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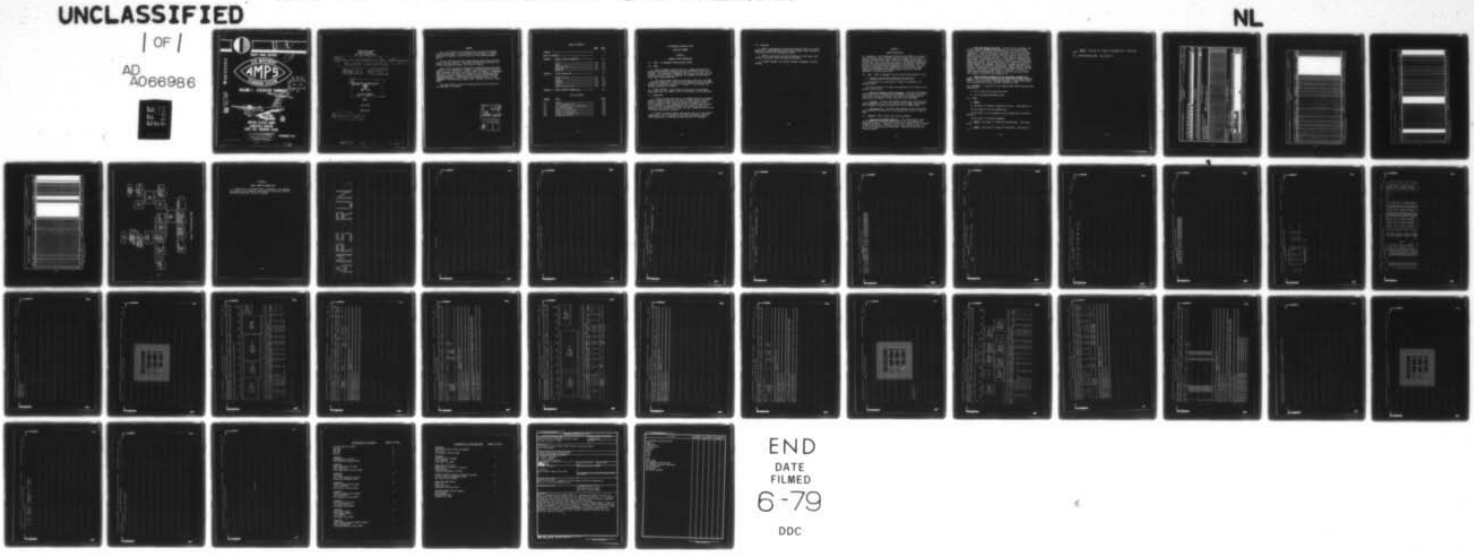

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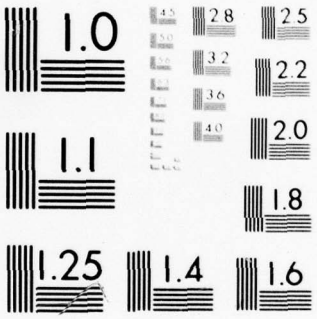

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LEVEL II

DRAFT FINAL REPORT

AIR MOVEMENT

AMPS

PLANNING SYSTEM

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VOLUME I - EXECUTIVE SUMMARY

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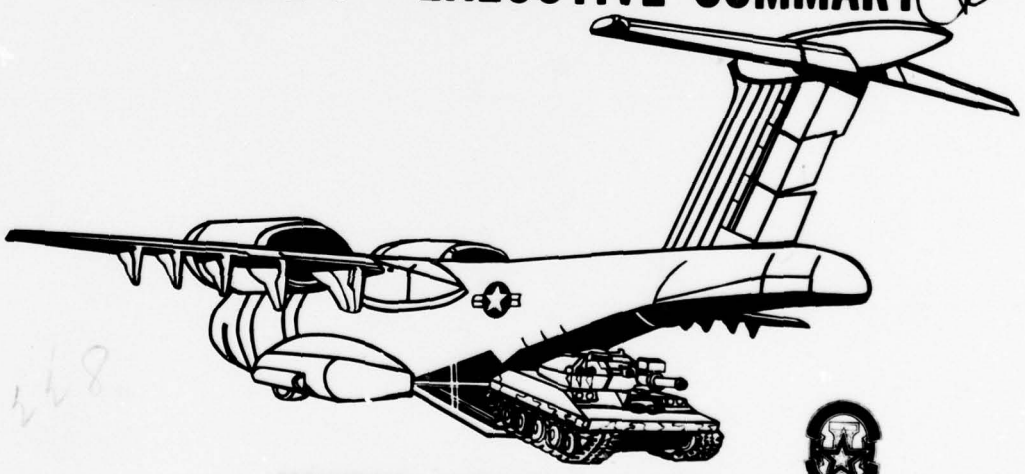

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LOGISTICS CENTER
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(10) Robert S./Saunders, Jay E./Freeman
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AIR MOVEMENT PLANNING SYSTEM (AMPS).

VOLUME I.

EXECUTIVE SUMMARY.

DRAFT

ACN 21740

DRAFT STUDY

Draft
(9) final rept.,

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FORWARD

This is the Draft Executive Summary Report for the Air Movement Planning System (AMPS). The study report is published in 3 volumes: The Executive Summary, The Users Guide, and The System/Programmers Guide.

The work reported herein was accomplished by the US Army Logistics Center, Fort Lee, Virginia. Functional assistance was provided by the US Army Transportation School, Fort Eustis, Virginia.

Users of this volume are encouraged to recommend changes and submit comments for its improvement. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons will be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded directly to the Commander, US Army Logistics Center, ATTN: ATCL-OS, Fort Lee, Virginia 23801.

This paper does not purport to represent any official position of the Department of the Army.

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AIR MOVEMENT PLANNING SYSTEM

EXECUTIVE SUMMARY

CHAPTER 1

GENERAL SYSTEM INFORMATION

1-1. TITLE. Air Movement Planning System (AMPS).

1-2. SCOPE.

a. The Air Movement Planning System is a computerized method of quickly and effectively planning cargo loads for C-130, C-141, and C-5 aircraft. It is primarily intended for use in Army unit moves, but its inherent flexibility makes it adaptable for movement of most types of cargo under various conditions.

b. The inherent model flexibility provides options that give AMPS a collateral capability in staff and major command planning of movements incident to contingency operations, in support of the strategic and tactical planning at all levels.

