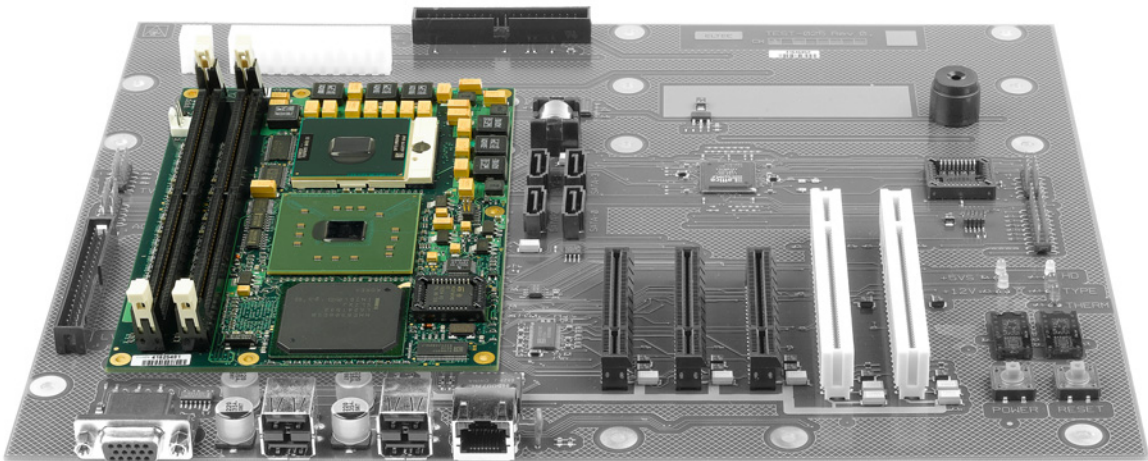


**ELTEC**

systems

# MODB-200

COM EXPRESS CARRIER TYPE 2 FOR EUROCOM 400



## DOCUMENTATION

Revision oA



## Revision

Revision	Changes	Date / Name
oA	First Edition	04.12.06 ac

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### Federal communications commission statement

- This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:
- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### Canadian department of communications statement

- This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
- This class B digital apparatus complies with Canadian ICES-003

## SAFETY INFORMATION

### Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before reloading the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add device.
- Before connecting or removing signals cables from motherboard, ensure that all power cables are unplugged.

- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

#### Operation safety

- Before installing the motherboard and adding devices on it, carefully read the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

#### EMC Rules

This unit has to be installed in a shielded housing. If not installed in a properly shielded enclosure, and used in accordance with the instruction manual, this product may cause radio interference in which case the user may be required to take adequate measures at his or her own expense.

#### IMPOTANT INFORMATION

This product is not an end user product. It was developed and manufactured for further processing by trained personnel.

#### RECYCLING



Please recycle packaging environmentally friendly:

Packaging materials are recyclable. Please do not dispose packaging into domestic waste but recycle it.



Please recycle old or redundant devices environmentally friendly:

Old devices contain valuable recyclable materials that should be reutilized. Therefore please dispose .... old devices at collection points which are suitable.

