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# AIR FORCE PROCEDURE FOR PREDICTING NOISE AROUND AIRBASES: NOISE EXPOSURE MODEL (NOISEMAP) TECHNICAL REPORT

Carey L. Moulton

WYLE RESEARCH
128 MARYLAND STREET
EL SEQUNDO, CA 90245



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

Peter A. Lurker

PETER A. LURKER, Lt Col, USAF, BSC
Acting Director
Biodynamics and Biocommunications Division
Armstrong Laboratory

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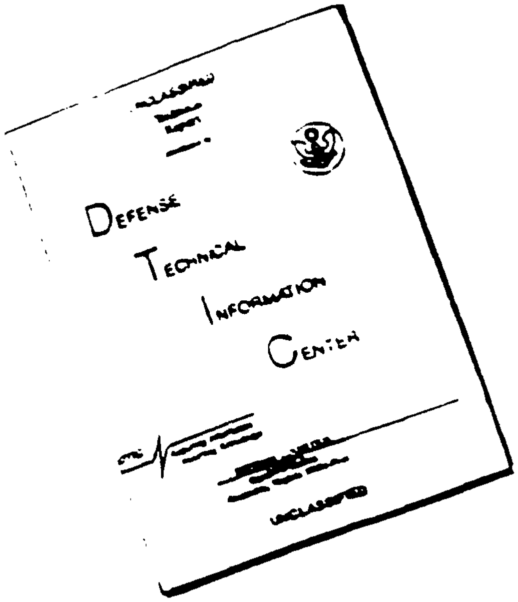


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CAREY L. MOULTON

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**
WYLE LABORATORIES
128 Maryland
El Segundo CA 90245-4115

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**13. ABSTRACT** *(Maximum 200 words)*
NOISEMAP was the name given to the original Fortran program, developed for the USAF in the mid 1970's to calculate total noise exposure around military airbases. NOISEMAP now refers to a suite of programs that automate the noise exposure calculation process from operations data collection to final contour plotting. The noise calculation part of this suite of programs is now called NMAP 6.1 (the 6.1 being the current version number). New algorithms for calculating lateral attenuation and an expanded database are included in this version 6.1. NOISEMAP has also been rehosted from operation on a CDC mainframe computer to run on a desktop microcomputer (IBM compatible). This report is a technical overview of the algorithms used in NMAP 6.1. Most of these algorithms were originally outlined by Dr William Galloway in the report "Community Noise Exposure Resulting from Aircraft Operations: Technical Review" published in November 1974. This report covers all the current algorithms used in NMAP 6.1 and includes an example computation for a single aircraft takeoff and ground runup operation.

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## 1.0 INTRODUCTION

This report is intended as a technical overview of the algorithms used in NMAP 6.1 to calculate noise exposure. Most of these algorithms were developed during the inception of the NOISEMAP program which was conceptually outlined by Dr. William Galloway in 1974.[1] Some of the algorithms, such as the new NMAP 6.1 lateral attenuation model and the SAE lateral attenuation models, are recent additions to NOISEMAP.

NOISEMAP was the name given to the FORTRAN program, developed for the Air Force in the mid 1970's, to calculate aircraft noise exposure. This FORTRAN program is now called NMAP 6.1 (the 6.1 being the current version number), and the term NOISEMAP now refers to a suite of programs that includes several supplemental programs such as OMEGA 10.7 and OMEGA 11.3, and "new" programs (circa 1989) such as BASEOPS, MCM, and NMPLOT. The OMEGA 10.7 and 11.3 programs[2] perform the propagation extrapolations on the reference aircraft noise spectra in the NOISEFILE 6.2 database and provide as output the single event noise descriptors that NMAP 6.1 requires for its calculations. The BASEOPS program[3] allows interactive entry of the airbase operations and airfield data for NMAP 6.1 noise contour calculations. The airbase operations data from BASEOPS are then filtered by the Master Control Module (MCM) program[4] which creates the NMAP 6.1 input file (NMI). The NMI file is a processing template which is a combination of processing instructions and reference data that drives the NMAP 6.1 contour calculations. After the contour calculations are complete the NMPLOT program[5] is used to plot the resulting contours along with user selectable airbase information that are entered into BASEOPS.

The NMAP 6.1 program is an effective method of determining noise exposure due to aircraft operations, and includes both military and civilian aircraft in its aircraft reference noise database. This report provides detailed information on the crucial and core algorithms relating to noise exposure calculations so that current users can have a better technical understanding of NMAP 6.1, and that future developers of NOISEMAP will have an adequate foundation for extending the program.

Section 2.0 of this report provides the details on all of the noise exposure calculations in the NMAP 6.1 program. These noise exposure calculations are the end product of a series of operations that include flight segmentation, determining when and where specific noise modules apply (e.g., takeoff roll model, altitude thrust correction, airspeed correction and user-entered sound level adjustments), grid searching, and finally the the noise exposure calculations themselves. The bulk of NMAP's time is spent processing flyover operations because of the complexity of the geometry involved and the complexity of the merged flight segments. Runup operations on the other hand, are much simpler in comparison because of their simpler geometry and the fact that they are single power setting operations. Included at the end of many sub-sections in Section 2.0 are the results of a sample case which are intended to show how each algorithm has been implemented in MNAP 6.1. Section 3 covers some of the unique features of NMAP 6.1. Included in this section is the complete sample calculation with all the supporting data, and a sample contour plot. Also included in Section 3 are tables of all of the aircraft that have reference noise data in the NOISEFILE 6.2 database. This database currently holds 304 aircraft flyover, 398 aircraft runup, and 220 civil aircraft noise spectra. Appendix A contains a program flowchart of NMAP 6.1, and Appendix B contains a summary of all of the subroutines and common blocks in the NMAP 6.1 program.

## 2.0 NOISEMAP NOISE CALCULATIONS

### 2.1 Noise Descriptors

The noise descriptors used for noise exposure calculations are the following:

DNL - Day-Night Average Sound Level,
CNEL - Community Noise Equivalent Level,
NEF - Noise Exposure Forecast,
WECPNL - Weighted Equivalent Continuous Perceived Noise Level.

These descriptors cover a broad range of analysis requirements for land use planning in the United States, Canada and Europe,[6] with NEF being used in Canada and the WECPNL metric being predominantly if not exclusively used in Europe.

The DNL metric is the default metric used by the MCM program when compiling the input file for the NMAP 6.1. However, any of the other metrics can be chosen by making a selection in the MCM's RUN-Run options menu.

#### 2.1.1 Day-Night Average Sound Level (DNL)

The DNL descriptor is based on the energy averaged A-weighted sound level integrated over a 24 hour period, with a penalty applied to night-time operations between 2200 hrs and 0700 hrs local time. NMAP 6.1 uses the following relationships to determine DNL exposure:

FLYOVER:
$$L_{dn} = L_E + 10 \cdot \log_{10}(N_{day} + 10 \cdot N_{night}) - 49.4$$

RUNUP:
$$L_{dn} = L_A + 10 \cdot \log_{10}(N_{day} \cdot t + 10 \cdot N_{night} \cdot t) - 49.4$$

| | | | |
|---|---|---|---|
| where | $L_{dn}$ | = | Day-Night Average Sound Level (DNL) |
| | $L_E$ | = | Sound Exposure Level (SEL) in dB, |
| | $L_A$ | = | A-weighted sound level in dB, |
| | $N_{day}$ | = | number of operations (takeoff or landing) between 0700 hrs and 2200 hrs local time, |
| | $N_{night}$ | = | number of operations (takeoff or landing) between 2200 hrs and 0700 hrs local time, |
| and | $t$ | = | the runup duration in seconds. |

The SEL values are interpolated from tables of SEL values versus distance generated by the OMEGA 10.7 program. The OMEGA 10.7 program uses 22 distances starting at 200 ft and ending at 25,000 ft in increments based on one-third octave ratios, i.e., 200 ft, 250 ft, 315 ft, 400 ft, etc. The SEL values are generated for air-to-ground and ground-to-ground sound propagation conditions at each of the one-third octave distance increments. The OMEGA 10.7 program also corrects the reference noise spectra which are expressed in terms of the standard day conditions, for local temperature and humidity (see Section 2.7.1).

The SEL values that are calculated by OMEGA 10.7 are extrapolated from the Air Force's reference noise data file, NOISEFILE 6.2, which contains one-third octave band spectra of aircraft noise normalized to a 1000 ft distance at standard day temperature and humidity, and sea level altitude. The reference database noise spectra cover a wide range of military and civilian aircraft at selected engine power settings and flight conditions. These are processed by OMEGA 10.7 to provide the SEL values at the required set of distances, airbase meteorological conditions and aircraft flight conditions (engine power settings and airspeed) for the two propagation conditions (air-to-ground and ground-to-ground) as mentioned before. This procedure is described in more detail in Reference 2. The OMEGA 10.7 tabulations of SEL values are subsequently included as part of the NMAP 6.1 input file compiled by the MCM program.

The values of A-weighted Sound Level, AL, which are used to estimate noise exposures from aircraft or engine ground runup tests, are similarly calculated at a set of one-third octave distances from 200 ft to 25,000 ft by means of an OMEGA 11.3 program. The OMEGA 11.3 program accesses ground runup reference noise spectra in NOISEFILE 6.2 for specific aircraft or engine test facility operating at selected engine power settings. OMEGA 11.3 then generates a table of AL values for the required set of ground-to-ground propagation distances and azimuth angles relative to the aircraft or test facility's forward axis. This process is also described in detail in Reference 2.

For both the flyover and runup events, the number of operations and runup duration are entered into the BASEOPS program and are carried through the MCM into the NMAP input file.

### 2.1.2 Community Noise Equivalent Level (CNEL)

The CNEL descriptor is similar to DNL except that there is an additional penalty for operations occurring between the evening hours of 1900 and 2200 hrs. This breaks the number of noise exposure periods in 24 hours into three time periods, i.e., 0700-1900, 1900-2200, and 2200-0700 hrs. The CNEL was initially developed by the State of California as the standard to be used for noise planning and analysis around airports, but is also used for environmental analysis of other sources of noise. NMAP 6.1 uses the following relationships to determine CNEL exposure:

FLYOVER:
$L_{CNE} = L_E + 10 \cdot \log_{10}(N_{day} + 3 \cdot N_{eve} + 10 \cdot N_{night}) - 49.4$

RUNUP:
$L_{CNE} = L_A + 10 \cdot \log_{10}(N_{day} \cdot t + 3 \cdot N_{eve} \cdot t + 10 \cdot N_{night} \cdot t) - 49.4$

where $L_{CNE}$ = Community Noise Equivalent Level

$N_{eve}$ = number of operations between 1900 hrs and 2200 hrs.

All the other parameters are as listed for DNL.

### 2.1.3 Noise Exposure Forecast (NEF)

The NEF descriptor is based on the Effective Perceived Noise Level (abbreviated EPNL, with the letter symbol $L_{EPN}$, as a time-integrated single event descriptor) and the non-time integrated, tone-corrected Perceived Noise Level (abbreviated PNLT, with a letter symbol $L_{PNT}$, as the descriptor for instantaneous noise levels). NMAP 6.1 uses the following relationships to determine NEF exposure:

FLYOVER:
$NEF = L_{EPN} + 10 \cdot \log_{10}(N_{day} + 16.67 \cdot N_{night}) - 88.0$

RUNUP:
$NEF = L_{PNT} + 10 \cdot \log_{10}(N_{day} \cdot t + 16.67 \cdot N_{night} \cdot t) - 98.0$

where $L_{EPN}$ = Effective Perceived Noise Level,

$L_{PNT}$ = Perceived Noise Level, Tone-Corrected

and the other parameters are as listed as for DNL.

The EPNL value is obtained from tables of EPNL flyover noise versus one-third octave distances. corrected for temperature and humidity. These tables are generated by the OMEGA 10.7 program in a similar manner as described for the DNL calculations. The PNLT values are obtained from PNLT versus one-third octave distances generated by the OMEGA 11.3 program, also as described for the DNL calculations.

2.1.4 Weighted Equivalent Continuous Perceived Noise Level (WECPNL)

The WECPNL descriptor[7] is based on PNLT and is used frequently in Europe. In the NMAP 6.1 program WECPNL is implemented as a three period day. NMAP 6.1 uses the following relationships to determine WECPNL exposure:

FLYOVER:
$$WECPNL = L_{EPN} + 10 \cdot \log_{10}(N_{day} + 3 \cdot N_{eve} + 10 \cdot N_{night}) - 39.4$$

RUNUP:
$$WECPNL = L_{PNT} + 10 \cdot \log_{10}(N_{day} \cdot t + 3 \cdot N_{eve} \cdot t + 10 \cdot N_{night} \cdot t) - 49.4$$

where $L_{EPN}$ and $L_{PNT}$ are defined as for NEF above, and $N_{day}$, $N_{eve}$ and $N_{night}$ are day, evening and night operations respectively.

The $L_{EPN}$ and $L_{PNT}$ values are obtained as described for the NEF descriptor.

## 2.2 Flight Segment Addition and the Effects on Grid Exposure

2.2.1 The Flight Segmentation Concept

One of the first major operations that NMAP performs, when processing the input file, is to formulate a three-dimensional model of the aircraft flight parameters entered into the NMAP input file (NMI file). This aircraft flight profile model is constructed from the power, altitude and ground track coordinates which are entered as separate profiles in the NMI file. NMAP 6.1 (and all previous versions of the program) used this segmentation scheme in order to model the geometry of the aircraft operations.

NMAP 6.1 uses these three profiles, as stated before, to build one flight profile based on the three parts. The final aircraft flight profile is based primarily on a power profile with the altitude and ground track profiles being used to further segment the merged flight profile. When the aircraft flight profile has been merged, it will have all the coordinates from the power profile as well as any of the unique coordinates that may exist in the altitude and ground track profiles.

The specifics of the segmentation scheme are as follows:

(1) Elements of the power profile are used as the primary coordinates of the merged flight profile;

(2) any additional coordinates in the altitude and ground track profile that do not coincide with coordinates at which changes in the power profile are made, are added to the emerging flight profile;

(3) the emergent flight profile is then an accumulation of all the distinct segments in the altitude, power and ground track profiles.

At this point three terms need to be specifically defined.

- Merged flight profile: A merged flight profile is the resultant combination of all the segments of power, altitude and ground track profiles.
- Flight segment: A flight segment can be considered as the power segment, or that portion of the flight profile that is dominated by a particular power setting.
- Subflight: one or more subflights may occur within a flight segment which are contributions from the altitude and ground track profiles. These subflights may occur wherever there are changes in the altitude and ground tracks, such as altitude changes or turns, that do not coincide with changes in the power profile.

### 2.2.2 Flight Segment Addition

By segmenting the flight profile the problem now arises of maintaining a continuum where the individual flight segments come together. This problem is handled by the grid searching algorithm (as outlined in section 2.3.2). To synopsize this algorithm, in the context of addition of the segmented flight path, the following points can be made:

(1) The search for grid points of significant noise exposure are always conducted from the beginning and midpoints of each flight segment.

(2) The grid point search extends both forwards and backwards from the beginning and midpoints of each segment, and ends when the calculated exposure falls below the exposure cutoff value or the grid boundary is encountered.

(3) The contributions from each of the segments are cumulatively added to the total grid point exposure, but only if the calculated (new) noise exposure is above the exposure cutoff value.

In this way the exposure contributions from each of the segments are added together to maintain continuity.

### 2.2.3 Effects on Grid Exposure

The exposure at any grid point is a cumulative sum of all of the contributions of all of the segments in the merged flight path. This can be expressed mathematically for any one grid point as:

$$\text{Grid Point (x) Exposure} = \sum_{i=1}^{n_{seg}} E_{SEGi} \tag{1}$$

where $n_{seg}$ = the number of segments for a given flight,

$E_{SEGi}$ = the calculated exposure for the ith segment in terms of energy, i.e., $10^{(LE_{seg}/10)}$ or $10^{(LEPN_{seg}/10)}$. Note also that the segment exposure is itself the sum of all the subflight noise exposures within each segment.

## 2.3 Grid Points - Layout and Spacing

### 2.3.1 Noise Grid Layout

The grid of noise observer locations that NMAP 6.1 uses to generate noise contours is shown in Figure 1. The grid is 100 by 100 points square and is not resizable nor can it be rotated. The grid spacing is variable, however, thus allowing a coarse or refined contour analysis and to allow coverage over larger land areas. The grid origin (or airfield origin) is also relocatable relative to the airfield runways thus allowing some optimization (or weighting) for areas around the airbase that have a larger volume of operations. The grid is always aligned with a true north orientation.

At the default grid spacing of 1000 feet (304.8 meters) the length of each side of the NMAP grid is 99,000 ft (30,175 meters). This is considered large enough to cover the entire airbase or airport traffic areas for most, if not all, airbases or airports.[8]

Grid point numbering starts from number one at the grid origin and at which point the cumulative grid distance increment is zero. Grid point numbering ends at grid point number 100 at which point the cumulative grid distance increment is 99,000 feet (at the default grid spacing of 1000 feet). Since the grid is square this orientation is consistent in both the x and y directions.

As a convenience to the user, the nominal center of the grid is located at 100,000 ft and 200,000 ft in the x and y directions respectively. This almost always guarantees that the user will be able to define specific points, runup pads and runways in positive x and y coordinates. However, when the program handles these data, it subtracts 50,000 ft and 150,000 ft from the x and y coordinates respectively. This will become apparent in the sample calculation in Section 3.0.

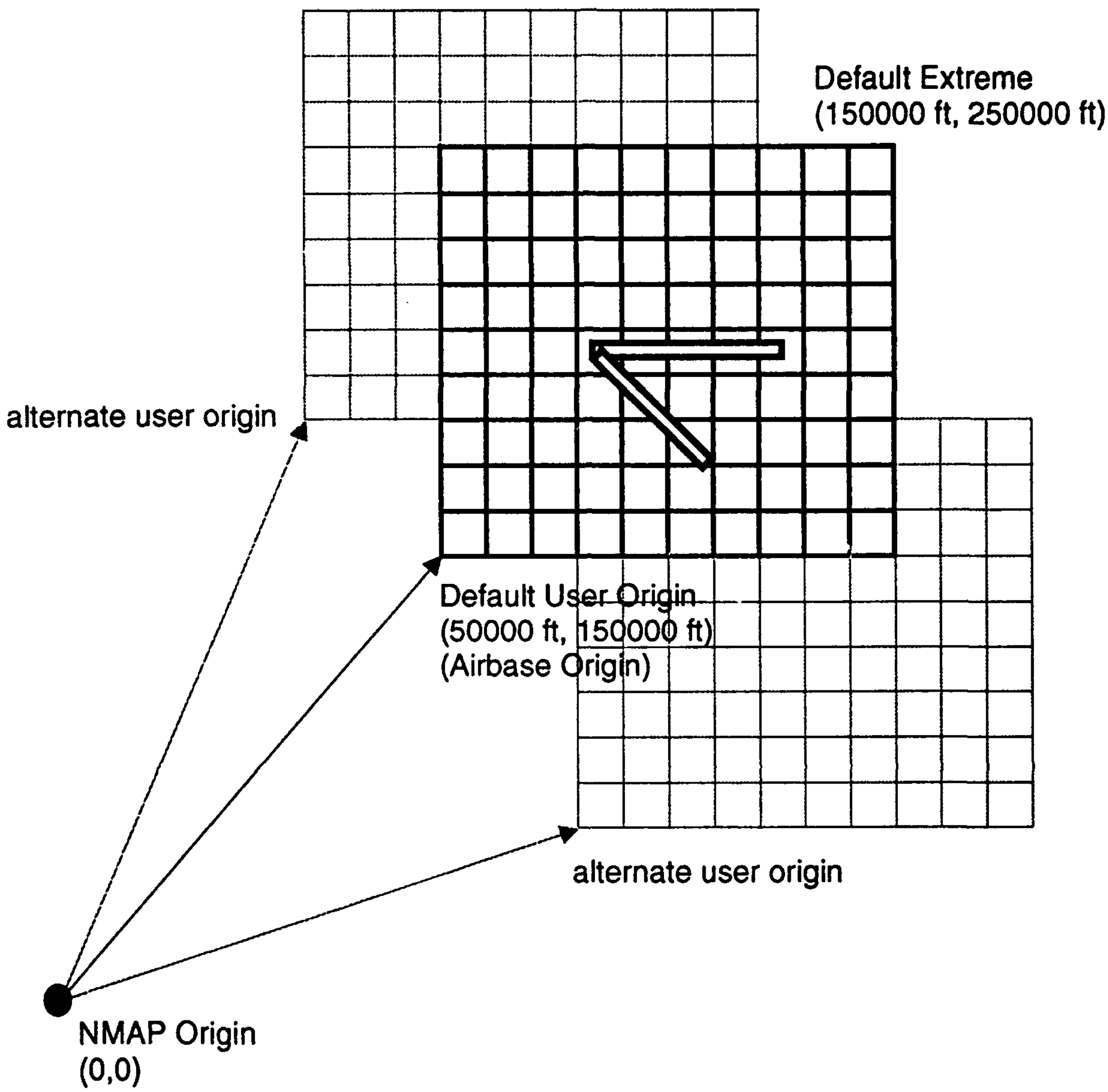



Figure 1. NMAP 6.0 Default Grid Placement as seen by the User. (The figure shows how the grid can be moved relative to the airbase runways in the user coordinate system.)

### 2.3.2 Finding Grid Points of Significant Exposure

A grid point of significant exposure is one where the calculated noise exposure is at or above a minimum threshold based on the noise descriptor being used. The search for grid points of significant exposure is accomplished by using the aircraft ground track as the centerline of the noise exposure. For each segment in the merged flight track (see section 2.2 for an explanation of segments), the beginning point and the mid-point of the segments, are used as initiation points in the grid search as shown in Figure 2. From each of these initiation points a search is conducted for those grid points that have a calculated exposure value at or above the exposure cutoff limit, or is within the grid array boundary.

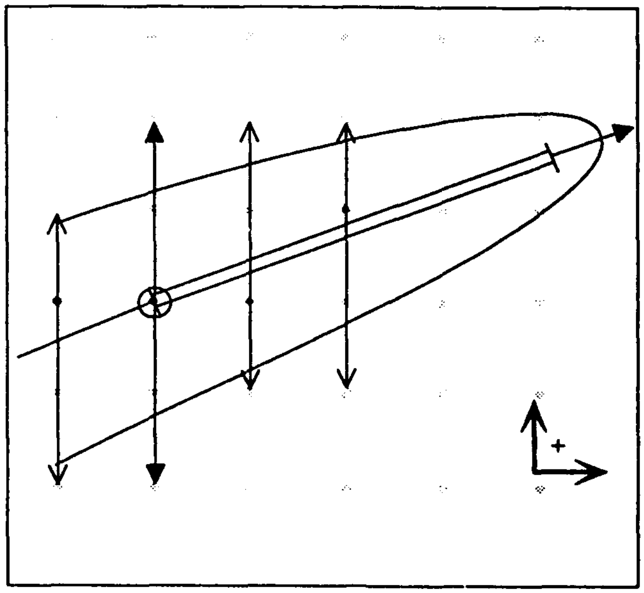
The search from an initiation point is conducted along the y-ordinate, above and below that initiation point only. In order to find all the grid points of significant exposure new initiation points must be chosen along the x-ordinate, to the left and right of the current initiation point. These new points are called "reference points". To clarify the terminology, note that an initiation point is in fact a reference point, with the distinction that it coincides with either the beginning or midpoint of a segment.

Each new reference point is determined using the following rules:

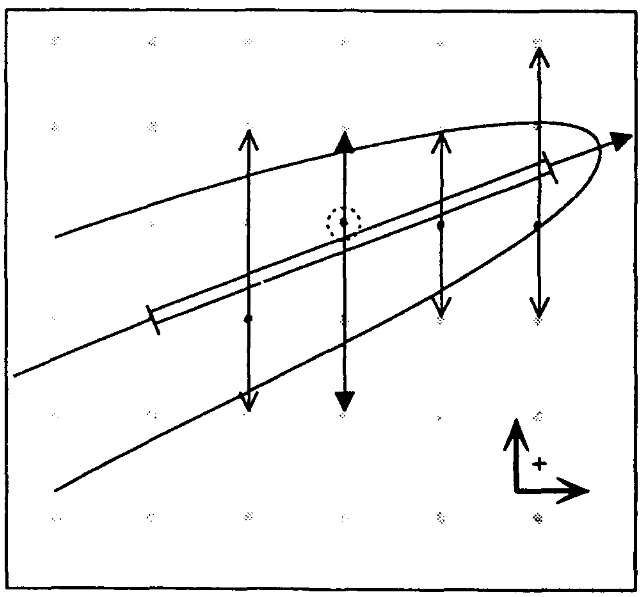
(1) The new reference point x-coordinate is located to the left or right of the current reference point, by an amount equal to the grid spacing being used.

(2) The y-coordinate of the new reference point is located at a grid point closest to the center of the extremes of the ordinate traversal of the last reference point.

From the first initiation point the search proceeds up and down in the y-direction until the grid boundary or exposure cutoff limit is reached, whichever comes first. When a vertical limit has been reached, a new reference point is chosen that is left of the initiation point, and whose ordinate is the midpoint of the ordinate traversal of the last reference point. Traversal of the new reference point proceeds up and down in the y-direction until the exposure cutoff or grid boundary is reached. New reference points are chosen in this direction until exposure cutoff or the grid boundary is reached in the x-direction. At the end of the search to the left of the initiation point a new reference point is then chosen to the right of the initiation point, and the search proceeds as described above, until the exposure cutoff or grid boundary is reached in this x-direction.



Grid Search from the Beginning Initiation Point.



Grid Search from the Mid Point Initiation Point.

**Legend**

| | |
|---|---|
| Grid search from segment beginning or mid point location (initiation point) | Beginning initiation points |
| | Mid-point initiation point |
| Grid search from reference points | Flight segment |
| New reference points | Grid Points |

Figure 2. NMAP 6.0 Grid Searching Algorithm Used to Find Grid Points of Significant Exposure

When the exposure cutoff or grid boundary has been reached (both left and right of the first initiation point) then the procedure is repeated for a new initiation point closest to the middle of the current flight segment (see Section 2.9 for the exposure cutoff values).

The algorithm for the grid search as described above results in a dynamic tracking of the noise exposure but runs the risk of sampling the same point more than once, particularly during the grid search from the midpoint of the segment. To avoid the error of over-exposing a particular point, the sign of the noise exposure value is used as a flag. During the grid search the sign of the value of an updated grid point is reversed after a computation has been made. On completion of the grid search the negative exposure values are sought out and their signs restored. Before the grid points are updated they are also checked to see if the value is positive (i.e., > 0.0).

The limits of the grid traversal (i.e., the max x and y and then min x and y distances travelled) are also stored in memory, so that at the end of a flight segment grid search, the bounds of the negative grid points values can be more easily identified and and their values restored.

## 2.4 Grid Point Noise Exposure Calculations

### 2.4.1 Flyover Operations

Aircraft noise that is due to flyover operations is covered by two algorithms in the NMAP 6.1 program. One algorithm covers straight flight segments and the other covers curved segments.

Basically, both of these algorithms take the reference noise data and any of the generalized noise corrections at each end of a subflight and extrapolates them to the closest point of approach to the observer location. The generalized noise corrections include the takeoff roll correction, $\Delta_6$, altitude thrust adjustment, airspeed, and user input level adjustments called DSEL. These corrections are explained further in Section 2.4.3.

#### 2.4.1.1 Straight Segments

The calculation for the noise exposure due to a straight line segment is determined by the following formulation:

$$\text{Noise exposure} = E_{rc} \cdot |C_y|. \qquad (2)$$

where $E_{rc}$ = $10^{(L_{ref}/10)}$ at the closest point of approach,

$L_{ref}$ = the noise exposure value, interpolated or extrapolated to the closest point of approach to the subflight, from the noise exposure tables generated by OMEGA 10.7

$C_y$ = an exposure factor, which is based on the geometry of the aircraft attitude in relation to a direct overflight, and includes generalized corrections factors.

The following equation for $C_y$ is a numerical formulation that modifies the noise exposure value from an infinite line source to a finite length (see Figure 3):

$$C_y = \left\{ I_c \cdot \frac{(\sin(COA) - \sin(COB))}{2} \right\} + \left\{ \left[ \frac{(F_a - F_b)}{AB} \cdot OC \right] \cdot \frac{(\cos(COB) - \cos(COA))}{2} \right\} \quad (3)$$

where $I_c$ = a generalized correction factor that is interpolated to the closest point of approach (see also $F_a$ and $F_b$). This correction factor can include any model that should be applied within a merged flight segment. Current corrections are listed in Section 2.4.3.

COA = the angle subtended by the closest point of approach (CPA) to the beginning of the flight segment,

COB = the angle subtended by the CPA to the end of the flight segment,

$F_a$ = the value of the generalized correction factor at the beginning of the flight segment,

$F_b$ = the value of the generalized correction factor at the end of the flight segment,

OC = the slant range distance or the distance between the CPA and the observer location,

AB = the signed length of the segment between points A and B as determined by the difference of AC–BC. This result maintains the sign convention discussed below,

BC, AC = the signed distance betweeen points A and C and points B and C, respectively,

Sign Convention = the angles COA and COB are given the following sign convention. The angle is positive if the opposite leg of the right triangle formed from the CPA point to the segment point (A or B) is in the same direction as the flight, or negative if opposite. It therefore follows that both COA and COB are positive in figure 3.

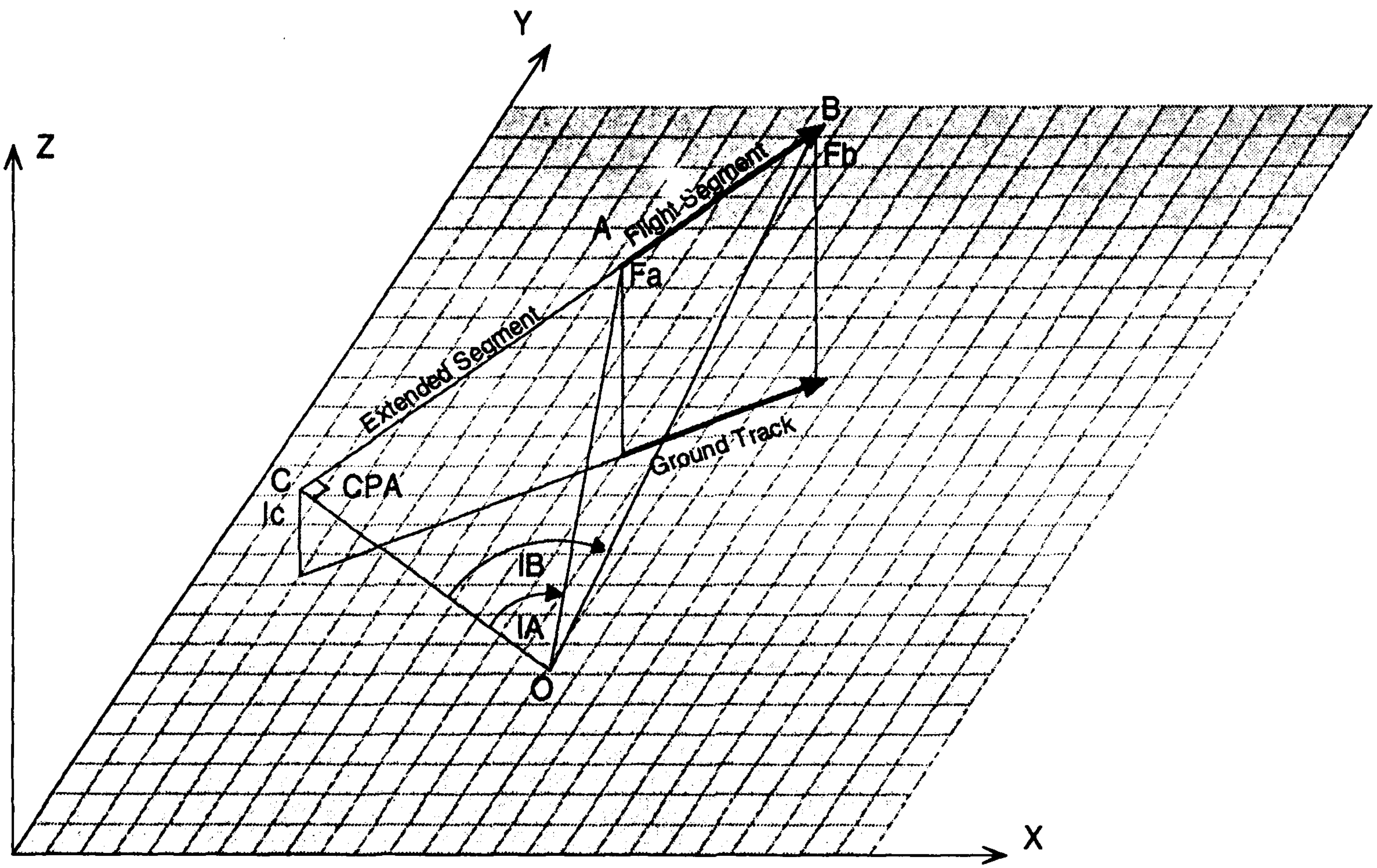



Figure 3. Geometry for the Algorithm Used to Determine Flight Segment Noise Exposure Integral

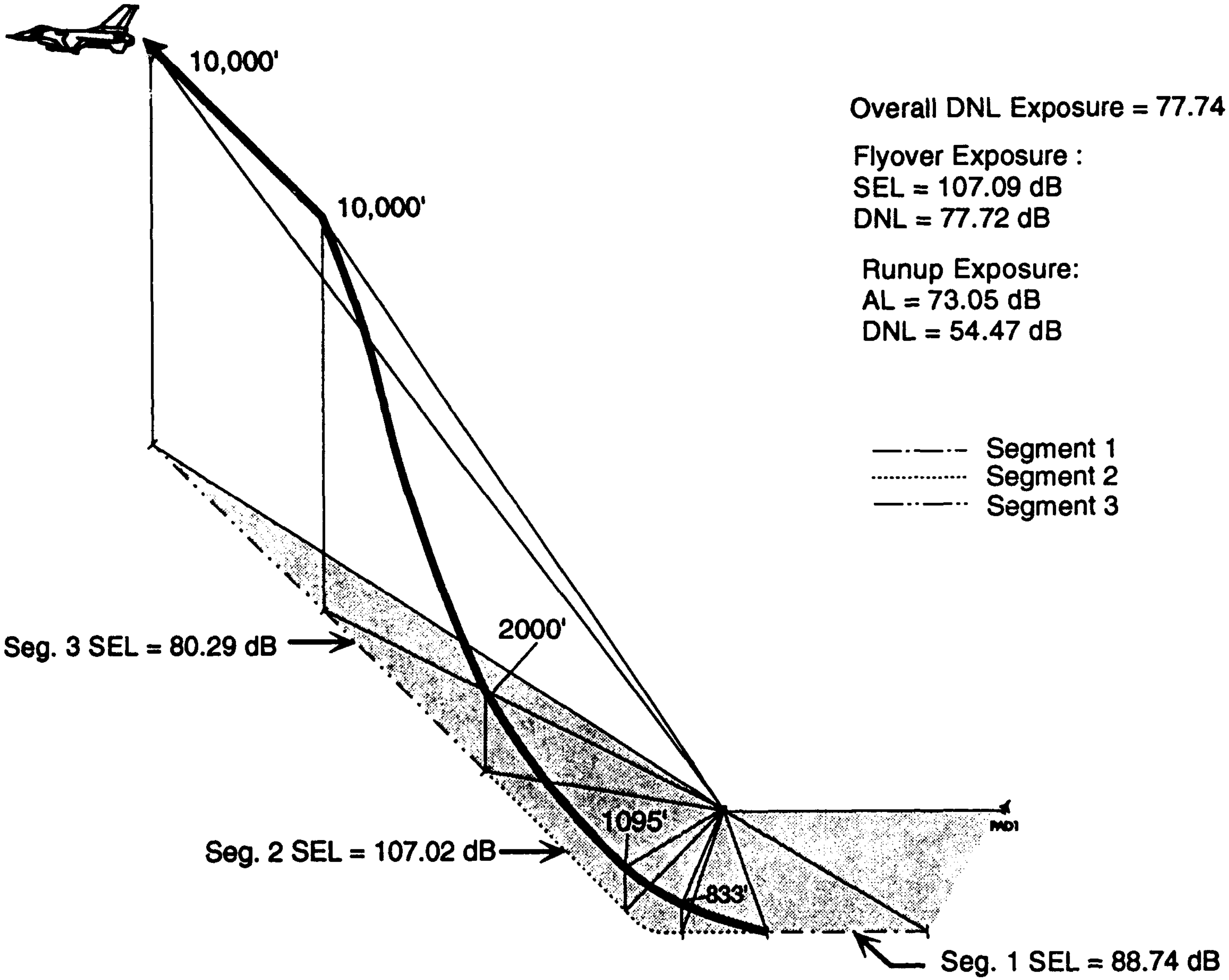



Figure 4. Ground Track Geometry and Resulting Exposures for Sample Case.

Figure 4 shows the ground track geometry and what might be the actual flight track of the sample case after NMAP 6.1 has determined the power and subflight segments. The figure also shows the resulting sound exposures for each segment. The segment sound exposures are used as factors for the reference noise data that are appropriate to the geometry for the particular power segment. The sound exposure for a segment with a single subflight can be calculated straight away from the formulation listed above. The calculations in Section 3.1 for the first segment in the sample case show exactly how that is done.

For segments with multiple subflights a slight deviation is necessary. The basic formulation stays the same except that the relative sound exposure factors are accumulated over the segment using a normalization of the form $|C_{ysub}| / (SL_{sub})^2$.

When all of the subflights have been determined then the slant distance associated with the largest exposure factor value in the segment can be found. The slant distance to the associated subflight, $SL_{dom}$, is used to determine the reference exposure value, $L_{rcf}$, as well as to calculate the sum of the exposure factors.

The resulting normalized factor is expanded as follows:

$$\left( \sum_{i=1}^{Nsub} |C_{yi}| / SL_{sub}^2 \right) \cdot SL_{dom}^2 \qquad (4)$$

where

| | | | |
|---|---|---|---|
| where | $N_{sub}$ | = | Number of subflights |
| | $SL_{sub}$ | = | Slant range between the observer and the CPA of the subflight |
| | $SL_{dom}$ | = | Slant distance to the subflight with the largest $C_y$. |

The data in Section 3.1 will show these results in segments 2 and 3 of the sample calculation.

2.4.1.2 Curved Segments

The noise exposure due to an aircraft executing a turn is approached in a similar manner as explained above for straight line segments. The calculated grid point noise exposure is therefore a product of the reference noise level extrapolated to the observer distance and a factor to account for the aircraft attitude. This is expressed, as before, as:

$$\text{Noise exposure} = E_{rc} \cdot |C_y| \qquad (5)$$

The value of $E_{rc}$ is the same as for Eq. 2. The calculation for the value of $C_y$ is slightly more complicated for curved segments. $C_y$ is determined from the following formulation based on the geometry shown in Figure 5:

$$C_y = R \cdot SL^2 \left(\frac{\sec\beta}{\det}\right) \left\{ F_a \left[ \frac{(2C_2\theta + C_1)}{den} - \frac{C_1}{\sqrt{C_0}} \right] + \left[ \frac{(F_a - F_b)}{\theta} \right] \left[ \frac{(C_1\theta + 2C_0)}{den} - 2\sqrt{C_0} \right] \right\} \quad (6)$$

where R = the radius of curvature of the aircraft turn,

SL = the slant distance between the middle of the curved segment and the observer,

$\sec\beta$ = $\sqrt{1 + (\tan\beta)^2}$ ,

$\tan\beta$ = $\frac{Z_b - Z_a}{D_b - D_a}$ , where $Z_a$ and $Z_b$ are the altitudes at point A and B respectively, $D_b$ and $D_a$ are the cumulative distances from the start of roll along the ground track to the points A and B respectively,

$C_0$ = $X_0^2 + Y_0^2 + Z_a^2 + R^2 - 2 \cdot R \cdot X_0$,

$C_1$ = $-2 \cdot R \cdot Y_0 + 2 \cdot R \cdot \tan\beta \cdot Z_a \cdot symm$

$C_2$ = $R^2 \cdot \tan\beta^2 + 2 \cdot R\,(0.47483 \cdot X_0 + symm \cdot 0.1269 \cdot Y_0)$

symm = +1 for left, -1 for right turn,

$X_0$ = the X coordinate of the observer in the coordinate system where the center of curvature of the turn is the origin, and the radial vector to the first point of the segment, in the ground plane, is along the positive x-axis,

$Y_0$ = the Y coordinate of the observer in the coordinate system outlined above,

den = $\sqrt{|C_2\theta^2 + C_1\theta + C_0|}$ ,

det = $4C_0C_2 - C_1^2$,

$F_a$ = the generalized correction factor at point A, at the beginning of the curved segment, as explained in Section 2.4.1.1,

$F_b$ = the generalized correction factor at point B, at the end of the segment, see Section 2.4.1.1,

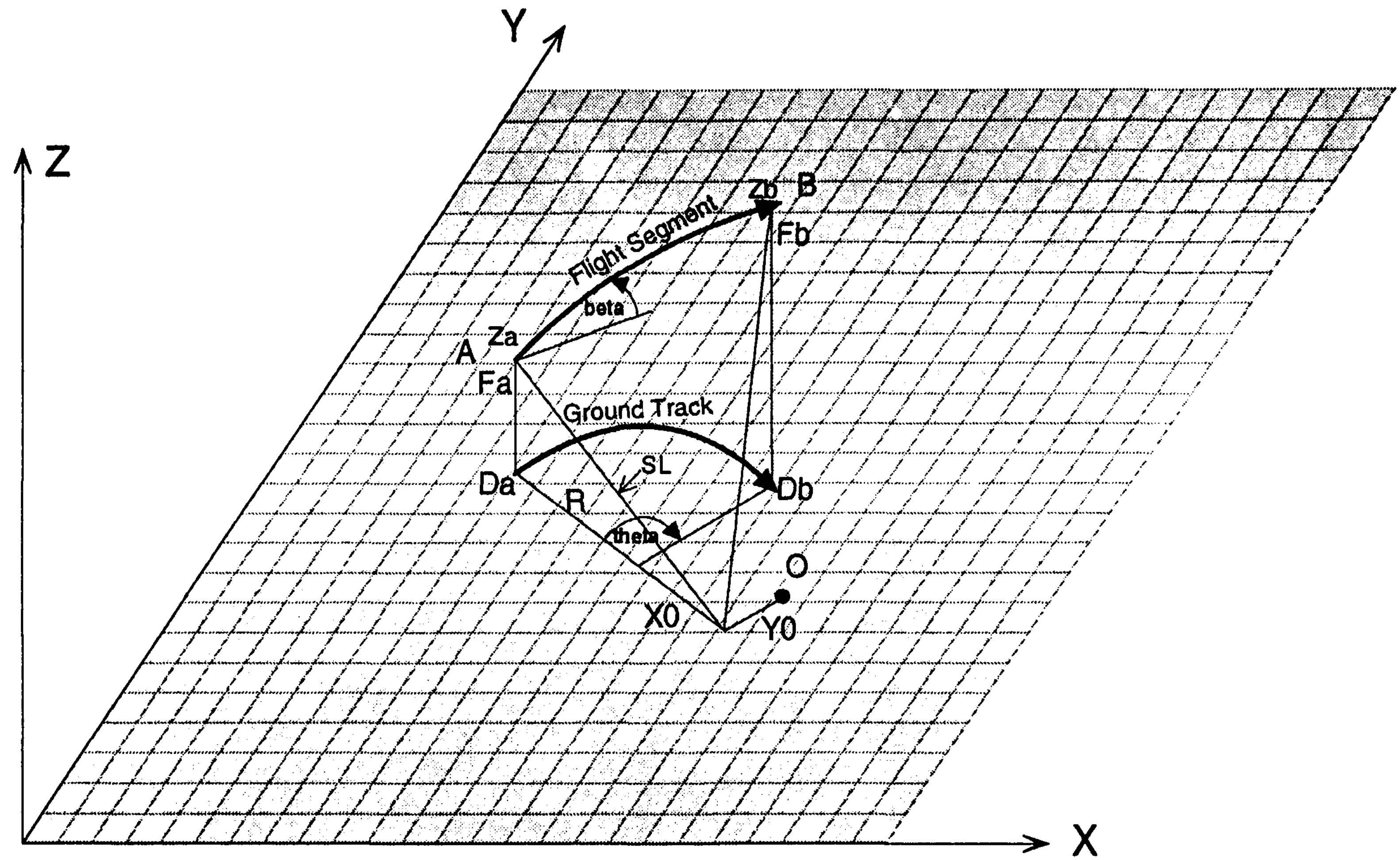



Figure 5. Geometry of the Algorithm Used to Determine Flight Segment Noise Exposure from Curved Flight Path Segments.

θ = the negative value of the arc length of the turn in radians. This value cannot exceed a magnitude of π/3 radians (60 degrees) since there is an assumption that the tangent of the angle β can be approximated by the term $\frac{Z_b-Z_a}{D_b-D_a}$ (see also the description of the variable tanβ), which is the change in altitude divided by the ground track distance between points A and B.

2.4.2 Runup Operations

The noise calculated for ground runup operations are determined in a similar manner as those for flyover, with the exception that flight segmentation rules and corrections for air-to-ground absorption are not applied.

The OMEGA 11.3 program operates on data in the NOISEFILE 6.2 and produces noise level tables appropriate to the requested noise descriptors corrected for temperature and humidity. The resulting tables are not corrected for altitude but are left in terms of sea-level altitude as is the default for NOISEFILE. The data are organized as basically 10 rows of angles, each row containing data at one-third octave increments, starting at 200 ft and ending at 25,000 ft. NMAP 6.1 interpolates and extrapolates these values to other distances and angles.

The noise exposure is determined by assuming the area of significant exposure will be bounded by the extreme edges of the cardioid shape associated with runup noise directivity patterns. The grid points within this area are searched out, and the noise exposure is calculated. If the calculated noise exposure is above the cut-off value (see Section 2.9 for the exposure cut-off values) for the selected noise descriptor then the grid point is updated by adding the calculated exposure.

The calculated exposure is obtained by determining the following:

(1) The direction in which the nose of the aircraft is pointing.

(2) The distance between the grid point (or observer location) and the center of the runup pad.

(3) The angle between the centerline of the runup pad and the line joining the center of the runup pad to the observer position.

(4) The appropriate reference noise tables from which the noise exposure will be calculated.

For runup pads, NMAP 6.1 takes item (1) directly from the input file from the AIRFLD keyword[9] and applies the magnetic heading correction before using it as the runup pad heading.

The distance between the center of the pad and the observer position is determined by transforming the NMAP 6.1 grid locations of the observer position, and the center of the runup pad, to a coordinate system with the center of the runup pad as the origin (see Figure 6). This is accomplished with coordinate translation and rotation. The observer angle is measured between the intersection of the heading of the runup pad (to which the aircraft is also aligned) and a line joining the observer position to the center of the runup pad. The length of this line is the distance to the observer.

The proper reference noise values are determined by looking up the reference table for the aircraft in question and, looking up the angle and distance closest to the angle and distance previously found, then interpolating or extrapolating both for angle and distance for the correct exposure value. Section 3.1 shows the development of the runup exposure determined for a sample case.

2.4.3 Noise Corrections

As mentioned earlier, NMAP 6.1 uses noise corrections at the end points of segments and subflights. The purpose of these noise corrections (or generalized correction factors) is to help refine the accuracy of the reference noise data. The current noise corrections are as follows:

(1) The takeoff roll $\Delta_6$ correction scale factor[10]: The takeoff roll model is discussed in detail in Section 2.7. The model is based on a reference directivity noise level adjustment that is applied to the aircraft ground runup reference noise data and scaled by the value of $10^{(V/160\ kts)}$ at the start of roll and 1.0 at the point of rotation. V represents the actual takeoff speed and 160 kts is the value defined in Reference 10.

(2) Airspeed correction: The aircraft reference noise data is generated at discrete airspeeds entered at points of change in the flight profile. Since the reference noise data can be heavily influenced by the aircraft airspeed a correction was added to interpolate the aircraft airspeed to the closest point of approach to the observer, as is done for other noise corrections. This correction has no effect during the ground roll portion of the flight and is therefore has a value of 1.0 at the first two parts in any takeoff. The correction is also 1.0 at the landing point. At all other points the correction is based on $10^{(V/V_{ref})}$ (where V is the actual aircraft speed and $V_{ref}$ is the takeoff or landing speed). Touch-and-go's with a

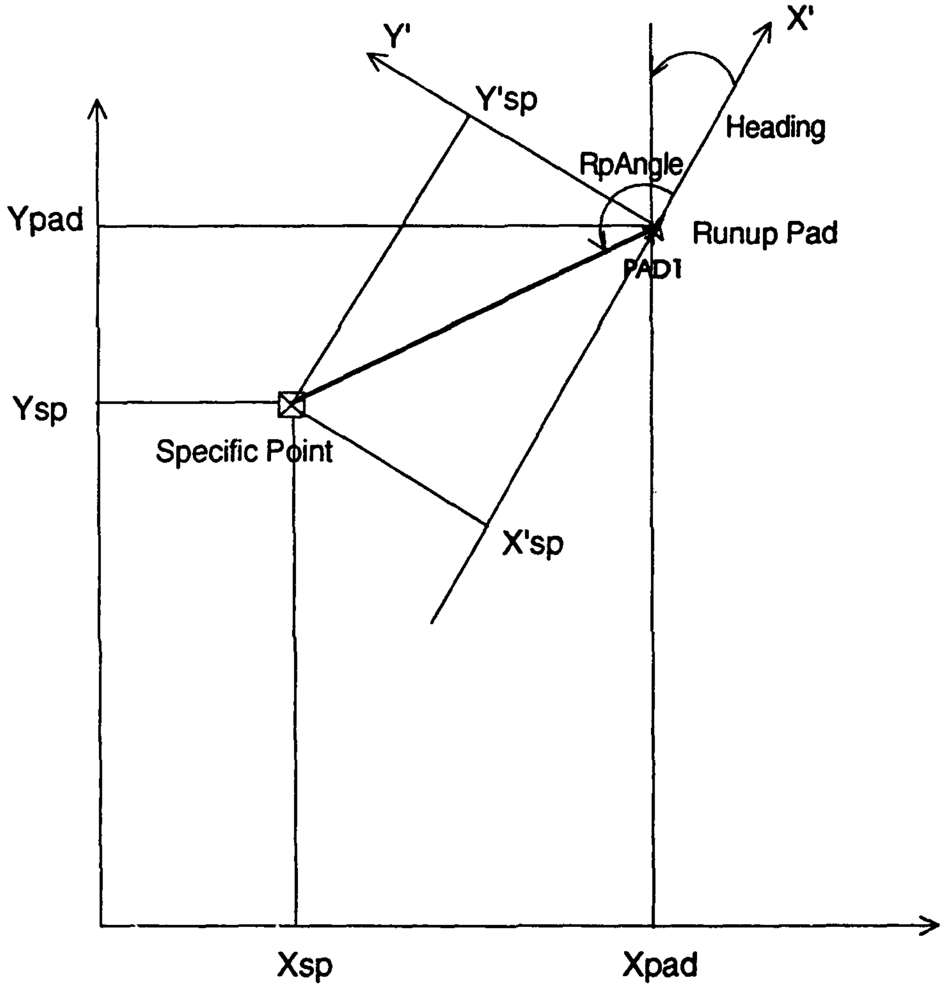



Figure 6. Runup Pad Geometry and Pad Coordinate System.
(shaded axis represent the grid coordinate system
solid axis represent the pad coordinate system.)

takeoff roll are treated similarly to takeoff, and touch-and-go's with no takeoff roll are treated similarly to landings.

(3) Altitude thrust adjustment: Above 1,000 ft altitude a correction is applied to correct the reference noise data, which are in terms of sea level conditions for altitude. The correction effectively decreases the reference noise data by 2 dB per 10,000 feet. The correction assumes that noise output is reduced as effective thrust decreases, and effective thrust decreases with altitude (reference 1). This adjustment is calculated as $10^{[(1000\text{-alt})\cdot 2E\text{-}5)]}$.

(4) User-entered noise level adjustments (DSEL): NMAP 6.1 retains a feature that was available in previous versions, which allows users to modify the reference noise data base on information that may not already be contained in NOISEMAP. The complete details on this feature may be found in Reference 8.

## 2.5 Specific Point Noise Exposure Calculations

Noise exposure calculations that are made at specific points on the ground that are not necessarily aligned with the NMAP grid of observer points, and are completely user-definable are called Specific Point Noise Calculations. The calculations for noise exposure at specific points are done exactly as described for grid point calculations (section 2.4) with the following exceptions:

(1) No grid searching algorithm is applied for specific points.

(2) Whereas the grid of observer locations is fixed, specific points are completely user defined and can even be located outside the NMAP grid.

(3) The maximum number of specific points is 16.

(4) The specific point calculations are performed independently of the grid point calculations thus allowing these calculations to be made without doing grid point calculations.

(5) Calculations are not subject to the cut-off values.

The process of calculating the noise exposure at specific points is the following:

(1) The X,Y coordinates of the specific points are passed to the noise exposure calculation routines instead of grid point coordinates.

(2) The noise exposure calculations for each of the merged flight segments are performed, as detailed for the grid exposure calculations. The takeoff roll and lateral attenuation models are applied where appropriate.

(3) The noise exposure at any specific point is the summation of all the contributions from all of the flight segments.

## 2.6 Takeoff Roll and the Effects of Forward Velocity

A takeoff roll model has been implemented in NMAP to model the sideline noise generated by an aircraft during takeoff roll. The takeoff roll model is based on a study described in detail in reference 10. The results of the study indicate that the change in the noise source emission during the takeoff roll can be approximated by adding a varying correction that is a positive adjustment at the start-of-roll, which reduces to zero at the point of rotation. Using reference 10 terminology, this adjustment is now referred to as $\Delta_6$.

The study was based on the noise levels of a Boeing 707-300 with an operating weight of 265,205 lbs. which assures a climb speed of 160 knots based on that aircraft's performance data. Under these reference conditions a runup profile was generated with NOISEMAP 3.2 for the B707-300. The runup noise data were used to simulate an actual aircraft "rollby" using 200 foot grid spacing. The variation in $\Delta_6$ as a function of sideline distance aircraft weight and aceleration was determined from this reference data.

The study also determined a series of adjustments that should be applied to the aircraft reference flyover data in order to model the takeoff directivity pattern. These adjustments are shown in Table 1 and represent the B-707-300 flyover noise levels adjusted to a desired directivity pattern and normalized to the reference ground-to-ground reference noise data. These reference directivity adjustments are added to all aircraft takeoffs as part of the takeoff roll model. The data in this table are 5 dB lower than the data used in Reference 9, since this 5 dB correction is now added by OMEGA 10.7 when it generates the reference noise exposure tables. NMAP 6.1 uses the following model to scale the referenced directivity pattern to the actual aircraft takeoff speed and takeoff roll distance.

Using the reference B707-300 flight parameters listed above, the correction for acceleration tak the following form:

$$\Delta accl = -5 \cdot \log_{10} \left[ \left( \frac{V_{rot}}{V_{ref}} \right)^2 \cdot \left( \frac{S_{ref}}{S_{rot}} \right) \right] \qquad (7)$$

relative to the acceleration of the reference B707-300. However, the correction relative to a $V_{rot}$ will require the addition of the difference between the $V_{ref}$ of 160 kts, leaving the final correction as:

$$\Delta_6 = -5 \cdot \log \left[ \left( \frac{V_{rot}}{V_{ref}} \right)^2 \cdot \left( \frac{S_{ref}}{S_{rot}} \right) \right] + 10 \cdot \log_{10} \left[ \left( \frac{V_{rot}}{V_{ref}} \right) \right] \qquad (8)$$

This $\Delta_6$ value is then used to adjust the reference takeoff directivity pattern from the B707-300 to an approximation of the actual aircraft. The study cited did make calculations for two aircraft (a B707-300 with a different takeoff weight and an F-104) with reasonable results. The model was also validated against measured data also with reasonable results.

At the time of the development of the original takeoff roll model, $V_{rot}$ would almost always differ from the noise data at reference speed $V_{ref}$. Currently, the OMEGA 10.7 program generates the noise data set for the input $V_{rot}$ speed. The $\Delta_6$ term therefore becomes:

$$\Delta_6 = -5 \cdot \log \left( \frac{S_{ref}}{S_{rot}} \right) \tag{9}$$

where $S_{ref}$ = 4779 ft which is the ground roll distance for the referenced B-707 aircraft.

Some of the assumptions of the NMAP 6.1 takeoff roll model, as stated in Reference 10, are as follows:

(1) The effects of forward velocity on the directivity pattern of the aircraft engine in question will not significantly affect the overall noise levels for the takeoff, and are thus ignored.

(2) The acceleration of the aircraft is assumed to be constant.

(3) The directivity pattern of the aircraft at the start-of-roll position (takeoff configuration) is that for a static full-power runup.

To implement this takeoff roll model in NMAP 6.1, the following actions are performed by the program.

(1) A directivity pattern is constructed based on the reference B707-300 directivity offset shown in Table 1. This is done by adding these offsets to the reference ground-to-ground data for the takeoff power condition of the aircraft in question. In this way a reference noise table is built of level versus angle versus one-third octave distance increment.

(2) Once the reference directivity pattern has been created, then the noise exposure for takeoff roll is calculated using the same procedures as for the runup exposure calculation.

(3) The calculated takeoff roll runup exposure is then added to the "flight" exposure, that is, the exposure calculated strictly from the aircraft flyby.

| 1/3 Octave Dist. Angle | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12.6 | 12.5 | 12.4 | 12.1 | 11.8 | 11.4 | 10.5 | 10.1 | 9.4 | 8.4 | 7.2 |
| 20 | 12.6 | 12.5 | 12.4 | 12.1 | 11.8 | 11.4 | 10.5 | 10.1 | 9.4 | 8.4 | 7.2 |
| 35 | 9.8 | 9.7 | 9.4 | 9.1 | 8.6 | 8.0 | 7.0 | 6.4 | 6.7 | 4.7 | 3.4 |
| 50 | 9.0 | 8.7 | 8.3 | 7.8 | 7.1 | 6.4 | 5.2 | 4.3 | 3.3 | 1.9 | 0.2 |
| 70 | 6.8 | 6.6 | 6.3 | 5.8 | 5.3 | 4.7 | 3.6 | 2.9 | 2.0 | 0.9 | -0.5 |
| 90 | 7.2 | 7.0 | 6.8 | 6.4 | 5.9 | 5.4 | 4.4 | 3.8 | 3.0 | 2.1 | 0.9 |
| 110 | 7.1 | 7.1 | 7.0 | 6.8 | 6.4 | 6.1 | 5.3 | 4.9 | 4.4 | 3.7 | 2.8 |
| 130 | 9.6 | 9.5 | 9.3 | 9.0 | 8.5 | 8.0 | 7.1 | 6.6 | 5.6 | 5.1 | 4.0 |
| 180 | 1.6 | 1.5 | 1.3 | 1.0 | 0.5 | 0.0 | -0.9 | -1.4 | -2.1 | -2.9 | -4.0 |

| 1/3 Octave Dist. Angle | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6.0 | 4.2 | 1.1 | * | * | * | * | * | * | * | * |
| 20 | 6.0 | 4.2 | 1.1 | * | * | * | * | * | * | * | * |
| 35 | 2.1 | 0.2 | -2.3 | -7.6 | * | * | * | * | * | * | * |
| 50 | -1.5 | -3.8 | -7.2 | -24.4 | * | * | * | * | * | * | * |
| 70 | -1.6 | -3.0 | -4.4 | -5.3 | -7.0 | -10.4 | * | * | * | * | * |
| 90 | -0.1 | -1.2 | -2.2 | -2.3 | -2.6 | -3.3 | -3.8 | -4.5 | -5.2 | -5.5 | -5.6 |
| 110 | 2.1 | 1.4 | 0.3 | 0.6 | 0.6 | 0.4 | 0.3 | 0.2 | 0.1 | 0.3 | 0.6 |
| 130 | 3.2 | 2.2 | 1.4 | 1.5 | 1.2 | 0.8 | 0.5 | 0.0 | -0.4 | -0.5 | -0.6 |
| 180 | -4.8 | -5.8 | -6.6 | -6.5 | -6.8 | -7.2 | -7.5 | -8.0 | -8.4 | -8.5 | -8.6 |

Table 1. Directivity adjustments that are applied reference runup noise levels to simulate takeoff roll noise levels.
(* - A value of 1E-35 is used to reduce the influence of the directivity adjustments in these directions.)

| 1/3 Octave Dist. Angle | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12.6 | 12.5 | 12.4 | 12.1 | 11.8 | 11.4 | 10.5 | 10.1 | 9.4 | 8.4 | 7.2 |
| 20 | 12.6 | 12.5 | 12.4 | 12.1 | 11.8 | 11.4 | 10.5 | 10.1 | 9.4 | 8.4 | 7.2 |
| 35 | 9.8 | 9.7 | 9.4 | 9.1 | 8.6 | 8.0 | 7.0 | 6.4 | 6.7 | 4.7 | 3.4 |
| 50 | 9.0 | 8.7 | 8.3 | 7.8 | 7.1 | 6.4 | 5.2 | 4.3 | 3.3 | 1.9 | 0.2 |
| 70 | 6.8 | 6.6 | 6.3 | 5.8 | 5.3 | 4.7 | 3.6 | 2.9 | 2.0 | 0.9 | -0.5 |
| 90 | 7.2 | 7.0 | 6.8 | 6.4 | 5.9 | 5.4 | 4.4 | 3.8 | 3.0 | 2.1 | 0.9 |
| 110 | 7.1 | 7.1 | 7.0 | 6.8 | 6.4 | 6.1 | 5.3 | 4.9 | 4.4 | 3.7 | 2.8 |
| 130 | 9.6 | 9.5 | 9.3 | 9.0 | 8.5 | 8.0 | 7.1 | 6.6 | 5.6 | 5.1 | 4.0 |
| 180 | 1.6 | 1.5 | 1.3 | 1.0 | 0.5 | 0.0 | -0.9 | -1.4 | -2.1 | -2.9 | -4.0 |

| 1/3 Octave Dist. Angle | 2500 | 3150 | 4000 | 5000 | 6300 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6.0 | 4.2 | 1.1 | * | * | * | * | * | * | * | * |
| 20 | 6.0 | 4.2 | 1.1 | * | * | * | * | * | * | * | * |
| 35 | 2.1 | 0.2 | -2.3 | -7.6 | * | * | * | * | * | * | * |
| 50 | -1.5 | -3.8 | -7.2 | -24.4 | * | * | * | * | * | * | * |
| 70 | -1.6 | -3.0 | -4.4 | -5.3 | -7.0 | -10.4 | * | * | * | * | * |
| 90 | -0.1 | -1.2 | -2.2 | -2.3 | -2.6 | -3.3 | -3.8 | -4.5 | -5.2 | -5.5 | -5.6 |
| 110 | 2.1 | 1.4 | 0.3 | 0.6 | 0.6 | 0.4 | 0.3 | 0.2 | 0.1 | 0.3 | 0.6 |
| 130 | 3.2 | 2.2 | 1.4 | 1.5 | 1.2 | 0.8 | 0.5 | 0.0 | -0.4 | -0.5 | -0.6 |
| 180 | -4.8 | -5.8 | -6.6 | -6.5 | -6.8 | -7.2 | -7.5 | -8.0 | -8.4 | -8.5 | -8.6 |

Table 1. Directivity adjustments that are applied reference runup noise levels to simulate takeoff roll noise levels.
(* - A value of 1E-35 is used to reduce the influence of the directivity adjustments in these directions.)

```
SEL     061011          2   127.3   125.3   123.3   121.4   119.4   117.5F-15      1

COMMENT 061011W0 OMEGA10.6 28 Dec 90 F-15                   200 KTS    59 F    70 PCT

COMMENT 061011W0 HIGH BYPASS FAN   N061031A1
COMMENT 061011W0 TAKEOFF POWER           90.00 % RPM

          115.6   113.8   111.9   109.9   107.9   105.7   103.5   101.2F-15      2

           98.7    96.0    93.2    90.2    86.9    83.3    79.5    75.4F-15      3

        061011          1   127.3   125.3   122.2   119.1   116.4   113.8F-15      4

          111.2   108.6   106.2   104.0   101.8    99.7    97.6    95.5F-15      5
            800    1000    1250    1600    2000    2500    3150    4000
           93.1    90.6    87.6    84.3    80.1    75.3    70.0    64.3F-15
           5000    6300    8000   10000   12500   16000   20000   25000
```

**LEGEND**

1 Comments Identifying and Describing the Power Conditions
2 AIR-TO- GROUND SEL Values
3 GROUND-TO-GROUND SEL Values

Shaded text shows the 1/3 octave band distances that are used in the reference noise tables and are shown here for illustration purposes.

