

Quick Installation Guide

Version 1.1

HiCORE-i6414

Pentium 4 processor FSB 400/533 full size PICMG
CPU board, Integrated AGP 4X Graphics, Fast
Ethernet, USB 2.0, support DDR 266/333 memory,
DOC2000, High Drive ISA

Part Number: 4041641400110

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Warning

Single Board Computers and their components contain very delicate Integrated Circuits (IC). To protect the Single Board Computer and its components against damage from static electricity, you should always follow the following precautions when handling it :

1. Disconnect your Single Board Computer from the power source when you want to work on the inside
2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry
3. Use a grounded wrist strap when handling computer components.
4. Place components on a grounded antistatic pad or on the bag that came with the Single Board Computer, whenever components are separated from the system

Replacing the lithium battery

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (BR2335).

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.

Technical Support

If you have any technical difficulties, please consult the user's manual first at:

<ftp://ftp.arbor.com.tw/pub/manual>

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.

<http://www.arbor.com.tw>

E-mail:info@arbor.com.tw

Specifications

General Specifications

- **CPU** : Socket 478 FC-PGA2 Pentium®4, 512K with 400/533 MHz FSB and up to 3.06GHz
- **Chipset** : Intel 845GV and 82801 DB ICH4 PCI memory bus, PCI bus at 33 Mhz and UltraATA/100 IDE interfaces
- **BIOS** : AWARD® Flash BIOS Green&Soft Off function version 6.0, LS120, multiple boot function
- **Green Function** : power saving supported in BIOS. DOZE / SUSPEND modes, ACPI & APM FWH 4 MB
- **L2 Cache** : Integrated on CPU
- **DRAM Memory** : Supports DDR266/DDR333 SDRAM up to 2GB in two 184-pin DIMM sockets
- **Enhanced IDE** : Supports two ports with four ATAPI devices up to UltraDMA transfer 100 MB/sec
- **Watchdog Timer** : 255-level timer generates RESET or NMI when your application loses control over the system.
- **Real-time Clock** : built-in chipset with lithium battery backup for 5 years of data retention. CMOS data backup of BIOS setup and BIOS default.
- **High Drive ISA64 bus** : ISA Add-on; 64mA high drive buffer supports
- **USB** : Onboard 2 x USB 2.0 (2 x 5-pin header)

High Speed Multi I/O

- **Chipset** : Windbond W83627HF
- **Serial Ports** : one internal high speed RS-232C port COM1 (10-pin box header), one internal high speed RS-232C/422/485 port COM2 (jumper selectable, 10-pin box header). Both with 16C550 compatible UART and 16 byte FIFO.
- **SIR Interface** : onboard IrDA TX/RX port (5-pin header)
- **Floppy Disk Drive Interface** : 2 floppy disk drives, 5¼" (360 KB or 1.2 MB) and 3½" (720 KB, 1.44 MB or 2.88 MB).
- **Bi-directional Parallel Port** : SPP, EPP and ECP mode.
- **Keyboard and Mouse Connectors** : external PS/2 KB/Mouse port (2-in-1 mini DIN) onboard AT Keyboard port (5-pin box header)

Network Interface Controller

- **Chipset** : 1 x Intel 82562EZ, 10/100 Mbps autoswitching
- **Connector** : 1 x external RJ-45 with LEDs on bracket

Display Controller

- **Chipset** : Intel 845GV integrated with 2D/3D engines Supports shared memory up to 8MB frame buffer with Dynamic Video Memory Technology
- **Display Type** : CRT (VGA, SVGA, XGA, SXGA)
- **Connectors** : external DB15 for CRT on bracket

Flash Disk DiskOnChip®2000

- **Package** : Single Chip Flash Disk in 32-pin DIP JEDEC
- **Capacity** : up to 1GByte
- **Data Reliability** : ECC/EDC error correction
- **Memory Window** : 8 KByte

System Monitoring and Alarm

- **Chipset** : Winbond W83627HF
For CPU & System Temperature, System Voltage and Cooling Fan RPM

