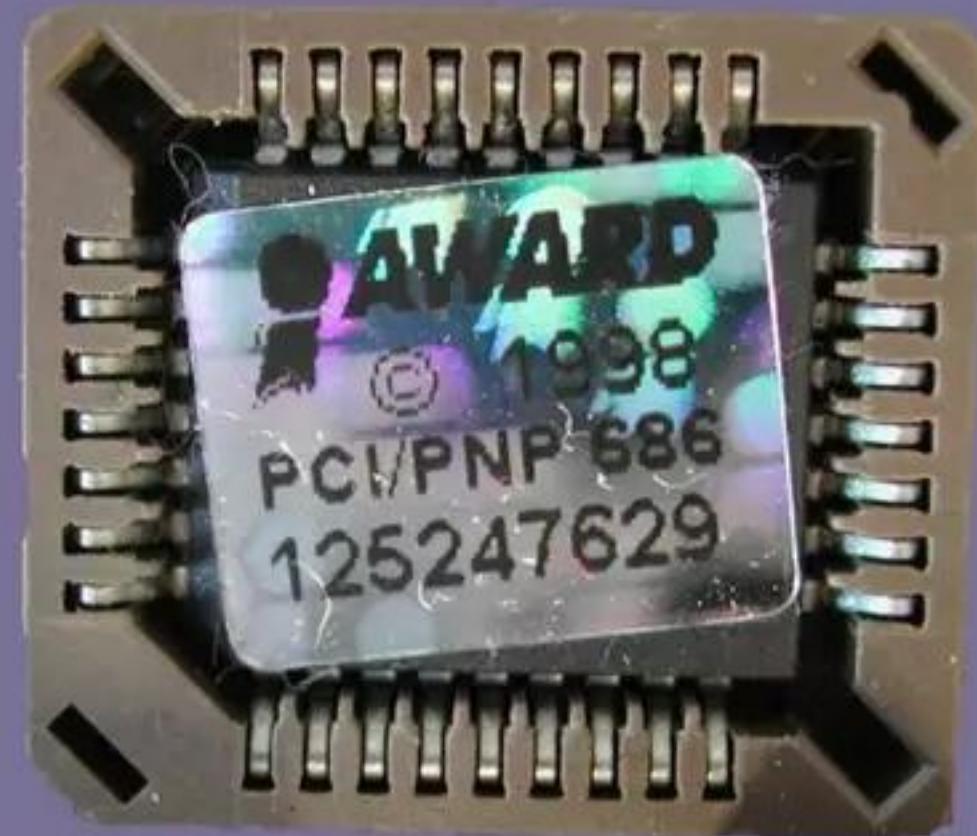
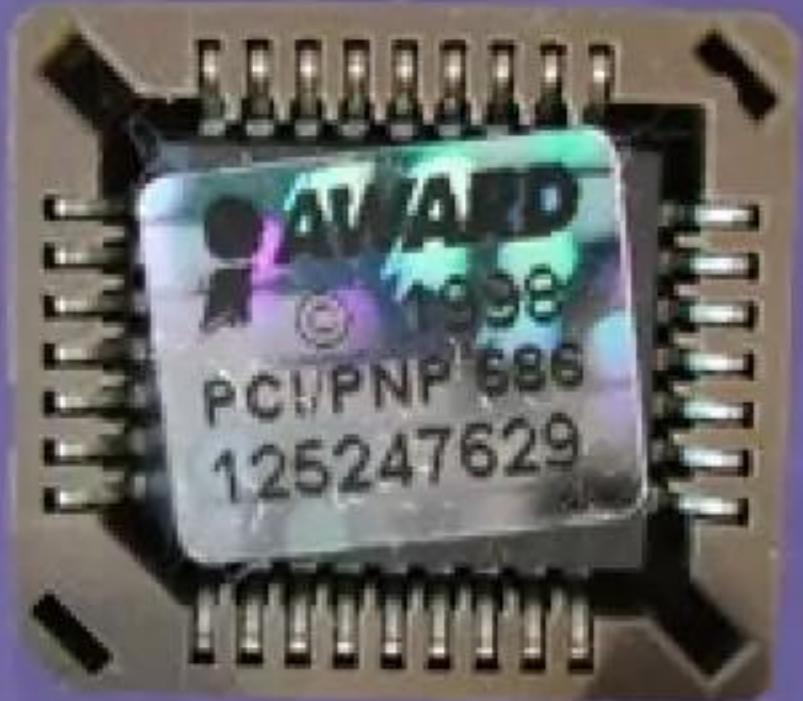


