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SYSTEMS CONTROL TECHNOLOGY, INC.

2300 GENG ROAD P.O. BOX 10180 PALO ALTO, CALIFORNIA 94303-0888 (415) 494-2233

CORPS HELICOPTER ATTACK PLANNING SYSTEM (CHAPS)

POSITIONAL HANDBOOK

APPENDIX C, Database Specification

Prepared For:

Department of the Army
Joint Tactical Fusion Program
1500 Planning Research Drive
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Prepared By:

Systems Control Technology, Inc.
Mission Effectiveness Department

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Approved By:


Peter D. Bernstein
CHAPS Project Manager

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This document was designed to provide the US Army CORPS helicopter planners with the basic information and data base formats for the US Army's CORPS Helicopter Attack Planning System (CHAPS). There are five manuals for CHAPS. CHAPS was developed by Systems Control Technology, Inc, Palo Alto, CA for the Joint Tactical Fusion Program Management Office (JTFFMO). CHAPS is a derivative of USAFE's Force Level Automated Planing System (FLAPS) and was extensively modified to incorporate US Army attack helicopters. This volume describes the CHAPS data bases which are managed internally by CHAPS and are unique to the CHAPS program. The data base files are stored as binary files on a hard disk media and are only accessible by the CHAPS software. The data base management software is a "home grown" variety due to program operating speed requirements and permits the user to dynamically update the data while using CHAPS. The information stored are tables and arrays that have fixed record lengths, are binary in nature, and are direct access files.													
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CHAPTER I

GENERAL

CHAPTER II

DATA BASE IDENTIFICATION AND DESCRIPTION

This section provides the information necessary to identify and describe the CHAPS data base.

II.1 DATA BASE IDENTIFICATION

The CHAPS data base is managed internally by the CHAPS software rather than by an external data base management system. The data base is initialized by ASCII (command) files that are read by the CHAPS data base software. The data base itself is then stored as binary files on disk, which, in general, are accessible only by the CHAPS software. The data base software permits the user to dynamically update the data.

II.2 LABELING/TAGGING CONVENTIONS

The last two items in all data base tables are the record creation date (IDC), and the record modification date (IDM). The date the record was created is written into IDC. If any item is modified in the record, the CHAPS software writes the record modification date into the IDM.

Arrays also have IDC and IDM items. They appear once in each array in the header record. The creation date is written to an array when the data in that array are initially calculated. The modification date is always the same as the creation date for an array. Each time new data is calculated for an array, it is considered to be an array creation.

The CHAPS files are highly dynamic. In order to save old versions of files, the user may rename the files or copy them to a different directory, or the user may output the contents of the table files into ASCII command files.

II.3 ORGANIZATION OF THE DATA BASE

The CHAPS data base is entirely disk resident. CHAPS tables and arrays are fixed record length, binary, direct access files.

The body of each file is preceded by a header record that is used by CHAPS for file management purposes. The CHAPS software interacts frequently with the CHAPS data base. Therefore, it is essential to have direct access to meet

timing requirements.

II.4 SPECIAL INSTRUCTIONS

CHAPS is a menu-driven system which can be run interactively or in 'batch' mode. In interactive mode, user inputs are made at the terminal while running CHAPS. The Database, Eifel and Special functions on the Main Menu may be run in 'batch' mode, inputs are made through the system by reading in command files.

The SUPR and CHAPS programs are initialized differently. SUPR is initialized first and then CHAPS.

II.5 SUPPORT PROGRAMS AVAILABLE FOR HANDLING THE DB

SUPR is an integral part of the CHAPS system. Threat update files containing information from the LOCE system are input to SUPR and SUPR calculates the 3-D statespace with this information. Some of the tables and arrays are shared between SUPR and CHAPS. In order to avoid data base conflicts, all shared files are "read-only" for CHAPS. The tables and arrays built by SUPR are listed below. They are the ones opened as "READ/WRITE" by SUPR and opened "READ" by CHAPS. All other data base files that are not listed are built by CHAPS and opened as "READ/WRITE" by CHAPS.

TABLES AND ARRAYS BUILT BY SUPR

<u>TABLES</u>	<u>ARRAYS</u>
ALGP	BYTE
ASTR	MAS1
CURS	TOBS
THRT	
TMDL	
TSTR	

The data base may be modified interactively or through command files using the SUPR or CHAPS data base menus.

CHAPTER III

DATA DEFINITIONS

The files that comprise the CHAPS data base consist of either tables of information or data from FORTRAN arrays. The first physical record of each file is a header record to be used in file maintenance.

The following subsections give a general description of the tables and arrays along with a listing of the items appearing in a table.

III.1 DATA FILES

The names of the table items as they appear in this section are those that the CHAPS user uses to modify the data base. Internal to CHAPS, the FORTRAN names of the items are normally the item names as they appear in this section plus a two-character designator for the COMMON containing the item.

Each table uses a different common. The list of table names plus their 2-character common designator that is appended to item names in the CHAPS software are listed below.

TABLE NAME	ITEM ENDINGS
ACFT	AC
AIRS	AI
ALGP	AP
ASTR	AA
BASE	BA
CURR	CU
CURS	CS
DISP	DS
DMPI	DM
ECAC	EC
FEAT	FE
FLOT	FL
FREQ	FQ
FTYP	FT
LLTR	TR

TABLE NAME	ITEM ENDINGS
MSSN	MS
NODP	NP
PBOR	PB
PLAN	PL
ROUT	RO
RPRT	RT
SWCH	SW
TGT	TG
THRT	TH
TMDL	TM
MIKE	TN
TRAK	TK
TSTR	MQ
WEAP	WP

All tables and arrays are binary files.

A table and item parameter table containing information on items such as units, minimum and maximum values and affect codes is presented with each table description.

When looking through the parameter tables you will notice that some items in tables have pointers to other tables. This is so the report generating feature can produce reports with information from several tables. An example of this is in the ALGP table.

Item ACTY in the ALGP table points to the ACFT table. (ACFT is listed under the 'TYPE' column for item ACTY). This structure enables the user to obtain cross-referenced information using the report generator feature.

Items of type 'character' do not have a value for minimum and maximum, instead it will say N/A for non-applicable in the upper and lower bound columns. Any character entry is valid in this case.

Also note that the size of an item can be the same as an item name. For example, in the TMDL table, item ALTS is size NALT which can be a maximum of 5. The actual size of the vector item ALTS depends on the value of NALT.

The affect code is a number given to a CHAPS table or item that the program uses to determine the degree to which data must be processed. For example, affect code 300 means that node processing (and all processing prior to node processing) has been done on that data. There are affect codes in the data base for both tables and items. If you change an individual item, the program uses the affect code of that item to determine which processing is valid and which needs to be repeated. If you add or delete a record, the program uses the affect code for the table to determine which processing is valid and which needs to be repeated. The affect code for the table is the 'worst' affect code for the items. Below is a listing of affect codes and what they mean.

- = 0: GEOMETRY TO BE DONE
- = 100: GEOMETRY OK; STATESPACE TO BE CLEARED
- = 120: THREATS IN THRT FILE OK
- = 140: THREATS TERRAIN MASKED BUT NOT IN MASN
- = 150: THREATS ADDED TO STATESPACES (MASN FILES)
- = 200: PENETRATION ALT OK; NODES TO BE DONE
- = 300: NODES OK; ACCESS TO BE DONE
- = 400: ACCESS OK; ARCS TO BE DONE
- = 500: ARCS OK; WEAP TO BE DONE
- = 600: WEAP OK; PLANS CAN BE MADE

III.1.1 TABLES

III.1.1.1 Data File ACFT

III.1.1.1.1 General Description Of Data File ACFT

ACFT (Aircraft Parameters) is the label of the aircraft parameters information file ACFT.FIL. This file contains all the types of aircraft in the scenario, and their flight characteristics when carrying a variety of SCL's. It is used by the PLAN function to determine whether an aircraft is able to reach a particular target. ACFT is created during an initialization run of the CHAPS program by the CHAPS Data Base Management Software, and is available for modification by the CHAPS program user during normal use. It is not available for use by the SUPR program user.

III.1.1.1.2 Item Description Of Data File ACFT

ID - ACFT - AIRCRAFT ID
Specific type of aircraft. (AH-64A, OH-58D etc.)

DESC - ACFT - DESCRIPTION OF RECORD

ROLE - ACFT - AIRCRAFT ROLE: TANKER, EC
Possibilities include FIGHTER, TANKER, EC, INTCEPT,
and RECE.

TYPE - ACFT - GENERIC A/C TYPE
Determines the statespace used to calculate the route
danger. Values should correspond to the generic aircraft
types found in ACTY in the ALGP table.

VHI - ACFT - NOMINAL VELOCITY - HIGH
Baseline velocity at high altitude.

VLOW - ACFT - NOMINAL VELOCITY - LOW
Baseline velocity at low altitude.

BOOM - ACFT - BOOM TYPE
Refueling boom type. Acceptable values are: BOOM, DROGUE, or
BOTH.

RFLO - ACFT - REFUELING RATE
In pounds per minute.

FTAX - ACFT - FUEL - TAXI HOLD
Pounds of fuel required to taxi and hold until take off.

FCOM - ACFT - FUEL RESERVE COMBAT
Required combat reserve fuel in pounds.

FLAN - ACFT - FUEL RESERVE LANDING
Required landing reserve fuel in pounds.

NSCL - ACFT - NUMBER OF SCL'S
Number of types of Standard Conventional Loads carried by ACFT.

LID - ACFT - SCL ID (80-3)
Standard Conventional Load 80-3 identification code.

WEAP - ACFT - WEAPON TYPE
Must match weapon type (WEAP) from the WEAP and BASE tables.

NWP - ACFT - NUMBER OF WEAPONS
Must match number of weapons (NWP) for the specific weapon type from the WEAP table.

FTOF - ACFT - FUEL -TAKE-OFF FUEL -SCL
Total fuel burn (in pounds) on take off by SCL.

FCAP - ACFT - FUEL CAPACITY
Total fuel capacity (in pounds) of aircraft per SCL.

FFRH - ACFT - FUEL FLOW RATE - HIGH
Fuel burn rate at high altitude and nominal high altitude velocity per SCL in pounds per minute.

FFRL - ACFT - FUEL FLOW RATE - LOW
Fuel burn rate at low altitude and nominal low altitude velocity per SCL in pounds per minute.

FCLB - ACFT - FUEL TO CLIMB SCL HIGH
Total fuel burn to climb to high altitude carrying each specified SCL in pounds per minute.

TCLB - ACFT - TIME TO CLIMB SCL HIGH
Time required to climb to high altitude carrying each specified SCL in minutes.

DCLB - ACFT - DIST TO CLIMB SCL HIGH
Horizontal distance (not altitude) required to climb to high altitude carrying each specified SCL in nautical miles.

FFCH - ACFT - FUEL FLOW RT-HIGH CLEAN
Fuel flow rate at high altitude and nominal high altitude velocity without weapons for each SCL in pounds per minute.

FFCL - ACFT - FUEL FLOW RATE-LOW CLEAN
Fuel flow rate at low altitude and nominal low altitude velocity without weapons for each SCL in pounds per minute.

DRGC - ACFT - DRAG CLEAN FOR EACH SCL
Drag index of clean aircraft including racks for each SCL.

DRGR - ACFT - DRAG DIRTY FOR EACH SCL
Drag index of dirty aircraft including racks and bombs for each SCL.

WTEC - ACFT - EMPTY WEIGHT OF CLEAN AC
Weight of clean aircraft including racks for each SCL in pounds.

WTER - ACFT - EMPTY WEIGHT OF DIRTY AC
Weight of dirty aircraft including racks and bombs for
each SCL in pounds.

IDC - ACFT - RECORD CREATION DATE

IDM - ACFT - RECORD MODIFICATION DATE

III.1.1.1.3 Item And Table Parameters Of Data File ACFT

TABLE: ACFT - AIRCRAFT PARAMETERS

MAX # RECORDS = 30

AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	500
DESC	CH24	1	0		N/A	N/A	600
ROLE	CH08	1	0		N/A	N/A	600
TYPE	CH08	1	0		N/A	N/A	600
VHI	REAL	1	0	KNOTS	0.	10000.	500
VLOW	REAL	1	0	KNOTS	0.	10000.	500
BOOM	CH08	1	0		N/A	N/A	500
RFLO	REAL	1	0	LB/MIN	-4000.	10000.	500
FTAX	REAL	1	0	LB	0.	10000.	500
FCOM	REAL	1	0	LB	0.	10000.	500
FLAN	REAL	1	0	LB	0.	10000.	500
NSCL	INT	1	0		1.	20.	500
LID	CH12	NSCL	0		N/A	N/A	500
WEAP	CH08	NSCL	0		N/A	N/A	500
NWP	INT	NSCL	0		0.	99.	500
FTOF	REAL	NSCL	0	LB	0.	10000.	500
FCAP	REAL	NSCL	0	LB	0.	300000.	500
FFRH	REAL	NSCL	0	LB/MIN	0.	10000.	500
FFRL	REAL	NSCL	0	LB/MIN	0.	10000.	500
FCLB	REAL	NSCL	0	LB	0.	10000.	500
TCLB	REAL	NSCL	0	MIN	0.	1000.	600
DCLB	REAL	NSCL	0	NM	0.	100.	600
FFCH	REAL	NSCL	0	LB/MIN	0.	1000.	500
FFCL	REAL	NSCL	0	LB/MIN	0.	1000.	500
DRGC	REAL	NSCL	0		0.	500.	500
DRGR	REAL	NSCL	0		0.	500.	500
WTEC	REAL	NSCL	0	LB	0.	100000.	500
WTER	REAL	NSCL	0	LB	0.	100000.	500
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.2 Data File AIRS

III.1.1.2.1 General Description Of Data File AIRS

AIRS (AIRSTAR Data) is the label of the unit base assignment information file, AIRS.FIL. This file defines the unit, aircraft types, strengths, and base assignments in a format similar to that of the EIFEL AIRSTAR's data base. It is created and modified in the CHAPS program through the CHAPS Data Base Management Software. AIRS is not available for modification by the SUPR program user.

III.1.1.2.2 Item Description Of Data File AIRS

ID - AIRS - ID OF UNIT
Unique unit identifier. Each record of AIRS describes a different AIRSTAR unit. Generally, the first four characters of the ID are the current base name and the second four characters are the unit (squadron or wing) name.

DESC - AIRS - DESCRIPTION OF RECORD

BASE - AIRS - CURRENT BASE
Character base name for the base from which this unit is currently operating. This field must match an ID in the BASE table.

LINE - AIRS - LINE NUMBER FOR BASE
Not currently implemented.

WING - AIRS - CURRENT WING
Wing to which this unit is attached. Not currently implemented.

ROLE - AIRS - ROLE-I.E.AIR TO AIR, CAS
The current role for this unit. For example, OCA, AI, CAS, or BAI. In order for an attack aircraft unit to be tasked to a target, the role must match the target classification (CLAS item in DMPI Table). For example, only OCA units will be considered for OCA dmpi's. This field is not checked apply for support aircraft (tanker and EC units).

UIC - AIRS - 80-50 UNIT ID CODE
AAFCE 80-50 Unit Identification Code for this squadron.

NSA - AIRS - NO. OF A/C - TODAY
Number of Systems (aircraft) available today. The number of aircraft to be considered for current ops purposes.

NST - AIRS - NO. OF A/C - TOMMORROW
Number of Systems (aircraft) available tomorrow. The number of aircraft to be considered for planning purposes.

NSP - AIRS - NO. OF SORTIES PLANNED
 NSP is the number of sorties planned (tasked) by CHAPS.
 NSP is computed by CHAPS and cannot be modified by the user.

NSRT - AIRS - NO. OF SORTIES AVAILABLE
 NSRT is the number of sorties available for tasking by CHAPS.
 It is based on the sortie generation rate and the number of days that the unit has been in the theater. NSRT is computed by CHAPS and cannot be modified by the user.

ACTY - AIRS - AIRCRAFT TYPE
 The type of aircraft operated by this unit. This field must match an aircraft type from the ACFT table (ID in ACFT Table).

HOME - AIRS - HOME BASE
 Home base for this unit. Home base must match an id in the BASE table. Not currently implemented.

TURN - AIRS - UNIT TURN TIME (DEC HRS)
 This is the time it takes an aircraft from this unit to turn for combat after returning from a combat mission. Its value is in decimal hours.

ISGR - AIRS - INDEX FOR COMPUTING SGR
 ISGR is the pointer into the list of Sortie Generation Rates below. CHAPS automatically determines ISGR based on the number of days that the unit has been in the theater. The user may not change ISGR.

IDAY - AIRS - UNIT DAY IN THEATER
 This is the day of the conflict in which the unit arrived or will arrive. If the unit was in the theater when the conflict began, then IDAY should be 0.

NSGR - AIRS - # OF SGR'S
 The number of possible Sortie Generation Rates to be considered. NSGR must be between 1 and 10.

SGR - AIRS - SGR FOR UNITS
 The list of possible Sortie Generation Rates for this unit. The SGR which will be used for tasking purposes is determined by the value of ISGR. SGR(i) is the sortie generation rate of the unit after the unit has been in the conflict for i days. For days beyond NSGR, SGR(NSGR) is used as the sortie generation rate.

IDC - AIRS - RECORD CREATION DATE

IDM - AIRS - RECORD MODIFICATION DATE

III.1.1.2.3 Item And Table Parameters Of Data File AIRS

TABLE: AIRS - AIRSTAR
 MAX # RECORDS = 201
 AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
BASE	BASE	1	0		N/A	N/A	500
LINE	CH04	1	0		N/A	N/A	600
WING	CH08	1	0		N/A	N/A	600
ROLE	CH08	1	0		N/A	N/A	500
UIC	CH08	1	0		N/A	N/A	600
NSA	INT	1	0	ACFT	0.	1000.	500
NST	INT	1	0	ACFT	0.	1000.	500
NSP	INT	1	-5	SRTIS	0.	10000.	600
NSRT	INT	1	-5	SRTIS	0.	10000.	600
ACTY	ACFT	1	0		N/A	N/A	500
HOME	BASE	1	0		N/A	N/A	600
TURN	REAL	1	0	HOURS	0.	100.	500
ISGR	INT	1	-5		1.	99.	500
IDAY	INT	1	0		0.	1000.	500
NSGR	INT	1	0		1.	10.	500
SGR	REAL	NSGR	0	S/DAY	0.	100.	500
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.3 Data File ALGP

III.1.1.3.1 General Description Of Data File ALGP

ALGP (Algorithm Parameters) is the label of the algorithm parameters file, ALGP.FIL. This file contains the dimensions in latitude and longitude of the scenario and statespace, as well as information about the multiple altitudes and aircraft of the statespace. It is created in a special initialization run by the SUPR program through use of the CHAPS Data Base Management Software, though it is not available for modification during normal runs. It is not modifiable by the CHAPS program user.

III.1.1.3.2 Item Description Of Data File ALGP

ID - ALGP - ID = ALGP
The ALGP table contains two records, the header record, and a data record named ALGP.

DESC - ALGP - DESCRIPTION OF RECORD

YXMN - ALGP - STATESPACE MIN LAT/LON
Latitude and longitude of southwest corner of statespace.

YXMX - ALGP - STATESPACE MAX LAT/LON
Latitude and longitude of northeast corner of statespace.

YXCL - ALGP - SCENARIO MIN LAT/LON
Latitude and longitude of southwest corner of scenario.

YXCU - ALGP - SCENARIO MAX LAT/LON
Latitude and longitude of northeast corner of scenario.
YXMN, YXMX, YXCL, YXCU define the two rectangles that the user sees in the standard CHAPS graphics display. Note that the statespace must be contained within the scenario-space.

