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COMPUTER SYSTEM MANUAL
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VOLUME II
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COMMAND & CONTROL TECHNICAL CENTER

THE CCTC QUICK-REACTING GENERAL WAR GAMING SYSTEM (QUICK)

USERS MANUAL

WEAPON/TARGET IDENTIFICATION SUBSYSTEM

COMMAND AND CONTROL TECHNICAL CENTER

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(10) Dale J. Bowdre,
Paul F. M. Maykrantz,
Jim M. Herrin
Edward F. Bersson

SUBMITTED BY:

C. G. Thompson

C. G. THOMPSON
Project Officer

APPROVED BY:

R. E. Harshbarger

R. E. HARSHBARGER
Acting Deputy Director
NMCS ADP

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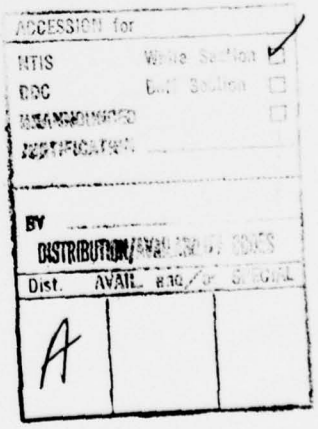

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ABSTRACT

The computerized Quick-Reacting General War Gaming System (QUICK) will accept input data, automatically generate global strategic nuclear war plans, provide output summaries, and produce input tapes to simulator subsystems external to QUICK. QUICK has been programmed in FORTRAN for use on the CCTC HIS 6000 computer system.

The QUICK Users Manual consists of four volumes: Volume I, Data Management Subsystem; Volume II, Weapon/Target Identification Subsystem; Volume III, Weapon Allocation Subsystem; Volume IV, Sortie Generation Subsystem. The Users Manual complements the other QUICK Computer System Manuals to facilitate application of the war gaming system. This volume, Volume II, provides detailed instructions for execution of the Weapon/Target Identification Subsystem and the modules it comprises. Companion documents are:

a. PROGRAM MAINTENANCE MANUAL
   Computer System Manual CSM MM 9-77, Volume I
   Computer System Manual CSM MM 9-77, Volume II
   Computer System Manual CSM MM 9-74, Volume III
   Computer System Manual CSM MM 9-74, Volume IV
   Provides detailed instructions for maintenance of the system

b. TECHNICAL MEMORANDUM
   Technical Memorandum TM 153-77
   Provides a nontechnical description of the system for senior management personnel

SECTION 1. GENERAL

1.1 Purpose

This volume of the QUICK Users Manual is intended to inform the CCTC user/analyst on how to prepare control cards; structure execution (run) decks; prepare computer job requests; and understand the associated computer output, to include the recognition of error messages for the Weapon/Target Identification subsystem of QUICK. It complements information contained in the Maintenance Manuals on the QUICK System. The abstract of this document references other documents describing QUICK.

1.2 General Description

The Weapon/Target Identification subsystem of QUICK selects and processes the Red and/or Blue forces which are prespecified for a particular plan. The subsystem consists of modules JLM, DBMOD, INDEXER, and PLANSET, as shown in figure 1. Figure 2 shows the relationship of the Weapon/Target Identification subsystem to other QUICK subsystems in terms of procedural and information flow.

The modules of this subsystem are used to assemble selected target data from the CCTC JAD files, and reformat the data in a manner which is acceptable to QUICKs Integrated Data Base and to further develop a plan for allocation.

Modules within this subsystem are executed in the order of: JLM, DBMOD, INDEXER, and PLANSET. All modules perform updates to the Integrated Data Base; no other data files are used (other than internal temporary scratch files).

The first module, JLM, builds the target portion of the data base. Note that the remaining data base is created by modules within the Data Management subsystem. These modules may be executed at any stage of the entire QUICK processing, i.e., before or after INDEXER, etc. An order of module execution pertains only to modules not defined within the Data Management subsystem.

The next module normally run is DBMOD. Its primary purpose is to alter the content or characteristics of a data base to the specific scenario for which the plan is being developed, in accordance with prespecified user input.

Module INDEXER is designed to assign index numbers (attribute INDEXNO) and perform the task of forming complex targets.

Module PLANSET forms weapon groups, prepares the target list for the allocator, computes and normalizes the class value factors and calculates the representative attributes for complex targets.

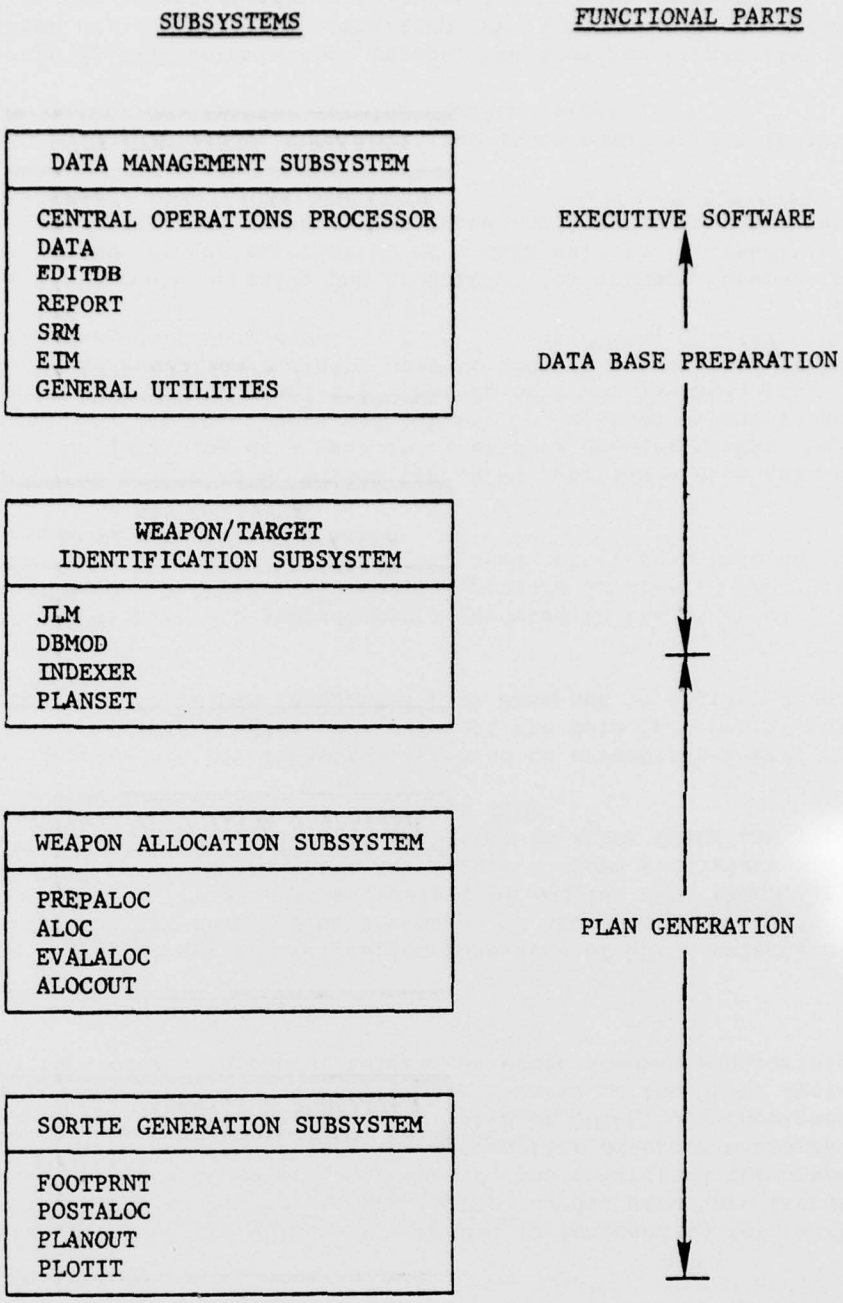
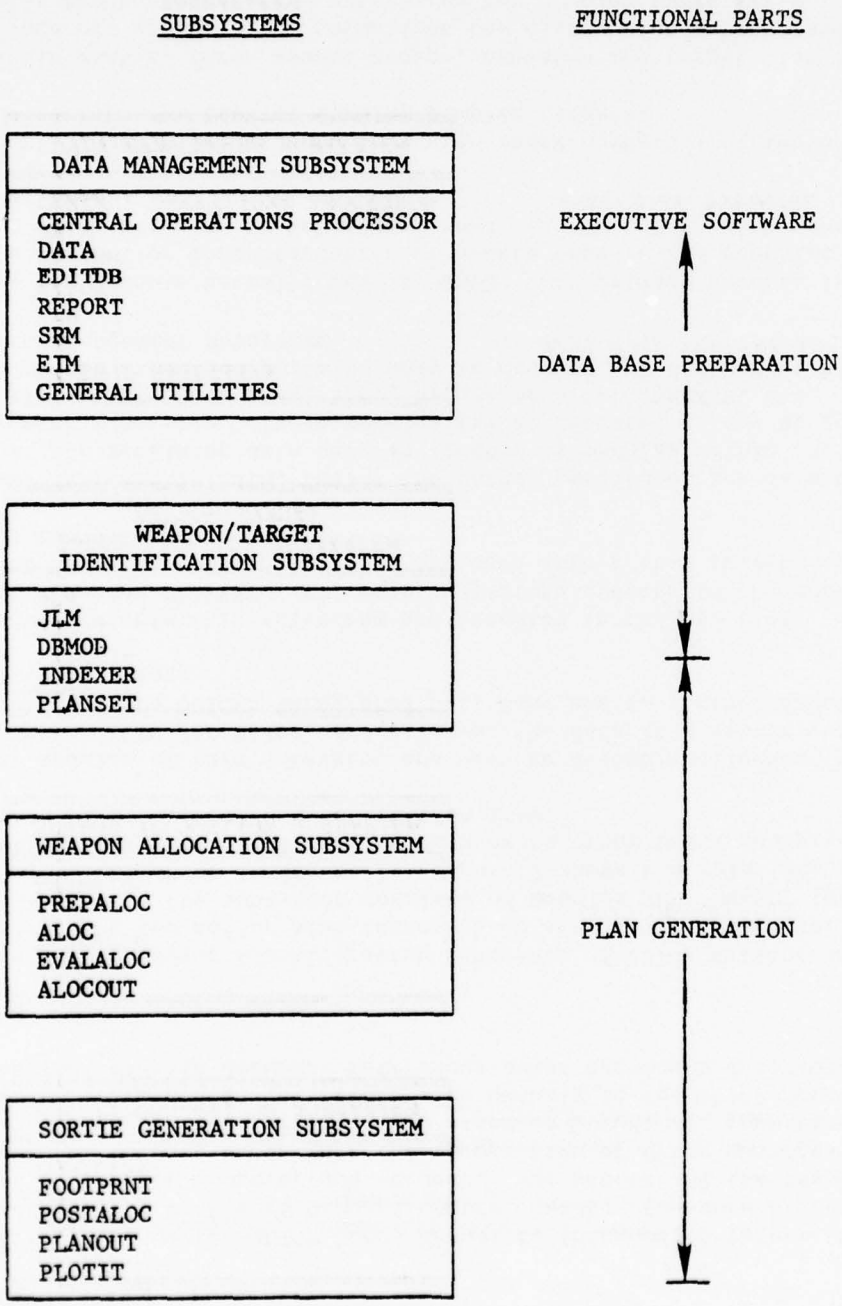