JBios



Basic Input and Output System

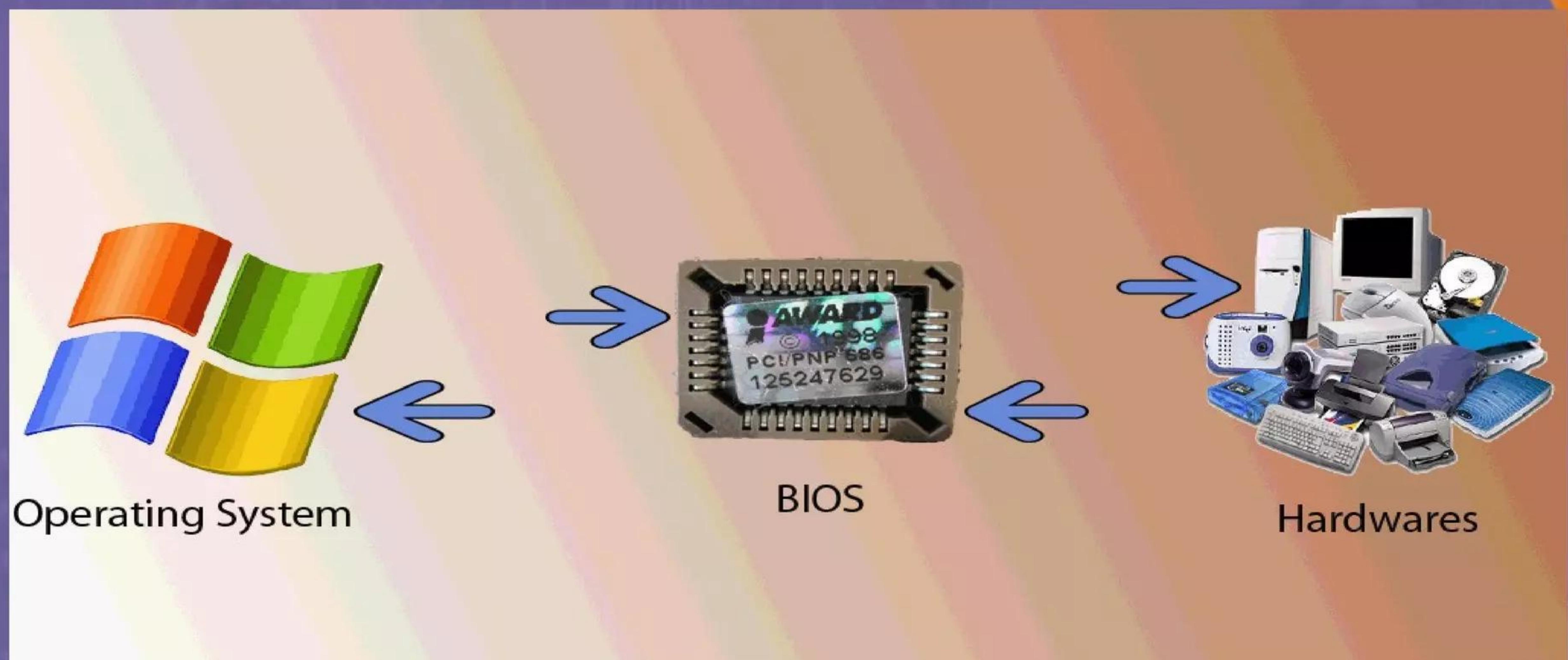
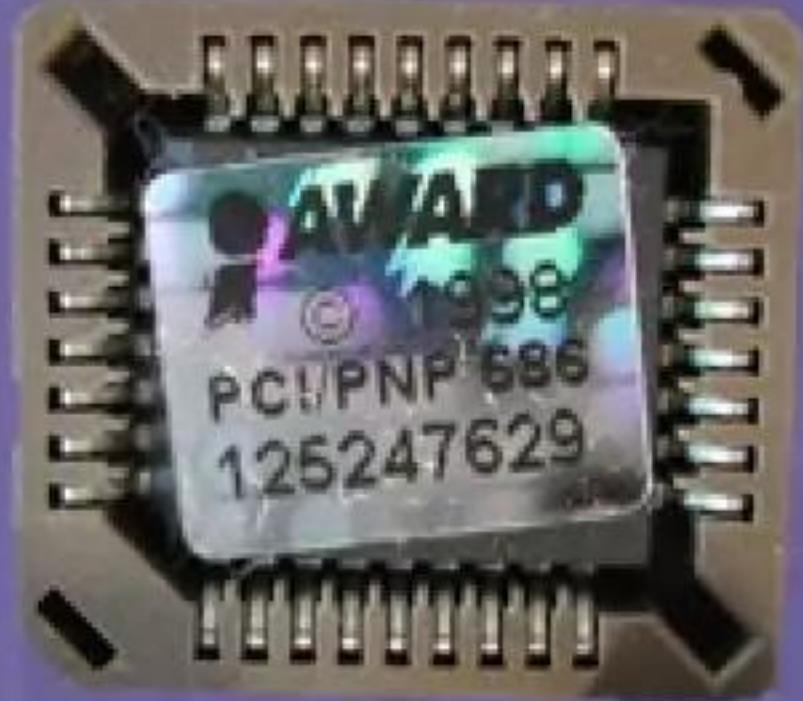




What is Bios?

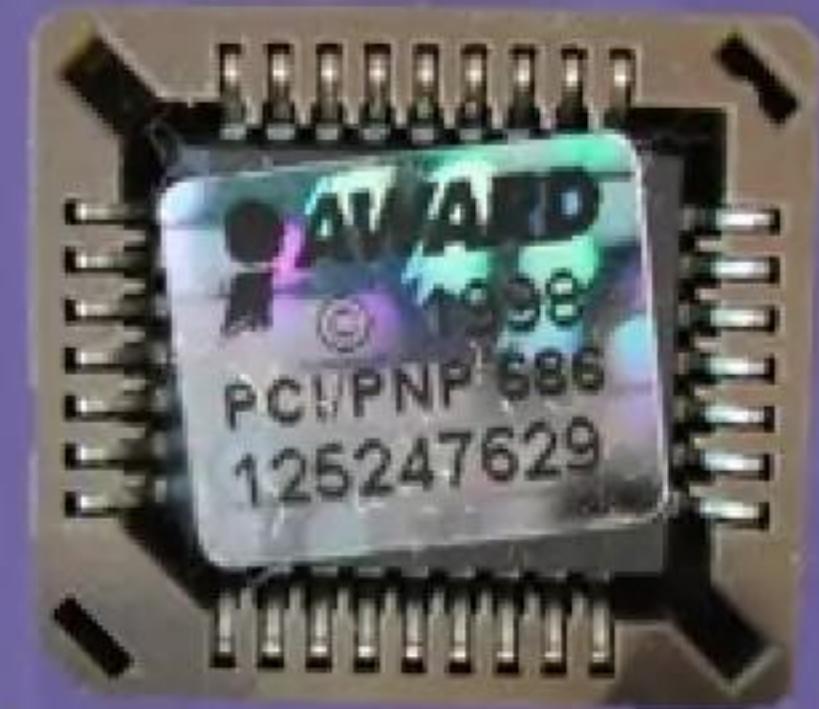
The BIOS is boot firmware, designed to be the first code run by a PC when powered on. The initial function of the BIOS is to identify, test, and initialize system devices such as the video display card, hard disk, floppy disk and other hardware. The BIOS sets the machine hardware into a known state, so that software stored on compatible media can be loaded, executed, and given control of the PC.

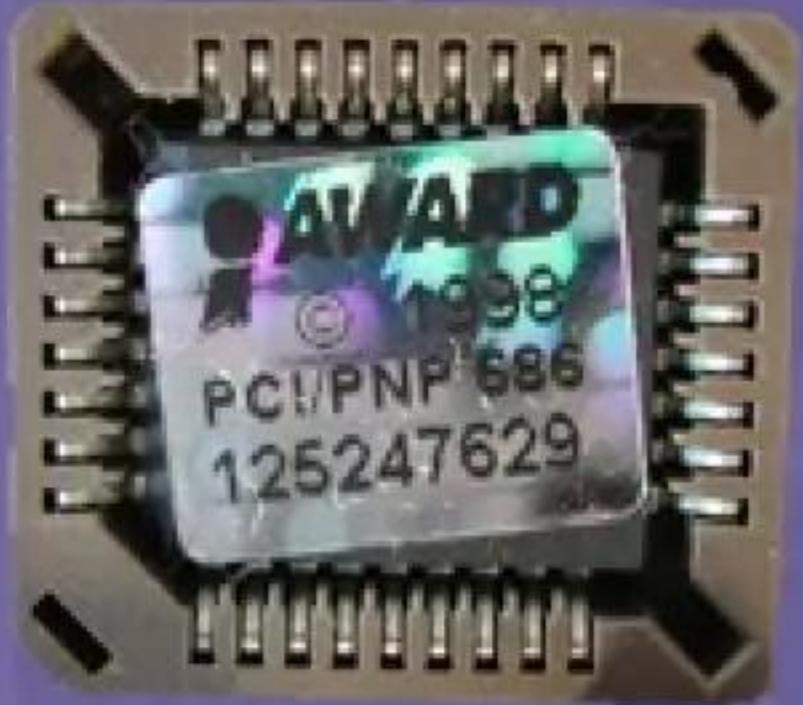
Bios as interface between OS and Hardware



