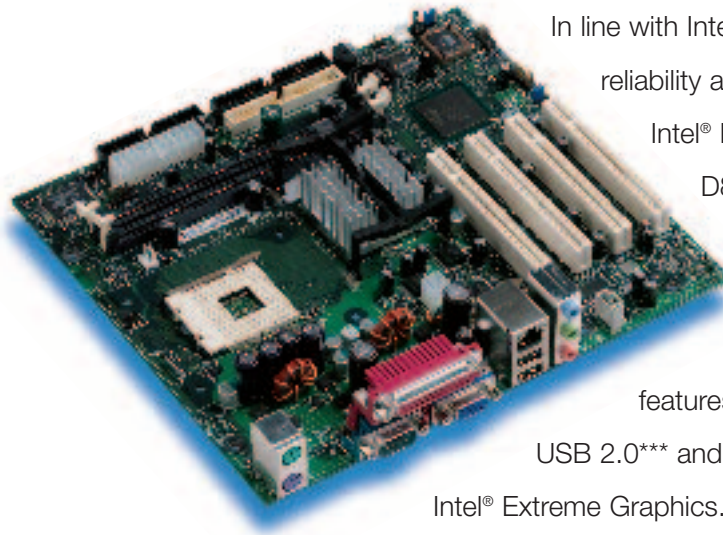# Intel® Desktop Boards D845GLAD and D845GLLY

for the Intel® Celeron® and Intel® Pentium® 4 processors
in the mPGA478-pin packages

Delivering Essential Features and Leading Technologies

The Intel® Desktop Boards D845GLAD and D845GLLY deliver integrated graphics solutions with essential features that support Intel® Celeron® and Intel® Pentium® 4 processors with 400MHz system bus in the mPGA478-pin package. Featuring the Intel® 845GL chipset with support for up to 2GB** of DDR266** or PC133** SDRAM memory, these boards deliver remarkable value and flexibility with four PCI slots, Hi-Speed USB 2.0*** and optional integrated LAN.

In line with Intel's reputation for proven reliability and leading technology, Intel® Desktop Boards D845GLAD and D845GLLY undergo extensive compatibility testing and deliver exciting new features such as Hi-Speed USB 2.0*** and integrated Intel® Extreme Graphics.

Low Cost Solution

Desktop Boards D845GLAD and D845GLLY were designed with a high level of integration to minimize overall system cost. The new integrated Intel® Extreme Graphics and the SigmaTel* AC'97 Audio solution eliminate the need for costly discrete Video and Audio PCI cards by delivering high quality video and audio solutions. With 4 PCI slots these boards offer remarkable flexibility and the advantage of the lower system costs associated with microATX solutions.
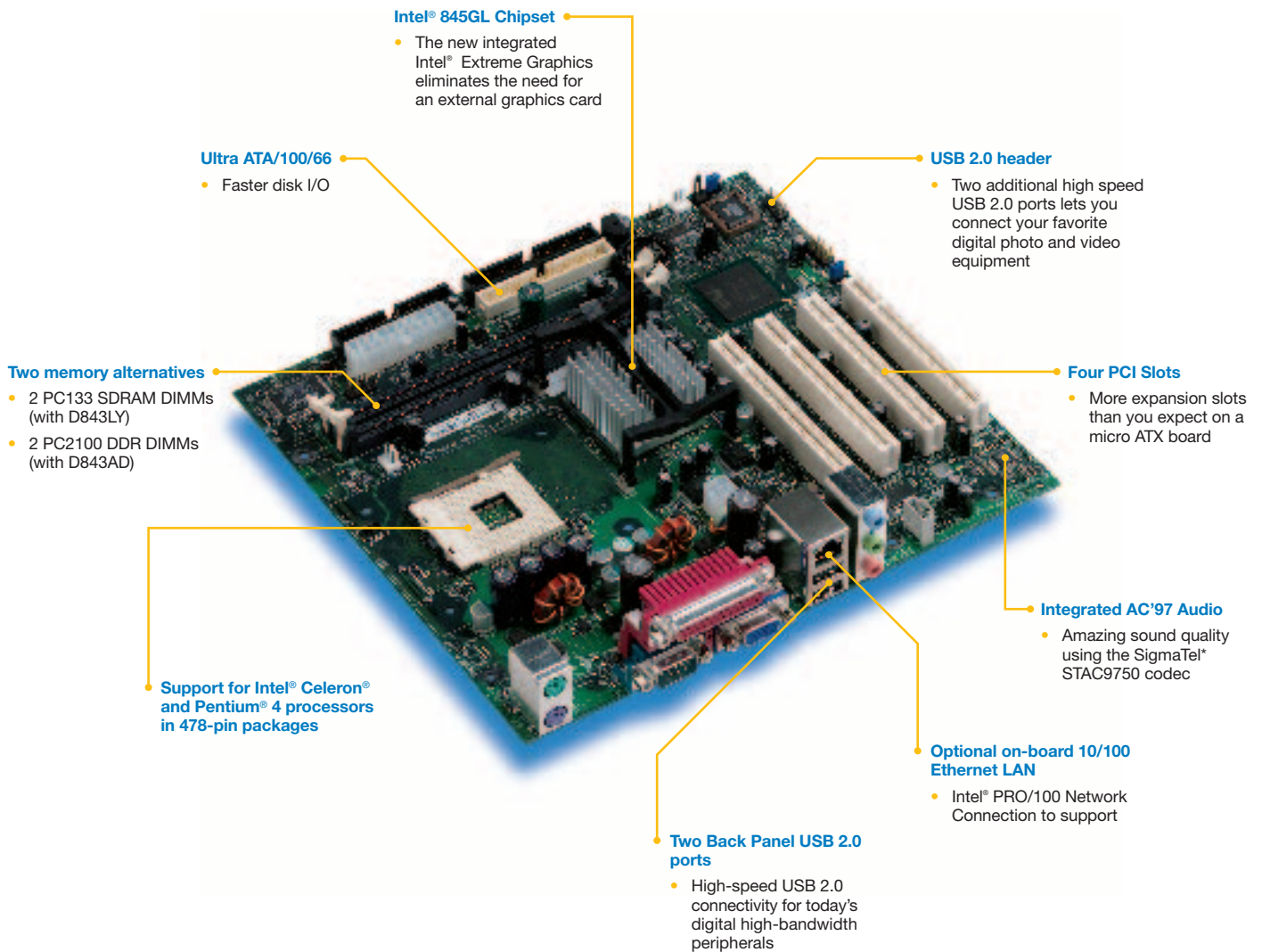
Snap integration