Figure 1. Major Subsystems of the QUICK System



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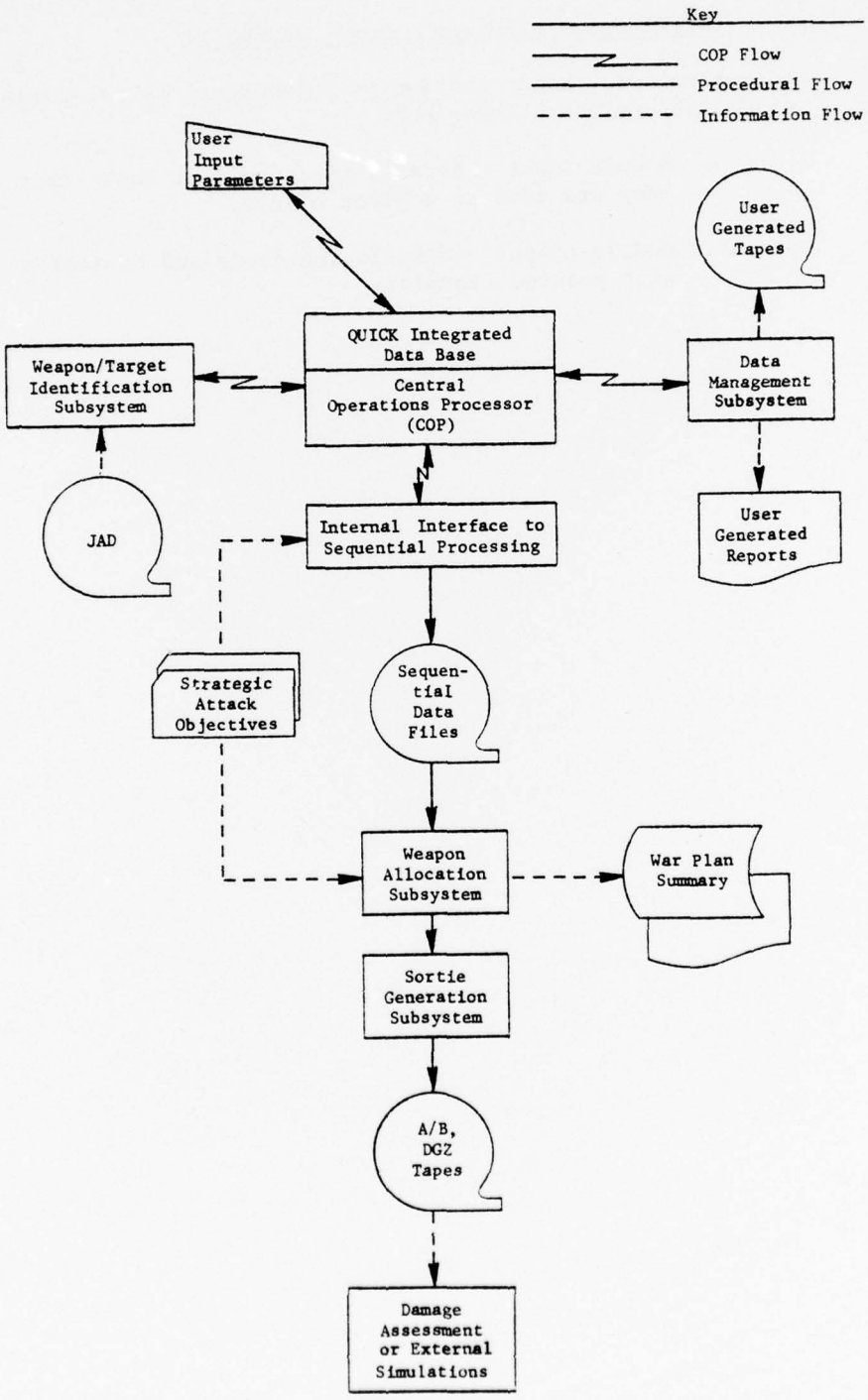


Figure 2. Procedure and Information Flow in QUICK/HIS 6000

1.3 Organization of Users Manual, Volume II

In general each major section of this manual is subdivided into two major subsections. These are:

a. Module input - details the set-up of input data files and how they are used in a given module.

b. Module output - details the scope and content of module output, with notated examples.

SECTION 2. JAD LOADING MODULE (JLM)

2.1 General Purpose

The function of the JLM is to build portions (targets) of the integrated data base by selecting records from a file that is in a JAD format. JLM operates in three modes. First, a section of the integrated data base called the Assignment table is built through user inputs. This table describes what sort of target is to be added to the data base and how it will be included. Second, given a completed Assignment table, the selection of JAD records is executed and a Damage Assessment tape is prepared for use in external processors. Third, after record selection, provisions are included for deleting individual records not required for QUICK processing. In the text English sense verbs ASSIGN, SELECT, and ASTERISK initiate the three JLM functions.

2.1.1 Assignment Table. The ASSIGN verb constructs the Assignment table which includes:

- o The valid country code and what region and side the country is in;
- o The target classes for each side;
- o The section criteria for each target type based on category code, owner, location, and capacity or name;
- o The TASK that corresponds to the target type; and
- o The list of DESIGs (alphabetic portion) that are to be used.

2.1.2 Selection Process. Using the developed Assignment table, the SELECT verb reads a JAD formatted file and stores target related data within the integrated data base. An option exists where additional target data may be included within a partially filled data base. There is, also, a second option that permits the automatic calculation for attributes TARDEFHI and TARDEFLO.

In addition to storing target data within the integrated data base, the SELECT verb will generate a JAD format file which includes type, task, and DESIG information. This file will be used by the ASTERISK verb.

2.1.3 Finalized Output. The ASTERISK verb is used to finalize what target records are to be retained within the integrated data base and produce a Damage Assignment tape for input to processors external to the QUICK system.

The ASTERISK portion of the JLM uses the JAD formatted file provided by the SELECT verb and a list of DESIG ranges that specifies what target records are to be retained within the integrated data base. Any target whose DESIG does not fall within the ranges listed, is deleted. The Damage Assessment tape is produced and an asterisk added to the DESIG if the record is within the list.

2.2 Input

2.2.1 The ASSIGN Verb. The ASSIGN verb has two required adverbs (PLAYERS and ALPHAS) plus one optional adverb (ONPRINTS). PLAYERS, ALPHAS or both must be present. The ONPRINTS adverb will cause the region/country code and/or the Assignment to be printed.

2.2.1.1 The PLAYERS Adverb. This adverb creates or modifies a list of valid country codes and their associated region and side. The general form is:

ASSIGN PLAYERS side // region / country-code

[, country-code . . .] [side // region . . .]

The side must be first, the region must be preceded by two slashes and the list of country codes must be preceded by a single slash. For a given clause there may be more than one appearance of both the double and single slash symbols. If the double slash is repeated, a new region is being defined for the same side. A repeat of the single slash introduces countries for the most recent region (the last occurrence of a double slash) and the given side. Consider an example of the most complicated form:

ASSIGN PLAYERS BLUE//3/JA,TH//1/US RED//1/UR//3/CH

Country codes JA and TH are assigned to region 3 of side BLUE and US to region 1. UR is assigned to region 1 of side RED and CH to region 3. From this general example, a simpler example would be:

ASSIGN PLAYERS BLUE//3/JA

Care should be taken with the country codes since there are many short special words within the dictionary that are reserved for text English commands. Examples are AS, IN, and OR. If AS is a country code it can be defined with quotes around it, that is 'AS'. Generally it is always safe to place pronounceable country codes in quotes.

2.2.1.2 The ALPHAS Adverb. The ALPHAS clause builds the bulk of the assignment and is the most generalized. Consider the form:

ASSIGN ALPHAS side // class - type [≥ {minimum-capacity / name}]

/ low-catcode [- high-catcode] [* task] ,

desig-alphabetic [, alternate-desig . . .]

[[NOT] {OWNED BY / LOCATED IN} country-code [, country-code . . .]]

General comments are:

- o The side must be first.
- o The target class must be preceded by two slashes.
- o The target type must be preceded by a dash.
- o If minimum capacity or name is used, it must be preceded by a greater than symbol.
- o The lowest catcode must be preceded by one slash and if a range of catcodes are used the highest catcode is preceded by a dash.
- o Task is preceded by an asterisk and DESIG by a comma.
- o Country codes are preceded by either OWNED or IN if the assignment is restricted.

A simple form of the clause would be:

```
ASSIGN ALPHAS BLUE//MISSIL- 'MM-I'/11111*AB,AD
```

This causes a MISSIL Class of type MM-I to be created on the BLUE side with a DESIG beginning in AD and a task of AB. Any target with a catcode of 11111 will be treated as an 'MM-I'. Note that MM-I is in quotes. Any name with '/', '-' or any other operator imbedded in it should be placed in quotes. A new class may be started at the double slash; a new type at the dash; and a new catcode at the single slash.

If the type has a range of contiguous category codes, the following is possible:

```
ASSIGN ALPHAS BLUE//MISSIL - 'MM-I'/10000-11000, AD*AB
```

Note, also, the interchanging of DESIG and TASK inputs.

If more than one DESIG (alpha portion) is needed for some representation, alternates may be defined. Consider:

```
ASSIGN ALPHAS BLUE//BOMB - 'B52-H'/900-902*CC, AB, AC
```

In this example, if there are an insufficient number of DESIGs beginning with AB, AC will be used for the overflow. There is no limit on the number of alternate DESIGs.

If the targets are to come from specific countries (say CA and UK) a command may be:

```
ASSIGN ALPHAS BLUE//BOMBER-B58/12555, AB*AA LOCATED IN CA, UK
```

Similarly assignments can be restricted based on ownership by replacing 'LOCATED IN' with 'OWNED BY'.

The operator 'NOT' negates a selection.

Different types can also be distinguished by the size (capacity) or name. For example:

ASSIGN ALPHAS BLUE//'U/I' - CITY > 100/77777, AA

This restricts the type CITY to catcodes 77777 and a capacity greater than 100.

2.2.2 The Select Verb. The use of the SELECT verb instructs the JLM to select records from the JAD format file according to the developed Assignment table. The SELECT command, including optional adverbs is:

SELECT [WHERE normal WHERE clause without OF or LIKE]

[UNIT value]

[ONPRINTS]

[REPLACING DUPLICATES] or [OMITTING DUPLICATES]

[ORDER class [,class,class,. . .]]

[SETTING TARDEF | EQUAL / = | ON]

The ONPRINTS adverb simply causes the print of the output JAD formatted file.

The WHERE clause is a generalized clause (see text English language section 3 of Users Manual Volume I) and allows for enhanced selection from the input JAD. Any attribute within the integrated data base can be used. For example:

SELECT WHERE ACLASS = 'U/I' AND NAME NOT EQUAL MOSCOW

This command, in addition to the Assignment table selection, will select only U/I class targets that are not named MOSCOW. Within the game to be developed attributes CLASS, TASK, TYPE, IREG are frequently employed in describing the nature of a target. Within the WHERE clause for this verb attributes ACLASS, ASNTASK, ATYPE, and REGION respectively contains the entries for the game related attributes. That is the latter mentioned attributes must be used for defining the target selection. Upon selection, the correct attributes will be stored.

