.0	49.0	38.2	51.7	49.6	59.7	69.1	67.0	63.3	59.8	54.1	51.5	49.9	49.9	59.2	49.5	48.4	48.8	43.6	39.3	31.1	18.5
9	37.1	12.9	18.6	45.5	34.1	47.4	45.2	56.2	64.6	62.7	59.1	54.8	49.3	47.3	46.0	46.2	55.2	45.7	44.6	44.9	39.5	35.0	26.7	14.0
10	33.0	9.0	13.9	41.1	29.5	43.3	41.1	51.9	60.0	58.2	53.8	49.4	44.5	42.6	41.9	42.1	50.7	41.4	40.2	40.2	35.7	28.0	20.9	8.2
11	29.3	6.3	8.2	35.7	24.2	39.2	37.6	46.3	55.9	52.6	48.2	44.0	40.1	38.1	37.4	37.5	45.8	36.5	35.2	34.7	29.7	21.6	13.9	3.3
12	25.6	4.4	3.4	29.0	33.2	22.3	35.1	38.9	51.5	45.5	44.2	39.0	34.7	32.7	32.4	41.8	31.9	30.9	31.4	26.4	22.5	15.0	5.5	1.4
13	3.1	3.0	17.2	3.8	26.0	32.6	38.7	15.5	44.5	41.9	38.8	31.9	29.4	26.9	26.6	35.6	25.7	24.3	24.4	18.8	13.9	5.8	1.7	1.2
14	1.9	2.1	16.4	1.5	15.8	25.0	33.7	13.6	33.6	37.3	29.5	26.8	23.1	20.6	20.0	28.4	18.4	16.5	15.7	9.7	4.2	1.6	1.2	1.2
15	1.4	1.5	14.0	1.5	5.1	13.0	24.9	8.5	31.6	24.6	25.2	16.3	16.0	13.3	12.2	19.4	9.3	7.0	4.5	2.2	1.3	1.2	1.2	1.2
16	1.2	1.3	9.1	1.3	5.5	3.9	7.6	1.9	24.0	21.9	12.7	8.7	6.9	4.0	3.0	5.0	1.8	1.4	1.2	1.2	1.2	1.2	1.2	1.2

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	52.51	56.63	315	56.63	0	55.61	48.94	52.18
2	-9.68	30.00	22.30	4727.00	65.20	71.41	2500	74.81	2500	71.21	62.22	66.87
3	-6.17	40.00	32.30	3356.80	70.64	78.99	2500	82.36	2500	77.64	67.70	73.51
4	-4.12	50.00	42.30	2665.20	73.64	82.95	2500	86.20	2500	81.29	71.14	77.06
5	-2.68	60.00	52.30	2267.00	75.05	83.75	2500	86.85	2500	82.39	72.00	77.97
6	-1.53	70.00	62.30	2025.90	74.79	83.22	2500	86.26	2500	82.02	71.44	77.50
7	-0.52	80.00	72.30	1882.80	74.91	82.05	2000	85.35	2000	81.79	71.13	76.55
8	0.43	90.00	82.30	1810.00	72.83	79.16	315	82.33	2000	78.89	68.60	73.83
9	1.38	100.00	92.30	1795.10	68.50	74.81	2000	77.90	2000	74.55	64.31	69.62
10	2.39	110.00	102.30	1835.80	63.85	70.12	2000	73.10	2000	69.74	59.63	65.03
11	3.54	120.00	112.30	1938.70	59.04	65.17	315	68.10	2000	64.57	54.68	60.14
12	4.92	130.00	122.30	2122.10	54.01	59.80	315	63.02	1600	59.45	49.71	54.68
13	6.72	140.00	132.30	2425.10	48.39	52.75	315	52.75	0	53.32	43.85	48.73
14	9.28	150.00	142.30	2933.10	41.17	44.88	400	44.88	0	45.63	36.73	41.38
15	13.46	160.00	152.30	3858.70	34.26	33.94	315	33.94	0	34.66	29.23	34.07
16	22.02	170.00	162.30	5899.70	26.82	19.34	315	19.34	0	22.67	21.63	26.90

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	75.05	83.75		86.85			
TIME	-2.68	-2.68		-2.68	82.39 -2.68	72.00 -2.68	77.97 -2.68

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 84.49 EPNDB
SEL = 79.99 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
AFTFAN
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	7.0	10.0	13.1	16.1	19.0	21.6	23.5	24.9	25.0	22.0	17.1	25.1	30.0	30.5	26.0	18.8	18.6	8.4	3.8	1.3	1.2	1.2	1.2	1.2
2	12.4	15.7	19.0	21.6	23.3	23.3	20.4	24.0	34.0	39.5	40.7	36.8	40.9	41.3	40.5	38.0	36.3	32.9	27.1	19.8	10.7	2.5	1.2	1.2
3	16.6	19.5	21.8	22.8	21.1	22.6	32.9	40.0	43.2	40.8	43.3	47.2	46.5	46.8	47.6	46.5	45.1	44.2	39.3	34.3	29.0	18.5	5.8	1.3
4	19.6	21.8	22.5	20.2	24.3	35.3	41.6	44.4	41.9	47.2	49.3	50.7	50.8	52.2	52.1	51.5	50.4	50.9	45.3	40.9	38.2	28.6	18.8	4.1
5	24.3	25.5	23.7	25.5	36.4	44.2	47.5	46.5	49.6	54.0	53.6	55.3	57.1	57.7	58.0	57.5	56.5	57.3	51.2	47.1	45.6	36.9	29.4	15.0
6	28.1	28.1	25.2	35.5	44.4	49.8	50.8	49.0	57.1	55.6	60.4	61.3	61.7	62.4	62.6	62.0	60.9	61.4	55.0	51.1	50.2	44.2	34.5	23.5
7	30.9	29.6	30.9	42.0	49.6	53.4	52.5	55.4	60.8	60.4	62.4	64.6	65.4	66.0	66.1	65.5	66.9	61.7	58.1	56.6	51.4	48.0	40.1	28.8
8	32.9	30.7	35.8	46.3	53.0	55.7	53.5	59.9	62.4	64.6	64.8	67.3	67.8	68.5	68.4	67.8	68.6	63.8	60.3	58.8	54.4	50.8	43.4	32.8
9	34.4	32.0	38.5	48.6	54.9	57.2	54.9	62.0	63.5	66.4	66.6	68.9	69.3	69.8	69.7	69.0	69.3	64.7	61.3	59.8	55.8	52.1	44.8	34.3
10	35.3	32.9	38.8	48.9	55.4	57.9	55.5	62.2	64.0	66.7	66.7	69.0	69.4	69.8	69.6	68.8	69.0	64.1	60.9	59.8	56.3	50.9	44.2	33.1
11	35.3	33.4	36.5	47.2	54.2	57.4	55.6	60.1	63.8	64.6	65.0	67.1	68.1	68.5	68.1	67.3	67.5	62.5	59.6	59.0	55.0	48.8	41.8	29.5
12	34.6	33.7	32.0	43.4	51.3	55.9	56.0	55.5	62.4	60.4	64.4	65.6	65.7	65.9	65.6	66.0	62.6	59.6	58.6	53.9	51.2	45.2	36.1	23.1
13	33.0	33.4	30.5	36.4	46.3	52.8	55.0	51.9	58.0	59.1	61.7	61.3	62.8	62.3	61.9	61.8	58.5	55.4	53.7	49.1	45.2	38.4	28.1	13.2
14	30.5	32.0	31.5	28.3	37.8	47.0	51.8	52.2	49.1	56.5	54.8	58.6	58.5	57.8	57.0	56.7	53.4	50.1	47.8	42.4	37.2	28.8	16.2	2.7
15	27.2	29.7	31.1	30.5	27.1	36.9	45.0	49.2	49.3	45.9	52.9	50.4	53.5	52.4	50.9	49.8	45.9	41.9	38.3	31.6	24.2	13.0	2.4	1.2
16	22.0	25.1	27.5	29.2	29.6	26.6	28.5	37.7	43.5	44.9	41.5	43.4	44.9	42.4	40.1	38.4	33.6	27.9	21.6	11.9	3.3	1.3	1.2	1.2

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	36.40	37.62	1000	37.62	0	39.61	34.84	36.66
2	-9.68	30.00	22.30	4727.00	48.99	55.72	2000	55.72	0	56.36	48.19	51.60
3	-6.17	40.00	32.30	3356.80	55.86	65.30	2500	65.30	0	65.34	55.51	60.35
4	-4.12	50.00	42.30	2665.20	60.77	71.43	2500	72.44	2500	70.93	60.61	66.05
5	-2.68	60.00	52.30	2267.00	66.58	77.72	2500	78.87	2500	77.10	66.52	72.17
6	-1.53	70.00	62.30	2025.90	71.29	82.20	2500	83.35	2500	81.80	71.11	76.50
7	-0.52	80.00	72.30	1882.80	74.85	85.74	2000	86.84	2000	85.48	74.70	79.77
8	0.43	90.00	82.30	1810.00	77.23	87.92	2000	88.79	2000	87.70	76.96	81.90
9	1.38	100.00	92.30	1795.10	78.54	88.99	2000	89.07	2000	88.83	78.17	82.95
10	2.39	110.00	102.30	1835.80	78.52	88.83	2000	89.53	2000	88.65	78.06	82.73
11	3.54	120.00	112.30	1938.70	77.05	87.35	2000	88.09	2000	87.20	76.59	81.29
12	4.92	130.00	122.30	2122.10	74.72	84.33	1600	84.33	0	84.60	74.11	78.49
13	6.72	140.00	132.30	2425.10	71.16	80.23	1600	80.23	0	80.43	70.36	74.43
14	9.28	150.00	142.30	2933.10	66.64	75.01	1600	75.01	0	75.25	65.69	69.41
15	13.46	160.00	152.30	3858.70	60.91	67.97	1600	67.97	0	68.15	59.61	62.69
16	22.02	170.00	162.30	5899.70	52.24	56.86	400	56.86	0	57.37	50.19	52.79

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	78.54	88.99		89.53		88.83	78.17	82.95
TIME	1.38	1.38		2.39		1.38	1.38	1.38

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 86.61 EPNDB
SEL = 85.34 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
TURBINE
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDTION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.2	1.2	1.2
3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.6	2.2	2.9	3.9	4.7	5.2	4.9	3.1	1.6	1.2	1.2
4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.7	2.1	3.5	5.1	7.3	9.7	11.8	13.4	14.0	11.6	7.0	1.7	1.2
5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.5	1.7	2.5	4.3	6.7	9.8	13.1	16.2	18.9	21.0	22.0	21.5	15.2	5.3	1.3
6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	1.7	3.4	5.3	7.8	11.3	15.0	18.7	22.1	25.0	27.5	28.5	28.5	21.7	11.1	2.1
7	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	2.2	2.8	5.0	8.6	12.1	16.1	20.0	23.8	27.4	30.5	33.2	33.9	34.2	26.7	16.3	3.9
8	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.9	3.3	5.8	8.1	12.8	16.5	20.6	24.7	28.6	32.2	35.4	38.1	38.6	39.0	30.6	20.2	6.2
9	1.2	1.2	1.2	1.2	1.3	1.5	1.5	3.1	5.1	9.2	12.0	16.9	20.7	24.9	29.0	32.9	36.5	39.7	42.4	42.5	42.8	33.5	22.8	9.4
10	1.2	1.2	1.2	1.2	1.5	2.0	1.9	4.9	8.0	12.8	15.6	20.8	24.6	28.9	32.9	36.8	40.4	43.6	45.8	49.0	42.7	35.3	25.4	8.8
11	1.2	1.2	1.2	1.3	1.7	2.7	2.7	5.9	11.0	14.4	17.6	22.7	27.2	31.4	35.4	39.2	42.7	45.8	47.5	51.3	43.1	35.2	25.5	7.5
12	1.2	1.2	1.2	1.2	1.4	1.9	2.2	2.7	8.1	8.8	15.0	19.3	22.8	27.0	30.9	34.6	38.0	40.9	42.0	44.2	36.0	27.4	16.2	2.4
13	1.2	1.2	1.2	1.2	1.2	1.4	1.7	1.7	3.9	6.3	10.7	13.3	18.0	21.5	25.3	28.8	31.9	34.5	34.9	35.5	27.0	17.5	4.9	1.3
14	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.6	1.5	3.8	4.4	9.3	12.3	15.4	18.7	21.9	24.6	26.7	26.2	25.0	15.8	6.1	1.4	1.2
15	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	2.8	3.1	6.6	8.8	11.1	13.2	15.2	16.3	14.5	11.0	3.6	1.3	1.2	1.2
16	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.5	2.1	2.4	2.8	3.4	3.7	3.3	2.1	1.3	1.2	1.2	1.2	1.2

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	15.00	0.00	0	0.00	0	8.49	12.93	20.11
2	-9.68	30.00	22.30	4727.00	15.06	0.00	0	0.00	0	8.67	13.05	20.24
3	-6.17	40.00	32.30	3356.80	16.04	8.68	3150	8.68	0	14.29	14.85	22.77
4	-4.12	50.00	42.30	2665.20	20.87	27.48	4000	27.48	0	29.12	21.24	30.28
5	-2.68	60.00	52.30	2267.00	28.04	38.05	4000	38.05	0	38.89	28.84	38.17
6	-1.53	70.00	62.30	2025.90	34.42	45.92	4000	45.92	0	47.03	35.28	44.68
7	-0.52	80.00	72.30	1882.80	39.90	51.80	4000	51.80	0	52.87	40.79	50.22
8	0.43	90.00	82.30	1810.00	44.66	56.90	4000	58.36	5000	57.73	45.57	55.01
9	1.38	100.00	92.30	1795.10	48.68	61.02	4000	62.62	5000	61.88	49.61	59.06
10	2.39	110.00	102.30	1835.80	52.59	66.17	4000	67.75	4000	65.81	53.61	63.22
11	3.54	120.00	112.30	1938.70	54.56	68.28	4000	70.28	4000	67.73	55.60	65.22
12	4.92	130.00	122.30	2122.10	48.47	61.55	4000	63.29	4000	61.35	49.53	59.00
13	6.72	140.00	132.30	2425.10	41.11	53.25	4000	53.25	0	53.22	42.19	51.44
14	9.28	150.00	142.30	2933.10	32.65	42.92	3150	42.92	0	43.66	33.70	42.59
15	13.46	160.00	152.30	3858.70	22.70	28.81	2500	28.81	0	29.03	23.34	31.45
16	22.02	170.00	162.30	5899.70	15.58	0.00	0	0.00	0	9.11	13.99	21.05

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	54.56	68.28		70.28		67.73	55.60	65.22
TIME	3.54	3.54		3.54		3.54	3.54	3.54

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 63.79 EPNDB
SEL = 59.71 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
CORE
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
CORE

	FREQUENCY (HZ)																								
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	17.1	19.8	22.4	24.9	27.3	29.5	31.2	32.4	31.8	28.0	21.9	27.6	29.2	26.0	17.2	5.6	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	23.7	26.4	28.8	30.8	32.1	31.6	28.5	31.9	41.2	45.8	45.9	39.4	40.1	36.8	31.7	24.8	19.0	10.8	1.8	0.0	0.0	0.0	0.0	0.0
3	28.2	30.2	31.7	32.0	29.8	30.9	41.1	47.9	50.3	47.1	48.4	49.6	45.3	41.9	38.3	32.9	27.3	21.0	13.7	5.2	0.0	0.0	0.0	0.0
4	31.1	32.4	32.2	29.3	33.0	43.6	49.8	52.3	48.9	53.4	54.2	52.6	49.1	46.9	42.2	37.5	32.5	26.8	20.5	13.1	4.5	0.0	0.0	0.0
5	33.0	33.4	30.8	32.1	42.5	50.0	53.1	51.8	53.9	57.4	55.5	54.0	52.2	49.1	45.0	40.6	35.8	30.6	24.7	18.1	10.3	0.9	0.0	0.0
6	34.6	33.7	30.1	39.9	48.3	53.4	54.3	52.0	59.2	56.7	59.6	57.2	54.1	50.9	46.9	42.7	38.1	33.1	27.6	21.3	14.1	5.4	0.0	0.0
7	35.8	33.6	34.3	44.8	52.0	55.6	54.5	56.8	61.3	59.7	59.5	58.3	55.5	52.2	48.2	44.1	39.6	34.8	29.4	23.4	16.5	8.2	0.0	0.0
8	37.0	34.0	38.5	48.4	54.7	57.3	54.9	60.4	62.1	63.1	60.6	59.6	56.6	53.0	49.1	45.0	40.6	35.8	30.6	24.7	17.9	9.8	0.0	0.0
9	38.4	35.2	41.2	50.7	56.7	58.8	56.3	62.5	63.1	64.6	61.8	60.5	57.3	53.6	49.7	45.6	41.2	36.4	31.2	25.3	18.6	10.6	0.0	0.0
10	40.2	37.1	42.4	52.1	58.3	60.5	57.8	63.6	64.5	65.5	62.3	61.0	57.6	53.9	49.9	45.8	41.4	36.6	31.3	25.3	18.5	10.4	0.0	0.0
11	41.2	38.7	41.2	51.5	58.2	61.2	58.9	62.5	65.2	64.0	61.1	59.6	56.7	52.9	48.9	44.7	40.2	35.3	29.9	23.8	16.7	8.3	0.0	0.0
12	39.9	38.4	36.2	47.2	54.8	59.2	58.6	57.2	63.1	58.8	59.4	57.0	52.9	49.1	45.1	40.7	36.1	31.0	25.3	18.9	11.5	2.5	0.0	0.0
13	37.3	37.1	33.7	39.2	48.9	55.2	56.6	52.6	57.6	56.1	55.2	51.2	48.4	43.9	39.7	35.2	30.4	25.0	18.9	12.0	3.9	0.0	0.0	0.0
14	33.8	34.8	33.7	30.2	39.5	48.4	52.3	51.9	47.6	52.2	46.8	47.0	42.5	37.8	33.2	28.4	23.1	17.2	10.5	2.7	0.0	0.0	0.0	0.0
15	29.2	31.1	32.0	31.2	27.5	37.1	44.3	47.6	46.5	40.1	43.4	37.3	35.9	30.8	25.4	19.8	13.8	7.0	0.0	0.0	0.0	0.0	0.0	0.0
16	23.1	25.6	27.6	28.9	29.1	25.8	26.8	35.1	39.5	37.9	30.9	29.0	25.9	19.4	13.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	39.67	37.28	315	37.28	0	37.92	34.06	37.95
2	-9.68	30.00	22.30	4727.00	50.92	53.99	500	53.99	0	54.76	47.45	50.42
3	-6.17	40.00	32.30	3356.80	56.62	59.84	630	59.84	0	60.28	52.94	56.02
4	-4.12	50.00	42.30	2665.20	60.76	64.75	500	64.75	0	65.11	57.09	60.15
5	-2.68	60.00	52.30	2267.00	63.38	67.96	400	67.96	0	67.98	59.48	62.73
6	-1.53	70.00	62.30	2025.90	65.94	70.42	500	70.42	0	70.42	62.03	65.26
7	-0.52	80.00	72.30	1882.80	67.63	71.60	400	71.60	0	71.94	63.35	66.86
8	0.43	90.00	82.30	1810.00	69.46	73.93	400	73.93	0	73.78	64.93	68.63
9	1.38	100.00	92.30	1795.10	70.81	75.29	400	75.29	0	75.01	66.06	69.90
10	2.39	110.00	102.30	1835.80	71.82	76.14	400	76.14	0	75.84	66.78	70.81
11	3.54	120.00	112.30	1938.70	71.31	75.07	400	75.07	0	74.86	65.89	70.17
12	4.92	130.00	122.30	2122.10	68.42	71.99	315	71.99	0	71.40	62.83	67.18
13	6.72	140.00	132.30	2425.10	64.19	66.84	400	66.84	0	67.00	58.34	62.86
14	9.28	150.00	142.30	2933.10	58.81	61.38	400	61.38	0	61.23	52.69	57.40
15	13.46	160.00	152.30	3858.70	52.62	53.38	315	53.38	0	53.67	46.29	51.30
16	22.02	170.00	162.30	5899.70	43.88	43.38	400	43.38	0	43.93	37.83	42.68

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	71.82	76.14		76.14		75.84	66.78	70.81
TIME	2.39	2.39		2.39		2.39	2.39	2.39

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 73.15 EPNDB
SEL = 74.23 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
JET
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	59.5	60.1	60.3	60.1	59.6	58.6	56.9	54.5	50.7	44.2	35.8	40.6	42.3	39.7	32.2	22.2	19.2	5.2	0.0	0.0	0.0	0.0	0.0	0.0
2	64.0	64.5	64.5	63.8	62.2	58.5	52.0	51.8	57.9	60.0	57.8	50.5	51.4	48.7	44.9	39.7	35.3	28.3	20.3	10.1	0.0	0.0	0.0	0.0
3	66.3	66.1	65.2	62.9	57.8	55.7	62.5	65.7	65.1	59.3	58.4	59.0	54.9	52.2	50.1	46.2	42.0	36.9	30.6	22.7	12.9	0.2	0.0	0.0
4	67.0	66.2	63.6	58.1	58.8	66.3	69.0	67.9	61.7	63.7	62.4	60.5	57.3	55.8	52.7	49.6	45.9	41.4	36.0	29.2	20.9	10.2	0.0	0.0
5	66.9	65.1	60.1	58.7	66.2	70.5	70.2	65.4	64.8	65.9	62.2	60.6	59.2	56.9	54.4	51.5	48.1	44.0	39.0	32.9	25.4	15.8	2.5	0.0
6	67.6	64.6	58.6	65.7	71.2	73.2	70.6	65.0	69.6	64.8	66.4	64.0	61.4	59.2	56.8	54.0	50.8	46.8	42.1	36.4	29.3	20.4	8.1	0.0
7	68.0	63.7	62.0	69.9	74.2	74.6	70.1	69.3	71.3	67.6	66.4	65.3	63.1	61.0	58.6	55.8	52.6	48.7	44.1	38.6	31.8	23.2	11.5	0.0
8	68.0	63.0	65.1	72.4	75.8	75.2	69.4	72.0	71.3	70.2	67.2	66.4	64.0	61.9	59.6	56.8	53.5	49.7	45.1	39.5	32.8	24.4	12.9	0.0
9	68.5	63.2	66.9	73.7	76.8	75.7	69.7	73.1	71.4	70.9	67.9	66.8	64.3	62.2	59.7	56.9	53.6	49.6	44.9	39.3	32.5	24.0	12.4	0.0
10	70.1	64.8	67.7	74.6	77.7	76.6	70.4	73.4	71.7	70.9	67.5	66.4	63.8	61.6	59.0	56.1	52.6	48.5	43.6	37.7	30.7	21.9	10.0	0.0
11	73.0	68.0	67.8	75.0	78.4	77.7	71.7	72.2	72.0	69.0	65.7	64.4	62.4	60.0	57.4	54.2	50.5	46.1	40.8	34.6	27.0	17.6	5.0	0.0
12	76.2	71.8	66.2	73.6	77.3	77.4	72.7	67.7	70.4	64.4	64.7	62.6	59.7	57.3	54.4	50.9	46.7	41.8	36.0	29.1	20.7	10.5	0.0	0.0
13	77.4	73.5	65.8	67.0	71.9	73.0	69.8	62.1	64.2	62.0	61.3	57.8	56.2	52.8	49.4	45.3	40.6	34.9	28.3	20.4	10.9	0.0	0.0	0.0
14	75.5	72.0	65.7	57.0	61.0	64.8	65.0	61.7	55.1	59.0	53.5	53.8	50.1	45.9	41.6	36.7	31.0	24.3	16.4	7.0	0.0	0.0	0.0	0.0
15	72.4	68.9	63.8	57.1	48.3	53.4	57.3	57.6	53.7	46.2	48.7	42.0	40.8	35.5	29.7	23.4	16.2	7.9	0.0	0.0	0.0	0.0	0.0	0.0
16	68.2	65.1	60.7	55.4	49.3	40.8	38.0	43.0	44.1	40.7	32.1	28.8	25.0	17.5	9.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
JET

MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	68.20	63.98	200	64.07	1000	64.61	53.53	62.13
2	-9.68	30.00	22.30	4727.00	71.99	71.79	400	71.79	0	71.62	60.90	66.54
3	-6.17	40.00	32.30	3356.80	74.20	75.87	315	75.87	0	75.93	65.05	70.39
4	-4.12	50.00	42.30	2665.20	75.93	78.39	200	78.39	0	78.78	67.51	72.89
5	-2.68	60.00	52.30	2267.00	77.06	79.89	200	79.89	0	79.97	68.61	74.17
6	-1.53	70.00	62.30	2025.90	79.24	82.02	315	82.02	0	82.06	70.97	76.40
7	-0.52	80.00	72.30	1882.80	80.99	83.88	315	83.88	0	83.71	72.53	78.09
8	0.43	90.00	82.30	1810.00	82.15	84.80	400	84.80	0	84.73	73.64	79.20
9	1.38	100.00	92.30	1795.10	82.91	85.42	250	85.42	0	85.28	74.15	79.82
10	2.39	110.00	102.30	1835.80	83.58	85.67	160	85.67	0	85.61	74.14	80.17
11	3.54	120.00	112.30	1938.70	84.11	85.65	160	85.65	0	85.53	73.35	80.12
12	4.92	130.00	122.30	2122.10	83.76	84.38	160	84.38	0	84.27	71.56	78.94
13	6.72	140.00	132.30	2425.10	81.45	79.88	160	79.88	0	79.73	67.26	74.94
14	9.28	150.00	142.30	2933.10	78.21	73.42	200	73.42	0	74.05	61.68	69.83
15	13.46	160.00	152.30	3858.70	74.75	66.08	250	66.08	0	67.32	54.99	64.88
16	22.02	170.00	162.30	5899.70	70.62	56.73	63	56.73	0	59.72	46.23	59.56

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	84.11	85.67		85.67		85.61	74.15	80.17
TIME	3.54	2.39		2.39		2.39	1.38	2.39

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 84.52 EPNDB
SEL = 82.83 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
AIRFRAME
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	47.9	50.7	50.8	52.3	52.7	53.5	50.3	48.8	45.8	40.4	33.4	37.7	39.8	40.1	34.1	23.5	22.6	10.5	0.0	0.0	0.0	0.0	0.0	0.0
2	52.9	55.4	55.6	57.5	57.1	54.5	48.5	48.1	54.9	58.3	57.1	49.8	51.2	50.1	47.3	42.5	40.0	35.0	25.8	16.4	9.6	0.0	0.0	0.0
3	55.9	57.4	58.4	56.6	52.9	52.1	60.3	63.5	64.0	59.0	58.4	59.5	56.1	55.5	53.9	51.4	47.2	45.4	38.1	31.1	25.7	14.6	0.0	0.0
4	57.1	57.7	57.1	51.8	54.8	63.5	67.5	65.9	60.2	63.8	62.6	60.3	57.4	57.4	54.7	53.1	50.8	48.9	44.2	36.1	31.4	22.0	8.2	0.0
5	57.4	56.0	53.4	52.4	62.2	67.5	69.4	63.2	63.7	65.6	62.9	60.1	59.2	57.7	56.1	54.2	52.5	49.8	45.4	39.1	34.8	26.4	14.1	0.0
6	56.7	54.9	50.2	58.4	66.0	68.8	68.2	61.4	67.7	63.2	64.8	61.2	59.2	57.7	56.1	53.9	53.9	50.7	45.5	40.4	36.6	27.9	18.0	2.1
7	56.1	52.5	51.5	60.2	67.4	69.3	65.2	64.6	68.6	64.1	62.4	61.2	59.3	58.0	56.5	55.4	55.2	52.2	46.2	41.7	37.7	29.4	19.5	5.0
8	54.4	50.3	53.6	62.1	67.7	68.9	62.6	66.4	66.4	65.6	61.3	60.7	58.0	57.2	55.1	56.2	56.6	52.7	45.2	41.1	37.6	29.1	20.1	5.6
9	53.4	49.4	54.6	62.9	67.4	67.8	61.5	67.4	65.5	65.1	61.0	60.2	57.3	56.6	54.3	58.1	58.8	52.7	44.5	40.5	36.5	28.5	19.3	5.3
10	53.4	48.7	53.9	61.8	66.8	67.1	60.8	65.2	65.2	65.0	60.0	59.1	55.8	55.4	53.6	57.3	57.7	54.2	43.7	39.3	35.4	28.1	17.5	3.3
11	53.4	49.8	51.6	59.6	64.5	66.2	60.8	62.8	64.6	62.1	57.8	56.7	55.1	54.3	52.4	55.2	53.7	47.0	42.4	37.7	33.7	26.1	15.1	0.3
12	53.0	50.4	47.4	56.4	61.8	65.0	62.2	58.4	62.8	57.6	58.4	55.3	53.4	52.5	51.5	55.7	51.8	43.2	39.7	34.8	30.6	22.6	10.9	0.0
13	52.2	51.0	47.2	50.2	57.5	62.0	61.5	55.1	59.0	57.2	56.6	52.3	51.3	50.6	49.9	51.2	47.0	40.9	36.5	31.2	26.7	18.0	5.1	0.0
14	50.8	51.2	48.2	42.6	48.1	55.9	58.1	56.1	49.8	55.1	51.0	51.1	49.0	47.2	47.3	45.2	44.6	38.1	30.9	24.7	19.7	9.7	0.0	0.0
15	47.4	49.7	48.1	45.3	37.6	45.0	50.6	52.8	50.8	44.5	49.9	44.5	45.9	43.4	42.2	38.7	37.9	31.5	22.7	14.9	9.0	0.0	0.0	0.0
16	43.3	46.3	45.1	44.8	40.6	34.4	33.4	40.6	44.6	44.5	39.9	39.3	39.1	35.1	32.1	27.5	25.7	18.4	6.6	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	60.58	58.09	160	59.14	1000	58.48	48.78	55.88
2	-9.68	30.00	22.30	4727.00	66.35	69.85	400	69.85	0	69.71	59.84	63.86
3	-6.17	40.00	32.30	3356.80	70.75	75.50	315	75.72	2500	75.06	65.33	69.60
4	-4.12	50.00	42.30	2665.20	73.42	77.90	200	77.90	0	78.13	67.49	72.26
5	-2.68	60.00	52.30	2267.00	74.88	79.54	200	79.54	0	79.48	68.52	73.55
6	-1.53	70.00	62.30	2025.90	75.56	80.10	315	80.10	0	79.88	69.07	74.15
7	-0.52	80.00	72.30	1882.80	75.76	80.74	315	80.74	0	80.08	69.22	74.49
8	0.43	90.00	82.30	1810.00	75.46	80.13	400	80.13	0	79.63	68.87	74.30
9	1.38	100.00	92.30	1795.10	75.18	80.42	2000	81.73	2000	80.21	68.91	74.43
10	2.39	110.00	102.30	1835.80	74.34	79.53	2000	80.09	2500	79.45	68.12	73.77
11	3.54	120.00	112.30	1938.70	72.66	77.17	315	77.33	2000	76.87	65.97	71.37
12	4.93	130.00	122.30	2122.10	70.95	75.41	1600	76.76	1600	75.55	64.49	69.70
13	6.72	140.00	132.30	2425.10	68.34	72.03	315	72.87	1600	72.27	61.82	66.89
14	9.28	150.00	142.30	2933.10	64.43	68.40	400	68.71	2000	68.23	58.27	63.07
15	13.46	160.00	152.30	3858.70	59.81	62.81	500	63.06	2000	62.79	53.65	58.05
16	22.02	170.00	162.30	5899.70	53.87	54.80	400	54.80	0	55.01	46.21	50.50

