AD-A031 615 EVALUATION TECHNOLOGIES INC ARLINGTON VA F/G 17/2
COMMEL II USER'S MANUAL. VOLUME III. APPENDIXES.(U)
OCT 76 J K WAITE DAAG39-76-C-0014
UNCLASSIFIED CAA-D-76-6-VOL-3 NL

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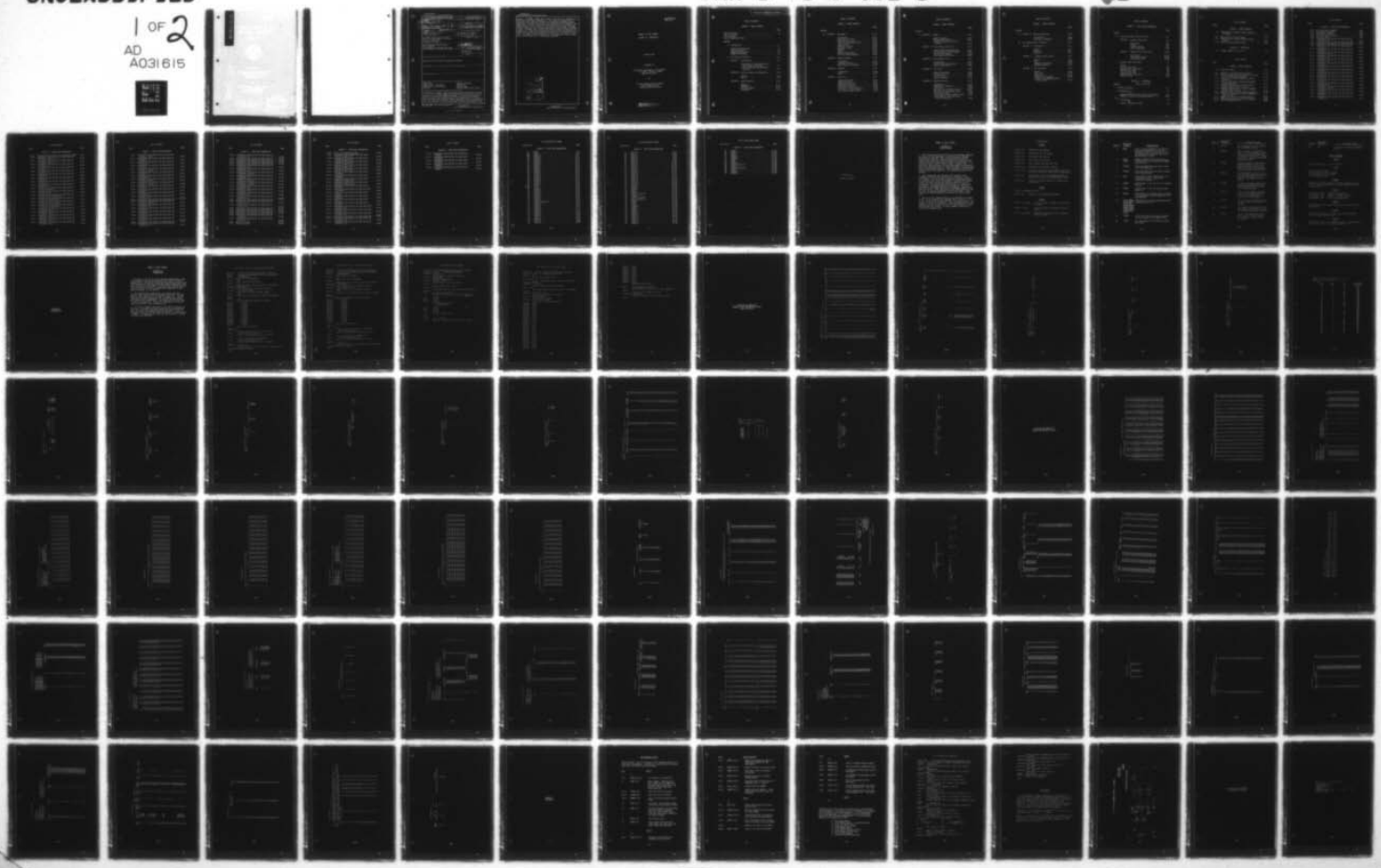

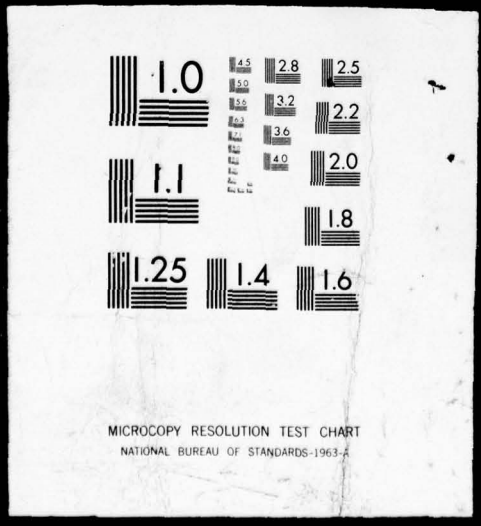

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: CAA-D-76-6-Vol-3	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): COMMEL II USER'S MANUAL. Volume III. (VOLUMES I, II and III) Appendixes.	5. TYPE OF REPORT & PERIOD COVERED: rept. Final, Oct 1975—Feb 1976,
6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s): Mr John K. Waite et al	8. CONTRACT OR GRANT NUMBER(s): DAAG 39-76-C-0014
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Evaluation Technologies, Incorporated, 1701 N. Fort Myer Drive, Arlington, VA 22209	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: US Army Concepts Analysis Agency, ATTN: MOCA-SAI, 8120 Woodmont Ave, Bethesda, MD 20014	12. REPORT DATE: October 1976
	13. NUMBER OF PAGES: 607 (12) 1091.
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

COMMEL Model
Communications - electronics
Communications System Analysis
Simulation
Computer simulation
War gaming
Computer model
Tactical communication analysis

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This document is a manual to assist military and operations research analysts in the use of the COMMEL (communications-electronics) II Model and in the preparation of the input data base for the model. This manual was prepared by Evaluation Technologies, Incorporated (ETI) under contract to the US Army Concepts Analysis Agency (CAA) to document the COMMEL II Model, as improved by ETI; a CAA updating of the manual, where required, based on experience gained while using the model in early 1976 has been included in this edition of the

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document. The COMMEL II Model was an element of the CAA study "Communications Operational Effectiveness Methodology." This study was an element of the Operational Effectiveness of Communications methodology development program sponsored by the Deputy Chief of Staff for Operations and Plans (DCSOPS). The COMMEL Model is a fully computerized combat simulation which includes dynamic interface between tactical operations and communications systems. The model output provides statistics on both communications system performance and combat outcome. The COMMEL Model simulates division-level combat with resolution to company level. Tactical and communications activities are represented by four interrelated submodels which periodically transmit event statistics to output files. The model is basically deterministic although message routing factors may be varied through use of a random number generator.

DOCUMENTATION
CAA-D-76-6

COMMEL II USER'S MANUAL

VOLUME III - APPENDIXES

October 1976

Prepared by

Evaluation Technologies, Incorporated
Arlington, Virginia 22209
DAAG 39-76-C-0014

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VOLUME II - INPUT DATA PREPARATION

APPENDIX A:

Error Messages

APPENDIX A
ERROR MESSAGES

1. The following section describes the error messages generated by routines of the preprocessor and simulator when abnormal conditions are detected. Many of these conditions reflect invalid input data, but several generated in the simulator are triggered by arrays being filled to capacity by what may or may not be the normal course of model events. In many cases, additional investigation by an analyst/programmer is required to assess the cause and effect of conditions noted in these messages. Such an investigation requires a full knowledge of all data and working arrays of the model at a level beyond the scope of this document.

2. Most preprocessor and simulator error messages, when triggered, print only the words "Error n," where "n" is the error number. The list of Main Program Error Messages consists of conditions which cause the messages in quotes to be printed. In most instances, the printed message is meant to be self-explanatory. The preprocessor error message lists shown here are keyed to the program generating the message. The errors generated by the COMINP program are triggered by communications data deck errors. Those generated by the STMINP program are due to errors in the STM (background traffic) data decks. Those found by the TACNEW program are from errors in tactical input data.

3. Not all of the listed simulator error conditions will abort a run. In the Simulator Error Message list, errors 3, 4, 9, 11, 19, 28, 30 and 32 are warnings and will not stop execution. For example, if error 19 is detected, a generated message can not be placed in the full message log, so it is cancelled as if it had encountered a busy circuit. A later attempt is then made to introduce the message again.

PREPROCESSOR

COMINP

"Error 1": Incorrect net number.

"Error 2": Input deck out of order.

"Error 3": Incorrect net number.

"Error 4": Net greater than 600.

"Error 5": Zero CHNLOG data for the net.

"Error 6": Incorrect arc channel number.

"Error 7": T1 or T2 unit number in ARCLOG data does not match entry in RUTLEG for listed arc.

"Error 8": Beginning or end of messenger route in RUTLOG data does not match RUTIEG entry.

"Error 9": Incorrect index position in CMPLOG for listed arc.

STMINP

"Lack of Parameter Card"

"Error 1": Incorrect identification field.

TACNEW

"Error 3 xxxxx": Tactical input constant on line out of order.

"Error 3 AB": Tactical input data deck AB out of order.

"Error 4 xxxxx": Incorrect line number for tactical input constant.

Error #	Generating Program	Probable Cause
3	BNDAL	A pair of units scheduled to be deleted from the coordination lists are not currently in the lists or a pair of units are scheduled to be added to the lists and the lists are full.
4	DATGT, TARGET	Damage assessment cannot be made for a completed fire mission because the DAMAGE lists are full.
9	PTGPCON	A pair was bumped from the group contact lists (warning only).
11	PTGPCON	A pair was bumped from the pattern contact lists (warning only).
13	BNEFF	A battalion has been detected that has a group index of zero. Fatal error. Simulator is aborted.
15	FARSEE	Invalid data, a zero terrain class has been detected.
17	FARSEE	Invalid data, a zero unit type has been detected.
18	FARSEE	Invalid data, an erroneous code to indicate an intelligence reporting headquarters has been detected.
19	ARTINF,BNDEC BRIDEC,DATGT DIV15,DIV5 DVARBN,FARSEE GNDINF,INTCO INTRAN,MOVMSG STATRF,SUBA TARGET	A message can not be generated because the message logs are full.
22	PATMOV	A unit which does not exist in a pattern has been detected in the NOMOVE array.
24	TERTYP	An x coordinate is not within the allowable range.

Error #	Generating Program	Probable Cause
26	TERTYP	A y coordinate is not within the allowable range.
28	UNITAC	Not an error. A contacted unit in the temporary contact lists has been displaced by a contacted unit with a lesser separation distance from the contacting unit.
30	UNITAC	The processing of the group/ pattern contact lists has been terminated because the maximum number of contacting units has been established.
32	BRIDAL	The strength of each unit in a group which was just committed was attritted to zero before committment was complete.
38	SELRTE	A sector has been defined by subroutine BRIDAL for which the boundary points are not on the defined map.
40	SELRTE	There is not enough storage left in the ROUTE array to store the coordinates of a route to be calculated.
41	SELRTE	The sum of all turning points on all routes has been exceeded.
42	SELRTE	The storage required for the temporary array ITEMP exceeds the amount that was allocated.
44	SELRTE	Due to the calculated costs of the grid squares within the sector, a route cannot be found.

Error #	Generating Program	Probable Cause
104	MIM	Invalid or missing parameter card.

MAIN PROGRAMS

Erase

"Mesno looked for but not erased"

Mim

"Illegal param card"
"Main param (1) card missing"
"No random seed param card"
"No stm param card"

Ruting

"Subroutine RUTING used all of the available nodes during a route selection. Program array LG must be redimensioned."

Stmgen

"Diagnostic 01": Failure to match or
"Diagnostic 02": exceeded a random number
"Diagnostic 03": $0 \leq R \leq 1$. Program error
"Diagnostic 04": in the internal sort.

Switch

"Subroutine SWITCH found arcs xxx and xxx not to be switchable."

Unldcr

"Subroutine UNLDCR could not find message number xxx on channel number xxx."

UnLoad

"Subroutine UNLOAD was unable to find message xxx in cktlog xxx to xxx of channel xxx***."

APPENDIX B
PREPROCESSOR

APPENDIX B
PREPROCESSOR

1. The model is fed data by three different preprocessors, each corresponding to one of the three basic data areas: tactical, communications, and subtactical messages (nonessential tactically). Each preprocessor reads input data and produces intermediate files that are read by the simulator. The data blocks that are read by each preprocessor are easily determined by examination of the sample runstreams in this section.

2. The communications preprocessor is run twice; once for attacker input data and once for defender input data. The data decks and their ordering are as shown in Chapter V.3. The STM (background traffic) preprocessor is run once and may include both attacker and defender data. The ordering of STM data input is given in Chapter V.4. The tactical preprocessor is run once using the data set listed in Chapter V.2.b.

3. The file and element names used in the sample runstreams are not rigid. The model user should construct his own program and data files and his runstreams should be compatible. A set of data and program files are available on tape for a recent version of COMMEL. If requested, this tape and instructions for transfer to disk will be furnished.

Run Stream for Blue Communications Input

```
@RUN,/TP   B1910,G4375T5097,UNCLASSIFIED,10,400
@HDG,P     COMINP,PGM(ATTACKER) ***UNCLASSIFIED***
@ASG,A     91COMMELABS
          Program file assigned.
@ASG,A       X
          Input data file assigned.
@ASG,T       8.
          Temporary file (=logical unit) for output.
@DELETE,C  BLUCOMFILE.
          Delete this file if already created.
@ASG,UP      BLUCOMFILE.,F40
          Create file to hold binary output.
@ASG,T       20.
          Temporary file (=logical unit) for program
input.
@ELT,I       20.
          Insert following elements in TPF$
@ADD,P            X.BCON
@ADD,P            X.BARC
@ADD,P            X.BCHN
@ADD,P            X.BRUT
@ADD,P            X.BUNT
@ADD,P            X.BDAM
@ADD,P            X.BVOL
@ADD,P            X.BTPS
@ADD,P            X.BSET
@ADD,P            X.BWIR
@ADD,P            X.BDLY
@ADD,P            X.BCST
@ADD,P            X.BUSE
@ADD,P            X.BPRE
          Input data (attacker).
@END
@ED20,20.
          Transfer input from TPF$ to file 20.
@XQT,A       91COMMELABS.COMINP-ABS
          Execute communications input program.
@PMD,E
          Dump if error aborts execution.
@XQT,A       91COMMELABS.COMLST-ABS
          Execute communications list program.
@PMD,E
@COPY 8., BLUCOMFILE.
          Transfer output from temporary to fixed file
(attacker communications).
@FIN
```

Run Stream for Red Communications Input

```
@RUN,/TP    B1910,G4375T5097,UNCLASSIFIED,10,400
@HDG,P      COMINP,PGM(DEFENDER) ***UNCLASSIFIED***
@ASG,A      91COMMELABS
          Program file assigned.
@ASG,A      X
          Input data file assigned.
@ASG,T      8.
          Temporary file (=logical unit) for output.
@DELETE,C   REDCOMFILE.
          Delete this file if already created.
@ASG,UP     REDCOMFILE., F40
          Create file to hold binary output.
@ASG,T      20.
          Temporary file (=logical unit) for program
input.
@ELT,I 20.
          Insert following elements in TPF$
@ADD,P          X.RCON
@ADD,P          X.RARC
@ADD,P          X.RCHN
@ADD,P          X.RRUT
@ADD,P          X.RUNT
@ADD,P          X.RDAM
@ADD,P          X.RVUL
@ADD,P          X.RTPS
@ADD,P          X.RSET
@ADD,P          X.RWIR
@ADD,P          X.RDLY
@ADD,P          X.RCST
@ADD,P          X.RUSE
@ADD,P          X.RPRE
          Input data (defender).
@END
@ED 20,20.
          Transfer input from TPF$ to file 20.
@XQT,A      91COMMELABS.COMINP-ABS
          Execute communications input program.
@PMD,E
          Dump if error aborts execution.
@XQT,A      91COMMELABS.COMLST-ABS
          Execute communications list program.
@PMD,E
@COPY 8. REDCOMFILE.
          Transfer output from temporary to fixed file
(defender communications).
@FIN
```

Run Stream for STM Input

```
@RUN,/TP  A1911,G4375T5097,UNCLASSIFIED,10,300
@HDG,P  STM,PGM     ***UNCLASSIFIED***
@DELETE,C  STMFILE.
          Delete file if already created.
@ASG,A  91COMMELABS
          Assign program file.
@ASG,UP  STMFILE.  F40
          Create fixed file for output.
@ASG,A  X
          Assign input data file.
@ASG,T  11
          Temporary file (= logical unit) for program
output.
@XQT     91COMMELABS.STMINP-ABS
          Execute STM input and STM list programs.
            000                                  CON
@ADD      x.BSTA
@ADD      x.BSTB
@ADD      x.BSTC
          Attacker input data
              [BLANK CARD]
            000                                  CON
@ADD      x.RSTA
@ADD      x.RSTB
@ADD      x.RSTC
          Defender input data
9999
TEST
@COPY     11.,  STMFILE.
          Transfer STM output data to fixed file.
@FIN
```

