CMOS RAM Map

CMOS registers can be devided into four groups:

- 00h-0Fh Real-Time Clock data
- 10h-2Fh ISA configuration data
- 30h-3Fh BIOS specific configuration data
- 40h-7Fh Extended CMOS RAM

<table>
<tr><th>Reg.</th><th>BIOS</th><th>Description</th></tr>
<tr><td>00h</td><td></td><td>Date/Time – Seconds (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.
Bit 7 is read-only.</td></tr>
<tr><td>01h</td><td></td><td>Date/Time – Seconds alarm (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>02h</td><td></td><td>Date/Time – Minutes (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>03h</td><td></td><td>Date/Time – Minutes alarm (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>04h</td><td></td><td>Date/Time – Hours (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>05h</td><td></td><td>Date/Time – Hours alarm (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>06h</td><td></td><td>Date/Time – Day of the week (R/W)
Values 1 thru 7 indicate Sunday thru Saturday resp.</td></tr>
<tr><td>07h</td><td></td><td>Date/Time – Day of the month (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>08h</td><td></td><td>Date/Time – Month (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>09h</td><td></td><td>Date/Time – Year (R/W)
The value used is in BCD format or binary format, depending on the setting of register 0Bh, bit 2.</td></tr>
<tr><td>0Ah</td><td></td><td>Status Register A (R/W)
<table>
<tr><td>Bit 7</td><td>Update in progress</td></tr>
<tr><td></td><td>1/0 = yes/no</td></tr>
<tr><td>Bit 6-4</td><td>Divider control</td></tr>
<tr><td></td><td>000 = divide clock by 128 over normal</td></tr>
<tr><td></td><td>010 = normal (32.768 kHz)</td></tr>
<tr><td></td><td>011 = divide clock by 32 over normal</td></tr>
<tr><td>Bit 3-0</td><td>Rate selection divided control</td></tr>
<tr><td></td><td>0000 = no periodic rate interrupt generated</td></tr>
<tr><td></td><td>0001 = 3.90625 ms</td></tr>
<tr><td></td><td>0010 = 7.8125 ms</td></tr>
<tr><td></td><td>0011 = .122070 ms</td></tr>
<tr><td></td><td>0100 = .244141 ms</td></tr>
<tr><td></td><td>0101 = .488281 ms</td></tr>
<tr><td></td><td>0110 = .976562 ms (default)</td></tr>
<tr><td></td><td>0111 = 1.953125 ms</td></tr>
<tr><td></td><td>1000 = 3.90625 ms</td></tr>
<tr><td></td><td>1001 = 7.8125 ms</td></tr>
<tr><td></td><td>1010 = 15.625 ms</td></tr>
<tr><td></td><td>1011 = 31.25 ms</td></tr>
<tr><td></td><td>1100 = 62.5 ms</td></tr>
</table>
</td></tr>
</table>

	1101 = 125.0 ms
	1110 = 250.0 ms
	1111 = 500.0 ms

0Bh — Status Register B (R/W)

Bit 7	Clock update
	0 = update every second (default)
	1 = halt clock (used to set a new date/time)
Bit 6	Enable periodic interrupt
	0/1 = disable (default)/enable
Bit 5	Enable alarm interrupt
	0/1 = disable (default)/enable
Bit 4	Enable update complete interrupt
	0/1 = disable (default)/enable
Bit 3	Square wave enable
	0/1 = disable (default)/enable
Bit 2	Time and calender mode
	0/1 = BCD format/binary format
Bit 1	12/24-hour mode
	0/1 = 12-hour mode/24-hour mode
Bit 0	Enable daylight savings
	0/1 = disable (default)/enable

0Ch — Status Register C (RO)

Bit 7	IRQ flag
Bit 6	Periodic interrupt flag
Bit 5	Alarm interrupt flag
Bit 4	Update complete interrupt flag
Bit 3-0	(not used)

0Dh — Status Register D (RO)

Bit 7	CMOS RAM validity
	0 = battery power lost, CMOS RAM invalid
	1 = battery power stable, CMOS RAM valid
Bit 6-0	(not used)

0Eh — Diagnostic Status (R/W)

