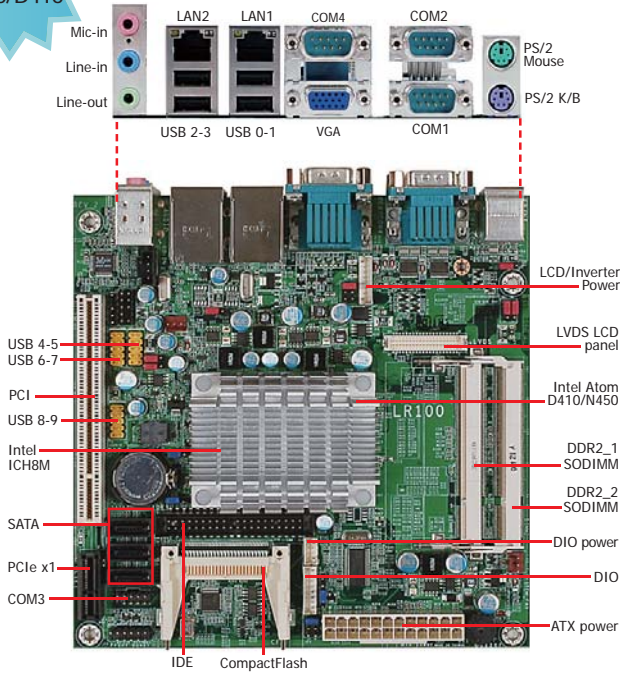




Atom

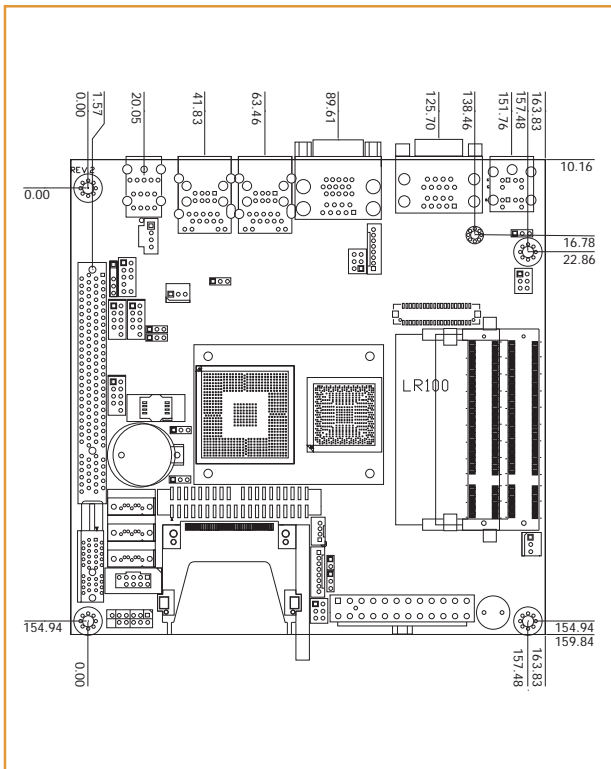


Features

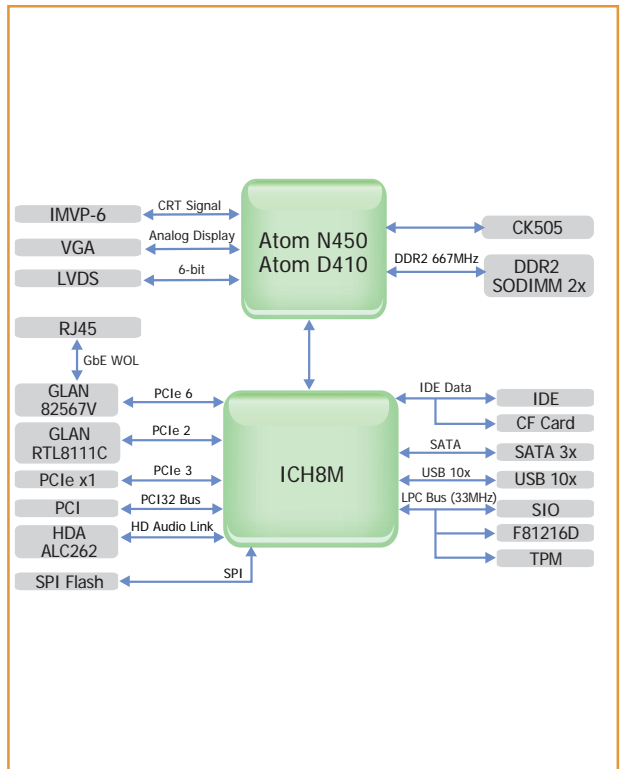
CHIPSET	Intel® ICH8M
CPU	Intel® Atom™ N450 (-N16M) Intel® Atom™ D410(-N16S)
MEMORY	2 DDR2 SODIMM up to 2GB (-N16M) 2 DDR2 SODIMM up to 4GB (-N16S)
EXPANSION	1 PCIe x1, 1 PCI
DISPLAY OUTPUTS	1 VGA, 1 LVDS
LAN	2 Gigabit LAN ports
COM	4 COM
USB	10 USB 2.0
STORAGE	3 SATA 2.0 1 CF 1 IDE
DIO	8-bit DIO



