

CMOS

Setup Procedure

for Dispense System CPU Board PN 2025-0121

CMOS Setup Procedure

Use this procedure to set computer CMOS parameters for dispense system CPU board (PN 2025-0121) with CPU, memory, and fan.

- [1. Activate BIOS/CMOS Setup Utility](#) (pg 1)
- [2. Preset CPU board](#) (pg 2)
- [3. Computer CMOS Parameters](#) (pg 2)
- [4. Save Changes](#) (pg 5)

Revision notes

Date	Version	Notes
06/04/19	1.0	Initial document.
10/09/20	1.1	<ul style="list-style-type: none">Non-default parameters Blastronix 2 and Blastronix 3 changed to IRQ 10.Terminology update: "motherboard" replaced by "CPU board"."Release notes" added.
10/21/20	1.2	<ul style="list-style-type: none">PnP/PCI Configuration IRQ resources for Blastronix 2 and Blastronix 3 changed to IRQ 10.

1. Activate BIOS/CMOS Setup Utility

With the CPU board installed in the dispenser, boot the dispenser and then press the DEL key when you hear the startup beep sound. The BIOS/CMOS setup utility is now activated.

Main Menu

The main menu displays when the BIOS/CMOS setup utility is activated. Examples of all the screens you can select from the main menu are available from the [Screens Appendix](#) (pg 6).

Phoenix - AwardBIOS CMOS Setup Utility	
<ul style="list-style-type: none">▶ Standard CMOS Features▶ Advanced BIOS Features▶ Advanced Chipset Features▶ Integrated Peripherals▶ Power Management Setup▶ PnP/PCI Configurations▶ PC Health Status	<ul style="list-style-type: none">▶ Frequency/Voltage Control<ul style="list-style-type: none">Load Fail-Safe DefaultsLoad Optimized DefaultsSet Supervisor PasswordSet User PasswordSave & Exit SetupExit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item

User Interface

User interface tools are noted at the bottom of each screen of CMOS parameters. Commonly used keys:

arrow keys	moves cursor, highlights values
ENTER	selects highlighted value
+ / -	increases/decreases value
F10	save
ESC	exit current level

2. Preset CPU board

Before proceeding with the [3. Computer CMOS Parameters](#) section, be sure to set the CPU board so it can locate the hard drives:

1. From the main menu, select *Integrated Peripherals* and then press ENTER. [Integrated Peripherals](#) (pg 11) displays.
2. Use the arrow keys to highlight *OnChip IDE Device* and press ENTER to activate the selection. [CPU Feature](#) (pg 9) displays.
3. Highlight *OnChip Serial ATA* using the arrow keys, and then press ENTER.
4. In the On-Chip Serial ATA screen that displays, highlight *Auto*, and then press ENTER.
5. Press ESC to return to the *Integrated Peripherals* screen.
6. Press ESC again to return to the main menu.
7. To save changes, press F10 and then select Y to confirm. The dispenser will boot automatically.
8. When you hear the startup beep sound, press the DEL key.

3. Computer CMOS Parameters

Follow the setup option that applies to your situation:

For this setup option:	do this:
To change only the default parameters that need to be set for proper CPU board operation...	...go to Set Non-Default Parameters (pg 3).
To reset all parameters to the default value...	...use this troubleshooting procedure: Reset Defaults (pg 2).
To verify the parameter values displayed on the monitor are correct...	...compare them to values illustrated under each topic in the Screens Appendix (pg 6).

Reset Defaults

If you need to start over at any time while changing parameter values, you can easily re-establish all original default settings using these simple steps:

1. Use the arrow keys to select (highlight) *Load Optimized Defaults* in main menu.
2. Press ENTER. All settings are reset to the default value.

Set Non-Default Parameters

For the CPU board to operate properly, several parameters need to be set to a non-default value.

HINT: To change a parameter value:

- (1) Use the arrow keys to highlight a parameter.
- (2) Press ENTER to activate the selection.
- (3) Use the arrow keys to highlight the correct parameter and then press ENTER.
- (4) Press ESC to return to the main menu.