The BIOS in a PC comes from three possible sources:

- Motherboard ROM
- Adapter card ROM (such as that found on a video card)
- Loaded into RAM from disk (device drivers)

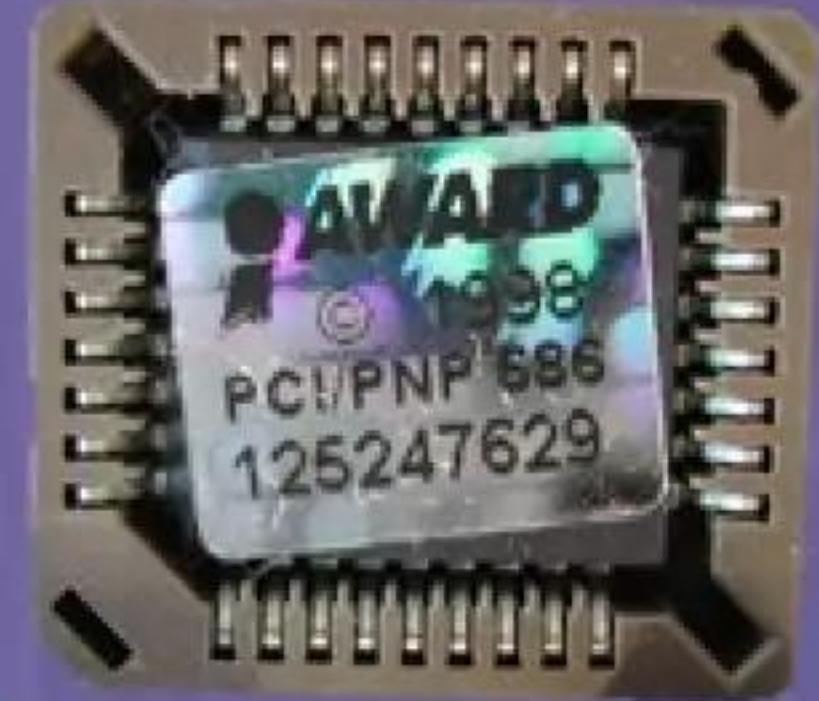




Motherboard Bios

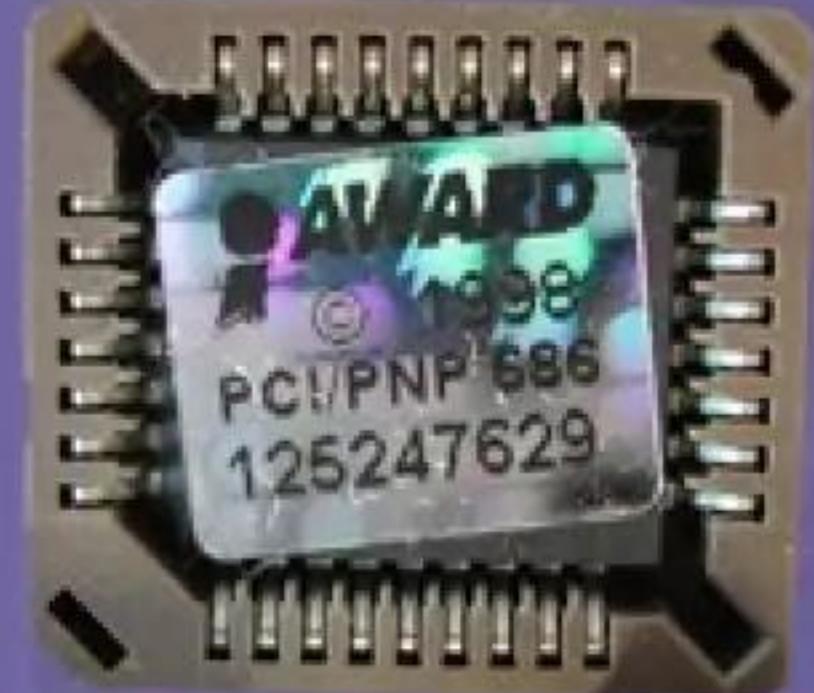
All motherboards must have a special chip containing software called the ROM BIOS. This ROM chip contains the startup programs and drivers used to get the system running and act as the interface to the basic hardware in the system. When you turn on a system, the power on self test (POST) in the BIOS also tests the major components in the system. Additionally, you can run a setup program to store system configuration data in the CMOS memory, which is powered by a battery on the motherboard. This CMOS RAM is often called NVRAM (nonvolatile RAM) because it runs on about 1 millionth of an amp of electrical current and can store data for years when powered by a tiny lithium battery.

Functions of Bios

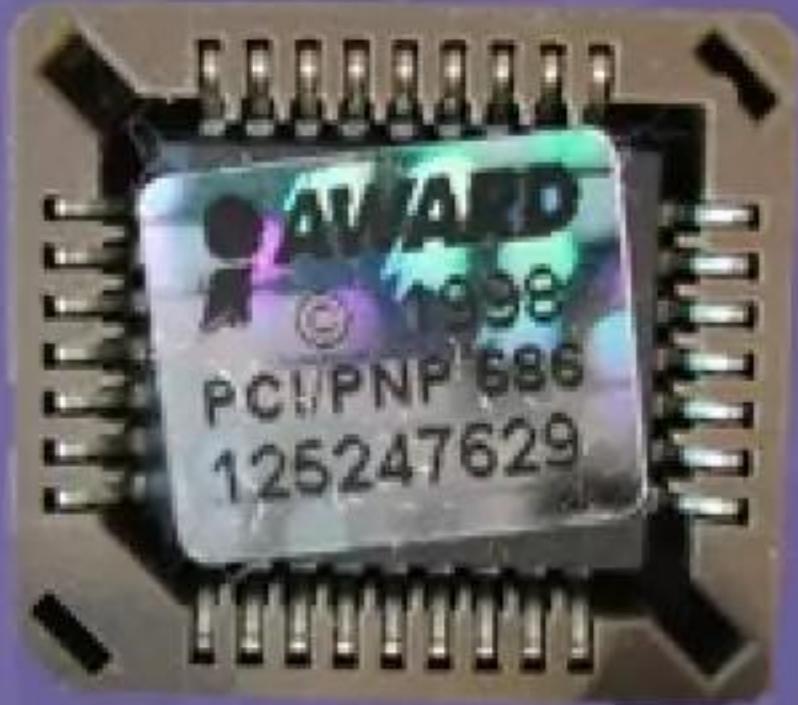


POST (power on self test).