1-3. TERMS EXPLAINED. Unique terms are not used in this document. Unique terms used in Volumes II and III are defined in those documents.

1-4. OBJECTIVES.

a. Provide to Army units with an air movement mission an automated method of preparing effective load plans for USAF aircraft that will provide a timely response within the dynamic environment of joint airlift operations. The system must be fast, accurate, make efficient use of aircraft, incorporate commander's priorities, maintain unit integrity, link trailers and/or crews with their respective vehicles and link units with specific aircraft.

b. Present a standard format outlining the results of requirements computations. This is intended to facilitate and expedite Army-Air Force coordination in planning and executing joint air movements.

1-5. OPERATION.

a. AMPS is operational at the US Army Logistics Center via terminal operation to a CDC 6400/6500 data processing system at Data Processing Field Office (DPFO) Fort Leavenworth, Kansas.

b. AMPS has been tested on IBM-360 computers at Fort Bragg, North Carolina, Fort Hood, Texas, and Fort Lee, Virginia.

c. A sample computer run has been included as Appendix A of this document.

CHAPTER 2

SYSTEM DESCRIPTION

2-1. NARRATIVE. The Air Movement Planning System (AMPS) is a system of computer programs that provides a method for rapidly and efficiently planning and manifesting loads of Army unit equipment and personnel for transport by C-130, C-141, and C-5 aircraft. The programs validate and process input data prepared and maintained by the Army unit describing the cargo to be moved in detail adequate for load planning. The Load Program is controlled by the characteristics of the aircraft being loaded and by parameters and options input by the unit, or by the commander of the force being moved.

2-2. INPUT. AMPS is designed to utilize the following types of input.

a. Passenger and Load Data Prepared by the Army Unit.

(1) Passengers are listed either by number of passengers or by passenger name.

(2) Cargo dimensions and weight are described as the items are to be offered to the carrier.

b. Options, Parameters, and Unit Sequence. The Major Army Command headquarters which is responsible for direction of the move prepares the input cards to select the options under which the programs are to be executed and the sequence in which the units are to be loaded.

c. Aircraft. The Major Army Command prepares cards describing the types and quantities of aircraft which are to be loaded, in accordance with information provided by the Military Airlift Command (MAC).

d. Helicopter File. The AMPS project manager at each installation will maintain a file (HELI-FILE) of helicopter type loads for input to AMPS.

2-3. PROGRAMS. AMPS includes the following programs:

a. AMPS-VALIDATE PROGRAM (AMPS-VAL). This program edits, sorts, and validates all input data created by the user in accordance with paragraph 2-2 above. The outputs include error diagnostics and a printout of the validated data. AMPS-VAL may be run as a unique program, or it may be run in conjunction with AMPS-LOAD. AMPS-VAL must be the first program executed.

b. AMPS-LOAD PROGRAM (AMPS-LOAD). Utilizing cargo, passenger, and aircraft input in accordance with paragraph 2-2, this program plans aircraft loads following the logical principles used by Air Force MAC loadmasters. Loads are designed to efficiently use the cube and weight capabilities of the aircraft being loaded and, subject to efficiency, follow priorities stated by the units. Cargo items are placed so that the aircraft is within balance limits for safe flight. Passengers are added, within weight limits, when there is adequate space for reasonably comfortable seating. Related cargo items (e.g., truck and trailer) are loaded together, and passengers identified as equipment operators are placed in the same aircraft as the equipment. Output from this program includes a load diagram, cargo manifest, and passenger manifest for each load, and a statistical recapitulation for each unit. A listing of either cargo and passengers not loaded, or aircraft not used, or both are included at the end of the processing run.

c. AMPS HELICOPTER STANDARD LOAD FILE MAINTENANCE PROGRAM (HELI-MAINT). This is a utility program used to update the Helicopter Standard Load File (HELI-FILE) which is used by AMPS-LOAD to control the loading of Army rotary-wing aircraft into USAF transport aircraft.

2-4. DOCUMENTS. In addition to this summary, AMPS includes the following documentation:

a. Vol II--Functional System Users Guide.

b. Vol III--System/Programmers Guide.

2-5. FORMS.

a. AMPS-1.

(1) Card type "1," Options; selected by the user. (See Figure 2-1.)

(2) Card type "2," Title of Computer Run.

(3) Card type "3," Unit Sequence and Unit Combinations; selected by the user.

(4) Card type "4," Aircraft Parameters.

b. AMPS-2. Card type "5." Format for Aircraft Data. (See Figure 2-2.)

c. AMPS-3. Card type "6," Format for Cargo Data. (See Figure 2-3.)

d. AMPS-4. Card type "6," Format for Passenger Data. (See Figure 2-4.)

2-6. SYSTEM OVERVIEW CHART. See Figure 2-5.

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-1 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR DETAILED INSTRUCTIONS

PART A-OPTIONS

SEE REVERSE SIDE OF FORM FOR SUMMARY INSTRUCTIONS

NO LIST	CARB DECK	NO DIAG	NO MATE	NO TEL ESCOPE	NO PRIO	UNIT INTEG	GENE-RATE	NO COP	LINE COUNT
1	2	3	4	5	6	7	8	9	10

LEAVE BLANK

1 9 9 9 1

PART B - TITLE

ENTER DESIRED TITLE, BEGINNING IN COLUMN 1. LEAVE COLUMNS 73-75 BLANK. LEAVE UNUSED COLUMNS BLANK.

2 9 9 9 1

PART C - UNIT SEQUENCE/COMBINATIONS

SEE CHAPTER 2, USER MANUAL, FOR DETAILED INSTRUCTIONS
- BEGIN EACH LINE IN COLUMN 1.
- ENTER UID's IN PROCESSING SEQUENCE DESIRED.
- SEPARATE UID'S WITH A COMMA (,).
- COMBINE UID'S WITH A PLUS (+).

DO NOT:
- LEAVE BLANKS BETWEEN UID'S AND EITHER COMMA OR PLUS
- CONTINUE A UID FROM ONE LINE TO ANOTHER.

