

Overview

The smart ATX sized 1stMainboard KW15 features a choice of the Slot 1 and the highly scalable Socket 370 processor. A full range of Intel® Celeron™ and Pentium® II/III processors are supported at speeds up to 733MHz with Front Side Bus speeds of 66, 100 and 133 MHz. The Slot 1 / Socket 370 flexibility allows for convenient processor upgrades to meet the changing demands of new productivity software. The advantages of having the CPU choice on board rather than utilizing a CPU adapter card are a shorter local bus trace time and less noise interference providing extra reliability and performance.

The Intel 810/E accelerated Hub architecture provides exceptional onboard video. Direct AGP and it's efficient memory utilization allows a 4MB SDRAM display cache and Dynamic Video Memory Technology which provides the equivalent of 8 MB video memory performance.

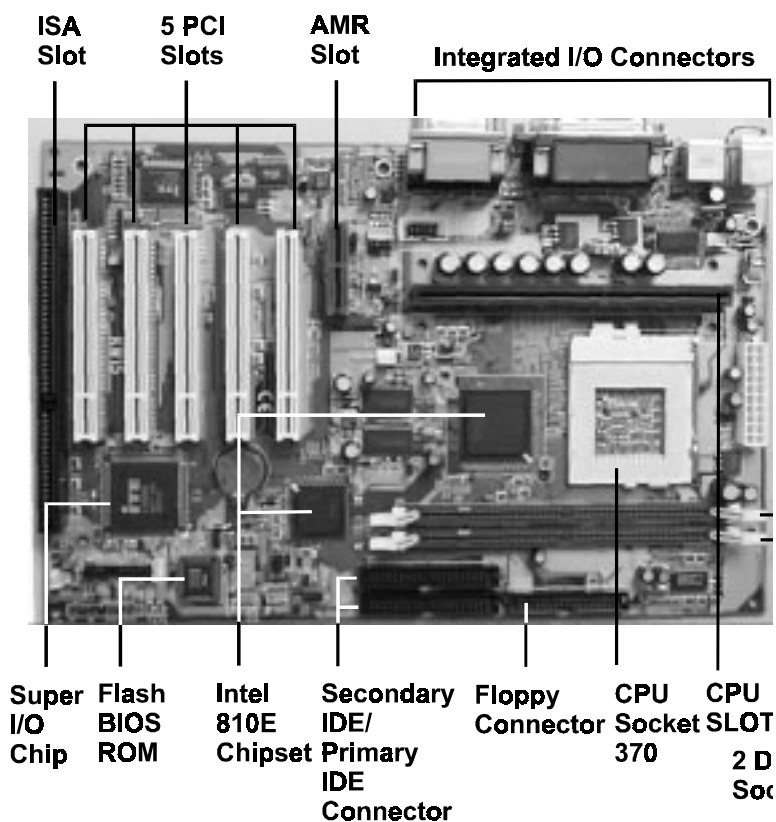
Support for the Ultra DMA/66 protocol and its high-speed interface further ensures that data transfer speeds are improved, especially for long sequential transfers required by audio/visual applications. With 2 DIMM there is up to 512 MB available SDRAM. In addition, the 1stMainboard KW15 is equipped with 2 dual channeled enhanced PCI bus master IDE connectors.

Power-On management features include Keyboard/Mouse Power On, Wake on Ring (WOR) with Modem system boot support.

The 1stMainboard KW15 comes with a versatile range of I/O features such as 2 serial ports, 1 parallel port, 1 PS/2 mouse and keyboard connector, 2 USB connectors, 1 VGA connector and 1 media connector (MIDI /game port, Line-in, Line-out and Mic-in). Ample expansion is available through 5 PCI, 1 AMR and 1ISA (mfg. option).

Mainboard Layout

Chapter 1
Overview



System Specifications

- Flexible Processor Support
 - Single CPU, with both Slot 1 and PPGA Socket 370 on board for choice.
 - Supports CPU Clock 66MHz, 100MHz and 133MHz. CPU Clock Ratios from 3.0x to 8.0x (step 0.5x).
 - Support CPUs: Pentium II 233MHz~450MHz, Celeron 300MHz~533MHz, and Pentium III 450MHz~733MHz.
 - CPU Core Voltage 1.30V~2.05V (step 0.05V), and 2.1V~3.5V (Step 0.1V); CPU~I/O Voltage 3.3V.
 - Built-in Switching Voltage Regulator, supporting Vcore autodetection.
- Memory Support
 - SingleTwo DIMM sockets on board supporting up to 512MB SDRAM.
 - PC-66 / PC-100 compatible.
- I/O System
 - On-board Intel 810 Chipset for I/O Control: FW82810DC100 / FW82810E + FW82801AA.
 - Bus Frequency 66/100/133MHz
 - 5 PCI slots on board, compliant with version 2.2 PCI Local Bus spec.
 - One Optional ISA slot.
 - One AMR (Audio, Modem Riser) slot on board.
 - Dual Master IDE connectors, supporting UDMA33/66 for 4 IDE devices such as high capacity HDD, CD-ROM, LS-120 and tape backup etc.
 - Two USB connectors in stack supporting up to 127 USB devices.