Bit 7	RTC power
	0/1 = OK/lost
Bit 6	CMOS RAM checksum
	0/1 = valid/invalid
Bit 5	CMOS configuration information
	0/1 = valid/invalid
Bit 4	Memory size
	0/1 = matches/doesn't match
Bit 3	Hard disk drive 0 (C:) initialization
	0/1 = passed/failed
Bit 2	Date/time status
	0/1 = valid/invalid
Bit 1	Adapter configuration (MCA/EISA)
	0/1 = matches/doesn't match
Bit 0	Adapter ID reading (MCA/EISA)

		0/1 = normal/timeout
0Fh		Shutdown Status (R/W) 00h = proceed normal post (soft reset) 01h = initialize chipset for real mode operation 02h = shutdown after memory test 03h = shutdown with memory error 04h = jump to disk bootstrap routine 05h = jump to pointer at 0040:0067h (EOI issued, keyboard flushed 06h = jump to pointer at 0040:0067h (no EOI issued) 07h = return to BIOS extended memory block move 08h = return to POST memory test 09h = return to BIOS extended memory block move 0Ah = jump to pointer at 0040:0067h (no EOI issued) 0Bh = return as if IRET was issued through 0040:0067h 0Ch = return as if RETF was issued through 0040:0067h
10h		Diskette Drive Type (R/W) Bit 7-4 Diskette type, drive 0 Bit 3-0 Diskette type, drive 1 0000 = no drive 0001 = 360 KB, 5.25 inch drive 0010 = 1.2 MB, 5.25 inch drive 0011 = 720 KB, 3.5 inch drive 0100 = 1.44 MB, 3.5 inch drive 0101 = 2.88 MB, 3.5 inch drive
11h	PS/2	Hard disk drive type, drive 0
	AMI Hi-Flex BIOS	Typematic programming Bit 7 Typematic programming 0/1 = disable/enable Bit 6-5 Delay 00 = 250 ms 01 = 500 ms 10 = 750 ms 11 = 1000 ms Bit 4-0 Repeat rate (characters per second) 00000 = 30.0 cps 10000 = 7.5 cps 00001 = 26.7 cps 10001 = 6.7 cps 00010 = 24.0 cps 10010 = 6.0 cps 00011 = 21.8 cps 10011 = 5.5 cps 00100 = 20.0 cps 10100 = 5.0 cps 00101 = 18.5 cps 10101 = 4.6 cps 00110 = 17.1 cps 10110 = 4.3 cps 00111 = 16.0 cps 10111 = 4.0 cps 01000 = 15.9 cps 11000 = 3.7 cps 01001 = 13.3 cps 11001 = 3.3 cps 01010 = 12.0 cps 11010 = 3.0 cps 01011 = 10.9 cps 11011 = 2.7 cps 01100 = 10.0 cps 11100 = 2.5 cps 01101 = 9.2 cps 11101 = 2.3 cps

		01110 = 8.6 cps	11110 = 2.1 cps
		01111 = 8.0 cps	11111 = 2.0 cps

AMI BIOS

Extended Setup options

Bit 7	1 = mouse enabled
Bit 6	1 = test memory above 1 MB
Bit 5	1 = generate tick sound during memory test
Bit 4	1 = memory parity check enabled
Bit 3	1 = display key to use for setup during boot
Bit 2	Location for user-defined hard disk data
	0 = 0000:0300h
	1 = at the top of conventional memory
Bit 1	1 = wait for F1 on any error during boot
Bit 0	NumLock state
	0/1 = off/on

AMI WinBIOS

Boot options

Bit 7	1 = boot with high CPU speed
Bit 6	1 = test memory above 1 MB
Bit 5	1 = generate tick sound during memory test
Bit 4	1 = floppy seek
Bit 3	1 = display key to use for setup during boot
Bit 2	Location for used-defined hard disk data
	0 = 0000:0300h
	1 = at the top of conventional memory
Bit 1	1 = wait for F1 on any error during boot
Bit 0	NumLock state
	0/1 = off/on

Award BIOS

Configuration byte

Bit 7	NumLock state
	0/1 = off/on
Bit 6	IDE block mode
	0/1 = disabled/enabled
Bit 5	(unknown)
Bit 4	Shadow-RAM CC00-CFFFh
	0/1 = disabled/enabled
Bit 3	Shadow-RAM C800-CBFFh
	0/1 = disabled/enabled
Bit 2	(unknown)
Bit 1	BIOS password
	0/1 = disabled/enabled
Bit 0	Password configuration
	0 = setup only
	1 = setup and system