Figure 7. OMEGA 10.6 Reference Noise Data Set. Generated from the NOISEFILE 6.0 Database.

```
AL       06101        0   105.5   103.5    99.1    94.8    91.6    88.7          1
COMMENT 06101W0 OMEGA11.2 28 Dec 90   59 F  70 PCT  29.92 IN HG   74-004-010 01
COMMENT 06101W0 F-15A     AIRCRAFT         ENG F100-PW-100(1)       N06106A0
COMMENT 06101W0  INTERMED PWR (MIL)     90.00 % NC        930 C FTIT   7850 LBS/HR
          86.1     83.5    80.9    78.5    76.1    73.7    71.3    68.8          2
          66.1     63.4    60.3    56.8    52.4    47.3    41.7    35.4          3
         06101       20   107.9   105.8   101.8    98.0    94.9    92.0          4
          89.2     86.5    83.8    81.3    78.8    76.3    73.8    71.3          5
          68.6     65.7    62.5    58.8    54.3    49.0    43.2    36.8          6
         06101       40   103.7   101.6    98.2    95.0    92.0    88.9          7
          85.9     82.9    80.0    77.3    74.6    71.9    69.3    66.6          8
          63.7     60.6    57.2    53.3    48.5    43.2    37.4    31.5          9
         06101       80   107.8   105.6   102.6    99.7    96.7    93.6         10
          90.6     87.5    84.4    81.7    78.9    76.1    73.3    70.6         11
          67.5     64.3    60.6    56.4    51.2    45.6    39.7    33.9         12
         06101       90   106.5   104.3   101.2    98.3    95.3    92.2         13
          89.0     85.8    82.6    79.7    76.8    73.9    71.0    68.2         14
          65.1     61.9    58.2    54.1    49.2    44.0    38.7    33.7         15
         06101      120   116.2   114.1   109.2   104.7   101.5    98.4         16
          95.6     92.8    90.1    87.5    85.0    82.5    80.1    77.6         17
          75.0     72.3    69.4    66.1    62.0    57.4    52.4    47.0         18
         06101      130   124.9   122.7   119.0   115.6   112.5   109.4         19
         106.2    103.1    99.9    97.1    94.2    91.4    88.7    86.0         20
          83.1     80.0    76.6    72.8    68.2    63.3    58.2    53.0         21
         06101      140   125.5   123.4   119.5   115.8   112.7   109.6         22
         106.5    103.5   100.6    97.9    95.2    92.5    89.9    87.3         23
          84.4     81.4    78.1    74.4    70.0    65.1    60.0    55.0         24
         06101      150   122.9   120.8   116.3   112.1   109.0   105.9         25
         103.0    100.2    97.4    94.8    92.2    89.7    87.1    84.5         26
          81.8     78.9    75.9    72.6    68.6    64.3    59.9    55.6         27
         06101      180    92.6    90.5    85.6    81.1    77.9    74.8         28
          71.9     69.2    66.5    63.9    61.4    58.9    56.3    53.7         29
          50.9     48.2    45.4    42.3    38.8    34.9    31.1    27.3
```

Figure 8. OMEGA 11 Reference Noise Data Set. Generated from the NOISEFILE 6.0 Database. (Shaded numbers are angles in degrees measured about the aircraft centerline, 0 being forward of the aircraft. ).

The reference data that are generated by the OMEGA 10.7 and 11.3 programs are then used by NMAP 6.1 to extrapolate to other distances and other angles of propagation relative to the ground plane.

### 2.7.2 Lateral Attenuation and Transition Factor

Lateral attenuation accounts for the effects of ground absorption and aircraft shielding on sound propagation for positions to the side of an aircraft flight track. In NMAP 6.1 this is accomplished by one of two lateral attenuation models. One is applicable to air-to-ground noise level data for civil aircraft[13] and the other is applicable as a transition factor which interpolates between air-to-ground and ground-to-ground noise metric data for military aircraft.[14] Both are shown in Figure 9.

The SAE model is evoked for all civilian aircraft contained in NOISEFILE 6.2. The SAE model has been compared to actual measured civilian and military aircraft noise. The results of these comparisons show that the model predicts lateral attenuation for civilian aircraft with a reasonable level of accuracy but does not perform quite as well for military aircraft, resulting in an over-prediction of the value for the majority of military aircraft. Hence the need for a different lateral attenuation model for military aircraft.

In NMAP 6.1, the military lateral attenuation model is implemented in the form of a transition factor which basically interpolates between the predicted air-to-ground and ground-to-ground propagation data to determine the effects of lateral attenuation on propagation. The models are implemented as follows:

$$\text{Noise exposure}(d, \beta)\,|_{MIL} = TF \cdot 10^{(GG(d)/10)} + (1-TF) \cdot 10^{(AG(d)/10)} \quad (9)$$

$$\text{Noise exposure}(d, \beta)\,|_{CIV} = 10^{((AG(d)-\Lambda)/10)} \quad (10)$$

where noise exposure $(d, \beta)$ = the exposure at observer distance d, and elevation angle $\beta$,

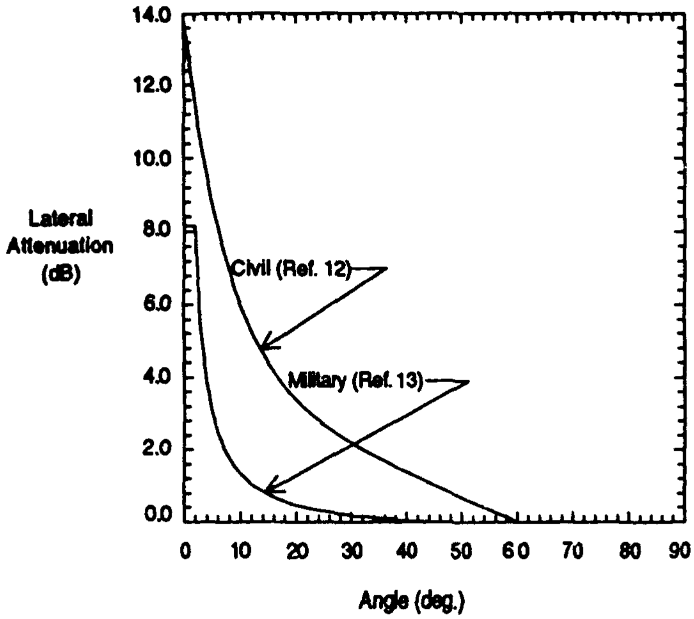
$\Lambda$ = the SAE lateral attenuation values for civil aircraft,[12]

TF = the transition factor predicted by the NMAP 6.1 lateral attenuation model at angle $\beta$,

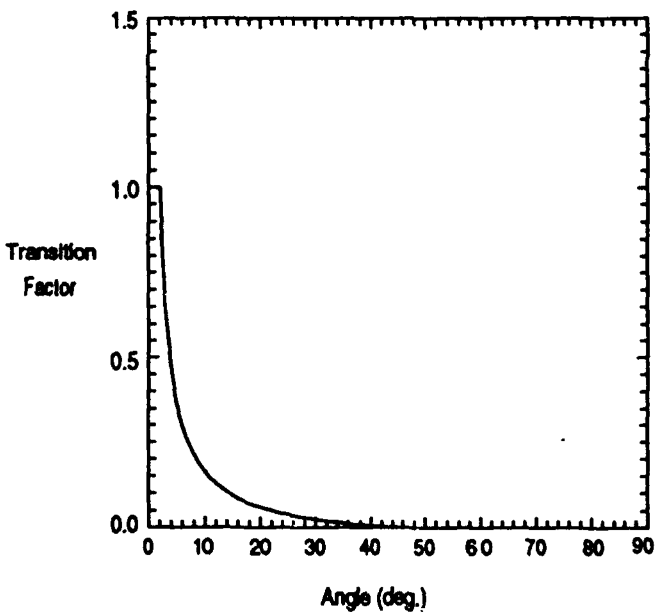
= $1$ for $0 \le \beta < 2°$

= $(2.093/\beta) - 0.04651$ for $2° \le \beta < 45°$

= $0$ for $45 \le \beta < 90°$




a. Lateral Attenuation Models.




b. NMAP 6.0 Transition Factor Model.

Figure 9. SAE and Military Lateral Attenuation Models, and the Transition Factor Model.

GG(d) = the reference OMEGA 10.7 ground-to-ground exposure value at distance d,

AG(d) = the reference OMEGA 10.7 air-to-ground exposure value at distance d.

It can be seen from the military aircraft model that at angles of elêvation greater than 45 degrees, the transition factor tends to zero and the noise exposure is predicted solely by the air-to-ground model. Likewise, at low angles of elevation the transition factor term is predicted by 1.0 and the exposure tends to ground-to-ground model.

In the NMAP 6.1 program, the transition factor is returned as a ratio of the ground-to-ground propagation value at (d,β), and the air-to-ground propagation. Therefore for the first subflight in Section 3.1, the predicted transition factor is 1.0 and the resulting noise exposure is totally controlled by ground-to-ground propagation. The value returned is the ratio of the ground-to-ground reference noise exposure at (d,β) to the air-to-ground noise exposure under the same conditions. When NMAP 6.1 calculates the noise exposure for the segment, the transition factor will be multiplied by the air-to-ground reference noise exposure for that power segment and at the dominant slant distance for the segment. This transition factor ratio (TFR) is calculated as:

$$TFR = TF \cdot \left(\frac{10^{GG/10}}{10^{AG/10}} - 1\right) + 1 \qquad (11)$$

## 2.8 Duration

The effect of duration on an aircraft flyby is to increase the noise exposure of the observer over that of some instantaneous level. NMAP 6.1 uses two time integrated metrics that include the effects of duration. These metrics are SEL and EPNL. Reference noise exposure data are determined in terms of these metrics by the OMEGA 10.7 program. OMEGA 10.7 uses the spectral noise data and reference integrated metrics in the NOISEFILE 6.2 noise database, and expands these to other airspeeds and distances to give the required metric. OMEGA 10.7 uses the following equation to adjust for the difference in exposure due to differing propagation distances[15].

$$\text{Adjustment} = 6 \log (D_x/D_{ref}) \qquad (12)$$

where $D_x$ = desired distance

$D_{ref}$ = reference distance (usually 1000 ft)

OMEGA 10.7 uses the following equation to adjust for differing airspeeds.

$$\text{Adjustment} = -10 \log (V_x/V_{ref}) \quad (13)$$

where $V_x$ = desired airspeed

$V_{ref}$ = reference airspeed

Currently the time-integrated noise levels (SEL or EPNL) are included in the NOISEMAP input file (NMI file) and are the reference noise data that NMAP 6.1 uses in its noise calculations.

## 2.9 Noise Exposure Cut-Off

NMAP 6.1 uses a threshold noise exposure level in order to increase processing efficiency. If the calculated noise exposure level at any grid point is found to be below the threshold level, then the grid search in that direction ends. All the noise exposures up to that point are computed, and all the grid points up to, but not including, the grid point where the exposure fell below the threshold are updated.

The default exposure thresholds are as follows:

| DNL | CNEL | NEF | WECPNL |
|---|---|---|---|
| 35 dB | 35 dB | 0 dB | 35 dB |

## 2.10 Area Calculations

The calculation of the area bounded by the calculated noise exposure contours is approximated by dividing the grid mesh into four sections of 25 rows of grid points by 100 columns of grid points. The smaller sections are then further subdivided by taking the area bounded by four adjacent grid points and dividing them into five rows by three columns. The smaller 15 point meshes are then used to interpolate grid values to determine a contour edge. The rectangular areas bounded by the interpolated contour edge are then summed, and multiplied by the unit area of the rectangles to determine an approximate contour area.

The NMAP 6.1 area calculations compares reasonably well to calculations based on more accurate vector methods, but tends to have higher values due to the all-or-nothing addition of each subgrid section. An exact calculation of the contour area is made in the NMPLOT program and is displayed in its "show" window.

## 3.0 NOISEMAP FEATURES AND FLIGHT CHECKS

The following is a summary of the calculations that NMAP 6.1 performs in order to obtain noise exposure contours. These sample calculations concentrate on the development of the noise exposure levels, and do not place a heavy emphasis on such aspects as flight segmentation or any of the other "housekeeping" activities involved in contour development. In fact, the program was allowed to develop all of the support data in these calculations. These data were then taken and formatted in such a way as to illustrate the implementation of the algorithms detailed in Section 2. Figure 10a and b show the NOISEMAP Input (NMI) files that resulted in the specific point summary shown in Figure 11 and the contours shown in Figure 12.

Tables 2, 3 and 4 show the flight segmentation data, the flyover noise exposure summary and the runup noise exposure summary respectively for the specific point. The specific point is specified in the NMI file by the "SPECIF" keyword as detailed in Reference 8. As was said before, the coordinates entered into the NMI file have a positive offset of 50,000 ft in the x-direction and 150,000 ft in the y-direction in order to assure that the user enters coordinates as positive x and y values. It can be seen in Table 2 that the specific point coordinates $X_{sp}$ and $Y_{sp}$, as used by NMAP, have had the offsets removed.

Figure 13 shows the geometry of each of the subflights. Each element of Figure 13 shows the attitudes at each subflight endpoint, the slant distances and other physical data used in the calculations. This figure (along with Figure 4) should be used as a guide to understanding the geometry of the flight activity which produces the calculated noise exposure.

Please note that in many situations during the sample calculation a switch is made from noise levels in decibels to the power equivalent relative power. NMAP does all of its calculation in terms of power and all of its reporting in terms of decibels. It is more convenient and easier to visualize noise levels in decibels and a license is taken in showing some data in decibels and using that same data in calculations as power. To convert between the power P, and the noise level L the following relationships can be used.

To convert relative power to noise level in decibels, use:

$$L = 10 \log_{10}(P)$$

To convert noise level in decibels to relative power, use:

$$P = 10^{(L/10)}$$

```
COMMENT ARCHIVED
COMMENT 0
COMMENT INPUT FILE
COMMENT NMAP1807.BPS
COMMENT CASE NAME
COMMENT F-15 Power runup and flight tests for NOISEMAP report - asp
AIRFLD50000.  150000. 0.       0.       1000.                                  EAST
      F-15 Power runup and flight tests for NOISEMAP report - asp
COMMENT This is a test of straight out and straight in operations
COMMENT of the F-15 aircraft for the NOISEMAP 6.0 tech report
COMMENT
COMMENT NOISEMAP input created by MCM v. 1.0 on May 25 1991 at 23:27:04 from:
COMMENT F-15 Power runup and flight tests for NOISEMAP report
COMMENT Created by BASEOPS Version 3.01 on 12-28-1990 at 10:25:58
PROCES
DNL
SAELAT                                                                         ON
SPROCE
SPECIF87999.  202000.                                                          TEST
COMMENT ******************************
COMMENT **        FLYOVER   DATA        **
COMMENT ******************************
SEL     061011         2   127.3   125.3   123.3   121.4   119.4   117.5F-15      1
COMMENT 061011W0 OMEGA10.6 28 Dec 90 F-15                200 KTS   59 F   70 PCT
COMMENT 061011W0 HIGH BYPASS FAN  N061031A1
COMMENT 061011W0 TAKEOFF POWER          90.00 % RPM
          115.6   113.8   111.9   109.9   107.9   105.7   103.5   101.2F-15      2
           98.7    96.0    93.2    90.2    86.9    83.3    79.5    75.4F-15      3
        061011         1   127.3   125.3   122.2   119.1   116.4   113.8F-15      4
          111.2   108.6   106.2   104.0   101.8    99.7    97.6    95.5F-15      5
           93.1    90.6    87.6    84.3    80.1    75.3    70.0    64.3F-15
SEL     061021         2   117.1   115.3   113.4   111.6   109.7   107.9F-15      1
COMMENT 061021W0 OMEGA10.6 28 Dec 90 F-15                250 KTS   59 F   70 PCT
COMMENT 061021W0 HIGH BYPASS FAN  N061031A1 N061051A1 N061031A1
COMMENT 061021W0 TAKEOFF POWER          85.00 % RPM
          106.1   104.3   102.4   100.5    98.5    96.4    94.2    91.9F-15      2
           89.5    86.9    84.1    81.1    77.9    74.5    70.8    66.9F-15      3
        061021         1   117.1   115.3   112.1   109.1   106.4   103.8F-15      4
          101.3    98.9    96.5    94.3    92.2    90.1    88.0    85.9F-15      5
           83.5    81.0    78.1    74.8    70.6    65.9    60.9    55.6F-15
RUNWAY100000. 200000. 90000.  200000. 0.       0.       3.               9C
COMMENT test departure with 45 degree turn
FLTTRK13000.  0.      2000.   45.     290000. 0.                             TKOF9D1
COMMENT F-15 45 degree turn departure
TOROLL                                                                         ON
TODSCR61.     1.      061001                   061001  061011. 8000.       061 DEP *
      061011. 20000.  061021. 305570.                                      061 DEP
ALTUDE  061001        0.      0.      8000.   0.      20000.  2000.       061 DEP *
      200000. 10000.                                                        061 DEP
AIRSPD  061001        0.      0.      8000.   200.    20000.  250.        061 DEP *
      200000. 250.                                                          061 DEP
FLIGHT061.    001.    50.     0.      5.                                    061 DEP
CLEAR                                                                          ALL
```

Figure 10a. Nmap 6.0 Sample Case Input File Part 1. (Header and Flyover Data.)

```
COMMENT ********************************
COMMENT **         RUNUP   DATA         **
COMMENT ********************************
AL       06101         0   105.5   103.5    99.1    94.8    91.6    88.7         1
COMMENT 06101W0 OMEGA11.2 28 Dec 90  59 F  70 PCT  29.92 IN HG   74-004-010 01
COMMENT 06101W0 F-15A     AIRCRAFT         ENG F100-PW-100(1)        N06106A0
COMMENT 06101W0  INTERMED PWR (MIL)    90.00 % NC       930 C FTIT   7850 LBS/HR
           86.1     83.5    80.9    78.5    76.1    73.7    71.3    68.8         2
           66.1     63.4    60.3    56.8    52.4    47.3    41.7    35.4         3
          06101       20   107.9   105.8   101.8    98.0    94.9    92.0         4
           89.2     86.5    83.8    81.3    78.8    76.3    73.8    71.3         5
           68.6     65.7    62.5    58.8    54.3    49.0    43.2    36.8         6
          06101       40   103.7   101.6    98.2    95.0    92.0    88.9         7
           85.9     82.9    80.0    77.3    74.6    71.9    69.3    66.6         8
           63.7     60.6    57.2    53.3    48.5    43.2    37.4    31.5         9
          06101       80   107.8   105.6   102.6    99.7    96.7    93.6        10
           90.6     87.5    84.4    81.7    78.9    76.1    73.3    70.6        11
           67.5     64.3    60.6    56.4    51.2    45.6    39.7    33.9        12
          06101       90   106.5   104.3   101.2    98.3    95.3    92.2        13
           89.0     85.8    82.6    79.7    76.8    73.9    71.0    68.2        14
           65.1     61.9    58.2    54.1    49.2    44.0    38.7    33.7        15
          06101      120   116.2   114.1   109.2   104.7   101.5    98.4        16
           95.6     92.8    90.1    87.5    85.0    82.5    80.1    77.6        17
           75.0     72.3    69.4    66.1    62.0    57.4    52.4    47.0        18
          06101      130   124.9   122.7   119.0   115.6   112.5   109.4        19
          106.2    103.1    99.9    97.1    94.2    91.4    88.7    86.0        20
           83.1     80.0    76.6    72.8    68.2    63.3    58.2    53.0        21
          06101      140   125.5   123.4   119.5   115.8   112.7   109.6        22
          106.5    103.5   100.6    97.9    95.2    92.5    89.9    87.3        23
           84.4     81.4    78.1    74.4    70.0    65.1    60.0    55.0        24
          06101      150   122.9   120.8   116.3   112.1   109.0   105.9        25
          103.0    100.2    97.4    94.8    92.2    89.7    87.1    84.5        26
           81.8     78.9    75.9    72.6    68.6    64.3    59.9    55.6        27
          06101      180    92.6    90.5    85.6    81.1    77.9    74.8        28
           71.9     69.2    66.5    63.9    61.4    58.9    56.3    53.7        29
           50.9     48.2    45.4    42.3    38.8    34.9    31.1    27.3
RNPPAD94000.  202000. 30.                                                PAD1
COMMENT F-15 on runup pad 1
RUDSCR61.     90.     06101                                              RUN1PAD1
RUNUP 61.     90.     10.      0.      1.      60.                       RUN1PAD1
CLEAR
CLEAR                                                                    ALL
AREA  85.     80.     75.      70.     65.
END
```

Figure 10b. NMAP 6.0 Sample Input File Part 2. (Runup Data.)

```
/* ARCHIVED */
0
/* INPUT FILE */
NMAP1807.BPS
/* CASE NAME */
F-15 Power runup and flight tests for NOISEMAP report

  12/28/90    -------------------- NOISEMAP 6.00 -------------------- PAGE    7

DNL                  F-15 Power runup and flight tests for NOISEMAP report
     SUMMARY OF AIRCRAFT FLIGHT OPERATIONS AT SPECIFIC GROUND LOCATION TEST
      X =  87999.0 FT   Y = 202000.0    FT

         RANK           1
      AIRCRAFT          61
      MISSION           1
   FLIGHT TRK         9D1
        POWER 90.00 % RP
     AIRSPEED    200 KTS
     ALTITUDE     648 FT
   SLANT DIST    2105 FT
   ELEV ANGLE  17.95 DEG
   EVENTS DAY     50.000
        NIGHT      5.000
EFCTV SEL     107.09 DB
      DNL      77.72 DB
  CUM DNL      77.72 DB

                                                          FLIGHT DNL      77.72 DB
                                                           TOTAL DNL      77.74 DB
  12/28/90    -------------------- NOISEMAP 6.00 -------------------- PAGE    8

DNL                  F-15 Power runup and flight tests for NOISEMAP report
     SUMMARY OF AIRCRAFT  RUNUP OPERATIONS AT SPECIFIC GROUND LOCATION TEST
      X =  87999.0 FT   Y = 202000.0 FT

         RANK           1
      AIRCRAFT          61
       THRUST          90
    RUNUP PAD PAD1
        POWER 90.00 % NC
   SLANT DIST    6001 FT
        ANGLE  120.0 DEG
   TIME   DAY  600.0 SEC
        NIGHT   60.0 SEC
          AL       73.05 DB
      DNL      54.47 DB
  CUM DNL      54.47 DB

                                                          RUNUP DNL      54.47 DB
                                                          TOTAL DNL      77.74 DB
```

Figure 11. NMAP 6.0 Specific Point Calculation for a Sample Case. (Figure shows the major contributers both flyover and runup operations.)

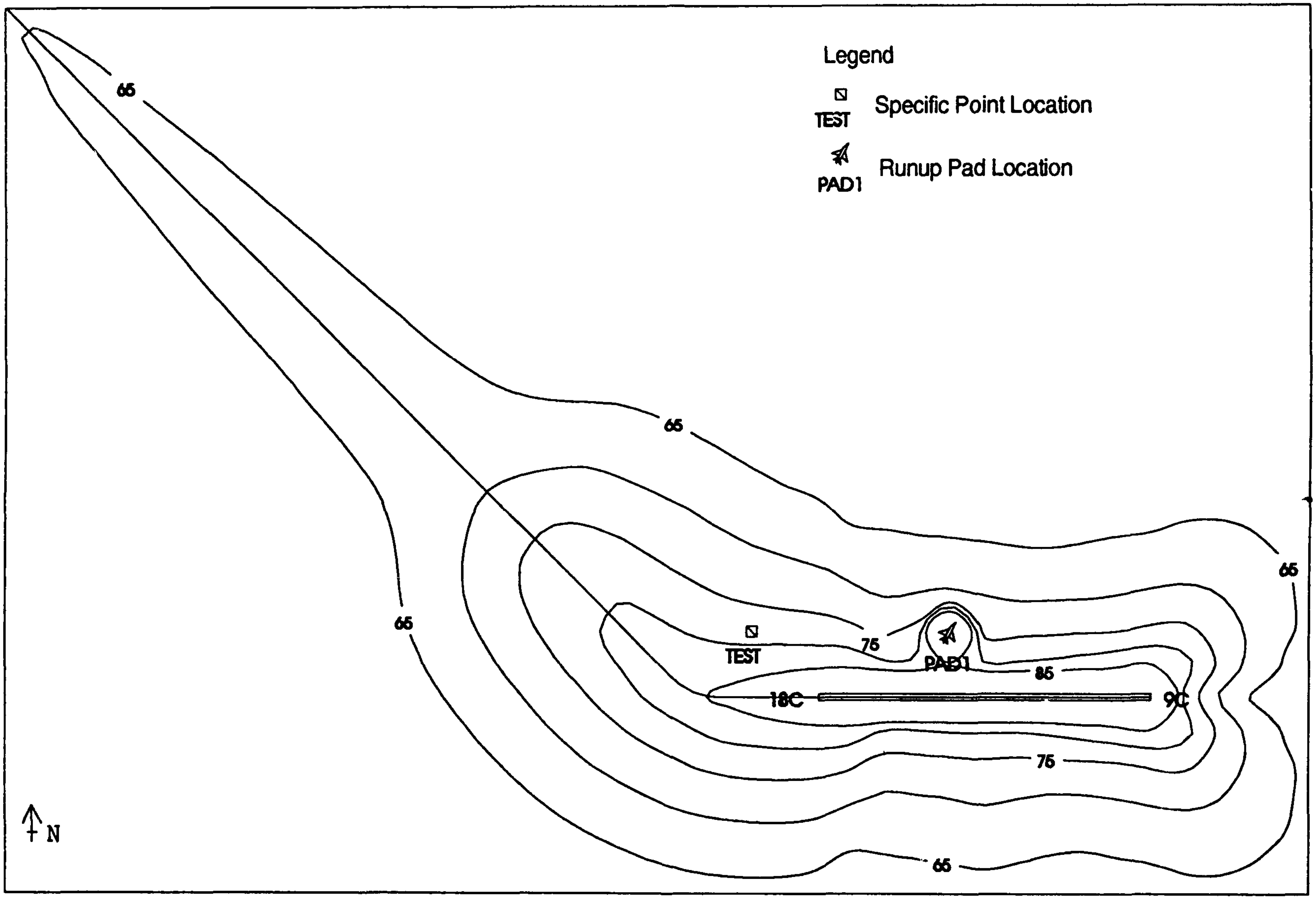



Figure 12. Plot from the NMPLOT 1.1 program of the sample case. (Plot has been modified for this report.)

| | |
|---|---|
| Volume of ops - Flyover | 100 |
| Volume of ops - Runup | 20 |
| Runup time (sec) | 60 |
| Num of power segments | 3 |
| Number of subflights: | 6 |

Subflight breakdown: (Internal grid coordinates = specified x-50000, specified y-150000)

Flight Segment 1 - takeoff roll, 90% RPM, 200 kts.
subflights: 1 Points: 1:2

| | Ground coordinates (internal grid) | | | | GTrack | Altitude | | Heading | |
|---|---|---|---|---|---|---|---|---|---|
| subflight# | startX | startY | stopX | stopY | | A | B | Cos | Sin |
| 1 | 50,000.0 | 50,000.0 | 42,000.0 | 50,000.0 | straight | 0.0 | 0.0 | -1 | -8.74E-08 |

Flight Segment 2 - takeoff climb, 90% RPM, 200 kts.
subflights: 3 Points: 2:3, 3:4, 4:5

| | Ground coordinates (internal grid) | | | | GTrack | Altitude | | Heading | |
|---|---|---|---|---|---|---|---|---|---|
| subflight# | startX | startY | stopX | stopY | | A | B | Cos | Sin |
| 2 | 42,000.0 | 50,000.0 | 37,000.0 | 50,000.0 | straight | 0.0 | 833.3 | -1 | -8.74E-08 |
| 3 | 37,000.0 | 50,000.0 | 35,585.8 | 50,585.8 | turn | 833.3 | 1,095.1 | -0.707107 | 0.7071068 |
| 4 | 35,585.8 | 50,585.8 | 31,746.8 | 54,424.8 | straight | 1,095.1 | 2,000.0 | -0.707107 | 0.7071068 |

Flight Segment 3 - continued climb, 85% RPM, 250 kts.
subflights: 2 Points: 5:6, 6:7

| | Ground coordinates (internal grid) | | | | GTrack | Altitude | | Heading | |
|---|---|---|---|---|---|---|---|---|---|
| subflight# | startX | startY | stopX | stopY | | A | B | Cos | Sin |
| 5 | 31,746.8 | 54,424.8 | -95,632.5 | 181,704.0 | straight | 2,000.0 | 10,000.0 | -0.707107 | 0.7071068 |
| 6 | -95,632.5 | 181,704.0 | -169,475.2 | 255,646.8 | straight | 10,000.0 | 10,000.0 | -0.707107 | 0.7071068 |

Generalized Correction Factor

| subflight | Fa | Fb |
|---|---|---|
| 1:2 | 1.293828 | 1 |
| 2:3 | 1 | 0.9166667 |
| 3:4 | 0.9166667 | 0.886594 |
| 4:5 | 0.886594 | 0.7639441 |
| 5:6 | 0.7639441 | 0.5285548 |
| 6:7 | 0.5285548 | 0.5285548 |

Specific Point Location (internal grid coordinates)

| SpX | SpY |
|---|---|
| 37,999.0 | 52,000.0 |

DNL Exposure at Specific Point= 77.74 dB (sum of flyover and runup exposures)

Table 2. Segmentation of the Flight Parameters

| Segment | 1 | 2 | | | 3 | |
|---|---|---|---|---|---|---|
| subflight | 1:2 | 2:3 | 3:4 | 4:5 | 5:6 | 6:7 |
| subfltLength | 8000 | 5068.969 | 1570.79633 | 5504.094 | 180177.7 | 104570.8 |
| Slant CPA | 2000 | 2105.386 | 2385.885 | 2872.995 | 3209.727 | 10359.57 |
| DominantSlantDist. | 2000 | ----------------- | ----------------- | 2105.386 | ----------------- | 3209.727 |
| Altitude | 0 | 648.8109 | 833.333 | 1095.133 | 2000 | 10000 |
| ExposeIntgalCPA | 1.23981E-08 | 1.44296E-07 | 3.69319E-08 | 3.19116E-08 | 4.07886E-09 | 2.24289E-12 |
| TransitionFactorR | 0.2455066 | 0.9471701 | 0.9580592 | 0.9650072 | 0.9940802 | 1 |
| ExposeIntgalSeg | 0.0495925 | ----------------- | ----------------- | 0.944770456 | ----------------- | 0.04204493 |
| Weighting | 0.012175286 | ----------------- | ----------------- | 0.899164048 | ----------------- | 0.041796169 |
| RefExpPowAir-Grn | 61407140000 | 55941890000 | ----------------- | ----------------- | 2560318000 | ----------------- |
| in dB | 107.88 | 107.48 | ----------------- | ----------------- | 94.08 | ----------------- |
| TORollOffset | 1.27076E-27 | ----------------- | ----------------- | ----------------- | ----------------- | ----------------- |
| TORollAngle (deg) | 9.462 | ----------------- | ----------------- | ----------------- | ----------------- | ----------------- |
| | | | | | | |
| SegExpPow | 747649495.7 | ----------------- | ----------------- | 50300936252 | ----------------- | 107011483.1 |
| SegExpdB | 88.74 | | | 107.02 | | 80.29 |
| | | | | | | |
| Overall ExpPow | 51155597231 | | | | | |
| Overall ExpdB | 107.09 | | | | | |
| DNL | 77.72 dB | (see section 2.1.1 for formula) | | | | |

| Formulas | | |
|---|---|---|
| | Weighting = | sum(ExposeIntegralCPA*TransitionFactor)*DominantSlantDist^2 |
| | Seg. 1 | (RefExpPow +TORollOffset)* Weighting |
| | Seg. 2 & 3 | RefExpPow *Weighting |

Table 3. Summary of Flyover Exposure Calculations at the Specific Point

**RunupPad Coordinates** | **SpecificPoint Coordinate**

| Xpad | Ypad | SpX | SpY |
|---|---|---|---|
| [illegible] | 52000 | 37999 | 52000 |

**Runup Duration**

[redacted]

**Transform from Grid Coordinate System to Runup Pad**

| padSpX | padSpY |
|---|---|
| [redacted] | |

**SlantDistance and RunupAngle in new reference**

| RpSlant | RpAngle | RpAngle |
|---|---|---|
| [redacted] | | |

**Real and Integer Number to Closest Ref. Table Element Number**

| D | D1 |
|---|---|
| [redacted] | |

D = 10Log(RpSlant) - 22, 1 <= D <= 22

D1 = Integer(D) + 1

**Reference Exposure Power Data**

| RefAngle | RefAngle | Slant Distance 5000 | 6300 | Interpolating 6001 |
|---|---|---|---|---|
| [redacted] | | | | |

**Exposure at Specific Point Due to Runup Aircraft**

**Interpolate between Reference Angle and SlantDistance**

**Resuling Runup Exposure**

[redacted] in Power

dB

DNL

**Interpolation Formulas**

- Distance= RefUpr - (RefLwr - RefUpr)*(UprIndex - FractIndex)
- Angle= ((AngLwr Lvl- AngUprLvl)*(AngLwr-Angle)/(AngUpr-AngLwr) + AngLwrLvl) * RunupDuration

Table 4. Summary of the Runup Exposure Calculations at the Specific Point

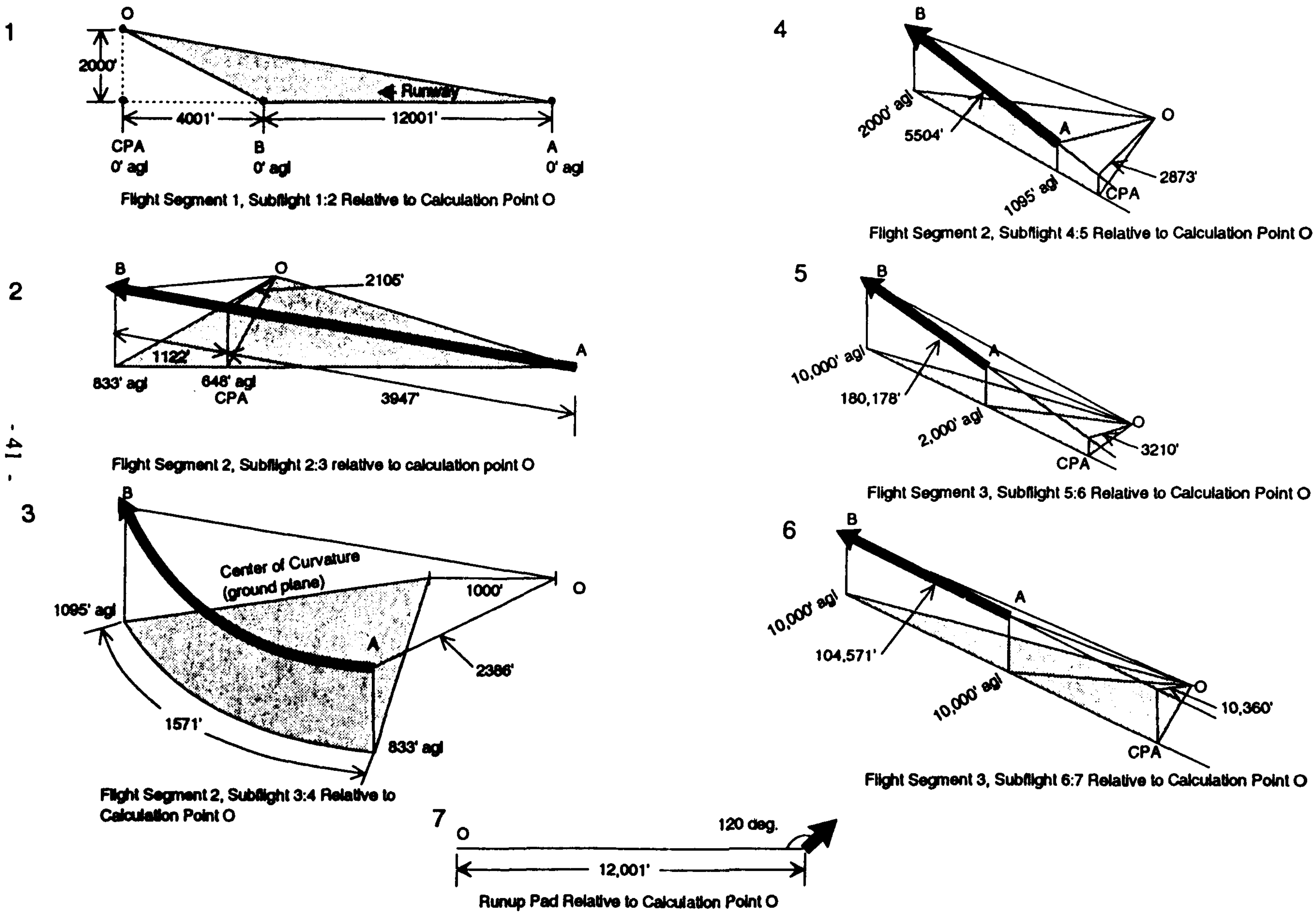



Figure 13. Sample Calculation Subflights 1-6 and Runup Pad.

## 3.1 Example Calculation in Detail

### 3.1.1 Flight Segment 1

| | |
|---|---|
| AC = -12001' | COA = -80.54° |
| BC = -4001' | COB = -63.44° |
| SL = 4473' | Elevation Angle = 0 |
| AB = AC - BC = -8000' | $F_a$ = 1.293828 |
| $ALT_{cpa}$ = 0 | $F_b$ = 1.0 |

The takeoff roll (TOROLL) calculation is divided into two parts. The first part calculates the noise exposure arising from the flight segment itself, while the second part calculates an offset to account for the ground runup and acceleration effects of takeoff. For the flight segment, NOISEMAP will use the ground-to-ground propagation SEL power values (0° elevation angle), since the altitude at the closest point of approach (CPA) is 0 ft AGL. NOISEMAP obtains a computed reference SEL power value, $E_{rc}$, by

$$E_{rc} = 10^{\frac{AtG}{10}} \cdot TFR$$

where TFR is a transition factor ratio and the AtG is the Air-to-Ground propagation value at the slant distance to the CPA. This equation adjusts the reference SEL power value for lateral attenuation by interpolating between the reference Air-to-Ground and Ground-to-Ground propagation SEL power values which are contained in NOISEFILE.

NOISEFILE provides the Air-to-Ground ($L_{AG}$) and Ground-to-Ground ($L_{GG}$) propagation reference values to interpolate to the calculated slant distance in the following manner:

| | |
|---|---|
| $L_{AG}$ (2000') = 107.9 dB | $L_{AG}$ (2500') = 105.7 dB |
| $L_{GG}$ (2000') = 101.8 dB | $L_{GG}$ (2500') = 99.7 dB |

Using NOISEMAP's algorithm for interpolating the Transition Factor Ratio (TFR) and also noting that the value of the Transition Factor from the NOISEMAP lateral attenuation algorithm is 1.0, then TFR becomes:

$$TFR = \frac{L_{GG}(2500') - [L_{GG}(2000') - L_{GG}(2500')] \cdot D'}{L_{AG}(2500') - [L_{AG}(2000') - L_{AG}(2500')] \cdot D'}$$

where D' equals the fractional difference between the index of the upper limit of the interpolation (a number between 1 and 22 representing the one third octane increment) and the fractional index value of the distance being interpolated to. This is determined by:

$$D = 10 \log(\text{distance}) - 22$$
$$= 10 \log(2000) - 22$$
$$= 33.01029 - 22 = 11.01029$$

$$D' = D - [\text{Integer}(D) + 1]$$
$$= -0.9897$$

In power terms the equation becomes:

$$TFR = \frac{9.332543E9 - (1.513561E10 - 9.332543E9) \bullet -0.9897}{3.715352E10 - (6.16595E10 - 3.715352E10) \bullet -0.9897}$$

NOISEMAP stores and calculates the noise values using the power value (not in decibels) and only converts to the dB value at the final grid printout. The TFR computed is:

$$TFR = 0.2455066$$

Next, NOISEMAP computes the Exposure Factor, $C_y$, for this segment. In this step NOISEMAP also adds any noise level offsets with the following equation in the LINEX subroutine:

$$C_y = \{ I_c \bullet \frac{\sin(COA) - \sin(COB)}{2} \} + \{ [ \frac{(F_a - F_b) \cdot OC}{AC - BC} ] \bullet \frac{\cos(COB) - \cos(COA)}{2} \}$$

where

$$I_c = \frac{AC \bullet FB - BC \bullet FA}{AC - BC}$$

AC and BC are the distances from the CPA and points A and B, respectively. When computing the sine and cosine functions, the angles COA and COB are defined as positive if the direction from the CPA to the point is the same as the aircraft heading and negative if opposite. $F_a$ and $F_b$ are correction factors that are applied at points A and B, respectively. Currently, an altitude correction, the delta six at the start of takeoff roll, airspeed adjustment and DSEL (a user input offset to the SEL) are used by NOISEMAP in the generalized correction factors (see Section 2.4.3). The Altitude correction is computed by the following equation:

$$\text{Altitude correction} = 10^{[(1000 - ALT) \cdot 10^{-5}]}$$

where ALT is in feet.

It is important to note that this correction is set equal to 1.0 for altitudes less than 1000 ft.

Since the takeoff roll algorithm, TOROLL, is invoked, the correction for the start of takeoff roll, ($\Delta_6$), is computed by:

$$\Delta_6 = 5 \log \left( \frac{S_{ref}}{S_{rotate}} \right)$$

where

$S_{ref}$ = 4779 ft (length of the Boeing 707 reference aircraft takeoff roll)

$S_{rotate}$ = 8000 ft (the F-15 input takeoff roll)

$$\Delta_6 = 1.118765 \text{ dB} \rightarrow \text{Power}_{\Delta 6} = 10^{\frac{\Delta 6}{10}} = 1.293828$$

The takeoff roll correction at the point of rotation is 0, since the omega program computes a Noise Profile data set for the given liftoff speed.

The airspeed correction is based on the rotation speed. However, during takeoff roll, this correction is not applicable. There are now user-entered dB corrections.

$C_y$ can therefore be calculated as in the following steps:

$F_a$ (dB) = Altitude correction at pt A + start of TOROLL $\Delta_6$ + Speed Adjustment at pt A + DSEL at pt A

$F_a$ (P) = 1.293828

$F_b$ (dB) = Altitude correction at pt B + end of TOROLL $\Delta_6$ + Speed Adjustment at pt B + DSEL at pt B

$F_b$ (P) = 1.000000

$$C_y = \left\{ \left[ \frac{(-12001 \cdot 1 + 4001 \cdot 1.293828)}{(-12001 + 4001)} \right] \cdot \left[ \frac{(\sin(-80.5°) - \sin(-63.4°))}{2} \right] \right\} + \left[ \frac{(F_a - F_b) \cdot 2000}{-8000} \cdot \frac{(\cos(-63.4°) - \cos(-80.5°))}{2} \right]$$

$C_y$ (P) = 0.049592

Therefore, the flight part of this segment noise exposure is:

$$E_{rc} \cdot |C_y| = L_{refAG} \cdot TFR \cdot |C_y| = 6.140714E10 \cdot 0.2455066 \cdot 0.049592 = 7.476419E8 \text{ (88.74 dB)}$$

(Note that the reference air-to-ground power level has been interpolated by NMAP using the methodology shown for the TFR calculation.)

In the second part of the TOROLL calculation, NOISEMAP computes an adjustment to the noise exposure. This adjustment is added to the noise exposure computed above to obtain the total noise exposure for the takeoff roll segment. The Takeoff Roll Ground Runup noise level is computed by adding the total directivity pattern offset to the ground-to-ground noise level from the start of takeoff roll to the calculation point. For segment 1 the slant distance to start of takeoff roll is 12167 ft and the ground-to-ground noise level from interpolating the NOISEFILE data is 81.04 dB. The angle to the calculation point is 9.462° and interpolating in table 1 (page 25) we get $1 \times 10^{-35}$ for the adjustment. This leaves us with a value of $1.27076 \times 10^{-27}$ value for the TOROLL adjustment. This essentially adds no correction for the runup portion of the takeoff roll.

The total noise exposure for this segment is essentially equal to the flight segment exposure plus the TOROLL adjustment, that is:

$$\text{Flight Segment 1 Noise Exposure} = 10 \log\{(E_{ref} + E_{TOROLL}) \cdot (TFR \cdot |C_y|)\}$$
$$= 10 \log\{(6.140714E10 + 1.27076E\text{-}27) \cdot 0.012175286\} = 88.74 \text{ dB}$$

3.1.2 Flight Segment 2

Subflight 2:3

The second segment is divided further into three subflights. The first subflight 2:3 is the initial liftoff segment. The aircraft starts at 200 kts and 0 ft AGL and climbs to 833 ft AGL at a climb angle of 9.46°. The geometry of this subflight relative to the calculation point is given in Figure 13-2.

The following data are needed for the calculation:

AC = -3947'
BC = 1122'
SL = 2105'
The altitude at CPA = 648'
The slant distance to CPA (OC) = 2105'
Flight Segment length (AB) = AC–BC = -5069'

$L_{AG}(2105) = 55,941,890,000 = 107.48$ dB
$L_{GG}(2105) = 13,855,120,000 = 101.45$ dB

| | | |
|---|---|---|
| COA | = | -61.90° |
| COB | = | 28.16° |
| Elevation Angle | = | 17.93° |
| TF | = | 0.0702217 |
| TFR | = | .94717 |
| $F_a$ | = | 1.0000 |
| $F_b$ | = | 0.9166667 |

The Exposure Factor, $C_y$, for the 2:3 subflight is evaluated as before:

$$C_y = -0.6395776$$

From this $C_y$ a normalized value for this subflight is determined by:

$$C_{ycpa} = \frac{|C_y|}{SL^2} = \frac{0.639576}{(2105)^2} = 1.44341E\text{-}7$$

Subflight 3:4

The second subflight of segment 2 is a climbing turn with a 2000 ft ground plane radius. The aircraft is still climbing at the 9.46° climb angle starting at 833 ft AGL and ending at 1,095 ft AGL after completing the 45° right hand turn. The geometry of subflight 3:4 relative to the calculation point is shown in Figure 13-3.

The following data are needed for this calculation:

| | | | | |
|---|---|---|---|---|
| Subflight Length | = | 1,593 ft | | |
| Climb∠ | = | 9.462° | | |
| AtG(2386) | = | 69,882,142,782 | = | 108.4 |
| GtG(2386) | = | 17,411,793,902 | = | 102.4 |
| Elevation∠ | = | 20.43 | | |
| TF | = | 0.055937 | | |
| TFR | = | 0.9580593 | | |
| $F_a$ | = | 0.9166667 | | |
| $F_b$ | = | 0.886594 | | |

The Exposure Factor for subflight 3:4 is calculated by the following equation in the TURNEX subroutine:

$$C_y = R \cdot SL^2\left(\frac{Sec\beta}{dct}\right)\left\{F_a\left[\frac{2C_2\theta+C_1}{dcn} - \frac{C_1}{\sqrt{C_0}}\right] + \left[\frac{F_a-F_b}{\theta}\right]\left[\frac{C_1\theta+2C_0}{dcn} - 2\sqrt{C0}\right]\right\}$$

where

$SL = 2386'$
$R = 2000'$
$\theta = -0.785398$
$X_0 = 0$
$Y_0 = 1000$
$Z_a = 833.33'$
$Z_b = 1095'$

$Symm = -1$
$dcn = 3004.62885$
$dct = -2.97842E13$
$Sec\beta = 1.013794$
$D_b - D_a = 1570.7963$

$\tan\beta = 0.166667$

$$C_0 = X_0^2 + Y_0^2 + Z_a^2 + R^2 - 2RX_0 = 5{,}692{,}440$$

$$C_1 = -2RY_0 + 2R\left[\frac{Z_b - Z_a}{D_b - D_a}\right] Z_a \text{ (Symm)} = -4{,}551{,}560$$

$$C_2 = R^2\left(\frac{Z_b - Z_a}{D_b - D_a}\right)^2 + 2R\,(0.47483 \cdot X_0 + \text{Symm}\,(.1269\ Y_0)) = -395{,}578$$

Thus, $C_y$ is:

$$\begin{aligned} C_y &= 3.88186E\text{-}4\ [599.5194 \cdot F_a - 265.3916\ (F_a - F_b)] \\ &= 3.88186E\text{-}4\ [334.1278 \cdot F_a + 265.3916 \cdot F_b] \\ &= 0.2102330 \end{aligned}$$

Normalized exposure factor at CPA for subflight 3:4, $C_{ycpa} = 3.69319E\text{-}8$

Subflight 4:5

This subflight of the second flight segment is a straight climb that occurs after the 45° right hand turn. The aircraft starts at 1095 ft AGL and reaches 2000 ft AGL. This subflight geometry is shown in Figure 13-4.

The following data are needed for this portion of the calculation:

| | | | | | |
|---|---|---|---|---|---|
| AC | = | 876.8268 | COA | = | 16.91° |
| BC | = | 6380.921 | COB | = | 65.76° |
| | | | Elevation Angle | = | 22.41° |
| Alt at CPA | = | 1095.133 | TF | = | 0.046886 |
| Slant at CPA | = | 2872.995 | TFR | = | 0.9650072 |
| AB | = | –5504 ft | $F_a$ | = | 0.886594 |
| | | | $F_b$ | = | 0.7639441 |
| $L_{AG}(2873)$ | = | 104.6 dB | | | |
| $L_{GG}(2873)$ | = | 98.6 dB | | | |

Using the methodology for subflights 1:2 and 2:3, the normalized exposure factor for this subflight is:

$$\begin{aligned} C_y &= -0.263393 \\ C_{ycpa} &= 3.191056E\text{-}8 \end{aligned}$$

NOISEMAP now adds the three subflights together to get the noise exposure value for the second segment by using the following summation:

$$\text{Noise exposure segment 2} = L_{AGref} \cdot \left( \sum_{i=1}^{n_{subf}} C_y kcpa_i \cdot TFR_i \right) \cdot (SL_{DOM})^2$$

$$= 55{,}942{,}000{,}000 \cdot (1.44341E\text{-}7 \times 0.9471701 + 3.69319E\text{-}8 \times 0.9580593 + 3.191056E\text{-}8 \times 0.9650072) \cdot (2105.98332)^2$$

$$= 50{,}300{,}936{,}352$$

$$= 107.02 \text{ dB}$$

It should be noted that the $L_{AGref}$ is the reference air-to-ground noise exposure of the dominant subflight. The dominant subflight is determined by the largest $C_{ycpa}$ term, which in this case occurs at subflight 2:3. The $L_{AGref}$ is then determined from the slant distance to the CPA of this subflight.

3.1.3 Flight Segment 3

This section describes the third flight segment which is the final climb of this flight profile.

Subflight 5:6

This segment includes a power cutback to 85 percent RPM and a speed increase to 250 kts for the F-15. The geometry of Subflight 5:6 relative to the calculation point is shown in Figure 13-5.

| | | |
|---|---|---|
| AC = 6218.352 | AB = 180,177 | |
| BC = 186396.0 | Slant CPA = 3209.727 | |
| $F_a$ = 0.7639441 | COA = 62.6815° | TF = 0.0078536 |
| $F_b$ = 0.5285548 | COB = 88.6840° | TFR = 0.9940802 |
| | ALT at CPA = 2000' | Elev ∠ = $\sin^{-1}\left(\frac{ALT_{cpa}}{OA}\right) = 38.5°$ |
| | $L_{AG}$ (3210) = 2.560317E9 | |
| | $L_{GG}$ (3210) = 6.153103E8 | |

From previous methods, the noise Exposure Factor for subflight 5:6 is

$$C_y = 0.042032765$$

$$C_{ycpa} = 4.07992E\text{-}9$$

Subflight 6:7

This last subflight of this segment has the aircraft leveling off at 10,000 ft AGL. The geometry in Figure 13-6 relates this subflight track to the calculation point.

The following values are needed in this calculation:

| | | |
|---|---|---|
| AC = 186135.6 | Slant CPA = 10,359.57 | |
| BC = 290706.4 | COA = 86.814° | TF = 0 |
| $F_a$ = 0.5285548 | COB = 87.959° | TFR = 1.0 |
| $F_b$ = 0.5285348 | ALT at CPA = 10,000 ft | Elevation ∠ = 74.9° |

The noise Exposure Factor for this subflight is:

$$C_y = 0.00024128$$
$$C_{ycpa} = 2.24822E\text{-}12$$

NOISEMAP now adds these two subflights together to get the noise exposure value for the third flight segment.

$$\text{Noise Exposure for Segment 3} = L_{AGref} \cdot \left( \sum_{i=1}^{n_{subf}} C_y kcpa_i \cdot TFR_i \right) \cdot (SL_{DOM})^2$$

$= 2560318000 \cdot (4.07886E\text{-}9 \cdot 0.9940802 + 2.24289E\text{-}12 \cdot 1.0) \cdot (3209.727)^2$

= 107011483

= 80.29 dB

### 3.1.4 Overall Flight Exposure

NOISEMAP computes the total noise exposure from the flight profile by summing the calculated exposure power values of each segment:

| | | |
|---|---|---|
| Segment 1== 10 log(7.476419 E8) | = | 88.74 dB |
| Segment 2== 10 log(50300936352) | = | 107.02 dB |
| Segment 3== 10 log(107011483) | = | 80.29 dB |
| Total== 10 log(51155597231) | = | 107.09 dB |

The total flyover noise exposure can now be computed by:

$$\text{Flight Noise Exposure} = SEL + 10 \log (N_{day} + 10\, N_{night}) - 49.4$$
$$= 5.115597E10 \cdot 100 / 86{,}400 = 5.920829E7 = 77.72 \text{ dB}$$

### 3.1.5 Runup Contribution

Figure 13-7 shows the geometry for the runup calculation.

NOISEMAP interpolates from the input runup data set to get the A-weighted sound level at the observer point. At a 120° propagation angle, a runup value can be interpolated from the reference power values in the following manner (see Table 4):

| | | | | |
|---|---|---|---|---|
| A-Level at 1,000' | = | 75.0 dB | = | 31,622,779 |
| A-Level at 12,500' | = | 72.3 dB | = | 16,982,437 |
| A-Level at 12,000' | = | 73.1 dB | = | 20,170,528 |
| | | | Value = | 19,904,649 |

The runup noise exposure is computed by:

$$\text{Runup Noise Exposure} = AL + 10\log(Dur_{day} + 10Dur_{night}) - 49.4$$

$$= (19{,}904{,}649 \cdot (600+10(60))/86{,}400$$

$$= 276{,}453$$

$$\text{in DNL} = 54.42 \text{ dB}$$

3.1.6 Final Specific Point DNL Calculation

The final Noise Exposure for the calculation point is computed by adding the DNL contribution of the flyover and the ground runup operations.

| | | | | |
|---|---|---|---|---|
| Flyover Noise Exposure | = | 59,208,290 | or DNL = | 77.72 dB |
| Runup Noise Exposure | = | 280146 | or DNL = | 54.47 dB |
| Total Noise Exposure | = | 59,414,743 | or DNL = | 77.74 dB |

## 3.2 Flight Checks

The following are a list of flight procedures which NMAP 6.1 checks to insure that the flight conditions are valid. Most of these checks are redundant if the NMI file is created by the MCM.

(1) Aircraft airborne at end of runway.

(2) Aircraft is airborne before starting a turn.

(3) Aircraft not descending below airfield elevation on a touch-and-go.

(4) Aircraft landing glide slope is $0.5 < \text{slope} \leq 10.0$ degrees.

(5) Aircraft altitude ascends above 301.0 feet in takeoffs and touch-and-go's.

(6) The aircraft subflight end distance is greater than the beginning distance (i.e., aircraft not reversing on a subflight segment).

(7) Aircraft continues to ascend after a touch-and-go and not fall below 301.0 feet altitude within 100 feet from brake release point.

Reference 4 has a complete listing of the error messages from the NMAP 6.1 and MCM programs.

### 3.3 Aircraft Noise Reference Database

The following tables contain the complete list of aircraft in the NOISEFILE 6.2 database. Table 5 shows all of the flyover aircraft reference noise data, Table 6 shows the runup data and Table 7 shows the civilian aircraft data.