DELN - ALGP - LATITUDE GRID(NM)
Length of statespace grid (north-south direction) in nautical miles. Current default is 1.0 NM.

DELE - ALGP - LONGITUDE GRID(NM)
Width of statespace grid (east-west) in nautical miles at the mid-latitude of the statespace. The grid width becomes larger for latitudes close to the equator, and smaller for latitudes close to the pole. Current default is 1.0 NM. DELN and DELE should normally be set equal to the same value.

NDIR - ALGP - NUMBER OF DIRECTIONS
Number of directions an aircraft can fly once it has entered the statespace. Must be set equal to eight.

ARMX - ALGP - LAMDA - AIR DAMAGE
Background danger of scenario - this is the penalty factor (danger/second) for flying a combat aircraft in a war zone.

It's current value is 5.00E-06.

- FLAM - ALGP - LAGRANGE MULTIPLIER
Danger factor (danger/second) used by DPA to make routes fly shortest distance in low danger areas of the statespace. It's current value is 1.50E-04.
- NAC - ALGP - NO GENERIC AIRCRAFT TYPE
The number of generic aircraft types that are being considered. This item determines the number of statespaces that will be built and is also the length of the following seven vector (list) items. NAC should normally be set to one.
- ACTY - ALGP - GENERIC AIRCRAFT ID
The name of the generic aircraft types that statespaces are being generated for. All aircraft types must match an aircraft identifier in the ACFT table. The current value is " ".
- TMDL - ALGP - THREAT MODEL NAME
This four character field is used to reference the threat models when building the statespace. It must match the last four characters of the TMDL id's. The current value is " ".
- VHI - ALGP - GENERIC A/C VELOCITY-HIGH
The velocity in knots of each generic aircraft during high altitude penetration. Threat danger at high altitudes (see HALT) is calculated using this velocity.
- VLOW - ALGP - GENERIC A/C VELOCITY-LOW
The velocity in knots of each generic aircraft during low altitude penetration. Threat danger at low altitudes (see HALT) is calculated using this velocity.
- RCS - ALGP - RCS 4 EACH AIRCRAFT TYPE
Nominal radar cross section in square meters for each generic aircraft type.
- SASN - ALGP - SASN FILE NAME-AIRCRAFT
Correlates single altitude statespace files to the appropriate generic aircraft types. Current value is SAS1 (for " "). These file names must be used when creating and opening the SASN files.
- MASN - ALGP - MASN FILE NAME-AIRCRAFT
Correlates multiple altitude statespace files to the appropriate generic aircraft types. Current value is MAS1 (for " "). These file names must be used when creating and opening the MASN files.
- NALT - ALGP - NUMBER OF ALTITUDES
Number of altitudes used in constructing the multiple altitude statespace. Current value is four, maximum allowed

value is 5.

ALTS - ALGP - ALTITUDE GRID (FT)

List of above ground clearance altitudes used in generating the statespace. Units are feet. The length of this list must be NALT.

IBYT - ALGP - BYTE PCKD TERR DATA SWCH

A zero tells the program no byte packed terrain data is available for the terrain masking calculations, and that the program should not consider terrain masking effects when building the statespace. A value of between 1 and 4 indicates that byte-packed terrain data is available and that the program should calculate and consider terrain masking effects. For IBYT greater than 1, the terrain data will be subsampled at that rate. If the user wishes to run CHAPS with a statespace, but has no DTED, IBYT should be set equal to zero. If IBYT is set equal to zero, IMSK must be set equal to zero. If the user has no statespace, IBYT is irrelevant. For normal runs with a statespace and DTED, IBYT should be set between 1 and 4. The current value is 1.

IMSK - ALGP - TERR MASKING SWITCH

A value of 1 or more indicates that the program should calculate and consider terrain masking effects. IMSK also determines the number of "minimum observable altitudes" that will be stored within the MASK array for each statespace cell. The current value is 2. (A value of 2 indicates that 4 MOA points will be stored per cell--2 in latitude times 2 in longitude). If the user wishes to run CHAPS with a statespace, but has no DTED, IMSK should be set equal to zero. If IBYT is set equal to zero, IMSK must be set equal to zero. If the user has no statespace, IMSK is irrelevant. For normal runs with a statespace and DTED, IMSK should be set at 2.

TESR - ALGP - TERR NEIGHBORHOOD SWITCH

This value determines how the terrain masking is done. A neighborhood of TESR nautical mile(s) radius is searched. The highest point above sea level in the searched area is used as the threat location for terrain masking purposes.

HALT - ALGP - HIGH/LOW ALTITUDE THRSHD

The altitude in feet that determines "High" and "Low" altitude for CHAPS. The danger for each MASN altitude level will be based on either VHI or VLOW depending on whether or not ALTS(i) is above or below HALT.

IDC - ALGP - RECORD CREATION DATE

IDM - ALGP - RECORD MODIFICATION DATE

III.1.1.3.3 Item And Table Parameters Of Data File ALGP

TABLE: ALGP - ALGORITHM PARAMS

MAX # RECORDS = 3

AFFECT CODE = 0

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
YXMN	LTLN	1	0	DEG	-180.	180.	0
YXMX	LTLN	1	0	DEG	-180.	180.	0
YXCL	LTLN	1	0	DEG	-180.	180.	0
YXCU	LTLN	1	0	DEG	-180.	180.	0
DELN	REAL	1	0	NM	0.	99.	0
DELE	REAL	1	0	NM	0.	99.	0
NDIR	INT	1	0		8.	8.	0
ARMX	REAL	1	0	DGR/SEC	0.	1.	140
FLAM	REAL	1	0	DGR/SEC	0.	1.	140
NAC	INT	1	0		1.	3.	0
ACTY	ACFT	NAC	0		N/A	N/A	100
TMDL	CH04	NAC	0		N/A	N/A	100
VHI	REAL	NAC	0	KNOTS	0.	1000000.	100
VLOW	REAL	NAC	0	KNOTS	0.	1000000.	100
RCS	REAL	NAC	0	SQM	0.	1000000.	600
SASN	CH04	NAC	0		N/A	N/A	100
MASN	CH04	NAC	0		N/A	N/A	100
NALT	INT	1	0		1.	5.	0
ALTS	REAL	NALT	0	FT	0.	45000.	0
IBYT	INT	1	0		0.	2.	100
IMSK	INT	1	0		0.	4.	100
TESR	REAL	1	0	NM	0.	10.	100
HALT	REAL	1	0	FT	0.	45000.	0
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.4 Data File ASTR

III.1.1.4.1 General Description Of Data File ASTR

ASTR (Array Structure) is the label of the array structure definition file, ASTR.FIL. This file defines the structure of arrays, special files which may or may not have variable length records, and which usually cannot be altered directly by either a CHAPS or SUPR program user. Each record in ASTR defines a different array file. ASTR is created in the SUPR program through use of the CHAPS Data Base Management Software, though it is not available for modification during a normal run. It is not modifiable by the CHAPS program user.

III.1.1.4.2 Item Description Of Data File ASTR

ID - ASTR - ARRAY NAME
Character name of the array.

DESC - ASTR - TITLE OF ARRAY
Character description of the array.

MXRC - ASTR - MAX NUMBER OF RECORDS
Maximum number of records allowed in array, including the header record.

IDC - ASTR - RECORD CREATION DATE

IDM - ASTR - RECORD MODIFICATION DATE

III.1.1.4.3 Item And Table Parameters Of Data File ASTR

TABLE: ASTR - ARRAY STRUCTURE

MAX # RECORDS = 60

AFFECT CODE = 0

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	0
DESC	CH24	1	0		N/A	N/A	0
MXRC	INT	1	0		N/A	N/A	0
IDC	DTIM	1	-5		N/A	N/A	0
IDM	DTIM	1	-5		N/A	N/A	0

III.1.1.5 Data File BASE

III.1.1.5.1 General Description Of Data File BASE

BASE (Staging Bases) is the label of the staging base description file, BASE.FIL. This file contains information describing the different staging bases in the scenario, including their location and support capability. BASE is created and modified in the CHAPS program through the use of the CHAPS Data Base Management Software. It is not modifiable by the SUPR program user.

III.1.1.5.2 Item Description Of Data File BASE

ID - BASE - BASE SHORT NAME
Unique character identifier for each base.
This field must match the BASE field in the AIRS table.

DESC - BASE - DESCRIPTION OF RECORD

NAME - BASE - BASE LONG NAME
Base long name (up to eight characters).

ICAO - BASE - ICAO ID FOR THE BASE
International Civil Aviation Organization ID for this base.
Not currently implemented.

UIC - BASE - BASE UNIT ID CODE
Base unit identifier code. Not currently implemented.

LINE - BASE - LINE # FOR THE BASE
Not currently implemented.

X - BASE - LAT/LONG OF STAGING BASE
No bases will be considered that are outside of the
scenario-space defined in ALGP.

NSUP - BASE - # A/C TYPES SUPPORTED
Number of aircraft types a base is capable of supporting.
Currently this is interpreted to mean support sufficient to
send an aircraft back into combat, including POL.

ACTY - BASE - SUPPORTED AIRCRAFT
List the aircraft types the base can support. The length of
this list is NSUP. The fields in this list must match the
ID's in the ACFT table. This list is used when CHAPS
assigns alternate bases to missions. Not currently
implemented.

NSHL - BASE - # SHELTERS FOR A/C TYPE
List the number of shelters the base provides for each aircraft
type listed in ACTY.

NTYP - BASE - # WEAPONS TYPES AT BASE
Number of different types of weapons stored at the base.

WEAP - BASE - WEAPONS TYPES AT BASE
 List of the weapon types stored at the base. The length of this list is NTYP. The values in this list must match the WEAP list in ACFT. Recall that the WEAP list in ACFT is the list of weapons that each aircraft can carry as part of its SCL's. Before tasking a unit to a target from a base, CHAPS checks to make sure that the aircraft at the base can carry the desired weapon, and that the weapon is available at the base. The WEAP field must also match the weapons types listed in the WEAP table. Note that many weapons have more than one names, for example "CBU-59" and "ROCKEYE." The names used in the CHAPS data bases must be consistent between the ACFT, BASE, and WEAP files.

NWEP - BASE - # WEAPONS AVAIL-EA. TYPE
 List current inventory of each type of weapon listed in item WEAP.

NRUN - BASE - # OF RUNWAYS AVAIL.
 Number of operational runways at that base.

RUNL - BASE - RUNWAY LENGTH-EA RUNWAY
 Length of each runway, in meters. The length of this list is NRUN.

BS - BASE - CURRENT BASE STATUS

ETIC - BASE - TIME TO NEXT BEST STATUS
 Units are HHMM.

PRFL - BASE - BASE A/C PROFILE TO LLTR
 Either "HIGH" or "LOW." Typically forward bases will fly a low profile to the LLTR's and rear bases (like those in the U.K. will fly a high profile).

NPCR - BASE - # OF PREFERRED CORRIDORS
 Number of preferred transit corridor points to which the base will have access. This value will determine the number of corridor points selected by CHAPS to be connected to this base during NODES processing.

PCOR - BASE - PREFERRED CORRIDOR NAMES
 List of preferred transit corridor points to which the base has access. The length of this list is NCOR. An item in this list must match an ID in the MIKE table. If no values are supplied in PCOR, the program will select up to NPCR closest corridor points within DBAS (from the SWCH table) nautical miles of the base.

NCOR - BASE - # TRANSIT CORR. BASE-ACC
 Number of transit corridor points to which the base has access. This value is calculated, and not modifiable by the user.

TCOR - BASE - ACC. TRANSIT CORR. NODES
 List of transit corridor points to which the base has access.

The length of this list is NCOR. An item in this list must match an ID in the MIKE table. This vector item is calculated, and not modifiable by the user.

DCOR - BASE - DIST TO TRANSIT CORR PT.
Program calculated distance between base and transit corridor nodes listed above. This item is not modifiable by the user.

IDC - BASE - RECORD CREATION DATE

IDM - BASE - RECORD MODIFICATION DATE

III.1.1.5.3 Item And Table Parameters Of Data File BASE

TABLE: BASE - STAGING BASES

MAX RECORDS = 71

AFFECT CODE = 220

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	220
DESC	CH24	1	0		N/A	N/A	600
NAME	CH08	1	0		N/A	N/A	600
ICAO	CH04	1	0		N/A	N/A	600
UIC	CH08	1	0		N/A	N/A	600
LINE	CH04	1	0		N/A	N/A	600
X	LTLN	1	0	DEG	-180.	180.	220
NSUP	INT	1	0		1.	12.	500
ACTY	ACFT	NSUP	0		N/A	N/A	500
NSHL	INT	NSUP	0		0.	999.	600
NTYP	INT	1	0		1.	150.	500
WEAP	CH08	NTYP	0		N/A	N/A	500
NWEP	INT	NTYP	0		0.	99999.	500
NRUN	INT	1	0		1.	3.	600
RUNL	REAL	NRUN	0	FT	0.	1000000.	600
BS	CH04	1	0		N/A	N/A	600
ETIC	TIME	1	0	HHMM	N/A	N/A	600
PRFL	CH04	1	0		N/A	N/A	400
NPCR	INT	1	0		0.	10.	220
PCOR	MIKE	NPCR	0		N/A	N/A	220
NCOR	INT	1	-5		1.	10.	220
TCOR	CH04	NCOR	-5		N/A	N/A	220
DCOR	REAL	NCOR	-5	NM	0.	1000000.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.6 Data File CORR

III.1.1.6.1 General Description Of Data File CORR

CORR (transit CORRIDOR network) is the label of the transit corridor structure, CORR.FIL. This file contains the number of points, point names and direction of the transit corridors which comprise the active transit corridor network. CORR can be modified directly by the user in the CHAPS program through use of the CHAPS Data Base Management Software.

III.1.1.6.2 Item Description Of Data File CORR

ID - CORR - TRANSIT CORRIDOR ID
Identifier of transit corridor record.

DESC - CORR - DESCRIPTION OF RECORD

WAY - CORR - FORWARD, REVERSE, EITHER
Allowable directions of flight along transit corridor.
FORWARD = in order entered only
REVERSE = in reverse order from entered order only
EITHER = in either direction

NPTS - CORR - # OF POINTS IN CORRIDOR
Number of points in transit corridor.

POIN - CORR - MIKE POINTS IN CORRIDOR
Names of MIKE points in transit corridor. Must match an identifier from the MIKE table.

IDC - CORR - RECORD CREATION DATE

IDM - CORR - RECORD MODIFICATION DATE

III.1.1.6.3 Item And Table Parameters Of Data File CORR

TABLE: CORR - TRANS CORRIDOR STRUCTURE

MAX RECORDS = 100

AFFECT CODE = 200

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
WAY	CH08	1	0		N/A	N/A	200
NPTS	INT	1	0		2.	10.	200
POIN	MIKE	NPTS	0		N/A	N/A	200
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.7 Data File CURR

III.1.1.7.1 General Description Of Data File CURR

CURR (CHAPS Current Status) is the label of the current status file, CURR.FIL. This file contains the current processing level, current output device, number of time blocks in the day, and the beginning and ending times of each block. CURR can be modified directly by the user in the CHAPS program through use of the CHAPS Data Base Management Software. The CHAPS program also automatically updates certain fields of the CURR file. Most of the information in this file is used only by the CHAPS program.

III.1.1.7.2 Item Description Of Data File CURR

ID - CURR - ID = CURR
CURR contains two records, a header record, and a data record. The data record is named CURR.

DESC - CURR - DESCRIPTION OF RECORD

IAOP - CURR - ALTITUDE LEVEL
Penetration altitude index pointing to the current SASN statespace altitude (ALTS in the ALGP table). This value is set from the penetration altitude menu.

IPRO - CURR - STATUS OF PROC COMMAND
Flag which is changed and checked by the program and which shows the highest level of processing currently attained. It generally not desirable for the user to change IPRO.

NBLK - CURR - NO TIME BLKS-PLANNING DAY
Number of time blocks in a day for planning purposes. Current value is one. There must be at least one time block.

IBLK - CURR - TIME EA TIME BLK BEGINS
Time blocks should be entered consecutively. Each is assumed to end the minute before the next time block begins.

ITEN - CURR - TIME AT WHICH DAY ENDS

IRIS - CURR - TIME SUNRISE-PLAN. DAY
Time of sunrise for the planning day. This determines when the feature type night is active. Non-night capable aircraft will not be allowed to attack targets before sunrise.

ISSET - CURR - TIME SUNSET-PLANNING DAY
Time of sunset for the planning day. This determines when the feature type night is active. Non-night capable aircraft will not be allowed to attack targets before sunrise.

CLAS - CURR - CLASSIFICATION LEVEL
Classification level of current scenario data. Delivered test scenario is unclassified.

MODE - CURR - PLAN MODE 'PLAN', 'OPS '
This is the current planning mode. It should be set to 'PLAN' if the current CHAPS session is building tomorrow's ATO. It should be set to 'OPS ' if the current session is being used for current operations.

IDAY - CURR - CURRENT DAY OF CONFLICT
This is the day of the conflict for which CHAPS is being run.

ORG - CURR - PLANNING ORGANIZATION
The first two characters of this field refer to the planning organization.

NROL - CURR - NUMBER OF PLANNING ROLES

ROLE - CURR - ROLE NAME, EG OCA, CAS
This is a list of NROL character role names.

IROL - CURR - INTEGER ROLE CODE
This is a list of NROL integer codes associated with the current list of roles.

NSRT - CURR - NUMBER OF SORTIES PLANNED
This is the number of sorties planned by CHAPS for each of the roles. Only sorties from accepted plans are counted in this list.

NMSN - CURR - NUMBER OF MISSIONS
This is the number of missions planned by CHAPS for each of the roles. Only missions from accepted plans are counted in this list.

ISUP - CURR - SUPPRESSORS APPLIED FLAG
Indicates whether statespace has been suppressed by electronic combat aircraft assets. A value of one means the statespace is suppressed. The statespace is unsuppressed otherwise.

PLAN - CURR - STATESPACE SUPPRESSED PLAN
Indicates plan which determines which assets are used in electronic combat aircraft statespace suppression. If the statespace is not suppressed this item will be blank.

ISPH - CURR - 1-5:USA,INTL,JAP,IND,AFR
Spheroid number for UTM conversion. Options are:
1 = CLARKE 1866 (USA)
2 = INTERNATIONAL
3 = BESSEL (JAPAN AND NE CHINA)
4 = EVEREST (INDIA AND SE ASIA)
5 = CLARKE 1880 (SOUTH AND CENTRAL AFRICA).
Currently a value of 2 is used.

GEO - CURR - LATLON OUTPUT:UTM OR DMS
Switch for position output. Either "UTM", "DMS", or "DMH". A value of GEO for "UTM" will cause

geographic coordinates to be output in UTM's, a value of DMS will cause output in latitude-longitude with the format of degrees, minutes, seconds, and tenths of seconds, and a value of DMH will output latitude-longitude in the format degrees, minutes, hundreds of minutes.