Quadtel HT12

Configuration byte

Bit 7	640 KB RAM
	0/1 = not present/present
Bit 6	extended type, CPU status word
Bit 5	(unknown)
Bit 4	(unknown)

		Bit 3-2	NumLock state
			00 = automatic
			01 = on
			10 = off
		Bit 1	(unknown)
		Bit 0	384 KB RAM moved to top of memory
12h		Hard disk drive type	
		Bit 7-4	Hard disk type, drive 0
		Bit 3-0	Hard disk type, drive 1
			0000 = no drive
			0001-1110 = type 1-14 from the parameter table
			1111 = type defined through register 19h
	PS/2	Hard disk drive type, drive 1	
13h		Typematic programming	
		Bit 7	Typematic programming
			0/1 = disabled/enabled
		Bit 6-5	Delay
			00 = 250 ms
			01 = 500 ms
			10 = 750 ms
			11 = 1000 ms
		Bit 4-2	Repeat rate
			000-111 = 6-30 characters per second
		Bit 1-0	(reserved)
	AMI Hi-Flex BIOS	Extended Setup options	
		Bit 7	1 = mouse enabled
		Bit 6	1 = test memory above 1 MB
		Bit 5	1 = generate tick sound during memory test
		Bit 4	1 = memory parity check enabled
		Bit 3	1 = display key to use for setup during boot
		Bit 2	Location for user-defined hard disk data
			0 = 0000:0300h
			1 = at the top of conventional memory
		Bit 1	1 = wait for F1 on any error during boot
		Bit 0	NumLock state
			0/1 = off/on
	AMI WinBIOS	Peripheral settings	
		Bit 7-5	Keyboard repeat rate
			000-111 = 6-30 characters per second
		Bit 4	Coprocessor test
			0/1 = disabled/enabled
		Bit 3-0	(unknown)
	PS/2 MCA	Internal POST operation	
		Bit 7	1 = POST sets VGA pixel information
		Bit 6	1 = RTC battery is OK
		Bit 5	1 = go to ROM BASIC from POST
		Bit 4	POST sets the typematic rate
			0 = 10.9 cps with a 500 ms delay

		1 = 30 cps with a 250 ms delay
		Bit 3-2 (unknown or not used)
		Bit 1 1 = network password installed
		Bit 0 1 = power-on password installed
	Award BIOS	Configuration byte Bit 7 Typematic programming 0/1 = disabled/enabled Bit 6-4 Repeat rate 000-111 = 6-30 cps Bit 3-2 Delay 00-11 = 250, 500, 750, 1000 ms Bit 1 (unknown) Bit 0 1 = floppy seek
14h		Equipment byte Bit 7-6 Number of floppy drives 00 = no floppy drives 01 = 1 floppy drive 10 = 2 floppy drives Bit 5-4 Primary video display 00 = video adapter with ROM 01 = 40 columns by 25 rows, color 10 = 80 columns by 25 rows, color 11 = 80 columns by 25 rows, monochrome Bit 3 (not used) Bit 2 (not used) Bit 1 1 = coprocessor installed Bit 0 1 = diskette drive installed for boot
	AMI BIOS	Bit 3 0 = ignore POST keyboard tests 1 = test keyboard
15h		Base memory (LSB)
16h		Base memory (MSB)
17h		Extended memory (LSB)
18h		Extended memory (MSB)
19h		Hard disk drive type, drive 0 (extended type) 00-0Fh (reserved) 10-2Eh type 16-46 of the parameter table
	MCA	Card ID of the adapter in slot 0
1Ah		Hard disk drive type, drive 1 (extended type) 00-0Fh (reserved) 10-2Eh type 16-46 of the parameter table
	MCA	Card ID of the adapter in slot 0
1Bh	AMI BIOS	Number of cylinders for user-defined hard disk drive 0 (LSB)
	MCA	Card ID of the adapter in slot 1
	Phoenix BIOS	82335 RC1 Roll-Compare register (LSB)
	Award BIOS	Configuration byte Bit 7-4 (unknown)

