

**286 HT SINGLE CHIP
SYSTEM BOARD
USER'S MANUAL**

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CHAPTER 1

INTRODUCTION

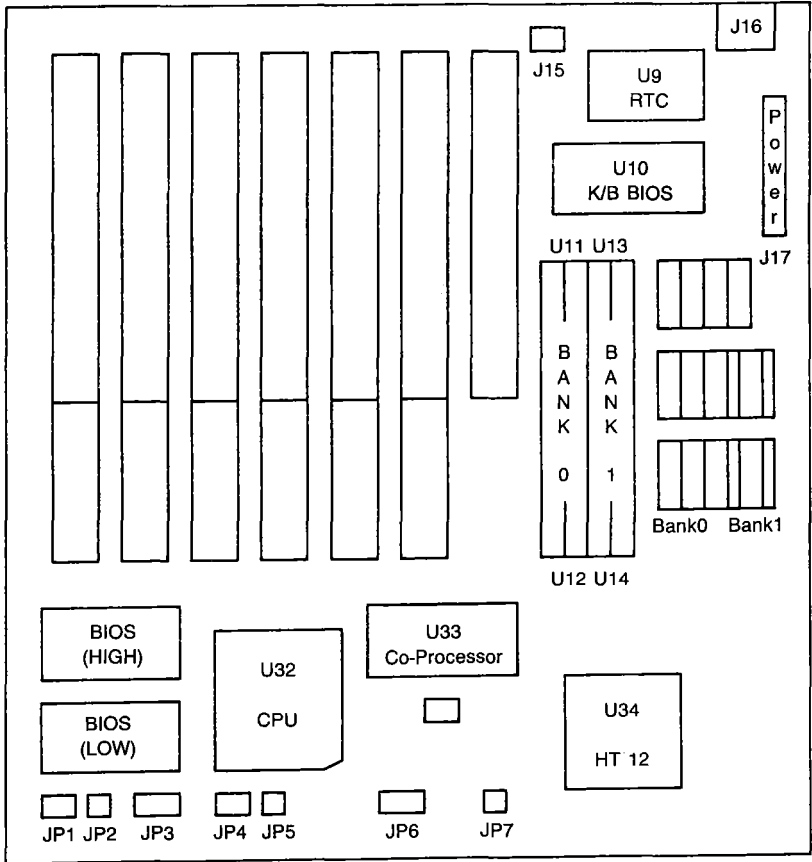
1-1 Features:

1. 100% IBM PC/AT compatible.
2. INTEL, HARRIS, SIEMENS or AMD 80286-12 CPU running at 6/12MHz.
INTEL HARRIS, SIEMENS or AMD 80286-16 CPU running at 8/16MHz.
3. RAM subsystem, up to 4MB memory on board.
 - support 512K, 640K, 1M, 2M, 4M byte.
 - use 44256, 41256, 4464, 4164 DIP RAM and 256KB, 1MB SIP or SIM module RAM.
4. Supports 16MHz operation at 0 wait states with 80ns DRAMS.
5. Socket for 80287 math co-processor.
6. Supports Shadow RAM for System and Video BIOS.
7. Supports EMS memory function optional.
8. CMOS clock and calendar circuit with rechargeable battery support.
9. With six 16bit and one 8bit expansion slots.
10. Size 218mm(L) × 205mm(W).

CHAPTER 2

MAINBOARD INSTALLATION

2-1 Board Layout



2-2 Jumper Setting

JP1: EPROM Type Selection
1, 2 Short for 27256
2, 3 Short for 27128

JP2: Turbo Switch

JP3: Keyboard Lock & Power LED
Pin 1. VCC
Pin 2. Not Used
Pin 3. Ground
Pin 4. Keyboard
Pin 5. Ground

JP4: Display Type Selection
Pin 1, 2 Short for Mono Mode
Pin 2, 3 Short for Color Mode

JP5: Turbo LED
Pin 1. LED Power
Pin 2. Ground

JP6: Speaker
Pin 1. Speaker Output
Pin 2. Ground

JP7: Hardware Reset

J15: External Battery
Pin 1. +6V VDC
Pin 2. Not Used
Pin 3. Not Used
Pin 4. Ground