Environmental and Power

- **Power Requirements** : +5 V @ 3.13 A (typical), +12 V @ 4.63A (typical) ; (FC-PGA2 P4 3.06GHz at 533 FSB and 1G DDR266)
- **CPU Power** : onboard PWM switching power supply for autodetects CPU core voltage
- **System Monitoring and Alarm** : CPU and System temperature, system voltage and cooling fan RPM.
- **Board Dimensions** : 338 mm x 122 mm
- **Board Weight** : 0.6 Kg.
- **Operating Temperature** : 0 to 60°C (32 to 140°F)

Packing list

Before you begin installing your single board computer, please make sure that the following materials have been shipped:

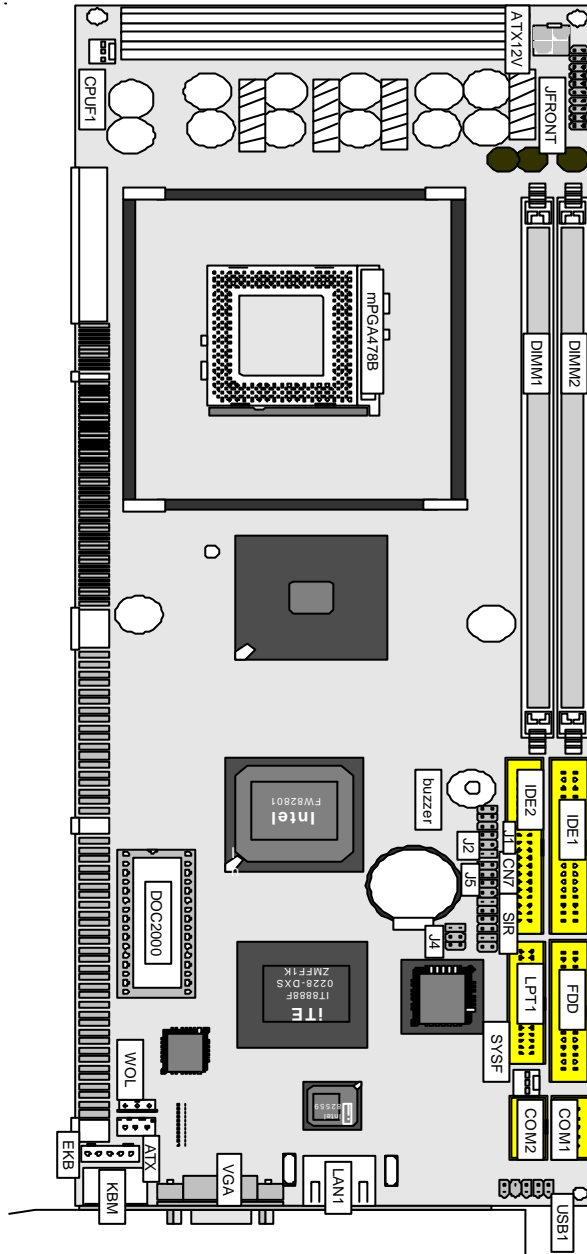
- > 1 x HiCORE-i6414 Full-Size SBC
- > 1 x Quick Installation Guide
- > 1 x CD-ROM (for driver used)
- > 1 x Cable Kits contains the followings:

Content	Part No.
. 1 x USB v2.0 Cable	3431121000000
. 1 x UltraDMA 100 IDE Flat Cable	3432061000030
. 1 x Keyboard / PS2 Mouse Cable	3432102000010
. 1 x FDD Flat Cable	3432031000190
. 1 x IDE Flat Cable for UDMA33	3432061000180
. 1 x COM port Cable w/Bracket	3432021000040
. 1 x Printer Flat Cable	3431091000000

Ordering Codes

HiCORE-i6414VL Pentium 4 processor FSB 400/533 full size PICMG CPU board, Integrated AGP 4X Graphics, Fast Ethernet, USB 2.0, support DDR 266/333 memory, DOC2000, High Drive ISA

Board Layout Front



Jumper/Connector Quick Reference

Jumpers

Label	Function
J1	Clear CMOS
J2	Watchdog Output
J4	COM2 RS-232/422/485 selection
J5	Power Type selection
CN7	H/W Monitor Alarm

