

ETX-1711CLDNA

**Embedded ETX Single Board
Computer**

Version: A0

Thank you for purchasing “EVOC” Products

The User shall open the box and check the parts and documents according to packing list. If there's any damage or loss, please contact your distributor promptly.

- One ETX-1711CLDNA motherboard + one EDB-ETX02 backplane
- One user manual
- One *AMI BIOS Setup Guide*
- One serial port cable
- One parallel port cable
- One hard disk cable
- One EVOC CD including software and user manual
- Backup jumper

Announcement

Except for the accessories attached to the product as specified herein, what is contained in this User Manual does not represent the commitments of EVOC Company. EVOC Company reserves the right to revise this User Manual, without prior notice, and will not be held liable for any direct, indirect, intended or unintended losses and/or hidden dangers due to installation or improper operation.

Before purchasing, please have a detailed understanding of the product performance to see whether it meets your requirements.

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Safety Instructions

1. Before handling your ETX-1711CLDNA motherboard, read the instructions and safety guidelines on the following pages to prevent damage to the product and to ensure your own personal safety;
2. Any boards or cards not ready to be installed shall be kept in the anti-static packaging;
3. Before taking board or card from anti-static packaging, put your hand on grounded metal object for a while (about 10 seconds) to eliminate static on your body;
4. While fetching a board or card, you should wear static protective gloves; hold a board by its edges or by its metal mounting bracket;
5. Before inserting, removing or re-configuring motherboard or expansion card, first disconnect the computer and peripherals from their power sources;
6. Before removing boards or computer, first turn off all power resources and disconnect the power cord from power source;
7. For whole set, when inserting or removing boards, first disconnect the computer and peripherals from their power sources;
8. Before you connect or unplug any equipment, make sure all power cords are unplugged in advance;
9. To avoid power on/off computer frequently, wait at least 30 seconds after turning off the computer before re-turning on the computer.

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Chapter 1

Product Introduction

Overview

ETX-1711CLDNA is a low power embedded ETX architecture single board computer. The motherboard adopts Intel low power, high performance solution, with main characteristics described below:

- ❖ Integrated 400MHz FSB Intel Celeron-M CPU;
- ❖ Provide one 200Pin DDR 200/266 SO-DIMM socket, memory up to 1GB;
- ❖ Onboard integrated network card, 10/100M Ethernet controller, support WOL (Wake On LAN);
- ❖ Onboard integrated sound card, AC97 codec;
- ❖ Intel 852GM chipset integrated, support VGA and dual channel LVDS, support VGA+LVDS dual display;
- ❖ Rich I/O Interfaces;
- ❖ Watchdog timer.

The highly integrated design and ETX architecture makes it convenient to develop individually embedded application system. Combined with rich I/O ports, ETX-1711CLDNA can be widely applied to information appliances, meter and instruments, intelligent product and Industrial control and so on.

Ordering Information

Model Number	Description
ETX-1711CLDNA	Embedded ETX single board computer, C-M CPU /SO-DIMM socket/LCD/CRT/LAN/AUDIO

Environment and Dimensions

Operating Environment:

Temperature: 0°C~60°C

Relative Humidity: 5%~90%, non-condensing

Storage Environment:

Temperature: -40°C~80°C

Relative Humidity: 5%~95%, non-condensing

Dimensions:

114mmx95mm

Processor

Intel Celeron-M CPU, 400MHz FSB

Chipset

Intel 852GM+ICH4

System Memory

Provide one 200Pin DDR 200/266 SO-DIMM socket, memory up to 1GB.

IDE

One standard ATA 100/66/33 IDE port supports two IDE devices.

Display

- ❖ Integrated in Intel 852GM chipset, dynamic video memory up to 64MB shared with system.
- ❖ Support VGA, dual channel LVDS and VGA+LVDS dual display.

Audio

Onboard integrated one standard audio interface, providing you with high quality audio and supporting MIC-in/Line-in/Speaker-out.

Network Function

Onboard it integrates one Intel82562ET 10/100Mb Ethernet controller and supports WOL (Wake On LAN), offering you a high speed and stable network platform.

Expansion Bus

Provide two standard 120-pin expansion slots and two ISA expansion slots to expand standard PCI devices.

CF Card Interface

Support standard Compact Flash type I/II card, in response to the increasing demands of users.

I/O Interfaces

- Two RS-232 ports, COM2 supports RS-485/RS-422;
- One high speed parallel port (SPP/EPP/ECP compatible)
- Four high speed USB 2.0 ports;
- One IrDA interface;
- One standard PS/2 keyboard and mouse port.