J16: Keyboard Connector

J17: Power Connector

CHAPTER 3

MEMORY CONFIGURATION

3-1

DIP RAM		SIP/SIM MODULE		
BANK 0	BANK 1	BANK 0	BANK 1	TOTAL SIZE
44256 × 4 41256 × 2				512KB
		256K RAM MODULE × 2		512KB
44256 × 4 41256 × 2	4464 × 4 4164 × 2			640KB
	4464 × 4 4164 × 2	256K RAM MODULE × 2		640KB
44256 × 4 41256 × 2	44256 × 4 41256 × 2			1MB
		256K RAM MODULE × 2	256K RAM MODULE × 2	1MB
44256 × 4 41256 × 2			256K RAM MODULE × 2	1MB
	44256 × 4 41256 × 2	256K RAM MODULE × 2		1MB
		1M RAM MODULE × 2		2MB
		1M RAM MODULE × 2	1M RAM MODULE × 2	4MB

DRAM SETTING		THE MEMORY ON THE SCREENS SHOW AS:	TOTAL
BANK 0	BANK 1		MEMORY
256K	NONE	512K	512K
256K	256K	1024K	1024K
1M	NONE	1664K	2048K
1M	1M	3712K	4096K

* 384KB MEMORY FOR SHADOW RAM USE.

CHAPTER 4

SETUP

4-1 AMI BIOS

The following procedures assume your system has the AMI 286 BIOS installed. If your system has a different BIOS installed, these procedures will not work.

To run the SETUP, do the following:

Simultaneously press the <Ctrl> <Alt> keys to reboot the system (or turn the power on if the system is off). After the memory has been checked, the following message will appear on your screen:

Press if you want to SETUP or DIAGS

Press the key (the one that shares the decimal point at the bottom of the numeric keypad). In a moment, the following message will appear:

```
EXIT FOR BOOT  
RUN COMS SETUP  
RUN DIAGNOSTICS
```

Use the ↓ key to highlight “RUN COMS SETUP” and press the <Enter> key. A screen similar to the following will then appear:

CMOS SETUP (C) Copyright 1985-1990, American Megatrends Inc.,										
Date (mn/date/year) : Fri, Sep 21 1990				Base memory size : 640KB						
Time (hour/min/sec) : 12 : 00 : 00				Ext. memory size : 384KB						
Floppy drive A: : 1.2 MB, 5¼"				Numeric processor : Not installed						
Floppy drive B: : 1.2 MB, 5¼"										
Hard disk C: type : 40				Cylin	Head	Wpcom	Lzone	Sec	Size	
Hard disk D: type : Not Installed				820	6	820	820	17	40 MB	
Primary display : VGA or EGA										
Keyboard : Installed				Sun	Mon	Tue	Wed	Thu	Fri	Sat
BIOS shadow option : Disable				26	27	28	29	30	31	1
Scratch RAM option : 1				2	3	4	5	6	7	8
EMS size option : 0 KB				9	10	11	12	13	14	15
0 wait state option : Enable				16	17	18	19	20	21	22
Memory relocation : Enable				23	24	25	26	27	28	29
Month : Jan, Feb, Dec				30	1	2	3	4	5	6
Date : 01, 02, 03, 31										
Year : 1901, 1902 2099										
ESC = Exit, ↓ → ↑ ← = Select, PgUp/PgDn = Modify										

Use the ↓ → ↑ ← keys to highlight the parameters you want to change. Use the <PgUp> and <PgDn> keys to modify the values.

ITEM 1 Date and time

Use the ↓ → ↑ ← keys to select the parameters you want to change. use the <PgUp> and <PgDn> keys to cycle through the available settings.

ITEM 2 Floppy disk drives

Select the Floppy drive field. Press the <PgUp> and <PgDn> keys to cycle throught the available setting. Available floppy disk drives are 5¼" (360KB, 1.2MB and 3½" (720KB, 1.44MB). If your system does not have a floppy drive B:, be certain to specify "Not installed".

ITEM 3 Hard Disk drives

For hard disk drives, use the <PgUp> and <PgDn> keys to cycle through the 46 types of disk drives supported. Type 47 is given to help the user to define his own drive type which will be stored in the CMOS. To select the hard disk type, please refer to the following table.

