

ITEM CHECKUP

- ☒ Mainboard
- ☒ Support CD
- ☒ Bundled Bonus Pack CD
- ☒ Bundled Bonus Pack Manual
- ☐ Temperature Sensor Cable (Optional)
- ☒ ATA66/100/133 IDE Cable
- ☒ FDD Cable
- ☒ User's Manual
- ☐ RS232 Cable
- ☒ USB Cable
- ☐ Floppy Disk with RAID Drivers (optional)

Chapter 1 Specification

Introduction

Here comes the RAID and LAN solution with Pentium 4 Processor and its fast coworker Intel 845E plus ICH4. RAID or no RAID, LAN or no LAN, you can make your choices freely with this series of mainboards and it also promises you two more awesome features: the 533MHz System Bus and the 480Mb/s USB Bus.

This series is an integration of the powerful processor Intel Pentium 4 and the single-chip North Bridge Intel 845E. The Intel P4 processor is a rapid execution engine providing 533/400MHz system bus, while North Bridge Intel 845E is a high performance integrated chipset supporting processor interface, DDR266/200 SDRAM memory interface, Hub interface and AGP interface.

Integrated with i845E, South Bridge Intel ICH4 supports the LPC Super I/O, upstream Hub interface, PCI interface, IDE interface, LAN interface, USB V2.0 interface, AC'97 Audio interface as well as the interrupt control. This chapter is to introduce to you every advanced function of this high performance integration.

Topics included in this chapter are:

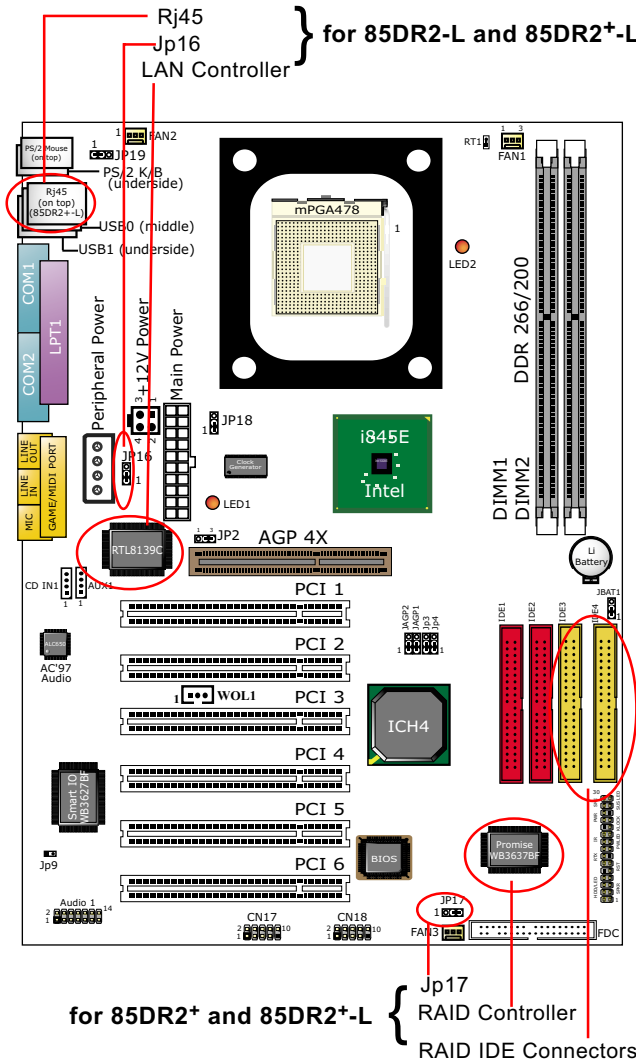
1-1 Mainboard Components Locations

1-2 Mainboard Specifications

1-3 Mainboard Specification Table

1-4 Chipset Diagram

1-1 Series 85DR2 Components Locations and Options



Optional Feature	85DR2	85DR2-L	85DR2+	85DR2+ -L
LAN Controller	No	Yes	No	Yes
RAID Controller	No	No	Yes	Yes

1-2 Mainboard Specifications

1-2.1 CPU Socket

CPU Socket 478B on board, supporting Intel® Pentium 4 processors in 478-pin package for :

- 533/400MHz System Bus;
- Hyper-pipelined technology;
- Advanced dynamic execution;
- Advanced transfer cache;

1-2.2 System Chipsets

- North Bridge Intel 845E for managing and supporting operations between processor interface, DDR266/200 SDRAM memory interface, Hub interface and AGP interface.
- South Bridge ICH4 working with North Bridge supports the LPC Super I/O, upstream Hub interface, PCI interface, IDE interface, LAN interface, USB V2.0 interface, AC'97 Audio interface as well as the interrupt control.