Run Stream for Tactical Input

```
@RUN,/TPR    B1912,G4375T5097,UNCLASSIFIED,10,500
@HDG,P  TACINP PGM  ***UNCLASSIFIFD***
@ASG,A    X
          Assign input data file.
@ASG T 10.
          Assign temporary file (= logical unit) for
program output.
@DELETE,C  TACFILE.
          Delete file if already created.
@ASG T 20.
          Temporary file (= logical unit) for program
input.
@ASG,UP   TACFILE.,  F40
          Create fixed file for output.
@ASG,A    91COMMELLABS.
          Assign program file.
@XQT,Z    91COMMELABS. READ
          Loads data for input routine.
@ADD,P    X.CC
@ADD,P    X.AAA
@ADD,P    X.RB
@ADD,P    X.RA
@ADD,P    X.AA
@ADD,P    X.AB
@ADD,P    X.EB
@ADD,P    X.EM
@ADD,P    X.BA
@ADD,P    X.BB
@ADD,P    X.BC
@ADD,P    X.BD
@ADD,P    X.BE
@ADD,P    X.CA
@ADD,P    X.DA
@ADD,P    X.EA
@ADD,P    X.WE
@ADD,P    X.FC
@ADD,P    X.AT
@ADD,P    X.ED
@ADD,P    X.EE
@ADD,P    X.FA
@ADD,P    X.FB
@ADD,P    X.FC
@ADD,P    X.HA
@ADD,P    X.JA
@ADD,P    X.KA
```

```
@ADD,P    X.LA
@ADD,P    X.EG
@ADD,P    X.LB
@ADD,P    X.NA
@ADD,P    X.OA
@ADD,P    X.PA
@ADD,P    X.PB
@ADD,P    X.PC
@ADD,P    X.PD
@ADD,P    X.QA
          Tactical input data.
@
@XQT      91COMMELABS. TACINP-ABS
          Execute tactical input and list programs.
@PMD,E
          Dump if error aborts program.
@COPY 10.   TACFILE
          Transfer tactical data to fixed file.
@FIN
```

FOLLOWING ARE SAMPLES OF
COMMUNICATIONS PREPROCESSOR OUTPUT
(BLUE DATA ONLY)

SUBROUTINE A R C L S T - READ S ARCLOG, ARCFLG AND ARCTYP LIST

ARC NR.	RTF TAG	SYS TAG	CHANNEL INDEX	PARLE INDEX	EQPLOG 1ST END UNIT	INDEX 2ND END UNIT	TYPE	1ST END UNIT	2ND END UNIT	TIMES UNIT	TERM	ARC MUL	TIME NEXT CHECKED	SET TYPES 1ST END	2ND END	IF 1 CHECK T1	IF 1 CHECK T2	IN/OUT TAG
1	IN	IN	1	0	1	2	1	1	2	.1	.1	1.00	.00	4	4	0	0	IN
2	IN	IN	1	0	1	3	1	1	3	.1	.1	1.00	.00	4	4	0	0	IN
3	IN	IN	1	0	1	4	1	1	4	.1	.1	1.00	.00	4	4	0	0	IN
4	IN	IN	1	0	1	5	1	1	5	.1	.1	1.00	.00	4	4	0	0	IN
5	IN	IN	1	0	1	6	1	1	6	.1	.1	1.00	.00	4	4	0	0	IN
6	IN	IN	1	0	1	7	1	1	108	.1	.1	1.00	.00	4	4	0	0	IN
7	IN	IN	1	0	1	8	1	1	111	.1	.1	1.00	.00	4	4	0	0	IN
8	IN	IN	1	0	1	9	1	1	118	.1	.1	1.00	.00	4	4	0	0	IN
9	IN	IN	1	0	1	10	1	1	119	.1	.1	1.00	.00	4	4	0	0	IN
10	IN	IN	1	0	1	11	1	1	120	.1	.1	1.00	.00	4	4	0	0	IN
11	IN	IN	1	0	2	3	1	2	3	.1	.1	1.00	.00	4	4	0	0	IN
12	IN	IN	1	0	2	4	1	2	4	.1	.1	1.00	.00	4	4	0	0	IN
13	IN	IN	1	0	2	5	1	2	5	.1	.1	1.00	.00	4	4	0	0	IN
14	IN	IN	1	0	2	6	1	2	6	.1	.1	1.00	.00	4	4	0	0	IN
15	IN	IN	1	0	2	7	1	2	108	.1	.1	1.00	.00	4	4	0	0	IN
16	IN	IN	1	0	2	8	1	2	111	.1	.1	1.00	.00	4	4	0	0	IN
17	IN	IN	1	0	2	9	1	2	118	.1	.1	1.00	.00	4	4	0	0	IN
18	IN	IN	1	0	2	10	1	2	119	.1	.1	1.00	.00	4	4	0	0	IN
19	IN	IN	1	0	2	11	1	2	120	.1	.1	1.00	.00	4	4	0	0	IN
20	IN	IN	1	0	3	4	1	3	4	.1	.1	1.00	.00	4	4	0	0	IN
21	IN	IN	1	0	3	5	1	3	5	.1	.1	1.00	.00	4	4	0	0	IN
22	IN	IN	1	0	3	6	1	3	6	.1	.1	1.00	.00	4	4	0	0	IN
23	IN	IN	1	0	3	7	1	3	108	.1	.1	1.00	.00	4	4	0	0	IN
24	IN	IN	1	0	3	8	1	3	111	.1	.1	1.00	.00	4	4	0	0	IN
25	IN	IN	1	0	3	9	1	3	118	.1	.1	1.00	.00	4	4	0	0	IN
26	IN	IN	1	0	3	10	1	3	119	.1	.1	1.00	.00	4	4	0	0	IN
27	IN	IN	1	0	3	11	1	3	120	.1	.1	1.00	.00	4	4	0	0	IN
28	IN	IN	1	0	4	5	1	4	5	.1	.1	1.00	.00	4	4	0	0	IN
29	IN	IN	1	0	4	6	1	4	6	.1	.1	1.00	.00	4	4	0	0	IN
30	IN	IN	1	0	4	7	1	4	108	.1	.1	1.00	.00	4	4	0	0	IN
31	IN	IN	1	0	4	8	1	4	111	.1	.1	1.00	.00	4	4	0	0	IN
32	IN	IN	1	0	4	9	1	4	118	.1	.1	1.00	.00	4	4	0	0	IN
33	IN	IN	1	0	4	10	1	4	119	.1	.1	1.00	.00	4	4	0	0	IN
34	IN	IN	1	0	4	11	1	4	120	.1	.1	1.00	.00	4	4	0	0	IN
35	IN	IN	1	0	5	6	1	5	6	.1	.1	1.00	.00	4	4	0	0	IN
36	IN	IN	1	0	5	7	1	5	108	.1	.1	1.00	.00	4	4	0	0	IN
37	IN	IN	1	0	5	8	1	5	111	.1	.1	1.00	.00	4	4	0	0	IN
38	IN	IN	1	0	5	9	1	5	118	.1	.1	1.00	.00	4	4	0	0	IN
39	IN	IN	1	0	5	10	1	5	119	.1	.1	1.00	.00	4	4	0	0	IN
40	IN	IN	1	0	5	11	1	5	120	.1	.1	1.00	.00	4	4	0	0	IN
41	IN	IN	1	0	6	7	1	6	108	.1	.1	1.00	.00	4	4	0	0	IN
42	IN	IN	1	0	6	8	1	6	111	.1	.1	1.00	.00	4	4	0	0	IN
43	IN	IN	1	0	6	9	1	6	118	.1	.1	1.00	.00	4	4	0	0	IN
44	IN	IN	1	0	6	10	1	6	119	.1	.1	1.00	.00	4	4	0	0	IN
45	IN	IN	1	0	6	11	1	6	120	.1	.1	1.00	.00	4	4	0	0	IN
46	IN	IN	1	0	7	8	1	108	111	.1	.1	1.00	.00	4	4	0	0	IN
47	IN	IN	1	0	7	9	1	108	118	.1	.1	1.00	.00	4	4	0	0	IN
48	IN	IN	1	0	7	10	1	108	119	.1	.1	1.00	.00	4	4	0	0	IN
49	IN	IN	1	0	7	11	1	108	120	.1	.1	1.00	.00	4	4	0	0	IN
50	IN	IN	1	0	8	9	1	111	118	.1	.1	1.00	.00	4	4	0	0	IN
51	IN	IN	1	0	8	10	1	111	119	.1	.1	1.00	.00	4	4	0	0	IN

COMINP 0110- (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE C H L O L S - WRITES CHNLOG AND CKTLOG

CHANNEL INDEX	NEGATIVE IF NET CHANNEL	RUTLOG INDEX WIRE NR.	MAXIMUM SECURITY CLASS	CHANNEL USAGE	HOW MANY GAME MSG.	NR. OF CIRCUIT, OF MESSENGER	MSG NR.
1	PLUS	1	1	9	0	8	0
							0
							0
							0
							0
							0
							0
							0
2	PLUS	1	1	9	0	16	0
							0
							0
							0
							0
							0
							0
							0
							0
							0
							0
							0
							0
							0
							0
3	MINUS	0	1	3	0	1	0
4	MINUS	0	1	37	0	4	0
							0
							0
							0
							0
5	MINUS	0	1	3	0	1	0
6	MINUS	0	1	3	0	1	0
7	MINUS	0	1	3	0	1	0
8	MINUS	0	1	37	0	1	0
9	MINUS	0	1	37	0	1	0
10	MINUS	0	1	37	0	1	0
11	PLUS	0	0	0	0	1	0
12	PLUS	0	0	0	0	1	0
13	PLUS	0	0	0	0	1	0
14	MINUS	0	1	3	0	1	0
15	MINUS	0	1	3	0	1	0
16	MINUS	0	1	3	0	1	0
17	MINUS	0	1	3	0	1	0
18	MINUS	0	1	3	0	1	0
19	MINUS	0	1	3	0	1	0
20	MINUS	0	1	3	0	1	0
21	MINUS	0	1	3	0	1	0
22	MINUS	0	1	3	0	1	0
23	MINUS	0	1	3	0	1	0
24	MINUS	0	1	3	0	1	0
25	PLUS	0	0	0	0	1	0
26	PLUS	0	0	0	0	1	0

COMINP 01(0n (ATTACKER) ••• UNCLASSIFIED •••

SUBROUTINE C P D L S T - WRITES CMPARC AND CMPLOG LISTS

ARC INDEX	NR. OF LINKS	SET TYPES 1ST END UNIT	2ND END UNIT	WIRE NR.	UNIT NR.	EQPLOG 1ST END UNIT	INDEX 2ND END UNIT
0	0	0	0	0	0	0	0
		0	0	0	0	0	0

COMINP 01100 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE S T P L S T - WRITES STYPLG

	STATIONARY	PREPARING	MOVING	EMPLACING
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5

COMINP DIION (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE V U L N R L S T - WRITES VULNLG

DAMAGE TYPE	VULNERABILITY OF ONE ITEM OF EQUIPMENT
1	.18750
2	.39063
3	.00000
4	.00000
5	.00000
6	1.09375
7	.00000
8	1.79688

COMIMP 0110 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE E Q P L S T - WRITES EQPLOG , DMGLOG AND RPARLG

EQPLOG LIST

PIECE INDEX	DMGLOG INDEX	UNIT INDEX	TIME LAST CHECKED OR (IF NEGATIVE) REPAIR TIME
1	4	1	.000
2	4	2	.000
3	4	3	.000
4	4	4	.000
5	4	5	.000
6	4	6	.000
7	4	108	.000
8	4	111	.000
9	4	118	.000
10	4	119	.000
11	4	120	.000
12	4	1	.000
13	4	2	.000
14	4	3	.000
15	4	4	.000
16	4	5	.000
17	4	6	.000
18	4	108	.000
19	4	111	.000
20	4	118	.000
21	4	119	.000
22	4	120	.000
23	1	1	.000
24	1	3	.000
25	1	4	.000
26	1	5	.000
27	1	6	.000
28	1	108	.000
29	1	118	.000
30	1	119	.000
31	1	120	.000
32	1	1	.000
33	1	2	.000
34	1	3	.000
35	1	108	.000
36	1	118	.000
37	1	119	.000
38	1	120	.000
39	1	97	.000
40	1	98	.000
41	1	99	.000
42	1	4	.000
43	1	11	.000
44	1	12	.000
45	1	13	.000
46	1	14	.000
47	1	15	.000
48	1	101	.000
49	1	109	.000
50	1	5	.000

COMINP 01)0a (ATTACKER) ••• UNCLASSIFIED •••

DMGLOG LIST

INDEX	FLAG	EQUIPMENT ITEMS OF TYPES 1	2	3	4	5	6	7	8	AVERAGE REPAIR TIME	FAILURE PROB.
1	PARALLEL	3	0	0	0	0	0	0	0	30.00	.0004997
2	SERIES	3	2	0	0	0	0	0	0	50.00	.0007973
3	SERIES	0	0	0	0	0	0	0	2	60.00	.0008965
4	SERIES	0	0	0	0	0	4	0	4	200.00	.0012970

COMINP D110 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE C O N L S T - WRITES CONCOS , CONDLY AND TYPLOG

ARC TYPE TO BE SWITCHED FROM	ARC TYPE TO BE SWITCHED TO	CONNECT TIME BETWEEN ARCS	CONNECT COST BETWEEN ARCS
1	1	.03	15
1	4	.17	15
1	11	.03	15
4	1	.17	15
11	1	.03	15
4	4	.12	15
11	11	.03	16

COMINP 0110 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE D L Y L S T - WRITES DLYLOG

ARC TYPE NUMBER	DISPLACEMENT DELAY	EMPLACEMENT DELAY
1	20	470
2	20	500
3	20	600
4	20	600
5	20	600
6	20	600

COMINP 01100 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE P A R L S T - WRITES PARLOG

NPARC INDEX	NUMBER OF ARCS IN SET OF PARALLEL ARCS	ARC NUMBER
1	2	0
1	2	0

COMINP 0110 (ATTACKER) ••• UNCLASSIFIED •••

SUBROUTINE P R E L S T - WRITES PRELOG

MESSAGE PRECEDENCE	DELIVERY DELAY
1	.00000
2	.00000
3	2.59961
4	2.39844
5	2.19922
6	2.00000

COMBAT DIDO (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE S E T L S T - WRITES SETLOG LIST

INDEX	TYPE OF SET 1	TYPE OF SET 2	RANGE
1	1	1	4.00
2	2	2	10.00
3	3	3	10.00
4	4	4	5.00
5	5	5	2.00

COMINP 0110 (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE INITLST - WRITES UNTARC , UTARCL AND UTEXFR LISTS

UNIT	NO. OF ARCS AVAILABLE TO UNIT	ARCLOG CRYPTO OF UNIT	INDEX FOR UTARCL FACILITY	INDEX FOR START OF BLOCK	IS ARC SWITCHABLE	INITIAL CONNECTING COST FOR ARCS AVAILABLE TO UNIT	ARC NUMBER AVAILABLE TO UNIT	PROCES TIME
1	63	0	1	1	YES	15	1	1.0
1	63	0	1	1	YES	15	2	1.0
1	63	0	1	1	YES	15	3	1.0
1	63	0	1	1	YES	15	4	1.0
1	63	0	1	1	YES	15	5	1.0
1	63	0	1	1	YES	15	6	1.0
1	63	0	1	1	YES	15	7	1.0
1	63	0	1	1	YES	15	8	1.0
1	63	0	1	1	YES	15	9	1.0
1	63	0	1	1	YES	15	10	1.0
1	63	0	1	1	YES	15	56	1.0
1	63	0	1	1	YES	15	57	1.0
1	63	0	1	1	YES	15	58	1.0
1	63	0	1	1	YES	15	59	1.0
1	63	0	1	1	YES	15	60	1.0
1	63	0	1	1	YES	15	61	1.0
1	63	0	1	1	YES	15	62	1.0
1	63	0	1	1	YES	15	63	1.0
1	63	0	1	1	YES	15	64	1.0
1	63	0	1	1	YES	15	65	1.0
1	63	0	1	1	NO	23	111	1.0
1	63	0	1	1	NO	23	112	1.0
1	63	0	1	1	NO	23	113	1.0
1	63	0	1	1	NO	23	114	1.0
1	63	0	1	1	NO	23	115	1.0
1	63	0	1	1	NO	23	116	1.0
1	63	0	1	1	NO	23	117	1.0
1	63	0	1	1	NO	23	118	1.0
1	63	0	1	1	NO	45	147	1.0
1	63	0	1	1	NO	45	148	1.0
1	63	0	1	1	NO	45	149	1.0
1	63	0	1	1	NO	45	150	1.0
1	63	0	1	1	NO	45	151	1.0
1	63	0	1	1	NO	45	152	1.0
1	63	0	1	1	NO	45	153	1.0
1	63	0	1	1	NO	45	154	1.0
1	63	0	1	1	NO	45	155	1.0
1	63	0	1	1	YES	15	751	1.0
1	63	0	1	1	YES	15	752	1.0
1	63	0	1	1	YES	15	753	1.0
1	63	0	1	1	YES	15	754	1.0
1	63	0	1	1	YES	15	755	1.0
1	63	0	1	1	YES	15	756	1.0
1	63	0	1	1	YES	15	757	1.0
1	63	0	1	1	YES	15	758	1.0
1	63	0	1	1	YES	15	759	1.0
1	63	0	1	1	YES	15	760	1.0
1	63	0	1	1	YES	15	806	1.0
1	63	0	1	1	YES	15	807	1.0
1	63	0	1	1	YES	15	808	1.0
1	63	0	1	1	YES	15	809	1.0