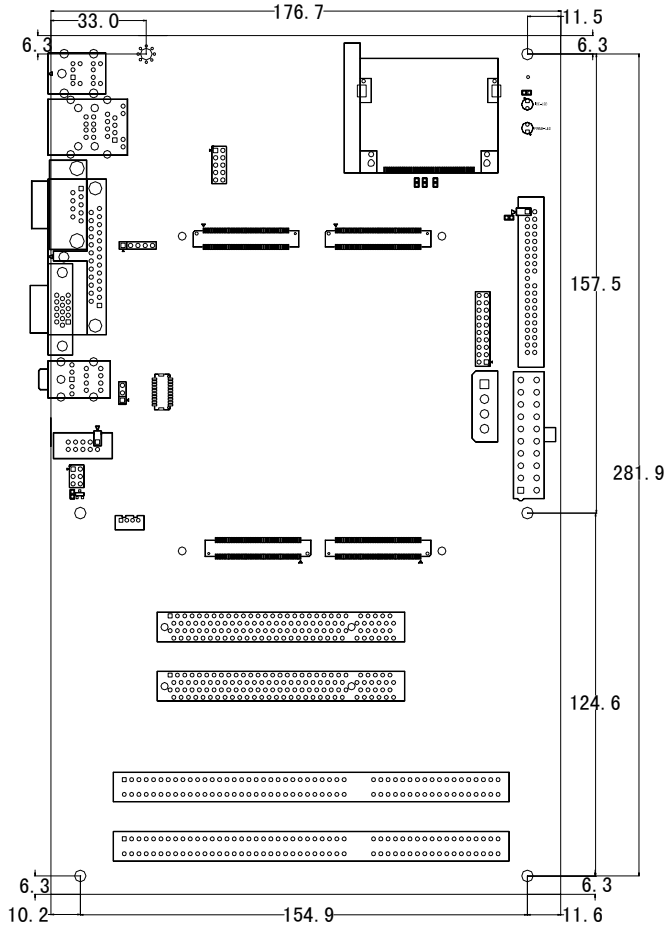
Super I/O Watchdog Timer

- 255 levels, software programmable;
- 1 (minute) resolution 16-bit countdown timer;
- Programmable time-interval interrupt;
- Timeout event reset system.

Chapter 2

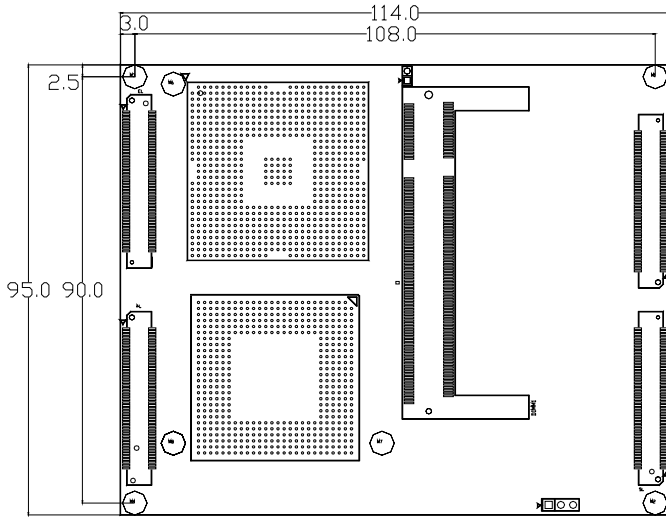
Installation

Dimensions



Dimensions of Backplane

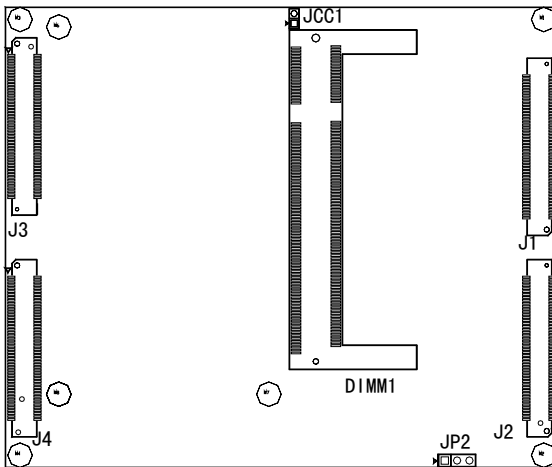
(Unit: mm)



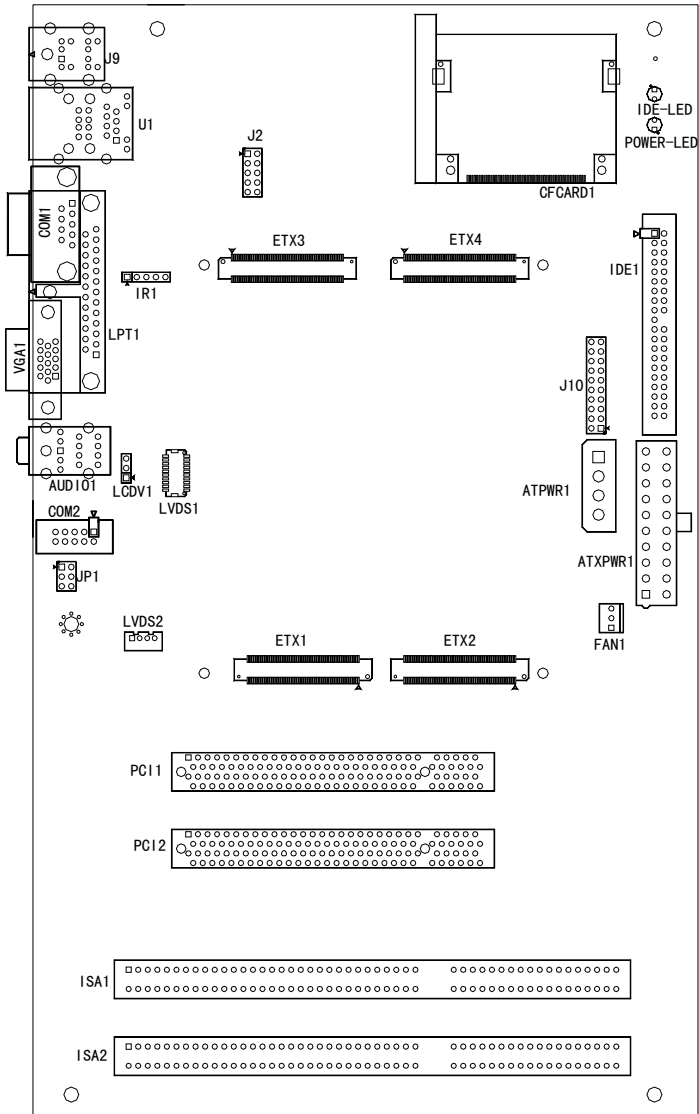
Dimensions of Motherboard

(Unit: mm)

The Locations of Interfaces



The Locations of Interfaces of Motherboard



The Locations of Interfaces of Backplane

Jumper Settings

Tips: how to identify the first pin of jumper and port


Observe the literal mark beside plug, socket, it will be marked by “1” or bold line or triangle; Look at the pads on the back, square pad is pin 1; the red wire or other mark of the cable indicates that it should be connected to pin 1.