If the input JAD file is not on unit 20, the UNIT adverb must be used.

The user has the option of running SELECT on a partially built integrated data base. Hence, the capability of either replacing duplicate records or ignoring them is useful. A duplicate target is anything with identical values for WACNO and BENO. In order to replace existing targets the

phrase REPLACING DUPLICATES is used. OMITTING DUPLICATES causes the new target to be ignored. Care should be used in exercising these options since with a data base of any size at all, the run time becomes excessive.

The ORDER clause allows the user to specify the arrangement that the classes will be added to the integrated data base. A command such as

SELECT ORDER MISSIL BOMBER TANKER 'U/I'

would cause targets to be added to the data base accordingly.

The SETTING clause is used to set the value of TARDEF to allow for automatic assignment of values for TARDEFHI and TARDEFLO.

2.2.3 The ASTERISK Verb. This verb removes targets from the integrated data base and flags all target records on the output JAD format file. If identical target records reside both within the integrated data base and the JAD file, an asterisk is placed on that record within the JAD file. There are two adverbs associated with the ASTERISK verb and the general form is:

ASTERISK [ONPRINTS]

KEEPING lowdesig [- highdesig]

[, lowdesig [- highdesig] . . .]]

ONPRINTS, optional, directs the printing of the output JAD format file.

The KEEPING adverb consists of a list of DESIG ranges that are to be kept in the data base and flagged on the output file. For example:

KEEPING AB053-AB732, AC110, BB111-BB199, DA001-PF999

will cause that target with DESIG FF055 to be kept but DESIG AC100 to be dropped.

2.3 Output

2.3.1 Standard. The only standard output JLM produces is the completion message.

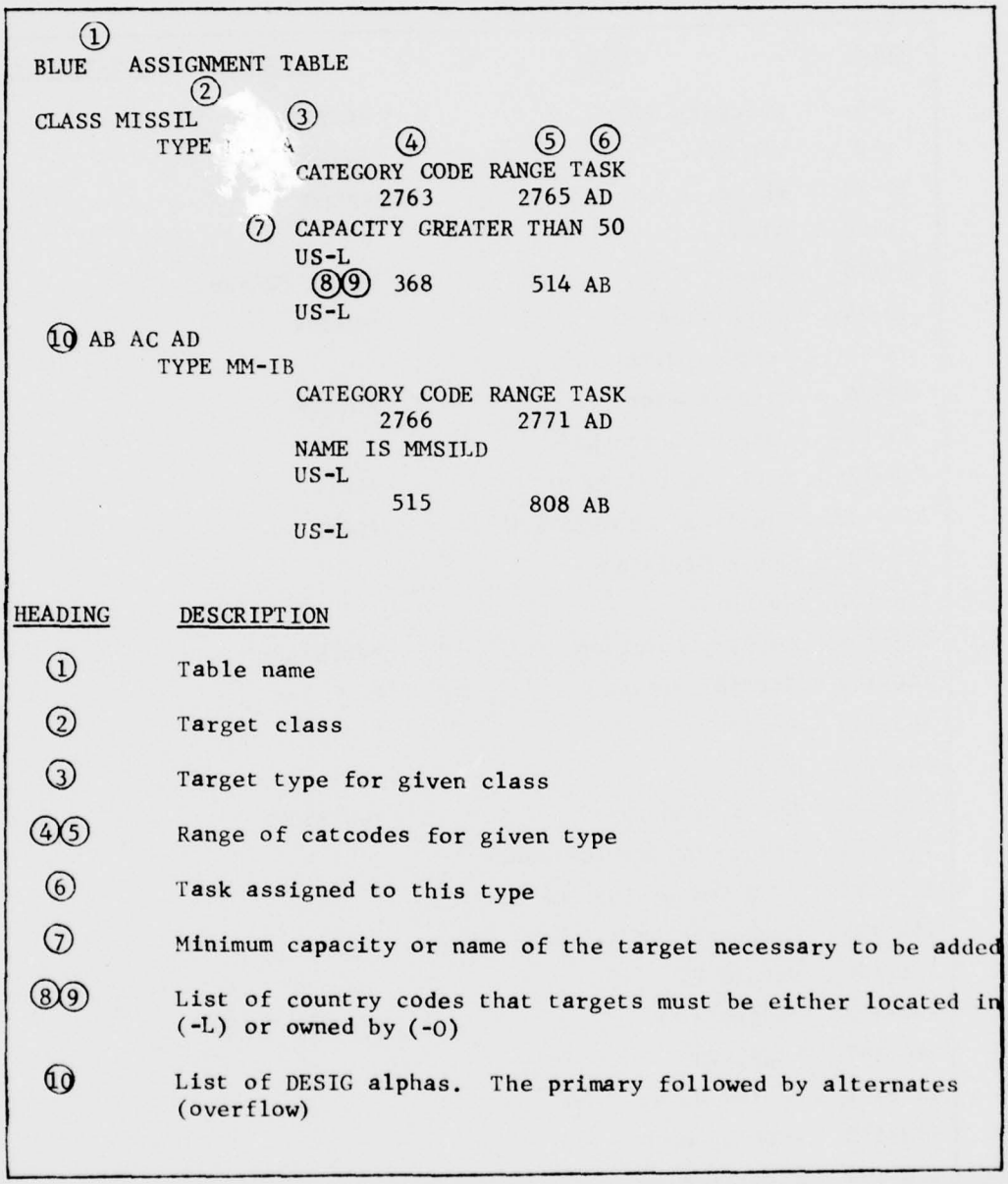
2.3.2 Non-Standard. The ASSIGN verb can generate two types of reports: (1) a list of legal country codes (figure 3) and (2) the Assignment table (figure 4). The only output from the SELECT and ASTERISK verbs is a JAD format file (figure 5). The third column presents those items used by QUICK; the fourth column presents those items created by JLM.

2.3.3 Error Messages. Any error messages that may be encountered within the JLM are explained in figure 6.

```
LEGAL COUNTRY CODES FOR EACH REGION (1)

SIDE RED (2)

REGION  1 (3)
    BD CU MO MX UR (4)

REGION  2
    AL BG BU CZ EG GC HG HU IT PL PO RM RO YG

REGION  3
    CH KN MG NK NV VN

SIDE BLUE

REGION  1
    AK CA CL HW US

REGION  2
    FR IR SP TK UK WG

REGION  3
    GM JA PK SK

DESIGS AND MAX VALUE FOR EACH REGION
PF    0 499 799
AD    0 499 799
AC    0 499 799
AB    0 499 799
(5)   (6)(7) (8)
```

HEADING	DESCRIPTION
(1)	Table name
(2)	Side country codes are on
(3)	The region for the country codes
(4)	List of valid country codes
(5)	Alpha portions of this DESIG
(6)(7)(8)	The largest numeric portion for region 1, 2, and 3 (0 means none)

Figure 3. Legal Country Codes For Each Region



HEADING	DESCRIPTION
①	Table name
②	Target class
③	Target type for given class
④⑤	Range of catcodes for given type
⑥	Task assigned to this type
⑦	Minimum capacity or name of the target necessary to be added
⑧⑨	List of country codes that targets must be either located in (-L) or owned by (-O)
⑩	List of DESIG alphas. The primary followed by alternates (overflow)

Figure 4. Assignment Table

COLS.	ITEM	USED	CREATED BY JLM
1-5	Category Code	*CATCODE	
6-9	WAC No.	*WACNO	
10-15	BE No.	*BENO	
16-20	Blank		
21-58	Name	*NAME (21-26)	
59-64	Major number	*MAJOR	
65-88	Complex Name		
89-94	Minor number	*MINOR	
95-118	Concentration Name		
119-125	Latitude DDMMSS N/S	*LAT	
126-133	Longitude DDDMMSS E/W	*LONG	
134-135	World Division		
136-137	Sub Div		
138-139	Country Location	*CNTRYLOC	
140-141	Special Region	*	
142-143	Region		
144-147	Blank		
148-149	Owner Country	*CNTRYOWN	
150-151	Agency or Service owner		
152-153	U & S Cmd or Supreme All		
154-155	Component or All Regn CMD		
156-159	Severe VN		
160-163	Moderate VN	*VULN1, VULN2	
164-167	Light VN		
168-171	Review Data yy mm		
172-175	ICOD yy mm		
176-190	Significance		
191-198	Capacity	*CAPACITY	
199-200	Data Source		
201-204	Units of measure		

Figure 5. JAD Format (Part 1 of 2)

COLS.	ITEM	USED	CREATED BY JLM
205	Scaling Factor		
206-208	Radius	*RADIUS	
209-212	Percent Capacity		
213-224	Dimensions		
225-236	Fiscal Year Projections		
237	File ID Code		
238	Phase Code		
239-245	Security Class		
246-247	Remark		
248-253	Owner UIC		
254-255	Serv Spcl Code		
256-258	READY Code		
259-267	Blank		
268-288	Not Used		
289-293	DESIG		DESIG
294	Flag if in the Data Base		* or blank
295-300	Type		TYPE
301-303	Not Used		
304-306	Subset or Class Index		*
307-308	Not Used		
309-312	Sequential Count Within Subset		*
313-314	Task		TASK
315-318	Not Used		
319	QUICK Region		IREG
320	SAGA Region		*
321-324	Not Used		
325-330	SAGA Flag		
331-336	BLANK		

Figure 5. (Part 2 of 2)

1	MODULE JLM CALL WITH ILLEGAL VERB, NUMBER=(verb number) An error exists outside of JLM, consult a maintenance programmer.
2	TOO MANY UNIQUE VALUES FOR ATTRIBUTE XSIDE DISCOVERED (side) IGNORED More than four different sides exist in the data base, call a maintenance programmer.
3	FINDCLAS UNABLE TO FIND ACLASS LIST Data base error, call maintenance programmer.
4	ASSIGN OF JLM CALLED WITH ILLEGAL ADVERB, NUMBER=(adverb-number) An error exists outside of JLM - call maintenance programmer.
5	ASSIGN OF JLM CALLED WITH NO ADVERBS Check input, ASSIGN must have adverbs.
6	WARNING-COUNTRY CODE (country-code) MOVED FROM REGION (region) TO REGION (region) This error occurs when the country-code in the Players clause exists already but in a different region.
7	SIDE ANTICIPATED BUT NOT FOUND (input 1 input 2) The first word following PLAYERS is not an alphabetic.
8	SLASH NUMBER (1 or 2) MISSING AFTER SIDE A pair of slashes must follow the side. Check for missing operators.
9	// NOT FOLLOWED BY REGION A numeric value must follow the double slash.
10	REGION (region) ON SIDE (side) NOT FOLLOWED BY / The region must be preceded by // and followed by /.

Figure 6. JLM Error Message (Page 1 of 5)

11 REGION (region) ON SIDE (side) HAS NO COUNTRY CODES ATTEMPTING TO PICK UP NEXT REGION

The first item following the / for this side and region is not an alphabetic. See if it is a null, special word, or operator. Enclose it in quotes and rerun. If a region has no country codes it does not have to exist in the input.

12 (side) IS NOT A VALID SIDE

The value is being interpreted as a side. Either there are no headers for this side in the data base or an operator is missing causing this value to be interpreted as a side.

13 ERROR IN ASSIGN PLAYERS CLAUSE LAST UPDATE WAS SIDE (side) REGION (region) COUNTRY CODE (country code)

This error is caused by an unexpected value in the input. The location in the message should point to the operation immediately preceding the error. Check the following country code to see if it is a null or special word.

