

**THE NEAT TURBO 286
MICROCOMPUTER**

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Table of Contents

SECTION 1: Introduction

SECTION 2: Features

SECTION 3: Installation

3.1 Jumper position

3.2 List of Jumper Options and memory modules

SECTION 4: Memory Switching

4.1 Configuration A

4.2 Configuration B

4.3 Configuration C

4.4 Configuration D

SECTION 5: Setup Procedure

SECTION 6: Appendix

1.0 Introduction

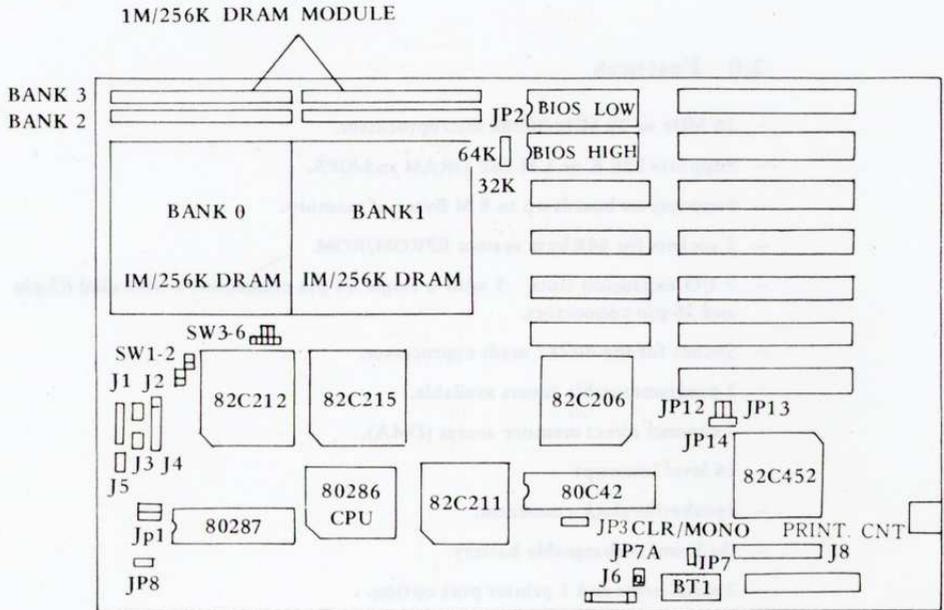
The NEAT 286-16/20 is an IBM AT compatible system board. Based on the NEAT chip sets and a proprietary design, it gives the user a computational power that is 300% faster than that of IBM PC/AT. It mounts directly into an IBM AT compatible chassis and Baby AT chassis. It runs at 16 MHz or 20 MHz speed.

2.0 Features

- 16 MHz or 20 MHz 80286 microprocessor.
- Supports 256 K or 1 M DIP DRAM and SIPS.
- Supports on boards up to 8 M Bytes of memory.
- 2 sockets for 64Kbyte system EPROM/ROM.
- 7 I/O expansion slots: 3 with a single 62-pin connector, 4 with dual 62-pin and 36-pin connectors.
- Socket for the 80287 math coprocessor.
- 3 programmerable timers available.
- 7 channel direct memory access (DMA).
- 16-level interrupt
- Speaker/keylock connector.
- On board rechargeable battery.
- 2 serial ports and 1 printer port option.

3.0 Installation

3.1 Jumper positions



3.2 List of Jumper Options and Memory Modules

- J1 Speaker connector:
- | | |
|---|----------------|
| 1 | Speaker signal |
| 2 | N/C |
| 3 | Ground |
| 4 | +5 V |
- J2 Turbo LED:
- | | |
|---|-------------|
| 1 | LED anode |
| 2 | LED cathode |
- J3 Turbo Jumper connector:
- | | |
|-----|-------------------------|
| ON | select 20 MHz CPU clock |
| OFF | select 16 MHz CPU clock |
- J4 Keylock connector:
- | | |
|---|------------------|
| 1 | LED anode |
| 2 | N/C |
| 3 | Ground |
| 4 | Keyboard inhibit |
| 5 | Ground |
- J5 Reset connector:
- | | |
|----|------------------------------|
| ON | Hardware reset the CPU board |
|----|------------------------------|
- J6 External 6 V Battery:
- | | |
|---|-----------------|
| 1 | Battery + |
| 2 | N/C |
| 3 | Gnd |
| 4 | Gnd (Battery -) |