The POST tests your computer's processor, memory, chipset, video adapter, disk controllers, disk drives, keyboard, and other crucial components.

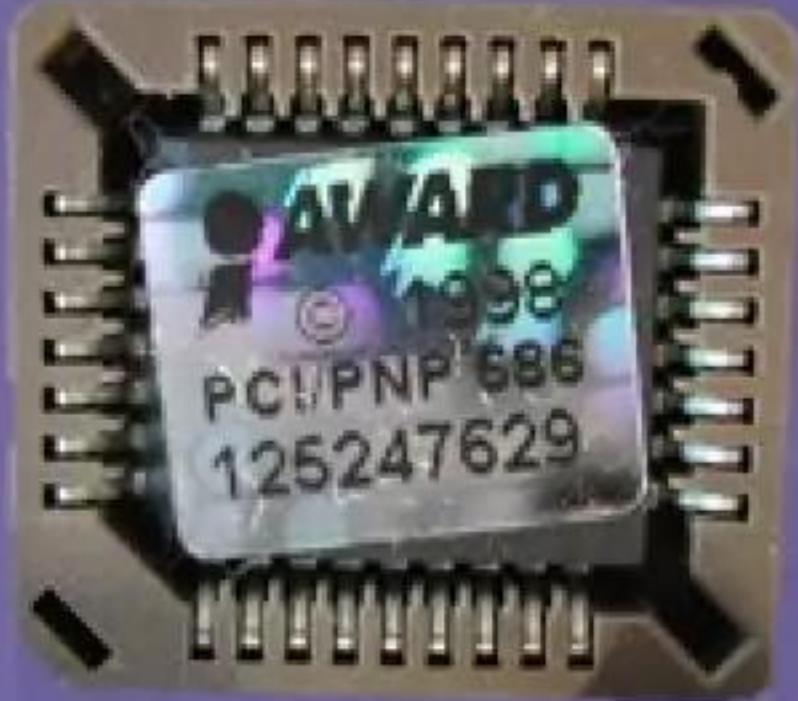


Setup



The system configuration and setup program is usually a menu-driven program activated by pressing a special key during the POST, and it enables you to configure the motherboard and chipset settings along with the date and time, passwords, disk drives, and other basic system settings. You also can control the power-management settings and boot-drive sequence from the BIOS Setup, and on some systems, you can also configure CPU timing and clock-multiplier settings.

Setup Screen



Phoenix - AwardBIOS

Main Advanced Power Boot Exit

System Time

15:39:41

System Date

Sun, 03/ 7/2010

Language

[English]

Floppy Diskette A:

[Not Installed]

► 1st Drive

[ST332041BAS]

► 2nd Drive

[HL-DT-ST DVD-RAM GH4]

► 3rd Drive

[None]

► 4th Drive

[None]

Installed Memory

2048MB/PC2-6400

Memory Bank 1

2048MB/DDR2 SDRAM

Memory Bank 2

Not Installed

BIOS Revision

5.22 05/07/2009

Core Version

6.0

Model Number

CQ3050IL

Product Number

KY652AA-ACJ

Build ID

44APfdBNR1+

Item Help

<TAB> or <Enter>
selects field.