14 UNABLE TO RECOVER - EXITING PLAYERS

The error preceding this message has made it either impossible or hazardous to continue processing.

These error messages are produced by the adverb ALPHAS in the ASSIGN verb.

15 CLASS NAME NOT LEGAL
(side) SIDE (class) CLASS

The input class name is not a legal value for ACLASS. Either (class) is not supposed to be a class (punctuation error) or it is not in the data base.

16 WARNING ALPHAS - NO TARGET HEADER FOR THIS CLASS ON THIS (side) SIDE (class) CLASS

Although the class is legal, a Target Header was not created for it when this Data Base was initialized. The header must be created before SELECT is run.

17 DOES NOT BEGIN WITH SIDE

The first word following ALPHAS must be this side. Did you really mean to call ALPHAS?

Figure 6. (Part 2 of 5)

18	SLASH NUMBER (1 or 2) MISSING AFTER SIDE (side) Two slashes must follow the side.
19	CLASS MISSING ON SIDE (side) An alphanumeric value for class must follow a double slash.
20	TYPE MISSING FOR SIDE (side) AND CLASS (class) A value for TYPE must follow the class (separated by -). See if Type has imbedded special characters.
21	MISSING SLASH FOLLOWING TYPE (side) SIDE (class) CLASS (type) TYPE A single slash must separate the TYPE from the rest of the description. Check for imbedded dashes (-) in an alphabetic name that is not enclosed in quotation marks.
22	CATEGORY CODE NON NUMERIC OR MISSING (side) SIDE (class) CLASS (type) TYPE The single slash is not followed by a numeric value. Check for names with imbedded slashes (/) that are not enclosed by quotation marks.
23	DESIG NOT ALPHABETIC OR IS MISSING (side) SIDE (class) CLASS (type) TYPE (Lowest value for catcode)- (Highest value for catcode) A value that is not alphabetic follows a comma. There is either an extraneous comma in the input or a numeric DESIG or this DESIG is an operator or special word that is not enclosed in quotes.
24	MORE THAN 10 NEW DESIGS AT ONE TIME IGNORING THE REST More than 10 alternate desigs were entered at one time. There is probably an input error causing something to be interpreted as a DESIG.
25	MORE THAN ONE TASK ASSIGNED REST IGNORED (side) SIDE (class) CLASS (type) TYPE (low catcode)-(high catcode) Only one task permitted. There may be an extraneous asterisk (*) or a missing category range.

Figure 6. (Part 3 of 5)

26	TASK IS NON-ALPHABETIC OR MISSING (side) SIDE (class) CLASS (type) TYPE (low catcode)-(high catcode) The task is either completely numeric and not enclosed in quotes or there is an extraneous asterisk (*) imbedded in a name.
27	WARNING ASNREC CHANGED FOR COUNTRY (country-code) TYPE (type) CATRANGE (low-catcode high-catcode) TASK (task) FLAG (1,2,3) NEW CATRANGE (new-low-catcode new-high-catcode) The range of legal category ranges has been extended.
28	(side) IS NOT A VALID SIDE This side does not exist in the data base. Missing punctuation could cause this alphanumeric to be considered a side.
29	LOST LOOKING FOR NEXT SIDE (pointer input-value 1 or 2) An unexpected value has occurred in the input
30	COUNTRY CODE NON-ALPHABETIC OR MISSING (side) SIDE (class) CLASS (type) TYPE (low-catcode)-(high-catcode) Check for a country code at this location that is a special word or null.
31	INVALID MINIMUM CAPACITY -0 ASSUMED (side) SIDE (class) CLASS (type) TYPE The value following this greater than (>) is neither numeric nor alphabetic.
32	NO DESIGS WERE ASSIGNED (side) SIDE (class) CLASS (type) TYPE (low-catcode)-(high-catcode). No DESIGS were assigned to this type. If this is a new type problems will occur if SELECT is run before it is assigned a DESIG. See if the DESIG is a null.
33	WARNING-ATTEMPTING TO RECOVER This message explains that in spite of this preceding error an attempt is going to be made to continue processing.

Figure 6. (Part 4 of 5)

34 $$$ WARNING ALPHAS LOST BECAUSE OF (number 1 number 2) AT (location) ATTEMPTING TO FIND SOMETHING FAMILIAR LAST KNOWN VALUES WERE (side) SIDE (class) CLASS (type) TYPE (low-catcode)-(high-catcode)

This message shows where the input error occurred. The values are an aid to the maintenance programmer to find out what and where the error was. This message will be followed by one of the following two messages.

35 (number) WORDS SKIPPED IN ATTEMPT TO RECOVER

This message will provide the maintenance programmer with an idea of how much information was lost before a recovery could be made.

36 * UNABLE TO RECOVER - EXITING ALPHAS

The routine was never able to find anything familiar

37 (name) IS NOT A VALID PRINT REQUEST

Consult a maintenance programmer. Some unknown routine is attempting to use this routine.

38 (number) IS TOO MANY CLAUSES - ONLY FIRST SIX USED

Only six clauses can be in SELECT without being self-contradictory. Check input.

39 (number) IS AN ILLEGAL ADVERB NUMBER FOR SELECT

The only valid adverbs for SELECT are OMITTING, REPLACING, SETTING, UNIT, WHERE, ONPRINTS and ORDER.

Figure 6. (Part 5 of 5)

SECTION 3. MODULE DBMOD

The main function of module DBMOD is to alter the data base to adapt it to a specific scenario for which the plan is being developed. This includes the setting of the attacking and defending sides. DBMOD determines the attributes for NOINCO (number in commission) and NOALER (number on alert) for bombers and missiles. The user also has the option of scaling the value (VAL) given to an U/I target based on the values for population (POP) and IGIW. The option also exists to calculate local bomber defenses (TARDEFHI and TARDEFLO).

In order to operate correctly DBMOD needs to have the following attributes defined. For the attacking side ADBLI, NADBLI, or ADBLR and NADBLR and NPRSQ1, NPRSQ2, NPRSQ3. For the defending side the values of POP, IGIW, must also be set.

3.1 Input

Inputs specify the attacking and defending sides, plus the scenario to which the game is to be tailored and, optionally, scaling factors for U/I value calculations and the determination of local bomber defenses.

The general command necessary for DBMOD execution is the verb MODIFY followed by a single SETTING clause which is used to set attributes necessary to run DBMOD. The general form is:

```
MODIFY   SETTING   SCENARIO   (EQUAL | =)   (SIERRA | INDIA | ROMEO)

                   ASIDE      (EQUAL | =)   side

                   DSIDE      (EQUAL | =)   side

         [TARDEF   (EQUAL | =)   YES   ]

         [PCTIW    (EQUAL | =)   value ]

         [PFIW     (EQUAL | =)   value ]

         [PCTPOP   (EQUAL | =)   value ]

         [PFPOP    (EQUAL | =)   value ]
```

SCENARIO input is required, as well as the setting of the attacking side (ASIDE) and defending side (DSIDE). All other phrases are optional. TARDEF phrase is used to automatically set the variables TARDEFHI and TARDEFLO as retained within the data base. Finally, scaling factors may be input used for setting values of U/I targets based on the values for POP and IGIW. In the absence of input scaling factors, default values are: PCTIW = 3.06, PFIW = .81, PCTPOP = 0, and PFPOP = 0.

3.2 Output

The following prints are produced from DBMOD.

The Target Value Summary reflects the count and cumulative value of the targets by SIDE, CLASS, and TYPE (figure 7).

The Target Count by Region Table (figure 8) gives a target count by SIDE, REGION, and the alphabetic portion of the DESIG.

The Target Deleted by Region Table (figure 9) gives a count of targets deleted by SIDE, REGION, and the alphabetic portion of the DESIG.

The error messages detailed in figure 10 will be printed if problems arise in processing the data base.

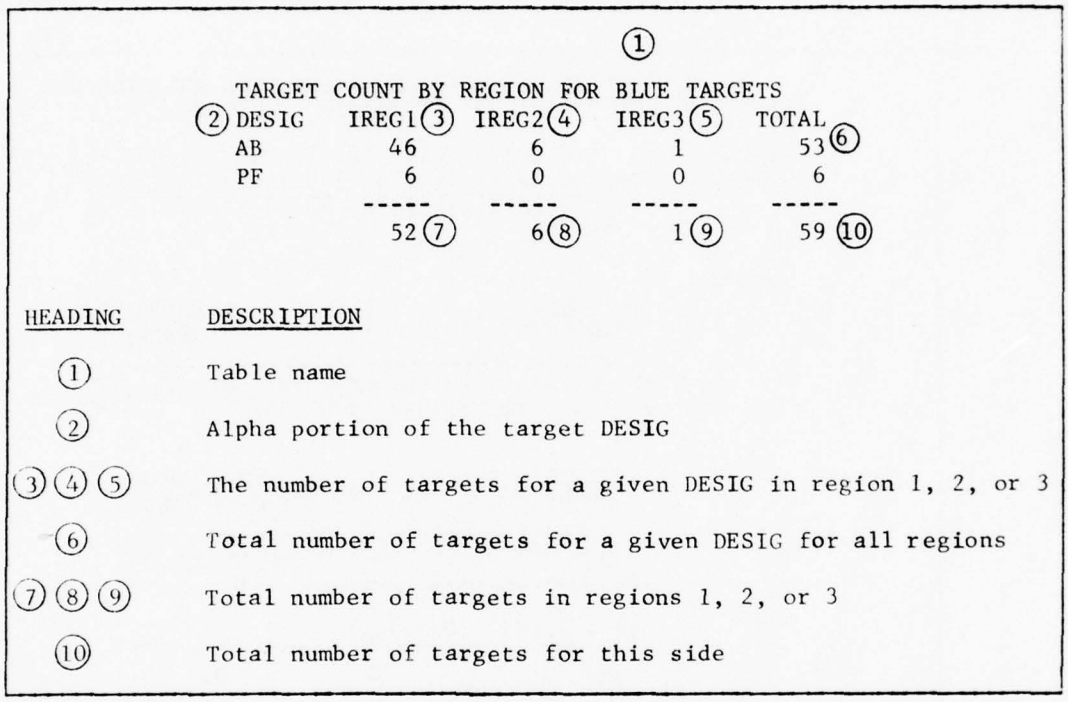
(1)

CUMULATIVE VALUE BY CLASS AND TYPE FOR SIDE RED

(2) CLASS	(3) TYPE	(4) COUNT	VALUE
OTHER			
	ALL	0	0.
ABMDEF			
	TALLIN	2	22.00000 (5)
	PAR	2	2.00000
		4 (6)	24.00000 (7)
U/I			
	RCITY	2	8907.00000
	RCITY-	2	9995.00000
	ALL	4	18902.00000
MISC			
	ALL	0	0.