IDC - CURR - RECORD CREATION DATE

IDM - CURR - RECORD MODIFICATION DATE

III.1.1.7.3 Item And Table Parameters Of Data File CURR

TABLE: CURR - CHAPS CURRENT STATUS

MAX # RECORDS = 3

AFFECT CODE = 100

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
IAOP	INT	1	0		1.	3.	100
IPRO	INT	1	0		0.	1000.	600
NBLK	INT	1	0		1.	3.	200
IBLK	TIME	NBLK	0	HHMM	0.	10000.	200
ITEN	TIME	1	0	HHMM	0.	10000.	200
IRIS	TIME	1	0	HHMM	0.	10000.	200
ISET	TIME	1	0	HHMM	0.	10000.	200
CLAS	CH24	1	0		N/A	N/A	600
MODE	CH04	1	0		N/A	N/A	600
IDAY	INT	1	0		0.	999.	600
ORG	CH04	1	0		N/A	N/A	600
NROL	INT	1	0		1.	20.	600
ROLE	CH08	NROL	0		N/A	N/A	600
IROL	INT	NROL	0		0.	99.	600
NSRT	INT	NROL	-5		0.	1000.	600
NMSN	INT	NROL	-5		0.	1000.	600
ISUP	INT	1	-5		0.	1.	600
PLAN	PLAN	1	-5		N/A	N/A	600
ISPH	INT	1	0		1.	5.	600
GEO	CH04	1	0		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.8 Data File CURS

III.1.1.8.1 General Description Of Data File CURS

CURS (SUPR Current Status) is the label of the current status file, CURS.FIL. This file, used by the SUPR program contains the current classification level of the data base, and a number of switches which control the conversion of geographic coordinates. CURS can be modified directly by the user in the SUPR program through use of the CHAPS Data Base Management Software. The SUPR program also automatically updates certain fields of the CURS file.

III.1.1.8.2 Item Description Of Data File CURS

ID - CURS - ID = CURS

There are two records in CURS, a header record containing the character type variables, and a data record named CURS.

DESC - CURS - DESCRIPTION OF RECORD.

IADD - CURS - NUMBER OF THREATS ADDED

Number of threats that have been added.

IPRO - CURS - STATUS OF PROC COMMAND

Current processing status of the threat files.

- 0 = Geometry to be done
- 100 = Geometry OK; statespace to be cleared
- 120 = Threats in THRT file only
- 140 = Threats terrain masked but not in MASN
- 150 = Threats added to statespace (MASN files).

It is generally not desirable for the user to change IPRO.

IDAT - CURS - 1ST PLANNING DATE

Date of first planning day. IDAT governs the interpretation of LOCE input dates by defining the month and year for input threats, which is not defined in the input format. Threats are accepted for dates two days prior to the first planning day (being interpreted as predictive order of battle data). Threats with a day of the month three days prior to IDAT are considered to occur after IDAT.

CLAS - CURS - CLASSIFICATION LEVEL

Shows the classification level of the current processing session.

ISPH - CURS - 1-5:USA,INTL,JAP,IND,AFR

Spheroid number for UTM conversion. Options are:

- 1 = CLARKE 1866 (USA)
- 2 = INTERNATIONAL
- 3 = BESSEL (JAPAN AND NE CHINA)
- 4 = EVEREST (INDIA AND SE ASIA)

5 = CLARKE 1880 (SOUTH AND CENTRAL AFRICA).
Currently a value of 2 is used.

GEO - CURS - LATLON OUTPUT:UTM OR DMS
Switch for position output. Either "UTM", "DMS",
or "DMH". A value of GEO for "UTM" will cause
geographic coordinates to be output in UTM's, a
value of DMS will cause output in latitude-longitude
with the format of degrees, minutes, seconds, and
tenths of seconds, and a value of DMH will output
latitude-longitude in the format degrees, minutes,
hundreds of minutes.

IDC - CURS - RECORD CREATION DATE

IDM - CURS - RECORD MODIFICATION DATE

III.1.1.8.3 Item And Table Parameters Of Data File CURS

TABLE: CURS - SUPR CURRENT STATUS
 MAX # RECORDS = 3
 AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
IADD	INT	1	0		0.	100000.	600
IPRO	INT	1	0		0.	1000.	600
IDAT	DATE	1	0		N/A	N/A	600
CLAS	CH24	1	0		N/A	N/A	600
ISPH	INT	1	0		1.	5.	600
GEO	CH04	1	0		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.9 Data File DISP

III.1.1.9.1 General Description Of Data File DISP

DISP (Graphic Display Parameters) is the label of the graphic display parameters file, DISP.FIL. This file contains information used by the graphics routines when displaying the scenario. DISP is created by the CHAPS Data Base Management Software during a special initialization and is modified in the CHAPS program by the DISPLAY routines. It is not modifiable by the CHAPS program or SUPR program users.

III.1.1.9.2 Item Description Of Data File DISP

ID - DISP - PLOTTING DEVICE
ID of record -- 'TEK', 'HP', or '4115'.

DESC - DISP - DESCRIPTION OF RECORD
One to twenty-four character description.

CHCP - DISP - CHAR HGHT CAPT IN RASTER

CHID - DISP - CHAR HGHT IDS IN RASTER

CHLG - DISP - CHAR HGHT LEGD IN RASTER

CWCP - DISP - CHAR WID CAPTIONS RASTER

CWID - DISP - CHAR WIDTH IDS IN RASTER

CWLG - DISP - CHAR WID LEGEND IN RASTER

RXXM - DISP - MAX WID SCREEN DEV COORD

RYMX - DISP - MAX HGT SCREEN DEV COORD

XGMN - DISP - MIN X-RAS GRAPHICAL AREA

XGMX - DISP - MAX X-RAS GRAPHICAL AREA

XLMN - DISP - MIN X-RAS FOR LEGEND AREA

XLMX - DISP - MAX X-RAS FOR LEGEND AREA

XSMX - DISP - MAX X-RAS FOR ENTIRE SCREEN

YGMN - DISP - MIN Y-RAS GRAPHICAL AREA

YGMX - DISP - MAX Y-RAS GRAPHICAL AREA

YLMN - DISP - MIN Y-RAS FOR LEGEND AREA

YLMX - DISP - MAX Y-RAS FOR LEGEND AREA

YCMN - DISP - MIN Y-RAS COMMAND BOXES

YCMX - DISP - MAX Y-RAS COMMAND BOXES

YSMX - DISP - Y-RAST FOR ENTIRE SCREEN

XYMN - DISP - MIN LON/LAT IN WINDOW
 XYMN(1) = minimum longitude (deg E) in display window;
 XYMN(2) = minimum latitude (deg N) in display window.

XYMX - DISP - MAX LON/LAT IN WINDOW
 XYMN(1) = maximum longitude (deg E) in display window;
 XYMN(2) = maximum latitude (deg N) in display window.

IMIN - DISP - MINIMUM I IN WINDOW
 Minimum horizontal raster coordinate in display window.

JMIN - DISP - MINIMUM J IN WINDOW
 Minimum vertical raster coordinate in display window.

IMAX - DISP - MAXIMUM I IN WINDOW
 Maximum horizontal raster coordinate in display window.

JMAX - DISP - MAXIMUM J IN WINDOW
 Maximum vertical raster coordinate in display window.

XYLB - DISP - 1ST LABELED LN/LAT(DEG)
 XYLB(1) = 1st longitude line (deg E) to be labeled;
 XYLB(2) = 1st latitude line (deg N) to be labeled.

DXYL - DISP - DELTA LABELED LN/LAT(DEG)
 DXYL(1) = Increment in deg between labeled longitude lines;
 DXYL(2) = Increment in deg between labeled latitude lines.

NXLB - DISP - NUMBER OF LABELED LONGS
 Number of longitude lines to be labeled.

NYLB - DISP - NUMBER OF LABELED LATS.
 Number of latitude lines to be labeled.

LAT1 - DISP - 1ST ZERO DISTORTION LAT
 Lower latitude (deg N) which is to have zero distortion
 after Lambert Conformal Transformation.

LAT2 - DISP - 2ND ZERO DISTORTION LAT
 Upper latitude (deg N) which is to have zero distortion
 after Lambert Conformal Transformation.

XCEN - DISP - CENTRAL LONGITUDE
 Longitude value (deg E) which is to appear as a vertical
 line after Lambert Conformal Transformation.

RCON - DISP - DEG FR YMAX TO PROJ POLE
 Degrees of latitude from XYMX(2) to the projected pole of
 the Lambert Conformal Transformation.

TSCL - DISP - ANGULAR SCALE (DEG/LONG)

Conversion factor (ras/deg) from longitude to azimuth of
Lambert Conformal Transformation.

LSCL - DISP - LAMBERT LON SCALE FACTOR
Scale factor (raster/deg) from Lambert Horizontal Coordinates
to horizontal rasters.

MSCL - DISP - LAMBERT LAT SCALE FACTOR
Scale factor (raster/deg) from Lambert Vertical Coordinates
to vertical rasters.

LCON - DISP - LAMBERT LON CONSTANT
Horizontal raster coordinate for central longitude.

MCON - DISP - LAMBERT LAT CONSTANT
Vertical raster coordinate for projected pole.

IDC - DISP - RECORD CREATION DATE

IDM - DISP - RECORD MODIFICATION DATE

III.1.1.9.3 Item And Table Parameters Of Data File DISP

TABLE: DISP - DISPLAY PARAMS

MAX # RECORDS = 2

AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	-5		N/A	N/A	600
DESC	CH24	1	-5		N/A	N/A	600
CHCP	REAL	1	-5	RAS	N/A	N/A	600
CHID	REAL	1	-5	RAS	N/A	N/A	600
CHLG	REAL	1	-5	RAS	N/A	N/A	600
CWCP	REAL	1	-5	RAS	N/A	N/A	600
CWID	REAL	1	-5	RAS	N/A	N/A	600
CWLG	REAL	1	-5	RAS	N/A	N/A	600
RXXM	REAL	1	-5	RAS	N/A	N/A	600
RYMX	REAL	1	-5	RAS	N/A	N/A	600
XGMN	REAL	1	-5	RAS	N/A	N/A	600
XGMX	REAL	1	-5	RAS	N/A	N/A	600
XLMN	REAL	1	-5	RAS	N/A	N/A	600
XLMX	REAL	1	-5	RAS	N/A	N/A	600
XSMX	REAL	1	-5	RAS	N/A	N/A	600
YGMN	REAL	1	-5	RAS	N/A	N/A	600
YGMX	REAL	1	-5	RAS	N/A	N/A	600
YLMN	REAL	1	-5	RAS	N/A	N/A	600
YLMX	REAL	1	-5	RAS	N/A	N/A	600
YCMN	REAL	1	-5	RAS	N/A	N/A	600
YCMX	REAL	1	-5	RAS	N/A	N/A	600
YSMX	REAL	1	-5	RAS	N/A	N/A	600
XYMN	LTLN	1	-5	DEG	N/A	N/A	600
XYMX	LTLN	1	-5	DEG	N/A	N/A	600
IMIN	INT	1	-5		N/A	N/A	600
JMIN	INT	1	-5		N/A	N/A	600
IMAX	INT	1	-5		N/A	N/A	600
JMAX	INT	1	-5		N/A	N/A	600
XYLB	LTLN	1	-5	DEG	N/A	N/A	600
DXYL	LTLN	1	-5	DEG	N/A	N/A	600
NXLB	INT	1	-5		N/A	N/A	600
NYLB	INT	1	-5		N/A	N/A	600
LAT1	REAL	1	-5		N/A	N/A	600
LAT2	REAL	1	-5		N/A	N/A	600
XCEN	REAL	1	-5	DEG	N/A	N/A	600
RCON	REAL	1	-5	DEG	N/A	N/A	600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
TSCL	REAL	1	-5		N/A	N/A	600
LSCL	REAL	1	-5		N/A	N/A	600
MSCL	REAL	1	-5		N/A	N/A	600
LCON	REAL	1	-5		N/A	N/A	600
MCON	REAL	1	-5		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.10 Data File DMPI

III.1.1.10.1 General Description Of Data File DMPI

DMPI (Designated Mean Point of Impact) is the label of the DMPI description file, DMPI.FIL. This file contains information describing the DMPI's that are to be planned against in the current planning session. The DMPI description includes data about the DMPI type, time on target window, weaponeering solution preferences, and the list of weaponeering solutions that will be considered in the allocation. Each DMPI must be associated with a TGT (Target file) record. That is the item TGT in each DMPI record must match an ID in the TGT (target) table.

CHAPS automatically generates the weaponeering solutions in the DMPI table. It is necessary that the DMPI table contain at least one valid weaponeering solution in order for CHAPS to successfully allocate aircraft to the DMPI. The user has several options available for inputting data for the weaponeering solutions. First, the user may specify a TYPE. In this case, the DMPI item TYPE must match an ID in the WEAP table. A list of possible weaponeering solutions will then be generated based on the weaponeering solutions pre-computed for this DMPI type. Second, the user may input a preferred weaponeering solution. In this case the user will specify the preferred number of aircraft (PNAC), the aircraft type (PACT), number of weapons the aircraft will carry (PNWP), the weapon type (PWPT), and the delivery altitude (PALT). The preferred unit (PUNI) may also be input. If the user inputs all of this data, and it is valid, then CHAPS will not perform a lookup into the WEAP table and will instead use this solution. Finally, the user may input one or more of the following: the preferred unit (PUNI), aircraft type (PACT), weapon type (PWPT), or the number of weapons (PNWP) and the weapon type (PWPT). In this case, CHAPS will perform a lookup into the WEAP table but will only consider the pre-computed solutions that match the user input preferences. For example, if the user enters PACT as AH-64A, and PWPT as HELLFIRE, then only AH-64A units located as bases with HELLFIRE's available will be stored as solutions.

Data in the DMPI file may be modified in the CHAPS program through use of the CHAPS Data Base Management Software. DMPI is not available for modification by the SUPR program user.

III.1.1.10.2 Item Description Of Data File DMPI

- ID - DMPI - DMPI ID
Unique character identifier for the DMPI.
- DESC - DMPI - DESCRIPTION OF RECORD
- TGT - DMPI - TARGET ID
ID of the target that this DMPI is associated with.
TGT must match an ID in the TGT file.
- CLAS - DMPI - CLASSIFICATION (EG. OCA)
This field contains the DMPI classification. For example.
OCA, AI, CAS, or BAI. This DMPI will only be tasked to
units whose role (ROLE in the AIRS file) matches this

classification. The user may set CLAS to anything, however, at least one unit must have a ROLE (in the AIRS table) equal to CLAS if a unit is to be tasked to this DMPI.

PRIO - DMPI - PRIORITY

Priority of the DMPI. Determines the order in which the target will be considered by the M-on-N (M units on N targets) asset allocation algorithm. Priority 1 is the highest priority, 2 is the second priority, etc. Multiple DMPIs may have the same priority. In this case they will be considered as equally important in the allocation process.

TYPE - DMPI - DMPI TYPE

Character field for the DMPI type. The DMPI type is used to lookup potential weaponeering solutions in the WEAP table. The DMPI type must match an ID in the WEAP table. The DMPI type may be either a CWG type, or a DMPI Encyclopedia name.

OBJ - DMPI - OBJECTIVE CODE

Character field for target objective (target weapon matrix) code. A secondary lookup will be performed using the objective code if the WEAPONNEERING function is unable to weaponeer using the DMPI TYPE field.

PDMN - DMPI - MINIMUM PD

Minimum acceptable probability of destruction (kill) for this DMPI. The value determines how many aircraft will be tasked to this DMPI. Values in the range 0.5 to 0.7 are generally appropriate. Values very close to 1.0 may result in very large numbers of aircraft being tasked. If the user inputs a complete weaponeering solution (i.e. PNAC, PACT, PNWP, PWPT, PALT) then PDMN is not used. Instead the user's preferred solution is used whether or not it meets the minimum PD based on data in the WEAP table.

STRT - DMPI - TOT START TIME

Time on target window - Start Time. This is the earliest time in which this DMPI may be hit (HHMM).

END - DMPI - TOT END TIME

Time on target window - End Time. This is the latest time in which this DMPI may be hit (HHMM). STRT and END do not have to be in the same ACO time block.

PUNI - DMPI - PREFERRED UNIT

This optional field is the preferred unit to be tasked to this DMPI. If the user does not wish to input a preferred unit, then this entry should be blank. If other than blank, PUNI must match an ID in the AIRS table.

PNAC - DMPI - PREFERRED # A/C

This is the preferred number of aircraft to be tasked to this DMPI. If the user does not wish to input a preferred

number of aircraft, then this entry should be zero.

PACT - DMPI - PREFERRED A/C TYPE

This optional field is the preferred aircraft type to be tasked to this DMPI. If the user does not wish to input a preferred aircraft type, then this entry should be blank. If other than blank, PACT must match an ID in the ACFT table.

PNWP - DMPI - PREFERRED # WEAPONS

This is the preferred number of weapons carried by each aircraft to be tasked to this DMPI. If the user does not wish to input a preferred number of aircraft, this entry should be zero.

PWPT - DMPI - PREFERRED WEAPON TYPE

This optional field is the preferred weapon type to be tasked to this DMPI. If the user does not wish to input a preferred weapon type, this entry should be blank. Together, PACT, PNWP, and PWPT must be consistent with the contents of the ACFT table. In other words, an SCL consisting of PNWP weapons of type PWPT must be listed in the ACFT table for aircraft type PACT. If such an SCL does not exist, then CHAPS will not use the preferred weaponing solution.

PALT - DMPI - PREFERRED DELIVERY ALT

This number is the preferred delivery altitude for the preferred weaponing solution in feet.

NSOL - DMPI - NUMBER OF SOLUTIONS

This is the number of solutions that will be considered for this DMPI. The following ten lists are all of length NSOL. NSOL and the ten lists below are normally computed by the CHAPS program and may not be modified by the user.

UNIT - DMPI - SOLUTION UNIT

This is a list of unit names that will be considered for tasking against this DMPI. Each unit name in this list must match an AIRS table ID.

NAC - DMPI - NUMBER OF AIRCRAFT

This is a list of the numbers of aircraft that will be considered for tasking against this DMPI.

ACTY - DMPI - AIRCRAFT TYPE

This is a list of the types of aircraft that will be considered for tasking against this DMPI. Each aircraft type in this list must match an ACFT table ID.

NWEP - DMPI - NUMBER OF WEAPONS/AIRCRAFT

This is a list of the numbers of weapons that each aircraft will carry.

WPTY - DMPI - WEAPON TYPE

This is a list of the weapon types that each aircraft

will carry. NWEF and WPTY must be a valid SCL combination consistent with the list of SCL's in the ACFT table for the aircraft type ACTY.

ALT - DMPI - DELIVERY ALTITUDE
This is a list of the delivery altitudes in feet. This value is used to determine weather constraint violations in the terminal area.

PAGE - DMPI - PAGE NUMBER OF CWG SOLTN
This is a list of the CWG (or other source) page numbers.

LINE - DMPI - LINE NUMBER OF CWG SOLTN
This is a list of the CWG (or other source) line numbers.

PK - DMPI - DMPI PK OF CWG SOLTN
This is a list of the total probabilities of damage against this DMPI.

DSOL - DMPI - DESCRIPTION OF SOLUTION STATUS
This is a character description of the allocation results and current dmapi status for each potential solution. This field is not modifiable by the user.

