

COM Express Rev 2.0 Basic/Compact Type 6 Module, Intel® Atom™ N2600/D2550 Processor, VGA/LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, Audio and RoHS

ICE-CV- D25501

ICE-CV- N26001

Quick Installation Guide

Version 1.0

Aug. 24, 2012

Package Contents

ICE-CV-D2550/N26001 package includes the following items:

- 1 x ICE-CV-D2550/N26001 single board computer
- 1 x Heat Spreader
- 1 x Heatsink
- 1 x Utility CD
- 1 x One Key Recovery CD
- 1 x QIG (Quick Installation Guide)



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Specifications

- Form Factor
 - PICMG COM Express R2.0 Type 6 for compact size
 - 95 mm x 95 mm
 - 10 layers
- CPU
 - Intel® Atom™ N2600 dual-core processor 1.6GHz (2 x 512 L2 cache)
 - Intel® Atom™ D2550 dual-core processor 1.86GHz (2 x 512 L2 cache)
- PCH
 - Intel® NM10
- Memory
 - One 204-pin 1066/800MHz DDR3 SDRAM SO-DIMM supported
 - (D2550 supports 1066MHz DDR3, system max. 4GB)
 - (N2600 supports 800MHz DDR3, system max. 2GB)
 - Supports 1.35V DDR3L
- BIOS
 - UEFI BIOS
- Graphics Engine
 - Intel® GMA 3650 with a 640MHz graphics core (for D2550)
 - Intel® GMA 3600 with a 400MHz graphics core (for N2600)
 - Supports DX9 and Blu-ray 2.0
 - MPEG2, H.264, VC-1 and 1080p decoding
- Display Output
 - VGA integrated in the Intel® N2600/D2550 (signal to baseboard)
 - 1 x CRT (up to 2048 x 1536 @75Hz)
 - LVDS integrated in the D2550/N2600

Single-channel 24-bit LVDS by D2550, resolution support up to 1440x900 @60Hz

Single-channel 18-bit LVDS by N2600 and N2800, resolution support up to 1366x768 @60Hz

2 x DDI (up to 2560 x 1600 @60Hz)

- Ethernet
RTL 8111E GbE
- USB 3.0
Asmedia: asm1042
- Embedded Controller
iWDD (ITE)
- 8 x USB 2.0 (signal to baseboard)
- 2 x SATA 3Gb/s (signal to baseboard)
- Audio
High definition audio interface (to baseboard)
- GPIO
Yes (to baseboard)
- SMBus
Yes (to baseboard)
- I2C
Yes (to baseboard)
- LPC
Yes (to baseboard)
- SPI
Yes (to baseboard)
- Serial port
2 x Serial port (to baseboard)
- Expansions
2 x PCIe x1 signal (to baseboard)
- Watchdog Timer
Software programmable supports 1~255 sec. system reset (by EC)
- Power Consumption
+12V@0.45A, Vcore _12V@1.0A

- Operating Temperature
-10°C ~ 60°C
- Operating Humidity
5% ~ 95%, non-condensing
- Dimensions
95 mm x 95 mm
- Weight
GW: 600g/NW: 200g

Ordering Information

ICE-CV-D25501-R10: COM Express Rev 2.0 Basic/Compact Type 6 module, Intel® Atom™ D2550 processor, VGA/LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, Audio and RoHS

ICE-CV-N26001-R10: COM Express Rev 2.0 Basic/Compact Type 6 module, Intel® Atom™ N2600 processor, VGA/LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, Audio and RoHS