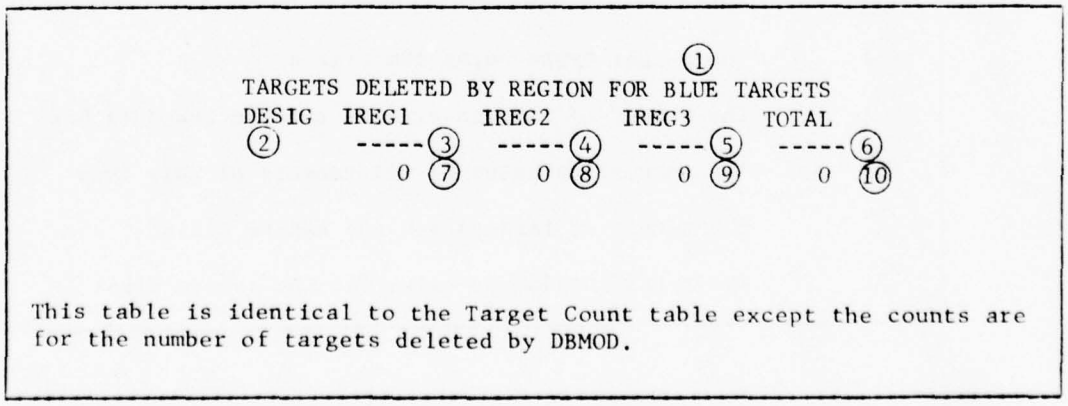
HEADING	DESCRIPTION
(1)	Table name
(2)	Target class name
(3)	The target types being summarized
(4)	The number of targets of this type in the data base
(5)	The cumulative value of all targets of this type
(6)	The number of targets for the entire class
(7)	The total cumulative value for the entire class

Figure 7. Target Value Summary



HEADING	DESCRIPTION
(1)	Table name
(2)	Alpha portion of the target DESIG
(3) (4) (5)	The number of targets for a given DESIG in region 1, 2, or 3
(6)	Total number of targets for a given DESIG for all regions
(7) (8) (9)	Total number of targets in regions 1, 2, or 3
(10)	Total number of targets for this side

Figure 8. Target Count by Region



This table is identical to the Target Count table except the counts are for the number of targets deleted by DBMOD.

Figure 9. Targets Deleted by Region

1 INPUT ERROR CAUSING ABNORMAL TERMINATION (8 coded input values followed by two related pointers)

This message appears after a fatal error message caused by the input. If the preceding error message is not understood, consult a maintenance programmer.

2 ILLEGAL ADVERB - ONLY SETTING PERMITTED

An adverb other than SETTING was found. Consult a maintenance programmer about a possible data base error at initialization.

3 DO NOT HAVE SINGLE SETTING CLAUSE

Exactly one SETTING clause is required in DBMOD. Check the input for a missing verb or an extra SETTING adverb.

4 UNEXPECTED VALUE IN SETTING CLAUSE

The end of a phrase could not be found, check inputs.

5 NOT AN ATTRIBUTE BEING SET

The SETTING clause is attempting to place a value into something other than an attribute. Check the spelling of the attributes in the SETTING clause.

6 SETTING IRRELEVANT ATTRIBUTE - IGNORED

One of the attributes in the SETTING clause is not used by DBMOD. Check the spelling of the attributes. The phrase is ignored and processing continues.

7 NOT LOADING A CONSTANT

An attribute in the setting clause is not being set to a specific value. Change the SETTING clause.

8 OF PHRASE IS NOT PERMITTED

OF Phrases are not permitted in DBMOD. Set the attribute to a constant.

9 (scenario) IS NOT A LEGAL SCENARIO SHOULD BE SIERRA, ROMEO, OR INDIA

The value given scenario is not one understood by DBMOD. Change scenario to a legal value.

Figure 10. DBMOD Error Messages (Part 1 of 2)

10 (side) IS NOT A VALID SIDE FOR (ASIDE or DSIDE)

(side) is not a legal value for SIDE. Check the spelling. If the spelling is correct inform the maintenance programmer of a possible data base error at initialization.

11 (attribute) NOT SET

An essential attribute is not being set, check for a spelling error.

The following two messages indicate a serious error outside of DBMOD. A maintenance programmer should be informed of this immediately.

12 WRONG ROUTINE CALLED - LINK NAME ERROR

13 SHOULD NEVER OCCUR - INSGET PROBLEM

Figure 10. (Part 2 of 2)

SECTION 4. MODULE INDEXER

After a scenario has been selected, module INDEXER performs necessary calculations and additions to the refined data base. The major objectives of INDEXER are to: (a) assign unique indices to all targetable records (referred to as index number, attribute INDEXNO); (b) automatically calculate time decaying value points for all target bomber and missile bases; (c) calculate for each unique target vulnerability a complexing lethal radius based on user selected yields; (d) complex individual targets based on selected algorithm; and (e) define the target complex classes.

User options pertain to the level used to create the output prints and the specification of weapon yields used in forming complexes.

Standard output prints will provide reports for: (a) lists of typename versus lowest index number for that type; (b) individual complex elements and the complex number in which they reside; and (c) a complete list of target vulnerabilities.

4.1 Input

The verb INDEX directs the COP to execute module INDEXER. In addition, the verb may be followed by a maximum of three operational clauses. The general form of the command is:

INDEX [WITH (SIDE, YIELD) { = / EQUAL } (value, value)]

[ONPRINTS] [VNOPTION]

Discussion of each optional clause follows.

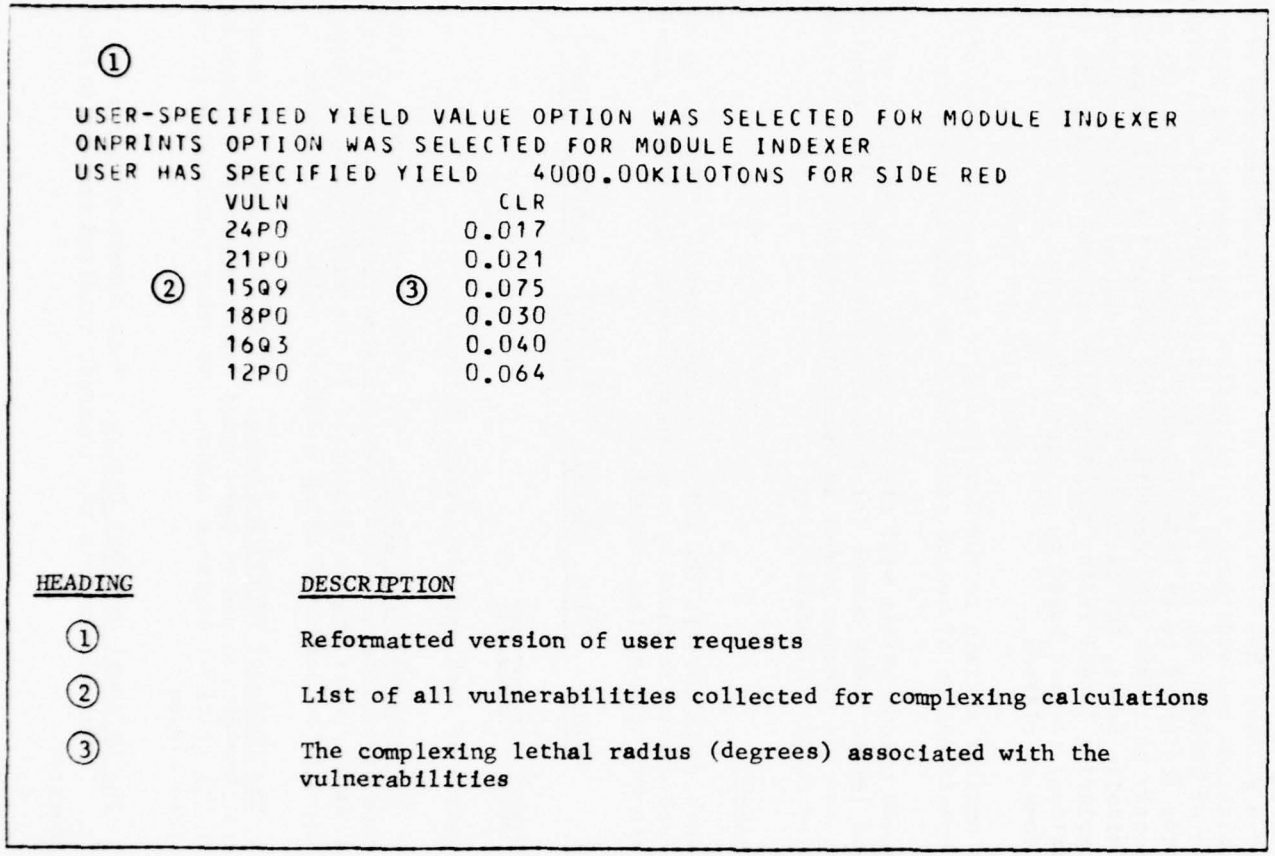
4.1.1 The Optional WITH Clause. The WITH adverb precedes a phrase which indicates a particular yield for determining complexing lethal radii. The yield input units are in kilotons. If the WITH clause is absent, complexing will be performed using a default value of 1 megaton.

4.1.2 The Optional VNOPTION Clause. VNOPTION permits the complexing to be done through the use of hard coded (see Program Maintenance Manual Volume II) critical distance tables. No other information is required with this clause.

4.1.3 The Optional ONPRINTS Clause. This adverb produces nonstandard prints. If included within the command, detailed complex prints will be generated.

4.2 Output

There are two standard reports generated as shown in figures 11 and 12. Figure 11 information shows a reformatted version of user inputs plus a



HEADING	DESCRIPTION
①	Reformatted version of user requests
②	List of all vulnerabilities collected for complexing calculations
③	The complexing lethal radius (degrees) associated with the vulnerabilities

Figure 11. Target Formation Control Summary

① PLANTYPE	② TYPENAME	③ INDBEG
1	TITAN	1
2	POSEID	65
3	POL-A3	94
4	POL-A2	116
5	MM-III	130
6	MM-II	280
7	MM-IB	680
8	MM-IA	980
9	SS-9	1130
10	SS-8	1670
11	SS-7	1790
12	SS-6	2030
13	N-5	2078
14	N-3	2090
15	B-52E	2096
16	F-111	2119
17	F-111B	2122
18	B-58	2124
19	B-52H	2126
20	B-52G	2136

HEADING	DESCRIPTION
①	Sequential counter
②	Attribute TYPE
③	The lowest index number (attribute INDEXNO) for the corresponding TYPE

Figure 12. INDEXNO Breakpoint Table

list of unique target vulnerabilities and their associated lethal radii used for complexing. Figure 12 lists all unique TYPE values for all targetable items.

If the ONPRINTS adverb is included in the user inputs, detailed complexing (figure 13) data is printed. Each target element within a complex is printed supplying data as defined by the header. The last two lines of print summarizes the total number of complex collections and, also, the total number of all target elements within all complexes.

The error messages detailed in figure 14 will be printed if problems arise in processing the data base.

	ICOMPLEX	INDEXNO	TGTNAME	TASK	DESIG	LAT	LONG	VALUE
①	1	2880	LUNGCH		AB804	24.0100	242.3600	11.0000
	1	2312	LUNGCH		AB819	24.0100	242.3600	3.0000
	2	2881	SHANGH		AB805	31.3800	238.4700	11.0000
	2	2316	SHANGH		AB823	31.3800	238.4700	3.0000
	3	2307	DAIREN		AB814	38.9700	238.5400	3.0000
	3	2878	DAIREN		AB802	38.9700	238.5400	11.0000
	4	2234	PYONGY		AB834	39.0100	234.2100	3.0000
	4	2364	PYONGY		AB810	39.0000	234.2000	3.0000
	5	2233	PEKING		AB833	39.9200	243.5900	3.0000
	5	2363	PEKING		AB809	39.9000	243.6000	3.0000
	6	2882	TA-PAO		AB80o	40.5700	235.6900	11.0000
	6	2317	TA-PAO		AB824	40.5700	235.6900	3.0000

② 40 COMPLEX TARGETS

③ 84 ELEMENTS OF COMPLEXES

HEADING	DESCRIPTION
①	Typical data for each complex target element
②	Total number of complexes formed
③	Total number of elements within complexes

Figure 13. Target Complex Summary

1 MODULE INDEXER CALLED WITH VERB EQUAL TO (I6)

INDEXER was called with the wrong verb, check inputs.

