BIOS UPDATES

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BIOS PostCodes
Acer
ALR
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Chips & Technologies
Compaq
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Faraday A-Tease
HP
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Landmark
Microid Research/Mr
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Olivetti
Phillips
Phoenix
Quadtel
Supersoft
Tandon
Zenith

Intel Motherboards:
CA810E
CC820
SE440BX-2
D810E2CB
D810EMO
D815BN
D815EEA
D815EPEA
D820LP
SE440BX
SR440BX
JN440BX
LB440GX/L440GX
N440BX/NA440BX
OR840
T440BX
RC440BX
VC820

Below is a typical CMOS RAM memory map for an AT PC. Under a 128byte ISA compatible CMOS, 16 bytes (00h-0fh) is the real time clock, 32 bytes (10h-3Fh) is the BIOS specific configuration data and 64 bytes (40h-7Fh) is the ESCD (Extended System Configuration Data).

Offset Hex	Offset Dec	Field Size	Function
00h	0	1 byte	RTC seconds. Contains the seconds value of current time
01h	1	1 byte	RTC seconds alarm. Contains the seconds value for the RTC alarm
02h	2	1 byte	RTC minutes. Contains the minutes value of the current time
03h	3	1 byte	RTC minutes alarm. Contains the minutes value for the RTC alarm
04h	4	1 byte	RTC hours. Contains the hours value of the current time
05h	5	1 byte	RTC hours alarm. Contains the hours value for the RTC alarm
06h	6	1 byte	RTC day of week. Contains the current day of the week
07h	7	1 byte	RTC date day. Contains day value of current date
08h	8	1 byte	RTC date month. Contains the month value of current date
09h	9	1 byte	RTC date year. Contains the year value of current date
0Ah	10	1 byte	Status Register A
			Bit 7 = Update in progress (0 = Date and time can be read, 1 = Time update in pro
			Bits 6-4 = Time frequency divider (010 = 32.768KHz
			Bits 3-0 = Rate selection frequency (0110 = 1.024KHz square wave frequency)
0Bh	11	1 byte	Status Register B
			Bit 7 = Clock update cycle (0 = Update normally, 1 = Abort update in progress)
			Bit 6 = Periodic interrupt (0 = Disable interrupt (default), 1 = Enable interrupt)
			Bit 5 = Alarm interrupt (0 = Disable interrupt (default), 1 = Enable interrupt)
			Bit 4 = Update ended interrupt (0 = Disable interrupt (default), 1 = Enable interrup
			Bit 3 = Status register A square wave frequency (0 = Disable square wave (default)
			Bit 2 = 24 hour clock (0 = 24 hour mode (default), 1 = 12 hour mode)
			Bit 1 = Daylight savings time (0 = Disable daylight savings (default), 1 = Enable da
0Ch	12	1 byte	Status Register C - Read only flags indicating system status conditions
			Bit 7 = IRQF flag
			Bit 6 = PF flag
			Bit 5 = AF flag
			Bit 4 UF flag
			Bits 3-0 = Reserved
0Dh	13	1 byte	Status Register D - Valid CMOS RAM flag on bit 7 (battery condition flag)
			Bit 7 = Valid CMOS RAM flag (0 = CMOS battery dead, 1 = CMOS battery power go
			Bit 6-0 = Reserved
0Eh	14	1 byte	Diagnostic Status
			Bit 7 = Real time clock power status (0 = CMOS has not lost power, 1 = CMOS has
			Bit 6 = CMOS checksum status (0 = Checksum is good, 1 = Checksum is bad)
			Bit 5 = POST configuration information status (0 = Configuration information is vali
			Bit 4 = Memory size compare during POST (0 = POST memory equals configuration
			Bit 3 = Fixed disk/adapter initialization (0 = Initialization good, 1 = Initialization ba
			Bit 2 = CMOS time status indicator (0 = Time is valid, 1 = Time is invalid)
			Bit 1-0 = Reserved
0Fh	15	1 byte	CMOS Shutdown Status
			00h = Power on or soft reset
			01h = Memory size pass
			02h = Memory test pass
			03h = Memory test fail
			04h = POST complete; boot system
			05h = JMP double word pointer with EOI
			06h = Protected mode tests pass