COMINP DIVOn (ATTACKER) ••• UNCLASSIFIEn •••

SUBROUTINE U S A G E L S T - WRITES USGLOG LIST

MESSAGE USAGE CONVERSION TABLE

	USAGE	CONVERTS TO	TO	TO	
COMMND	1	0	0	0	0
INTELL	2	3	0	0	9
OPNS	3	2	0	0	9
AD/LOG	4	0	0	0	0
FD/CON	5	7	0	0	0
SIGOPN	6	0	0	0	0
GNDSRV	7	5	0	0	0
ENGOPN	8	0	0	0	0
COMMON	9	2	3	0	0
AIRDEF	10	0	0	0	0
ARTYCO	11	0	0	0	0

COMIND 0110n (ATTACKER) ••• UNCLASSIFIEn •••

SUBROUTINE ↘ R L G L S - WRITES WIRLOG LIST

WIRE NUMBER	AVERAGE NUMBER OF FAILURES PER MINUTE PER GRID SQUARE	MINIMUM REPAIR TIME	MAXIMUM REPAIR TIME
	.0040n	30•	90•

COMINP DIICO (ATTACKER) *** UNCLASSIFIED ***

SUBROUTINE R U T L S T - WRITES RUTLOG , RUTLEG , ROUTENOS, TYMLOG AND RUTARC

TYMLOG INDEX	FIRST END UNIT	SECOND END UNIT	START TIME	COMPLETION TIME
0	0	0	.00	.00

FOLLOWING ARE SAMPLES OF
TACTICAL PREPROCESSOR OUTPUT

TERRAIN INDEX AND TERRAIN CLASS LIST

Y CO-ORDINATE DOWN X ACROSS

	TER	CL	TER	CL	TER	CL	TER	CL	TER	CL	TER	CL	TER	CL	TER	CL	TER	CL
	21		22		23		24		25		26		27		28		29		30	
1	1.00	1	14.44	3	8.41	2	4.00	4	28.09	9	19.36	8	11.56	7	4.00	4	2.89	4	6.76	4
2	6.76	1	14.44	3	3.61	1	1.96	4	1.96	4	1.96	4	4.00	4	2.89	4	1.00	1	11.56	7
3	.01	1	14.44	3	1.21	4	1.96	4	6.76	1	.49	1	1.96	4	1.96	4	.64	4	11.56	7
4	.01	1	14.44	3	.16	1	.16	1	1.21	4	3.61	1	3.61	1	1.69	1	1.69	1	3.61	1
5	1.21	4	6.76	1	14.44	3	.49	1	6.25	7	19.36	8	.49	1	3.61	1	.01	1	11.56	7
6	16.81	7	1.69	1	14.44	3	2.89	4	11.56	7	42.25	12	11.56	7	2.89	4	2.89	4	11.56	7
7	11.56	7	1.21	4	.49	1	14.44	3	11.56	7	11.56	7	1.00	1	.01	1	16.81	7	42.25	12
8	19.36	8	11.56	7	10.89	4	14.44	3	6.76	4	1.96	4	10.89	4	19.36	8	19.36	8	11.56	7
9	42.25	12	42.25	12	31.36	11	8.41	2	8.41	2	1.96	4	10.89	4	.64	4	4.00	4	4.00	4
10	42.25	12	42.25	12	42.25	12	11.56	7	20.25	6	1.21	4	.64	4	6.76	4	1.21	4	10.89	4
11	42.25	12	42.25	12	19.36	8	.64	4	20.25	6	2.89	4	.64	4	2.89	4	11.56	7	11.56	7
12	42.25	12	19.36	8	10.89	4	4.00	4	20.25	6	19.36	8	6.25	7	11.56	7	42.25	12	42.25	12
13	28.09	9	60.84	15	10.89	4	10.89	4	14.44	3	11.56	7	19.36	8	42.25	12	42.25	12	28.09	9
14	60.84	15	42.25	12	19.36	8	2.89	4	6.76	1	14.44	3	11.56	7	6.76	4	11.56	7	2.89	4
15	31.36	11	1.21	4	1.96	4	1.96	4	14.44	3	6.76	4	6.76	4	11.56	7	2.89	4	6.76	4
16	16.81	7	19.36	8	1.96	4	1.96	4	14.44	3	2.89	4	2.89	4	19.36	8	19.36	8	10.89	4
17	4.00	4	6.76	4	1.96	4	2.89	4	6.76	1	20.25	6	6.76	4	28.09	9	19.36	8	.01	1
18	28.09	9	19.36	8	1.96	4	4.00	4	1.69	1	14.44	3	12.96	5	42.25	12	42.25	12	42.25	12
19	19.36	8	11.56	7	11.56	7	2.89	4	4.00	4	.01	1	28.09	9	42.25	12	11.56	7	19.36	8
20	16.81	7	2.89	4	19.36	8	2.89	4	4.00	4	.01	1	6.76	1	28.09	9	7.84	7	11.56	7
21	6.76	4	.64	4	11.56	7	11.56	7	.64	4	10.89	4	.16	1	28.09	9	42.25	12	42.25	12
22	4.00	4	6.76	4	42.25	12	19.36	8	19.36	8	11.56	7	19.36	8	14.44	3	11.56	7	19.36	8
23	11.56	7	1.96	4	60.84	15	10.89	4	2.89	4	19.36	8	42.25	12	28.09	9	1.69	1	11.56	7
24	19.36	8	6.25	7	2.89	4	16.81	7	11.56	7	6.76	4	19.36	8	60.84	15	.16	1	19.36	8
25	19.36	8	28.09	9	42.25	12	11.56	7	28.09	9	1.96	4	.64	4	1.96	4	14.44	3	6.25	7
26	1.96	4	42.25	12	11.56	7	16.81	7	11.56	7	7.84	7	.64	4	1.96	4	4.00	4	14.44	3
27	1.96	4	19.36	8	2.89	4	10.89	4	6.25	7	11.56	7	.64	4	1.96	4	2.89	4	14.44	3
28	2.89	4	42.25	12	16.81	7	10.89	4	11.56	7	42.25	12	19.36	8	42.25	12	28.09	9	19.36	8
29	42.25	12	19.36	8	42.25	12	6.76	4	2.89	4	11.56	7	42.25	12	19.36	8	14.44	3	42.25	12
30	6.76	4	11.56	7	42.25	12	6.25	7	10.89	4	16.81	7	42.25	12	11.56	7	14.44	3	28.09	9
31	21.16	10	8.41	2	1.00	1	6.76	4	10.89	4	6.25	7	1.96	4	2.89	4	28.09	9	2.89	4
32	6.25	7	11.56	7	2.89	4	1.69	1	8.41	2	6.76	4	2.89	4	2.89	4	11.56	7	6.25	7
33	42.25	12	42.25	12	42.25	12	2.89	4	6.76	1	6.76	1	.16	1	1.00	1	3.61	1	28.09	9
34	19.36	8	42.25	12	42.25	12	19.36	8	10.89	4	.64	4	10.89	4	.64	4	8.41	2	19.36	8
35	10.89	4	11.56	7	42.25	12	42.25	12	11.56	7	1.96	4	.01	1	20.25	6	4.00	4	19.36	8
36	.64	4	2.89	4	19.36	8	19.36	8	10.89	4	1.21	4	14.44	3	1.96	4	1.96	4	19.36	8
37	4.00	4	4.00	4	7.84	7	1.21	4	1.69	1	19.44	3	10.89	4	11.56	7	4.00	4	16.81	7
38	1.69	1	6.76	4	1.96	4	10.89	4	6.76	1	12.96	5	10.89	4	11.56	7	10.89	4	10.89	4
39	.64	4	4.84	7	4.00	4	2.89	4	10.89	4	.64	4	10.89	4	.64	4	16.81	7	4.00	4
40	31.36	11	6.76	4	3.61	1	4.00	4	10.89	4	6.25	7	10.89	4	19.36	8	31.36	11	42.25	12

STRENGTH LIST

UNIT	WEAPON TYPE 1	WEAPON TYPE 2	WEAPON TYPE 3	WEAPON TYPE 4	WEAPON TYPE 5	WEAPON TYPE 6	WEAPON TYPE 7	WEAPON TYPE 8	WEAPON TYPE 9	WEAPON TYPE 10	WEAPON TYPE 11	WEAPON TYPE 12	OBJECT TYPE 13	OBJECT TYPE 14	OBJECT TYPE 15	ORIGINAL STRENGTH
1	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	93.	0.	6.	4.	0.	94.
2	0.	0.	0.	0.	0.	0.	0.	4.	0.	0.	119.	0.	17.	3.	0.	123.
3	0.	0.	0.	0.	0.	0.	0.	10.	0.	0.	225.	0.	19.	27.	0.	235.
4	0.	0.	0.	0.	0.	0.	3.	1.	0.	0.	59.	0.	3.	7.	0.	108.
5	0.	0.	0.	0.	0.	0.	3.	1.	0.	0.	59.	0.	3.	7.	0.	108.
6	0.	0.	0.	0.	0.	0.	3.	1.	0.	0.	59.	0.	3.	7.	0.	108.
7	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	92.	0.	7.	4.	0.	109.
8	0.	0.	0.	0.	0.	0.	2.	2.	0.	0.	60.	0.	4.	2.	0.	94.
9	0.	0.	0.	0.	0.	0.	2.	2.	0.	0.	60.	0.	4.	2.	0.	94.
10	0.	0.	0.	0.	0.	0.	2.	2.	0.	0.	60.	0.	4.	7.	0.	94.
11	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
12	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
13	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
14	0.	0.	0.	0.	0.	0.	6.	13.	0.	0.	90.	0.	13.	9.	0.	199.
15	0.	0.	0.	0.	0.	0.	6.	13.	0.	0.	90.	0.	13.	9.	0.	199.
16	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
17	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
18	0.	0.	0.	0.	0.	0.	6.	13.	0.	0.	90.	0.	13.	9.	0.	199.
19	1.	0.	0.	0.	0.	0.	5.	10.	0.	0.	100.	0.	20.	8.	0.	215.
20	0.	0.	0.	0.	0.	0.	6.	13.	0.	0.	90.	0.	13.	9.	0.	199.
21	0.	0.	0.	0.	0.	0.	6.	13.	0.	0.	90.	0.	13.	9.	0.	199.
22	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
23	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
24	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
25	0.	0.	0.	0.	0.	0.	5.	13.	0.	0.	91.	0.	13.	9.	0.	184.
26	0.	0.	0.	0.	0.	0.	5.	13.	0.	0.	91.	0.	13.	9.	0.	184.
27	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
28	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
29	0.	0.	0.	0.	0.	0.	5.	13.	0.	0.	91.	0.	13.	9.	0.	184.
30	2.	0.	0.	0.	0.	0.	4.	9.	0.	0.	101.	0.	21.	7.	0.	224.
31	0.	0.	0.	0.	0.	0.	5.	13.	0.	0.	91.	0.	13.	9.	0.	184.
32	0.	0.	0.	0.	0.	0.	5.	13.	0.	0.	91.	0.	13.	9.	0.	184.
33	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
34	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
35	0.	0.	6.	12.	45.	0.	18.	16.	3.	0.	189.	0.	4.	19.	0.	799.
36	0.	0.	0.	0.	0.	0.	5.	0.	0.	4.	33.	0.	0.	5.	0.	165.
37	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	40.	0.	7.	1.	0.	88.
38	0.	0.	4.	4.	9.	0.	10.	0.	0.	0.	30.	0.	0.	10.	0.	307.
39	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
40	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
41	0.	0.	6.	12.	45.	0.	18.	16.	3.	0.	189.	0.	4.	19.	0.	799.
42	0.	0.	0.	0.	0.	0.	5.	0.	0.	4.	33.	0.	0.	5.	0.	165.
43	0.	0.	4.	4.	9.	0.	10.	0.	0.	0.	30.	0.	0.	10.	0.	307.
44	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
45	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
46	17.	0.	0.	0.	0.	0.	1.	1.	0.	0.	126.	0.	20.	2.	0.	568.
47	0.	0.	0.	0.	0.	0.	5.	0.	0.	4.	33.	0.	0.	5.	0.	165.
48	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	40.	0.	7.	1.	0.	88.
49	0.	0.	4.	4.	9.	0.	10.	0.	0.	0.	30.	0.	0.	10.	0.	307.
50	0.	0.	6.	12.	45.	0.	18.	16.	3.	0.	189.	0.	4.	19.	0.	799.

TACINP PGM ****UNCLASSIFIED****

UNIT LIST

UNIT MODE CODE
1 INDICATES ATTACK
2 INDICATES DEFENSE

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

UNIT		IS UNIT LEAP FROGGING	GROUP	PATTERN	MODE	TYPE	TERRAIN CLASS	MOVEMENT DELAY CTR.	X-CO.	Y-CO.	RADIUS
1	BLUE UNIT	NO	0	20	1	6	1	0	463.50	630.50	1.000
2	BLUE UNIT	NO	0	21	1	10	1	0	463.50	630.50	1.000
3	BLUE UNIT	NO	0	18	1	6	1	0	467.30	630.80	.199
4	BLUE UNIT	NO	0	15	1	6	1	0	472.30	633.80	.250
5	BLUE UNIT	NO	0	13	1	6	1	0	471.80	628.70	.250
6	BLUE UNIT	NO	0	14	1	6	1	0	470.10	634.70	.250
7	BLUE UNIT	NO	0	12	1	6	1	0	471.90	632.20	.100
8	BLUE UNIT	NO	0	2	1	6	4	0	475.20	637.10	.100
9	BLUE UNIT	NO	0	8	1	6	1	0	471.20	623.90	.100
10	BLUE UNIT	NO	0	10	1	6	1	0	473.30	634.00	.100
11	BLUE UNIT	NO	0	2	1	6	7	0	483.50	634.70	.148
12	BLUE UNIT	NO	0	5	1	6	4	0	477.40	634.90	.148
13	BLUE UNIT	NO	0	4	1	6	7	0	479.70	630.00	.148
14	BLUE UNIT	NO	0	1	1	6	7	0	482.00	639.50	.148
15	BLUE UNIT	NO	0	3	1	6	12	0	482.00	630.20	.148
16	BLUE UNIT	NO	0	7	1	6	8	0	477.90	622.00	.148
17	BLUE UNIT	NO	0	8	1	6	1	0	473.00	621.90	.148
18	BLUE UNIT	NO	0	6	1	6	7	0	479.80	626.40	.148
19	BLUE UNIT	NO	0	10	1	6	7	0	477.60	639.30	.148
20	BLUE UNIT	NO	0	9	1	6	1	0	471.10	626.10	.148
21	BLUE UNIT	NO	0	11	1	6	1	0	472.60	639.00	.148
22	BLUE UNIT	NO	0	2	1	6	7	0	484.50	639.00	.078
23	BLUE UNIT	NO	0	5	1	6	4	0	478.50	635.50	.078
24	BLUE UNIT	NO	0	4	1	6	7	0	480.00	632.00	.078
25	BLUE UNIT	NO	0	1	1	6	4	0	482.60	638.30	.078
26	BLUE UNIT	NO	0	3	1	6	4	0	482.70	628.90	.078
27	BLUE UNIT	NO	0	7	1	6	4	0	477.90	619.50	.078
28	BLUE UNIT	NO	0	8	1	6	7	0	475.00	622.00	.078
29	BLUE UNIT	NO	0	6	1	6	8	0	480.20	625.70	.078
30	BLUE UNIT	NO	0	10	1	6	4	0	478.50	639.70	.078
31	BLUE UNIT	NO	0	9	1	6	1	0	473.00	627.00	.078
32	BLUE UNIT	NO	0	11	1	6	1	0	473.50	639.50	.078
33	BLUE UNIT	NO	2	0	1	9	9	0	484.70	635.30	.148
34	BLUE UNIT	NO	2	0	1	9	3	0	483.90	632.90	.148

TACINP PGM ****UNCLASSIFIED****

SUBROUTINE FDCLST - WRITES GROUP LISTS AND FDC LISTS FOR BLUE WEAPONS

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

ADJUST LIST - (A) ATTRITION PERCENT ADJUSTMENT

		WEAPON TYPE														
UNIT	TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
	2	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
	3	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
	4	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	7	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	9	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