1	3 9 9 9 1
2	3 9 9 9 2
3	3 9 9 9 3
4	3 9 9 9 4
5	3 9 9 9 5
6	3 9 9 9 6
7	3 9 9 9 7
8	3 9 9 9 8
9	3 9 9 9 9
10	3 9 9 1 0
11	3 9 9 1 1

ENTRY REQUIRED IN COL 7-9 WHEN GENERATE OPTION SELECTED IN PART A, ABOVE. SEE CH2, USER MANUAL

PART D - AIRCRAFT PARAMETERS

MAKE ENTRIES IN COLUMNS 10-25 AND 41-43 ONLY AS DIRECTED OR APPROVED BY MILITARY AIRLIFT COMMAND. SEE CHAPTER 2, USER MANUAL.

	RATIO MIX>	PLANNING ACL	PLANNING LOAD C/G>	MAX PAX PAX	MAX PAX W/EQP>	PAX WT	
1	C - 5						4 9 9 9 1
2	C - 1 3 0						4 9 9 9 2
3	C - 1 4 1						4 9 9 9 3
4	P A X						4 9 9 9 4

JOB NO _____ DATE _____ PUNCHED BY _____ VERIFIED BY _____ SHEET ____ OF ____ NO OF CDS _____

Fig 2-1. Control Data Input Format.

Army-Fort Lee, Va. 8747-76-1M-D

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-2 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR INSTRUCTIONS.

AIRCRAFT DATA

	TYPE/ MODEL	ACL	QTY	AIRFIELDS DEP	AIRFIELDS ARR	ASG TO UNIT	MISSION IDENTIFIER	MAX PAX PAX	MAX PAX W/EQP	FLS	LLS	C P	AF CMD	LEAVE BLANK	C D	SEQ NUMBER
	1 2 3 4 5	6 7 8 9 10 11	12 13 14	15 16 17 18	19 20 21 22	23 24 25 26 27 28 29	30 31 32 33 34 35 36 37 38 39 40 41	42 43 44	45 46 47	48 49 50 51	52 53 54 55	56	57 58 59	60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75	76	77 78 79 80
1	C -														S	
2	C -														S	
3	C -														S	
4	C -														S	
5	C -														S	
6	C -														S	
7	C -														S	
8	C -														S	
9	C -														S	
10	C -														S	
11	C -														S	
12	C -														S	
13	C -														S	
14	C -														S	
15	C -														S	
16	C -														S	
17	C -														S	
18	C -														S	
19	C -														S	
20	C -														S	
21	C -														S	
22	C -														S	
23	C -														S	
24	C -														S	
25	C -														S	
26	C -														S	
27	C -														S	
28	C -														S	
29	C -														S	
	1 2 3 4 5	6 7 8 9 10 11	12 13 14	15 16 17 18	19 20 21 22	23 24 25 26 27 28 29	30 31 32 33 34 35 36 37 38 39 40 41	42 43 44	45 46 47	48 49 50 51	52 53 54 55	56	57 58 59	60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75	76	77 78 79 80

JOB NO _____ DATE _____ PUNCHED BY _____ VERIFIED BY _____ SHEET _____ OF _____ NO OF CDS _____

Fig 2-2. Aircraft Data Input Format.

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-3 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR PREPARATION INSTRUCTIONS.

CARGO DATA

	UIC/TELN	LEAVE BLANK	DESCRIPTION	LEAVE BLANK	TIE DOWN	CGO CODE	LTH	WTH	HGT	WEIGHT	C/G	PRI	RDF LINE	QTY	S F	C D	LEAVE BLANK
	1 2 3 4 5 6 7	8 9 10	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	34 35 36 37 38 39	40 41 42	43 44	45 46 47	48 49 50	51 52 53	54 55 56 57 58 59	60 61 62	63 64 65	66 67 68 69 70 71	72 73 74	75	76	77 78 79 80
1																G	
2																G	
3																G	
4																G	
5																G	
6																G	
7																G	
8																G	
9																G	
10																G	
11																G	
12																G	
13																G	
14																G	
15																G	
16																G	
17																G	
18																G	
19																G	
20																G	
21																G	
22																G	
23																G	
24																G	
25																G	
26																G	
27																G	
28																G	
29																G	
	1 2 3 4 5 6 7	8 9 10	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	34 35 36 37 38 39	40 41 42	43 44	45 46 47	48 49 50	51 52 53	54 55 56 57 58 59	60 61 62	63 64 65	66 67 68 69 70 71	72 73 74	75	76	77 78 79 80

JOB NO _____ DATE _____ PUNCHED BY _____ VERIFIED BY _____ SHEET _____ OF _____ NO OF CDS _____

Fig 2-3. Cargo Data Input Format.

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-4 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR PREPARATION INSTRUCTIONS.

PASSENGER DATA

	UIC/TLLN	RANK	NAME	SSAN	P	X	LEAVE BLANK	WT	LEAVE BLANK	PRI	EQP LINK	QTY		C	LEAVE BLANK
	1 2 3 4 5 6 7	8 9 10	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	34 35 36 37 38 39 40 41 42	43	44	45 46 47 48 49 50 51 52 53 54 55 56	57 58 59	60 61 62	63 64 65	66 67 68 69 70 71	72 73 74	75	76	77 78 79 80
1					P	X								6	
2					P	X								6	
3					P	X								6	
4					P	X								6	
5					P	X								6	
6					P	X								6	
7					P	X								6	
8					P	X								6	
9					P	X								6	
10					P	X								6	
11					P	X								6	
12					P	X								6	
13					P	X								6	
14					P	X								6	
15					P	X								6	
16					P	X								6	
17					P	X								6	
18					P	X								6	
19					P	X								6	
20					P	X								6	
21					P	X								6	
22					P	X								6	
23					P	X								6	
24					P	X								6	
25					P	X								6	
26					P	X								6	
27					P	X								6	
28					P	X								6	
29					P	X								6	
	1 2 3 4 5 6 7	8 9 10	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33	34 35 36 37 38 39 40 41 42	43	44	45 46 47 48 49 50 51 52 53 54 55 56	57 58 59	60 61 62	63 64 65	66 67 68 69 70 71	72 73 74	75	76	77 78 79 80

JOB NO _____ DATE _____ PUNCHED BY _____ VERIFIED BY _____ SHEET _____ OF _____ NO OF CDS _____

Fig 2-4. Passenger Data Input Format.