			07h = protected mode tests fail
			08h = Memory size fail
			09h = Int 15h block move
			0Ah = JMP double word pointer without EOI
			0Bh = Used by 80386
10h	16	1 byte	Floppy Disk Drive Types
			Bits 7-4 = Drive 0 type
			Bits 3-0 = Drive 1 type
			0000 = None
			0001 = 360KB
			0010 = 1.2MB
			0011 = 720KB
			0100 = 1.44MB
11h	17	1 byte	System Configuration Settings
			Bit 7 = Mouse support disable/enable
			Bit 6 = Memory test above 1MB disable/enable
			Bit 5 = Memory test tick sound disable/enable
			Bit 4 = Memory parity error check disable/enable
			Bit 3 = Setup utility trigger display disable/enable
			Bit 2 = Hard disk type 47 RAM area (0:300h or upper 1KB of DOS area)
			Bit 1 = Wait for <F1> if any error message disable/enable
			Bit 0 = System boot up with Numlock (off/on)
12h	18	1 byte	Hard Disk Types
			Bits 7-4 = Hard disk 0 type
			Bits 3-0 = Hard disk 1 type
			0000 = No drive installed
			0001 = Type 1 installed
			1110 = Type 14 installed
			1111 = Type 16-47 (defined later in 19h)
13h	19	1 byte	Typematic Parameters
			Bit 7 = typematic rate programming disable/enabled
			Bit 6-5 = typematic rate delay
			Bit 4-2 = Typematic rate
14h	20	1 byte	Installed Equipment
			Bits 7-6 = Number of floppy disks (00 = 1 floppy disk, 01 = 2 floppy disks)
			Bits 5-4 = Primary display (00 = Use display adapter BIOS, 01 = CGA 40 column, 1 Adapter)
			Bit 3 = Display adapter installed/not installed
			Bit 2 = Keyboard installed/not installed
			Bit 1 = math coprocessor installed/not installed
			Bit 0 = Always set to 1
15h	21	1 byte	Base Memory Low Order Byte - Least significant byte
16h	22	1 byte	Base Memory High Order Byte - Most significant byte
17h	23	1 byte	Extended Memory Low Order Byte - Least significant byte
18h	24	1 byte	Extended Memory High Order Byte - Most significant byte
19h	25	1 byte	Hard Disk 0 Extended Type - (10h to 2Eh = Type 16 to 46 respectively)
1Ah	26	1 byte	Hard Disk 1 Extended Type - (10h to 2Eh = Type 16 to 46 respectively)
1Bh	27	1 byte	User Defined Drive C: - Number of cylinders least significant byte
1Ch	28	1 byte	User Defined Drive C: - Number of cylinders most significant byte
1Dh	29	1 byte	User Defined Drive C: - Number of heads
1Eh	30	1 byte	User Defined Drive C: - Write precomp cylinder least significant byte
1Fh	31	1 byte	User Defined Drive C: - Write precomp cylinder most significant byte
20h	32	1 byte	User Defined Drive C: - Control byte
21h	33	1 byte	User Defined Drive C: - Landing zone least significant byte
22h	34	1 byte	User Defined Drive C: - Landing zone most significant byte
23h	35	1 byte	User Defined Drive C: - Number of sectors
24h	36	1 byte	User Defined Drive D: - Number of cylinders least significant byte
25h	37	1 byte	User defined Drive D: - Number of cylinders most significant byte
26h	38	1 byte	User Defined Drive D: - Number of heads
27h	39	1 byte	User Defined Drive D: - Write precomp cylinder least significant byte
28h	40	1 byte	User Defined Drive D: - Write precomp cylinder most significant byte
29h	41	1 byte	User Defined Drive D: - Control byte
2Ah	42	1 byte	User Defined Drive D: - Landing zone least significant byte
2Bh	43	1 byte	User Defined Drive D: - Landing zone most significant byte
2Ch	44	1 byte	User Defined Drive D: - Number of sectors
2Dh	45	1 byte	System Operational Flags
			Bit 7 = Weitek processor present/absent
			Bit 6 = Floppy drive seek at boot enable/disable
			Bit 5 = System boot sequence
			Bit 4 = System boot CPU speed high/low
			Bit 3 = External cache enable/disable
			Bit 2 = Internal cache enable/disable
			Bit 1 = Fast gate A20 operation enable/disable
			Bit 0 = Turbo switch function enable/disable
2Eh	46	1 byte	CMOS Checksum High Order Byte - Most significant byte
2Fh	47	1 byte	CMOS Checksum Low Order Byte - Least significant byte
30h	48	1 byte	Actual Extended Memory Low Order Byte - Least significant byte
31h	49	1 byte	Actual Extended Memory High Order Byte - Most significant byte
32h	50	1 byte	Century Date BCD - Value for century of current date
33h	51	1 byte	POST Information Flags
			Bit 7 = BIOS length (64KB/128KB)
			Bit 6-1 = reserved
			Bit 0 = POST cache test passed/failed
34h	52	1 byte	BIOS and Shadow Option Flags
			Bit 7 = Boot sector virus protection disabled/enabled
			Bit 6 = Password checking option disabled/enabled
			Bit 5 = Adapter ROM shadow C800h (16KB) disabled/enabled
			Bit 4 = Adapter ROM shadow CC00h (16KB) disabled/enabled
			Bit 3 = Adapter ROM shadow D000h (16KB) disabled/enabled
			Bit 2 = Adapter ROM shadow D400h (16KB) disabled/enabled
			Bit 1 = Adapter ROM shadow D800h (16KB) disabled/enabled
			Bit 0 = Adapter ROM shadow DC00h (16KB) disabled/enabled
35h	53	1 byte	BIOS and Shadow Option Flags