J8 Parallel

Port Connector:

1	-STROBE
2	D0
3	D1
4	D2
5	D3
6	D4
7	D5
8	D6
9	D7
10	-ACK
11	BUSY
12	PE
13	SLCT
14	- AUTOFD
15	- ERROR
16	- INIT
17	- SLCT IN
18-25	GROUND

JP1, JP8 80287 coprocessor speed:

E1-E2	ON	E2-E3	OFF	
E4-E5	ON	E5-E6	OFF	clock = 1/2 cpu clock (default)
J8	OFF			

E1-E2	OFF	E2-E3	ON	
E4-E5	OFF	E5-E6	ON	clock = 2/3 cpu clock
J8	OFF			

(NOTE: this setting only your 287 can work at 14 MHz in the 20MHz system)

E1-E2	ON	E2-E3	OFF	
E4-E5	OFF	E5-E6	OFF	clock = 10 MHz fixed
J8	ON			

JP2 Bios Rom Size:

- 32K use 27128 BIOS Eprom
- 64K use 27256 BIOS Eprom (default)

JP3 Monitor Type:

- 1-2 color
- 2-3 mono

U3-U8, U13-U18, U24-29

DRAM socket for the 1 st bank
using 1M Bit or 256 K Bit Chip

U32-37, U44-49, U50-55

DRAM socket for the 2 nd bank
using 1M Bit or 256 K Bit chip

U2, U43

DRAM modules for the 3 rd bank
using 1M Bit or 256 K DRAM module

U1, U42

DRAM modules for the 4 th bank
using 1M Bit or 256 K DRAM module

U61

BIOS low byte (even byte)

U62

BIOS high byte (odd byte)

*NOTE: 1: 80 NS DRAM for 20 MHz operation
100 NS DRAM for 16 MHz operation
2: DRAMS should be Page mode type

JP7

1-2 ON (default)

JP7A

Clear CMOS setting

1-2 OFF (default)

NOTE: If your CPU board can not boot up because of wrong setting in CMOS RAM. Please turn off the power, unplug the jumper on JP7 and plug on JP7A. wait for 3 second, then unplug the jumper on JP7A and plug on JP7. Now you can turn on the power to boot up.

Memory configurations

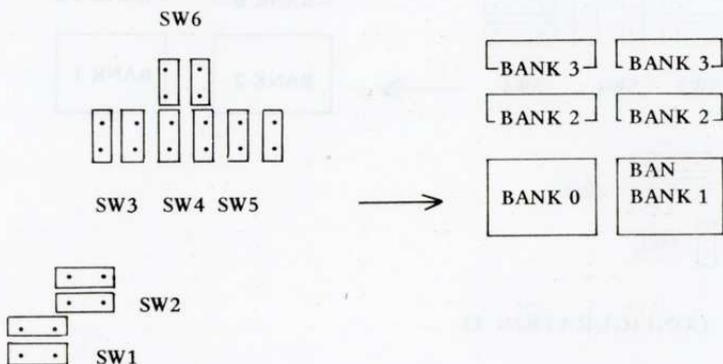
It is possible to use 1 M bit or 256 K bit (and in one case, 64K bit) DRAMs for system memory in this CPU board. Each memory bank is 16 bits wide plus two bits for parity. Possible configurations for onboard memory are listed as follows:

	DRAM Type				Total	EMS
	Bank 0	Bank 1	Bank 2	Bank 3	Memory	Range
1	0	0	0	0	disable	0
2	256K	0	0	0	512KB	0
3	1M	0	0	0	2MB	1MB to 2MB
4	256K	64K	0	0	640K	0
5	256K	256K	0	0	1M	1MB to 1.384MB
6	1M	1M	0	0	4MB	1M to 4MB
7	256K	256K	256K	0	1.5M	1M to 1.5MB
8	256K	256K	1M	0	3MB	1MB to 3MB
9	1M	1M	1M	0	6MB	1MB to 6MB
10	256K	64K	256K	256K	1.64MB	1MB to 1.64MB
11	256K	256K	256K	256K	2M	1MB to 2MB
12	256K	64K	1M	1M	4.64MB	1MB to 4.64MB
13	256K	256K	1M	1M	5MB	1MB to 5MB
14	1M	1M	1M	1M	8MB	1MB to 8MB

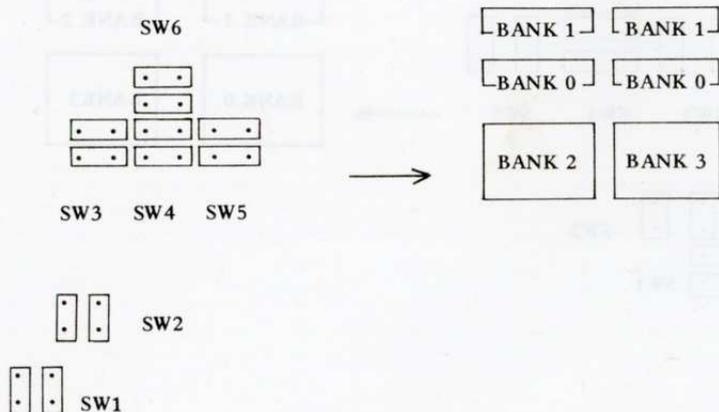
4.0 Memory Switching

Your CPU board allows you to switch between Bank 0, 2 and Bank 1, 3 which means you can use regular DRAM or RAM module at your choice.

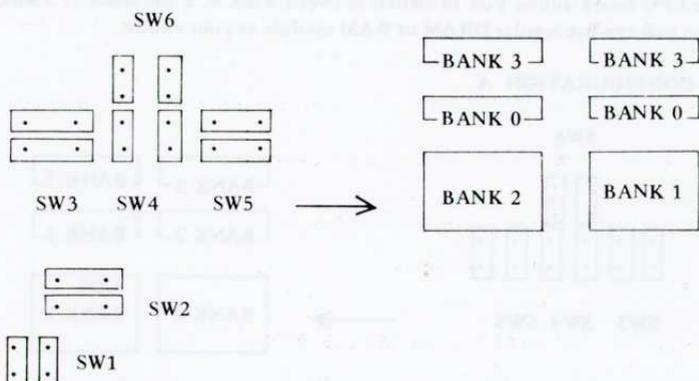
4.1: CONFIGURATION A



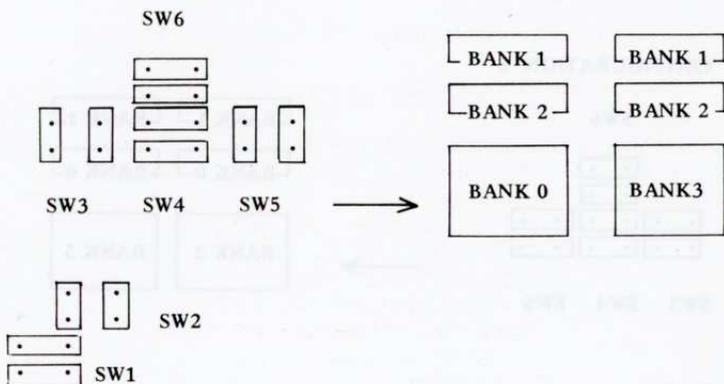
4.2: CONFIGURATION B



4.3: CONFIGURATION C



4.4: CONFIGURATION D



5.0 Setup Procedure

When the CPU board delivered to you or whenever you want to change your NEAT configuration. We recommend you to run setneat 3 to set the configurations.

Step 1: Insert the setup diskette in drive A, and power on your system.