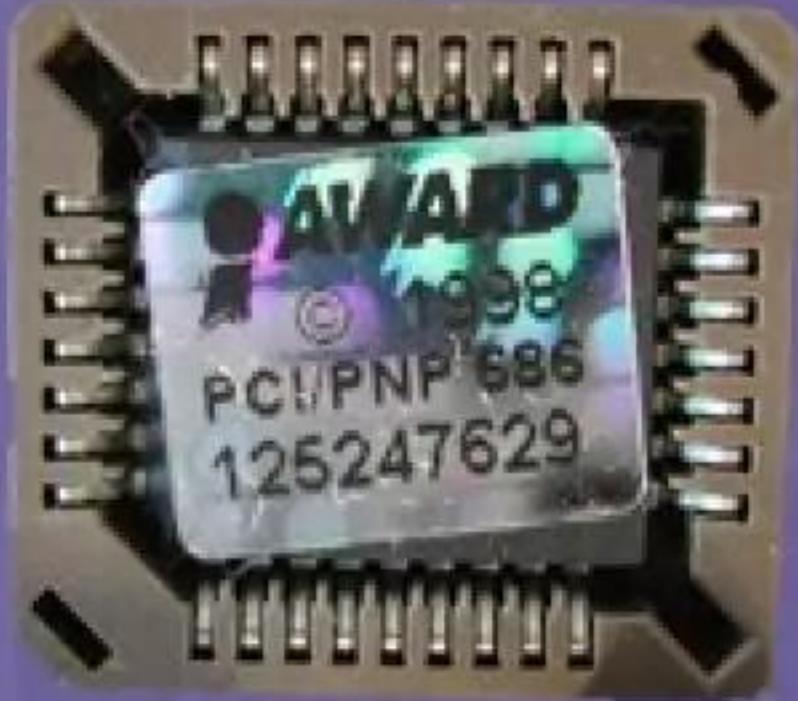
F1:Help

F5:Setup Defaults

F10:Save and Exit

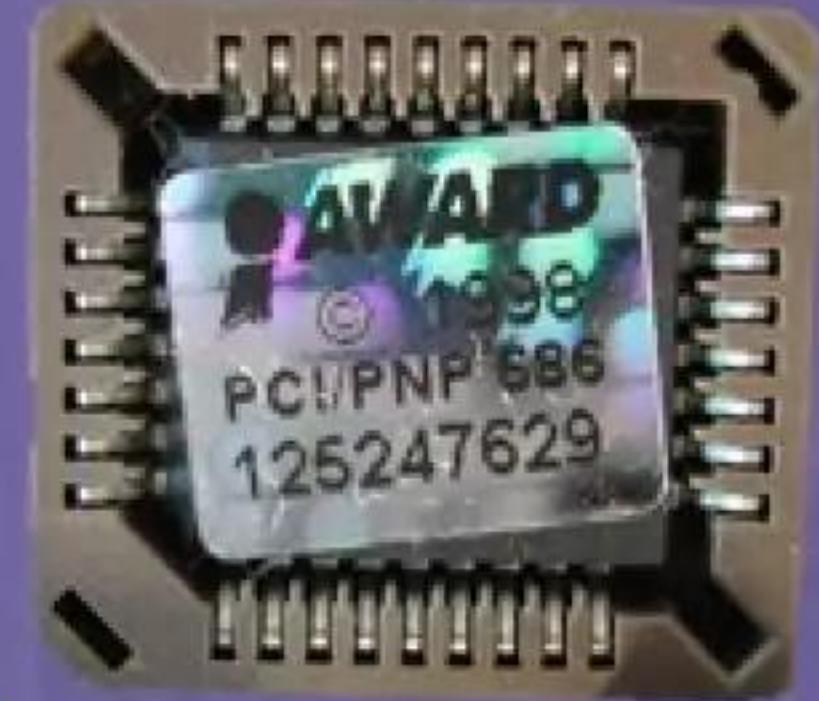
ESC:Exit

Bootstrap loader



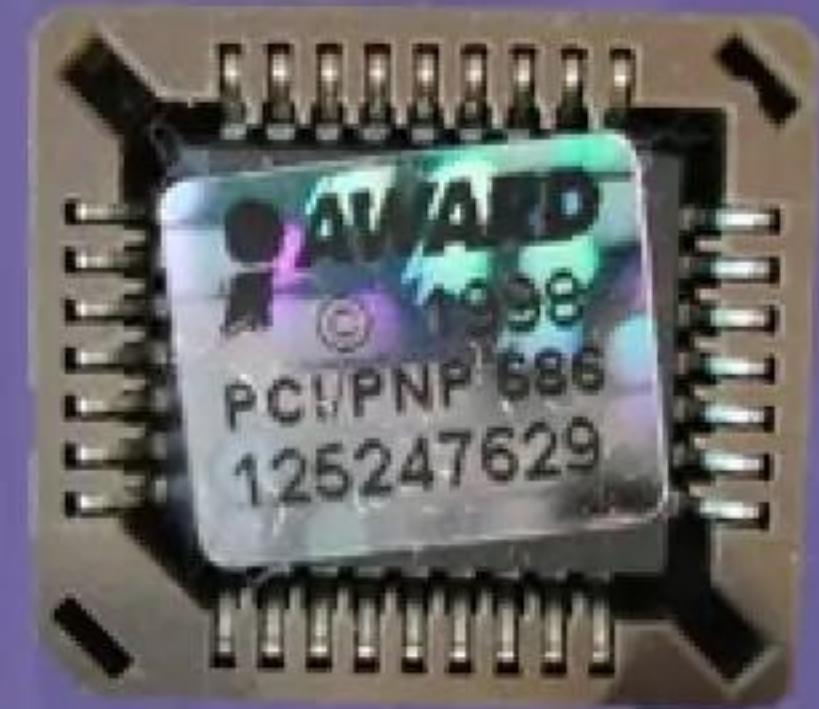
A routine that reads the first physical sector of various disk drives looking for a valid master boot record (MBR). If one meeting certain minimum criteria (ending in the signature bytes 55AAh) is found, the code within is executed. The MBR program code then continues the boot process by reading the first physical sector of the bootable volume, which is the start of the volume boot record (VBR).

Types of Bios

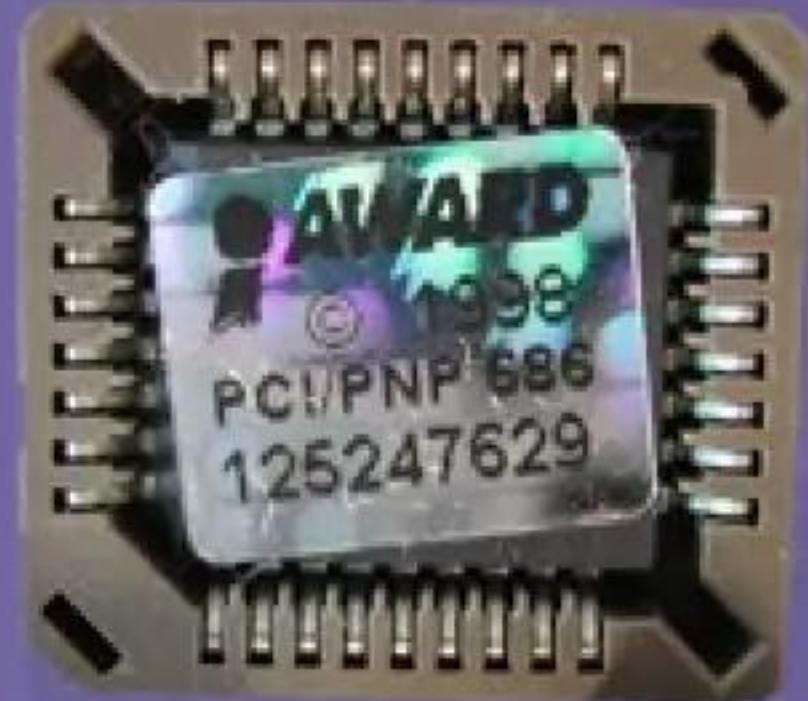
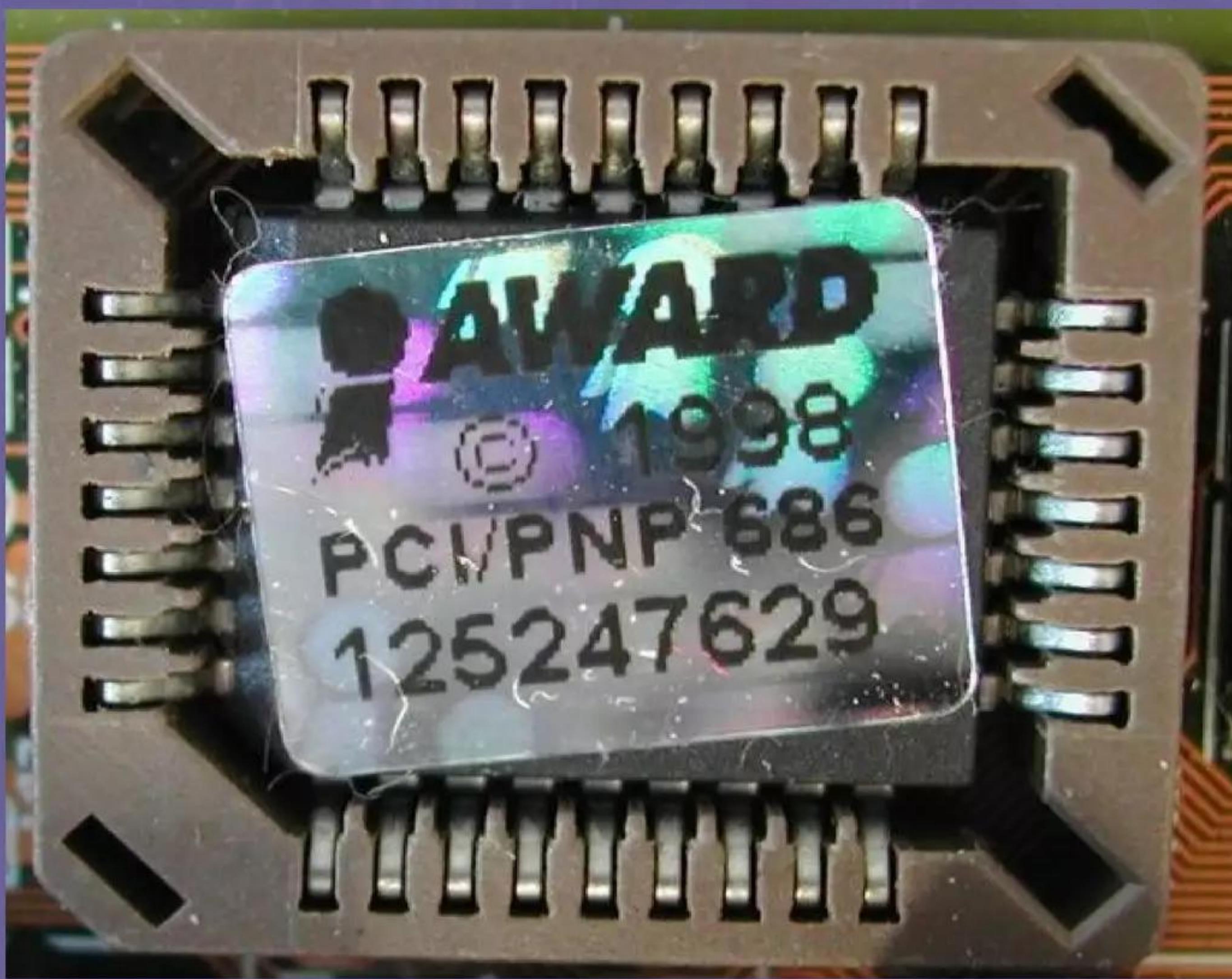


