

OPERATING SYSTEM FUNCTIONS

PROGRAM CO-ORDINATION

FREE OPERATIONS PERSONNEL

SEQUENCING OF PROGRAM OPERATIONS EXECUTION

STANDARD I/O ROUTINES

✓ DEBUGGING PROCEDURES

✓ ERROR PROCEDURES

MINIMUM OF PROBLEMS ON STAFF TURNOVER.

- 1 PROGRAM PREPARATION & MAINTENANCE
- 2 PROGRAM EXECUTION CONTROL
- 3 UTILITY

SHOULD BE

SIMPLE

ECONOMICAL & EFFICIENT

FLEXIBLE

KORDEX MONITOR

RESIDENT PROGRAM USED TO SIMULATE THE LOAD AND EXECUTE OTHER PROGRAMS.

FIXED ADDRESS MONITOR (COMMON WITH FROM FROM SECTION II FOR 2 (THE KORDEX MONITOR C)

LOAD I CONTROL

RELATIVE POSITION RELATES TO PROGRAM UNITS (SAS)

BRT FORMAT

VARIABLE LENGTH RECORDS UP TO 250 CHARACTERS MINIMUM LENGTH 11 CHARACTERS.

CHARE 1

BANNER 54 OR 50 54 SEC HD & LAST UNIT FOR LOG.

~~CHARE~~

50 HD & NOT FIRST RECORD.

2-4

CHARE CNT IN RECORD.

5-6

CNT OF BCHARS NECESSARY TO REPOSITION THE BRT

7

AT THE LAST SEGMENT HEADLINE READ

30

NO OF CONTROL CHARACTERS IN RECORD (FIXED)

8-10

PROGRAM REVISION NO.

11-16

PROGRAM NAME

17-18

SEGMENT NAME

19-24

VISIBILITY MASK

25-N

LOADING & LOADING CONTROL CHARACTERS.

01-17

LOAD NEXT CHARACTERS BEGINNING WITH ADDRESS

00-N-N

IN INDEX REGISTER 6 CHARACTERS.

01-37 SAME AS PRUS ONLY SET WD IN LEFT POSITION

01 RRRR

41-57

10 RRRR SAME WITH ITM IN LEFT POSITION.

60x LOAD NXT 3 CHARS IN DISTRIBUTION CNTR

61x TERMINATE FORWARD & BRANCH TO ADDRESS
CONTINUED IN NXT 3 OR 4 CHARS.

62x CLEARS MEMORY (7 CHARS)

1ST 3 BRANCH

NXT 3 END POSITION

NXT 1 CHAR UND IS CHR.

63x SET RWD IN DIST. CNTR - 1

64x ✓ ITM - ✓ - ✓ - ✓ - ✓

77 ALL RECORDS EXCEPT LAST RECORD OF PRG
UNIT.

LIBRARY PROCESSOR

PROCESS SYMBOLIC CARD FIELDS WHICH WILL BE INPUT TO EASYCOUNTE DISASSEMBLER. REPLACES MACRO GATE CARDS WITH SPECIFIED VALUES.

MACRO P11

PROG MACROA
ADMODE 3

SETP *

(XY) DREMA 1-63

*00 SCR *01+3, 70

PDT XY, 51, 02, 21

TO ELIMINATE LINKS OR STOPS (LIB PROC)

COND. XXXX, P11 (NEXT INST TO BE INCL) USE LABELS RATHER THAN LINK NUMBERS.

COND. XXXX, PXY, VALUE, CONDITION.

EXIT, *03, 5, 2 (EQUAL) (42) (BCT)

MACRO INST.

PROG. MACROA

SETP *

ADMODE

*00 SCR *01+3, 70

A *02, *03

PDT XXX, 51, 02, 21

*00

PDT XXX, 51, *01, 01

6	7	8	15-20	21	LIMITED
L	CALC	MACROA	EXIT, CURR, TOTAL	99	(PRINTAC , 07, CONSOLE

NO VALUE IN CALL ELIMINATES INSTRUCTION WITH R OVERFLOW
 VALUE IN CALL ELIMINATES INSR WITH X OVERFLOW.