Step 2: Ignore all error message appear on screen such as

```
CMOS system options not set
CMOS display configuration mismatch
Press <F1> to continue
```

Step 3: If screen ask you
Want to run SETUP/EXT-SETUP (Y/N)?

Hit "N", then "Enter" to continue, the system should be booted, and a DOS prompt will be displayed on the screen.

Step 4: Read the file READ.ME in the setup diskette accompany the CPU board to get the idea of which configuration file you need to setup.

Step 5: Run the program SETNEAT3

```
A: > setneat3
```

Screen should display as the following:

```
NEAT EVALUATION BOARD SETUP - VERSION 1.04
COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987
```

```
CHIP SETUP FOR THE 82C206
CHIP SETUP FOR THE 82C211
CHIP SETUP FOR THE 82C212
READ CONFIGURATION FILE
SAVE CONFIGURATION FILE
SETUP SHADOW RAM
POWER ON RESET
```

```
PRESS ESC TO EXIT
PRESS ENTER TO SELECT HIGHLIGHTED ENTRY
```

Highlight "READ CONFIGURATION FILE" then press "Enter", and the file name which contains the setup information.

Screen should display as the following:

NEAT EVALUATION BOARD SETUP – VERSION 1.03 COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987
CHIP SETUP FOR THE 82C206 CHIP SETUP FOR THE 82C211
CONFIGURATION FILE NAME: 4x256K CNF
SETUP SHADOW RAM POWER ON RESET
PRESS ESC TO EXIT PRESS ENTER TO SELECT HIGHLIGHTED ENTRY

Step 6: Press "Enter", then screen should display as the following:

NEAT EVALUATION BOARD SETUP – VERSION 1.03 COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987
CHIP SETUP FOR THE 82C206 CHIP SETUP FOR THE 82C211
CONFIGURATION FILE NAME: 4x256K.CNF
SETUP SHADOW RAM SUCCESSFULL
PRESS ESC TO EXIT PRESS ENTER TO SELECT HIGHLIGHTED ENTRY

Step 7: Highlight the "POWER ON RESET"

NEAT EVALUATION BOARD SETUP – VERSION 1.03 COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987
CHIP SETUP FOR THE 82C206 CHIP SETUP FOR THE 82C211 CHIP SETUP FOR THE 82C212 READ CONFIGURATION FILE SAVE CONFIGURATION FILE SETUP SHADOW RAM POWER ON RESET
PRESS ESC TO EXIT PRESS ENTER TO SELECT HIGHLIGHTED ENTRY

Press "Enter" for power on reset

Step 8: System will restart, screen should show the following messages:

CMOS system options not set
CMOS display configuration mismatch
Press <F1> to continue

Step 9: If screen ask you
Want to run SETUP/EXT-SETUP (Y/N)?
Hit "Y", then "Enter" to continue.

Step 10: If screen ask you SETUP/EXT-SETUP (1/2)?
Type "1" to select standard setup.
Setup your system configuration, time, date. . . . etc.
After you finish the setup, reboot your system again.

Step 11: Boot up the system, if there are still error messages, then check the jumper setting of monitor type and repeat Step 3 to Step 10 again.

6.0 Appendix

82C206- Integrated Peripherals Controller

NEAT EVALUATION BOARD SETU – VERSION 1.03 COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987	
CHIP SETUP F0- CHIP SETUP F0 REG01H<7:6> 4 I/O WAIT STATES	SETUP FOR THE 206 XIOR/XIOW WAIT STATES 11 16 BIT DMA WAIT STATES 00 8 BIT DMA WAIT STATES 00 EMR BIT CLK BIT
UP F0 NGIGU NFIGU SETUP SHA POWER ON	PRESS PGUP/PGDN TO SCROLL PRESS ESC TO RETURN TO MENU
PRESS ESC PRESS ENTER TO SELECT HIGHLIGHTED ENTRY	

1. XIOR/XIOW wait states "xx"

When the high speed CPU accesses the 82C206, we can define the number of wait states:

Bits	Read/Write cycle wait state
0 0	1
0 1	2
1 0	3
1 1	4

2. 16 Bit DMA wait states "xx"

Bits	16 Bit DMA wait state
0 0	1
0 1	2
1 0	3
1 1	4

3. 8 Bit DMA wait states "xx.."