1) Clear CMOS/Save Settings (Optional)

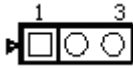
- ❖ CMOS is powered by onboard button cell.
- ❖ If the system fails to boot due to improper BIOS settings, attempt to clear CMOS contents to restore all system parameters to their default value, and then reboot system. Realize this function by shorting JCC1 pin.

Recommended steps for clearing CMOS:

- (1) Power off the computer;
- (2) Short JCC1 pin for several seconds and then remove (the pin is on ETX-1711CLDNA motherboard);
- (3) Power on and boot computer;
- (4) After computer started, follow the instructions on the screen, generally press F1 to enter BIOS settings, reload the optimal default values;
- (5) Save settings and exit.

	Setting	CMOS Status
	Open	Normal operating status (default)
JCC1	Short	Clear CMOS (all BIOS settings are restored to factory default)

2) Selection of Power Supply Type



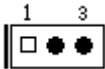
JP2

Setting	Power Supply Type
1-2 Short	ATX Power Supply
2-3 Short	AT Power Supply

Note: Please select the right power supply type before you turns on computer. Wrong power supply type may result in the damage of power supply or motherboard!

3) Selection of Working Voltage

The voltage of LVDS screen may vary depending on different LVDS screens. The board provides 3.3V and 5V for choice. Only when the selected LVDS voltage is equal to the working voltage of LVDS screen can LVDS screen display normally.



LCDV1

Setting	Function
1-2 Short	+3.3V(default)
2-3 Short	+5V

4) Selection of COM2 Mode



JP1

Mode	Pin		
	1-2 Short	3-4 Short	5-6 Short
RS-232	ON(default)	OFF	OFF
RS-485	OFF	ON	OFF
RS-422	OFF	OFF	ON

Note: the pin connector (JP1) is on the backplane.

Installing Memory Modules

The motherboard comes with one DDR (Double Data Rate) SO-DIMM (Dual Inline Memory Modules) 200-pin memory slot (the icon is DIMM1, located on the front side of the motherboard).

When installing memory modules, please note the following issues:

- Holding the module by the corner edges, line up the Slot Key Notch with the Slot Key. Once the module is lined up with the slot key, slide it into the slot ensuring the module is well seated. When you are happy with the position of the memory module, gently push it down into position. Once the memory module is in its final position, the ejector clips should lock onto it and hold it in place.
- You can use 200Pin DDR memory that complies with Intel 2.5V DDR 200/266 specifications, memory up to 1.0GB.
- You'd better use SO-DIMM memory with SPD, to assure the stability of memory.

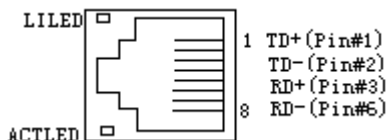
Network and USB Combined Interface

The CPU card provides one combined interface (J1) consisting of one LAN port and two USB ports. LILED and ACTLED are the LEDs beside Ethernet interface, showing the activity and transmission status of LAN.

(1) Definition of LAN port

Please refer to the state description of each LED:

TD+, TD-: Positive/negative sending data signal.	RD+, RD-: Positive/negative receiving data signal.
ACTLED: Status light of network activities.	LILED: Status light of network links.



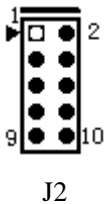
LILED	Function	ACTLED	Function
On	Effective connection	Flicker	Transmitting data
Off	Ineffective connection	Off	No data transceiving

(2) Definition of USB Port:



Pin#	Signal Name
1	+5V
2	USB Data-
3	USB Data+
4	GND

The motherboard also provides a pair of pin connector-type USB (J2 on the backplane), its pin definition as below:

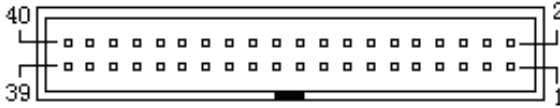


Pin#	Signal Name	Pin#	Signal Name
1	+5V	2	+5V
3	USB Data-	4	USB Data-
5	USB Data+	6	USB Data+
7	GND	8	GND
9	N.C.	10	Shielded GND

IDE Interface

The single board computer offers one 40-pin IDE interface. When installing IDE devices, please note the following issues:

- IDE port can connect two IDE devices: One is Master and the other is Slave. Connecting method: the master is connected at the end of the cable and the slave at the middle of the cable.
- When using Ultra66/100 hard disk, you must use 80 line specific flat cable (the color of pin one of IDE cable is red).



IDE1

Pin#	Signal Name	Pin#	Signal Name
1	Reset IDE	2	Ground
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Ground	20	Key
21	DRQ0	22	Ground
23	IOW	24	Ground
25	IOR	26	Ground
27	IOCHRDY	28	Host ALE
29	DACK0	30	Ground
31	IRQ14	32	No connect
33	Address 1	34	PDIAG
35	Address 0	36	Address 2
37	Chip select 0	38	Chip select 1
39	Activity	40	Ground

CompactFlash Socket

CF card is in Master status in the system. The pin definition of CompactFlash socket is described as below (the icon is CFCARD1):