		Bit 3 — Shadow-RAM DC00-DFFFh Bit 2 — Shadow-RAM D800-DBFFh Bit 1 — Shadow-RAM D400-D7FFh Bit 0 — Shadow-RAM D000-D3FFh 0/1 = disabled/enabled
1Ch	AMI BIOS	Number of cylinders for user-defined hard disk drive 0 (MSB)
	MCA	Card ID of the adapter in slot 1
	Phoenix BIOS	82335 RC1 Roll-Compare register (MSB)
	Award BIOS	First part of the checksum of the password
1Dh	AMI BIOS	Number of heads for user-defined hard disk drive 0
	MCA	Card ID of the adapter in slot 2
	Phoenix BIOS	82335 RC1 Roll-Compare register (LSB)
	Award BIOS	Second part of the checksum of the password
1Eh	AMI BIOS	Write-precompensation cylinder for user-defined hard disk drive 0 (LSB)
	MCA	Card ID of the adapter in slot 2
	Phoenix BIOS	82335 RC2 Roll-Compare register (MSB)
	Award BIOS	Number of cylinders for user-defined hard disk drive 1 (LSB)
	Quadtel HT12	User-defined hard disk drive 0 Bit 7 4 Number of heads Bit 3 0 Number of cylinders (MSB)
1Fh	AMI BIOS	Write-precompensation cylinder for user-defined hard disk drive 0 (MSB)
	MCA	Card ID of the adapter in slot 3
	Award BIOS	Number of cylinders for user-defined hard disk drive 1 (MSB)
	Quadtel HT12	Write-precompensation cylinder for user-defined hard disk drive 0 (LSB)
20h	AMI BIOS	Control byte for user-defined hard disk drive 0 Bit 7 — 1 = no retries Bit 6 — 1 = no retries Bit 5 — 1 = bad map located at last cylinder + 1 Bit 4 — (not used) Bit 3 — 1 = number of heads greater than 8 Bit 2-0 — (not used)
	MCA	Card ID of the adapter in slot 3
	AMI WinBIOS	Landing zone for user-defined hard disk drive 0 (LSB)
	Phoenix BIOS	Number of cylinders for user-defined hard disk drive 0 (LSB)
	Award BIOS	Number of heads for user-defined hard disk drive 1
	Quadtel	User-defined hard disk drive 0

	HT12	Bit 7-4: Landing zone (MSB) Bit 3-0: Write-precompensation cylinder (MSB)
21h	AMI BIOS	Parking cylinder for user-defined hard disk drive 0 (LSB)
	MCA	Programmable configuration byte 2
	AMI WinBIOS	Landing zone for user-defined hard disk drive 0 (LSB)
	Phoenix BIOS	Number of cylinders for user-defined hard disk drive 0 (MSB)
	Award BIOS	Write-precompensation cylinder for user-defined hard disk drive 1 (LSB)
	Quadtel HT12	Landing zone for user-defined hard disk drive 0 (LSB)
22h	AMI BIOS	Parking cylinder for user-defined hard disk drive 0 (MSB)
	MCA	Programmable configuration byte 3
	AMI WinBIOS	Number of sectors for user-defined hard disk drive 0
	Phoenix BIOS	Number of heads for user-defined hard disk drive 0
	Award BIOS	Write-precompensation cylinder for user-defined hard disk drive 1 (MSB)
	Quadtel HT12	Number of sectors for user-defined hard disk drive 0
23h	AMI BIOS	Number of sectors for user-defined hard disk drive 0
	MCA	Programmable configuration byte 4
	AMI WinBIOS	Number of cylinders for user-defined hard disk drive 1 (LSB)
	Phoenix BIOS	Write-precompensation cylinder for user defined hard disk drive 1 (LSB)
	Award BIOS	Landing zone for user defined hard disk drive 1 (LSB)
	Quadtel HT12	Number of cylinders for user-defined hard disk drive 1 (LSB)
24h	AMI BIOS	Number of cylinders for user-defined hard disk drive 1 (LSB)
	MCA	Programmable configuration byte 5
	AMI WinBIOS	Number of cylinders for user-defined hard disk drive 1 (MSB)
	Phoenix BIOS	Write-precompensation cylinder for user-defined hard disk drive 0 (MSB)
	Award BIOS	Landing zone for user-defined hard disk drive 1 (MSB)
	Quadtel HT12	User-defined hard disk drive 1
25h	AMI BIOS	Number of cylinders for user-defined hard disk drive 1 (MSB)
	AMI WinBIOS	Number of heads for user-defined hard disk drive 1
	Phoenix BIOS	Landing zone for user-defined hard disk drive 0 (LSB)