Bits	8 Bit DMA wait state
0 0	1
0 1	2
1 0	3
1 1	4

4. EMR Bit "x"

Bit	
0	/DMAMEMR delayed one clock cycle than /XIOR
1	/DMAMEMR starts at the same time as /XIOR

5. CLK Bit "x"

Bit	
0	1/2 SCLK is used to drive the DMA
1	SCLK is used to drive the DMA

82C211 Bus Controller

SETUP FOR THE 211	RD SETUP – VERSION 1.03 D TECHNOLOGIES INC., 1987
PROCESSOR LOCK SELECT 0	
READY TIMEOUT ENABLE 0	
ADDRESS ADD HOLD TIME 0	FOR THE 82C206
QUICK MODE 1	FOR THE 82C211
AT BUT 16 BIT CMND DELAY 00	FOR THE 82C212
AT BUS 8 BIT CMND DELAY 01	GURATION FILE
AT BUS I/O CMND DELAY 01	GURATION FILE
16 BIT AT BUS WAIT STATES 11	SHADOW RAM
8 BIT AT BUS WAIT STATES 11	ON RESET
AT BUS CLOCK SOURCE 00	
PRESS PGUP/PGDN TO SCROLL	SC TO EXIT
PRESS ESC TO RETURN TO MENU	ECSH — REG60H<4:4> —
	PROCESSOR OSCILLATOR

1. Processor Clock Select "x"

Bit	
0	: PROCCLK = CLK2IN
1	: PROCCLK = BCLK

2. Local Bus Ready Timeout Enable "x"

Bit	
0	: not occurred
1	: occurred

3. Address Hold Time Delay "x"

Bit	
0	: disabled
1	: enabled

4. Quick mode "x"

Bit	
0	: enabled
1	: disabled

5. AT Bus 16 Bit Command delay "xx"

Bits		16 Bit CMD delay
0	0	0 BCLK
0	1	1 BCLK
1	0	2 BCLK
1	1	3 BCLK

6. AT Bus 8 Bit Command delay "xx"

Bits		8 Bit CMD delay
0	0	0 BCLK
0	1	1 BCLK
1	0	2 BCLK
1	1	3 BCLK

7. AT Bus 16 Bit Wait state "xx"

Bits	16 Bit CMD delay
0 0	0 BCLK
0 1	1 BCLK
1 0	2 BCLK
1 1	3 BCLK

8. AT Bus 8 Bit Wait state "xx"

Bits	8 Bit CMD delay
0 0	2 BCLK
0 1	3 BCLK
1 0	4 BCLK
1 1	5 BCLK

9. AT Bus I/O Command delay "xx"

Bits	I/O CMD delay
0 0	0 BCLK
0 1	1 BCLK
1 0	2 BCLK
1 1	3 BCLK

10. AT Bus Clock Source "xx"

Bits	16 Bit CMD delay
0 0	BCLK = 1/2 CLK2IN
0 1	BCLK = CLK2IN
1 0	BCLK = ATCLK
1 1	Reserved

SETUP FOR THE 212			
RAM/ROM CONFIGURATION	0000	EMS ENABLE	0
RAM/ROM CONTROL	1110	EMS WAIT STATES	10
512K - 640K ADDRESS MAP	0	RW-ROM WAIT STATES	11
MAP RAM AT 0A0000-0BFFFFH	00000000	EMS BASE ADDRESS (HEX)	F
MAP RAM AT 0C0000-0DFFFFH	00000000	EMS PAGE REG. IO-BASE (HEX)	F
MAP RAM AT 0E0000-0FFFFFFH	00000000	EMS PAGE 0 - POSITION	11
BANK 0/1 DRAM TYPE	10	EMS PAGE 1 - POSITION	11
BANK 0/1 NUMBER OF BANKS	0	EMS PAGE 2 - POSITION	11
BANK 2/3 DRAM TYPE	00	EMS PAGE 3 - POSITION	11
BANK 2/3 NUMBER OF BANKS	0	EMS SIZE (HEX)	7
DRAM ACCESS WAIT STATES	1	DT0 - RAS T/O ENABLE	0
PAGE MODE	1	PGA20 - GATE A20	11
4 - WAY INTERLEAVED	0	EXTERNAL EMS MAPPER	
		ENABLE	0
RELOCATE DRAM AT640K-1MB 0			
PRESS PGUP/PGDN TO SCROLL PRESS ESC TO RETURN TO MENU			