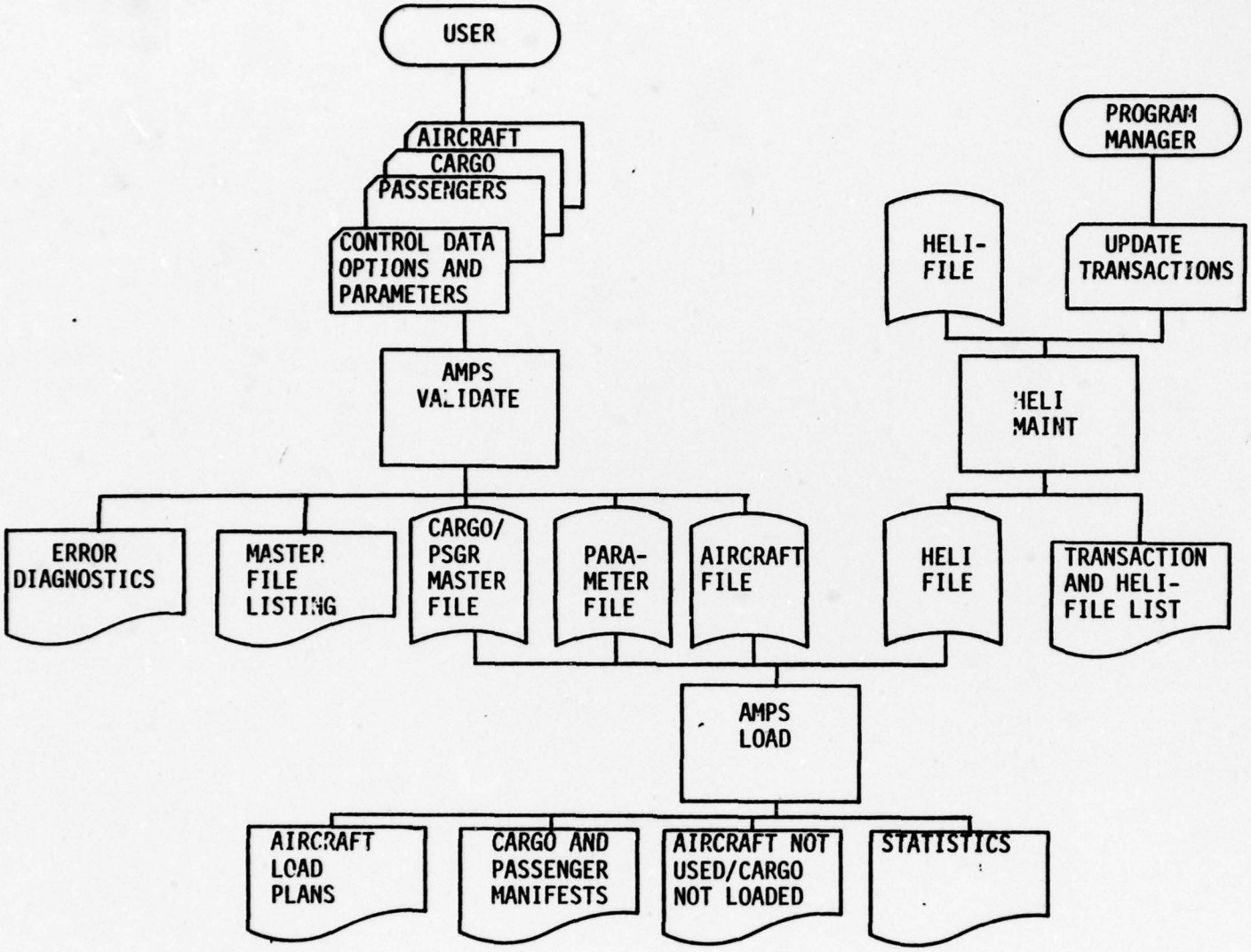


FIGURE 2-5 SYSTEM OVERVIEW CHART

APPENDIX A

SAMPLE COMPUTER PROGRAM RUN

A computer run of the AMPS System is presented in this appendix. This output listing represents the results of a typical run of the documented operational version of the model.

```
  AAAA      MMM     MMM    PPPPPPPPP     SSSSSSSSS          RRRRRRRRR    UU      UU   NN      NN
  AAAA      MMM     MMM    PPPPPPPPP     SSSSSSSSS          RRRRRRRRR    UU      UU   NN      NN
 AA  AA     MMMM   MMMM    PP      PP    SS                 RR      RR   UU      UU   NNNN    NN
 AA  AA     MMMM   MMMM    PP      PP    SS                 RR      RR   UU      UU   NNNN    NN
AA    A     MM  MM  MM     PPPPPPPPP     SSSSSSS            RRRRRRRRR    UU      UU   NN  NN  NN
AA    A     MM  MM  MM     PPPPPPPPP     SSSSSSS            RRRRRRRRR    UU      UU   NN  NN  NN
AAAAAAAAAA   MM      MM     PP                      SS       RR    RR     UU      UU   NN    NNNN     ...
AAAAAAAAAA   MM      MM     PP                      SS       RR    RR     UU      UU   NN    NNNN     ...
AA      AA   MM      MM     PP                      SS       RR     RR    UU      UU   NN     NNN     ...
AA      AA   MM      MM     PP                      SS       RR     RR    UU      UU   NN     NNN     ...
AA      AA   MM      MM     PP                SSSSSSSSS      RR      RR    UUUUUUUU    NN      NN     ...
AA      AA   MM      MM     PP                SSSSSSSSS      RR      RR    UUUUUUUU    NN      NN     ...
```

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * * *

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

DIAGNOSTICS OF INPUT

```
CATCS ..............................................................
CATCS    GENERAL CARGO              0CCEU1761C80A30079800880O1      C00X6
```

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

```
CATGG ..............................................................
CATGG    GENERAL CARGO              CCCBU1761C8083U0798U08800I      CU0A6
```

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DIAGNOSTICS

```
AIRCRAFT TO LOAD 0C0001MACC-141CAT65  BLK SHEEP 1 KPUBKGRKC500000000600000C0001C001
AIRCRAFT TO LOAD 0C0002MACC-130CAT65  BLK SHEEP 2 KPUBKGRKC300000001800000C0001C004
AIRCRAFT TO LOAD 0C0003MACC-5  CAT66  WHT SHEEP 2 KPUBKGRK110000000000000000C0002C003
AIRCRAFT TO LOAD 0C0004MACC-130CAT66  WHT SHEEP 1 KPUBKGRKC300000000000000000002C002
```