<table>
<tr><td></td><td>Award BIOS</td><td>Number of sectors for user-defined hard disk drive 1</td></tr>
<tr><td></td><td>Quadtel HT12</td><td>Write-precompensation cylinder for user-defined hard disk drive 1 (LSB)</td></tr>
<tr><td>26h</td><td>AMI BIOS</td><td>Number of heads for user-defined hard disk drive 1</td></tr>
<tr><td></td><td>Phoenix BIOS</td><td>Landing zone for user-defined hard disk drive 0 (MSB)</td></tr>
<tr><td></td><td>Award BIOS</td><td>Number of cylinders for user-defined hard disk drive 0 (LSB)</td></tr>
<tr><td></td><td>Quadtel HT12</td><td>User-defined hard disk drive 1</td></tr>
<tr><td>27h</td><td>AMI BIOS</td><td>Write-precompensation cylinder for user-defined hard disk drive 1 (LSB)</td></tr>
<tr><td></td><td>AMI WinBIOS</td><td>Write-precompensation cylinder user-defined hard disk drive 1 (MSB)</td></tr>
<tr><td></td><td>Phoenix BIOS</td><td>Number of sectors for user-defined hard disk drive 0</td></tr>
<tr><td></td><td>Award BIOS</td><td>Number of cylinders for user-defined hard disk drive 0 (MSB)</td></tr>
<tr><td></td><td>Quadtel HT12</td><td>Landing zone for user-defined hard disk drive 1 (LSB)</td></tr>
<tr><td>28h</td><td>AMI BIOS</td><td>Write-precompensation cylinder for user-defined hard disk drive 1 (MSB)</td></tr>
<tr><td></td><td>AMI WinBIOS</td><td>Landing zone for user-defined hard disk drive 1 (LSB)</td></tr>
<tr><td></td><td>HP Vectra</td><td>Checksum for bytes 29-2Dh</td></tr>
<tr><td></td><td>Award</td><td>Number of heads for user-defined hard disk drive 0</td></tr>
<tr><td></td><td>Quadtel HT12</td><td>Number of sectors for user-defined hard disk drive 1</td></tr>
<tr><td>29h</td><td>AMI BIOS</td><td>Control byte for user-defined hard disk drive 1<table><tr><td>Bit 7</td><td>1 = no retries</td></tr><tr><td>Bit 6</td><td>1 = no retries</td></tr><tr><td>Bit 5</td><td>1 = bap map at last cylinder + 1</td></tr><tr><td>Bit 4</td><td>(not used)</td></tr><tr><td>Bit 3</td><td>1 = number of heads greater than 8</td></tr><tr><td>Bit 2-0</td><td>(not used)</td></tr></table></td></tr>
<tr><td></td><td>AMI WinBIOS</td><td>Landing zone for user-defined hard disk drive 1</td></tr>
<tr><td></td><td>Phoenix BIOS</td><td>82335 CC0 Compare register (LSB)</td></tr>
<tr><td></td><td>Award BIOS</td><td>Write-precompensation cylinder for user-defined hard disk drive 0 (LSB)</td></tr>
<tr><td></td><td>HP Vectra</td><td>CMOS_HPCONFIG<table><tr><td>Bit 7</td><td>1 = byte 2Ch in checksum</td></tr><tr><td>Bit 6</td><td>1 = secondary video adapter set to primary</td></tr><tr><td>Bit 5-1</td><td>(reserved)</td></tr><tr><td>Bit 0</td><td>Manufacturing test enable</td></tr><tr><td></td><td>0/1 = disable/enable</td></tr></table></td></tr>
<tr><td>2Ah</td><td>AMI BIOS</td><td>Parking cylinder for user-defined hard disk drive 1 (LSB)</td></tr>
</table>