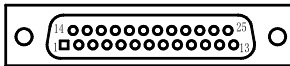
Signal Name	Pin#	Pin#	Signal Name
Ground	1	26	N/C
Data 3	2	27	Data 11
Data 4	3	28	Data 12
Data 5	4	29	Data 13
Data 6	5	30	Data 14
Data 7	6	31	Data 15
HDC_CS0#	7	32	HDC_CS1#
Ground	8	33	N/C
Ground	9	34	IORD#
Ground	10	35	IOWR#
Ground	11	36	+3.3V pull-up
Ground	12	37	IRQ15
+3.3V	13	38	+3.3V
Ground	14	39	CSEL
Ground	15	40	N/C
Ground	16	41	RESET#
Ground	17	42	IORDY
SA2	18	43	N/C
SA1	19	44	+3.3V pull-up
SA0	20	45	HDD_ACTIVE
Data 0	21	46	PDIAG
Data 1	22	47	Data 8
Data 2	23	48	Data 9
N/C	24	49	Data 10
N/C	25	50	Ground

Parallel Port, Serial Port, Display Port

The motherboard provides a three in one port including one parallel port, one serial port and one display port. Purple is parallel port, green is serial port 1, and blue is VGA port. Below are the detailed instructions.

(1) Parallel Port

Standard 25-pin D-type parallel port that can connect parallel port peripherals as you demands.



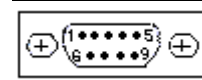
LPT1

Pin#	Signal Name	Pin#	Signal Name
1	Line printer strobe	14	AutoFeed
2	PD0, parallel data 0	15	Error
3	PD1, parallel data 1	16	Initialize
4	PD2, parallel data 2	17	SLIN
5	PD3, parallel data 3	18	Ground
6	PD4, parallel data 4	19	Ground
7	PD5, parallel data 5	20	Ground
8	PD6, parallel data 6	21	Ground
9	PD7, parallel data 7	22	Ground
10	ACK, acknowledge	23	Ground
11	Busy	24	Ground
12	Paper empty	25	Ground
13	Select		

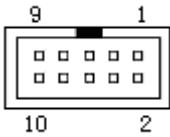
(2) Serial Port

COM1 is a standard 9-pin D-SUB interface. In addition, backplane also provides one 2x5-pin standard RS-232 interface (onboard the icon is COM2), and COM2 can also be configured to RS-485 or RS-422 interface. For detailed information, please refer to JP1 jumper instruction.

Pin#	Signal Name	Pin#	Signal Name
1	DCD, Data Carrier Detect	2	RXD, Receive Data
3	TXD, Transmit Data	4	DTR, Data Terminal Ready
5	GND, Ground	6	DSR, Data Set Ready
7	RTS, Request to Send	8	CTS, Clear to Send
9	RI, Ring Indicator	10	N.C. (COM1 has no pin 10)



COM1



COM2

Display Port

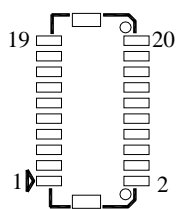
(1) 15-Pin D-type VGA Display Socket



VGA1

Pin#	Signal Name	Pin#	Signal Name
1	Red	2	Green
3	Blue	4	N.C.
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	N.C.	12	DDCDATA
13	HSYNC	14	VSYNC
15	DDCCLK		

A. LVDS1: LVDS Interface

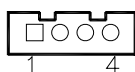


LVDS1

Pin#	Signal Name	Pin#	Signal Name
1	DATA0+	2	DATA0-
3	GND	4	GND
5	DATA1+	6	DATA1-
7	GND	8	GND
9	DATA2+	10	DATA2-
11	GND	12	GND
13	CLK+	14	CLK-
15	GND	16	GND
17	DATA3+	18	DATA3-
19	VDD	20	VDD

Note: besides making LVDS signal cable right, the LCD monitor connected to LVDS interface must be consistent with the LCD type set in BIOS, or it can not display normally. LVDS interface supports 18-bit or 24-bit TFT LCD monitor.

B. LVDS2: Backlight Control Interface of LVDS LCD Screen



LVDS2

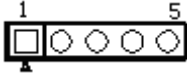
Pin#	Signal Name
1	+12V
2	Backlight Control
3	Backlight Enabled
4	GND

Audio Port

The CPU card provides a group of standard audio ports (AUDIO1), Audio_Out can be connected to headphone or more suitable power loudspeaker. Line In is used for computer recording from tape or other sound resources, or broadcast via Audio_Out. Mic-in is used for connecting microphone input sound. (Blue interface is Line in, light green interface is Audio_out, and pink interface is Mic-in.)

IrDA Port

Provide one group of infrared ray module pin (IR1), support IrDA 1.0 SIR or Sharp ASK-IR infrared ray data transmission function.

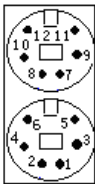


IR1

Pin#	Signal Name
1	+5V
2	NC
3	IrRx
4	GND
5	IrTx

Keyboard and Mouse Port

The motherboard provides one keyboard/mouse port (the icon onboard is J9). Green is mouse port and pink is keyboard port.

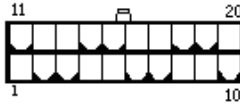


J9

Pin#	Signal Name	Pin#	Signal Name
1	Keyboard data	2	NC
3	GND	4	+5V
5	Keyboard clock	6	NC
7	Mouse data	8	NC
9	GND	10	+5V
11	Mouse clock	12	NC

Power Supply Interface

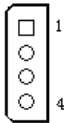
(1) ATX Power Interface



ATXPWR1

Pin#	Signal Name	Pin#	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND (Ground)	13	GND (Ground)
4	+5V	14	PS-ON (power switch control)
5	GND (Ground)	15	GND (Ground)
6	+5V	16	GND (Ground)
7	GND (Ground)	17	GND (Ground)
8	Power Good	18	-5V
9	+5V	19	+5V
10	+12V	20	+5V

(2) AT Power Interface



ATPWR1

Pin#	Signal Name
1	+12V
2	GND
3	GND
4	+5V

PCI Slot

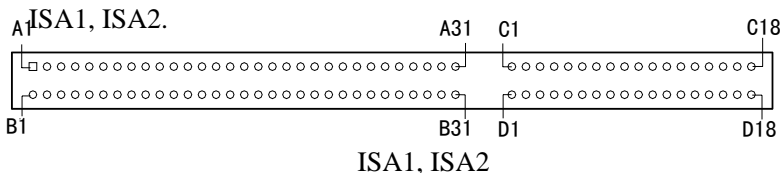
The motherboard has two 33MHz 32-bit 5V PCI expansion slots: PCI1, PCI2, match PCI2.3 standard (the icon is PCI1, PCI2).

Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
1	GND	41	NC	81	PCI AD29
2	VCC+12V	42	GND	82	GND
3	Pull up 3.3V	43	PCI PAR	83	PCI AD27

4	TDI	44	PCI AD15	84	PCI AD25
5	VCC+5V	45	VCC+3.3V	85	VCC+3.3V
6	INTA#	46	PCI AD13	86	PCI C/BE#3
7	INTC#	47	PCI AD11	87	PCI AD23
8	VCC+5V	48	GND	88	GND
9	NC	49	PCI AD9	89	PCI AD21
10	VCC+5V	50	PCI C/BE#0	90	PCI AD19
11	Null	51	VCC+3.3V	91	VCC+3.3V
12	GND	52	PCI AD6	92	PCI AD17
13	GND	53	PCI AD4	93	PCI C/BE#2
14	VCC3.3SB	54	GND	94	GND
15	PCI RST#	55	PCI AD2	95	PCI IRDY#
16	VCC+5V	56	PCI AD0	96	VCC+3.3V
17	PCI GNT	57	VCC+5V	97	PCI DEVSEL#
18	GND	58	PCI REQ64#	98	GND
19	PCI PME#	59	VCC+5V	99	PCI PLOCK#
20	PCI AD30	60	VCC+5V	100	PCI PERR#
21	VCC+3.3V	61	VCC-12V	101	VCC+3.3V
22	PCI AD28	62	GND	102	PCI SERR#
23	PCI AD26	63	GND	103	VCC+3.3V
24	GND	64	TDO	104	PCI C/BE#1
25	PCI AD24	65	VCC+5V	105	PCI AD14
26	IDSEL	66	VCC+5V	106	GND
27	VCC+3.3V	67	INTB#	107	PCI AD12
28	PCI AD22	68	INTD#	108	PCI AD10
29	PCI AD20	69	PRSNT1#	109	GND
30	GND	70	Null	110	PCI AD8
31	PCI AD18	71	PRSNT2#	111	PCI AD7
32	PCI AD16	72	GND	112	VCC+3.3V
33	VCC+3.3V	73	GND	113	PCI AD5
34	PCI FRAME	74	NC	114	PCI AD3
35	GND	75	GND	115	GND
36	PCI TRDY#	76	CLOCK	116	PCI AD1
37	GND	77	GND	117	VCC+5V
38	PCI STOP#	78	PCI REQ#	118	PCI ACK64#
39	VCC+3.3V	79	VCC+5V	119	VCC+5V
40	GND	80	PCI AD31	120	VCC+5V

ISA Slot

The motherboard provides standard 16-bit ISA bus, two ISA slots:




Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
A1	IOCHCK#	B1	GND	C1	SBHE#	D1	MEMCS16#
A2	SD7	B2	RSTDRV	C2	LA23	D2	IOCS16#
A3	SD6	B3	VCC	C3	LA22	D3	IRQ10
A4	SD5	B4	IRQ9	C4	LA21	D4	IRQ11
A5	SD4	B5	-5V	C5	LA20	D5	IRQ12
A6	SD3	B6	DRQ2	C6	SA19	D6	IRQ15
A7	SD2	B7	-12V	C7	SA18	D7	IRQ14
A8	SD1	B8	NOWS#	C8	SA17	D8	DACK0#
A9	SD0	B9	+12V	C9	MEMR#	D9	DRQ0
A10	IOCHRDY	B10	GND	C10	MEMW#	D10	DACK5#
A11	AEN	B11	SMEMW#	C11	SD8	D11	DRQ5
A12	SA19	B12	SMEMR#	C12	SD9	D12	DACK6#
A13	SA18	B13	IOW#	C13	SD10	D13	DRQ6
A14	SA17	B14	IOR#	C14	SD11	D14	DACK7#
A15	SA16	B15	DACK3#	C15	SD12	D15	DRQ7
A16	SA15	B16	DRQ3	C16	SD13	D16	VCC
A17	SA14	B17	DACK1#	C17	SD14	D17	MASTER#
A18	SA13	B18	DRQ1	C18	SD15	D18	GND
A19	SA12	B19	REFRESH#				
A20	SA11	B20	BCLK				
A21	SA10	B21	IRQ7				
A22	SA9	B22	IRQ6				
A23	SA8	B23	IRQ5				
A24	SA7	B24	IRQ4				
A25	SA6	B25	IRQ3				
A26	SA5	B26	DACK2#				
A27	SA4	B27	TC				
A28	SA3	B28	BALE				
A29	SA2	B29	VCC				
A30	SA1	B30	ISA_BCLK2X				
A31	SA0	B31	GND				

ETX Connector


There are four ETX connectors (J1-J4) on the back of ETX-1711CLDNA motherboard. Below are the pin definitions of J1-J4.