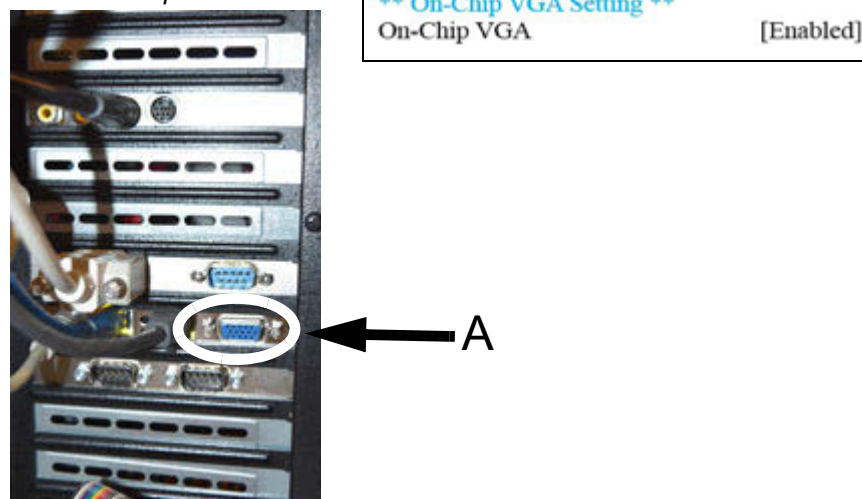
Open the screen specified in each step and change the indicated parameters to the values shown:

1. Change the boot device parameters in [Advanced BIOS Features](#) (pg 9):

First Boot Device	[Floppy]
Second Boot Device	[Hard Disk]
Third Boot Device	[Disabled]

2. If a graphics adapter/VGA card is present, you will need to change the chipset buffer parameter in [Advanced Chipset Features](#) (pg 10); otherwise, leave the default setting and skip to the next step. To determine whether or not a card is present, look at the rear of the computer. If Item A is open (no cable connected), then a graphics adapter/VGA card is present.
 - If graphics adapter/VGA card is **present**, change On-Chip VGA to [Disabled].
 - If graphics adapter/VGA card is **not present** (a cable is connected to Item A), leave On-Chip VGA set to [Enabled].

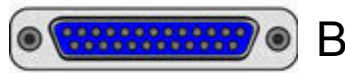
Rear of Computer



- The presence or absence of a parallel port and/or a third Blastronix card may require you to change parameter settings:

Parallel Port - To determine whether or not a parallel port is present, look at the rear of the computer. If item B is absent, then a parallel port is not present and you need to change the parallel port parameter in [SuperIO Device](#) (pg 12).

- If a parallel port is **present**, leave Onboard Parallel Port set to [378/IRQ7].
- If a parallel port is **not present**, change Onboard Parallel Port to [Disabled].



Blastronix Card - To determine whether or not a third Blastronix card is present, look at the rear of the computer. If three instances of item C are present, then three Blastronix cards are present and you need to change the parallel port parameter in [SuperIO Device](#) (pg 12).

- If a third Blastronix card is **present**, change Onboard Parallel Port to [Disabled].
- If a third Blastronix card is **not present**, leave Onboard Parallel Port set to [378/IRQ7].



- Change these values in the [Onboard Device](#) (pg 11) sub-menu

USB 2.0 Controller	[Disabled]
AC97 Audio	[Disabled]

- If the dispenser is equipped with DigiBoard hardware (as evidenced by the presence of an “octopus” [truly “quadpus”] cable), then go to [SuperIO Device](#) (pg 12) and change this parameter to the value shown here; otherwise, skip to the next step.

Onboard Serial Port 2	[Disabled]
-----------------------	------------

- Change the power savings features in [Power Management Setup](#) (pg 13):

Power-Supply Type	[ATX]
ACPI Function	[Disabled]
Video Off Method	[V/H SYNC + Blank]
MODEM Use IRQ	[NA]

- Configure the PCI slots in [IRQ Resources](#) (pg 15):

Resources Controlled By	[Manual]
-------------------------	----------

8. Use the [IRQ Resources](#) (pg 15) sub-menu to change the pertinent parameter(s) using the values shown in Table 1 as a guide.

For example:

- If the dispenser is equipped with a DigiBoard, change IRQ-3 to reserved.
- If the dispenser is equipped with an MEI, change IRQ-11 to reserved.

NOTE: The dispenser may be equipped with various combinations of board hardware to accommodate various functions (scale, ClearVu™ Vision camera, etc.). One, several, or all of the boards in Table 1 may be present on the dispenser.