<table>
<tr><td></td><td>AMI WinBIOS</td><td>Number of sectors for user-defined hard disk drive 1</td></tr>
<tr><td></td><td>HP Vectra</td><td>(reserved)</td></tr>
<tr><td></td><td>Phoenix BIOS</td><td>82335 CC0 Compare register (MSB)</td></tr>
<tr><td></td><td>Award BIOS</td><td>Write-precompensation cylinder for user-defined hard disk drive 0 (MSB)</td></tr>
<tr><td>2Bh</td><td>AMI BIOS</td><td>Parking cylinder for user-defined hard disk drive 1 (MSB)</td></tr>
<tr><td></td><td>AMI WinBIOS</td><td>IDE and Shadow control<table>
<tr><td>Bit 7</td><td>LBA mode</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 6</td><td>IDE Block mode</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 5</td><td>32-bit transfer mode</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 4</td><td>(not used)</td></tr>
<tr><td>Bit 3</td><td>Shadow-RAM DC00-DFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 2</td><td>Shadow-RAM D800-DBFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 1</td><td>Shadow-RAM D400-D7FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 0</td><td>Shadow-RAM D000-D3FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
</table></td></tr>
<tr><td></td><td>HP Vectra</td><td>(reserved)</td></tr>
<tr><td></td><td>Phoenix BIOS</td><td>82335 CC1 Compare register (LSB)</td></tr>
<tr><td></td><td>Award BIOS</td><td>Landing zone for user-defined hard disk drive 0 (LSB)</td></tr>
<tr><td>2Ch</td><td>AMI BIOS</td><td>Number of sectors for user-defined hard disk drive 1</td></tr>
<tr><td></td><td>AMI WinBIOS</td><td>Cache and Shadow control<table>
<tr><td>Bit 7</td><td>External cache</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 6</td><td>Internal cache</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 5</td><td>Shadow-RAM E000-EFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 4</td><td>Shadow-RAM CC00-CFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 3</td><td>Shadow-RAM C800-CBFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 2</td><td>Shadow-RAM C400-C7FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 1</td><td>Shadow-RAM C000-C3FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 0</td><td>Shadow-RAM F000-FFFFh</td></tr>
</table></td></tr>
</table>

		0/1 = disabled/enabled
	HP Vectra	(reserved)
	Compaq	NumLock control Bit 6 NumLock state 0/1 = off/on
	Phoenix BIOS	82335 CC1 Compare register (MSB)
	Award BIOS	Landing zone for user-defined hard disk type 0 (MSB)
2Dh	AMI Hi-Flex BIOS	Configuration byte Bit 7 1 = Weitek coprocessor installed Bit 6 1 = floppy seek at boot Bit 5 Boot sequence 0 = C:, A: 1 = A:, C: Bit 4 Boot speed 0/1 = low/high Bit 3 1 = external cache enabled Bit 2 1 = internal cache enabled Bit 1 1 = Fast Gate-A20 enabled Bit 0 Turbo-switch 0/1 = off/on
	AMI WinBIOS	Configuration byte Bit 7 1 = Weitek coprocessor installed Bit 6 1 = Bootsector virusprotection enabled Bit 5 1 = mouse enabled Bit 4 Password protection 0/1 = setup/allways Bit 3 1 = parity checking enabled Bit 2-1 Boot sequence 00 = C:, A: 01 = A:, C: Bit 0 Turbo-switch 0/1 = off/on
	HP Vectra	(reserved)
	Award	Number of sectors for user-defined hard disk drive 0
2Eh		CMOS checksum for register 10-2Dh (LSB)
2Fh		CMOS checksum for register 10-2Dh (MSB)
30h		Extended memory in KB (LSB)
31h		Extended memory in KB (MSB)
32h		Century byte (in BCD format)
	MCA	CMOS checksum for register 10-31h (LSB)
33h		Information flags Bit 7 Base memory 0 = 512 KB 1 = 640 KB

	Bit 6: 1 = display user message in setup Bit 5-0: (not used)
MCA	CMOS checksum for register 10-31h (MSB)
Phoenix BIOS	CPU register CR0 Bit 4 Bit 4 of CR0
AMI WinBIOS	Information flags Bit 7: 1 = upper 128 KB memory present Bit 6-4: Internal CPU clock frequency 000 = 25 MHz 001 = 33 MHz 010 = 40 MHz 011 = 50 MHz 100 = 60/66 MHz 101 = 75 MHz 110 = 80 MHz 111 = 90/100 MHz Bit 2-1: CPU multiplier 00 = 1x 01 = 2x 10 = 3x 11 = 4x Bit 0: 1 = FlashROM programming activated
Quadtel HT12	Information flags Bit 7: 1 = 640 KB RAM present Bit 6: Extension type (CPU Machine Status Word) Bit 5-2: (unknown) Bit 1: 1 = show welcome message Bit 0: (unknown)
AMI BIOS 121291	Information flags Bit 7: 1 = 640 KB RAM present Bit 6: (not used/unknown) Bit 5-4: Slow RAM refresh option 00 = 15 µs 01 = 30 µs 10 = 60 µs 11 = 120 µs Bit 3: 1 = system BIOS cacheable enabled Bit 2: 1 = video BIOS cacheable enabled Bit 1-0: (not used/unknown)
AMI BIOS 060692	Information flags Bit 7: 1 = 640 KB RAM present Bit 6: (not used/unknown) Bit 5: DRAM write CAS pulse 0 = 1T (20/25 MHz) 1 = 2T (33-50 MHz) Bit 4: (not used/unknown) Bit 3: 1 = automatic configuration enabled Bit 2-0: (not used/unknown)