****UNCLASSIFIED****

ADJUST LIST - (B) TOTAL STRENGTH ADJUSTMENT,COMBAT VALUE FORBLUE WEAPONS

UNIT	TYPE	WEAPON TYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	2	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	3	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	4	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	5	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	6	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	7	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	8	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	9	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000
	10	25.0000	19.0000	19.0000	8.0000	1.0000	26.0000	16.0000	1.0000	17.0000	13.0000	1.0000	.0000	.0000	.0000	.0000

ARTBT LIST - WEIGHTS FOR ARTILLERY TARGET SELECTION FOR BLUE

UNIT TYPE	WEAPON TYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
2	.0000	.0000	.0000	.9000	.9900	.0000	.0000	.0000	.0000	.0000	.9000	.0000	.0000	.0000	.0000
3	.0000	.0000	.0000	.7000	.7000	.0000	.0000	.0000	.0000	.7000	.7000	.0000	.0000	.0000	.0000
4	.0000	.7500	.0000	.7500	.7500	.0000	.7500	.7500	.7500	.0000	.7500	.0000	.0000	.0000	.0000
5	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.7500	.0000	.0000	.0000	.0000
6	.0000	.0000	.0000	.8000	.8000	.0000	.0000	.0000	.0000	.0000	.8000	.0000	.0000	.0000	.0000
7	.7000	.0000	.9500	.9500	.9500	.7000	.9500	.9500	.9500	.0000	.9500	.0000	.0000	.0000	.0000
8	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
9	.7000	.0000	.0000	.8000	8000	.7000	.9500	.0000	.0000	.7000	.7000	.0000	.0000	.0000	.0000
10	.0000	.0000	.0000	.0000	0000	.0000	.0000	.0000	.0000	.0000	.5000	.0000	.0000	.0000	.0000

TACINP PGM ****UNCLASSIFIED****

SUBROUTINE FDCLST - WRITES GROUP LISTS AND FDC LISTS FOR RED WEAPONS

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

ADJUST LIST - (A) ATTRITION PERCENT ADJUSTMENT

UNIT TYPE	WEAPON TYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
2	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
3	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699	.1699
4	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590	.9590
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

ADJUST LIST - (B) TOTAL STRENGTH ADJUSTMENT,COMBAT VALUE FORRED WEAPONS

UNIT	TYPE	WEAPON TYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	2	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	3	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	4	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	5	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	6	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	7	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	8	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	9	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000
	10	17.0000	23.0000	8.0000	3.0000	5.0000	1.0000	12.0000	10.0000	56.0000	1.0000	5.0000	8.0000	.0000	.0000	.0000

ARTRT LIST - WEIGHTS FOR ARTILLERY TARGET SELECTION FOR RED

UNIT TYPE	WEAPON TYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
2	.0000	.0000	.0000	.8000	.0000	.8000	.0000	.0000	.0000	.8000	.0000	.0000	.0000	.0000	.0000
3	.0000	.0000	.0000	.7000	.0000	.7000	.9500	.0000	.9000	.7000	.0000	.0000	.0000	.0000	.0000
4	.0000	.0000	.9000	.8000	.8000	.8000	.0000	.9500	.0000	.8000	.0000	.9500	.0000	.0000	.0000
5	.0000	.0000	.0000	.0000	0000	.6000	.0000	.0000	.0000	.5000	.0000	.0000	.0000	.0000	.0000
6	.0000	.0000	.0000	.7000	0000	.7000	.0000	.0000	.0000	.6000	.0000	.0000	.0000	.0000	.0000
7	.9500	.9500	.9900	.9700	9000	.9000	.0000	.9500	.0000	.9000	.9500	.9900	.0000	.0000	.0000
8	.0000	.0000	.0000	.0000	0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
9	.7000	.7000	.9000	.8000	0000	.7000	.0000	.9500	.0000	.6000	.0000	.0000	.0000	.0000	.0000
10	.0000	.0000	.0000	.0000	0000	.5000	.0000	.0000	.0000	.5000	.0000	.0000	.0000	.0000	.0000

GROUP-FDC COMBINED INDEX LIST

KBG INDEX	GROUP UNIT INDEX	FDC UNIT INDEX	UNIT INDEX OF ALTERNATE COMMANDS	GENERAL SUPPORT INDEX	GENERAL SUPPORT ARTY BATTALIONS INDEX
1	14	101	25	20	104
2	10	101	22	21	105
3	15	101	26	22	106
4	13	101	24	23	206
5	12	101	23	24	230
6	18	102	29	25	231
7	16	102	27		
8	17	102	28		
9	20	103	31		
10	19	103	30		
11	21	103	32		
12	128	228	129		
13	151	228	152		
14	159	228	160		
15	164	228	165		
16	180	229	181		
17	185	229	186		
18	190	229	191		
19	133	205	134		

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GROUP-COMPANY POSITION,STATUS,RATE,AND SURV. TYPE LIST (COMBINED OLD KBG AND BGCO LISTS)
* RATE IS 0 AT INITIAL TIME, THEREFORE NOT LISTED

UNIT GROUP	COMPANY INDEX	UNIT INDEX	SURVEILLANCE TYPE	FLAG STATUS	LATERAL DIST. BETWEEN CO. AND GROUP CENTER (NEG. IF CO. LEFT OF CENTER)
1	1	50	0	FRT LN	1.000
1	2	51	0	FRT LN	.000
1	3	52	0	FRT LN	-1.000
2	1	33	0	FRT LN	1.000
2	2	34	0	FRT LN	.000
2	3	35	0	FRT LN	-1.000
3	1	56	0	FRT LN	1.000
3	2	57	0	FRT LN	.000
3	3	58	0	FRT LN	-1.000
4	1	44	0	RES BK	1.000
4	2	45	0	RES BK	.000
4	3	46	0	RES BK	-1.000
5	1	39	0	RES BK	1.000
5	2	40	0	RES BK	.000
5	3	41	0	RES BK	-1.000
6	1	73	0	FRT LN	1.000
6	2	74	0	FRT LN	.000
6	3	75	0	FRT LN	-1.000
7	1	61	0	FRT LN	1.000
7	2	62	0	FRT LN	.000
7	3	63	0	FRT LN	-1.000
8	1	67	0	RES BK	1.000
8	2	68	0	RES BK	.000
8	3	69	0	RES BK	-1.000
9	1	85	0	RES BK	1.000
9	2	86	0	RES BK	.000
9	3	87	0	RES BK	-1.000
10	1	79	0	RES BK	1.000
10	2	80	0	RES BK	.000
10	3	81	0	RES BK	-1.000
11	1	91	0	RES BK	1.000
11	2	92	0	RES BK	.000
11	3	93	0	RES BK	-1.000
12	1	130	0	FRT LN	1.000
12	2	131	0	FRT LN	.000
12	3	132	0	FRT LN	-1.000
12	4	145	0	FRT LN	1.000
13	1	156	0	FRT LN	1.000
13	2	57	0	FRT LN	.000
13	3	58	0	FRT LN	-1.000
13	4	71	0	FRT LN	.000
14	1	161	0	FRT LN	1.000
14	2	162	0	FRT LN	.000
14	3	163	0	FRT LN	-1.000
14	4	172	0	FRT LN	.000
15	1	166	0	FRT LN	1.000
15	2	167	0	FRT LN	.000
15	3	168	0	FRT LN	-1.000

GROUP LIST - WRITES GROUP UNIT,POSITION,RADIUS,SECTOR WIDTH ETC.

GROUP MODE CODE
1 INDICATES WITHDRAWAL
2 INDICATES LEAP FROG
3 INDICATES RESERVE
4 INDICATES YIELD
6 INDICATES STATIC DEFENSE
7 INDICATES ATTACK

GROUP	GROUP MODE	INDEX OF PRESENT POSITION OF RABBIT IN ROUTE	COUNT OF INCREMENTS OF ROUTE STILL TO GO	GROUP CENTER X-CO.	Y-CO.	GROUP RADIUS	SECTOR WIDTH
ZERO COORDINATES = UNCOMMITTED GROUPS							
1	7	0	0	484.43	638.50	.898438	3.0000
2	7	0	0	484.10	634.17	.898438	4.5000
3	7	0	0	483.63	629.23	.898438	6.0000
4	3	0	0	.00	.00	.898438	6.0000
5	3	0	0	.00	.00	.898438	6.0000
6	7	0	0	482.03	625.23	.898438	6.0000
7	7	0	0	478.37	620.73	.898438	4.5000
8	3	0	0	.00	.00	.898438	6.0000
9	3	0	0	.00	.00	.898438	4.5000
10	3	0	0	.00	.00	.898438	4.5000
11	3	0	0	.00	.00	.898438	4.5000
12	4	0	0	485.25	630.05	1.798828	8.0000
13	6	0	0	499.12	635.62	1.500000	6.0000
14	6	0	0	500.00	631.47	1.500000	6.0000
15	6	0	0	504.47	630.07	1.500000	3.0000
16	6	0	0	494.72	623.27	1.500000	6.0000
17	6	0	0	491.57	617.20	1.500000	6.0000
18	6	0	0	498.05	618.57	1.500000	4.5000
19	3	0	0	.00	.00	1.500000	8.0000

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GSATYP LIST - WRITES GENERAL SUPPORT ARTILLERY BATTALION TYPES

INDEX NO.	GSATYP
1	2
2	2
3	2
4	4
5	4
6	4

GOP GROUP LIST

UNIT INDEX	PAT. INDEX	FOL. INDEX	RHO	DELTA X,	DELTA Y,	FINAL X	FINAL Y
GOP GROUP 1							
12	22	12	.0	-10.0	5.0	501.00	624.00

FIRE DIRECTION CENTER LIST.

FDC	Q AMMO (MEASURE OF STENGTH)	RATE OF AMMO LEVEL	CONSUMPTION PER MIN.	DELAY IN MIN. BEFORE S A MISSION	TARTING (I	LENGTH OF A MISSION N MIN.)	NUMBER OF BATTERIES	MIN. A BTRY IS OUT OF ACTION AFTER MISSION
101	216.00	100.00	.00119	0		6	3	6
102	216.00	100.00	.00119	0		6	3	6
103	216.00	100.00	.00119	0		6	3	6
228	216.00	100.00	.00119	0		6	3	6
228	170.00	100.00	.00119	0		6	3	6
229	170.00	100.00	.00119	0		6	3	6
104	216.00	100.00	.00119	0		6	3	6
105	216.00	100.00	.00119	0		6	3	6
106	216.00	100.00	.00119	0		6	3	6
206	170.00	100.00	.00119	0		6	3	6
230	170.00	100.00	.00119	0		6	3	6
231	170.00	100.00	.00119	0		6	3	6

FDC	BTRY.	Q FRACTION	WT. FUNC.	RANGE
101	1	.3320	3.25	19.60
101	2	.3320	3.25	19.60
101	3	.3320	3.25	19.60
102	1	.3320	3.25	19.60
102	2	.3320	3.25	19.60
102	3	.3320	3.25	19.60
103	1	.3320	3.25	19.60
103	2	.3320	3.25	19.60
103	3	.3320	3.25	19.60
228	1	.4414	4.38	22.00
228	2	.4414	4.38	22.00
228	3	.4414	4.38	22.00
228	1	.2617	2.50	16.50
228	2	.2617	2.50	16.50
228	3	.2617	2.50	16.50
229	1	.2617	2.50	16.50
229	2	.2617	2.50	16.50
229	3	.2617	2.50	16.50
104	1	.3320	3.25	19.60
104	2	.3320	3.25	19.60
104	3	.3320	3.25	19.60
105	1	.4414	4.38	22.00
105	2	.4414	4.38	22.00
105	3	.4414	4.38	22.00
106	1	.4414	4.38	22.00
106	2	.4414	4.38	22.00
106	3	.4414	4.38	22.00
206	1	.2617	2.50	16.50
206	2	.2617	2.50	16.50
206	3	.2617	2.50	16.50
230	1	.2617	2.50	16.50
230	2	.2617	2.50	16.50
230	3	.2617	2.50	16.50
231	1	.2617	2.50	16.50
231	2	.2617	2.50	16.50
231	3	.2617	2.50	16.50

PATTERN LIST - WRITES PATTERN MOVEMENT, TYPE, AND RATES

PATTERN INDEX	TYPE	GROUP OR PATTERN FOLLOWED	X	Y	DELTA X FOR POINT FOLLOWED	DELTA Y FOR POINT FOLLOWED	MOVEMENT RATE	START DISTANCE	STOP DISTANCE	RADIUS
1	0	1=GROUP	482.00	638.00	-1.00	.50	.30	.00	.00	2.00
2	0	2=GROUP	482.00	634.00	-1.00	.50	.30	.00	.00	2.00
3	0	3=GROUP	483.00	629.00	-1.00	.50	.30	.00	.00	1.50
4	0	4=GROUP	479.80	630.00	-1.00	.50	.30	.00	.00	2.00
5	0	5=GROUP	477.50	634.90	-1.00	.50	.30	.00	.00	1.50
6	0	6=GROUP	481.00	625.00	-1.00	.50	.30	.00	.00	2.00
7	0	7=GROUP	479.00	620.50	-1.00	.50	.30	.00	.00	2.00
8	0	8=GROUP	473.00	622.00	-1.00	.50	.30	.00	.00	1.50
9	0	9=GROUP	471.10	626.10	-1.00	.50	.30	.00	.00	1.50
10	0	10=GROUP	470.10	634.70	-1.00	.50	.30	.00	.00	1.50
11	0	11=GROUP	472.60	639.00	-1.00	.50	.30	.00	.00	1.50
12	0	12=GROUP	471.90	632.20	-1.00	.50	.30	.00	.00	1.50
13	0	13=GROUP	471.80	628.70	-1.00	.50	.30	.00	.00	1.50
14	0	14=GROUP	495.30	635.00	-1.00	.50	.30	.00	.00	.10
15	0	15=GROUP	472.30	633.80	-1.00	.50	.30	.00	.00	.30
16	0	16=GROUP	472.00	624.50	-1.00	.50	.30	.00	.00	.30
17	0	17=GROUP	470.50	630.00	-1.00	.50	.30	.00	.00	.40
18	0	18=GROUP	467.30	630.80	-1.00	.50	.30	.00	.00	.20
19	0	19=GROUP	472.50	634.20	-1.00	.50	.30	.00	.00	.20
20	0	20=GROUP	463.50	630.50	-1.00	.50	.30	.00	.00	5.00
21	0	21=GROUP	463.50	630.50	-1.00	.50	.30	.00	.00	.10
22	0	12=GROUP	490.00	631.00	.00	.00	.30	.00	.00	1.50
23	0	13=GROUP	501.00	636.00	.00	.00	.30	.00	.00	2.50
24	0	14=GROUP	501.00	630.00	.00	.00	.30	.00	.00	10.50
25	0	15=GROUP	507.00	636.00	.00	.00	.30	.00	.00	3.00
26	0	16=GROUP	501.00	622.00	.00	.00	.30	.00	.00	3.00
27	0	17=GROUP	498.80	616.00	.00	.00	.30	.00	.00	2.00
28	0	18=GROUP	505.00	623.00	.00	.00	.30	.00	.00	3.00
29	0	19=GROUP	514.00	635.00	.00	.00	.30	.00	.00	3.00
30	2	31=PATTERN	504.00	622.00	.00	.00	.30	.00	.00	2.00
31	2	31=PATTERN	515.00	630.00	.00	.00	.30	.00	.00	2.00
32	2	31=PATTERN	550.00	630.00	3.00	-1.00	.30	.00	.00	2.00
33	2	31=PATTERN	502.00	621.00	.00	.00	.30	.00	.00	1.00
34	2	30=PATTERN	507.00	638.10	.00	.00	.30	.00	.00	1.50
35	2	30=PATTERN	507.00	638.10	.00	.00	.30	.00	.00	.80
36	2	18=PATTERN	505.00	623.00	.00	.00	.30	.00	.00	.30
37	2	15=PATTERN	507.00	636.00	.00	.00	.30	.00	.00	.30
										.30

PATTERN UNIT LIST - WRITES PATTERN UNIT MOVEMENT RATES, COORDINATES, PREPARATION AND EMPLACEMENT DELAYS ETC.