- Amibios
- Awardbios
- Flashbios

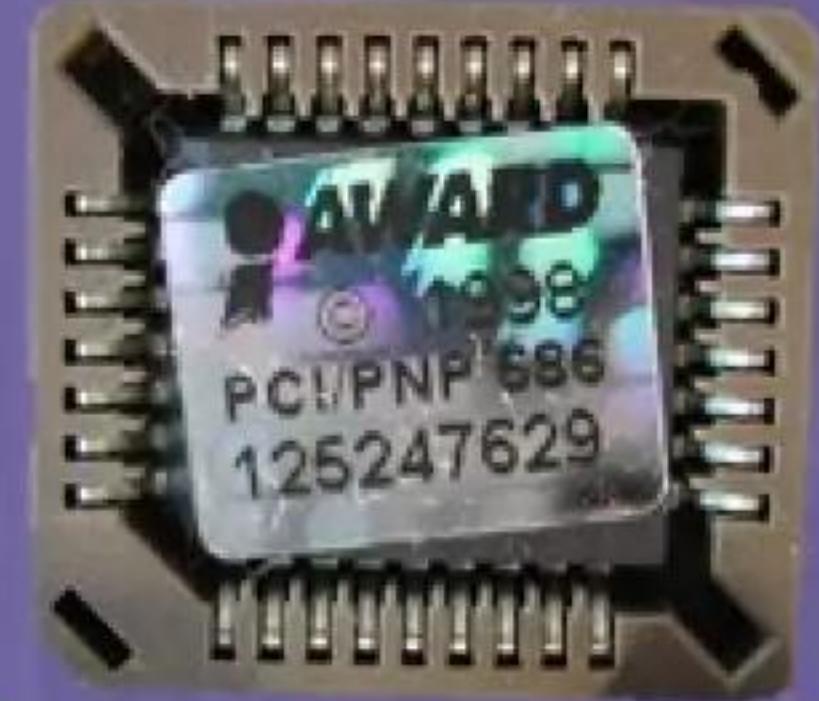
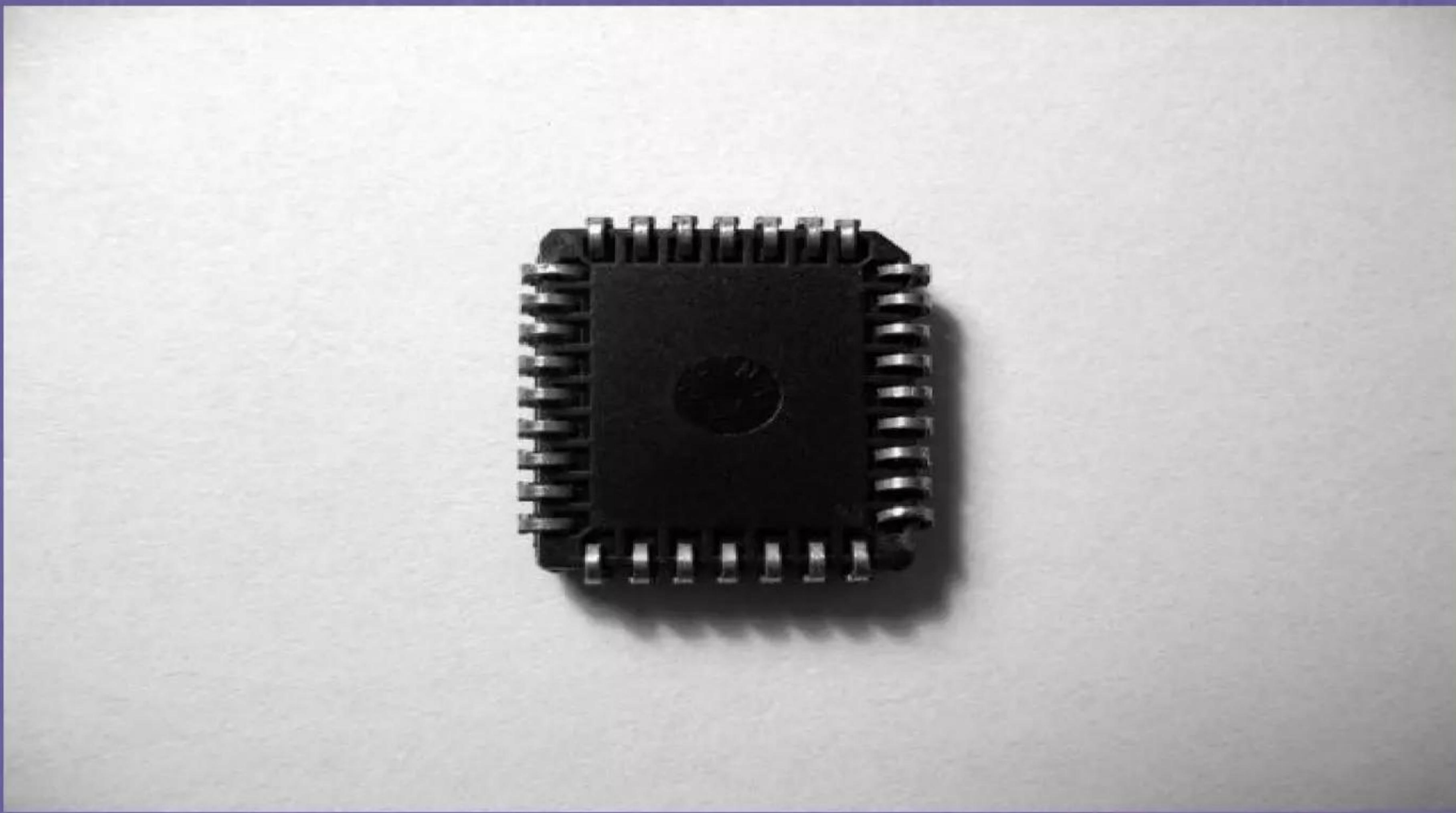
Ambios