REG65H<7.7>
RAM AT 768K R/W

1. RAM/ROM configuration "xxxx"

Bits	Shadow RAM R/W or Read Only
1	0: Read/Write 1: Read only at F0000H-FFFFFH (768K)
2	0: Read/Write 1: Read only at E0000H-EFFFFH (832K)
3	0: Read/Write 1: Read only at D0000H-DFFFFH (896K)
4	0: Read/Write 1: Read only at C0000H-CFFFFH (960K)

2. RAM/ROM select "xxxx"

Bits	RAM/ROM select
1	0: ROM enabled 1: RAM enabled at F0000H-FFFFFH (768K);
2	0: ROM enabled 1: RAM enabled at E0000H-EFFFFH (832K)
3	0: ROM enabled 1: RAM enabled at D0000H-DFFFFH (896K)
4	0: ROM enabled 1: RAM enabled at C0000H-cffffh 9960K)

3. 512K-640K address map "x"

Bit	
0	Address is on the I/O channel
1	Address is on the system board

4. MAP RAM at A0000h-BFFFFH "xxxxxxx"

Bits	RAM/ROM select
1	0: disabled 1: Shadow RAM enabled at A0000H-A3FFFH (752K)
2	0: disabled 1: Shadow RAM enabled at A4000H-A7FFFH (736K)
3	0: disabled 1: Shadow RAM enabled at A8000H-ABFFFH (720K)
4	0: disabled 1: Shadow RAM enabled at AC000H-AFFFFH (704K)
5	0: disabled 1: Shadow RAM enabled at B0000H-B3FFFH (688K)
6	0: disabled 1: Shadow RAM enabled at B4000H-B7FFFH (672K)
7	0: disabled 1: Shadow RAM enabled at B8000H-BBFFFH (656K)
8	0: disabled 1: Shadow RAM enabled at BC000H-BFFFFH (640K)

5. MAP RAM at C0000h-DFFFFH "xxxxxxx"

Bits	RAM/ROM select
1	0: disabled 1: Shadow RAM enabled at C0000H-C3FFFH (880K)
2	0: disabled 1: Shadow RAM enabled at C4000H-C7FFFH (864K)
3	0: disabled 1: Shadow RAM enabled at C8000H-CBFFFH (848K)
4	0: disabled 1: Shadow RAM enabled at CC000H-CFFFFH (832K)
5	0: disabled 1: Shadow RAM enabled at D0000H-D3FFFH (816K)
6	0: disabled 1: Shadow RAM enabled at D4000H-D7FFFH (800K)
7	0: disabled 1: Shadow RAM enabled at D8000H-DBFFFH (784K)
8	0: disabled 1: Shadow RAM enabled at DC000H-DFFFFH (768K)

6. MAP RAM at E0000h-FFFFFH "xxxxxxxx"

Bits	RAM/ROM select
1	0: disabled 1: Shadow RAM enabled at E0000H-E3FFFH (1008K)
2	0: disabled 1: Shadow RAM enabled at E4000H-E7FFFH (992K)
3	0: disabled 1: Shadow RAM enabled at E8000H-EBFFFH (976K)
4	0: disabled 1: Shadow RAM enabled at EC000H-EFFFFH (960K)
5	0: disabled 1: Shadow RAM enabled at F0000H-F3FFFH (944K)
6	0: disabled 1: Shadow RAM enabled at F4000H-F7FFFH (928K)
7	0: disabled 1: Shadow RAM enabled at F8000H-FBFFFH (912K)
8	0: disabled 1: Shadow RAM enabled at FC000H-FFFFFH (896K)