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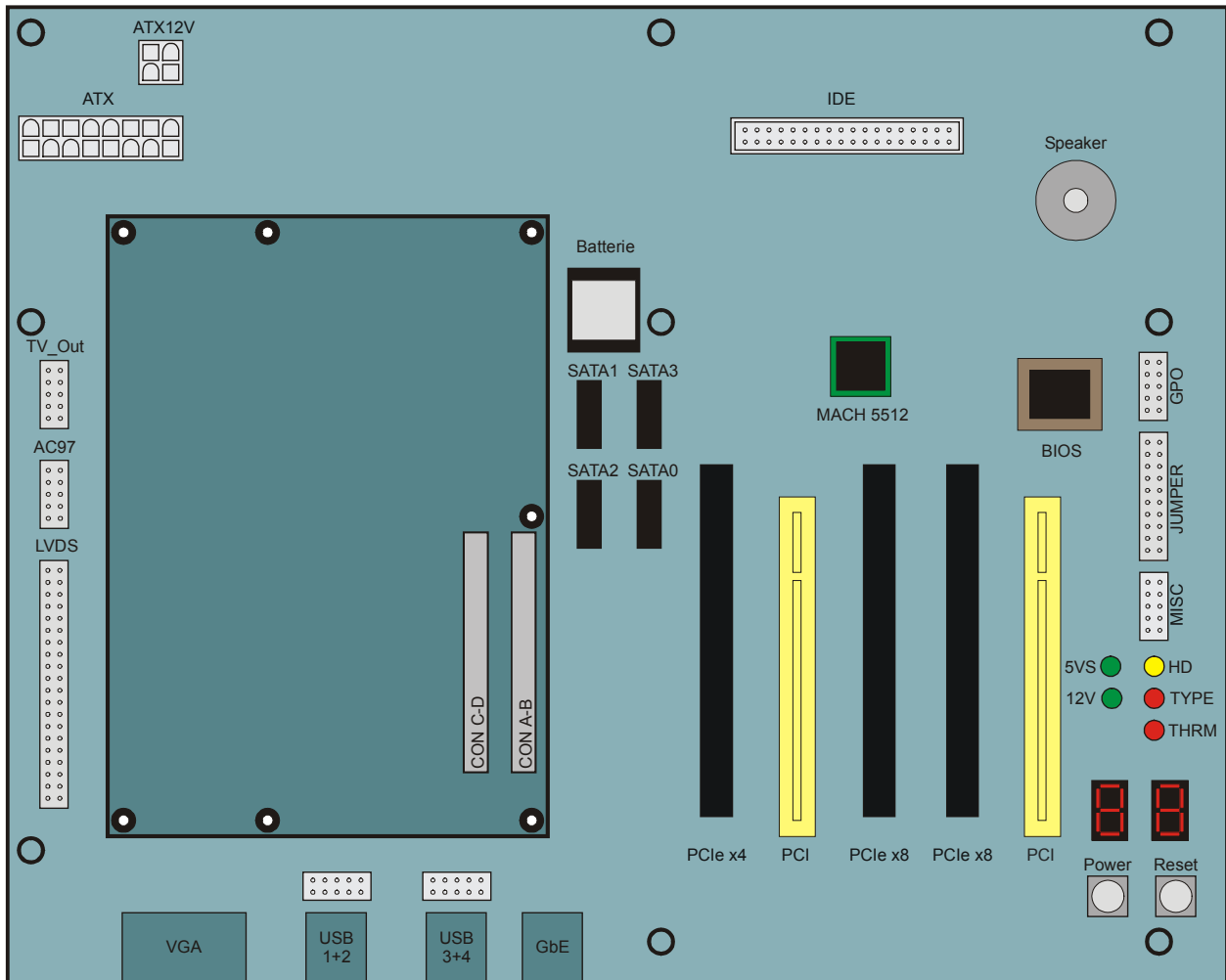
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1. Specification

The MODB-200 is a COM Express carrier board for Basic and Extended form factor modules. It supports one COM Express module with type 2 and needs an ATX12V power supply.



1.1. VGA

If a CRT monitor is used, a standard VGA cable (15 pins) is connected between the monitor and the VGA connector of the carrierboard. Make sure that your monitor is capable of displaying the video resolutions. If a video mode generates horizontal frequencies much higher than the maximum value of your monitor, the monitor may be damaged! If your monitor is not able to display a mode, switch off or disconnect the monitor in advance and select an appropriate video mode for the monitor.

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### 1.2. Keyboard

A standard USB keyboard can be connected to a USB connector.

### 1.3. Mouse

A standard USB mouse can be connected to a USB connector.

### 1.4. Ethernet

A Network can be connected using 10BaseT, 100BaseTX or 1000BaseT standard.

### 1.5. USB

Up to four USB devices can be connected to the carrierboard.

### 1.6. Port 80

This Display shows the Port80 debug information (Postcode) of the BIOS.

### 1.7. Status LEDs

#### 1.7.1. 5V\_SBY

This green LED shows the presence of the 5V standby voltage from the ATX main power.

#### 1.7.2. 12V

This green LED shows the presence of the 12V voltage from the ATX main power.

#### 1.7.3. HDD

This yellow LED shows activity on either the DIE interface or the SATA interfaces.

#### 1.7.4. Type

This red LED shows a mismatch of the COM Express types. The MODB-200 carrierboard is designed for type 2 COM Express modules and can not used with other types. The main power will not turn on if there is a mismatch.