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	75.76	80.74		81.73		80.21	69.22	74.49
TIME	-0.52	-0.52		1.38		1.38	-0.52	-0.52

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 80.33 EPNDB
SEL = 79.17 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
TOTAL
*

MEDIUM TWIN AIRPLANE MODEL
CUTBACK CONDITION
TOTAL

SPECTRUM	FREQUENCY (HZ)																							
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	59.8	60.6	60.8	60.8	60.4	59.8	57.8	55.6	53.7	47.8	39.9	44.9	47.1	45.7	39.8	31.3	30.8	28.3	13.4	6.8	6.0	6.0	6.0	6.0
2	64.3	65.0	65.0	64.7	63.4	60.0	53.7	53.4	61.8	64.6	62.8	55.7	56.9	55.1	52.8	49.2	47.2	51.6	37.8	30.9	24.4	10.4	6.0	6.0
3	66.7	66.7	66.0	63.8	59.1	57.3	64.6	67.9	70.3	65.2	64.2	65.1	61.0	59.4	58.5	56.4	54.1	60.0	48.4	43.7	39.8	28.2	14.5	6.1
4	67.4	66.8	64.5	59.0	60.3	68.2	71.4	70.3	67.9	70.8	69.0	67.0	63.3	62.5	60.6	59.2	57.9	63.9	53.6	49.9	47.2	38.0	26.9	10.4
5	67.4	65.6	60.9	59.6	67.7	72.3	73.0	67.8	71.3	73.0	69.1	67.1	65.3	63.7	62.6	61.4	60.3	64.9	56.0	52.7	51.0	42.6	34.0	19.6
6	67.9	65.1	59.2	66.5	72.4	74.6	72.7	66.9	74.7	70.1	71.6	69.0	66.7	65.7	64.9	63.8	62.8	65.6	57.6	54.4	53.2	47.0	36.9	25.8
7	68.3	64.0	62.4	70.4	75.1	75.8	71.5	71.0	75.8	72.0	70.9	70.0	68.6	68.0	67.4	66.6	68.8	62.9	59.4	58.1	53.0	49.3	41.2	29.6
8	68.2	63.2	65.4	72.8	76.5	76.2	70.5	73.7	74.7	73.8	71.1	71.1	69.9	69.8	69.2	68.5	69.4	64.4	60.8	59.4	55.0	51.2	43.7	33.0
9	68.6	63.4	67.2	74.1	77.3	76.5	70.6	74.7	73.9	73.9	71.6	71.8	70.9	70.8	70.3	69.6	69.9	65.2	61.6	60.1	56.2	52.3	44.9	34.4
10	70.2	64.9	67.9	74.9	78.1	77.2	71.2	74.7	73.9	73.9	71.2	71.6	70.8	70.6	70.1	69.3	69.5	64.7	61.2	60.3	56.6	51.1	44.3	33.1
11	73.1	68.1	67.9	75.2	78.6	78.1	72.3	73.3	74.0	71.8	69.5	69.7	69.5	69.3	68.6	67.8	67.8	62.8	60.0	59.7	55.3	49.0	41.9	29.5
12	76.2	71.8	66.3	73.7	77.5	77.7	73.3	68.7	72.3	67.2	68.6	68.0	67.0	66.7	66.1	66.5	63.1	59.8	58.8	54.4	51.4	45.3	36.2	23.2
13	77.4	73.5	65.9	67.1	72.1	73.4	70.7	63.6	66.7	65.2	65.6	63.5	64.0	63.1	62.4	62.3	58.9	55.6	53.9	49.4	45.3	38.5	28.2	13.7
14	75.5	72.0	65.8	57.2	61.3	65.5	66.2	63.4	57.5	62.4	58.5	60.6	59.6	58.5	57.6	57.1	54.0	50.4	47.9	42.6	37.3	28.9	16.5	6.5
15	72.4	69.0	63.9	57.4	48.7	54.2	58.5	59.6	56.9	50.8	55.9	52.0	54.5	53.0	51.5	50.1	46.6	42.3	38.4	31.7	24.4	13.6	6.4	6.0
16	68.2	65.2	60.8	55.8	49.9	41.9	39.9	46.1	49.4	48.9	44.3	45.0	46.0	43.2	40.8	38.7	34.3	28.4	21.8	12.7	6.8	6.0	6.0	6.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- CUTBACK -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-18.25	20.00	12.30	8419.90	69.00	66.60	200	67.98	2500	67.12	55.85	63.42
2	-9.68	30.00	22.30	4727.00	73.74	77.20	400	80.24	2500	76.88	66.00	70.81
3	-6.17	40.00	32.30	3356.80	77.04	82.83	2500	85.75	2500	81.83	71.16	76.43
4	-4.12	50.00	42.30	2665.20	79.38	86.45	2500	89.17	2500	85.21	74.13	79.64
5	-2.68	60.00	52.30	2267.00	80.80	87.97	2500	90.22	2500	86.93	75.51	81.13
6	-1.53	70.00	62.30	2025.90	82.24	89.33	2500	91.13	2500	88.50	76.91	82.40
7	-0.52	80.00	72.30	1882.80	83.63	90.88	2000	92.25	2000	90.47	78.51	83.76
8	0.43	90.00	82.30	1810.00	84.47	91.92	2000	92.89	2000	91.60	79.58	84.73
9	1.38	100.00	92.30	1795.10	85.04	92.57	2000	92.68	2000	92.30	80.26	85.32
10	2.39	110.00	102.30	1835.80	85.37	92.44	2000	92.55	2000	92.19	80.10	85.22
11	3.54	120.00	112.30	1938.70	85.33	91.34	2000	91.45	2000	91.11	78.79	84.25
12	4.92	130.00	122.30	2122.10	84.58	88.97	160	88.97	0	89.01	76.53	82.16
13	6.72	140.00	132.30	2425.10	82.10	84.77	160	84.77	0	85.08	72.66	78.19
14	9.28	150.00	142.30	2933.10	78.72	79.34	1600	79.34	0	79.78	67.81	73.22
15	13.46	160.00	152.30	3858.70	75.08	72.67	250	72.67	0	72.95	61.78	67.57
16	22.02	170.00	162.30	5899.70	70.78	63.59	400	63.59	0	64.79	52.89	60.88

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	85.37	92.57		92.89		92.30	80.26	85.32
TIME	2.39	1.38		0.43		1.38	1.38	1.38

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 92.01 EPNDB
SEL = 88.68 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
INLET
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MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
INLET

SPECTRUM	FREQUENCY (HZ)																							
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	26.1	29.0	55.5	34.5	37.1	63.8	65.0	64.0	62.6	60.0	55.2	47.1	53.1	56.2	55.3	51.5	45.1	47.7	47.0	37.3	28.4	18.1	3.8	2.6
2	29.1	31.8	58.8	37.1	39.4	65.9	65.6	61.8	54.9	60.6	65.5	66.3	63.7	56.2	58.9	54.9	56.4	53.7	57.4	46.6	40.9	34.5	20.3	4.0
3	31.2	33.8	61.1	38.5	39.8	64.8	60.8	60.8	68.1	71.6	70.6	64.1	66.3	64.0	60.3	58.6	58.2	56.8	61.4	52.0	47.7	42.8	31.4	13.7
4	31.8	34.3	61.5	37.7	37.7	59.7	63.3	70.2	73.4	72.7	66.5	68.8	67.4	64.4	59.9	59.9	58.5	64.8	56.2	53.7	51.8	45.1	36.3	21.6
5	31.1	62.7	34.7	35.2	63.1	33.7	69.9	74.0	74.5	69.9	69.0	70.8	66.5	62.6	60.3	58.7	57.8	63.9	55.9	53.7	52.2	46.0	38.0	25.0
6	28.9	62.7	31.9	31.3	60.1	36.5	73.2	75.4	73.8	67.8	72.1	68.6	68.3	62.1	59.0	57.4	56.4	62.1	54.4	52.4	51.1	45.1	37.3	25.3
7	24.6	60.4	26.9	25.2	58.0	34.9	72.7	73.7	70.5	67.8	70.5	66.1	64.5	58.8	55.5	54.1	53.0	58.1	50.7	48.6	47.4	42.2	32.6	21.9
8	19.9	55.9	21.7	19.4	55.2	31.5	69.1	69.3	64.9	65.1	65.7	62.6	58.3	53.3	51.0	49.8	55.2	48.0	46.4	46.0	41.7	37.4	28.4	16.0
9	52.6	16.4	16.5	52.2	16.0	26.8	64.5	64.5	59.6	60.5	60.6	57.6	52.0	47.8	46.0	44.7	50.0	42.8	41.2	40.6	36.0	31.2	22.0	9.5
10	47.5	11.4	11.6	47.6	10.1	20.7	59.2	59.5	55.0	54.5	55.7	51.3	46.3	42.8	40.7	39.3	44.3	36.9	35.1	34.3	29.3	23.8	13.8	4.2
11	42.3	7.2	7.6	43.7	5.4	13.8	53.0	54.2	50.9	46.8	50.5	44.1	40.7	37.2	34.6	33.1	37.8	30.3	28.3	27.0	21.4	14.8	5.8	2.7
12	36.9	4.4	4.7	40.0	3.6	6.4	45.7	48.2	46.5	39.4	43.6	39.0	34.6	30.0	28.5	26.2	30.5	22.8	20.3	18.2	12.2	5.7	2.8	2.6
13	31.1	3.1	3.3	36.0	3.1	3.0	36.3	40.6	41.1	36.2	33.1	34.2	24.2	22.8	21.0	18.2	21.8	13.8	10.8	7.4	4.1	2.7	2.6	2.6
14	24.2	2.7	2.8	30.7	2.8	2.7	22.0	29.1	32.5	31.2	26.1	22.5	17.9	12.7	10.7	8.7	9.9	4.6	3.3	2.8	2.6	2.6	2.6	2.6
15	15.0	2.6	2.6	22.3	2.6	2.6	15.6	9.5	14.6	17.6	17.4	10.8	4.0	4.1	2.8	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	71.10	75.00	250	76.18	3150	76.07	64.75	70.21
2	-5.77	40.00	35.10	3172.20	73.84	80.97	3150	83.39	3150	80.82	70.38	75.00
3	-3.86	50.00	45.20	2568.90	77.25	84.79	3150	87.13	3150	84.85	74.08	78.83
4	-2.47	60.00	55.30	2217.20	79.15	86.75	2500	89.23	2500	85.78	75.49	80.67
5	-1.34	70.00	65.30	2005.00	80.36	86.76	2500	89.11	2500	86.45	75.81	81.00
6	-0.32	80.00	75.40	1882.90	80.95	86.44	250	88.67	2500	86.60	75.86	80.87
7	0.65	90.00	85.50	1827.90	79.12	84.09	250	86.17	2500	84.28	73.53	78.58
8	1.65	100.00	95.50	1830.70	74.89	79.55	250	81.65	2000	79.87	69.16	74.23
9	2.74	110.00	105.60	1891.80	70.08	74.28	250	76.36	2000	74.69	64.12	69.28
10	3.99	120.00	115.70	2021.60	64.86	68.61	250	70.68	2000	69.04	58.74	63.96
11	5.54	130.00	125.80	2245.30	59.26	62.48	250	64.51	2000	62.74	52.97	58.22
12	7.62	140.00	135.90	2617.20	53.20	55.49	315	55.49	0	56.03	46.79	52.03
13	10.77	150.00	146.10	3263.80	46.40	47.73	315	47.73	0	47.93	39.89	45.08
14	16.46	160.00	156.40	4555.90	37.94	35.30	400	35.30	0	37.86	31.45	36.44
15	32.75	170.00	167.60	8505.70	26.34	11.57	400	11.57	0	18.36	19.58	25.22

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	80.95	86.76		89.23		86.60	75.86	81.00
TIME	-0.32	-1.34		-2.47		-0.32	-0.32	-1.34

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 86.56 EPNDB
SEL = 83.53 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
AFTFAN
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	17.3	21.0	24.7	28.1	31.3	34.3	37.0	39.2	40.9	41.1	38.9	33.8	42.0	47.7	49.6	46.4	40.0	42.5	35.4	31.1	21.7	9.8	2.8	2.6
2	21.6	25.3	28.8	32.2	35.0	37.3	38.4	37.8	34.0	42.4	50.0	53.9	53.5	49.2	55.1	51.6	53.3	50.5	48.6	42.3	36.0	28.5	14.4	3.2
3	25.2	28.7	32.1	34.9	36.8	37.1	34.4	37.7	48.0	54.2	55.9	52.6	56.9	58.5	58.3	57.3	56.9	55.3	55.3	48.4	43.0	38.4	26.6	10.5
4	30.6	34.1	36.9	38.9	39.4	36.4	41.3	51.3	57.6	59.5	56.2	61.5	62.8	64.3	63.3	64.1	62.8	64.4	58.5	54.4	52.4	43.6	36.2	22.1
5	35.4	38.3	40.7	41.8	40.3	41.2	51.8	59.1	62.5	60.7	62.8	67.4	66.4	67.6	68.8	68.1	67.2	68.6	62.5	58.3	56.5	48.5	42.1	29.5
6	38.9	41.7	43.5	43.5	40.6	49.6	58.4	63.7	64.9	61.7	69.2	68.3	71.9	71.9	72.2	71.5	70.6	71.9	65.6	61.4	59.0	52.6	46.1	34.5
7	41.4	44.0	45.3	44.2	43.0	54.7	62.3	66.4	66.0	66.1	72.1	70.1	73.2	74.5	74.1	73.8	72.9	75.0	67.5	63.5	61.7	56.5	48.2	37.8
8	42.9	45.4	46.2	44.5	46.0	57.4	64.4	67.7	66.0	69.1	72.9	72.5	73.4	75.2	75.2	74.7	75.8	71.5	68.1	65.5	60.6	57.0	49.4	37.9
9	43.1	45.4	46.1	44.2	46.6	57.8	64.5	67.5	65.3	69.3	72.4	72.6	72.8	74.4	74.6	74.0	74.3	70.4	66.9	64.5	59.6	55.7	47.7	35.8
10	41.8	44.2	45.0	43.4	44.2	55.8	62.8	66.1	64.3	66.9	71.0	70.1	71.3	72.7	72.5	71.9	71.7	68.0	64.5	62.2	57.1	52.7	44.0	31.1
11	39.5	42.1	43.3	42.3	40.4	51.9	59.5	63.6	63.0	62.2	68.5	66.1	69.3	70.0	69.1	68.5	67.7	64.2	60.5	57.6	52.6	47.2	37.5	23.2
12	36.5	39.3	40.9	41.0	38.0	45.5	54.5	59.8	60.9	57.1	63.8	63.6	66.2	65.3	65.2	63.9	62.8	58.9	55.0	51.5	45.9	39.2	27.7	11.7
13	32.6	35.5	37.7	38.8	37.5	35.9	46.9	53.9	57.2	55.7	55.2	60.8	58.1	60.0	59.7	57.9	56.6	52.2	47.7	43.3	36.6	27.1	13.2	3.0
14	27.9	31.2	33.7	35.7	36.3	33.6	34.6	44.5	50.8	52.8	50.2	51.4	54.3	51.7	51.0	49.4	46.9	41.5	35.5	28.9	19.3	7.7	2.7	2.6
15	20.4	23.6	26.6	29.1	31.0	31.4	29.9	25.7	34.4	41.0	43.3	41.1	36.4	39.9	33.2	31.8	26.3	16.7	7.5	3.0	2.6	2.6	2.6	2.6

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	54.72	63.15	2500	64.75	2500	63.51	54.61	58.61
2	-5.77	40.00	35.10	3172.20	62.00	71.89	2000	73.46	1250	71.99	62.02	67.38
3	-3.86	50.00	45.20	2568.90	66.63	77.17	3150	77.71	3150	77.03	66.67	72.43
4	-2.47	60.00	55.30	2217.20	72.70	84.23	2500	85.48	2500	83.59	72.84	78.89
5	-1.34	70.00	65.30	2005.00	77.08	88.63	2500	89.88	2500	87.92	77.17	83.13
6	-0.32	80.00	75.40	1882.90	80.70	92.07	2500	93.34	2500	91.37	80.75	86.48
7	0.65	90.00	85.50	1827.90	83.03	94.81	2500	96.41	2500	93.89	83.08	89.06
8	1.65	100.00	95.50	1830.70	83.81	94.75	2000	95.55	2000	94.53	83.73	89.00
9	2.74	110.00	105.60	1891.80	83.10	93.69	2000	93.69	0	93.60	82.89	87.95
10	3.99	120.00	115.70	2021.60	81.09	91.35	2000	91.35	0	91.37	80.79	85.67
11	5.54	130.00	125.80	2245.30	77.95	87.59	2000	87.59	0	87.77	77.52	82.03
12	7.62	140.00	135.90	2617.20	73.85	82.79	2000	82.79	0	82.99	73.26	77.31
13	10.77	150.00	146.10	3263.80	68.23	76.50	2000	76.50	0	76.78	67.43	71.20
14	16.46	160.00	156.40	4555.90	61.13	67.60	1600	67.60	0	68.03	59.77	62.78
15	32.75	170.00	167.60	8505.70	48.66	52.71	500	54.41	1000	53.36	46.22	48.58

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	83.81	94.81		96.41		94.53	83.73	89.06
TIME	1.65	0.65		0.65		1.65	1.65	0.65

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 92.22 EPNDB
SEL = 90.57 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
TURBINE
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.1	3.1	2.9	3.8	3.1	3.2	2.8	2.6	2.6	2.6
2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.9	3.1	3.0	5.2	5.2	8.4	9.2	9.8	9.4	6.9	3.9	2.6	2.6
3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.1	3.0	4.5	6.7	8.8	10.9	14.1	16.4	18.1	18.8	16.4	11.5	3.8	2.6
4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.2	3.1	5.2	7.6	11.2	13.4	17.7	20.4	23.2	25.4	26.4	24.5	20.2	8.8	2.9
5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.3	3.4	4.8	9.2	10.9	14.9	19.5	22.7	26.1	29.2	31.7	32.5	30.9	26.7	14.7	4.0
6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.4	4.1	3.9	9.3	11.0	17.2	20.4	24.3	27.7	31.3	34.4	37.1	37.7	36.1	31.7	19.6	6.2
7	2.6	2.6	2.6	2.6	2.6	2.7	3.2	4.5	5.2	6.6	13.6	14.5	20.4	25.0	28.5	32.3	35.9	39.1	41.8	42.1	42.0	33.7	23.1	8.6
8	2.6	2.6	2.6	2.6	2.6	2.8	4.0	6.2	6.5	10.8	17.0	19.4	23.4	28.6	32.5	36.3	39.9	43.1	45.6	45.5	45.2	36.0	25.1	11.1
9	2.6	2.6	2.6	2.6	2.6	3.1	5.4	8.4	8.6	14.3	20.1	23.2	26.6	31.7	35.8	39.7	43.2	46.3	48.3	48.0	47.2	37.1	25.5	12.0
10	2.6	2.6	2.6	2.6	2.6	3.3	6.3	10.1	10.7	15.6	22.4	24.5	28.9	33.9	37.6	41.4	44.8	47.8	49.3	48.5	47.9	36.1	23.5	10.9
11	2.6	2.6	2.6	2.6	2.6	2.8	4.0	6.8	8.1	9.6	18.0	18.6	24.9	29.2	32.4	36.0	39.3	42.1	42.9	41.6	39.2	27.2	13.6	3.2
12	2.6	2.6	2.6	2.6	2.6	2.6	2.9	4.1	5.5	5.1	11.7	14.2	19.8	22.5	26.6	29.4	32.4	34.8	34.9	34.6	26.1	16.0	4.5	2.6
13	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.9	3.7	4.0	4.8	10.3	10.7	15.8	19.3	21.6	24.0	25.8	24.8	22.7	13.3	4.7	2.6	2.6
14	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	3.1	3.1	3.9	6.5	7.2	9.5	11.7	12.9	13.3	10.8	6.7	3.0	2.6	2.6	2.6
15	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.9	2.8	2.9	2.8	2.7	2.6	2.6	2.6	2.6	2.6	2.6

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	16.58	0.00	0	0.00	0	11.72	14.69	21.97
2	-5.77	40.00	35.10	3172.20	18.87	20.30	3150	20.30	0	24.19	18.43	26.86
3	-3.86	50.00	45.20	2568.90	25.07	33.81	4000	33.81	0	34.85	25.73	34.93
4	-2.47	60.00	55.30	2217.20	32.10	43.24	4000	43.24	0	44.39	32.97	42.32
5	-1.34	70.00	65.30	2005.00	38.18	50.21	4000	50.21	0	51.06	39.08	48.49
6	-0.32	80.00	75.40	1882.90	43.39	55.93	4000	55.93	0	56.44	44.31	53.74
7	0.65	90.00	85.50	1827.90	48.11	60.52	4000	61.34	5000	61.32	49.04	58.49
8	1.65	100.00	95.50	1830.70	51.66	64.18	3150	65.16	5000	64.88	52.62	62.06
9	2.74	110.00	105.60	1891.80	54.28	66.88	3150	67.91	5000	67.44	55.26	64.67
10	3.99	120.00	115.70	2021.60	55.26	67.88	3150	69.13	5000	68.29	56.27	65.61
11	5.54	130.00	125.80	2245.30	48.73	61.27	3150	61.27	0	61.34	49.78	59.01
12	7.62	140.00	135.90	2617.20	41.09	52.93	3150	52.93	0	52.97	42.17	51.27
13	10.77	150.00	146.10	3263.80	31.65	41.35	2500	41.35	0	41.94	32.66	41.29
14	16.46	160.00	156.40	4555.90	20.85	23.70	2500	23.70	0	25.17	20.96	28.55
15	32.75	170.00	167.60	8505.70	16.46	0.00	0	0.00	0	10.96	14.44	21.56

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	55.26	67.88		69.13		68.29	56.27	65.61
TIME	3.99	3.99		3.99		3.99	3.99	3.99

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 63.95 EPNDB
SEL = 61.43 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
CORE
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	30.5	33.4	36.2	38.9	41.5	44.0	46.4	48.4	49.2	48.2	44.8	36.9	41.6	43.5	40.9	33.1	22.5	20.8	9.0	1.7	0.0	0.0	0.0	0.0
2	34.9	37.6	40.3	42.9	45.2	47.0	47.9	47.0	42.3	49.5	55.7	56.7	52.7	44.5	45.8	37.9	35.3	28.2	21.0	12.5	2.8	0.0	0.0	0.0
3	38.3	40.9	43.5	45.6	46.9	46.7	43.8	46.8	56.1	61.0	61.4	54.9	55.6	53.2	48.4	42.9	38.5	32.9	26.7	19.5	11.1	0.8	0.0	0.0
4	41.1	43.6	45.6	47.0	47.0	43.4	48.2	57.8	62.9	63.6	58.6	60.6	58.2	55.7	50.1	46.7	41.4	36.3	30.5	23.9	16.2	7.0	0.0	0.0
5	43.5	45.6	47.2	47.6	45.6	46.1	56.6	63.2	65.5	62.4	62.3	63.6	58.9	56.0	52.7	48.0	43.4	38.5	33.0	26.7	19.5	10.9	0.0	0.0
6	45.4	47.4	48.4	47.8	44.3	53.0	61.6	66.2	66.2	61.7	66.6	62.3	62.2	57.8	53.8	49.3	44.8	40.0	34.6	28.6	21.6	13.4	2.4	0.0
7	47.1	48.9	49.5	47.8	46.0	57.5	64.9	68.1	66.4	65.2	68.3	62.7	62.0	58.7	54.2	50.1	45.6	40.9	35.6	29.6	22.8	14.7	4.0	0.0
8	48.6	50.2	50.3	48.1	49.0	60.3	67.0	69.2	66.2	67.8	68.4	64.4	61.4	58.6	54.5	50.3	45.9	41.1	35.8	29.9	23.1	15.0	4.3	0.0
9	49.7	51.1	51.2	48.8	50.7	61.7	68.0	69.8	66.4	68.4	68.3	64.9	60.9	58.0	54.2	50.0	45.6	40.7	35.3	29.3	22.4	14.1	3.1	0.0
10	49.4	51.0	51.2	49.0	49.5	60.9	67.3	69.3	66.4	66.7	67.5	62.9	59.8	56.8	52.5	48.3	43.7	38.7	33.2	26.9	19.7	11.0	0.0	0.0
11	46.5	48.3	48.9	47.4	45.1	56.5	63.3	66.2	64.3	61.0	63.9	57.7	56.5	52.8	48.0	43.6	38.9	33.7	27.9	21.2	13.5	4.2	0.0	0.0
12	42.5	44.5	45.6	45.1	41.8	49.1	57.2	61.3	61.1	54.5	57.8	53.7	51.8	46.5	42.6	37.4	32.4	26.8	20.5	13.3	4.7	0.0	0.0	0.0
13	37.6	39.7	41.3	42.0	40.4	38.6	48.6	54.4	56.4	51.9	47.7	49.6	42.2	39.7	35.4	29.7	24.2	18.0	10.8	2.5	0.0	0.0	0.0	0.0
14	31.6	34.2	36.2	37.6	38.0	35.1	35.0	43.7	48.6	47.5	41.3	38.6	36.7	29.9	25.0	19.6	13.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
15	23.1	25.6	28.1	30.1	31.7	32.0	29.3	23.9	31.2	34.5	33.3	27.0	17.6	16.7	5.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	56.06	59.01	400	59.32	1000	58.72	50.93	54.96
2	-5.77	40.00	35.10	3172.20	61.59	66.26	630	67.80	1250	66.27	58.86	61.01
3	-3.86	50.00	45.20	2568.90	66.31	70.97	500	70.97	0	71.19	63.03	65.92
4	-2.47	60.00	55.30	2217.20	69.13	73.77	400	73.77	0	73.71	65.43	68.64
5	-1.34	70.00	65.30	2005.00	71.31	75.35	315	75.35	0	75.43	67.29	70.69
6	-0.32	80.00	75.40	1882.90	73.14	77.54	500	77.54	0	77.13	68.93	72.41
7	0.65	90.00	85.50	1827.90	74.70	79.08	500	79.08	0	78.74	70.10	73.86
8	1.65	100.00	95.50	1830.70	75.71	79.66	500	79.66	0	79.72	70.80	74.78
9	2.74	110.00	105.60	1891.80	76.16	79.83	400	79.83	0	80.00	70.98	75.13
10	3.99	120.00	115.70	2021.60	75.31	78.75	500	78.75	0	78.78	69.88	74.21
11	5.54	130.00	125.80	2245.30	71.69	74.75	500	74.75	0	74.83	66.03	70.54
12	7.62	140.00	135.90	2617.20	66.73	69.57	315	69.57	0	69.49	60.97	65.58
13	10.77	150.00	146.10	3263.80	60.73	63.36	315	63.36	0	62.67	54.88	59.63
14	16.46	160.00	156.40	4555.90	53.13	55.04	400	55.04	0	54.84	47.40	52.03
15	32.75	170.00	167.60	8505.70	41.23	39.67	400	39.67	0	40.69	34.62	39.15

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	76.16	79.83		79.83		80.00	70.98	75.13
TIME	2.74	2.74		2.74		2.74	2.74	2.74