UNIT	PATTERN	POSITION INDEX	X	Y	EMPLACEMENT DELAY	PREPARATION DELAY	NO ACTION	IN PLACE
1	20	1	463.50	630.50	50	30	X	X
2	21	1	463.50	630.50	30	15	X	X
3	18	1	467.30	630.80	30	15	X	X
4	15	1	472.30	633.80	30	15	X	X
5	13	1	471.80	628.70	30	15	X	X
6	14	1	470.10	634.70	30	15	X	X
7	12	1	471.90	632.20	30	15	X	X
8	2	4	475.20	639.10	30	15	X	X
9	8	4	471.20	623.90	30	15	X	X
10	10	4	475.30	635.00	30	15	X	X
11	2	5	483.50	634.70	10	5	X	X
12	5	4	477.40	634.90	10	5	X	X
13	4	4	479.70	630.00	10	5	X	X
14	1	4	482.00	639.50	15	5	X	X
15	3	4	482.00	630.20	10	5	X	X
16	7	4	477.90	622.00	10	5	X	X
17	8	5	473.00	621.90	10	5	X	X
18	6	4	479.80	626.40	10	5	X	X
19	10	5	477.60	639.30	10	5	X	X
20	9	4	471.10	626.10	10	5	X	X
21	11	4	472.60	639.00	10	5	X	X
22	2	6	484.50	634.00	10	5	X	X
23	5	5	478.50	635.50	10	5	X	X
24	4	5	481.00	640.00	10	5	X	X
25	1	5	482.60	638.30	10	5	X	X
26	3	5	482.70	628.90	10	5	X	X
27	7	5	477.90	619.50	10	5	X	X
28	8	6	475.00	622.00	10	5	X	X
29	6	5	480.20	625.70	10	5	X	X
30	10	6	478.50	639.70	10	5	X	X
31	9	5	473.00	627.00	10	5	X	X
32	11	5	473.50	639.50	10	5	X	X
33	2	1	484.70	635.30	5	5		
34	2	2	483.90	632.90	5	5		
35	2	3	483.70	634.30	5	5		
36	2	7	483.80	634.50	5	5	X	X
37	2	8	483.00	633.70	5	5	X	X
38	2	9	485.00	635.00	5	5	X	X
39	5	1	478.70	636.30	5	5		
40	5	2	478.50	635.00	5	5		
41	5	3	477.50	634.60	5	5		
42	5	6	478.10	635.20	5	5	X	X
43	5	7	478.60	635.10	5	5	X	X
44	4	1	480.90	631.20	5	5		
45	4	2	480.90	630.20	5	5		
46	4	3	480.20	629.90	5	5		
47	4	6	480.70	630.00	5	5	X	X
48	4	7	479.50	630.10	5	5	X	X
49	4	8	481.60	630.80	5	5	X	X
50	1	1	484.60	639.70	5	5		

TACINP PGM ****UNCLASSIFIED****

SUBROUTINE ARTLST - WRITS PHI AND DETECT LISTS

CORRECTION FACTOR ATTRITION RATE EFFECT STRENGTH

TYPE 1 WEAPON	TYPE 2 WEAPON	TYPE 3 WEAPON	TYPE 4 WEAPON	TYPE 5 WEAPON	TYPE 6 WEAPON	TYPE 7 WEAPON	TYPE 8 WEAPON	TYPE 9 WEAPON	TYP 10 WEAPON	TYP 11 WEAPON	TYP 12 WEAPON	LO VIS OBJECT	MD VIS OBJECT	HI VIS OBJECT
.10	.10	.90	.95	.25	.90	.50	.35	.70	1.00	.95	.45	.80	.75	1.00

DETECTION VALUES OF STENGTH ITEMS

TYPE 1 WEAPON	TYPE 2 WEAPON	TYPE 3 WEAPON	TYPE 4 WEAPON	TYPE 5 WEAPON	TYPE 6 WEAPON	TYPE 7 WEAPON	TYPE 8 WEAPON	TYPE 9 WEAPON	TYP 10 WEAPON	TYP 11 WEAPON	TYP 12 WEAPON	LO VIS OBJECT	MD VIS OBJECT	HI VIS OBJECT
15	13	10	5	2	15	7	5	7	10	2	0	15	10	5
15	15	10	2	7	5	8	7	8	2	3	7	15	10	5

TACINP 10001 ****UNCLASSIFIED****

SVRPROB LIST

WEAPON TYPE CODE

1 INDICATES WEAPON TYPE 1
2 INDICATES WEAPON TYPE 2
3 INDICATES WEAPON TYPE 3
4 INDICATES WEAPON TYPE 4
5 INDICATES WEAPON TYPE 5
6 INDICATES WEAPON TYPE 6
7 INDICATES WEAPON TYPE 7
8 INDICATES WEAPON TYPE 8
9 INDICATES WEAPON TYPE 9
10 INDICATES WEAPON TYPE 10
11 INDICATES WEAPON TYPE 11
12 INDICATES WEAPON TYPE 12
13 INDICATES OBJECT TYPE 13
14 INDICATES OBJECT TYPE 14
15 INDICATES OBJECT TYPE 15

SURVEILLANCE TYPE	TYPE	LINEAR COEFFICIENT OF DISTANCE	CONSTANT TERM
1	1	.285	1.428
1	2	4.998	4.998
1	3	.832	1.666
1	4	.666	2.000
1	5	.285	1.428
1	6	.285	1.428
1	7	.605	1.211
1	8	1.537	1.537
1	9	.000	.000
1	10	.000	.000
1	11	.000	.000
1	12	.000	.000
1	13	.285	1.428
1	14	.453	1.363
1	15	1.537	1.537
2	1	.000	.000
2	2	.000	.000
2	3	.000	.000
2	4	.000	.000
2	5	.000	.000
2	6	.000	.000
2	7	.000	.000
2	8	.000	.000
2	9	.000	.000
2	10	.000	.000
2	11	.000	.000
2	12	.000	.000
2	13	.000	.000
2	14	.000	.000
2	15	.000	.000
1	1	.285	1.428
1	2	4.998	4.998
1	3	.832	1.666
1	4	.666	2.000
1	5	.285	1.428
1	6	.285	1.428
1	7	.605	1.211
1	8	1.537	1.537
1	9	.000	.000
1	10	.000	.000
1	11	.000	.000
1	12	.000	.000
1	13	.285	1.428

TACINP PGM ****UNCLASSIFIED****

F I R E F A C S L I S T

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

TYPE UNIT		WEAPON TYPE 1	WEAPON TYPE 2	WEAPON TYPE 3	WEAPON TYPE 4	WEAPON TYPE 5	WEAPON TYPE 6	WEAPON TYPE 7	WEAPON TYPE 8	WEAPON TYPE 9	WEAPON TYPE 10	WEAPON TYPE 11	WEAPON TYPE 12
1	DES.	250.00	250.00	1.00	750.00	500.00	500.00	250.00	750.00	500.00	750.00	250.00	750.00
1	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
2	DES.	500.00	500.00	750.00	500.00	250.00	250.00	500.00	500.00	500.00	250.00	500.00	500.00
2	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
3	DES.	1.00	1.00	1.00	1.00	750.00	750.00	1.00	750.00	1000.00	750.00	1.00	750.00
3	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
4	DES.	500.00	500.00	1.00	250.00	250.00	250.00	250.00	250.00	1.00	250.00	250.00	250.00
4	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
5	DES.	1.00	1.00	1.00	1.00	1000.00	1000.00	1.00	1000.00	1000.00	1000.00	1.00	1000.00
5	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
A	DES.	1.00	1.00	1.00	1.00	1000.00	1000.00	1.00	1000.00	1000.00	1000.00	1.00	1000.00
6	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
7	DES.	750.00	750.00	500.00	500.00	750.00	750.00	500.00	750.00	500.00	500.00	500.00	750.00
7	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
8	DES.	1.00	1.00	1.00	1.00	1000.00	1000.00	1.00	1000.00	1000.00	1000.00	1.00	1000.00
8	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
9	DES.	1000.00	1000.00	1000.00	1000.00	750.00	1.00	1000.00	750.00	1.00	1.00	1000.00	750.00
9	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
10	DES.	1.00	1.00	1.00	1.00	250.00	250.00	1.00	250.00	1.00	250.00	1.00	250.00
10	EFF.	20.00	25.00	13.00	6.00	12.00	3.00	15.00	21.00	16.00	1.00	8.00	16.00
1	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
A	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	DES.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	EFF.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

TACINP PGM ****UNCLASSIFIED****

ARTDST AND MUVMOD LISTS

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

UNIT TYPE	MOVEMENT MODE	LINEAR COEFFIENT OF DISTANCE	CONSTANT TERM
1	VEHICLE	.50000	2.00000
2	VEHICLE	.34961	2.00000
3	VEHICLE	.34961	2.00000
4	VEHICLE	.34961	2.00000
5	VEHICLE	.50000	2.00000
6	VEHICLE	.50000	2.00000
7	VEHICLE	.19922	2.00000
8	BY FOOT	.00000	2.00000
9	VEHICLE	.19922	2.00000
10	VEHICLE	.50000	2.00000

ARTILLERY SUITABILITY LIST

UNIT TYPE	ARTILLERY BATTALION TYPES- 1	2	3	4	5	6
1	2	3	4	0	0	0
2	2	3	4	0	0	0
3	4	3	2	0	0	0
4	3	4	2	0	0	0
5	2	4	3	0	0	0
6	2	3	4	0	0	0
7	3	4	2	0	0	0
8	0	0	0	0	0	0
9	2	4	3	0	0	0
10	2	3	4	0	0	0

TACINP PGM ****UNCLASSIFIED****

ARDFAC AND SUPTYM LISTS

UNIT MODE CODE
1 INDICATES ATTACK
2 INDICATES DEFENSE

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

UNIT MODE	UNIT TYPE	PROPORTION OF EXPOSED PERSONNEL	AREA OF UNIT STRENGTH	COMBAT EFFECTIVENESS SCALING FACTOR	TIME
1	1	.50000	105.0	80	15
1	2	.29883	122.0	20	15
1	3	.29883	38.0	20	15
1	4	.14844	209.0	10	5
1	5	.50000	844.0	80	15
1	6	.50000	222.0	80	15
1	7	.09961	194.0	15	5
1	8	.50000	220.0	30	5
1	9	.09961	194.0	15	5
1	10	.89844	107.0	80	15
2	1	.50000	105.0	50	15
2	2	.29883	122.0	15	30
2	3	.50000	38.0	15	15
2	4	.14844	214.0	10	5
2	5	.25000	740.0	50	15
2	6	.25000	172.0	50	15
2	7	.14844	380.0	10	5
2	8	.34961	250.0	20	5
2	9	.14844	194.0	10	5
2	10	.89844	160.0	25	15

UNIT TYPE	AVERAGE LETHAL AREA FOR EXPOSED PERSONNEL	AVERAGE LETHAL AREA FOR PROTECTED PERSONNEL
1	354.1992	32.1992
2	234.2988	2.8398
3	234.2988	2.8398
4	234.2988	2.8398
5	354.1992	32.1992
6	354.1992	32.1992
7	234.2988	2.8398
8	354.1992	32.1992
9	234.2988	2.8398
10	354.1992	32.1992

TACINP PGM ****UNCLASSIFIED****

E F F E C T L I S T

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

UNIT TYPE	CUMULATIVE ATTRITION	UNIT EFFECTIVENESS	EFFECTIVENESS MODE
1	.05	1.00	1
1	.05	1.00	2
1	.10	1.00	1
1	.10	1.00	2
1	.15	1.00	1
1	.15	1.00	2
1	.20	.90	1
1	.20	.90	2
1	.25	.90	1
1	.25	.90	2
1	.30	.80	1
1	.30	.80	2
1	.35	.80	1
1	.35	.80	2
1	.40	.80	1
1	.40	.80	2
1	.45	.60	1
1	.45	.60	2
1	.50	.60	1
1	.50	.60	2
1	.55	.50	1
1	.55	.50	2
1	.60	.50	1
1	.60	.50	2
1	.65	.00	1
1	.65	.00	2
2	.05	1.00	1
2	.05	1.00	2
2	.10	1.00	1
2	.10	1.00	2
2	.15	1.00	1
2	.15	1.00	2
2	.20	.90	1
2	.20	.90	2
2	.25	.90	1
2	.25	.90	2
2	.30	.80	1
2	.30	.80	2
2	.35	.80	1
2	.35	.80	2
2	.40	.80	1
2	.40	.80	2

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WRITES ATTRIT, SURDEG , AND SESWTR LISTS

TERRAIN CLASS	AVERAGE ATTRIT, IF FIRED ON	AVERAGE ATTRIT, IF NOT FIRED ON	SURVEILLANCE DEGRADATION	SURVEILLANCE FACTOR AFFECTING TERRAIN OF OBSERVED UNIT	SURVEILLANCE FACTOR AFFECTING TERRAIN OF SURVEILLANCE UNIT
1	.000237	.000027	1.0000	1.000	.000
2	.000237	.000027	1.0000	1.000	.000
3	.000237	.000027	1.0000	1.000	.000
4	.000179	.000027	.5000	4.000	.000
5	.000179	.000027	.5000	4.000	.000
6	.000179	.000027	.5000	4.000	.000
7	.000149	.000027	.2500	25.000	.000
8	.000149	.000027	.2500	25.000	.000
9	.000149	.000027	.2500	25.000	.000
10	.000118	.000027	.1250	59.000	.000
11	.000118	.000027	.1250	59.000	.000
12	.000118	.000027	.1250	59.000	.000
13	.000118	.000027	.0000	99.000	.000
14	.000118	.000027	.0000	99.000	.000
15	.000118	.000027	.0000	99.000	.000

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WEPRANGE LIST

TERRAIN CLASS	WEAPON TYPE 1	WEAPON TYPE 2	WEAPON TYPE 3	WEAPON TYPE 4	WEAPON TYPE 5	WEAPON TYPE 6	WEAPON TYPE 7	WEAPON TYPE 8	WEAPON TYPE 9	WEAPON TYPE 10	WEAPON TYPE 11	WEAPON TYPE 12	MODE
1	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
1	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
2	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
2	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
3	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
3	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
4	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
4	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
5	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
5	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
6	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
6	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
7	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
7	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
8	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
8	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
9	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
9	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
10	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
10	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
11	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
11	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
12	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
12	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
13	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
13	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
14	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
14	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2
15	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	1
15	3.00	3.00	3.00	1.00	.25	3.00	1.50	1.50	4.00	6.00	.44	.00	2

TERRAIN CLASS	WEAPON TYPE 1	WEAPON TYPE 2	WEAPON TYPE 3	WEAPON TYPE 4	WEAPON TYPE 5	WEAPON TYPE 6	WEAPON TYPE 7	WEAPON TYPE 8	WEAPON TYPE 9	WEAPON TYPE 10	WEAPON TYPE 11	WEAPON TYPE 12	MODE
1	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
1	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
2	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
2	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
3	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
3	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
4	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
4	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
5	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
5	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
6	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
6	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
7	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
7	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
8	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
8	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2
9	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	1
9	3.00	3.00	3.00	.30	1.50	1.50	3.00	1.00	10.00	.44	1.00	30.00	2

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MOVERATE LIST

GROUP MODE CODE

1 INDICATES WITHDRAW
2 INDICATES LEAP FROG
3 INDICATES RESERVE
4 INDICATES YIELD
6 INDICATES STATIC DEFENSE
7 INDICATES ATTACK

TERRAIN CLASS	GROUP MODE	AVERAGE RATE OF MOVEMENT ON FOOT	AVERAGE RATE OF MOVEMENT BY VEHICLE
1	1	.0689	.2031
2	1	.0689	.2031
3	1	.0689	.2031
4	1	.0689	.2031
5	1	.0689	.2031
6	1	.0689	.2031
7	1	.0689	.2031
8	1	.0689	.2031
9	1	.0689	.2031
10	1	.0689	.2031
11	1	.0689	.2031
12	1	.0689	.2031
13	1	.0689	.2031
14	1	.0689	.2031
15	1	.0689	.2031
1	2	.0689	.2031
2	2	.0689	.2031
3	2	.0689	.2031
4	2	.0689	.2031
5	2	.0689	.2031
6	2	.0689	.2031
7	2	.0689	.2031
8	2	.0689	.2031
9	2	.0689	.2031
10	2	.0689	.2031
11	2	.0689	.2031
12	2	.0689	.2031
13	2	.0689	.2031
14	2	.0689	.2031
15	2	.0689	.2031
1	3	.0000	.0000
2	3	.0000	.0000
3	3	.0000	.0000
4	3	.0000	.0000
5	3	.0000	.0000
6	3	.0000	.0000
7	3	.0000	.0000
8	3	.0000	.0000
9	3	.0000	.0000
10	3	.0000	.0000

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GPDELTS LIST

MODE	EFFECTIVENESS	DIST-MAX.	DIST-MIN.	DIST-REF.	FACTR-FAR	FACTR-CLOSE
1	.6599	3.000	.199	1.000	.500	.500
2	1.0000	4.100	.500	2.000	1.000	1.000
3	1.0000	.000	.000	.000	.000	.000
4	.6599	4.100	.500	2.000	1.000	1.000
5	1.0000	.000	.000	.000	.000	.000
6	1.5000	.000	.000	.000	.000	.000
7	1.0000	2.398	1.600	2.000	3.000	.500