IDC - DMPI - RECORD CREATION DATE

IDM - DMPI - RECORD MODIFICATION DATE

III.1.1.10.3 Item And Table Parameters Of Data File DMPI

TABLE: DMPI - DMPI TABLE
 MAX RECORDS = 101
 AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	0		N/A	N/A	500
DESC	CH24	1	0		N/A	N/A	600
TGT	TGT	1	0		N/A	N/A	500
CLAS	CH08	1	0		N/A	N/A	500
PRI0	INT	1	0		1.	999.	500
TYPE	WEAP	1	0		N/A	N/A	500
OBJ	CH12	1	0		N/A	N/A	500
PDMN	REAL	1	0	PROB	0.	1.	500
STRT	TIME	1	0	HHMM	0.	10000.	500
END	TIME	1	0	HHMM	0.	10000.	500
PUNI	AIRS	1	0		N/A	N/A	500
PNAC	INT	1	0	AIRCRAFT	0.	1000.	500
PACT	ACFT	1	0		N/A	N/A	500
PNWP	INT	1	0	WEAPONS	0.	1000.	500
PWPT	CH08	1	0		N/A	N/A	500
PALT	REAL	1	0	FT	0.	10000.	500
NSOL	INT	1	-5		0.	50.	600
UNIT	AIRS	NSOL	-5		N/A	N/A	600
NAC	INT	NSOL	-5	AIRCRAFT	N/A	N/A	600
ACTY	ACFT	NSOL	-5		N/A	N/A	600
NWEP	INT	NSOL	-5	WEAPONS	N/A	N/A	600
WPTY	CH08	NSOL	-5		N/A	N/A	600
ALT	REAL	NSOL	-5	FT	N/A	N/A	600
PAGE	CH12	NSOL	-5		N/A	N/A	600
LINE	INT	NSOL	-5		N/A	N/A	600
PK	REAL	NSOL	-5	PROB	N/A	N/A	600
DSOL	CH24	NSOL	-5		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.11 Data File ECAC

III.1.1.11.1 General Description Of Data File ECAC

ECAC (Electronic Combat Aircraft) is the label of the electronic combat aircraft description file, ECAC.FIL. This file contains the role, characteristics, capacity and degree of effectiveness against various types of threats for an individual electronic combat aircraft. ECAC supplements the electronic combat aircraft information contained in the ACFT file. ECAC is created and modified in the CHAPS program through use of the CHAPS Data Base Management Software. It is not modifiable by the SUPR program user.

III.1.1.11.2 Item Description Of Data File ECAC

ID - ECAC - EC AIRCRAFT ID
Unique identifier. Each record in ECAC describes a different electronic combat aircraft, weapon/jammer configuration.

DESC - ECAC - DESCRIPTION OF RECORD

ACTY - ECAC - AIRCRAFT TYPES
Must match aircraft identifier (ID) from ACFT table.

ROLE - ECAC - ROLE OF EC AIRCRAFT
Must be either HARDKILL, JAMMER, or COMJAM.

RANG - ECAC - RANGE OF EC ASSETS (NM)
Maximum effective range of this ec asset.

ANGL - ECAC - MAX EFFECT ANGLE (DEG)
Maximum angle from Bearing Indicator Line of EC ROZ beyond which the asset is ineffective.

NTYP - ECAC - NUMBER OF TMDLS AFFECTED
Number of threat models asset is effective against.

NCAP - ECAC - CAPACITY OF THREATS
Total number of threats the EC aircraft can suppress with full degrade.

ERP - ECAC - EFFECTIVE RADIATED POWER
The Effective Radiated Power used by the jammer model in DBW. Set to zero for non-jammer aircraft.

ONST - ECAC - NOM ON STATION DURATION
Nominal amount of time in hours EC asset can remain on station when assigned.

TYPE - ECAC - THRT MODL TYPES AFFECTED
List of threat models asset is effective against. Each entry must exactly match a TMDL table record ID.

EFF - ECAC - EFFECTIVENESS ON TMDLS

Degrade effectiveness on threat capacity. Must correspond with type. $0 \leq \text{EFF}(I) \leq 1.0$. A value of one means threat will be totally suppressed.

IDC - ECAC - RECORD CREATION DATE

IDM - ECAC - RECORD MODIFICATION DATE

III.1.1.11.3 Item And Table Parameters Of Data File ECAC

TABLE: ECAC - EC AIRCRAFT PARAMETERS

MAX # RECORDS = 15

AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
ACTY	ACFT	1	0		N/A	N/A	600
ROLE	CH08	1	0		N/A	N/A	600
RANG	REAL	1	0	NM	0.	300.	600
ANGL	REAL	1	0	DEG	0.	360.	600
NTYP	INT	1	0		1.	102.	600
NCAP	INT	1	0		1.	100.	600
ERP	REAL	1	0	DBW	0.	60.	600
ONST	REAL	1	0	HRS	0.	24.	600
TYPE	TMDL	NTYP	0		N/A	N/A	600
EFF	REAL	NTYP	0		0.	1.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.12 Data File FEAT

III.1.1.12.1 General Description Of Data File FEAT

FEAT (FEATURES) is the label of the scenario features file, FEAT.FIL. This file contains data defining and describing various features of the scenario which are important to the planning function of CHAPS, but which are not contained in any other file. These features include weather areas, restricted operating zones, and weapons free zones. It is created and modified from the CHAPS program through use of the CHAPS Data Base Management Software. FEAT is not modifiable from the SUPR program.

III.1.1.12.2 Item Description Of Data File FEAT

ID - FEAT - FEATURE ID
Unique identifier of the feature.

DESC - FEAT - DESCRIPTION OF RECORD

TYPE - FEAT - FEATURE TYPE
Must match an ID from the FTYP table. The FTYP table provides information to CHAPS about this feature, for example, it says what color the feature should be drawn in and which aircraft are prohibited from flying through it.

NPTS - FEAT - NUMBER OF POINTS
Number of points comprising the feature.

X - FEAT - LAT/LON-ROZ BOUNDRY PTS
Latitude and longitude of feature points. There must be NPTS latitude and longitude points in this field. There cannot be more than 12 points per feature.

BOTM - FEAT - MIN ALT FOR FEATURE
Lower altitude bound for this feature, in feet.

TOP - FEAT - MAX ALT FOR FEATURE
Upper altitude bound for this feature, in feet.

STRT - FEAT - TURN ON TIME FOR FEATURE
Earliest time of the planning day the feature is active.

END - FEAT - TURN OFF TIME FOR FEATURE
Latest time of the planning day the feature is active.

IDC - FEAT - RECORD CREATION DATE

IDM - FEAT - RECORD MODIFICATION DATE

III.1.1.12.3 Item And Table Parameters Of Data File FEAT

TABLE: FEAT - DISPLAY FEATURES

MAX # RECORDS = 200

AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
TYPE	FTYP	1	0		N/A	N/A	500
NPTS	INT	1	0		1.	12.	500
X	LTN	NPTS	0	DEG	-180.	180.	500
BOTM	REAL	1	0	FT	0.	50000.	500
TOP	REAL	1	0	FT	0.	60000.	500
STRT	TIME	1	0	HHMM	N/A	N/A	500
END	TIME	1	0	HHMM	N/A	N/A	500
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.13 Data File FLOT

III.1.1.13.1 General Description Of Data File FLOT

FLOT is the label of the scenario FLOT line file, FLOT.FIL. This file contains data defining and describing important airspace coordination lines for the scenario which are important to the planning function of CHAPS. These include the FLOT (Forward Line of Own Troops), the IFF-ON line, and the IFF-OFF line. It is created and modified from the CHAPS program through use of the CHAPS Data Base Management Software. FLOT is not modifiable from the SUPR program.

III.1.1.13.2 Item Description Of Data File FLOT

ID - FLOT - ACO LINE ID
Unique identifier of the feature.

DESC - FLOT - DESCRIPTION OF RECORD

TYPE - FLOT - ACO LINE TYPE (FTYP)
Must match an ID from the FTYP table. The FTYP table tells CHAPS what to do with this line, for example what color it is.

NPTS - FLOT - NUMBER OF POINTS
Number of points comprising the line. There cannot be more than 12 points per line.

X - FLOT - LAT/LON-ROZ BOUNDARY POINTS
Latitude and longitude of line points. There must be NPTS latitude and longitude points in this field.

BOTM - FLOT - MIN ALT FOR ACO LINE
Lower altitude bound for this line, in feet.

TOP - FLOT - MAX ALT FOR ACO LINE
Upper altitude bound for this line, in feet.

STRT - FLOT - ACO LINE TURN ON TIME
Earliest time of the planning day this line is active.

END - FLOT - ACO LINE TURN OFF TIME
Latest time of the planning day this line is active.

IDC - FLOT - RECORD CREATION DATE

IDM - FLOT - RECORD MODIFICATION DATE

III.1.1.13.3 Item And Table Parameters Of Data File FLOT

TABLE: FLOT - ACO LINES
 MAX # RECORDS = 10
 AFFECT CODE = 200

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	200
DESC	CH24	1	0		N/A	N/A	600
TYPE	FTYP	1	0		N/A	N/A	200
NPTS	INT	1	0		1.	12.	200
X	LTln	NPTS	0	DEG	-180.	180.	200
BOTM	REAL	1	0	FT	0.	50000.	600
TOP	REAL	1	0	FT	0.	60000.	600
STRT	TIME	1	0	HHMM	N/A	N/A	600
END	TIME	1	0	HHMM	N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.14 Data File FREQ

III.1.1.14.1 General Description Of Data File FREQ

FREQ (TABOO Frequencies) is the label of the taboo frequencies description file, FREQ.FIL. This file contains information defining and describing the taboo frequencies for the current scenario. FREQ is created and modified in the CHAPS program through use of the CHAPS Data Base Management Software, but it is usually reviewed using the Show Taboo command. It is not modifiable by the SUPR program user.

III.1.1.14.2 Item Description Of Data File FREQ

ID - FREQ - FREQUENCY ID
. Unique character identifier for frequency.

DESC - FREQ - DESCRIPTION

FREQ - FREQ - FREQUENCY
In Megahertz.

AGEN - FREQ - AGENCY ISSUING GUARD

IDAT - FREQ - DATE GUARDED = DD-MMM-YY

STRT - FREQ - BEGIN GUARD TIME 0-2400

END - FREQ - END GUARD TIME 0-2400

TYPE - FREQ - TYPE CODE

CALL - FREQ - CALL SIGN

UTM - FREQ - UTM

IDC - FREQ - RECORD CREATION DATE

IDM - FREQ - RECORD MODIFICATION DATE

III.1.1.14.3 Item And Table Parameters Of Data File FREQ

TABLE: FREQ - TABLE OF TABOO FREQ.

MAX # RECORDS = 500

AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
FREQ	REAL	1	0	MHZ	0.	1000000.	600
AGEN	CH08	1	0		N/A	N/A	600
IDAT	DATE	1	0		N/A	N/A	600
STRT	TIME	1	0	HHMM	N/A	N/A	600
END	TIME	1	0	HHMM	N/A	N/A	600
TYPE	CH04	1	0		N/A	N/A	600
CALL	CH12	1	0		N/A	N/A	600
UTM	CH08	1	0		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.15 Data File FTYP

III.1.1.15.1 General Description Of Data File FTYP

FTYP (Features Type) is the label of the features type template file, FTYP.FIL. This file contains the generic characteristics of the feature types used by the features (FEAT), low level transit route (LLTR), FEBA line (FLOT) and tanker trak (TRAK) tables. These characteristics include feature shape, color, line style, and restricted aircraft and weapon types. FTYP is created and modified by the CHAPS Data Base Management Software in the CHAPS program during a special initialization run. It is not modifiable from the SUPR program.

III.1.1.15.2 Item Description Of Data File FTYP

- ID - FTYP - FEATURE TYPE ID
Unique character name of a generic feature type. The ID must be matched by a value in the TYPE field in the FEAT(Feature) table.
- DESC - FTYP - DESCRIPTION OF RECORD
- SHAP - FTYP - SHAPE (AREA,LINE,MARK)
Features may be of three basic shapes: area (AREA), line (LINE), or marker(MARK).
- LCOL - FTYP - LINE COLOR INDEX
Color index of line. Value should be between 0 and 100. The following list of colors may be useful.
- | | |
|-----------|------|
| BLUE | - 53 |
| GREEN | - 44 |
| ORANGE | - 26 |
| PURPLE | - 4 |
| RED | - 20 |
| TURQUOISE | - 48 |
| WHITE | - 0 |
| YELLOW | - 30 |
- LINE - FTYP - LINE STYLE INDEX
This value should always be one.
- RAD - FTYP - RADIUS OF FEAT.(IF CIR.)
Not currently used.
- NAC - FTYP - NUM A/C TYPES FORBIDDEN
Number of aircraft types which cannot pass through this feature type. For example, if this feature type is "STORM" then those aircraft which cannot fly through bad weather should be listed below.
- ACTY - FTYP - AIRCRAFT TYPES FORBIDDEN
List of aircraft types which cannot pass through the feature. The length of this list is NAC. The items in this

list must match the ID's in the ACFT table. The feature type "night" is a special case. All aircraft are allowed to fly at night. However, aircraft on the ACTY list will not be allowed to attack targets within an active "night" feature.

NWEP - FTYP - NUM WEAP TYPES FORBIDDEN

Number of weapon types which cannot be delivered within the bounds of the feature.

WEAP - FTYP - WEAPON TYPES FORBIDDEN

List of weapon types which cannot be delivered within the bounds of the feature. For example, if this feature type is "FOG" then those types of weapons which cannot be delivered without being able to clearly see the target should be listed in WEAP. The length of this list is NWEP. The names used in this list should match the weapons names used in ACFT, BASE, and WEAP tables.

IDC - FTYP - RECORD CREATION DATE

IDM - FTYP - RECORD MODIFICATION DATE

III.1.1.15.3 Item And Table Parameters Of Data File FTYP

TABLE: FTYP - FEATURE TYPE TEMPLATES

MAX # RECORDS = 200

AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
SHAP	CH04	1	0		N/A	N/A	600
LCOL	INT	1	0		0.	65.	600
LINE	INT	1	0		-5.	10.	600
RAD	REAL	1	0	NM	0.	1000.	600
NAC	INT	1	0		0.	15.	500
ACTY	ACFT	NAC	0		N/A	N/A	500
NWEP	INT	1	0		0.	15.	500
WEAP	CH08	NWEP	0		N/A	N/A	500
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.16 Data File LLTR

III.1.1.16.1 General Description Of Data File LLTR

LLTR (Low Level Transit Routes) is the label of the low level transit route description file, LLTR.FIL. This file contains lists of connected points from the MIKE file, which comprise LLTRs active during the different time blocks within the scenario. LLTR is created and modified in the CHAPS program by the CHAPS Data Base Management Software or through the Eifel preprocessor. It is not modifiable by the SUPR program user.

III.1.1.16.2 Item Description Of Data File LLTR

ID - LLTR - LLTR ID
Unique low level transit route identifier.

DESC - LLTR - DESCRIPTION OF RECORD

WAY - LLTR - FORWARD, REVERSE, EITHER
Allowable directions of flight along LLTR.
FORWARD = in order entered only
REVERSE = in reverse order from entered order only
EITHER = in either direction

NPTS - LLTR - NUMBER OF PTS. IN LLTR
Include beginning transit corridor node. Current maximum is 10.

POIN - LLTR - MIKE PTS. THAT MAKE LLTR
All point names must match an id from MIKE table.

STRT - LLTR - TIME LLTR BECOMES ACTIVE
Units are HHMM. If any portion of a time block is covered by the time period defined by STRT and END, the LLTR is considered good for the entire time block.

END - LLTR - TIME IT BECOMES INACTIVE
Units are HHMM. If any portion of a time block is covered by the time period defined by STRT and END, the LLTR is considered good for the entire time block.

NPCR - LLTR - # OF PREFERRED CORRIDORS
Number of preferred corridor connections. If no value is entered program will find up to ten connections within WCOR (from the SWCH table) nautical miles from the LLTR on the friendly side of the FEBA.

PCOR - LLTR - PREFERRED CORRIDOR NAMES
Names of preferred corridor connections. If left blank, the program will select it's own connections.

NCOR - LLTR - # OF CORRIDOR ACCESS POINTS
Number of selected transit corridor access points.
Value is calculated.

CORR - LLTR - CORRIDOR ACCESS POINTS
Names of selected corridor access points. Value is calculated.

NBEG - LLTR - # OF POINTS TO CORR CONNECT
Index into which LLTR point the corresponding transit corridor access point is connected. Value is calculated.

X - LLTR - LAT LON OF LLTR POINTS
Geographic coordinates of LLTR points. Value is calculated.

XON - LLTR - PT LLTR HITS IFF-ON LINE
Program calculated IFF-ON line LLTR intersection point. If the LLTR does not intersect the IFF-on line, then the end of the LLTR will be used unless the end of the LLTR is not in the statespace, in which case the end of the LLTR will be extended into the statespace. This value is not modifiable by the user.

XOFF - LLTR - PT LLTR HITS IFF-OFF LINE
Program calculated IFF-OFF line LLTR intersection point. If the LLTR does not intersect the IFF-off line, then the end of the LLTR will be used unless the end of the LLTR is not in the statespace, in which case the end of the LLTR will be extended into the statespace. This value is not modifiable by the user.

DIST - LLTR - DISTANCE ALONG LLTR
Program calculated distance from each transit corridor access point to IFF-OFF point, and from each transit corridor access point to IFF-ON point. This value is not modifiable by the user.

DFEG - LLTR - DG FROM X-OFF ON EGRESS
Program calculated danger for each generic aircraft type from each transit corridor access point to IFF-OFF point on egress from target. This value is not modifiable by the user.

DFIG - LLTR - DG TO X-OFF ON INGRESS
Program calculated danger for each generic aircraft type from each transit corridor access point to IFF-OFF point on ingress to target. This value is not modifiable by the user.

DNEG - LLTR - DG FROM X-ON ON EGRESS
Program calculated danger for each generic aircraft type from each transit corridor access point to IFF-ON point on egress from target. This value is not modifiable by the user.

DNIG - LLTR - DG TO X-ON ON INGRESS
Program calculated danger for each generic aircraft type from each transit corridor access point to IFF-ON point on ingress to target. This value is not modifiable by the user.

user.

NON - LLTR - NO PTS. BEFORE IFF-ON LINE

Program calculated number of points between transit corridor
node and IFF-ON point (includes transit corridor node).
This value is not modifiable by the user.

NOFF - LLTR - NO PTS. BEFORE IFF-OFF LINE

Program calculated number of points between transit corridor
node and IFF-OFF point (includes transit corridor node).
This value is not modifiable by the user.

IDC - LLTR - RECORD CREATION DATE

IDM - LLTR - RECORD MODIFICATION DATE

III.1.1.16.3 Item And Table Parameters Of Data File LLTR

TABLE: LLTR - LLTR NODE PARAMETERS

MAX RECORDS = 33

AFFECT CODE = 230

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	230
DESC	CH24	1	0		N/A	N/A	600
WAY	CH08	1	0		N/A	N/A	230
NPTS	INT	1	0		1.	10.	230
POIN	CH04	NPTS	0		N/A	N/A	230
STRT	TIME	1	0	HHMM	N/A	N/A	230
END	TIME	1	0	HHMM	N/A	N/A	230
NPCR	INT	1	0		0.	10.	230
PCOR	MIKE	NPCR	0		N/A	N/A	230
NCOR	INT	1	-5		1.	10.	230
CORR	MIKE	NCOR	-5		N/A	N/A	230
NBEG	INT	NCOR	-5		N/A	N/A	230
X	LTLN	10	-5	DEG	N/A	N/A	230
XON	LTLN	1	-5	DEG	N/A	N/A	230
XOFF	LTLN	1	-5	DEG	N/A	N/A	230
DIST	REAL	20	-5	NM	N/A	N/A	230
DFEG	REAL	30	-5	DANGER	N/A	N/A	230
DFIG	REAL	30	-5	DANGER	N/A	N/A	230
DNEG	REAL	30	-5	DANGER	N/A	N/A	230
DNIG	REAL	30	-5	DANGER	N/A	N/A	230
NON	INT	1	-5		N/A	N/A	230
NOFF	INT	1	-5		N/A	N/A	230
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.17 Data File MIKE

III.1.1.17.1 General Description Of Data File MIKE

MIKE (MIKE points) is the label of the MIKE plan file, MIKE.FIL. This file contains information describing the location of each Mike Plan point. Information about MIKE point connections is available in the LLTR and CORR tables. MIKE is modified in the CHAPS program through use of the CHAPS Data Base Management Software. MIKE is not available for modification by the SUPR program user.