SUMMARY OF FLYOVER DATA IN NOISEFILE 6.1 07 MAY 91 PAGE 1

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N003031AI | 003 | 03 | 1.83 EPR | | TAKEOFF POWER | E-3A | 1000 FT | 250 KTS | GEAR DOWN, 50DEG FLAPS | 27 DEC 79 |
| N003051AI | 003 | 05 | 1.45 EPR | | APPROACH POWER | E-3A | 1000 FT | 250 KTS | GEAR DOWN, 50DEG FLAPS | 27 DEC 79 |
| N003061AP | 003 | 06 | 1.50 EPR | | INTERMEDIATE POWER | E-3A | 1000 FT | 250 KTS | GEAR DOWN, SPEED BRAKE | 27 DEC 79 |
| N003131AI | 003 | 13 | 1.12 EPR | | TRAFFIC PATTERN | E-3A | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N005031AI | 005 | 03 | 110.0 % N1 | 866 C EGT | TAKEOFF POWER | KC-10A | 1000 FT | 230 KTS | TAKEOFF POWER | 19 MAR 87 |
| N005051AI | 005 | 05 | 79.0 % N1 | 604 C EGT | APPROACH POWER | KC-10A | 1000 FT | 165 KTS | APPROACH | 19 MAR 87 |
| N005061AI | 005 | 06 | 90.2 % N1 | 695 C EGT | INTERMEDIATE POWER | KC-10A | 1000 FT | 210 KTS | INTERMEDIATE | 19 MAR 87 |
| N005131AI | 005 | 13 | 60.0 % N1 | 478 C EGT | TRAFFIC PATTERN | KC-10A | 1000 FT | 200 KTS | TRAFFIC PATTERN | 19 MAR 87 |
| N005141AP | 005 | 14 | 100.0 % N1 | 780 C EGT | INTERMED POWER (MIL) | KC-10A | 1000 FT | 230 KTS | INTERMED (MIL) | 19 MAR 87 |
| N006031AI | 006 | 03 | 970 C TIT | 16800 IN-LBS | TAKEOFF POWER | C-130E | 1000 FT | 170 KTS | EST. FROM ACT. TAKEOFF | 27 DEC 79 |
| N006051AI | 006 | 05 | 580 C TIT | 4000 IN-LBS | APPROACH POWER | C-130E | 1000 FT | 140 KTS | EST. FROM ACT. LANDING | 27 DEC 79 |
| N007011BN | 007 | 01 | 101.5 % NC | 10030 LBS/HR | AFTERBURNER POWER | F-18 | 1000 FT | 250 KTS | NO DRAG | 08 FEB 80 |
| N007031BI | 007 | 03 | 101 % NC | 9000 LBS/HR | TAKEOFF POWER | F-18 | 1000 FT | 250 KTS | NO DRAG | 08 FEB 80 |
| N007051BI | 007 | 05 | 86 % NC | 4250 LBS/HR | APPROACH POWER | F-18 | 1000 FT | 250 KTS | FULL DRAG | 08 FEB 80 |
| N007131BI | 007 | 13 | 68 % NC | 2097 LBS/HR | TRAFFIC PATTERN | F-18 | 1000 FT | 250 KTS | NO DRAG | 08 FEB 80 |
| N014031AI | 014 | 03 | 3772 NF | | TAKEOFF POWER | YC-14 | 1000 FT | 120 KTS | FLAPS 20, GEAR UP | 28 FEB 83 |
| N014041AP | 014 | 04 | 2468 NF | | CRUISE POWER | YC-14 | 1000 FT | 250 KTS | NO DRAG | 28 FEB 83 |
| N014051AI | 014 | 05 | 2068 NF | | APPROACH POWER | YC-14 | 1000 FT | 85 KTS | FLAPS 45, GEAR DOWN | 28 FEB 83 |
| N014131AI | 014 | 13 | 2605 NF | | TRAFFIC PATTERN | YC-14 | 1000 FT | 150 KTS | FLAPS 30, GEAR DOWN | 28 FEB 83 |
| N014151AP | 014 | 15 | 3640 NF | | STOL TAKEOFF | YC-14 | 1000 FT | 110 KTS | FLAPS 30, GEAR UP | 28 FEB 83 |
| N014161AP | 014 | 16 | 2118 NF | | STOL APPROACH | YC-14 | 1000 FT | 80 KTS | FLAPS 60, GEAR DOWN | 28 FEB 83 |
| N015031AI | 015 | 03 | 2.25 EPR | 99 % NF | TAKEOFF POWER | YC-15 | 1000 FT | 120 KTS | CTOL TAKEOFF | 28 FEB 83 |
| N015051AI | 015 | 05 | 1.56 EPR | 89 % NF | APPROACH POWER | YC-15 | 1000 FT | 85 KTS | CTOL APPROACH | 28 FEB 83 |
| N015061AP | 015 | 06 | 1.4 EPR | 86 % NF | INTERMEDIATE POWER | YC-15 | 1000 FT | 150 KTS | INTERMEDIATE - CLEAN | 28 FEB 83 |
| N015131AI | 015 | 13 | 1.45 EPR | 77 % NF | TRAFFIC PATTERN | YC-15 | 1000 FT | 150 KTS | TRAFFIC PATTERN DOWNWIND | 28 FEB 83 |
| N015151AP | 015 | 15 | 2.23 EPR | 98.5 % NF | STOL TAKEOFF | YC-15 | 1000 FT | 110 KTS | STOL TAKEOFF | 28 FEB 83 |
| N015161AP | 015 | 16 | 1.55 EPR | 88.5 % NF | STOL APPROACH | YC-15 | 1000 FT | 80 KTS | 42 DEG FLAPS, GEAR DOWN | 28 FEB 83 |
| N022031AI | 022 | 03 | 4.9 EPR | 93 % NF | TAKEOFF POWER | C-5A | 1000 FT | 185 KTS | GEAR DOWN, 40% FLAPS | 08 JAN 90 |
| N022041AI | 022 | 04 | 2.48 EPR | 68 % NF | CRUISE POWER | C-5A | 1000 FT | 250 KTS | NO DRAG | 08 JAN 90 |
| N022051AI | 022 | 05 | 2.99 EPR | 68 % NF | APPROACH POWER | C-5A | 1000 FT | 150 KTS | GEAR DOWN, 100% FLAPS | 08 JAN 90 |
| N022061AI | 022 | 06 | 3.38 EPR | 75 % NF | INTERMEDIATE POWER | C-5A | 1000 FT | 130 KTS | GEAR DOWN, 100% FLAPS | 08 JAN 90 |
| N022131AP | 022 | 13 | 3.07 EPR | 71 % NF | TRAFFIC PATTERN | C-5A | 1000 FT | 165 KTS | GEAR DOWN, 40% FLAPS | 08 JAN 90 |
| N022141AI | 022 | 14 | 4.0 EPR | 80 % NF | INTERMED POWER (MIL) | C-5A | 1000 FT | 185 KTS | GEAR DOWN, 40% FLAPS | 08 JAN 90 |
| N024031AI | 024 | 03 | 99 % RPM | | TAKEOFF POWER | T-37B | 1000 FT | 170 KTS | FLAPS DN, GEAR DN | 27 DEC 79 |
| N024041AP | 024 | 04 | 90 % RPM | | CRUISE POWER | T-37B | 1000 FT | 225 KTS | NO DRAG | 27 DEC 79 |
| N024051AI | 024 | 05 | 80 % RPM | | APPROACH POWER | T-37B | 1000 FT | 105 KTS | FLAPS DN, GEAR DN | 27 DEC 79 |
| N025031AI | 025 | 03 | 100 % RPM | 1.8 EPR | TAKEOFF POWER | C-135B | 1000 FT | 250 KTS | 20 DEGREES FLAPS | 27 DEC 79 |
| N025041AI | 025 | 04 | 76 % RPM | 1.09 EPR | CRUISE POWER | C-135B | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N025051AI | 025 | 05 | 90 % RPM | 1.29 EPR | APPROACH POWER | C-135B | 1000 FT | 160 KTS | 50 DEGREES FLAPS, GEAR DN | 27 DEC 79 |
| N026021AN | 026 | 02 | 96 % RPM | 2.85 EPR | TAKEOFF POWER WET | C-135A | 1000 FT | 200 KTS | FLAPS 20, GEAR UP | 27 DEC 79 |
| N026031AI | 026 | 03 | 96 % RPM | 2.45 EPR | TAKEOFF POWER | C-135A | 1000 FT | 199 KTS | FLAPS 50, GEAR DN | 27 DEC 79 |
| N026041AI | 026 | 04 | 86 % RPM | 1.50 EPR | CRUISE POWER | C-135A | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N026051AI | 026 | 05 | 90 % RPM | 1.75 EPR | APPROACH POWER | C-135A | 1000 FT | 160 KTS | FLAPS 40, GEAR UP | 27 DEC 79 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N027031BI | 027 | 03 | 96 % RPM | 1.90 EPR | TAKEOFF POWER | C-141A | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N027041BI | 027 | 04 | 85 % RPM | 1.52 EPR | CRUISE POWER | C-141A | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N027051BI | 027 | 05 | 68 % RPM | 1.20 EPR | APPROACH POWER | C-141A | 1000 FT | 140 KTS | FLAPS DN, GEAR UP | 27 DEC 79 |
| N027061BP | 027 | 06 | 68 % RPM | 1.20 EPR | INTERMEDIATE POWER | C-141A | 1000 FT | 140 KTS | NO DRAG | 27 DEC 79 |
| N027121BP | 027 | 12 | 91 % RPM | 1.72 EPR | NORMAL RATED THRUST | C-141A | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N028031AI | 028 | 03 | 60 IN HG | 2800 RPM | TAKEOFF POWER | C-131B | 1000 FT | 140 KTS | FLAPS UP, GEAR DOWN | 19 DEC 79 |
| N028041AI | 028 | 04 | 32 IN HG | 2000 RPM | CRUISE POWER | C-131B | 1000 FT | 180 KTS | NO DRAG | 19 DEC 79 |
| N028051AI | 028 | 05 | 27 IN HG | 2400 RPM | APPROACH POWER | C-131B | 1000 FT | 120 KTS | FLAPS 17DEG, GEAR UP | 19 DEC 79 |
| N029031AI | 029 | 03 | 100 % RPM | | TAKEOFF POWER | T-33A | 1000 FT | 200 KTS | SPEED BRAKE ON | 19 DEC 79 |
| N029041AI | 029 | 04 | 90 % RPM | | CRUISE POWER | T-33A | 1000 FT | 300 KTS | NO DRAG | 19 DEC 79 |
| N029051AI | 029 | 05 | 80 % RPM | | APPROACH POWER | T-33A | 1000 FT | 125 KTS | NO DRAG | 19 DEC 79 |
| N030011AN | 030 | 01 | 95 % RPM | 2.05 EPR | AFTERBURNER POWER | F-100D | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N030031AI | 030 | 03 | 94.5 % RPM | 2.0 EPR | TAKEOFF POWER | F-100D | 1000 FT | 299 KTS | NO DRAG | 27 DEC 79 |
| N030041AP | 030 | 04 | 92.3 % RPM | 1.75 EPR | CRUISE POWER | F-100D | 1000 FT | 370 KTS | NO DRAG | 27 DEC 79 |
| N030051AI | 030 | 05 | 89 % RPM | 1.38 EPR | APPROACH POWER | F-100D | 1000 FT | 200 KTS | EST. F-101 -3.2DB | 27 DEC 79 |
| N031011AN | 031 | 01 | 100 % RPM | | AFTERBURNER POWER | F-4C | 1000 FT | 300 KTS | SPEED BRAKE OUT | 30 MAR 88 |
| N031031AI | 031 | 03 | 100 % RPM | | TAKEOFF POWER | F-4C | 1000 FT | 299 KTS | SPEED BRAKE OUT | 30 MAR 88 |
| N031051AI | 031 | 05 | 87 % RPM | | APPROACH POWER | F-4C | 1000 FT | 190 KTS | FLAPS DOWN, GEAR DOWN | 30 MAR 88 |
| N031131AP | 031 | 13 | 86.5 % RPM | | TRAFFIC PATTERN | F-4C | 1000 FT | 200 KTS | TRAFFIC PATTERN | 30 MAR 88 |
| N032031AI | 032 | 03 | 100 % RPM | 1.94 EPR | TAKEOFF POWER | T-39A | 1000 FT | 180 KTS | NO DRAG | 27 DEC 79 |
| N032041AI | 032 | 04 | 89 % RPM | 1.66 EPR | CRUISE POWER | T-39A | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N032051AI | 032 | 05 | 79.5 % RPM | 1.37 EPR | APPROACH POWER | T-39A | 1000 FT | 115 KTS | APP. DRAG CONFIGURATION | 27 DEC 79 |
| N033011AN | 033 | 01 | 100 % RPM | | AFTERBURNER POWER | T-38A | 1000 FT | 300 KTS | SPEED BRAKE ON | 27 DEC 79 |
| N033031AI | 033 | 03 | 100 % RPM | | TAKEOFF POWER | T-38A | 1000 FT | 299 KTS | SPEED BRAKE ON | 27 DEC 79 |
| N033041AI | 033 | 04 | 90 % RPM | | CRUISE POWER | T-38A | 1000 FT | 301 KTS | NO DRAG | 27 DEC 79 |
| N033051AI | 033 | 05 | 91 % RPM | | APPROACH POWER | T-38A | 1000 FT | 170 KTS | FLAPS 60%, GEAR DN | 27 DEC 79 |
| N037051AI | 037 | 05 | 5225 NF | 638 C TIT | APPROACH POWER | A-10A | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 28 FEB 83 |
| N037111AI | 037 | 11 | 6700 NF | 826 C TIT | MAX RATED THRUST | A-10A | 1000 FT | 350 KTS | NO DRAG | 28 FEB 83 |
| N037121AI | 037 | 12 | 6200 NF | 756 C TIT | NORMAL RATED THRUST | A-10A | 1000 FT | 300 KTS | NO DRAG | 28 FEB 83 |
| N037131AI | 037 | 13 | 5325 NF | 646 C TIT | TRAFFIC PATTERN | A-10A | 1000 FT | 160 KTS | NO DRAG | 28 FEB 83 |
| N038011BN | 038 | 01 | 90 % RPM | 900 C TIT | AFTERBURNER POWER | F-16 | 1000 FT | 350 KTS | NO DRAG | 24 JUN 87 |
| N038031BI | 038 | 03 | 90 % RPM | 900 C TIT | TAKEOFF POWER | F-16 | 1000 FT | 350 KTS | NO DRAG | 24 JUN 87 |
| N038051BI | 038 | 05 | 82 % RPM | 650 C TIT | APPROACH POWER | F-16 | 1000 FT | 130 KTS | GEAR AND FLAPS DOWN | 24 JUN 87 |
| N038061BI | 038 | 06 | 85 % RPM | 750 C TIT | INTERMEDIATE POWER | F-16 | 1000 FT | 300 KTS | NO DRAG | 24 JUN 87 |
| N038131BI | 038 | 13 | 75 % RPM | 530 C TIT | TRAFFIC PATTERN | F-16 | 1000 FT | 200 KTS | NO DRAG | 24 JUN 87 |
| N038141BI | 038 | 14 | 92.0 % RPM | 960 C TIT | INTERMED POWER (MIL) | F-16 | 1000 FT | 350 KTS | MIL | 24 JUN 87 |
| N039011BN | 039 | 01 | 97.5 % RPM | 874 C EGT | AFTERBURNER POWER | B-1 | 1000 FT | 275 KTS | GEAR AND FLAPS UP | 18 AUG 88 |
| N039041BP | 039 | 04 | 89.9 % RPM | 611 C EGT | CRUISE POWER | B-1 | 1000 FT | 360 KTS | GEAR AND FLAPS UP | 18 AUG 88 |
| N039051BI | 039 | 05 | 90 % RPM | 600 C EGT | APPROACH POWER | B-1 | 1000 FT | 165 KTS | APPROACH | 10 FEB 89 |
| N039141BI | 039 | 14 | 98.5 % RPM | 877 C EGT | INTERMED POWER (MIL) | B-1 | 1000 FT | 270 KTS | GEAR AND FLAPS UP | 18 AUG 88 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N043021AN | 043 | 02 | 94 % RPM | 2.77 EPR | TAKEOFF-WET | B-52G | 1000 FT | 170 KTS | EST. FROM B-52G T/O | 10 NOV 87 |
| N043031AI | 043 | 03 | 94 % RPM | 2.37 EPR | TAKEOFF POWER | B-52G | 1000 FT | 170 KTS | NO DRAG | 10 NOV 87 |
| N043041AI | 043 | 04 | 83.5 % RPM | 1.48 EPR | CRUISE POWER | B-52G | 1000 FT | 250 KTS | NO DRAG | 10 NOV 87 |
| N043051AI | 043 | 05 | 86 % RPM | 1.57 EPR | APPROACH POWER | B-52G | 1000 FT | 140 KTS | FLAPS AND GEAR DOWN | 10 NOV 87 |
| N044031AI | 044 | 03 | 8200 LBS/HR | 1.65 EPR | TAKEOFF POWER | B-52H | 1000 FT | 170 KTS | NO DRAG | 27 DEC 79 |
| N044041AI | 044 | 04 | 2110 LBS/HR | 1.10 EPR | CRUISE POWER | B-52H | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N044051AI | 044 | 05 | 3965 LBS/HR | 1.25 EPR | APPROACH POWER | B-52H | 1000 FT | 150 KTS | APP. DRAG CONFIGURATION | 27 DEC 79 |
| N045011AN | 045 | 01 | 100 % RPM | | AFTERBURNER POWER | F-104G | 1000 FT | 240 KTS | NO DRAG | 27 DEC 79 |
| N045031AI | 045 | 03 | 100 % RPM | | TAKEOFF POWER | F-104G | 1000 FT | 239 KTS | NO DRAG | 27 DEC 79 |
| N045041AI | 045 | 04 | 92 % RPM | | CRUISE POWER | F-104G | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N045051AI | 045 | 05 | 95 % RPM | | APPROACH POWER | F-104G | 1000 FT | 190 KTS | GEAR DOWN | 27 DEC 79 |
| N045061AP | 045 | 06 | 92 % RPM | | INTERMEDIATE POWER | F-104G | 1000 FT | 300 KTS | GEAR DOWN | 27 DEC 79 |
| N046011AN | 046 | 01 | 101 % RPM | | AFTERBURNER POWER | F-5E | 1000 FT | 350 KTS | NO DRAG | 27 DEC 79 |
| N046031AI | 046 | 03 | 101 % RPM | | TAKEOFF POWER | F-5E | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N046041AP | 046 | 04 | 86 % RPM | | CRUISE POWER | F-5E | 1000 FT | 325 KTS | NO DRAG | 27 DEC 79 |
| N046051AI | 046 | 05 | 82 % RPM | | APPROACH POWER | F-5E | 1000 FT | 170 KTS | LANDING CONFIGURATION | 27 DEC 79 |
| N061011AN | 061 | 01 | 91 % RPM | | AFTERBURNER POWER | F-15A | 1000 FT | 350 KTS | NO DRAG | 28 FEB 83 |
| N061031AI | 061 | 03 | 90 % RPM | | TAKEOFF POWER | F-15A | 1000 FT | 300 KTS | NO DRAG | 28 FEB 83 |
| N061041AP | 061 | 04 | 73.5 % RPM | | CRUISE POWER | F-15A | 1000 FT | 280 KTS | NO DRAG | 28 FEB 83 |
| N061051AI | 061 | 05 | 75 % RPM | | APPROACH POWER | F-15A | 1000 FT | 170 KTS | LANDING CONFIGURATION | 28 FEB 83 |
| N070031AI | 070 | 03 | 100 % RPM | | TAKEOFF POWER | B-57E | 1000 FT | 200 KTS | GEAR DOWN | 27 DEC 79 |
| N070051AI | 070 | 05 | 82 % RPM | | APPROACH POWER | B-57E | 1000 FT | 150 KTS | GEAR DOWN | 27 DEC 79 |
| N070061AI | 070 | 06 | 92 % RPM | | INTERMEDIATE POWER | B-57E | 1000 FT | 280 KTS | NO DRAG | 27 DEC 79 |
| N071011AN | 071 | 01 | 96.5 % RPM | | AFTERBURNER POWER | F-101B | 1000 FT | 350 KTS | SPEED BRAKE ON | 27 DEC 79 |
| N071031AI | 071 | 03 | 96.0 % RPM | | TAKEOFF POWER | F-101B | 1000 FT | 350 KTS | SPEED BRAKE ON | 27 DEC 79 |
| N071051AI | 071 | 05 | 89 % RPM | | APPROACH POWER | F-101B | 1000 FT | 200 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N071061AP | 071 | 06 | 88 % RPM | | INTERMEDIATE POWER | F-101B | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N072031AI | 072 | 03 | 50 IN HG | 2700 RPM | TAKEOFF POWER | C-7A | 1000 FT | 160 KTS | GEAR DOWN | 27 DEC 79 |
| N072051AI | 072 | 05 | 27 IN HG | 2250 RPM | APPROACH POWER | C-7A | 1000 FT | 90 KTS | GEAR DOWN | 27 DEC 79 |
| N072061AI | 072 | 06 | 35 IN HG | 2550 RPM | INTERMEDIATE POWER | C-7A | 1000 FT | 140 KTS | NO DRAG | 27 DEC 79 |
| N073031AI | 073 | 03 | 1.97 EPR | | TAKEOFF POWER | C-9A | 1000 FT | 250 KTS | GEAR DOWN | 27 DEC 79 |
| N073051AI | 073 | 05 | 1.35 EPR | | APPROACH POWER | C-9A | 1000 FT | 160 KTS | GEAR DOWN | 27 DEC 79 |
| N073061AI | 073 | 06 | 1.70 EPR | | INTERMEDIATE POWER | C-9A | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N074031AI | 074 | 03 | 39 IN HG | 2900 RPM | TAKEOFF POWER | C-119L | 1000 FT | 135 KTS | NO DRAG | 27 DEC 79 |
| N074051AI | 074 | 05 | 33.6 IN HG | 2600 RPM | APPROACH POWER | C-119L | 1000 FT | 120 KTS | FLAPS DOWN | 27 DEC 79 |
| N074061AP | 074 | 06 | 33.5 IN HG | 2000 RPM | INTERMEDIATE POWER | C-119L | 1000 FT | 150 KTS | NO DRAG | 27 DEC 79 |
| N075031AI | 075 | 03 | 58 IN HG | 2900 RPM | TAKEOFF POWER | C-121 | 1000 FT | 165 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N075041AP | 075 | 04 | 33 IN HG | 2350 RPM | CRUISE POWER | C-121 | 1000 FT | 150 KTS | NO DRAG | 27 DEC 79 |
| N075051AI | 075 | 05 | 35 IN HG | 2600 RPM | APPROACH POWER | C-121 | 1000 FT | 140 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N075061AP | 075 | 06 | 40 IN HG | 2350 RPM | INTERMEDIATE POWER | C-121 | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N076031AI | 076 | 03 | 45 IN HG | | TAKEOFF POWER | U-4B | 1000 FT | 170 KTS | 10% FLAPS, GEAR DOWN | 27 DEC 79 |
| N076051AI | 076 | 05 | 24 IN HG | | APPROACH POWER | U-4B | 1000 FT | 100 KTS | 40% FLAPS, GEAR DOWN | 27 DEC 79 |
| N076061AP | 076 | 06 | 30 IN HG | | INTERMEDIATE POWER | U-4B | 1000 FT | 180 KTS | NO DRAG | 27 DEC 79 |
| N077011AN | 077 | 01 | 102.5 % RPM | | AFTERBURNER POWER | F-105D | 1000 FT | 350 KTS | NO DRAG | 27 DEC 79 |
| N077031AI | 077 | 03 | 102 % RPM | | TAKEOFF POWER | F-105D | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N077051AI | 077 | 05 | 96.5 % RPM | | APPROACH POWER | F-105D | 1000 FT | 210 KTS | APP. DRAG CONFIGURATION | 27 DEC 79 |
| N077061AI | 077 | 06 | 93 % RPM | | INTERMEDIATE POWER | F-105D | 1000 FT | 290 KTS | NO DRAG | 27 DEC 79 |
| N078011AN | 078 | 01 | 108 % RPM | 2.45 EPR | AFTERBURNER POWER | F-106 | 1000 FT | 350 KTS | SPEED BRAKE ON | 27 DEC 79 |
| N078031AI | 078 | 03 | 106 % RPM | 2.3 EPR | TAKEOFF POWER | F-106 | 1000 FT | 350 KTS | GEAR DOWN | 27 DEC 79 |
| N078051AI | 078 | 05 | 93 % RPM | 1.7 EPR | APPROACH POWER | F-106 | 1000 FT | 200 KTS | GEAR DOWN | 27 DEC 79 |
| N078061AI | 078 | 06 | 86.5 % RPM | 1.4 EPR | INTERMEDIATE POWER | F-106 | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N079011AN | 079 | 01 | 97 % RPM | | AFTERBURNER POWER | F-111F | 1000 FT | 350 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N079031AI | 079 | 03 | 97 % RPM | | TAKEOFF POWER | F-111F | 1000 FT | 300 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N079051AI | 079 | 05 | 81 % RPM | | APPROACH POWER | F-111F | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N079061AI | 079 | 06 | 86 % RPM | | INTERMEDIATE POWER | F-111F | 1000 FT | 350 KTS | NO DRAG | 27 DEC 79 |
| N080011AN | 080 | 01 | 100 % RPM | | AFTERBURNER POWER | FB-111A | 1000 FT | 250 KTS | GEAR AND FLAPS DOWN | 28 FEB 83 |
| N080031AI | 080 | 03 | 100 % RPM | | TAKEOFF POWER | FB-111A | 1000 FT | 240 KTS | GEAR AND FLAPS DOWN | 28 FEB 83 |
| N080051AI | 080 | 05 | 92 % RPM | | APPROACH POWER | FB-111A | 1000 FT | 160 KTS | APPROACH | 10 FEB 89 |
| N081031AI | 081 | 03 | 59 IN HG | 2700 RPM | TAKEOFF POWER | KC-97L | 1000 FT | 190 KTS | FLAPS 55, GEAR UP | 27 DEC 79 |
| N081051AI | 081 | 05 | 35 IN HG | 2350 RPM | APPROACH POWER | KC-97L | 1000 FT | 125 KTS | FLAPS 33, GEAR DOWN | 27 DEC 79 |
| N081081AP | 081 | 08 | 59 IN HG | 2700 RPM | TAKEOFF WITH JETS | KC-97L | 1000 FT | 230 KTS | FLAPS 55, GEAR UP | 27 DEC 79 |
| N081091AP | 081 | 09 | 35 IN HG | 2350 RPM | APPROACH WITH JETS | KC-97L | 1000 FT | 130 KTS | FLAPS 33, GEAR DOWN | 27 DEC 79 |
| N082031AI | 082 | 03 | 100 % RPM | | TAKEOFF POWER | OV-10A | 1000 FT | 150 KTS | GEAR DOWN | 27 DEC 79 |
| N082051AI | 082 | 05 | 97 % RPM | | APPROACH POWER | OV-10A | 1000 FT | 100 KTS | FLAPS 20, GEAR DOWN | 27 DEC 79 |
| N082061AP | 082 | 06 | 97 % RPM | | INTERMEDIATE POWER | OV-10A | 1000 FT | 140 KTS | NO DRAG | 27 DEC 79 |
| N083031AI | 083 | 03 | 1.97 EPR | | TAKEOFF POWER | T-43A | 1000 FT | 200 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N083051AI | 083 | 05 | 1.46 EPR | | APPROACH POWER | T-43A | 1000 FT | 140 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N083061AI | 083 | 06 | 1.21 EPR | | INTERMEDIATE POWER | T-43A | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N084031AI | 084 | 03 | 1.84 EPR | 107.7 % RPM | TAKEOFF POWER | C-18A | 1000 FT | 300 KTS | TAKEOFF | 28 DEC 88 |
| N084041AI | 084 | 04 | 1.12 EPR | 75.0 % RPM | CRUISE POWER | C-18A | 1000 FT | 250 KTS | CRUISE | 28 DEC 88 |
| N084051AI | 084 | 05 | 1.26 EPR | 82.3 % RPM | APPROACH POWER | C-18A | 1000 FT | 140 KTS | APPROACH(NO INLET SUPPRS) | 28 DEC 88 |
| N085031AI | 085 | 03 | 96.0 % RPM | 817 C EGT | TAKEOFF POWER | C-21A | 1000 FT | 300 KTS | TAKEOFF POWER | 13 JUL 88 |
| N085051AI | 085 | 05 | 70.4 % RPM | 617 C EGT | APPROACH POWER | C-21A | 1000 FT | 140 KTS | APPROACH | 13 JUL 88 |
| N085061AI | 085 | 06 | 80.0 % RPM | 679 C EGT | INTERMEDIATE POWER | C-21A | 1000 FT | 225 KTS | INTERMEDIATE | 13 JUL 88 |
| N085181AI | 085 | 18 | 60.0 % RPM | 546 C EGT | FLT IDLE-250 KNOTS | C-21A | 1000 FT | 250 KTS | FLT IDLE-250 KNOTS | 13 JUL 88 |
| N086051AI | 086 | 05 | 66.5 % N1 | 567 C EGT | APPROACH POWER | KC-135R | 1000 FT | 150 KTS | APPROACH | 14 JUL 88 |
| N086061AI | 086 | 06 | 80.3 % N1 | 670 C EGT | INTERMEDIATE POWER | KC-135R | 1000 FT | 240 KTS | INTERMEDIATE | 14 JUL 88 |
| N086111AI | 086 | 11 | 89.6 % N1 | 767 C EGT | MAX RATED THRUST | KC-135R | 1000 FT | 300 KTS | MAX THRUST | 14 JUL 8d |
| N086131AP | 086 | 13 | 70.5 % N1 | 580 C EGT | TRAFFIC PATTERN | KC-135R | 1000 FT | 225 KTS | TRAFFIC PATTERN | 14 JUL 88 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N130031AI | 130 | 03 | 100 % RPM | 2.4 EPR | TAKEOFF POWER | A-4C | 1000 FT | 250 KTS | | 27 DEC 79 |
| N130041AI | 130 | 04 | 83 % RPM | 1.5 EPR | CRUISE POWER | A-4C | 1000 FT | 300 KTS | NO DRAG | 27 DEC 79 |
| N130051AI | 130 | 05 | 93 % RPM | 1.8 EPR | APPROACH POWER | A-4C | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N131011AN | 131 | 01 | 100 % RPM | | AFTERBURNER POWER | A-5C | 1000 FT | 250 KTS | | 27 DEC 79 |
| N131031AI | 131 | 03 | 100 % RPM | | TAKEOFF POWER | A-5C | 1000 FT | 249 KTS | NO DRAG | 27 DEC 79 |
| N131051AI | 131 | 05 | 83 % RPM | | APPROACH POWER | A-5C | 1000 FT | 160 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N132031AI | 132 | 03 | 100 % RPM | 2.05 EPR | TAKEOFF POWER | A-6A | 1000 FT | 250 KTS | | 27 DEC 79 |
| N132051AI | 132 | 05 | 95 % RPM | 1.8 EPR | APPROACH POWER | A-6A | 1000 FT | 160 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N133031AI | 133 | 03 | 96 % RPM | | TAKEOFF POWER | A-7E | 1000 FT | 300 KTS | | 27 DEC 79 |
| N133041AP | 133 | 04 | 85 % RPM | | CRUISE POWER | A-7E | 1000 FT | 301 KTS | NO DRAG | 27 DEC 79 |
| N133051AI | 133 | 05 | 82 % RPM | | APPROACH POWER | A-7E | 1000 FT | 160 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N134031AI | 134 | 03 | 103.5 % RPM | | TAKEOFF POWER | AV-8A | 1000 FT | 300 KTS | | 27 DEC 79 |
| N134041AI | 134 | 04 | 75 % RPM | | CRUISE POWER | AV-8A | 1000 FT | 350 KTS | NO DRAG | 27 DEC 79 |
| N134051AI | 134 | 05 | 70 % RPM | | APPROACH POWER | AV-8A | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N136011AN | 136 | 01 | 100 % RPM | | AFTERBURNER POWER | F-14A | 1000 FT | 300 KTS | | 27 DEC 79 |
| N136031AI | 136 | 03 | 100 % RPM | | TAKEOFF POWER | F-14A | 1000 FT | 299 KTS | | 27 DEC 79 |
| N136041AI | 136 | 04 | 82.5 % RPM | | CRUISE POWER | F-14A | 1000 FT | 350 KTS | NO DRAG | 27 DEC 79 |
| N136051AI | 136 | 05 | 85 % RPM | | APPROACH POWER | F-14A | 1000 FT | 150 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N137031AI | 137 | 03 | 3875 ESHP | | TAKEOFF POWER | P-3A | 1000 FT | 140 KTS | | 27 DEC 79 |
| N137041AI | 137 | 04 | 2000 ESHP | | CRUISE POWER | P-3A | 1000 FT | 180 KTS | NO DRAG | 27 DEC 79 |
| N137051AI | 137 | 05 | 900 ESHP | | APPROACH POWER | P-3A | 1000 FT | 120 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N138031AI | 138 | 03 | 3.03 EPR | 97.2 % RPM | TAKEOFF POWER | S-3A | 1000 FT | 250 KTS | | 27 DEC 79 |
| N138041AI | 138 | 04 | 1.77 EPR | 60 % RPM | CRUISE POWER | S-3A | 1000 FT | 251 KTS | | 27 DEC 79 |
| N138051AI | 138 | 05 | 2.0 EPR | 69 % RPM | APPROACH POWER | S-3A | 1000 FT | 140 KTS | | 27 DEC 79 |
| N139031AI | 139 | 03 | 101.7 % RPM | | TAKEOFF POWER | T-2C | 1000 FT | 180 KTS | | 27 DEC 79 |
| N139041AP | 139 | 04 | 75.0 % RPM | | CRUISE POWER | T-2C | 1000 FT | 250 KTS | NO DRAG | 27 DEC 79 |
| N139051AI | 139 | 05 | 72.5 % RPM | | APPROACH POWER | T-2C | 1000 FT | 140 KTS | GEAR AND FLAPS DOWN | 27 DEC 79 |
| N140031AI | 140 | 03 | 95 % RPM | | TAKEOFF POWER | AV-8B | 1000 FT | 300 KTS | | 28 FEB 83 |
| N140051AI | 140 | 05 | 84 % RPM | | APPROACH POWER | AV-8B | 1000 FT | 150 KTS | | 28 FEB 83 |
| N140131AI | 140 | 13 | 70 % RPM | | TRAFFIC PATTERN | AV-8B | 1000 FT | 230 KTS | | 28 FEB 83 |
| N140171AI | 140 | 17 | 40 % RPM | | FLIGHT IDLE | AV-8B | 1000 FT | 350 KTS | | 10 NOV 83 |
| N504031BI | 504 | 03 | 100 % RPM | | TAKEOFF POWER | A-37 | 1000 FT | 300 KTS | EST. T-38 +0.0DB | 27 DEC 79 |
| N504041BI | 504 | 04 | 90 % RPM | | CRUISE POWER | A-37 | 1000 FT | 300 KTS | EST. T-38 +0.0DB | 27 DEC 79 |
| N504051BI | 504 | 05 | 91 % RPM | | APPROACH POWER | A-37 | 1000 FT | 170 KTS | EST. T-38 +0.0DB | 27 DEC 79 |
| N507031AI | 507 | 03 | 60 IN HG | 2800 RPM | TAKEOFF POWER | C-118 | 1000 FT | 140 KTS | EST. C-131 +3.0DB | 27 DEC 79 |
| N507041AI | 507 | 04 | 32 IN HG | 2000 RPM | CRUISE POWER | C-118 | 1000 FT | 180 KTS | EST. C-131 +3.0DB | 27 DEC 79 |
| N507051AI | 507 | 05 | 27 IN HG | 2400 RPM | APPROACH POWER | C-118 | 1000 FT | 120 KTS | EST. C-131 +3.0DB | 27 DEC 79 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N508031AI | 508 | 03 | 100 % RPM | 1.94 EPR | TAKEOFF POWER | C-140 | 1000 FT | 180 KTS | EST. T-39 +3.0DB | 27 DEC 79 |
| N508041AI | 508 | 04 | 89 % RPM | 1.66 EPR | CRUISE POWER | C-140 | 1000 FT | 250 KTS | EST. T-39 +3.0DB | 27 DEC 79 |
| N508051AI | 508 | 05 | 79.5 % RPM | 1.37 EPR | APPROACH POWER | C-140 | 1000 FT | 115 KTS | EST. T-39 +3.0DB | 27 DEC 79 |
| N509011AN | 509 | 01 | 101 % RPM | | AFTERBURNER POWER | F-5A&B | 1000 FT | 350 KTS | EST. F-5E -.9DB | 27 DEC 79 |
| N509031AI | 509 | 03 | 101 % RPM | | TAKEOFF POWER | F-5A&B | 1000 FT | 300 KTS | EST. F-5E -.9DB | 27 DEC 79 |
| N509041AP | 509 | 04 | 86 % RPM | | CRUISE POWER | F-5A&B | 1000 FT | 325 KTS | EST. F-5E -.9DB | 27 DEC 79 |
| N509051AI | 509 | 05 | 82 % RPM | | APPROACH POWER | F-5A&B | 1000 FT | 170 KTS | EST. F-5E -.9DB | 27 DEC 79 |
| N510011AN | 510 | 01 | 97 % RPM | | AFTERBURNER POWER | F-111A&E | 1000 FT | 350 KTS | EST. F-111F -1.3DB | 27 DEC 79 |
| N510031AI | 510 | 03 | 97 % RPM | | TAKEOFF POWER | F-111A&E | 1000 FT | 300 KTS | EST. F-111F -1.3DB | 27 DEC 79 |
| N510051AI | 510 | 05 | 81 % RPM | | APPROACH POWER | F-111A&E | 1000 FT | 150 KTS | EST. F-111F -1.3DB | 27 DEC 79 |
| N510061AI | 510 | 06 | 86 % RPM | | INTERMEDIATE POWER | F-111A&E | 1000 FT | 350 KTS | EST. F-111F -1.3DB | 27 DEC 79 |
| N511011AN | 511 | 01 | 97 % RPM | | AFTERBURNER POWER | F-111D | 1000 FT | 350 KTS | EST. F-111F -.8DB | 27 DEC 79 |
| N511031AI | 511 | 03 | 97 % RPM | | TAKEOFF POWER | F-111D | 1000 FT | 300 KTS | EST. F-111F -.8DB | 27 DEC 79 |
| N511051AI | 511 | 05 | 81 % RPM | | APPROACH POWER | F-111D | 1000 FT | 150 KTS | EST. F-111F -.8DB | 27 DEC 79 |
| N511061AI | 511 | 06 | 86 % RPM | | INTERMEDIATE POWER | F-111D | 1000 FT | 350 KTS | EST. F-111F -.8DB | 27 DEC 79 |
| N512011AN | 512 | 01 | 95 % RPM | 2.05 EPR | AFTERBURNER POWER | F-102 | 1000 FT | 300 KTS | EST. F-100 +0.0DB | 27 DEC 79 |
| N512031AI | 512 | 03 | 94.5 % RPM | 2.0 EPR | TAKEOFF POWER | F-102 | 1000 FT | 300 KTS | EST. F-100 +0.0DB | 27 DEC 79 |
| N512041AP | 512 | 04 | 92.3 % RPM | 1.75 EPR | CRUISE POWER | F-102 | 1000 FT | 370 KTS | EST. F-100 +0.0DB | 27 DEC 79 |
| N512051AI | 512 | 05 | 89 % RPM | 1.38 EPR | APPROACH POWER | F-102 | 1000 FT | 200 KTS | EST. F-100 +0.0DB | 27 DEC 79 |
| N513031AI | 513 | 03 | 96 % RPM | | TAKEOFF POWER | A-3 | 1000 FT | 350 KTS | EST. F-101 +0.0DB | 27 DEC 79 |
| N513051AI | 513 | 05 | 89 % RPM | | APPROACH POWER | A-3 | 1000 FT | 200 KTS | EST. F-101 +0.0DB | 27 DEC 79 |
| N513061AP | 513 | 06 | 88 % RPM | | INTERMEDIATE POWER | A-3 | 1000 FT | 300 KTS | EST. F-101 +0.0DB | 27 DEC 79 |
| N516031AI | 516 | 03 | 60 IN HG | 2800 RPM | TAKEOFF POWER | T-29 | 1000 FT | 140 KTS | EST. C-131 +0.0DB | 27 DEC 79 |
| N516041AI | 516 | 04 | 32 IN HG | 2000 RPM | CRUISE POWER | T-29 | 1000 FT | 180 KTS | EST. C-131 +0.0DB | 27 DEC 79 |
| N516051AI | 516 | 05 | 27 IN HG | 2400 RPM | APPROACH POWER | T-29 | 1000 FT | 120 KTS | EST. C-131 +0.0DB | 27 DEC 79 |
| N517011AN | 517 | 01 | 100 % RPM | | AFTERBURNER POWER | SR-71 | 1000 FT | 200 KTS | | 27 DEC 79 |
| N517031AI | 517 | 03 | 70 % RPM | | TAKEOFF POWER | SR-71 | 1000 FT | 200 KTS | | 27 DEC 79 |
| N517051AI | 517 | 05 | 30 % RPM | | APPROACH POWER | SR-71 | 1000 FT | 200 KTS | | 27 DEC 79 |
| N518031AI | 518 | 03 | 102 % RPM | | TAKEOFF POWER | U-2 | 1000 FT | 300 KTS | EST. F-105 + 0.2 DB | 27 DEC 79 |
| N518051AI | 518 | 05 | 96.5 % RPM | | APPROACH POWER | U-2 | 1000 FT | 210 KTS | EST. F-105 + 0.2 DB | 27 DEC 79 |
| N518061AI | 518 | 06 | 93 % RPM | | INTERMEDIATE POWER | U-2 | 1000 FT | 290 KTS | EST. F-105 + 0.2 DB | 27 DEC 79 |
| N519021AN | 519 | 02 | 94 % RPM | 2.77 EPR | TAKEOFF POWER-WET | B-52B&D&E | 1000 FT | 170 KTS | B-52G -0.6DB | 27 DEC 79 |
| N519031AI | 519 | 03 | 94 % RPM | 2.37 EPR | TAKEOFF POWER | B-52B&D&E | 1000 FT | 170 KTS | B-52G -0.6DB | 27 DEC 79 |
| N519041AI | 519 | 04 | 83.5 % RPM | 1.48 EPR | CRUISE POWER | B-52B&D&E | 1000 FT | 250 KTS | B-52G -0.6DB | 27 DEC 79 |
| N519051AI | 519 | 05 | 86 % RPM | 1.57 EPR | APPROACH POWER | B-52B&D&E | 1000 FT | 140 KTS | B-52G -0.6DB | 27 DEC 79 |
| N520031AI | 520 | 03 | 970 C TIT | 16800 IN-LBS | TAKEOFF POWER | C-130A&D | 1000 FT | 170 KTS | EST. C-130E -0.4DB | 27 DEC 79 |
| N520051AI | 520 | 05 | 580 C TIT | 4000 IN-LBS | APPROACH POWER | C-130A&D | 1000 FT | 140 KTS | EST. C-130E -0.4DB | 27 DEC 79 |
| N521031AI | 521 | 03 | 970 C TIT | 16800 IN-LBS | TAKEOFF POWER | C-130H&N&P | 1000 FT | 170 KTS | EST. C-130E +0.9 DB | 27 DEC 79 |
| N521051AI | 521 | 05 | 580 C TIT | 4000 IN-LBS | APPROACH POWER | C-130H&N&P | 1000 FT | 140 KTS | EST. C-130E +0.9 DB | 27 DEC 79 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

SUMMARY OF FLYOVER DATA IN NOISEFILE 6.1 07 MAY 91 PAGE 7

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N523031AI | 523 | 03 | 2800 RPM | 60 IN HG | TAKEOFF | C-123K | 1000 FT | 140 KTS | EST. C-131 +0DB | 27 DEC 79 |
| N523051AI | 523 | 05 | 2400 RPM | 27 IN HG | APPROACH | C-123K | 1000 FT | 120 KTS | EST. C-131 +0DB | 27 DEC 79 |
| N523081AP | 523 | 08 | 2800 RPM | 100 % RPM | TAKEOFF WITH JETS | C-123K | 1000 FT | 200 KTS | EST. C-131 +T-38 | 27 DEC 79 |
| N523091AP | 523 | 09 | 2400 RPM | 91 % RPM | APPROACH WITH JETS | C-123K | 1000 FT | 150 KTS | EST. C-131 +T-38 | 27 DEC 79 |
| N527011AN | 527 | 01 | 95 % RPM | | AFTERBURNER | F-8 | 1000 FT | 300 KTS | EST. F-100D +0.5DB | 27 DEC 79 |
| N527031AI | 527 | 03 | 94.5 % RPM | | TAKEOFF | F-8 | 1000 FT | 300 KTS | EST. F-100D +0.5DB | 27 DEC 79 |
| N527041AP | 527 | 04 | 92.3 % RPM | | CRUISE | F-8 | 1000 FT | 370 KTS | EST. F-100D +0.5DB | 27 DEC 79 |
| N527051AI | 527 | 05 | 89 % RPM | | APPROACH | F-8 | 1000 FT | 200 KTS | EST. F-100D +0.5DB | 27 DEC 79 |
| N535031AI | 535 | 03 | 100 % RPM | | TAKEOFF | C-12 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 89 |
| N535051AI | 535 | 05 | 30 % RPM | | LANDING | C-12 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 39 |
| N536031AI | 536 | 03 | 30000 LBS | | TAKEOFF | C-17 | 1000 FT | 160 KTS | ESTIM 757-200 +3 DB | 14 FEB 89 |
| N536041AI | 536 | 04 | 10000 LBS | | CRUISE | C-17 | 1000 FT | 160 KTS | ESTIM 757-200 +3 DB | 14 FEB 89 |
| N536051AI | 536 | 05 | 5000 LBS | | APPROACH | C-17 | 1000 FT | 160 KTS | ESTIM 757-200 +3 DB | 14 FEB 89 |
| N540031AI | 540 | 03 | 15000 LBS | | TAKEOFF | C-137 | 1000 FT | 160 KTS | INM10 B-707 + 0.00dB | 26 NOV 89 |
| N540051AI | 540 | 05 | 4000 LBS | | LANDING | C-137 | 1000 FT | 160 KTS | INM10 B-707 + 0.00dB | 26 NOV 89 |
| N541031AI | 541 | 03 | 14000 LBS | | TAKEOFF | C-20 | 1000 FT | 160 KTS | INM37 BAC-111 + 0.00dB | 26 NOV 89 |
| N541041AI | 541 | 04 | 6000 LBS | | CRUISE | C-20 | 1000 FT | 160 KTS | INM37 BAC-111 + 0.00dB | 26 NOV 89 |
| N541051AI | 541 | 05 | 3000 LBS | | LANDING | C-20 | 1000 FT | 160 KTS | INM37 BAC-111 + 0.00dB | 26 NOV 89 |
| N542031AI | 542 | 03 | 14000 LBS | | TAKEOFF | C-22 | 1000 FT | 160 KTS | INM24 B-727 + 0.00dB | 26 NOV 89 |
| N542041AI | 542 | 04 | 6000 LBS | | CRUISE | C-22 | 1000 FT | 160 KTS | INM24 B-727 + 0.00dB | 26 NOV 89 |
| N542051AI | 542 | 05 | 3000 LBS | | LANDING | C-22 | 1000 FT | 160 KTS | INM24 B-727 + 0.00dB | 26 NOV 89 |
| N547031AI | 547 | 03 | 100 % RPM | | TAKEOFF | C-23 | 1000 FT | 160 KTS | INM73 CESSNA + 0.00dB | 26 NOV 89 |
| N547051AI | 547 | 05 | 30 % RPM | | LANDING | C-23 | 1000 FT | 160 KTS | INM73 CESSNA + 0.00dB | 26 NOV 89 |
| N548031AI | 548 | 03 | 40000 LBS | | TAKEOFF | E-4 | 1000 FT | 160 KTS | INM02 B-747 + 0.00dB | 26 NOV 89 |
| N548041AI | 548 | 04 | 16000 LBS | | CRUISE | E-4 | 1000 FT | 160 KTS | INM02 B-747 + 0.00dB | 26 NOV 89 |
| N548051AI | 548 | 05 | 8000 LBS | | LANDING | E-4 | 1000 FT | 160 KTS | INM02 B-747 + 0.00dB | 26 NOV 89 |
| N548061AI | 548 | 06 | 32000 LBS | | INTERMEDIATE | E-4 | 1000 FT | 160 KTS | INM02 B-747 + 0.00dB | 26 NOV 89 |
| N549031AI | 549 | 03 | 100 % RPM | | TAKEOFF | T-34 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N549051AI | 549 | 05 | 30 % RPM | | LANDING | T-34 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N550031AI | 550 | 03 | 100 % RPM | | TAKEOFF | T-41 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N550051AI | 550 | 05 | 30 % RPM | | LANDING | T-41 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N551031AI | 551 | 03 | 100 % RPM | | TAKEOFF | T-42 | 1000 FT | 160 KTS | INM76 BEECH BARON + 0.0dB | 26 NOV 89 |
| N551051AI | 551 | 05 | 30 % RPM | | LANDING | T-42 | 1000 FT | 160 KTS | INM76 BEECH BARON + 0.0dB | 26 NOV 89 |
| N552031AI | 552 | 03 | 100 % RPM | | TAKEOFF | T-44 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 89 |
| N552051AI | 552 | 05 | 30 % RPM | | LANDING | T-44 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 89 |
| N553031AI | 553 | 03 | 1550 LBS | | TAKEOFF | T-45 | 1000 FT | 160 KTS | INM57 CESSNA BUS JET+ 0dB | 26 NOV 89 |
| N553041AI | 553 | 04 | 600 LBS | | CRUISE | T-45 | 1000 FT | 160 KTS | INM57 CESSNA BUS JET+ 0dB | 26 NOV 89 |
| N553051AI | 553 | 05 | 300 LBS | | LANDING | T-45 | 1000 FT | 160 KTS | INM57 CESSNA BUS JET+ 0dB | 26 NOV 89 |
| N553061AI | 553 | 06 | 1200 LBS | | INTERMEDIATE | T-45 | 1000 FT | 160 KTS | INM57 CESSNA BUS JET+ 0dB | 26 NOV 89 |

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING FIRST | VALUE&UNITS SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | DRAG CONFIGURATION | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N554031AI | 554 | 03 | 102 % RPM | | TAKEOFF POWER | TR-1 | 1000 FT | 300 KTS | F-105 + 0.00dB | 26 NOV 89 |
| N554051AI | 554 | 05 | 96.5 % RPM | | APPROACH POWER | TR-1 | 1000 FT | 210 KTS | F-105 + 0.00dB | 26 NOV 89 |
| N554061AI | 554 | 06 | 93 % RPM | | INTERMEDIATE POWER | TR-1 | 1000 FT | 290 KTS | F-105 + 0.00dB | 26 NOV 89 |
| N555031AI | 555 | 03 | 100 % RPM | | TAKEOFF | U-6 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N555051AI | 555 | 05 | 30 % RPM | | LANDING | U-6 | 1000 FT | 160 KTS | INM75 SINGLE ENGINE PROP | 26 NOV 89 |
| N556031AI | 556 | 03 | 100 % RPM | | TAKEOFF | U-21 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 89 |
| N556051AI | 556 | 05 | 30 % RPM | | LANDING | U-21 | 1000 FT | 160 KTS | INM73 BEECH KING AIR | 26 NOV 89 |
| N566031AI | 566 | 03 | 99 % NF | 92.2 % NC | TAKEOFF POWER | T-1 | 1000 FT | 160 KTS | INM60 MU-3001(IMIL+2.6dB) | 22 MAR 91 |
| N566141AI | 566 | 14 | 85 % NF | 85.5 % NC | INTERMED POWER (MIL) | T-1 | 1000 FT | 160 KTS | INM60 MU-3001 | 22 MAR 91 |
| N566041AI | 566 | 04 | 73 % NF | 79 % NC | CRUISE POWER | T-1 | 1000 FT | 160 KTS | INM60 MU-3001 | 22 MAR 91 |
| N566051AI | 566 | 05 | 45 % NF | 61.9 % NC | APPROACH POWER | T-1 | 1000 FT | 160 KTS | INM60 MU-3001 | 22 MAR 91 |
| N567031AI | 567 | 03 | 101 % NC | 9000 LBS/HR | TAKEOFF POWER | F-117XX | 1000 FT | 250 KTS | F-117A SURROGATE | 21 MAR 91 |
| N567051AI | 567 | 05 | 86 % NC | 4250 LBS/HR | APPROACH POWER | F-117XX | 1000 FT | 250 KTS | F-117A SURROGATE | 21 MAR 91 |
| N567131AI | 567 | 13 | 68 % NC | 2097 LBS/HR | TRAFFIC PATTERN | F-117XX | 1000 FT | 250 KTS | F-117A SURROGATE | 21 MAR 91 |
| N568041AP | 568 | 04 | 89.9 % RPM | 611 C EGT | CRUISE POWER | B-2XX | 1000 FT | 360 KTS | B-2 SURROGATE | 21 MAR 91 |
| N568051AI | 568 | 05 | 90 % RPM | 600 C EGT | APPROACH POWER | B-2XX | 1000 FT | 165 KTS | B-2 SURROGATE | 10 FEB 89 |
| N568141AI | 568 | 14 | 98.5 % RPM | 877 C EGT | INTERMED POWER (MIL) | B-2XX | 1000 FT | 270 KTS | B-2 SURROGATE | 21 MAR 91 |
| N603011AN | 603 | 01 | 100 % RPM | | FLT AT 100 KTS | HH-53 | 1000 FT | 100 KTS | NO SPEED-POWER ADJUSTMENT | 27 DEC 79 |
| N604011AN | 604 | 01 | 100 % RPM | | FLT AT 80 KTS | UH-1N | 1000 FT | 80 KTS | SPEED-POWER ADJUSTED | 07 APR 80 |
| N605011AN | 605 | 01 | 100 % RPM | | FLT AT 60 KTS | CH-3C | 1000 FT | 60 KTS | NO SPEED-POWER ADJUSTMENT | 07 APR 80 |
| N605021AN | 605 | 02 | 100 % RPM | | FLT AT 100 KTS | CH-3C | 1000 FT | 100 KTS | SPEED-POWER ADJUSTED | 07 APR 80 |
| N606011AN | 606 | 01 | 100 % RPM | | FLT AT 60 KTS | CH-54B | 1000 FT | 60 KTS | NO SPEED-POWER ADJUSTMENT | 07 APR 80 |
| N606021AN | 606 | 02 | 100 % RPM | | FLT AT 80 KTS | CH-54B | 1000 FT | 80 KTS | SPEED-POWER ADJUSTED | 07 APR 80 |
| N607011AN | 607 | 01 | 100 % RPM | | FLT AT 100 KTS | CH-47C | 1000 FT | 100 KTS | NO SPEED-POWER ADJUSTMENT | 07 APR 80 |
| N608011AN | 608 | 01 | 100 % RPM | | FLT AT 50 KTS | UH-13 | 1000 FT | 50 KTS | NO SPEED-POWER ADJUSTMENT | 07 APR 80 |
| N609011AN | 609 | 01 | 100 % RPM | | FLT AT 80 KTS | TH-55A | 1000 FT | 80 KTS | NO SPEED-POWER ADJUSTMENT | 07 APR 80 |
| N610011AN | 610 | 01 | 100 % RPM | | FLT AT 90 KTS | OH-6A | 1000 FT | 90 KTS | BBN SPEED-POWER ADJUSTED | 07 APR 80 |