			Bit 7 = Adapter ROM shadow E000h (16KB) disabled/enabled
			Bit 6 = Adapter ROM shadow E400h (16KB) disabled/enabled
			Bit 5 = Adapter ROM shadow E800h (16KB) disabled/enabled
			Bit 4 = Adapter ROM shadow EC00h (16KB) disabled/enabled
			Bit 3 = System ROM shadow F000h (16KB) disabled/enabled
			Bit 2 = Video ROM shadow C000h (16KB) disabled/enabled
			Bit 1 = Video ROM shadow C400h (16KB) disabled/enabled
			Bit 0 = Numeric processor test disabled/enabled
36h	54	1 byte	Chipset Specific Information
37h	55	1 byte	Password Seed and Color Option
			Bit 7-4 = Password seed (do not change)
			Bit 3-0 = Setup screen color palette
			07h = White on black
			70h = Black on white
			17h = White on blue
			20h = Black on green
			30h = Black on turquoise
			47h = White on red
			57h = White on magenta
			60h = Black on brown
38h-3dh	56-61	6 bytes	Encrypted Password - (do not change)
3Eh	62	1 byte	Extended CMOS Checksum - Most significant byte
3Fh	63	1 byte	Extended CMOS Checksum - Least significant byte
40h	64	1 byte	Model Number Byte
41h	65	1 byte	1st Serial Number Byte
42h	66	1 byte	2nd Serial Number Byte
43h	67	1 byte	3rd Serial Number Byte
44h	68	1 byte	4th Serial Number Byte
45h	69	1 byte	5th Serial Number Byte
46h	70	1 byte	6th Serial Number Byte
47h	71	1 byte	CRC Byte
48h	72	1 byte	Century Byte
49h	73	1 byte	Date Alarm
4Ah	74	1 byte	Extended Control Register 4A
4Bh	75	1 byte	Extended Control register 4B
4Ch	76	1 byte	Reserved
4Dh	77	1 byte	Reserved
4Eh	78	1 byte	Real Time Clock - Address 2
4Fh	79	1 byte	Real Time Clock - Address 3
50h	80	1 byte	Extended RAM Address - Least significant byte
51h	81	1 byte	Extended RAM Address - Most significant byte
52h	82	1 byte	Reserved
53h	83	1 byte	Extended RAM Data Port
54h	84	1 byte	Reserved
55h	85	1 byte	Reserved
56h	86	1 byte	Reserved
57h	87	1 byte	Reserved
58h	88	1 byte	Reserved
59h	89	1 byte	Reserved
5Ah	90	1 byte	Reserved
5Bh	91	1 byte	Reserved
5Ch	92	1 byte	Reserved
5Dh	93	1 byte	Reserved