L	MACROB	3, BUFF,))))))2,
OK		
C	MACROB	3, BUFF:
C	8	2,
L	14	6,

1/2" TAPE I/O

- @ GET
- @ PUT
- @ OPEN
- @ CLOSE
- @ FIOR
- DCA
- TIOC

L	6	8	15	21	
	C		DCA		MASTER, OUTPUT, SHORT, 1, MOVE,
	C				10, 250, 2, 4, BUFF1, BUFF2, WORK, 28
	L				STANDARD, CHECK, MASTERFILE, 29
	L		TIOC		FINISH, 33

\$CHAN LOCATE FREE CHANNEL

L	@ OPEN	MASTER,
	@ GET	✓)
	@ PUT	✓)
	@ CLOSE)

SPT MERGE C

EASYCODER SPT'S

AAG MERGE 0
 1 HDR ΔH (DATE) Δ SPT MERGE Δ NO OF NEW SPT
 (CONSOLIDATE) 31-35 36-40
 21-25 Δ REV NO = 0001
 OPTIONAL TECH CARD REV NO. OF LAPOR REVNO REV NO OF SPT NO.1

DIRECTOR CARDS

1-3 8 10-12 15-19 21-23
 POS 1 MERGE 'PROGRAM NAME'
 NEW NAME OF PROG NAME OF LAP
 REV NO MERGE TO BE COPIED TO BE COPIED
 DUP 1
 RWD 1 MERGE

ECD CARD
 6 8-10 11-15 16,17 18 19,20 21-23 24 26 27-29 30-32 33-35
 20 MARCH 1968 R#B Δ 00 Δ 02 1 0 0 2 00 JJO -20 K10
 CONSOLR ID RDR LISTING DVC PUNCH
 NO. CONSOLR 570
 2700 2000

RUCS

- S1 = RUC1
- S2 = RUC2
- S3 = RUC3

UPDATE AND SELECT CARD

C MANIPULATES PROGRAM UNITS ONLY

AAAUPS

AAAUPD/SLO

*

ECD	7-14	21-30	31-35	36-40
LHDDH	DTLACA	UPDRAJAE		

ECD CARDS - METHODS OF SPECIFICATION

CHANGE ECD FIELD IN ORDER MINOR

227	230	231-232
Δ	00-91	HIGH BIT BANK 03

STANDARD RECORDS

OR

5	6	1920
4	E	03 memory SAMS
3		

BRT PUNCH

CONVERTS TAPE TO PUNCHED DATA

AAAPUN/CHO

*

EO

1 HORAH

PUNCHED BRT

5-10 11-12

14

POST NAME SEE IF NO PIN COL 4 BRT NO

SELF NAME

BRT NO

1 EOF

EASYCODER C & D

- 1 ASSEMBLY INPUT CARDS
OUTPUT SPT
- 2 SELECTION COPY OBJECT CODING FROM SPT TO BRT
OPTIONAL LISTING
- 3 ASSEMBLY & UPDATE - SAME AS 1 EXCEPT ALSO MAINTAINS SPT
- 4 ASSEMBLY, UPDATE & SELECTION

ASSEMBLY PHASES

- 1 PREPASS - SCANS INPUT FOR LEGIBILITY & EDITS
- 2 PASS 1 - PROCAN OUTPUT FROM PREPASS ALLOCATES MEMORY
- 3 PASS 2 - USES TAN TABLE

ASSEMBLY - MIN. 3 TAPES - PT, WORK, SPT
- OPTNL - BRT, PRT TPE

SELECTION - MIN. 3 TAPES
- PT, SPT, (BRT/BRT)^{2 TAPES}

UPDATE & ASSEMBLY - 4 TAPES - PT, SPT, SPT^{OUT}, WORK

ASSEMBLY, UPDATE & SELECTION - 5 TAPES - PT, SPT, SPT^{OUT}, WORK, BRT

AAAEZC500 *

ECD

INDRAN (DTE) EASYCODER

PGK 3-10

Sort C.