END OF DATA FILE. NUMBER OF NORMALIZED DATA DECKS= 304

Table 5. NOISEFILE 6.2 Flyover Reference Noise Database Cont'd

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N00313A0 | 003 | 13 | 1.05 EPR | 28 % NF | 1050 LBS/HR | IDLE | E-3A | 27 NOV 78 | 78-008-001 | 01 |
| N0C318A0 | 003 | 18 | 1.47 EPR | 85 % NF | 6750 LBS/HR | 85 % RPM ENG RUNUP | E-3A | 27 NOV 78 | 78-008-001 | 03 |
| N00321A0 | 003 | 21 | 1.23 EPR | 70 % NF | 4100 LBS/HR | 70 % RPM ENG RUNUP | E-3A | 27 NOV 78 | 78-008-001 | 02 |
| N00330A0 | 003 | 30 | 1.84 EPR | 95 % NF | 10000 LBS/HR | TAKEOFF PWR | E-3A | 27 NOV 78 | 78-008-001 | 04 |
| N00404A0 | 004 | 04 | 100 % RPM | 574 C EGT | 2250 LBS/HR | MIL PWR | A-37B | 12 FEB 76 | 74-004-040 | 02 |
| N00413A0 | 004 | 13 | 46 % RPM | 355 C EGT | 495 LBS/HR | IDLE | A-37B | 18 DEC 75 | 74-004-014 | 01 |
| N00418A0 | 004 | 18 | 85 % RPM | 490 C EGT | 1250 LBS/HR | 85 % RPM ENG RUNUP | A-37B | 12 FEB 76 | 74-004-040 | 01 |
| N00505A0 | 005 | 05 | 103 % N1 | 820 C EGT | 17100 LBS/HR | MAX CONT PWR | KC-10A | 16 MAR 90 | BS-005-001 | 05 |
| N00513A0 | 005 | 13 | 24 % N1 | 406 C EGT | 1360 LBS/HR | IDLE | KC-10A | 16 MAR 90 | BS-005-001 | 01 |
| N00516A0 | 005 | 16 | 95 % N1 | 750 C EGT | 13000 LBS/HR | 95 % RPM ENG RUNUP | KC-10A | 16 MAR 90 | BS-005-001 | 04 |
| N00521A0 | 005 | 21 | 70 % N1 | 530 C EGT | 5700 LBS/HR | 70 % RPM ENG RUNUP | KC-10A | 16 MAR 90 | BS-005-001 | 03 |
| N00530A0 | 005 | 30 | 111 % N1 | 908 C EGT | 20000 LBS/HR | TAKEOFF PWR | KC-10A | 16 MAR 90 | BS-005-001 | 06 |
| N00557A0 | 005 | 57 | 45 % N1 | 445 C EGT | 2800 LBS/HR | 45 % RPM ENG RUNUP | KC-10A | 16 MAR 90 | BS-005-001 | 02 |
| N00609A0 | 006 | 09 | 9600 IN-LBS | 775 C TIT | 1400 LBS/HR | POWER RUNUP | C-130E | 01 APR 76 | 74-004-036 | 03 |
| N00611A0 | 006 | 11 | 800 IN-LBS | 625 C TIT | 650 LBS/HR | LOW IDLE | C-130E | 01 APR 76 | 74-004-036 | 01 |
| N00613A0 | 006 | 13 | 1400 IN-LBS | 560 C TIT | 780 LBS/HR | IDLE | C-130E | 01 APR 76 | 74-004-036 | 02 |
| N00630A0 | 006 | 30 | 16800 IN-LBS | 970 C TIT | 2000 LBS/HR | TAKEOFF PWR | C-130E | 01 APR 76 | 74-004-036 | 04 |
| N00703A0 | 007 | 03 | 95.1 % NC | 807 C EGT | 7367 LBS/HR | MAX PWR A/B | F-18 | 26 MAR 91 | AM-007-001 | 05 |
| N00704A0 | 007 | 04 | 94 % NC | 815 C EGT | 7260 LBS/HR | MIL PWR | F-18 | 26 MAR 91 | AM-007-001 | 03 |
| N00713A0 | 007 | 13 | 63 % NC | 449 C EGT | 624 LBS/HR | IDLE | F-18 | 26 MAR 91 | AM-007-001 | 01 |
| N00718A0 | 007 | 18 | 85 % NC | 655 C EGT | 3807 LBS/HR | 85 % RPM ENG RUNUP | F-18 | 26 MAR 91 | AM-007-001 | 02 |
| N00742A0 | 007 | 42 | 95 % NC | 813 C EGT | 7279 LBS/HR | MIN PWR A/B | F-18 | 26 MAR 91 | AM-007-001 | 04 |
| N01203A0 | 012 | 03 | 96 % NC | 2.14 EPR | | MAX PWR A/B | F-102A | 27 NOV 78 | 78-012-001 | 05 |
| N01204A0 | 012 | 04 | 96 % NC | 2.13 EPR | 8500 LBS/HR | MIL PWR | F-102A | 27 NOV 78 | 78-012-001 | 04 |
| N01213A0 | 012 | 13 | 57 % NC | 1.01 EPR | 1100 LBS/HR | IDLE | F-102A | 27 NOV 78 | 78-012-001 | 01 |
| N01218A0 | 012 | 18 | 85 % NC | 1.43 EPR | 3500 LBS/HR | 85 % RPM ENG RUNUP | F-102A | 27 NOV 78 | 78-012-001 | 03 |
| N01220A0 | 012 | 20 | 75 % NC | 1.19 EPR | 2000 LBS/HR | 75 % RPM ENG RUNUP | F-102A | 27 NOV 78 | 78-012-001 | 02 |
| N01404A0 | 014 | 04 | 100 % NF | 99 % NC | 770 C EGT | MIL PWR | YC-14 | 07 MAR 83 | 76-014-001 | 05 |
| N01413A0 | 014 | 13 | 22 % NF | 64 % NC | 360 C EGT | IDLE | YC-14 | 07 MAR 83 | 76-014-001 | 02 |
| N01418A0 | 014 | 18 | 85 % NF | 93 % NC | 635 C EGT | 85 % RPM ENG RUNUP | YC-14 | 07 MAR 83 | 76-014-001 | 04 |
| N01430A0 | 014 | 30 | 111 % NF | 102 % NC | 845 C EGT | TAKEOFF PWR | YC-14 | 07 MAR 83 | 76-014-001 | 06 |
| N01513A0 | 015 | 13 | 1.04 EPR | 375 EGT | 1100 LBS/HR | IDLE | YC-15 | 07 MAR 83 | 76-015-001 | 01 |
| N01533A0 | 015 | 33 | 1.8 EPR | 465 EGT | 6400 LBS/HR | 1.8 EPR | YC-15 | 07 MAR 83 | 76-015-001 | 02 |
| N01544A0 | 015 | 44 | 1.08 EPR | 400 EGT | 1350 LBS/HR | REVERSE IDLE | YC-15 | 07 MAR 83 | 76-015-001 | 04 |
| N01546A0 | 015 | 46 | 1.95 EPR | 500 EGT | 7400 LBS/HR | 1.95 EPR | YC-15 | 07 MAR 83 | 76-015-001 | 03 |
| N02212A0 | 022 | 12 | 1.6 EPR | 42 % NF | 2300 LBS/HR | HIGH IDLE | C-5A | 15 MAR 90 | 78-015-001 | 02 |
| N02213A0 | 022 | 13 | 1.18 EPR | 23 % NF | 1200 LBS/HR | IDLE | C-5A | 15 MAR 90 | 78-015-001 | 01 |
| N02219A0 | 022 | 19 | 3.5 EPR | 79 % NF | 8000 LBS/HR | 80 % RPM ENG RUNUP | C-5A | 15 MAR 90 | 78-015-001 | 04 |
| N02222A0 | 022 | 22 | 2.5 EPR | 63 % NF | 4600 LBS/HR | 65 % RPM ENG RUNUP | C-5A | 15 MAR 90 | 78-015-001 | 03 |
| N02231A0 | 022 | 31 | 4.4 EPR | 90 % NF | 11000 LBS/HR | MAX PWR | C-5A | 15 MAR 90 | 78-015-001 | 05 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N02308A0 | 023 | 08 | 2200 RPM | 22 IN MAP | | MAGNETO CHECK | AC-123K | 25 FEB 76 | 74-004-037 | 03 |
| N02310A0 | 023 | 10 | 2700 RPM | 55 IN MAP | | METO WITH JETS | AC-123K | 25 FEB 76 | 74-004-037 | 05 |
| N02313A0 | 023 | 13 | 650 RPM | 18 IN MAP | | IDLE | AC-123K | 25 FEB 76 | 74-004-037 | 01 |
| N02315A0 | 023 | 15 | 1000 RPM | 17 IN MAP | | TAXI | AC-123K | 25 FEB 76 | 74-004-037 | 02 |
| N02329A0 | 023 | 29 | 2700 RPM | 55 IN MAP | | METO NO JETS | AC-123K | 25 FEB 76 | 74-004-037 | 04 |
| N02407A0 | 024 | 07 | 92 % RPM | | | TRIM CHECK | T-37B | 13 FEB 76 | 74-004-028 | 02 |
| N02413A0 | 024 | 13 | 37 % RPM | | | IDLE | T-37B | 13 FEB 76 | 74-004-028 | 01 |
| N02431A0 | 024 | 31 | 99.5 % RPM | | | MAX PWR | T-37B | 13 FEB 76 | 74-004-028 | 03 |
| N02507A0 | 025 | 07 | 97.4 % RPM | 1.6 EPR | | TRIM CHECK | C-135B | 15 FEB 89 | AN-025-001 | 06 |
| N02513A0 | 025 | 13 | 55 % RPM | 1.05 EPR | | IDLE | C-135B | 15 FEB 89 | AN-025-001 | 01 |
| N02517A0 | 025 | 17 | 90 % RPM | 1.27 EPR | | 90 % RPM ENG RUNUP | C-135B | 15 FEB 89 | AN-025-001 | 04 |
| N02519A0 | 025 | 19 | 80 % RPM | 1.11 EPR | | 80 % RPM ENG RUNUP | C-135B | 15 FEB 89 | AN-025-001 | 03 |
| N02521A0 | 025 | 21 | 70 % RPM | 1.06 EPR | | 70 % RPM ENG RUNUP | C-135B | 15 FEB 89 | AN-025-001 | 02 |
| N02531A0 | 025 | 31 | 101 % RPM | 1.80 EPR | | MAX PWR | C-135B | 15 FEB 89 | AN-025-001 | 05 |
| N02613A0 | 026 | 13 | 62 % RPM | 1100 LBS/HR | | IDLE | C-135A | 07 APR 76 | 74-012-001 | 01 |
| N02617A0 | 026 | 17 | 90 % RPM | 5000 LBS/HR | 1.74 EPR | 90 % RPM ENG RUNUP | C-135A | 07 APR 76 | 74-012-001 | 03 |
| N02619A0 | 026 | 19 | 80 % RPM | 2200 LBS/HR | 1.25 EPR | 80 % RPM ENG RUNUP | C-135A | 07 APR 76 | 74-012-001 | 02 |
| N02631A0 | 026 | 31 | 96 % RPM | 8200 LBS/HR | 2.34 EPR | MAX PWR | C-135A | 07 APR 76 | 74-012-001 | 04 |
| N02713A0 | 027 | 13 | 28 % NF | 1.04 EPR | 1100 LBS/HR | IDLE | C-141A | 08 APR 76 | 74-013-001 | 01 |
| N02721A0 | 027 | 21 | 70 % NF | 1.27 EPR | 4100 LBS/HR | 70 % RPM ENG RUNUP | C-141A | 08 APR 76 | 74-013-001 | 02 |
| N02730A0 | 027 | 30 | 95 % NF | 1.85 EPR | 10000 LBS/HR | TAKEOFF PWR | C-141A | 08 APR 76 | 74-013-001 | 03 |
| N02808A0 | 028 | 08 | 2050 RPM | 27.5 IN MAP | | MAGNETO CHECK | C-131B | 19 FEB 76 | 74-004-034 | 02 |
| N02813A0 | 028 | 13 | 800 RPM | 13 IN MAP | | IDLE | C-131B | 19 FEB 76 | 74-004-034 | 01 |
| N02815A0 | 028 | 15 | 1000 RPM | 24 IN MAP | | TAXI | C-131B | 20 FEB 76 | 74-004-035 | 01 |
| N02830A0 | 028 | 30 | 2800 RPM | 62 IN MAP | | TAKEOFF PWR | C-131B | 19 FEB 76 | 74-004-034 | 03 |
| N02913A0 | 029 | 13 | 35 % RPM | | | IDLE | T-33A | 19 JAN 76 | 74-004-027 | 01 |
| N02925A0 | 029 | 25 | 50 % RPM | | | 50 % RPM ENG RUNUP | T-33A | 19 JAN 76 | 74-004-027 | 02 |
| N02931A0 | 029 | 31 | 100 % RPM | | | MAX PWR | T-33A | 19 JAN 76 | 74-004-027 | 03 |
| N03003A0 | 030 | 03 | 100 % RPM | | | MAX PWR A/B | F-100D | 19 DEC 75 | 74-004-020 | 02 |
| N03004A0 | 030 | 04 | 97 % RPM | | | MIL PWR | F-100D | 19 DEC 75 | 74-004-020 | 01 |
| N03013A0 | 030 | 13 | 53 % RPM | | | IDLE | F-100D | 19 DEC 75 | 74-004-019 | 01 |
| N03021A0 | 030 | 21 | 70 % RPM | | | 70 % RPM ENG RUNUP | F-100D | 19 DEC 75 | 74-004-019 | 02 |
| N03103A0 | 031 | 03 | 100 % RPM | | | MAX PWR A/B | F-4C | 19 DEC 75 | 74-004-018 | 01 |
| N03104A0 | 031 | 04 | 100 % RPM | | | MIL PWR | F-4C | 19 DEC 75 | 74-004-017 | 03 |
| N03113A0 | 031 | 13 | 65 % RPM | | | IDLE | F-4C | 19 DEC 75 | 74-004-017 | 01 |
| N03118A0 | 031 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | F-4C | 19 DEC 75 | 74-004-017 | 02 |
| N03204A0 | 032 | 04 | 100 % RPM | 1.93 EPR | | MIL PWR | T-39A | 20 JAN 76 | 74-032-001 | 04 |
| N03213A0 | 032 | 13 | 41 % RPM | 1.03 EPR | | IDLE | T-39A | 20 JAN 76 | 74-032-001 | 01 |
| N03218A0 | 032 | 18 | 85 % RPM | 1.46 EPR | | 85 % RPM ENG RUNUP | T-39A | 20 JAN 76 | 74-032-001 | 03 |
| N03220A0 | 032 | 20 | 75 % RPM | 1.25 EPR | | 75 % RPM ENG RUNUP | T-39A | 20 JAN 76 | 74-032-001 | 02 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N03303A0 | 033 | 03 | 100 % RPM | | | MAX PWR A/B | T-38A | 17 FEB 76 | 74-004-029 | 04 |
| N03304A0 | 033 | 04 | 100 % RPM | | | MIL PWR | T-38A | 17 FEB 76 | 74-004-029 | 03 |
| N03307A0 | 033 | 07 | 94 % RPM | | | TRIM CHECK | T-38A | 18 FEB 76 | 74-004-031 | 02 |
| N03313A0 | 033 | 13 | 48 % RPM | | | IDLE | T-38A | 17 FEB 76 | 74-004-029 | 01 |
| N03320A0 | 033 | 20 | 75 % RPM | | | 75 % RPM ENG RUNUP | T-38A | 18 FEB 76 | 74-004-031 | 01 |
| N03321A0 | 033 | 21 | 70 % RPM | | | 70 % RPM ENG RUNUP | T-38A | 17 FEB 76 | 74-004-029 | 02 |
| N03705A0 | 037 | 05 | 77 % NF | 91 % NC | 2100 LBS/HR | MAX CONT PWR | A-10A | 06 FEB 76 | 75-037-001 | 02 |
| N03713A0 | 037 | 13 | 25 % NF | 64 % NC | 400 LBS/HR | IDLE | A-10A | 06 FEB 76 | 75-037-001 | 01 |
| N03730A0 | 037 | 30 | 84 % NF | 95 % NC | 2750 LBS/HR | TAKEOFF PWR | A-10A | 06 FEB 76 | 75-037-001 | 03 |
| N03801A0 | 038 | 01 | 89 % NC | 950 C TIT | | MAX PWR ZONE 5 A/B | F-16 | 13 APR 76 | 75-038-001 | 04 |
| N03806A0 | 038 | 06 | 90 % NC | 934 C TIT | | INTERMED PWR (MIL) | F-16 | 13 APR 76 | 75-038-001 | 03 |
| N03813A0 | 038 | 13 | 62 % NC | 483 C TIT | | IDLE | F-16 | 13 APR 76 | 75-038-001 | 01 |
| N03819A0 | 038 | 19 | 80 % NC | 620 C TIT | | 80 % RPM ENG RUNUP | F-16 | 13 APR 76 | 75-038-001 | 02 |
| N03903A0 | 039 | 03 | 97.6 % RPM | 1310 C TIT | | MAX PWR A/B | B-1 | 16 MAR 90 | 76-039-001 | 04 |
| N03906A0 | 039 | 06 | 97.2 % RPM | 1317 C TIT | | INTERMED PWR (MIL) | B-1 | 16 MAR 90 | 76-039-001 | 03 |
| N03913A0 | 039 | 13 | 70.5 % RPM | 848 C TIT | | IDLE | B-1 | 16 MAR 90 | 76-039-001 | 01 |
| N04313A0 | 043 | 13 | 61 % RPM | 300 C EGT | 1.05 EPR | IDLE | B-52G | 18 DEC 75 | 74-004-015 | 01 |
| N04317A0 | 043 | 17 | 90 % RPM | 520 C EGT | 2.04 EPR | 90 % RPM ENG RUNUP | B-52G | 18 DEC 75 | 74-004-015 | 03 |
| N04319A0 | 043 | 19 | 80 % RPM | 340 C EGT | 1.35 EPR | 80 % RPM ENG RUNUP | B-52G | 18 DEC 75 | 74-004-015 | 02 |
| N04331A0 | 043 | 31 | 94 % RPM | 580 C EGT | 2.45 EPR | MAX PWR | B-52G | 18 DEC 75 | 74-004-015 | 04 |
| N04413A0 | 044 | 13 | 1000 LBS/HR | 1.05 EPR | 60 % RPM | IDLE | B-52H | 03 MAY 76 | 75-044-001 | 01 |
| N04416A0 | 044 | 16 | 5000 LBS/HR | 1.33 EPR | 95 % RPM | 95 % RPM ENG RUNUP | B-52H | 03 MAY 76 | 75-044-001 | 03 |
| N04419A0 | 044 | 19 | 1900 LBS/HR | 1.08 EPR | 80 % RPM | 80 % RPM ENG RUNUP | B-52H | 03 MAY 76 | 75-044-001 | 02 |
| N04431A0 | 044 | 31 | 8700 LBS/HR | 1.68 EPR | 104 % RPM | MAX PWR | B-52H | 03 MAY 76 | 75-044-001 | 05 |
| N04434A0 | 044 | 34 | 7600 LBS/HR | 1.62 EPR | 100 % RPM | NORMAL RATED THRUST | B-52H | 03 MAY 76 | 75-044-001 | 04 |
| N04503A0 | 045 | 03 | 100 % RPM | | | MAX PWR A/B | F-104D | 08 JAN 76 | 74-004-022 | 01 |
| N04504A0 | 045 | 04 | 100 % RPM | | | MIL PWR | F-104D | 30 DEC 75 | 74-004-021 | 03 |
| N04513A0 | 045 | 13 | 67 % RPM | | | IDLE | F-104D | 30 DEC 75 | 74-004-021 | 01 |
| N04518A0 | 045 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | F-104D | 30 DEC 75 | 74-004-021 | 02 |
| N04603A0 | 046 | 03 | 100 % RPM | 670 C EGT | 10000 LBS/HR | MAX PWR A/B | F-5E | 06 APR 76 | 74-004-039 | 04 |
| N04604A0 | 046 | 04 | 100 % RPM | 670 C EGT | 3150 LBS/HR | MIL PWR | F-5E | 06 APR 76 | 74-004-039 | 03 |
| N04613A0 | 046 | 13 | 50 % RPM | 395 C EGT | 500 LBS/HR | IDLE | F-5E | 06 APR 76 | 74-004-039 | 01 |
| N04619A0 | 046 | 19 | 80 % RPM | 340 C EGT | 900 LBS/HR | 80 % RPM ENG RUNUP | F-5E | 06 APR 76 | 74-004-039 | 02 |
| N05751A0 | 057 | 51 | 85 % NF | 93 % NC | 640 C EGT | 85 % RPM/FLPS 30 | YC-14 FLAPS 30 | 07 MAR 83 | 76-014-001 | 07 |
| N05752A0 | 057 | 52 | 110 % NF | 104 % NC | 880 C EGT | TAKEOFF/FLPS 30 | YC-14 FLAPS 30 | 07 MAR 83 | 76-014-001 | 08 |
| N05753A0 | 057 | 53 | 22 % NF | 64 % NC | 340 C EGT | IDLE/FLPS 30 | YC-14 FLAPS 30 | 07 MAR 83 | 76-014-001 | 09 |
| N05855A0 | 058 | 55 | 22 % NF | 64 % NC | 420 C EGT | IDLE/THRUSTER | YC-14 THRUSTER | 07 MAR 83 | 76-014-001 | 10 |
| N05856A0 | 058 | 56 | 85 % NF | 96 % NC | 660 C EGT | 85% RPM/THRUSTER | YC-14 THRUSTER | 07 MAR 83 | 76-014-001 | 11 |
| N05945A0 | 059 | 45 | 1.95 EPR | 500 EGT | 7800 LBS/HR | REVERSE STOP | YC-15 FLAPS 24 | 07 MAR 83 | 76-015-001 | 05 |
| N05947A0 | 059 | 47 | 1.04 EPR | 370 EGT | 1000 LBS/HR | IDLE/FLAPS 24 DEG | YC-15 FLAPS 24 | 07 MAR 83 | 76-015-001 | 06 |
| N05948A0 | 059 | 48 | 2.24 EPR | 580 EGT | 10000 LBS/HR | TAKEOFF/FLAPS 24 DEG | YC-15 FLAPS 24 | 07 MAR 83 | 76-015-001 | 07 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | POWER SETTING VALUES AND UNITS: FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N06101A0 | 061 | 01 | 90 % NC | 930 C FTIT | 39200 LBS/HR | MAX PWR ZONE 5 A/B | F-15A | 17 DEC 75 | 74-004-010 | 04 |
| N06106A0 | 061 | 06 | 90 % NC | 930 C FTIT | 7850 LBS/HR | INTERMED PWR (MIL) | F-15A | 17 DEC 75 | 74-004-010 | 03 |
| N06113A0 | 061 | 13 | 63 % NC | 395 C FTIT | 950 LBS/HR | IDLE | F-15A | 17 DEC 75 | 74-004-010 | 01 |
| N06119A0 | 061 | 19 | 80 % NC | 690 C FTIT | 4150 LBS/HR | 80 % RPM ENG RUNUP | F-15A | 17 DEC 75 | 74-004-010 | 02 |
| N06605A0 | 066 | 05 | 99 % NF | 91.4 % NC | 1570 LBS/HR | MAX CONT PWR | T-1 | 22 MAR 91 | FY-066-001 | 05 |
| N06613A0 | 066 | 13 | 31 % NF | 52 % NC | 210 LBS/HR | IDLE | T-1 | 22 MAR 91 | FY-066-001 | 01 |
| N06617A0 | 066 | 17 | 90 % NF | 87.2 % NC | 1210 LBS/HR | 90 % RPM ENG RUNUP | T-1 | 22 MAR 91 | FY-066-001 | 04 |
| N06619A0 | 066 | 19 | 80 % NF | 83 % NC | 885 LBS/HR | 80 % RPM ENG RUNUP | T-1 | 22 MAR 91 | FY-066-001 | 03 |
| N06621A0 | 066 | 21 | 70 % NF | 78 % NC | 640 LBS/HR | 70 % RPM ENG RUNUP | T-1 | 22 MAR 91 | FY-066-001 | 02 |
| N07004A0 | 070 | 04 | 101 % RPM | | | MIL PWR | B-57G | 31 MAR 76 | 74-004-016 | 03 |
| N07013A0 | 070 | 13 | 50 % RPM | | | IDLE | B-57G | 31 MAR 76 | 74-004-016 | 01 |
| N07018A0 | 070 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | B-57G | 31 MAR 76 | 74-004-016 | 02 |
| N07103A0 | 071 | 03 | 96 % NC | 2.04 EPR | | MAX PWR A/B | F-101B | 27 NOV 78 | 78-011-001 | 05 |
| N07104A0 | 071 | 04 | 95.5 % NC | 2.10 EPR | 7600 LBS/HR | MIL PWR | F-101B | 27 NOV 78 | 78-011-001 | 04 |
| N07113A0 | 071 | 13 | 62 % NC | 1.01 EPR | 1150 LBS/HR | IDLE | F-101B | 27 NOV 78 | 78-011-001 | 01 |
| N07117A0 | 071 | 17 | 90 % NC | 1.58 EPR | 4350 LBS/HR | 90 % RPM ENG RUNUP | F-101B | 27 NOV 78 | 78-011-001 | 03 |
| N07119A0 | 071 | 19 | 80 % NC | 1.25 EPR | 2450 LBS/HR | 80 % RPM ENG RUNUP | F-101B | 27 NOV 78 | 78-011-001 | 02 |
| N07209A0 | 072 | 09 | 2450 RPM | 35 IN MAP | | POWER RUNUP | C-7A | 18 MAY 76 | 74-072-001 | 03 |
| N07213A0 | 072 | 13 | 600 RPM | 19 IN MAP | | IDLE | C-7A | 18 MAY 76 | 74-072-001 | 01 |
| N07215A0 | 072 | 15 | 1000 RPM | 20 IN MAP | | TAXI | C-7A | 18 MAY 76 | 74-072-001 | 02 |
| N07231A0 | 072 | 31 | 2675 RPM | 50 IN MAP | | MAX PWR | C-7A | 18 MAY 76 | 74-072-001 | 04 |
| N07313A0 | 073 | 13 | 1.05 EPR | 375 C EGT | 1000 LBS/HR | IDLE | C-9A | 06 FEB 76 | 74-073-001 | 01 |
| N07330A0 | 073 | 30 | 2.0 EPR | 510 C EGT | 8000 LBS/HR | TAKEOFF PWR | C-9A | 06 FEB 76 | 74-073-001 | 04 |
| N07332A0 | 073 | 32 | 1.7 EPR | 460 C EGT | 5800 LBS/HR | 1.7 EPR | C-9A | 06 FEB 76 | 74-073-001 | 02 |
| N07333A0 | 073 | 33 | 1.8 EPR | 480 C EGT | 6600 LBS/HR | 1.8 EPR | C-9A | 06 FEB 76 | 74-073-001 | 03 |
| N07408A0 | 074 | 08 | 2100 RPM | 28.5 IN MAP | | MAGNETO CHECK | C-119L | 18 MAY 76 | 74-074-001 | 04 |
| N07413A0 | 074 | 13 | 750 RPM | 25 IN MAP | | IDLE | C-119L | 18 MAY 76 | 74-074-001 | 01 |
| N07415A0 | 074 | 15 | 1000 RPM | 24.5 IN MAP | | TAXI | C-119L | 18 MAY 76 | 74-074-001 | 02 |
| N07431A0 | 074 | 31 | 2900 RPM | 59 IN MAP | | MAX PWR | C-119L | 18 MAY 76 | 74-074-001 | 05 |
| N07436A0 | 074 | 36 | 1800 RPM | 26 IN MAP | | PROP SPEED CHECK | C-119L | 18 MAY 76 | 74-074-001 | 03 |
| N07508A0 | 075 | 08 | 2050 RPM | 28.8 IN MAP | | MAGNETO CHECK | C-121 | 17 MAY 76 | 74-075-001 | 04 |
| N07513A0 | 075 | 13 | 700 RPM | 26.3 IN MAP | | IDLE | C-121 | 17 MAY 76 | 74-075-001 | 01 |
| N07515A0 | 075 | 15 | 1200 RPM | 24 IN MAP | | TAXI | C-121 | 17 MAY 76 | 74-075-001 | 02 |
| N07531A0 | 075 | 31 | 2900 RPM | 58 IN MAP | | MAX PWR | C-121 | 17 MAY 76 | 74-075-001 | 05 |
| N07536A0 | 075 | 36 | 1700 RPM | 25.2 IN MAP | | PROP SPEED CHECK | C-121 | 17 MAY 76 | 74-075-001 | 03 |
| N07604A0 | 076 | 04 | 3400 RPM | | | MIL PWR | U-4B | 27 MAY 76 | 75-002-050 | 02 |
| N07613A0 | 076 | 13 | 1000 RPM | | | IDLE | U-4B | 27 MAY 76 | 75-002-050 | 01 |
| N07703A0 | 077 | 03 | 102 % NC | 2.41 EPR | | MAX PWR A/B | F-105D | 27 NOV 78 | 78-013-001 | 05 |
| N07704A0 | 077 | 04 | 102 % NC | 2.41 EPR | 11000 LBS/HR | MIL PWR | F-105D | 27 NOV 78 | 78-013-001 | 04 |
| N07713A0 | 077 | 13 | 69 % NC | 1.17 EPR | 1700 LBS/HR | IDLE | F-105D | 27 NOV 78 | 78-013-001 | 01 |
| N07717A0 | 077 | 17 | 90 % NC | 1.68 EPR | 5550 LBS/HR | 90 % NC ENG RUNUP | F-105D | 27 NOV 78 | 78-013-001 | 03 |
| N07719A0 | 077 | 19 | 80 % NC | 1.30 EPR | 2800 LBS/HR | 80 % RPM ENG RUNUP | F-105D | 27 NOV 78 | 78-013-001 | 02 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N07803A0 | 078 | 03 | 102 % RPM | | | MAX PWR A/B | F-106 | 02 DEC 81 | BN-078-001 | 05 |
| N07804A0 | 078 | 04 | 102 % RPM | | | MIL PWR | F-106 | 02 DEC 81 | BN-078-001 | 04 |
| N07813A0 | 078 | 13 | 59 % RPM | | | IDLE | F-106 | 02 DEC 81 | BN-078-001 | 01 |
| N07816A0 | 078 | 16 | 95 % RPM | | | 95 % RPM ENG RUNUP | F-106 | 02 DEC 81 | BN-078-001 | 03 |
| N07818A0 | 078 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | F-106 | 02 DEC 81 | BN-078-001 | 02 |
| N07902A0 | 079 | 02 | 95 % NC | 2.25 EPR | 28100 LBS/HR | MAX PWR ZONE 3 A/B | F-111F | 06 APR 76 | 74-079-001 | 05 |
| N07904A0 | 079 | 04 | 95 % NC | 2.21 EPR | 8100 LBS/HR | MIL PWR | F-111F | 06 APR 76 | 74-079-001 | 04 |
| N07913A0 | 079 | 13 | 65 % NC | 1.04 EPR | 1000 LBS/HR | IDLE | F-111F | 06 APR 76 | 74-079-001 | 01 |
| N07918A0 | 079 | 18 | 85 % NC | 1.63 EPR | 4200 LBS/HR | 85 % RPM ENG RUNUP | F-111F | 06 APR 76 | 74-079-001 | 03 |
| N07919A0 | 079 | 19 | 80 % NC | 1.44 EPR | 2650 LBS/HR | 80 % RPM ENG RUNUP | F-111F | 06 APR 76 | 74-079-001 | 02 |
| N08003A0 | 080 | 03 | 95 % NC | 2.00 EPR | 45600 LBS/HR | MAX PWR A/B | FB-111A | 31 MAR 76 | 74-004-024 | 03 |
| N08004A0 | 080 | 04 | 96 % NC | 2.00 EPR | 6500 LBS/HR | MIL PWR | FB-111A | 31 MAR 76 | 74-004-024 | 02 |
| N08013A0 | 080 | 13 | 66 % NC | 1.00 EPR | 900 LBS/HR | IDLE | FB-111A | 31 MAR 76 | 74-004-024 | 01 |
| N08019A0 | 080 | 19 | 80 % NC | 1.44 EPR | 2650 LBS/HR | 80 % RPM ENG RUNUP | FB-111A | 20 MAY 76 | 74-004-024 | 04 |
| N08108A0 | 081 | 08 | 29 IN MAP | 2050 RPM | | MAGNETO CHECK | KC-97L | 14 MAY 76 | 74-081-001 | 02 |
| N08113A0 | 081 | 13 | 17 IN MAP | 900 RPM | | IDLE | KC-97L | 14 MAY 76 | 74-081-001 | 01 |
| N08135A0 | 081 | 35 | 18 IN MAP | 900 RPM | 40 % RPM | RECIPS AND JETS IDLE | KC-97L | 14 MAY 76 | 74-081-001 | 04 |
| N08137A0 | 081 | 37 | 58 IN MAP | 2650 RPM | | MAX POWER NO JETS | KC-97L | 14 MAY 76 | 74-081-001 | 03 |
| N08138A0 | 081 | 38 | 58 IN MAP | 2650 RPM | 100 % RPM | MAX POWER WITH JETS | KC-97L | 14 MAY 76 | 74-081-001 | 05 |
| N08204A0 | 082 | 04 | 101 % RPM | 1900 FT-LBS | | MIL PWR | OV-10A | 31 MAR 76 | 74-004-026 | 03 |
| N08215A0 | 082 | 15 | 70 % RPM | 600 FT-LBS | | TAXI | OV-10A | 31 MAR 76 | 74-004-026 | 02 |
| N08228A0 | 082 | 28 | 89 % RPM | 600 FT-LBS | | LOCKED PROPS | OV-10A | 31 MAR 76 | 74-004-026 | 01 |
| N08313A0 | 083 | 13 | 34 % NF | 1.05 EPR | 1050 LBS/HR | IDLE | T-43A | 08 APR 76 | 74-083-001 | 01 |
| N08317A0 | 083 | 17 | 90 % NF | 1.84 EPR | 7000 LBS/HR | 90 % RPM ENG RUNUP | T-43A | 08 APR 76 | 74-083-001 | 04 |
| N08318A0 | 083 | 18 | 85 % NF | 1.70 EPR | 5800 LBS/HR | 85 % RPM ENG RUNUP | T-43A | 08 APR 76 | 74-083-001 | 03 |
| N08319A0 | 083 | 19 | 80 % NF | 1.50 EPR | 4800 LBS/HR | 80 % RPM ENG PUNUP | T-43A | 08 APR 76 | 74-083-001 | 02 |
| N08330A0 | 083 | 30 | 97 % NF | 2.01 EPR | 8000 LBS/HR | TAKEOFF PWR | T-43A | 08 APR 76 | 74-083-001 | 05 |
| N08407A0 | 084 | 07 | 1.63 EPR | 7800 LBS/HR | 97 % RPM | TRIM CHECK | C-18A | 29 DEC 88 | FA-084-001 | 05 |
| N08413A0 | 084 | 13 | 1.06 EPR | 1200 LBS/HR | 57 % RPM | IDLE | C-18A | 29 DEC 88 | FA-084-001 | 01 |
| N08417A0 | 084 | 17 | 1.33 EPR | 4900 LBS/HR | 90 % RPM | 90 % RPM ENG RUNUP | C-18A | 29 DEC 88 | FA-084-001 | 04 |
| N08419A0 | 084 | 19 | 1.10 EPR | 2400 LBS/HR | 80 % RPM | 80 % RPM ENG RUNUP | C-18A | 29 DEC 88 | FA-084-001 | 03 |
| N08421A0 | 084 | 21 | 1.07 EPR | 1600 LBS/HR | 70 % RPM | 70 % RPM ENG RUNUP | C-18A | 29 DEC 88 | FA-084-001 | 02 |
| N08431A0 | 084 | 31 | 1.84 EPR | 10000 LBS/HR | 100 % RPM | MAX PWR | C-18A | 29 DEC 88 | FA-084-001 | 06 |
| N08504A0 | 085 | 04 | 96 % N1 | 818 C EGT | 1719 LBS/HR | MIL PWR | C-21A | 29 OCT 85 | CY-085-001 | 05 |
| N08513A0 | 085 | 13 | 60 % N1 | 560 C EGT | 520 LBS/HR | IDLE | C-21A | 29 OCT 85 | CY-085-001 | 01 |
| N08517A0 | 085 | 17 | 90 % N1 | 750 C EGT | 1359 LBS/HR | 90 % RPM ENG RUNUP | C-21A | 29 OCT 85 | CY-085-001 | 04 |
| N08519A0 | 085 | 19 | 80 % N1 | 683 C EGT | 984 LBS/HR | 80 % RPM ENG RUNUP | C-21A | 29 OCT 85 | CY-085-001 | 03 |
| N08521A0 | 085 | 21 | 70 % N1 | 623 C EGT | 736 LBS/HR | 70 % RPM ENG RUNUP | C-21A | 29 OCT 85 | CY-085-001 | 02 |
| N08604A0 | 086 | 04 | 90 % N1 | 780 C EGT | 7900 LBS/HR | MIL PWR | KC-135R | 15 MAR 90 | CZ-086-001 | 05 |
| N08613A0 | 086 | 13 | 18.9 % N1 | 490 C EGT | 650 LBS/HR | IDLE | KC-135R | 15 MAR 90 | CZ-086-001 | 01 |
| N08619A0 | 086 | 19 | 80 % N1 | 678 C EGT | 5600 LBS/HR | 80 % RPM ENG RUNUP | KC-135R | 15 MAR 90 | CZ-086-001 | 04 |
| N08621A0 | 086 | 21 | 70 % N1 | 591 C EGT | 4000 LBS/HR | 70 % RPM ENG RUNUP | KC-135R | 15 MAR 90 | CZ-086-001 | 03 |
| N08623A0 | 086 | 23 | 60 % N1 | 540 C EGT | 3000 LBS/HR | 60 % RPM ENG RUNUP | KC-135R | 15 MAR 90 | CZ-086-001 | 02 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N13004A0 | 130 | 04 | 99 % NC | 650 C EGT | 8000 LBS/HR | MIL PWR | A-4C | 26 MAY 76 | 74-004-001 | 03 |
| N13013A0 | 130 | 13 | 57 % NC | 250 C EGT | 800 LBS/HR | IDLE | A-4C | 26 MAY 76 | 74-004-001 | 01 |
| N13020A0 | 130 | 20 | 75 % NC | 300 C EGT | 1500 LBS/HR | 75 % RPM ENG RUNUP | A-4C | 26 MAY 76 | 74-004-001 | 02 |
| N13103A0 | 131 | 03 | 100 % RPM | 630 C EGT | 44500 LBS/HR | MAX PWR A/B | A-5C | 31 OCT 75 | 74-004-002 | 04 |
| N13104A0 | 131 | 04 | 100 % RPM | 630 C EGT | 7800 LBS/HR | MIL PWR | A-5C | 31 OCT 75 | 74-004-002 | 03 |
| N13113A0 | 131 | 13 | 65 % RPM | 400 C EGT | 1000 LBS/HR | IDLE | A-5C | 31 OCT 75 | 74-004-002 | 01 |
| N13119A0 | 131 | 19 | 80 % RPM | 375 C EGT | 2000 LBS/HR | 80 % RPM ENG RUNUP | A-5C | 31 OCT 75 | 74-004-002 | 02 |
| N13204A0 | 132 | 04 | 99 % RPM | 650 C EGT | 8000 LBS/HR | MIL PWR | A-6A | 31 OCT 75 | 74-004-003 | 03 |
| N13213A0 | 132 | 13 | 60 % RPM | 250 C EGT | 800 LBS/HR | IDLE | A-6A | 31 OCT 75 | 74-004-003 | 01 |
| N13220A0 | 132 | 20 | 75 % RPM | 300 C EGT | 1500 LBS/HR | 75 % RPM ENG RUNUP | A-6A | 31 OCT 75 | 74-004-003 | 02 |
| N13306A0 | 133 | 06 | 94 % NC | 9000 LBS/HR | 590 C TOT | INTERMED PWR (MIL) | A-7E | 04 NOV 75 | 74-004-004 | 04 |
| N13313A0 | 133 | 13 | 55 % NC | 1200 LBS/HR | 432 C TOT | IDLE | A-7E | 04 NOV 75 | 74-004-004 | 01 |
| N13318A0 | 133 | 18 | 85 % NC | 3700 LBS/HR | 400 C TOT | 85 % RPM ENG RUNUP | A-7E | 04 NOV 75 | 74-004-004 | 03 |
| N13321A0 | 133 | 21 | 70 % NC | 1550 LBS/HR | 422 C TOT | 70 % RPM ENG RUNUP | A-7E | 04 NOV 75 | 74-004-004 | 02 |
| N13331A0 | 133 | 31 | 99.5 % NC | 8200 LBS/HR | 574 C TOT | MAX PWR | A-7E | 07 APR 76 | 74-004-012 | 01 |
| N13413A0 | 134 | 13 | 27 % RPM | 325 C EGT | 1200 LBS/HR | IDLE | AV-8A | 06 NOV 75 | 74-004-005 | 01 |
| N13424A0 | 134 | 24 | 55 % RPM | 350 C EGT | 2820 LBS/HR | 55 % RPM ENG RUNUP | AV-8A | 06 NOV 75 | 74-004-005 | 02 |
| N13426A0 | 134 | 26 | 98 % RPM | 680 C EGT | 12360 LBS/HR | 50 FT HOVER | AV-8A | 06 NOV 75 | 74-004-005 | 03 |
| N13602A0 | 136 | 02 | 102 % NC | 1180 C TIT | | MAX PWR ZONE 3 A/B | F-14A | 03 NOV 75 | 74-004-006 | 04 |
| N13604A0 | 136 | 04 | 102 % NC | 1180 C TIT | 7200 LBS/HR | MIL PWR | F-14A | 03 NOV 75 | 74-004-006 | 03 |
| N13613A0 | 136 | 13 | 70 % NC | 590 C TIT | 950 LBS/HR | IDLE | F-14A | 03 NOV 75 | 74-004-006 | 01 |
| N13619A0 | 136 | 19 | 80 % NC | 630 C TIT | 1600 LBS/HR | 80 % RPM ENG RUNUP | F-14A | 03 NOV 75 | 74-004-006 | 02 |
| N13709A0 | 137 | 09 | 1850 SHP | 775 C TIT | 1400 LBS/HR | POWER RUNUP | P-3A | 12 MAY 76 | 74-004-007 | 03 |
| N13713A0 | 137 | 13 | 170 SHP | 611 C TIT | 660 LBS/HR | IDLE | P-3A | 07 NOV 75 | 74-004-007 | 01 |
| N13730A0 | 137 | 30 | 3800 SHP | 965 C TIT | 2120 LBS/HR | TAKEOFF PWR | P-3A | 07 NOV 75 | 74-004-007 | 02 |
| N13811A0 | 138 | 11 | 64.7 % NC | 1800 RPM NF | 596 C ITT | LOW IDLE | S-3A | 07 NOV 75 | 74-004-008 | 01 |
| N13812A0 | 138 | 12 | 73 % NC | 2600 RPM NF | 488 C ITT | HIGH IDLE | S-3A | 07 NOV 75 | 74-004-008 | 02 |
| N13827A0 | 138 | 27 | 93 % NC | 6300 RPM NF | 760 C ITT | T5 DISABLE | S-3A | 07 NOV 75 | 74-004-008 | 03 |
| N13831A0 | 138 | 31 | 96 % NC | 6600 RPM NF | 804 C ITT | MAX PWR | S-3A | 07 NOV 75 | 74-004-008 | 04 |
| N13913A0 | 139 | 13 | 50 % RPM | 550 C EGT | 640 LBS/HR | IDLE | T-2C | 07 NOV 75 | 74-004-009 | 01 |
| N13921A0 | 139 | 21 | 70 % RPM | 596 C EGT | | 70 % RPM ENG RUNUP | T-2C | 07 MAY 76 | 74-004-009 | 03 |
| N13931A0 | 139 | 31 | 100 % RPM | 665 C EGT | 2675 LBS/HR | MAX PWR | T-2C | 07 NOV 75 | 74-004-009 | 02 |
| N14005A0 | 140 | 05 | 95 % RPM | 11400 LBS/HR | | MAX CONT PWR | AV-8B | 07 MAR 83 | BY-001-001 | 05 |
| N14013A0 | 140 | 13 | 27 % RPM | 1200 LBS/HR | | IDLE | AV-8B | 07 MAR 83 | BY-001-001 | 01 |
| N14018A0 | 140 | 18 | 85 % RPM | 7920 LBS/HR | | 85 % RPM ENG RUNUP | AV-8B | 07 MAR 83 | BY-001-001 | 04 |
| N14021A0 | 140 | 21 | 70 % RPM | 4800 LBS/HR | | 70 % RPM ENG RUNUP | AV-8B | 07 MAR 83 | BY-001-001 | 03 |
| N14024A0 | 140 | 24 | 55 % RPM | 2880 LBS/HR | | 55 % RPM ENG RUNUP | AV-8B | 07 MAR 83 | BY-001-001 | 02 |
| N22213A0 | 222 | 13 | 10 % SLTT | 23 % NF | | IDLE | L-1011-1 | 10 APR 80 | AV-851-001 | 04 |
| N22218A0 | 222 | 18 | 80 % SLTT | 85 % NF | | 85 % RPM ENG RUNUP | L-1011-1 | 10 APR 80 | AV-851-001 | 01 |
| N22219A0 | 222 | 19 | 65 % SLTT | 81 % NF | | 80 % RPM ENG RUNUP | L-1011-1 | 10 APR 80 | AV-851-001 | 02 |
| N22222A0 | 222 | 22 | 40 % SLTT | 67 % NF | | 65 % RPM ENG RUNUP | L-1011-1 | 10 APR 80 | AV-851-001 | 03 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ----POWER SETTING VALUES AND UNITS---- | | | | | | | |
| N35003A0 | 350 | 03 | 99 % RPM | 650 C EGT | 7000 LBS/HR | MAX PWR A/B | HUSH HOUSE(F-4 A/C) | 15 MAR 90 | BF-702-001 | 04 |
| N35004A0 | 350 | 04 | 99 % RPM | 650 C EGT | 7000 LBS/HR | MIL PWR | HUSH HOUSE(F-4 A/C) | 15 MAR 90 | BF-702-001 | 03 |
| N35013A0 | 350 | 13 | 65 % RPM | 380 C EGT | 1100 LBS/HR | IDLE | HUSH HOUSE(F-4 A/C) | 15 MAR 90 | BF-702-001 | 01 |
| N35018A0 | 350 | 18 | 85 % RPM | 440 C EGT | 3000 LBS/HR | 85 % RPM ENG RUNUP | HUSH HOUSE(F-4 A/C) | 15 MAR 90 | BF-702-001 | 02 |
| N35103A0 | 351 | 03 | 92 % RPM | 37000 LBS/HR | 915 C TIT | MAX PWR A/B | HUSH HOUSE(F-15 A/C) | 15 MAR 90 | BF-704-001 | 04 |
| N35104A0 | 351 | 04 | 92 % RPM | 8700 LBS/HR | 915 C TIT | MIL PWR | HUSH HOUSE(F-15 A/C) | 15 MAR 90 | BF-704-001 | 03 |
| N35113A0 | 351 | 13 | 68 % RPM | 1100 LBS/HR | 420 C TIT | IDLE | HUSH HOUSE(F-15 A/C) | 15 MAR 90 | BF-704-001 | 01 |
| N35119A0 | 351 | 19 | 80 % RPM | 4600 LBS/HR | 815 C TIT | 80 % RPM ENG RUNUP | HUSH HOUSE(F-15 A/C) | 15 MAR 90 | BF-704-001 | 02 |
| N35203A0 | 352 | 03 | 92 % RPM | 37300 LBS/HR | 925 C TIT | MAX PWR A/B | HUSH HOUSE(F-16 A/C) | 15 MAR 90 | BF-705-001 | 04 |
| N35204A0 | 352 | 04 | 92 % RPM | 7200 LBS/HR | 925 C TIT | MIL PWR | HUSH HOUSE(F-16 A/C) | 15 MAR 90 | BF-705-001 | 03 |
| N35213A0 | 352 | 13 | 68 % RPM | 1000 LBS/HR | 450 C TIT | IDLE | HUSH HOUSE(F-16 A/C) | 15 MAR 90 | BF-705-001 | 01 |
| N35219A0 | 352 | 19 | 80 % RPM | 4500 LBS/HR | 820 C TIT | 80 % RPM ENG RUNUP | HUSH HOUSE(F-16 A/C) | 15 MAR 90 | BF-705-001 | 02 |
| N35303A0 | 353 | 03 | 103 % RPM | 2.43 EPR | 623 C EGT | MAX PWR A/B | HUSH HOUSE(F-105 A/C) | 15 MAR 90 | BF-706-001 | 03 |
| N35304A0 | 353 | 04 | 103 % RPM | 2.35 EPR | 614 C EGT | MIL PWR | HUSH HOUSE(F-105 A/C) | 15 MAR 90 | BF-706-001 | 02 |
| N35317A0 | 353 | 17 | 90 % RPM | 1.68 EPR | | 90 % RPM ENG RUNUP | HUSH HOUSE(F-105 A/C) | 15 MAR 90 | BF-706-001 | 01 |
| N35403A0 | 354 | 03 | 100 % RPM | 1.99 EPR | 9000 LBS/HR | MAX PWR A/B | HUSH HOUSE(F-106 A/C) | 15 MAR 90 | BF-707-001 | 04 |
| N35404A0 | 354 | 04 | 100 % RPM | 1.99 EPR | 9000 LBS/HR | MIL PWR | HUSH HOUSE(F-106 A/C) | 15 MAR 90 | BF-707-001 | 03 |
| N35416A0 | 354 | 16 | 95 % RPM | 1.65 EPR | 6000 LBS/HR | 95 % RPM ENG RUNUP | HUSH HOUSE(F-106 A/C) | 15 MAR 90 | BF-707-001 | 02 |
| N35418A0 | 354 | 18 | 85 % RPM | 1.31 EPR | 3100 LBS/HR | 85 % RPM ENG RUNUP | HUSH HOUSE(F-106 A/C) | 15 MAR 90 | BF-707-001 | 01 |
| N35503A0 | 355 | 03 | 96 % RPM | 2.39 EPR | 49800 LBS/HR | MAX PWR A/B | HUSH HOUSE(F-111F A/C) | 15 MAR 90 | BF-708-001 | 05 |
| N35504A0 | 355 | 04 | 96 % RPM | 2.27 EPR | 8200 LBS/HR | MIL PWR | HUSH HOUSE(F-111F A/C) | 15 MAR 90 | BF-708-001 | 04 |
| N35516A0 | 355 | 16 | 95 % RPM | 2.20 EPR | 7800 LBS/HR | 95 % RPM ENG RUNUP | HUSH HOUSE(F-111F A/C) | 15 MAR 90 | BF-708-001 | 03 |
| N35518A0 | 355 | 18 | 85 % RPM | 1.61 EPR | 4100 LBS/HR | 85 % RPM ENG RUNUP | HUSH HOUSE(F-111F A/C) | 15 MAR 90 | BF-708-001 | 02 |
| N35519A0 | 355 | 19 | 80 % RPM | 1.38 EPR | 2700 LBS/HR | 80 % RPM ENG RUNUP | HUSH HOUSE(F-111F A/C) | 15 MAR 90 | BF-708-001 | 01 |
| N35603A0 | 356 | 03 | 100 % RPM | 645 C TIT | 2100 LBS/HR | MAX PWR A/B | HUSH HOUSE(T-38 A/C) | 15 MAR 90 | BF-709-001 | 03 |
| N35604A0 | 356 | 04 | 100 % RPM | 645 C TIT | 2100 LBS/HR | MIL PWR | HUSH HOUSE(T-38 A/C) | 15 MAR 90 | BF-709-001 | 02 |
| N35619A0 | 356 | 19 | 80 % RPM | 425 C TIT | 900 LBS/HR | 80 % RPM ENG RUNUP | HUSH HOUSE(T-38 A/C) | 15 MAR 90 | BF-709-001 | 01 |
| N35704A0 | 357 | 04 | 99 % RPM | 8903 LBS/HR | 12854 LBS | MIL PWR | HUSH HOUSE(TF41-A-1 ENG.) | 15 MAR 90 | BF-711-001 | 03 |
| N35705A0 | 357 | 05 | 95 % RPM | 7409 LBS/HR | 10992 LBS | MAX CONT PWR | HUSH HOUSE(TF41-A-1 ENG.) | 15 MAR 90 | BF-711-001 | 02 |
| N35718A0 | 357 | 18 | 85 % RPM | 3401 LBS/HR | 5118 LBS | 85 % RPM ENG RUNUP | HUSH HOUSE(TF41-A-1 ENG.) | 15 MAR 90 | BF-711-001 | 01 |
| N35804A0 | 358 | 04 | 100 % RPM | 9720 LBS | 8349 LBS/HR | MIL PWR | HUSH HOUSE(J79-GE-15 ENG) | 15 MAR 90 | BF-712-001 | 02 |
| N35818A0 | 358 | 18 | 85 % RPM | 3514 LBS | 2980 LBS/HR | 85 % RPM ENG RUNUP | HUSH HOUSE(J79-GE-15 ENG) | 15 MAR 90 | BF-712-001 | 01 |
| N35903A0 | 359 | 03 | 92 % RPM | 2.4 EPR | 41593 LBS/HR | MAX PWR A/B | HUSH HOUSE(F100-PW-100 E) | 15 MAR 90 | BF-714-001 | 03 |
| N35904A0 | 359 | 04 | 92 % RPM | 2.4 EPR | 8582 LBS/HR | MIL PWR | HUSH HOUSE(F100-PW-100 E) | 15 MAR 90 | BF-714-001 | 02 |
| N35919A0 | 359 | 19 | 80 % RPM | 1.07 EPR | 2774 LBS/HR | 80 % RPM ENG RUNUP | HUSH HOUSE(F100-PW-100 E) | 15 MAR 90 | BF-714-001 | 01 |
| N36003A0 | 360 | 03 | 103 % RPM | 21753 LBS | | MAX PWR A/B | HUSH HOUSE(J75-P-19 ENG.) | 15 MAR 90 | BF-716-001 | 03 |
| N36004A0 | 360 | 04 | 103 % RPM | 14550 LBS | | MIL PWR | HUSH HOUSE(J75-P-19 ENG.) | 15 MAR 90 | BF-716-001 | 02 |
| N36017A0 | 360 | 17 | 91 % RPM | 6446 LBS | | 90 % RPM ENG RUNUP | HUSH HOUSE(J75-P-19 ENG.) | 15 MAR 90 | BF-716-001 | 01 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | ----POWER SETTING VALUES AND UNITS---- FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N36103A0 | 361 | 03 | 103 % RPM | 19825 LBS | | MAX PWR A/B | HUSH HOUSE(J75-P-17 ENG.) | 15 MAR 90 | BF-717-001 | 03 |
| N36104A0 | 361 | 04 | 103 % RPM | 13260 LBS | | MIL PWR | HUSH HOUSE(J75-P-17 ENG.) | 15 MAR 90 | BF-717-001 | 02 |
| N36117A0 | 361 | 17 | 90 % RPM | 4630 LBS | | 90 % RPM ENG RUNUP | HUSH HOUSE(J75-P-17 ENG.) | 15 MAR 90 | BF-717-001 | 01 |
| N36203A0 | 362 | 03 | 96 % RPM | | | MAX PWR A/B | HUSH HOUSE(TF30-P-100 E) | 15 MAR 90 | BF-718-001 | 03 |
| N36204A0 | 362 | 04 | 96 % RPM | | | MIL PWR | HUSH HOUSE(TF30-P-100 E) | 15 MAR 90 | BF-718-001 | 02 |
| N36218A0 | 362 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | HUSH HOUSE(TF30-P-100 E) | 15 MAR 90 | BF-718-001 | 01 |
| N36304A0 | 363 | 04 | 96 % RPM | 8000 LBS/HR | | MIL PWR | (AF32A-19) A-7 SUPP | 15 MAR 90 | 77-833-001 | 04 |
| N36313A0 | 363 | 13 | 55 % RPM | 1000 LBS/HR | | IDLE | (AF32A-19) A-7 SUPP | 15 MAR 90 | 77-833-001 | 01 |
| N36318A0 | 363 | 18 | 85 % RPM | 3200 LBS/HR | | 85 % RPM ENG RUNUP | (AF32A-19) A-7 SUPP | 15 MAR 90 | 77-833-001 | 03 |
| N36321A0 | 363 | 21 | 70 % RPM | 1500 LBS/HR | | 70 % RPM ENG RUNUP | (AF32A-19) A-7 SUPP | 15 MAR 90 | 77-833-001 | 02 |
| N36404A0 | 364 | 04 | 97.7 % RPM | 9000 LBS/HR | 572 C EGT | MIL PWR | (AF32A-24) A-7 SUPP | 15 MAR 90 | 78-834-001 | 04 |
| N36409A0 | 364 | 09 | 70 % RPM | 1600 LBS/HR | 416 C EGT | POWER RUNUP | (AF32A-24) A-7 SUPP | 15 MAR 90 | 78-834-001 | 02 |
| N36413A0 | 364 | 13 | 54.4 % RPM | 1000 LBS/HR | 438 C EGT | IDLE | (AF32A-24) A-7 SUPP | 15 MAR 90 | 78-834-001 | 01 |
| N36418A0 | 364 | 18 | 85.6 % RPM | 3700 LBS/HR | 400 C EGT | 85 % RPM ENG RUNUP | (AF32A-24) A-7 SUPP | 15 MAR 90 | 78-834-001 | 03 |
| N36519A0 | 365 | 19 | 80 % RPM | 2200 LBS/HR | 1.22 EPR | 80 % RPM ENG RUNUP | (AF32A-52) KC-135A SUPP | 15 MAR 90 | 77-726-001 | 01 |
| N36531A0 | 365 | 31 | 96 % RPM | 8550 LBS/HR | 2.35 EPR | MAX PWR | (AF32A-52) KC-135A SUPP | 15 MAR 90 | 77-726-001 | 02 |
| N36549A0 | 365 | 49 | 96 % RPM | 13000 LBS/HR | 2.79 EPR | MAX PWR WET | (AF32A-52) KC-135A SUPP | 15 MAR 90 | 77-726-001 | 03 |
| N36603A0 | 366 | 03 | 97 % RPM | | | MAX PWR A/B | (AF32A-16) F-100 SUPP | 15 MAR 90 | 77-730-001 | 04 |
| N36604A0 | 366 | 04 | 97 % RPM | | | MIL PWR | (AF32A-16) F-100 SUPP | 15 MAR 90 | 77-730-001 | 03 |
| N36613A0 | 366 | 13 | 53 % RPM | | | IDLE | (AF32A-16) F-100 SUPP | 15 MAR 90 | 77-730-001 | 01 |
| N36621A0 | 366 | 21 | 70 % RPM | | | 70 % RPM ENG RUNUP | (AF32A-16) F-100 SUPP | 15 MAR 90 | 77-730-001 | 02 |
| N36703A0 | 367 | 03 | 98.5 % RPM | 660 C EGT | | MAX PWR A/B | (AF32A-14) F-4 SUPP | 15 MAR 90 | 77-731-001 | 03 |
| N36704A0 | 367 | 04 | 98.5 % RPM | 660 C EGT | | MIL PWR | (AF32A-14) F-4 SUPP | 15 MAR 90 | 77-731-001 | 02 |
| N36718A0 | 367 | 18 | 85 % RPM | 400 C EGT | 2850 PPH FF | 85 % RPM ENG RUNUP | (AF32A-14) F-4 SUPP | 15 MAR 90 | 77-731-001 | 01 |
| N36803A0 | 368 | 03 | 100 % RPM | 635 C EGT | 2100 PSI FF | MAX PWR A/B | (AF32A-18) T-38 SUPP | 15 MAR 90 | 77-733-001 | 05 |
| N36804A0 | 368 | 04 | 99.5 % RPM | 635 C EGT | 2100 PSI FF | MIL PWR | (AF32A-18) T-38 SUPP | 15 MAR 90 | 77-733-001 | 04 |
| N36809A0 | 368 | 09 | 94 % RPM | 500 C EGT | 1425 PSI FF | POWER RUNUP | (AF32A-18) T-38 SUPP | 15 MAR 90 | 77-733-001 | 03 |
| N36813A0 | 368 | 13 | 48 % RPM | 517 C EGT | 500 PSI FF | IDLE | (AF32A-18) T-38 SUPP | 15 MAR 90 | 77-733-001 | 01 |
| N36820A0 | 368 | 20 | 75 % RPM | 405 C EGT | 790 PSI FF | 75 % RPM ENG RUNUP | (AF32A-18) T-38 SUPP | 15 MAR 90 | 77-733-001 | 02 |
| N36903A0 | 369 | 03 | 91 % N2 | 38000 LBS/HR | 920 FTIT | MAX PWR A/B | (AF32A-25) F-16 SUPP | 15 MAR 90 | 79-738-001 | 04 |
| N36904A0 | 369 | 04 | 91 % N2 | 8150 LBS/HR | 920 FTIT | MIL PWR | (AF32A-25) F-16 SUPP | 15 MAR 90 | 79-738-001 | 03 |
| N36913A0 | 369 | 13 | 65 % N2 | 850 LBS/HR | 440 FTIT | IDLE | (AF32A-25) F-16 SUPP | 15 MAR 90 | 79-738-001 | 01 |
| N36919A0 | 369 | 19 | 80 % N2 | 3600 LBS/HR | 650 FTIT | 80 % RPM ENG RUNUP | (AF32A-25) F-16 SUPP | 15 MAR 90 | 79-738-001 | 02 |
| N37003A0 | 370 | 03 | 101 % RPM | 670 C EGT | 8000 PPH FF | MAX PWR A/B | (AF32A-18) F-5 SUPP | 15 MAR 90 | 77-746-001 | 03 |
| N37004A0 | 370 | 04 | 101 % RPM | 670 C EGT | 3500 PPH FF | MIL PWR | (AF32A-18) F-5 SUPP | 15 MAR 90 | 77-746-001 | 02 |
| N37019A0 | 370 | 19 | 80 % RPM | 400 C EGT | | 80 % RPM ENG RUNUP | (AF32A-18) F-5 SUPP | 15 MAR 90 | 77-746-001 | 01 |
| N37103A0 | 371 | 03 | 91 % RPM | 940 C TIT | 36900 PPH FF | MAX PWR A/B | (AF32A-23) F-15 SUPP | 15 MAR 90 | 77-761-001 | 03 |
| N37104A0 | 371 | 04 | 91 % RPM | 940 C TIT | 7200 PPH FF | MIL PWR | (AF32A-23) F-15 SUPP | 15 MAR 90 | 77-761-001 | 02 |
| N37119A0 | 371 | 19 | 80 % RPM | 690 C TIT | 3200 PPH FF | 80 % RPM ENG RUNUP | (AF32A-23) F-15 SUPP | 15 MAR 90 | 77-761-001 | 01 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | POWER SETTING VALUES AND UNITS: FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N37203A0 | 372 | 03 | 100 % RPM | 2.18 EPR | | MAX PWR A/B | (AF32A-17) F-106 SUPP | 15 MAR 90 | 77-778-001 | 05 |
| N37204A0 | 372 | 04 | 100 % RPM | 2.18 EPR | 10500 LBS/HR | MIL PWR | (AF32A-17) F-106 SUPP | 15 MAR 90 | 77-778-001 | 04 |
| N37213A0 | 372 | 13 | 59 % RPM | 1.2 EPR | 1600 LBS/HR | IDLE | (AF32A-17) F-106 SUPP | 15 MAR 90 | 77-778-001 | 01 |
| N37216A0 | 372 | 16 | 95 % RPM | 2.0 EPR | 10000 LBS/HR | 95 % RPM ENG RUNUP | (AF32A-17) F-106 SUPP | 15 MAR 90 | 77-778-001 | 03 |
| N37218A0 | 372 | 18 | 85 % RPM | 1.85 EPR | 2400 LBS/HR | 85 % RPM ENG RUNUP | (AF32A-17) F-106 SUPP | 15 MAR 90 | 77-778-001 | 02 |
| N37301A0 | 373 | 01 | 96.1 % N2 | 1104 C TIT | 33800 LBS/HR | MAX PWR ZONE 5 A/B | (AF32A-13) F-111A SUPP | 15 MAR 90 | 78-779-001 | 05 |
| N37302A0 | 373 | 02 | 96.4 % N2 | 1094 C TIT | 20200 LBS/HR | MAX PWR ZONE 3 A/B | (AF32A-13) F-111A SUPP | 15 MAR 90 | 78-779-001 | 04 |
| N37304A0 | 373 | 04 | 96.5 % N2 | 1086 C TIT | 5900 LBS/HR | MIL PWR | (AF32A-13) F-111A SUPP | 15 MAR 90 | 78-779-001 | 03 |
| N37313A0 | 373 | 13 | 66.9 % N2 | 558 C TIT | 900 LBS/HR | IDLE | (AF32A-13) F-111A SUPP | 15 MAR 90 | 78-779-001 | 01 |
| N37320A0 | 373 | 20 | 75 % N2 | 726 C TIT | 1500 LBS/HR | 75 % RPM ENG RUNUP | (AF32A-13) F-111A SUPP | 15 MAR 90 | 78-779-001 | 02 |
| N39103A0 | 391 | 03 | 100 % RPM | | | MAX PWR A/B | (GRADE I) SUPPRESSORS | 19 MAY 78 | 76-991-001 | 01 |
| N39203A0 | 392 | 03 | 100 % RPM | | | MAX PWR A/B | (GRADE II) SUPPRESSORS | 19 MAY 78 | 76-992-001 | 01 |
| N39303A0 | 393 | 03 | 100 % RPM | | | MAX PWR A/B | (GRADE III) SUPPRESSORS | 19 MAY 78 | 76-993-001 | 01 |
| N39403A0 | 394 | 03 | 100 % RPM | | | MAX PWR A/B | TEST CELL | 21 NOV 90 | 90-994-001 | 01 |
| N39405A0 | 394 | 05 | 100 % RPM | | | MAX CONT PWR | TEST CELL | 21 NOV 90 | 90-994-001 | 02 |
| N39413A0 | 394 | 13 | 70 % RPM | | | IDLE | TEST CELL | 21 NOV 90 | 90-994-001 | 03 |
| N39419A0 | 394 | 19 | 80 % RPM | | | 80 % RPM ENG RUNUP | TEST CELL | 21 NOV 90 | 90-994-001 | 04 |
| N39504A0 | 395 | 04 | 20000 LBS | | | 20000 LBS THRUST | TEST STAND | 20 FEB 91 | 91-995-001 | 04 |
| N39509A0 | 395 | 09 | 4000 LBS | | | 4000 LBS THRUST | TEST STAND | 20 FEB 91 | 91-995-001 | 05 |
| N39513A0 | 395 | 13 | 500 LBS | | | IDLE | TEST STAND | 20 FEB 91 | 91-995-001 | 01 |
| N50708A0 | 507 | 08 | 2050 RPM | 27.5 IN MAP | | MAGNETO CHECK | C-118 | 21 MAY 76 | 76-507-001 | 02 |
| N50713A0 | 507 | 13 | 800 RPM | 13 IN MAP | | IDLE | C-118 | 21 MAY 76 | 76-507-001 | 01 |
| N50715A0 | 507 | 15 | 1000 RPM | 24 IN MAP | | TAXI | C-118 | 21 MAY 76 | 76-507-002 | 01 |
| N50730A0 | 507 | 30 | 2800 RPM | 62 IN MAP | | TAKEOFF PWR | C-118 | 21 MAY 76 | 76-507-001 | 03 |
| N50804A0 | 508 | 04 | 100 % RPM | 1.93 EPR | | MIL PWR | C-140 | 25 MAY 76 | 76-508-001 | 04 |
| N50813A0 | 508 | 13 | 41 % RPM | 1.03 EPR | | IDLE | C-140 | 25 MAY 76 | 76-508-001 | 01 |
| N50818A0 | 508 | 18 | 85 % RPM | 1.46 EPR | | 85 % RPM ENG RUNUP | C-140 | 25 MAY 76 | 76-508-001 | 03 |
| N50820A0 | 508 | 20 | 75 % RPM | 1.25 EPR | | 75 % RPM ENG RUNUP | C-140 | 25 MAY 76 | 76-508-001 | 02 |
| N50903A0 | 509 | 03 | 100 % RPM | | | MAX PWR A/B | F-5A&B | 13 APR 76 | 74-509-039 | 04 |
| N50904A0 | 509 | 04 | 100 % RPM | | | MIL PWR | F-5A&B | 13 APR 76 | 74-509-039 | 03 |
| N50913A0 | 509 | 13 | 50 % RPM | | | IDLE | F-5A&B | 13 APR 76 | 74-509-039 | 01 |
| N50919A0 | 509 | 19 | 80 % RPM | | | 80 % RPM ENG RUNUP | F-5A&B | 13 APR 76 | 74-509-039 | 02 |
| N51102A0 | 511 | 02 | 95 % NC | | | MAX PWR ZONE 3 A/B | F-111D | 14 APR 76 | 74-511-001 | 05 |
| N51104A0 | 511 | 04 | 95 % NC | | | MIL PWR | F-111D | 14 APR 76 | 74-511-001 | 04 |
| N51113A0 | 511 | 13 | 65 % NC | | | IDLE | F-111D | 14 APR 76 | 74-511-001 | 01 |
| N51118A0 | 511 | 18 | 85 % NC | | | 85 % RPM ENG RUNUP | F-111D | 14 APR 76 | 74-511-001 | 03 |
| N51119A0 | 511 | 19 | 80 % NC | | | 80 % RPM ENG RUNUP | F-111D | 14 APR 76 | 74-511-001 | 02 |
| N51304A0 | 513 | 04 | 97 % RPM | | | MIL PWR | A-3 | 02 JUN 76 | 76-513-001 | 03 |
| N51313A0 | 513 | 13 | 53 % RPM | | | IDLE | A-3 | 02 JUN 76 | 76-513-001 | 01 |
| N51321A0 | 513 | 21 | 70 % RPM | | | 70 % RPM ENG RUNUP | A-3 | 02 JUN 76 | 76-513-001 | 02 |

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | POWER SETTING VALUES AND UNITS FIRST | SECOND | THIRD | OPERATION POWER DESCRIPTION | NOISE SOURCE/SUBJECT FIRST LINE | DATE OF OMEGA 8 RUN | TEST | RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N51608A0 | 516 | 08 | 2050 RPM | 27.5 IN MAP | | MAGNETO CHECK | T-29 | 24 MAY 76 | 76-516-001 | 02 |
| N51613A0 | 516 | 13 | 800 RPM | 13 IN MAP | | IDLE | T-29 | 24 MAY 76 | 76-516-001 | 01 |
| N51615A0 | 516 | 15 | 1000 RPM | 24 IN MAP | | TAXI | T-29 | 25 MAY 76 | 76-516-002 | 01 |
| N51630A0 | 516 | 30 | 2800 RPM | 62 IN MAP | | TAKEOFF PWR | T-29 | 24 MAY 76 | 76-516-001 | 03 |
| N51703A0 | 517 | 03 | 80 % NC | | | MAX PWR A/B | SR-71 | 26 APR 76 | 76-517-001 | 09 |
| N51704A0 | 517 | 04 | 70 % NC | | | MIL PWR | SR-71 | 26 APR 76 | 76-517-001 | 07 |
| N51713A0 | 517 | 13 | 20 % NC | | | IDLE | SR-71 | 26 APR 76 | 76-517-001 | 04 |
| N51725A0 | 517 | 25 | 50 % NC | | | 50 % RPM ENG RUNUP | SR-71 | 26 APR 76 | 76-517-001 | 06 |
| N51742A0 | 517 | 42 | 75 % NC | | | MIN PWR A/B | SR-71 | 26 APR 76 | 76-517-001 | 08 |
| N51743A0 | 517 | 43 | 30 % NC | | | 30 % RPM ENG RUNUP | SR-71 | 26 APR 76 | 76-517-001 | 05 |
| N51804A0 | 518 | 04 | 100 % RPM | | | MIL PWR | U-2 | 27 APR 76 | 76-518-001 | 03 |
| N51813A0 | 518 | 13 | 68 % RPM | | | IDLE | U-2 | 27 APR 76 | 76-518-001 | 01 |
| N51818A0 | 518 | 18 | 85 % RPM | | | 85 % RPM ENG RUNUP | U-2 | 27 APR 76 | 76-518-001 | 02 |
| N51913A0 | 519 | 13 | 61 % RPM | 300 C EGT | 1.05 EPR | IDLE | B-52B&D&E | 13 DEC 76 | 76-519-001 | 01 |
| N51917A0 | 519 | 17 | 90 % RPM | 520 C EGT | 2.04 EPR | 90 % RPM ENG RUNUP | B-52B&D&E | 13 DEC 76 | 76-519-001 | 03 |
| N51919A0 | 519 | 19 | 80 % RPM | 340 C EGT | 1.35 EPR | 80 % RPM ENG RUNUP | B-52B&D&E | 13 DEC 76 | 76-519-001 | 02 |
| N51931A0 | 519 | 31 | 94 % RPM | 580 C EGT | 2.45 EPR | MAX PWR | B-52B&D&E | 13 DEC 76 | 76-519-001 | 04 |
| N52009A0 | 520 | 09 | 9600 IN-LBS | 775 C TIT | 1400 LBS/HR | POWER RUNUP | C-130A&D | 13 DEC 76 | 76-520-001 | 03 |
| N52011A0 | 520 | 11 | 800 IN-LBS | 625 C TIT | 650 LBS/HR | LOW IDLE | C-130A&D | 13 DEC 76 | 76-520-001 | 01 |
| N52013A0 | 520 | 13 | 1400 IN-LBS | 560 C TIT | 780 LBS/HR | IDLE | C-130A&D | 13 DEC 76 | 76-520-001 | 02 |
| N52030A0 | 520 | 30 | 16800 IN-LBS | 970 C TIT | 2000 LBS/HR | TAKEOFF PWR | C-130A&D | 13 DEC 76 | 76-520-001 | 04 |
| N52109A0 | 521 | 09 | 9600 IN-LBS | 775 C TIT | 1400 LBS/HR | POWER RUNUP | C-130H&N&P | 14 DEC 76 | 76-521-001 | 03 |
| N52111A0 | 521 | 11 | 800 IN-LBS | 625 C TIT | 650 LBS/HR | LOW IDLE | C-130H&N&P | 14 DEC 76 | 76-521-001 | 01 |
| N52113A0 | 521 | 13 | 1400 IN-LBS | 560 C TIT | 780 LBS/HR | IDLE | C-130H&N&P | 14 DEC 76 | 76-521-001 | 02 |
| N52130A0 | 521 | 30 | 16800 IN-LBS | 970 C TIT | 2000 LBS/HR | TAKEOFF PWR | C-130H&N&P | 14 DEC 76 | 76-521-001 | 04 |
| N52703A0 | 527 | 03 | 100 % RPM | | | MAX PWR A/B | F-8 | 26 OCT 77 | 77-527-002 | 02 |
| N52704A0 | 527 | 04 | 97 % RPM | | | MIL PWR | F-8 | 26 OCT 77 | 77-527-002 | 01 |
| N52713A0 | 527 | 13 | 53 % RPM | | | IDLE | F-8 | 26 OCT 77 | 77-527-001 | 01 |
| N52721A0 | 527 | 21 | 70 % RPM | | | 70 % RPM ENG RUNUP | F-8 | 26 OCT 77 | 77-527-001 | 02 |
| N56704A0 | 567 | 04 | 94 % NC | 815 C EGT | 7260 LBS/HR | MIL PWR | F-117A SURROGATE | 26 MAR 91 | AM-007-001 | 03 |
| N56713A0 | 567 | 13 | 63 % NC | 449 C EGT | 624 LBS/HR | IDLE | F-117A SURROGATE | 26 MAR 91 | AM-007-001 | 01 |
| N56718A0 | 567 | 18 | 85 % NC | 655 C EGT | 3807 LBS/HR | 85 % RPM ENG RUNUP | F-117A SURROGATE | 26 MAR 91 | AM-007-001 | 02 |
| N56806A0 | 568 | 06 | 97.2 % RPM | 1317 C TIT | | INTERMED PWR (MIL) | B-2 SURROGATE | 26 MAR 91 | 76-039-001 | 03 |
| N56813A0 | 568 | 13 | 70.5 % RPM | 848 C TIT | | IDLE | B-2 SURROGATE | 26 MAR 91 | 76-039-001 | 01 |

END OF DATA FILE. NUMBER OF NORMALIZED DATA DECKS= 398

Table 6. NOISEFILE 6.2 Runup Reference Noise Database Cont'd.