- PS/2 Keyboard and PS/2 Mouse connectors.
- One Infrared (IrDA TX/DX) connector.
- One FDD port supporting two Floppy drives of : 1.2MB / 1.44MB / 2.88MB.
- One parallel port for SSP/EPP/ECP mode printer.
- Two 16550A Fast UART compatible connectors for serial and VGA port.
- One Game /Midi port and 3 Audio Jacks for Speak-out, Line-in and Microphone-in.
- One SB-Link Connector for Sound Card and PCI connection.
- BIOS Support
 - Built-in VGA BIOS in Intel 810/E; and built-in Keyboard BIOS;.
 - AWARD BIOS in Intel 810/E, providing **CMOS Setup Utilities**:
 - **Standard CMOS Features Setup** for Date, Drives and VGA;
 - **Advanced BIOS Features Setup** for CPU Cache, Self Test, Boot Device, Typematic Rate , and Security Options etc.;
 - **Advanced Chipset Features Setup** for SDRAM CAS, RAS, System BIOS Cacheable, and Video BIOS Cacheable etc.;
 - **Integrated Peripherals Setup** for IDE Mode, USB, Audio, and Modem etc.;
 - **Power Management Setup** on Video, HDD, CPU etc.;
 - **PnP/PCI Configurations Setup** for PnP, Reset, Resources etc.;
 - **PC Health Status Control** and Setup;
 - **Frequency / Voltage Control** on CPU, SDRAM, PCI & SSC etc.;
 - **Load Fail-Safe Defaults** and **Load Optimized Defaults**;
 - **Set Supervisor/User Password**;

- Board Dimension:
308mm x 202mm, in ATX form Factor, with one ATX Power Connector.

Features Highlight

Add-on Features for VGA in Intel 810/E

- **Integrated Graphics Controller**
 - 3D Hyper Pipelined Architecture.
 - Full 2D H/W Acceleration.
 - Motion Video Acceleration.
- **3D Graphics Visual Enhancements**
 - Flat & Gouraud Shading.
 - Mip Maps with Bilinear and Anisotropic Filtering.
 - Fogging Atmospheric Effects.
 - Z Buffering.
 - 3D Pipe 2D Clipping.
 - Backface Culling.
- **3D Graphics Texturing Enhancements**
 - Per Pixel Perspective Correction Texture Mapping.
 - Texture Compositing.
 - Texture Color Keying/Chroma Keying.
 - Integrated 24-bit 230MHz RAMDAC.

■ 2D Graphics

- Up to 1600 x 1200 in 8-bit Color at 85 Hz Refresh.
- Hardware Accelerated Functions.
- H/W Motion Compensation Assistance for S/W MPEG2 Decode
- Software DVD at 30fps.
- H/W Overlay Engine with Bilinear Filtering.
- Intel 810 ICH with built-in AC'97 controller.

Add-on Features for Audio

- Intel 810 ICH with built-in AC'97 controller.
- Supporting HRTF-based 3D positional audio, A3D, Q3D, wavetable, and 3D surround sound.



NOTE: If you want to enable the onboard AC'97 CODEC, you need to set JP9 pin 1-2 closed. But in this way, the **AMR** slot will only accept a riser board with Modem CODEC and cannot accept another Audio Riser.

AMR and AC'97 CODEC Controller

AMR slot and AC'97 CODEC are integrated into the Mainboard to enable audio and modem playback.

AMR (Audio/Modem Riser) slot is mounted on board to connect riser board with Audio and/or Modem CODEC (AMC/AC/MC Adapters). The AMR specification developed by Intel provides a mechanism for AC'97 codes to be on a riser card.

To enable the onboard AC'97 CODEC, set JP9 pin 1-2 closed. And in such way, you can further plug a riser board with Modem CODEC to the AMR slot. Otherwise, disabling onboard AC'97 CODEC by setting JP9 2-3 closed, you can plug a riser board with Audio/Modem CODEC to the AMR slot.