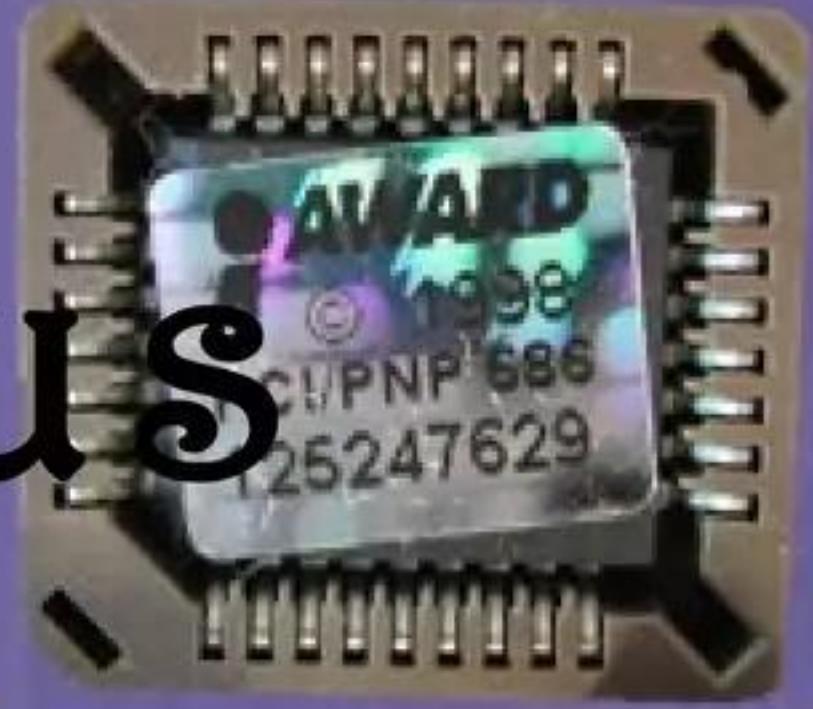


Awardbios



Flashbios





Typical BIOS Setup Menus

- Maintenance
- Main
- Advanced
- Security
- Power
- Boot
- Exit



Main

Phoenix - AwardBIOS

Main Advanced Power Boot Exit

System Time
System Date

15:39:41
Sun, 03/ 7/2010

Item Help

Language

[English]

Floppy Diskette A:

[Not Installed]

<TAB> or <Enter>
selects field.

- 1st Drive
- 2nd Drive
- 3rd Drive
- 4th Drive

[ST3320418AS]
[HL-DT-ST DVD-RAM GH4]
[None]
[None]

Installed Memory

2048MB/PC2-6400

Memory Bank 1

2048MB/DDR2 SDRAM

Memory Bank 2

Not Installed

BIOS Revision

5.22 05/07/2009

Core Version

6.0

Model Number

CQ3050IL

Product Number

KY652AA-ACJ

Build ID

44APfdBNR1+

F1:Help

F5:Setup Defaults

F10:Save and Exit

ESC:Exit

Allocates resources for hardware components.



Advanced

Phoenix - AwardBIOS

Main Advanced Power Boot Exit

Setup Warning

Setting items on this menu to incorrect values
may cause your system to malfunction

CPU Type

Intel(R) Core(TM)2 Duo CPU

E7400 @ 2.80GHz

CPU Speed

2.80GHz/1066MHz

Cache RAM

3072KB

Primary Video Adapter

[PCI]

DVMT Mode Select

[DVMT]

DVMT/Fixed Memory Size

[128MB]

PS/2 Mouse

[Auto Detect]

SATA1 Controller

[Enabled]

Onboard LAN

[Enabled]

Onboard LAN Boot ROM

[Disabled]

Supervisor Password

Disabled

User Password

Disabled

Onboard Audio

[Auto]

Item Help

<Enter> to select.

F1:Help

F5:Setup Defaults

F10:Save and Exit

ESC:Exit



Power

Phoenix - AwardBIOS

Main Advanced Power Boot Exit

After AC Power Failure
XD(Execute Disable)

[Stay Off]
[Enabled]

Item Help

Sets the mode of operation if an AC Power Loss occurs.

[Stay Off] keeps the power off until the power button is pressed.

[Power On] restores power as soon as AC is applied.

[Auto] restarts computer if it was on before power failure, stays off otherwise.

F1:Help

F5:Setup Defaults

F10:Save and Exit

ESC:Exit



Boot

Phoenix - AwardBIOS

Main Advanced Power Boot Exit

- ▶ Boot-time Diagnostic Screen
- ▶ Boot Device Priority

[Disabled]

Item Help

Display the diagnostic screen during boot.

F1:Help

F5:Setup Defaults

F10:Save and Exit

ESC:Exit



Exit

Phoenix - AwardBIOS

Main Advanced Power Boot Exit

Exit Saving Changes

Exit Discarding Changes

Load Setup Defaults

Discard Changes

Save Changes

Item Help

Exits setup utility
and save your changes
to CMOS.