#### 1.7.5. Therm

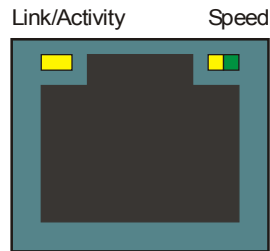
This red LED shows a critical thermal shutdown of the system.

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### 1.8. Ethernet Status LEDs



**Figure 1.1: Location Ethernet Status LEDs**

**Table 1.1: Speed LED**

green	1000Mb/s
yellow	100Mb/s
off	10Mb/s or not active

**Table 1.2: Link / Activity LED**

yellow	linkpulse detected
blinking	Activity

## DOCUMENTATION

## 2. Interface Connectors

## 2.1. COM Express Connector

Table 2.1: COM Express Connector

Row A		Row B		Row C		Row D	
A1	GND	B1	GND	C1	GND	D1	GND
A2	GBE0_MDI3-	B2	GBE0_ACT#	C2	IDE_D7	D2	IDE_D5
A3	GBE0_MDI3+	B3	LPC_FRAME#	C3	IDE_D6	D3	IDE_D10
A4	GBE0_LINK1000#	B4	LPC_AD0	C4	IDE_D3	D4	IDE_D11
A5	GBE0_LINK1000#	B5	LPC_AD1	C5	IDE_D15	D5	IDE_D12
A6	GBE0_MDI2-	B6	LPC_AD2	C6	IDE_D8	D6	IDE_D4
A7	GBE0_MDI2+	B7	LPC_AD3	C7	IDE_D9	D7	IDE_D0
A8	GBE0_LINK#	B8	LPC_DRQ0#	C8	IDE_D2	D8	IDE_REQ
A9	GBE0_MDI1-	B9	LPC_DRQ1#	C9	IDE_D13	D9	IDE_IOW#
A10	GBE0_MDI1+	B10	LPC_CLK	C10	IDE_D1	D10	IDE_ACK#
A11	GND	B11	GND	C11	GND	D11	GND
A12	GBE0_MDI0-	B12	PWRBTN#	C12	IDE_D14	D12	IDE_IRQ
A13	GBE0_MDI0+	B13	SMB_CK	C13	IDE_IORDY	D13	IDE_A0
A14	GBE0_CTREF	B14	SMB_DAT	C14	IDE_IOR#	D14	IDE_A1
A15	SUS_S3#	B15	SMB_ALERT#	C15	PCI_PME#	D15	IDE_A2
A16	SATA0_TX+	B16	SATA1_TX+	C16	PCI_GNT2#	D16	IDE_CS1#
A17	SATA0_TX-	B17	SATA1_TX-	C17	PCI_REQ2#	D17	IDE_CS3#
A18	SUS_S4#	B18	SUS_STAT#	C18	PCI_GNT1#	D18	IDE_RESET#
A19	SATA0_RX+	B19	SATA1_RX+	C19	PCI_REQ1#	D19	PCI_GNT3#
A20	SATA0_RX-	B20	SATA1_RX-	C20	PCI_GNT0#	D20	PCI_REQ3#
A21	GND	B21	GND	C21	GND	D21	GND
A22	SATA2_TX+	B22	SATA3_TX+	C22	PCI_REQ0#	D22	PCI_AD1
A23	SATA2_TX-	B23	SATA3_TX-	C23	PCI_RESET#	D23	PCI_AD3
A24	SUS_S5#	B24	PWR_OK	C24	PCI_AD0	D24	PCI_AD5
A25	SATA2_RX+	B25	SATA3_RX+	C25	PCI_AD2	D25	PCI_AD7
A26	SATA2_RX-	B26	SATA3_RX-	C26	PCI_AD4	D26	PCI_C/BE0#
A27	BATLOW#	B27	WDT	C27	PCI_AD6	D27	PCI_AD9
A28	ATA_ACT#	B28	AC_SDIN2	C28	PCI_AD8	D28	PCI_AD11
A29	AC_SYNC	B29	AC_SDIN1	C29	PCI_AD10	D29	PCI_AD13
A30	AC_RST#	B30	AC_SDIN0	C30	PCI_AD12	D30	PCI_AD15
A31	GND	B31	GND	C31	GND	D31	GND
A31	GND	B31	GND	C31	GND	D31	GND
A32	AC_BITCLK	B32	SPKR	C32	PCI_AD14	D32	PCI_PAR
A33	AC_SDOOUT	B33	I2C_CK	C33	PCI_C/BE1#	D33	PCI_SERR#
A34	BIOS_DISABLE#	B34	I2C_DAT	C34	PCI_PERR#	D34	PCI_STOP#
A35	THRMTRIP#	B35	THRM#	C35	PCI_LOCK#	D35	PCI_TRDY#
A36	USB6-	B36	USB7-	C36	PCI_DEVSEL#	D36	PCI_FRAME#
A37	USB6+	B37	USB7+	C37	PCI_IRDY#	D37	PCI_AD16
A38	USB_6_7_OC#	B38	USB_4_5_OC#	C38	PCI_C/BE2#	D38	PCI_AD18
A39	USB4-	B39	USB5-	C39	PCI_AD17	D39	PCI_AD20
A40	USB4+	B40	USB5+	C40	PCI_AD19	D40	PCI_AD22
A41	GND	B41	GND	C41	GND	D41	GND
A42	USB2-	B42	USB3-	C42	PCI_AD21	D42	PCI_AD24
A43	USB2+	B43	USB3+	C43	PCI_AD23	D43	PCI_AD26
A44	USB_2_3_OC#	B44	USB_0_1_OC#	C44	PCI_C/BE3#	D44	PCI_AD28
A45	USB0-	B45	USB1-	C45	PCI_AD25	D45	PCI_AD30
A46	USB0+	B46	USB1+	C46	PCI_AD27	D46	PCI_IRQC#
A47	VCC_RTC	B47	EXCD1_PERST#	C47	PCI_AD29	D47	PCI_IRQD#
A48	EXCD0_PERST#	B48	EXCD1_CPPE#	C48	PCI_AD31	D48	PCI_CLKRUN#