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 77.75 EPNDB
SEL = 79.05 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
JET
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	69.7	70.6	71.3	71.6	71.6	71.2	70.5	69.1	67.0	63.6	58.1	49.6	54.5	57.0	55.7	49.6	40.4	39.9	29.1	22.6	10.1	0.0	0.0	0.0
2	72.0	72.8	73.4	73.6	73.2	72.1	69.9	65.6	58.1	63.0	67.2	67.8	64.1	56.5	59.3	53.0	51.8	45.9	39.7	31.9	22.5	10.4	0.0	0.0
3	73.3	74.1	74.5	74.2	72.9	69.7	63.7	63.4	70.0	72.7	71.1	64.5	65.6	64.0	60.8	56.8	53.8	49.3	44.0	37.5	29.4	19.1	4.5	0.0
4	74.1	74.7	74.6	73.5	70.9	64.4	66.0	72.4	75.0	73.5	66.9	69.0	67.0	65.4	61.4	59.5	55.6	51.6	46.7	40.7	33.4	24.0	11.0	0.0
5	76.1	76.2	75.6	73.7	69.1	66.7	73.9	77.6	77.5	72.2	71.1	72.5	68.3	66.5	64.8	61.6	58.3	54.5	49.8	44.1	37.2	28.4	16.3	0.0
6	77.5	77.6	76.5	73.5	67.4	73.2	78.6	80.4	78.1	71.6	75.8	71.7	72.2	69.2	66.7	63.5	60.3	56.5	51.9	46.3	39.6	31.1	19.5	3.8
7	78.5	78.4	76.8	72.8	68.4	77.0	81.2	81.7	77.8	74.7	77.5	72.2	72.1	70.4	67.4	64.6	61.3	57.5	52.9	47.3	40.6	32.2	20.7	5.3
8	79.4	79.1	77.2	72.5	70.8	79.1	82.6	82.3	77.1	76.9	77.5	73.8	71.5	70.2	67.5	64.6	61.3	57.3	52.6	46.9	40.1	31.5	19.8	4.3
9	80.7	80.3	78.2	73.2	72.3	80.2	83.3	82.6	76.8	77.3	76.9	73.7	70.5	69.0	66.5	63.5	60.0	55.8	50.9	44.9	37.7	28.8	16.6	0.5
10	82.8	82.3	80.0	74.9	72.2	80.3	83.4	82.7	77.1	75.8	76.0	71.5	69.1	67.4	64.3	61.1	57.3	52.8	47.4	41.0	33.2	23.6	10.6	0.0
11	85.2	84.4	82.0	76.8	71.0	78.5	81.8	81.4	76.4	71.4	73.7	67.5	67.1	64.6	60.8	57.2	52.9	47.9	41.9	34.7	26.0	15.3	0.8	0.0
12	85.8	84.6	81.9	77.3	70.0	73.1	77.6	78.4	75.3	67.3	69.9	65.5	64.2	59.5	56.1	51.2	46.1	40.2	33.2	24.8	14.8	2.5	0.0	0.0
13	83.5	82.0	79.8	76.6	71.5	66.1	72.9	75.7	74.7	68.6	63.0	63.5	55.7	52.8	48.0	41.8	35.5	28.3	19.8	9.7	0.0	0.0	0.0	0.0
14	79.4	77.8	75.5	73.2	70.1	63.5	60.2	65.6	67.0	63.8	55.5	50.8	47.7	39.5	33.5	26.7	18.6	9.3	0.0	0.0	0.0	0.0	0.0	0.0
15	72.7	70.5	68.0	65.1	62.4	58.3	51.9	42.7	46.0	46.6	42.6	33.6	22.2	19.1	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	80.21	80.26	200	80.37	1000	80.86	68.33	75.53
2	-5.77	40.00	35.10	3172.20	81.71	82.53	630	84.05	1250	82.71	71.55	76.86
3	-3.86	50.00	45.20	2568.90	82.73	85.59	400	85.59	0	85.41	74.20	78.78
4	-2.47	60.00	55.30	2217.20	83.45	86.85	315	86.85	0	86.48	75.63	80.27
5	-1.34	70.00	65.30	2005.00	85.53	89.40	315	89.40	0	89.25	78.01	82.80
6	-0.32	80.00	75.40	1882.90	87.44	91.55	250	91.55	0	91.51	80.09	84.92
7	0.65	90.00	85.50	1827.90	88.72	92.80	250	92.80	0	92.86	81.21	86.24
8	1.65	100.00	95.50	1830.70	89.54	93.38	250	93.38	0	93.52	81.70	86.94
9	2.74	110.00	105.60	1891.80	90.13	93.42	250	93.42	0	93.67	81.55	87.13
10	3.99	120.00	115.70	2021.60	90.73	93.09	250	93.09	0	93.37	80.80	86.93
11	5.54	130.00	125.80	2245.30	91.08	91.62	250	91.62	0	91.83	78.80	85.66
12	7.62	140.00	135.90	2617.20	90.38	88.73	250	88.73	0	88.90	75.79	83.30
13	10.77	150.00	146.10	3263.80	88.06	85.41	250	85.41	0	85.82	73.18	80.90
14	16.46	160.00	156.40	4555.90	83.60	77.58	315	77.58	0	78.92	65.83	75.00
15	32.75	170.00	167.60	8505.70	76.24	65.37	100	65.37	0	67.32	53.86	66.29

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	91.08	93.42		93.42	93.67	81.70	87.13
TIME	5.54	2.74		2.74	2.74	1.65	2.74

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 92.80 EPNDB
SEL = 90.72 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
AIRFRAME
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	55.5	58.2	58.7	61.3	62.4	62.6	62.3	60.5	58.8	55.9	51.0	43.1	48.7	53.3	53.4	47.8	39.6	41.1	29.0	23.2	16.3	2.1	0.0	0.0
2	58.4	60.7	62.8	63.3	64.1	64.0	62.9	57.8	51.0	56.9	62.0	63.4	60.5	54.3	57.5	52.6	51.3	48.8	41.6	34.6	29.3	18.7	2.9	0.0
3	60.2	62.0	64.2	63.9	64.6	62.3	56.7	55.5	63.1	68.0	66.7	58.9	60.0	60.0	57.2	54.7	53.1	51.2	46.7	38.7	34.1	25.0	11.5	0.0
4	61.3	62.0	64.0	63.2	62.5	56.2	59.5	64.7	69.3	68.7	62.1	62.8	61.3	60.5	57.5	56.6	54.4	51.8	47.4	41.2	36.9	28.7	16.6	0.3
5	61.5	62.6	63.2	61.9	58.7	56.6	65.5	69.1	70.8	65.3	63.7	63.8	60.3	59.1	58.1	55.5	55.5	52.3	47.2	42.1	38.3	29.7	19.9	4.1
6	61.6	62.1	61.4	59.0	55.0	61.8	68.0	70.6	70.4	62.0	65.6	61.4	62.2	59.9	58.3	56.9	56.7	53.7	47.6	43.1	39.2	30.9	20.9	6.5
7	60.4	61.1	60.4	57.1	54.2	64.1	68.9	70.8	67.5	63.6	65.1	60.0	59.6	59.2	56.5	57.6	57.9	53.9	46.5	42.3	38.8	30.3	21.2	6.6
8	59.5	60.3	59.7	55.9	55.0	64.3	68.8	71.0	65.2	64.3	63.9	60.5	57.8	58.0	55.5	59.3	59.9	53.8	45.6	41.5	37.5	29.4	20.0	5.8
9	59.2	59.2	59.1	54.6	54.9	63.8	68.1	68.8	64.0	64.6	62.7	59.7	55.9	56.3	54.6	58.3	58.7	55.1	44.6	40.0	36.1	28.7	17.8	3.3
10	58.5	59.1	58.5	54.0	52.0	61.9	66.4	67.5	63.3	62.0	61.3	57.2	55.4	55.5	53.2	56.0	54.5	47.7	42.9	38.1	34.0	26.2	14.9	0.0
11	56.9	57.7	57.5	54.0	49.1	58.9	64.0	65.6	62.3	57.4	60.5	53.7	54.6	53.9	52.1	56.3	52.3	43.5	39.9	34.8	30.5	22.2	10.0	0.0
12	55.1	56.1	56.9	53.9	47.9	53.0	59.4	62.4	61.3	53.5	57.1	52.8	52.6	51.2	50.8	51.4	47.0	40.7	36.1	30.5	25.8	16.6	2.9	0.0
13	52.6	54.1	53.8	52.4	47.0	43.7	51.5	56.2	57.5	53.7	50.0	51.7	46.8	47.3	47.7	44.7	43.8	37.0	29.4	22.6	17.3	6.5	0.0	0.0
14	47.9	50.9	50.3	49.9	46.2	41.1	39.0	46.3	50.8	51.0	46.4	44.0	44.9	40.8	40.0	36.7	35.2	28.2	18.5	9.5	2.9	0.0	0.0	0.0
15	41.5	44.4	43.8	44.1	41.5	38.7	34.1	27.5	33.9	38.9	40.8	36.4	29.0	30.7	23.2	19.3	15.2	4.5	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	70.56	72.17	200	75.40	2500	72.71	61.59	67.40
2	-5.77	40.00	35.10	3172.20	73.08	77.36	630	78.71	1250	77.16	67.16	71.01
3	-3.86	50.00	45.20	2568.90	74.79	80.41	400	80.41	0	80.16	69.49	73.55
4	-2.47	60.00	55.30	2217.20	75.68	81.44	400	81.44	0	80.90	70.43	74.80
5	-1.34	70.00	65.30	2005.00	76.37	82.00	315	82.00	0	81.41	70.64	75.46
6	-0.32	80.00	75.40	1882.90	76.72	82.17	315	82.17	0	82.03	70.99	75.97
7	0.66	90.00	85.50	1827.90	76.28	81.77	250	81.88	5000	81.62	70.29	75.61
8	1.65	100.00	95.50	1830.70	76.00	81.69	250	82.99	2000	81.42	70.13	75.65
9	2.74	110.00	105.60	1891.80	74.86	80.33	2000	80.86	2500	80.27	69.09	74.71
10	3.99	120.00	115.70	2021.60	73.32	78.31	250	78.96	2000	78.33	67.05	72.35
11	5.54	130.00	125.80	2245.30	71.41	76.20	250	77.56	1600	76.36	65.41	70.47
12	7.63	140.00	135.90	2617.20	68.61	72.90	315	73.01	1600	72.93	62.43	67.27
13	10.77	150.00	146.10	3263.80	64.39	68.36	315	68.67	2000	67.80	58.18	62.77
14	16.46	160.00	156.40	4555.90	59.40	62.13	400	62.13	0	62.00	52.45	56.74
15	32.76	170.00	167.60	8505.70	51.61	49.54	500	52.57	1000	50.14	41.88	46.68

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	76.72	82.17		82.99		82.03	70.99	75.97
TIME	-0.32	-0.32		1.65		-0.32	-0.32	-0.32

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 82.22 EPNDB
SEL = 80.66 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
TOTAL
*

MEDIUM TWIN AIRPLANE MODEL
SIDELINE CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	69.9	70.8	71.6	72.0	72.1	72.4	72.1	70.7	68.9	65.8	60.6	52.3	57.7	60.8	60.1	55.3	48.0	50.0	47.4	38.5	29.5	18.9	7.9	7.4
2	72.2	73.1	73.9	74.0	73.7	73.6	71.9	67.6	60.4	65.7	70.4	71.2	68.1	60.9	64.1	59.3	59.7	56.6	58.1	48.3	42.4	35.6	21.4	8.1
3	73.5	74.4	75.1	74.6	73.5	71.5	66.1	65.8	72.8	76.1	74.9	68.2	69.9	68.4	65.5	63.1	62.0	60.2	62.5	53.8	49.2	44.2	32.7	15.7
4	74.3	74.9	75.2	73.9	71.5	66.2	68.5	75.0	78.1	77.1	70.8	73.0	71.6	70.2	67.1	66.9	65.1	67.8	60.9	57.3	55.2	47.5	39.3	24.9
5	76.3	76.6	75.9	74.0	70.4	67.2	75.9	79.7	80.1	75.1	74.3	76.0	72.4	71.2	71.0	69.6	68.4	70.1	63.7	59.8	58.0	50.5	43.6	30.8
6	77.6	77.9	76.6	73.7	68.4	73.6	80.1	82.1	80.3	74.0	78.5	75.0	76.3	74.3	73.6	72.4	71.3	72.5	66.2	62.1	59.8	53.4	46.7	35.0
7	78.6	78.6	76.9	72.9	69.0	77.3	82.1	82.9	79.3	76.6	79.7	75.3	76.3	76.2	75.1	74.4	73.4	75.2	67.8	63.8	62.0	56.7	48.3	37.9
8	79.4	79.2	77.3	72.6	71.1	79.3	83.1	83.1	78.2	78.4	79.5	76.8	75.9	76.5	76.0	75.2	76.1	71.8	68.3	65.7	60.8	57.1	49.5	37.9
9	80.7	80.3	78.3	73.3	72.4	80.4	83.7	83.2	77.7	78.6	78.8	76.7	75.1	75.6	75.3	74.5	74.6	70.7	67.1	64.7	59.9	55.8	47.7	35.8
10	82.8	82.3	80.0	75.0	72.3	80.4	83.6	83.1	77.8	76.9	77.8	74.3	73.6	74.0	73.2	72.4	72.0	68.2	64.7	62.4	57.6	52.8	44.1	31.2
11	85.2	84.4	82.0	76.8	71.0	78.6	82.0	81.7	77.0	72.4	75.3	70.2	71.6	71.2	69.8	69.1	68.0	64.4	60.7	57.8	52.8	47.3	37.5	23.3
12	85.8	84.6	81.9	77.3	70.0	73.2	77.7	78.7	75.8	68.1	71.2	68.0	68.5	66.5	65.9	64.4	63.0	59.0	55.1	51.6	46.0	39.2	27.8	12.7
13	83.5	82.0	79.8	76.6	71.5	66.1	73.0	75.8	74.9	69.0	64.0	65.7	60.3	61.0	60.2	58.2	56.9	52.4	47.8	43.4	36.7	27.2	13.9	7.5
14	79.4	77.8	75.5	73.2	70.1	63.5	60.3	65.7	67.3	64.4	57.1	54.6	55.6	52.3	51.4	49.7	47.2	41.7	35.6	29.0	19.6	9.8	7.4	7.4
15	72.7	70.5	68.0	65.1	62.4	58.4	52.0	43.0	46.7	48.4	47.3	43.0	37.3	40.4	33.6	32.1	26.7	17.3	9.7	7.5	7.4	7.4	7.4	7.4

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- SIDELINE -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-8.88	30.00	24.90	4332.50	81.14	83.02	200	83.93	3150	83.52	70.67	77.22
2	-5.77	40.00	35.10	3172.20	82.92	86.70	630	88.59	3150	86.78	75.16	79.98
3	-3.86	50.00	45.20	2568.90	84.46	90.19	400	92.02	3150	90.11	78.29	82.92
4	-2.47	60.00	55.30	2217.20	85.65	92.17	2500	93.77	2500	91.53	80.24	85.29
5	-1.34	70.00	65.30	2005.00	87.59	94.48	2500	95.83	2500	93.78	82.32	87.55
6	-0.32	80.00	75.40	1882.90	89.37	96.72	2500	97.97	2500	96.09	84.47	89.71
7	0.65	90.00	85.50	1827.90	90.41	98.59	2500	100.12	2500	97.86	85.79	91.33
8	1.65	100.00	95.50	1830.70	90.96	98.55	2000	99.28	2000	98.36	86.18	91.41
9	2.74	110.00	105.60	1891.80	91.20	97.85	2000	97.85	0	97.79	85.57	90.85
10	3.99	120.00	115.70	2021.60	91.37	96.71	250	96.71	0	96.68	84.09	89.60
11	5.54	130.00	125.80	2245.30	91.38	94.75	250	94.75	0	94.75	81.47	87.42
12	7.62	140.00	135.90	2617.20	90.52	91.52	250	91.54	6300	91.47	77.94	84.42
13	10.77	150.00	146.10	3263.80	88.13	87.76	250	87.76	0	87.94	74.36	81.43
14	16.46	160.00	156.40	4555.90	83.64	80.02	315	80.02	0	80.88	66.99	75.34
15	32.75	170.00	167.60	8505.70	76.27	67.43	100	69.08	1000	69.04	54.82	66.41

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	91.38	98.59		100.12		98.36	86.18	91.41
TIME	5.54	0.65		0.65		1.65	1.65	1.65

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 97.55 EPNDB
SEL = 94.31 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
INLET
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	30.2	33.0	35.7	38.3	40.9	43.1	44.9	45.7	44.2	39.3	46.6	53.6	56.6	55.5	49.9	55.0	55.3	51.3	47.0	44.4	36.1	23.8	8.6	0.0
2	37.9	40.6	42.9	44.9	46.0	44.8	41.3	50.5	58.7	63.1	63.3	59.6	66.5	64.3	67.8	67.6	71.7	67.1	66.5	67.3	63.9	57.7	51.8	41.2
3	41.5	43.6	44.8	44.8	41.9	47.0	56.6	62.7	64.6	61.1	67.2	68.3	70.2	69.7	71.2	71.5	76.5	72.7	72.8	74.2	71.9	67.2	63.7	56.5
4	43.3	44.6	44.1	40.9	47.3	57.3	62.8	64.8	61.5	68.3	68.8	71.4	71.1	72.4	72.6	78.6	74.6	75.1	77.4	75.7	75.4	72.3	68.2	63.8
5	44.2	44.4	41.4	44.8	55.1	62.0	64.6	62.4	67.0	69.7	70.7	70.2	71.8	72.3	73.0	79.0	75.2	75.9	78.1	76.8	76.5	74.3	71.3	67.8
6	43.7	42.5	39.6	50.2	58.2	63.0	63.4	61.9	69.2	67.0	70.8	70.9	70.2	70.6	71.3	77.2	73.6	74.4	76.7	75.6	75.5	74.1	71.9	69.0
7	41.8	39.4	41.4	51.7	58.7	61.9	60.1	63.7	67.6	67.4	67.6	68.5	68.3	68.5	69.3	75.0	71.6	72.6	75.0	73.9	73.8	72.9	71.1	68.5
8	39.0	35.9	41.2	51.0	57.2	59.5	56.8	63.0	64.5	66.6	65.6	66.5	65.9	66.1	67.1	72.6	69.5	70.4	72.8	71.7	71.4	70.8	69.1	66.3
9	34.5	31.2	37.7	47.1	53.1	55.0	52.3	58.9	59.7	62.3	61.3	62.0	61.7	62.0	63.2	68.6	65.5	66.4	68.7	68.1	66.2	66.5	64.6	61.5
10	30.2	27.1	32.6	42.3	48.5	50.7	47.9	54.1	55.6	57.9	56.8	57.8	57.7	58.3	64.5	60.8	61.8	64.3	63.5	63.9	62.7	61.1	59.5	56.2
11	26.2	23.8	26.1	36.5	43.3	46.3	44.2	48.0	51.7	51.9	51.6	52.9	53.6	54.3	60.3	56.8	57.7	60.2	59.2	59.3	57.8	55.9	53.8	50.3
12	22.3	21.0	18.5	29.4	37.1	41.6	41.5	40.3	47.4	45.0	48.6	49.1	49.1	50.1	56.0	52.4	53.2	55.6	54.5	54.3	52.6	50.2	47.6	43.8
13	18.1	18.1	14.9	19.3	29.3	35.9	38.0	35.0	40.3	42.0	43.4	43.1	45.0	45.5	51.2	47.7	48.5	50.7	49.3	48.7	46.6	43.9	40.8	36.5
14	13.4	14.6	13.9	10.7	18.2	27.6	32.5	33.5	30.1	37.2	36.3	39.6	39.7	40.7	45.9	42.4	43.1	45.0	43.5	42.4	40.0	36.6	33.0	28.2
15	8.3	10.1	11.1	10.8	7.9	14.6	23.1	28.2	29.4	25.5	32.1	32.1	34.9	34.7	40.5	36.4	36.9	38.7	36.8	35.3	32.3	28.2	23.7	18.1
16	3.0	4.8	6.5	8.1	8.8	7.1	5.2	14.5	21.6	24.9	23.8	22.7	28.7	26.0	33.7	29.9	29.4	30.9	29.1	25.4	22.4	17.2	11.6	5.2
17	0.0	0.5	1.4	2.6	4.3	5.7	6.6	6.6	4.4	3.6	11.4	17.2	18.9	16.0	20.4	19.7	16.9	18.3	16.2	11.0	6.4	2.1	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	63.44	73.53	2000	74.13	1600	73.73	63.36	68.43
2	-3.62	20.00	16.50	1371.30	77.64	90.15	2000	91.60	2000	89.60	78.17	85.42
3	-2.07	30.00	26.50	872.90	82.97	96.03	4000	97.49	2000	95.88	83.54	91.39
4	-1.31	40.00	36.50	654.80	85.68	99.11	3150	100.78	1600	98.94	86.22	94.08
5	-0.83	50.00	46.50	536.90	86.54	100.08	3150	101.71	1600	99.96	87.00	94.98
6	-0.47	60.00	56.50	467.00	85.45	99.01	3150	100.59	1600	98.95	85.75	93.75
7	-0.18	70.00	66.50	424.70	83.73	97.38	3150	98.89	1600	97.28	83.97	92.05
8	0.08	80.00	76.50	400.50	81.55	95.20	3150	96.63	1600	95.06	81.75	89.83
9	0.33	90.00	86.50	390.20	77.34	91.00	3150	92.42	1600	90.83	77.59	85.70
10	0.59	100.00	96.50	392.00	73.27	86.58	4000	88.23	1250	86.56	73.58	81.57
11	0.86	110.00	106.50	406.20	68.76	81.94	4000	83.52	1250	81.94	69.16	77.12
12	1.18	120.00	116.50	435.20	64.04	77.04	2500	78.62	1250	77.04	64.47	72.31
13	1.58	130.00	126.50	484.50	58.90	71.76	2500	73.29	1250	71.58	59.37	67.06
14	2.10	140.00	136.50	565.80	53.24	65.79	2500	67.24	1250	65.30	53.71	61.18
15	2.89	150.00	146.50	705.60	47.01	58.93	2500	60.58	1250	58.36	47.48	54.60
16	4.28	160.00	156.50	976.70	39.50	50.24	2500	50.24	0	49.81	39.95	46.63
17	7.59	170.00	166.50	1668.30	27.72	33.89	2500	33.89	0	34.99	27.96	34.02

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	86.54	100.08		101.71		99.96	87.00	94.98
TIME	-0.83	-0.83		-0.83		-0.83	-0.83	-0.83

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 94.55 EPNDB
SEL = 90.20 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
AFTFAN
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.5	4.7	7.3	10.1	12.8	15.1	16.9	17.6	16.0	11.3	18.3	25.6	28.7	27.5	21.8	26.8	23.0	21.8	16.9	11.9	5.2	0.4	0.0	0.0
2	12.7	16.0	18.8	21.2	22.6	21.6	18.2	27.3	35.4	39.7	39.9	36.5	43.5	41.3	44.6	44.3	44.4	42.5	41.2	39.9	37.2	33.2	27.6	19.2
3	18.2	21.0	22.8	23.2	20.6	25.9	35.7	41.5	43.4	40.0	46.0	47.5	49.7	49.2	50.7	50.9	52.6	50.7	49.9	50.2	48.2	45.3	42.2	36.8
4	21.9	23.8	23.8	21.1	27.7	37.9	43.6	45.4	42.2	49.1	49.8	53.0	53.1	54.6	54.9	58.9	56.0	55.8	58.0	54.6	55.1	53.0	49.7	46.0
5	27.6	28.4	25.9	29.7	40.2	47.3	50.1	47.9	52.6	55.6	57.0	57.3	59.7	60.5	61.2	64.7	61.5	60.6	62.2	58.9	60.2	58.7	56.0	53.6
6	33.0	32.5	30.0	41.1	49.3	54.3	54.7	53.4	61.0	59.2	63.9	65.2	65.6	66.5	66.9	69.9	66.3	64.6	65.5	62.6	64.4	63.4	61.4	59.8
7	36.7	35.0	37.4	48.1	55.3	58.7	57.1	60.8	65.2	65.6	66.8	69.0	70.0	70.6	70.9	73.1	68.9	66.4	66.9	64.6	66.7	66.1	64.7	63.9
8	40.5	38.0	43.8	53.9	60.3	62.8	60.2	66.6	68.6	71.3	71.5	73.6	74.1	74.5	74.7	76.4	72.1	69.2	68.7	68.2	69.6	69.3	68.6	68.1
9	43.2	40.5	47.4	57.1	63.3	65.4	62.7	69.6	70.9	74.0	74.4	76.2	76.6	76.9	77.1	77.7	74.0	71.0	70.5	71.5	71.6	71.7	71.3	70.9
10	45.7	43.1	49.1	59.0	65.4	67.8	65.0	71.5	73.2	76.0	76.1	78.0	78.4	78.7	79.6	77.6	75.3	73.1	71.3	73.3	73.6	73.2	73.1	72.5
11	47.5	45.5	48.3	58.8	65.9	69.0	66.9	70.9	74.8	75.5	76.1	78.0	78.8	79.1	79.8	77.6	75.1	73.3	72.0	73.7	73.9	73.6	73.5	72.4
12	48.5	47.7	45.5	56.6	64.6	69.2	69.0	67.9	75.2	73.2	77.4	78.4	78.2	78.6	79.7	77.0	74.6	73.7	72.5	74.1	73.9	73.3	73.0	71.3
13	48.3	48.8	46.0	50.6	60.9	67.4	69.5	66.5	71.9	73.9	75.7	75.5	77.2	76.9	78.1	75.3	73.1	72.7	71.6	73.0	72.5	71.6	70.9	68.6
14	47.3	49.0	48.6	45.4	53.4	62.8	67.6	68.5	64.9	72.4	71.7	74.9	74.6	74.8	74.9	72.9	70.8	70.0	69.6	70.2	69.6	68.7	67.5	64.4
15	44.5	47.0	48.4	48.3	45.2	52.2	60.8	65.6	66.7	63.0	69.6	69.3	71.6	70.8	71.5	69.4	67.8	67.2	66.7	66.7	65.6	64.1	61.9	57.7
16	39.7	42.9	45.3	47.3	48.3	46.1	43.6	53.8	60.7	64.0	62.6	61.0	66.5	63.2	65.9	64.3	62.0	61.3	60.8	59.7	58.1	55.7	52.1	46.0
17	32.4	35.7	38.7	41.6	44.4	46.1	47.1	46.8	43.7	42.5	51.7	57.3	58.6	55.3	55.1	56.9	52.9	52.5	51.5	48.4	45.1	40.4	33.4	22.7

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	34.80	39.66	2500	39.66	0	42.62	34.48	38.66
2	-3.62	20.00	16.50	1371.30	52.93	64.07	2500	64.27	1250	64.12	53.20	59.71
3	-2.07	30.00	26.50	872.90	60.75	73.03	4000	73.03	0	73.03	61.13	68.41
4	-1.31	40.00	36.50	654.80	66.43	79.74	3150	80.89	1600	79.30	66.89	74.43
5	-0.83	50.00	46.50	536.90	71.92	84.83	3150	85.95	1600	84.43	72.26	79.33
6	-0.47	60.00	56.50	467.00	77.10	89.26	3150	90.36	1600	89.09	77.22	83.63
7	-0.18	70.00	66.50	424.70	80.45	92.23	1600	93.30	1600	92.13	80.35	86.11
8	0.08	80.00	76.50	400.50	84.21	95.75	1600	96.75	1600	95.61	83.90	89.28
9	0.33	90.00	86.50	390.20	86.50	97.76	1600	97.76	0	97.63	86.06	91.43
10	0.59	100.00	96.50	392.00	88.17	99.10	4000	99.10	0	98.94	87.62	92.94
11	0.86	110.00	106.50	406.20	88.39	99.41	4000	99.41	0	99.27	87.83	93.20
12	1.18	120.00	116.50	435.20	88.20	99.41	4000	99.41	0	99.26	87.65	93.19
13	1.58	130.00	126.50	484.50	86.61	98.01	4000	98.01	0	97.81	86.10	91.82
14	2.10	140.00	136.50	565.80	84.11	95.29	4000	95.29	0	95.17	83.56	89.23
15	2.89	150.00	146.50	705.60	80.33	91.51	3150	91.51	0	91.43	79.94	85.77
16	4.28	160.00	156.50	976.70	74.26	85.10	3150	85.53	1250	84.91	73.87	79.53
17	7.59	170.00	166.50	1668.30	65.35	75.31	1600	76.25	1600	75.70	65.04	70.10

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	88.39	99.41		99.41		99.27	87.83	93.20
TIME	0.86	0.86		0.86		0.86	0.86	0.86

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 92.47 EPNDB
SEL = 90.62 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MDEIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
TURBINE
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	3.9	6.5	9.4	12.6	14.1	14.5	10.0	4.5	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.7	5.9	10.5	14.2	18.4	22.6	24.6	25.9	21.7	16.5	8.8	1.8
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.5	5.2	8.0	12.7	16.7	21.2	25.7	29.9	32.0	33.5	29.4	24.6	18.1	9.2
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.5	5.3	8.1	13.5	18.0	22.7	27.3	31.9	35.9	38.1	39.5	35.2	30.4	24.8	16.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	4.1	10.4	14.7	18.6	23.4	28.1	32.8	37.4	41.2	43.3	44.5	39.8	35.0	30.2	21.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	6.7	9.6	13.6	19.0	23.6	28.4	33.2	37.9	42.5	46.0	48.0	49.0	43.8	38.7	34.9	30.9
8	0.0	0.0	0.0	0.0	0.0	1.0	0.8	5.9	9.9	15.3	18.5	24.1	28.3	33.1	37.9	42.6	47.3	50.4	54.2	50.7	47.2	43.3	35.6	35.8
9	0.0	0.0	0.0	0.0	1.0	2.9	2.6	9.9	13.8	19.7	23.1	28.5	32.8	37.5	42.3	47.0	51.7	54.5	58.4	53.9	50.3	46.6	38.4	40.2
10	0.0	0.0	0.0	0.0	2.9	5.8	5.5	13.6	18.1	23.8	27.0	32.6	36.9	41.7	46.5	51.2	55.6	58.2	62.0	56.6	52.8	49.8	40.7	44.2
11	0.0	0.0	0.0	0.6	5.2	9.5	9.8	16.2	22.8	26.5	30.3	35.9	40.8	45.5	50.3	55.0	59.1	61.5	65.3	59.1	54.8	52.8	42.7	47.7
12	0.0	0.0	0.0	0.8	6.3	12.3	14.5	16.1	26.1	27.2	34.6	39.3	43.3	48.1	52.8	57.5	61.3	63.5	68.0	60.2	55.6	55.3	43.2	50.7
13	0.0	0.0	0.0	0.0	2.0	8.1	12.3	12.1	20.2	25.2	30.3	33.8	39.5	43.7	48.5	53.1	56.6	58.6	61.7	54.5	49.5	48.5	45.8	29.5
14	0.0	0.0	0.0	0.0	0.0	2.6	7.9	11.3	10.7	20.9	23.5	30.4	34.2	38.8	43.1	47.7	50.9	55.4	51.3	47.8	44.2	36.0	36.9	21.2
15	0.0	0.0	0.0	0.0	0.0	0.0	1.9	7.1	10.6	9.9	19.5	22.8	29.2	32.6	37.6	41.6	44.5	47.9	44.1	40.2	35.7	27.6	26.6	14.5
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.5	9.7	11.6	13.5	22.8	23.7	30.6	34.9	36.7	39.2	35.4	31.0	25.4	16.9	13.4	1.4
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	9.1	14.0	14.7	18.4	25.6	25.0	27.1	23.2	17.2	9.5	2.2	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	13.13	0.00	0	0.00	0	0.00	11.19	18.46
2	-3.62	20.00	16.50	1371.30	20.59	27.91	4000	27.91	0	29.34	21.23	30.52
3	-2.07	30.00	26.50	872.90	30.74	42.05	4000	42.05	0	42.63	31.69	41.26
4	-1.31	40.00	36.50	654.80	38.21	50.69	4000	50.69	0	51.03	39.18	48.76
5	-0.83	50.00	46.50	536.90	44.21	57.10	4000	58.00	4000	57.20	45.19	54.77
6	-0.47	60.00	56.50	467.00	49.30	62.36	4000	63.32	4000	62.42	50.29	59.85
7	-0.18	70.00	66.50	424.70	53.90	67.08	4000	68.11	4000	67.11	54.90	64.44
8	0.08	80.00	76.50	400.50	58.15	71.85	3150	73.16	10000	71.46	59.20	68.76
9	0.33	90.00	86.50	390.20	62.08	75.96	3150	77.62	10000	75.33	63.15	72.69
10	0.59	100.00	96.50	392.00	65.55	79.54	3150	81.64	10000	78.74	66.63	76.13
11	0.86	110.00	106.50	406.20	68.74	82.78	3150	85.30	10000	81.89	69.83	79.29
12	1.18	120.00	116.50	435.20	71.02	85.22	3150	88.49	10000	84.24	72.12	81.60
13	1.58	130.00	126.50	484.50	65.38	79.27	3150	80.99	3150	78.35	66.49	75.78
14	2.10	140.00	136.50	565.80	58.98	72.18	2500	73.70	8000	70.50	60.13	68.99
15	2.89	150.00	146.50	705.60	51.88	64.70	2500	65.90	2500	63.25	53.01	61.69
16	4.28	160.00	156.50	976.70	43.59	55.67	2500	56.72	2500	54.62	44.72	53.12
17	7.59	170.00	166.50	1668.30	32.06	41.93	2500	41.93	0	42.14	33.13	41.09