Table 1: Board Hardware & Associated IRQ Resources

Hardware	IRQ Reservations			
	Description	IRQ Used	Determination	Setting
Blastronix 1	New excess serial ports which add 2 serial ports (ports 3 and 4).	10	Additional serial ports.	Reserved
Blastronix 2	New excess serial ports which add 2 serial ports (ports 5 and 6).	10	More additional serial ports.	Reserved
Blastronix 3	New excess serial ports which add 2 serial ports (ports 7 and 8). NOTE: Requires that Onboard Parallel Port (SuperIO Device) be disabled.	10	Even more additional serial ports.	Reserved
DigiBoard	Old, excess serial ports that replaced serial port 2 with 4 serial ports (ports 2 through 5). This hardware is replaced by Blastronix card(s). NOTE: Requires that Onboard Serial Port 2 (SuperIO Device) be disabled.	3	Octopus-like (“quadpus”) cable.	Reserved
MEI	Old motion controller replaced by Precise Automation Controller.	11	Double ribbon cable.	Reserved
Ziatech	Old digital I/O controller replaced by FieldBus I/O.	5	Rainbow-colored ribbon cable.	Reserved

4. Save Changes

To save changes, press F10 and then select Y to confirm. The dispenser will boot automatically.

Screens Appendix

- [Main Menu](#) (pg 6)
- [Standard CMOS Features](#) (pg 7)
 - [IDE Channel 0 Master](#) (pg 7)
 - [IDE Channel 0 Slave](#) (pg 8)
 - [IDE Channel 1 Master](#) (pg 8)
 - [IDE Channel 1 Slave](#) (pg 8)
- [Advanced BIOS Features](#) (pg 9)
 - [CPU Feature](#) (pg 9)
 - [Hard Disk Boot Priority](#) (pg 9)
- [Advanced Chipset Features](#) (pg 10)
- [Integrated Peripherals](#) (pg 11)
 - [OnChip IDE Device](#) (pg 11)
 - [Onboard Device](#) (pg 11)
 - [SuperIO Device](#) (pg 12)
- [Power Management Setup](#) (pg 13)
- [PnP/PCI Configuration](#) (pg 14)
 - [IRQ Resources](#) (pg 15)
 - [DMA Resources](#) (pg 16)
- [PC Health Status](#) (pg 17)
- [Frequency/Voltage Control](#) (pg 18)

Main Menu

Phoenix - AwardBIOS CMOS Setup Utility	
<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item

Standard CMOS Features

NOTE: The data displayed in the various *IDE Channel* parameters may vary from system to system.

Standard CMOS Features		Item Help
Date (mm:dd:yy)	Tue, Jun 14 2011	Menu Level ▶ Change the day, month, year and century
Time (hh:mm:ss)	6 : 58 : 51	
▶ IDE Channel 0 Master	[varies with model]	
▶ IDE Channel 0 Slave	[NONE]	
▶ IDE Channel 1 Master	[varies with model]	
▶ IDE Channel 1 Slave	[NONE]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Disk/Key]	
Base Memory	640K	
Extended Memory	522240K	
Total Memory	523264K	

IDE Channel 0 Master

This screen is a sub-menu of [Standard CMOS Features](#) (pg 7).

IDE Channel 0 Master		Item Help
IDE HDD Auto-Detection	[Press Enter]	Menu Level ▶ To auto-detect the HDD's size, head... on this channel
IDE Channel 0 Master Access Mode	[Auto] [LBA]	
Capacity	160 GB	
Cylinder	9729	
Head	255	
Precomp	0	
Landing Zone	38308	
Sector	63	

IDE Channel 0 Slave

This screen is a sub-menu of [Standard CMOS Features](#) (pg 7).

IDE Channel 0 Slave		Item Help
IDE HDD Auto-Detection	[Press Enter]	
IDE Channel 0 Slave Access Mode	[Auto]	Menu Level ▶
Capacity	0 MB	To auto-detect the HDD's size, head... on this channel
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	

IDE Channel 1 Master

This screen is a sub-menu of [Standard CMOS Features](#) (pg 7).

IDE Channel 1 Master		Item Help
IDE HDD Auto-Detection	[Press Enter]	
IDE Channel 1 Master Access Mode	[Auto]	Menu Level ▶▶
Access Mode	[LBA]	
Capacity	80 MB	To auto-detect the HDD's size, head... on this channel
Cylinder	9729	
Head	255	
Precomp	0	
Landing Zone	38308	
Sector	63	

IDE Channel 1 Slave

This screen is a sub-menu of [Standard CMOS Features](#) (pg 7).