III.1.1.17.2 Item Description Of Data File MIKE

ID - MIKE - MIKE PLAN POINT ID
Unique character identifier for the MIKE point.

DESC - MIKE - DESCRIPTION OF RECORD

X - MIKE - MIKE PLAN POINT LAT LON
The location of the MIKE point.

IDC - MIKE - RECORD CREATION DATE

IDM - MIKE - RECORD MODIFICATION DATE

III.1.1.17.3 Item And Table Parameters Of Data File MIKE

TABLE: MIKE - MIKE PLAN (FM30001M) PTS
 MAX RECORDS = 1101
 AFFECT CODE = 200

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	200
DESC	CH24	1	0		N/A	N/A	600
X	LTLN	1	0	DEG	-180.	180.	200
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.18 Data File MSSN

III.1.1.18.1 General Description Of Data File MSSN

MSSN (Missions) is the label of the missions file, MSSN.FIL. This file contains data on the missions of accepted plans. Significant items include target, DMPI, aircraft, SCL, attained PK, ingress and egress refueling tracks, and staging, recovery, and alternate bases. CHAPS creates MSSN records when a plan is accepted, or when manual is executed. MSSN is created by the CHAPS Data Base Management Software, and modified in the CHAPS program by the PLAN processing routines. It is not directly modifiable by the CHAPS or SUPR program users.

III.1.1.18.2 Item Description Of Data File MSSN

ID - MSSN - REC ID - MSSN # + SEQ #
Unique character identifier for this mission consisting of the mission number with the sequence number of the mission appended to it.

DESC - MSSN - DESCRIPTION OF RECORD

NMBR - MSSN - CORRESPONDING MSSN NUMBR
CHAPS assigned mission number for this mission.

UNIT - MSSN - UNIT TASKED
Tasked unit identifier. UNIT must match an ID from the AIRS table.

TGT - MSSN - TARGET ID
Tasked target. TGT must match an ID from the TGT table.

DMPI - MSSN - DMPI ID
Tasked DMPI. DMPI must match an ID from the DMPI table.

NAC - MSSN - NUMBER OF AIRCRAFT
Number of aircraft tasked.

ACTY - MSSN - AIRCRAFT TYPE
Type of aircraft tasked. ACTY must match an ID from the ACFT table.

SCL - MSSN - LOAD ID
SCL load identifier of SCL recommended. SCL must match a value of SCL from the ACFT table for the aircraft type ACTY.

NWEP - MSSN - NUMBER OF WEAPONS
Number of weapons the tasked aircraft will carry.

WEAP - MSSN - WEAPON NAME
Type of weapons the tasked aircraft will carry. SCL, NWEP, and WEAP must match an SCL combination from the

ACFT table for the aircraft type listed above in ACTY.

PD - MSSN - TARGET PD
Calculated PD for the aircraft/weapon/DMPI solution for this mission.

ACPT - MSSN - ACCEPT STATUS
Acceptance status. Possible values are: GOOD and blank.

ROUT - MSSN - CORRESPONDING ROUT ID
Pointer to route stored in the ROUT table. As several missions can use the same route, the point by point data on routes is stored in the ROUT table where it can be accessed by many different missions.

SORC - MSSN - SOURCE MSSN-MANU OR FLPS
Source of the mission generation. If the mission was created through the manual option off the PLAN OPTIONS menu, the value of SORC should be 'MANU'. If the mission was automatically generated by CHAPS during the allocation process, the value of SORC should be 'FLPS'.

RMRK - MSSN - ALLOCATION REMARK
This is the comment made by the program concerning the selection or nonselection of this mission during the allocation process.

RSRV - MSSN - RESERVE FUEL STATUS
This item indicates whether fuel reserves for the aircraft as indicated in the ACFT table have been violated.

DIST - MSSN - DISTANCE
Total distance of the mission in nautical miles.

DANG - MSSN - DANGER
Total danger of the mission for all aircraft.

FUEL - MSSN - FUEL USED, INCLUDE RESER
Total fuel used in lbs on the mission for all aircraft

FCAP - MSSN - FUEL CAPACITY OF SCL
Total fuel capacity of the aircraft while carrying the indicated SCL.

BASE - MSSN - STAGING BASE
Staging base for the mission. BASE must match an ID from the BASE table.

RBAS - MSSN - RECOVERY BASE
Recovery base for the mission. RBAS must match an ID from the BASE table.

ABAS - MSSN - ALTERNATE RECOVERY BASE
Alternate recovery base for the mission. RBAS must

match an ID from the BASE table.

ITR - MSSN - INGRESS LLTR
Ingress LLTR for this mission, if any. Manually created routes do not require LLTR's. If this route has one, ITR must match an ID from the LLTR table, otherwise ITR must be blank.

ITRK - MSSN - INGRESS TRACK
Ingress tanker track for this mission, if any. ITRK must match an ID from the TRAK table or be blank.

OFFI - MSSN - INGRESS OFFLOAD
Total offload for all aircraft from ingress refueling tanker.

ETR - MSSN - EGRESS LLTR
Egress LLTR for this mission, if any. Manually created routes do not require LLTR's. If this route has one, ETR must match an ID from the LLTR table, or be blank.

ETRK - MSSN - EGRESS TRACK
Egress tanker track for this mission, if any. ETRK must match an ID from the TRAK table, otherwise ETRK must be blank.

OFFE - MSSN - EGRESS OFFLOAD
Total offload for all aircraft from egress refueling tanker.

TOFT - MSSN - TAKE OFF TIME
Take off time of mission.

TITK - MSSN - INGRESS TANK HOOKUP TIME
Time aircraft hookup to the ingress tanker.

TITR - MSSN - INGRESS FEBA CROSS TIME
Time aircraft cross the FEBA on the ingress leg.

TTOT - MSSN - TIME ON TARGET
Time on target of mission.

TWIN - MSSN - TIME WINDOW
Calculated deconflicted time window in which the mission may hit the target.

TETR - MSSN - EGRESS FEBA CROSSING TIM
Time aircraft cross the FEBA on the egress leg.

TETK - MSSN - EGRESS TANKER HOOKUP TIM
Time aircraft hookup to the egress tanker.

TREC - MSSN - RECOVERY TIME
Time aircraft land at the recovery base.

TYPE - MSSN - TYPE: ATTACK OR SUPPORT
Mission type, attack or support.

STAT - MSSN - SUPPORT STATION
If mission is a support mission, STAT holds the name of the assigned tanker track if the support mission is tanker support, or the name of the assigned EC ROZ box if the support mission is EC support.

STRT - MSSN - SUPPORT ON STATION TIM
If mission is a support mission, STRT is the beginning time of the time period the tanker or EC aircraft must be on station.

END - MSSN - SUPPORT OF STATION TIM
If mission is a support mission, END is the ending time of the time period the tanker or EC aircraft must be on station.

OFFL - MSSN - TOTAL TANKER OFFLOAD
If the mission is a support mission, OFFL is the total fuel offloaded from the tanker during its on station time.

AVEC - MSSN - AVG NUMBER ON STATION
If the mission is an EC support mission, the average number of aircraft on station during the onstation time period is kept in AVEC.

BRNG - MSSN - EC ORIENTATION BEARING
If the mission is an EC support mission, the EC orientation bearing of the EC assets.

IDC - MSSN - RECORD CREATION DATE

IDM - MSSN - RECORD MODIFICATION DATE

III.1.1.18.3 Item And Table Parameters Of Data File MSSN

TABLE: MSSN - MSSN TABLE
 MAX # RECORDS = 1500
 AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	-5		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
NMBR	CH12	1	-5		N/A	N/A	600
UNIT	AIRS	1	-5		N/A	N/A	600
TGT	TGT	1	-5		N/A	N/A	600
DMPI	DMPI	1	-5		N/A	N/A	600
NAC	INT	1	-5		1.	999.	600
ACTY	ACFT	1	-5		N/A	N/A	600
SCL	CH12	1	-5		N/A	N/A	600
NWEP	INT	1	-5		1.	999.	600
WEAP	CH08	1	-5		N/A	N/A	600
PD	REAL	1	-5		0.	1.	600
ACPT	CH04	1	-5		N/A	N/A	600
ROUT	CH12	1	-5		N/A	N/A	600
SORC	CH04	1	-5		N/A	N/A	600
RMRK	CH12	1	-5		N/A	N/A	600
RSRV	CH08	1	-5		N/A	N/A	600
DIST	REAL	1	-5	NM	0.	1000000.	600
DANG	REAL	1	-5		0.	1000000.	600
FUEL	REAL	1	-5	LBS	0.	1000000.	600
FCAP	REAL	1	-5	LBS	0.	10000.	600
BASE	BASE	1	-5		N/A	N/A	600
RBAS	BASE	1	-5		N/A	N/A	600
ABAS	BASE	1	-5		N/A	N/A	600
ITR	CH12	1	-5		N/A	N/A	600
ITRK	TRAK	1	-5		N/A	N/A	600
OFFI	REAL	1	-5	LBS	0.	1000000.	600
ETR	CH12	1	-5		N/A	N/A	600
ETRK	TRAK	1	-5		N/A	N/A	600
OFFE	REAL	1	-5	LBS	0.	1000000.	600
TOFT	TIME	1	-5	HHMM	N/A	N/A	600
TITK	TIME	1	-5	HHMM	N/A	N/A	600
TITR	TIME	1	-5	HHMM	N/A	N/A	600
TTOT	TIME	1	-5	HHMM	N/A	N/A	600
TWIN	TIME	1	-5	HHMM	N/A	N/A	600
TETR	TIME	1	-5	HHMM	N/A	N/A	600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
TETK	TIME	1	-5	HHMM	N/A	N/A	600
TREC	TIME	1	-5	HHMM	N/A	N/A	600
TYPE	CH08	1	-5		N/A	N/A	600
STAT	CH08	1	-5		N/A	N/A	600
STRT	TIME	1	-5	HHMM	N/A	N/A	600
END	TIME	1	-5	HHMM	N/A	N/A	600
OFFL	REAL	1	-5	LBS	0.	1000000.	600
AVEC	INT	1	-5		0.	100.	600
BRNG	REAL	1	-5	DEG	0.	360.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.19 Data File NODP

III.1.1.19.1 General Description Of Data File NODP

NODP (Node Parameters) is the label of the node parameters file, NODP.FIL. This file contains data on the number of significant points in the scenario. Significant points include such items as bases, targets, tanker track entry nodes, and active LLTR points. NODP is created by the CHAPS Data Base Management Software, and modified in the CHAPS program by the NODES processing routines. It is not directly modifiable by the CHAPS or SUPR program users.

III.1.1.19.2 Item Description Of Data File NODP

ID - NODP - ID = NODP
There are two records in NODP, a header record, and a data record identified as NODP.

DESC - NODP - DESCRIPTION OF RECORD
Program calculated value.

NBS - NODP - NUMBER OF STAGING BASES
Program calculated value.

NTG - NODP - NUMBER OF TARGETS
Program calculated value.

NXOF - NODP - NUMBER IFF-OFF POINTS
Program calculated value. IFF-OFF points are defined as the point where an LLTR intersects the IFF-OFF line. If the LLTR's do not intersect the IFF-OFF line, they are the endpoints of the LLTR's, unless the endpoint is not in the statespace, in which case the LLTR's are extended into the statespace.

NXON - NODP - NUMBER IFF-ON POINTS
Program calculated value. IFF-ON points are defined as the point where an LLTR intersects the IFF-ON line.

NCOR - NODP - NUMBER OF CORRIDOR NODES
Total number of CORR type MIKE points. Program calculated value.

NTT - NODP - NUMBER OF TANKER TRACKS
Program calculated value.

IDC - NODP - RECORD CREATION DATE

IDM - NODP - RECORD MODIFICATION DATE

III.1.1.19.3 Item And Table Parameters Of Data File NODP

TABLE: NODP - NODE PARAMETERS

MAX RECORDS = 3

AFFECT CODE = 200

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	-5		N/A	N/A	200
DESC	CH24	1	0		N/A	N/A	700
NBS	INT	1	-5		N/A	N/A	200
NTG	INT	1	-5		N/A	N/A	200
NXOF	INT	1	-5		N/A	N/A	200
NXON	INT	1	-5		N/A	N/A	200
NCOR	INT	1	-5		N/A	N/A	200
NTT	INT	1	-5		N/A	N/A	200
IDC	DTIM	1	-5		N/A	N/A	200
IDM	DTIM	1	-5		N/A	N/A	200

III.1.1.20 Data File PBOR

III.1.1.20.1 General Description Of Data File PBOR

PBOR (Political Borders) is the label of the political borders information file, PBOR.FIL. This file contains the coordinates of the political borders within the current scenario. It is created by the CHAPS Data Base Management Software during an initialization run of the CHAPS program, and is not available for modification during a normal run of the CHAPS program. PBOR is not modifiable from the SUPR program.

III.1.1.20.2 Item Description Of Data File PBOR

ID - PBOR - ID OF POLITICAL BORDERS
Up to eight characters, usually the name of the country
around which the border is being drawn.

DESC - PBOR - DESCRIPTION OF RECORD

NPTS - PBOR - NBR OF PBOR BOUNDARY PTS
Number of latitude/longitude points in each border. Maximum
is 100 points.

X - PBOR - LAT-LONG OF BNDRY POINTS
Political borders must be contiguous (all entered in either
clockwise or counterclockwise direction).

IDC - PBOR - RECORD CREATION DATE

IDM - PBOR - RECORD MODIFICATION DATE

III.1.1.20.3 Item And Table Parameters Of Data File PBOR

TABLE: PBOR - POLITICAL BORDERS
 MAX # RECORDS = 1601
 AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
NPTS	INT	1	0		1.	100.	600
X	LTN	NPTS	0		-180.	180.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.21 Data File PLAN

III.1.1.21.1 General Description Of Data File PLAN

PLAN (Planned Mission Assignments) is the label of the planned mission assignment file, PLAN.FIL. This file contains the computed mission data for all attack missions in the ATO. The PLAN data file table is created in a special initialization run by the CHAPS Data Base Management Software, but can only be modified during normal runs through the CHAPS PLAN function. However, the contents of the PLAN data file may be examined using the DATABASE SHOW and REPORT options of the CHAPS Data Base Management Software. The PLAN data file may not be accessed by the SUPR program user.

III.1.1.21.2 Item Description Of Data File PLAN

ID - PLAN - PLAN ID

Unique character name of the plan record. Each record of the PLAN table represents a different plan (i.e. a tasking of attack and support aircraft and weapons). The user may create several different plans for the same time period, but each must have a unique ID and only one can be "accepted" at a time.

DESC - PLAN - PLAN DESCRIPTION

TYPE - PLAN - WINDOW TYPE 'FEBA'/'TOT'

PLAN window crossing type, either FEBA or time on target (TOT). This field determines which targets will be considered by this plan.

STRT - PLAN - WINDOW START TIME

The beginning of the PLAN time window (HHMM).

END - PLAN - WINDOW END TIME

The end of the PLAN time window (HHMM).

NPRI - PLAN - NUMBER OF PLAN PRIORITIES

PRI0 - PLAN - NAMES OF PRIORITY ITEMS

IPRI - PLAN - PRIORITY VALUE (1-10)

ACPT - PLAN - ACCEPTANCE FLAG

This character field determines whether the plan is preliminary or finalized. Those plans with an acceptance flag of "GOOD" are considered committed, and the aircraft and support assets used by them cannot be reassigned to any other plan that would interfere with the completion of the accepted missions. Accepted plans are used to generate the ATO and ATM reports. The Acceptance Flag is blank if the plan in question has not been accepted.

AVDN - PLAN - AVG DANGER (NO SUPPORT)
This is the average danger for the attack aircraft routes used for this plan. This is the danger level before the application of any EC assets that may be a part of this plan package.

AVDS - PLAN - AVG DANGER(WITH SUPPORT)
This is the average danger for the attack aircraft routes after the application of the EC assets. If there are no EC aircraft in the plan, or if EC effectiveness has not been calculated, then this number will be equal to AVDN.

NMIS - PLAN - # OF ATTACK MISSIONS
This is the number of attack aircraft missions contained in this plan record. The next twenty items are lists containing information about these attack missions. Each list is NMIS elements long.

AMNO - PLAN - ATTACK MISSION NUMBER
This is the list of mission numbers of the attack missions for this plan. AMNO is generated by the CHAPS program.

AUNI - PLAN - UNITS FOR ATTACK MISSION
This is the list of character unit ID's for the units tasked for the attack missions. These ID's will be consistent with the AIRS table.

TGT - PLAN - ATTACK MISSION TARGET
This is the list of character target ID's for the targets tasked in this plan record. These ID's will be consistent with the TGT table.

DMPI - PLAN - ATTACK MISSION DMPI
This is the list of character DMPI ID's for the DMPI's tasked in this plan record. These ID's will be consistent with the DMPI table.

NAC - PLAN - NUMBER OF AIRCRAFT
This is the list of the numbers of aircraft tasked for the attack mission.

ACTY - PLAN - AIRCRAFT TYPE
This is the list of character aircraft types tasked for each attack mission. These aircraft types will be consistent with the ID's in the ACFT table.

NWP - PLAN - NUMBER OF WEAPONS/AIRCRAFT
This is the list of the numbers of weapons that each attack aircraft will carry for the attack missions.

WPTY - PLAN - WEAPON TYPE
This is the list of the types of weapons that each attack aircraft will carry for the attack missions.

LID - PLAN - SCL LOAD ID

This is the list of the SCL ID's that each attack aircraft will carry for the attack missions. ACTY, NWP, WPTY, and LID will all be consistent with the ACFT table.

PK - PLAN - PK
This is the list of probabilities of damage that will be achieved by the attack missions.

ABAS - PLAN - ALTERNATE BASE
This is the character ID of a base which may be used for attack aircraft recovery if it is impossible to reach the original staging base. This base is capable of supporting this aircraft type.

ITR - PLAN - INGRESS LLTR
This is the character ID of the LLTR drop off point that has been planned for use on ingress.

ETR - PLAN - EGRESS LLTR
This is the character ID of the LLTR drop off point that has been planned for use on egress.

ITRK - PLAN - INGRESS TANKER TRAK
This is the character ID of the tanker track that has been planned for use on ingress. If no tanker track is needed on ingress, then this field will be blank.

ETRK - PLAN - EGRESS TANKER TRAK
This is the character ID of the tanker track that has been planned for use on egress. If no tanker track is needed on egress, then this field will be blank.

DIST - PLAN - APPROXIMATE DISTANCE
This is the distance of the CHAPS planned route, in nautical miles.

TOFF - PLAN - TAKE OFF TIME-ATTAK MISN
This is the list of approximate take off times for these attack missions. The actual take off time for each mission may occur at any time or in any time window such that the aircrew can reach the target within the time on target window. TOFF is used by CHAPS for scheduling calculations.

FTIM - PLAN - FEBA CROSSING TIME
This is the approximate time that the attack mission will cross the FEBA. This value is based on TOFF and the CHAPS planned route.

TOT - PLAN - TIME ON TARGET
This is the approximate time that the attack mission will hit the target. This value is based on TOFF and the CHAPS planned route.

TWIN - PLAN - TIME ON TARGET WINDOW

This is the deconflicted time on target window in which the mission can hit the DMPI.

NTNK - PLAN - # OF TANKER MISSIONS

This is the number of tanker missions for this plan. Each plan may include zero, one, or more than one tanker assignments. A tanker assignment consists of a number of tankers of a certain type, at a certain tanker track, during a certain time period. The following nine lists describe each of the tanker assignments for this plan.