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A49	EXCD0_CPPE#	B49	SYS_RESET#	C49	PCI_IRQA#	D49	PCI_M66EN
A50	LPC_SERIRQ	B50	CB_RESET#	C50	PCI_IRQB#	D50	PCI_CLK
A51	GND	B51	GND	C51	GND	D51	GND
A52	PCIE_TX5+	B52	PCIE_RX5+	C52	PEG_RX0+	D52	PEG_TX0+
A53	PCIE_TX5-	B53	PCIE_RX5-	C53	PEG_RX0-	D53	PEG_TX0-
A54	GPI0	B54	GPO1	C54	TYPE0#	D54	PEG_LANE_RV#
A55	PCIE_TX4+	B55	PCIE_RX4+	C55	PEG_RX1+	D55	PEG_TX1+
A56	PCIE_TX4-	B56	PCIE_RX4-	C56	PEG_RX1-	D56	PEG_TX1-
A57	GND	B57	GPO2	C57	TYPE1#	D57	TYPE2#
A58	PCIE_TX3+	B58	PCIE_RX3+	C58	PEG_RX2+	D58	PEG_TX2+
A59	PCIE_TX3-	B59	PCIE_RX3-	C59	PEG_RX2-	D59	PEG_TX2-
A60	GND	B60	GND	C60	GND	D60	GND
A61	PCIE_TX2+	B61	PCIE_RX2+	C61	PEG_RX3+	D61	PEG_TX3+
A62	PCIE_TX2-	B62	PCIE_RX2-	C62	PEG_RX3-	D62	PEG_TX3-
A63	GPI1	B63	GPO3	C63	RSVD	D63	RSVD
A64	PCIE_TX1+	B64	PCIE_RX1+	C64	RSVD	D64	RSVD
A65	PCIE_TX1-	B65	PCIE_RX1-	C65	PEG_RX4+	D65	PEG_TX4+
A66	GND	B66	WAKE0#	C66	PEG_RX4-	D66	PEG_TX4-
A67	GPI2	B67	WAKE1#	C67	RSVD	D67	GND
A68	PCIE_TX0+	B68	PCIE_RX0+	C68	PEG_RX5+	D68	PEG_TX5+
A69	PCIE_TX0-	B69	PCIE_RX0-	C69	PEG_RX5-	D69	PEG_TX5-
A70	GND	B70	GND	C70	GND	D70	GND
A71	LVDS_A0+	B71	LVDS_B0+	C71	PEG_RX6+	D71	PEG_TX6+
A72	LVDS_A0-	B72	LVDS_B0-	C72	PEG_RX6-	D72	PEG_TX6-
A73	LVDS_A1+	B73	LVDS_B1+	C73	SDVO_DATA	D73	SDVO_CLK
A74	LVDS_A1-	B74	LVDS_B1-	C74	PEG_RX7+	D74	PEG_TX7+
A75	LVDS_A2+	B75	LVDS_B2+	C75	PEG_RX7-	D75	PEG_TX7-
A76	LVDS_A2-	B76	LVDS_B2-	C76	GND	D76	GND
A77	LVDS_VDD_EN	B77	LVDS_B3+	C77	RSVD	D77	IDE_CBLID#
