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FLEXIBLE DISC PROGRAM LOAD

Keywords: Program load, flexible disc.

Abstract: The Flexible Disc Program Load is able to read a part of first block from flexible disc, which is started in the last read word. Moreover it is able to autoloading from magtape and moving head disc.

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Now the program will be loaded into the core and is started in location 0.
In case of Flexible Disc or Magtape the program waits until the device is
ready and on-line.

1. SCOPE.

The Flexible Disc Program Load is a 32-word program which is stored in two ROM's, which are placed on the CPU-board.

3600 C models (RC3600 with NOVA 12XX):

ROM 037 contains the 32 left bytes and is placed in position 30.

ROM 038 contains the 32 right bytes and is placed in position 31.

3600 D models (RC3600 with NOVA 2):

ROM 039 contains the 32 left bytes and is placed in position 135.

ROM 040 contains the 32 right bytes and is placed in position 134.

The program is loaded into the core by the procedure described below. When loaded, the program is started in location 0.

The program load is designed to use flexible disc as primary load medium, and uses magtape or moving head disc as secondary load medium.

2. OPERATING PROCEDURE.

- a. If the load medium is Flexible Disc then set dataswitch (0) = 0 and switch (1:15) = don't care. If the load medium is Magtape or Moving Head Disc then set data switch (0) = 1, switch (1:9) = 0 and switch (10:15) = device code.
- b. If the load medium is Moving Head Disc make sure that it is recalibrated and ready before continue.
- c. Press RESET, PROGRAM LOAD on CPU panel
or LOAD-AUTOLOAD if OCP 302 is present
or AUTOLOAD if OCP 303 is present.

0001 .MAIN

~~Write program pass~~

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01 ; PROGRAM LOAD, FLEXIBLE DISC, HKM 75.11.01
02 ; THIS PROGRAM LOAD RESIDES IN 32*16 ROM.
03 ; IT IS DESIGNED FOR FLEXIBLE DISC AS PRIMARY LOAD MEDIUM
04 ; . AND USES MOVING HEAD DISC OR MAGTAPE AS SECONDARY
05 ; LOAD MEDIUM.
06 ;
07 ; FLEXIBLE DISC: SWITCH(0) = 0, SWITCH(1:15) - NOT USED,
08 ; THE DISC IS RECALIBRATED BY THE PROGRAM.
09 ; MAGTAPE:
10 ; MOVING HEAD DISC: SWITCH(0) = 1, SWITCH(1:9) = 0,
11 ; SWITCH(10:15) = DEVICE NUMBER,
12 ; OK BOTH DISC AND MAGTAPE MUST BE RECALIBRATED
13 ; BEFORE ACTIVATING THE PROGRAM LOAD.
14 ;
15 ; IN CASE OF MAGTAPE OR FLEXIBLE DISC THE LOAD WAITS UNTIL
16 ; THE SELECTED DEVICE IS READY FOR COMMANDS.
17 000000 .LOC 0
18 000061 FLEX= 61 ; FLEXIBLE DISC
19 00000 070477 READS 2 ;00; READ SWITCHES(S);
20 00001 150122 COMZL 2,2 SZC ;01; IF S(0) = 0 THEN
21 00002 000026 JMP FD ;02; CARRY:= TRUE AND GOTO FLOPPY
22 00003 151240 MOVOR 2,2 ;03; NOT FLOPPY: DEVICE:= OCT(77);
23 00004 010010 LOOP: ISZ OP1 ;04; FOR DEVICE INDEX:= -S(1:15)-1
24 00005 010013 ISZ OP2 ;05; STEP 1 UNTIL 0 DO
25 00006 151404 INC 2,2 SZR ;06; DEVICE:= DEVICE + 1;
26 00007 000004 JMP LOOP ;07; IFOR FURTHER COMMENTS SEE OP1,2
27 00010 071077 OP1: 071077 ;10; DOAS 2 <DEV> - 1: INCREMENTS =>
28 ; 1B9 (S(TART)) + S(10:15);
29 00011 024015 LDA 1 .377 ;11; LOAD "JMP .+0" INTO LAST WORD
30 00012 044377 STA 1 377 ;12; OF PAGE ZERO;
31 00013 063377 OP2: 063377 ;13; SKPBN <DEV> - 1: INCREMENTS =>
32 ; 4B9 + S(10:15);
33 00014 000010 JMP OP1 ;14; READ FIRST BLOCK, WAIT UNTIL
34 ; COMMAND IS ACCEPTED;
35 00015 000377 .377: JMP 377 ;15; GOTO WAIT BLOCK TRANSFERED;
36
37 00016 126420 READN:SUBZ 1,1 ;16; GETWORDS: WORD:=0; CARRY:=TRUE;
38 00017 061461 DIB 0 FLEX ;17; READ(CHAR);
39 00020 107363 ADDCS 0,1 SNC ;20; WORD:= WORD SHIFT 8 + CHAR;
40 ; CARRY:= -,CARRY;
41 00021 000017 JMP READN+1 ;21; IF CARRY = FALSE THEN READ CHAR
42 00022 046025 STA@ 1 ADR ;22; INCR(ADR); CORE(ADR):= WORD;
43 00023 010100 ISZ 100 ;23; IF INCR(CORE(100)) <> 0 THEN
44 00024 000016 JMP READN ;24; READ NEXT WORD ELSE
45 00025 000077 ADR: JMP 77 ;25; GOTO ADR;
46
47 ; FLEXIBLE DISC: AT ENTRY, CARRY == TRUE!!
48 00026 030037 FD: LDA 2 COMM ;26; FLOPPY: COMMAND:= RECALIBRATE;
49 00027 071161 EXE: DOAS 2 FLEX ;27; EXECUTE: EXECUTE(COMMAND);
50 00030 063461 SKPBN FLEX ;30; ! COMMAND(0:7) = DONT CARE !
51 00031 000027 JMP EXE ;31; WAIT UNTIL COMMAND IS ACCEPTED;
52 00032 063661 SKPDN FLEX ;32; WAIT UNTIL COMMAND IS EXECUTED;
53 00033 000032 JMP .-1 ;33;
54 00034 151102 MOVL 2,2 SZC ;34; IF NEXT COMMAND = READ BLOCK
55 00035 000027 JMP EXE ;35; THEN GOTO EXECUTE ELSE
56 00036 000016 JMP READN ;36; GOTO GETWORDS;
57 00037 101000 COMM: 1B0+1B6 ;37; COMMAND BITS;
.END

```

0002 .MAIN

ADR	000025	1/42	1/45			
COMM	000037	1/48	1/57			
EXE	000027	1/49	1/51	1/55		
FD	000026	1/21	1/48			
FLEX	000061	1/18	1/38	1/49	-1/50	1/52
LOOP	000004	1/23	1/26			
OP1	000010	1/23	1/27	1/33		
OP2	000013	1/24	1/31			
READN	000016	1/37	1/41	1/44	1/56	
.377	000015	1/29	1/35			