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	71.02	85.22		88.49		84.24	72.12	81.60
TIME	1.18	1.18		1.18		1.18	1.18	1.18

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 76.42 EPNDB
SEL = 70.90 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
CORE
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	13.9	16.7	19.4	22.1	24.6	26.8	28.6	29.5	27.7	22.1	28.2	32.9	33.0	28.4	18.6	19.3	10.9	7.0	0.0	0.0	0.0	0.0	0.0	0.0
2	23.5	26.1	28.4	30.4	31.5	30.4	26.8	36.2	44.0	47.6	46.7	40.7	44.6	38.8	38.1	33.6	28.9	24.5	19.8	14.6	8.8	2.0	0.0	0.0
3	28.7	30.8	32.1	32.0	29.1	34.2	43.9	50.1	51.6	47.5	52.4	51.1	50.1	46.1	43.5	39.4	35.7	31.9	27.8	23.5	18.8	13.5	7.1	0.0
4	32.1	33.3	32.8	29.6	36.0	46.0	51.7	53.7	50.1	56.3	55.7	55.9	52.9	50.9	47.0	43.6	40.1	36.4	32.7	28.7	24.5	19.8	14.4	8.0
5	34.4	34.5	31.5	34.9	45.2	52.2	54.9	52.8	57.2	59.3	59.2	56.6	55.8	53.2	49.9	46.5	43.1	39.6	36.0	32.2	28.2	24.0	19.1	13.5
6	36.2	35.1	32.1	42.7	50.7	55.6	56.1	54.8	62.0	59.3	62.2	60.6	57.8	55.3	52.0	48.7	45.4	41.9	38.4	34.7	30.9	26.9	22.3	17.1
7	37.6	35.2	37.2	47.5	54.5	57.8	56.3	60.0	63.8	63.4	62.5	61.8	59.7	56.9	53.7	50.4	47.1	43.7	40.2	36.6	32.9	28.9	24.6	19.7
8	39.1	36.0	41.3	51.1	57.3	59.7	57.3	63.5	64.9	66.7	64.4	63.7	61.1	58.2	54.9	51.7	48.3	45.0	41.5	38.0	34.3	30.4	26.2	21.4
9	40.8	37.6	44.0	53.5	59.4	61.5	59.1	65.7	66.3	68.4	66.0	64.9	62.2	59.1	55.9	52.6	49.3	46.0	42.5	39.0	35.4	31.5	27.3	22.6
10	42.9	39.7	45.3	55.0	61.2	63.5	60.9	67.0	68.1	69.6	66.8	65.9	63.0	59.8	56.6	53.3	50.0	46.7	43.2	39.7	36.1	32.2	28.0	23.3
11	45.2	42.7	45.1	55.4	62.3	65.4	63.5	67.1	70.2	69.3	67.0	66.0	63.6	60.4	57.1	53.8	50.5	47.1	43.7	40.1	36.5	32.6	28.3	23.5
12	46.7	45.3	42.8	53.7	61.5	66.1	66.0	64.4	70.9	67.1	68.4	66.3	62.8	59.7	56.4	53.1	49.8	46.4	42.9	39.3	35.5	31.6	27.2	22.2
13	45.3	45.3	42.1	46.6	56.7	63.3	65.3	61.9	66.4	66.3	65.1	61.9	60.0	56.3	53.0	49.7	46.3	42.8	39.3	35.6	31.7	27.6	23.0	17.7
14	42.6	43.8	43.1	39.7	47.5	57.1	61.8	62.2	57.7	62.8	59.1	59.2	55.3	51.9	48.2	44.9	41.4	37.9	34.2	30.4	26.4	22.0	17.0	11.2
15	38.6	40.7	41.8	41.5	38.2	45.5	53.8	58.1	58.2	51.9	55.5	52.0	50.6	46.0	43.0	39.0	35.5	31.8	28.0	23.9	19.6	14.8	9.2	2.4
16	33.4	36.1	38.3	40.1	41.0	39.0	36.3	45.8	51.7	52.4	48.0	43.0	44.7	37.6	36.5	32.8	28.3	24.4	20.2	15.7	10.8	5.2	0.0	0.0
17	26.3	29.0	31.8	34.5	37.1	39.1	39.8	38.9	34.7	30.8	36.9	39.1	36.5	29.1	24.9	24.2	17.4	13.5	9.0	2.8	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	39.51	40.27	800	40.27	0	40.84	36.57	38.62
2	-3.62	20.00	16.50	1371.30	52.95	57.62	400	57.62	0	57.94	49.94	52.83
3	-2.07	30.00	26.50	872.90	59.13	64.01	500	64.01	0	63.89	56.06	58.92
4	-1.31	40.00	36.50	654.80	63.29	68.48	400	68.48	0	68.77	60.15	63.06
5	-0.83	50.00	46.50	536.90	66.17	71.67	400	71.67	0	71.80	62.77	65.94
6	-0.47	60.00	56.50	467.00	68.86	74.44	500	74.44	0	74.36	65.39	68.55
7	-0.18	70.00	66.50	424.70	70.84	76.21	400	76.21	0	76.27	67.06	70.45
8	0.08	80.00	76.50	400.50	72.97	78.65	400	78.65	0	78.43	68.98	72.48
9	0.33	90.00	86.50	390.20	74.55	80.20	400	80.20	0	79.93	70.36	73.98
10	0.59	100.00	96.50	392.00	75.83	81.35	400	81.35	0	81.05	71.40	75.16
11	0.86	110.00	106.50	406.20	76.56	81.68	400	81.68	0	81.47	71.86	75.78
12	1.18	120.00	116.50	435.20	76.52	81.51	315	81.51	0	81.17	71.73	75.66
13	1.58	130.00	126.50	484.50	73.60	78.28	400	78.28	0	78.22	68.59	72.65
14	2.10	140.00	136.50	565.80	69.33	73.94	400	73.94	0	73.74	64.23	68.32
15	2.89	150.00	146.50	705.60	63.97	67.75	315	67.75	0	67.33	58.78	63.04
16	4.28	160.00	156.50	976.70	57.27	61.52	400	61.52	0	61.29	52.52	56.54
17	7.59	170.00	166.50	1668.30	47.73	49.20	630	49.20	0	49.88	42.14	45.82

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	76.56	81.68		81.68		
TIME	0.86	0.86		0.86		
					81.47	71.86	75.78
					0.86	0.86	0.86

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 73.84 EPNDB
SEL = 74.19 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
JET
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	58.0	57.9	57.5	56.7	55.6	53.9	51.6	48.4	43.3	35.1	39.2	43.6	44.2	40.4	32.3	34.7	27.6	24.8	17.3	8.9	0.0	0.0	0.0	0.0
2	65.3	65.1	64.3	62.8	60.3	55.2	47.7	52.9	57.5	58.5	55.5	49.2	53.6	48.7	49.7	46.8	43.5	40.1	36.2	31.5	25.8	18.8	9.3	0.0
3	68.4	67.6	65.7	62.3	55.7	56.9	62.6	64.6	63.0	56.2	59.0	57.6	57.1	54.0	53.2	50.7	48.3	45.6	42.3	38.4	33.8	28.2	21.0	11.7
4	69.6	68.0	64.4	57.8	60.5	66.7	68.3	66.2	59.5	63.1	60.5	60.7	58.2	57.1	55.0	53.1	50.9	48.4	45.4	41.8	37.7	32.7	26.5	18.6
5	69.9	67.2	61.0	61.1	67.7	70.7	69.5	63.4	64.6	64.2	62.4	59.8	59.6	58.0	56.4	54.6	52.4	50.0	47.1	43.7	39.8	35.2	29.4	22.3
6	69.7	65.7	59.6	66.9	71.2	72.2	68.6	63.5	67.6	62.4	63.9	62.3	60.1	58.8	57.2	55.4	53.3	50.8	48.0	44.7	40.9	36.5	31.0	24.4
7	69.5	64.3	63.1	70.1	73.5	72.8	67.3	67.4	68.2	65.3	63.4	62.8	61.3	59.9	58.3	56.5	54.4	51.9	49.1	45.9	42.1	37.8	32.5	26.1
8	69.7	63.8	66.0	72.4	75.0	73.5	67.0	69.9	68.4	67.8	64.8	64.3	62.4	60.9	59.3	57.4	55.2	52.8	49.9	46.7	43.0	38.7	33.5	27.2
9	69.9	63.8	67.2	73.3	75.6	73.7	67.2	70.6	68.4	68.3	65.5	64.8	62.9	61.4	59.7	57.8	55.6	53.1	50.2	46.9	43.2	38.9	33.7	27.4
10	70.2	64.3	66.8	73.1	75.6	74.0	67.5	70.4	68.8	68.4	65.4	64.9	62.9	61.4	59.7	57.7	55.4	52.8	49.9	46.5	42.7	38.3	33.1	26.8
11	71.3	66.0	65.3	72.1	75.3	74.4	68.6	69.0	69.4	66.8	64.4	63.8	62.4	60.8	59.0	56.9	54.5	51.9	48.8	45.3	41.4	36.8	31.4	25.0
12	73.3	69.1	63.2	70.5	74.3	74.7	70.5	65.5	69.2	63.8	64.9	63.3	61.0	59.4	57.5	55.3	52.8	49.9	46.7	43.0	38.8	34.1	28.4	21.7
13	75.6	72.4	65.5	65.9	71.5	73.3	70.9	63.7	65.1	63.7	62.5	59.8	59.2	56.8	54.8	52.4	49.6	46.5	43.0	39.0	34.6	29.4	23.3	16.1
14	76.5	73.8	68.7	60.4	62.8	66.8	66.7	63.3	56.3	60.7	57.2	57.9	55.2	53.0	50.3	47.6	44.5	41.0	37.1	32.7	27.7	22.1	15.3	7.2
15	73.5	70.5	66.0	59.5	50.1	51.8	56.5	58.3	56.5	49.8	53.5	50.3	49.9	46.2	43.8	40.1	36.5	32.5	28.0	22.9	17.3	10.8	2.9	0.0
16	68.1	64.3	59.4	54.1	49.1	42.8	37.3	44.5	48.2	48.3	43.7	38.7	41.0	34.3	33.4	29.4	24.5	19.7	14.3	8.3	1.4	0.0	0.0	0.0
17	62.0	58.0	53.1	47.9	43.4	40.1	37.5	33.8	27.1	22.1	27.6	29.3	26.7	19.3	14.6	13.1	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	65.05	60.96	160	64.46	1600	61.80	50.67	58.28
2	-3.62	20.00	16.50	1371.30	71.78	72.41	400	72.71	1250	72.10	60.75	66.20
3	-2.07	30.00	26.50	872.90	74.57	76.70	250	76.70	0	76.71	65.06	70.33
4	-1.31	40.00	36.50	654.80	76.30	79.41	200	79.41	0	79.50	67.48	72.89
5	-0.83	50.00	46.50	536.90	77.57	80.94	200	80.94	0	80.86	68.71	74.43
6	-0.47	60.00	56.50	467.00	78.63	81.94	160	81.94	0	81.63	69.73	75.51
7	-0.18	70.00	66.50	424.70	79.75	83.02	160	83.02	0	82.73	70.72	76.61
8	0.08	80.00	76.50	400.50	80.99	84.12	160	84.12	0	84.10	71.98	77.82
9	0.33	90.00	86.50	390.20	81.50	84.64	125	84.64	0	84.63	72.43	78.27
10	0.59	100.00	96.50	392.00	81.55	84.61	125	84.61	0	84.62	72.47	78.30
11	0.86	110.00	106.50	406.20	81.37	84.30	160	84.30	0	84.14	71.85	77.89
12	1.18	120.00	116.50	435.20	81.25	83.70	160	83.70	0	83.34	70.99	77.26
13	1.58	130.00	126.50	484.50	80.85	81.80	160	81.80	0	81.63	68.87	75.62
14	2.10	140.00	136.50	565.80	79.74	77.28	200	77.28	0	77.53	64.72	71.95
15	2.89	150.00	146.50	705.60	76.12	70.03	250	70.03	0	71.17	58.45	66.61
16	4.28	160.00	156.50	976.70	70.25	60.91	400	60.91	0	62.55	49.91	59.72
17	7.59	170.00	166.50	1668.30	64.02	47.03	50	47.03	0	51.50	39.17	52.78

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	81.55	84.64		84.64		84.63	72.47	78.30
TIME	0.59	0.33		0.33		0.33	0.59	0.59

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 78.67 EPNDB
SEL = 76.40 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02 28-95
AIRFRAME
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	61.3	62.0	62.6	61.5	61.1	60.6	60.7	58.4	54.6	48.0	52.9	58.1	60.0	58.2	50.4	54.7	49.7	49.1	38.3	30.3	23.8	12.4	0.0	0.0
2	68.9	69.5	69.7	67.9	66.0	62.2	57.0	63.1	69.4	72.4	70.4	63.6	69.1	66.1	68.3	67.4	66.0	64.9	57.7	53.4	49.2	43.0	35.3	20.7
3	72.5	73.7	71.8	67.8	62.1	64.6	72.5	76.0	76.0	69.6	73.9	73.8	73.4	71.7	72.0	70.8	69.1	69.4	64.1	60.7	57.0	52.0	46.3	34.4
4	74.6	74.4	70.2	63.2	66.8	74.6	78.4	78.0	72.2	77.2	76.4	77.3	74.8	75.4	73.8	72.5	71.2	71.1	67.3	64.2	60.8	56.3	51.4	40.7
5	75.2	71.8	65.4	66.7	73.9	78.3	79.5	75.3	78.3	79.0	78.9	76.8	76.4	76.0	74.9	73.7	72.8	71.8	68.8	65.9	62.6	58.4	54.0	43.9
6	73.5	69.7	64.1	71.7	77.6	79.5	78.5	75.3	81.2	77.2	80.0	79.1	76.7	76.2	75.2	73.9	73.3	71.5	69.4	66.6	63.4	59.4	55.2	45.5
7	72.1	67.6	66.2	73.8	79.5	79.9	76.7	79.2	81.6	79.7	79.0	78.6	77.2	76.3	75.3	73.7	72.9	71.3	69.3	66.5	63.4	59.4	55.4	46.3
8	71.6	65.6	67.1	75.2	80.2	79.9	75.8	81.1	81.1	81.0	79.7	79.0	77.2	76.2	75.0	73.2	72.5	71.1	68.8	66.4	63.6	59.4	55.5	46.5
9	70.8	64.6	67.1	75.5	79.4	79.7	75.5	81.2	80.1	80.8	79.3	78.4	76.4	75.8	74.6	73.1	72.4	70.7	68.6	66.5	63.5	59.4	55.5	46.2
10	70.8	64.5	66.8	74.3	78.7	79.7	74.8	80.3	79.3	80.4	78.3	77.6	76.2	75.0	73.9	72.9	71.9	70.6	68.3	66.4	63.3	59.4	55.6	45.6
11	69.5	64.3	64.6	73.1	78.2	79.6	75.2	77.8	79.0	78.3	76.7	75.9	75.5	74.4	73.1	72.2	71.0	69.3	67.9	66.0	62.8	59.1	55.3	44.4
12	68.5	66.0	61.3	70.9	77.1	78.9	77.0	73.6	79.0	75.4	77.2	75.4	73.9	72.9	71.9	71.0	69.7	68.0	66.5	64.5	61.2	57.5	53.6	42.6
13	67.5	66.8	62.3	64.8	73.1	77.8	78.2	72.5	76.0	75.5	75.5	73.2	73.1	71.7	70.3	69.3	68.0	66.3	64.7	62.7	59.4	55.5	51.4	40.2
14	67.1	67.5	65.3	60.3	65.6	73.5	77.1	76.0	69.6	74.0	71.2	72.6	71.2	70.1	68.5	67.6	66.2	64.3	62.7	60.5	57.1	53.0	48.6	37.0
15	65.6	66.7	65.9	64.8	57.4	63.8	71.8	74.4	73.1	64.4	68.4	67.0	69.2	66.9	66.1	65.0	63.5	61.3	59.5	57.1	53.5	49.1	44.1	31.7

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	71.43	74.98	1600	76.53	1600	75.25	64.96	69.00
2	-3.62	20.00	16.50	1371.30	80.50	88.27	2500	88.62	2500	88.47	77.09	81.85
3	-2.07	30.00	26.50	872.90	84.88	93.25	2500	94.12	2500	92.89	81.48	86.37
4	-1.31	40.00	36.50	654.80	87.36	95.68	2500	95.82	8000	95.40	83.97	88.79
5	-0.83	50.00	46.50	536.90	88.64	96.93	2500	97.06	8000	96.79	85.18	90.10
6	-0.47	60.00	56.50	467.00	89.37	97.31	2500	97.42	8000	97.24	85.80	90.63
7	-0.18	70.00	66.50	424.70	89.82	97.46	2500	97.53	8000	97.28	85.90	90.76
8	0.08	80.00	76.50	400.50	90.20	97.52	400	97.59	8000	97.24	86.05	90.85
9	0.33	90.00	86.50	390.20	89.80	97.24	400	97.34	8000	96.96	85.64	90.53
10	0.59	100.00	96.50	392.00	89.19	96.77	2500	96.96	8000	96.56	85.07	90.06
11	0.86	110.00	106.50	406.20	88.15	95.74	2500	96.03	8000	95.64	83.98	89.06
12	1.18	120.00	116.50	435.20	87.20	94.50	2500	94.79	8000	94.47	82.89	87.92
13	1.58	130.00	126.50	484.50	85.83	92.86	2500	93.15	8000	92.92	81.42	86.41
14	2.11	140.00	136.50	565.80	83.89	90.78	2500	91.08	8000	90.94	79.52	84.48
15	2.89	150.00	146.50	705.60	80.85	87.89	250	88.22	8000	87.69	76.49	81.46

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	90.20	97.52		97.59		97.28	86.05	90.85
TIME	0.08	0.08		0.08		-0.18	0.08	0.08

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 93.06 EPNDB
SEL = 91.19 DB

MAR. 03, 1995.

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
TOTAL
*

MEDIUM TWIN AIRPLANE MODEL
APPROACH CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	63.0	63.4	63.8	62.8	62.2	61.5	61.3	59.0	55.3	48.8	54.0	59.5	61.7	60.1	53.2	57.9	56.4	53.4	47.6	44.6	36.4	24.1	9.7	4.0
2	70.5	70.9	70.8	69.1	67.1	63.1	57.6	63.7	70.0	73.1	71.3	65.2	71.1	68.4	71.1	70.5	72.7	69.2	67.1	67.5	64.1	57.9	51.9	41.3
3	73.9	74.7	72.8	68.9	63.0	65.4	73.0	76.5	76.5	70.4	74.9	75.0	75.2	73.9	74.7	74.2	77.2	74.4	73.4	74.4	72.1	67.4	63.8	56.6
4	75.8	75.3	71.2	64.3	67.8	75.3	78.9	78.5	72.8	77.9	77.2	78.4	76.4	77.2	76.3	79.6	76.3	76.6	77.9	76.0	75.6	72.5	68.4	63.9
5	76.3	73.1	66.8	67.8	74.9	79.1	80.1	75.8	78.8	79.7	79.7	77.8	77.9	77.7	77.2	80.3	77.3	77.4	78.7	77.2	76.8	74.5	71.5	68.0
6	75.0	71.2	65.4	73.0	78.5	80.3	79.1	75.8	81.7	77.8	80.7	80.0	78.0	77.7	77.2	79.4	76.9	76.5	77.7	76.3	76.1	74.6	72.4	69.5
7	74.0	69.3	67.9	75.4	80.5	80.8	77.3	79.7	82.1	80.3	79.7	79.6	78.5	78.0	77.5	78.8	76.2	75.6	76.6	75.1	74.9	73.9	72.1	69.8
8	73.8	67.8	69.6	77.1	81.4	80.9	76.5	81.7	81.7	81.9	80.7	80.5	79.3	78.8	78.3	79.2	76.4	75.1	75.4	74.1	74.0	73.3	72.0	70.3
9	73.4	67.2	70.2	77.6	81.0	80.9	76.4	82.0	81.0	82.1	80.8	80.7	79.8	79.6	79.2	79.4	76.7	74.7	74.3	74.0	73.2	73.1	72.2	71.4
10	73.5	67.4	69.9	76.9	80.6	81.0	76.1	81.4	80.8	82.2	80.7	81.1	80.6	80.4	80.8	79.0	77.1	75.5	73.8	74.6	74.3	73.6	73.4	72.6
11	73.5	68.3	68.0	75.8	80.2	81.1	76.8	79.3	81.1	80.7	79.8	80.4	80.6	80.5	80.7	78.8	76.7	75.1	74.2	74.6	74.4	73.9	73.6	72.4
12	74.6	70.9	65.4	73.8	79.2	80.8	78.7	75.5	81.2	78.0	80.7	80.4	79.7	79.7	80.4	78.1	76.0	75.1	74.6	74.8	74.2	73.5	73.1	71.4
13	76.2	73.5	67.2	68.5	75.6	79.5	79.6	74.2	78.0	78.2	78.9	77.7	78.7	78.1	78.8	76.3	74.4	73.8	72.8	73.5	72.7	71.7	71.0	68.6
14	77.0	74.7	70.4	63.4	67.6	74.7	78.0	77.1	71.2	76.6	74.7	77.0	76.3	76.1	75.8	74.1	72.1	71.2	70.5	70.7	69.9	68.8	67.6	64.4
15	74.2	72.0	69.0	66.0	58.4	64.4	72.3	75.1	74.2	67.0	72.2	71.4	73.6	72.3	72.6	70.8	69.2	68.2	67.5	67.2	65.9	64.2	62.0	57.7
16	68.1	64.3	59.6	55.1	52.1	48.3	45.1	54.9	61.4	64.4	62.8	61.1	66.5	63.2	65.9	64.3	62.0	61.3	60.8	59.7	58.1	55.7	52.1	46.0
17	62.0	58.0	53.3	49.0	47.4	47.7	48.2	47.6	44.3	42.8	51.9	57.4	58.6	55.3	55.1	56.9	52.9	52.5	51.5	48.4	45.1	40.4	33.4	22.7

NASA AST TASK 5 -- MEDIUM TWIN AIRPLANE MODEL -- APPROACH -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-9.64	10.00	6.50	3440.40	72.86	78.33	2000	79.36	1600	78.78	67.35	71.93
2	-3.62	20.00	16.50	1371.30	82.69	93.43	2000	94.33	2000	93.18	80.73	87.05
3	-2.07	30.00	26.50	872.90	87.30	98.83	4000	99.76	2000	98.59	85.70	92.62
4	-1.31	40.00	36.50	654.80	89.84	101.91	3150	103.01	1600	101.68	88.32	95.27
5	-0.83	50.00	46.50	536.90	91.00	103.09	3150	104.11	1600	102.89	89.33	96.32
6	-0.47	60.00	56.50	467.00	91.29	102.82	3150	102.86	1600	102.57	89.15	95.80
7	-0.18	70.00	66.50	424.70	91.50	102.37	3150	102.37	0	102.04	88.83	95.13
8	0.08	80.00	76.50	400.50	92.04	102.14	3150	102.14	0	101.81	89.15	94.93
9	0.33	90.00	86.50	390.20	92.12	101.89	1600	101.89	0	101.76	89.33	94.77
10	0.59	100.00	96.50	392.00	92.28	102.18	4000	102.18	0	101.98	89.82	95.14
11	0.86	110.00	106.50	406.20	91.88	102.01	4000	102.01	0	101.79	89.57	94.95
12	1.18	120.00	116.50	435.20	91.40	101.72	4000	101.72	0	101.58	89.15	94.70
13	1.58	130.00	126.50	484.50	89.95	100.22	4000	100.22	0	100.08	87.53	93.13
14	2.10	140.00	136.50	565.80	87.82	97.60	4000	97.60	0	97.55	85.10	90.61
15	2.89	150.00	146.50	705.60	84.37	93.97	3150	93.97	0	93.79	81.61	87.21
16	4.28	160.00	156.50	976.70	75.78	85.67	3150	86.11	1250	85.54	73.93	79.61
17	7.59	170.00	166.50	1668.30	67.79	75.91	1600	76.85	1600	76.38	65.08	70.20

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	92.28	103.09		104.11		102.89	89.82	96.32
TIME	0.59	-0.83		-0.83		-0.83	0.59	-0.83

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 99.01 EPNDB
SEL = 95.61 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
INLET
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	28.2	31.0	38.3	36.3	38.7	42.7	43.3	44.5	44.8	42.4	37.5	48.3	53.3	53.7	49.9	43.5	45.5	47.4	34.1	24.6	15.2	3.0	2.3	2.3
2	34.0	45.0	39.1	41.2	46.2	42.2	39.7	42.6	52.7	58.6	60.4	59.3	62.7	62.4	61.5	60.0	59.5	67.7	55.2	51.2	48.8	37.6	25.5	5.6
3	37.2	49.0	40.8	41.2	43.7	40.1	51.0	57.5	60.7	58.6	61.4	68.0	66.3	65.4	66.0	65.5	65.2	74.4	63.3	61.0	60.4	52.3	44.4	29.9
4	39.0	51.4	40.2	37.4	46.5	51.7	58.8	60.7	58.2	63.5	66.2	70.2	69.2	68.4	67.9	67.7	67.8	77.3	67.0	65.5	65.5	59.2	53.1	42.1
5	38.9	50.7	36.7	37.9	54.3	55.9	60.1	58.3	61.1	65.6	66.0	70.2	70.3	68.0	67.5	67.3	67.7	77.1	67.5	66.4	67.0	63.1	54.9	48.0
6	37.4	47.3	32.9	42.7	56.6	57.8	57.2	55.4	63.6	61.7	67.4	70.5	68.5	66.7	66.2	66.2	77.0	67.0	66.8	68.7	64.7	63.3	57.6	48.8
7	50.4	32.4	33.1	53.4	50.9	56.7	54.2	56.5	61.9	62.5	68.9	69.9	67.0	64.9	64.3	64.5	75.0	65.5	65.4	67.3	63.5	62.0	56.9	48.7
8	47.8	26.8	31.3	53.0	47.6	53.5	49.0	54.6	57.1	61.2	66.7	67.9	63.4	61.2	60.5	60.8	71.1	61.9	61.8	63.7	59.9	58.2	53.2	45.3
9	43.5	22.0	28.0	49.6	43.6	49.2	44.5	50.9	53.0	58.6	65.4	64.0	58.6	57.1	56.6	57.2	67.2	58.3	58.1	59.9	56.0	53.9	49.0	40.8
10	39.6	17.9	23.2	45.3	39.1	45.0	40.3	46.3	48.7	54.5	61.1	58.5	53.9	52.7	52.6	53.3	62.9	54.3	54.0	55.5	52.7	47.2	43.7	35.0
11	35.9	14.5	17.0	39.9	39.8	36.9	36.6	41.6	44.0	48.9	56.3	53.1	49.6	48.4	48.5	59.1	49.7	49.7	51.8	48.4	47.3	42.9	36.0	28.2
12	13.2	11.8	25.2	20.2	34.0	35.1	33.7	33.3	43.7	48.6	50.4	48.2	44.4	43.4	43.7	54.1	44.8	44.7	46.5	42.8	41.1	36.3	28.7	20.0
13	9.4	9.2	21.4	11.1	26.8	29.6	30.3	27.3	37.1	45.3	45.8	41.3	39.4	38.0	38.4	48.4	39.2	38.9	40.5	36.4	33.9	28.4	20.0	10.6
14	6.1	6.7	20.7	4.3	16.8	22.0	25.1	25.7	26.7	44.0	26.9	36.5	33.6	32.2	32.5	42.2	32.8	32.2	33.3	28.6	25.4	18.9	9.7	3.4
15	3.7	4.3	18.4	4.2	6.1	10.6	16.5	22.1	27.0	31.7	23.4	26.6	27.3	25.9	25.6	34.7	25.1	24.0	24.3	18.8	14.1	6.5	2.8	2.3
16	2.7	2.9	13.8	3.3	6.8	3.6	3.7	10.2	20.3	30.4	11.1	20.1	18.6	16.0	14.9	23.7	13.9	11.9	10.4	5.7	3.0	2.4	2.3	2.3

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	59.40	67.30	2500	69.84	2500	66.34	58.71	62.26
2	-5.84	30.00	20.10	3070.30	72.13	84.95	2500	88.40	2500	82.96	72.39	79.62
3	-3.59	40.00	30.10	2103.90	77.87	91.66	2500	95.04	2500	89.67	78.37	86.31
4	-2.34	50.00	40.10	1638.10	80.79	94.90	2500	98.20	2500	92.85	81.29	89.38
5	-1.49	60.00	50.10	1375.40	80.95	95.17	2500	98.34	2500	93.17	81.35	89.44
6	-0.82	70.00	60.10	1217.20	80.63	93.96	2000	97.43	2000	93.00	81.00	87.93
7	-0.25	80.00	70.10	1122.20	79.27	92.41	2000	95.75	2000	91.43	79.41	86.29
8	0.28	90.00	80.10	1071.10	75.98	88.78	2000	92.03	2000	87.81	75.88	82.62
9	0.81	100.00	90.10	1055.20	72.50	84.95	2000	88.10	2000	83.99	72.19	78.87
10	1.37	110.00	100.10	1071.80	68.07	80.55	2000	83.58	2000	79.58	67.82	74.61
11	1.99	120.00	110.10	1123.60	63.64	75.27	1600	78.60	1600	75.32	63.50	69.42
12	2.74	130.00	120.10	1219.60	58.77	70.15	1600	73.43	1600	70.17	58.46	64.27
13	3.69	140.00	130.10	1379.40	53.42	64.24	1600	67.44	1600	64.30	52.86	58.48
14	5.01	150.00	140.10	1644.90	47.84	57.29	1600	60.47	1600	57.68	46.73	52.04
15	7.10	160.00	150.10	2116.70	39.11	48.64	1600	48.64	0	49.25	38.60	43.62
16	11.12	170.00	160.10	3099.90	32.57	34.99	400	34.99	0	36.69	29.87	34.24

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	80.95	95.17		98.34		93.17	81.35	89.44
TIME	-1.49	-1.49		-1.49		-1.49	-1.49	-1.49