Param. 15-16 MERGE TAPE

IF SAME AS INPUT, MERGE WILL TAKE PLACE, DATA BEING WRITTEN AT END OF INPUT FILE. INPUT MUST NOT BE MORE THAN HALF THE TAPE REEL.

CORRECT RD ERRS A ADDRESS IS LEFTMOST ADDRESS OF BUFFER OF THE RECORD IN ERROR

CARDS INPUT (BETWEEN SEQ 798)

1 C

SE OF AS LAST CARD.

2 A

3 1

15 15 TAPED REEL

17, 18 AD OR 01

33, 34 SS GIVES SL ON OUTPUT, NO LABEL REQUIRED ON INPUT

24, 27 0001

OWN CODING PRE SORT OR LAST PASS

Item BY ITEM

X 1 ADDRESS FOR ADDING ITEMS

X 2 ADDRESS FOR DELETING ITEMS

X 3 TERMINATING OWN CODING

HDR/FRANKLIN OWN CODING

X 1 INSPECTION / MODIFICATION

X 1 IS LOADED WITH ADDRESS OF LEFTMOST POSITION OF BUFFER AREA CONTAINING THE LABEL.

HEADER LABEL - ITEM MARK IS SET IN THE FIRST INSTRUCTION OF
OWN CODING (SIR B)

TRAILER LABEL - NO ITEM MARK

(TEST FOR ABSENCE OF ITEM MARK)

ITEM BY ITEM OWN CODING.

START SCR EXIT+3, 70

NOP

SWITCH

B

ONSET

BCC

END, START, 20

MARK

ONBIT

LEA

X1

LEA

X2

DEL EXT

LEA

X3

B

MARK

CW

SWITCH

B

(X1)

ITEM BY ITEM

X1 ADDRESS OF RIGHTMOST LOAN OF ITEM IN BUFFER

0-6+X1 FOR 7 POS FROM END OF ITEM

INS

PROB OWN CODING

ADDRESS

3

ORG

30000 (ABOUT SORT)

29999 IN PARAMETERS (50)

LOADING OWN CODING.

BRWIN MCW @AAD\$2@, 73

MCW 01, 75

MCW @C@, 106 (BACKWARD SEARCH)

B 130

END BRWIN

ONE CARD PROGRAMS

1 CARD TO FARE PRINT

DECIDE MODE H OR SFC.

(PCB)	(64)	00000041212226	INITIALIZE CD RDR
(PDT)	(66)	02005141	
(SS)	(64)	0055 00 41 10	TST BUSY
	(64)	0117 00 41 41 42	TST ERROR (CHECK VALIDITY)
	(66)	0200 52 02 22	PAT DBL SPCD
(100)	(64)	0100 00 02 10	TST BUSY
	(64)	0117 00 02 40	TST PAT ERROR
	(65)	0050	BRANCH TO NEXT CD
(117)	(45)		HALT (ERROR)
	(40)		

22 0040 0050

ST WD MH

22 0055 0063

22 0072 0000

22 0106 0114

22 0117 0120

22 0321 1040 20 0321

ST RECD MARK

CD BUFFER

200

CARD B0QBO"OTB0@10

CNT LENS STRIPING AT 0 BOOT ZERO.

WRT DETAL PROGRAM CONVERT TO SINGLE CHARS FOR PUNCHING IN CARD.

MEMORY DUMPS (CDS)

4K ASSEMBLER.

SS 2, 3 ON

↓ ↓
WRITE NO LIST
ON 2

Prog MEMDUMP
ORG 32000
ADMODE 3
HSM 0, 32767 (32K)
END

PLACE ABOVE CDS IN 4K ASSEMBLER DATA SET SS PORT.