Mechanical Drawing



Block Diagram



Specifications

PROCESSOR

- Intel® Atom™ N450 (Single Core) (-N16M)
- Intel® Atom™ D410 (Single Core) (-N16S)
- On die 1 x 512KB, 8-way L2 cache
- C0/C1(E)/C2(E)/C4(E) C-states (-N16M)
- C0 and C1 C-states (-N16S)
- 1.6GHz core frequency, 1.10V voltage
- IA 32-bit and Intel® 64 architecture
- Micro-FCBGA8 packaging technologies
- Cooling option: heat sink (fanless solution)

SOUTHBRIDGE

- Intel® ICH8M I/O Controller Hub

SYSTEM MEMORY

- Two 200-pin SODIMM sockets
- Supports DDR2 667MHz only (-N16M)
- Supports DDR2 667/800MHz only (-N16S)
- Supports up to 2GB system memory (-N16M)
- Supports up to 4GB system memory (-N16S)
- Single channel memory interface
- Supports x16 devices

EXPANSION SLOTS

- 1 PCIe x1 slot
- 1 PCI slot
- 1 CompactFlash socket

ONBOARD GRAPHICS FEATURES

- Intel® GMA 3150
 - Contains a refresh of the 3rd generation graphics core
- 200MHz render clock frequency (-N16M)
- 400MHz render clock frequency (-N16S)
- Display ports: LVDS and VGA
 - Integrated single LVDS channel supports resolution up to 1280x800 or 1366x768 (-N16M)
 - Integrated single LVDS channel supports resolution up to 1366x768, 18bpp (-N16S)
 - VGA display output up to resolution 1400x1050 @ 60Hz (-N16M)
 - VGA display output up to resolution 2048x1536 @ 60Hz (-N16S)
- DirectX 9 compliant Pixel Shader 2.0

ONBOARD AUDIO FEATURES

- Realtek ALC262 2-channel High Definition Audio
- High performance DACs with 100dB SNR
- ADCs with 90dB SNR
- Two stereo DACs support 24-bit PCM format for stereo audio playback
- Three stereo ADCs support 20-bit PCM format for multiple input streaming
- S/PDIF audio interface

ONBOARD LAN FEATURES

- Intel® 82567V Gigabit Ethernet Phy and Realtek RTL8111C PCI Express Gigabit Ethernet controller
- Integrated 10/100/1000 transceiver
- Supports Full Duplex flow control (IEEE 802.3x)
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Supports power down / link down power saving

SERIAL ATA INTERFACE

- 3 Serial ATA ports compliant with SATA 1.0 specification
- SATA speed up to 3Gb/s (SATA 2.0)

BIOS

- AMI BIOS
- SPI BIOS

TRUSTED PLATFORM MODULE (TPM) - optional

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 3 DB-9 RS232 serial ports
 - Pins 1 and 9 of COM2 functions as RS232 signal or power (selectable via jumper)
- 1 DB-15 VGA port
- 2 RJ45 LAN ports
- 4 USB 2.0/1.1 ports
- Mic-in, line-in and line-out

I/O CONNECTORS

- 3 connectors for 6 external USB 2.0/1.1 ports
- 1 connector for an external RS232/422/485 serial port
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 8-bit DIO connector
- 1 DIO power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 CD-in connector
- 1 S/PDIF connector
- 3 Serial ATA connectors
- 1 40-pin IDE connector
- 1 24-pin ATX power connector
- 1 front panel connector
- 1 chassis intrusion connector
- 2 fan connectors

ENERGY EFFICIENT DESIGN

- ACPI v1.0a specification
- System Power Management
- Wake-On-Events include:
 - Wake-On-USB Keyboard/Mouse
 - Wake-On-LAN
 - Wake-On-Ring
 - RTC timer to power-on the system
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors 5V/1.05V/1.8V/12V/3VSB/VBAT/VCORE voltages and failure alarm
- Monitors system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

POWER CONSUMPTION

- 12.71 W with D410 at 1.66GHz and 1x 1GB DDR2 SODIMM

TEMPERATURE

- 0°C to 60°C

HUMIDITY

- 10% to 90%

DIMENSIONS

- Mini-ITX form factor
- 170mm (6.7") x 170mm (6.7")

CERTIFICATION

- CE
- FCC Class B
- UL
- RoHS

Packing List

- 1 System board
- 1 IDE cable
- 1 USB cable
- 1 Serial ATA cable
- 1 Serial ATA power cable
- 1 Bracket mounted with a COM port
- 1 I/O shield
- 1 CD
- 1 QR (Quick Reference)

Optional Items

- USB port cable
- COM port cable
- Serial ATA data cable
- Serial ATA power cable
- IDE cable
- I/O shield
- heat sink: A71-010012-000G