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * * *

PRIORITY DATA

U I D	OUTSIZE CARGO WEIGHT	PRIORITY	COMBINED LID
CATG5		1	
CATG6		2	

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

OPTIONS IN EFFECT

NO LIST	CARD DECK	NO DIAG	NO MATE	NO T SCOPE	NO FREQ	UNIT INTEG	GENE MATE	NO-COP	LINE COUNT
						X		1	55

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA

```
1   000001MACC-141CATC5  BLK SHEEP 1 KPDBKGRK050000000006000000000001C
2   000002MACC-13CCATC6  WHT SHEEP 1 KPDBKGRK030000000000000000000002B
3   000003MACC-5  CATC6  WHT SHEEP 2 KPDBKGRK110000000000000000000002D
4   000004MACC-13CCATC5  BLK SHEEP 2 KPDBKGRK030000000016000000000001B
```

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

PARAMETERS IN EFFECT

SINGLE ITEM LIMITS

	LTH	WTH	HTH	WEIGHT	ACL	PCG	MIX
C5	599	228	156	200000	110000	1275	
C141	800	122	108	50000	50000	900	
C130	500	122	108	30000	30000	530	
FILL	200	115	80	7500	******	****	****

DEFAULT PASSENGER WEIGHT = 240
SCHEMATIC PRINT WIDTH = 18

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * * *

CARGO DATA

SEQ-NO	GEO RANK	NOMENCLATURE	SSN / I OVERLAP	CGO CL	**** ITEM DIMENSIONS **** LTH	WTH	HTH	WEIGHT	CG	ITEM PRI	EGE - LINK	OUT STZ	SP MD	SH RQ	PLANE NEEDED	PAX
1	CAT65	GENERAL CARGO	000	BU	176	108	083	00796	088	001			Y		C-130	
2	CAT65	M35A2 2 1/2 T TRK	000	PM	265	096	089	01860	124	001	PF2				C-130	
3	CAT65	TRL PU40E GEN SET	020	TK	170	093	086	00656	095	002	PF2			Y	C-130	
4	CAT65	TRK DRIVER	000000000	PX				00024		003	PF2					R
6	CAT65	M884 1 1/4 T TRK	000	HT	210	085	104	00850	110	001	PF3				C-130	
7	CAT65	M35A2 2 1/2 T TRK	000	PM	265	096	089	01860	124	001	PFX				C-130	
8	CAT65	TRL PU40E GEN SET	020	TK	170	093	086	00656	095	002	PFX			Y	C-130	
9	CAT65	TRK DRIVER	000000000	PX				00024		003	PFX					R
11	CAT65	M884 1 1/4 T TRK	000	HT	210	085	104	00850	110	001	PF2				C-130	
12	CAT65	PASSENGER	000000000	PX				00024		001						A
22	CAT65	TRK CM EQUIP JEEP TOW	000	JP	131	064	066	00233	050	001	PF1				FILL	
23	CAT65	TRK CM EQUIP JEEP TOW	000	JP	131	064	066	00233	050	001	PFX				FILL	
24	CAT66	GENERAL CARGO	000	BU	176	108	083	00796	088	001			Y		C-130	
25	CAT66	M35A2 2 1/2 T TRK	000	PM	265	096	089	01860	124	001	PF2				C-130	
26	CAT66	TRL PU40E GEN SET	020	TK	170	093	086	00656	095	002	PF2			Y	C-130	
27	CAT66	TRK DRIVER	000000000	PX				00024		003	PF2					R
29	CAT66	M884 1 1/4 T TRK	000	HT	210	085	104	00850	110	001	PF3				C-130	
30	CAT66	M884 1 1/4 T TRK	000	HT	210	085	104	00850	110	001	PFX				C-130	
31	CAT66	M884 1 1/4 T TRK	000	HT	210	085	104	00850	110	001	PFX				C-130	
32	CAT66	TRK CM EQUIP JEEP TOW	000	JP	131	064	066	00233	050	002	PFX				FILL	
33	CAT66	M35A2 2 1/2 T TRK	000	PM	265	096	089	01860	124	001	PFX				C-130	
34	CAT66	TRL PU40E GEN SET	020	TK	170	093	086	00656	095	002	PFX			Y	C-130	
35	CAT66	TRK DRIVER	000000000	PX				00024		003	PFX					R
37	CAT66	PASSENGER	000000000	PX				00024		001						A
47	CAT66	TRK CM EQUIP JEEP TOW	000	JP	131	064	066	00233	050	001	PF1				FILL	

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * * *

MASTER-RECORDS = 00027
AIRCRAFT = 00004
AVAIL PASS = 00020
REJECTS = 00000
PRE REJECTS = 00000

SAMPLE RUN FOR EXECUTIVE SUMMARY

S T A T I S T I C S

TYPE A/C	NOT LOADED	LOADED
C-5	1	0
C-141	1	0
C-130	2	0

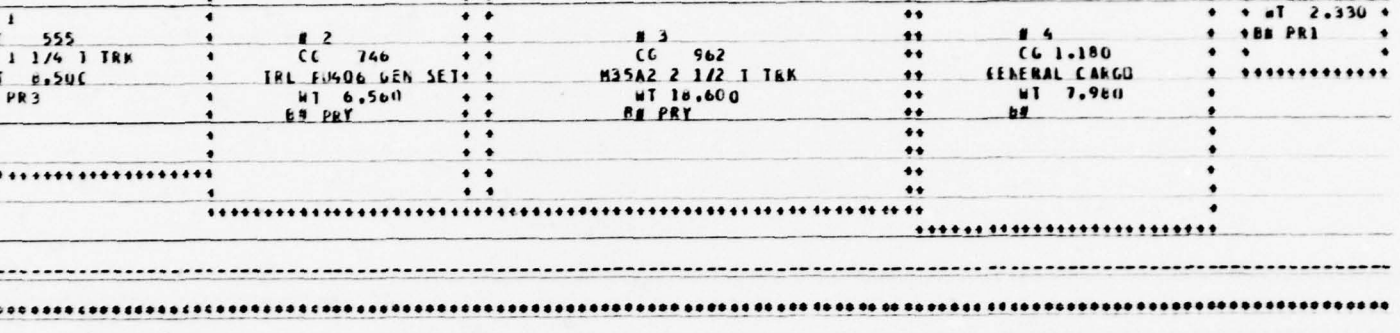
UTILIZATION	WEIGHT	AREA
C-5	0	0
C-141	0	0
C-130	0	0