INPAIR AND INPAR2 LISTS - INFORMATION ABOUT PAIRS OF INTELLIGENCE LOGS

1ST UNIT INDEX	LOG	ROW INDEX	SURPLUS	DLINE INDEX	2ND UNIT INDEX	LOG	ROW INDEX	SURPLUS	DLINE INDEX
1	INTELBD	4	.299	15	3	INTELDA	1	.299	15
1	INTELBD	4	.299	15	4	INTELBD	1	.199	15
1	INTELBD	4	.299	15	5	INTELBD	2	.199	15
1	INTELBD	4	.299	15	6	INTELBD	3	.199	15
3	INTELDA	1	.299	16	101	INTELDS	1	.100	16
3	INTELDA	1	.299	16	102	INTELDS	2	.100	16
3	INTELDA	1	.299	16	103	INTELDS	3	.100	16
4	INTELBD	1	.199	17	11	INTELGP	1	.100	17
4	INTELBD	1	.199	17	12	INTELGP	3	.100	17
4	INTELBD	1	.199	17	13	INTELGP	4	.100	17
4	INTELBD	1	.199	17	14	INTELGP	2	.100	17
4	INTELBD	1	.199	17	15	INTELGP	5	.100	17
4	INTELBD	1	.199	18	101	INTELDS	1	.100	18
5	INTELBD	2	.199	17	16	INTELGP	6	.100	17
5	INTELBD	2	.199	17	17	INTELGP	7	.100	17
5	INTELBD	2	.199	17	18	INTELGP	8	.100	17
5	INTELBD	2	.199	18	102	INTELDS	2	.100	18
6	INTELBD	3	.199	17	19	INTELGP	9	.100	17
6	INTELBD	3	.199	17	20	INTELGP	10	.100	17
6	INTELBD	3	.199	17	21	INTELGP	11	.100	17
6	INTELBD	3	.199	18	103	INTELDS	3	.100	18
11	INTELGP	1	.500	17	101	INTELDS	1	.049	17
12	INTELGP	3	.500	17	101	INTELDS	1	.049	17
13	INTELGP	4	.500	17	101	INTELDS	1	.049	17
14	INTELGP	2	.500	17	101	INTELDS	1	.049	17
15	INTELGP	5	.500	17	101	INTELDS	1	.049	17
16	INTELGP	6	.500	17	102	INTELDS	2	.049	17
17	INTELGP	7	.500	17	102	INTELDS	2	.049	17
18	INTELGP	8	.500	17	102	INTELDS	2	.049	17
19	INTELGP	9	.500	17	103	INTELDS	3	.049	17
20	INTELGP	10	.500	17	103	INTELDS	3	.049	17
21	INTELGP	11	.500	17	103	INTELDS	3	.049	17

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COORD LIST

COORDINATING PAIRS

UNIT1		UNIT2
50	AND	51
51	AND	52
33	AND	34
34	AND	35
56	AND	57
57	AND	58
73	AND	74
74	AND	75
61	AND	62
62	AND	63

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SURVEILLANCE UNIT AND DIVISION ARTILLERY INDICES LIST

SURV. UNIT INDEX	DIVISION ART. INDEX	LONG RANGE SURV. INDEX
1	3	
2	203	
3		33
4		39
5		44
6		50
7		34
8		40
9		45
10		51
11		35
12		41
13		46
14		52
15		56
16		61
17		67
18		73
19		57
20		62
21		68
22		74
23		58
24		63
25		69
26		75
27		73
28		62
29		67
30		109
31		74
32		63
33		68
34		110
35		75
36		69
37		69
38		107
39		33
40		56
41		44
42		50
43		34
44		57
45		45
46		51
47		35
48		58
49		46
50		52

SURMS1 AND SURMS2 LISTS

ADDRESSEE UNIT INDEX	POSITIONAL INDEX IN LOG OF TAG	LOG	OLINE INDEX
11	1	INTELGP	25
112	2	INTELGP	25
13	3	INTELGP	25
14	4	INTELGP	25
11	1	INTELGP	25
12	2	INTELGP	25
13	3	INTELGP	25
14	4	INTELGP	25
11	1	INTELGP	25
12	2	INTELGP	25
13	3	INTELGP	25
14	4	INTELGP	25
15	5	INTELGP	25
16	6	INTELGP	25
17	7	INTELGP	25
18	8	INTELGP	25
15	5	INTELGP	25
16	6	INTELGP	25
17	7	INTELGP	25
18	8	INTELGP	25
15	5	INTELGP	25
16	6	INTELGP	25
17	7	INTELGP	25
18	8	INTELGP	25
102	2	INTBDS	25
102	2	INTBDS	25
102	2	INTBDS	25
4	1	INTELBD	25
102	2	INTBDS	25
102	2	INTBDS	25
102	2	INTBDS	25
5	2	INTELBD	25
102	2	INTBDS	25
102	2	INTBDS	25
102	2	INTELGP	25
3	1	INTBDA	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25
101	1	INTBDS	25

TACINP PGM ****UNCLASSIFIED****

SURANGE LIST

UNIT MODE CODE
1 INDICATES ATTACK
2 INDICATES DEFENSE

UNIT TYPE CODE
1 INDICATES TOWED ARTILLERY
2 INDICATES SP ARTILLERY
3 INDICATES MORTAR
4 INDICATES RECONNAISANCE
5 INDICATES SIGNAL CENTERS
6 INDICATES COMMAND POSTS
7 INDICATES MECH INFANTRY
8 INDICATES DISMOUNTED INFANTRY
9 INDICATES TANK UNITS
10 INDICATES SUPPORT - ALL OTHER UNITS

SURVEILLANCE UNIT	OBSERVED UNIT TYPE	OBSERVED UNIT MODE	MAXIMUM DISTANCE AT WHICH LONG RANGE SURVEILLANCE INTELLIGENCE IS 50 PERCENT ACCURATE
33	1	1	.000000000
33	1	2	.000000000
33	2	1	.002929688
33	2	2	.003906250
33	3	1	.011718750
33	3	2	.017822266
33	4	1	.002197266
33	4	2	.002929688
33	5	1	.008789063
33	5	2	.011962891
33	6	1	.005859375
33	6	2	.007324219
33	7	1	.001708984
33	7	2	.002197266
33	8	1	.000000000
33	8	2	.000000000
33	9	1	.003417969
33	9	2	.004394531
33	10	1	.004394531
33	10	2	.005859375
41	1	1	.000000000
41	1	2	.000000000
41	2	1	.002929688
41	2	2	.003906250
41	3	1	.011718750
41	3	2	.017822266
41	4	1	.002197266
41	4	2	.002929688
41	5	1	.008789063
41	5	2	.011962891
41	6	1	.005859375
41	6	2	.007324219
41	7	1	.001708984
41	7	2	.002197266
41	8	1	.000000000
41	8	2	.000000000
41	9	1	.003417969
41	9	2	.004394531

MESGES AND MESSAFEL LIST

WAR GAME MSG. TYPE	INFORMATION FOR SUBROUTINE	NUMBER TO ADD TO CLOCK TO MESSAGE DEADLINE	SECURITY CLASS OF MESSAGE	PRECEDENCE OF MESSAGE	TIME LENGTH OF MESSAGE IN MINUTES	USAGE OF MESSAGE	SPECIAL MESSENGER	CONVERTED MESSAGE
1	INTCO	5	1	5	1.00	3	X	
2	GNDINF	10	1	3	1.50	3	X	
3	ARTINF	10	1	3	1.00	37	X	
4	STATRE	5	1	5	1.50	3	X	
5	TARGET	5	1	5	1.00	3		
6		0	0	0	.00	0		
7		0	0	0	.00	0		
8		0	0	0	.00	0		
9	BNDEC	5	1	5	1.00	3	X	
10		0	0	0	.00	0		
11	BNDEC	15	1	3	1.00	3	X	
12	DATARG	5	1	5	1.50	9	X	
13		0	0	0	.00	0		
14	DVARBN	10	1	5	1.50	9	X	
15	INTRAN	45		3	7.00	37	X	
16	INTRAN	30		3	5.00	37	X	
17	INTRAN	20	1	3	3.00	3	X	
18		15	1	3	2.00	3	X	
19		0	0	0	.00	0		
20		0	0	0	.00	0		
21		0	0	0	.00	0		
22		0	0	0	.00	0		
23		0	0	0	.00	0		
24		0	0	0	.00	0		
25	FARSAM	10	1	4	1.50	3		
26	FARSAM	10	1	4	1.50	3		
27		15	1	3	1.00	3		
28		15	1	3	1.50	3		
29		0	0	0	.00	0		
30		0	0	0	.00	0		
31		0	0	0	.00	0		
32		0	0	0	.00	0		
33		0	0	0	.00	0		
34		0	0	0	.00	0		
35		0	0	0	.00	0		
36		0	0	0	.00	0		
37		15	1	5	2.50	9	X	
38		15		5	2.50	9	X	
39		15		5	2.50	9	X	
40		15	1	5	2.50	9	X	
41	TARGET	10	1	4	2.00	3	X	
42	BRIDEC	10	1	4	1.50	3	X	
43	MOVEMG	5	1	5	1.00	3	X	
44	BRIDEC	5	1	5	1.00	3	X	
45	DIVIS	30	1	3	3.00	9	X	
46	DIVS	15	1	5	2.00	9	X	
47	MOVEMG	15	1	5	2.00	9	X	
48	MOVEMG	10	1	3	1.50	3	X	
49		15		4	2.50	37	X	
50		0		0	.00	0		

****UNCLASSIFIED****

MVMSG1 AND MVMSG2 LIST

UNIT	SOURCE OF MESSAGE	DLINE INDEX
2	1	39
3	1	47
4	1	47
5	1	47
6	1	47
11	4	48
12	4	48
13	4	48
14	4	48
15	4	48
16	5	48
17	5	48
18	5	48
19	6	48
20	6	48
21	6	48
33	11	43
34	11	43
35	11	43
39	12	43
40	12	43
41	12	43
44	13	43
45	13	43
46	13	43
50	14	43
51	14	43
52	14	43
56	15	43
57	15	43
58	15	43
61	16	43
62	16	43
63	16	43
67	17	43
68	17	43
69	17	43
73	18	43
74	18	43
75	18	43
79	19	43
80	19	43
81	19	43
85	20	43
86	20	43
87	20	43
91	21	43
92	21	43
93	21	43
97	4	48

••••UNCLASSIFIED••••

COORDADD LIST

1 AND 2 - A COORDINATING PAIR TO BE DELETED IF THIS UNIT IS TO BE COMMITTED BETWEEN TWO PREVIOUSLY UNITS OR ADDED IF DECOMMITTED FROM BETWEEN TWO UNITS, ZERO IF THIS IS A FLANK UNIT

3 AND 4 - A COORDINATING PAIR TO BE ADDED IF THIS UNIT IS BEING COMMITTED OR DELETED IF IT SI BEING DECOMMITTED

5 AND 6 - A COORDINATING PAIR TO BE ADDED IF THIS UNIT IS TO BE COMMITTED BETWEEN TWO PREVIOUSLY COMMITTED UNITS OR DELETED IF IT IS DECOMITTED FROM BETWEEN TWO UNITS, ZERO IF THIS IS A FLANK UNIT

GROUP	NO. OF UNITS COMMITTED - 1	1	2	3	4	5	6
1	1	0	0	33	34	0	0
1	2	0	0	33	35	0	0
2	1	0	0	50	51	0	0
2	2	0	0	50	52	0	0
3	1	0	0	39	40	0	0
3	2	0	0	39	41	0	0
4	1	0	0	44	45	0	0
4	2	0	0	44	46	0	0
5	1	0	0	56	57	0	0
5	2	0	0	56	58	0	0
6	1	0	0	61	62	0	0
6	2	0	0	61	63	0	0
7	1	0	0	67	68	0	0
7	2	0	0	67	69	0	0
8	1	0	0	73	74	0	0
8	2	0	0	73	75	0	0
9	1	0	0	79	80	0	0
9	2	0	0	79	81	0	0
10	1	0	0	85	86	0	0
10	2	0	0	85	87	0	0
11	1	0	0	91	92	0	0
11	2	0	0	91	93	0	0
12	1	0	0	0	0	0	0
12	2	0	0	0	0	0	0
13	1	0	0	0	0	0	0
13	2	0	0	0	0	0	0
14	1	0	0	0	0	0	0
14	2	0	0	0	0	0	0
15	1	0	0	0	0	0	0
15	2	0	0	0	0	0	0
16	1	0	0	0	0	0	0
16	2	0	0	0	0	0	0
17	1	0	0	0	0	0	0
17	2	0	0	0	0	0	0
18	1	0	0	0	0	0	0
18	2	0	0	0	0	0	0
19	1	0	0	0	0	0	0
19	2	0	0	0	0	0	0

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DACUTS LIST

DIRECT SUPPORT FDC	LOW DIVARTY TARGET VALUE CUTOFF	PRIORITY	HIGH DIVARTY DIVARTY HELP CUTOFF FOR TARGETS OF OPPORTUNITY
1	6	1	10
2	6	2	10
3	6	2	10
4	10	1	10
5	10	2	20
6	10	2	20

APPENDIX C
SIMULATOR

Mim Parameters Cards

These variables, read in at execution time, determine options for running of the simulator. Following is a description of the input cards with a definition of each parameter.

Col.		Card 1
1	"1"	
5-12	SIMID (A6, A2)	Six character run identifier.
16	KSAMPL (A1)	Mode of game: 1=Tactical play only, 2=Red and Blue commo play, (not operative on the UNIVAC 1108 version), 3=Blue commo play, 4=Red commo play.
20-23	PSTART (I4)	Game start time (in minutes).
27-30	KGSTOP 9I4)	Game stop time (in minutes).
34-35	KOMPER (I2)	Time (in minutes) between restart dumps.
39	NTACT (I1)	0 or blank - No translation done, 1=Translate binary tactical output.
43	NARCS (I1)	Controls automatic post processing for Traffic and Arc reports. 1=No list, 2=Arc reports only, 3=Traffic reports only, 4=Both Arc and Traffic reports.
47	NTRAF (I1)	Not currently used.
51	NREAD (I1)	1=Unit names read from cards, 2=Unit names read from disk file, 3=Unit names not translated.
		Card 2
1	"3"	
6-10	DCRMT1 (F5.3)	Frequency of translation for selected tractical arrays.

Col.		Card 2 (cont'd)
13-17	DCRMT2 (F5.3)	Number of messages over which to take moving average for STM performance.
20-24	DCRMT3 (F5.3)	Number of minutes in current period.
27-31	DCRMT4 (F5.3)	Base factor used in STM impact calculation.
34-38	DCRMT5 (F5.3)	Minutes over which to compute moving average.
41-45	DCRMT6 (F5.3)	Weighting factor for STM impact on committed units in contact.
55-59	FAILCN (F5.3)	On/Off switch for STMGEN.
62-66	PCONVR (F5.3)	On/Off switch for COMSYS. 3.0=No COMSYS play (any other value has no effect).

Card 3

1	"4"	
9-20	SEED (O12)	Random number seed (must be both odd and octal).
21-30	AVGJAM (F10.0)	Means of probability of an eligible arc being jammed.
31-40	STDJAM (F10.0)	Standard deviation of probability of an eligible arc being jammed.
41-43	JAMDLY (I10)	Delay time after a unit is placed until an eligible arc can be jammed.
44-46		Number of arc types to be jammed.
47-76	JAMTYP (10I3)	Types of arc that can be jammed.

Col.		Card 4
1	"5"	
5-8	MPSTRT (I4)	Time (in minutes) map plots begin.
19-22	MPINCR (I4)	Time (in minutes) between map plots.
26-28	MPWDTH (I3)	X. Dimensions of map output by PLOT. (Not used)
32-34	MAPHGT (I3)	Y. Dimensions of map output by PLOT. (Not used)
38-44	MPSCAL (I7)	Scale of map output by PLOT. (Not used)
48-51	XINTVL (F4.1)	Interval between values on x-scale of map output by PLOT. (Not used)
55-58	YINTVL (F4.1)	Interval between values on y-scale of map output by PLOT. (Not used)

Card 5

1	"9"	

The @XQT card of the simulator runstream may have the following options appended. The C option prints all reports of the B option plus the various intelligence summaries. Do not use options B and C simultaneously. A run with the "works" including dumps would have @XQT, ACDEIMTJ 91COMELABS.ABS. To run a case with jamming, the J option must be set.