1-2.3 Memory

2 DDR DIMM 184-pin slots on board for DDR 266/200 SDRAMs :

- Supporting unregistered, non-ECC DDR266/200 SDRAM up to 2 GBs
- Supporting installation of mixed volumes yet same type of DDR SDRAM modules
- No support for double-sided x16 DDR DIMMs

1-2.4 AMI BIOS

- Supporting Plug & Play V1.0
- Flash Memory for easy upgrade
- Supporting BIOS Writing Protection and Year 2000 compliant
- Supporting BIOS Setup (See Chapter 4 BIOS Setup)

1-2.5 Accelerated Graphics Port (AGP) Interface

AGP Controller embedded on board, supporting:

- 1.5V(4X) power mode only
- 4x AD and SBA signaling, AGP pipelined split-transection longburst transfers up to 1GB/sec.
- AGP 4X only, AGP v2.0 compliant

1-2.6 Advanced System Power Management:

- ACPI 1.0B compliant (Advanced Configuration and Power Interface)
- APM V1.2 compliant (Legacy Power Management)
- ACPI POS (Power On Suspend) and Suspend To RAM (STR)
- PS/2 Keyboard & Mouse Power On
- Supporting Ring Power Up Control for Wake-on-Modem (external) and Wake-on-LAN
- Real Time Clock (RTC) with date alarm, month alarm, and century field
- USB Wake Up function supported.

1-2.7 Multi-I/O Functions :

- PCI EIDE Controller, supporting:
 - 2x Ultra ATA100 / 66 / 33 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
 - Third serial port dedicated to IR function either through the two complete serial ports or the third dedicated port Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR
- Multi-mode parallel data transfer:
 - Standard mode, high speed mode ECP and enhanced mode EPP
- Floppy Disk connector:
 - One FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
 - USB V2.0 compliant, 480 Mb/s USB Bus, supporting Win 2000 and later operating system; USB drivers provided in Support CD for installation
 - 2 built-in USB connectors and 2 USB Headers (USB2, USB3) which require 2 optional USB cables to provide 4 more optional USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
 - Two complete serial ports (COM1 & COM2) on board

1-2.8 Expansion Slots

- 6 PCI bus Master slots
- 1 AGP 4X slot
- 2 DDR DIMM slots

1-2.9 AC'97 Audio Codec on board

AC'97 Audio Codec 2.2 compliant on board

- Supporting up to 6 channels of PCM audio output
- 6 channel audio consists of Front Left, Front Right, Back Left, Back Right, Center and Woofer for complete surround sound effect
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation.

1-2.10 LAN on board (85DR2-L and 85DR2+-L only)

PCI local bus single-chip Fast Ethernet Controller RTL8139C on board:

- Supporting 10/100Mb data transfer
- Supporting Wake On LAN function through the on-board Rj45 LAN Connector
- LAN Driver enclosed in Support CD for user's installation.

1-2.11 RAID Controller on board (85DR2+ and 85DR2+-L only)

RAID Controller Promise 20276 on board, supporting:

- 4 UATA-133 devices
- IDE RAID 0 and IDE RAID 1
- RAID Controller Driver enclosed in Support CD for user's installation
- Jp17 for enabling / disabling RAID Controller

1-2.12 Hardware Monitor on board

- Winbond Hardware Monitor in W83627HF, providing monitoring and alarm for flexible desktop management of hardware voltage, temperatures and fan speeds.
- Utility Software Winbond HWDDoctor for displaying Monitoring status is enclosed in Support CD for user's installation.

1-2.13 6-channel Sound Output Support (optional)

- This series is designed with an optional 6-channel Audio-out connector "Audio1". If this option is chosen, it will provide 3 additional audio-ports for the 6-channel sound.