2 MODULE INDEXER cannot recognize adverb (I6)

INDEXER was called with an improper adverb, check inputs. The adverb will be ignored.

3 MODULE INDEXER ENCOUNTERED ERRONEOUS SECOND WITH ADVERB. THE FIRST WITH ADVERB WAS USED.

INDEXER was called and its command contained more than one WITH clause. The first entry is accepted; any following are ignored.

4 MODULE INDEXER ENCOUNTERED UNKNOWN INPUT ATTRIBUTE (I8)

INDEXER encountered an unknown input attribute while processing a WITH clause. The entire WITH clause is ignored and processing continues.

5 MODULE INDEXER ENCOUNTERED INPUT SIDE ERROR. SIDE IS (A6)

INDEXER received a SIDE value which was neither the attacking nor defending side. Processing continues using default values.

6 NO. OF DATA BASE VULNS EXCEED MAX. LAST VULN READ: (A6)

There are more than 255 unique vulnerabilities defined in the data base. Excess entries are ignored and processing continues.

7 MODULE INDEXER FAILED TO FIND TGTHD RECORD ON RCTYP CHAIN. PROGRAM ABORTED.

Targets cannot be located within data base. Consult maintenance programmer.

8 MODULE INDEXER FOUND MORE THAN MAX CLASSES ON SIDE (A6) CLASS (A6) IGNORED

More than 15 target classes were found for the side indicated. The last class found is ignored and processing continues. Consult a maintenance programmer.

9 MORE THAN (I8) TARGETS IN COMPLEX (I8)

More than 40 targets were found for the complex indicated. The program examines the excess target to see if it belongs in another complex. No action by user is necessary.

Figure 14. INDEXER Error Message (Part 1 of 2)

10	MODULE INDEXER: MORE THAN MAX TYPES IN CLASS (A6) More than 100 types were found in the class indicated. Excess types are ignored and processing continues.
11	SUBROUTINE SETVAL OF MODULE INDEXER COULD NOT FIND TYPE (A7) WHILE CHAINING WEAPON RECORDS The weapon record of a missile or bomber could not be found. Processing continues. Consult a maintenance programmer.

Figure 14. (Part 2 of 2)

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SECTION 5. MODULE PLANSET

Module PLANSET is logically executed after complexing and the assigning of index numbers. At this juncture within the QUICK system, the user selects weapon systems and targets. It is from this selection that the QUICK ALLOCATOR optionally makes assignments of weapons to targets. Necessary objectives of PLANSET, then include:

- The selection of target classes and the specification of relative target values of the selected class to other classes;
- The reordering, if user directed, of target elements within complexes;
- The selection of missile, bomber, and tanker systems;
- The forming of weapon groups based on the selected weapon systems according to existing algorithms;
- The definition for command and control reliability;
- The provision of standard prints of selected weapon system characteristics, weapon groups formed, and lists of target related data.

5.1 Inputs

The execution of PLANSET, as with all modules, has the verb followed by required adverbs. The verb and adverbs are:

- PLANSET - The verb that causes execution
- SETTING - The adverb which introduces a clause to set various parameters
- PRIORITY - The adverb which introduces a clause to set criteria for choosing representative targets of complexes
- ATTACKERS - The adverb which introduces a clause to select weapon system inventory
- DEFENDERS - The adverb which introduces a clause to select target classes.

The general form of PLANSET's command is:

PLANSET [SETTING [RANGEMOD {=, EQUAL} value]
[CCREL {=, EQUAL} [value AND value . . .]]
[RETARGET {=, EQUAL} YES]]
[PRIORITY {TASK, DESIG} (value, value . . .)]
ATTACKERS (value, value . . .)
DEFENDERS (DESIG , VALUE) {=, EQUAL}
(desig, value) [AND (desig, value) . . .]

Discussion of each clause follows.

5.1.1 SETTING Clause. The SETTING adverb is followed by data required to define related module parameters. This clause sets the following:

- The RANGEMOD phrase is used to determine how far away a weapon site can be from a group centroid and still be included in the group. The value given to RANGEMOD is that fraction of the weapon's range that will be the maximum distance from the group centroid that a site can be and still be in the group. This phrase is optional. If it is not included the default value of .15 is used. A RANGEMOD of .2 would be entered as:

  RANGEMOD = .2

  Thus, if a weapon has a range of 1,000 miles, the maximum distance from the group geographic centroid and any base is 200 miles for alert weapons, 400 miles for nonalert weapons.

- The CCREL phrase is followed by values giving the Command and Control Reliability for each region. The order of CCREL placements determines the region to which it refers. For example, if the CCREL for Region 1 is .95 but for 2 and 3 it is .85, the input would be:

CCREL EQUAL .95 AND .85 AND .85

If for all regions, CCREL = 1, no inputs are required for this is the assumed default value; else entries must be input for each region.

- The RETARGET phrase is optional, and, if included, will allow the reprogramming of missiles.

RETARGET EQUAL YES

will cause the reprogramming option to be used.

An example of the entire SETTING clause would be:

```
SETTING RANGEMOD=.1 CCREL=.93 AND .22 AND .53
RETARGET = YES
```

5.1.2 PRIORITY Clauses. The priority clauses are used to set up criteria for choosing the representative target for a complex. The choice is based on a list of TASK codes and the alpha portion of the target DESIG. The first PRIORITY clause consists of the word TASK and the ordered list of task codes. The second clause consists of the word DESIG and the ordered list of alpha-portion of desigs. DESIG priorities would be set with:

```
PRIORITY DESIG  (FA, AB, BC)
```

5.1.3 ATTACKERS Clause. The ATTACKERS clause consists of the adverb ATTACKERS and a list of the attacking weapons and tankers by TYPE. An example of an ATTACKERS clause would be:

```
ATTACKERS ('MM-III', 'B-52G', 'KC-135', 'F-III')
```

5.1.4 DEFENDERS Clause. The DEFENDERS clause consists of the attributes (DESIG, VALUE) and a series of DESIGs of the exemplar target for each class of target being attacked paired with the new value of that exemplar target. If five target classes were to be included in the game and the targets with DESIGs of AB714, FA647, CA614, AL519, CT098 are the exemplar targets for these classes, the DEFENDERS clause might look like:

```
DEFENDERS(DESIGN,VALUE)EQUAL(AB714,1.3)AND(FA647,41.)AND
(CA614,.4)AND(A519,6.8)AND(CT098,4.6)
```

5.2 Output

5.2.1 Standard Output. All PLANSET prints are standard output. Hence, tables to follow illustrate all of the printouts in the same sequence in which they appear in the run output. A summary of each output follows.

- Figure 15 -- User input information
- Figure 16 -- Selected target class value summaries
- Figure 17 -- Prints of all DESIGs that are common to attribute FLAG
- Figure 18 -- Target print of all elements selected by the user; print is in DESIG sort order
- Figure 19 -- Warhead table print
- Figure 20 -- Air-to-surface missile table print
- Figure 21 -- Payload table which is used to describe the numbers and types (attribute TYPE) that are transported by various delivery vehicles
- Figure 22 -- Selected weapon systems are printed
- Figure 23 -- Print of weapon groups
- Figure 24 -- For each weapon group formed by PLANSET, this print summarizes all launch bases included within the group
- Figure 25 -- Print of each target elements selected
- Figure 26 -- Print of target complex data

5.2.2 PLANSET Error Messages. The error messages for PLANSET are shown in figure 27.

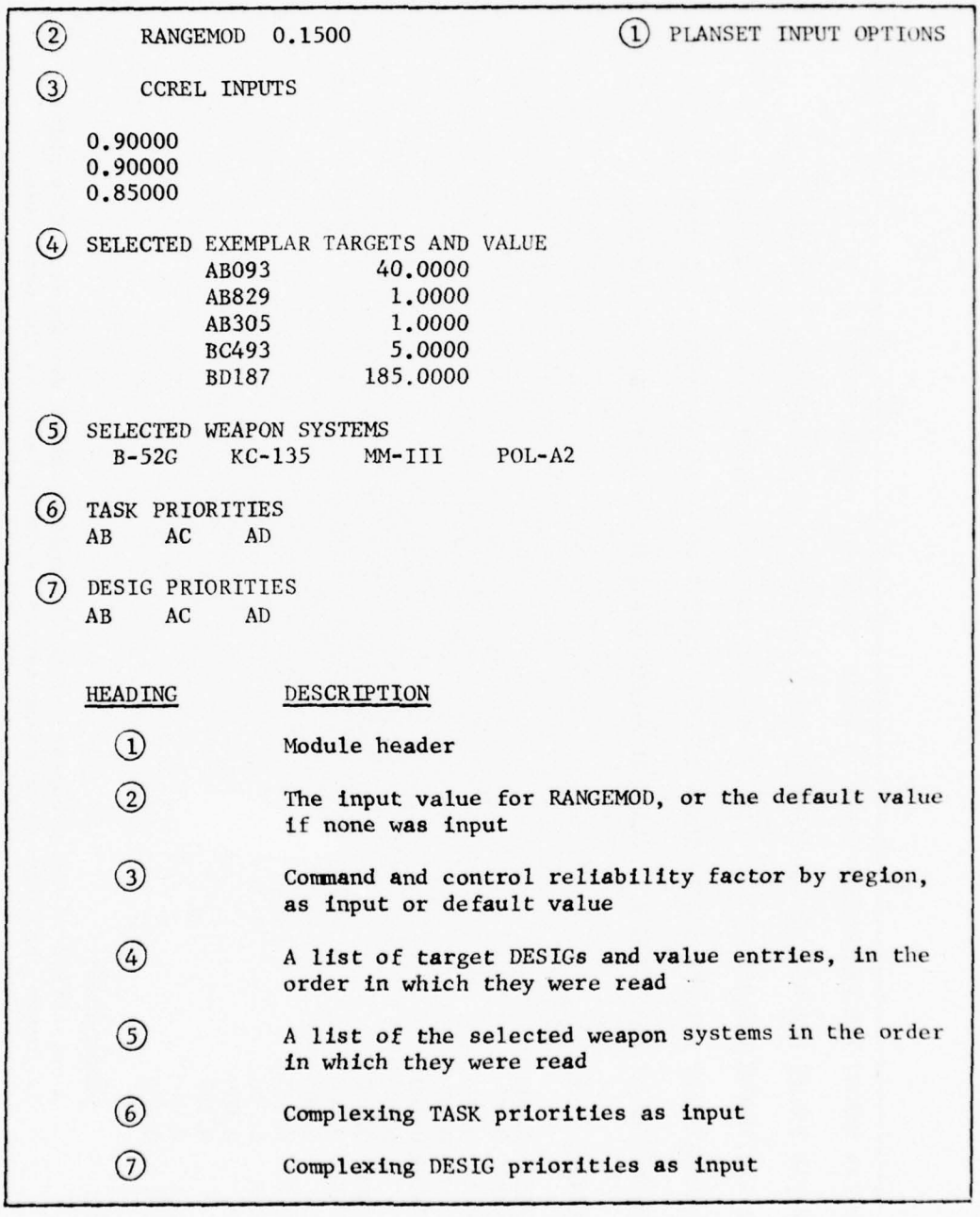


Figure 15. PLANSET User Input Information

```
(1) EXEMPLAR TARGET FOR RED BOMBER CLASS IS ROGAN  DESIG NO. = AB093 VALUE =   0.

    EXEMPLAR TARGET FOR RED DEFCON CLASS IS HANOI  DESIG NO. = AB829 VALUE =   3.000

    EXEMPLAR TARGET FOR RED C/C    CLASS IS MOSCOW DESIG NO. = AB305 VALUE =   3.000

    EXEMPLAR TARGET FOR RED NUCSTO CLASS IS KARPIN DESIG NO. = BC493 VALUE =   5.000

    EXEMPLAR TARGET FOR RED U/I    CLASS IS MOSCOW DESIG NO. = BD187 VALUE = 388.000

(2) CLASSNAME CLASSVAL

    MISSILE  0.000
    BOMBER   0.000
    TANKER   0.000
    DEFCONTR 0.200
    INTCPTOR 0.000
    C/C      0.000
    NUCSTOR  0.000
    AIRFIELD 0.000
    NAVAL    0.000
    TROOPS   0.000
    COMMUN   0.000
    MISC     0.000
    U/I      0.248
    ABMDEF   0.000
    CLASS15  0.000
```