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N201031AI | 201 | 03 | 36000 LBS | | TAKEOFF | B747-100 | 1000 FT | 160 KTS | JT9D(BLOW DOOR) | 14 JAN 88 |
| N201041AI | 201 | 04 | 14000 LBS | | CRUISE | B747-100 | 1000 FT | 160 KTS | JT9D(BLOW DOOR) | 14 JAN 88 |
| N201051AI | 201 | 05 | 8000 LBS | | LANDING | B747-100 | 1000 FT | 160 KTS | JT9D(BLOW DOOR) | 14 JAN 88 |
| N201061AI | 201 | 06 | 28000 LBS | | INTERMEDIATE | B747-100 | 1000 FT | 160 KTS | JT9D(BLOW DOOR) | 14 JAN 88 |
| N202031AI | 202 | 03 | 40000 LBS | | TAKEOFF | B747-200 | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N202041AI | 202 | 04 | 16000 LBS | | CRUISE | B747-200 | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N202051AI | 202 | 05 | 8000 LBS | | LANDING | B747-200 | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N202061AI | 202 | 06 | 32000 LBS | | INTERMEDIATE | B747-200 | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N203031AI | 203 | 03 | 40000 LBS | | TAKEOFF | B747-100QN | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N203041AI | 203 | 04 | 16000 LBS | | CRUISE | B747-100QN | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N203051AI | 203 | 05 | 8000 LBS | | LANDING | B747-100QN | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N203061AI | 203 | 06 | 32000 LBS | | INTERMEDIATE | B747-100QN | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N204031AI | 204 | 03 | 40000 LBS | | TAKEOFF | B747-SP | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N204041AI | 204 | 04 | 16000 LBS | | CRUISE | B747-SP | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N204051AI | 204 | 05 | 8000 LBS | | LANDING | B747-SP | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N204061AI | 204 | 06 | 32000 LBS | | INTERMEDIATE | B747-SP | 1000 FT | 160 KTS | JT9D(FIXED-LIP) | 14 JAN 88 |
| N206031AI | 206 | 03 | 15000 LBS | | TAKEOFF | DC8-20 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N206051AI | 206 | 05 | 4000 LBS | | LANDING | DC8-20 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N207031AI | 207 | 03 | 15000 LBS | | TAKEOFF | B707-120 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N207051AI | 207 | 05 | 4000 LBS | | LANDING | B707-120 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N208031AI | 208 | 03 | 15000 LBS | | TAKEOFF | B720 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N208051AI | 208 | 05 | 4000 LBS | | LANDING | B720 | 1000 FT | 160 KTS | PW-JT4A (SUPP) | 14 JAN 88 |
| N209031AI | 209 | 03 | 15000 LBS | | TAKEOFF | B707-320B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N209051AI | 209 | 05 | 4000 LBS | | LANDING | B707-320B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N210031AI | 210 | 03 | 15000 LBS | | TAKEOFF | B707-120B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N210051AI | 210 | 05 | 4000 LBS | | LANDING | B707-120B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N211031AI | 211 | 03 | 15000 LBS | | TAKEOFF | B720B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N211051AI | 211 | 05 | 4000 LBS | | LANDING | B720B | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N212031AI | 212 | 03 | 15000 LBS | | TAKEOFF | DC8-50 | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N212051AI | 212 | 05 | 4000 LBS | | LANDING | DC8-50 | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N213031AI | 213 | 03 | 15000 LBS | | TAKEOFF | DC8-60 | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N213051AI | 213 | 05 | 4000 LBS | | LANDING | DC8-60 | 1000 FT | 160 KTS | PW-JT3D UNTREAT | 14 JAN 88 |
| N214031AI | 214 | 03 | 15500 LBS | | TAKEOFF | DC8-70 | 1000 FT | 160 KTS | CFM56 RETROFIT | 14 JAN 88 |
| N214051AI | 214 | 05 | 5000 LBS | | LANDING | DC8-70 | 1000 FT | 160 KTS | CFM56 RETROFIT | 14 JAN 88 |
| N215031AI | 215 | 03 | 100 % RPM | | TAKEOFF | BAE-146 | 1000 FT | 160 KTS | 4-E TF ALF-502R | 14 JAN 88 |
| N215051AI | 215 | 05 | 30 % RPM | | LANDING | BAE-146 | 1000 FT | 160 KTS | 4-E TF ALF-502R | 14 JAN 88 |

Table 7. NOISEFILE 6.2 Civil Reference Noise Database

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N216031AI | 216 | 03 | 15500 LBS | | TAKEOFF | B707-320QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N216041AI | 216 | 04 | 5000 LBS | | CRUISE | B707-320QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N216051AI | 216 | 05 | 3000 LBS | | LANDING | B707-320QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N216061AI | 216 | 06 | 11000 LBS | | INTERMEDIATE | B707-320QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N217031AI | 217 | 03 | 15500 LBS | | TAKEOFF | DC8-60QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N217041AI | 217 | 04 | 5000 LBS | | CRUISE | DC8-60QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N217051AI | 217 | 05 | 3000 LBS | | LANDING | DC8-60QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N217061AI | 217 | 06 | 11000 LBS | | INTERMEDIATE | DC8-60QN | 1000 FT | 160 KTS | PW-JT3D(LINED) | 14 JAN 88 |
| N218031AI | 218 | 03 | 32000 LBS | | TAKEOFF | CONCORDE | 1000 FT | 160 KTS | 4-E 593 TJ (AB) | 14 JAN 88 |
| N218051AI | 218 | 05 | 10000 LBS | | LANDING | CONCORDE | 1000 FT | 160 KTS | 4-E 593 TJ (AB) | 14 JAN 88 |
| N219031AI | 219 | 03 | 36000 LBS | | TAKEOFF | DC10-10 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N219051AI | 219 | 05 | 8000 LBS | | LANDING | DC10-10 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N220031AI | 220 | 03 | 36000 LBS | | TAKEOFF | DC10-30 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N220051AI | 220 | 05 | 8000 LBS | | LANDING | DC10-30 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N221031AI | 221 | 03 | 36000 LBS | | TAKEOFF | DC10-40 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N221051AI | 221 | 05 | 8000 LBS | | LANDING | DC10-40 | 1000 FT | 160 KTS | 3-E TF CF6 | 14 JAN 88 |
| N222031AI | 222 | 03 | 36000 LBS | | TAKEOFF | L1011 | 1000 FT | 160 KTS | 3-E TF RB211 | 14 JAN 88 |
| N222051AI | 222 | 05 | 8000 LBS | | LANDING | L1011 | 1000 FT | 160 KTS | 3-E TF RB211 | 14 JAN 88 |
| N223031AI | 223 | 03 | 36000 LBS | | TAKEOFF | L1011-500 | 1000 FT | 160 KTS | 3-E TF RB211 | 14 JAN 88 |
| N223051AI | 223 | 05 | 8000 LBS | | LANDING | L1011-500 | 1000 FT | 160 KTS | 3-E TF RB211 | 14 JAN 88 |
| N224031AI | 224 | 03 | 14000 LBS | | TAKEOFF | B727-2D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N224041AI | 224 | 04 | 6000 LBS | | CRUISE | B727-2D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N224051AI | 224 | 05 | 3000 LBS | | LANDING | B727-2D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N225031AI | 225 | 03 | 14000 LBS | | TAKEOFF | B727-1D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N225041AI | 225 | 04 | 6000 LBS | | CRUISE | B727-1D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N225051AI | 225 | 05 | 3000 LBS | | LANDING | B727-1D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N226031AI | 226 | 03 | 14000 LBS | | TAKEOFF | B727-2D15 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N226041AI | 226 | 04 | 6000 LBS | | CRUISE | B727-2D15 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N226051AI | 226 | 05 | 3000 LBS | | LANDING | B727-2D15 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N227031AI | 227 | 03 | 14000 LBS | | TAKEOFF | B727-2QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N227041AI | 227 | 04 | 6000 LBS | | CRUISE | B727-2QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N227051AI | 227 | 05 | 3000 LBS | | LANDING | B727-2QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N228031AI | 228 | 03 | 14000 LBS | | TAKEOFF | B727-1QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N228041AI | 228 | 04 | 6000 LBS | | CRUISE | B727-1QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N228051AI | 228 | 05 | 3000 LBS | | LANDING | B727-1QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N229031AI | 229 | 03 | 14000 LBS | | TAKEOFF | B727-2QN15 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N229041AI | 229 | 04 | 6000 LBS | | CRUISE | B727-2QN15 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N229051AI | 229 | 05 | 3000 LBS | | LANDING | B727-2QN15 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |

Table 7. NOISEFILE 6.2 Civil Reference Noise Database cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N230031AI | 230 | 03 | 14000 LBS | | TAKEOFF | B727-2D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N230041AI | 230 | 04 | 6000 LBS | | CRUISE | B727-2D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N230051AI | 230 | 05 | 3000 LBS | | LANDING | B727-2D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N231031AI | 231 | 03 | 40000 LBS | | TAKEOFF | A-300 | 1000 FT | 160 KTS | 2-E HIGH TB CF6 | 14 JAN 88 |
| N231051AI | 231 | 05 | 10000 LBS | | LANDING | A-300 | 1000 FT | 160 KTS | 2-E HIGH TB CF6 | 14 JAN 88 |
| N232031AI | 232 | 03 | 38000 LBS | | TAKEOFF | B767-CF6 | 1000 FT | 160 KTS | CF6-80A/JT9D7R4 | 22 JAN 88 |
| N232051AI | 232 | 05 | 10000 LBS | | LANDING | B767-CF6 | 1000 FT | 160 KTS | CF6-80A/JT9D7R4 | 22 JAN 88 |
| N233031AI | 233 | 03 | 38000 LBS | | TAKEOFF | B767-JT9 | 1000 FT | 160 KTS | CF6-80A/JT9D7R4 | 22 JAN 88 |
| N233051AI | 233 | 05 | 10000 LBS | | LANDING | B767-JT9 | 1000 FT | 160 KTS | CF6-80A/JT9D7R4 | 22 JAN 88 |
| N234031AI | 234 | 03 | 40000 LBS | | TAKEOFF | A-310 | 1000 FT | 160 KTS | 2-E HIGH TB CF6 | 14 JAN 88 |
| N234051AI | 234 | 05 | 10000 LBS | | LANDING | A-310 | 1000 FT | 160 KTS | 2-E HIGH TB CF6 | 14 JAN 88 |
| N235031AI | 235 | 03 | 16000 LBS | | TAKEOFF | B737-300B1 | 1000 FT | 160 KTS | CFM56 | 14 JAN 88 |
| N235051AI | 235 | 05 | 4000 LBS | | LANDING | B737-300B1 | 1000 FT | 160 KTS | CFM56 | 14 JAN 88 |
| N236031AI | 236 | 03 | 16000 LBS | | TAKEOFF | B737-300B2 | 1000 FT | 160 KTS | CFM56 | 14 JAN 88 |
| N236051AI | 236 | 05 | 4000 LBS | | LANDING | B737-300B2 | 1000 FT | 160 KTS | CFM56 | 14 JAN 88 |
| N237031AI | 237 | 03 | 14000 LBS | | TAKEOFF | BAC-111 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N237041AI | 237 | 04 | 6000 LBS | | CRUISE | BAC-111 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N237051AI | 237 | 05 | 3000 LBS | | LANDING | BAC-111 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 89 |
| N238031AI | 238 | 03 | 10000 LBS | | TAKEOFF | F-28-MK2 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N238041AI | 238 | 04 | 4000 LBS | | CRUISE | F-28-MK2 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N238051AI | 238 | 05 | 2000 LBS | | LANDING | F-28-MK2 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N238061AI | 238 | 06 | 8000 LBS | | INTERMEDIATE | F-28-MK2 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N238131AI | 238 | 13 | 6000 LBS | | TRAFFIC PATTERN | F-28-MK2 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N239031AI | 239 | 03 | 10000 LBS | | TAKEOFF | F-28-MK4 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N239041AI | 239 | 04 | 4000 LBS | | CRUISE | F-28-MK4 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N239051AI | 239 | 05 | 2000 LBS | | LANDING | F-28-MK4 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N239061AI | 239 | 06 | 8000 LBS | | INTERMEDIATE | F-28-MK4 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N239131AI | 239 | 13 | 6000 LBS | | TRAFFIC PATTERN | F-28-MK4 | 1000 FT | 160 KTS | RB183 MK555-15 | 14 JAN 88 |
| N240031AI | 240 | 03 | 14000 LBS | | TAKEOFF | DC9-30D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N240041AI | 240 | 04 | 6000 LBS | | CRUISE | DC9-30D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N240051AI | 240 | 05 | 3000 LBS | | LANDING | DC9-30D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N241031AI | 241 | 03 | 14000 LBS | | TAKEOFF | DC9-10D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N241041AI | 241 | 04 | 6000 LBS | | CRUISE | DC9-10D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N241051AI | 241 | 05 | 3000 LBS | | LANDING | DC9-10D7 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N242031AI | 242 | 03 | 14000 LBS | | TAKEOFF | B737-D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N242041AI | 242 | 04 | 6000 LBS | | CRUISE | B737-D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |
| N242051AI | 242 | 05 | 3000 LBS | | LANDING | B737-D9 | 1000 FT | 160 KTS | JT8D(UNTREATED) | 14 JAN 88 |

Table 7. NOISEFILE 6.2 Civil Reference Noise Database cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N243031AI | 243 | 03 | 14000 LBS | | TAKEOFF | DC9-30QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N243041AI | 243 | 04 | 6000 LBS | | CRUISE | DC9-30QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N243051AI | 243 | 05 | 3000 LBS | | LANDING | DC9-30QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N244031AI | 244 | 03 | 14000 LBS | | TAKEOFF | DC9-10QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N244041AI | 244 | 04 | 6000 LBS | | CRUISE | DC9-10QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N244051AI | 244 | 05 | 3000 LBS | | LANDING | DC9-10QN7 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N245031AI | 245 | 03 | 14000 LBS | | TAKEOFF | B737-QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N245041AI | 245 | 04 | 6000 LBS | | CRUISE | B737-QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N245051AI | 245 | 05 | 3000 LBS | | LANDING | B737-QN9 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N246031AI | 246 | 03 | 14000 LBS | | TAKEOFF | DC9-50D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N246041AI | 246 | 04 | 6000 LBS | | CRUISE | DC9-50D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N246051AI | 246 | 05 | 3000 LBS | | LANDING | DC9-50D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N247031AI | 247 | 03 | 14000 LBS | | TAKEOFF | B737-D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N247041AI | 247 | 04 | 6000 LBS | | CRUISE | B737-D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N247051AI | 247 | 05 | 3000 LBS | | LANDING | B737-D17 | 1000 FT | 160 KTS | JT8D(AC-LINED) | 14 JAN 88 |
| N248031AI | 248 | 03 | 16000 LBS | | TAKEOFF | MD-81 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N248041AI | 248 | 04 | 8000 LBS | | CRUISE | MD-81 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N248051AI | 248 | 05 | 4000 LBS | | LANDING | MD-81 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N248061AI | 248 | 06 | 12000 LBS | | INTERMEDIATE | MD-81 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N249031AI | 249 | 03 | 16000 LBS | | TAKEOFF | MD-82 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N249041AI | 249 | 04 | 8000 LBS | | CRUISE | MD-82 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N249051AI | 249 | 05 | 4000 LBS | | LANDING | MD-82 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N249061AI | 249 | 06 | 12000 LBS | | INTERMEDIATE | MD-82 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N250031AI | 250 | 03 | 16000 LBS | | TAKEOFF | MD-83 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N250041AI | 250 | 04 | 8000 LBS | | CRUISE | MD-83 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N250051AI | 250 | 05 | 4000 LBS | | LANDING | MD-83 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N250061AI | 250 | 06 | 12000 LBS | | INTERMEDIATE | MD-83 | 1000 FT | 160 KTS | JT8D-209/217 | 22 JAN 88 |
| N251031AI | 251 | 03 | 30000 LBS | | TAKEOFF | B757-RR | 1000 FT | 160 KTS | RB211-535 | 14 JAN 88 |
| N251041AI | 251 | 04 | 10000 LBS | | CRUISE | B757-RR | 1000 FT | 160 KTS | RB211-535 | 14 JAN 88 |
| N251051AI | 251 | 05 | 5000 LBS | | LANDING | B757-RR | 1000 FT | 160 KTS | RB211-535 | 14 JAN 88 |
| N253031AI | 253 | 03 | 100 % RPM | | TAKEOFF | COMJET | 1000 FT | 160 KTS | TURBOJET & FAN | 14 JAN 88 |
| N253041AI | 253 | 04 | 60 % RPM | | CRUISE | COMJET | 1000 FT | 160 KTS | TURBOJET & FAN | 14 JAN 88 |
| N253051AI | 253 | 05 | 30 % RPM | | LANDING | COMJET | 1000 FT | 160 KTS | TURBOJET & FAN | 14 JAN 88 |
| N254031AI | 254 | 03 | 2650 LBS | | TAKEOFF | LEAR-35 | 1000 FT | 160 KTS | 2-E TF TFE 731 | 14 JAN 88 |
| N254041AI | 254 | 04 | 1500 LBS | | CRUISE | LEAR-35 | 1000 FT | 160 KTS | 2-E TF TFE 731 | 14 JAN 88 |
| N254051AI | 254 | 05 | 1000 LBS | | LANDING | LEAR-35 | 1000 FT | 160 KTS | 2-E TF TFE 731 | 14 JAN 88 |
| N255031AI | 255 | 03 | 2600 LBS | | TAKEOFF | LEAR-25 | 1000 FT | 160 KTS | 2-E TJ CJ610 | 14 JAN 88 |
| N255041AI | 255 | 04 | 1800 LBS | | CRUISE | LEAR-25 | 1000 FT | 160 KTS | 2-E TJ CJ610 | 14 JAN 88 |
| N255051AI | 255 | 05 | 700 LBS | | LANDING | LEAR-25 | 1000 FT | 160 KTS | 2-E TJ CJ610 | 14 JAN 88 |

Table 7. NOISEFILE 6.2 Civil Reference Noise Database cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N256031AI | 256 | 03 | 3750 LBS | | TAKEOFF | SABER-80 | 1000 FT | 160 KTS | 2-E TF CF700 | 14 JAN 88 |
| N256041AI | 256 | 04 | 2500 LBS | | CRUISE | SABER-80 | 1000 FT | 160 KTS | 2-E TF CF700 | 14 JAN 88 |
| N256051AI | 256 | 05 | 850 LBS | | LANDING | SABER-80 | 1000 FT | 160 KTS | 2-E TF CF700 | 14 JAN 88 |
| N257031AI | 257 | 03 | 1550 LBS | | TAKEOFF | CESSNA-500 | 1000 FT | 160 KTS | 2-E TF JT15D | 14 JAN 88 |
| N257041AI | 257 | 04 | 600 LBS | | CRUISE | CESSNA-500 | 1000 FT | 160 KTS | 2-E TF JT15D | 14 JAN 88 |
| N257051AI | 257 | 05 | 300 LBS | | LANDING | CESSNA-500 | 1000 FT | 160 KTS | 2-E TF JT15D | 14 JAN 88 |
| N257061AI | 257 | 06 | 1200 LBS | | INTERMEDIATE | CESSNA-500 | 1000 FT | 160 KTS | 2-E TF JT15D | 14 JAN 88 |
| N258031AI | 258 | 03 | 5000 LBS | | TAKEOFF | CL-600 | 1000 FT | 160 KTS | 2-E TF ALF502L | 14 JAN 88 |
| N258051AI | 258 | 05 | 1900 LBS | | LANDING | CL-600 | 1000 FT | 160 KTS | 2-E TF ALF502L | 14 JAN 88 |
| N259031AI | 259 | 03 | 10000 LBS | | TAKEOFF | GULF-GIIB | 1000 FT | 160 KTS | SPEY MK511 | 14 JAN 88 |
| N259041AI | 259 | 04 | 4000 LBS | | CRUISE | GULF-GIIB | 1000 FT | 160 KTS | SPEY MK511 | 14 JAN 88 |
| N259051AI | 259 | 05 | 2000 LBS | | LANDING | GULF-GIIB | 1000 FT | 160 KTS | SPEY MK511 | 14 JAN 88 |
| N259061AI | 259 | 06 | 8000 LBS | | INTERMEDIATE | GULF-GIIB | 1000 FT | 160 KTS | SPEY MK511 | 14 JAN 88 |
| N259131AI | 259 | 13 | 6000 LBS | | TRAFFIC PATTERN | GULF-GIIB | 1000 FT | 160 KTS | SPEY MK511 | 14 JAN 88 |
| N260031AI | 260 | 03 | 2100 LBS | | TAKEOFF | MU-3001 | 1000 FT | 160 KTS | 2-E TF JT15D-5 | 14 JAN 88 |
| N260041AI | 260 | 04 | 1500 LBS | | CRUISE | MU-3001 | 1000 FT | 160 KTS | 2-E TF JT15D-5 | 14 JAN 88 |
| N260051AI | 260 | 05 | 670 LBS | | LANDING | MU-3001 | 1000 FT | 160 KTS | 2-E TF JT15D-5 | 14 JAN 88 |
| N261031AI | 261 | 03 | 6000 LBS | | TAKEOFF | CL-601 | 1000 FT | 160 KTS | 2-E TF CF34 | 14 JAN 88 |
| N261041AI | 261 | 04 | 3000 LBS | | CRUISE | CL-601 | 1000 FT | 160 KTS | 2-E TF CF34 | 14 JAN 88 |
| N261051AI | 261 | 05 | 2000 LBS | | LANDING | CL-601 | 1000 FT | 160 KTS | 2-E TF CF34 | 14 JAN 88 |
| N261061AI | 261 | 06 | 5000 LBS | | INTERMEDIATE | CL-601 | 1000 FT | 160 KTS | 2-E TF CF34 | 14 JAN 88 |
| N261131AI | 261 | 13 | 4000 LBS | | TRAFFIC PATTERN | CL-601 | 1000 FT | 160 KTS | 2-E TF CF34 | 14 JAN 88 |
| N262031AI | 262 | 03 | 95.5 % RPM | | TAKEOFF | ASTRA-1125 | 1000 FT | 160 KTS | GARRETT TFE 731 | 14 JAN 88 |
| N262041AI | 262 | 04 | 86.6 % RPM | | CRUISE | ASTRA-1125 | 1000 FT | 160 KTS | GARRETT TFE 731 | 14 JAN 88 |
| N262051AI | 262 | 05 | 69.2 % RPM | | LANDING | ASTRA-1125 | 1000 FT | 160 KTS | GARRETT TFE 731 | 14 JAN 88 |
| N263031AI | 263 | 03 | 100 % RPM | | TAKEOFF | ELECTRA188 | 1000 FT | 160 KTS | T56-A-7/501-D13 | 03 MAR 89 |
| N263051AI | 263 | 05 | 30 % RPM | | LANDING | ELECTRA188 | 1000 FT | 160 KTS | T56-A-7/501-D13 | 03 MAR 89 |
| N265031AI | 265 | 03 | 10[illegible] % RPM | | TAKEOFF | DHC-7 | 1000 FT | 160 KTS | 4-E TP PT6A-50 | 14 JAN 88 |
| N265051AI | 265 | 05 | 28 % RPM | | LANDING | DHC-7 | 1000 FT | 160 KTS | 4-E TP PT6A-50 | 14 JAN 88 |
| N266031AI | 266 | 03 | 100 % RPM | | TAKEOFF | CONVAIR580 | 1000 FT | 160 KTS | ALLISON 501-D13 | 14 JAN 88 |
| N266051AI | 266 | 05 | 30 % RPM | | LANDING | CONVAIR580 | 1000 FT | 160 KTS | ALLISON 501-D13 | 14 JAN 88 |
| N267031AI | 267 | 03 | 100 % RPM | | TAKEOFF | BAE-HS-748 | 1000 FT | 160 KTS | RR DART MK532 | 14 JAN 88 |
| N267041AI | 267 | 04 | 73 % RPM | | CRUISE | BAE-HS-748 | 1000 FT | 160 KTS | RR DART MK532 | 14 JAN 88 |
| N267051AI | 267 | 05 | 32 % RPM | | LANDING | BAE-HS-748 | 1000 FT | 160 KTS | RR DART MK532 | 14 JAN 88 |
| N268031AI | 268 | 03 | 100 % RPM | | TAKEOFF | SD3-30 | 1000 FT | 160 KTS | 2-E TP PT6A | 14 JAN 88 |
| N268041AI | 268 | 04 | 65 % RPM | | CRUISE | SD3-30 | 1000 FT | 160 KTS | 2-E TP PT6A | 14 JAN 88 |
| N268051AI | 268 | 05 | 35 % RPM | | LANDING | SD3-30 | 1000 FT | 160 KTS | 2-E TP PT6A | 14 JAN 88 |

Table 7. NOISEFILE 6.2 Civil Reference Noise Database cont'd

| COMDECK NAME | ACC | OPC | POWER SETTING VALUE&UNITS FIRST | SECOND | OPERATION POWER DESCRIPTION | AIRCRAFT NAME | SLANT RANGE | AIR SPEED | ENGINE TYPE | DATE OF OMEGA 6 RUN |
|---|---|---|---|---|---|---|---|---|---|---|
| N269031AI | 269 | 03 | 100 % RPM | | TAKEOFF | DHC-6A27 | 1000 FT | 160 KTS | 2-ENGINE TP | 14 JAN 88 |
| N269051AI | 269 | 05 | 30 % RPM | | LANDING | DHC-6A27 | 1000 FT | 160 KTS | 2-ENGINE TP | 14 JAN 88 |
| N270031AI | 270 | 03 | 100 % RPM | | TAKEOFF | DC-6R2800 | 1000 FT | 160 KTS | 4-ENGINE PISTON | 14 JAN 88 |
| N270051AI | 270 | 05 | 30 % RPM | | LANDING | DC-6R2800 | 1000 FT | 160 KTS | 4-ENGINE PISTON | 14 JAN 88 |
| N271031AI | 271 | 03 | 100 % RPM | | TAKEOFF | DC-3R2800 | 1000 FT | 160 KTS | 2-E PIST>12500 | 14 JAN 88 |
| N271051AI | 271 | 05 | 30 % RPM | | LANDING | DC-3R2800 | 1000 FT | 160 KTS | 2-E PIST>12500 | 14 JAN 88 |
| N272031AI | 272 | 03 | 100 % RPM | | TAKEOFF | SAAB-340 | 1000 FT | 160 KTS | 2-E TP GE CT7 | 14 JAN 88 |
| N272041AI | 272 | 04 | 85 % RPM | | CRUISE | SAAB-340 | 1000 FT | 160 KTS | 2-E TP GE CT7 | 14 JAN 88 |
| N272051AI | 272 | 05 | 35 % RPM | | LANDING | SAAB-340 | 1000 FT | 160 KTS | 2-E TP GE CT7 | 14 JAN 88 |
| N273031AI | 273 | 03 | 100 % RPM | | TAKEOFF | CESSNA441 | 1000 FT | 160 KTS | SM 2-ENGINE TP | 14 JAN 88 |
| N273051AI | 273 | 05 | 30 % RPM | | LANDING | CESSNA441 | 1000 FT | 160 KTS | SM 2-ENGINE TP | 14 JAN 88 |
| N274031AI | 274 | 03 | 100 % RPM | | TAKEOFF | GA-1ENG-VP | 1000 FT | 160 KTS | 1-ENG VAR PITCH | 14 JAN 88 |
| N274051AI | 274 | 05 | 30 % RPM | | LANDING | GA-1ENG-VP | 1000 FT | 160 KTS | 1-ENG VAR PITCH | 14 JAN 88 |
| N275031AI | 275 | 03 | 100 % RPM | | TAKEOFF | GA-1ENG-FP | 1000 FT | 160 KTS | 1-E FIXED PITCH | 14 JAN 88 |
| N275051AI | 275 | 05 | 30 % RPM | | LANDING | GA-1ENG-FP | 1000 FT | 160 KTS | 1-E FIXED PITCH | 14 JAN 88 |
| N276031AI | 276 | 03 | 100 % RPM | | TAKEOFF | B-BARON58P | 1000 FT | 160 KTS | 2-E PIST<12500 | 14 JAN 88 |
| N276051AI | 276 | 05 | 30 % RPM | | LANDING | B-BARON58P | 1000 FT | 160 KTS | 2-E PIST<12500 | 14 JAN 88 |
| N277031AI | 277 | 03 | 100 % RPM | | TAKEOFF | COMPOS-1EN | 1000 FT | 160 KTS | 1-E 1985 FLEET | 14 JAN 88 |
| N277051AI | 277 | 05 | 30 % RPM | | LANDING | COMPOS-1EN | 1000 FT | 160 KTS | 1-E 1985 FLEET | 14 JAN 88 |
| N281031AI | 281 | 03 | 100 % RPM | | TAKEOFF | HERCULES | 1000 FT | 160 KTS | T56-A-15 | 03 MAR 89 |
| N281051AI | 281 | 05 | 28 % RPM | | LANDING | HERCULES | 1000 FT | 160 KTS | T56-A-15 | 03 MAR 89 |
| N282031AI | 282 | 03 | 14000 LBS | | TAKEOFF POWER | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N282141AI | 282 | 14 | 12000 LBS | | INTERMED POWER (MIL) | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N282061AI | 282 | 06 | 10000 LBS | | INTERMEDIATE POWER | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N282131AI | 282 | 13 | 7000 LBS | | TRAFFIC PATTERN | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N282041AI | 282 | 04 | 5000 LBS | | CRUISE POWER | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N282051AI | 282 | 05 | 3000 LBS | | LANDING | B727-EM7 | 1000 FT | 160 KTS | JT8D-7 EM-BI | 02 OCT 90 |
| N283031AI | 283 | 03 | 14000 LBS | | TAKEOFF POWER | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |
| N283141AI | 283 | 14 | 12000 LBS | | INTERMED POWER (MIL) | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |
| N283061AI | 283 | 06 | 10000 LBS | | INTERMEDIATE POWER | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |
| N283131AI | 283 | 13 | 7000 LBS | | TRAFFIC PATTERN | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |
| N283041AI | 283 | 04 | 5000 LBS | | CRUISE POWER | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |
| N283051AI | 283 | 05 | 3000 LBS | | LANDING | B727-EM5 | 1000 FT | 160 KTS | JT8D-15 EM-BI | 21 DEC 90 |

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Table 7. NOISEFILE 6.2 Civil Reference Noise Database cont'd

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15. Speakman, Jerry D., *Effect of Propagation Distance on Aircraft Flyover Sound Duration*, Technical Report AMRL-TR-81-28, Wright-Patterson AFB, Dayton Ohio, May 1981.

# APPENDIX A

## NMAP 6.0 Flowchart

The following is a program flowchart of NMAP 6.0. Figures 1 through 13-A show the overall structure of the program and the remaining pages show the individual subroutine structures. Subroutines are listed alphabetically.

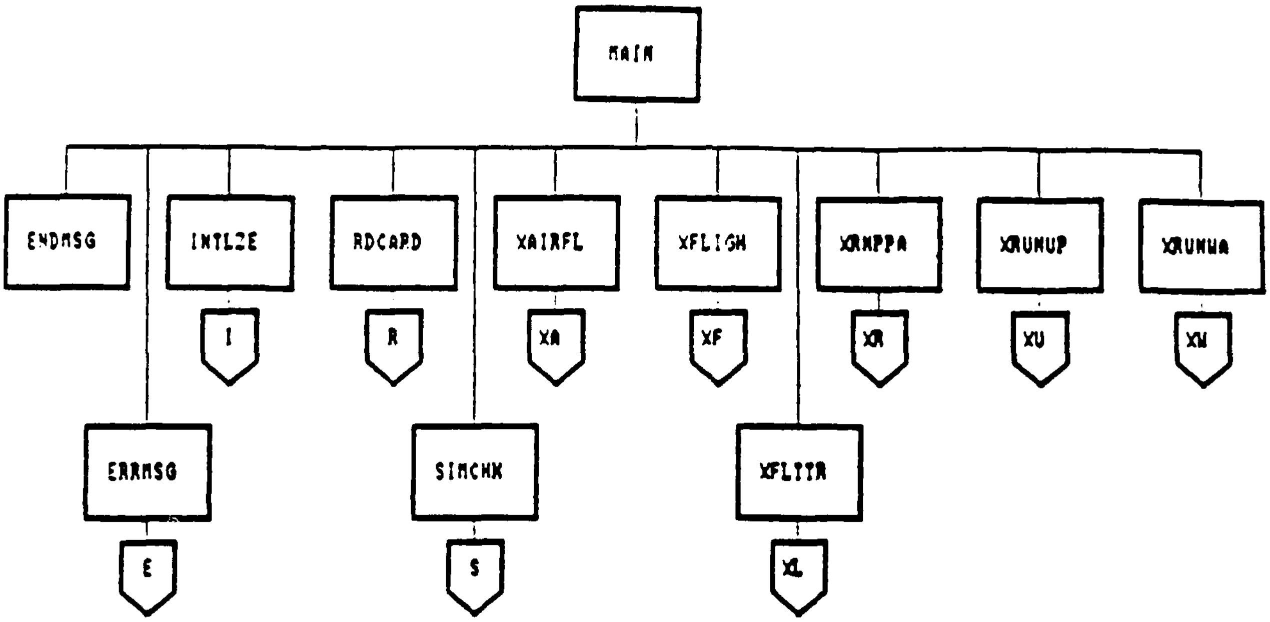


Figure 1. Main Program Procedure Call Reference

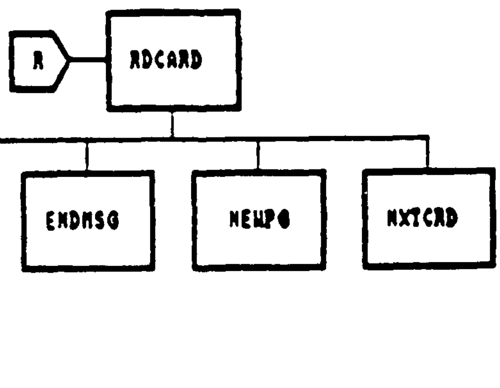


Figure 2. Subroutine RDCARD Procedure Call Reference

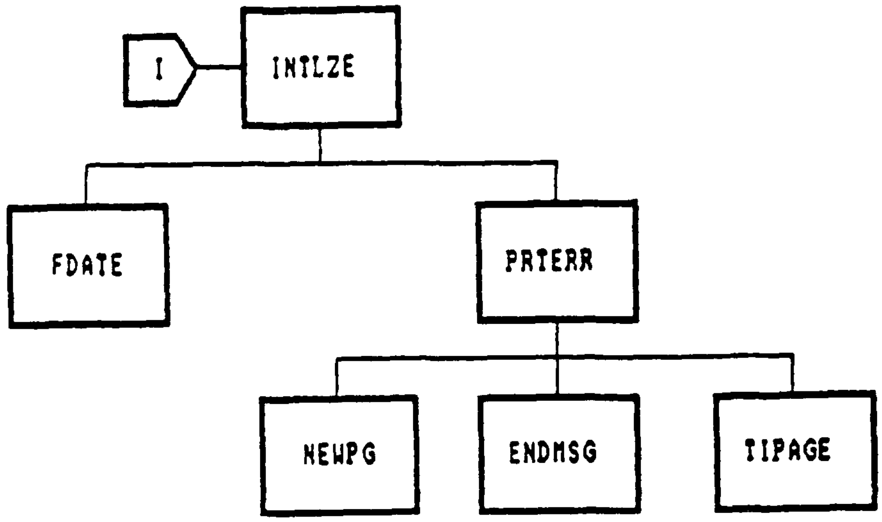


Figure 3. Subroutine INTLZE Procedure Call Reference

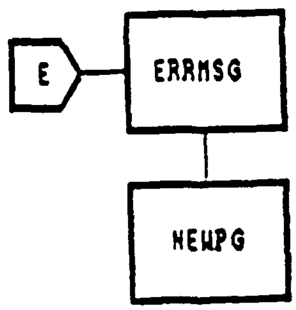


Figure 4. Subroutine ERRMSG Procedure Call Reference

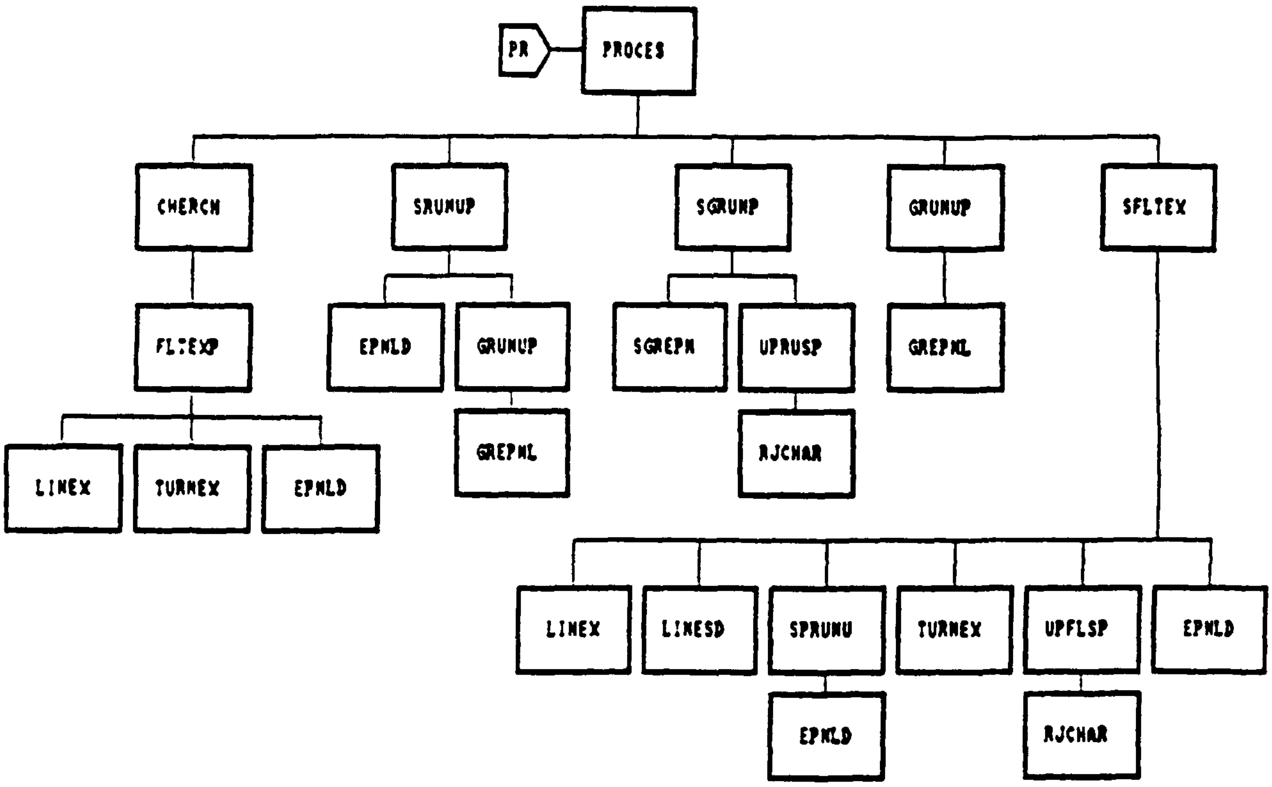


Figure 5. Subroutine PROCES Procedure Call Reference

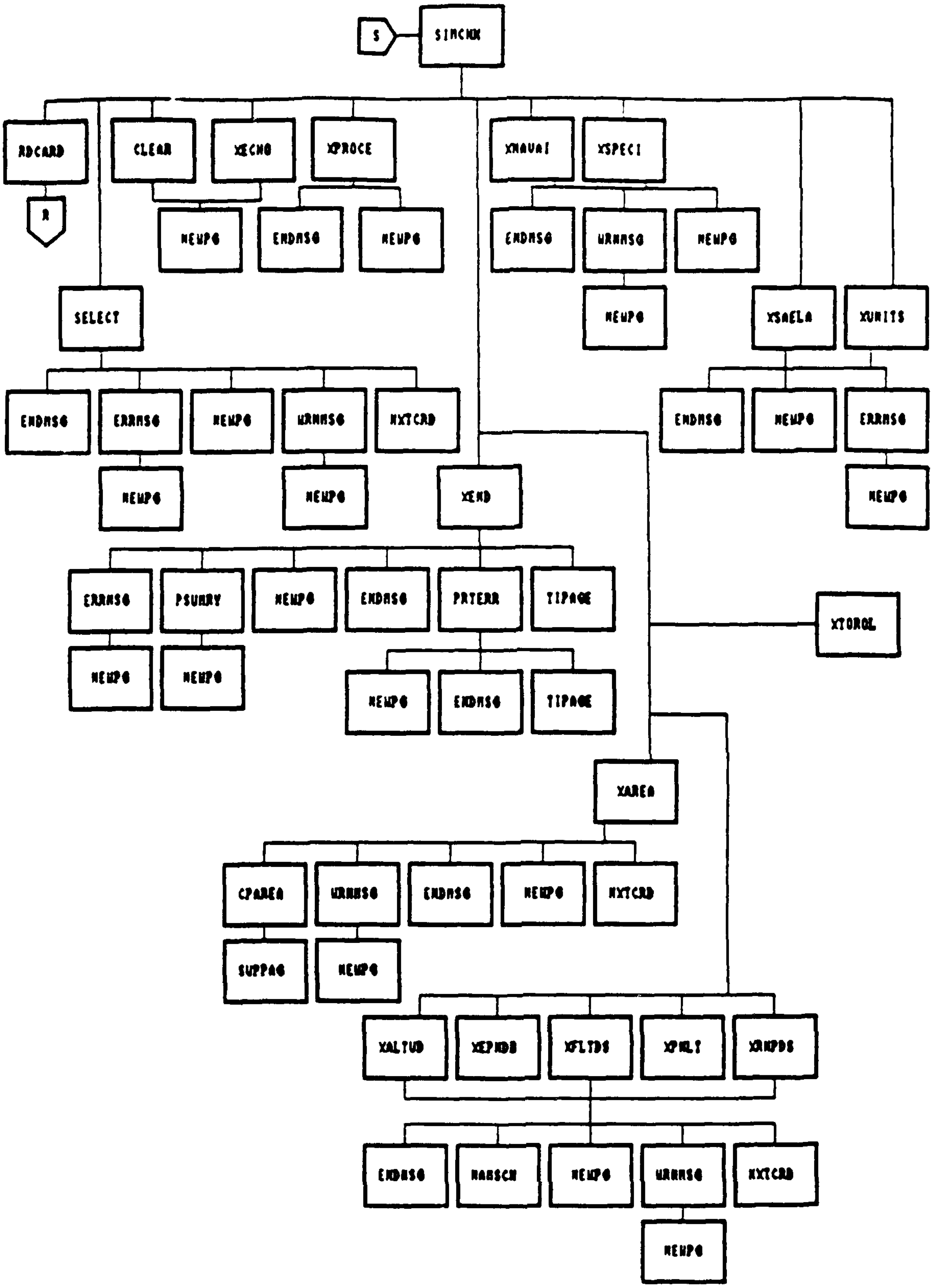


Figure 6. Subroutine SIMCHK Procedure Call Reference

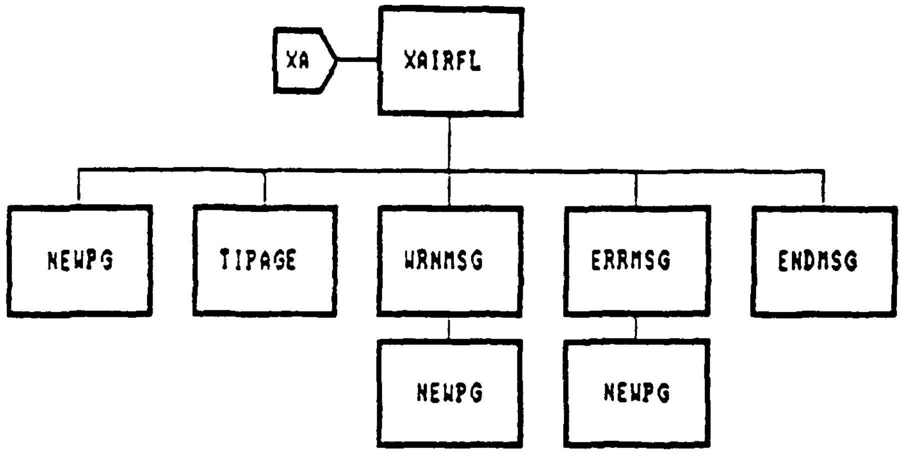


Figure 7. Subroutine XAIRFL Procedure Call Reference

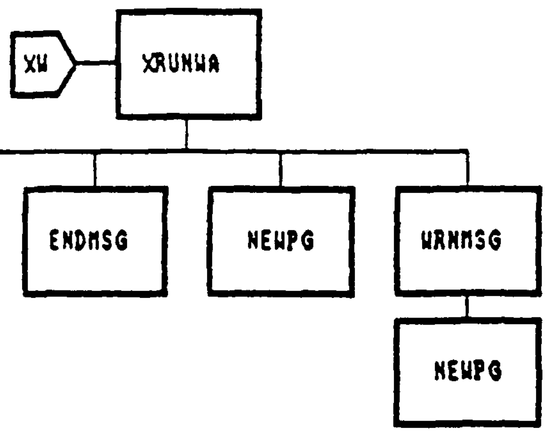


Figure 8. Subroutine XRUNWA Procedure Call Reference

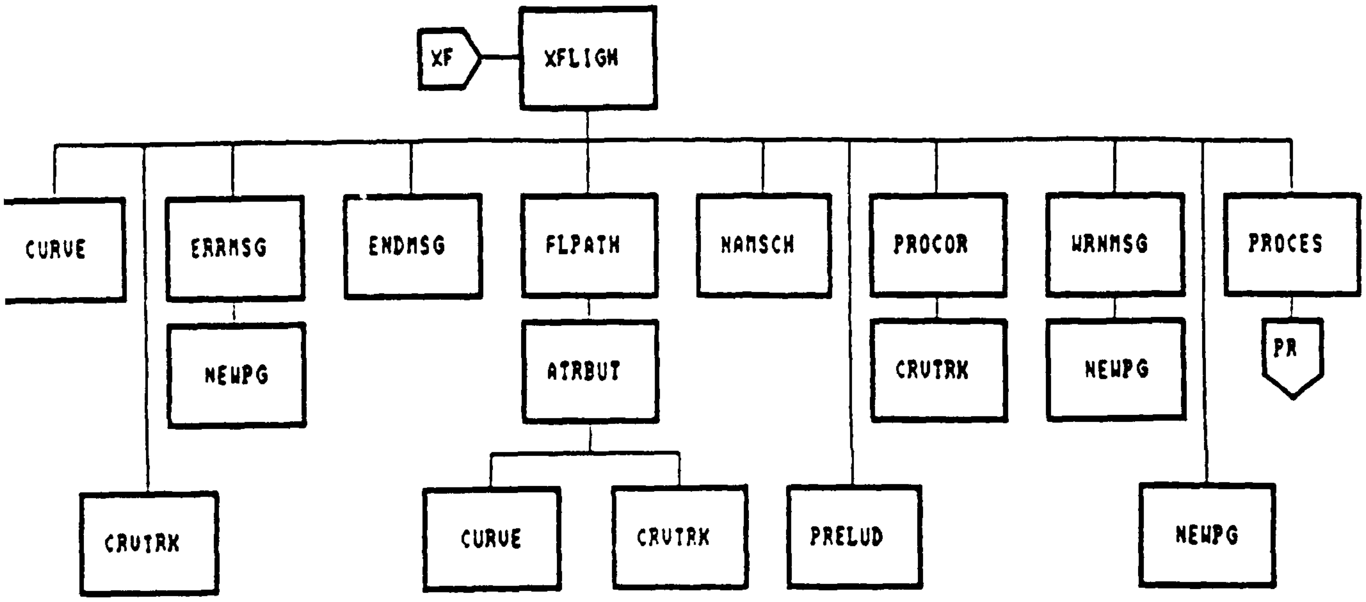


Figure 9. Subroutine XFLIGH Procedure Call Reference

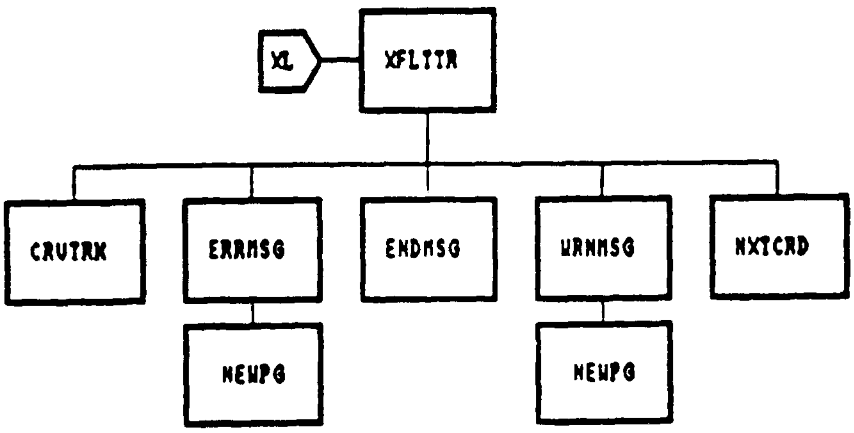


Figure 10. Subroutine XFLTTR Procedure Call Reference

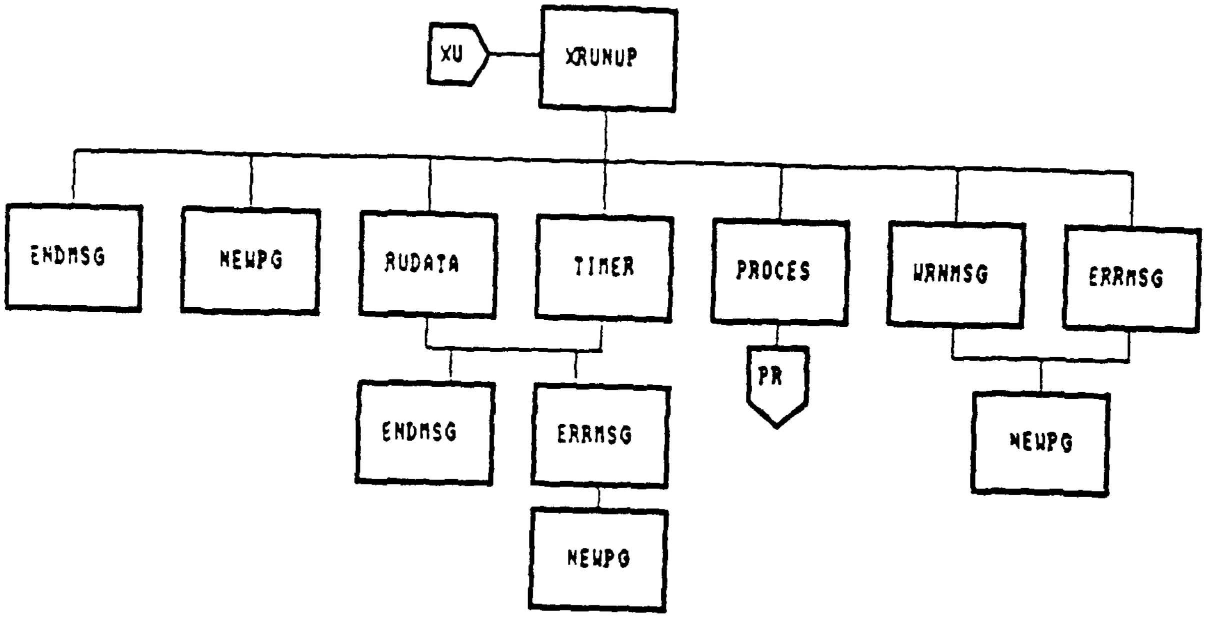


Figure 11. Subroutine XRUNUP Procedure Call Reference

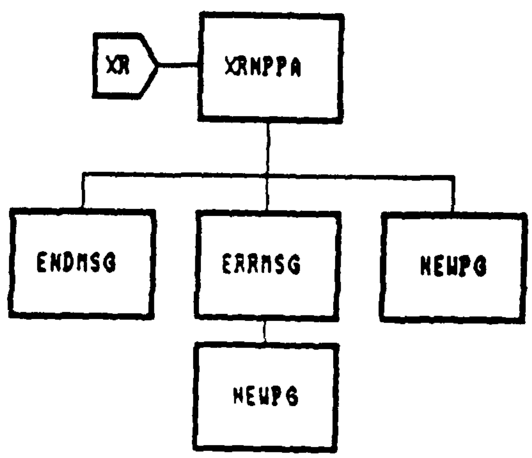


Figure 12. Subroutine XRNPPA Procedure Call Reference

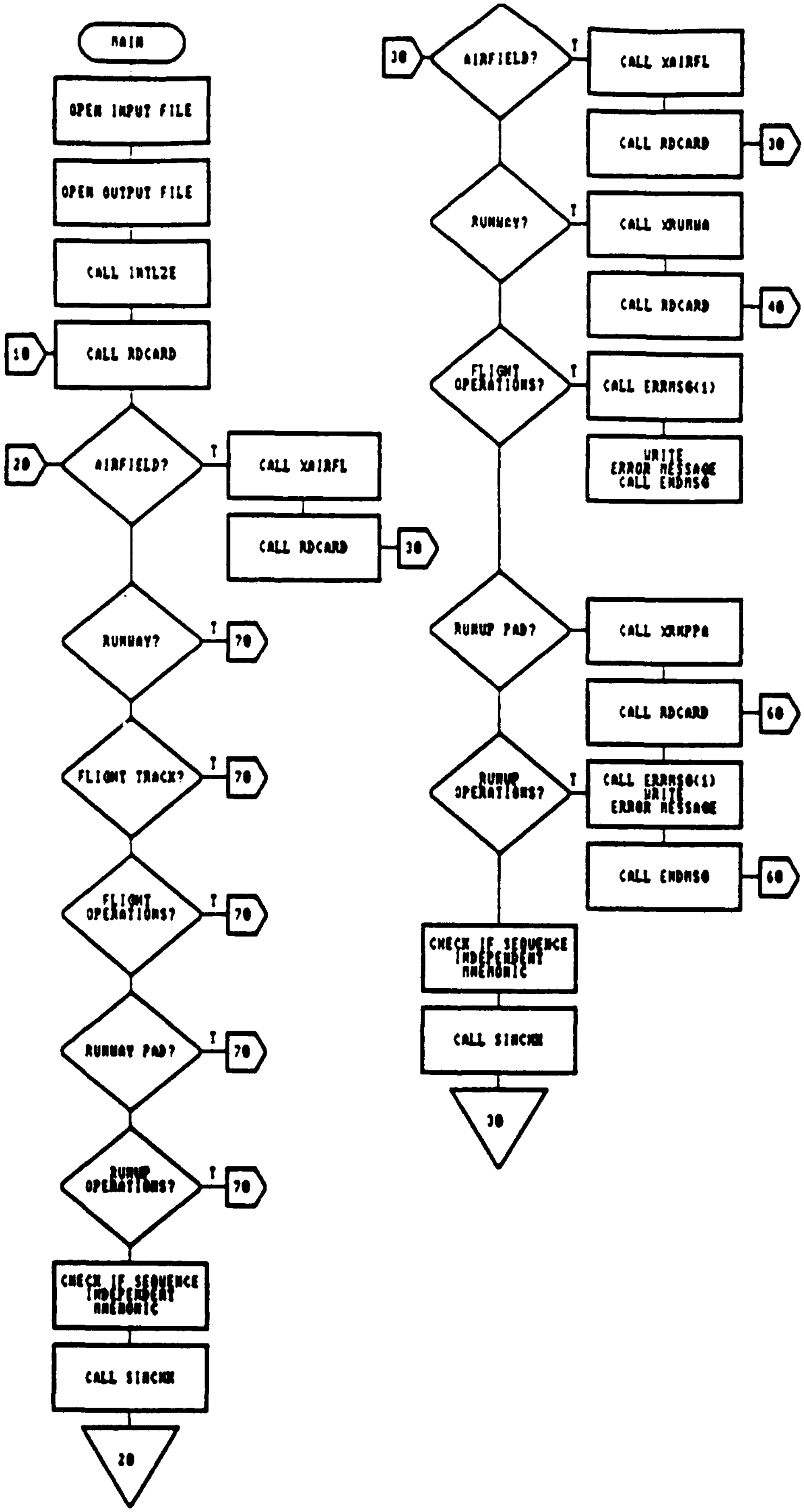


Figure 13. Main Program Flow Diagram

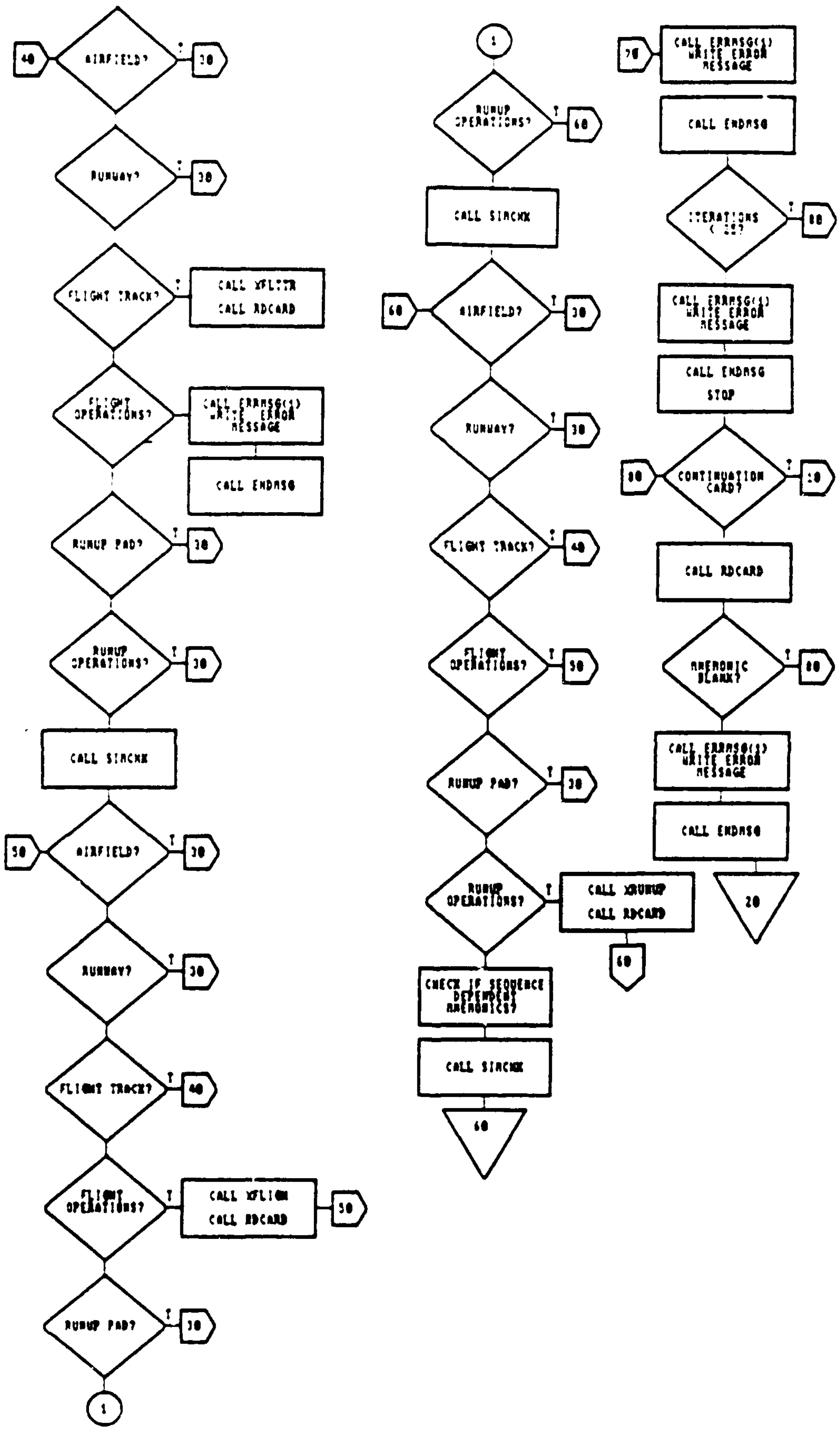


Figure 13-A. Main Program Flow Diagram
(Continued)