TMNO - PLAN - TANKER MISSION NUMBER

This is the list of tanker mission numbers, generated by CHAPS for each assigned tanker mission in the plan.

NBRT - PLAN - NUMBER OF TANKERS

This is the number of tankers assigned for each tanker mission.

TNKR - PLAN - TANKER AIRCRAFT TYPES

This is the list of tanker aircraft types assigned for each tanker mission. The items in this list will match a record ID in the ACFT table.

TUNI - PLAN - TANKER UNITS FOR TASKING

This is the list of tanker units assigned to each tanker mission.

TRAK - PLAN - TANKER TRACKS

This is the list of tanker tracks that each tanker mission is tasked to. The items in this list will match a record ID in the TRAK table.

TONT - PLAN - TANKER- ON STATION TIME

List of the lower bound on the on station time window for each tanker mission. (HHMM)

TOFT - PLAN - TANKER-OFF STATION TIME

List of the upper bound on the on station time window for each tanker mission. (HHMM)

TTFT - PLAN - TAKE OFF TIME - TANKER

This is the list of approximate take off times for the tanker missions. The actual take off time for each mission may occur at any time or in any time window such that the aircrew can reach the tanker track and support the on station time window. TTFT is used by CHAPS for scheduling calculations.

OFFL - PLAN - TANKER OFFLOAD

This is the approximate amount of fuel that each tanker will offload in pounds. This is based on the CHAPS generated routes and the fuel flow parameters found in the ACFT table.

NEC - PLAN - NUMBER OF EC MISSIONS
 This is the number of EC missions for this plan. Each plan may include zero, one, or more than one EC aircraft assignment. An EC aircraft assignment consists of a number of EC aircraft of a certain type, at a certain EC ROZ, during a certain time period. The following eight lists describe each EC assignment.

EMNO - PLAN - EC MISSION NUMBER
 This is the list of CHAPS generated mission numbers for the EC missions assigned to this plan.

NBRE - PLAN - NUMBER OF EC AIRCRAFT
 This is the number of EC aircraft assigned to each EC mission.

ECAC - PLAN - EC AIRCRAFT TYPE
 This is the list of EC aircraft types assigned to each EC mission. Each item in this list will match a record ID in the ECAC table.

ROZ - PLAN - EC ROZS FOR MISSION
 This is the list of EC ROZs that the EC missions are tasked to. Each item in this list will match a record ID in the FEAT table.

EUNI - PLAN - EC UNITS FOR THIS TASKNG
 This is the list of EC aircraft units assigned to each EC mission.

TONE - PLAN - EC - ON STATION TIME
 List of the lower bound on the on station time window for each EC mission. (HHMM)

TOFE - PLAN - EC - OFF STATION TIME
 List of the upper bound on the on station time window for each EC mission. (HHMM)

TFTE - PLAN - TAKE OFF TIME - EC
 This is the list of approximate take off times for the EC missions. The actual take off time for each mission may occur at any time or in any time window such that the aircrew can reach the EC ROZ and support the on station time window. TFTE is used by CHAPS for scheduling calculations.

AVEC - PLAN - AVG NUMBER ON STATION
 This is the number of EC aircraft that are on station and effective during the EC on station time window.

BRNG - PLAN - EC BEARING ORIENTATION
 The EC bearing orientation for this plan when accepted, if applicable.

IDC - PLAN - RECORD CREATION DATE

IDM - PLAN - RECORD MODIFICATION DATE

III.1.1.21.3 Item And Table Parameters Of Data File PLAN

TABLE: PLAN - PLAN TABLE

MAX RECORDS = 31

AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
TYPE	CH04	1	-5		N/A	N/A	500
STRT	TIME	1	-5	HHMM	N/A	N/A	500
END	TIME	1	-5	HHMM	N/A	N/A	500
NPRI	INT	1	0		0.	12.	600
PRIO	CH08	NPRI	0		N/A	N/A	600
IPRI	INT	NPRI	0		N/A	N/A	600
ACPT	CH04	1	-5		N/A	N/A	600
AVDN	REAL	1	-5	DNCR	N/A	N/A	600
AVDS	REAL	1	-5	DNCR	N/A	N/A	600
NMIS	INT	1	-5		0.	110.	600
AMNO	CH12	NMIS	-5		N/A	N/A	600
AUNI	AIRS	NMIS	-5		N/A	N/A	600
TGT	TGT	NMIS	-5		N/A	N/A	600
DMPI	DMPI	NMIS	-5		N/A	N/A	600
NAC	INT	NMIS	-5	ACFT	0.	99.	600
ACTY	ACFT	NMIS	-5		N/A	N/A	600
NWP	INT	NMIS	-5	WEAPONS	0.	99.	600
WPTY	CH08	NMIS	-5		N/A	N/A	600
LID	CH12	NMIS	-5		N/A	N/A	600
PK	REAL	NMIS	-5	PROB	0.	1.	600
ABAS	BASE	NMIS	-5		N/A	N/A	600
ITR	CH12	NMIS	-5		N/A	N/A	600
ETR	CH12	NMIS	-5		N/A	N/A	600
ITRK	TRAK	NMIS	-5		N/A	N/A	600
ETRK	TRAK	NMIS	-5		N/A	N/A	600
DIST	REAL	NMIS	-5	NM	0.	50000.	600
TOFF	TIME	NMIS	-5	HHMM	N/A	N/A	600
FTIM	TIME	NMIS	-5	HHMM	N/A	N/A	600
TOT	TIME	NMIS	-5	HHMM	N/A	N/A	600
TWIN	TIME	NMIS	-5	HHMM	N/A	N/A	600
NTNK	INT	1	-5		0.	20.	600
TMNO	CH12	NTNK	-5		N/A	N/A	600
NBRT	INT	NTNK	-5	TNKRS	0.	99.	600
TNKR	ACFT	NTNK	-5		N/A	N/A	600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
TUNI	AIRS	NTNK	-5		N/A	N/A	600
TRAK	TRAK	NTNK	-5		N/A	N/A	600
TONT	TIME	NTNK	-5	HHMM	N/A	N/A	600
TOFT	TIME	NTNK	-5	HHMM	N/A	N/A	600
TTFT	TIME	NTNK	-5	HHMM	N/A	N/A	600
OFFL	REAL	NTNK	-5	LBS	0.	99999.	600
NEC	INT	1	-5		0.	20.	600
EMNO	CH12	NEC	-5		N/A	N/A	600
NBRE	INT	NEC	-5	ACFT	0.	99.	600
ECAC	ECAC	NEC	-5		N/A	N/A	600
ROZ	FEAT	NEC	-5		N/A	N/A	600
EUNI	AIRS	NEC	-5		N/A	N/A	600
TONE	TIME	NEC	-5	HHMM	N/A	N/A	600
TOFE	TIME	NEC	-5	HHMM	N/A	N/A	600
TFTE	TIME	NEC	-5	HHMM	N/A	N/A	600
AVEC	INT	NEC	-5	ACFT	0.	99.	600
BRNG	REAL	NEC	-5	DEG	0.	360.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.22 Data File ROUT

III.1.1.22.1 General Description Of Data File ROUT

ROUT (Routes) is the label of the route data file, ROUT.FIL. This file contains point by point information on manually and automatically generated routes. ROUT is created by the CHAPS Data Base Management Software, and can be modified in the CHAPS program directly by the manual route and arcs routines. The user can modify this file through the manual route generation routines only. ROUT is not modifiable from the SUPR program.

III.1.1.22.2 Item Description Of Data File ROUT

ID - ROUT - RECORD ID (MISSION NUMBR)
Unique identifier for route.

DESC - ROUT - RECORD DESCRIPTION

ACTY - ROUT - AIRCRAFT TYPE
Aircraft type flying this route.

SCL - ROUT - WEAPON LOAD
Weapons load of aircraft flying this route.

SORC - ROUT - SOURCE ROUT-MANU OR FLPS
Source of the route. SORC will be equal to 'MANU' if the route was generated through the manual route generation routines. SORC will be equal to 'FLPS' if the route was generated automatically by CHAPS.

DIST - ROUT - ROUTE DISTANCE
Total route distance in nautical miles.

DANG - ROUT - TOTAL DANGER
Total danger accumulated by one aircraft of the specified aircraft type carrying the indicated SCL while flying the route.

TIME - ROUT - TOTAL ELAPSED TIME
Total elapsed time for one aircraft of the specified aircraft type carrying the indicated SCL to fly the route.

FUEL - ROUT - TOTAL FUEL CONSUMED
Total fuel consumed on route by one aircraft of the specified type carrying the indicated SCL.

NPTS - ROUT - NUMBER OF WAYPOINTS
Number of waypoints in the route. NPTS is the total number of points, both named (i.e.; transit corridor, base, lltr, and target points) and unnamed (i.e.; automatically generated waypoints in the statespace).

NODE - ROUT - NODE ID (IF APPLICABLE)
If the waypoint is a named node, a transit corridor

point, a base, the target, an lltr point, or tanker track, NODE is the name of that point.

X - ROUT - WAY POINT COORDINATES
Geographic coordinates of the way points.

ALT - ROUT - ALTITUDE FOR LEG (AGL)
Altitude the aircraft flies at during the leg prior to arriving at the specified waypoint.

HEAD - ROUT - HEADING
Heading the aircraft flies at during the leg prior to arriving at the specified waypoint.

LENG - ROUT - LEG LENGTH
Length of the leg prior to the specified waypoint.

SPED - ROUT - GROUND SPEED
Ground speed the aircraft flies at during the leg prior to arriving at the specified waypoint.

ETIM - ROUT - EST TIME 4 THIS LEG
Estimated time for an aircraft of the specified type carrying the indicated SCL to reach the specified waypoint.

EFUL - ROUT - FUEL USED ON LEG
Fuel consumed when an aircraft of the specified type carrying the indicated SCL flies the leg prior to the specified waypoint.

RFUL - ROUT - REFUELING OFFLOAD 4 LEG
Fuel taken on when an aircraft flies the leg prior to the specified waypoint if that leg is one in which refueling is to be done.

AFUL - ROUT - TOTAL REMAINING FUEL
Total fuel remaining on the aircraft at the end of the leg when an aircraft of the specified type carrying the indicated SCL flies the leg prior to the specified waypoint.

LDAN - ROUT - LEG DANGER
Total danger accumulated across a leg when an aircraft of the specified type carrying the indicated SCL flies the leg prior to the specified waypoint.

IDC - ROUT - DATE OF CREATION

IDM - ROUT - DATE OF MODIFICATION

III.1.1.22.3 Item And Table Parameters Of Data File ROUT

TABLE: ROUT - ROUT TABLE

MAX # RECORDS = 1500

AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	-5		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
ACTY	ACFT	1	-5		N/A	N/A	600
SCL	CH12	1	-5		N/A	N/A	600
SORC	CH04	1	-5		N/A	N/A	600
DIST	REAL	1	-5	NM	0.	1000000.	600
DANG	REAL	1	-5		N/A	N/A	600
TIME	TIME	1	-5	HHMM	N/A	N/A	600
FUEL	REAL	1	-5	LBS	0.	1000000.	600
NPTS	INT	1	-5		3.	400.	600
NODE	CH12	NPTS	-5		N/A	N/A	600
X	LTLN	NPTS	-5	DEG	0.	360.	600
ALT	REAL	NPTS	-5	FT	0.	1000000.	600
HEAD	REAL	NPTS	-5	DEG	0.	360.	600
LENG	REAL	NPTS	-5	NM	0.	1000000.	600
SPED	REAL	NPTS	-5	KNOTS	0.	1000000.	600
ETIM	TIME	NPTS	-5	HHMM	N/A	N/A	600
EFUL	REAL	NPTS	-5	LBS	0.	1000000.	600
RFUL	REAL	NPTS	-5	LBS	0.	1000000.	600
AFUL	REAL	NPTS	-5	LBS	0.	1000000.	600
LDAN	REAL	NPTS	-5		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.23 Data File RPRT

III.1.1.23.1 General Description Of Data File RPRT

RPRT (Report Format) is the label of the report format file, RPRT.FIL. This file contains the structure of user-defined reports required by the report generator. RPRT is created by the CHAPS Data Base Managment Software, and can be modified in the CHAPS program directly by the report generation routines. The user can modify this file through these routines only. RPRT is not modifiable from the SUPR program.

III.1.1.23.2 Item Description Of Data File RPRT

ID - RPRT - REPORT NAME
Unique character identifier for report. Each record of RPRT describes a different report.

DESC - RPRT - REPORT DESCRIPTION

NCOL - RPRT - NUMBER OF COLUMNS

NTBL - RPRT - NUMBER OF TABLES

NAMT - RPRT - NAMES OF TABLES

NAMP - RPRT - NAMES OF POINTERS

NITM - RPRT - NUMBER OF ITEMS

TABL - RPRT - TABLE NAME FOR EACH ITEM

ITEM - RPRT - ITEM NAME FOR EACH ITEM

ITMS - RPRT - ITEM CODE FOR EACH ITEM

THDR - RPRT - TOP HEADER FOR ITEM

BHDR - RPRT - BOTTOM HEADER FOR ITE.

CLOW - RPRT - LOW CHAR. BOUND FOR ITEM

CHI - RPRT - HI CHAR. BOUND FOR ITEM

NCCL - RPRT - NO OF CHARACTERS IN CLOW

NCCH - RPRT - NO OF CHARACTERS IN CHI

RLOW - RPRT - LOW NUM. BOUND FOR ITEM

RHI - RPRT - HI NUM. BOUND FOR ITEM

RLW2 - RPRT - LOW BOUND FOR LONGITUDE

RHI2 - RPRT - HI BOUND FOR LONGITUDE

KTMS - RPRT - ITEM TO BE SORTED ON

IDC - RPRT - DATE OF CREATION

IDM - RPRT - DATE OF MODIFICATION

III.1.1.23.3 Item And Table Parameters Of Data File RPRT

TABLE: RPRT - REPORT TABLE
 MAX # RECORDS = 25
 AFFECT CODE = 600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
NCOL	INT	1	0		1.	132.	600
NTBL	INT	1	0		1.	3.	600
NAMT	CH04	NTBL	0		N/A	N/A	600
NAMP	CH04	2	0		N/A	N/A	600
NITM	INT	1	0		1.	26.	600
TABL	CH04	NITM	0		N/A	N/A	600
ITEM	CH04	NITM	0		N/A	N/A	600
ITMS	INT	NITM	0		1.	3.	600
THDR	CH04	NITM	0		N/A	N/A	600
BHDR	CH04	NITM	0		N/A	N/A	600
CLOW	CH12	NITM	0		N/A	N/A	600
CHI	CH12	NITM	0		N/A	N/A	600
NCCL	INT	NITM	0		0.	12.	600
NCCH	INT	NITM	0		0.	12.	600
RLOW	REAL	NITM	0		N/A	N/A	600
RHI	REAL	NITM	0		N/A	N/A	600
RLW2	REAL	NITM	0		N/A	N/A	600
RHI2	REAL	NITM	0		N/A	N/A	600
KTMS	INT	1	0		0.	26.	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.24 Data File SWCH

III.1.1.24.1 General Description Of Data File SWCH

SWCH is the label of the CHAPS program switches file, SWCH.FIL. This file contains a variety of CHAPS program switches which allow modified program execution. These switches include a no-statespace option which when selected provides straight line routes from LLTR drop-off points to targets, also included in SWCH are threshold values such as the altitude dividing high and low altitude flight. SWCH is created and modified in the CHAPS program through use of the CHAPS Data Base Management Software. It is not modifiable by the SUPR program user.

III.1.1.24.2 Item Description Of Data File SWCH

ID - SWCH - ID

SWCH has two records, a header record and a data record which is called SWCH.

DESC - SWCH - DESCRIPTION OF RECORD

IDUL - SWCH - DUAL CONTROL:0=N,1,2=YES

This switch determines if smoothing is performed on the routes produced by the Dynamic Programming Algorithm. The value of this switch should be set to zero or one. The current value is one.

IOPT - SWCH - USE STRAIGHT LINE NO OPT

This switch gives the planner the option to do route planning without route optimization (ignoring the danger in the statespace). Routes generated when this switch is set to zero are straight line routes from the IFF-ON or IFF-OFF line to the target. These routes can be analyzed for danger if ISRDR is set to one, and a statespace exists for the area in question. If there is no statespace, IOPT and ISRDR must be set to 0. For normal CHAPS runs with a statespace and DTED, and where the user wants the DPA to create minimum risk routes, both IOPT and ISRDR should be set to 1. The current value is 1.

ISRDR - SWCH - USE STATESPACE DANGER

Enables CHAPS to run without a statespace. All routes are straight line when this switch is set to zero. When ISRDR is set to zero, IOPT MUST be set to zero. For normal runs ISRDR should be set to one.

IFET - SWCH - WEATHER: 0=NO, 1=YES

This switch gives the planner the option of ignoring weather constraints and no fly areas. If this switch is set to zero, then the attack aircraft allocation algorithm will not consider enroute and terminal weather/no fly constraints. If this switch is set to one, then the weather/no fly constraints defined in the FEAT and FTTP tables will be considered during aircraft allocation. The switch should normally be set to one.

DBAS - SWCH - MAX DIST BASE-CORR (NM)
Maximum correlation distance between bases and the transit corridor network. Used for selecting connecting corridor points. Points must be within DBAS nautical miles of base to be connected, unless no points are within DBAS nautical miles in which case, only the single closest transit corridor point will be connected.

DTRK - SWCH - MAX DIST TRAK-CORR (NM)
Maximum correlation distance between tanker tracks and the transit corridor network. Used for selecting connecting corridor points. Points must be within DBAS nautical miles of the center of the tanker to be connected, unless no points are within DBAS nautical miles in which case, only the single closest transit corridor point will be connected.

WCOR - SWCH - TRANSIT CORRIDOR WIDTH (NM)
Twice the distance in nautical miles from the centerline of the transit corridor to the edge of the corridor.

WLTR - SWCH - WIDTH OF LLTR (NM)
Twice the distance in nautical miles from the centerline of the LLTR to the edge of the LLTR.

CIJB - SWCH - CLOSE IN JAMMING BOX SZ.
The dimensions of the close in jamming EC ROZ box. Enter two dimensions, length and width in nautical miles. Length should be entered first, and is generally shorter than width.

SOJB - SWCH - STAND OFF JAMMING BOX SZ
The dimensions of the stand off jamming EC ROZ box. Enter two dimensions, length and width in nautical miles. Length should be entered first, and is generally shorter than width.

WWB - SWCH - WILD WEASEL BOX SIZE
The dimensions of the wild weasel EC ROZ box. Enter two dimensions, length and width in nautical miles. Length should be entered first, and is generally shorter than width.

DON - SWCH - FLOT/IFF-ON LINE DIST
CHAPS automatically calculates the FLOT line as parallel to the IFF-ON line DON nautical miles into friendly territory.

DOFF - SWCH - FLOT/IFF-OFF LINE DIST
CHAPS automatically calculates the IFF-OFF line as parallel to the FLOT line DOFF nautical miles into friendly territory.

TWIN - SWCH - DEFAULT TOT TIME WINDOW
Default time window for TOT deconfliction processing. When deconflicting TOT's CHAPS will automatically space missions by TWIN minutes if possible.

FUEL - SWCH - FCALC CONTROL:0=NO, 1=USE
Switch to determine if FCALC polynomial calculations are used to compute fuel flow. For normal force level planning this value should be set to 0.

DALT - SWCH - DEFAULT ALTITUDE ABOVE SEA LEVEL
Outside the statespace area, terrain elevation information is not available. DALT is the default terrain elevation (above sea level) used for FCALC calculations in areas where Terrain is not available.