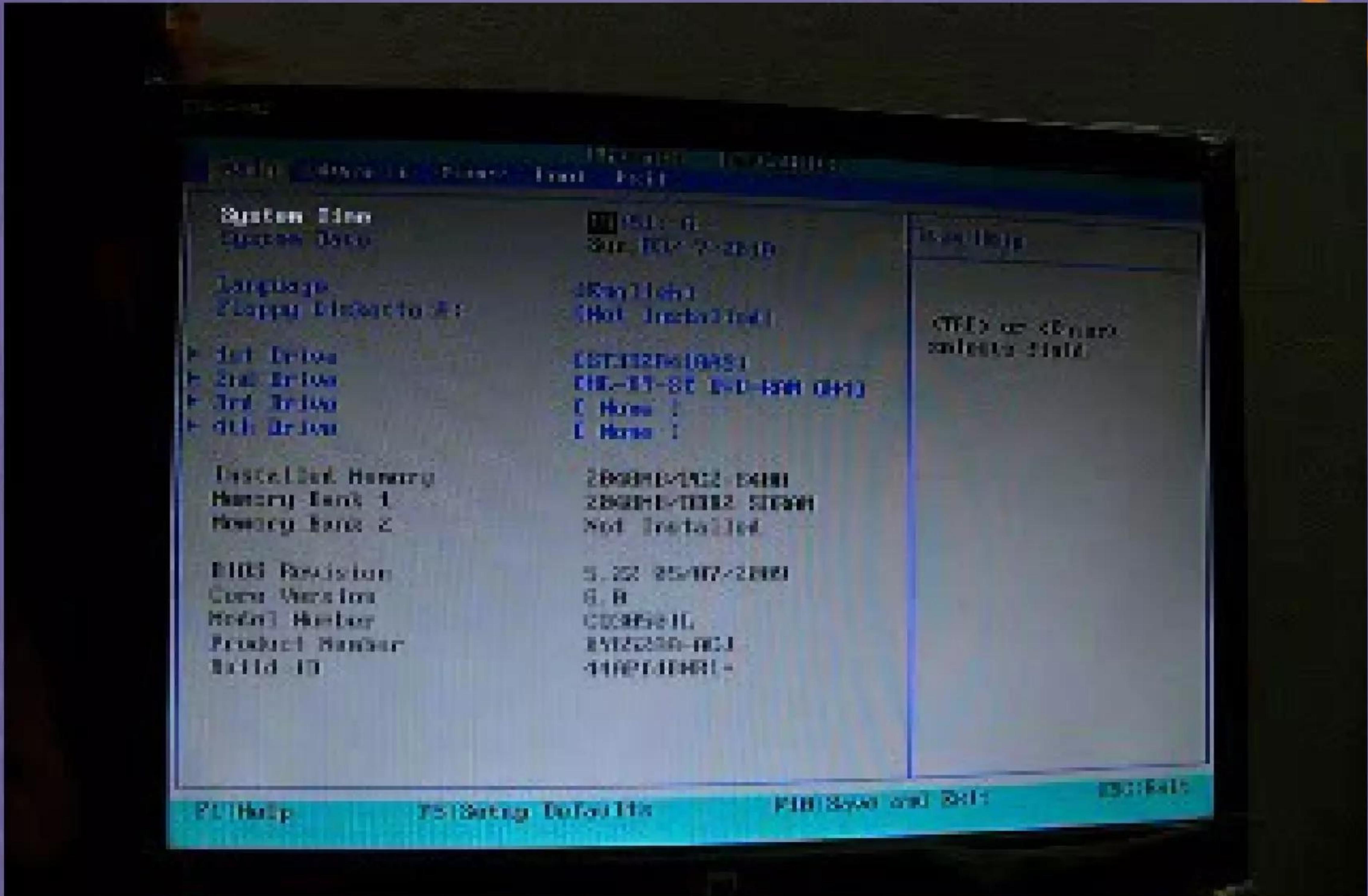
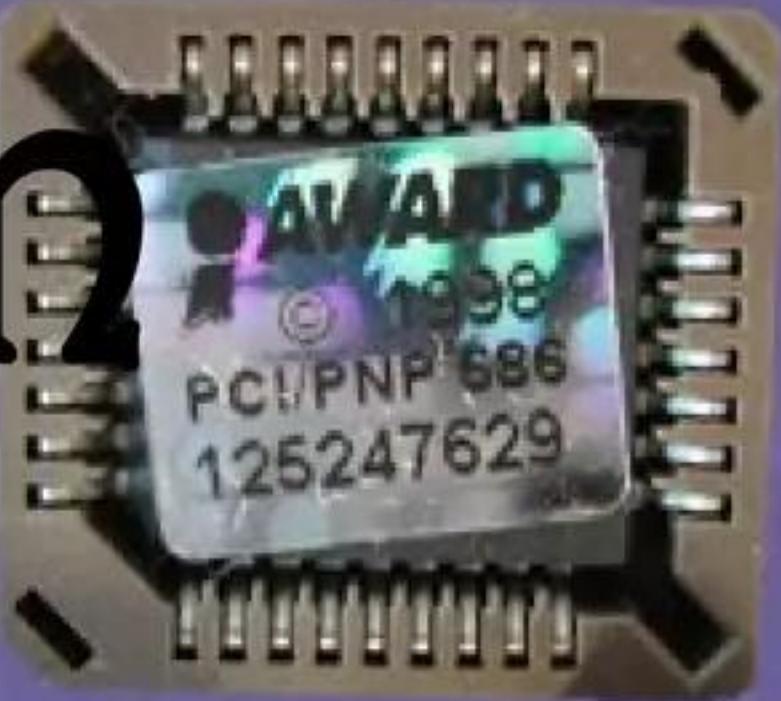
F1:Help

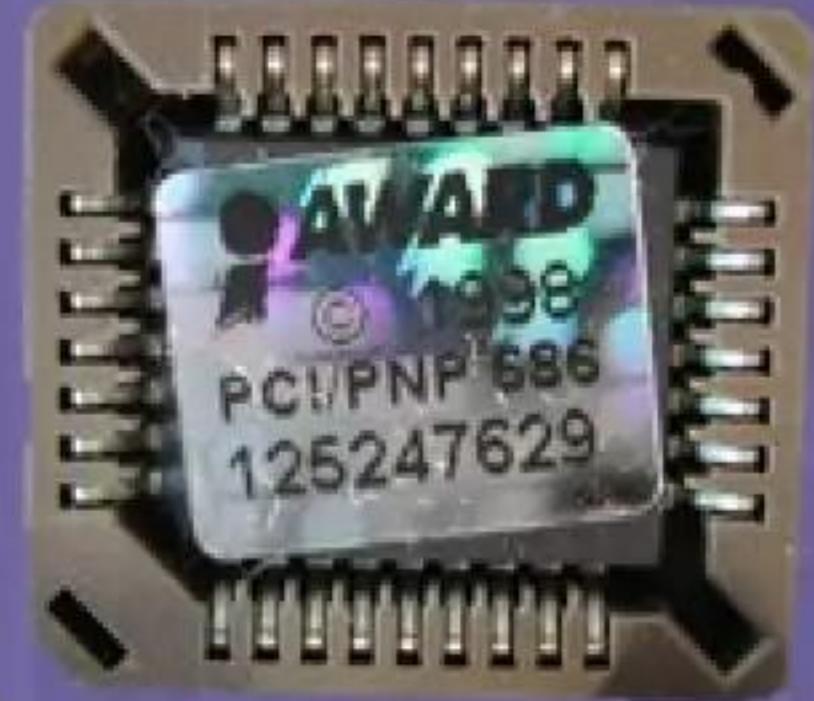
F5:Setup Defaults

F10:Save and Exit

ESC:Exit

Setup Configuration





Common manufacturers

- American Megatrends
- Insyde Software
- Phoenix Technologies
- Byosoft