7. DRAM Bank 0/1 type "xx"

Bits	DRAM Type
0 0	disabled
0 1	256K and 64K (for 640KB combiantion)
1 0	256K bit DRAM
1 1	1 M bit DRAM

8. Number of banks in Bank 0/1 "x"

Bit	
0	1 bank of memory resident
1	2 banks of memory resident

9. DRAM Bank 2/3 type "xx"

Bits	DRAM Type
0 0	disabled
0 1	256K and 64K (for 640KB combination)
1 0	256K bit DRAM
1 1	1 M bit DRAM

10. Number of banks in Bank 2/3 "x"

Bit	
0	1 bank of memory resident
1	2 banks of memory resident

11. DRAM access wait state "x"

Bit	
0	: 0 wait
1	: 1 wait

12. Page mode "x"

Bit	
0	: disabled
1	: enable page mode

13. 4-way interleaved "x"

Bit	
0	: 2 way interleaved
1	: 4 way interleaved

14. Relocate DRAM at 640K-1MB "x"

Bit

0	:	no relocate
1	:	relocate local DRAM from 8000H-9000H to 10000H-11FFFH

NOTE: This relocation only works with total memory of 1M Byte only

15. EMS enable "x"

Bit

0	:	disabled EMS
1	:	enable EMS

16. EMS access wait state "xx"

Bits wait state

0	0	0 wait
0	1	1 wait
1	0	2 wait
1	1	3 wait

17. ROM wait state "xx"

Bits wait state

0	0	0 wait
0	1	1 wait
1	0	2 wait
1	1	3 wait

18. EMS base address (HEX) "x"

Value	RAM/ROM select
0	C0000H-CC000H (768K-816K)
1	C4000H-D0000H (784K-832K)
2	C8000H-D4000H (800K-848K)
3	CC000H-D8000H (816K-864K)
4	D0000H-DC000H (832K-880K)
5	D4000H-E0000H (848K-896K)
6	D8000H-E4000H (864K-912K)
7	DC000H-E8000H (880K-928K)
8	E0000H-EC000H (896K-944K)

19. EMS Page register I/O base address (HEX) "x"

Value	RAM/ROM select
0	208H/209H
1	218H/219H
2	258H/259H
3	268H/269H
4	2A8H/2A9H
5	2B8H/2B9H
6	2E8H/2E9H

20. EMS Page 0 extension bits "xx"

Bits		
0	0	1 Mbyte to 2 Mbyte
0	1	2 Mbyte to 4 Mbyte
1	0	4 Mbyte to 6 Mbyte
1	1	6 Mbyte to 8 Mbyte

21. EMS Page 1 extension bits "xx"

Bits		
0	0	1 Mbyte to 2 Mbyte
0	1	2 Mbyte to 4 Mbyte
1	0	4 Mbyte to 6 Mbyte
1	1	6 Mbyte to 8 Mbyte

22. EMS Page 3 extension bits "xx"

Bits		
0	0	1 Mbyte to 2 Mbyte
0	1	2 Mbyte to 4 Mbyte
1	0	4 Mbyte to 6 Mbyte
1	1	6 Mbyte to 8 Mbyte

23. EMS Size (HEX) "x"

Bits	
0	1 Mbyte to 1.5 Mbyte (less than 1 Mbyte)
1	1 Mbyte to 2 Mbyte (1 Mbyte)
2	1 Mbyte to 3 Mbyte (2 Mbyte)
3	1 Mbyte to 4 Mbyte (3 Mbyte)
4	1 Mbyte to 5 Mbyte (4 Mbyte)
5	1 Mbyte to 6 Mbyte (5 Mbyte)
6	1 Mbyte to 7 Mbyte (6 Mbyte)
7	1 Mbyte to 8 Mbyte (7 Mbyte)