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 93.98 EPNDB
SEL = 87.36 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
AFTFAN
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	14.5	18.1	21.5	24.7	27.7	30.5	32.6	34.3	34.6	32.1	27.2	35.4	41.3	42.8	39.6	33.3	35.2	26.9	22.9	13.1	4.1	2.3	2.3	2.3
2	21.4	25.0	28.3	31.0	32.8	32.9	30.2	33.6	43.8	49.6	51.2	47.7	52.0	53.2	52.9	51.5	50.9	49.4	45.6	41.1	35.4	26.5	13.7	2.9
3	26.1	29.1	31.4	32.4	30.9	32.2	42.7	49.8	53.2	51.0	53.6	58.0	57.3	58.3	59.6	59.3	58.8	59.1	55.9	52.9	49.9	43.3	35.0	21.9
4	29.3	31.6	32.2	30.0	34.0	45.1	51.5	54.3	51.9	57.4	59.7	61.2	61.6	63.3	63.7	63.8	63.5	64.8	60.5	57.7	56.5	50.6	45.2	34.9
5	34.1	35.4	33.6	35.3	46.3	54.1	57.5	56.6	59.6	64.2	63.9	65.8	67.8	68.8	69.3	69.4	69.0	70.5	65.6	62.6	62.2	58.5	52.0	44.7
6	38.0	38.0	35.1	45.4	54.3	59.7	60.9	59.0	67.2	65.8	70.7	71.7	72.4	73.4	73.8	73.7	75.7	71.5	68.7	68.1	63.7	62.9	57.9	50.5
7	40.9	39.5	40.9	51.9	59.6	63.4	62.5	65.5	70.9	70.5	72.7	75.0	76.0	76.9	77.2	77.1	78.9	74.3	71.4	70.3	67.3	66.2	61.9	55.5
8	42.9	40.7	45.8	56.3	63.0	65.8	63.6	69.9	72.5	74.8	75.1	77.7	78.5	79.3	79.6	79.3	80.1	76.3	73.3	72.3	70.1	68.8	64.7	58.9
9	44.5	42.1	48.6	58.7	65.0	67.3	65.0	72.1	73.7	76.6	77.0	79.3	80.0	80.6	80.9	80.5	80.6	77.1	74.1	73.4	71.7	70.3	66.1	60.6
10	45.4	43.0	48.9	59.1	65.5	68.0	65.6	72.4	74.2	77.0	77.1	79.5	80.1	80.7	80.8	80.3	80.5	76.5	73.9	73.8	72.4	69.5	66.0	59.9
11	45.4	43.5	46.7	57.4	64.4	67.6	65.8	70.4	74.0	75.0	75.4	77.7	78.9	79.4	79.5	80.7	77.5	75.1	74.9	71.7	71.7	68.7	64.0	57.7
12	44.8	43.9	42.3	53.7	61.6	66.2	66.2	65.8	72.8	70.9	74.9	76.3	76.6	77.1	77.1	77.7	75.0	72.6	72.7	69.5	69.1	65.7	60.5	53.4
13	43.3	43.7	40.8	46.8	56.7	63.2	65.3	62.3	68.5	69.7	72.5	72.3	74.0	73.8	73.8	74.0	71.5	69.2	68.5	65.9	64.5	60.7	55.1	46.7
14	40.9	42.5	41.9	38.8	48.5	57.6	62.3	62.8	59.8	67.5	65.7	69.9	70.0	69.7	69.6	69.8	67.4	65.1	64.0	61.4	58.9	54.3	47.4	37.1
15	37.9	40.4	41.8	41.2	37.9	47.9	55.9	60.2	60.4	57.4	64.4	62.4	65.9	65.4	64.7	64.3	61.8	59.3	57.5	54.2	50.6	44.4	35.5	22.1
16	33.1	36.3	38.8	40.5	40.9	37.9	40.2	49.6	55.6	57.3	54.3	57.1	59.1	57.8	56.6	56.5	53.7	50.7	47.7	42.9	36.3	27.4	14.1	2.9

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	48.00	53.79	2000	56.53	2000	54.07	47.24	49.64
2	-5.84	30.00	20.10	3070.30	61.08	70.59	2500	70.59	0	70.76	60.89	65.85
3	-3.59	40.00	30.10	2103.90	68.18	79.75	2500	79.75	0	79.36	68.36	74.69
4	-2.34	50.00	40.10	1638.10	72.86	85.17	2500	86.03	2500	84.33	73.12	79.74
5	-1.49	60.00	50.10	1375.40	78.40	90.90	2500	91.97	2500	90.00	78.67	85.25
6	-0.82	70.00	60.10	1217.20	82.92	94.79	2000	95.83	2000	94.42	83.06	89.01
7	-0.25	80.00	70.10	1122.20	86.19	98.06	2000	99.12	2000	97.65	86.29	92.03
8	0.28	90.00	80.10	1071.10	88.42	99.97	2000	99.99	2000	99.69	88.38	93.95
9	0.81	100.00	90.10	1055.20	89.67	100.97	2000	100.97	0	100.78	89.52	94.91
10	1.37	110.00	100.10	1071.80	89.70	100.95	2000	100.95	0	100.71	89.47	94.81
11	1.99	120.00	110.10	1123.60	88.48	99.56	1600	99.56	0	99.66	88.31	93.[illegible]
12	2.74	130.00	120.10	1219.60	86.20	96.94	1600	96.94	0	97.14	85.91	91.[illegible]
13	3.69	140.00	130.10	1379.40	82.90	93.29	1600	93.29	0	93.51	82.49	87.62
14	5.01	150.00	140.10	1644.90	78.81	88.87	1600	88.87	0	89.16	78.36	83.34
15	7.10	160.00	150.10	2116.70	73.81	83.10	1600	83.10	0	83.45	73.20	77.64
16	11.12	170.00	160.10	3099.90	66.61	74.81	1600	74.81	0	75.20	65.65	69.50

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	89.70	100.97		100.97		100.78	89.52	94.91
TIME	1.37	0.81		0.81		0.81	0.81	0.81

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 95.98 EPNDB
SEL = 94.40 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
TURBINE
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.3
2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.9	3.8	5.0	6.2	8.3	9.7	10.7	9.7	6.7	3.2	2.3	2.3
3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.7	4.2	5.2	7.7	11.5	14.5	17.7	20.6	22.9	23.2	21.1	15.7	5.5	2.4
4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.5	3.2	4.8	7.3	9.8	14.2	17.9	21.8	25.5	28.9	31.9	32.5	31.3	27.0	15.8	4.7
5	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.6	3.2	5.7	7.2	11.0	15.6	19.8	24.0	28.1	32.1	35.7	38.9	39.7	40.1	32.8	24.0	12.4
6	2.3	2.3	2.3	2.3	2.4	2.6	2.8	2.8	6.2	7.0	13.3	17.1	20.8	25.2	29.6	33.8	37.9	41.7	44.6	45.4	45.7	38.2	29.7	19.9
7	2.3	2.3	2.3	2.3	2.5	3.0	3.2	4.7	9.7	11.7	16.4	21.6	25.8	30.3	34.7	39.0	43.1	47.0	49.6	50.3	50.5	42.4	33.8	25.7
8	2.3	2.3	2.3	2.4	3.0	4.0	3.9	8.5	12.9	17.7	20.8	26.4	30.4	35.0	39.4	43.7	47.9	51.9	54.0	54.6	54.6	45.7	36.9	30.4
9	2.3	2.3	2.3	2.6	4.0	5.8	5.6	12.5	16.5	22.1	25.4	30.7	34.8	39.4	43.8	48.1	52.3	56.3	58.0	61.3	54.2	48.4	42.2	28.2
10	2.3	2.3	2.4	3.0	5.8	8.7	8.3	16.2	20.7	26.3	29.3	34.8	38.9	43.4	47.9	52.2	56.3	59.9	61.3	64.5	56.4	50.1	45.0	29.7
11	2.3	2.3	2.4	3.4	7.3	11.3	11.4	17.9	24.2	28.0	31.5	36.9	41.6	46.1	50.6	54.8	59.0	62.0	63.2	67.1	57.1	50.2	46.9	29.2
12	2.3	2.3	2.3	2.6	4.6	8.3	10.0	11.7	21.0	22.0	29.0	33.6	37.5	42.0	46.3	50.6	54.6	57.2	58.1	60.3	50.6	43.1	39.0	21.1
13	2.3	2.3	2.3	2.3	2.9	5.1	7.7	7.3	14.9	18.9	24.6	27.7	32.9	36.8	41.1	45.2	49.1	51.3	51.8	52.1	42.9	34.6	28.9	19.7
14	2.3	2.3	2.3	2.3	2.4	3.0	4.9	6.6	6.5	15.1	16.4	23.7	27.4	31.1	35.1	39.1	42.8	44.4	46.5	40.2	33.9	26.3	13.0	5.7
15	2.3	2.3	2.3	2.3	2.3	2.3	2.8	4.3	5.7	5.6	13.4	14.5	21.4	24.9	28.3	31.8	35.1	36.0	36.7	29.9	22.5	12.8	3.5	2.3
16	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	3.3	4.8	4.7	8.3	13.0	15.6	18.2	21.8	24.3	24.2	22.8	15.0	6.8	2.6	2.3	2.3

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	16.13	0.00	0	0.00	0	10.49	14.09	21.26
2	-5.84	30.00	20.10	3070.30	19.01	21.47	3150	21.47	0	24.93	18.73	27.26
3	-3.59	40.00	30.10	2103.90	29.15	39.47	4000	39.47	0	40.13	30.01	39.38
4	-2.34	50.00	40.10	1638.10	38.21	50.15	4000	50.15	0	51.09	39.10	48.56
5	-1.49	60.00	50.10	1375.40	45.55	57.83	4000	59.12	5000	58.68	46.43	55.91
6	-0.82	70.00	60.10	1217.20	51.24	63.74	4000	65.04	5000	64.57	52.13	61.62
7	-0.25	80.00	70.10	1122.20	56.17	68.79	4000	70.17	5000	69.60	57.07	66.57
8	0.28	90.00	80.10	1071.10	60.51	73.18	4000	74.16	5000	73.94	61.44	70.93
9	0.81	100.00	90.10	1055.20	64.81	78.60	4000	80.33	4000	78.18	65.83	75.48
10	1.37	110.00	100.10	1071.80	68.07	81.85	4000	83.74	4000	81.39	69.10	78.72
11	1.99	120.00	110.10	1123.60	70.31	84.19	4000	86.50	4000	83.57	71.36	80.98
12	2.74	130.00	120.10	1219.60	64.56	77.95	4000	79.93	4000	77.64	65.63	75.10
13	3.69	140.00	130.10	1379.40	57.83	70.44	4000	72.03	4000	70.43	58.93	68.20
14	5.01	150.00	140.10	1644.90	50.73	63.79	3150	65.19	3150	63.00	51.86	60.99
15	7.10	160.00	150.10	2116.70	41.98	54.02	3150	54.02	0	53.18	43.10	51.83
16	11.12	170.00	160.10	3099.90	30.28	39.01	2500	39.01	0	39.69	31.26	39.29

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	70.31	84.19		86.50		83.57	71.36	80.98
TIME	1.99	1.99		1.99		1.99	1.99	1.99

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 77.54 EPNDB
SEL = 72.91 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
CORE
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	23.3	26.1	28.7	31.3	33.8	36.2	38.1	39.6	39.4	36.2	30.2	36.2	38.8	36.7	29.4	18.7	16.4	3.8	0.0	0.0	0.0	0.0	0.0	0.0
2	30.7	33.4	35.9	38.0	39.3	39.0	36.1	39.3	48.9	54.0	54.5	48.7	49.7	47.2	42.7	37.0	32.2	26.0	19.1	11.1	1.5	0.0	0.0	0.0
3	35.5	37.5	39.0	39.5	37.4	38.3	48.6	55.6	58.3	55.4	56.8	58.6	54.6	51.9	48.9	44.3	39.6	34.6	28.9	22.5	15.1	6.2	0.0	0.0
4	38.5	39.9	39.7	36.9	40.5	51.2	57.4	60.1	57.0	61.6	62.7	61.4	58.3	56.4	52.4	48.4	44.1	39.5	34.5	28.9	22.5	14.9	5.1	0.0
5	40.6	41.0	38.4	39.6	50.1	57.6	60.9	59.7	61.9	65.7	64.1	62.9	61.4	58.7	55.0	51.1	47.1	42.7	38.0	32.8	27.0	20.3	11.6	0.5
6	42.2	41.3	37.7	47.5	56.0	61.2	62.1	59.9	67.3	64.9	68.1	66.0	63.2	60.4	56.8	53.0	49.0	44.9	40.4	35.4	30.0	23.7	15.7	5.7
7	43.5	41.3	42.0	52.5	59.8	63.4	62.3	64.7	69.4	68.0	68.0	67.1	64.5	61.5	58.0	54.2	50.4	46.3	41.9	37.2	31.9	25.9	18.4	8.9
8	44.7	41.7	46.2	56.2	62.5	65.1	62.8	68.4	70.2	71.4	69.1	68.3	65.5	62.3	58.8	55.1	51.3	47.2	42.9	38.3	33.1	27.3	20.0	10.8
9	46.2	42.9	49.0	58.5	64.6	66.7	64.2	70.5	71.3	73.0	70.3	69.2	66.3	62.8	59.3	55.6	51.8	47.8	43.5	38.9	33.7	27.9	20.7	11.7
10	48.0	44.8	50.3	60.0	66.2	68.5	65.8	71.7	72.7	73.9	70.8	69.7	66.6	63.1	59.6	55.9	52.1	48.0	43.7	39.0	33.9	28.0	20.7	11.6
11	49.1	46.5	49.1	59.4	66.2	69.2	66.9	70.7	73.4	72.4	69.6	68.4	65.7	62.2	58.6	54.9	51.0	47.0	42.6	37.8	32.6	26.6	19.0	9.6
12	47.8	46.3	44.1	55.2	62.8	67.3	66.7	65.5	71.4	67.3	68.0	65.8	62.1	58.6	55.0	51.2	47.2	43.1	38.6	33.6	28.2	21.9	13.9	3.8
13	45.3	45.1	41.7	47.3	57.1	63.3	64.8	61.0	66.1	64.7	64.1	60.3	57.8	53.7	50.0	46.1	42.0	37.7	33.0	27.8	22.0	15.2	6.5	0.0
14	41.9	42.9	41.8	38.4	47.8	56.8	60.8	60.4	56.3	61.0	55.9	56.4	52.3	48.0	44.0	40.0	35.7	31.1	26.0	20.4	14.0	6.5	0.0	0.0
15	37.6	39.5	40.4	39.6	36.1	45.9	53.1	56.5	55.5	49.4	53.1	47.2	46.4	41.9	37.4	32.8	28.2	23.1	17.4	11.0	3.6	0.0	0.0	0.0
16	31.9	34.5	36.5	37.9	38.2	35.0	36.4	45.0	49.5	48.2	41.6	40.6	38.1	32.8	27.6	23.3	17.9	11.9	5.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	47.50	48.68	800	48.68	0	49.10	43.16	46.18
2	-5.84	30.00	20.10	3070.30	59.54	63.88	500	63.88	0	64.19	56.49	59.21
3	-3.59	40.00	30.10	2103.90	65.13	69.67	630	69.67	0	69.64	61.91	64.75
4	-2.34	50.00	40.10	1638.10	69.21	74.13	500	74.13	0	74.30	65.91	68.81
5	-1.49	60.00	50.10	1375.40	71.85	77.15	400	77.15	0	77.15	68.35	71.43
6	-0.82	70.00	60.10	1217.20	74.36	79.59	500	79.59	0	79.57	70.79	73.88
7	-0.25	80.00	70.10	1122.20	76.00	80.71	400	80.71	0	81.06	72.05	75.41
8	0.28	90.00	80.10	1071.10	77.79	82.97	400	82.97	0	82.84	73.55	77.11
9	0.81	100.00	90.10	1055.20	79.16	84.31	400	84.31	0	84.10	74.67	78.39
10	1.37	110.00	100.10	1071.80	80.16	85.18	400	85.18	0	84.89	75.38	79.28
11	1.99	120.00	110.10	1123.60	79.64	84.19	400	84.19	0	83.95	74.49	78.63
12	2.74	130.00	120.10	1219.60	76.82	81.20	315	81.20	0	80.66	71.51	75.70
13	3.69	140.00	130.10	1379.40	72.73	76.30	400	76.30	0	76.39	67.21	71.53
14	5.01	150.00	140.10	1644.90	67.54	71.21	400	71.21	0	70.94	61.77	66.25
15	7.10	160.00	150.10	2116.70	61.75	64.08	315	64.08	0	64.27	55.80	60.53
16	11.12	170.00	160.10	3099.90	54.00	56.33	400	56.33	0	56.14	48.40	52.95

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	80.16	85.18		85.18		84.89	75.38	79.28
TIME	1.37	1.37		1.37		1.37	1.37	1.37

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 79.69 EPNDB
SEL = 80.33 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
JET
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	64.6	65.1	65.2	65.1	64.5	63.6	62.0	59.8	56.2	50.2	42.0	46.8	49.6	48.1	42.1	33.0	32.2	20.8	14.1	1.3	0.0	0.0	0.0	0.0
2	69.8	70.2	70.2	69.5	67.8	64.2	57.8	57.3	63.6	65.9	64.2	57.4	58.5	56.7	53.5	49.4	46.1	41.1	35.2	27.8	18.6	6.8	0.0	0.0
3	72.3	72.1	71.1	68.8	63.7	61.4	68.1	71.4	71.0	65.4	64.6	65.7	61.8	59.8	58.2	55.2	52.0	48.1	43.4	37.6	30.5	21.5	8.9	0.0
4	73.2	72.3	69.7	64.1	64.6	72.1	74.8	73.8	67.6	69.7	68.6	67.0	64.1	62.9	60.5	58.0	55.1	51.7	47.5	42.5	36.4	28.7	18.3	4.2
5	73.2	71.4	66.3	64.7	72.2	76.4	76.2	71.4	70.7	71.9	68.4	67.1	65.9	64.0	62.0	59.6	56.9	53.7	49.8	45.2	39.6	32.7	23.4	11.0
6	73.8	70.7	64.6	71.6	77.1	79.0	76.4	70.8	75.4	70.7	72.4	70.2	67.9	66.1	64.1	61.8	59.1	56.0	52.3	47.9	42.6	36.2	27.5	16.1
7	74.1	69.7	67.9	75.8	80.0	80.3	75.8	75.0	77.0	73.4	72.4	71.5	69.5	67.7	65.7	63.4	60.8	57.7	54.0	49.7	44.6	38.3	30.0	19.2
8	74.1	68.9	71.0	78.2	81.6	80.9	75.0	77.7	77.0	76.0	73.1	72.5	70.4	68.6	66.6	64.2	61.6	58.5	54.8	50.5	45.3	39.1	31.0	20.4
9	74.4	69.1	72.7	79.5	82.5	81.3	75.3	78.7	77.0	76.6	73.8	72.9	70.7	68.8	66.7	64.4	61.6	58.4	54.7	50.3	45.0	38.7	30.5	20.0
10	75.8	70.5	73.4	80.2	83.3	82.1	75.9	78.9	77.3	76.6	73.4	72.5	70.2	68.3	66.1	63.6	60.8	57.4	53.5	48.9	43.5	37.0	28.6	17.7
11	78.5	73.5	73.3	80.5	83.8	83.1	77.1	77.6	77.5	74.7	71.6	70.6	68.9	66.9	64.6	61.9	58.9	55.3	51.1	46.2	40.4	33.5	24.6	13.2
12	81.6	77.2	71.6	79.2	82.8	82.9	78.2	73.2	76.0	70.3	70.8	69.0	66.4	64.3	61.8	58.9	55.5	51.5	46.9	41.5	35.2	27.6	17.9	5.6
13	82.9	78.9	71.3	72.6	77.4	78.4	75.3	67.7	70.1	68.0	67.7	64.4	63.1	60.1	57.2	53.8	49.9	45.3	40.1	34.0	26.9	18.4	7.6	0.0
14	80.9	77.2	70.9	61.9	65.7	69.3	69.6	66.6	60.5	64.8	59.7	60.5	57.2	53.6	50.0	45.9	41.3	35.9	29.8	22.7	14.4	4.6	0.0	0.0
15	77.5	73.7	68.4	61.2	52.1	57.4	61.5	62.2	58.8	52.0	55.1	49.0	48.5	44.1	39.2	34.0	28.4	21.9	14.4	5.8	0.0	0.0	0.0	0.0
16	73.6	70.3	65.6	59.9	53.5	45.0	42.8	48.1	49.8	47.1	39.2	37.2	34.3	28.2	21.8	16.1	8.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	73.24	70.49	200	70.49	0	70.99	59.20	67.30
2	-5.84	30.00	20.10	3070.30	77.79	78.78	400	78.78	0	78.62	67.40	72.64
3	-3.59	40.00	30.10	2103.90	80.17	82.93	315	82.93	0	82.95	71.52	76.60
4	-2.34	50.00	40.10	1638.10	81.97	85.50	200	85.50	0	85.69	73.92	79.13
5	-1.49	60.00	50.10	1375.40	83.15	87.00	200	87.00	0	86.95	75.05	80.48
6	-0.82	70.00	60.10	1217.20	85.18	88.81	315	88.81	0	88.76	77.23	82.55
7	-0.25	80.00	70.10	1122.20	86.83	90.56	315	90.56	0	90.21	78.70	84.15
8	0.28	90.00	80.10	1071.10	87.97	91.42	400	91.42	0	91.14	79.76	85.21
9	0.81	100.00	90.10	1055.20	88.65	91.94	250	91.94	0	91.62	80.19	85.74
10	1.37	110.00	100.10	1071.80	89.21	92.10	125	92.10	0	91.86	80.11	85.97
11	1.99	120.00	110.10	1123.60	89.59	91.90	160	91.90	0	91.66	79.23	85.75
12	2.74	130.00	120.10	1219.60	89.28	90.71	160	90.71	0	90.48	77.49	84.61
13	3.69	140.00	130.10	1379.40	86.97	86.45	160	86.45	0	86.36	73.32	80.62
14	5.01	150.00	140.10	1644.90	83.47	79.60	200	79.60	0	80.51	67.37	75.03
15	7.10	160.00	150.10	2116.70	79.69	72.10	50	72.10	0	73.93	60.26	69.75
16	11.12	170.00	160.10	3099.90	75.88	63.81	63	63.81	0	66.75	51.64	64.76

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	89.59	92.10		92.10		91.86	80.19	85.97
TIME	1.99	1.37		1.37		1.37	0.81	1.37

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 88.53 EPNDB
SEL = 86.39 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
AIRFRAME
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	62.1	67.0	68.5	67.6	64.7	64.5	63.1	59.5	56.9	52.3	45.3	50.5	53.7	53.6	48.2	38.8	38.6	28.5	22.4	10.0	1.3	0.0	0.0	0.0
2	71.4	72.1	73.6	74.6	68.6	65.7	59.2	59.8	67.0	70.8	68.1	61.5	63.7	62.8	60.7	57.7	55.0	51.3	45.9	39.1	34.1	24.4	10.1	0.0
3	71.4	75.0	75.0	72.4	65.7	65.0	71.8	76.1	76.1	70.8	70.6	72.0	68.7	69.0	66.9	65.3	62.7	60.1	55.8	50.8	46.8	39.4	28.8	15.0
4	74.7	76.9	75.7	68.7	66.5	76.0	79.6	78.4	72.7	75.6	74.7	73.9	71.0	71.1	69.3	67.8	65.6	63.3	59.9	55.6	52.0	45.8	37.0	25.8
5	76.5	74.9	71.1	68.1	75.2	79.4	80.5	76.0	75.6	77.4	74.5	73.4	72.9	72.0	70.4	68.9	66.9	65.0	61.8	57.8	54.6	49.0	41.4	31.4
6	74.6	72.2	67.8	71.5	78.0	80.9	78.8	73.0	78.4	74.4	76.6	74.5	73.3	72.8	71.3	69.5	67.3	65.8	62.8	59.2	56.1	50.8	43.8	34.8
7	75.3	70.4	68.7	73.6	79.3	80.2	74.9	75.2	78.2	75.1	74.6	74.1	73.7	73.3	71.2	69.3	67.4	65.7	62.9	59.5	56.3	51.0	44.7	36.2
8	73.5	67.3	70.2	75.6	79.9	79.8	73.0	76.9	77.1	76.6	74.4	74.4	73.7	72.9	70.7	68.6	66.9	65.2	62.4	59.1	56.0	51.2	44.8	36.5
9	72.0	67.0	70.9	75.4	79.6	77.3	71.5	76.7	76.0	76.1	73.7	73.9	72.5	71.8	69.8	67.5	65.7	64.1	61.3	58.0	55.0	50.2	43.8	35.5
10	71.8	67.2	69.6	75.7	78.7	76.7	71.9	76.0	75.5	74.9	72.9	72.8	71.3	70.5	68.8	66.0	64.2	62.6	59.8	56.5	53.4	48.6	42.1	33.9
11	71.7	65.9	66.7	73.7	76.1	76.4	72.1	73.9	75.6	72.9	70.7	71.2	70.1	69.2	67.4	64.4	62.5	60.8	58.0	54.6	51.5	46.6	39.9	31.2
12	71.5	67.1	61.1	69.7	73.4	76.3	73.5	69.7	73.7	69.0	70.5	69.4	68.2	67.0	65.2	62.5	60.6	58.8	55.7	52.3	49.1	43.9	36.9	27.8
13	68.8	67.2	61.0	63.5	69.7	74.0	73.7	67.7	70.6	68.3	68.3	66.2	66.2	64.9	62.9	60.6	58.6	56.6	53.5	49.5	46.2	40.7	33.1	23.0
14	69.4	67.3	62.5	54.9	61.6	69.5	71.7	69.9	62.7	67.1	62.8	64.9	62.7	62.3	60.3	58.1	55.9	53.7	50.2	45.8	42.2	36.1	27.3	16.0
15	66.0	66.3	62.9	59.4	51.0	59.5	65.3	67.7	65.4	59.3	63.8	59.5	60.6	57.7	55.4	54.1	51.5	48.9	44.7	39.6	35.5	28.1	17.6	3.7
16	61.1	63.5	60.7	61.0	54.1	49.9	49.8	57.2	61.7	62.5	56.3	56.4	55.8	49.7	47.2	47.2	44.0	40.6	35.2	28.4	23.3	13.2	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	74.70	72.65	200	72.83	1000	73.02	61.42	68.74
2	-5.84	30.00	20.10	3070.30	81.00	83.92	400	83.92	0	83.70	72.25	76.93
3	-3.59	40.00	30.10	2103.90	84.22	89.41	315	89.41	0	89.15	78.11	82.61
4	-2.34	50.00	40.10	1638.10	86.85	92.14	200	92.14	0	92.18	80.64	85.41
5	-1.49	60.00	50.10	1375.40	87.58	93.28	200	93.28	0	93.12	81.52	86.44
6	-0.82	70.00	60.10	1217.20	87.73	93.51	315	93.51	0	93.25	82.06	86.85
7	-0.25	80.00	70.10	1122.20	87.49	93.42	315	93.42	0	93.10	81.85	86.60
8	0.28	90.00	80.10	1071.10	87.50	93.26	400	93.26	0	92.90	81.75	86.47
9	0.81	100.00	90.10	1055.20	86.62	92.43	400	92.43	0	92.08	80.85	85.53
10	1.37	110.00	100.10	1071.80	85.91	91.36	400	91.36	0	91.03	79.78	84.53
11	1.99	120.00	110.10	1123.60	84.53	90.04	315	90.04	0	89.51	78.36	83.12
12	2.74	130.00	120.10	1219.60	82.94	88.03	315	88.03	0	87.76	76.48	81.32
13	3.69	140.00	130.10	1379.40	80.84	85.90	200	85.90	0	85.81	74.33	79.27
14	5.01	150.00	140.10	1644.90	78.40	83.04	200	83.04	0	83.19	71.58	76.54
15	7.10	160.00	150.10	2116.70	74.99	79.16	250	79.16	0	79.11	68.16	72.85
16	11.12	170.00	160.10	3100.00	70.67	74.10	400	74.10	0	73.77	63.24	67.65

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	87.73	93.51		93.51		93.25	82.06	86.85
TIME	-0.82	-0.82		-0.82		-0.82	-0.82	-0.82

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 90.95 EPNDB
SEL = 89.40 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
TOTAL
*

LARGE QUAD AIRPLANE MODEL
CUTBACK CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	66.5	69.2	70.2	69.5	67.6	67.1	65.6	62.8	59.8	54.7	47.6	53.7	57.5	57.4	52.8	45.3	46.8	47.5	34.7	25.1	15.9	7.3	7.1	7.1
2	73.7	74.3	75.2	75.8	71.2	68.0	61.6	61.8	68.8	72.3	70.3	64.7	67.1	66.4	64.8	62.6	61.4	67.9	56.1	51.9	49.1	38.1	25.9	8.7
3	74.9	76.8	76.5	74.0	67.8	66.6	73.4	77.4	77.4	72.2	72.2	74.4	71.5	71.2	70.2	69.1	67.9	74.7	64.7	62.0	60.9	53.0	45.0	30.7
4	77.0	78.2	76.7	70.0	68.7	77.5	80.9	79.8	74.1	77.0	76.4	76.3	74.1	73.9	72.6	71.8	70.9	77.7	68.6	66.6	66.2	59.9	53.8	42.9
5	78.2	76.5	72.3	69.7	77.0	81.2	82.0	77.5	77.1	79.1	76.4	76.4	76.2	75.2	74.3	73.6	72.9	78.2	70.4	68.3	68.4	64.5	56.8	49.7
6	77.2	74.5	69.5	74.6	80.6	83.1	80.9	75.3	80.7	76.8	79.4	78.4	77.3	77.1	76.5	75.8	79.7	73.7	71.6	71.7	67.6	66.3	60.9	52.8
7	77.8	73.1	71.3	77.9	82.7	83.4	78.6	78.6	81.4	78.7	79.0	79.4	79.0	79.1	78.6	78.1	80.6	75.4	72.9	72.4	69.1	67.7	63.2	56.4
8	76.8	71.2	73.6	80.1	83.9	83.5	77.5	81.0	81.1	81.2	79.7	80.7	80.5	80.6	80.4	79.8	80.9	76.9	74.0	73.1	70.8	69.3	65.0	59.1
9	76.4	71.2	74.9	81.0	84.4	83.0	77.3	81.7	81.0	81.8	80.5	81.5	81.3	81.5	81.4	80.8	81.0	77.5	74.6	74.0	72.0	70.5	66.2	60.7
10	77.3	72.2	74.9	81.6	84.7	83.5	77.9	81.8	81.3	81.8	80.3	81.3	81.2	81.4	81.2	80.6	80.7	76.8	74.4	74.4	72.6	69.6	66.1	59.9
11	79.3	74.2	74.2	81.4	84.6	84.2	78.8	80.2	81.4	79.9	78.5	79.6	80.0	80.1	79.9	80.9	77.8	75.5	75.3	73.1	71.9	68.8	64.1	57.7
12	82.0	77.6	72.0	79.7	83.3	83.9	79.9	75.8	79.8	75.6	77.8	78.0	77.7	77.8	77.5	77.9	75.3	72.9	73.0	70.1	69.2	65.8	60.6	53.4
13	83.1	79.2	71.7	73.1	78.1	79.9	78.0	71.7	75.2	74.0	75.2	74.0	75.0	74.5	74.2	74.3	71.8	69.5	68.7	66.2	64.6	60.8	55.1	46.7
14	81.2	77.6	71.5	62.7	67.2	72.7	74.3	72.4	66.4	71.8	68.4	71.6	71.0	70.5	70.1	70.1	67.7	65.4	64.3	61.6	59.0	54.4	47.4	37.1
15	77.8	74.4	69.5	63.4	54.7	61.9	67.3	69.6	67.5	62.2	67.5	64.4	67.1	66.1	65.2	64.7	62.2	59.7	57.8	54.4	50.7	44.5	35.6	22.3
16	73.8	71.1	66.8	63.5	57.0	51.4	51.1	58.5	63.1	63.9	58.6	59.9	60.8	58.4	57.1	57.0	54.1	51.1	48.0	43.1	36.5	27.6	14.8	7.3