A78	LVDS_A3+	B78	LVDS_B3-	C78	PEG_RX8+	D78	PEG_TX8+
A79	LVDS_A3-	B79	LVDS_BKLT_EN	C79	PEG_RX8-	D79	PEG_TX8-
A80	GND	B80	GND	C80	GND	D80	GND
A81	LVDS_A_CK+	B81	LVDS_B_CK+	C81	PEG_RX9+	D81	PEG_TX9+
A82	LVDS_A_CK-	B82	LVDS_B_CK-	C82	PEG_RX9-	D82	PEG_TX9-
A83	LVDS_I2C_CK	B83	LVDS_BKLT_CTRL	C83	RSVD	D83	RSVD
A84	LVDS_I2C_DAT	B84	VCC_5V_SBY	C84	GND	D84	GND
A85	GPI3	B85	VCC_5V_SBY	C85	PEG_RX10+	D85	PEG_TX10+
A86	KBD_RST#	B86	VCC_5V_SBY	C86	PEG_RX10-	D86	PEG_TX10-
A87	KBD_A20GATE	B87	VCC_5V_SBY	C87	GND	D87	GND
A88	PCIE0_CK_REF+	B88	RSVD	C88	PEG_RX11+	D88	PEG_TX11+
A89	PCIE0_CK_REF-	B89	VGA_RED	C89	PEG_RX11-	D89	PEG_TX11-
A90	GND	B90	GND	C90	GND	D90	GND
A91	RSVD	B91	VGA_GRN	C91	PEG_RX12+	D91	PEG_TX12+
A92	RSVD	B92	VGA_BLU	C92	PEG_RX12-	D92	PEG_TX12-
A93	GPO0	B93	VGA_HSYNC	C93	GND	D93	GND
A94	RSVD	B94	VGA_VSYNC	C94	PEG_RX13+	D94	PEG_TX13+
A95	RSVD	B95	VGA_I2C_CK	C95	PEG_RX13-	D95	PEG_TX13-
A96	GND	B96	VGA_I2C_DAT	C96	GND	D96	GND
A97	VCC_12V	B97	TV_DAC_A	C97	RSVD	D97	PEG_ENABLE#
A98	VCC_12V	B98	TV_DAC_B	C98	PEG_RX14+	D98	PEG_TX14+
A99	VCC_12V	B99	TV_DAC_C	C99	PEG_RX14-	D99	PEG_TX14-
A100	GND	B100	GND	C100	GND	D100	GND
A101	VCC_12V	B101	VCC_12V	C101	PEG_RX15+	D101	PEG_TX15+
A102	VCC_12V	B102	VCC_12V	C102	PEG_RX15-	D102	PEG_TX15-
A103	VCC_12V	B103	VCC_12V	C103	GND	D103	GND
A104	VCC_12V	B104	VCC_12V	C104	VCC_12V	D104	VCC_12V
A105	VCC_12V	B105	VCC_12V	C105	VCC_12V	D105	VCC_12V
A106	VCC_12V	B106	VCC_12V	C106	VCC_12V	D106	VCC_12V
A107	VCC_12V	B107	VCC_12V	C107	VCC_12V	D107	VCC_12V