Like all Intel platform solutions, Desktop Boards D845GLAD and D845GLLY offer several features that ensure compatibility and ease of integration to save you time and money. As part of a full suite of software for simplified and efficient integration, Intel® Express Installer 3.0 offers a simple interface for drivers and software installation. Built-in security features make it easy and safe to update the BIOS. Boxed Intel® desktop boards also come with a limited three-year warranty and world-class support that is unmatched in the industry.

Rock Solid Product

To ensure that Intel® Desktop Boards D845GLAD and D845GLLY function reliably in your systems, we perform extensive compatibility testing. Each Intel® desktop board is subjected to over 500 tests on approximately 330 commercially available hardware, software, and network products. Furthermore, each board undergoes substantial memory validation and BIOS functionality testing.

Intel® Desktop Board D845GLAD and D845GLLY Features and Benefits

Features	Benefits
Supports the Intel® Celeron® and Pentium® 4 processors with 400MHz system bus in the mPGA478-pin package	Flexible support for the Intel® Celeron® processor transition to the mPGA478-pin package.
Intel® 845GL chipset with Intel® Extreme Graphics	Provides low cost, high quality integrated graphics without the added cost of discrete graphics solutions.
Intel® Rapid BIOS Boot	Reduced boot time enables faster system access
Two SDRAM DIMM sockets (D845GLLY), or two DDR DIMM sockets (D845GLAD)	Designed to support up to 2GB** of single data rate PC133 memory or 2GB of double-data-rate PC2100 memory**
Four PCI slots	Additional flexibility for custom system configurations and future add-in card upgrades
Four Hi-Speed USB 2.0 ports***	One dual stack rear connector and header for front panel USB connector provide Hi-Speed USB 2.0 connections for today's high performance peripherals
Integrated Intel® PRO/100 network connector (optional)	On-board 10/100Mbps Ethernet LAN connectivity
SigmaTel* AC'97 Audio with Software Equalizer	High Performance 20-bit audio solution that enables fine tuning of audio sound to improve sound quality especially on inexpensive speaker systems
Instantly Available PC (Suspend-to-RAM)	Power management mode reduces PC power consumption and provides immediate PC access using advanced wake-up logic
Three-year limited warranty	Expanded investment protection for boxed Intel® desktop boards, only

Intel® 845GL Chipset

- The new integrated Intel® Extreme Graphics eliminates the need for an external graphics card

Ultra ATA/100/66

- Faster disk I/O

USB 2.0 header

- Two additional high speed USB 2.0 ports lets you connect your favorite digital photo and video equipment

Two memory alternatives

- 2 PC133 SDRAM DIMMs (with D843LY)
- 2 PC2100 DDR DIMMs (with D843AD)