<table>
<tr><td>34h</td><td>AMI
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<tr><td>Bit 6</td><td>1 = password required at boot</td></tr>
<tr><td>Bit 5</td><td>Shadow-RAM C800-CBFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 4</td><td>1 = slow CPU (under 25 MHz)</td></tr>
<tr><td>Bit 3</td><td>Shadow-RAM D000-D7FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 2</td><td>(not used/unknown)</td></tr>
<tr><td>Bit 1</td><td>Shadow-RAM D800-DFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 0</td><td>1 = system BIOS cacheable enabled</td></tr>
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<tr><td></td><td>AMI
BIOS</td><td>Information flags<table>
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<tr><td></td><td>01 = setup</td></tr>
<tr><td></td><td>10 = (reserved)</td></tr>
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<tr><td>Bit 5</td><td>Shadow-RAM C800-CBFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 4</td><td>Shadow-RAM CC00-CFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 3</td><td>Shadow-RAM D000-D3FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 2</td><td>Shadow-RAM D400-D7FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 1</td><td>Shadow-RAM D800-DBFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 0</td><td>Shadow-RAM DC00-DFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
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<tr><td></td><td>AMI
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<tr><td></td><td>PS/2
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<tr><td>Bit 4-0</td><td>Status of BIOS INT 15h, function 87h</td></tr>
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<tr><td>35h</td><td>AMI
BIOS</td><td>Information flags<table>
<tr><td>Bit 7</td><td>Shadow-RAM E000-E3FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 6</td><td>Shadow-RAM E400-E7FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 5</td><td>Shadow-RAM E800-EBFFh</td></tr>
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<tr><td>Bit 4</td><td>Shadow-RAM EC00-EFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 3</td><td>Shadow-RAM F000-FFFFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 2</td><td>Shadow-RAM C000-C3FFh</td></tr>
<tr><td></td><td>0/1 = disabled/enabled</td></tr>
<tr><td>Bit 1</td><td>Shadow-RAM C400-C7FFh</td></tr>
</table></td></tr>
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		0/1 = disabled/enabled
		Bit 0 (reserved)
	AMI BIOS 121291	Information flags Bit 7 Shadow-RAM E000-E7FFh 0/1 = disabled/enabled Bit 6 (not used/unknown) Bit 5 Shadow-RAM E800-EFFFh 0/1 = disabled/enabled Bit 4 (not used/unknown) Bit 3 1 = automatic configuration enabled Bit 2 Shadow-RAM C000-C7FFh 0/1 = disabled/enabled Bit 1-0 (not used/unknown)
	AMI BIOS 060692	Information flags Bit 7 Shadow-RAM E000-E7FFh 0/1 = disabled/enabled Bit 6 DRAM write cycle 0 = 0 WS (20/25 MHz) 1 = 1 WS (33-50 MHz) Bit 5 Shadow-RAM E800-EFFFh 0/1 = disabled/enabled Bit 4 (not used/unknown) Bit 3 Video cacheable 0/1 = disabled/enabled Bit 2 Shadow-RAM C000-C7FFh 0/1 = disabled/enabled Bit 1-0 (not used/unknown)
	AMI BIOS	Extended memory above 16 MB, in 64 KB blocks (MSB)
	AMI WinBIOS	Extended memory in 64 KB blocks (LSB)
	Phoenix BIOS	Number of cylinders for user-defined hard disk drive 1 (MSB)
	PS/2 MCA	Extended memory in 1 KB blocks (LSB)
36h	AMI BIOS 121291	Information flags Bit 7-6 (not used/unknown) Bit 5-3 ISA bus speed 000 = 7.15 MHz 001 = CLK/2 010 = CLK/3 011 = CLK/4 100 = CLK/5 101 = CLK/6 110 = CLK/8 111 = CLK/10 Bit 2-1 16-bit ISA command wait states 00 = 1 WS