CARGO	NOT LOADED	LOADED
STANDARD	19	0
OUTSIZE	0	0
PASSENGERS	28	0

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DATA	DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER-ASG TO.A/C MOD							
MAC ACATCS C-141	KGWK	BLK SHEEP 1	50.000	812	KPOB	1	1

C-141 AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING AFT



CARGO MANIFEST (COMMENTS : SR = SHORING REQUIRED FF = FACING FORWARD SH = SPECIAL HANDLING)

ITEM-NO	UID	*** NOMENCLATURE ***	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATCS	M884 1 1/4 T TRK	PR3	210	85	104	8.500	555	4.717.500	455	123	
2	CATCS	TRL PL4C6 GEN SET	PRY	170	93	86	6.560	746	4.893.760	671	96	SR
3	CATCS	M35A2 2 1/2 T TRK	PRY	265	96	69	18.600	962	17.893.200	821	176	
4	CATCS	GENERAL CARGO		176	108	83	7.980	1.180	9.416.400	1.092	132	SH
5	CATCS	TRK GM EQUIP JEEP TCB	PR1	131	64	66	2.330	1.367	3.185.110	1.286	58	

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA			DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER/SC	TO.A/C MOD								
MAC	SCATCS	C-141	KGAK	BLK SHEEP 1	50.000	812	KPOB	1	2

ITEM-NO	UID	NOMENCLATURE	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	END-STA	AREA	COMMENTS
		SUBTOTALS	CARGO	5			43,970	912	40,105,970		585	
		SUBTOTALS	PAX	4			960					
		T O T A L S					44,930	912	40,105,970			

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM

DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------

DATE----------

SIGNATURE OF UNLOADING AGENT----------

DATE----------

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DATA	DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER ASG TO. A/C MOD							
MAC CATGS C-141	KGRK	BLK SHEEP 1	50.000	812	KPOB	1	3

PASSENGER MANIFEST

LINE#	RANK	NAME	SSAN	WEIGHT	UNIT	BUMPR
1		TRK DRIVER		240	CATGS	PRY
2		TRK DRIVER		240	CATGS	PRY
3		PASSENGER		240	CATGS	
4		PASSENGER		240	CATGS	
		TOTALS		960		

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM
DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------
DATE----------

SIGNATURE OF UNLOADING AGENT----------
DATE----------

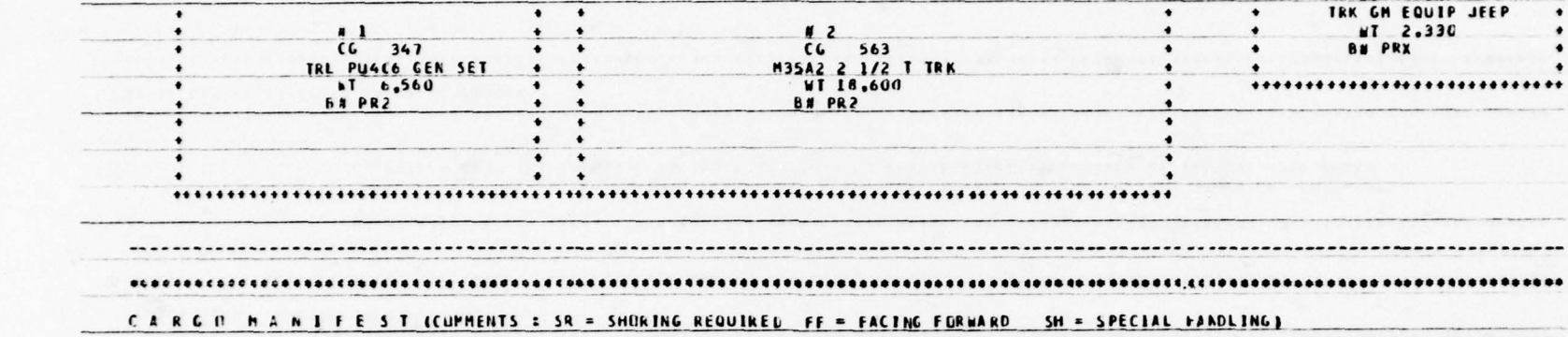
I CERTIFY THAT A CHECK OF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND AND ALL AUTHORIZED WEAPONS WERE CLEARED.

SIGNATURE OF AIRCRAFT TROOP COMMANDER-
DATE----------

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA			DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER	ASG TO.	A/C MOD							
MAC	CATGS	C-130	KGRK	BLK SHEEP 2	30.000	512	KPOB	4	1

C-130 AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING AFT



CARGO MANIFEST (COMMENTS : SR = SHORING REQUIRED FF = FACING FORWARD SH = SPECIAL HANDLING)

ITEM-NO	UTD	*** NOMENCLATURE ***	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATGS	TRL PU4C6 GEN SET	PR2	170	93	86	6,560	347	2,276,320	272	96	-SR-
2	CATGS	M35A2 2 1/2 T TRK	PR2	265	96	89	18,600	563	10,471,800	422	176	
3	CATGS	TRK GM EQUIP JEEP TOW	PRX	131	64	66	2,330	804	1,873,320	723	58	
		SUBTOTALS	CARGO	3			27,490	531	14,621,440		330	
		SUBTOTALS	PAX	2			480					
		T O T A L S					27,970	531	14,621,440			

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA	DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PACF-NO.
CARRIER SG TO. A/C MOD							
MAC CATO5 C-130	KGRK	BLK SHEEP 2	30.000	512	KPOB	4	2

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM

DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------

DATE----------

SIGNATURE OF UNLOADING AGENT----------

DATE----------

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA			DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PACE-NO.
CARRIER	ASG TO	A/C MOD							
MAC	CATC5	C-13C	KGKK	BLK SHEEP 2	30,000	512	KPTB	4	3

PASSENGER MANIFEST

LINE#	RANK	NAME	SSAN	WEIGHT	UNIT	BUMPR
1		TRK DRIVER		240	CATC5	PR2
2		TRK DRIVER		240	CATC5	PR2
		TOTALS		480		

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM
DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------
DATE----------

SIGNATURE OF UNLOADING AGENT----------
DATE----------

I CERTIFY THAT A CHECK OF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND AND ALL AUTHORIZED WEAPONS WERE CLEARED.