IDE Channel 1 Slave		Item Help
IDE HDD Auto-Detection	[Press Enter]	
IDE Channel 1 Slave Access Mode	[Auto]	Menu Level ▶▶
Access Mode	[Auto]	
Capacity	0	To auto-detect the HDD's size, head... on this channel
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	

Advanced BIOS Features

Advanced BIOS Features		Item Help
▶ CPU Feature	[Press Enter]	
▶ Hard Disk Boot Priority	[Press Enter]	
Virus Warning	[Disabled]	Menu Level ▶
CPU L1 & L2 Cache	[Enabled]	
Hyper-Threading Technology	[Enabled]	
P4-M Support	[Disabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[Disabled]	
Boot Other Device	[Disabled]	
Swap Floppy Drive	[Disabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[Off]	
x Gate A20 Option	[Fast]	
x Typematic Rate Setting	[Disabled]	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	Enabled	
MPS Version Control For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
Small Logo (EPA) Show	[Auto]	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

CPU Feature

This screen is a sub-menu of [Advanced BIOS Features](#) (pg 9).

CPU Feature		Item Help
Delay Prior to Thermal	[16 Min]	
Thermal Management	Thermal Monitor 1	Menu Level ▶▶

Hard Disk Boot Priority

This screen is a sub-menu of [Advanced BIOS Features](#) (pg 9).

Hard Disk Boot Priority		Item Help
1. Ch0 M. :	(varies with computer)	
2. Ch1 M. :	(varies with computer)	
3. Bootable Add-in Cards		Menu Level ▶▶
		Use <↑> or <↓> to select a device, then press <=> to move it up, or <> to move it down the list. Press <ESC> to exit this menu.

Advanced Chipset Features

Enter the value associated with the answer to each question as it applies to your situation:

Table 2: Decision Table

Decisions Needed		Applicable Value	
Question	Answer	IRQ Affected	Setting
Is VGA/graphics card hardware present?	Yes	Init Display First	PCI Slot
		On-Chip VGA	Disabled
		On-Chip Frame Buffer Size	16MB (automatic)
	No	Init Display First	Onboard/AGP
		On-Chip VGA	Enabled
		On-Chip Frame Buffer Size	8MB

Advanced Chipset Features

		Item Help
DRAM Timing Selectable	[By SPD]	
x CAS Latency Time	2.5	
x Active to Precharge Delay	7	
x DRAM RAS# to CAS# Delay	3	
x DRAM RAS# Precharge	3	
Memory Frequency For	[Auto]	
System BIOS Cacheable	[Enabled]	
Video BIOS Cacheable	[Disabled]	
Memory Hole At 15M-16M	[Disabled]	
AGP Aperture Size (MB)	[128]	
Init Display First	Refer to Decision Table	
** On-Chip VGA Setting **		
On-Chip VGA	Refer to Decision Table	
x On-Chip Frame Buffer Size	Refer to Decision Table	
Boot Display	[Auto]	
		Menu Level ▶

Integrated Peripherals

Integrated Peripherals		Item Help
▶ OnChip IDE Device	[Press Enter]	
Onboard Device	[Press Enter]	
SuperIO Device	[Press Enter]	
		Menu Level ▶

OnChip IDE Device

This screen is a sub-menu of [Integrated Peripherals](#) (pg 11).

OnChip IDE Device		Item Help
IDE HDD Block Mode	[Enabled]	
On-Chip Primary PCI IDE	[Enabled]	
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
** On-Chip Serial ATA Setting **		
SATA Mode	IDE	
x On-Chip Serial ATA	[Auto]	
Serial ATA Port0 Mode	Primary Master	
x Serial ATA Port1 Mode	Primary Slave	
		Menu Level ▶▶
		If your IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support

Onboard Device

This screen is a sub-menu of [Integrated Peripherals](#) (pg 11).

Onboard Device		Item Help
USB Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
AC97 Audio	[Disabled]	
I82562ET LAN(10/100M)	[Disabled]	
		Menu Level ▶▶

SuperIO Device

This screen is a sub-menu of [Integrated Peripherals](#) (pg 11).

NOTE: The value for the *Onboard Serial Port 2* parameter depends on whether or not your dispenser is equipped with DigiBoard hardware (scale, ClearVu™ Vision camera, etc.).

Enter the value associated with the answer to each question as it applies to your situation:

Table 3: Decision Table

Decisions Needed		Applicable Value	
Question	Answer	Setting	IRQ Affected
Is DigiBoard hardware present?	Yes	Onboard Serial Port 2	Disabled
	No		2F8/IRQ3
Is parallel port hardware present?	Yes	Onboard Parallel Port	378/IRQ7
	No		Disabled

SuperIO Device		Item Help
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	Refer to Decision Table	
x UART Mode Select	Normal	Menu Level ▶▶
x Rx/D, Tx/D Active	Hi, Lo	
x IR Transmission Delay	Enabled	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	Refer to Decision Table	
x Parallel Port Mode	SPP	
x EPP Mode Select	EPP1.7	
x ECP Mode Use DMA	3	
PWRON After PWR-Fail	[On]	