		01 = 2 WS 10 = 3 WS 11 = 4 WS Bit 0 (not used/unknown)
	AMI BIOS 060692	Information flags Bit 7-6 DRAM speed option 00 = slowest 01 = slower 10 = faster 11 = fastest Bit 5 (not used/unknown) Bit 4 Cache read cycle 0 = 1T (20/25 MHz; 33 MHz with 64/256 KB cache) 1 = 2T (40/50 MHz; 33 MHz with 128 KB cache) Bit 3 Cache write cycle 0 = 3T (33-50 MHz) 1 = 2T (20/25 MHz) Bit 2-0 ISA bus speed 000 = 7.15 MHz 001 = CLK/2 010 = CLK/3 011 = CLK/4 100 = CLK/5 101 = CLK/6 110 = CLK/8 111 = CLK/10
	Phoenix BIOS	Number of cylinders for user-defined hard disk drive 1 (MSB)
	Award BIOS	IDE control Bit 7 (unknown) Bit 6 IDE 32-bit transfer mode 0/1 = disabled/enabled Bit 5-0 (unknown)
	AMI WinBIOS	Extended memory in 64 KB blocks (MSB)
	Quadtel HT12	Extended memory (LSB)
	PS/2 MCA	Extended memory in 1 KB blocks (MSB)
37h	MCA	Century byte
	Phoenix BIOS	Number of heads for user-defined hard disk drive 1
	AMI WinBIOS	Bit 7-4 Password initialization Bit 3-0 Color options for the setup program
	Quadtel HT12	Extended memory (MSB)
38h	MCA	Encrypted password
	Phoenix BIOS	Write-precompensation for user-defined hard disk drive 1 (LSB)

<table>
<tr><td></td><td>AMI</td><td>Encrypted password</td></tr>
<tr><td>39h</td><td>Phoenix BIOS</td><td>Write-precompensation for user-defined hard disk drive 1 (MSB)</td></tr>
<tr><td>3Ah</td><td>Phoenix</td><td>Landing zone for user-defined hard disk drive 1 (LSB)</td></tr>
<tr><td>3Bh</td><td>Phoenix</td><td>Landing zone for user-defined hard disk drive 1 (MSB)</td></tr>
<tr><td></td><td>Award BIOS</td><td>Configuration byte<table><tr><td>Bit 7-4</td><td>Color options for the setup program</td></tr><tr><td>Bit 3-1</td><td>(unknown, usually 001)</td></tr><tr><td>Bit 0</td><td>1 = external cache enabled</td></tr></table></td></tr>
<tr><td>3Ch</td><td>Phoenix BIOS</td><td>Number of sectors for user-defined hard disk drive 1</td></tr>
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<tr><td></td><td>Quadtel HT12</td><td>Memory size (LSB)</td></tr>
<tr><td>3Dh</td><td>Quadtel HT12</td><td>Memory size (MSB)</td></tr>
<tr><td>3Eh</td><td>AMI</td><td>Extended CMOS checksum (MSB)</td></tr>
<tr><td></td><td>Award</td><td>Boot configuration<table><tr><td>Bit 7</td><td>Shadow-RAM C000h</td></tr><tr><td></td><td>0/1 = disabled/enabled</td></tr><tr><td>Bit 6-5</td><td>(unknown)</td></tr><tr><td>Bit 4</td><td>1 = swap floppy drives</td></tr><tr><td>Bit 3</td><td>(unknown)</td></tr><tr><td>Bit 2</td><td>1 = ignore floppy drive errors at boot</td></tr><tr><td>Bit 1</td><td>1 = ignore keyboard errors at boot</td></tr><tr><td>Bit 0</td><td>1 = ignore all errors at boot</td></tr></table></td></tr>
<tr><td></td><td>Phoenix BIOS</td><td><table><tr><td>Bit 7</td><td>1 = relocation enabled</td></tr><tr><td>Bit 6-2</td><td>(unknown)</td></tr><tr><td>Bit 1</td><td>1 = Shadow-RAM for video BIOS enabled</td></tr><tr><td>Bit 0</td><td>1 = Shadow-RAM for system BIOS enabled</td></tr></table></td></tr>
<tr><td>3Fh</td><td>AMI</td><td>Extended CMOS checksum (LSB)</td></tr>
</table>