1-1.14 Redstorm Overclocking Technology (optional)

Redstorm Overclocking Tech is a program embedded in BIOS for automatic CPU overclocking. Please see "Frequency / Voltage Control" of BIOS Setup for Redstorm Overclocking Technology configuration.

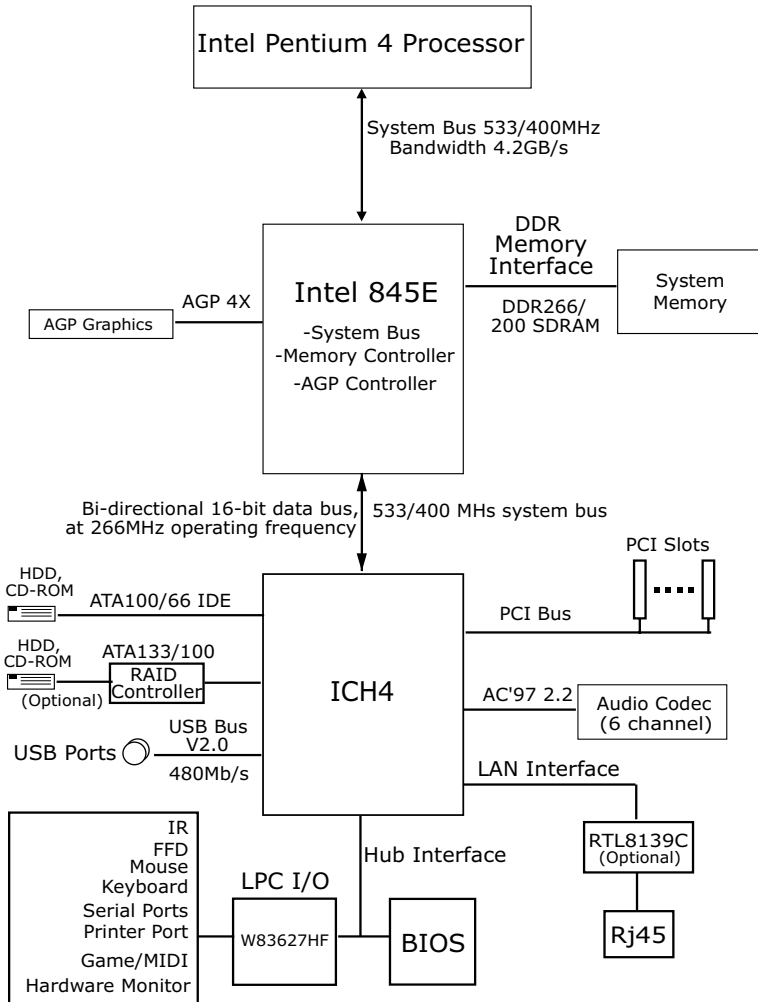
1-2.15 Form Factor

- ATX form factor, ATX power supply, version 2.03 compliant, supported by one Main Power Connector, one +12V Power Connector and one Peripheral Power Connector
- Mainboard size: 305mm x 220mm

1-3 Mainboard Specification Table

Series 85DR2 Specifications and Features				
CPU	Socket 478B for Intel Pentium 4 CPU			
North Bridge	Intel 845E, supporting 533/400MHz FSB			
South Bridge	Intel ICH4			
BIOS	AMI BIOS			
Memory	Supporting DDR 266/200 SDRAM, up to 2GB in two DDR DIMM slots			
I/O Chip	Winbond W82627HF with Hardware Moitor			
AGP interface	AGP 4X mode only			
Audio	AC'97 Audio 2.2 compliant, 6 channel audio			
IDE Interface	2 ATA 66/100 IDE ports, 2 RAID ATA100/133 ports			
VGA Display	No VGA built in			
PCI Slots	6 PCI Master slots on board			
I/O Connectors	6xUSB V2.0, 1xFDD port, 2xCOM ports, 1xLPT, 1xIrDA, 1xPS/2 K/B, 1xPS/2 Mouse			
Other common features	BIOS Writing Protection; keyboard Power On; ATX 2.03 Power Supply; ATX form factor			
Optional Feature	85DR2	85DR2-L	85DR2+	85DR2+ -L
LAN Controller on board	No	Yes	No	Yes
RAID Controller on board	No	No	Yes	Yes

1-4 Chipset System Block Diagram



Intel Pentium 4 + Intel 82845E + Intel ICH4 Diagram