Modem Ring On

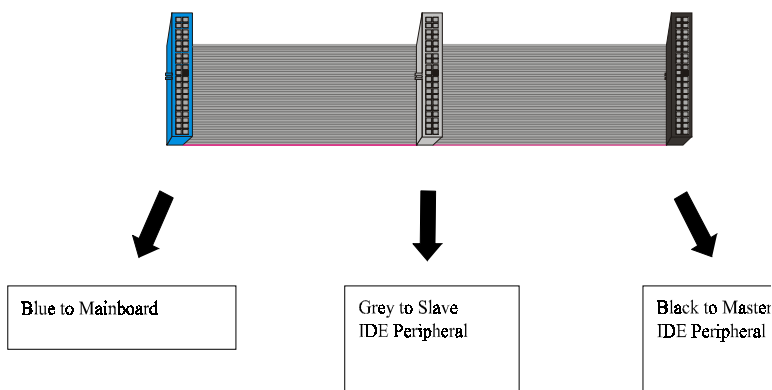
With Modem Ring On function, the computer can wake up by remote signal through a connected modem. This function enables users to access their computer data from anywhere in the world. Users have to enable “Power On by Ring” in “Power Management Setup” of the AWARD BIOS setup screens.

SB-Link Sideband Signals

In order to migrate the legacy Sound Blaster compatible audio to the PCI bus, EMU8008 incorporates a pair of SB-Link request/grant sideband signals (PCPCIR EQN and PCPCIGNTN) to interface to the PCI bus. SB-Link is a mechanism that was defined and developed by Intel as a docking solution which allows ISA slots to exist in docking stations connected to desktop PC PCI bus. The figure below is the pin assignments on the mainboard.

Ultra DMA 66 Cable (optional)

Ultra DMA 66 cable (40-pin connector & 80-line cable) is packaged while utilizing FW82801AA chip which supports both UDMA 33 & UDMA 66 on the mainboard. In other words, Ultra DMA 33 cable is only used with FW82801AB chip. And the Ultra DMA 66 color coded connectors are shown as below:



ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0 Hardware and BIOS requirement. If you install ACPI aware operating systems, such as Windows 98, you can fully utilize the power saving features under ACPI.

It is compatible with all other non-aware ACPI operating systems. If you want to setup ACPI features under Windows 98, please follow the instruction below:

Run Windows 98 setup by using **setup/p j** on the command line for installing Windows 98 with the ACPI control features.

If you type **setup** without the parameter **/p j**, Windows 98 will be installed as APM, PnP mode, no ACPI will be used.

For more detail information, please visit the web site of Microsoft. The URL is: www.microsoft.com/hwtest/.

FIC Unique Innovation for Users (NOVUS) - *Enhanced Mainboard Features and System Support*

■ LogoGenie

A user friendly GUI supporting Windows 98, LogoGenie allows you to customize, create or select a Logo which will be displayed when the system is booting.

Important: Before executing this LogoGenie function, please make sure the related BIOS feature, BIOS Guardian, is disabled; and refer to its related README file.



NOTE:

1. LogoGenie supports Award BIOS only.
2. If you create a Logo file (.bmp) by LogoGenie, the file size must be 640 x 464 x 16 colors (around 145K).

To enable this utility, please proceed as follows:

1. Insert CD Pro 4.X. Select LogoGenie from the Menu and follow the installation instructions.
2. After LogoGenie has been installed, go to Windows Start Box. In Programs Menu, select LogoGenie.
Click through three check boxes in the pop-up menu to ensure of the BIOS feature (*BIOS Guardian*) and other anti-virus software are disabled. Read README file carefully.
3. In LogoGenie Dialogue Box, choose one of 3 options; and then proceed as per 4 or 5 steps listed on the left hand side of the Dialogue Box.
4. After completing the last step, press OK. The system will reboot to restore the BIOS with your new customized Logo.
5. The system will automatically restart with your customized Logo that appears in background.



WARNING: To avoid BIOS damage, do not turn off system power while executing step 3 below.

■ BIOS Guardian

BIOS Guardian by default is enabled. It must be disabled in order to reflash BIOS, thus effectively acting as a fire-wall against viruses that can attack the BIOS while the system is running.

BIOS Guardian can be disabled as follows:

1. Go to BIOS Set Up Menu. (Press **Del** key while booting.)
2. Go to Chipset Features Set Up Submenu.
3. Disable BIOS Guardian.
4. Save the setting, and restart system.



NOTE: If BIOS Guardian is disabled in the boot process, the POST screen will slow the current BIOS Guardian Status. Press **G** key to enable the BIOS Guardian again; or simply press the Space bar to continue the boot process.

■ Easy Key

Instead of completing the multi-layered BIOS setup process these 3 Easy Key functions provide direct access to Sub-Menus when completing BIOS settings adjustments.

Easy-Keys are as follows:

Ctrl + c: To enter clock settings menu.

Ctrl + p: To load Performance Default settings and restart.

Ctrl + f: To load Fail-Safe Default settings and restart.