1. Definitions of J1 Interface (PCI-Bus, USB, Sound)



Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
1	GND	2	GND	51	VCC5	52	VCC5
3	NC	4	NC	53	PCI_PAR	54	SERR
5	GND	6	GND	55	GPERR	56	NC
7	PCI_CLK1	8	PCI_CLK	57	PME	58	USB2#
9	NC	10	NC	59	LOCK#	60	DEVSL#
11	NC	12	VCC3	61	TRDY#	62	USB3#
13	NC	14	PCI_GN	63	IRDY#	64	STOP#
15	PCI_REQ1	16	VCC3	65	FRAME#	66	USB2
17	PCI_GNT0	18	NC	67	GND	68	GND
19	VCC5	20	VCC5	69	PCI_AD1	70	PCI_C_B
21	NC	22	PCI_REQ	71	PCI_AD1	72	USB3+
23	PCI_AD0	24	VCC3	73	PCI_AD1	74	PCI_AD1
25	PCI_AD1	26	PCI_AD2	75	PCI_AD2	76	USB0#
27	PCI_AD4	28	PCI_AD3	77	PCI_AD2	78	PCI_AD2
29	PCI_AD6	30	PCI_AD5	79	PCI_AD2	80	USB1#
31	PCI_C_BE	32	PCI_AD7	81	PCI_AD2	82	CBE3#
33	PCI_AD8	34	PCI_AD9	83	VCC5	84	VCC5
35	GND	36	GND	85	PCI_AD2	86	PCI_AD2
37	PCI_AD10	38	AUXAL	87	PCI_AD2	88	USB0+
39	PCI_AD11	40	MICIN1	89	PCI_AD2	90	PCI_AD2
41	PCI_AD12	42	AUXAR	91	PCI_AD3	92	USB1+
43	PCI_AD13	44	ASVCC	93	PCI_RST	94	PCI_AD3
45	PCI_AD14	46	SNDL	95	PCI_INTC	96	PCI_INTD
47	PCI_AD15	48	AGND	97	PCI_INTA	98	PCI_INTB
49	PCI_C_BE	50	SDNR	99	GND	100	GND


2. Definitions of J2 Interface (ISA-Bus)



The diagram shows a vertical strip of pins for the J2 interface. The pins are numbered 1, 2, 99, and 100 from top to bottom. Pin 1 is at the top, pin 2 is just below it, pin 99 is near the bottom, and pin 100 is at the very bottom.

Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
1	GND	2	GND	51	VCC5	52	VCC5
3	SD14	4	SD15	53	SA6	54	IRQ5
5	SD13	6	MASTER	55	SA7	56	IRQ6
7	SD12	8	DRQ7	57	SA8	58	IRQ7
9	SD11	10	DACK7	59	SA9	60	SYSCLK
11	SD10	12	DRQ6	61	SA10	62	REFSH#
13	SD9	14	DACK6	63	SA11	64	DRQ1
15	SD8	16	DRQ5	65	SA12	66	DACK1
17	MEMW	18	DACK5	67	GND	68	GND
19	MEMR	20	DRQ0	69	SA13	70	DRQ3
21	LA17	22	DACK0	71	SA14	72	DACK3
23	LA18	24	IRQ14	73	SA15	74	IOR
25	LA19	26	IRQ15	75	SA16	76	IOW
27	LA20	28	IRQ12	77	SA18	78	SA17
29	LA21	30	IRQ11	79	SA19	80	SMEMR
31	LA22	32	IRQ10	81	IOCHRDY	82	AEN
33	LA23	34	IOCS16	83	VCC5	84	VCC5
35	GND	36	GND	85	SD0	86	SMEMW
37	SBHE	38	M16#	87	SD2	88	SD1
39	SA0	40	ISA_OSC	89	SD3	90	NOWS
41	SA1	42	BALE	91	DRQ2	92	SD4
43	SA2	44	TC	93	SD5	94	IRQ9
45	SA3	46	DACK2	95	SD6	96	SD7
47	SA4	48	IRQ3	97	IOCHCK	98	RSTDRV
49	SA5	50	IRQ4	99	GND	100	GND

3. Definitions of J3 Interface (VGA, LCD, Video, COM1, COM2, LPT/Floppy, IrDA, Mouse, Keyboard):



Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
1	GND	2	GND	51	NC	52	NC
3	R	4	B	53	VCC5	54	GND
5	HSY	6	G	55	STB#	56	AFD#
7	VSY	8	DDCK	57	NC	58	PD7
9	NC	10	DDDA	59	IRRX	60	ERR#
11	NC	12	NC	61	IRTX	62	PD6
13	NC	14	NC	63	RXD2	64	INIT#
15	GND	16	GND	65	GND	66	GND
17	NC	18	NC	67	RTS2#	68	PD5
19	NC	20	NC	69	DTR2#	70	SLIN#
21	GND	22	GND	71	DCD2#	72	PD4 #
23	NC	24	LCDD011	73	DSR2#	74	PD3
25	NC	26	LCDD01	75	CTS2#	76	PD2
27	GND	28	GND	77	TXD2#	78	PD1
29	LCDDO4	30	LCDDO7	79	RI2#	80	PD0
31	LCDDO5	32	LCDDO6	81	VCC5	82	VCC5
33	GND	34	GND	83	RXD1	84	ACK
35	LCDDO1	36	LCDDO3	85	RTS1#	86	BUSY#
37	LCDDO0	38	LCDDO2	87	DTR1#	88	PE
39	VCC5	40	VCC5	89	DCD1#	90	SLCT#
41	NC	42	NC	91	DSR1#	92	MS_CLK
43	NC	44	BLON	93	CTS1#	94	MS_DAT
45	BIASON	46	BIGON	95	TXD1	96	KB_CLK
47	NC	48	NC	97	RI1#	98	KB_DAT
49	NC	50	NC	99	GND	100	GND

