

*TITLE XMONXM VER 1.5C I/O ROUTINES FOR SCREEN,KEYBOARD,AND PRINTER

DERIVED FROM

XMON/D - DISKETTE BASED MONITOR

DATE: 21/2/1979 REVISION LEVEL 4

*** MJH 11/5/79 ***

equivalences

ramct equ 0e5h

disst equ 0f6h

ramwc equ 0e6h

home equ 1dh

KBMAX EQU 30

public symbols

public ytti,ytto,yttenc,yindisp,yprint

public ycursor,TTI2

external references

extrn keybuf,prtadr,iowait,tto,enter

*** KEYBOARD INPUT ROUTINE

Modified for handling cyclic buffer
of format 'count,output pointer,data'

YTTI:

PUSH H

PUSH D

TTI1: LXI H,KEYBUF;Start of keyboard buffer

MOV A,M ;Any characters present ?

ORA A

JNZ TTI2 ;Yes

LHLD IOWAIT ;User break in wait loop ?

ORA H ;Routine must be outside FROM

CNZ ENTER

JMP TTI1

TTI2: ;*** Also used by UART routine

INX H ;Fetch output pointer

MOV E,M

MOV D,H

LDAX D ;Fetch character from buffer

MOV D,A ;Temporary save

INR E ;Update output pointer

MOV A,E

SUB L

SBI KBMAX+1 ;Top of buffer ?

JM TTI3 ;No

INR A

ADD L

MOV E,A

TTI3:

DI

MOV M,E ;Save new output pointer

DCX H

DCR M ;Reduce character count

EI

MOV A,D

ANA A

POP D

POP H

RET

*** WRITE ON SCREEN

YTTO:

DT


```

DI
OUT      RAMCT    ;With control
PUSH     PSW
IN       DISST    ;Read status, clear screen ram flag
EI
ANI      18H      ;Screen ram error ?
JZ       SCRNI    ;No
POP      PSW      ;Yes, try again
JMP      YTTO

SCRNI:
POP      PSW
RET

YTTONC:
DI
OUT      RAMWC    ;Without control
PUSH     PSW
IN       DISST    ;Read status, clear screen ram flag
EI
ANI      18H      ;Screen ram error ?
JZ       SCRNI    ;No
POP      PSW      ;Yes, try again
JMP      YTTONC

;
;*** READ FROM DISPLAY
;
YINDISP:
DI
IN       RAMCT    ;Read from screen ram, increment cursor
PUSH     PSW
IN       DISST    ;Read status, clear screen ram flag
EI
ANI      18H      ;Screen ram error ?
JZ       SCRNI    ;No
POP      PSW      ;Yes, try again
JMP      YINDISP

;
;*** PRINT ROUTINE
;
YPRINT:
PUSH     H
LHLD     PRTADR
INR      H        ;Check if user routine
DCR      H
JZ       PRNT3    ;No
XTHL
RET       ;Enter user routine

PRNT3:
PUSH     PSW
LHLD     IOWAIT

PRNT1:
IN       OF5H     ; TTY STATUS
ANI      80H      ;Loop until bit 7 set
JNZ      PRNT2
ORA      H
CNZ      ENTER
JMP      PRNT1

PRNT2:
IN       OF5H
ANI      1        ;Loop until bit 1 set
JNZ      PRNT4
ORA      H
CNZ      ENTER
JMP      PRNT2

PRNT4:
POP      PSW
OUT      OF4H
POP      H
ANA      A
RET

;
;*** POSITION CURSOR
;
YCURSOR:

```

TLCURSOR

```
PUSH    PSW
MVI     A,home
CALL    TTD
MOV     A,H
CPI     25
JP      CURS1    ;Parameter outside limits
MOV     A,L
CPI     80
JP      CURS1    ;Parameter outside limits
                ;*** CHANGE ***
MVI     A,10h    ;Both parameters ok
CALL    TTD
MOV     A,H
CALL    TTD      ;Line no.
MOV     A,L
CALL    TTD      ;Character position no.
                ;*** CHANGE ***

CURS1:
        POP    PSW
        AND    A
        RET

;
        END
```