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- CUTBACK -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-12.13	20.00	10.10	6016.80	77.13	76.59	200	78.88	2500	76.73	64.82	71.67
2	-5.84	30.00	20.10	3070.30	83.11	89.57	2500	92.62	2500	88.32	76.16	82.15
3	-3.59	40.00	30.10	2103.90	86.43	95.92	2500	98.72	2500	94.42	81.93	88.38
4	-2.34	50.00	40.10	1638.10	88.97	99.10	2500	101.75	2500	97.61	84.76	91.46
5	-1.49	60.00	50.10	1375.40	89.95	100.23	2500	102.43	2500	98.92	85.92	92.51
6	-0.82	70.00	60.10	1217.20	91.01	100.90	2000	102.55	2000	100.26	87.43	93.24
7	-0.25	80.00	70.10	1122.20	92.00	102.08	2000	103.36	2000	101.48	88.79	94.44
8	0.28	90.00	80.10	1071.10	92.98	102.93	2000	103.63	2000	102.51	89.98	95.44
9	0.81	100.00	90.10	1055.20	93.47	103.42	2000	103.42	0	103.11	90.69	96.03
10	1.37	110.00	100.10	1071.80	93.57	103.33	2000	103.33	0	102.99	90.54	95.91
11	1.99	120.00	110.10	1123.60	93.02	102.21	1600	102.21	0	102.15	89.42	94.95
12	2.74	130.00	120.10	1219.60	91.80	99.89	3150	99.89	0	99.95	87.07	92.63
13	3.69	140.00	130.10	1379.40	89.21	96.31	1600	96.31	0	96.56	83.66	89.03
14	5.01	150.00	140.10	1644.90	85.72	91.77	1600	91.77	0	92.16	79.55	84.75
15	7.10	160.00	150.10	2116.70	81.77	86.17	1600	86.17	0	86.54	74.61	79.45
16	11.12	170.00	160.10	3099.90	77.42	78.87	400	78.87	0	79.14	67.78	72.54

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	93.57	103.42		103.63			
TIME	1.37	0.81		0.28	103.11 0.81	90.69 0.81	96.03 0.81

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 101.04 EPNDB
SEL = 96.70 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
INLET
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	26.5	29.3	53.6	34.7	37.3	64.3	63.7	63.0	62.1	60.8	58.7	56.5	53.9	50.2	46.6	42.7	37.7	31.1	28.0	10.4	3.2	2.8	2.8	2.8
2	31.7	34.5	57.6	40.0	42.6	68.2	67.7	66.6	65.1	62.2	56.7	49.5	56.1	58.6	58.8	54.6	49.2	51.5	49.1	39.9	31.2	19.6	3.9	2.8
3	34.9	37.6	61.1	42.9	45.2	70.7	68.7	65.1	58.3	62.6	67.3	69.0	66.2	58.4	62.5	59.3	60.5	57.7	60.8	50.5	44.9	37.7	22.3	4.6
4	37.1	39.8	63.7	44.4	46.0	70.2	64.9	62.4	70.2	74.0	73.0	68.2	67.2	66.5	63.0	62.3	62.6	61.3	64.8	56.3	52.1	46.4	33.9	16.3
5	37.9	40.5	64.2	44.1	44.5	66.0	64.8	72.1	76.1	75.6	70.1	70.2	69.8	65.0	63.4	63.0	62.8	68.2	60.5	58.1	56.0	48.7	39.2	25.1
6	37.3	65.4	41.3	42.1	61.5	64.0	71.9	76.4	77.7	73.9	69.7	73.4	66.5	65.4	63.7	62.3	62.1	67.4	60.3	58.3	56.4	49.5	41.4	28.8
7	35.3	65.6	38.6	38.5	58.6	68.6	75.3	78.4	77.5	70.7	73.8	71.8	68.5	63.1	61.8	60.8	60.6	65.6	58.9	57.1	55.3	48.4	41.0	29.2
8	31.1	63.4	33.9	33.1	54.9	69.7	75.0	76.9	74.6	68.3	73.0	67.5	65.4	60.8	57.8	57.2	56.9	61.6	55.1	53.5	51.4	45.3	36.2	25.8
9	26.3	58.9	28.8	27.5	50.5	66.7	71.3	72.6	69.3	64.8	68.7	62.2	59.4	55.8	53.0	52.9	58.6	52.0	50.8	50.2	45.5	40.4	32.0	19.5
10	54.9	22.7	23.3	50.7	19.6	61.8	66.3	67.4	63.7	59.7	63.1	56.0	53.2	50.0	47.8	47.7	53.1	46.6	45.3	44.5	39.2	33.9	25.0	12.2
11	49.4	17.0	17.7	45.8	13.7	55.6	60.3	61.7	58.3	53.4	57.0	49.3	47.6	44.2	42.1	41.8	46.9	40.3	38.9	37.6	31.6	26.0	16.3	5.4
12	43.7	11.4	12.3	41.1	9.1	47.5	53.4	55.4	53.1	46.4	49.9	43.7	41.2	37.0	36.2	35.3	40.0	33.3	31.6	29.8	23.0	16.7	6.9	3.0
13	37.9	6.7	7.7	36.7	6.5	37.7	45.0	48.5	47.6	42.2	41.0	38.6	32.5	29.2	29.1	28.1	32.4	25.5	23.3	20.6	13.6	6.5	3.1	2.8
14	31.6	4.0	4.6	31.9	4.8	29.6	33.9	39.5	40.7	38.7	30.9	30.6	24.6	23.4	21.1	26.2	18.4	16.3	13.4	9.2	4.5	3.0	2.8	2.8
15	24.6	3.1	3.2	26.2	3.5	28.2	21.5	25.7	30.3	31.6	27.5	16.5	17.6	12.1	12.8	15.4	8.2	5.9	4.1	3.1	2.8	2.8	2.8	2.8
16	14.4	2.8	2.8	16.6	2.9	21.6	18.8	13.4	7.3	12.2	13.0	8.8	4.2	3.1	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	70.68	72.55	400	72.55	0	73.54	63.77	68.93
2	-8.34	30.00	23.50	4439.30	74.09	77.92	250	78.94	3150	79.01	67.54	73.10
3	-5.26	40.00	33.80	3177.30	77.00	84.36	3150	86.60	3150	84.02	73.30	78.31
4	-3.45	50.00	44.00	2543.70	80.01	88.14	3150	90.14	3150	87.88	76.78	81.98
5	-2.15	60.00	54.20	2179.90	81.80	90.00	2500	92.18	2500	88.99	78.17	83.76
6	-1.10	70.00	64.30	1961.40	83.07	90.16	2500	92.23	2500	89.40	78.54	84.11
7	-0.16	80.00	74.40	1834.90	83.81	89.74	250	91.69	2500	89.79	78.44	83.94
8	0.73	90.00	84.50	1775.50	82.10	87.46	250	89.32	2500	87.64	76.07	81.60
9	1.64	100.00	94.60	1773.10	77.83	82.96	250	85.01	2000	83.28	71.58	77.16
10	2.63	110.00	104.70	1827.50	72.59	77.33	250	79.32	2000	77.66	66.10	71.80
11	3.77	120.00	114.90	1947.90	66.73	71.03	250	72.98	2000	71.35	60.15	65.85
12	5.18	130.00	125.00	2158.10	60.29	64.09	250	65.99	2000	64.22	53.69	59.36
13	7.08	140.00	135.20	2509.80	53.42	56.55	315	56.55	0	56.51	46.88	52.46
14	9.95	150.00	145.60	3126.10	45.80	47.67	315	47.67	0	48.03	39.63	44.82
15	15.26	160.00	156.20	4385.80	37.13	35.96	400	35.96	0	38.16	31.02	35.87
16	33.94	170.00	168.90	9142.30	25.96	0.00	0	0.00	0	14.31	18.00	24.89

* TONES BELOW ***** HZ NOT CONSIDERED

MAXIMUM	83.81	90.16		92.23		89.79	78.54	84.11
TIME	-0.16	-1.10		-1.10		-0.16	-1.10	-1.10

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 89.32 EPNDB
SEL = 85.92 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-27-95
AFTFAN
*

LARGE QUAD AIRPLANE MODE
SIDELINE CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	12.8	16.3	19.8	23.2	26.4	29.4	32.2	34.6	36.8	38.5	39.6	40.0	39.9	38.9	36.9	33.6	28.7	21.9	12.9	4.5	2.8	2.8	2.8	2.8
2	18.9	22.6	26.3	29.7	32.9	35.9	38.7	40.8	42.4	42.4	40.0	35.3	44.3	49.4	51.0	47.3	41.8	43.8	36.1	31.4	22.2	9.9	3.0	2.8
3	23.5	27.2	30.7	34.0	36.9	39.2	40.5	40.0	36.3	43.6	51.5	55.7	55.6	51.0	56.6	54.0	55.1	51.9	50.7	43.9	37.7	30.5	16.3	3.6
4	27.2	30.7	34.2	37.0	39.1	39.6	37.5	38.2	49.0	55.8	58.2	55.7	57.9	61.0	59.1	58.8	58.7	56.8	57.3	49.7	44.8	40.9	29.3	12.7
5	32.7	36.3	39.1	41.3	42.2	39.8	41.8	52.2	59.2	61.9	59.5	62.2	65.6	64.8	65.1	65.1	64.1	66.3	59.2	55.3	54.6	45.9	39.0	25.1
6	37.5	40.6	43.2	44.6	43.8	41.6	52.7	60.5	64.8	64.1	63.0	69.7	67.2	70.5	70.7	69.4	68.2	70.2	62.6	58.9	58.6	50.9	45.0	32.9
7	41.2	44.2	46.1	46.6	44.2	49.5	59.4	65.6	67.8	64.4	70.3	71.7	73.7	72.8	73.8	72.7	71.3	73.3	65.4	62.2	61.2	55.0	48.9	38.1
8	43.8	46.6	48.3	48.0	45.0	55.0	63.5	68.5	69.3	66.5	73.8	72.2	76.1	76.2	75.7	74.8	73.3	76.5	67.3	64.6	64.0	59.1	50.9	41.6
9	45.2	47.9	49.2	48.4	46.3	57.7	65.5	69.9	69.7	68.6	75.3	73.0	76.4	77.1	76.3	75.5	76.8	71.2	67.9	67.0	62.9	59.5	52.2	41.8
10	45.0	47.6	48.9	47.9	46.0	57.6	65.2	69.4	69.0	68.2	74.6	72.3	75.4	76.2	75.2	74.3	74.7	69.6	66.6	65.8	61.5	57.8	50.4	39.4
11	43.2	45.9	47.3	46.7	43.8	55.0	62.8	67.3	67.2	65.3	72.3	69.8	73.5	73.7	72.5	71.6	71.5	66.8	64.0	63.2	58.5	54.5	46.4	34.4
12	40.5	43.2	44.9	44.9	41.8	49.7	58.7	63.9	64.9	61.1	68.2	67.6	70.4	69.5	69.3	67.8	66.8	62.7	59.9	58.3	53.6	48.5	39.7	26.3
13	37.1	39.9	41.9	42.8	40.8	42.3	52.6	59.2	61.8	59.1	61.8	65.4	64.4	64.2	64.3	62.8	61.7	57.4	54.4	51.9	47.0	39.9	29.8	14.3
14	32.7	35.8	38.2	39.9	39.7	35.9	43.4	52.0	56.8	57.4	53.5	59.7	58.5	60.4	58.3	58.5	54.3	50.9	47.3	43.8	37.3	28.2	15.3	3.5
15	27.8	31.1	33.9	36.3	37.5	36.6	33.0	40.4	48.4	52.6	52.5	47.8	53.8	50.9	51.8	49.8	45.2	40.5	36.1	28.9	20.3	8.7	3.0	2.8
16	19.3	22.6	25.5	28.4	30.4	31.9	32.1	29.6	25.5	34.6	39.7	41.0	37.0	32.2	33.7	26.1	21.0	12.6	4.7	2.9	2.8	2.8	2.8	2.8

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	47.98	52.04	630	52.04	0	52.76	46.07	48.40
2	-8.34	30.00	23.50	4439.30	56.16	64.50	2500	66.11	2500	64.72	56.02	59.91
3	-5.26	40.00	33.80	3177.30	63.81	73.74	2000	75.11	1250	73.90	63.83	69.17
4	-3.45	50.00	44.00	2543.70	68.37	79.03	3150	80.38	3150	78.79	68.36	74.15
5	-2.15	60.00	54.20	2179.90	74.25	85.97	2500	87.52	2500	85.08	74.33	80.40
6	-1.10	70.00	64.30	1961.40	78.80	90.21	2500	91.81	2500	89.41	78.80	84.49
7	-0.16	80.00	74.40	1834.90	82.20	93.52	2500	95.17	2500	92.69	82.10	87.65
8	0.73	90.00	84.50	1775.50	84.64	96.32	2500	98.38	2500	95.21	84.56	90.29
9	1.64	100.00	94.60	1773.10	85.22	95.93	2000	97.08	2000	95.61	84.98	89.83
10	2.63	110.00	104.70	1827.50	84.13	94.41	2000	95.24	2000	94.24	83.75	88.37
11	3.77	120.00	114.90	1947.90	81.63	91.55	2000	91.57	2000	91.49	81.15	85.63
12	5.18	130.00	125.00	2158.10	78.01	87.26	2000	87.26	0	87.41	77.41	81.58
13	7.08	140.00	135.20	2509.80	73.20	82.07	2000	82.07	0	82.25	72.41	76.46
14	9.95	150.00	145.60	3126.10	67.83	76.15	1600	76.15	0	76.37	66.99	70.51
15	15.26	160.00	156.20	4385.80	60.72	67.42	1600	67.42	0	67.67	59.46	62.37
16	33.94	170.00	168.90	9142.30	46.15	49.74	630	51.84	1250	50.30	43.66	45.75

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	85.22	96.32	98.38	95.61	84.98	90.29
TIME	1.64	0.73	0.73	1.64	1.64	0.73

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 93.26 EPNDB
SEL = 91.09 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
TURBINE
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.1	3.7	3.7	3.4	4.7	3.6	3.7	3.0	2.8	2.8	2.8
3	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.4	3.9	3.6	6.9	7.4	11.1	11.7	12.7	12.2	9.5	5.2	2.9	2.8
4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.1	3.8	3.9	5.6	9.6	10.8	13.9	17.6	19.8	21.6	22.4	20.2	16.0	5.6	2.9
5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.2	4.1	4.2	6.4	11.0	13.2	16.8	20.7	24.0	26.9	29.1	30.3	28.6	25.0	12.8	3.6
6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.2	4.3	4.9	5.7	12.6	13.1	19.4	23.4	26.4	29.9	32.9	35.5	36.5	35.0	31.7	19.4	6.2
7	2.8	2.8	2.8	2.8	2.8	2.8	3.1	4.3	6.0	5.6	11.7	15.7	20.7	23.3	28.2	31.5	35.1	38.3	41.0	41.8	42.3	34.7	24.3	15.2
8	2.8	2.8	2.8	2.8	2.8	2.9	3.7	6.2	8.1	8.1	16.9	18.1	25.3	28.9	32.5	36.1	39.8	43.0	45.8	46.2	46.9	38.2	27.9	20.5
9	2.8	2.8	2.8	2.8	2.8	3.1	5.1	8.8	10.5	12.0	21.1	21.7	28.5	32.8	36.1	40.1	43.7	47.0	49.6	49.6	50.1	40.5	29.8	24.1
10	2.8	2.8	2.8	2.8	2.8	3.5	6.7	11.3	13.1	15.0	24.1	24.8	31.4	35.8	39.2	43.1	46.6	49.9	51.9	51.7	51.9	41.2	29.8	25.7
11	2.8	2.8	2.8	2.9	2.8	3.6	7.4	12.7	15.0	15.9	25.5	26.1	33.3	37.3	40.4	44.3	47.8	50.9	52.4	51.8	52.4	39.6	27.4	25.3
12	2.8	2.8	2.8	2.8	2.8	3.0	4.4	8.2	11.1	10.3	19.5	22.0	28.2	31.2	35.3	38.5	41.8	44.7	45.6	48.0	39.1	30.4	26.2	4.2
13	2.8	2.8	2.8	2.8	2.8	2.8	3.1	4.6	7.2	7.3	11.5	17.8	20.2	23.9	28.4	31.5	34.6	37.1	37.3	37.8	28.7	18.8	11.6	2.8
14	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.1	4.2	5.4	5.0	11.1	13.0	18.5	20.6	23.9	26.1	28.0	27.1	25.7	15.7	6.2	2.9	2.8
15	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	3.5	4.1	3.7	7.7	8.3	12.4	13.7	15.0	15.2	12.8	8.3	3.5	2.8	2.8	2.8
16	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	3.1	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	16.60	0.00	0	0.00	0	11.31	14.53	21.71
2	-8.34	30.00	23.50	4439.30	16.91	0.00	0	0.00	0	12.44	15.13	22.46
3	-5.26	40.00	33.80	3177.30	20.69	25.65	3150	25.65	0	27.79	20.76	29.44
4	-3.45	50.00	44.00	2543.70	28.42	38.58	4000	38.58	0	39.03	29.22	38.48
5	-2.15	60.00	54.20	2179.90	35.93	47.85	4000	47.85	0	48.64	36.80	46.18
6	-1.10	70.00	64.30	1961.40	42.17	54.63	4000	54.63	0	55.21	43.06	52.45
7	-0.16	80.00	74.40	1834.90	47.81	60.21	4000	61.56	5000	61.08	48.70	58.12
8	0.73	90.00	84.50	1775.50	52.37	64.83	4000	66.39	5000	65.71	53.27	62.71
9	1.64	100.00	94.60	1773.10	55.89	68.35	3150	70.04	5000	69.26	56.82	66.26
10	2.63	110.00	104.70	1827.50	58.13	70.67	3150	72.48	5000	71.42	59.09	68.50
11	3.77	120.00	114.90	1947.90	58.68	71.18	3150	73.42	5000	71.82	59.66	69.00
12	5.18	130.00	125.00	2158.10	52.21	65.57	4000	67.45	4000	65.16	53.27	62.72
13	7.08	140.00	135.20	2509.80	43.58	55.78	4000	55.78	0	55.87	44.66	53.86
14	9.95	150.00	145.60	3126.10	33.90	44.34	3150	44.34	0	44.80	34.94	43.66
15	15.26	160.00	156.20	4385.80	22.46	27.36	2500	27.36	0	27.94	22.85	30.41
16	33.94	170.00	168.90	9142.30	16.64	0.00	0	0.00	0	11.31	14.60	21.73

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	58.68	71.18		73.42		71.82	59.66	69.00
TIME	3.77	3.77		3.77		3.77	3.77	3.77

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 68.24 EPNDB
SEL = 64.73 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
CORE
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	26.4	29.1	31.9	34.5	37.2	39.7	42.1	44.3	45.9	46.5	46.3	44.5	40.9	36.2	30.0	22.1	12.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0
2	33.1	35.9	38.7	41.4	44.0	46.5	48.9	50.8	51.7	50.6	47.0	39.8	45.4	46.8	43.9	35.6	25.9	23.8	11.3	3.8	0.0	0.0	0.0	0.0
3	37.7	40.4	43.1	45.7	48.0	49.8	50.8	50.2	45.6	51.8	58.4	59.8	56.2	47.8	48.9	41.8	38.6	31.3	24.5	15.9	6.1	0.0	0.0	0.0
4	41.2	43.8	46.5	48.5	50.1	50.1	47.8	48.3	58.1	63.7	64.8	59.3	57.9	57.3	50.7	46.3	42.2	36.4	30.2	23.1	14.7	4.5	0.0	0.0
5	44.0	46.7	48.7	50.2	50.6	47.8	49.5	59.6	65.6	67.0	63.1	62.6	62.4	57.7	53.6	49.6	44.9	39.8	34.1	27.5	20.0	10.8	0.0	0.0
6	46.5	48.7	50.5	51.3	50.0	47.4	58.3	65.5	68.7	66.9	63.8	67.2	61.2	60.4	56.4	51.4	46.9	42.0	36.6	30.4	23.3	14.8	3.5	0.0
7	48.6	50.7	51.9	51.8	48.9	53.9	63.5	69.0	70.1	65.4	68.9	67.0	65.4	60.4	57.3	52.6	48.2	43.4	38.1	32.2	25.4	17.2	6.5	0.0
8	50.4	52.3	53.2	52.4	48.9	58.7	67.0	71.1	70.7	66.7	71.1	66.0	66.3	62.1	57.7	53.4	49.0	44.3	39.0	33.2	26.5	18.6	8.1	0.0
9	51.7	53.5	54.2	52.8	50.2	61.5	69.0	72.3	70.9	68.4	72.0	66.1	65.8	62.2	57.5	53.5	49.1	44.3	39.1	33.3	26.6	18.7	8.2	0.0
10	52.4	54.2	54.8	53.3	51.0	62.4	69.6	72.7	71.0	68.4	71.6	65.7	65.0	61.5	56.8	52.7	48.3	43.5	38.2	32.3	25.5	17.4	6.7	0.0
11	51.6	53.5	54.3	53.2	50.0	61.0	68.2	71.5	70.3	66.2	69.8	63.6	63.3	59.3	54.5	50.4	45.9	41.0	35.5	29.4	22.3	13.9	2.6	0.0
12	48.2	50.2	51.3	50.8	47.5	55.2	63.4	67.4	67.2	60.9	64.5	60.3	58.9	53.8	50.0	45.2	40.5	35.4	29.7	23.2	15.7	6.6	0.0	0.0
13	43.8	45.9	47.3	47.7	45.5	46.8	56.2	61.7	63.0	57.5	56.6	56.5	51.1	46.8	43.4	38.5	33.6	28.1	22.0	14.9	6.6	0.0	0.0	0.0
14	38.4	40.8	42.7	43.9	43.5	39.5	45.9	53.4	56.9	54.5	47.1	49.4	43.7	41.4	35.6	31.0	25.1	19.1	12.1	4.0	0.0	0.0	0.0	0.0
15	32.2	34.9	37.1	39.0	40.1	38.9	34.2	40.5	47.2	48.1	44.5	35.9	37.3	30.2	27.3	20.8	14.1	6.5	0.0	0.0	0.0	0.0	0.0	0.0
16	22.7	25.4	27.8	30.2	32.1	33.2	32.4	28.7	23.0	28.9	30.4	27.7	19.1	10.1	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	53.72	55.86	400	55.86	0	56.52	49.21	52.76
2	-8.34	30.00	23.50	4439.30	58.63	61.76	400	62.18	1000	61.38	53.74	57.57
3	-5.26	40.00	33.80	3177.30	64.58	69.48	630	70.85	1250	69.44	61.94	64.03
4	-3.45	50.00	44.00	2543.70	69.39	74.32	500	74.65	1000	74.38	66.24	69.02
5	-2.15	60.00	54.20	2179.90	72.21	77.12	400	77.12	0	76.99	68.58	71.76
6	-1.10	70.00	64.30	1961.40	74.44	78.64	315	78.64	0	78.79	70.53	73.88
7	-0.16	80.00	74.40	1834.90	76.32	80.49	500	80.49	0	80.42	72.20	75.64
8	0.73	90.00	84.50	1775.50	77.74	82.18	500	82.18	0	81.76	73.30	76.95
9	1.64	100.00	94.60	1773.10	78.62	82.97	500	82.97	0	82.56	73.83	77.73
10	2.63	110.00	104.70	1827.50	78.67	82.70	500	82.70	0	82.35	73.56	77.68
11	3.77	120.00	114.90	1947.90	77.25	80.90	500	80.90	0	80.86	71.90	76.20
12	5.18	130.00	125.00	2158.10	73.02	76.35	315	76.35	0	76.34	67.49	71.93
13	7.08	140.00	135.20	2509.80	67.65	70.96	315	70.96	0	70.40	61.95	66.57
14	9.95	150.00	145.60	3126.10	61.15	63.93	315	63.93	0	63.40	55.51	60.12
15	15.26	160.00	156.20	4385.80	53.14	55.49	400	55.49	0	55.50	47.61	51.96
16	33.94	170.00	168.90	9142.30	40.47	36.07	500	36.07	0	37.83	32.27	37.47
MAXIMUM					78.67	82.97		82.97		82.56	73.83	77.73
TIME					2.63	1.64		1.64		1.64	1.64	1.64

* TONES BELOW 1000 HZ NOT CONSIDERED

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 80.15 EPNDB
SEL = 81.34 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
JET
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
JET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	67.4	68.2	68.8	69.0	69.0	68.5	67.8	66.6	65.1	63.1	60.7	57.8	54.4	50.2	45.2	39.0	31.2	21.5	9.2	0.0	0.0	0.0	0.0	0.0
2	71.9	72.8	73.5	73.7	73.7	73.2	72.5	71.0	68.8	65.2	59.4	51.4	57.1	59.1	57.6	50.9	42.6	41.7	30.2	23.5	11.1	0.0	0.0	0.0
3	74.4	75.2	75.7	75.9	75.6	74.4	72.2	68.2	60.7	64.4	69.0	69.9	66.5	58.7	61.2	55.7	54.0	47.9	42.0	34.1	24.7	12.6	0.0	0.0
4	75.8	76.6	77.0	76.6	75.5	72.6	67.1	64.2	71.3	74.6	73.6	67.9	66.8	66.9	61.9	59.0	56.3	51.8	46.5	40.0	32.0	21.7	7.2	0.0
5	76.7	77.4	77.2	76.3	74.0	68.1	66.7	73.5	76.9	76.1	70.5	70.0	70.2	66.4	63.8	61.3	58.1	54.1	49.2	43.3	36.0	26.8	13.9	0.0
6	78.6	78.9	78.5	76.8	72.8	67.3	75.0	79.1	79.9	75.9	71.6	75.1	69.5	69.9	67.5	63.9	60.7	56.9	52.3	46.7	39.9	31.2	19.3	3.2
7	80.1	80.3	79.4	76.9	71.2	73.3	79.8	82.4	81.1	74.4	77.2	75.4	74.4	70.7	69.1	65.8	62.7	58.9	54.3	48.9	42.2	33.9	22.4	7.1
8	81.1	81.2	80.0	76.7	70.5	77.4	82.4	83.9	81.2	75.2	79.4	74.5	75.5	72.7	69.8	66.8	63.6	59.8	55.3	49.8	43.2	34.9	23.6	8.5
9	81.8	81.8	80.3	76.5	71.2	79.4	83.7	84.5	80.9	76.6	80.0	74.4	74.9	72.7	69.5	66.7	63.4	59.5	54.8	49.2	42.5	34.1	22.6	7.4
10	82.6	82.5	80.9	76.8	71.7	79.9	83.9	84.4	80.3	76.1	79.1	73.4	73.5	71.4	68.0	65.1	61.6	57.5	52.6	46.8	39.7	30.9	19.1	3.3
11	84.1	83.9	82.1	78.0	71.7	79.3	83.2	83.7	79.7	74.0	77.1	71.0	71.5	68.8	65.2	62.1	58.4	53.9	48.6	42.3	34.7	25.3	12.6	0.0
12	85.9	85.2	83.1	78.9	72.1	75.9	80.4	81.1	77.8	69.8	72.8	68.7	68.2	64.5	61.6	57.6	53.4	48.4	42.5	35.5	27.0	16.5	2.4	0.0
13	85.8	84.6	82.1	78.2	71.9	68.7	74.3	76.3	74.7	68.1	66.7	66.6	62.0	58.5	55.6	51.0	46.1	40.3	33.4	25.3	15.5	3.4	0.0	0.0
14	82.7	81.3	79.1	76.3	72.2	64.4	67.7	72.2	72.7	68.8	60.1	61.4	55.5	53.0	46.8	41.7	35.2	28.2	19.8	10.0	0.0	0.0	0.0	0.0
15	78.3	76.4	74.3	72.3	69.8	65.0	57.2	60.2	63.6	62.6	57.0	46.6	46.9	38.6	34.5	26.6	18.5	9.1	0.0	0.0	0.0	0.0	0.0	0.0
16	70.6	68.3	65.5	62.9	60.4	57.4	53.1	45.8	36.4	39.9	38.7	33.5	22.9	11.6	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	77.83	77.14	200	77.14	0	77.80	66.55	73.31
2	-8.34	30.00	23.50	4439.30	82.28	82.41	200	83.59	2500	82.91	70.23	77.50
3	-5.26	40.00	33.80	3177.30	84.03	84.86	630	86.19	1250	85.23	73.69	79.09
4	-3.45	50.00	44.00	2543.70	85.12	87.86	400	88.56	1000	87.78	76.38	81.01
5	-2.15	60.00	54.20	2179.90	85.87	89.31	400	89.31	0	88.96	77.80	82.47
6	-1.10	70.00	64.30	1961.40	87.91	91.86	315	91.86	0	91.56	80.30	85.03
7	-0.16	80.00	74.40	1834.90	89.77	93.86	250	93.86	0	93.81	82.36	87.14
8	0.73	90.00	84.50	1775.50	90.95	95.12	250	95.12	0	95.10	83.47	88.37
9	1.64	100.00	94.60	1773.10	91.57	95.54	250	95.54	0	95.57	83.74	88.86
10	2.63	110.00	104.70	1827.50	91.65	95.11	250	95.11	0	95.17	83.04	88.52
11	3.77	120.00	114.90	1947.90	91.71	94.07	250	94.07	0	94.14	81.59	87.63
12	5.18	130.00	125.00	2158.10	91.47	91.67	250	91.67	0	91.69	78.66	85.51
13	7.08	140.00	135.20	2509.80	90.16	87.48	250	87.48	0	87.74	74.48	82.31
14	9.95	150.00	145.60	3126.10	87.13	83.54	315	83.54	0	84.22	71.25	79.29
15	15.26	160.00	156.20	4385.80	82.41	75.89	100	75.89	0	77.26	64.02	73.58
16	33.94	170.00	168.90	9142.30	74.09	62.73	100	62.73	0	64.69	51.89	64.25