4. Definitions of J4 Interface (IDE1, Ethernet, Feature)



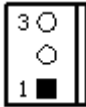
Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name	Pin#	Signal Name
1	GND	2	GND	51	SIDE_IOW#	52	PIDE_IOR#
3	VCC5_SB	4	NC	53	SIDE_DRQ	54	PIDE_IOW#
5	PS_ON	6	SPEAKER	55	SIDE_D15	56	PIDE_DRQ
7	PWRBTN	8	BATT	57	SIDE_D0	58	PIDE_D15
9	NC	10	LAN_LILED	59	SIDE_D14	60	PIDE_D0
11	RSMRST	12	LAN_ACTLED	61	SIDE_D1	62	PIDE_D14
13	NC	14	NC	63	SIDE_D13	64	PIDE_D1
15	NC	16	NC	65	GND	66	GND
17	VCC5	18	VCC5	67	SIDE_D2	68	PIDE_D13
19	OVCR#	20	NC	69	SIDE_D12	70	PIDE_D2
21	NC	22	NC	71	SIDE_D3	72	PIDE_D12
23	NC	24	NC	73	SIDE_D11	74	PIDE_D3
25	SIDE_CS3	26	NC	75	SIDE_D4	76	PIDE_D11
27	SIDE_CS1	28	NC	77	SIDE_D10	78	PIDE_D4
29	SIDE_A2	30	PIDE_CS3#	79	SIDE_D5	80	PIDE_D10
31	SIDE_A0	32	PIDE_CS1#	81	VCC5	82	VCC5
33	GND	34	GND	83	SIDE_D9	84	PIDE_D5
35	PDIAG_S	36	PIDE_A2	85	SIDE_D6	86	PIDE_D9
37	SIDE_A1	38	PIDE_A0	87	SIDE_D8	88	PIDE_D6
39	SIDE_INTRQ	40	PIDE_A1	89	NC	90	NC
41	BATLOW#	42	NC	91	RXID-	92	PIDE_D8
43	NC	44	PIDE_INTRQ	93	RXID+	94	SIDE_D7
45	SIDE_RDY	46	PIDE_ACK	95	TXD#	96	PIDE_D7
47	SIDE_IOR#	48	PIDE_RDY	97	TXD+	98	HDRST
49	VCC5	50	VCC5	99	GND	100	GND

Fan Socket

The backplane provides one standard CPU fan socket FAN1.

When using fan socket, please pay attention to the following three issues:

- Fan current should not be more than 350mA (4.2W, 12V).
- Check if the fan cable accords with the socket cable.
- Adjust the fan airflow direction parallel to the direction of heat dissipation.



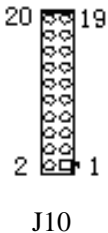
FAN1

Pin#	Signal Name
1	GND
2	+12V power supply
3	Pull up to 5V

Status Indicating LEDs on Front Panel

J10 is used to connect the indicating LEDs and buttons on front panel. Pin 1, 3 connect IDE/CF LED; Pin 2, 4, 6 connect power LED; Pin 11, 13 connect power button; Pin 17, 19 connect Reset button; Pin 14, 16, 18, 20 connect speaker. The definitions of PINs are listed in the table below:

Pin#	Signal Name		Pin#	Signal Name	
1	IDE/CF_LE	IDE/CF_LED+	2	PLED	PLED+
3	D	IDE/CF_LED-	4		NC
5	NC		6		PLED-
7	NC		8	NC	
9	NC		10	NC	
11	Power button	PWR	12	NC	
13		GND	14	Speaker	+5V
15	NC		16		GND
17	Reset button	Reset	18		GND
19		GND	20		Speaker



J10

Chapter 3

BIOS Setup

Regarding the BIOS features setup of ETX-1711CLDNA, please refer to the *AMI BIOS Setup Guide* edited by EVOC Company.

Appendix

Watchdog Programming Guide

Win83627hf/f/hg includes a watchdog timer (WDT) that can count from 1 to 255 seconds (or minutes). Watchdog Timer can be programmed to reset system or generate maskable interrupt after a certain number of seconds/minutes during which a program or computer fails to respond.

Below it describes WDT program in C language. Note: before running WDT, you must first enter WDT programming mode; after finishing WDT configuration, exit WDT.

Please follow the steps to complete the configuration setup:

- Enter WDT config mode
- Modify WDT working mode/start WDT/close WDT
- Exit WDT config mode

“include” files needed:

```
#include <stdio.h>
#include <dos.h>
#include <bios.h>
#include <stdlib.h>
#include <string.h>
```

(1) Enter WDT programming mode

```
outputb(0x2e,0x87); //enter WDT programming mode, INDEX PORT
                    write 2 times 87
outputb(0x2e,0x87); //INDEX PORT [4e /2e], DATA PORT[4F/2F]
outputb(0x2e,0x07); //reg0X07, used for select logic device
outputb(0x2f,0x08); //select logic device8,
outputb(0x2e,0x30); //reg0x30, device enable register, 0=disable,
                    1=enable
```

```
outputb(0x2f,0x01); //enable device8
```

(2) Set up WDT working mode, reset or interrupt, select one of them:

```
outputb(INDEXP, 0x2b);
```

```
char oldval = inportb(DATAP);
```

a. Configure WDT to reset mode

```
oldval &= 0xef;
```

```
    /*reg0x2b.bit4, reset mode this position is 0
```

```
    1=GPIO24
```

```
    0=WDTO
```

```
    */
```

```
outputb(0x2f, oldval);
```

b. Configure WDT to interrupt mode

```
oldval |= 0x10;
```

```
    /*reg0x2b.bit4, interrupt mode this position is 1
```

```
    1=GPIO24
```

```
    0=WDTO
```

```
    */
```

```
outputb(0x2e,0xf7); //select WDT interrupt number
```

```
outputb(0x2f,IRQ_RESOURCE);
```

```
IRQ_RESOURCE =0: Prohibit using any interrupt
```

```
    /*
```

```
    register 0xF7
```

```
    bit[3:0]WDT interrupt Mapping
```

```
    1111=IRQ 15
```

```
    .....
```

```
    0011=IRQ3
```

```
    0010=IRQ2
```

```
    0001=IRQ1
```

```
    0000=Disable
```

```
    */
```