OUTPUT CD DATA. USE THE FIRST SET OF CARDS PUNCHED OUT

FLOATING TAPE LOADER MONITOR

COMMON TO CARD, TAPE LOADER MONITOR

@FTLMC

LOADING MONITOR @FTLMC LOAD THROUGH CONSOLE
CALL CARD.

ASSEMBLE UNDER @FTLMC &
~~OR~~ CHANGE NAME TO AAAAMON VIZ A & PLACE BEFORE
PRESENT LOADER MONITOR ON BRF. (AAAAMON

YOU CAN RESOLVE AT TIME ¹⁷¹⁵ TAPE IS LOADED.

INS	PROG	FTLMC
L	@FTLMC	07, B, 3,
	END	START

ASSEMBLE WITH EASYCODER D

INTERRUPT CONTROL D

MULTI PROGRAMMING

✓ FOREGROUND) - RESIDES ABOVE BACKGROUND (HIGH. ^{memory} _{FORMS})
- OPERATES IN INTERRUPT MODE
- PERIPHERAL PROCESSING

BACKGROUND) - OPERATES IN NORMAL MODE
- PROCESSING PROGRAM.

```
INS      PROG      INTRPT
67LD @PRIM 3, B3, R (extension test)
      END          BEGIN
```

FOREGROUND RETURN MACRO

```
INS      PROG      FRGRND
```

```
}
POT ~~~~~
L @PRIM 3, 3, ABC,
```

NEXT FOREGROUND SEGMENT MACRO

```
L @PSEG 3, ABD, 01, 3,
```

FOREGROUND EXIT - AT END OF FOREGROUND PROGRAM

```
L @PRIM 3, ABE, 3)
```

LOADING PROGRAMS

BY CONSOLE CALL

BOOT BOOT (17002) CALL CD

FRTLMC 010	*	17002
INTRPT 010	*	17002
CBS2 Δ 000	*	INTERUPT BUTTON (17002)
CDT0TP 010	*	LOADS CARD TO TAPE (17002) EXECUTES WITH INTERUPT ONLY FOREGROUND

IF BACKGROUND FINISHES BEFORE FOREGROUND WITH NO
NEW ENCLOSED PROG TO RUN ENTER 54 ⁽⁶⁷⁾ INTO LOCN 1008

IF ABOVE SITUATION & THEN YOU CAN RUN TEST BACK
PROG BY PRESSING INTERUPT WHICH
THEN CALLS A CONSOLE CALL

RD/WRT CHANNEL 2 CANNOT BE USED IN THE FOREGROUND PROGRAM.

COBOL COMPILER CANNOT BE RUN AS BACKGROUND PROGRAMS CANNOT SHARE SAME DEVICE IF DEVICE IS BEING INTERRUPTED.

TRAPS CANNOT BE INTERRUPTED.

FOREGROUND PRG. MUST SET THE ALLOW FUNCTION AND TURN OFF THE ALLOW & INTERRUPT FUNCTIONS WHEN FINISHED.

PCB XXXX, 00, 41, 71 TURNS ON ALLOW FUNCTION

PCB XXXX, 00, 41, 74 ✓ OFF INTERRUPT

PCB XXXX, 00, 41, 70 ✓ ✓ ALLOW

FOREGROUND MUST TEST DEVICE (BUSV, ERRV)

✓ CANNOT COMMUNICATE DIRECTLY WITH HARDWARE MODULE

✓ CANNOT USE INDEX 1

DATA CONVERSION R/C.

TAPE TO PRINT.

HDR LABEL CONTAINS INF RE ITEM LENGTH, BLOCK, POSITON OF SPACING CONTROL CHAR. ETC.
 OWN CODING COMES BETWEEN PROG & MARKO CASH.

INS

PROG TPTOPT

C \$TTPRT H, H,))) 132,))) S^{of 07} (TYPE) F 3, 26000, 1, 02, 40,
 L 1, ABC, 132, 3,)))

CONTROL CARD. IF PARAM 27 = (

15-20
 \$TTPRT

CARD TO TAPE