NABU

MISC.

INFO.

00	8251	printer	data	
01			status	
04	8251	console0	data	
05			status	
08	8251	console1	data	
09			status	
0c	8251	console2	data	
			status	
10	8253	interval timer	real time clock	
11			console ports baud rate	
12			printer baud rate	
13			control register	
14	8255	peripheral controller	Port A A16-A19 of DMA	
15			Port B serial number (future)	
16			Port C floppy selection	
17			mode selection	
18	179x-02	floppy controller	data	
19			sector	
1A			track	
1B			command/status	
20	Nabu 1201	mmu	enable	
22			sys/task mode	
24			task number	
26			jam/clr sys call	
28			clear NMI	
2A			floppy disk I/O register	
2C			hard disk I/O register	
30			sys call	
40	8259A	interrupt controller	master	icw1,ocw2,3
42				icw2,3,4,ocw1
50	8259A	interrupt controller	slave	icw1,ocw2,3
52				icw2,3,4,ocw1
60	8237A	DMA	floppy buffer address	
61			floppy count	
62			hard disk buffer address	
63			hard disk count	
64			RAM refresh address	
65			RAM refresh count	
66			(future)	
67			(future)	
68			command/status	
69			request	
6A			mask	
6B			mode	
6D			temp	
6F			write all mask	
70	WD1000	hard disk controller	data	
71			error/write precomp	
72			sector count	
73			sector number	
74			cylinder low byte	
75			cylinder high byte	
			sector size,drive,head	

The following functions are used in fe00:800 :-

```
Console out :
     input : bx - 3       Func #
             dl - character to write out
     register modified:  dl


Console in :
     input : bx - 2;      Func #
     output: character in al
     register modified:  al

Disk i/o: ( for 1 512 bytes block )
     input : bx - 8       Func #
             cx - ptrs to iopb
     register modified: none
```

→ ~~turn on interrupts~~ before calling

Seem to be necessary to use the :F command to select the floppy drive before running a program using diskio

Peter Hunt - monitor questions. -
to retract disk heads

FE
T615

A
B
C

The format of iopb:

```
iopb:   rw-   2
        db    r/w command       ;080H read command
                                ;0a0H write command
        db    drive #           ; 5 1/4" floppy
                                ;bit 7 = 1 drive a
                                ;    6 = 1 drive b
                                ;    5 = 1 drive c
                                ; 8" floppy
                                ;    4 = 1 drive d
                                ; 5 1/4" hard disk
                                ;    3 = 1 drive e
                                ;    2,1,0 = not used
                                ;examples: 80h = drive a
                                ;          10h = drive d
        dw    track number      ;cyclinder number as
                                ;calculated by calling
                                ;program
        db    head number       ;0 - single side
                                ;0 - 1 - double side
                                ;or hard disk head number
                                ;   ( 0 - 3 )
        db    sector number
        db    sector count      ;4 for 8" floppy
                                ;others = 1
        db    0,0,0             ;not used
                                ;(no error code returned)
        db    retry             ;not used (10 reties
                                ;done in PROM)
        dw    offset buffer     ;buffer offset
        dw    segment buffer    ;segment
        dw    0                 ;not used

buffer  rb    512               ;i/o buffer
```

The example shown below provides a simple example of how to load and execute a boot program resided on track 0, sector 1 of the drive E by using the on-broad monitor.

Steps:

(1) ;FE

The above command selects the drive E.

(2) ;p2000

The above command selects page 2000 (segment 2000, offset 0), where the boot program is to be loaded.

(3) ;t0

The above command seeks track 0 of the selected drive.

(4) ;r1

The above command read sector 1, track 0 of the selected drive into memory on the selected page.

(5) ;d0 100

The above command will display the memory content starting from selected page offset 0 to offset 100h.

(6) ;g2000:0

The above command executes the boot program resided on segment 2000, offset 0.

Procedure for allignment of Nabu-1600 2793 FDC Circuit:

1) Power up CPU (it doesn't matter if floppy is connected)

2) Press reset switch

3) Ground pin 22 (TEST-) on 2793

4) Place scope probe on pin 31 (WD) of 2793

5) Adjust Pot #3 until pulse WIDTH on WD is 200 ns

6) Place scope probe on pin 29 (TG43) of 2793

7) Adjust Pot#2 until pulse WIDTH on TG43 is 500 ns

8) Place scope probe on pin 16 (DIRC) of 2793

9) Using a non-metalic tool adjust the variable capacitor until DIRC has a PERIOD of 4 micro seconds (ie:250 kHz) -- Use a frequency counter if possible.

10) Remove ground jumper on pin 22 and test the drive

HCC/ws