(3) Select WDT counting unit, the choice: Second, Minute.**a. Use the following commands when set minutes as counting unit:**

; suppose it is in WDT programming mode

```
outportb(0x2e,0xf5); //count by minutes, register 0xf5.bit3=1.
```

```
outportb(0x2f,0x08);
```

b. Use the following commands when set seconds as counting unit:

; suppose it is in WDT programming mode

```
outportb(0x2e,0xf5); //count by seconds, register 0xf5.bit3=1.
```

```
outportb(0x2f,0);
```

(4) Start/Prohibit WDT

; suppose it is in WDT programming mode

```
outportb(0x2e,0xf6); //write in TIME-OUT-VALUE
```

```
outportb(0x2f,TIME-OUT-VALUE);
```

Note: the range of TIME-OUT-VALUE is from 1~255, timing unit is

“minute” or “second”. The WDT will be disabled if you set the TIME-OUT-VALUE to be zero.

Any non zero value will start WDT.

(5) Exit WDT programming mode

```
outportb (0x2e,0xaa) ;
```

I/O Address Map

The total space of system I/O address is 64K. Each peripheral equipment will occupy a section of I/O address. The I/O address assignments of some devices of the motherboard are listed in the table below (For references only).

Address	Device Description
0000-000F	Direct memory access controller 1
0000-0CF7	PCI bus
010-01Fh	Motherboard resources
020h - 021h	Programmable interrupt contoler#1
022-03Fh	Motherboard resources
040h - 043h	System timer
044h-05Fh	Motherboard resources
060h	Standard 101/102-key or Microsoft Natural PS/2 Keyboard
061h	System speaker
062h-063h	Motherboard resources
093h-09Fh	No Specific Usage
064h - 064h	Standard 101/102-key or Microsoft Natural PS/2 Keyboard
065h—06fh	Motherboard resource
070h-071h	System CMOS/real time clock
072h-07fh	Motherboard resource
080h	Motherboard resource
081h - 083h	Direct memory access controller 2
084h-086h	Motherboard resource
087h	Direct memory access controller 3
088h	Motherboard resource
089h – 08Bh	Direct memory access controller 4
08Ch-08Eh	Motherboard resource
08Fh	Direct memory access controller 1
090h-09Fh	Motherboard resource

0A0h-0A1h	Programmable interrupt contoler #2
0A2h-0BFh	Motherboard resource
0C0h-0DFh	Motherboard resource
0E0h-0EFh	Motherboard resource
0F0h-0FFh	Numeric data processor
170h - 177h	Secondary IDE Channel
1F0h - 1F7h	Primary IDE Channel
0CCh	No Specific Usage
274h-277h	ISAPNP Read Data Port
279h	ISAPNP Read Data Port
2F8h - 2FFh	Serial Port #2(COM2)
376h	Secondary IDE Channel
378h - 37Fh	Parallel Port #1(LPT1)
3B0h – 3BBh	Intel(R) 82852/82855 GM/GME Graphics Controller
3C0h - 3DFh	Intel(R) 82852/82855 GM/GME Graphics Controller
3F6h	Primary IDE Channel
3F8h - 3FFh	Serial Port #1(COM1)
400h-41Fh	Intel(R) 82801DB/DBM SMBus Controller-24C3
480h-4BFh	Motherboard resource
4D0h-4D1h	Motherboard resource
800h-87Fh	Motherboard resource
A00h-A0Fh	Motherboard resource
A79h	ISAPNP Read Data Port
0D00h-FFFFh	PCI bus
DF80h-DF8F	Intel(R) PRO/100 VE Network Connection
ED00h-ED1Fh	Intel(R) 82801DB/DBM USB Universal Host Controller-24C2
ED80h-ED9Fh	Intel(R) 82801DB/DBM USB Universal Host Controller-24C4
EE00h-EEFFh	Realtek AC 97 Audio
EF00h-EF3Fh	Realtek AC 97 Audio
EF80h-EF87h	Intel(R) 82852/82855 GM/GME Graphics Controller
FC00h-FC0Fh	Intel(R) 82801DB Ultra ATA Storage Controller-24CB

IRQ Assignment Table

The system has 15 interrupt sources in total, and some of them have been occupied by system devices. Only those unoccupied interrupt can be assigned to other devices. ISA device requests exclusive use of its interrupt; only PnP ISA device can be assigned interrupt by BIOS or operating system. Multiple PCI devices can share an interrupt, which is assigned by BIOS or operating system. Interrupt assignment of some devices of this CPU card is shown in the following table, but interrupt resources occupied by PCI devices are not included.

Grad	Function
IRQ0	System timer
IRQ1	Standard 101/102-key or Microsoft Natural PS/2 Keyboard
IRQ3	Serial Port #2(COM2)
IRQ4	Serial Port #1(COM1)
IRQ8	System CMOS/real time clock
IRQ9	ACPI-Compliant System
IRQ11	Intel(R) 82801DB/DBM SMBus Controller - 24C3
IRQ1	Microsoft PS/2 Mouse
IRQ1	Numeric data processor
IRQ1	Primary IDE Channel
IRQ1	Secondary IDE Channel
IRQ1	Intel(R) 82852/82855 GM/GME Graphics Controller
IRQ1	Intel(R) 82801DB/DBM USB Universal Host Controller
IRQ1	Realtek AC'97 Audio
IRQ1	Intel(R) 82801DB/DBM USB Universal Controller - 24C4
IRQ2	Intel(R) PRO/100 VE Network Connection

For more information, please visit: <http://www.evoc.com>