Power Management Setup

Power Management Setup

		Item Help
Power-Supply Type	[ATX]	
ACPI Function	[Disabled]	
ACPI Suspend Type	[S1(Pos)]	
x Run VGABIOS if S3 Resume	[Auto]	Menu Level ▶
Power Management	[User Defined]	
Video Off Method	[V/H SYNC + Blank]	
Video Off In Suspend	[No]	
Suspend Type	[Stop Grant]	
MODEM Use IRQ	[NA]	
Suspend Mode	[Disabled]	
HDD Power Down	[Disabled]	
Soft-Off by PWR-BTTN	[Instant-Off]	
Wake Up On LAN	[Enabled]	
Power On by Ring	[Enabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	0	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
** Reload Global Timer Events **		
Primary IDE 0	[Disabled]	
Primary IDE 1	[Disabled]	
Secondary IDE 0	[Disabled]	
Secondary IDE 1	[Disabled]	
FDD, COM, LPT Port	[Disabled]	
PCI PIRQ[A-D]#	[Disabled]	

PnP/PCI Configuration

PNP/PCI Configurations		Item Help
PNP OS Installed	[No]	
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Manual]	
▶ IRQ Resources	[Press Enter]	
▶ DMA Resources	[Press Enter]	
PCI/VGA Palette Snoop	[Disabled]	
		<p>Menu Level ▶</p> <p>Select Yes if you are using a Plug and Play capable of operating system Select No if you need the BIOS to configure non-boot devices</p>

IRQ Resources

This screen is a sub-menu of [PnP/PCI Configuration](#) (pg 14).

NOTE: The value for the *IRQ-3 assigned to* parameter depends on whether or not your dispenser is equipped with Blastronix, DigiBoard, or other hardware (scale, ClearVu™ Vision camera, etc.).

Enter the value associated with the answer to each question as it applies to your situation:

Table 4: Decision Table

Decisions Needed		Applicable Value	
Question	Answer	IRQ Affected	Setting
Is Blastronix 1 hardware present?	Yes	IRQ-10 assigned to	Reserved
	No		PCI Device
Is Blastronix 2 hardware present?	Yes	IRQ-10 assigned to	Reserved
	No		PCI Device
Is Blastronix 3 hardware present?	Yes	IRQ-10 assigned to	Reserved
	No		PCI Device
Is DigiBoard hardware present?	Yes	IRQ-3 assigned to	Reserved
	No		PCI Device
Is MEI hardware present?	Yes	IRQ-11 assigned to	Reserved
	No		PCI Device
Is Ziatech hardware present?	Yes	IRQ-5 assigned to	Reserved
	No		PCI Device

IRQ Resources

IRQ-3 assigned to IRQ-4 assigned to IRQ-5 assigned to IRQ-7 assigned to IRQ-9 assigned to IRQ-10 assigned to IRQ-11 assigned to IRQ-12 assigned to IRQ-14 assigned to IRQ-15 assigned to	Refer to Decision Table Refer to Decision Table Refer to Decision Table Refer to Decision Table Refer to Decision Table Refer to Decision Table [PCI Device] [PCI Device] [PCI Device] [PCI Device]	<p style="text-align: center;">Item Help</p> Menu Level ▶▶ Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard
---	--	--

DMA Resources

This screen is a sub-menu of [PnP/PCI Configuration](#) (pg 14).

DMA Resources		Item Help
DMA-0 assigned to	[PCI/ISA PnP]	
DMA-1 assigned to	[PCI/ISA PnP]	
DMA-3 assigned to	[PCI/ISA PnP]	
DMA-5 assigned to	[PCI/ISA PnP]	
DMA-6 assigned to	[PCI/ISA PnP]	
DMA-7 assigned to	[PCI/ISA PnP]	
		Menu Level ▶ To auto-detect the HDD's size, head... on this channel

PC Health Status

PC Health Status		Item Help
System Temperature	33° C	
CPU Temperature	44° C	
VCore (From VID)	1.52 V	
+1.5 V	1.50 V	
+3.3 V	3.42 V	
+5 V	5.10 V	
+12 V	12.46 V	
-12 V	-12.96 V	
Fan 1 Speed	0 RPM	
Fan 2 Speed	4963 RPM	
		Menu Level ▶

Frequency/Voltage Control

Frequency/Voltage Control		Item Help
Auto Detect DIMM/PCI Clk	[Enabled]	
Spread Spectrum	[Disabled]	Menu Level ▶