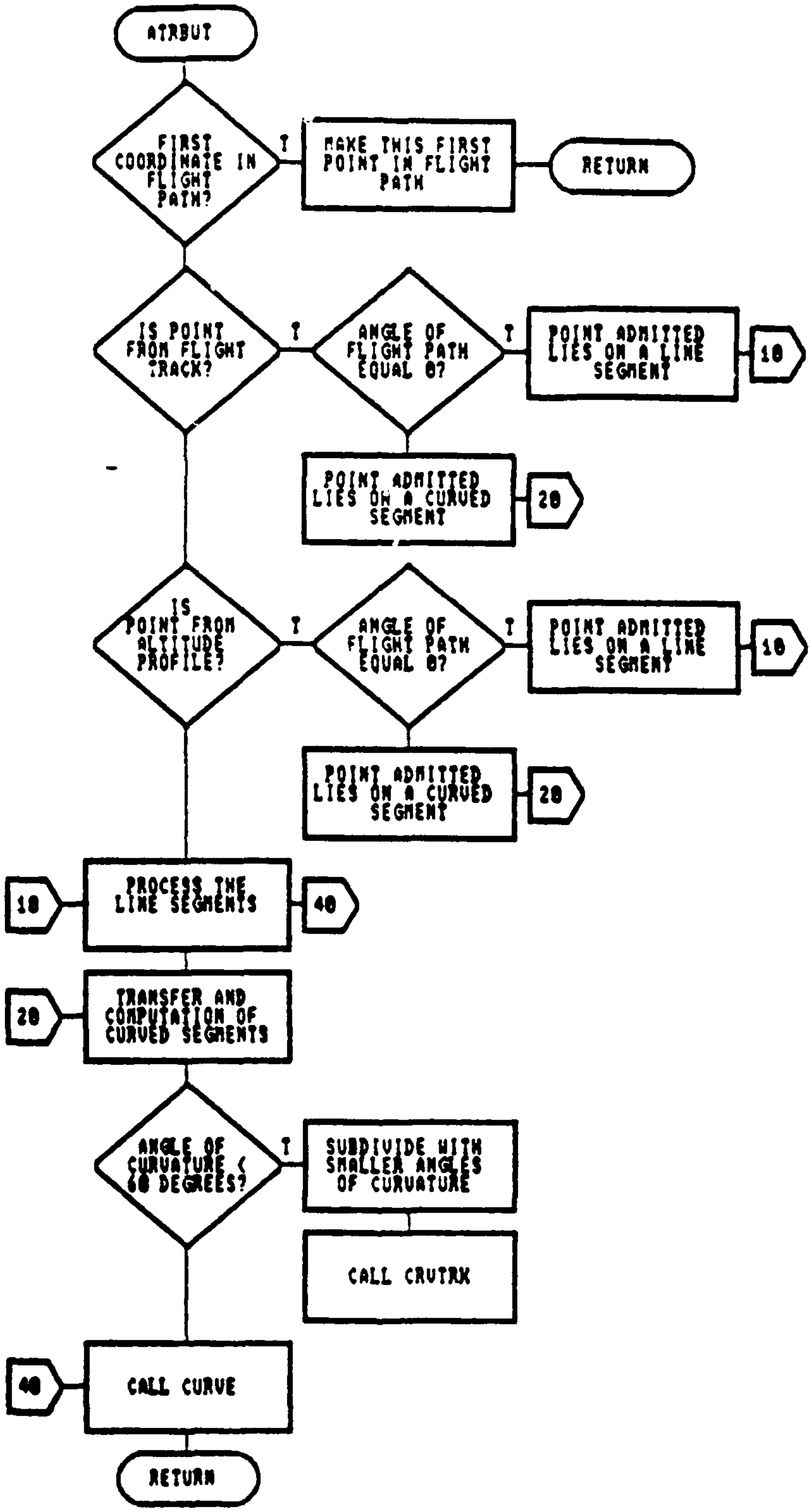


Figure 14. SubProgram ATRBUT Flow Diagram

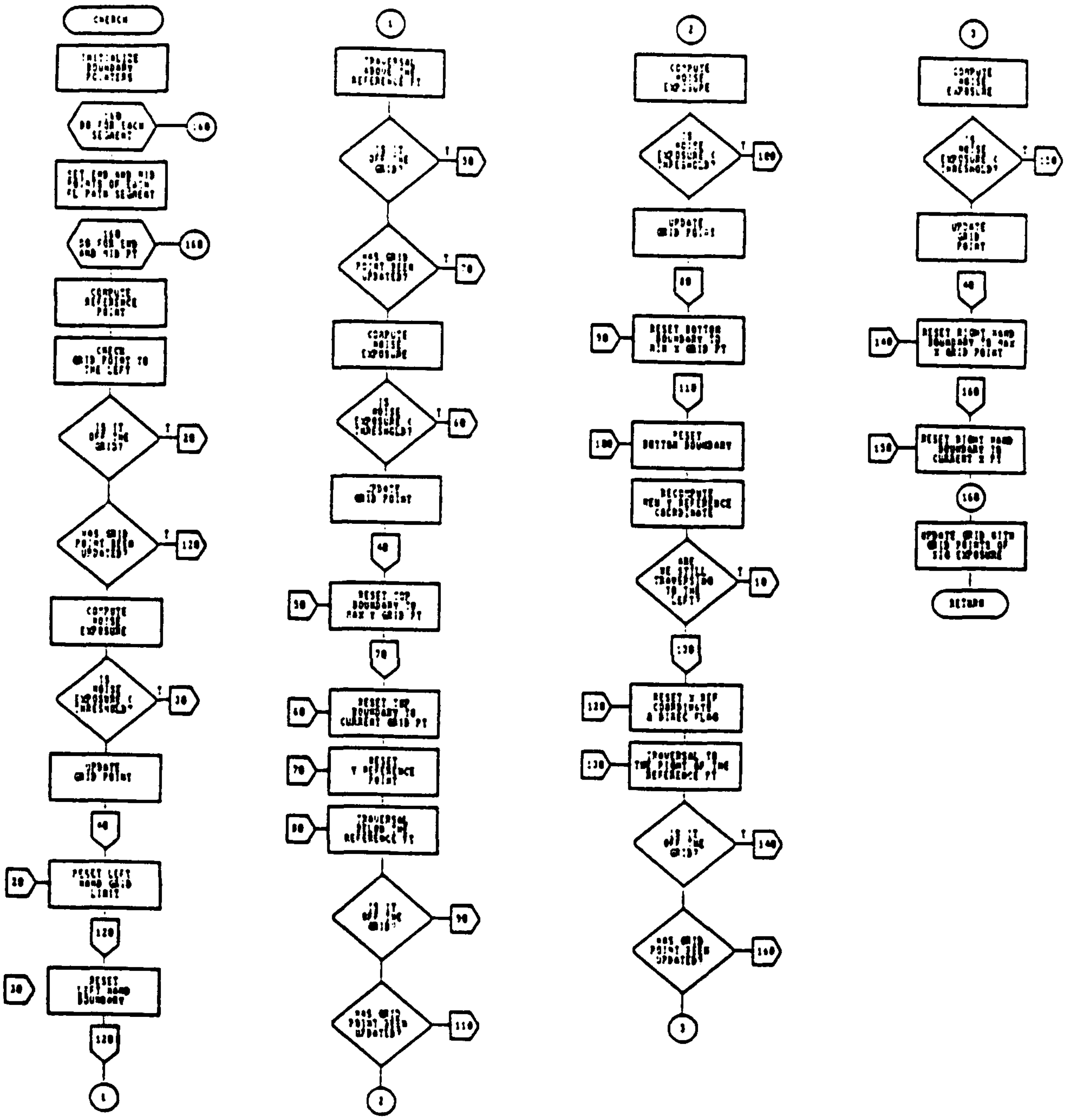

**Figure 15. SubProgram CHERCH Flow Diagram**

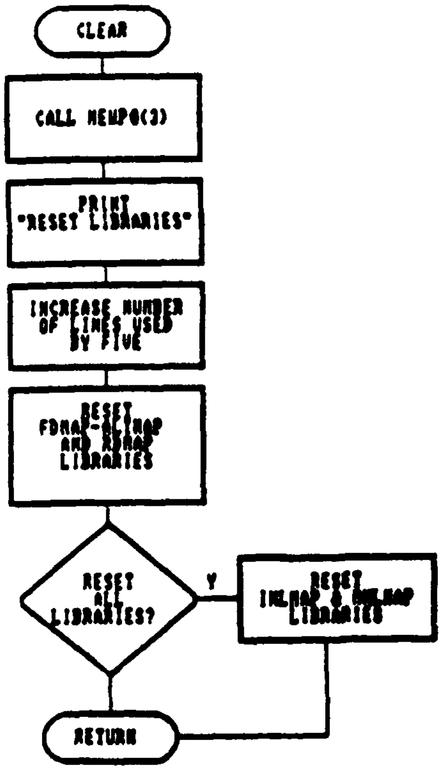


Figure 16. SubProgram CLEAR Flow Diagram

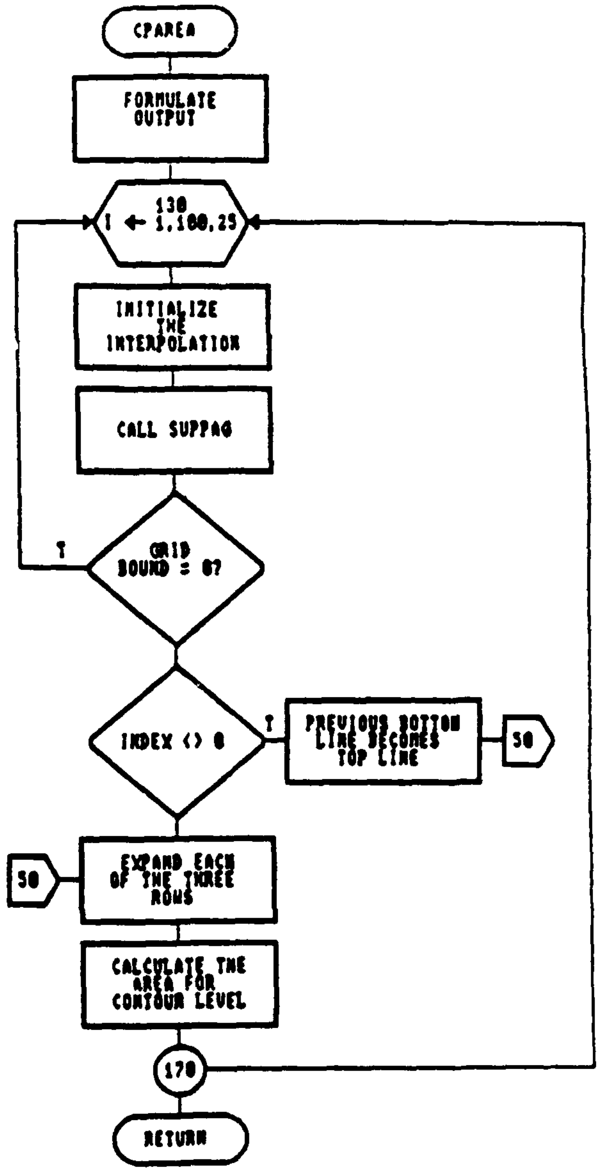


Figure 17. SubProgram CPAREA Flow Diagram

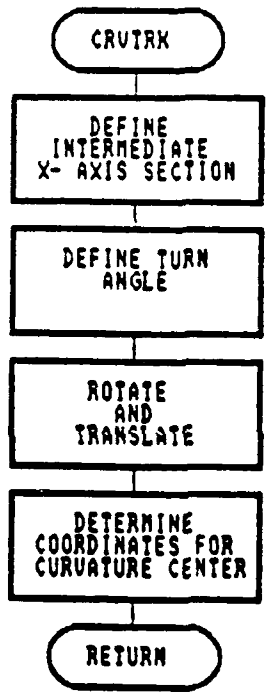


**Figure 18. SubProgram CRVTRK Flow Diagram**

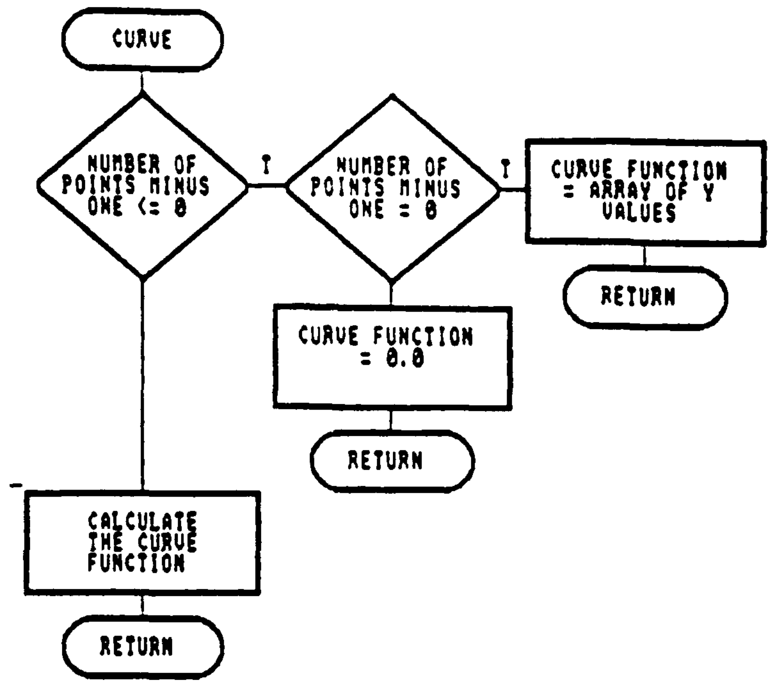


Figure 19. SubProgram CURVE Flow Diagram

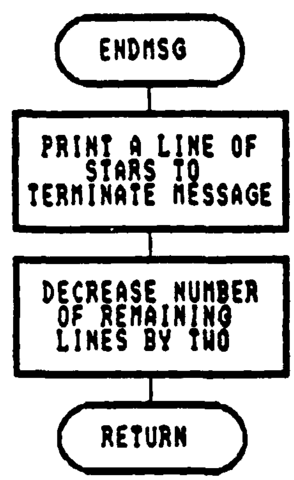


Figure 20. SubProgram ENDMSG Flow Diagram

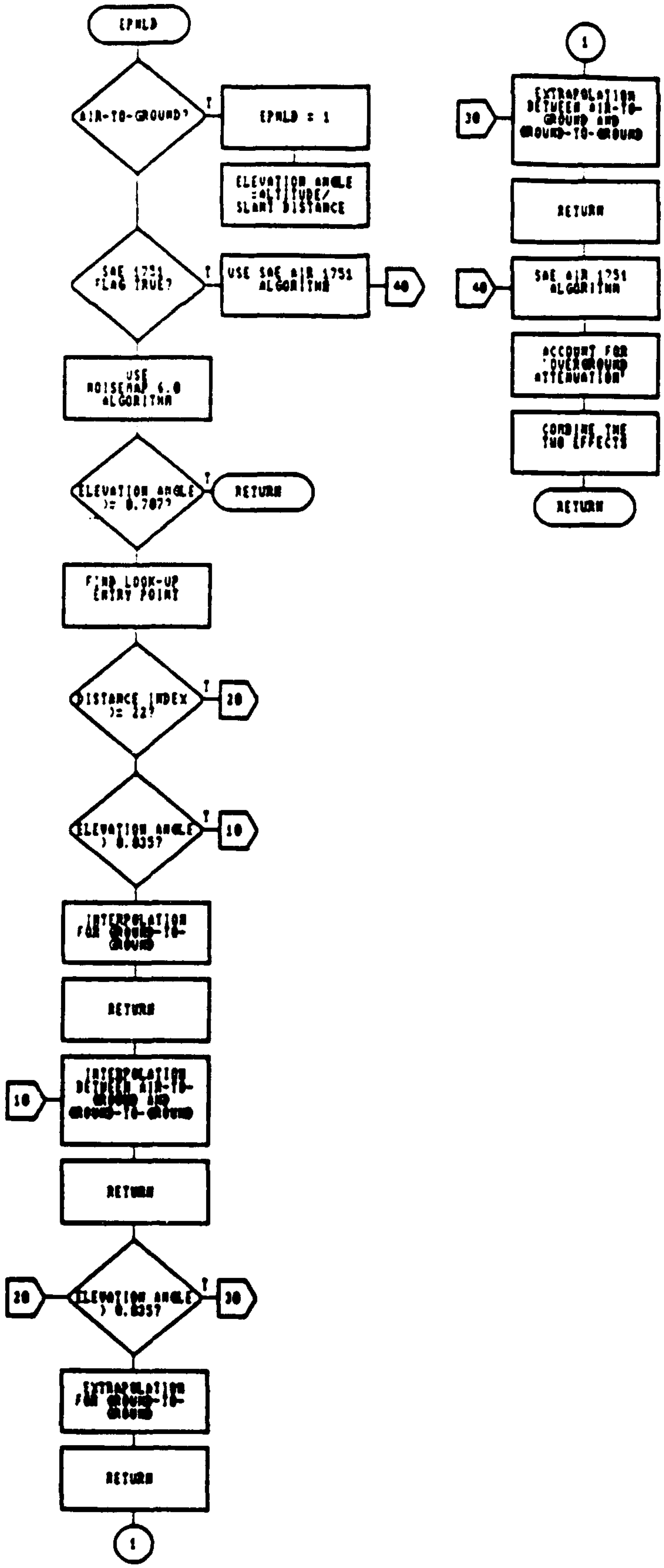


Figure 21. SubProgram EPNLD Flow Diagram

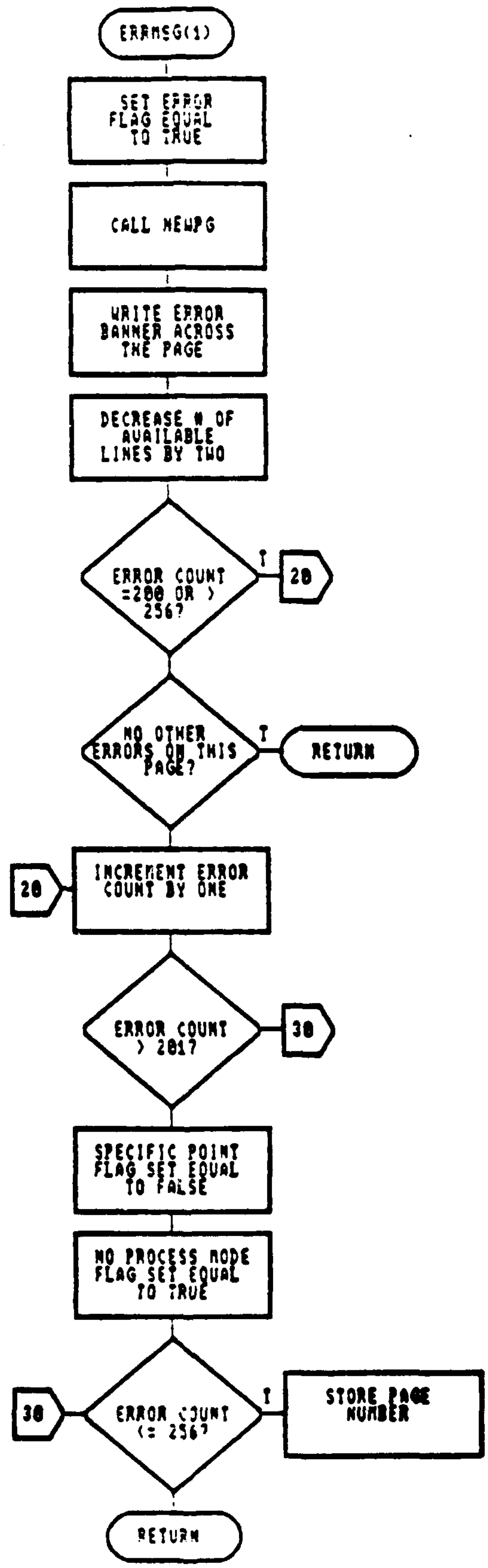


**Figure 22. SubProgram ERRMSG Flow Diagram**

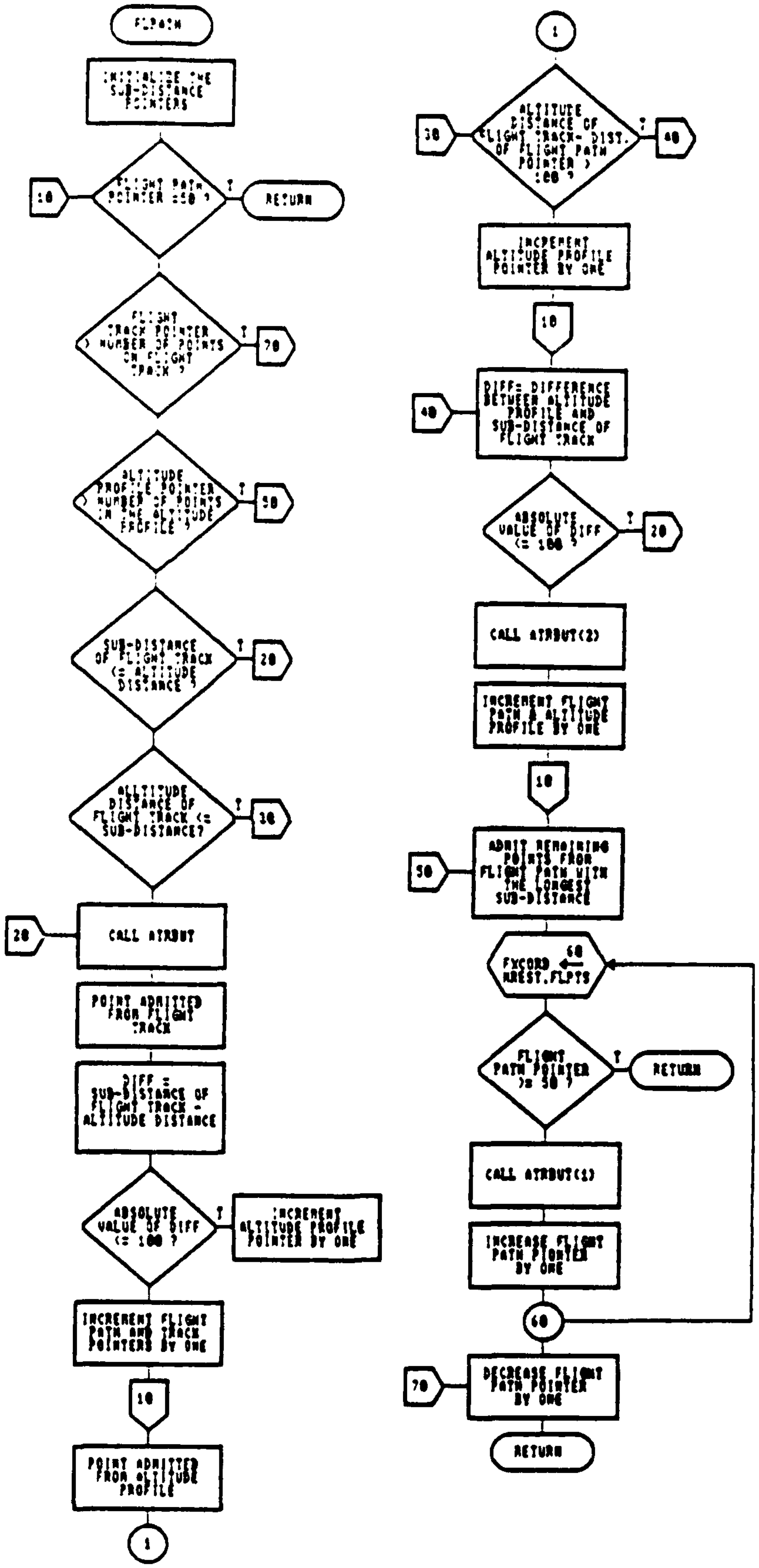


**Figure 23. SubProgram FLPATH Flow Diagram**

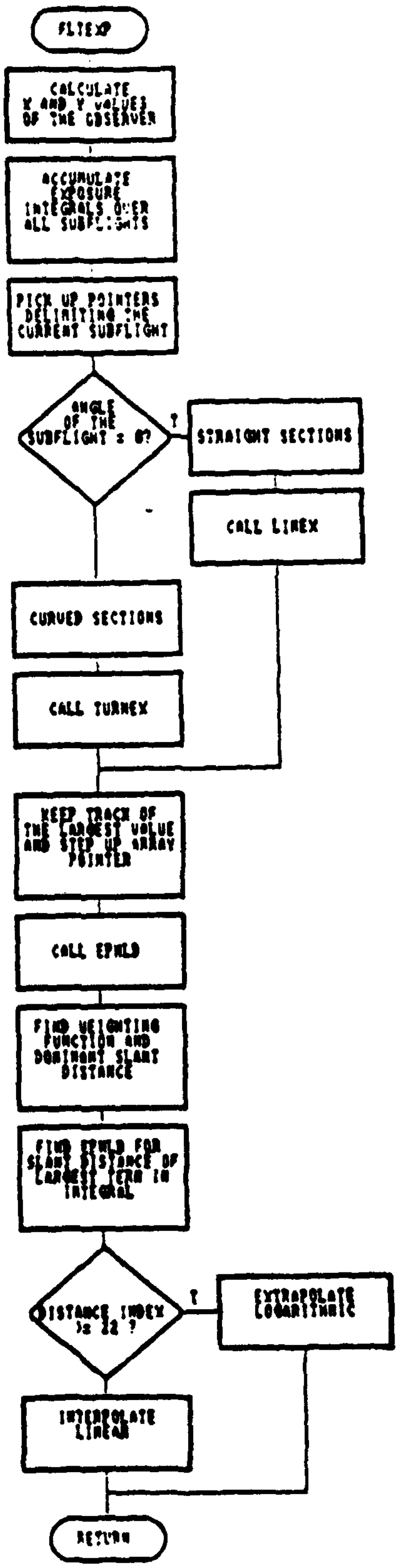


**Figure 24. SubProgram FLTEXP Flow Diagram**

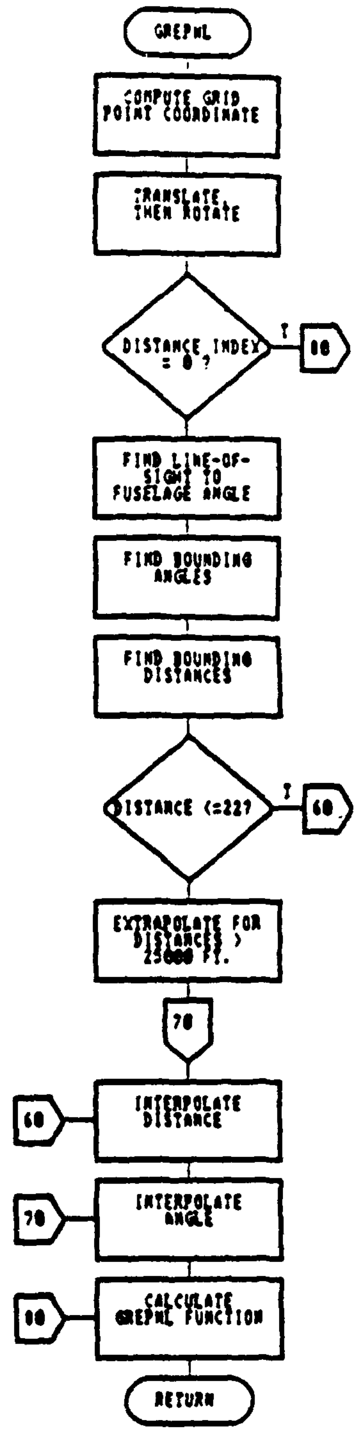


**Figure 25. SubProgram GREPNL Flow Diagram**

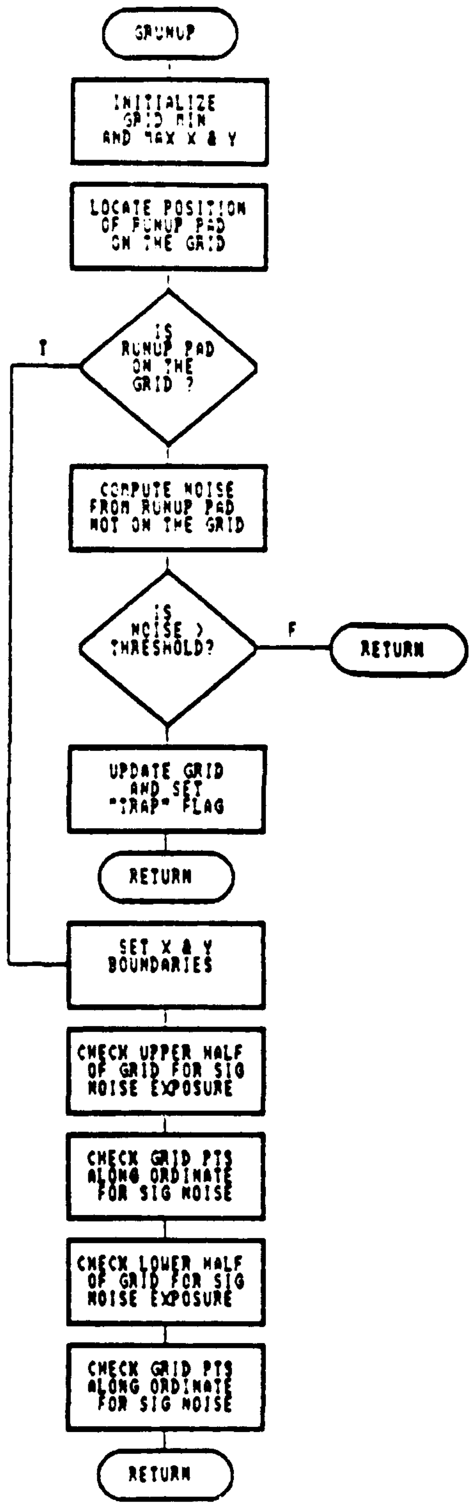


**Figure 26. SubProgram GRUNUP Flow Diagram**

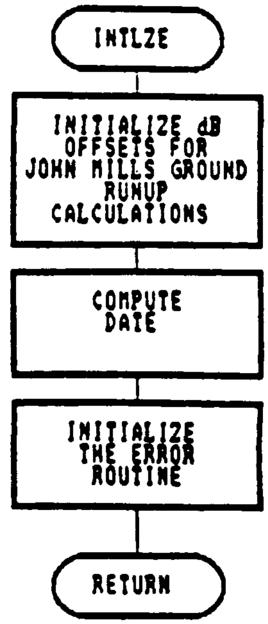


**Figure 27. SubProgram INTLZE Flow Diagram**

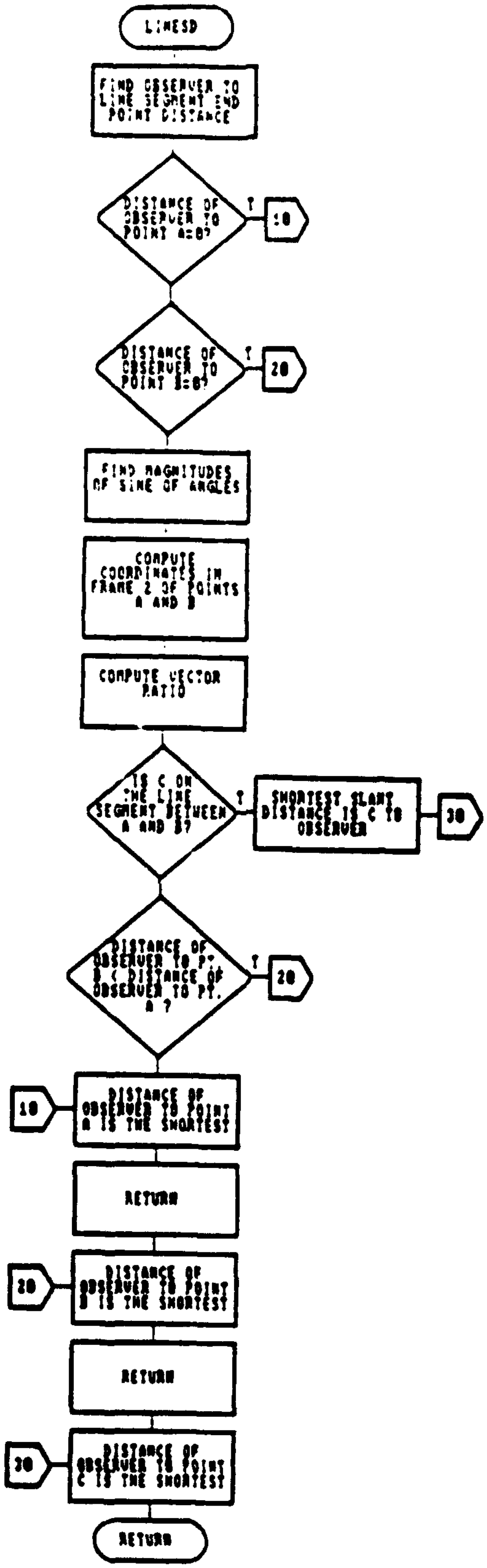


**Figure 28. SubProgram LINESD Flow Diagram**

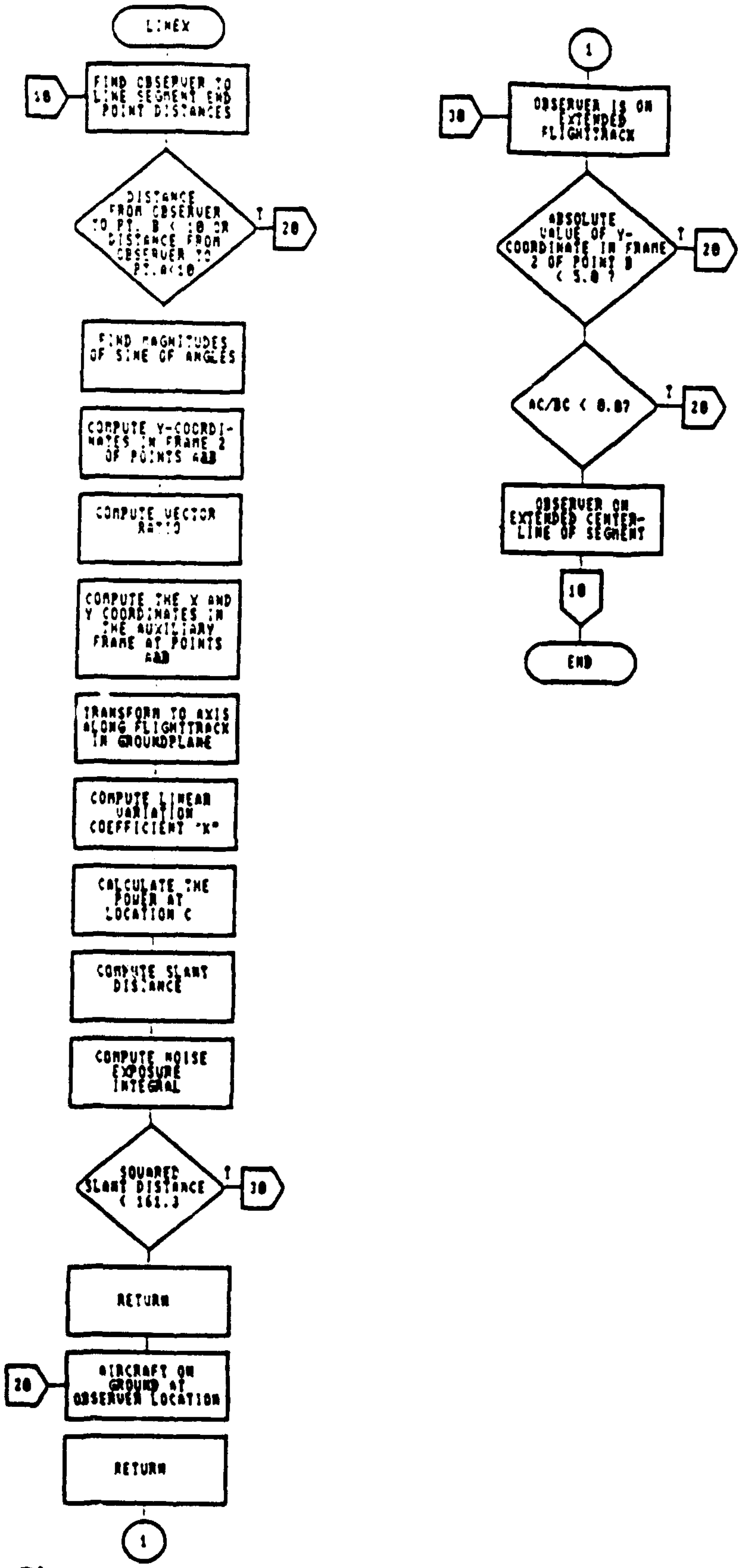


Figure 29. SubProgram LINEX Flow Diagram

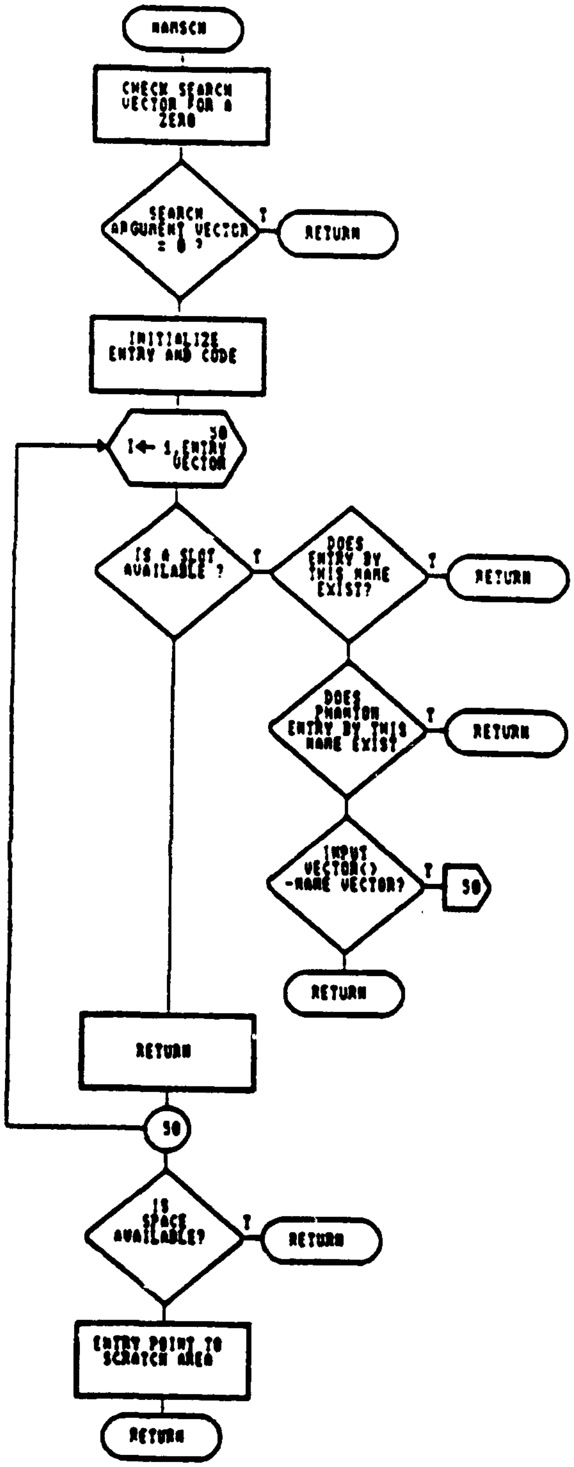


Figure 30. SubProgram NAMSCH Flow Diagram

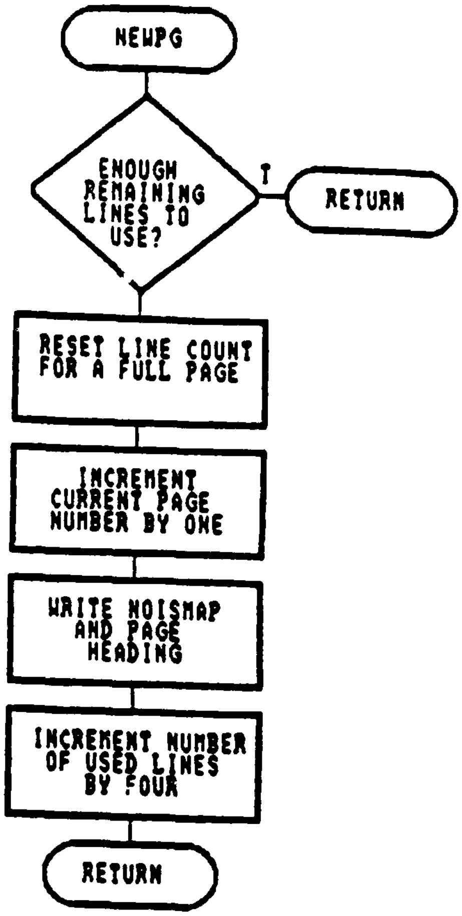


Figure 31. SubProgram NEWPG Flow Diagram

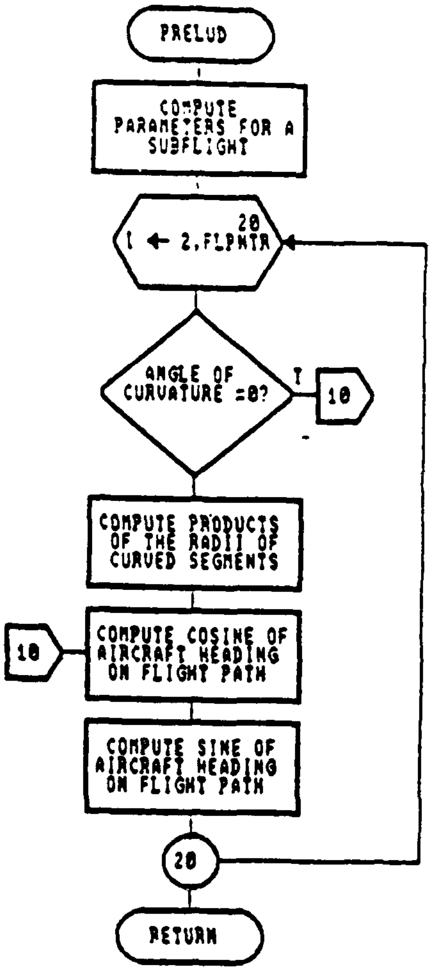


Figure 32. SubProgram PRELUD Flow Diagram

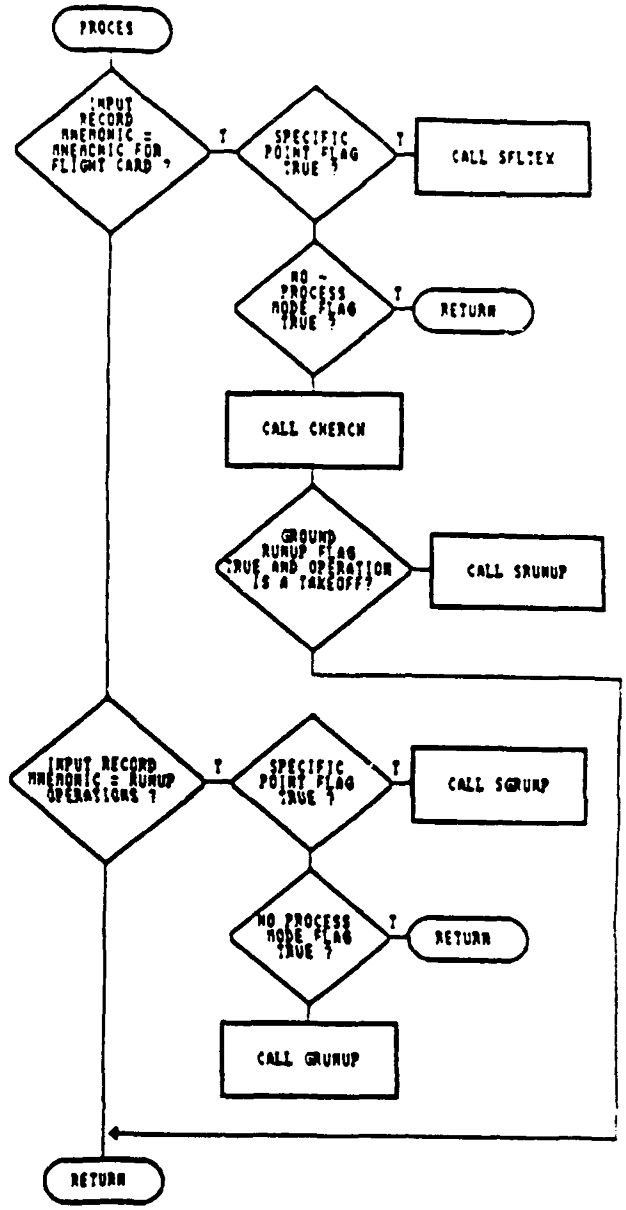


Figure 33. SubProgram PROCES Flow Diagram

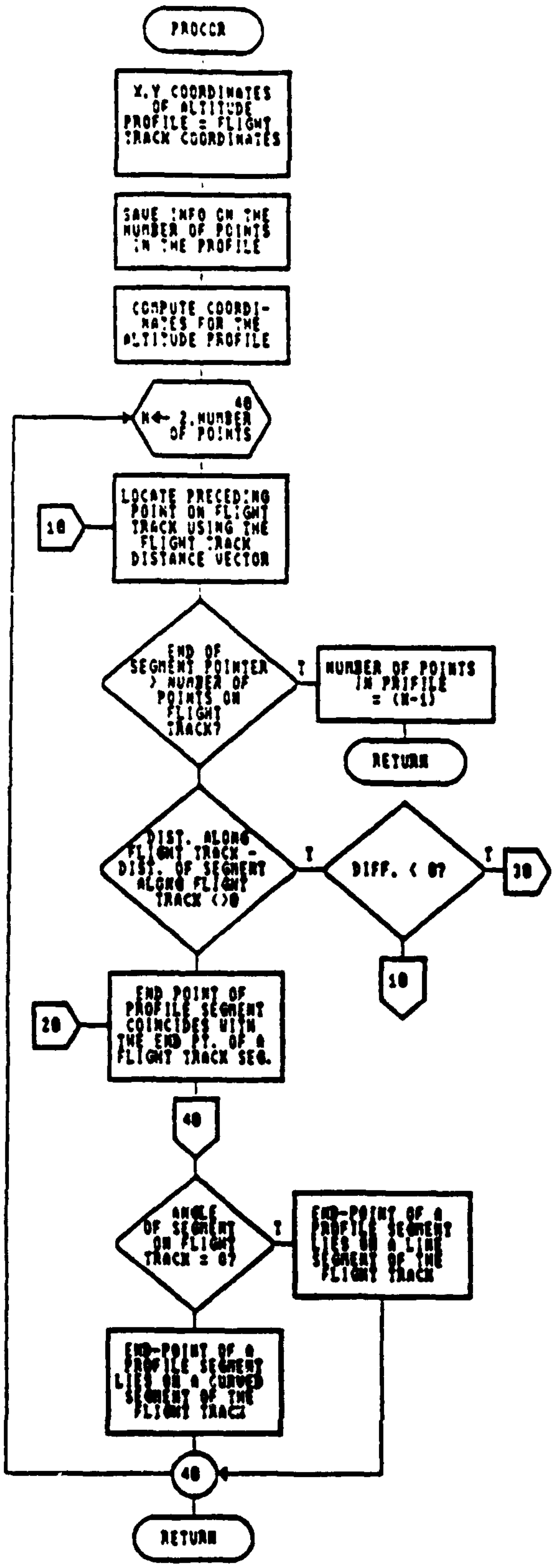


**Figure 34. SubProgram PROCOR Flow Diagram**

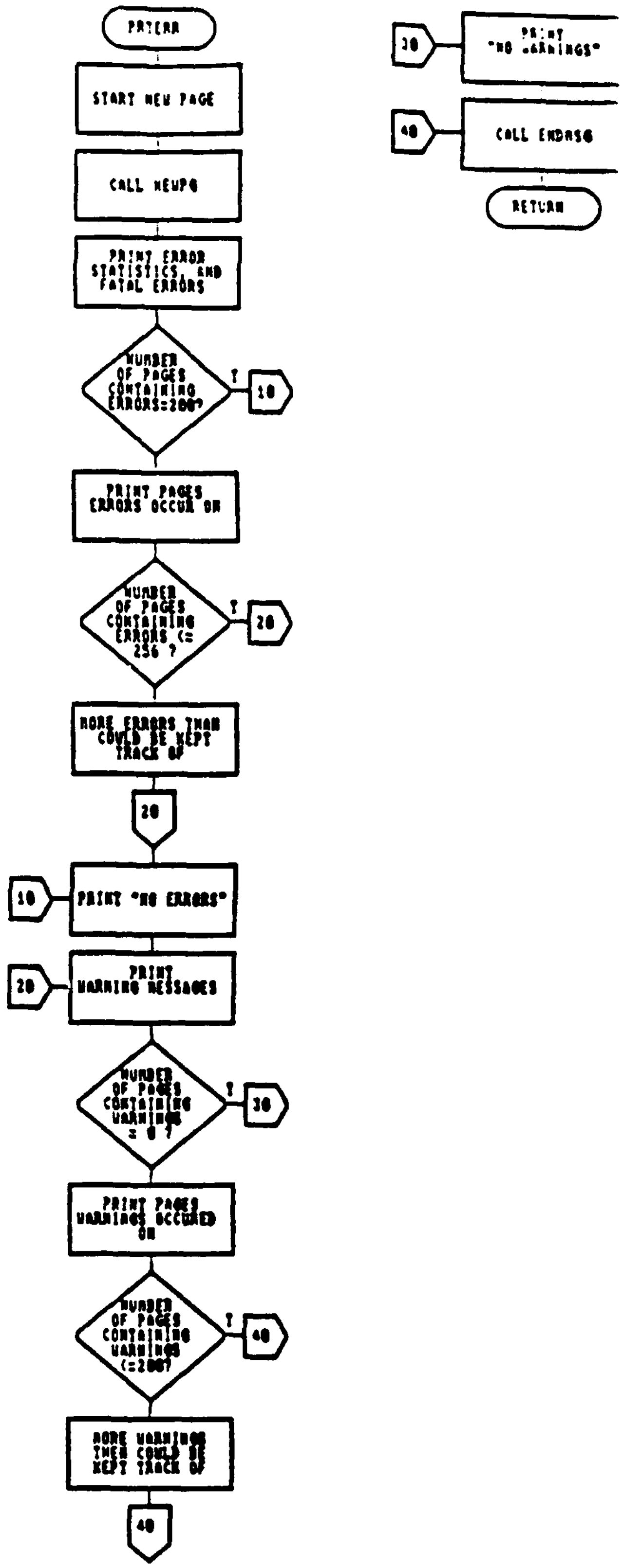


**Figure 35. SubProgram PRTERR Flow Diagram**

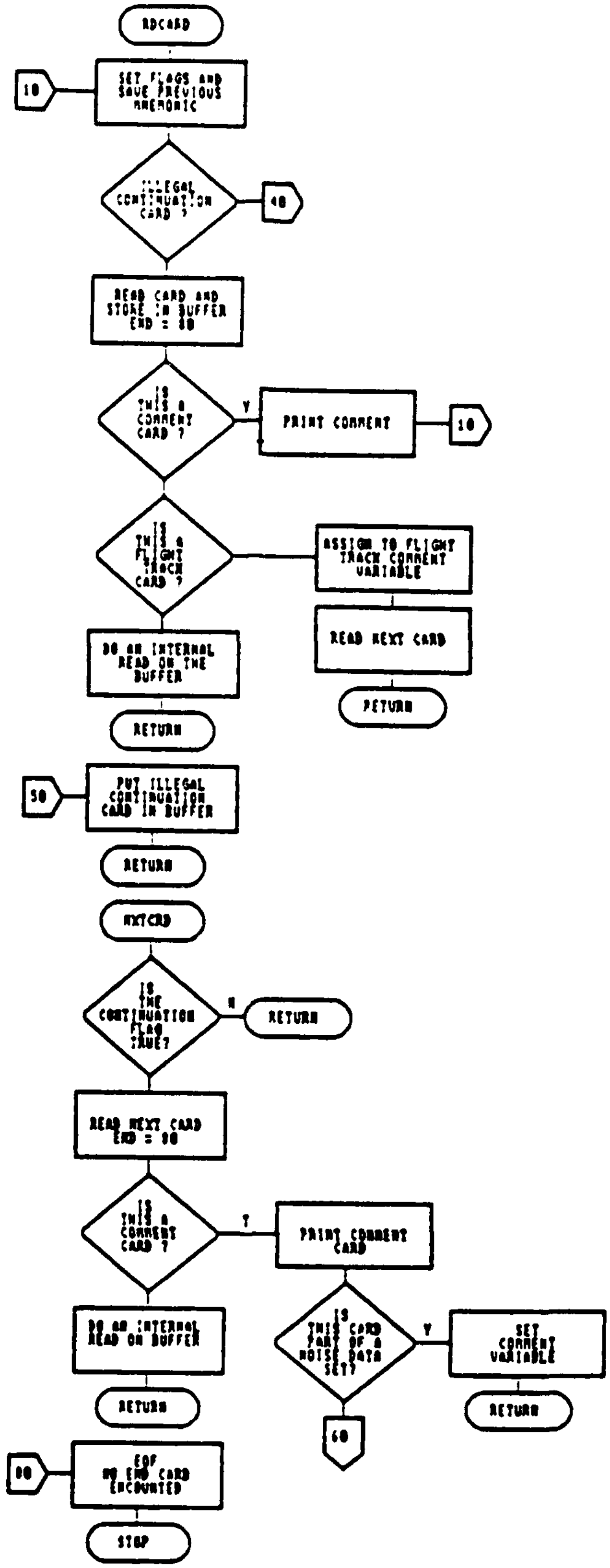


Figure 36. SubProgram RDCARD Flow Diagram

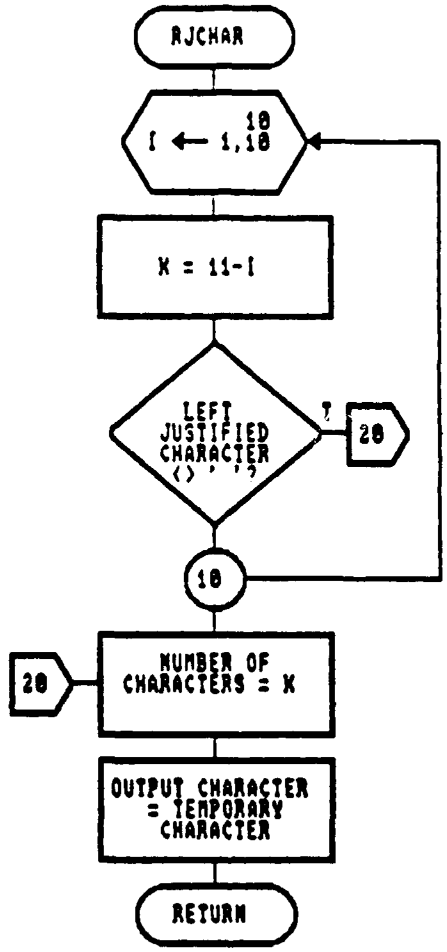