HEADING	DESCRIPTION
(1)	A repetition of the exemplar target information which was input. This print is issued each time an exemplar target is encountered on the data base.
(2)	A list of the normalized values for each class. A zero CLASSVAL appears here for any CLASSNAME for which no exemplar target value or a value of zero was input.

Figure 16. PLANSET Target Class Value Print

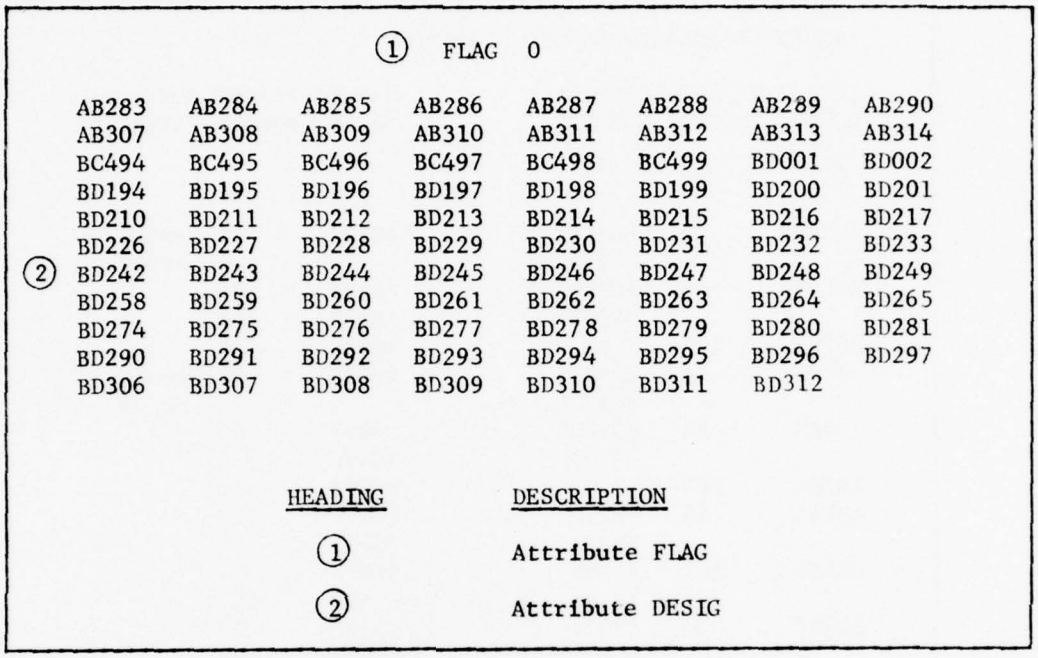


Figure 17. PLANSET FLAG-DESIG Print

TARGET DESIGNATOR/NUMBER DIRECTORY

TARGET DESIG ①	TARGET NUMBER ②	COMPLEX ELEMENT ③	TARGET DESIG ①	TARGET NUMBER ②	COMPLEX ELEMENT ③
AB279	3	BD223	AB831	21	AB831
		AB279			AB307
AB280	63	AB280	AB832	81	
		AB309	AB833	141	
AB281	123		AB834	42	
AB282	24	AB311	AB835	102	AB835
		AB282			AB308
AB283	84	BD200	BC493	90	
		AB283	BC494	150	
AB284	144		BC495	51	
AB285	45	AB285	BC496	111	
		BD312	BC497	12	
AB286	105	AB286	BC498	72	
		AB312	BC499	132	
AB287	6	AB313	BD001	33	
		AB287	BD002	93	
AB288	66	AB314	BD003	153	
		AB288	BD187	92	
AB289	126	AB289	BD188	152	
		BD197	BD189	53	
AB290	27		BD190	113	
AB291	87		BD191	14	
AB292	147		BD192	74	
AB293	48		BD193	134	

HEADING	DESCRIPTION
①	Target designator (attribute DESIG)
②	Target number; assigned by PLANSET
③	If target belongs to a complex, this column will print all elements within the complex. The first element printed is the representative element; other elements are printed in order of data base storage.

Figure 18. Target DESIGNATOR/Number Directory

(1) WARHEAD TABLE

(2) INDEX	(3) YIELD	(4) PDUD	(5) FFRAC	(6) TYPE
1	4.0000	0.020000	0.700000	MK-18
2	2.0000	0.020000	0.700000	MK-7
3	1.0000	0.020000	0.700000	MK-5

HEADING	DESCRIPTION
(1)	Name of table
(2)	Sequential counter
(3)	Yield of weapon (megatons)
(4)	Probability of a dud weapon
(5)	Warhead fission fraction (i.e., fission yield/total yield)
(6)	TYPE of warhead; link with payload table

Figure 19. Warhead Table Print

(1) ASM TABLE		(4)	(5)	(6)	(7)	(8)	(9)	(10)
(2) INDEX	(3) RANGE	REL	CEP	SPEED	YIELD	PDUD	FFRAC	TYPEASM
1	200.0	0.099999	1.0000	600.0	1.5000	0.020000	0.700000	HNDDOG

HEADING	DESCRIPTION
(1)	Name of table
(2)	Sequential counter
(3)	Range of ASM (nautical miles)
(4)	Reliability of ASM
(5)	CEP of ASM (nautical miles)
(6)	Speed of ASM in knots
(7)	Yield of ASM (megatons)
(8)	Probability of a dud ASM
(9)	ASM fission fraction (i.e., fission yield/total yield)
(10)	TYPE of ASM; links with payload table

Figure 20. ASM Table Print

(1)

PAYLOAD TABLE

(2) PAYTBLNM	(3) NBOMB1	(4) TYPE1	(5) NBOMB2	(6) TYPE2	(7) NASM	(8) TYPEASM	(9) NCM	(10) NDECOY	(11) NAREADEC	(12) MIRVWRHD	(13) PAYALT
B-47A	2	MK-5	0		0		0	0	0	0	HIVAL
B-47B	2	MK-7	0		0		0	0	0	0	HIVAL
B-47C	1	MK-18	0		0		1	0	0	0	HIVAL
B52GH1	4	MK-5	0		2	HNDDOG	1	0	0	0	HIGH
B52GH2	2	MK-18	0		2	HNDDOG	2	2	0	0	LOW
B-52E1	2	MK-7	0		0		1	2	0	0	HIVAL
B-52E2	2	MK-7	0		2	HNDDOG	1	0	0	0	HIVAL
B-58	3	MK-5	1	MK-18	0		1	0	0	0	HIVAL
MM-II	1	MK-17	0		0		0	2	2	3	
MM-IB	1	MK-5	0		0		0	0	0	0	
MM-IA	1	MK-5	0		0		0	0	0	0	
TITAN	1	MK-18	0		0		0	0	0	0	
POSEID	1	MK-20	0		0		0	0	0	10	
POL-A2	3	MK-12	0		0		0	0	0	0	
POL-A3	3	MK-12	0		0		0	0	0	0	

HEADING	DESCRIPTION
(1)	Name of table
(2)	Payload table number; links to a weapon system type
(3)	Number of first bomb type carried
(4)	Type of first warhead (warhead table)
(5)	Number of second bomb type carried
(6)	Type of second warhead (warhead table)
(7)	Number of ASMs
(8)	Type of ASM (ASM table)
(9)	Number of countermeasures carried by vehicle if vehicle is a bomber
(10)	Number of decoys on vehicle
(11)	Number of area decoys for ABM
(12)	Number of reentry vehicles, if MIRV
(13)	Attribute specifying weapon release altitude

Figure 21. Payload Table Print

(1) WEAPON TYPE CHARACTERISTICS

	(2) 1	2	3
(3) TYPE	MM-III	POL-A2	B-52G
(4) CLASS	MISSLE	MISSLE	BOMBER
ALRTDB	0.	0.	0.
ALRTDL	0.	0.	0.
CEP	0.60000	1.00000	0.50000
CMISS	0.00020	0.00035	0.
FUNCTI	ICBM	SLBM	LRA
IRECMO	0	0	1
IREP	4	4	0
LCHINT	1.000	1.000	0.240
NLRTDB	0.	0.	0.
NLRTDL	0.	0.	0.
NMPSIT	1	16	0
PDES	0.10000	0.	0.
PFPF	0.05000	0.10000	0.
PINC	0.90000	0.86000	0.
PLABT	0.08000	0.12000	0.
PRABT	0.	0.	0.
RANGE	6300.0	1500.0	8200.0
RANGED	0.	0.	3.0000
RANGER	0.	0.	9700.0
REL	0.790000	0.600000	0.900000
RNGMIN	0.	0.	0.
SIMLUN	5	1	1
SPDLO	0.	0.	270.0
SPEED	12000.0	6000.0	485.0
TOFMIN	0.	0.	0.