TGRD - SWCH - TEMPERATURE GRADIENT
Degrees of temperature change per 1000 feet of altitude. Used in FCALC calculations.

TMPS - SWCH - SEA LEVEL TEMPERATURE
Starting temperature at sea level. Will determine calculated temperature at flight altitudes.

PAD - SWCH - PERCENTAGE ROUTE PAD
Fractional value of route length which will be added to straight line route distances (used in ATO generation) to account for wiggling through the threat area. Pad must be between 0.0 and 1.0. A value of 0.1 will add a 10 percent pad to the straight line route.

TBOM - SWCH - TIME TO GET ON A TANKER
Average amount of time in seconds it takes a receiver to get on the boom.

NRFL - SWCH - MAX # OF A/C ON A TRACK
NRFL is the maximum number of aircraft from the same mission that will be allowed to refuel on one boom. NRFL is used to keep large groups of aircraft from using the same tanker. For example, if NRFL is equal to 6, then an eight ship mission will require two booms to refuel. NRFL is used even if the tanker offload is within the capacity of the tanker. A value of between 4 and 10 is appropriate for NRFL.

TRGT - SWCH - 00 TARGETING PROCESSING KEYWORD
Keyword which determines the beginning of the targeting section of the 00.

TDMP - SWCH - 00 TARGETING DMPI KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the DMPI identifier.

TTGT - SWCH - 00 TARGETING TARGET KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the target name.

TOBJ - SWCH - 00 TARGETING OBJECTIVE KEYWORD

Keyword for the 00 targeting section format line which determines the relative position in the data lines of the objective (target matrix or CWG generic).

- TPK - SWCH - 00 TARGETING DESIRED PK KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the desired PK (probability of kill).
- TTOT - SWCH - 00 TARGETING DESIRED TOT KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the desired TOT window.
- TPAC - SWCH - 00 TARGETING PREFERRED A/C KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the preferred aircraft type.
- TNAC - SWCH - 00 TARGETING PREFERRED NO A/C KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the preferred number of aircraft.
- TWEP - SWCH - 00 TARGETING PREFERRED WEAPON KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the preferred weapon type.
- TNWP - SWCH - 00 TARGETING PREFERRED NO WEAPONS KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the preferred number of weapons.
- TUNT - SWCH - 00 TARGETING PREFERRED UNIT KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the preferred unit.
- TLOC - SWCH - 00 TARGETING TARGET COORDINATE KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the latitude longitude of the target.
- TNOT - SWCH - 00 TARGETING COMMENTS KEYWORD
Keyword for the 00 targeting section format line which determines the relative position in the data lines of the comments footnotes. Comments are ignored by the processor.
- RESC - SWCH - 00 RESOURCES PROCESSING KEYWORD
Keyword which determines the beginning of the resources section of the 00.
- RUNT - SWCH - 00 RESOURCES UNIT NAME KEYWORD

Keyword for the 00 resources section format line which determines the relative position in the data lines of the unit identifier.

RBAS - SWCH - 00 RESOURCES CURRENT BASE KEYWORD

Keyword for the 00 resources section format line which determines the relative position in the data lines of the base name the unit is currently stationed at.

RNAC - SWCH - 00 RESOURCES NUMBER OF AIRCRAFT KEYWORD

Keyword for the 00 resources section format line which determines the relative position in the data lines of the number of aircraft assigned to the mission role.

RNOP - SWCH - 00 RESOURCES UNAVAILABLE ASSETS KEYWORD

Keyword which determines the beginning of the list of unavailable resources in the resources section of the 00.

RACF - SWCH - 00 RESOURCES AIRCRAFT TYPE KEYWORD

Keyword for the 00 resources section format line which determines the relative position in the data lines of the aircraft type.

RNOT - SWCH - 00 RESOURCES COMMENTS KEYWORD

Keyword for the 00 resources section format line which determines the relative position in the data lines of the comments footnotes. Comments are ignored by the processor.

IDC - SWCH - RECORD CREATION DATE

IDM - SWCH - RECORD MODIFICATION DATE

III.1.1.24.3 Item And Table Parameters Of Data File SWCH

TABLE: SWCH - VARIOUS SWITCHES _SIZES

MAX RECORDS = 3

AFFECT CODE = 100

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	600
DESC	CH24	1	0		N/A	N/A	600
IDUL	INT	1	0		0.	2.	400
IOPT	INT	1	0		0.	1.	400
ISRD	INT	1	0		0.	1.	100
IFET	INT	1	0		0.	1.	600
DBAS	REAL	1	0	NM	0.	500.	220
DTRK	REAL	1	0	NM	0.	500.	220
WCOR	REAL	1	0	NM	0.	100.	200
WLTR	REAL	1	0	NM	0.	100.	230
CIJB	REAL	2	0	NM	0.	50.	600
SOJB	REAL	2	0	NM	0.	100.	600
WWB	REAL	2	0	NM	0.	50.	600
DON	REAL	1	0	NM	0.	50.	230
DOFF	REAL	1	0	NM	0.	50.	230
TWIN	REAL	1	0	MIN	1.	30.	600
FUEL	INT	1	0		0.	1.	500
DALT	REAL	1	0	FT	0.	20000.	500
TGRD	REAL	1	0	DEGC	0.	100.	500
TMPS	REAL	1	0	DEGC/FT	0.	15.	500
PAD	REAL	1	0		0.	1.	100
TBOM	INT	1	0	SEC	0.	120.	600
NRFL	INT	1	0		0.	100.	600
TRGT	CH12	1	0		N/A	N/A	600
TDMP	CH12	1	0		N/A	N/A	600
TTGT	CH12	1	0		N/A	N/A	600
TOBJ	CH12	1	0		N/A	N/A	600
TPK	CH12	1	0		N/A	N/A	600
TTOT	CH12	1	0		N/A	N/A	600
TPAC	CH12	1	0		N/A	N/A	600
TNAC	CH12	1	0		N/A	N/A	600
TWEP	CH12	1	0		N/A	N/A	600
TNWP	CH12	1	0		N/A	N/A	600
TUNT	CH12	1	0		N/A	N/A	600

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
TLOC	CH12	1	0		N/A	N/A	600
TNOT	CH12	1	0		N/A	N/A	600
RESC	CH12	1	0		N/A	N/A	600
RUNT	CH12	1	0		N/A	N/A	600
RBAS	CH12	1	0		N/A	N/A	600
RNAC	CH12	1	0		N/A	N/A	600
RNOP	CH12	1	0		N/A	N/A	600
RACF	CH12	1	0		N/A	N/A	600
RNOT	CH12	1	0		N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.25 Data File TGT

III.1.1.25.1 General Description Of Data File TGT

TGT (Target) is the label of the target description file, TGT.FIL. This file contains information describing the location of each target. Information about specific DMPI's for each target is contained in the DMPI file. TGT is modified in the CHAPS program through use of the CHAPS Data Base Management Software. TGT is not available for modification by the SUPR program user.

III.1.1.25.2 Item Description Of Data File TGT

ID - TGT - TARGET ID
Unique character identifier for the target.

DESC - TGT - DESCRIPTION OF RECORD

X - TGT - LOCATION LAT/LON
The location of the target. All DMPI's associated with this target (IDTG in the DMPI file) are assumed to be at this location for route distance (and fuel) calculations.

IDC - TGT - RECORD CREATION DATE

IDM - TGT - RECORD MODIFICATION DATE

III.1.1.25.3 Item And Table Parameters Of Data File TGT

TABLE: TGT - TARGET TABLE

MAX # RECORDS = 51

AFFECT CODE = 200

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	0		N/A	N/A	200
DESC	CH24	1	0		N/A	N/A	600
X	LTLN	1	0	DEG	-180.	180.	200
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.26 Data File THRT

III.1.1.26.1 General Description Of Data File THRT

THRT (Threat Locations) is the label for the threat locations description file, THRT.FIL. This file specifies the location and generic type of a particular threat. It is used in conjunction with the information stored in the threat model (TMDL) table to perform statespace calculations. Data in this file is maintained by SUPR LOCE interface subroutines. The normal user should not attempt to add, delete, and/or change data in this file through the Data Base Management Software. THRT is created and modified in the SUPR program through use of the CHAPS Data Base Management Software in the initialization run. It is not modifiable by the CHAPS program user. During a normal SUPR run it is modified by the Purge and Update commands.

III.1.1.26.2 Item Description Of Data File THRT

ID - THRT - THREAT ID
Unique character identifier of the threat.

DESC - THRT - DESCRIPTION OF RECORD

X - THRT - THREAT POSITION
Gives threat geographic coordinates.

NAC - THRT - NUMBER OF GENERIC ACFT
Gives the number of generic aircraft models that this threat is effective against. Current value is one.

ITYP - THRT - THREAT TYPE (EACH ACFT) .
The threat type (ITYP) must match one of the threat type ID's in the TMDL table. Current value is F111.

TCLS - THRT - CLASS: FIXD, SQTR, MOBL
Defines the threat as being of class "Fixed threat, terrain masked," (FIXD), "Squatter threat" (SQTR), or "Mobile threat" (MOBL).

SMAJ - THRT - SEMI-MAJOR AXIS UNCER EL
Gives the semi-major axis of the uncertainty ellipse of the threat in nautical miles.

SMIN - THRT - SEMI-MINOR AXIS UNCER EL
Gives the semi-minor axis of the uncertainty ellipse of the threat in nautical miles.

AZIM - THRT - AZIMUTH OF UNCER ELLIPSE
Gives the azimuth of the uncertainty ellipse of the threat in decimal degrees.

IPRS - THRT - INTEGER PROC. STATUS
Gives the current processing status of this threat.

IDAT - THRT - DATE THREAT WAS REPORTED

Gives a date for the date of last observation of this threat.

ITIM - THRT - TIME THREAT WAS REPORTED

Gives a time for the time of last observation of this threat.

NALT - THRT - NUMBER OF THREAT ALTITUDES

The number of statespace altitudes affected by this threat. NALT must contain the same value as the item NALT in the corresponding record in the TMDL table.

OBSR - THRT - RATIO OBS AREA TO THR CI

For threat with uncertain location, this is used for approximate terrain masking effects. It is the ratio of observable area to the total threat circle area.

IUNC - THRT - THREAT MASK FLAG

Flag to signal whether or not this is an uncertain threat. If IUNC = 1 the threat is an uncertain threat, if IUNC = 0 the threat's location is considered to be perfectly known. If IUNC = 1, terrain masking will not be applied to the threat.

IPUT - THRT - UNUSED

This value should be left blank. It is not used.

IDC - THRT - RECORD CREATION DATE

IDM - THRT - RECORD MODIFICATION DATE

III.1.1.26.3 Item And Table Parameters Of Data File THRT

TABLE: THRT - THREAT LOCATIONS

MAX # RECORDS = 1201

AFFECT CODE = 100

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	100
DESC	CH24	1	0		N/A	N/A	600
X	LTLN	1	0	DEG	-180.	180.	100
NAC	INT	1	0		1.	3.	100
ITYP	TMDL	NAC	0		N/A	N/A	100
TCLS	CH04	1	-5		N/A	N/A	100
SMAJ	REAL	1	0	NM	N/A	N/A	100
SMIN	REAL	1	0	NM	N/A	N/A	100
AZIM	REAL	1	0	DEG	-360.	360.	100
IPRS	INT	1	-5		N/A	N/A	100
IDAT	DATE	1	0		N/A	N/A	100
ITIM	TIME	1	0		N/A	N/A	100
NALT	INT	1	0		1.	5.	100
OBSR	REAL	NALT	-5		N/A	N/A	100
IUNC	INT	1	-5		0.	1.	100
IPUT	CH08	1	-5		N/A	N/A	100
IDC	DTIM	1	-5		N/A	N/A	100
IDM	DTIM	1	-5		N/A	N/A	100

III.1.1.27 Data File TMDL

III.1.1.27.1 General Description Of Data File TMDL

TMDL (Threat Model) is the label of the threat model description file, TMDL.FIL. Each record of this file contains information describing the generic characteristics of a type of threat. It is used in conjunction with the information stored in the threat location (THRT) table in statespace calculations. TMDL is created and modified in the SUPR program. It is not modifiable by the CHAPS program user.

III.1.1.27.2 Item Description Of Data File TMDL

- ID - TMDL - SPECIFIC THREAT MODEL ID
Threat model id is composed of two "fields," a threat type field (first eight characters), and a generic aircraft type which correlates to a specific statespace (last four characters). The generic aircraft type should match one of the entries in the ACTY field of table ALGP.
- DESC - TMDL - DESCRIPTION OF RECORD
- CMAS - TMDL - STAT USED BY THRT/ACFT
File name of appropriate multiple altitude statespace.
Current value is MAS1.
- NALT - TMDL - NUMBER OF ALTITUDE BANDS
Gives the number of altitude bands used with this threat model. The maximum number of bands is equal to MXTMA, which is in the parameter file. The current value for MXTMA is five.
- ALTS - TMDL - ALT USED 3D THRT MODEL
Gives the floor altitude for each altitude band in feet. The last band will be effective up to the value of HIGH. ALTS is a list of NALT items. The values should be monotonically increasing (i.e., ALTS(2)>ALTS(1), etc.).
- RMAX - TMDL - MAXIMUM RANGE OF THREAT
Maximum threat range in nautical miles at any altitude.
- RALT - TMDL - MAX RANGE AT EACH ALT
Gives the maximum range of the threat for each altitude band in nautical miles. RALT is a list of NALT items. Each value of RALT should be less than or equal to the value in RMAX.
- DMIN - TMDL - MIN LOG-PROB INSIDE RMAX
DMIN is the minimum danger level that will be applied to the statespace within the threat's maximum radius. The user may set DMIN to a small danger level. This will tend to force the routes to fly around the threat's maximum radius, rather than to just avoid the threat's unmasked coverage. That is, even if a cell is terrain masked from a threat, a small amount of danger will be added to the statespace at

that cell. DMIN is normally set to 0.0 in scenarios with dense threat coverage. A value of zero is appropriate in the European theater.

- THEL - TMDL - ANTENNA HT AGL THRT MODEL
Gives the height of the radar antenna for this threat model in feet AGL.
- HIGH - TMDL - MAX THREAT HEIGHT
The maximum lethal height of the threat in feet AGL.
- FLOR - TMDL - MIN THREAT DEPRES. HT
The minimum lethal height of the threat in feet AGL.
Takes into account the minimum depression angle on some threats.
- NDRG - TMDL - NUMBER OF DOWNRANGE PTS
Number of downrange points up to a maximum of 20 points. If the number of downrange points is set to one, the statespace algorithm uses the first value in the log probability of danger array (PLOG) to create a cookie cutter type threat template at all unmasked points. This is specified for each altitude band.
- NCRG - TMDL - NUMBER OF CROSSRANGE PTS
NCRG is the integer number of crossrange points up to a maximum of 10. This is specified for each altitude band.
- DRG1 - TMDL - 1ST DOWNRANGE PT (NM)
The distance to the first downrange point in nautical miles. This value is always negative or zero, and is a measure of the distance down range from center at which the first downrange point begins. This is specified for each altitude band.
- CRG1 - TMDL - 1ST CROSSRANGE PT (NM)
The distance to the first crossrange point in nautical miles. This value is specified for each altitude band.
- DDRG - TMDL - DELTA DOWNRANGE (NM)
DDRG is the range difference between downrange points in nautical miles. This is specified for each altitude band.
- DCRG - TMDL - DELTA CROSSRANGE (NM)
DCRG is the range difference between crossrange points in nautical miles. This is specified for each altitude band.
- TYPE - TMDL - TYPE OF THREAT
Acceptable values are: EW, GCI, SAM, AAA, and ACQ for Early Warning, Ground Control Intercept, Surface to Air Missile, Anti-Aircraft Artillery, and ACquisition radar respectively.
- ERP - TMDL - RADAR EFF RADIATED POWER

For threats with an associated radar, this is the effective radiated power of the radar in DBW.

- GANT - TMDL - MAIN LOBE ANTENNA GAIN
For threats with an associated radar, this is the antenna gain for the main lobe in decibels.
- GSID - TMDL - SIDELobe ANTENNA GAIN
For threats with an associated radar, this is the average antenna gain of the sidelobes in decibels.
- GPP - TMDL - POST GAIN OVER JAMMING
For threats with an associated radar, this is the number of decibels necessary to distinguish between actual and jammed signals. It is a measure of the effectiveness of the radar and operator.
- RRES - TMDL - RADAR RNG RESOLUTION
The range separation in meters required to distinguish between two aircraft.
- RXN - TMDL - RECEIVER NOISE
Expected noise level at the receiver in decibels.
- WAVL - TMDL - RADAR RF WAVELENGTH
Wavelength of threat radar in meters.
- NTYP - TMDL - NUMBER OF ELINT TYPES
Number of LOCE threat codes that will be correlated into this type of threat.
- ETYP - TMDL - ELINT IDENTIFIER
LOCE threat code names that will be correlated into this type of threat.
- CLAS - TMDL - CLASS: MOBL, SQTR, OR FIXD
This is the threat model mobility class. It must be equal to either 'MOBL', 'SQTR', or 'FIXD'. MOBL threats are treated stochastically, regardless of how accurately each threat site has been located. SQTR and FIXD sites are only treated stochastically if their location is uncertain.
- DTIM - TMDL - DWELL TIME
Approximate dwell time in hours for this type of threat.
- DCD - TMDL - MAX CORRELATION DISTANCE
Correlation distance for this type of threat, in nautical miles.
- DMUD - TMDL - MIN UNCERTAINTY DISTANCE
Minimum uncertainty distance for stochastic threats, in nautical miles. This value is used as the threshold between a known and a stochastic threat for SQTR and FIXD class threats.

SPLG - TMDL - LOG PROB IF UNSURE COORD

This is the negative log of probability per second that is used for a threat whose position is not well known.

PLOG - TMDL - PLOG AT NTH CROSSRANGE

PLOG is an array that contains the danger template, which is defined as the negative log of probability of survival per second. The negative log of probability of survival per second is also referred to as the "danger rate" or the level of "danger." Each set of 20 elements in this array contains all the downrange values for one crossrange setting. There will be a template for each specified altitude band.

IDC - TMDL - RECORD CREATION DATE

IDM - TMDL - RECORD MODIFICATION DATE

III.1.1.27.3 Item And Table Parameters Of Data File TMDL

TABLE: TMDL - THREAT MODELS

MAX # RECORDS = 103

AFFECT CODE = 100

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH12	1	0		N/A	N/A	100
DESC	CH24	1	0		N/A	N/A	600
CMAS	CHO4	1	0		N/A	N/A	100
NALT	INT	1	0		1.	5.	100
ALTS	REAL	NALT	0	FT	0.	90000.	100
RMAX	REAL	1	0	NM	0.	150.	100
RALT	REAL	NALT	0	NM	0.	150.	100
DMIN	REAL	1	0	DGR/S	N/A	N/A	100
THEL	REAL	1	0	FT	0.	2000.	100
HIGH	REAL	1	0	FT	0.	100000.	100
FLOR	REAL	1	0	FT	0.	100000.	100
NDRG	INT	NALT	0		0.	20.	100
NCRG	INT	NALT	0		0.	10.	100
DRG1	REAL	NALT	0	NM	-250.	0.	100
CRG1	REAL	NALT	0	NM	0.	0.	100
DDRG	REAL	NALT	0	NM	0.	25.	100
DCRG	REAL	NALT	0	NM	0.	25.	100
TYPE	CHO4	1	0		N/A	N/A	600
ERP	REAL	1	0	DBW	0.	100.	600
GANT	REAL	1	0	DB	0.	100.	600
GSID	REAL	1	0	DB	-100.	100.	600
GPP	REAL	1	0	DB	-100.	100.	600
RRES	REAL	1	0	FT	0.	1000.	600
RXN	REAL	1	0	DB	0.	100.	600
WAVL	REAL	1	0	FT	0.	200.	600
NTYP	INT	1	0		1.	10.	600
ETYP	CH20	NTYP	0		N/A	N/A	600
CLAS	CHO4	1	0		N/A	N/A	100
DTIM	REAL	1	0	HRS	0.	100.	600
DCD	REAL	1	0	NM	0.	15.	600
DMUD	REAL	1	0	NM	0.	20.	100
SPLG	REAL	NALT	0	DGR/S	N/A	N/A	100
PLOG	REAL	1000	0	DGR/S	N/A	N/A	100
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.28 Data File TRAK

III.1.1.28.1 General Description Of Data File TRAK

TRAK (Tanker Tracks) is the label for the name of the tanker track information file TRAK.FIL. This file contains information describing the location, entry points, and extent of the tanker tracks in the scenario. TRAK is created and modified in the CHAPS program through use of the CHAPS Data Base Management Software, and can be modified by CHAPS' Graphic DRAW routines. CHAPS' accessibility routines also directly modify certain fields of the TRAK file. TRAK is not modifiable by the SUPR program user.