SIGNATURE OF AIRCRAFT TROOP COMMANDER-
DATE----------

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

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**********************************************
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**********************************************
**********************************************
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**********************************************
**********                          **********
**********     S T A T I S T I C S  **********
**********                          **********
**********************************************
**********TYPE A/C---NOT LOADED---LOADED  **********
**********----C-5---        1         0   **********
**********---C-141--        0         1   **********
**********---C-130--        1         1   **********
**********************************************
**********UTILIZATION---WEIGHT-------AREA **********
**********----C-5---       0         0   **********
**********---C-141--      89        72   **********
**********---C-130--      93        64   **********
**********************************************
**********--CARGO----NOT LOADED---LOADED  **********
**********-STANDARD-      11         8   **********
**********--OUTSIZE-       0         0   **********
**********PASSENGERS      22         6   **********
**********************************************
**********************************************
**********************************************
**********************************************
**********************************************
**********************************************
```

NEXT UNIT CALLED C2
PASS-ERROR 020

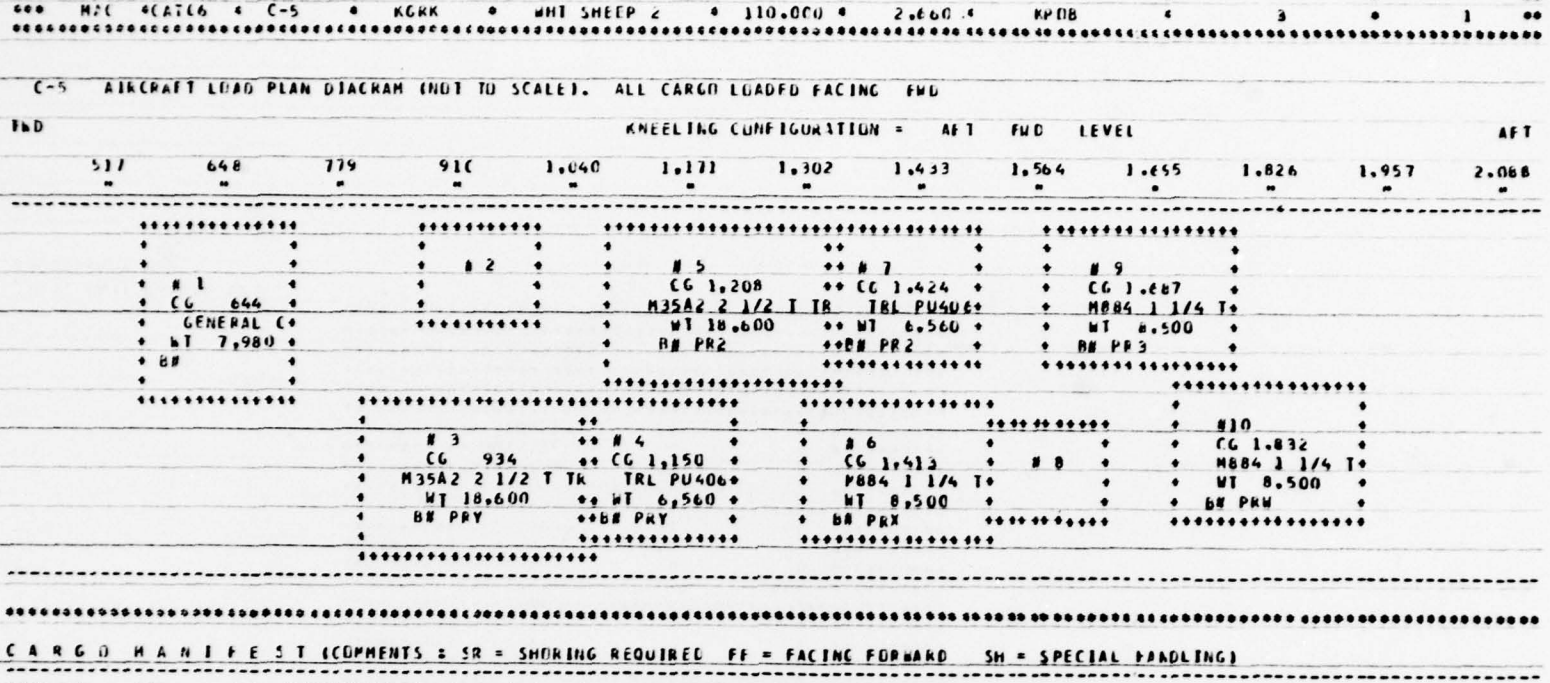
* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

AIRCRAFT DATA		ESTIMATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER/ASC TO.9A/C MOD								
M2C	CATG6	C-5	KGRK	WHT SHEEP 2	110.000	2.660	KPOB	3	1

C-5 AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING FWD

FWD KNEELING CONFIGURATION = AFT FWD LEVEL AFT

517 648 779 910 1.040 1.171 1.302 1.433 1.564 1.655 1.826 1.957 2.088



C A R G O M A N I F E S T (COMMENTS : SR = SHORING REQUIRED FF = FACING FORWARD SH = SPECIAL HANDLING)

ITEM-NO	UTO	*** NOMENCLATURE ***	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATG6	GENERAL CARGO		176	108	83	7,980	644	5,135,120	556	132	-SH-
2	CATG6	TRK GM EQUIP JEEP TOW	PR1	131	64	66	2,330	925	2,155,250	875	58	- - - -
3	CATG6	M35A2 2 1/2 T TRK	PRY	265	96	89	18,600	934	17,372,400	810	176	- - - -
4	CATG6	TRL PU406 GEN SET	PRY	170	93	86	6,560	1,150	7,544,000	1,055	96	-SR- - -
5	CATG6	M35A2 2 1/2 T TRK	PR2	265	96	89	18,600	1,208	22,488,800	1,084	176	- - - -
6	CATG6	M884 1 1/4 T TRK	PRX	210	85	104	8,500	1,413	12,010,500	1,303	123	- - - -
7	CATG6	TRL PU406 GEN SET	PR2	170	93	86	6,560	1,424	9,341,440	1,329	96	-SR- - -

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DATA		DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER ASG TO.	A/C MOD							
MAC SCATCC	C-5	KGAK	WHT SHEEP 2	110.000	2.660	KPDB	3	2

ITEM-NO	UID	NOMENCLATURE	DUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	END-STA	AREA	COMMENTS
8	CATCC	TRK CM EQUIP JEEP TOW	PRX	131	64	66	2.330	1.563	3.641.790	1.513	58	
9	CATCC	M884 1 1/4 T TRK	PK3	210	85	104	8.500	1.687	14.335.500	1.577	123	
10	CATCC	M884 1 1/4 T TRK	PRW	210	85	104	8.500	1.832	15.572.000	1.722	123	
		SUBTOTALS	CARGO	10			88.460	1.238	109.584.800		1.161	
		SUBTOTALS	PAX	20			4.800	1.741	8.356.800			
		T O T A L S					93.260	1.264	117.941.600			

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM
DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------
DATE----------

SIGNATURE OF UNLOADING AGENT----------
DATE----------

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT CAT	DESTINATION	MISSION NUMBER	ALW WT	ALW AREA	DEPART AFLD	CHALK NO.	PAGE-NO.
CARRIER/SG TO. A/C MDE							
MAC CATG6 C-5	KGRK	WHT SHEEP 2	110.000	2.660	KPDB	3	3

PASSENGER MANIFEST

LINE#	RANK	NAME	SSAN	WEIGHT	UNIT	BUMP #
1		TRK DRIVER		240	CATG6	PK2
2		TRK DRIVER		240	CATG6	PK2
3		PASSENGER		240	CATG5	
4		PASSENGER		240	CATG5	
5		PASSENGER		240	CATG5	
6		PASSENGER		240	CATG5	
7		PASSENGER		240	CATG5	
8		PASSENGER		240	CATG5	
9		PASSENGER		240	CATG5	
10		PASSENGER		240	CATG5	
11		PASSENGER		240	CATG6	
12		PASSENGER		240	CATG6	
13		PASSENGER		240	CATG6	
14		PASSENGER		240	CATG6	
15		PASSENGER		240	CATG6	
16		PASSENGER		240	CATG6	
17		PASSENGER		240	CATG6	
18		PASSENGER		240	CATG6	
19		PASSENGER		240	CATG6	
20		PASSENGER		240	CATG6	
		TOTALS		4800		

LOAD PLANNED BY---------- AIR MOVEMENT PLANNING SYSTEM
DATE---------- 12/05/78

SIGNATURE OF LOADING AGENT----------
DATE----------

SIGNATURE OF UNLOADING AGENT----------
DATE----------

I CERTIFY THAT A CHECK OF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND AND ALL AUTHORIZED WEAPONS WERE CLEARED.

12 SIGNATURE OF AIRCRAFT TROOP COMMANDER-
11 DATE----------
10
9 THIS AIRCRAFT NOT USED CCCCC4MACC-130CATG6 WHT SHEEP 1 KPLBKGRK0300000000CCCCCCCCCC2 0002
8 AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
7 THIS AIRCRAFT NOT USED CCCCC4MACC-130CATG6 WHT SHEEP 1 KPDBKGRK0300000000000000CCCCC2 0002
6 AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
5 THIS AIRCRAFT NOT USED CCCCC4MACC-130CATG6 WHT SHEEP 1 KPLBKGRK0300000000CCCCCCCCCC2 0002
4 AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
3 THIS AIRCRAFT NOT USED CCCCC4MACC-130CATG6 WHT SHEEP 1 KPCBKGRK0300000000CCCCCCCCCC2 0002
AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
THIS AIRCRAFT NOT USED CCCCC4MACC-130CATG6 WHT SHEEP 1 KPLBKGRK0300000000CCCCCCCCCC2 0002

AIRCRAFT FILE RESTARTED AT RU-AC = 000000
THIS AIRCRAFT NOT USED CODE014MACC-130CATGG WHT SHEEP 1 KPLRKGKKU3000000000CC000C0C0C2C002
THE AIRCRAFT FILE HAS BEEN SEARCHED 5 TIMES MORE WOULD BE REDUNDANT

SAMPLE RUN FOR EXECUTIVE SUMMARY

S T A T I S T I C S

TYPE A/C	NOT LOADED	LOADED
C-5	0	1
C-141	0	1
C-130	1	1

UTILIZATION	WEIGHT	AREA
C-5	84	43
C-141	89	72
C-130	93	64

CARGO	NOT LOADED	LOADED
STANDARD	1	18
OUTSIZE	0	0
PASSENGERS	2	26

* * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * *

*** CARGO-PASSENGERS NOT LOADED ***