A - Print ARC reports
B - Print TWRITE reports at specified periods
C - Print all TWRITE reports
D - Print Dump at end of run
E - Print EXTRAC report
I - Print Dump at beginning of run
M - Print Message Traffic report
T - Print timing messages
J - Activate the jamming routines

Run Stream for Simulator

```
@RUN,/TPR     D5919G4375T5097,UNCLASSIFIED,240,1000
@HDG,P    TEST OF COMMEL (8 HOURS) ***UNCLASSIFIED***
@ASG,A    BLUCOMFILE.
          Attacker communications input file (output
from COMINP.)
@ASG,A    REDCOMFILE.
          Defender communications input file (output
from COMINP).
@ASG,A    STMFILE.
          STM input file (output from STMINP).
@USE,11   STMFILE.
          Assign logical unit to STM input file.
@ASG,A    TACFILE.
          Tactical input file (output from TACINP).
@DELETE, C     PLOTFILE.
          Delete file if already created.
@ASG,UP   PLOTFILE.
          Plot output file.
@USE      15,PLOTFILE.
          Assign logical unit 15 to plot output file.
@USE      10, TACFILE
          Assign logical unit 10 to tactical input file.
@USE      9, REDCOMFILE.
          Assign logical unit 9 to defender communications
input.
@USE      8, BLUCOMFILE.
          Assign logical unit 8 to attacker communica-
tions input.
@ASG,T    34.,F40///4000
          Temporary file for arc report.
@ASG,T    35., F40///4000
          Temporary file for traffic report.
@XQT,BD   91COMELABS.ABS
          Run simulator with options B and D.
1 BENCHMRK     1     0     481  600  0     0     2
3    60                                              1.
4    000000001111          0.1     .0125 65 01 15
5    1     390       60    80     40    200000  5.0 5.0
9
          MIM parameter cards.
@PMD,E
          Dump if error aborts program.
@ASG,T    TAPE., 8C9,SAVEW
          Assign tape to save output of run.
@COPY,GM 8.,TAPE
```

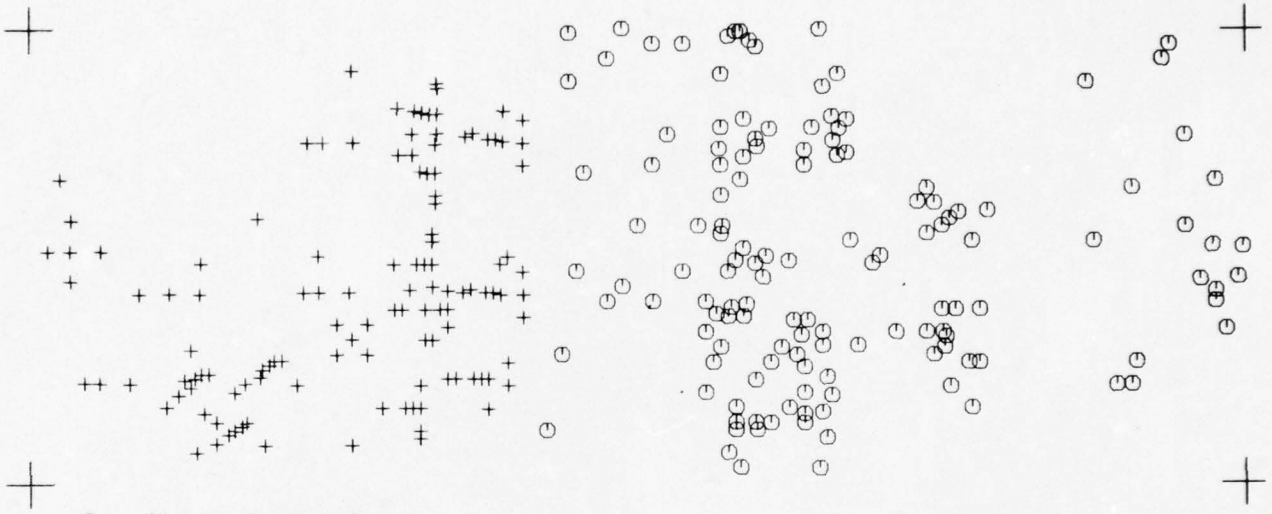
```
          Save attacker communications input (file 1).
@COPY,GM 9.,TAPE
          Save defender communications data (file 2).
@COPY,GM 10.,TAPE
          Save tactical input (file 3).
@COPY,GM 15.,TAPE
          Save input for plot program (file 4).
@COPY,GM 34.,TAPE
          Save arc report (file 5).
@COPY,GM 35., TAPE
          Save traffic report (file 6).
@FREE     PLOTFILE.
@START START*91START.PLOT-RUNX
          Start plot program.
@FIN
```

MAP PLOTS

An additional output option that is available is the capability to produce map overlay plots of all Red and Blue units showing the center of mass. Currently, plots are available at scales of 1:250,000 and 1:50,000. Plots at a scale of 1:50,000 include unit numbers. In addition, the time interval between plots can be as small as every 15 minutes. (Note: Plots made every two hours appear to be adequate.)

Following is an example of a 1:250,000 map plot of Red and Blue units at time T = 0 hours.

Note: Blue units are on the left and are designated by crosses. Red units are on the right and are designated by circles. Due to the scale, units numbers are not shown on 1:250,000 plots.



Coordinate System Origin

LEGEND

+ Blue Forces
⊙ Red Forces

FIGURE C-1, Example COMMEL Plot for T=Q

FOLLOWING ARE SAMPLES
OF SIMULATOR OUTPUT

```
TEST OF COMMEL(TIMER)    ******UNCLASSIFIED*******

INITIALIZE SIMULATOR
   SIMULATION IDENT = BENCHMRA
      START GAME AT TIME     0
   STOP GAME AT TIME    16
   KSAMPL  =   1
   DUMP FREQ = 15 MIN
   RANDOM SEED = 000000001111 AVGJAM =       .1000  STDJAM =       .0125
   JAMDLY =     65  JAMTYP =     15
INITIALIZATION COMPLETED
```

AD-A031 615 EVALUATION TECHNOLOGIES INC ARLINGTON VA F/G 17/2
COMMEL II USER'S MANUAL. VOLUME III. APPENDIXES.(U)
OCT 76 J K WAITE DAAG39-76-C-0014
UNCLASSIFIED CAA-D-76-6-VOL-3 NL

2 OF 2
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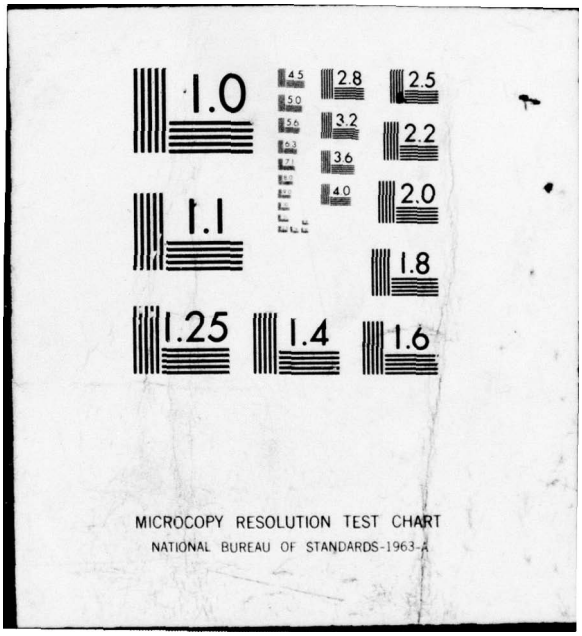
A031615

END

DATE
FILMED
12-76


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TEST OF COMMEL(TINFM) ••••••UNCLASSIFIED•••••••

RTILLERY DAMAGE AT TIME 5

UNIT	UNIT TYPE	UNIT MODE	FIRE AMOUNT	INTELLIGENCE LEVEL	PROPORTION EXPOSED	LETHAL AREA EXPOSED	LETHAL AREA PROTECTED	AREA OF UNIT STRENGTH	CURRENT STRENGTH	BASE ATTRITION
130	7	2	71.71	.9512	.148438	234.2988	2.8398	380.0	343.00	.019965
131	7	2	143.41	.5254	.148438	234.2988	2.8398	380.0	324.00	.022769
228	2	2	143.41	.1934	.298828	234.2988	2.8398	122.0	528.00	.030998
132	7	2	71.71	.8711	.148438	234.2988	2.8398	380.0	324.00	.018871
56	7	1	95.33	.5879	.099609	234.2988	2.8398	194.0	799.00	.009362
57	7	1	95.33	.5820	.099609	234.2988	2.8398	194.0	799.00	.009269
50	7	1	95.33	.3145	.099609	234.2988	2.8398	194.0	799.00	.005008
101	2	1	133.48	.8691	.298828	234.2988	2.8398	122.0	269.00	.254538

TOTAL BLUE STM INSERTED THIS CYCLE- 10

TEST OF COMPELITINEM) ••••••UNCLASSIFIED•••••••

9.79 PERCENT OF SINGLE CHANNEL FM NETS ARE TO BE JAMMED

0000000020000 000C0000000CC0 CC0CCC0C0C0C0C 0C0000C0C0CCC0 0000000C0000 0000000C0000 0000000C0000

TOTAL BLUE STA INSERTED THIS CYCLE- 1

TEST OF COMMEL(TIMER)   •••••••UNCLASSIFIED•••••••

BRIGADE INFORMATION LIST AT TIME 1

BDE IND	TIME LAST MSG UP	TIME LAST MSG UP RECD	NO. LAST MSG UP	TH ET A	BDE FORCE RATIO	DEC TIME	NO. BNS UP	UNIT INDEX AND NAME OF BDE HQ
1	0	C	0	5	.CO	16	3	4 1 BDE MAIN CP
2	0	0	C	5	.00	16	3	5 2 BDE MAIN CP
3	0	C	0	C	.CO	C	C	6 3 BDE MAIN CP
4	0	C	0	01505.42		C	2	125 1 MRR MAIN CP
5	0	C	C	01220.51		C	2	151 2 MRR MAIN CP

BATTALION INFORMATION LIST AT TIME 1

BN BDE INDEX	TIME LAST MSG WAS SENT UP	TIME LAST MSG UP RECD	NO. LAST MSG UP	NO. LAST MSG DOWN	BN COMT STAGE							
1 1	1	C	16	C	1000.CO	C	16	C	0	0	0	3
1 2	1	C	17	C	1000.CO	0	16	C	0	0	0	3
1 3	0	0	0	C	1000.CC	C	16	C	0	0	0	3
1 4	0	C	C	C	.CO	C	0	C	0	0	0	0
1 5	0	C	C	0	.CC	C	0	C	0	0	0	0
2 1	1	C	18	C	1000.CO	0	16	C	0	0	0	3
2 2	1	C	19	C	1000.CO	0	16	C	0	0	0	3
2 3	0	C	C	C	1000.CO	0	0	0	C	0	0	0
3 1	0	0	C	C	.CO	0	0	0	0	0	0	3
3 2	0	0	0	C	.CO	0	0	0	0	0	0	0
3 3	C	0	0	C	.CO	0	0	0	0	0	0	0
4 1	1	C	2C	C	1000.CC	C	0	0	0	0	0	3
4 2	1	0	21	C	1000.CO	0	C	0	C	0	0	3
4 3	0	0	0	C	.CO	0	0	C	0	0	0	0
5 1	1	0	22	C	1000.CO	0	0	0	0	0	0	3
5 2	1	0	23	0	1000.CO	0	0	0	0	0	0	3
5 3	0	0	C	C	.CO	0	C	C	C	0	0	0

TEST OF COMMELITINEW1 ********UNCLASSIFIED********

INTELLIGENCE LEVELS AT TIME 1

LOGGED ON UNIT	DIV ARTY	DS ARTY 1	DS ARTY 2	DS ARTY 3	BDE 1	BDE 2	BDE 3	BDE 4	BN 1	BN 2	BN 3	BN 4	BN 5	BN 6	BN 7	BN 8	BN 9	BN 10	BN 11
11 BLUE	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26 BLUE	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
41 BLUE	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
52 BLUE	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
55 BLUE	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
57 BLUE	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
69 BLUE	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
71 BLUE	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
78 BLUE	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
79 BLUE	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
81 BLUE	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
83 BLUE	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
94 BLUE	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
97 BLUE	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
98 BLUE	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
107 BLUE	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
109 BLUE	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
119 BLUE	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
121 BLUE	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

TEST OF COMPELITIKEN) ••••••UNCLASSIFIED•••••••

INTELLIGENCE BY LRS UNITS AT TIME 1

LOGGED ON UNIT	LRS UNIT 1	LRS UNIT 2	LRS UNIT 3	LRS UNIT 4	LRS UNIT 5	LRS UNIT 6	LRS UNIT 7	LRS UNIT 8	LRS UNIT 9	LRS UNIT 10	LRS UNIT 11	LRS UNIT 12	LRS UNIT 13	LRS UNIT 14	LRS UNIT 15	LRS UNIT 16
145 CO A TK BN 1 R	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.01
150 AT MSL BTRY 1	.02	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.04	.00	.00	.00	.00
17: CO A TK BN 2 R	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17A AT MSL BTRY 2	.04	.02	.03	.03	.04	.02	.03	.03	.04	.02	.03	.03	.05	.02	.02	.04
200 CO D TK BN 3 R	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
214 BTRY A MTR BN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
22A 1 BN 122MM MOR	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

TEST OF CUMPELITINEK) ••••••••UNCLASSIFIED••••••••

INTFLLIGENCE BY BLUE LRS UNITS (PART 2) AT TIME 1

LOGGED ON UNIT	LRS UNIT 17	LRS UNIT 18	LRS UNIT 19	LRS UNIT 20	LRS UNIT 21	LRS UNIT 22	LRS UNIT 23	LRS UNIT 24	LRS UNIT 25
145 CO A TK BN 1 M	.02	.00	.00	.01	.01	.00	.00	.00	.00
171 CO A TK BN 2 M	.00	.00	.00	.00	.00	.00	.00	.00	.00
176 AT MSL BTRY 2	.05	.02	.02	.04	.04	.02	.02	.03	.02
200 CO D TK BN 3 M	.00	.00	.00	.00	.00	.00	.00	.00	.00
214 BTRY A MTR BN	.01	.00	.00	.01	.00	.00	.00	.00	.00
22H 1 BN 122MM HOW	.00	.00	.00	.00	.00	.00	.00	.00	.00

LOGGED ON UNIT	LRS UNIT 26	LRS UNIT 27	LRS UNIT 28	LRS UNIT 29	LRS UNIT 30	LRS UNIT 31	LRS UNIT 32	LRS UNIT 33
145 CO A TK BN 1 M	.00	.00	.00	.00	.00	.00	.08	.00
171 CO A TK BN 2 M	.00	.00	.00	.00	.00	.00	.00	.00
176 AT MSL BTRY 2	.01	.01	.02	.02	.01	.01	.02	.02
200 CO D TK BN 3 M	.00	.00	.00	.00	.00	.00	.00	.00
214 BTRY A MTR BN	.00	.00	.00	.00	.00	.00	.08	.00
22H 1 BN 122MM HOW	.00	.00	.00	.00	.00	.00	.00	.00

1	WEAPON TYPE 1	WEAPON TYPE 2	WEAPON TYPE 3	WEAPON TYPE 4	WEAPON TYPE 5	WEAPON TYPE 6	WEAPON TYPE 7	WEAPON TYPE 8	WEAPON TYPE 9	WEAPON TYPE 10	WEAPON TYPE 11	WEAPON TYPE 12	TOTAL WEAPON STRENGTH
BLUE PAT	30.	18.	46.	58.	254.	0.	432.	484.	0.	50.	11088.	0.	21817.
RED PAT	52.	0.	227.	54.	0.	327.	18.	38.	54.	4761.	3.	69.	12136.
BLUE-GRP	289.	0.	96.	192.	720.	0.	305.	273.	48.	0.	5166.	0.	22440.
RED-GRP	107.	0.	248.	216.	0.	571.	0.	248.	0.	2328.	24.	107.	10806.
BLUE TOTAL	319.	18.	142.	250.	974.	0.	737.	757.	48.	50.	16254.	0.	44256.
RED TOTAL	159.	0.	475.	270.	0.	898.	18.	286.	54.	7089.	27.	176.	22942.