HEADING	DESCRIPTION
(1)	Table name
(2)	Column number
(3)	TYPE of weapon system
(4)	Values of the named attributes as input for weapon systems. See Appendix A of Users Manual I for a description of each attribute

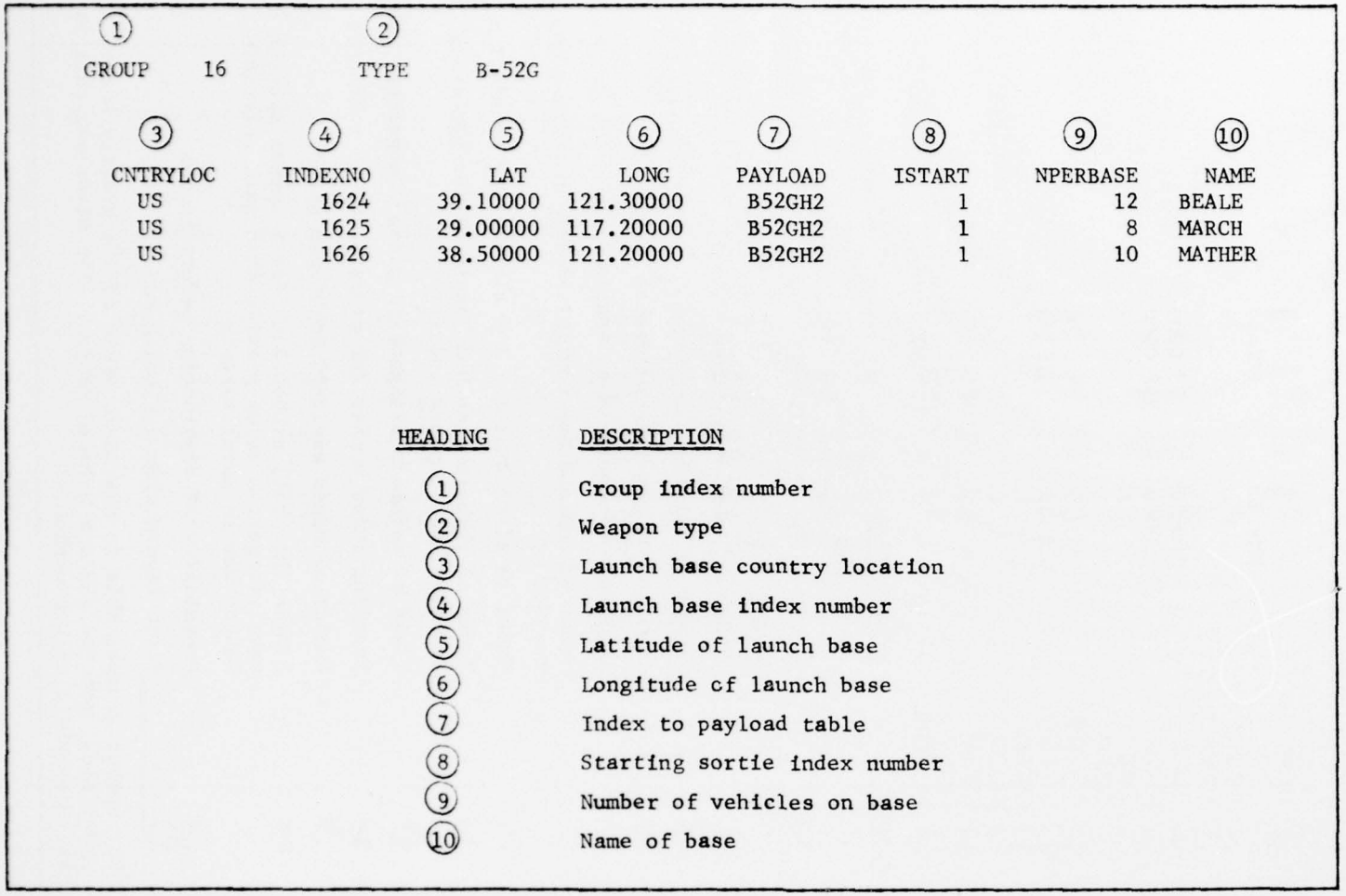
Figure 22. Weapon Type Characteristics

(1)	WEAPON GROUP DATA		
(2)	GROUP	1	2
(3)		MM-III	POL-A2
(4)	GNWPNS	150	16
(5)	GNVEH	50	16
(6)	GLAT	46.0000	65.0000
(7)	GLONG	101.0000	355.0000
(8)	IREG	1	2
(9)	IALERT	1	1
(10)	GREFCODE	0	0
(11)	GYIELD	0.1000	1.0392
(12)	GSTART	1	1
(13)	GBASE	1	1
(14)	GPKNAV	0.	0.
(15)	GSBL	0.1	0.1
(16)	GREFTIME	0.	1.000000

HEADING	DESCRIPTION
(1)	Table name
(2)	Weapon group index number
(3)	Weapon type
(4)	Number of weapons in group
(5)	Number of vehicles in group
(6)	Latitude of centroid of weapon group
(7)	Longitude of centroid of weapon group
(8)	Index to command and control region in which group resides
(9)	Index to alert status: 1 = alert; 2 = nonalert
(10)	Index of refueling method (assigned for bombers); for missiles, payload index
(11)	Yield of warheads assigned to group* (megatons)
(12)	Starting index number for group + 10,000 x NOALERT
(13)	Number of bases assigned to weapon group
(14)	Single shot kill probability for a weapon against a naval target; a value greater than zero restricts weapon use to naval targets
(15)	Probability of destruction before launch
(16)	First launch time for the group

*For bomber groups, this is the basic yield of the gravity bombs. For ASM yields, see the ASM and Warhead tables. For missiles, this is the mean yield of the warheads.

Figure 23. Weapon Group Data Print



(1) GROUP 16 (2) TYPE B-52G

(3) CNTRYLOC	(4) INDEXNO	(5) LAT	(6) LONG	(7) PAYLOAD	(8) ISTART	(9) NPERBASE	(10) NAME
US	1624	39.10000	121.30000	B52GH2	1	12	BEALE
US	1625	29.00000	117.20000	B52GH2	1	8	MARCH
US	1626	38.50000	121.20000	B52GH2	1	10	MATHER

HEADING	DESCRIPTION
(1)	Group index number
(2)	Weapon type
(3)	Launch base country location
(4)	Launch base index number
(5)	Latitude of launch base
(6)	Longitude of launch base
(7)	Index to payload table
(8)	Starting sortie index number
(9)	Number of vehicles on base
(10)	Name of base

Figure 24. Weapon Group Launch Base Print Option

(1) TARGET SORT LIST

(2) TASK	(3) DESIG	(4) NAME	(5) CTRYLOC	(6) FLAG	(7) INDEXNO	(8) COMPLEX NUMBER	(9) STATUS	(10) TYPE	(11) TGTNUM	(12) VALUE	(13) NTINT	(14) LAT	(15) LONG	(16) VULN
	AB829	HANOI	NV	0	2227	1	C	DISTRI	60	3.000	0	21.023	254.170	12P0
	AB830	CANTON	MX	0	2228			DISTRI	120	3.000	0	23.160	246.750	12P0
	AB831	PEKING	MX	0	2229	5	C	DISTRI	21	3.000	0	39.920	243.590	12P0
	AB832	NANKIN	MX	0	2230			DISTRI	81	3.000	0	32.050	241.200	12P0
	AB833	FUCHOU	MX	0	2231			DISTRI	141	3.000	0	26.100	240.700	12P0
	AB834	MUKDER	MX	0	2232			DISTRI	42	3.000	0	41.810	236.670	12P0
	AB835	PYONGY	MX	0	2233	33	C	DISTRI	102	3.000	0	39.010	234.210	12P0
	AB279	KHADAR	MX	0	2234	2	CL	DISTRI	3	3.000	0	48.550	224.850	12P0
	AB280	PRAGUE	MX	0	2235	1	C	DISTRI	63	3.000	0	54.090	345.580	12P0

HEADING	DESCRIPTION
(1)	Name of table
(2)	Task - subtask
(3)	Target designator
(4)	Target name
(5)	Country location
(6)	Attribute FLAG
(7)	Target Index number
(8)	Complex number, if blank target not a complex member
(9)	Target status: = blank, simple target = C, member of a complex = CL, lead member of a complex = M, multiple target = ML, lead member of a multiple target
(10)	Target type
(11)	Reordered target number, assigned by SRTTGT
(12)	Value of the target
(13)	Number of terminal interceptors
(14)	Target latitude
(15)	Target longitude
(16)	Target vulnerability

Figure 25. Target List Print

(1) COMPLEX TARGET LISTING

(2) →

ICOMPLEX	INDEXNO	NAME	TASK-ST	DESIG	SIDE	CLASS	TYPE	LAT	LONG	VULN
4	2233	PYONGY		AB835	RED	DEFCON	DISTRI	39.010	234.210	12P0
4	2365	PYONGY		AB308	RED	C/C	NATION	39.000	234.200	12Q9
5	2229	PEKING		AB831	RED	DEFCON	DISTRI	39.920	243.590	12P0
5	2364	PEKING		AB307	RED	C/C	NATION	39.900	243.600	15Q9
12	2743	KHABAR		BD223	RED	U/I	RCITY	48.600	224.800	12P0
12	2234	KHABAR		AB279	RED	DEFCON	DISTRI	48.550	224.850	12P0
13	2227	HANOI		AB829	RED	DEFCON	DISTRI	21.020	254.170	12P0
13	2363	HANOI		AB306	RED	C/C	NATION	21.010	254.170	15Q9

HEADING	DESCRIPTION
(1)	Table name
(2)	Self explanatory target data. The first target for each complex is the representative target of the complex.

Figure 26. Complex Target Data Print

1	MODULE PLANSET CALLED WITH VERB EQUAL TO (O12) PLANSET was called with incorrect verb, processing terminates.
2	MODULE PLANSET CALLED WITH NO INPUT PARAMETERS Check inputs, there are none.
3	MODULE PLANSET CANNOT DETERMINE ADVERB (O12) Probably an input spelling error, recheck.
4	MODULE PLANSET: NO. OF CCREL PARAMETERS EXCEED MAX There are only 20 entries allowed for command and control reliabilities.
5	MODULE PLANSET: NO. OF SELECTED DESIGS EXCEEDS MAX There are only 200 entries allowed for alpha-portions of DESIG for complexing.
6	MODULE PLANSET: NO OF SELECTED TASKS EXCEEDS MAX There are only 48 entries allowed for TASK for complexing.
7	MODULE PLANSET: NO. OF SELECTED WEAPON SYSTEMS EXCEED MAX There are only 100 entries allowed for selected weapon systems.
8	NO MATCH FOR TASK AND DESIG PLANSET failed to find a new representative target using the TASK and PRIORITY inputs. Lead target will become representative; no action necessary.
9	PLANSET MODULE: TYPE COULD NOT BE FOUND FOR GROUP (I4) GTYPE: (A6) PLANSET could not find weapon record for GTYPE while adjusting the number of bomber refuels. Consult a maintenance programmer.
10	TANKER DATA BASE ERROR AT DESIG (A6) IREFUEL (I6) PLANSET encountered a tanker base with IREFUEL greater than -4 but less than 0. Processing continues, call maintenance programmer.
11	MORE THAN (I5) WEAPON GROUPS PLANSET formed the maximum number of weapon groups allowed and tried to form an additional one. Weapon site being processed at the time was ignored. Consult a maintenance programmer.

Figure 27. PLANSET Error Messages

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The computerized Quick-Reacting General War Gaming System (QUICK) will accept input data, automatically generate global strategic nuclear war plans, provide statistical output summaries, and produce input tapes to simulator subsystems external to QUICK.

The Users Manual consists of four volumes which are intended for the user analyst who is concerned with preparing the data base for a war game, selecting optional features of QUICK, designating control parameters, submitting computer jobs, and analyzing computer output. This volume, Volume II, provides detailed →

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instructions for execution of the Weapon/Target Identification Subsystem and the modules it comprises.

The Users Manual complements the other QUICK Computer Manuals to facilitate application of the war gaming system. These manuals (Series 9-74 for Volumes I & II, Series 9-77 for Volumes III & IV) are published by the Command and Control Technical Center (CCTC), Defense Communications Agency (DCA), The Pentagon, Washington, DC 20301.