**Figure 37. SubProgram RJCHAR Flow Diagram**

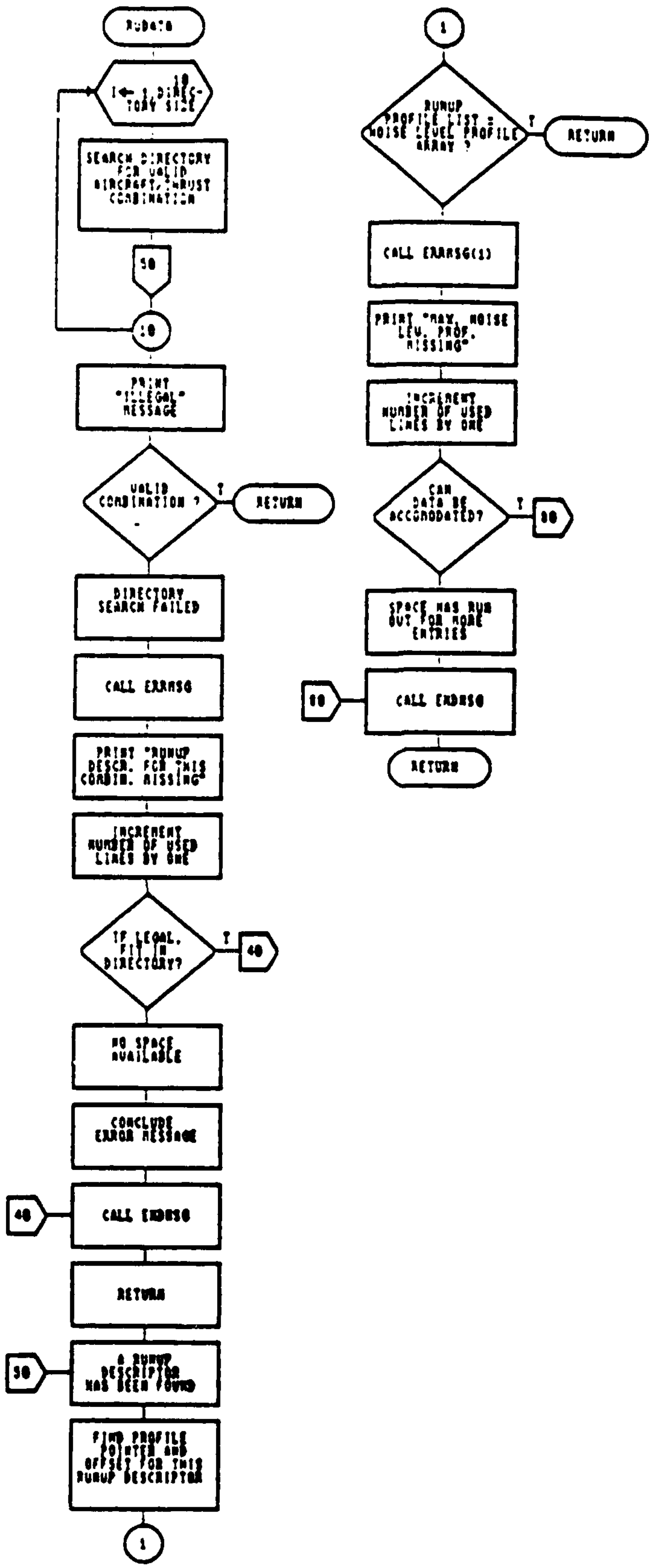


**Figure 38. SubProgram RUDATA Flow Diagram**

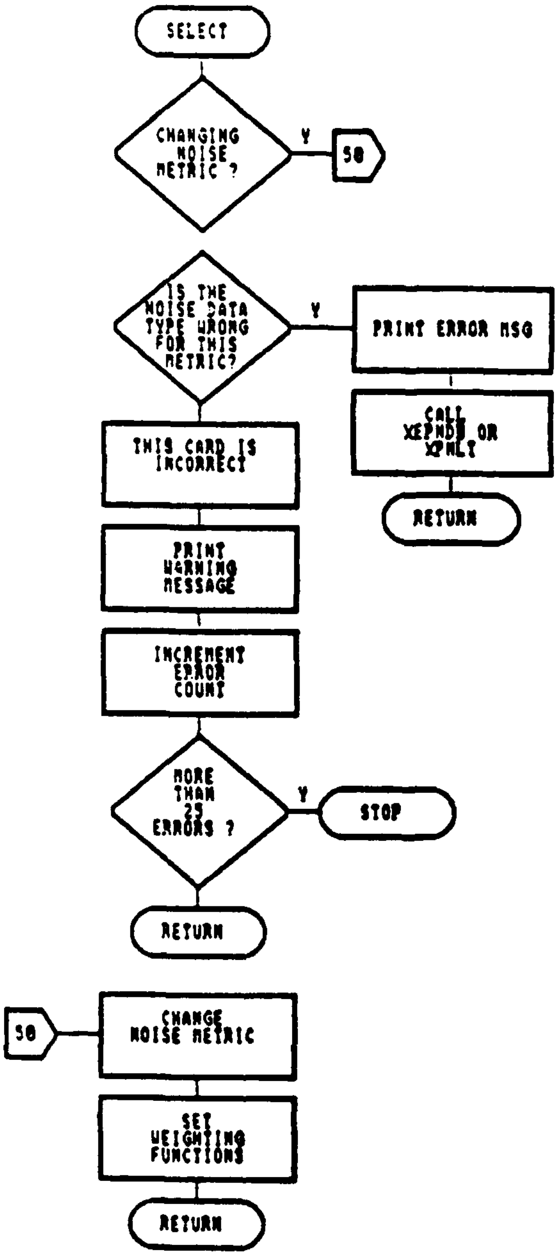


Figure 39. SubProgram SELECT Flow Diagram

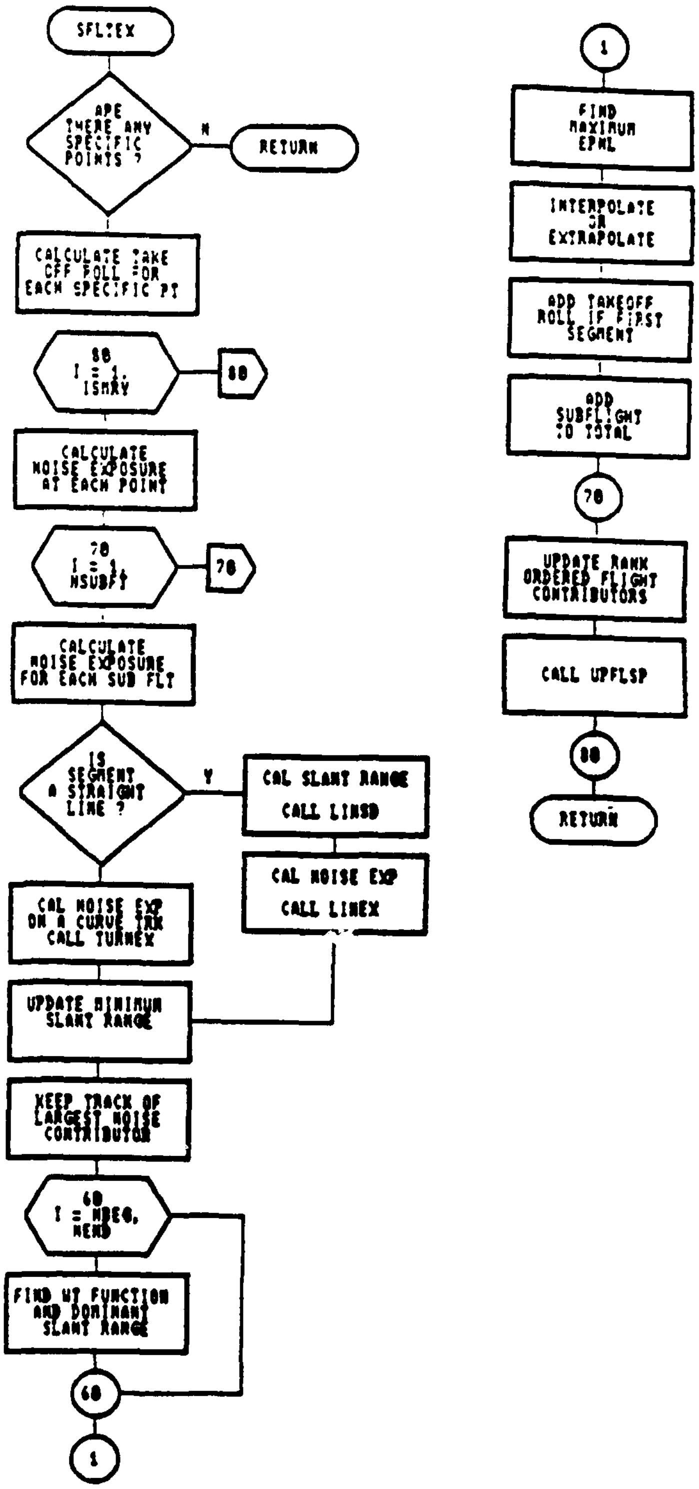


Figure 40. SubProgram SFLTEX Flow Diagram

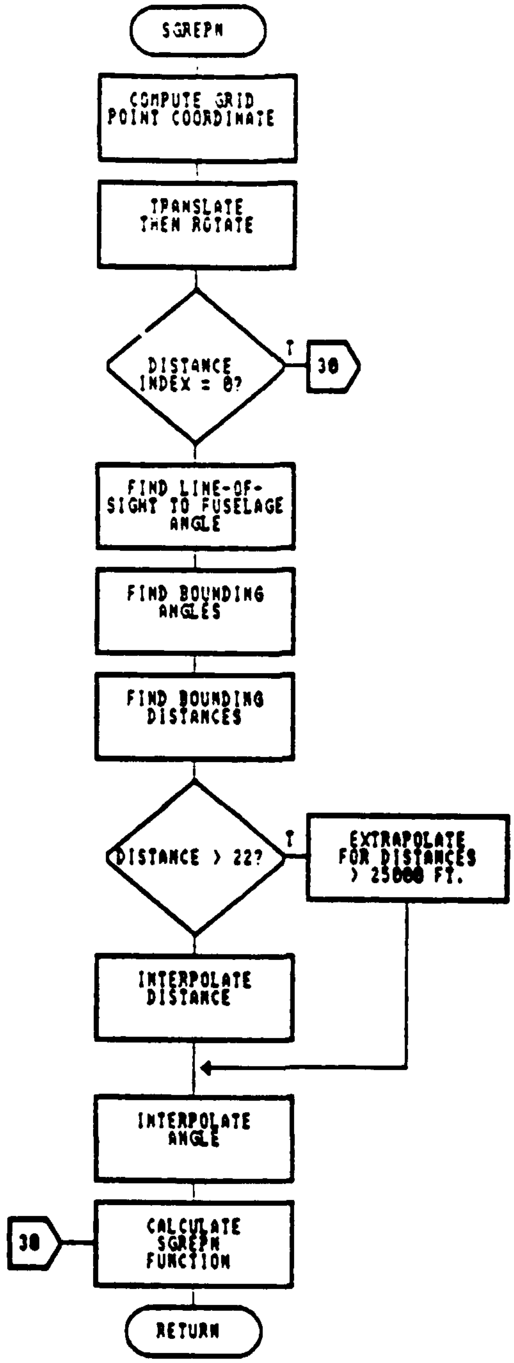


Figure 41. SubProgram SGREPN Flow Diagram

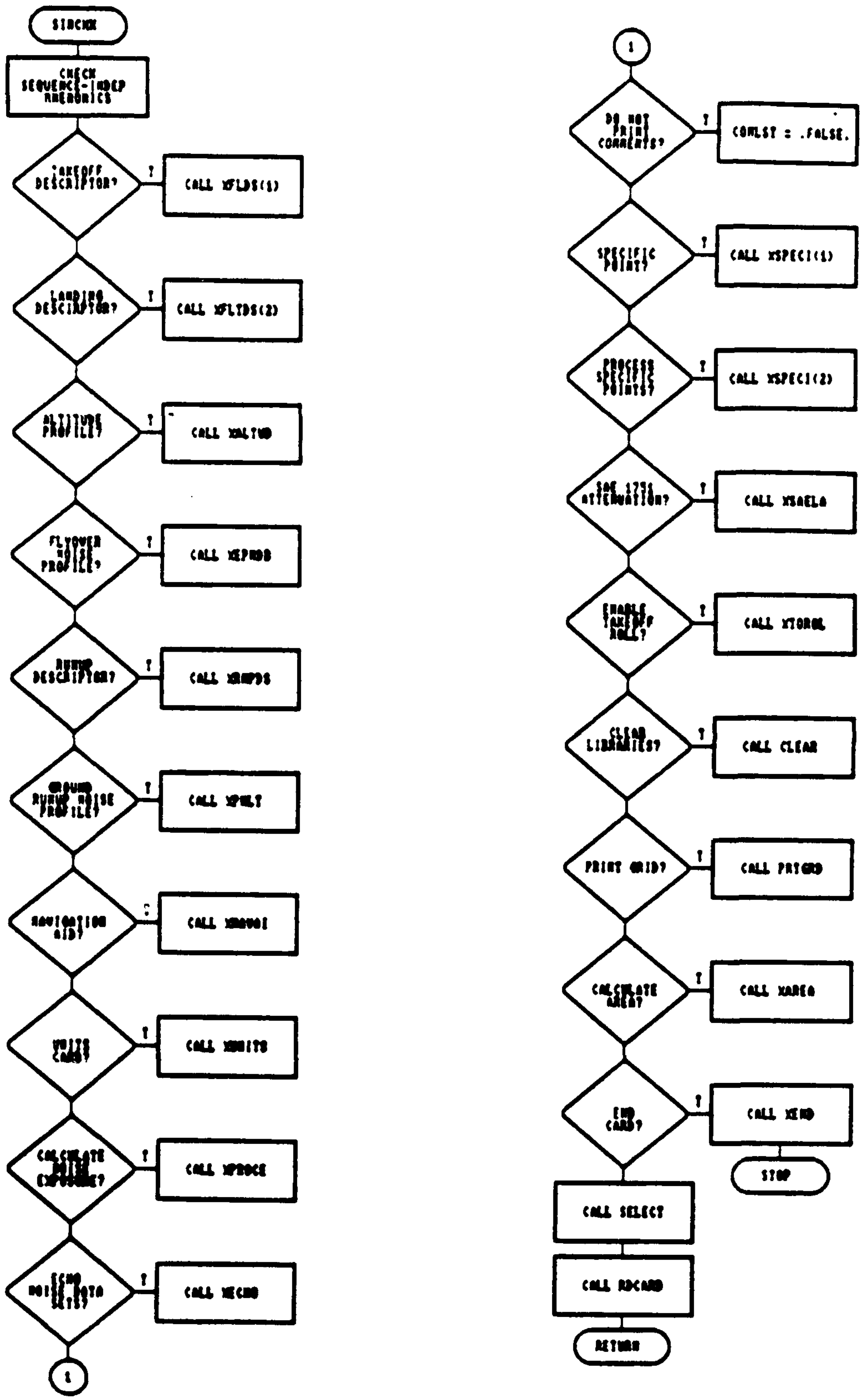


Figure 42. SubProgram SIMCHK Flow Diagram

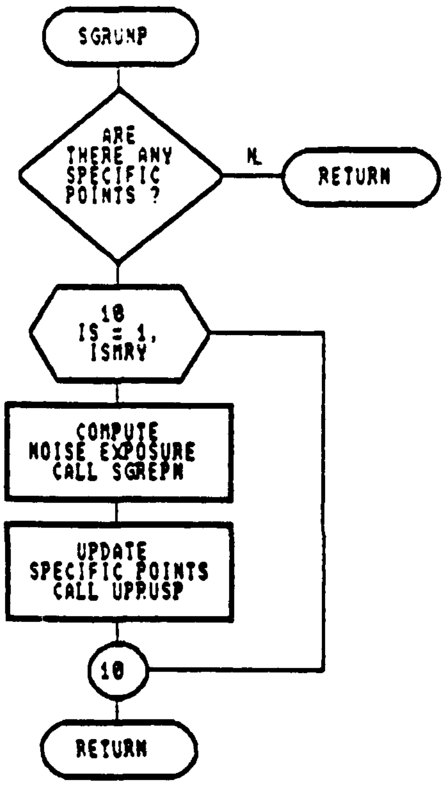


Figure 43. SubProgram SGRUNP Flow Diagram

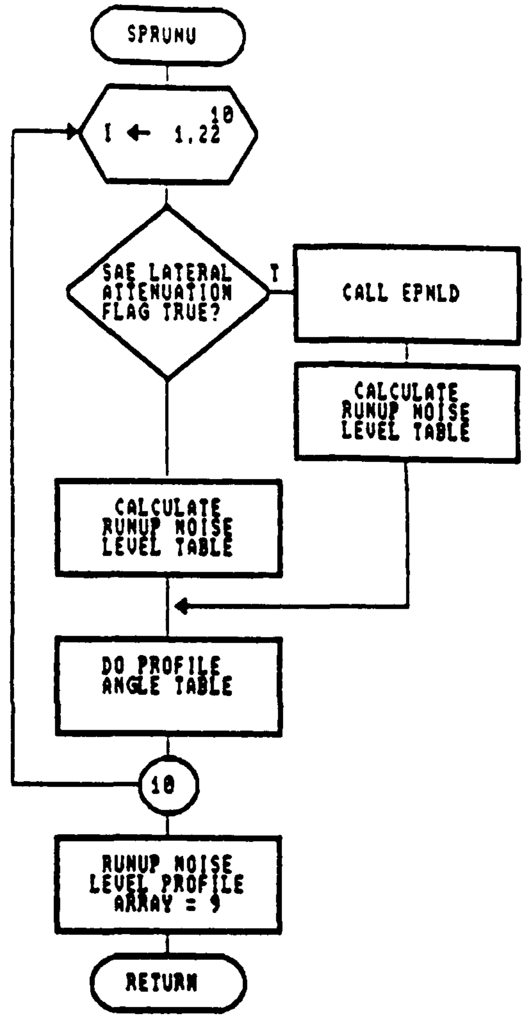


Figure 44. SubProgram SPRUNU Flow Diagram

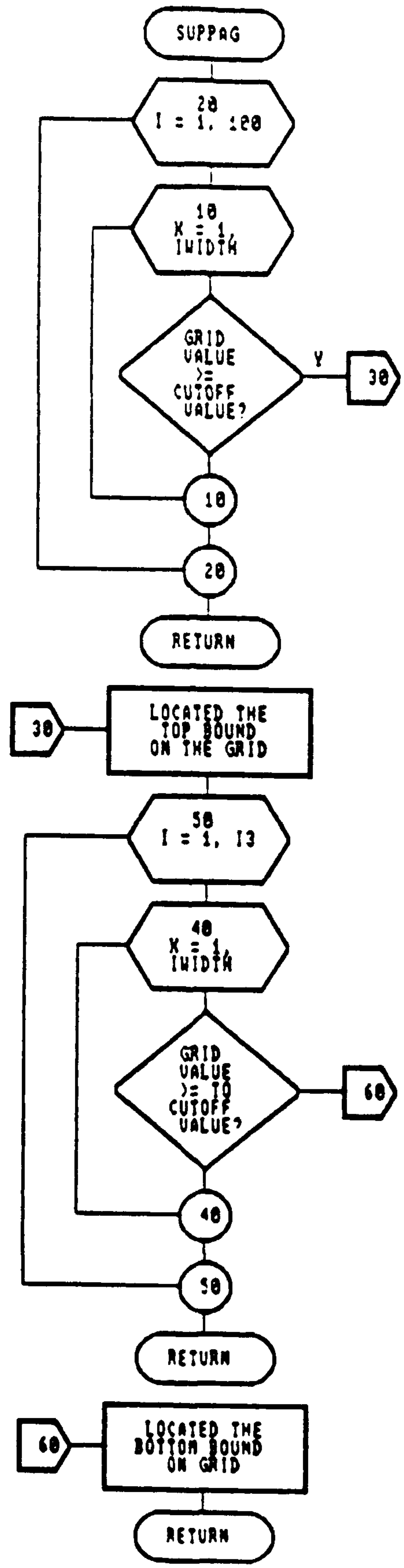


**Figure 45. SubProgram SUPPAG Flow Diagram**

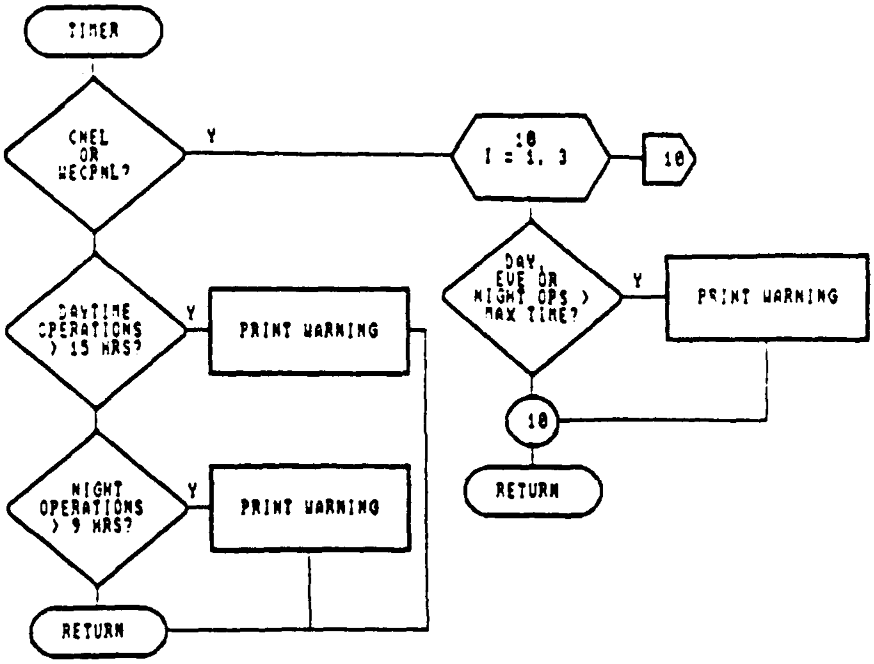


Figure 46. SubProgram TIMER Flow Diagram

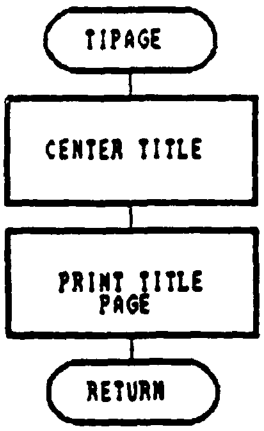


Figure 47. SubProgram TIPAGE Flow Diagram

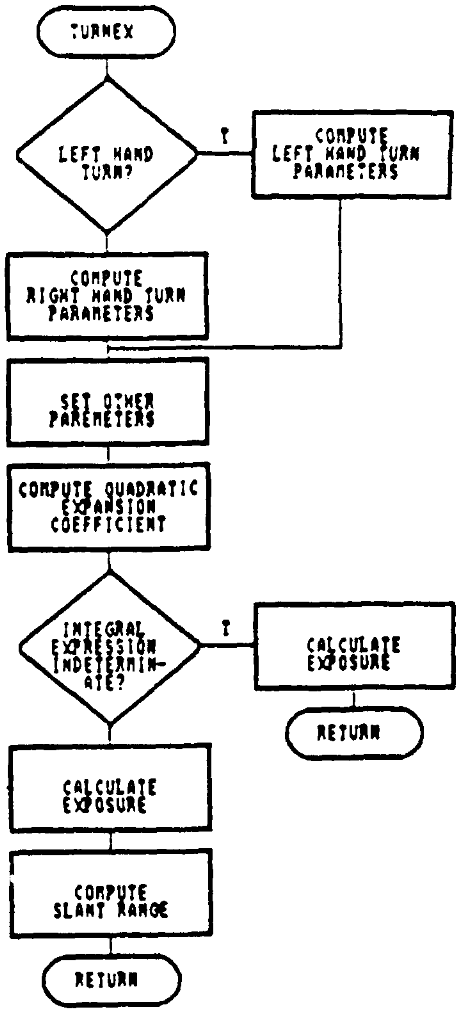


Figure 48. SubProgram TURNEX Flow Diagram

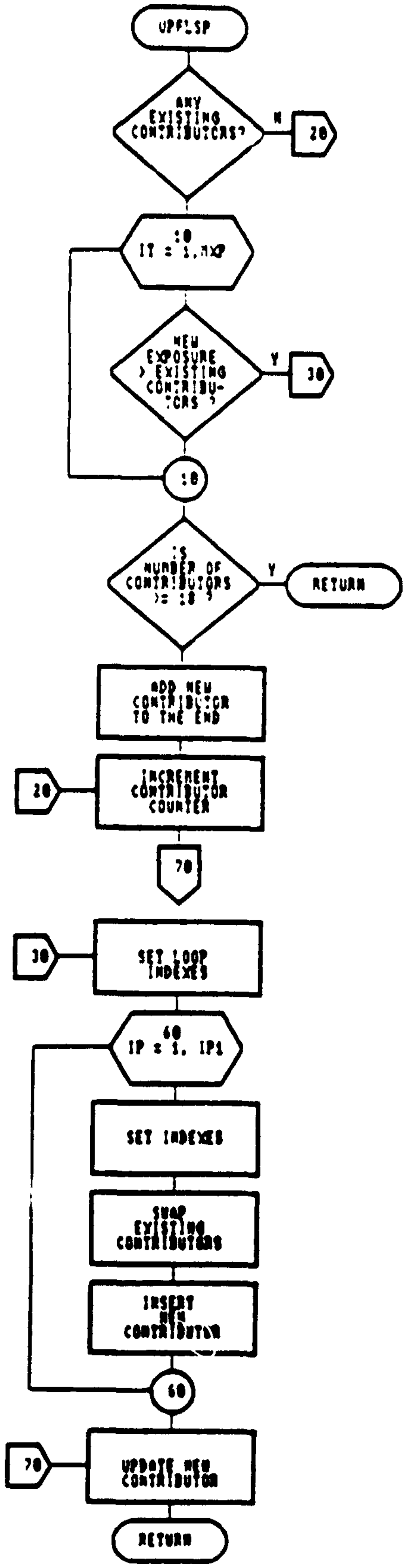


Figure 49. SubProgram UPFLSP Flow Diagram

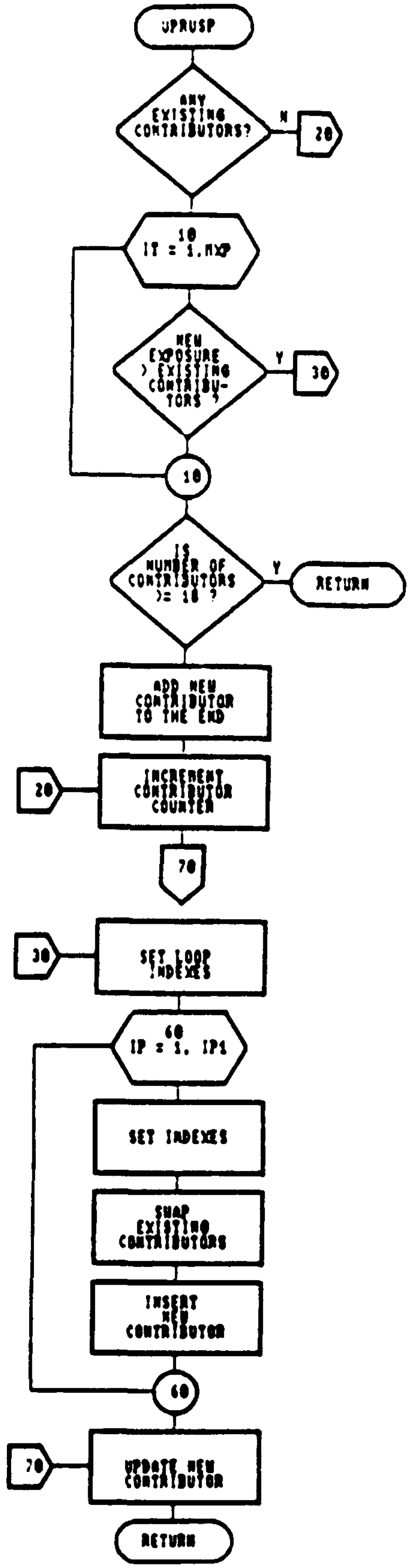


Figure 50. SubProgram UPRUSP Flow Diagram

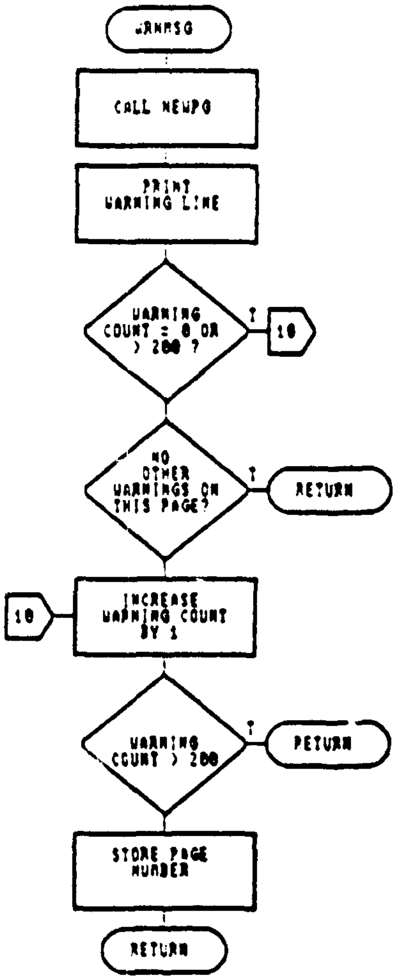


Figure 51. SubProgram WRNMSG Flow Diagram

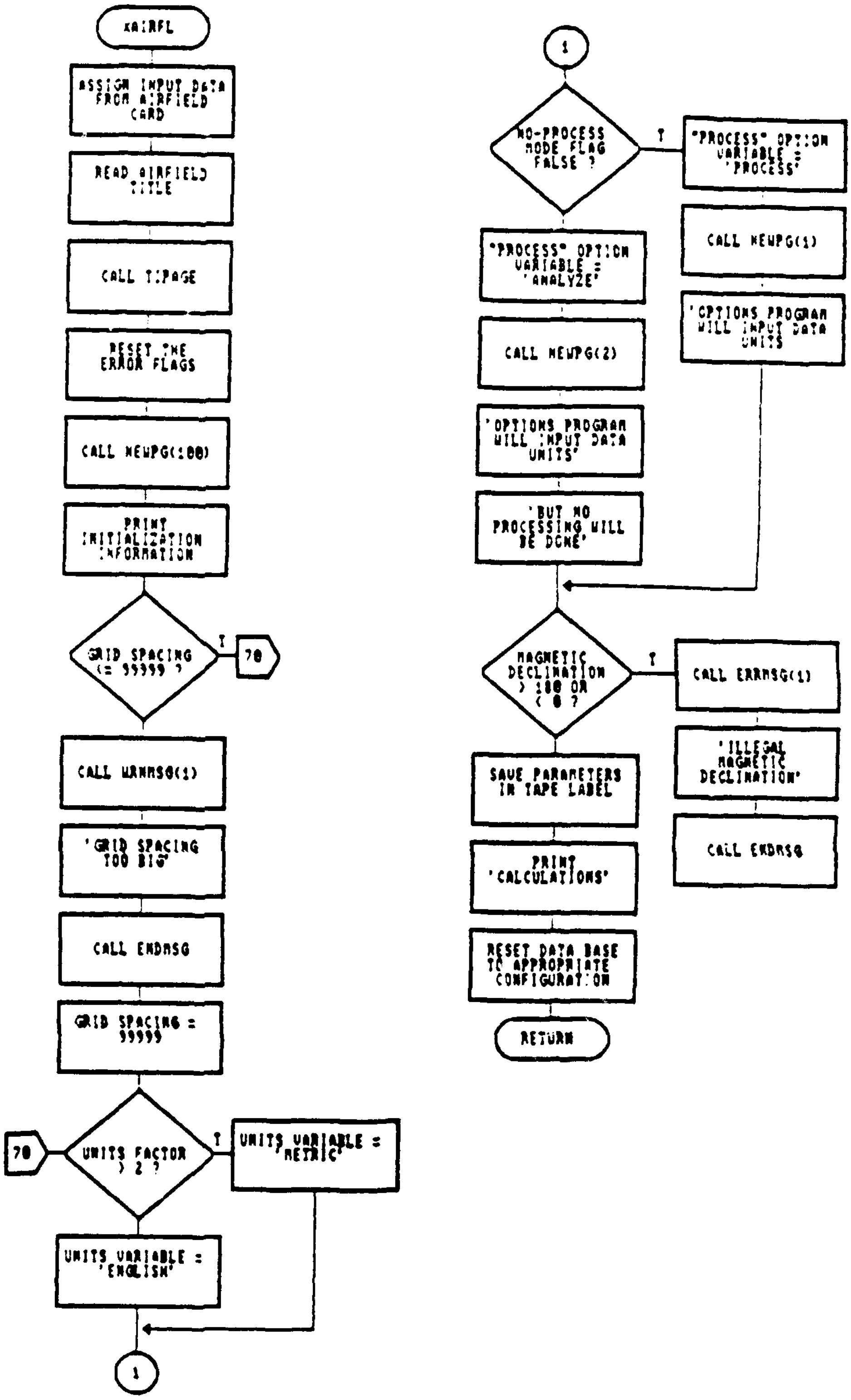


Figure 52. SubProgram XAIRFL Flow Diagram

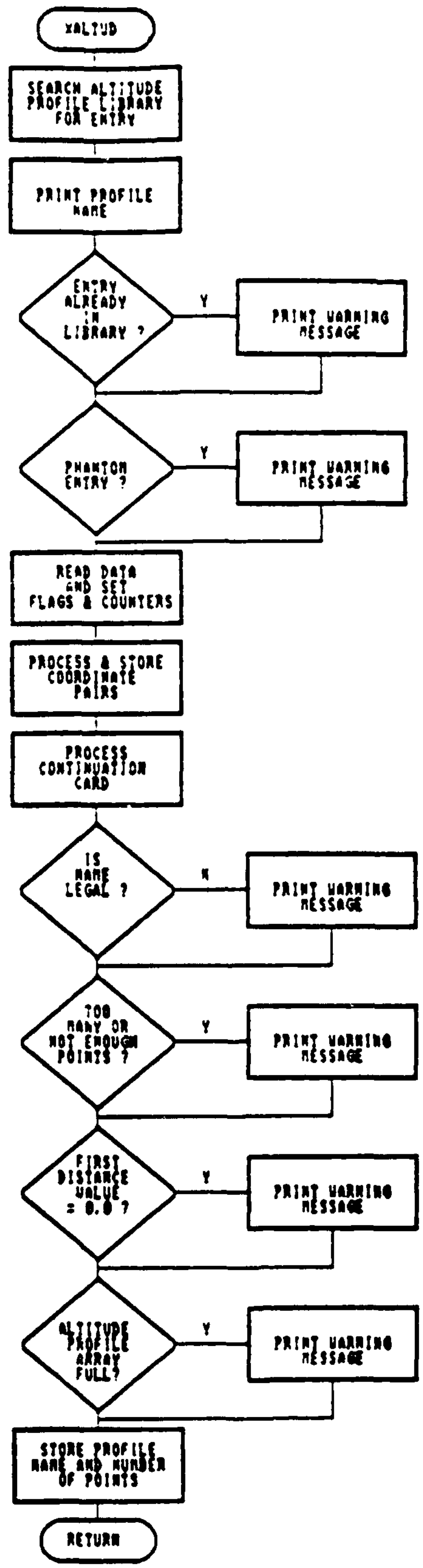


Figure 53. SubProgram XALTUD Flow Diagram

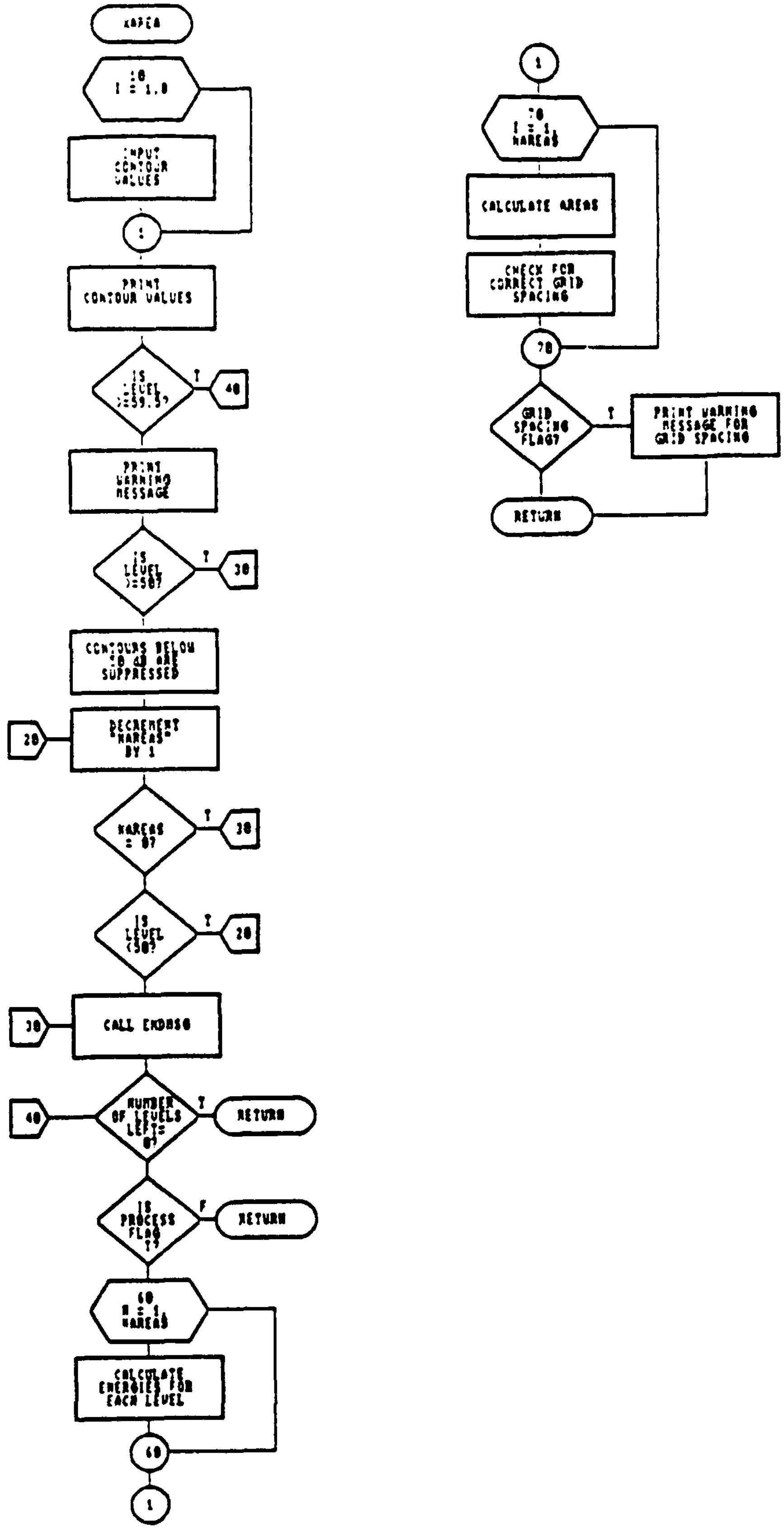

Figure 54. SubProgram XAREA Flow Diagram

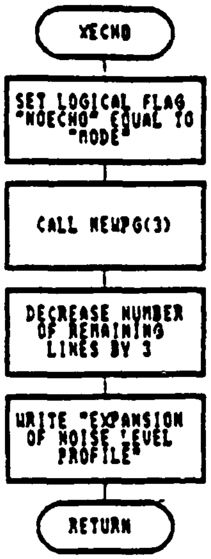


Figure 55. SubProgram XECHO Flow Diagram

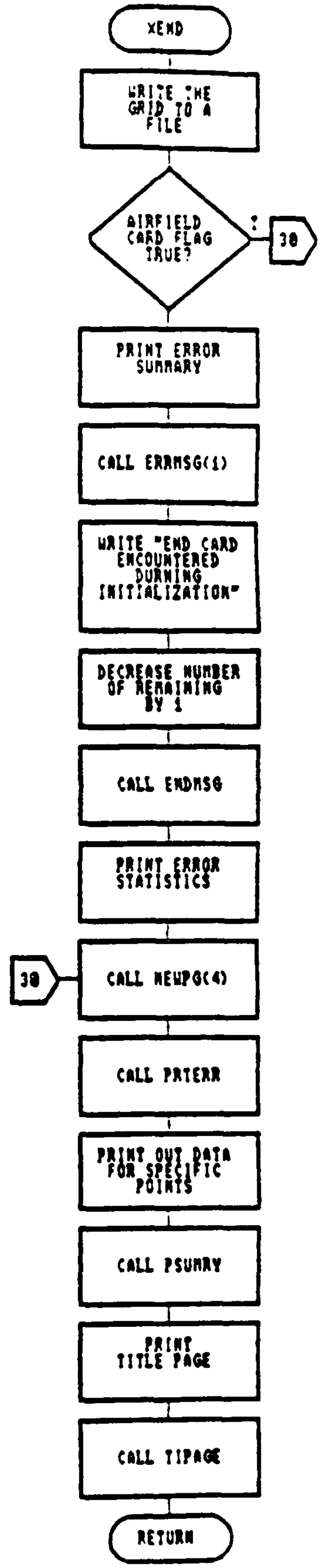


Figure 56. SubProgram XEND Flow Diagram

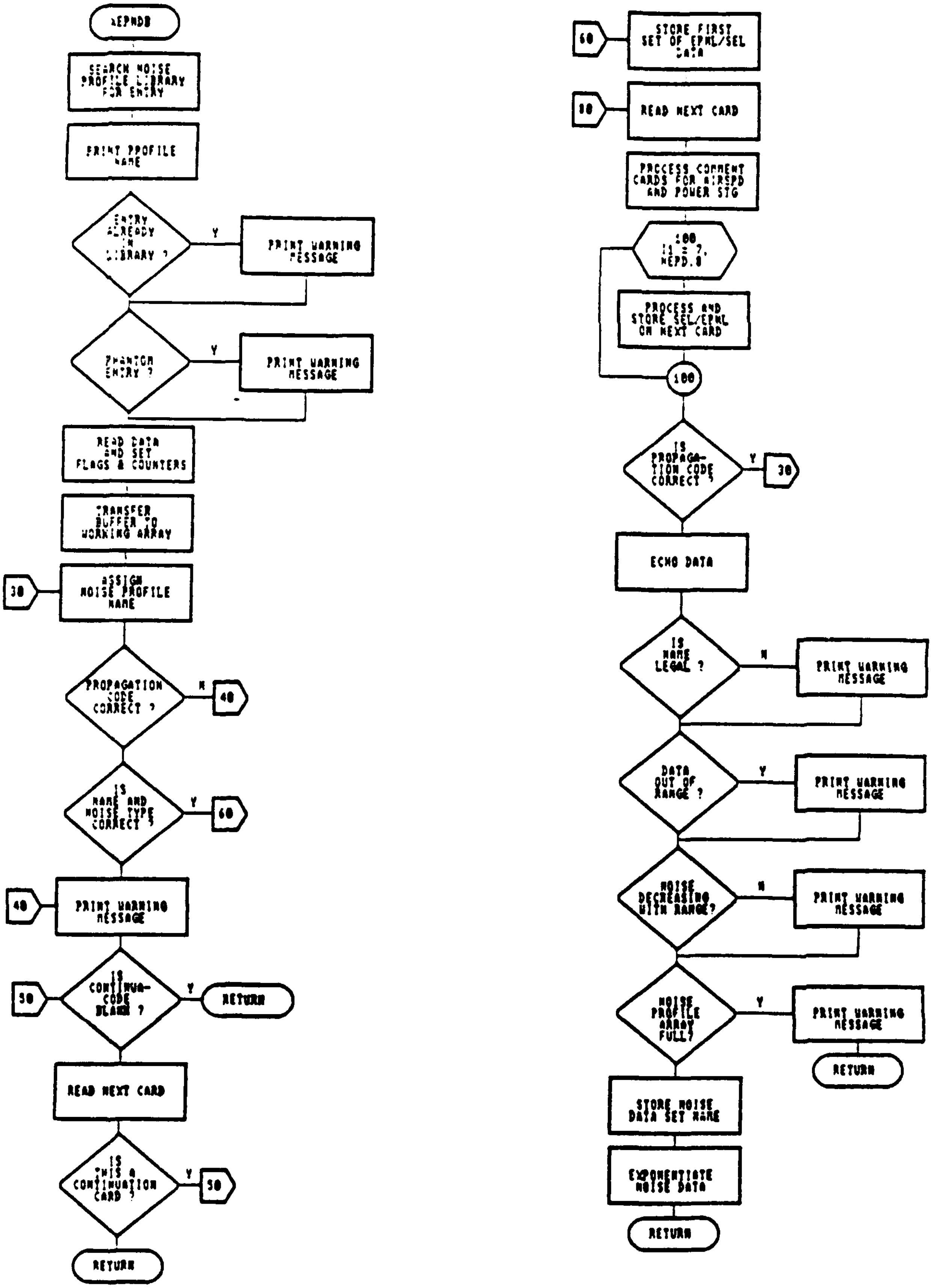


Figure 57. SubProgram XEPNDB Flow Diagram

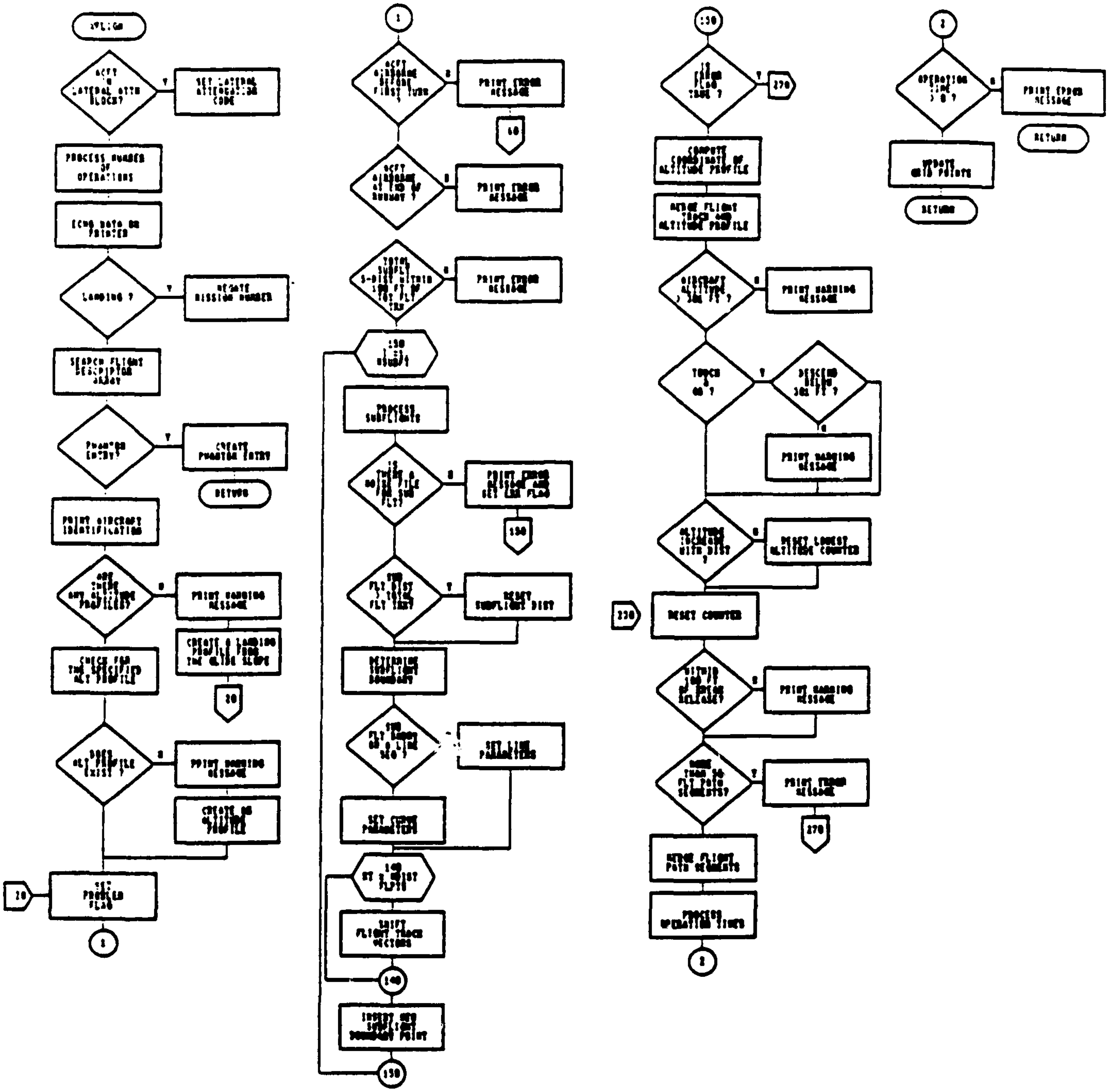

**Figure 58. SubProgram XFLIGH Flow Diagram**

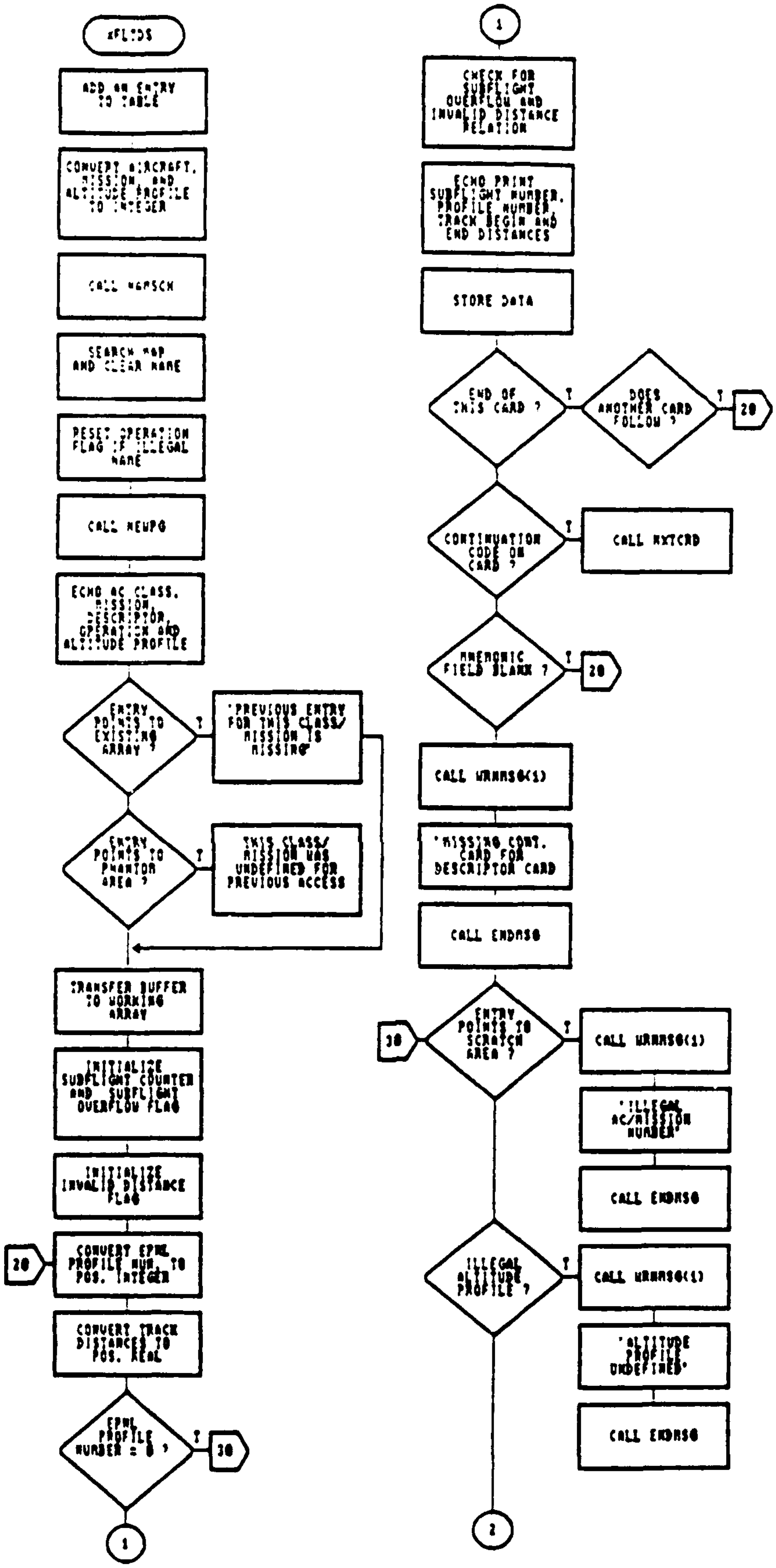


Figure 59. SubProgram XFLTDS Flow Diagram

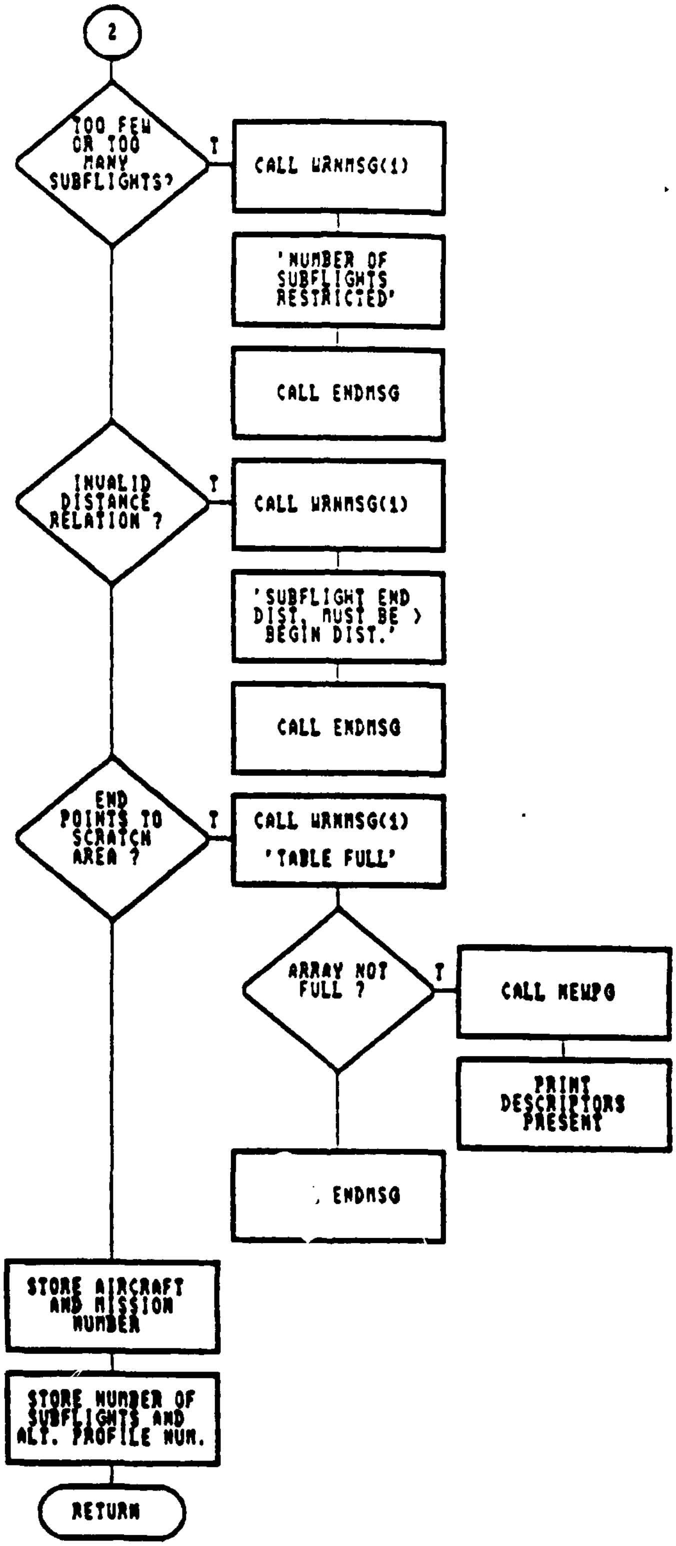


Figure 59-A. SubProgram XFLTDS Flow Diagram (Continued)