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A108	VCC_12V	B108	VCC_12V	C108	VCC_12V	D108	VCC_12V
A109	VCC_12V	B109	VCC_12V	C109	VCC_12V	D109	VCC_12V
A110	GND	B110	GND	C110	GND	D110	GND

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### 2.2. PCI Express

There are three PCI Express slots on the carrier. The one near the COM Express Module (X201) is organized as x4, the rest of them (X202,203) are x8, even if the connectors are x16. These connectors have been selected to have the option to use x16-graphics cards, although they are addressed with x8 accesses only.

**Table 2.2: Pinout PCI Express**

Pin	Signal	Pin	Signal
A1	PRSNT1#	B1	12V
A2	12V	B2	12V
A3	12V	B3	12V
A4	GND	B4	GND
A5	JTAG_TCK	B5	SMB_CLK
A6	JTAG_TDI	B6	SMB_DAT
A7	JTAG_TDO	B7	GND
A8	JTAG_TMS	B8	3V3
A9	3V3	B9	JTAG_RST#
A10	3V3	B10	3V3_AUX
A11	PE_RST#	B11	WAKE#
KEY			
A12	GND	B12	RSVD
A13	REFCLK+	B13	GND
A14	REFCLK-	B14	PET_p0
A15	GND	B15	PET_n0
A16	PER_p0	B16	GND
A17	PER_n0	B17	PRSNT2#
A18	GND	B18	GND
A19	RSVD	B19	PET_p1
A20	GND	B20	PET_n1
A21	PER_p1	B21	GND
A22	PER_n1	B22	GND
A23	GND	B23	PET_p2
A24	GND	B24	PET_n2
A25	PER_p2	B25	GND
A26	PER_n2	B26	GND
A27	GND	B27	PET_p3
A28	GND	B28	PET_n3
A29	PER_p3	B29	GND
A30	PER_n3	B30	RSVD
A31	GND	B31	PRSNT2#
A32	RSVD	B32	GND
A33	RSVD	B33	PET_p4 <sup>1</sup>
A34	GND	B34	PET_n4 <sup>1</sup>
A35	PER_p4 <sup>1</sup>	B35	GND
A36	PER_n4 <sup>1</sup>	B36	GND
A37	GND	B37	PET_p5 <sup>1</sup>

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A38	GND	B38	PET_n5 <sup>1</sup>
A39	PER_p5 <sup>1</sup>	B39	GND
A40	PER_n5 <sup>1</sup>	B40	GND
A41	GND	B41	PET_p6 <sup>1</sup>
A42	GND	B42	PET_n6 <sup>1</sup>
A43	PER_p6 <sup>1</sup>	B43	GND
A44	PER_n6 <sup>1</sup>	B44	GND
A45	GND	B45	PET_p7 <sup>1</sup>
A46	GND	B46	PET_n7 <sup>1</sup>
A47	PER_p7 <sup>1</sup>	B47	GND
A48	PER_n7 <sup>1</sup>	B48	PRSNT2#
A49	GND	B49	GND
A50	RSVD	B50	RSVD
A51	GND	B51	RSVD
A52	RSVD	B52	GND
A53	RSVD	B53	GND
A54	GND	B54	RSVD
A55	GND	B55	RSVD
A56	RSVD	B56	GND
A57	RSVD	B57	GND
A58	GND	B58	RSVD
A59	GND	B59	RSVD
A60	RSVD	B60	GND
A61	RSVD	B61	GND
A62	GND	B62	RSVD
A63	GND	B63	RSVD
A64	RSVD	B64	GND
A65	RSVD	B65	GND
A66	GND	B66	RSVD
A67	GND	B67	RSVD
A68	RSVD	B68	GND
A69	RSVD	B69	GND
A70	GND	B70	RSVD
A71	GND	B71	RSVD
A72	RSVD	B72	GND
A73	RSVD	B73	GND
A74	GND	B74	RSVD
A75	GND	B75	RSVD
A76	RSVD	B76	GND
A77	RSVD	B77	GND
A78	GND	B78	RSVD
A79	GND	B79	RSVD
A80	RSVD	B80	GND
A81	RSVD	B81	PRSNT2#
A82	GND	B82	RSVD

1) X202 and X203 only

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## 2.3. PCI

Table 2.3: Pinout PCI

Pin	Signal	Pin	Signal
A1	TRST#	B1	-12V
A2	12V	B2	TCK
A3	TMS	B3	GND
A4	TDI	B4	TDO
A5	5V	B5	5V
A6	INTA#	B6	5V
A7	INTC#	B7	INTB#
A8	5V	B8	INTD#
A9	RSVD	B9	PRSNT1#
A10	5V	B10	RSVD
A11	RSVD	B11	PRSNT2#
A12	GND	B12	GND
A13	GND	B13	GND
A14	3V3	B14	RSVD
A15	RST#	B15	GND
A16	5V	B16	CLK
A17	GNT#	B17	GND
A18	GND	B18	REQ#
A19	PME#	B19	5V
A20	AD30	B20	AD31
A21	3V3	B21	AD29
A22	AD28	B22	GND
A23	AD26	B23	AD27
A24	GND	B24	AD25
A25	AD24	B25	3V3
A26	IDSEL	B26	C/BE3#
A27	3V3	B27	AD23
A28	AD22	B28	GND
A29	AD20	B29	AD21
A30	GND	B30	AD19
A31	AD18	B31	3V3
A32	AD16	B32	AD17
A33	3V3	B33	C/BE2#
A34	FRAME#	B34	GND
A35	GND	B35	IRDY#
A36	TRDY#	B36	3V3
A37	GND	B37	DEVSEL#
A38	STOP#	B38	GND
A39	3V3	B39	LOCK#
A40	SMBCLK	B40	PERR#