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	91.71	95.54		95.54		95.57	83.74	88.86
TIME	3.77	1.64		1.64		1.64	1.64	1.64

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 93.65 EPNDB
SEL = 91.50 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
AIRFRAME
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
AIRFRAME

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	60.6	65.5	67.0	66.2	63.4	63.4	62.5	59.7	58.7	58.0	56.8	54.2	50.8	47.8	43.4	37.6	30.5	22.2	10.4	0.0	0.0	0.0	0.0	0.0
2	69.2	70.1	71.9	73.5	68.7	68.7	67.5	66.8	65.3	62.2	55.3	48.1	55.0	58.4	58.3	52.9	44.4	44.8	33.8	27.5	20.9	6.9	0.0	0.0
3	69.1	73.3	74.5	74.1	71.9	71.9	69.4	65.5	58.1	62.3	68.1	69.6	67.0	60.6	62.7	58.6	57.5	52.7	47.3	40.0	34.9	24.9	10.1	0.0
4	72.9	76.4	78.0	75.8	71.6	70.2	64.7	61.2	69.2	73.9	73.3	68.1	66.4	67.8	63.6	61.6	59.6	56.2	51.6	45.8	41.3	32.8	20.5	4.4
5	75.5	76.1	76.9	74.3	71.2	64.4	63.8	71.0	75.4	75.3	69.9	69.0	69.8	67.1	65.0	63.3	60.8	58.1	53.9	48.6	44.5	37.0	26.2	11.9
6	74.4	75.1	76.1	70.8	67.1	61.9	69.6	74.6	76.2	72.9	68.2	71.7	67.3	68.9	67.0	64.0	61.3	59.0	55.1	50.2	46.3	39.2	29.4	16.3
7	75.9	75.3	74.1	68.4	63.4	65.4	71.3	75.7	75.4	68.3	71.4	70.0	70.5	68.3	66.7	63.8	61.4	58.9	55.2	50.6	46.7	39.6	30.6	18.2
8	74.7	73.5	72.7	67.3	61.2	68.1	73.0	76.0	74.1	67.6	72.3	68.0	70.5	68.8	65.8	63.0	60.7	58.4	54.6	50.1	46.4	39.8	30.6	18.6
9	73.3	73.4	71.9	65.2	60.4	67.0	72.6	75.2	72.5	67.6	71.6	67.1	68.4	67.6	64.4	61.7	59.3	57.1	53.3	48.8	45.1	38.6	29.4	17.2
10	72.8	73.2	70.7	65.4	59.4	66.3	72.9	74.5	71.5	66.4	70.7	65.9	66.9	66.0	63.2	60.0	57.6	55.2	51.5	46.9	43.1	36.4	27.0	14.6
11	71.9	70.6	69.4	65.1	57.0	64.9	71.2	73.3	71.2	64.6	68.9	64.6	66.0	64.5	61.5	58.0	55.5	53.0	49.1	44.3	40.4	33.4	23.5	10.4
12	70.6	69.7	67.0	64.0	56.2	62.0	68.4	71.3	69.2	61.7	66.0	62.9	64.1	61.4	59.4	55.6	53.0	50.3	46.0	40.9	36.8	29.3	18.6	4.5
13	66.8	67.5	66.2	63.3	57.4	56.2	63.7	68.6	68.0	61.3	60.6	62.3	59.4	58.0	56.2	52.9	50.0	46.9	42.4	36.5	32.0	23.8	11.7	0.0
14	65.9	65.2	63.4	60.3	57.2	51.8	56.1	62.4	64.2	61.6	54.3	58.2	54.5	56.1	52.3	49.4	45.7	42.1	36.6	29.7	24.6	14.8	0.4	0.0
15	60.9	61.9	59.8	59.0	55.2	52.8	46.3	51.2	56.9	59.2	56.6	48.7	52.0	46.4	45.9	42.5	38.0	32.8	25.8	16.8	10.3	0.0	0.0	0.0
16	52.2	54.7	52.2	53.5	48.3	48.4	46.0	41.2	35.0	42.8	45.7	44.7	38.1	27.4	27.8	19.7	14.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.07	20.00	12.80	7979.00	73.67	72.07	200	72.07	0	72.52	61.71	68.44
2	-8.34	30.00	23.50	4439.30	79.50	79.40	100	81.30	2500	79.79	67.47	74.29
3	-5.26	40.00	33.80	3177.30	81.88	84.45	630	85.48	1250	84.34	73.42	77.91
4	-3.45	50.00	44.00	2543.70	84.31	87.77	400	88.64	1000	87.75	76.30	80.67
5	-2.15	60.00	54.20	2179.90	84.65	89.03	400	89.03	0	88.65	77.33	81.81
6	-1.10	70.00	64.30	1961.40	84.20	89.06	315	89.23	1000	88.56	77.66	82.10
7	-0.16	80.00	74.40	1834.90	84.06	88.75	315	88.75	0	88.53	77.61	81.95
8	0.73	90.00	84.50	1775.50	83.52	88.47	250	88.47	0	88.28	77.35	81.67
9	1.64	100.00	94.60	1773.10	82.58	87.44	250	87.44	0	87.19	76.16	80.61
10	2.63	110.00	104.70	1827.50	81.91	86.42	250	86.42	0	86.27	75.02	79.64
11	3.77	120.00	114.90	1947.90	80.54	84.87	250	84.87	0	84.79	73.65	78.25
12	5.18	130.00	125.00	2158.10	78.58	82.49	250	82.49	0	82.43	71.31	75.96
13	7.08	140.00	135.20	2509.80	76.03	79.62	315	79.62	0	79.51	68.50	73.32
14	9.96	150.00	145.60	3126.10	72.86	75.51	315	76.31	1000	74.95	64.72	69.36
15	15.26	160.00	156.20	4385.80	68.66	70.44	400	70.44	0	70.30	59.83	64.43
16	33.94	170.00	168.90	9142.30	60.56	56.62	500	56.62	0	57.44	48.13	54.19

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	84.65	89.06		89.23		88.65	77.66	82.10
TIME	-2.15	-1.10		-1.10		-2.15	-1.10	-1.10

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 88.62 EPNDB
SEL = 86.87 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
TOTAL
*

LARGE QUAD AIRPLANE MODEL
SIDELINE CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	68.2	70.1	71.1	70.8	70.1	70.8	70.1	68.8	67.5	65.9	63.9	61.3	58.2	54.5	50.3	45.4	39.6	32.4	28.3	12.1	7.7	7.6	7.6	7.6
2	73.8	74.7	75.9	76.6	74.9	75.4	74.7	73.4	71.6	68.3	62.4	54.8	61.1	63.7	63.3	58.2	51.6	53.2	49.5	40.8	32.1	20.3	8.1	7.6
3	75.5	77.4	78.2	78.1	77.2	77.4	75.2	71.3	64.0	68.1	73.1	74.5	71.6	64.4	67.4	63.5	63.6	60.0	61.4	51.7	46.0	38.7	23.5	8.6
4	77.6	79.5	80.6	79.2	77.0	75.9	70.5	67.6	75.2	79.1	78.3	73.1	71.9	72.4	68.3	66.8	65.9	63.8	65.7	57.5	53.2	47.6	35.4	18.2
5	79.2	79.8	80.2	78.4	75.9	71.2	70.1	77.2	81.1	80.7	75.3	75.0	75.4	72.1	70.5	69.5	68.0	70.7	63.6	60.3	58.6	50.8	42.2	28.2
6	80.0	80.6	80.5	77.8	74.1	69.8	77.6	82.0	83.2	79.6	75.4	79.2	74.0	75.2	74.0	71.9	70.3	72.4	65.3	62.1	60.9	53.5	46.7	34.4
7	81.5	81.6	80.5	77.5	72.1	75.1	81.6	84.7	83.7	77.2	80.4	79.0	78.6	76.1	75.9	74.2	72.5	74.2	66.9	63.8	62.4	56.0	49.6	38.7
8	82.0	81.9	80.8	77.2	71.1	78.6	83.7	85.5	83.2	77.4	82.1	77.8	79.8	78.5	77.1	75.8	74.1	76.8	68.0	65.3	64.4	59.4	51.1	41.8
9	82.4	82.4	80.9	76.8	71.6	79.9	84.4	85.6	82.3	78.4	82.3	77.7	79.4	78.9	77.4	76.2	77.1	71.7	68.4	67.3	63.3	59.7	52.3	41.9
10	83.0	83.0	81.3	77.1	72.0	80.2	84.5	85.3	81.6	77.8	81.4	76.7	78.2	77.9	76.2	75.0	75.0	70.1	67.1	66.1	62.1	58.0	50.5	39.6
11	84.4	84.1	82.3	78.2	71.9	79.6	83.7	84.4	80.9	75.5	79.4	74.4	76.3	75.4	73.6	72.3	71.9	67.3	64.6	63.6	59.5	54.7	46.5	34.9
12	86.0	85.3	83.2	79.0	72.2	76.1	80.8	81.8	78.9	71.3	75.1	72.1	73.2	71.3	70.4	68.5	67.2	63.2	60.3	58.8	53.9	48.6	39.9	26.4
13	85.9	84.7	82.2	78.3	72.1	69.0	74.8	77.2	76.0	69.6	68.9	70.1	67.3	66.0	65.4	63.5	62.1	57.9	54.8	52.2	47.2	40.0	29.9	14.9
14	82.8	81.4	79.2	76.4	72.3	64.7	68.0	72.7	73.5	69.9	62.0	64.9	61.4	62.3	59.5	59.1	54.9	51.5	47.7	44.0	37.6	28.4	15.9	7.8
15	78.4	76.6	74.5	72.5	70.0	65.3	57.6	60.8	64.6	64.6	60.7	52.6	56.6	52.4	52.9	50.6	46.0	41.2	36.5	29.2	20.9	10.7	7.6	7.6
16	70.7	68.5	65.7	63.4	60.7	57.9	53.9	47.2	39.1	45.1	47.4	46.5	40.7	33.5	34.7	27.0	21.9	14.0	8.4	7.6	7.6	7.6	7.6	7.6

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- SIDELINE -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-16.06	20.00	12.80	7979.00	79.82	80.17	200	81.51	3150	80.75	69.30	75.62
2	-8.34	30.00	23.50	4439.30	84.55	86.15	200	86.92	2500	86.56	73.51	80.21
3	-5.26	40.00	33.80	3177.30	86.65	90.31	630	92.16	3150	90.27	78.49	83.45
4	-3.45	50.00	44.00	2543.70	88.52	93.77	400	95.46	3150	93.72	81.61	86.38
5	-2.15	60.00	54.20	2179.90	89.41	95.51	400	97.14	2500	94.98	83.31	88.39
6	-1.10	70.00	64.30	1961.40	90.75	97.20	2500	98.74	2500	96.55	85.11	90.19
7	-0.16	80.00	74.40	1834.90	92.18	98.98	2500	100.48	2500	98.29	86.80	91.88
8	0.73	90.00	84.50	1775.50	92.97	100.60	2500	102.52	2500	99.76	87.95	93.22
9	1.64	100.00	94.60	1773.10	93.19	100.17	2000	101.22	2000	99.86	88.01	92.93
10	2.63	110.00	104.70	1827.50	92.94	99.11	250	99.20	2000	98.93	86.97	91.96
11	3.77	120.00	114.90	1947.90	92.55	97.73	250	97.73	0	97.57	84.98	90.27
12	5.18	130.00	125.00	2158.10	91.93	95.00	250	95.03	8000	94.84	81.71	87.46
13	7.08	140.00	135.20	2509.80	90.43	90.80	250	90.84	8000	90.76	77.34	83.82
14	9.95	150.00	145.60	3126.10	87.35	86.60	315	86.60	0	86.77	73.36	80.24
15	15.26	160.00	156.20	4385.80	82.62	79.22	400	79.22	0	79.94	66.46	74.39
16	33.94	170.00	168.90	9142.30	74.29	65.65	100	67.14	1250	67.06	53.88	64.72

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	93.19	100.60	102.52	99.86	88.01	93.22
TIME	1.64	0.73	0.73	1.64	1.64	0.73

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 99.06 EPNDB
SEL = 95.67 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
INLET
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
INLET

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	33.6	36.4	39.1	41.8	44.4	46.8	48.6	49.8	49.2	45.3	45.9	54.4	59.0	59.2	54.5	55.3	59.9	50.9	46.4	43.7	33.5	22.0	4.1	0.2
2	42.2	44.9	47.3	49.4	50.6	50.0	46.7	53.1	62.1	67.2	68.3	64.2	70.2	69.9	71.9	71.4	76.8	71.3	70.6	71.4	66.8	62.7	55.1	44.1
3	46.1	48.2	49.6	49.8	47.3	50.3	60.5	66.9	69.3	66.3	71.0	73.5	74.1	73.6	75.1	76.2	81.6	77.3	77.3	78.8	75.6	73.0	68.0	60.7
4	48.0	49.3	49.0	46.0	51.1	61.5	67.4	69.7	66.4	72.7	74.1	76.1	75.6	77.1	77.3	78.4	83.9	79.9	80.2	82.1	80.2	76.4	73.8	68.5
5	49.0	49.3	46.5	49.0	59.3	66.5	69.4	67.6	71.3	74.8	75.1	75.1	76.4	77.1	77.9	79.0	84.5	80.8	81.3	83.0	81.5	78.5	76.8	72.6
6	48.6	47.6	44.2	54.6	62.8	67.8	68.3	66.5	74.0	71.8	75.9	75.8	75.1	75.6	76.3	82.7	78.6	79.4	81.8	80.5	80.5	79.1	76.8	74.0
7	46.8	44.5	46.0	56.4	63.5	66.8	65.2	68.4	72.6	72.2	72.8	73.6	73.3	73.6	74.3	80.6	76.7	77.6	80.0	79.0	78.8	77.8	76.0	73.5
8	44.0	40.9	46.0	55.8	62.1	64.4	61.8	67.8	69.5	71.6	70.6	71.5	70.9	71.2	72.1	78.3	74.5	75.5	77.9	76.8	76.5	75.7	74.1	71.3
9	39.5	36.2	42.6	52.1	58.0	59.9	57.2	63.9	64.7	67.4	66.4	67.0	66.7	67.1	68.3	74.2	70.6	71.5	73.8	72.7	72.1	71.5	69.6	66.5
10	35.2	32.1	37.8	47.4	53.6	55.7	52.9	59.2	60.6	62.9	61.9	62.9	62.8	63.4	64.6	70.4	66.9	67.9	69.9	69.2	67.0	66.9	64.6	61.3
11	31.2	28.7	31.4	41.7	48.5	51.4	49.2	53.3	56.7	57.2	56.5	57.9	58.7	59.5	66.0	62.0	62.9	65.4	64.3	64.5	62.9	61.0	58.9	55.4
12	27.4	25.9	23.7	34.7	42.4	46.7	46.5	45.6	52.6	50.3	53.5	54.2	54.3	55.3	61.6	57.6	58.5	60.9	59.6	59.4	57.7	55.3	52.7	48.9
13	23.1	23.0	19.7	25.0	34.8	41.1	43.1	39.9	45.9	46.9	48.9	48.4	50.1	50.7	56.9	52.9	53.7	55.9	54.5	53.8	51.8	49.0	45.9	41.8
14	18.5	19.6	18.7	15.3	24.1	33.3	37.8	38.5	35.3	42.7	41.0	44.9	45.2	45.9	51.6	47.7	48.3	50.4	48.8	47.7	45.2	41.9	38.2	33.5
15	13.2	15.1	16.1	15.5	12.3	20.8	28.9	33.6	34.4	30.7	37.8	36.7	40.2	40.4	46.1	41.8	42.3	44.1	42.2	40.5	37.6	33.6	29.2	23.6
16	7.2	9.4	11.3	12.9	13.4	11.0	10.9	20.8	27.6	30.2	28.1	29.6	33.7	32.3	38.7	35.0	35.0	36.5	34.1	31.7	27.9	22.8	17.3	10.4
17	2.1	3.2	4.8	6.7	8.8	10.5	11.1	10.4	7.1	11.0	19.0	23.7	23.9	19.5	29.1	23.9	24.9	24.3	22.5	17.0	12.6	6.8	2.0	0.4

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
INLET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	66.15	76.66	2000	78.71	2000	76.01	66.06	70.76
2	-3.50	20.00	15.60	1448.30	82.04	94.75	2000	96.57	2000	94.07	82.60	89.76
3	-1.96	30.00	25.60	901.40	87.55	100.59	4000	102.21	2000	100.39	88.15	96.01
4	-1.23	40.00	35.60	669.00	90.44	103.84	4000	105.43	2000	103.65	91.00	99.02
5	-0.77	50.00	45.60	545.10	91.40	104.95	4000	106.48	2000	104.79	91.90	100.02
6	-0.44	60.00	55.60	472.00	90.51	104.06	3150	105.81	1600	103.99	90.84	98.79
7	-0.17	70.00	65.60	427.70	88.82	102.41	3150	104.11	1600	102.35	89.08	97.10
8	0.08	80.00	75.60	402.10	86.67	100.30	3150	101.96	1600	100.18	86.90	94.94
9	0.31	90.00	85.60	390.60	82.50	96.13	3150	97.71	1600	95.98	82.77	90.80
10	0.55	100.00	95.60	391.30	78.42	92.06	3150	93.61	1600	91.86	78.78	86.83
11	0.80	110.00	105.60	404.40	73.99	87.14	4000	88.89	1250	87.12	74.40	82.29
12	1.10	120.00	115.60	431.90	69.28	82.34	2500	84.06	1250	82.21	69.72	77.49
13	1.46	130.00	125.60	479.00	64.18	77.09	2500	78.79	1250	76.81	64.65	72.26
14	1.94	140.00	135.60	556.60	58.61	71.23	2500	72.83	1250	70.85	59.09	66.51
15	2.65	150.00	145.60	689.40	52.43	64.58	2500	66.25	1250	63.84	52.91	59.98
16	3.88	160.00	155.60	942.80	44.85	56.27	2500	57.95	1250	55.66	45.30	52.08
17	6.72	170.00	165.60	1566.10	34.17	42.00	2500	42.00	0	42.80	34.52	40.43

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	91.40	104.95	106.48	104.79	91.90	100.02
TIME	-0.77	-0.77	-0.77	-0.77	-0.77	-0.77

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 99.23 EPNDB
SEL = 94.79 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
AFTFAN
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
AFTFAN

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	5.1	7.8	10.7	13.7	16.5	19.0	21.1	22.2	21.5	17.6	18.2	26.9	31.7	32.0	27.1	27.6	27.7	22.1	16.9	12.1	4.9	0.8	0.2	0.2
2	17.1	20.5	23.5	26.0	27.6	27.1	24.0	30.3	39.3	44.4	45.4	41.6	47.8	47.5	49.4	48.6	49.6	47.4	45.9	44.9	41.3	38.1	31.9	22.9
3	23.0	25.9	27.8	28.5	26.3	29.5	39.9	46.3	48.6	45.7	50.4	53.2	54.2	53.8	55.2	56.0	57.8	55.9	55.1	55.9	52.6	51.5	47.5	41.8
4	26.7	28.8	29.0	26.5	31.8	42.4	48.6	50.8	47.5	54.0	55.4	58.1	58.1	60.0	60.2	61.0	64.0	61.2	60.7	63.2	61.0	57.7	56.2	51.4
5	32.5	33.5	31.2	34.2	44.8	52.2	55.3	53.5	57.3	61.0	61.7	62.6	64.7	65.9	66.5	66.9	69.5	65.9	64.7	67.3	65.9	63.2	62.5	59.0
6	38.0	37.7	34.9	45.7	54.1	59.3	60.0	58.3	66.1	64.3	69.2	70.4	70.8	71.7	72.2	74.9	71.4	69.7	71.1	67.4	69.8	68.9	66.6	65.0
7	41.8	40.1	42.1	52.9	60.2	63.8	62.4	65.8	70.5	70.6	72.2	74.3	75.2	75.8	76.0	78.0	73.9	71.2	72.0	69.2	71.9	71.4	69.8	68.9
8	45.5	43.0	48.7	58.8	65.3	67.9	65.4	71.7	73.8	76.4	76.6	78.8	79.2	79.7	79.8	81.2	76.9	73.8	73.5	72.7	74.6	74.5	73.7	73.1
9	48.2	45.4	52.4	62.1	68.3	70.5	67.9	74.8	76.1	79.2	79.5	81.4	81.7	82.1	82.1	82.7	78.8	75.5	75.1	75.5	77.0	76.8	76.4	75.8
10	50.7	48.0	54.2	64.1	70.5	72.8	70.2	76.7	78.4	81.1	81.3	83.2	83.5	83.8	83.6	83.6	79.9	76.7	76.7	78.0	78.3	78.5	78.2	77.4
11	52.4	50.3	53.5	64.0	71.0	74.1	71.9	76.3	79.9	80.9	81.1	83.0	83.9	84.1	84.8	82.4	79.6	77.9	76.3	78.6	79.0	78.6	78.5	77.3
12	53.4	52.5	50.7	61.9	69.8	74.3	74.0	73.3	80.3	78.4	82.4	83.4	83.4	83.7	84.6	81.8	79.2	78.5	77.0	79.1	79.1	78.4	78.1	76.4
13	53.3	53.7	50.7	56.2	66.3	72.6	74.5	71.4	77.4	78.8	81.2	80.8	82.3	82.0	82.9	80.1	77.6	77.5	76.2	77.9	77.6	76.8	76.1	73.8
14	52.3	53.9	53.3	50.1	59.2	68.3	72.8	73.4	70.2	77.9	76.3	80.0	80.0	79.7	79.9	77.7	75.4	74.8	74.4	75.3	74.8	74.0	72.7	69.6
15	49.5	52.0	53.4	53.0	49.7	58.4	66.5	71.0	71.6	68.1	75.2	73.7	76.9	76.3	76.5	74.5	72.6	72.1	71.8	72.0	71.0	69.6	67.4	63.3
16	44.9	48.1	50.4	52.3	53.1	50.3	50.1	60.1	66.6	69.2	66.9	67.8	71.5	69.3	70.4	69.2	67.1	66.6	65.9	65.5	63.8	61.5	58.1	52.2
17	37.9	41.2	44.2	47.1	49.7	51.4	52.0	51.1	46.8	51.4	59.5	63.8	63.7	58.7	63.4	61.1	60.7	58.4	57.6	54.8	51.8	47.4	40.8	30.8

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
AFTFAN
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	37.92	43.73	2000	43.73	0	45.30	37.52	41.07
2	-3.50	20.00	15.60	1448.30	57.80	69.11	2000	69.11	0	69.07	58.08	64.56
3	-1.96	30.00	25.60	901.40	65.82	78.44	4000	78.44	0	78.27	66.23	73.64
4	-1.23	40.00	35.60	669.00	71.75	85.11	4000	86.04	2000	84.75	72.22	79.97
5	-0.77	50.00	45.60	545.10	77.14	90.08	4000	91.11	2000	89.76	77.48	84.77
6	-0.44	60.00	55.60	472.00	82.30	94.61	3150	95.64	1600	94.30	82.41	88.88
7	-0.17	70.00	65.60	427.70	85.54	97.26	1600	98.28	1600	97.17	85.41	91.12
8	0.08	80.00	75.60	402.10	89.23	100.68	1600	101.58	1600	100.53	88.87	94.15
9	0.31	90.00	85.60	390.60	91.54	102.75	1600	102.75	0	102.59	91.05	96.26
10	0.55	100.00	95.60	391.30	93.16	104.18	1600	104.18	0	104.01	92.56	97.81
11	0.80	110.00	105.60	404.40	93.37	104.35	4000	104.35	0	104.18	92.75	98.03
12	1.10	120.00	115.60	431.90	93.20	104.42	4000	104.42	0	104.24	92.61	98.09
13	1.46	130.00	125.60	479.00	91.65	103.00	4000	103.00	0	102.80	91.06	96.71
14	1.94	140.00	135.60	556.60	89.16	100.38	4000	100.38	0	100.24	88.57	94.20
15	2.65	150.00	145.60	689.40	85.51	96.78	4000	96.78	0	96.68	85.09	90.91
16	3.88	160.00	155.60	942.80	79.51	90.47	3150	90.47	0	90.33	79.07	84.82
17	6.72	170.00	165.60	1566.10	71.34	81.45	2000	82.61	1250	81.67	71.06	76.29

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	93.37	104.42		104.42		104.24	92.75	98.09
TIME	0.80	1.10		1.10		1.10	0.80	1.10

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 97.14 EPNDB
SEL = 95.26 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
TURBINE
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
TURBINE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.5	0.9	0.8	0.6	0.4	0.2	0.2	0.2	0.2
2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	2.1	3.5	7.4	9.9	13.8	16.8	18.4	18.3	15.2	8.2	1.8	0.3
3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	1.6	4.0	7.0	9.5	14.4	18.9	23.1	27.2	29.4	31.1	26.9	21.7	14.2	5.1
4	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.6	0.6	2.6	4.9	9.3	12.3	17.5	21.5	26.0	30.5	34.9	37.1	39.2	34.9	30.2	23.8	14.4
5	0.2	0.2	0.2	0.2	0.2	0.4	0.8	0.8	2.5	6.2	9.2	12.8	18.1	22.9	27.6	32.2	36.8	41.0	43.2	45.2	40.7	36.1	30.7	21.5
6	0.2	0.2	0.2	0.2	0.3	0.9	1.4	1.5	7.2	8.1	15.3	19.7	23.5	28.4	33.1	37.8	42.4	46.3	48.5	50.3	45.3	40.6	36.2	26.8
7	0.2	0.2	0.2	0.3	0.8	1.9	2.2	5.2	11.4	14.2	18.7	24.1	28.7	33.5	38.2	42.9	47.6	51.2	53.2	54.8	49.2	44.3	41.0	31.0
8	0.2	0.2	0.2	0.5	1.9	3.9	3.6	10.3	14.9	20.3	23.5	29.2	33.4	38.2	43.0	47.7	52.4	55.6	57.4	59.0	52.6	47.3	45.2	42.2
9	0.2	0.2	0.3	1.0	3.9	6.7	6.3	14.8	18.8	24.8	28.2	33.6	37.9	42.7	47.5	52.2	56.9	59.7	64.2	59.2	55.6	52.5	43.7	46.6
10	0.2	0.2	0.4	2.1	6.7	10.3	10.0	18.7	23.2	28.9	32.2	37.8	42.1	46.9	51.6	56.4	60.8	63.4	67.9	61.9	58.0	55.8	46.0	50.7
11	0.3	0.3	0.5	3.3	9.7	14.4	14.6	21.5	27.9	31.9	35.4	41.0	46.0	50.8	55.5	60.2	64.3	66.7	71.3	64.3	60.0	58.9	47.9	54.3
12	0.4	0.5	0.5	3.7	11.1	17.4	19.5	21.5	31.4	32.5	39.7	44.5	48.5	53.3	58.1	62.8	66.6	68.7	74.2	65.4	60.7	61.6	48.4	57.3
13	0.3	0.4	0.3	0.9	5.8	13.1	17.3	17.0	25.8	30.2	35.9	39.2	44.8	49.0	53.8	58.4	61.9	63.8	67.8	59.6	54.6	54.7	52.3	34.6
14	0.2	0.3	0.3	0.3	1.2	6.8	13.0	16.2	15.9	26.5	28.3	35.7	39.8	44.0	48.5	53.1	56.2	58.0	60.3	52.9	47.4	46.3	43.4	26.4
15	0.2	0.2	0.3	0.3	0.3	1.1	5.9	12.1	15.4	14.9	25.3	27.5	34.6	38.4	42.8	47.0	49.9	53.7	49.3	45.4	41.3	32.7	33.2	16.6
16	0.2	0.2	0.2	0.3	0.3	0.3	0.4	3.0	9.6	14.8	15.9	20.4	28.0	30.1	35.4	40.1	42.3	45.1	40.7	36.4	31.1	22.3	20.3	6.6
17	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.5	1.6	8.2	15.4	19.1	18.2	26.7	30.0	33.1	33.2	29.1	23.2	16.0	6.8	1.2	0.2

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
TURBINE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	14.12	0.00	0	0.00	0	7.09	12.16	19.38
2	-3.50	20.00	15.60	1448.30	24.52	32.99	3150	32.99	0	34.50	25.34	34.69
3	-1.96	30.00	25.60	901.40	35.67	47.82	4000	47.82	0	48.32	36.64	46.22
4	-1.23	40.00	35.60	669.00	43.56	56.56	4000	57.62	4000	56.56	44.52	54.13
5	-0.77	50.00	45.60	545.10	49.59	62.82	4000	63.90	4000	62.70	50.56	60.16
6	-0.44	60.00	55.60	472.00	54.73	68.08	4000	69.21	4000	68.06	55.71	65.30
7	-0.17	70.00	65.60	427.70	59.31	72.73	4000	73.93	4000	72.69	60.31	69.89
8	0.08	80.00	75.60	402.10	63.53	77.10	4000	78.43	4000	76.86	64.54	74.08
9	0.31	90.00	85.60	390.60	67.59	81.67	3150	83.62	10000	80.89	68.66	78.25
10	0.55	100.00	95.60	391.30	71.12	85.29	3150	87.70	10000	84.40	72.20	81.75
11	0.80	110.00	105.60	404.40	74.35	88.57	3150	91.47	10000	87.60	75.44	84.97
12	1.10	120.00	115.60	431.90	76.80	91.13	3150	94.47	10000	90.12	77.90	87.46
13	1.46	130.00	125.60	479.00	71.04	85.11	3150	87.14	3150	84.15	72.14	81.51
14	1.94	140.00	135.60	556.60	64.39	78.02	3150	79.64	3150	77.09	65.51	74.64
15	2.65	150.00	145.60	689.40	57.40	70.41	2500	71.93	8000	68.85	58.54	67.23
16	3.88	160.00	155.60	942.80	49.17	61.66	2500	62.86	2500	60.45	50.30	58.75
17	6.72	170.00	165.60	1566.10	38.37	49.33	2500	49.33	0	49.21	39.47	47.42