III.1.1.28.2 Item Description Of Data File TRAK

ID - TRAK - ID OF TANKER TRACK
Unique identifier of tanker track.

DESC - TRAK - DESCRIPTION OF RECORD

NPTS - TRAK - NUMBER OF BOUNDARY POINTS
Number of points in tanker track.

X - TRAK - LONG-LAT OF TRAK BNDY PT
Geographic coordinates of the boundary points that define the tanker track.

BOTM - TRAK - MIN ALT OF TANKER TRACK
Minimum altitude for this tanker track in feet.

TOP - TRAK - MAX ALT OF TANKER TRACK
Maximum altitude for this tanker track in feet.

STRT - TRAK - START TIME FOR TANKER
Time which indicates the beginning time of the time period for which the tanker will be active.

END - TRAK - END TIME FOR TANKER
Time which indicates the ending time of the time period for which the tanker will be active. If any portion of a time block is covered by the time period indicated by STRT and END, the tanker will be considered to be available for the entire time block. If STRT and END are the same value, the tanker track will be considered inactive for all time blocks.

NPCR - TRAK - # OF PREFERRED CORRIDORS
Number of preferred transit corridor connections. If value is not specified, the program will find up to ten connections within DTRK nautical miles of the center of the refueling track.

PCOR - TRAK - PREFERRED CORRIDOR NAMES
List of preferred transit corridor nodes which can be made accessible to the tanker track. If this vector is

left blank, the program will select up to NPCR connecting nodes. The transit corridor node names must match an ID from the MIKE table.

NCOR - TRAK - NO ACC. TRANSIT CORR NODS

Number of transit corridor nodes which are accessible to the tanker track. Calculated value.

TCOR - TRAK - ACC. TRANSIT CORR NODES

List of transit corridor nodes which are accessible to the tanker track. There must be NCOR items in this list. The transit corridor node names must match an ID from the MIKE table. Calculated value.

DCOR - TRAK - DIST TO TRANSIT CORR PT

Program calculated distance from tanker exit point to transit corridor nodes. Units are nautical miles.

IDC - TRAK - RECORD CREATION DATE

IDM - TRAK - RECORD MODIFICATION DATE

III.1.1.28.3 Item And Table Parameters Of Data File TRAK

TABLE: TRAK - TANKER TRACKS

MAX RECORDS = 25

AFFECT CODE = 210

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	220
DESC	CH24	1	0		N/A	N/A	600
NPTS	INT	1	0		3.	12.	220
X	LTLN	NPTS	0	DEG	-180.	180.	220
BOTM	REAL	1	0	FT	0.	100000.	600
TOP	REAL	1	0	FT	0.	100000.	600
STRT	TIME	1	0	HHMM	N/A	N/A	220
END	TIME	1	0	HHMM	N/A	N/A	220
NPCR	INT	1	0		0.	10.	220
PCOR	MIKE	NPCR	0		N/A	N/A	220
NCOR	INT	1	-5		1.	10.	600
TCOR	CH04	NCOR	-5		N/A	N/A	600
DCOR	REAL	NCOR	-5	NM	N/A	N/A	600
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.1.29 Data File TSTR

III.1.1.29.1 General Description Of Data File TSTR

TSTR (Table Structure) is the label for the table structure definition file, TSTR.FIL. This file defines the configuration of the table files, all of which are of fixed record length, and are usually modifiable by either a CHAPS or SUPR program user during normal runs. Each record in TSTR defines a different file. TSTR is created by the CHAPS data base management routines in a special initialization run of the SUPR program, and is not available for modification by the user during normal SUPR runs. TSTR is not modifiable by the CHAPS program user.

III.1.1.29.2 Item Description Of Data File TSTR

- ID - TSTR - TABLE NAME
Character name of the table.
- DESC - TSTR - TITLE OF TABLE
Character description of table.
- MXRC - TSTR - MAXIMUM RECORDS
Maximum number of records allowed in table including a header record.
- IAFT - TSTR - EFFECT OF CHANGING TABLE
Indicates level of processing which must be redone if records in the indicated table are added, deleted, or copied. For further explanation see the CURR table description.
- NIT - TSTR - NUMBER OF ITEMS
Up to 80 items or variables may comprise a table.
- NAMI - TSTR - ITEM NAMES
Item names must be four or fewer characters long.
- ITYP - TSTR - ITEM TYPES
Acceptable types are REAL, INT, DTIM, DATE, TIME, LTLN, and CHnn, for a character item whose length is nn characters. An item type may also be the name of another table, in which case the current item points to the other table. In this case, the record for the other table must have been defined before the record for the current table.
- ISIZ - TSTR - ITEM SIZES
Value is one for all scalar items. Some items are vectors. If an item is a vector whose length is fixed, then the value of ISIZ should be an integer number; if the item is a vector item whose size depends on the value of another item in the same table, then the value of ISIZ is the name of the other item. In this case, the other item must have appeared previous to the current item.
- ITTL - TSTR - TITLE OF ITEMS

Character description of item.

- IDEF - TSTR - DEFAULTABLE ITEM FLAG
Currently not implemented. Fill with zeros.
- IACC - TSTR - ITEM ACCESS CLASS
Individual item access flags. Some items such as modification and creation date are filled in and maintained entirely by the software. A zero in this field indicates an item is modifiable by the user through the Data Base Management Software. A negative five indicates the user has show only privileges.
- IEDT - TSTR - ITEM EDIT TYPE
Item parameter flags. A zero in this field indicates the item has no minimum and maximums. A one indicates the PAR1 and PAR2 variables for this item are effective.
- PAR1 - TSTR - ITEM LOWER LIMIT
Effectiveness is determined by IEDT.
- PAR2 - TSTR - ITEM UPPER LIMIT
Effectiveness is determined by IEDT.
- UNIT - TSTR - ITEM UNITS
Units of measure for item. Zero or blank indicates no units.
- IAFI - TSTR - EFFECT OF CHANGING ITEM
Individual item processing code flags which work as IAFT above. Zero indicates a default to IAFT, the default processing code for the whole table.
- IDC - TSTR - CREATION DATE
- IDM - TSTR - MODIFICATION DATE

III.1.1.29.3 Item And Table Parameters Of Data File TSTR

TABLE: TSTR - TABLE STRUCTURE

MAX # RECORDS = 33

AFFECT CODE = 0

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH04	1	0		N/A	N/A	0
DESC	CH24	1	0		N/A	N/A	0
MXRC	INT	1	0		N/A	N/A	0
IAFT	INT	1	0		N/A	N/A	0
NIT	INT	1	0		1.	80.	0
NAMI	CH04	NIT	0		N/A	N/A	0
ITYP	CH04	NIT	0		N/A	N/A	0
ISIZ	CH24	NIT	0		N/A	N/A	0
ITTL	CH24	NIT	0		N/A	N/A	0
IDEF	INT	NIT	0		N/A	N/A	0
IACC	INT	NIT	0		N/A	N/A	0
IEDT	INT	NIT	0		N/A	N/A	0
PAR1	REAL	NIT	0		N/A	N/A	0
PAR2	REAL	NIT	0		N/A	N/A	0
UNIT	CH05	NIT	0		N/A	N/A	0
IAFI	INT	NIT	0		N/A	N/A	0
IDC	DTIM	1	-5		N/A	N/A	0
IDM	DTIM	1	-5		N/A	N/A	0

III.1.1.30 Data File WEAP

III.1.1.30.1 General Description Of Data File WEAP

WEAP (Weaponeering Solutions) is the label of the weaponeering solution file, WEAP.FIL. This file contains a number of possible weaponeering solutions for a number of generic target types, or pre-weaponeered targets. It is designed to store data like that found in the ACE CWG (Allied Command Europe Conventional Weapons Guide) or the DMPI Encyclopedia. There is one record in the WEAP file for each type of target of interest. A target type may be a CWG target type, the name of a pre-weaponeered DMPI from the DMPI encyclopedia, or a type of target input by the user. For each target type, WEAP contains a list of aircraft/weapons/weapons-delivery/Pk combinations. This list is used by CHAPS when determining how many aircraft and weapons need to be tasked to each target DMPI. WEAP is created and modified in the CHAPS program through use of the CHAPS Data Base Management Software. It is usually not modified after installation. WEAP is not modifiable by the SUPR program user.

III.1.1.30.2 Item Description Of Data File WEAP

ID - WEAP - CWG ID OR DMPI ID
Unique character identifier for this type of target. This ID may be the CWG type (if this is a generic target) or the DMPI name from the DMPI catalogue. In order for CHAPS to perform the automatic weaponeering function, the TYPE item in each DMPI record must match one of the ID's in the WEAP file.

DESC - WEAP - DESCRIPTION OF RECORD

NAME - WEAP - LONG NAME
Character long name for this target or target type. For example, if the WEAP record ID is "J-01" then the long name might be "POL STORAGE ". Optional.

TGT - WEAP - NAME OF ASSOCIATED TGT
If this is a record from the DMPI catalogue, then this item should refer to the ID of the target (ID in TGT file, and IDTG in the DMPI file) that this DMPI is associated with. If this record is from the CWG then this field may be left blank.

X - WEAP - TARGET LAT/LON
If this is a record from the DMPI catalogue, then this item should be the position of the target (X in TGT file) that this DMPI is associated with. If this record is from the CWG then this field may be set to 0, 0.

NSOL - WEAP - NUMBER OF SOLUTIONS
This is the number of solutions listed below for this target or target type. The following seven lists are all of length NSOL.

ACTY - WEAP - AIRCRAFT TYPE FOR SOLN

This is the type of aircraft required for this solution.
It must match an ID from the ACFT table.

NWEP - WEAP - # WEAPONS FOR SOLUTION

This is the number of weapons that each aircraft is required to carry for this solution.

WEAP - WEAP - WEAPON TYPE FOR SOLN

This is the type of weapon each aircraft is required to carry for this solution. ACTY, NWEP, and WEAP should match one of the SCL combinations from the ACFT table for the aircraft type in ACTY.

ALT - WEAP - DELIVERY ALT FOR SOLN

This is the required delivery altitude for this solution in feet. This value will be used to see if this solution violated terminal weather constraints. If the delivery altitude is 300 feet, and there is cloud cover over the target beginning at 200 feet, then this solution will not be used. This assumes that the weapon type is on the forbidden weapons list for the weather type defined in the FTYP table.

PAGE - WEAP - CWG PAGE FOR SOLUTION

Character field which contains the volume and page number from which this solution was taken. This field may be left blank if the user is building his or her own WEAP file.

LINE - WEAP - LINE NUMBER OF SOLUTION

This is line number from which the solution was taken. This field may be left blank if the user is building his or her own WEAP file.

PD - WEAP - PD FOR SOLUTION

This is the Probability of Destruction of the target for a single aircraft carrying the load specified above. This value will be used to determine how many aircraft will be tasked to each DMPI of this type.

IDC - WEAP - RECORD CREATION DATE

IDM - WEAP - RECORD MODIFICATION DATE

III.1.1.30.3 Item And Table Parameters Of Data File WEAP

TABLE: WEAP - WEAPON TABLE

MAX # RECORDS = 2001

AFFECT CODE = 500

ITEMNAME	TYPE	SIZE	ACCESS	UNITS	MINVALUE	MAXVALUE	AFFCODE
ID	CH08	1	0		N/A	N/A	500
DESC	CH24	1	0		N/A	N/A	600
NAME	CH12	1	0		N/A	N/A	500
TGT	CH12	1	0		N/A	N/A	500
X	LTLN	1	0	DEG	-180.	180.	500
NSOL	INT	1	0		1.	300.	500
ACTY	ACFT	NSOL	0		N/A	N/A	500
NWEP	INT	NSOL	0	WEAPONS	0.	99.	500
WEAP	CH08	NSOL	0		N/A	N/A	500
ALT	REAL	NSOL	0	FT	1.	99999.	500
PAGE	CH12	NSOL	0		N/A	N/A	600
LINE	INT	NSOL	0		N/A	N/A	600
PD	REAL	NSOL	0	PROB	0.	1.	500
IDC	DTIM	1	-5		N/A	N/A	600
IDM	DTIM	1	-5		N/A	N/A	600

III.1.2 ARRAYS

III.1.2.1 Data File ACCN

III.1.2.1.1 General Description Of Data File ACCN

ACCN (Accessible Nodes) is the label of the accessible nodes file, ACCN.FIL. For every target, this file contains a list of all LLTR drop-off points which can be used by aircraft to hit the target. ACCN is used by the arcs generation routine. ACCN is created and modified by the accessibility routines in the CHAPS program. It is not modifiable by the SUPR program user.

III.1.2.2 Data File ARCS

III.1.2.2.1 General Description Of Data File ARCS

ARCS (Arc Waypoints) is the label of the arc waypoints file, ARCS.FIL. This file contains the route segments which connect the LLTR drop-off points to the targets and vice versa. ARCS is created and modified in the CHAPS program by the ARCS processing routines. It is not directly modifiable by the SUPR or CHAPS program users.

III.1.2.3 Data File ARPE

III.1.2.3.1 General Description Of Data File ARPE

ARPE (Arc Performance) is the label of the arc performance file, ARPE.FIL. This file contains the danger and distance values for each arc in the arc waypoints (ARCS) file. ARPE is created and modified in the CHAPS program by the Arcs processing routines. It is not directly modifiable by the SUPR or CHAPS program users.

III.1.2.4 Data File BSPE

III.1.2.4.1 General Description Of Data File BSPE

BSPE (Base Performance Data) is the label of the base to LLTR performance array. This array contains data on the distance between each base, tanker track, and LLTR entry point through the transit corridor network. It is created by the CHAPS program and is not accessible to SUPR program users.

III.1.2.5 Data File BYTE

III.1.2.5.1 General Description Of Data File BYTE

BYTE (Byte-Packed Terrain Data) is the label of the byte-packed terrain data file, which has a variable name describing the statespace point of origin, and has a filetype extension of '.ZOT.' For example Z8E48N.ZOT is a BYTE file whose lower left corner is located at 48 degrees N 8 degrees E. This file contains statespace terrain information used for terrain masking in the SUPR program. It is a NATO releasable byte-packed terrain data information file. BYTE is not modifiable internally by either the SUPR or CHAPS programs.

III.1.2.6 Data File MASK

III.1.2.6.1 General Description Of Data File MASK

MASK (Terrain Masking) is the label of the terrain masking data file, MASK.FIL. This file contains the minimum observable altitude for different points on rays emanating from the statespace threat centers. Mask uses polar coordinates to record the location of the observable altitude points which are later transformed into XY coordinates and processed into the Terrain Observability (TOBS) file. MASK is created and modified by the MASK routines in the SUPR program, and is not directly modifiable by the user. MASK is not accessible to the CHAPS program user.

III.1.2.7 Data File MASN

III.1.2.7.1 General Description Of Data File MASN

MASN (Multi-altitude Statespace) is the generic label of the multi-altitude statespace files, MASN.FIL (where N is a number defining the generic aircraft index). MASN would contain the multiple altitude statespace for the first generic aircraft type etc. This file is generated by the program SUPR, and contains the danger calculation results for the statespace of the generic aircraft indicated. MASN is not modifiable by the CHAPS program user.

III.1.2.8 Data File MISN

III.1.2.8.1 General Description Of Data File MISN

MISN (Missions) is the label of the potential missions file, MISN.FIL. This file contains up to MXMISN (currently 20) best mission options for each DMPI. MISN is created and modified in the CHAPS program directly by the MISSION processing routines. MISN can be displayed using the Show MISN command. MISN is not modifiable by the SUPR program user.

III.1.2.9 Data File NBOX

III.1.2.9.1 General Description Of Data File NBOX

NBOX (Dynamic Programming Algorithm Box) is the label of the Dynamic Programming Algorithm Box file. Each record defines the corners of a rectangular area containing a given target and all the drop-off points which can access it. This is the region considered by the Dynamic Programming Algorithm when calculating the best paths to and from a particular target. NBOX is created and modified in the CHAPS program by the accessibility routines. It is not directly modifiable by the CHAPS or SUPR program users.

III.1.2.10 Data File NLIS

III.1.2.10.1 General Description Of Data File NLIS

NLIS (Node List) is the label of the node list file, NLIS.FIL. This file contains information about the major points of interest (nodes) of the scenario, including bases, targets, LLTR points, IFF-ON and IFF-OFF LLTR points, FEBA access nodes, and tanker track center points. Identifiers, locations and active time blocks of each node are included. NLIS is created

and modified in the CHAPS program by the NODES processing routines. It is not directly modifiable by the CHAPS or SUPR program users.

III.1.2.11 Data File SASN

III.1.2.11.1 General Description Of Data File SASN

SASN (Single Altitude Statespace) is the generic label of the single altitude statespace file, SASN.FIL (where N is a number defining the generic aircraft type index). For example, SAS1 would contain the single altitude statespace for the first generic aircraft type. This file contains a single altitude slice of the corresponding multiple altitude statespace (MASN) generated by the SUPR program. The altitude slice is determined by setting a variable in the CHAPS current status (CURR) table using the penetration altitude selection command. It is created by special statespace retrieval routines, and modified by the suppression routines in the CHAPS program. It is not modifiable by the SUPR program user.

III.1.2.12 Data File TASK

III.1.2.12.1 General Description Of Data File TASK

TASK (Aircraft Tasking History) is the label of the aircraft tasking history file, TASK.FIL. This file contains a continually updated list of aircraft tasking and availability events which is modified as planes are tasked by the PLAN routines. TASK is created and modified in the CHAPS program by the PLAN function routines, and is not directly modifiable by the CHAPS program user. It is not modifiable by the SUPR program.

III.1.2.13 Data File TOBS

III.1.2.13.1 General Description Of Data File TOBS

TOBS (Terrain Observability) is the label of the terrain observability file, TOBS.FIL. This file contains terrain masking information for each threat location. It is created by the SUPR program when processing terrain masking of threats, and is not available for modification by the SUPR program user. It is not modifiable by the CHAPS program user.

III.1.2.14 Data File TREE

III.1.2.14.1 General Description Of Data File TREE

TREE (Transit Corridor Tree) is the label of the transit corridor tree file, TREE.FIL. This file contains the best paths from certain transit corridor points through the transit corridor network. A tree is built for every transit corridor point directly accessible from a base and for every transit corridor point that starts a Low Level Transit Route. TREE is created and modified directly in the CHAPS program by the NODES processing routines. It is not directly modifiable by the CHAPS or SUPR program user.