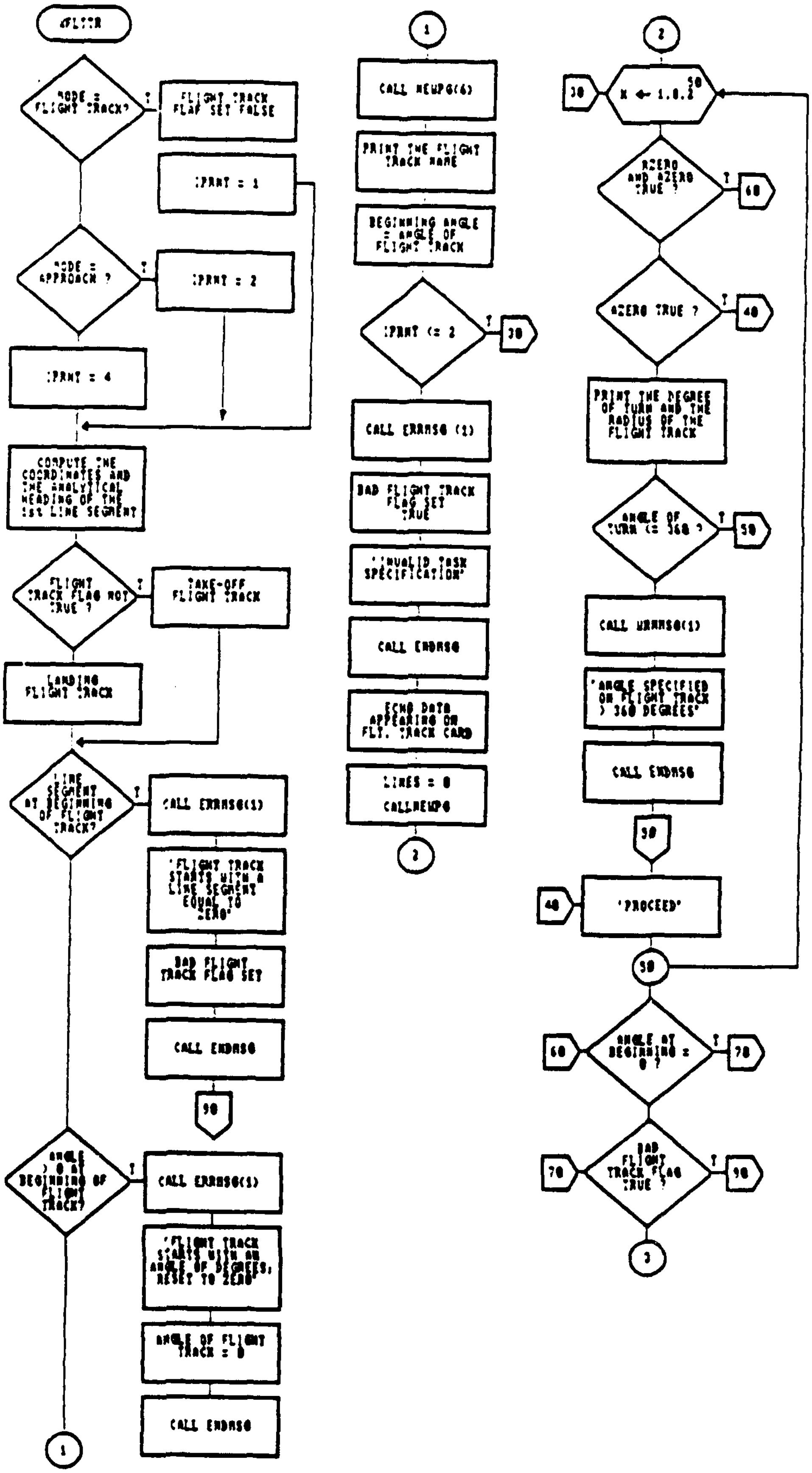


Figure 60. SubProgram XFLTTR Flow Diagram

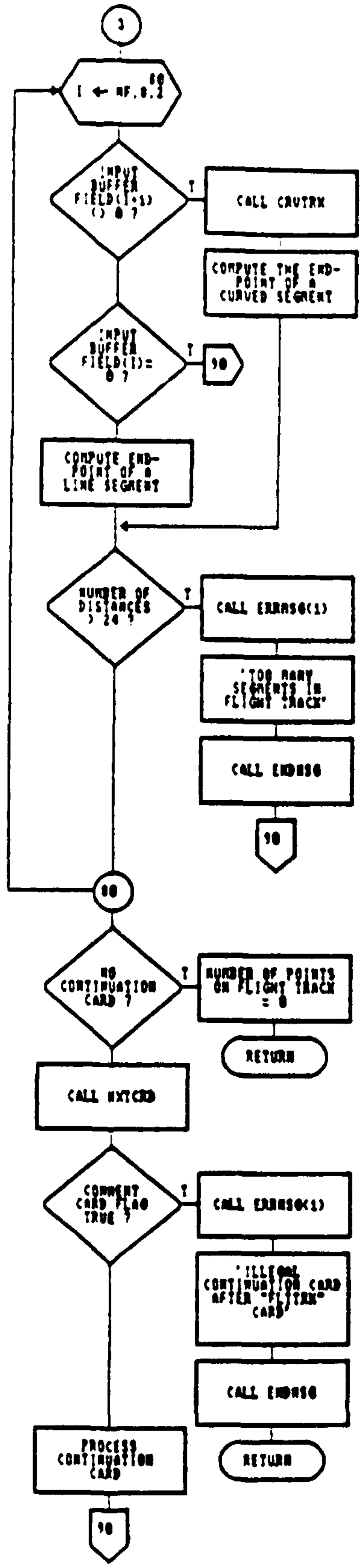


**Figure 60-A. SubProgram XFLTTR Flow Diagram**

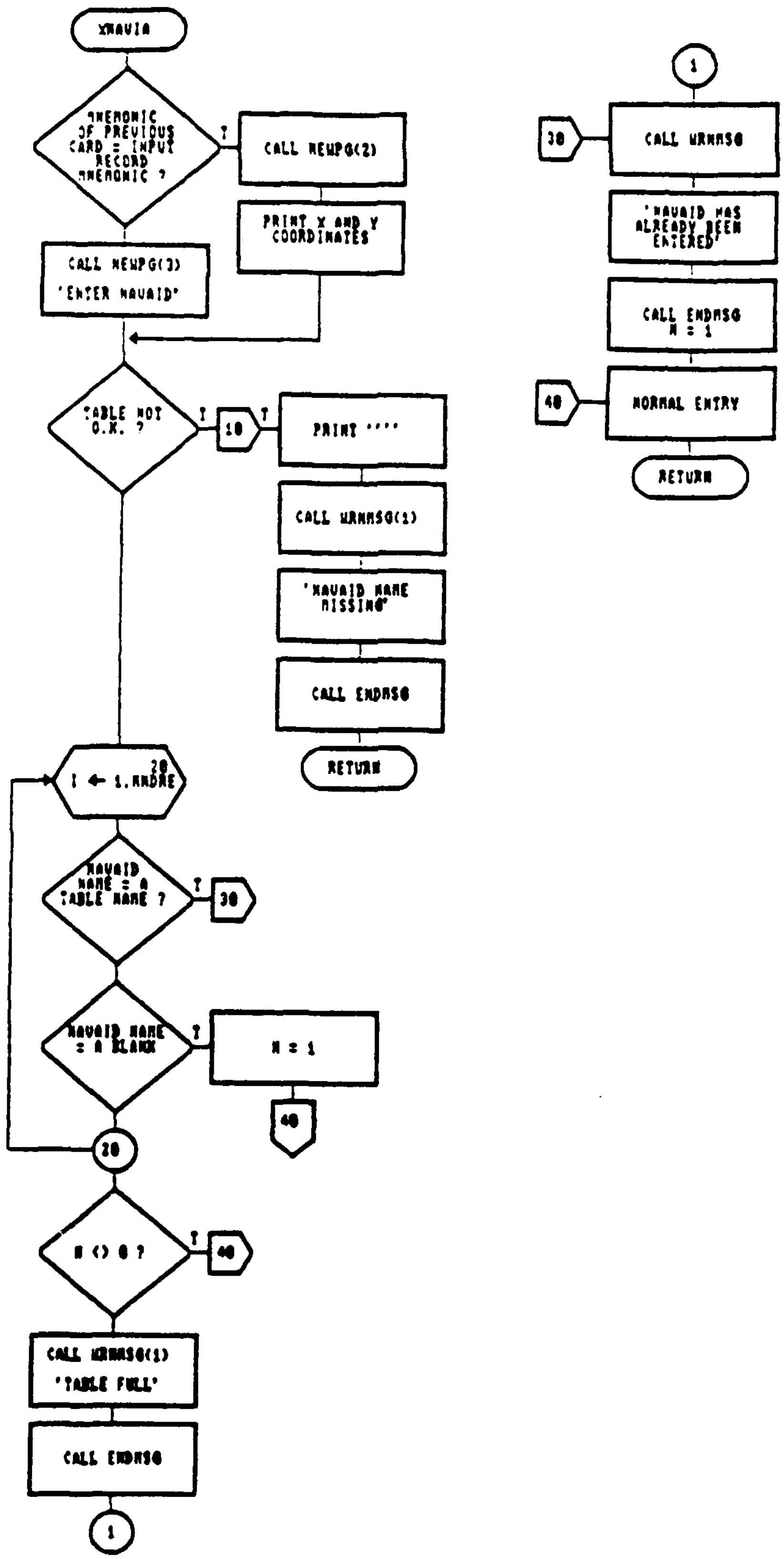


**Figure 61. SubProgram XNAVAI Flow Diagram**

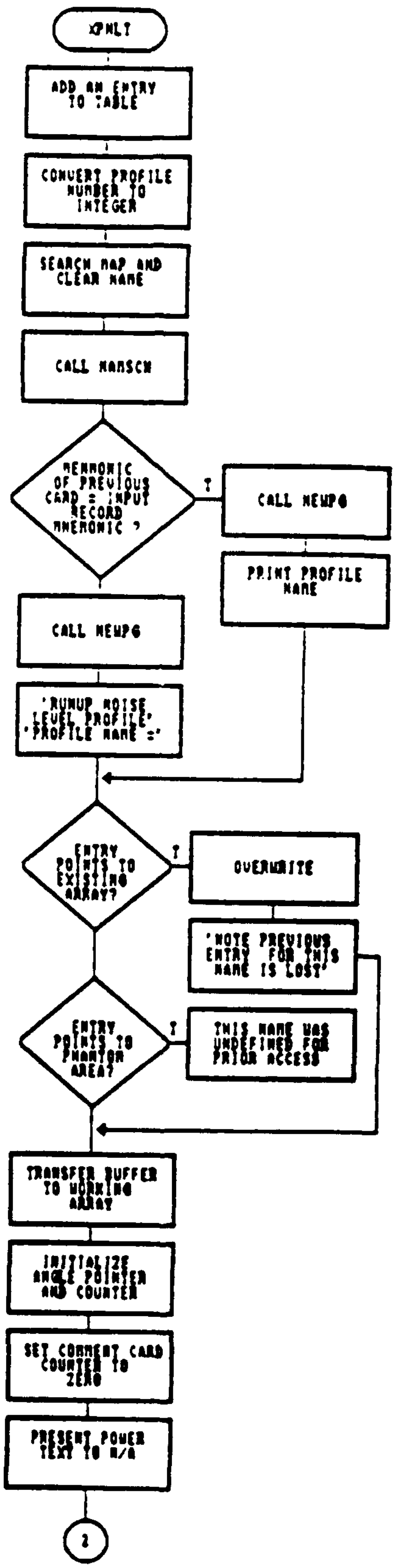


Figure 62. SubProgram XPNLT Flow Diagram

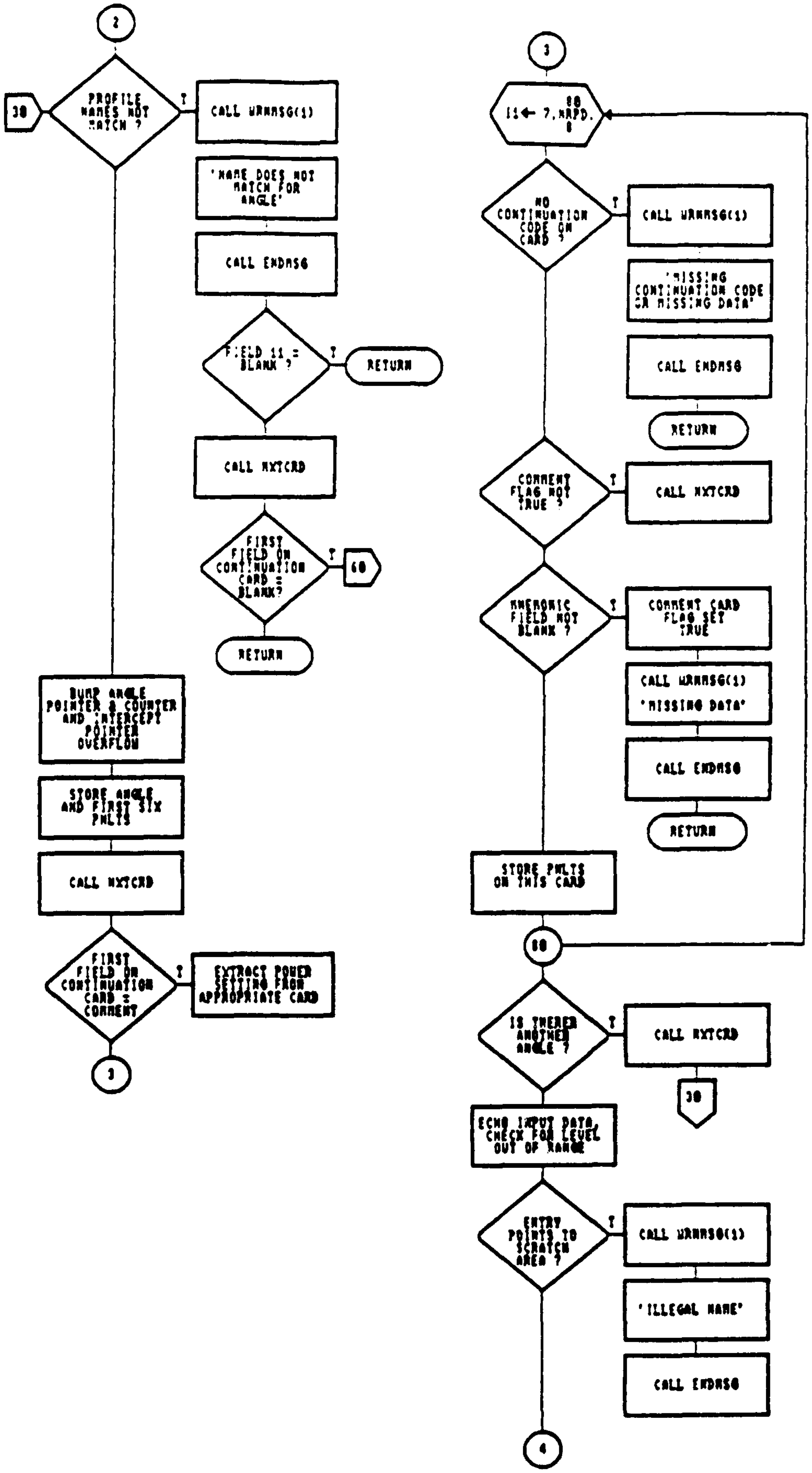


**Figure 62-A. SubProgram XPNLT Flow Diagram**

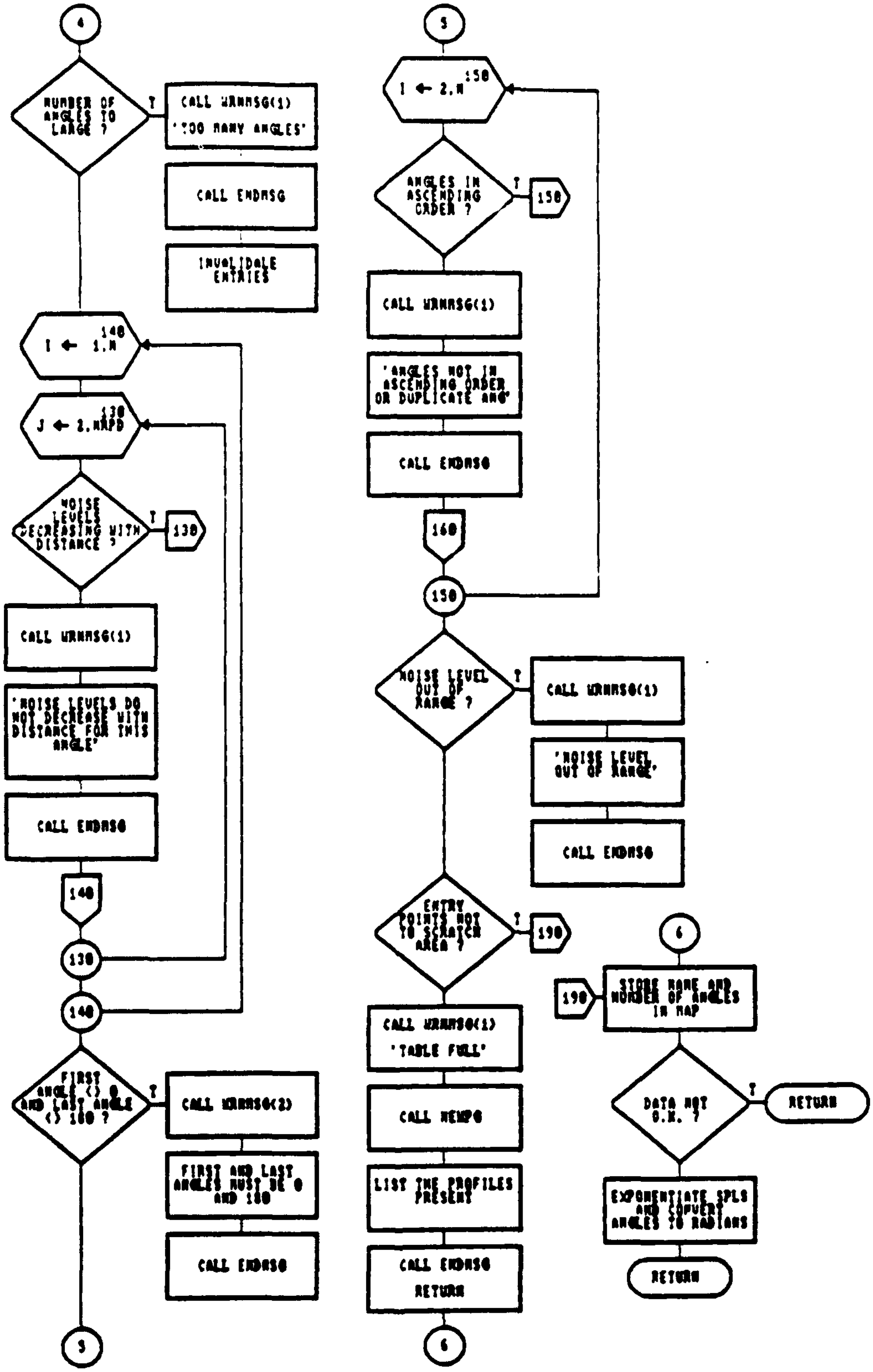


Figure 62-B. SubProgram XPNLT Flow Diagram

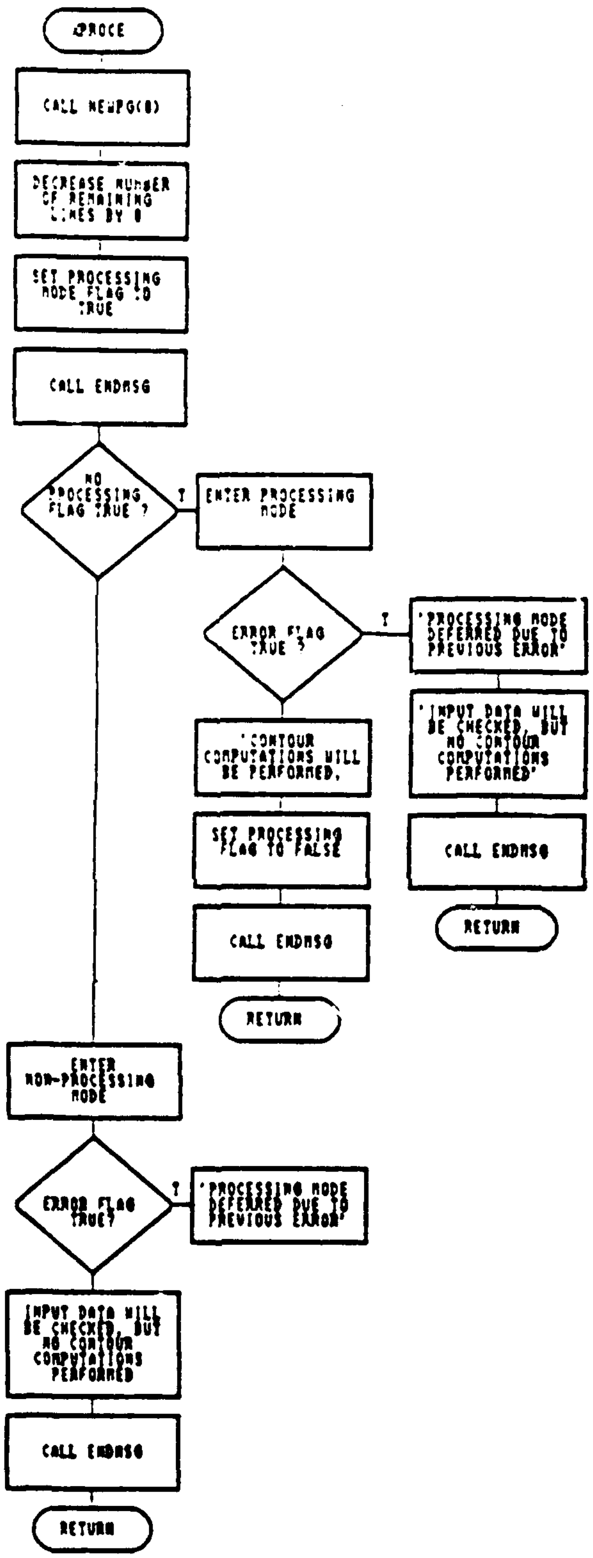


Figure 63. SubProgram XPROCE Flow Diagram

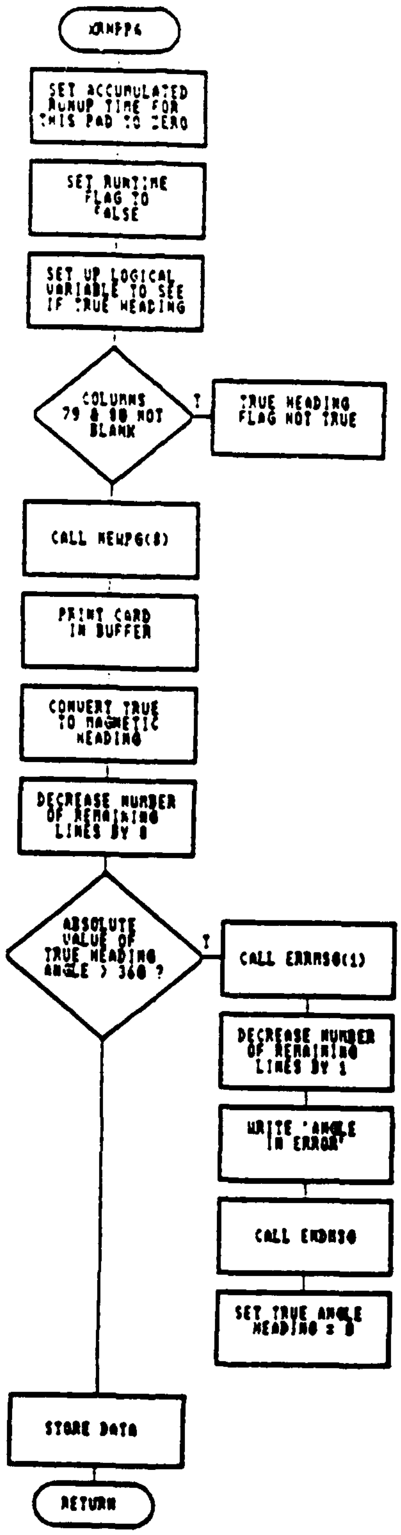


**Figure 64. SubProgram XRNPPA Flow Diagram**

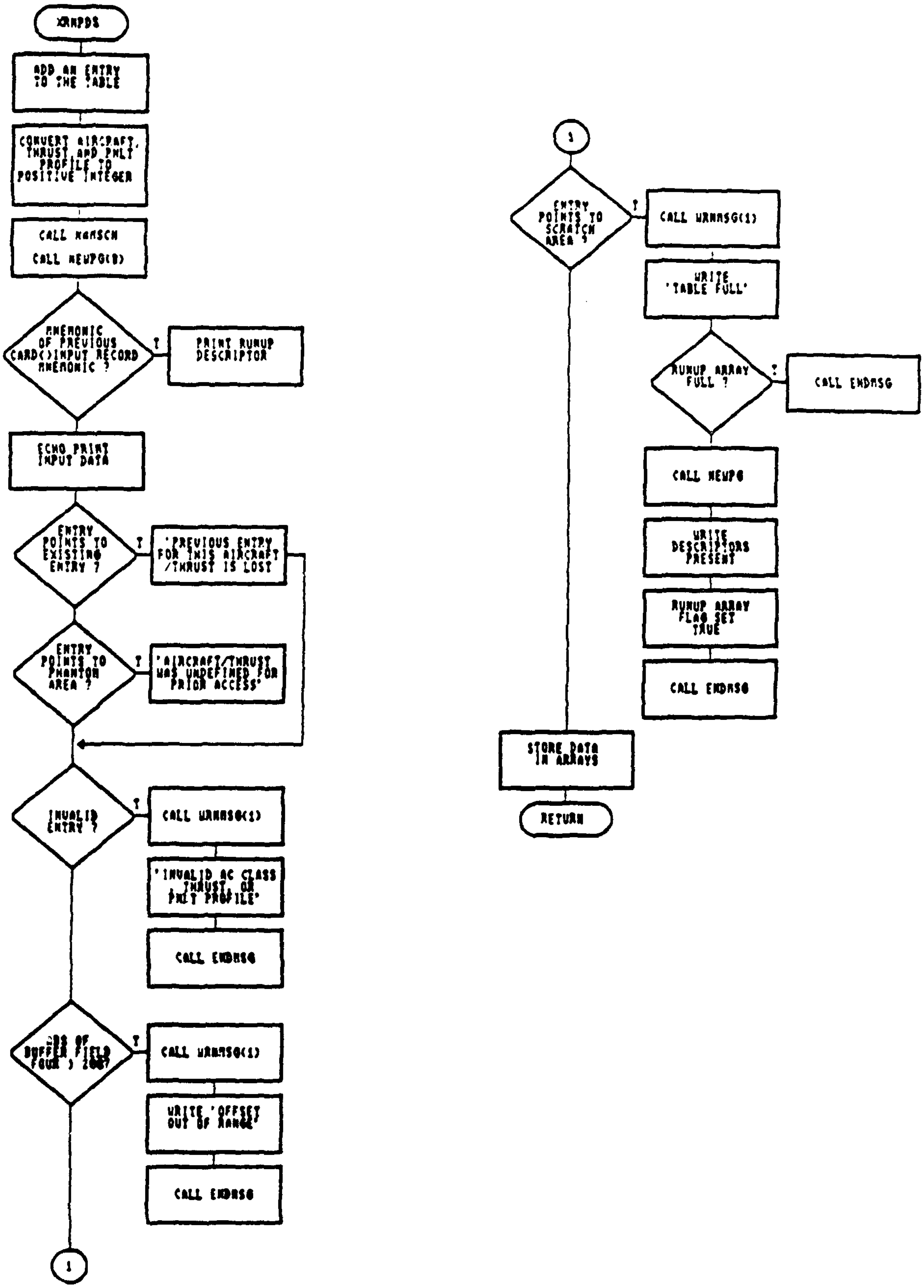


Figure 65. SubProgram XRNPDS Flow Diagram

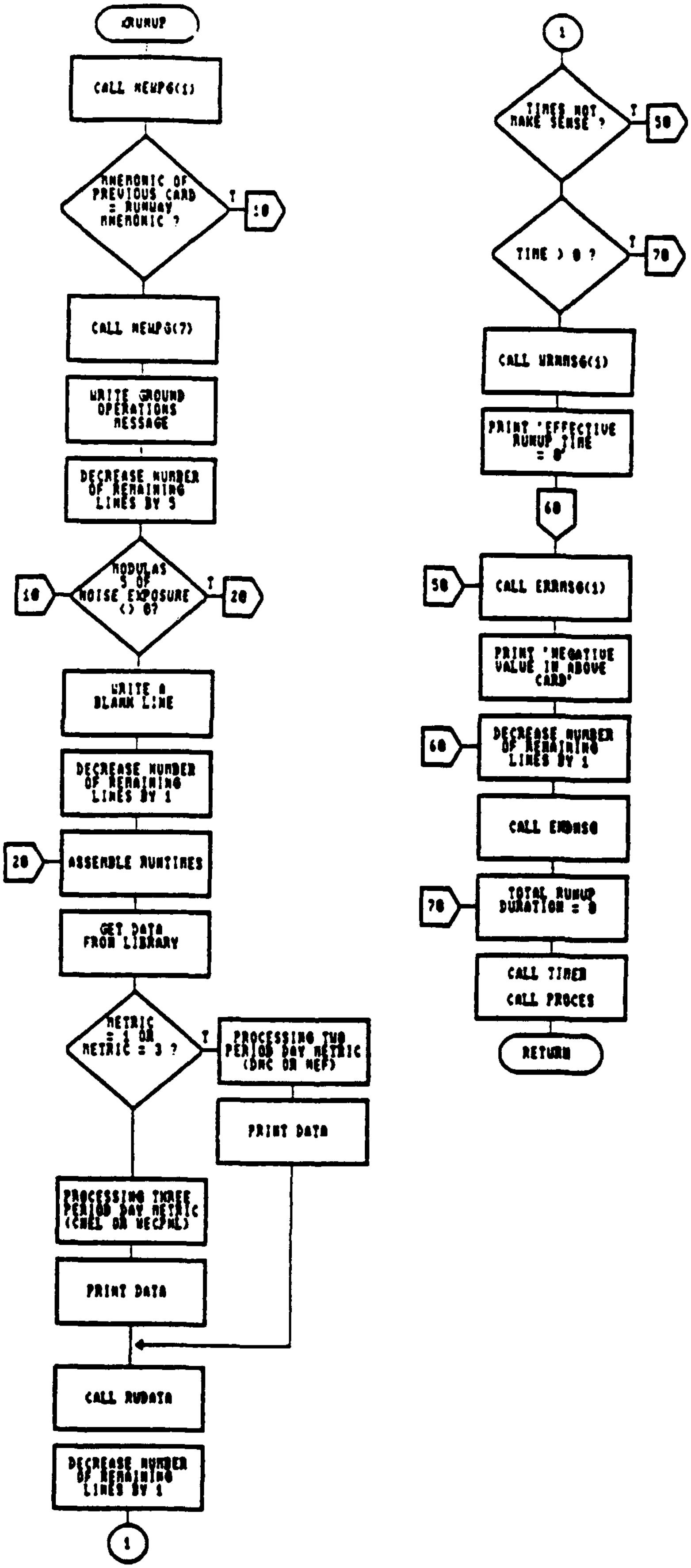


**Figure 66. SubProgram XRUNUP Flow Diagram**

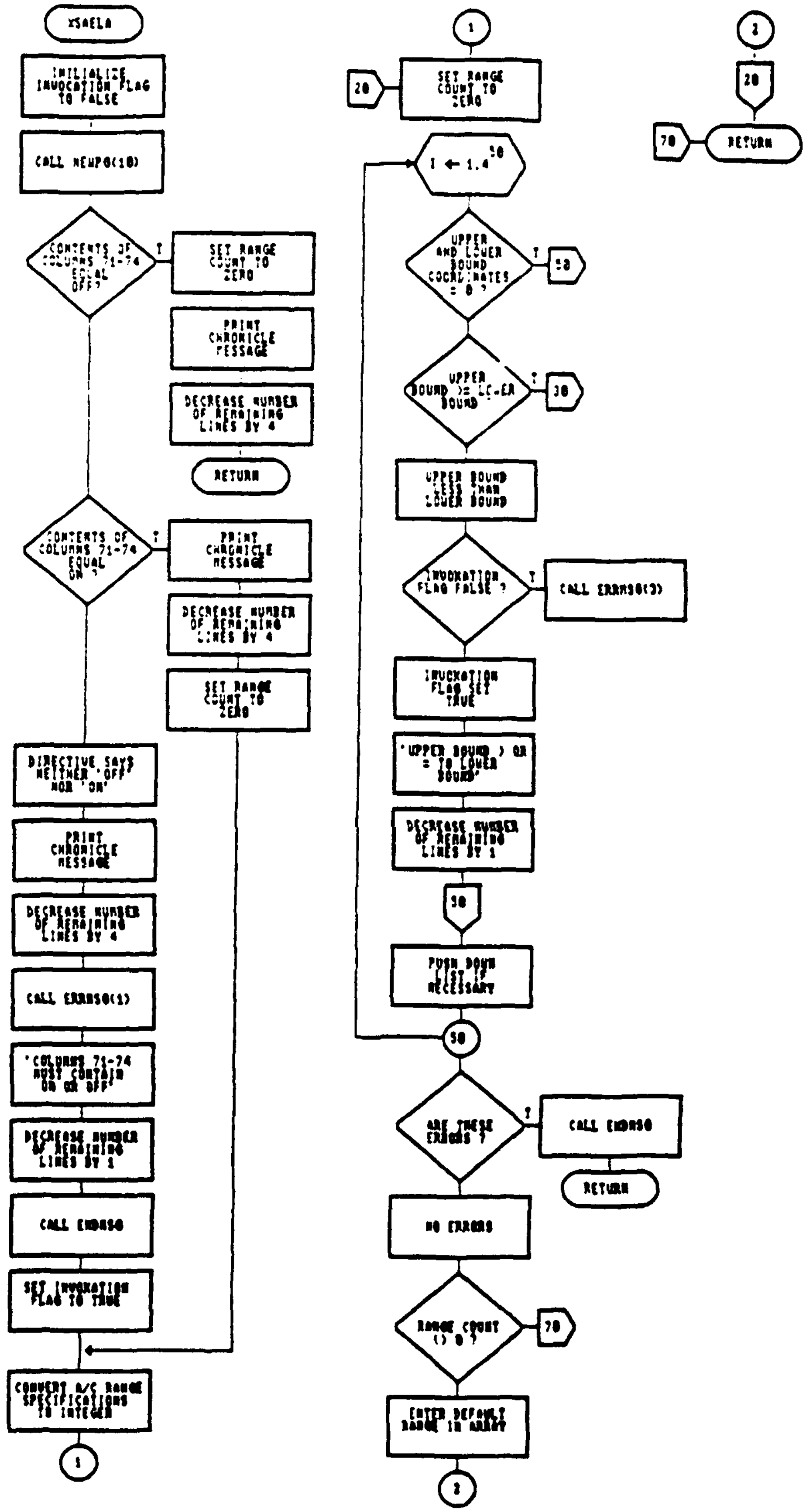


Figure 67. SubProgram XSAELA Flow Diagram

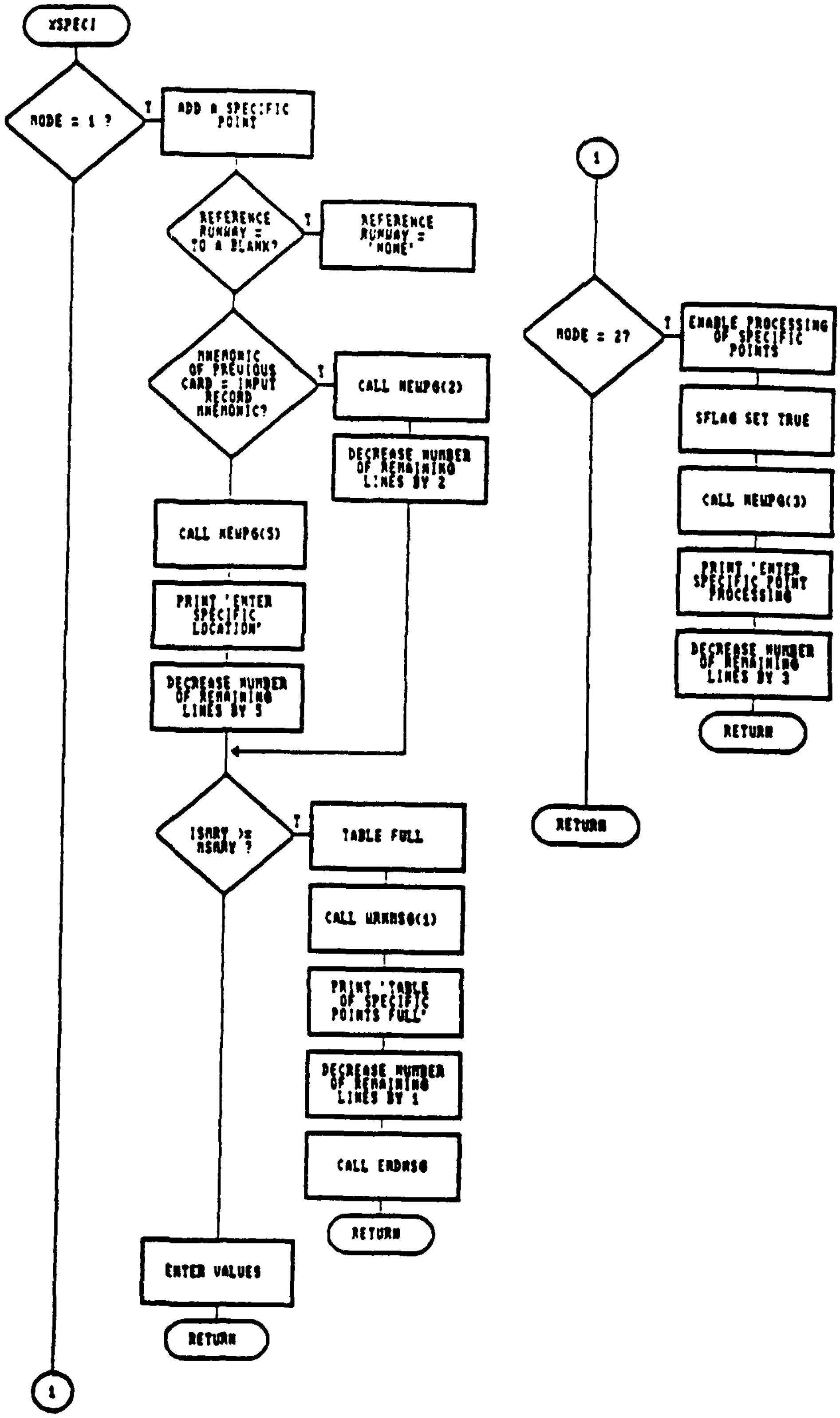


Figure 68. SubProgram XSPECI Flow Diagram

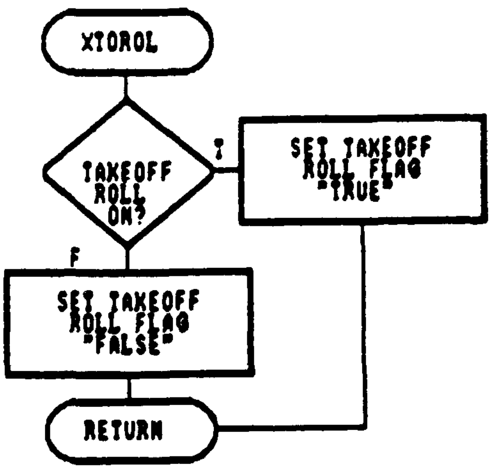


Figure 69. SubProgram XTOROL Flow Diagram

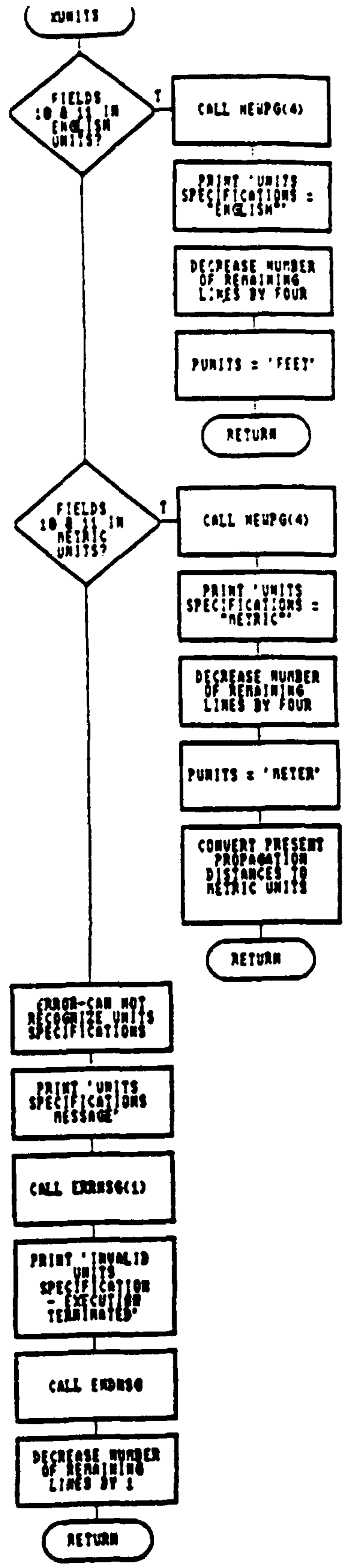


Figure 70. SubProgram XUNITS Flow Diagram

# APPENDIX B
## Summary of NMAP 6.0 Subroutines

## B.1 COMMON VARIABLES

The NOISEMAP program makes extensive use of common storage in the form of labeled common blocks. Use of common storage reduces program memory requirements and allows large amounts of data to be passed between calling subprograms without needing to be passed in lengthy parameter lists.

The various labeled common blocks occur only in the subprograms in which the variables are used. All common block variables are initialized in the BLOCK DATA subroutine. All variables in labeled common blocks are listed in Table 3. The following sections describe the labeled common blocks.

### CHRVAR Common

All character variables used in common are contained in CHRVAR.

### COMPUT Common

Variables needed to compute noise exposure such as flight path parameters and volume of operations are contained in COMPUT.

### CXAREA Common

The variables in CXAREA are primarily used in the calculation of the approximate areas within selected contour lines.

### ERROR Common

The variables in ERROR are used to keep track of the page number on which errors and warnings occurred and number of errors and warnings issued by the program.

### EXPOS Common

The variables in EXPOS are used to compute the noise exposure for grid points.

### FACTO Common

The variables in FACTO are correction factors used in computing noise exposure.

### FLIGHT Common

The variables in FLIGHT are primarily used to store flight track and altitude profile data.

### GRD Common

Labeled common GRD stores the array of grid points.

### INPUT Common

The variables in INPUT are used to input data from the run file and contain the x and y coordinates of the grid origin.

### LATATN Common

The variables in LATATN are used in lateral attenuation calculations.

### MNEMIC Common

The variables in MNEMIC indicate the type of data that is contained on the input records of the run file. These key words or mnemonics are defined in Section 4 and are also contained in the variable definition list in Appendix B.

### NAVAID Common

All variables in NAVAID contain navigational aid information.

### OFFSET Common

The variable in OFFSET contains the offset dB factors used in the calculation of noise exposure due to ground runups.

### PFRMNC Common

The variables in PFRMNC contain the names of flight and runup descriptors, noise data sets, altitude profiles and size of the various arrays.

### RUNUP Common

These variables are related to data concerning runup pads and the minimum threshold value for computing noise exposure due to ground runups.

### RUNWAY Common

The variables in this labeled common contain the input data for runways.

### STATUS Common

These variables indicate the status of various facets of the program such as the current version number of the NOISEMAP program, the noise measure being calculated and program flags.

### SUMMRY Common

The variables in SUMMRY contain input and calculated noise data for specific points.

## B.2 MAIN

The purpose of the MAIN program is to open the input and output files, and to control program flow. When NOISEMAP is executed, the first action taken in MAIN is to open the input file (Unit 5) and the output file (Unit 6). The input file is the "run" file and the output file on Unit 6 contains an echo of the input data, error and warning messages, and specific point output if requested. This printed output file is referred to as the Chronicle. The input file consists of data in card image format. Each card image contains 80 characters divided into twelve fields. The first field in each card is a mnemonic. The mnemonic is a key word that identifies the type of data contained on the card. The mnemonic is interpreted in MAIN and a subprogram is called to process the input data on the card. The subprogram returns control to MAIN when the subprogram has completed all processing associated with the data card and any continuation cards.

Only sequence dependent mnemonics are checked in MAIN. Sequence independent mnemonics are processed in subprograms SIMCHK and SELECT. If the mnemonic is not recognized in MAIN then subprogram SIMCHK is called to check sequence independent mnemonics. The following sequence dependent mnemonics are processed in MAIN:

| | | | |
|---|---|---|---|
| MAIRFL | - | "AIRFLD" | (airfield card) |
| MRUNWA | - | "RUNWAY" | (runway) |
| MFLTTR | - | "FLTTRK" | (flight track) |
| MFLIGH | - | "FLIGHT" | (flight operations) |
| MRNPPA | - | "RNPPAD" | (runup pad) |
| MLALTU | - | "LALTUD" | (list altitude profiles) |
| MRUNUP | - | "RUNUP" | (runup operations) |

If sequence dependent mnemonics are not encountered in the correct order, e.g., a runway card is processed before an airfield card, then an error message is issued. The program will continue to process the input file but will not do any noise calculations. However, if 25 errors have been detected in MAIN, then the program will terminate with the following message: "ABNORMAL STOP IN MAIN - EXCESSIVE ERRORS."

## B.3 ATRBUT

### PARAMETERS: (NEW)

Subroutine ATRBUT is called by FLPATH to merge parameters from the altitude profile and the flight track to create the three dimensional flight path. The parameter NEW indicates whether the point being admitted is from the flight track or altitude profile. The first point admitted to the flight path is always taken from the first point of the flight track. Subsequent points admitted to the flight path are either from the altitude profile or the flight track depending on the value of NEW. Subroutine FLPATH determines whether the next point to be added to the flight path comes from the altitude profile or the flight track and sets the value of NEW. There are two main branches in ATRBUT: one branch processes points from the altitude profile and the other branch processes points from the flight track. Each branch further subdivides the process based on whether or not the point being evaluated is on a straight line segment or on a curved segment. If the point lies on a curved segment and the angle of curvature is greater than 60 degrees, then the angle is subdivided into equiangular segments with smaller angles of curvature.

## B.4 CHERCH

Subroutine CHERCH is called by PROCES to update the NOISEMAP grid at points where the flight exposure exceeds a given threshold. The search for grid points of significant flight exposure, i.e., the flight exposure exceeds a preset threshold, is performed using the flight path as a base pattern. Traversal along the ordinate (y axis) is initiated successively from two points on each flight path segment: an end-point and a mid-point. The point from which traversal is initiated at any instant is called a reference point. After completion of traversal along the ordinate from a reference point, a new reference point is chosen whose abscissa (x axis) is one grid unit to the left or right of the current reference point and whose ordinate is the mid-point of the extent of traversal along the ordinate from the current reference point. This search algorithm results in dynamic tracking of the flight path and thus ensures that no points of significant exposure are missed.

When a significant point is found, the flight exposure at that grid point is assigned a negative value. This prevents redundant computations of flight exposure at the same point for a given flight path. The farthest point of traversal in each direction is kept track of by four pointers. When grid traversal is complete, the points of significance whose signs need to be restored lie entirely in the rectangle bounded by these four pointers.

## B.5 CLEAR

Subroutine CLEAR is called by SIMCHK to reset the flight descriptor, altitude profile, flight noise profile, runup descriptor and runup noise profile arrays to zero. Subroutine CLEAR is invoked when SIMCHK reads a "CLEAR" card.

## B.6 CPAREA

Subroutine CPAREA is called by XAREA to calculate the approximate area within specified contours. Up to eight contour levels can be evaluated.

## B.7 CRVTRK

PARAMETERS:
(XCSTRT,YCSTRT,OLDHD,YCEND,HEAD,XCENT,YCENT,R,ANGLE)

Subroutine CRVTRK is called by ATRBUT, PROCOR XFLIGH and XFLTTR to compute the end point of a circular flight track. The following data are used for compute the end point: beginning point, the analytical heading of the beginning point, and the radius and the angle subtended. The following method is used to calculate the end point and the corresponding heading. At the origin measure a length equal to a radius along the x axis; this section is positive for a left-hand turn. Rotate this section around the origin, clock-wise for a right-hand turn, counter-clock-wise for a left-hand turn. Translate to a coordinate system where the origin is located at the beginning point of the turn. Rotate around this origin so that the analytical heading at the beginning of the turn is correct. Translate the curved section thus obtained to the point where the turn takes place on the map. The newly found end point and the corresponding heading at that point are returned to the calling subprogram.

## B.8 CURVE

PARAMETERS: (X,XARRAY,I,J,K,YARRAY,M,N,L,NPTS)

The function CURVE is called by ATRBUT and XFLIGH to perform an interpolation between two values passed as arguments (XARRAY and YARRAY) and returns the interpolated value.

## B.9 ENDMSG

Subroutine ENDMSG is called by many subroutines to print a line of asterisks to terminate a message on the output file.

## B.10 EPNLD

Parameters: (INDEX,SLANT,ALTUD)

The function EPNLD is called by FLTEXP, SFLTEX, SPRUNU and SRUNUP to compute the difference between the real EPNL for a flight segment and the air-to-ground value of the EPNL curve. One of two algorithms is used depending on the status of the lateral attenuation flag "FLTSAE." If the flag is `FALSE` then the original NOISEMAP lateral attenuation algorithm is used. If the flag is `TRUE`, then the SAE AIR 1751 algorithm is employed. The flag is set in subroutine XFLIGH.

The SAE AIR 1751 algorithm uses the elevation angle and the lateral distance from the flight track to determine the attenuation relative to air-to-ground conditions. The original NOISEMAP algorithm uses air-to-ground, ground-to-ground or a mixture of the two depending on the sine of the angle of observation.

The sine of the angle of observation is defined as the arcsine of the ratio of aircraft altitude to slant distance. Air-to-air propagation is used for angles with the sine greater than 0.125 and ground-to-ground propagation for sine less than 0.075. Interpolation between air-to-air and ground-to-ground propagation is performed for intermediate values of the sine. The difference in EPNL corresponds to a ratio of energies.

## B.11 ERRMSG

PARAMETERS: (I)

Subroutine ERRMSG is called by many subroutines to print an error in the output file and stores the page number on which the error occurs. An error banner is printed for each error and the page number is compared to the last page on which an error occurred. If another error has been printed on this page then no action is taken. However, if this is the first error on this page, then the new page number is stored. At the end of the run, subroutine PRTERR will print a summary indicating the page numbers that errors occurred.

## B.12 FLPATH

Subroutine FLPATH is called by XFLIGH to merge the flight track with the applicable altitude profile resulting in the division of the flight track into smaller segments that correspond to the S-distances (segment-distances) of these profiles. At any given time, the point with the smallest S-distance along the flight tack or the altitude profile is entered into the flight path.

The S-distance pointer of the most recently admitted point is advanced. Whenever a point is admitted into the flight path, the attributes of that point such as the altitude are transferred into the attribute vectors of the flight path by calling subroutine ATRBUT. The merging process is terminated as soon as the entire S-distance of the flight track is covered.

In the above description, "flight track" refers to the projection on the ground plane of the flight track information furnished in the input file. The "flight path" is the 3-dimensional version of the flight track which also incorporates the points corresponding to the S-distances of the altitude profile.

## B.13 FLTEXP

PARAMETERS: (M,N)

The function FLTEXP is called by CHERCH to compute the noise exposure at a specific grid location due to a flyover. The coordinates of the grid point (M,N) are found in the system in which the aircraft nose is aligned pointing to the positive x-axis.

## B.14 GREPNL

PARAMETERS: (I,J)

The function GREPNL is called by GRUNUP to compute the noise exposure at a specific grid point due to a ground runup. The coordinates of the grid point (I,J) are found in the coordinate system in which the aircraft is aligned pointing towards the positive x-axis with the runup pad at the origin. From this location the angle between the aircraft and line of sight is computed. Interpolation between the available angles in the noise data will give the desired exposure which is then corrected for the duration and frequency of the runups at that pad.

## B.15 GRUNUP

Subroutine GRUNUP is called by PROCES, SRUNUP and XRUNUP to update the grid with EPNL values of significance due to ground run-ups. The search for grid points of significant EPNL, i.e., above a given threshold, is based on the a priori knowledge that the resulting pattern approximates the shape of a cartioid. Thus the search is bounded by the square that circumscribes the outermost cartioid pattern. The search proceeds along the abscissa form one vertical side of the square to the other. In the vicinity of the cusp of the cartioid, it is possible that the points of significance on either side of the cusp might be ignored. To avoid this o 6 2problem, the logical flag "TRAP" indicates whether any significant point exists at a given ordinate level. Based on this flag, the search is continued or terminated in that direction.

## B.16 INTLIZE

Subroutine INTLIZE is called by MAIN to initialize various items which are required before processing can commence. The DB offsets for the John Mills ground runup calculations are initialized and the lateral attenuation flag is turned off. The current date is obtained from the computer for use in the printed output file.

## B.17 LINESD

PARAMETERS: (AX,AY,AZ,BX,BZ,OX,OY,SLDIS,ELEV)

Subroutine LINESD is called by SFLTEX to compute the closest point of approach between a line segment in the flight path and an observer. Two frames of reference are used: frame 1 is the main, grid oriented frame, and frame 2 is the frame with the observer at the origin and the flight path parallel to the y-axis and the x-axis is along the slant distance vector.

Calculations are performed in frame 2. Actual computations are a mixture of trigonometry in this coordinate system, and calculations in the ground plane.

## B.18 LINEX

PARAMETERS:
(AX,AY,AZ,BX,BY,BZ,AB,ABSQR,IA,IB,CHEAD,SHEAD,OX,OY,EXPOSE,SLDIS,CZ)

Subroutine LINEX is called by FLTEXP and SFLTEX to compute the noise exposure integral for a straight flight path section at a given point. Three frames of reference are used in the calculations: frame 1 is the main, grid oriented, frame; frame 2 is the frame with the observer at the origin, the flight path parallel to the y-axis and the x-axis is along the slant distance vector; and frame 3 is the auxiliary frame with the y-axis parallel to the flight path and the origin at the projection of the slant distance vector intersection point. Calculations are performed - at least logically - in frame 2 actual computations are a mixture of trigonometry in this coordinate system, calculations in the ground plane and vector relationships in the coordinate system in which the origin is at the observer location, but which otherwise is parallel to the grid-based coordinate system.

## B.19 NAMSCH

PARAMETERS: (MAP,MNIM1,MDIM2,NAME,NDIM1,XENTRY,CODE)

Subroutine NAMSCH is called by XALTUD, XEPNDB, XFLIGH, XFLTDS, XPNLT and XRUNPDS to search the appropriate array for an input name vector. The routine will return one of the following codes to the calling routine:

Code 0 if the name vector is equal to zero, then the entry points to the scratch area (the last element in the array). Code 1 if there is an empty slot in the array. Code 2 if the name already exists in the array. Code 3 if a phantom entry exists (the negative of the namevector). Code 4 if he array is full.

## B.20 NEWPG

PARAMETERS: (LINE)

Subroutine NEWPG is called by numerous subroutines to move the line printer to the top of a new page and to print the airfield identifier with page number on top line if number of lines remaining on current page is less than calling argument LINE. If the number of lines remaining on the page is greater than LINE, no action is taken. Otherwise, the line count is reset for a full page, the page counter is bumped, and a new page is started. If LINE is zero, then the page counter is set to zero and new page is started.

## B.21 PRELUD

Subroutine PRELUD is called by XFLIGH to calculate the necessary parameters for the computation of flight exposure. It computes the radius of curvature, sine and cosine of the aircraft heading on the flight path, tangent of the climb angle and the secant of the climb angle.

## B.22 PROCES

Subroutine PROCES is called by XRUNUP and XFLIGH to control the computations of noise exposure at grid points when a FLIGHT or RUNUP card is encountered by calling the appropriate subprograms.

## B.23 PROCOR

Subroutine PROCOR is called by XFLIGH to compute the coordinate information for altitude profiles which are specified at given distances along the flight track. The altitude profile is superimposed on the flight track. For the terminal point of each segment of the profile, it locates the preceding point on the flight track. Using the coordinate information and the analytical head of the point on the flight track, it then computes the coordinates of the end-point of the segment on the profile.

## B.24 PRTERR

Subroutine PRTERR is called by INTLZE and XEND. When called by INTLZE the error and warning counters are set to zero. XEND calls PRTERR to print error statistics at the end of the run. A new page is started and if any errors or warnings were detected the page number(s) where these errors occurred are listed for easy reference. Up to 200 pages of warnings and up to 56 pages may have errors on them before the program stops keeping track of the page number that the error or warning occurred on. Beyond that point only the number of errors will be the counted.

## B.25 PRTGRD

Subroutine PRTGRD is called by SIMCHK to print the NOISEMAP grid values. Only grid values greater than or equal to the threshold are printed; all values less than the threshold are blank.

## B.26 PSUMRY

Subroutine PSUMRY is called by XEND to print the summary listings for specific points if specific point processing is requested. Two listings are printed for each specific point: the first listing contains the top 18 aircraft contributors and the second listing, the top 18 runup contributors.

## B.27 RDCARD

Subroutine RDCARD is called by MAIN, SELECT and SIMCHK to read individual records in the input file and to place them into the input buffer. If the record has a continuation card then the alternate entry point "NXTCRD" is called from the routine processing the first record. If the record is a comment, then it is printed unless the printing of comments is suppressed.

## B.28 RJCHAR

PARAMETERS: (LJCHAR,OUTCHR)

Subroutine RJCHAR is called by UPFLSP to right justify the character variable LJCHAR for the specific point output summary.

## B.29 RUDATA

PARAMETERS: (IAIRCR,ITHRST)

Subroutine RUDATA is called by XRUNUP to locate the maximum noise level curves for the ground runup of aircraft IAIRCR and thrust ITHRST. Array "RDMAP" is searched for valid combinations and array "MNLMAP" is searched to see if the required noise profile is available. If the requested data is not available an error is generated and the program will attempt to make a dummy entry to reserve space for the missing item.

## B.30 SELECT

Subroutine SELECT is called by SIMCHK to select the noise measure that will be computed by NOISEMAP. The following types of noise measures can be computed by NOISEMAP:

1. Day-Night Average Level (DNL)
2. Community Noise Equivalent Level (CNEL)
3. Noise Exposure Forecast (NEF)
4. Weighted Equivalent Continuous Perceived Noise Level (WECPNL)

The default noise measure is the Day-Night Average Level. If the noise measure is changed from the default, then the appropriate noise profile mnemonics and weighting functions are reset to the appropriate values.

## B.31 SFLTEX

Subroutine SFLTEX is called by PROCES to compute the noise exposure due to aircraft flyover at specific points within the area bounded by the NOISEMAP grid. The coordinates of the specific points are found in the coordinate system in which the aircraft is aligned pointing towards the positive x-axis. From this the angle between aircraft and the line of sight is computed. Interpolation between the available angles in the noise data set will give the desired exposure.

## B.32 SGREPN

PARAMETERS: (IS)

Subroutine SGREPN is called by SGRUNP to compute the noise exposure due to a ground runup at specific point IS. The coordinates of the specific points are found in the coordinate system in which the aircraft is aligned pointing towards the positive x-axis with the runup pad at the origin. From this the angle between aircraft and line of sight is computed. Interpolation between the available angles in the noise data set will give the desired exposure which is then corrected for the duration and frequency of the runups at that pad.

## B.33 SGRUNP

Subroutine SGRUNP is called by PROCESS to compute ground runup contributions at each specific point.

## B.34 SIMCHK

Subroutine SIMCHK is called by MAIN to check the input record for a sequence-independent mnemonic, and to process that card. This routine assumes all sequence-dependent mnemonics have previously been checked. If the mnemonic is not matched, then routine SELECT is called in a last attempt to identify the mnemonic. If a match for the mnemonic is not found in SELECT then an error is issued by SELECT.

## B.35 SPRUNU

Subroutine SPRUNU is called by SFLTEX to calculate the noise contribution due to takeoff roll for specific point noise level calculations. Two different lateral attenuation methods are used to calculate the takeoff roll contributions depending on the status of the flag FLTSAE. If FLTSAE is "TRUE" then SAE AIR 1751 algorithm is used; if it is "FALSE" then the original NOISEMAP algorithm is used.

## B.36 SRUNUP6

Subroutine SRUNUP is called PROCES to calculate the noise level due to takeoff roll for all takeoffs for use in updating the grid. Two different lateral attenuation methods are used to calculate the takeoff roll contributions depending on the status of the flag FLTSAE. If FLTSAE is "TRUE" then SAE AIR 1751 algorithm is used; if it is "FALSE" then the original NOISEMAP algorithm is used.

## B.37 SUPPAG

PARAMETERS: (CUTOFF,NBASE,IWIDTH,I1,I2)

Subroutine SUPPAG is called by CPAREA and PRTGRD to determine the first page from the top (I1) to the bottom (I2) which contains a value greater than or equal to a CUTOFF in a vertical set of pages from a printer plot.

## B.38 TIMER

Subroutine TIMER is called by XRUNUP to check the accumulated ground runup time against the total number of seconds in the day and night periods.

## B.39 TIPAGE

Subroutine TIPAGE is called by XAIRFL, XEND and PRTERR to write the title page on the Chronicle listing. The call from XAIRFL writes the title page at the beginning of the Chronicle listing and the call from either XEND or PRTERR writes the title page at the end of the Chronicle listing.

## B.40 TURNEX

PARAMETERS: (R,RSQ,PHI,RTGB, RTGBSQ,SECBET,ADJQ,ADJT,OBSX,OBSY CHEAD,SHEAD,CENTX,CENTY,OZ,EXPOSE,SLDIS,ELEV)

Subroutine TURNEX is called by FLTEXP and SFLTEX to compute the noise exposure integral and slant distance for a curved flight track segment. The observer point is transformed to a position in frame of reference where the center of curvature of the flight track is at the origin and the radius vector connecting the center and the first point on the track is along the positive x-axis. The integral is then evaluated and a slant distance is computed. 3.41 UPFLSP (IS,FLEXPO)

Subroutine UPFLSP is called by SFLTEX to update the arrays (CFSMRY and FSMRY) containing the most significant flight events for each location IS with the noise exposure level FLEXPO.

## B.42 UPRUSP

PARAMETERS: (IS,RNPEPN)

Subroutine UPRUSP is called by SGRUNP to update the arrays (CRSMRY and RSMRY) containing the most significant runup events for each location IS with noise exposure level RNPEPN.

## B.43 WRNMSG

PARAMETERS: (I)

Subroutine WRNMSG is called by numerous subroutines to print a warning identifier and to store the page number on which a warning occurred. A warning banner is printed and the page number is compared to the last page on which a warning occurred. If the page number is the same no action is taken. However, if the page number is different and space is available in PAGE, then it is sorted; otherwise the number of warnings since PAGE was filled up is kept. Subroutine PRTERR will print this information at the end of the run.

### B.44 XAIRFL

Subroutine XAIRFL is called by MAIN to initialize the airfield. The routine reads the airfield coordinates, magnetic declination, airfield elevation, grid spacing and the direction of declination from the first Airfield card. The airfield title is then read from the second Airfield card and the title page is written in the Chronicle. The input data is then checked for errors. An altitude correction factor, ALTCOR, is computed using the airfield elevation.

### B.45 XALTUD

Subroutine XALTUD is called by SIMCHK to enter an altitude profile name into array ALTMAP and the altitude profile distance and altitude values into arrays ALTXC and ALTZC respectively. The profile data is checked for errors.

### B.46 XAREA

Subroutine XAREA is called by SIMCHK to calculate approximate areas within the specified contours.

### B.47 XECHO

Subroutine XECHO is called by SIMCHK to select the expansion mode for printing the noise profile data sets in the Chronicle. Unless an ECHO card is used, printing of the SEL and AL noise profile data sets are suppressed by default. The "NOECHO" flag is set FALSE if an ECHO card is processed.

### B.48 XEND

Subroutine XEND is called by SIMCHK to initiate program termination procedures when an END card is processed. This routine creates a disk file for the NOISEMAP grid for use in the PLOTT88 program or to create a grid printout on the printer. Subroutine PRTERR is called to print the error summary, subroutine PSUMRY is called to prepare the specific point summary and subroutine TIPAGE is called to print a title page on the last page in the Chronicle.

### B.49 XEPNDB

Subroutine XEPNDB is called by SIMCHK to enter the aircraft flyover noise profile data generated by the OMEGA10 program. The profile name is entered in array INLMAP. The air-to-air data is entered in array INLAG and the ground-to-ground data in array INLGG. The data can be entered in either order although the air-to-air data is normally entered first. If the noise profile name identifier (IDENT) already exists in array INLMAP, then the existing entry will be overwritten. Noise levels are limited to + or - 200 db.

### B.50 XFLIGH

Subroutine XFLIGH is called by MAIN to process a FLIGHT card and check for the presence of the associated noise information, culminating in the augmentation of the grid with the flight exposure resulting from that flight. For the aircraft and mission numbers specified on the FLIGHT card, identifiers of the noise profiles are obtained from the flight descriptor array, FDMAP. The presence of these profiles is then checked. If subflight boundaries do not coincide with end-points of flight track segments, the latter are subdivided to meet this criterion. After the creation of the merged flight path, a dope vector (INLPNO) is set up containing the noise profile numbers to be used for the segments within a subflight. Finally subroutine PROCES is called to update the grid.

### B.51 XFLTDS

PARAMETERS: (INFLG)

Subroutine XFLTDS is called by SIMCHK to enter flight descriptor data. The flight descriptor identification name is stored in array FDTEXT. The value of INFLG determines whether the entry is a takeoff or landing descriptor: a one (1) signifies a takeoff descriptor and a two (2), a landing descriptor. FDMAP contains the aircraft number, mission number, number of subflights and the altitude profile number. The noise profile name for the subflights are entered in array FLPLST and the beginning and end subflight distances are entered in array FLDLST. If the flight descriptor name identifier (IDENT) already exists in array FDMAP, then the existing entry will be overwritten. If warning(s) or error(s) are printed, then data is not entered.

### B.52 XFLTTR

Subroutine XFLTTR is called by MAIN to compute the coordinates of the end-points of the segments on the flight track furnished by the user. Coordinates of the end-point of a straight line segment are computed by using the coordinates of the starting point and the segment length coordinate computation of the end-points of curved segments is accomplished in subroutine CRVTRK. All data appearing on the FLTTRK card is echoed in the Chronicle listing and checked for errors.

### B.53 XNAVAI

Subroutine XNAVAI is called by SIMCHK to enter navigational aids. The navaid identifier is entered in array VORNME and the x and y coordinates are entered in array VORMAP. The navaid name is checked against currently known names in array VORNME.

### B.54 XPNLT

Subroutine XPNLT is called by SIMCHK to enter the ground runup noise profile data generated by OMEGA 11. The noise profile name is entered in array MNLMAP. The angle data is stored in array MNLANG and the noise data is stored in array MNLVL. If the PNLT profile name (IDENT) to be entered matches an ident already in array NMLMAP, then existing entry will be overwritten. If warning(s) or errors are printed, then data is not entered. An entry N is deleted by setting MNLMAP (1,N) equal to zero. Noise levels are limited to + or - 200 db

### B.55 XPROCE

PARAMETERS: (LFLG)

Subroutine XPROCE is called by SIMCHK to set the program processing status flag NOGO either "TRUE" or "FALSE" depending on the value of the argument LFLG. LFLG is "TRUE" for a "PROCES" card and "FALSE" for a "NOPROC" card. The program cannot enter the process mode if the error flag, ERRFLG, has previously been set to "TRUE." The flag NOGO is initialized "FALSE" in the BLOCK DATA subroutine.

### B.56 XRNPDS

Subroutine XRNPDS is called by SIMCHK to enter runup descriptors. The descriptor name is stored in array RUTXT. The aircraft identification number and thrust number are entered in RDMAP and the PNLT profile name is entered in array RUPLST. If the aircraft identification number and thrust number to be entered matches an existing entry in RDMAP, then existing entry will be overwritten. If warning(s) or error(s) are printed, then data is not entered.

### B.57 XRNPPA

Subroutine XRNPPA is called by MAIN to initialize a ground runup pad. The subroutine transforms the external runup pad coordinates to internal coordinates, XPAD and YPAD, the time accumulators (TIMOFL) for the runup pad are set to zero and the runup pad heading is converted to a magnetic heading if the input heading is a true heading.

### B.58 XRUNUP

Subroutine XRUNUP is called by the MAIN program to compute noise exposure for all runups at a given pad, of a given class of aircraft and at a given thrust. Subroutine RUDATA is called to make sure that the aircraft identification number and thrust numbers are available for the calculations. The runup times are read from the "RUNUP" card and summed for all time groups (day, evening and night) and then checked in routine TIMER to ensure they do not exceed the total number of seconds in a day. Subroutine PROCES is then called to initiate the noise exposure computation. Specific points and the grid are then updated with the noise exposure due to this ground runup.

### B.59 XRUNWA

Subroutine XRUNWA is called by the MAIN program to screen and process the data appearing on the "RUNWAY" card. The runway coordinates are transformed into the internal coordinates XBEG, YBEG, XEND and YEND. The runway length (RWYLEN) is computed and checked to make sure it dose not exceed 16,000 feet. The inclination angle of the runway is also calculated. The runway glide slope (GSLOPE) and the location of the landing and takeoff thresholds are read from the input file and processed by XRUNWA. The coordinates of the landing threshold (XLAND and YLAND) and the takeoff threshold (XTO and YTO) are calculated. Data appearing on the "RUNWAY" card is echoed in the Chronicle.

### B.60 XSAELA

Subroutine XSAELA is called by SIMCHK to service the "SAELAT" card. The SAELAT card determines which algorithm will be used to compute lateral attenuation: the original NOISEMAP algorithm or the SAE 1751 algorithm. If the SAELAT algorithm is turned on, the logical flag FLTSAE is set "TRUE" and the SAE lateral attenuation algorithm is used on a selective basis for only those flights whose aircraft identification numbers lie within a specified range. If ranges are not specified on the SAELAT card then the default range is aircraft 800 through 999 which are the current numbers for the civil fleet.

### B.61 XSPECI

PARAMETERS: (MODE)

Subroutine XSPECI is called by SIMCHK to enter or list specific point and to turn specific point processing on or off depending on the value of the argument MODE. If MODE equals one (1) then the subroutine processes the name and the x and y coordinates of the specific location at which the LDN levels are to be calculated. The external coordinates are converted to internal coordinates SPX and SPY. If MODE equals two (2) then all the specific points are listed. If MODE equals three (3) then the specific point processing flag, SFLAG, is set "TRUE" and noise exposure is calculated for all specific points even if the program NOGO flag is "TRUE." If MODE equals four (4) then SFLAG is set "FALSE" and no noise exposure calculations are performed for specific points.

### B.62 XTOROL

Subroutine XTOROL is called by SIMCHK whenever a "TOROLL" card is encountered to enable or disable the takeoff roll algorithm. The takeoff roll algorithm is enabled by default. The takeoff roll logical flag "TORFLG" is set true in subroutine BLOCK DATA. The takeoff roll algorithm is disabled when the first landing is processed. The MCM will issue a "TOROLL OFF" for a landing descriptor. After the first landing descriptor is processed, the MCM will issue "TOROLL ON" for takeoffs and closed patterns and "TOROLL OFF" for landings.

### B.63 XUNITS

Subroutine XUNITS is called by SIMCHK to establish the unit of measure, English or Metric, that will be used by the program for internal calculations and on the output devices. English units (feet) are used in the input file and if "METRIC" is entered on the "UNITS" card, then the scaling factor, DISFAC, is set equal to 3.280840 to convert feet to meters. The propagation distances in array DISTT are converted to meters if the METRIC mode is invoked.

The program default mode is English units. If a "UNITS" card does not contain the words "ENGLISH" or "METRIC" then an error message is issued.

## B.64 BLOCK DATA

The purpose of the BLOCK DATA subroutine is to initialize variables in the labeled common blocks.

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