24. RAS time out "x"

Bit

0 : disabled
1 : enabled

25. PGA20 control "x"

Bit

0 : enabled
1 : disabled

Shadow RAM

NEAT EVALUATION BOARD SETUP-VERSION 1.03 COPYRIGHT (C) CHIPS AND TECHNOLOGIES INC., 1987	
CHIP SETUP FOR THE 82C206 CHIP SETUP FO	
DISABLE SHADOW RAM	UP FO NFIGU NFIGU SETUP SHA POWER ON
	SETUP SHADOW RAM FOR 212 SHADOW FOR ROM BIOS 0 SHADOW FOR VIDEO RAM 0
	PRESS PGUP/PGDN TO SCROLL PRESS ESC TO RETURN TO MENU
PRESS ESC PRESS ENTER TO SELECT HIGHLIGHTED ENTRY	

1. Shadow for BIOS ROM

Bit

0 : disable shadow RAM
1 : enable shadow RAM

2. Shadow for Video ROM

Bit

0 : disabled shadow RAM
1 : disabled shadow RAM

EMS 4.0 DOCUMENTATION

The EMS (Expanded Memory Specification) Version 4.0 device driver is a standard MS DOS device driver that gets loaded at boot time by the CONFIG.SYS file. Because EMS 4.0 is a device driver, it should look like this in the CONFIG.SYS file:

```
DEVICE = EMM.SYS
```

Without anything else included in this command line, the EMS driver will get loaded with the default hardware values of the I/O address that enables the EMS and the memory address used for EMS paging. These default values are dependent on the NEAT implementation of EMS.

To change these default values, as well as add a few extra features, the EMS device driver command line can look like this:

```
DEVICE = EMM.SYS-Ix-My-Pzz-D
```

where,

I = I/O address to enable EMS pages

```
x = 0 == > 208h  
= 1 == > 218h  
= 5 == > 258h  
= 6 == > 263h  
= A == > 2A8h  
= B == > 2B8h  
= E == > 2E8h
```

M = page frame address (address of 64K window)

y = 1 == > C0000h

= 2 == > C4000h

= 3 == > C8000h

= 4 == > CC000h

= 5 == > D0000h

P = maximum number of open processes (defaults to 64)

zz = number of processes (1-128)

D = enable EMS diagnostics

EMS 4.0 Documentation 1

The command line parameters can be in either upper or lower case.

When the EMS driver is first executed, a title and copyright notice will appear on the screen as follows:

"EMS Expanded Memory Device Driver Ver. 4.0"

"Copyright (c) Chips and Technologies Inc., 1987"

If the EMS driver detects that a previous EMS driver has been loaded, it will put this message on the screen:

"An Expanded Memory Manager has already been installed."

The EMS driver will then not get loaded into the system

When the EMS driver gets loaded by MS DOS, an internal check is done on the EMS configuration in hardware. If the driver detects any conflicts that would cause EMS to not function properly, the message:

"The EMS setup has been incorrectly specified. No EMS is available." will appear on the screen after the EMS copyright notice and EMS will be disabled. If the EMS hardware is configured properly and the I/O address is overridden by the command line parameter, the screen will show this message:

“The EMS I/O address has been changed.”

If the EMS page frame address is being overridden from the command line, the following message will appear:

“The EMS Frame Segment has been changed.”

If the diagnostics option is selected, this message will appear on the screen:

EMS 4.0 Documentation 2

“Testing EMS Expanded Memory Page Number: NNN”

The NNN represents the page number currently under test. If the diagnostics fail, the EMS will be disabled and the following message appears on the screen:

“Expanded Memory FAILED diagnostics test.”

If the diagnostics pass, or if diagnostics were not specified on the command line, the EMS driver has been loaded correctly and EMS is enabled. The final message to appear on the screen is:

“There are XXX pages, or YYYY Kbytes of EMS Expanded Memory on the system.”

The system can now be used to support Lotus/Intel/Microsoft EMS 4.0 in the same manner as standard EMS cards.

EMS 4.0 Documentation 3