Connectors

Lable	Function
ATX	ATX Feature Connector
ATX12V	ATX 12V Power Connctor for P4
COM1	Serial Port: COM1 (RS-232)
COM2	Serial Port: COM2 (RS-232/422/485)
CPUF1	CPU FAN1 Connector
DIMM1	DDR bank 0/1 184 pin DIMM
DIMM2	DDR bank 2/3 184 pin DIMM
EKB	External Keyboard Connector
FDD	Floppy Disk Driver Connedctor
IDE1	Primary IDE Connector
IDE2	Secondary IDE Connector
KBM	PS/2 Keyboard & Mouse
LAN1	10/100M LAN1 Connector
LPT	Parallel Port
SIR	Infrared (IR) Connector
SYSF	Chassis Auxiliary Fan Connector
USB1	USB Port 0,1
VGA	CRT VGA Connector
WOL	Wake On LAN
JFRONT	Front Panel Connector

CMOS Jumper Settings

CMOS Operation (J1)

Type : J1: onboard 3-pin header

If the HiCORE-i6414 refuses to boot due to inappropriate CMOS settings here is how to proceed to clear (reset) the CMOS to its default values.

CMOS Setup (J1)	J1	Status
Keep Data	1-2	Close
Clear CMOS	2-3	Close
default setting	1-2 Close	

Hardware monitor Alarm

Hardware monitor Alarm: (CN7)

Hardware monitor alarm can be selected enable or disable by jumper (CN7). There are three main functions for this item: Voltage/CaseOpen, Fan/Temperature and CPU/Memory.

Mode	Jumper Selected
Enable	Close
Disable	Open
default setting	Close

USB Connector

Connector : USB1

Type: onboard 10-pin box header



Pin	Description	Pin	Description
1	+5V	2	+5V
3	USB D0-	4	USB D1-
5	USB D0+	6	USB D1+
7	GND	8	GND

Serial Port Selection (RS232C/422/485)

RS-232C/422/485 Mode select (J4)

Type : J4: onboard 6-pin(2*3) header

J4 Selection	1-2	3-4	5-6
RS-232C	ON	OFF	OFF
RS-422	OFF	ON	OFF
RS-485	OFF	OFF	ON

default setting RS-232C

RS-232C/422/485 Mode on COM2

The onboard COM2 port can be configured to operate in RS-232C, RS-422 or RS-485 modes. RS-422 modes differ in the way RX/TX is being handled. Jumper J4 switches between RS-232C, RS-422 or 485 mode. All of the RS-232C/422/485 modes are available on COM2.

COM2			
Pin Defined:	RS-232C	RS-422	RS-485
Pin1 :	DCD	Tx+	RTx+
Pin2 :	RXD	Tx-	RTx-
Pin8 :	CTS	Rx+	x
Pin9 :	RI	Rx-	x

Power Type selection

Type : J5 : 2-pin header

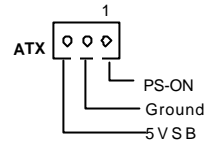
J5 Selection	Status
1-2	ON (ATX Power)
	OFF (AT Power)

default setting ON (ATX Power)

Power Connector

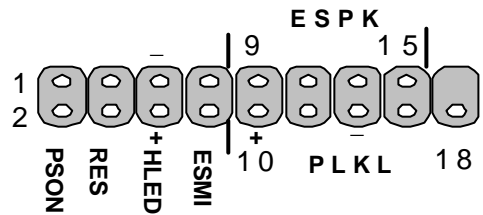
ATX power control (ATX)

Type : 3-pin onboard Wafer connector



Pin	Description
1	PS_ON
2	GND
3	5VSB

Switches and Indicators



Connector : **JFRONT**

Type : onboard 18-pin header

Pin	Jumper	Description
1-2	PSON	ATX soft power switch
3-4	RES	reset function
5-6	HLED	Hard Disk LED
7-8	ESMI	external SMI
9,11,13,15	ESPK	external speaker
10,12,14,16,18	PLKL	power LED & Keyboard Lock