```
 1.  CATCS    M884 1 1/4 T TRK 0C000000PRZ   08210085104008500110
35   CATCG    TRK DRIVER       0C000000PRY   02          000240
36   CATCG    TRK DRIVER       0C000000PRY   02          000240
```

* * * * * * * SAMPLE RUN FOR EXECUTIVE SUMMARY * * * * * * * * *

*** AIRCRAFT NOT USED ***

MACC-130CATGE WHT SHEEP 1 KFORKGRK030000000

END OF JOB

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Mr. Robert S Saunders
Mr. Jay E. Freeman
Mrs. Virginia G. Lankford

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13. ABSTRACT
The Air Movement Planning System (AMPS) is a computerized method for quickly and effectively planning cargo loads for C-130, C-141, and C-5 aircraft. It is primarily intended for use in Army unit moves, but its inherent flexibility makes it adaptable for movement of most types of cargo under various conditions.

AMPS provides the user with an air movement mission an automated method of preparing effective load plans for USAF aircraft that will provide a timely response within the dynamic environment of joint airlift operations. The system is fast, accurate, makes efficient use of aircraft, incorporates commander's priorities, maintains unit integrity, links trailers and/or crews with their respective vehicles, and links units with specific aircraft.

DD FORM 1 NOV 65 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

Security Classification

Security Classification

14. KEY WORDS	LINK A ROLE	LINK A WT	LINK B ROLE	LINK B WT	LINK C ROLE	LINK C WT
Air Movement Planning System						
Model						
Simulation						
Transportation						
Aircraft						
Airlift						
AMPS						
C-130						
C-141						
C-5						
C-5A						
Cargo Loads						
Air Movement of Helicopters						
Air Movement Planning, Automated						
Planning System						
Helicopters						
Helicopter Movement						

Security Classification