AMI BIOS HARD DISK DRIVE TABLE

TYPE	CYLN	READS	W/PCOMP	L-ZONE	CAPACITY
1	306	4	128	305	10 MB
2	615	4	300	615	20
3	615	6	300	615	31
4	940	8	512	914	62
5	940	6	512	940	47
6	615	4	FFFF	615	20
7	462	8	256	511	31
8	733	5	FFFF	733	30
9	900	15	FFFF	901	112
10	820	3	FFFF	820	20
11	855	5	FFFF	855	35
12	855	7	FFFF	855	50
13	306	8	128	319	20
14	733	7	FFFF	733	43
15	000	0	0000	000	00
16	612	4	0000	663	20
17	977	5	300	977	41
18	977	7	FFFF	977	57
19	1027	7	512	1023	60
20	733	5	300	732	30
21	733	7	300	732	43
22	733	5	300	732	30
23	306	4	0000	336	10

TYPE	CYLN	READS	W/PCOMP	L-ZONE	CAPACITY
24	925	7	0000	925	64
25	925	9	FFFF	925	69
26	754	7	754	754	44
27	754	11	FFFF	754	69
28	699	7	256	699	41
29	823	10	FFFF	823	68
30	918	7	918	918	53
31	1024	11	FFFF	1024	94
32	1024	15	FFFF	1024	18
33	1024	5	1024	1024	43
34	612	2	128	612	10
35	1024	9	FFFF	1024	77
36	1024	8	512	1024	68
37	615	8	128	615	41
38	987	3	987	987	25
39	987	7	987	987	57
40	820	6	820	820	41
41	977	5	977	977	41
42	981	5	981	981	41
43	830	7	512	930	48
44	830	10	FFFF	830	69
45	917	15	FFFF	918	114
46	1244	15	FFFF	1223	152
47	USER TYPE				

ITEM 4 Primary display

Select the Primary display field to establish the primary video display adapter type. Press the <PgUp> and <PgDn> keys to cycle through the available settings:

- * Monochrome (Monochrome adapter, including MGA, MGP and Hercules).
- * Color 40 × 25 (Color Graphics Adapter initialized in 40-column mode).
- * EGA (Enhanced Graphics Adapter) or VGA (Video Graphics Array).
- * Color 80 × 25 (Color Graphics Adapter initialized in 80-column mode).

ITEM 5 Bypassing keyboard error

To configure the system for non dedicated file servers, you set the keyboard “Not installed” in the SETUP menu so that BIOS will not report any “keyboard error” and will not wait for <F1> key to be pressed during system boot.

ITEM 6 BIOS shadow

Select the BIOS shadow field to establish the shadow type. Press the <PgUp> and <PgDn> keys to cycle through the available settings:

- * Disable (To disable shadow RAM function).
- * Video BIOS (To shadow video BIOS).
- * Main BIOS (To shadow mainboard BIOS).
- * Main and video BIOS (To shadow mainboard and video BIOS).

ITEM 7 EMS memory size (optional)

This allows you to set the memory off on the system board which should be used for EMS memory. This option is only available on system boards which support EMS memory. Select EMS size field. Press the <PgUp> and <PgDn> keys to cycle through the available settings.

ITEM 8 Wait state selection (optional)

This feature allows the user to select either zero or one wait state of memory access by the select zero wait state field. Press the <PgUp> and <PgDn> keys to cycle through the available setting.

- * Enable: RAM access 0 wait state.
- * Disable: RAM access 1 wait state.

After you have finished with the SETUP program, press the <Esc> key. A prompt will appear:

Write data into CMOS and exit (Y/N)

Type <Y> and then press the <Enter> key. The computer will reboot and finish the setup procedures.

4-2 EMS Drive Setup

Boot your system by using DOS and copy the HT12EMS.SYS file driver from your utility diskette into your bootable disk drive.

If you boot from a hard disk drive (drive C:), insert the utility diskette into drive A: then type:

```
C>A:                                <Enter>
A>COPY A: HT12EMS.SYS C:\          <Enter>
```

Add the following line to your CONFIG.SYS file on your boot drive:

```
C>COPY CON CONFIG.SYS             <Enter>
DEVICE = HT12EMS.SYS              <Enter>
<Z Z>                              <Ctrl> <Z> then <Enter>
```

The screen will display as follows:
1 File(s) copied

```
C>
```

Then reboot your system to test the EMS memory.

4-3 Keyboard Speed Select

In addition to setting the processor clock speed by the front panel switch or by SETUP program, you can also change it by keyboard command. To change the processor clock speed, please press:

```
High speed: <Ctrl> <Alt> < + >
Low speed:  <Ctrl> <Alt> < - >
```

Special Remark:

1. For more detail technical information, please check your local dealers for help or refer to the service manual which offered by manufacturer. (This manual is not for end user).