Four PCI Slots

- More expansion slots than you expect on a micro ATX board

Integrated AC'97 Audio

- Amazing sound quality using the SigmaTel* STAC9750 codec

Support for Intel® Celeron® and Pentium® 4 processors in 478-pin packages

Optional on-board 10/100 Ethernet LAN

- Intel® PRO/100 Network Connection to support

Two Back Panel USB 2.0 ports

- High-speed USB 2.0 connectivity for today's digital high-bandwidth peripherals

Boxed Intel Desktop Board D845GLAD and D845GLLY Solution includes:

- Desktop Board
- ATX compliant I/O shield
- Retention mechanism for processor thermal solution
- Floppy and IDE cables
- Board and back panel I/O layout stickers
- Quick Start Guide

- CD-ROM featuring:
    - Intel® Express Installer
    - Norton* Internet Security*
    - RealOne* with DFX*
    - NTI CD-Maker*
    - Macromedia* Shockwave*
    - Software Drivers
    - Product Guide
    - Desktop Board Three-year Limited Warranty††

Intel® Desktop Boards D845GLAD and D845GLLY Technical Specifications

Processor

Processors Supported (via mPGA478 connector)	Intel® Celeron® Pentium® 4 processors with Intel® NetBurst™ microarchitecture including a 400MHz system bus in the mPGA478-pin package and supporting frequencies starting at 1.4 GHz
Intel® 845GL Chipset	Intel® 845GL Graphics Memory Controller Hub (GMCH) with Accelerated Hub Architecture bus Intel 82801DB I/O Controller Hub (ICH4) with Accelerated Hub Architecture bus Intel 82802AB Firmware Hub (FWH)

Graphics Memory

Controller Hub (GMCH)	Designed to support up to 2GB** (w/512Mb technology) of DDR266/200 SDRAM memory (D845GLAD) or PC133 SDRAM (D845GLLY)
ICH4 I/O Controller Hub	Ultra ATA/66/100 Ultra DMA/33 Allows support of four PCI bus masters
I/O Features	Integrated super I/O LPC bus controller Four PCI local bus slots Power management support for ACPI 1.0 PC2001 compliance
USB 2.0*	• Two back panel ports (one dual stack) • Two front panel ports (header requiring cable to front panel)

Firmware Hub

System BIOS	4-Mb Flash EEPROM with Intel/AMI* BIOS featuring plug-and-play, IDE drive auto-configure Advanced configuration and power interface V1.0b, DMI 2.0, multilingual support
Intel® Rapid BIOS Boot	Optimized POST for faster access to PC from power-on
Audio Solution	Sigmatel STAC9750 AC97 compliant integrated audio solution

System Memory

Memory Capacity	Two 184-pin DIMM connectors supporting up to two double-sided DIMMS (D845GLAD) Two 168-pin SDRAM connectors supporting up to two double-sided DIMMS (D845GLLY)
Memory Type	DDR266 SDRAM OR DDR200 SDRAM (D845GLAD) PC133 SDRAM (D845GLLY)
Memory Voltage	2.5V DDR memory (D845GLAD) 3.3V SDRAM memory (D845GLLY)

Wake-Up From Network

	Wired for Management (WfM) 2.0 compatible Support for system wake up using an add-in network interface card with remote wake-up capability or PCI

Expansion Capabilities

	Four PCI bus add-in card connectors

Jumpers and Front Panel

Connectors Jumpers	Single configuration jumper design Jumper access for BIOS configuration mode Single Front panel USB wake configuration jumper Jumper allows user to enable ACPI wake from front panel USB devices
Front Panel Connector	Reset, HD LED, Power LEDs, power on/off, standby header

Mechanical

Board Style	uATX 1.0 compliant board size
Board Size	9.2" x 8.2"

Baseboard Power

Requirements	ATX12V or SFX12V

Environment

Operating Temperature	0° C to +55° C
Storage Temperature	-40° C to +70° C

Regulations

Safety Regulations

U.S. and Canada	UL 1950—CSA 950-95
	U.S. and Canadian recognition component marks
Europe	UL classified to IEC 950

EMI/RFI regulations:

Intended for use in systems meeting the following EMI/RFI regulations:

US	FCC Class B (DofC - Cover off testing)
Canada	IC Class B
Europe	EU Class B (Res, Com, Light Industry)
Japan	VCCI, Class B (ITE)

Power requirements vary. Complies with US CRF via EN55022 + 6db in system configurations with an open chassis and EU Directive 89/336/EEC and use via EN55022 and EN50082-1 in a representative chassis.

intel®