ICE-DB-T6-R10: Baseboard for COM Express Type 6 modules

Table of Connectors

LABEL	FUNCTION
J1 J2	COM Express connector AB & CD

J2 : COM Express Connector CD			
Pin No.	DESCRIPTION	Pin No.	DESCRIPTION
C1	GND0	D1	GND15
C2	GND	D2	GND
C3	USB_SSRX0-	D3	USB_SSTX0-
C4	USB_SSRX0+	D4	USB_SSTX0+
C5	GND	D5	GND
C6	USB_SSRX1-	D6	USB_SSTX1-
C7	USB_SSRX1+	D7	USB_SSTX1+
C8	GND	D8	GND
C9	USB_SSRX2-	D9	USB_SSTX2-
C10	USB_SSRX2+	D10	USB_SSTX2+
C11	GND1	D11	GND16
C12	USB_SSRX3-	D12	USB_SSTX3-
C13	USB_SSRX3+	D13	USB_SSTX3+
C14	GND	D14	GND
C15	DDI1_PAIR6+	D15	DDI1_AUX+
C16	DDI1_PAIR6-	D16	DDI1_AUX-
C17	RSVD	D17	RSVD
C18	RSVD	D18	RSVD
C19	PCIE_RX6+	D19	PCIE_TX6+
C20	PCIE_RX6-	D20	PCIE_TX6-
C21	GND2	D21	GND17
C22	PCIE_RX7+	D22	PCIE_TX7+
C23	PCIE_RX7-	D23	PCIE_TX7-
C24	DDI1_HPD	D24	RSVD
C25	DDI1_PAIR4+	D25	RSVD
C26	DDI1_PAIR4-	D26	DDI1_PAIR0+
C27	RSVD	D27	DDI1_PAIR0-
C28	RSVD	D28	RSVD
C29	DDI1_PAIR5+	D29	DDI1_PAIR1+
C30	DDI1_PAIR5-	D30	DDI1_PAIR1-
C31	GND3	D31	GND18
C32	DDI2_AUX+	D32	DDI1_PAIR2+
C33	DDI2_AUX-	D33	DDI1_PAIR2-
C34	DDI2_CTRLCLK	D34	DDI2_CTRLDATA
C35	RSVD	D35	RSVD
C36	DDI3_AUX+	D36	DDI1_PAIR3+
C37	DDI3_AUX-	D37	DDI1_PAIR3-

Pin	DESCRIPTION	Pin	DESCRIPTION
C38	DDI3_CTRLCLK	D38	DDI3_CTRLDATA
C39	DDI3_PAIR0+	D39	DDI2_PAIR0+
C40	DDI3_PAIR0-	D40	DDI2_PAIR0-
C41	GND4	D41	GND19
C42	DDI3_PAIR1+	D42	DDI2_PAIR1+
C43	DDI3_PAIR1-	D43	DDI2_PAIR1-
C44	DDI3_HPD	D44	DDI2_HPD
C45	RSVD	D45	RSVD
C46	DDI3_PAIR2+	D46	DDI2_PAIR2+
C47	DDI3_PAIR2-	D47	DDI2_PAIR2-
C48	RSVD	D48	RSVD
C49	DDI3_PAIR3+	D49	DDI2_PAIR3+
C50	DDI3_PAIR3-	D50	GND20
C51	GND5	D51	DDI2_PAIR3-
C52	PEG_RX0+	D52	PEG_TX0+
C53	PEG_RX0-	D53	PEG_TX0-
C54	TYPE0#	D54	PEG_LANE_RV#
C55	PEG_RX1+	D55	PEG_TX1+
C56	PEG_RX1-	D56	PEG_TX1-
C57	TYPE1#	D57	TYPE2#
C58	PEG_RX2+	D58	PEG_TX2+
C59	PEG_RX2-	D59	PEG_TX2-
C60	GND7	D60	GND21
C61	PEG_RX3+	D61	PEG_TX3+
C62	PEG_RX3-	D62	PEG_TX3-
C63	RSVD1	D63	RSVD10
C64	RSVD2	D64	RSVD9
C65	PEG_RX4+	D65	PEG_TX4+
C66	PEG_RX4-	D66	PEG_TX4-
C67	RSVD3	D67	GND28
C68	PEG_RX5+	D68	PEG_TX5+
C69	PEG_RX5-	D69	PEG_TX5-
C70	GND9	D70	GND22
C71	PEG_RX6+	D71	PEG_TX6+
C72	PEG_RX6-	D72	PEG_TX6-
C73	DDI1_CTRLCLK	D73	DDI1_CTRLDATA
C74	PEG_RX7+	D74	PEG_TX7+
C75	PEG_RX7-	D75	PEG_TX7-
C76	GND8	D76	GND29
C77	RSVD4	D77	RSVD
C78	PEG_RX8+	D78	PEG_TX8+