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	76.80	91.13		94.47		90.12	77.90	87.46
TIME	1.10	1.10		1.10		1.10	1.10	1.10

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 82.11 EPNDB
SEL = 76.19 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
CORE
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
CORE

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	17.2	20.0	22.7	25.4	27.9	30.4	32.2	33.5	32.6	28.1	27.6	33.9	35.5	32.4	23.5	19.9	15.2	6.8	0.0	0.0	0.0	0.0	0.0	0.0
2	27.6	30.3	32.7	34.8	36.0	35.4	32.1	38.6	47.3	51.7	51.7	45.4	48.5	44.7	42.6	37.6	33.8	28.8	24.1	18.8	12.8	5.8	0.0	0.0
3	33.1	35.3	36.6	36.8	34.4	37.4	47.6	54.1	56.2	52.6	56.2	56.3	54.1	50.2	47.6	44.2	40.5	36.7	32.6	28.2	23.4	18.1	11.5	3.5
4	36.6	37.9	37.6	34.5	39.7	50.1	56.0	58.5	54.9	60.6	60.9	60.6	57.4	55.8	51.9	48.5	44.9	41.3	37.5	33.5	29.3	24.6	19.1	12.6
5	39.0	39.2	36.4	38.9	49.3	56.5	59.5	57.8	61.3	64.2	63.5	61.4	60.4	58.1	54.8	51.4	48.0	44.5	40.9	37.1	33.1	28.8	23.9	18.2
6	40.8	39.8	36.5	46.8	55.1	60.1	60.8	59.1	66.4	63.9	67.0	65.3	62.6	60.2	56.9	53.6	50.2	46.8	43.2	39.6	35.7	31.7	27.1	21.9
7	42.2	39.9	41.4	51.8	58.9	62.3	61.0	64.3	68.5	67.7	67.3	66.6	64.4	61.7	58.5	55.2	51.8	48.4	45.0	41.4	37.6	33.7	29.3	24.4
8	43.6	40.6	45.7	55.5	61.8	64.2	61.8	68.0	69.5	71.2	69.0	68.4	65.8	62.9	59.6	56.4	53.1	49.7	46.2	42.7	39.0	35.1	30.9	26.1
9	45.3	42.1	48.5	58.0	63.9	66.0	63.6	70.2	70.8	73.0	70.6	69.5	66.9	63.8	60.5	57.3	54.0	50.6	47.2	43.6	40.0	36.2	31.9	27.3
10	47.3	44.2	49.9	59.5	65.7	68.0	65.4	71.6	72.5	74.1	71.4	70.4	67.6	64.4	61.2	57.9	54.6	51.2	47.8	44.3	40.6	36.8	32.6	27.9
11	49.6	47.1	49.8	60.1	66.9	69.9	67.8	71.8	74.6	74.0	71.4	70.4	68.1	64.9	61.6	58.3	55.0	51.7	48.2	44.7	41.0	37.1	32.8	28.0
12	51.1	49.6	47.4	58.4	66.1	70.7	70.4	69.2	75.4	71.6	72.6	70.7	67.3	64.1	60.9	57.6	54.2	50.8	47.4	43.8	40.0	36.1	31.7	26.7
13	49.8	49.6	46.3	51.6	61.5	67.9	69.8	66.1	71.2	70.5	69.9	66.4	64.4	60.7	57.4	54.1	50.7	47.3	43.7	40.0	36.2	32.1	27.5	22.2
14	47.1	48.2	47.3	43.8	52.8	62.1	66.4	66.4	62.2	67.5	63.0	63.6	60.0	56.2	52.6	49.3	45.8	42.3	38.7	34.9	30.8	26.5	21.5	15.8
15	43.2	45.2	46.2	45.6	42.2	51.1	59.0	62.8	62.4	56.3	60.4	55.7	55.0	50.8	47.2	43.4	39.9	36.2	32.4	28.4	24.1	19.4	13.8	7.2
16	38.1	40.8	42.9	44.5	45.2	42.6	42.1	51.5	56.9	56.7	51.4	49.0	48.8	42.9	40.2	36.9	32.9	29.0	24.9	20.4	15.5	10.1	3.4	0.0
17	31.2	34.0	36.7	39.4	41.9	43.8	44.1	42.4	37.1	38.9	43.8	44.6	40.5	31.6	32.2	27.4	24.4	18.5	14.3	8.2	2.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
CORE
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	42.42	43.95	800	43.95	0	44.44	39.09	41.39
2	-3.50	20.00	15.60	1448.30	57.28	62.12	400	62.12	0	62.42	54.42	57.19
3	-1.96	30.00	25.60	901.40	63.51	68.45	630	68.45	0	68.54	60.45	63.34
4	-1.23	40.00	35.60	669.00	67.98	73.29	500	73.29	0	73.60	64.90	67.79
5	-0.77	50.00	45.60	545.10	70.77	76.54	400	76.54	0	76.53	67.43	70.58
6	-0.44	60.00	55.60	472.00	73.51	79.28	500	79.28	0	79.19	70.12	73.24
7	-0.17	70.00	65.60	427.70	75.45	80.87	400	80.87	0	81.04	71.75	75.09
8	0.08	80.00	75.60	402.10	77.55	83.32	400	83.32	0	83.14	73.61	77.08
9	0.31	90.00	85.60	390.60	79.12	84.88	400	84.88	0	84.64	74.97	78.57
10	0.55	100.00	95.60	391.30	80.34	85.98	400	85.98	0	85.70	75.94	79.68
11	0.80	110.00	105.60	404.40	81.08	86.38	400	86.38	0	86.11	76.36	80.30
12	1.10	120.00	115.60	431.90	80.98	86.14	315	86.14	0	85.71	76.15	80.10
13	1.46	130.00	125.60	479.00	78.13	82.80	400	82.80	0	82.83	73.11	77.18
14	1.94	140.00	135.60	556.60	73.81	78.65	400	78.65	0	78.35	68.66	72.78
15	2.65	150.00	145.60	689.40	68.54	72.36	315	72.36	0	72.24	63.25	67.56
16	3.88	160.00	155.60	942.80	61.94	66.34	400	66.34	0	65.95	57.05	61.18
17	6.72	170.00	165.60	1566.10	52.57	55.21	630	58.37	1250	55.68	47.31	50.81

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	81.08	86.38		86.38		86.11	76.36	80.30
TIME	0.80	0.80		0.80		0.80	0.80	0.80

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 78.16 EPNDB
SEL = 78.39 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
JET
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
JET

SPECTRUM	FREQUENCY (HZ)																							
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	61.0	61.0	60.6	59.9	58.8	57.4	55.3	52.5	48.3	41.1	38.5	44.3	46.4	44.1	36.8	34.8	31.5	24.2	16.5	8.0	0.0	0.0	0.0	0.0
2	69.1	69.0	68.4	67.1	64.7	60.3	53.0	55.4	60.8	62.5	60.4	53.6	57.2	54.2	53.7	50.3	47.9	44.1	40.1	35.3	29.5	22.2	12.4	0.0
3	72.5	71.8	70.1	66.9	60.9	60.1	66.3	68.8	67.6	61.3	62.8	62.6	60.9	57.8	56.9	55.1	52.7	50.0	46.7	42.8	38.1	32.5	25.2	15.7
4	73.8	72.3	68.9	62.5	64.1	70.7	72.7	71.0	64.3	67.3	65.5	65.1	62.4	61.7	59.5	57.6	55.5	52.9	49.9	46.3	42.2	37.2	30.9	23.0
5	74.1	71.5	65.7	64.8	71.6	75.0	74.0	68.4	68.8	69.0	66.6	64.4	63.8	62.5	61.0	59.1	57.0	54.5	51.6	48.3	44.4	39.7	34.0	26.8
6	73.9	70.1	63.7	70.8	75.4	76.6	73.3	67.8	72.1	67.0	68.6	66.9	64.7	63.4	61.8	60.0	57.9	55.4	52.6	49.3	45.5	41.1	35.6	29.0
7	73.8	68.7	67.2	74.2	77.8	77.3	72.0	71.7	72.9	69.7	68.2	67.5	66.0	64.5	62.9	61.1	59.0	56.6	53.8	50.5	46.8	42.5	37.2	30.8
8	73.9	68.1	70.2	76.7	79.4	78.1	71.7	74.4	73.1	72.4	69.4	68.9	67.0	65.6	63.9	62.0	59.9	57.4	54.6	51.4	47.7	43.4	38.2	31.9
9	74.1	68.1	71.6	77.7	80.1	78.3	71.9	75.2	73.1	73.0	70.2	69.5	67.6	66.1	64.4	62.5	60.3	57.8	54.9	51.6	47.9	43.6	38.4	32.1
10	74.5	68.6	71.3	77.6	80.2	78.6	72.1	75.2	73.5	73.1	70.2	69.6	67.6	66.1	64.4	62.4	60.1	57.5	54.6	51.2	47.4	43.0	37.7	31.5
11	75.5	70.3	69.9	76.9	80.0	79.1	73.1	74.0	74.1	71.8	69.1	68.4	67.1	65.5	63.7	61.6	59.2	56.6	53.5	50.0	46.0	41.5	36.1	29.7
12	77.6	73.3	67.9	75.3	79.1	79.4	75.1	70.6	74.0	68.6	69.5	68.0	65.8	64.1	62.2	60.0	57.5	54.6	51.3	47.7	43.5	38.7	33.1	26.3
13	80.1	76.8	69.8	71.1	76.6	78.2	75.6	68.3	70.3	68.2	67.6	64.7	63.9	61.6	59.5	57.1	54.3	51.2	47.7	43.7	39.2	34.1	28.0	20.7
14	81.1	78.3	73.1	64.8	68.4	72.1	71.6	68.0	61.2	65.7	61.5	62.6	60.2	57.6	55.0	52.3	49.2	45.7	41.7	37.3	32.3	26.7	19.9	11.8
15	78.1	75.2	70.6	63.9	54.3	57.7	61.9	63.3	61.0	54.5	58.7	54.4	54.7	51.3	48.3	44.8	41.2	37.1	32.6	27.5	21.8	15.3	7.5	0.0
16	72.7	69.0	64.1	58.6	53.4	46.5	43.3	50.3	53.7	52.9	47.4	45.0	45.4	39.9	37.2	33.7	29.1	24.3	18.9	12.9	6.0	0.0	0.0	0.0
17	67.0	62.9	58.1	52.8	48.2	44.9	41.9	37.4	29.6	30.4	34.6	35.0	30.9	21.9	21.9	16.3	12.1	4.6	0.0	0.0	0.0	0.0	0.0	0.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
JET
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	68.24	64.48	160	64.59	1000	65.04	53.65	61.56
2	-3.50	20.00	15.60	1448.30	75.82	76.68	400	76.68	0	76.44	64.88	70.28
3	-1.96	30.00	25.60	901.40	78.81	81.23	250	81.23	0	81.26	69.30	74.61
4	-1.23	40.00	35.60	669.00	80.66	84.18	200	84.18	0	84.26	71.97	77.35
5	-0.77	50.00	45.60	545.10	81.90	85.73	200	85.73	0	85.61	73.18	78.87
6	-0.44	60.00	55.60	472.00	82.99	86.72	160	86.72	0	86.44	74.30	80.00
7	-0.17	70.00	65.60	427.70	84.16	87.83	160	87.83	0	87.53	75.31	81.13
8	0.08	80.00	75.60	402.10	85.46	89.03	125	89.03	0	88.83	76.58	82.38
9	0.31	90.00	85.60	390.60	86.03	89.63	125	89.63	0	89.37	77.10	82.89
10	0.55	100.00	95.60	391.30	86.15	89.65	125	89.65	0	89.41	77.17	82.97
11	0.80	110.00	105.60	404.40	86.04	89.25	160	89.25	0	89.02	76.58	82.62
12	1.10	120.00	115.60	431.90	85.90	88.65	160	88.65	0	88.29	75.72	81.99
13	1.46	130.00	125.60	479.00	85.56	86.95	160	86.95	0	86.70	73.70	80.44
14	1.94	140.00	135.60	556.60	84.38	82.60	200	82.60	0	82.83	69.53	76.75
15	2.65	150.00	145.60	689.40	80.77	75.33	250	75.33	0	76.81	63.25	71.35
16	3.88	160.00	155.60	942.80	74.89	66.21	400	66.21	0	68.25	54.71	64.42
17	6.72	170.00	165.60	1566.10	68.99	54.83	50	54.83	0	57.98	44.14	57.72

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	86.15	89.65		89.65		89.41	77.17	82.97
TIME	0.55	0.55		0.55		0.55	0.55	0.55

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 83.24 EPNDB
SEL = 80.69 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
AIRFRAME
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
AIRFRAME

	FREQUENCY (HZ)																								
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	65.6	67.9	69.3	67.9	66.7	66.5	66.1	63.5	60.7	55.1	54.0	60.5	63.5	64.1	56.5	56.1	53.3	47.3	40.5	32.4	26.6	14.6	0.0	0.0
2	74.0	76.2	77.3	75.4	72.8	69.6	64.0	66.6	73.8	77.6	77.1	70.2	74.1	73.8	73.5	72.2	70.2	67.6	64.6	60.3	56.9	51.2	42.7	31.6
3	78.3	79.6	78.9	74.5	68.5	69.9	78.2	82.1	82.3	75.5	78.9	81.7	78.3	77.9	77.7	77.2	75.2	73.8	71.5	68.2	65.3	60.8	54.6	46.3
4	79.8	80.1	77.2	71.1	71.2	81.3	84.6	84.3	77.9	82.1	82.2	83.8	80.6	81.1	80.0	79.3	77.5	76.3	74.2	71.3	68.6	64.7	59.4	52.5
5	81.6	79.6	73.9	73.0	79.5	85.2	86.5	80.8	83.4	84.7	84.1	82.6	81.8	81.7	81.3	80.4	78.6	77.4	75.6	72.9	70.5	66.9	62.0	55.6
6	80.4	78.4	72.7	78.2	83.3	85.7	85.4	80.6	86.4	82.4	86.3	83.8	82.1	81.7	81.2	80.7	79.2	78.1	76.3	73.6	71.2	67.9	63.3	57.4
7	81.0	76.3	73.8	80.2	85.7	85.7	82.6	84.2	86.5	83.6	85.8	82.8	82.2	81.6	81.1	80.4	78.9	77.8	76.1	73.5	71.1	67.7	63.3	57.6
8	79.0	73.0	76.0	81.2	86.6	85.9	80.9	85.1	84.9	84.9	84.8	82.8	81.7	81.6	80.8	80.4	78.7	77.6	76.0	73.6	71.2	68.0	63.7	58.1
9	79.5	71.9	76.2	82.1	86.5	84.8	79.7	85.3	83.7	84.8	83.6	82.6	81.4	81.7	80.4	79.4	77.8	76.8	75.3	72.8	70.5	67.3	63.0	57.4
10	78.8	71.6	74.0	81.7	84.8	84.2	78.3	83.7	82.7	84.3	82.3	81.4	80.9	80.4	80.0	78.8	77.2	76.3	74.6	72.2	69.9	66.6	62.4	56.9
11	77.7	71.6	71.6	78.2	82.8	83.2	78.1	81.1	82.3	81.9	79.6	79.5	79.7	79.4	78.9	77.7	76.1	75.1	73.5	71.0	68.7	65.4	61.0	55.5
12	78.0	72.9	66.7	74.9	80.3	81.9	80.1	76.0	80.9	77.5	79.2	78.8	78.1	78.1	77.3	76.1	74.6	73.5	71.8	69.3	66.8	63.5	59.2	53.4
13	76.7	74.6	67.4	69.1	76.8	80.2	80.9	74.3	78.5	77.6	77.8	76.1	77.2	76.8	76.2	73.9	72.3	71.2	69.5	66.9	64.4	60.9	56.4	50.4
14	75.1	73.9	69.6	63.6	69.7	76.1	79.2	78.2	71.1	76.4	72.8	74.7	74.9	75.1	73.7	71.7	70.0	68.9	67.0	64.2	61.7	58.1	53.2	46.8
15	73.1	72.1	71.1	67.1	60.5	66.8	73.9	75.7	74.9	68.7	72.7	70.0	73.5	72.0	71.0	68.9	67.2	65.8	63.8	60.9	58.2	54.2	48.8	41.7
16	69.1	70.2	69.3	68.4	65.4	60.5	59.7	67.4	71.3	71.6	66.8	65.9	70.0	67.3	66.9	65.4	63.1	61.5	59.3	55.9	53.0	48.4	42.0	33.5
17	63.3	65.8	64.6	65.4	63.9	63.8	64.6	62.1	53.1	54.4	61.2	64.6	65.2	58.9	61.7	58.6	57.5	53.8	51.5	46.5	43.0	37.0	28.0	16.2

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
AIRFRAME
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	76.88	79.17	1000	80.54	1000	79.08	69.11	73.21
2	-3.50	20.00	15.60	1448.30	86.47	93.43	1600	93.43	0	93.85	82.49	86.86
3	-1.96	30.00	25.60	901.40	91.02	99.11	2500	99.11	0	99.20	87.57	92.40
4	-1.23	40.00	35.60	669.00	93.38	101.76	2500	101.76	0	101.80	90.05	94.93
5	-0.77	50.00	45.60	545.10	94.72	103.14	2500	103.14	0	103.13	91.09	96.20
6	-0.44	60.00	55.60	472.00	95.29	103.80	2500	103.80	0	103.66	91.66	96.83
7	-0.17	70.00	65.60	427.70	95.45	103.76	2500	103.76	0	103.55	91.50	96.72
8	0.08	80.00	75.60	402.10	95.33	103.62	2500	103.62	0	103.41	91.29	96.58
9	0.31	90.00	85.60	390.60	94.91	103.00	2500	103.00	0	102.76	90.76	95.93
10	0.55	100.00	95.60	391.30	93.91	102.25	2500	102.25	0	101.98	89.93	95.15
11	0.81	110.00	105.60	404.40	92.28	100.86	2500	100.86	0	100.64	88.52	93.79
12	1.10	120.00	115.60	431.90	90.67	99.18	2500	99.18	0	99.04	86.96	92.14
13	1.46	130.00	125.60	479.00	89.22	97.21	2500	97.21	0	97.15	85.35	90.28
14	1.94	140.00	135.60	556.60	87.01	94.75	2500	94.75	0	94.78	83.08	87.97
15	2.65	150.00	145.60	689.40	84.18	91.66	2500	91.66	0	91.61	80.36	85.03
16	3.88	160.00	155.60	942.80	80.43	87.41	400	87.41	0	87.69	76.42	80.88
17	6.72	170.00	165.60	1566.10	75.27	80.83	2000	81.79	1250	81.11	70.34	74.36

* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	95.45	103.80		103.80		103.66	91.66	96.83
TIME	-0.17	-0.44		-0.44		-0.44	-0.44	-0.44

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 98.13 EPNDB
SEL = 96.27 DB

MAR. 03, 1995.

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
TOTAL
*

LARGE QUAD AIRPLANE MODEL
APPROACH CONDITION
TOTAL

	FREQUENCY (HZ)																							
SPECTRUM	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10K
1	66.9	68.7	69.9	68.5	67.4	67.0	66.5	64.0	61.2	55.7	54.7	61.5	64.9	65.4	58.7	58.8	60.8	52.5	47.4	44.0	34.3	22.8	7.1	5.0
2	75.2	77.0	77.8	76.0	73.4	70.1	64.4	67.1	74.3	78.1	77.7	71.3	75.7	75.3	75.8	74.9	77.7	72.9	71.6	71.7	67.2	63.0	55.4	44.4
3	79.3	80.3	79.4	75.2	69.2	70.4	78.5	82.4	82.7	76.2	79.7	82.4	79.8	79.3	79.6	79.8	82.5	78.9	78.3	79.2	76.0	73.3	68.2	60.9
4	80.8	80.8	77.8	71.7	72.0	81.7	85.0	84.7	78.4	82.7	82.9	84.6	81.9	82.6	81.9	81.9	84.8	81.5	81.2	82.5	80.5	76.7	74.0	68.7
5	82.3	80.2	74.5	73.6	80.2	85.7	86.8	81.3	83.8	85.3	84.7	83.4	83.0	83.1	83.1	82.9	85.6	82.5	82.4	83.5	81.9	78.9	77.1	72.9
6	81.3	79.0	73.2	78.9	84.0	86.3	85.8	81.0	86.9	83.0	86.9	84.7	83.3	83.1	82.9	85.3	82.3	82.1	83.2	81.5	81.3	79.8	77.4	74.6
7	81.8	77.0	74.7	81.2	86.4	86.4	83.1	84.6	87.0	84.4	86.3	84.0	83.6	83.2	83.0	84.6	81.8	81.2	82.0	80.4	80.2	79.0	77.1	74.9
8	80.2	74.2	77.0	82.6	87.4	86.7	81.6	85.8	85.7	86.0	85.8	84.7	84.0	84.1	83.7	84.9	81.8	80.7	81.0	79.6	79.4	78.6	77.1	75.4
9	80.6	73.4	77.5	83.5	87.5	85.9	80.7	86.2	84.9	86.3	85.4	85.4	84.8	85.1	84.5	84.8	81.7	80.0	79.7	78.7	78.9	78.3	77.4	76.3
10	80.2	73.4	75.9	83.2	86.3	85.6	79.9	85.2	84.7	86.5	85.2	85.7	85.6	85.5	85.3	85.0	82.0	79.9	79.6	79.5	79.2	79.1	78.5	77.6
11	79.8	74.0	73.9	80.7	84.9	85.1	80.3	83.3	85.1	85.0	83.8	84.9	85.5	85.5	85.9	83.8	81.4	80.1	79.1	79.6	79.5	78.9	78.6	77.4
12	80.8	76.1	70.4	78.3	83.1	84.5	82.3	79.1	84.6	81.7	84.5	85.0	84.7	84.8	85.4	82.9	80.7	80.1	79.7	79.7	79.4	78.6	78.2	76.5
13	81.7	78.9	71.8	73.3	80.0	82.9	82.9	77.1	81.8	81.8	83.2	82.3	83.6	83.2	83.8	81.1	78.8	78.6	77.6	78.3	77.8	76.9	76.2	73.8
14	82.1	79.7	74.7	67.4	72.4	78.2	80.8	79.9	74.2	80.6	78.1	81.3	81.2	81.0	80.9	78.7	76.6	75.9	75.3	75.7	75.0	74.1	72.8	69.6
15	79.3	76.9	73.9	68.9	61.8	67.9	75.0	77.3	76.8	71.6	77.3	75.3	78.6	77.7	77.6	75.6	73.7	73.1	72.5	72.3	71.2	69.7	67.5	63.3
16	74.3	72.7	70.5	68.9	65.9	61.1	60.3	68.3	72.7	73.7	69.9	70.0	73.8	71.4	72.0	70.7	68.6	67.8	66.8	66.0	64.2	61.7	58.2	52.3
17	68.5	67.6	65.5	65.7	64.2	64.1	64.9	62.5	54.1	56.3	63.5	67.3	67.5	61.8	65.6	63.0	62.4	59.7	58.6	55.4	52.3	47.8	41.0	31.0

NASA AST TASK 5 -- LARGE QUAD AIRPLANE MODEL -- APPROACH -- 02-28-95
TOTAL
MAR. 03, 1995.

SPECTRUM NUMBER	TIME (SEC)	ACOUSTIC ANGLE	DOPPLER ANGLE	SOUND PROP DISTANCE	OASPL	PNL	MAX NOY FREQUENCY	PNLT	TONE CORR FREQUENCY*	OBPNL	DBA	DBD
1	-10.21	10.00	5.60	3991.10	77.75	82.23	2000	83.84	2000	81.97	70.94	75.36
2	-3.50	20.00	15.60	1448.30	88.08	98.47	2000	99.73	2000	98.12	85.61	91.60
3	-1.96	30.00	25.60	901.40	92.82	104.11	2000	105.16	2000	103.76	90.93	97.62
4	-1.23	40.00	35.60	669.00	95.34	107.08	4000	108.12	2000	106.89	93.63	100.51
5	-0.77	50.00	45.60	545.10	96.59	108.37	4000	109.30	2000	108.19	94.65	101.64
6	-0.44	60.00	55.60	472.00	96.90	108.35	3150	109.15	1600	108.07	94.61	101.23
7	-0.17	70.00	65.60	427.70	96.92	107.81	3150	107.81	0	107.47	94.18	100.53
8	0.08	80.00	75.60	402.10	97.10	107.49	3150	107.49	0	107.15	94.28	100.22
9	0.31	90.00	85.60	390.60	97.15	107.10	1600	107.10	0	106.96	94.38	99.86
10	0.55	100.00	95.60	391.30	97.10	107.28	1600	107.28	0	107.11	94.73	100.10
11	0.80	110.00	105.60	404.40	96.48	106.83	4000	106.83	0	106.65	94.39	99.78
12	1.10	120.00	115.60	431.90	95.83	106.50	4000	106.50	0	106.39	93.93	99.52
13	1.46	130.00	125.60	479.00	94.37	104.94	4000	104.94	0	104.80	92.26	97.84
14	1.94	140.00	135.60	556.60	92.12	102.29	4000	102.29	0	102.26	89.75	95.26
15	2.65	150.00	145.60	689.40	88.72	98.75	3150	98.75	0	98.62	86.40	91.98
16	3.88	160.00	155.60	942.80	83.66	92.98	2500	92.98	0	92.96	80.99	86.35
17	6.72	170.00	165.60	1566.10	77.43	85.07	2000	86.14	1250	85.32	73.74	78.49

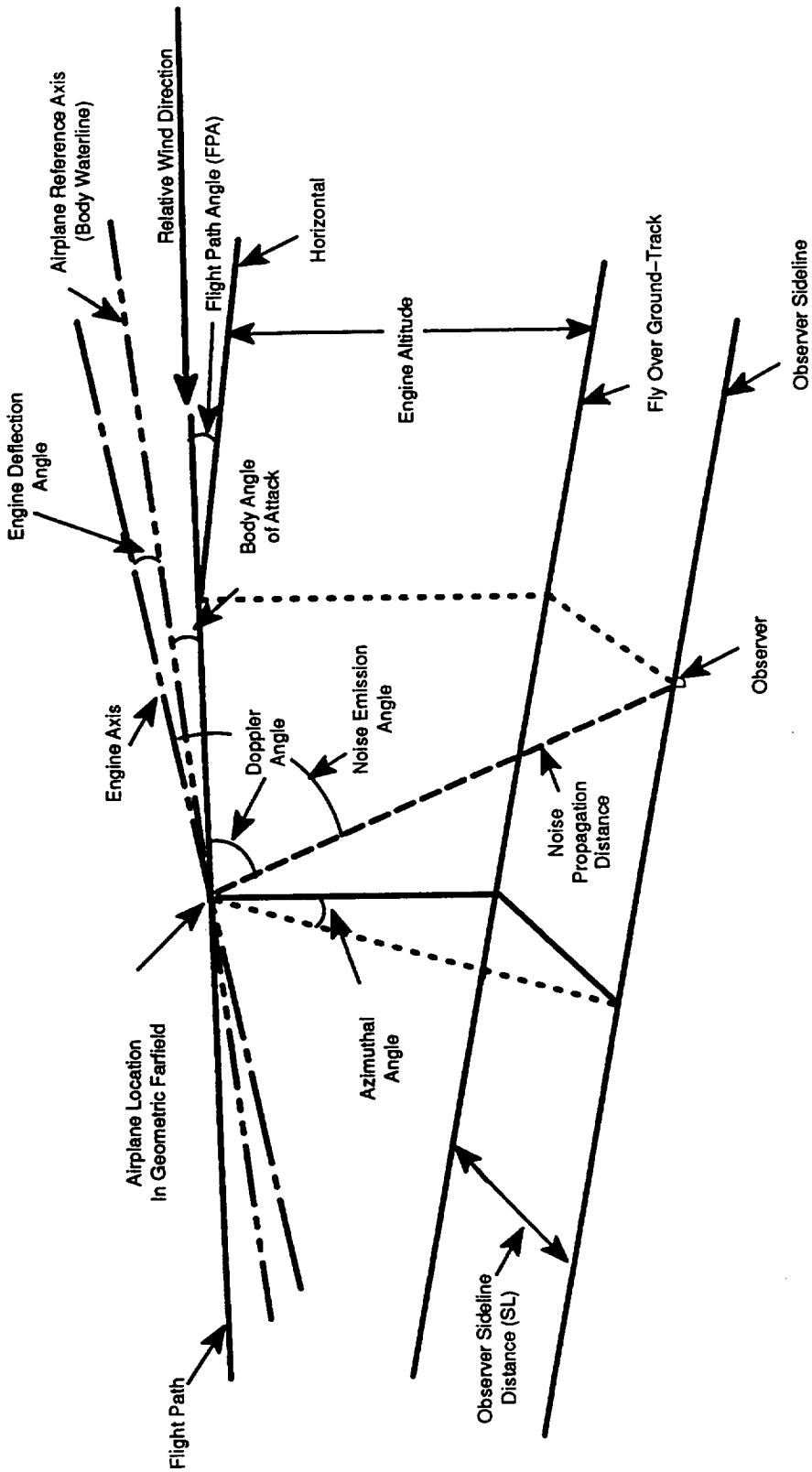
* TONES BELOW 1000 HZ NOT CONSIDERED

MAXIMUM	97.15	108.37		109.30		108.19	94.73	101.64
TIME	0.31	-0.77		-0.77		-0.77	0.55	-0.77

TIME OF VISUAL OVERHEAD = 0.00 SECONDS

INTEGRATION EPNL = 103.98 EPNDB
SEL = 100.43 DB

Flyby Geometry



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13. ABSTRACT (*Maximum 200 words*)

This report describes the methodology for assessing the impact of component noise reduction on total airplane system noise. The methodology is intended to be applied to the results of individual study elements of the NASA-Advanced Subsonic Technology (AST) Noise Reduction Program, which will address the development of noise reduction concepts for specific components. Program progress will be assessed in terms of noise reduction achieved, relative to baseline levels representative of 1992 technology airplane/engine design and performance. In this report, the 1992 technology reference levels are defined for assessment models based on four airplane sizes--an average business jet and three commercial transports: a small twin, a medium sized twin, and a large quad. Study results indicate that component changes defined as program final goals for nacelle treatment and engine/airframe source noise reduction would achieve from 6-7 EPNdB reduction of total airplane noise at FAR 36 Stage 3 noise certification conditions for all of the airplane noise assessment models.

14. SUBJECT TERMS

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