## DOCUMENTATION

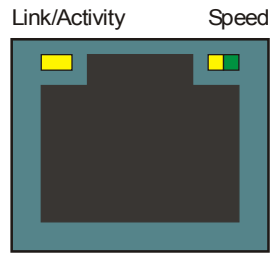
A41	SMBDAT	B41	3V3
A42	GND	B42	SERR#
A43	PAR	B43	3V3
A44	AD15	B44	C/BE1#
A45	3V3	B45	AD14
A46	AD13	B46	GND
A47	AD11	B47	AD12
A48	GND	B48	AD10
A49	AD09	B49	GND
Key			
Key			
A52	C/BE0#	B52	AD08
A53	3V3	B53	AD07
A54	AD06	B54	3V3
A55	AD04	B55	AD05
A56	GND	B56	AD03
A57	AD02	B57	GND
A58	AD00	B58	AD01
A59	5V	B59	5V
A60	REQ64#	B60	ACK64#
A61	5V	B61	5V
A62	5V	B62	5V

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**DOCUMENTATION**

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2.4. LAN



**Figure 2.1: LAN Connector**

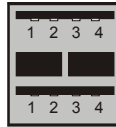
**Table 2.4: Pinout LAN**

Pin	Signal
1	LAN1 Pair0+
2	LAN1 Pair0-
3	LAN1 Pair1+
4	LAN1 Pair2+
5	LAN1 Pair2-
6	LAN1 Pair1-
7	LAN1 Pair3+
8	LAN1 Pair3-

## DOCUMENTATION

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### 2.5. USB



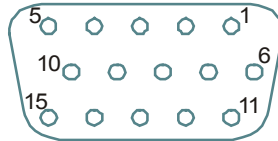
**Figure 2.2: USB Connector**

**Table 2.5: Pinout USB Connector**

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

## DOCUMENTATION

### 2.6. VGA



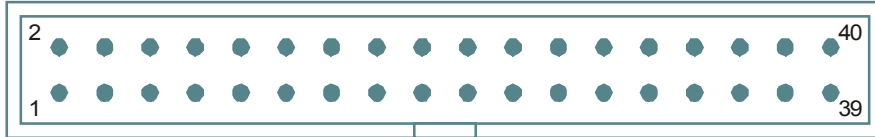
**Figure 2.3: VGA Connector**

**Table 2.6: Pinout VGA Connector**

10-Pin Connector		15-Pin VGA-Connector
Pin	Signal	Pin
1	CRTRED	1
2	GND	5
3	CRTGREEN	2
4	GND	6
5	CRTBLUE	3
6	GND	7, 8, 10
7	VGA_DDCDATA	12
8	VGA_HSYNC	13
9	VGA_VSYNC	14
10	VGA_DOCCLK	15