Pin	DESCRIPTION	Pin	DESCRIPTION
C79	PEG_RX8-	D79	PEG_TX8-
C80	GND10	D80	GND23
C81	PEG_RX9+	D81	PEG_TX9+
C82	PEG_RX9-	D82	PEG_TX9-
C83	RSVD5	D83	RSVD8
C84	GND6	D84	GND30
C85	PEG_RX10+	D85	PEG_TX10+
C86	PEG_RX10-	D86	PEG_TX10-
C87	GND35	D87	GND31
C88	PEG_RX11+	D88	PEG_TX11+
C89	PEG_RX11-	D89	PEG_TX11-
C90	GND27	D90	GND24
C91	PEG_RX12+	D91	PEG_TX12+
C92	PEG_RX12-	D92	PEG_TX12-
C93	GND11	D93	GND32
C94	PEG_RX13+	D94	PEG_TX13+
C95	PEG_RX13-	D95	PEG_TX13-
C96	GND12	D96	GND33
C97	RSVD6	D97	PEG_ENABLE#
C98	PEG_RX14+	D98	PEG_TX14+
C99	PEG_RX14-	D99	PEG_TX14-
C100	GND13	D100	GND25
C101	PEG_RX15+	D101	PEG_TX15+
C102	PEG_RX15-	D102	PEG_TX15-
C103	GND	D103	GND34
C104	VCC_12V1	D104	VCC_12V7
C105	VCC_12V2	D105	VCC_12V8
C106	VCC_12V3	D106	VCC_12V9
C107	VCC_12V4	D107	VCC_12V10
C108	VCC_12V5	D108	VCC_12V11
C109	VCC_12V6	D109	VCC_12V12
C110	GND14	D110	GND26

J1 : COM Express Connector AB			
Pin No.	DESCRIPTION	Pin No.	DESCRIPTION
A1	GND	B1	GND15
A2	GBE0_MDI3-	B2	GBE0_ACT#
A3	GBE0_MDI3+	B3	LPC_FRAME#
A4	GBE0_LINK100#	B4	LPC_AD0
A5	GBE0_LINK1000#	B5	LPC_AD1
A6	GBE0_MDI2-	B6	LPC_AD2
A7	GBE0_MDI2+	B7	LPC_AD3
A8	GBE0_LINK#	B8	LPC_DRQ0#
A9	GBE0_MDI1-	B9	LPC_DRQ1#
A10	GBE0_MDI1+	B10	LPC_CLK
A11	GND1	B11	GND16
A12	GBE0_MDI0-	B12	PWRBTN#
A13	GBE0_MDI0+	B13	SMB_CK
A14	GBE0_CTREF	B14	SMB_DAT
A15	SUS_S3#	B15	SMB_ALERT#
A16	SATA0_TX+	B16	SATA1_TX+
A17	SATA0_TX-	B17	SATA1_TX-
A18	SUS_S4#	B18	SUS_STAT#
A19	SATA0_RX+	B19	SATA1_RX+
A20	SATA0_RX-	B20	SATA1_RX-
A21	GND2	B21	GND17
A22	SATA2_TX+	B22	SATA3_TX+
A23	SATA2_TX-	B23	SATA3_TX-
A24	SUS_S5#	B24	PWR_OK
A25	SATA2_RX+	B25	SATA3_RX+
A26	SATA2_RX-	B26	SATA3_RX-
A27	BATLOW#	B27	WDT
A28	ATA_ACT#	B28	AC_SDIN2
A29	AC_SYNC	B29	AC_SDIN1
A30	AC_RST#	B30	AC_SDIN0
A31	GND3	B31	GND18
A32	AC_BITCLK	B32	SPKR
A33	AC_SDOUT	B33	I2C_CK
A34	BIOS_DISABLE#	B34	I2C_DAT
A35	THRMTRIP#	B35	THRM#
A36	USB6-	B36	USB7-