TEST OF CUMMEL(TIKER) ••••••UNCLASSIFIED••••••

UNIT LOCATION AT TIME 1

UNIT NO.	UNIT NAME	X COORD	Y COORD	TOTAL WEAPON STRENGTH	STRENGTH AGAINST	STRENGTH RATIO	MAJOR ENEMY		ATTRITION DISTANCE TIME COUNTER	CUMULATIVE PERCENTAGE ATTRITION
201	HQR BTRY 3 MRR	495.7	618.0	66.998	.000	.000	0		.1628	.0023
202	AT MSL BTRY S	492.3	621.5	773.962	.000	.000	0		.1628	.0023
203	DIV ARTY MAIN	507.7	626.9	18.997	.000	.000	0		.1628	.0134
204	DIV ARTY TAC C	501.7	625.4	9.999	.000	.000	0		.1628	.0134
205	1 BN 122 MM H	498.5	632.2	527.988	.000	.000	0		.1628	.0023
206	1 BN GS	511.9	622.7	263.994	.000	.000	0		.1628	.0023
207	1 BN MRL	500.0	629.3	238.995	.000	.000	0		.1628	.0023
208	1 BN 100 MM AT	506.3	644.2	22.000	.000	.000	0		.1628	.0023
209	1 BN 100 MM AT	505.5	625.4	12.000	.000	.000	0		.1628	.0023
210	BTRY A 100 MM	497.5	629.9	158.996	.000	.000	0		.1628	.0023
211	BTRY B 100 MM	498.7	627.7	158.996	.000	.000	0		.1628	.0023
212	BTRY C 100 MM	500.7	626.6	158.996	.000	.000	0		.1628	.0023
213	MTR BN 1 MRR M	502.4	624.6	17.998	.000	.000	0		.1628	.0134
214	BTRY A MTR BN	485.2	625.1	382.991	.000	.000	0		.1628	.0023
215	BTRY B MTR BN	511.1	632.5	382.991	.000	.000	0		.1628	.0023
216	BTRY C MTR BN	501.2	625.1	382.991	.000	.000	0		.1628	.0023
217	MTR BN 2 MRR M	498.2	632.4	17.998	.000	.000	0		.1628	.0134
218	BTRY A MTR BN	496.1	634.0	382.991	.000	.000	0		.1628	.0023
219	BTRY B MTR BN	505.2	632.3	382.991	.000	.000	0		.1628	.0023
220	BTRY C MTR BN	498.7	631.7	382.991	.000	.000	0		.1628	.0023
221	MTR BN 3 MRR M	499.8	623.3	17.998	.000	.000	0		.1628	.0134
222	BTRY A MTR BN	492.2	622.1	382.991	.000	.000	0		.1628	.0023
223	BTRY B MTR BN	493.2	616.7	382.991	.000	.000	0		.1628	.0023
224	BTRY C MTR BN	498.1	618.0	382.991	.000	.000	0		.1628	.0023
225	RCN SQD MAIN C	503.7	637.0	47.994	.000	.000	0		.1628	.0128
226	TRP A RCN SQD	505.5	637.6	255.967	.000	.000	0		.1628	.0128
227	TRP B RCN SQD	506.7	638.1	227.971	.000	.000	0		.1628	.0128
228	1 BN 122MM HQR	486.3	648.0	527.988	1234.830	.428	60	RCN PLT 1-92 I	.1628	.0023
229	1 BN 122MM HQR	496.3	617.5	527.988	.000	.000	0		.1628	.0023
230	1 BN 152MM HQR	503.0	634.3	263.994	.000	.000	0		.1628	.0023
231	1 BN 152MM HQR	497.1	613.3	263.994	.000	.000	0		.1628	.0023

BLUE ATTRITION = .00006

RED ATTRITION = .00009

RELATIVE ATTRITION = 1.56656

BLUE UNITS IN CONTACT = 9

RED UNITS IN CONTACT = 4

TEST OF COMBELT(TIMER) ********UNCLASSIFIED********

FDC/BATTERY LIST AT TIME 1

FDC	AMMO LEVEL	Q STRENGTH	TUBE GROUP	RANGE	TARGET HEIGHT	MISSION FIRE MISSIONS IF IN USE	MISSION FIRE MISSIONS INITIATED THIS HOUR
1	100.00	215.97	1	14.60	3.2	0	0
			2	14.60	3.2	0	
			3	14.60	3.2	0	
2	100.00	215.97	1	14.60	3.2	0	0
			2	14.60	3.2	0	
			3	14.60	3.2	0	
3	100.00	215.97	1	14.60	3.2	0	0
			2	14.60	3.2	0	
			3	14.60	3.2	0	
4	100.00	215.97	1	22.00	4.4	0	0
			2	22.00	4.4	0	
			3	22.00	4.4	0	
5	100.00	170.00	1	16.50	2.5	0	0
			2	16.50	2.5	0	
			3	16.50	2.5	0	
6	100.00	169.94	1	16.50	2.5	0	0
			2	16.50	2.5	0	
			3	16.50	2.5	0	
7	100.00	215.97	1	14.60	3.2	0	0
			2	14.60	3.2	0	
			3	14.60	3.2	0	
8	100.00	215.97	1	22.00	4.4	0	0
			2	22.00	4.4	0	
			3	22.00	4.4	0	
9	100.00	215.97	1	22.00	4.4	0	0
			2	22.00	4.4	0	
			3	22.00	4.4	0	
10	100.00	169.97	1	16.50	2.5	0	0
			2	16.50	2.5	0	
			3	16.50	2.5	0	
11	100.00	169.97	1	16.50	2.5	0	0
			2	16.50	2.5	0	
			3	16.50	2.5	0	
12	100.00	169.97	1	16.50	2.5	0	0
			2	16.50	2.5	0	
			3	16.50	2.5	0	

TEST OF CUMMEL(TIMER) ••••••UNCLASSIFIED•••••••

GROUP/COMPANY LIST AT TIME 1

GROUP	MODE	X COORD	Y COORD	COMPANY	ADVANCE RATE	STATUS
1	7	484.5	638.4	1	.072	FRONT LINE UNIT
				2	.072	FRONT LINE UNIT
				3	.072	FRONT LINE UNIT
2	7	484.4	634.2	1	.072	FRONT LINE UNIT
				2	.166	FRONT LINE UNIT
				3	.072	FRONT LINE UNIT
3	7	483.7	629.0	1	.166	FRONT LINE UNIT
				2	.141	FRONT LINE UNIT
				3	.072	FRONT LINE UNIT
6	7	462.1	625.3	1	.073	FRONT LINE UNIT
				2	.072	FRONT LINE UNIT
				3	.072	FRONT LINE UNIT
7	7	478.5	620.6	1	.141	FRONT LINE UNIT
				2	.072	FRONT LINE UNIT
				3	.141	FRONT LINE UNIT
12	4	485.3	630.0	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
13	6	499.1	635.6	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
14	6	500.0	631.5	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
15	6	504.5	630.1	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
16	6	494.7	623.3	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
17	6	491.6	617.2	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT
18	6	498.0	618.6	1	.000	FRONT LINE UNIT
				2	.000	FRONT LINE UNIT
				3	.000	FRONT LINE UNIT
				4	.000	FRONT LINE UNIT

TEST OF COMMEL(TIMER) ********UNCLASSIFIED********

GROUP/COMPANY LIST AT TIME 1

GROUP	MODE	X COORD	Y COORD	COMPANY	ADVANCE RATE	STATUS

TOTAL BLUE STM INSERTED THIS CYCLE= 9

TOTAL BLUE STM INSERTED THIS CYCLE= 12

TOTAL BLUE STM INSERTED THIS CYCLE= 9

TEST OF CUMMEL(TIMER) ••••••UNCLASSIFIED•••••••

TOTAL MESSAGES COMPLETED	322
TOTAL MESSAGES FAILED	0
MESSAGES LEFT IN PROCESS	104

FOR RUN 666666

TEST OF COMMELCTINFM) ••••••UNCLASSIFIED••••••

COMMUNICATIONS DATA USED BY TRAFFIC

UNIT A	UNIT B	ARC TYPE	MODE USAGE	ARC NUMBER	SWITCH BLADE	SECURITY	CIRCUITS	EQUIP A	CHECK A	EQUIP B	CHECK B	INIT COST	ITEM INIT DELAY	ITEM DEL DELAY	CHANNEL	QUEUE	CRYPTO FAC	ECHELON FA	ARC DEGRAD	ARC MULTY	ARC STATUS
1	2	12	3	1	NO	1	1	1	NO	2	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	3	12	3	2	NO	1	1	1	NO	3	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	4	12	3	3	NO	1	1	1	NO	4	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	5	12	3	4	NO	1	1	1	NO	5	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	6	12	3	5	NO	1	1	1	NO	6	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	108	12	3	6	NO	1	1	1	NO	7	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	111	12	3	7	NO	1	1	1	NO	8	NO	23	.100	.100	1	YES	0	2.00	1.00	1.50	IN
1	3	14	38	29	NO	1	2	9	NO	10	NO	45	.166	.166	2	YES	0	2.00	1.00	1.00	IN
1	4	14	38	30	NO	1	2	9	NO	11	NO	45	.166	.166	2	YES	0	2.00	1.00	1.00	IN
1	5	14	38	31	NO	1	2	9	NO	12	NO	45	.166	.166	2	YES	0	2.00	1.00	1.00	IN
1	6	14	38	32	NO	1	2	9	NO	13	NO	45	.166	.166	2	YES	0	2.00	1.00	1.00	IN
1	108	14	38	33	NO	1	2	9	NO	14	NO	45	.166	.166	2	YES	0	2.00	1.00	1.00	IN
1	2	16	38	44	NO	1	2	15	NO	16	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	3	16	38	45	NO	1	2	15	NO	17	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	108	16	38	46	NO	1	2	15	NO	18	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	97	16	38	47	NO	1	2	15	NO	19	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	98	16	38	48	NO	1	2	15	NO	20	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	99	16	38	49	NO	1	2	15	NO	21	NO	45	.166	.166	3	YES	0	2.00	1.00	1.00	IN
1	2	16	38	65	NO	1	2	22	NO	23	NO	45	.166	.166	4	YES	0	2.00	1.00	1.00	IN
1	111	16	38	66	NO	1	2	22	NO	24	NO	45	.166	.166	4	YES	0	2.00	1.00	1.00	IN
1	118	16	38	67	NO	1	2	22	NO	25	NO	45	.166	.166	4	YES	0	2.00	1.00	1.00	IN
1	119	16	38	68	NO	1	2	22	NO	26	NO	45	.166	.166	4	YES	0	2.00	1.00	1.00	IN
1	120	16	38	69	NO	1	2	22	NO	27	NO	45	.166	.166	4	YES	0	2.00	1.00	1.00	IN
1	3	4	2	691	YES	1	4	247	NO	248	NO	30	.232	.232	50	NO	0	2.00	1.00	1.00	IN
1	2	4	2	692	YES	1	4	249	NO	250	NO	30	.232	.232	51	NO	0	2.00	1.00	1.00	IN
1	3	6	39	693	YES	1	2	251	NO	252	NO	30	.232	.232	53	NO	0	2.00	1.00	1.00	IN
1	2	6	39	694	YES	1	2	253	NO	254	NO	30	.232	.232	54	NO	0	2.00	1.00	1.00	IN
1	3	2	1	767	NO	1	2	399	NO	400	NO	2	.033	.033	127	NO	0	2.00	1.00	1.00	OUT
1	2	2	1	768	NO	1	2	401	NO	402	NO	2	.033	.033	128	NO	0	2.00	1.00	1.00	IN
1	4	2	1	769	NO	1	2	403	NO	404	NO	2	.033	.033	130	NO	0	2.00	1.00	1.00	IN
1	5	2	1	770	NO	1	2	405	NO	406	NO	2	.033	.033	131	NO	0	2.00	1.00	1.00	OUT
1	6	2	1	771	NO	1	2	407	NO	408	NO	2	.033	.033	132	NO	0	2.00	1.00	1.00	IN
1	118	1	9	772	YES	1	2	409	NO	410	NO	15	.232	.232	133	NO	0	2.00	1.00	1.00	IN
1	119	1	9	773	YES	1	2	411	NO	412	NO	15	.232	.232	134	NO	0	2.00	1.00	1.00	IN
1	120	1	9	774	YES	1	2	413	NO	414	NO	15	.232	.232	135	NO	0	2.00	1.00	1.00	IN
1	118	3	38	775	YES	1	1	415	NO	416	NO	15	.232	.232	136	NO	0	2.00	1.00	1.00	IN
1	119	3	38	776	YES	1	1	417	NO	418	NO	15	.232	.232	137	NO	0	2.00	1.00	1.00	IN
1	120	3	38	777	YES	1	1	419	NO	420	NO	15	.232	.232	138	NO	0	2.00	1.00	1.00	OUT
1	3	1	9	778	YES	1	9	421	NO	422	NO	15	.232	.232	139	NO	0	2.00	1.00	1.00	OUT
1	2	1	9	779	YES	1	9	423	NO	424	NO	15	.232	.232	140	NO	0	2.00	1.00	1.00	IN
1	4	1	9	780	YES	1	9	425	NO	426	NO	15	.232	.232	142	NO	0	2.00	1.00	1.00	IN
1	5	1	9	781	YES	1	9	427	NO	428	NO	15	.232	.232	143	NO	0	2.00	1.00	1.00	IN
1	6	1	9	782	YES	1	9	429	NO	430	NO	15	.232	.232	144	NO	0	2.00	1.00	1.00	IN
1	3	3	38	783	YES	1	1	431	NO	432	NO	15	.232	.232	145	NO	0	2.00	1.00	1.00	IN
1	2	3	38	784	YES	1	3	433	NO	434	NO	15	.232	.232	146	NO	0	2.00	1.00	1.00	IN

TEST OF COMMUNICATIONS ••••••••UNCLASSIFIED••••••••

TRAFFIC MESSAGE REPORT FOR RUN ••••••

FORMAT	MESSAGE NO	TIME	ARC	ARC	AKC	ARC/UNIT	AKC/UNIT	CHNL/EQP	QUEUE		NEXT ACT	SENDER	RECEIVER	PREC	SECURITY	MODE/USE	ORIGIN	DEADLINE	MSG TYPE	FORCE
10	93	3.31	0	0	0	0	0	0	0	0	2.09	118	4	4	1	9	3	28	63	1
10	87	3.41	0	0	0	0	0	0	0	0	5.53	4	1	3	1	9	3	43	54	1
10	95	3.43	0	0	0	0	0	0	0	0	3.13	120	6	4	1	9	3	28	65	1
56	60	3.50	0	0	0	0	0	0	0	0	.00	58	15	3	1	3	2	12	2	1
56	61	3.50	0	0	0	0	0	0	0	0	.00	61	16	3	1	3	2	12	2	1
56	62	3.50	0	0	0	0	0	0	0	0	.00	132	128	3	1	3	2	12	2	2
56	63	3.50	0	0	0	0	0	0	0	0	.00	161	159	3	1	3	2	12	2	2
10	88	3.66	0	0	0	0	0	0	0	0	4.84	5	1	3	1	9	3	43	55	1
10	97	3.80	0	0	0	0	0	0	0	0	.44	2	1	3	1	105	3	43	73	1
10	86	3.81	0	0	0	0	0	0	0	0	6.36	2	1	4	1	9	3	28	52	1
56	46	4.00	0	0	0	0	0	0	0	0	.00	40	101	3	1	105	3	13	3	1
56	45	4.00	0	0	0	0	0	0	0	0	.00	44	101	3	1	105	3	13	3	1
56	51	4.00	0	0	0	0	0	0	0	0	.00	63	102	3	1	105	3	13	3	1
56	58	4.00	0	0	0	0	0	0	0	0	.00	171	228	3	1	105	3	13	3	2
56	56	4.00	0	0	0	0	0	0	0	0	.00	52	101	5	1	3	3	8	5	1
56	55	4.00	0	0	0	0	0	0	0	0	.00	57	101	5	1	3	3	8	5	1
56	54	4.00	0	0	0	0	0	0	0	0	.00	57	101	5	1	3	3	8	5	1
56	53	4.00	0	0	0	0	0	0	0	0	.00	75	102	5	1	3	3	8	5	1
56	52	4.00	0	0	0	0	0	0	0	0	.00	75	102	5	1	3	3	8	5	1
56	50	4.00	0	0	0	0	0	0	0	0	.00	75	102	5	1	3	3	8	5	1
56	48	4.00	0	0	0	0	0	0	0	0	.00	145	228	5	1	3	3	8	5	2
56	47	4.00	0	0	0	0	0	0	0	0	.00	145	228	5	1	3	3	8	5	2
56	44	4.00	0	0	0	0	0	0	0	0	.00	130	228	5	1	3	3	8	5	2
56	85	4.00	0	0	0	0	0	0	0	0	.00	157	228	5	1	3	3	8	5	2
10	43	4.00	0	0	0	0	0	0	0	0	1.50	158	151	3	1	3	4	14	2	2
10	42	4.00	0	0	0	0	0	0	0	0	1.00	33	101	3	1	105	4	14	3	1
10	41	4.00	0	0	0	0	0	0	0	0	1.00	34	101	3	1	105	4	14	3	1
10	40	4.00	0	0	0	0	0	0	0	0	1.00	50	101	3	1	105	4	14	3	1
10	39	4.00	0	0	0	0	0	0	0	0	1.00	51	101	3	1	105	4	14	3	1
10	37	4.00	0	0	0	0	0	0	0	0	1.00	57	101	3	1	105	4	14	3	1
10	65	4.00	0	0	0	0	0	0	0	0	1.00	74	102	3	1	105	4	14	3	1
10	66	4.00	0	0	0	0	0	0	0	0	1.00	156	228	3	1	105	4	14	3	2
10	36	4.00	0	0	0	0	0	0	0	0	1.00	157	228	3	1	105	4	14	3	2
10	35	4.00	0	0	0	0	0	0	0	0	1.00	158	228	3	1	105	4	14	3	2
10	98	4.02	0	0	0	0	0	0	0	0	.34	2	1	3	1	105	4	44	73	1
10	99	4.15	0	0	0	0	0	0	0	0	.34	2	1	3	1	105	4	44	73	1
10	81	4.17	0	0	0	0	0	0	0	0	5.87	1	5	3	1	9	4	44	68	1
56	97	4.24	0	0	0	0	0	0	0	0	.00	2	1	3	1	105	3	43	73	1
10	30	4.26	0	0	0	0	0	0	0	0	3.87	120	1	3	1	9	4	44	59	1
10	29	4.28	0	0	0	0	0	0	0	0	5.04	4	1	3	1	9	4	44	67	1
56	98	4.37	0	0	0	0	0	0	0	0	.00	2	1	3	1	105	4	44	73	1
56	99	4.50	0	0	0	0	0	0	0	0	.00	2	1	3	1	105	4	44	73	1
56	59	4.50	0	0	0	0	0	0	0	0	.00	40	12	3	1	3	3	13	2	1
56	82	4.50	0	0	0	0	0	0	0	0	.00	46	13	3	1	3	3	13	2	1
56	83	4.50	0	0	0	0	0	0	0	0	.00	63	16	3	1	3	3	13	2	1
56	84	4.50	0	0	0	0	0	0	0	0	.00	171	151	3	1	3	3	13	2	2