**DOCUMENTATION**

2.7. LVDS



**Figure 2.4: Connector LVDS**

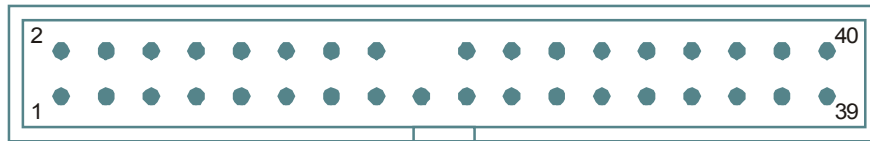
**Table 2.7: Pinout LVDS Connector**

Pin	Signal	Signal	Pin
1	LVDS_A0+	LVDS_A0-	2
3	LVDS_A1+	LVDS_A1-	4
5	LVDS_A2+	LVDS_A2-	6
7	LVDS_A3+	LVDS_A3-	8
9	GND	GND	10
11	LVDS_A_CLK+	LVDS_A_CLK-	12
13	GND	GND	14
15	LVDS_B0+	LVDS_B0-	16
17	LVDS_B1+	LVDS_B1-	18
19	LVDS_B2+	LVDS_B2-	20
21	LVDS_B3+	LVDS_B3-	22
23	GND	GND	24
25	LVDS_B_CLK+	LVDS_B_CLK-	26
27	GND	GND	28
29	LVDS_BKLT_EN	LVDS_VDD_EN	30
31	LVDS_I2C_CK+	LVDS_I2C_CK-	32
33	GND	LVDS_BKLT_CTRL	34
35	+5V	+5V	36
37	+3V3	+3V3	38
39	+12V	+12V	40

## DOCUMENTATION

### 2.8. IDE

The power supply cable of the EIDE device must be directly connected to the power supply. Up to two EIDE drives (harddisk, CD-ROM) can be connected. Cable length should not exceed 40 cm to avoid instable operation. It is also recommended to use an UDMA-Cable with 80 wires.



**Figure 2.5: Connector IDE**

**Table 2.8: Pinout IDE Connector**

Pin	Signal	Signal	Pin
1	/RST	GND	2
3	D7	D8	4
5	D6	D9	6
7	D5	D10	8
9	D4	D11	10
11	D3	D12	12
13	D2	D13	14
15	D1	D14	16
17	D0	D15	18
19	GND	nc	20
21	REQ	GND	22
23	/IOW	GND	24
25	/IOR	GND	26
27	IORDY	nc	28
29	/ACK	GND	30
31	IRQ14	nc	32
33	A1	nc	34
35	A0	A2	36
37	/CS1	/CS3	38
39	/ACT	GND	40

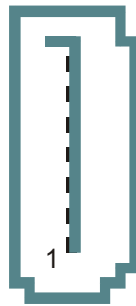
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## DOCUMENTATION

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### 2.9. SATA

The power supply cable of the SATA device must be directly connected to the power supply. Up to four SATA drives can be connected.



**Figure 2.6: Connector SATA**

**Table 2.9: Pinout SATA Connector**

Pin	Signal
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

The EUROCOM 400 uses only Ports 0 and 1 of the SATA ports.

## DOCUMENTATION

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### 2.10. TV out



**Figure 2.7: Connector TV out**

**Table 2.10: Pinout TV out Connector**

Pin	Signal
1	GND
2	DAC A
3	GND
4	DAC B
5	GND
6	DAC C
7	nc
8	nc
9	nc
10	nc

## DOCUMENTATION

### 2.11. AC97



**Figure 2.8: Connector AC97**

**Table 2.11: Pinout AC97 Connector**

Pin	Signal
1	GND
2	GND
3	SDIN0
4	12V
5	SDIN1
6	BITCLK
7	SDIN2
8	nRST
9	SDOUT
10	SYNC

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## DOCUMENTATION

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### 3. Board Parameters

#### 3.1. COM Express

COM Express interface according to specification

- Type 2, Extended or standard
- PCI Express (2 \* x8, 1 \* x4)
- PCI 32 bit / 33 MHz
- 2 \* SATA
- 1 \* IDE
- 1 \* VGA
- 1 \* LVDS
- 1 \* GbE
- 4 \* USB 2.0

#### 3.2. Network

- 1 Channel
- 10BaseT/100BaseTx/1000BaseT (twisted-pair)
- Transfer Speed: max. 10/100/1000 Mbit/s

#### 3.3. USB

- 4 ports
- USB 2.0 1.5 / 12 / 480 Mb/s
- Supply current for external devices: 500 mA (protected against shortcut).

#### 3.4. MTBF Values

- t.b.d. (computed after MTL HDBK-217E)
- t.b.d. (realistic value from industry standard experience)
- ESD Values: 2 kV (Human body method)

#### 3.5. Environmental Conditions

Storage Temperature: -40 °C - 70 °C, at 10% - 100% non-condensing.

Operating Temperature: 0 °C - 55 °C (2 m/s forced air cooling). This temperature is measured on the air intake of the PC case.

Maximum Operating Humidity: 85 % relative

#### 3.6. Battery

- Type CR 1/3 N, 170 mAh, 3.0 V
- Approx. 4 years life time

**DOCUMENTATION**

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NOTES