Pin No.	DESCRIPTION	Pin No.	DESCRIPTION
A37	USB6+	B37	USB7+
A38	USB_6_7_OC#	B38	USB_4_5_OC#
A39	USB4-	B39	USB5-
A40	USB4+	B40	USB5+
A41	GND4	B41	GND
A42	USB2-	B42	USB3-
A43	USB2+	B43	USB3+
A44	USB_2_3_OC#	B44	USB_0_1_OC#
A45	USB0-	B45	USB1-
A46	USB0+	B46	USB1+
A47	VCC_RTC	B47	EXCD1_PERST#
A48	EXCD0_PERST#	B48	EXCD1_CPPE#
A49	EXCD0_CPPE#	B49	SYS_RESET#
A50	LPC_SERIRQ	B50	CB_RESET#
A51	GND5	B51	GND20
A52	PCIE_TX5+	B52	PCIE_RX5+
A53	PCIE_TX5-	B53	PCIE_RX5-
A54	GPI0	B54	GPO1
A55	PCIE_TX4+	B55	PCIE_RX4+
A56	PCIE_TX4-	B56	PCIE_RX4-
A57	GND6	B57	GPO2
A58	PCIE_TX3+	B58	PCIE_RX3+
A59	PCIE_TX3-	B59	PCIE_RX3-
A60	GND7	B60	GND
A61	PCIE_TX2+	B61	PCIE_RX2+
A62	PCIE_TX2-	B62	PCIE_RX2-
A63	GPI1	B63	GPO3
A64	PCIE_TX1+	B64	PCIE_RX1+
A65	PCIE_TX1-	B65	PCIE_RX1-
A66	GND8	B66	WAKE0#
A67	GPI2	B67	WAKE1#
A68	PCIE_TX0+	B68	PCIE_RX0+
A69	PCIE_TX0-	B69	PCIE_RX0-
A70	GND9	B70	GND22
A71	LVDS_A0+	B71	LVDS_B0+
A72	LVDS_A0-	B72	LVDS_B0-
A73	LVDS_A1+	B73	LVDS_B1+

Pin No.	DESCRIPTION	Pin No.	DESCRIPTION
A74	LVDS_A1-	B74	LVDS_B1-
A75	LVDS_A2+	B75	LVDS_B2+
A76	LVDS_A2-	B76	LVDS_B2-
A77	LVDS_VDD_EN	B77	LVDS_B3+
A78	LVDS_A3+	B78	LVDS_B3-
A79	LVDS_A3-	B79	LVDS_BKLT_EN
A80	GND10	B80	GND23
A81	LVDS_A_CLK+	B81	LVDS_B_CLK+
A82	LVDS_A_CLK-	B82	LVDS_B_CLK-
A83	LVDS_I2C_CLK	B83	LVDS_BKLT_CTRL
A84	LVDS_I2C_DAT	B84	VCC5SBY1
A85	GPI3	B85	VCC5SBY2
A86	RSVD	B86	VCC5SBY3
A87	RSVD	B87	VCC5SBY4
A88	PCIE0_CLK_REF+	B88	BIOS_DIS1#
A89	PCIE0_CLK_REF-	B89	VGA_RED
A90	GND11	B90	GND24
A91	SPI_VCC	B91	VGA_GRN
A92	SPI_MISO	B92	VGA_BLU
A93	GPO0	B93	VGA_HSYNC
A94	SPI_CLK	B94	VGA_VSYNC
A95	SPI_MOSI	B95	VGA_I2C_CLK
A96	PP_TPM	B96	VGA_I2C_DAT
A97	TYPE10#	B97	SPI_CS#
A98	RS1_TX	B98	RSVD
A99	RS1_RX	B99	RSVD
A100	GND13	B100	GND25
A101	RS2_TX	B101	FAN_PWMOUT
A102	RS2_RX	B102	FAN_TACHIN
A103	LID#	B103	SLEEP#
A104	VCC_12V7	B104	VCC_12V16
A105	VCC_12V8	B105	VCC_12V17
A106	VCC_12V9	B106	VCC_12V18
A107	VCC_12V10	B107	VCC_12V19
A108	VCC_12V11	B108	VCC_12V20
A109	VCC_12V12	B109	VCC_12V21
A110	GND14	B110	GND26

Board Layout: Jumper and Connector Locations

